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SERVICE HANDBOOK

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CONTENTS

CHAPTER 1 MAINTENANCE AND INSPECTION

A. Image Adjustment Basic Procedure.....1-1
B. Points to Note for Scheduled Servicing 1-3

CHAPTER 2 STANDARDS AND ADJUSTMENTS

A. Adjusting the Images.....2-1
1. Adjusting the Image Leading Edge Margin [3] No.305 2-1
2. Adjusting the Leading Edge Non-Image Width [3] No.306.....2-2
3. Adjusting the Trailing Edge Non-Image width [3] No.307 ...2-3
4. Adjusting the Left/Right Registration 2-4
5. Adjusting the Image Left/Right Margin [3] No.308 ...2-6
6. AE Adjustment 2-8
7. Adjusting the Developing Bias DC Component [3] No.302.....2-12
8. Adjusting the Horizontal Registration Paper Edge Sensor postion [3] No.324 2-13
9. Adjusting the Trailing Edge Margin for Pick-Up from the Multifeeder [3] No.327.....2-14
10. Adjusting the Book Erasing Width [3] No.326 2-15

B. Exposure System 2-16
1. Routing the Scanner Drive Cable.....2-16
2. Adjusting the Position of the Mirror (optical path length between No.1 mirror and No.2/No.3 mirror) 2-17
3. Adjusting the Tension of the Scanner Cable 2-19
4. Adjusting the Tension of the Lens Drive Belt.....2-20
5. Cleaning the No.4 Mirror 2-20
6. Cleaning the No.5/No.6 Mirror 2-21

C. Image Formation System.....2-23
1. Orientation of the Scanning Lamp 2-23
2. Position of the Blank Shutter Solenoid 2-23
3. Routing the Blank Shutter Cable.....2-24
4. Routing the Charging Wire ..2-25
5. Stringing the Guide Wire 2-26
6. Adjusting the Height of the Charging Wire.....2-26
7. Position of the Developing Assembly Magnetic Seal.....2-27
8. After Replacing the Drum unit 2-27

D. Pick-Up/Feeding System.....2-28
1. Orientation of the Pick-Up Roller 2-28
2. Orientation of the Separation Roller 2-28
3. Orientation of the Feeding Roller.....2-28
4. Adjusting the Pressure of the Separation Roller (cassette/deck).....2-29
5. Position of the Pick-Up Roller Solenoid (pick-up assembly; SL1,SL2) 2-30
6. Orientation of the Multifeeder Pick-Up Roller 2-30

7. Position of the Pick-Up Guide Plate Cam (multifeeder assembly).....2-31
8. Routing the Timing Belt (multifeeder assembly).....2-31
9. Adjusting the Pressure of the Separation Pad (multifeeder assembly).....2-32
10. Routing the Drive Belt.....2-32
11. Adjusting the Position of the Horizontal Registration Solenoid 2-33
E. Fixing System.....2-34
1. Points to Note When Installing the Fixing Heater.....2-34
2. Adjusting the Nip (tightening the pressure adjusting nut) ..2-35
3. Position of the Fixing Assembly Paper Guide 2-36
4. Position of the Cleaning Belt Solenoid 2-36
F. Electrical System.....2-37
1. Registering the Cassette/ Multifeeder Paper Width Basic Setting [4].....2-37
2. Adjusting the Original Stop Position with the DF in Use [3] No.325.....2-40
3. Checking the Photointerrupters.....2-41

CHAPTER 3 ARRANGEMENT/FUNCTIONS OF THE ELECTRICAL PARTS

A. Sensors 3-2
B. Switches clutches, and solenoids 3-4
C. Heaters, lamps, and motors.....3-6
D. PCBs 3-8
E. Paper deck pedestal-M1 3-10
F. Variable Resistors, Light-Emitting Diodes, and Check Pins by PCB 3-12
1. DC Controls PCB 3-13
2. HVT 3-14
3. Lamp Regulator PCB 3-14
4. Motor driver 1 PCB 3-15
5. Motor driver 2 PCB 3-15
6. Pedestal controller PCB (Paper deck pedestal).....3-16

CHAPTER 4 SERVICE MODE

A. Outline.....4-1
B. Using Service Mode 4-1
1. Starting Service Mode.....4-2
C. Using Adjustment Mode and Optional Setting Mode.....4-3
D. Control/Display Mode [1].....4-4
E. I/O Display Mode [2] 4-19
F. Adjustment Mode [3] 4-43
G. Function Mode [4] 4-45
H. Optional Settings [5].....4-47
I. Counter Mode [6] 4-49

CHAPTER 5 SELF DIAGNOSIS

A. Copier.....5-1
B. Pedestal Self Diagnosis 5-5
C. RDF/ADF Self Diagnosis.....5-6
D. Sorter Self Diagnosis 5-7

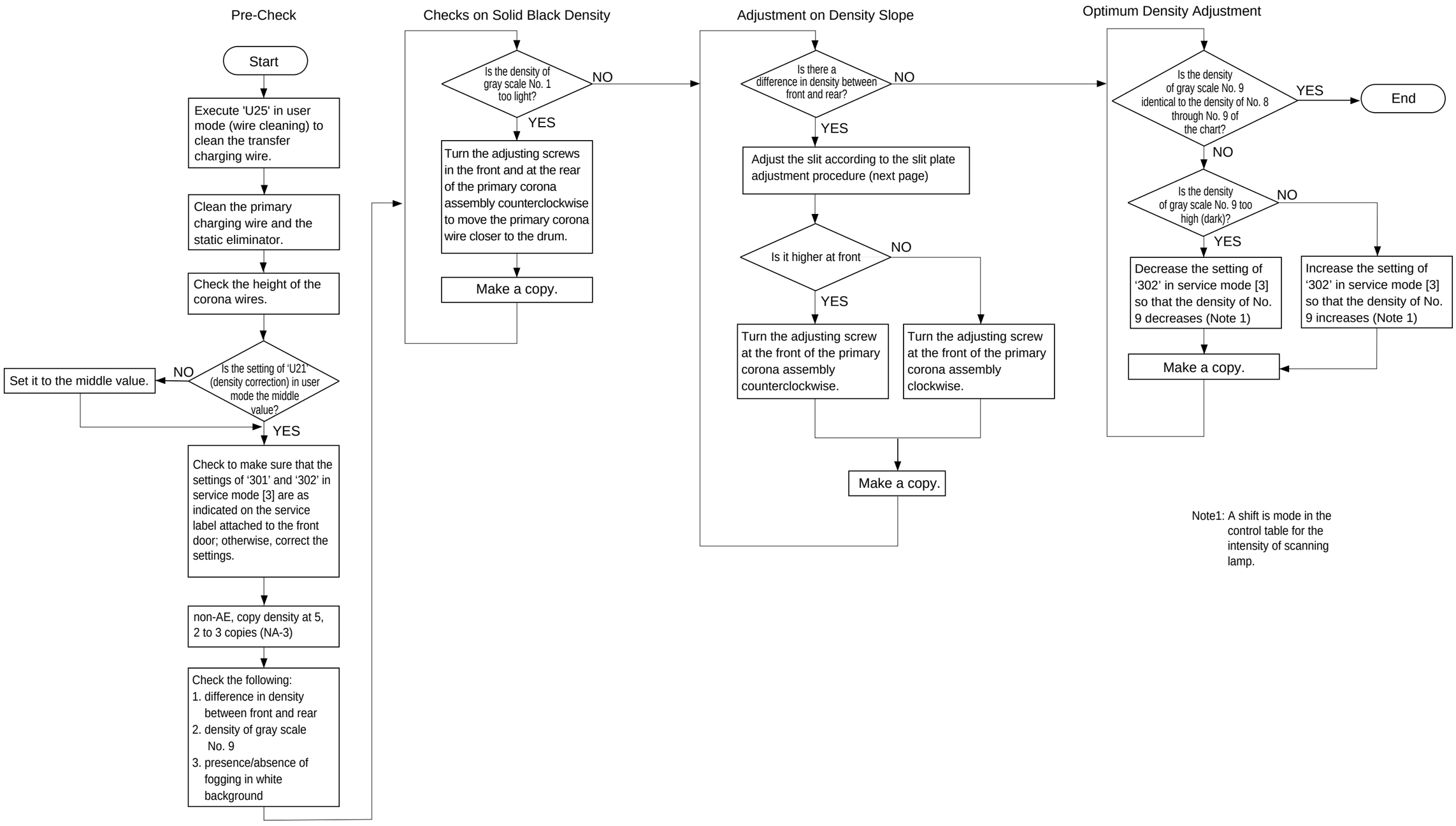
APPENDIX

A. GENERAL TIMING CHART.....A-1
B. SIGNALS AND ABBREVIATIONS A-2
C. GENERAL CIRCUIT DIAGRAM ..A-5
(not available in electronic format)
D. PEDESTAL CONTROLLER.....A-7
(not available in electronic format)
E. SPECIFICATIONS A-9
1. Copier A-9
2. Paper Deck Pedestal-M1.....A-15

CHAPTER 1 MAINTENANCE AND INSPECTION

A. Image Adjustment Basic Procedure

non-AE, copy density at 5



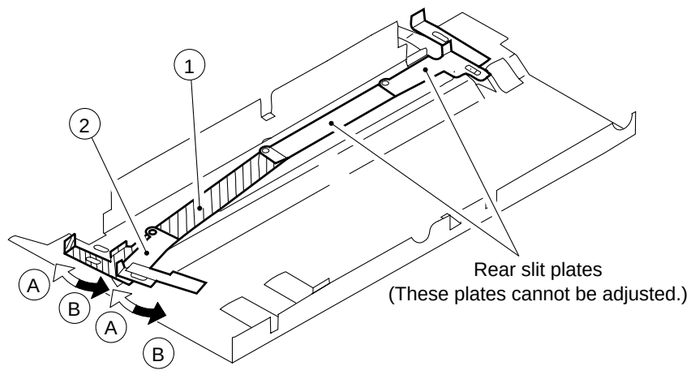
Note1: A shift is mode in the control table for the intensity of scanning lamp.

Adjusting the Slit Plate

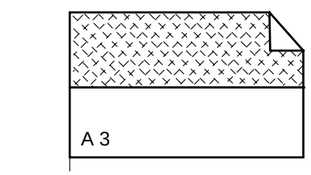
Note:

- Use only the slit plate at the front.
- If you must replace the drum unit, be sure to put the slit plate back to the white marking.

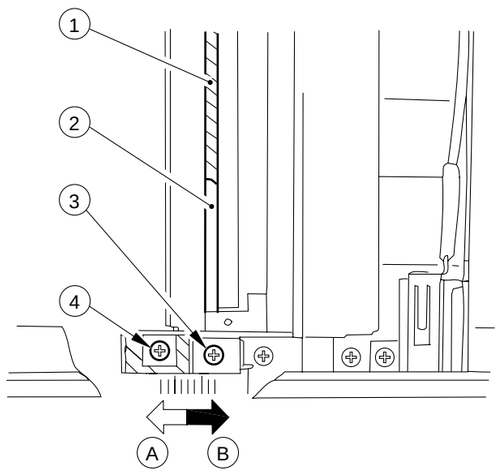
1) Turn off the power switch, and disconnect the power plug from the power outlet.
2) Remove the copyboard glass, and move the No.1 mirror mount to the center, where work is facilitated.
3) Adjust the slit plate at the front by referring to the table below.



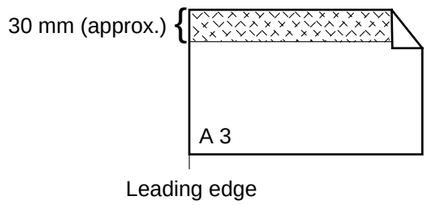
If you adjusted the slit ① by loosening the screw ④, the change will affect the area from the center to the rear end.,



Slit adjustment direction	Image density
Ⓐ	Lighter
Ⓑ	Darker



If you adjusted the slit ② by loosening the screw ③, the change will affect the image end (up to a point about 30 mm from the rear).



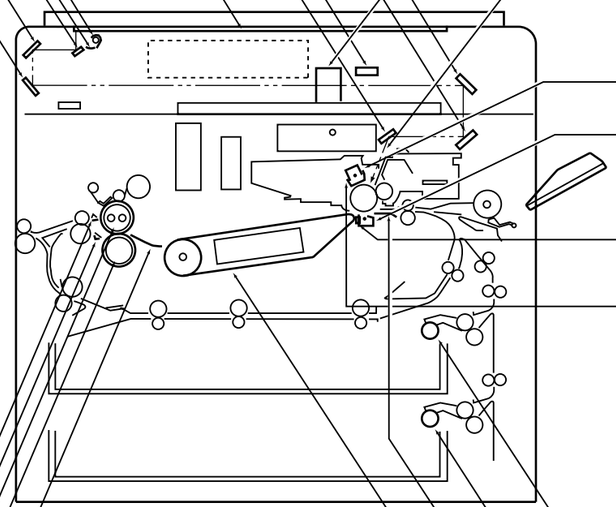
B. Points to Note for Scheduled Servicing

Copyboard/Scanning system

Part	tool/solvent	work/remarks
Copyboard glass	Alchol	Cleaning
Original size sensor	Blower blush	Cleaning
Scanning lamp	Lint-free paper	Dry-wiping
Reflecting plate	Blower blush.	If dirt cannot be removed, use lint -free paper.
No.1 to No.4 mirrors		
No.5 to No.6 mirrors	Mirror cleaning tool	Cleaning

Optical path

Part	tool/solvent	work/remarks
Lens	Brower brush	Cleaning
Dust-proofing glass	Brower brush	Cleaning



Corona units

Part	tool/solvent	work/remarks
Primary corona unit Transfer corona unit	Alchol lint-free paper	Dry wipe it, there after, clean it using lint-free paper with alchol
Static eliminator	Brush	Use a cleaning brush
Primary corona unit grid	Blower brush	Cleaning

Fixing assembly

Part	tool/solvent	work/remarks
Separation claw	Solvent	Cleaning
Upper roller/ Lower roller	Cleaning oil (TKN-0464)	Cleaning
Inlet guide	Solvent	Cleaning

Pick-up/feeding assembly

Part	tool/solvent	work/remarks
Pick-up roller	Moist cloth*	Cleaning
Transfer guide		
Feeding belt		
Feeding assembly mount		

*Make sure the parts are completely dry.

CHAPTER 2 STANDARDS AND ADJUSTMENTS

A. Adjusting the Images

1	Adjusting the Image Leading Edge Margin [3] No. 305

Select [3] No. 305 (leading edge margin adjustment) in service mode, and make adjustments so that the image leading edge margin is 2.5 ±1.5 mm when the Test Sheet is copied in Direct.

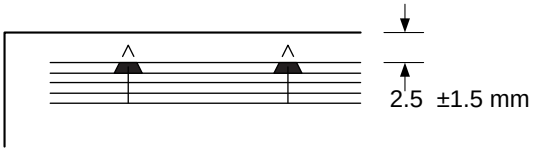


Figure 2-1

Reference:

2nd side of 2-sided copy: 2.5 ±2.0 mm

Making Adjustments

1) Start [3] in service mode, and select No. 305 using the keypad.
   - The display indicates '305'.

2) Press the OK key.
   - The indicator indicates the stored setting.

3) Using the keypad or the Zoom keys, change the setting.
   - The indicator flashes the setting.
   - To enter a negative setting, press the % key.

4) Press the OK key.
   - The new setting is stored.
   - The indicator stops flashing and remains on.
   - A press on the Copy Start key starts copying.

5) To change the settings in succession, repeat steps 3) and 4).

6) Press the Clear key to return to item selection.
   The settings and the image positions have the following relationships:
   - For each '1' in the setting, the margin width changes about 0.4 mm.
   - A higher setting decreases the margin width.

2 Adjusting the Leading Edge Non-Image Width [3] No. 306

Select [3] No. 306 in service mode (leading edge non-image width adjustment), and make adjustments so that the leading edge non-image width is 2.0 ±1.0 mm when the Test Sheet is copied in Direct.

The copier adjusts the leading edge non-image width in relation to the timing at which the blank shutter is closed.

Be sure to perform the following steps whenever you have replaced the blank shutter solenoid or the blank exposure assembly.

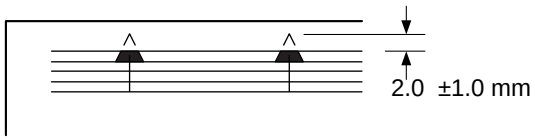


Figure 2-2

Reference:

6 mm or less in Reduce or Enlarge mode (however, 8 mm or less at 50%)

Making Adjustments

1) Start [3] in service mode, and select No. 306 using the keypad.
   - The indicator indicates '306'.

2) Press the OK key.
   - The indicator indicates the stored setting.

3) Using the keypad or the Zoom keys, change the setting.
   - The indicator flashes the setting.
   - To enter a negative setting, press the % key.

4) Press the OK key.
   - The new setting is stored.
   - The indicator stops flashing and remains on.
   - A press on the Copy Start key starts copying.

5) To change the settings in succession, repeat steps 3) and 4).

6) Press the Clear key to return to item selection.
   The settings and the image positions have the following relationships:
   - For each '1' in the setting, the margin width changes about 0.4 mm.
   - A higher setting increases the margin width.

3	Adjusting the Trailing Edge Non-Image Width [3] No. 307

Select [3] No. 307 in service mode (trailing edge non-image width adjustment), and make adjustments so that the trailing edge non-image width is 2.5 ±1.5 mm when the Test Sheet is copied in Direct.

The copier adjusts the trailing edge non-image width in relation to the timing at which the blank shutter is closed.

Be sure to perform the following steps whenever you have replaced the blank shutter solenoid or the blank exposure assembly.

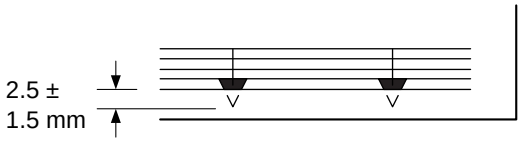


Figure 2-3

Reference:

8 mm or less in Reduce or Enlarge mode

Making Adjustments

1) Select [3] in service mode, and select No. 307 using the keypad.
   - The indicator indicates '307'.

2) Press the OK key.
   - The indicator indicates the stored setting.

3) Change the setting using the keypad or the Zoom keys.
   - The indicator flashes the setting.
   - To enter a negative setting, press the % key.

4) Press the OK key.
   - The new setting is stored.
   - The indicator stops flashing and remains on.
   - A press on the Copy Start key starts copying.

5) To change the settings in succession, repeat steps 3) and 4).

6) Press the Clear key to return to item selection.
   The settings and the image positions have the following relationships:
   - For each '1' in the setting, the margin width changes about 0.4 mm.
   - A higher setting decreases the margin width.

4 Adjusting the Left-Right Registration

Make adjustments so that the edges of the copy image and the copy are 0±1.5 mm from each other.

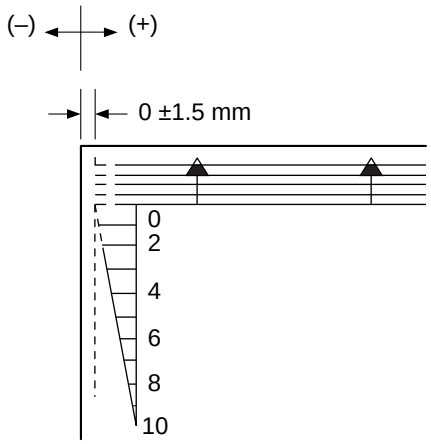


Figure 2-4

Reference:

2nd side of 2-sided copy: 0 ±2.0 mm

a. Pick-Up from the Cassette
Loosen the screw ①, and adjust the position of the cassette hook plate ②.

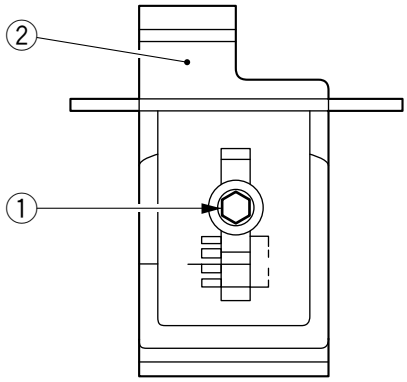


Figure 2-5

b. Pick-Up from the Multifeeder
Loosen the screw ①, and adjust the position of the tray.

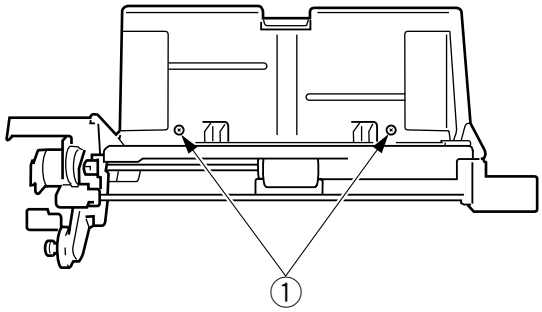


Figure 2-6

c. Pick-Up from the Paper Deck
Remove the deck front cover, and loosen the screw ① (deck left/right); then, adjust the position of the latch assembly in front/rear direction.

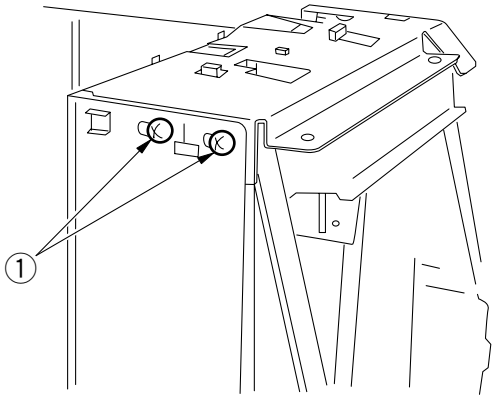


Figure 2-7

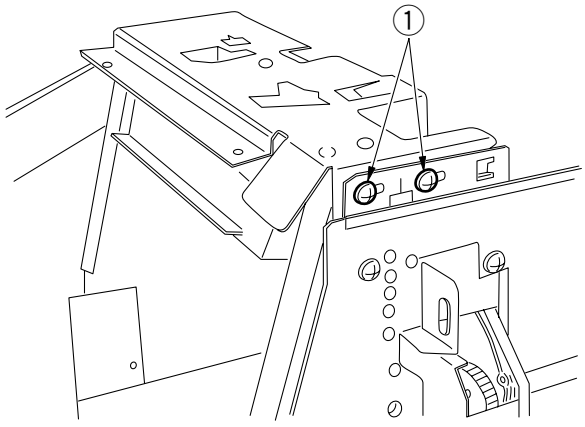


Figure 2-8

5	Adjusting the Image Left-Right Margin [3] No. 308

Select [3] No. 308 in service mode (left/right margin adjustment), and make adjustments so that the image left/right margin is 2.5 ±1.5 mm when the Test Sheet is copied in Direct.

Be sure you have adjusted the left/right registration before performing the following steps.

Reference:

2nd side of 2-sided copies: 2.5 ±2.0 mm

Making Adjustments

a. Margin Width

1) Select [3] in service mode, and select No. 308 using the keypad.
   - The indicator indicates '308'.

2) Press the OK key.
   - The indicator indicates the stored setting.

3) Using the keypad or the Zoom keys, change the setting.
   - The indicator flashes the new setting.

4) Press the OK key.
   - The new setting is stored.
   - The indicator stops flashing and remains on.

5) To change the settings in succession, repeat steps 3) and 4).

6) Press the Clear key to return to item selection.
   The settings and the image positions have the following relationships:
   - For each '1' in the setting, the margin width changes about 0.37 mm.
   - A higher setting increases the margin width.

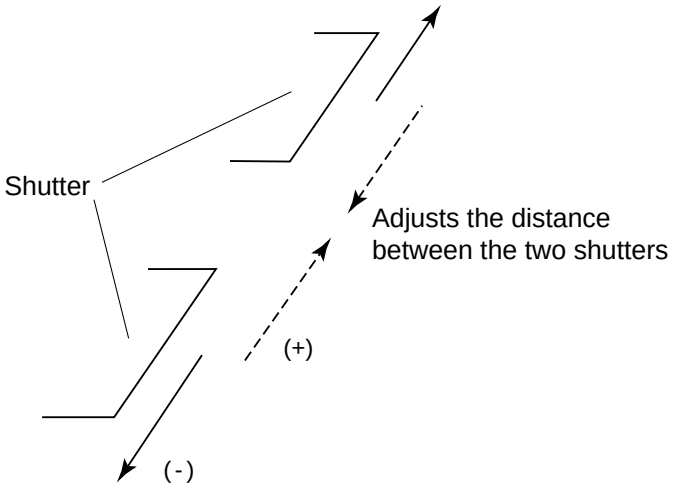


Figure 2-9

b. Adjusting the Position of the Left/Right Margin
Turn the screw, and make adjustments to suit the standards.

- A clockwise turn moves the margin toward the front.
- A counterclockwise turn moves the margin to the rear.
- A full turn of the screw moves the image by about 1 mm.

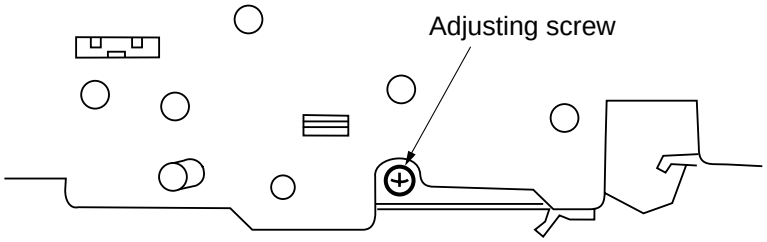


Figure 2-10

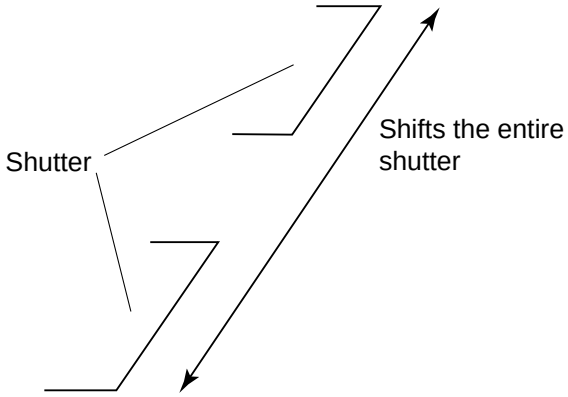


Figure 2-11

Note:

For both a. and b., be sure to try different reproduction ratios after adjustments so that a blank shutter home position search will be executed.

6 AE Adjustments

If you have replaced the scanning lamp, AE sensor, or DC controller PCB, you must make the adjustments indicated by O; make the adjustments indicated by Δ as necessary.

First, execute [4] No. 402 in service mode (AE auto adjustment) for automatic adjustments.

If the appropriate adjustments cannot be made after several tries (density indicator LED F5 and F9 flash), or if copies of the Test Sheet made in AE mode are too dark or too light, execute [3] No. 304 in service mode (AE mode scanning lamp activation voltage auto adjustment).

Be sure to follow the numerical sequence of the table.

No.	Item	After replacing AE sensor	After replacing controller PCB
1	402	O	O
2	304	Δ	Δ
3	303	Δ	Δ

Table 2-1

- In No. 402, auto adjustment is not executed for the AE slope, and the standard slope is used. To adjust the slope, execute No. 303.

- AE Auto Adjustment [4] No. 402

In AE auto adjustment, adjustments are made so that the intensity of the lamp in AE mode matches the AE sensor output of manual copy density 5 in reference to copies of an original (Test Sheet) on the copyboard glass.

Making Adjustments

1) Place the Test sheet (NA-3) on the Copyboard, and close the copyboard cover.

2) Start [4] in service mode, and select No. 402 using the keypad.
   - The indicator indicates '402'.

3) Press the OK key.
   - The scanning lamp turns on, and the scanner moves to the AE position.
   - AE scanning is executed, and the intensity for AE scanning is automatically set.
   - Thereafter, the scanner returns to home position, and the scanning lamp turns off.

4) Press the Reset key.
   - Mode selection mode starts, indicating [4].
   - If necessary, execute No. 304.

