NP6085

SERVICE MANUAL

REVISION 0

Canon

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CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

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INTRODUCTION

This Service Manual provides basic facts and figures needed to service the plain paper copier NP6085 in the field. The NP6085 is designed to enable automated copying work and may be configured with the following system components:

1. Stapler Sorter-E2
2. RDF-D1
3. Computer Form Feeder-A2 (C.F.F.)

For descriptions on the RDF-D1 and the Stapler Sorter-E2, see their respective service manuals. This manual covers the NP6085 and the C.F.F.

This Service Manual is organized as follows:

CHAPTER 1, "General Introduction," shows the NP6085's features, specifications, and step-by-step instructions on how to operate the copier.

CHAPTER 2, "Copying Processes," shows how the NP6085 generates copies while discussing each of the steps involved.

CHAPTER 3, "Operations and Timing," explains the NP6085's mechanical system by function and principles behind its electrical systems in relation to timing of each operation.

CHAPTER 4, "Mechanical System," explains how to disassemble/assemble and adjust the NP6085.

CHAPTER 5, "Installation," provides points to note when selecting the site of installation and instructions on how to install the NP6085.

CHAPTER 6, 'Maintenance and Inspection," provides tables of periodically replaced parts and consumables/durables as well as a scheduled servicing chart.

APPENDIX contains a general timing chart, general circuit diagrams, and PCB diagrams.

This Service Manual is accompanied by the Service Handbook, which contains information on how to maintain and inspect the NP6085 through adjustment and troubleshooting work.

Information found in this manual may be updated from time to time for product improvement, and major updates are communicated in the form of Service Information bulletins.

All service persons are expected to be thoroughly familiar with the contents of this Service Manual, the Service Handbook, and Service Information bulletins and be ready to respond to the needs of the user promptly.

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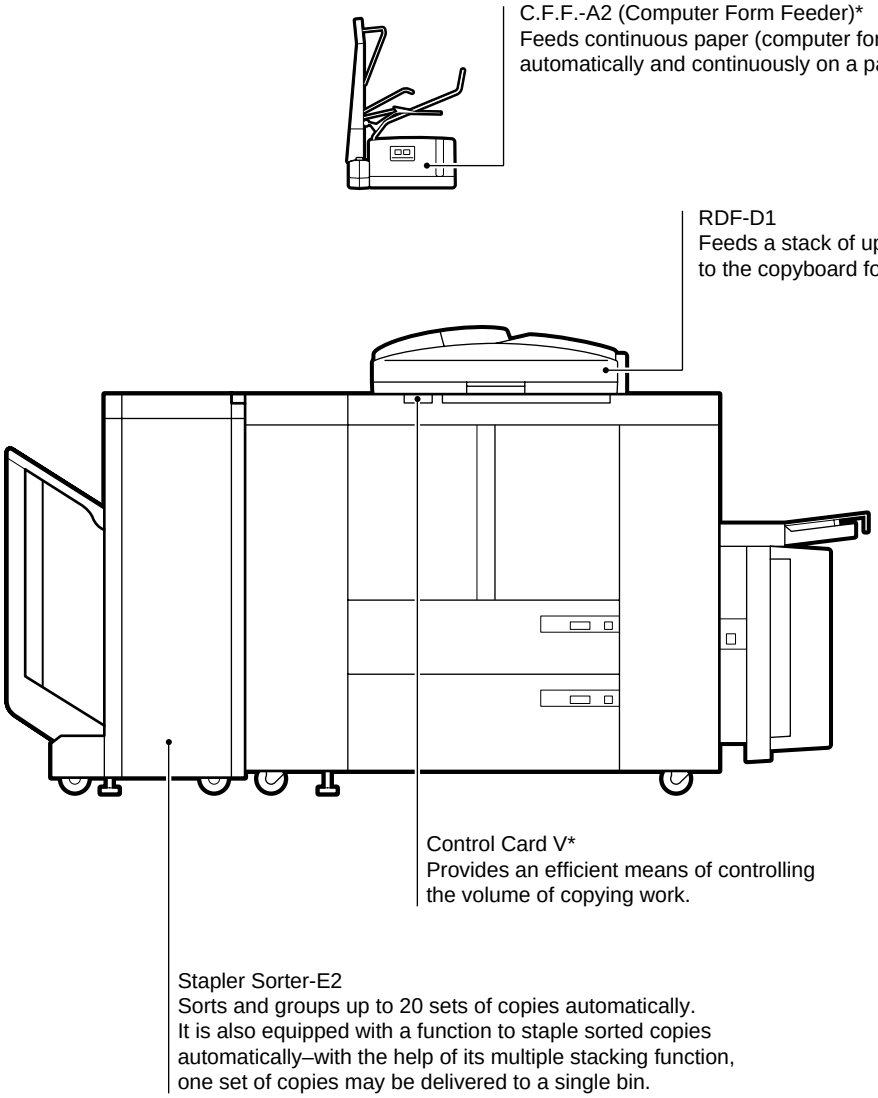
System Configuration

The NP6085 is designed to accommodate the following accessory:



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CHAPTER 1

GENERAL INTRODUCTION

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I. FEATURES

1. Generates 90 copies per minute (in stream reading mode) and provides a large-capacity source of paper (6,100 sheets).

- It generates as many as 90 copies every minute (A4/LTR).
- It is designed as a front loading type, enabling efficient use of office space.
- It accommodates 1,000 sheets of copy paper in its front upper and lower trays, 4,000 sheets in its paper deck, and 100 sheets in its multifeeder.

2. Accepts continuous paper (when equipped with the optional C.F.F.).

- It accepts continuous paper (e.g., computer form originals generated by a computer) with the help of the optional C.F.F. so that the paper may be used without separating the pages.
- It accepts originals ranging in size between 203.2 and 381.0 mm (between 8 and 15 in) in width and between 203.2 and 304.8 mm (between 8 and 15 in) in length (feeding direction).
- It handles continuous copying from continuous paper (equivalent of as many as 500 pages of 80 g/m^2 paper).

3. Full range of accessory for high-speed copying work.

- RF-D1 : Automatic original feeding device of an original circulating type.
- Stapler Sorter-E2 : 20-bin sorter capable of automatic stapling after sorting and grouping.
- C.F.F. : Automatic continuous paper (computer form) feeder for continuous copying. (With its real-time AE mechanism, 1-on-1 60 sheets may be dealt with in AE or non-AE mode.)
- Control Card-V : Control device capable of keeping track of copies made by as many as 200 different groups.
- Copy Data Controller-A1 : Control device capable of keeping track of copying volume and machine control/status communication.
- Remote Diagnostic Device Ⅱ : Control device capable of machine control/status communication.

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II. SPECIFICATIONS

A. NP6085

1. Type

Body	Console
Copyboard	Fixed
Light source	Halogen lamp (100V model, 285 W; 208/ 220/ 240V model, 330 W)
Lens	Zoom lens
Photosensitive drum	Amorphous silicon

2. System

Copying		Indirect static transfer
Charging		Corona
Exposure		Slit (moving light source)
Copy density adjustment		Automatic or manual
Development		Dry (toner projection)
Pick-up	Automatic	2 front trays, paper deck
	Manual	Multifeeder [10 mm (0.39 in) deep; 100 sheets of 80 g/m^2 paper]
Transfer		Corona
Separation		Corona (static separation)
Cleaning		Blade
Fixing		Heat roller (100V model, 930 W + 550 W; 208/220/240V model, 1600 W)

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3. Performance

Type of original		Sheet, book, 3-D object (2 kg or 4.4 lb max.)
Maximum size of original		A3/ 11" x 17"
Copying ratio		Direct, 4R3E (North America), 2R2E (Europe), 4R4E (Others) (Table 1-1), zoom (50% to 200%)
Wait time		6 min or less (at 20¡C / 68ûF)
First copy		3.1 sec (A4/ LTR direct, non-AE, paper deck)
Continuous copying		999 copies max.
Copy size		A3/ 11" x 17" max.; B5/ STMTR min.
Type of copy paper	Front tray, paper deck	Plain paper (64 to 80 g/m^2), recycled paper *, ecology paper*, tracing paper*, colored paper*, thick paper (80 to 200 g/m^2)
	Multifeeder	Plain paper (64 to 80 g/m^2), recycled paper*, ecology paper*, tracing paper*, colored paper, transparency, label sheet, thick paper (80 to 200 g/m^2)
	Two-sided/overlay mode	Plain paper (64 to 80 g/m^2), recycled paper*, ecology paper*, tracing paper*, colored paper*, thick paper (80 to 200 g/m^2)
Tray	Claw	None
	Upper/ lower front tray	107.5 mm (4.23 in) deep (about 1,000 sheets of 80 g/m^2 paper)
	Paper deck	420 mm (16.54 in) deep (about 4,000 sheets of 80 g/m^2 paper)
	Multifeeder	10 mm (0.39 in) high (about 100 sheets of 80 g/m^2 paper)
Copy tray		250 sheets (approx.; A3/ 11" x 17", 80 g/m^2)
Non-image width	Leading edge	4.0 + 1.5, -1.0 mm (RF 4.0 + 1.8, -1.4 mm) 0.16 + 0.06, -0.04 in (RF 0.16 + 0.07, -0.06 in)
	Trailing edge	2.0 ± 1.0 mm (RF 2.0 ± 1.4 mm) 0.08 + 0.04 in (RF 0.08 ± 0.06 in)
	Left/right	2.5 ± 2.0 mm (RF 2.5 ± 2.3 mm) 0.1 + 0.08 in (RF 0.1 ± 0.09 in)
Auto clear		Provided (2 min standard; may be varied between 0 and 9 min in 1-min increments)
Auto power-off		Provided (1 hr standard; may be varied between 10 min and 2 hr)
Accessory		Computer Form Feeder-A2, Control Card-V, Copy Data Controller-A1, Remote Diagnostic Device Ⅱ, Stapler Sorter-E2.

*Canon-recommended paper.

4. Others

Operating environment	Temperature	7.5˚ to 32.5˚C
	Humidify	5% to 85% RH
	Atmospheric pressure	810.60 hPa to 1013.25 hPa (0.8 to 1.0 atm)
Power supply		Serial number
	100 V 50/60 Hz	LEU xxxxx
	208 V 60 Hz	NFD xxxxx
	230 V 50 Hz	PBU xxxxx
	230 V 50 Hz	RAV xxxxx
	230 V 50 Hz	SAL xxxxx
	230 V 50 Hz	TAM xxxxx
	230 V 50 Hz	UBR xxxxx
Power consumption	Maximum	2.0 kW or less
	Standby	0.295 kWh (reference only)
	Continuous copying	1.280 kWh (reference only)
Noise	Copying	81 dB or less (by ISO)
	Standby	Satisfies applicable standards (55 dB or less)
Ozone (avr over 8 hr)		0.02 ppm or less
Dimensions (including RDF)	Width	1511 mm (59.48 in)
	Depth	789 mm (31.06 in)
	Height	1168 mm (45.98 in)
Weight		300 kg (666 lb) (approx.; including RDF)
Consumables	Copy paper	Keep copy paper wrapped to protect against humidity.
	Toner	Avoid direct rays of the sun, and keep at 40°C/80% or less.

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Reproduction ratio			Size	Copy paper size	Copies/min
Direct	1 : 1 (±0.6%)		A3 (297 X 420 mm)	A3	47
			A4 (210 X 297 mm)	A4	85 (90)
			B4 (257 X 364 mm)	B4	54
			B5 (182 X 257 mm)	B5	85
			A4R (297 X 210 mm)	A4R	61
			B5R (257 X 182 mm)	B5R	67
Reduce	I	1:0.500 (±1.0%)	---	---	---
	II	1:0.707 (±1.0%)	A3 → A4	A4R	61
			B4 → B5	B5R	67
	III	1:0.816 (±1.0%)	B4 → A4	A4R	61
	IV	1:0.865 (±1.0%)	A3 → B4	B4	54
			A4 → B5	B5	85
Enlarge	I	1:2.000 (±1.0%)	---	---	---
	II	1:1.414 (±1.0%)	A4 → A3	A3	45
			B5 → B4	B4	53
	III	1:1.224 (±1.0%)	A4 → B4	B4	53
	IV	1:1154 (±1.0%)	B4 → A3	A3	45
			B5 → A4	A4	77

( ) : Stream reading mode

Table 1-1 Copying Speed (copier)

Specifications subject to change without notice.

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Reproduction ratio			Size	Copy paper size	Copies/min
Direct	1 : 1 (0.06%)		LTR (8 1/2" X 11")	LTR	83 (90)
			11" X 17"	11" X 17"	46
			LGL (8 1/2" X 14")	LGL	55
			LTRR (8 1/2" X 11")	LTRR	62
			STMTR (5 1/2" X 8 1/2")	STMTR	67
Reduce	I	50.0% (± 1.0%)	11" X 17" → STMT	STMTR	61
	II	64.7% (± 1.0%)	11" X 17" → LTRR	LTRR	62
	III	73.3% (± 1.0%)	11" X 17" → LGL	LGL	55
			11" X 15" → LTR	LTRR	62
Enlarge	I	200.0% (± 1.0%)	STMT → 11" X 17"	11" X 17"	44
	II	129.4% (± 1.0%)	LTRR → 11" X 17"	11" X 17"	44
	III	121.4% (± 1.0%)	LGL → 11" X 17"	11" X 17"	44

( ) : Stream reading mode

Table 1-2 Copying Speed (copier only)

Specifications subject to change without notice.

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B. Computer Form Feeder-A2

Item	Specifications	Remarks
Original pick-up	Face down, automatic pick-up delivery (set with first page first)	
Original reading	Fixed scanner, stream reading by original tractor	
Light source	Halogen lamp (100V model, 80 V, 220 W) (200V model, 175 V, 250 W)	
Type of original	1P computer form * • 50 to 80 g/m^2	
Size of original	Breadthwise: 203.2 to 381.0 mm (8 to 15 in) Lengthwise: 203.2 to 304.8 mm (8 to 12 in)	
Size of copy paper	A4, A4R, LTR, LTRR	
Copying mode	One-sided copying, Two-sided copying	
Copy count	1 set only (no multiple copying)	
Copy counter	Soft counter in copier's service mode	
Pick-up tray stacking	50 mm high (max.; equivalent of 500 sheets of 80 g/m^2 paper)	On multifeeder cover
Original delivery tray stacking	50 mm high (max.; equivalent of 500 sheets of 80 g/m^2 paper)	
Original size detection	Breadthwise: automatic by position of tractor Lengthwise: by input of holes in single page	
Auto paper selection	Provided (for AB-configuration, either A4 or A4R; for inch-configuration, from LTR or LTRR)	See P1-8.
Auto ratio selection	Provided (automatic from between 64% and 100% based on sizes of original and copy; however, may be varied manually in 1%-increments); See P1-8.	Applies to manual also, i.e., between 64% and 100%
AE	Provided (measurements taken of single page)	
Power supply	24 VDC (from copier) AC power supply (for scanning lamp; from copier)	
Dimensions	512 (W) X 195 (D) X 116 (H) mm, 20.2 (W) X 7.7 (D) X 4.6 (H) in	
Weight	7.5 kg (16.5 lb; not including kit)	
Operating environment	Same as copier	

* What is called 1P computer form refers to form paper not intended for duplication (e.g., carbon paper). What is called 2P or 3P computer form refers to form paper intended for duplication.

Specifications subject to change without notice.

■ Auto Paper Selection

The width is detected by the position of the tractor set to the width of continuous paper. The length in feeding direction is detected by the number of holes per page entered on the copier's control panel. Both dimensions are used to identify the size of the original, thereby enabling automatic selection of copy paper.

If 'width of original/lengthwise dimension' > 1, A4 (LTR) is selected.

If 'width of original/lengthwise dimension' < 1, A4R (LTRR) is selected.

■ Auto Paper Selection

Study the table below for samples of identification:

Width of original	Length of original (number of holes)	Copy paper selected automatically	Copying ratio selected automatically
15 in	11 in (22)	A4 (LTR)	69% (71%)
14.7/ 8 in	8.1/ 2 in (17)	A4 (LTR)	79% (74%)
9 in	11 in (22)	A5R (LTRR)	96% (94%)

■ Feeding Originals

When the Copy Start key is pressed, the first six pages are fed at longer intervals than usual, allowing the user to fold the continuous paper into pages. Thereafter, the pages are fed continuously up to the last page.

■ Delivered Copies

If 250 or more copies are to be made, copying operation will stop at the 250th copy and the copier will indicate a message asking the user to remove the copies from the copier's copy tray or the sorter's non-sort bin. Copying operation will resume at a press on the Copy Start key.

Specifications subject to change without notice.

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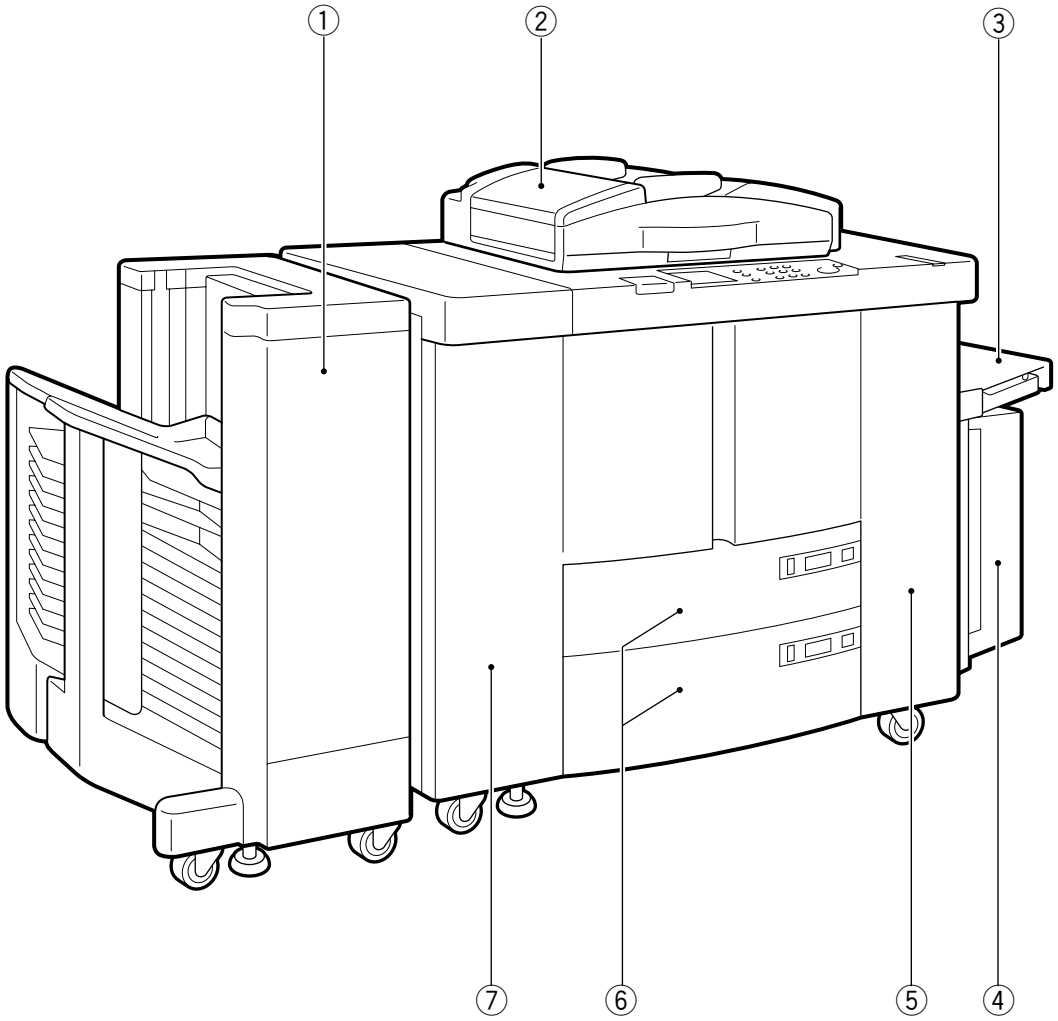
III. NAMES OF PARTS

A. External View



① Stapler Sorter-E2
② RDF-D1
③ Multifeeder
④ Paper deck
⑤ Front right door
⑥ Front tray
⑦ Front left door

Figure 1-1

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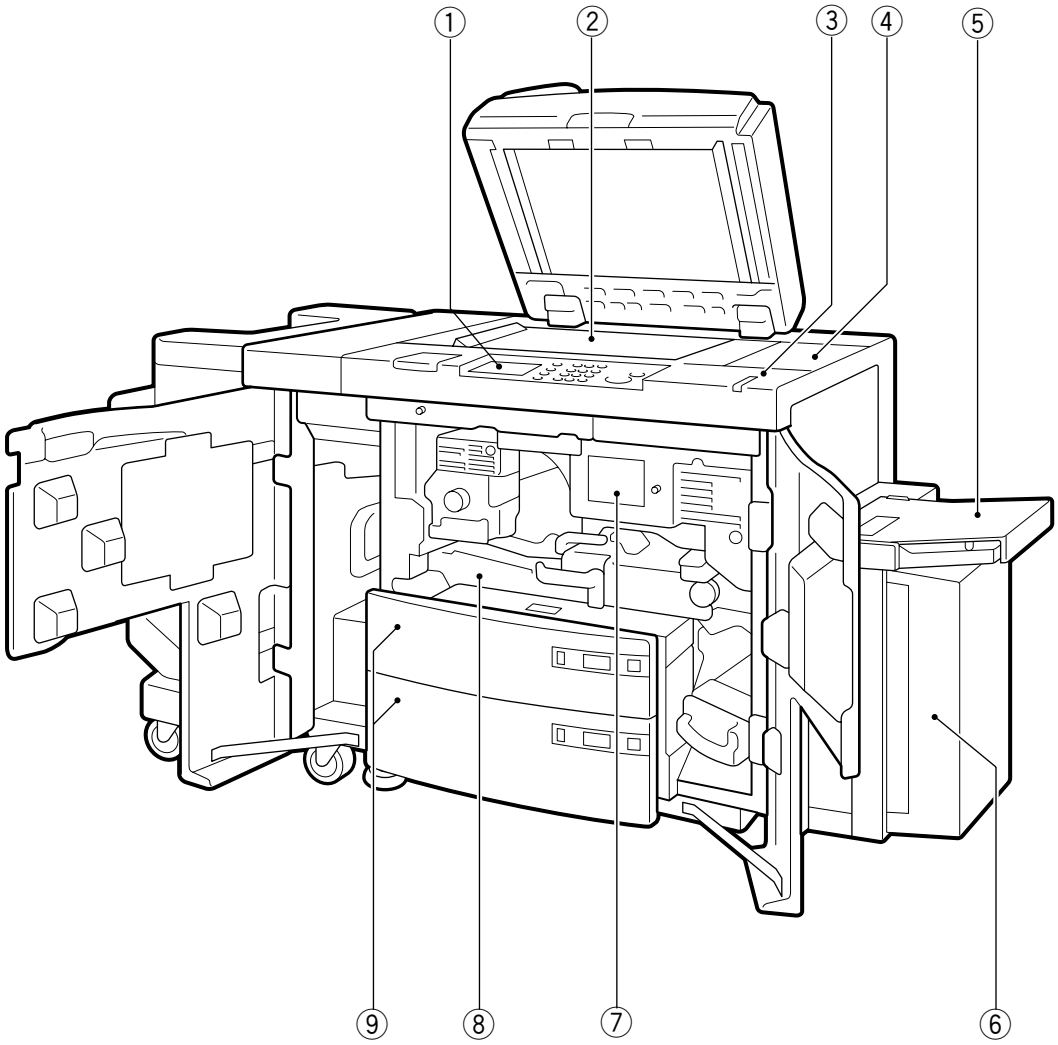

① Control panel
② Copyboard glass
③ Power switch
④ Toner supply cover
⑤ Multifeeder
⑥ Paper deck
⑦ Jam indicator
⑧ Duplexing unit
⑨ Front tray

Figure 1-2

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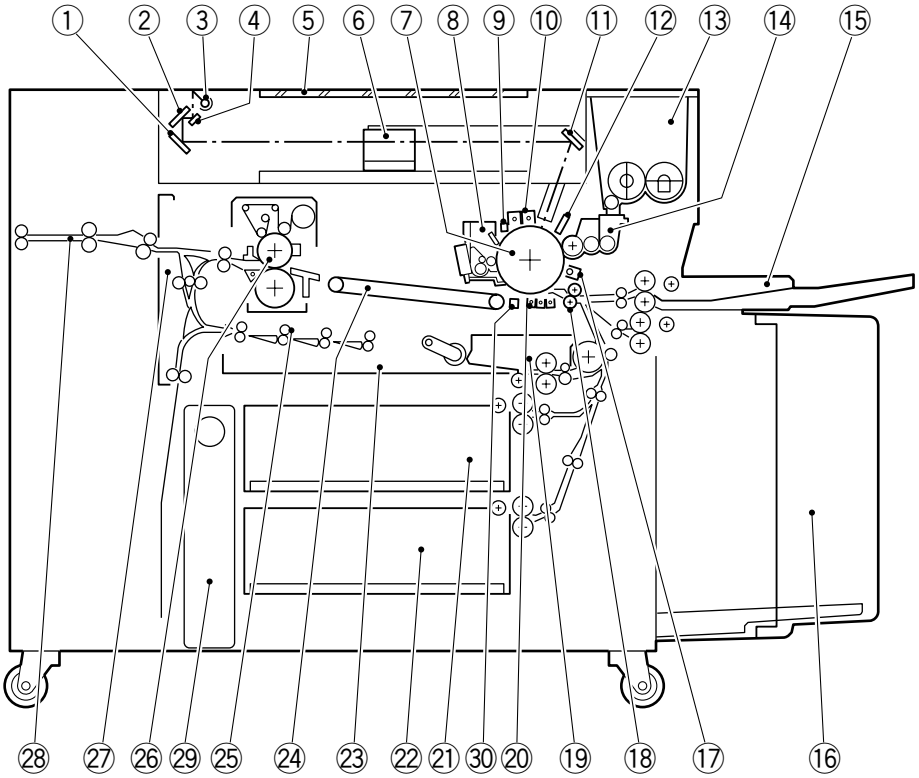
B. Cross Section

1. Cross Section of the Copier



① No. 3 mirror
② No. 2 mirror
③ Scanning lamp
④ No. 1 mirror
⑤ Copyboard glass
⑥ Zoom lens
⑦ Photosensitive drum
⑧ Drum cleaning assembly
⑨ Pre-exposure assembly
⑩ Primary charging assembly
⑪ No. 4 mirror
⑫ Blank exposure lamp/potential sensor
⑬ Hopper assembly
⑭ Developing assembly
⑮ Multifeeder
⑯ Paper deck
⑰ Roller electrode/pre-transfer charging assembly
⑱ Registration roller
⑲ Re-pick up assembly
⑳ Transfer/separation charging assembly
㉑ Upper front tray
㉒ Lower front tray
㉓ Holding tray
㉔ Feeding assembly
㉕ No. 2 feeding assembly
㉖ Fixing assembly
㉗ Delivery assembly
㉘ Buffer assembly
㉙ Waste toner receptacle
㉚ Pre-cleaner exposure assembly

Figure 1-3

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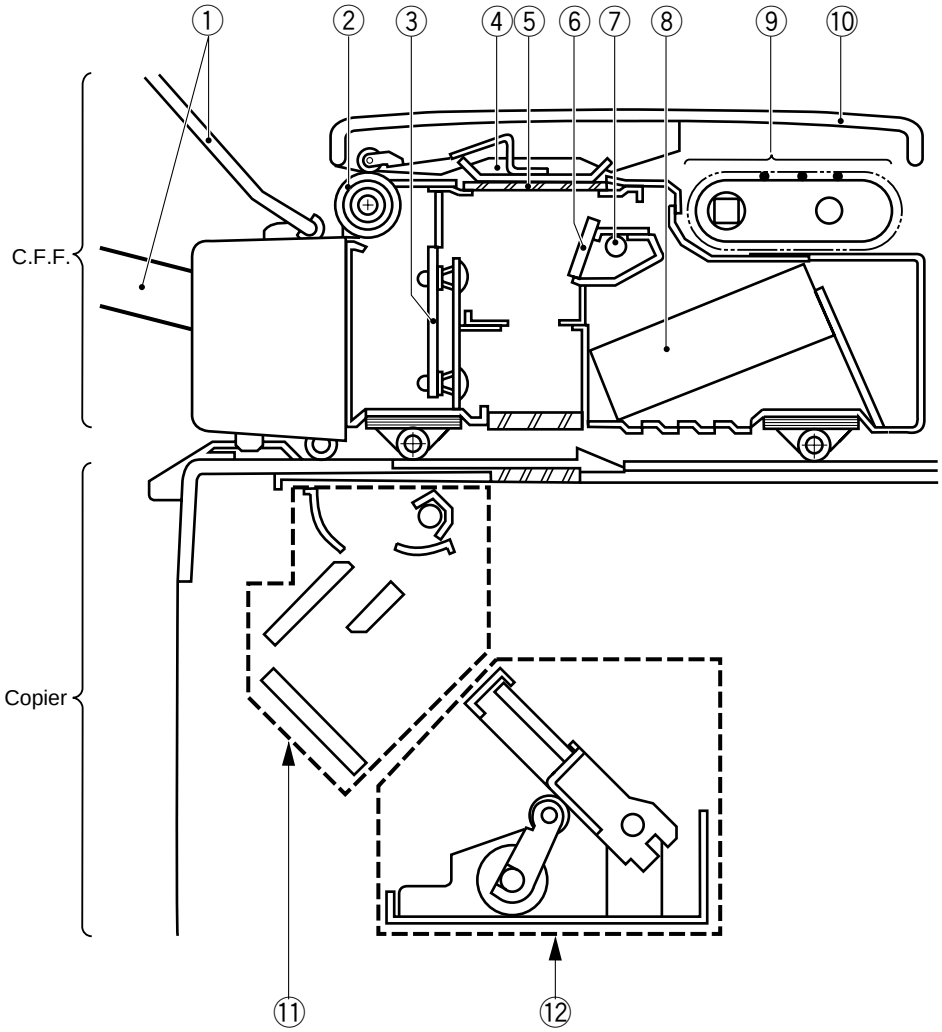
2. Cross Section of the Computer Form Feeder-A2 (C.F.F.)



① Original stacking tray
② Delivery roller
③ C.F.F. controller PCB
④ White plate
⑤ Platen glass
⑥ Dust-proofing glass
⑦ C.F.F. lamp
⑧ Heat exhaust fan
⑨ Tractor
⑩ C.F.F. cover
⑪ No. 1, No. 2/3 mirror mount (copier)
⑫ C.F.F. mirror unit

Figure 1-4

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IV. OPERATION

A. Control Panel

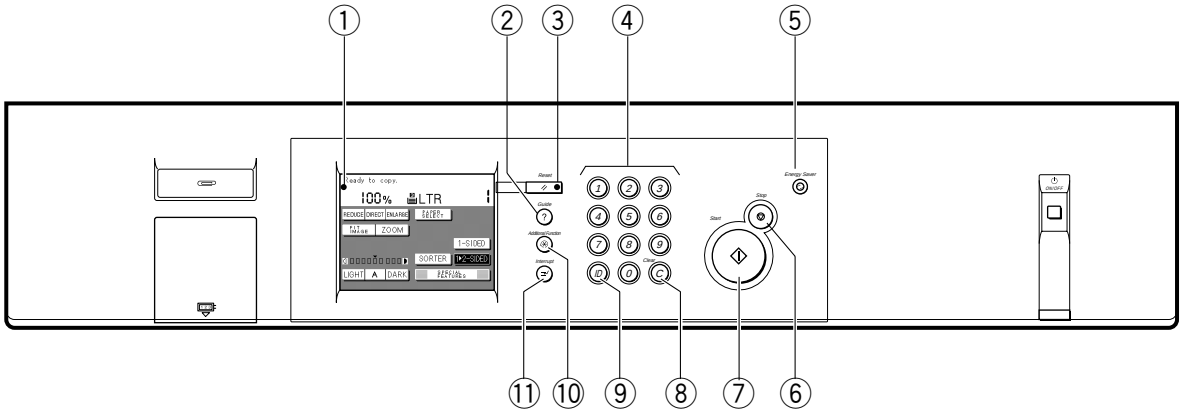

Figure 1-5

① Touch panel display
② Guide key (Copy Density key)
③ Reset key
Standard mode
- Copy count at 1
- Direct
- Auto paper selection
- One-sided to two-sided
- Non AE

④ Numeric keypad
⑤ Energy Saver key
- ON when selected.

⑥ Stop key
⑦ Start key
⑧ Clear key
⑨ ID key
⑩ User key (Additional Function key)
⑪ Interrupt key

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B. Basic Operation

1) Turn ON the power switch.
   ① The Wait indicator turns ON in green.
   ② Normally, the wait time is 6 min (at ambient temperature of 20 ÞC).

Reference:
Auto start mode may be selected during the wait period. (See p. 1-15.)

2) Open the RDF, place the original face down, and close the RDF. Or, set the original in the RDF.
3) Select the appropriate reproduction ratio.
   ① Reduce, Direct, Enlarge Key
   Press it to make a default size copy from a default size original.
   ② Zoom Key
   Set the appropriate reproduction ratio between 50% and 200% in 1% increments.
   ③ Fit Image Key
   Press it to make a copy reduced to 93% (may be changed between 90% and 99% in 1% increments).
4) To select a specific copy paper size, select the appropriate tray by pressing the Paper Select key.
   ① Place paper of the appropriate size on the multifeeder as necessary.
5) Set the appropriate copy density.
   ① To use AE (automatic adjustment), press the AE key and check that the notation has reversed.
   ② To make a darker copy manually, press the Copy Density key [Dark] so that the lamp moves to the right; to make a lighter copy, on the other hand, press the [Light] key so that the lamp moves to the left.

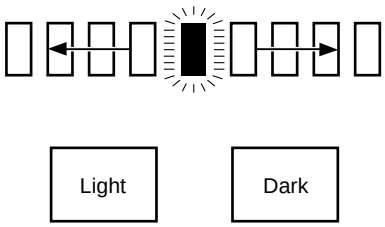

Figure 1-6

Note:
Use manual mode if you are copying originals with a high transparency (e.g., transparencies).

6) Enter the appropriate copy count (1 to 999) on the numeric keypad, and check the copy count indicator.
   ① If you cannot enter a number on the numeric keypad or if you made a mistake, press the Clear key and enter the correct number once again.
7) Press the Copy Start key.
   ① If you placed an original on the RDF's original tray, the original will be picked up automatically and copying will start.
   ② As many copies as set will be made.
   ③ You may perform the following between when copying starts and when as many copies as you have set are made:
   - Stopping Copying Operation
     To stop continuous copying operation, press the Stop key or the Reset key; the operation will stop after completing the on-going copying run.
   - Switching from AE Mode to Manual Density Adjustment Mode
     You may switch from AE mode to manual density adjustment mode during continuous copying.
     If the copy is too dark or too light in AE mode, press the Copy Density key as necessary while referring to the density of the copy made in AE mode until the desired density is obtained.
     You cannot, however, switch from manual density adjustment mode to AE mode during continuous copying.
   - Interrupting for a Different Copy
     See p. 1-22.

Note:
Keys other than the Stop, Reset, Interrupt, and Copy Density keys are not accepted during continuous copying.

