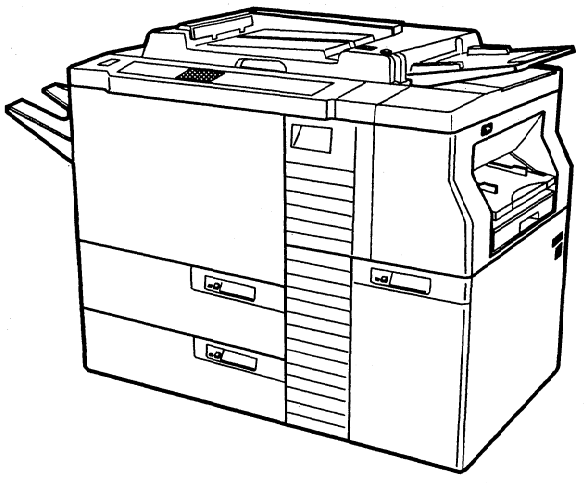
SHARP SERVICE MANUAL

CODE: 00ZSD2275SM1E



COPIER (DUPLICATOR)

MODEL SD-2275

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

SHARP CORPORATION

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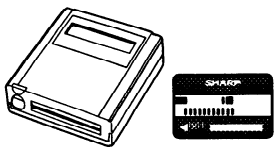
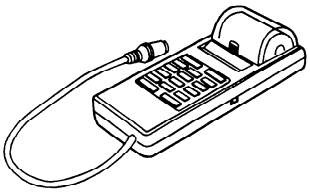
Note: The different points from the SD-2260 are described in Italic font.

[1] PRODUCT OUTLINE

1. System configuration

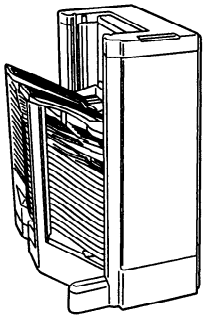


Card type auditor
SF-EA11

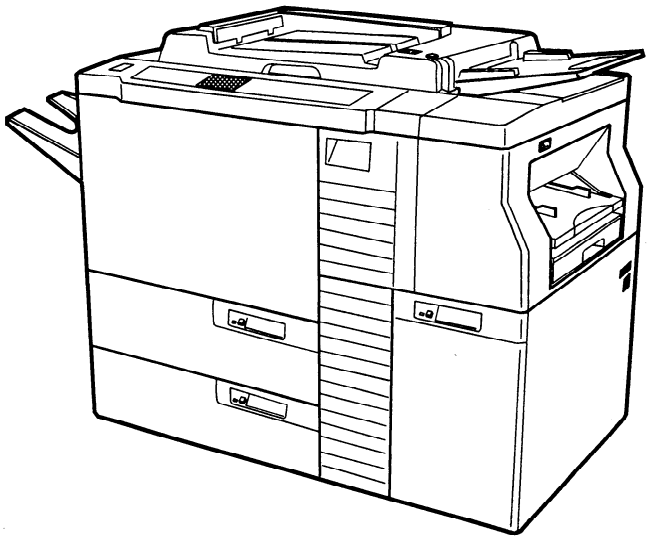


Commander
SF-EA13

(New)



20-bin staple sorter
SF-S55N



Main body

☐ Expansion RAM (2600 dept) (For internal auditor)

* DKIT-0321FCZZ
☐ Communication interface board

* CPLTM4130FC53

Part name	Model	Common use model	Power source	Note
Copier body	*SD-2275*			
RADF (New) *	Standard (New)		Supplied from the copier.	*Not applicable to SD-2060/2260.*
20-bin staple sorter *	*SF-S55N*	*SD-2052 /2260*	Supplied from the copier.	*Can not use for SD2060/2160.*
Card type department control counter *	SF-EA11	SF-2050, SD-2060/*2260*, etc.	Supplied from the copier.	
Commander *	SF-EA13	SF-2050, SD-2060/3062/*2260*, etc.	Supplied from the copier.	
Paper exit tray/*Fixing plate*	LSOU-0054FCG4 *LPLTM1828FCZ5*	SF-2050, SD-2060/*2260*, etc.		Treated as a service part.
Expansion RAM for internal auditor *	DKIT-0321FCZZ	SD-2060/3062/2160/*2260*		The standard capacity of the internal auditor is 500 departments. By installing this expansion RAM, 2600 departments are added to be 3100 departments in total.
Communication I/F board *	CPLTM4130FC53	SD-2060/3062/2160/*2260*		Treated as a service part with the frame. The part without the frame (PWB unit) is CPLTM4132FC55.

*: Option

2. Features

(1) High productivity

① Large capacity tray, cassette

Air paper feed tray (*3,000* sheets) × 1

Air paper feed tray (1,000 sheets) × 1

Paper cassette (250 sheets) × 1

Manual paper feed tray (100 sheets) × 1

② RADF is equipped with the large capacity tray (100 sheets, 80g/m^2).

③ Duplex copying of max. 100 sheets is possible. (The duplex tray capacity: 100 sheets, 80g/m^2) 50 sheets for A3 (11″ × 17″).

④ Large capacity toner hopper (Equivalent to *60K*)

⑤ RADF realizes 100% efficiency of single copy from single documents.

⑥ The staple sorter of 50-sheets allows automatic after-process (with the option sorter installed).

⑦ Unit structure

The use of unit structure allows quick recovery by replacement of the unit in case of trouble, shortening down time.

⑧ Automatic copy density adjustment

This feature automatically adjusts the copy lamp voltage in each copy mode depending on the copier conditions, eliminating the need for copy density adjustment by the simulation.

(2) High reliability

① Air feed system

The air feed system allows smooth paper feed. It utilizes air pressure to separate paper without contact, stabilizing the paper transport force, reducing double feed and paper jam.

② Auto recovery

In case of a paper jam, the trouble may be canceled by removing the minimum number of paper. (The drive section of the copier is divided into several sections, which are driven separately. In case of a paper jam, transport is continued or stopped depending on the jam position. By removing paper from the sections which are not related to the paper jam, the trouble is canceled, reducing paper jam treatment.)

③ Communication feature

Communication between the copier and the service center is possible through the telephone line. The serviceman can identify the trouble position in advance to servicing, shortening the recovery time. (Option)

④ Full frame structure

The frame of the machine is made of a strong structure, enabling long-period use that is highly durable.

(3) The LCD screen with backlight

① Key operator program

Use of the key operator program allows setting and adjustment of the operation mode according to the office needs. The department control counter is a standard provision.

(4) High picture quality

① AICS (Active Image Control System)

Sharp's unique AICS (Active Image Control System) allows checking of the toner concentration on the photoconductor drum by the copier itself, correcting a change in density due to deterioration automatically. This maintains high quality copies for a long period.

[2] SPECIFICATIONS

1. Basic specifications

1) Type

Console

2) Copy system

Static electricity transfer, dry copier

3) Class

Segment *5*

4) Target users

The target users of this model are high copy volume users such as general offices and copy centers.

Monthly copy volume: Average *60,000*/month

(Min. 30,000/month, max. 200,000/month)

5) Machine life (Overhaul): *6,000K*

6) Size

1167 × 762 × 1080mm

1627 × 762mm (Occupying area) (With the paper exit tray and the paper feed tray installed)

7) Weight

260 kg (*574* lbs)

2. Copy performance

A. Original size

(1) Original table mode

Max. original size: A3 (11 × 17")

(2) RADF mode

Original size: A3 ~ A5 (11 × 17" ~ 5.5 × 8.5")

B. Copy paper size, weight, kinds

(1) A3 ~ A5 (11 × 17" ~ 5.5 × 8.5")

C. Copy mode

Auto mode

Photo mode (Variable in 9 steps)

Manual mode (Variable in 9 steps)

D. Copy magnification ratio

(1) Zoom mode

50 ~ 200% (Variable in 1% increment)

(2) Fixed magnification ratios

AB series: 200/141/122/115/100/86/81/70/50 [%]

Inch series: 200/141/129/121/100/95/77/64/50 [%]
(Error ±0.9%)

E. Copy speed

(1) Continuous copy speed

Unit (CPM)

Paper size	Normal	Reduction (50%)	Enlargement (200%)
A3	*42*	*42*	*41*
B4	*48*	*48*	*45*
A4	*75*	*64*	*51*
A4R	*54*	*54*	*45*
B5	*75*	*65*	*51*
B5R	*54*	*54*	*45*
11 × 17	*42*	*42*	*41*
8.5 × 14	*48*	*48*	*45*
8.5 × 11	*75*	*64*	*51*
8.5 × 11R	*54*	*54*	*45*

(2) First copy speed

Unit (sec), 8.5 × 11" or A4 paper

P.F. unit	Non-RADF mode		RADF mode	
	Without sorter	With sorter (*SF-S55N*) installed (Reference value)	Without sorter	With sorter (*SF-S55N*) installed (Reference value)
TRAY1	4.0	4.3	*4.1*	*4.4*
TRAY2	*4.2*	*4.5*	*4.3*	*4.6*
TRAY3	*4.7*	*5.0*	*4.7*	*5.0*
M.F TRAY	*3.3*	4.0	*4.4*	*4.7*
Cassette	*3.5*	3.9	*4.2*	*4.5*

F. Max. continuous copy quantity

999 sheets

G. Void area, image loss

Item	Lead edge	Rear edge
Image loss	1.0 ~ 4.5 mm	—
Void area	1.0 ~ 3.0 mm	1.0 ~ 4.0 mm
Image shift for paper	0±1.5 mm	—

H. Resolution

Copy magnification ratio	Copy center	Corners
100%	5.0 lines/mm	4.5 lines/mm
101 ~ 200%	5.0 lines/mm	4.5 lines/mm
90 ~ 99%	4.5 lines/mm	4.0 lines/mm
64 ~ 89%	3.6 lines/mm	3.2 lines/mm
50 ~ 63%	3.2 lines/mm	2.8 lines/mm

B. Original table section

(1) Max. original size

A3, 11 × 17"

(2) Original reference position

Left center reference

(3) Original size detection

System: Photo transmission sensor system

Detection size: A3, B4, A4, A4R, B5, B5R

C. RADF section

(1) Paper feed system

Roller paper feed system

(2) Transport system

Belt transport system

(3) Reverse system

By the reverse gate and the roller.

(4) Original tray capacity (paper feed, paper exit tray)

Max. 100 sheets (80g/m^2)

(5) Original size

A3 ~ A5 (11 × 17" ~ 5.5 × 8.5)

(6) Original paper weight

Single mode: Japan - 35 ~ 128g/m^2 (35 ~ 50g/m^2 for thin paper mode)

EX - 50 ~ 128g/m^2, 13 ~ 32 lbs

Duplex mode: 50 ~ 128g/m^2, 13 ~ 32 lbs (A5 ~ A4)

50 ~ 110g/m^2, 13 ~ 29 lbs (A5 ~ A3)

(7) Original replacement speed

75 sheets/min (Max.) (A4/8.5 × 11")

(8) Operation mode

- Duplex/single
- Normal paper/thin paper
- Normal/stream mode

(9) Original size detection

1) Original size detection by the original tray

Detection by the detector on the original tray (The paper width is detected by the analog sensor, and the paper length by the paper length detector.)

(Detection size)

Japan: A3, B4, A4, B5, A4R, B5R, 8,5 × 11, 8.5 × 14

EX inch series: 11 × 17, 8.5 × 14, 8.5 × 11, 8.5 × 11R, 8.5 × 5.5, A4 (8.5 × 13 possible by SIM setting)

German/UK: A3, B4, A4, A4R, A5, 8.5 × 11, 8,5 × 14

Australia: A3, B4, A4, A4R, A5, 216 × 179, 216 × 330 (mm)

2) Original size detection by the original transport roller rotation

(Detection size)

Japan: A3, B4, A4, B5, A4R, B5R

EX inch series: 11 × 17, 8.5 × 14, 8.5 × 11, 8.5 × 11R, 8.5 × 5.5

(8.5 × 13 possible by SIM setting)

German: A3, B4, A4, A4R, A5

Australia: A3, B4, A4, A4R, A5, 216 × 330 (mm)

D. Optical section

(1) Exposure system

Exposure section (lamp) scanning slit exposure system

(2) Zooming system

Lens moving system

(3) Lens specifications

Composition: 1-group, 4-lens

Fixed focus lens F: 5.6, f: 220mm

(4) Exposure mode

Auto mode (Synchronized with scanning operation to measure the center of 100mm wide for automatic adjustment of the copy lamp voltage.)

Manual mode

Photo mode

(5) Copy lamp specifications

Halogen lamp

(*common in 100V/200V system*) 85V, 220W

(6) Correction

Automatic correction of the copy lamp voltage.

E. Image forming section

(1) Photoconductor section

1) Type: OPC
2) Size: 100 φ
3) Life: 250K
4) Humidity control by the surface heater

(2) Charger section

1) Main charger

Scorotron system (screen grid, saw tooth electrode)

2) Transfer charger

Corotron system by wire

(3) Separation section

1) System: Separation by the separation charger and the separation pawl
2) Separation charger

Corotron system by wire

3) Separation pawl
4) Pre-transfer discharger

Corotron system by wire

(4) Developing section

1) System: Magnetic brush developing system
2) 2-component development (Developer: Positive charging, toner: negative charging)
3) Developing bias voltage: DC–220V
4) Developer

Capacity: 850g/bag × 2 bags (= 1.7 kg)

Life: 250K

Type: Ferrite type

(5) Toner hopper section

Capacity *1.0kg* (Equivalent to *25K* with 6% density originals)

(6) Cleaning section

Cleaning by the brush and the pressure contact blade system

Cleaning blade life: 125K

(7) Correction

Main charger grid voltage correction

Photoconductor drum OPC membrane wear sensitivity correction

F. Fusing section

(1) System

Roller pressure system

(2) Roller type

Teflon roller (heat roller) life

500K

Silicon rubber roller (pressure roller) life

500K

(3) Heater lamp

Destination	Main	Sub
Japan	1075W	700W
EX	1100W	700W
SEEG (Europe)	1150W	650W

(4) Fusing temperature

Destination	Copy mode	
	Normal	Duplex
Other country	205°C	205°C
U.S.A./Canada	*205°C*	180°C

(5) Separation system

Forced separation by the separation pawl

Upper separation pawl life: 250K

Lower separation pawl life: 250K

(6) Cleaning system

Cleaning by the cleaning roller

Upper cleaning roller life: 125K

Lower cleaning roller life: 125K

G. Switchback section

(1) System

Transport speed variable system by the reverse gate and the stepping motor

H. Duplex section

(1) Paper feed system

Air paper feed system

(2) Paper capacity, paper weight, paper size, paper kinds

(Paper weight, size)

A3 ~ B5 (11 × 17 ~ 8.5 × 11) However, fixed size.

60 ~ 90g/m^2

(Paper capacity)

Max. 100 sheets, however 50 sheets for A3 (11 × 17)

I. Paper exit section

Tray capacity 250 sheets

J. Waste toner collection section

Capacity: 1750g (125K, with 6% density originals)

K. Jam recovery time

Within 5 sec (When jam canceling is made within 60 sec in case of a jam outside the fusing section.)

L. Communication function

Remote communication function (RS232C)

M. Warm-up time

About *8* min (specification *except for U.S.A. and Canada*), about 5 min (specification *for U.S.A. and Canada*)

N. Operating voltage, power consumption

Destination	Voltage speeifications	
Japan	*100V*	*50/60 Hz*
U.S.A.	*208/240V*	*60 Hz*
Canada	*208/240V*	*60 Hz*
Europe	*230V*	*50 Hz*
UK	*230 ~ 240V*	*50 Hz*
Australia	*240V*	*50 Hz*
Others	*220V*	*50 Hz*
	220V	*60 Hz*
	220 ~ 230V	*50 Hz*

(Power consumption)

Max.

Japan	U.S.A./Canada	Other than U.S.A./Canada
2000W	*2450W*	*2000W*

Average 1200W (During copying)

Power save mode
(Pre heat mode (Fusing temperature fall)) *295Wh* or less

Stand-by mode (Ready state) 332Wh or less

Power shut off (Power switch OFF) *20Wh* or less

(Operating power) (Fluctuation)

Within 10% of the rated voltage, within ±2% of the rated frequency

O. Noise

	Sound power level	Sound pressure level
During copying	*72db* or less	*70db* or less
Standby	*65db* or less	*45db* or less

P. Electromagnetic noise

Japan: Electromagnetic wave regulations VCCI

USA: FCC

Europe/Australia/South Africa: CISPR

Blue Angel

EnergyStar (Japan/U.S.A.)

Energy saving regulations (Japan)

(Energy consumption rate 437Wh/h or less)

Whits Swan conformify

Q. Additional functions

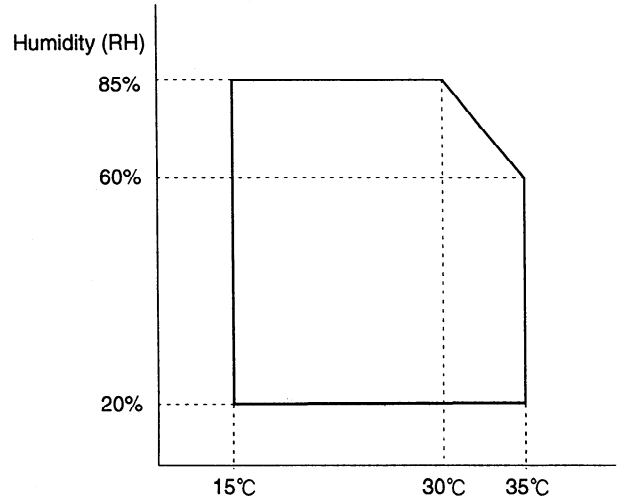
	Japan	SEC	SECL	SEEG	SUK	SCA	Others
Auto paper selection (APS)	O	O (Only when RADF is used)					
Auto magnification ratio selection (AMS)	O	O (Only when RADF is used) AMS is used by document size detector of RADF tray.					
Binding margin	Shift width: 9mm, /4 inch (with adjustment function) Adjustment width: 0, 3, 6, 9, 12, 15mm/0, 1/8, 1/4, 3/8, 1/2, 5/8 inch						
1-set 2-copy	O (Enlargement impossible)						
Edge erase	O (Edge erase/center erase/edge + center erase) Edge erase adjustment width: 0 ~ 6, 6 ~ 12, 12 ~ 18mm/ 0 ~ 1/4, 1/4 ~ 1/2, 1/2 ~ 3/4 inch Center erase adjustment width: 10, 15, 20mm/2/5, 3/5, 4/5 inch						
Cover insertion	O (Cover paper/back cover/ front, back cover (duplex copy possible))						
Index insertion	O (Duplex copy possible/max. 18 pages insertion possible)						
OHP index	O						
Job memory	O (9 ways)						
Auditor	O (Standard 500 departments. 3,100 departments when expanded. DKIT-0321FCZZ required.)						
Key operator program	O						
Communication	O (I/F PWB is treated as a service part.)						
Toner save mode	O (Set by the simulation.)					O	
Auto tray switching	O						
Installation tray priority selection	×						
Pre-heat function	O (Selection by the key operator program)						
Auto power shut off (EnergyStar compliance)	O (OFF mode available by key operator program 86)	× *(On mode available by SIM 26-26 and key operator program 21)*					
Power save mode	×	O					

R. Environmental conditions

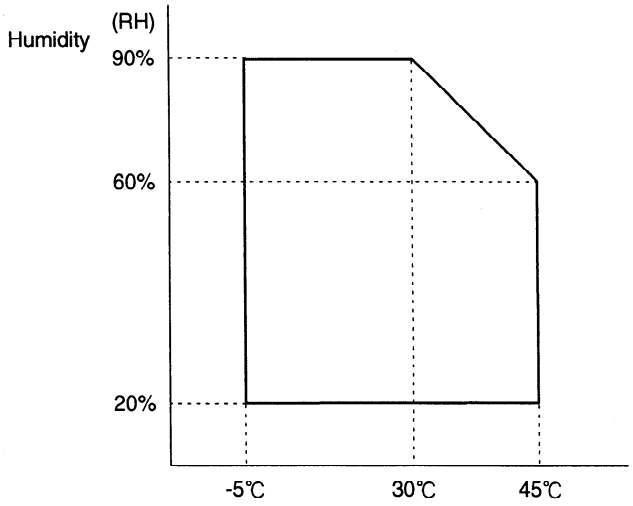
(Standard conditions)

Temperature: 20 ~ 25°C, humidity: 65 ± 5% RH

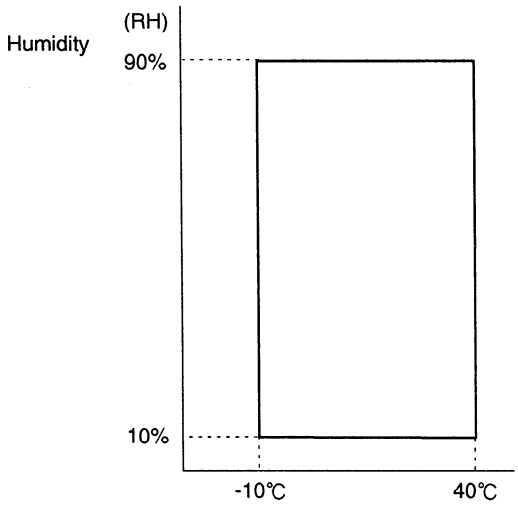
(Operational condition)



(Transport conditions)



(Consumable parts storage conditions)



4. Option specifications

A. Sorter

• 20-bin multi position staple sorter *(SF-S55N)*

Number of bins: Non-sort - 1 bin, sort bin - 20 bins

Capacity: Non-sorting *250* sheets

Sorting: 11 × 17, 8.5 × 14, 8.5 × 13, A3, B4; 25 sheets

8.5 × 11, 8.5 × 11R, A4, A4R, B5, A5; 50 sheets

Grouping: 11 × 17, 8.5 × 14, 8.5 × 13, A3, B4; *A4R, 8.5 × 11R* 25 sheets

8.5 × 11, A4, B5; *A5* 30 sheets

Sortable size:

Japan; All the detectable sizes including A5

USA; All the detectable sizes excluding 5.5 × 8.5

Canada; All the detectable sizes

UK; All the detectable sizes

Europe: All the detectable sizes

Australia; All the detectable sizes

Staple sortable sizes:

Japan; All the detectable sizes

USA; All the detectable sizes excluding 5.5 × 8.5"

Canada; All the detectable sizes excluding 5.5 × 8.5"

UK; All the detectable sizes excluding A5

Europe: All the detectable sizes excluding A5

Australia; All the detectable sizes excluding A5

Staple capacity: 50 sheets

Staple position: Upper position, both positions, lower position

Stapler cartridge: 1 cartridge - 5000 staplers

Stapler detection: Available

Alignment: *±0.5mm*

Bin shift time: about 15 sec (20 bins → Bin home position)

Power source: 24V (Supplied from the copier)

Max. power consumption: 100W or less

Weight: 56kg

Dimensions: 564 (W) × 609 (D) × 986 (H) mm

B. Auditor,commander

MODEL	DESCRIPTION
SF-EA11	CARD COUNTER (Read the department code printed on card and memory of the copy count is stored inside memory.)
SF-EA13	COMMANDER (Setting the department)

	Memory	Printer	Display	Key	Maximum number of department
SF-EA11	YES	NO	YES	NO	200
SF-EA13	NO	YES	NO	YES	

Card (Used for SF-EA11)

	Dept number	Number of card
SF-EA11A	1 to 30	30
SF-EA11B	31 to 100	70
SF-EA11C	101 to 200	100
TOTAL	200	200

Combination of use

SF-EA11 and SF-EA13

C. Expansion memory (For the international auditor)

DKIT-0321FCZZ (3100 department expansion)

D. Key sheet and operation manual kits

English	SD-*275*SE
German	SD-*275*SG
French	SD-*275*SF
Dutch	SD-*275*SH
Spanish	SD-*275*SS
Italian	SD-*275*SI
Swedish	*SD-275SW*

[3] CONSUMABLE PARTS

1. Photoconductor drum/Toner/Developer list

(U.S.A./Canada)

No.	Name	Content		Life	Product name	Compatibility	Note
1	Drum	OPC drum	× 1	250 K	SD-475DR	No compatibility	
2	Developer (Black)	Developer	(850 g) × 10	250 K (× 5)	SD-475MD	No compatibility	
3	Toner (Black)	Toner cartridge	(1000 g) × 10	30 K (× 10)	SD-475MT	No compatibility	

(Asia/Middle & South America)

No.	Name	Content		Life	Product name	Compatibility	Note
1	Drum	OPC drum	× 1	250 K	SD-475DR	No compatibility	
2	Developer (Black)	Developer	(850 g) × 10	250 K (× 5)	SD-475CD	No compatibility	
3	Toner (Black)	Toner cartridge	(1000 g) × 10	30 K (× 10)	SD-475CT	No compatibility	

(Europe/U.K./Middle East/Africa/Australia/New Zealand)

No.	Name	Content		Life	Product name	Compatibility	Note
1	Drum	OPC drum	× 1	250 K	SD-475DM	No compatibility	
2	Developer (Black)	Developer	(850 g) × 10	250 K (× 5)	SD-475LD	No compatibility	
3	Toner (Black)	Toner cartridge	(1000 g) × 10	30 K (× 10)	SD-475LT	No compatibility	

2. Consumable parts list

(U.S.A./Canada)

No.	Name	Content		Life	Product name	Compatibility	Note
1	Upper heat roller	Upper heat roller	× 1	500 K	SD-365HU	*1	
2	Fusing separation pawl (Upper)	Fusing separation pawl (Upper) × 4	× 10	*500 K* (× 10)	SD-360UP	*2	
3	Heat roller gear	Heat roller gear	× 10	500 K (× 10)	SD-365HG	*1	
4	Insulation bush	Insulation bush × 2	× 10	500 K (× 10)	SD-365BU	*1	
5	Lower heat roller	Lower heat roller (New)	× 1	500 K	SD-475HR	No compatibility	
6	Fusing separation pawl (Lower)	Fusing separation pawl (Lower) × 4	× 10	*500 K* (× 10)	SD-360LP	*2	
7	Drum separation pawl	Drum separation pawl × 2	× 10	250 K (× 10)	SD-360DP	*2	
8	Cleaner blade	Cleaner blade	× 10	125 K (× 10)	SD-360CB	*2	
9	Upper cleaning roller	Upper cleaning roller	× 10	125 K (× 10)	SD-365UR	*1	
10	Lower cleaning roller	Lower cleaning roller	× 10	125 K (× 10)	SD-360LR	*2	
11	Screen grid	Screen grid	× 10	250 K (× 10)	SD-365SU	*2	
12	Toner reception seal	Toner reception seal	× 10	250 K (× 10)	SD-360TS	*2	
13	Ozone filter	Ozone filter	× 10	500 K (× 10)	SD-360FL	*2	
14	Charging plate	Charging plate	× 10	250 K (× 10)	SF-216PU	*2	
15	Copy lamp (100 V)	Copy lamp (100 V)	× 10		SD-360CL	*2	
16	MC unit	MC unit	× 10		SD-360MC	*2	
17	Waste toner bottle	Waste toner bottle	× 1	125 K	SD-360TB	*2	
18	Staple cartridge	Staple cartridge	× 3	5000 pcs (× 3)	SF-SC11	*2	Applicable to SF-S55/S55N.

The maintenance parts which are not listed in the above table are supplied from the service parts.

Example: Charger wire (250 K)/DV seal (500 K)/CL brush roller (500 K)

*1: Common to SD-2260.

*2: Common to SD-2060/3062/2260.

(Europe/U.K.)

No.	Name	Content		Life	Product name	Compatibility	Note
1	Upper heat roller	Upper heat roller	× 1	500 K	SD-365HU	*1	
2	Fusing separation pawl (Upper)	Fusing separation pawl (Upper) × 4	× 10	*500 K* (× 10)	SD-360UP	*2	
3	Heat roller gear	Heat roller gear	× 10	500 K (× 10)	SD-365HG	*1	
4	Insulation bush	Insulation bush × 2	× 10	500 K (× 10)	SD-365BU	*1	
5	Lower heat roller	Lower heat roller (New)	× 1	*500 K*	SD-475HR	No compatibility	
6	Fusing separation pawl (Lower)	Fusing separation pawl (Lower) × 4	× 10	*500 K* (× 10)	SD-360LP	*2	
7	Drum separation pawl	Drum separation pawl × 2	× 10	250 K (× 10)	SD-360DP	*2	
8	Screen grid	Screen grid	× 10	250 K (× 10)	SD-365SU	*2	
9	Toner reception seal	Toner reception seal	× 10	250 K (× 10)	SD-360TS	*2	
10	Ozone filter	Ozone filter	× 10	500 K (× 10)	SD-360FL	*2	
11	Charging plate	Charging plate	× 10	250 K (× 10)	SF-216PU	*2	
12	Copy lamp (100 V)	Copy lamp (100 V)	× 10		SD-475CL	No compatibility	
13	MC unit	MC unit	× 10		SD-360MC	*2	
14	Cleaner blade	Cleaner blade	× 10	125 K (× 10)	SD-360CB	*2	
15	Waste toner bottle	Waste toner bottle	× 1	125 K	SD-360TB	*2	
16	Upper cleaning roller	Upper cleaning roller	× 10	125 K (× 10)	SD-365UR	*1	
17	Lower cleaning roller	Lower cleaning roller	× 10	125 K (× 10)	SD-360LR	*2	
18	Staple cartridge	Cartridge	× 3	5000 pcs (× 3)	SF-SC11	*2	Applicable to SF-S55/S55N.

The maintenance parts which are not listed in the above table are supplied from the service parts.

Example: Charger wire (250 K)/DV seal (500 K)/CL brush roller (500 K)

(Asia/Middle & South America)

No.	Name	Content		Life	Product name	Compatibility	Note
1	Upper heat roller	Upper heat roller	× 1	500 K	SD-365HU	*1	
2	Fusing separation pawl (Upper)	Fusing separation pawl (Upper) × 4	× 10	*500 K* (× 10)	SD-360UP	*2	
3	Heat roller gear	Heat roller gear	× 10	500 K (x 10)	SD-365HG	*1	
4	Insulation bush	Insulation bush × 2	× 10	500 K (× 10)	SD-365BU	*1	
5	Lower heat roller	Lower heat roller (New)	× 1	*500 K*	SD-475HR	No compatibility	
6	Fusing separation pawl (Lower)	Fusing separation pawl (Lower) × 4	× 10	*500 K* (× 10)	SD-360LP	*2	
7	Drum separation pawl	Drum separation pawl × 2	× 10	250 K (× 10)	SD-360DP	*2	
8	Screen grid	Screen grid	× 10	250 K (× 10)	SD-365SU	*2	
9	Toner reception seal	Toner reception seal	× 10	250 K (× 10)	SD-360TS	*2	
10	Ozone filter	Ozone filter	× 10	500 K (× 10)	SD-360FL	*2	
11	Charging plate	Charging plate	× 10	250 K (× 10)	SF-216PU	*2	
12	Copy lamp (100 V)	Copy lamp (100 V)	× 10		SD-360CL	*2	
13	MC unit	MC unit	× 10		SD-360MC	*2	
14	Cleaner blade	Cleaner blade	× 10	125 K (× 10)	SD-360CB	*2	
15	Waste toner bottle	Waste toner bottle	ö 1	125 K	SD-365TB	*2	
16	Upper cleaning roller	Upper cleaning roller	× 10	125 K (× 10)	SD-360UR	*1	
17	Lower cleaning roller	Lower cleaning roller	× 10	125 K (× 10)	SD-360LR	*2	
18	Staple cartridge	Cartridge	× 3	5000 pcs (× 3)	SF-SC11	*2	Applicable to SF-S55/S55N.
19	*Upper heat roller kit*	*Upper heat roller* *Fusing separation pawl (Upper)* *Heat roller gear* *Insulation bush*	*× 1* *× 4* *× 1* *× 2*	*500K*	*SD-365UH*	*2	*Common with SD-2260/2060/3062*
20	*Lower heat roller kit*	*Lower heat roller* *Fusing separation pawl (Lower)*	*× 1* *× 4*	*500K*	*SD-475LH*		
21	*125KPM kit*	*Cleaner blade* *Waste toner bottle* *Upper cleaning roller* *Lower cleaning roller*	*× 1* *× 1* *× 1* *× 1*	*125K*	*SD365KA*	*1	*Common with SD-2260*
22	*250KPM kit*	*Drum separation pawl* *Charging plate unit* *Toner reception seal* *Screen grid*	*× 2* *× 1* *× 1* *× 1*	*250K*	*SD-365KB*	*1	*Common with SD-2260*

The maintenance parts which are not listed in the above table are supplied from the service parts.

Example: Charger wire (250 K)/DV seal (500 K)/CL brush roller (500 K)

(Australia/New Zealand/Middle East/Africa)

No.	Name	Content		Life	Product name	Compatibility	Note
1	Upper heat roller	Upper heat roller	×1	500 K	SD-365HU	*1	
2	Fusing separation pawl (Upper)	Fusing separation pawl (Upper) × 4	×10	*500 K* (×10)	SD-360UP	*2	
3	Heat roller gear	Heat roller gear	×10	500 K (×10)	SD-365HG	*1	
4	Insulation bush	Insulation bush × 2	×10	500 K (×10)	SD-365BU	*1	
5	Lower heat roller	Lower heat roller (New)	×1	*500 K*	SD-475HR	No compatibility	
6	Fusing separation pawl (Lower)	Fusing separation pawl (Lower) × 4	×10	*500 K* (×10)	SD-360LP	*2	
7	Drum separation pawl	Drum separation pawl × 2	×10	*500 K* (×10)	SD-360DP	*2	
8	Screen grid	Screen grid	×10	250 K (×10)	SD-365SU	*2	
9	Toner reception seal	Toner reception seal	×10	250 K (×10)	SD-360TS	*2	
10	Ozone filter	Ozone filter	×10	500 K (×10)	SD-360FL	*2	
11	Charging plate	Charging plate	×10	250 K (×10)	SF-216PU	*2	
12	Copy lamp (100 V)	Copy lamp (100 V)	×10		SD-360CL	*2	
13	MC unit	MC unit	×10		SD-360MC	*2	
14	Cleaner blade	Cleaner blade	×10	125 K (×10)	SD-360CB	*2	
15	Waste toner bottle	Waste toner bottle	×1	125 K	SD-360TB	*2	
16	Upper cleaning roller	Upper cleaning roller	×10	125 K (×10)	SD-365UR	*1	
17	Lower cleaning roller	Lower cleaning roller	×10	125 K (×10)	SD-360LR	*2	
18	Staple cartridge	Cartridge	×3	5000 pcs (×3)	SF-SC11	*2	Applicable to SF-S55/S55N.

The maintenance parts which are not listed in the above table are supplied from the service parts.

Example: Charger wire (250 K)/DV seal (500 K)/CL brush roller (500 K)

3. Copy paper

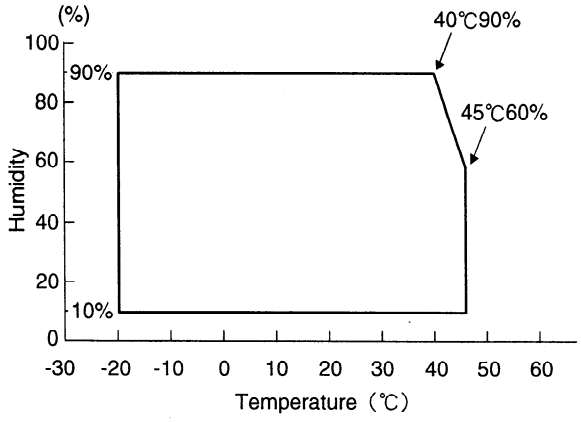
The following conditions for copy quality and transportability of PPC paper must be satisfied. The values are at temperature of 20 ±1°C and 65 ±2% RH.

Item	Standard
Weight	56 ~ 80g/m²
Smoothness	Face: 20 sec or above (BEKK method) Back: 20 sec or above (BEKK method)
Rigidness	Length 17cm or above, width 13cm or above (CLARK method)
Thickness	75 ~ 110μ
Dimensions	Standard dimensions ± 1mm (5/128") B4 (257 ±1 × 364±1mm) B5 (182 ±1 × 257±1mm) B6 (128 ±1 × 182±1mm) A3 (297 ±1 × 420±1mm) A4 (210 ±1 × 297±1mm) A5 (148 ±1 × 210±1mm) A6 (105 ±1 × 148±1mm) 11" ±5/128 × 17" ±5/128 inch 8.5" ±5/128 × 14" ±5/128 inch 8.5" ±5/128 × 11" ±5/128 inch 5.5" ±5/128 × 8.5" ±5/128 inch 8.5" ±5/128 × 13" ±5/128 inch

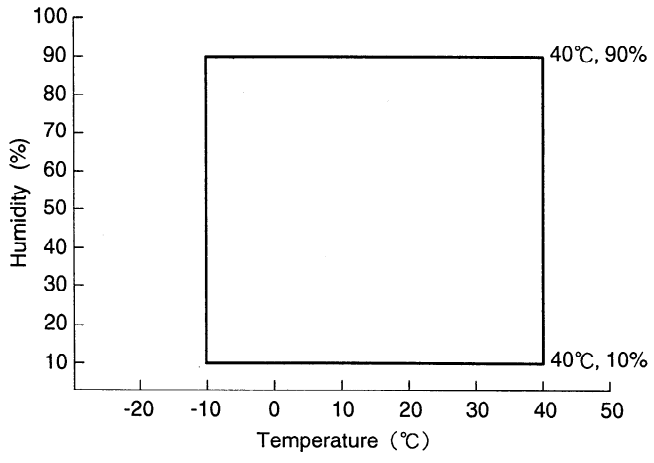
4. Environment conditions

A. Transport conditions

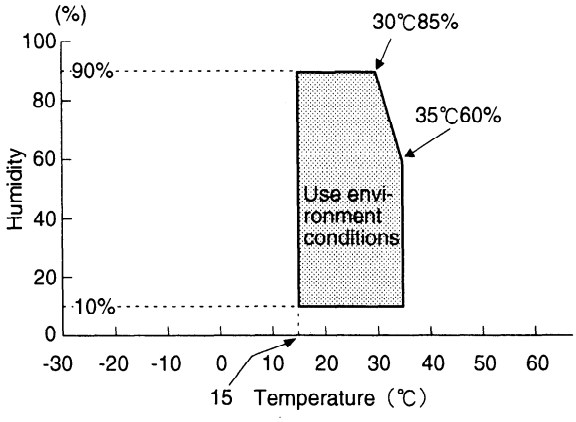
1) Transport condition



2) Storage condition (packed conditions)



B. Use conditions



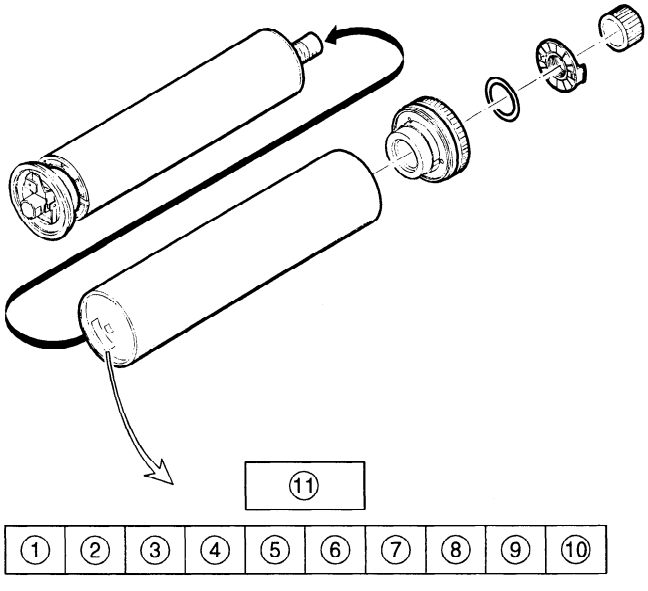
C. Life (packed conditions)

Photoconductor drum (36 months from the production month)

Developer, toner (24 months from the production month)

5. Production number identification

A. Photoconductor drum



① Numeral

Shows the sensitivity of the photoconductor.

② ③ Alphabet

Shows the applicable model. AF for this model.

④ Numeral

Shows the end digit of the production year.

⑤ Numeral or X, Y, Z

Shows the production month.

X stands for October, Y November, and Z December.

⑥ Numeral

Shows the production lot.

⑦ Numeral

Shows the distinction of sub lot.

⑧ Numeral or X, Y, Z

Shows the packing month.

X stands for October, Y November, and Z December.

⑨ ⑩ Numeral

Shows the packing day.

⑪ Numeral or alphabet

Shows the product name of the drum.

B. Developer, toner

①	②	③	④	⑤	⑥	-	⑦

①, ② Alphabet

SF stands for toner, and SH for developer.

③ Numeral, alphabet

Shows the production month. O stands for October, Y November, and Z December.

④, ⑤ Numeral

Shows the production day.

⑥ Numeral

Shows the end digit of the production year.

⑦ Alphabet

Shows the production batch.

Though the shapes of the photoconductor drum, developer, toner, and the fusing section cleaning roller are similar to those of the SD-2060, they are not compatible with each other.

The differences are as follows:

1) Photoconductor drum

If installed erroneously, the error code F2 is displayed.

2) Toner

The port shape of the toner bottle differs to prevent against erroneous installation.

The characteristics of toner differ from each other. The proper toner must be used to obtain stable picture quality at proper density.

3) Developer

Proper developer must be used to obtain stable picture quality at proper density.

4) Fusing section cleaning roller

(Upper cleaning roller)

(Lower cleaning roller)

Compatibility with SD-2260/3062/2060/2160/*2260*

	Compatibility with SD-2260/3062/2060/*2260*	Capacity	Remark
Photoconductor drum	New *1		
Developer	New *2	0.85kg	Two packs are used for once.
Toner	New *2	*1.0kg*	Two packs can be supplied for once.
Upper heat roller	*Available* *3		
Lower heat roller	*New* *2		
Cleaner blade	Available		
Upper/lower cleaning roller	*Available* *3		
Drum separation pawl	Available		
Upper fusing separation pawl	Available		
Lower fusing separation pawl	Available		
Charging blade unit	Available		
Waste toner bottle	Available		

*1: One for SD-2260 is applicable to SD-3062/2060/2160.
One for SD-3062/2060/2160 is not applicable to SD-2260/*2275*.
One for SD-2275 is not applicable to the other models.

*2: *One for SD-2275 is not applicable to the other models.*

*3: *Common with one for SD-2260, and no compatibility with the other models.*

[4] SETUP

Setup list

No.	Item	No.	Content	Method	Check
1	Installation environment check	1	Delivery space		
		2	Installation space		
		3	Power (Capacity, fluctuation, safety)		
		4	Floor strength		
		5	Direct sunlight, dust, temperature, humidity, gases, chemicals		
2	Delivery	1	Facility, equipment, man power	Use a fork lift. (If a fork lift is not used, 6 men power is required.)	
		2	Delivery form	Transported in packed condition.	
3	Unpacking			Remove the protection material.	
4	Lock release	1	Scanner unit		
		2	No. 4/5 mirror unit		
		3	Lens unit		
		4	Paper feed tray (No. 1, 2, 3)		
		5	Paper feed cassette		
		6	Photoconductor drum protection sheet (excluding Europe countries)		
		7	Paper exit guide (Fusing unit)		
5	Parts setup	1	Cleaning roller (2 pcs.) (Fusing unit)		
		2	Fusing roller pressure set		
		3	Cleaning blade set		
6	Option setup	1	Sorter (*SF-S55N*)		
		2	Staple cartridge		
		3	Auditor (SF-EA11)		
		4	Internal auditor expansion memory		
7	Consumable parts setup	1	Photoconductor drum (Europe only)		
		2	Developer set		
		3	Toner concentration control level setting	Set with SIM 25-2.	
		4	Toner set		
8	Cleaning	1	Main charger unit		
		2	Pre-transfer charger unit		
		3	Transfer/separation charger unit		
		4	Original table glass		
9	Operation setting	1	Separation charger voltage setting (According to the altitude)	Change connection of the high voltage PWB connector CN2.	
		2	Destination specification setting	Set with SIM 26-6.	
		3	No. 1 paper feed tray paper size setting (Hardware)	Refer to [6] 2-C.	
		4	No. 1 paper feed tray paper size setting (Software)	Set with SIM 26-2.	
		5	Option setting (Software)	Set with SIM 26-1.	
		6	Expansion memory initializing (only when an expansion memory is installed)	Set with SIM 26-3.	
		7	Auditor operation mode setting	Set with SIM 26-3.	
		8	Count mode setting	Set with SIM 26-5.	
		9	Maintenance cycle setting	Set with SIM 21-1.	
		10	Toner save mode YES/NO setting	Set with SIM 26-18.	
		11	Power shut off operation mode setting	Set with SIM 26-26.	
		12	Display language setting	Replace the data ROM on the operation control PWB.	
		13	*Sorter operation mode setting*	*Set with SIM 26-4.*	
10	Image correction setting/check	1	Image correction valid setting	Set SIM 44-1 to (127).	
		2	Main charger correction reference density setting	Set SIM 44-4 to 75.	
11	Image density sensor, photoconductor drum mark sensor check (adjustment)	1	Photoconductor drum mark sensor sensitivity check (adjustment)	Check with SIM 44-2. (adjustment)	
		2	Image density sensor sensitivity check (adjustment)	Check with SIM 44-3. (adjustment)	

No.	Item	No.	Content	Method	Check
12	Image correction execution (Main charger grid voltage) (Optical dirt correction) (Auto copy exposure)			Power OFF → ON (Automatic adjustment during warming up.)	
13	Copy exposure check (adjustment)	1	Manual copy mode (non-toner-save mode)	Automatic adjustment	
		2	Photo copy mode (non-toner-save mode)	Set the key operator program 20 (copy density level) to 3.	
		3	Auto copy mode (non-toner-save mode)		
		4	Manual copy mode (toner save mode)		
		5	Auto copy mode (toner save mode)		
14	Focus (resolution), copy magnification ratio check (adjustment)	1	Focus (resolution) (Normal, 50%, 200%)	Adjust with SIM 48-1 (A/B/C).	
		2	Vertical copy magnification ratio (normal, 50%, 200%)	Adjust with SIM 48-1 (D/E/F).	
		3	Horizontal copy magnification ratio (normal)	Adjust with SIM 48-1.	
15	Functional operation check	1	Paper size detection (manual paper feed tray)		
		2	Paper size detection (No. 2/3 paper feed tray)		
		3	Paper size detection (original table) (Japan only)		
		4	Original size detection (RADF original feed tray)		
		5	(Manual paper feed tray, No. 1, 2, 3 paper feed tray cassette) copying		
		6	RADF copying (S-S mode)		
		7	RADF copying (S-D mode)		
		8	RADF copying (D-D mode)		
		9	RADF copying (D-S mode)		
		10	Zoom copying (enlargement, reduction)		
		11	Sort mode copy (with *SF-S55N* installed)		
		12	Group mode copying (with *SF-S55N* installed)		
		13	Sort staple mode copying (with *SF-S55N* installed)		
16	Copy image center shift check (adjustment)	1	Original table copy mode (surface) (Manual paper feed tray, No. 1, 2, 3 paper feed tray, paper feed cassette)	Adjust by changing positions of the paper feed tray, paper feed cassette, and manual paper feed tray.	
		2	Original table copy mode (back) (No. 1, 2, 3 paper feed tray, paper feed cassette)	Adjust by changing the duplex tray position.	
		3	RADF copy mode	Adjust by changing the RADF paper feed tray position.	
17	Image loss, void area check (adjustment)	1	Original table copy mode (lead edge image loss, void area) (rear edge void area)	Adjust with SIM 50-1. In the RADF copy mode, the adjustment value of SIM 53-1 must be also checked.	
		2	RADF copying (S-S mode) (Lead edge image loss, void area)		
		3	RADF copying (D-D mode) (Lead edge image loss, void area, rear edge void area)		
		4	RADF thin film copy mode (Lead edge image loss, void area, rear edge void area)		
		5	RADF step copy mode (Lead edge image loss, void area, rear edge void area)		
18	Adjustment, set value, ROM version recording	1	Simulation set value, adjustment value	Use the commander SF-EA13 with SIM 28-4 to print out the list. (The set values and adjustment values are checked in each simulation mode.)	
		2	Key operator program set value	Use the commander SF-EA13 with SIM 28-3 to print out the list.	
		3	ROM version	Use the commander SF-EA13 with SIM *23-5* to print out the list.	
				(Checking is possible with SIM 22-5.)	
19	Explanation on user operations				
20	Others	1	Fixing support setting		

1. Installation (use) environment checking

Before delivery and installation of the machine, check the following conditions of the environment.

If the following conditions of installation (use) are not satisfied, the machine may not display full performances and may cause trouble.

Be sure to satisfy the installation (use) conditions in advance to installation and use.

No.	Content
1	Delivery space
2	Installation space
3	Power (capacity, fluctuation, safety)
4	Floor strength
5	Direct sunlight, dust, temperature, humidity, gases, chemicals

(1) Delivery space

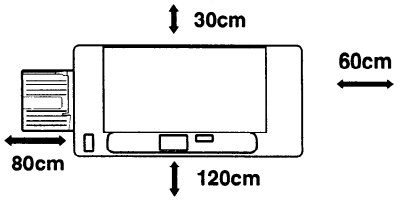
Check the door sizes to allow delivery of the machine in advance.

(2) Installation space

Allow the following installation space around the machine for proper operations and performances.

The space for options also be must considered.

Allow enough space at the back of the machine. If the back space is insufficient, heat radiation and the dust proof function are prevented, suppressing the machine performances and causing troubles.



(3) Power source (capacity, voltage, frequency, safety, plug)

If the power source requirements are not satisfied, the machine cannot display full performances, and may cause troubles.

BE sure to follow the following instructions:

1) Power source capacity

   Check that the power capacity is enough as specified below. If it is insufficient, it must be corrected.

   200V series 9A or above
   100V series: 15A or above

2) Power voltage

   Measure the power voltage during copying to check that it is within the range of the rated voltage ±10%.

   If the voltage is not within the above range, use wider wires to reduce impedance. (An electrical work is required.)

   There is a method to use a step-up transformer. In this case, use the transformer of greater capacity than the machine's max. power consumption.

3) Power frequency, waveform

   The frequency must be the specified level ±2%. If the frequency is distorted, a trouble may be caused.

4) Safety

   Be sure to ground the machine.

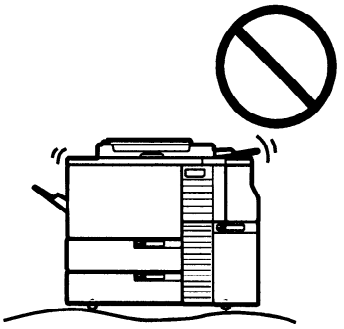
5) Power plug

   Check the shape of the power plug, Do not use a plug of different shape.

(4) Floor strength and level

The machine is heavy, and options add further weight. Be sure to check the floor strength for safety.

If the machine is not leveled properly, the toner concentration control is not performed properly, affecting copy quality adversely.

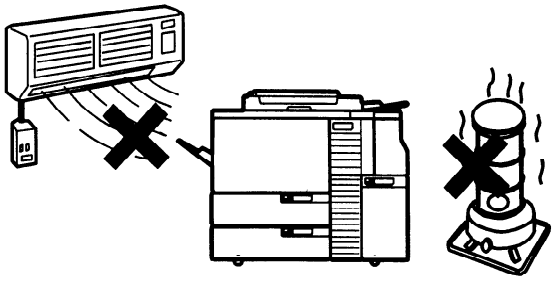


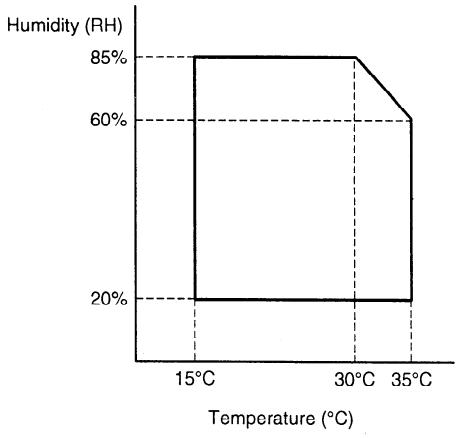
(5) Direct sunlight, dust, temperature, humidity, gases, chemicals, vibrations

1) Temperature, humidity

   The storage and operation of this copier is assured under the following conditions. If the following conditions are exceeded, the copier may not display full performances, causing troubles.

   Especially when the humidity is too high, paper absorbs moisture to cause paper jams and dirty copy.

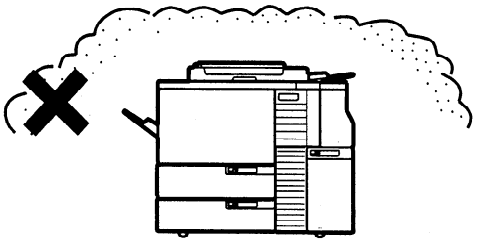




Do not install the copier near a heater, a cooler, or a humidifier. If installed, the copier may form dew and cause troubles. Be careful of ventilation, too.

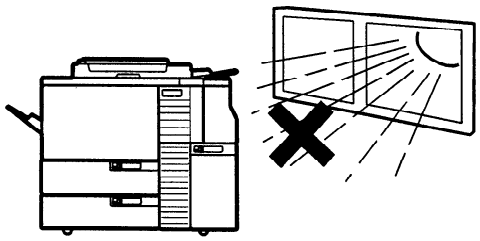
2) Dust

If dust enters the copier, it may cause dirty copy, paper jams, and short lifetime.



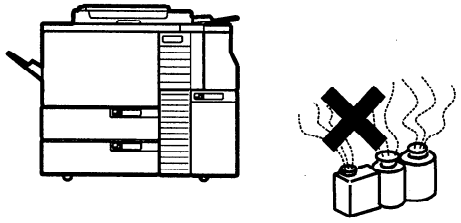
3) Direct sunlight

If the copier is exposed to direct sunlight, the external section may be discolored, causing poor copy quality.



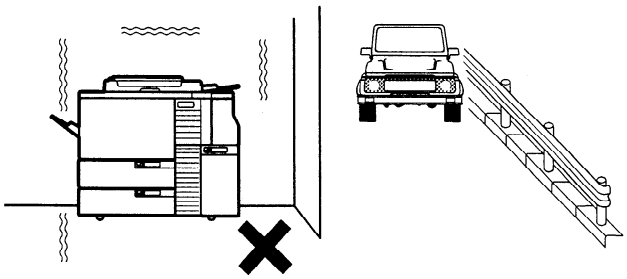
4) Gases and chemicals

Do not install the copier near gases and chemicals. Especially be careful of a diazo-type copier, which may produce ammonium gas. The copy quality may be adversely affected, causing troubles.



5) Vibrations

Do not install machines which produce vibrations around the copier. If vibrations are applied to the copier, copies may be blurred and troubles may be caused.



2. Transport and installation

No.	Content	Method
1	Facility, equipment, man power	Use a fork lift. (If a fork lift is not used, 6 men power is required.)
2	Delivery form	Transported in packed conditions.

(1) Equipment, facility, man power

It is advisable to use a fork lift for efficiency and safety. If a fork lift is not available, six men are required to move the machine. The copier is very heavy. Consider for safety in delivery and installation work.

Transport of the copier must be made in the packed conditions to the installing place (building).

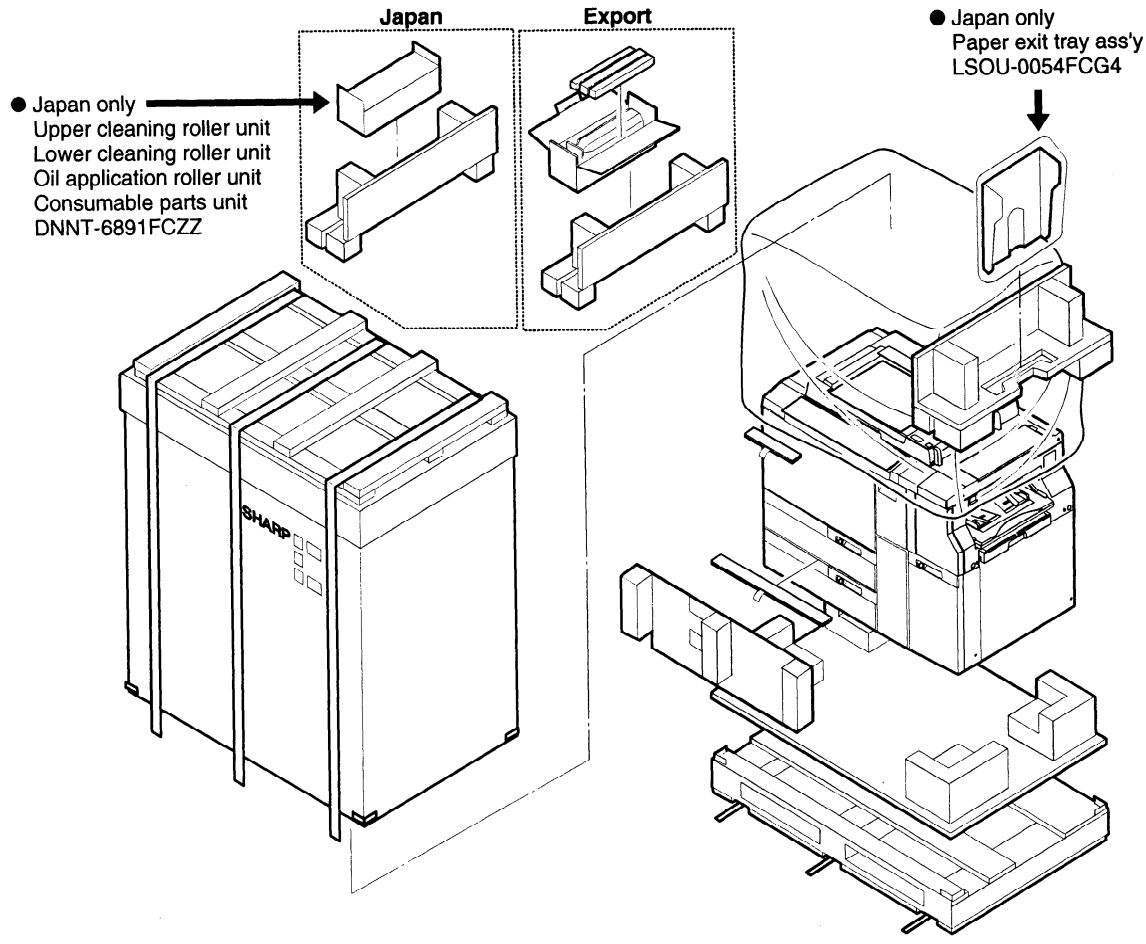
(2) Delivery form

Remove the copier from the packing case outside the installing building, then carry it inside the building.

3. Unpacking

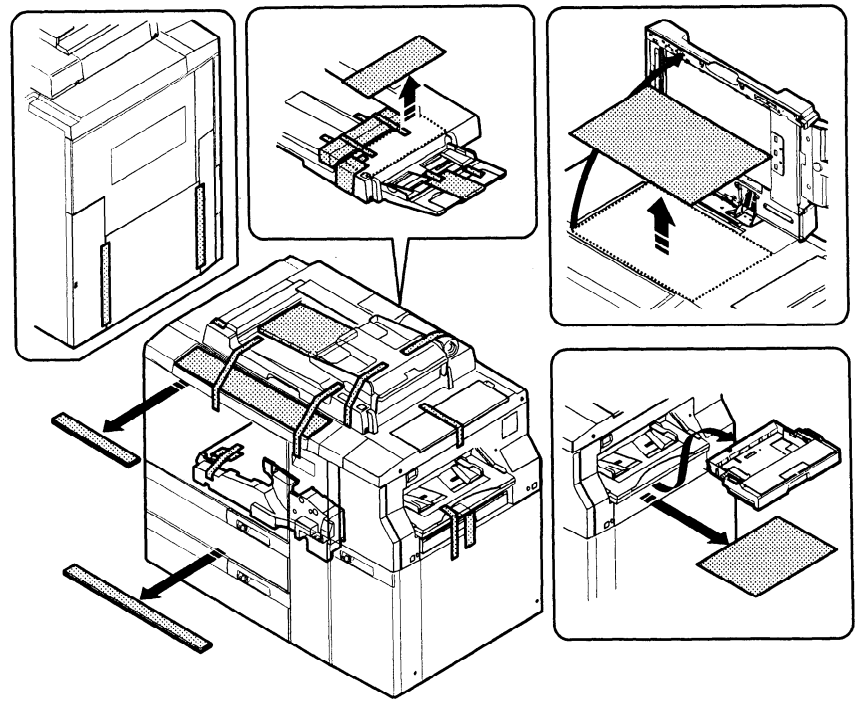
1) Remove the copier from the packing case as shown below:

(New)

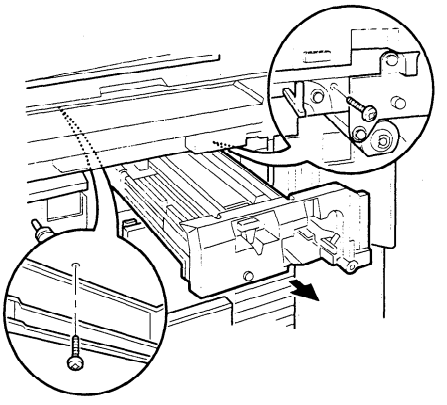


2) Remove the fixing tapes and protection materials.

(New)



3) Remove the lock screw of No. 4/5 mirror unit.

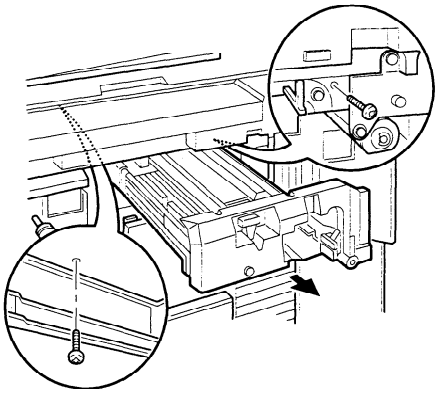


(Locking method)

1) With the power ON, set the magnification ratio to normal. (The No. 4/5 mirror unit is fixed to the normal position.)
2) Turn off the power, and lock with the lock screw.

(3) Lens unit lock release

Remove the lock screw of the lens unit.

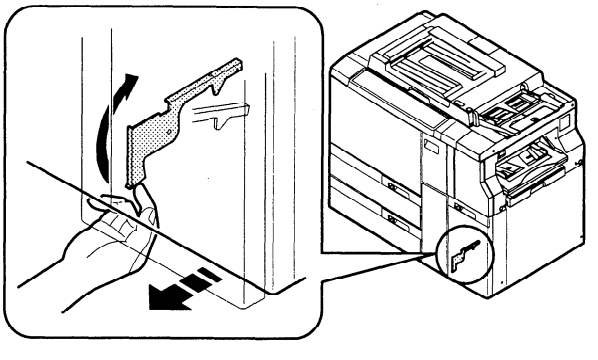


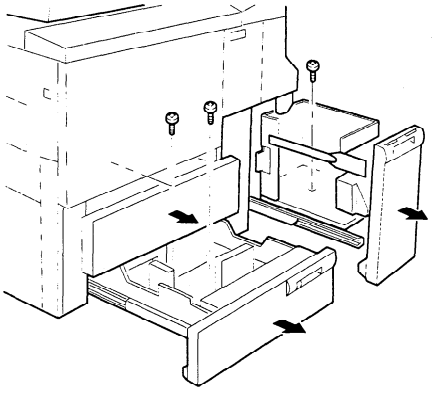
(Locking method)

1) With the power ON, set the magnification ratio to normal. (The lens unit is fixed to the normal position.)
2) Turn off the power, and lock with the lock screw.

(4) Paper feed tray lock release

Manually pull out No. 1, 2, and 3 paper feed trays, and remove the lock screws.



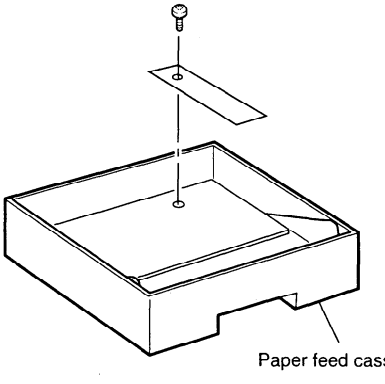


(Locking method)

1) Remove paper on the paper feed tray.
2) Turn on the power and wait until the paper feed tray falls to the lowest position. (When the paper feed tray falls to the lowest position, it stops.)
3) Turn off the power, pull out the paper feed tray, and lock it with the lock screw.

(5) Paper feed cassette lock release

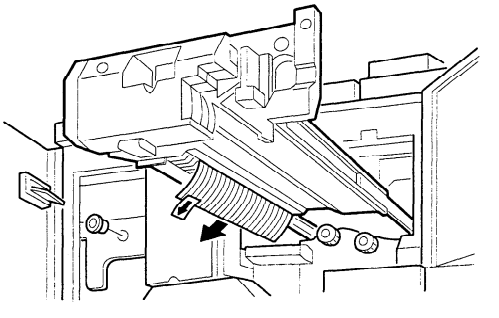
Remove the paper feed cassette lock screw.



(6) Photoconductor drum protection sheet (Except for Europe)

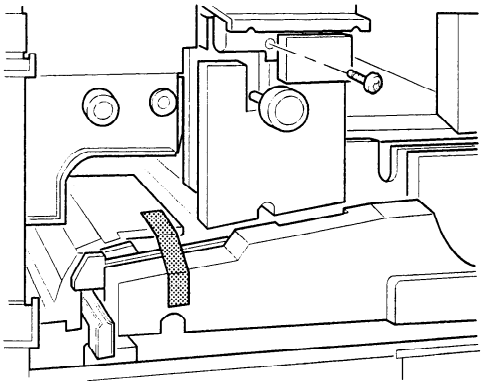
Remove the photoconductor drum protection sheet.

(Note) Do not remove white powder (starting powder) on the photoconductor drum, which is to reduce friction between the cleaning blade and the photoconductor drum.
If this powder is removed, friction between the cleaning blade and the photoconductor drum is increased to reverse the cleaning blade, damaging the photoconductor drum.

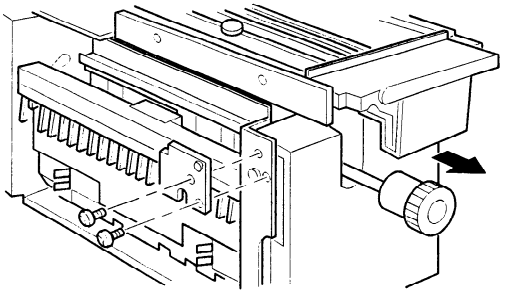


(7) Paper exit guide lock release (Fusing unit)

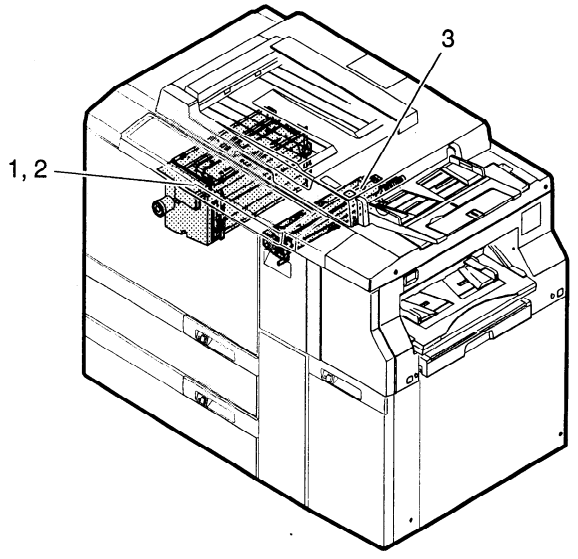
1) Pull out the fusing unit.



2) Remove the paper exit guide lock plate.



5. Parts setup



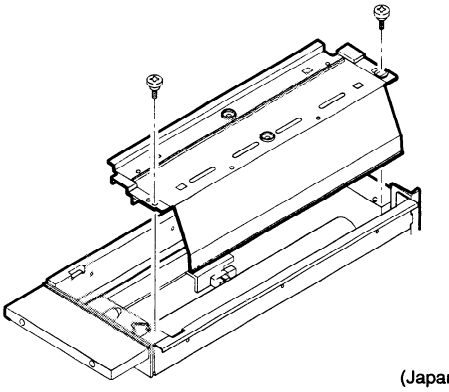
No.	Content
1	Cleaning roller (2 pcs.) (Fusing unit)
2	Fusing roller pressure setup
3	Cleaning blade setup

(1) Cleaning roller setup

1) Pull out the fusing unit.

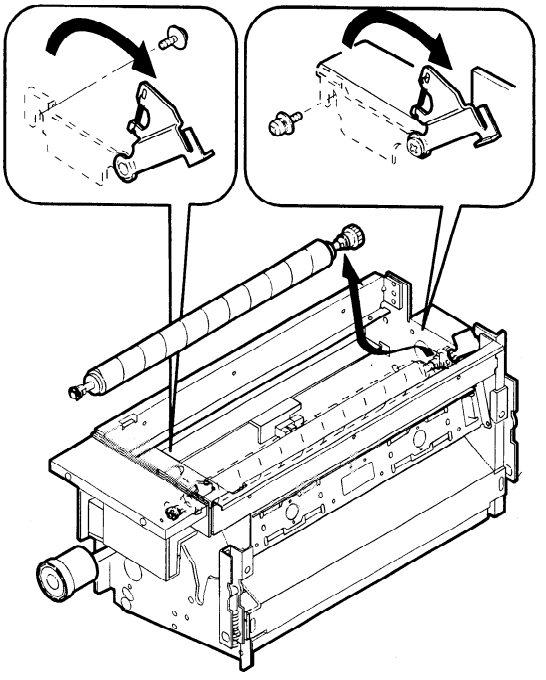
2) *Install the cleaning rollers for the upper and lower fusing roller.*

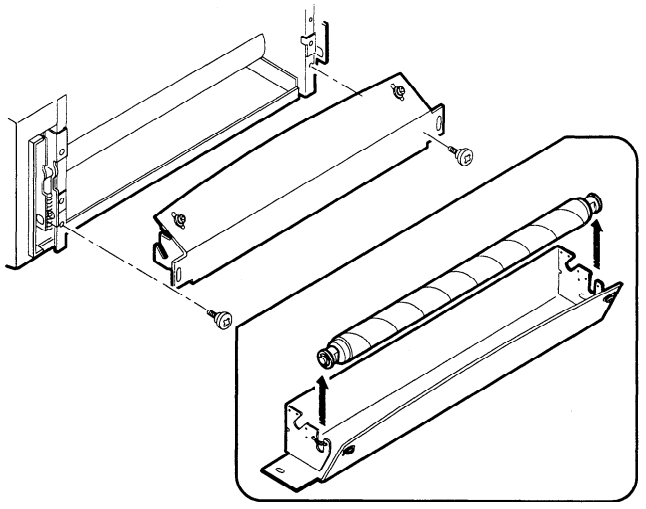
New



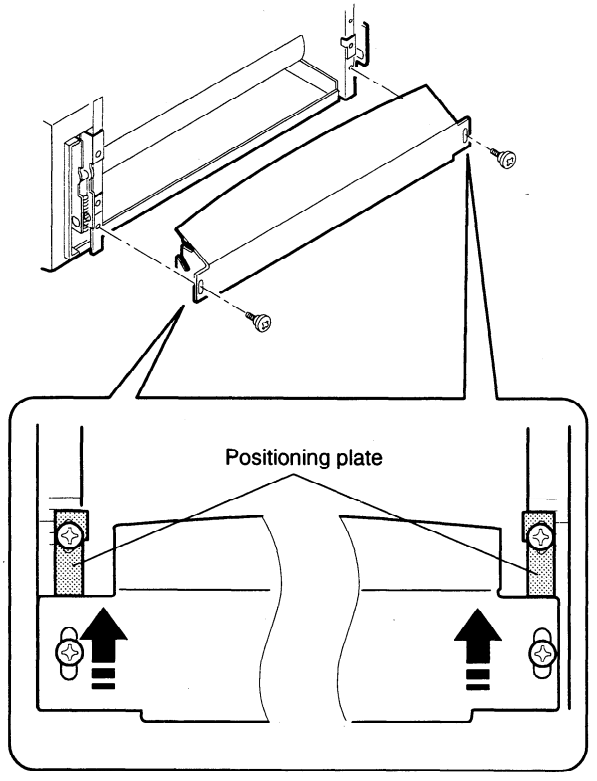
(Japan only)

When installing, check that the tension spring applies tension to the bearing of the cleaning roller.



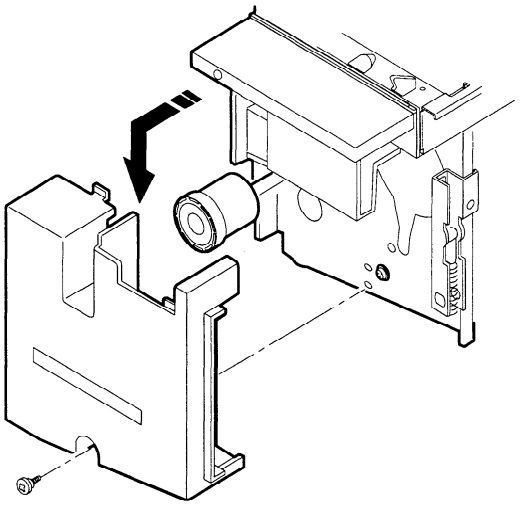


(Note) For installation of the fusing guide, put it in close contact with the fusing guide positioning plate and secure it.

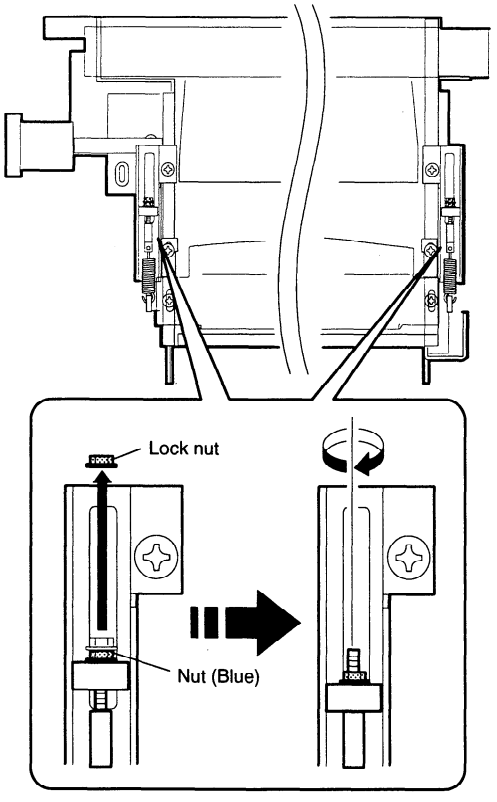


(2) Fusing roller pressure setup

1) Remove the fusing cover, and put down the pressure lever.



2) Remove the lock nut, and turn and fix the pressure adjustment nut (blue) tightly.
(Tighten the nut until the collar clearance is eliminated.)

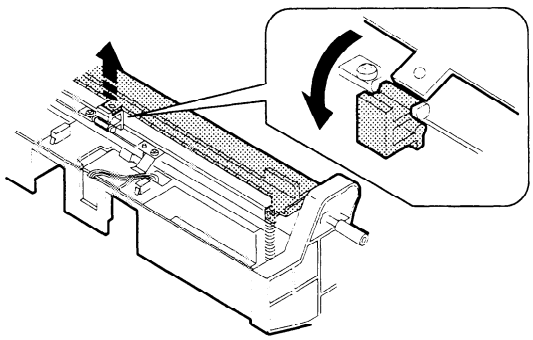


3) Install the lock nut.

4) Set the pressure lever and fix it.

(3) Cleaning blade setup

1) Pull out the process unit and set the cleaning blade.
(Release the release block, and press the cleaning blade onto the photoconductor drum surface.)



(Note) When the copier is not used for a long time, release the cleaning blade pressure.

6. Option installation

When an option is installed, option setting (registration) must be performed with SIM 26-1 and 26-3.

Also when an option is removed, option setting (registration) must be canceled with SIM 26-1 and 26-3.

```
SIMULATION NO.26-1
SORTER/STAPLE SORTER SETTING?

  0.NO SORTER
  1.SF-S55N
```

Set value	Content
0	Without sorter
1	With *SF-S55N* installed

Code	Name	Content
1	P10 (500)	Internal auditor mode (500 dept.)
2	P10 (3100)	Internal auditor mode (500 dept.) + expansion RAM mode (2600 dept.)
3	SF-EA11/12	Card counter mode (SF-EA11)
4	OTHER	Others

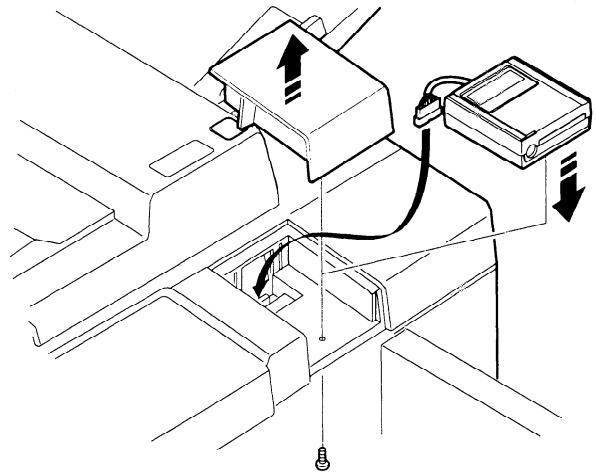
(1) Sorter (*SF-S55N*) installation

(2) Staple cartridge setup

For setup of a staple cartridge, refer to the Service Manual of each model.

(3) Auditor (SF-EA11) installation

1) Remove the auditor installing section cover, and fix the auditor (SF-EA11) with the screw.



When using the auditor (SF-EA11), SIM 26-3 must be set for use of the auditor (SF-EA11).

The external auditor (SF-EA11) and the internal auditor (in the main control PWB) cannot be used together. Either of them must be selected with SIM 26-3.

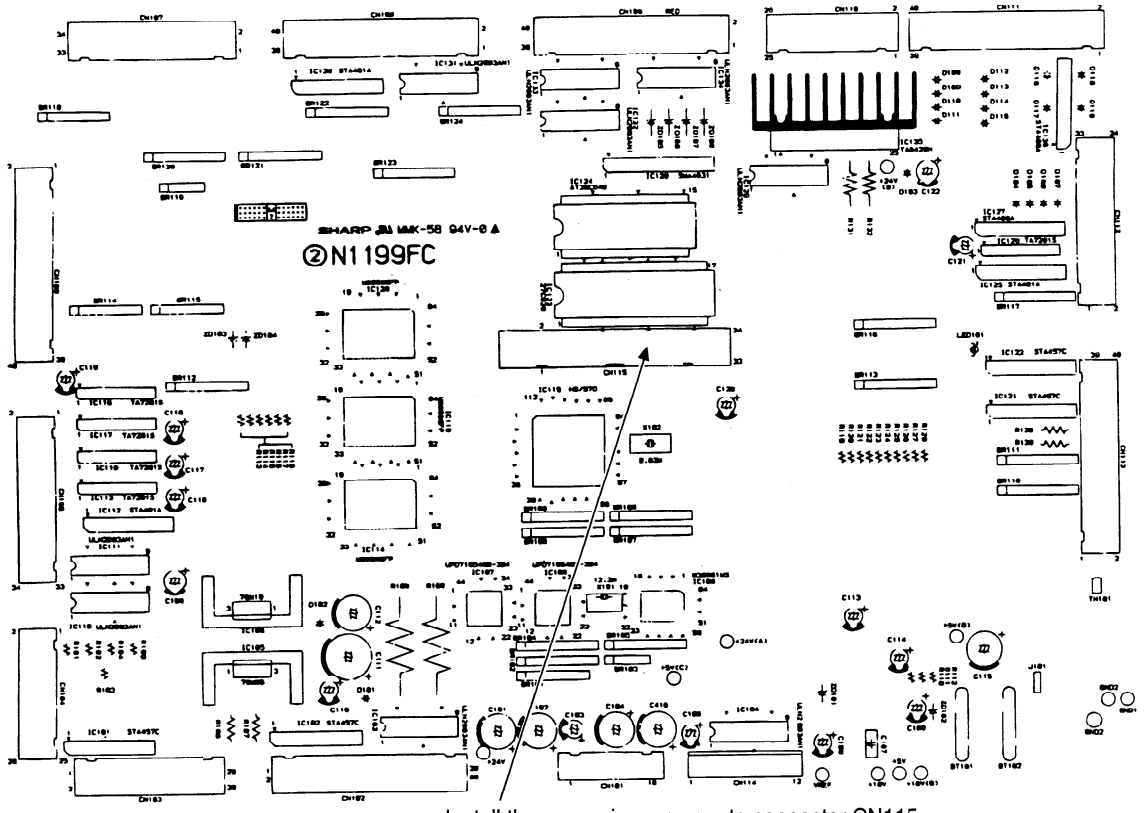
(4) Expansion memory for the internal auditor

The internal auditor (in the main control PWB) has the capacity of controlling 500 departments. By adding expansion memory on the main control PWB, additional 2,600 departments can be controlled, in total 3,100 departments.

(Note) When an expansion memory is installed, it must be initialized with SIM 26-3.

Expansion memory (with frame)	PARTS CODE	DKiT-0321FCZZ

1) Install an expansion memory on the main control PWB.



Install the expansion memory to connector CN115.

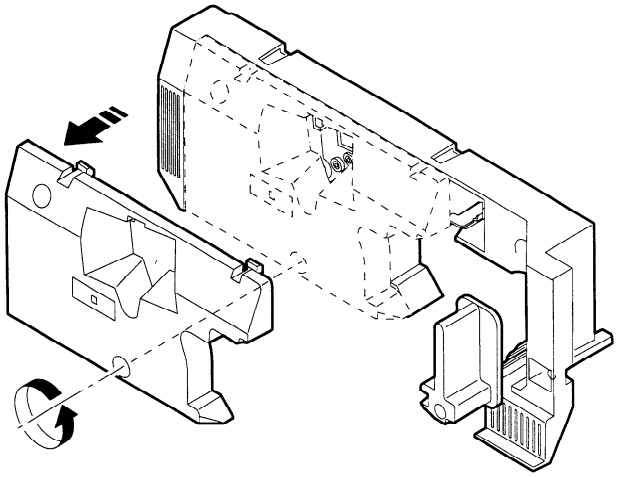
7. Consumable parts setup (When replacing the consumable parts, follow these procedures.)

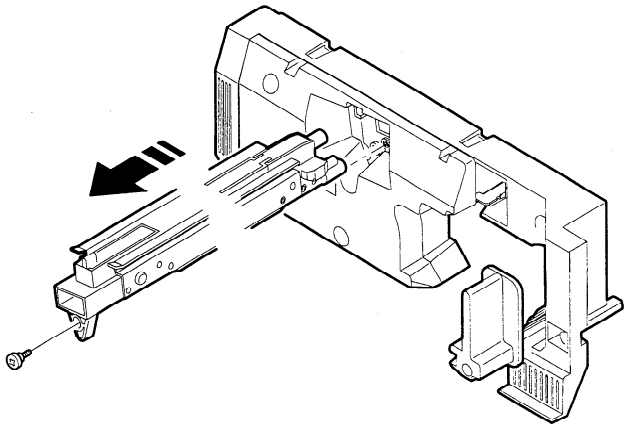
No.	Content	Method
1	Photoconductor drum (Europe only)	
2	Developer setup	
3	Toner concentration control level setting	Set with SIM 25-2.
4	Toner setup	

(1) Photoconductor drum setup (Europe only)

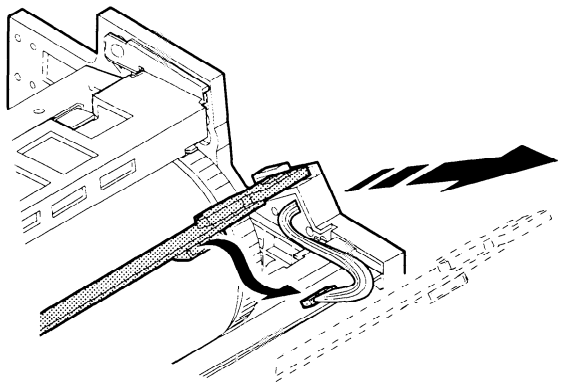
Since, in Europe, the photoconductor is not installed to the copier body, this procedure must be performed.

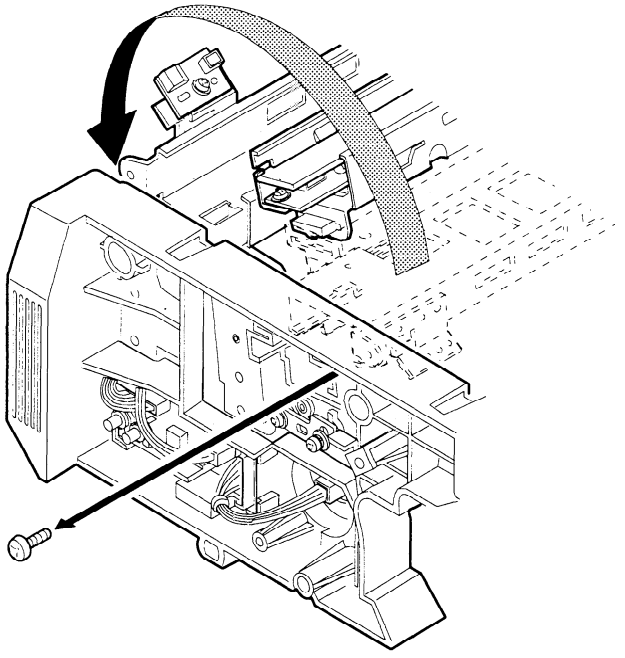
1) Pull out the process unit, and remove the main charger unit and the process unit cover.

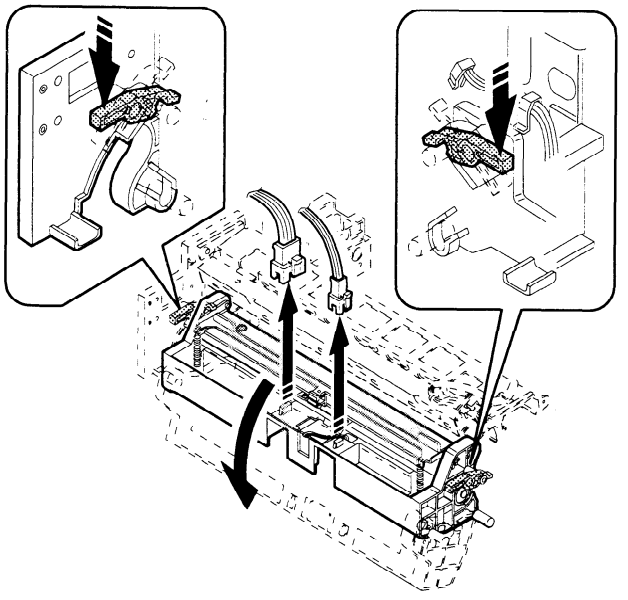




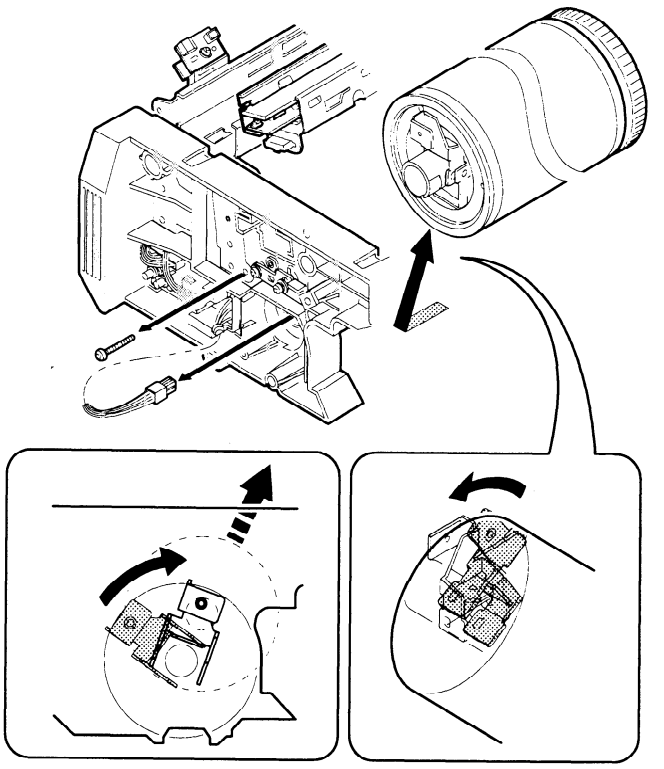
2) Remove the blank lamp unit and the cleaner unit, and open the main charger holder.



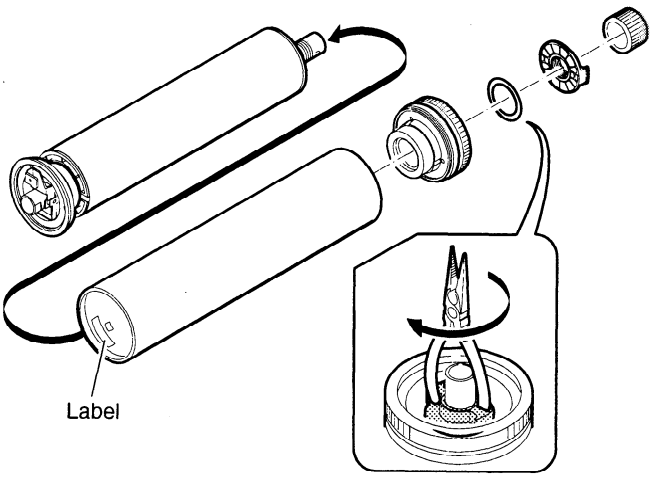




3) Remove the photoconductor drum shaft and the flange unit.



4) Record the serial No. inside the photoconductor drum.

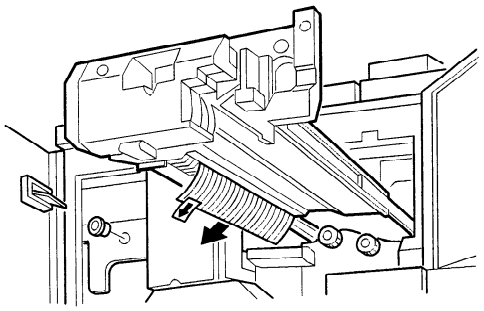


5) Install the photoconductor drum to the flange unit.
(Do not remove the protection sheet.)

6) Install the photoconductor drum to the process unit.

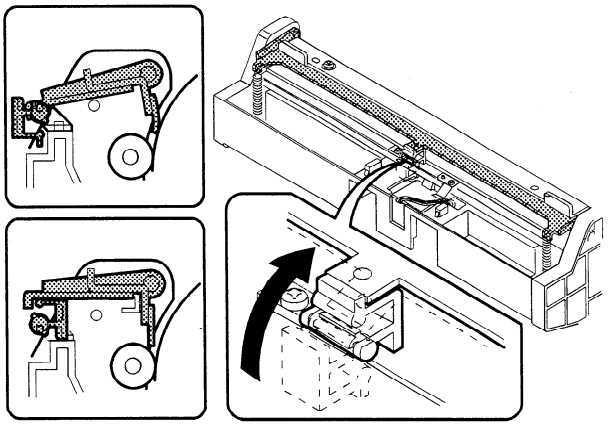
7) Replace the parts to the process unit.

8) Remove the photoconductor drum protection sheet.



(Note) Do not remove white powder (starting powder) on the photoconductor drum, which is to reduce friction between the cleaning blade and the photoconductor drum.
If this powder is removed, friction between the cleaning blade and the photoconductor drum is increased to reverse the cleaning blade, damaging the photoconductor drum.

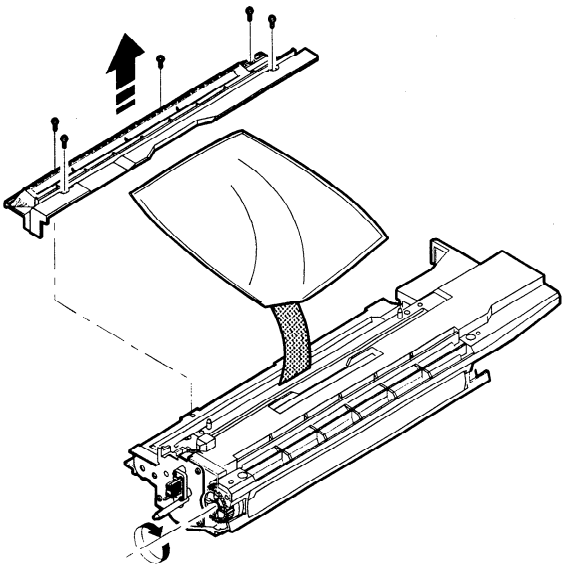
9) Set the cleaning blade.
(Release the release block, and press the cleaning blade onto the photoconductor drum surface.)



(Note) When the copier is not used for a long time, release the cleaning blade pressure.

(2) Developer setup

1) Remove the developing unit cover, and pour developer into the developing unit.
Manually turn the developing roller drive gear, and supply two packs of developer (1kg × 2).



(Note) Developer for the SD-2060/*2260* cannot be used for the *SD-2275.*

(3) Toner concentration control level setting

Virgin developer has been adjusted to the specified toner concentration. This density is detected by the sensor and stored. After that, the toner concentration level is used as the reference level, and developer is controlled to provide the same level as the virgin developer.

The above operation is performed with SIM 25-2.

When developer is replaced, this procedure must be performed.

1) With the front cabinet open (with the front cabinet open/close detection switch OFF), turn on the power to enter the SIM 25-2 mode.

```
SIMULATION NO. 25
INPUT 1 ~ 2

1.TONER CONCENTRATION SENSOR MONITOR
2.AUTOMATIC TONER CONCENTRATION
  ADJUSTMENT/DV STIR
```

(Note) Do not turn on the power with the front cabinet closed (with the front cabinet open/close detection switch ON). Toner would be supplied to the developing unit and the toner concentration of the virgin developer may not be the reference level.

2) Close the front cabinet. (The front cabinet open/close detection switch is turned ON.)

3) Press the START button.

Developer is stirred for 3 minutes, and the reference toner concentration level is memorized.

Be sure not to cancel SIM 25-2 until stirring of developer is completed in 3 minutes.

If EU trouble or EL trouble occurs midway, check for abnormality in the developing unit.

(Note) In case of memory trouble, if the main control PWB is replaced, the stored reference toner concentration level is cleared.
For countermeasures against this, there are two ways as shown below. Use one of them according to the situation.

* When the toner concentration level is normal (presumption):

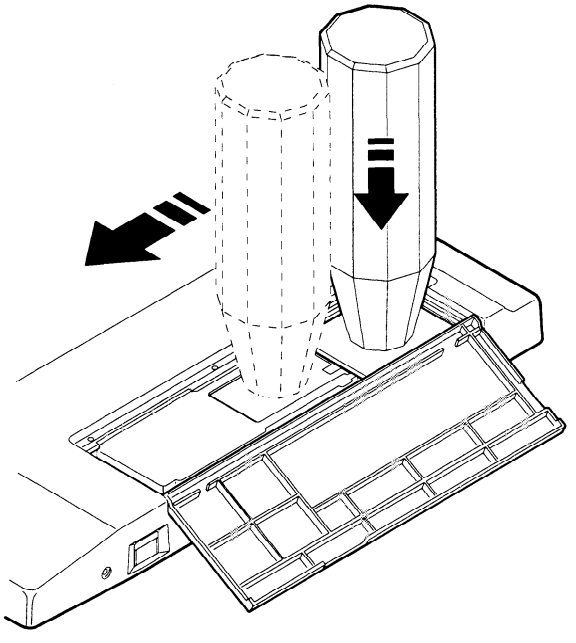
  (Countermeasure) Execute SIM 25-2 to set the reference toner concentration again.

* When the toner concentration is not normal:
  Replace the developer with new one, and execute SIM25-2 to set the reference toner concentration level.

(4) Toner setup

Fit the toner bottle to the toner supply port, and slide it.

Confirm that all toner falls, and remove the toner bottle from the toner supply port.



(Note) Do not supply two or more bottles at one time. If two or more toner is supplied at one time, toner jam may occur in the toner hopper. Supply toner only when "SUPPLY TONER" display is made on the LCD.

8. Cleaning

Clean the following units.

For copiers which have been stored for a long time, some sections other than the following units may be dirtied. Clean them according to necessity.

No.	Content
1	Main charger unit
2	Pre-transfer charger unit
3	Transfer/separation charger unit
4	Original table glass
	Others (cabinet, etc.)

1) Main charger unit (screen grid, saw teeth section)
2) Pre-transfer charger unit (charger wire)
3) Transfer/separation charger unit (charger wire)
4) Original table glass
5) Others (cabinet, etc.)

9. Operational specification setup

The operational specifications of the copier must be set according to the user's necessity.

For setting with software, refer to the sections shown in the table below.

No.	Content	Method
1	Separation charger voltage setting (according to the altitude)	Check the high voltage PWB connector CN2 connection.
2	No. 1 paper feed tray paper size setting (hardware)	Refer to [6]-2-C.
3	No. 1 paper feed tray paper size setting (software)	Set with SIM 26-2.
4	Option setting (Software)	Set with SIM 26-1.
5	Expansion memory initializing (only when an expansion memory is installed)	Set with SIM 26-3.
6	Auditor operation mode setting	Set with SIM 26-3.
7	Count mode setting	Set with SIM 26-5.
8	Destination specification setting	Set with SIM 26-6.
9	Maintenance cycle setting	Set with SIM 21-1.
10	Toner save mode YES/NO setting	Set with SIM 26-18.
11	Power shut off operation mode setting	Set with SIM 26-26.
12	Display language setting	Replace the data ROM on the operation control PWB.

10. Image correction function setup and check

Image correction function is set up when shipping. Check it before use.

For correct performance of image correction (main charger, copy lamp, copy density control correction), the operational setting of image correction must be made.

The operational setting of image correction is made with simulations.

For the setting procedure, refer to the sections listed in the table below.

No.	Content	Method
1	Image correction function setting	Set SIM 44-1 to 127.
2	Main charger correction reference density setting	Set SIM 44-4 to 75.

11. Image density sensor, photoconductor drum mark sensor operation check

These sensors are to control image correction, and must be adjusted to the proper sensitivity.

They are adjusted when shipping. Check it before use.

No.	Content	Method
1	Photoconductor drum mark sensor sensitivity check (adjustment)	Check with SIM 44-2. (adjustment)
2	Image density sensor sensitivity check (adjustment)	Check with SIM 44-3. (adjustment)

12. Image correction execution

When the power is supplied, warming up is started. During warm up, the following corrections are performed to adjust the copy density automatically.

1) Main charger grid voltage correction
2) Optical dirt correction (copy lamp voltage)
3) Auto copy density adjustment (copy lamp voltage)

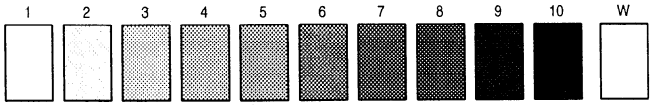
13. Copy density check

Make a copy in each copy mode, and check that the copy density is within the level in the table below.

Before checking the copy density, be sure to check that the key operator program 20 copy density level is set to 3.

Selection between the toner save mode and the non-toner-save mode is made with the key operator program 22.

(Test chart compatibility table)



UKOG-0162FCZZ Density No.	1	2	3	4	5	6	7	8	9	10	W
UKOG-0089CSZZ Density No.	0.1		0.2		0.3				0.5	1.9	0
KODAK gray scale		1		2		3		4		19	A

Copy density adjustment reference

Copy mode				Density level		UKOG-0162FCZZ gray scale		
				Operation panel density setting	Key operator P20 setting	Copied	Slightly copied	Not copied
(1)	Non-toner save mode	a	Manual copy mode copy density adjustment	1	3	7	6	5
				5	3	1		W
		b	Photo copy mode copy density adjustment	1	3	7	6	5
				5	3	1		W
		c	Auto copy mode copy density adjustment		3	4	3	2
(2)	Toner save mode (Set by key operator program P20)	a	Manual copy mode copy density adjustment	1	3	7	6	5
				5	3	1		W
		c	Auto copy mode copy density adjustment		3	4	3	2

14. Focus (resolution), copy magnification ratio check (adjustment)

Make a copy in each copy mode, and check that the focus (resolution) and the copy magnification ratio are in the range shown in table below.

For the adjustment and checking procedures, refer to the sections shown in the table.

Copy magnification ratio	Copy center	Corners
100%	5.0 lines/mm	4.5 lines/mm
101 ~ 200%	5.0 lines/mm	4.5 lines/mm
90 ~ 99%	4.5 lines/mm	4.0 lines/mm
64 ~ 89%	3.6 lines/mm	3.2 lines/mm
50 ~ 63%	3.2 lines/mm	2.8 lines/mm

No.	Content	Method
1	Focus (resolution) (Normal, 50%, 200%)	Adjust with SIM 48-1 (A/B/C).
2	Vertical copy magnification ration (normal, 50%, 200%)	Adjust with SIM 48-1 (D/E/F).
3	Horizontal copy magnification ration (normal)	Adjust with SIM 48-1.

15. Operation check

Make a copy in each copy mode listed below, and check that the operation is normal.

No.	Content
1	Paper size detection (manual paper feed tray)
2	Paper size detection (No. 2, 3 paper feed tray)
3	Original size detection (Original table)
4	Original size detection (RADF original feed tray)
5	(Manual paper feed tray, No. 1, 2, 3 paper feed tray, cassette) copying
6	RADF copying (S-S mode)
7	RADF copying (S-D mode)
8	RADF copying (D-D mode)
9	RADF copying (D-S mode)
10	Zoom copying (enlargement, reduction)
11	Sort mode copying (with *SF-S55N* installed)
12	Group mode copying (with *SF-S55N* installed)
13	Sort staple mode copy (with *SF-S55N* installed)

16. Copy image center shift check

Make a copy in each copy mode listed below, and check that the copy image center shift is within the allowable range.

For the adjustment and checking procedures, refer to the sections shown in the table.

Original table mode	Single		±2.0 mm
	Duplex		±2.0 mm
Overall (RADF) mode	Single	S → S	±3.0 mm
		D → S	±4.0 mm
	Duplex	S → D	±3.0 mm
		D → D	±4.0 mm

No.	Content	Method
1	Original table copy mode (front) (Manual paper feed tray, No. 1, 2, 3 paper feed tray, paper feed cassette)	Adjust by changing the positions of the paper feed tray, the paper feed cassette, and the manual paper feed tray.
2	Original table copy mode (back) (No. 1, 2, 3 paper feed tray, paper feed cassette)	Adjust by changing the position of the duplex tray.
3	RADF copy mode	Adjust by changing the position of the RADF paper feed tray.

17. Image loss, void area check (adjustment)

Make a copy in each copy mode listed below, and check that the image loss and void area are within the allowable range.

For the adjustment and checking procedures, refer to the sections shown in the table.

Item	Lead edge	Rear edge
Image loss	1.0 ~ 4.5 mm	—
Voide area	1.0 ~ 3.0 mm	1.0 ~ 4.0 mm
Image shift for the paper	0±1.5 mm	—

No.	Content	Method
1	Original table copy mode (lead edge image loss, void area) (rear edge void area)	Adjust with SIM 50-1.
2	RADF copy mode (S-S mode) (lead edge image loss, void area)	In the RADF copy mode, the adjustment value of SIM 53-1 must be also checked.
3	RADF copy mode (D-D mode) (lead edge image loss, void area, rear edge void area)	
4	RADF thin film copy mode (lead edge image loss, void area, rear edge void area)	
5	RADF stepping copy mode (lead edge image loss, void area, rear edge void area)	

18. Recording of adjustment/setting values, ROM version

It is advisable to record the adjustment and setting values as well as the ROM version. If they are not recorded, all the adjustments must be executed again from the beginning when a memory trouble occurs, or when the main control PWB is replaced, or memory on the main control PWB is replaced.

If, however, the adjustment values are recorded, it is only required to enter the values with the corresponding simulations. This greatly increases the efficiency in servicing.

By use of the commander (SF-EA13), all the adjustment and setting values and the ROM version are printed.

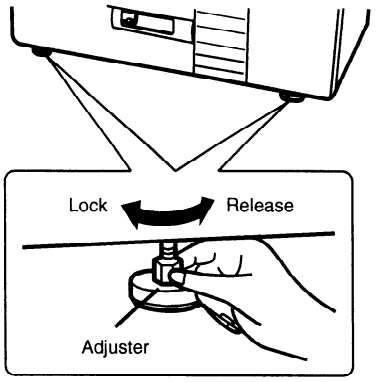
If the commander (SF-EA13) is not available, execute each simulation related to each adjustment and setting, and read the adjustment and setting values and record them.

19. Explanation for user operations

20. Others

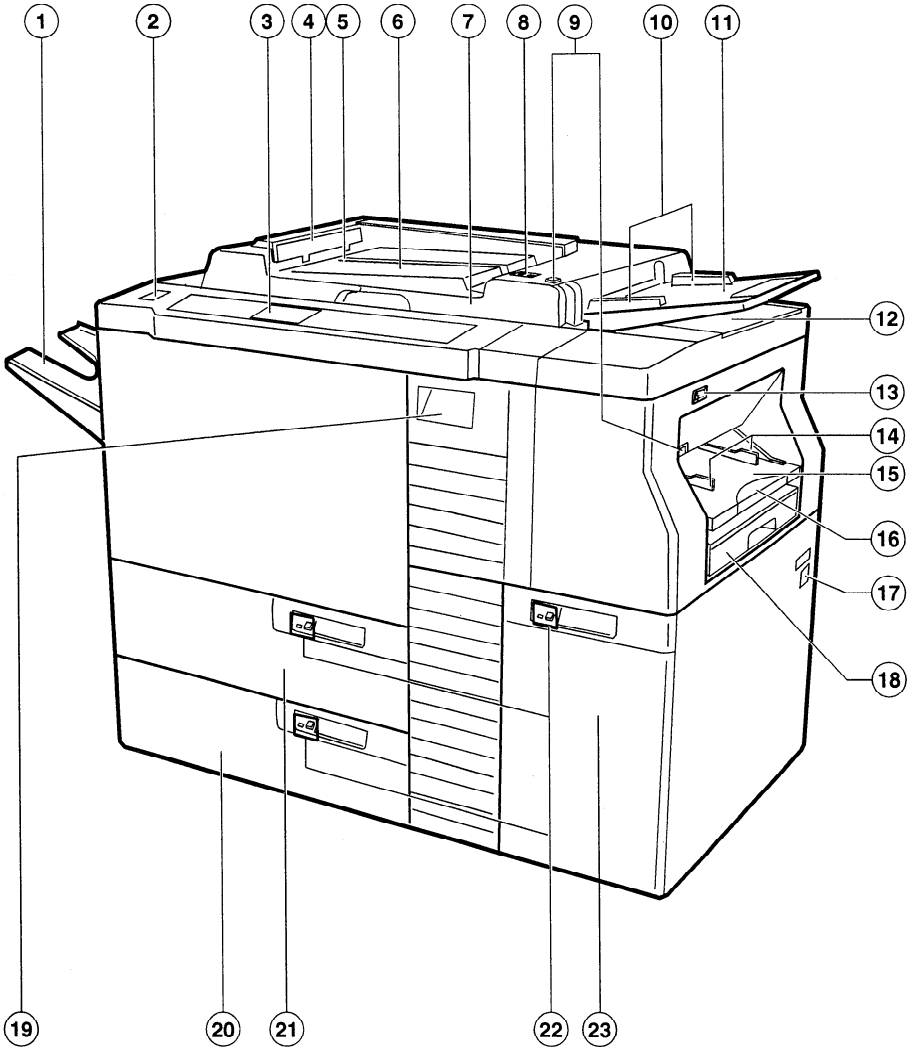
(1) Fixing adjuster setup

Turn the adjuster to fix the copier.