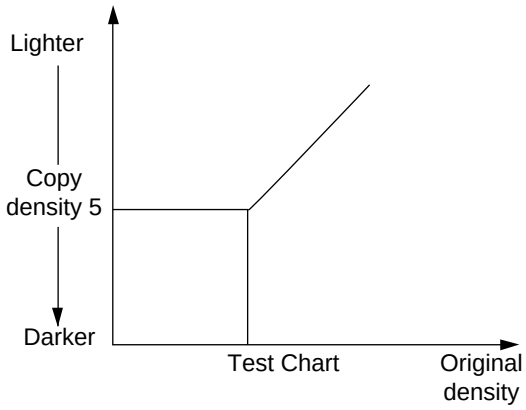
Item	Function	Description	Remarks
402	AE scanning intensity automatic adjustment		Automatic adjustment occurs so that the original is copied at copy density 5 when '402' is executed. Note: If AE adjustment fails, the density indicator LED on the control panel F5 and F9 flash. If such occurs, make the adjustment once again.

Table 2-2

- Scanning Lamp Activation Voltage Auto Adjustment in AE Mode [3] No. 304

Making Adjustment

1) Start [3] in service mode, and select No. 304 using the keypad.
   - The indicator indicates '304'.

2) Press the OK key.
   - The indicator flashes the stored setting.

3) Using the keypad or the Zoom keys, change the settings according to the table below.
   - The indicator flashes the setting.

4) Press the OK key.
   - The new setting is stored.
   - The indicator stops flashing and remains on.
   - A press on the Copy Start key starts copying.

5) Press the key.
   - Item selection mode starts, indicating '304'.
   - If necessary, execute No. 303.

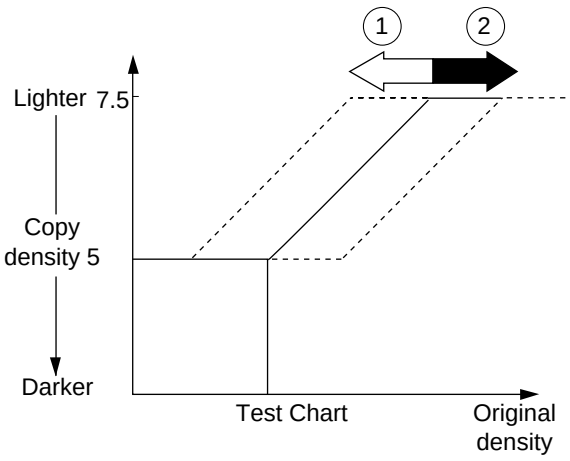
Item	Function	Description	Remarks
304	AE scanning intensity adjustment		① When the setting is decreased in service mode, the AE copies will be darker. ② If the setting is increased in service mode, the AE copies will be lighter.

Table 2-3

• Newspaper Original DC Bias Adjustment in AE Mode [3] No. 303
After executing No. 402 and No. 304, make a copy of a newspaper. If the copy is too dark or too light, make the following adjustments:

Making Adjustments

1) Start [3] in service mode, and select No. 303 using the keypad.
   • The indicator indicates '303'.

2) Press the OK key.
   • The indicator flashes the stored setting.

3) Using the keypad or the Zoom keys, change the setting according to the table below.
   • The indicator flashes the setting.

4) Press the OK key.
   • The new setting is stored.
   • The indicator stops flashing, and remains on.
   • Press the Copy Start key to start copying.

5) Press the Reset key twice.
   • These presses end service mode.

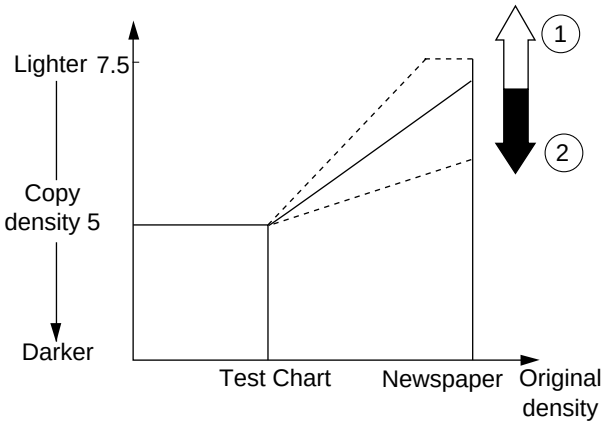
Item	Function	Description	Remarks
303	AE slope		① If the setting is decreased in service mode, the newspaper copies will be lighter. ② If the setting is increased in service mode, the newspaper copies will be darker.

Table 2-4

7	Adjusting the Developing Bias DC Component [3] No. 302

Make adjustments according to the Image Adjustment Basic Procedure.

Making Adjustments

1) Start [3] in service mode, and select No. 302 using the keypad.
   - The indicator indicates '302'.

2) Press the OK key.
   - The indicator flashes the stored setting.

3) Using the keypad or the Zoom keys, change the setting.
   - The indicator flashes the setting.
   - To enter a negative setting, press the % key.

4) Press the OK key.
   - The setting is stored.
   - The indicator stops flashing and remains on.

5) Press the Clear key to start copying.
   The settings and the developing bias have the following relationships:
   - For each '1' of the setting, the output of the developing bias DC component changes by about 5 V.
   - A higher setting decreases the developing bias DC component, making the copies darker.
   - A lower setting increases the developing bias DC component, making the copies lighter.

8 Adjusting the Horizontal Registration Paper Edge Sensor Position [3] No. 324

If a discrepancy is noted between front and rear margins on the second side of a two-sided copy, make the following adjustments:

Making Adjustments

1) Start [3] in service mode, and select No. 324 using the keypad.
   The indicator indicates '324'.

2) Press the OK key.
   - The indicator indicates the stored setting.

3) Using the keypad or the Zoom keys, change the setting.
   - The indicator flashes the setting.
   - To enter a negative setting, press the % key.

4) Press the OK key.
   - The new setting is stored.
   - The indicator stops flashing and remains on.
   - A press on the Copy Start key starts copying.

5) Press the Reset key twice.
   - These presses end service mode.

The settings and the margin have the following relationships:
- For each '1', the non-image width changes by about 0.5 mm.
- A higher setting increases the margin at the front.
- A lower setting decreases the margin at the rear.

Note:

After making adjustments, turn off and then on the power switch to move the horizontal paper end sensor to home position.

9	Adjusting the Trailing Edge Margin for Pick-Up from the Multifeeder [3] No. 327

Make adjustments so that the trailing edge margin is 2.5 ±1.5 mm when free-size copying is executed using the multifeeder.

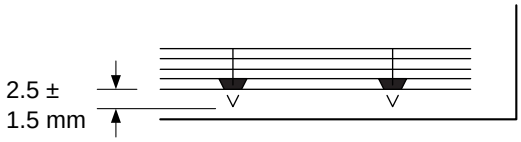


Figure 2-12

Making Adjustments

1) Start [3] in service mode, and select No. 327 using keypad.
   - The indicator indicates '327'.

2) Press the OK key.
   - The indicator indicates the stored setting.

3) Using the keypad or the Zoom keys, change the setting.
   - The indicator flashes the setting.
   - To enter a negative setting, press the % key.

4) Press the OK key.
   - The new setting is stored.
   - The indicator stops flashing and remains on.
   - A press on the Copy Start key starts copying.

5) To change the settings in succession, repeat steps 3) and 4).

6) Press the Clear key to return to item selection.
   The settings and the image position have the following relationship:
   - For each '1', the margin width changes about 0.4 mm.
   - A higher setting decreases the margin width.

10	Adjusting the Book Erasing Width [3] No. 326

Adjust the width that runs in the middle of an original in book erase mode.
The Length of χ in Figure 2-13 may be changed.
This mode does not allow changing the left/right edge of a book original.

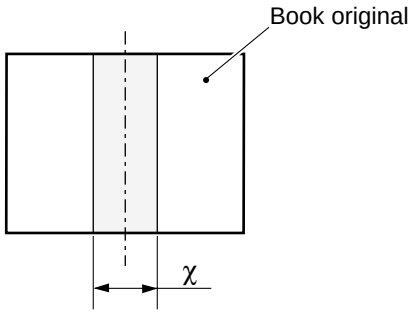


Figure 2-13

Making adjustment

1) Start [3] in service mode, and select No. 326 using the keypad.
   - The indicator indicates '326'.

2) Press the OK key.
   - The indicator indicates the stored setting.

3) Using the keypad or the Zoom keys, change the setting.
   - The indicator flashes the setting.
   - To enter a negative setting, press the % key.

4) Press the OK key.
   - The new setting is stored.
   - The indicator stops flashing and remains on.
   - A press on the Copy Start key starts copying.

5) To change settings in succession, repeat steps 3) and 4).

6) Press the Clear key to return to item selection.
   The settings and the book erasing width have the following relationship.
   - For each '1', the frame erasing width changes by about 1 mm.
   - A higher setting increases the frame erasing width.

B. Exposure System

1	Routing the Scanner Drive Cable

Route the cable in the order indicated; then, adjust the tension of the cable and the position of the mirror.

Note:

Before starting the work, be sure to fix the No. 2 mirror mount temporarily in place to the front and rear side plates.

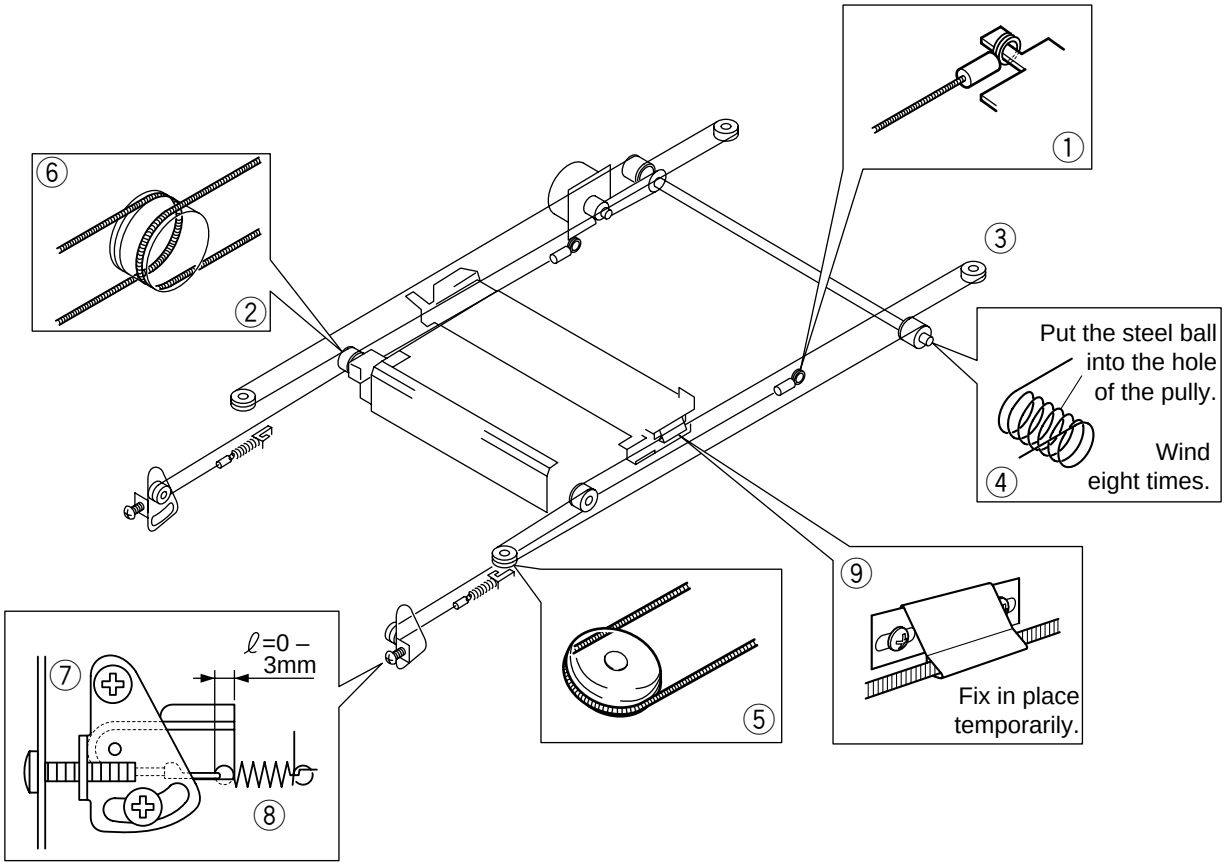


Figure 2-14

2	**Adjusting the Position of the Mirror (optical path length between No. 1 mirror and No. 2/No. 3 mirror)**

1) Remove the screw used to temporarily fix the No.2 mirror mount in position (both front, rear).

2) Loosen the four screws on the mirror positioning tool (FY9-3002-000), and extend the two arms fully; then, tighten the screws (both front and rear).

Reference:

The mirror positioning tool is used in common with other models. Adjust the length of the arms to suit the copier in advance.

3) Remove the pin from the mirror positioning tool (front and rear).

4) Mount the mirror positioning tool ① to the No.1 mirror mount and the No.2 mirror mount.

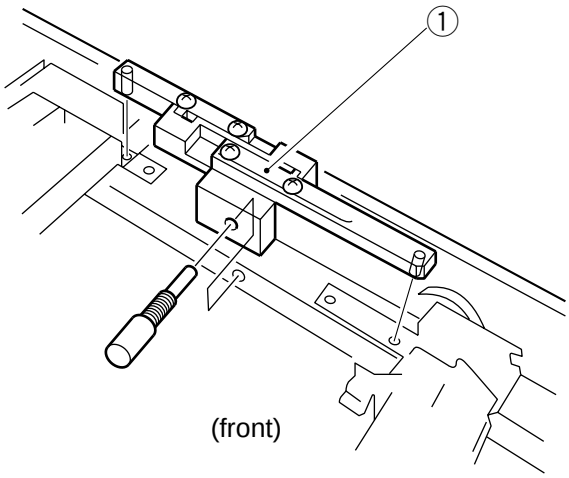


Figure 2-15

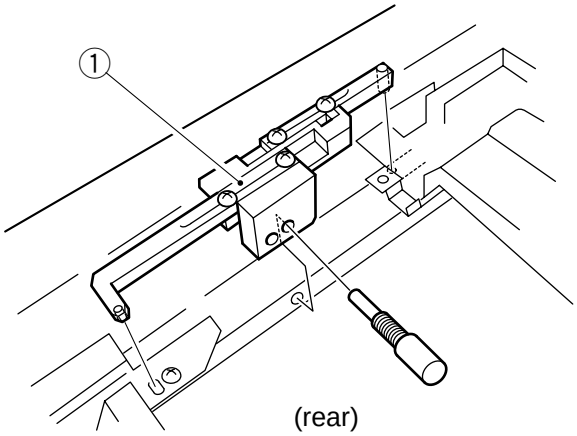


Figure 2-16

5) Mount the fixing of the scanner cable to the No.1 mirror mount (both front and rear) with screws ②.

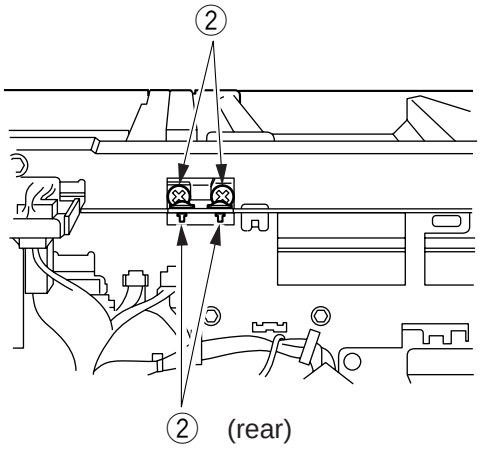


Figure 2-17

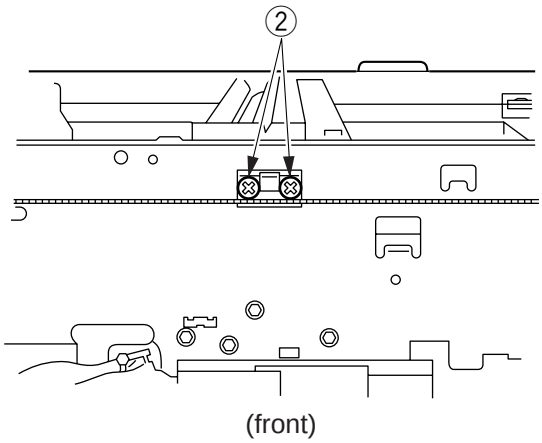


Figure 2-18

3 Adjusting the Tension of the Scanner Cable

Loosen the binding screw, and align the tensioner plate to the line marked with a scribe in advance.

Or, tighten the binding screw so that the wire spring and the hole in the side plate shown in Figure 2-19 is 0 to 3 mm when viewed from the front.

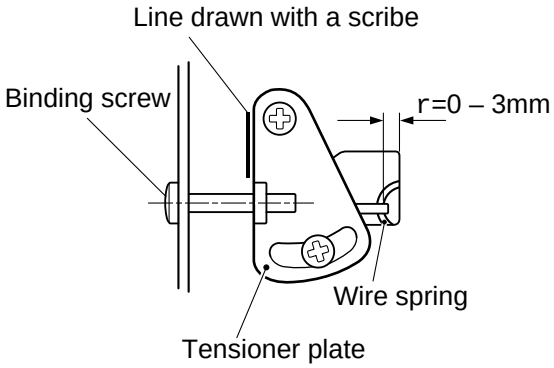


Figure 2-19

4	Adjusting the Tension of the Lens Drive Belt

Move the lens motor support ① and fit it in place so that the reading of the spring gauge is 1000 ± 50g when motor support ① is pulled with a spring gauge in the direction of the arrow at the point Ⓐ indicated in Figure 2-20.

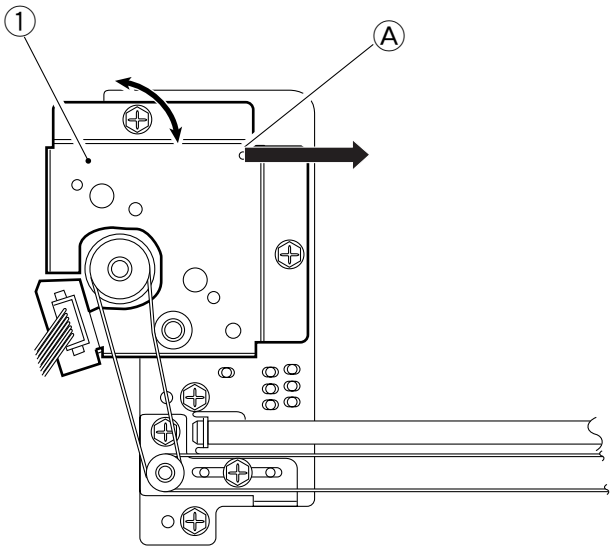


Figure 2-20

5	Cleaning the No.4 Mirror

1) Remove the copyboard glass and the lens hood.
2) Remove the screw ① and the mirror guide plate ②; then, clean the No.4 mirror.

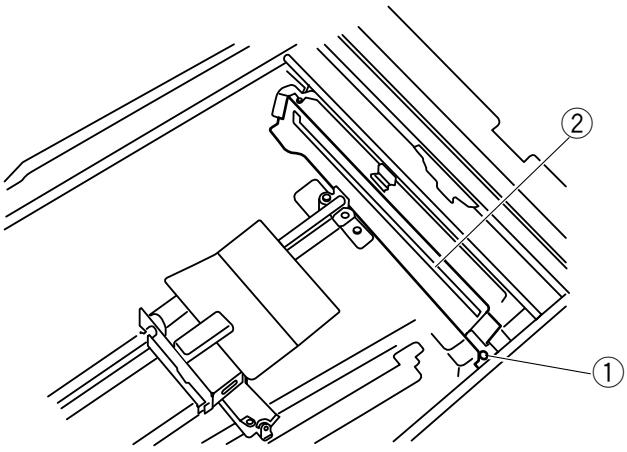


Figure 2-21

6	Cleaning the No.5/No.6 Mirror

a. Removing the Mirror Cleaning Tool

1) Remove the copyboard glass.
2) Remove the lens hood.
3) Remove the mirror guide plate.
4) Move the lens stage in enlargement direction.
5) Remove the screw ①, and remove the mirror cleaning tool ②.
   Use the tool for cleaning the No.5/No.6 mirror.

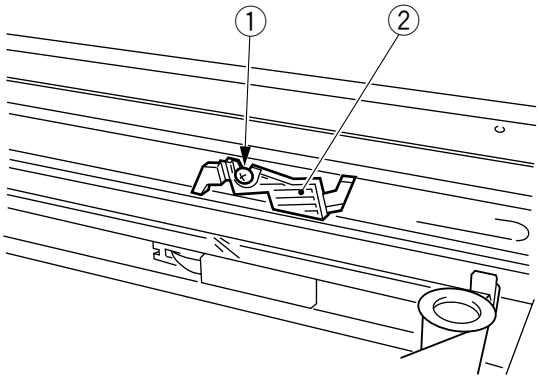


Figure 2-22

b. Cleaning the No.5 Mirror

1) Remove the mirror cleaning tool.
2) As shown, put the mirror cleaning tool ① against the No.5 mirror, and move the tool in the direction of the arrow to clean. (At this time, take care so that the cleaning tool or your fingers will not touch the No.4 mirror.)

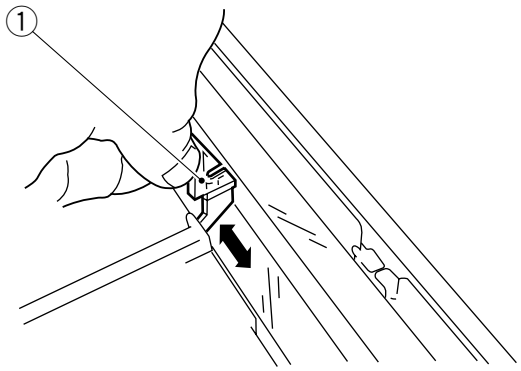


Figure 2-23

c. Cleaning the No.6 Mirror

1) Remove the mirror cleaning tool.
2) Open the front door, and remove the developing assembly and the drum unit.
3) Remove the dust-proofing glass.
4) While keeping the mirror cleaning tool ① (sides A and B) against the lens mount, move it in the direction of the arrow to clean.

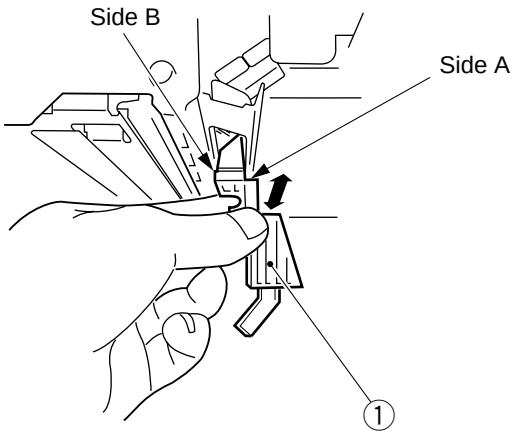


Figure 2-24

d. Installing the Mirror Cleaning Tool

When installing the mirror cleaning tool to the right stay, butt the side C of the tool against the right stay ① and then fix it in place with a screw.

Thereafter, check to make sure that the cleaning tool and the No.1 mirror mount are not interfering with each other.

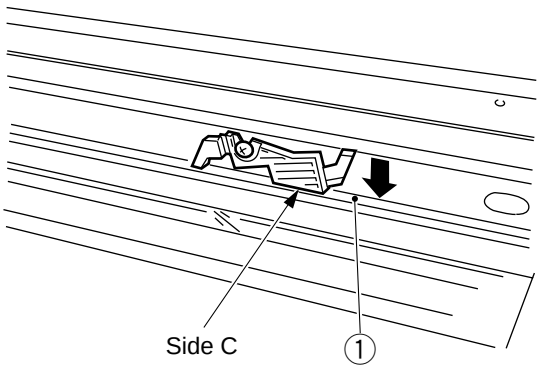


Figure 2-25

C. Image Formation System

1	Orientation of the Scanning Lamp

Install the scanning lamp so that the boss at the center (lamp ①) faces in the direction of the arrow (mirror mount reverse direction), and the longer side is positioned so that the logo mark is at the front.

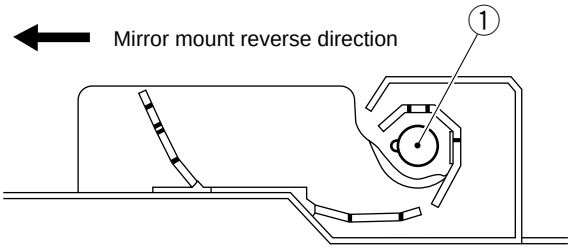


Figure 2-26

Note:

Do not touch the lamp assembly.

2	Position of the Blank Shutter Solenoid

Adjust the position of the solenoid to that A is 7.7 ±0.5 mm on both sides when the solenoid is moved in the direction of activation. When taking measurements, be careful not to force the shutter with calipers or the like.

After making adjustments, check to make sure that the solenoid moves smoothly.

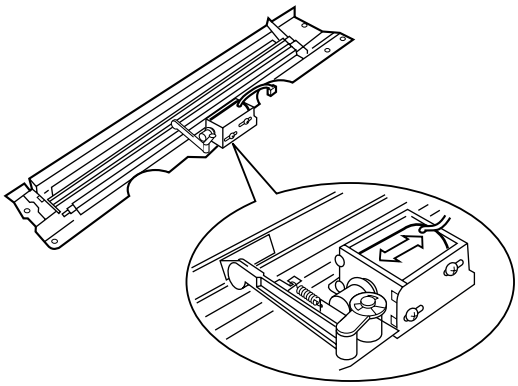


Figure 2-27

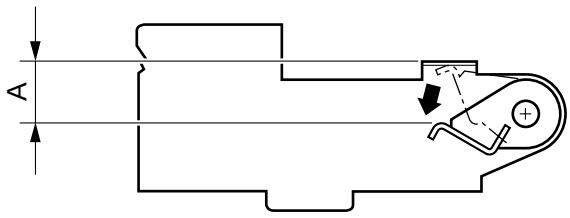


Figure 2-28

3	Routing the Blank Shutter Cable

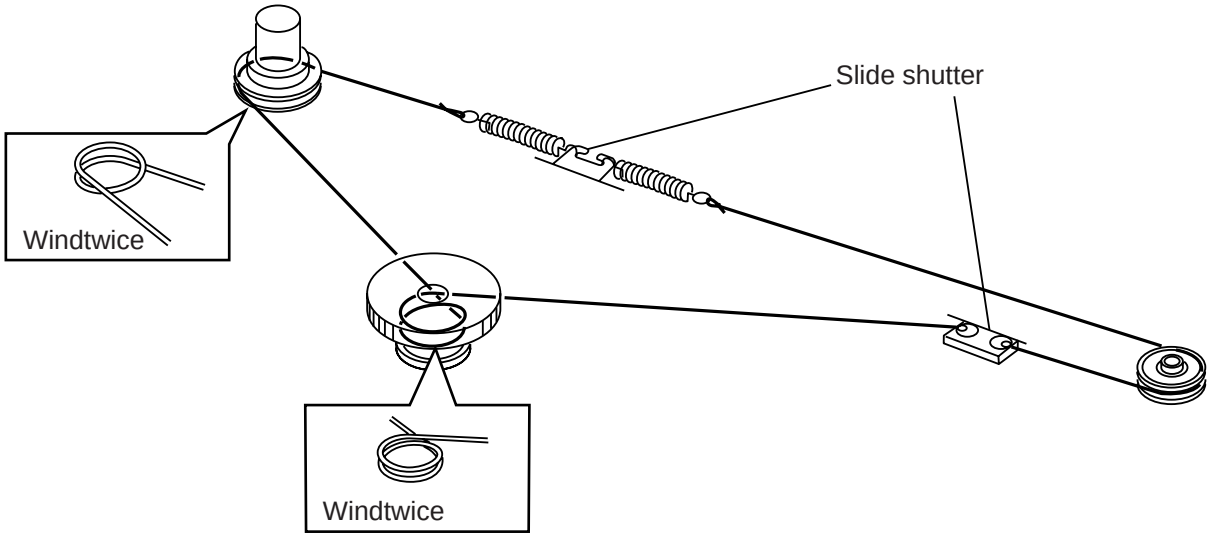


Figure 2-29

4	Routing the Charging Wire

<Primary charging wire>

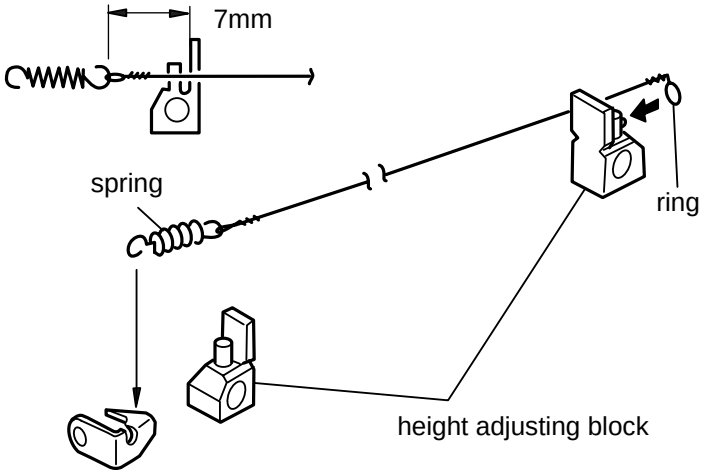


Figure 2-30

<Transfer charging wire>

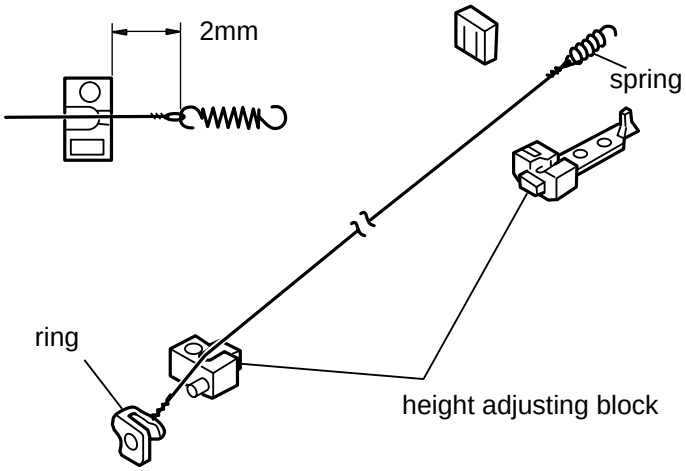


Figure 2-31

Note:

Keep the following in mind:

- Make sure that the charging wire is free of bends or twists and its gold-plating has not peeled.
- Make sure that the charging wire is free of slack.
- Make sure that the charging wire is in the V-groove of the height-adjusting roll.