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④ When the selected tray runs out of paper during continuous copying, the copier will indicate the message 'Add Paper' on the touch panel display and stop operation.
If this happens, supply copy paper, and press the Copy Start key so that the remaining number of copies will be made automatically.
However, this does not apply if 'Drawer Eligibility ON' is selected in user mode. (See p. 1-24.)

⑤ If a jam occurs, the copier will indicate the message "Jam" on the touch panel display and stop operation.
The copy indicator will indicate the remaining number of copies when you have removed the jam.

⑥ The copier will return to standard mode (auto clear function) if you left it alone for about 2 min after the end of copying operation or after the last key operation.
- The auto clear time may be changed in Additional Function mode. (See p. 1-24.)

C. Auto Start

You may select auto start mode when the copier is in wait state, in which the copier is
- in wait after power-on,
- in wait after de-selecting Energy Saver mode,
- cleaning any of the wires, or
- in wait after removal of a jam.

Place an original while in wait state, select the appropriate copying mode, and press the Copy Start key.

The Start lamp will change from green to orange to indicate that auto start mode has been selected. (You cannot start interrupt mode.)

The copier will automatically start copying using the selected copying mode when it enters standby state.

You may de-select auto start by pressing the Stop key or the Reset key.

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D. Copying from Continuous Paper Originals (computer forms)

If the copier is equipped with the Computer Form Feeder-A2 (C.F.F. hereafter), you may automatically feed continuous paper (e.g., computer forms) for continuous copying.

Note:
You cannot use the multifeeder if you are making copies using the C.F.F.

1. Placing the Continuous Paper

1) Lift the copyboard cover until it is upright, and set the C.F.F. to the copier.

Caution:
When setting the C.F.F., do NOT press the C.F.F. releasing button.

2) With the first page on top, place the continuous paper against the rear of the multifeeder. (Be sure that the side you want to copy is facing the copyboard glass.)

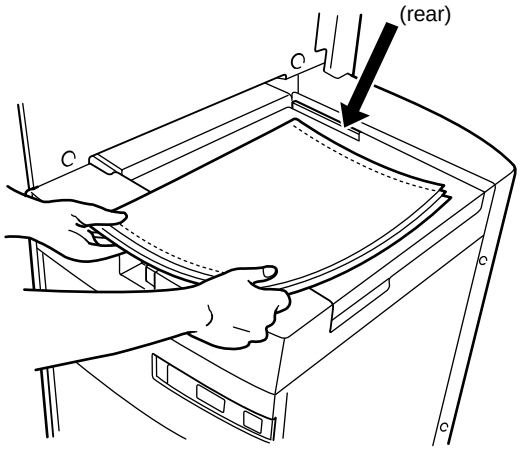

Figure 1-7

Reference:
The stack on the multifeeder must be 50 mm or less.

3) Holding the top of the original stacking tray, set it as if to pull it up.

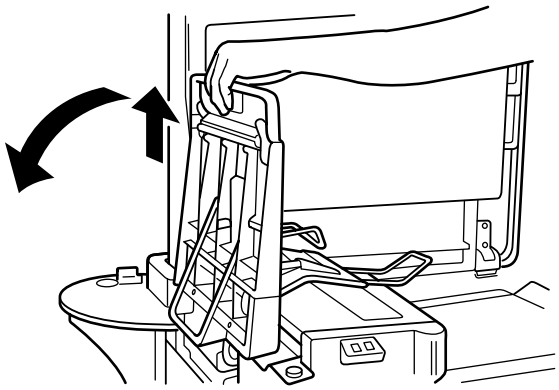

Figure 1-8

4) Open the C.F.F. cover.

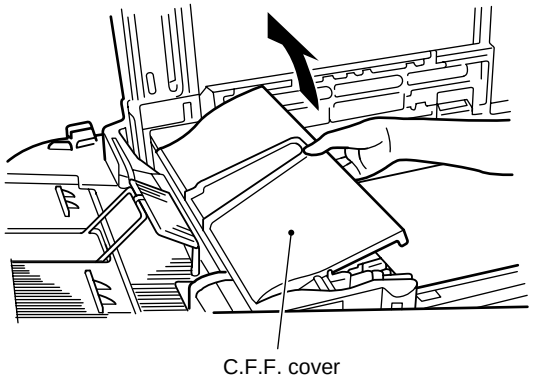

Figure 1-9

5) Shift the tractor locking lever at the front to the right, and release the lock.

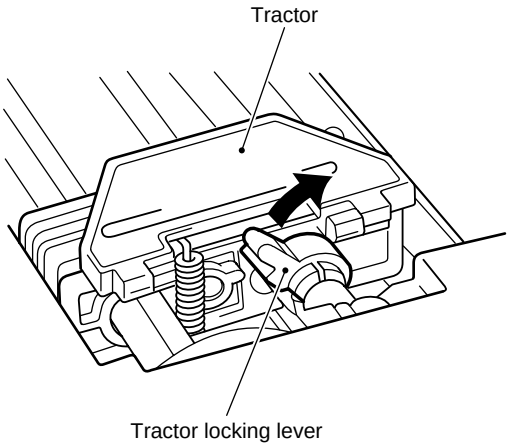

Figure 1-10

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6) Open the tractor covers at the front and at the rear, and move the tractor at the front to suit the width of the continuous paper.

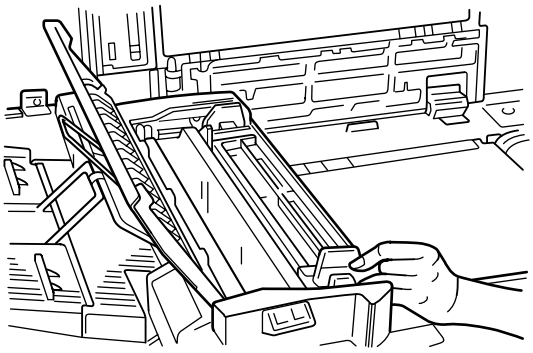

Figure 1-11

7) Place the continuous paper with the side you want to copy facing downward and aligning the holes.

Caution:

Make sure that the continuous paper is neither taut nor slack.

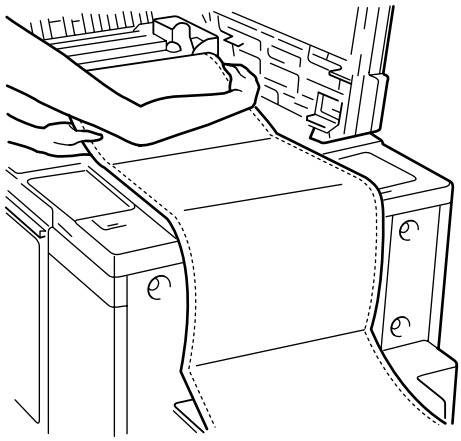

Figure 1-12

8) Close the tractor covers on both sides securely, fix the continuous paper in place, and shift the tractor lever at the front to the left to lock the tractor.

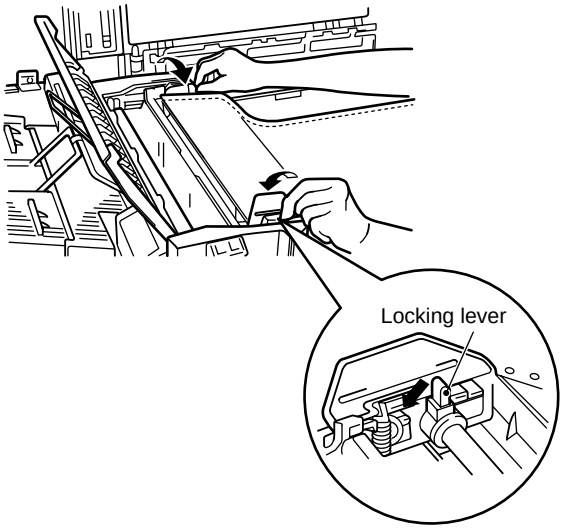

Figure 1-13

9) Turn the green dial so that it is aligned with the leading edge of the original.

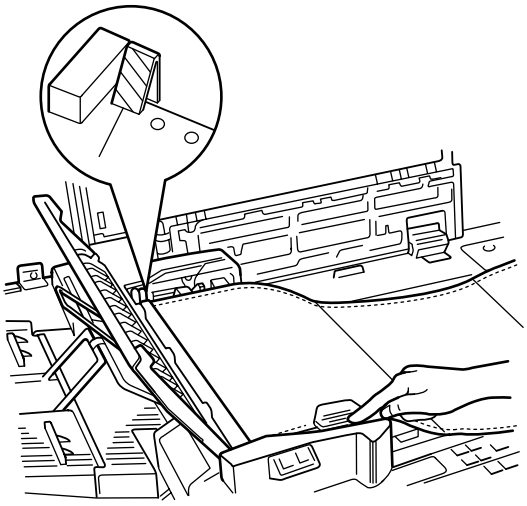

Figure 1-14

10) Close the C.F.F. cover, and set the sub guide.

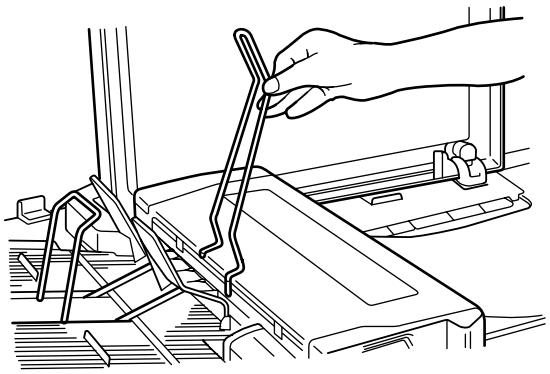

Figure 1-15

2. Setting Copying Mode

1) Enter the number of holes in a single original (one side only) or the length (inch) of a single original on the copier's control panel.

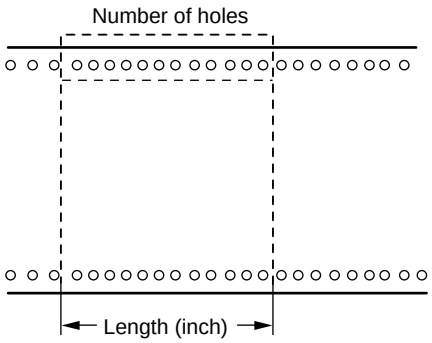

Figure 1-16

2) Press the OK key.
   - The copier will automatically identify the optimum size (A4 or A4R) and the optimum reproduction ratio and indicate them on the touch panel display.
   - The reproduction ratio will be between 64% and 100%.

Reference:

If you made a mistake entering the number of holes or the length, open and then close the C.F.F. top cover, place the original once again, and enter the correct number.

3) Set the appropriate copying mode, and press the Copy Start so that the continuous paper (original) will be fed for copying.

Note:
- The copy count must be '1'.
- A4 or A4R will be selected automatically as copy paper.
- Take care not to move the C.F.F. once copying has started.

Reference:

The following may be selected:
- copy density
- marging mode (you cannot select left or right)
- one-sided to two-sided copying
- zooming (64% to 100%)

4) Crease the continuous paper while the first page to the six page are being delivered (slow delivery; be sure to fold it so that the peaks are peaks and troughs are troughs).
   Keep in mind that after the seventh page, the delivery will be faster.

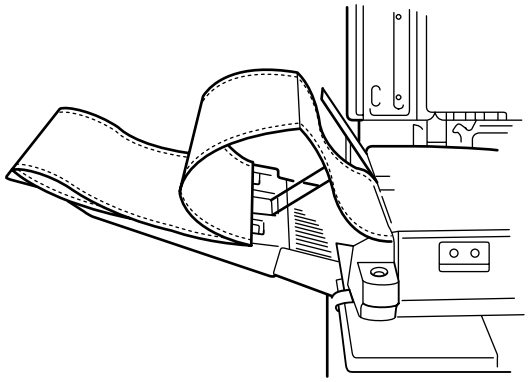

Figure 1-17

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3. After Making Copies

1) Remove the continuous paper (original) from the original delivery tray; shift down the sub guide, and put in the original delivery tray.
2) Press the C.F.F. releasing button, and put the C.F.F. back into its original position; then, close the copyboard cover.

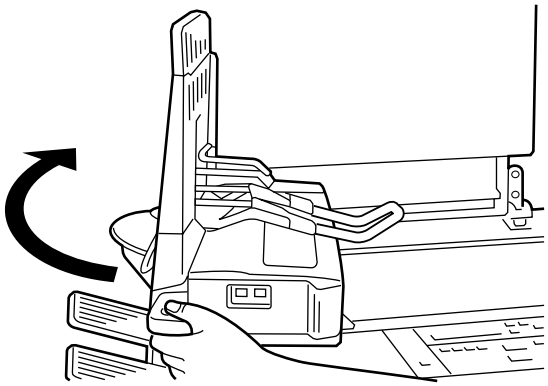

Figure 1-18

Caution:

Check to make sure that the tray is put in before putting the C.F.F. back into its original position. (Be sure that the C.F.F. is securely back in position; otherwise, the copier may not operate.)

E. Energy Saver Mode and Auto Power-Off

1. Energy Saver Mode

When the Energy Saver key is pressed during standby, the copier will enter energy saver mode, turning off all indications on the control panel except the Power indicator and the Energy Saver indicator.

① In energy saver mode, keys other than the Energy Saver key will not be accepted.
② During energy saver mode, the fixing temperature is controlled to a temperature lower than usual. (This may be changed in user mode.)
③ Energy saver mode may be de-selected by pressing the Energy Saver key once again.

2. Auto Power-Off

The copier's power switch will turn OFF if the copier is left alone for a specific period of time (auto power-off).

① The copier will be in auto power-off state if it is left alone for about one hour after the last key operation. (The time may be changed in user mode.)
② The fixing assembly will turn OFF when auto power-off starts.
③ To end auto power-off, turn ON the power switch.
When auto power-off state is ended, the copier will remain in wait state until the temperature of the fixing assembly reaches a specific value. (You may select auto start at this time.)

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F. Margin Mode

You can use the Margin key to create a margin along the left/right or the top/bottom of copies for binding.

Reference:

In this mode, the image of the original is shifted left/right or top/bottom, thereby creating a margin on the left/right or the top/bottom of copies.

① The margin may be between 1 and 20 mm in 1mm increments.

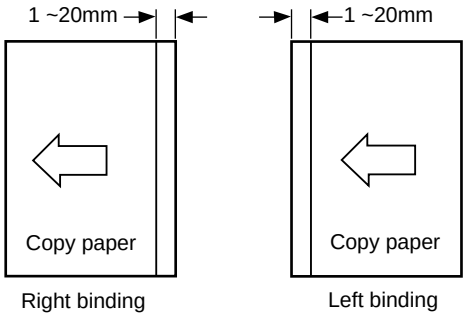

Figure 1-19

G. Frame Erasing

1. Original Frame Erasing

You can use the Original Frame Erase key to erase the frame-like image of an original on a copy.

In this mode, a margin is created along the copies corresponding to a width of about 2 mm on the original.

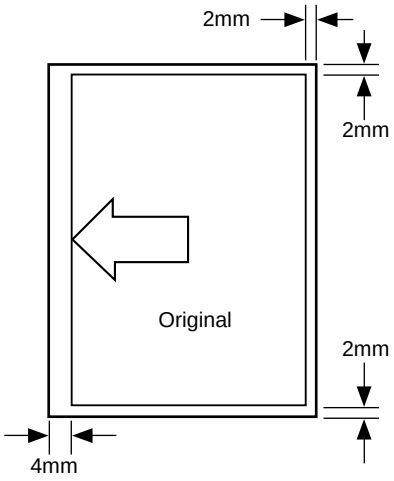

Figure 1-20

2. Sheet Frame Erasing

You can use the Sheet Frame Erase key to erase a frame-like image on copies.

In this mode, a width of about 7 mm is created along the sides of the copies.

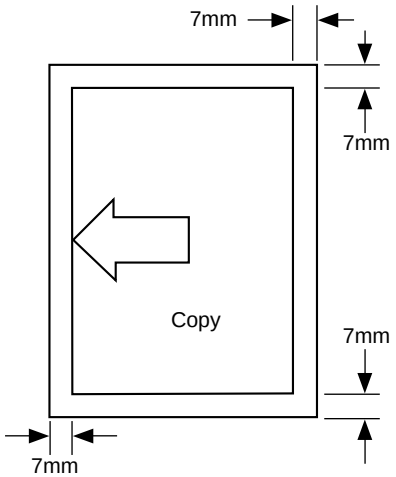

Figure 1-21

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3. Binding Erasing

You can use the Binding Erase key to erase the image of holes punched in the original.

In this mode, a width of about 18 mm (may be varied between 1 and 20 mm) is created along the trailing edge of copies.

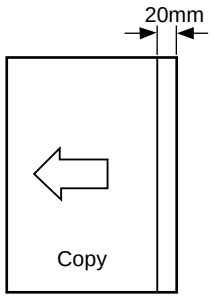

Figure 1-22

4. Book Frame Erasing

You can use the Book Frame Erase key to create a width of 2 mm on copies in relation to the original; 2 mm wide along the sides, and 20 mm wide along the center. (The width along the center may be varied between 5 and 40 mm in 1mm increments.)

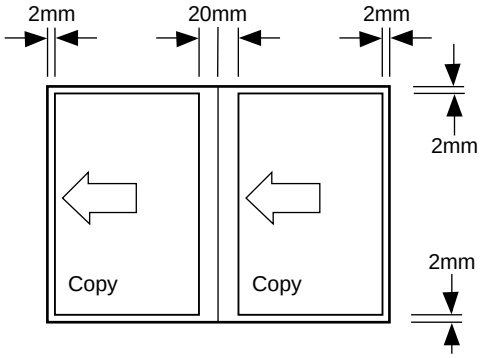

Figure 1-23

H. Making Two-Sided Copies

You can use the Two-Sided Copy key to make the following types of copies:

- from one-sided original to two-sided copy
- from two-sided original to two-sided copy
- from two-sided original to one-sided copy

I. Making Overlay Copies

You can use the Overlay Copy key to make the following types of copies:

- overlay copy
- page separation overlay copy

J. Auto Paper Selection

When this mode is selected, the copier will automatically select the tray that contains paper of the size most suited to the selected original size and the reproduction ratio.

If no such paper is available, the copier will select the cassette containing paper which can accommodate the most image and will indicate the selection on the touch panel display.

Press the Copy Start key to resume copying; to stop copying, press the Stop key.

Caution:
Paper, if any, set in the multifeeder is considered for auto paper selection.

K. Auto Zoom

When this mode is selected, the copier will select an appropriate reproduction ratio to suit the selected original size and copy size.

All originals, however, will be identified as being one of the default size originals so that the copies will be of a ratio falling within the range of default ratios.

Note:
You cannot combine auto Zoom with auto paper selection.

L. Interrupting Ongoing Copying Operation

You can interrupt continuous copying to make copies of a different original.

1) Press the Interrupt key to select interrupt mode.
   ① You can make as may as 999 copies.
   ② You cannot use auto paper selection.
   ③ You may use the RDF for manual feeding.
   ④ You cannot use this mode if you are using the C.F.F.
2) To de-select interrupt mode, press the Interrupt key once again.

M. Using Cover/Sheet Insertion Mode

When using the RDF, you may take advantage of this mode for the following:

cover: to add a front over.
back cover: to add a back cover.
inserted sheet: to insert sheets between pages.

Moreover, you can copy originals on the front cover, back cover, and inserted sheets while taking advantage of various copying modes (two-sided copying, for example).

However, no more than 20 sheets may be inserted.

N. Transparency Interleaving Mode

Use transparency mode when copying on transparencies continuously with originals in the RDF so that interleaves (plain paper) will automatically be inserted between transparencies during delivery for protection. (You may copy images on the interleaves.)

O. Image Composition Mode

In this mode, two or four originals are reduced and copied on a single sheet of copy paper.

This mode may be any of the following four types:

- 2-on-1 mode
- 4-on-1 mode
- 2-on-1 two-sided mode
- 2-on-1 overlay mode

P. Diffrent Size Original Mode

Use this mode when making copies by stacking originals of different sizes in the RDF. In this mode, you can take advantage of auto paper selection and auto zoom for each different original. (Copying will be slower, however, since the copier has to identify the size of each original.)

The originals to be stacked in the RDF must be of the same configuration, i.e., as in the case of A4 and A3, they must have the same feeding direction size.

Q. Photo Mode

In photo mode, the copier varies the intensity of the scanning lamp and the output of the charging assembly to reproduce images of photos.

R. Mode Memory

As many as 12 modes may be stored in memory.

1) Set the appropriate mode settings.
2) Start extension mode, and select 'mode memory'.
3) Press the Store key.
4) Press the appropriate Copy Mode Memory key (M1 through M12).
5) Press the [OK] key.
   ① The settings will be stored. (A press on the Copy Mode Memory key will recall the settings.)
   ② The settings will remain when you press the Reset key or when you turn OFF the power switch.
   ③ The settings will be cleared when you enter new settings for the same key.

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S. Face-Down Output Mode

In this mode, the copies will be delivered so that the side with the copied image will be the back.

By making use of this mode, you can collate the pages even when you initiated copying starting with the first page of the originals.

T. Using ID Mode

In ID mode, the copier will not operate unless you enter a 6-digit ID number. As many as 1000 different groups may be stored, and copy counts (copying volume) may be indicated by number, enabling control of copying volume by group.

1. Storing ID Numbers

1) Press [*], [ID], Stop, and User Mode in sequence.
2) Press 'ID No. register' on the touch panel display, and press the [OK] key.
3) Press the [Group] key to highlight, and select a number.
4) Press the [ID] key to highlight, and enter a 6-digit number using the numeric keypad.
5) Press the [OK] key to continue storing another number. Press the [ID] key to end the operation and return the ID No. Input screen.

2. Entering ID Numbers

1) Using the ID No. Input screen, enter a previously stored ID number using the numeric keypad.
   If you made a mistake, press the Clear key, and try again.
2) Press the [ID] key.
3) Check to see if the copier is ready to make copies. (It becomes ready when the ID number input matches any of the previously stored numbers.)
4) Press the [ID] key to return to the ID No. Input screen.

3. Keeping Track of Counts

You can have copy counts, i.e., the number of copies made so far, displayed by ID number.

1) Press [*], [ID], [Stop], and [*].
2) Select 'count control' on the touch panel display, and press the [OK] key.
3) Press the arrow key to scan through the counts for different ID numbers.

4. Clearing All ID Numbers (resetting)

1) Press [*], [ID], [Stop], and [*] in sequence.
2) Select 'count control' on the message display, and press the [OK] key.
3) Select 'count all clear', and press the [OK] key to clear the counts of all ID numbers.

Note:
You cannot clear the counts by individual ID numbers.

5. Clearing All ID Numbers (resetting)

1) Press [*], [ID], [Stop], and [*] in sequence.
2) Select 'ID No. register', and press the [OK] key.
3) Select 'ID No. all clear', and press the [OK] key to clear all ID numbers.

U. Adjusting the LCD Intensity

Turn the dial on the control panel shown in Figure 1-24 to adjust the intensity of the LCD.

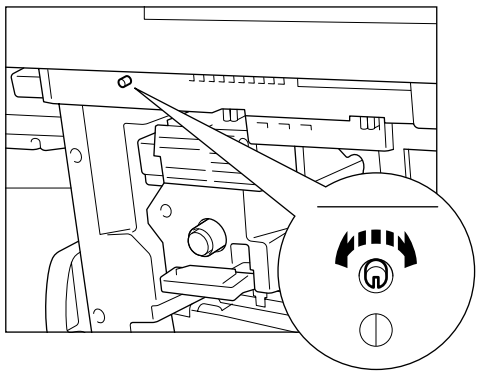

Figure 1-24

V. Additional Functions Mode

1. Types of Additional Function

The NP6085 has the following four types of additional functions, for which the user may freely select appropriate settings:

1. Standard settings
2. Custom settings
3. Timer settings
4. Adjustment/cleaning

a. Standard Settings

Item	Description	Operation/remarks
Standard key	Set up a Standard key on the standard screen and store an appropriate mode under it.	2 max

b. Custom Settings

Item	Description	Operation/remarks
Auto sort ON/OFF	Use it to enable or disable auto sort mode when making multiple copies (count 2 or higher) of multiple originals using the RDF.	Factory default: ON
Front access sorter unloading	ON: So that the sorter will push out copies to the front when they have been delivered to the bins. OFF: So that the sorter will not push out copies to the front when they have been delivered to the bins.	Factory default: ON Copy paper: A4, B5, LTR horizontal feeding
High-speed 1▶2-sided ON/OFF	Use it to enable 'one-sided to two-sided' copying using the RDF under copy count 1, A4/B5 horizontal. ON: So that the copier executes skip two-sided copying. OFF: So that the copier starts copying after counting the number of originals.	Factory default: ON
SADF auto feed ON/OFF	Use it to enable the following when using the RDF in manual mode: ON: So that copying will start automatically. OFF: So that copying will start in response to a press on the Start key.	Factory default: ON
Drawer eligibility for APS/ADS ON/OFF	ON: So that the copier will execute auto tray change/auto paper selection. OFF: So that the copier will not execute auto tray change/ auto paper selection.	Factory default: ON
Heavier-weight paper drawer	Use it to set the tray for paper of 128 g/m^2 or more for two-sided or overlay copies. ON: So that thick paper will be set on the tray. OFF: So that thick paper will not be set on the tray.	When ON, 25 sheets will be stacked on the holding tray in two-sided/overlay mode.

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Item	Description	Operation/remarks
Stack bypass size setting ON/OFF	Use it to enable the following for manual copying mode: ON: So that the Paper Size Input Screen will appear. OFF: So that the Paper Size Input Screen will not appear.	Factory default: OFF
Audible tones ON/OFF	Use it to enable the following for input, warning, standby, and copy end sounds: ON: So that the buzzer will sound. OFF: So that the buzzer will not sound.	Factory default: ON
Fit image adjustment	Use it to specify the ratio used for fit image mode between 90% and 99% in 1% increments.	Factory default: 93%
	Use it to enable the following for fit image mode: ON: So that centering will take place. OFF: So that centering will not take place.	Factory default: ON
	Use it to enable the following for a non-image area: ON: So that copies will be made with original frame erasing ON. OFF: So that copies will be made with original frame erasing OFF.	Factory default: OFF
Energy Saver adjustment	Use it to change the temperature setting for the fixing assembly in energy saver mode, thereby lowering power consumption by the copier: -10%, -25%, -50%, no recovery time.	Factory default: -10%
Initialize custom settings	Press the 'YES' key to initialize the custom settings made in sure mode.	
Change standard copy settings	Use it to set the "standard mode," used when the Reset key is pressed or auto clear is executed. Factory default: copy ratio, 100%; paper selection, automatic; copy count, 1; copy density adjustment manual; one-sided to two-sided copies	

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c. Timer Settings

Item	Description	Operation/remarks
Auto clear time	Use it to set the auto clear time between 10 sec and 9 min in 1-sec increments. Setting it to 0 min disables the auto clear function.	Factory default: 2 min
Auto power-off time	Use it to set the auto power-off time between 10 min and 2 hr as follows: from 10 min to 1 hr, in 10-min increments from 1 hr to 2 hr, in 1-hr increments You may disable the auto power-off function in service mode.	Factory default: 1 hr
Day timer settings	Use it to set the time at which the auto power-off mechanism is activated by day of week.	
Date/ time settings	Use it to set the date and time of the built-in clock.	

d. Adjustment/Cleaning

Item	Description	Operation/remarks
Zoom fine adjustment	Use it to adjust the vertical and horizontal reproduction ratios for copying at 100% (1% max.). Adjustment width: -1.0 to +1.0 Adjustment unit: 0.2%	Max.: 2
Feeder cleaning	Use it to execute simple cleaning of the RDF's separation belt. Set ten blank sheets of copy paper, and press the Start key to start cleaning.	
Wire cleaning	Press the Start key to execute automatic cleaning of the primary charging wire, pre-transfer changing wire, transfer charging wire, and separation charging wire.	

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V. WARNINGS AND ACTIONS TO TAKE

A. Jam Indicator

When a jam occurs, the copier indicates the Jam message on the control panel while identifying the location of the jam as in Figure 1-25. Locate the jam, and perform the steps that follow.

(For a jam in the sorter or the RDF, see their respective Service Manuals.)

In the case of jams in the copier, be sure to check the pick-up assembly, separation/feeding assembly, fixing/delivery assembly, cleaning assembly, and duplexing/feeding assembly to remove all pieces of paper. Make use of the jam location indicator behind the front door.

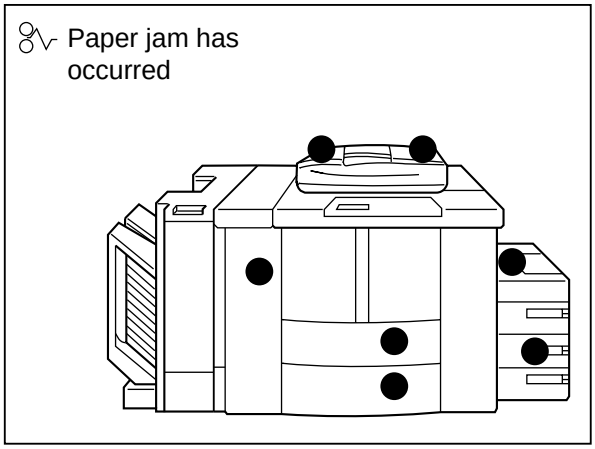

Figure 1-25

1. Jams in the Delivery Assembly

1) Release the delivery assembly.
2) Turn the fixing assembly knob in the direction of the arrow to forward the jam.

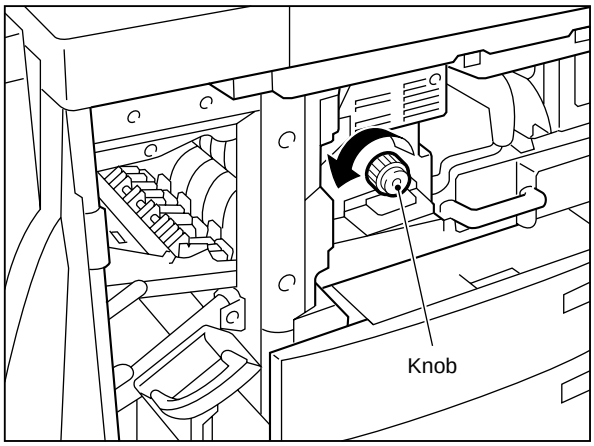

Figure 1-26

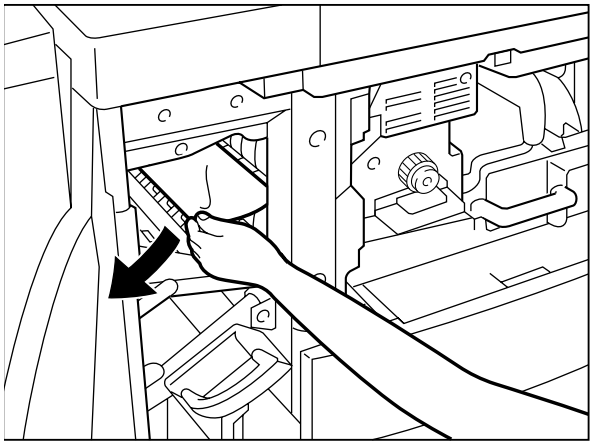

Figure 1-27

3) Set the delivery assembly.
4) Close the front door.

2. Jams in the Fixing Assembly

1) Turn the fixing assembly knob, and remove the jam.

Note:
The copier is designed so that the fixing assembly cannot be slid out if paper is straddling over the fixing assembly and the delivery assembly. This is to prevent paper from tearing.

2) Hold the grip, and slide out the fixing assembly to the front.
3) Hold the grip, and open the separation claw unit while pressing the lock releasing button.

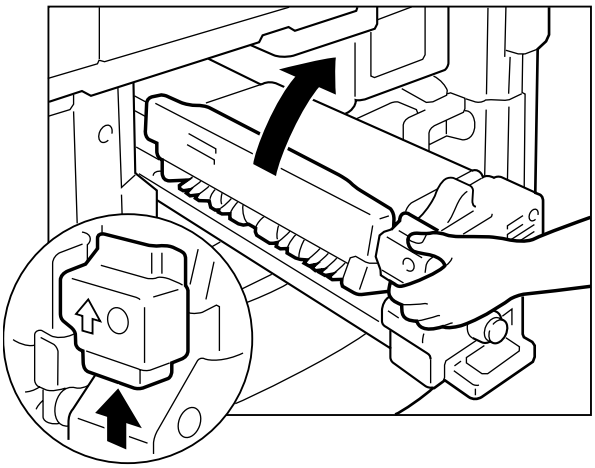

Figure 1-28

4) Remove the paper trapped in the fixing assembly.
5) Close the separation claw unit of the fixing assembly.
6) Push in the fixing assembly to set it in the copier.
7) Close the front door.

3. Jams in the Feeding Assembly

1) Hold the grip, and slide out the duplexing unit.
2) Remove the paper trapped in the feeding assembly.

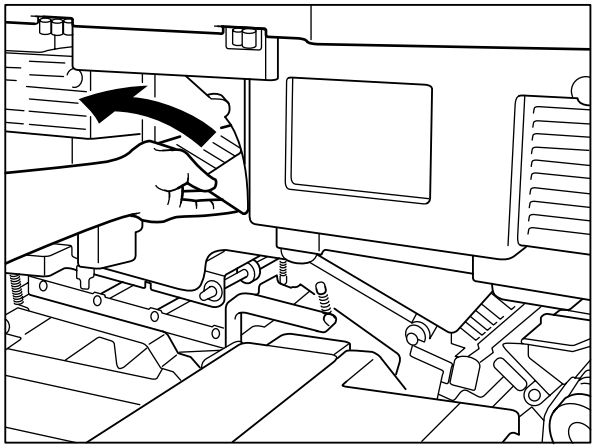

Figure 1-29

3) Push in the duplexing unit, and set it in the copier.
4) Close the front door.

4. Jams in the No. 2 Feeding Assembly

1) Turn the knob on the registration roller, and remove the jam.
2) Hold the grip, and slide out the duplexing unit.
3) Open the cover of the duplexing unit, and remove the jam.
4) Push down the No. 2 feeding assembly, and remove the jam.

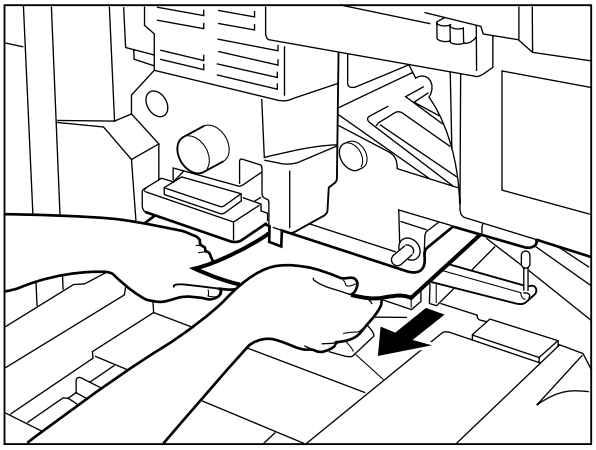

Figure 1-30

5) Push in the duplexing unit to set it in the copier.
6) Close the front door.

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5. Jams in the Registration Roller Assembly

1) Turn the knob on the registration roller, and remove the jam.
2) Hold the grip, and slide out the duplexing unit.
3) Push down the lever of the transfer guide, and remove the jam.