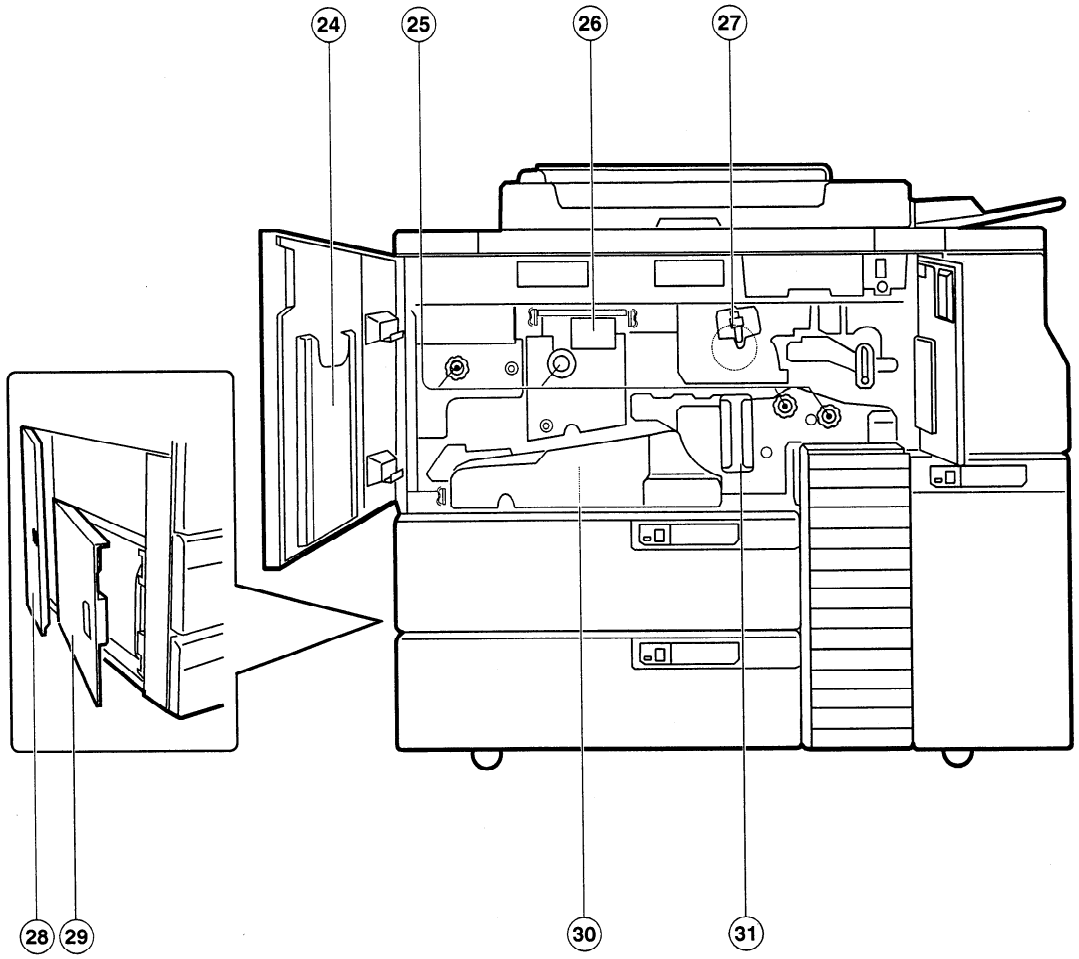
[5] EXTERNAL VIEWS AND INTERNAL STRUCTURE

1. External views



①	Copy tray	②	Clip tray	③	Operation panel
④	Document exit section cover	⑤	Document exit section	⑥	Reversing automatic document feeder (RADF) unit
⑦	Document table	⑧	Document feed lamp, document remaining lamp	⑨	Paper feed pressure release button
⑩	Document guide	⑪	Document set table	⑫	Toner box cover
⑬	Power switch	⑭	Manual paper feed guide	⑮	Manual paper feed tray
⑯	Manual feed guide tray	⑰	Heater switch	⑱	Paper cassette
⑲	Front cover	⑳	No. 3 paper feed tray	㉑	No. 2 paper feed tray
㉒	Tray falling button/lamp	㉓	No. 1 paper feed tray		

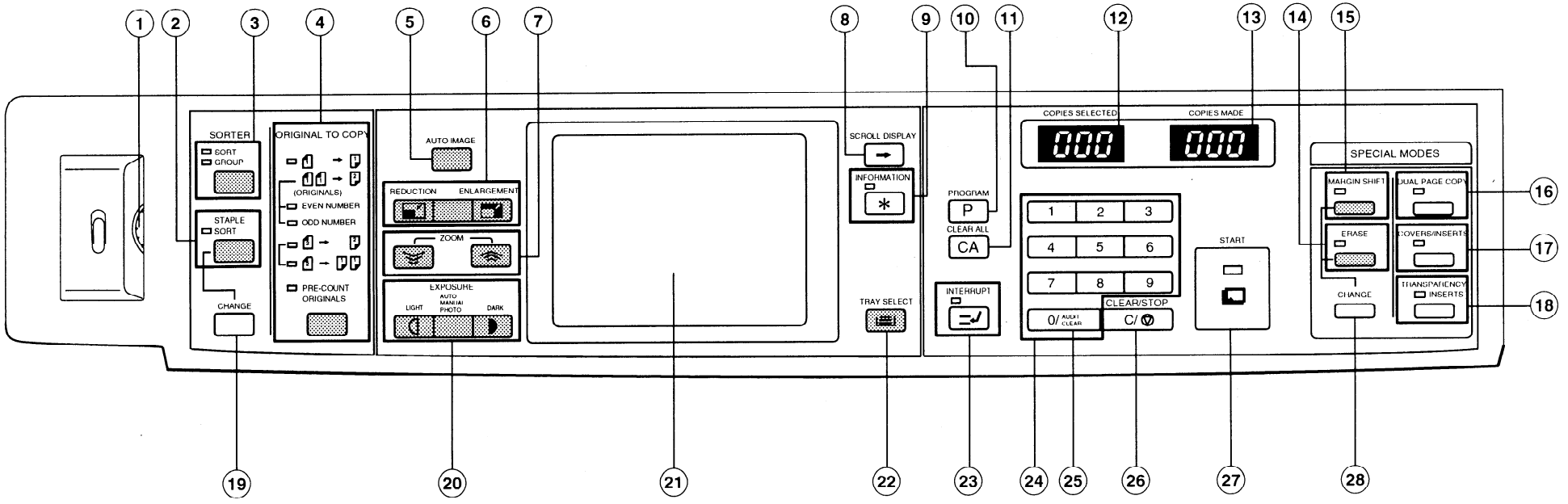
2. Internal operation parts



㉔	Operation Manual storing section	㉕	Roller rotating knob	㉖	Fusing section lock lever
㉗	OPC drum	㉘	Toner collection container storing section cover	㉙	Left side cover
㉚	Duplex unit	㉛	Transport section open/close lever		

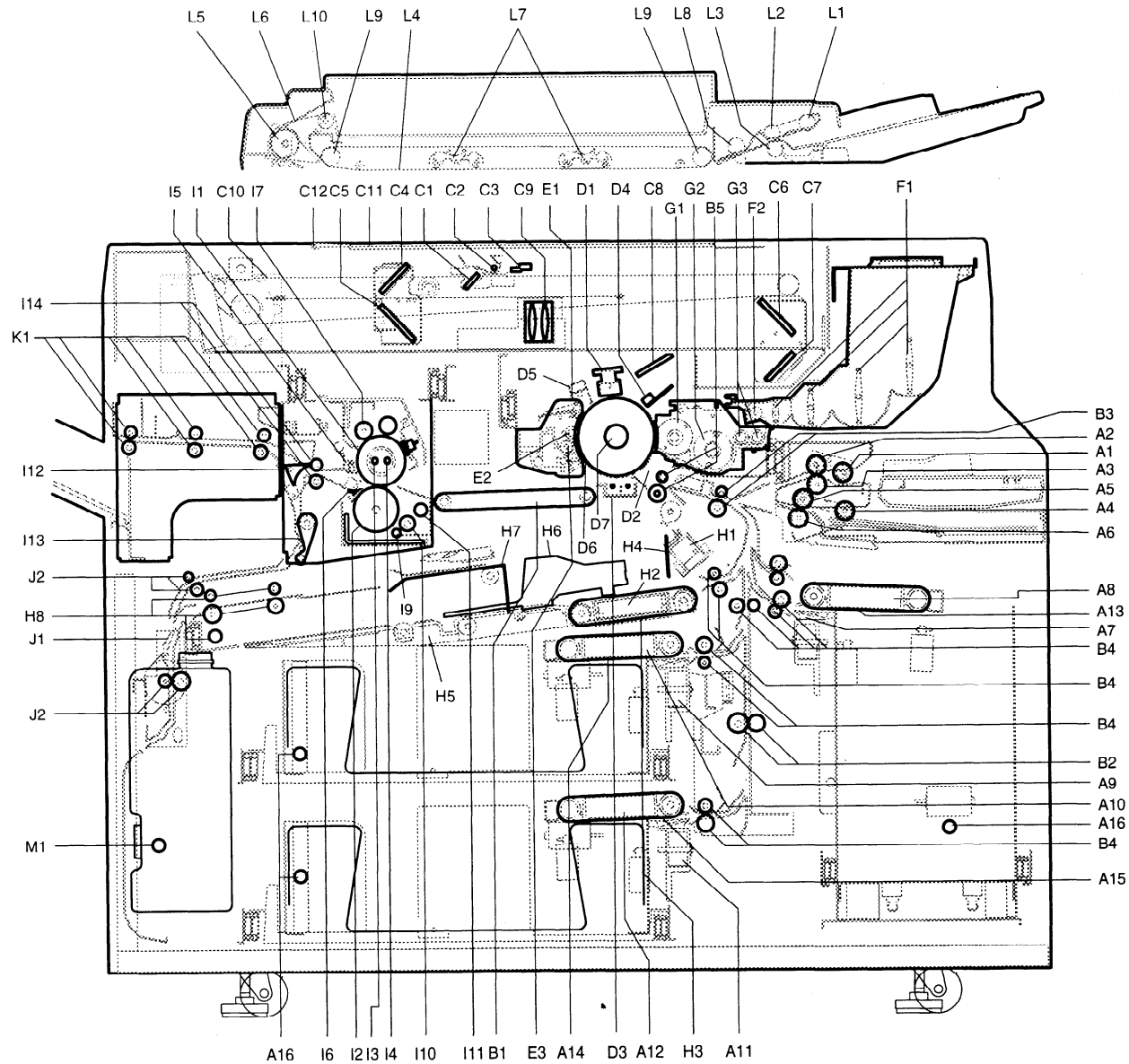
3. Operation panel

(New)



①	LCD brightness adjusting dial	②	Staple sort key/display lamp	③	Sort/group key/display lamp
④	Document → Copy selection/display lamp	⑤	Magnification ratio auto select key	⑥	Reduction/normal/enlargement key
⑦	Zoom key	⑧	Message forward scroll key	⑨	Operation guide key/display lamp
⑩	Program key	⑪	All clear key	⑫	COPIES SELECTED display
⑬	COPIES MADE display	⑭	Frame erase/display lamp	⑮	Binding margin key/display lamp
⑯	*Dual page copy*/display lamp	⑰	Cover/index paper insert key/display lamp	⑱	OHP insert paper insert key/display lamp
⑲	Setting change key (Staple sorter SF-S55)	⑳	Copy exposure key	㉑	Message screen
㉒	Tray selection key	㉓	Interruption key/display lamp	㉔	10-key pad
㉕	Zero/department count end key	㉖	Clear/stop key	㉗	Start key/start lamp
㉘	Setting change key				

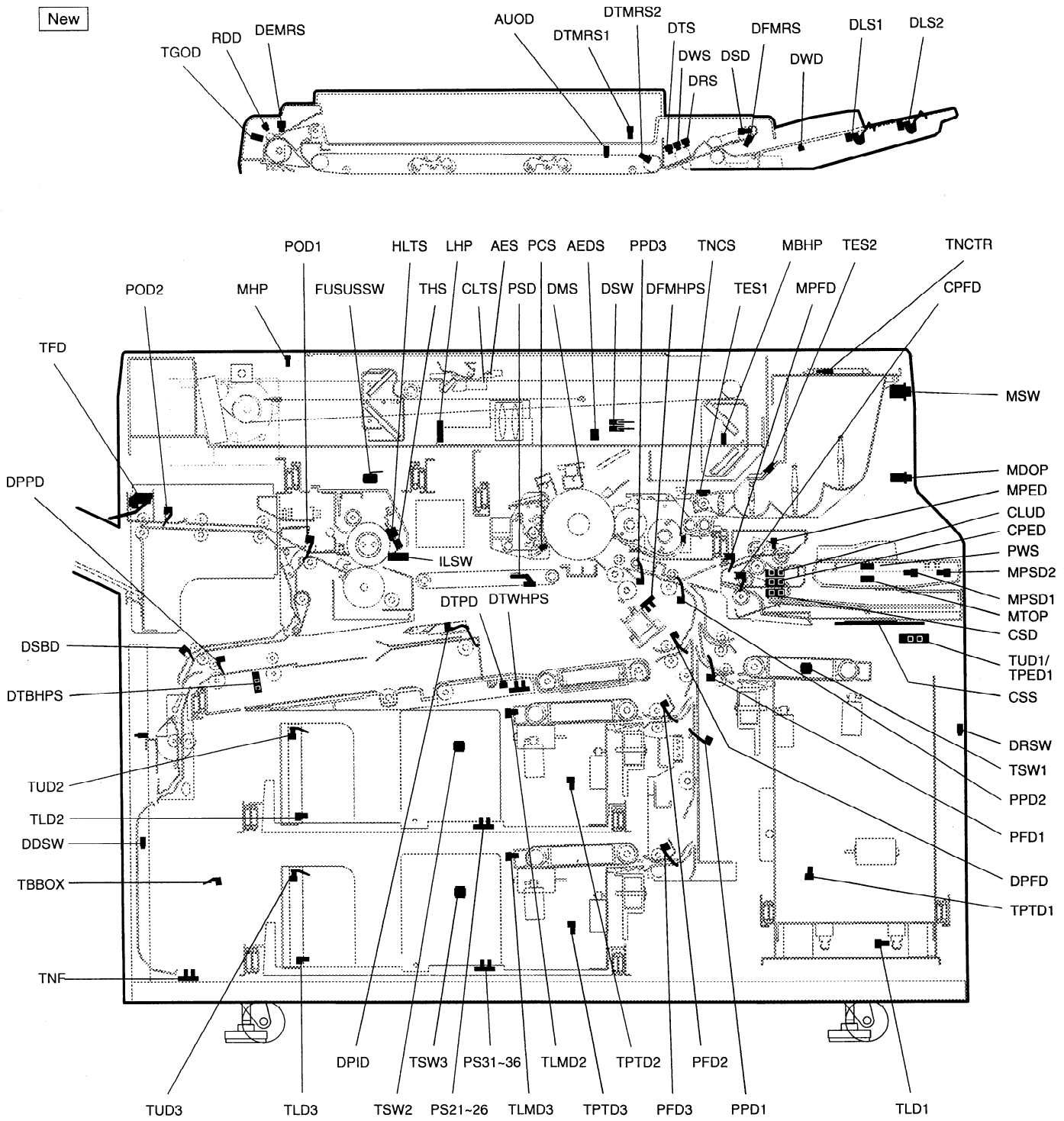
4. Internal parts



No.	Section	No.	Part name	Remark
A	Paper feed section	1	Manual paper feed pick-up roller	
		2	Manual paper feed roller	
		3	Manual paper feed separation roller	
		4	Cassette pick-up roller	
		5	Cassette paper feed roller	
		6	Cassette separation roller	
		7	Blower unit (No. 1 paper feed tray)	
		8	Suction unit (No. 1 paper feed tray)	
		9	Blower unit (No. 2 paper feed tray)	
		10	Suction unit (No. 2 paper feed tray)	
		11	Blower unit (No. 3 paper feed unit)	
		12	Suction unit (No. 3 paper feed unit)	
		13	Paper feed belt (No. 1 paper feed tray)	
		14	Paper feed belt (No. 2 paper feed tray)	
		15	Paper feed belt (No. 3 paper feed tray)	
		16	Lift wire	
B	Paper transport section	1	Transport suction belt	
		2	Transport roller 1 (with clutch)	
		3	Transport roller 2 (with clutch)	
		4	Transport roller	
		5	Resist roller	

No.	Section	No.	Part name	Remark
C	Optical section	1	No. 1 mirror	
		2	Copy lamp	
		3	Reflect	
		4	No. 2 mirror	
		5	No. 3 mirror	
		6	Mo. 4 mirror	
		7	No. 5 mirror	
		8	No. 6 mirror	
		9	Lens	
		10	Scanner drive wire	
		11	Document table (glass)	
		12	Document stopper	
D	Image forming section	1	Main charger unit	
		2	Pre-transfer discharging charger unit	
		3	Transfer/separation charger unit	
		4	Blank lamp unit	
		5	Discharge lamp unit	
		6	OPC drum	
		7	OPC drum heater	
E	Cleaner section	1	Cleaning blade	
		2	Cleaning brush	
		3	Waste toner transport screw	
F	Toner hopper section	1	Toner transport bar	
		2	Toner supply roller	
G	Developing section	1	Developing roller	
		2	Toner stirring roller	
		3	Toner transport roller	
H	Duplex section	1	Blower unit	
		2	Suction unit	
		3	Paper feed belt	
		4	Paper stopper	
		5	Drive belt	
		6	Alignment plate (width)	
		7	Alignment plate (transport direction)	
		8	Transport roller	
I	Fusing section	1	Heat roller	
		2	Pressure roller	
		3	Sub heater lamp	
		4	Main heater lamp	
		5	*Separation* pawl (Upper)	
		6	Separation pawl (Lower)	
		7	Cleaning roller (Upper)	
		9	Cleaning felt	
		10	Paper dust cleaning roller	
		11	Paper dust cleaning roller (lower)	
		12	Duplex gate	
		13	Curl correction belt	
		14	Paper exit roller	
J	Switchback section	1	Switchback gate	
		2	Transport roller	
K	Paper exit section	1	Paper exit roller	
L	RADF	1	RADF pick-up roller	
		2	RADF paper feed roller	
		3	RADF separation roller	
		4	Transport roller	
		5	Paper exit/reverse roller	
		6	Reverse gate	
		7	Tension roller	
		8	Resist roller	
		9	Transport roller	
		10	Paper exit roller	
M	Others	1	Waste toner bottle	

5. Sensors and detectors

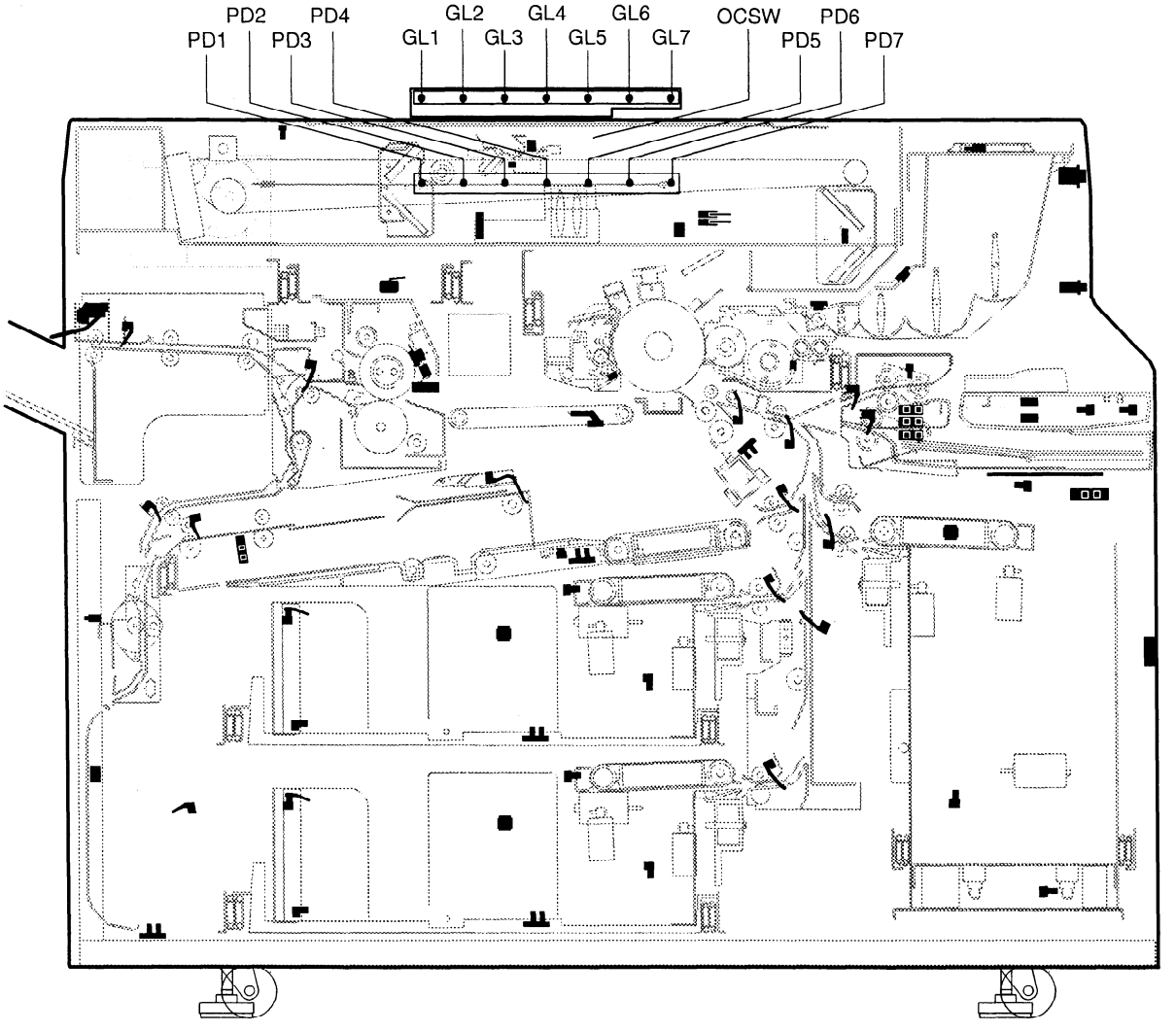


Code (Signal name)	Name	Type	Function, operation
AEDS	Optical dirt sensor	Photo diode	Optical section dirt detection
AES	AE sensor	Photo diode	Document density detection
CLTS	Thermostat ((Optical section)	Thermostat	Optical section overheat protection (Copy lamp AC power line is cut off.)
CLUD	Paper cassette paper top detector	Photo transmission	Paper cassette lift plate upper limit position detection
CPED	Paper cassette paper empty detector	Photo transmission	Paper cassette paper empty detection
CPFD	Paper feed detector (Paper cassette)	Photo transmission	Detection of paper fed from the paper cassette
CSD	Paper cassette detector	Photo transmission	Detection of paper cassette installed
CSS	Cassette size sensor (5 lead switches)	Lead switch	Detection of paper size on the paper cassette
DDSW	Open/close detection switches (switchback cabinet section) 2 pcs.	Microswitch	When the switchback section cabinet is opened, the switchback DC24V power line is opened. Switchback section cabinet open/close is detected.

Code (Signal name)	Name	Type	Function, operation
DFMHPS	Blower valve home position sensor (Duplex)	Photo transmission	Blower valve home position (Duplex) detection
DRSW	Drum heater switch	See-saw switch	De-moisture heater switch
DMS	OPC drum mark sensor	Photo transistor	OPC drum marking detection
DPFD	Paper feed detector (Duplex)	Photo transmission	Detection of paper fed from the duplex tray
DPID	Paper entry detector 2 (Duplex)	Photo transmission	Detection of paper entry into the duplex tray
DPPD	Paper entry detector 1 (Duplex)	Photo transmission	Detection of paper entry into the duplex section
DSBD	Paper entry detector (Switchback)	Photo transmission	Paper entry detection in the switchback section
DSW	Open/close detection switch (Front cabinet section) 2 pcs.	Microswitch	When the front cabinet is opened, DC24V/38V power line is opened. Detection of open/close of the front cabinet
DTBHPS	Alignment plate (length) home position sensor	Photo transmission	Alignment plate (length) home position sensor
DTPD	Paper sensor (Duplex)	Photo transmission	Duplex tray paper detection
DTWHPS	Alignment plate (width) home position sensor	Photo transmission	Alignment plate (width) home position sensor
FUSUS SW	Safety switch (Fusing section)	Microswitch	Cuts the heater lamp power line simultaneously when the fusing unit release lever is released.
HLTS	Thermostat (Fusing section)	Thermostat	Fusing section overheat protection (The heater lamp AC power line is cut off.)
ILSW	Fusing interlock switch	Mechanical switch	When the fusing unit is pulled out, the heater lamp power line is opened.
LHP	Lens home position sensor	Photo transmission	Lens home position detection
MBHP	Mirror base home position sensor	Photo transmission	No. 4/5 mirror unit home position sensor
MDOP	Manual paper feed tray open/close sensor	Lead switch	Manual per feed tray open/close detection
MHP	Scanner home position sensor	Photo transmission	Scanner unit home position sensor
MPED	Paper empty detector (Manual paper feed section)	Photo transmission	Manual paper feed section paper detection
MPFD	Paper feed detector (Manual paper feed)	Photo transmission	Detection of paper fed from the manual paper feed section
MPSD1	Paper length detector 1 (Manual paper feed section)	Photo transmission	Paper length detection (manual paper feed section)
MPSD2	Paper length detector 2 (Manual paper feed section)	Photo transmission	Paper length detection (manual paper feed section)
MSW	Main switch	See-saw switch	Main power ON/OFF (The power switch is forcibly turned off after the power shut off operation.)
MTOP	Manual paper feed tray pull-out detector	Lead switch	Manual paper feed tray pull-out detection
PFD1	Paper feed detector 1	Photo transmission	Detection of paper fed from No. 1 paper feed tray
PFD2	Paper feed detector 2	Photo transmission	Detection of paper fed from No. 2 paper feed tray
PFD3	Paper feed detector 3	Photo transmission	Detection of paper fed from No. 3 paper feed tray
POD1	Paper exit detector 1	Photo transmission	Detection of paper exit from the fusing section
POD2	Paper exit detector 2	Photo transmission	Detection of paper exit from the fusing section
PPD1	Paper pass detector 1	Photo transmission	Detection of paper pass from No. 3 paper feed tray
PPD2	Paper pass detector 2	Photo transmission	Detection of paper pass in front of the resist roller
PPD3	Paper pass detector 3	Photo transmission	Used as the operation timing signal for the transport roller and the resist roller. Detection of paper pass in front of the resist roller
PS21-26	Paper feed tray paper size detector (No. 2 tray)	Lead switch	Paper size detection
PS31-36	Paper feed tray paper size detector (No. 3 tray)	Lead switch	Paper size detection
PCS	Image density sensor	Photo transistor	Detection of toner patch image density on the OPC drum
PSD	Separation detector	Photo transmission	Detection of paper separation on the OPC drum
PWS	Paper width size sensor (Manual paper feed section)	Variable resistor	Detection of paper width by variation in resistance (manual paper feed section)
TBBOX	Waste toner bottle sensor	Photo transmission	Waste toner bottle installation detection
TES1	Toner empty sensor 1	Piezo type	Toner empty detection in the toner hopper
TES2	Toner empty sensor 2	Piezo type	Toner empty detection in the toner hopper
TFD	Paper full detector	Photo transmission	Paper full detection on the paper exit tray
THS	Fusing temperature sensor	Thermistor	Fusing section heat roller surface temperature detection
TLD1	Paper feed tray lower limit detector 1	Photo transmission	No. 1 paper feed tray lower limit detection
TLD2	Paper feed tray lower limit detector 2	Photo transmission	No. 2 paper feed tray lower limit detection
TLD3	Paper feed tray lower limit detector 3	Photo transmission	No. 3 paper feed tray lower limit detection
TLMD2	Paper feed tray upper limit detector 2	Photo transmission	No. 2 paper feed tray upper limit detection
TLMD3	Paper feed tray upper limit detector 3	Photo transmission	No. 3 paper feed tray upper limit detection
TNCS	Toner concentration sensor	Magnetic type	Developing unit toner concentration detection
TNCTR	Toner hopper cover detector	Microswitch	Toner hopper open/close detection
TNF	Waste toner bottle full detector	Photo transmission	Waste toner bottle full detection
TPTD1	Paper feed tray lift motor rotation sensor 1	Photo transmission	No. 1 paper feed tray lift motor rotation detection
TPTD2	Paper feed tray lift motor rotation sensor 2	Photo transmission	No. 2 paper feed tray lift motor rotation detection
TPTD3	Paper feed tray lift motor rotation sensor 3	Photo transmission	No. 3 paper feed tray lift motor rotation detection
TSW1	Paper feed tray open/close release switch (No. 1 tray)	Contact switch	Paper feed tray open/close lock release (No. 1 tray)
TSW2	Paper feed tray open/close release switch (No. 2 tray)	Contact switch	Paper feed tray open/close lock release (No. 2 tray)
TSW3	Paper feed tray open/close release switch (No. 3 tray)	Contact switch	Paper feed tray open/close lock release (No. 3 tray)
TPED1	Paper feed tray empty detector 1	Photo transmission	No. 1 paper feed tray paper empty detection
TUD2	Paper feed tray empty detector 2	Photo transmission	No. 2 paper feed tray paper empty detection
TUD3	Paper feed tray empty detector 3	Photo transmission	No. 3 paper feed tray paper empty detection
TUD1	Paper feed tray paper upper limit detector (No. 1 paper feed tray)	Photo transmission	No. 1 paper feed tray paper top position detection

AUOD	RADF open/close switch	Microswitch	RADF unit open/close detection When the RADF is opened, the RADF unit load power line is cut off.
DEMRS	Paper exit/reverse motor rotation sensor (RADF)	Photo transmission	Paper exit, reversing motor rotation sensor
DLS1	Document length detector 1 (RADF)	Photo transmission	Document length detection
DLS2	Document length detector 2 (RADF)	Photo transmission	Document length detection
DRS	Resist sensor (RADF)	Photo reflection	Detection of the document lead edge in front of the RADF resist roller. The document length is detected to calculate the document size.

DSD	Document detector (RADF)	Photo transmission	Paper feed tray document detection
DTMRS1	Transport motor rotation phase sensor (RADF)	Photo transmission	Transport motor rotation direction detection
DTMRS2	Paper feed motor rotation sensor (RADF)	Photo transmission	Paper feed motor RPM detection
DTRMS	Transport motor rotation sensor (RADF)	Photo transmission	Transport motor RPM, document transport amount detection
DTS	Timing sensor (RADF)	Photo reflection	The document rear edge is detected to control the document stop position.
DWD	Document width sensor (RADF)	Variable resistance	Document width detection
DWS	Document size identifying sensor (RADF)	Photo reflection	Document width identification
RDD	Reversing sensor (RADF)	Photo reflection	Document reversing, paper exit detection
TGOD	Paper exit cover open/close detector	Microswitch	RADF paper exit cover open/close detection

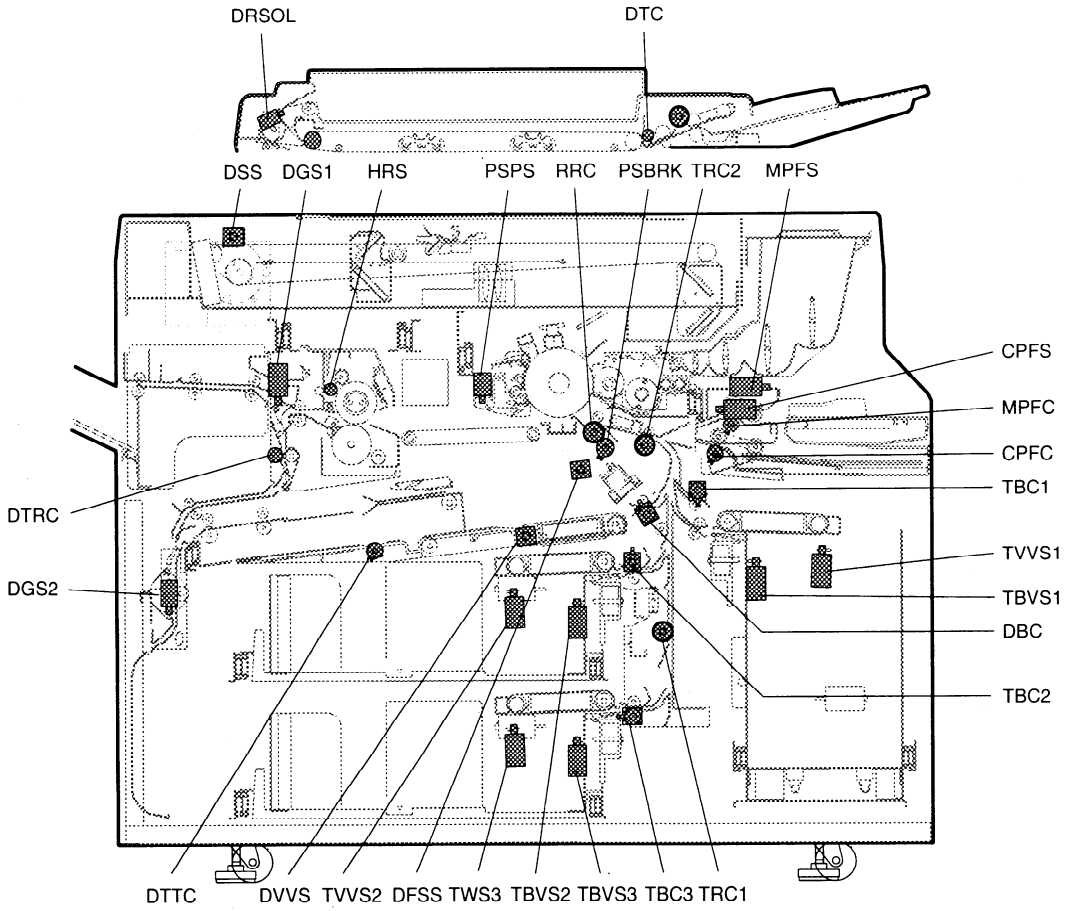


(Japan only)

GL1-GL7	Document size sensor (light emitting)	LED	Document size detection LED
OCSW	Document size detection timing sensor	Photo transmission	The document size detection timing is determined when the RADF unit is closed.
PD1-PD7	Document size sensor (light reception)	Photo transistor	Document size detection

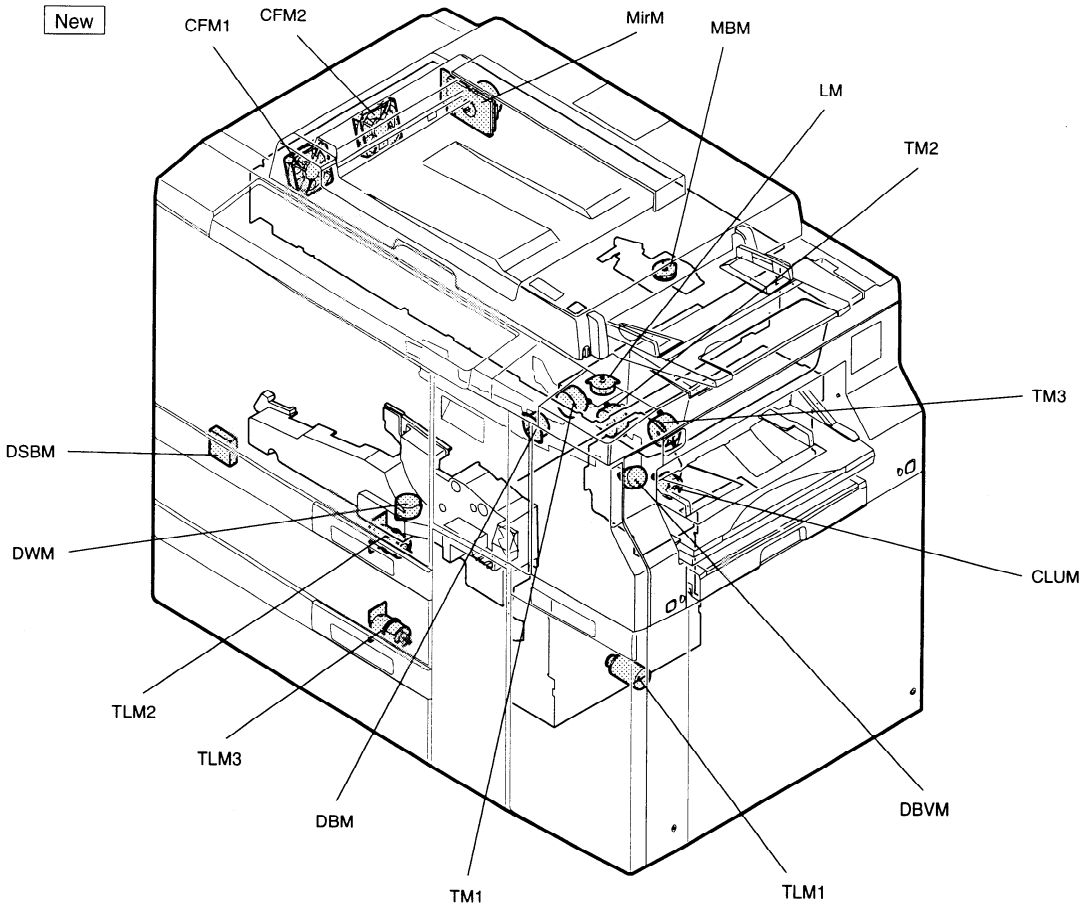
6. Solenoids and clutches

(New)



Code (Signal name)	Name	Type	Function, operation
TRC1	Transport roller clutch 1	Magnetic clutch	Paper feed tray section transport roller drive control
CPFC	Cassette paper feed clutch	Magnetic clutch	Cassette paper feed roller drive control
CPFS	Cassette paper feed clutch solenoid	Solenoid	Cassette paper feed pick-up roller lift up/down control
DBC	Paper feed belt clutch (duplex)	Magnetic clutch	Paper feed belt drive control (Duplex)
DFSS	Paper stopper solenoid (duplex)	Solenoid	Paper stopper plate open/close control (duplex)
DGS1	Gate A solenoid	Solenoid	Normal, duplex mode paper route selection
DGS2	Switchback gate solenoid	Solenoid	Switchback section paper route selection
DRSOL	Paper exit, reversing gate solenoid	Solenoid	Document paper exit, reversing route selection (RADF)
DSS	Document stopper solenoid	Solenoid	Document stopper plate drive control
DTC	Transport clutch	Magnetic clutch	RADF transport belt drive control
DTRC	Transport roller clutch (switchback section)	Magnetic clutch	Transport roller clutch drive control (switchback section)
DTTC (DTBRC)	Duplex drive clutch	Magnetic clutch	Paper feed, transport motor power transmission to the duplex unit
DVVS	Paper feed suction valve solenoid (duplex)	Solenoid	Suction valve open/close control (duplex)
HRS	Fusing clutch solenoid	Solenoid	Fusing section drive control
MPFC	Manual paper feed clutch	Magnetic clutch	Manual paper feed roller drive control
MPFS	Manual paper feed clutch solenoid	Solenoid	Manual paper feed pick-up roller lift up/down control
PSBRK	Resist roller brake clutch	Magnetic clutch	Resist roller brake clutch drive control
PSPS	Separation pawl solenoid	Solenoid	OPC drum separation pawl drive control
RRC	Resist roller clutch	Magnetic clutch	Resist roller drive control Paper and OPC drum image timing control
TBC1	Paper feed belt clutch (No. 1 paper feed tray)	Magnetic clutch	Paper feed belt drive control (No. 1 paper feed tray)
TBC2	Paper feed belt clutch (No. 2 paper feed tray)	Magnetic clutch	Paper feed belt drive control (No. 2 paper feed tray)
TRC3	Paper feed belt clutch (No. 3 paper feed tray)	Magnetic clutch	Paper feed belt drive control (No. 3 paper feed tray)
TBVS1	Paper feed blower valve solenoid (No. 1 paper feed tray)	Solenoid	Paper feed blower valve open/close control (No. 1 paper feed tray)
TBVS2	Paper feed blower valve solenoid (No. 2 paper feed tray)	Solenoid	Paper feed blower valve open/close control (No. 2 paper feed tray)
TBVS3	Paper feed blower valve solenoid (No. 3 paper feed tray)	Solenoid	Paper feed blower valve open/close control (No. 3 paper feed tray)
TRC2	Transport roller clutch 2	Magnetic clutch	Transport roller drive control between the paper feed section and the resist roller
TVVS1	Paper feed suction valve solenoid (No. 1 paper feed tray)	Solenoid	Paper feed suction valve open/close control (No. 1 paper feed tray)
TVVS2	Paper feed suction valve solenoid (No. 2 paper feed tray)	Solenoid	Paper feed suction valve open/close control (No. 2 paper feed tray)
TVVS3	Paper feed suction valve solenoid (No. 3 paper feed tray)	Solenoid	Paper feed suction valve open/close control (No. 3 paper feed tray)

7. Motors


New
CFM1
CFM2
MirM
MBM
LM
TM2
TM3
DSBM
DWM
CLUM
TLM2
TLM3
DBM
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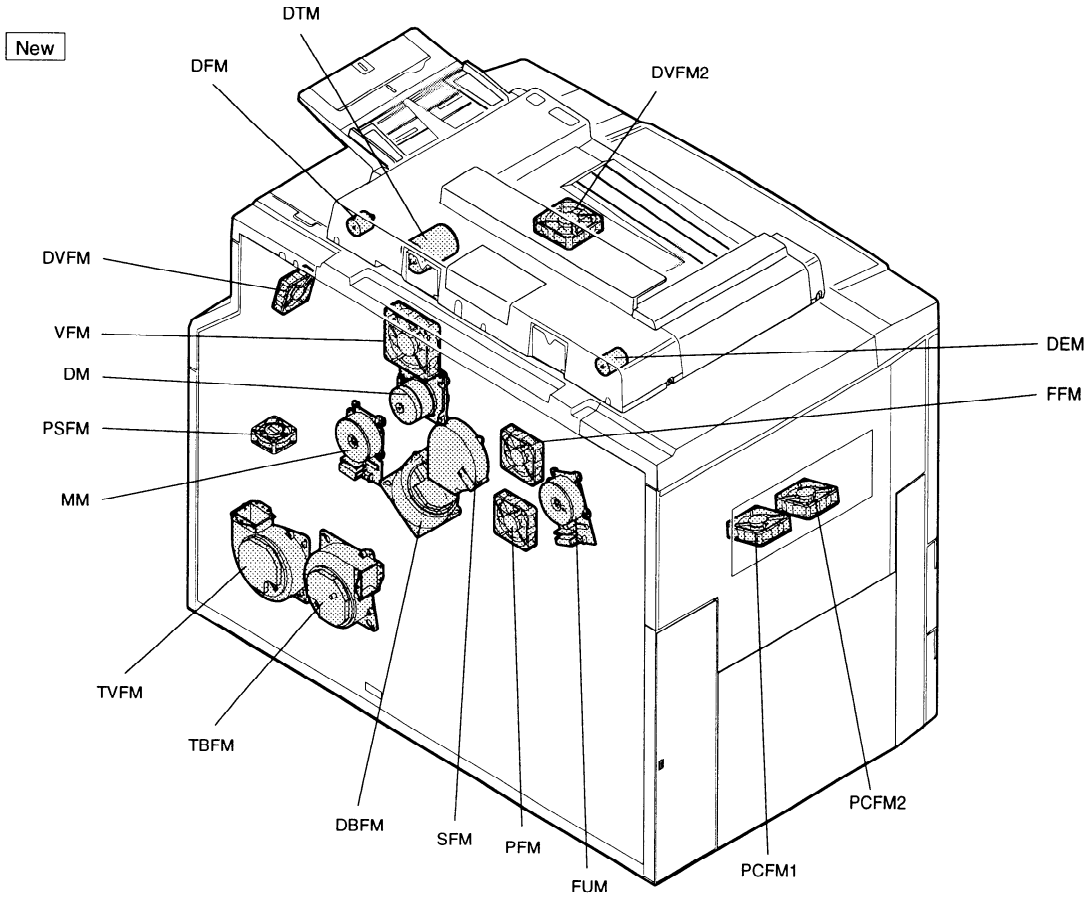
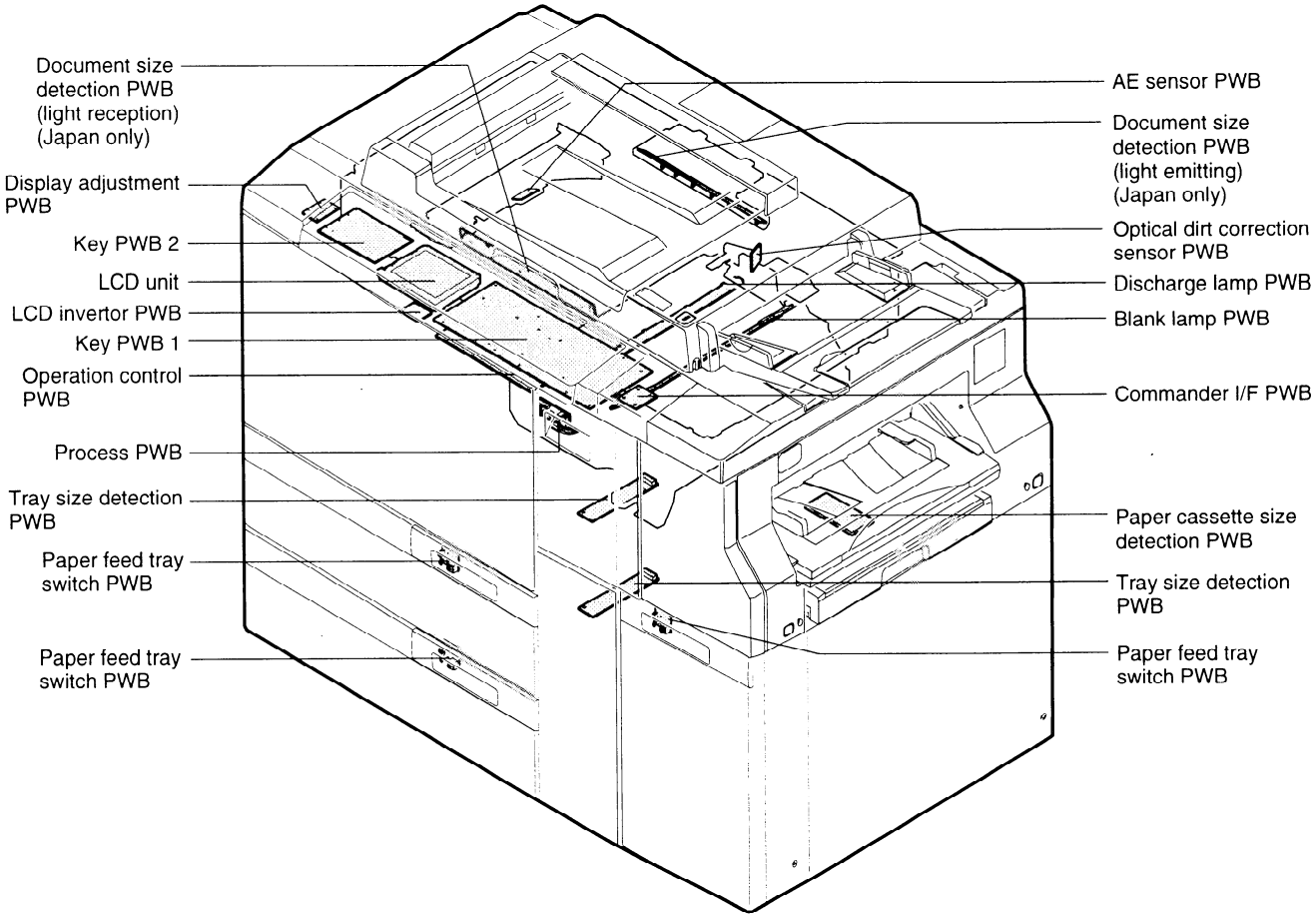
TLM1
DBVM

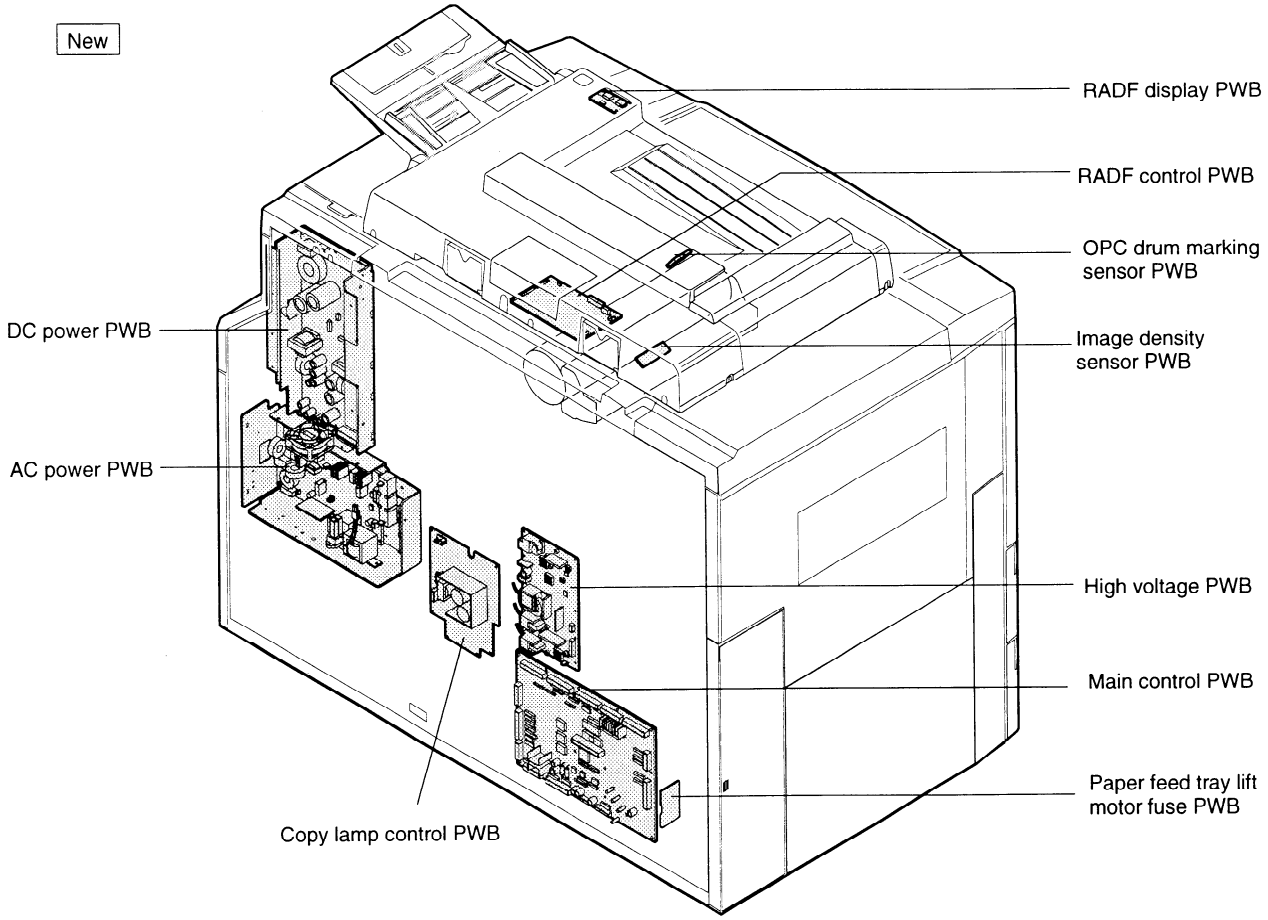

New
DTM
DFM
DVFM2
DVFM
VFM
DEM
DM
FFM
PSFM
MM
TVFM
TBFM
DBFM
SFM
PFM
FUM
PCFM2
PCFM1

Code (Signal name)	Name	Type	Function, operation
CFM1	Cooling motor 1 (optical section)	DC brushless motor	Optical section cooling
CFM2	Cooling motor 2 (optical section)	DC brushless motor	Optical section cooling
CLUM	Paper cassette lift motor	DC motor (rectifier type)	Paper cassette lift plate lift up/down drive
DBFM	Blower motor (duplex)	DC brushless motor	Duplex paper feed section blowing
DBM	Alignment (length) motor (duplex)	Stepping motor	Duplex alignment plate (length) drive
DBVM	Blower valve motor (duplex)	Stepping motor	Duplex blower valve drive
DEM	Document reversing, exit motor	DC motor	Document reversing, paper exit section drive
DFM	Document feed motor	DC motor	Document feed section drive
DM	OPC drum, developing motor	DC brushless motor	OPC drum, developing section drive
DSBM	Switchback motor	Stepping motor	Paper transport and switchback in the switchback section
DTM	Document transport motor	DC motor	Document transport section drive
DVFM	Developing cooling motor *1*	DC brushless motor	Developing section drive
DWM	Alignment (width) motor (duplex)	Stepping motor	Duplex alignment plate (width) drive
FFM	Fusing cooling motor *(M)*	DC brushless motor	Fusing section cooling
FUM	Fusing motor	DC brushless motor	Fusing section, paper exit section drive
LM	Lens motor	Stepping motor	Lens unit drive
MBM	Mirror motor	Stepping motor	No. 4/5 mirror unit drive
MirM	Scanner motor	DC brushless motor	Scanner unit drive
MM	Paper feed, transport motor	DC brushless motor	Paper feed, transport section drive
PFM	Image forming section cooling motor	DC brushless motor	Image forming section cooling
PSFM	Power cooling motor	DC brushless motor	Paper transport section cooling
SFM	Suction motor (paper transport section)	DC brushless motor	Paper transport sections suction
TBFM	Blower motor	DC brushless motor	Paper feed tray (No. 1 - 3) blowing
TLM1	No. 1 paper feed tray lift motor	DC motor (rectifier type)	No. 1 paper feed tray lift up/down drive
TLM2	No. 2 paper feed tray lift motor	DC motor (rectifier type)	No. 2 paper feed tray lift up/down drive
TLM3	No. 3 paper feed tray lift motor	DC motor (rectifier type)	No. 3 paper feed tray lift up/down drive
TM1	Toner motor 1	Pulse motor	Toner supply
TM2	Toner motor 2	Pulse motor	Toner supply
TM3	Toner motor 3	Pulse motor	Toner supply
TVFM	Suction motor	DC brushless motor	Paper feed tray (No. 1 - 3) suction
VFM	Ventilation motor	DC brushless motor	Ozone discharge
DVFM2	*Developing/cooling motor 2*	*DC brushless motor*	*Cooling the developing unit*
PCFM1	*Fusing/cooling motor 1 (S)*	*DC brushless motor*	*Cooling the fusing unit*
PCFM2	*Fusing/cooling motor 2 (S)*	*DC brushless motor*	*Cooling the fusing unit*

8. PWB

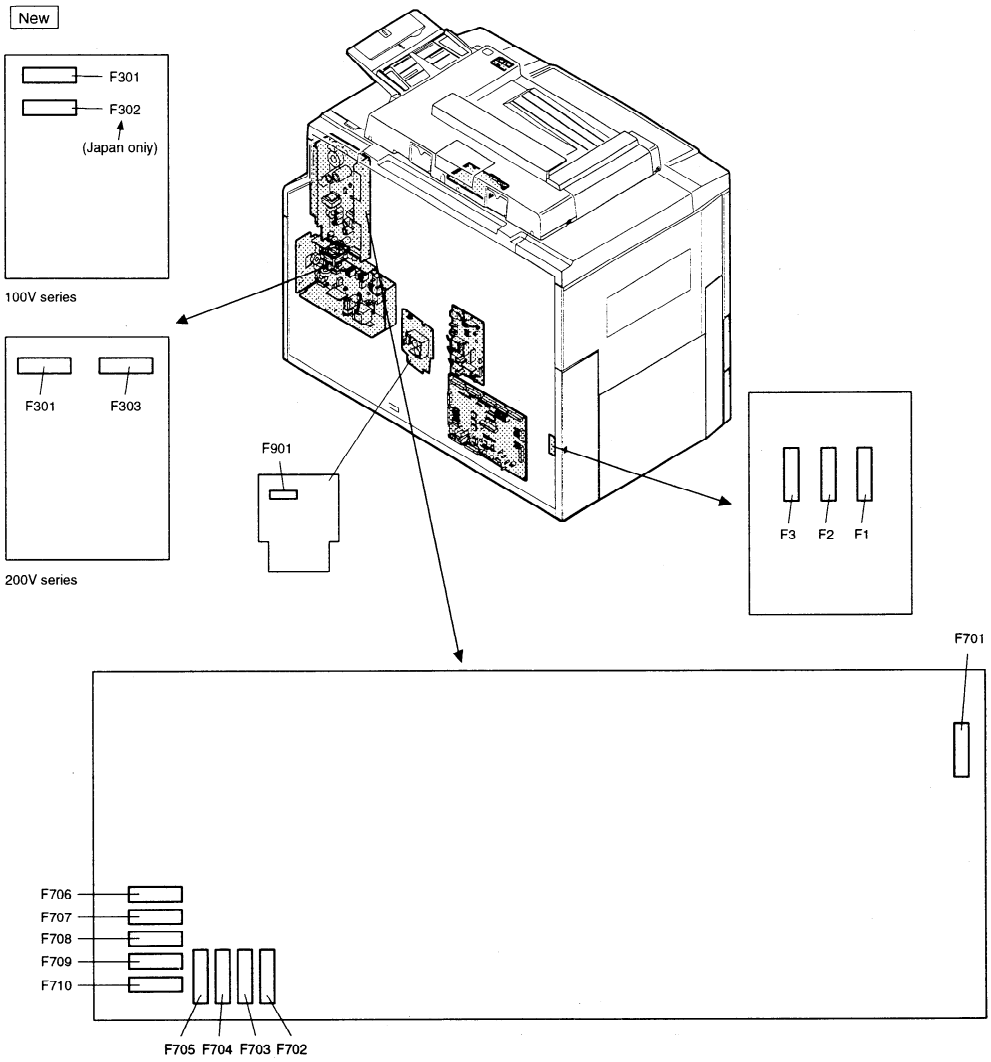

Document size detection PWB (light reception) (Japan only)
Display adjustment PWB
Key PWB 2
LCD unit
LCD invertor PWB
Key PWB 1
Operation control PWB
Process PWB
Tray size detection PWB
Paper feed tray switch PWB
Paper feed tray switch PWB
AE sensor PWB
Document size detection PWB (light emitting) (Japan only)
Optical dirt correction sensor PWB
Discharge lamp PWB
Blank lamp PWB
Commander I/F PWB
Paper cassette size detection PWB
Tray size detection PWB
Paper feed tray switch PWB

New


RADF display PWB
RADF control PWB
OPC drum marking sensor PWB
DC power PWB
Image density sensor PWB
AC power PWB
High voltage PWB
Main control PWB
Paper feed tray lift motor fuse PWB
Copy lamp control PWB

Name	Function, operation
AC power PWB	Power relay control, Heater lamp copy lamp drive, Dry heater, OPC drum heater control, noise reduction
AE sensor PWB	Document density detection
DC power PWB	DC power voltage output Power detection signal output
LCD invertor PWB	LCD backlight drive
LCD unit	Message display
RADF control PWB	Data communication with the Main control PWB RADF load, sensor, detector control
RADF display PWB	RADF condition display
Image density sensor PWB	Toner patch image density detection during main charger, copy lamp voltage correction (adjustment) operation
Auditor I/F PWB	Data communication with the auditor
Operation control PWB	Data communication with the main control PWB, operation panel (display, key) control
Key PWB 1	Key data signal output
Key PWB 2	Key data signal output
Commander I/F PWB	Data communication interface with the commander
Blank lamp PWB	OPC drum image outside surface charge discharging, void area forming
Process sensor PWB	Image density sensor, OPC drum mark sensor sensitivity adjustment
Main control PWB	Data communication with another PWB (slave) Control of all machine. Various data storage
OPC drum mark sensor PWB	OPC drum mark sensor
Paper feed size detection PWB	Paper size detection in the paper feed tray
Paper feed tray switch PWB	Paper detection in the paper feed tray Paper feed tray lock release
Paper feed tray lift motor fuse PWB	Paper feed tray motor overcurrnet protection
Document size detection PWB (light reception)	Document size detection (light reception) (Japan only)
Document size detection PWB (light emitting)	Document size detection (light emitting) (Japan only)
Optical dirt sensor PWB	Optical section dirt detection
High voltage PWB	Charger voltages, developing bias outputs
Discharge lamp PWB	OPC drum surface charge discharging
Display adjustment PWB	LCD contrast adjustment
Paper cassette size detection PWB	Paper size detection in the paper cassette
Copy lamp control PWB	*Copy lamp light quantity control*

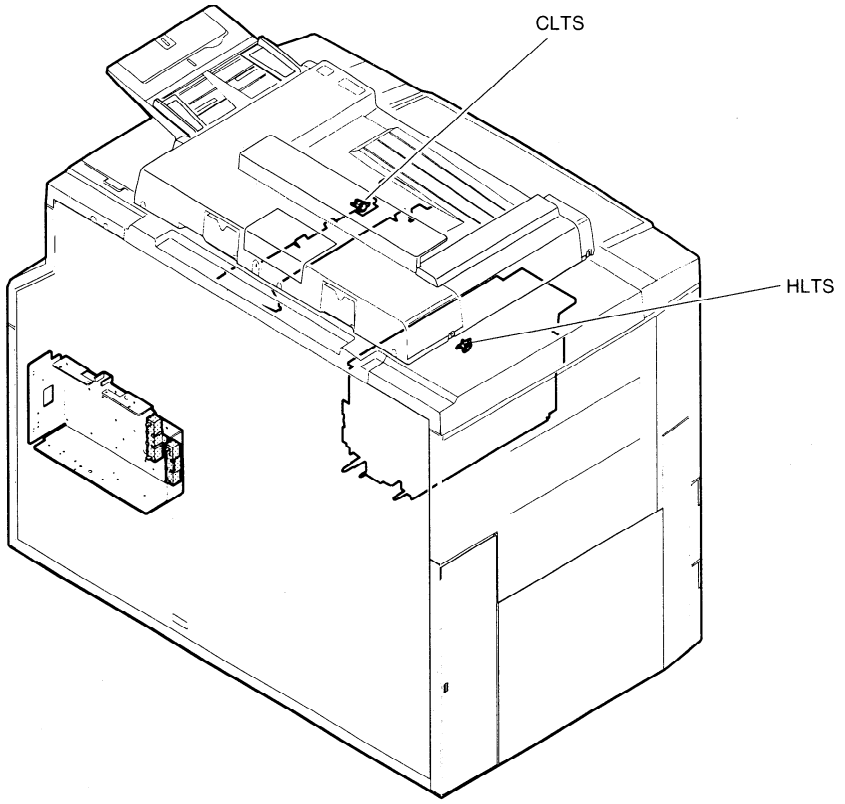
9. Fuse/Thermostat



(Fuse)

Unit name	*Destination/ Voltage specification*	*FUSE No.*	*TYPE*	*SIZE*	*Rating*
DC power unit	*Japan*	*F701*	*Ceramic tube*	*Normal size*	*15A/125V*
		F702/705/708/709	*Glass tube*	*Mini size*	*6.3A/125V*
		F703/707	*Glass tube*	*Mini size*	*5A/125V*
		F704	*Glass tube*	*Mini size*	*4A/125V*
		F706	*Glass tube*	*Mini size*	*1.25A/125V*
		F710	*Glass tube*	*Mini size*	*T200mA/250V*
DC power unit	*USA, CANADA*	*F701*	*Glass tube*	*Mini size*	*6.3A/250V*
		F702/705/708/709	*Glass tube*	*Mini size*	*6.3A/125V*
		F703/707	*Glass tube*	*Mini size*	*5A/125V*
		F704	*Glass tube*	*Mini size*	*4A/125V*
		F706	*Glass tube*	*Mini size*	*1.25A/125V*
		F710	*Glass tube*	*Mini size*	*T200mA/250V*
DC power unit	*200 V Series*	*F701/702/705/708/709*	*Ceramic tube*	*Mini size*	*T6.3A/250V*
		F703/707	*Ceramic tube*	*Mini size*	*T5A/250V*
		F704	*Ceramic tube*	*Mini size*	*T4A/250*
		F706	*Glass tube*	*Mini size*	*T1.25A/250V*
		F710	*Glass tube*	*Mini size*	*T200mA/250V*
CL Reg. unit	*Japan*	*F901*	*Glass tube*	*Mini size*	*8A/125V*
	EX	*F901*	*Ceramic tube*	*Mini size*	*T4A/250V*
AC circuit PWB	*Japan*	*F301*	*Glass tube*	*Normal size*	*20A/125V*
	USA, CANADA	*F301*	*Ceramic tube*	*Normal size*	*20A/125V*
	200 V Series	*F301*	*Ceramic tube*	*Mini size*	*10A/240V*
		F303	*Glass tube*	*Mini size*	*T1.0A/250V*
Tray motor PWB	*100 V Series*	*F1*	*Glass tube*	*Mini size*	*2A/125V*
		F2/3	*Glass tube*	*Mini size*	*1.25A/125V*
	200 V Series	*F1*	*Glass tube*	*Mini size*	*T2A/250V*
		F2/3	*Glass tube*	*Mini size*	*T1A/250V*

New



(Thermostat)

Copy lamp	*All destinations*	*CLTS*	*140°C*	*Mirror base unit (Optical unit)*
Heater lamp	*Japan*	*HLTS*	*170°C*	*No. 1 heater lamp*
			170°C	*No. 2 heater lamp*
	EX		*170°C*	*One common with No. 1/No. 2 heater lamps*

[6] SETTING AND ADJUSTMENTS

Setting and adjustments list

No.	Item	Content						Method
1	Specification setting	A	Destination setting					Use SIM 26-6 to set the destination.
		B	Display language changing					Replace the data RAM on the display PWB to change the display language.
		C	Counter setting	(1)	Maintenance cycle setting			Use SIM 21-1 to set the maintenance cycle.
				(2)	Copy count mode setting			Use SIM 26-5 to set the copy count mode.
		D	Option setting	(1)	Option selection			Use SIM 26-1 to set the option using condition.
				(2)	Auditor type selection			Use SIM 26-3 to set the auditor specification.
		E	Power save mode setting					Use SIM 26-26 to select the power save mode.
		F	Toner save mode setting					Use SIM 26-18 to set Valid/Invalid of the toner save mode.
2	Paper feed, transport section	A	Air valve position adjustment	(1)	No. 1 tray (Suction valve/blower valve)			Change the air valve drive solenoid position to adjust the air valve open/close angle.
				(2)	No. 2 tray (suction valve/blower valve)			Change the air valve drive solenoid position to adjust the air valve open/close angle.
				(3)	No. 3 tray (suction valve/blower valve)			Change the air valve drive solenoid position to adjust the air valve open/close angle.
		B	Air pressure adjustment, check	(1)	No. 1 tray	a	Suction air pressure check, adjustment	Use SIM 6-2 to rotate the suction fan, check the air pressure, and change the air pressure adjustment plate position.
						b	Blower air pressure check	Use SIM 6-2 to rotate the blower fan and check the air pressure.
				(2)	No. 2 tray	a	Suction air pressure check, adjustment	Use SIM 6-2 to rotate the suction fan, check the air pressure, and change the air pressure adjustment plate position.
						b	Blower air check	Use SIM 6-2 to rotate the blower fan and check the air pressure.
				(3)	No. 3 tray	a	Suction air pressure check, adjustment	Use SIM 6-2 to rotate the suction fan, check the air pressure, and change the air pressure adjustment plate position.
						b	Blower air pressure check	Use SIM 6-2 to rotate the blower fan and check the air pressure.
		C	No. 1 tray paper size adjustment					Change the paper size adjustment plate position to adjust.
		D	No. 1 tray paper size setting					User SIM 26-2 to set the paper size.
		E	Tray horizontal adjustment	(1)	No. 2 tray			Change the tray lift wire fixing plate position to adjust.
				(2)	No. 3 tray			Change the tray lift wire fixing plate position to adjust.
		F	Lift tray stop position adjustment (Paper feed belt/paper clearance adjustment)	(1)	No. 1 tray			Change the paper empty detector detecting position to adjust.
				(2)	No. 2 tray			Change the paper empty detector detecting position to adjust.
				(3)	No. 3 tray			Change the paper empty detector detecting position to adjust.
		G	Manual feed multi paper feed roller pressure adjustment					Change the manual multi paper feed roller drive solenoid position to adjust.
		H	Cassette paper feed roller pressure adjustment					Change the cassette paper feed roller drive solenoid position to adjust.
		I	Manual paper feed tray paper size detection level adjustment					Use SIM 40-2 to adjust.
		J	Paper empty judgement condition adjustment	(1)	No. 1 tray (not necessary)			
				(2)	No. 2 tray			Use SIM 26-8B to adjust.
				(3)	No. 3 tray			Use SIM 26-8C to adjust.
		K	Paper resist pressure adjustment	(1)	Manual paper feed unit			Use SIM 51-2A to adjust.
				(2)	No. 1 tray			Use SIM 51-2B to adjust.
				(3)	No. 2 tray			Use SIM 51-2C to adjust.
				(4)	No. 3 tray			Use SIM 51-2D to adjust.
				(5)	Paper cassette			Use SIM 51-2E to adjust.
				(6)	Duplex unit			Use SIM 51-2G to adjust.

No.	Item	Content						Method
2	Paper feed, transport section	L	Separation pawl operating timing adjustment					Use SIM 51-1 to adjust.
		M	Adjustment of paper stop position in front of the resist roller					Use SIM 51-4 to adjust.
3	Optical section	A	Part installing position adjustment	(1)	Scanner drive wire tension adjustment			Turn the scanner drive wire tension adjustment screw to adjust.
				(2)	Scanner unit parallelism adjustment			Change the fixing position of No. 1 scanner and No. 2 scanner unit for the drive wire.
				(3)	No. 4/5 mirror unit angle adjustment			Change the fixing position of No. 4/5 mirror unit slide shaft fixing angle. (Normally it must not be touched.)
				(4)	Lens unit angle adjustment			Change the fixing position of the lens unit slide shaft fixing angle. (Normally it must not be touched.)
		B	Copy quality adjustment	(1)	Image distortion adjustment	a	Horizontal image distortion adjustment	Change the relative position of the scanner unit drive wire nd the scanner drive wire pulley.
						b	Vertical image distortion balance adjustment	Change the scanner rail left-right balance height.
						c	Vertical image distortion adjustment	Change the height balance of No. 4/5 mirror unit. (Turn the No. 4/5 mirror unit roller height adjustment screw.)
				(2)	Copy image center position adjustment	a	When the manual paper feed unit is used	Change the manual paper feed unit position back and forth.
						b	When the paper feed cassette is used	Change the paper feed cassette and the paper width seize adjustment plate base positions back and forth.
						c	When the paper feed unit is used	Change the paper feed tray position back and forth.
						d	When the duplex unit is used	Change the duplex unit position back and forth.
						e	In the RADF copy mode	Change the original tray unit position back and forth.
						f	In all copy modes	Slide the lens unit optical axis vertically. (Use this method only when the copy image center position cannot be adjusted by procedures a - e.)
				(3)	Focus adjustment	I	Focus adjustment value input	(Adjustment without copying)
						a	Normal copy focus adjustment value input	Input the set value of SIM 48-3-48D.
						b	Enlargement copy focus adjustment value input	Input the set value of SIM 48-3-48F.
						c	Reduction copy focus adjustment value input	Input the set value of SIM 48-3-48E.
						II	Focus adjustment	(Adjustment with copying)
						a	Normal copy focus adjustment	Change the set value of SIM 48-1-48D
						b	Enlargement copy focus adjustment	Change the set value of SIM 48-1-48F.
						c	Reduction copy focus adjustment	Change the set value of SIM 48-1-48E.

No.	Item	Content						Method
3	Optical section	B	Copy quality adjustment	(4)	Vertical copy magnification ratio adjustment	I	Vertical direction copy magnification ratio adjustment value input	(Adjustment without copying)
						a	Vertical direction copy magnification ratio adjustment value input (Normal)	Change the set value of SIM 48-3-48A.
						b	Vertical direction copy magnification ratio adjustment value input (Enlargement)	Change the set value of SIM 48-3-48C.
						c	Vertical direction copy magnification ratio adjustment value input (Reduction)	Change the set value of SIM 48-3-48B.
						II	Vertical copy magnification ratio adjustment	(Adjustment with copying)
						a	Vertical copy magnification ratio adjustment (Normal)	Change the set value of SIM 48-1-48A.
						b	Vertical copy magnification ratio adjustment (Enlargement)	Change the set value of SIM 48-1-48C.
						c	Vertical copy magnification ratio adjustment (Reduction)	Change the set value of SIM 48-1-48B.
				(5)	Horizontal (paper transport direction) copy magnification ratio adjustment			Change the set value of SIM 48-1. (Press the pause key to turn on the pause lamp.)
				(6)	Uniformity adjustment			Change the exposure adjustment plate position.
				(7)	Image loss, void area adjustment	a	Image lead edge reference position adjustment	Change the set value of SIM 50-1-50A.
						b	Resist roller ON timing adjustment	Change the set value of SIM 50-1-50B.
						c	Brake clutch OFF timing adjustment	Change the set value of SIM 50-1-50C. (Set to the default value "10.")
						d	Void area adjustment (Lead edge/rear edge)	Change the set values of SIM 50-1-50D, and -50E.
				(8)	Blank lamp position adjustment			Change the blank lamp unit position back and forth.
4	Image forming section	A	OPC drum unit	(1)	OPC drum sensitivity adjustment			Set SIM 26-7 according to the sensitivity No. of the installed OPC drum.
		B	Charger unit	(1)	Transfer charger current adjustment			Use SIM 8-6 to adjust the output current.
				(2)	Transfer pre-discharge charger current adjustment			Change the set value of SIM 8-5 to adjust the output current.
				(3)	Main charger current balance adjustment	a	Manual copy mode main charger current balance adjustment	Execute SIM 8-2 and turn the main charger unit current balance adjustment screw to adjust the current balance.
				(4)	Main charger voltage adjustment	a	Manual copy mode main charger voltage adjustment	Change the set value of SIM 8-2A to adjust the output voltage.
						b	Photo copy mode main charger voltage adjustment	Change the set value of SIM 8-2B to adjust the output voltage.
						c	Toner save mode main charger voltage adjustment	Change the set value of SIM 8-2C to adjust the output voltage.
				(5)	Separation charger voltage adjustment			Change the set value of SIM 8-7 to adjust the output voltage.
		C	Cleaner unit	(1)	Cleaning blade position adjustment			Change the cleaning blade position adjustment plate position to adjust.
		D	Developing unit	(1)	Doctor gap adjustment			Adjust the doctor position.
				(2)	Developing roller main pole position adjustment			Adjust the developing roller main pole position adjustment plate position.
				(3)	Developing bias voltage adjustment			Adjust the VR on the high voltage PWB to adjust the output voltage.
				(4)	Toner concentration adjustment			Use SIM 25-2 to set the initial density.
		E	Waste toner collection unit	(1)	Waste toner full detection level adjustment			Change the waste toner detecting spring tension adjustment nut position to adjust.

No.	Item	Content						Method
5	Fusing, paper exit section	A	Fusing guide position adjustment					Change the screw position in front of the fusing section.
		B	Fusing temperature setting					Set SIM 43-1 according to the destination specification temperature.
		C	Fusing pressure setting					Change the fusing pressure adjustment screw position.
		D	Curl correction amount adjustment					Rotate the curl correction knob to adjust.
		E	Switchback gate A position adjustment					Change the switchback gate A solenoid position to adjust.
		F	Fusing roller rotating speed adjustment					Change the set value of SIM 43-3 to adjust. (Default: *6*)
6	Switchback section	A	Switchback gate B position adjustment					Change the switchback gate B solenoid position to adjust.
7	Duplex section	A	Air pressure check, adjustment			a	Suction air pressure check, adjustment	Use SIM 6-2 to rotate the suction fan, check the air pressure, and change the air pressure adjustment plate position.
						b	Blower air pressure check, adjustment	Use SIM 6-2 to rotate the blower fan and check the air pressure.
		B	Paper width alignment plate position adjustment					Change the set value of SIM 52-1 to adjust.
		C	Paper vertical direction alignment plate position adjustment					Change the set value of SIM 52-2 to adjust.
8	RADF section	A	RADF horizontal (skew) adjustment					Change the RADF right hinge fixing position to adjust.
		B	RADF unit clearance adjustment					Change the RADF hinge section fixing plate and the magnet catch positions to adjust.
		C	Original stopper position adjustment	(1)	Original stopper operating angle adjustment			Change positions of the original stopper drive solenoid and the solenoid stopper to adjust.
				(2)	Original stopper clearance adjustment			Change the original stopper shaft fixing block position to adjust.
		D	RADF open/close switch operation position adjustment					Change the RADF open/close detection switch (microswitch) position to adjust.
		E	Sensor sensitivity adjustment	(1)	Resist sensor adjustment			Use SIM 53-3A to adjust. (Automatic adjustment)
				(2)	Timing sensor sensitivity adjustment			Use SIM 53-3B to adjust. (Automatic adjustment)
				(3)	Paper exit sensor sensitivity adjustment			Use SIM 53-3C to adjust. (Automatic adjustment)
				(4)	Paper width sensor sensitivity adjustment			Use SIM 53-3D to adjust. (Automatic adjustment)
		F	Original stop position adjustment	(1)	Normal paper surface mode original stop position adjustment			Change the set value of SIM 53-1A.
				(2)	Normal paper back mode original stop position adjustment			Change the set value of SIM 53-1B.
				(3)	Thin film surface mode original stop position adjustment			Change the set value of SIM 53-1C.
				(4)	Thin film back mode original stop position adjustment			Change the set value of SIM 53-1D.
				(5)	Normal paper step mode original stop position adjustment			Change the set value of SIM 53-1E.
				(6)	Thin film step mode original stop position adjustment			Change the set value of SIM 53-1F.
		G	Motor rotation speed adjustment	(1)	Paper exit motor rotation speed adjustment			Adjust VR1/VR2 on the RADF control PWB.
				(2)	Paper feed motor rotation speed adjustment			Adjust VR3/VR4 on the RADF control PWB.
				(3)	Transport motor rotating sensor phase adjustment			Change the transport motor rotating sensor position to adjust.
9	Original table section	A	Original size sensor adjustment					Use SIM 41-2 to adjust. (Automatic adjustment)
		B	Original size sensor switch adjustment					Adjust with the original size sensor switch actuator adjustment screw.
10	Power section	A	Power voltage adjustment					
		B	Overcurrent detection level adjustment					

No.	Item	Content							Method
11	Setting and adjustments on the picture quality correction system	A	Picture quality correction system operating mode setting						Set SIM 44-1 to 127.
		B	Main charger grid voltage correction reference density setting						Set SIM44-5 to 75.
		C	OPC drum correction counter reset						Reset with SIM 24-7. (When replacing the OPC drum)
		D	Main charger grid voltage correction, optical dirt correction reference values setting						When SIM 46 is executed, the initial brighteners level (reference level) of the optical system is automatically stored.
		E	Image density sensor sensitivity adjustment						Use SIM 44-3 to adjust the sensor sensitivity.
		F	Drum mark sensor sensitivity adjustment						Use SIM 44-2 to adjust the sensor sensitivity.
12	Copy density adjustment	A	AE sensor characteristics input						Use SIM 47 to store the relationship between the copy lamp light quantity and the AE sensor output.
		B	Copy density adjustment with SIM 46	(1)	Non-toner save mode	(1)	Manual copy mode copy density adjustment		Change the set value of SIM 46 to adjust the reference copy density level.
						(2)	Photo copy mode copy density adjustment		
						(3)	Auto copy mode copy density adjustment		
				(2)	Toner save mode	(1)	Manual copy mode copy density adjustment		Change the set value of SIM 46 to adjust the reference copy density level.
						(2)	Auto copy mode copy density adjustment		
		C	Copy density adjustment with key operator program	(1)	Non-toner save mode	(1)	Manual copy mode copy density adjustment		Change the set value of key operator program 20 to adjust the density level.
						(2)	Photo copy mode copy density adjustment		
						(3)	Auto copy mode copy density adjustment		
				(2)	Toner save mode	(1)	Manual copy mode copy density adjustment		
						(2)	Auto copy mode copy density adjustment		

1. Specification setting

Setting list

A	Destination setting			Set SIM 26-6 according to the destination.
B	Display language change			Change the display language by changing the data ROM on the display PWB.
C	Counter count mode setting	(1)	Maintenance cycle setting	Change the set value of SIM 21-1 to set the maintenance cycle.
		(2)	Copy count mode setting	Change the set value of SIM 26-5 to set the copy count mode.
D	Option setting	(1)	Option selection	Set SIM 26-1 according to the option use conditions.
		(2)	Auditor type selection	Set SIM 26-3 according to the auditor specifications.
E	Power save mode/power shut down setting			Change the set value of SIM 26-26 to select between the power save mode and the power shut down mode.
F	Toner save mode setting			Change the set value of SIM 26-18 (key operator program 22) to set valid/inhibit of the toner save mode.

A. Destination setting

When the destination setting is changed, the following items will be changed.

* Original size detection function
* Energy saving function mode
* Default copy mode
* Toner save mode
* Key operator program 80/48 (Japan only)
* Standard paper kinds (AB series, inch series)
* Display language (The data ROM corresponding to the destination must be installed to the operation control PWB unit.)
* *No. 1 paper feed tray paper size specification (SIM 26-2)*
* *Fusing temperature measurement (SIM 43-1)*
* *Picture quality correction operation mode (SIM 44-1)*

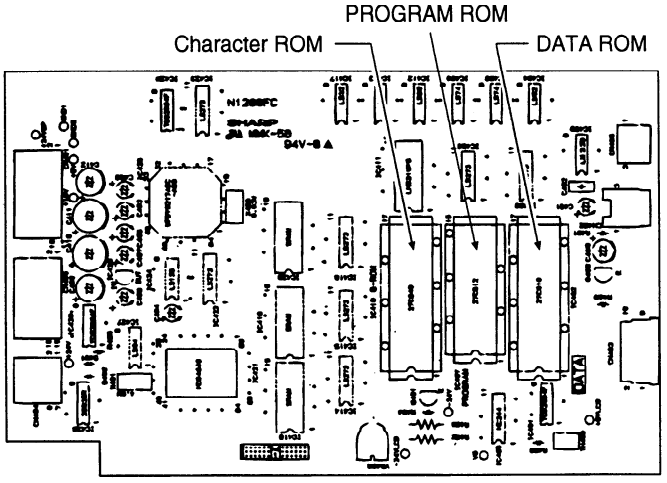
1) Enter the SIM 26-6 mode.

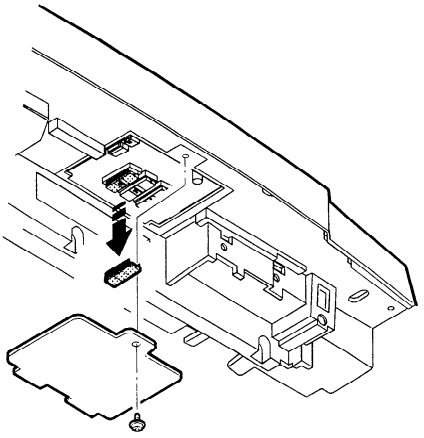
```
SIMULATION NO.26-6
SELECT DESTINATION
[INCH]
1. USA (SEC)     2. CANADA (SECL)    3. OTHER
[AB (B5)/100V]
4. JAPAN/15A      5. JAPAN/20A
[AB (A5)]
6. EUROPE(SEEG) 7. U.K.(SUK)  8. AUSTRALIA(SCA)
9. OTHER
[AB (B5)/200V]
10. OTHER
```

2) Enter the number corresponding to the destination with the 10-key pad, and press the START button.

B. Language display change

The LCD display is made in the language corresponding to the destination. To change this language, the data ROM on the operation control PWB unit must be replaced.





1) Remove the data ROM from the operation control PWB unit, and install the data ROM of the language you desire.

Language	Data ROM part code	Mark
Japanese	*VHI27C010B4FC*	JPN
English	*VHI27C010B5FC*	ENG
German	*VHI27C010B6FC*	GER
French	*VHI27C010B7FC*	FRE
Spanish	*VHI27C010B8FC*	SPA

2) Enter the SIM 26-6 mode.

3) Enter the number corresponding to the destination with the 10-key pad, and press the START button.

After replacing the data ROM, set the destination specifications with SIM 26-6.

C. Counter count mode setting

(1) Maintenance cycle setting

1) Enter the SIM 21-1 mode.

```
SIMULATION NO. 21
INPUT 1~2

1. MAINTENANCE CYCLE SETTING
2. (NO PROGRAM)
```

2) Enter the number corresponding to the maintenance cycle with the 10-key pad and press the START button.

(2) Copy count mode setting

Double (2) count up or single (1) count up is selected when a copy is made on A3 or 11 × 17" paper. It corresponds to the total counter and the maintenance counter.

1) Enter the SIM 26-5 mode.

```
SIMULATION NO. 26-5
COUNTER MODE SETUP

CODE   TOTAL    COUNT          MAINTE COUNT
  0    DOUBLE   COUNT          DOUBLE COUNT
  1    SINGLE   COUNT          DOUBLE COUNT
  2    DOUBLE   COUNT          SINGLE COUNT
  3    SINGLE   COUNT          SINGLE COUNT

PLEASE SELECT BY
10-KEY PAD.
```

2) Enter the number corresponding to the count mode with the 10-key pad, and press the START button.

D. Option setting

When an option is installed or removed, the option setting and the operation mode setting must be performed or canceled.

If this setting is not made properly, the error message is displayed.

(1) Option selection

1) Enter the SIM 26-1 mode.

```
SIMULATION NO.26-1
SORTER/STAPLE SORTER SETTING?

  0.NO SORTER
  1.SF-S55N
```

Set value	Content
0	Without sorter
1	With *SF-S55N* installed

2) Enter the number corresponding to the installed option with the 10-key pad, and press the START button.

(2) Auditor type selection

1) Enter the SIM 26-3 mode.

```
SIMULATION NO. 26-3
INPUT 1~4

1. P10 (500)
2. P10 (3100)
3. SF-EA11
4. OTHER
```

2) Enter the number corresponding to the auditor type, and press the START button.

E. Power save mode setting

This setting is to select the power save mode after a certain time from entering the remaining heat mode or the power shut down mode or the power save mode after passing a certain time from turning on the power switch.

Remaining heat mode:

In this mode, the fusing control temperature is lowered from 205°C of the copy mode to 160/180°C (*1) of the standby mode. Therefore, the power consumption is reduced.

Power shut down:

The power switch is forcibly turned off to cut all power. To supply power, turn on the power switch.
When a certain time passes from stopping the copy operation, the machine enters the remaining heat mode.

The time can be voluntarily set with the user program 31.

The power shut down mode has two operation modes, which can be selected with SIM 26-26.

(When SIM 26-26 is set to 0)

After a certain time from stopping the copy operation, the machine enters the power shut down state.

The time can be voluntarily set with the user program 21.

User program 86 allows to set enable/disable of auto power shut down. *(USA/Japan)*

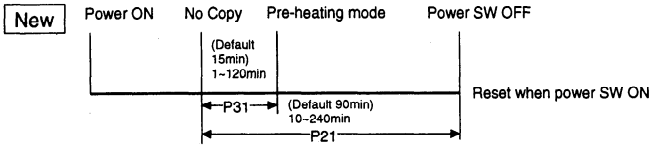
(When SIM 26-26 is set to 1)

For the area of EnergyStar, the default copy mode is single → Duplex copy mode.

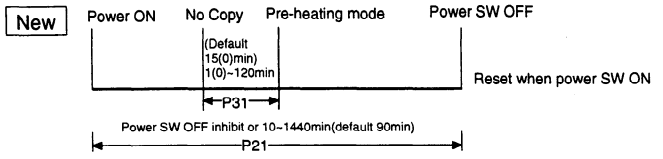
*1: *180*°C for the areas of EnergyStar (Except for USA/Japan)
150°C for the areas of EnergyStar (USA/Japan)

(Note) Change to the power save mode only when the user requests it.

(SIM 26-26 set value 0)



(SIM 26-26 set value 1)



*2 SIM 26-26			
*1 Set value = 0 NO COPY → Power OFF		*3 Set value = 1 Power ON → Power OFF	
Power shut down set time		Power shut down set time	
User program P21		User program P21	
Default (min)	Set range (min)	Default (min)	Set range (min)
90	1 ~ *240*	0*(Inhibit)*	*10* ~ 1440

Pre-heat mode set time			
User program P31		User program P31	
Default (min)	Set range (min)	Default (min)	Set range (min)
15*	1 ~ 120*	*15**	0 ~ 120*

*: When the set value is 0, the mode is not operated.

**1: Auto power shut down can be enabled/disabled with user program 86.*

**2: Default for U.S.A./Japan: "0"*

**3: Set user program 86 to disable. (When SIM 26-26 set value is "1")*

1) Enter the SIM 26-26 mode.

```
SIMULATION NO. 26-26
POWER OFF MODE SETTING (AUTO SHUT-OFF SELECTION)

0. PREHEAT→ POWER OFF (AUTO POWER SHUT-OFF TIMER)
1. POWER SW ON→ POWER OFF (POWER OFF TIMER)
```

2) Enter the number to select the power save mode after a certain time from entering the remaining heat mode or the power shut down mode or the power save mode after passing a certain time from turning on the power switch, and press the START button.

F. Toner save mode setting

Use SIM 26-18 or the key operator program 22 to set the toner save mode valid/inhibit.

SIM 26-18 or the key operator program 22 is used depending on the destination setting (SIM 26-6). (Refer to SIM 26-6.)

1) Enter the SIM 26-18 mode or the key operator program 22 mode.

```
SIMULATION NO. 26-18
TONER SAVE MODE SETTING
0. OFF          1. ON
```

2) Enter the number of the corresponding mode with the 10-key pad, and press the START button.

2. Paper feed, paper transport section

Adjustment list

	Content					Method
A	Air valve position adjustment	(1)	No. 1 paper feed tray (suction valve, blower valve)			Change the air valve drive solenoid position to adjust the air valve open/close angle.
		(2)	No. 2 paper feed tray (suction valve, blower valve)			Change the air valve drive solenoid position to adjust the air valve open/close angle.
		(3)	No. 3 paper feed tray (suction valve, blower valve)			Change the air valve drive solenoid position to adjust the air valve open/close angle.
B	Air pressure adjustment, check	(1)	No. 1 paper feed tray	a	Suction air pressure check, adjustment	Use SIM 6-2(1) to rotate the suction fan and check the pressure. Change the air pressure adjusting plate position to adjust.
				b	Blower air pressure check, adjustment	Use SIM 6-2(1) to rotate the blower fan and check the pressure.
		(2)	No. 2 paper feed tray	a	Suction air pressure check	Use SIM 6-2(2) to rotate the suction fan and check the pressure. Change the air pressure adjusting plate position to adjust.
				b	Blower air pressure check	Use SIM 6-2(2) to rotate the blower fan and check the pressure.
		(3)	No. 3 paper feed tray	a	Suction air pressure check, adjustment	Use SIM 6-2(3) to rotate the suction fan and check the pressure. Change the air pressure adjusting plate position to adjust.
				b	Blower air pressure check, adjustment	Use SIM 6-2(3) to rotate the blower fan and check the pressure.
C	No. 1 tray paper size adjustment					Change the paper size adjusting plate position to adjust.
D	No. 1 tray paper size setting					Set SIM 26-2 according to the paper size.
E	Tray horizontal level adjustment	(1)	No. 2 paper feed tray			Change the tray lift wire fixing plate installing position to adjust.
		(2)	No. 3 paper feed tray			Change the tray lift wire fixing plate installing position to adjust.
F	Lift tray stop position adjustment (paper feed belt - paper clearance adjustment)	(1)	No. 1 paper feed tray			Change the paper empty detector position to adjust.
		(2)	No. 2 paper feed tray			Change the paper empty detector position to adjust.
		(3)	No. 3 paper feed tray			Change the paper empty detector position to adjust.
G	Manual multi paper feed pick-up roller adjustment					Change the manual multi paper feed roller drive solenoid position to adjust.
H	Cassette paper feed pick-up roller adjustment					Change the cassette paper feed roller drive solenoid position to adjust.
I	Manual paper feed tray paper size detection level adjustment					Use SIM 40-2 to adjust.
J	Paper empty judge condition adjustment	(1)	No. 1 paper feed tray			Not necessary.
		(2)	No. 2 paper feed tray			Change the set value of SIM 26-8B to adjust.
		(3)	No. 3 paper feed tray			Change the set value of SIM 26-8C to adjust.
K	Paper resist pressure (quantity) adjustment	(1)	Manual paper feed tray			Change the set value of SIM 51-2A to adjust.
		(2)	No. 1 paper feed tray			Change the set value of SIM 51-2B to adjust.
		(3)	No. 2 paper feed tray			Change the set value of SIM 51-2C to adjust.
		(4)	No. 3 paper feed tray			Change the set value of SIM 51-2D to adjust.
		(5)	Paper cassette			Change the set value of SIM 51-2E to adjust.
		(6)	Duplex unit			Change the set value of SIM 51-2G to adjust.
L	Separation pawl operating timing adjustment					Change the set value of SIM 51-1 to adjust.
M	Paper stop position in front of resist roller adjustment					Change the set value of SIM 51-4 to adjust.

A. Air valve position adjustment

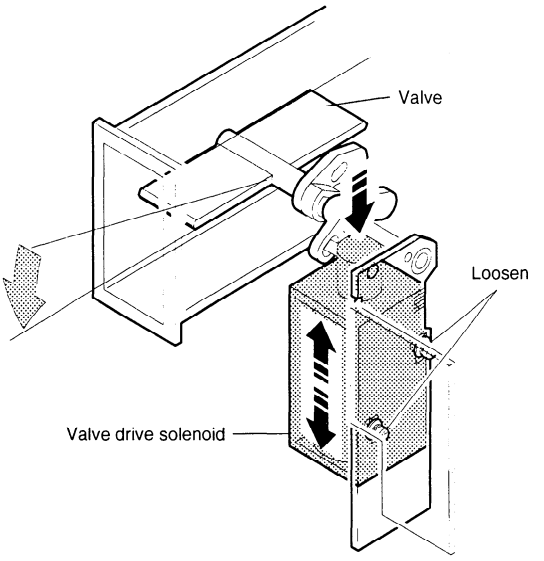
The air valve position is adjusted by changing the air valve drive solenoid position.

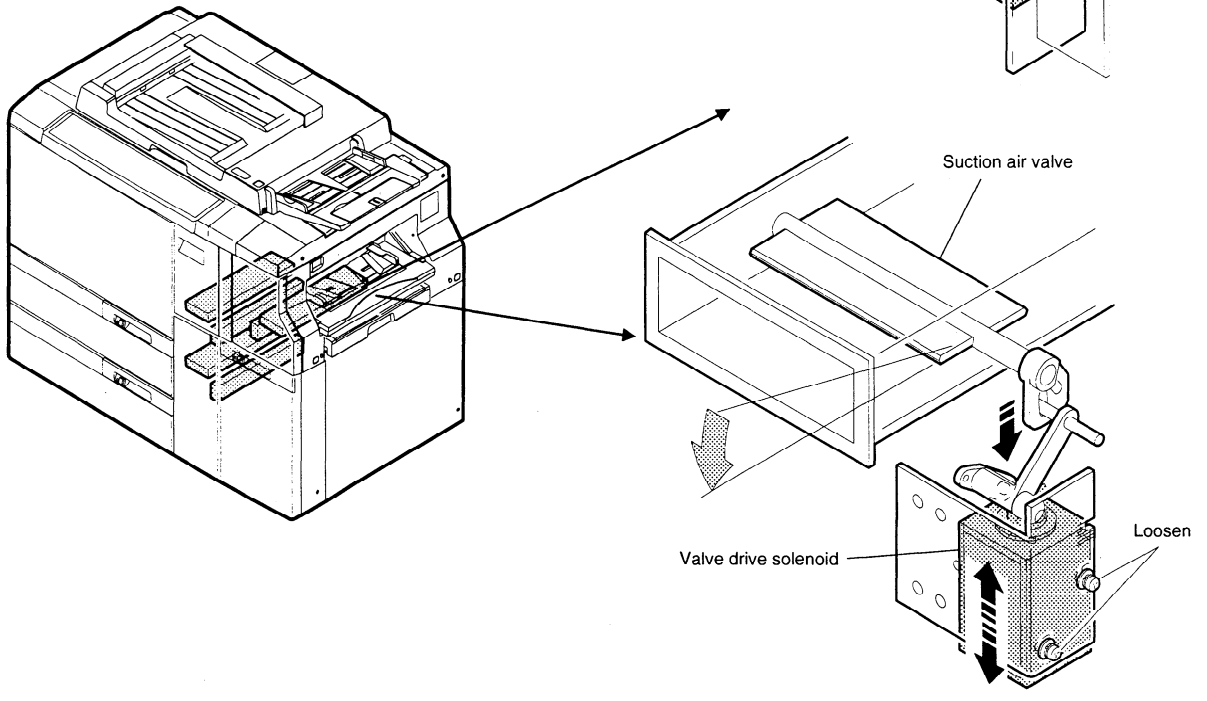
This adjustment is performed for the suction air valve and the blower air valve in each of No. 1, 2, 3 paper feed tray units/ The adjusting procedure is the same in each unit.

Change the air valve drive solenoid position to adjust so that

when the air valve drive solenoid is manually turned on, the valve is fully opened (the valve surface is in parallel with the duct); and when the air valve drive solenoid is turned off, the valve is closed (the valve surface is vertical to the duct).

If this adjustment is improper, air pressure becomes insufficient, causing misfeed and paper jams.





B. Air pressure adjustment, check

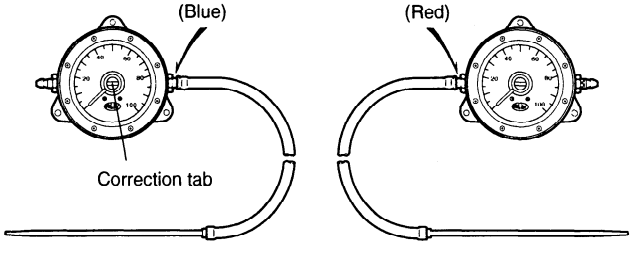
This adjustment/check is performed for the suction unit and the blower unit in each of No. 1, 2, 3 paper feed tray units. The adjusting procedure is the same in each unit.

To adjust and check the air pressure, the air pressure meter (with tube) and the nozzle are required.

Air pressure meter (with tube): UKOG-0178FCZZ

Nozzle: UKOG-0179FCZZ

[Suction pressure measurement value] [Blowing pressure measurement value]

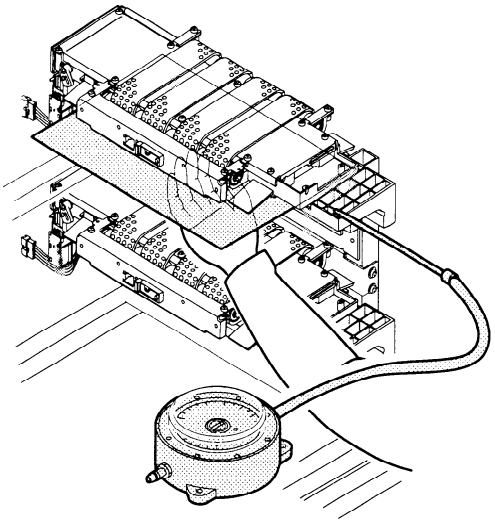


a. Suction air pressure check, adjustment

1) Attach the nozzle to the tube, and connect the opposite side to the suction pressure measuring port (blue) of the air pressure meter.
2) Perform calibration of the air pressure meter.
(Turn the calibration knob and fit the air pressure meter needle to the zero position.)
3) With the front cabinet open, manually turn on the cabinet open/close detection switch.
4) Pull out the target paper feed tray (the air pressure of which is checked and adjusted).
5) Enter the SIM 6-2 mode, and select the number corresponding to the target paper feed tray unit, and press the START button.
(The suction fan motor and the blower fan motor rotate, and the suction valve and the blower valve of the selected paper feed tray unit are opened.)

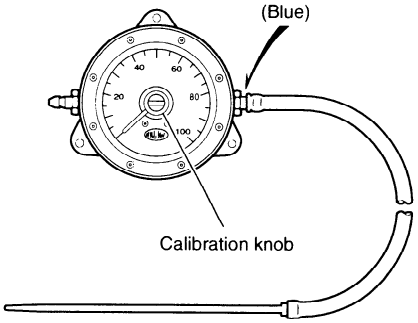
```
SIMULATION NO. 6-2
INPUT 1~6

1. TRAY1     (TVVS1, TBVS1, TVFM, TBFM)
2. TRAY2     (TVVS2, TBVS2, TVFM, TBFM)
3. TRAY3     (TVVS3, TBVS3, TVFM, TBFM)
4. DUPLEX    (DVVS, TVFM, TBFM, DBFM)
5. FAN ONLY  (TVFM, TBFM, DBFM)
6. ALL FAN ON
```

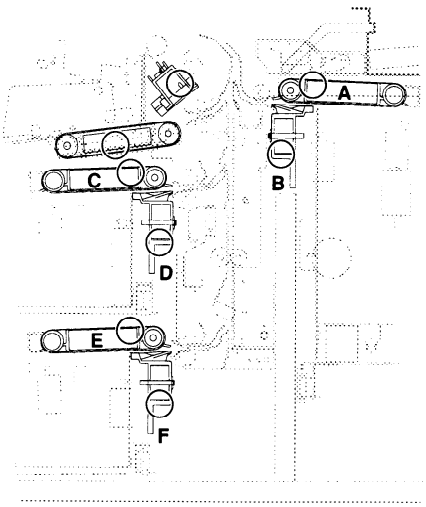
6) Put A4 (11 × 8.5") paper onto the suction belt. (The paper is sucked.)



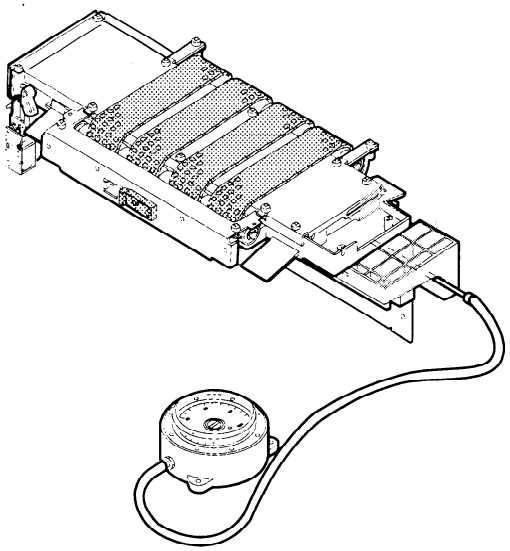
7) Insert the nozzle into the suction air pressure measurement hole, and check the air pressure.
If the suction air pressure is within the range of 11 ~ 21mmH2O, it is normal.

[Suction pressure measurement value]





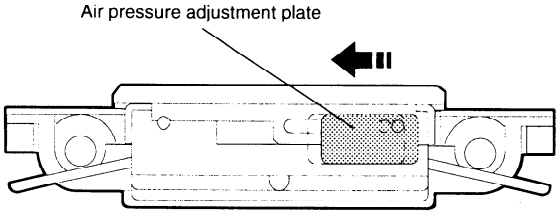
A, C, E - Suction unit
B, D, F - Blower unit



If the suction air pressure is excessive, misfeed may be caused. If insufficient, double feed may be caused.

The suction air pressure can be adjusted by changing the pressure adjusting plate position. However, changing the plate position may vary the air pressure. After changing the pressure adjusting plate, therefore, be sure to check the air pressure of the blower and the other unit.

Adjust the suction air pressure according to the kind of paper to be used.

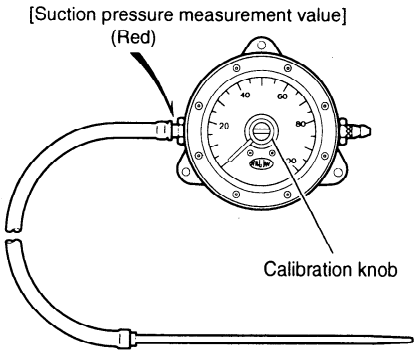


Perform the above check and adjustment for the suction unit of each paper feed tray unit.

b. Blower air pressure check

1) Attach the nozzle to the tube, and connect the opposite side to the air pressure measuring port (red) of the air pressure meter.

[Suction pressure measurement value]



2) Perform calibration of the air pressure meter.
(Turn the calibration knob and fit the air pressure meter needle to the zero position.)

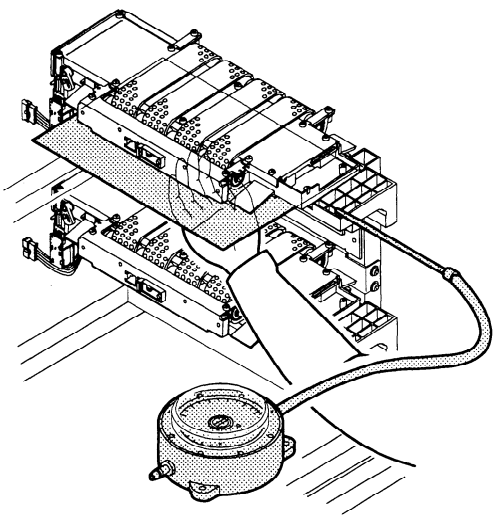
3) With the front cabinet open, manually turn on the cabinet open/close detection switch.

4) Pull out the target paper feed tray (the air pressure of which is checked and adjusted).

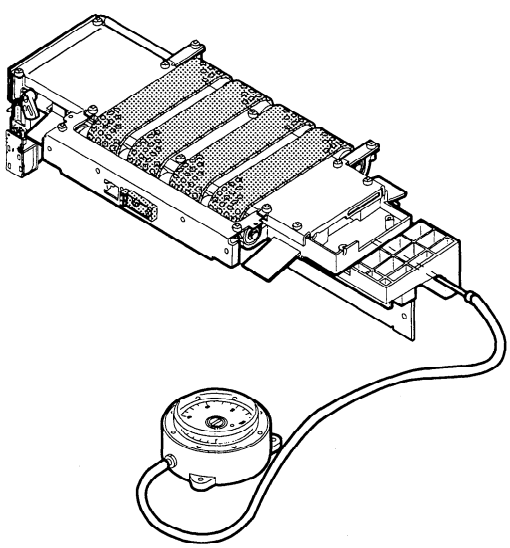
5) Enter the SIM 6-2 mode, and select the number corresponding to the target paper feed tray unit, and press the START button.
(The suction fan motor and the blower fan motor rotate, and the suction valve and the blower valve of the selected paper feed tray unit are opened.)

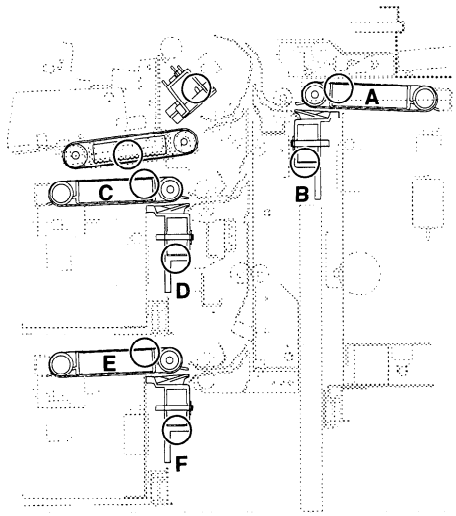
```
SIMULATION NO. 6-2
INPUT 1~6

1. TRAY1     (TVVS1, TBVS1, TVFM, TBFM)
2. TRAY2     (TVVS2, TBVS2, TVFM, TBFM)
3. TRAY3     (TVVS3, TBVS3, TVFM, TBFM)
4. DUPLEX    (DVVS, TVFM, TBFM, DBFM)
5. FAN ONLY (TVFM, TBFM, DBFM)
6. ALL FAN ON
```

6) Put A4 (11 × 8.5") paper onto the suction belt. (The paper is sucked.)



7) Insert the nozzle into the blower air pressure measurement hole, and check the air pressure.
If the blower air pressure is within the range of 38 ~ 52mmH2O, it is normal.





A, C, E - Suction unit
B, D, F - Blower unit

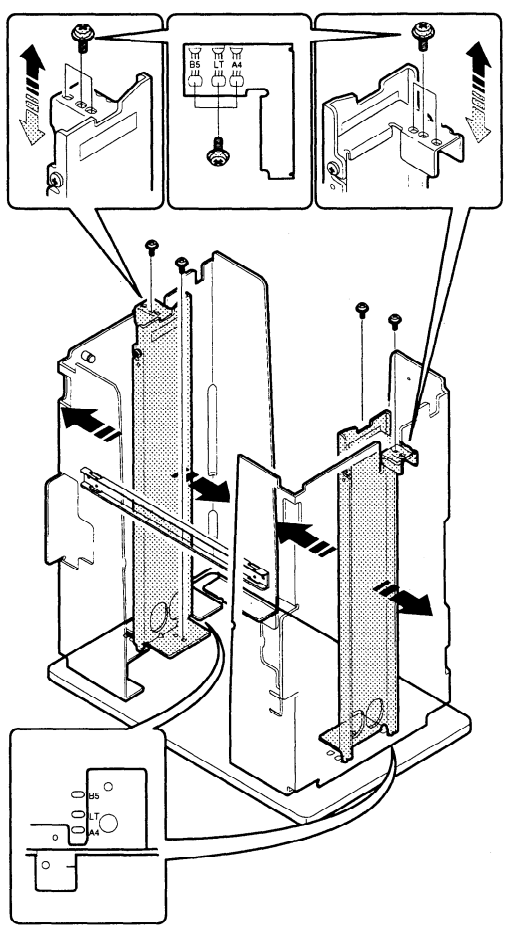
If the blower air pressure is excessive, double feed may be caused. If insufficient, misfeed may be caused.

Perform the above check and adjustment for the blower unit of each paper feed tray unit.