5 Stringing the Guide Wire

The guide wire is 0.148 mm in diameter.
When stringing it, be sure to follow the order indicated in the figure.

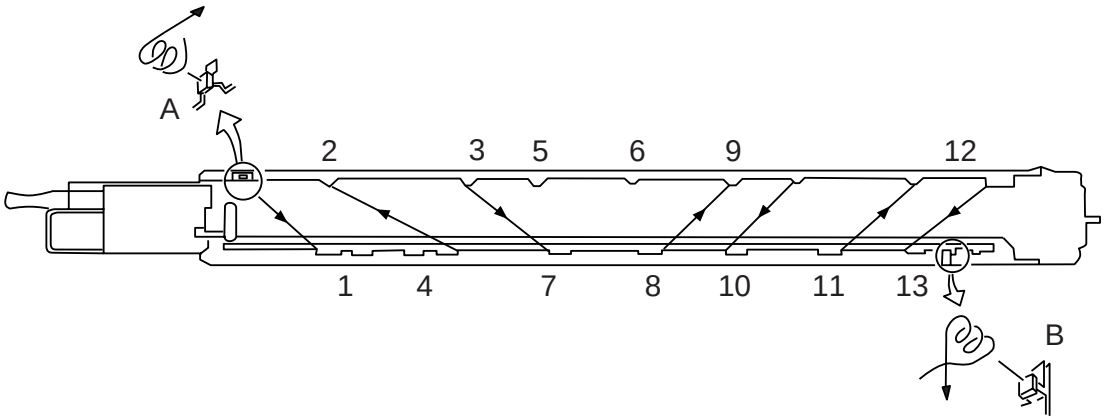


Figure 2-32

6 Adjusting the Height of the Charging Wire

The height of the charging wire may be adjusted by turning the screw located behind the charging assembly. A full single turn of the screw raises or lowers the charging wire by about 0.7 mm.

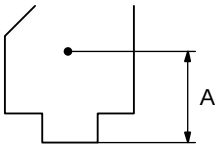
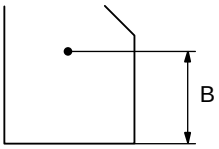
Corona Unit	Height of Standard Position	
Primary		A=10.6 ±0.3mm
Transter		B=9.5 ±0.2 mm

Figure 2-33

7 Position of the Developing Assembly Magnetic Seal

Attach the magnetic seal firmly in contact with the opening shown in Figure 2-34.

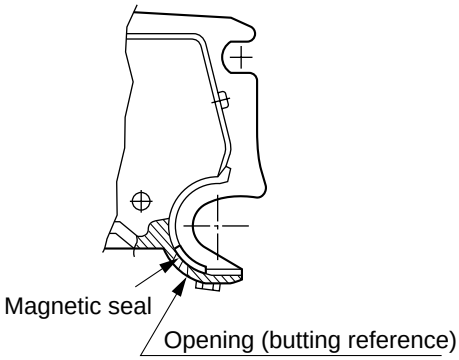


Figure 2-34

Be sure that the correct magnetic seal is used; different seals are used for the front and the rear.

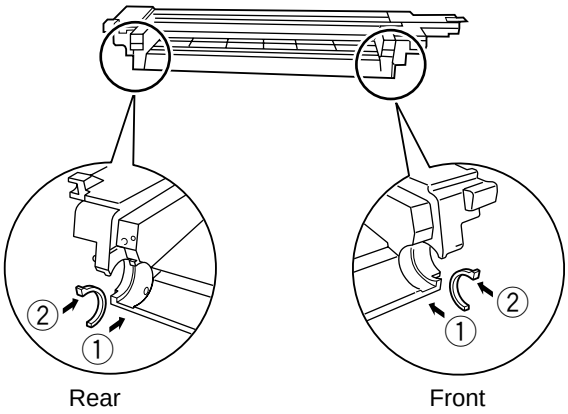


Figure 2-35

8 After Replacing the Drum unit

Whenever you have replaced the drum unit, record the date and the current counter reading on the label which comes with the drum unit, and attach the label to the front over ; then, perform the image adjustment basic procedure.

date date Datum	counter compteur Zähler	notes note Notiz

Figure 2-36

D. Pick-Up/Feeding System

1	Orientation of the Pick-Up Roller

When installing the pick-up roller ① to the pick-up assembly, be sure that the round marking ② on the rubber portion is toward the front of the copier.

- Use the brass-colored collar at the front.
- Use the silver-colored collar at the rear.

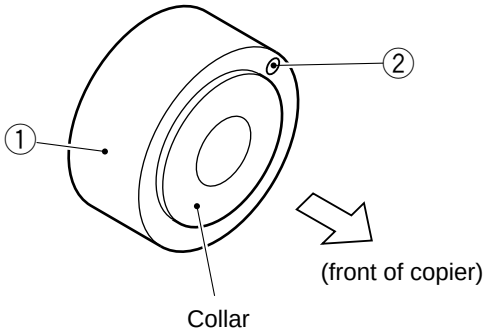


Figure 2-37

2	Orientation of the Separation Roller

When installing the separation roller ① to the pick-up assembly, be sure so that the D-cut is toward the front.

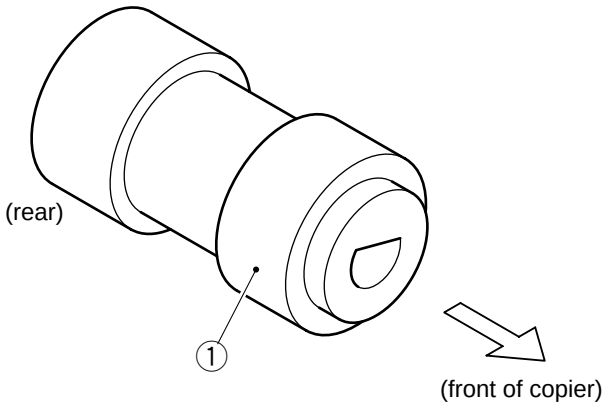


Figure 2-38

3 Orientation of the Feeding Roller

When installing the feeding roller ① to the pick-up assembly, be sure that the gear ② on the feeding roller is at the rear of the copier.

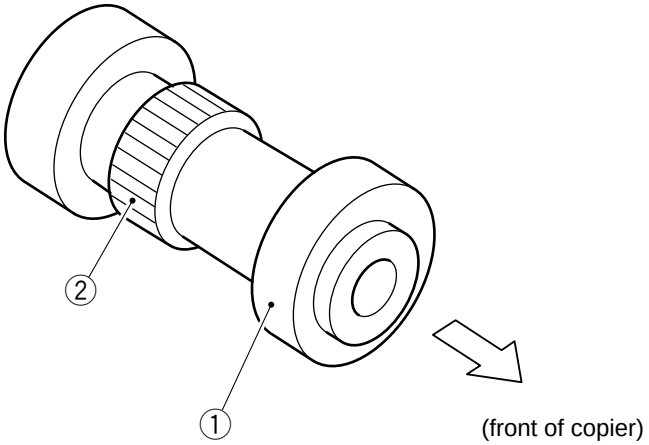
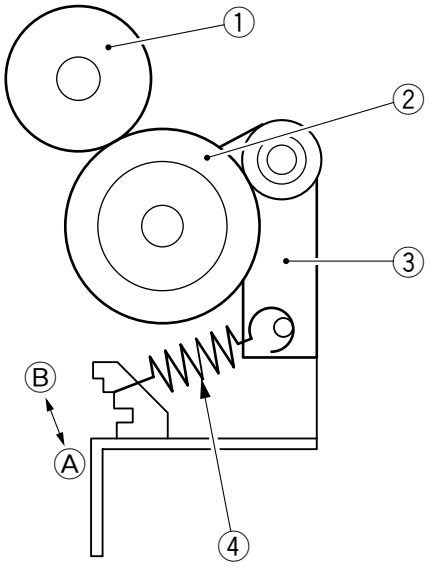


Figure 2-39

4 Adjusting the Pressure of the Separation Roller

If double feeding or pick-up failure occurs during pick-up, adjust the position of the pressure spring of the separation roller:

① If double feeding occurs, move the spring toward Ⓐ.
② If pick-up failure occurs, move the spring toward Ⓑ.



① Feeding roller
② Separation roller
③ Locking lever
④ Pressure spring

Figure 2-40

5	Position of the Pick-Up Roller Solenoid (pick-up assembly; SL1, SL2)

Install the solenoid so that the pick-up roller arm ① shown in Figure 2-41 butts against the upper stay ② when the plunger of the solenoid is pushed in.

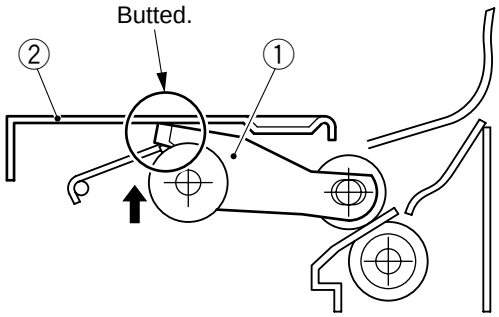


Figure 2-41

6	Orientation of the Multifeeder Pick-Up Roller

When installing the multifeeder pick-up roller ①, be sure that the side whose collar has a crossing ② is toward the rear.

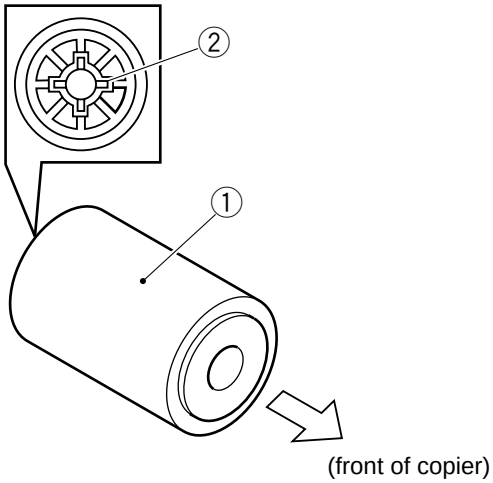


Figure 2-42

7 Position of the Pick-Up Guide Plate Cam (multifeeder assembly)

Adjust the engagement of the 26T gear 1 and 26T gear 2 so that the paper guide plate and the paper guide plate cam are as shown in Figure 2-43 when the solenoid plate is in contact with the claw of the control ring.

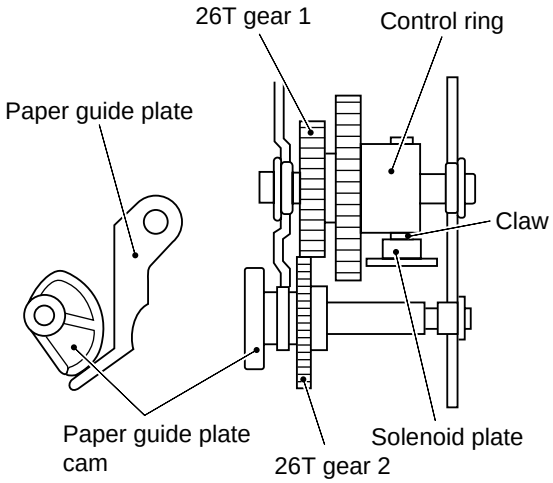


Figure 2-43

8 Routing the Timing Belt (multifeeder assembly)

Butt the rack plate of the multifeeder against section A (open state).
Move the slide volume in the direction of B, and attach the timing belt to the pulley.

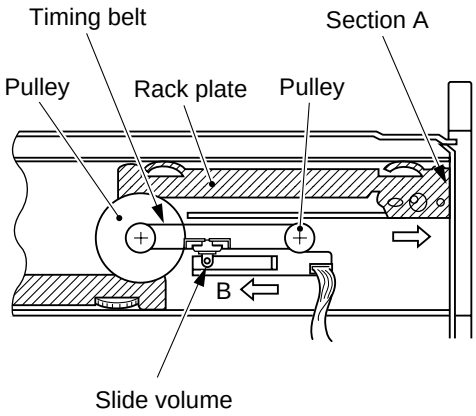


Figure 2-44

9	Adjusting the Pressure of the Separation Pad (multifeeder assembly)

If double feeding or pick-up failure occurs during pick-up, adjust the position of the pressure spring ① of the separaiton pad.

① If double feeding occurs, move the spring holder toward Ⓑ.
② If pick-up failure occurs, move the spring holder toward Ⓐ.

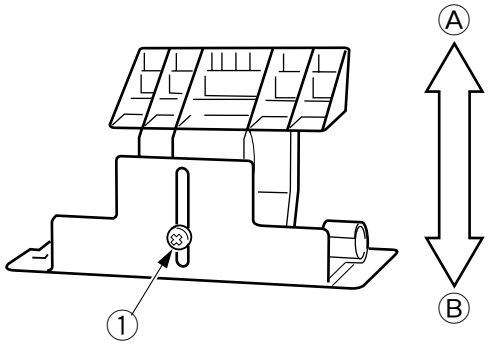


Figure 2-45

10	Routing the Drive Belt

Route the drive belt through the gears and rollers as shown in Figure 2-46.

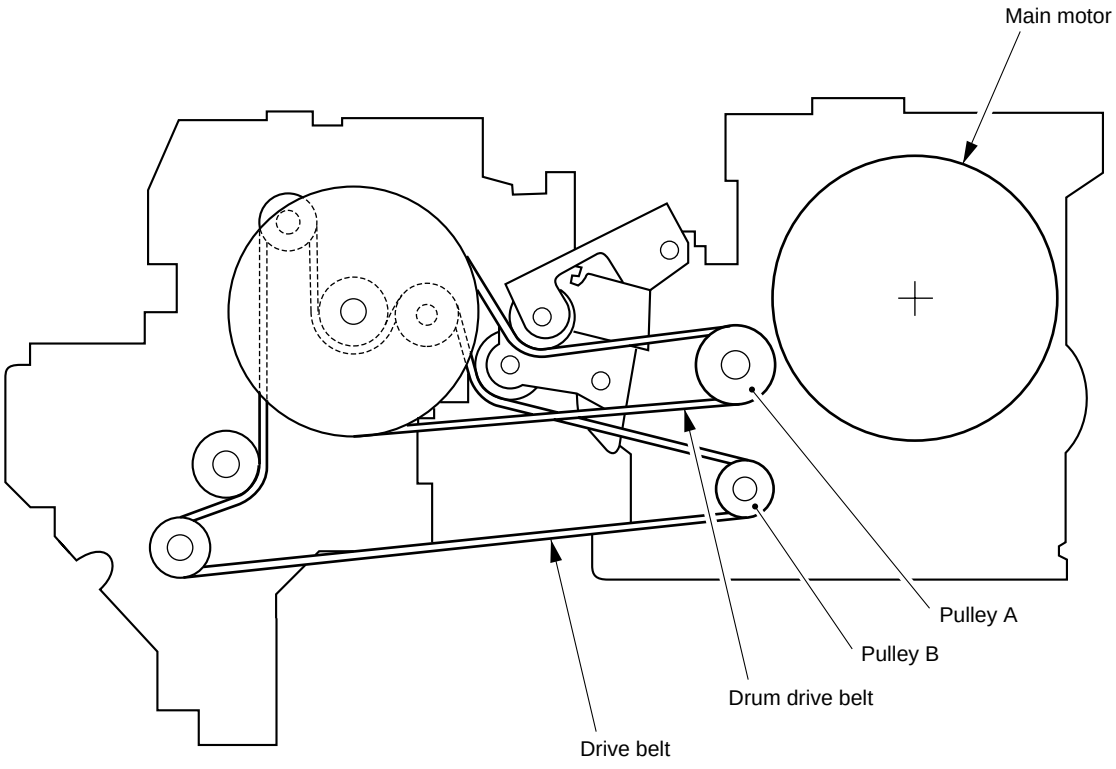


Figure 2-46

11	Adjusting the Position of the Horizontal Registration Solenoid

Move the position of the solenoid ① so that the link ② butts against the plate ③ when the plunger of the solenoid is pushed in.

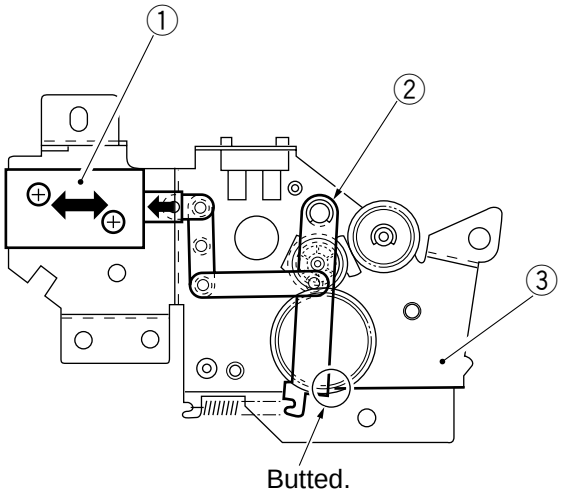


Figure 2-47

E. Fixing System

1	Points to Note When Installing the Fixing Heater

a. Do not touch the surface of the heater.
b. One of the terminals (lead wire ①) of the sub heater is a round terminal ②. Both terminals of the main heater are fastons ③.

<Main Heater>
The longer lead wire must be at the front of the copier.

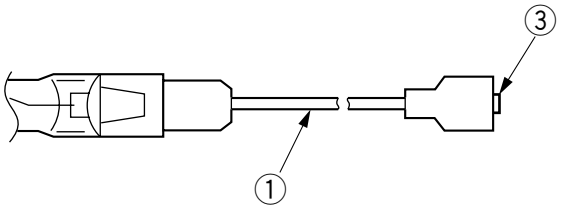


Figure 2-48

<Sub Heater>
The round terminal must be at the rear of the copier. The fastons must be at the front of the copier.

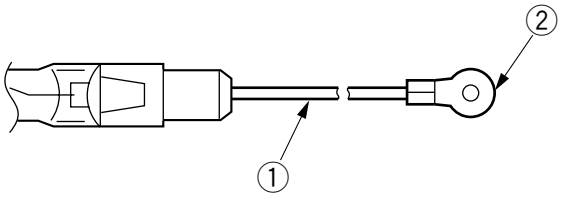


Figure 2-49

c. Insert the main heater to the right side (pick-up side) and the sub heater to the left side (delivery side) when viewing from the front of the fixing assembly.

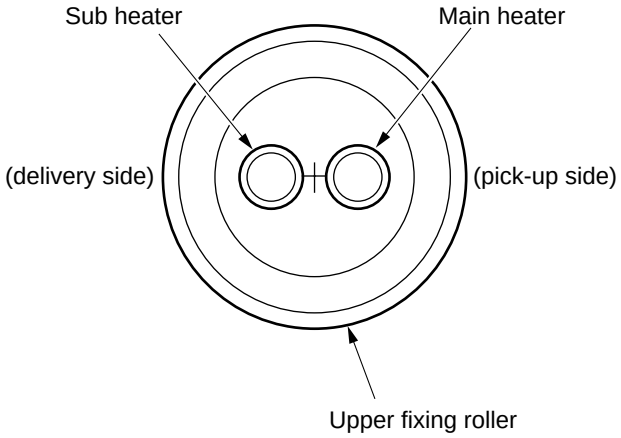


Figure 2-50

2 Adjusting the Nip (tightening the pressure adjusting nut)

Use the bolt if the nip is not as indicated in Table 2-5.

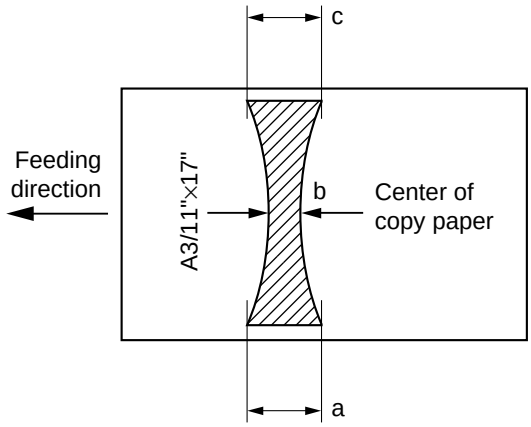


Figure 2-51

Note:

a and c represent points 10 mm from each edge of paper.

Dimension	Measurement	
b	Tracing paper (SM-1); 64/80g paper	5.5 ±0.5mm
|a-c|	0.5mm or less	

Table 2-5

• Measuring the Nip

Make 20 A4/LTR copies 15 min after the end of the copier's warm-up period before measuring the nip.

If the copier is equipped with a sorter, remove the sorter before making adjustments.

Note:

You must make sure that the fixing assembly is sufficiently heated before taking measurements; otherwise, the toner from the areas of the copy where fixing has not occurred will soil the fixing roller, ultimately requiring cleaning.

1) Place A3/11"×17" copy paper on the multifeeder.

2) Open the copyboard cover.

3) Start [4], and select No. 403 using the keypad.
   - The indicator indicates '403'.

4) Press the OK key.
   - The indicator indicates 'NIP'.
   - Paper will be picked up from the multifeeder and delivered, enabling measurements as in Figure 2-51.

Reference:

Delivery stops after discharging the paper halfway; it will automatically resume about 10 sec to fully discharge the paper.

5) Measure the nip.

3	Position of the Fixing Assembly Paper Guide

The paper guide is positioned by the paper guide mount, and you need not adjust its position when installing the paper guide.

Note:

Do not loosen the screw on the paper guide plate; otherwise, you will have to adjust the position of the paper guide. If you should have loosened it for some reason, be sure to put the fixing assembly base back to its original position.

4	Position of the Cleaning Belt Solenoid

Install the cleaning belt solenoid so that the solenoid arm ② butts against ⓐ when the plunger ① of the solenoid is pushed by a finger.

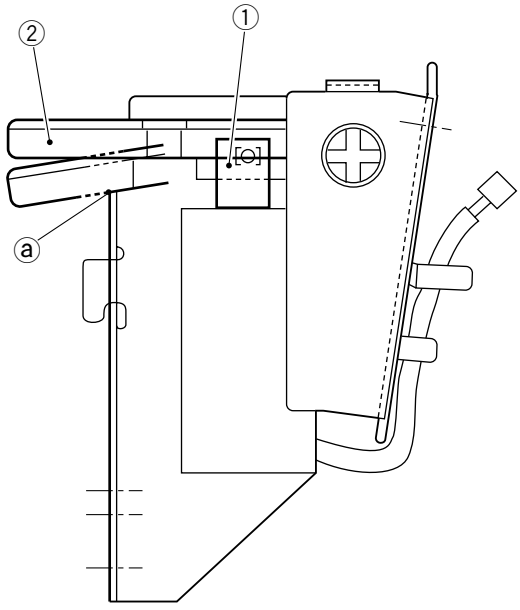


Figure 2-52

F. Electrical System

1	Registering the Cassette/Multifeeder Paper Width Basic Setting [4]

Perform the steps for the following:
- If you have replaced the paper width detection VR (including the multifeeder) of the copier.
- If you have adjusted the cassette front/rear registration.

For each of the cassettes 1 and 2, paper width basic setting registration must be executed under both 'STMTR' and 'A4R'; for the multifeeder, registration must be executed under 'A6R', 'A4R', and 'A4'.

a. Cassette 1

1) Start [4] in service mode, and select No. 413 using the keypad.
   - The indicator indicates '413'.

2) Press the OK key.
   - The indicator indicates 'S-r'.

3) Slide out the cassette 1, and set the paper width guide plate inside the cassette to 'STMTR'.

4) Set the cassette to the copier.

5) Press the OK key.
   - The indicator indicates 'A4r'.

6) Slide out the cassette 1, and set the paper width guide plate inside the cassette to 'A4R'.

7) Set the cassette to the copier.

8) Press the OK key.
   - The indicator indicates 'S-r'.

9) Press the Clear key.
   - The indicator indicates '413'.

You may make the same adjustment for cassette 2. (No.414 in service mode [4])

b. Multifeeder

1) Start [4] in service mode, and select No. 412 using the keypad.
   - The indicator indicates ‘412’.

2) Press the OK key.
   - The indicator indicates ‘A6’.

3) Set the manual guide plate of the multifeeder to A6R (105 mm).

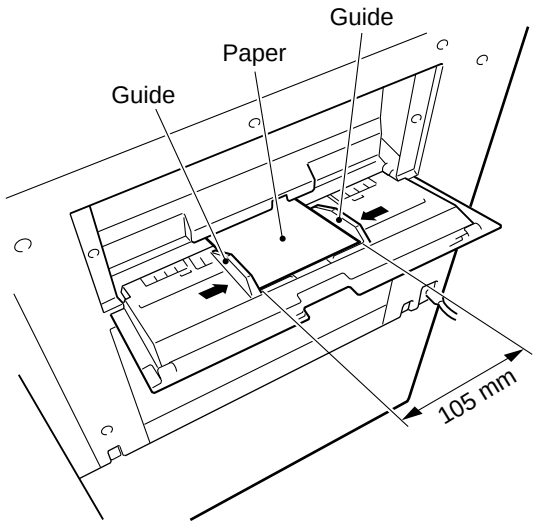


Figure 2-53

4) Press the OK key.
   - The indicator indicates ‘A4r’.

5) Set the manual guide plate to A4R (210 mm).

6) Press the OK key.
   - The indicator indicates ‘A4’.

7) Set the manual guide plate to A4 (297 mm).

8) Press the OK key.
   - The indicator indicates ‘A6’.

9) Press the Reset key twice to end service mode.

