SHARP SERVICE MANUAL

CODE: 00ZSF2530FM/E

No.1

SF-2530
SF-D23/D24
MODEL SF-DM11

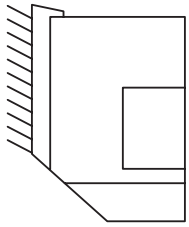
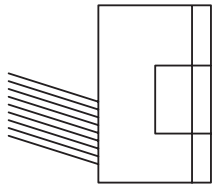
[Note] The SF-2530 is a minor change model of the SF-2030. This Service Manual omits descriptions common with the SF-2030, and describes only the different points of the SF-2530. For the different points, refer to the list of changes between the SF-2030 and the SF-2530.

CONTENTS

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

List of changes between SF-2030 and SF-2530

<table>
<tr><th rowspan="2">No.</th><th colspan="3">SF-2030</th><th>SF-2530</th><th rowspan="2">Remark</th></tr>
<tr><th>Page</th><th>Item</th><th>Content</th><th>Change</th></tr>
<tr><td></td><td>1-1</td><td>[1]-1</td><td>General description</td><td>Model name change
SF-2030 is changed to SF-2530.
SF-2040 is changed to SF-2540.</td><td></td></tr>
<tr><td></td><td></td><td>[1]-4</td><td>System outline</td><td>Model name change and addition
20-bin staple sorter: SF-S56 is added.
 
SF-S56
10-bin staple sorter SF-S54N is added.
 
SF-S54
10-bin staple sorter (SF-S52) is deleted.
Desk: SF-DS15 is added.
ADU: SF-DM11 is added.
Card-type department control counter: SF-EA11 is added.
Password-type department control counter : AD-EA12 is added.
Commander: SF-EA13 is added.
Personal counter: SF-71A/B is added.
SF-S53 is changed to SF-S53N.</td><td></td></tr>
<tr><td></td><td>2-1</td><td>[2]-1-(6)</td><td>Warmup time</td><td>"About 60 sec" is changed to "About ??? sec."</td><td></td></tr>
<tr><td></td><td></td><td>[2]-1-(7)</td><td>Multicopy</td><td>999 sheets is changed to 99 sheets.</td><td></td></tr>
<tr><td></td><td>2-2</td><td>[2]-1-(10)</td><td>Paper feed</td><td>Letter size is added to AB series.
A4 size is added to Inch series.
Letter/13" is added to AB series.
13"/A4 is added to Inch series.
AB series
<table><tr><th>Paper entry</th><th>Paper size</th><th></th></tr><tr><td>Upper cassette (Option)</td><td>B5/B5R
A4/A4R/B4/A3
Letter/13"</td><td></td></tr><tr><td>Lower cassette</td><td>A5/B5/B5R
A4/A4R/B4/A3
Letter/13"</td><td></td></tr><tr><td></td><td colspan="2">A5: ✳ With the option ~</td></tr></table>Inch series
<table><tr><th>Paper entry</th><th>Paper feed size</th><th></th></tr><tr><td>Upper cassette (Option)</td><td>Letter/Letter R/
Legal/Ledger
13", A4</td><td></td></tr><tr><td>Lower cassette</td><td>Letter/Letter R/
Legal/Ledger/
Invoice, 13"/A4</td><td></td></tr><tr><td></td><td colspan="2">✳ With the option ~</td></tr></table></td><td></td></tr>
</table>

No.	SF-2030			SF-2530	Remark
	Page	Item	Content	Change	
	2-3	[2]-1-(20)	(20) Paper receive tray and finishing	Model name change and delete SF-S53 is changed to SF-S53N. SF-S52 is deleted. Models in the table below are added.	

Finishing function	Sort capacity	Non-sort capacity
10-bin sorter	???	??? (SF-S54)
20-bin staple sorter	???	??? (SF-S56)

Accessory of SF-2530 (Addition and changes in this model are in bold fonts.)
<Note> ROM language is deleted.
(25) Accessories

Destination	Japan	SEC	SECL	SEEG	SUK	SCA	AB agent	Inch agent
Drum *2	Installed when shipping	Installed when shipping	Installed when shipping	Separately packed	**Installed when shipping**	Installed when shipping	**Installed when shipping**	**Installed when shipping**
Developer (Black)	○	×	×	×	×	×	×	×
Toner cartridge	○	×	×	×	×	×	×	×
Original cover	Standard provision	Option	Option	Option	Option	Option	Standard **LAG is an option.**	
Paper exit tray 1 *1	○							
Original table	×	○					× **LAG is an option.**	
Toner collection container	○ (4 pcs.) One is installed when shipping.							
Operation manual	Japanese	Exclusive English	English/ French	**CG: German/ English BG: None**	Exclusive English	English	English/ French/ Arabic Typical example	English/ Spanish Typical example
Dust cover	○	×					○ (Part)	
Zooming ratio table	○	×						
ROM language	Japanese	English	English	GG: German BG: None	English	English	English/French/ Spanish depending on the destination	
Key sheet	Japanese	English	English/ French	**CG: German/ English BG: None**	English	English + **Foolscap**	English, partly Spanish + **Foolscap**	English, partly Spanish + **Foolscap**
	SEL = English/French packed together. SEEG (BG) = Treated in a kit.							
Other printed matters Delivery/installation report (Japan/SEEG), SCA warranty, Warranty registration (SUK), Maintenance card, Counter contract × 2 (Japan)								

*1: Retractable (Japan), Fixed (Outside Japan)
***2: For SEEG/SUK, only products of SOCC are installed when shipping.**

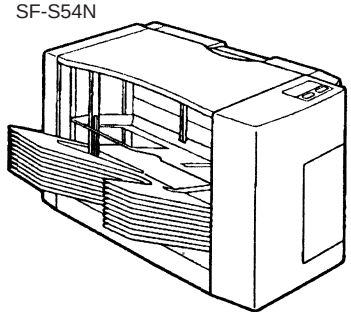
No.	SF-2030			SF-2530	Remark
	Page	Item	Content	Change	
	2-5	[2]-2	Consumable change (Refer to the table below.) SEC: SF-2530		

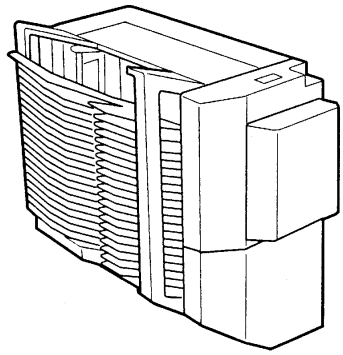
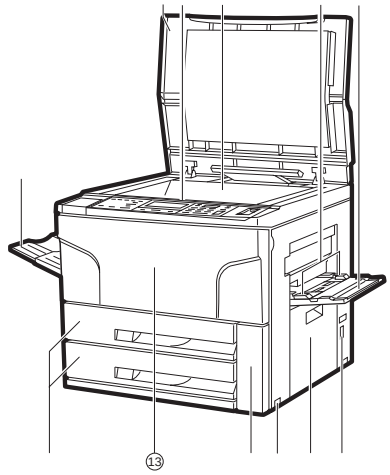
No.	Name	Content	Life	Product name	Packing	Remark
1	Upper heat roller kit	Upper heat roller × 1 Fusing separation pawl (Upper) × 4 Fusing gear × 1	160K	SF-230UH	5	For replacement of fusing separation pawl (80K life) at every 80K, use a service part.
2	Lower heat roller kit	Lower heat roller × 1 Fusing separation pawl (Lower) × 2	160K	SF-240LH	5	For replacement of fusing separation pawl (80K life) at every 80K, use a service part.
3	80K maintenance kit	Cleaner blade × 1 Charging plate unit × 1 Drum separation pawl unit × 1	80K	SF-240KAI	5	
4	Cleaner blade	Cleaner blade × 10	80K (× 10)	SF-222CB	1	
5	Upper cleaning roller	Upper cleaning roller × 10	80K (× 10)	SF-240UR	1	(SF-240RU) × 10 = SF-240UR
6	Lower cleaning roller	Lower cleaning roller × 10	80K (× 10)	SF-235CR2	1	
7	Staple cartridge	Staple cartridge (3 pcs) × 10		SF-LS51	1	Common with the staple sorter (SF-S51) (SF-SC51) × 10 = SF-LS51
8	Staple cartridge	Staple cartridge × 5	5000 times × 3	SD-LS20	10	Common with the staple sorter (SF-S53) (SD-SC20) × 5 = SD-LS20

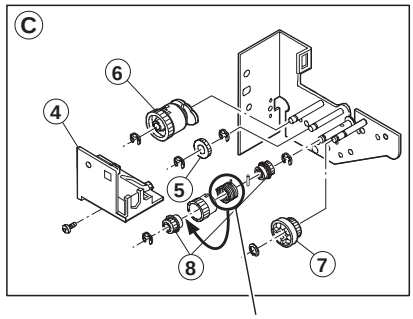
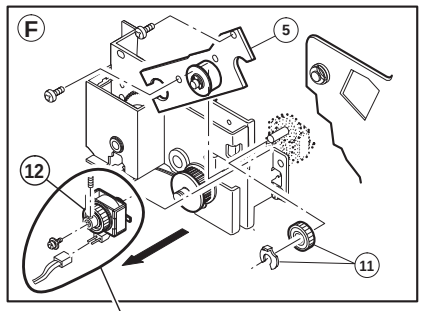
∗ For Toner collection container (4 pcs/80K)/Screen grid (80K)/Charger wire (80K)/Ozone filter (80K)/toner reception seal (160K)/DV seal (160K), use service parts.
Charging plate unit (80K) and drum separation pawl unit (80K) are also supplied as service parts.

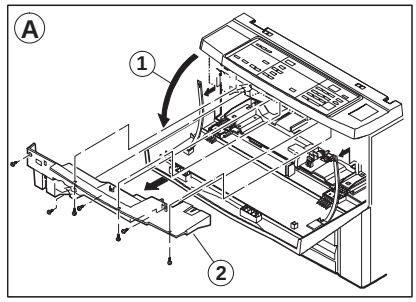
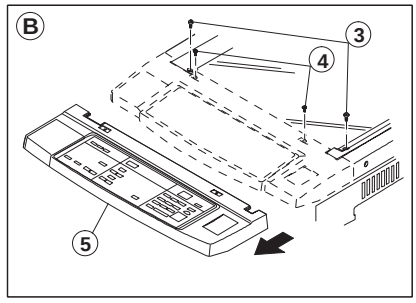
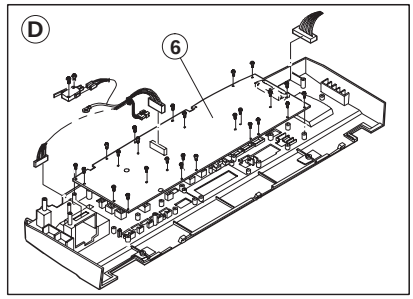
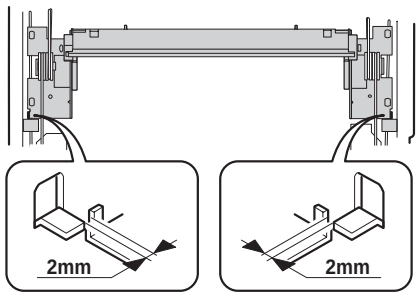
2-6	[2]-2	SECL, Agents: SF-S2530	

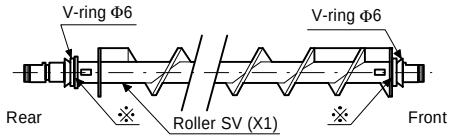
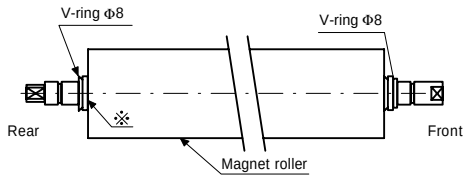
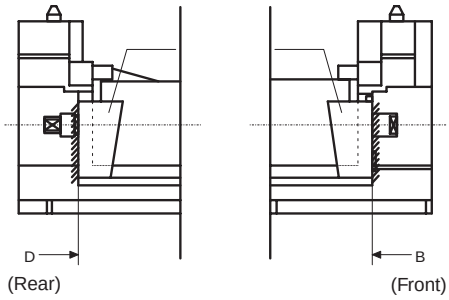
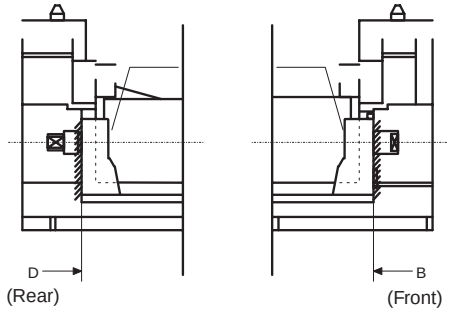
No.	Name	Content	Life	Product name	Packing	Remark
1	80K maintenance kit	Upper cleaning roller × 1 Lower cleaning roller × 1 Cleaner blade × 1 Toner collection container × 4 Fusing separation pawl (Upper) × 4 Fusing separation pawl (Lower) × 2 Screen grid × 1 Charging plate unit × 1 Drum separation pawl unit × 1	80K	SF-240DKA	1	
2	160K maintenance kit	Upper heat roller × 1 Lower heat roller × 1 Toner reception seal × 1 DV seal × 1 Fusing gear × 1	160K	SF-230KB	1	
3	Staple cartridge	Staple cartridge (3 pcs) × 1		SF-SC51	10	Common with the staple sorter (SF-S51)
4	Staple cartridge	Staple cartridge × 5	5000 times	SD-LS20	10	Common with the staple sorter (SF-S53) (SD-SC20) × 5 = SD-LS20