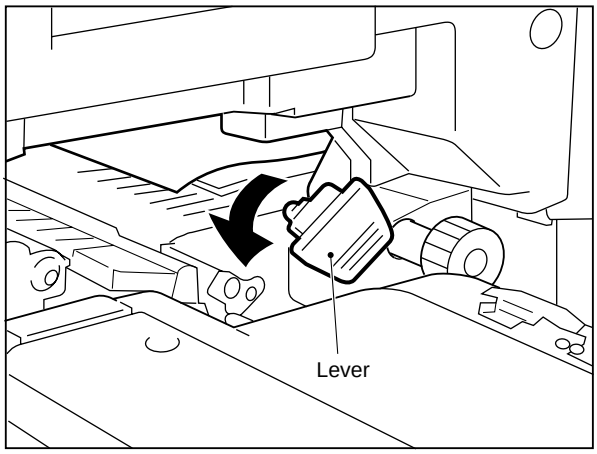

Figure 1-31

4) Set the transfer guide.
5) Push in the duplexing unit to set it in the copier.
6) Close the front door.

6. Jams in the Pick-Up Vertical Assembly

1) Move the grip on the pick-up vertical assembly in the direction of the arrow, and remove the paper.

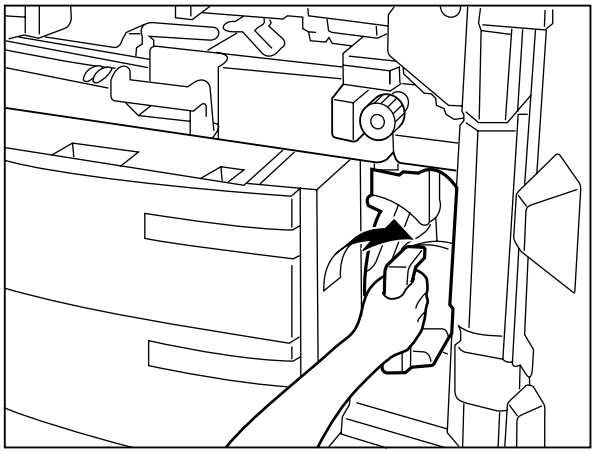

Figure 1-32

2) Set the pick-up vertical path assembly, and close the front cover.

7. Jams on the Front Tray

1) Press the front tray open button.
2) Slide out the front tray.
3) Remove the jam.

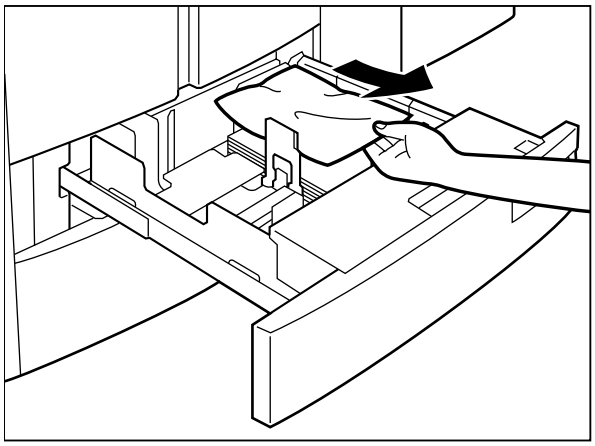

Figure 1-33

4) Push in the front tray.

8. Jam in the Paper Deck

1) Open the paper deck cover.
2) Remove the jam.

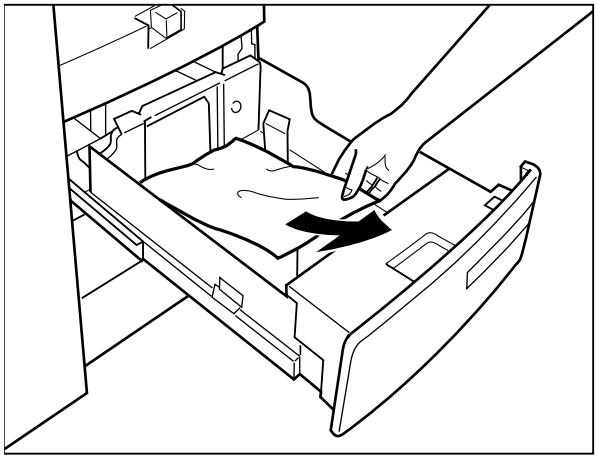

Figure 1-34

3) Close the paper deck cover.

9. Jam in the Multifeeder

1) Open the multifeeder cover, and remove the jam while taking care not to tear it.

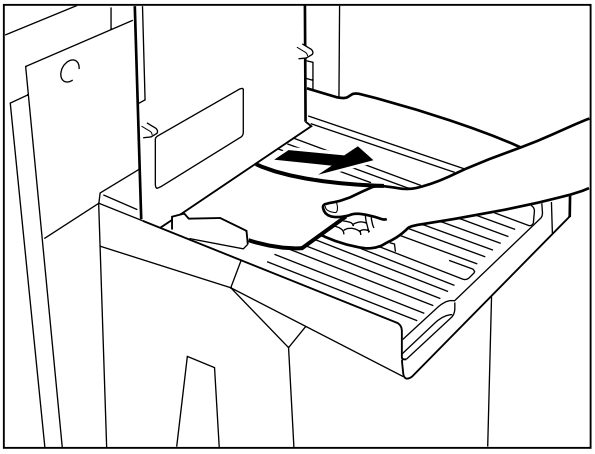

Figure 1-35

10. Jams in the C.F.F.

The copier will indicate the Jam message on its touch panel display when a jam occurs in the C.F.F.

Perform the following to remove such a jam.

Reference:

If a jam occurs in the copier while the C.F.F. is being used, removing the jam will automatically put the C.F.F. into recovery mode.

1) Open the sub guide and the C.F.F. cover.

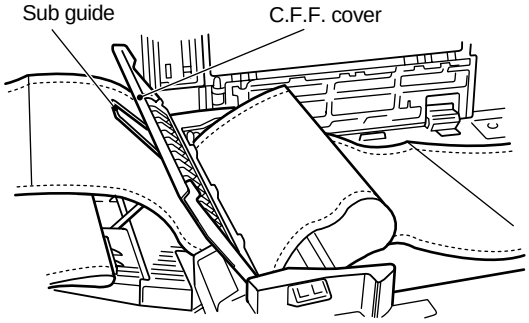

Figure 1-36

2) Open the tractor cover, and place the continuous paper (original) once again.
At this time, check the original and the last copy delivered to find out which original page to resume copying with; then, align the leading edge perforation of the page with the orange index.

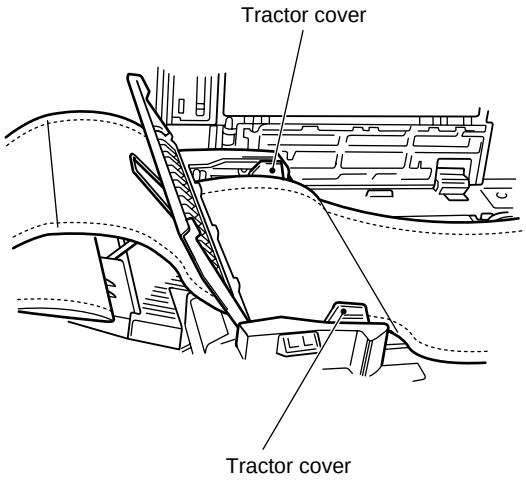

Figure 1-37

3) Close the tractor cover slowly and securely.
4) Turn the green dial, and make fine adjustments so that the leading edge perforation of the page will exactly match the index.

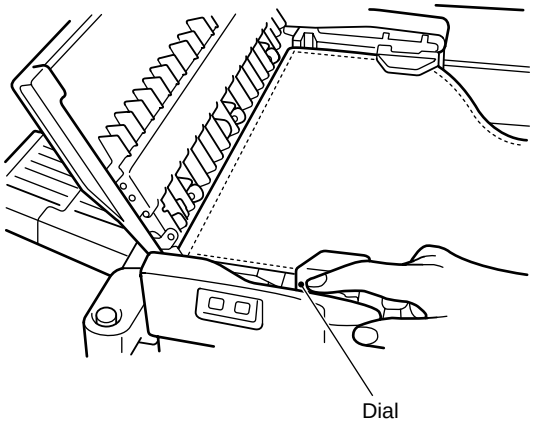

Figure 1-38

5) Close the C.F.F. cover, and set the sub guide; then, press the Copy Start key.

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11. Continuous Paper Jam in the C.F.F.

Perform the following if the continuous paper jams on the original stacking tray when the C.F.F. is used:

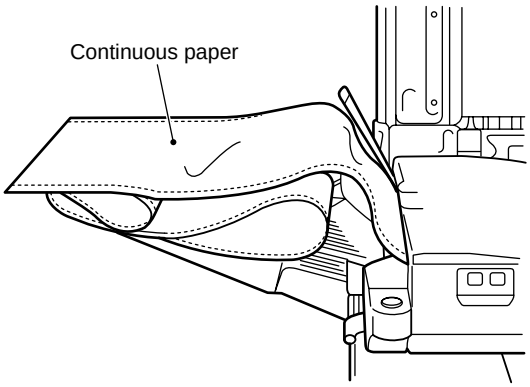

Figure 1-39

1) Press the Clear/Stop key to stop copying operation.
2) Put the continuous paper on the original stacking tray in order.
   ① If you opened the C.F.F. cover, align the leading edge perforation with the index.
3) Press the Copy Start key.
   Crease the continuous paper between the first and the sixth pages after copying starts.

12. Removing the C.F.F. Cover

If the continuous paper jams or moves awry in the C.F.F., perform the following to avoid having to separate the pages:

1) Remove the C.F.F. cover as follows:
   ① Open the C.F.F. cover.
   ② Slide the tab on the front inside of the C.F.F. in the direction of the arrow in Figure 1-40, and remove the hinge at the front and then the hinge at the rear; then, remove the C.F.F. cover.

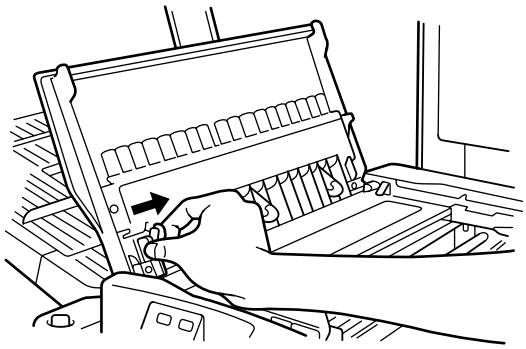

Figure 1-40

2) Install the C.F.F. cover as follows:
   ① Fit the hinge at the rear of the C.F.F. cover; then, slide the tab, and fit the hinge at the front.
   ② Close the C.F.F. cover.

B. Add Paper Indicator

The copier will indicate the Add Paper message on its touch panel display when the paper deck, front tray, or multifeeder runs out of paper.

Reference:

The copier will also indicate the Add Paper message in the following conditions:

- The front tray is not fully set in the copier.
- The right door of the paper deck is not closed fully.

1. Supplying Paper to the Front Tray

1) Press the Open button of the tray to be supplied with paper.

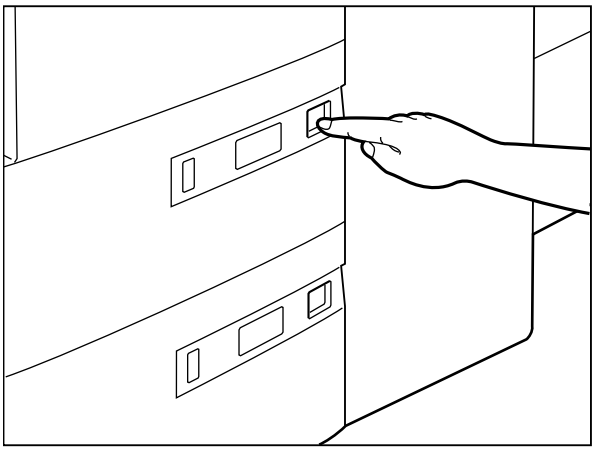

Figure 1-41

2) Hold the tray, and slide out the tray until it stops.

3) Place a stack of copy paper butting it against the side of the tray, and close the tray.

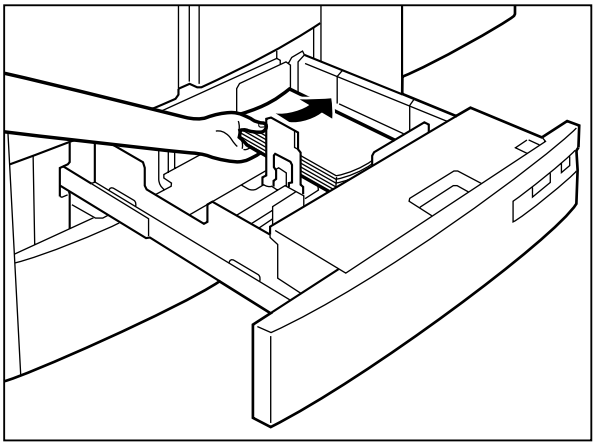

Figure 1-42

Caution:

Advise the user not to place paper on the front tray shown in Figure 1-43.

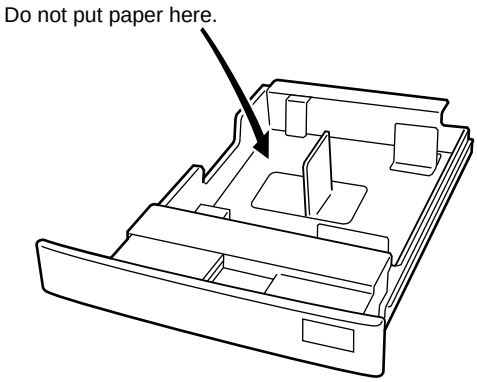

Figure 1-43

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C. Add Toner Indicator

The copier will indicate the Add Toner message on its touch panel display when the hopper or the developing assembly starts to run out of toner.

1. Supplying Toner

You must shake the toner bottle several times before using it.

1) Open the toner supply cover, and fit the boss on the toner bottle into the groove of the toner supply mouth; push in the bottle until a click is heard.

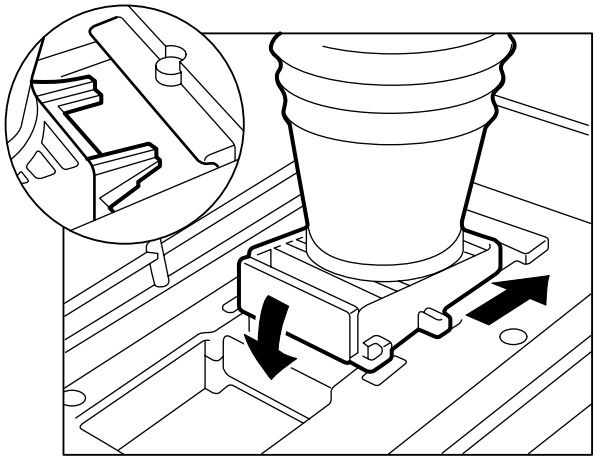

Figure 1-44

2) Move the slide lid in the direction of the arrow to fix the toner bottle in place.

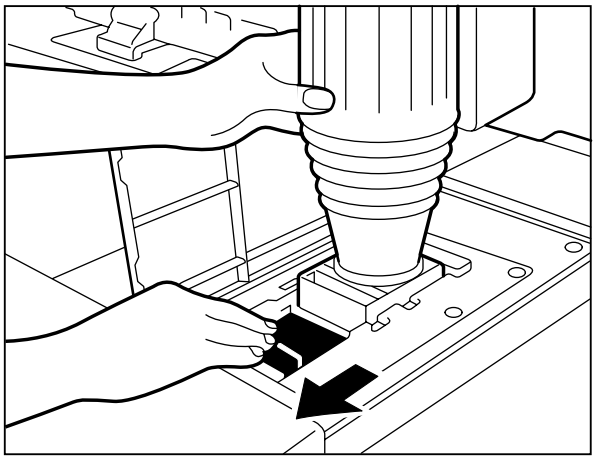

Figure 1-45

3) Slide the shutter of the toner bottle to the front until it stops.

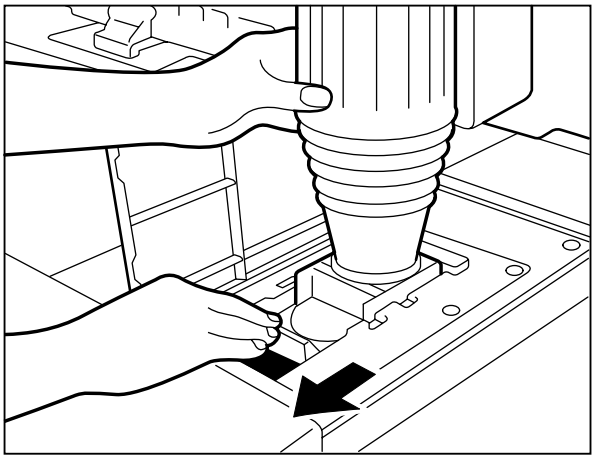

Figure 1-46

- Toner supply operation will start; tap lightly on the toner bottle to make sure all toner has poured into the hopper.

4) Push the shutter of the toner bottle to the rear until it stops.

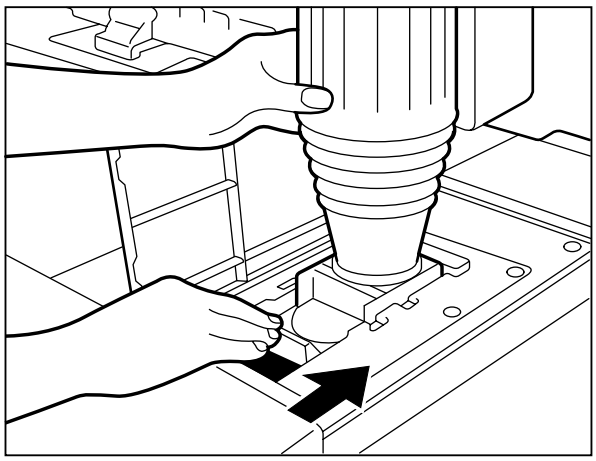

Figure 1-47

5) Push the slide lid to the rear until it stops. (A click will be heard, and the toner bottle will be released free.)

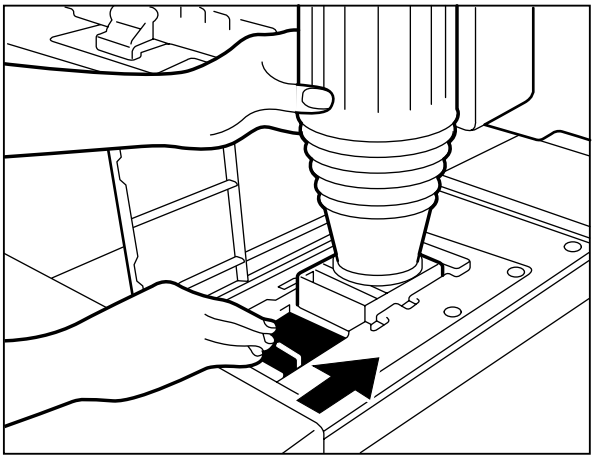

Figure 1-48

6) Pull up the toner bottle to remove.

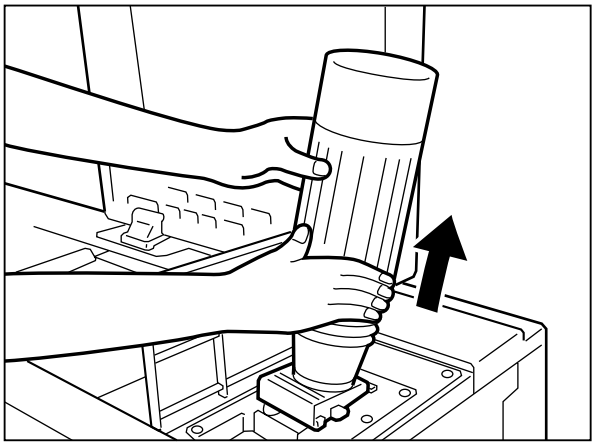

Figure 1-49

7) Close the toner supply cover.

D. Handling the Toner Bottle

Instruct the user to dispose of any empty toner bottle as nonflamable material.

Caution:

Do not dispose of the toner bottle into fire. It may explode.

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VI. ROUTINE WORK BY THE USER

Advise the user to clean the following at least once a week:

1) Copyboard Glass
   Wipe it with a moist cloth, and dry wipe it.
2) Copyboard Cover/RDF Feeding Belt
   Wipe it with a solution of mild detergent, and dry wipe it.
3) Charging Wire
   Clean it by executing the wire cleaning function in user mode.
4) RDF Separation Belt
   Clean it by executing the feeder cleaning function in user mode.

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CHAPTER 2

COPYING PROCESSES

 CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

I. IMAGE FORMATION

A. Outline

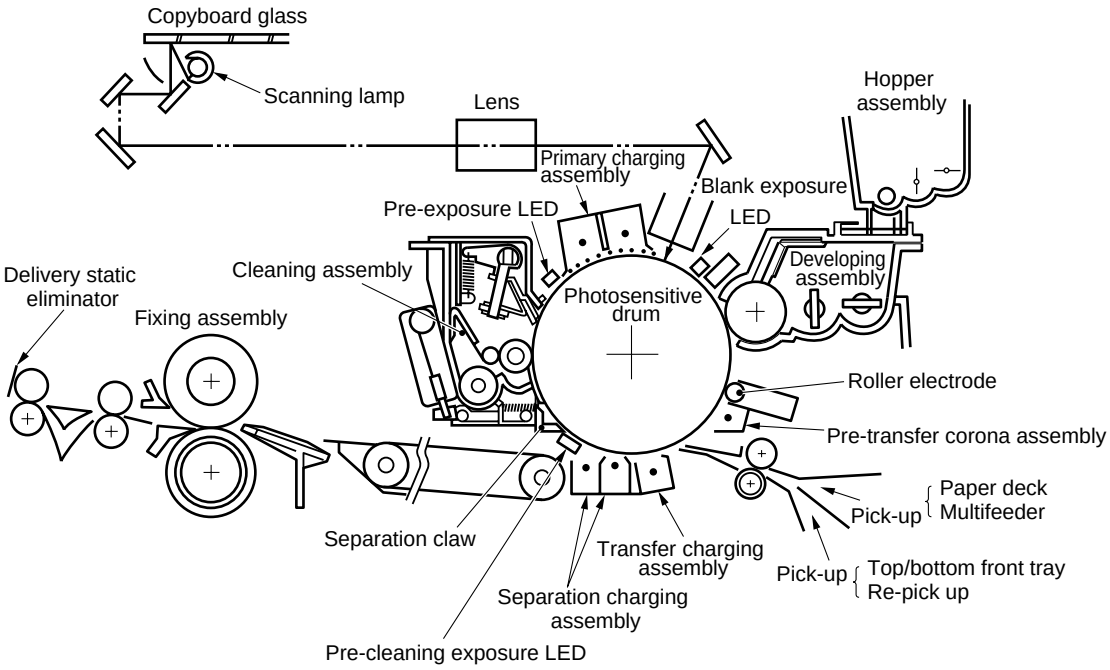

Figure 2-101

The NP6085 uses an electrophotographic system and is constructed as shown in Figure 2-101. (The NP6085 is equipped with an automatic potential control mechanism to ensure reproduction of stable images.)

The NP6085 generates images in the following nine steps. (The various auto control mechanisms will be discussed later.)

Step 1 Pre-exposure
Step 2 Primary charging (positive DC)
Step 3 Image exposure
Step 4 Development (AC + negative DC)
Step 5 Pre-transfer charging (AC + negative DC)
Step 6 Transfer (positive DC)
Step 7 Separation (AC + positive DC)
Step 8 Fixing
Step 9 Drum cleaning

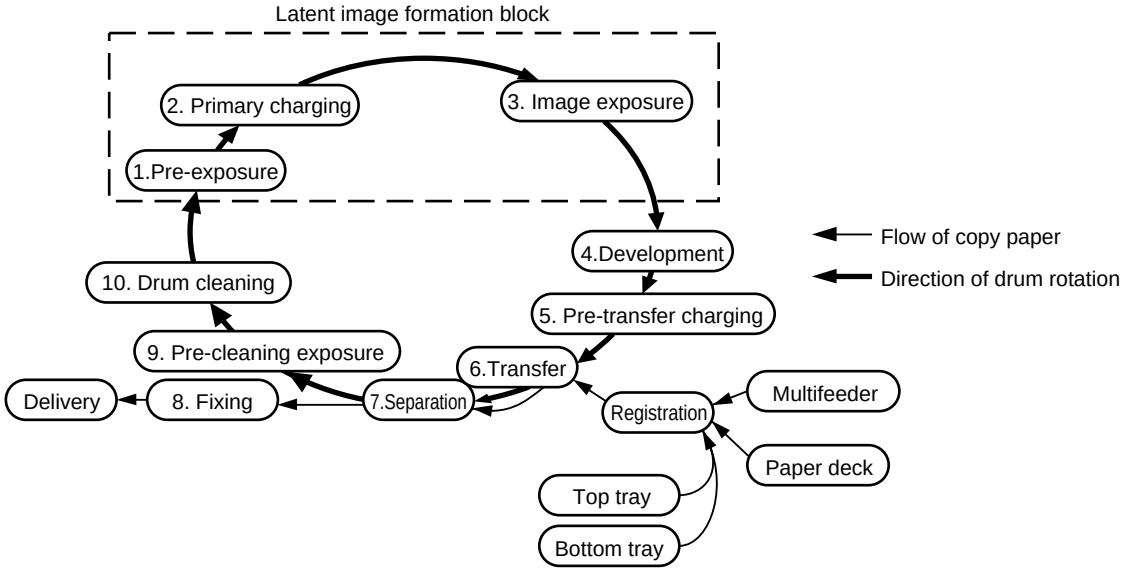

Figure 2-102

The photosensitive drum consists of an amorphous silicon layer on the outside and an aluminum substrate on the inside.

In general, a photosensitive medium made of amorphous silicon provides high durability, sensitivity, and resolution.

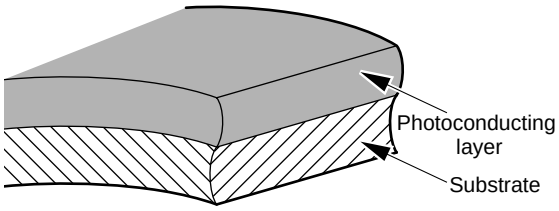

Figure 2-103

B. Latent Image Formation Block

This block consists of three steps at the end of which positive charges are left in the areas of the drum corresponding to the black areas of the original by removing the positive charges from those areas corresponding to the white areas of the original.

The NP6085 uses an automatic surface potential control mechanism to ensure a specific potential for the dark and light areas of static images.

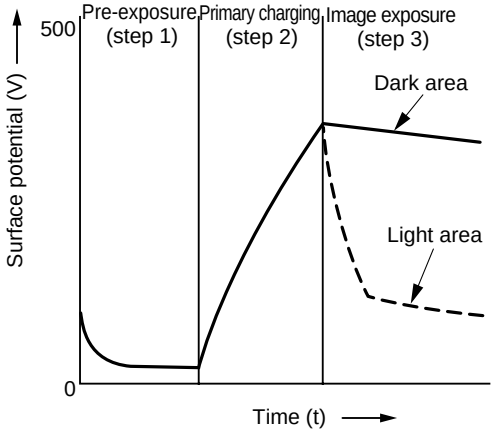

figure 2-104

C. Pre-Exposure (step 1)

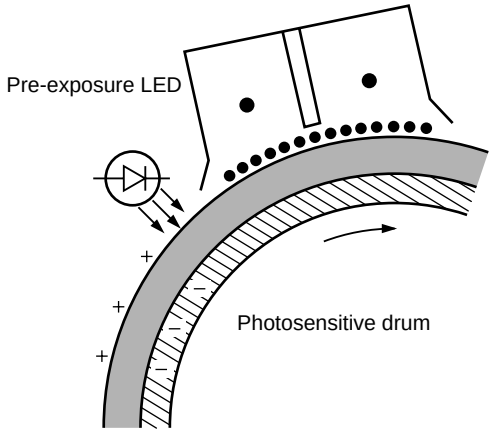

Figure 2-105

Pre-exposure is executed in advance of primary charging to remove residual charges from the surface of the drum, thereby preventing uneven copy density.

D. Primary Charging (step 2)

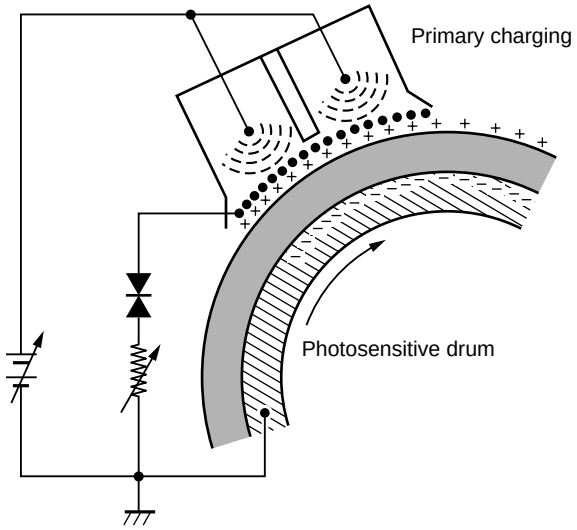

Figure 2-106

The surface of the drum is evenly charged to positive potential by the primary charging assembly to ensure primary potential.

The surface potential of the charged drum is determined by the potential of the grid; therefore, the grid is grounded through a varistor to ensure a specific surface potential.

E. Image Exposure (step 3)

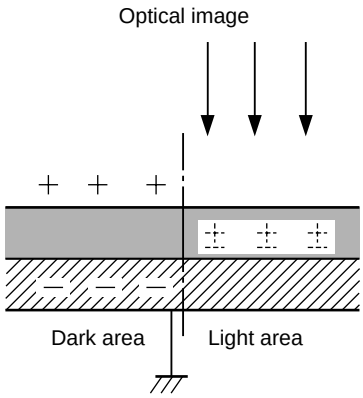

Figure 2-107

The optical image of an original is projected onto the surface of the drum, thereby neutralizing the charges in the light areas.

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F. Development (step 4)

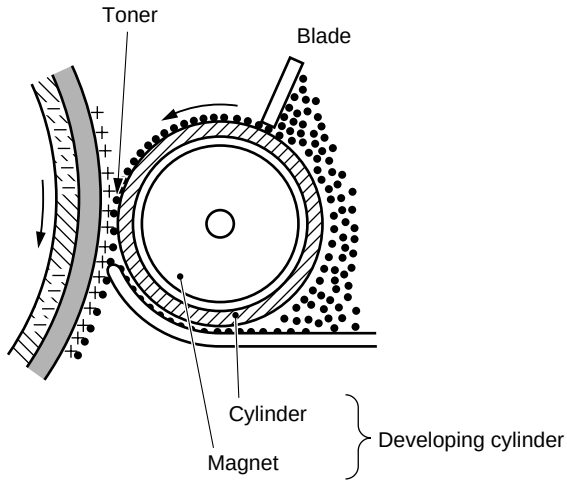

Figure 2-108

As shown in Figure 2-108, the developing assembly consists of a developing cylinder composed of a fixed magnet and a cylinder that rotates it and a magnetic blade.

The single-component developer used for the NP6085 consists of magnetite and resins. The toner (developer) has insulating characteristics and becomes negatively charged by friction against the rotating cylinder.

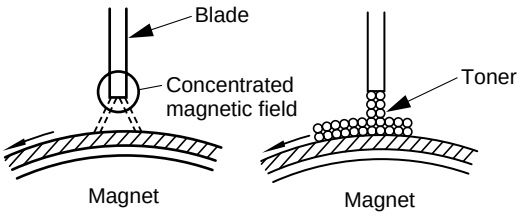

Figure 2-109

A concentrated magnetic field occurs from the magnet to the tip of the blade, attracting the magnetic toner.

Once inside the concentrated magnetic field, the toner becomes virtually immobile because of its strong bond to the blade, ensuring a thin, uniform layer of toner on the cylinder.

An AC bias and a DC bias are simultaneously applied to the developing cylinder and the blade (developing bias); as such, the positive component of the developing bias is greater than the negative component.

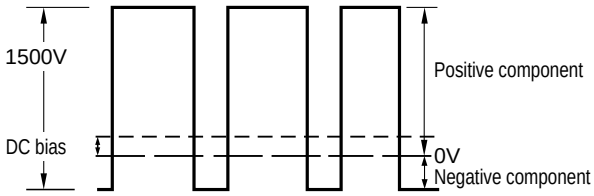

Figure 2-110

During copying operation, toner is attracted to the photosensitive drum or to the developing cylinder according to the strength of the magnetic field caused by the difference between the drum surface potential and the developing cylinder surface potential (i.e., developing bias), thereby turning the static image into a visible image.

G. Pre-Transfer Charging (step 5)

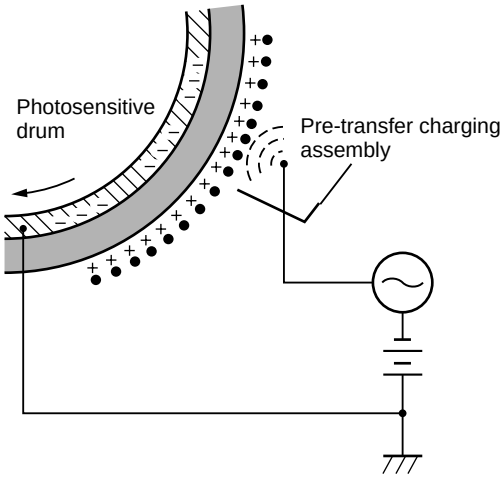

Figure 2-111

The toner on the surface of the drum is given AC corona charges with a DC bias to increase its charging, thereby improving transfer efficiency while at the same time facilitating paper separation.

H. Transfer (step 6)

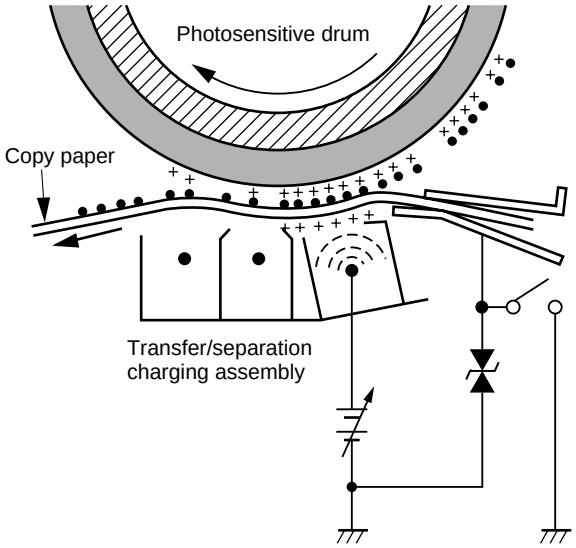

Figure 2-112

Positive corona charges are applied to the back of copy paper to attract the toner from the surface of the drum to the copy paper.

To prevent transfer faults or soiling of the back of copy paper, the transfer guide is grounded through a varistor.

Reference:

If the transfer guide was directly grounded, the charges that should be on the back of paper would escape, causing transfer faults; if cut off completely, on the other hand, the transfer guide would be charged and, ultimately, coated with toner to soil the back of copies.

In high-humidity condition, partial transfer failure may occur. In some cases, grounding is wired with leading it through a varistor.