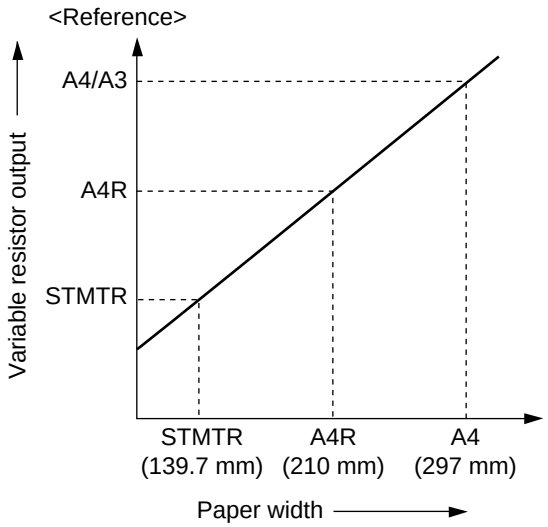
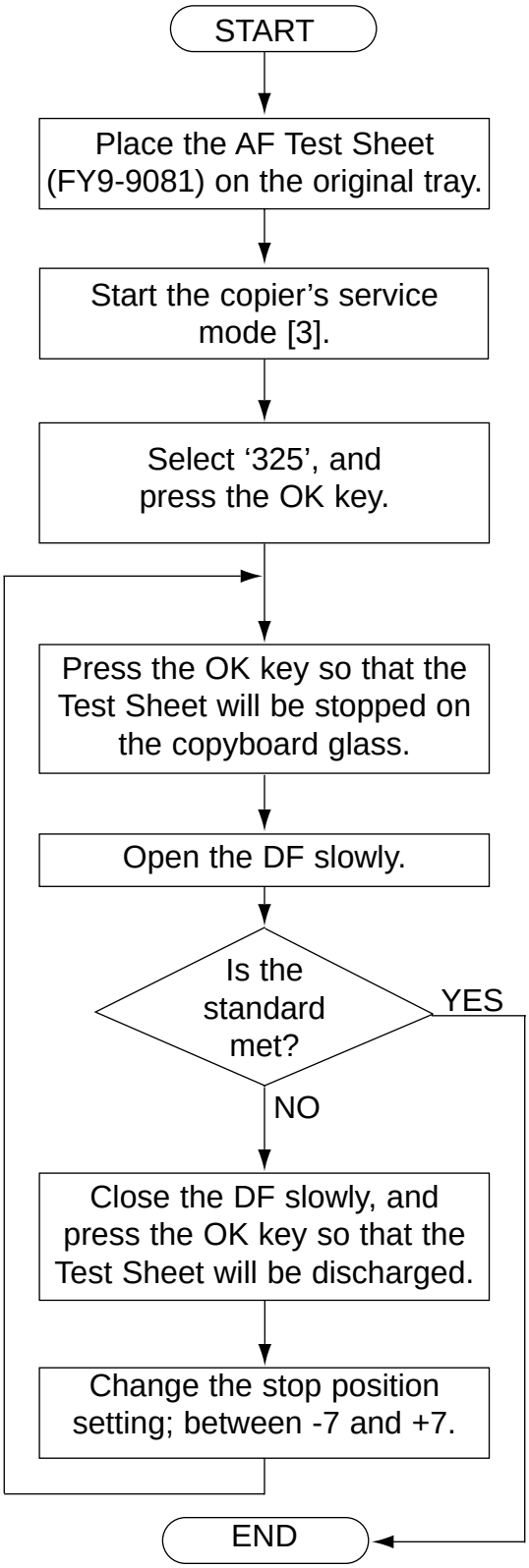

<Reference>
A4/A3
A4R
STMTR
Variable resistor output
STMTR
(139.7 mm)
A4R
(210 mm)
A4
(297 mm)
Paper width

Figure 2-54

2	Adjusting the Original Stop Position with the DF in Use [3] No. 325



- A higer setting will move the original stop position to the left. (unit: 0.33 mm)

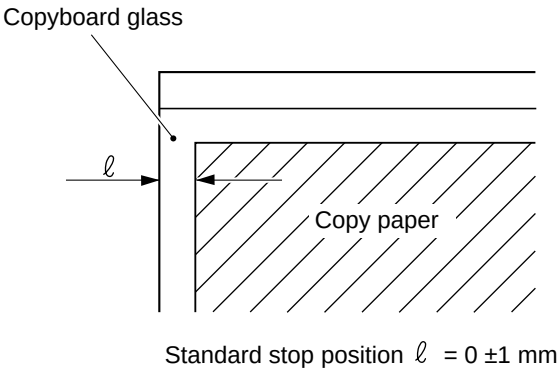


Figure 2-55

3	Checking the Photointerrupters

The copier photointerrupters may be checked using a convertional meter or its service mode.

1. Using a Meter

1) Set the meter range to 30VDC.

2) Connect the -probe of the meter to J101-8 (GND) on the DC controller PCB. (Pedestal controller PCB: J102-8 (GND))

3) Connect the +probe to the terminal indicated on the DC controller PCB (or the pedestal controller PCB).

4) Make checks as indicated.

2. Using Service Mode

1) Open the front door and insert a door switch activator into the door switch.

2) Press the service mode switch (SSW) with a hex key.

3) Press the 2 key on the keypad.
   - The copier indicates '[2]'.

4) Press the OK key.
   - The copier activates I/O display mode, and indicates '201'.

5) Enter a number with the keypad, and press the OK key.
   - The copier checks each photointerrupter; see the indicator on the control panel. (For details, see "CHAPTER 4 SERVICE MODE".)

- **Copier**

Name	+ probe / Service mode	Checks		Display indication	Voltage reading on meter
PS1 Scanner home position sensor (SCHP)	J113-2B No.212 1-b	Move the scanner by hand while in standby.	When the scanner is at home position.	0	5V
			When the scanner is not at home position.	1	0V
PS2 Cassette 1 paper sensor (C1PD)	J116-8A No.203 1-c	Move the paper detecting roll by hand while in standby	When the roll is up.	1	5V
			When the roll is down.	0	0V
PS3 Cassette 1 lifter sensor (C1LTP)	J116-5A No.203 1-e	Move the pick-up roller up and down by a finger while in standby.	When the roller is up.	1	5V
			When the roller is down.	0	0V
PS4 Cassette 2 paper sensor (C2PD)	J115-2B No.203 1-d	Move the paper detecting roll by hand while in standby.	When the roll is up.	1	5V
			When the roll is down.	0	0V
PS5 Cassette 2 lifter sensor (C2LTP)	J115-5B No.203 1-f	Move the pick-up roller up and down by a finger while in standby.	When the roller is up.	1	5V
			When the roller is down.	0	0V
PS6 Multifeeder paper sensor (MFPD)	J104-6B No.203 1-b	Place paper in the multifeeder tray while in standby.	When paper is not placed.	1	5V
			When paper is placed.	0	0V
PS7 Vertical path roller 1 paper sensor (PDP2*)	J116-2A No.206 1-a	Move the sensor flag of PS7 by a finger while in standby.	When the flag is moved.	1	5V
			Wen the flag is not moved.	0	0V
PS8 Vertical path roller 2 paper sensor (PDP1*)	J115-7A No.206 1-b	Move the sensor flag of PS8 by a finger while in standby.	When the flag is moved.	1	5V
			When the flag is not moved.	0	0V

Name	+ probe / Service mode	Checks		Display indication	Voltage reading on meter
PS9 Pre-registration paper sensor (PDP3)	J117-13B No.206 1-c	Place a stack of two to three sheets of paper in the registration front guide assembly.	When paper is inserted.	1	5V
			When paper is not inserted.	0	0V
PS10 Separation sensor (PDP4*)	J109-5A No.206 1-d	Release the feeding assembly, and move the sensor flag of PS10 by a finger.	When the flag is moved.	0	0V
			When the flag is not moved.	1	5V
PS11 Delivery sensor (PDP5*)	J109-4B No.206 1-e	Open the delivery assembly, and feed paper through the delivery assembly.	When paper is not fed.	1	5V
			When paper is fed.	0	0V
PS12 Lower feeder inlet paper sensor (PDP6*)	J109-7B No.209 1-b	Open the delivery assembly, and feed paper through the lower feeding assembly inlet.	When paper is not fed.	1	5V
			When paper is fed.	0	0V
PS13 Lower feeder outlet paper sensor (PDP7)	J108-2 No.209 1-a	Move the sensor flag of PS13 while in standby.	When the flag is moved.	0	0V
			When the flag is not moved.	1	5V
PS14 Horizontal registration paper sensor (PDP8)	J117-8B No.209 1-c	Put paper into the re-pick up feeding assembly while in standby.	When paper is put.	1	5V
			When paper is not put.	0	0V

Name	+ probe / Service mode	Checks		Display indication	Voltage reading on meter
PS15 Horizontal registration roller home position sensor (HRHP)	J117-5B No.209 1-d	Remove the horizontal registration unit assembly, and install J50, J53, and J85. Put paper over PS15.	When paper is present.	1	5V
			When paper is not present.	0	0V
PS16 Horizontal registration paper edge sensor (HRPD)	J117-2B No.209 1-e	Make an A4/LTR two-sided copy. Put copy paper into the re-pick up feeding assembly while in standby. (Slide it toward the front.)	When paper is present.	1	5V
			When paper is not present.	0	0V
PS17 Copyboard cover open/closed sensor (CBCC)	J102-9A No.225 1-f	Open and close the copyboard cover while in standby.	When the copy-board cover is opened.	0	0V
			When the copyboard cover is closed.	1	5V
PS18 Right door sensor (RDC*)	J116-11A No.203 1-a	Open and close the right door while in standby.	When the right door is opened.	1	5V
			When the right door is closed.	0	0V
PS19 Lens home position sensor (LHP)	J107-10 No.225 2-a	Put paper over PS19 while in standby.	When paper is present.	0	5V
			When paper is not present.	1	0V
PS20 Blank shutter home position sensor (BLHP)	J114-12A No.222 1-b	Remove the blank exposure assembly, and remove the blank upper plate. Install J24 and J91. Move the sensor flag while in standby.	When the flag is moved. (The flag is at PS20.)	0	5V
			When the flag is not moved. (The flag is not at PS20.)	1	0V

Name	+ probe / Service mode	Checks		Display indication	Voltage reading on meter
PS101 Cassette 1 paper length sensor 1 (C1SZ1)	J104-2A No.219 1-a	Set the cassette 1 to A4/LTR, and set it to the copier.	When the cassette is present.	0	0V
			When the cassette is not present.	1	5V
PS102 Cassette 1 paper length sensor 2 (C1SZ2)	J104-1A No.219 1-b	Set the cassette 1 to A4/LTR, and set it to the copier.	When the cassette is present.	0	0V
			When the cassette is not present.	1	5V
PS103 Cassette 2 paper length sensor 1 (C2SZ1)	J104-6A No.219 1-c	Set the cassette 2 to A4/LTR, and set it to the copier.	When the cassette is present.	0	0V
			When the cassette is not present.	1	5V
PS104 Cassette 2 paper length sensor 2 (C2SZ2)	J104-5A No.219 1-d	Set the cassette 2 to A4/LTR, and set it to the copier.	When the cassette is present.	0	0V
			When the cassette is not present.	1	5V

- **Paper deck pedestal**

Name	+ probe / Service mode	Checks		Display indication	Voltage reading on meter
PS1 Right door open sensor (RDOD*)	J107-6 No.233 1-e	Open the pedestal right door while in standby.	When the right door is opened.	0	0V
			When the right door is closed.	1	5V
PS2 Vertical path roller 3 paper sensor (PS2D)	J107-9 No.232 1-d	Move the sensor flag of PS2 by a finger while in standby.	When the flag is moved.	1	5V
			When the flag is not moved.	0	0V
PS3 Deck vertical path roller paper sensor (DVRPD)	J110-A2 No.232 1-e	Move the sensor flag of PS3 by a finger while in standby.	When the flag is moved.	1	5V
			When the flag is not moved.	0	0V
PS4 Deck paper sensor (DPD)	J110-A5 No.228 1-g	Move the paper detecting roll by a finger while in standby.	When the roll is up.	1	5V
			When the roll is down.	0	0V
PS5 Deck lifter position sensor (DEL)	J110-A11 No.231 1-e	Move the pick-up roller up and down by a finger while in standby.	When the roller is up.	1	5V
			When the roller is down.	0	0V
PS6 Deck lifter upper limit sensor (DLP)	J110-A8 No.231 1-g	Move the sensor flag of PS6 while in standby.	When the flag is moved.	1	5V
			When the flag is not moved.	0	0V
PS7 Deck open sensor (DEOP*)	J110-B6 No.233 1-c	Slide out the deck while in standby.	When the deck is out.	0	0V
			When the deck is slid in.	1	5V

CHAPTER 3 ARRANGEMENT/FUNCTIONS OF THE ELECTRICAL PARTS

A. Sensors

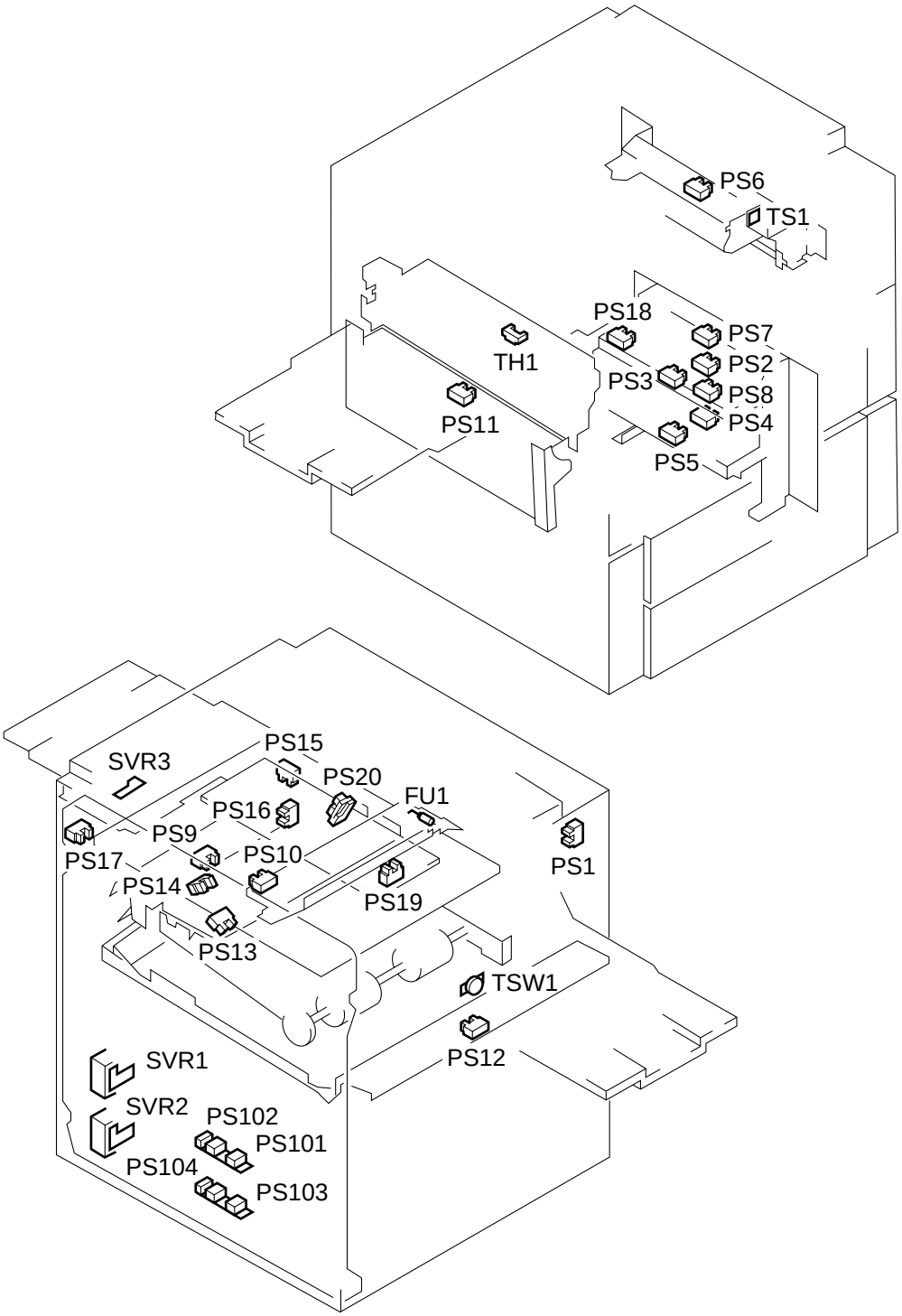
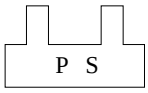
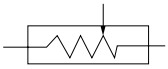
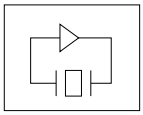


Figure 3-1

Symbol	Name	Notation	Function
	Photointerrupter	PS1	Scanner home position detection
		PS2	Cassette 1 paper detection
		PS3	Cassette 1 lifter detection
		PS4	Cassette 2 paper detection
		PS5	Cassette 2 lifter detection
		PS6	Multifeeder paper detection
		PS7	Vertical path roller 1 paper detection
		PS8	Vertical path roller 2 paper detection
		PS9	Pre-registration paper detection
		PS10	Separation detection
		PS11	Delivery detection
		PS12	Lower feeder inlet paper detection
		PS13	Lower feeder outlet paper detection
		PS14	Horizontal registration paper detection
		PS15	Horizontal registration roller home position detection
		PS16	Horizontal registration paper edge detection
		PS17	Copyboard cover open/closed detection
		PS18	Right door open/closed detection
		PS19	Lens home position detection
		PS20	Blank shutter home position detection
		PS101	Cassette 1 paper length detection 1
		PS102	Cassette 1 paper length detection 2
		PS103	Cassette 2 paper length detection 1
		PS104	Cassette 2 paper length detection 2
	Volume	SVR1	Cassette 1 paper width detection
		SVR2	Cassette 2 paper width detection
		SVR3	Multifeeder paper width detection
	Toner sensor	TS1	Developing assembly toner sensor
	Thermistor	TH1	Fixing roller surface temperature detection
	Thermal fuse	FU1	Scanner overheating detection
	Thermo switch	TSW1	Fixing heater overheating detection

B. Switches, clutches, and solenoids

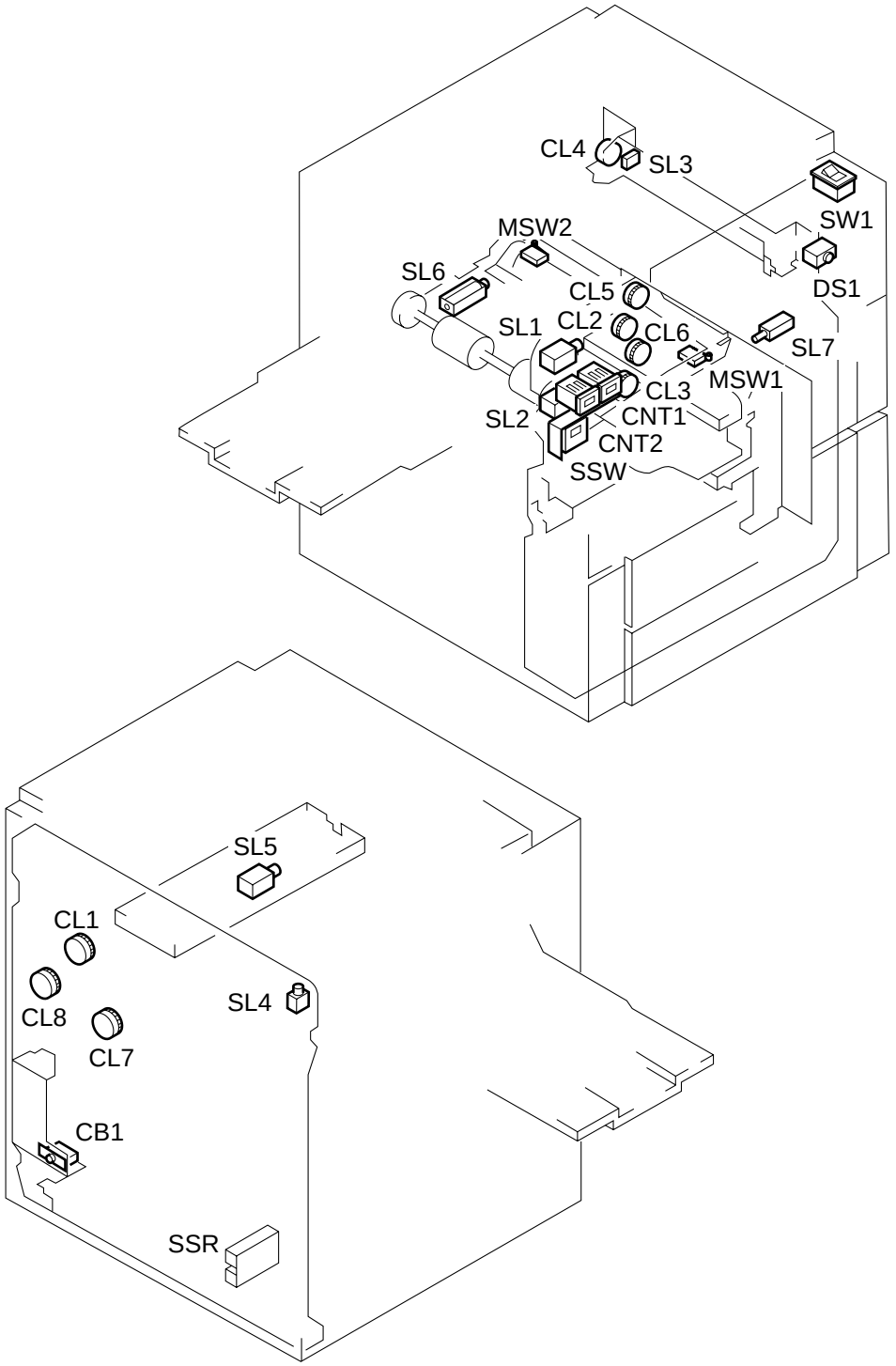
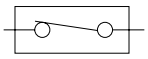
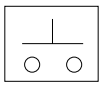
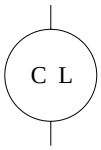
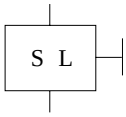
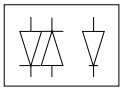


Figure 3-2

Symbol	Name	Notation	Function
	Switch	SW1	Power switch
		MSW1	Wire cleaner home position detection
		MSW2	Wire cleaner rear position detection
		SSW	Service switch
	Push switch	DSW1	Door switch
	Circuit breaker	CB1	AC power line overcurrent detection
	Counter	CNT1	Total copy counter
	Clutch	CL1	Registration clutch
		CL2	Cassette 1 pick-up clutch
		CL3	Cassette 2 pick-up clutch
		CL4	Multifeeder pick-up clutch
		CL5	Vertical path roller 1 clutch
		CL6	Vertical path roller 2 clutch
		CL7	Lower feeder outlet clutch
		CL8	Horizontal registration clutch
	Solenoid	SL1	Cassette 1 pick-up release solenoid
		SL2	Cassette 2 pick-up release solenoid
		SL3	Multifeeder pick-up solenoid
		SL4	Cleaning belt solenoid
		SL5	Blank shutter solenoid
		SL6	Lower feeder flapper solenoid
		SL7	Horizontal registration solenoid
	SSR	SSR	Fixing heater drive

C. Heaters, lamps, and motors

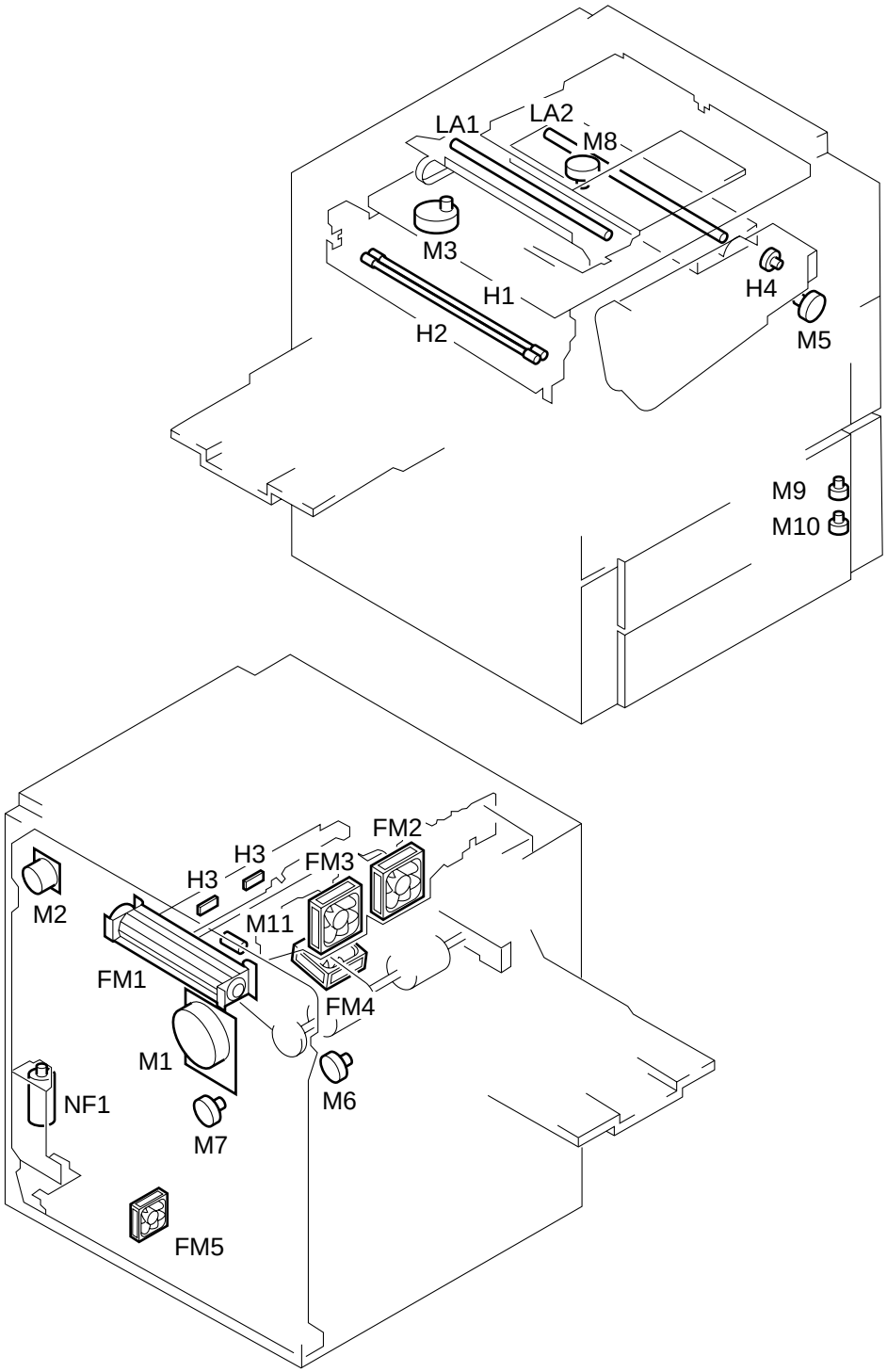
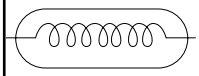
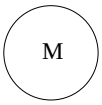
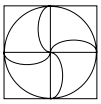
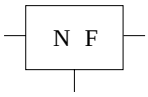


Figure 3-3

Symbol	Name	Notation	Function
	Lamp	LA1 LA2	Scanning lamp Pre-exposure lamp
	Heater	H1 H2 H3	Fixing main heater Fixing sub heater Drum heater
	Motor	M1 M2 M3 M4 M5 M6 M7 M8 M9 M10 M11	Main motor Scanning motor Lens motor Hopper motor Horizontal registration motor Delivery motor Lower feeder motor Blank shutter motor Cassette 1 lifter motor Cassette 2 lifter motor Cleaner motor
	Fan motor	FM1 FM2 FM3 FM4 FM5	Scanner cooling fan Exhaust fan 1 Exhaust fan 2 Feeding fan Power supply PCB cooling fan
	Noise filter	NF1	Noise prevention