<table>
<tr><th rowspan="2">No.</th><th colspan="3">SF-2030</th><th>SF-2530</th><th rowspan="2">Remark</th></tr>
<tr><th>Page</th><th>Item</th><th>Content</th><th>Change</th></tr>
<tr><td></td><td>2-7</td><td></td><td>SEEG, SUK, SCA, SCNZ: SF-2530
<table>
<tr><th>No.</th><th>Name</th><th>Content</th><th>Life</th><th>Product name</th><th>Packing</th><th>Remark</th></tr>
<tr><td>1</td><td>80K maintenance kit</td><td>Upper cleaning roller × 1
Lower cleaning roller × 1
Cleaner blade × 1
Toner collection container × 4
Fusing separation pawl (Upper) × 4
Fusing separation pawl (Lower) × 2
Screen grid × 1
Charging plate unit × 1
Drum separation pawl unit × 1</td><td>80K</td><td>SF-240KA</td><td>1</td><td>Distinguished from A3SF240KA for conformity of EAM code.</td></tr>
<tr><td>2</td><td>160K maintenance kit</td><td>Upper heat roller × 1
Lower heat roller × 1
Toner reception seal × 1
DV seal × 1
Fusing gear × 1</td><td>160K</td><td>SF-230KB</td><td>1</td><td>Distinguished from A3SF230KB for conformity of EAM code.</td></tr>
<tr><td>3</td><td>Staple cartridge</td><td>Staple cartridge (3 pcs) × 1</td><td></td><td>SF-SC51</td><td>10</td><td>Common with the staple sorter (SF-S51)</td></tr>
<tr><td>4</td><td>Staple cartridge</td><td>Staple cartridge × 5</td><td>5000 times</td><td>SD-LS20</td><td>10</td><td>Common with the staple sorter (SF-S53)
(SD-SC20) × 5 = SD-LS20</td></tr>
</table></td><td></td><td></td></tr>
<tr><td></td><td>3-1</td><td>[3]</td><td>OPTIONS SPECIFICATIONS</td><td>Model name change
SF-S53 is changed to SF-S53N.
SF-S54/SF-S56 are added.
SF-S54N
SF-S54N/SF-S56 are added.
SF-S54N
  </td><td></td></tr>
</table>

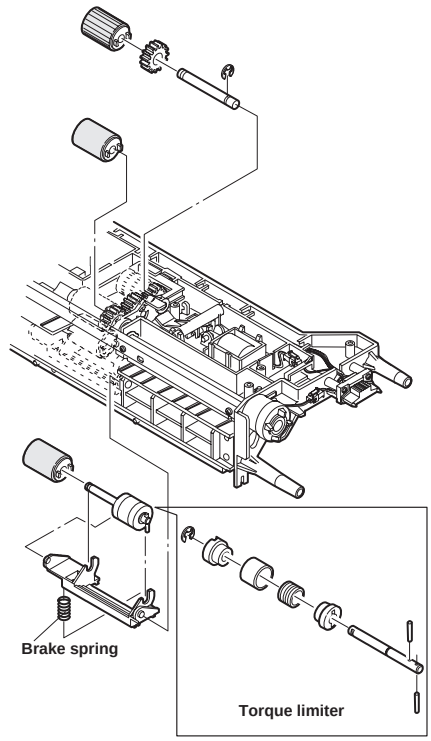
<table>
<tr><th rowspan="2">No.</th><th colspan="3">SF-2030</th><th>SF-2530</th><th rowspan="2">Remark</th></tr>
<tr><th>Page</th><th>Item</th><th>Content</th><th>Change</th></tr>
<tr><td></td><td></td><td></td><td></td><td>SF-S56
 
<table><tr><th>Name</th><th>Staple sorter</th></tr><tr><td>Number of bins</td><td>20 bins</td></tr><tr><td>Collection system</td><td>Face up</td></tr><tr><td>Capacity per bin</td><td>Max. 50 sheets per bin (Top bin: 100 sheets)</td></tr><tr><td>Collatable paper size/weight</td><td>Max.: A3 Min: B5
Normal paper (52 ~ 80g/m^2)
Thick paper (81 ~ 200g/m^2)</td></tr><tr><td>Staplable sheets of paper</td><td>50 sheets (80g/m2 paper), For A3/B4, 25 sheets.</td></tr><tr><td>Power source</td><td>Supplied by the copier.</td></tr><tr><td>Dimension</td><td>418mm (W) × 594mm (D) × 624mm (H)</td></tr><tr><td>Weight</td><td>About 25kg</td></tr></table></td><td></td></tr>
<tr><td></td><td>4-1</td><td>[4]-1</td><td>External view</td><td>⑬ Front cover shape change
 
</td><td></td></tr>
<tr><td></td><td>4-3</td><td>[4]-2</td><td>Operation panel</td><td>Illustration and table change</td><td>Refer to the separation sheet 4-3.</td></tr>
<tr><td></td><td>4-8</td><td>[4]-7</td><td>BOARD LIST</td><td>Japan in ⑤ ⑥ is changed to Common.
<table><tr><td>⑤</td><td>Original sensing light emilting PWB</td><td>Common</td></tr><tr><td>⑥</td><td>Orignal sensor light receve PWB</td><td>Common</td></tr></table>⑮ ⑯ illustration and list are added.</td><td></td></tr>
<tr><td></td><td>5-2</td><td>[5]-B</td><td></td><td>Model name change
SF-S2030 is changed to SF-S2530.
⑮ ⑯ illustration and list are deleted.</td><td></td></tr>
<tr><td></td><td></td><td>[5]-B</td><td>B. SF-2030</td><td>Model name change
SF-2030 is changed to SF-2530.</td><td></td></tr>
</table>

No.	SF-2030			SF-2530	Remark
	Page	Item	Content	Change	
	5-13	[5]-B-(3)	(3) SF-S53	Model name change SF-S53 is changed to SF-S53N.	
	5-19 ~ 5-29	[5]-B-(4)	(4) SF-S52	• SF-S52 is deleted. • SF-S56 is added. (Note) For installation of SF-S56, refer to the SF-S56 Service Manual.	
	5-39	[5]-B-(9)	(9) SF-DM11	9. The following note is inserted into item B of "9. To check and adjust the matching guide." Enter "0" in SIM 52-3. (All destinations except for SEC/SECL.)	
	6-4	[6]-2	Manual feed multicopy unit	Illustration change (Refer to the figure below.)  Shift the spring to the position shown with the arrow.	
	6-5	[6]-3	Paper feed unit	• PS clutch shape change PS clutch shape in Fig. Ⓐ ~ Ⓑ is changed. (Refer to the figure below.)	
	6-6	[6]-4	Transport baseplate unit	Paper stop clutch illustration change	
	6-8	[6]-4	Transport baseplate unit	Clutch ⑫ shape in Illustration Ⓕ is changed.  Changed to round shape.	

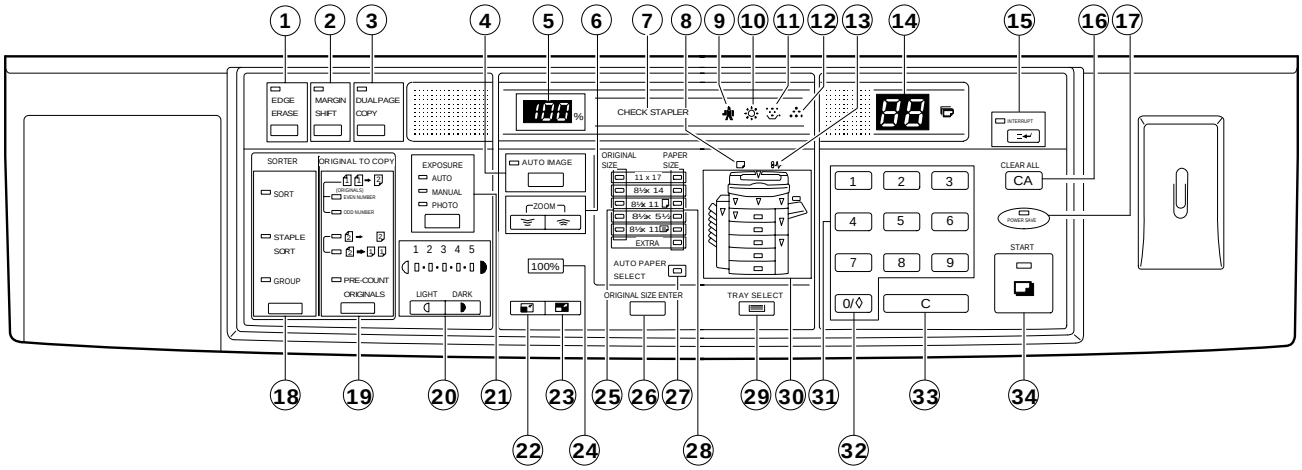
No.	SF-2030			SF-2530	Remark
	Page	Item	Content	Change	
	6-16	[6]-8	8. Operation panel unit and document size sensor board (light receive side)	• Flow chart change Procedures ⑧, ⑨, ⑩, and ⑪ of LCD unit delete procedures are deleted. • Illustrations Ⓐ Ⓑ are changed (Refer to the figure below.)   Illustration Ⓓ is added.  	
	6-17	[6]-8		Illustration is deleted.	
	6-21	[6]-9	9. Optical unit Copy lamp unit installing position	The following note is added. ∗ When the copy lamp unit is pressed onto the optical notch section, there must be a clearance of 2mm between the optical notch section and the No. 2/3 mirror base unit.  	

No.	SF-2030			SF-2530	Remark
	Page	Item	Content	Change	
			No. 2/3 mirror base unit installing position	Item ① is changed to the following content. ① Manually turn the mirror base drive pulley to press the copy lamp unit onto the optical notch section. If the clearance between the mirror base B and the optical notch section is 2mm both at the front frame side and at the rear frame side, the parallelism of mirror base B is proper and there is no need to adjust. If not, loosen the pulley fixing screw as shown below and move the pulley to adjust.	
	7-2	[7]-1-4	(4) Notes on installing various rollers of the developing unit	• Part code change ϕ8 V-ring PRNGP0013FCZZ is changed to PRNGP0051FCZZ. ϕ6 V-ring PRNGP0015FCZZ is changed to PRNGP0050FCZZ. • The roller shown below is deleted.  • Insert C-ring into the figure of MG roller. (Refer to the figure below.)  • Roller name change Roller S (x1) is changed to Roller SS (x1). Roller MX is changed to Roller MXW.	
	7-2	[7]-1-(5)	(5) Notes on applying the developing side seals (front and rear) Note for attaching developer side seals F/R  	Side seal FN, PN shape change  	
	7-17	[7]-4-3	3. Procedure for copy density adjustment ↓	The following content is deleted. The following message is displayed on the LCD. AUTO EXPOSURE ADJUST. 1. 2. 3. STD 4. 5. ← LIGHTER DARKER →	

No.	SF-2030			SF-2530	Remark
	Page	Item	Content	Change	
	7-18	[7]-4-3	(6) Adjustment of copy density	• A. Output value -150V is changed to –215V. • The following figure of ③ is deleted. ME1 ME5 TS1 TS5 PE1 PE5 AE1 AE5 AT1 AT5	
	7-19	[7]-4-3		LCD displays (shown below) are deleted. ME1 ME5 TS1 TS5 PE1 PE5 AE1 AE5 AT1 AT5 ME1 ME TS1 TS5 PE1 PE5 AE1 AE5 AT1 AT5 ME1 ME5 TS1 TS5 PE1 PE5 AE1 AE5 AT1 AT5 ME1 ME5 TS1 TS5 PE1 PE5 AE1 AE5 AT1 AT5 ME1 ME5 TS1 TS5 PE1 PE5 AE1 AE5 AT1 AT5	
	7-21	[7]-5-6	A. Adjustment when installing the machine	The following procedures (2) and (3) are added. (2) Execution of SIM 44-2. Drum sensor level adjustment Standard value: 204 ±10 (3) Execution of SIM 44-3 Image density sensor level adjustment Standard value: 204 ±10	
			B. Adjustment in maintenace within the life of supply part	• The following items in (1) are deleted. [+10] toner control A correction enable is deleted. [37] is changed to [27] and "37" to "27."	
			D. Adjustment when replacing the drum (Photoconductor)	• Procedures are changed as follows. (2) is changed to (3). (3) is changed to (2), (4) is changed to (5). • (4) is added. (Refer to the following description.) (4) Execution of SIM 44-3 Image density sensor level adjustment Standard value: 204 ±10	
			E. Adjustments when replacing the developer and the drum (photoconductor)	• Procedures are changed as follows. (3) is changed to (5). (4) is changed to (3). • (4) is added. (Refer to the following description.) (4) Execution of SIM 44-3. Image density sensor level adjustment Standard value: 204 ±10	
	7-24		(Trouble codes and countermeasures)		
	8-1	[8]	[8] Simulation and diagnostics	Refer to the separate sheet.	Refer to the separate sheet 8-1 to 8-19.