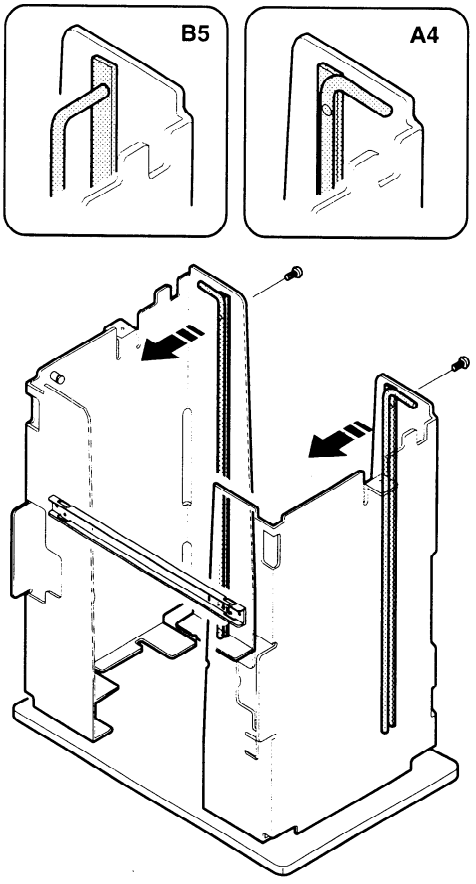
C. No. 1 tray paper size adjustment

1) Pull out No. 1 tray.

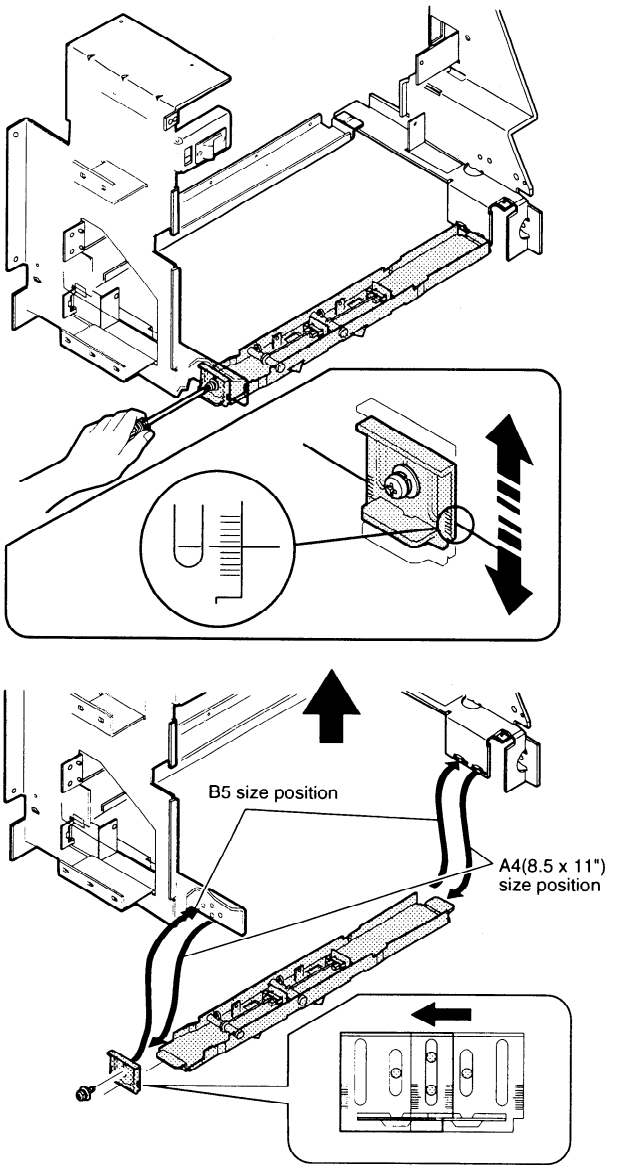
2) Adjust the paper width guide plate position according to the paper width.



3) Adjust the paper length guide bar attachment position according to the paper length.



4) Adjust the paper empty detector fixing plate attachment position according to the paper size.



(Note) After changing the paper size, be sure to set the new paper size with SIM 26-2.

D. No. 1 paper feed tray paper size setting

Since No. 1 paper feed tray has no function of paper size detection, the paper size must be registered (set) with the simulation.

1) Enter the SIM 26-2 mode.

```
SIMULATION NO. 26-2

[TRAY1SIZESETUP]  INPUT (1~3)
1.8½x11"      2.A4      3.B5
```

2) Select the paper size which corresponds to No. 1 paper feed tray paper size which was mechanically set with the 10-key pad, and press the START button.
The list for selection of paper sizes is composed of two parts. Select each part with the scroll keys.

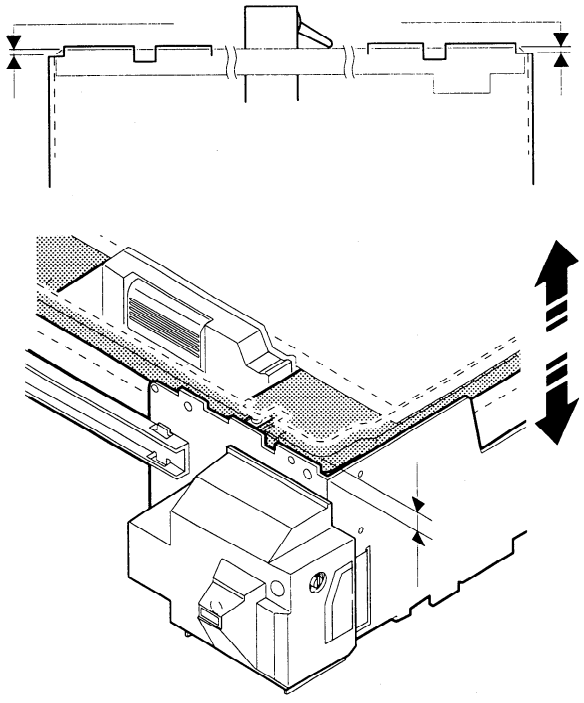
E. Tray horizontal level adjustment

This adjustment is performed to level the paper feed belt surface for the paper surface and to allow the suction belt to suck paper smoothly and to perform paper feed properly.

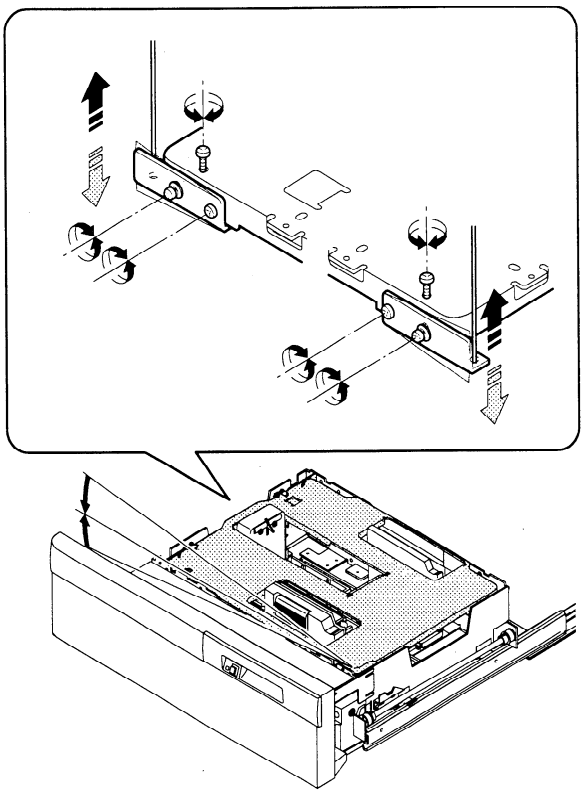
If this adjustment is not performed properly, troubles such as misfeed, double feed, paper jam, and skew may occur.

(1) No. 2 paper feed tray

1) Set a sheet of paper on the tray, and close the tray.
2) Check that the tray is lifted and stopped at the paper feed position, then manually pull out the tray.
3) Measure the distances between the four edges of the tray frame and the tray upper surface, and check that the difference is within 1.0mm. If the difference exceeds the above range, perform the following procedures.



4) Loosen the fixing screw of the paper tray lift wire hook angle.



5) Turn the tray height adjustment screw to adjust the horizontal level.
   Repeat procedures 1) ~ 5) until item 3) is satisfied.
6) After completion of the adjustment, tighten the fixing screw of the paper tray lift wire hook angle.

   (Note) After completion of the tray horizontal level adjustment, be sure to perform the lift tray stop position adjustment (adjustment of the clearance between the paper feed belt and paper).

(2) No. 3 paper feed tray

Perform the same adjustment as that of No. 2 paper feed tray.

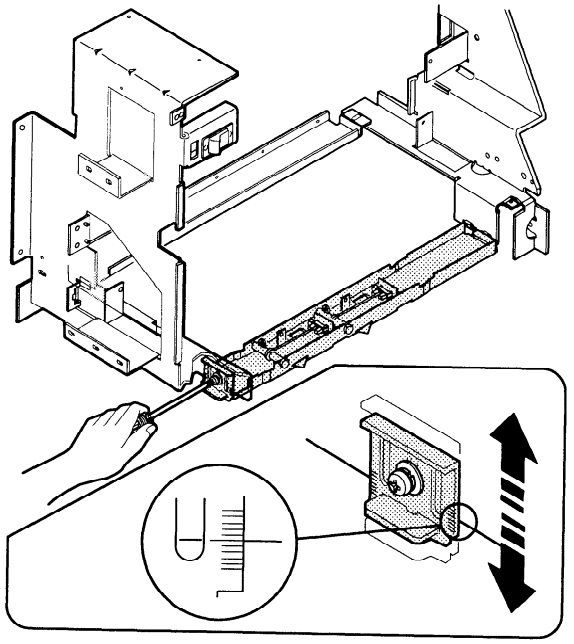
F. Lift tray stop position adjustment (adjustment of the clearance between the paper feed belt and paper)

This adjustment is performed to adjust the distance between the paper and the paper feed belt and to allow the suction belt to suck the paper smoothly for proper paper feed.

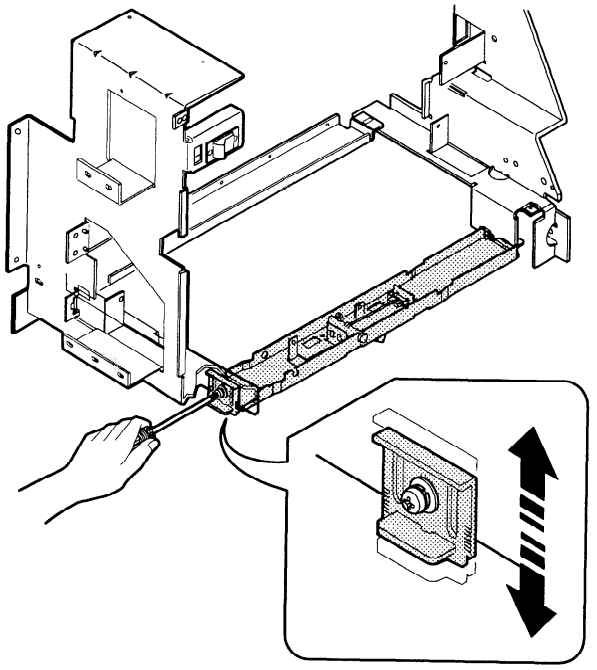
If this adjustment is not performed properly, troubles such as misfeed, double feed, and paper jams may occur.

(1) No. 1 paper feed tray

1) Set to the paper empty detector angle center. (Fit the center of the scale of the paper empty detector with the main body frame's lower edge and fix it.)

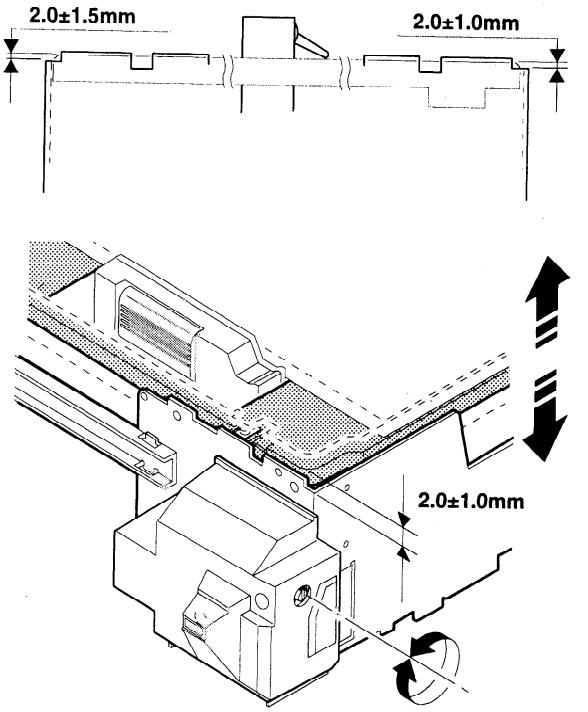


2) When double feed occurs, move it downward. When misfeed occurs, move it upward.

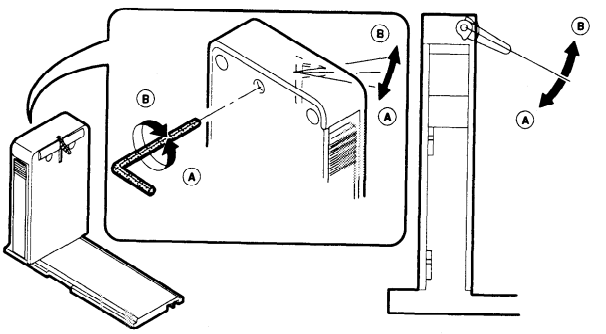


(2) No. 2 paper feed tray

1) Set a sheet of paper on the tray, and close the tray.
2) Check that the tray is lifted and stopped at the paper feed position, then manually pull out the tray.
3) Measure the distances between the tray top surface and the tray frame edge is 2.0 ±1.0mm. If the distance exceeds the above range, perform the following procedures.



4) Turn the paper empty detector actuator operating position adjustment screw to change the operating position.
If the tray is too high, turn the adjustment screw counterclockwise, and if too low, turn it clockwise.
Repeat procedures 1) ~ 4) until item 3) is satisfied.

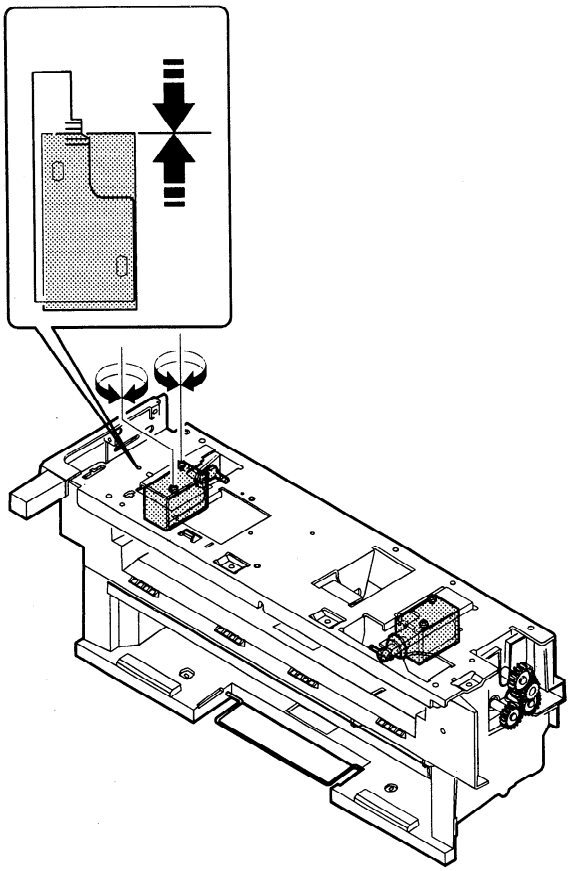


(3) No. 3 paper feed tray

Perform the same adjustment as that of No. 2 paper feed tray.

G. Manual multi paper feed pick-up roller pressure adjustment

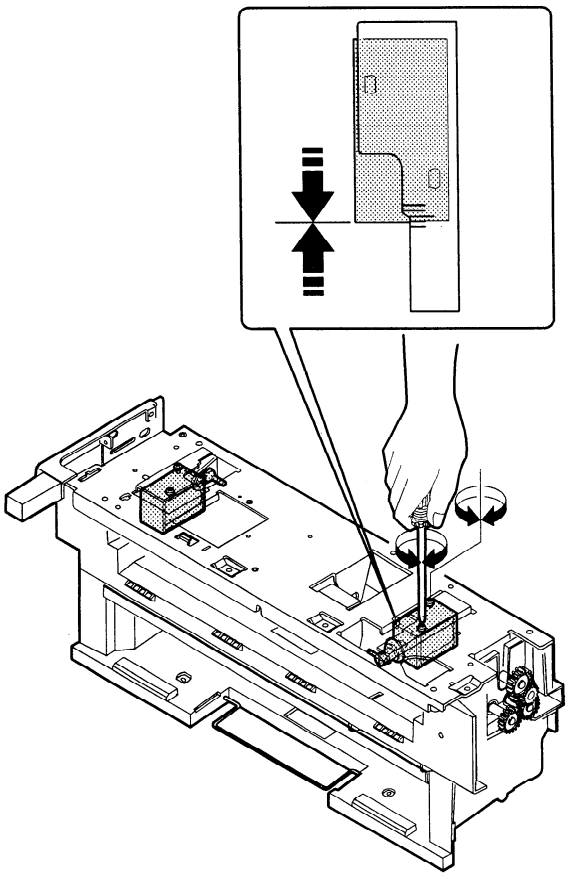
1) Fit the manual multi paper feed pick-up roller drive solenoid position as shown below and fix it.



If this adjustment is not performed properly, troubles such as misfeed, double feed, and skew may occur.

H. Cassette paper feed pick-up roller pressure adjustment

1) Adjust the cassette paper feed pick-up roller drive solenoid as shown below, and fix it.



If this adjustment is not performed properly, troubles such as misfeed, double feed, and skew may occur.

I. Manual multi paper feed tray paper size detection level adjustment

The manual multi paper feed tray paper size is judged by detecting the change in the resistance (voltage) of the variable resistor.

The max. value (when the paper guide is extended fully) and the min. value (when the paper guide is retracted to the min. paper width) are registered, and the resistance (voltage) is automatically divided in the range.

The resistance (voltage) corresponding to the paper guide position is detected to calculate the paper size depending on the above registered values.

1) Enter the SIM 40-2 mode.

```
SIMULATION NO. 40-2
MANUAL (BYPASS) TRAY PAPER SIZE DETECTION (WIDTH)
LEVEL ADJUSTMENT

SET MANUAL TRAY (THE PAPER) GUIDE TO MAX WIDTH
AND PRESS START BUTTON. (OF BYPASS-TRAY TO THE
MAXIMAM WIDTH AND PRESS THE START KEY)
```

2) Extend the paper guide to the max. paper width and press the START button. (The max. detection level is registered.)

3) Retract the paper guide to the min. paper width and press the START button. (Then min. detection level is registered.)

If an error message is displayed, check the paper size detection variable resistor and the detection circuit (main control PWB).

J. Paper empty judgment condition adjustment (when abnormal)

This adjustment is to set the paper empty judgement conditions when the paper empty detector of the copy paper trays (2 ~ 3) does not operate properly.

The adjustment is made for two paper trays. Setting screen for each paper tray is selected with the scroll keys. The set value is in the range of 1 ~ 30. Figures are entered with the 10-key pad, and the START button is pressed. The standard set value is 12.

The new set value is displayed on the COPIES MADE display, and the currently set value is displayed on the LCD display.

(Meaning of set values)

When the amount of paper on the paper tray is reduced or emptied as copies are made, the paper empty detector becomes inactive. If the paper tray lifts up and there is paper, the paper empty detector becomes active, allowing to make copy. If the paper empty detector does not become active in the time set by this simulation when there is no paper, it is judged as paper empty and the paper empty display is made. Change in the set value by 1 corresponds to 10ms.

The adjustment range is 10 ~ 300ms.

1) Enter the SIM 26-8 mode.

```
SIMULATION NO. 26-8

TRAY PAPER EMPTY CONDITION

 >26A (1~30) : nn (NO NEED TO ADJUST)
  26B (1~30) : nn
  26C (1~30) : nn
```

nn: Set value

(The set value of the selected tray is highlighted.)

2) Select the paper feed tray with the scroll key, enter 12 with the 10-key pad, and press the START button. (The set value is stored.)

   26A: No. 1 tray (No need to adjust)

   26B: No. 2 tray

   26C: No. 3 tray

K. Paper resist pressure (quantity) adjustment

This adjustment is to adjust the timing (paper contact pressure) onto the resist roller in each paper feed mode.

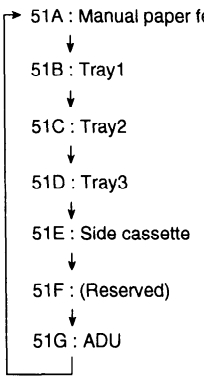
By changing the time delay (timing) from the transport roller ON to the resist roller ON, the paper contact pressure (quantity) onto the resist roller is changed.

Use SIM 51-2 to adjust. (Copying is made.)

SIM 51-3 also allows this adjustment, but copying is not made and only the adjustment values are entered.

In principle, the adjustment values must be changed according to the copy paper quality.

1) Enter the SIM 51-2 mode.



Item		Default	Adjustment range	
			min.	max.
51A	Manual feed tray	*23*	0	50
51B	Tray 1	*26*	0	50
51C	Tray 2	*26*	0	50
51D	Tray 3	*26*	0	50
51E	Side cassette	*23*	0	50
51F	(Reserved)	*26*	0	50
51G	ADU	*26*	0	50

(1 count = 1 ms)

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

3) Enter the adjustment value with the 10-key pad, and press the START button. (The set value is stored.)

The greater the set value is, the greater the time difference is and the greater the paper contact pressure onto the resist roller is.
If the pressure is too small, the copy image position may fluctuate. If the pressure is too great, a paper jam may occur.
The adjustment range is 0 ~ 50. Change in the set value by 1 corresponds to about 1msec of timing.
The default value is *26* (*23*).

L. Separation pawl operating timing adjustment

This is to adjust the time from the resist roller ON to the photoconductor drum separation pawl ON.

1) Enter the SIM 51-1 mode.

2) Enter the adjustment value with the 10-key pad, and press the START button. (The set value is stored.)

The adjustment range is 0 ~ 20. Change in the set value by 1 corresponds to about 10msec of timing.
The default value is *4*.
If the adjustment value is not proper, a paper jam may occur.

M. Adjustment of paper stop position in front of resist roller

The paper is transported to the resist roller and stopped just in front of the resist roller and put on the roller. This adjustment is to adjust the stop position.
By changing the time from when the paper pass detector (PPD3) detects the paper lead edge from when the transport roller clutch is turned off, the paper stop position in front of the resist roller is changed.

1) Enter the SIM 51-4 mode.

2) Enter the adjustment value with the 10-key pad and press the START button. (The set value is stored.)

When the set value is too great, the paper hits the resist roller, causing a paper jam. When the set value is too small, the paper is not put on the resist roller, causing a paper jam.
The adjustment range is 1 ~ 50. Change in the set value by 1 corresponds to about 1msec of timing.
The default value is *17*.

3. Optical section

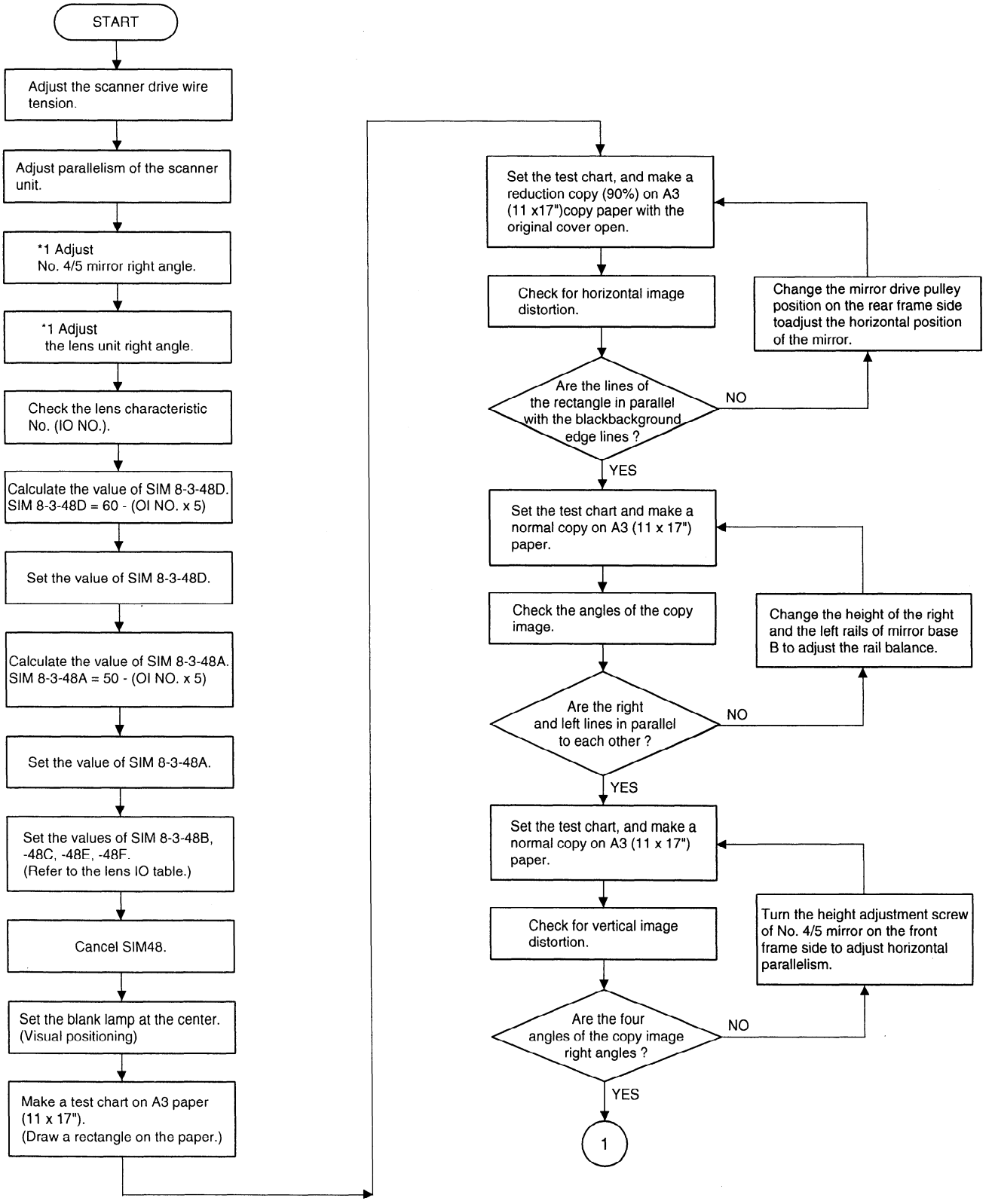
Optical unit adjustment list

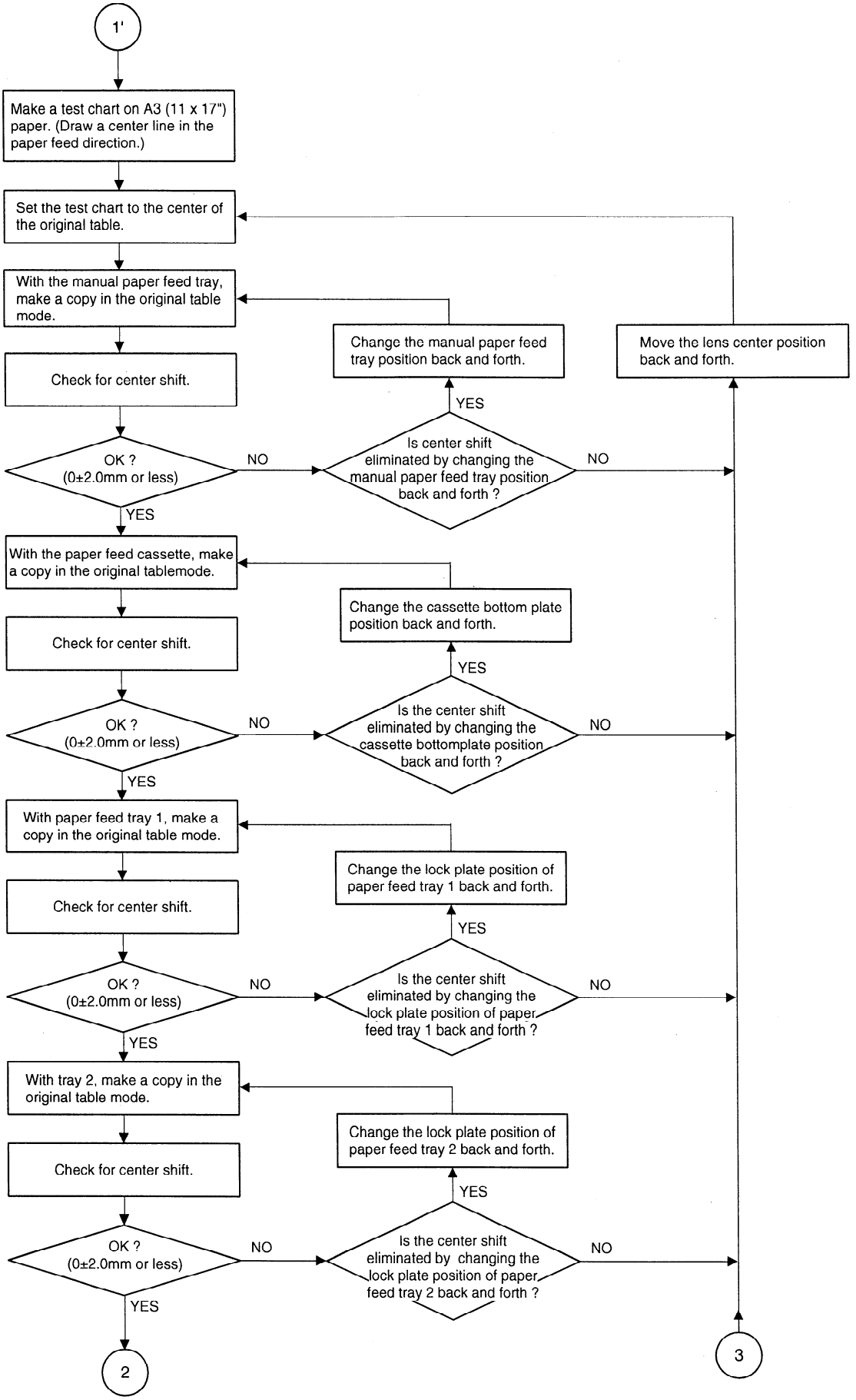
Division	No.	Adjustment content	Details		Adjusting procedure
Parts installation position adjustment	(1)	Scanner drive wire tension adjustment			Turn the scanner drive wire tension adjustment screw.
	(2)	Scanner unit horizontal level adjustment			Change the fixing position of No. 1/No. 2 scanner unit for the drive wire.
	(3)	No. 4/5 mirror right angle adjustment			Change the fixing position of No. 4/5 mirror unit slide shaft fixing angle. (Do not touch normally.)
	(4)	Lens unit right angle adjustment			Change the fixing position of the lens unit slide shaft fixing angle. (Do not touch normally.)
Copy quality adjustment	(1)	Image distortion adjustment	a	Horizontal image distortion adjustment	Change the relative positions of the scanner drive wire and the scanner drive wire pulley.
			b	Vertical image distortion balance adjustment	Change the right and the left height balance of the scanner rail.
			c	Vertical image distortion adjustment	Change the height balance of No. 4/5 mirror unit. (Turn the No. 4/5 mirror unit roller height adjustment cam.)
	(2)	Copy image center position adjustment	a	When the manual paper feed unit is used.	Change the manual paper feed unit position back and forth.
			b	When the paper feed cassette is used.	Change the paper feed cassette and the paper width adjustment plate base position back and forth.
			c	When the paper feed tray unit is used.	Change the paper feed tray unit position back and forth.
			d	In the duplex copy mode	Change the duplex unit position back and forth.
			e	In the RADF copy mode	Change the original tray unit position back and forth.
			f	In all copy modes	Slide the lens unit optical axis vertically. (Perform this adjustment only when the copy image center position adjustment (item a ~ e) cannot be made.)
	(3)	Focus adjustment	I	Focus adjustment value input	(Adjustment procedures without copying)
			a	Normal copy focus adjustment value input	Enter the set value of SIM 48-3-48D.
			b	Enlargement copy focus adjustment value input	Enter the set value of SIM 48-3-48F.
			c	Reduction copy focus adjustment value input	Enter the set value of SIM 48-3-48E.
			II	Focus adjustment	(Adjustment with copying)
			a	Normal copy focus adjustment	Enter the set value of SIM 48-1-48D.
			b	Enlargement copy focus adjustment	Enter the set value of SIM 48-1-48F.
			c	Reduction copy focus adjustment	Enter the set value of SIM 48-1-48E.
	(4)	Vertical copy magnification ratio adjustment	I	Vertical copy magnification ratio adjustment value input	(Adjustment without copying)
			a	Vertical copy magnification ratio adjustment (normal)	Enter the set value of SIM 48-3-48A.
			b	Vertical copy magnification ratio adjustment (enlargement)	Enter the set value of SIM 48-3-48C.
			c	Vertical copy magnification ratio adjustment (reduction)	Enter the set value of SIM 48-3-48B.
			II	Vertical copy magnification ratio adjustment	(Adjustment with copying)
			a	Vertical copy magnification ratio adjustment (normal)	Change the set value of SIM 48-1-48A.
			b	Vertical copy magnification ratio adjustment (enlargement)	Change the set value of SIM 48-1-48C.
			c	Vertical copy magnification ratio adjustment (reduction)	Change the set value of SIM 48-1-48B.
	(5)	Horizontal (paper transport direction) copy magnification ratio adjustment			Change the set value of SIM 48-1. (Press the PAUSE key to light the PAUSE lamp.)
	(6)	Uniformity adjustment			Change the exposure adjustment plate position.
	(7)	Image loss/void area adjustment	a	Image lead edge reference position adjustment	Change the set value of SIM 50-1-50A.
			b	Resist roller ON timing adjustment	Change the set value of SIM 50-1-50B.
			c	Resist roller brake OFF timing adjustment	Change the set value of SIM 50-1-50C. (Default: 10)
			d	Void amount adjustment (led edge/rear edge)	Change the set value of SIM 50-1-50D, 50E.
	(8)	Blank lamp position adjustment			Change the blank lamp unit position back and forth.

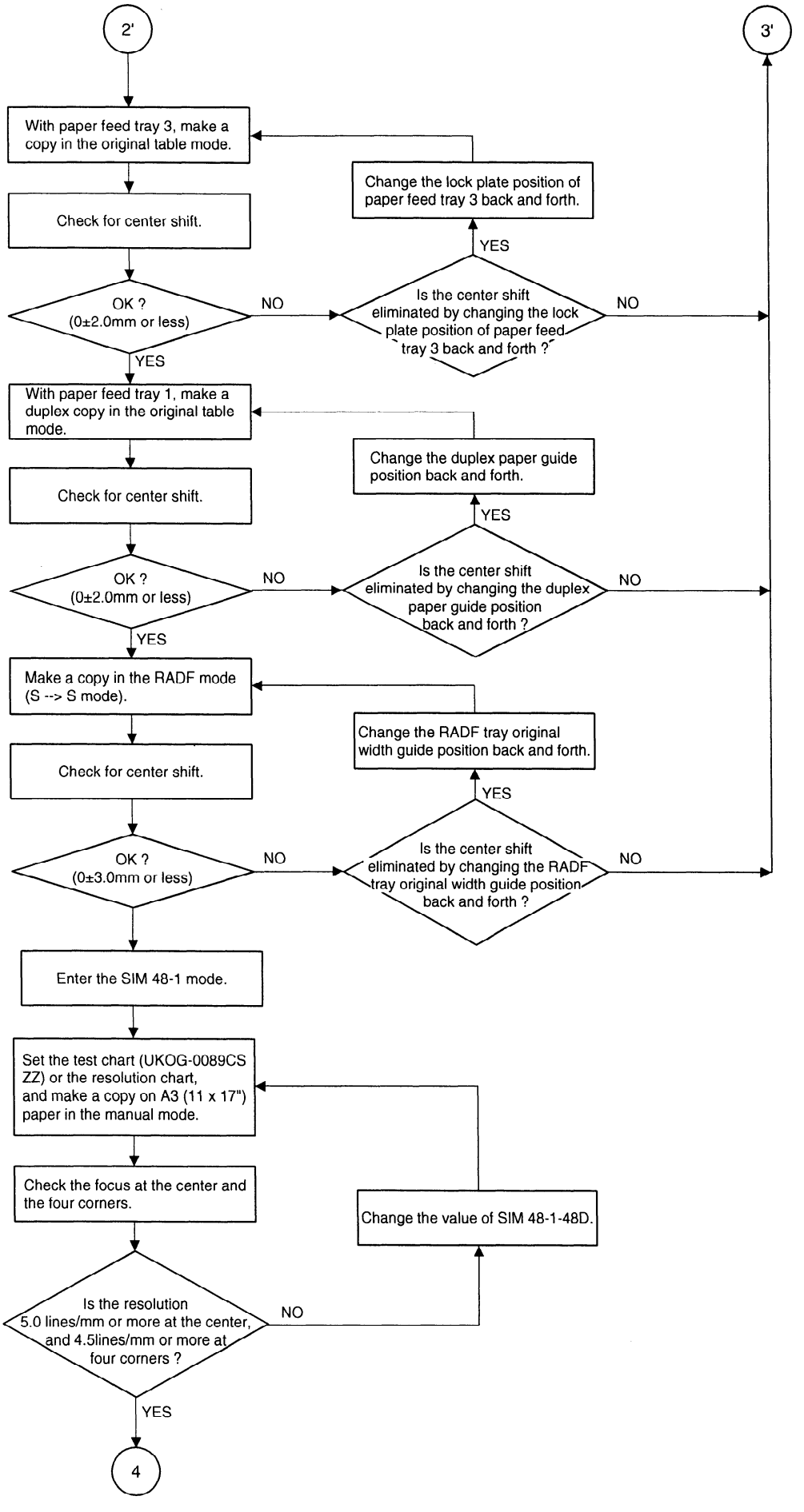
Optical section adjustment

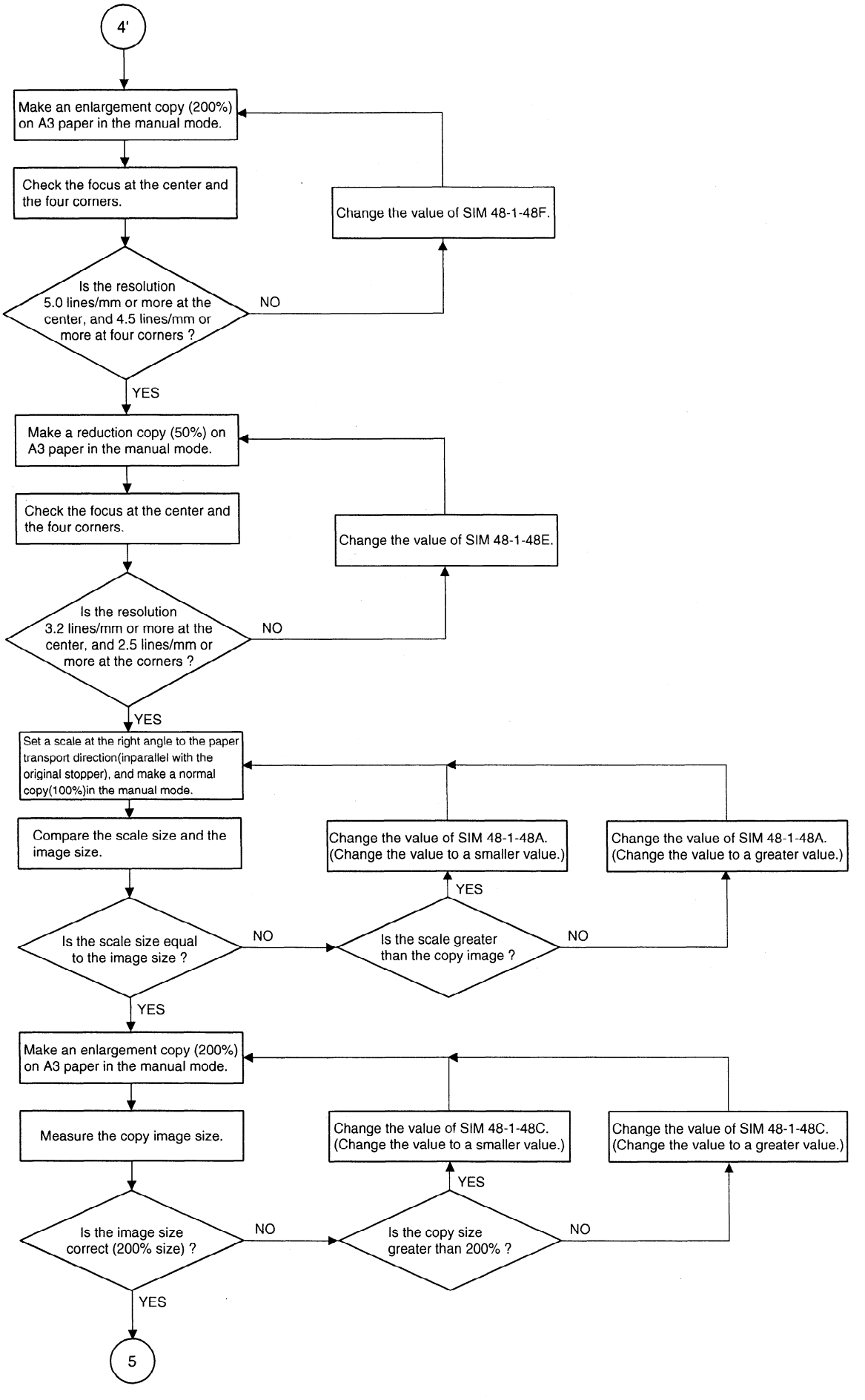
Observe the following instructions when performing the adjustments.

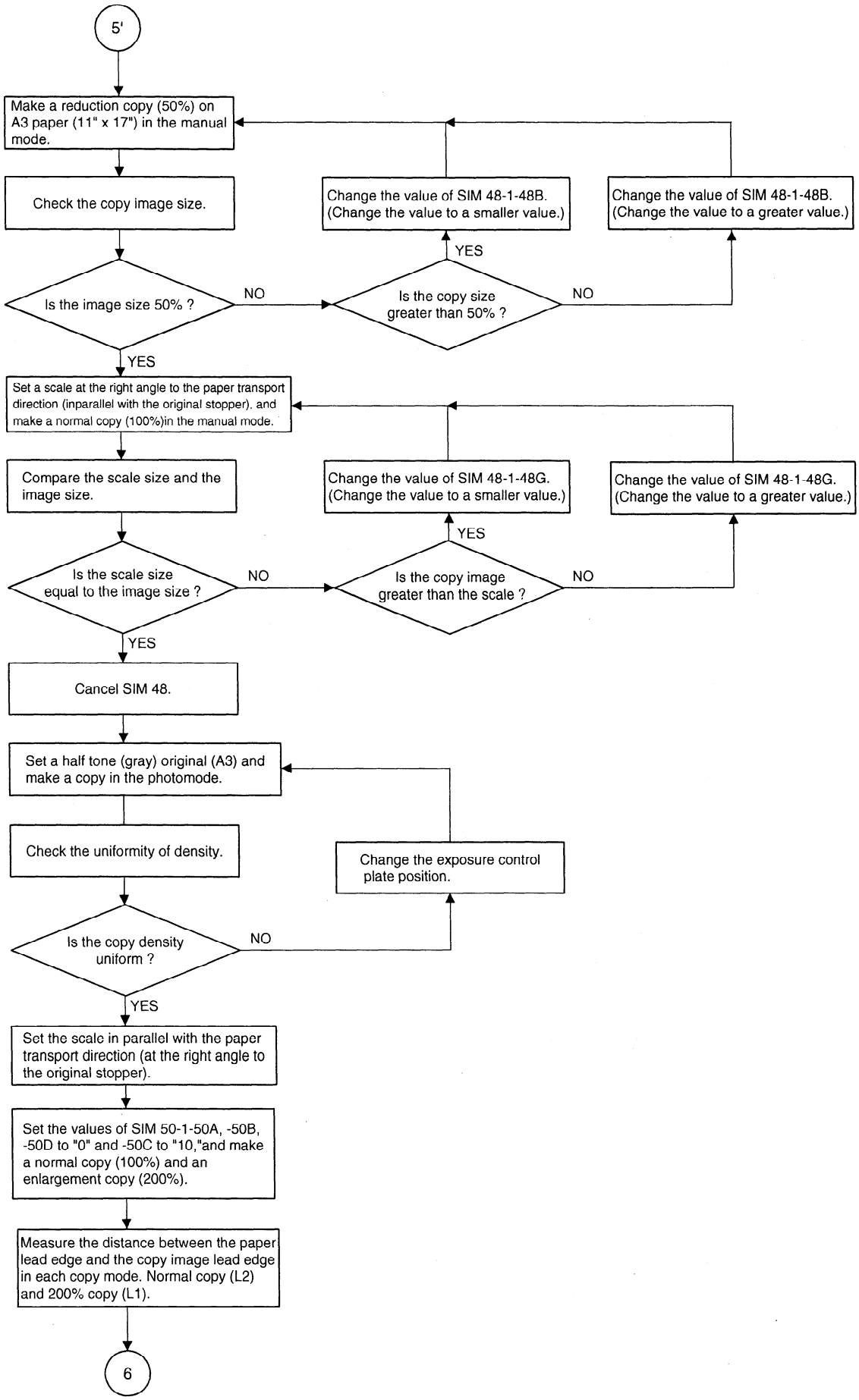
1) Perform the adjustments in the sequence shown in the flow chart.
2) To start an adjustment midway, all the previous adjustments must have been properly adjusted.
3) If an adjustment item is changed, all the following adjustments must be changed accordingly. An adjustment item is based on all the previous adjustment items.

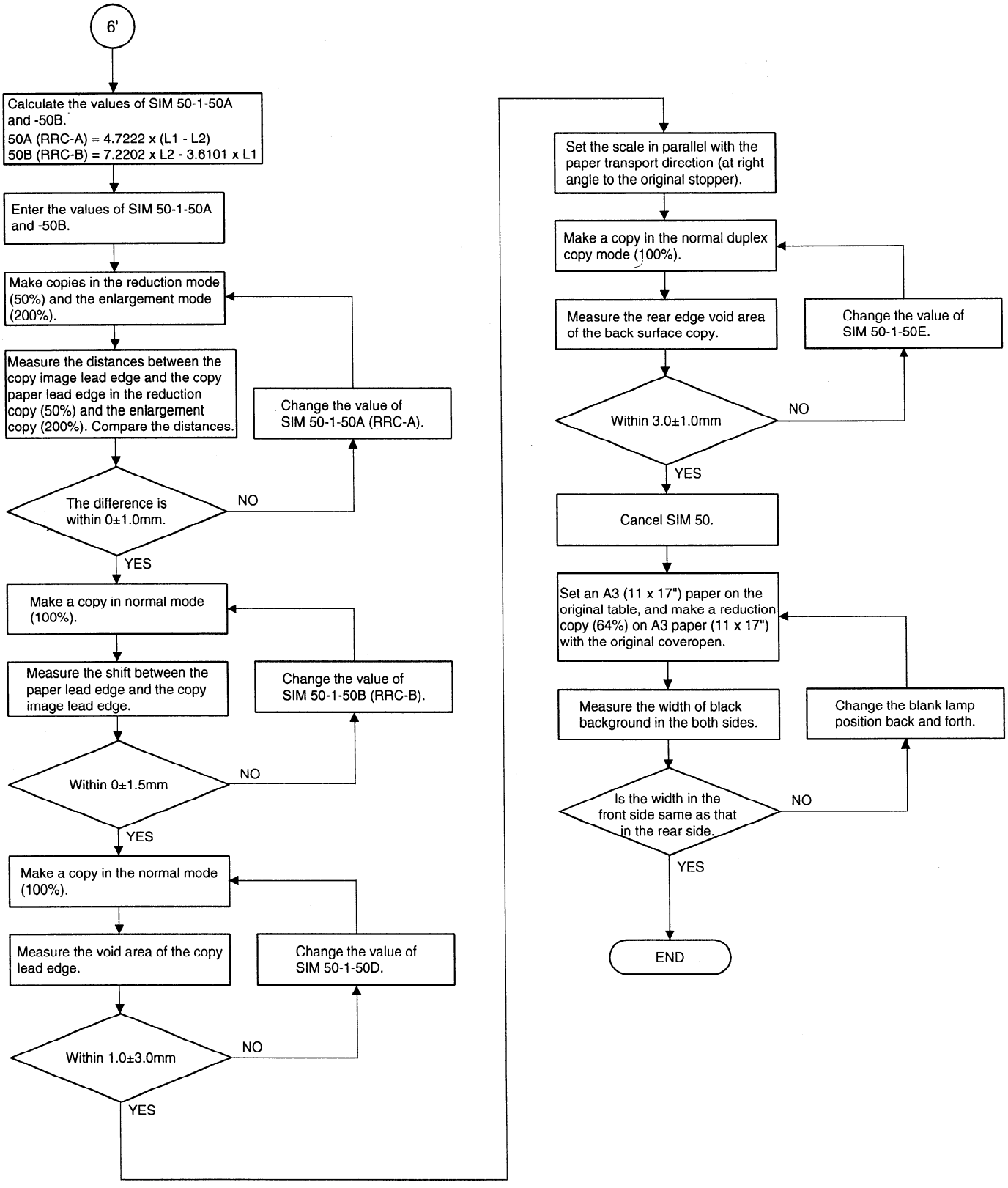



1'
Make a test chart on A3 (11 x 17") paper. (Draw a center line in the paper feed direction.)
Set the test chart to the center of the original table.
With the manual paper feed tray, make a copy in the original table mode.
Check for center shift.
OK ? (0±2.0mm or less)
NO
YES
Change the manual paper feed tray position back and forth.
YES
Is center shift eliminated by changing the manual paper feed tray position back and forth ?
NO
Move the lens center position back and forth.
With the paper feed cassette, make a copy in the original tablemode.
Check for center shift.
OK ? (0±2.0mm or less)
NO
YES
Change the cassette bottom plate position back and forth.
YES
Is the center shift eliminated by changing the cassette bottomplate position back and forth ?
NO
With paper feed tray 1, make a copy in the original table mode.
Check for center shift.
OK ? (0±2.0mm or less)
NO
YES
Change the lock plate position of paper feed tray 1 back and forth.
YES
Is the center shift eliminated by changing the lock plate position of paper feed tray 1 back and forth ?
NO
With tray 2, make a copy in the original table mode.
Check for center shift.
OK ? (0±2.0mm or less)
NO
YES
Change the lock plate position of paper feed tray 2 back and forth.
YES
Is the center shift eliminated by changing the lock plate position of paper feed tray 2 back and forth ?
NO
2
3


2'
3'
With paper feed tray 3, make a copy in the original table mode.
Check for center shift.
OK ? (0±2.0mm or less)
NO
YES
Is the center shift eliminated by changing the lock plate position of paper feed tray 3 back and forth ?
NO
YES
Change the lock plate position of paper feed tray 3 back and forth.
With paper feed tray 1, make a duplex copy in the original table mode.
Check for center shift.
OK ? (0±2.0mm or less)
NO
YES
Is the center shift eliminated by changing the duplex paper guide position back and forth ?
NO
YES
Change the duplex paper guide position back and forth.
Make a copy in the RADF mode (S --> S mode).
Check for center shift.
OK ? (0±3.0mm or less)
NO
YES
Is the center shift eliminated by changing the RADF tray original width guide position back and forth ?
NO
YES
Change the RADF tray original width guide position back and forth.
Enter the SIM 48-1 mode.
Set the test chart (UKOG-0089CS ZZ) or the resolution chart, and make a copy on A3 (11 x 17") paper in the manual mode.
Check the focus at the center and the four corners.
Is the resolution 5.0 lines/mm or more at the center, and 4.5lines/mm or more at four corners ?
NO
YES
Change the value of SIM 48-1-48D.
4


4'
Make an enlargement copy (200%) on A3 paper in the manual mode.
Check the focus at the center and the four corners.
Change the value of SIM 48-1-48F.
Is the resolution 5.0 lines/mm or more at the center, and 4.5 lines/mm or more at four corners ?
NO
YES
Make a reduction copy (50%) on A3 paper in the manual mode.
Check the focus at the center and the four corners.
Change the value of SIM 48-1-48E.
Is the resolution 3.2 lines/mm or more at the center, and 2.5 lines/mm or more at the corners ?
NO
YES
Set a scale at the right angle to the paper transport direction(inparallel with the original stopper), and make a normal copy(100%)in the manual mode.
Compare the scale size and the image size.
Change the value of SIM 48-1-48A. (Change the value to a smaller value.)
Change the value of SIM 48-1-48A. (Change the value to a greater value.)
YES
Is the scale size equal to the image size ?
NO
Is the scale greater than the copy image ?
NO
YES
Make an enlargement copy (200%) on A3 paper in the manual mode.
Measure the copy image size.
Change the value of SIM 48-1-48C. (Change the value to a smaller value.)
Change the value of SIM 48-1-48C. (Change the value to a greater value.)
YES
Is the image size correct (200% size) ?
NO
Is the copy size greater than 200% ?
NO
YES
5

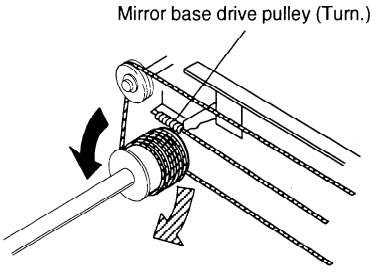

5'
Make a reduction copy (50%) on A3 paper (11" x 17") in the manual mode.
Check the copy image size.
Change the value of SIM 48-1-48B. (Change the value to a smaller value.)
Change the value of SIM 48-1-48B. (Change the value to a greater value.)
YES
Is the image size 50% ?
NO
Is the copy size greater than 50% ?
NO
YES
Set a scale at the right angle to the paper transport direction (inparallel with the original stopper), and make a normal copy (100%)in the manual mode.
Compare the scale size and the image size.
Change the value of SIM 48-1-48G. (Change the value to a smaller value.)
Change the value of SIM 48-1-48G. (Change the value to a greater value.)
YES
Is the scale size equal to the image size ?
NO
Is the copy image greater than the scale ?
NO
YES
Cancel SIM 48.
Set a half tone (gray) original (A3) and make a copy in the photomode.
Check the uniformity of density.
Change the exposure control plate position.
Is the copy density uniform ?
NO
YES
Set the scale in parallel with the paper transport direction (at the right angle to the original stopper).
Set the values of SIM 50-1-50A, -50B, -50D to "0" and -50C to "10,"and make a normal copy (100%) and an enlargement copy (200%).
Measure the distance between the paper lead edge and the copy image lead edge in each copy mode. Normal copy (L2) and 200% copy (L1).
6


6'
Calculate the values of SIM 50-1-50A and -50B.
50A (RRC-A) = 4.7222 x (L1 - L2)
50B (RRC-B) = 7.2202 x L2 - 3.6101 x L1
Enter the values of SIM 50-1-50A and -50B.
Make copies in the reduction mode (50%) and the enlargement mode (200%).
Measure the distances between the copy image lead edge and the copy paper lead edge in the reduction copy (50%) and the enlargement copy (200%). Compare the distances.
Change the value of SIM 50-1-50A (RRC-A).
The difference is within 0±1.0mm.
NO
YES
Make a copy in normal mode (100%).
Measure the shift between the paper lead edge and the copy image lead edge.
Change the value of SIM 50-1-50B (RRC-B).
Within 0±1.5mm
NO
YES
Make a copy in the normal mode (100%).
Measure the void area of the copy lead edge.
Change the value of SIM 50-1-50D.
Within 1.0±3.0mm
NO
YES
Set the scale in parallel with the paper transport direction (at right angle to the original stopper).
Make a copy in the normal duplex copy mode (100%).
Measure the rear edge void area of the back surface copy.
Change the value of SIM 50-1-50E.
Within 3.0±1.0mm
NO
YES
Cancel SIM 50.
Set an A3 (11 x 17") paper on the original table, and make a reduction copy (64%) on A3 paper (11 x 17") with the original coveropen.
Measure the width of black background in the both sides.
Change the blank lamp position back and forth.
Is the width in the front side same as that in the rear side.
NO
YES
END

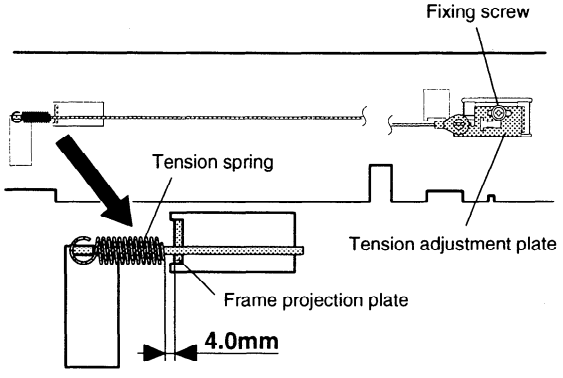
(Parts installing position adjustment)

(1) Scanner drive wire tension adjustment

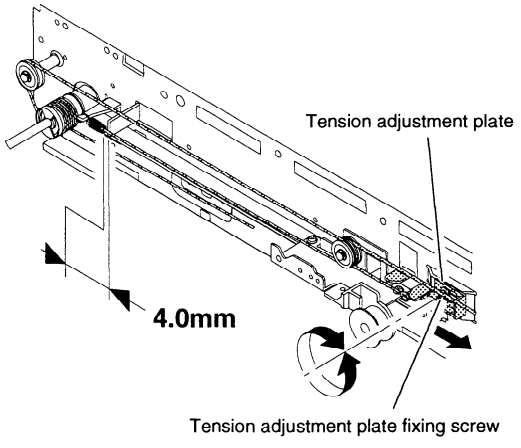
1) Manually turn the scanner drive pulley to fully scan the scanner unit 4 or 5 times.



2) Check that the clearance between the scanner drive wire spring and the frame projection is 4.0mm.



(Check in the front frame side and in the rear frame side.)

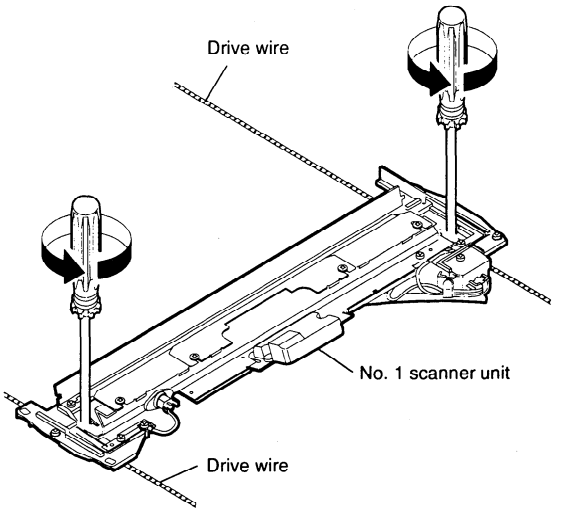


If the clearance is not 4.0mm, perform the following procedures.

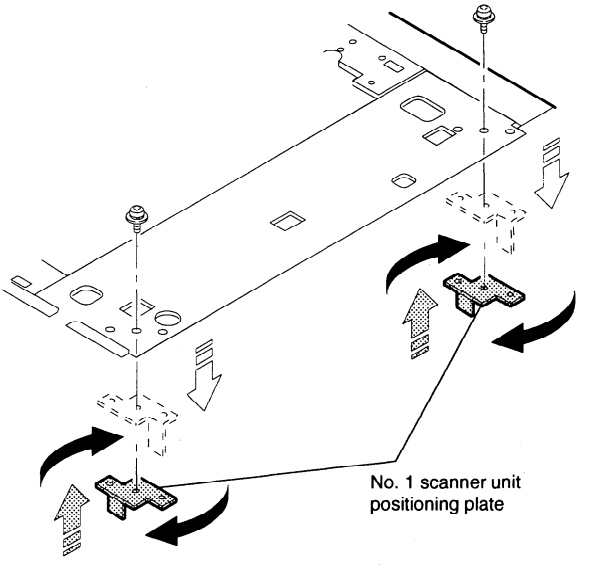
3) Loosen the tension adjustment plate fixing screw.
4) Change the tension adjustment plate position to adjust so that the clearance between the scanner drive wire spring and the frame projection is 4.0mm.
5) Tighten the tension adjustment plate fixing screw.
6) Perform procedures 1) ~ 2).
If the clearance between the scanner drive wire spring and the frame projection is 4.0mm, the adjustment is completed.
If not, repeat procedures 3) ~ 6) until the condition is satisfied.

(2) Scanner unit parallelism (installing position) adjustment

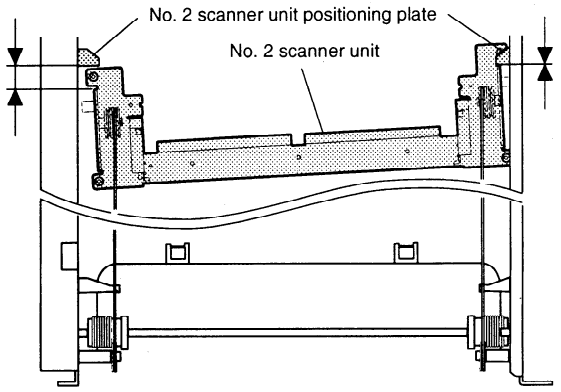
1) Loosen the scanner unit fixing screw to remove No. 1 scanner unit from the scanner drive wire.



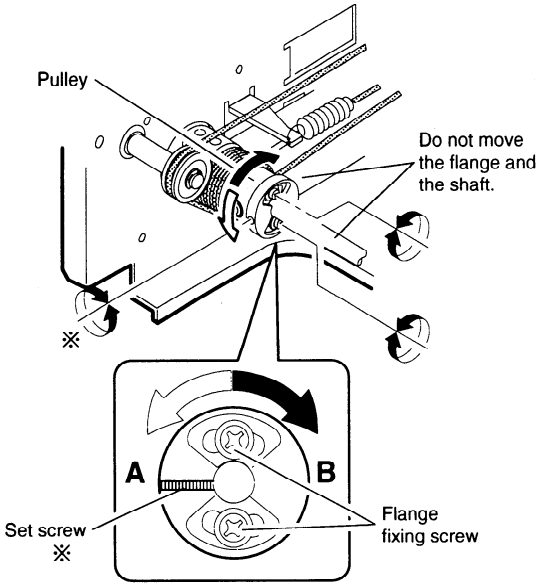
2) Change the installing direction of No. 1 scanner unit position adjustment plate.



3) Manually turn the scanner drive pulley to move No. 2 scanner unit until it makes contact with the No. 2 scanner unit positioning plate.
If, at that time, No. 2 scanner unit is in contact with two No. 2 scanner unit positioning plates at either side of the frame, the horizontal level of the No. 2 scanner unit is proper.
If not, perform the following procedures.



4) Loosen the scanner unit drive pulley fixing screw on the side where No. 2 scanner unit is not in contact.

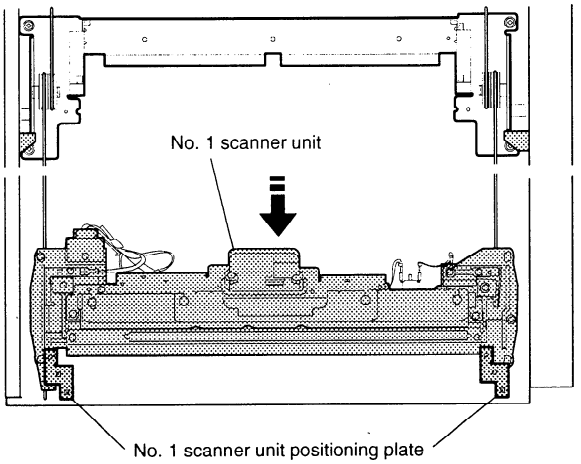


5) Manually rotate the scanner unit drive pulley which was loosened in 4) without moving the drive pulley shaft and the flange to bring into contact with the No. 2 scanner unit positioning plate.
If the adjustment is not completed with the above procedure, loosen the flange set screw and change the relative positions of the shaft and the flange, then perform the above procedure again.

6) Tighten the screw which was loosened in 4).

7) Perform procedure 3).
If the parallelism of No. 2 scanner unit is not proper, repeat procedures 4) ~ 7) until the parallelism is proper.

8) With the No. 2 scanner unit in contact with the No. 2 scanner unit positioning plate, slide the No. 1 scanner unit to bring it into contact with the No. 1 scanner unit positioning plate.
(Do not move the scanner drive wire.)



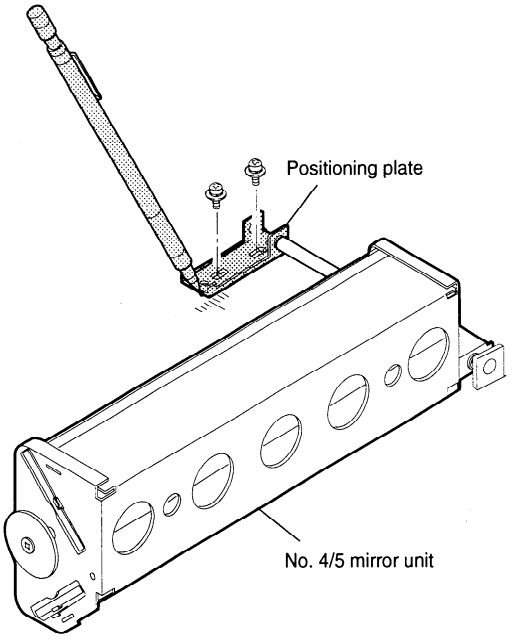
9) Tighten the No. 1 scanner unit fixing screw to fix the No. 1 scanner unit to the scanner unit drive wire.

10) Return the No. 1 scanner unit positioning plate to the original position.

(3) No. 4/5 mirror unit parallelism (installing position) adjustment

The No. 4/5 mirror unit horizontal level adjustment cannot be performed in the market. If the No. 4/5 mirror unit is erroneously moved, visually check the parallelism and fix it.

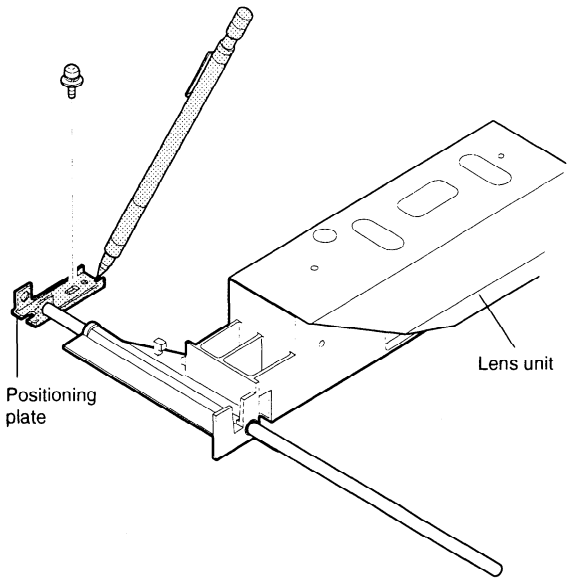
If it is required to remove No. 4/5 mirror unit, put a mark on the installing position of the No. 4/5 mirror unit positioning plate in advance, and install it to the original position afterwards.



(4) Lens unit parallelism (installing position) adjustment

The lens unit position cannot be adjusted in the market. If the lens unit is erroneously moved, visually check the parallelism and fix it.

If it is required to remove the lens unit, put a mark on the installing position of the lens unit positioning plate in advance, and install it to the original position afterwards.

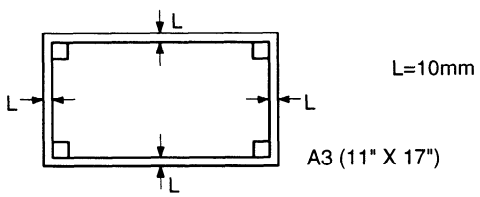


(Copy picture quality)

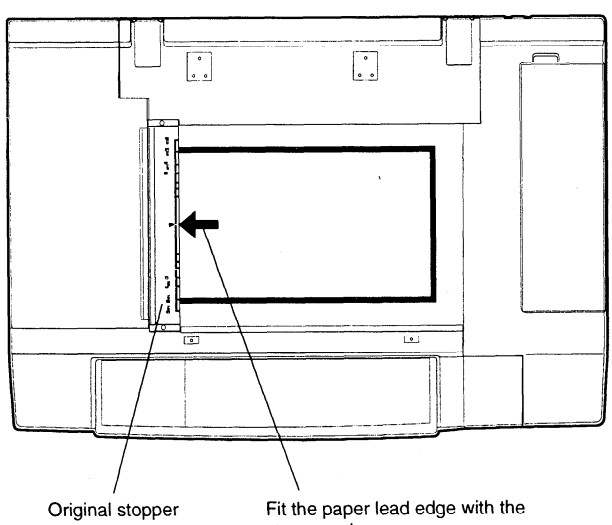
(1) Copy image distortion adjustment

a. Horizontal image distortion adjustment

① Make a test chart on A3 (11 × 17") paper.
Draw a rectangle (with four right angles) on A3 (11 × 17") paper.



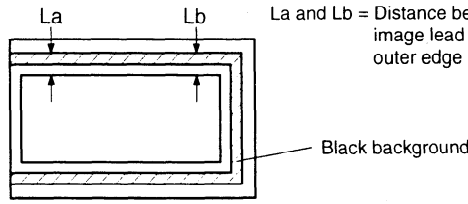
② Set the test chart on the original table with the original cover open.



③ Make a reduction copy (90%) on A3 (11 × 17") paper.

④ Check for horizontal image distortion.

- If La = Lb, there is no horizontal distortion.

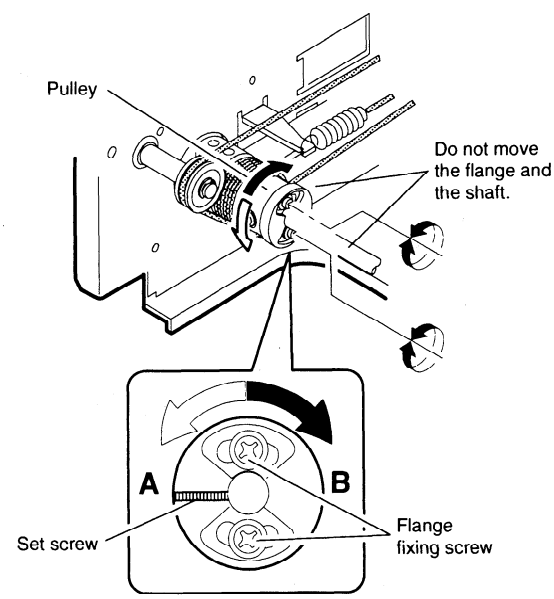


When La = Lb, no need for adjustment.

If there is any horizontal distortion, perform the following procedures.

⑤ Loosen the mirror base drive pulley on the rear frame side.
When La > Lb, turn the mirror base drive pulley on the rear frame in direction A. (Do not move the flange and the mirror base drive pulley shaft.)
When La < Lb, turn the mirror base drive pulley on the rear frame in direction B. (Do not move the flange and the mirror base drive pulley shaft.)

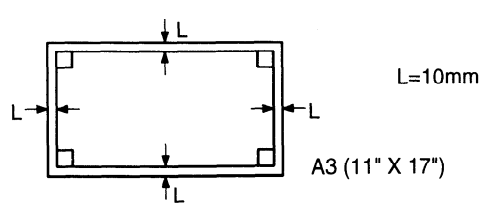
⑥ Tighten the mirror base drive pulley flange fixing screw.
Repeat procedures ② ~ ⑥ until horizontal image distortion is eliminated. If the adjustment cannot be completed with the above procedures, loosen the flange fixing screw, change the relative positions of the shaft and the flange, then perform procedures ② ~ ⑥.



b. Vertical image distortion balance adjustment

This adjustment must be performed only after completion of the horizontal image distortion adjustment. (This adjustment must be performed without horizontal distortion.)

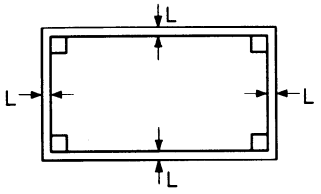
① Make a test chart on A3 (11 × 17") paper.
Draw a rectangle (with four right angles) on A3 (11 × 17") paper.



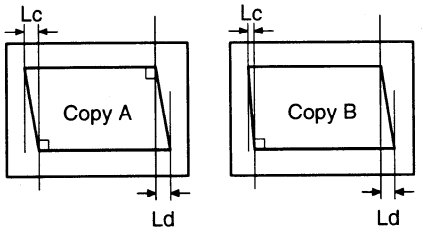
② Set the test chart on the original table and make a normal copy on A3 (11 × 17") paper.

③ Check for vertical image distortion.
If the four angles are right angles, there is no vertical distortion.

If there is any vertical distortion, check for any difference between the right and the left distortions. When Lc = Ld, there is no difference between the right and the left distortions.



(The four angles are right angles without distortion.)



The distortion on the right side is the same as that on the left side.

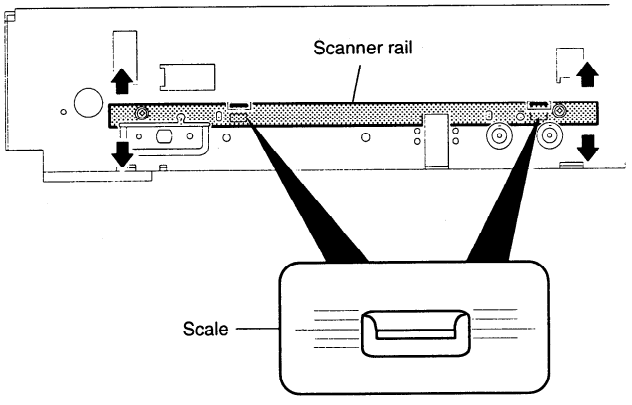
Lc = Ld

The distortion on the right side is not the same as that on theleft side.

Lc ≠ Ld

If there is any difference between the right and the left distortions, perform the following procedure.

④ Adjust the balance between the left and the right height of the scanner rail to eliminate the difference between the right and the left distortions.

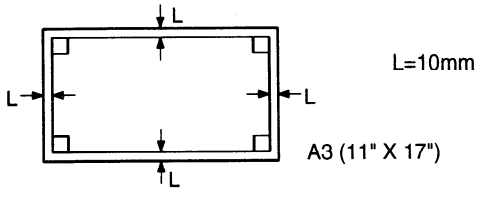


(Note) If the scanner rail is fixed to an extreme position, the scanner may make contact with the optical unit frame with it scans.

c. Vertical image distortion adjustment

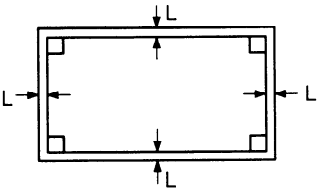
This adjustment must be performed only after completion of the horizontal image distortion adjustment and the vertical image distortion balance adjustment. (This adjustment must be performed without horizontal image distortion and unbalance in vertical image distortions.)

① Make a test chart on A3 (11 × 17") paper.
Draw a rectangle (with four right angles) on A3 (11 × 17") paper.



② Set the test chart on the original table and make a normal copy on A3 (11 × 17") paper.

③ Check for vertical image distortion.
If the four angles are right angles, there is no vertical distortion.

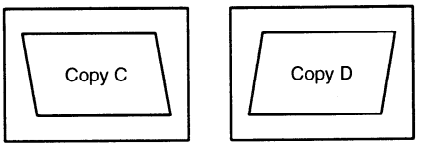


(The four angles are right angles without distortion.)

(All four angles are right angles without distortion.)

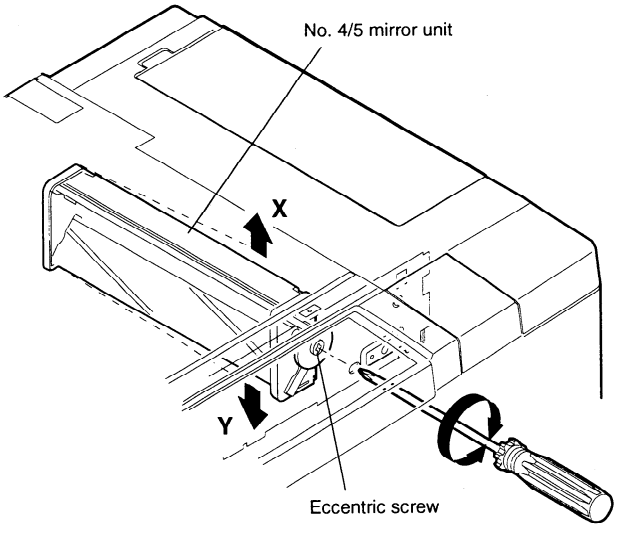
If there is any vertical distortion,

④ Turn the eccentric screw on the No. 4/5 mirror unit front frame side to change the No. 4/5 mirror unit front frame height to eliminate vertical image distortion.
In the case of copy C, increase the height of No. 4/5 mirror unit front frame side. In the case of copy D, decrease.
If the adjustment cannot be completed by changing the height of No. 4/5 mirror unit front frame, change the height of the whole scanner rail. Be careful not to lose balance between the right and the left.



Heighten. (X direction)

Shorten. (Y direction)



(2) Copy image center position adjustment

Original table mode	Single		±2.0 mm
	Duplex		±2.0 mm
Overall (RADF mode)	Single	S → S	±3.0 mm
		D → S	±4.0 mm
	Duplex	S → D	±3.0 mm
		D → D	±4.0 mm

The copy image center position adjustment must be performed according to each copy mode for paper feed positions and original feed positions.

Use the mark printed on the original stopper as the reference.

Since this adjustment is made by changing the relative positions of the optical section, the paper feed section, and the RADF section,

only adjusting the optical section cannot complete this adjustment.

For the adjustment, change the following unit positions.

The adjustment must be performed in the sequence of a ~ f.

Never proceed the adjustment of the next item before completion of the current item.

If the adjustment cannot be performed with procedures a ~ e, perform procedure f. After completion of procedure f, be sure to repeat procedures a ~ e.

a. Copy image center position adjustment when paper feeding from the manual paper feed unit (The manual paper feed unit position is changed back and forth.)

b. Copy image center position adjustment when paper feeding from the paper feed cassette

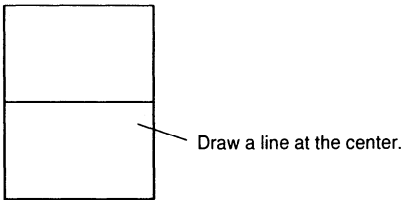
c. Copy image center position adjustment when paper feeding from the paper feed tray unit (No. 1 ~ 3) (The paper feed tray No. 1 ~ 3 positions are changed back and forth.)

d. Copy image center position adjustment in the duplex copy mode (The duplex tray position is changed back and forth.)

e. Copy image center position adjustment in the RADF unit original tray mode. (The RADF unit original tray position is changed.)

f. Change the lens unit position back and forth.

(Adjustment procedure)

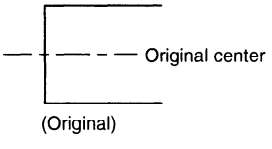


A4 or 11" x 8.5" paper

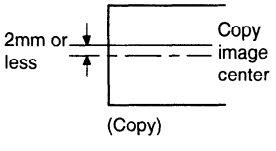
a. Copy image center position adjustment when paper feeding from the manual paper feed unit (The manual paper feed unit position is changed back and forth.)

① Set the test chart on the original table using the mark on the original stopper as the reference.

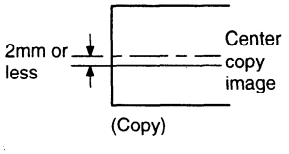
② Select the manual paper feed tray unit, and make a copy on A4 (11 × 8.5") paper. Check for the copy image center shift.



(Original)

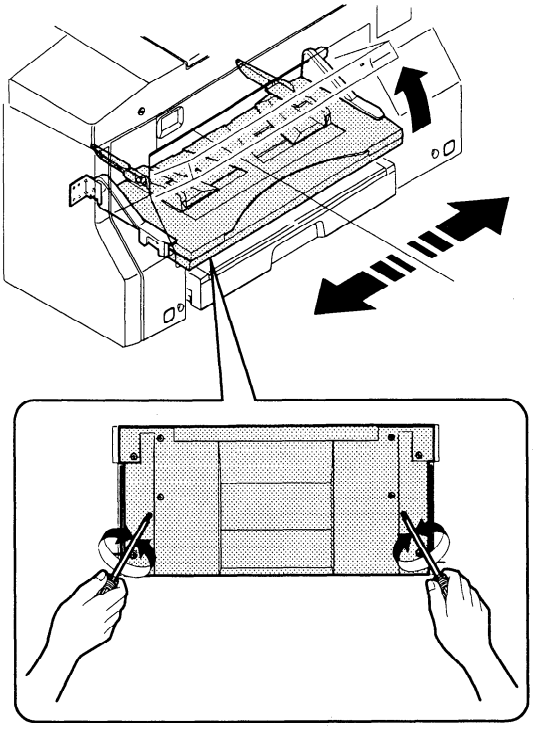


(Copy)



(Copy)

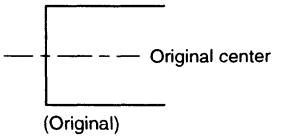
③ If the center shift is outside the specified range, change the manual paper feed tray unit position back and forth.



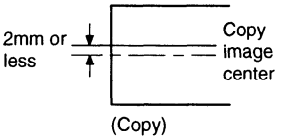
b. Copy image center position adjustment when paper feeding from the paper feed cassette

① Set the test chart on the original table using the mark on the original stopper as the reference.

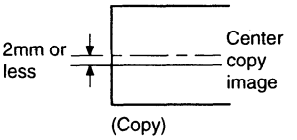
② Select the paper feed cassette, and make a copy on A4 (11 × 8.5") paper. Check for the copy image center shift.



(Original)

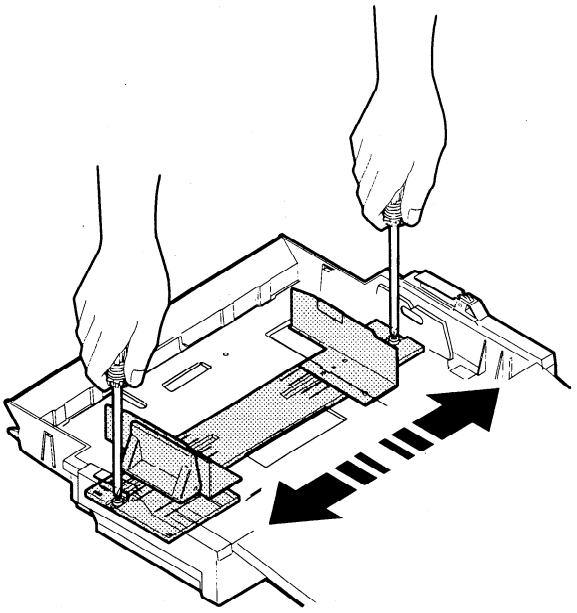


(Copy)



(Copy)

③ If the center shift is outside the specified range, change the paper width adjustment plate base position inside the paper feed cassette.

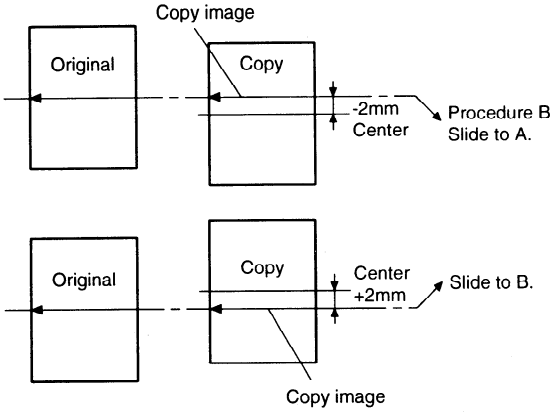


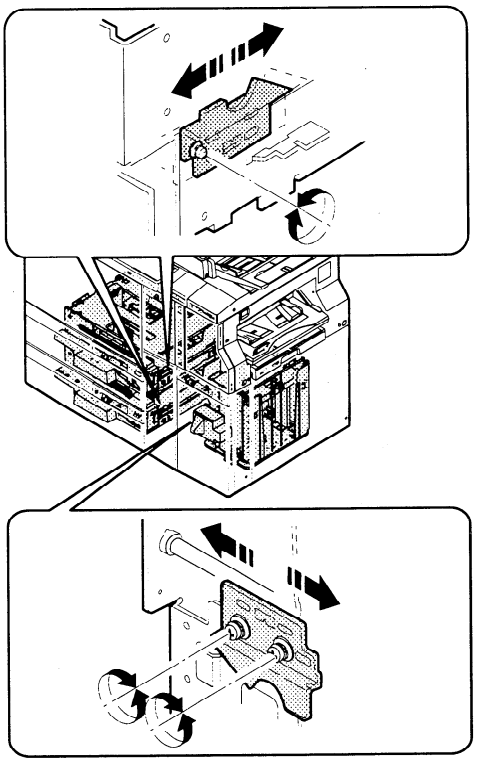
c. Copy image center position adjustment when paper feeding from the paper feed tray unit (No. 1 ~ 3) (The paper feed tray No. 1 ~ 3 positions are changed back and forth.)

① Set the test chart on the original table using the mark on the original stopper as the reference.

② Select the paper feed tray unit (No. 1), and make a copy on A4 (11 × 8.5") paper. Check for the copy image center shift.

③ If the center shift is outside the specified range, change the paper feed tray unit lock plate position.





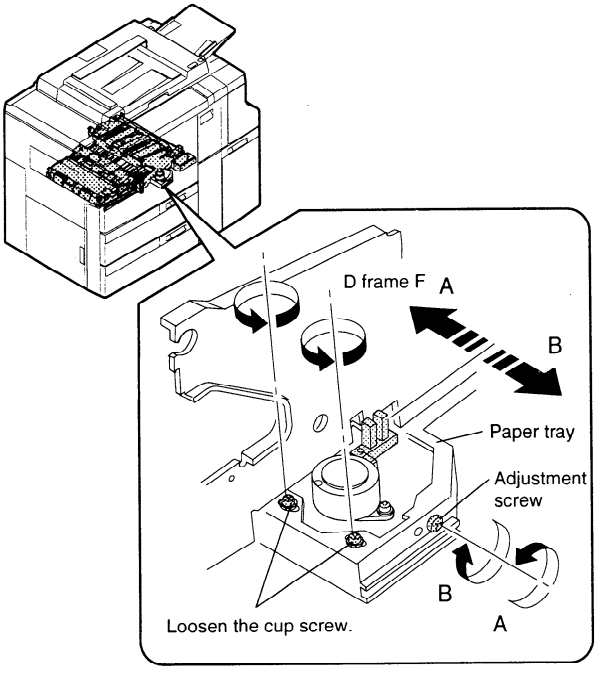
Perform the same adjustment for the paper feed tray unit (No. 2, and 3).

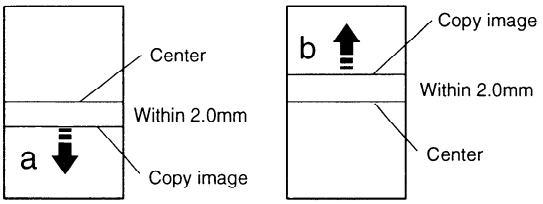
d. Copy image center position adjustment in the duplex copy mode (The duplex tray position is changed back and forth.)

① Set the test chart on the original table using the mark on the original stopper as the reference.

② Select the paper feed tray unit (No. 1), and make a copy on A4 (11 × 8.5") paper in the original table duplex copy mode. Check for the copy image center shift on the back surface.

③ If the center shift is outside the specified range, change the duplex tray unit position by turning the adjustment screw.





(Duplex copy tray)

When the image is shifted to direction of a, loosen two cup screws and turn the adjustment screw in the direction of A.

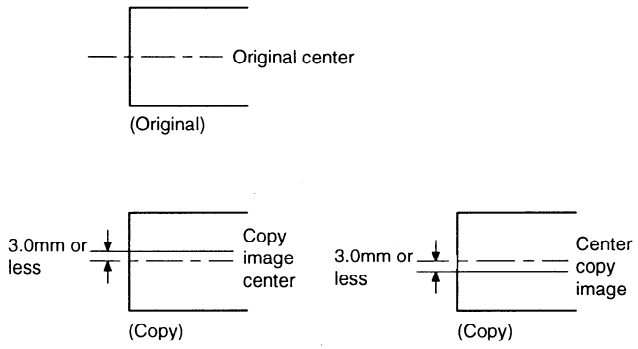
When the image is shifted to direction of b, loosen two cup screws and turn the adjustment screw in the direction of B.

After completion of the adjustment, tighten two cup screws (M4).

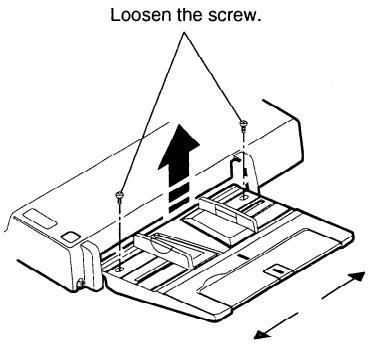
e. Copy image center position adjustment in the RADF unit original tray mode. (The RADF unit original tray position is changed.)

① Set the test chart on the RADF tray.

② Select the paper feed tray unit (No. 1), and make a copy on A4 (11 × 8.5") paper in the RADF copy mode. Check for the copy image center shift.



③ If the center shift is outside the specified range, change the RADF tray unit original width adjustment guide position.

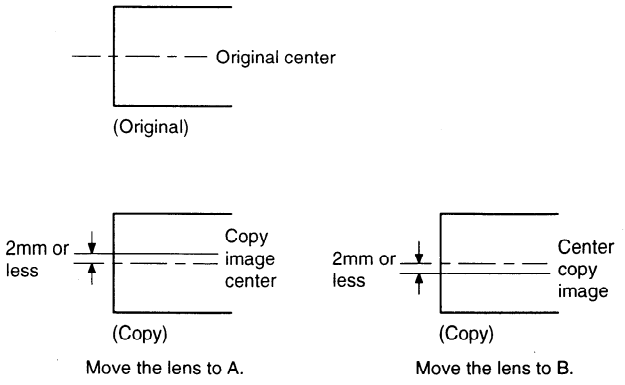


f. Change the lens unit position back and forth. (All copy modes)

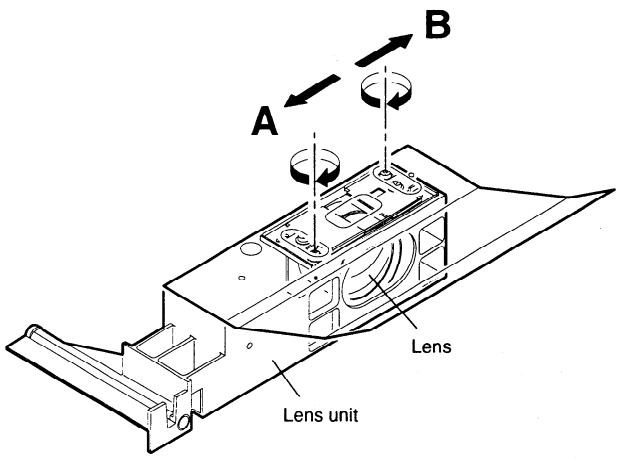
This adjustment is made only when the copy image center shift adjustment cannot be completed with procedures a ~ e.

① Set the test chart on the original table using the mark on the original stopper as the reference.

② Select the paper feed tray unit (No. 1), and make a copy on A4 (11 × 8.5") paper. Check for the copy image center shift.



③ If the center shift is outside the specified range, change the lens unit installing position back and forth.



When the lens unit installing position is changed, be sure to perform procedures a ~ e again.

Be sure also to adjust the blank lamp position.

(3) Focus adjustment (No. 4/5 mirror unit reference position adjustment)

The focus adjustment is made by making a normal copy, a reduction copy, and an enlargement copy with SIM 48-1 (48E, 48D, 48F) and checking focus.

When replacing the lens or in the case of memory trouble, however, the method by making copy and checking focus and entering the adjustment value is not efficient.

In that case, calculate the input value depending on the value displayed on the lens and the table, enter the adjustment value temporarily with SIM 48-3, make copies with SIM 48-1 (48E, 48D, 48F), check the focus, and enter the final adjustment value.

I. Focus adjustment value input (Temporal adjustment value input)

Enter the input for each of the normal copy, the enlargement copy, and the reduction copy with SIM 48-3.

Normally this adjustment is not required.

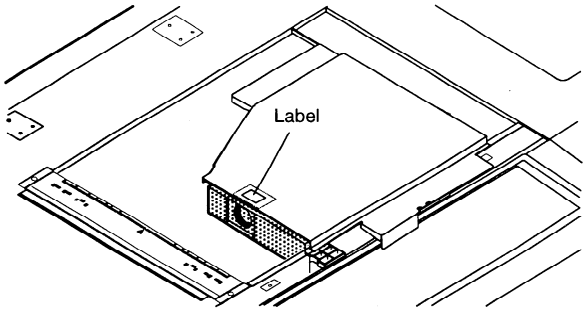
In this adjustment, the input value is calculated depending on the value displayed on the lens and the formula and the table, and it is set.

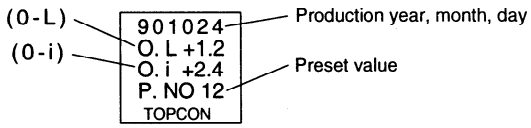
Therefore, the adjustment value to be entered is not the final adjustment value. It is only a temporary value.

When replacing the lens or in the case of memory trouble, however, the method by making copy and checking focus and entering the adjustment value is not efficient.

In that case, calculate the input value depending on the value displayed on the lens and the table, enter the adjustment value temporarily with SIM 48-3, make copies with SIM 48-1 (48E, 48D, 48F), check the focus, and enter the final adjustment value.

The normal copy adjustment value is calculated, the enlargement and the reduction copy adjustment value are calculated from the table.





Label indication

a. Normal copy focus adjustment value input method

① Calculate the normal copy focus adjustment value.

Calculation method: SIM 48-3 (48D) = 60 – (OI × 5)

② Enter the normal copy focus adjustment value input mode.
C → P → 0 → P → 48-3 → PSW (Execute SIM 48-3.)
Select 48D with the scroll key. (The currently set value is displayed.)
The input mode (normal, enlargement, reduction) can be selected with the scroll key.

③ Enter the calculated value.
Enter the calculated value with the 10-key pad and press the START button.

b. Enlargement copy focus adjustment input method

① Calculate the set value from the table A (SIM 48-3-48F).

(Table A)

Lens No.	Set value				
	SIM48-3-48A SIM48-1-48A	SIM48-3-48D SIM48-1-48D	SIM48-3-48B SIM48-3-48F SIM48-1-48B SIM48-1-48F	SIM48-3-48E SIM48-1-48E	SIM48-3-48C SIM48-1-48C
-8.8 ~ -7.6	94 – 88	104 – 98	21	15	10
-7.6 ~ -6.8	88 – 84	98 – 94	21	16	10
-6.8 ~ -6.0	84 – 80	94 – 90	22	17	11
-6.0 ~ -5.2	80 – 76	90 – 86	22	18	11
-5.2 ~ -4.4	76 – 72	86 – 82	23	19	12
-4.4 ~ -3.6	72 – 68	82 – 78	23	20	12
-3.6 ~ -2.8	68 – 64	78 – 74	24	21	13
-2.8 ~ -2.0	64 – 60	74 – 70	24	22	13
-2.0 ~ -1.2	60 – 56	70 – 66	25	23	14
-1.2 ~ -0.4	56 – 52	66 – 62	25	24	15
-0.4 ~ +0.4	52 – 48	62 – 58	26	25	15
+0.4 ~ +1.2	48 – 44	58 – 54	26	26	16
+1.2 ~ +2.0	44 – 40	54 – 50	27	27	16
+2.0 ~ +2.8	40 – 36	50 – 46	27	28	17
+2.8 ~ +3.6	36 – 32	46 – 42	28	29	17
+3.6 ~ +4.4	32 – 28	42 – 38	28	30	18
+4.4 ~ +5.2	28 – 24	38 – 34	29	31	18
+5.2 ~ +6.0	24 – 20	34 – 30	29	32	19
+6.0 ~ +6.8	20 – 16	30 – 26	30	33	19
+6.8 ~ +7.6	16 – 12	26 – 22	30	34	20
+7.6 ~ +8.8	12 – 8	22 – 18	31	35	20
	50 – (OI/2 × 5)	60 – (OI/2 × 10)			

② Enter the input mode of the enlargement copy focus adjustment value.
C → P → 0 → P → 48-3 → PSW (Execute SIM 48-3.)
Select 48F with the scroll key. (The currently set value is displayed.)
The input mode (normal, enlargement, reduction) can be selected with the scroll key.

③ Enter the calculated value.
Enter the calculated value with the 10-key pad and press PSW.

c. Reduction copy focus adjustment value input method

① Calculate the set value (SIM 48-3 (48E)) from Table A.

② Enter the reduction copy focus adjustment value input mode.
C → P → O → P → 48-3 → PSW (Execute SIM 48-3.)
Select 48E with the scroll key. (The currently set value is displayed.)
The input mode (normal, enlargement, reduction) can be selected with the scroll key.

③ Enter the calculated value.
Enter the calculated value with the 10-key pad and press PSW.

The set values of SIM 48-1 (48E, 48D, 48F) and the set values of SIM 48-3 (48D, 48F, 48E) are related bi-directionally and the same with each other. If one side is changed, the other related side will be automatically changed.

48-3 (48E) = 48-1 (48E)

48-3 (48D) = 48-1 (48D)

48-3 (48F) = 48-1 (48F)

SIM 48-1 (48E, 48D, 48F) is accompanied with copying, and SIM 48-3 (48D, 48F, 48E) is not accompanied with copying.

II. Focus adjustment

In this adjustment, copying is made with SIM 48-1 (48E, 48D, 48F), the focus is checked, and the adjustment value is entered.

The focus adjustment must be performed for each of the normal, the reduction, and the enlargement copy.

(Standard) (Unit: lines/mm)

	Copy center	Corners
Normal (100%)	5.0	4.5
Enlargement (200%)	5.0	4.5
Reduction (50%)	3.2	2.8

a. Normal copy focus adjustment method

① Set the resolution test chart (UKOG-0089CSZZ) on the original table, and select A3 (11 × 17") copy paper.

② Set to the normal copy focus adjustment mode.
C → P → 0 → P → 48-1 → PSW (Execute SIM 48-1.)
Select 48D with the scroll key. (The currently set values is displayed.)
The input mode (normal, enlargement, reduction) can be selected with the scroll key.

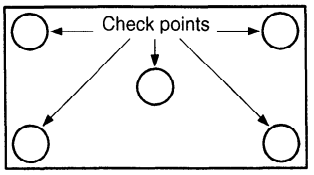
③ Make a normal (100%) copy and check the resolution.

Center: 5.0 lines/mm

Corners: 4.5 lines/mm

(Note) Be sure to make a copy in the manual copy mode for checking.

(Copy)



④ If the resolution is not within the above range, change the set value and check the resolution similarly.
(Enter the set value with the 10-key pad and press the PSW.)

Repeat procedures 3) and 4) until the resolution is within the specified range.

b. Enlargement copy focus adjustment method

① Set the resolution test chart (UKOG-0089CSZZ) on the original table, and select A3 (11 × 17") copy paper.

② Set to the enlargement copy focus adjustment mode.
C → P → 0 → P → 48-1 → PSW (Execute SIM 48-1.)
Select 48F with the scroll key. (The currently set values is displayed.)
The input mode (normal, enlargement, reduction) can be selected with the scroll key.

③ Make an enlargement (200%) copy and check the resolution.

Center: 5.0 lines/mm

Corners: 4.5 lines/mm

(Note) Be sure to make a copy in manual copy mode for checking.

④ If the resolution is not within the above range, change the set value and check the resolution similarly.
(Enter the set value with the 10-key pad and press the PSW.)

Repeat procedures 3) and 4) until the resolution is within the specified range.

c. Reduction copy focus adjustment method

① Set the resolution test chart (UKOG-0089CSZZ) on the original table, and select A3 (11 × 17") copy paper.

② Set to the enlargement copy focus adjustment mode.
C → P → 0 → P → 48-1 → PSW (Execute SIM 48-1.)
Select 48E with the scroll key. (The currently set values is displayed.)
The input mode (normal, enlargement, reduction) can be selected with the scroll key.

③ Make a reduction (50%) copy and check the resolution.

Center: 3.2 lines/mm

Corners: 2.8 lines/mm

(Note) Be sure to make a copy in the manual copy mode for checking.

④ If the resolution is not within the above range, change the set value and check the resolution similarly.
(Enter the set value with the 10-key pad and press the PSW.)

Repeat procedures 3) and 4) until the resolution is within the specified range.

The set values of SIM 48-1 (48E, 48D, 48F) and the set values of SIM 48-3 (48E, 48D, 48F) are related bi-directionally and the same with each other. If one side is changed, the other related side will be automatically changed.

48-3 (48E) = 48-1 (48E)

48-3 (48D) = 48-1 (48D)

48-3 (48F) = 48-1 (48F)

SIM 48-1 (48E, 48D, 48F) is accompanied with copying, and SIM 48-3 (48E, 48D, 48F) is not accompanied with copying.

(4) Vertical copy magnification ratio adjustment (lens unit reference position adjustment)

The vertical copy magnification ratio adjustment is made by making a normal copy, a reduction copy, and an enlargement copy with SIM 48-1 (48A, 48B, 48C) and checking focus.

When replacing the lens or in the case of memory trouble, however, the method by making copy and checking focus and entering the adjustment value is not efficient.

In that case, calculate the input value depending on the value displayed on the lens and the table, enter the adjustment value temporarily with SIM 48-3, make copies with SIM 48-1 (48A, 48B, 48C), check the focus, and enter the final adjustment value.

I. Vertical copy magnification ratio adjustment value input (Temporal adjustment value input)

Enter the input for each of the normal copy, the enlargement coy, and the reduction copy with SIM 48-3.

Normally this adjustment is not required.

In this adjustment, the input value is calculated depending on the value displayed on the lens and the formula and the table, and it is set.

Therefore, the adjustment value to be entered is not the final adjustment value. It is only a temporary value.

When replacing the lens or in the case of memory trouble, however, the method by making copy and checking focus and entering the adjustment value is not efficient.

In that case, calculate the input value depending on the value displayed on the lens and the table, enter the adjustment value temporarily with SIM 48-3, make copies with SIM 48-1 (48A, 48B, 48C), check the focus, and enter the final adjustment value.

The normal copy adjustment value is calculated, the enlargement and the reduction copy adjustment value are calculated from Table A.

a. Normal copy magnification ratio adjustment value input method (Vertical)

① Calculate the normal copy magnification ratio adjustment value.

Calculation method: SIM 48-3 (48A) = 50 – (OL × 5)

② Enter the normal copy focus adjustment value input mode.
C → P → 0 → P → 48-3 → PSW (Execute SIM 48-3.)
Select 48A with the scroll key. (The currently set value is displayed.)
The input mode (normal, enlargement, reduction) can be selected with the scroll key.

③ Enter the calculated value.
Enter the calculated value with the 10-key pad and press the START button.

b. Enlargement copy magnification ratio adjustment input method (Vertical)

① Calculate the set value from the table A (SIM 48-3 (48C)).

② Enter the input mode of the enlargement copy magnification ratio adjustment mode.
C → P → 0 → P → 48-3 → PSW (Execute SIM 48-3.)
Select 48C with the scroll key. (The currently set value is displayed.)
The input mode (normal, enlargement, reduction) can be selected with the scroll key.

③ Enter the calculated value.
Enter the calculated value with the 10-key pad and press PSW.

c. Reduction copy focus adjustment value input method (Vertical)

① Calculate the set value (SIM 48-3 (48B)) from Table A.

② Enter the reduction copy focus adjustment value input mode.
C → P → O → P → 48-3 → PSW (Execute SIM 48-3.)
Select 48B with the scroll key. (The currently set value is displayed.)
The input mode (normal, enlargement, reduction) can be selected with the scroll key.

③ Enter the calculated value.
Enter the calculated value with the 10-key pad and press PSW.

The set values of SIM 48-1 (48A, 48B, 48C) and the set values of SIM 48-3 (48A, 48B, 48C) are related bi-directionally and the same with each other. If one side is changed, the other related side will be automatically changed.

48-3 (48A) = 48-1 (48A)

48-3 (48B) = 48-1 (48B)

48-3 (48C) = 48-1 (48C)

SIM 48-1 (48A, 48B, 48C) is accompanied with copying, and SIM 48-3 (48A, 48B, 48C) is not accompanied with copying.

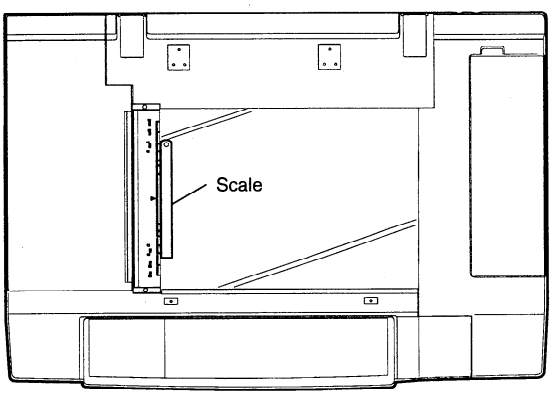
II. Vertical copy magnification ratio adjustment

In this adjustment, copying is made with SIM 48-1 (48A, 48B, 48C), the focus is checked, and the adjustment value is entered.

The focus adjustment must be performed for each of the normal, the reduction, and the enlargement copy.

a. Normal copy focus adjustment method

① Set a scale on the original table as shown below.



② Set to the normal copy magnification ratio adjustment mode.
C → P → 0 → P → 48-1 → PSW (Execute SIM 48-1.)
Select 48A with the scroll key. (The currently set values is displayed.)
The input mode (normal, enlargement, reduction) can be selected with the scroll key.

③ Make a normal (100%) copy.

④ Compare the copy image size and the actual scale size to calculate the vertical copy magnification ratio correction value.

Vertical copy magnification ratio correction value (%)

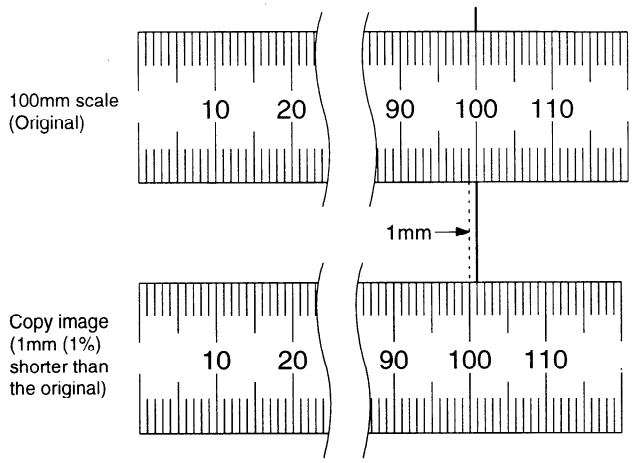
$$= \frac{\text{Original length} - \text{Copy image length}}{\text{Original length}} \times 100$$

If the correction value is not within ±1%, change the set value and check the copy magnification ratio similarly.
(Enter the set value with the 10-key pad and press the PSW.)

The new adjustment value can be roughly obtained from the following formula:

New adjustment value = Old adjustment value + Vertical copy magnification ratio correction value × 10

Repeat the adjustment procedures until the vertical copy magnification ratio is within the specified range.



b. Enlargement copy magnification ratio adjustment method (Vertical)

① Set a scale on the original table similarly to the normal copy magnification ratio adjustment.

② Set to the enlargement copy magnification ratio adjustment mode.
C → P → 0 → P → 48-1 → PSW (Execute SIM 48-1.)
Select 48C with the scroll key. (The currently set values is displayed.)
The input mode (normal, enlargement, reduction) can be selected with the scroll key.

③ Make an enlargement (200%) copy.
Compare the copy image size and the actual scale size to calculate the vertical copy magnification ratio correction value.

Vertical copy magnification ratio correction value (%)

$$= \frac{\text{Original length} - \text{Copy image length}}{\text{Original length} \times 2} \times 100$$

If the correction value is not within ±1%, change the set value and check the copy magnification ratio similarly.
(Enter the set value with the 10-key pad and press the PSW.)

The new adjustment value can be roughly obtained from the following formula:

New adjustment value = Old adjustment value + Vertical copy magnification ratio correction value × 10

Repeat the adjustment procedures until the vertical copy magnification ratio is within the specified range.

c. Reduction copy magnification ratio adjustment method (Vertical)

① Set a scale on the original table similarly to the normal copy magnification ratio adjustment.

② Set to the reduction copy magnification ratio adjustment mode.
C → P → 0 → P → 48-1 → PSW (Execute SIM 48-1.)
Select 48B with the scroll key. (The currently set values is displayed.)
The input mode (normal, enlargement, reduction) can be selected with the scroll key.

③ Make a reduction (50%) copy.
Compare the copy image size and the actual scale size to calculate the vertical copy magnification ratio correction value.

Vertical copy magnification ratio correction value (%)

$$= \frac{\text{Original length} - \text{Copy image length}}{\text{Original length} \times 0.5} \times 100$$

If the correction value is not within ±1%, change the set value and check the copy magnification ratio similarly.
(Enter the set value with the 10-key pad and press the PSW.)