D. PCBs

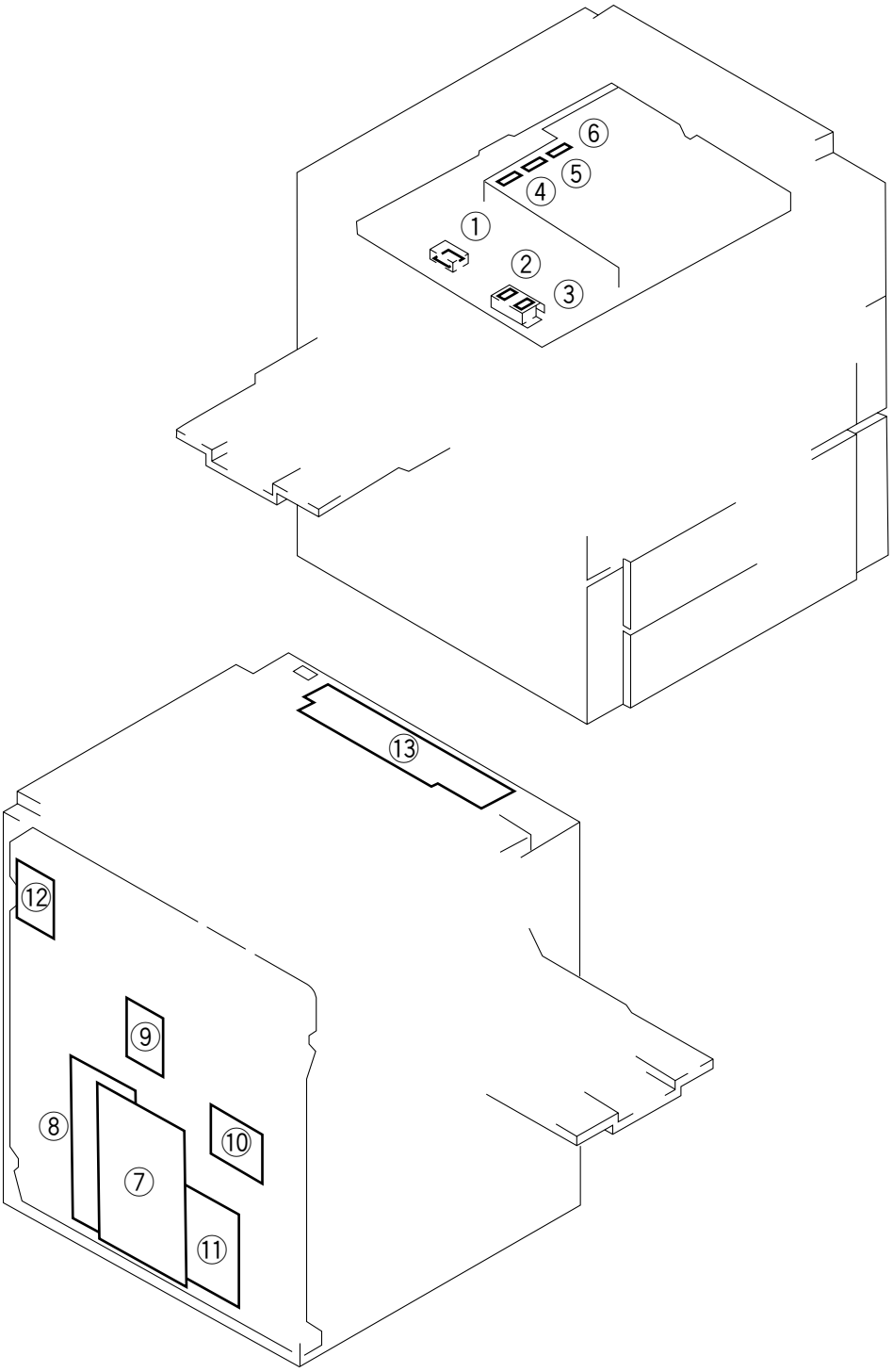


Figure 3-4

Ref.	Name	Description
①	AE sensor	Original density detection
②	Original size detection 1	Original size detection 1
③	Original size detection 2	Original size detection 2 (for AB-configuration)
④	Original size detection 3	Original size detection 3
⑤	Original size detection 4	Original size detection 4 (for AB-configuration)
⑥	Original size detection 4	Original size detection 4 (for Inch-configuration)
⑦	DC controller	Sequence control
⑧	DC power supply	DC power supply
⑨	Motor driver 1	Scanning motor, horizontal registration motor, hopper motor, lens motor drive
⑩	Motor driver 2	Delivery motor, lower feeder motor, blank shutter motor, cleaner motor
⑪	HVT	Charging assembly, static eliminator/fixing bias, developing bias high-voltage output
⑫	Lamp regulator	Scanning lamp ON voltage control
⑬	Control panel	Control panel keys, lamp

E. Paper deck pedestal-M1

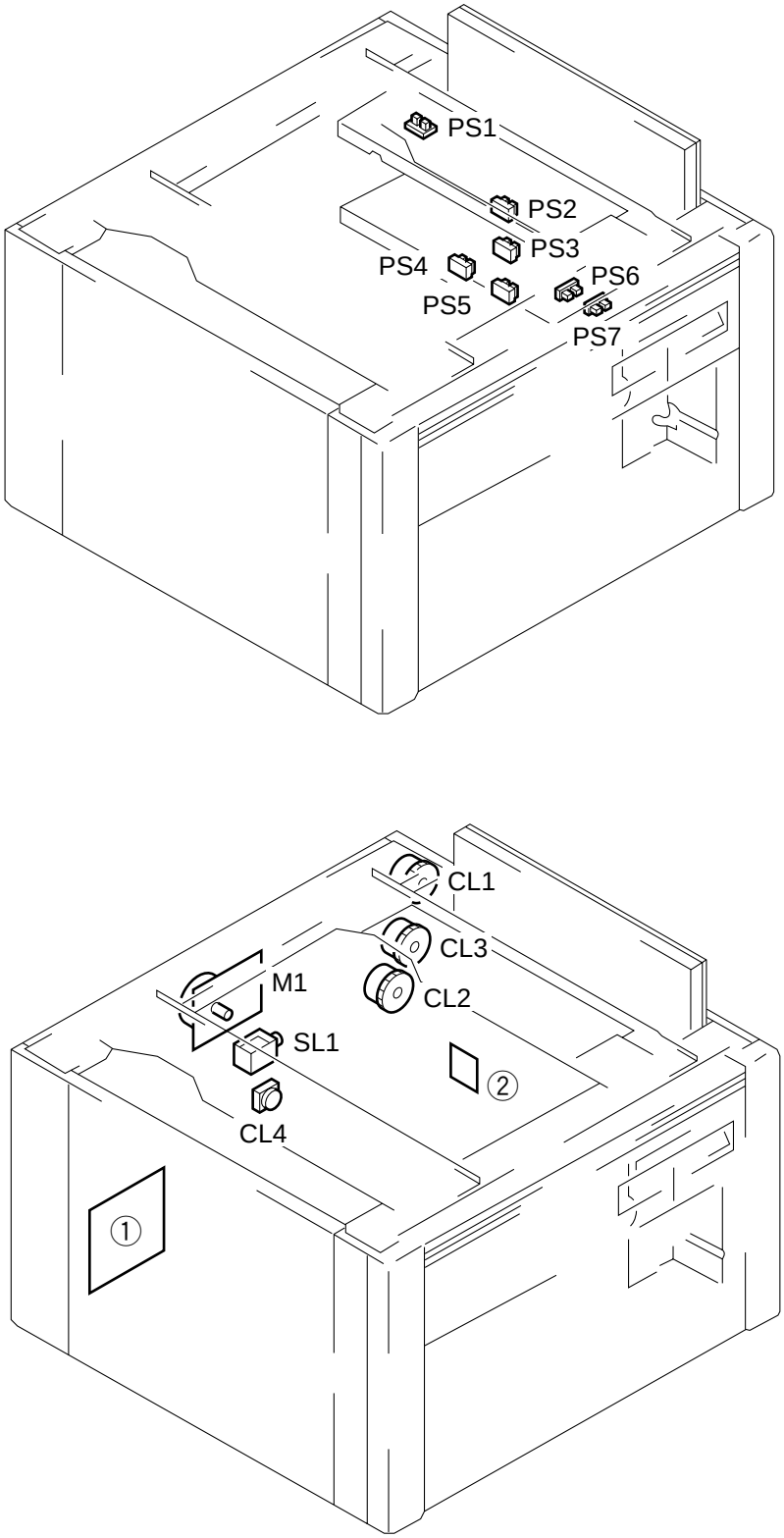
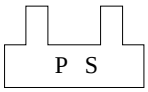
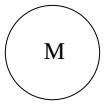
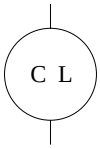
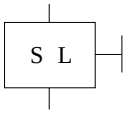


Figure 3-5

Symbol	Name	Notation	Function
	Photointerrupter	PS1	Right door open/closed detection
		PS2	Vertical path roller 3 paper detection
		PS3	Deck vertical path roller paper detection
		PS4	Deck paper detection
		PS5	Deck lifter position detection
		PS6	Deck lifter upper limit detection
		PS7	Deck open/closed detection
	Motor	M1	Pedestal motor
	Clutch	CL1	Vertical path roller 3 drive clutch
		CL2	Deck pick-up clutch
		CL3	Deck vertical path roller drive clutch
		CL4	Deck lifter drive clutch
	Solenoid	SL1	Deck pick-up roller release solenoid
	Pedestal controller PCB	①	Sequence control
	Size switch PCB	②	Peper size change

F. Variable Resistors, Light-Emitting Diodes, and Check Pins by PCB

Of the variable resistors (VR), light-emitting diodes (LED), and check pins found, those that may be used in the field are discussed:

Note:

1. Some LEDs emit dim light because of leak current when OFF; this is a normal condition and should be kept in mind.
2. VRs that may be used in the field . . . . . 
   VRs that must not be used in the field . . . . . 

Note:

Do not use VRs and check pins not given in the list; they are for the factory only and require special instruments and high precision.

1. DC Controls PCB

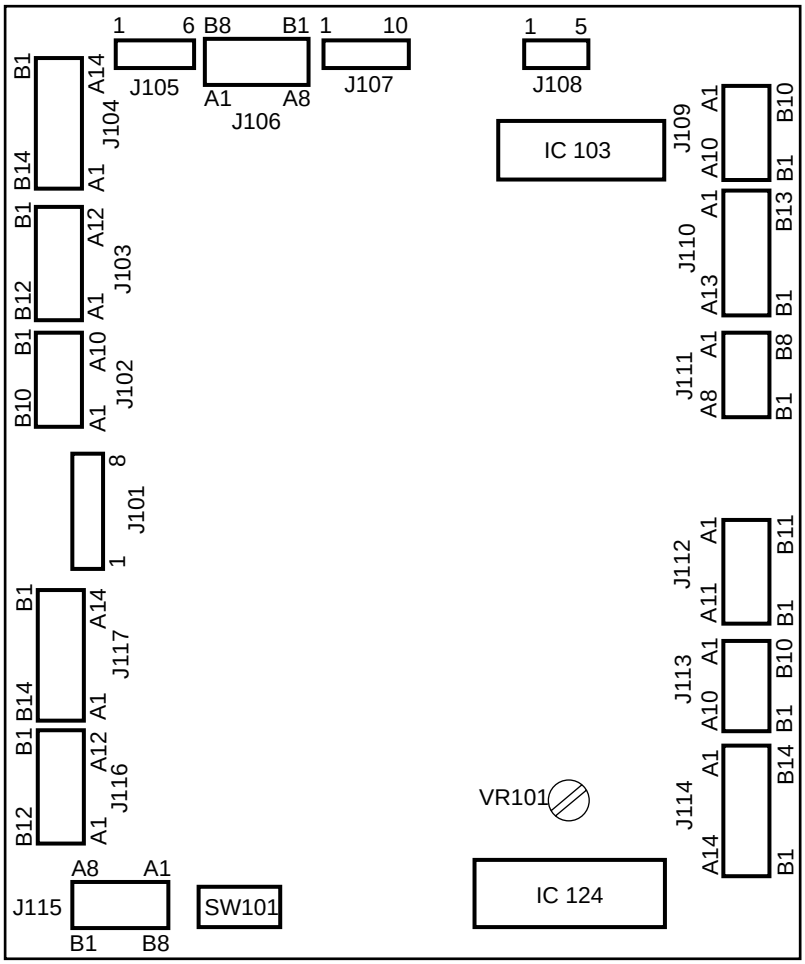


Figure 3-6

	AB-configuration		Inch-configuration		AB/Inch-configuration	
SW101-1	OFF	4R4E	ON	4R3E	ON	4R4E/ 4R3E
SW101-2	OFF		ON		OFF	
SW101-3	OFF					
SW101-4	OFF					

Table 3-1

2. HVT

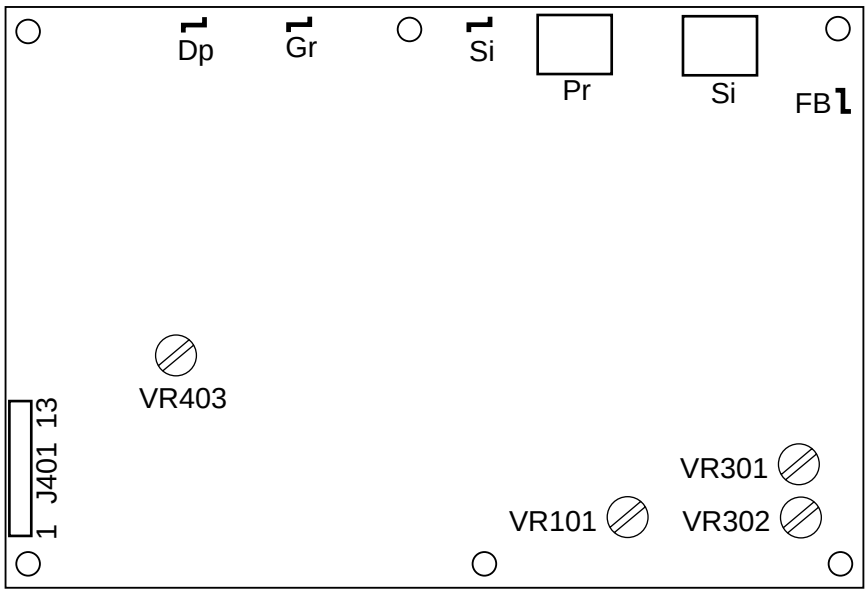


Figure 3-7

3. Lamp Regulator PCB

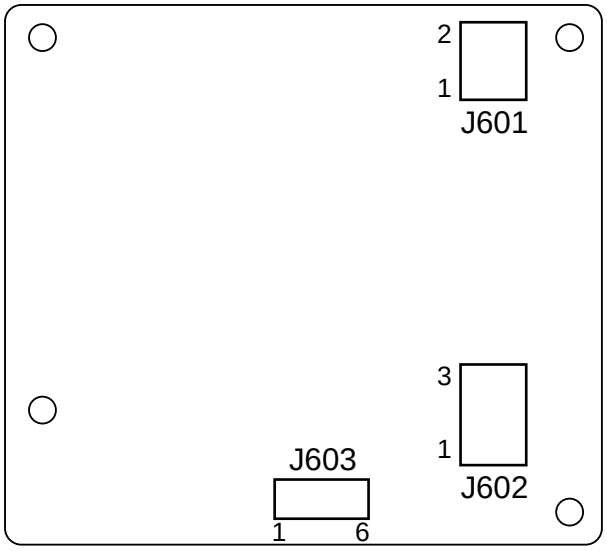


Figure 3-8

4. Motor driver 1 PCB

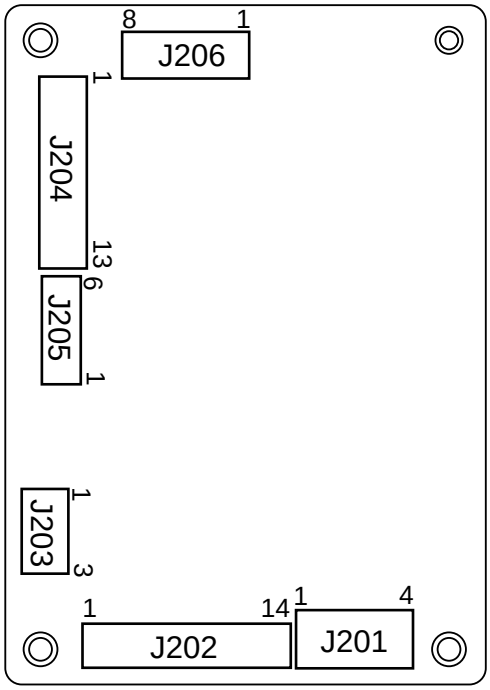


Figure 3-9

5. Motor driver 2 PCB

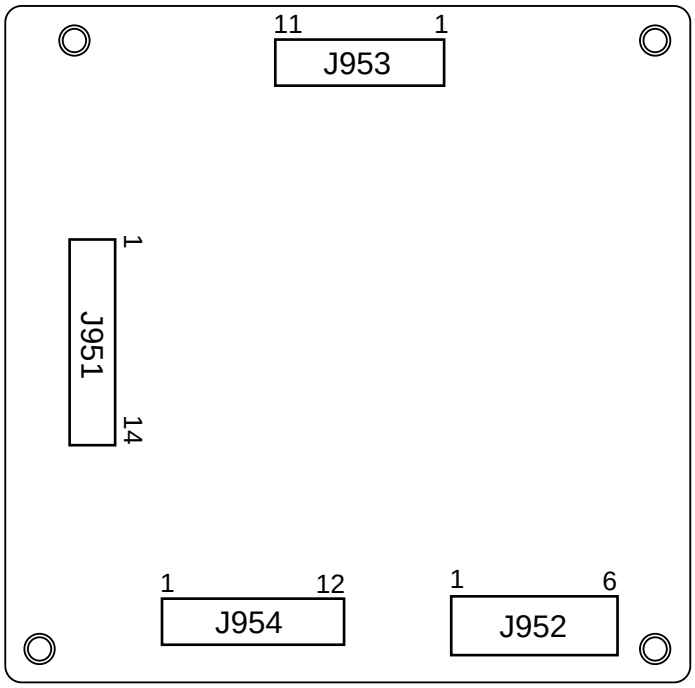


Figure 3-10

6. Pedestal controller PCB (Paper deck pedestal)

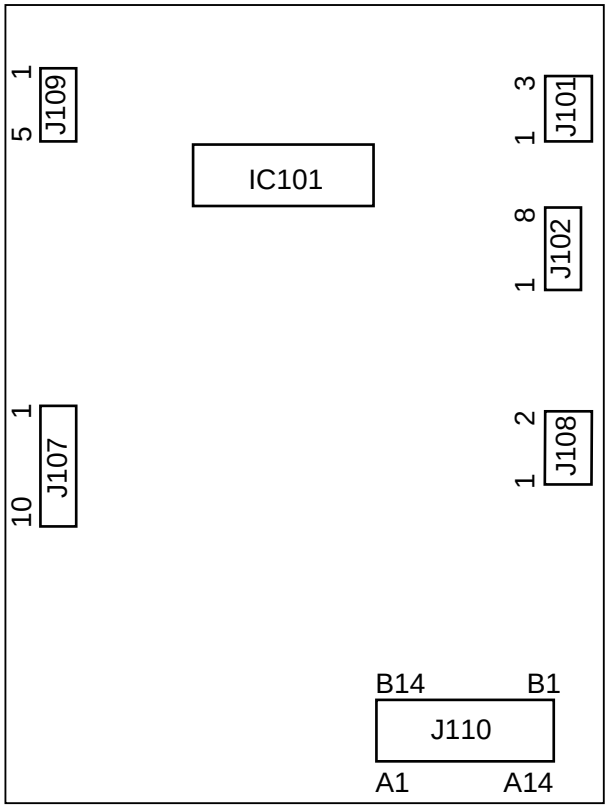


Figure 3-11

CHAPTER 4 SERVICE MODE

A. Outline

The copier's service mode consists of the following six:

Mode	Description
[1]	Control/display mode
[2]	I/O display mode
[3]	Adjustment mode
[4]	Function mode
[5]	Optional settings mode
[6]	Counter mode

Table 4-1

B. Using Service Mode

1. Starting Service Mode

1) Open the front door, and insert the door switch actuator into the door switch assembly.
   - To make checks in 'I/O display mode', for example, make the appropriate copying mode settings before starting service mode.

2) Press the service mode switch (SSW) with a hex key.
   - The display indicates '[1]'.
   - A press on the Reset key ends service mode.

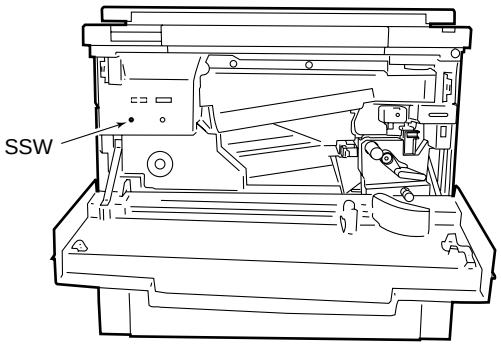


Figure 4-1

3) Enter the number of the mode you want to check or adjust using the keypad (Table 4-1), and press the OK key.
   - The copier starts the selected mode, and the display shows a number; for example, indicating the first item under '301'.

4) Select the appropriate item of the selected service mode using the keypad while the 100s digit is flashing.
   - The display indicates the selected number. (The 100s digit flashes.)
   - A press on the Reset key returns the mode selection screen.

5) Press the OK key.
   - The copier starts the item indicated.
   - A press on the Clear key returns the item selection screen.
   - A press on the Reset key returns the mode selection screen.

6) Make the appropriate checks or adjustments.

7) End service mode.
   - A press on the Reset key returns the mode selection screen.
   - A press on the Reset key while the mode selection screen is being shown ends service mode.
   - The copier does not end service mode even when the power switch is turned off or the power plug is disconnected.

C. Using Adjustment Mode and Optional Setting Mode

Adjustment mode and the optional setting mode are used to simulate the operations activated by the conventional variable resistors and switches by storing the settings made on the control panel in the RAM on the DC controller PCB.

Figure 4-2 is the label attached behind the copier's front door.

At the factory, each copier is adjusted, and the adjustment values are recorded on the label.

If you have replaced the DC controller PCB or initialized the RAM, you must enter the values recorded on the label. Further, if you have entered any new values in the field, you must record the values on the label.

		TYP		
301	LIGHT-5			
302	BIAS			
303	AE-SLOP			
304	AE-LIGHT			
305	REGIST			
306	LE-BLANK			
307	TE-BLANK			
308	SD-BLANK			
311	MF-A6R			
312	MF-A4R			
313	MF-A4			
314	C1-STMTR			
315	C1-A4R			
316	C2-STMTR			
317	C2-A4R			
318	C3-STMTR			
319	C3-A4R			
320	C4-STMTR			
321	C4-A4R			
324	SD-REG			
325	DOC-STOP			
326	BOOK-ERA			
327	MF-LNGTH			

Figure 4-2

D. Control/Display Mode [1]

To start control/display mode, press '1' (keypad) and the OK key in sequence.
To select an item, press the number (keypad) and the OK key in sequence.
To delete an item, press the Clear key.

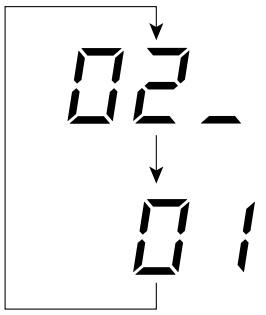
- A press on the Copy Start key while the service mode description is being shown starts copying operation.

No.	Description	Remarks
101	Indicates the version of the master ROM (IC116).	ROM parts revision number (See below)
102	Indicates the version of the slave ROM (IC104).	Same as above
103	Indicates the version of the ROM of the DF.	Same as above
104	Indicates the version of the ROM of the sorter.	Same as above
105	Indicates the version of the ROM of the pedestal.	Same as above
106	Indicates the surface temperature of the upper fixing roller (output of thermistor TH1).	unit: °C
107	Indicates the output of the AE sensor.	0 to 255
108	Indicates the activation voltage of the scanning lamp.(220 / 240 V model)	unit: V
109	Indicates the jam history.	See p. 4-5

- **No. 101 ~ 105 ROM Version No. indicator**

Turn on the indicators on the indication section one by one until the ROM version No. is indicated. The hundreds and tens digits indicate the program version. Also the tens units digits indicate the revision No..

Example ; ROM version : 2.01



Program version

Revision No.

No. 109 Displaying the Jam History

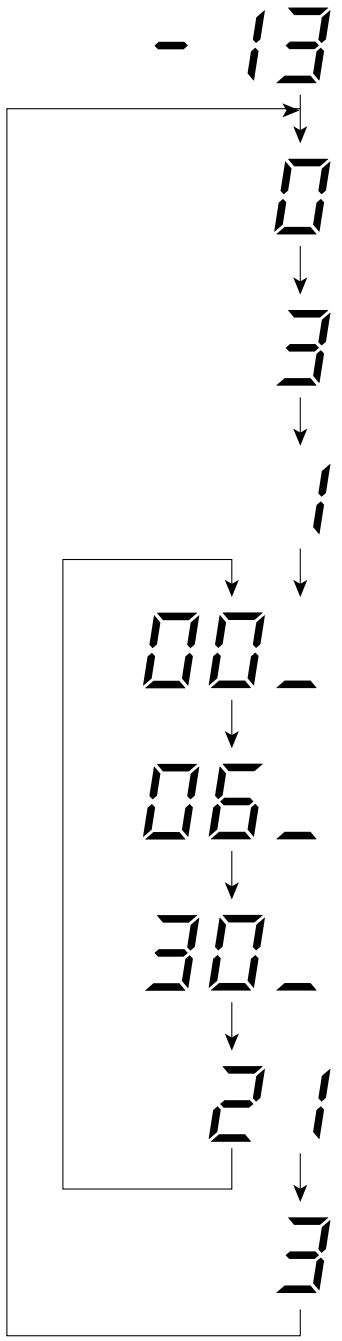
The copier retains a history of as many 40 jams (most recent).

1) While the display indicates ‘109’, press the OK key.
   - The display shows the jam history number.
   - The display indicates ‘-1’.

2) Using the Zoom key (+) / (-), select the jam history number (1 through 40, a higher number means an older jam); then, press the OK key.
   - The display shows jam location.

3) Press the OK key as necessary to find out the jam code, pick-up location, pick-up soft counter, and paper size.

For example, if the 13th most recent jam was a pre-registration roller delay jam picked up from the copier's cassette 1 (copy paper size of A4, soft count of 63021).



Enter '13' using the keypad.

The display shows jam location. (0: copier)
(Table 4-2)

The display shows the jam code. (3: pre-registration delay jam)
(Table 4-3, 4-4, 4-5, 4-6)

The display show the pick-up location. (1: cassette 1)
(Table 4-7)

The display shows the pick-up soft count by pick-up location.
(up to 8 digits)

- The display changes sequentially at intervals of 700 msec.