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I. Separation (step 7)

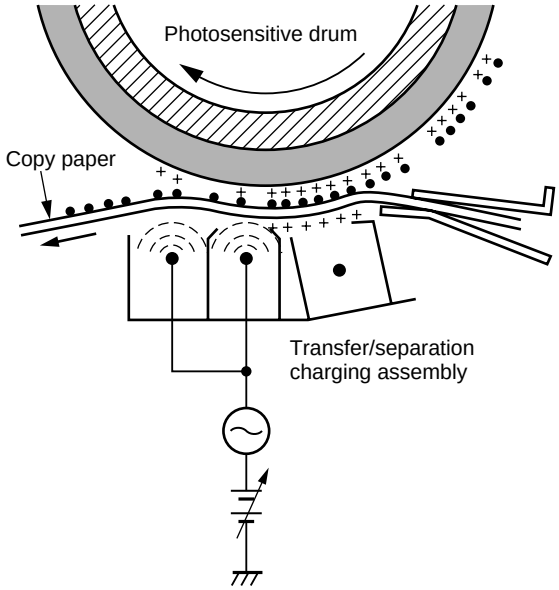

Figure 2-113

Copy paper is charged to a positive potential by the transfer charging assembly and is drawn to the surface of the photosensitive drum by the work of static electricity. AC corona charges with a DC bias are applied to break the static bond between drum and paper, thereby separating the two.

J. Fixing (step 8)

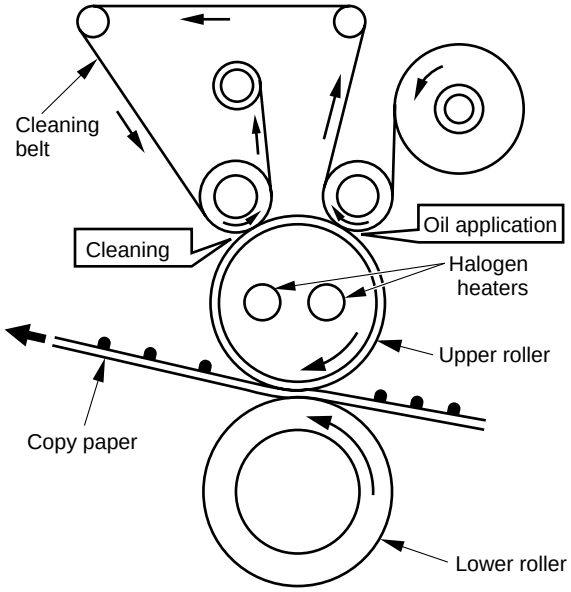

Figure 2-114

After transfer, the copy paper is moved between two heating rollers so that the toner image will be fused into the fibers of the paper.

To prevent jams and toner offset, the upper roller is kept in contact at two points with a cleaning belt impregnated with silicone oil; the take-up mechanism moves the area of contact, thereby cleaning the belt while applying silicone oil to it.

K. Pre-Cleaning Exposure (step 9)

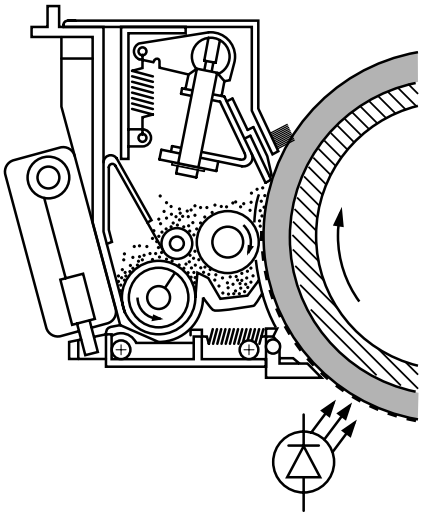

Figure 2-115

Pre-cleaning exposure is executed before cleaning the drum, thereby removing the residual charges from the surface of the drum to ensure uniform cleaning.

This step starts as soon as the pre-exposure LED turns on.

L. Drum Cleaning (step 10)

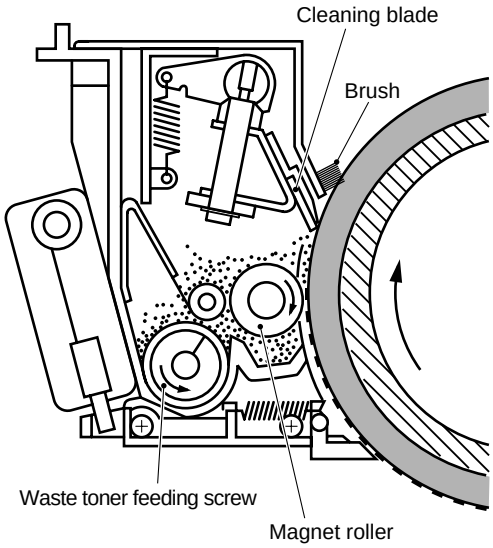

Figure 2-116

In preparation for the next copy, the surface of the drum is cleaned, ensuring the formation of a crisp image. (Cleaning blade scrapes off toner remaining on the surface of the drum while the magnet roller collects it.)

The toner is then forwarded to the rear of the copier for collection in the waste toner case.

Further, the friction against the magnetic brush of the magnet roller is used to deposit a thin coating of toner on the surface of the drum, serving to ensure the appropriate contact between the drum and the cleaning blade and proper cleaning operation.

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II. AUXILIARY PROCESSES

A. Roller Electrode

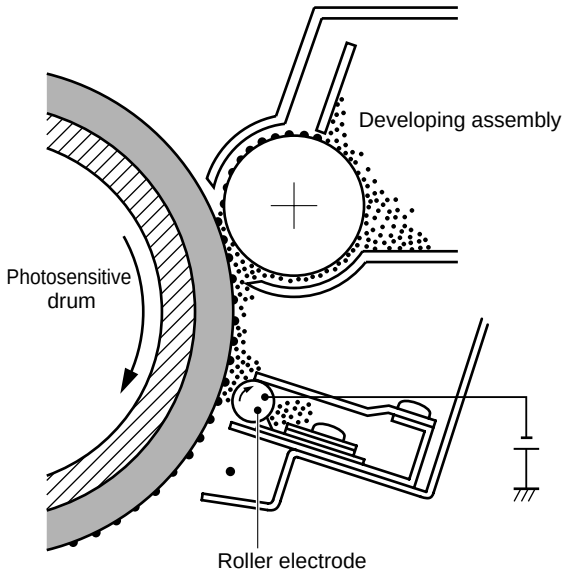

Figure 2-201

A DC bias (negative component) is applied to the roller electrode to collect any excess toner that did not move to the surface of the drum by the roller electrode, limiting soiling of the pre-transfer charging assembly and the transfer charging assembly.

B. Separation Claw

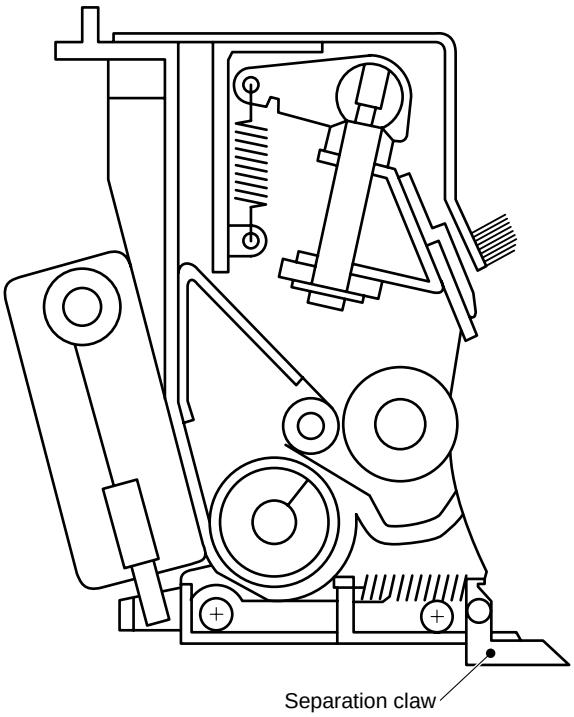

Figure 2-202

If copy paper fails to separate from the photosensitive drum because of a pre-transfer charging fault, separation charging fault, or feeding fault, it could move into the cleaning assembly.

To prevent such a problem, a separation claw is located at the bottom of the cleaning assembly; the claw forces off copy paper from the drum, thereby keeping it from moving into the cleaning assembly.

C. Blank Exposure Lamp

The blank exposure lamp turns ON while the drum is rotating except when an original is being exposed (scanning moving forward), thereby removing surface charges of the non-image areas to prevent adhesion of unwanted toner on the surface of the photosensitive drum.

As many LEDs of the blank exposure lamp as corresponding to the varying non-image area to suit the selected reproduction ratio are turned ON to prevent adhesion of unwanted toner on the surface of the drum.

D. Ozone Filter

The ozone filter is a catalytic filter used to break down the ozone generated by charging assemblies; the air exhaust fan assembly and the feeding fan assembly are equipped with such a filter to prevent the emission of ozone outside the machine. (See p. 3-150.)

E. Delivery Static Eliminator

Copy paper immediately before delivery carries residual charges from transfer. The delivery static eliminator consisting of grounded strings is located along the exit to remove such charges.

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CHAPTER 3

OPERATIONS AND TIMING

In outline diagrams, ▮▮▮ represents mechanical drive paths, and ⟶ indicates electrical signal paths.

Signals in digital circuits are identified as '1' for High and '0' for Low. The voltage of signals, however, depends on the circuit.

Nearly all operations of the product are controlled by a microprocessor; the internal workings of the processor are not relevant to the service person's work and, therefore, are left out of the discussions. By the same token, no repairs are prescribed for the PCBs at the user's premises; for this reason, PCBs are discussed by means of block diagrams rather than circuit diagrams.

For the purpose of explanation, discussions are divided into the following: from sensors to main PCB input ports; from main output ports to loads; and minor control circuits and functions.

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I. BASIC OPERATION

A. Functional Construction

The NP6085 can be divided into four functional blocks: pick-up/feeding system, exposure system, image formation system, and control system.

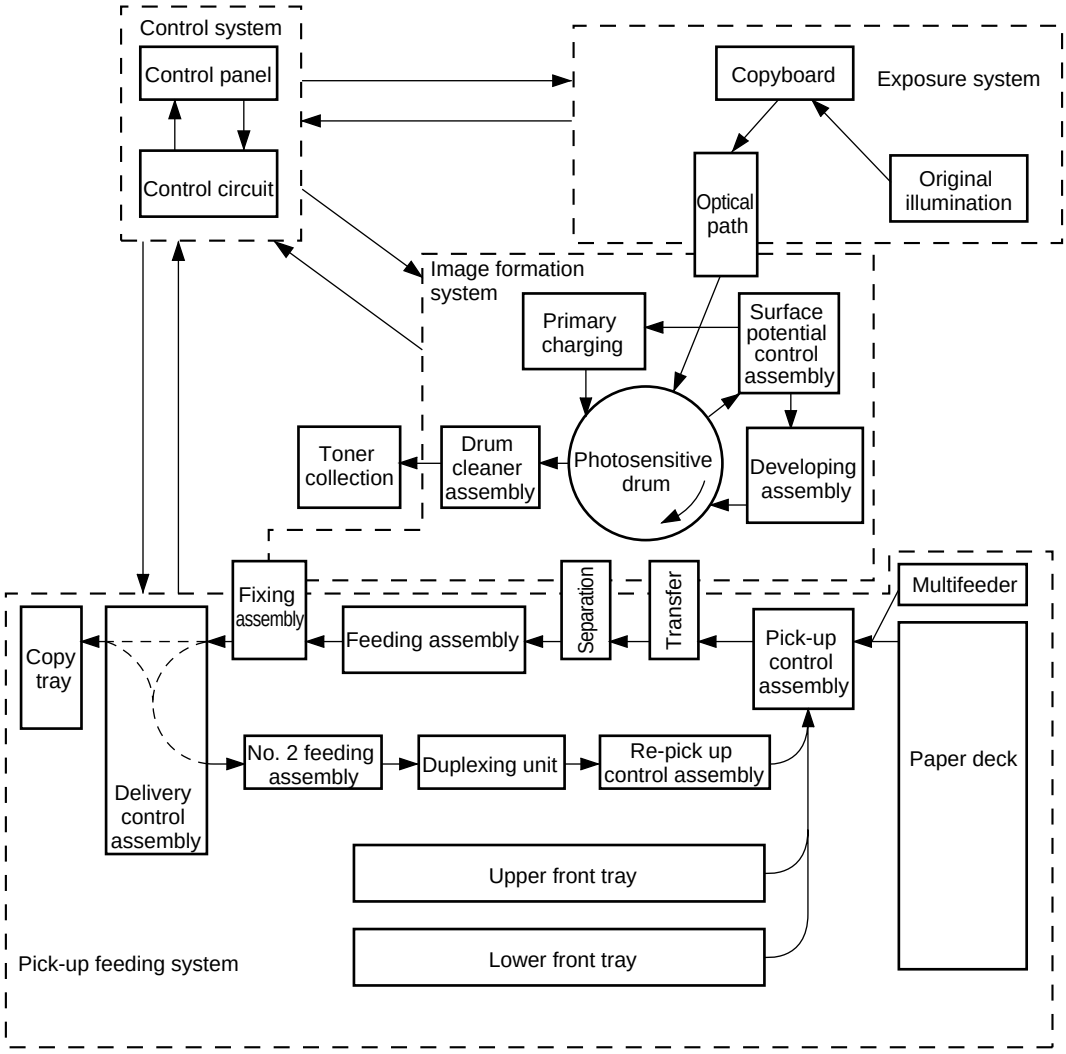

Figure 3-101

B. Outline of Electrical Circuitry

The NP6085's major electrical mechanisms are controlled by the microprocessors on its DC controller PCB

The two microprocessors are as follows and serve the functions given:

1 Q158 (master)
- Controls copying sequence.
- Controls high voltage.
- Controls fixing temperature.
- Controls scanner drive.
- Controls pick-up/feeding operations.

2 Q115 (slave)
- Controls the lens motor (X, Y).
- Controls the blank exposure LEDs.
- Controls the control panel.
- Controls analog signal input:
  thermistor signal
  potential sensor signal
  environment sensor signal
  manual feed size signal
- Controls the paper jogging guide drive motor.

The master (Q158) and slave (Q115) microprocessors exchange data through RAMs (Q166, Q188).

Communication with the RDF-D1, sorter, and C.F.F. is between the communication IC (IPC communication) on the controller PCB of the option and the communication IC on the NP6085's DC controller.

Communication with the side tray does not use the communication IC (IPC communication) but is in serial (100V model only).

As for the 208/220/240V model paper deck, communications are directly controlled by the microprocessor on the DC controller PBC, since the drive loads are not many.

Figure 3-102 is a block diagram showing the relationship between the NP6085's major circuits.

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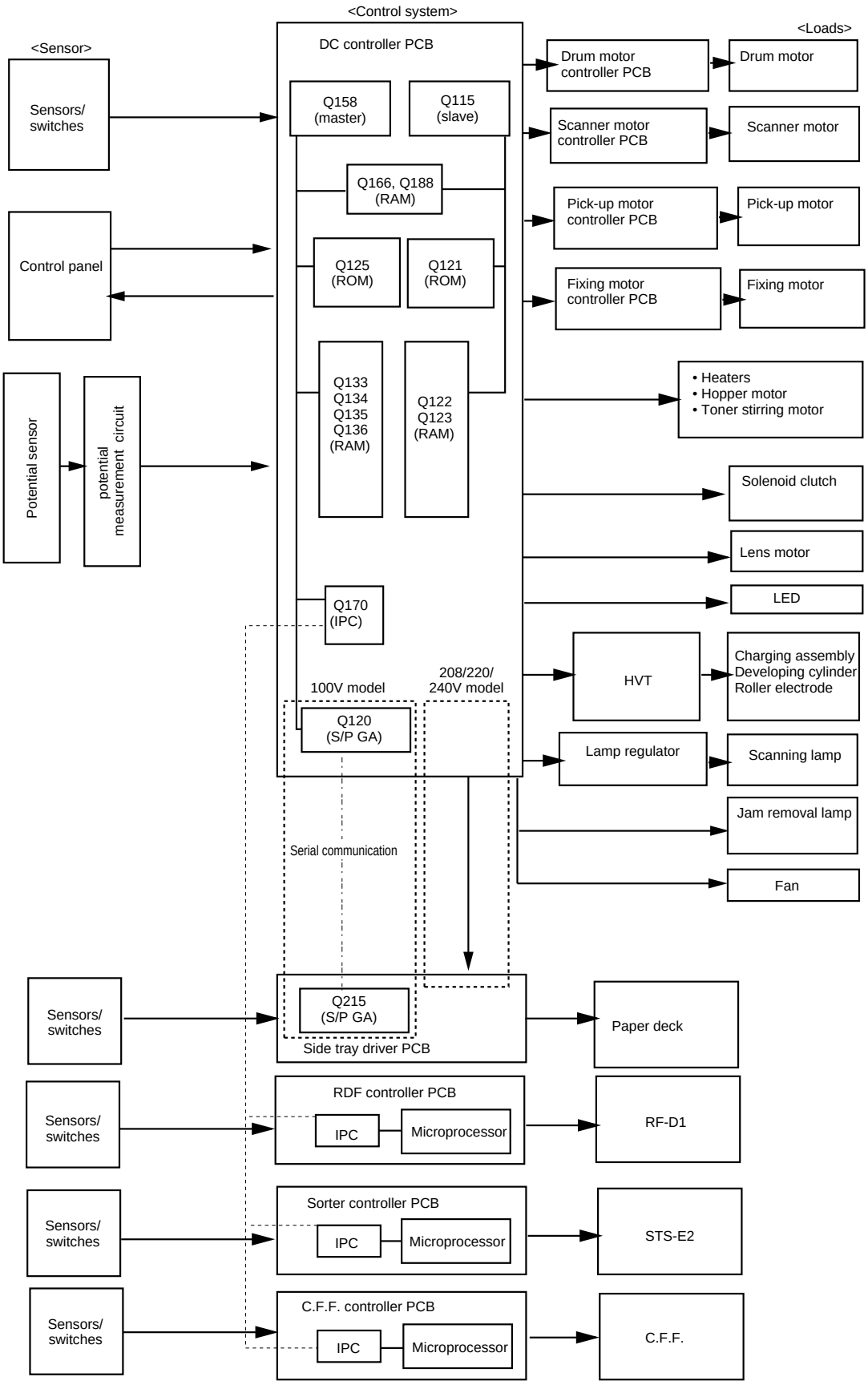

Figure 3-102

C. Inputs to the DC Controller

Inputs to the DC Controller (1/7)

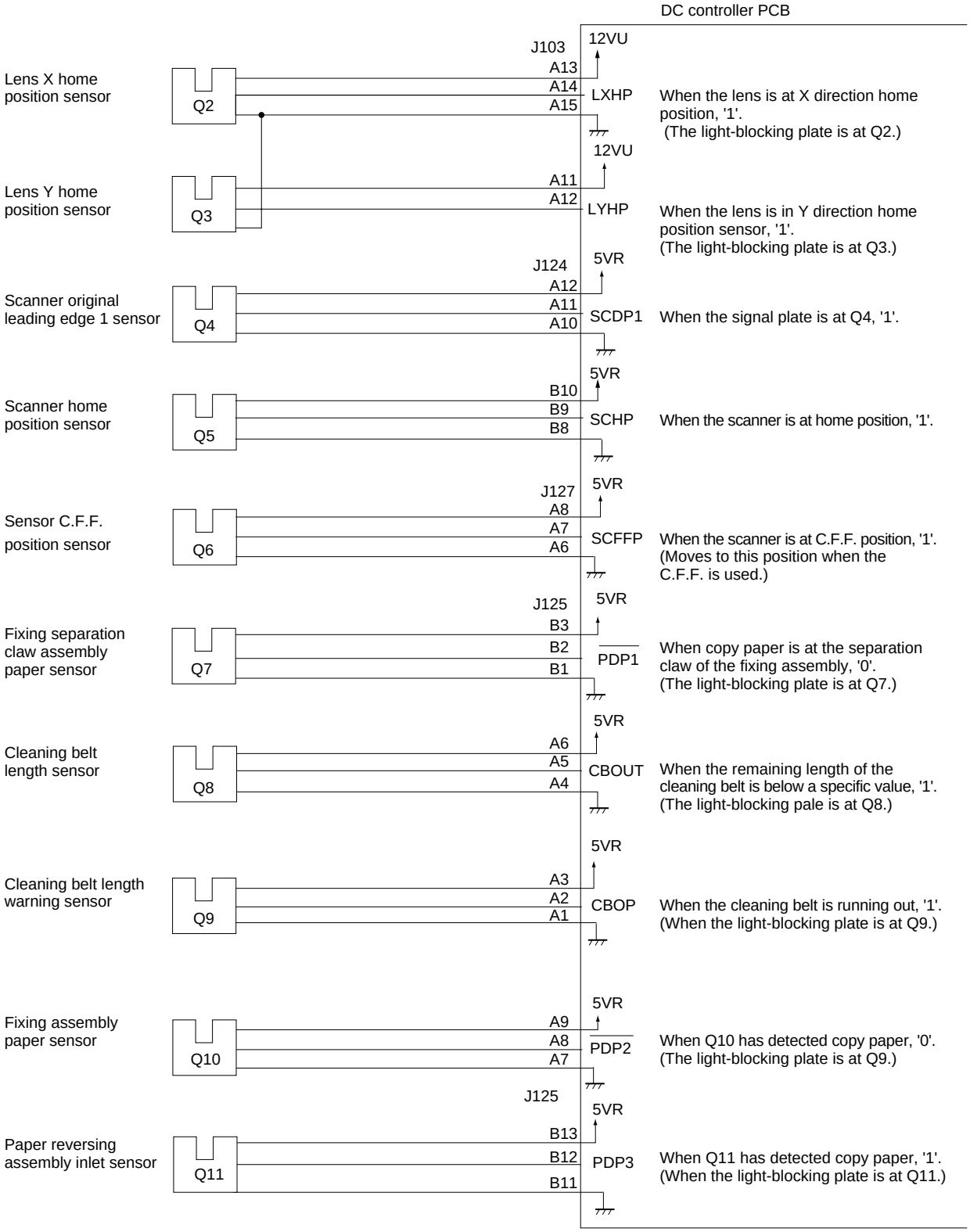

Figure 3-103

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Inputs to the DC Controller (2/7)

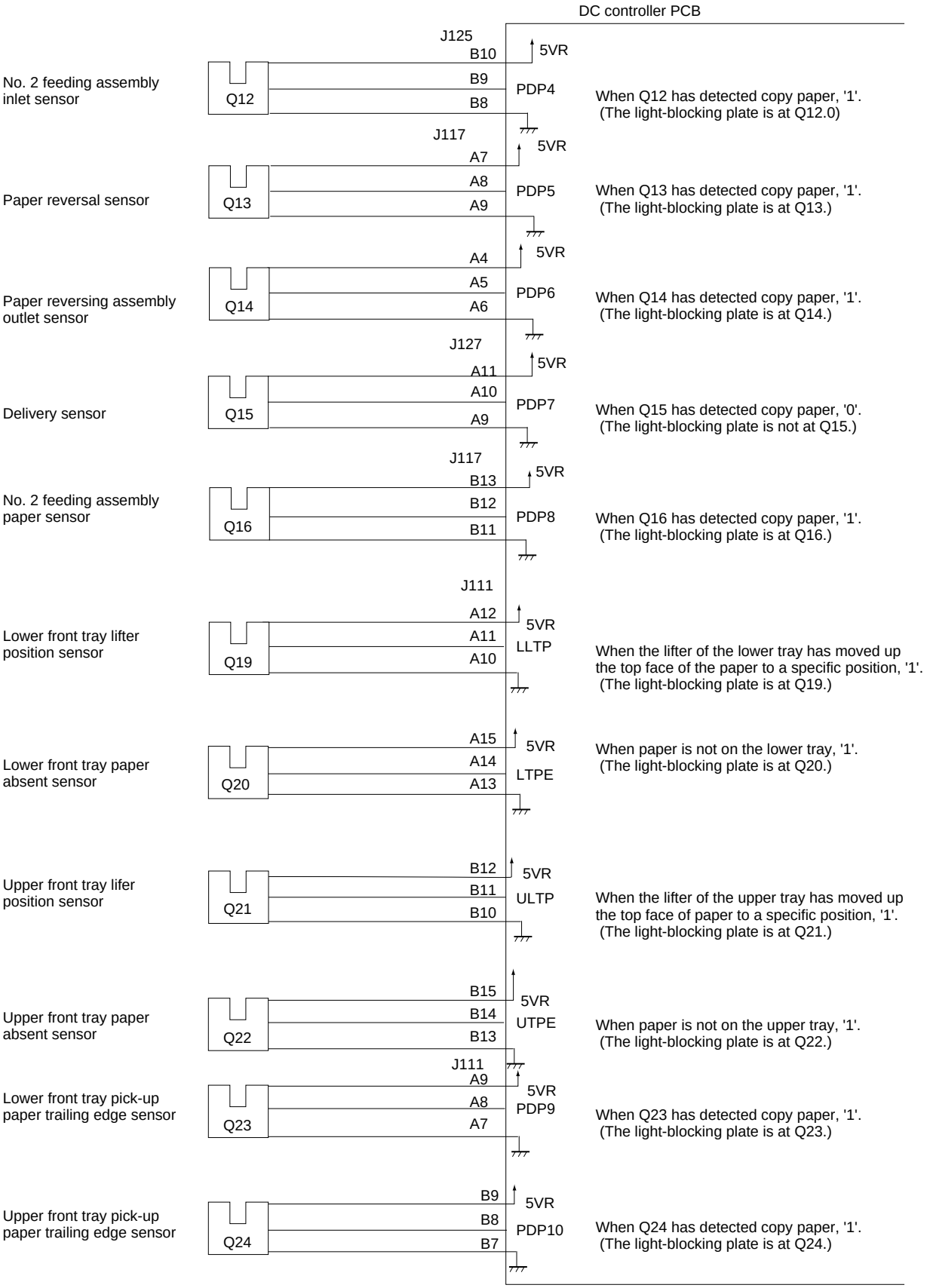

Figure 3-104

Inputs to the DC Controller (3/7)

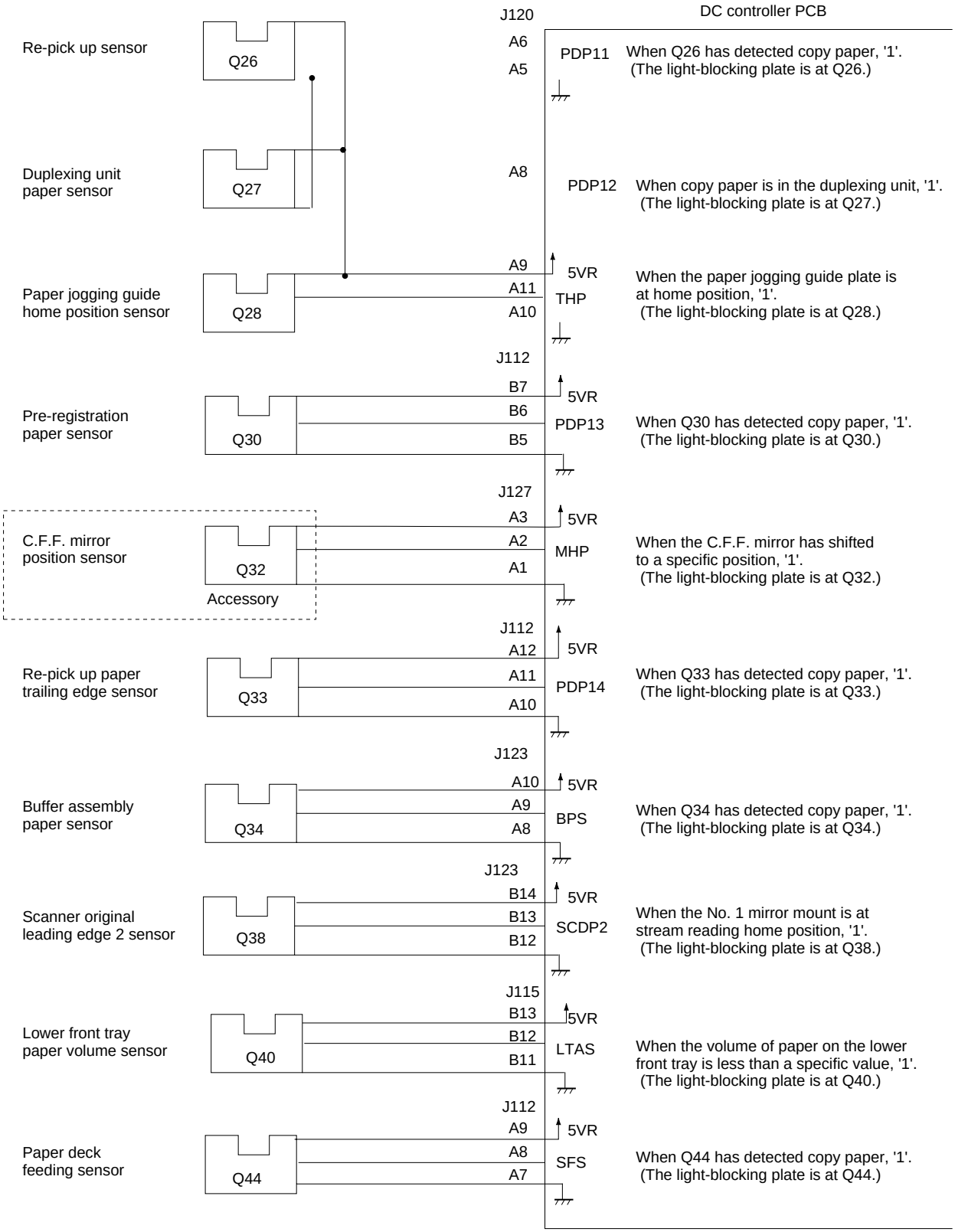

Figure 3-105

Inputs to the DC Controller (4/7)

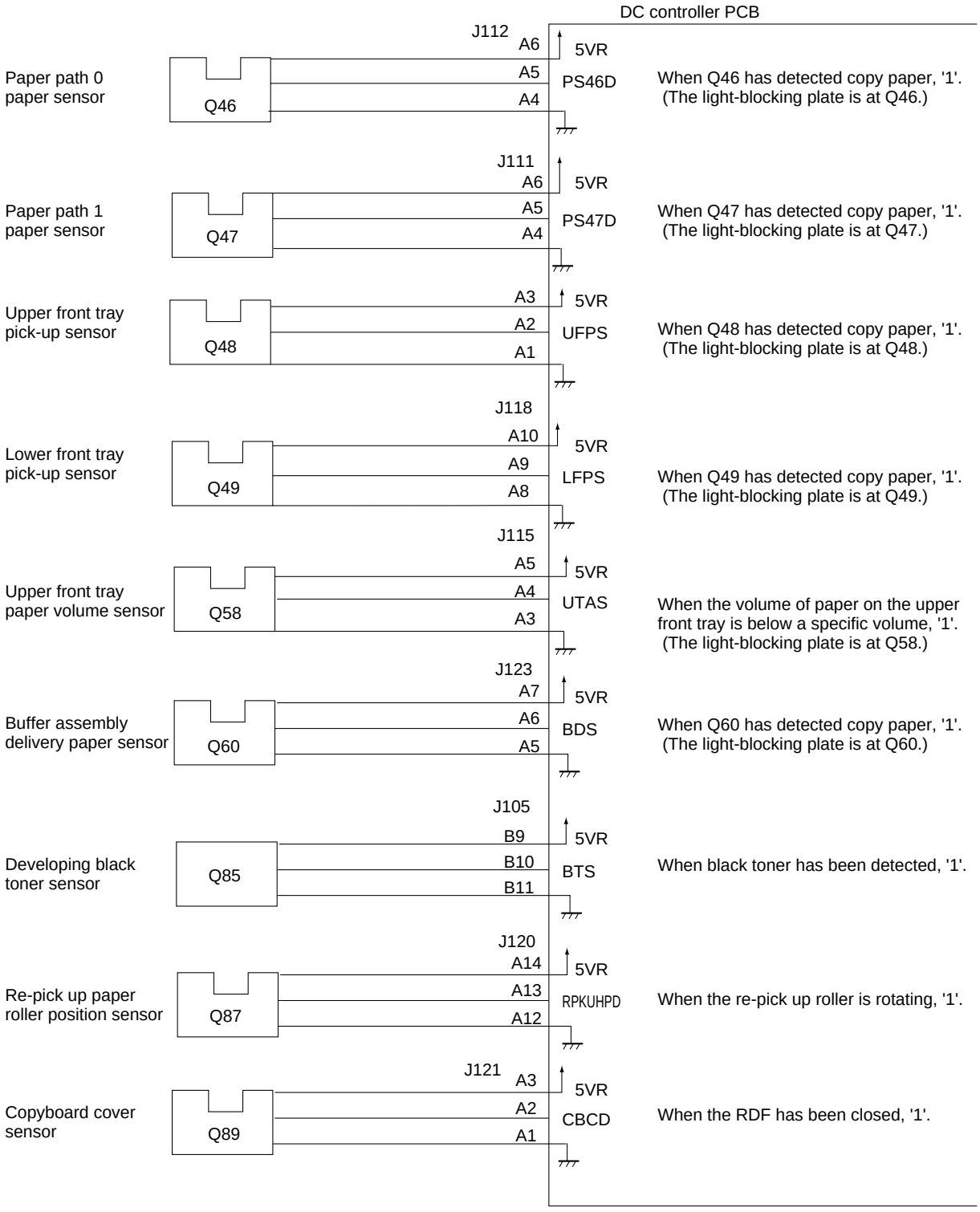

Figure 3-106

Inputs to the DC Controller (5/7)