The new adjustment value can be roughly obtained from the following formula:

New adjustment value = Old adjustment value + Vertical copy magnification ratio correction value × 10

Repeat the adjustment procedures until the vertical copy magnification ratio is within the specified range.

The set values of SIM 48-1 (48A, 48B, 48C) and the set values of SIM 48-3 (48A, 48B, 48C) are related bi-directionally and the same with each other. If one side is changed, the other related side will be automatically changed.

48-3 (48A) = 48-1 (48A)

48-3 (48B) = 48-1 (48B)

48-3 (48C) = 48-1 (48C)

SIM 48-1 (48A, 48B, 48C) is accompanied with copying, and SIM 48-3 (48A, 48B, 48C) is not accompanied with copying.

(5) Horizontal copy magnification ratio adjustment

In this adjustment, SIM 48-1 (48G) is used to make a copy, the copy magnification ratio is checked, and the adjustment value is entered.

a. Horizontal copy magnification ratio adjustment method

① Set a scale on the original table similar to the normal copy magnification ratio adjustment.

② Set to the reduction copy magnification ratio adjustment mode.
C → P → 0 → P → 48-1 → PSW (Execute SIM 48-1.)
Select 48G with the scroll key. (The currently set value is displayed.)
The input mode (normal, enlargement, reduction) can be selected with the scroll key.

③ Make a normal copy (100%).

④ Compare the copy image size and the actual scale size to calculate the vertical copy magnification ratio correction value.

Vertical copy magnification ratio correction value (%)

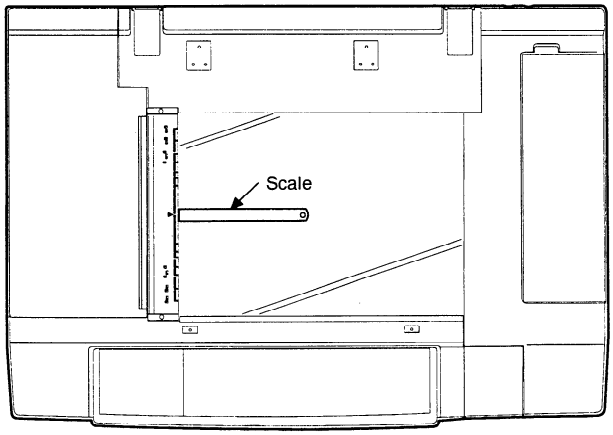
$$= \frac{\text{Original length} - \text{Copy image length}}{\text{Original length}} \times 100$$

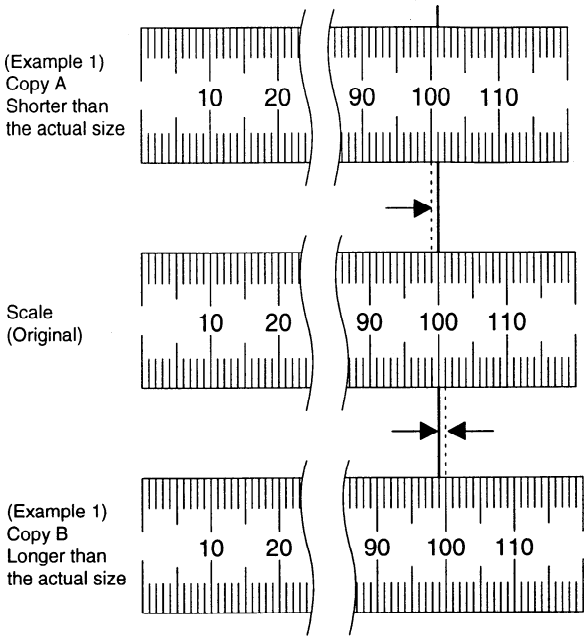
If the correction value is not within ±1%, change the set value and check the copy magnification ratio similarly.
(Enter the set value with the 10-key pad and press the PSW.)

The new adjustment value can be roughly obtained from the following formula:

New adjustment value = Old adjustment value + Vertical copy magnification ratio correction value × 10

Repeat the adjustment procedures until the vertical copy magnification ratio is within the specified range.

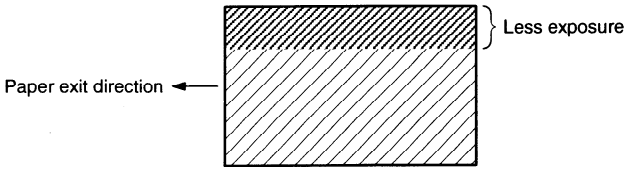




(6) Uniformity adjustment

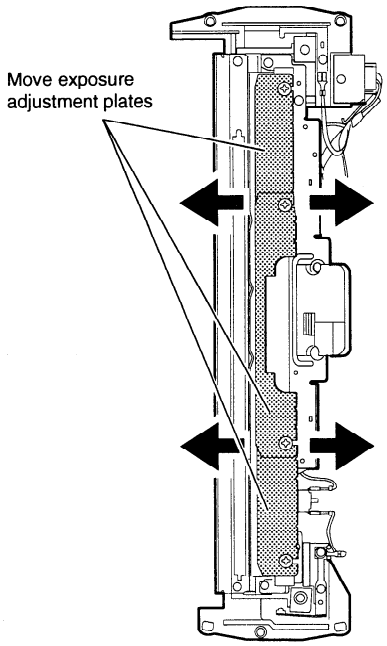
Make a half tone copy in the normal photo copy mode. Move exposure adjustment plates a, b, and c in the directions of A and B. When the plate is moved in the direction of A, the exposure becomes dark. When the plate is moved in the direction of B, the exposure becomes light.

(Example) When a copy shown below is made, move the front exposure adjustment plate in the direction of B to make exposure balance.



Half tone copy

(Note) Do not move the exposure adjustment plates further in the direction of B from the reflector edge. (If moved, the AE sensor detection area is changed, and the AE copy mode density becomes improper.)



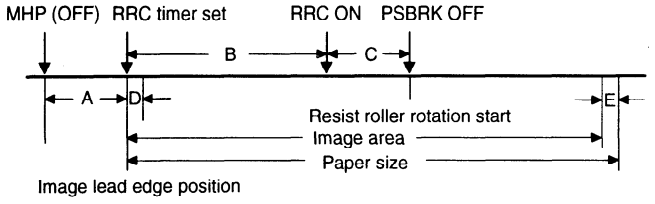
(7) Image loss/void area adjustment

Image loss void area specifications

Item	Lead edge	Rear edge
Image loss	1.0 ~ 4.5 mm	—
Void area	1.0 ~ 3.0 mm	1.0 ~ 3.0 mm
Image shift from paper	0±1.5 mm	—

Use SIM 50-01 or 50-02 for the lead edge image loss/void area adjustment and the rear edge void area adjustment in the duplex copy mode.

(Normal copy mode) Image loss: 1 ~ 4.5mm
Void area: 1 ~ 3mm

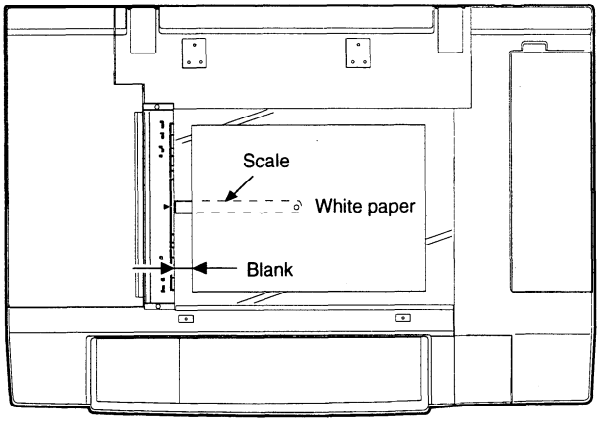


A: 50A data (RRC-A)
B: 50B data (RRC-B)
C: 50C data (RRC ON ~ PSBPK OFF)
D: 50D data (Blank lamp OFF)
E: 50E data (Blank lamp ON)

(When SIM 50-01 is used for adjustment)

Adjustment procedure

① Set a scale and A3 (11 × 17") paper on the original table as shown below:



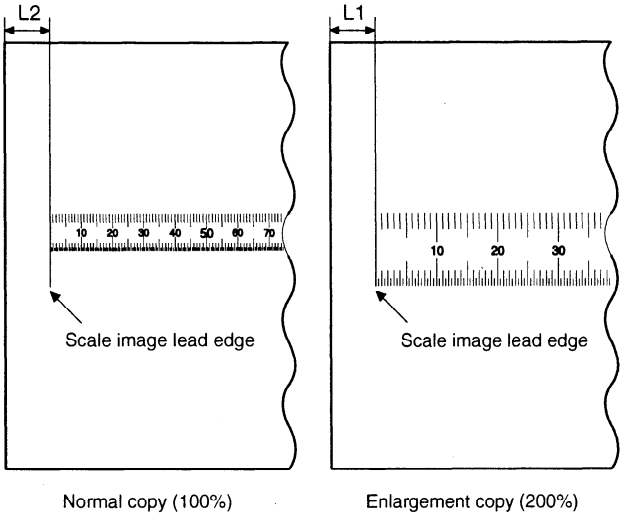
② Enter the SIM 50-02 mode.

The ready lamp lights up and the previously set value (1 ~ 99) is displayed.
Content of 50A (RRC-A)

③ Set 50A, 50B, 50D, and 50E to "0" and C to "10." Make a copy in each magnification ratio of 100% and 200%.

- (Make copies with the RADF section open.)

④ Measure the distance between the copy lead edge and the image (scale) lead edge in each copy. Obtain 50A (RRC-A) and 50B (RRC-B) from the following formula:



- L1: 200% lead edge shift amount [mm]
- L2: 100% lead edge shift amount [mm]
- 50A (RRC-A): $3.979 \times (L1 - L2)$
- 50B (RRC-B): $8.33 \times L2 - 4.17 \times L1$

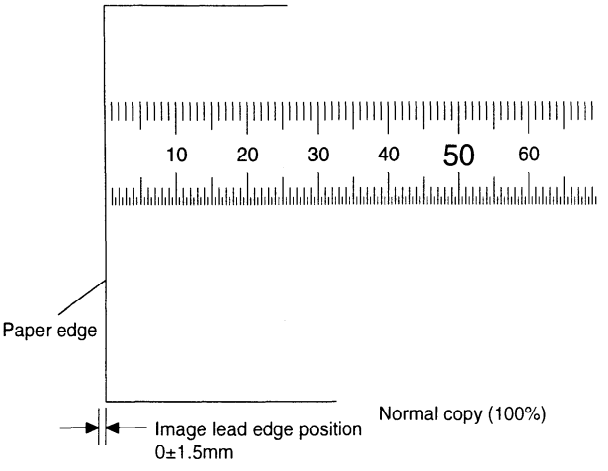
⑤ Enter the obtained values of 50A (RRC-A) and 50B (RRC-B) with the 10-key pad, and press the START button. (Similarly with (3).)

⑥ Make a copy in each magnification ratio of 200%, 100% and 50%. Check for variations in the paper lead edge between different ratios. (Within about 1.0mm)
If there is an excessive variation, change the value of 50A.

If the preset value of 50A (RRC-A) is not proper, the image lead edge position differs in different copy magnification ratio. The value of 50B (RRC-B) is used for adjusting RRC ON timing to fit the drum image lead edge and the transfer paper lead edge.

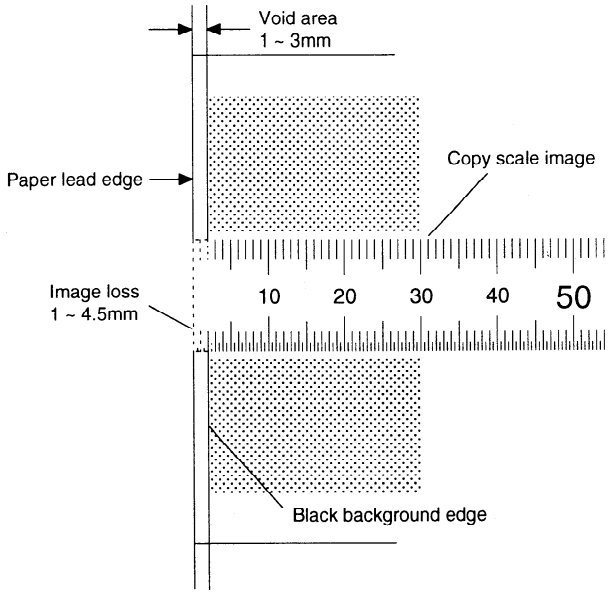
⑦ Make a normal copy, and check that the copy image lead edge position is within 0 ±1.5mm from the paper edge. If the image lead edge position is not within the above range, change the value of RRC-B and repeat the adjustment until it is within the above range.

(Note) The image loss adjustment value in the above is just for the adjustment, and not the final adjustment value.



⑧ With the RADF open, make a copy. Enter the normal copy lead edge void area adjustment value (50D) with the 10-key pad so that the black background section edge is at 1 ~ 3 mm of the copy scale image.

When a copy is made, the key input value is set. The change in the set value by 1 corresponds to about *1.0* mm in the void area. The greater the set value is, the greater the void area is.



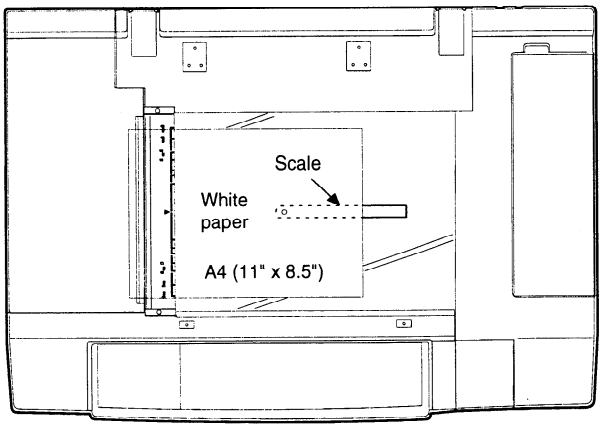
⑨ Make a normal copy and check that the image loss and the void area are within the specified range.

(Standard range)

Image loss: 1 ~ 4.5mm

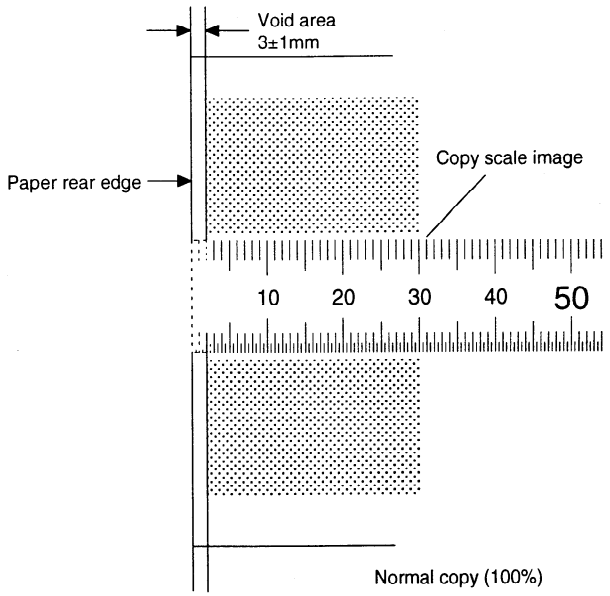
Void area: 1 ~ 3mm

⑩ Set a scale and A4 (11 × 8.5") paper on the original table as shown below.



⑪ Make a normal copy and check that the rear edge void area is within the range of 3±1mm. If not, change the value of 50E so that it is in the above range.

(Make a copy with the RADF open.)



⑫ Press the CLEAR key to cancel SIM 50-01.

(Note) When the set value of SIM 50-01 50A (RRC-A) or 50B (RRC-B), be sure to adjust the copy lead edge void area adjustment.

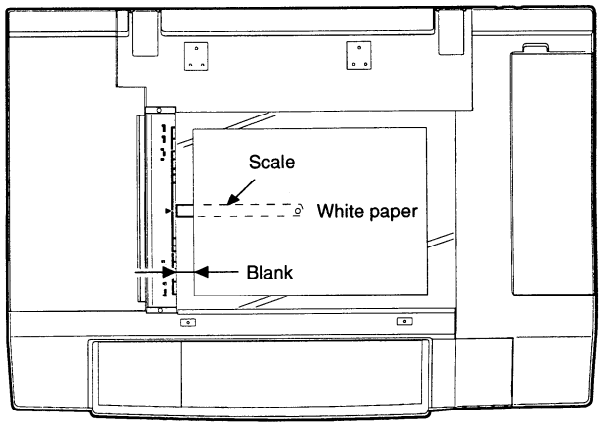
(When SIM 50-02 is used for adjustment)

The keys and display functions are the same as SIM 50-01. In SIM 50-02, L1 and L2 values are directly set for simple lead edge adjustment.

The void area adjustment can be performed similarly with SIM 50-01.

Adjustment procedure

① Set a scale and A4 (11 × 8.5") paper on the original table as shown below.



② Enter the SIM 50-2 mode.

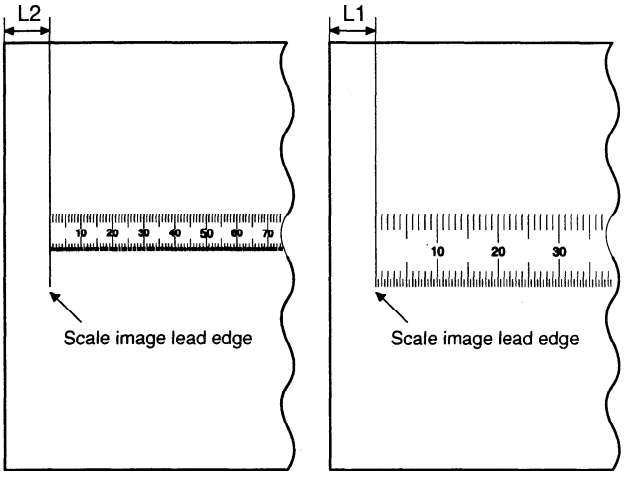
When the ready lamp lights up, the previously set value (1 ~ 99) is displayed. Content of 50A (RRC-A)

③ Set 50A, 50B, 50D, and 50E to "0" and C to "10." Make a copy in each magnification ratio of 100% and 200%.

- Make copies with the RADF open.
- Select the input content with the scroll key.

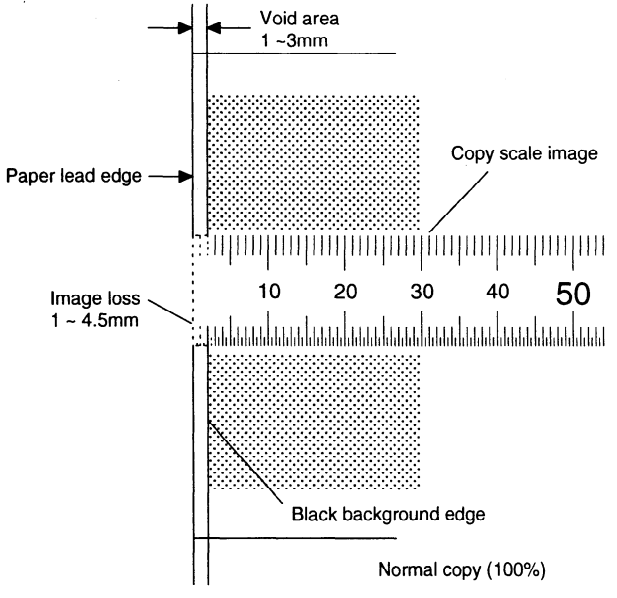
④ Measure the distance between the copy lead edge and the image (scale) lead edge in each copy. Obtain 50A (RRC-A) and 50B (RRC-B) from the following formula:

- L1: 200% lead edge shift amount [mm]
- L2: 100% lead edge shift amount [mm]
- 50A (RRC-A) = L1 × 10
- 50B (RRC-B) = L2 × 10



⑤ Enter the obtained values of 50A (RRC-A) and 50B (RRC-B) with the 10-key pad, and press the START button. (Similarly with ③.)

⑥ Adjust 50C, 50D, and 50E similarly with SIM 50-1.



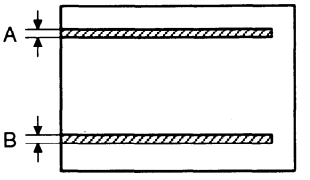
(8) Blank lamp position adjustment

This adjustment must be performed after completion of the copy image center position adjustment.

① Set A3 (11 × 17") white paper on the original table, and make a reduction copy (64%) on A4 paper with RADF open.

② Measure the black background section size at either side of the copy, and adjust the blank lamp unit position back and forth so that the difference in the sizes is within 1mm.

Adjustment screw: 1 rotation = 0.5mm change
1/2 rotation = 0.25mm change



(A-B)≦1mm

4. Image forming section

Image forming section adjustment list

Section		Content		Details		Method
A	Photoconductor drum unit	(1)	Photoconductor drum sensitivity setting			Set SIM 26-7 set value to the sensitivity No. of the installed photoconductor drum.
		(2)	Photoconductor drum correction counter reset			Reset the photoconductor drum correction counter with SIM 24-7.
B	Charger unit	(1)	Transfer charger current adjustment			Change SIM 8-6 set value to adjust the output current.
		(2)	Pre-transfer charger current adjustment			Execute SM 8-5 and adjust VR on the high voltage PWB to adjust the output current.
		(3)	Main charger current balance adjustment	a	Manual copy mode main charger current balance adjustment	Execute SIM 8-2 to perform the main charger unit current balance adjustment.
		(4)	Main charger voltage adjustment	a	Manual copy mode main charger voltage adjustment	Change SIM 8-2A set value to adjust the output voltage.
				b	Photo copy mode main charger voltage adjustment	Change SIM 8-2B set value to adjust the output voltage.
				c	Toner save copy mode main charger voltage adjustment	Change SIM 8-2C set value to adjust the output voltage.
		(5)	Separation charger voltage adjustment			Change SIM 8-7 set value to adjust the output voltage.
C	Cleaner unit	(1)	Cleaning blade position adjustment			Change the cleaning blade positioning plate position to adjust.
D	Developing unit	(1)	Doctor gap adjustment			Change the doctor position to adjust.
		(2)	Developing roller main electrode position adjustment			Change the developing roller main electrode positioning plate position to adjust.
		(3)	Developing bias voltage adjustment			Execute SIM 8-1 set value and adjust VR on the high voltage PWB to adjust the output voltage.
		(4)	Toner concentration adjustment			Use SIM 25-2 to set the initial density.
		(5)	Developer counter reset			Use SIM 42 to reset the developer counter.
E	Waste toner collection unit	(1)	Waste toner full detection level adjustment			Change the waste toner detection spring tension adjustment nut position to adjust.

A. Photoconductor drum unit

(1) Photoconductor drum sensitivity setting

When the photoconductor drum is replaced, be sure to set the sensitivity class with this simulation.

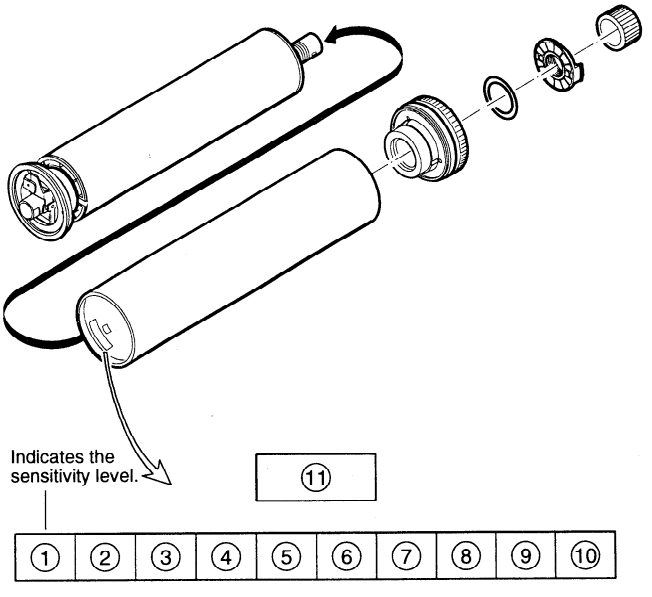
Enter the code number corresponding to the sensitivity class to be set, and press the START button. The code is displayed on the COPIES MADE display.

```
SIMULATION NO. 26-7
DRUM SENSITIVITY SETUP
INPUT 1~3
```

The sensitivity level is displayed on the label attached inside the photoconductor drum.

The top digit of the number shows the sensitivity level. Set this number.

Sensitivity level "1" is the lowest sensitivity, "3" is the highest.



(2) Photoconductor drum correction counter reset

When the photoconductor drum is replaced, be sure to reset the photoconductor drum correction counter.

1) Execute SIM 24-7.

```
SIMULATION 24-7

OPC DRUM CORRECTION COUNTER CLEAR
ARE YOU SURE ?
1. YES      2. NO
```

B. Charger unit

Adjustment list

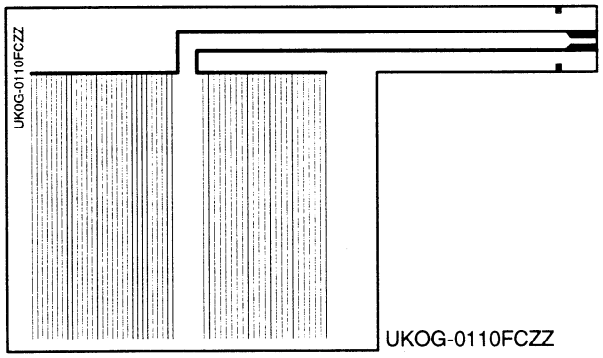
No.	Item	Mode	Voltage	Current	Current balance (F/R)	SIM	Remark
1	Main charger current balance adjustment				10μA or less	8-2A	
2	Main charger voltage adjustment	Normal	−750±5V			8-2A	
		Photo	−490±5V			8-2B	
		Toner save	−645±5V			8-2C	
3	Pre-transfer discharger current adjustment			+15±3μA	7μA or less	8-5	
4	Transfer charger current adjustment			−55±5μA	7μA or less	8-6	
5	Charger voltage adjustment		+440±20V			8-7	

Separation corona adjustment for sea level

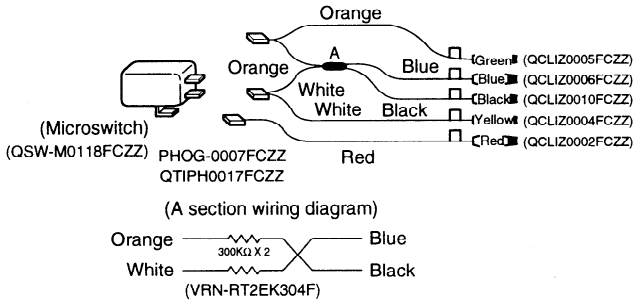
Sea level	Connect connector CN2 (High voltage section)	Output voltage
0 ~ 2000 m	Connect 1 pin and 4 pin.	AC6.00±0.2KV
2000 ~ 3000 m	No connection	AC5.25±0.2KV
3000 m ~	Connect 3 pin and 5 pin.	AC5.00±0.2KV

Tools

Electrode sheet (UKOG-0110FCZZ)



Electrode sheet harness (DHAI-0304FCZZ)



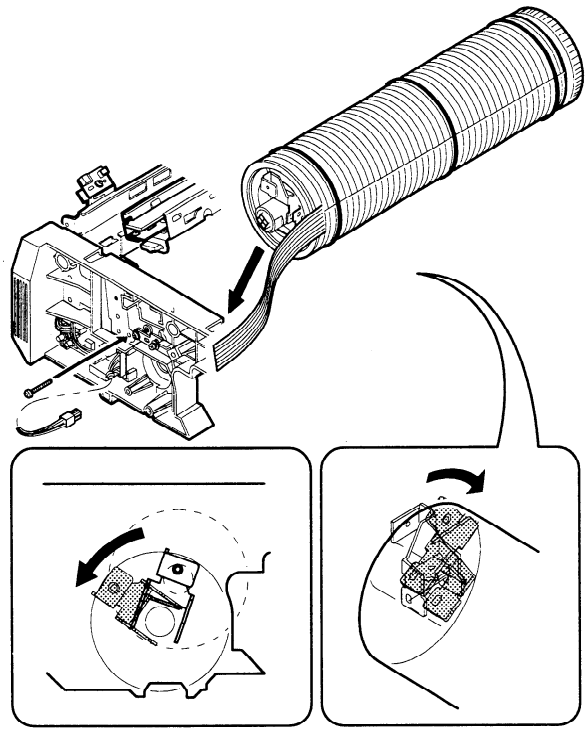
(1) Transfer charger current adjustment

① Remove the developing unit from the copier.

② Pull out the process unit from the copier, and remove the cleaner unit, the transfer/separation charger unit, and the main charger unit.

③ Remove the photoconductor drum from the process unit, and use rubber bands and tapes to install the electrode sheet.
(It is advisable to use an old drum.)

④ Install the photoconductor drum to which the electrode sheet is installed to the process unit.



⑤ Install the photoconductor drum unit into the copier so that the electrode sheet lead wire can be extended from the developing unit side.

⑥ Clean the transfer charger wire, and install the transfer/separation charger unit into the copier.
(Do not install the main charger.)

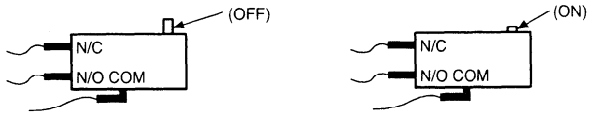
⑦ Connect the electrode sheet, the electrode harness, and the digital multi-meter.

⑧ With the front cabinet opened (the front cabinet switch OFF), turn on the main switch to execute SIM 8-06.

⑨ Manually turn on the front cabinet switch.

⑩ Measure the drum current on the front frame side and on the rear frame side.

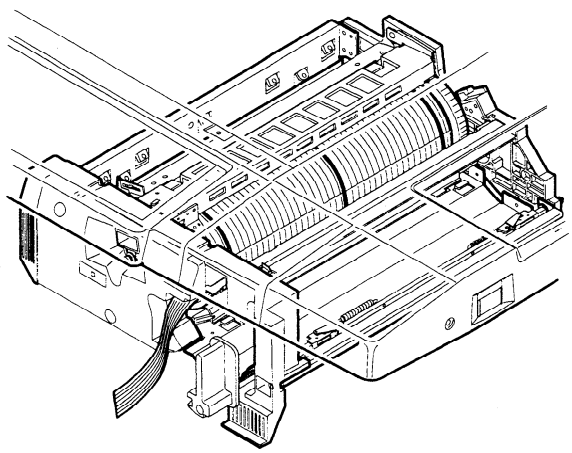
- When the microswitch is OFF: The drum current on the front frame side is displayed.
- When the microswitch is ON: The drum current on the rear frame side is displayed.

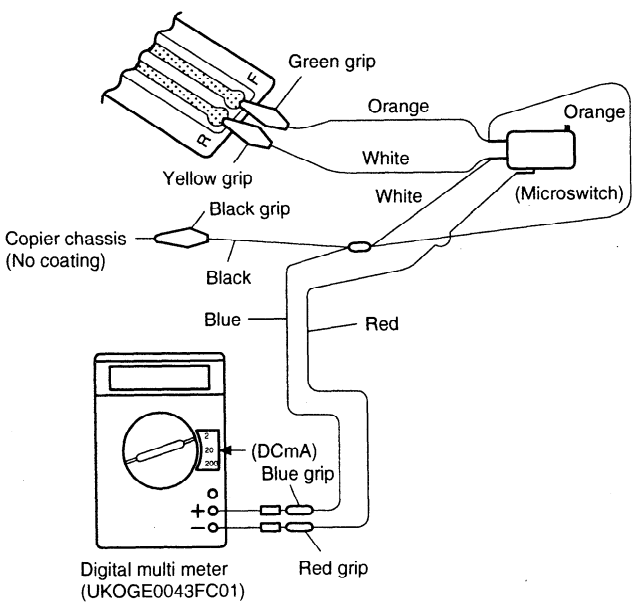


Check that the difference of current between the front and the rear frame sides is 7.0μA or less. If the difference exceeds 7.0μA, the charger unit is defective. Replace the charger unit with a new one.

⑪ Change the set value of SIM 8-6 so that the transfer charger output current is –55 ±3μA.

Adjustment range: 11 ~ 56





(Note) Check that the black grip is completely grounded to the copier chassis.

When UKOGE0043CS01 is used

Knob 1: Set to DCmA.

Knob 2: Set to 2.

Red grip: Connect to ⊕.

Blue grip: Connect to ⊖.

When a direct ammeter is used

Red grip: Connect to ⊖ of the direct ammeter.

Blue grip: Connect to ⊕ of the direct ammeter.

(2) Pre-transfer charger current adjustment

① Perform procedures of (1)-① to ⑤.

② Clean the pre-transfer discharger wire, and install to the copier. (Do not install the main charger.)

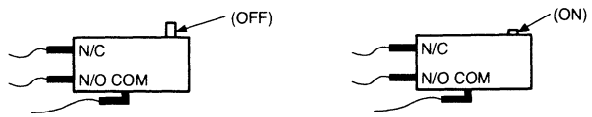
③ Connect the electrode sheet, the electrode harness, and the digital multi-meter.

④ With the front cabinet open (the front cabinet switch ON), turn on the main switch to execute SIM 8-05.

⑤ Manually turn on the front cabinet switch.

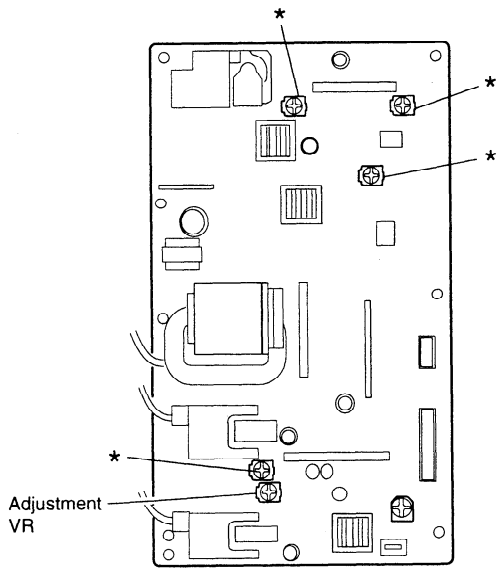
⑥ Measure the drum current on the front frame side and on the rear frame side.

- When the microswitch is OFF: The drum current on the front frame side is displayed.
- When the microswitch is ON: The drum current on the rear frame side is displayed.



Check that the difference of current between the front and the rear frame sides is 7.0μA or less. If the difference exceeds 7.0μA, the charger unit is defective. Replace the charger unit with a new one.

⑦ Adjust the pre-transfer discharger output adjustment volume so that the PTHVG output current is +15 ±3μA.



★ : Never touch these VR's.

(3) Main charger current balance adjustment

Check only the difference (balance) of the drum current on the front frame side and on the rear frame side.

① Perform procedures of (1)-① to ⑤.

② Clean the pre-transfer discharger wire, and install to the copier.

(Do not install the transfer/separation charger.)

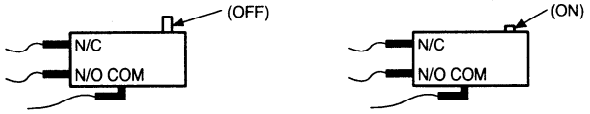
③ Connect the electrode sheet, the electrode harness, and the digital multi-meter. (Or connect to an ammeter.)

④ With the front cabinet open (the front cabinet switch OFF), turn on the main switch to execute SIM 8-02.

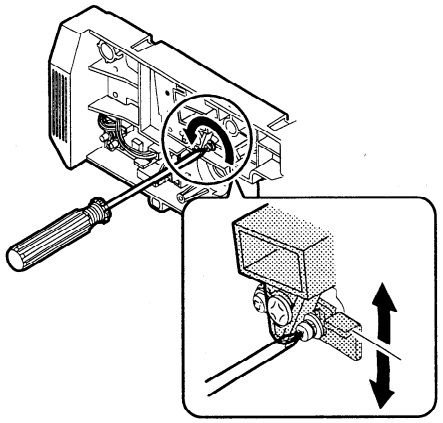
⑤ Manually turn on the front cabinet switch.

⑥ Measure the drum current on the front frame side and on the rear frame side.

- When the microswitch is OFF: The drum current on the front frame side is displayed.
- When the microswitch is ON: The drum current on the rear frame side is displayed.



Check that the difference of current between the front and the rear frame sides is 10.0μA or less. If the difference exceeds 10.0μA, use the height adjustment function provided in the process unit to adjust.



(4) Main charger grid voltage adjustment

Measure the output at the check pin on the high voltage PWB, and adjust it to the range shown below.

Adjustment output	Simulation	Adjustment value
MC grid voltage (N)	8-2A	−750±5V
MC grid voltage (P)	8-2B	−490±5V
MC grid voltage (T/S)	8-2C	−645±5V

① Install all the units of the developing unit, the photoconductor drum unit, the charger unit., etc.
(Do not use the electrode sheet for the drum.)

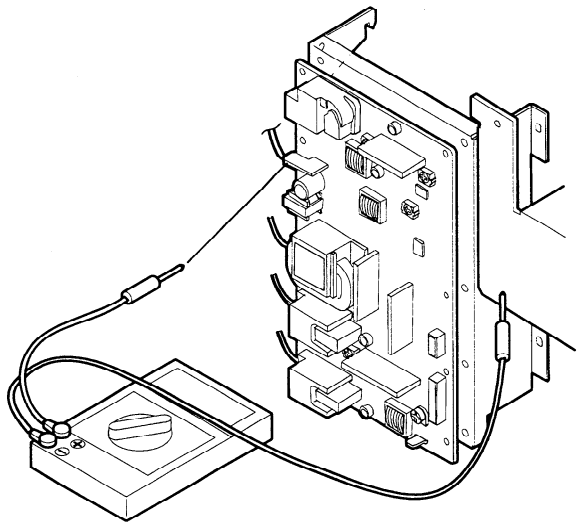
② Set a digital multimeter range to DCV. (Use a digital multimeter which allows measurement up to DC1000V.)

③ Connect the digital multimeter to the grid voltage output check pin (GB CP).

④ Turn on the main switch and execute SIM 8-02A (normal mode), 8-02B (photo mode), and 8-02C (toner save mode) to check the output voltage.

The grid output voltage set value is displayed on the COPIES MADE display in 3 digits.

Select the voltage mode (copy mode) with the scroll key.



(5) Separation charger voltage adjustment

This adjustment does not use the electrode sheet.

① Install all the units of the developing unit, the photoconductor drum unit, the charger unit., etc.

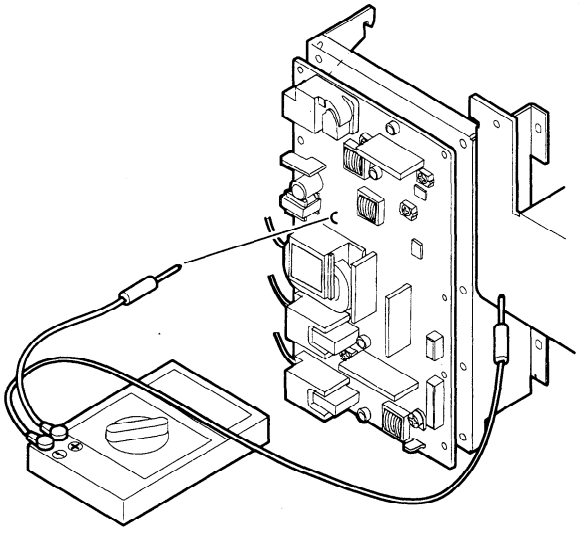
② Connect a digital multimeter to the SHVG output check pin (BCDC CP).

③ Set the digital multimeter to DCV range.

④ Turn on the main switch and execute SIM 8-07. (SHVG turns on for 30 sec.)

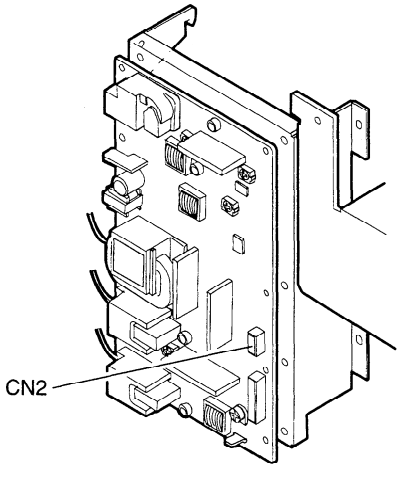
⑤ During execution of the simulation, adjust so that the separation charger output monitor voltage (bias voltage) is +440±20V.

Adjustment output	Simulation	Adjustment value
Separation charger DC voltage	8-7	+440±20V



Since the separation charger output is controlled to a constant level, it increases at a high altitude, operating the current limiter. Therefore, adjust the voltage as shown below. (The other high voltage outputs are of constant-current control and require no adjustment.)

Altitude	High voltage PWB CN2 short pin No.	Voltage	
0 ~ 2000 m	1-4	6.00±0.2KV	← When shipping
2000 ~ 3000 m	OPEN. Disconnect the connector.	5.25±0.2KV	
3000 m ~	Replace 3-5 short pin.	5.00±0.2KV	



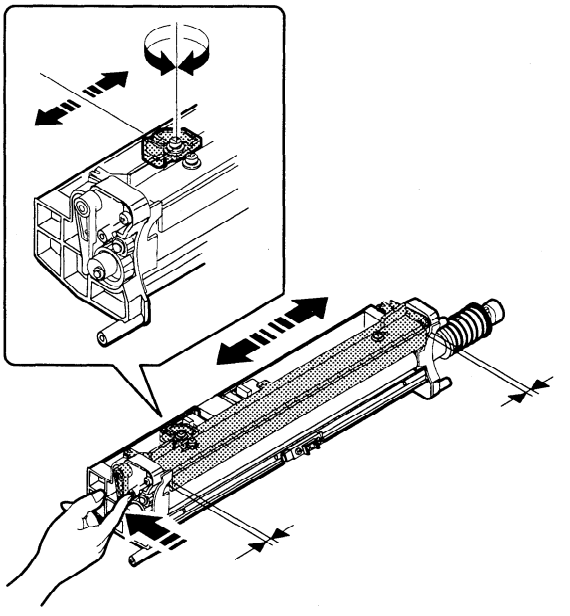
C. Cleaning unit

(1) Cleaning blade position adjustment

The cleaning blade operates in synchronization with rotation of the photoconductor drum and moves back and forth in the shaft direction of the photoconductor drum.

When the cleaning blade makes reciprocating motion, its motion must be centered so that it does not hit the left or right block or that there is no large clearance.

Change the cleaning blade positioning plate fixing position so that the cleaning blade does not make contact with the left and the right blocks when the cleaning blade slide arm is moved manually.

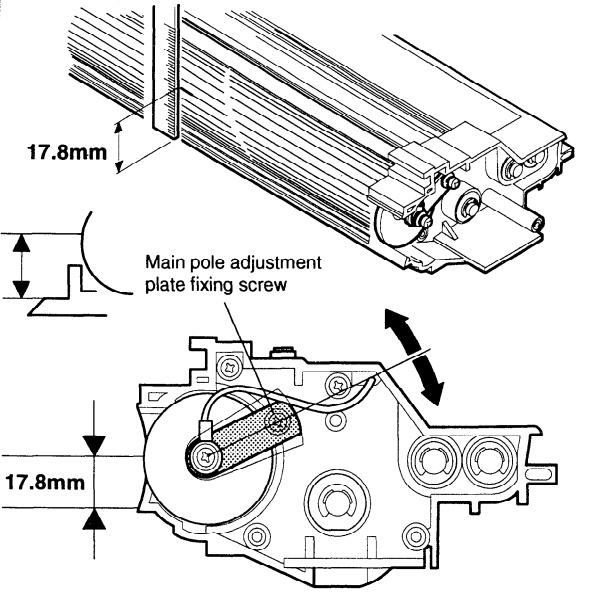


D. Developing unit

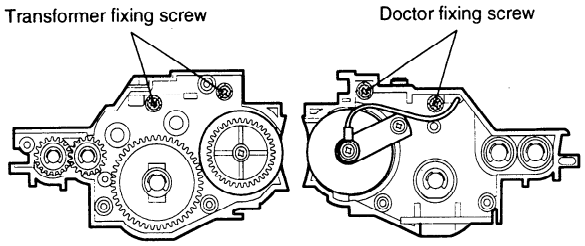
(1) Doctor gap adjustment

① Remove the toner joint cover, the developing unit cover, and the drive section cover.

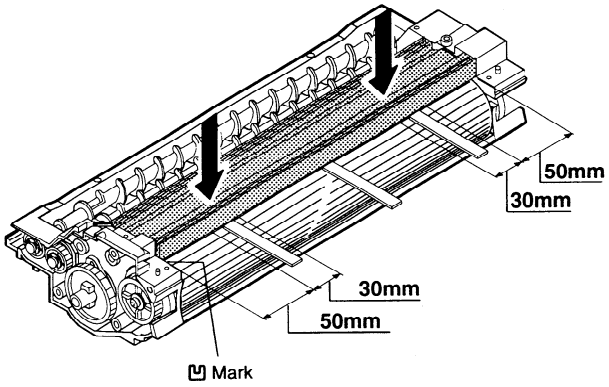
New



② Loosen the DV doctor fixing screws. (2 screws on the rear frame side, 2 screws on the front frame side)



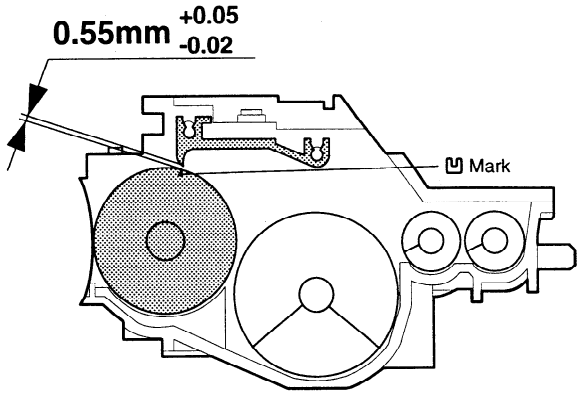
③ Turn the developing roller and fit the ⊔ mark at the rear end of the developing roller drive side with the DV doctor lead edge. Insert a 0.55mm clearance gauge into the clearance of 50mm ~ 80mm from the DV doctor edge.



④ Press the DV doctor in the direction of arrows, and tighten the fixing screw of the DV doctor. (Both in the front and the rear side)

⑤ Check that there is an clearance at 50mm ~ 80mm from either side edge of the DV doctor is $0.55^{+0.05}_{-0.02}$ mm. (2 positions)

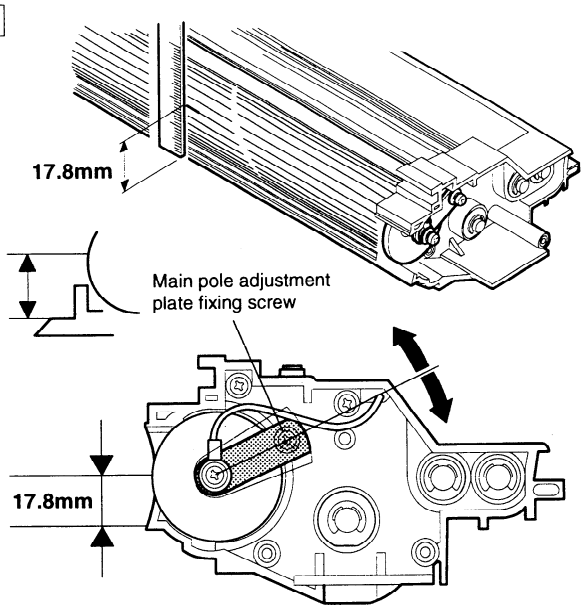
(Note) When inserting a thickness gauge, be careful not to scratch the DV doctor and the MG roller.



(2) Developing roller main electrode position adjustment

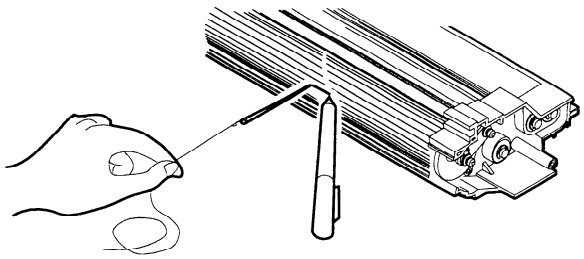
① Remove the fixing screws (4 pcs.) of the developing unit cover and the toner joint cover, and remove the joint cover.

New



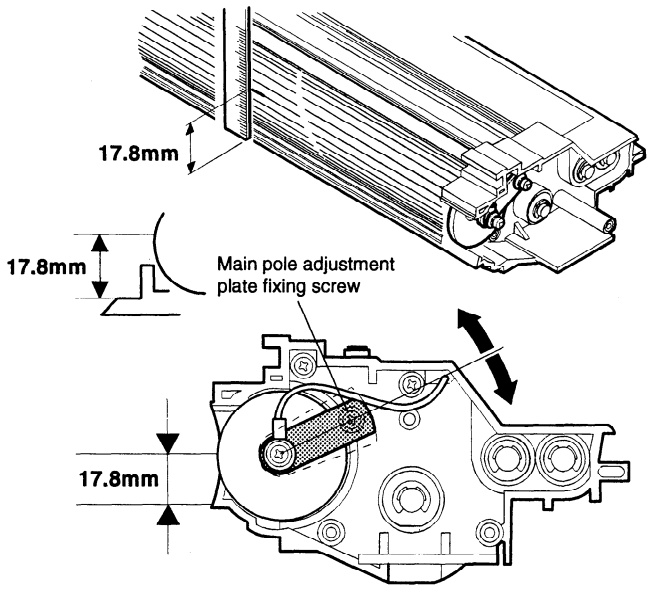
② Tie a string to a pin or a needle.

③ Hold the string and move the needle toward the MG roller. (Do not use a paper clip, which is too heavy to make correct adjustment.) (Put the developing unit horizontally for this procedure.)



④ Mark the position where the needle makes contact with the MG roller.

⑤ Measure the distance from the mark to the developing unit guide surface. Check that the distance is 17.8mm (Japan) ±0.2mm.
If the distance is not as specified above, loosen the fixing screw of the main electrode adjustment plate, and change the main electrode adjustment plate position.



⑥ Repeat procedures ③ ~ ⑤ until the condition of ⑤ is satisfied.

(3) Developing bias voltage adjustment

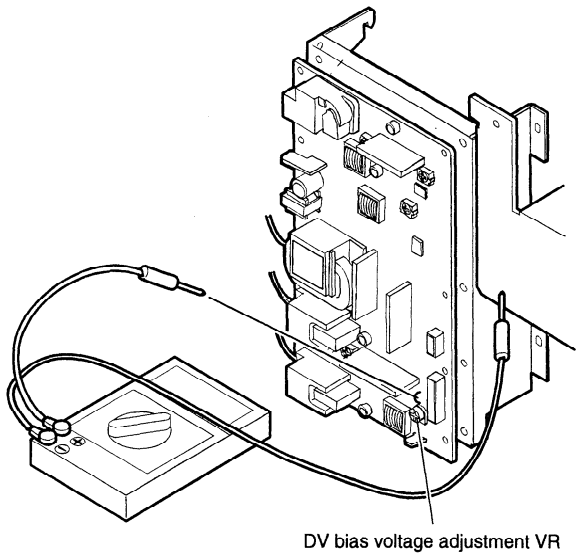
① Set the digital multimeter range to DCV, 300V or above.

② Put the test rod between the high voltage unit DV bias output check pin (BSCP) and the chassis (GND).

③ Execute SIM 8-1. (The DV bias voltage is outputted for 30 sec.)

④ Change the set value of SIM 8-1 to adjust so that the output voltage is –200 ±5V.

Adjustment range: 3 ~ 56 (–51V ~ –350V)



(4) Toner concentration adjustment

```
SIMULATION NO. 25
INPUT 1-2
1. Toner concentration SENSOR MONITOR
2. AUTO DV ADJUSTMENT
```

When developer is replaced, the initial toner concentration must be set again.

(Automatic toner concentration adjustment)

Execute SIM 25-2.

The main motor rotates to stir the DV unit. After 3 min from starting stirring, toner concentration is sampled 16 times for 8 sec. The average value is stored in the RAM as the toner concentration reference value.

This value is used as the threshold level for toner concentration control.

(5) Developer counter reset

When developer is replaced, the developer counter must be reset with SIM 42.

```
SIMULATION NO. 42
DEVELOPER COUNTER CLEAR
ARE YOU SURE ?
1. YES          2. NO
```

E. Waste toner collection unit

(1) Waste toner full detection level adjustment

When the waste toner bottle is full, the waste toner bottle weight sensor (TNF) senses it.

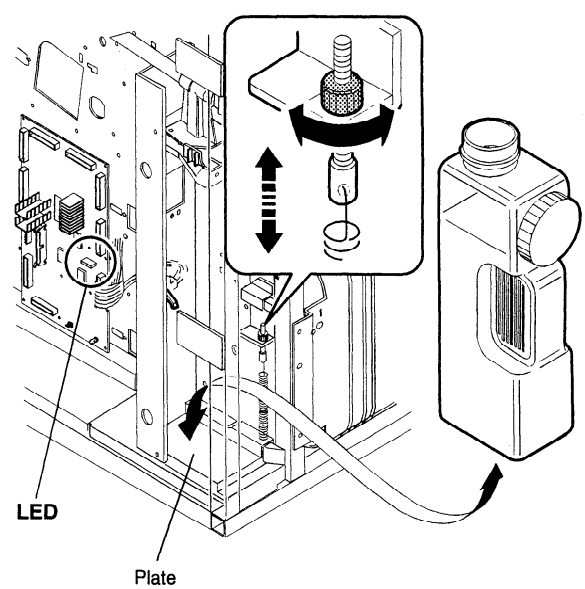
When waste toner (collected toner) weight reaches about 1,320g in the bottle, the sensor sense it.

Waste toner bottle weight:	About	300g
Collected toner weight:	About	1320g
Full detection level:	Total	1620g

① Before adjusting the waste toner bottle weight sensor installing position, prepare a waste toner bottle of about 1620g (with water, etc. in it).

② Remove the waste toner bottle which is installed to the copier, and install the waste toner bottle (1,620g with water in it) on the waste toner bottle base.

③ When the waste toner is full, the LED on the main PWB is OFF. Turn the bolt so that the LED lights up when the bottle is put on the base, and turn the bolt counterclockwise until the LED goes off.



5. Fusing/paper exit section

Adjustment list

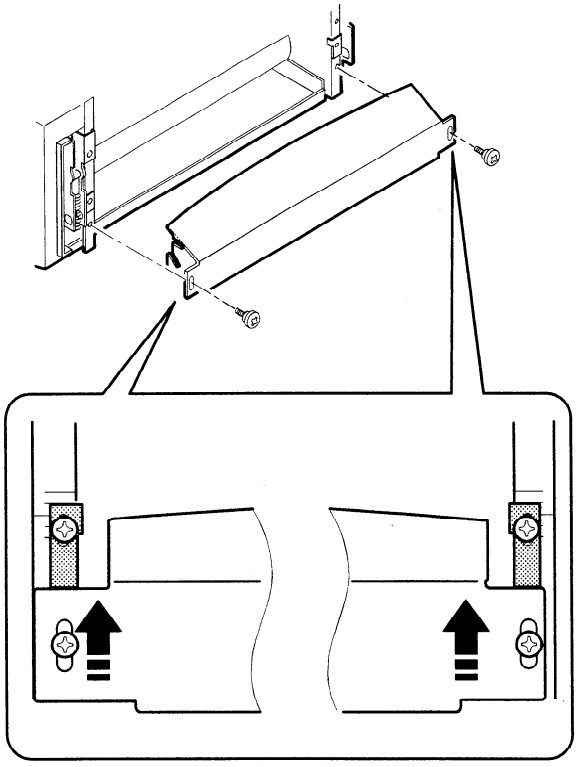
	Content	Method
A	Fusing paper guide position adjustment	Change the pre-fusing paper guide height to adjust.
B	Fusing temperature setting	Set SIM 43-1 according to the destination.
C	Fusing pressure adjustment	Change the fusing pressure adjustment screw position to adjust.
D	Curl correction amount adjustment	Rotate the curl correction knob to adjust the correction amount.
E	Switchback gate A position adjustment	Change the switchback gate A drive solenoid position to adjust.
F	Fusing roller rotating speed adjustment	Change the set value of SIM 43-3 to adjust. (Default = *6*)

A. Fusing paper guide position adjustment

The angle of paper entry into the fusing section depends on the position of the fusing paper guide.

Adjust the fusing paper guide position so that paper enters the fusing section at a proper angle.

1) Fit the edge section of the fusing guide positioning plates (2 pcs. at the right and the left) with the long part of the fusing frame marking. (Standard position)



2) Slide the fusing guide fully upward to bring it in contact with the fusing guide positioning plate, and fix it.
When wrinkles or jams occur, change the position as necessary.

B. Fusing temperature setting

Use SIM 43-1 to set the fusing temperature.

Setting must be made either of the single copy mode and the duplex copy mode.

Selection of the single copy mode and the duplex copy mode is made with the scroll key.

Enter the number corresponding to the temperature as shown in the list below, and press the START button.

(Note) Do not set other than the list below.

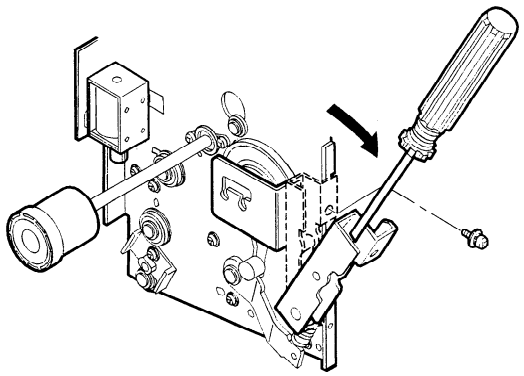
```
SIMULATION NO. 43-1
[1 >1  2 >1]
INPUT (1-5)
1. 190°C      2. 195°C      3.200°C
4. 205°C      5. 210°C
[1→2.2→2]
INPUT (1-9)
1. 170°C      2. 175°C      3. 180°C
4. 185°C      5. 190°C      6. 195°C
7. 200°C      8. 205°C      9. 210°C
[1→2.2→2]   SETTING : PRESS → KEY.
```

Destination	Copy mode	
	Normal	Duplex
Others	*4.* 205°C	*8.* 205°C
U.S.A./Canada	*4.* 205°C	*3.* *180°C*

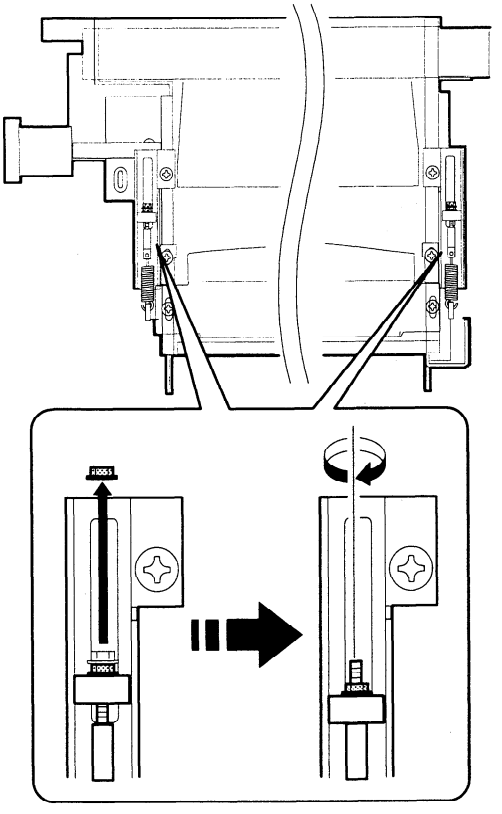
C. Fusing pressure adjustment

It is not required to adjust the fusing pressure. However, arrange as follows so that the specified fusing pressure is provided.

1) Remove the fusing pressure level fixing screws (1 on the front frame, 1 on the rear frame).



2) Release the fusing pressure lever, and tighten the fusing pressure nuts (1 on the front frame, 1 on the rear frame) completely. (With the max. pressure)



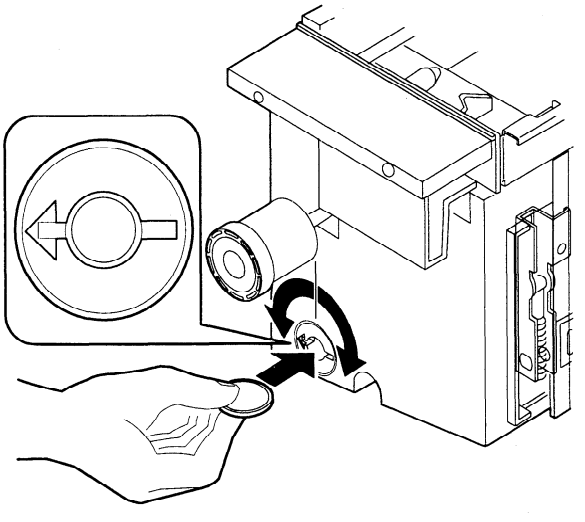
If the fusing pressure is insufficient, or if there is an unbalance between the fusing pressures on the front and the rear frame, wrinkles and image distortion may result.

D. Curl correction amount adjustment

The paper curl produced in the fusing section in the front surface copy in the duplex copy mode is adjusted by the paper curl correction belt to allow smooth paper transport and copying of the back surface.

The curl correction amount is adjusted by changing the curl correction belt tension.

1) Turn the curl correction adjustment dial to set the arrow section horizontally. (Standard position)



When the curl correction adjustment dial is turned clockwise, the curl correction belt tension is increased, and vice versa.

The tension can be changed from the stand position according to the situation. When thick paper is used, increase the tension. When thin film is used, decrease the tension.

When the curl correction belt tension is too strong or too weak, curls may occur. If this adjustment is improper, paper jams may occur in back copy.

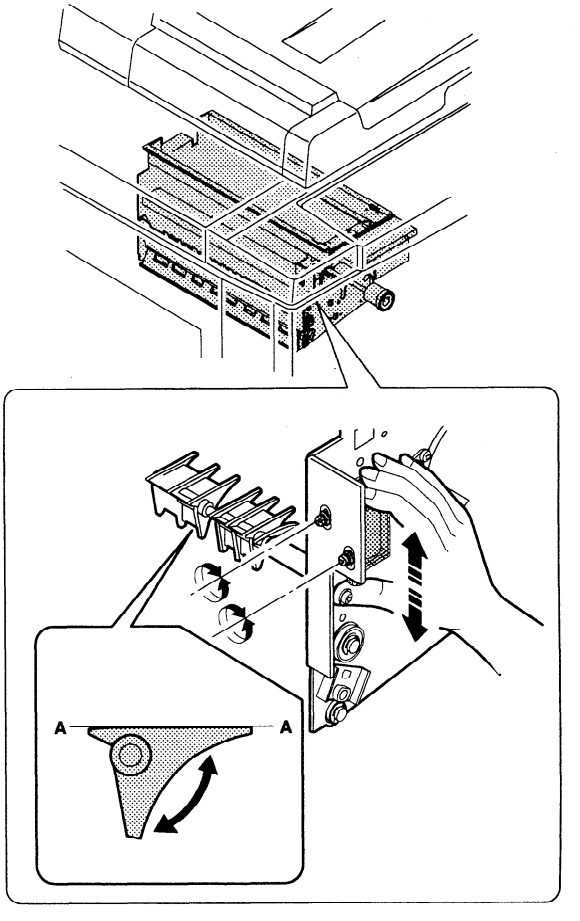
E. Switchback gate A position adjustment

This is to adjust the operating angle of switchback gate A for normal switching of paper path in the duplex copy mode and the normal copy mode.

Change the switchback gate A solenoid installing position and adjust the operating angle of the switchback gate A.

If this adjustment is improper, paper jams may occur.

1) Change the switchback gate A solenoid installing position to adjust so that the switchback gate A surface is levelled when the switchback gate A solenoid is manually turned on.



F. Fusing roller rotating speed adjustment

This adjustment is performed to provide a proper paper transport speed in the fusing section for the transfer section paper transport speed.

1) Execute SIM 43-3.
2) Enter the set value *"6"* (default) with the 10-key pad and press the START button.
   The set value can be selected in the range of 1 ~ *12*. The greater the value is, the greater the fusing section paper transport speed is. The smaller the set value is, the smaller the transport speed is.
   If the copy image is blurred or lacked in the copy paper rear edge, decrease the fusing section paper transport speed.

6. Switchback section

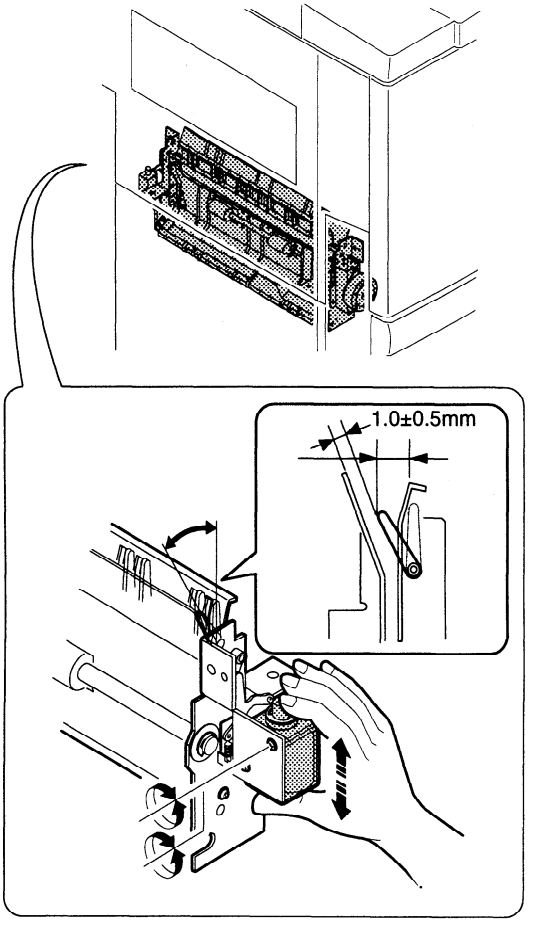
A. Switchback gate B position adjustment

This is to adjust the operating angle of switchback gate B for normal switching of paper path in switchback.

Change the switchback gate B solenoid installing position and adjust the operating angle of the switchback gate B.

If this adjustment is improper, paper jams may occur.

1) Change the switchback gate B solenoid installing position to adjust so that the distance between the switchback gate B lead edge and the switchback paper guide surface is 1.0±0.5 mm. when the switchback gate B solenoid is manually turned on.



7. Duplex section

Adjustment list

Content				Method
A	Air pressure check and adjustment	a	Suction air pressure check/adjustment	Use SIM 6-2 to rotate the suction fan to check the pressure, and change the air pressure adjustment plate position.
		b	Blower air pressure check	Use SIM 6-2 to rotate the blower fan to check the pressure.
B	Paper width alignment plate position adjustment			Change the set value of SIM 52-1 to adjust.
C	Paper transport direction alignment plate position adjustment			Change the set value of SIM 52-2 to adjust.

A. Air pressure check and adjustment

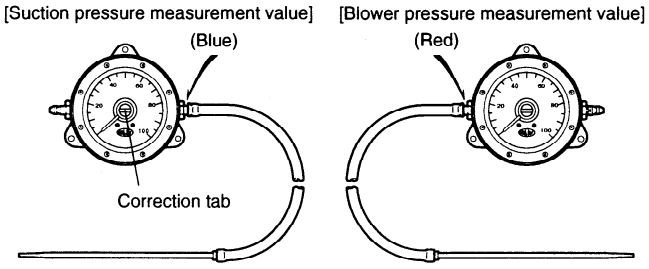
a. Suction air pressure check and adjustment

b. Blower air pressure check

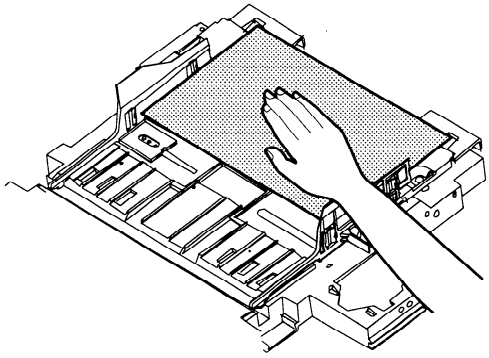
① Check the pointer of the air pressure meter indicates "0" (mmH2O). If it does not indicate "0," turn the correction knob to set to "0."

Air pressure meter and tube: (UKOG-0178FCZZ)

Pressure measurement nozzle: (UKOG-0179FCZZ)



② Place A4 paper (11 × 8.5") on the duplex tray suction belt.



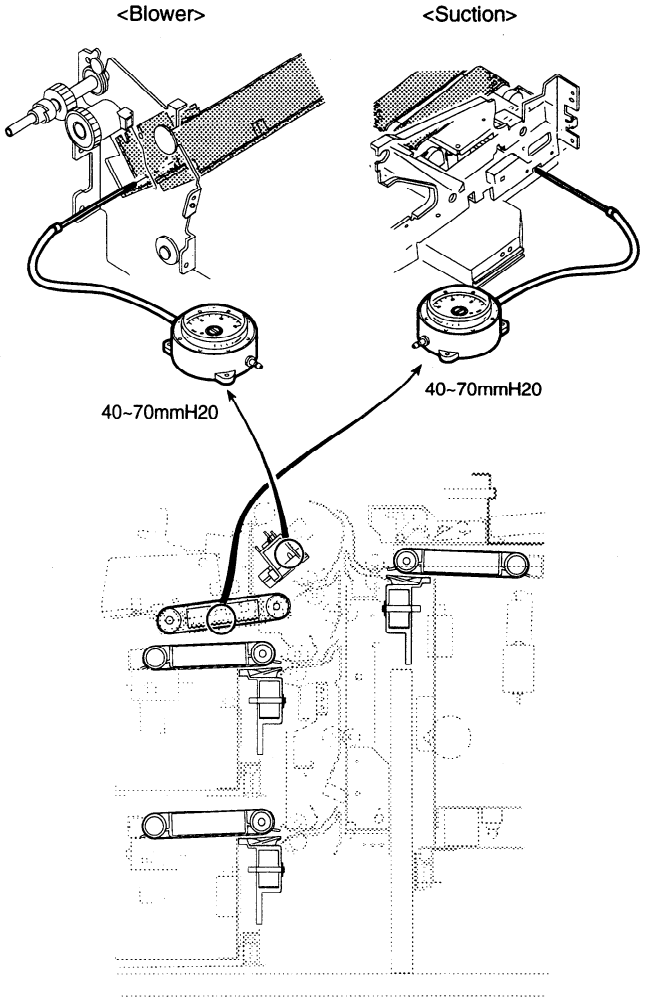
③ Insert the duplex tray unit into the copier.

④ With the front cabinet open, manually turn on the cabinet open/close detection switch.

⑤ Execute SIM 6-2 (4).
The blower and the suction fan motors are turned on (open) the blower and the suction valves of the duplex unit.

⑥ Measure the suction air pressure and the blower air pressure.

Check that the pressures are within the specified range.



If the suction air pressure is insufficient, misfeed may occur. If excessive, double feed may occur.

The suction air pressure can be adjusted by changing the pressure adjustment plate installing position. However, the blower air pressure is also changed. When the pressure adjustment plate position is changed, therefore, be sure to check the duplex blower air pressure.

If the air pressure is outside the specified range, check the following items.

- Is the blower fan rotating ?
- Do the valves open and close smoothly ?
- Is there any air leakage ?

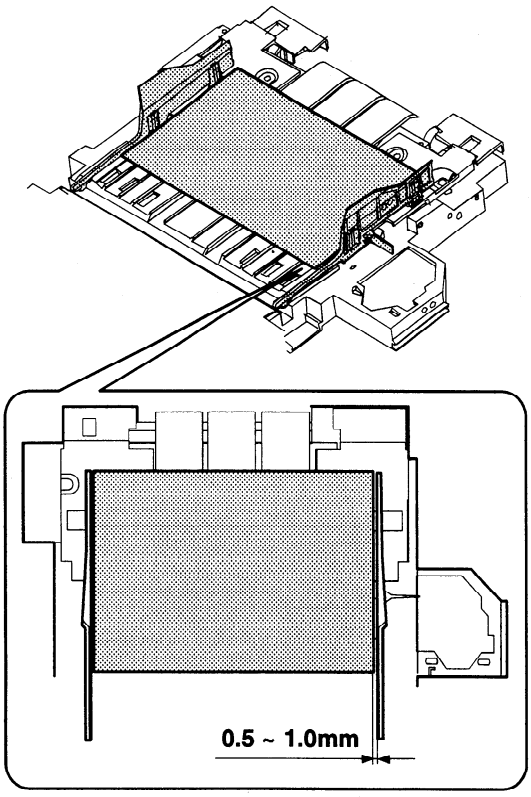
C. Paper width alignment plate stop position adjustment

This is to adjust the clearance between the paper and the paper width alignment plate by changing the stop position of the duplex paper width alignment plate.

1) Enter the SIM 52-1 mode. (Duplex paper width alignment plate stop position adjustment mode)

SIMULATION NO. 52-1
DUPLEX ALIGNMENT PLATE ADJUSTMENT VALUE SETTING *(WIDTH GUIDE ADJUSTMENT)*
INPUT DATA (1~99)

2) Open the front cabinet.
3) Press the START button.
4) Pull out the duplex unit, and place paper on the duplex unit longitudinally. (A4 or 11 × 8.5 paper)



5) Measure the clearance between the paper width alignment plate and A4 (11 × 8.5") paper and check that the clearance is 0.5 ~ 1.0mm.
6) If the clearance is not within the above range, insert the duplex unit into the copier and change the set value and press the START button.
   The paper width alignment plate stops at a position corresponding to the set value.
   The greater the set value is, the wider the paper width alignment plate is.
   Change in the set value by 1 corresponds to about 0.28mm change in the stop position.
   Repeat procedures 4) ~ 6) until the clearance is within the specified range.

If this adjustment is not proper, the image position (center position) may fluctuate in back copies in duplex copy mode, or paper jams may occur.

(Note) The paper width alignment plate stop position (AB series or inch series) is determined by the setting condition of SIM26-6 (destination setting).

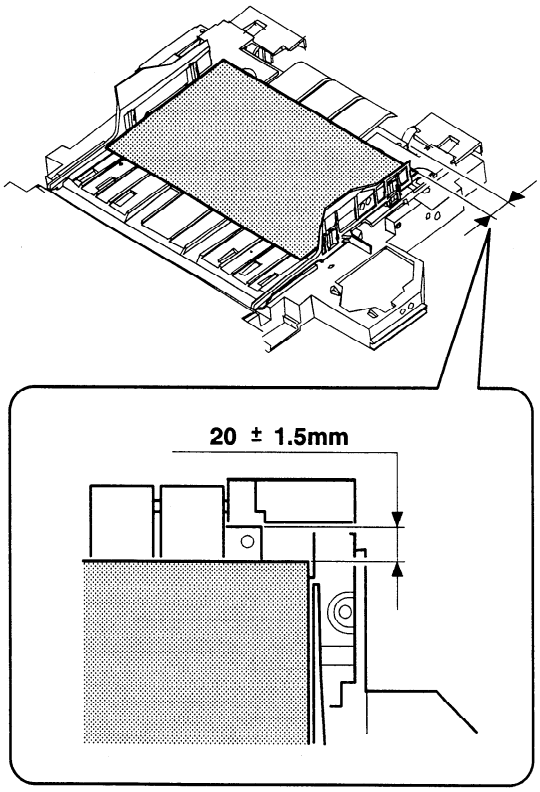
D. Paper transport direction alignment plate stop position adjustment

The duplex paper transport direction alignment plate stop position is adjusted to set the paper stop position when paper enters the duplex tray.

1) Enter the SIM 52-2 mode.(Duplex paper transport direction alignment plate stop position adjustment mode)

SIMULATION NO. 52-2
DUPLEX REAR EDGE PLATE *(BACK STOP GUIDE)* ADJUSTMENT VALUE SETTING
INPUT DATA (1~99)

2) Press the START button.
   The alignment plate stops at position corresponding to A4 or 11 × 8.5" paper width.
3) Open the front cabinet.
4) Pull out the duplex unit, and place paper on the duplex unit longitudinally.



5) Fit the paper transport direction alignment plate with A4 or 11 × 8.5" paper edge, and check that the distance between the other paper edge and the paper feed section plate is 20 ±1.5mm.
6) If the distance is not within the above range, insert the duplex unit into the copier and change the set value and press the START button.
   The paper transport direction alignment plate stops at position corresponding to the set value.
   When the set value is increased, the paper transport direction alignment plate moves to the left.
   Change in the set value by 1 corresponds to about *0.58* mm change in the stop position.
   Repeat procedures 4) ~ 6) until the distance is within the specified range.

If this adjustment is not proper, paper jams may occur in back copies in duplex copy mode.

(Note) The paper width alignment plate stop position (AB series or inch series) is determined by the setting condition of SIM26-6 (destination setting).

8. RADF section

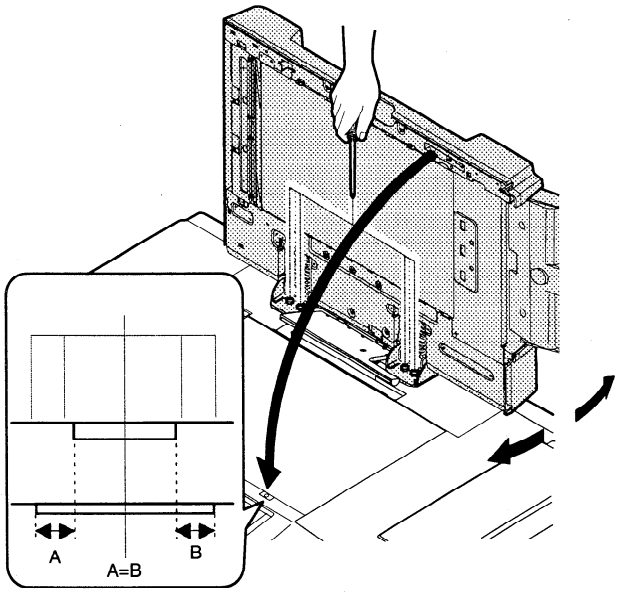
Adjustment list

	Content			Method
A	RADF horizontal level (skew) adjustment			Change the RADF right hinge fixing position to adjust.
B	RADF unit clearance adjustment			Change the RADF hinge section fixing plate and magnet catch installing position to adjust.
C	Original stopper position adjustment	(1)	Original stopper operating angle adjustment	Change the original stopper drive solenoid position and the solenoid stopper position to adjust.
		(2)	Change the original stopper shaft fixing block installing position to adjust.	Original stopper clearance adjustment
D	RADF open/close switch operating position adjustment			Change the RADF open/close detection switch (microswitch) installing position to adjust.
E	Sensor sensitivity adjustment	(1)	Resist sensor sensitivity adjustment	Adjust with SIM 53-3A (auto adjustment).
		(2)	Timing sensor sensitivity adjustment	Adjust with SIM 53-3B (auto adjustment).
		(3)	Paper ext sensor sensitivity adjustment	Adjust with SIM 53-3C (auto adjustment).
		(4)	Paper width sensor sensitivity adjustment	Adjust with SIM 53-3D (auto adjustment).
F	Original stop position adjustment	(1)	Normal paper surface mode original stop position adjustment	Change the set value of SIM 53-1A to adjust.
		(2)	Normal paper back mode original stop position adjustment	Change the set value of SIM 53-1B to adjust.
		(3)	Thin paper surface mode original stop position adjustment	Change the set value of SIM 53-1C to adjust.
		(4)	Thin paper back mode original stop position adjustment	Change the set value of SIM 53-1D to adjust.
		(5)	Normal paper step mode original stop position adjustment	Change the set value of SIM 53-1E to adjust.
		(6)	Thin paper step mode original stop position adjustment	Change the set value of SIM 53-1F to adjust.
G	Motor rotating speed adjustment	(1)	Paper *feed* motor rotating speed adjustment	Adjust with *VR2/VR3* on the RADF control PWB.
		(2)	Paper *transport* motor rotating speed adjustment	Adjust with *VR1* on the RADF control PWB.
		(3)	*Paper transport* motor rotating sensor phase adjustment	Change the transport motor rotating sensor installing position to adjust.

A. RADF horizontal level (skew) adjustment

By adjusting the RADF horizontal level (skew), the original is smoothly transported from the paper feed section to the original stop position (copy position) without skew.

1) Check that the magnet catch on the right is at the center of the magnet catch plate when the RADF unit is closed.
   If not, perform the following procedure.



2) Loosen the RADF hinge fixing screw.
3) Shift the RADF unit horizontally with the RADF hinge at the left as fulcrum.

   Repeat procedures 1) ~ 3) until the condition of 1) is satisfied.

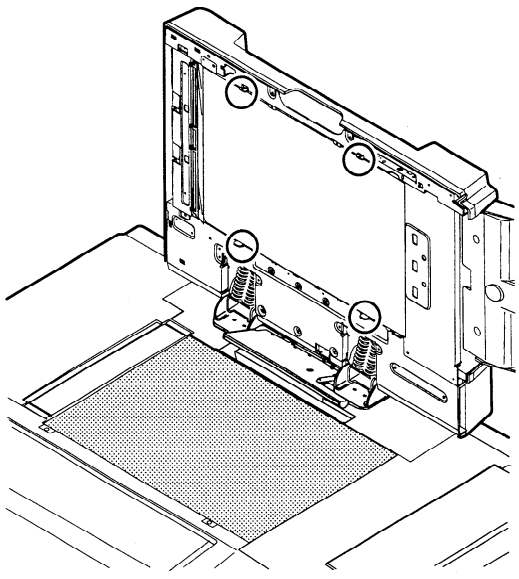
B. RADF unit clearance adjustment

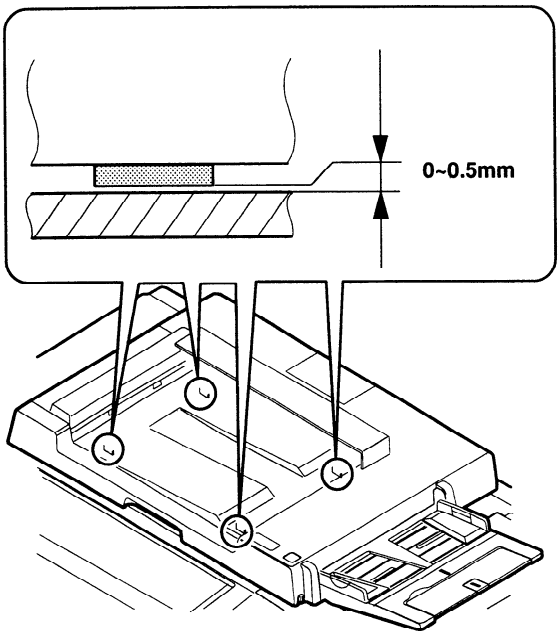
Clearance between the RADF transport belt and the original table glass is made uniform and proper to allow paper to be transported smoothly.

If this adjustment is not proper, troubles of skew, paper jam, image position shift may occur.

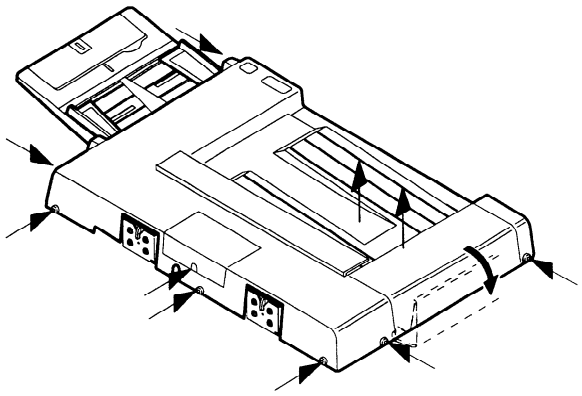
1) Close the RADF unit, and check the clearances (4 positions) between the RADF spacers and the original table glass.
   The normal clearance level is 0 ~ 0.5mm.

   For simple check, insert a sheet of copy paper (80g/m^2) between the RADF spacer and the original table glass, and close the RADF unit. Then pull out the paper. If there is some resistance when pulling out the paper, the clearance is within the specified range. If not, perform the following procedures.
   Adjustment must be made at the four positions (front and back, left and right).

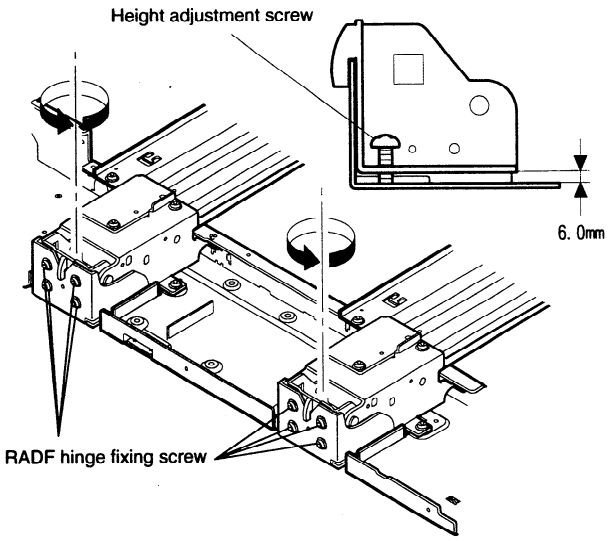




2) Remove the cabinet.

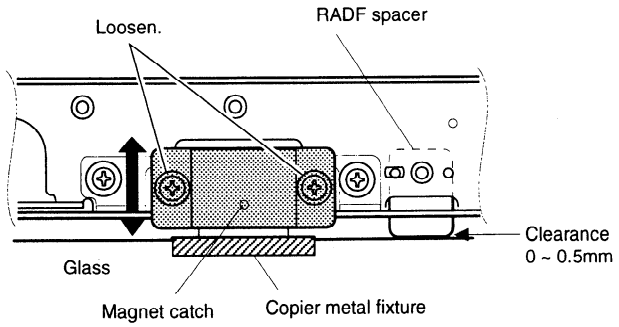


3) Loosen the RADF hinge fixing screw.



4) Turn the RADF height adjustment screw on the rear frame side to adjust the height of the RADF rear frame side.
For reference, adjust so that the clearance between the hinge and the hinge angle is about 6.0mm. Actually adjust so that the condition of 1) is satisfied.

5) Change the RADF magnet catch installing positions (the left and the right on the front frame side).



Repeat procedures 1) ~ 4) until the condition of 1) is satisfied.

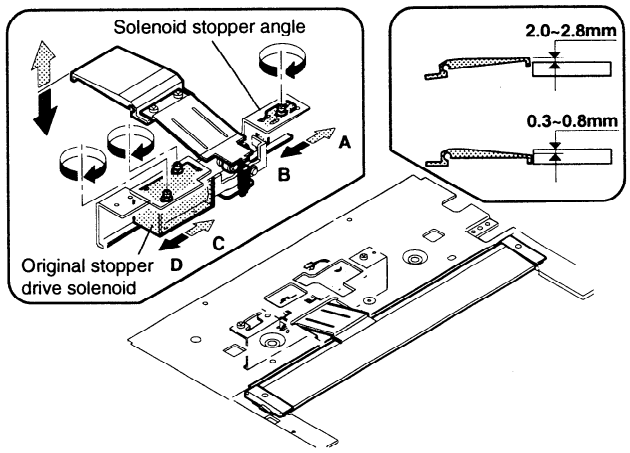
C. Original stopper position adjustment

(1) Original stopper operating angle adjustment

By adjusting the original stopper operating angle properly, the original is stopped on the original table and discharged smoothly.

If this adjustment is not proper, trouble of copy image shift and paper jam may occur.

1) With the original stopper lifted up, check that the original stopper height from the original glass surface is 2.0 ~ 2.8mm.
If the height is not in the above range, perform the following procedures.



2) Change the original stopper drive solenoid stopper angle installing position to adjust.
When the position is moved toward A, the original stopper height is increased. When the position is moved toward B, the height is decreased.

3) Check that the original stopper height from the original glass surface is 0.3 ~ 0.8mm when the original stopper drive solenoid is manually turned on.
If the height is not in the above range, perform the following procedure.

4) Change the original stopper drive solenoid installing position to adjust. When the position is moved toward C, the original stopper height is increased. When moved toward D, the height is decreased.

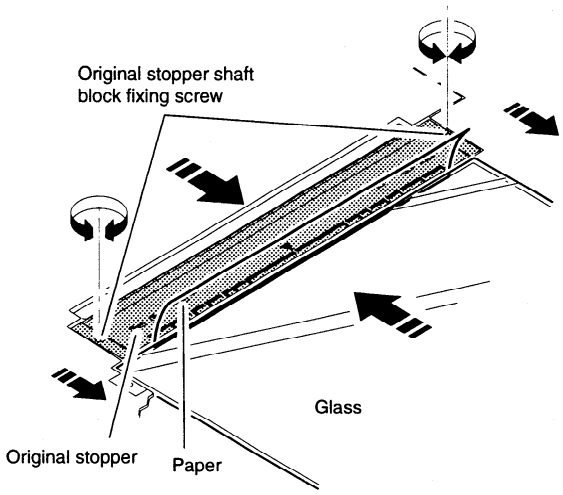
Repeat procedures 1) ~ 4) until the conditions of 1) and 3) are satisfied.

(2) Original stopper clearance adjustment

The clearance between the original stopper and the original table glass is properly adjusted to inhibit the original stopper from entering the clearance between the original stopper and the original table glass and to allow the original stopper to move smoothly.

If this adjustment is not proper, paper jams may occur.

1) Loosen the two fixing screws of the original stopper shaft block.



2) Insert a sheet of copy paper (80g/m^2) between the original table glass and the original stopper, slide the original stopper to the original table glass and fix it. This makes a clearance of one sheet of copy paper.
   If the clearance is more than one sheet of copy paper, change the original table glass installing position. (Slide the original table glass to the original stopper and fix it.)
3) Execute SIM 2-3 (8) to check the operation of the original stopper. If the original stopper moves smoothly, it is normal.

D. RADF open/close switch operating position adjustment

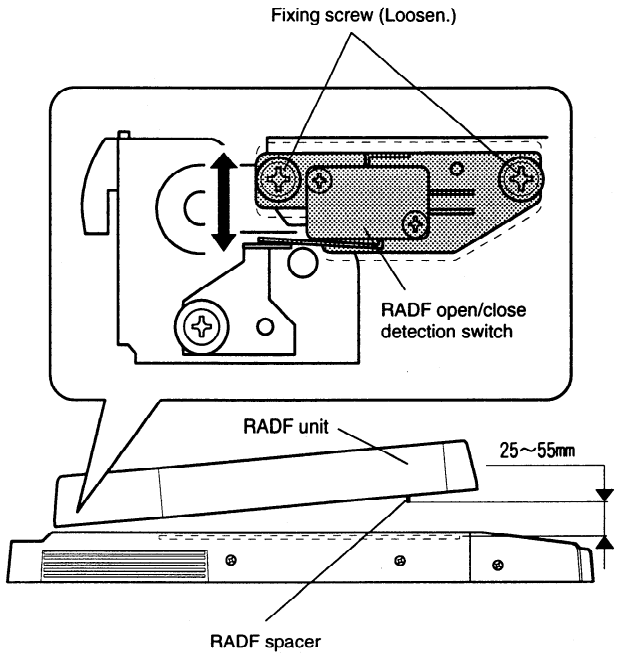
The RADF open/close switch installing position is adjusted so that the RADF switch operates normally when the RADF is opened/closed.

If this adjustment is not proper, the internal load power is not supplied when the RADF is closed, and the RADF does not operate.

Slowly close the RADF unit from the full open state.

When the RADF open/close switch is turned on, check that the RADF spacer height from the original table glass is 25 ~ 55mm.

If the height is not in the above range, change the RADF open/close switch installing position.



E. Sensor sensitivity adjustment

This adjustment is required for the resist sensor, the timing sensor, the paper exit sensor, and the paper width sensor. The threshold level is automatically set by SIM 53-3.

1) Enter the SIM 53-3 mode.
2) Select the sensor to be adjusted with the scroll key.
3) Press the PRINT button.
   The threshold level is automatically set and displayed.

```
SIMULATION NO. 53-3
RADF SENSOR ADJUSTMENT

    53A: RESIST SENSOR
    53B: TIMING SENSOR
    53C: PAPER EXIT SENSOR
    53D: ORIGINAL WIDTH SENSOR
```

F. Original stop position adjustment

The original stop position adjustment must be performed for each of the following six operation modes.

In the front copy operation, the transport belt rotation is counted from when the original is fed and detected by the timing sensor to calculate the original transport amount, When the transport belt completes the specified amount, it is stopped to stop the original.

While in the back copy operation, when the original is reversed, the transport belt rotating amount is counted from when the original exit/reverse sensor detects the original rear edge to calculate the original transport amount and switchback amount. When the transport belt completes the specified rotations, it is stopped to stop the original.

By changing the specified rotations of the above transport belt with SIM 53-1, the original stop position is changed.

Some paper quality may provide different slip amount with the transport belt. Adjust according to the paper quality.

It is advisable to adjust slightly excessive (overrun) except for the step mode. If the set value is *decreased,* the transport amount is increased,and vice versa.

If this adjustment is not proper, troubles of paper jam, copy image shift, and skew may occur.

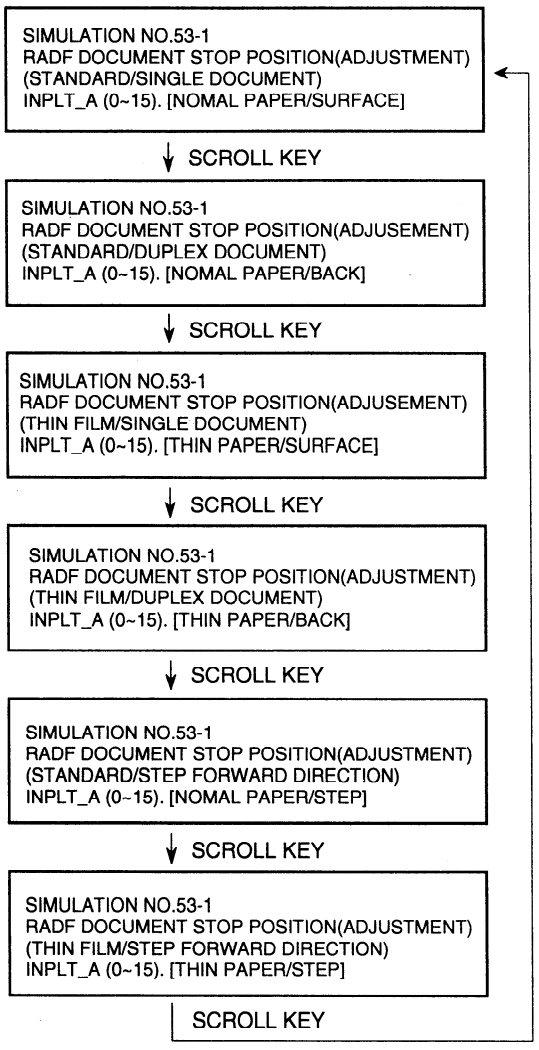
(Note) When the RADF control PWB or the EEPROM in the RADF control PWB is replaced, be sure to initialize the EEPROM before this adjustment. If not, the proper adjustment cannot be performed.

(1)	Normal paper front mode original stop position adjustment	Change the set value of SIM 53-1A to adjust
(2)	Normal paper back mode original stop position adjustment	Change the set value of SIM 53-1B to adjust.
(3)	Thin paper front mode original stop position adjustment	Change the set value of SIM 53-1C to adjust.
(4)	Thin paper back mode original stop position adjustment	Change the set value of SIM 53-1D to adjust.
(5)	Normal paper step mode original stop position adjustment	Change the set value of SIM 53-1E to adjust.
(6)	Thin paper step mode original stop position adjustment	Change the set value of SIM 53-1F to adjust.

(1) Normal paper front mode original stop position adjustment

1) Set the test original on the RADF tray.

2) Enter the SIM 53-1 mode.



3) Select the adjustment mode with the scroll key.

4) Enter the adjustment number with the 10-key pad and press the START button.
The adjustment value of the mode selected in 3) is stored and the RADF operates to make a copy.

5) Check for copy image shift and skew.
Make several copies and check them. If there is any copy image shift or skew, increase the adjustment value.
The ideal method of adjustment is: increase the set value gradually, and check the each copy, and fix the adjustment value when copy image shift and skew are eliminated.

Perform the following adjustment similarly to (1) Normal paper front mode original stop position adjustment.

(2) Normal paper back mode original stop position adjustment

(3) Thin paper front mode original stop position adjustment

(4) Thin paper back mode original stop position adjustment

(5) Normal paper step mode original stop position adjustment

(6) Thin paper step mode original stop position adjustment

G. Motor rotating speed adjustment

The paper feed motor rotates in two modes; clockwise and counterclockwise. This adjustment is to adjust the rotating speed in each rotating mode.

When the original is discharged, the paper exit motor speed is switched from high speed to low speed. The speed in each rotating mode is adjusted.

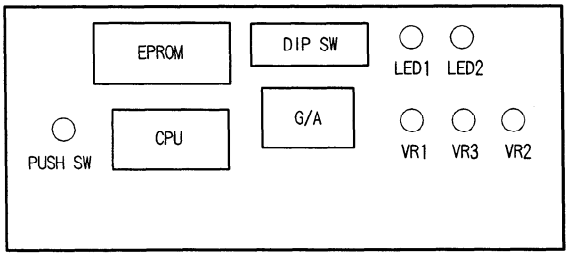
For the adjustment, the push switch and the DIP switch on the control PWB are used in the test mode.

(Entering the test mode)

1) With the push switch on the RADF control PWB ON, supply the power.

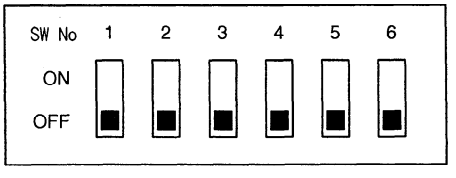
(Control PWB)

New



(DIP switch)

New



(Normally set to OFF.)

(Destination specification setting)

DIP switch 6	DIP switch 5	Destination
OFF	OFF	Inch series
OFF	ON	Europe, U.K.
ON	OFF	Australia
ON	ON	Japan

2) Set the DIP switch (1-4) to the setting conditions corresponding to the operation mode (item).

3) Open and close the RADF paper exit section cover. (The RADF paper exit section cover detection switch is turned OFF and ON.) This operation makes the operation mode set in 2) valid. To change the operation mode, change the setting of DIP switch (1-4) and open and close the RADF paper exit section cover.

4) Press the push switch. The operation mode set in 2) operates.

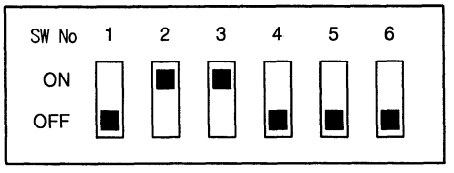
(1) Paper feed motor rotating speed adjustment

If this adjustment is not proper, the original may be damaged and paper jams may occur.

1) With the push switch on the RADF control PWB ON, supply the power.

2) Set the DOP switch on the RADF control PWB to the motor system individual operation check mode.

New



3) Open and close the RADF unit paper exit section cover. (The motor system individual operation check mode becomes valid.)

4) Press the push switch on the RADF control PWB several times to rotate the paper feed motor normally.

5) Turn VR2 to turn off the original feed monitor LED, then stop turning VR2 when the LED lights up.

6) Press the push switch on the RADF control PWB several times to rotate the paper feed motor reversely.

7) Turn *VR3* to turn off the original feed monitor LED, then stop turning *VR3* when the LED lights up.

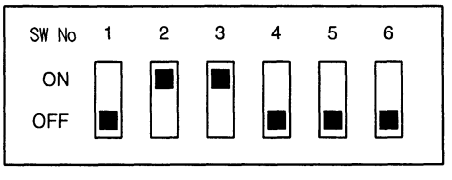
(2) Paper *transport* motor rotating speed adjustment

If this adjustment is not proper, originals may be damaged when they are transported, or originals may not be transported neatly, or paper jams may occur.

1) With the push switch on the RADF control PWB ON, supply the power.

2) Set the *DIP* switch on the RADF control PWB to the motor system individual operation check mode.

New



3) Open and close the RADF unit paper exit section cover. (The motor system individual operation check mode becomes valid.)

4) Press the push switch on the RADF control PWB several times to rotate the paper *transport* motor at *high* speed *(forward rotation).*

5) Turn *VR1* to turn off the original feed monitor LED, then stop turning VR1 when the LED lights up.

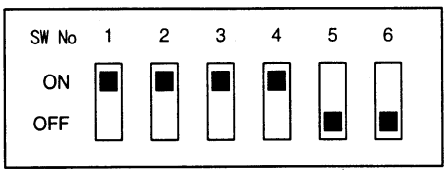
(3) Transport motor rotating sensor phase adjustment

If this adjustment is not proper, the original reverse operation in duplex copying may not performed properly.

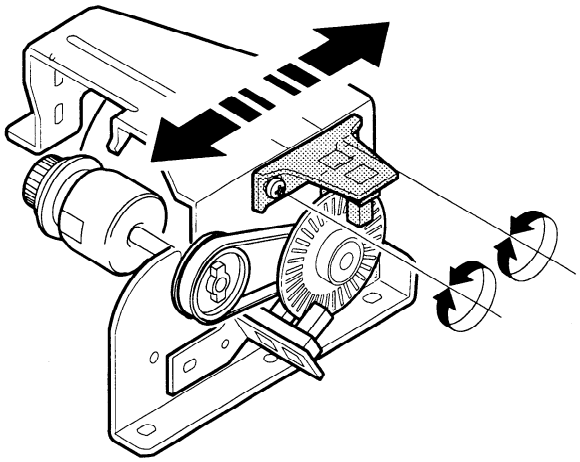
(The transport motor normal rotation and reverse rotation are detected with two transport motor rotation sensors.)

1) With the push switch on the RADF control PWB ON, supply the power.
2) Set the DOP switch on the RADF control PWB to the transport motor rotation sensor phase adjustment mode.

New



3) Open and close the RADF unit paper exit section cover. (The transport motor rotation sensor phase adjustment mode becomes valid.)
4) Press the push switch on the RADF control PWB several times to rotate the transport motor.
5) Change the transport motor rotation sensor 2 position to adjust so that the original feed LED or the LED2 on the RADF control PWB lights up during rotation of the transport motor.



The transport motor rotation sensor 1 position cannot be changed.

9. Original table section (Japan only)

Adjustment list

	Content	Method
A	Original size sensor adjustment	Use SIM 41-2. (auto)
B	Original size sensor switch adjustment	Adjust with the original size sensor switch actuator adjustment screw.

A. Original size sensor adjustment

① Execute SIM 41-2.

```
SIMULATION NO. 41-2
INPUT 1~3
1. ORIGINAL SIZE SENSOR CHECK
2. ORIGINAL SIZE SENSOR ADJUSTMENT
3. ORIGINAL SENSOR LIGHT RECEPTION LEVEL/
   SETTING LEVEL DISPLAY
```

```
SIMULATION NO. 41-2
WITH ORIGINAL COVER OPEN WITHOUT ORIGINAL ON
ORIGINAL TABLE
```

② According to the message on the LCD, press the START button with the RADF open without original on the original table. The ready lamp (RPL) goes off and lights up again. At the same time, the LCD screen turns to the following message. (The sensor level without original is stored.)

```
SIMULATION NO. 41-2
WITH THE ORIGINAL COVER OPEN, SET A3 (11 x
17") PAPER ON THE ORIGINAL TABLE, AND PRESS
THE START BUTTON.
```

③ According to the message on the LCD, set A3 (11 x 17") paper on the original table, and press the START button with the original cover open. At that time, the sensor level when the original is set is stored. The threshold level is calculated from this level and the sensor level stored in (2) without original. If this threshold level is normal, the data are stored in the backup memory, and the LCD goes to the next display as shown below.

[Judgement level calculation OK display]

```
SIMULATION NO. 41-2
ORIGINAL SIZE SENSOR LEVEL HAS BEEN ADJUSTED.
```

(The threshold level of each sensor can be checked with SIM 41-3.)

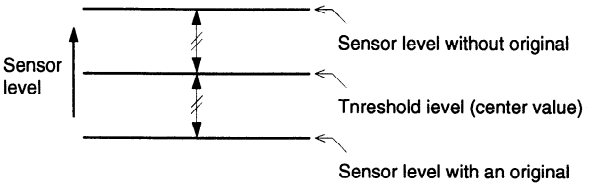
If an abnormal threshold level is calculated, the data are not stored in the memory and the following display is shown.

[Judgement level calculation NG display]

```
SIMULATION NO. 41-2
ORIGINAL SIZE SENSOR LEVEL MISADJUSTED.
MISADJUSTED SENSORS ARE AS FOLLOWS:
-, PD3, -, PD5, -, -
```

<Reference> Detection level setting principle

The sensor level with original and the sensor level without original are read, and the average value (center value) is stored in the backup memory as the threshold level of original presence.



Original size sensor operation check

Use SIM 41-1 for the original size sensor operation check.

① Execute SIM 41-1.

```
SIMULATION NO. 41
1. ORIGINAL SIZE SENSOR CHECK
2. ORIGINAL SIZE SENSOR ADJUSTMENT
3. ORIGINAL SENSOR LIGHT RECEPTION LEVEL/
   SETTING LEVEL DISPLAY
```

② ON/OFF of each sensor can be checked.

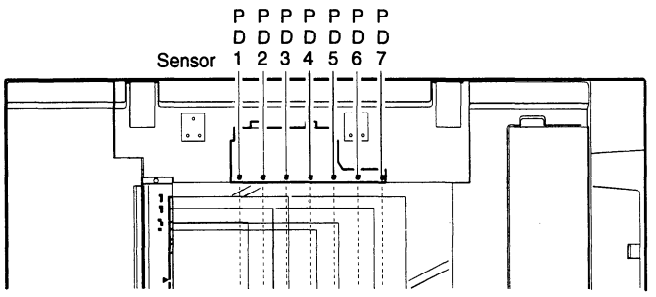
```
SIMULATION NO. 41-1
OCSW
---
(PD2)   B5
(PD3)   A4
(PD4)   B5R
(PD5)   A4R
(PD6)   B4
(PD7)   A3
```

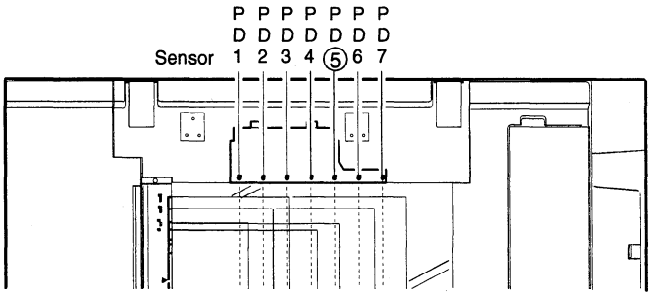
OCSW: Highlighted when the original size sensor switch is active.

Original size sensor: Highlighted when original presence is detected (optical axis in interrupted).

* With the RADF open, place A3 (11 x 17") paper on the table glass. Slide the paper to the left. Check that each original size sensor turns from reverse display (ON) to normal display (OFF).

Sensor No.	Size
PD 1	—
PD 2	B5
PD 3	A4
PD 4	B5R
PD 5	A4R
PD 6	B4
PD 7	A3





Light reception level and threshold level check

① Execute SIM 41-3.

```
SIMULATION NO. 41
INPUT 1-3
1. ORIGINAL SIZE SENSOR CHECK
2. ORIGINAL SIZE SENSOR ADJUSTMENT
3. ORIGINAL SENSOR LIGHT RECEPTION LEVEL/
   SETTING LEVEL DISPLAY
```

The current light reception level and the threshold level of each sensor are displayed.

```
SIMULATION NO. 41-3
OCSW          LIGHT RECEPTION LEVEL   SETTING LEVEL
---
(PD2)  B5              ***                ***
(PD3)  A4              ***                ***
(PD4)  B5R             ***                ***
(PD5)  A4R             ***                ***
(PD6)  B4              ***                ***
(PD7)  A3              ***                ***
```

B. Original size sensor switch adjustment

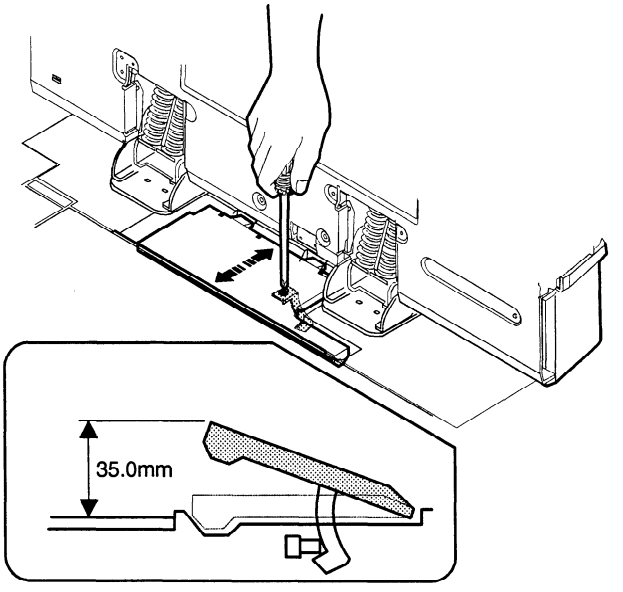
① Execute SIM 41-1.

```
SIMULATION NO. 41-1
OCSW
---
(PD2)  B5
(PD3)  A4
(PD4)  B5R
(PD5)  A4R
(PD6)  B4
(PD7)  A3
```

② Slowly tilt down the LED unit and check that the paper auto selection display (OCSW) turns off when the LED unit top is 35.0±0.5mm from the table glass.