The display shows the paper size. (3: A4)
(Table 4-8)

- **Jam Location**

0	Copier
1	DF
2	Sorter
3	Pedestal

Table 4-2

- **Details of Copier Jam Code**

Notation	Type of jam	Sensor
1	Vertical path 2 delay jam (Cassette 2 pick-up delay)	PS8
2	Vertical path 1 delay jam (Cassette 1 pick-up delay)	PS7
3	Pre-registration roller delay jam	PS9
4	Separation delay jam	PS10
5	Delivery delay jam	PS11
6	Lower feeder inlet delay jam	PS12
7	Lower feeder outlet delay jam	PS13
8	Horizontal registration delay jam	PS14
9	Vertical path 2 stationary jam (Cassette 2 pick-up stationary)	PS8
10	Vertical path 1 stationary jam (Cassette 1 pick-up stationary)	PS7
11	Pre-registration roller stationary jam	PS9
12	Separation stationary jam	PS10
13	Delivery stationary jam	PS11
14	Lower feeder inlet stationary jam	PS12
15	Lower feeder outlet stationary jam	PS13
16	Horizontal registration stationary jam	PS14

Table 4-3

- **Details of DF Jam Codes**

Notation	Type of jam	Model
01	Original pulled out during pick-up	RDF/ADF
02	Pick-up sensor delay jam	RDF/ADF
03	Registration sensor delay jam	RDF/ADF
05	Registration sensor stationary jam	ADF
06	Registration sensor double feeding	RDF/ADF
08	Registration sensor error (failing to detect leading edge of original during pick-up)	RDF
09	Registration sensor failure	ADF
08	Reversal sensor delay jam 1	RDF
11	Reversal sensor stationary jam	RDF
12	Reversal sensor delay jam 2	RDF
13	Reversal sensor initial stationary jam	RDF
20	Registration sensor reversal pick-up delay jam	RDF
21	Registration sensor reversal pick-up stationary jam	RDF
23	Delivery sensor delay jam	RDF/ADF
41	Delivery sensor stationary jam	RDF/ADF
42	Open detection	RDF/ADF
81	Pick-up tray or upper cover open detection	RDF/ADF
82	Original sensor error (failing to detect discharged original)	RDF/ADF
84	Sensor detecting an original during pick-up	RDF/ADF
85	Jam unique to test mode	ADF
88	Original detected during pick-up of the 1st original	RDF/ADF
89	Re-circulating lever operating fault during original circulation (2nd circulation or later)	RDF
8A	Feeding fault when feeding originals of different sizes	ADF
8b	Last original trailing edge sensor ON (sensor failing to turn off)	ADF

Table 4-4

- **Details of Sorter Jam Codes**

Notation	Description
03	Paper sensor delay jam
04	Paper sensor stationary jam
05	Paper sensor timing jam
06	Stapler staple jam
07	Sensor detecting paper at power-on
08	Joint switch or cover switch OFF during copying

Table 4-5

- **Details of Pedestal Jam Codes**

Notation	Type of jam	Sensor
33	Deck pick-up delay	PS2/PS3
	Deck pick-up timing	

Table 4-6

- **Pick - Up Location**

1	Cassette 1
2	Cassette 2
3	Paper deck
8	Multifeeder assembly

Table 4-7

- **Paper size**

Notation	Original size	(unit: mm)
17	A5	148 × 210
1	B5	182 × 257
3	A4	210 × 297
4	B5R	257 × 182
6	A4R	297 × 210
2	FOOLSCAP	330 × 216
5	B4	364 × 257
23	COMPUTER	381 × 279
7	A3	420 × 297
9	STMT	140 × 216
11	LTR	216 × 279
14	LTRR	279 × 216
2	FOOLSCAP	330 × 216
13	LGL	356 × 216
23	COMPUTER	381 × 279
15	11” × 17”	432 × 279

Table 4-8

No.	Description	Remarks
110	Indicates the results of the copier's self diagnosis.	The display can show as many as three previous error histories. Select, for example, '1' (The indicator indicates '-1'), '-2', and '-3' using the zoom (+)/(-) key and then the OK key to find out the codes for the first, second, and third most recent errors.
111	Indicates the results of the DF's self diagnosis.	Same as above.
112	Indicates the results of the sorter's self diagnosis.	Same as above.
113	Indicates the results of the Pedestal's self diagnosis.	Same as above.
114	Indicates the copier's alarm code.	See Table 4-9.
115	Indicates the DF's alarm code.	See Table 4-10.
116	Indicates the sorter's alarm code.	See Table 4-11.
117	Indicates the pedestal's alarm code.	See Table 4-12.
118	Indicates the type of E002.	See Table 4-13.

- **Details of Copier Alarm Codes**

Notation	Description
01	Cassette 1 lifter fails to move up.
02	Cassette 2 lifter fails to move up.

Table 4-9

- **Details of DF Alarm Codes**

Notation	Description
01	The re-circulating lever has swung idly.
02	The original end sensor do not detect an original.
03	Separation has failed during original pick-up.
04	The original has moved askew during original pick-up.
05	The original has overridden the paper stopper plate during original pick-up.
11	The number of originals is different after jam removal.
12*	The number of originals is excessive.
13	The original has been pulled out in the middle.

Table 4-10

- **Details of Sorter Alarm Codes**

Notation	Description
01	The stapler has stopped operation.
02	A staple jam has occurred.
05	The number of sheets stacked for stapling is excessive.
06	The number of sheets stacked for stapling is excessive.
07	The sheets are of different sizes. (horizontally)
08	The stapler unit is absent.
09	Stapled paper remains in the bin.
12*	The number of sheets stacked for sorting is excessive.
0A	Staples are absent.

*: Sorter tray alarm code.

Table 4-11

- **Details of Pedestal Alarm Codes**

Notation	Description
01	The deck lifter fails to move up.

Table 4-12

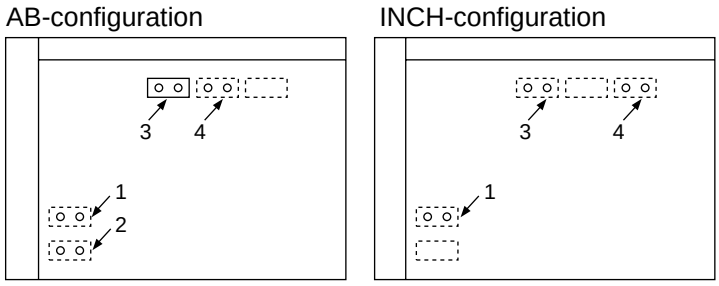
- **Details of E002 (detection temperature)**

Service mode otation	Description temperature
1	~ 40
2	40 ~ 75
3	75 ~ 100
4	100 ~ 120
5	120 ~ 140
6	140 ~ 160
7	160 ~ 170
8	170 ~ 180
9	180 ~ 185
10	185 ~ 190

Table 4-13

No.	Description	Remarks
119	Indicates the output value of the paper width sensor of the multifeeder.	0 to 255
120	Indicates the paper width of the multifeeder.	unit: mm
121	Indicates the output value of the paper width sensor of the cassette 1.	0 to 255
122	Indicates the output value of the paper length sensor of the cassette 1.	0, 1 (The ten digit on the indication section indicates the output value of PS101 / PS103 and the units digit indicates the output value of PS102 / PS104.)
123	Indicates the paper width of the cassette 1.	unit: mm
124	Indicates the output value of the paper width sensor of the cassette 2.	0 to 255
125	Indicates the output value of the paper length sensor of the cassette 2.	Same as above. (No.122)
126	Indicates the paper width of the cassette 2.	unit: mm
127	Not used	—
128	Not used	—
129	Not used	—
130	Not used	—
131	Not used	—
132	Not used	—

No.	Description	Remarks
133	Indicates the output of the original size sensors 1, 2, 3, and 4.	When the original size sensor detects an original, some LED lamps of the display turn on. (See Figure4-3.)
134	Indicates the keys of the control panel.	(See p.4-16.)
135	Indicates the original size detected by the DF.	A code is indicated to represent the original size detected by the DF. (See Table 4-15, 16.)
136	Indicates the activation voltage of the scanning lamp. (120 V model)	unit : V



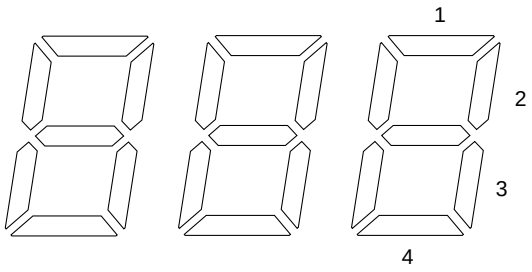


Figure 4-3

- **No. 134 Control panel's key check**

1) Select No. 134, and press the OK key.
   - The indicator indicates '–––'

2) After pressing all the keys on the control panel one by one, press the OK key.
   - When it is confirmed that all the keys have been pressed, the indication will be '000 '.
   - If there is any key which has not confirmed to be pressed, the code provided in the Table 4-14 will be indicated.
     If there are some keys which have not confirmed to be pressed, the code with the smallest number will be indicated.

Code	Key	Code	Key
001	User mode key	021	Zoom key (+)
002	OK key	022	Zoom key (-)
003	Page Separate key	023	Reset key
004	Image Compose key	024	ID key
005	Odd/Even key	025	Keypad 1
006	Mode Memory key	026	Keypad 2
007	Bind Margin key	027	Keypad 3
008	Frame Erase key	028	Keypad 4
009	Mix key	029	Keypad 5
010	Sorter key	030	Keypad 6
011	Two-Sided key	031	Keypad 7
012	Copy Density key (darker)	032	Keypad 8
013	AE key	033	Keypad 9
014	Copy Density key (lighter)	034	Clear key
015	Reduce key	035	Keypad 0
016	Direct key	036	Interrupt key
017	Enlarge key	037	Pre-Heat key
018	Paper Select key	038	Stop key
019	Auto Zoom key	039	Copy Start key
020	% key		

Table 4-14

① Size Detection (AB-configuration feeding direction only, no default)

Notation	Original size	(unit: mm)
17	A5	148 × 210
1	B5	182 × 257
3	A4	210 × 297
4	B5R	257 × 182
6	A4R	297 × 210
2	FOOLSCAP	330 × 216
5	B4	364 × 257
23	COMPUTER	381 × 279
7	A3	420 × 297

Table 4-15

② Size Detection (Inch-configuration feeding direction only, no default)

Notation	Original size	(unit: mm)
9	STMT	140 × 216
11	LTR	216 × 279
14	LTRR	279 × 216
2	FOOLSCAP	330 × 216
13	LGL	356 × 216
23	COMPUTER	381 × 279
15	11” × 17”	432 × 279

Table 4-16

E. I/O Display Mode [2]

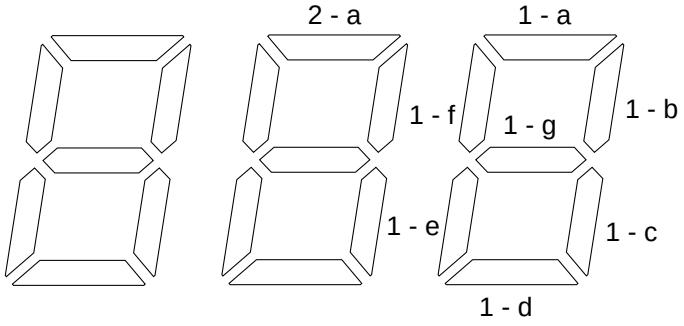
To start I/O display mode, press ‘2’ (keypad) and the OK key in sequence.
To select an item, press the number (keypad) and the OK key in sequence.
To delete an item, press the Clear key.

- A press on the Copy Start key while the service mode description is being shown starts copying operation.

No.	Description	Remarks
201 209	PIO input/output port of the DC controller	Some of the LED lamps turn on according to number to represent an 8-bit input/output; see below.
210 216	Master CPU input/output of the DC controller	Some of the LED lamps turn on according to number to represent an 8-bit input/output; see below.
217 219	IPC input/output port of the DC controller	Some of the LED lamps turn on according to number to represent an 8-bit input/output; see below.
220 225	Slave CPU input/output of the DC controller	Some of the LED lamps turn on according to number to represent an 8-bit input/output; see below.
226 234	CPU input/output port of the pedestal controller	Some of the LED lamps turn on according to number to represent an 8-bit input/output; see below.
235 247	CPU input/output port of the DF controller	Some of the LED lamps turn on according to number to represent an 8-bit input/output; see below.
248 260	CPU input/output port of the sorter controller	Some of the LED lamps turn on according to number to represent an 8-bit input/output; see below.

Table 4-17

- LED



- **PIO**

No. (adress)	LED	Description	Signal	Jack	Remarks
201 (PA0) output	1 - a	Scanner cooling fan (FM1) drive signal	SCFD*	J102-A4	1:FM1 ON
	1 - b	Main motor (M1) drive signal	MMD	J106-3	1:M1 ON
	1 - c	Pre-exposure lamp (LA2) drive signal	PEXP*	J113-A4	1:LA2 ON
	1 - d	Blank shutter solenoid (SL5) drive signal	BLSD*	J113-A5	1:SL5 ON
	1 - e	Feedig fan (FM4) drive signal	FFD*	J109-A3	1:FM4 ON
	1 - f	Feeding fan power signal	FFPOW	J109-A2	1:24V 0:12V
	1 - g	—	—	—	—
	2 - a	—	—	—	—
202 (PB0) output	1 - a	Registration clutch (CL1) drive signal	RGCD*	J103-A1	1:CL1 ON
	1 - b	Registration clutch power signal	REG-POW	J103-A2	1:24V 0:12V
	1 - c	Cassette 1 lifter motor (M9) drive signal	C1LTD*	J117-A6	1:M9 ON
	1 - d	Cassette 2 lifter motor (M10) drive signal	C2LTD*	J117-A8	1:M10 ON
	1 - e	Fixing main heater (H1) drive signal	MHRD	J112-B8	1:H1 ON
	1 - f	Fixing sub heater (H2) drive signal	SHRD	J112-B7	1:H2 ON
	1 - g	Cleaning belt solenoid (SL4) drive signal	CBSD*	J113-A1	1:SL4 ON
	2 - a	Hopper motor (M4) drive signal	HMD*	J106-B5	0:M4 ON

No. (adress)	LED	Description	Signal	Jack	Remarks
203 (PC0) input	1 - a	Right door sensor (PS18) signal	RDC*	J116-A11	0:door closed
	1 - b	Multifeeder paper sensor (PS6) signal	MFPD*	J104-B6	0:paper present
	1 - c	Cassette 1 paper sensor (PS2) signal	C1PD	J116-A8	1:paper present
	1 - d	Cassette 2 paper sensor (PS4) signal	C2PD	J115-B2	1:paper present
	1 - e	Cassette 1 lifter sensor (PS3) signal	C1LTP	J116-A5	1:paper present
	1 - f	Cassette 2 lifter sensor (PS5) signal	C2LTP	J115-B5	1:paper present
	1 - g	—	—	—	—
	2 - a	—	CCDT	J117-A11	—
204 (PA1) output	1 - a	Cassette 1 pick-up release solenoid (SL1) drive signal	C1RSD*	J116-B7	1:SL1 ON
	1 - b	Cassette 2 pick-up release solenoid (SL2) drive signal	C2RSD*	J115-B7	1:SL2 ON
	1 - c	Cassette 1 pick-up clutch (CL2) drive signal	C1PUCD*	J116-B5	1:CL2 ON
	1 - d	Cassette 2 pick-up clutch (CL3) drive signal	C2PUCD*	J115-A2	1:CL3 ON
	1 - e	Vertical path roller 1 clutch (CL5) drive signal	VR1CD*	J116-B3	1:CL5 ON
	1 - f	Vertical path roller 2 clutch (CL6) drive signal	VR2CD*	J115-A4	1:CL6 ON
	1 - g	Multifeeder pick-up solenoid (SL3) drive signal	MFPUSD*	J104-B8	1:SL3 ON
	2 - a	Multifeeder pick-up clutch (CL4) drive signal	MFCD*	J104-B10	1:CL4 ON

No. (adress)	LED	Description	Signal	Jack	Remarks
205 (PB1) output	1 - a	Signal from master CPU to slave CPU	DPREQ	—	—
	1 - b	—	—	—	—
	1 - c	Lamp ON signal	LMPON	J103-A8	1:Scanning lamp ON
	1 - d	Internal PCB signal	—	—	—
	1 - e	Deliverly motor (M6) rotation signall	DMRON	J114-A6	1:deliver copy paper 0:reverse copy paper
	1 - f	Deliverly motor (M6) drive signal	DMD	J114-A5	0:M6 ON
	1 - g	Total counter (CNT1) signal	CNTD*	J113-B10	1:count up
	2 - a	Option counter (CNT2) signal	CNT2D*	J113-B8	1:count up
206 (PC1) input	1 - a	Vertical path roller 1 paper sensor (PS7) signal	PDP2*	J116-A2	1:paper present
	1 - b	Vertical path roller 2 paper sensor (PS8) signal	PDP1*	J115-A7	1:paper present
	1 - c	Pre-registration paper sensor (PS9) signal	PDP3	J117-B13	1:paper present
	1 - d	Separation sensor (PS10) signal	PDP4*	J109-A5	0:paper present
	1 - e	Delivery sensor (PS11) signal	PDP5*	J109-B4	0:paper present
	1 - f	Scanning lamp (LA1) ON detection signal	LDT	J103-A12	1:during scan-ning lamp on
	1 - g	—	—	—	—
	2 - a	Zero-cross signal	ZRCS	J103-A11	1:Zero-cross

No. (adress)	LED	Description	Signal	Jack	Remarks
207 (PA2) output	1 - a	Static eliminator / fixing roller bias ON signal	SFON*	J114-B11	1:Sp / FB ON
	1 - b	Developing DC bias ON signal	DPON*	J114-B6	1:Dp (DC bias) ON
	1 - c	Developing AC bias ON signal	ACON*	J114-B7	1:Dp (AC bias) ON
	1 - d	Primary / transfer corona current ON signal	PTON*	J114-B8	1:Pr / Tr ON
	1 - e	—	—	—	—
	1 - f	Static eliminator bias change signal	SPCH	J114-B10	0:3KV 1:4KV
	1 - g	—	—	—	—
	2 - a	Grid bias OFF signal	GRCONT	J114-B14	1:Gr OFF
208 (PB2)	1 - a	Toner level signal	TEP*	J117-A4	0:toner absent
	1 - b	—	—	—	—
	1 - c	Auto power-off signal	PWOFF*	J117-A2	1:Power switch OFF
	1 - d	Main motor lock signal	MMLOCK	J107-4	1:locked
	1 - e	Main heater SSR detection signal	MSSRD	J112-B9	1:ON
	1 - f	Sub heater SSR detection signal	SSSRD	J112-B6	1:ON
	1 - g	Total counter open circuit detection	CNTD*	J113-B10	0:open
	2 - a	Option counter open circuit detection	CNT2D*	J113-B8	0:open

No. (adress)	LED	Description	Signal	Jack	Remarks
209 (PC2) input	1 - a	Lower feeder outlet paper sensor (PS13) signal	PDP7	J108-2	0:paper present
	1 - b	Lower feeder inlet paper sensor (PS12) signal	PDP6*	J109-B7	0:paper present
	1 - c	Horizontal registration paper sensor (PS14) signal	PDP8	J117-B8	1:paper present
	1 - d	Horizontal registration roller home position sensor (PS15) signal	HRHP	J117-B5	1:at HP
	1 - e	Horizontal registration paper edge sensor (PS16) signal	HRPD	J117-B2	1:paper present
	1 - f	—	—	—	—
	1 - g	Counter select signal	CNTSL1	J113-B5	0:SW ON
	2 - a	Counter select signal	CNTSL2	J113-B6	0:SW ON

- **Master**

No. (adress)	LED	Description	Signal	Jack	Remarks
210 (P6)	1 - a	—	—	—	—
	1 - b	Delivery motor current control signal 1	DMI1	J114-A14	—
	1 - c	Delivery motor current control signal 2	DMI2	J114-A13	—
	1 - d	—	—	—	—
	1 - e	—	—	—	—
	1 - f	—	—	—	—
	1 - g	—	—	—	—
	2 - a	—	—	—	—
211 (P7)	1 - a	Fixing thermistor (TH1) signal	TH1	J109-B10	analog
	1 - b	—	—	—	—
	1 - c	AE sensor signal	AE	J107-8	analog
	1 - d	—	—	—	—
	1 - e	Cassette 1 paper width detection VR (SVR1) signal	C1PW	J104-A10	analog
	1 - f	Cassette 2 paper width detection VR (SVR2) signal	C2PW	J104-A13	analog
	1 - g	Multifeeder paper width detection VR(SVR3) signal	MFPW	J104-B13	analog
	2 - a	—	—	—	—
212 (P8)	1 - a	Main motor (M1) clock pulse signal	MMCLK	J107-5	—
	1 - b	Scanner home position sensor (PS1) signal	SCHP	J113-B2	0:at HP
	1 - c	—	—	—	—
	1 - d	—	—	—	—
	1 - e	—	—	—	—
	1 - f	—	—	—	—
	1 - g	—	—	—	—
	2 - a	—	—	—	—

No. (adress)	LED	Description	Signal	Jack	Remarks
213 (P9)	1 - a	Horizontal registration clutch (CL8) drive signal	HRCD*	J103-A3	0:CL8 0N
	1 - b	Lower feeder outlet clutch (CL7) drive signal	LFCD*	J103-A5	0:CL7 0N
	1 - c	Horizontal registration solenoid (SL7) drive signal	HRSD*	J117-B10	0:SL7 0N
	1 - d	Lower feeder flapper solenoid (SL6) drive signal	LFSD*	J108-4	0:SL6 0N
	1 - e	—	—	—	—
	1 - f	Internal PCB signal	—	—	—
	1 - g	—	—	—	—
	2 - a	—	—	—	—
214 (PA)	1 - a	Lower feeder motor (M7) rotation signal	LFRON	J114-A8	0:CCW 1:CW
	1 - b	Lower feeder motor (M7) drive signal	LFD	J114-A9	1:M7 ON
	1 - c	Lower feeder motor (M7) clock signal	LFCLK	J114-A4	—
	1 - d	—	—	—	—
	1 - e	Scanning motor (M2) clock signal	SCCLK	J106-A3	—
	1 - f	Scanning motor (M2) phase return signal	SCRET	J106-A1	—
	1 - g	Delivery motor (M6) clock signal	DMCLK	J114-A7	—
	2 - a	Scanning motor (M2) rotation signal	SCRON	J106-A2	0:CCW 1:CW

No. (adress)	LED	Description	Signal	Jack	Remarks
215 (PB)	1 - a	Horizontal registration motor (M5) clock signal	HRCLK	J106-B6	—
	1 - b	Horizontal registration motor (M5) rotation signal	HRRON	J106-B7	0:CCW 1:CW
	1 - c	Horizontal registration motor (M5) drive signal	HRD	J106-B8	1:M5 ON
	1 - d	—	—	—	—
	1 - e	Scanning motor (M2) drive signal	SCMD*	J106-A4	0:M2 ON
	1 - f	Excitation mode command 1	SCM1	J106-A5	0:during rotation
	1 - g	Excitation mode command 2	SCM2	J106-A6	1:during rotation
	2 - a	—	—	—	—
216 (PC)	1 - a	—	CCD*	J117-A10	—
	1 - b	—	—	—	—
	1 - c	—	—	—	—
	1 - d	—	—	—	—
	1 - e	—	—	—	—
	1 - f	—	—	—	—
	1 - g	—	—	—	—
	2 - a	—	—	—	—

- **IPC**

No. (adress)	LED	Description	Signal	Jack	Remarks
217 (PA)	1 - a	Pedestal control signal 0	FEED-STOP	J112-A1	——
	1 - b	Pedestal control signal 1	FACE-DOWN	J112-A2	——
	1 - c	——	——	——	——
	1 - d	——	——	——	——
	1 - e	Cleaner motor (M11) clockwise signal	CLCW	J114-A1	1:forward
	1 - f	Cleaner motor (M11) counter-clockwise signal	CLCCW	J114-A2	1:reverse
	1 - g	Exhaust fan power signal	EF1POW EF2POW	J113-A9 J113-A7	1:high speed 0:low speed
	2 - a	Exhaust fan (FM2, FM3) drive signal	EF1D* EF2D*	J113-A10 J113-A8	0:Fan ON
218 (PB)	1 - a	Wire cleaner home position switch (MSW1) signal	WCHP	J109-A10	0:MSW1 ON
	1 - b	Wire cleaner rear position switch (MSW2) signal	WCRP	J109-A8	0:MSW2 ON
	1 - c	Internal PCB signal	——	——	——
	1 - d	Internal PCB signal	——	——	——
	1 - e	Dip switch (SW101-1) signal 0	——	——	0:SW ON
	1 - f	Dip switch (SW101-2) signal 1	——	——	0:SW ON
	1 - g	Dip switch (SW101-3) signal 2	——	——	0:SW ON
	2 - a	Dip switch (SW101-4) signal 3	——	——	0:SW ON
219 (P0)	1 - a	Cassette 1 paper length sensor unit (SEU1) signal 1	C1SZ1	J104-A2	0:PS101 ON
	1 - b	Cassette 1 paper length sensor unit (SEU1) signal 2	C1SZ2	J104-A1	0:PS102 ON
	1 - c	Cassette 2 paper length sensor unit (SEU2) signal 1	C2SZ1	J104-A6	0:PS103 ON
	1 - d	Cassette 2 paper length sensor unit (SEU2) signal 2	C2SZ2	J104-A5	0:PS104 ON
	1 - e	(For factory)	——	——	——
	1 - f	(For factory)	——	——	——
	1 - g	(For factory)	——	——	——
	2 - a	(For factory)	——	——	——

- **Slave**

No. (adress)	LED	Description	Signal	Jack	Remarks
220 (P4)	1 - a	Internal PCB signal	—	—	—
	1 - b	Segment signal	SEG0	J110-A1	—
	1 - c	Segment signal	SEG1	J110-A2	—
	1 - d	Segment signal	SEG2	J110-A3	—
	1 - e	Segment signal	SEG3	J110-A4	—
	1 - f	Segment signal	SEG4	J110-A5	—
	1 - g	Segment signal	SEG5	J110-A6	—
	2 - a	Segment signal	SEG6	J110-A7	—
221 (P6)	1 - a	—	—	—	—
	1 - b	Original size detection ON signal	—	—	1:ON
	1 - c	Internal PCB signal	—	—	—
	1 - d	—	—	—	—
	1 - e	—	—	—	—
	1 - f	—	—	—	—
	1 - g	—	—	—	—
	2 - a	—	—	—	—
222 (P8)	1 - a	—	—	—	—
	1 - b	Blank shutter home position sensor (PS20) signal	BLHP	J114-A12	0:at HP
	1 - c	Original size sensor 1 (PS21) signal	SIZE0	J103-B2	1:Original present
	1 - d	—	—	—	—
	1 - e	—	—	—	—
	1 - f	—	—	—	—
	1 - g	—	—	—	—
	2 - a	—	—	—	—

No. (adress)	LED	Description	Signal	Jack	Remarks
223 (P9)	1 - a	—	—	—	—
	1 - b	Original size sensor 2 (PS22) signal	SIZE1	J103-B5	1:Original present
	1 - c	Original size sensor 3 (PS23) signal	SIZE2	J103-B8	1:Original present
	1 - d	Original size sensor 4 (PS24) signal	SIZE3	J103-B11	1:Original present
	1 - e	—	—	—	—
	1 - f	—	—	—	—
	1 - g	—	—	—	—
	2 - a	—	—	—	—
224 (PB)	1 - a	Lens motor (M3) drive pulse signal A	LEA	J106-B2	—
	1 - b	Lens motor (M3) drive pulse signal B	LEB	J106-B3	—
	1 - c	—	—	—	—
	1 - d	—	—	—	—
	1 - e	Blank shutter motor (M8) drive pulse signal A	BLA	J114-A10	—
	1 - f	Blank shutter motor (M8) drive pulse signal B	BLB	J114-A11	—
	1 - g	Internal PCB signal	—	—	—
	2 - a	—	—	—	—
225 (PC)	1 - a	Lens motor (M3) hold signal	LEHLD	J106-B4	1:rotation
	1 - b	Blank shutter motor (M8) hold signal	BLHLD	J114-A3	1:rotation
	1 - c	—	—	—	—
	1 - d	—	—	—	—
	1 - e	—	—	—	—
	1 - f	Copyboard cover open / closed sensor (PS17) signal	CBCC	J102-A9	0:open
	1 - g	—	—	—	—
	2 - a	Lens home position sensor (PS19) signal	LHP	J107-10	0:at HP

- **PAPER DECK PEDESTAL - M1**

No. (adress)	LED	Description	Signal	Jack	Remarks
226 (P0)	1 - a	—	—	—	—
	1 - b	—	—	—	—
	1 - c	—	—	—	—
	1 - d	—	—	—	—
	1 - e	—	—	—	—
	1 - f	—	—	—	—
	1 - g	—	—	—	—
	2 - a	—	—	—	—
227 (P1)	1 - a	—	—	—	—
	1 - b	Deck pick-up roller release solenoid (SL1) drive signal	DEPRL*	J110-B14	0:SL1 ON
	1 - c	—	—	—	—
	1 - d	Pedestal motor (M1) lock signal	LOCK*	J109-2	1:motor is normal
	1 - e	Deck size signal 1	SIZE1	J110-B9	—
	1 - f	Deck size signal 2	SIZE2	J110-B8	—
	1 - g	—	—	—	—
	2 - a	—	—	—	—
228 (P2)	1 - a	—	—	—	—
	1 - b	Communication signal (with copier)	FEED-STOP	J102-4	—
	1 - c	—	—	—	—
	1 - d	Communication signal (with copier)	FACE-DOWN	J102-6	—
	1 - e	—	—	—	—
	1 - f	—	—	—	—
	1 - g	Deck paper sensor (PS4) signal	DPD	J110-A5	1:paper present
	2 - a	—	—	—	—