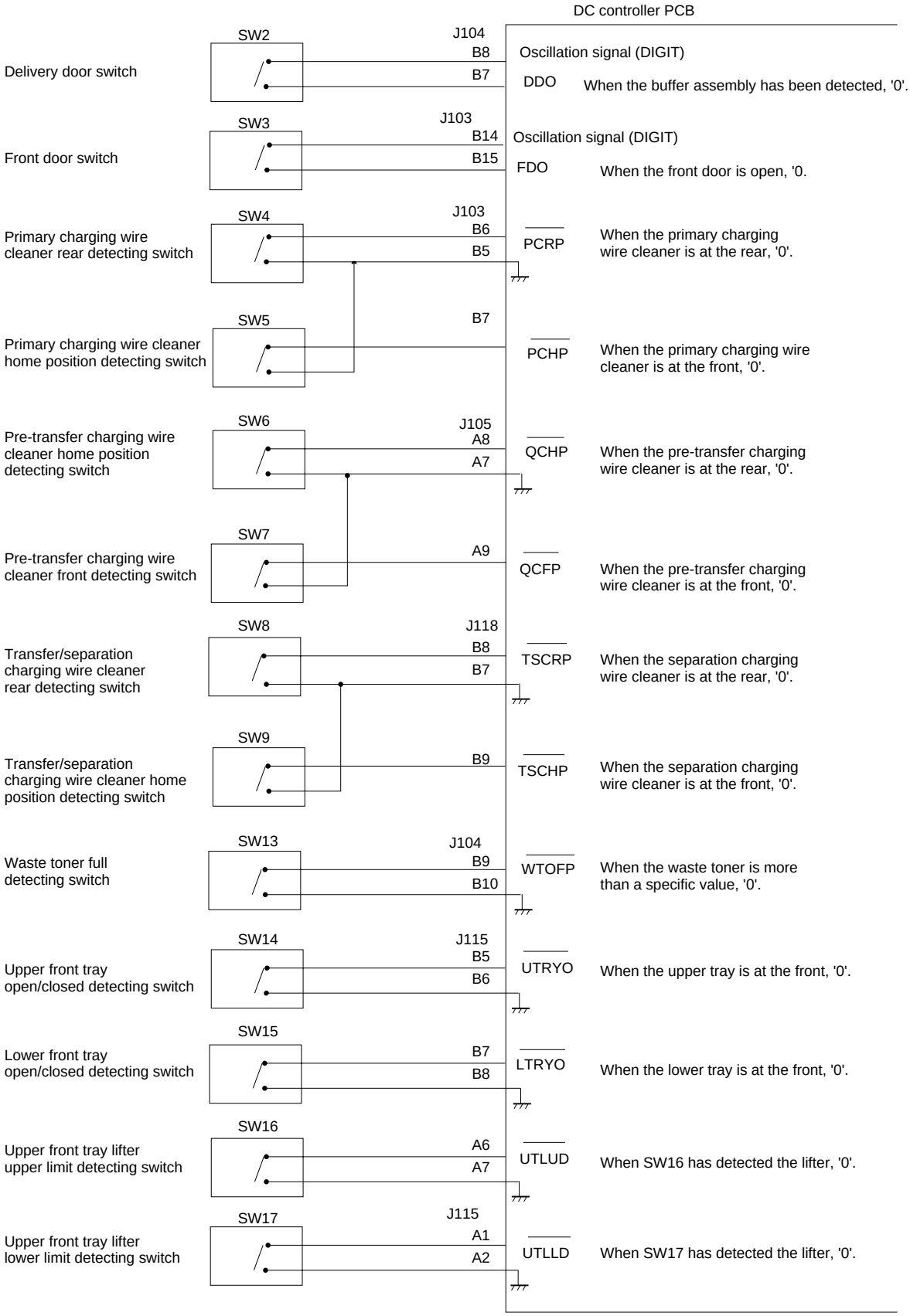

Figure 3-107

Inputs to the DC Controller (6/7)

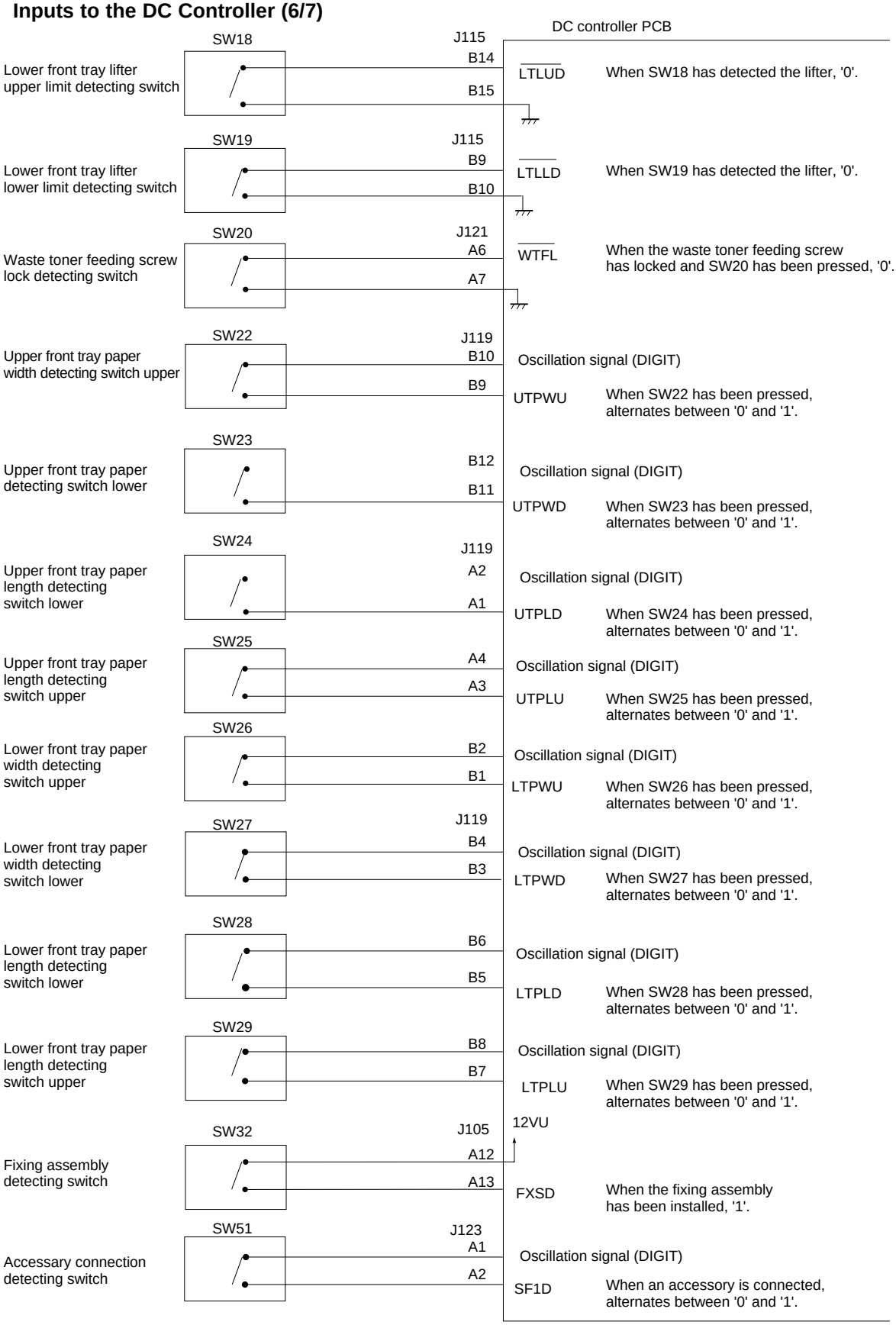

Figure 3-108

Inputs to the DC Controller (7/7)

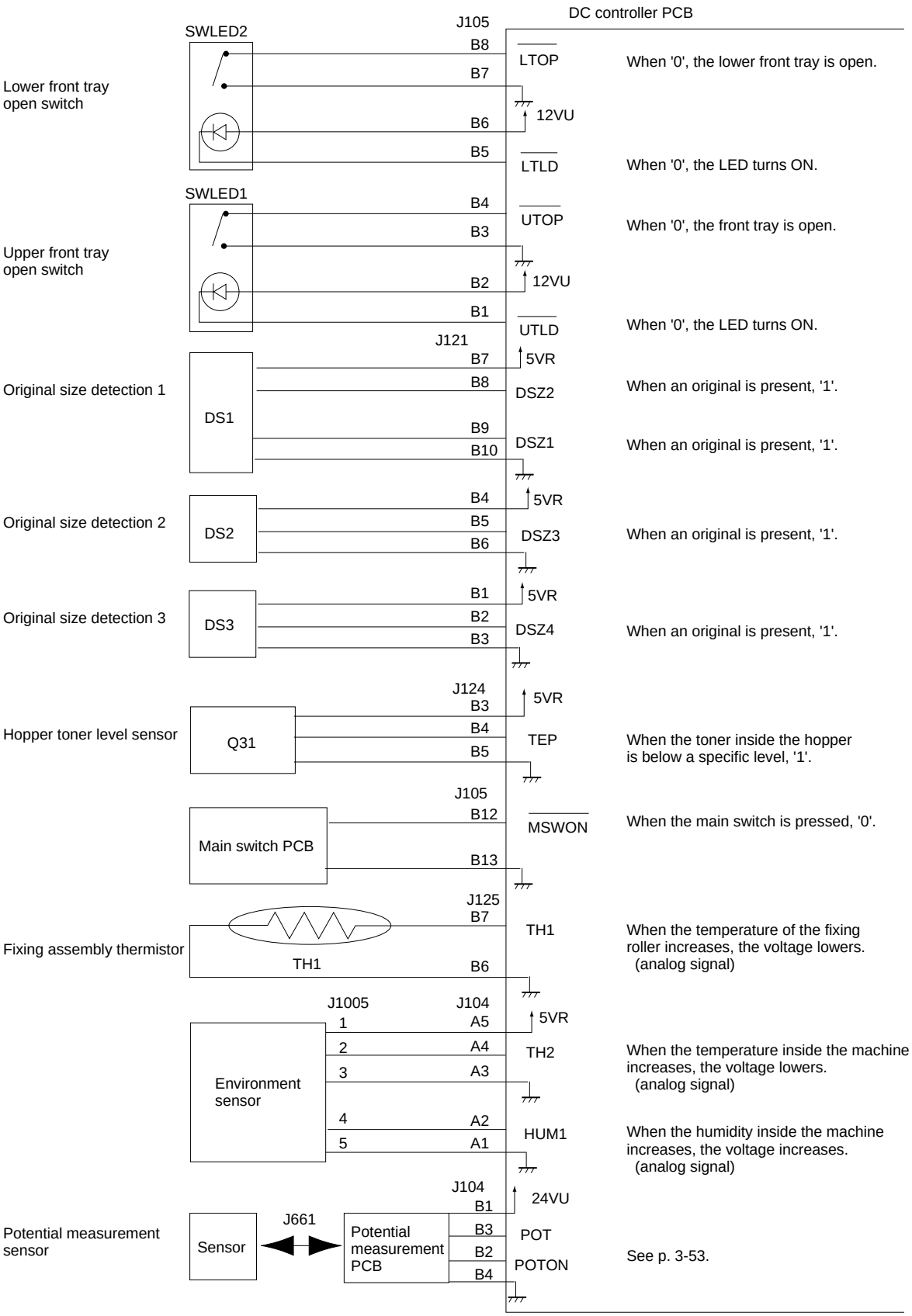

Figure 3-109

D. Outputs from the DC Controller

Outputs from the DC Controller (1/8)

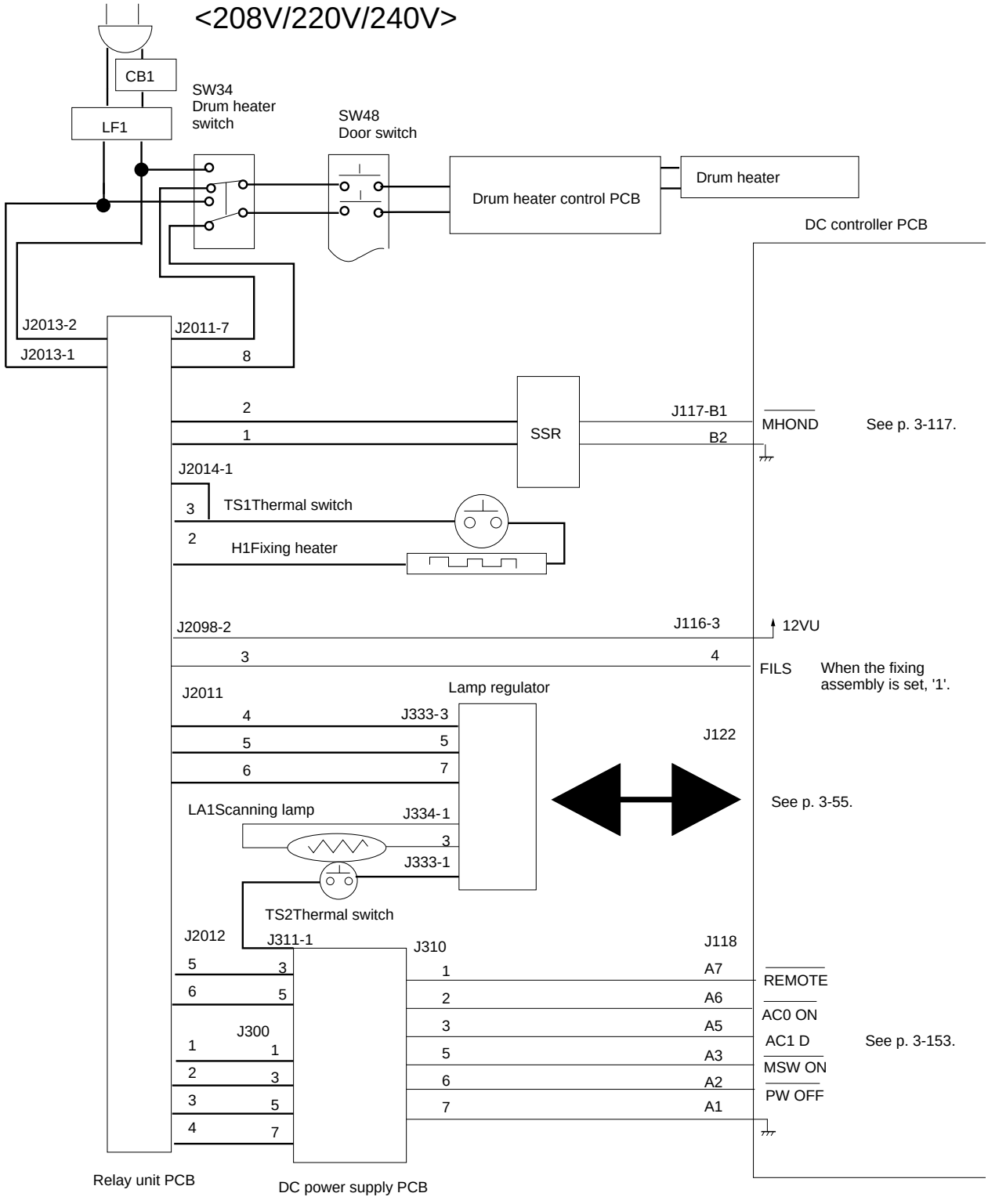

Figure 3-110

Outputs from the DC Controller (2/8)

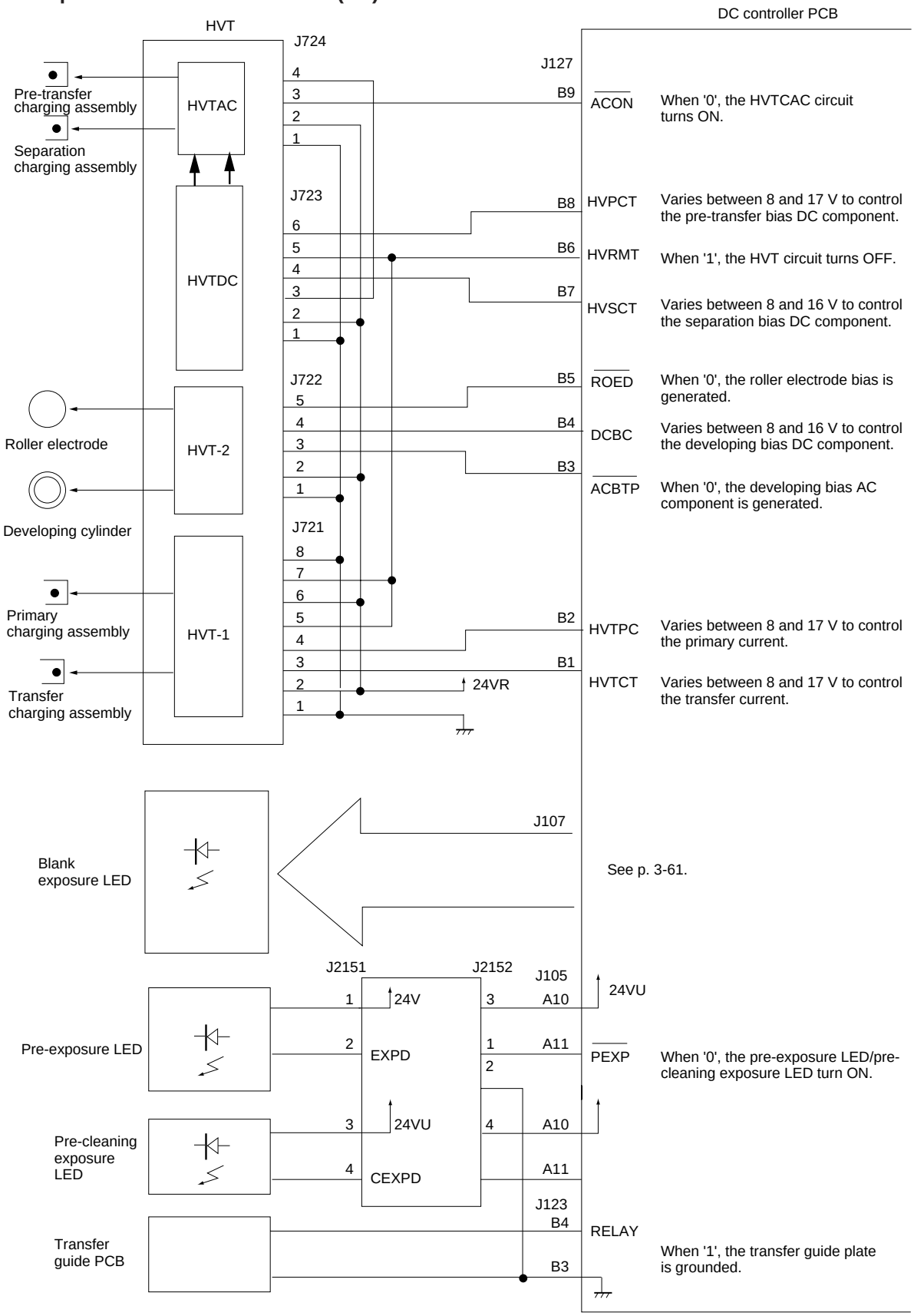

Figure 3-111

Outputs from the DC Controller (3/8)

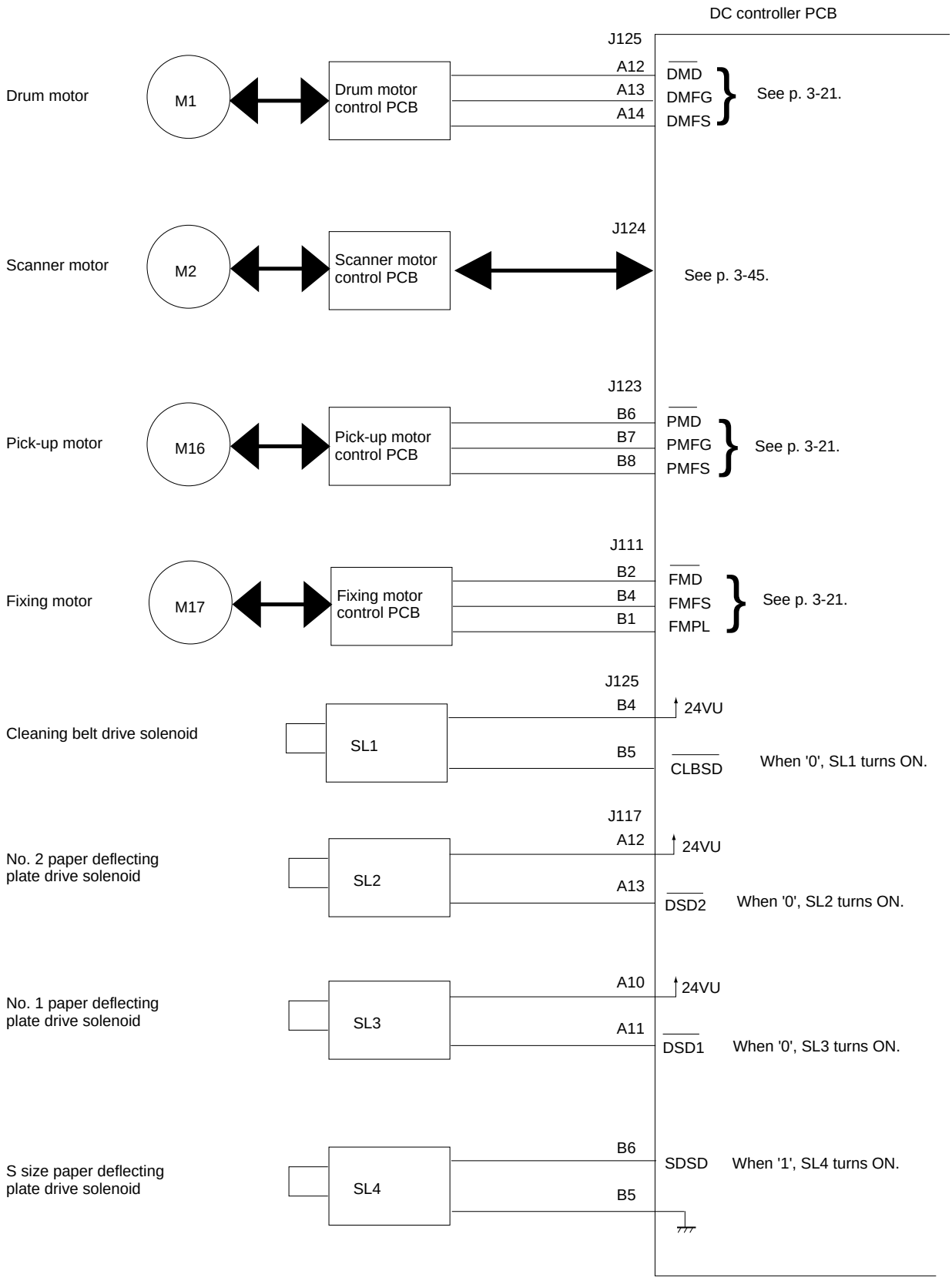

Figure 3-112

Outputs from the DC Controller (4/8)

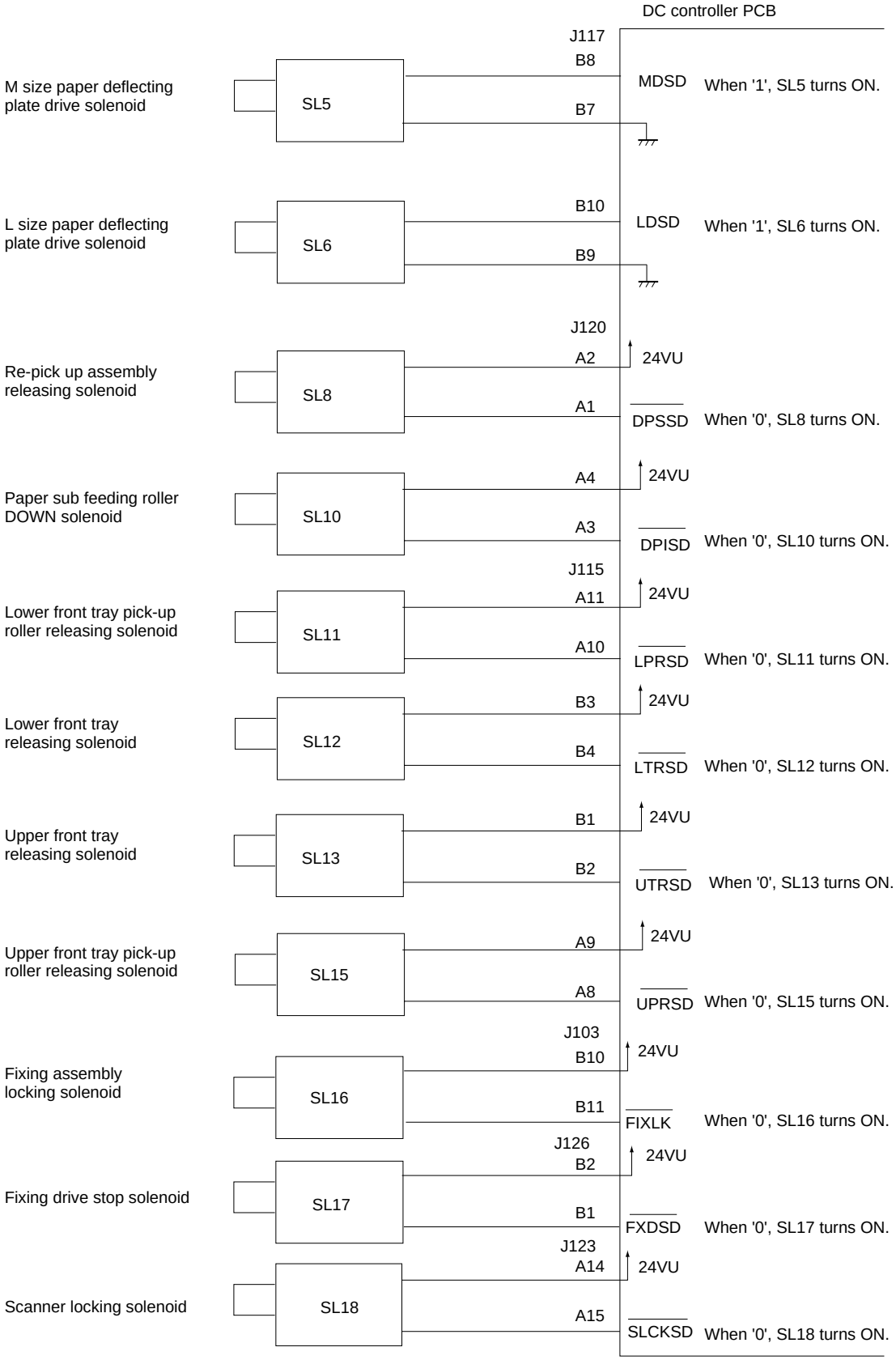

Figure 3-113

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Outputs from the DC Controller (5/8)

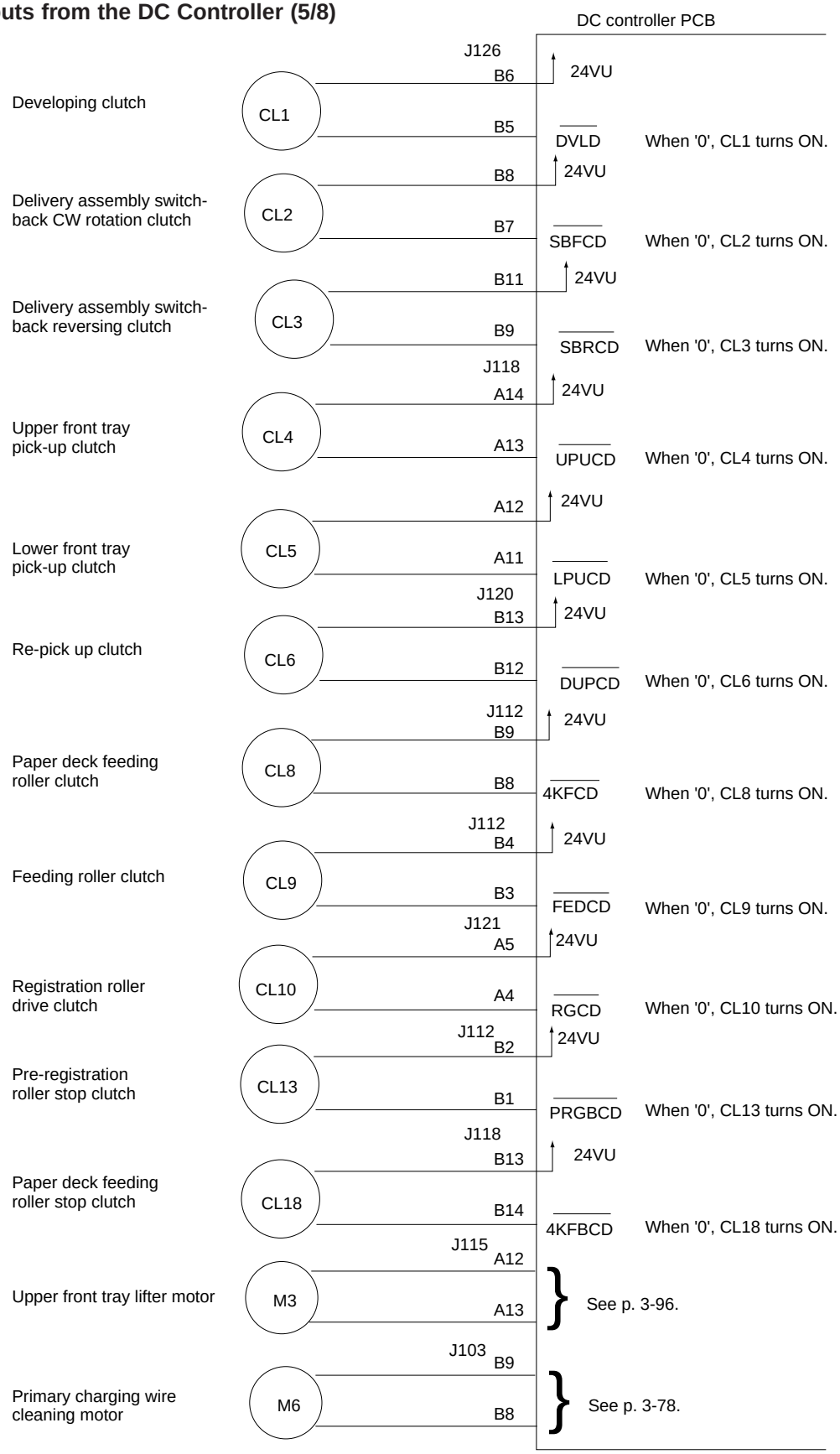

Figure 3-114

Outputs from the DC Controller (6/8)

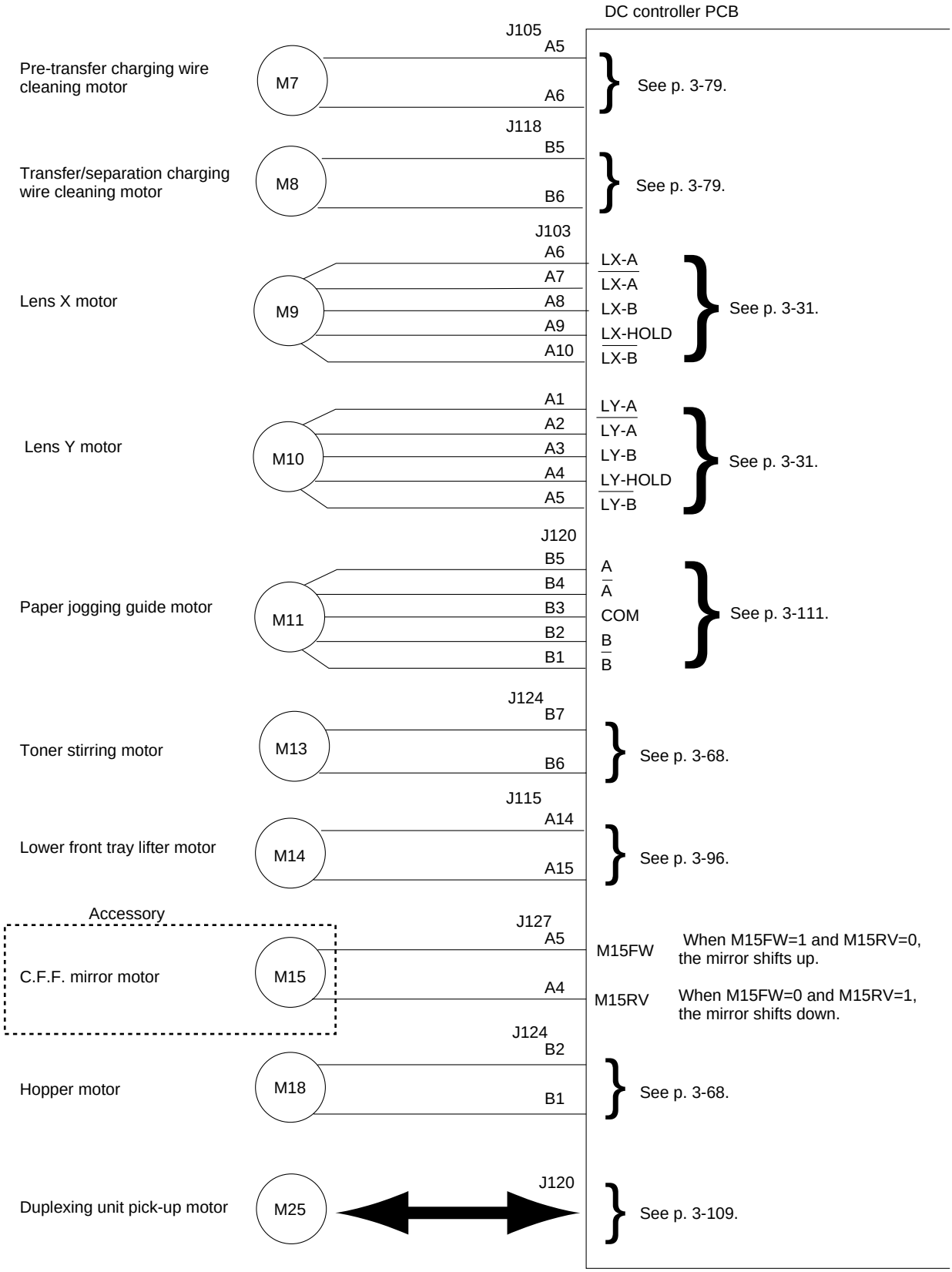

Figure 3-115

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

Outputs from the DC Controller (7/8)

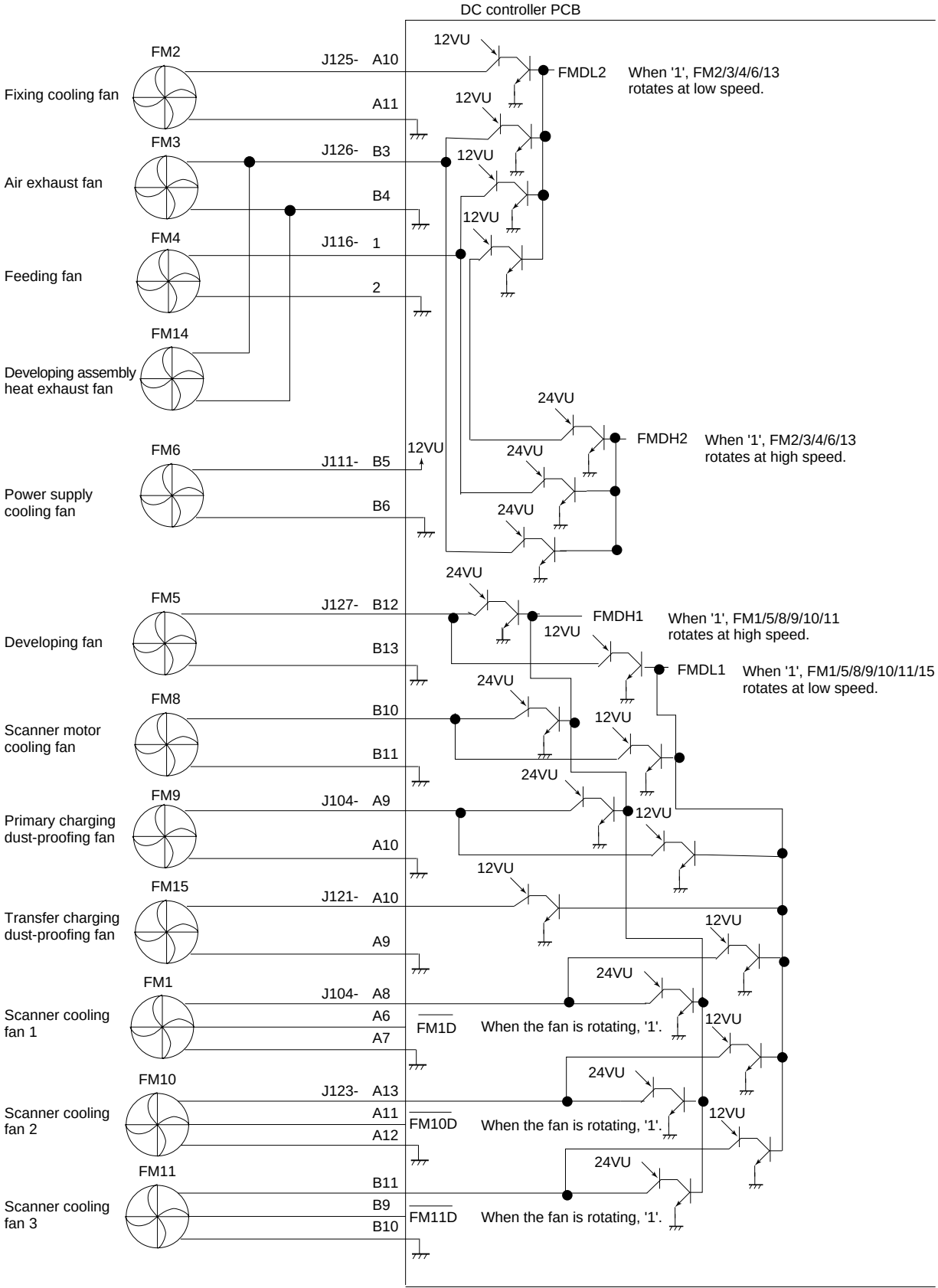

Figure 3-116

Outputs from the DC Controller (8/8)

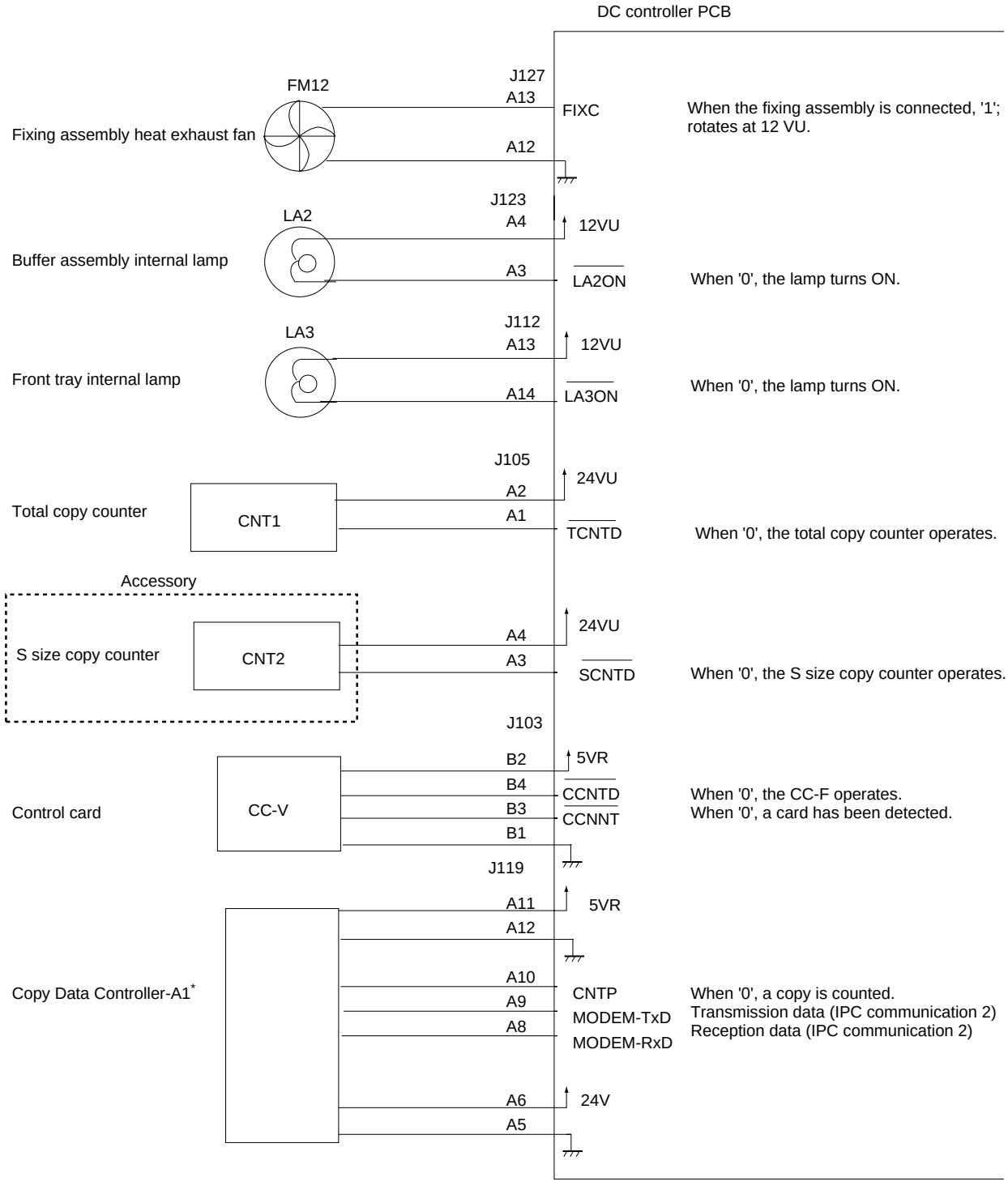

Figure 3-117

* Remote Diagnostic Device is SAME AS Copy Date Controller-A1.