No.	SF-2030			SF-2530	Remark
	Page	Item	Content	Change	
	9-7	[9]-4-(6)	(6) Paper-feed torque limiter 500-sheet cassette brake spring	Illustration shape change (Refer to the figure below.)  	

2. Operation panel



①	EDGE ERASE key and indicator	②	MARGIN SHIFT key and indicator	③	DUAL PAGE COPY key and indicator
④	AUTO IMAGE key	⑤	COPY RATIO display	⑥	ZOOM keys
⑦	CHECK STAPLER indicator	⑧	Paper required indicator	⑨	Maintenance required indicator
⑩	Developer replacement required indicator	⑪	Toner collecting container full indicator	⑫	Toner required indicator
⑬	Misfeed indicator	⑭	Copy quantity display	⑮	INTERRUPT key and indicator
⑯	CLEAR ALL (CA) key	⑰	POWER SAVE indicator	⑱	SORTER key and indicators
⑲	ORIGINAL TO COPY key and indicators	⑳	LIGHT and DARK keys and indicators	㉑	EXPOSURE key and indicators
㉒	Reduction ( ) key	㉓	Enlargement ( ) key	㉔	100% key
㉕	ORIGINAL SIZE indicators	㉖	ORIGINAL SIZE ENTER key	㉗	AUTO PAPER SELECT indicator
㉘	PAPER SIZE indicators	㉙	TRAY SELECT key	㉚	Paper feed location/misfeed location indicators
㉛	10-key pad	㉜	Zero/readout key	㉝	Clear (C) key
㉞	START key and indicator				

[8] Simulation and diagnostics

1. Simulation

(1) Introduction

Simulation are used to do the following:

- To operate any functional block independently to check its function.
- To adjust the machine.
- To cancel troubles.
- To set up functions.

(2) Purpose

Simulation are used to help repair and adjust the machine.

When the PAUSE key is pressed in a course of a simulation being executed, the simulation is interrupted with the copy number window turned off and the copier becomes ready to accept entry of a simulation number.

∗1: If the key was pressed for more than five seconds, it may not go into the simulation mode.

∗2: Further operation may be needed depending on the kind of simulation.

∗3: One of the next methods is required to cancel the simulation as it varies according to the simulation. The machine then starts from the state immediately after power on.

— Other than simulation 7

The simulation is canceled when the CLEAR ALL key is pressed.

— Simulation 7

One of the following operation cancels the simulation execution.

1. Power switch off.
2. Press the CLEAR → PAUSE → 0 → PAUSE → CLEAR ALL keys.

— Simulation 14

The simulation 14 is used to clear the memory contents (H2, H3, H4) that have been stored. After the simulation 14 has been executed, the diagnostic is automatically terminated.

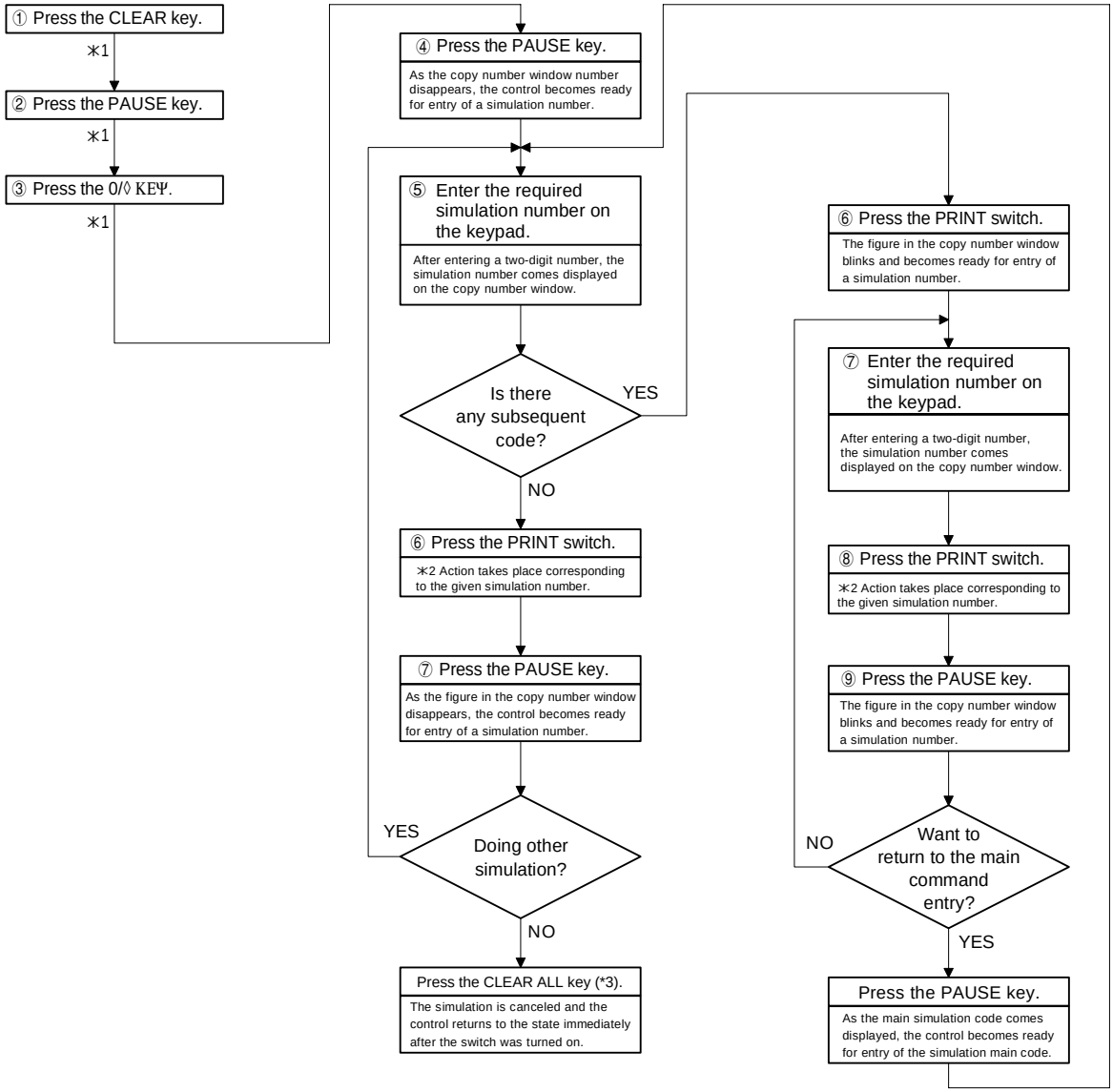
— Special keys

CLEAR ALL key: Simulation mode → normal mode.

PAUSE key: Execution of simulation is interrupted.
CLEAR key: Clears the copy number window.

— The diagnostic is automatically terminated after the doorswitch operation "ON → OFF → ON", except "H" and "U2" code.

(3) Simulation execution procedure



List of the test commands

Sim. NO	Sim. SUB	Description	
01	01	Optical system mirror scanning check	
	02	Optical system sensor state display	
	03	Lens movement operation check	
	04	Lens aging	
02	01	RADF aging	
	02	RADF sensor state display	
	03	RADF individual load operation check	Motor A forward rotation
	04		Motor A reverse rotation
	05		Motor B forward rotation
	06		Motor B reverse rotation
	07		Belt clutch
	08		Paper feed solenoid
	09		Reverse solenoid
	10		Stopper solenoid
	11		Brake clutch
03	01	Sorter state display	
	02	Sorter sensor state display	
	03	Sorter individual load operation check	Transport motor
	04		Bin shift motor
	05		Fan motor (SF-S15 only)
	06		Gate solenoid
	08		Staple motor (SF-S53 only)
	09		Paper hold solenoid (SF-S53 only)
	10		Guide bar motor (SF-S53 only)
04	02	Desk sensor state display	
	03	1st cassette slot, cassette size switch check (Desk)	
	04	2nd cassette slot, cassette size switch check (Desk)	
	05	3rd cassette slot, cassette size switch check (Desk)	
	06	Desk individual load operation check	Transport motor
	07		1st cassette slot, lift-up motor
	08		2nd cassette slot, lift-up motor
	09		3rd cassette slot, lift-up motor
	10		Transport clutch
	11		1st cassette slot, paper feed solenoid
	12		1st cassette slot, paper feed clutch
	13		2nd cassette slot, paper feed solenoid
	14		2nd cassette slot, paper feed clutch
	15		3rd cassette slot, paper feed solenoid
	16		3rd cassette slot, paper feed clutch
05	01	Operation panel display check	
	02	Fuser lamp check	
	03	Copy lamp check	
	04	BL/DL check	
06	02	Separation pawl solenoid operation check	

Sim. NO	Sim. SUB	Description	
07	01	Warm-up time display and aging with jam detection	
	02	Aging without jam	
	03	Aging without jam without fusing	
	04	Warm-up disabled	
	06	Intermittent aging	
	07	Intermittent aging without jam	
	08	Warm-up time display (without aging)	
08	01	Developer bias check	
	02	MHV (Charge), grid check	Standard
	03		Photo
	04		TSM
	06	THV (Transfer) check	
	07	SHV (Separation) check	
09	02	ADU sensor state display	
	03	ADU trail edge plate aging	
	04	ADU alignment plate aging	
	05	Gate solenoid operation check	
10	✳✳	Toner motor aging	
14	✳✳	Cancel of troubles except U2, H2, H3, H4	
16	✳✳	Cancel of U2 trouble code	
17	✳✳	PF trouble cancel	
20	✳✳	Maintenance counter clear	
21	01	Maintenance cycle setting	
	02	Mini maintenance cycle setting	
22	01	Maintenance counter display	
	02	Maintenance preset counter display	
	03	Jam memory display	
	04	Total jam counter display	
	05	Total counter display	
	06	Mini maintenance counter display (Japan), Developer counter display (EX)	
	07	Mini maintenance preset (Japan)/Developer preset (EX) counter display	
	08	RADF counter display	
	09	ADU counter display	
	10	Staple counter display	
	11	Developer adjustment time display	
	12	Drum adjustment time display	
	15	Trouble memory display	
	16	Cassette paper feed counter display	
	17	Developer counter display (Japan)	
	18	Developer life preset counter display (EX)	
24	01	Jam memory/total jam counter clear	
	02	Trouble memory clear	
	03	Duplex counter clear	
	04	ADF/RADF counter clear	
	05	Staple counter clear	
	06	Developer adjustment time clear	
	07	Drum adjustment time clear	
	08	Cassette paper feed counter clear	

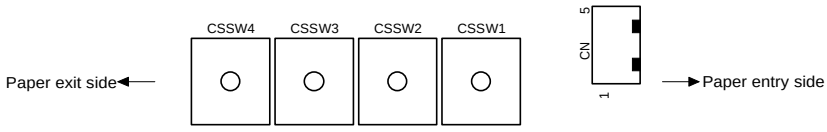
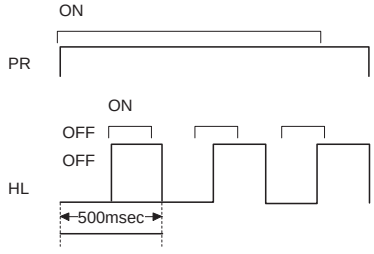
Sim. NO	Sim. SUB	Description
25	01	Main motor system ON, toner sensor output display
	02	Auto developer adjustment
	06	Toner control A counter value setting
	07	Grid correction setting for toner control A
26	01	Option setting
	03	Coin vendor setting
	05	Counter mode setting
	06	Destination setting
	07	Drum sensitivity setting
	08	Lens focus setting
	09	4/5 mirror characteristics setting
	10	AE original density setting
	24	Margin position setting
	25	Standard state setting of duplex copy from even-number single copy
27	01	PPC communication trouble
30	01	Paper sensor state display
	02	Cassette size switch state display
42	✳✳	Developer counter clear
43	✳✳	Fusing temperature setting
44	01	Correction mode setting,
	02	Drum mark sensor sensitivity adjustment
	03	Image density sensor sensitivity adjustment
	05	Half tone density correction test mode
	06	Half tone density correction compulsory execution mode
	07	DM/ID sensor gain select switch
	09	Half tone density correction measurement data display
	11	Operation setting at grid bias
	12	Copying without half tone density correction
46	01	Exposure level adjustment
47	✳✳	AE sensor characteristics setting
48	01	Front/rear magnification ratio adjustment, focus adjustment
	02	Paper transport direction magnification ratio adjustment (scanner speed)
50	01	Lead edge image position adjustment, lead edge void adjustment (Calculation)
	02	Lead edge image position adjustment, lead edge void adjustment (Measurement)
51	02	Paper buckle adjustment
52	01	ADU alignment plate adjustment value setting
	02	ADU trail edge plate adjustment value setting
	03	ADU drive clutch OFF time setting