No. (adress)	LED	Description	Signal	Jack	Remarks
229 (P3)	1 - a	—	—	—	—
	1 - b	—	—	—	—
	1 - c	—	—	—	—
	1 - d	—	—	—	—
	1 - e	—	—	—	—
	1 - f	—	—	—	—
	1 - g	Pedestal motor speed control signal	PEDSP	J109-3	—
	2 - a	Pedestal motor (M1) drive signal	PEDMD	J109-1	1:M1 ON
230 (P6)	1 - a	—	—	—	—
	1 - b	Deck lifter clutch (CL4) signal	CL4D*	J110-B12	0:CL4 ON
	1 - c	—	—	—	—
	1 - d	—	—	—	—
	1 - e	—	—	—	—
	1 - f	—	—	—	—
	1 - g	—	—	—	—
	2 - a	—	—	—	—
231 (P7)	1 - a	—	—	—	—
	1 - b	—	—	—	—
	1 - c	—	—	—	—
	1 - d	—	—	—	—
	1 - e	Deck lifter position sensor (PS5) signal	DEL	J110-A11	1:upper position
	1 - f	—	—	—	—
	1 - g	Deck lifter upper limit sensor (PS6) signal	DLP	J110-A8	1:upper limit
	2 - a	—	—	—	—

No. (adress)	LED	Description	Signal	Jack	Remarks
232 (PA)	1 - a	—	—	—	—
	1 - b	—	—	—	—
	1 - c	—	—	—	—
	1 - d	Vertical path roller 3 paper sensor (PS2) signal	PS2D	J107-9	1:paper present
	1 - e	Deck vertical path roller paper sensor (PS3) signal	DVRPD	J110-A2	1:paper present
	1 - f	—	—	—	—
	1 - g	—	—	—	—
	2 - a	—	—	—	—
233 (PB)	1 - a	—	—	—	—
	1 - b	—	—	—	—
	1 - c	Deck open sensor (PS7) signal	DEOP*	J107-B6	0:open
	1 - d	—	—	—	—
	1 - e	Right door open sensor (PS1) signal	RDOD*	J107-6	0:open
	1 - f	—	—		—
	1 - g	—	—		—
	2 - a	—	—		—
234 (PC)	1 - a	Vertical path roller 3 drive clutch (CL1) drive signal	CL1D*	J107-4	0:CL1 ON
	1 - b	Deck vertical path roller clutch (CL3) drive signal	CL3D*	J110-B4	0:CL3 ON
	1 - c	—	—	—	—
	1 - d	—	—		—
	1 - e	Deck pick-up clutch (CL2) drive signal	CL2D*	J110-B2	0:CL2 ON
	1 - f	—	—	—	—
	1 - g	—	—	—	—
	2 - a	Internal PCB signal	—	—	—

- **ADF - E1**

No. (adress)	LED	Description	Signal	Jack	Remarks
235 (DF-A)	1 - a	Separation motor (M4) drive signal	SMD*	J4-6	0:M4 ON
	1 - b	Original set indicator LED signal	DSD*	J4-4	0:LED ON
	1 - c	Brake (BK) drive signal	BKD*	J6-2	0:BK ON
	1 - d	Retaining plate solenoid (SL2) drive signal	RTPSLD*	J14-2	0:SL2 ON
	1 - e	Paper sttoper solenoid (SL1) draive signal	STPSLD*	J11-2	0:SL1ON
	1 - f	Delivery motor (M3) rotation signal	DMRD	—	0:counterclock-wise 1:clockwise
	1 - g	Clutch (CL) drive signal	CLD*	J12-2	0:CL ON
	2 - a	—	—	—	—
236 (DF-B)	1 - a	Belt motor (M2) clock signal	BMCLK	—	—
	1 - b	Belt motor (M2) rotation signal	BMRD	—	0:counterclock-wise 1:clockwise
	1 - c	Belt motor (M2) drive signal	BMON	—	1:M2 ON
	1 - d	Delivery motor (M3) clock signal	DMCLK	—	—
	1 - e	Delivery motor (M3) drive signal	DMON	—	1:M3 ON
	1 - f	Pick-up motor (M1) drive signal	PUMD	J9-1	1:M1 ON
	1 - g	Separation sensor (S11) signal	LDD	J4-2	0:original present
	2 - a	—	—	—	—

No. (adress)	LED	Description	Signal	Jack	Remarks
237 (DF-C)	1 - a	Communication signal	—	—	—
	1 - b	Communication signal	—	—	—
	1 - c	Communication signal	—	—	—
	1 - d	Belt motor clock sensor (S5) signal	BMCLK	J5-13	—
	1 - e	—	—	—	—
	1 - f	Delivery motor clock sensor (S6) signal	DMCLK	J5-10	—
	1 - g	—	—	—	—
	2 - a	—	—	—	—
238 (DF-EA)	1 - a	—	—	—	—
	1 - b	—	—	—	—
	1 - c	DIP SW 3, 4	—	—	—
	1 - d	DIP SW 1, 2	—	—	—
	1 - e	Push switch	—	—	—
	1 - f	Paper unit guide solenoid (SL3) drive signal	JMPSL*	J15-2	0:SL3 ON
	1 - g	LED 1 ON signal (PCB internal signal)	—	—	0:ON
	2 - a	LED 2 ON signal (PCB internal signal)	—	—	0:ON
239 (DF-EB)	1 - a	—	—	—	—
	1 - b	—	—	—	—
	1 - c	—	—	—	—
	1 - d	—	—	—	—
	1 - e	—	—	—	—
	1 - f	—	—	—	—
	1 - g	—	—	—	—
	2 - a	—	—	—	—

No. (adress)	LED	Description	Signal	Jack	Remarks
240 (AD1)	—	Registration sensor (S2) signal	PDP3	J5-15	in hex notation
241 (AD2)	—	Origianal sensor (S1) signal	DEP	J10-3	
242 (AD3)	—	—	—	—	
243 (AD4)	—	Pick-up sensor (S3) signal	PDP1	J5-4	
244 (AD5)	—	Delivery sensor (S4) signal	PDP2	J5-7	
245 (AD6)	—	—	—	—	
246 (AD7)	—	Open/closed sensor (S8) signal	ADFC	J13-2	
247 (AD8)	—	Top cover sensor (S7) signal	UPCC2	J10-6	

- **RDF-F1**

No. (adress)	LED	Description	Signal	Jack	Remarks
235 (DF-A)	1 - a	Re-circulating motor drive signal	RMD*	J8-6	1:ON
	1 - b	Original set indicator LED ON signal	DSD*	J8-4	1:ON
	1 - c	Clutch drive signal	CLD*	J13-2	1:ON
	1 - d	Brake drive signal	BKD*	J6-2	1:ON
	1 - e	Stopper plate solenoid drive signal	STPSLD*	J5-4	1:ON
	1 - f	paper deflecting plate solenoid drive signal	DFSLD*	J4-2	1:ON
	1 - g	PCB internal signal	—	—	—
	2 - a	Paper unit guide solenoid drive signal	JMPSL*	J15-2	0:ON
236 (DF-B)	1 - a	—	—	—	—
	1 - b	Belt motor clock pulse	—	TP1-1	—
	1 - c	Belt motor direction switching signal	—	—	—
	1 - d	Belt motor drive signal	—	—	—
	1 - e	Feeding motor drive signal	FMD	TP2-4	—
	1 - f	Feeding motor short brake signal	—	—	—
	1 - g	Pick-up motor drive signal	PUMD	J12-1	1:ON
	2 - a	Paper retaining plate solenoid drive signal	WSLD*	J5-2	0:ON
237 (DF-C)	1 - a	Communication signal	—	—	—
	1 - b	Communication signal	—	—	—
	1 - c	PCB internal signal	—	—	—
	1 - d	Belt motor clock sensor signal	BMCLK	J9-23	—
	1 - e	PCB internal signal	—	—	—
	1 - f	PCB internal signal	—	—	—
	1 - g	PCB internal signal	—	—	—
	2 - a	PCB internal signal	—	—	—

No. (adress)	LED	Description	Signal	Jack	Remarks
238 (DF-EA)	1 - a	Reversal sensor signal	PDP5	J9-17	1:original present
	1 - b	Pick-up roller sensor signal	PUSP	J9-8	1:roller at HP
	1 - c	Pick-up sensor signal	PDP1	J9-14	1:original present
	1 - d	Delivery sensor signal	PDP2	J9-11	1:original present
	1 - e	Re-circulating sensor signal	LDD	J8-2	0:bar on original
	1 - f	LED 1 ON signal	—	—	—
	1 - g	LED 2 ON signal	—	—	—
	2 - a	—	—	—	—
239 (DF-EB)	1 - a	DIP switch setting	—	—	—
	1 - b	DIP switch setting	—	—	—
	1 - c	DIP switch setting	—	—	—
	1 - d	DIP switch setting	—	—	—
	1 - e	DIP switch setting	—	—	—
	1 - f	DIP switch setting	—	—	—
	1 - g	DIP switch setting	—	—	—
	2 - a	DIP switch setting	—	—	—
240 (AD1)	—	—	—	—	in hex notation
241 (AD2)	—	Registration sensor signal	PDP3	JP-25	
242 (AD3)	—	—	—	—	
243 (AD4)	—	Original sensor signal	DEP1	J5-5	
244 (AD5)	—	Push switch signal	—	—	
245 (AD6)	—	RF switch signal	RFC	J2-6	
246 (AD7)	—	Upper cover sensor signal	UPCC1*	J9-30	
247 (AD8)	—	—	—	—	

- **Sorter-E1**

No. (adress)	LED	Description	Signal	Jack	Remarks
248 (ST-P6)	1 - a	Serial clock for EEPROM	EESCK	—	—
	1 - b	Serial output data EEPROM	EED1	—	—
	1 - c	Chip select signal for EEP-ROM	EECS	—	1:ON
	1 - d	Bin shift motor (M2) drive sig-nal	BSMD	—	1:M2 ON
	1 - e	Bin shift motor (M2) PWM signal	BSM	—	—
	1 - f	Bin shift motor (M2) DOWN signal	BMDWN	—	—
	1 - g	Bin shift motor (M2) UP signal	BMUP	—	—
	2 - a	Feeding motor (M1) PWM signal	FEEDPWM	—	—
249 (ST-P7)	1 - a	Delivery sensor (PI1) paper detection signal	PD	—	1:Paper present
	1 - b	Bin lower limit sensor (MS4) signal	BHP	J7-7	0:lower position
	1 - c	Lead cam home position sensor (PI3) signal	LDP	J3-5	1:at HP
	1 - d	Joint sensor (MS1) signal	JNTS	J4-2	0:released
	1 - e	24V DOWN detection signal	—	—	0:24V DOWN
	1 - f	—	—	—	—
	1 - g	EEPROM serial input data	EED0	—	—
	2 - a	EEPROM BUSY signal	EEBSY	—	0:BUSY
250 (ST-EA)	1 - a	Dip switch signal 1	—	—	—
	1 - b	Dip switch signal 2	—	—	—
	1 - c	Dip switch signal 3	—	—	—
	1 - d	Dip switch signal 4	—	—	—
	1 - e	Push switch (SW1) signal	—	—	—
	1 - f	Push switch (SW2) signal	—	—	—
	1 - g	—	—	—	—
	2 - a	—	—	—	—

No. (adress)	LED	Description	Signal	Jack	Remarks
251 (ST-EB)	1 - a	—	—	—	—
	1 - b	Feeding motor (M1) CW/CCW signal	FMA/FMB	—	0:CW
	1 - c	Feeding motor (M1) current switching signal 1	FMCCC1	—	—
	1 - d	Feeding motor (M1) current switching signal 2	FMCCC2	—	—
	1 - e	LED ON signal	LED	—	0:ON
	1 - f	—	—	—	—
	1 - g	—	—	—	—
	2 - a	—	—	—	—
252 (ST-P4)	1 - a	Bin shift motor (M2) clock signal	—	—	—
	1 - b	PCB internal signal	—	—	—
	1 - c	PCB internal signal	—	—	—
	1 - d	PCB internal signal	—	—	—
	1 - e	PCB internal signal	—	—	—
	1 - f	PCB internal signal	—	—	—
	1 - g	PCB internal signal	—	—	—
	2 - a	PCB intenal signal	—	—	—
253 (AD0)	—	—	—	—	in hex notation
254 (AD1)	—	—	—	—	
255 (AD2)	—	—	—	—	
256 (AD3)	—	—	—	—	
257 (AD4)	—	—	—	—	
258 (AD5)	—	—	—	—	
259 (AD6)	—	—	—	—	
260 (AD7)	—	—	—	—	

- **Stapler Sorter - D2**

No. (adress)	LED	Description	Signal	Jack	Remarks
248 (ST-A)	1 - a	Staple door open signal	SPLOPN	J3-7	1:open
	1 - b	Joint switch open signal	SOP	J3-5	1:open
	1 - c	Lead cam home position sensor signal	LCHP	J8-3	1:at HP
	1 - d	Stapler slide home position sensor signal	SPLACT	J7-3	0:stapling position
	1 - e	Bin unit lower limit sensor signal	BLL	J9-1	1:lower limit
	1 - f	Guide bar home position sensor	SGBHP	J4-6	1:at HP
	1 - g	Stapler home position sensor signal	SPUHP	J3-3	1:at HP
	2 - a	Stapling home position sensor signal	SPLHP	J11-3	0:at HP
249 (ST-B)	1 - a	Guide bar motor drive signal	B*	—	alternates between 1 and 0 while ON
	1 - b	Guide bar motor drive signal	B	—	
	1 - c	Guide bar motor drive signal	A*	—	
	1 - d	Guide bar motor drive signal	A	—	
	1 - e	Guide bar motor ON signal	—	—	1:ON
	1 - f	Stapler motor normal rotation signal	STMFW*	—	1:motor normal rotation
	1 - g	Stapler motor reverse rotation signal	STMRV*	—	1:motor reverse rotation
	2 - a	Stapler swing motor drive signal	—	—	—
250 (ST-C)	1 - a	Communication signal	—	—	—
	1 - b	Communication signal	—	—	—
	1 - c	Bin shift up signal	—	—	1:up
	1 - d	Bin shift down signal	—	—	1:down
	1 - e	Communication signal	—	—	—
	1 - f	Feeding motor clock pulse	FMCLK	J8-5	—
	1 - g	Communication signal	—	—	—
	2 - a	Feeding motor drive signal	FMD	J6-2	1:ON

No. (adress)	LED	Description	Signal	Jack	Remarks
251 (ST-E0)	1 - a	—	—	—	—
	1 - b	Staple absent LED ON signal	STEMP*	J7-10	0:staple absent
	1 - c	—	—	—	—
	1 - d	Staple ready indicator signal	SPLOK*	J10-4	0:LED ON
	1 - e	—	—	—	—
	1 - f	—	—	—	—
	1 - g	Stapler safety sensor signal	SPLSFT	J3-1	—
	2 - a	—	—	—	—
252 (ST-E1)	1 - a	Delivery sensor signal	SPD	J10-1	1:paper present
	1 - b	—	—	—	—
	1 - c	Manual staple key signal	MNSPL*	J10-6	0:key is prssed
	1 - d	—	—	—	—
	1 - e	—	—	—	—
	1 - f	—	—	—	—
	1 - g	—	—	—	—
	2 - a	—	—	—	—
253 (AD0)	—	—	—	—	in hex notation
254 (AD1)	—	—	—	—	
255 (AD2)	—	—	—	—	
256 (AD3)	—	Bin paper sensor signal	BPD	J4-4	
257 (AD4)	—	Dip switch signal 4	—	—	
258 (AD5)	—	Dip switch signal 3	—	—	
259 (AD6)	—	Dip switch signal 2	—	—	
260 (AD7)	—	Dip switch signal 1	—	—	

F. Adjustment Mode [3]

To start adjustment mode, press '3' (keypad) and the OK key in sequence.
To select an item, press the number (keypad) and the OK key in sequence.
To change the setting, press the number (keypad) or the zoom (+)/(-) key and the OK key in sequence.

- Press the % key to enter a negative number.

To delete an item, press the Clear key.

- A press on the Copy Start key while the service mode description is being shown starts copying operation.

No.	Description	Settings	Remarks
301	Scanning lamp intensity adjustment	0~255	A higher setting obtain darker copies.
302	Developing bias DC component adjustment	-25~25	See p. 2-12.
303	AE mode newspaper original DC bias adjustment	0~255	See p. 2-11.
304	AE mode scanning lamp activation voltage automatic adjustment	0~255	See p. 2-10.
305	Leading edge margin adjustment	-127~127	A higher setting delays the timing at which the registration clutch turns on, thereby decreasing the margin. unit: 0.36 mm
306	Leading edge non-image width adjustment	-127~127	A higher setting delays the timing at which the blank shutter solenoid turns on, thereby increasing the non-image width. unit: 0.36 mm
307	Trailing edge non-image width adjustment	-127~127	A higher setting delays the timing at which the blank shutter solenoid turns off, thereby decreasing the trailing edge non-image width. unit: 0.36 mm
308	Left/right margin adjustment	-30~30	A higher setting increases the left/right margin. unit: 0.36 mm
311	Multifeeder paper width detection reference point 1	0~255	Use the keypad.
312	Multifeeder paper width detection reference point 2	0~255	Use the keypad.
313	Multifeeder paper width detection reference point 3	0~255	Use the keypad.

No.	Description	Settings	Remarks
314	Cassette 1 paper width detection reference point 1	0~255	Use the keypad.
315	Cassette 1 paper width detection reference point 2	0~255	Use the keypad.
316	Cassette 2 paper width detection reference point 1	0~255	Use the keypad.
317	Cassette 2 paper width detection reference point 2	0~255	Use the keypad.
318	Not used	—	—
319	Not used	—	—
320	Not used	—	—
321	Not used	—	—
324	Horizontal registration paper edge sensor position adjustment	-50~50	A higher setting increases the shift of the horizontal paper edge sensor, thereby increasing the margin at the front. unit: 0.5 mm
325	DF original stop position adjustment	-7~7	A higher setting moves the original stop position to the right unit: 0.33 mm
326	Book frame erasing width adjustment	15~34	A higher setting increases the book frame erasing width. unit: 1 mm
327	Multifeeder pick-up trailing edge margin adjustment (free size pick-up)	-32~32	A higher setting delays the timing at which the blank shutter solenoid turns off, thereby decreasing the trailing edge margin. unit: 0.36 mm

G. Function Mode [4]

To start function mode, press '4' (keypad) and the OK key in sequence.
To select an item, press the number (keypad).

- To exeute the mode, press the OK key.

Note:

You must make sure that the copier is in standby state before executing any of the items.

No.	Description	Remarks
401	Use it to reset E000, E001, E002, E003, or E800.	To reset an error code, press the OK key. A press on the OK key will initialize the code and turn off the power switch.
402	Use it to execute AE automatic adjustment.	See p. 2-9.
403	Use it to adjust the fixing roller nip.	See p. 2-35.
404	Use it to check the LED lamps on the control panel.	A press on the OK key turn on all LED lamps on the control panel (for 10 sec).
405	Use it to check the activation of the scanning lamp.	A press on the OK key turns on the scanning lamp (for 3 sec).
406	Use it to check the activation of the pre-exposure lamp.	A press on the OK key turns on the pre-exposure lamp (for 3 sec).
407	Use it to supply toner at time of installation.	A press on the OK key starts supplying of toner from the hopper to the developing assembly automatically (for about 6 min): the operation will stop automatically. This mode ignores the signal from the developing toner sensor. If you start the mode by mistake, be sure to turn off the power switch immediately.
408	Use it to cause the developing assembly to rotate idly.	A press on the OK key causes the developing assembly to rotate idly (for about 6 sec).
409	Use it to check the operation of the hopper motor.	A press on the OK key causes the hopper motor to rotate (for 3 sec).

No.	Description	Remarks
410	Use it to check the operation of the blank shutter motor.	Place two sheets of A4 copy paper on the multifeeder tray, and open the copyboard cover. Press the OK key so that the blank shutter will shift and two copies will be made. (The margin changes from A6R to A4R.)
411	Use it to initialize the data of the RAM on the DC controller PCB.	Press the OK key and then the user mode key to initialize the RAM.
412	Use it to automatically adjust the multifeeder paper width detection reference point 1, 2, or 3.	See p. 2-38.
413	Use it to automatically adjust the cassette 1 paper width detection reference point 1 or 2.	See p. 2-37.
414	Use it to automatically adjust the cassette 2 paper width detection reference point 1 or 2.	See p. 2-37.
415	Not used	—
416	Not used	—

H. Optional Settings Mode [5]

To start optional settings mode, press '5' (keypad) and the OK key in sequence.
To select an item, press the number (keypad) and the OK key in sequence.
To change the setting, press the Zoom (+) / (-) key and the OK key.
To delete an item, press the Clear key.

- A press on the Copy Start key while the service mode description is being shown starts copying operation.

No.	Function	Description	Remarks
501	Use it to turn on/off the auto power-off function.	Enable/disable the function as necessary.	on:Enable auto power-off. off:Disable auto power-off.
502	Use it to switch the density notation (9 ⇔17).	Select either 9-level or 17-level notation for the density indicator LED.	0:9 level 1:17 level
503	Use it to turn on/off the size detection function.	Enable or disable the original size detection function as necessary.	on:Enable size detection. off:Disable size detection.
504	Use it to change the upper limit imposed on the copy volume.	Select from 1 to 100 to change the upper limit.	1 to 100 • To change the setting, press the number (key-pad) and the OK key.
505	Use it to select U size paper (G1).	Use it for G1 paper size.	0:G-LTR 1:K-LGL
506	Use it to select U size paper (G2).	Use it for G2 paper size.	0:FOOLSCAP 1:OFFICIO 2:E-OFFICIO 3:A-LGL 4:A-OFFICIO
507	Use it to select U size paper (G3).	Use it for G3 paper size.	0:G-LGL 1:FOLIO 2:AUS FLS
508	Use it to select U size paper (G4).	Use it for G4 paper size.	0:LTR 1:A-LTR
509	Use it to select cleaning belt feeding length.	Use it to switch between standard and doubled length.	0:Standard. 1:Double.
510	Use it to select the static eliminator bias for multifeeder pick-up.	As necessary, make a switch-over so that the voltage applied to the static eliminator when picking up from the multifeeder will always be 4.0 kV.	0:3 kV 1:4 kV

No.	Function	Description	Remarks
511	Use it to turn on/off the auto energy saver function.	Enable/disable the function as necessary.	on: Enable auto energy saver function. off: Disable auto energy saver function.
512	Use it to switch the copier's operation mode between AB-configuration and Inch-configuration.*1	You have to select the copier's operation mode when the AB/Inch-configuration is selected using SW101.	-1: AB-configuration -0: Inch-configuration

*1: If the setting is altered using this mode, the settings for standard mode and stored by the copier's automatic memory function are reset, then; the power switch is turned off.

I. Counter mode [6]

To start counter mode, press '6' (keypad) and the OK key in sequence.
To select an item, press the number (keypad) and the OK key in sequence.

- To initialize the counter, select the appropriate item; then, press the user mode key and the OK key in sequence.

To delete an item, press the Clear key.

- A press on the Copy Start key while the service mode description is being shown starts copying operation.

No.	Description	Remarks
601	Indicates the large-size total copy count.	Incremented upon delivery.
602	Indicates the large-size copy count (from multifeeder).	
603	Indicates the large-size copy count (from cassette 1).	
604	Indicates the large-size copy count (from cassette 2).	
605	Not used	
606	Not used	
607	Indicates the large-size copy count (2nd side pick-up for 2-sided copies).	
608	Indicates the count of large-size original feeding.	Incremented upon original pick-up.
609	Indicates the small-size total copy count.	Incremented upon delivery.
610	Indicates the small-size copy count (from multifeeder).	
611	Indicates the small-size copy count (from cassette 1).	
612	Indicates the small-size copy count (from cassette 2).	
613	Indicates the small-size copy count (from paper deck).	
614	Not used	
615	Indicates the small-size copy count (2nd side pick-up for 2-sided copies).	
616	Indicates the count of small-size original feeding.	Incremented upon original pick-up.
617	Service counter 1	Incremented upon pick-up.
618	Service counter 2	
619	Indicates how many times the cleaning belt solenoid has turned on*.	Incremented upon activation.

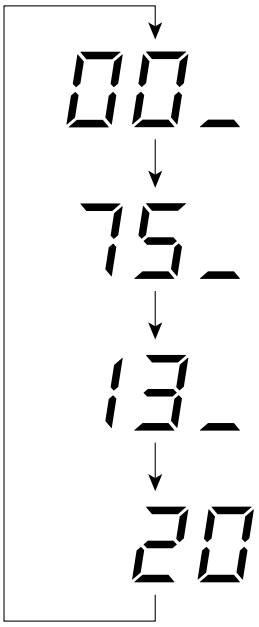
* At '250,000', error code E005 will be indicated. E005 will be cleared when the counter ('619') is cleared.

- **Counter indicator**

Turn on the indicators on the indication section one by one until the count value is indicated. (up to 8 digits)

The display changes sequentially at intervals of 700 msec.

Example ; count: 751320



CHAPTER 5 SELF DIAGNOSIS

The microprocessor on the copier's DC controller is equipped with a function that checks the condition of the copier (particularly, its sensors). The microprocessor runs a check at such times as programmed and indicates an error code or executes error auto power-off or error shut-off upon detection of an error.

A. Copier

Code	Cause	Description
E000	•Thermistor (TH1; off contact, poor contact, open circuit) •Heater (H1, H2; open circuit) •Thermal switch (TS1; open circuit) •SSR (faulty) •DC controller PCB (faulty)	The temperature of the upper fixing assembly does not reach 40°C within 27 sec after power-on. (Notes 1, 2) When an error associated with 'E000' is detected, the copier turns off the power switch in 2 sec and then turns off all power supplies.
E001	•Thermistor (TH1; short circuit) •SSR (faulty) •DC controller PCB (faulty)	The temperature of the upper fixing assembly exceeds 220°C. (Notes 1, 2) When an error associated with 'E001' is detected, the copier turns off the power switch in 2 sec and then turns off all power supplies.
E002	•Thermistor (TH1; poor contact, open circuit) •Heater (H1, H2; open circuit) •Thermal switch (TS1; open circuit) •SSR (faulty) •DC controller PCB (faulty)	•The temperature does not reach 75°C within 35 sec after reaching 40°C. •The temperature does not reach 100°C within 25 sec after reaching 75°C. •The temperature does not reach 120°C within 20 sec after reaching 100°C. •The temperature does not reach 140°C within 20 sec after reaching 120°C. •The temperature does not reach 160°C within 20 sec after reaching 140°C. •The temperature does not reach 170°C within 15 sec after reaching 160°C. •The temperature does not reach 180°C within 15 sec after reaching 170°C. •The temperature does not reach 185°C within 7 sec after reaching 180°C. •The temperature does not reach 190°C within 7 sec after reaching 185°C. (Notes 1, 2) When an error associated with 'E002' is detected, the copier turns off the power switch in 2 sec and then turns off all power supplies.

Code	Cause	Description
E003	•Thermistor (TH1; poor contact, open circuit) •Heater (H1, H2; open circuit) •Thermal switch (TS1; open circuit) •SSR (faulty) •DC controller PCB (faulty)	•The temperature drops to 100°C or less after reaching a specific temperature. (Notes 1, 2) When an error associated with 'E003' is detected, the copier turns off the power switch in 2 sec and then turns off all power supplies.
E004	•SSR (short circuit) •Heater (H1, H2; open circuit) •Thermal switch (TS1; open circuit)	The SSR has turned while the heater (H1, H2) is off when the power switch is turned on. (Note 2)
E005	•Cleaning belt (fixing assembly; taken up) (In the case that the counter value of the service mode No.619 reaches to "250,000".	The take-up length of the cleaning belt inside the fixing assembly exceeds a specific value.
E010	•Main motor (M1; faulty) •Main motor driver PCB (faulty) •DC controller PCB (faulty)	After the main motor drive signal has been generated, two or more clock pulses are not input within 1 sec.
E030	•Counter (open circuit) •DC controller PCB (faulty)	A check is made before the counter is turned on and off. (When the counter is turned on, normal if the counter drive signal is '0'; when the counter is turned off, normal if the counter drive signal is '1'.)
E031	•Option counter (open circuit) •DC controller PCB (faulty)	A check is made before the option counter is turned on and off. (When the option counter is turned on, normal if the option counter drive signal is '0'; when the option counter is turned off, normal if the option counter drive signal is '1'.)
E051	•Horizontal registration roller home position sensor (PS15; faulty) •Horizontal registration motor (M5; faulty) •Motor driver 1 PCB (faulty) •DC controller PCB (faulty)	The horizontal registration roller home position signal (HRHP) is not generated within 2 sec after the copy start key (2 sided) is turned on.