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E. Inputs to and Outputs from the Paper Deck Driver

Inputs to and Outputs from the Paper Deck Driver (1/1)

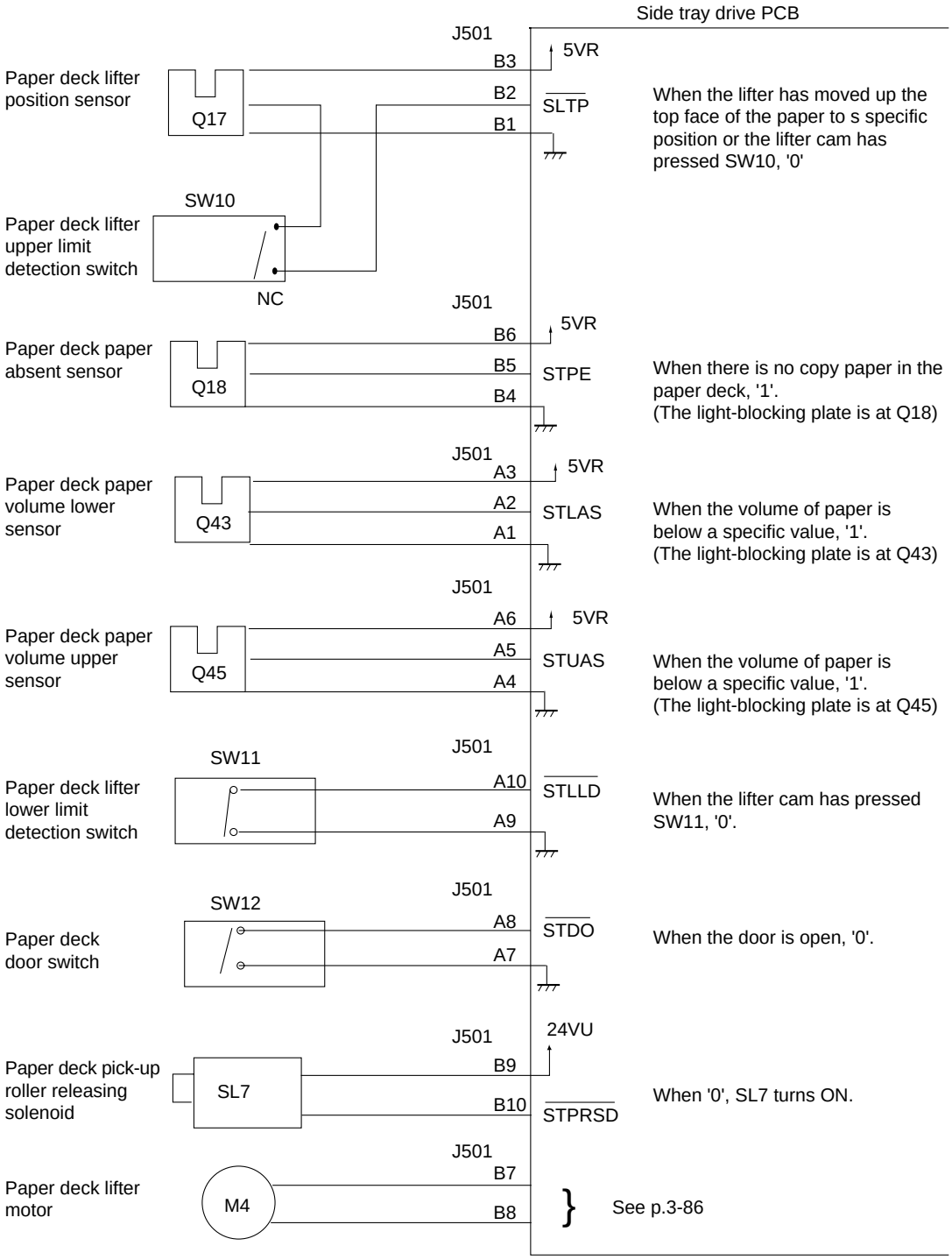

Figure 3-118

Inputs and Outputs between the Paper Deck Driver Assembly and the DC Controller

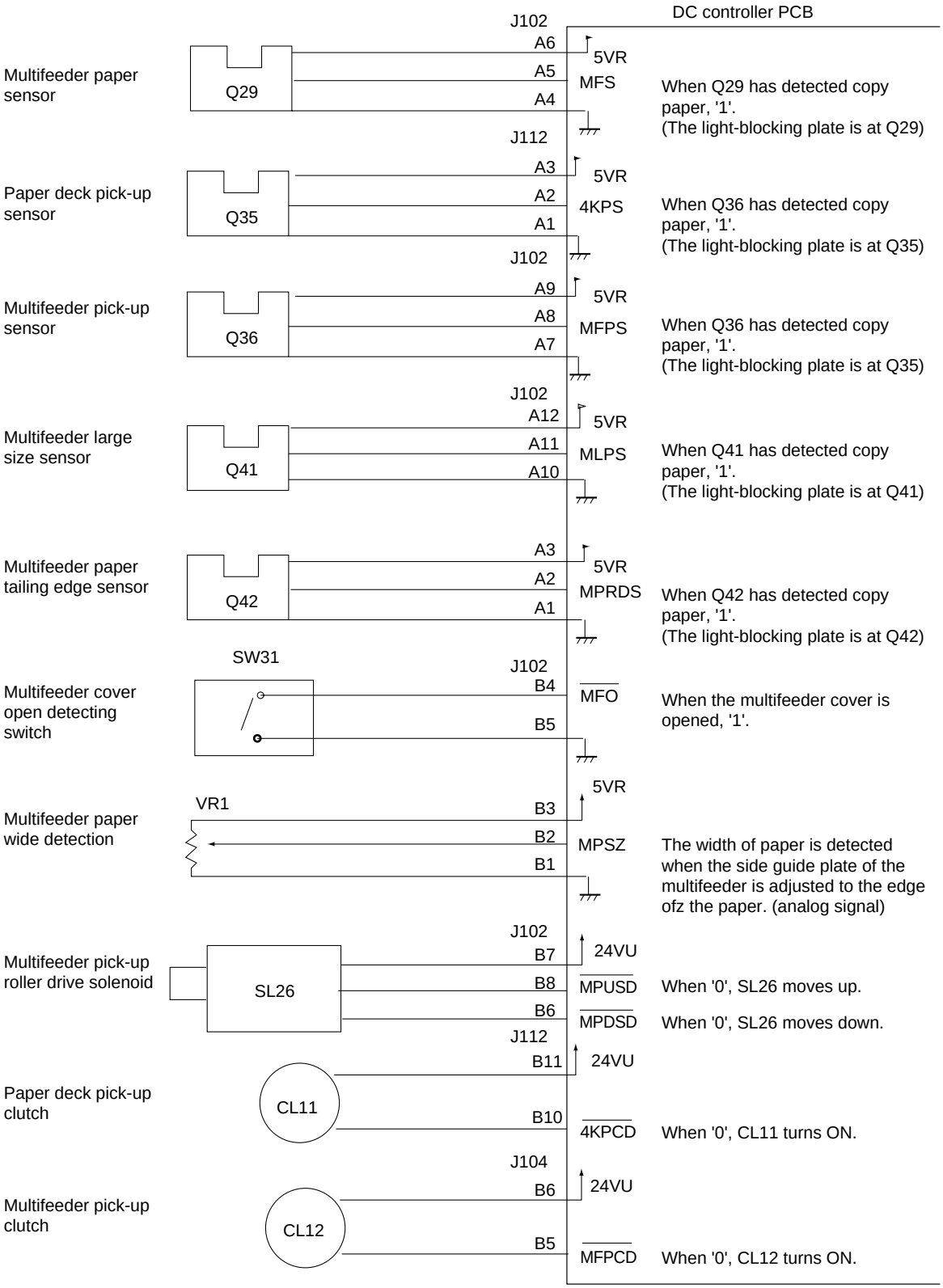

Figure 3-119

F. Drum Motor/Pick-Up Motor/ Fixing Motor Control Circuit

1. Outline

The NP6085 derives its drive from the following three motors:

Drum motor	Provides drive to the photosensitive drum/developing assembly.
Pick-up motor	Provides drive to the paper deck and front tray.
Fixing motor	Provides drive to the fixing assembly, reversing assembly, duplexing assembly, and buffer assembly.

Table 3-101

Figure 3-120 is a block diagram showing the control circuit of each motor, and the circuits have the following functions for their respective motors:

① Turns ON/OFF the motor.
② Switches the speed of the motor.
③ Controls the motor to a specific speed.

Each motor is a DC motor with a built-in clock pulse generator, generating clock pulses (DMCLK/PMCLK/FMCLK) according to the revolution of the motor.

Each motor controller PCB on the other hand uses these clock pulses to stabilize the speed of the motor.

The clock pulses (DMCLK/PMCLK/FMCLK) is frequency divided to 1/4 and are sent to the DC controller PCB as clock pulses (DMFG/PMFG/FMPL) for sequence control.

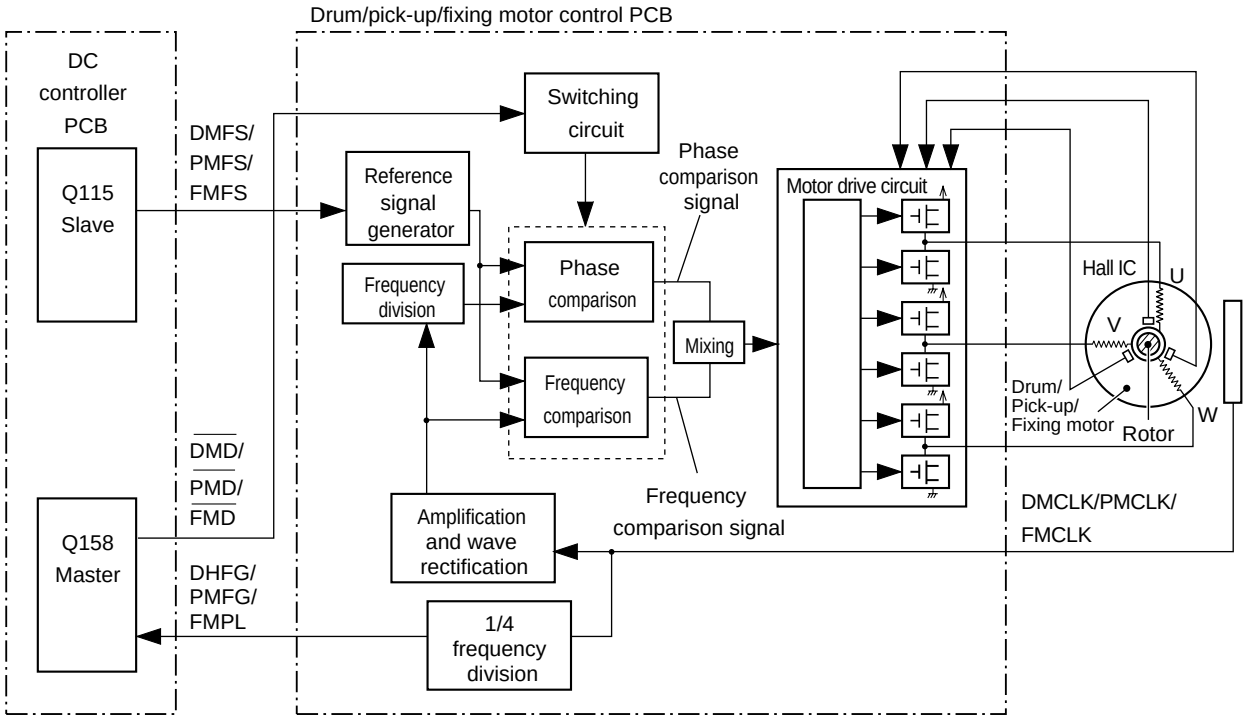

Figure 3-120

2. Operation

a. Turning ON and OFF the Motor

When the motor drive signal ($\overline{DMD}$ / $\overline{PMD}$ / $\overline{FMD}$) goes '0', the phase comparator circuit and the frequency comparator circuit shown in Figure 3-120 generate control signals.

These control signals from both circuits are added and sent to the motor drive circuit, thereby turning ON the motor drive circuit and rotating the motor.

When the $\overline{DMD}$ / $\overline{PMD}$ / $\overline{FMD}$ signal goes '1' on the other hand, the control signal output stops, keeping each motor stationary.

b. Switching and Controlling the Speed

The speed of each motor is automatically switched to one of the three speeds shown in Table 3-102 to suit the state of the machine by the speed control signal (DMFS/PMFS/FMFS) generated by the DC controller PBC.

The DMFS/PMFS/FMFS signals are pulse signals and may be of a frequency for high speed, medium speed, or low-speed.

The reference signal generator circuit on the motor control PCB generates reference pulses for high speed, medium speed, or low speed according to the frequency of the DMFS/PMFS/FMFS signal, and these reference pulses are sent to the phase comparator circuit and the frequency comparator circuit.

The phase comparator circuit generates control signals (phase comparison signal) so that the phase of the clock pulses (DMCLK/PMCLK/FMCLK) generated by the main motor and the phase of the reference pulses match.

Likewise, the frequency comparator circuit generates control signals (frequency comparison signal) so that the frequency of the clock pulses (DMCLK/PMCLK/FMCLK) and the frequency of the reference pulse match.

Both phase comparison signal and frequency comparison signal are synchronized and rectified and then are sent to the motor drive circuit to control the power to each respective motor, thereby switching rotation speed and ensuring a constant speed at the same time.

Speed	Copier state
High speed	• The selected reproduction ratio is 64% or higher. • The copier is executing initial multiple rotation.
Medium speed	The selected reproduction ratio is 63% or less.
Low speed	The option C.F.F. is being used.

Table 3-102

3. Detecting an Error

When an excess load is imposed on the motor for some reason, the DC controller PCB detects an error in the clock pulses from the respective motor and indicates an error code and a message on the control panel; e.g., E012 (drum motor error), E014 (fixing motor error), E015 (pick-up motor error).

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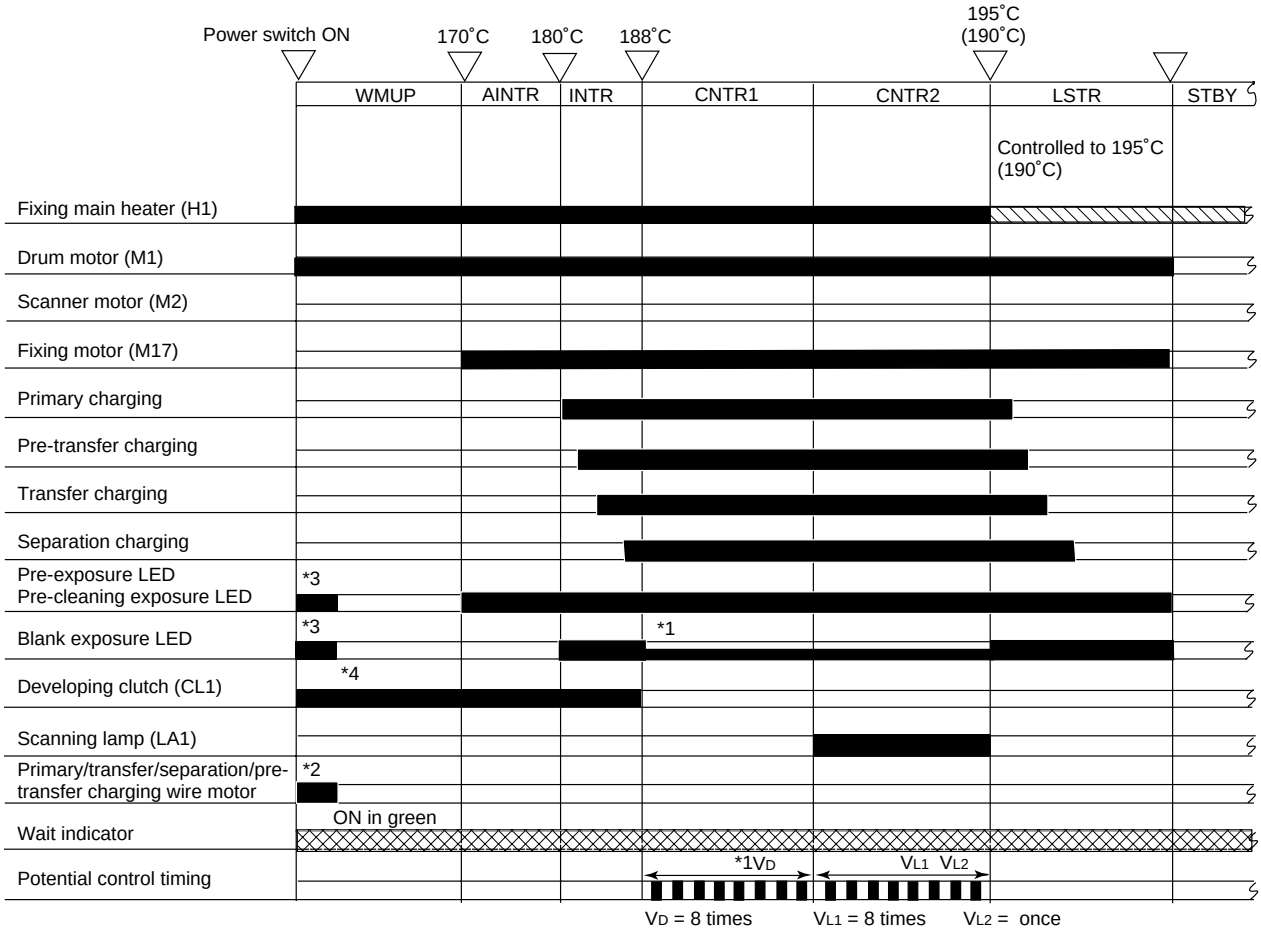
G. Basic Sequence of Operations

1. Basic Sequence of Operations at Power-On (1/2)



The value in parentheses indicates the control temperature in relation to an ambient temperature of 28°C or more regardless of the passage of time after 45 min or more following power-on.

*1 During potential control (CNTR1, CNTR2), the blank LEDs are turned OFF in relation to the potential sensor location for V_D and V_{L1} measurements.

*2 If the fixing temperature is 16°C or less at power-on, the primary/pre-transfer/transfer/separation charging wire is cleaned. (Cleaning is also executed every 2,000 copies.)

*3 Remains ON for 5 sec.

*4 ON only if the surface temperature of the fixing roller is 60°C or less. (The timing may be changed in service mode.)

Figure 3-121

2. Basic Sequence of Operations at Power-On (2/2)

- Auto Start Selected

The period between WMUP and LSTR is called the Wait period. Copying will start automatically at the end of the period if the Copy Start key is pressed during the period.

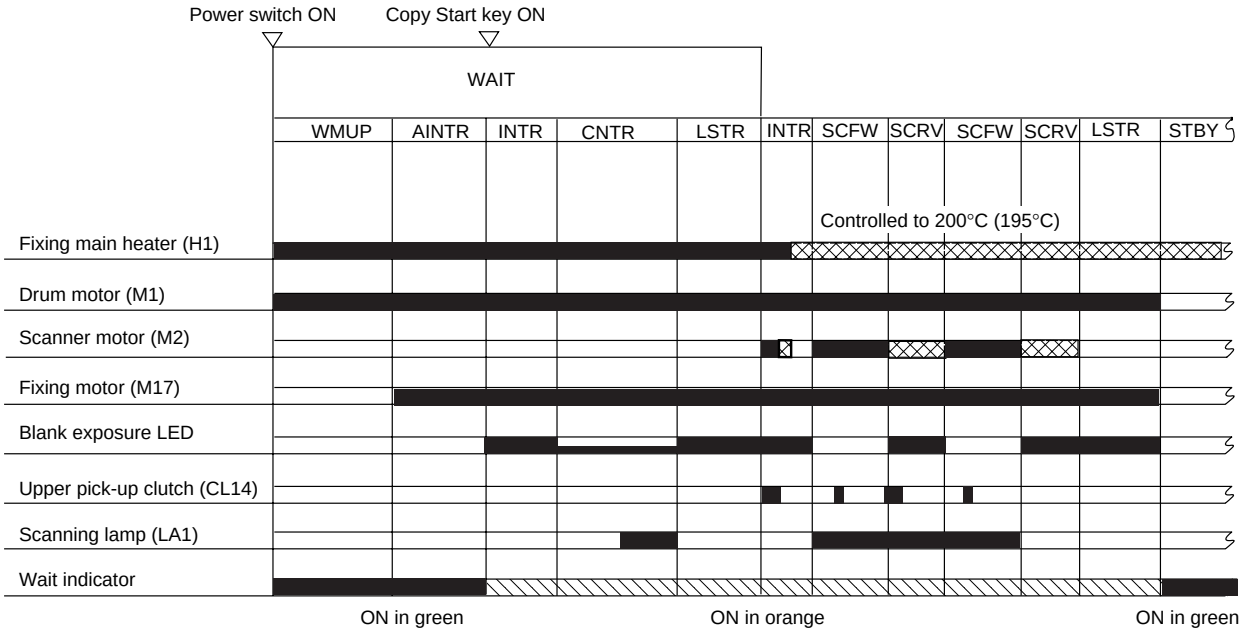


Figure 3-122

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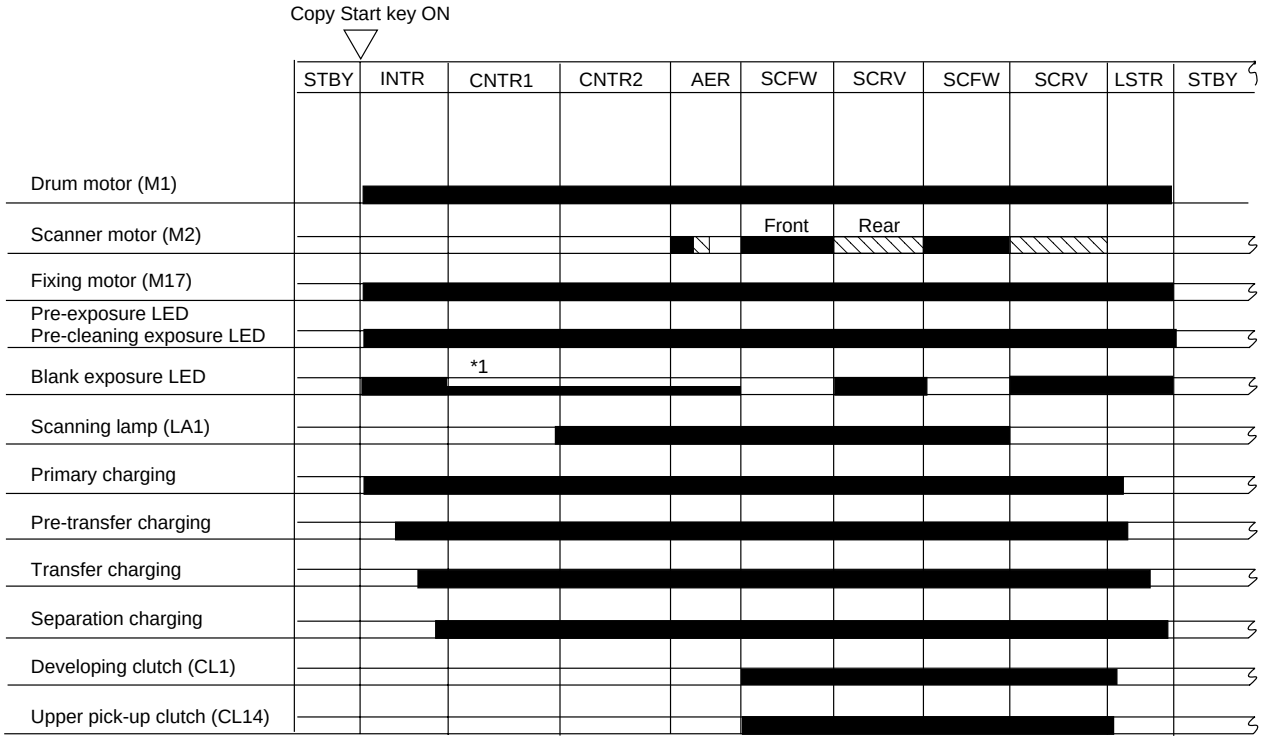
Period			Purpose	Remarks
WAIT (wait)	WMUP (warm-up)	From when the power switch is turned ON until the surface temperature of the upper fixing roller reaches 170˚C.	Waits until the fixing assembly warms up.	• The primary/pre-transfer/separation/transfer charging wire is cleaned if the fixing roller temperature is 160˚C or less at power-on. • The lens moves to the A4 width (297 mm) position.
	AINTR	From the end of WMUP until the surface temperature of the upper fixing roller reaches 180˚C.	Evens out the surface temperature of the fixing roller.	• The drum motor rotates at a specific speed. • AINTR is executed even if the surface temperature of the upper fixing roller is 180˚C or more at power-on.
	INTR (initial rotation)	From when the surface temperature of the upper fixing roller has reached 180˚C until it reaches 188˚C.	The drum is rotated at a high speed in preparation for copying operation, thereby ultimately stabilizing the sensitivity of the drum.	
	CNTR1 (control rotation 1)	For about 5 sec from the end of INTR.	Controls the drum surface potential V_D.	
	CNTR2 (control rotation 2)	For about 5 sec from the end of CNTR1.	Controls the drum surface potential V_L.	Determines the value of the developing bias (DC component) during copying according to the measurement of V_{L2}.
	LSTR (last rotation)	While the photosensitive drum makes a single rotation.	Cleans the drum surface (by removing charges) as post copying operation.	
STBY		From the end of LSTR until the Copy Start key is pressed or the power switch is turned ON.	Waits until the Copy Start key or an operation key is pressed.	If auto start has been enabled, i.e., if the Copy Start key has been pressed during the Wait period, copying starts at the end of LSTR.

Table 3-103

3. Basic Sequence of Operations during Copying



*1 The blank exposure LED is turned OFF in relation to the potential sensor location for potential measurement (V_D, V_{L1}, V_{L2}).

Figure 3-123

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Period		Purpose	Remarks
INTR (initial rotation)	From when the Copy Start key is pressed until CNTR1 starts.	Stabilizes the drum sensitivity in preparation for copying operation.	The lens is moved. If the lens does not reach a specific position within a specific period of time, INTR is continued until the lens movement is completed.
CNTR1 (control rotation 1)	For about 5 sec from the end of INTR.	Controls the drum surface potential V_D.	The scanner motor is rotated in reverse before potential control to ensure that the scanner is at home position.
CNTR2 (control rotation 2)	For about 5 sec from the end of CNTR1.	Controls the drum surface potential V_L.	Determines the developing bias (DC component) for copying according to the measurement of V_{L2}.
AER (AE rotation)	While the scanner moves forward about 120 mm and returns to home position.	Measures the density of the original while the scanner is moving in reverse.	Control is executed only in AE mode.
SCFW (scanner forward)	While the scanner is moving forward. • The distance over which the scanner moves forward varies according to the copy paper size and the selected reproduction ratio. • The speed at which the scanner moves forward varies depending on the selected reproduction ratio.	The scanning lamp illuminates the original, and the reflected optical image is projected onto the photosensitive drum through mirrors and lenses.	• The registration signal is generated and the copy paper is moved to the transfer assembly. • The pick-up signal is generated, and the sheet of copy paper is picked up.
SCRV (scanner reverse)	While the scanner is moving in reverse.	The scanner is returned to the home position in preparation for the next copy.	
LSTR (last rotation)	From the end of SCRV until the main motor stops.	The surface of the drum is cleaned (by removing charges) as post copying operation.	Discharges the last copy.

Table 3-104

4. Basic Sequence of Operations for Page Separation Copying

In page separation mode, the original on the left of the copyboard is copied first (SCFW1) and then the original on the right of the copyboard is copied (SCFW2).

When the copy count is set to '2' or higher, the original on the left of the copyboard is copied for as many copies as set; then, the original on the right is copied for as many copies as set.

If page separation mode is combined with AE mode, the copier's AE mechanism will be used.

For this reason, the density of the original in AE mode is measured at a point 120 mm from the leading edge of the original. Both originals on the left and the right are copied based on the measurement.

Reference:

1. If the conditions for potential measurement exist (p.3-52), control rotation (CNTR1/2) is executed after INTR.
2. Page separation is executed only for A4 or B5 copies.

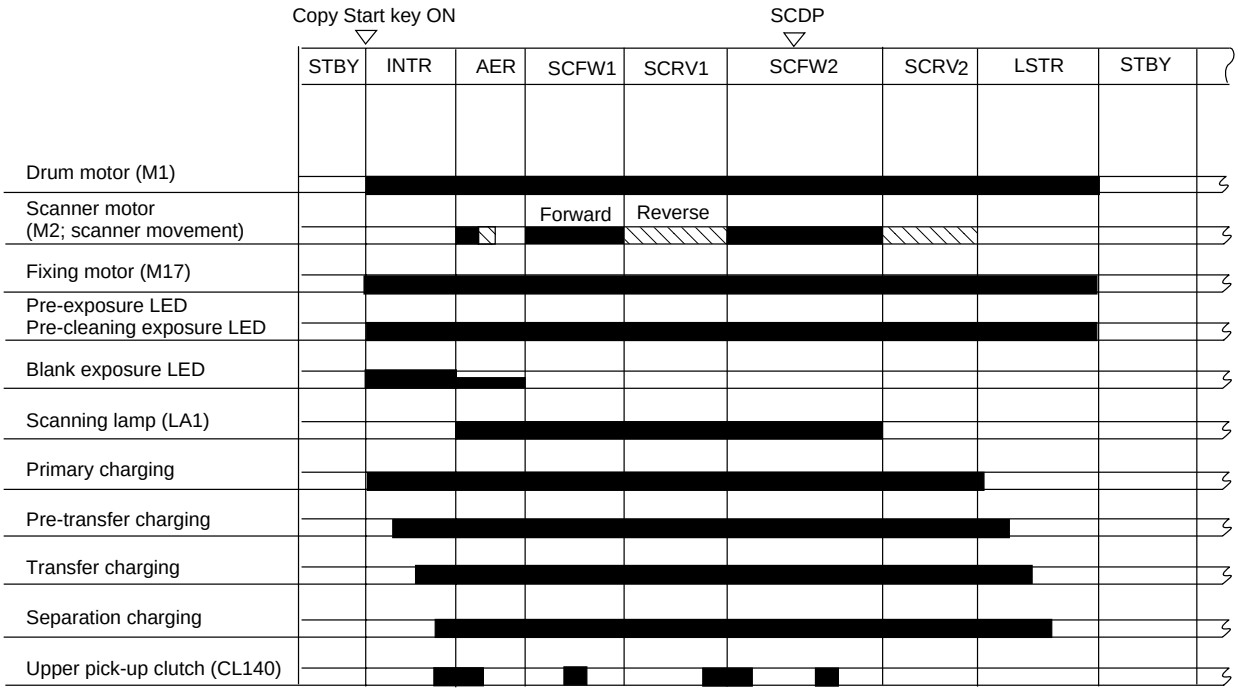

Figure 3-124

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

Period		Purpose	Remarks
SCFW1 (scanner forward 1; copying original on left)	While the scanner is moving forward. • The distance over which the scanner moves forward varies according to the copy paper size and the selected reproduction ratio.	The scanning lamp illuminates the original on the left of the copyboard, and the reflected optical image is projected on the photosensitive drum through mirrors and lenses.	• The registration signal is generated, and the copy paper is moved to the transfer assembly. • The pick-up signal is generated, and the next copy paper is picked up.
SCRV1 (scanner reverse 1)	From when the scanner starts to move in reverse until the copy paper is discharged.	• The scanner is returned to the home position in preparation for the next copy. • The toner image on the drum is transferred to the copy paper.	
SCFW2 (scanner front 2; copying original on right)	While the scanner is moving forward. • The distance over which the scanner is moving forward varies according to the copy paper size and the selected reproduction ratio.	The scanner lamp illuminates the original on the right, and the reflected optical image is projected on the photosensitive drum through mirrors and lenses.	The registration signal is generated so that the image leading edge of the original on the right matches the copy paper in reference to the SCDP signal.
SCRV2 (scanner reverse 2)	From when the scanner starts to move in reverse until the developing clutch turns OFF.	• The scanner is returned to the home position for the next copy. • The toner image on the drum is transferred to the copy paper.	