Sim. NO	Sim. SUB	Description	
53	01	RADF stop position adjustment	Normal paper, Single copy
	02		Normal paper, Duplex copy
	03		Thin paper, Single copy
	04		Thin paper, Duplex copy
	05	RADF resist sensor adjustment	
	06	RADF timing sensor adjustment	
	07	RADF repulsion sensor adjustment	
	08	RADF empty sensor adjustment	

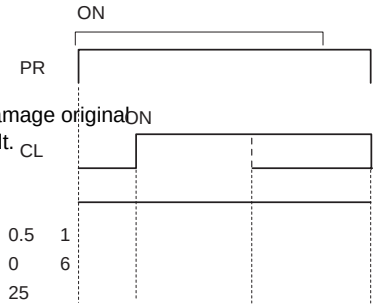
<table>
<tr><th>Main code</th><th>Sub code</th><th>Description</th><th>Ref. Page</th></tr>
<tr><td>01</td><td>01</td><td>This is the test command used to test the optical system. The mirror base automatically starts to scan.
(1) With depression of the PAUSE key, the control moves from the test command mode to be ready to execute it. The READY pilot lamp (RPL) comes active with the zoom ratio at 100%. It is possible to change the zoom mode using the ZOOM key.
(2) When the PRINT key is pressed while the RPL is active, the status lamp turns off and the test command starts to execute. The mirror base moves to scan in the zoom ratio at that time.
(3) If the door is opened while the operation is in process, the operation is interrupted with status "CH" prompted. Closing the door will start the operation all over again from its initial step.</td><td></td></tr>
<tr><td></td><td>02</td><td>This is the test command used to test the optical system sensors. When the test command starts and the sensor turns on and the display reverses, it starts to test the on/off action of a optical system sensor.
<table><tr><th>Display</th><th>Active status lamp</th></tr><tr><td>MENTEL (Maintenance lamp)</td><td>Mirror rotary encoder pulse (RE) input</td></tr><tr><td>TNEL (Waste toner full lamp)</td><td>Mirror home position sensor</td></tr><tr><td>DVPL (Developer maintenance lamp)</td><td>Lens home position sensor</td></tr><tr><td>TPL (Toner empty lamp)</td><td>No.4/5 mirror home position sensor</td></tr></table></td><td></td></tr>
<tr><td></td><td>03</td><td>Used to test the zoom lens movement.
• The zoom ratio is displayed on the zoom ratio window.
AB series machine 100% → 50% → 70% → 81% → 86% → 115% → 122% → 141% → 200%
Inch series machine 100% → 50% → 64% → 77% → 95% → 121% → 129% → 141% → 200%</td><td></td></tr>
<tr><td></td><td>04</td><td>Used to test the zoom lens in the aging test mode.
• Test command 01-03 are repeated to test.</td><td></td></tr>
<tr><td>02</td><td>01</td><td>Used to test the action of the RADF. The aging test starts when the document presence sensor is manually turned on.</td><td></td></tr>
<tr><td></td><td>02</td><td>This is the test command used to test RADF sensors. On/off state of sensor can be manually tested.
By pressing 10-key, a desired sensor can be selected.
<table><tr><th>10-key position</th><th>0</th><th>1</th><th>2</th></tr><tr><td>TPL
(Toner empty)</td><td>Document presence/empty detection
DSD</td><td>DF section open/close detection
AUOD</td><td>Document width detection
DWS1</td></tr><tr><td>TNFL
(Waste toner full lamp)</td><td>Document preliminary feed detection
DFD</td><td>Paper feed section open/close detection
FGOD</td><td>Document width detection
DWS2</td></tr><tr><td>DVPL
(Developer maintenance lamp)</td><td>Document exit detection
RDD</td><td>Reverse section open/close detection
TGOD</td><td>Document width detection
DWS3</td></tr><tr><td>MENTEL
(Maintenance lamp)</td><td>DTD</td><td>Document length detection
DLS3</td><td>Document width detection
DWS4</td></tr><tr><td>JPL
(Jam empty)</td><td>Document pass width detection
DWS</td><td>Empty sensor 1
DED1</td><td>Document length detection
DLS1</td></tr><tr><td>PPL
(Paper empty lamp)</td><td></td><td>Empty sensor 2
DED2</td><td>Document length detection
DLS2</td></tr></table>Reverse display: Paper presence/Door open, Normal display: No paper/Door closed</td><td></td></tr>
<tr><td></td><td>03</td><td>Used to test the action of RADF (individual load check)
Motor A forward rotation</td><td></td></tr>
<tr><td></td><td>04</td><td>Motor A revere rotation</td><td></td></tr>
<tr><td></td><td>05</td><td>Motor B forward rotation</td><td></td></tr>
<tr><td></td><td>06</td><td>Motor B revere rotation</td><td></td></tr>
<tr><td></td><td>07</td><td>Belt clutch (Staple sorter only)</td><td></td></tr>
<tr><td></td><td>08</td><td>Paper feed solenoid (Staple sorter only)</td><td></td></tr>
<tr><td></td><td>09</td><td>Inversion solenoid</td><td></td></tr>
<tr><td></td><td>10</td><td>Stopper solenoid</td><td></td></tr>
<tr><td></td><td>11</td><td>Brake clutch</td><td></td></tr>
</table>

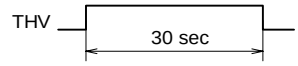
<table>
<tr><th>Main code</th><th>Sub code</th><th>Description</th><th>Ref. Page</th></tr>
<tr><td>03</td><td>01</td><td>Sorter operation check (Only when the SF-S56 is installed)</td><td></td></tr>
<tr><td></td><td>02</td><td>This is the test command used to test the sensors in the sorter.
On/off state of sensors can be manually tested.
By pressing 10-key during execution of this simulation, a desired sensor can be selected.
(When S15 installed)
<table>
<tr><th>Position/10-key</th><th>0</th><th>1</th><th>2</th></tr>
<tr><td>TPL
(Toner empty)</td><td>Paper entry detection
(Non sort)
PES</td><td>Indexer upper limit detection
IULS</td><td>Sorter set detection
SJS</td></tr>
<tr><td>TNFL
(Waste toner full lamp)</td><td></td><td>Indexer lower limit detection
ILLS</td><td>Top cover open/close detection
UCSW</td></tr>
<tr><td>DVPL
(Developer maintenance lamp)</td><td>Paper exit detection
PWB-S</td><td>Indexer (bin) home position detection
IHS</td><td>Blower cover open/close detection
FCSW</td></tr>
<tr><td>MENTEL
(Maintenance lamp)</td><td>—</td><td>Indexer (bin) fixed position detection
IPS</td><td>—</td></tr>
<tr><td>JPL
(Jam lamp)</td><td>—</td><td>—</td><td>—</td></tr>
<tr><td>PPL
(Paper empty lamp)</td><td>—</td><td>—</td><td>—</td></tr>
</table>
(When S52 installed)
<table>
<tr><th>Position/10-key</th><th>0</th><th>1</th><th>2</th></tr>
<tr><td>TPL
(Toner empty)</td><td>Pass sensor</td><td>Jogger sensor</td><td>Sorter set detection</td></tr>
<tr><td>TNFL
(Waste toner full lamp)</td><td>Bin home sensor</td><td>Paper edge sensor</td><td>Top cover open/close detection</td></tr>
<tr><td>DVPL
(Developer maintenance lamp)</td><td>Bin cam sensor</td><td>Staple cam switch</td><td>Blower cover open/close detection</td></tr>
<tr><td>MENTEL
(Maintenance lamp)</td><td>Paper sensor 1</td><td>Staple needle sensor</td><td>—</td></tr>
<tr><td>JPL
(Jam lamp)</td><td>Paper sesnor 2</td><td>—</td><td>—</td></tr>
<tr><td>PPL
(Paper empty lamp)</td><td>—</td><td>—</td><td>—</td></tr>
</table>
(When S18 installed)
<table>
<tr><th>Position/10-key</th><th>0</th><th>1</th><th>2</th></tr>
<tr><td>TPL
(Toner empty)</td><td>Entry port sensor</td><td>—</td><td>—</td></tr>
<tr><td>TNFL
(Waste toner full lamp)</td><td>Paper empty sensor</td><td>—</td><td>—</td></tr>
<tr><td>DVPL
(Developer maintenance lamp)</td><td>Upper limit sensor</td><td>—</td><td>—</td></tr>
<tr><td>MENTEL
(Maintenance lamp)</td><td>Lower limit sensor</td><td>—</td><td>—</td></tr>
<tr><td>JPL
(Jam lamp)</td><td>Paper sensor 2</td><td>—</td><td>—</td></tr>
<tr><td>PPL
(Paper empty lamp)</td><td>Paper take-out sensor</td><td>—</td><td>—</td></tr>
</table></td><td></td></tr>
</table>

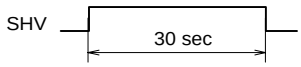
<table>
<tr><th>Main code</th><th>Sub code</th><th>Description</th><th>Ref. Page</th></tr>
<tr><td></td><td></td><td>(When S54 installed)
<table>
<tr><th>Position/10-key</th><th>0</th><th>1</th><th>2</th></tr>
<tr><td>TPL
(Toner empty)</td><td>Entry port sensor</td><td>Alignment rod home sensor</td><td>—</td></tr>
<tr><td>TNFL
(Waste toner full lamp)</td><td>Paper empty sensor</td><td>Gripping home sensor</td><td>—</td></tr>
<tr><td>DVPL
(Developer maintenance lamp)</td><td>Upper limit sensor</td><td>Stapler home sensor</td><td>—</td></tr>
<tr><td>MENTEL
(Maintenance lamp)</td><td>Lower limit sensor</td><td>Stapler paper sensor</td><td>—</td></tr>
<tr><td>JPL
(Jam lamp)</td><td>Paper sensor</td><td>Stapler near sensor</td><td>—</td></tr>
<tr><td>PPL
(Paper empty lamp)</td><td>Paper take-out sensor</td><td>—</td><td>—</td></tr>
</table>
(When S56 installed)
<table>
<tr><th>Position/10-key</th><th>0</th><th>1</th><th>2</th></tr>
<tr><td>TPL
(Toner empty)</td><td>Staple door switch</td><td>Lead cam sensor</td><td>Staple cue sensor</td></tr>
<tr><td>TNFL
(Waste toner full lamp)</td><td>Joint switch</td><td>Stapler home position</td><td>Staple sensor</td></tr>
<tr><td>DVPL
(Developer maintenance lamp)</td><td>Paper exit sensor</td><td>24V sensor</td><td>Bin upper paper sensor</td></tr>
<tr><td>MENTEL
(Maintenance lamp)</td><td>Stapler oscillation home position</td><td>Staple cartridge sensor</td><td>DIP switch 01</td></tr>
<tr><td>JPL
(Jam lamp)</td><td>Alignment rod home position sensor</td><td>Staple cartridge sensor</td><td>DIP switch 02</td></tr>
<tr><td>PPL
(Paper empty lamp)</td><td>Bin unit home position sensor</td><td>Stapler foreign material sensor</td><td>DIP switch 03</td></tr>
</table>
<table>
<tr><th>Position/10-key</th><th>4</th></tr>
<tr><td>TPL
(Toner empty)</td><td>DIP switch 04</td></tr>
<tr><td>TNFL
(Waste toner full lamp)</td><td>DIP switch 05</td></tr>
<tr><td>DVPL
(Developer maintenance lamp)</td><td>DIP switch 06</td></tr>
<tr><td>MENTEL
(Maintenance lamp)</td><td>Push switch 02</td></tr>
<tr><td>JPL
(Jam lamp)</td><td>Push switch 03</td></tr>
<tr><td>PPL
(Paper empty lamp)</td><td></td></tr>
</table></td><td></td></tr>
<tr><td></td><td>03</td><td>Used to test the components of the sorter (individual load check).
Transport motor rotation (When SF-S56 is installed, this simulation is disabled.)</td><td></td></tr>
<tr><td></td><td>04</td><td>Indexer motor rotation (returns to the home position at first, then stops at each bin location Bin 1 to Bin 21, moving up and down. Sorter bin moving. (Bin motor rotation when SF-S54 is installed) (When SF-S56 is installed, this simulation is disabled.)</td><td></td></tr>
<tr><td></td><td>05</td><td>Fan motor rotation in the case of SF-S54 only (When SF-S56 is installed, this simulation is disabled.)</td><td></td></tr>
<tr><td></td><td>06</td><td>Gate solenoid ON (SF-S15/18 only)</td><td></td></tr>
<tr><td></td><td>08</td><td>Stapler motor rotation (the paper is stapled once when there is a paper in the stapler tray). (SF-S53 only) (When SF-S54 is installed, the gripping motor rotation)</td><td></td></tr>
<tr><td></td><td>09</td><td>Paper holder solenoid operation check (SF-S53 only)</td><td></td></tr>
<tr><td></td><td>10</td><td>Guide motor operation check (SF-S53 only)</td><td></td></tr>
</table>