Code	Cause	Description
E053	•Horizontal registration paper edge sensor (PS16; faulty) •Horizontal registration motor (M5; faulty) •Motor driver 1 PCB (faulty) •DC controller PCB (faulty)	The horizontal registration paper edge signal (HRPD) is not generated within 10 sec after the power switch is turned on.
E060	•Wire cleaner home position switch (MSW1; faulty) •Wire cleaner rear position switch (MSW2; faulty) •Cleaner motor (M11; faulty) •Motor driver 2 PCB (faulty) •DC controller PCB (faulty)	The other switch is not turned on within 20 sec after the cleaner is passed through the first switch detecting range.
E202	•Scanner home position sensor (PS1; faulty) •Scanning motor (M2; faulty) •Motor driver 1 PCB (faulty) •DC controller PCB (faulty)	•The scanner home position signal (SCHP) does not go '1' within 10 sec after the power switch or the door switch has been turned on. •The scanner took 10 sec or more to make a round trip (SCFW + SCRV).
E203	•Scanner home position sensor (PS1; faulty) •DC controller PCB (faulty)	The scanner home position signal (SCHP) has occurred for 2 pulses or more within 0.5 sec when the scanner motor turned on.
E204	•Scanner home position sensor (PS1; faulty) •Scanning motor (M2; faulty) •Motor driver 1 PCB (faulty) •DC controller PCB (faulty)	The scanner home position signal does not turn off after the scanner has started to move forward.
E210	•Lens home position sensor (PS19; faulty) •Lens drive motor (M3; faulty) •Motor driver 1 PCB (faulty) •DC controller PCB (faulty)	•The lens home position signal (LHP) is not generated within 9 sec after the lens motor starts to rotate when the power switch or the door switch has been turned on. •The lens home position signal (LHP) does to turn off within 1 sec after it has been generated.
E220	•Scanning lamp •Lamp regulator (faulty) •DC controller PCB	The scanning lamp does not turn on within 0.5 sec after the DC controller PCB has generated the scanning lamp ON signal. When an error associated with 'E220' is detected, the copier turns off the power switch in 2 sec and then turns off all power supplies.

Code	Cause	Description
E224	•Blank shutter motor (M8; faulty) •Blank shutter home position sensor (PS20; faulty) •Motor driver 2 PCB (faulty) •DC controller PCB (faulty)	•The blank shutter home position signal (BLHP) is not generated within 7 sec after the power switch has been turned on. •The blank shutter home position signal (BLHP) does not turn off within 1 sec after it has been generated.
E240	•DC controller PCB (faulty)	An error has occurred in the communication between the microprocessor master (IC116) and the microprocessor slave (IC104).
E710	•DC controller PCB (faulty)	IC117 on the DC controller PCB cannot be initialized at time of power-on.
E711	•DC controller PCB (faulty)	IC117 on the DC controller PCB has gone out of order at time of power-on.
E712	Feeder •DF control PCB (faulty) •Connector (poor contact)	The communication IC on the DF controller PCB has gone out of order.
E716	Pedestal •Pedestal controller PCB (faulty) •Connector (poor contact)	The communication IC on the pedestal controller PCB has gone out of order. A communication error has occurred.
E800	•Auto power-off function (open circuit) •DC contorller PCB (faulty)	An open circuit in the auto power off circuit has been detected. (Note 1)

Note:

1. When the self diagnosis mechanism has detected an error, you may reset the copier by turning off its switch once.
   This, however, does not apply to ‘E000’,‘E001’,‘E002’,‘E003’ and ‘E800’. To reset these error codes, select No.401 in service mode [4], and press the OK key. This arrangement is adopted to prevent the user from casually resetting the copier when the cause of the error is an open circuit in the thermistor, thereby protecting the rollers inside the fixing assembly against heat damage.
2. If ‘E000’,‘E001’,‘E002’,‘E003’, or ‘E004’ is detected, the copier forces off the power switch in about 2 sec.

B. Pedestal Self Diagnosis

Code	Cause	Timing
E901	•Pedestal motor (M1; faulty) •Pedestal controller PCB (faulty)	The motor clock signal is not input within 1 sec after pedestal motor drive signal has been generated.

C. RDF/ADF Self Diagnosis

Code	Cause	Timing
E400	•Communication (error; data, with copier)	The communication with the copier has been disrupted for 5 sec or more. (Check are made at all times.)
E401	RDF •Pick-up motor (fails to rotate) •Pick-up roller sensor (faulty)	•A flag is attached to the spindle of the pick-up motor, and the rotation of the pick-up motor is monitored in reference to the flag blocking the pick-up roller sensor. Pick-up roller sensor does not turn on/off twice or more within 1 sec.
E402	•Belt motor (fails to rotate) •Belt motor clock sensor (faulty)	The number of belt clock pulses within 200 msec is below a specific value.
E403	RDF •Feeding motor (fails to rotate) •Feeding motor clock sensor (faulty)	The number of feeding motor clock pulses within 200 msec is below a specific value.
E404	ADF •Delivery motor (fails to rotate) •Delivery motor clock sensor (faulty)	The number of delivery motor clock pluses within 200 msec is below a specific value.
E411	•Original detection (faulty) •Registration sensor (faulty) •Original end sensor (faulty)	The sensor output is 2.3 V or more in the absence of paper.

Note:

When the self diagnosis mechanism has detected an error, you can reset the copier by turning off the power switch once.
You may continue to make copies even when the DF is out of order; lift the DF, and place the original on the copyboard.

D. Sorter Self Diagnosis

Code	Cause	Timing
E500	•CPU or communication IC on sorter controller (faulty)	An error has occurred in the communication between the sorter and the copier.
E510	•Feeder motor (fails to rotate)	The clock signal from the motor remains off for 250 msec.
E530	•Stapler guide bar swing motor (fails to rotate)	The home position sensor does not turn off when 2560 pulses of the motor drive signal have been generated.
E531	•Stapler unit swing motor (fails to rotate)	•The stapler unit swing sensor does not turn off within 500 msec after the motor drive signal has been generated. •The stapler unit swing sensor does not turn on within 1000 msec after it has turned off.
E540	•Bin shift motor (fails to rotate)	•The lead cam home position sensor does not turn off within 2000 msec after the motor drive signal has been generated. •The lead cam home position sensor does not turn on within 2000 msec after it has turned off.
E541	•Bin motor (faulty) •Lead cam drive gear (wrong installation)	The lead cam position sensor does not turn on within 1.0 sec after it has turned off.

■ Resetting the Errors

1. If the copier is in the middle of operation,

① It turns on the “Jam indicator”.
② Turn off and on the power switch removing the jam.
③ The copier runs a self check. It is reset if the result is good. If the result is not good, it enters down state*, indicating ‘E5XX’; on the control panel.

2. If the copier is not operating,

① Jam indicator indicates.
② When the power has been turnd off and then on again, it runs a self check. it is reset if the result is good. If the result is not good, it enters down state*, indicating ‘E5XX’; on the control panel.

• Down State

① It indicates ‘E5XX’.
② When the sorter has been detached**, it is ready for operation unless a mode requiring the sorter is selected.

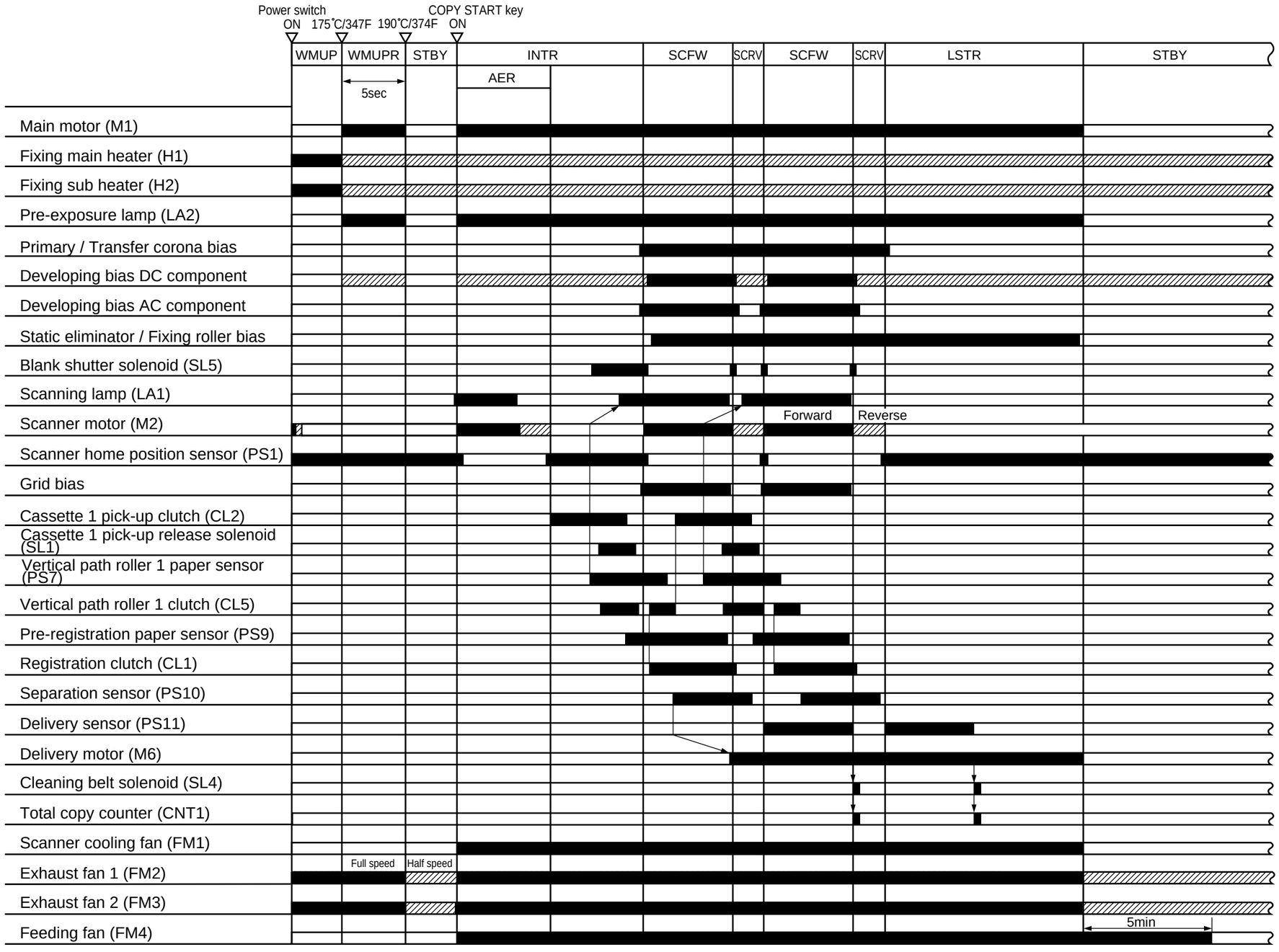
■ The copier will be reset if the result of a self check after the power has been turned off and then on again is good even in down state. (This is with the sorter connected to the copier.)

* State in which an error code is indicated.
** Turn off the joint sensor. The connector may remain connected.

APPENDIX

A. GENERAL TIMING CHART

• A4, 2 Copies, Continuous



B. SIGNALS AND ABBREVIATIONS

What follows below is a list of signals and abbreviations used in the chapters of the manual and circuit diagrams.
The abbreviations within parentheses represent analog signals, which cannot be expressed in terms of ‘1’ or ‘0’.

1. Signals

ACON	DEVELOPING AC BIAS ON command
AE	AE SENSOR OUTPUT signal
AEREF	AE SENSOR REFERENCE signal
BLA	BLANK SHUTTER MOTOR DRIVE PULSE command A
BLB	BLANK SHUTTER MOTOR DRIVE PULSE command B
BLHLD	BLANK SHUTTER MOTOR HOLD command
BLHP	BLANK SHUTTER HOME POSITION signal
BLSD	BLANK SHUTTER SOLENOID DRIVE command
C1LTD	CASSETTE 1 LIFTER MOTOR DRIVE command
C1LTP	CASSETTE 1 LIFTER POSITION signal
C1PD	CASSETTE 1 PAPER DETECTION signal
C1PUCD	CASSETTE 1 PICK-UP CLUTCH DRIVE command
C1PW	CASSETTE 1 PAPER WIDTH SIZE signal
C1RSD	CASSETTE 1 PICK-UP RELEASE SOLENOID DRIVE command
C1SZ1	CASSETTE 1 PAPER LENGTH SIZE signal 1
C1SZ2	CASSETTE 1 PAPER LENGTH SIZE signal 2
C2LTD	CASSETTE 2 LIFTER MOTOR DRIVE command
C2LTP	CASSETTE 2 LIFTER POSITION signal
C2PD	CASSETTE 2 PAPER DETECTION signal
C2PUCD	CASSETTE 2 PICK-UP CLUTCH DRIVE command
C2PW	CASSETTE 2 PAPER WIDTH SIZE signal
C2RSD	CASSETTE 2 PICK-UP RELEASE SOLENOID DRIVE command
C2SZ1	CASSETTE 2 PAPER LENGTH SIZE signal 1
C2SZ2	CASSETTE 2 PAPER LENGTH SIZE signal 2
CBCC	COPY BOARD COVER CLOSED signal
CBSD	CLEANING BELT SOLENOID DRIVE command
CL1D	VERTICAL PATH ROLLER 3 DRIVE CLUTCH DRIVE command
CL2D	DECK PICK-UP CLUTCH DRIVE command
CL3D	DECK VERTICAL PATH ROLLER CLUTCH DRIVE command
CL4D	DECK LIFTER DRIVE CLUTCH DRIVE command
CLA	CLEANER MOTOR DRIVE PULSE command A
CLB	CLEANER MOTOR DRIVE PULSE command B
CLCCW	CLEANER MOTOR COUNTERCLOCKWISE commnad
CLCW	CLEANER MOTOR CLOCKWISE command
CNT2D	COPY COUNTER DRIVE command 2
CNTD	TOTAL COUNTER DRIVE command 1
CNTSL1	COUNTER SOLENOID 1 DRIVE command
CNTSL2	COUNTER SOLENOID 2 DRIVE command
DCBC	DC BIAS CONTROL command
DEL	DECK LIFTER POSITION signal
DEOP	DECK OPEN DETECTION signal
DEPRL	DECK PICK-UP RELEASE SOLENOID DRIVE command
DLP	DECK LIFTER UPPER LIMIT POSITION signal
DMA	DELIVERY MOTOR DRIVE PULSE command A
DMB	DELIVERY MOTOR DRIVE PULSE command B
DMCLK	DELIVERY MOTOR CLOCK command
DMD	DELIVERY MOTOR DRIVE command
DMI1	DELIVERY MOTOR CURRENT CONTROL command 1
DMI2	DELIVERY MOTOR CURRENT CONTROL command 2
DMRON	DELIVERY MOTOR ROTATION command
DPD	DECK PARER DETECTION signal
DPON	DEVELOPING DC BIAS ON command
DVRPD	DECK VERTICAL PATH ROLLER PARER DETECTION signal
EF1D	EXHAUST FAN 1 DRIVE commnad
EF2D	EXHAUST FAN 2 DRIVE commnad
FFD	FEEDING FAN DRIVE command
FM5LOCK	POWER SUPPLY PCB COOLING FAN LOCK signal
GRCONT	GRID POTENTIAL CONTROL command
HMD	HOPPER MOTOR DRIVE command
HRA	HORIZONTAL REGISTRATION MOTOR DRIVE PULSE command A
HRB	HORIZONTAL REGISTRATION MOTOR DRIVE PULSE command B
HRCD	HORIZONTAL REGISTRATION CLUTCH DRIVE command
HRCLK	HORIZONTAL REGISTRATION MOTOR CLOCK signal
HRD	HORIZONTAL REGISTRATION MOTOR DRIVE command
HRHP	HORIZONTAL REGISTRATION ROLLER HOME POSITION signal
HRPD	HORIZONTAL REGISTRATION PAPER DETECTION signal
HRRON	HORIZONTAL REGISTRATION MOTOR ROTATION command
HRSD	HORIZONTAL REGISTRATION SOLENOID DRIVE command
LDT	LAMP ON DETECTION signal
LEA	LENS MOTOR DRIVE PULSE commnad A
LEB	LENS MOTOR DRIVE PULSE commnad B
LEHLD	LENS MOTOR HOLD command
LFA	LOWER FEEDER MOTOR DRIVE PULSE command A
LFB	LOWER FEEDER MOTOR DRIVE PULSE command B
LFCD	LOWER FEEDER OUTLET CLUTCH DRIVE command
LFCLK	LOWER FEEDER MOTOR CLOCK signal
LFD	LOWER FEEDER MOTOR DRIVE command
LFRON	LOWER FEEDER MOTOR ROTATION comannd
LFSD	LOWER FEEDER FLAPPER SOLENOID DRIVE command
LHP	LENS HOME POSITION signal
LINT	LIGHT INTENSITY signal (analog)
LMPON	LAMP ON command
MFCD	MULTIFEEDER PICK-UP CLUTCH DRIVE command
MFPD	MULTIFEEDER PAPER DETECTION signal
MFPUSD	MULTIFEEDER PICK-UP SOLENOID DRIVE command
MFPW	MULTIFEEDER PAPER WIDTH SIZE signal
MHRD	MAIN HEATER DRIVE command
MMCLK	MAIN MOTOR CLOCK signal
MMD	MAIN MOTOR DRIVE command
MMLOCK	MAIN MOTOR LOCK singal
MSSRD	MAIN SSR DRIVE signal
PDP1	PAPER DETECTION signal 1
PDP2	PAPER DETECTION signal 2
PDP3	PAPER DETECTION signal 3
PDP4	PAPER DETECTION signal 4
PDP5	PAPER DETECTION signal 5

PDP6	PAPER DETECTION signal 6
PDP7	PAPER DETECTION signal 7
PDP8	PAPER DETECTION signal 8
PEXP	PRE-EXPOSURE LAMP LIGHT command
PS2D	VERTICAL PASS ROLLER 3 PAPER DETECTION signal
PTON	PRIMARY/TRANSFER CORONA CURRENT ON command
PWOFF	POWER SWITCH OFF command
RDC	RIGHT DOOR CLOSED signal
RDOD	RIGHT DOOR OPEN signal
RGCD	REGISTRATION CLUTCH DRIVE command
SCA	SCANNING MOTOR DRIVE PULSE command A
SCB	SCANNING MOTOR DRIVE PULSE command B
SCCLK	SCANNING MOTOR CLOCK PULSE command
SCFD	SCANNER COOLING FAN DRIVE command
SCHP	SCANNER HOME POSITION signal
SCM1	EXCITATION MODE command 1
SCM2	EXCITATION MODE command 2
SCMD	SCANNING MOTOR DRIVE command
SCRET	PHASE RETURN command
SCRON	SCANNING MOTOR ROTATION command
SCVREF	REFERENCE VOLTAGE command
SERVICE	SERVICE MODE SWITCH signal
SFON	STATIC ELIMINATOR/FIXING ROLLER BIAS ON command
SHRD	SUB HERTER DRIVE command
SIZE0	ORIGINAL SIZE DETECTION signal 0
SIZE1	ORIGINAL SIZE DETECTION signal 1
SIZE1	DECK SIZE signal 1 (Pedestal)
SIZE2	ORIGINAL SIZE DETECTION signal 2
SIZE2	DECK SIZE signal 2 (Pedestal)
SIZE3	ORIGINAL SIZE DETECTION signal 3
SPCH	STATIC ELIMINATOR VOLTAGE LEVEL SWITCH command
SSSRD	SUB SSR DRIVE signal
TEP	TONER EMPTY signal
TH1	FIXING THERMISTOR signal
VR1CD	VERTICAL PASS ROLLER 1 CLUTCH DRIVE command
VR2CD	VERTICAL PASS ROLLER 2 CLUTCH DRIVE command
WCHP	CORONA WIRE CLEANER HOME POSITION signal
WCRP	CORONA WIRE CLEANER REAR POSITION signal
ZRCS	ZERO CROSS DETECTION signal

2 Abbreviations

AER	AE (MEASUREMENT) ROTATION
INTR	INITIAL ROTATION
LSTR	LAST ROTATION
SCFW	SCANNER FORWARD
SCRV	SCANNER REVERSE
STBY	STANDBY
WMUP	WARM UP
WMUPR	WARM UP ROTATION

E. SPECIFICATIONS

1. Copier

a. Type

Body	Desk-top
Copyboard	Fixed
Light source	Halogen lamp (300 W, 120 V; 340 W, 220/240 V)
Lens	Zoom lens
Photosensitive medium	OPC (ϕ30)

b. System

Reproduction		Indirect electrostatic
Charging		Corona
Exposure		Slit (moving scanner)
Copy density adjustment		Automatic (AE) or manual
Development		Dry (toner projection)
Pick-up	Auto	2 cassettes Pedestal (accessory)
	Manual	Multifeeder
Transfer		Corona
Separation		Curvature + static eliminator
Cleaning		Blade
Fixing		Heat roller (main 700 W + sub 600 W for 120V model; main 750 W + sub 640 W for 220/240V model)

c. Performance

Item			Specifications
Type of original			Sheet, book, 3-D object (2 kg / 4.4lb max.)
Maximum size of original			A3 (297 x 420 mm)/LDG (11" x 17"*1)
Reproduction ratio			Direct, 4R4E or 4R3E (Table A-201), zoom 48~205%(Display range: 49 to 204%)
Wait time			35 sec or less (at 20°C / 68F room temperature)
First copy			5.75 sec or less (A4, Direct, non-AE, pick-up from cassette 1)
Continuous copying			100 copies max.
Copying speed			See Tables A-202 and A-203.
Copy size			Cassette: A3 (11" x 17"*1) to A5 (STMT*1) Manual: A3 (11" x 17"*1) to A6 (postcard)
Type of copy paper	Cassette		Plain paper (64 to 80 g/m²), tracing paper (SM1), colored paper*2, recycled paper (64 to 80 g/m²)
	Manual		Plain paper (64 to 80 g/m²;128 g/m²*3), tracing paper (SM1, GNT80), colored paper*2, transparency*2*4, postcard*2, label sheet*2, recycled paper (64 to 80 g/m²)
	Two-sided copying	Auto	Plain paper (64 to 80 g/m²), colored paper*2, recycled paper (64 to 80 g/m²)
		Manual	Plain paper (64 to 80 g/m²; 128 g/m²*3), colored paper*2, recycled paper (64 to 80 g/m²)
Pick-up capacity		Cassette	500 sheets (55mm / 2.2",80g/m² plain paper), front loading (no claw)
		Manual	50 sheets (5.5mm / 0.22",80g/m² plain paper)
Copy tray			100 sheets (A3 / 11" × 17", plain paper)
Non-image width			2.0 ± 1.0 mm / 0.08" ± 0.04" (leading edge), 2.5 ± 1.5 mm / 0.1" ± 0.06" (left/right, trailing edge)
Auto clear			Provided (2 min standard, may be varied between 0 and 9 min in 1-min increments)
Auto power-off			Provided (60 min standard, may be varied between 10 and 120 min in 10-min increments; may be disabled in service mode)
Accessories			ADF-E1 RDF-F1 Paper Deck Pedestal-M1 MS-B1 Sorter-E1 Stapler Sorter-D2

*1 11"x17"=279.4x431.8mm, STMT=139.7x215.9mm
*2 Canon-recommended paper.
*3 Be sure to remove curling.
*4 Be sure to separate sheets before setting on the multifeeder tray.

Item		Specifications
Operating environment	Temperature	7.5°C / 45.5F to 32.5°C / 90.5F
	Humidity	5% to 85% RH
	Atmospheric pressure	608 hPa to 1013 hPa (0.5 to 1 atm)
Power supply		Serial numbers
	120V 60Hz	NHE XXXXX
	120V 60Hz (Taiwan)	NHF XXXXX
	220/240V 50Hz	PDE XXXXX
	220/240V 50Hz (Australia)	RBN XXXXX
Power consumption	Maximum	1.5 kW or less
	Standby	0.164 kWh (average; reference only)
	Continuous copying	0.834 kWh (average; reference only)
Noise	Copying	71 dB or less
	Standby	50 dB or less
Ozone (avr of 8 hr)		0.05 ppm or less (avr; 0.10 ppm or less max.)
Dimen-sions	Width	610mm / 24.0”
	Depth	595mm / 23.4”
	Height	585mm / 23.0”
Weight		82.5 kg / 181.5 lb
Consum-ables	Copy paper	Keep wrapped, and protect against humidity.
	Toner	Avoid direct sunshine, and store at 40°C / 104F, 85% or less.

Copying ratio		AB	Inch
	Direct	1:1	1:1
	Reduce I	1:0.500	1:0.500
	Reduce II	1:0.707	1:0.647
	Reduce III	1:0.816	1:0.733
	Reduce IV	1:0.865	1:0.786
	Enlarge I	1:1.154	1:1.214
	Enlarge II	1:1.224	1:1.294
	Enlarge III	1:1.414	1:2.000
	Enlarge IV	1:2.000	
	Zoom	49 ~ 204% in 1% increments	

Table A-201 Preset Ratios

• **Pick-Up from Cassette 1**

Copying ratio		Copy size(mm)	Copies
Direct	1:1	A3 (297 × 420)	17
		A4 (210 × 297)	31
		A5 (148 × 210)	31
		B4 (257 × 364)	19
		B5 (182 × 257)	31
		A4R (297 × 210)	23
		A5R (210 × 148)	31
		B5R (257 × 182)	26
Reduce	1:0.500	A3 → A5R	23
	1:0.707	A3 → A4R	20
		B4 → B5R	22
	1:0.816	B4 → A4R	21
	1:0.865	A3 → B4	18
		A4 → B5	27
Enlarge	1:2.000	A5R → A3	17
	1:1.414	A4R → A3	17
		B5R → B4	17
	1:1.224	A4R → B4	19
	1:1.154	B4 → A3	17
		B5 → A4	22

Table A-202 Copying Speed (AB)

• **Pick-Up from Cassette 1**

Copying ratio		Copy size*1	Copies
Direct	1:1	LTR	30
		11” × 17”	16
		LGL	20
		LTRR	24
		STMT	31
		STMTR	30
Reduce	1:0.786	LGL → LTRR	21
	1:0.733	11” × 17” → LGL	19
		11” × 15” → LTRR	21
	1:0.647	11” × 17” → LTRR	20
	1:0.500	11” × 17” → STMTR	23
Enlarge	1:2.000	STMTR 11” × 17”	17
	1:1.294	LTRR → 11” × 17”	17
	1:1.214	LGL → 11” × 17”	17

*1 11”x17”=279.4x431.8mm, LGL=215.9x355.6mm, LTR=215.9x279.4mm, STMT=139.7x215.9mm

Table A-203 Copying Speed (Inch)

Specifications subject to change without notice

2. Paper Deck Pedestal - M1

Item		Specifications
Pick-up		Clawless
Loading		Front loading
Type of copy paper		Plain paper (64 to 80 g/m^2), colored paper*1
Size of stack		A4 (horizontal), B5 (horizontal), LTR*2 (horizontal)
Capacity		162 mm / 6.38” high (stack; one-side; 1500 sheets of 80 g/m^2 paper)
Size switching		By relocating partition plate in increments
Power supply		Not provided (DC power supplied from copier)
Weight		46kg / 101 lb
Dimensions	Width	610mm / 24.0”
	Depth	608mm / 23.9”
	Height	414mm / 16.3”

*1 Canon-recommended paper.
*2 LTR=215.9x279.4mm

Specifications subject to change without notice

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