* When checking the height, check at "PD5" position of the LED unit.

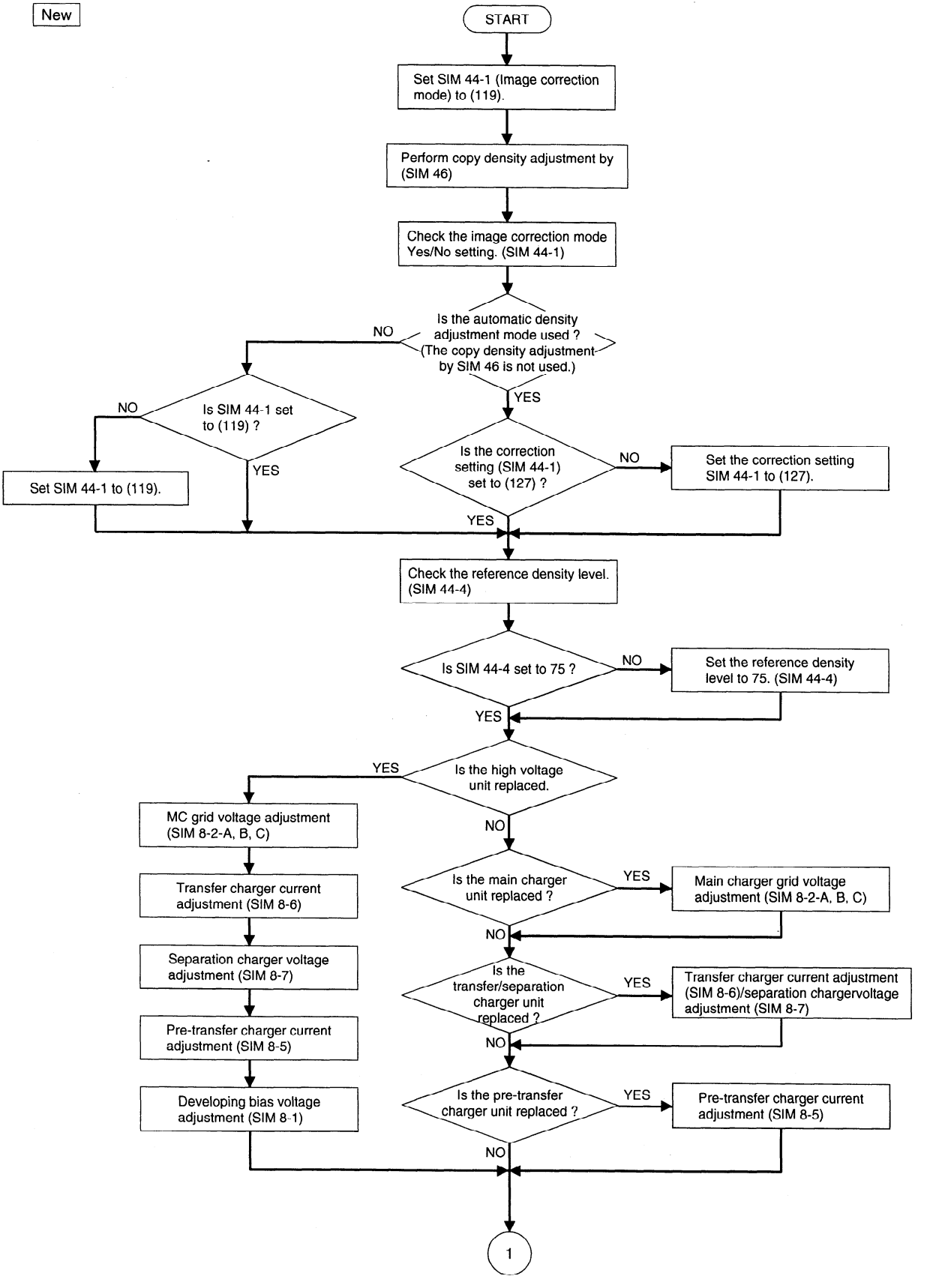
③ If the above state is not realized, slide the actuator position in the arrow direction, and adjust.

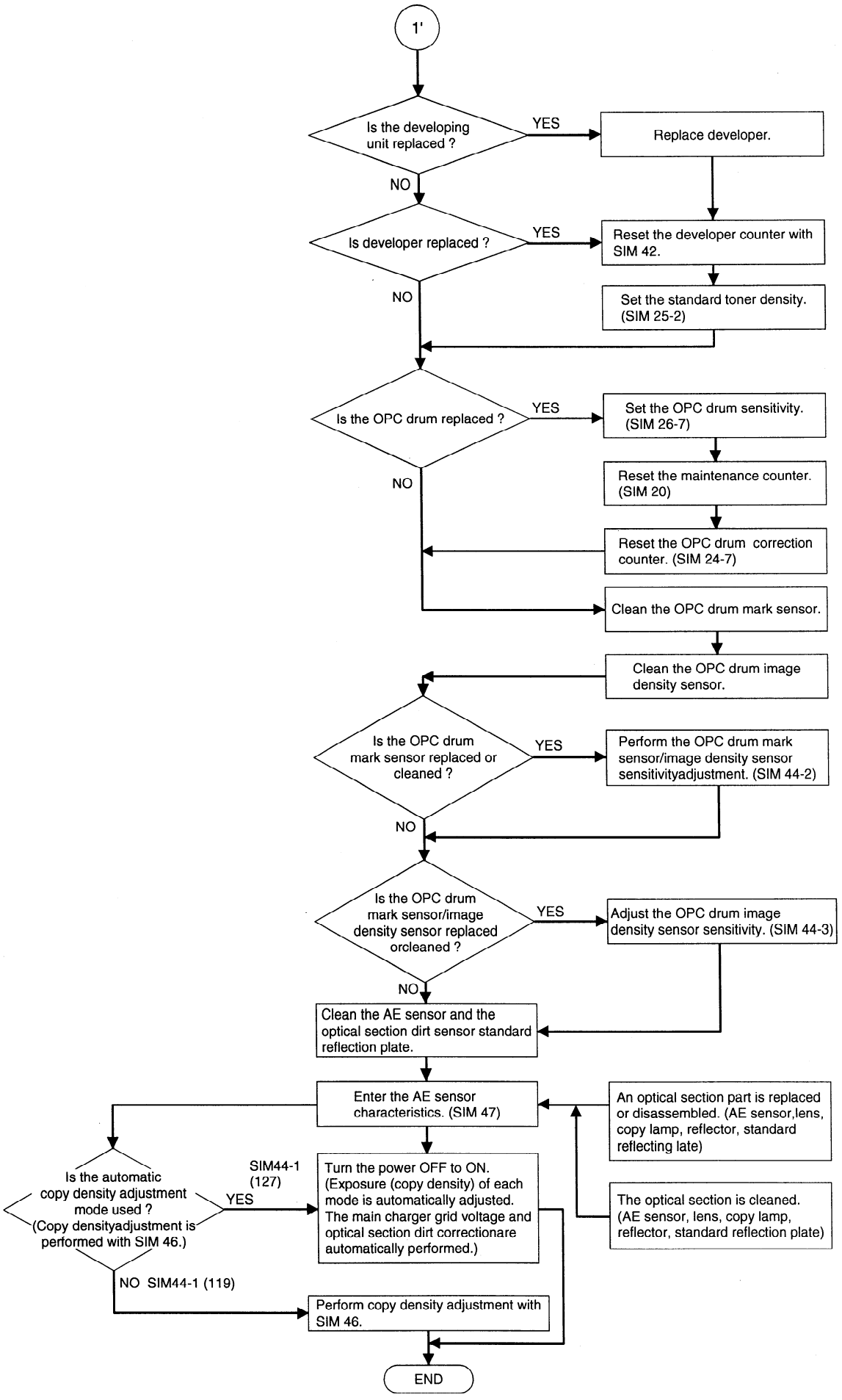


10. Picture quality correction system setting and adjustment

To provide copies of the pooper density at any time, the picture quality correction system must be operated properly.

For that purpose, follow the flowchart below when checking, setting and adjusting.




1'
Is the developing unit replaced ?
YES
Replace developer.
NO
Is developer replaced ?
YES
Reset the developer counter with SIM 42.
Set the standard toner density. (SIM 25-2)
NO
Is the OPC drum replaced ?
YES
Set the OPC drum sensitivity. (SIM 26-7)
Reset the maintenance counter. (SIM 20)
NO
Reset the OPC drum correction counter. (SIM 24-7)
Clean the OPC drum mark sensor.
Clean the OPC drum image density sensor.
Is the OPC drum mark sensor replaced or cleaned ?
YES
Perform the OPC drum mark sensor/image density sensor sensitivityadjustment. (SIM 44-2)
NO
Is the OPC drum mark sensor/image density sensor replaced orcleaned ?
YES
Adjust the OPC drum image density sensor sensitivity. (SIM 44-3)
NO
Clean the AE sensor and the optical section dirt sensor standard reflection plate.
Enter the AE sensor characteristics. (SIM 47)
An optical section part is replaced or disassembled. (AE sensor,lens, copy lamp, reflector, standard reflecting late)
Is the automatic copy density adjustment mode used ? (Copy densityadjustment is performed with SIM 46.)
SIM44-1 (127)
YES
Turn the power OFF to ON. (Exposure (copy density) of each mode is automatically adjusted. The main charger grid voltage and optical section dirt correctionare automatically performed.)
The optical section is cleaned. (AE sensor, lens, copy lamp, reflector, standard reflection plate)
NO SIM44-1 (119)
Perform copy density adjustment with SIM 46.
END

In this section, descriptions are made only on the items which are not described in the other sections. For the check, setting, and adjustment items, therefore, which are listed on the above flowchart but not described in this chapter, refer to the other sections.

Adjustment and setting list

	Content	Method
A	Picture quality correction system operation mode setting	Set SIM 44-1 to (127).
B	Main charger grid voltage correction reference density setting	Set SIM 44-4 to 75.
C	Image density sensor sensitivity adjustment	Use SIM 44-3 to adjust the sensor sensitivity.
D	Drum mark sensor sensitivity adjustment	Use SIM 44-2 to adjust the sensor sensitivity.
E	Main charger grid voltage, copy lamp voltage correction	In warming up after turning on the power, the main charger grid voltage, the copy lamp voltage, and the toner concentration are automatically corrected.

A. Picture quality correction system operation mode setting

The following correction items are set to be valid or not. Normally all the correction function are set to valid by setting SIM 44-1 to 127.

* Main charger grid voltage correction
* Optical dirt correction (copy lamp voltage)
* Photoconductor drum sensitivity (film wear) correction
* Copy density auto adjustment (exposure correction, copy lamp voltage)
* Toner concentration correction

① Enter the SIM 44-1 mode.

② Enter the set value of 127 with the 10-key pad, and press the START button.

Display	Content	Set value (weight)	Inhibit
A	Main charger grid (OPC drum charging) voltage correction	1	Inhibited
B	Optical section dirt correction	2	0
C	OPC drum sensitivity (membrane decrease) correction	4	0
D	Auto copy density adjustment	8	0
E	Toner concentration correction A	16	0
F	Toner concentration correction B	32	0
G	Toner concentration correction C (Immediately after starting copying)	64	0
	All functions are operated.	127	0

(Auto copy density adjustment mode)

The copy density is automatically adjusted. (When warming up after turning on the power, the copy lamp voltage is automatically adjusted, eliminating the need for a serviceman to adjust.)

The copy density level and the density gradient are set to the same level as in SIM 46.

In the adjustment mode by SIM 46, the copy density and the density gradient can be adjusted to a voluntary level. In the automatic adjustment mode, however, the copy density and the density gradient are fixed.

If, therefore, there is any special request from the user, use SIM 46 to satisfy the user's needs.

Employment of the adjustment result by SIM 46 or by the automatic adjustment must be selected with SIM 44-1.

When SIM 44-1 (D) (automatic copy density adjustment) is set to valid, the automatic copy density adjustment result is used for operation. When it is set to invalid, the adjustment by SIM 46 is allowed and the result by SIM 46 is used for operation.

B. Main charger grid voltage correction reference density setting

This is to set the reference level in the main charger grid voltage correction. SIM 44-4 must be set to 75.

① Enter the SIM 44-4 mode.

② Enter 75 with the 10-key pad and press the START button.

C. Image density sensor sensitivity adjustment

The sensor sensitivity is adjusted to sense the toner patch image density correctly when the main charger grid voltage correction is performed. SIM 44-3 is used to adjust.

Before this adjustment, be sure to clean the sensor.

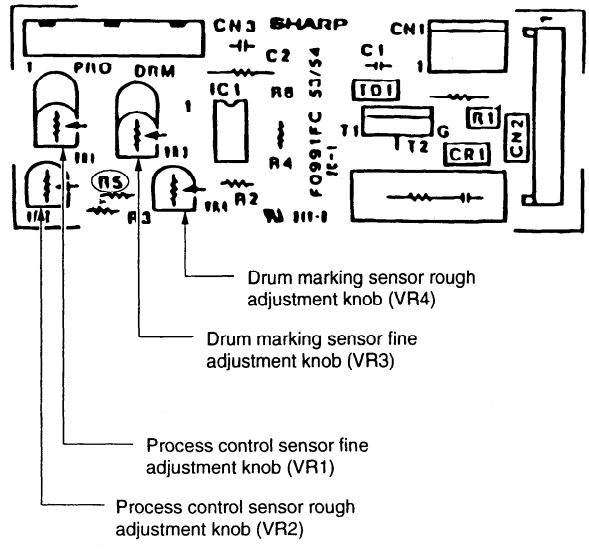
If this adjustment is not proper, F2 trouble may occur.

① Enter SIM 44-03.

② Adjust to the range of 668 ~ 998 with the fine control volume VR1.

③ If turning VR1 will not provide the adjustment range, turn *VR1* fully to the left, and turn the rough control volume VR2 to set to the range around 815 ±*15*.

④ Set to 668 ~ 998 with VR1.



D. Drum mark sensor sensitivity adjustment

The sensor sensitivity is adjusted for precise detection of the drum mark when the main charger grid voltage correction is performed.

SIM 44-2 is used to adjust.

Before this adjustment, be sure to clean the sensor.

If this adjustment is not proper, F2 trouble may occur.

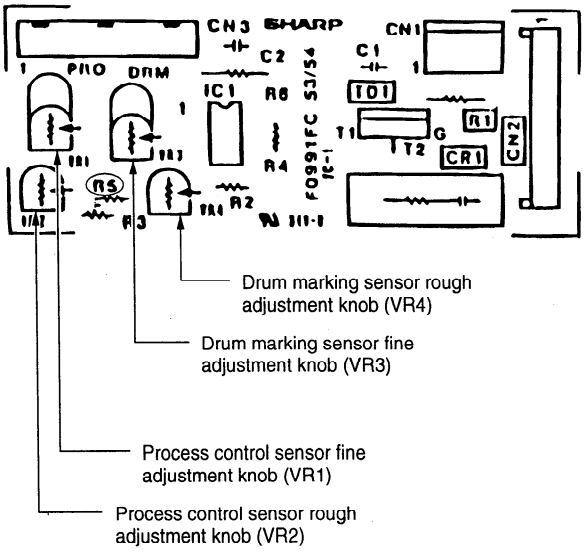
① Turn VR3 and VR4 fully to the left.

② Enter SIM 44-02.

③ Adjust to the range of 123-233 with the fine control volume VR3.

④ If turning VR3 will not provide the adjustment range, turn VR3 fully to the left, and turn the rough control volume VR4 to set to the range around 170 ±*10*.

⑤ Set to 123 ~ 233 with VR3.



E. Main charger grid voltage, copy lamp voltage correction, toner concentration correction

The copier automatically performs the following corrections in order to provide proper density copy at any time.

* Optical section dirt correction (Copy lamp voltage correction)
* OPC drum sensitivity correction (membrane decrease correction) (Copy lamp voltage correction)
* Toner concentration correction
* Main charger grid voltage correction
* Copy density (Copy lamp voltage adjustment)

(Conditions for the correction)

* When warming up after turning on the power
* After canceling a simulation

In the following cases, the power is turned off and on, and correction of the main charger grid voltage, the copy lamp voltage, and the toner concentration must be performed.

* Before executing the copy density adjustment with SIM 46
* When the optical section (including optical dirt sensor) is cleaned.
* When the optical section is disassembled.
* When any part in the optical section is replaced. (including the optical section dirt sensor)
* When the high voltage unit is replaced.
* When a charger voltage is adjusted.
* When developer is replaced.
* When the OPC drum is replaced.
* When the image density sensor sensitivity is adjusted (or when the image density sensor is replaced).
* When the image density adjusting PWB is replaced.
* When main control PWB is replaced.
* When the EEPROM or RAM on the main control PWB is replaced.
* When memory trouble (U2, etc.) occurs.

11. Copy density adjustment

Copy density adjustment list

Content		Copy mode				Method
A	AE sensor characteristics input					Use SIM 47 to store the relationship between the copy lamp light quantity (voltage) and the AE sensor output.
B	Copy density adjustment with SIM 46	(1)	Non-toner-save mode	a	Manual copy mode copy density adjustment	Change the set value of SIM 46 to adjust the basic copy density level and the density gradient.
				b	Photo copy mode copy density adjustment	
				c	Auto copy mode copy density adjustment	
		(2)	Toner save mode	a	Manual copy mode copy density adjustment	
				c	Auto copy mode copy density adjustment	
C	Auto density adjustment (Automatically performed in warm-up after turning on the power.)	(1)	Non-toner-save mode Toner save mode	a	Manual copy mode copy density adjustment Photo copy mode copy density adjustment	Automatically adjusted after turning on the power. (Change the key operator program 20 density level to adjust.)
		(2)	Non-toner-save mode Toner save mode	b	Auto copy mode copy density adjustment	

Cases to require the copy density adjustment

The copy density adjustment must be performed in the following cases.

No.	Item	Details
1	At maintenance	
2	When a part in the process section is replaced.	Corona unit, high voltage unit, drum marking sensor, image density sensor
3	When the high voltage section is adjusted.	Main, pre-transfer, transfer, separation corona unit, developing bias
4	When the drum marking sensor or the image density sensor is cleaned.	
5	When the drum marking sensor or the image density sensor is adjusted.	
6	When the optical section part is replaced or disassembled.	
7	When the optical section is cleaned.	Mirror, lens, AE sensor, optical dirt correction, reference reflection plate, exposure lamp, reflector, original table
8	When the AC control PWB is replaced.	Replace AC control PWB parts.
9	When consumable part is replaced.	OPC drum, developer
10	When the main control PWB is replaced. *	
11	When EEPROM or SRAM is replaced. *	
12	When memory trouble occurs. *	

Note: The copy density adjustment must be performed in all the copy modes. * Be sure to execute SIM 46-1 to adjust copy density first. If not, the automatic copy density adjustment does not function properly.

Requirements and conditions before performing the copy density adjustment

No.	Item	Details
1	The optical section is not dirty.	Mirror, lens, AE sensor, optical dirt correction, reference reflection plate, exposure lamp, reflector, original table
2	The process section is not dirty.	Main, pre-transfer, transfer/separation corona unit, OPC drum, developing unit, discharge lamp, blank lamp, cleaning unit
3	The OPC drum sensitivity is set.	Use SIM 26-7.
4	The high voltage output is properly adjusted.	Main, pre-transfer, transfer/separation corona unit, developing bias
5	The drum marking sensor and the image density sensor are not dirty.	
6	The drum marking sensor and the image density sensor are properly adjusted.	
7	The OPC drum correction counter is reset.	Use SIM 24-7.
8	Use SIM 47 to store AE sensor characteristics to memory.	

Copy density adjustment reference

Copy mode					Density level		UKOG162FCZZ gray scale		
					Operation panel density setting	Key operator P20 setting	Copied.	Slightly copied.	Not copied.
Copy density adjustment by SIM 46	(1)	Non-toner-save mode	a	Manual copy mode copy density adjustment	1	3	7	6	5
					5	3	1		W
			b	Photo copy mode copy density adjustment	1	3	7	6	5
					5	3	1		W
			c	Auto copy mode copy density adjustment		3	4	3	2
	(2)	Toner save mode (Key operator program *P22/SIM 26-18 (UK version)*)	a	Manual copy mode copy density adjustment	1	3	7	6	5
					5	3	1		W
			c	Auto copy mode copy density adjustment		3	4	3	2

Copy mode					Density level		UKOG162FCZZ gray scale		
					Operation panel density setting	Key operator P20 setting	Copied.	Slightly copied.	Not copied.
Auto density adjustment · Copy density adjustment by key operator program	(1)	Non-toner-save mode Toner save mode	a	Manual copy mode copy density adjustment	1	3	7	6	5
					5	3	1		W
			b	Photo copy mode copy density adjustment		3	7	3	2
					5	3	1		W
			c	Auto copy mode copy density adjustment		3	4	3	2
	(2)	Toner save mode (Key operator program *P22/SIM 26-18 (UK version)*)	a	Manual copy mode copy density adjustment	1	3	7	6	5
					5	3	1		W
			c	Auto copy mode copy density adjustment		3	4	3	2

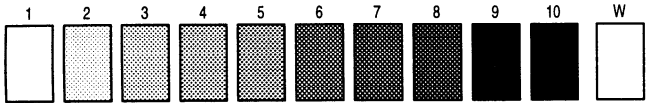
The copy density and the density gradient are adjusted by changing the copy lamp light quantity (voltage). The following two adjustment modes of the copy density.

* Copy density adjustment mode by SIM 46 (The adjustment procedure and the adjustment mode are the same as the conventional ones.)
* Automatic copy density adjustment mode (The copy lamp voltage is automatically adjusted in warming up after turning on the power, eliminating the need for a serviceman to adjust.)
  The copy density level and the density gradient are set to the same level as in SIM 46.
  In the adjustment mode by SIM 46, the copy density and the density gradient can be adjusted to a voluntary level. In the automatic adjustment mode, however, the copy density and the density gradient are fixed.
  If, therefore, there is any special request from the user, use SIM 46 to satisfy the user's needs.
  Employment of the adjustment result by SIM 46 or by the automatic adjustment must be selected with SIM 44-1.
  When SIM 44-1 (D) (automatic copy density adjustment) is set to valid, the automatic copy density adjustment result is used for operation. When it is set to invalid, the adjustment by SIM 46 is allowed and the result by SIM 46 is used for operation.

Display	Content	Set value (weight)	Inhibit
A	Main charger grid (OPC drum charging) voltage correction	1	Inhibited
B	Optical section dirt correction	2	0
C	OPC drum sensitivity (membrane decrease) correction	4	0
D	Auto copy density adjustment	8	0
E	Toner concentration correction A	16	0
F	Toner concentration correction B	32	0
G	Toner concentration correction C (Immediately after starting copying)	64	0
	All functions are operated.	127	0

Normally the adjustment with SIM 46 is not required.

Test chart compatibility table



UKOG-0162FCZZ DENSITY No.	1	2	3	4	5	6	7	8	9	10	W
UKOG-0089CSZZ DENSITY No.	0.1		0.2		0.3				0.5	1.9	0
KODAK GRAY SCALE		1		2		3		4		19	A

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A. AE sensor characteristics input

The AE sensor and the optical section characteristics for the change in the copy lamp voltage are stored.

The stored data are used with the original density to determine the exposure level in the auto copy mode.

When the key operation of the simulation is performed, the scanner unit performs initializing and moves to the center of the original table and stop there.

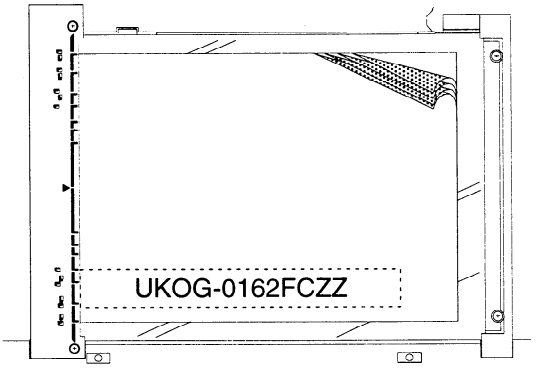
Put several sheets of white paper on the original table and close the RADF unit.

Press the START button again, and the copy lamp applying voltage will vary from 80V (160V) to 45V (90V) in 5V step. At that time, the AE sensor output characteristics with the white original as the reference is stored in the RAM.

At that time, the AE sensor gain is automatically adjusted.

This operation must be performed before the copy density adjustment.

① Test chart setting
Set the test chart (UKOG-0162FCZZ) and A3 (11 × 17") white paper on the original table as shown below.



The copy density adjustment is also performed in the above state.

② Execute SIM 47.

B. Copy density adjustment by SIM 46

Put the test chart and several sheets of A3 (11 x 17") white paper on the original table similarly to the AE sensor characteristics input.

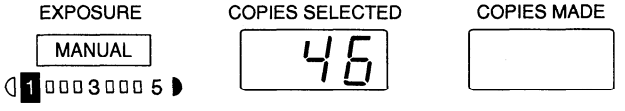
(1) Non-toner-save mode

a. Manual copy mode copy density adjustment

① When SIM 46 is executed, the following display is shown.

Select the manual mode with the EXPOSURE select key.

```
SIMULATION NO. 46
INPUT (430 ~ 800): NORMAL MODE
     (TONER SAVE MODE: USE [→] KEY)
```

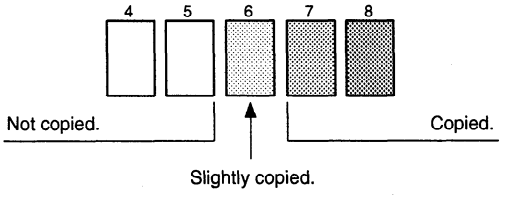


② Set "1" with [◁] (LIGHT) key.

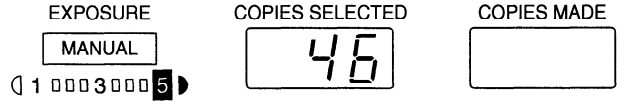
Make a copy.
Check that "6" (0.5) of UKOG-0162FCZZ (UKOG-0089CSZZ) is slightly copied (clearly copied) and "5" (0.3) is not copied.

<When too light> Decrease the value displayed on the COPIES MADE display.

<When too dark> Increase the value displayed on the COPIES MADE display.



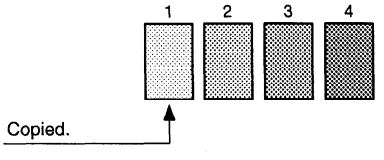
③ Set to "5" with [▷] (DARK) key.



Make a copy.
Check that "1" (0.1) of UKOG-0162FCZZ (UKOG-0089CSZZ) is copied and "W" (0) is not copied.

<When too light> Decrease the value displayed on the COPIES MADE display.

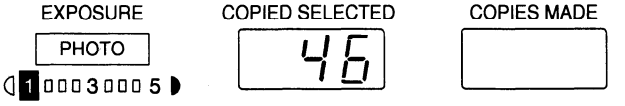
<When too dark> Increase the value displayed on the COPIES MADE display.



b. Photo copy mode copy density adjustment

① Select the photo mode with the EXPOSURE select key.

```
SIMULATION NO. 46
INPUT (430 ~ 800): PHOTO MODE
     (TONER SAVE MODE: USE [→] KEY)
```

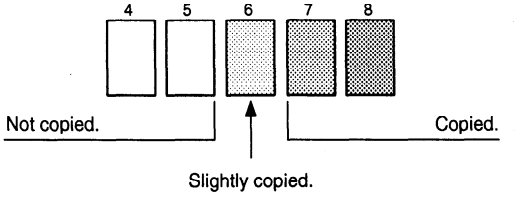


② Set "1" with [◁] (LIGHT) key.

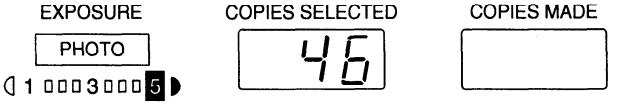
Make a copy.
Check that "6" (0.5) of UKOG-0162FCZZ (UKOG-0089CSZZ) is clearly copied and "5" (0.3) is not copied.

<When too light> Decrease the value displayed on the COPIES MADE display.

<When too dark> Increase the value displayed on the COPIES MADE display.



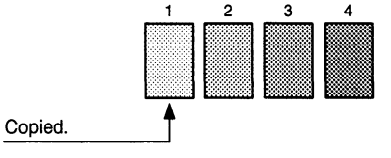
③ Set to "5" with [▷] (DARK) key.



Make a copy.
Check that "1" (0.1) of UKOG-0162FCZZ (UKOG-0089CSZZ) is copied and "W" (0) is not copied.

<When too light> Decrease the value displayed on the COPIES MADE display.

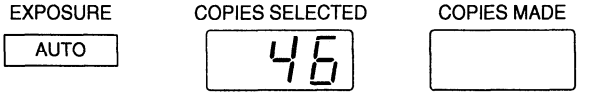
<When too dark> Increase the value displayed on the COPIES MADE display.



c. Auto copy mode copy density adjustment

① Select the auto exposure mode with the EXPOSURE select key.

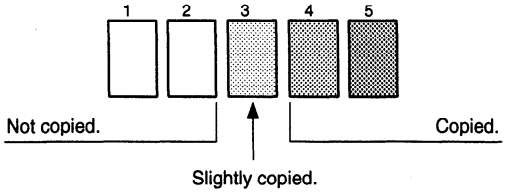
```
SIMULATION NO. 46
INPUT (450 ~ 800): AUTO MODE
     (TONER SAVE MODE: USE [→] KEY)
```



Make a copy.
Check that "3" (0.2) of UKOG-0162FCZZ (UKOG-0089CSZZ) is slightly copied and "2" (0.1) is not copied.

<When too light> Decrease the value displayed on the COPIES MADE display.

<When too dark> Increase the value displayed on the COPIES MADE display.



(2) Toner save mode

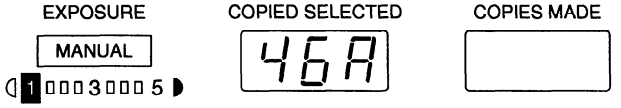
Select the toner save mode with the scroll key.

When the toner save mode is selected, the LCD displays the toner save mode.

a. Manual copy mode copy density adjustment

① Select the manual mode with the EXPOSURE select key.

```
SIMULATION NO. 46
INPUT (430 ~ 800): TONER SAVE MODE
   (NORMAL MODE: USE [→] KEY)
```

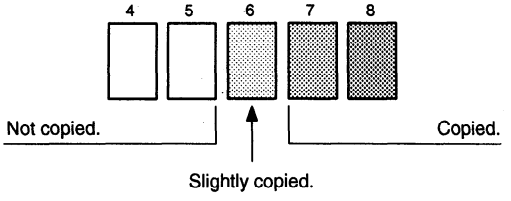


② Set "1" with ◁ (LIGHT) key.

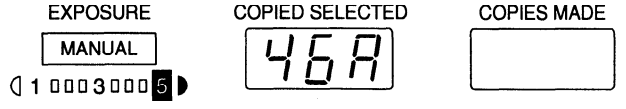
Make a copy.
Check that "6" (0.5) of UKOG-0162FCZZ (UKOG-0089CSZZ) is slightly copied (clearly copied) and "5" (0.3) is not copied.

<When too light> Decrease the value displayed on the COPIES MADE display.

<When too dark> Increase the value displayed on the COPIES MADE display.



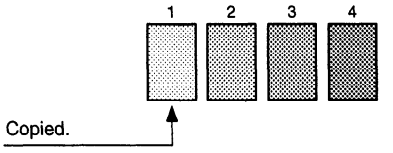
③ Set to "5" with ▷ (DARK) key.



Check that the exposure display shows "5."
Make a copy.
Check that "1" (0.1) of UKOG-0162FCZZ (UKOG-0089CSZZ) is copied and "W" (0) is not copied.

<When too light> Decrease the value displayed on the COPIES MADE display.

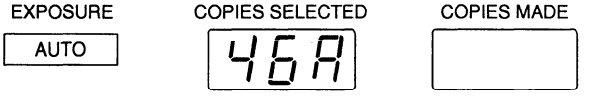
<When too dark> Increase the value displayed on the COPIES MADE display.



b. Auto copy mode copy density adjustment

① Select the auto exposure mode with the EXPOSURE select key.

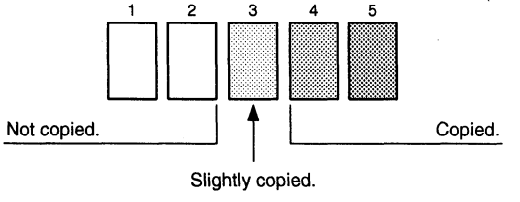
```
SIMULATION NO. 46
INPUT (430 ~ 800): TONER SAVE MODE
   (NORMAL MODE: USE [→] KEY)
```



Make a copy.
Check that "3" (0.2) of UKOG-0162FCZZ (UKOG-0089CSZZ) is slightly copied and "2" (0.1) is not copied.

<When too light> Decrease the value displayed on the COPIES MADE display.

<When too dark> Increase the value displayed on the COPIES MADE display.



When the copy exposure is within the specified range, the picture quality adjustment is completed.

C. Auto copy density adjustment]

1) Set the test chart (UKOG-0162FCZZ) and several sheets of A3 (11 × 17") white paper on the original table similarly to the AE sensor characteristics input.

2) Turn on the power, and wait until the copier enters the ready state after completion of warming up. (During warming up, the copy density adjustment is automatically performed.)

3) Enter the key operator program 20 mode.

```
P20:COPY DENSITY ADJUSTMENT
THE AUTO COPY DENSITY ADJUSTMENT IS PERFORMED.
1:LIGHT          2:SLIGHTLY LIGHT    3:STANDARD
4:SLIGHTLY DARK  5:DARK
```

4) Set the copy density level in the auto copy mode to "3."
(Use the 10-key pad to enter 3.)
The mode is changed to the manual (photo) copy mode density adjustment level adjustment mode.

```
P20:COPY DENSITY ADJUSTMENT
THE MANUAL COPY DENSITY ADJUSTMENT IS PERFORMED.
1:LIGHT          2:SLIGHTLY LIGHT    3:STANDARD
4:SLIGHTLY DARK  5:DARK
```

5) Set the manual (photo) copy mode copy density level to "3."
(Use the 10-key pad to enter 3.)
In the coy density adjustment by the key operator program 20, there is no difference between the manual and the photo copy mode copy density level adjustment. (Both are performed simultaneously.)

   The copy density level adjustment by the key operator program 20 allows to change the overall density level, but cannot change the density gradient.

6) Cancel the key operator program 20

7) Make copies in the manual and the photo copy mode (non-toner-save mode) at exposure level 1 and 5. Then make a copy in the auto copy mode.
Check that the density is within the copy density adjustment reference (density level, density gradient).
The reference is the same as the copy density adjustment reference by SIM 46.

[7] SIMULATION

1. General

This model is equipped with the following simulation functions:

For the operations, keys on the operation panel are used.

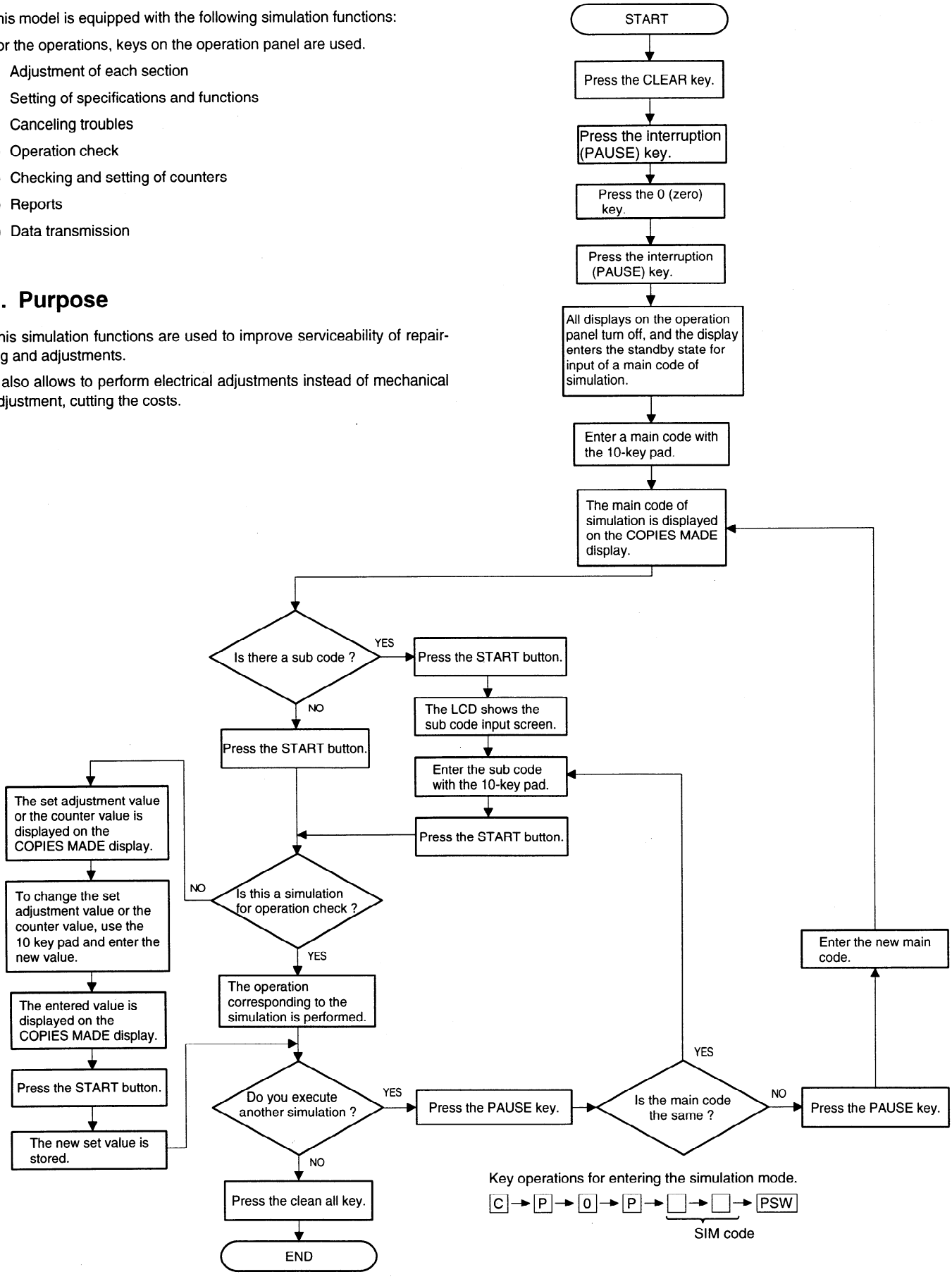
1) Adjustment of each section
2) Setting of specifications and functions
3) Canceling troubles
4) Operation check
5) Checking and setting of counters
6) Reports
7) Data transmission

2. Purpose

This simulation functions are used to improve serviceability of repairing and adjustments.

It also allows to perform electrical adjustments instead of mechanical adjustment, cutting the costs.

3. Operating procedure



4. Simulation list

A. Main/Sub Code

Main code	Sub code	Section	Item	Content	Purpose
1	1	Optical (Image scaning/ Exposure)		Used to check the operation of the scanner unit and the control circuit.	Operation test/check
	2			Used to check the operation of the optical unit sensors and detectors and the control circuit.	
	3			Used to check te operation of the lens unit and the control circuit.	
	4			Used to check the operation of the lens unit and the control circuit.	
2	1	ADF/RADF/UDH		Used to check the operation of the RADF unit and the control circuit.	
	2			Used to check the operation of teh RADF unit sensors and detectors and the control circuit.	
	3			Used to check the operation of the load in the RADF and the control circuit.	
3	1	Sorter/Finisher		Used to check the operation of the sorter and the control circuit. (Note) This simulation is valid only in the *SF-S55N*.	
	2			Used to check the operation of the sensors and detectors in the sorter and the control circuit.	
5	1	Operation (Display/ Operation key)		Used to check the operation of the operation display lamps and the LCD and the control circuit.	
	2	Fixing (Fusing)		Used to check the operation of the heater lamp and the control circuit.	
	3	Optical (Image scaning/ Exposure)		Used to check the operation of the copy lamp and the control circuit.	
	4	Image process (Photoconductor/ Developping/ Transfer/ Cleaning)		Used to check the operation of the discharge lamp and the blank lamp and the control circuit.	
6	1	Paper transportation (Discharge/ Switchback/ Transport)		Used to check the operation of the paper transport system clutch and solenoid and the control circuit.	
	2	Paper transport		Used to check the operation of each air paper feed section and the control circuit.	
	3			Used to check the operation of the sensors and detectors and the control circuit of paper cassette.	
7	1	Others		Used to check warm-up time and to check the operations of all the units and to make aging of copying. The operation of each section in copying can be checked.	
	2			Used to check the warm-up time and the operation of all the units, and to perform aging of copying. The operation of each section during copying can be checked without paper.	
	3			Used to check the operation of all the units. The operation of each section can be checked without paper ignoring the fusing temperature.	
	4			Used to check the operation of all the units. The operation of each section can be checked ignoring the fusing temperature.	
	5	Image process (Photoconductor/ Developping/ Transfer/ Cleaning)		Used to check the operation of the image forming section and the control circuit.	
	6	Others		Used to check warm-up time and the operations of all the units, and to perform copying intermittent aging. The operation of each section in copying can be checked.	
	7			Used to check warm up time and the operations of all the units, and to perform copying intermittent aging. (without jam detection) The operation of each section in copying can be checked.	
8	1	Image process (Photoconductor/ Developping/ Transfer/ Cleaning)		Used to check and adjust the developing bias voltage and its control circuit.	Adjustment/ Operation test/check
	2			Used to adjust the main charger grid voltage in each copy mode and to check its control circuit operation.	
	5			Used to check and adjust the pre-transfer discharge charger current and its control circuit.	
	6			Used to check and adjust the transfer charger current and its control circuit.	
	7			Used to check and adjust the separation charger voltage and its control circuit.	

Main code	Sub code	Section	Item	Content	Purpose
9	3	Duplex		Used to check the operation of the duplex unit rear edge (traverse (paper transport direction) alignment) plate and the control circuit.	Operation test/check
	4			Used to check the operation of the duplex unit longitudinal (paper width direction) alignment plate and the control circuit.	
10	0	Image process (Photoconductor/ Developping/ Transfer/ Cleaning)		Used to check the operation of the toner motor and the control circuit.	
13	0		Trouble/ Error	Used to cancel the self diag "U1" trouble.	Clear/Release (Trouble etc.)
14	0			Used to cancel the general troubles other than self diag H3 and H4.	
15	0			Used to cancel the self diag "F3" trouble.	
16	0			Used to cancel the self diag "U2" trouble.	
17	0			Used to cancel the self diag "Pf" (inhibition of copying by the host computer).	
20	0		Counter/ Maintenance	Used to reset the maintenance counter.	Data clear
21	1		Specifications/ Maintenance (Maintenance cycle)	Used to set the maintenance cycle.	Setting
22	1		Counter/ Others	Used to check the copy count value of each unit. Used to check the maintenance cycle.	Operation data output/Check (Display/Print)
	2		Trouble/ Mis-feed	Used to check the total misfeed positions and the number of misfeeds at each position of the machine and the RADF. If the number of misfeed is great, it is judged as necessary for repair. The misfeed rate is obtained by dividing this count value by thetotal counter value.	
	3		Trouble/ Error	Used to check the total trouble (self diag) count and each trouble count. If the number of troubles is great, it is judged as necessary for repair. The trouble rate is obtained by dividing this count value by the total counter value. The troublehistory can be also checked.	
	4		User data (Record)	Used to display the key operator code. Use this simulation when the customer forgets the key operator code.	User data output/Check (Display/Print)
	5		Software version (ROM/Driver etc.)/ ROM	Used to check the ROM version of each unit.	Others
23	1		Counter/ Others	Used to print the copy count number of each counter by using the auditor commander (SF-EA13).	Operation data output/Check (Display/Print)
	2		Trouble/ Mis-feed	Used to print the total number of misfeed and the misfeed history of the copier and the RADF by using the auditor commander (SF-EA13). If the number misfeed is great, it may be judged as necessary for repair. The misfeed rate is obtained by dividing thiscount value by the total counter value.	
	3		Trouble/ Error	Used to print the total number of troubles (self diag) and the trouble history by using the auditor commander (SF-EA13). If the number of troubles is great, it may e judged as necessary for repair. The trouble rate is obtained by dividing this count valuvalue by the total counter value.	
	4		User data (Record)	Used to print the key operator code by using the auditor commander (SF-EA13). This is used when the customer forgets the key operator code.	User data output/Check (Display/Print)
	5		Software version (ROM/Driver etc.)/ ROM	Used to print the ROM version of each unit by using the auditor commander (SF-EA13).	Others
24	1		Trouble/ Mis-feed	Used to clear the misfeed counter and the misfeed history of each unit. After completion of maintenance, clear the misfeed counter.	Data clear
	2		Trouble/ Error	Used to clear the trouble counter and the trouble history. After completion of maintenance, clear the misfeed counter.	
	3		Counter/ Duplex	Used to clear the copy counter of the duplex unit. After completion of maintenance, clear the copy counter.	
	4		Counter/ ADF/RADF/UDH	Used to clear the copy counter of the RADF unit. After completion of maintenance, clear the copy counter.	
	5		Counter/ Staple	Used to clear the copy counter of the stapler unit. After completion of maintenance, clear the copy counter.	
	6		Counter/ Paper feed unit	Used to clear the copy counter of the paper feed unit. After completion of maintenance, clear the copy counter.	
	7		Counter/ Photo conductor	Used to clear the OPC drum correction counter. Use this simulation when the OPC drum is replaced.	

Main code	Sub code	Section	Item	Content	Purpose
25	1	Others		Used to check the operation of the section except for the optical section and the toner concentration sensor. The toner concentration sensor output can be monitored.	Operation test/check
	2	Image process (Photoconductor/ Developping/ Transfer/ Cleaning)		Used to make initial setting of the toner concentration when replacing developer.	Adjustment
26	1		Specifications/ Options	Used to program the option setting. When an option is installed, use this simulation for the option setting.	Setting
	2	Paper transport	Specifications/ Operation mode	Used to set the paper tray 1 paper size setting. When the paper tray 1 paper size is changed, the paper size of software must be also changed.	
	3	Auditor	Specifications/ Options	Used to set the auditor specification mode. Setting must be made according to the auditor using conditions.	
	4	Paper transport	Specifications/ Operation mode	Used to set enable/disable of sorter auto front take-out function in manual paper feed.Auto take-out function is enabled or disabled in the second circulation of the sorter tray when the next job is executed with the paper of the previous job remaining on the sorter tray.)	
	5		Specifications/ Count mode	Used to set the count mode of the total counter and the maintenance counter.	
	6		Specifications/ Destination	Used to set the destination.	
	7	Image process (Photoconductor/ Developping/ Transfer/ Cleaning)		Used to set the sensitivity of the OPC drum. When the OPC drum is replaced, be sure to set the sensitivity with this simulation.	
	8	Paper transport		Used to set the paper empty judgement condition of the copy paper trays (No. 2-3).	Adjustment
	18		Specifications/ Operation mode	Used to set YES/NO of toner save function.	Setting
	26			Used to set whether the mode is shifted to the power shut down mode after a certain time from completion of copying or the mode is shifted to the setting of the power shut down mode after a certain time from turning on the power.	
	28			Used to make additional setting of copy magnification ratios. Three kinds of magnification ratios can be added (registered or changed) to the standard magnification ratios.	
27	1	Communication unit (TEL/LIU/MODEM etc.)	Specifications/ Operation mode	Used to set inhibition of copying with display of self diag (U7-00) in case of a communication trouble with the host computer/MODEM.	
	2		Communication	Used to set and change the host computer/MODEM No. This setting is necessary for communication between the copy machine and the computer through the MODEM.	
	3			Used to set or change the copy machine and the host computer/MODEM ID No. This setting is necessary for communication between the copier and a computer through the MODEM line.	
	4			Used to input the service start time and the end time for servicing time management. This data can be checked by the host computer.	
	5			Used to input the machine tag No. This function allows the host computer to check the machine tag No.	
28	1	Auditor		Used to check the auditor commander (EA-13) print test.	Operation test/check
	2			Used to check the print test of the auditor commander (EA-13) printer. Check for missing of dots.	
	3		User data (Record)	Used to print the list of all settings of the key operator program by using the auditor commander (SF-EA13).	User data output/Check (Display/Print)
	4		Adjust/Setting data	Used to print the set values and the adjustment values of all the simulations by using the auditor commander (SF-EA13). When servicing, print the set values and the adjustment values of all the simulations and store it for use in memory trouble orreplacement of PWB.	Operation data output/Check (Display/Print)

Main code	Sub code	Section	Item	Content	Purpose
30	1	Others		Used to check the operation of the sensors and detectors in the other section than the paper feed section of the copier. The operations of the paper feed section sensors and the detectors can be monitored by the LCD display section.	Operation test/check
	2	Paper transport		Used to check the operation of the paper feed section sensors and detectors and the related circuit. The operations of the paper feed section sensors and detectors can be monitored with the LCD display.	
40	1			Used to check the operation of the manual paper feed tray paper with detector and the related circuit. The operations of the manual paper feed tray paper with detectors can be monitored with the LCD display.	
	2			Used to adjust the detection level of the manual paper feed tray paper width detector.	Adjustment
	3			Used to check the operation of the paper cassette size detector and the related circuit. The operation of the paper cassette size detector can be monitored with the LCD display.	Operation test/check
41	1	Others		Used to check the operation of the document size detector and the related circuit. The operation of the document size detector can be monitored with the LCD display.	
	2			Used to adjust the document size sensor detection level.	Adjustment
	3			Used to check the operation of the document size sensor and the related circuit. The document size sensor output level and the detection threshold level can be monitored with the LCD display.	Operation test/check
42	0		Counter/ Developer unit	Used to reset the developer counter. The developer counter of the installed developing unit is reset.	Data clear
43	1	Fixing (Fusing)	Specifications/ Operation mode	Used to set the fusing temperature of each copy mode.	Setting
	3			Used to adjust the fusing roller rotating speed.	Adjustment
44	1	Image process (Photoconductor/ Developping/ Transfer/ Cleaning)	Specifications/ Operation mode	Used to set the main charger grid voltage correction, the optical unit correction, the OPC drum and toner concentration correction, and auto copy density adjustment.	Setting
	2			Used to adjust the sensitivity of the OPC drum mark sensor.	Adjustment
	3			Used to adjust the sensitivity of the image density sensor.	
	4			Used to set the target image density level in the main charger grid voltage correction.	Setting
	7		Operation data (Machine condition)	Used to check the output level of the OPC drum mark sensor and the image density sensor.	Operation data output/Check (Display/Print)
	9			Used to check the data on the main charger grid voltage correction. This simulation allows to check that the main charger grid voltage correction is performed correctly or not.	

Main code	Sub code	Section	Item	Content	Purpose
46	0		Picture quality/ Density	Used to adjust the copy density (exposure) in each copy mode and the copy density gradient(exposure gradient). (Note) If SIM 44-1-D is set to valid, this simulation cannot be performed.	Adjustment
47	0			Used to store the characteristics of the AE sensor and the optical section for changes in the copy lamp applying voltage. Based on the stored data and the document density, the exposure level in the auto copy mode is automatically determined.	
48	1	Optical (Image scaning/ Exposure)	Picture quality	Used to adjust the copy magnification ratio and the focus. The lens home position, the lens shift rate, No. 4/5 mirror base home position, and No. 4/5 mirror base shift rate are changed to adjust. Used to adjust the horizontal (paper transport direction) copy magnification ratio. The mirror scan speed (mirror motor rpm) is changed to adjust.	
	3			Used to adjust the copy magnification ratio and the focus. Same as SIM 48-1, but without copying.	
50	1		Picture quality/ Print area	Used to adjust the copy image position and the void area (image loss) on the copy paper.	
	2			Used to adjust the copy image position and the void area (image loss). (Simple adjustment) Same as SIM 50-1, but this simulation is just simple. When the set value of SIM 50-1 cannot be supposed, use this simple method, then execute SIM 50-1 to makemore precise adjustment.	
	3			Used to input the adjustment value of the copy image position and the void area (image loss). Same as SIM 50-1, but without copying.	
	4			Used to enter the adjustment value of the void area on the copy paper. Same as SIM 50-1, 50D and 50E, but without copying.	
51	1	Paper transport		Used to adjust the OPC drum separation pawl ON timing.	
	2			Used to adjust the copy paper contact pressure against the resist roller in each paper feed mode. This adjustment is required when there is a great variation in the image position for the copy paper.	
	3			Used to adjust the paper contact pressure against the resist roller of the copier. This simulation is same as SIM 51-2, but without copying.	
	4			Used to adjust time when PPD3 detects the paper lead edge to when the transport roller clutch (TRC2/TRC1) turns off.	
52	1	Duplex		Used to adjust the stop position of the duplex unit paper tray width direction alignment plate by changing the home position of the width direction alignment plate by the software.	
	2			*Used to adjut the stop position of the aligment plate in the paper feed direction of the duplex tray unit paper tray. The home position of the alignment plate in the width direction is changed by the software.*	
53	1	ADF/RADF/UDH		Used to adjust the document stop position in each RADF operation mode.	
	2			Used to adjust the document stop position in each RADF operation mode. Same as SIM 53-1, but without copying.	
	3			Used to adjust the sensitivity (threshold level) of the photo sensor in the RADF.	

B. Purpose

Purpose	Section	Item	Content	Main code	Sub code
Adjustment		Picture quality/Density	Used to adjust the copy density (exposure) in each copy mode and the copy density gradient(exposure gradient). (Note) If sIM 44-1-D is set to valid, this simulation cannot be performed.	46	0
			Used to store the characteristics of the AE sensor and the optical section for changes in the copy lamp applying voltage. Based on the stored data and the document density, the exposure level in the auto copy mode is automatically determined.	47	0
	Paper transport		Used to set the paper empty judgement condition of the copy paper trays (No. 2-3).	26	8
			Used to adjust the detection level of the manual paper feed tray paper width detector.	40	2
			Used to adjust the OPC drum separation pawl ON timing.	51	1
			Used to adjust the copy paper contact pressure against the resist roller in each paper feed mode. This adjustment is required when there is a great variation in the image position for the copy paper.		2
			Used to adjust the paper contact pressure against the resist roller of the copier. This simulation is same as SIM 51-2, but without copying.		3
			Used to adjust time when PPD3 detects the paper lead edge to when the transport roller clutch (TRC2/TRC1) turns off.		4
	Duplex		Used to adjust the stop position of the duplex unit paper tray width direction alignment plate by changing the home position of the width direction alignment plate by the software.	52	1
			Used to adjut the stop position of the aligment plate in the paper feed direction of the duplex tray unit paper tray. The home position of the alignment plate in the width direction is changed by the software.		2
	Optical (Image scaning/Exposure)	Picture quality	Used to adjust the copy magnification ratio and the focus. The lens home position, the lens shift rate, No. 4/5 mirror base home position, and No. 4/5 mirror base shift rate are changed to adjust. Used to adjust the horizontal (paper transport direction) copy magnification ratio. The mirror scan speed (mirror motor rpm) is changed to adjust.	48	1
			Used to adjust the copy magnification ratio and the focus. Same as SIM 48-1, but without copying.		3
		Picture quality/Print area	Used to adjust the copy image position and the void area (image loss) on the copy paper.	50	1
			Used to adjust the copy image position and the void area (image loss). (Simple adjustment) Same as SIM 50-1, but this simulation is just simple. When the set value of SIM 50-1 cannot be supposed, use this simple method, then execute SIM 50-1 to makemore precise adjustment.		2
			Used to input the adjustment value of the copy image position and the void area (image loss). Same as SIM 50-1, but without copying.		3
			Used to enter the adjustment value of the void area on the copy paper. Same as SIM 50-1, 50D and 50E, but without copying.		4
	Image process (Photoconductor/ Developping/ Transfer/ Cleaning)		Used to make initial setting of the toner concentration when replacing developer.	25	2
			Used to adjust the sensitivity of the OPC drum mark sensor.	44	2
			Used to adjust the sensitivity of the image density sensor.		3
	Fixing (Fusing)		Used to adjust the fusing roller rotating speed.	43	3
	ADF/RADF/UDH		Used to adjust the document stop position in each RADF operation mode.	53	1
			Used to adjust the document stop position in each RADF operation mode. Same as SIM 53-1, but without copying.		2
			Used to adjust the sensitivity (threshold level) of the photo sensor in the RADF.		3
	Others		Used to adjust the document size sensor detection level.	41	2
Adjustment/ Operation test/check	Image process (Photoconductor/ Developping/ Transfer/ Cleaning)		Used to check and adjust the developing bias voltage and its control circuit.	8	1
			Used to adjust the main charger grid voltage in each copy mode and to check its control circuit operation.		2
			Used to check and adjust the pre-transfer discharge charger current and its control circuit.		5
			Used to check and adjust the transfer charger current and its control circuit.		6
			Used to check and adjust the separation charger voltage and its control circuit.		7

Purpose	Section	Item	Content	Main code	Sub code
Setting		Specifications/ Destination	Used to set the destination.	26	6
		Specifications/ Options	Used to program the option setting. When an option is installed, use this simulation for the option setting.		1
		Specifications/ Maintenance (Maintenance cycle)	Used to set the maintenance cycle.	21	1
		Specifications/Count mode	Used to set the count mode of the total counter and the maintenance counter.	26	5
		Specifications/ Operation mode	Used to set YES/NO of toner save function.		18
			Used to set whether the mode is shifted to the power shut down mode after a certain time from completion of copying or the mode is shifted to the setting of the power shut down mode after a certain time from turning on the power.		26
			Used to make additional setting of copy magnification ratios. Three kinds of magnification ratios can be added (registered or changed) to the standard magnification ratios.		28
	Paper transport	Specifications/ Operation mode	Used to set the paper tray 1 paper size setting. When the paper tray 1 paper size is changed, the paper size of software must be also changed.		2
			Used to set enable/disable of sorter auto front take-out function in manual paper feed.Auto take-out function is enabled or disabled in the second circulation of the sorter tray when the next job is executed with the paper of the previous job remaining on the sorter tray.)		4
	Image process (Photoconductor/ Developping/ Transfer/ Cleaning)		Used to set the sensitivity of the OPC drum. When the OPC drum is replaced, be sure to set the sensitivity with this simulation.		7
			Used to set the target image density level in the main charger grid voltage correction.	44	4
		Specifications/ Operation mode	Used to set the main charger grid voltage correction, the optical unit correction, the OPC drum and toner concentration correction, and auto copy density adjustment.		1
	Fixing (Fusing)	Specifications/ Operation mode	Used to set the fusing temperature of each copy mode.	43	1
	Auditor	Specifications/ Options	Used to set the auditor specification mode. Setting must be made according to the auditor using conditions.	26	3
	Communication unit (TEL/LIU/MODEM etc.)	Specifications/ Operation mode	Used to set inhibition of copying with display of self diag (U7-00) in case of a communication trouble with the host computer/MODEM.	27	1
		Communication	Used to set and change the host computer/MODEM No. This setting is necessary for communication between the copy machine and the computer through the MODEM.		2
			Used to set or change the copy machine and the host computer/MODEM ID No. This setting is necessary for communication between the copier and a computer through the MODEM line.		3
			Used to input the service start time and the end time for servicing time management. This data can be checked by the host computer.		4
			Used to input the machine tag No. This function allows the host computer to check the machine tag No.		5

Purpose	Section	Item	Content	Main code	Sub code
Operation test/check	Paper transport		Used to check the operation of each air paper feed section and the control circuit.	6	2
			Used to check the operation of the sensors and detectors and the control circuit of paper cassette.		3
			Used to check the operation of the paper feed section sensors and detectors and the related circuit. The operations of the paper feed section sensors and detectors can be monitored with the LCD display.	30	2
			Used to check the operation of the manual paper feed tray paper with detector and the related circuit. The operations of the manual paper feed tray paper with detectors can be monitored with the LCD display.	40	1
			Used to check the operation of the paper cassette size detector and the related circuit. The operation of the paper cassette size detector can be monitored with the LCD display.		3
	Paper transportation (Discharge/ Switchback/ Transport)		Used to check the operation of the paper transport system clutch and solenoid and the control circuit.	6	1
	Duplex		Used to check the operation of the duplex unit rear edge (traverse (paper transport direction) alignment) plate and the control circuit.	9	3
			Used to check the operation of the duplex unit longitudinal (paper width direction) alignment plate and the control circuit.		4
	Optical (Image scaning/Exposure)		Used to check the operation of the scanner unit and the control circuit.	1	1
			Used to check the operation of the optical unit sensors and detectors and the control circuit.		2
			Used to check te operation of the lens unit and the control circuit.		3
			Used to check the operation of the lens unit and the control circuit.		4
			Used to check the operation of the copy lamp and the control circuit.	5	3
	Image process (Photoconductor/ Developping/ Transfer/ Cleaning)		Used to check the operation of the discharge lamp and the blank lamp and the control circuit.		4
			Used to check the operation of the image forming section and the control circuit.	7	5
			Used to check the operation of the toner motor and the control circuit.	10	0
	Operation (Display/ Operation key)		Used to check the operation of the operation display lamps and the LCD and the control circuit.	5	1
	Fixing (Fusing)		Used to check the operation of the heater lamp and the control circuit.		2
	ADF/RADF/UDH		Used to check the operation of the RADF unit and the control circuit.	2	1
			Used to check the operation of teh RADF unit sensors and detectors and the control circuit.		2
			Used to check the operation of the load in the RADF and the control circuit.		3
	Sorter/Finisher		Used to check the operation of the sorter and the control circuit. (Note) This simulation is valid only in the *SF-S55N*.	3	1
			Used to check the operation of the sensors and detectors in the sorter and the control circuit.		2
	Auditor		Used to check the auditor commander (EA-13) print test.	28	1
			Used to check the print test of the auditor commander (EA-13) printer. Check for missing of dots.		2

Purpose	Section	Item	Content	Main code	Sub code
Operation test/check	Others		Used to check warm-up time and to check the operations of all the units and to make aging of copying. The operation of each section in copying can be checked.	7	1
			Used to check the warm-up time and the operation of all the units, and to perform aging of copying. The operation of each section during copying can be checked without paper.		2
			Used to check the operation of all the units. The operation of each section can be checked without paper ignoring the fusing temperature.		3
			Used to check the operation of all the units. The operation of each section can be checked ignoring the fusing temperature.		4
			Used to check warm-up time and the operations of all the units, and to perform copying intermittent aging. The operation of each section in copying can be checked.		6
			Used to check warm up time and the operations of all the units, and to perform copying intermittent aging. (without jam detection) The operation of each section in copying can be checked.		7
			Used to check the operation of the section except for the optical section and the toner concentration sensor. The toner concentration sensor output can be monitored.	25	1
			Used to check the operation of the sensors and detectors in the other section than the paper feed section of the copier. The operations of the paper feed section sensors and the detectors can be monitored by the LCD display section.	30	1
			Used to check the operation of the document size detector and the related circuit. The operation of the document size detector can be monitored with the LCD display.	41	1
			Used to check the operation of the document size sensor and the related circuit. The document size sensor output level and the detection threshold level can be monitored with the LCD display.		3

Purpose	Section	Item	Content	Main code	Sub code
Data clear		Trouble/Mis-feed	Used to clear the misfeed counter and the misfeed history of each unit. After completion of maintenance, clear the misfeed counter.	24	1
		Trouble/Error	Used to clear the trouble counter and the trouble history. After completion of maintenance, clear the misfeed counter.		2
		Counter/ Maintenance	Used to reset the maintenance counter.	20	0
		Counter/ADF/RADF/ UDH	Used to clear the copy counter of the RADF unit. After completion of maintenance, clear the copy counter.	24	4
		Counter/Staple	Used to clear the copy counter of the stapler unit. After completion of maintenance, clear the copy counter.		5
		Counter/Paper feed unit	Used to clear the copy counter of the paper feed unit. After completion of maintenance, clear the copy counter.		6
		Counter/Duplex	Used to clear the copy counter of the duplex unit. After completion of maintenance, clear the copy counter.		3
		Counter/Developer unit	Used to reset the developer counter. The developer counter of the installed developing unit is reset.	42	0
		Counter/Photo conductor	Used to clear the OPC drum correction counter. Use this simulation when the OPC drum is replaced.	24	7
Clear/Release (Trouble etc.)		Trouble/Error	Used to cancel the self diag "U1" trouble.	13	0
			Used to cancel the general troubles other than self diag H3 and H4.	14	0
			Used to cancel the self diag "F3" trouble.	15	0
			Used to cancel the self diag "U2" trouble.	16	0
			Used to cancel the self diag "Pf" (inhibition of copying by the host computer).	17	0
Operation data output/Check (Display/Print)		Trouble/Mis-feed	Used to check the total misfeed positions and the number of misfeeds at each position of the machine and the RADF. If the number of misfeed is great, it is judged as necessary for repair. The misfeed rate is obtained by dividing this count value by thetotal counter value.	22	2
			Used to print the total number of misfeed and the misfeed history of the copier and the RADF by using the auditor commander (SF-EA13). If the number misfeed is great, it may be judged as necessary for repair. The misfeed rate is obtained by dividing thiscount value by the total counter value.	23	2
		Trouble/Error	Used to check the total trouble (self diag) count and each trouble count. If the number of troubles is great, it is judged as necessary for repair. The trouble rate is obtained by dividing this count value by the total counter value. The troublehistory can be also checked.	22	3
			Used to print the total number of troubles (self diag) and the trouble history by using the auditor commander (SF-EA13). If the number of troubles is great, it may e judged as necessary for repair. The trouble rate is obtained by dividing this count valuvalue by the total counter value.	23	3
		Counter/Others	Used to check the copy count value of each unit. Used to check the maintenance cycle.	22	1
			Used to print the copy count number of each counter by using the auditor commander (SF-EA13).	23	1
	Image process (Photoconductor/ Developping/ Transfer/ Cleaning)	Operation data (Machine condition)	Used to check the output level of the OPC drum mark sensor and the image density sensor.	44	7
			Used to check the data on the main charger grid voltage correction. This simulation allows to check that the main charger grid voltage correction is performed correctly or not.		9
	Auditor	Adjust/Setting data	Used to print the set values and the adjustment values of all the simulations by using the auditor commander (SF-EA13). When servicing, print the set values and the adjustment values of all the simulations and store it for use in memory trouble orreplacement of PWB.	28	4
User data output/Check (Display/Print)		User data (Record)	Used to display the key operator code. Use this simulation when the customer forgets the key operator code.	22	4
			Used to print the key operator code by using the auditor commander (SF-EA13). This is used when the customer forgets the key operator code.	23	4
	Auditor	User data (Record)	Used to print the list of all settings of the key operator program by using the auditor commander (SF-EA13).	28	3
Others		Software version (ROM/Driver etc.)/ROM	Used to check the ROM version of each unit.	22	5
			Used to print the ROM version of each unit by using the auditor commander (SF-EA13).	23	5

C. Section

Section	Item	Purpose	Content	Main code	Sub code
Paper transport		Adjustment	Used to set the paper empty judgement condition of the copy paper trays (No. 2-3).	26	8
			Used to adjust the detection level of the manual paper feed tray paper width detector.	40	2
			Used to adjust the OPC drum separation pawl ON timing.	51	1
			Used to adjust the copy paper contact pressure against the resist roller in each paper feed mode. This adjustment is required when there is a great variation in the image position for the copy paper.		2
			Used to adjust the paper contact pressure against the resist roller of the copier. This simulation is same as SIM 51-2, but without copying.		3
			Used to adjust time when PPD3 detects the paper lead edge to when the transport roller clutch (TRC2/TRC1) turns off.		4
		Operation test/check	Used to check the operation of each air paper feed section and the control circuit.	6	2
			Used to check the operation of the sensors and detectors and the control circuit of paper cassette.		3
			Used to check the operation of the paper feed section sensors and detectors and the related circuit. The operations of the paper feed section sensors and detectors can be monitored with the LCD display.	30	2
			Used to check the operation of the manual paper feed tray paper with detector and the related circuit. The operations of the manual paper feed tray paper with detectors can be monitored with the LCD display.	40	1
			Used to check the operation of the paper cassette size detector and the related circuit. The operation of the paper cassette size detector can be monitored with the LCD display.		3
	Specifications/ Operation mode	Setting	Used to set the paper tray 1 paper size setting. When the paper tray 1 paper size is changed, the paper size of software must be also changed.	26	2
			Used to set enable/disable of sorter auto front take-out function in manual paper feed.Auto take-out function is enabled or disabled in the second circulation of the sorter tray when the next job is executed with the paper of the previous job remaining on the sorter tray.)		4
Paper transportation (Discharge/ Switchback/ Transport)		Operation test/check	Used to check the operation of the paper transport system clutch and solenoid and the control circuit.	6	1

Section	Item	Purpose	Content	Main code	Sub code
Duplex		Adjustment	Used to adjust the stop position of the duplex unit paper tray width direction alignment plate by changing the home position of the width direction alignment plate by the software.	52	1
			Used to adjut the stop position of the aligment plate in the paper feed direction of the duplex tray unit paper tray. The home position of the alignment plate in the width direction is changed by the software.		2
		Operation test/check	Used to check the operation of the duplex unit rear edge (traverse (paper transport direction) alignment) plate and the control circuit.	9	3
			Used to check the operation of the duplex unit longitudinal (paper width direction) alignment plate and the control circuit.		4
Optical (Image scaning/Exposure)			Used to check the operation of the scanner unit and the control circuit.	1	1
			Used to check the operation of the optical unit sensors and detectors and the control circuit.		2
			Used to check te operation of the lens unit and the control circuit.		3
			Used to check the operation of the lens unit and the control circuit.		4
			Used to check the operation of the copy lamp and the control circuit.	5	3
	Picture quality	Adjustment	Used to adjust the copy magnification ratio and the focus. The lens home position, the lens shift rate, No. 4/5 mirror base home position, and No. 4/5 mirror base shift rate are changed to adjust. Used to adjust the horizontal (paper transport direction) copy magnification ratio. The mirror scan speed (mirror motor rpm) is changed to adjust.	48	1
			Used to adjust the copy magnification ratio and the focus. Same as SIM 48-1, but without copying.		3
	Picture quality/Print area		Used to adjust the copy image position and the void area (image loss) on the copy paper.	50	1
			Used to adjust the copy image position and the void area (image loss). (Simple adjustment) Same as SIM 50-1, but this simulation is just simple. When the set value of SIM 50-1 cannot be supposed, use this simple method, then execute SIM 50-1 to makemore precise adjustment.		2
			Used to input the adjustment value of the copy image position and the void area (image loss). Same as SIM 50-1, but without copying.		3
			Used to enter the adjustment value of the void area on the copy paper. Same as SIM 50-1, 50D and 50E, but without copying.		4
Image process (Photoconductor/ Developping/ Transfer/ Cleaning)			Used to make initial setting of the toner concentration when replacing developer.	25	2
			Used to adjust the sensitivity of the OPC drum mark sensor.	44	2
			Used to adjust the sensitivity of the image density sensor.		3
		Adjustment/ Operation test/check	Used to check and adjust the developing bias voltage and its control circuit.	8	1
			Used to adjust the main charger grid voltage in each copy mode and to check its control circuit operation.		2
			Used to check and adjust the pre-transfer discharge charger current and its control circuit.		5
			Used to check and adjust the transfer charger current and its control circuit.		6
			Used to check and adjust the separation charger voltage and its control circuit.		7
		Setting	Used to set the sensitivity of the OPC drum. When the OPC drum is replaced, be sure to set the sensitivity with this simulation.	26	7
			Used to set the target image density level in the main charger grid voltage correction.	44	4
		Operation test/check	Used to check the operation of the discharge lamp and the blank lamp and the control circuit.	5	4
			Used to check the operation of the image forming section and the control circuit.	7	5
			Used to check the operation of the toner motor and the control circuit.	10	0
	Specifications/ Operation mode	Setting	Used to set the main charger grid voltage correction, the optical unit correction, the OPC drum and toner concentration correction, and auto copy density adjustment.	44	1
	Operation data (Machine condition)	Operation data output/Check (Display/Print)	Used to check the output level of the OPC drum mark sensor and the image density sensor.		7
			Used to check the data on the main charger grid voltage correction. This simulation allows to check that the main charger grid voltage correction is performed correctly or not.		9
Operation (Display/ Operation key)		Operation test/check	Used to check the operation of the operation display lamps and the LCD and the control circuit.	5	1
Fixing (Fusing)		Adjustment	Used to adjust the fusing roller rotating speed.	43	3
		Operation test/check	Used to check the operation of the heater lamp and the control circuit.	5	2
	Specifications/ Operation mode	Setting	Used to set the fusing temperature of each copy mode.	43	1

Section	Item	Purpose	Content	Main code	Sub code
ADF/RADF/UDH		Adjustment	Used to adjust the document stop position in each RADF operation mode.	53	1
			Used to adjust the document stop position in each RADF operation mode. Same as SIM 53-1, but without copying.		2
			Used to adjust the sensitivity (threshold level) of the photo sensor in the RADF.		3
		Operation test/check	Used to check the operation of the RADF unit and the control circuit.	2	1
			Used to check the operation of teh RADF unit sensors and detectors and the control circuit.		2
			Used to check the operation of the load in the RADF and the control circuit.		3
Sorter/Finisher			Used to check the operation of the sorter and the control circuit. (Note) This simulation is valid only in the *SF-S55N*.	3	1
			Used to check the operation of the sensors and detectors in the sorter and the control circuit.		2
Auditor			Used to check the auditor commander (EA-13) print test.	28	1
			Used to check the print test of the auditor commander (EA-13) printer. Check for missing of dots.		2
	Specifications/ Options	Setting	Used to set the auditor specification mode. Setting must be made according to the auditor using conditions.	26	3
	Adjust/Setting data	Operation data output/Check (Display/Print)	Used to print the set values and the adjustment values of all the simulations by using the auditor commander (SF-EA13). When servicing, print the set values and the adjustment values of all the simulations and store it for use in memory trouble orreplacement of PWB.	28	4
	User data (Record)	User data output/Check (Display/Print)	Used to print the list of all settings of the key operator program by using the auditor commander (SF-EA13).		3
Communication unit (TEL/LIU/MODEM etc.)	Specifications/ Operation mode	Setting	Used to set inhibition of copying with display of self diag (U7-00) in case of a communication trouble with the host computer/MODEM.	27	1
	Communication		Used to set and change the host computer/MODEM No. This setting is necessary for communication between the copy machine and the computer through the MODEM.		2
			Used to set or change the copy machine and the host computer/MODEM ID No. This setting is necessary for communication between the copier and a computer through the MODEM line.		3
			Used to input the service start time and the end time for servicing time management. This data can be checked by the host computer.		4
			Used to input the machine tag No. This function allows the host computer to check the machine tag No.		5
Others		Adjustment	Used to adjust the document size sensor detection level.	41	2
		Operation test/check	Used to check warm-up time and to check the operations of all the units and to make aging of copying. The operation of each section in copying can be checked.	7	1
			Used to check the warm-up time and the operation of all the units, and to perform aging of copying. The operation of each section during copying can be checked without paper.		2
			Used to check the operation of all the units. The operation of each section can be checked without paper ignoring the fusing temperature.		3
			Used to check the operation of all the units. The operation of each section can be checked ignoring the fusing temperature.		4
			Used to check warm-up time and the operations of all the units, and to perform copying intermittent aging. The operation of each section in copying can be checked.		6
			Used to check warm up time and the operations of all the units, and to perform copying intermittent aging. (without jam detection) The operation of each section in copying can be checked.		7
			Used to check the operation of the section except for the optical section and the toner concentration sensor. The toner concentration sensor output can be monitored.	25	1
			Used to check the operation of the sensors and detectors in the other section than the paper feed section of the copier. The operations of the paper feed section sensors and the detectors can be monitored by the LCD display section.	30	1
			Used to check the operation of the document size detector and the related circuit. The operation of the document size detector can be monitored with the LCD display.	41	1
			Used to check the operation of the document size sensor and the related circuit. The document size sensor output level and the detection threshold level can be monitored with the LCD display.		3

D. Item

Item	Section	Purpose	Content	Main code	Sub code
Picture quality	Optical (Image scaning/ Exposure)	Adjustment	Used to adjust the copy magnification ratio and the focus. The lens home position, the lens shift rate, No. 4/5 mirror base home position, and No. 4/5 mirror base shift rate are changed to adjust. Used to adjust the horizontal (paper transport direction) copy magnification ratio. The mirror scan speed (mirror motor rpm) is changed to adjust.	48	1
		Adjustment	Used to adjust the copy magnification ratio and the focus. Same as SIM 48-1, but without copying.	48	3
Picture quality/Density		Adjustment	Used to adjust the copy density (exposure) in each copy mode and the copy density gradient(exposure gradient). (Note) If sIM 44-1-D is set to valid, this simulation cannot be performed.	46	0
		Adjustment	Used to store the characteristics of the AE sensor and the optical section for changes in the copy lamp applying voltage. Based on the stored data and the document density, the exposure level in the auto copy mode is automatically determined.	47	0
Picture quality/Print area	Optical (Image scaning/ Exposure)	Adjustment	Used to adjust the copy image position and the void area (image loss) on the copy paper.	50	1
		Adjustment	Used to adjust the copy image position and the void area (image loss). (Simple adjustment) Same as SIM 50-1, but this simulation is just simple. When the set value of SIM 50-1 cannot be supposed, use this simple method, then execute SIM 50-1 to makemore precise adjustment.	50	2
		Adjustment	Used to input the adjustment value of the copy image position and the void area (image loss). Same as SIM 50-1, but without copying.	50	3
		Adjustment	Used to enter the adjustment value of the void area on the copy paper. Same as SIM 50-1, 50D and 50E, but without copying.	50	4
Specifications/ Destination		Setting	Used to set the destination.	26	6
Specifications/ Options		Setting	Used to program the option setting. When an option is installed, use this simulation for the option setting.	26	1
Specifications/ Options	Auditor	Setting	Used to set the auditor specification mode. Setting must be made according to the auditor using conditions.	26	3
Specifications/ Maintenance (Maintenance cycle)		Setting	Used to set the maintenance cycle.	21	1
Specifications/Count mode		Setting	Used to set the count mode of the total counter and the maintenance counter.	26	5
Specifications/ Operation mode		Setting	Used to set YES/NO of toner save function.	26	18
		Setting	Used to set whether the mode is shifted to the power shut down mode after a certain time from completion of copying or the mode is shifted to the setting of the power shut down mode after a certain time from turning on the power.	26	26
		Setting	Used to make additional setting of copy magnification ratios. Three kinds of magnification ratios can be added (registered or changed) to the standard magnification ratios.	26	28
Specifications/ Operation mode	Paper transport	Setting	Used to set the paper tray 1 paper size setting. When the paper tray 1 paper size is changed, the paper size of software must be also changed.	26	2
		Setting	Used to set enable/disable of sorter auto front take-out function in manual paper feed.Auto take-out function is enabled or disabled in the second circulation of the sorter tray when the next job is executed with the paper of the previous job remaining on the sorter tray.)	26	4
Specifications/ Operation mode	Image process (Photoconductor/ Developping/ Transfer/ Cleaning)	Setting	Used to set the main charger grid voltage correction, the optical unit correction, the OPC drum and toner concentration correction, and auto copy density adjustment.	44	1
Specifications/ Operation mode	Fixing (Fusing)	Setting	Used to set the fusing temperature of each copy mode.	43	1
Specifications/ Operation mode	Communication unit (TEL/LIU/MODEM etc.)	Setting	Used to set inhibition of copying with display of self diag (U7-00) in case of a communication trouble with the host computer/MODEM.	27	1

Item	Section	Purpose	Content	Main code	Sub code
Trouble/Mis-feed		Data clear	Used to clear the misfeed counter and the misfeed history of each unit. After completion of maintenance, clear the misfeed counter.	24	1
		Operation data output/Check (Display/Print)	Used to check the total misfeed positions and the number of misfeeds at each position of the machine and the RADF. If the number of misfeed is great, it is judged as necessary for repair. The misfeed rate is obtained by dividing this count value by thetotal counter value.	22	2
		Operation data output/Check (Display/Print)	Used to print the total number of misfeed and the misfeed history of the copier and the RADF by using the auditor commander (SF-EA13). If the number misfeed is great, it may be judged as necessary for repair. The misfeed rate is obtained by dividing thiscount value by the total counter value.	23	2
Trouble/Error		Data clear	Used to clear the trouble counter and the trouble history. After completion of maintenance, clear the misfeed counter.	24	2
		Clear/Release (Trouble etc.)	Used to cancel the self diag "U1" trouble.	13	0
		Clear/Release (Trouble etc.)	Used to cancel the general troubles other than self diag H3 and H4.	14	0
		Clear/Release (Trouble etc.)	Used to cancel the self diag "F3" trouble.	15	0
		Clear/Release (Trouble etc.)	Used to cancel the self diag "U2" trouble.	16	0
		Clear/Release (Trouble etc.)	Used to cancel the self diag "Pf" (inhibition of copying by the host computer).	17	0
		Operation data output/Check (Display/Print)	Used to check the total trouble (self diag) count and each trouble count. If the number of troubles is great, it is judged as necessary for repair. The trouble rate is obtained by dividing this count value by the total counter value. The troublehistory can be also checked.	22	3
		Operation data output/Check (Display/Print)	Used to print the total number of troubles (self diag) and the trouble history by using the auditor commander (SF-EA13). If the number of troubles is great, it may e judged as necessary for repair. The trouble rate is obtained by dividing this count valuvalue by the total counter value.	23	3
Software version (ROM/Driver etc.)/ROM		Others	Used to check the ROM version of each unit.	22	5
		Others	Used to print the ROM version of each unit by using the auditor commander (SF-EA13).	23	5
Counter/ Maintenance		Data clear	Used to reset the maintenance counter.	20	0
Counter/ADF/RADF/ UDH		Data clear	Used to clear the copy counter of the RADF unit. After completion of maintenance, clear the copy counter.	24	4
Counter/Staple		Data clear	Used to clear the copy counter of the stapler unit. After completion of maintenance, clear the copy counter.	24	5
Counter/Paper feed unit		Data clear	Used to clear the copy counter of the paper feed unit. After completion of maintenance, clear the copy counter.	24	6
Counter/Duplex		Data clear	Used to clear the copy counter of the duplex unit. After completion of maintenance, clear the copy counter.	24	3
Counter/Developer unit		Data clear	Used to reset the developer counter. The developer counter of the installed developing unit is reset.	42	0
Counter/Photo conductor		Data clear	Used to clear the OPC drum correction counter. Use this simulation when the OPC drum is replaced.	24	7
Counter/Others		Operation data output/Check (Display/Print)	Used to check the copy count value of each unit. Used to check the maintenance cycle.	22	1
		Operation data output/Check (Display/Print)	Used to print the copy count number of each counter by using the auditor commander (SF-EA13).	23	1
Adjust/Setting data	Auditor	Operation data output/Check (Display/Print)	Used to print the set values and the adjustment values of all the simulations by using the auditor commander (SF-EA13). When servicing, print the set values and the adjustment values of all the simulations and store it for use in memory trouble orreplacement of PWB.	28	4
Operation data (Machine condition)	Image process (Photoconductor/ Developping/ Transfer/ Cleaning)	Operation data output/Check (Display/Print)	Used to check the output level of the OPC drum mark sensor and the image density sensor.	44	7
Operation data (Machine condition)	Image process (Photoconductor/ Developping/ Transfer/ Cleaning)	Operation data output/Check (Display/Print)	Used to check the data on the main charger grid voltage correction. This simulation allows to check that the main charger grid voltage correction is performed correctly or not.	44	9

Item	Section	Purpose	Content	Main code	Sub code
User data (Record)		User data output/Check (Display/Print)	Used to display the key operator code. Use this simulation when the customer forgets the key operator code.	22	4
		User data output/Check (Display/Print)	Used to print the key operator code by using the auditor commander (SF-EA13). This is used when the customer forgets the key operator code.	23	4
User data (Record)	Auditor	User data output/Check (Display/Print)	Used to print the list of all settings of the key operator program by using the auditor commander (SF-EA13).	28	3
Communication	Communication unit (TEL/LIU/MODEM etc.)	Setting	Used to set and change the host computer/MODEM No. This setting is necessary for communication between the copy machine and the computer through the MODEM.	27	2
		Setting	Used to set or change the copy machine and the host computer/MODEM ID No. This setting is necessary for communication between the copier and a computer through the MODEM line.	27	3
		Setting	Used to input the service start time and the end time for servicing time management. This data can be checked by the host computer.	27	4
		Setting	Used to input the machine tag No. This function allows the host computer to check the machine tag No.	27	5

5. Details of simulations

(Operation)

1

```
SIMULATION NO.1
INPUT 1~4
 1.OPTICAL SYSTEM SCAN.
 2.OPTICAL SYSTEM SENSOR TEST.
 3.LENS TEST.
 4.LENS AGING TEST.
```

---

1 -1

Purpose	Operation test/check
Section	Optical (Image scaning/Exposure)
Item	
Function (Purpose)	Used to check the operation of the scanner unit and the control circuit.
Operation/ Procedure	Press the START button, and the scanning is performed at the speed corresponding to the currently set copy magnification ratio. The copy magnification ratio can be set voluntarily.
Note	

---

1 -2

Purpose	Operation test/check
Section	Optical (Image scaning/Exposure)
Item	
Function (Purpose)	Used to check the operation of the optical unit sensors and detectors and the control circuit.
Operation/ Procedure	ON/OFF of the optical unit sensors and detectors and the DC38V power state can be monitored with the LCD display. When active, it is highlighted.

```
SIMULATION NO.1-2
LHP,MBHP,RE,MHP,DC38V
```

Code	Name
LHP	Lens home position sensor
MBHP	No. 4/5 mirror home position sensor
RE	Mirror motor rotary encoder output
MHP	Mirror home position detector
DC38V	DC38V for the mirror motor

Note

1 -3	Purpose	Operation test/check
	Section	Optical (Image scaning/Exposure)
	Item	
	Function (Purpose)	Used to check te operation of the lens unit and the control circuit.
	Operation/ Procedure	The lens unit moves to the position of each copy magnification ratio shown below and stops there for about 1.0sec. The lens operation state (moving or stopped) and the copy magnification ratio corresponding to the lens stop position are displayed on the LCD display. [Inch series] 100% → 50% → 64% → 77% → 95% → 200% → 141% → 125% → 121% → 100% [AB series] 100% → 50% → 70% → 81% → 86% → 200% → 141% → 122% → 115% → 100% (Moving) SIMULATION NO.1-3 ONE LENS CARRIAGE CYCLE. Moving (Stopped) SIMULATION NO.1-3 ONE LENS CARRIAGE CYCLE. Stopped...
	Note	

1 -4	Purpose	Operation test/check
	Section	Optical (Image scaning/Exposure)
	Item	
	Function (Purpose)	Used to check the operation of the lens unit and the control circuit.
	Operation/ Procedure	The operation of SIM 1-3 is repeated continuously (aging). (Moving) SIMULATION NO.1-4 LENS PRESET. Moving (Stopped) SIMULATION NO.1-4 LENS PRESET. Preset stop...
	Note	

2

```
SIMULATION NO.2
INPUT 1~3
 1.RADF AGING TEST.
 2.RADF SENSOR TEST.
 3.RADF COMPONENT OPERATION TEST.
```

2 -1

Purpose: Operation test/check

Section: ADF/RADF/UDH

Item:

Function (Purpose): Used to check the operation of the RADF unit and the control circuit.

Operation/ Procedure: There are two operation modes as shown below, which ar selected with the 10-key pad. (The operation is performed without paper.) Press the START button to perform continuous operations of paper feed, paper transport, and paper exit.

1. Single mode
2. Duplex mode

```
SIMULATION NO.2-1
  1.1→1(1→2)
  2.2→1(2→2)
```

Note:

2 -2

Purpose: Operation test/check

Section: ADF/RADF/UDH

Item:

Function (Purpose): Used to check the operation of teh RADF unit sensors and detectors and the control circuit.

Operation/ Procedure: ON/OFF of the optical unit sensors and detectors can be monitored with the LCD display. When active, highlighted.

```
SIMULATION NO.2-2
 DSD  , DRS  , DTS  , RDD  , AUOD
 TGOD , DWS  , DLS1 , DLS2 , DWD1
 DWD2 , DWD3 , DWD4 , DWD5
```

Code	Name
DSD	Document presence sensor
DRS	Resist sensor
DTS	Timing sensor
RDD	Repulsion sensor
AUOD	RADF open/close sensor
TGOD	Reversing section cover open/close sensor
DWS	Document width sensor
DLS1	Document length sensor (large size)
DLS2	Document length sensor (small size)
DWD1	Document width sensor (182mm)
DWD2	Document width sensor (210/215.9mm)
DWD3	Document width sensor (257mm)
DWD4	Document width sensor (279.4mm)
DWD5	Document width sensor (297mm)

Note:

2 -3 Purpose: Operation test/check

Section: ADF/RADF/UDH

Item:

Function (Purpose): Used to check the operation of the load in the RADF and the control circuit.

Operation/ Procedure: When the code of the load in the RADF to be checked with the 10-key pad, the code is displayed on the COPIES MADE display. After selection of the load, press the START button to operate the load.
During execution, the motor keeps rotating. The clutch and the solenoid operates only once.

```
SIMULATION NO.2-3
  1..A-MOTOR FORWARD.
  2..A-MOTOR REVERSE.
  3..B-MOTOR FORWARD.
  4..B-MOTOR REVERSE.
  5..C-MOTOR HIGH-SPEED.
  6..C-MOTOR LOW-SPEED.
  7..BRAKE CLUTCH.
  8..DOCUMENT STOPPER SOLENOID.
  9..FLAPPER SOLENOID.
```

Code	Symbol	Name
1	A-MOTOR FORWARD.	Paper feed motor forward rotation
2	A-MOTOR REVERSE.	Paper feed motor reverse rotation
3	B-MOTOR FORWARD.	Transport motor forward rotation
4	B-MOTOR REVERSE.	Transport motor reverse rotation
5	C-MOTOR HIGH-SPEED.	Paper exit/reversing section motor forward rotation
6	C-MOTOR LOW-SPEED.	Paper exit/reversing section motor reverse rotation
7	BRAKE CLUTCH.	Brake clutch
8	DOCUMENT STOPPER SOLENOID.	Document stopper solenoid
9	REVERSE. SOLENOID	Reverse solenoid

Note:

3

```
SIMULATION NO.3
INPUT 1~2
  1.SORTER OPERATION TEST.
  2.SORTER SENSOR TEST.
```

3 -1 Purpose: Operation test/check

Section: Sorter/Finisher

Item:

Function (Purpose): Used to check the operation of the sorter and the control circuit.
(Note) This simulation is valid only in the *SF-S55N.*

Operation/ Procedure: While the sorter is lifted up from the bottom, sorting is performed. When the sorter reaches the top, it falls. Sorting is performed during it falls.
The above operation is repeated twice, then the multi guide and the push bar operate to push out the paper.
The above procedures are repeated.

Note:

3 -2 | Purpose | Operation test/check

Section | Sorter/Finisher

Item |

Function (Purpose) | Used to check the operation of the sensors and detectors in the sorter and the control circuit.

Operation/ Procedure | ON/OFF state of the sensors and detectors in the sorter can be monitored with the LCD display. (Differs depending on the sorter model.)
When active, highlighted.

```
SIMULATION NO.3-2
SF-S55N
DROPN ,JNTS  ,FGUP  ,NSPEXT,SPEXT
FGHP  ,OSBPD ,SWHP  ,SWGP  ,HLD
SEBL  ,MVHP  ,MGHP  ,GWHP  ,PBHP
GBHP  ,BPD1  ,BPD2  ,BHP   ,LDP
HKEMP ,SPLHP ,SPD   ,S_5V  ,S_24V
DIPSW0,DIPSW1,DIPSW2,DIPSW3,DIPSW4
DIPSW5,DIPSW6,DIPSW7
```

(When sensed, highlighted.)

Code	Name
DROPN	Door sensor
JNTS	Joint sensor
FGUP	Transport guide up sensor
NSPEXT	Non-sort paper sensor
SPEXP	Sort paper sensor
FGHP	Transport guide home position sensor
OSBPD	Bin outside paper sensor
SWHP	Staple unit oscillation home position sensor
SWGP	Staple oscillating unit position sensor
HLD	Staple unit direction sensor
SEBL	Staple unit shift position sensor (stapling position)
MBHP	Staple unit shift position sensor (home position)
MGHP	Multi guide home position sensor
GWHP	Reference wall home position sensor
PBHP	Push bar home position sensor
GBHP	Guide bar home position sensor
BPD1	Bin unit inside paper sensor (bin center)
BPD2	Bin unit inside paper sensor (bin front side)
BHP	Bin unit home position sensor
LDP	Lead cam position sensor
HKEMP	Staple presence sensor
SPLHP	Stapling home position sensor
SPD	Stapler inside paper sensor
S 5V	5V power down sensor
S 24V	24V power supply
DIPSW0	DIP switch 0 state
DIPSW1	DIP switch 1 state
DIPSW2	DIP switch 2 state
DIPSW3	DIP switch 3 state
DIPSW4	DIP switch 4 state
DIPSW5	DIP switch 5 state
DIPSW6	DIP switch 6 state
DIPSW7	DIP switch 7 state

Note |

5

```
SIMULATION NO.5
INPUT 1~4
 1.ALL LED/LCD TEST.
 2.HEATER LAMP TEST.
 3.COPY LAMP TEST.
 4.DL/BL TEST.
```

5 -1	Purpose	Operation test/check
	Section	Operation (Display/Operation key)
	Item	
	Function (Purpose)	Used to check the operation of the operation display lamps and the LCD and the control circuit.
	Operation/ Procedure	All the display lamps and LCD's on the operation panel are lighted for 60 sec.
	Note	

5 -2	Purpose	Operation test/check
	Section	Fixing (Fusing)
	Item	
	Function (Purpose)	Used to check the operation of the heater lamp and the control circuit.
	Operation/ Procedure	The heater lamp repeats operation of ON for 500ms and OFF for 500ms 10 times.
	Note	

5 -3	Purpose	Operation test/check
	Section	Optical (Image scaning/Exposure)
	Item	
	Function (Purpose)	Used to check the operation of the copy lamp and the control circuit.
	Operation/ Procedure	The copy lamp is lighted for 20 sec in the set copy mode (manual or photo mode) and at the set exposure level (copy density). At the time, the copy lamp applying voltage is displayed on the COPIES MADE display. The displayed value x 0.1 = Actual copy lamp applying voltage In the 200V series, the displayed value x 0.2 = actual copy lamp applying voltage. During this simulation, the fusing section fan motor, the optical fan motor, and the image forming section fan motor are turned on.
	Note	

5 -4	Purpose	Operation test/check
	Section	Image process (Photoconductor/Developping/Transfer/Cleaning)
	Item	
	Function (Purpose)	Used to check the operation of the discharge lamp and the blank lamp and the control circuit.
	Operation/ Procedure	The blank lamps are lighted from the rear frame side to the front frame side sequentially, and all the lamps are lighted for 1 sec. Then they are turned off from the rear frame side to the front frame side. At that time, the discharge lamp is lighted.
	Note	

6

```
SIMULATION NO.6
INPUT 1~3
 1.SOLENOID/CLUTCH OPERATION TEST.
 2.FAN MOTOR OPERATION TEST.
 3.PAPER TRAY OPERATION TEST.
```

6 -1

Purpose

Operation test/check

Section

Paper transportation (Discharge/Switchback/Transport)

Item

Function (Purpose)

Used to check the operation of the paper transport system clutch and solenoid and the control circuit.

Operation/ Procedure

Enter the number corresponding to the load operation with the 10-key pad and press the START button to start the operation.
Pressing the interruption key stops the continuous operation. Pressing the interruption key again allows selection of the other loads.
With the clutch and the solenoid, the motor is turned on at the same time.

```
SIMULATION NO.6-1
SELECT COPIER SOLENOID/CLUTCH
 1.PSPS      2.DGS1      3.DGS2      4.HRS
 5.MPFS      6.MPFC      7.CPFS      8.CPFC
 9.TBC1     10.TBC2     11.TBC3     12.DBC
13.TRC1     14.TRC2     15.DTRC     16.DTTC
17.DFSS     18.PSBRK    19.FUSM11   20.MSWRES
21.RRC
```

1	PSPS	Separation solenoid
2	DGS1	Duplex gate solenoid
3	DGS2	Switchback gate solenoid
4	HRS	Fusing drive clutch solenoid
5	MPFS	Manual paper feed clutch solenoid
6	MPFC	Manual paper feed clutch
7	CPFS	Cassette paper feed clutch solenoid
8	CPFC	Cassette paper feed clutch
9	TBC1	Paper feed belt clutch 1
10	TBC2	Paper feed belt clutch 2
11	TBC3	Paper feed belt clutch 3
12	DBC	Duplex paper feed belt clutch
13	TRC1	Transport roller clutch 1
14	TRC2	Transport roller clutch 2
15	DTRC	Switchback transport roller clutch
16	DTTC	Duplex transport roller clutch
17	DFSS	Duplex paper stopper solenoid
18	PSBRK	Resist roller brake clutch
19	FUSM1	Fusing motor
20	MSWRES	Main SW OFF solenoid
21	RRC	Resist roller clutch

Note

6 -2

Purpose	Operation test/check
Section	Paper transport
Item	
Function (Purpose)	Used to check the operation of each air paper feed section and the control circuit.
Operation/ Procedure	Enter the code corresponding to each load and press the START button to start the operation. Pressing the interruption key stops the continuous operation. Pressing the interruption key again allows to select the other load.

```
SIMULATION NO.6-2
INPUT 1~6
  1.TRAY1    (TVVS1,TBS1,TVFM,TBFM)
  2.TRAY2    (TVVS2,TBVS2,TVFM,TBFM)
  3.TRAY3    (TVVS3,TBVS3,TVFM,TBFM)
  4.DUPLEX   (DVVS,TVFM,TBFM,DBFM)
  5.FAN ONLY(TVFM,TBFM,DBFM)
  6.ALL FAN ON
```

Name	Content
TVVS1	Tray 1 suction valve solenoid
TBVS1	Tray 1 blower valve solenoid
TVVS2	Tray 2 suction valve solenoid
TBVS2	Tray 2 blower valve solenoid
TVVS3	Tray 3 suction valve solenoid
TBVS3	Tray 3 blower valve solenoid
DVVS	Duplex suction valve solenoid
TVFM	Suction fan motor
TBFM	Blower fan motor
DBFM	Duplex blower fan motor

Note	

6 -3

Purpose: Operation test/check

Section: Paper transport

Item:

Function (Purpose): Used to check the operation of the sensors and detectors and the control circuit of paper cassette.

Operation/ Procedure: Each tray falls to the lower limit detecting position and then rises. If there is any paper on the tray, the tray stops when the paper is detected. If there is no paper on the tray, the tray rises up until the upper limit is detected, and then stops.
The ON/OFF state of the sensors and the detectors in the paper tray section can be monitored on the LCD display. When active, the display is highlighted.

```
SIMULATION NO.6-3
 MFT : MPED, MPSD1,MPSD2
TRAY1: TCD1, TLD1, TUD1, TPED1,TPTD1
       TSW1
TRAY2: TCD2, TLD2, TUD2, TLMD2,TPTD2
       TSW2, PS21, PS22, PS23, PS24R
       PS25, PS26
TRAY3: TCD3, TLD3, TUD3, TLMD3,TPTD3
       TSW3, PS31, PS32, PS33, PS34
       PS35, PS36
 CAS4: CSD,  CLUD, CPED
```

(When detected, the display is highlighted.)

Paper feed tray	Name	Content
Manual paper feed tray	MPED	Paper empty detector
	MPSD1	Paper length detector
	MPSD2	Paper length detector 2
Paper feed tray 1	*TPED1*	*Tray paper empty detector (1)*
Paper feed trays 1~3	TCDn	Tray set detector
	TLDn	Tray lower limit detector
	TUDn	Tray paper empty detector *(2/3)*
	TUD1	*Tray paper limit detector (1)*
	TLMDn	Tray upper limit detector *(2/3)*
	TPTDn	Tray PT detector
	TSWn	Tray switch
Paper feed trays 2, 3	PSn1 PSn6	Tray paper side detectors 1~6
Paper feed cassette	CSD	Installation detector
	CLUD	Lift detector
	CPED	Paper empty detector

No. 2/3 paper feed tray size detection

	PSn1	PSn2	PSn3	PSn4	PSn5	PSn6 (Length)	Remark
11 x 17	–	–	–	–	o	–	
8.5 x 14	o	–	–	–	–	–	Only when set to the inch series legal 8,5 x 14".
8.5 x 11	–	–	–	–	o	o	
8.5 x 11R	o	–	–	–	–	o	
A3	–	–	o	–	–	–	
B4	–	o	–	–	–	–	
A4	–	–	o	–	–	o	
B5	–	o	–	–	–	o	
A4R	o	–	–	–	–	o	AB series only
B5R	–	–	–	o	–	o	
8.5 x 13	o	–	–	–	–	–	When set to Australia/inch series legal 13 x 8.5"

Note:

7

```
SIMULATION NO.7
INPUT 1~7
 1.COPY AGING TEST.
 2.COPY AGING TEST,(NO MISFEED
   DETECTION)
 3.COPY AGING TEST,(NO MISFEED
   DETECTION,WARM UP,TEMPERATURE
   CONTROL)
 4.COPY AGING TEST WITHOUT WARM UP
 5.IMAGE PROCESS SECTION OPERATION TEST.
 6.COPY AGING INTERMITTENTLY
 7.COPY AGING INTERMITTENTLY
   (NO MISFEED DETECTION)
```

7 -1

Purpose	Operation test/check
Section	Others
Item	
Function (Purpose)	Used to check warm-up time and to check the operations of all the units and to make aging of copying. The operation of each section in copying can be checked.
Operation/ Procedure	When this simulation is executed, the machine starts warming up. The warming up time is counter second by second and displayed on the LCD display. When the machine enters the ready state, counting is stopped and the count display is also stopped (the display is kept unchanged). Press the CA (clear all) key once and enter the copy quantity, and press the START button, and copying of the set copy quantity is repeated.
Note	

7 -2

Purpose	Operation test/check
Section	Others
Item	
Function (Purpose)	Used to check the warm-up time and the operation of all the units, and to perform aging of copying. The operation of each section during copying can be checked without paper.
Operation/ Procedure	Same as SIM 7-1, but without paper. Even if paper is used in this simulation, paper jams are ignored. In this case, however, the paper detector must be turned on forcibly.
Note	

7 -3

Purpose	Operation test/check
Section	Others
Item	
Function (Purpose)	Used to check the operation of all the units. The operation of each section can be checked without paper ignoring the fusing temperature.
Operation/ Procedure	Same as SIM 7-1, but the operation can be made without paper and even though the fusing temperature is not in the specified range. When paper is used, paper jam and fusing trouble are ignored. At that time, the paper detector must be turned on forcibly. During this simulation, the heater lamp does not turned on.
Note	

7 -4	Purpose	Operation test/check
	Section	Others
	Item	
	Function (Purpose)	Used to check the operation of all the units. The operation of each section can be checked ignoring the fusing temperature.
	Operation/ Procedure	The machine enters the ready state without warming up. Then the operation same as SIM 7-1 is performed. When the fusing temperature is not in the specified range, the self diag function operates.
	Note	

7 -5	Purpose	Operation test/check
	Section	Image process (Photoconductor/Developping/Transfer/Cleaning)
	Item	
	Function (Purpose)	Used to check the operation of the image forming section and the control circuit.
	Operation/ Procedure	The OPC drum, the charger unit, the blank lamps, the discharge lamp, and the developing unit are turned on for 30 sec, and the OPC drum and the developing unit are rotated. MC grid voltage (-578V), transfer charger current (-358μA), separation charger voltage (289V), developing bias voltage (203V)
	Note	

7 -6	Purpose	Operation test/check
	Section	Others
	Item	
	Function (Purpose)	Used to check warm-up time and the operations of all the units, and to perform copying intermittent aging. The operation of each section in copying can be checked.
	Operation/ Procedure	Intermittent aging operation is added to the operations of SIM 7-1. The interval time can be voluntarily set in the range of 1~900sec. SIMULATION NO.7-n INPUT INTERVAL TIME. (1~900SEC) (n=6/7)
	Note	

7 - 7	Purpose	Operation test/check
	Section	Others
	Item	
	Function (Purpose)	Used to check warm up time and the operations of all the units, and to perform copying intermittent aging. (without jam detection) The operation of each section in copying can be checked.
	Operation/ Procedure	Intermittent aging operation is added to the operations of SIM 7-1. The interval time can be voluntarily set in the range of 1~900sec.
	Note	

8

```
SIMULATION NO.8
INPUT 1~7
  1.DEVELOPING BIAS VOLTAGE TEST.
  2.MAIN CHARGER VOLTAGE TEST.
  3.(NO PROGRAM)
  4.(NO PROGRAM)
  5.PRE-TRANSFER CHARGER VOLTAGE TEST.
  6.TRANSFER CHARGER VOLTAGE TEST.
  7.SEPARATION CHARGER VOLTAGE TEST.
```

8 - 1	Purpose	Adjustment/Operation test/check
	Section	Image process (Photoconductor/Developping/Transfer/Cleaning)
	Item	
	Function (Purpose)	Used to check and adjust the developing bias voltage and its control circuit.
	Operation/ Procedure	When this simulation is executed, the currently set value is displayed on the COPIES MADE display and the developing bias voltage is outputted for 30 sec. The adjustment value range is 3~56. If a value outside the range is set, the output voltage is not changed. The adjustment is possible roughly in the range of –51V to –350V. When the set value is changed by 1, the output voltage is changed by about 6V. Adjustment voltage = 200 ±5V
	Note	

```
SIMULATION NO.8-1
DEVELOPING BIAS VOLTAGE TEST.
```

8 -2

Purpose	Adjustment/Operation test/check
Section	Image process (Photoconductor/Developping/Transfer/Cleaning)
Item	
Function (Purpose)	Used to adjust the main charger grid voltage in each copy mode and to check its control circuit operation.
Operation/ Procedure	When this simulation is executed, the currently set value is displayed on the COPIES MADE display. The copy mode is selected with the scroll key. Enter the adjustment value and press the START key to set the value and output the main charger voltage of the selected copy mode for 30 sec. The adjustment range is 200~999. If the value outside the range is set, the output voltage is not changed. The adjustment of –200V to –999V is possible. When the set value is changed by 1, the output voltage is changed by about 1.0V.

```
SIMULATION NO.8-2
MAIN HIGH VOLTAGE UNIT TEST.
     >08A  (200~999) : nnn [NORMAL]
      08B  (200~999) : nnn [PHOTO]
      08C  (200~999) : nnn [TONER SAVE]
```

nn: Set value (The selected set value is highlighted.)