Table 3-105

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II. EXPOSURE SYSTEM

A. Varying the Reproduction Ratio

The reproduction ratio in the drum axial direction is varied by the lens drive system, and that in the drum peripheral direction is by the scanner system and the main drive system.

The lens drive system uses a zoom lens; and, as shown in Figure 3-201, the lens position and focal distance are changed to vary the reproduction ratio in the drum axial position.

The scanner drive system moves the No. 1 mirror relatively faster (reduction) or slower (enlargement) than the peripheral speed of the drum, to vary the reproduction ratio in the drum peripheral direction.

Reference:

The speed of the No. 1 mirror and the peripheral speed of the drum are identical in Direct mode.

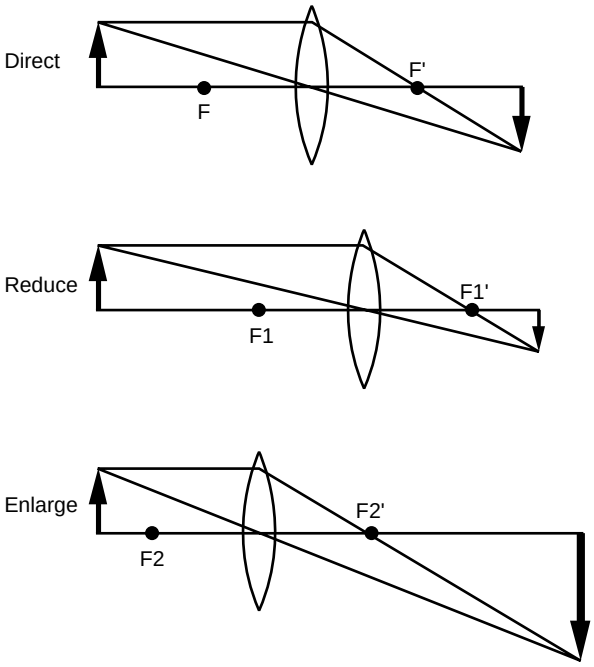


Figure 3-201

B. Lens Drive System

1. Outline of the Lens Drive System

The NP6085 uses center reference to move copy paper. Since the original is placed using rear reference (with copyboard cover in use), however, the lens is moved in Y (vertical) direction according to the width of the copy paper even in Direct mode.

■ Copyboard Cover in Use

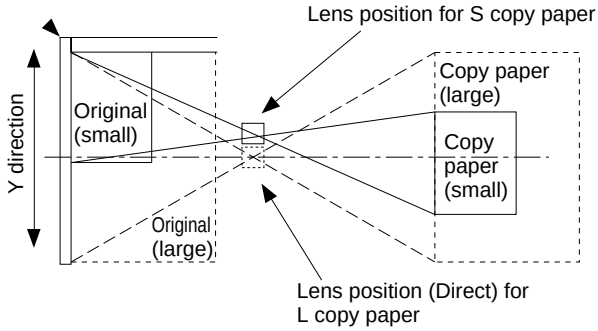


Figure 3-202 (top view)

Moreover, since the RDF installed to the NP6085 uses center reference, the lens is not moved in Y (vertical) direction if the original size and the copy size are the same and Direct mode is used (Figure 3-203). However, if the original size and the copy size are different, the lens is moved in X (horizontal) direction so that the image on the copy will be as in the case of when the copyboard cover is used.

■ RDF/ADF in Use

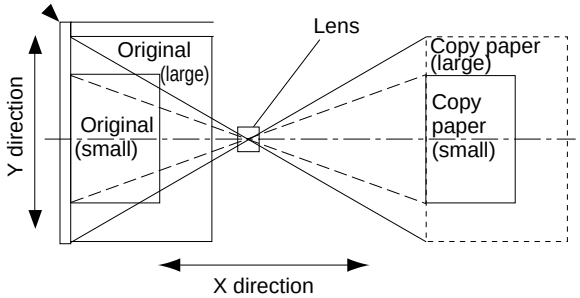


Figure 3-203 (top view)

2. Moving the Lens

a. Moving the Lens in Y (vertical) Direction

The lens is moved in Y (vertical) direction by rotating the lens Y motor (M10) installed on the lens mount.

b. Moving the Lens in X (horizontal) Direction

The NP6085's lens is installed to a mobile lens stage which moves in the X (horizontal) direction when the lens X motor (M9) is rotated.

3. Lens Motor Control Circuit

The lens X motor (M9) and the lens Y motor (M10) are 4-phase stepping motors. Since both motors are controlled in the same way, the lens X motor will be discussed herein.

The lens X motor (M9) is controlled by the four motor drive signals (LX-A, $\overline{\text{LX-A}}$, LX-B, $\overline{\text{LX-B}}$) generated by the DC controller PBC. The lens, and its direction of rotation is controlled by varying the output timing of these signals.

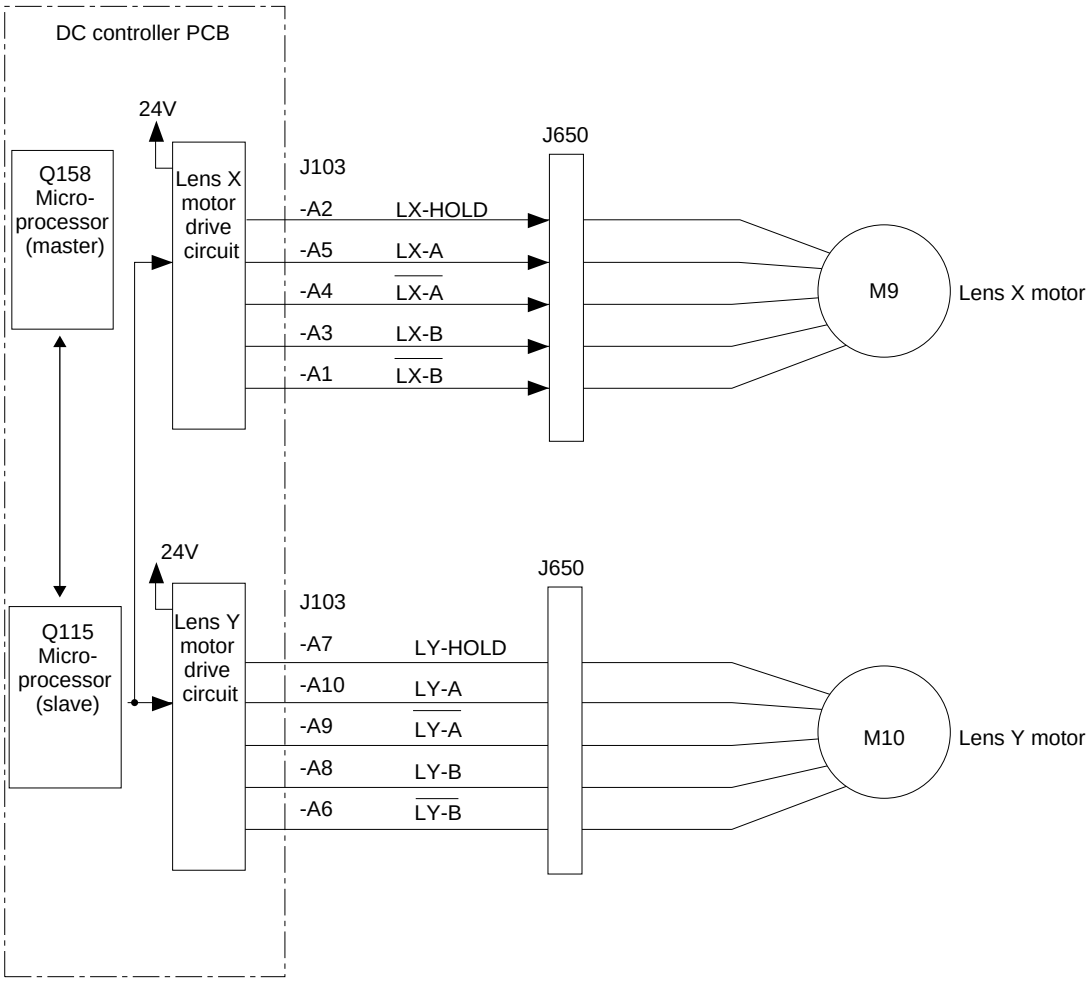


Figure 3-204

When the lens X motor is at rest, the lens X motor hold signal (LX-HOLD) is generated and a voltage lower than the voltage used to rotate the lens is applied by way of applying brakes.

Caution:

Be sure to disconnect the power plug before moving the lens.

A low voltage is applied to the lens motor even in standby or when the power is off (except in auto power-off mode); moving the lens without disconnecting the power plug can cause damage.

4. Moving the Lens

a. At Power-On

When the power switch is turned ON, the lens X motor (M9) rotates, and the lens keeps moving until the signal plate on the lens housing blocks the lens X home position sensor (Q2).

Then, the lens Y motor (M10) rotates, and the lens keeps moving until the signal plate on the lens mount blocks the lens Y home position sensor (Q3).

When the signal plate blocks the home position sensor, the X motor and the Y motor rotate in reverse, and the motors will stop when the lens housing is positioned where A4 copies in Direct may be made. (See I of Figure 3-205.)

• Sequence of Moving the Lens

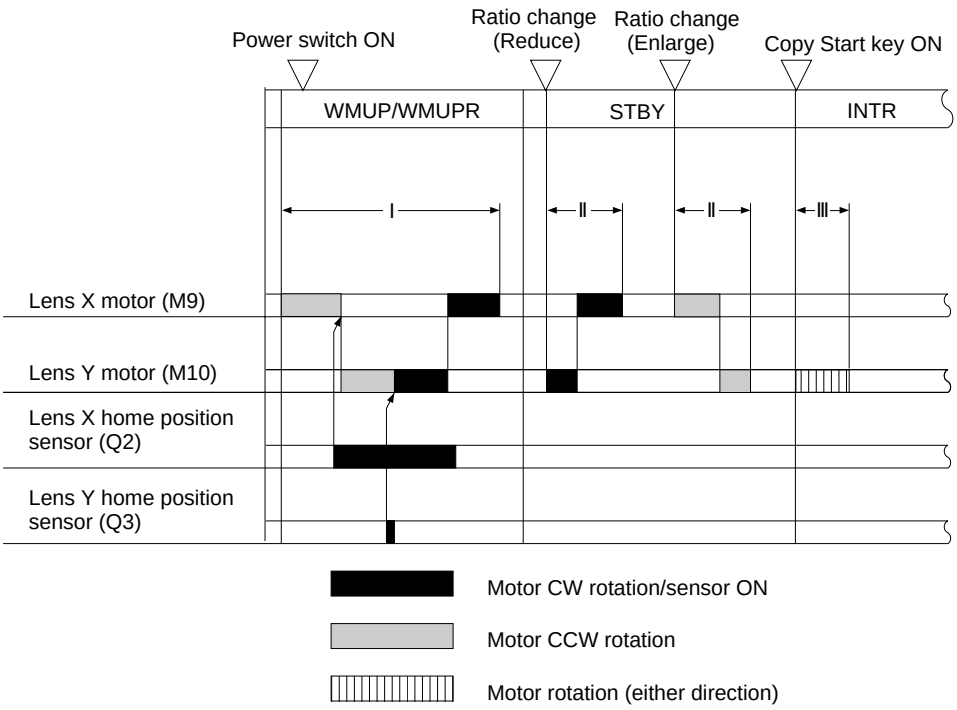


Figure 3-205

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

b. Lens Movement and Copying Operation

The microprocessor master and slave (Q115) retain the positions of the lens in relation to various combinations of different original sizes and copy sizes in memory.

When a change is initiated in the selected reproduction ratio, it immediately sends drive pulses for the X motor (M9)/Y motor (M10), thereby changing the position of the lens (period II in Figure 3-205).

The lens Y motor (M10) moves once again when the Copy Start key is pressed and the original size and the copy size have been established (III in Figure 3-205).

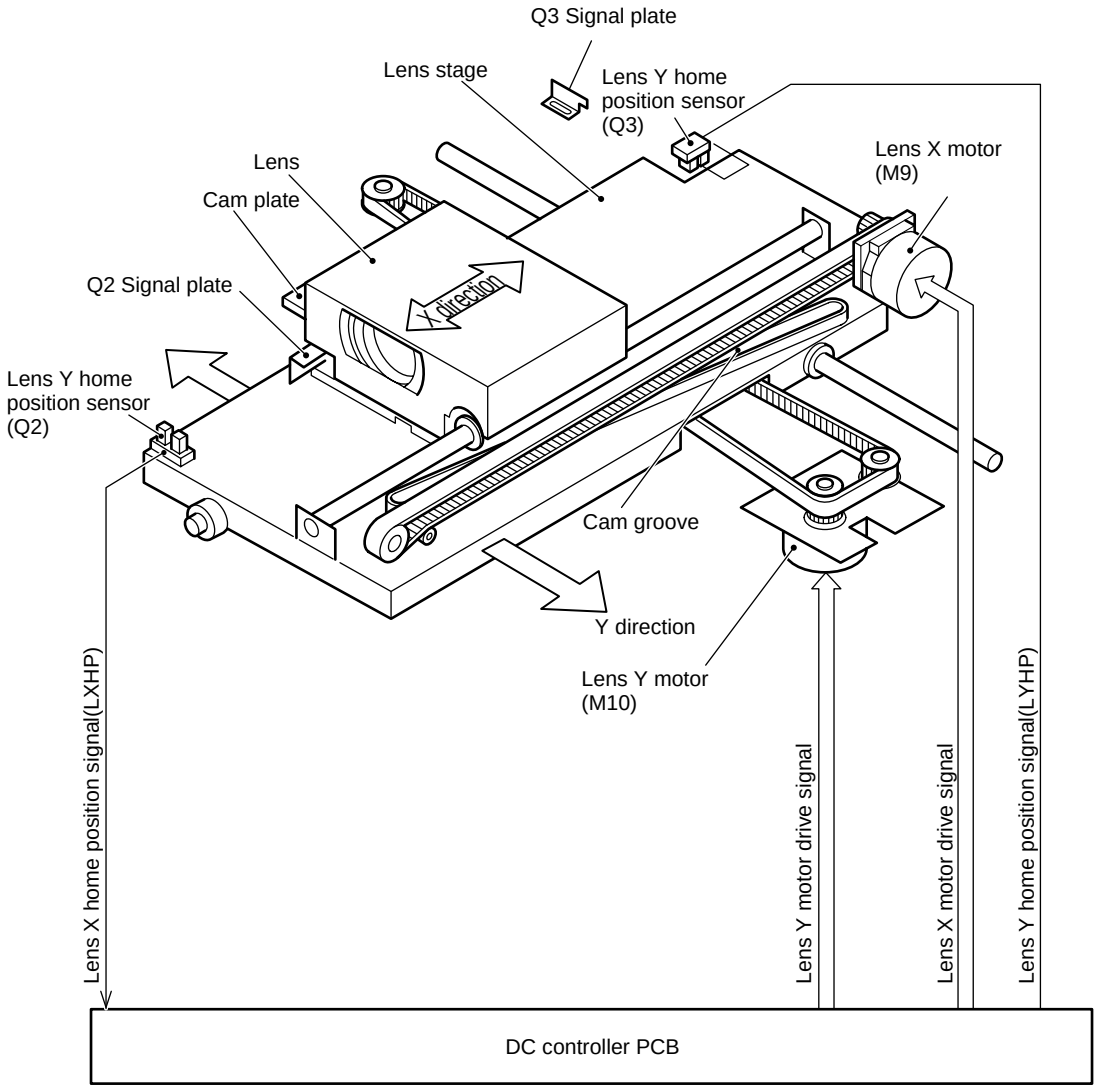


Figure 3-206

C. Scanner Drive System

1. Outline

The scanner is moved forward or in reverse by changing the direction of rotation of the scanner motor (M2).

The speed of rotation of the scanner motor when moving the scanner forward varies according to the selected reproduction ratio.

The speed of rotation of the scanner motor when moving the scanner in reverse is about 3.9 times as fast as when moving the scanner forward in Direct mode regardless of the selected reproduction ratio.

However, brakes are applied as soon as the signal plate reaches the photointerrupter (Q4) and the scanner is stopped. (The photointerrupter Q5 is used to make sure that the scanner has stopped at home position.)

If the RDF is used for stream reading, the scanner leading edge 2 sensor (Q38) is used to find out whether the No. 1 mirror mount of the scanner has reached a specific point.

The distance over which the scanner moves varies according to the copy size and the selected reproduction ratio.

If 157% is specified as the reproduction ratio, part of some originals may not show on the copy.

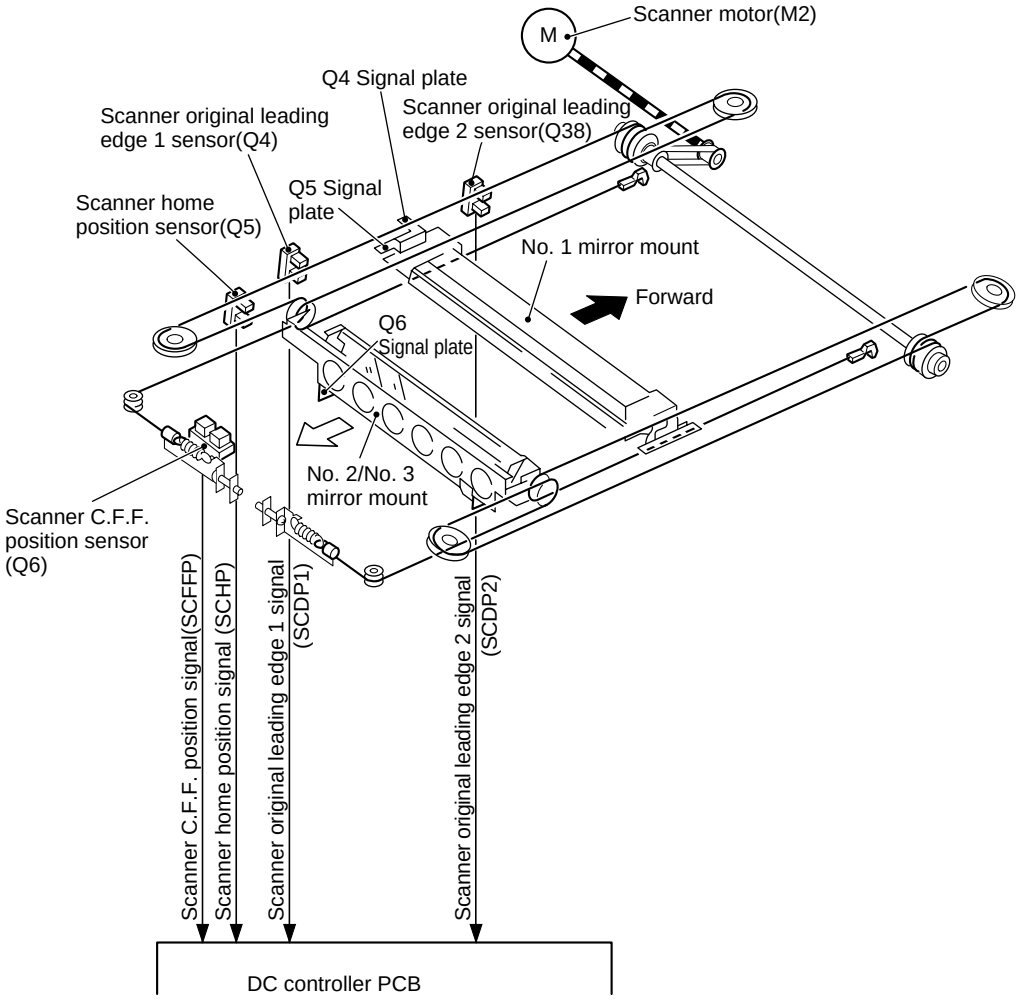


Figure 3-207

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

2. C.F.F. Position

The No. 1 through No. 3 mirrors are not used when making copies with the optional C.F.F.

As such, the scanner is moved farther left than the normal home position, called the C.F.F. position.

The C.F.F. position is detected by the scanner C.F.F. position sensor (Q6), and the scanner is fixed in the C.F.F. position after Q6 has recognized that the scanner has reached the position. (See Figure 3-208.)

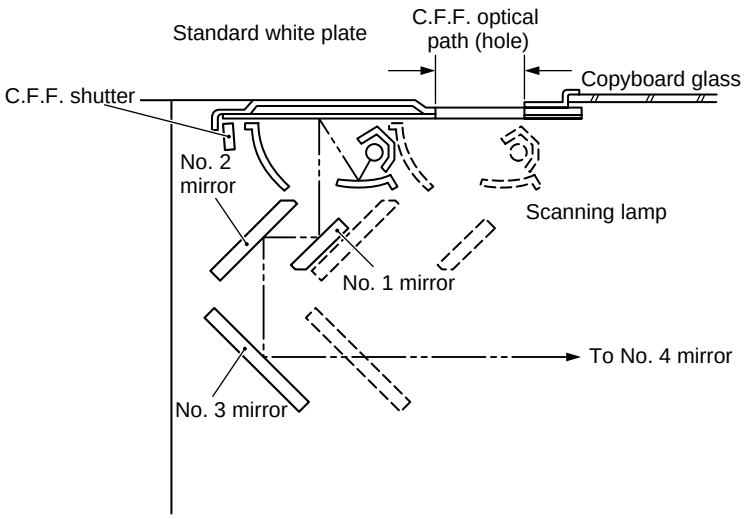


Figure 3-208

3. Relationship between the Scanner Sensors and the Signals

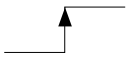
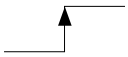
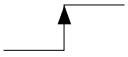
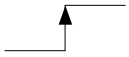
Scanner sensor	Signal	Scanner		Description
		Forward	Reverse	
Scanner home position sensor (Q5)	SCHP	—	—	• Scanner home position
		—		• Scanner motor stop moving
Scanner original leading edge 1 sensor (Q4)	SCDP1		—	• Registration clutch ON • Scanner forward distance reference
		—		• The brakes are applied to show down the scanner.
Scanner original leading edge 2 sensor (Q38)	SCDP2		—	• Scanner stream reading position
Scanner C.F.F. position sensor (Q6)	SCFFP	—		• Scanner C.F.F. position

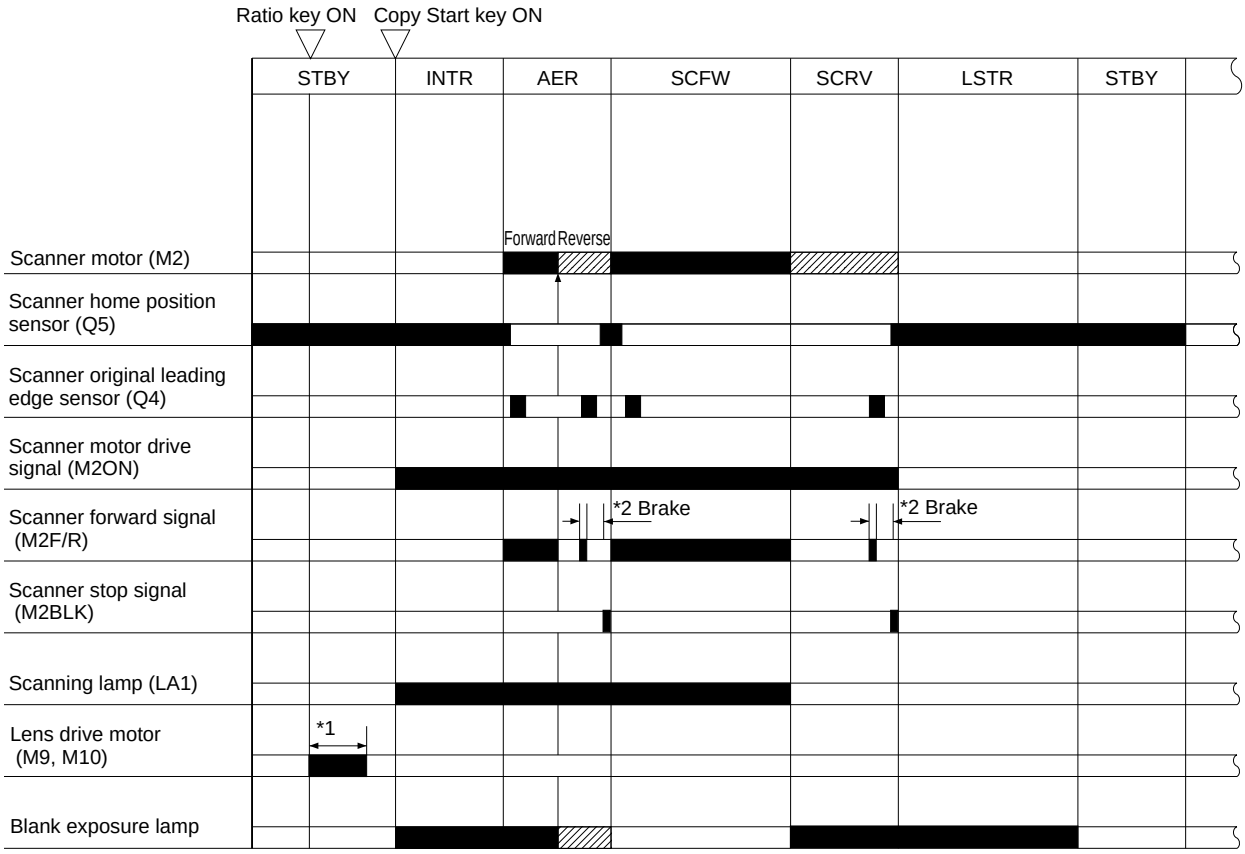
Table 3-201

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

4. Sequence of Scanner Movement

The distance over which the scanner moves forward is determined by the microprocessor based on the selected copy size and the selected copying mode.

The microprocessor computes the size of the original that can be copied on the selected copy paper based on the selected reproduction ratio to determine the distance over which the scanner is moved.



*1 The lens is moved to suit the selected reproduction ratio and the selected copy size.
*2 The degree of braking may be changed in service mode (✻3✻).

Figure 3-209

5. Sequence of Scanner Movement in Page Separation Mode

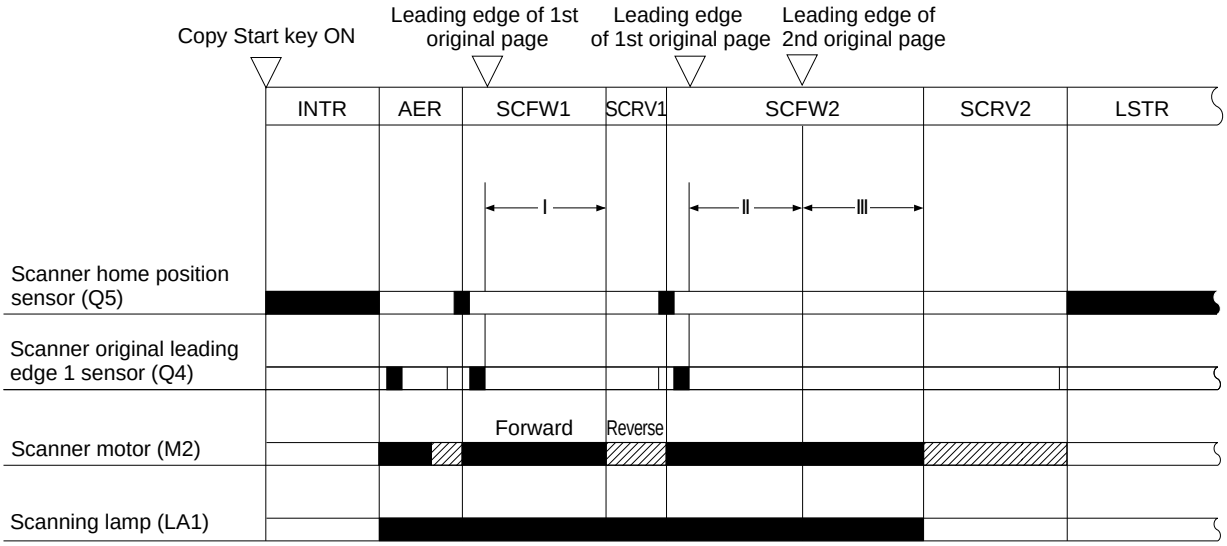


Figure 3-210

I, II, and III shown in Figure 3-210 are controlled by the microprocessor on the DC controller with reference to the scanner original leading edge signal (falling edge of SCDP) for the first page.

The microprocessor determines the distance over which the scanner is moved according to the original size or the selected cassette size.

I, II: The microprocessor determines the distance over which the scanner moves forward with reference to the selected reproduction ratio and the original size or the cassette size.

III: If original detection is executed, the microprocessor uses the value obtained by dividing the detected original size by 2 as the center of the original.

The microprocessor then operates the scanner using the value as the leading edge of the second page.

If page separation is executed without detecting the original size, the control will be with reference to the size of the selected cassette.

If the forward distance of II shown in Figure 3-210 is in excess of 220 mm, a length of about 220 mm will be used as the leading edge of the second page.

Reversing the order of pages for copying using the asterisk mode (Chapter 1) will not change any sequence except the order of SCFW2/SCRV2 and SCFW1/SCRV1.

Reference:

If two or more modes have been selected, the scanner is controlled based on the minimum original size of the measurements that have been read.

The microprocessor exerts control with reference to original size if the following modes have been selected:

Mode	Size used
• RDF	Original size detected by the feeder
• Original frame erasing mode	Original size set by the user
• Copyboard cover	Original size detected by the original size sensor

Table 3-202

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

6. Sequence of Scanner Movement with the RDF in Use (A4, 2 originals, 1 copy)

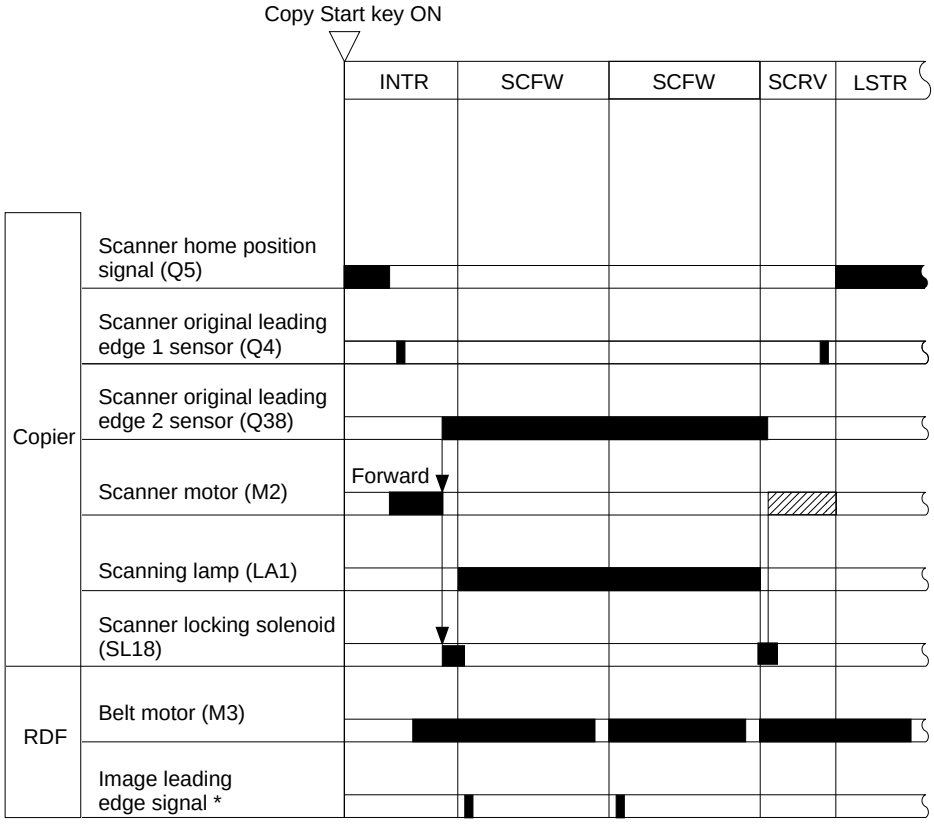


Figure 3-211

a. Outline

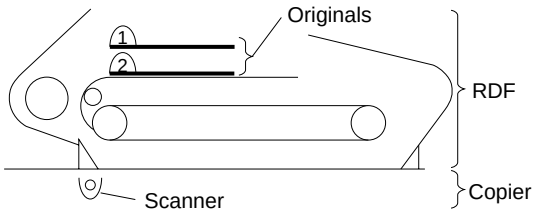
Stream reading will be selected under the following conditions if the RDF is installed to the copier; in stream reading, the scanner is fixed in place, and originals are fed from right to left for exposure:

- A4, LTR, or B5 one-sided original
- one-sided original to 1-sided copying
- reproduction ratio between 86% and 115%

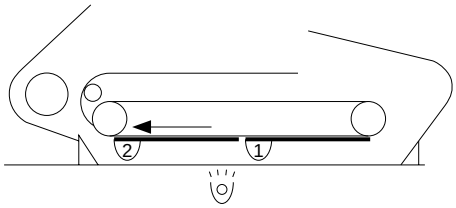
Stream reading allows the omission of the scanner reversal period, thereby enabling the generation of 85 copies/min (A4; 83 copies of LTR).

The RDF feeding speed can be adjusted in service mode ✻7✻ "LA_SPEED".