<table>
<tr><th>Main code</th><th>Sub code</th><th>Description</th><th>Ref. Page</th></tr>
<tr><td>04</td><td>02</td><td>This is the test command used to test sensors in the desk. On/off state of the sensors can be manually tested.
When a sensor turns on, the display reverses.
<table>
<tr><th>10-key position</th><th>0</th><th>1</th><th>2</th></tr>
<tr><td>TPL
(Toner empty)</td><td>Upper paper sensor
DPOD1</td><td>Upper cassette lift up sensor
DLUD1</td><td>Upper cassette paper detection
DPE1</td></tr>
<tr><td>TNFL
(Waste toner full lamp)</td><td>Upper paper exit sensor
DPOD2</td><td>Medium cassette lift up sensor
DLUD2</td><td>Medium cassette paper detection
DPE</td></tr>
<tr><td>DVPL
(Developer maintenance lamp)</td><td>Lower paper sensor
DPOD3</td><td>Lower cassette lift up sensor
DLUD3</td><td>Lower cassette paper detection
DPE3</td></tr>
<tr><td>MENTEL
(Maintenance lamp)</td><td></td><td></td><td></td></tr>
<tr><td>JPL
(Jam lamp)</td><td></td><td></td><td></td></tr>
<tr><td>PPL
(Paper empty lamp)</td><td>Door open/close detection
DDOP</td><td></td><td></td></tr>
</table></td><td></td></tr>
<tr><td></td><td>03</td><td>Used to test the on/off state of the first cassette size switch of the desk.
When the switch turns on, the display reverses.
(Cassette size board)
Switch positions when viewed from the front frame
<table>
<tr><td>TPL (Toner empty)</td><td>CSSW1</td></tr>
<tr><td>TNFL (Waste toner full lamp)</td><td>CSSW2</td></tr>
<tr><td>DVPL (Developer maintenance lamp)</td><td>CSSW3</td></tr>
<tr><td>MENTEL (Maintenance lamp)</td><td>CSSW4</td></tr>
</table>

</td><td></td></tr>
<tr><td></td><td>04</td><td>Used to test the on/off state of the second cassette size switch of the desk. Function is identical to the test command 04-03.
When the switch is turned on, the display reverses.</td><td></td></tr>
<tr><td></td><td>05</td><td>Used to test the on/off state of the third cassette size switch of the desk. Function is identical to the test command 04-03.
When the switch is turned on, the display reverses.</td><td></td></tr>
<tr><td></td><td>06</td><td>Transport motor rotation. (Desk)</td><td></td></tr>
<tr><td></td><td>07</td><td>Motor turns off when detected the upper limit of the first cassette lift up motor rotation. (Desk).</td><td></td></tr>
<tr><td></td><td>08</td><td>Motor turns off when detected the upper limit of the second cassette lift up motor rotation. (Desk)</td><td></td></tr>
<tr><td></td><td>09</td><td>Motor turns off when detected the upper limit of the third cassette lift up motor rotation. (Desk)</td><td></td></tr>
<tr><td></td><td>10</td><td>Activate transport clutch of the desk</td><td></td></tr>
<tr><td></td><td>11</td><td>Activate first cassette paper feed solenoid of the desk</td><td></td></tr>
<tr><td></td><td>12</td><td>Activate paper feed clutch of the first cassette of the desk</td><td></td></tr>
<tr><td></td><td>13</td><td>Activate second cassette paper feed solenoid of the desk</td><td></td></tr>
<tr><td></td><td>14</td><td>Activate paper feed clutch of the second cassette of the desk</td><td></td></tr>
<tr><td></td><td>15</td><td>Activate third cassette paper feed solenoid of the desk</td><td></td></tr>
<tr><td></td><td>16</td><td>Activate paper feed clutch of the third cassette of the desk</td><td></td></tr>
<tr><td>05</td><td>01</td><td>All LED’s on the operation panel are turned on for one minute. After one minute, the machine automatically goes into the sub code input wait state.</td><td></td></tr>
<tr><td></td><td>02</td><td>This is the test command used to test the heater lamp. Heater lamp turned on and off five times.
 

The heater turns on and off in the order shown above.</td><td></td></tr>
</table>

Main code	Sub code	Description	Ref. Page
05	03	This is the test command used to test the copy lamp. Copy lamp turned on in the following order. When the test command starts, the copy lamp turns full power for one second with the manual exposure setting 3.0 shown, and the copy lamp intensity can be changed to the power set on the exposure setup key for a period of 6.25 seconds.  Use care not to damage original cover or RADF belt. * Refrain from repeating this test command without waiting for lamp and glass to cool.	
	04	This is the test command used to check activation of the discharge lamp (DL) and the blank lamps (BL). The discharge lamp (DL) turns on for 30 seconds. Each blank lamp turns on, from the front frame side to the rear frame side. Finally, all blank lamps turn on. After lighting, the machine automatically goes into the sub code input wait state.	
06	02	Activation of the separation solenoid Used to test the action of the drum separator pawl solenoid.	
07	01	Aging test with alert for paper misfeed 1. Used to check the warmup time. 2. Executes the continuing aging test for the given number of copies. When the test command is executed. the machine performs its normal action and the warmup time starts to count from zero and increase count every one second. The count is displayed on the copy lamp window. When the RPL is turned on, the addition of the copy number is interrupted with the copy number remaining on display as it is. When the CLEAR key is pressed, the copy number must be entered on the keypad, and with depression of the PRINT switch, the given number of copies repeated to produce. In this case, the paper misfeed function comes alive.	
	02	Aging without jam Aging is performed without paper feed. Similar to SIM 7-1. Aging is performed by disregarding paper jam. (Warm up time check is similar to SIM 7-1.)	
	03	Aging without jam without fusing Similar to SIM 7-1. Aging is performed by saving the warm up time and disregarding the heater system trouble functions and paper jam. (The heater lamp does not turn on.)	
	04	Saving warm up Warm up time is saved to check operations of the machine. When this simulation is executed, RPL turns on to allow the operation check of the machine. When the heater section is at low temperature, the heater low temperature may be sensed and H4 may be displayed.	
	06	Intermittent aging	
	07	Intermittent aging without jam	
	08	Warm up time display (without aging) (Warm up time check is similar to SIm 7-1.)	
08	01	Developing bias voltage output. After delivering the output, the machine automatically goes into the sub code input wait state. This is the test command used to check the developing bias voltage. The developing bias voltage is turned on for 30 seconds. Standard developing bias setting is –215±10V.	[7]-2(3)
	02	Main (charge) corona output [ME]. After delivering the output, the machine automatically goes into the sub code input wait state. Standard manual exposure mode main corona grid voltage is –650±5V. This is the test command used to check the main corona variance between the front and rear sides. The corona output continues for 30 seconds. • The main corona variance must be within 8μA between the front and the rear.	[7]-5-(D)
	03	Main corona output [PE]. After delivering the output, the machine automatically goes into the sub code input wait state. Standard photographic mode main corona grid voltage is –440±5V.	[7]-5-(D)
	04	Main corona output [TSM]. After delivering the output, the machine automatically goes into the sub code input wait state. Standard TSM main corona grid voltage is –550V±5V.	[7]-5-(D)

<table>
<tr><th>Main code</th><th>Sub code</th><th>Description</th><th>Ref. Page</th></tr>
<tr><td>08</td><td>06</td><td>Transfer corona output [TSM]. After delivering the output, the machine automatically goes into the sub code input wait state.
This is the test command used to check the transfer corona output (THV). The transfer corona output continues for 30 seconds.
 

Standard transfer corona output is –42±4μA (F/R difference: Max. 5μA).</td><td>[7]-4-(B)</td></tr>
<tr><td></td><td>07</td><td>Separation corona output. After delivering the output, the machine automatically goes into the sub code input wait state.
This is the test command used to check the separation corona output (SHV). The separation corona output continues for 30 seconds.
 

Standard separation corona output is 0±10 V.</td><td>[7]-6-(E)</td></tr>
<tr><td>09</td><td>02</td><td>ADU sensor check test command ON/OFF state of each sensor can be manually checked.
When the sensor turns on, the display reverses.
<table><tr><th>Position</th><th>Sensor</th><th>Function</th></tr><tr><td>TPL (Toner empty)</td><td>DPPD1</td><td>ADU transport sensor 1</td></tr><tr><td>TNFL (Waste toner full lamp)</td><td>DPPD2</td><td>ADU transport sensor 2</td></tr><tr><td>DVPL (Developer maintenance lamp)</td><td>DTPID</td><td>ADU tray sensor</td></tr><tr><td>MENTEL (Maintenance lamp)</td><td>DPFD</td><td>ADU tray out sensor</td></tr><tr><td>JPL (Jam lamp)</td><td>APHPS1</td><td>ADU alignment plate home position sensor</td></tr><tr><td>PPL (Paper empty lamp)</td><td>APHPS2</td><td>ADU rear edge plate home position sensor</td></tr></table></td><td></td></tr>
<tr><td></td><td>03</td><td>ADU trail edge plate drive motor rotation
• Used to check the trail edge plate movement
(AB series)
HP.A3 → B4 → A4R → B5R → A4 → B5 → A5
(Inch series)
HP.11" x 17" → 11" x 14" → 8 1/2" x 11"(R) → 8 1/2" x 11"</td><td></td></tr>
<tr><td></td><td>04</td><td>ADU alignment plate drive motor rotation
• Used check the alignment plate movement
(AB series)
HP.A3 → B4 → A4R → B5R → A4 → B5 → A5
(Inch series)
HP.11" x 17" → 11" x 14" → 8 1/2" x 11"(R) → 8 1/2" x 11"</td><td></td></tr>
<tr><td></td><td>05</td><td>Gate solenoid activation
Used to check the gate solenoid operation.</td><td></td></tr>
<tr><td>10</td><td>—</td><td>Toner motor activation
Used to check the toner motor activation.</td><td></td></tr>
<tr><td>14</td><td>—</td><td>Trouble code cancellation
This is the test command used to cancel other than the "U2" trouble (H2, H3, H4). After the trouble has been removed, the test command terminates.</td><td></td></tr>
<tr><td>16</td><td>—</td><td>U2 trouble code cancellation
This is the test command used to cancel the "U2" trouble code.
After the trouble code has been removed, the test command terminates.</td><td></td></tr>
<tr><td>17</td><td>—</td><td>PF trouble cancel
Used to cancel the PF trouble in the machine with PC/Modem when the copy inhibition command from the host machine is received. After cancelling the trouble, the test command is automatically cancelled.</td><td></td></tr>
<tr><td>20</td><td>—</td><td>Maintenance counter clear
1. Clear 2. Not clear
When the main code is entered, the staple check lamp turns on and the machine enter the standby mode for entry of conditions.Select 1 or 2 with 10-key. After selection, the staple check lamp goes off.
This simulation is used to set the maintenance preset counter to "0" after completion of maintenance.
Be sure to execute this simulation always after completion of maintenance.</td><td></td></tr>
</table>

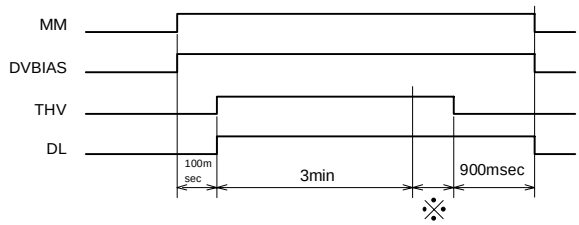
Main code	Sub code	Description	Ref. Page
21	01	Maintenance cycle setting Used to set the maintenance cycle. Code Maintenance cycle 0 ····· 80,000 sheets 1 ····· 5,000 sheets 2 ····· 10,000 sheets 3 ····· 20,000 sheets 4 ····· 40,000 sheets 5 ····· None The default is 0. The code number is displayed on the copy quantity display.	
22	01	○ Mini maintenance cycle setting (Japan only) Used to set mini maintenance cycle. Code 0 ····· 80,000 sheets 1 ····· 5,000 sheets 2 ····· 10,000 sheets The initial value is set as "1." The code number is displayed on the copy quantity display.	
	02	○ Maintenance preset counter display This test command is used to check the contents of the maintenance preset cycle counter.	
	03	○ JAM memory display (JAM map display) Displays the causes (positions) of JAM occurred in copy operation. To check the history of JAM cause, press the message forward feed key.	