CODE	Exposure mode	Default
08A	AE/MANUAL	750
08B	PHOTO	490
08C	TONER SAVE	645

Note

8 -5

Purpose	Adjustment/Operation test/check
Section	Image process (Photoconductor/Developping/Transfer/Cleaning)
Item	
Function (Purpose)	Used to check and adjust the pre-transfer discharge charger current and its control circuit.
Operation/ Procedure	The pre-transfer discharge charger voltage is outputted for 30 sec. Turn the high voltage unit PWB PTC adjustment voltage to adjust. Adjustment voltage = 15±3μA

```
SIMULATION NO.8-5
PRE-TRANSFER CHARGER VOLTAGE TEST.
```

Note

8 -6	Purpose	Adjustment/Operation test/check
	Section	Image process (Photoconductor/Developping/Transfer/Cleaning)
	Item	
	Function (Purpose)	Used to check and adjust the transfer charger current and its control circuit.
	Operation/ Procedure	When this simulation is executed, the currently set value is displayed on the COPIES MADE display and the transfer charger is outputted for 30 sec. The adjustment range is 11~56. If a value outside the range is set, the output voltage is not changed.*(-14~-75μA)* When the set value is changed by 1, the output current is changed by about 1.35μA. Adjustment current = –55 ±5μA SIMULATION NO.8–6 TRANSFER *CHARGER* VOLTAGE TEST.
	Note	

8 -7	Purpose	Adjustment/Operation test/check
	Section	Image process (Photoconductor/Developping/Transfer/Cleaning)
	Item	
	Function (Purpose)	Used to check and adjust the separation charger voltage and its control circuit.
	Operation/ Procedure	When this simulation is executed, the currently set value is displayed on the COPIES MADE display and the transfer charger is outputted for 30 sec. The adjustment range is 18~56. If a value outside the range is set, the output current is not changed. When the set value is changed by 1, the output voltage is changed by about 16V.*(100~-700)* Adjustment voltage = 440 ±30V SIMULATION NO.8–7 SEPARATION *CHARGER* VOLTAGE TEST.
	Note	

9

```
SIMULATION NO.9
INPUT 1~4
  1.(NO PROGRAM)
  2.(NO PROGRAM)
  3.ADU BACK STOP GUIDE AGING.
    (V.ALIGNMENT PLATE OPERATION TEST(ADU)
  4.ADU WIDTH GUIDE AGING.
    (H.ALIGNMENT PLATE OPERATION TEST(ADU)
```

---

9 -3

Purpose	Operation test/check
Section	Duplex
Item	
Function (Purpose)	Used to check the operation of the duplex unit rear edge (traverse (paper transport direction) alignment) plate and the control circuit.
Operation/ Procedure	Enter the number corresponding to the paper size with the 10-key pad, and press the START button. The traverse (paper transport direction) alignment plate repeats alignment of paper. (The alignment plate reciprocates between the alignment plate home position and the stop position corresponding to the selected paper size.) Press the interruption key stop the operation.

```
SIMULATION NO.9-3
H.ALIGNMENT PLATE OPERATION TEST(ADU)(AGING)
1.11 x 17            7.A4
2.8-1/2 x 11         8.B4
3.8-1/2 x 14         9.B5
4.8-1/2 x 13        10.A4R
5.8-1/2 x 11R       11.B5R
6.A3                12.A5
```

Note	

---

9 -4

Purpose	Operation test/check
Section	Duplex
Item	
Function (Purpose)	Used to check the operation of the duplex unit longitudinal (paper width direction) alignment plate and the control circuit.
Operation/ Procedure	Enter the number corresponding to the paper size with the 10-key pad, and press the START button. The longitudinal (paper width direction) alignment plate repeats alignment of paper. (The alignment plate reciprocates between the alignment plate home position and the stop position corresponding to the selected paper size.) Press the interruption key stop the operation.

```
SIMULATION NO.9-4
ADU (REAR EDGE VERTICAL ALIGNMENT PLATE)
OPERATION TEST(AGING)
1.8-1/2 x 11 / 11 x 17
2.8-1/2 x 14 / 8-1/2 x 13 / 8-1/2 x 11R
3.A4 / A3
4.B5 / B4
5.A5 / A4R
6.B5R
```

Note	

10

```
SIMULATION NO.10
 TONER MOTOR OPERATION.
 ARE YOU SURE ?
 1. YES          2.NO
```

10 - 0	Purpose	Operation test/check
	Section	Image process (Photoconductor/Developping/Transfer/Cleaning)
	Item	
	Function (Purpose)	Used to check the operation of the toner motor and the control circuit.
	Operation/ Procedure	Enter the number to execute the simulation with the 10-key pad, and press the START button. The toner motor is turned on for 30sec. (Note) Do not execute this simulation with toner in the toner hopper. If executed, excessive toner enters the developing unit, resulting in overtoner. Be sure to remove the toner motor from the toner hopper before executing this simulation.
	Note	

13

13 - 0	Purpose	Clear/Release (Trouble etc.)
	Section	
	Item	Trouble/Error
	Function (Purpose)	Used to cancel the self diag "U1" trouble.
	Operation/ Procedure	After canceling the trouble, the simulation is automatically canceled.
	Note	

14

14 - 0	Purpose	Clear/Release (Trouble etc.)
	Section	
	Item	Trouble/Error
	Function (Purpose)	Used to cancel the general troubles other than self diag H3 and H4.
	Operation/ Procedure	After canceling the trouble, the simulation is automatically canceled.
	Note	

15

```
SIMULATION NO.15
TRAY1:**  TRAY2:**  TRAY3:**
TROUBLE CODE
00:NO TROUBLE
01:PT DISK TROUBLE
02:TRAY UP TROUBLE
04:TRAY DOWN TROUBLE
```

15 -0	Purpose	Clear/Release (Trouble etc.)
	Section	
	Item	Trouble/Error
	Function (Purpose)	Used to cancel the self diag "F3" trouble.
	Operation/ Procedure	The trouble code corresponding to the trouble content is displayed. Press the START button to cancel the trouble. When the trouble is canceled, this simulation is also canceled automatically.
	Note	

16

16 -0	Purpose	Clear/Release (Trouble etc.)
	Section	
	Item	Trouble/Error
	Function (Purpose)	Used to cancel the self diag "U2" trouble.
	Operation/ Procedure	After canceling the trouble, the simulation is automatically canceled.
	Note	

17

17 -0	Purpose	Clear/Release (Trouble etc.)
	Section	
	Item	Trouble/Error
	Function (Purpose)	Used to cancel the self diag "Pf" (inhibition of copying by the host computer).
	Operation/ Procedure	After canceling the trouble, the simulation is automatically canceled.
	Note	

20

20 -0

Purpose	Data clear
Section	
Item	Counter/Maintenance
Function (Purpose)	Used to reset the maintenance counter.
Operation/ Procedure	Enter the code number of execution YES, the maintenance counter is reset.
Note	

```
SIMULATION NO.20
MAINTENANCE COUNTER CLEAR
MAINTENANCE COUNTER
ARE YOU SURE ?
1.YES          2.NO
```

21

```
SIMULATION NO.21
INPUT 1~2
 1.MAINTENANCE CYCLE SETTING.
 2.(NO PROGRAM)
```

21 -1

Purpose	Setting
Section	
Item	Specifications/Maintenance (Maintenance cycle)
Function (Purpose)	Used to set the maintenance cycle.
Operation/ Procedure	When this simulation is executed, the currently set maintenance cycle code is displayed on the COPIES MADE display. Enter the code number corresponding to the maintenance cycle to be selected, and press the START button to set.
Note	

```
SIMULATION NO.21-1
SELECT MAINTENANCE CYCLE(0~2)
0.NONE     1.125K      2.250K
```

If the maintenance cycle set code is 1 or 2, the following message is displayed to show the maintenance timing when the number of copies made reaches the specified value.

```
READY TO COPY
Maintenance code:*
```

* Maintenance code

The relationship between the maintenance code and the simulation set value in the above table is shown in the table below.

SIM 21 set value	Maintenance cycle		Maintenance code
	EX	Japan	
0	NONE	NONE	-
1	125K	100K	A
2	250K	200K	B

22

```
SIMULATION NO.22
INPUT 1~5
  1.COUNTER DATA DISPLAY.
  2.JAM COUNTER DATA DISPLAY.
  3.ERROR COUNTER DATA DISPLAY
  4.KEY OPERATOR CODE DISPLAY.
  5.ROM VERSION DATA DISPLAY.
```

---

22 -1

Purpose	Operation data output/Check (Display/Print)
Section	
Item	Counter/Others
Function (Purpose)	Used to check the copy count value of each unit. Used to check the maintenance cycle.
Operation/ Procedure	The twelve counters in total can be displayed on the LCD display. There are two screens for this simulation; one screen displays 6 counters. Selection of the screens is made with the scroll key. *n: Count value (Can be reset by SIM 24.)* *m: Total count value*

```
SIMULATION NO.22
TOTAL       :nn,nnn,nnn
MAINTENANCE:nn,nnn,nnn
COPIES      :nn,nnn,nnn
DEVELOPER   :nn,nnn,nnn
RADF        :nn,nnn,nnn mm, mmm, mmm
STAPLER     :nn,nnn,nnn mm, mmm, mmm
                                    1/2→
```

↓Scroll key ON↑

```
SIMULATION NO.22-1
BYPASS   :nn,nnn,nnn mm, mmm, mmm
TRAY 1   :nn,nnn,nnn mm, mmm, mmm
TRAY 2   :nn,nnn,nnn mm, mmm, mmm
TRAY 3   :nn,nnn,nnn mm, mmm, mmm
CASSETTE:nn,nnn,nnn mm, mmm, mmm
DUPLEX   :nn,nnn,nnn mm, mmm, mmm
                                    2/2→
```

Note	

22 -2

Purpose	Operation data output/Check (Display/Print)
Section	
Item	Trouble/Mis-feed
Function (Purpose)	Used to check the total misfeed positions and the number of misfeeds at each position of the machine and the RADF. If the number of misfeed is great, it is judged as necessary for repair. The misfeed rate is obtained by dividing this count value by thetotal counter value.
Operation/ Procedure	On the first screen, select between the machine and the RADF with the 10-key pad and press the START button. The total number of misfeed of the selected unit is displayed.

```
SIMULATION NO.22
SELECT JAM COUNTER (1~2)
 1.MACHINE        2.RADF
```

When a misfeed occurs next, press "*" key, and the new misfeed position is displayed sequentially. The oldest history is deleted in sequence, and max. *260* histories are always stored. One screen displays max. 10 histories. If there are more than 10 histories, press the scroll key to go to the next screen.

```
SIMULATION NO.22-2
TOTAL MACHINE(RADF)JAM:**,***,***←(TOTAL JAM COUNT)
```

(Jam position) ↓[*] key ON

```
*****,*****,*****,*****,*****
*****,*****,*****,*****,*****
                  1/* ← (MAX DISPLAY SCREEN)
```

↓[SCROLL] KEY ON

```
*****,*****,*****,*****,*****
*****,*****,*****,*****,*****
                  2/*
```

↓[SCROLL] KEY ON

Not highlighted: Not-reahed misfeed
Highlighted: Remaining misfeed

Note	

22 -3

Purpose: Operation data output/Check (Display/Print)

Section:

Item: Trouble/Error

Function (Purpose): Used to check the total trouble (self diag) count and each trouble count.
If the number of troubles is great, it is judged as necessary for repair. The trouble rate is obtained by dividing this count value by the total counter value.
The troublehistory can be also checked.

Operation/ Procedure: On the first screen, press the START button. The total number of troubles is displayed.

```
SIMULATION NO. 22-3
TOTAL ERRORS:**,***,*** ←(TOTAL ERROR COUNT) --- 1
```

(Trouble code) ↓[*] key ON

```
****,****,****,****,****
****,****,****,****,****
                1/* ← (MAX NO. OF DISPLAY SCREENS)
```

↓[SCROLL] KEY ON

```
****,****,****,****,****
****,****,****,****,****
                2/*
```

↓[SCROLL] KEY ON

When a trouble occurs next, press "*" key, and the latest trouble codes (self diag) are displayed. The oldest history is deleted in sequence, and max. *130* histories are always stored. One screen displays max. 10 histories. If there are more than 10 histories, press the scroll key to go to the next screen.

Note:

22 -4

Purpose: User data output/Check (Display/Print)

Section:

Item: User data (Record)

Function (Purpose): Used to display the key operator code.
Use this simulation when the customer forgets the key operator code.

Operation/ Procedure:

(Note) Though this simulation is used when the customer forgets the key operator code, do not let the customer know this simulation.

```
SIMULATION NO.22-4
KEY OPERATOR CODE:*****
```

Note:

22 -5

Purpose	Others
Section	
Item	Software version (ROM/Driver etc.)/ROM
Function (Purpose)	Used to check the ROM version of each unit.
Operation/ Procedure	The ROM version of each unit is displayed.

```
SIMULATION NO.22-5
MAIN:Vnnnn          MIRROR:Vnnnn
OPE  :Vnnnn         SORTER:Vnnnn
DATA:Vnnnn(ccc)     RADF   :Vnnnn
```

nnnn: ROM version
ccc: language

ENG	English
JPN	Japanese
GER	German
FRN	French
DUT	Dutch
SPN	Spanish
ITA	Italian
KOR	Korean
SW	*Swedish*

Note

23

```
SIMULATION NO.23
INPUT 1~5
  1.COUNTER DATA PRINTOUT.
  2.JAM COUNTER DATA PRINTOUT.
  3.ERROR COUNTER DATA PRINTOUT.
  4.KEY OPERATOR CODE PRINTOUT.
  5.ROM VERSION PRINTOUT.
```

23 -1

Purpose: Operation data output/Check (Display/Print)

Section:

Item: Counter/Others

Function (Purpose): Used to print the copy count number of each counter by using the auditor commander (SF-EA13).

Operation/ Procedure: When this simulation is executed, the following massage is displayed on the LCD display.
Press the START/STOP key of the auditor commander (SF-EA13), the total copy count and *the each unit toral copy count and* the each unit copy count are printed out.

(*)The copy count can be reset by SIM 24.

```
SIMULATION NO.23-1
PUSH THE START/STOP KEY ON THE COUNTER
COMMANDER.
```

```
 TOTAL       :nn,nnn,nnn
 MAINTENANCE:nn,nnn,nnn
 COPIES      :nn,nnn,nnn
 DEVELOPER   :nn,nnn,nnn
*RADF        :nn,nnn,nnn
(TOTAL)      :nn,nnn,nnn
*STAPLER     :nn,nnn,nnn
(TOTAL)      :nn,nnn,nnn
*DUPLEX UNIT:nn,nnn,nnn
(TOTAL)      :nn,nnn,nnn
*BYPASS TRAY:nn,nnn,nnn
(TOTAL)      :nn,nnn,nnn
*TRAY1       :nn,nnn,nnn
(TOTAL)      :nn,nnn,nnn
*TRAY2       :nn,nnn,nnn
(TOTAL)      :nn,nnn,nnn
*TRAY3       :nn,nnn,nnn
(TORAL)      :nn,nnn,nnn
*CASSETTE    :nn,nnn,nnn
(TOTAL)      :nn,nnn,nnn
```

Note:

23 -2

Purpose	Operation data output/Check (Display/Print)
Section	
Item	Trouble/Mis-feed
Function (Purpose)	Used to print the total number of misfeed and the misfeed history of the copier and the RADF by using the auditor commander (SF-EA13). If the number misfeed is great, it may be judged as necessary for repair. The misfeed rate is obtained by dividing thiscount value by the total counter value.
Operation/ Procedure	On the first menu screen, select between the copier and the RADF with the 10-key pad, and press the START button. Then press the START/STOP button of the auditor commander (SF-EA13). The total number of misfeed and the misfeed history of the selected unit are printed out. The misfeed history shows the misfeed positions in the sequence from the latest to older. The oldest one is sequentially deleted, and the max. latest *256* misfeeds are always stored, which are printed.

```
SIMULATION NO.23-2
SELECT JAM COUNTER.(1~2)
 1.MACHINE        2.RADF
```

```
SIMULATION NO.23-2
PUSH THE START/STOP KEY ON THE COUNTER
COMMANDER.
```

```
TOTAL MACHINE(RADF)JAM:
                nn,nnn,nnn
***** ***** ***** ***** *****
***** ***** ***** ***** *****
***** ***** ***** ***** *****
***** *****
```

*With * mark: Remaining misfeed*
*Without * mark: Not-reached misfeed*

Note	

23 -3

Purpose	Operation data output/Check (Display/Print)
Section	
Item	Trouble/Error
Function (Purpose)	Used to print the total number of troubles (self diag) and the trouble history by using the auditor commander (SF-EA13). If the number of troubles is great, it may e judged as necessary for repair. The trouble rate is obtained by dividing this count valuvalue by the total counter value.
Operation/ Procedure	Perform the key operation of the simulation, press the START/STOP button of the auditor commander (SF-EA13). The total number of troubles and the trouble history are printed out. The trouble history shows the trouble codes in the sequence of the latest one to older. The oldest one is deleted and always max. *128* latest troubles are recorded, which are printed.

```
SIMULATION NO.23-3
PUSH THE START/STOP KEY ON THE COUNTER
COMMANDER.
```

```
TOTAL ERRORS:
                nn,nnn,nnn
**/** **/** **/** **/**
**/** **/** **/** **/**
**/** **/** **/** **/**
**/** **/**
```

Note	

23 -4

Purpose	User data output/Check (Display/Print)
Section	
Item	User data (Record)
Function (Purpose)	Used to print the key operator code by using the auditor commander (SF-EA13). This is used when the customer forgets the key operator code.
Operation/ Procedure	After key operation of this simulation, press the START/STOP key of the auditor commander (SF-EA13), and the key operator code will be printed out. (Note) This simulation is used when the customer forgets the key operator code. However, do not let the customer know this simulation.

```
SIMULATION NO.23-4
PUSH THE START/STOP KEY ON THE COUNTER
COMMANDER.
```

```
KEY OPERATOR CODE:nnnnn
```

Note	

23 -5

Purpose	Others
Section	
Item	Software version (ROM/Driver etc.)/ROM
Function (Purpose)	Used to print the ROM version of each unit by using the auditor commander (SF-EA13).
Operation/ Procedure	After key operation of this simulation, press the START/STOP key of the auditor commander (SF-EA13), and the ROM version of each unit will be printed out.

```
SIMULATION NO.23-5
PUSH THE START/STOP KEY ON THE COUNTER
COMMANDER.
```

```
MAIN  :ver.nnnn
OPE   :ver.nnnn
DATA  :ver.nnnn
MIRROR:ver.nnnn
SORTER:ver.nnnn
RADF  :ver.nnnn
```

Note	

24

```
SIMULATION NO.24
INPUT 1~7
  1.JAM COUNTER CLEAR
  2.ERROR(TROUBLE)COUNTER CLEAR
  3.DUPLEX COUNTER CLEAR
  4.RADF COUNTER CLEAR
  5.STAPLE COUNTER CLEAR
  6.TRAY COUNTER CLEAR
  7.MEMBRANE DECREASE CORRECTION COUNTER CLEAR
```

24 -1

Purpose	Data clear
Section	
Item	Trouble/Mis-feed
Function (Purpose)	Used to clear the misfeed counter and the misfeed history of each unit. After completion of maintenance, clear the misfeed counter.
Operation/ Procedure	After the key operation of this simulation, enter the code number corresponding to the unit to be reset and press the START button. Then select YES with the 10-key pad and press the START button.

```
SIMULATION NO.24-1
JAM COUNTER CLEAR
1.MACHINE       2.RADF       3.BOTH
```

When 1 is selected and the following operation is performed, the jam counter of the machine is cleared.
When 2 is selected and the following operation is performed, the jam counter of the RADF is cleared.
When 3 is selected and the following operation is performed, the jam counters of the machine and the RADF are cleared.
1. Machine jam counter clear

```
SIMULATION NO.24-1
MACHINE JAM COUNTER CLEAR
ARE YOU SURE ?
 1.YES          2.NO
```

2. RADF jam counter clear

```
SIMULATION NO.24-1
RADF JAM COUNTER CLEAR
ARE YOU SURE ?
 1.YES          2.NO
```

3. Machine/RADF jam counter clear

```
SIMULATION NO.24-1
MACHINE/RADF JAM COUNTER CLEAR
ARE YOU SURE ?
 1.YES          2.NO
```

Note	

24 -2	Purpose	Data clear
	Section	
	Item	Trouble/Error
	Function (Purpose)	Used to clear the trouble counter and the trouble history. After completion of maintenance, clear the misfeed counter.
	Operation/ Procedure	After the key operation of this simulation, select YES with the 10-key pad and press the START button. SIMULATION NO.24-2 ERROR COUNTER CLEAR ARE YOU SURE ? 1.YES 2.NO
	Note	

24 -3	Purpose	Data clear
	Section	
	Item	Counter/Duplex
	Function (Purpose)	Used to clear the copy counter of the duplex unit. After completion of maintenance, clear the copy counter.
	Operation/ Procedure	After the key operation of this simulation, select YES with the 10-key pad and press the START button. SIMULATION NO.24-3 DUPLEX COUNTER CLEAR ARE YOU SURE ? 1.YES 2.NO
	Note	

24 -4	Purpose	Data clear
	Section	
	Item	Counter/ADF/RADF/UDH
	Function (Purpose)	Used to clear the copy counter of the RADF unit. After completion of maintenance, clear the copy counter.
	Operation/ Procedure	After the key operation of this simulation, select YES with the 10-key pad and press the START button. SIMULATION NO.24-4 RADF COUNTER CLEAR ARE YOU SURE ? 1.YES 2.NO
	Note	

24 -5

Purpose	Data clear
Section	
Item	Counter/Staple
Function (Purpose)	Used to clear the copy counter of the stapler unit. After completion of maintenance, clear the copy counter.
Operation/ Procedure	After the key operation of this simulation, select YES with the 10-key pad and press the START button.

```
SIMULATION NO.24-5
 STAPLE COUNTER CLEAR
 ARE YOU SURE ?
 1.YES          2.NO
```

Note	

24 -6

Purpose	Data clear
Section	
Item	Counter/Paper feed unit
Function (Purpose)	Used to clear the copy counter of the paper feed unit. After completion of maintenance, clear the copy counter.
Operation/ Procedure	After the key operation of this simulation, select YES with the 10-key pad and press the START button.

```
SIMULATION NO.24-6
TRAY COUNTER CLEAR.
 1.TRAY 1
 2.TRAY 2
 3.TRAY 3
 4.SIDE CASSETTE
 5.(RESERVED)
 6.BYPASS TRAY
 7.ALL TRAY
```

When "1. TRAY 1" is selected:

```
SIMULATION NO.24-6
TRAY 1 COUNTER CLEAR.
ARE YOU SURE ?
1.YES          2.NO
```

When "2. TRAY 2" is selected:

```
SIMULATION NO.24-6
TRAY 2 COUNTER CLEAR.
ARE YOU SURE ?
1.YES          2.NO
```

When "3. TRAY 3" is selected:

```
SIMULATION NO.24-6
TRAY 3 COUNTER CLEAR.
ARE YOU SURE ?
1.YES          2.NO
```

When "4. TRAY 4" is selected:

```
SIMULATION NO.24-6
SIDE CASSETTE COUNTER CLEAR.
ARE YOU SURE ?
1.YES          2.NO
```

When "6. TRAY 5" is selected:

```
SIMULATION NO.24-6
BYPASS TRAY COUNTER CLEAR.
ARE YOU SURE ?
1.YES          2.NO
```

When "7. ALL TRAY" is selected:

```
SIMULATION NO.24-6
ALL TRAY COUNTER CLEAR.
ARE YOU SURE ?
1.YES          2.NO
```

Note

24 -7

Purpose: Data clear

Section:

Item: Counter/Photo conductor

Function (Purpose): Used to clear the OPC drum correction counter.
Use this simulation when the OPC drum is replaced.

Operation/ Procedure: After the key operation of this simulation, select YES with the 10-key pad and press the START button.

```
SIMULATION NO.24-7
OPC DRUM CORRECTION COUNTER CLEAR.
ARE YOU SURE ?
 1.YES         2.NO
```

Note

25

```
SIMULATION NO.25
INPUT 1~2
  1.TONER CONCENTRATION MONITOR.
  2.AUTO DV ADJUSTMENT
    (AUTO TONER DENSITY ADJUSTMENT)
```

25 -1

Purpose	Operation test/check
Section	Others
Item	
Function (Purpose)	Used to check the operation of the section except for the optical section and the toner concentration sensor. The toner concentration sensor output can be monitored.
Operation/ Procedure	The image forming section drive motor rotates to operate the unit connected to it. The toner density sensor output level is displayed on the COPIES MADE display.
Note	

25 -2

Purpose	Adjustment
Section	Image process (Photoconductor/Developping/Transfer/Cleaning)
Item	
Function (Purpose)	Used to make initial setting of the toner concentration when replacing developer.
Operation/ Procedure	(Toner density automatic adjustment)

```
SIMULATION NO.25
INPUT 1~2
  1.TONER CONCENTRATION MONITOR.
  2.AUTOMATIC TONER CONCENTRATION
    ADJUSTMENT.
```

The main motor is rotated and the developing unit is stirred. After 3 minutes from starting stirring, toner density is *measured* 16 times, and the average density is stored in the RAM as the toner density reference value.
This value is used as the threshold value for toner density control.
This value can be checked with SIM 80-2.

(Note) This simulation is executed only when developer is replaced with new one. If this simulation is executed in the other case, overtoner or undertoner may result to affect adverse effect on the copy picture quality.

Note	

26

```
SIMULATION NO.26
INPUT 1~28
   1.OPTION SETUP.
   2.TRAY/SIZE SETUP.
   3.AUDITOR/COIN VENDOR SETUP.
   4.SORTER OPERATION MODE SETUP.
   5.COUNTER MODE SETUP,
   6.DESTINATION SETUP.
   7.DRUM SENSITIVITY SETUP.
   8.TRAY EMPTY DATA SETUP.
  18.TONER SAVE MODE SETUP.
  26.KEY OPERATOR PROGRAM P21 SETUP.
  28.FIXED MAGNIFICATION RATIO SETUP/CHANGE
```

26 -1

Purpose	Setting
Section	
Item	Specifications/Options
Function (Purpose)	Used to program the option setting. When an option is installed, use this simulation for the option setting.
Operation/ Procedure	Select the code of option installation with the 10-key pad and press the START button. If this setting is improper, the trouble code is displayed.

```
SIMULATION NO.26-1
SORTER/STAPLE SORTER SETTING?
  0.NO SORTER
  1.SF-S55N
```

Set value	Content
0	*Sorter not installed*
1	*SF-S5N* installed

Note

26 -2

Purpose	Setting
Section	Paper transport
Item	Specifications/Operation mode
Function (Purpose)	Used to set the paper tray 1 paper size setting. When the paper tray 1 paper size is changed, the paper size of software must be also changed.
Operation/ Procedure	Select the code number corresponding to the paper size with the 10-key pad, and press the START button. For the inch series, there are five paper sizes. Selection is made with the scroll key and the 10-key pad. (Japan) (AB series)

```
SIMULATION NO.26-2
[TRAY1 SIZE SETUP]INPUT(1~3)
1.8.5"x11"   2.A4   3.B5
```

(Inch series)

```
SIMULATION NO.26-2
[TRAY1 SIZE SETUP]   INPUT(1~3)
1.8.5"x11"   2.A4   3.B5
[LEGAL SIZE SETUP]   INPUT(1~2)
1.8.5"x14"   2.8.5"x13"
[LEGAL SIZE SETUP] PRESS [→] KEY.
```

↑ SCROL KEY ↓

```
SIMULATION NO.26-2
[TRAY1 SIZE SETUP]   INPUT(1~3)
1.8.5"x11"   2.A4   3.B5
[LEGAL SIZE SETUP]   INPUT(1~2)
1.8.5"x14"   2.8.5"x13"
[TRAY SIZE SETUP] PRESS [→] KEY.
```

(Note) When the paper tray 1 paper size does not coincide with the software paper size, the automatic magnification ratio copying and the automatic paper select function will not function properly.

Note	

26 -3

Purpose: Setting

Section: Auditor

Item: Specifications/Options

Function (Purpose):
Used to set the auditor specification mode.
Setting must be made according to the auditor using conditions.

Operation/ Procedure:
Enter the code corresponding to the auditor installation with the 10-key pad, and press the START button.
If the setting is improper, the trouble code is displayed.

```
SIMULATION NO.26-3
INPUT 1~4
1.P10(500)
2.P10(3100)
3.SF-EA11
4.OTHER
```

```
SIMULATION NO.26-3
DO YOU NEED THE EXTRA MEMORY INITIAL?
        1.YES          2.NO
```

Code	Name	Content
1	P10 (500)	Internal auditor mode (500 dept.)
2	P10 (3100)	Internal auditor mode (500 dept.) + expansion RAM mode (2600 dept.)
3	SF-EA11	Card counter mode (SF-EA11)
4	OTHER	Others

When the mode of code "2" is selected, setting must be made to initialize the RAM or not. If a new RAM is installed, select YES and press the START button.
When YES is selected, all the RAM contents are cleared.

Note

26 -4		
	Purpose	Setting
	Section	Paper transport
	Item	Specifications/Operation mode
	Function (Purpose)	Used to set enable/disable of sorter auto front take-out function in manual paper feed.Auto take-out function is enabled or disabled in the second circulation of the sorter tray when the next job is executed with the paper of the previous job remaining on the sorter tray.)
	Operation/ Procedure	When this simulation is executed, the currently set state is displayed on the LCD display. There are two modes and selection is made with the scroll key.

```
SIMULATION NO.26-4
[FRONT ACCESS WITH BYPASS-TRAY]
INPUT(1~2)
 1.DISABLE      2.ENABLE
[2nd AUTO FRONT ACCESS]
INPUT(1~2)
 1.DISABLE      2.ENABLE
[2nd ACCESS SETUP] PRESS → KEY.
```

↓SCROLL KEY↑

```
SIMULATION NO.26-4
[FRONT ACCESS WITH BYPASS-TRAY]
INPUT(1~2)
 1.DISABLE      2.ENABLE
[2nd AUTO FRONT ACCESS]
INPUT(1~2)
 1.DISABLE      2.ENABLE
[2nd ACCESS WITH BYPASS-TRAY] PRESS → KEY.
```

(Mode 1)
Used to set enable/disable of sorter auto front take-out function in the manual paper feed mode.
Enter the code number corresponding to the set content with the numeric key, and press the copy button to set.
(Mode 2)
Used to set enable/disable of sorter auto take-out function in the second circulation of the sorter tray (when the next job is executed with the paper of the previous job remaining on the sorter tray).
Enter the code number corresponding to the set content with the numeric key, and press the copy button to set.

Old

First job				Next job			
Operation mode	Staple operation	Front take-out	Paper on sorter bin	Operation mode	Operation in operation mode	Staple operation	Front take-out
Sort	Auto disable manual enable	Auto enable Manual enable	Paper remaining under not front take-out state	Sort	Enable	Auto disable/ Manual enable	*1 Auto/Manual enable
				Group	Disable	–	–
				Staple sort	Disable	–	–
			Paper remaining under front take-out state	Sort	Enable	Auto disable/ Manual enable	Disable
				Group	Disable	–	–
				Staple sort	Enable	Auto disable/ Manual enable	Disable
Group	Disable	Auto enable Manual enable	Paper remaining under not front take-out state	Sort	Enable	Disable	*1 Auto/Manual enable
				Group	Enable	Disable	*1 Auto/Manual enable
				Staple sort	Disable	–	–
			Paper remaining under front take-out state	Sort	Disable	–	–
				Group	Disable	–	–
				Staple sort	Disable	–	–
Staple sort	Auto enable Manual disable	Auto enable Manual enable	Paper remaining under not front take-out state	Sort	Disable	–	–
				Group	Disable	–	–
				Staple sort	Disable	–	–
			Paper remaining under front take-out state	Sort	Enable	Auto disable/ Manual enable	Disable
				Group	Disable	–	–
				Staple sort	Enable	Auto enable	Disable

New

First job				Next job			
Operation mode	Staple operation	Front take-out	Paper on sorter bin	Operation mode	Operation in operation mode	Staple operation	Front take-out
Sort	Auto disable Manual enable	Auto enable Manual enable	Paper remaining under non front take-out state	Sort	Enable	Auto disable/ Manual enable	*1 Auto/Manual enable
				Group	Disable	–	–
				Staple sort	Disable	–	–
			Paper remaining under front take-out state	Sort	Enable	Auto disable/ Manual enable	*1 Auto/Manual enable
				Group	Disable	–	–
				Staple sort	Enable	Auto enable	*1 Auto/Manual enable
Group	Disable	Auto enable Manual enable	Paper remaining under non front take-out state	Sort	Enable	Disable	Manual enable
				Group	Enable	Disable	Manual enable
				Staple sort	Disable	–	–
			Paper remaining under front take-out state	Sort	Disable	–	–
				Group	Disable	–	–
				Staple sort	Disable	–	–
Staple sort	Auto enable Manual disable	Auto enable Manual enable	Paper remaining under non front take-out state	Sort	Disable	–	–
				Group	Disable	–	–
				Staple sort	Disable	–	–
			Paper remaining under front take-out state	Sort	Enable	Auto disable/ Manual enable	*1 Auto/Manual enable
				Group	Disable	–	–
				Staple sort	Enable	Auto enable	*1 Auto/Manual enable

Auto/manual take-out function

ON/OFF of auto paper front take-out function in any mode can be set with the key operator program.

*1: SIM 26-4 allows to set ON/OFF of front take-out function for the next job.

When key operation program 51 is set to disable, setting by SIM 26-4 is disabled and the auto front take-out function is turned OFF.

When key operation program 51 is set to enable, setting by SIM 26-4 is enabled.

Note

26 -5

Purpose	Setting
Section	
Item	Specifications/Count mode
Function (Purpose)	Used to set the count mode of the total counter and the maintenance counter.
Operation/ Procedure	Enter the code corresponding to the count mode to be set with the 10-key pad, and press the START button. The code number corresponding to the currently set count mode is displayed on the COPIES MADE display.

```
SIMULATION NO.26-5
COUNTER MODE SETUP.
CODE TOTAL MAINTE COUNT
0  DOUBLE COUNT DOUBLE COUNT
1  SINGLE COUNT DOUBLE COUNT
2  DOUBLE COUNT SINGLE COUNT
3  SINGLE COUNT SINGLE COUNT
PLEASE SELECT BY
10KEY PAD.
```

Note	

26 -6

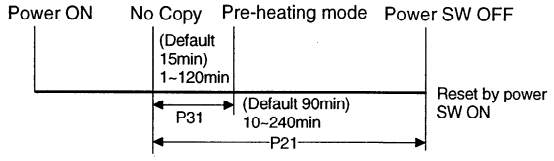
Purpose	Setting
Section	
Item	Specifications/Destination
Function (Purpose)	Used to set the destination.
Operation/ Procedure	Select the code corresponding to the destination, and press the START button to set.

```
SIMULATION NO.26-6
SELECT DESTINATION.
[INCH]
1.SEC(USA)      2.SECL(CANADA) 3.OTHER
[AB(B5)/100V]
4.JAPAN    5.OTHER (Not used)
[AB(A5)]
6.SEEG(EUROPE) 7.SUK(U.K.)     8.SCA(AUSTRALIA)
9.OTHER
[AB(B5)/200V]
10.OTHER
```

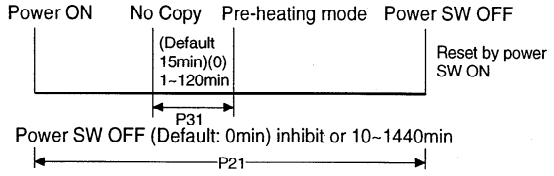
Set No.	Destination	Document size sensor function	Energy saving			Toner save mode	P80
			Pre-heat mode	Power shut off	Duplex copy mode (Default) setting		
1	SEC (USA)	x	P31	SHUT OFF (P21)	S → D [EVEN]	P22	Disable
2	SECL (CANADA)	x	P31	SHUT OFF (P21)	S → S	P22	Disable
3	INCH	x	P31	SHUT OFF (P21)	S → S	P22	Disable
4	JAPAN *(100V series)*	o	P31	SHUT OFF (P21)	S → D [EVEN]	P26-18	Enable
5	*OTHER*	o	P31	SHUT OFF (P21)	S → D [EVEN]	P26-18	Enable
6	SEEG *(A5)* (EUROPE)	x	P31	SHUT OFF (P21)	S → S	P22	Disable
7	SUK (U.K.) *(A5)*	x	P31	SHUT OFF (P21)	S → S	P26-18	Disable
8	SCA *(A5)* (AUSTRALIA)	x	P31	SHUT OFF (P21)	S → S	P22	Disable
9	AB *(A5)* *(200V series)*	x	P31	SHUT OFF (P21)	S → S	P22	Disable
10	AB (200V) *(B5)*	o	P31	SHUT OFF (P21)	S → S	P22	Disable

P**: Key operator program

(SIM 26-26* set value:0)



(TC 26-26 set value: 1)



		SIM 26-26			
		*1 Set value = 0 NO COPY → Power OFF		Set value = 1 Power ON → Power OFF	
Pre-heat mode set time		Power shut down set time		Power shut down set time	
User program P31		User program P21		User program *P31*	
Default (min)	Set time (min)	Default (min)	Set time (min)	Default (min)	Set time (min)
15*(*)*	1~120*(*)*	90	*10~240*	0*(Inhigit)*	*10*~1440

*: When set to 0, the function is invalid.
**1: Default fot U.S.A. and Japan is "0". Power shut down can be enabled/disabled by user program 86.*

Pre-heat mode: The state where the fusing control temperature is lowered from that of the copy mode of 200/250C (*1) to that of the standby mode of 160/180C (*2). Therefore the power consumption is decreased. This function is common to all the destinations.
Power shut down: The power switch is forcibly turned off to cut all the currents. To supply power, turn on the power switch.

After a certain time from start of copying, the machine enters the *pre-heat* mode.
The time for entering the residual heat mode can be voluntarily set with the user program 31.
There are two operation modes for the power shut down mode, which can be selected with SIM 26-26.
(When SIM 26-26 is set to 0:)
After a certain time from stopping copying, the machine enters the power shut down mode. The time can be set with the user program 21. (When SIM 26-26 is set to 1:)
After a certain time from turn on the power, the machine enters the power shut down mode. The time can be set with the user program 21. For the copy mode complying with EnergyStar (*1), the default is Single coy → Duplex copy.
Toner save mode
To make the toner save mode valid or invalid, use the user program P22 or SIM 26-18. Using the user program or the simulation is determined depending on the destination (SIM 26-6 setting).

*1: For Japan 15A specification, 205C
*2: Areas of not EnergyStar (except for U.S.A./Japan), *180C*
Areas of EnergyStar (U.S.A./Japan), *160C*
When SIM 26-26 is set to 1 in Japan 15A specification, 180C

Note

26 -7

Purpose: Setting

Section: Image process (Photoconductor/Developping/Transfer/Cleaning)

Item:

Function (Purpose): Used to set the sensitivity of the OPC drum.
When the OPC drum is replaced, be sure to set the sensitivity with this simulation.

Operation/ Procedure: Enter the code number corresponding to the sensitivity to be set, and press the START button, and the code is displayed on the COPIES MADE display and the sensitivity is set.

```
SIMULATION NO.26-7

DRUM SENSITIVITY SETUP.
INPUT 1~3.
```

Set value	Content
1	Copy lamp correction voltage +1 [V]
2	Copy lamp correction voltage 0 [V]
3	Copy lamp correction voltage -1 [V]

(Note) When the adjustment value is 0, the control is performed in the same way as when the adjustment value is the default (2).

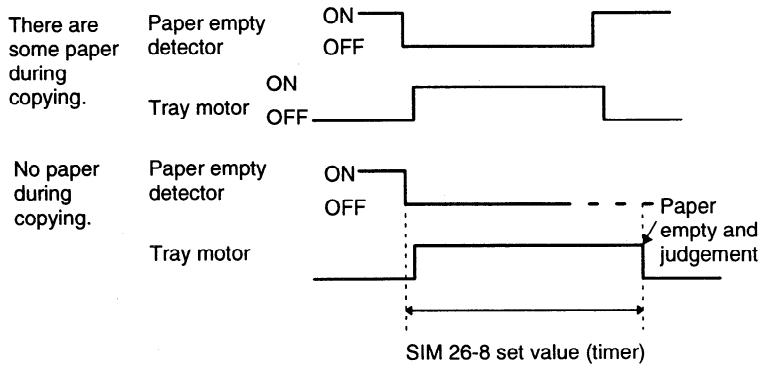
The sensitivity level is indicated on the label attached to the inside of the OPC drum.
The top digit of the number shows the sensitivity level. Set this value. The sensitivity level "1" is the lowest sensitivity, and the sensitivity level "3" is the highest.
For the sensitivity level "1", set the sensitivity level to "1". Then the copy lamp voltage becomes 1V (2V) higher than the standard level in all the copy modes. This makes correction for lower sensitivity.
For the higher sensitivity, things are reversed.
(2V: 200V series)

Note

26 -8

Purpose	Adjustment
Section	Paper transport
Item	
Function (Purpose)	Used to set the paper empty judgement condition of the copy paper trays (No. 2-3).
Operation/ Procedure	The adjustment is made for two paper trays. Setting screen for each paper tray is selected with the scroll keys. The set value is in the range of 1~30. Figures are entered with the 10-key pad, and the START button is pressed. The standard set value is 12. The new set value is displayed on the COPIES MADE display, and the currently set value is displayed on the LCD display. (Meaning of set values) When the amount of paper on the paper tray is reduced or emptied as copies are made, the paper empty detector becomes inactive. If there is paper on the tray, the paper tray lifts up to make the paper empty detector active, allowing to make copy. In the case of paper empty and when the empty detector is not active (the paper tray is not at the top limit position), and if the paper empty detector does not become active in the time set by this simulation though the paper tray is lifted up, it is judged as paper empty and the paper empty display is made. Change in the set value by 1 corresponds to 10ms. The adjustment range is 10~300ms. 26A: No. 1 tray Invalid 26B: No. 2 tray 26C: No. 3 tray
Note	

```
SIMULATION NO.26-8
TRAY PAPER EMPTY CONDITION
      26A(1~30):   nn
      26B(1~30):   nn
      26C(1~30):   nn
```



26 - 18

Purpose	Setting
Section	
Item	Specifications/Operation mode
Function (Purpose)	Used to set YES/NO of toner save function.
Operation/ Procedure	When this simulation is executed, the code corresponding to the currently set mode is displayed on the COPIES MADE display. Select the code to make the toner save function enable or not with the 10-key pad and press the START key.
Note	

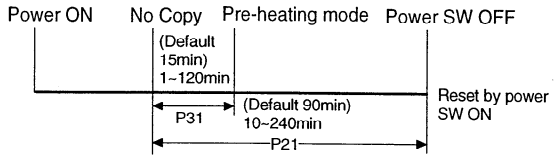
```
SIMULATION NO.26-18
TONER SAVE MODE SETTING
0.NO     1.YES
```

26 - 26

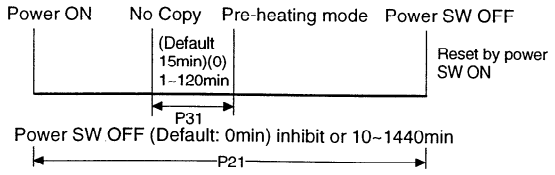
Purpose	Setting
Section	
Item	Specifications/Operation mode
Function (Purpose)	Used to set whether the mode is shifted to the power shut down mode after a certain time from completion of copying or the mode is shifted to the setting of the power shut down mode after a certain time from turning on the power.
Operation/ Procedure	When this simulation is executed, the code corresponding to the currently set mode is displayed on the COPIES MADE display. Select with the 10-key pad whether the mode is shifted to the power shut down mode after a certain time from completion of copying or the mode is shifted to the setting of the power shut down mode after a certain time from turning on the power. Press the START button to set.

```
SIMULATION NO.26-26
AUTO SHUT-OFF SELECTION (POWER OFF MODE SETTING)
0.AUTO POWER SHUT-OFF TIMER(NO COPY → POWER OFF)
1.POWER OFF TIMER(POWER SW ON → POWER OFF)
```

(SIM 26-26* set value:0)



(TC 26-26 set value: 1)



		*2 SIM 26-26			
		*1 Set value = 0 NO COPY → Power OFF		*3 Set value = 1 Power ON → Power OFF	
Pre-heat mode set time		Power shut down set time		Power shut down set time	
User program P31		User program P21		User program *P21*	
Default (min)	Set time (min)	Default (min)	Set time (min)	Default (min)	Set time (min)
15*	1~120*	90	*10~240*	0 (Inhibit)	0~1440

**: When the set value is 0, the function is inhibited.*
**1: Auto power shut down can be enabled/disabled by user program 86.*
**2: For U.S.A.and Japan, the default is "0."*
**3: User program 86 is disabled.*

Note

26 -28 Purpose: Setting

Section:

Item: Specifications/Operation mode

Function (Purpose): Used to make additional setting of copy magnification ratios.
Three kinds of magnification ratios can be added (registered or changed) to the standard magnification ratios.

Operation/ Procedure: When this simulation is executed, the currently set copy magnification ratios are displayed on the COPIES MADE display.
To change the magnification ratio, select the number corresponding to the copy magnification ratio and press the START button.
To set a magnification ratio newly, select the number corresponding to the ratio you want to register, and press the START button.

```
SIMULATION NO.26-28
FIXED MAGNIFICATION RATIO SET/CHANGE
SELECT THE RATIO TO BE CHANGED.
1.nnn%     2.nnn%     3.nnn%
```

Use the zoom key to select the desired magnification ratio and press the START key.

```
SIMULATION NO.26-28
FIXED MAGNIFICATION RATIO SET/CHANGE
USE ZOOM KEY TO SELECT NEW MAGNIFICATION
RATIO, AND PRESS START KEY.
                                  nnn% → mmm%
```

Note

27

```
SIMULATION NO.27
INPUT 1~5
  1.DISABLING OF U7-00 TROUBLE.
  2.PC/MODEM NO SET.:TEL #
  3.PC/MODEM NO SET.:ID  #
  4.SERVICE START/END REPORT.
  5.TAG NUMBER SETTING.
```

27 -1

Purpose	Setting
Section	Communication unit (TEL/LIU/MODEM etc.)
Item	Specifications/Operation mode
Function (Purpose)	Used to set inhibition of copying with display of self diag (U7-00) in case of a communication trouble with the host computer/MODEM.
Operation/ Procedure	Enter the code number corresponding to the operation mode and press the START button to set the mode. If "1. NO" is selected, when a communication trouble occurs, self diag (U7-00) is displayed and copying is inhibited. If "0. YES" is selected, even when a communication trouble occurs, self diag (U7-00) is not displayed and copying is not inhibited. In either case, when a communication trouble occurs, the bi-directional data becomes invalid.
Note	

```
SIMULATION NO.27-1
DISABLING OF U7-00 TROUBLE.
    0.YES          1.RADF
```

27 -2

Purpose	Setting
Section	Communication unit (TEL/LIU/MODEM etc.)
Item	Communication
Function (Purpose)	Used to set and change the host computer/MODEM No. This setting is necessary for communication between the copy machine and the computer through the MODEM.
Operation/ Procedure	First, the copier must be connected to the host computer through the MODEM line. The first screen provides the selection of four kinds of host computers. Select the host computer to be set or changed with the 10-key pad and press the START button.

```
SIMULATION NO.27-2
SELECT HOST NUMBER TO CHANGE DATA.
1.HOST-1    2.HOST-2    3.HOST-3    4.HOST-4
```

Then the selection screen of four MODEM's is displayed.
Select the MODEM to be set or changed with the 10-key pad and press the START button.
The currently set host computer MODEM No. is displayed.

```
SIMULATION NO.27-2                [HOST-1]
SELECT TEL# TO CHANGE DATA.
 1.TEL#1    2.TEL#-2    3.TEL#-3    4.TEL#-4
```

To set newly or to change the setting, select "1. YES" and press the START button. The screen for input is displayed.
Enter the MODEM No. with the 10-key pad and press the START button.
Max. 24 digits can be entered.

```
SIMULATION NO.27-2
HOST-n TEL#m ******* ****** ←(24 digits)
 --CHANGE DATA:1.YES  2.NO.....(B)
```

```
SIMULATION NO.27-2
HOST-n TEL#m :[*];# [→];,;[P]
NEW DATA:******* ***** ←(24 digits)
```

Use the 10-key pad for entering numbers. For special characters, use the following keys:
*: * key, : P key
#: → key
The set MODEM number is displayed. (Setting can be checked.)

```
SIMULATION NO.27-2
HOST-n TEL#m:****** ***** ←(24 digits)
```

Data communication is possible with max. four computers. Each computer is able to have max. 4 MODEM lines. The data are stored in the memory in the MODEM of the copier.

(Note) Access is allowed only from the computers whose number is registered but this simulation.

Note	

27 -3

Purpose	Setting
Section	Communication unit (TEL/LIU/MODEM etc.)
Item	Communication
Function (Purpose)	Used to set or change the copy machine and the host computer/MODEM ID No. This setting is necessary for communication between the copier and a computer through the MODEM line.
Operation/ Procedure	First, the copier must be connected to the host computer through the MODEM line. The first screen provides the selection of the copier ID No. or the host computer ID No. Select the code of unit to be set or changed with the 10-key pad and press the START button.

```
SIMULATION NO.27-3
SELECT NUMBER TO CHANGE DATA.
1.PPC ID#       2.PC/MODEM ID#
```

The currently set ID No. is displayed.

```
SIMULATION NO.27-3
PPC ID#:              X:[*], Y:[→]
mmmmmmmmmm→nnnnnnnnnn
```

m...m: Currently set ID No.
n...n: Newly entered ID No.

(Note) ********** Already set number

On the input screen, enter the ID No. with the 10-key pad and press the START button.
Max. 10 digits can be entered.

```
SIMULATION NO.27-3
PPC ID#:nnnnnnnnnn
```

n...n: Newly entered ID No.
Set the host computer/MODEM ID No. in the same manner.
To provide the protect function with the ID No., the special program is required.
The data ae stored in the memory in the MODEM of the copier.

(Note) Access is allowed only from the computers whose number is registered but this simulation.

Note	

27 -4

Purpose	Setting
Section	Communication unit (TEL/LIU/MODEM etc.)
Item	Communication
Function (Purpose)	Used to input the service start time and the end time for servicing time management. This data can be checked by the host computer.
Operation/ Procedure	Select the service start time or the service end time with the 10-key pad and press the START button to set it. The time is stored in the memory in the MODEM.

```
SIMULATION NO.27-4
1.SERVICE START.
2.SERVICE END.
```

When the host computer receives the data normally, the following message is displayed. The copier sends the command of service start to PC/MODEM.

```
SIMULATION NO.27-4
SERVICE START.
```

When the PC/MODEM receives the command normally, the following message is displayed.

```
SIMULATION NO.27-4
SERVICE START.
complete...
```

(Service end)
When "2" is selected, the following message is displayed and the copier sends the service command to the PC/MODEM.

```
SIMULATION NO.27-4
SERVICE END.
```

When the PC/MODEM receives the command normally, the following message is displayed.

```
SIMULATION NO.27-4
SERVICE END.
Complete...
```

Note	

27 -5

Purpose	Setting
Section	Communication unit (TEL/LIU/MODEM etc.)
Item	Communication
Function (Purpose)	Used to input the machine tag No. This function allows the host computer to check the machine tag No.
Operation/ Procedure	On the input screen, enter the tag No. with the 10-key pad and press the START button. Max. 8 digits can be entered.

```
SIMULATION NO.27-5
PRESENT TAG#:********
NEW TAG#    :********
```

It is advisable to record the ROM tag No. and the machine SER No. for use in servicing.
The data are stored in the memory in the MODEM of the copier.

```
SIMULATION NO.27-5
TAG#:********
```

Note	

28

```
SIMULATION NO.28
INPUT 1~4
  1.
  2.
  3.
  4.
```

28 -1

Purpose	Operation test/check
Section	Auditor
Item	
Function (Purpose)	Used to check the auditor commander (EA-13) print test.

Operation/ Procedure	Press the START/STOP key of the auditor commander (EA-13) to start printing.
	Check the test print for any abnormality.
	`SIMULATION NO.28-1`
	`PUSH THE START/STOP KEY ON THE COUNTER`
	`COMMANDER.`
	28-01 (Printer CG print)
	Press the auditor commander START/STOP key again to stop printing.

Note	

28 -2

Purpose	Operation test/check
Section	Auditor
Item	
Function (Purpose)	Used to check the print test of the auditor commander (EA-13) printer. Check for missing of dots.

Operation/ Procedure	Press the START/STOP key of the auditor commander (EA-13) to start printing.
	All dots are printer. Check for any abnormality.
	`SIMULATION NO.28-1`
	`PUSH THE START/STOP KEY ON THE COUNTER`
	`COMMANDER.`
	28-02 (Printer test print)
	Press the auditor commander START/STOP key again to stop printing.

Note	

28 -3

Purpose	User data output/Check (Display/Print)
Section	Auditor
Item	User data (Record)
Function (Purpose)	Used to print the list of all settings of the key operator program by using the auditor commander (SF-EA13).
Operation/ Procedure	Press the START/STOP key of the auditor commander (SF-EA13), and the list of all settings of the key operator program will be printed out. When servicing, print all the settings and store it for use in memory trouble or replacement of the PWB.
Note	

28 -4

Purpose	Operation data output/Check (Display/Print)
Section	Auditor
Item	Adjust/Setting data
Function (Purpose)	Used to print the set values and the adjustment values of all the simulations by using the auditor commander (SF-EA13). When servicing, print the set values and the adjustment values of all the simulations and store it for use in memory trouble orreplacement of PWB.
Operation/ Procedure	28-04 (Simulation set value print) When the commander is printing in each simulation, the LCD display shows the following message.

```
SIMULATION NO.28-n
 --- CURRENTLY PRINTING ---
```

n: Simulation sub No.

When a trouble occurs during printing, the LCD shows the following message.

```
SIMULATION NO.28-n
 COUNTER COMMANDER ERROR.
 PLEASE CHECK THE COMMANDER(SF-13).
              ERROR CODE:*
```

* Error code

0	Communication error
1	Motor trouble
2	Home position error (OFF detection error)
3	Home position error (ON detection error)

Note

30

```
SIMULATION NO.30
INPUT 1~2
 1.MAIN FRAME SENSOR TEST.
 2.TRAY SENSOR TEST.
```

30 - 1

Purpose

Operation test/check

Section

Others

Item

Function (Purpose)

Used to check the operation of the sensors and detectors in the other section than the paper feed section of the copier.
The operations of the paper feed section sensors and the detectors can be monitored by the LCD display section.

Operation/ Procedure

The ON/OFF state of the sensors and the detectors in the other sections than the paper feed section can be monitored with the LCD display.
When active, highlighted.

```
SIMULATION NO.30-1
PFD1   ,PFD2  ,PFD3  ,CPFD  ,*LPFD1
MPFD   ,PPD1  ,PPD2  ,PPD3  ,* LPPD1
*LPPD2,PSD   ,POD   ,POD2  ,DSBD
DPPD   ,DPID  ,DTPD  ,DPFD  ,DPFS1
DPFS2  ,DTWHP,DTBHP,DFMHP,DDSW
DSW    ,MDOP  ,MTOP  ,TFD   ,FUSUS
TBBOX  ,TNF   ,TNCTR,TES1  ,TES2
                              * Not used
```

(Highlighted when detected.)

Name	Content
PFD1	Paper feed detector 1 (tray)
PFD2	Paper feed detector 2 (tray)
PFD3	paper feed detector 3 (tray)
CPFD	Cassette paper feed detector
LPFD1	Not used.
MPFD	Manual paper feed tray detector
PPD1	Transport detector 1
PPD2	Transport detector 2
PPD3	Transport detector 3
LPPD1	Not used.
LPPD2	Not used.
PSD	Paper separation detector
POD	Paper exit detector 1
POD2	Paper exit detector 2
DSBD	Reverse unit paper entry detector
DPPD	Duplex paper entry transport detector
DPID	Duplex paper entry detector
DTPD	Duplex tray paper presence/empty detector
DPFD	Duplex paper feed detector
DPFS1	Not used.
DPFS2	Not used.
DTWHP	Duplex tray alignment plate home position detector (width)
DTBHP	Duplex tray alignment plate home position detector (width) (transport direction)
DFMHP	Duplex suction valve motor home position detector
DDSW	Switchback section cabinet open/close detector
DSW1, 2	Door switch 1, 2
MDOP	Manual paper feed tray open/close detector
MTOP	Manual paper feed tray pull-out detector
TFD	Copy reception tray full detector
FUSUS	Fusing unit installation detector
TBBOX	Waste toner bottle detector
TNF	Waste toner full detector
TNCTR	Toner cartridge empty detector
TES1	Toner empty detector 1
TES2	Toner empty detector 2

Note

30 -2

Purpose

Operation test/check

Section

Paper transport

Item

Function (Purpose)

Used to check the operation of the paper feed section sensors and detectors and the related circuit.
The operations of the paper feed section sensors and detectors can be monitored with the LCD display.

Operation/ Procedure

The ON/OFF state of the sensors and the detectors in the paper feed section can be monitored with the LCD display.
When active, highlighted.

```
SIMULATION NO.30-2
 MFT : MPED, MPSD1,MPSD2
TRAY1: TCD1, TLD1, TUD1, TPED1,TPTD1
       TSW1
TRAY2: TCD2, TLD2, TUD2, TLMD2,TPTD2
       TSW2, PS21, PS22, PS23, PS24
       PS25, PS26
TRAY3: TCD3, TLD3, TUD3, TLMD3,TPTD3
       TSW3, PS31, PS32, PS33, PS34
       PS35, PS36
 CAS4: CSD,  CLUD, CPED
```

(Highlighted when detected.)

Paper feed tray	Name	Content
Manual paper feed tray	MPED	Paper empty detector
	MPSD1	Paper length detector 1
	MPSD2	Paper length detector 2
Paper feed trays 1	*TPED1*	*Tray paper empty detector*
Paper feed trays 1~3	TCDn	Tray set detector
	TLDn	Tray lower limit detector
	TUDn	Tray paper empty detector*(2/3)*
	TUD1	*Tray upper limit detector*
	TLMDn	Tray upper limit detector*(2/3)*
	TPTDn	Tray PT detector
	TSWn	*Tray switch*
Paper feed trays 2, 3	PSn1 PSn6	Tray paper size detectors 1~6 (For the sizes, refer to the separate table.)
Paper feed cassette	CSD	Installation detector
	CLUD	Lift detector
	CPED	Paper empty detector

No. 2/3 paper feed tray size detectors

	PSn1	PSn2	PSn3	PSn4	PSn5	PSn6 (Length)	Remark
11 x 17	–	–	–	–	o	o	
8.5 x 14	o	–	–	–	–	o	Only when set to the inch series legal 8,5 x 14".
8.5 x 11	–	–	–	–	o	–	
8.5 x 11R	o	–	–	–	–	o	
A3	–	–	o	–	–	o	
B4	–	o	–	–	–	o	
A4	–	–	o	–	–	–	
B5	–	o	–	–	–	–	
A4R	o	–	–	–	–	–	AB series only
B5R	–	–	–	o	–	–	
8.5 x 13	o	–	–	–	–	o	When set to Australia/inch series legal 13 x 8.5"

Note

40

```
SIMULATION NO.40
INPUT 1~3
   1.M.P.F TRAY'S PAPER WIDTH SIZE
     DETECTION CHECK.
   2.M.P.F TRAY'S PAPER WIDTH SIZE
     DETECTION ADJUSTMENT.
   3.SIDE CASSETTE PAPER SIZE
     DETECTION CHECK
```

40 -1

Purpose	Operation test/check
Section	Paper transport
Item	
Function (Purpose)	Used to check the operation of the manual paper feed tray paper with detector and the related circuit. The operations of the manual paper feed tray paper with detectors can be monitored with the LCD display.
Operation/ Procedure	Slide the manual paper feed tray paper width guide, and the paper size corresponding to the paper width is displayed.

```
SIMULATION NO.40-1
BYPASS TRAY'S PAPER WIDTH SIZE
DETECTION CHECK.
 A4/A3
 8-1/2 x 11 / 11 x 17
 B5 / B4
 8-1/2 x 14 ; 13 / 8-1/2 x 11R / 5-1/2 x 8-1/2 / A4R / A5
 B5R
```

(The size corresponding to the detected position is highlighted.)

Note	

40 -2

Purpose	Adjustment
Section	Paper transport
Item	
Function (Purpose)	Used to adjust the detection level of the manual paper feed tray paper width detector.
Operation/ Procedure	When this simulation is executed, the following message is displayed on the LCD display. Slide the manual paper feed tray paper width guide to the maximum width position and press the START button to set the maximum width position detection level.

```
SIMULATION NO.40-2
M.P.F. TRAY PAPER WIDTH SIZE
DETECTION ADJUSTMENT.
SET THE PAPER GUIDES OF BYPASS-TRAY
TO THE MAXIMUM WIDTH,AND PRESS THE
START KEY.
```

```
SIMULATION NO.40-2
M.P.F TRAY PAPER WIDTH SIZE
DETECTION ADJUSTMENT.
SET THE PAPER GUIDES
TO THE MINIMUM WIDTH POSITION,AND PRESS THE
START KEY.
```

Slide the manual paper feed tray paper width guide to the minimum width position and press the START button to set the minimum width position detection level.

```
SIMULATION NO.40-2
M.P.F TRAY' PAPER WIDTH SIZE
DETECTION ADJUSTMENT.
PAPER SIZE DETECTION ADJUSTMENT HAS
BEEN COMPLETED.
```

In case of an abnormality, the following message is displayed.
The maximum width detection level and the minimum detection level are displayed.

```
SIMULATION NO.40-2
M.P.F TRAY' PAPER WIDTH SIZE
DETECTION ADJUSTMENT.
DETECTION FAILURE.
   MIN:nnn       MAX.:nnn
```

If the difference between the maximum and the minimum levels is more than 110~170, an error display is made.

Note	

40 -3

Purpose	Operation test/check
Section	Paper transport
Item	
Function (Purpose)	Used to check the operation of the paper cassette size detector and the related circuit. The operation of the paper cassette size detector can be monitored with the LCD display.
Operation/ Procedure	SIMULATION NO.40-3 CASSETTE PAPER SIZE SENSOR CHECK A4R 8-1/2 x 11R B5R 8-1/2 x 11 A4 B5
Note	

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```
SIMULATION NO.41
INPUT 1~3
  1.DPCUMENT SIZE SENSOR CHECK.
  2.DOCUMENT SIZE SENSOR ADJ.
  3.DOCUMENT SIZE SENSOR DISPLAY OUTPUT LEVEL.
```

41 -1

Purpose	Operation test/check
Section	Others
Item	
Function (Purpose)	Used to check the operation of the document size detector and the related circuit. The operation of the document size detector can be monitored with the LCD display.
Operation/ Procedure	When a document is set on the document table, the sensor name corresponding to the document size is highlighted on the LCD display. The open/close state of the document cover is also monitored.

```
SIMULATION NO.41-1
DOCUMENT SIZE PHOTO-SENSOR CHECK
---              OCSW
PD2(B5)
PD3(A4)
PD4(B5R)
PD5(A4R)
PD6(B4)
PD7(A3)
```

Sensor name	Description
OCSW	Highlighted when RADF is open.
PD2~PD7	Highlighted when there is a document.

Note

41 -2

Purpose	Adjustment
Section	Others
Item	
Function (Purpose)	Used to adjust the document size sensor detection level.
Operation/ Procedure	When this simulation is executed, the following message is displayed on the LCD display. Press the START button with the document cover open, the detection level without paper is set. (Do not put anything on the document table at that time.)

```
SIMULATION NO.41-2
DOCUMENT SIZE SENSOR ADJ.
OPEN THE DOCUMENT COVER
AND PRESS THE START BUTTON
(DO NOT SET THE PAPER ON THE D.TALE)
```

```
SIMULATION NO.41-2
DOCUMENT SIZE SENSOR ADJ.
SET AN A3-SIZE (11"x17") PAPER
ON THE D.TABLE AND PRESS THE START BUTTON
(DOCUMENT COVER IS OPEN CONDITION)
```

Set A3 (11 x 17") paper on the document table and press the START button to set the detection level with paper. (Do not close the cover at that time.)
The document detection threshold level is automatically determined.

```
SIMULATION NO.41-2
DOCUMENT SIZE SENSOR ADJ.
DOCUMENT SIZE SENSOR ADJUSTMENT HAS BEEN
COMPLETED.
```

When the adjustment is completed normally, the following message is displayed. If there is any abnormality, the following message is displayed. The abnormal sensor name is displayed.

```
SIMULATION NO.41-2
DOCUMENT SIZE SENSOR ADJ.
SENSOR FAILURE.
---,PD2,---,---,---,---,---
```

Error condition: When the output level difference between with paper and without paper is 1,2V or less.

Note	

41 -3

Purpose	Operation test/check
Section	Others
Item	
Function (Purpose)	Used to check the operation of the document size sensor and the related circuit. The document size sensor output level and the detection threshold level can be monitored with the LCD display.
Operation/ Procedure	The document size sensor output level and the detection threshold level adjusted with SIM 41-2 are displayed on the LCD display.

```
SIMULATION NO.41-3
OCSW          RECEIVING     SETUP
---           LEVEL         LEVEL
PD2(B5)          199          127
PD3(A4)          199          126
PD4(B5R)          53          127
PD5(A4R)          53          127
PD6(B4)          199          126
PD7(A3)           53          125
```

Note	

42

42 -0

Purpose	Data clear
Section	
Item	Counter/Developer unit
Function (Purpose)	Used to reset the developer counter. The developer counter of the installed developing unit is reset.
Operation/ Procedure	After the key operation of this simulation, select YES with the 10-key pad and press the START button.

```
SIMULATION NO.42
 DEVELOPER COUNTER CLEAR.
 DEVELOPER COUNTER.
 ARE YOU SURE ?
 1.YES          2.NO
```

Note	

43

```
SIMULATION NO.43
INPUT 1~3
  1.FUSER TEMPERATURE SET UP.
  2.(NO PROGRAM)
  3.FUSER MOTOR ROTATION SPEED
    ADJUSTMENT.
```

43 -1

Purpose: Setting

Section: Fixing (Fusing)

Item: Specifications/Operation mode

Function (Purpose): Used to set the fusing temperature of each copy mode.

Operation/ Procedure: When this simulation is executed, the currently set temperature is displayed on the COPIES MADE display.
Enter the code corresponding to the temperature to be set with the 10-key pad, and press the START button.
The fusing temperature must be set each of the single copy mode and the duplex copy mode. Selection of the modes is made with the scroll key.

```
SIMULATION NO.26
[1→1,1→2]
INPUT(1~5)
1.190°C      2.195°C      3.200°C
4.205°C      5.210°C
[1→2,2→2]
INPUT(1~9)
1.170°C      2.175°C      3.180°C
4.185°C      5.190°C      6.195°C
7.200°C      8.205°C      9.210°C
[1→2,2→2]  SETTING: PRESS → KEY.
```

Destination	Standby, single copying	Duplex copying
Others	4. 205°C	8. 205°C
USA, CANADA	4. 205°C	3. 180°C

Note:

43 -3

Purpose: Adjustment

Section: Fixing (Fusing)

Item:

Function (Purpose): Used to adjust the fusing roller rotating speed.

Operation/ Procedure: When this simulation is executed, the currently set value is displayed on the COPIES MADE display.
Enter the adjustment value with the 10-key pad and press the START button to set the entered value.
The level is adjusted in *12* steps in total. The greater the set value is, the greater the speed is.
The default value is *6*.

```
SIMULATION NO.43-3
INPUT 1~12
```

Note:

44

```
SIMULATION NO.44
INPUT 1~9
  1.DISABLE/ENABLE PROCESS-CONTROL SETUP.
  2.DMS LEVEL ADJ
  3.IDS LEVEL ADJ
  4.PROCESS CONTROL REFERENCE LEVEL.
  5.(NO PROGRAM)
  6.(NO PROGRAM)
  7. DMS/IDS SENSOR LEVEL CHECK.
  8.(NO PROGRAM)
  9.PROCESS CONTROL DATA DISPLAY.
```

44 - 1

Purpose: Setting

Section: Image process (Photoconductor/Developping/Transfer/Cleaning)

Item: Specifications/Operation mode

Function (Purpose): Used to set the main charger grid voltage correction, the optical unit correction, the OPC drum and toner concentration correction, and auto copy density adjustment.

Operation/ Procedure: When this simulation is executed, the currently set value is displayed on the COPIES MADE display. Enter the code corresponding to each correction mode with the 10-key pad and press the START button. Enter the total of function codes to be operated. (To operate all the functions, enter 127.)

Display	Content	Set value (weight)	Inhibit
A	Main charger grid (OPC drum charging) voltage correction	1	Inhibited
B	Optical section dirt correction	2	0
C	OPC drum sensitivity (membrane decrease) correction	4	0
D	Auto copy density adjustment	8	0
E	Toner density correction A	16	0
F	Toner density correction B	32	0
G	Toner density correction C (Immediately after starting copying)	64	0
	All functions are operated.	127	0

(Note) To operate the copy density adjustment by SIM 46-1, inhibit item D (set to 0).

Note:

44 - 2

Purpose: Adjustment

Section: Image process (Photoconductor/Developping/Transfer/Cleaning)

Item:

Function (Purpose): Used to adjust the sensitivity of the OPC drum mark sensor.

Operation/ Procedure: When this simulation is executed, the OPC drum rotates and the output level of the sensor is displayed on the COPIES MADE display. Turn VR3 and VR4 in the process control PWB to adjust so that the sensor level is 123~233.

Note:

44 -3		
	Purpose	Adjustment
	Section	Image process (Photoconductor/Developping/Transfer/Cleaning)
	Item	
	Function (Purpose)	Used to adjust the sensitivity of the image density sensor.
	Operation/ Procedure	When this simulation is executed, the OPC drum rotates and the output level of the sensor is displayed on the COPIES MADE display. Turn VR1 and VR2 in the process control PWB to adjust so that the sensor level is 668~998.
	Note	

44 -4		
	Purpose	Setting
	Section	Image process (Photoconductor/Developping/Transfer/Cleaning)
	Item	
	Function (Purpose)	Used to set the target image density level in the main charger grid voltage correction.
	Operation/ Procedure	The reference density level is displayed on the COPIES MADE display. The photo copy mode main charger grid voltage is determined so that the density level becomes the reference level in the main charger grid voltage correction. Reference density level (75) $= \frac{\text{Image patch density (Image density sensor output level)HR}}{\text{OPC drum surface density (Image density sensor output level)}} \times 1024$ (Note) Be sure to set this value to 75. If this setting is improper, the copy density becomes abnormal.
	Note	

44 -7		
	Purpose	Operation data output/Check (Display/Print)
	Section	Image process (Photoconductor/Developping/Transfer/Cleaning)
	Item	Operation data (Machine condition)
	Function (Purpose)	Used to check the output level of the OPC drum mark sensor and the image density sensor.
	Operation/ Procedure	The OPC drum rotates. The average output level of the measured density sensor is displayed on the LCD displayed. If the value is not in the range below, use SIM 44-2 and SIM 44-3 to adjust the sensors. DM (OPC drum mark sensor output level) -123 ~ 233 ID (image density sensor output level) -668 ~ 998
	Note	

```
SIMULATION NO.44-7
 DMS/IDS SENSOR LEVEL CHECK.
 DMS...nnn
 IDS...nnn
```

44 -9

Purpose	Operation data output/Check (Display/Print)
Section	Image process (Photoconductor/Developping/Transfer/Cleaning)
Item	Operation data (Machine condition)
Function (Purpose)	Used to check the data on the main charger grid voltage correction. This simulation allows to check that the main charger grid voltage correction is performed correctly or not.
Operation/ Procedure	The following data are displayed on the LCD display.

```
SIMULATION NO.44-9
FVGNOM:nnn   FVGPHT:nnn   FVGTS:nnn
NVGNOM:nnn   NVGPHT:nnn   NVGTS:nnn
FCLNOM:nnn   FCLPHT:nnn   FCLTS:nnn
NCLNOM:nnn   NCLPHT:nnn   NCLTS:nnn
NCLAE :nnn   NCLAE :nnn
DVCL  :nnn   DSENSE:nnn
DMCNT :nnn   LETCNT:nnn   DMRNCT:nnn
FTNCNT:nnn   LETCNT:nnn   LTNCNT:nnn
FTNREF:nnn   LETREF:nnn   TLEVEL:nnn
```

FVGNOM: Manual copy mode MC grid voltage level adjusted with SIM 8-2A.
When the voltage is change by 1.0V, the display value is changed by 1.

FVGPH: Photo copy mode MC grid voltage level adjusted with SIM 8-2B. When the voltage is change by 1V.0, the display value is changed by 1.

FVGTS: Toner save copy mode MC grid voltage level adjusted with SIM 8-2C. When the voltage is change by 1.0V, the display value is changed by 1.

NVGNOM: Currently set normal copy mode MC grid voltage level. When the voltage is change by 1V, the display value is changed by 1.

NVGPHT: Currently set photo copy mode MC grid voltage level. When the voltage is change by 1V, the display value is changed by 1.

NVGTS: Currently set toner save copy mode MC grid voltage level. When the voltage is change by 1V, the display value is changed by 1.

FCLNOM: Copy lamp voltage level at density level "1" of manual copy mode set at copy density adjustment (SIM 46).
The displayed value divided by 10 (5) is the actual copy lamp voltage. ( ): 200V series

FCLPHT: Copy lamp voltage level at density level "1" of photo copy mode set at copy density adjustment (SIM 46).
The displayed value divided by 10 (5) is the actual copy lamp voltage. ( ): 200V series

FCLTS: Copy lamp voltage level at density level "1" of toner save copy mode set at copy density adjustment (SIM 46).

NCLNOM: Copy lamp voltage level at density level "1" of currently set manual copy mode.

NCLPHT: Copy lamp voltage level at density level "1" of currently set photo copy mode.

NCLTS: Copy lamp voltage level at density level "1" of currently set toner save copy mode.

FCLAE: Copy lamp voltage level of auto copy mode (with white document) set at copy density adjustment (SIM 46).
The displayed value divided by 10 (5) is the actual copy lamp voltage. ( ): 200V series

NCLAE: Copy lamp voltage level of currently set auto copy mode.
The displayed value divided by 10 (5) is the actual copy lamp voltage. ( ): 200V series

DVCL: Currently set optical unit dirt correction reference copy lamp voltage level.

DSENSE: During warming up by SIM 46, the copy lamp is lighted at 70V (140V) to radiate the reference reflection plate.
The optical dirt sensor level at that moment.

DMCNT: OPC drum mark sensor gain level.
The gain level is automatically adjusted every time when the main charger grid voltage is corrected.

IDCNT: Image density sensor gain level.
The gain level is automatically adjusted every time when the main charger grid voltage is corrected.

DMRNCT: OPC drum correction counter count value.

FTNREF: After completion of toner density correction A (initial density correction), the toner density control level is returned to the initial level (adjusted by SIM 25-2).
The condition for the toner density control level to return to the initial level (adjusted by SIM 25-2) is that the current manual copy mode main charger grid voltage falls below the specified voltage level of FTNREF.
This is the above specified level.
The normal level is the same as the initial main charger grid voltage level (FVGNOM +30) in the manual copy mode.

LETREF: The condition for execution of toner density correction B is that the main charger grid voltage in the current manual copy mode falls below the specified voltage level (LETREF –50).
This shows the above specified level.
The normal level is the same as the initial main charger grid voltage level (FVGNOM) in the manual copy mode plus 30V.

TLEVEL: Current toner density control level.
It is the total toner density control level with all toner density corrections A, B, and C together with the toner density control level set by SIM 25-2.

LTNCNT: After a certain time from stopping stirring of developer and toner, when stirring is started again, the toner density control level is corrected for a certain time. (Toner density correction C)
This shows the toner density control correction level at that time. Based on the toner density control level set with SIM 25-2 as the reference (zero), the value corresponding to correction is displayed.

FTNCNT: This shows the correction level of toner density correction A (initial density correction) for the toner density control level set with SIM 25-2.
Based on the toner density control level set with SIM 25-2 as the reference (zero), the value corresponding to correction is displayed.

LETCNT: This shows the correction level of toner density correction B (initial density correction) for the toner density control level set with SIM 25-2.
Based on the toner density control level set with SIM 25-2 as the reference (zero), the value corresponding to correction is displayed.

Note

46

```
SIMULATION NO.46
INPUT(430~800):NORMAL MODE
    (TONER SAVE MODE:USE [→] KEY)
```

46 -0

Purpose: Adjustment

Section:

Item: Picture quality/Density

Function (Purpose): Used to adjust the copy density (exposure) in each copy mode and the copy density gradient(exposure gradient).
(Note) If sIM 44-1-D is set to valid, this simulation cannot be performed.

Operation/ Procedure: When this simulation is executed, the currently set exposure level is displayed on the COPIES MADE display.
Select exposure level of 1 or 5 with the copy exposure key, and enter the adjustment value with the 10-key pad. Press the START button to set the value.
Selection of each copy mode is made with the copy mode key.
Selection of the toner save mode and the non-toner save mode is made with the scroll key.
When the toner save mode is selected, "46A" is displayed on the COPIES SELECTED display.
Exposure level is adjusted by changing the copy lamp applying voltage. The adjustment is made at exposure level 1 and 5 in each copy mode. The copy density (exposure level) and the copy density gradient (exposure gradient) can be adjusted voluntarily.
The adjustment range is *430* ~ 800. The adjustment range divided by 10 (5) is roughly the actual copy lamp voltage. ( ): 200V series

(Note) If SIM 44-1-D (Auto copy density adjustment) is set to valid, this adjustment is not effective.

Note:

47

47 - 0	Purpose	Adjustment
	Section	
	Item	Picture quality/Density
	Function (Purpose)	Used to store the characteristics of the AE sensor and the optical section for changes in the copy lamp applying voltage. Based on the stored data and the document density, the exposure level in the auto copy mode is automatically determined.
	Operation/ Procedure	When this simulation is executed, the scanner unit is initialized and fed to the center of the document table. Set several sheets of white paper on the document table and close the RADF unit. Press the START button again, and the copy lamp applying voltage is changed from 80V (160V) to *43*V (*86*V) in 5V (10V) step. At that time, the AE sensor output characteristics based on the white paper as the reference are stored in the RAM on the main PWB. The AE sensor is automatically adjusted at that time. This operation must be performed in advance of copy density adjustment in the auto copy mode.
	Note	

48

```
SIMULATION NO.48
1.COPY FOCUS/MAGNIFICATION ADJUSTMENT
2.(NO PROGRAM)
3.COPY FOCUS/MAGNIFICATION
  RATIO ADJUSTMENT VALUE INPUT
```

48 - 1	Purpose	Adjustment
	Section	Optical (Image scaning/Exposure)
	Item	Picture quality
	Function (Purpose)	Used to adjust the copy magnification ratio and the focus. The lens home position, the lens shift rate, No. 4/5 mirror base home position, and No. 4/5 mirror base shift rate are changed to adjust. Used to adjust the horizontal (paper transport direction) copy magnification ratio. The mirror scan speed (mirror motor rpm) is changed to adjust.
	Operation/ Procedure	[Magnification ration adjustment (front/rear direction)]

```
SIMULATION NO.48-1
MAGNIFICATION ADJUSTMENT(FRONT-REAR).
INPUT n(min.~max.)
    [COPY H.MAGNIFICATION ADJUSTMENT (SCAN).:
                  PRESS THE [INTERRUPT] KEY]
```

When this simulation is executed, the currently set value is displayed on the COPIES MADE display.
There are six adjustment modes in total, and selection is made with the scroll key.
The display of each mode is made with alphabet (48A~48F) on the COPIES SELECTED display.
Enter the adjustment value with the 10-key pad and press the START key to set the entered value and make a copy.

48A: Normal copy magnification ratio adjustment value (lens home position)
48B: Reduction copy magnification ratio adjustment value (reduction copy lens shift rate)
48C: Enlargement copy magnification ratio adjustment value (enlargement copy lens shift rate)
48D: Normal copy focus adjustment value (No. 4/5 mirror home position)
48E: Reduction copy focus adjustment value (reduction copy No. 4/5 mirror shift rate)
48F: Enlargement copy focus adjustment value (enlargement copy No. 4/5 mirror shift rate)

n		Item	Adjustment range		
			min.	max.	Default
48	A	Copy magnification ratio adjustment value (normal)	1	99	50
48	B	Copy magnification ratio adjustment value (reduction)	1	51	26
48	C	Copy magnification ratio adjustment value (enlargement)	1	31	16
48	D	Focus adjustment (normal)	1	119	60
48	E	Focus adjustment (reduction)	1	51	26
48	F	Focus adjustment (enlargement)	1	51	26

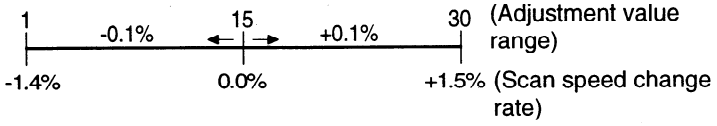
(Note) 1. The value in { } is the input range of the adjustment value.

When the interruption key is pressed, the interruption display turns on and the currently set value is displayed on the COPIES MADE display.
Enter the adjustment value with the 10-key pad and press the START button to make a copy and set the input value. (Pressing P key will also do.)
When the set value is changed by 1, the copy magnification ration is changed by about 0.1%.
The adjustment range is 1~30, and the change range of −1.4%~+1.5%

48G: Paper transport direction copy magnification ratio adjustment value (Scanner motor rotation speed)

```
SIMULATION NO.48-1
COPY V.MAGNIFICATION ADJUSTMENT(SCAN).
INPUT 1~30
COPY V.MAGNIFICATION ADJUSTMENT:(FRONT-REAR).
                    PRESS [INTERRUPT] KEY]
```

Default: 15



This simulation is bi-directionally linked with SIM 48-3. If the set value of this simulation is changed, the set value of SIM 48-3 is also changed accordingly.

Note

48 -3 | Purpose | Adjustment

Section	Optical (Image scaning/Exposure)
Item	Picture quality
Function (Purpose)	Used to adjust the copy magnification ratio and the focus. Same as SIM 48-1, but without copying.
Operation/ Procedure	When this simulation is executed, the currently set value is displayed on the COPIES MADE display. The adjustment item is selected with the scroll key. Change the adjustment value of the selected item with the 10-key pad and press the START button to set the value.

```
SIMULATION NO.48-3
   > 48A (1~99):      nn [100%]
   > 48B (1~51):      nn [ 50%]
   > 48C (1~31):      nn [200%]
   > 48D (1~119):     nnn [100%]
   > 48E (1~51):      nn [ 50%]
   > 48F (1~51):      nn [200%]
   > 48G (1~30):      nn
```

(The selected adjustment value is highlighted.)
The adjustment range of each adjustment value and the default value is shown in the table below.

n		Item	Adjustment range		
			min.	max.	Default
48	A	Copy magnification ratio adjustment value (normal)	1	99	50
48	B	Copy magnification ratio adjustment value (reduction)	1	51	26
48	C	Copy magnification ratio adjustment value (enlargement)	1	31	16
48	D	Focus adjustment (normal)	1	119	60
48	E	Focus adjustment (reduction)	1	51	26
48	F	Focus adjustment (enlargement)	1	51	26
48	G	Mirror speed correction value	1 (−1.4%)	30 (+1.5%)	15 (±0%)

This simulation is bi-directionally linked with SIM 48-1. If the set value of this simulation is changed, the set value of SIM 48-1 is also changed accordingly.

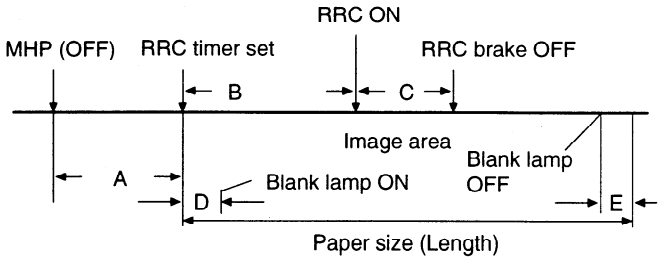
Note

50

```
SIMULATION NO.50
INPUT 1~4
1.LEAD EDGE/VOID IMAGE LOSS ADJUSTMENT.
2.LEAD EDGE/VOID IMAGE LOSS ADJUSTMENT.(EASY)
3.EDGE VOID/IMAGE LOSS ADJUSTMENT.
  (ADJUSTMENT VALUE INPUT)
4.VOID ADJUSTMENT.
```

50 -1 | Purpose | Adjustment

Section	Optical (Image scaning/Exposure)
Item	Picture quality/Print area
Function (Purpose)	Used to adjust the copy image position and the void area (image loss) on the copy paper.
Operation/ Procedure	The five set values A, B, C, D, and E are changed to adjust. When this simulation is executed, the currently set value is displayed on the COPIES MADE display. There are five adjustment items in total, one of which is selected by the scroll key. The display of each mode is made with alphabet (A~E) on the COPIES SELECTED display. Enter the adjustment value with the 10-key pad and press the START key to set the entered value and make a copy.



	Item	Default	Adjustment range		
			min.	max.	
50A	Distance data between MHP OFF to the image lead edge.	50	0	99	*0.25* mm
50B	Time data between the image lead edge to PRC ON.	50	0	99	0.5 ms
50C	Time data between PRC ON to PSBRK OFF.	10	1	20	1 ms
50D	Lead edge void amount data	10	0	20	*1.0* ms
50E	Rear edge void amount data	10	0	20	*1.0* ms

50A: Used to fit the document image lead edge and the OPC drum image lead edge.
The timing when the scanner unit starts scanning and the mirror home position sensor (MHPS) turns off is used as the reference, and the timing when the scanner unit reaches the image lead edge must be coincide with the timing of the virtual image lead edge position on the OPC drum. The scanner unit shift distance (timing) is calculated by counting the mirror motor rotary encoder pulses.
The document lead edge reference position is the edge of the document glass. The reference position can be varied with this simulation. If this simulation is not adjusted properly, the lead edge image position varies in some copy magnification ratios.
The adjustment range is 0~99. When the set value is changed by 1, the lead edge reference position is shifted by about *0.25*mm.

50B: Used to adjust the OPC drum image position and the copy paper position.
Used to adjust the time from when the image lead edge position on the OPC drum is exposed to when RRC turns on.
The RRC ON timing (copy paper transport timing from the resist roller) is fitted to the image position on the OPC drum which is rotating for exposure.
The adjustment range is 0~99. When the set value is changed by 1, the timing is changed by about 0.5ms.
(Note) In actual, the OPC drum image position and the copy paper position are determined by the combination of this set value and the set value of SIM 50-01 50C. Adjust SIM 50-01 50C in advance of this adjustment.

50C: Used to adjust the brake time of the resist roller.
The time interval from when RRC turns on to when PSBRK turns off is changed to make this adjustment.
By changing this set value, the OPC drum image position and the copy paper positions are changed.
In advance to SIM 50-01 50B setting, be sure to make this adjustment.
The standard set value is 10. The adjustment range is *1*~20.
When the set value is changed by 1, the timing is changed by about 1ms.

50D: Used to adjust the lead edge void area on the copy paper.
By using the timing when the mirror unit starts scanning and the mirror home position sensor (MHPS) turns off (timing determined by 50A, that is, the image lead edge reference position) as the reference, the timing of blank lamp OFF is changed to make this adjustment.
When the set value is changed by 1, the void area is changed by about *1.0*mm.

50E: Used to set the back surface copy rear edge void area amount in the copy surface.
The timing of the blank lamp ON for the virtual paper rear edge position is changed to make this adjustment.
When the set value is changed by 1, the void area is changed by about *1.0*mm.

This simulation is bi-directionally linked with SIM 50-2 and SIM 50-3. If the set value of this simulation is changed, the set values of SIM 50-2 and SIM 50-3 are also changed accordingly.

Note

50 -2

Purpose	Adjustment
Section	Optical (Image scaning/Exposure)
Item	Picture quality/Print area
Function (Purpose)	Used to adjust the copy image position and the void area (image loss). (Simple adjustment) Same as SIM 50-1, but this simulation is just simple. When the set value of SIM 50-1 cannot be supposed, use this simple method, then execute SIM 50-1 to makemore precise adjustment.
Operation/ Procedure	The adjustment is made by changing the five set values A, B, C, D, and E. When this simulation is executed, the currently set value is displayed on the COPIES MADE display. There are five adjustment items, one of which is selected by the scroll key. The display of each mode is made with alphabet (A~E) on the COPIES SELECTED display. Enter the adjustment value with the 10-key pad and press the START key to set the entered value and make a copy. (Setting procedure) 1) Set the values of 50A and 50B to 0. 2) Make a 200% copy and a 100% copy. 3) Measure the distance between the 200% copy paper lead edge and the image lead edge, and set the measured value as the set value to 50A. (Example) If the measured value is 35.5mm, the set value is 355. 4) Measure the distance between the 100% copy paper lead edge and the image lead edge, and set the measured value as the set value to 50B. By the above procedures, SIM 50-1 50A and 50B are automatically calculated and set. 50C, 50D, and 50E are the same as 50C, 50D, and 50E. This simulation is bi-directionally linked with SIM 50-1 and SIM 50-3. If the set value of this simulation is changed, the set values of SIM 50-1 and SIM 50-3 are also changed accordingly.
Note	

50 -3

Purpose	Adjustment
Section	Optical (Image scaning/Exposure)
Item	Picture quality/Print area
Function (Purpose)	Used to input the adjustment value of the copy image position and the void area (image loss). Same as SIM 50-1, but without copying.
Operation/ Procedure	Same as SIM 50-1, but without copying. This simulation is bi-directionally linked with SIM 50-1 and SIM 50-2. If the set value of this simulation is changed, the set value of SIM 50-1 and SIM50-2 are also changed accordingly. The adjustment content is selected with the scroll key. SIMULATION NO.50-3 IMAGE LOSS/VOID ADJUSTMENT. >50A (0~99): nn 50B (0~99): nn 50C (1~20): nn 50D (0~20): nn 50E (0~20): nn
Note	

50 -4

Purpose	Adjustment
Section	Optical (Image scaning/Exposure)
Item	Picture quality/Print area
Function (Purpose)	Used to enter the adjustment value of the void area on the copy paper. Same as SIM 50-1, 50D and 50E, but without copying.
Operation/ Procedure	Same as SIM 50-1, 50D and 50E, but without copying. This simulation is bi-directionally linked with SIM 50-1 50D and SIM 50-2 50D. If the set value of this simulation is changed, the set value of SIM 50-1 50D and 50E and SIM 50-2 50D and 50E are also changed accordingly. The adjustment content is selected with the scroll key.
Note	

```
SIMULATION NO.50-4
VOID ADJUSTMENT.
     >50D  (0~20):  nn
      50E  (0~20):  nn
```

51

```
SIMULATION NO.51
INPUT 1~4
1.PSPS TIMING ADJUSTMENT.
2.PAPER RESIST FORCE ADJUSTMENT.
3.PAPER RESIST FORCE ADJUSTMENT.(INPUT)
4.TRC2 OFF TIMING SET.
```

51 -1

Purpose	Adjustment
Section	Paper transport
Item	
Function (Purpose)	Used to adjust the OPC drum separation pawl ON timing.
Operation/ Procedure	Used to set the time from when RRC is turned on to transport the copy paper to the transfer section to when the separation pawl is turned on. The adjustment range is 0~20. Change in the set value by 1 corresponds to about 10msec of timing.
Note	

```
SIMULATION NO.51-1
INPUT ON PSPS TIMING
(0~20)
```

51 -2

Purpose	Adjustment
Section	Paper transport
Item	
Function (Purpose)	Used to adjust the copy paper contact pressure against the resist roller in each paper feed mode. This adjustment is required when there is a great variation in the image position for the copy paper.
Operation/ Procedure	When this simulations executed, the currently set value is displayed on the COPIES MADE display. There are five adjustment items, which can be selected with the scroll key. The display of each mode is made with alphabet (A~D) on the COPIES SELECTED display. Enter the adjustment value with the 10-key pad and press the START key to set the entered value. By changing the time from when the transport roller clutch (TRC2) is turned on to when the resist roller (TTC) is turned on, the copy paper contact pressure against the resist roller is adjusted. The greater the time is, the greater the contact pressure is. The contact pressure is made greater when there is a great variation in the image position for the copy paper. If, however, the contact pressure is too great, a misfeed may occur. The set value must be varied depending on the copy paper quality. 51A: Adjustment value of time from when the transport roller clutch (TRC2) is turned on to when the resist roller (RRC) is turned on (manual paper feed mode) 51B: Adjustment value of time from when the transport roller clutch (TRC2) is turned on to when the resist roller (RRC) is turned on (Paper feed tray 1 paper feed mode) 51C: Adjustment value of time from when the transport roller clutch (TRC2) is turned on to when the resist roller (RRC) is turned on (Paper feed tray 2 paper feed mode) 51D: Adjustment value of time from when the transport roller clutch (TRC2) is turned on to when the resist roller (RRC) is turned on (Paper feed tray 3 paper feed mode) 51E: Adjustment value of time from when the transport roller clutch (TRC2) is turned on to when the resist roller (RRC) is turned on (Cassette paper feed mode) 51G: Adjustment value of time from when the transport roller clutch (TRC2) is turned on to when the resist roller (RRC) is turned on (Duplex tray paper feed mode) The set value is in the range of 0~50. Change in the set value by 1 corresponds to about 1mm change in timing. This simulation is bi-directionally linked with SIM 51-3. If this setting is changed, the set value of SIM 51-3 is also changed accordingly.
Note	

	Item	Default	Adjustment range	
			min.	max.
51A	Manual paper feed tray	*23*	0	50
51B	Tray 1	*26*	0	50
51C	Tray 2	*26*	0	50
51D	Tray 3	*26*	0	50
51E	Cassette	*23*	0	50
51F	(Reserved)	*26*	0	50
51G	Duplex unit	*26*	0	50

51 -3

Purpose	Adjustment
Section	Paper transport
Item	
Function (Purpose)	Used to adjust the paper contact pressure against the resist roller of the copier. This simulation is same as SIM 51-2, but without copying.
Operation/ Procedure	Same as SIM 51-2, but without copying. This simulation is bi-directionally linked with SIM 51-2. If this setting is changed, the set value of SIM 51-2 is also changed accordingly. The set item is selected with the scroll key.

```
SIMULATION NO.51-3
RRC PAPER BUCKLE ADJUSTMENT.
     >51A (1~50):    nn
      51B (1~50):    nn
      51C (1~50):    nn
      51D (1~50):    nn
      51E (1~50):    nn
      51F (1~50):    nn
      51G (1~50):    nn
```

Note	

51 -4

Purpose	Adjustment
Section	Paper transport
Item	
Function (Purpose)	Used to adjust time when PPD3 detects the paper lead edge to when the transport roller clutch (TRC2/TRC1) turns off.
Operation/ Procedure	

```
SIMULATION NO.51-4
TR2C OFF TIMING SET.
(1~50)
```

When this simulation is executed, the currently set value is displayed on the COPIES MADE display.
Enter the adjustment value with the 10-key pad and press the START button to store the value.
The standard set value is 25. If the set value is too small, the copy paper is not taken up by the resist roller properly, resulting in variations in the image position on the copy paper. If too great, on the contrary, the copy paper is excessively taken up by the resist roller, resulting in a misfeed.
The adjustment range is 1~50. Change in the set value by 1 corresponds to about 1msec of timing.

Note	

52

```
SIMULATION NO.52
INPUT 1~2
   1.DUPLEX WIDTH GUIDE ADJUSTMENT.
   2.DUPLEX BACH STOP GUIDE ADJUSTMENT.
```

---

52 -1

Purpose	Adjustment
Section	Duplex
Item	
Function (Purpose)	Used to adjust the stop position of the duplex unit paper tray width direction alignment plate by changing the home position of the width direction alignment plate by the software.

Operation/ Procedure	When this simulation is executed, the currently set value is displayed on the COPIES MADE display.
	Enter the adjustment value with the 10-key pad and press the START button to set the value. The alignment plate is stopped at the adjusted position.
	The adjustment range is 1~99. The standard set value is 50. The greater the set value is, the greater the alignment plate width is.
	`SIMULATION NO.52-1`
	`DUPLEX WIDTH GUIDE ADJUSTMENT.`
	`INPUT DATA.(1~99)`
	Change in the set value by 1 corresponds to about *0.28*msec of timing.
	Set letter paper for the inch series, or A4 paper for the metric series to check that the clearance between the paper and the alignment plate is 0.5~1.0mm.

Note	

---

52 -2

Purpose	Adjustment
Section	Duplex
Item	
Function (Purpose)	*Used to adjut the stop position of the aligment plate in the paper feed direction of the duplex tray unit paper tray. The home position of the alignment plate in the width direction is changed by the software.*

Operation/ Procedure	*When this simulation is executed, the currently set value is displayed on the copy quantity display.*
	Enter the adjustment value with the numeric key and press the start button to set the entered value and stop the alignment plate at the adjusted position.
	`SIMULATION NO.52-2`
	`DUPLEX BACH STOP GUIDE ADJUSTMENT.`
	`INPUT DATA.(1~99)`
	The adjustment value can be changed in the range of 1~99. The standard set value is "50." When the set value is increased by "1", the timing is changed by about 0.58mm.
	In the case of the inch series, set a letter paper. For the metric series, set an A4 paper. Check that the clearance between the paper and the alignment plate is 0.5~1.0mm.

Note	

53

```
SIMULATION NO.53
1.RADF DOCUMENT STOP POSITION ADJ
2.RDF DOCUMENT STOP POSITION ADJ(WITHOUT COPY)
2.RADF SENSOR ADJUSTMENT.
```

53 - 1

Purpose	Adjustment
Section	ADF/RADF/UDH
Item	
Function (Purpose)	Used to adjust the document stop position in each RADF operation mode.
Operation/ Procedure	When this simulation is executed, the currently set value is displayed on the COPIES MADE display. Each operation mode is selected with the scroll key. Enter the adjustment value with the 10-key pad and press the START button to set the value. To check that if the adjustment value is proper or not, the RADF can be used to make a copy. The adjustment range is 0~15. The reference level is 8. When the set value is made smaller, the document stop position is shifted to the *left.* When the set value is made greater, the document stop position is shifted to the *right.* When the set value is changed, the RADF transport belt paper transport distance in each operation mode is changed.

↓

```
SIMULATION NO.53-1
RADF DOCUMENT STOP POSITION
(STANDARD/SINGLE DOCUMENT)
INPLT_A(0~15).[NOMAL PAPER/SURFACE]
```

↓ SCROLL KEY

```
SIMULATION NO.53-1
RADF DOCUMENT STOP POSITION
(STANDARD/DUPLEX DOCUMENT)
INPLT_A(0~15).[NOMAL PAPER/BACK]
```

↓ SCROLL KEY

```
SIMULATION NO.53-1
RADF DOCUMENT STOP POSITION
(THIN FILM/SINGLE DOCUMENT)
INPLT_A(0~15).[NOMAL PAPER/SURFACE]
```

↓ SCROLL KEY

```
SIMULATION NO.53-1
RADF DOCUMENT STOP POSITION
(THIN FILM/DUPLEX DOCUMENT)
INPLT_A(0~15).[NOMAL PAPER/BACK]
```

↓ SCROLL KEY

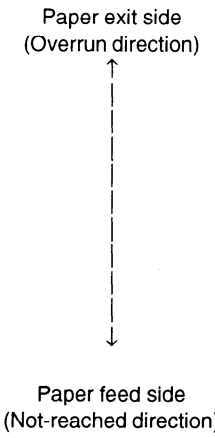
```
SIMULATION NO.53-1
RADF DOCUMENT STOP POSITION
(STANDARD/STEP FORWARD DIRECTION)
INPLT_A(0~15).[NOMAL PAPER/STEP]
```

↓ SCROLL KEY

```
SIMULATION NO.53-1
RADF DOCUMENT STOP POSITION
(THIN FILM/STEP FORWARD DIRECTION)
INPLT_A(0~15).[NOMAL PAPER/STEP]
```

↓ SCROLL KEY

Adjustment value	Adjustment quantity
0	*–8.0 mm*
1	*–7.2 mm*
2	*–5.6 mm*
4	*–4.0 mm*
5	*–3.2 mm*
6	*–1.6 mm*
7	*–0.8 mm*
8	0.0 (standard)
9	*+0.8 mm*
10	*+1.6 mm*
11	*+3.2 mm*
12	*+4.0 mm*
13	*+4.8 mm*
14	*+5.6 mm*
15	*+7.2 mm*



Note

---

53 -2

Purpose: Adjustment

Section: ADF/RADF/UDH

Item

Function (Purpose): Used to adjust the document stop position in each RADF operation mode.
Same as SIM 53-1, but without copying.

Operation/ Procedure: When this simulation is executed, the currently set value is displayed on the COPIES MADE display.
The adjustment item is selected with the scroll key. The adjustment value of the selected item can be changed with the 10-key pad. Press the START button to set the entered value.

SIMULATION No. 53-2
RADF DOCUMENT STOP POSITION ADJUSTMENT

	Normal paper	Thin paper	Surface	Back	Step
A	*		*		
B	*			*	
C		*	*		
D		*		*	
E	*				*
F		*			*

This simulation is bi-directionally linked with SIM 53-1. If the set value of this simulation is changed, the set value of SIM 53-1 is changed accordingly.

Note

53 -3	Purpose	Adjustment
	Section	ADF/RADF/UDH
	Item	
	Function (Purpose)	Used to adjust the sensitivity (threshold level) of the photo sensor in the RADF.
	Operation/ Procedure	When this simulation is executed, the list of the sensors is displayed on the LCD display. Each sensor can be selected with the scroll key. Select one of the sensors and press the START button, and the sensor sensitivity (threshold level) will be automatically adjusted. The level is displayed on the COPIES MADE display.
	Note	