MFT	Manual feed
1CS	1 cassette
2CS	2
3CS	3
4CS	4
5CS	5
ADU	ADU
ON JAM	
OFF JAM	

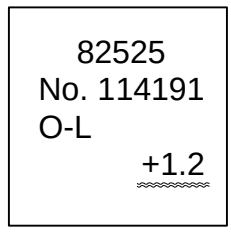
JAM CODE: XX

			0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
1	Machine paper feed	Manual feed					PPD2 not reached											
2		Machine upper step (1CS)					PPD2 not reached	PPD1 not reached										
3		Machine lower step (2CS)					PPD2 not reached	PPD1 not reached	PID not reached									
4		Desk top step (3CS)					PPD2 not reached	PPD1 not reached	PID not reached									
5		Desk medium step (4CS) LCC					PPD2 not reached	PPD1 not reached	PID not reached									
6		Desk lower step (5CS)					PPD2 not reached	PPD1 not reached	PID not reached									
7		ADU					PPD2 not reached	PPD1 not reached		DPFD not reached								
8	Transport	ON JAM	DPPD2 not reached	DPPD1 not reached	POD not reached	PSD not reached												
9		OFF JAM									DPPD2 not reached	DPPD1 remaining	PDD remaining	PSD remaining	PPD2 remaining	PPD1 remaining	PID remaining	
A	Option	ADF		Preliminary paper feed	Paper feed	Paper exit	Reverse											
B		SORTER	Sorter															
C		DESK	Desk															
D	Other	Other	PPD1 ON and PPD2 OFF before 1CS paper feed	POD ON and PPD2 OFF before 2CS paper feed	DPFO ON and PPD1 ON and PPD2 OFF before ADU paper feed													
E		(Reserved)																
F		(Reserved)																

<table>
<tr><th>Main code</th><th>Sub code</th><th>Description</th><th>Ref. Page</th></tr>
<tr><td>22</td><td>04</td><td>° Total misfeed counter display</td><td></td></tr>
<tr><td></td><td>05</td><td>° Total counter display
This counter is used to show the total copy number of the machine.</td><td></td></tr>
<tr><td></td><td>06</td><td>° Developer counter display (EX)
The contents of the copy number counter of the installed developing unit is displayed.
Mini maintenance counter display (Japan only)</td><td></td></tr>
<tr><td></td><td>07</td><td>° Developer preset cycle counter display (EX)
Number of developer replacements and the reset counter contents of the installed developing unit are displayed.
Mini maintenance preset counter display (Japan only)</td><td></td></tr>
<tr><td></td><td>08</td><td>° RADF counter display
Used to check the number of originals fed through the RADF.</td><td></td></tr>
<tr><td></td><td>09</td><td>° Duplex counter display
Used to check the number of sheets fed through the duplex unit.</td><td></td></tr>
<tr><td></td><td>10</td><td>° Staple counter display
Used to check the number of use of the staple unit.</td><td></td></tr>
<tr><td></td><td>11</td><td>° Developer adjustment time display
Used to check the correction level according to the developer rotating time.</td><td></td></tr>
<tr><td></td><td>12</td><td>° Drum adjustment time display
Used to check the correction level according to the drum rotating time.</td><td></td></tr>
<tr><td></td><td>15</td><td>° Trouble memory display
When the sub code is entered, the latest trouble main code is displayed on the copy quantity display. Press the Enter key to display the previous ones. When the PSW is pressed with the trouble main code displayed, the trouble code corresponding to that main code is displayed.
When the sorter key is kept pressing for 3 sec or more, the trouble counter value is displayed on the copy quantity display.</td><td></td></tr>
<tr><td></td><td>16</td><td>° Cassette paper feed counter display
Select the paper feed destination with the tray select key, and the counter value corresponding to the selected paper feed destination is displayed by 2 digits on the copy quantity display.</td><td></td></tr>
<tr><td></td><td>17</td><td>° Developer counter display (Japan only)
The content of the copy quantity counter of the DV unit installed is displayed.</td><td></td></tr>
<tr><td></td><td>18</td><td>° Developer life preset counter (Japan only)
The content of the developer replacement quantity preset counter of the DV unit installed is displayed.</td><td></td></tr>
<tr><td>24</td><td>01</td><td>° Misfeed map memory and total misfeed counter clear</td><td></td></tr>
<tr><td></td><td>02</td><td>Trouble memory clear</td><td></td></tr>
<tr><td></td><td>03</td><td>° Duplex counter clear
The contents of the copy number counter is reset to the duplex unit.
It is mandatory to clear the memory contents after the maintenance is completed.</td><td></td></tr>
<tr><td></td><td>04</td><td>° RADF counter clear
The contents of the copy number counter is reset for the RADF.
It is mandatory to clear the memory contents after the maintenance is completed.</td><td></td></tr>
<tr><td></td><td>05</td><td>° Staple counter clear
The staple unit using counter is cleared to zero.</td><td></td></tr>
<tr><td></td><td>06</td><td>° Developer adjustment time clear
The developer adjustment time is cleared to zero.</td><td></td></tr>
<tr><td></td><td>07</td><td>° Drum adjustment time clear
The drum adjustment time is cleared to zero.</td><td></td></tr>
<tr><td></td><td>08</td><td>° Tray paper feed counter clear
Delete by entering the code.
<table><tr><td>1</td><td>Manual feed counter delete</td></tr><tr><td>2</td><td>1CS counter delete</td></tr><tr><td>3</td><td>2CS counter delete</td></tr><tr><td>4</td><td>3CS counter delete</td></tr><tr><td>5</td><td>4CS counter delete</td></tr><tr><td>6</td><td>5CS counter delete</td></tr><tr><td>7</td><td>AX counter delete</td></tr></table></td><td></td></tr>
<tr><td>25</td><td>01</td><td>Main motor activation
• Used to check malfunction in the main motor drive train. (Rotates for 3 min.)
• Also, monitors the toner density sensor. (Sensor output value display)
C → =↵ → 0 → =↵ → 2 → 5 → PSW → 1 → PSW</td><td></td></tr>
</table>

<table>
<tr><th>Main code</th><th>Sub code</th><th>Description</th><th>Ref. Page</th></tr>
<tr><td>25</td><td>02</td><td>Automatic developer adjustment
• This is the test command used to monitor the toner sensor and to automatically set the developer.
• For automatically setting developer, the developing tank is stirred and the toner sensor output is monitored. The sensor is monitored 16 times in 3 minutes after the stirring started and the mean value is stored in the memory as the toner density referance value. (See the area marked with an asterisk in the figure below.) (Afterwards, referance changes as copies are made to maintain density.)
 

[C] → [=↵] → [0] → [=↵] → [2] → [5] → [PSW] → [2] → [PSW]</td><td></td></tr>
<tr><td></td><td>06</td><td>Toner control A count number setting
Used to set the max. number of toner control corrections.</td><td></td></tr>
<tr><td></td><td>07</td><td>Grid correction amount setting for toner control A
Used to set the absolute value of the toner control reference value.</td><td></td></tr>
<tr><td>26</td><td>01</td><td>Option unit setup
• Used to set up option unit.
① When the test command is executed, the presently stored machine setup code is displayed with the READY lamp turned on.
② After the READY lamp has turned on, enter an appropriate setup code on the keypad and press the PRINT switch. Then, the date is stored in the memory and the READY lamp turns off.
<table><tr><th>Code</th><th>Option</th></tr><tr><td>+1</td><td>RADF</td></tr><tr><td>+2</td><td>ADU [Auto setting]</td></tr><tr><td>+4</td><td>Desk</td></tr><tr><td>+10</td><td>Sorter</td></tr></table>
◦ No need to set "+2 (ADU)". If the ADU is installed, "2" is automatically added.
◦ Used to set the code that corresponds to an option unit.
(EX): To set the RADF and desk together with ADU, enter 1+2+4=7, or 1+4=5.
NOTES:
(1) Be sure to enter the code that corresponds to the installed option unit.
(2) If option setup is incorrect, a trouble code is displayed. See the trouble code chart.</td><td></td></tr>
<tr><td></td><td>03</td><td>Coin vendor setting
0: Cancel, 1: Setting
(Note) When a coin vendor is installed, select "1. Setting."</td><td></td></tr>
<tr><td></td><td>05</td><td>Counter mode setup
① When the test command is executed, the code of the presently stored mode is displayed with the READY lamp turned on.
② After the READY lamp has turned on, enter an appropriate setup code on the keypad and press the PRINT switch. Then, the code is stored in the memory and the READY lamp turns off.
<table><tr><th>Code</th><th>Total counter</th><th>Maintenance counter</th></tr><tr><td>0</td><td>Double count</td><td>Double count</td></tr><tr><td>1</td><td>Single count</td><td>Double count</td></tr><tr><td>2</td><td>Double count</td><td>Single count</td></tr><tr><td>3</td><td>Single count</td><td>Single count</td></tr></table></td><td></td></tr>
</table>

<table>
<tr><th>Main code</th><th>Sub code</th><th>Description</th><th>Ref. Page</th></tr>
<tr><td>26</td><td>06</td><td>Destination setup
Used to set the destination setting.
① When the test command is executed, the presently stored model number and the destination code are displayed (see table below) and the READY lamp turns on.
② After the READY lamp has turned on, enter the model number and the destination code on the keypad and press the PRINT switch to store the setting in the memory. The READY lamp then turns off.
<table>
<tr><th>Code</th><th colspan="2">Destination</th><th>AB/Inch</th></tr>
<tr><td>0</td><td>SEC (ES)</td><td>America</td><td rowspan="4">(Inch)</td></tr>
<tr><td>1</td><td>SEC</td><td>America</td></tr>
<tr><td>2</td><td>SECL</td><td>Canada</td></tr>
<tr><td>3</td><td>Other</td><td></td></tr>
<tr><td>4</td><td>Japan</td><td></td><td rowspan="2">(AB Japan)</td></tr>
<tr><td>5</td><td>Other</td><td></td></tr>
<tr><td>6</td><td>SEEG</td><td>German</td><td rowspan="5">(AB Export)</td></tr>
<tr><td>7</td><td>SUK</td><td>U.K.</td></tr>
<tr><td>8</td><td>SCA</td><td>Australia</td></tr>
<tr><td>9</td><td>Other</td><td></td></tr>
<tr><td>10</td><td>BW-UT1</td><td>Taiwan</td></tr>
</table></td><td></td></tr>
<tr><td></td><td>07</td><td>Drum sensitivity setup
① When the test command is executed, the number stored in the memory is recalled and the READY lamp turns on.
② A number 1 to 3 may be entered on the keypad while the RPL is active.
③ Press the PRINT switch after the number has been entered. With this, the READY lamp turns off and the test command number is displayed.
◦ Drum
<table>
<tr><td>Keypad entry</td><td>1</td><td>2</td><td>3</td></tr>
<tr><td>Sensitivity</td><td>1</td><td>2</td><td>3</td></tr>
</table></td><td></td></tr>
<tr><td></td><td>08</td><td>Lens characteristics entry (at a time of lens replacement)
Because each lens has a variance in focal distance, the lens moving distance in any zoom mode must correspond with the focal distance of the lens. The zoom ratio varies proportionate to the variance of the lens focal distance.
To avoid focus problem, the class of the lens focal distance (refer to chart on page 7-11) is stored in the memory using the test command. In a variable zoom mode, the lens moving distance that corresponds to the lens focal distance is obtained on the basis of the data so as to produce the accurate zoom copy.
Setup method (26-08)
① When the test command is executed, the presently stored preset code is displayed and the READY lamp turns on.
② After the READY lamp turned on, enter the lens number shown on the top of lens area and press the PRINT switch to store the value in the memory. The READY lamp now turns off.
C → =↵ → 0/◊ → =↵ → 2 → 6 → PSW → 8 → PSW → 1 → 4 → PSW</td><td>[7]-10-(6)</td></tr>
<tr><td></td><td>09</td><td>4/5 mirror characteristics entry (at a time of lens replacement)
(Setup method (26-09)
① Set the correction value for lens marked value based on "lens value vs. test command input."
Press C → =↵ → 0/◊ → =↵ → 2 → 6 → PSW → 9 → PSW keys to execute the test command 26-09.
As the READY lamp turns on, the previously set value 1 to 21) is shown.
② Enter the new value on the keypad.
EX: If the value shown on the lens is +1, 2, pick up "14."
Press the 1 → 4 → PSW keys.
A figure 0 to L is shown on the lens value label.
 