```
SIMULATION NO.53-3
RADF SENSOR ADJUSTMENT.
  53A:RESIST SENSOR
  53B:TIMING SENSOR
  53C:DISCHARGE/REVERSE
  53D:WIDTH SENSOR
```

[8] RADF UNIT *DIAG* FUNCTIONS

1. General

The RADF unit adjustment and operation test can be made by using the push switch and DIP switch on the RADF control PWB.

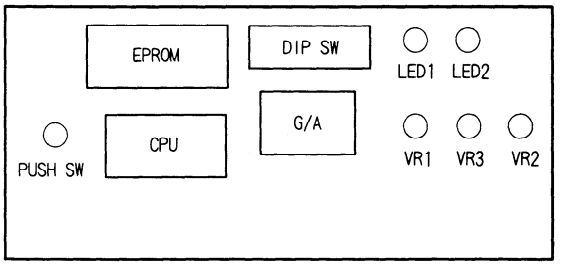
2. Test mode operating procedure

1) With the push switch on the RADF control PWB turned ON, supply the power.
2) Set the DIP switch on the RADF control PWB to the desired test or adjustment mode.
3) Open and close the RADF unit paper exit cover to register the mode set in 2).
   To change the operation mode, set the DIP switch to the desired mode and open and close the RADF unit paper exit cover.
4) Press the push switch on the RADF control PWB to operate the mode set in 2).

3. Operation panel

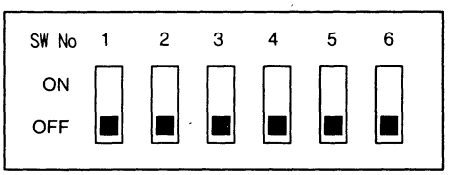
(Control PWB)

New



(DIP switch)

New



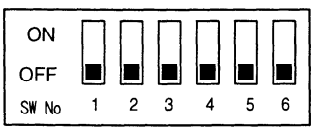
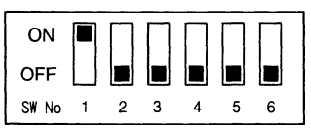
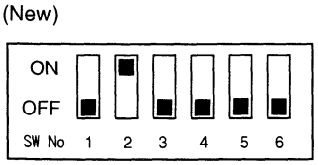
(Normally set all the switches to OFF.)

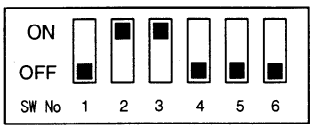
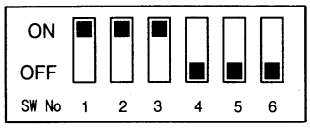
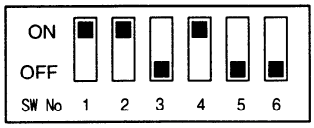
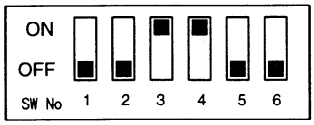
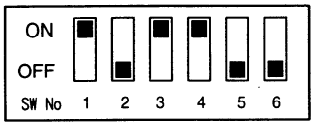
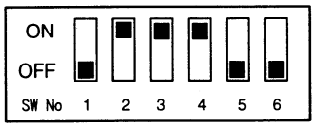
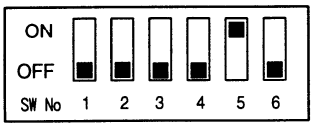
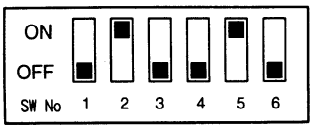
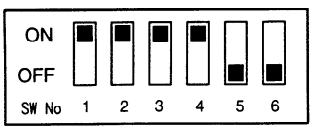
(Destination setting)

This setting is valid only in the test mode, and has no effects on the operation in the copy mode.

DIP switch 6	DIP switch 5	Destination
OFF	OFF	Inch series
OFF	ON	Europe, U.K.
ON	OFF	Australia
ON	ON	Japan

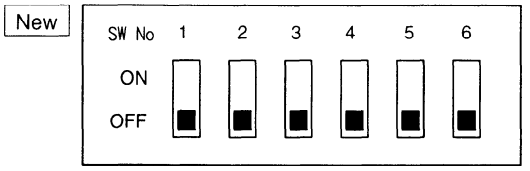
4. Test mode list

DIP switch setting	Function/operation	(*) SIM of same function
(New) 	Single paper pass mode (In the case of the thin film mode, DIP switch 6 is also ON.) Press the push switch, and the original on the paper feed tray will be passed through.	
(New) 	Duplex paper pass mode Press the push switch, and the original on the paper feed tray will be passed through.	
(New) 	Single paper step pass mode (In the case of the thin film mode, DIP switch 6 is also ON.) Press the push switch, and the original on the paper feed tray will be passed through.	

DIP switch setting	Function/operation	(*) SIM of same function
(New) 	Individual load check mode (Motor system) Every time when the push switch is pressed, the *motor* will be turned on/off repeatedly.	SIM2-3
(New) 	Individual load check mode (Solenoid system) Every time when the push switch is pressed, the actuator will be turned on/off repeatedly.	SIM2-3
(New) 	All sensors adjustment mode When the push switch is pressed, the detection level of each sensor will be automatically adjusted. Check that there is no original at each sensor position and that the paper exit cover is closed in advance to this adjustment.	SIM53-3
(New) 	E^2PROM initializing mode When the push switch is pressed, E^2PROM will be initialized. After the sensor adjustment, data of original stop position, etc are written into the E^2PROM. By performing this function, all data are cleared. After completion of this function, be sure to set all other adjustments.	
(New) 	Single aging mode When the push switch is pressed, aging without paper will be performed.	SIM2-1 (1)
(New) 	Duplex aging mode When the push switch is pressed, aging without paper will be performed.	SIM2-1 (2)
(New) 	Single paper pass mode (thin paper) When the push switch is pressed, the original on the paper feed tray will be passed.	
(New) 	Single step paper pass mode (thin paper) When the push switch is pressed, the original on the paper feed tray will be passed.	
(New) 	Transport motor rotating sensor phase adjustment mode When the push switch is pressed, the transport motor will be turned on/off.	

(*) Some functions of the RADF test can be performed with simulations. Either one of them may be used.

(Setting for normal copy mode)

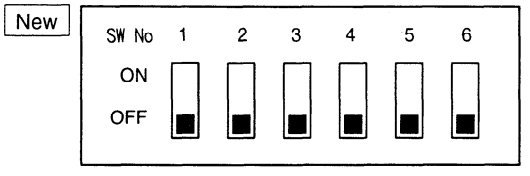


5. Details

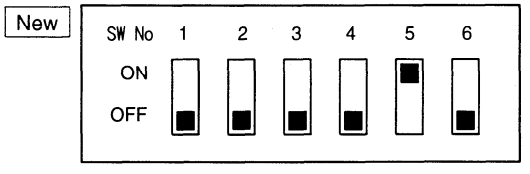
(1) Signal normal paper pass mode.

(normal paper/thin film mode)

Normal paper mode setting

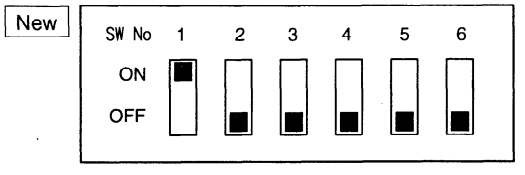


Thin paper mode setting



When originals are set on the tray, the original feed LED is lighted. When the push switch is pressed, all the originals on the paper feed tray are fed. In case of a paper jam, the original remaining LED is lighted. The paper jam is canceled by opening and closing the paper exit cover after removing the jam.

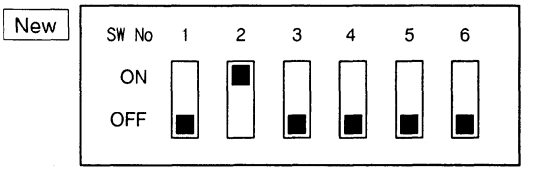
(2) Duplex normal paper mode



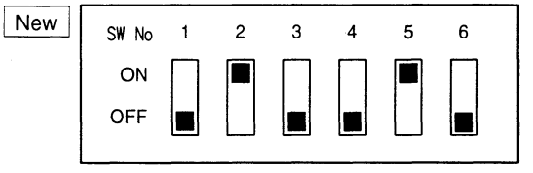
When originals are set on the tray, the original feed LED is lighted. When the push switch is pressed, all the originals on the paper feed tray are fed. In case of a paper jam, the original remaining LED is lighted. The paper jam is canceled by opening and closing the paper exit cover after removing the jam.

(3) Single paper step pass mode (normal/thin paper mode)

Normal paper mode setting



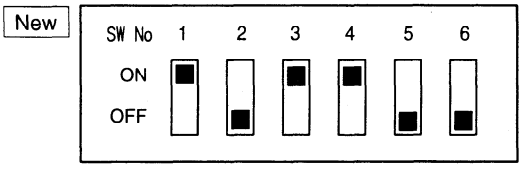
Thin paper mode setting



When originals are set on the tray, the original feed LED is lighted. When the push switch is pressed, all the originals on the paper feed tray are fed. In case of a paper jam, the original remaining LED is lighted. The paper jam is canceled by opening and closing the paper exit cover after removing the jam.

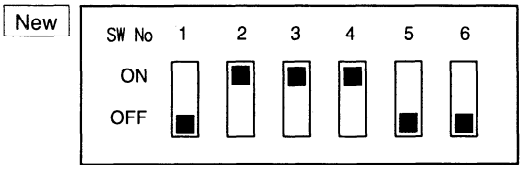
(4) Single aging mode

When the push switch is pressed, aging will be started. The operating timing is determined for each original size by the original side detection on the original feed tray. The operation is stopped by opening and closing the paper exit cover.



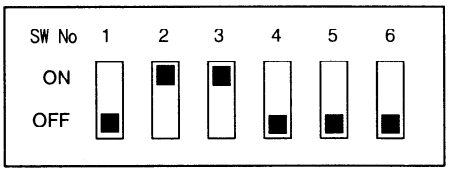
(5) Duplex aging mode

When the push switch is pressed, aging will be started. The operating timing is determined for each original size by the original side detection on the original feed tray. The operation is stopped by opening and closing the paper exit cover.



(6) Load check mode (Motor system)

New



When the push switch on the PWB is pressed, the operation of 1-7 and stopping are repeated alternatively.

In case of an error such as the motor lock error, the original remaining LED blinks at low speed. The motor lock error is canceled by opening/closing the paper exit cover.

① Paper feed motor reverse rotation (pick-up roller falling)

② Paper feed motor forward rotation (resist roller rotation)

③ Transport motor forward rotation

④ Transport motor reverse rotation

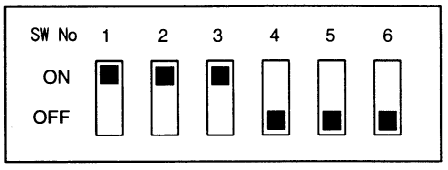
⑤ Transport motor forward rotation
Electromagnetic clutch ON

⑥ Paper exit motor high speed drive

⑦ Paper exit motor low speed drive

(7) Load check mode (Solenoid system)

New



Every time when the push switch on the PWB is pressed, the operation of 1-7 and stopping are repeated alternatively.

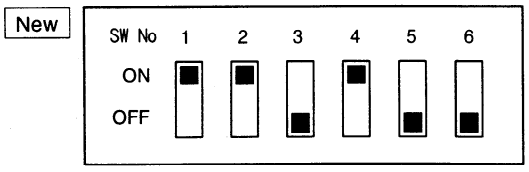
① Original stopper solenoid ON

② Flapper solenoid ON

③ Electromagnetic clutch ON

(8) Sensor adjustment mode

New



When the push switch is pressed, each sensor adjustment is performed. The original feed LED and the original remaining LED blink alternatively.

When the test is completed normally, the two LED's are lighted.

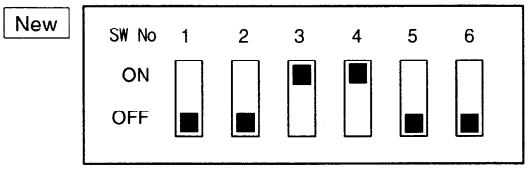
LED display in the sensor adjustment

	Original remaining LED	Original feed LED
Normal end	ON	ON
Resist sensor error	OFF	Blink
Timing sensor error	Blink	OFF
Paper expulsion sensor	OFF	OFF
Size sensor error	Blink	Blink

(9) E^2PROM initializing mode

In the E^2PROM initializing mode, each sensor adjustment data and the stop position data are cleared. After initializing the E^2PROM, perform ① adjustment of sensors (resist sensor, timing sensor, paper expulsion sensor, size width sensor) and ② original stop position adjustment data.

New

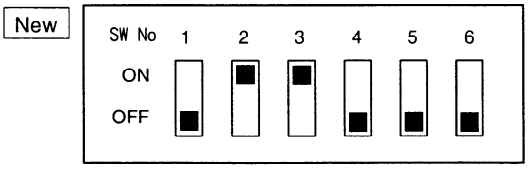


When the push switch is pressed, the E^2PROM is initialized. The original remaining LED and the original feed LED blink at a certain frequency. When the initializing is completed normally, the two LED's are lighted.

Incase of an error, two LED's are turned off.

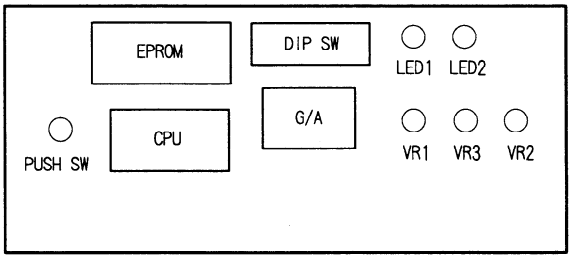
(10) Paper feed motor/paper exit motor speed adjustment mode

New



(Control PWB)

New



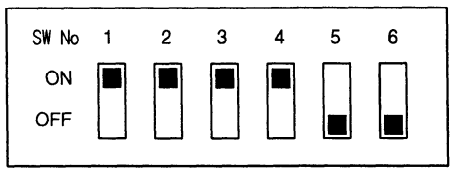
Every time when the push switch on the control PWB is pressed, the transport motor repeats starting and stopping. Keep pressing the push switch until the motor to be adjusted starts rotation. Then adjust the volume to adjust the speed.

Adjustment volume and adjustment mode

Adjustment sequence	Volume	Adjustment mode
1 (Paper feed)	VR2	Paper feed motor: Forward rotation (resist roller rotation)
2 (Paper feed)	*VR3*	Paper feed motor: Reverse rotation (pick-up roller rotation)
(Paper transport)	*VR1*	Paper *transport* motor: *High* speed rotation

(11) Transport motor lock sensor phase adjustment mode

New



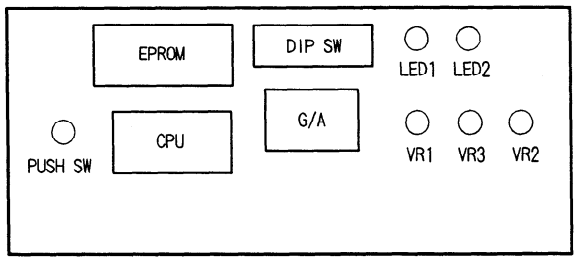
Every time when the push switch on the control PWB is pressed, the transport motor repeats starting and stopping. While the transport motor is rotating, adjust the position of the transport motor sensor bracket (movable side) on the transport motor bracket so that two LED's on the RADF control PWB turn on.

(12) EEPROM initializing method

① With the push switch on the RADF control PWB ON, turn on the power.

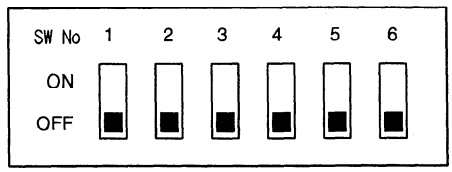
(Control PWB)

New



(DIP switch)

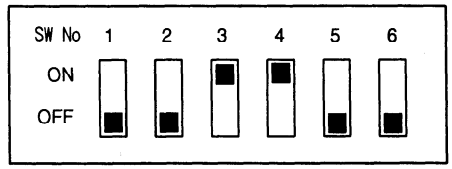
New



② EEPROM initializing mode

Set the DIP switches (1 - 4).

New



③ Open/close the RADF paper exit section cover. (The RADF paper exit section cover detecting switch is turned OFF/ON.)

With this operation, the operation mode set in 2) becomes effective.

④ Turn on the push switch.

[9] MAINTENANCE

In maintenance or servicing, the following items must be performed.

1) Parts (lubrication, grease up, replacement, cleaning)
2) Counter clear
3) Adjustments and setting

1. Maintenance timing and items

Perform maintenance according to the table below.

★ = Lubrication, grease up ○= Cleaning △ = Adjustment, setting ▲ = Replacement, installation □ = Re-positioning
× = Check (Adjust, adjust, clean, replace, lubricate, or grease up according to necessity.)

A. Parts replacement, cleaning, lubrication, grease up, installation, check

No.	Section	Parts				Maintenance item and timing						Remark
		No.	Unit	No.	Sub parts	When installing	When servicing	125K	250K	375K	500K	
1	Paper feed section	1	Manual paper feed unit	1	Rollers	×	×	▲	▲	▲	▲	*2
				2	Torque limiter				▲		▲	*2
		2	Cassette paper feed unit	1	Rollers	×	×	○	▲	○	▲	*2
				2	Torque limiter				▲		▲	*2
		3	No. 1, 2, 3 paper feed tray unit	1	Paper feed belt	×	×	○	○	○	○	*2
2	Paper transport section			1	Suction belt		○	○	○	○	○	Apply starting powder to the back of the belt.
				2	Rollers		○	○	○	○	○	
3	Image forming section	1	OPC drum unit	1	OPC drum	▲ *1	×	×	▲	×	▲	Adjust the sensitivity level with SIM 26-7 at every replacement.
		2	Cleaning unit	1	Cleaning blade			▲	▲	▲	▲	Adjust the position again.
				2	Toner seal			○	▲	○	▲	
				3	Cleaner seal F			○	○	○	○	
				4	Cleaner seal R			○	○	○	○	
				5	Separation pawl			○	▲	○	▲	
				6	Image density sensor		×	○	○	○	○	After cleaning, check the detection level and adjust if necessary.
		3	Main charger unit	1	Charger plate (saw teeth)	×	×	○	▲	○	▲	
				2	Screen grid	×	○	○	▲	○	▲	
		4	Pre-transfer charger unit	1	Charger wire (for pre-transfer)	×	○	○	▲	○	▲	
		5	Transfer, separation charger unit	1	Charger wire (for transfer/ separation)	×	○	○	▲	○	▲	
		6	Blank lamp unit				○	○	○	○	○	
		7	Discharge lamp unit				○	○	○	○	○	
		8	Others	1	OPC drum marking sensor		×	○	○	○	○	After cleaning, check the detection level and adjust if necessary.
4	Developing section	1	Developing unit	1	Developer	▲		×	▲	×	▲	1.7kg. Set to the reference toner concentration level with SIM 25-2.
				2	Toner	▲						User supply
				3	DV seal			○	○	○	▲	
				4	DSD seal			○	○	○	○	
				5	DV seal F			○	○	○	○	
				6	DV seal R			○	○	○	○	

*1: Only for Europe.

*2: Check the copy count of each unit with SIM22-1 and perform the procedure according to the count value.
Reset the copy counter of each unit with SIM24 after completion of servicing work.

No.	Section	Parts				Maintenance item and timing						Remark
		No.	Unit	No.	Sub parts	When installing	When servicing	125K	250K	375K	500K	
5	Fusing section	1	Fusing unit	1	Upper heat roller			×	×	×	▲	Replace after every 18 months even though the specified number of copies are not made.
				2	Lower heat roller			×	▲	×	▲	Replace after every 18 months even though the specified number of copies are not made.
				3	*Upper cleaning roller*	▲		▲	▲	▲	▲	
				4	*Lower cleaning roller*	▲		▲	▲	▲	▲	
				5	Upper separation pawl			□	▲	□	▲	
				6	Lower separation pawl			□	▲	□	▲	
				7	Thermistor			○	○	○	▲	
				8	Heat roller gear			×	○	×	▲	
				9	Curl correction belt			○	○	○	○	
				10	Heat insulation collar			×	×	×	▲	
				11	Paper dust cleaning roller			×	○	×	▲	
				12	Paper dust cleaning roller felt			×	×	×	×	
				13	Rollers			○	○	○	○	
				14	Gears			×	★	×	★	
6	Optical section	1	No. 1 scanner unit	1	No. 1 mirror		○	○	○	○	○	
				2	Reflector		○	○	○	○	○	
				3	AE sensor		×	○	○	○	○	
				4	Copy lamp				▲		▲	
		2	No. 2 scanner unit	1	No. 2/3 mirror		○	○	○	○	○	
		3	No. 4/5 mirror unit	1	No. 4/5 mirror		○	○	○	○	○	
		4	Lens unit	1	Lens		○	○	○	○	○	
		5	Others	1	Dirt sensor			○	○	○	○	
				2	Filter			○	○	○	○	
				3	Drive wire				×		×	
				4	Reference reflection sheet			○	○	○	○	
				5	Scanner rail			×	★	×	★	
				6	No. 6 mirror			○	○	○	○	
7	Duplex wire section			1	Paper feed belt		○	○	○	○	○	*2
				2	Rollers		×	○	○	○	○	*2
				3	Sensor		×		×		×	*2
				4	Discharge brushes			▲	▲	▲	▲	*2
8	Paper exit section			1	Rollers		○	○	○	○	○	
9	Switchback section			1	Rollers		○	○	○	○	○	
10	RADF section			1	Pick-up roller			○	○	▲	○	*2
				2	Paper feed roller			○	○	▲	○	*2
				3	Separation roller			○	○	▲	○	*2
				4	Transport roller			○	○	○	○	*2
				5	Other rollers			○	○	○	○	*2
				6	Sensors			○	○	○	○	Adjust with SIM 53-3. *2
				7	Shafts						★	*2
				8	Gear			×	×	×	★	*2
				9	Clutch spring/shaft						★	*2
11	Drive section			1	Gears				★		★	
				2	*Belts*				×		×	
12	Others	1	Document glass	1	Document glass	×	○	○	○	○	○	
				2	Waste toner bottle			▲	▲	▲	▲	
				3	Ozone filters			×	○	×	▲	
				4	Document size sensor		×	×	×	×	○	Adjust with SIM 44-2.

B. Adjustments

No.	Section	No.	Parts	Unit	Sub parts			Maintenance item and timing						Remark
								When installing	When servicing	125K	250K	375K	500K	
1	Paper feed section	A	Air pressure check and adjustment	(1)	No. 1 paper feed tray	a	Suction air pressure check and adjustment							
						b	Blower air pressure check							
				(2)	No. 2 paper feed tray	a	Suction air pressure check and adjustment		×	×	×	×	△	*2
						b	Blower air pressure check							
				(3)	No. 3 paper feed tray	a	Suction air pressure check and adjustment							
						b	Blower air pressure check							
2	Optical section	A	Parts installing position adjustment	(1)	Scanner drive wire tension adjustment					×	×	×	△	
		B	Copy quality adjustment	(1)	Image distortion adjustment	a	Horizontal image distortion adjustment							
						b	Vertical image distortion balance adjustment	×	×	×	×	×	△	
						c	Vertical image distortion adjustment							
				(2)	Copy image center position adjustment	a	When manual paper feed unit is used							
						b	When paper feed cassette is used							
						c	When paper feed tray unit is used	×	×	×	×	×	△	
						d	When duplex unit is used							
						e	RADF copy mode							
						f	All copy modes							
				(3)	Focus adjustment	1	Focus adjustment input							
						a	Normal copy focus adjustment input							
						b	Enlargement copy focus adjustment input							
						c	Reduction copy focus adjustment input	×	×	×	×	×	△	
						2	Focus adjustment							
						a	Normal copy focus adjustment							
						b	Enlargement copy focus adjustment							
						c	Reduction copy focus adjustment							
				(4)	Vertical copy magnification ration adjustment	1	Vertical copy magnification ratio adjustment input							
						a	Vertical copy magnification ratio adjustment input (Normal)							
						b	Vertical copy magnification ratio adjustment input (Enlargement)							
						c	Vertical copy magnification ratio adjustment input (Reduction)	×	×	×	×	×	△	
						2	Vertical copy magnification ratio adjustment							
						a	Vertical copy magnification ratio adjustment (Normal)							
						b	Vertical copy magnification ratio adjustment (Enlargement)							
						c	Vertical copy magnification ratio adjustment (Reduction)							
				(5)	Horizontal (paper transport direction) copy magnification ratio adjustment			×	×	×	×	×	△	
				(6)	Uniformity adjustment			×	△	△	△	△	△	

No.	Section	No.	Parts	Unit	Sub parts			Maintenance item and timing						Remark
								When installing	When servicing	125K	250K	375K	500K	
2	Optical section	B	Copy quality adjustment	(7)	Image loss void area adjustment	a	Image lead edge reference position adjustment	×	△	△	△	△	△	
						b	Resist roller ON timing adjustment							
						c	Brake clutch OFF timing adjustment							
						d	Copy lead edge void adjustment							
						e	Back copy rear edge void adjustment							
				(8)	Blank lamp position adjustment			×	×	×	×	×	×	
3	Image forming section	A	OPC drum unit	(1)	OPC drum sensitivity setting			△			△		△	Every time when OPC drum is replaced, set the sensitivity level with SIM26-7.
		B	Charger unit	(1)	Transfer charger current adjustment				×	×	×	×	△	
				(2)	Pre-transfer discharging charger current adjustment									
				(3)	Main charger current balance adjustment	a	Manual copy mode main charger current balance adjustment							
				(4)	Main charger voltage adjustment	a	Manual copy mode main charger voltage adjustment							
						b	Photo copy mode main charger voltage adjustment							
						c	Toner save mode main charger voltage adjustment							
				(5)	Separation charger voltage adjustment									
		C	Cleaner unit	(1)	Cleaning blade position adjustment				×	△	△	△	△	After replacing, cleaning, disassembling, and assembling the cleaning blade, adjust it.
		D	Image density sensor sensitivity adjustment					×	×	△	△	△	△	After replacing or cleaning the sensor, adjust it.
		E	Drum mark sensor sensitivity adjustment					×	×	△	△	△	△	After replacing or cleaning the sensor, adjust it.
4	Developing section	A	Developing unit	(1)	Developing bias voltage adjustment				×	×	×	×	△	
				(2)	Toner concentration adjustment			△			△		△	Every time when developer is replaced, set the toner concentration level with SIM 25-2.
5	Duplex section	A	Air pressure check and adjustment			a	Suction air pressure check and adjustment			×	×	×	△	*2
						b	Blower air pressure check and adjustment							
6	RADF section	A	RADF skew adjustment						×	×	×	×	△	*2
		B	RADF unit clearance adjustment						×	×	×	×	△	*2

No.	Section	No.	Parts	Unit	Sub parts			Maintenance item and timing: When installing	When servicing	125K	250K	375K	500K	Remark
6	RADF section	C	Sensor sensitivity adjustment	(1)	Resist sensor sensitivity adjustment				△	△	△	△	△	*2
				(2)	Timing sensor sensitivity adjustment									
				(3)	Paper exit sensor sensitivity adjustment									
				(4)	Paper width sensor sensitivity adjustment									
		D	Document stop position adjustment	(1)	Normal paper surface mode document stop position adjustment				×	△	△	△	△	*2
				(2)	Normal paper back mode document stop position adjustment									
				(3)	Thin paper surface mode document stop position adjustment									
				(4)	Thin paper back mode document stop position adjustment									
				(5)	Normal paper step mode document stop position									
				(6)	Thin paper step mode document stop position adjustment									
7	Document table	A	Document size sensor adjustment						×	△	△	△	△	
8	Copy density adjustment	A	AE sensor characteristics input					×	△	△	△	△	△	
		B	Copy density adjustment with SIM 46	(1)	Non-toner save mode	a	Manual copy mode copy density adjustment	×	△	△	△	△	△	No need to adjust when automatic copy density adjustment is used. (When SIM 44-1 is set to (127).)
						b	Photo copy mode copy density adjustment							
						c	Auto copy mode copy density adjustment							
				(2)	Toner save mode	a	Manual copy mode copy density adjustment							
						b	Auto copy mode copy density adjustment							
		C	Auto density adjustment (Automatically performed when warming up after turning on the power.)	(1)	Non-toner save mode	a	Manual copy mode copy density adjustment	×	△	△	△	△	△	Automatically adjusted by turning OFF/OF the power.
						b	Photo copy mode copy density adjustment							
						c	Auto copy mode copy density adjustment							
				(2)	Toner save mode	a	Manual copy mode copy density adjustment							
						b	Auto copy mode copy density adjustment							

C. Counter clear

No.	Item	Maintenance timing						Method	Remark
		When installing	When servicing	125K	250K	375K	500K		
1	Maintenance counter			◎	◎	◎	◎	SIM20	*After completion of maintenance*
2	Developer counter			◎	◎	◎	◎	SIM42	Every time when replacing developer
3	OPC drum correction counter				◎		◎	SIM24-7	Every time when replacing the OPC drum
4	Misfeed counter			◎	◎	◎	◎	SIM24-1	
5	Trouble counter			◎	◎	◎	◎	SIM24-2	
6	*Each unit counter*			◎	◎	◎	◎	*SIM24-3/ 4/5/6*	*After completion of each unit maintenance*

D. Photoconductor, developer, toner, maintenance kit

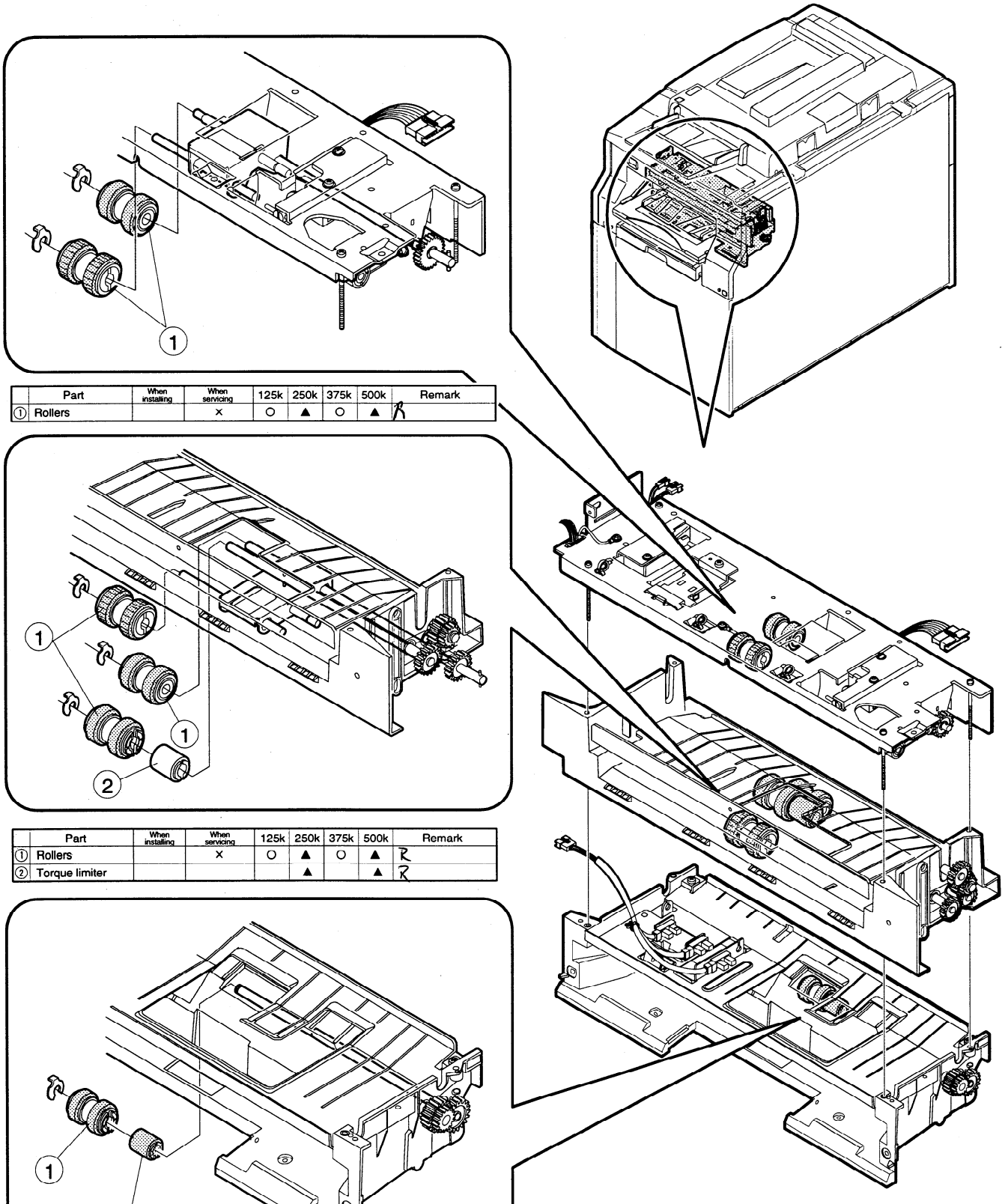
Overhaul table (Recommendable replacement parts list) - EX

Section	Parts				Replacement timing				Remark
	No.	Unit	No.	Sub parts	1500k	3000k	4500k	6000k	
Developing	1	Developing unit			▲	▲	▲	▲	
Drive	1	OPC drum, developing drive unit				▲		▲	
	2	Paper feed drive unit				▲		▲	
	3	Paper transport drive unit				▲		▲	
	4	Paper feed drive unit				▲		▲	
	5	Fusing drive unit			▲	▲	▲	▲	
Fusing	1	Fusing unit		Gear, Curl correction belt, Heater lamp, Paper guide		▲		▲	Japan 15A specification
						▲		▲	Japan 20A specification
						▲		▲	110V specification
						▲		▲	120V specification
						▲		▲	127V specification
						▲		▲	220V specification
						▲		▲	240V specification (Australia/U.K.)
						▲		▲	240V specification
Image forming	1	Pre-transfer discharger unit				▲		▲	
	2	Main charger unit				▲		▲	
	3	Transfer/separation charger unit			▲	▲	▲	▲	
			1	Cleaning brush	▲	▲	▲	▲	
Optical			1	Scanner drive pulley		▲		▲	
			2	Scanner drive wire		▲		▲	
			3	Scanner slider		▲		▲	
Paper transport			1	Transport roller clutch	▲	▲	▲	▲	
			2	Brake clutch	▲	▲	▲	▲	
			3	Suction belt (paper transport section)	▲	▲	▲	▲	
RADF			1	Original transport belt (RADF)	▲	▲	▲	▲	
			2	Transport belt clutch (RADF)	▲	▲	▲	▲	
Toner hopper			1	Toner supply roller	▲	▲	▲	▲	

When performing an overhaul, replace the maintenance parts as well as the parts listed in the above and perform necessary procedures of maintenance.
The above list shows a reference (recommendation). Replace parts as required according to the machine conditions.

2. Parts replacement, cleaning, lubrication, grease up

(1) Paper feed section

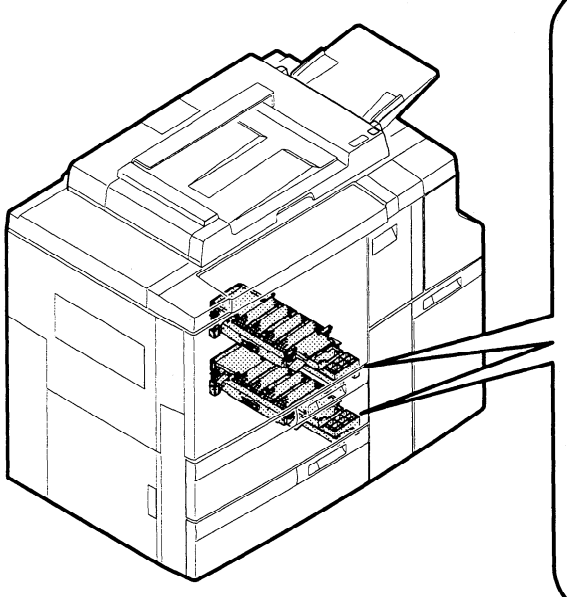


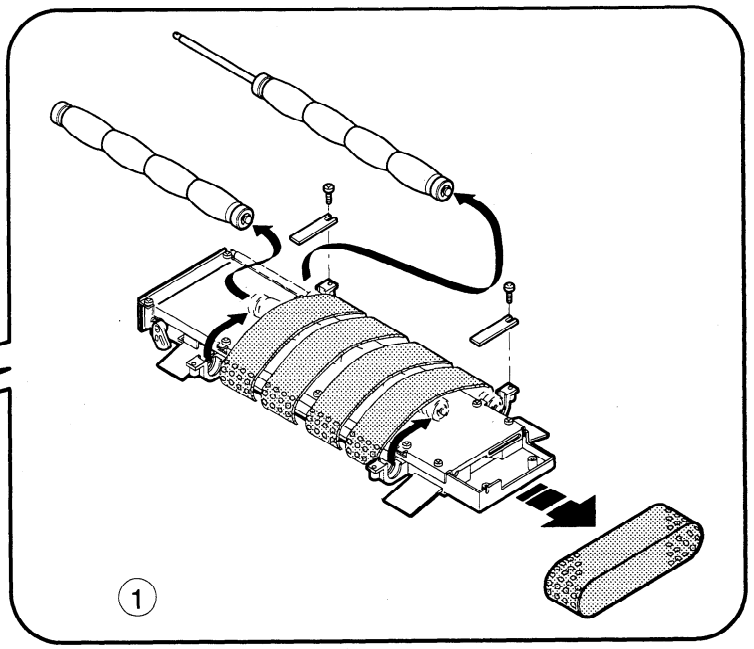
	Part	When installing	When servicing	125k	250k	375k	500k	Remark
①	Rollers		×	○	▲	○	▲	R

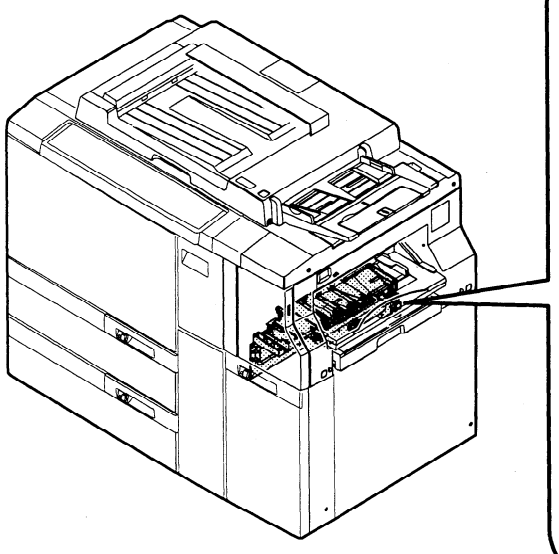
	Part	When installing	When servicing	125k	250k	375k	500k	Remark
①	Rollers		×	○	▲	○	▲	R
②	Torque limiter				▲		▲	R

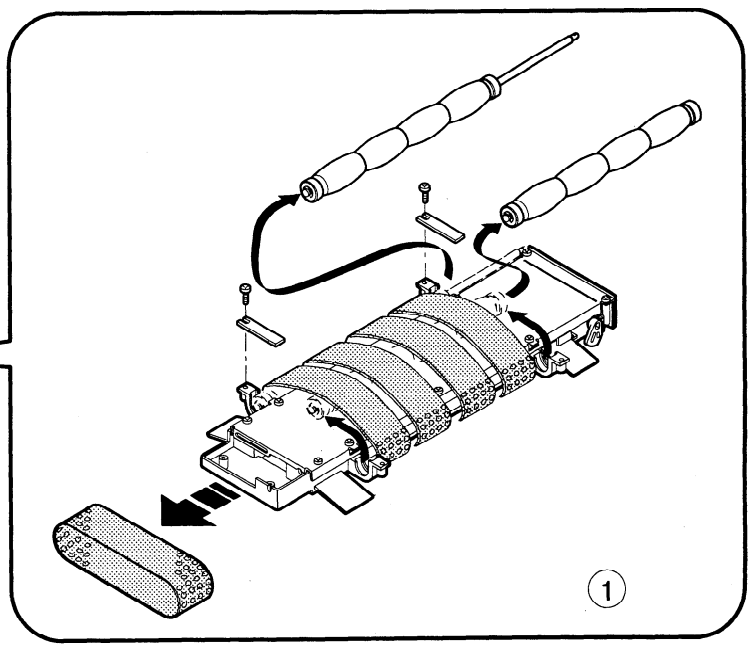
	Part	When installing	When servicing	125k	250k	375k	500k	Remark
①	Rollers		×	○	▲	○	▲	R
②	Torque limiter				▲		▲	R

	Part	When installing	When servicing	125k	250k	375k	500k	Remark
①	Paper feed belt		×	○	○	○	○	

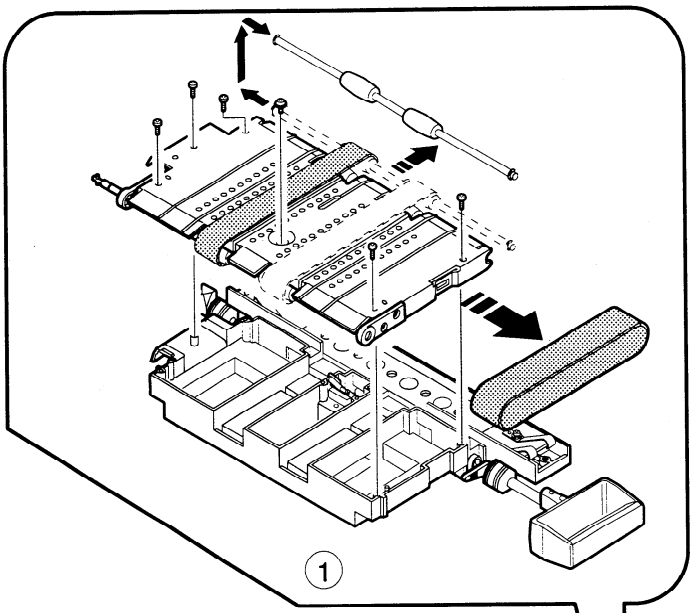




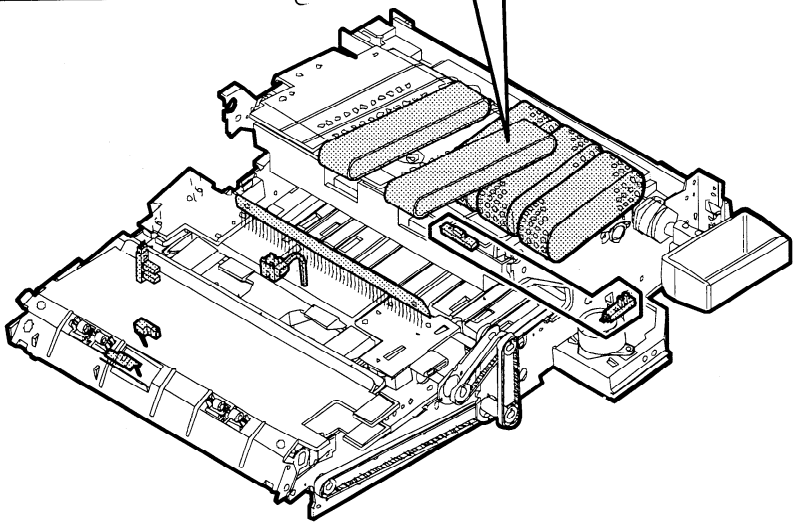


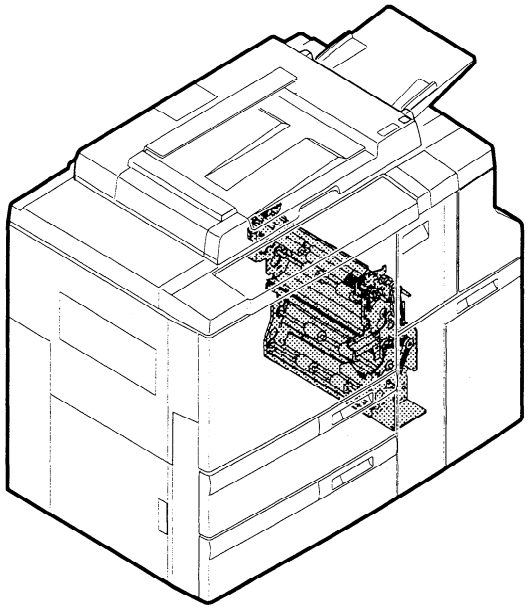


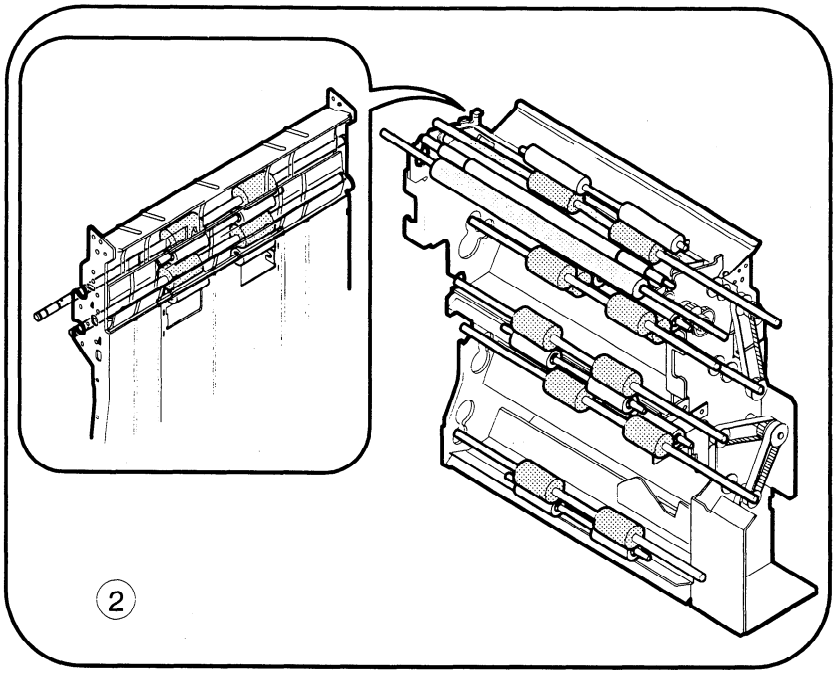
(2) Paper transport section



	Part	When installing	When servicing	125k	250k	375k	500k	Remark
①	Suction belt		O	O	O	O	O	Apply starting powder to the back of the belt.

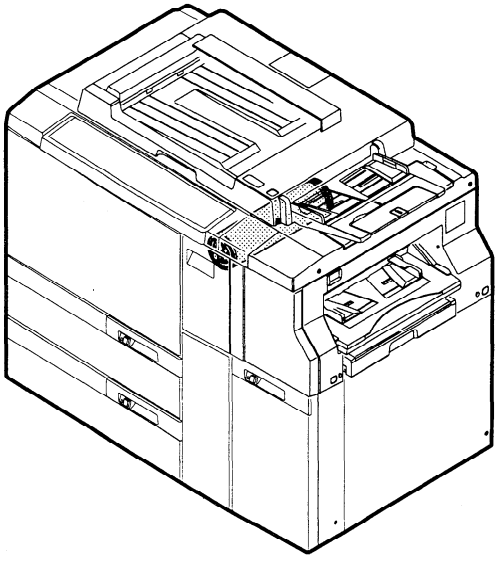


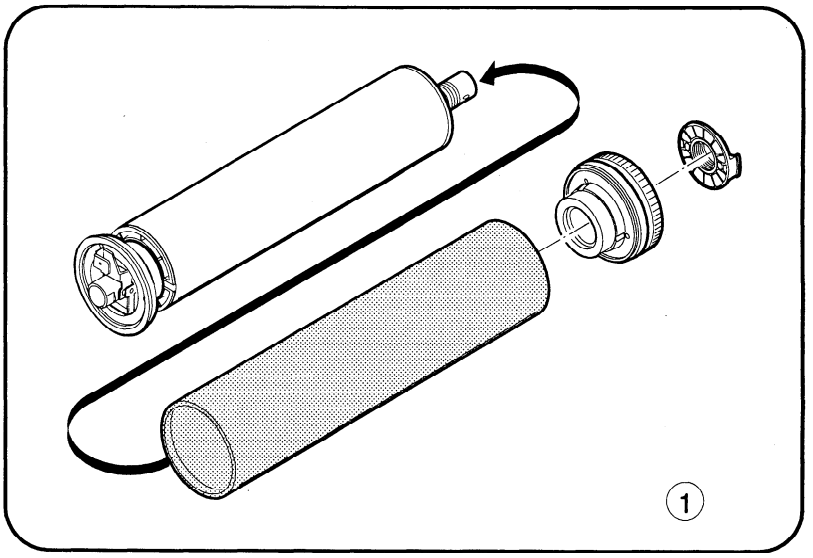




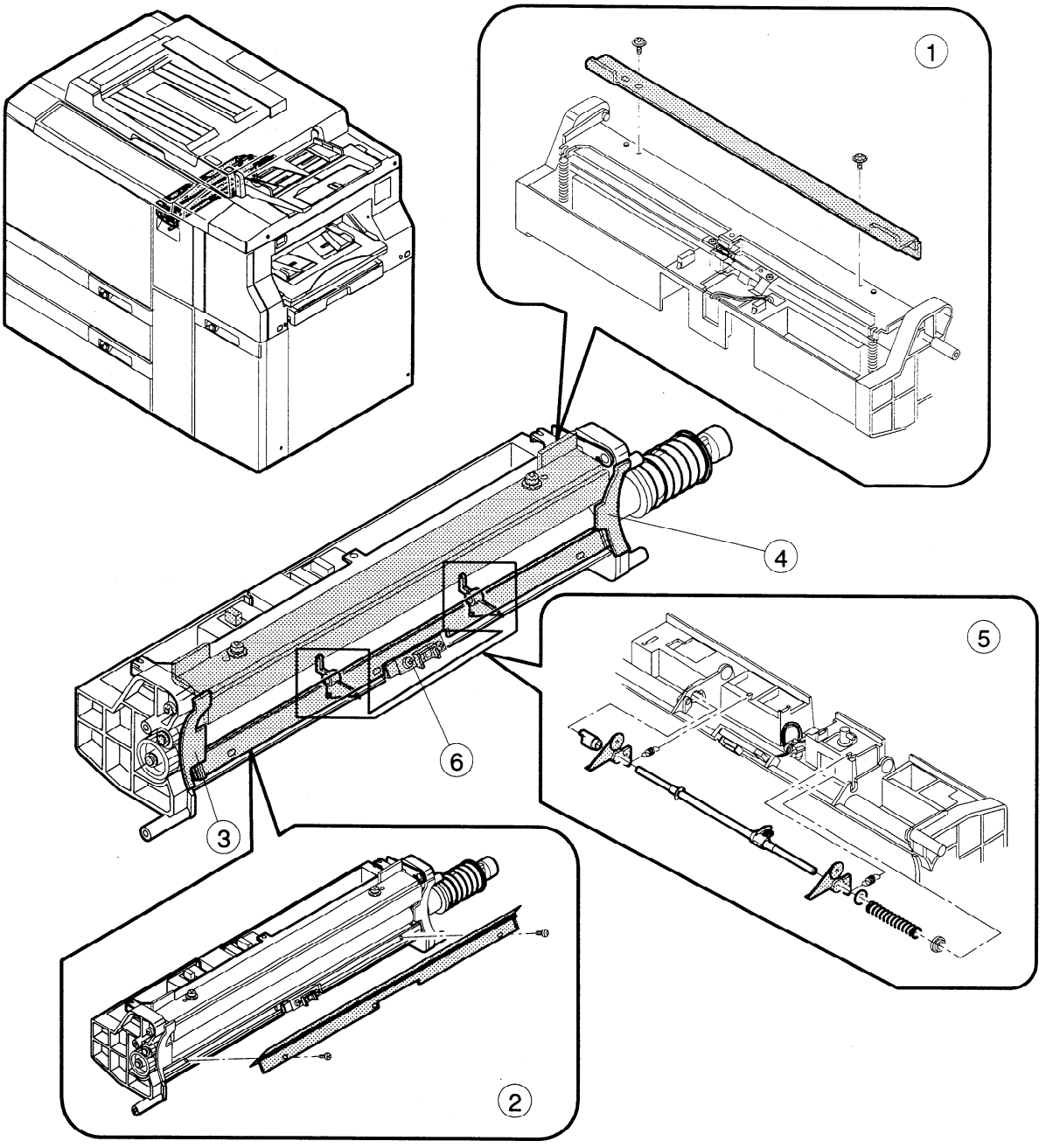
	Part	When installing	When servicing	125k	250k	375k	500k	Remark
②	Rollers		○	○	○	○	○	

(3) Image forming section

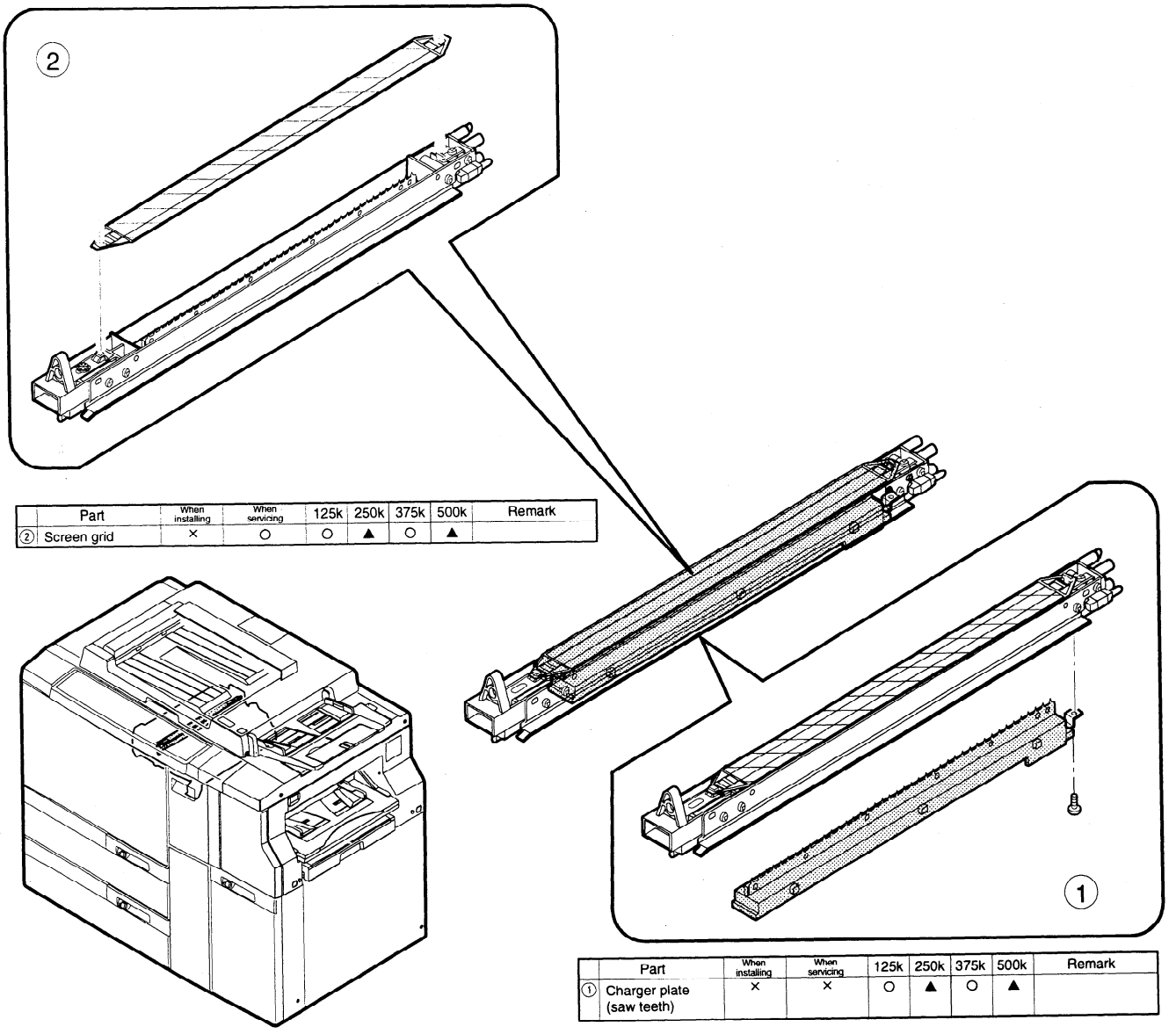




	Part	When installing	When servicing	125k	250k	375k	500k	Remark
①	OPC drum	▲*	×	×	▲	×	▲	Set the sensitivity level with SIM26-7 at every replacement.

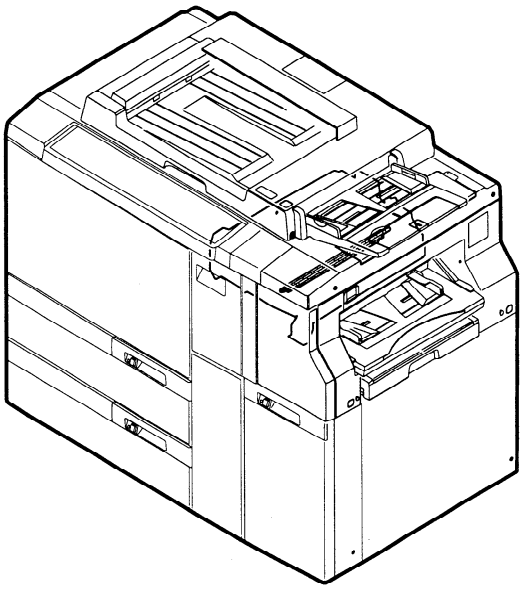


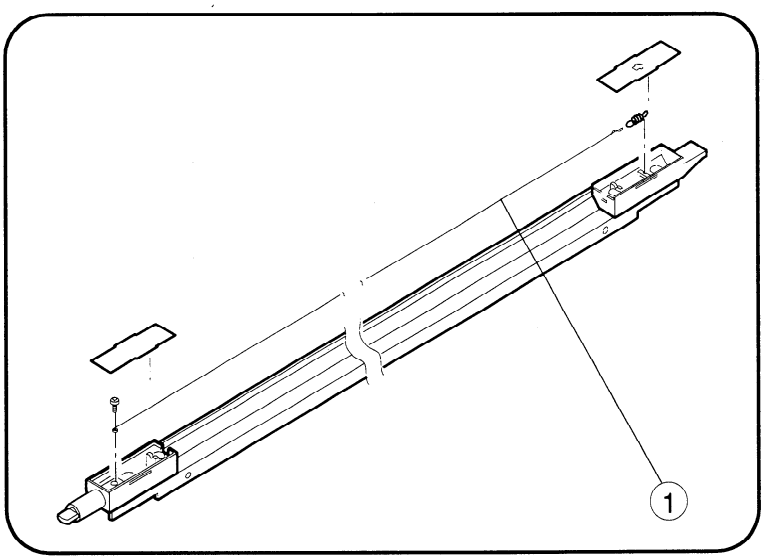
	Part	When installing	When servicing	125k	250k	375k	500k	Remark
①	Cleaning blade			▲	▲	▲	▲	Adjust the position.
②	Toner seal			O	▲	O	▲	
③	Toner seal F			O	O	O	O	
④	Toner seal R			O	O	O	O	
⑤	Separation pawl			O	▲	O	▲	
⑥	Image density sensor		×	O	O	O	O	After cleaning, check the detection level and adjust if necessary.



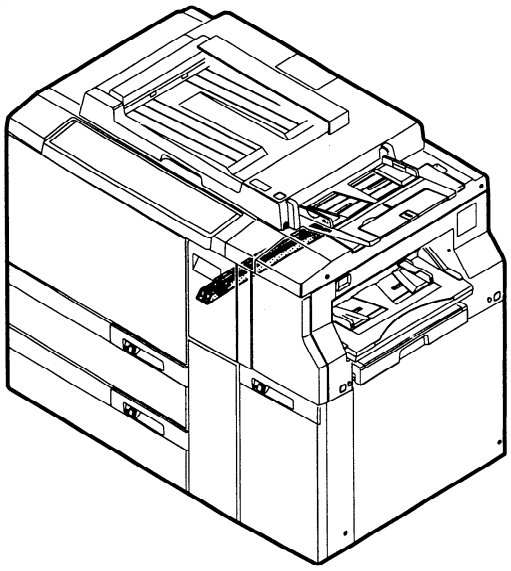
	Part	When installing	When servicing	125k	250k	375k	500k	Remark
②	Screen grid	×	○	○	▲	○	▲	

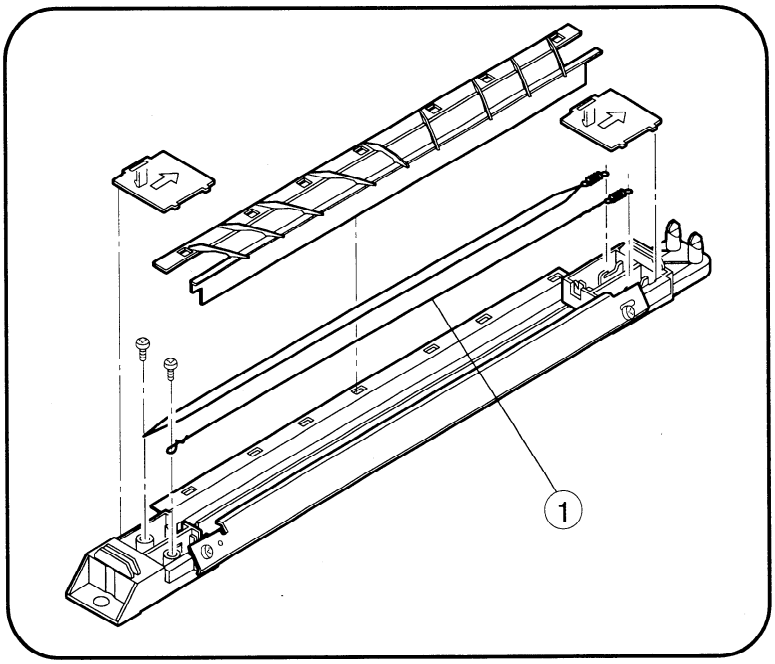
	Part	When installing	When servicing	125k	250k	375k	500k	Remark
①	Charger plate (saw teeth)	×	×	○	▲	○	▲	



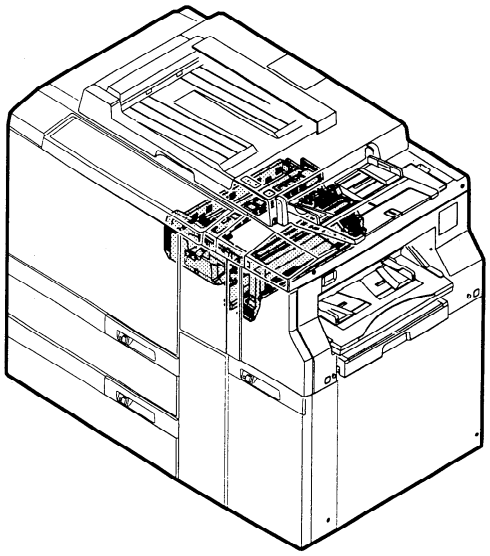


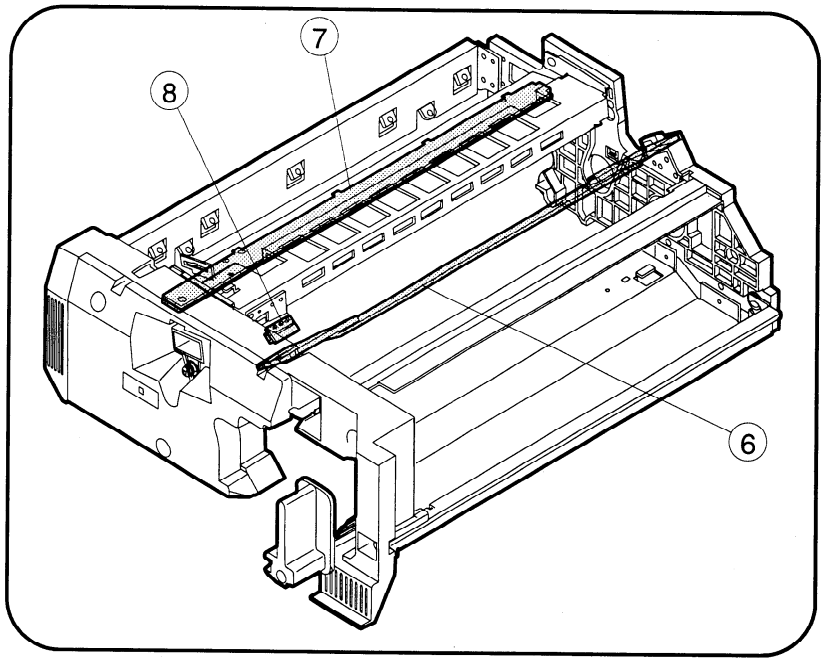
	Part	When installing	When servicing	125k	250k	375k	500k	Remark
①	Charger wire (for pre-transfer)	×	○	○	▲	○	▲	





	Part	When installing	When servicing	125k	250k	375k	500k	Remark
①	Charger wire (for transfer/separation)	×	○	○	▲	○	▲	

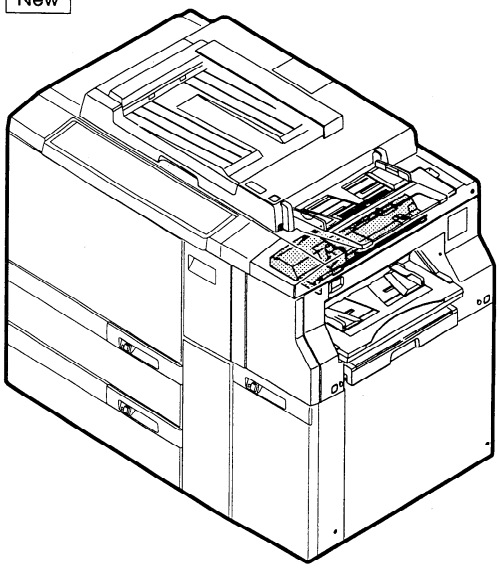


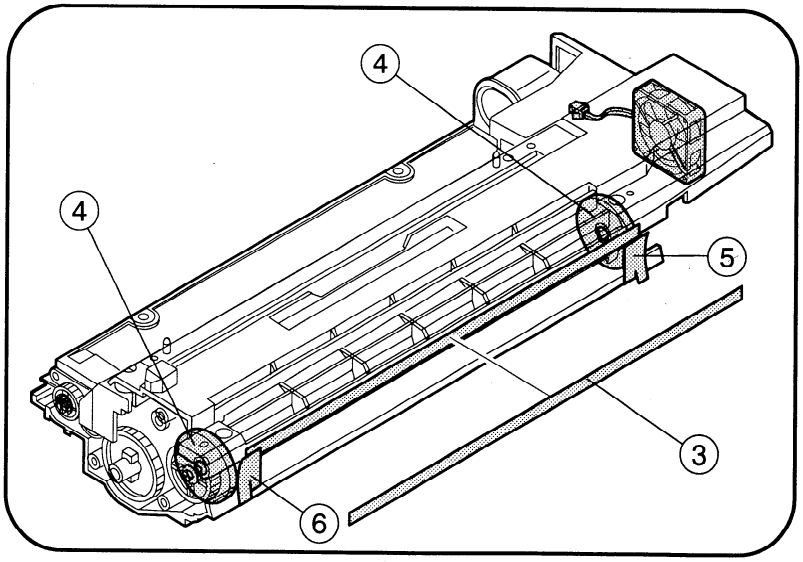


	Part	When installing	When servicing	125k	250k	375k	500k	Remark
⑥	Blank lamp unit		O	O	O	O	O	
⑦	Discharge lamp unit		O	O	O	O	O	
⑧	OPC drum marking sensor		×	O	O	O	O	After cleaning, check the detection level and adjust if necessary.

(4) Developing section

New



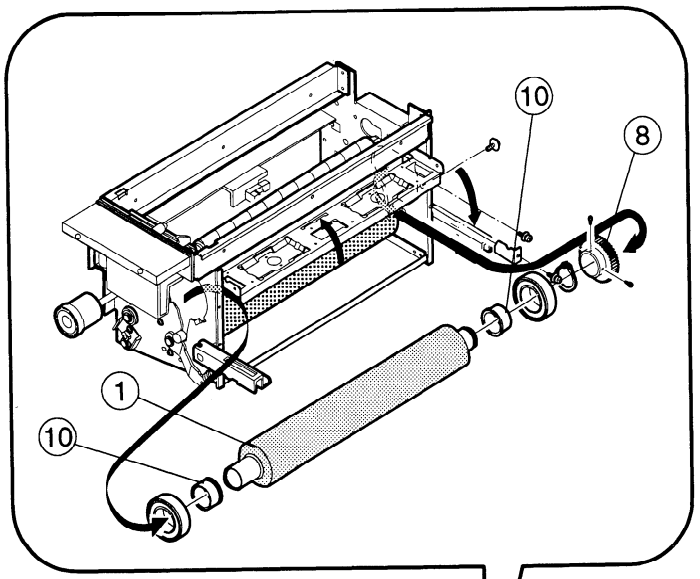


	Part	When installing	When servicing	125k	250k	375k	500k	Remark
③	DV seal			O	O	O	▲	
④	DSD collar			O	O	O	O	
⑤	DV seal F			O	O	O	O	
⑥	DV seal R			O	O	O	O	

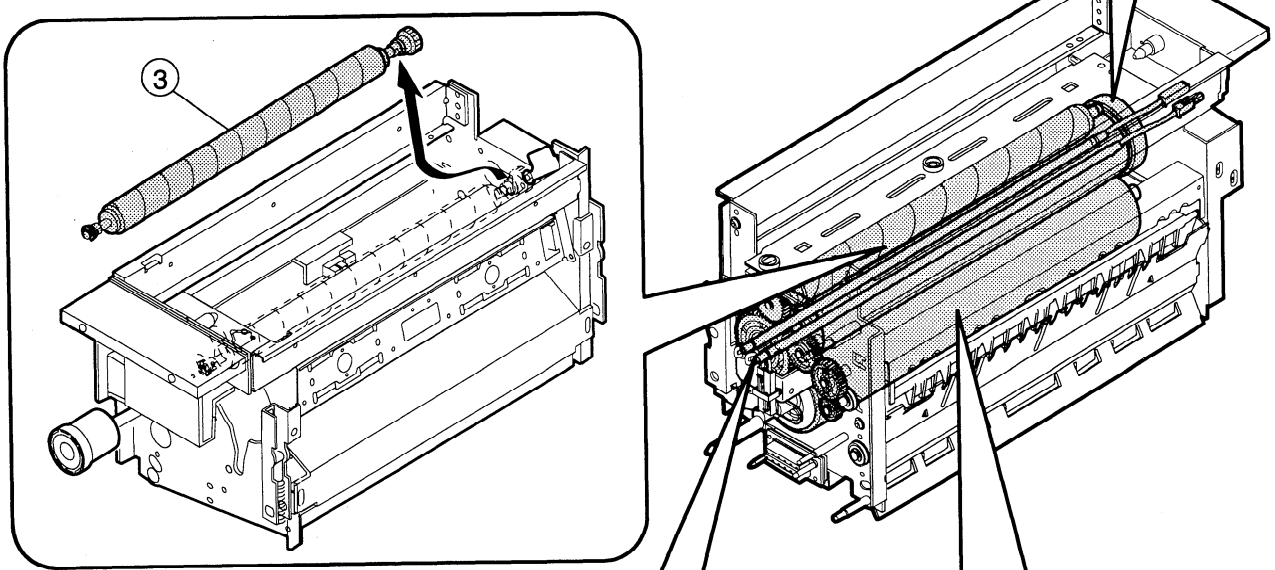
(5) Fusing section

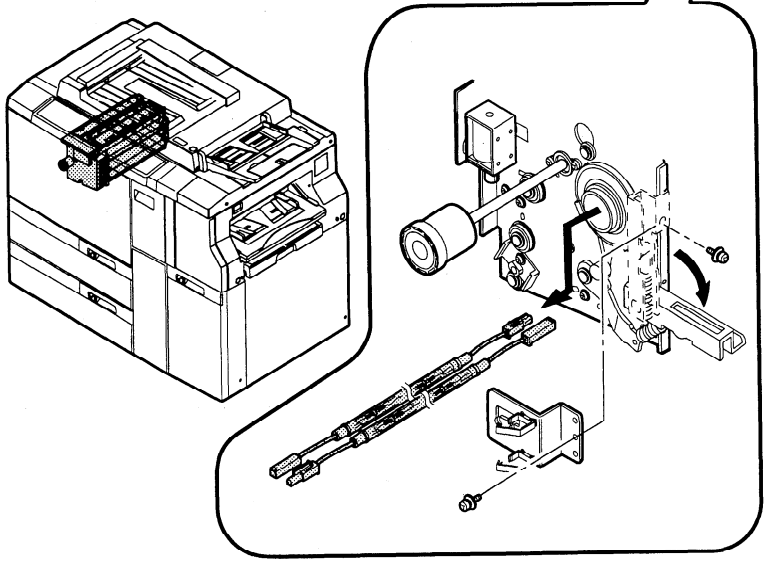
New

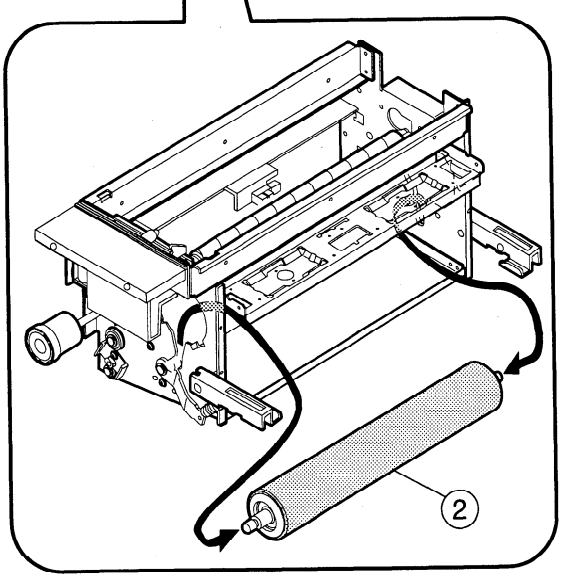
	Part	When installing	When servicing	125k	250k	375k	500k	Remark
①	Upper heat roller			×	▲	×	▲	Replace after every 18 months even though the specified number ofcopies are not made.
⑧	Upper heat roller gear			×	○	×	▲	
⑩	Heat insulation collar			×	×	×	▲	



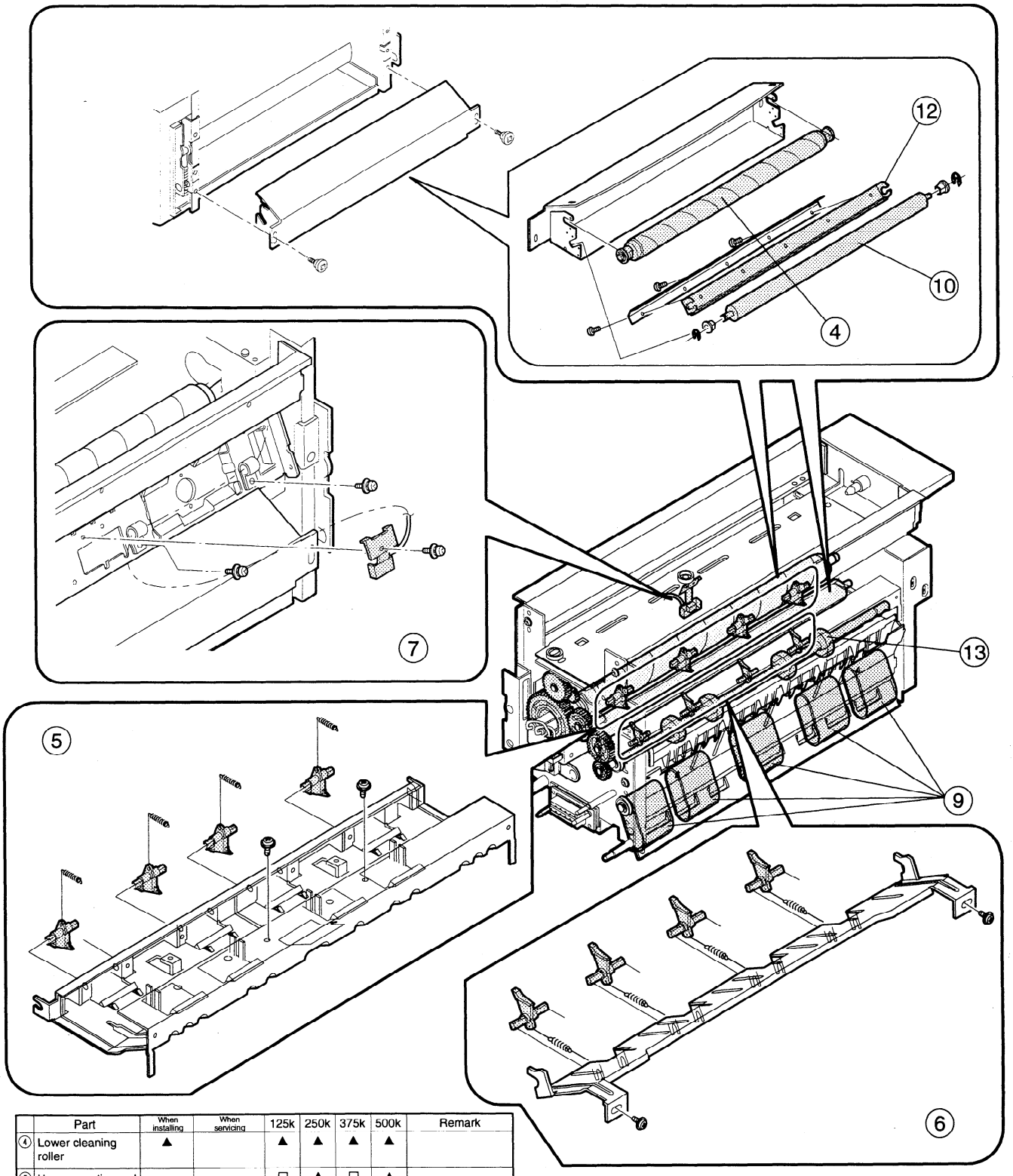
	Part	When installing	When servicing	125k	250k	375k	500k	Remark
③	Upper cleaning roller	▲		▲	▲	▲	▲	



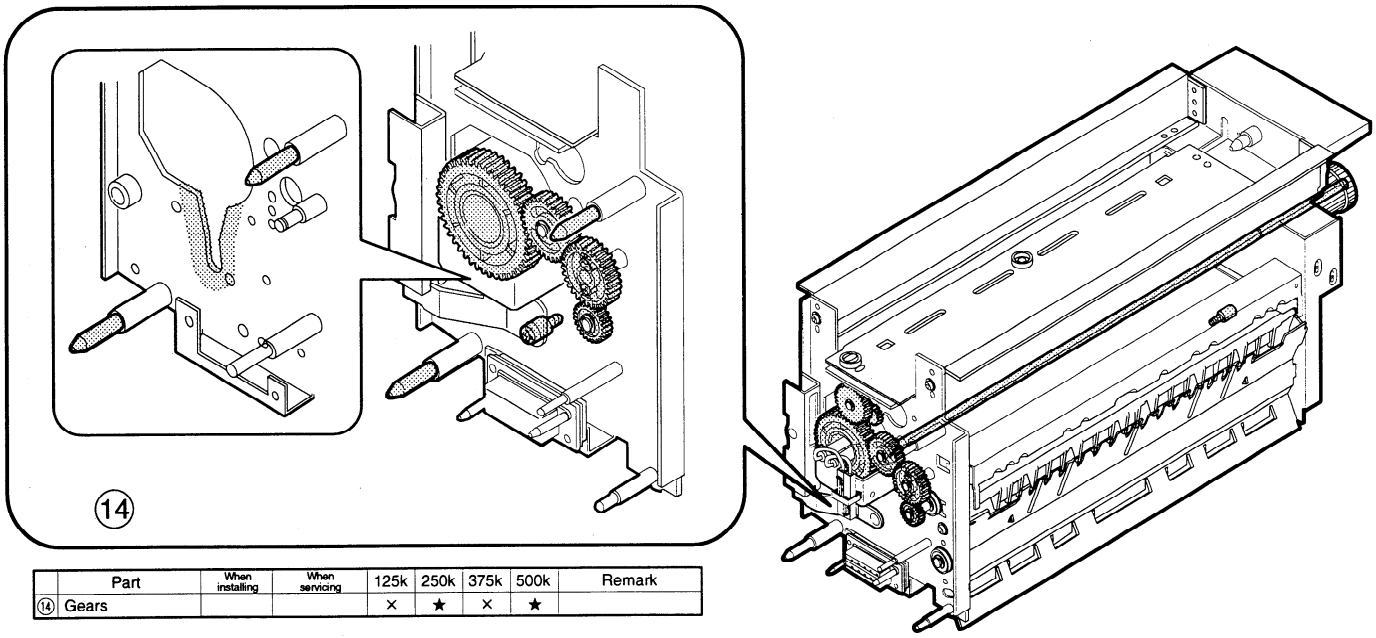




	Part	When installing	When servicing	125k	250k	375k	500k	Remark
②	Lower heat roller			×	▲	×	▲	Replace after every 18 months even though the specified number ofcopies are not made.

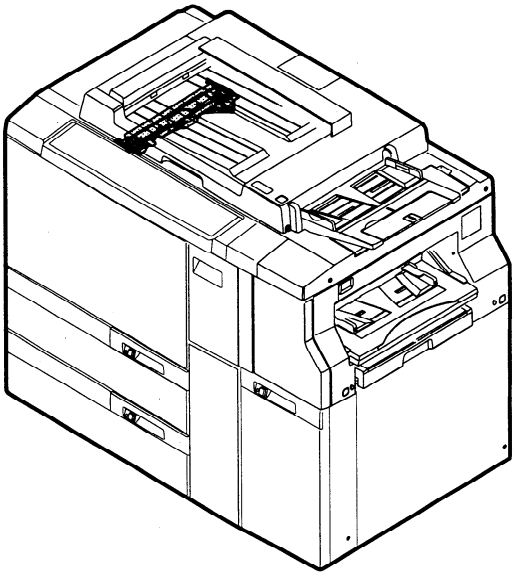


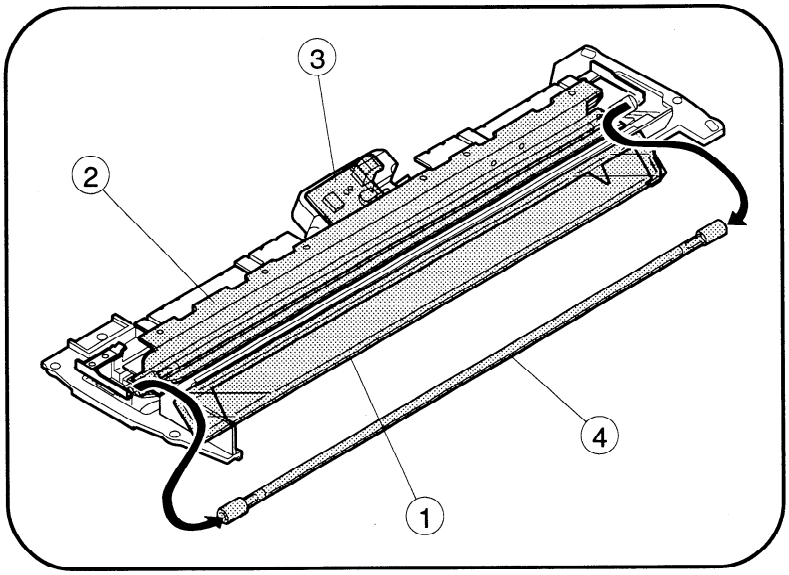
	Part	When installing	When servicing	125k	250k	375k	500k	Remark
④	Lower cleaning roller	▲		▲	▲	▲	▲	
⑤	Upper separation pawl			□	▲	□	▲	
⑥	Lower separation pawl			□	▲	□	▲	
⑦	Thermistor			○	○	○	▲	
⑨	Curl correction belt			○	○	○	○	
⑩	Paper dust cleaning roller			×	○	×	▲	
⑫	Paper dust cleaning roller felt			×	×	×	×	
⑬	Rollers			○	○	○	○	



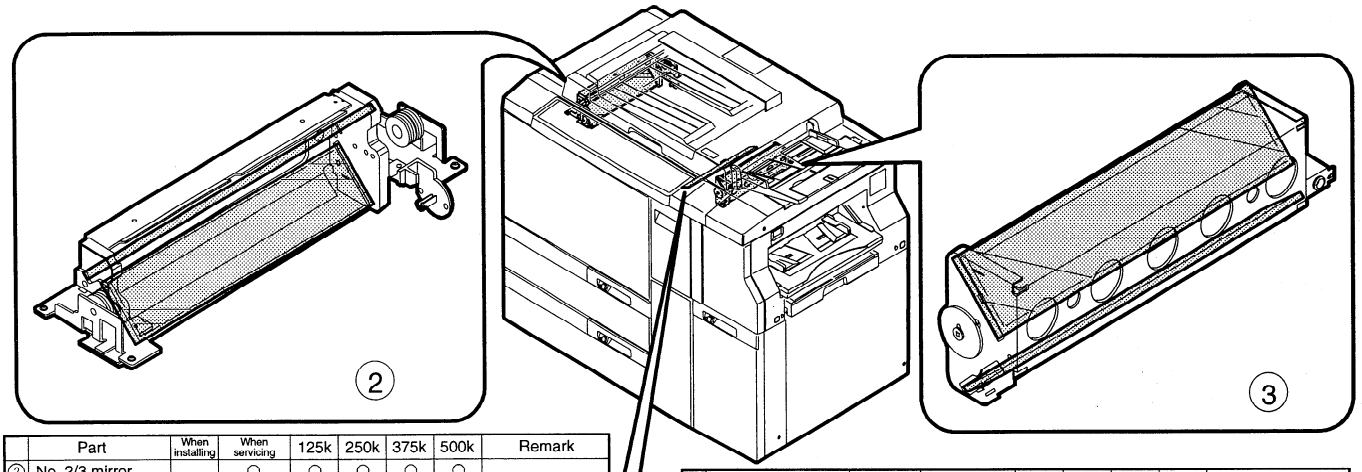
	Part	When installing	When servicing	125k	250k	375k	500k	Remark
⑭	Gears			×	★	×	★	

(6) Optical section



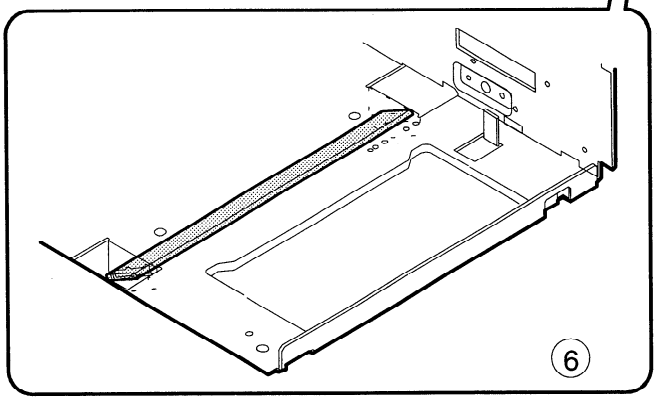


	Part	When installing	When servicing	125k	250k	375k	500k	Remark
①	No. 1 mirror		O	O	O	O	O	
②	Reflector		O	O	O	O	O	
③	AE sensor		×	O	O	O	O	
④	Copy lamp				▲		▲	

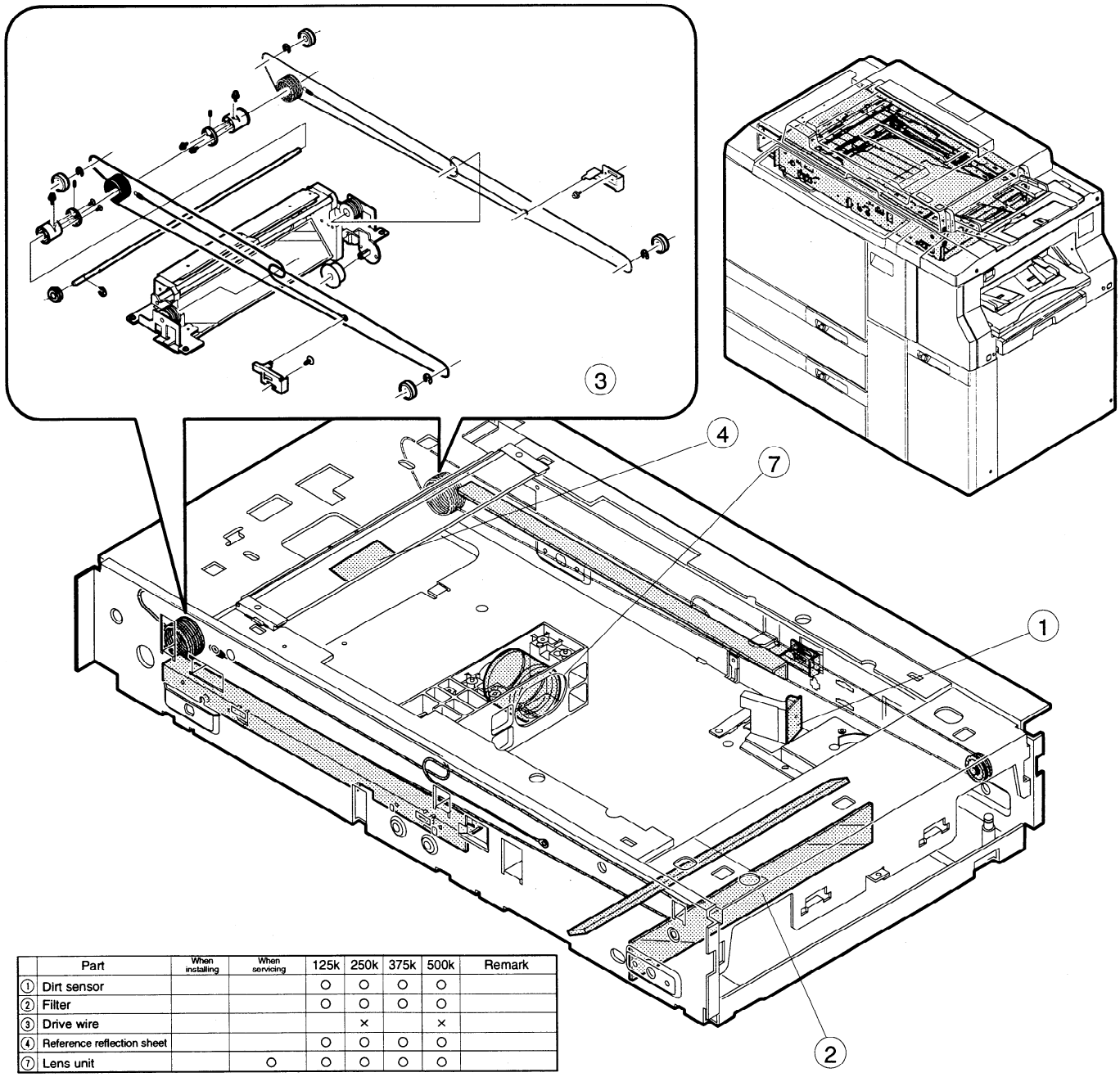


	Part	When installing	When servicing	125k	250k	375k	500k	Remark
②	No. 2/3 mirror		○	○	○	○	○	

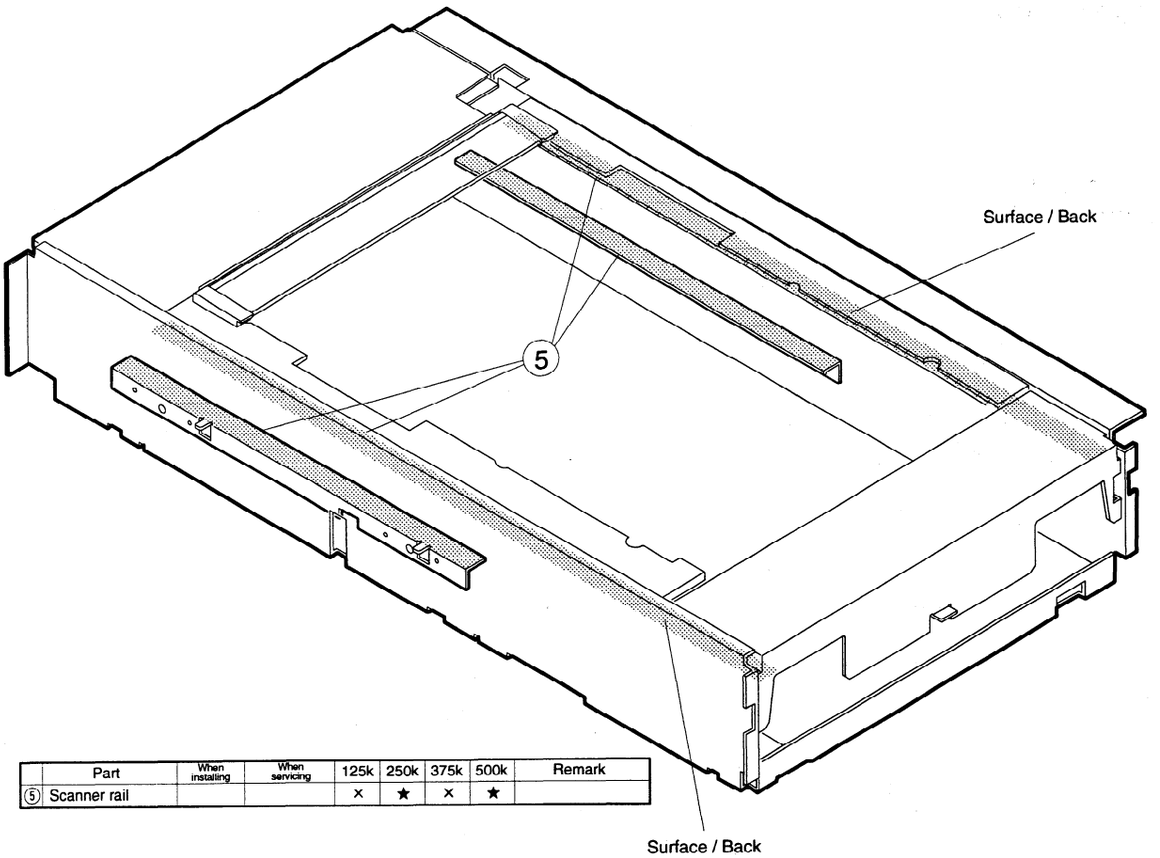
	Part	When installing	When servicing	125k	250k	375k	500k	Remark
③	No. 4/5 mirror		○	○	○	○	○	



	Part	When installing	When servicing	125k	250k	375k	500k	Remark
⑥	No. 6 mirror			○	○	○	○	



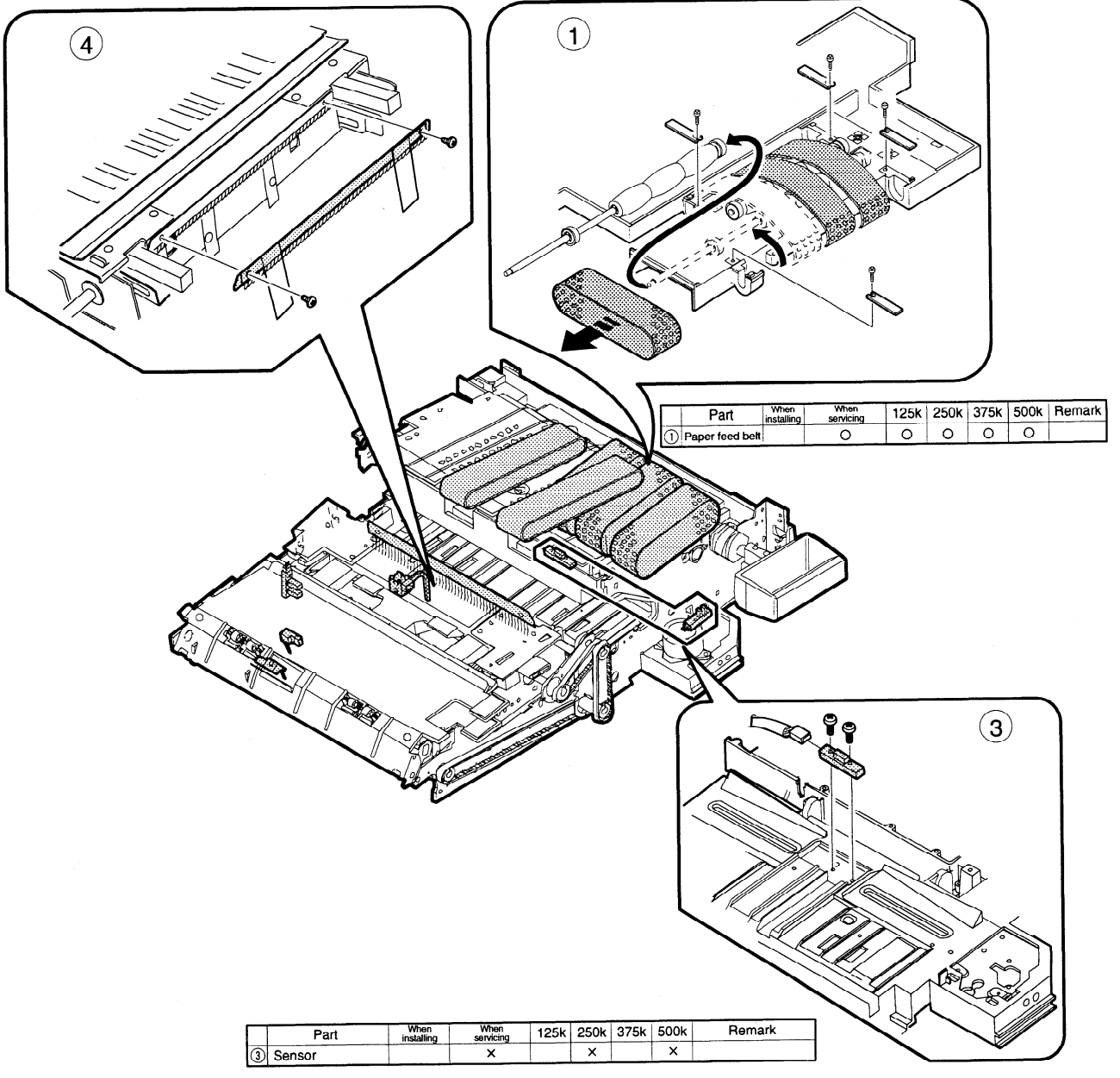
	Part	When installing	When servicing	125k	250k	375k	500k	Remark
①	Dirt sensor			O	O	O	O	
②	Filter			O	O	O	O	
③	Drive wire				×		×	
④	Reference reflection sheet			O	O	O	O	
⑦	Lens unit		O	O	O	O	O	



	Part	When installing	When servicing	125k	250k	375k	500k	Remark
⑤	Scanner rail			×	★	×	★	

(7) Duplex section

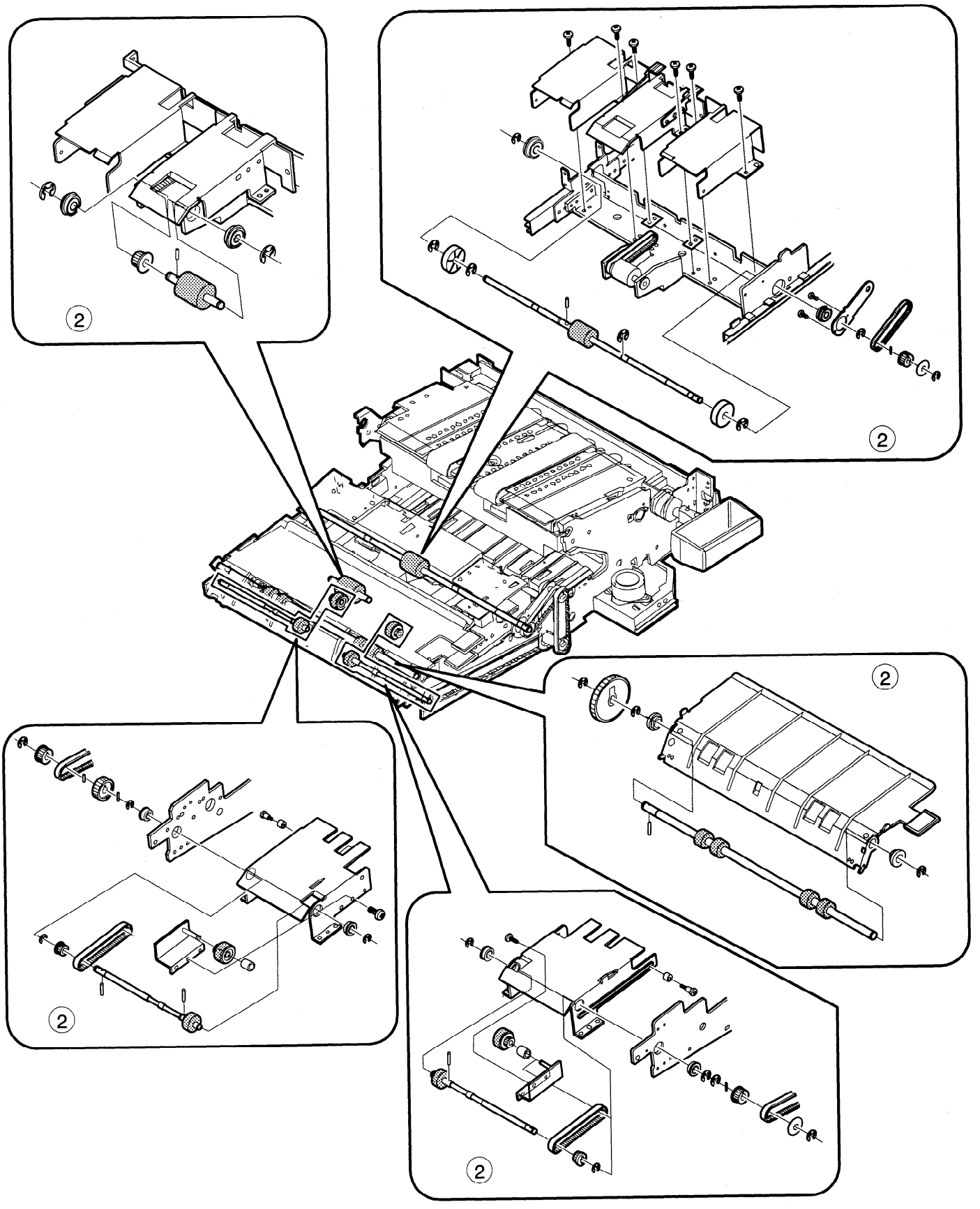
	Part	When installing	When servicing	125k	250k	375k	500k	Remark
④	Discharge brushes			▲	▲	▲	▲	



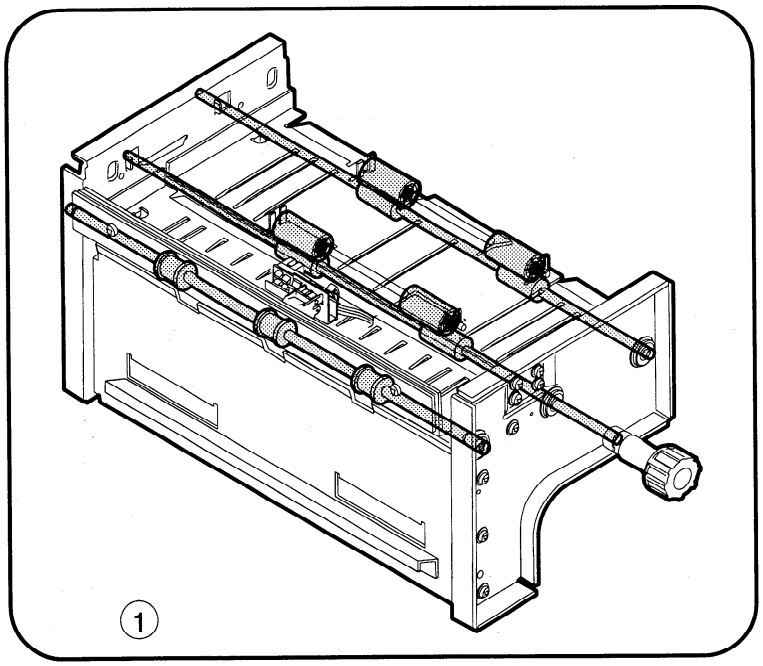
	Part	When installing	When servicing	125k	250k	375k	500k	Remark
①	Paper feed belt		O	O	O	O	O	

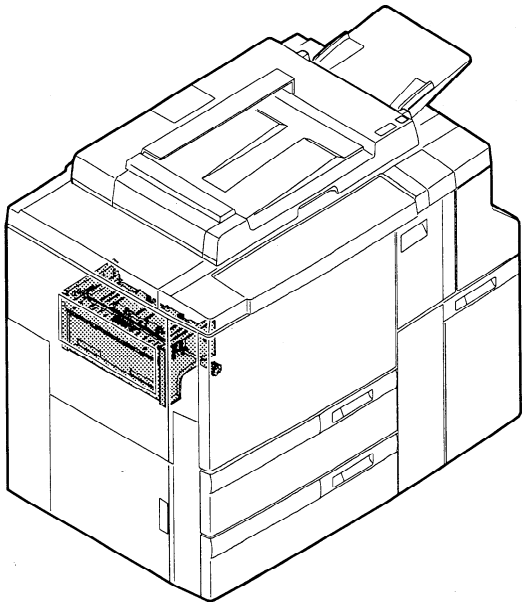
	Part	When installing	When servicing	125k	250k	375k	500k	Remark
③	Sensor		×		×		×	

	Part	When installing	When servicing	125k	250k	375k	500k	Remark
②	Rollers		×	O	O	O	O	



(8) Paper exit section

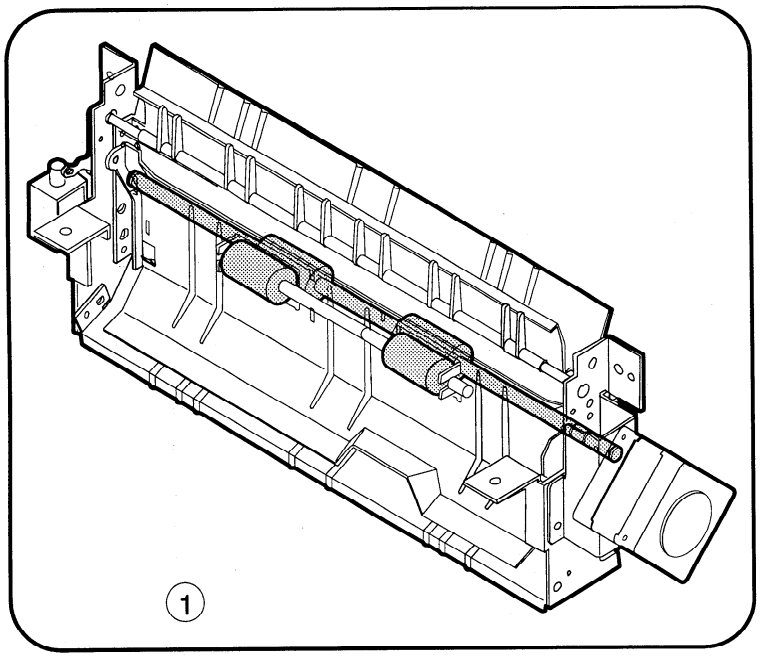


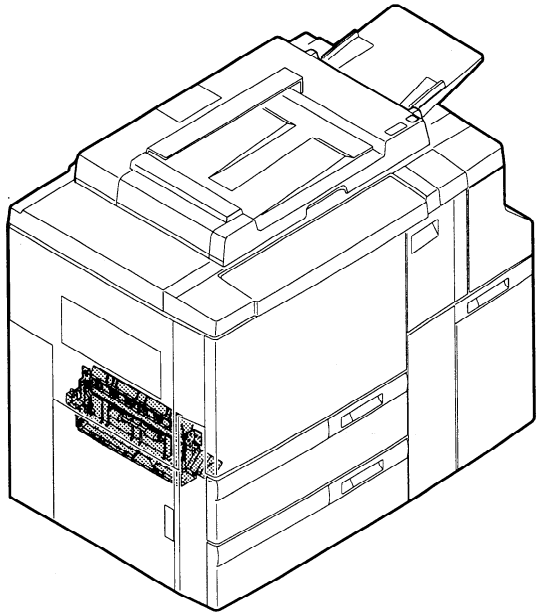


	Part	When installing	When servicing	125k	250k	375k	500k	Remark
①	Rollers		O	O	O	O	O	

(9) Switchback section

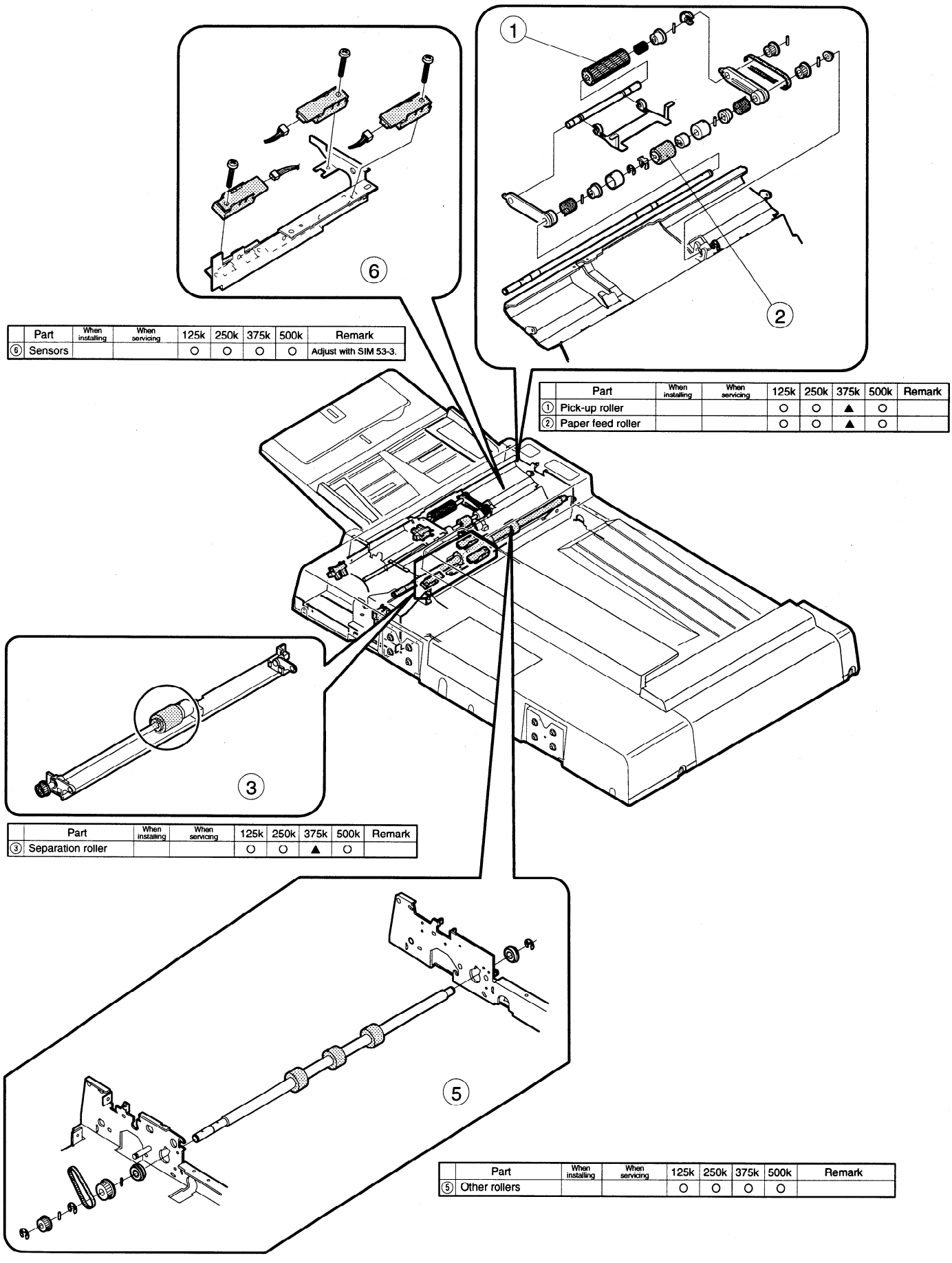
New





	Part	When installing	When servicing	125k	250k	375k	500k	Remark
①	Rollers		O	O	O	O	O	

(10) RADF section

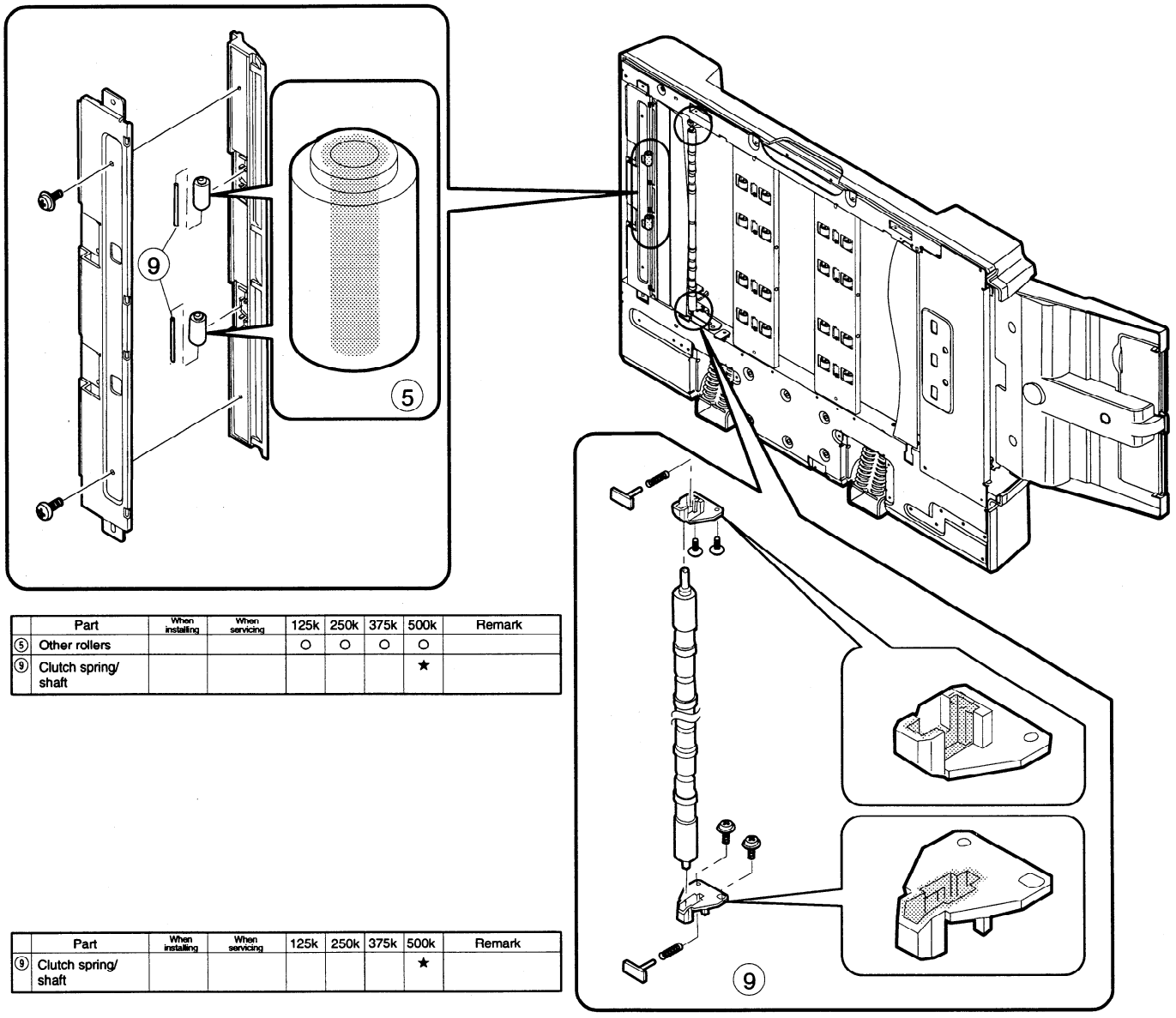


	Part	When installing	When servicing	125k	250k	375k	500k	Remark
⑥	Sensors			O	O	O	O	Adjust with SIM 53-3.

	Part	When installing	When servicing	125k	250k	375k	500k	Remark
①	Pick-up roller			O	O	▲	O	
②	Paper feed roller			O	O	▲	O	

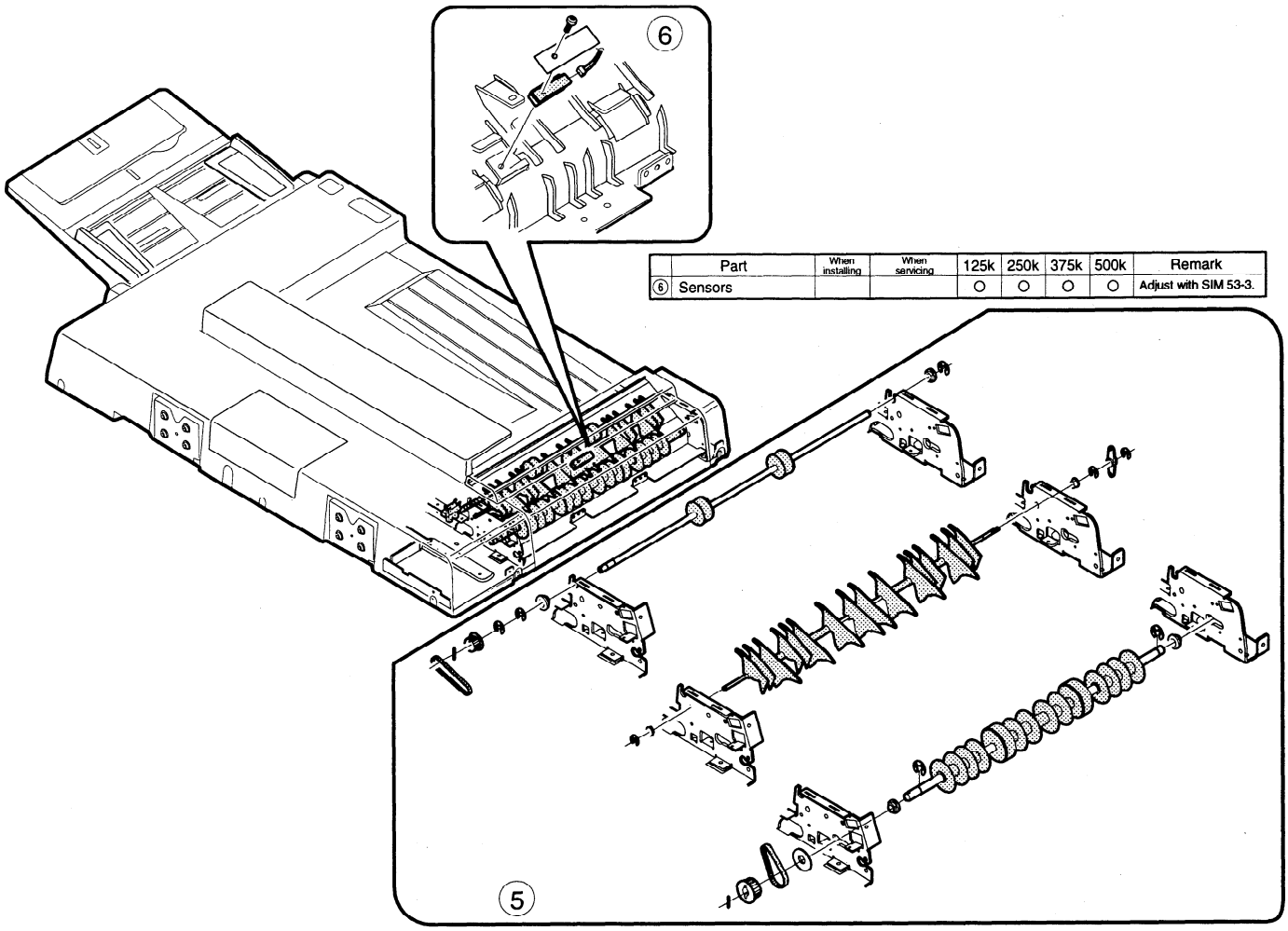
	Part	When installing	When servicing	125k	250k	375k	500k	Remark
③	Separation roller			O	O	▲	O	

	Part	When installing	When servicing	125k	250k	375k	500k	Remark
⑤	Other rollers			O	O	O	O	



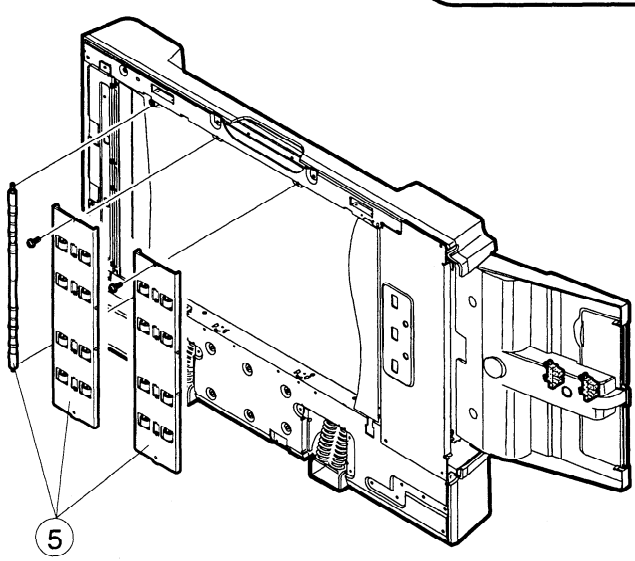
	Part	When installing	When servicing	125k	250k	375k	500k	Remark
⑤	Other rollers			○	○	○	○	
⑨	Clutch spring/ shaft						★	

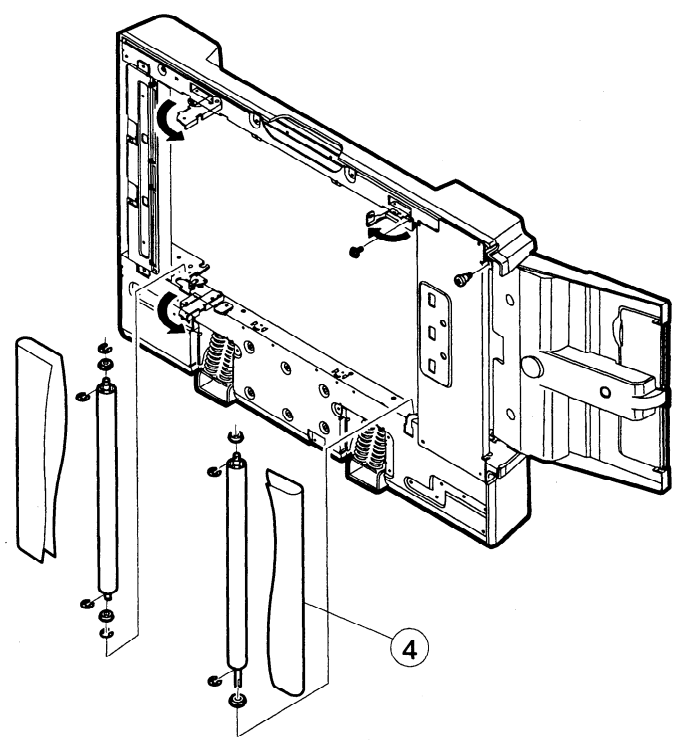
	Part	When installing	When servicing	125k	250k	375k	500k	Remark
⑨	Clutch spring/ shaft						★	



	Part	When installing	When servicing	125k	250k	375k	500k	Remark
⑥	Sensors			O	O	O	O	Adjust with SIM 53-3.

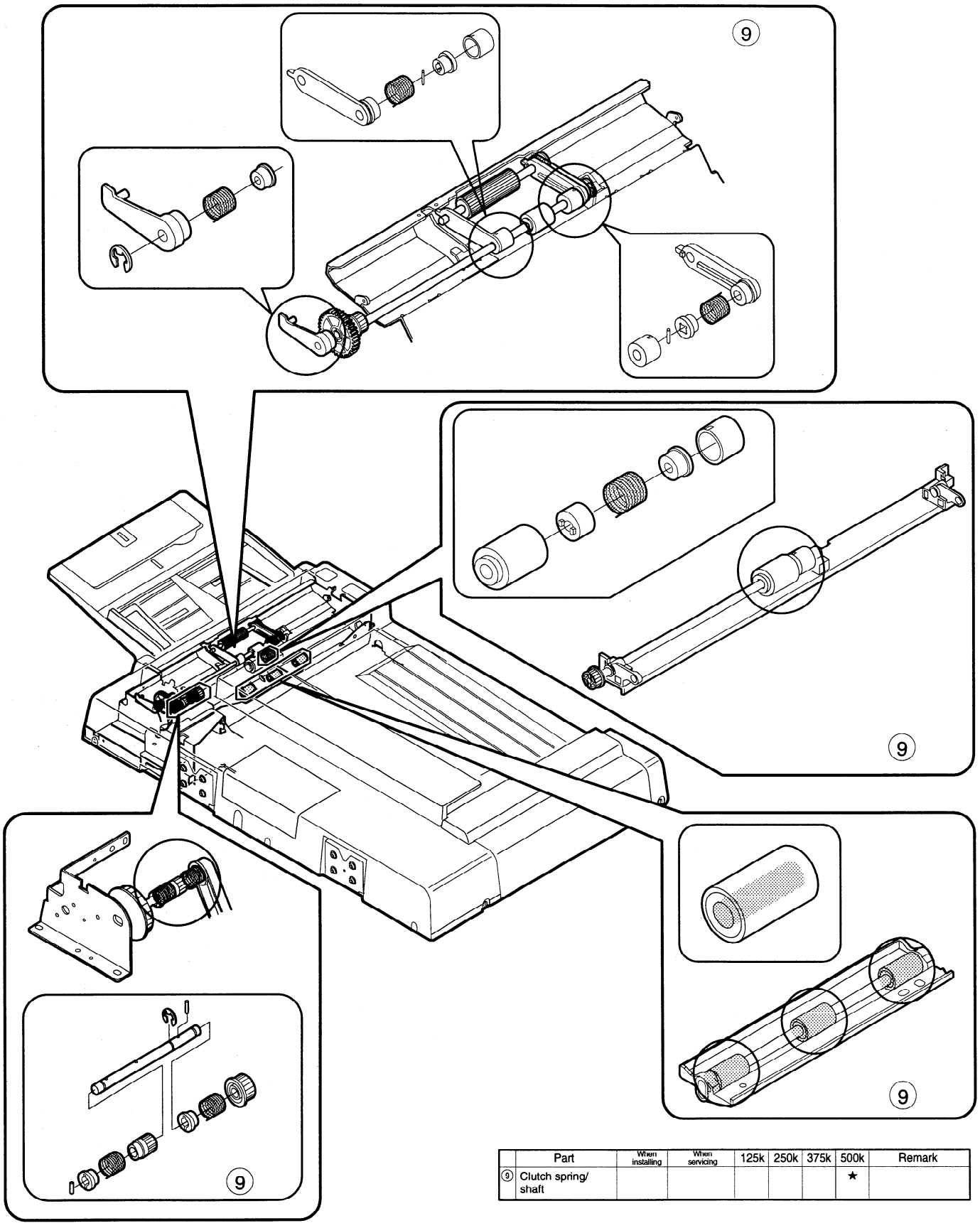
	Part	When installing	When servicing	125k	250k	375k	500k	Remark
⑤	Other rollers			O	O	O	O	





	Part	When installing	When servicing	125k	250k	375k	500k	Remark
④	Transport belt			O	O	O	O	

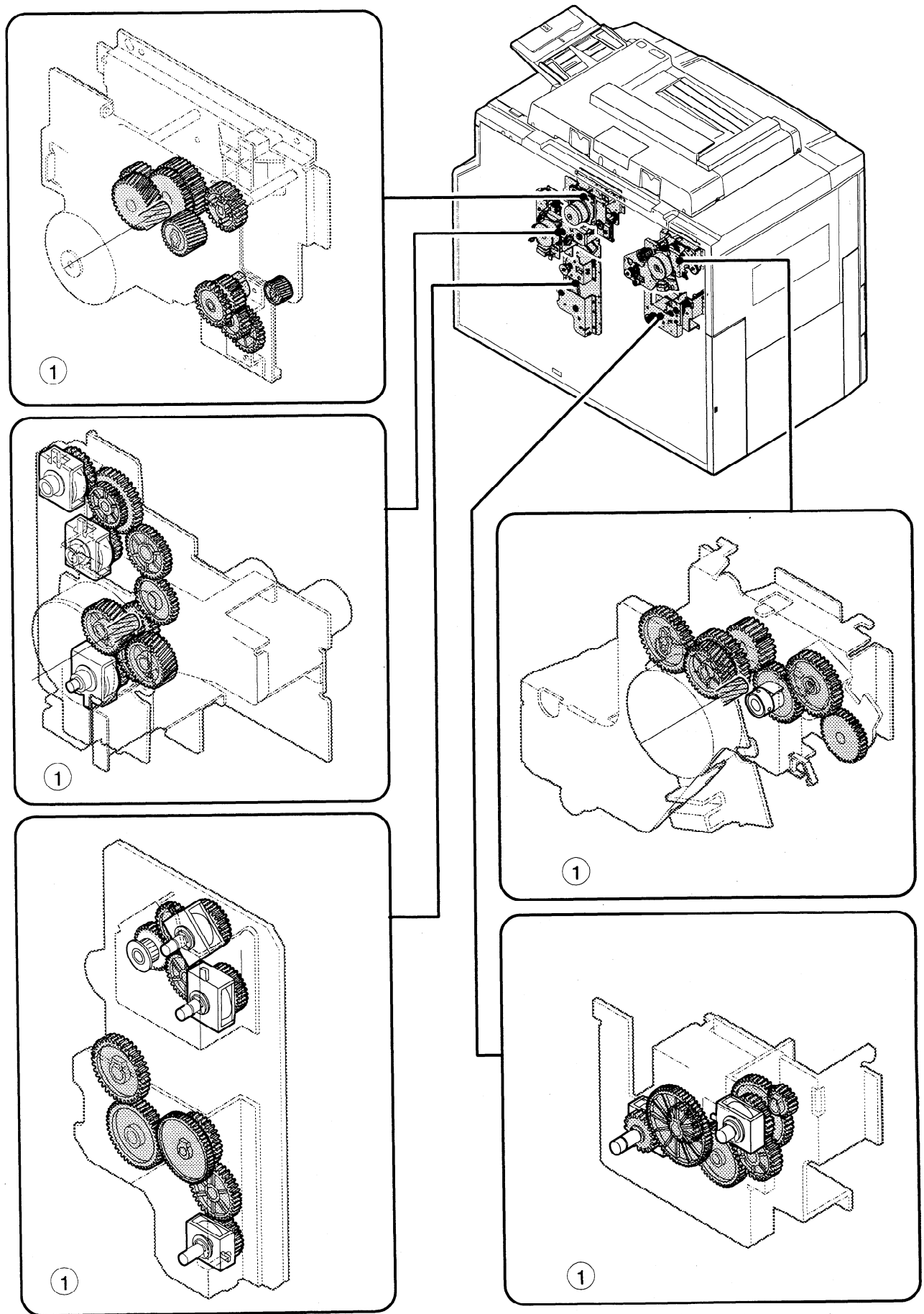
When cleaning the transport belt, remove the transport belt in advance.



	Part	When installing	When servicing	125k	250k	375k	500k	Remark
⑨	Clutch spring/ shaft						★	

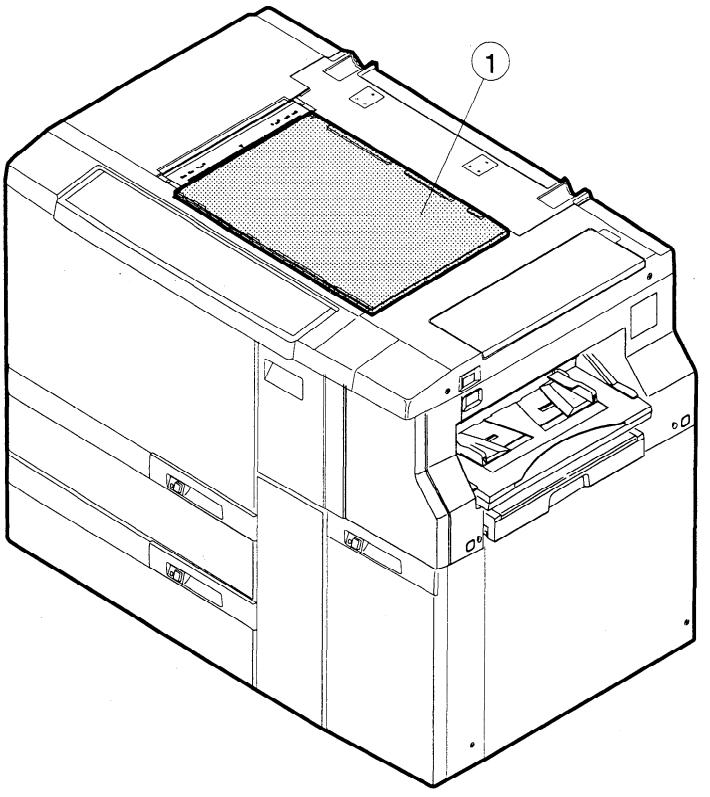
(11) Drive section

(New)

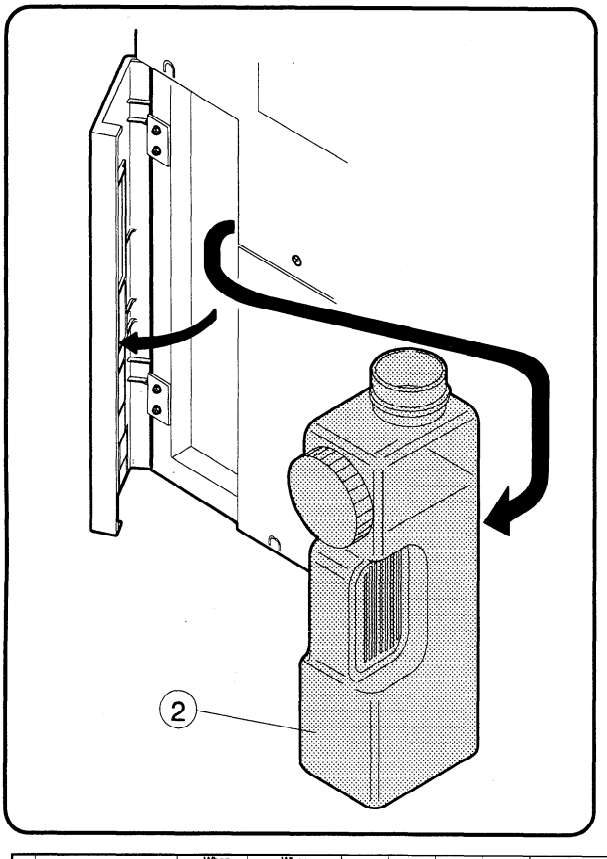


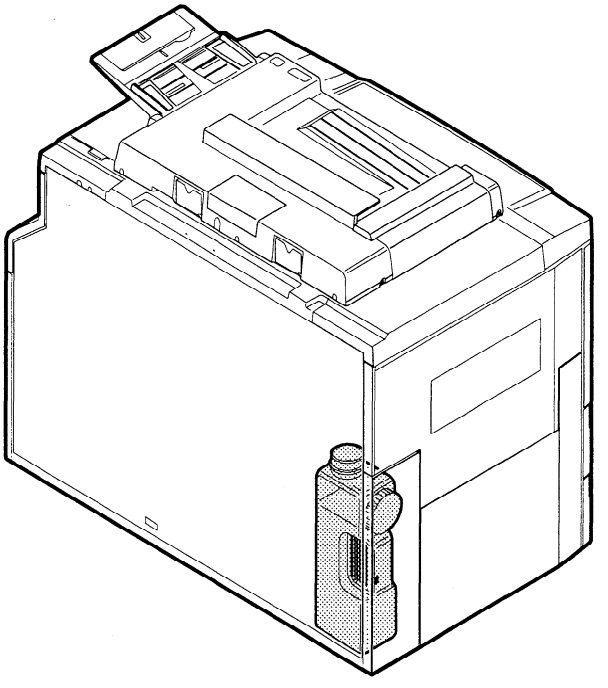
	Part	When installing	When servicing	125k	250k	375k	500k	Remark
①	Gears				★		★	
	Balts				×		×	

(12) Others



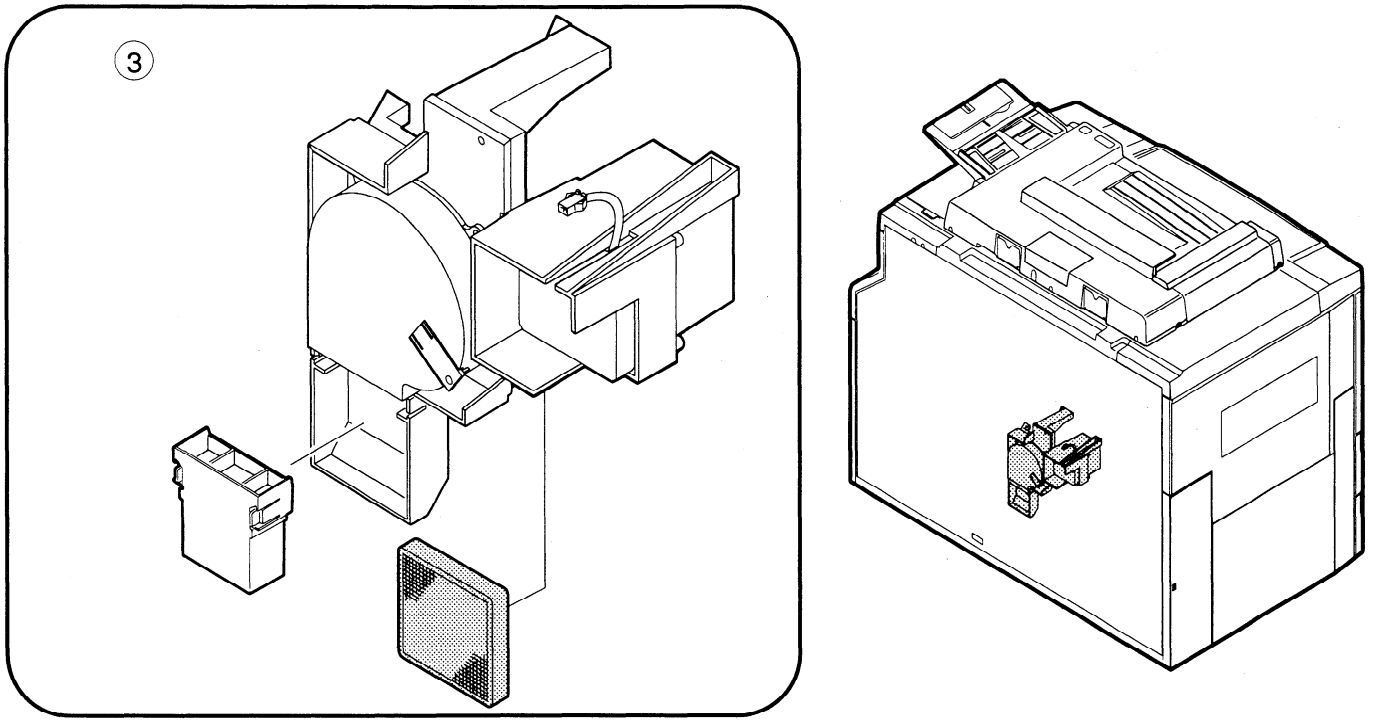
	Part	When installing	When servicing	125k	250k	375k	500k	Remark
①	Document glass	×	○	○	○	○	○	



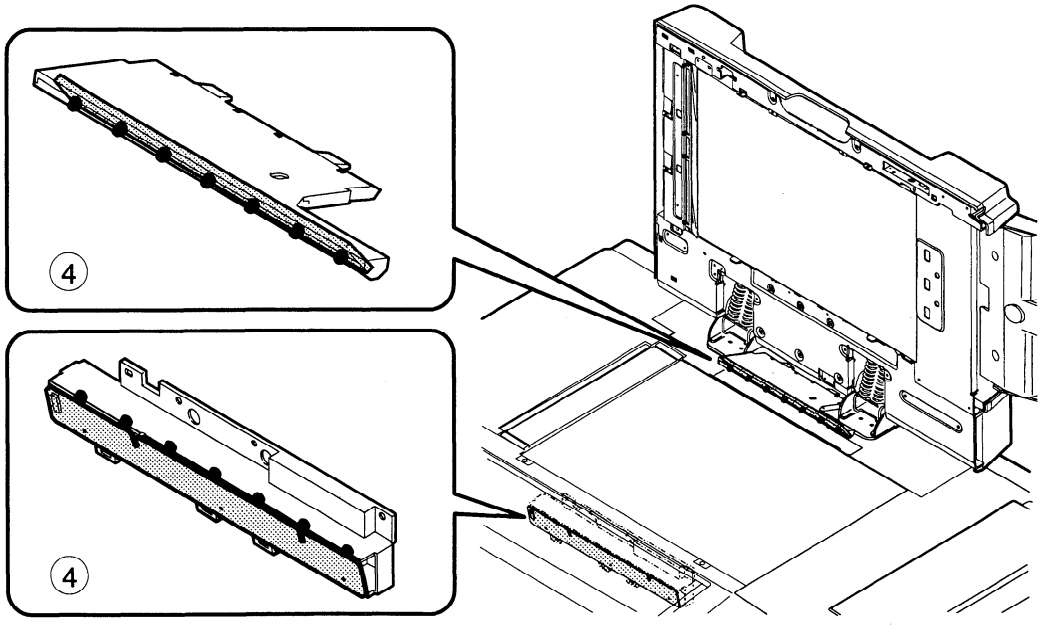


	Part	When installing	When servicing	125k	250k	375k	500k	Remark
②	Waste toner bottle			▲	▲	▲	▲	

(New)



	Part	When installing	When servicing	125k	250k	375k	500k	Remark
③	Ozone filters			×	O	×	▲	



	Part	When installing	When servicing	125k	250k	375k	500k	Remark
④	Document size sensor			×	×	×	×	Adjust with SIM 4-2.

[10] TROUBLESHOOTING

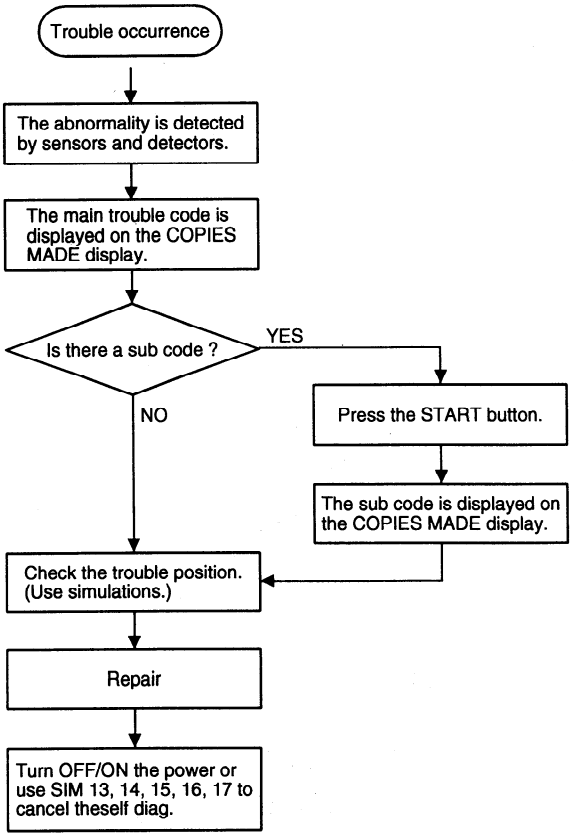
1. Self diagnostics

A. Outline and purpose

This machine is provided with the self diagnostic function. When a trouble occurs, it is detected by sensors and the trouble content is informed to9 the customer and the serviceman to realize the following items.

1) Safety (The machine is stopped simultaneously when a trouble occurs.)
2) Damage to the machine is suppressed to minimum. (The machine is stopped simultaneously when a trouble occurs.)
3) The trouble code is displayed to identify the trouble position quickly, shortening the recovery time, improving repair efficiency and allowing preliminary arrangement of necessary parts.

B. Self diagnostics operation flowchart.



C. Self diagnostics display and resolutions

When the self diagnostics display (trouble code display) is made, repair the trouble position and cancel the display in the following procedure.

Self diagnostics display (Trouble code display) content	Trouble display cancel method
U1	SIM13
U2	SIM16
F3	SIM15
PF	SIM17
H3/H4	SIM14
CH/PC	Canceled with the trouble is removed.
Other than the above	Power OFf → ON

D. Contents which are not displayed in case of trouble

The trouble displays for the following troubles are not made. However, the trouble contents can be checked with SIM 22-3 or 23-3.

F2-32, U4/2/3/9, U5 (all), F3 (all),

F2-31, 37 (Displayed when SIM 26-6 is set to 1, 4, 5 (*100V series: Japan/USA/Other inch spec.*), or 10 (*200V series:* Other *(B5)*).

In case of the above trouble, the copy density is forcibly decreased to inform that there is an abnormality in the image forming section. These are not displayed simultaneously with the occurrence of the trouble, but stored in the memory as well as the other trouble contents.

E. Relationship between trouble messages and trouble codes

When a trouble occurs in the machine, a trouble message may be displayed instead of a trouble code.

In that case, the content is stored with the trouble code, not with the trouble message.

The table below shows the relationship between the trouble messages and the trouble codes.

Trouble massage	Trouble code (SIM22-3 display)		Remark
	Main code	Sub code	
Remove the staple unit and check it.	F1	10	*SF-S55N* only
Copying is allowed. (Contact the dealer. Code: F2)	F2	31 37	Refer the table ∗1
The duplex copying function is troubled.	U4	2 3 9	
The document feeder is troubled. Press [CA] to cancel the job. The document feeder is troubled. Use the document table.	U5	All	
Use another tray. Tray □□ is troubled.	F3	All	□□: Tray No.
Use another tray. The side cassette is troubled.	F3	42	

∗1

Trouble code	SIM 26-6 set value	Destination	
F2-31, 37	*5*	*JAPAN/2 μA*	Not used.
	1	USA (SEC)	The trouble code is displayed and the machine is stopped. (Copying is inhibited.)
	4	JAPAN*/15A*	
	10	AB series (200V series) *(B5)*	
	2	CANADA (SECL)	Copying is allowed but the copy density is decreased. (The trouble sub code is not displayed.)
	3	Inch series (Other)	
	6	EUROPE (SEEG)	
	7	UK (SUK)	
	8	AUSTRALIA (SCA)	
	9	AB series (Other *200V series (A5)*)	
F2-32	No conditions	All destinations	Copying is performed, but copy density decreased.

F. Details

Main code	Section	Sub code	Description	
C2	High voltage unit	00	Content	Transfer charger unit trouble
			Detail	1) Transfer charger unit output short (output defect) (The trouble signal is detected.)
			Cause	1) Transfer charger unit output short 2) High voltage unit defect 3) SIM 8-6 adjustment defect 4) Overvoltage
			Remedy	1) Check for transfer charger unit output short. 2) Check the high voltage unit trouble signal. 3) Check and adjust the transfer charger unit voltage. 4) Turn OFF/ON the power to clear the self diag (trouble code) display.
C3		00	Content	Separation charger unit trouble
			Detail	1) Separation charger unit output short (output defect) (The trouble signal is detected.)
			Cause	1) Separation charger unit output short 2) High voltage unit defect 3) SIM 8-7 adjustment defect 4) Overvoltage
			Remedy	1) Check for separation charger unit output short. 2) Check the high voltage unit trouble signal. 3) Check and adjust the separation charger unit voltage. 4) Turn OFF/ON the power to clear the self diag (trouble code) display.
CC	Document size detection (Japan only)		Content	Document size detection trouble
			Detail	1) At adjustment of sensor detection level (SIM 41-1), the sensor output is abnormal. There is no difference between the sensor output level without document and that with document.
			Cause	1) Document size sensor defect (light emitting section, light receiving section) 2) Main control PWB defect
			Remedy	1) Check the document size sensor operation with SIM 1-2/3. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
EE	Developing	EU	Content	Toner concentration sensor trouble (undertoner)
			Details	1) When the toner concentration initial setting is made with SIM 25-2, toner concentration sensor output level 3.3V or above is detected.
			Cause	1) Toner concentration sensor defect 2) Main control PWB defect
			Remedy	1) Execute SIM 25-1 to check the toner concentration sensor output level. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
		EL	Content	Toner concentration sensor trouble (overtoner)
			Detail	1) When the toner concentration initial setting is made with SIM 25-2, toner concentration sensor output level 1.45V or below is detected.
			Cause	1) Toner concentration sensor defect 2) Main control PWB defect
			Remedy	1) Execute SIM 25-1 to check the toner concentration sensor output level. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.

Main code	Section	Sub code	Description	
F1	Sorter(SF-S55N)	70	Content	Data communication trouble
			Detail	Data communication trouble between the sorter (Control PWB) and the copier (main control PWB)
			Cause	1) Sorter control PWB trouble 2) Main control PWB trouble 3) Sorter-copier cable disconnection
			Remedy	Turn OFF and ON the power to clear the diag. (trouble code).
		80	Content	Defect of the power in the sorter (+24V)
			Detail	1) Power of +24V is not supplied to the sorter control PWB.
			Cause	1) The breaker is shut off. 2) The detection circuit of +24V is defective.
			Remedy	1) Check the +24V line in the sorter control PWB. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
		81	Content	Paper transport mechanism (motor, etc.) trouble
			Detail	1) The rotation sensor output signal is not detected within 250msec after the transport motor ON signal is outputted. 2) The transport guide sensor signal is not detected within 2 sec after the transport guide operation is started. 3) The transport guide home position sensor signal is not detected within 2 sec after the transport guide operation is started.
			Cause	1) Transport motor defect 2) Transport motor rotation sensor defect 3) Transport guide sensor defect 4) Transport guide home position sensor defect 5) Paper transport mechanism defect 6) Sorter control PWB defect
			Remedy	1) Check the sorter transport motor, the transport guide, and the sensor operations with SIM 3-1/2. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
		83	Content	Paper push bar mechanism (motor, etc.) trouble
			Detail	1) The push bar home position sensor signal is not detected within 2 sec after the initializing operation is started. 2) The push bar does not complete its operation within 2 sec after starting the operation.
			Cause	1) Push bar motor defect 2) Push bar home position sensor defect 3) Circuit breaker operation 4) Paper push bar mechanism defect 5) Sorter control PWB defect
			Remedy	1) Check the sorter push bar motor and sensor operations with SIM 3-1/2. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
		84	Content	Guide plate mechanism (motor, etc.) trouble
			Detail	1) Guide plate home position sensor signal is not detected within 2 sec after starting the initializing operation. 2) The guide plate does not complete the operation within 2 sec after starting.

Main code	Section	Sub code	Description	
F1	Sorter (SF-S55N)	84	Cause	1) Guide plate motor defect 2) Guide plate home position sensor defect 3) Guide plate mechanism defect 4) Circuit breaker operation 5) Sorter control PWB defect
			Remedy	1) Check the guide plate motor and sensor operations with SIM 3-1/2. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
		85	Content	Multi guide mechanism (motor, etc.) trouble
			Detail	1) The multi guide home position sensor signal is not detected within 2 sec after starting initializing operation. 2) The multi guide does not complete its operation within 2 sec after starting.
			Cause	1) Multi guide motor defect 2) Multi guide home position sensor defect 3) Multi guide mechanism defect 4) Circuit breaker operation 5) Sorter control PWB defect
			Remedy	1) Check the multi guide motor and sensor operations with SIM 3-1/2. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
		86	Content	Guide mechanism (motor, etc.) trouble
			Detail	1) The guide bar home position sensor is not detected within 2 sec after starting the initializing operation. 2) The guide bar does not complete its operation within ∗2 (5) sec after starting. ∗ (The judgement condition differs depending on the operation mode.)
			Cause	1) Guide bar motor defect 2) Guide bar mechanism defect 3) Guide bar mechanism defect 4) Circuit breaker operation 5) Sorter control PWB defect
		86	Remedy	1) Check the guide bar motor and sensor operations with SIM 3-1/2. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
		87	Content	Staple shift mechanism (motor, etc.) trouble
			Detail	1) The stapler shift home position sensor signal is not detected within 1 sec after starting the initializing operation. 2) The stapler shift home position sensor signal does not change its polarity within 1 sec after starting the stapler shift operation. 3) The rotation sensor output signal is not detected within 250msec after the stapler shift motor ON signal is outputted.
			Cause	1) Stapler shift motor defect 2) Stapler shift home position sensor defect 3) Stapler shift mechanism defect 4) Circuit breaker operation 5) Sorter control PWB defect
			Remedy	1) Check the stapler shift motor and sensor operations with SIM 3-1/2. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.

Main code	Section	Sub code	Description	
F1	Sorter (SF-S55N)	88	Content	Staple slide mechanism (motor, etc.) trouble
			Detail	1) The stapler slide home position sensor signal is not detected within 5 sec after starting the initializing operation.
			Cause	1) Stapler slide motor defect 2) Stapler slide home position sensor defect 3) Staple slide mechanism defect 4) Circuit breaker operation 5) Sorter control PWB defect
			Remedy	1) Check the stapler slide motor and sensor operations with SIM 3-1/2. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
		89	Content	Bin shift mechanism (motor, etc.) trouble
			Detail	1) The lead cam home position sensor signal is not detected within 2 sec after the bin shift motor ON signal is outputted. 2) The guide bar does not complete the operation within * 20 (2) sec after starting the operation. * (The judgement condition differs depending on the operation mode.) 3) The rotation sensor output signal is not detected within 250msec after the bin shift motor ON signal is outputted.
			Cause	1) Bin shift motor defect 2) Lead cam home position sensor defect 3) Bin shift mechanism defect 4) Circuit breaker operation 5) Sorter control PWB defect
			Remedy	1) Check the bin shift motor and sensor operations with SIM 3-1/2. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
		91	Content	Bin upper paper sensor (bin center) trouble)
			Detail	1) Sensor output abnormality in the sensor detection level adjustment
			Cause	1) Bin upper paper sensor (bin center) defect 2) Sorter control PWB defect
			Remedy	1) Check the sensor output with SIM 3-2. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
		92	Content	Bin upper paper sensor (in front of the bin) trouble
			Detail	1) The sensor output abnormality in the sensor detection level adjustment
			Cause	1) Bin upper paper sensor (in front of the bin) defect 2) Sorter control PWB defect
			Remedy	1) Check the sensor output with SIM 3-2. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
		93	Content	Paper sensor trouble in the stapler
			Detail	1) Sensor output abnormality in the sensor detection level adjustment
			Cause	1) Paper sensor defect in the stapler 2) Sorter control PWB defect
			Remedy	1) Check the sensor output with SIM 3-2. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
F2	Image forming section	00	Content	Toner concentration sensor trouble
			Detail	1) The toner concentration sensor output is not in the range of 0.7 ~ 4.6V.

Main code	Section	Sub code	Description	
F2	Image forming section	00	Cause	1) Toner concentration sensor defect 2) Toner concentration sensor dirt 3) Main charger grid voltage adjustment defect 4) Developer defect 5) Toner concentration defect 6) Developing unit defect (doctor gap, MG roller main pole position) 7) Main control PWB defect 8) Developing unit connector contact defect
			Remedy	1) Check the toner concentration sensor output with SIM 25-1. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
		31	Content	OPC drum surface detection trouble
			Detail	1) The image density sensor output is not within the range of 2.8 ~ 4.65V when the OPC drum surface is measured.
			Cause	1) Image density sensor defect 2) Image density sensor dirt 3) OPC drum cleaning defect 4) Developing bias voltage adjustment defect 5) Blank lamp defect 6) Main control PWB defect 7) OPC drum defect 8) Image density sensor adjustment defect
			Remedy	1) Check the set values of the process section and the defective positions with SIM 44-7, and -9. 2) Turn OFF/ON the power to clear the self diag (trouble code) display. 3) Adjust the image density sensor output level with SIM 44-3.
		32	Content	OPC drum mark detection trouble
			Detail	1) The OPC drum mark is not detected.
			Cause	1) OPC drum mark sensor defect 2) OPC drum mark sensor dirt 3) OPC drum mark sensor cleaning defect 4) Blank lamp defect 5) Main control PWB defect 6) OPC drum defect 7) OPC drum mark sensor adjustment defect
			Remedy	1) Check the set values of the process section and defective positions with SIM 44-7, and -9. 2) Turn OFF/ON the power to clear the self diag (trouble code) display. 3) Adjust the OPC drum mark sensor output level with SIM 44-2.
		37	Content	OPC drum mark sensor gain adjustment trouble
			Detail	1) The OPC drum mark sensor output is not within the range of 2.6 ~ 4.1V.
			Cause	1) OPC drum mark sensor defect 2) OPC drum mark sensor defect 3) OPC drum mark sensor cleaning defect 4) Blank lamp defect 5) Main control PWB defect 6) OPC drum defect

Main code	Section	Sub code	Description	
F2	Image forming section	37	Remedy	1) Check the set values of the process section and defective positions with SIM 44-7, and -9. 2) Turn OFF/ON the power to clear the self diag (trouble code) display. 3) Adjust the OPC drum mark sensor output level with SIM 44-2.
F3	Manual paper feed tray section	00	Content	Manual paper feed tray paper size detection trouble
			Detail	1) The sensor output is abnormal in the sensor detection level adjustment (SIM 40-2).
			Cause	1) Manual paper fed tray paper size sensor defect 2) Main control PWB defect
			Remedy	1) Check the manual paper feed tray paper size sensor operation with SIM 40-1. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
	No. 1 tray section	11	Content	Paper feed tray motor PT disc sensor trouble
			Detail	1) The paper tray motor rotation sensor output signal is not detected within 100msec after the paper tray motor ON signal is outputted.
			Cause	1) Paper tray motor rotation sensor defect 2) Paper tray motor defect 3) Paper tray mechanism section defect 4) Main control PWB defect
			Remedy	1) Check the paper tray operation with SIM 6-3. 2) Clear the self diag with SIM 15.
		12	Content	Paper tray lift-up trouble
			Detail	1) The paper upper limit sensor ON signal is not detected within 12 sec after the paper tray motor lift-up signal is outputted. 2) The paper lower limit sensor OFF signal is not detected within 1.0 sec after the paper tray motor lift-up signal is outputted.
			Cause	1) Paper tray upper limit sensor defect 2) Paper tray lower limit sensor defect 3) Paper tray motor defect 4) Paper tray mechanism section defect 5) Main control PWB defect
			Remedy	1) Check the paper tray operation with SIM 6-3. 2) Clear the self diag with SIM 15.
		13	Content	Paper tray lift down trouble
			Detail	1) The paper lower limit sensor ON signal is not detected within 12 sec after the paper tray motor lift-down signal is outputted. 2) The paper upper limit sensor OFF signal is not detected within 1.0 sec after the paper tray motor lift-down signal is outputted.
			Cause	1) Paper tray upper limit sensor defect 2) Paper tray lower limit sensor defect 3) Paper tray motor defect 4) Paper tray mechanism section defect 5) Main control PWB defect
			Remedy	1) Check the paper tray operation with SIM 6-3. 2) Clear the self diag with SIM 15.

Main code	Section	Sub code	Description	
F3	No. 2 paper tray section	21	Content	Paper feed tray motor PT disc sensor trouble
			Detail	1) The paper tray motor rotation sensor output signal is not detected within 200msec after the paper tray motor ON signal is outputted.
			Cause	1) Paper tray motor rotation sensor defect 2) Paper tray motor defect 3) Paper tray mechanism section defect 4) Main control PWB defect
			Remedy	1) Check the paper tray operation with SIM 6-3. 2) Clear the self diag with SIM 15.
		22	Content	Paper tray lift-up trouble
			Detail	1) The paper upper limit sensor ON signal is not detected within *15* sec after the paper tray motor lift-up signal is outputted. 2) The paper lower limit sensor OFF signal is not detected within 1.0 sec after the paper tray motor lift-up signal is outputted.
			Cause	1) Paper tray upper limit sensor defect 2) Paper tray lower limit sensor defect 3) Paper tray motor defect 4) Paper tray mechanism section defect 5) Main control PWB defect
			Remedy	1) Check the paper tray operation with SIM 6-3. 2) Clear the self diag with SIM 15.
		23	Content	Paper tray lift down trouble
			Detail	1) The paper lower limit sensor ON signal is not detected within *15* sec after the paper tray motor lift-down signal is outputted. 2) The paper upper limit sensor OFF signal is not detected within 1.0 sec after the paper tray motor lift-down signal is outputted.
			Cause	1) Paper tray upper limit sensor defect 2) Paper tray lower limit sensor defect 3) Paper tray motor defect 4) Paper tray mechanism section defect 5) Main control PWB defect
			Remedy	1) Check the paper tray operation with SIM 6-3. 2) Clear the self diag with SIM 15.
	No. 3 paper tray section	31	Content	Paper feed tray motor PT disc sensor trouble
			Detail	1) The paper tray motor rotation sensor output signal is not detected within 200msec after the paper tray motor ON signal is outputted.
			Cause	1) Paper tray motor rotation sensor defect 2) Paper tray motor defect 3) Paper tray mechanism section defect 4) Main control PWB defect
			Remedy	1) Check the paper tray operation with SIM 6-3. 2) Clear the self diag with SIM 15.
		32	Content	Paper tray lift-up trouble
			Detail	1) The paper upper limit sensor ON signal is not detected within 12 sec after the paper tray motor lift-up signal is outputted. 2) The paper lower limit sensor OFF signal is not detected within 1.0 sec after the paper tray motor lift-up signal is outputted.

Main code	Section	Sub code	Description	
F3	No.3 paper tray section	32	Cause	1) Paper tray upper limit sensor defect 2) Paper tray lower limit sensor defect 3) Paper tray motor defect 4) Paper tray mechanism section defect 5) Main control PWB defect
			Remedy	1) Check the paper tray operation with SIM 6-3. 2) Clear the self diag with SIM 15.
		33	Content	Paper tray lift down trouble
			Detail	1) The paper lower limit sensor ON signal is not detected within 12 sec after the paper tray motor lift-down signal is outputted. 2) The paper upper limit sensor OFF signal is not detected within 1.0 sec after the paper tray motor lift-down signal is outputted.
			Cause	1) Paper tray upper limit sensor defect 2) Paper tray lower limit sensor defect 3) Paper tray motor defect 4) Paper tray mechanism section defect 5) Main control PWB defect
			Remedy	1) Check the paper tray operation with SIM 6-3. 2) Clear the self diag with SIM 15.
	Paper cassette section	42	Content	Paper cassette lift-up trouble
			Detail	1) The upper limit sensor (CLUD) signal is not detected within 10sec after the lift plate starts lift-up operation from the lowest position (with paper empty). 2) The upper sensor (CLUD) signal is not detected within 4 sec after the lift-up operation is started in copying (with paper).
			Cause	1) Paper cassette section sensor defect 2) Paper cassette lift motor defect 3) Main control PWB defect
			Remedy	1) The paper cassette section sensor operation is checked with SIM 30-2. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
L1	Optical section	00	Content	Scanner unit feed trouble
			Detail	The scanner unit does not complete feeding within 6 sec.
			Cause	1) Scanner motor control circuit defect 2) Main control PWB defect 3) Scanner unit drive section defect 4) Scanner motor unit defect
			Remedy	1) Check the scanner unit operation with SIM 1-1. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
L2	Paper transport section	00	Content	Resist roller operation trouble
			Detail	The RRC ON (RRC in) signal from the mirror motor control PWB is not detected in the main control PWB during execution of SIM 7-2, 3, and 7.
			Cause	1) Scanner motor control circuit defect 2) Main control PWB defect
			Remedy	1) Perform copying and check the RRC ON (RRC in) signal. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.

Main code	Section	Sub code	Description	
L3	Optical section	00	Content	Scanner unit return trouble
			Detail	The scanner unit does not complete scanning (the home position is not detected) in the initial operation or within 3.5 sec after scanning.
			Cause	1) Scanner motor control PWB defect 2) Main control PWB defect 3) Scanner unit drive section defect 4) Scanner motor unit defect
			Remedy	1) Check the operation of the scanner unit with SIM 1-1. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
L4	Drive section	01	Content	OPC drum drive section lock
			Detail	The specified rpm is not detected within 1 sec after the OPC drum drive motor ON command is issued.
			Cause	1) OPC drum motor control circuit defect 2) Main control PWB defect 3) OPC drum drive section mechanism defect (lock, etc.) 4) OPC drum drive motor unit defect
			Remedy	1) Check for normal rotation of the OPC drum with SIM 25-1. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
		02	Content	Drive section lock
			Detail	The specified rpm is not detected within 1 sec after the main motor ON command is issued.
			Cause	1) Main motor control PWB defect 2) Main control PWB defect 3) Drive section mechanism defect (lock, etc.) 4) Main motor unit defect
			Remedy	1) Check for normal operation of the main motor with SIM 6-1. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
	Fusing section	03	Content	Fusing drive section (motor, etc.) trouble
			Detail	1) The specified rpm is not detected for 1 sec during output of the fusing drive motor ON signal. (During rotation)
			Cause	1) Fusing drive motor defect 2) Fusing mechanism defect 3) Main control PWB defect
			Remedy	1) Check for normal operation of the fusing drive motor with SIM 6-1. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
	Suction motor (suction)	21	Content	Suction motor (suction) lock
			Detail	The specified rpm is not detected within 1 sec after the suction motor ON command is issued.
			Cause	1) Suction motor control circuit defect 2) Main control PWB defect 3) Suction motor duct clogging (lock, etc.) 4) Suction motor defect
			Remedy	1) Check for normal rotation of the blower motor with SIM 6-2. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.

Main code	Section	Sub code	Description	
L4	Blower motor (exhaust)	22	Content	Blower motor (exhaust) lock
			Detail	The specified rpm is not detected within 1 sec after the blower motor ON command is issued.
			Cause	1) Blower motor control circuit defect 2) Main control PWB defect 3) Blower motor duct clogging (lock, etc.) 4) Blower motor defect
			Remedy	1) Check for normal rotation of the blower motor with SIM 6-2. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
	Duplex section	23	Content	Duplex (blower, suction) motor trouble
			Detail	1) The specified rpm is not detected for 1 sec during output of the duplex (blower, suction) motor ON signal.
			Cause	1) Duplex (blower, suction) motor trouble 2) Main control PWB defect
			Remedy	1) Check for normal rotation of the blower motor with SIM 6-2. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
L5	Optical section	00	Content	Lens, No. 4/5 mirror feed trouble, initial operation trouble
			Detail	1) The lens and No. 4/5 mirror do not move to the specified positions within 12.5 sec after the drive signals are outputted. (Home position or specified copy magnification ratio positions)
			Cause	1) Mirror motor control circuit defect 2) Main control PWB defect 3) Lens or No. 4/5 mirror motor defect 4) Lens or No. 4/5 mirror drive system defect
			Remedy	1) Check the operations of the lens unit and No. 4/5 mirror unit with SIM 1-3. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
L8	Optical section	03	Content	AE sensor trouble
			Detail	1) The Ae sensor output level change is not detected when the copy lamp voltage is changed during execution of SIM 47.
			Cause	1) AC power unit defect 2) Main control PWB defect 3) AE sensor defect 4) Copy lamp defect
			Remedy	1) Check the copy lamp voltage and the AE sensor output during execution of SIM 47. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
H2	Fusing section	00	Content	Thermistor trouble
			Detail	1) The thermistor is open. (The thermistor input pin voltage of 4.5V or above is detected.)
			Cause	1) Thermistor defect 2) Main control PWB defect 3) AE sensor defect 4) Copy lamp defect
			Remedy	1) Check the thermistor line. 2) Check the line between the thermistor and the main control PWB. 3) Turn OFF/ON the power to clear the self diag (trouble code) display.

Main code	Section	Sub code	Description	
H3	Fusing section	00	Content	Fusing section abnormally high temperature
			Detail	1) The heat roller temperature exceeds 228 C. (The thermistor input pin voltage of 1.3V or below is detected.)
			Cause	1) Thermistor defect 2) Main control PWB defect 3) AC power PWB defect 4) Fusing section connector improper connection 5) Fusing section connector SW defect
			Remedy	1) Check the thermistor and its input circuit. 2) Check the heater lamp ON signal and the drive circuit with SIM 5-2. 3) Clear the self diag with SIM 14.
H4		00	Content	Fusing section abnormally low temperature
			Detail	1) The fusing section does not reach the specified temperature *(205°C)* (*Set with* SIM 43-1) within *7* min after the power relay is turned ON. (The thermistor input pin voltage of *1.73 ~ 2.13V* or above is detected.)
			Cause	1) Thermistor defect 2) Main control PWB defect 3) AC power PWB defect
			Remedy	1) Check the thermistor and its input circuit. 2) Check the heater lamp ON signal and the drive circuit with SIM 5-2. 3) Clear the self diag with SIM 14.
U0	Main control PWB, operation PWB	00	Content	Data communication trouble between the main control PWB and the operation PWB (Judged on the main control PWB side)
			Detail	1) Serial communication parity, framing, overrun errors (Judged by the CPU)
			Cause	1) PWB (operation) defect on the slave side 2) Main control PWB defect
			Remedy	1) Check the data communication line between the main control PWB and each slave PWB. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
U1	Main control PWB	01	Content	SRAM backup memory 1 voltage fall
			Detail	1) The SRAM backup memory 1 voltage of 2.2V or below is detected.
			Remedy	1) Follow the battery replacement procedure. 2) Clear the self diag with SIM 13.
	(Option memory PWB)	02	Content	SRAM backup mattery 2 voltage fall
			Detail	The SRAM backup memory 2 voltage of 2.2V or below is detected.
			Remedy	1) Follow the battery replacement procedure. 2) Clear the self diag with SIM 13.
	Main control PWB + (option memory PWB)	03	Content	SRAM backup battery 1 and 2 voltage fall
			Detail	The SRAM backup mattery 1 and 2 voltage of 2.2V or below is detected.
			Remedy	1) Follow the battery replacement procedure. 2) Clear the self diag with SIM 13.

Main code	Section	Sub code	Description	
U2	Main control PWB	01	Content	Memory sum check error
			Detail	The SRAM memory data and the EEPROM memory data are disturbed. (In case of this trouble, the SRAM data and the EEPROM data are not reliable.)
			Cause	1) Main control PWB defect
			Remedy	1) Follow the U2 trouble countermeasure procedure. 2) Clear the self diag with SIM 16.
U3	Optical section	00	Content	Data communication trouble between the main control PWB and the mirror motor PWB
			Detail	1) Serial communication parity, framing, overrun errors (Judged by the CPU)
			Cause	1) Main control PWB defect 2) Mirror motor PWB defect
			Remedy	1) Check the data communication line between the main control PWB and each mirror motor PWB. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
		20	Content	Mirror motor rotary encoder output signal trouble
			Detail	1) The mirror motor rotary encoder output signal is not detected after 100msec from when the mirror motor ON signal is outputted.
			Cause	1) Main control PWB defect 2) Mirror motor drive section lock 3) Mirror motor defect
			Remedy	1) Check the mirror motor rotary encoder output signal with SIM 1-1. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
		21	Content	Scanner unit home position trouble
			Detail	1) The scanner unit detects the mirror home position sensor OFF when scanning is started. 2) The mirror home position sensor ON is detected (scanner home position sensor output signal is not detected normally) at the timing of the scanner unit return.
			Cause	1) Main control PWB defect 2) Mirror motor drive section level 3) Mirror motor defect 4) Mirror home position sensor defect
			Remedy	1) Check the scanner unit home position sensor output signal with SIM 1-2. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
		23	Content	Scanner unit initial operation trouble
			Detail	1) It takes 5 sec or more to initialize the scanner unit.
			Cause	1) Main control PWB defect 2) Mirror motor drive section lock 3) Mirror motor defect 4) Mirror home position sensor defect
			Remedy	1) Check the initializing operation with SIM 1-1. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.

Main code	Section	Sub code	Description	
U3	Optical section	26	Content	Mirror motor drive power voltage fall
			Detail	1) The mirror motor drive voltage of 26V or below is detected.
			Cause	1) Mirror motor drive section lock 2) Mirror motor defect 3) DC power PWB defect
			Remedy	1) Check the mirror motor drive power voltage. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
		41	Content	Lens shift operation trouble
			Detail	1) The lens home position sensor output polarity change is not detected even though the lens motor drive pulse is outputted for the max. shift amount + 100 steps in initializing. 2) The lens home position sensor output polarity change is not detected even though the lens drive pulse is outputted in the lens shift operation.
			Cause	1) Mirror motor PWB defect 2) Lens home position sensor defect 3) Lens motor drive section lock 4) Lens motor defect
			Remedy	1) Check the lens shift operation with SIM 1-3. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
		42	Content	No. 4/5 mirror shift operation trouble
			Detail	1) The lens home position sensor output polarity change is not detected even though the No. 4/5 mirror motor drive pulse is outputted for the max. shift amount + 100 steps in initializing. 2) The No. 4.5 mirror home position sensor output polarity change is not detected even though the lens drive pulse is outputted in the lens shift operation.
			Content	1) Mirror motor PWB defect 2) No. 4/5 mirror home position sensor defect 3) No. 4/5 mirror motor drive section lock 4) No. 4/5 mirror motor defect
			Detail	1) Check the No. 4/5 mirror shift operation with SIM 1-3. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
U4	Duplex section	02	Content	Paper width direction alignment plate operation trouble
			Detail	1) The paper width direction alignment plate home position is not detected within 5 sec.
			Cause	1) Paper width direction alignment plate home position sensor defect 2) Paper width direction alignment plate drive motor defect 3) Paper width direction alignment plate drive section defect 4) Main control PWB defect
			Remedy	1) Check the paper width direction alignment plate home position sensor output. 2) Check the paper width direction alignment plate drive circuit and mechanism. 3) Turn OFF/ON the power to clear the self diag (trouble code) display.
		03	Content	Paper transport direction alignment plate operation trouble
			Detail	1) The paper transport direction alignment plate home position is not detected within 5 sec.

Main code	Section	Sub code	Description	
U4	Duplex section	03	Cause	1) Paper transport direction alignment plate home position sensor defect 2) Paper transport direction alignment plate drive motor defect 3) Paper transport direction alignment plate drive section defect 4) Main control PWB defect
			Remedy	1) Check the paper transport direction alignment plate home position sensor output. 2) Check the paper transport direction alignment plate drive circuit and mechanism. 3) Turn OFF/ON the power to clear the self diag (trouble code) display.
		09	Content	Duplex blower valve trouble
			Detail	1) The blower valve home position sensor signal is not detected within 2.5 sec after the blower valve ON signal is outputted.
			Cause	1) Blower valve motor defect 2) Blower valve mechanism defect 3) Main control PWB defect 4) Blower valve home position sensor defect
			Remedy	1) Check the operation of the duplex blower valve with SIM 30-1, 6-2. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
U5	RADF section	00	Content	Data communication trouble between the main control PWB and the RADF control PWB
			Detail	1) Serial communication parity, framing, overrun error (Judged by the CPU.)
			Cause	1) Main control PWB defect 2) RADF control PWB defect
			Remedy	1) Check the data communication line between the main control PWB and the RADF control PWB. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
		01	Content	RADF resist sensor trouble
			Detail	1) RADF resist sensor output voltage defect
			Cause	1) RADF resist sensor defect 2) RADF control PWB defect
			Remedy	1) Check the RADF resist sensor output voltage. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
		02	Content	RADF paper exit, reverse sensor trouble
			Detail	RADF paper exit, reverse sensor output voltage defect
			Cause	1) RADF paper exit sensor, reverse sensor defect 2) RADF control PWB defect
			Remedy	1) Check the RADF paper exit, reverse sensor output. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
		03	Content	RADF timing sensor trouble
			Detail	1) RADF timing sensor output voltage defect
			Cause	1) RADF timing sensor defect 2) RADF control PWB defect
			Remedy	1) Check the RADF timing sensor output voltage. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.

Main code	Section	Sub code	Description	
U5	RADF section	05	Content	RADF document width sensor trouble
			Detail	1) RADF document width sensor output voltage defect
			Cause	1) RADF document width sensor defect 2) RADF control PWB defect
			Remedy	1) Check the RADF document width sensor output voltage. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
		11	Content	RADF paper feed motor trouble
			Detail	1) The paper feed motor rotation sensor (DFMRS) signal polarity change is not detected for *100* msec even though the paper feed motor ON signal is issued.
			Cause	1) RADF control PWB defect 2) RADF paper feed motor defect 3) RADF paper feed mechanism defect 4) RADF paper feed motor rotation sensor defect
			Remedy	1) Check the RADF operation with SIM 2-1, 2, 3. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
		12	Content	RADF transport motor trouble
			Detail	1) The transport motor rotation sensor (DTMRS2) signal polarity change is not detected for *300* msec after the transport motor ON signal is issued.
			Cause	1) RADF control PWB defect 2) RADF transport motor defect 3) RADF transport mechanism defect 4) RADF transport motor rotation sensor defect
			Remedy	1) Check the RADF operation with SIM 2-1, 2, 3. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
		13	Content	RADF paper exit trouble
			Detail	1) The paper exit motor rotation sensor (DEMRS) signal polarity change is not detected for *100* msec after the RADF paper exit motor ON signal is issued.
			Cause	1) RADF control PWB defect 2) RADF paper exit motor defect 3) RADF paper exit mechanism defect 4) RADF paper exit motor rotation sensor defect
			Remedy	1) Check the operation of the RADF with SIM 2-1, 2, 3. 2) Turn OFF/ON the power to clear the self diag (trouble code) display.
U7	MODEM I/F	00	Content	Data communication trouble between the copier and the host computer
			Cause	1) Main control PWB defect 2) MODEM I/F defect 3) MODEM communication circuit defect 4) Host computer defect 5) MODEM defect
			Remedy	1) If the trouble cause is not detected promptly, cancel copy inhibition at the communication trouble with SIM 27-1. 2) Replace the defective parts. 3) Turn OFF/ON the power to clear the self diag (trouble code) display.

Main code	Section	Sub code	Description	
U8	Expansion memory (main control PWB)	00	Content	Expansion memory installation trouble
			Detail	1) Improper contact between the expansion memory and the main control PWB 2) Improper setting of SIM 26-3
			Cause	1) Expansion memory defect 2) Improper contact of the expansion memory socket and plug 3) Main control PWB defect 4) There is no expansion memory installed though SIM 26-3 (expansion memory) is set to "YES."
			Remedy	1) SIM 26-3 improper setting 2) Check the contact of the expansion memory socket and plug. 3) Turn OFF/ON the power to clear the self diag (trouble code) display.
		01	Content	Expansion memory initializing trouble
			Detail	When the expansion memory is installed and SIM 26-3 is set to "YES," initializing operation is not performed. Or initializing operation is not performed even though the key operation of initializing is made.
			Cause	1) Expansion memory defect 2) Expansion memory socket, plug contact defect 3) Main control PWB defect 4) Initializing operation is not performed even though SIM 26-3 is set to "YES."
U8	Expansion memory (main control PWB)	01	Remedy	1) Check SIM 26-3 setting and perform initializing. 2) Check contacts of the expansion memory socket and plug. 3) Turn OFF/ON the power to clear the self diag (trouble code) display.
CH	Cabinet SW	Light	Content	The cabinet open/close SW is not closed.
			Detail	1) The cabinet open/close SW does not detect open.
			Detail	1) The cabinet open/close SW is not closed. 2) Cabinet open/close SW defect 3) Main control PWB defect 4) DC power defect (fuse F709)
			Remedy	When the trouble is removed, the self diag display is automatically cleared.
		Blink	Content	Developing unit not detected
			Detail	1) The developing unit is not detected.
			Cause	1) The developing unit is not installed. 2) Developing unit connector defect 3) Main control PWB defect
			Remedy	When the trouble is removed, the self diag display is automatically cleared.
—	Auditor		Content	Card-type counter card is not inserted.
			Detail	1) The card-type counter card is not detected.
			Cause	1) The card-type counter card (SF-EA11) is not inserted. 3) Card counter (SF-EA11) defect 4) Main control PWB defect

Main code	Section	Sub code	Description	
—	Auditor		Remedy	When the trouble is removed, the self diag display is automatically cleared.
PF			Content	The copy inhibition command is issued from the host computer.
			Detail	
			Cause	1) The copy inhibition command is issued from the host computer. 2) Main control PWB defect
			Remedy	1) Cancel the copy inhibition command of the host computer. 2) Set SIM 27-1 to ignore the command from the host computer.

2. Memory related troubles and servicing for main control troubles

A. Outline

The EEPROM and the SRAM in the control PWB include various set values, the adjustment values, the counter values, the internal auditor data, and the user program data. These data are very important for operating the machine properly and for servicing.

In the following cases, the set values, the adjustment values, the counter values, and the user program data must be entered again.

* Memory trouble (Self diag error U2)
* When the EEPROM or the SRAM in the main control PWB is replaced.
* When the main control PWB is replaced.
* When the memory backup battery voltage falls (self diag error U1)

When U2 trouble occurs, the memory data are not reliable. In that case, enter the data again.

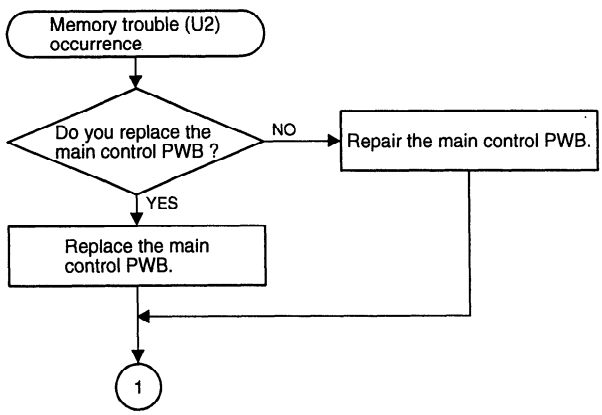
B. Purpose

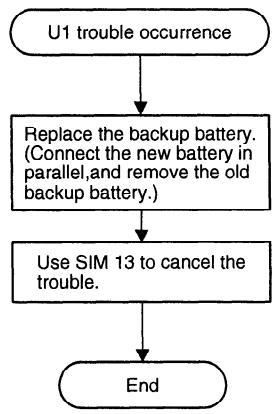
By entering the proper memory data, the machine is properly operated. Use the service data memory sheet for the above operation.

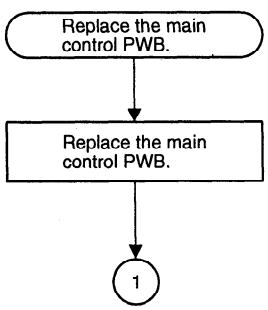
This improves servicing efficiency and allows quick recovery.

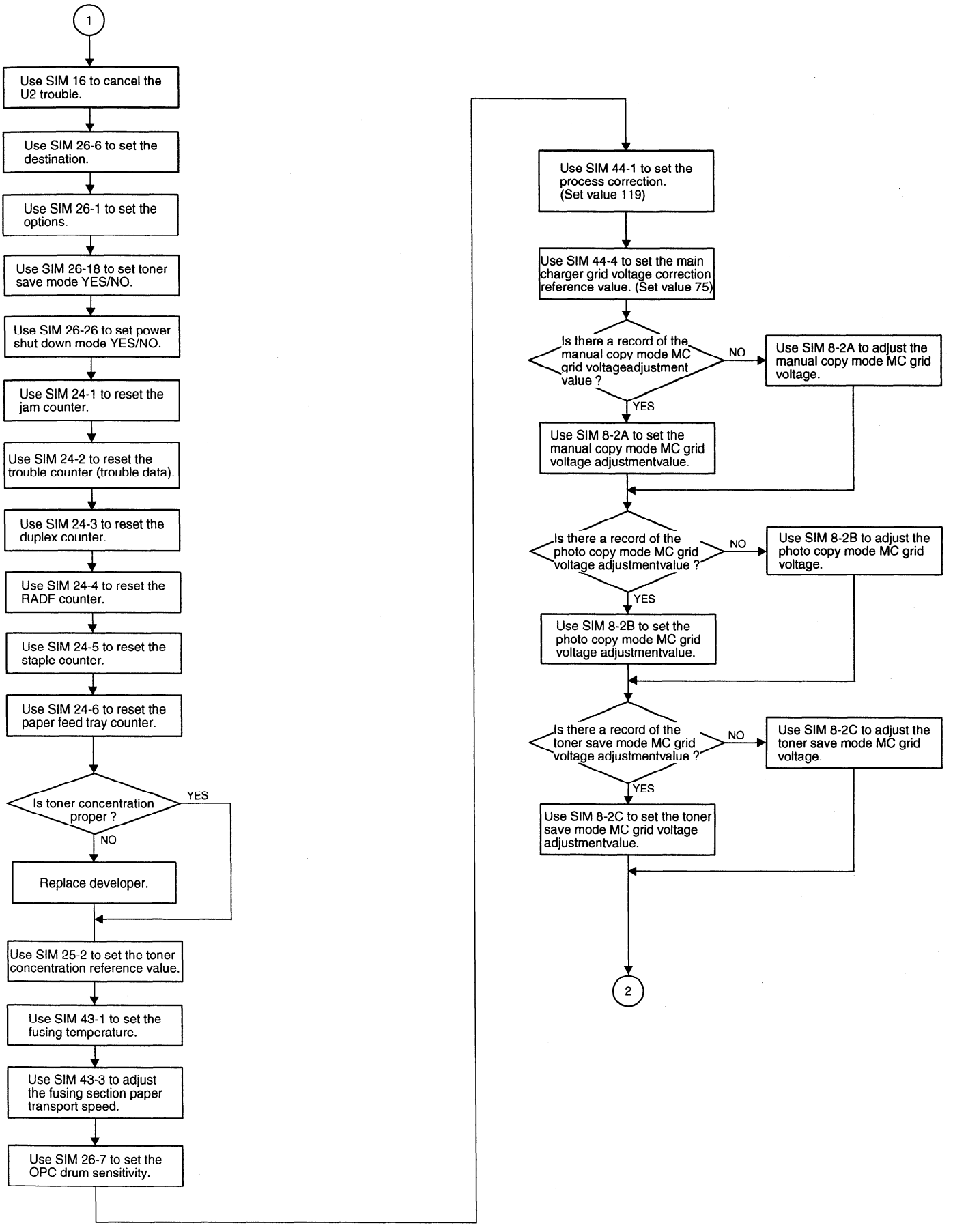
C. Remedy

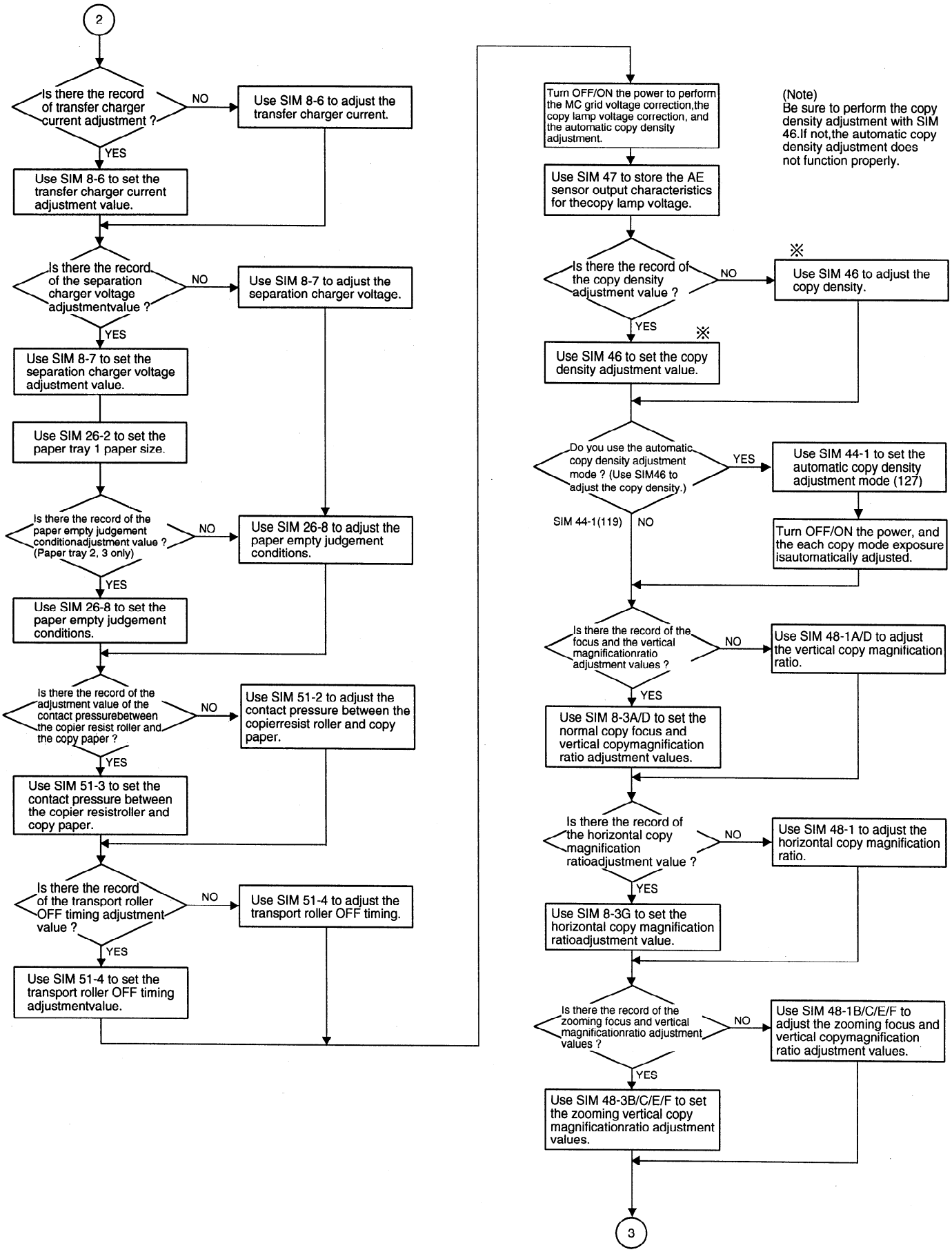
Follow the following procedure shown in the flowchart.

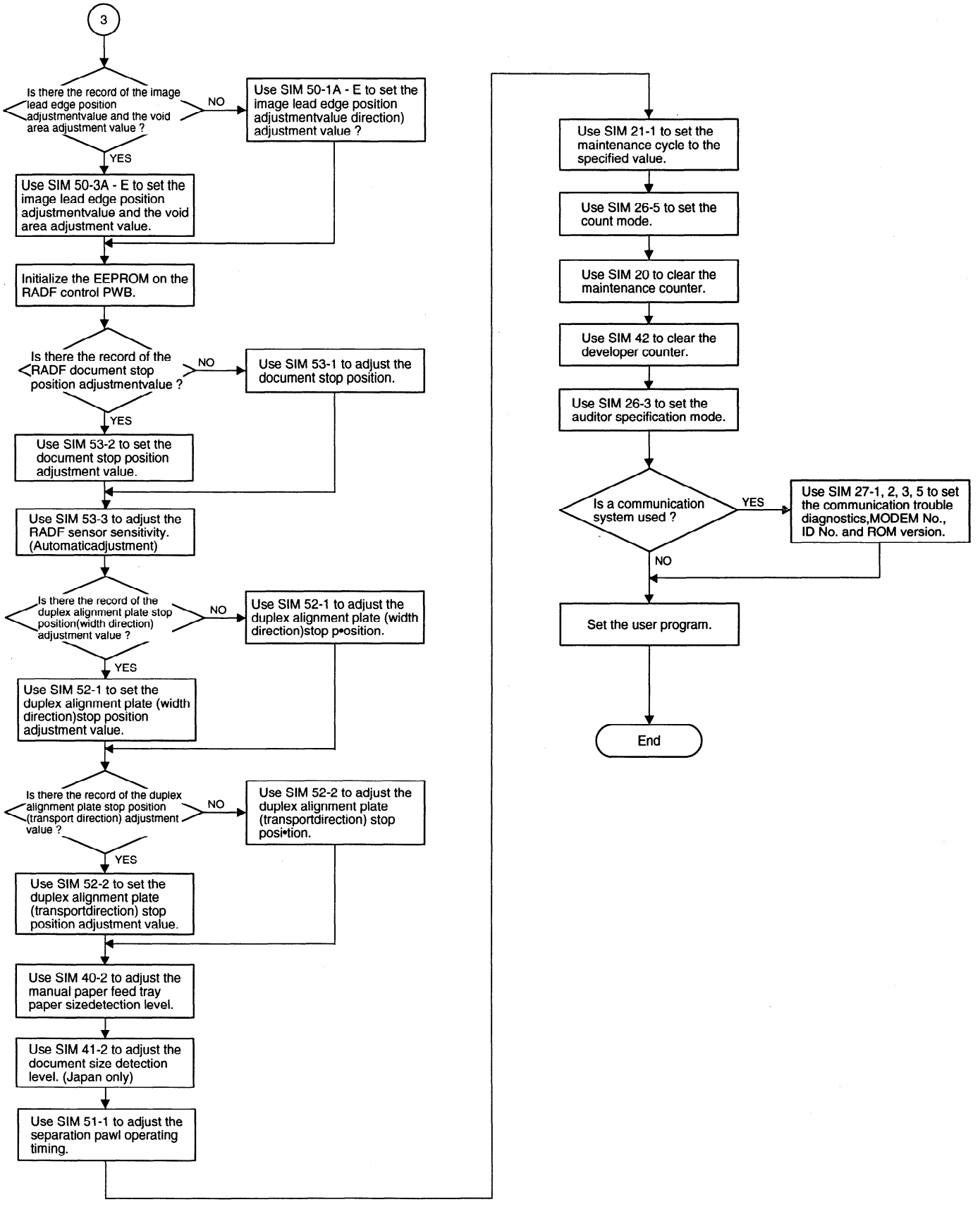







1
Use SIM 16 to cancel the U2 trouble.
Use SIM 26-6 to set the destination.
Use SIM 26-1 to set the options.
Use SIM 26-18 to set toner save mode YES/NO.
Use SIM 26-26 to set power shut down mode YES/NO.
Use SIM 24-1 to reset the jam counter.
Use SIM 24-2 to reset the trouble counter (trouble data).
Use SIM 24-3 to reset the duplex counter.
Use SIM 24-4 to reset the RADF counter.
Use SIM 24-5 to reset the staple counter.
Use SIM 24-6 to reset the paper feed tray counter.
Is toner concentration proper ?
YES
NO
Replace developer.
Use SIM 25-2 to set the toner concentration reference value.
Use SIM 43-1 to set the fusing temperature.
Use SIM 43-3 to adjust the fusing section paper transport speed.
Use SIM 26-7 to set the OPC drum sensitivity.
Use SIM 44-1 to set the process correction. (Set value 119)
Use SIM 44-4 to set the main charger grid voltage correction reference value. (Set value 75)
Is there a record of the manual copy mode MC grid voltageadjustment value ?
NO
Use SIM 8-2A to adjust the manual copy mode MC grid voltage.
YES
Use SIM 8-2A to set the manual copy mode MC grid voltage adjustmentvalue.
Is there a record of the photo copy mode MC grid voltage adjustmentvalue ?
NO
Use SIM 8-2B to adjust the photo copy mode MC grid voltage.
YES
Use SIM 8-2B to set the photo copy mode MC grid voltage adjustmentvalue.
Is there a record of the toner save mode MC grid voltage adjustmentvalue ?
NO
Use SIM 8-2C to adjust the toner save mode MC grid voltage.
YES
Use SIM 8-2C to set the toner save mode MC grid voltage adjustmentvalue.
2


2
Is there the record of transfer charger current adjustment ?
NO
Use SIM 8-6 to adjust the transfer charger current.
YES
Use SIM 8-6 to set the transfer charger current adjustment value.
Is there the record of the separation charger voltage adjustmentvalue ?
NO
Use SIM 8-7 to adjust the separation charger voltage.
YES
Use SIM 8-7 to set the separation charger voltage adjustment value.
Use SIM 26-2 to set the paper tray 1 paper size.
Is there the record of the paper empty judgement conditionadjustment value ? (Paper tray 2, 3 only)
NO
Use SIM 26-8 to adjust the paper empty judgement conditions.
YES
Use SIM 26-8 to set the paper empty judgement conditions.
Is there the record of the adjustment value of the contact pressurebetween the copier resist roller and the copy paper ?
NO
Use SIM 51-2 to adjust the contact pressure between the copierresist roller and copy paper.
YES
Use SIM 51-3 to set the contact pressure between the copier resistroller and copy paper.
Is there the record of the transport roller OFF timing adjustment value ?
NO
Use SIM 51-4 to adjust the transport roller OFF timing.
YES
Use SIM 51-4 to set the transport roller OFF timing adjustmentvalue.
Turn OFF/ON the power to perform the MC grid voltage correction,the copy lamp voltage correction, and the automatic copy density adjustment.
Use SIM 47 to store the AE sensor output characteristics for thecopy lamp voltage.
Is there the record of the copy density adjustment value ?
NO
※
Use SIM 46 to adjust the copy density.
YES
※
Use SIM 46 to set the copy density adjustment value.
Do you use the automatic copy density adjustment mode ? (Use SIM46 to adjust the copy density.)
YES
Use SIM 44-1 to set the automatic copy density adjustment mode (127)
SIM 44-1(119)
NO
Turn OFF/ON the power, and the each copy mode exposure isautomatically adjusted.
Is there the record of the focus and the vertical magnificationratio adjustment values ?
NO
Use SIM 48-1A/D to adjust the vertical copy magnification ratio.
YES
Use SIM 8-3A/D to set the normal copy focus and vertical copymagnification ratio adjustment values.
Is there the record of the horizontal copy magnification ratioadjustment value ?
NO
Use SIM 48-1 to adjust the horizontal copy magnification ratio.
YES
Use SIM 8-3G to set the horizontal copy magnification ratioadjustment value.
Is there the record of the zooming focus and vertical magnificationratio adjustment values ?
NO
Use SIM 48-1B/C/E/F to adjust the zooming focus and vertical copymagnification ratio adjustment values.
YES
Use SIM 48-3B/C/E/F to set the zooming vertical copy magnificationratio adjustment values.
3
(Note)
Be sure to perform the copy density adjustment with SIM 46.If not,the automatic copy density adjustment does not function properly.


3
Is there the record of the image lead edge position adjustmentvalue and the void area adjustment value ?
NO
Use SIM 50-1A - E to set the image lead edge position adjustmentvalue direction) adjustment value ?
YES
Use SIM 50-3A - E to set the image lead edge position adjustmentvalue and the void area adjustment value.
Initialize the EEPROM on the RADF control PWB.
Is there the record of the RADF document stop position adjustmentvalue ?
NO
Use SIM 53-1 to adjust the document stop position.
YES
Use SIM 53-2 to set the document stop position adjustment value.
Use SIM 53-3 to adjust the RADF sensor sensitivity. (Automaticadjustment)
Is there the record of the duplex alignment plate stop position(width direction) adjustment value ?
NO
Use SIM 52-1 to adjust the duplex alignment plate (width direction)stop p•osition.
YES
Use SIM 52-1 to set the duplex alignment plate (width direction)stop position adjustment value.
Is there the record of the duplex alignment plate stop position (transport direction) adjustment value ?
NO
Use SIM 52-2 to adjust the duplex alignment plate (transportdirection) stop posi•tion.
YES
Use SIM 52-2 to set the duplex alignment plate (transportdirection) stop position adjustment value.
Use SIM 40-2 to adjust the manual paper feed tray paper sizedetection level.
Use SIM 41-2 to adjust the document size detection level. (Japan only)
Use SIM 51-1 to adjust the separation pawl operating timing.
Use SIM 21-1 to set the maintenance cycle to the specified value.
Use SIM 26-5 to set the count mode.
Use SIM 20 to clear the maintenance counter.
Use SIM 42 to clear the developer counter.
Use SIM 26-3 to set the auditor specification mode.
Is a communication system used ?
YES
Use SIM 27-1, 2, 3, 5 to set the communication trouble diagnostics,MODEM No., ID No. and ROM version.
NO
Set the user program.
End

3. Paper jam, misfeed troubles

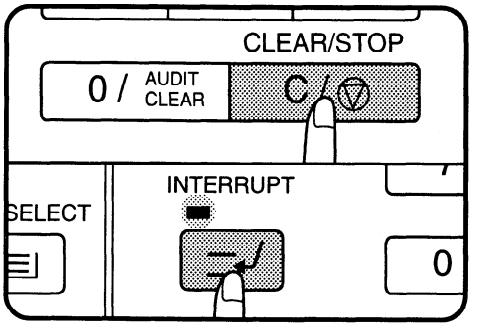
	Display/print	Description
Copier	MFT	Manual paper feed tray paper jam (MPFD not reached)
	TRAY1	Tray 1 paper feed jam (PFD1 not reached)
	TRAY2	Tray 2 paper feed jam (PFD2 not reached)
	TRAY3	Tray 3 paper feed jam (PFD2 not reached)
	CAS	Side cassette paper jam (CPFD not reached)
	DUP	Duplex tray paper jam (DPFD not reached)
	MPFD	MPFD jam (PPD2 not reached)
	PFD1	PFD1 jam (PFD1 remaining/PPD2 not reached)
	PFD2	PFD1 jam (PFD2 remaining/PPD2 not reached)
	PFD3	PFD3 jam (PFD3 remaining/PPD1 not reached)
	CPFD	CPFD jam (PPD2 not reached)
	DPFD	CPFD jam (DPFD remaining/PPD2 not reached)
	PPD1	PPD1 jam (PPD1 remaining/PPD2 not reached)
	PPD2	PPD2 jam (PPD2 remaining/PPD3 not reached)
	PPD3	PPD3 jam (PPD3 remaining/PSD not reached)
	PSD	PSD jam (PSD remaining/POD not reached)
	POD	POD jam (POD remaining/POD2 not reached/DSBO not reached)
	DSBD	DSBO jam (DSBO remaining)
	DPPD	DPFD jam (DPPD remaining/DPID not reached)
	DB	Switchback jam (DPPD not reached)
	POD2	POD2 jam (POD2 remaining)
RADF	OG_FD	RADF preliminary paper feed jam
	OG_ST	RADF paper feed jam
	EXT	RADF paper exit jam
	REV	RADF reverse jam
Sorter	SPID	Sorter paper entry jam
	SPOD	Sorter paper exit jam
	BINEXT	Sorter bin outside jam

[11] KEY OPERATOR PROGRAM

Key operator program operations

① Perform the key operations as follows:

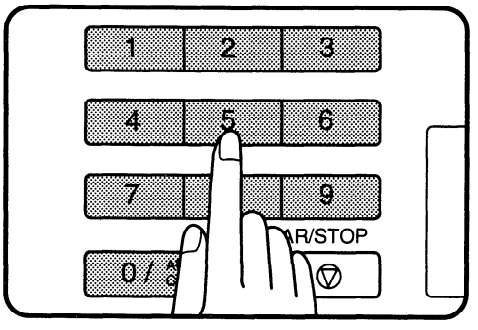
Clear/Stop → Interruption → Clear/Stop



"P" is displayed on the COPIES SELECTED display, and the following message is displayed.