</td><td>[7]-10-(6)</td></tr>
</table>

<table>
<tr><th>Main code</th><th>Sub code</th><th>Description</th><th>Ref. Page</th></tr>
<tr><td>26</td><td>10</td><td>AE original density setting
Used to set the original density. (Set value: 1 ~ 9)
Default: 2 Set to 9 if the density is extremely low.</td><td></td></tr>
<tr><td></td><td>24</td><td>Margin position setting
This simulation is used to set the margin position when margin copy is executed.
<table><tr><th>Set value</th><th>Content</th></tr><tr><td>0</td><td>Left margin</td></tr><tr><td>1</td><td>Right margin</td></tr></table></td><td></td></tr>
<tr><td></td><td>25</td><td>Standard state setting from even-number single copy to duplex copy
<table><tr><th>Set value</th><th>Content</th></tr><tr><td>0</td><td>From single to duplex</td></tr><tr><td>1</td><td>Even-number single to duplex</td></tr></table>The duplex mode when the poser is turned on or when the CA (auto clear) key is pressed is set from even-number single to duplex copy.</td><td></td></tr>
<tr><td>27</td><td>01</td><td>PPC communication trouble (EX only)
<table><tr><td>0: PPC communication trouble</td><td>No display</td></tr><tr><td>1: PPC communication trouble</td><td>Displayed</td></tr></table></td><td></td></tr>
<tr><td>30</td><td>01</td><td>Monitoring main unit paper sensor
Copier paper sensor ON/OFF can be checked with the paper jam lamp and paper feed position lamp. (Lighted at ON)
<table><tr><td>① JL1</td><td>PID</td></tr><tr><td>② JL2</td><td>PPD1</td></tr><tr><td>③ JL3</td><td>PPD2</td></tr><tr><td>④ JL4</td><td>PSD</td></tr><tr><td>⑤ JL5</td><td>POD</td></tr><tr><td>⑥ JL6</td><td>TFD</td></tr><tr><td>⑦ JL7</td><td>—</td></tr><tr><td>⑧ JL8</td><td>—</td></tr><tr><td>⑨ CSL1</td><td>PED1</td></tr><tr><td>⑩ CSL2</td><td>PED2</td></tr><tr><td>⑪ CSL3</td><td>PED3</td></tr><tr><td>⑫ JPL</td><td>LUD1</td></tr><tr><td>⑬ PPL</td><td>LUD2</td></tr></table></td><td></td></tr>
<tr><td>30</td><td>02</td><td>Monitoring paper cassette size
Use the cassette select key to select the tray.
<table><tr><th>Cassette position</th><th>Manual</th><th>Upper cassette</th><th>Lower cassette</th></tr><tr><td>TPL (Toner empty)</td><td>PWS1</td><td>UCSS1</td><td>LCSS1</td></tr><tr><td>TNFL (Waste toner full lamp)</td><td>2</td><td>UCSS2</td><td>LCSS2</td></tr><tr><td>DVPL (Developer maintenance lamp)</td><td>3</td><td>UCSS3</td><td>LCSS3</td></tr><tr><td>MENTL (Maintenance lamp)</td><td>4</td><td>UCSS4</td><td>LCSS4</td></tr><tr><td>JPL (Jam lamp)</td><td>PLS1</td><td>—</td><td>—</td></tr><tr><td>PPL (Paper empty lamp)</td><td>PLS2</td><td>—</td><td>—</td></tr></table></td><td></td></tr>
<tr><td>42</td><td>＊</td><td>° Developer counter data clear (Japan only)
1. Mini maintenance counter data clear
2. Cancel
3. Developer counter clear
When the main code is entered, the staple check lamp lights up to allow to enter the conditions. Select among 1 - 3 with 10-key. After entering the code, the staple check lamp goes off. Execution is immediately performed on entering with 10-key.
° Developer count data clear (EX only)
1. Clear
2. Not clear
The copy quantity counter of the DV unit installed is cleared.
When the main code is entered, the staple check lamp lights up to allow to enter the conditions. Select between 1 and 2 with 10-key. After entering the code, the staple check lamp goes off. Execution is immediately performed on entering with 10-key.</td><td></td></tr>
</table>

<table>
<tr><th>Main code</th><th>Sub code</th><th>Description</th><th>Ref. Page</th></tr>
<tr><td>43</td><td>＊</td><td>
○ Fusing temperature setting
Used to set the fusing temperature.
When this simulation is executed, the currently set fusing temperature is displayed. Under this state, press 10-key, and the number is displayed on the copy magnification ratio display, and the fusing temperature corresponding to the number is displayed on the coy quantity display by 2 digits.
Selection of single/duplex copy
Press the sorter key to switch between the single copy and duplex copy temperature setting.
[P] lamp OFF: Single copy temperature setting
[P] lamp ON: Duplex copy temperature setting
display method of the copy quantity display
A number of one or two digits is displayed normally.
For a number of three or more digits, the upper two digits are displayed after a long blank (time interval), then the lower two digits are displayed after a short blank (time interval).
(3 or more digits) □□ → ○○ → □ → ○○
Long blank Upper 2 digits Short blank Lower 2 digits
<table>
<tr><td>Number on the magnification ratio display</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>0</td></tr>
<tr><td>Number on the copy quantity display</td><td>160</td><td>165</td><td>170</td><td>175</td><td>180</td><td>185</td><td>190</td><td>195</td><td>200</td><td>205</td></tr>
</table>
</td><td></td></tr>
<tr><td rowspan="4">44</td><td>01</td><td>
Correction mode setting
[+ 1] Process control correction enable
[+ 2] Optical dirt correction enable
[+ 4] Drum layer wear correction enable
[+10] Toner control A correction valid
[+20] Toner control B correction valid
Note: When all are "Enable," set to 07.
The corrections, except for the process control correction mode, can be disabled in the normal copy mode. When "0" is inputted, "1" (Process control correction) is enabled. (Automatic setting)
</td><td></td></tr>
<tr><td>02</td><td>
Drum mark sensor sensitivity adjustment : 0 ~ 255 (5V)
For the drum mark sensor gain rank, [2] is selected.
The main motor rotates and the drum mark sensor sensing level is displayed on the magnification ratio display. Adjust VR1 in the process unit to obtain [204±10].
</td><td></td></tr>
<tr><td>03</td><td>
Image density sensor sensitivity adjustment : 0 ~ 255 (5V)
For the image density sensor gain rank, [2] is selected.
The main motor rotates and the image density sensor sensing level is displayed on the magnification ratio display. Adjust VR2 in the process unit to obtain [204±10].
</td><td></td></tr>
<tr><td>05</td><td>
Half tone density correction test mode
The main motor is rotated, and toner patches are formed in 8 steps by setting the grid bias to 450 - 850V (50V step). The patch section level and the image density sensor level at the surface are displayed.
<table>
<tr><th>Magnification ratio display</th><th>Copy quantity display</th></tr>
<tr><td>0</td><td>450VP/450VB</td></tr>
<tr><td>1</td><td>500VP/500VB</td></tr>
<tr><td>2</td><td>550VP/550VB</td></tr>
<tr><td>3</td><td>600VP/600VB</td></tr>
<tr><td>4</td><td>650VP/650VB</td></tr>
<tr><td>5</td><td>700VP/700VB</td></tr>
<tr><td>6</td><td>750VP/750VB</td></tr>
<tr><td>7</td><td>800VP/800VB</td></tr>
<tr><td>8</td><td>850VP/850VB</td></tr>
</table>
The value corresponding to the number which is displayed on the magnification ratio display by the sorter key is displayed on the copy quantity display by 2 digits.
</td><td></td></tr>
</table>

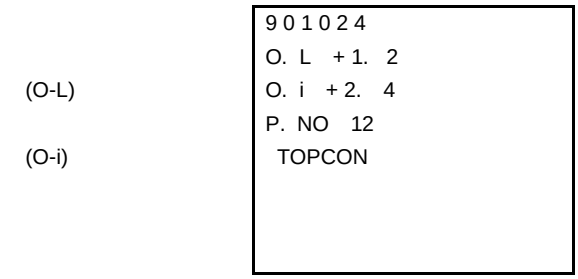
Main code	Sub code	Description	Ref. Page
44	06	Compulsory execution of half-tone density correction	

NORM	NORMAL	:	Standard mode grid bias (450 ~ 1250V)
T/S	T/S	:	Toner save mode grid bias (450 ~ 1250V)
PHOT	PHOTO	:	Photo mode grid bias (450 ~ 1250V)
GB_A	GB ADJUST	:	Grid bias correction value after measurement (±0 ~ 999V) ∗ Display of (–) indicates PAUSE lamp ON.
TARG	TARGET	:	Patch/foundation, standard patch value when foundation is 255 (255= foundation)
ID_G	ID GAIN	:	Image density sensor gain rank in execution (1 ~ 7)
MARK	MARK	:	Drum mark sensor mark level in execution (0 ~ 255, 255=5V)
MARB	MARK B	:	Drum mark sensor surface level in execution (0 ~ 255, 255=5V)
DM_G	DM GAIN	:	Drum mark sensor gain rank in execution (1 ~ 7)
l∗m∗n	l∗m∗n	:	Vc1 correction coefficient
BAS1, 2, 3	BASE1, 2, 3	:	Drum surface image density sensor level in execution (0 ~ 255, 255=5V)
PAT1, 2, 3	PATCH1, 2, 3	:	Toner patch image density sensor level in execution (0 ~ 255, 255=5V)
l	l	:	Vg correction coefficient
m	m	:	Dirt correction coefficient
n	n	:	Film wear correction coefficient
M1	M1	:	Dirt correction coefficient (M1)
M2	M2	:	Dirt correction coefficient (M2)

The value corresponding to the number which is displayed on the magnification ratio display by the sorter key is displayed on the copy quantity display by 2 digits.

Magnification ratio display	Copy quantity display
0	MORMAL
1	T/S
2	PHOTO
3	GB ADJUST
4	TARGET
5	ID GAIN
6	MARK
7	MARK B
8	DM GAIN
9	l∗m∗n
10	PATCH1
11	BASE1
12	PATCH2
13	BASE2
14	PATCH3
15	BASE3
16	l
17	m
18	n
19	M1
20	M2

<table>
<tr><th>Main code</th><th>Sub code</th><th>Description</th><th>Ref. Page</th></tr>
<tr><td>44</td><td>07</td><td>Drum mark sensor/image density sensor gain select check
The value corresponding to the number which is displayed on the magnification ratio display by the sorter key is displayed on the copy quantity display by 2 digits.
<table>
<tr><th>Magnification ratio display</th><th>Copy quantity display</th><th>Magnification ratio display</th><th>Copy quantity display</th></tr>
<tr><td>0</td><td>DM7</td><td>7</td><td>ID7</td></tr>
<tr><td>1</td><td>DM6</td><td>8</td><td>ID6</td></tr>
<tr><td>2</td><td>DM5</td><td>9</td><td>ID5</td></tr>
<tr><td>3</td><td>DM4</td><td>10</td><td>ID4</td></tr>
<tr><td>4</td><td>DM3</td><td>11</td><td>ID3</td></tr>
<tr><td>5</td><td>DM2</td><td>12</td><td>ID2</td></tr>
<tr><td>6</td><td>DM1</td><td>13</td><td>ID1</td></tr>
</table></td><td></td></tr>
<tr><td></td><td>09</td><td>Half tone density correction measurement data display
The display is similar to SIM 44-6. However, entry of values cannot be made, and only display is shown.</td><td></td></tr>
<tr><td></td><td>11</td><td>Operation and setting at grid bias
Select the code with "→" key, press PSW key, and the set value is stored and aging is performed.
The value corresponding to the number which is displayed on the magnification ratio display by the sorter key is displayed on the copy quantity display by 2 digits.
For 0, 1, 2, and 3, only the display is made. For 4, 5, 6, and 7, the value can be changed.
<table>
<tr><th>Magnification ratio display</th><th>Copy quantity display</th></tr>
<tr><td>0</td><td>GB_250V</td></tr>
<tr><td>1</td><td>GB_850V</td></tr>
<tr><td>2</td><td>GB_1000V</td></tr>
<tr><td>3</td><td>GB_1050V</td></tr>
<tr><td>4</td><td>PATCH</td></tr>
<tr><td>5</td><td>NORMAL</td></tr>
<tr><td>6</td><td>T/S</td></tr>
<tr><td>7</td><td>PHOTO</td></tr>
</table></td><td></td></tr>
<tr><td></td><td>12</td><td>Copying is made without process control operation. This simulation is used to know whether the trouble is in the process section or in the other section when F2 trouble occurs.</td><td></td></tr>
<tr><td>46</td><td>01</td><td>◦ Exposure level adjustment
Used to adjust the copy density and the copy density select level.
The value corresponding to the number which is displayed on the magnification ratio display by the sorter key is displayed on the copy quantity display by 2 digits.
<table>
<tr><td>Magnification ratio display</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr>
<tr><td>Copy quantity display</td><td>ME1</td><td>ME5</td><td>TS1</td><td>TS5</td><td>PE1</td><td>PE5</td><td>AE1</td><td>AE5</td><td>AE1 (TS)</td><td>AE5 (TS)</td></tr>
</table></td><td></td></tr>
<tr><td>47</td><td>＊</td><td>◦ AE sensor characteristics measurement
AE sensor output characteristics memory
(1) AE sensor output characteristics input
Press the [C] → [=↵] → [0] → [=↵] → [4] → [7] → [PSW] keys. The mirror base is initialized, scans about 10cm, then stops.
The READY lamp turns on now and becomes ready to measure.
Press the PRINT switch. The copy lamp driving voltage changes in increments of 10V (20V) each from 80V (160V) to 30V (60V), and the AE sensor output characteristics are stored in the memory. The values are used as referances.
NOTE: Shown in parenthesis is for the 200V series machine.
① Execute SIM 47. (The mirror base scans and stops at the AE sensor level measurement position.)
② Put 4 or 5 sheets of white paper (A3 or 11" × 17") on the document table.
③ Press PSW key again, and the AE sensor output level with the white paper document is displayed. This output level is stored.</td><td>[7]-20-(3)</td></tr>
</table>

<table>
<tr><th>Main code</th><th>Sub code</th><th>Description</th><th>Ref. Page</th></tr>
<tr><td>48</td><td>01</td><td>
Front/rear direction zoom ratio adjustment (refer to [7]-3-(6)-9 for the lens type value.
Used to set the No.4/5 mirror home position (focal adjustment) and to adjust the zoom ratio of the copy in the vertical direction (from front to rear).
There are two kinds of test command 48-01 of which are described as follows.
1-1. Horizontal copy zoom ratio standard value input method (at a time the lens or main PWB replacement)
Press the [C] → [=↵] → [0] → [=↵] → [4] → [8] → [PSW] → [➡] keys. The already set value or "40" is displayed.
Substitute the value of "O.L" shown on the label attached to the lens with the formula value.
40 – [(value of O.L.) x 5] = standard value of correction
Ex: 40 – (+1.2 x 5) = 34
1-2. Use this test command to adjust the horizontal zoom ratio. Change the value entered in "1-1" to change.
2-1. No.4/4 mirror home position standard value input (at a time of lens or main PWB replacement).
Press the [C] → [=↵] → [0] → [=↵] → [4] → [8] → [PSW] [1] → [PSW] keys. The already stored value or "50" is displayed.
Substitute the value of "O.L" shown on the label attached to the lens with the formula value.
42 – [(O.L value) x 10] = standard value of correction
Ex: 50 – (+1.2 x 10) = 38
2-2. To adjust the resolution, change the value entered at "2-1" using this test command.
When the No. 4/5 mirror reference value is "+" from the center value "50", the mirror is shifted away from the lens to lengthen the light path. When it is "–", the mirror is shifted to the lens to shorten the light path. The value is calculated in this manner.