```
ENTER THE KEY OPERATOR
CODE.
                  ----
```

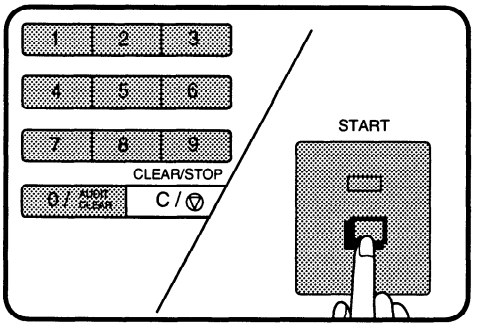
② Enter the key operator code (6 digits).



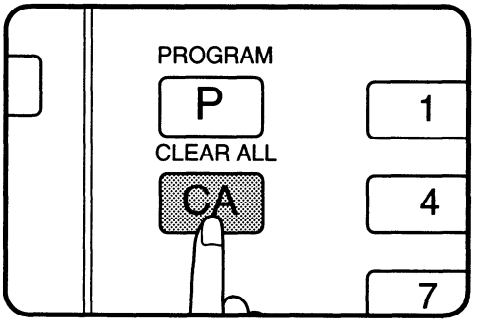
The hyphens (–) in the message are changed to asterisks (*).

```
ENTER THE KEY OPERATOR
CODE.
                  ***-
```

③ Enter the number (2 digits) of program to be used and press the START key.



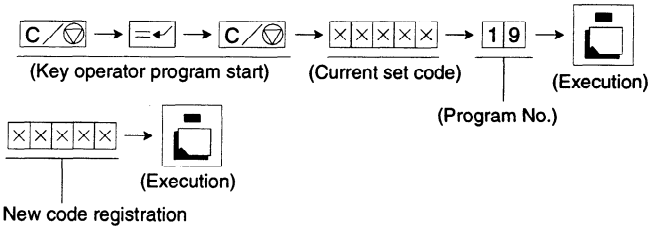
④ To end the program, press the CA key.



(Initial setting)

The key operator code is set to "000000" when shipping from the factory.

(Registering procedure)



Program list

	Code	Program name	Function
*2	P10	Department control counter setting/cancel	Used to set or cancel the department control counter.
*2	P11	Copies made count	Used to display the total copy count of each department.
*2	P12	Total amount	Used to print (*1) or display the total amount of each department.
*2	P13	Total clear	Used to clear the total of each department.
*2	P14	Department number control (registration, clear, change, display)	Used to register, clear, or change the department number. Used to print (*) the registered department number.
*2	P15	Copy unit price setting	Used to set three kinds of copy unit prices.
*2	P16	Setting/cancel of the upper limit of copies made number	Used to set or cancel the upper limit of copies made number for each department.
	P17	Machine number setting	Used to register and print (*1) the ID number of the copier.
*2	P18	Warning to erroneous input of the department number	When the department number is erroneously inputted three times continuously, the warning is displayed. (In order to prevent against use with another department number.)
	P19	Key operator code number change	Used to change the key operator code number.
	P20	Copy density level adjustment	Used to adjust the copy density in automatic and manual density adjustment.
	P21	Auto power shut off time setting	Used to set the auto power shut off time after turning on the power. (10 min ~ 2 hours)
	P23	Auto clear time setting	Used to set the time to return to the standard condition automatically after completion of copying. (10 sec ~ 240 sec. Or the auto clear function can be inhibited.)
	P24	Fixed magnification ratio setting	Used to add or change fixed magnification ratios. (Two ratios can be set for either of enlargement and reduction.)
	P25	Setting of the upper limit of copies selected number	Used to set the upper limit of copies selected number (the number of copy sets, the number of copies).
	P26	Binding margin setting	Used to change the binding margin.
	P27	Frame erase/center erase width setting	Used to change the frame erase/center erase width.
	P28	Standard state setting	Used to set the standard condition when the power is turned on.
	P29	Recall of total number of use	Used to print (*) or display the total use number of the copier, the RADF, the duplex tray, and the staple unit.
	P31	Pre-heat mode setting	Used to set the time to enter the pre-heat mode automatically after completion of copying. (1 min ~ 30 min. Or inhibition of pre-heat mode can be set.)
	P42	Binding direction change function selection	Used to select the binding margin direction.
	P43	Frame erase mode standard setting	Used to set the mode when the frame erase is set.
	P44	Inhibition of retrieval of the set page of registered insert paper insertion	Used to inhibit recall of the set page in insert cover insertion.
	P45	Message display time setting	Used to set the display time of messages.
	P46	Operation inhibition mode setting	Used to inhibit use of the copier by other operators than the specified one.
	P47	Stream feeding mode (SDF) setting/cancel (RADF unit)	Used to set or cancel the stream feeding mode.
	P48	Thin paper (RADF) mode setting	Used to set the thin paper mode with the RADF unit.
	P50	Staple position initial setting change	Used to change the initial setting of the staple position.
	P51	Sorter automatic front take-up function setting (Only for *SF-S55N)*	Used to select between setting or no setting of copy automatic front take-up in each of the sort mode, the group mode, and the staple sort mode.
	P52	*Sorter bin paper capacity limit (Enable/Disable) setting*	*Used to enable/disable limitation of paper capacity of the sorter bin.*
	P70	Paper automatic selection function inhibition (Only for *SF-S55N)*	Used to inhibit the automatic paper selection.
	P71	Inhibition of automatic selection of No. 1, 2, 3 trays	Used to inhibit continuous selection (paper feed) of trays when the same size paper is loaded on trays 1, 2, and 3. (Used when different sizes of paper is loaded in each tray.)
	P72	Inhibition of use of manual feed tray in duplex copy	Used to inhibit the use of the manual feed tray in duplex copy.
	P73	Inhibition of rewriting of registered copy conditions	Used to clear or change the copy conditions registered by the copy condition registration function.
	P74	Inhibition of use of RADF	Used to inhibit the use of the RADF in case of trouble.
	P75	Inhibition of duplex copy	Used to inhibit the use of the duplex unit in case of trouble.
	P76	Inhibition of the staple function	Used to inhibit the use of staple function in case of a trouble in the staple unit.
	P77	Inhibition of cover/insert copy	Used to inhibit cover/insert copy.
	P78	Inhibition of pulling out the tray	Used to inhibit pulling out the tray except for paper supply and paper jam treatment.
	P80	Inhibition of copying in case of size/direction warning	Used to inhibit copying when the copy paper and the document are in different directions or when the suitable copy paper is not loaded.
	P82	Inhibition of duplex copy of cover/insert	Used to inhibit cover/insert copy when the cover/insert is set.
	P83	PC/MODEM access allow	Used to allow the other operator to make access to the operator program content without entering the key operator code number. (Used when a computer is connected directly or through the telephone line to the copier.)
	P86	*Auto power shut off*	*Used to enable/disable auto power shut off.*
	P90	Program list display	Used to display all the key operator program messages.
	P92	Program list print	Used to print (*1) all the key operator program list.

*1 To print, the optional commander (SF-EA13) is required.

2 Programs marked with "" cannot be set from the copier body when the optional card-type department control counter (SF-EA11) is installed. They can be set from the optional commander (SF-EA13).

[12] SETTING/ADJUSTMENT VALUES RECORDING SHEET

(Operation)

*1: Impossible to input with the 10-key pad.

*2: Differs depending on the destination.

Purpose	Section	Main code	Sub code	Content	Standard value	Default	Set range	Adjustment /set value
Adjustment	Paper feed	26	8	Used to set the conditions for copy paper tray (No. 1-3) paper empty judgement. 26A: Paper feed tray 1 (Invalid)		—	—	—
				26B: Paper feed tray 2		12	1 ~ 30	
				26C: Paper feed tray 3		12	1 ~ 30	
		51	2	Used to adjust copy paper contact pressure onto the resist roller in each paper feed mode. 51A: Manual paper feed tray		*23*	0 ~ 50	
				51B: Tray 1		*26*	0 ~ 50	
				51C: Tray 2		*26*	0 ~ 50	
				51D: Tray 3		*26*	0 ~ 50	
				51E: Cassette		*23*	0 ~ 50	
				51F: Not used		*26*	*0 ~ 50*	
				51G: Duplex unit		*26*	0 ~ 50	
			3	Used to input the contact pressure adjustment value of paper onto the resist roller. Same as SIM 51-2 but without copying. 51A: Manual paper feed tray				
				51B: Tray 1		*23*	*0* ~ 50	
				51C: Tray 2		*26*	*0* ~ 50	
				51D: Tray 3		*26*	*0* ~ 50	
				51E: Cassette		*23*	*0* ~ 50	
				51F: Not used		*26*	*0 ~ 50*	
				51G: Duplex unit		*26*	1 ~ 50	
			4	Used to adjust the paper stop position in front of the resist roller.		*17*	1 ~ 50	
	Manual paper feed tray	40	2	Used to adjust the detection level of the manual paper feed tray paper width detector.			*0 ~ 255*	*1
	Paper transport	51	1	Used to adjust the OPC drum separation pawl ON timing.		*4*	*1* ~ 20	
	Duplex	52	1	Used to adjust the duplex unit paper tray width direction alignment plate stop position.		55	1 ~ 99	
			2	Used to adjust the duplex unit paper tray paper transport direction alignment plate stop position.		39	1 ~ 99	
	Optical	48	1	Used to adjust the copy magnification ratio and the focus. 48A: Copy magnification ratio adjustment value (Normal)		50	1 ~ 99	
				48B: Copy magnification ratio adjustment value (Reduction)		26	1 ~ 51	
				48C: Copy magnification ratio adjustment value (Enlargement)		16	1 ~ 31	
				48D: Focus adjustment value (Normal)		60	1 ~ 119	
				48E: Focus adjustment value (Reduction)		26	1 ~ 51	
				48F: Focus adjustment value (Enlargement)		26	1 ~ 51	
				Horizontal (paper transport direction) copy magnification ratio adjustment		15	1 ~ 30	

Purpose	Section	Main code	Sub code	Content	Standard value	Default	Set range	Adjustment /set value
Adjustment	Optical	48	3	Used to input the copy magnification ratio and the focus adjustment value without copying.				
				48A: Copy magnification ratio adjustment value (Normal)		50	1 ~ 99	
				48B: Copy magnification ratio adjustment value (Reduction)		26	1 ~ 51	
				48C: Copy magnification ratio adjustment value (Enlargement)		16	1 ~ 31	
				48D: Focus adjustment value (Normal)		60	1 ~ 119	
				48E: Focus adjustment value (Reduction)		26	1 ~ 51	
				48F: Focus adjustment value (Enlargement)		26	1 ~ 51	
				48G: Mirror speed correction value		15	1 ~ 30	
		50	1	Used to adjust the copy image position and void area (image loss).				
				50A: Distance data from MHP OFF to the image lead edge.		50	0 ~ 99	
				50B: Time data from the image lead edge to RRC ON.		50	0 ~ 99	
				50C: Time data from RRC ON to PSBRK OFF.		10	1 ~ 20	
				50D: Lead edge void amount data		10	0 ~ 20	
				50E: Rear edge void amount data		10	0 ~ 20	
			3	Used to adjust the copy image position and void area (image loss) adjustment value. Same as SIM 50-1, but without copying.				
				50A: Distance data from MHP OFF to the image lead edge.		50	0 ~ 99	
				50B: Time data from the image lead edge to RRC ON.		50	0 ~ 99	
				50C: Time data from RRC ON to PSBRK OFF.		10	1 ~ 20	
				50D: Lead edge void amount data		10	0 ~ 20	
				50E: Rear edge void amount data		10	0 ~ 20	
	Process	8	2	Used to check and adjust the main charger grid voltage and its control circuit operation in each copy mode.				
				OBA: AE/MANUAL		750	200 ~ 999	
				OBB: PHOTO		490	200 ~ 999	
				OBC: TONER SAVE		645	200 ~ 999	
			6	Used to check and adjust the transfer charger current and its control circuit operation.		40	11 ~ 56	
			7	Used to check and adjust the separation charger voltage and its control circuit operation.		40	18 ~ 56	
		25	2	Used to make initial setting of toner concentration.		128	*78 ~ 179*	
	RADF	53	1	Used to adjust the document stop position of each operation mode of RADF.				
				A (Normal paper/surface mode)		8	0 ~ 15	
				B (Normal paper/back mode)		8	0 ~ 15	
				C (Thin paper/surface mode)		8	0 ~ 15	
				D (Thin paper/back mode)		8	0 ~ 15	
				E (Normal paper/step mode)		8	0 ~ 15	
				F (Thin paper/step mode)		8	0 ~ 15	
			2	Used to adjust the document stop position of each operation mode of RADF. Same as SIM 53-1, but without copying.				
				A (Normal paper/surface mode)		8	0 ~ 15	
				B (Normal paper/back mode)		8	0 ~ 15	
				C (Thin paper/surface mode)		8	0 ~ 15	
				D (Thin paper/back mode)		8	0 ~ 15	
				E (Normal paper/step mode)		8	0 ~ 15	
				F (Normal paper/step mode)		8	0 ~ 15	
			3	Used to adjust the sensitivity 'threshold level) of the photo sensor in the RADF.				*1
	Document size sensor	41	2	Used to adjust the detection level of the document size sensor. (Japan only)		*128*	*0 ~ 255*	*1
	Fusing unit	43	3	Used to adjust the fusing roller rotation speed.		*6*	*1 ~ 12*	
Setting	Paper feed	26	2	Paper tray 1 paper size setting		*1/2*	1 ~ 2 (3)	
	Process		7	OPC drum sensitivity setting		2	1 ~ 3	
		44	1	Main charger grid voltage correction, optical unit correction, OPC drum, toner concentration correction and auto copy density adjustment	127	127/*111* *2	1 ~ 127	
			4	Image density setting in the main charger grid voltage of correction	75	75	*1 ~ 255*	
	Fusing	43	1	Fusing temperature setting in each copy mode (Depends on the destination.) — Single copy mode		*4*	1 ~ 5	
				Duplex copy mode		*3/8* *2	1 ~ 9	
	Auditor	26	3	Auditor specification setting (expansion memory initializing)		1	*1 ~ 4*	
	Others	26	18	Toner save operation setting		*2	0 ~ 1	
			26	Power shut down mode setting		*2	0 ~ 1	
			28	Additional setting of fixed magnification ratios (Registration/change)		*0*	*0 (50 ~ 200)*	

(Copy density adjustment)

Purpose	Section	Main code	Sub code	Content	Standard value	Default	Set range	Adjustment /set value
Copy density adjustment	Copy density adjustment	46		Used to adjust the copy density and the copy density gradient (exposure gradient) in each copy mode. (Non-toner save mode)				
				Manual mode EXP1	*635*	*635*	*430 ~ 800*	
				Manual mode EXP5	*525*	*525*	*430 ~ 800*	
				Photo mode EXP1	*540*	*540*	*430 ~ 800*	
				Photo mode RXP5	*470*	*470*	*430 ~ 800*	
				Auto mode	*573*	*573*	*430 ~ 800*	
				(Toner save mode)				
				Manual mode EXP1	*600*	*600*	*430 ~ 800*	
				Manual mode EXP5	*505*	*505*	*430 ~ 800*	
				Auto mode	*545*	*545*	*430 ~ 800*	
			47	Used to store the AE sensor and the optical section characteristics for the change in the copy lamp applying voltage.				*1
(Specifications)								
Setting	Option	26	1	Option setting program		0	0 ~ *1*	
	Destination		6	Used to make destination settings.		*2	1 ~ 10	
	Operation		*4*	*Used to set ON/OFF of auto front take-out function in the manual paper feed mode.*				
				Mode 1		*1*	*1 ~ 2*	
				Mode 2		*1*	*1 ~ 2*	
(Counter)								
Setting	Maintenance cycle	21	1	Maintenance cycle setting		0	0 ~ 2	
	Count mode (Maintenance/total)	26	5	Total counter and maintenance counter count mode setting		0	0 ~ 3	
(Communication)								
Setting	I/F	27	1	Used to set whether self diag (U7-00) is displayed and copying is stopped or not in case of a communication trouble between the host computer and the MODEM.		0	0 ~ 1	
			2	Used to set and change the host computer/MODEM No.				
			3	Used to set and change the copier and the host computer/MODEM ID No.				
			4	Used to input the servicing start time and end time for servicing time control.				
			5	Used to input the copier tag No.				
(Others)								
Check	User program	22	4	Used to display the key operator code.				

[13] OTHERS

SD-2275/2260 unit parts compatibility table

N: New

Unit	Part name	Compatibility			Change content, change reason
		SD-2275		*SD-2260*	
Mechanical unit	RADF unit	N	No		Original transport speed up, original stop accuracy up, *roller change* Improved replaceability of transport belt, *control PWB*
	External parts (Cabinet)	Partially N			*Compatible except for the following cabinet.* • *Front cabinet (Large)* • *No. 1, 2, 3, paper feed tray cabinet (color change)* • *Left side (upper) cabinet (sound-proof sheet added)* • *Rear cabinet (cushion added) (Europe version only)*
	Cleaner unit		⇔		
	Suction duct unit				*Ozone filter partly abolished.*
	Chassis	N	No		*Change in the scanner base section (Allows high-speed scanning)*
	Duplex unit		⇔		Changes in paper feed blower section, drive section (to improve paper feed capability)
	Toner hopper unit	N	No		*Allows skating.*
	Process unit	N	No		*Increased light intensity of the discharge lamp*
	Manual paper feed, cassette paper feed unit		⇔		
	Manual paper feed, cassette paper feed drive unit		⇔		
	Main charger unit		⇔		
	OPC drum flange unit	*N*	*No*		*Drum heater 100V series specifications are changed to 200V series specifications (common specifications). No change in 200V series (compatible). Flange shape change*
	OPC drum drive unit	N	No		*Process speed change, gear change, motor change*
	Paper feed drive unit		⇔		
	Developing duct unit		⇔		
	Developing unit	N	No		*Fan added, developing roller change*
	Manual paper feed unit		⇔		Manual paper feed capacity up
	Operation panel unit	N	No		*Control PWB change (ROM only (all ROM)) panel sheet color change (Except for UK)*
	No. 1 paper feed tray		⇔		Paper feed capacity up
	No. 1 paper feed unit		⇔		
	No. 2/3 paper feed tray		⇔		
	No. 2/3 paper feed unit		⇔		
	Fusing fan duct unit		⇔		
	Fusing unit	N	No		*Heater lamp/Lower heat roller change (EX only)*
	Fusing drive unit		⇔		
	Transfer/separation charger unit		⇔		
	Pre-transfer discharge charger unit		⇔		
	Paper cassette				
	Paper transport unit		⇔		
	Switch back unit	N	No		*Motor change (Increase speed, etc.)*

Unit	Part name	Compatibility			Change content, change reason
		SD-2275		*SD-2260*	
Motor	Alignment (length) motor (duplex)		⇔		
	Alignment (width) motor (duplex)		⇔		
	Cooling motor (optical section)		⇔		
	Cooling motor 1 (optical section)		⇔		
	Cooling motor 2 (optical section)		⇔		
	Suction motor		No		Increased suction amount (cost down)
	Suction motor *(Paper transport section)*		⇔		
	Switchback motor	N	*No*		*Increased speed, silent, increased torque*
	Scanner motor	N	No		Process speed change
	Toner motor 1		⇔		
	Toner motor 2		⇔		
	Toner motor 3		⇔		
	Blower valve motor (duplex)				
	Blower motor		⇔		
	Blower motor (duplex)				
	Ventilation motor		⇔		
	Mirror motor		⇔		
	Lens motor		⇔		
	Cooling motor (Paper exit section)	*N*			*Newly added*
	Fusing cooling motor (S)	*N*			*Newly added*
	Developing cooling motor 2	*N*			*Newly added*
	Image forming section cooling motor		⇔		
	OPC drum/developing motor	N	No		Increased RPM
	Paper feed/transport motor	N		—	Newly added.
	Original feed motor *(RADF)*		No		Increased original transport speed
	Original reverse/discharge motor *(RADF)*		No		Increased original transport speed
	Original transport motor *(RADF)*		No		Increased original transport speed, increased original stop accuracy
	Developing cooling motor *1*	N		—	Newly added.
	No. 1 paper feed tray lift motor	N	No		
	No. 2 paper feed tray lift motor		⇔		
	No. 3 paper feed tray lift motor		⇔		
	Fusing cooling motor *(M)*		⇔		
	Fusing motor	N		—	*Increased speed*
	Power cooling motor	N		—	
	Paper cassette lift motor	N		—	

Unit	Part name	Compatibility			Change content, change reason
		SD-2275		*SD-2260*	
PWB	AC power PWB	N	No		*Moved to the exclusive PWB on the copy lamp control section.*
	AE sensor PWB		⇔		
	DC power PWB	N	No		*Fuse was changed. The PWB unit is compatible.*
	LCD invertor PWB	N	⇔		
	LCD unit		⇔		
	RADF control PWB	N	No		
	RADF display PWB		⇔		
	Image density sensor PWB		⇔		
	Operation control PWB	N	No		*All ROM was changed. The PWB unit is compatible.*
	Key PWB 1		⇔		
	Key PWB 2		⇔		
	Commander I/F PWB		⇔		
	Blank lamp PWB		⇔		
	Process sensor PWB		⇔		
	Main control PWB	N	No		*ROM was changed. The PWB unit is compatible.*
	OPC drum mark sensor PWB		⇔		
	Paper size detection PWB (No. 2/3 paper feed tray)		⇔		
	Paper feed tray switch PWB		⇔		
	Paper feed tray lift motor fuse PWB		⇔		
	Original size detection PWB (Light reception unit)		⇔		(Japan only)
	Original size detection PWB (light emitting unit)		⇔		(Japan only)
	Optical dirt sensor PWB		⇔		
	High voltage PWB	N	No		Shape change, same operation specification (Developing bias voltage is adjust by VR.)
	Discharge lamp PWB	*N*	*No*		*Increased light intensity*
	Display adjustment PWB		⇔	—	
	Paper cassette size detection PWB		⇔	—	
	Copy lamp control PWB	*N*			*Newly added (separated from AC power PWB), DC lighting system*
	Prosess image sensor PWB				*100 V series specifitions are changed to 200 V series specifications (common specifications). No change in 200 V series specifications. (Compatible)*
Others	*Copy lamp*		*No*		*Common with the 100 V series copy lamp.*
	OPC drum	*N*	*No*		*Increased sensitivity, shape change*

[Paper kinds and sizes]

Paper name	Abbreviation	Size (W × L) mm
A3	A3	(297 ± 1) × (420 ± 1)
A4	A4	(297 ± 1) × (210 ± 1)
A5	A5	(210 ± 1) × (148.5 ± 1)
B4	B4	(257 ± 1) × (364 ± 1)
B5	B5	(257 ± 1) × (182 ± 1)
11" × 17"	11 × 17	(279 ± 1) × (432 ± 1)
LETTER (8½" × 11")	LTR	(297 ± 1) × (216 ± 1)
STATEMENT	STMT	(216 ± 1) × (139.5 ± 1)

Paper name	Abbreviation	Size (W × L) mm
LEGAL (8½" × 14")	LGL	(216 ± 1) × (356 ± 1)
Korea official paper	K-LGL	(265 ± 1) × (190 ± 1)
Korea official paper R	K-LGLR	(190 ± 1) × (265 ± 1)
FOOLSCAP	FLSC	(216 ± 1) × (330 ± 1)
Australian FOOLSCAP	A-FLS	(206 ± 1) × (337 ± 1)
OFICIO	OFI	(216 ± 1) × (317 ± 1)
Euador OFICIO	E-OFI	(220 ± 1) × (320 ± 1)
Bolivia OFICIO	B-OFI	(216 ± 1) × (355 ± 1)

Paper name	Abbreviation	Size (W × L) mm
Argentine LETTER	A-LTR	(280 ± 1) × (220 ± 1)
Government LETTER	G-LTR	(267 ± 1) × (203 ± 1)
Argentine LEGAL	A-LGL	(220 ± 1) × (340 ± 1)
Government LEGAL	G-LGL	(203 ± 1) × (330 ± 1)
FOLIO	FOLI	(216 ± 1) × (317 ± 1)
Argentine OFFICIO	A-OFI	(220 ± 1) × (340 ± 1)

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.

SD-2275

SHARP

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