Label content
<table>
<tr><td>Magnification ratio display</td><td>0</td><td>1</td></tr>
<tr><td>Copy quantity display</td><td>45MB</td><td>LENS</td></tr>
</table>
The value corresponding to the number which is displayed on the magnification ratio display by the sorter key is displayed on the copy quantity display by 2 digits.
</td><td>[7]-8-(1)
-(3)
[7]-8-(2)
[7]-9-(4)</td></tr>
<tr><td></td><td>02</td><td>
○ Paper moving direction zoom adjustment
Used to adjust the zoom ratio in the landscape mode.
Varying the mirror base moving speed adjusts the zoom factor in the landscape direction of the copy (paper moving direction).
① Place a scale over the original table in the direction the paper moves. Make a copy in the 100% zoom mode and obtain the copy zoom ratio correction factor.
Copy zoom correction factor = (original size) $-\frac{\text{(copy image size)}}{\text{(original size)}} \times 100\%$
② As the READY lamp turns on, the previously set figure between 15 and 35 is displayed. Change it with the copy zoom factor correction factor obtained in ①.
(Input value) = (previously stored value) + copy zoom ratio correction factor [%] × 10
Press the PRINT switch after entering the input value. With this, the input value is stored in the memory and the READY lamp turns off.
</td><td>[7]-10-(5)</td></tr>
<tr><td>50</td><td>01</td><td>Used to adjust the copy lead edge image loss and void areas. For more information, refer to the optical system copy lead edge adjustment procedure.</td><td>[7]-15-(11)</td></tr>
<tr><td></td><td>02</td><td>The function of this test command is similar to the test command 50-01.
The test command 50-02 allows easier lead edge adjustment using the values of L1 and L2.
For more information, refer to the optical system copy lead edge adjustment procedure.</td><td>[7]-15-(11)</td></tr>
<tr><td>51</td><td>02</td><td>
○ Resist amount adjustment
<table>
<tr><td>Magnification ratio display</td><td>0</td><td>1</td><td>2</td></tr>
<tr><td>Copy quantity display</td><td>Manual</td><td>Cassette</td><td>ADU</td></tr>
</table>
The value corresponding to the number which is displayed on the magnification ratio display by the sorter key is displayed on the copy quantity display by 2 digits.
At the same time, the corresponding paper feed port is selected with the tray select key.
Reference value: 40, 45, 50
</td><td>[7]-15-(11)</td></tr>
</table>

Main code	Sub code	Description	Ref. Page
51	05	◦ Frame delete rate adjustment (copy moving direction only) Used to set the frame delete rate. • When the test command is executed, the READY lamp turns on, and the figure previously stored is displayed on the copy number window. Now, it becomes ready to accept a number between 1 and 19 on the keypad. When the PRINT switch is pressed after the entry, the number is stored in the memory and the READY lamp turns off. A single rate deletes the frame of about 1.0mm. The standard value has been set to "6."	
52	01	◦ ADU alignment plate adjust value setup Used to adjust the home position of the ADU alignment plate. When the test command is executed, the READY lamp turns on. Enter a new value as the previously set value came displayed, and press the PRINT switch to stored it in the memory. It can be adjustable from 1 to 99. The default is 7. Setting a smaller value increases the width of the alignment plate and vice versa.	
	02	◦ ADU rear plate adjust value setup Used to adjust the home position of the ADU rear plate. When the test command is executed, the READY lamp turns on. Enter a new value as the previously set value came displayed, and press the PRINT switch to stored it in the memory. It can be adjustable from 0 to 99. The default is 0. Setting a smaller value increases the width of the rear plate and vice versa.	
	03	ADU drive clutch off time setup (1 step = 1ms) Can be set to any number between 0 and 99 (Standard: 18). 1 = 1ms, 18 = 18ms, 99 = 99ms Setting a smaller value shortens the ADU clutch off timings and decreases the enforced curling rate of paper.	
53	01	◦ RADF and ADF stop position adjustment value (normal paper, single copy) setting Used to adjust the RADF stop position in single copy with normal paper. When this simulation is executed, the ready lamp lights up and the currently set adjustment value is displayed. Enter the new adjustment value and press the PRINT switch to store it in the memory. The adjustment value should be in the range of 0 to 15.	
	02	◦ RADF/ADF stop position adjustment value (normal paper, duplex copy) setting Used to adjust the RADF/ADF stop position in duplex copy with normal paper. When this simulation is executed, the ready lamp lights up and the currently set adjustment value is displayed. Enter the new adjustment value and press the PRINT switch to store it in the memory. The adjustment value should be in the range of 0 to 15.	
	03	◦ RADF and ADF stop position adjustment value (thin paper, single copy) setting Used to adjust the RADF stop position in single copy with thin paper. When this simulation is executed, the ready lamp lights up and the currently set adjustment value is displayed. Enter the new adjustment value and press the PRINT switch to store it in the memory. The adjustment value should be in the range of 0 to 15.	
	04	◦ RADF and ADF stop position adjustment value (thin paper, duplex copy) setting Used to adjust the RADF stop position in duplex copy with thin paper. When this simulation is executed, the ready lamp lights up and the currently set adjustment value is displayed. Enter the new adjustment value and press the PRINT switch to store it in the memory. The adjustment value should be in the range of 0 to 15.	
	05	◦ RADF and ADF resist sensor adjustment Used to adjust the RADF resist sensor. (In the case of ADF, the resist sensor and the paper pass width sensor are adjusted.) When this simulation is executed, the RADF resist sensor is adjusted and the adjustment value is displayed.	
53	06	◦ RADF and ADF timing sensor adjustment Used to adjust the RADF timing sensor. When this simulation is executed, the RADF timing sensor is adjusted and the adjustment value is displayed.	
	07	◦ RADF and ADF repulsion sensor adjustment Used to adjust the RADF repulsion sensor. When this simulation is executed, the RADF repulsion sensor is adjusted and the adjustment value is displayed.	
	08	◦ RADF and ADF empty sensor adjustment Used to adjust the RADF empty sensor. When this simulation is executed, the RADF empty sensor is adjusted and the adjustment value is displayed.	

(Trouble codes list)

Trouble status code	Subordinate code	Description
L4	01	Main motor lock detection
L5	03	No.4/5 mirror motor error detection
	04	No.4/5 mirror motor MHPS error detection
	05	Lens motor error detection
	06	Lens motor LHPS error detection
L8	01	Power supply line frequency error detection
H2	—	Open thermistor (Test command 14 to reset)
H3	—	Heat roller high temperature detection (Test command 14 to reset)
H4	—	Heat roller low temperature detection (Test command 14 to reset)
U2	00 01	Memory. Counter sumcheck error detection (Test command 16 to reset)
U3	20	Mirror motor lock detection
	21	Mirror motor MHPS error detection
U4	02	ADU alignment plate malfunction detected
	04	ADU rear plate malfunction detected
U5	00	ADF communication trouble detected
	01	A motor malfunction detected
	02	B motor malfunction detected
	03	Resist sensor malfunction detected
	04	Eject sensor malfunction detected
U6	00	Desk communication trouble detected
	01	Desk-1 cassette liftup motor trouble detected
	02	Desk-2 cassette liftup motor trouble detected
	03	Desk-3 cassette liftup motor trouble detected
	08	Desk 24V line error detected
	09	LCC motor overcurrent detected
	10	Desk transport motor trouble detected
U7	00	Communication trouble between PC/Modem and the copier.
F1	00	Sorter communication trouble detected
	01	Paper jog malfunction detected
	02	Transport motor malfunction detected
	04	Indexer lower limit detected
	05	Indexer upper limit detected
	06	Shift motor malfunction detected
F2	02	Toner motor malfunction detected
	31	ID sensor level abnormality (less than 3V)
		ID sensor photo conductor surface level abnormality (less than 2.25V)
	32	DM sensor level abnormality (less than 3V)
		DM sensor cannot sense.
		When measuring the gain level (at 1.5 rotations of the drum)
		DM sensor cannot sense.
		When measuring the patch (at 1.5 rotations of the drum)
	35✳	Adjustment impossible for GB (-32V ✳ 4 times)
		Adjustment impossible for GB (+32V ✳7 times)
		Preliminary adjustment impossible for GB (-200V to -88V)
F3	12	Main unit upper cassette liftup motor trouble detected
	22	Main unit bottom cassette liftup motor trouble detected
EE	EL	Toner sensor indicates extreme overtoned condition
	EU	Toner sensor indicates extreme undertoned condition
CC	—	Original size detect sensor level abnormality.
C2	00	THV leak trouble

Mark " ✳ ": The error display is given only when performing the simulation. (For the process control at warming-up,, the error display is not given.)

Display codes other than trouble

Trouble codes	Sub code	Operation
CH	—	Door open/DV unit uninstalled
PC	—	Personal counter uninstalled/auditor code input waiting
PF	—	Copy inhibit command is received from the host when installing PC/Modem.

(Key operator program)

The list below shows all key operator programs. These programs can be used only when the key operator code in inputted at the beginning.

Program Code No.	Program name	Function
P10	Auditing Mode	Enables or disables the basic auditing mode, which controls access to copier.
P11	Number of Copies per Account	Displays the total number of copies made against account numbers.
P13	Resetting Account	Resets all audit accounts or selectively resets individual accounts.
P14	Account Number Control	Registers accounts, deletes accounts, changes an account number, or displays all registered account numbers.
P16	Account Limit Setting	Sets the maximum number of copies which can be made against a registered account number.
P18	Account Number Security	Guards against trial and error entering of audit account numbers.
P19	Key Operator Code Number Change	Changes the key operator code number.
P20	Auto Exposure Adjust	Lightens or darkens copies in the automatic exposure mode.
P21	Auto Power Shut-off Timer	Sets a time interval after which the copier automatically turns off.
P22	Toner Save Mode	Reduces toner consumption.
P23	Auto Clear Setting	Sets a time interval after which the copier returns to the initial settings.
P24	Add or Change Extra Preset Ratios	Adds or changes reduction and enlargement preset copy ratios.
P25	Setting a Maximum Number of Copies	Sets the maximum number of copies that can be selected.
P26	Initial Margin Shift Setting	Sets the initial margin shift values.
P27	Erase Width Adjustment	Sets the amount of the erase area.
P28	Initial Status Setting	Sets the copier's initial settings in the ready condition.
P29	Total Copy Count	Recalls the total copy counts of the copier, document feeder, duplex module, and stapler.
P31	Preheat Mode Setting	Sets the time that elapses before the copier enters the preheat mode after copying is completed.
P42	Right/Left Shift Direction Selection	Determines whether shift direction change is to be allowed.
P45	Message Time Setting	Sets the length of time that messages are displayed.
P46	Power On Control	Prevents the copier from being started by people other than key operator.
P47	Stream Feeding Mode	Enables the stream feeding mode for copying from an optional document feeder.
P51	Sorter Bin Access Mode	Enables or disables the sorter bin access mode when an optional 10-bin sorter (SF-S18) is installed.
P70	Disabling of Auto Paper Selection	Prevents automatic paper selection when using the ORIGINAL SIZE ENTER key or copying from an optional document feeder.
P71	Disabling of Auto Tray Switching	Prevents automatic switching between the paper trays.
P72	Prohibiting of Manual Feed Tray in Duplex Copy	Prohibits the use of the manual feed tray during duplex copying. (Duplex copying can be performed when an optional duplex module is installed.)
P73	Disabling Deletion of Job Programs	Prevents stored programs from being replaced or deleted.
P74	Disabling of Document Feeder	Prevents the use of an optional document feeder when it malfunctions.
P75	Disabling of Duplex Copying	Temporarily prevents the optional duplex system from operating when it malfunctions. Allows the use of the copier but not the duplex system.
P76	Disabling of Stapler	Prevents damage to the stapler while awaiting repair service. (Staple sorters are optional.)
P77	Disabling of Covers	Prevents the selection of COVERS mode. (The COVERS mode can be used when an optional document feeder is installed.)
P83	Disabling of PC/Modem Access	Provides or prevents access to key operator programs through a PC/modem without key operator code entry. (Remote access to key operator programs can be performed only when a computer or other equipment is connected to the copier directly or through a telephone line.)
P90	Display the List of All P Codes	Sequentially displays all available programs.

SF-2530

SHARP

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