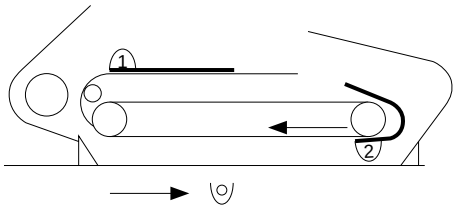
b. Stream Reading with the RDF in Use (1 on 1)



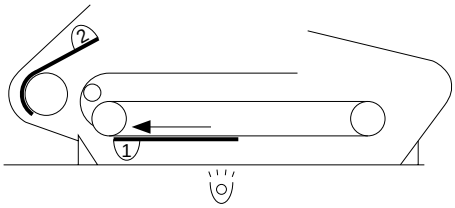
① The originals are set.



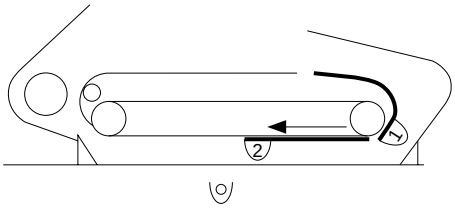
④ The 2nd original is moved over the scanner and is exposed.
Then, the RDF generates the image leading edge signal for the 1st original.



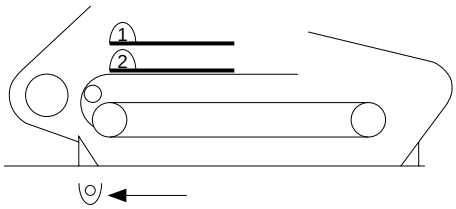
② The Copy Start key is turned ON. The 2nd original is picked up from the right. The scanner is moved to the center of the copyboard and is fixed in position by the scanner locking support plate.



⑤ The 1st original is moved over the scanner and is exposed.
The 2nd original is discharged from the left.



③ When the leading edge of the 2nd original has been fed as far as a point in front of the scanner system, the RDF sends the image leading edge signal to the copier.
In response, the copier turns ON the registration clutch so as to match the registration between the original and the copy.



⑥ The scanner is returned to home position.
The 1st original is discharged from the left.

Figure 3-212

7. Sequence of Scanner Movement with the RDF in Use (A4, 2 originals, 2 copies)

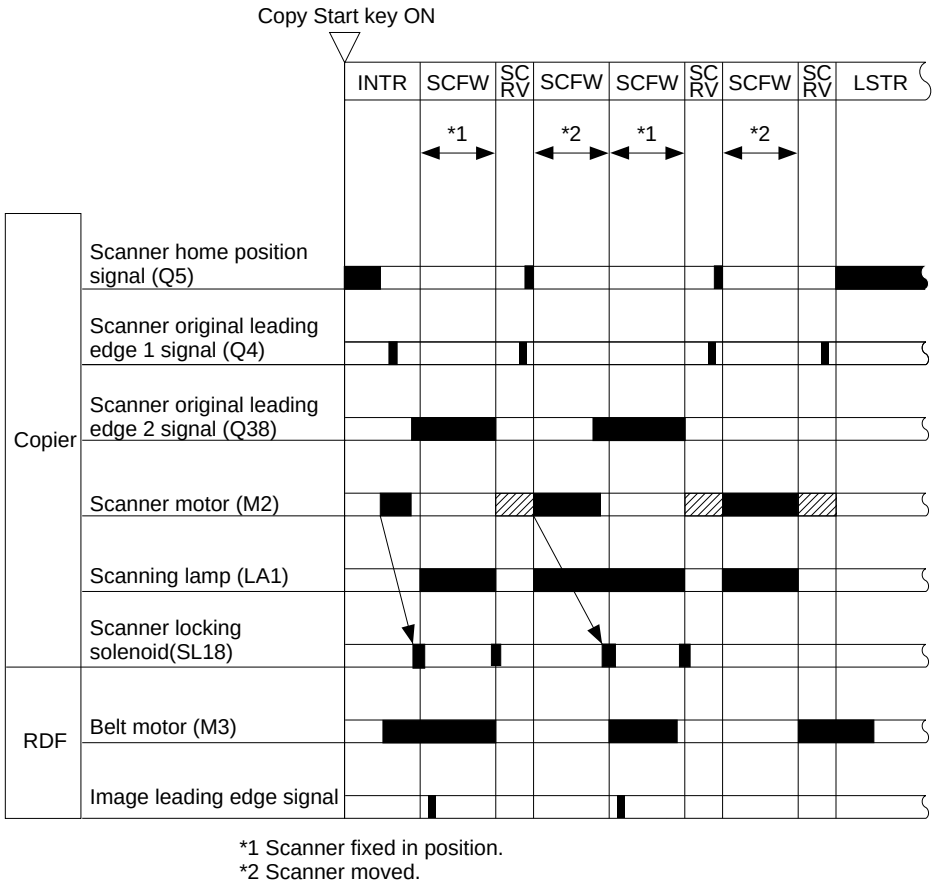


Figure 3-213

a. Outline

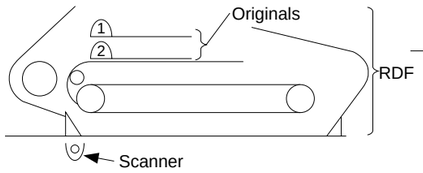
The NP6085 makes copies combining stream reading (scanner fixed in position) and normal scanning (scanner moved) with the help of the RDF under the following conditions:

- A4, LTR, B5 one-sided original
- one original to multiple copies
- reproduction ratio between 86% and 115%

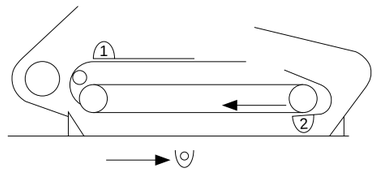
In this mode, the sequence will be as follows:

① The 1st copy is read in stream reading.
② The original is stopped on the copyboard after reading in stream reading, and the remaining number is processed using normal scanning (moving the scanner).

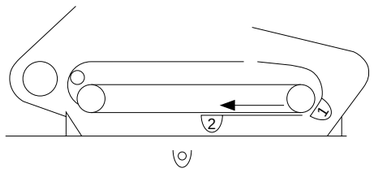
b. Combining Stream Reading and Normal Scanning (A4, 2 originals, multiple copies)



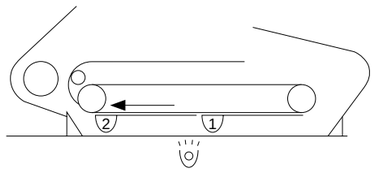
① Originals are set.



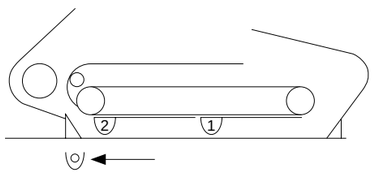
② The Copy Start key is pressed. The 2nd orignal is picked up. The scanner is moved to the center of the copyboard and is locked in position by the scanner locking support plate.



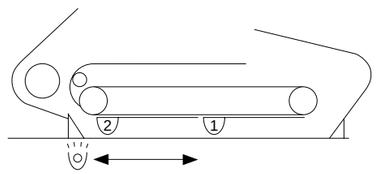
③ The RDF sends the image leading edge signal to the copier when the leading edge of the 2nd original reaches a point in front of the scanner. In response, the copier turns ON the registration clutch to ensure correct registration between the original and the copy. The 1st original is picked up.



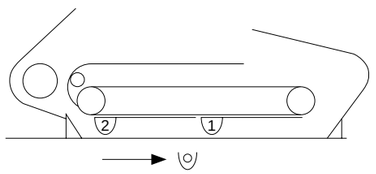
④ The 2nd original is moved over the scanner and is exposed.



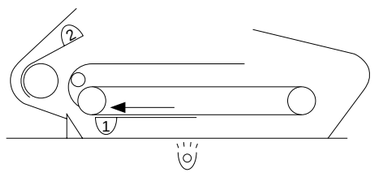
⑤ The 2nd original is stopped where stream reading ends. The scanner is returned to home position.



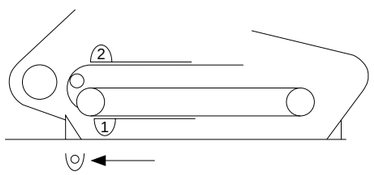
⑥ The scanner performs normal scanning for the remaining number of copies.



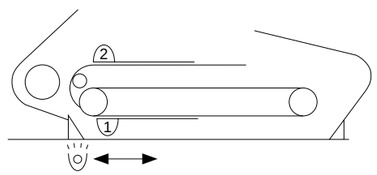
⑦ The scanner is moved to the center of the copyboard and is fixed in position by the scanner locking support plate.



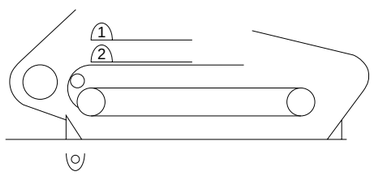
⑧ When the RDF sends the image leading edge signal for the 1st original, the original is moved over the scanner and is exposed.



⑨ The 1st original is stopped where stream reading ends. The scanner is returned to home position.



⑩ The scanner performs normal scanning for the remaining number of copies.



⑪ The 1st original is discharged.

Figure 3-214

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

8. Scanner Motor Control Circuit

a. Outline

Figure 3-215 shows the circuit that controls the scanner motor, and the circuit has the following functions:

1 Turns ON/OFF the scanner motor.
2 Controls the direction of rotation of the scanner motor.
3 Controls the speed of rotation of the scanner motor.

b. Stopping the Motor

When the scanner motor drive control signal ($\overline{\text{M2ON}}$) goes '1', the drive turns OFF to stop the motor.

c. Moving the Scanner Forward

When the scanner motor drive control signal ($\overline{\text{M2ON}}$) goes '0' and the scanner forward signal (M2F/R) goes '1', the drive circuit turns ON to rotate the scanner motor clockwise, thereby moving the scanner forward.

d. Moving the Scanner in Reverse

When the scanner motor drive signal ($\overline{\text{M2ON}}$) goes '0' and the scanner forward signal (M2F/R) goes '0', the drive circuit turns ON to rotate the scanner motor counterclockwise, thereby moving the scanner in reverse.

e. Controlling the Speed of the Scanner Motor

The microprocessor on the DC controller PCB sends the scanner speed signal (M2FS) to the scanner motor driver PCB according to the selected reproduction ratio.

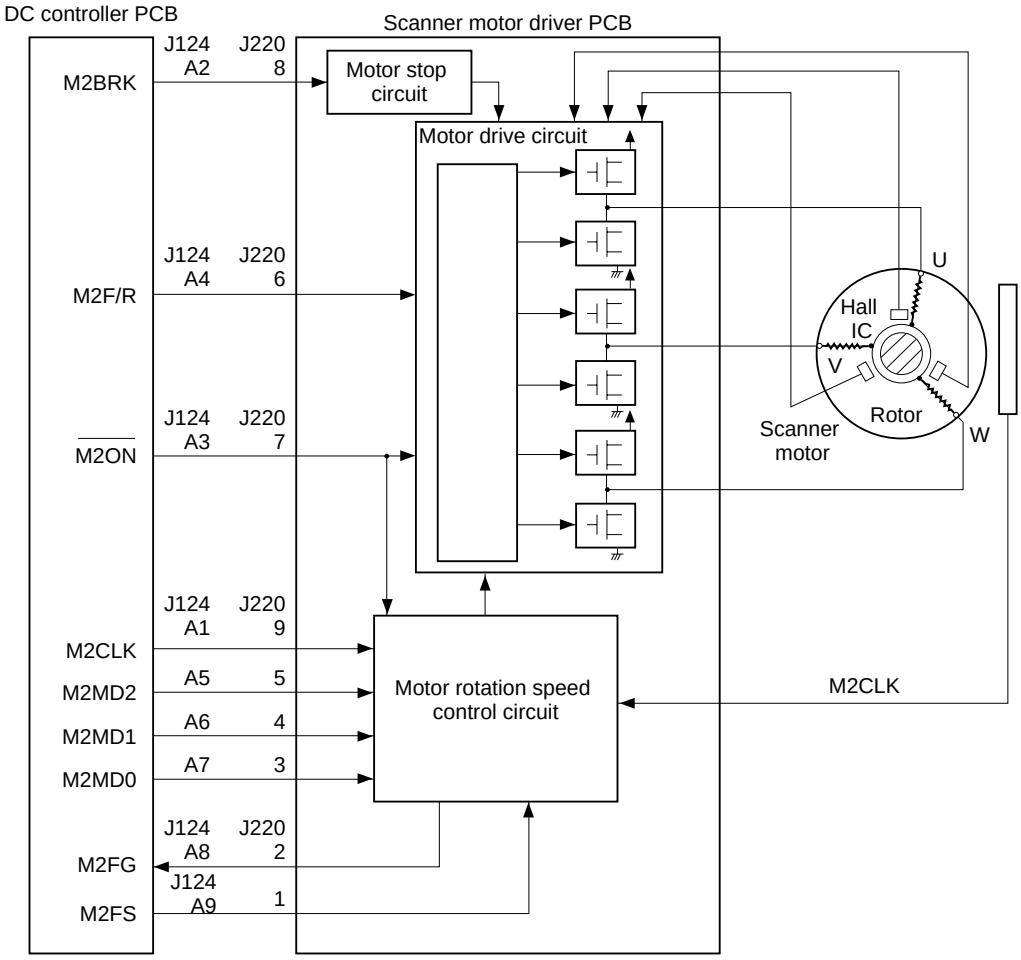


Figure 3-215

The rotation speed control circuit compares the scanner speed signal and the clock pulses (M2CLK) generated by the scanner motor and sends control signals to the motor drive circuit according to the difference.

The motor drive circuit does not change the voltage applied to the motor but rather turns ON/OFF the power to the motor at short intervals (while keeping the voltage constant), thereby controlling the speed by varying the intervals.

The DC controller PCB generates the reproduction ratio selection signal (M2MD0, 1, 2) as shown in Table 3-203 to change the speed of scanner motor according to the selected reproduction ratio.

M2 MD2	M2 MD1	M2 MD0	DC controller PCB	Scanner motor driver PCB	Motor stop circuit
0	0	0			
0	0	1	200%~ 172%		
0	1	0	171%~ 151%		
0	1	1	150%~ 91%		
1	0	0	92%~ 72%		
1	0	1	71%~ 68%	64%~ 62%	
1	1	0	67%~ 64%	61%~ 50%	
1	1	1	Motor drive circuit		

Table 3-203

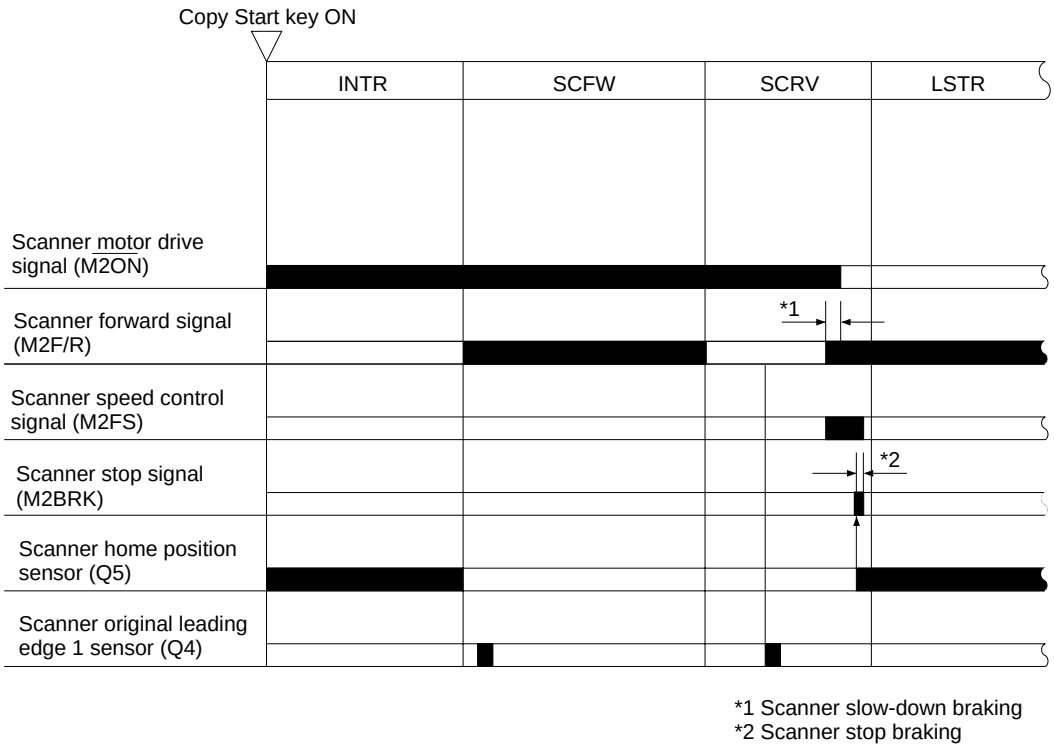


Figure 3-216

D. Detecting the Size of Originals

1. Outline

The NP6085 is equipped with auto paper selection and auto reproduction ratio selection mechanisms, and the size of the original being used must be identified for these mechanisms.

To detect the size of originals, the original size sensors shown in Figure 3-217 are located under the copyboard glass. After detecting the presence/absence of an original when the copyboard is closed, the LEDs of these sensors emit light, and the light reflected by the original is detected by phototransistors for output to the DC controller.

The DC controller in response identifies the size of the original as being either A3, B4,A4, or B5 (default sizes).

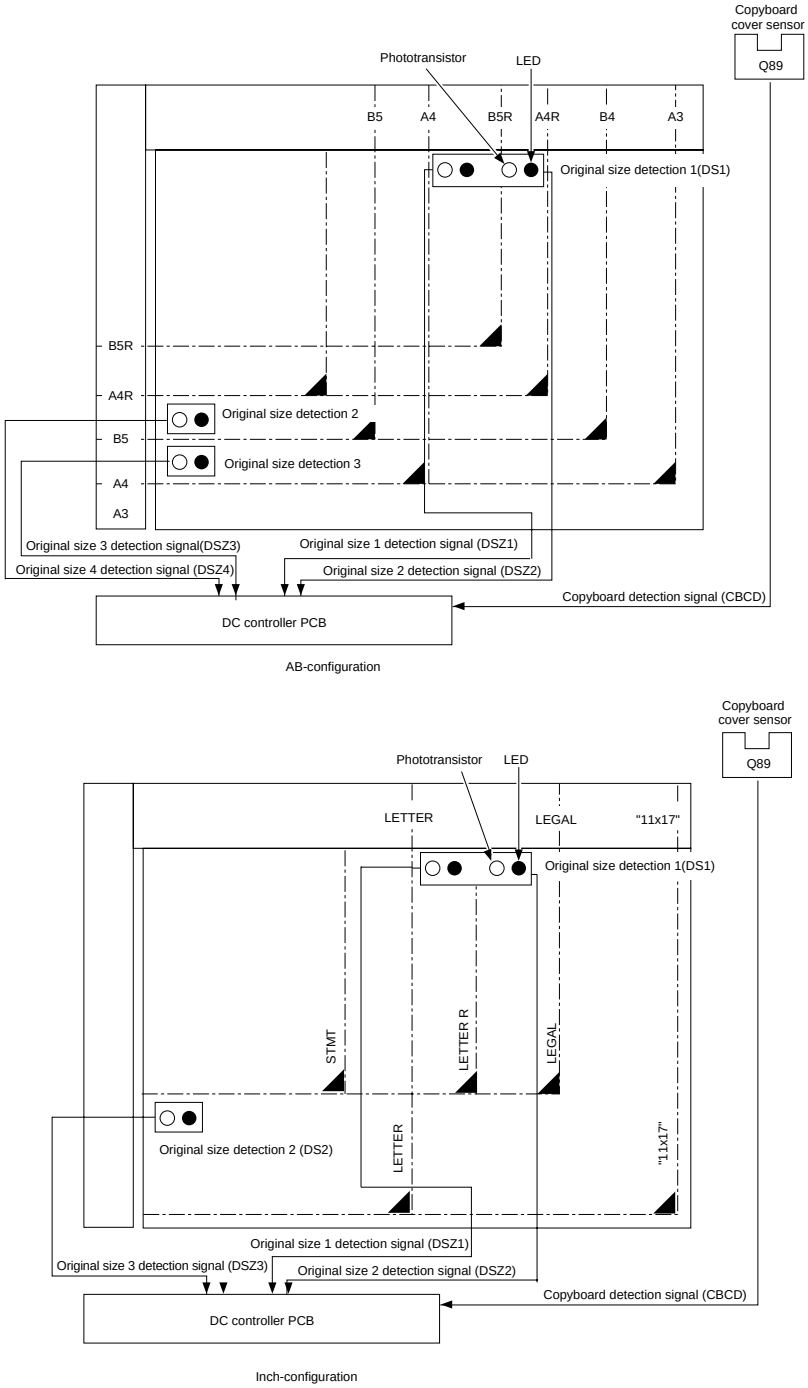


Figure 3-217

2. Operation

The DC controller measures the output of the original size detection sensors at intervals of 0.2 sec for 15 sec after the copyboard cover sensor (Q89) turns ON or until the Copy Start key is pressed.

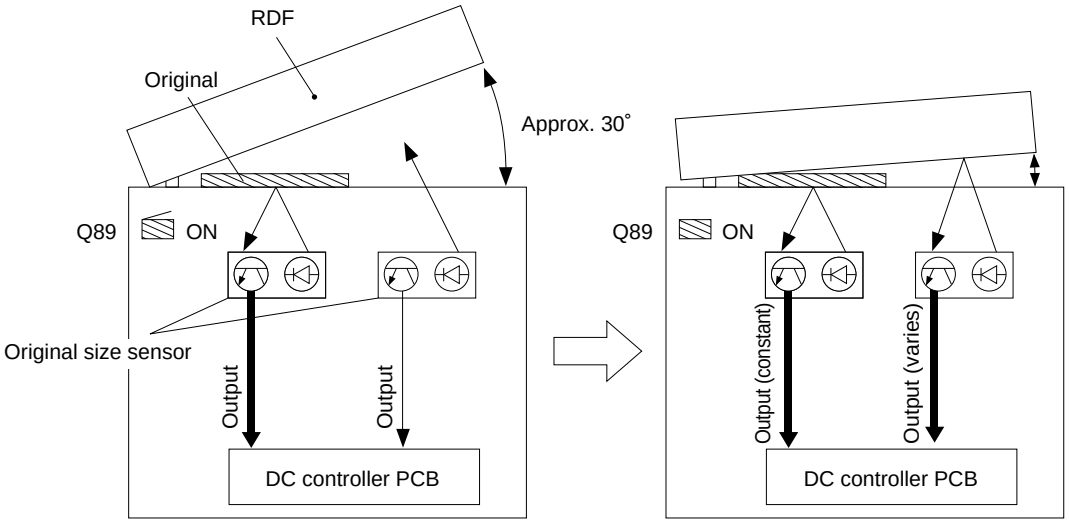
If an original exists over an original sensor, the output of the detection circuit is of a specific value regardless of the angle of the RDF, since the original size sensor receives the light reflected by the original.

If no original exists over the original sensor, on the other hand, the output of the detection circuit immediately after Q89 turns ON is small. The output increases when the copyboard cover is fully closed, since the detection circuit then receives the light reflected by the copyboard cover sheet.

As such, the microprocessor identifies the presence of an original if there is no change to the output of the detection circuit and identifies the absence of an original in response to a change. This way, a black original may also be identified as to its size.

Reference:

1. If the original is thick and the RDF does not close fully after Q89 has turned ON, the level of the sensor output will remain unchanged. In consideration of this, the measurement at the moment Q89 goes ON is compared against the slice level to determine the original size if neither of these sensor outputs changes.
2. If the RDF is open (Q89 OFF), the original sizes will be shown in the touch panel display and select the original size. (If the A5, A5R, STMT, or STMTR are placed on the copy board, same as above.)



(The thickness of arrows represents the size of the level.)

Figure 3-218

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3. Sizes of Originals

The DC controller identifies the size of each original based on combinations of original size detection signals (DSZ1 through 4) as shown:

Original size detection signal				Size
DS3	DS2	DS1		
DSZ4	DSZ3	DSZ2	DSZ1	AB
0	0	0	0	None
0	0	0	1	B5R
0	1	0	0	B5
1	1	0	0	A4
0	0	1	1	A4R
0	1	1	1	B4
1	1	1	1	A3

AB-configuration

Original size detection signal			Size
DS2	DS1		Inch
DSZ3	DSZ2	DSZ1	
0	0	0	None
0	0	1	LTRR
0	1	1	LGL
1	0	0	LTR
1	1	1	11x17

Inch-configuration

Table 3-204

III. IMAGE FORMATION SYSTEM

A. Controlling the Drum Surface Potential

1. Outline

Changes in the latent images can significantly affect the quality of copy images. Such changes in the latent image in turn are usually caused by the following:

1 changes in the drum sensitivity.
2 changes in the charging volume of the primary charging assembly.
3 changes in the degree of exposure.

The above are brought about by deterioration or soiling of parts or changes in the site environment (temperature/humidity).

The NP6085 is equipped with a drum surface potential control mechanism that serves to ensure reproduction of stable latent images in the presence of the above factors.

The NP6085 varies the light area target potential (V_{L1}), dark area target potential (V_D), and control coefficient according to the drum sensitivity so as to produce stable images.

Caution:

Use the light area potential, dark area potential, and control coefficient recorded on the sheet that comes with the drum; enter the settings only when replacing the drum.

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2. Control Method

Table 3-301 shows the number of measurements and corrections the NP6085 makes.

	Corrections	Measurements
V_D	8 (max.)	8 (max.)
V_{L1}	8 (max.)	8 (max.)
V_{L2}	0	1

Table 3-301

a. Primary Current Control

To measure the dark area potential (V_D), the NP6085 sends a reference current to the primary charging assembly and uses the potential sensor to measure the drum surface potential. The DC controller PCB compares the measured drum surface potential against the target value and, if the measurement deviates from the target, the DC controller PCB corrects the primary charging level control signal (HVTPC) it generates.

The above mechanism causes the high-voltage transformer (HVT1) to send corrected current to the primary charging assembly.

The NP6085 repeats this sequence of measurement and correction eight times (max), thereby bringing the dark area potential (V_D) closer to the target value.

The target value may be varied using 'VDT_SW' in service mode (✻5✻)

b. Controlling the Scanning Lamp Intensity

To measure the light area potential (V_{L1}), a reference ON voltage is applied to the scanning lamp.

The scanning lamp exposes the standard white plate, and the reflected light is projected to the drum.

The drum surface potential of the area exposed to light is measured by the potential sensor, and the result is sent to the DC controller PCB.

In turn, the DC controller compares the measurement and the target and corrects the intensity adjustment signal (LINT) it generates if the measurement deviates from the target.

This way, the lamp regulator applies corrected voltage to the scanning lamp.

This sequence of measurement and correction is repeated eight times (max), thereby bringing the light area potential (V_{L1}) closer to the target.

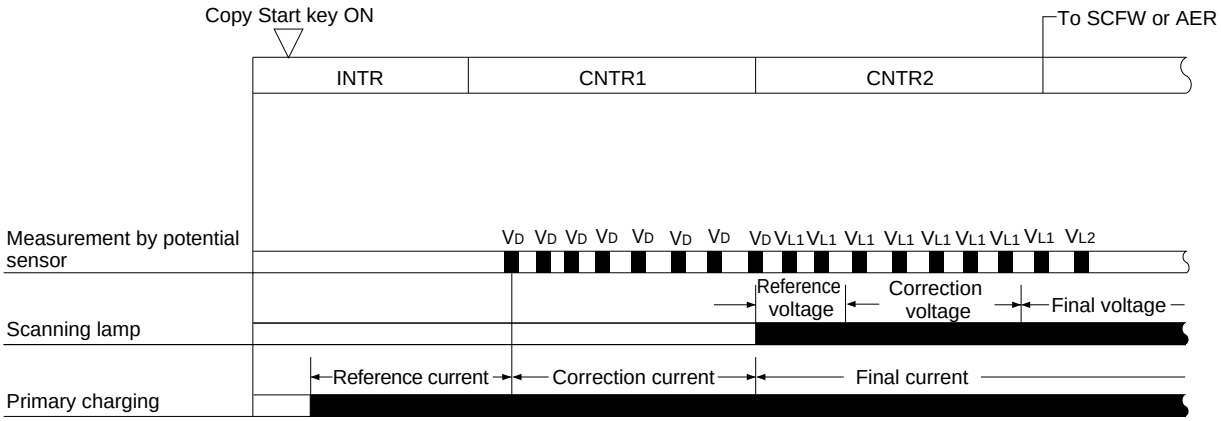

Figure 3-301

c. Controlling the Developing Bias

The light area potential (V_{L2}) for the developing bias is based on the drum surface potential measured when the scanning lamp is turned ON based on the final intensity adjustment signal value occurring at time of V_{L1} control.

Using the measurement, the DC controller PCB controls the developing bias DC level control signal (DCBC), ultimately controlling the DC bias applied by the high-voltage transformer to the developing cylinder.

d. Controlling the Potential

Potential control rotation (CNTR1, 2) is executed under the conditions discussed below, not for each copy.

Measurements are also taken for photo mode as described in the table.

Setting	Power-on to earlier than 10 min	10 min to earlier than 60 min	60 min or later
Ratio between 64% and 200%	Once at power-on	Once for the first copy	Once for the first copy
Ratio between 50% and 63%	Once for the first copy	Once for the first copy	Once for the first copy
C.F.F. in use	Once for the first copy	Once for the first copy	Once for the first copy

Table 3-302 Timing for Potential Control

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3. Potential Detecting Circuit

Figure 3-303 is a block diagram of the potential detecting circuit.

Charges corresponding to the drum surface potential are induced on the electrode inside the sensor and are turned into AC voltage by the opening/closing of the chopper and sent to the pre-amplifier circuit; the voltage is amplified by the pre-amplifier circuit and then sent to the filter/gain adjustment circuit on the surface potential measurement PCB.

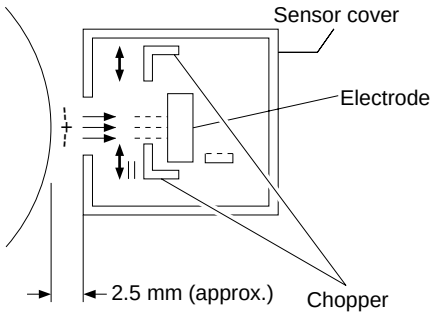

Figure 3-302

The filter/gain adjustment circuit removes electrical noise from the AC signal coming from the pre-amplifier circuit, and it further amplifies AC signal and sends it to the sync clamp circuit.

The sync clamp circuit combines the AC signal from the filter/gain adjustment circuit and the sync signal from the sync adjustment circuit to identify whether the drum surface potential is positive or negative.

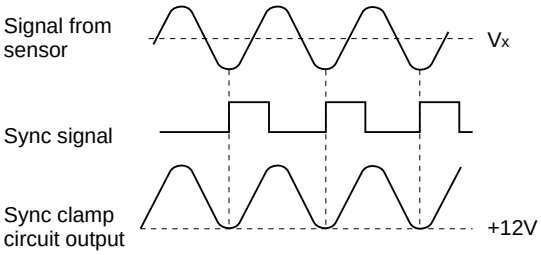

Figure 3-304 Surface Potential Higher Than the Sensor Bias

Reference:

The letter F of F30V stands for “floating,” indicating that the reference line of the power supply is not grounded, i.e., not 0 V.

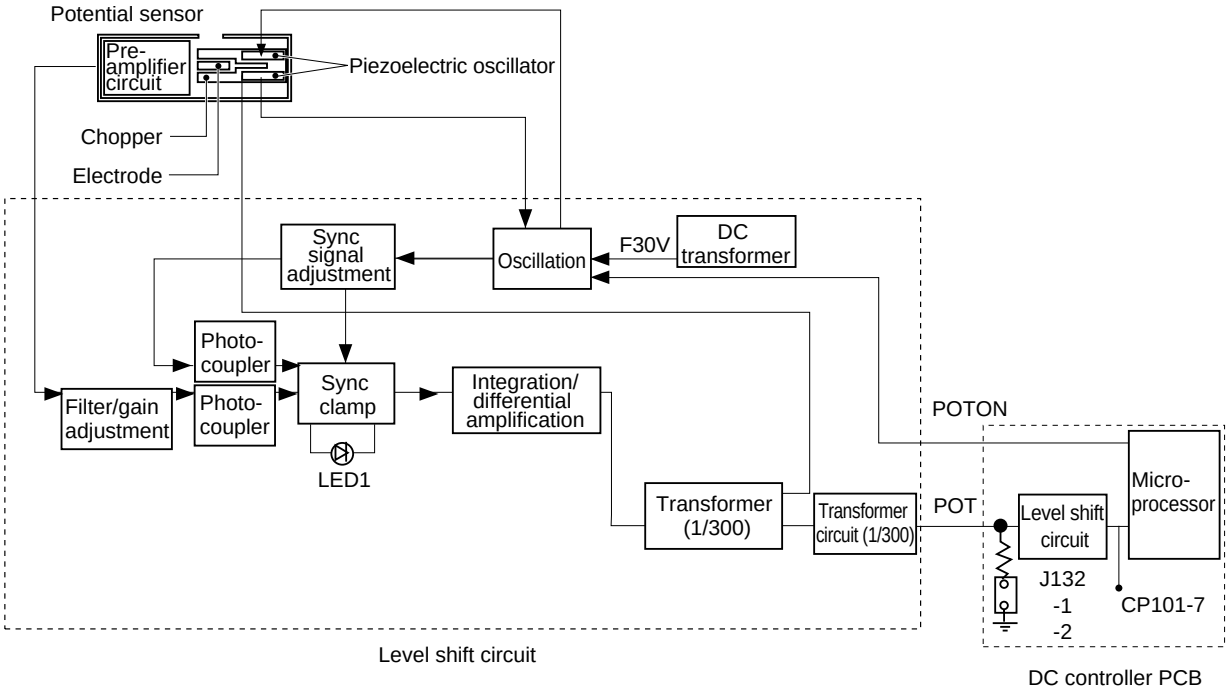

Figure 3-303

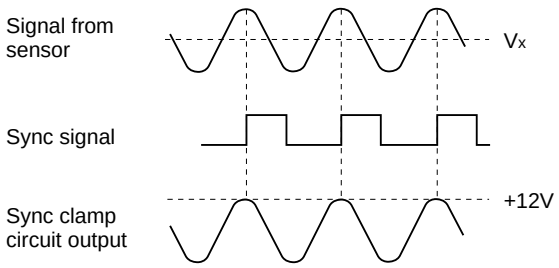

Figure 3-305 Surface Potential Lower Than Sensor Bias

The output of the sync clamp circuit is subjected to integration in the integration circuit and applied to the transformer after amplification. Based on these signals, the output of the transformer is varied between 0 and +600 V and applied to the sensor as a sensor bias and, at the same time, lowered to about 1/300 for transmission to the level shift circuit on the DC controller PCB.

The output of the level shift circuit (analog) is sent to the microprocessor (Q115; slave) on the DC controller PCB as it is.

The potential measurement PCB is controlled by the potential measurement circuit drive signal (POTON) generated by the DC controller PCB; POTON=0 is generated if no potential measurement is executed, thereby cutting off the power to the potential measurement PCB.

a. Making Checks

① Checking LED1
Normally, LED1 turns ON when the drum motor is rotating.

If it fails to turn ON, a fault may be suspected in the potential measurement unit.

Reference:

If LED 1 is ON normally, the potential sensor may be assumed to be operating normally.

② Using Check Pins
J132-1 and J132-2 on the DC controller PCB are used to find out the condition of the potential measurement unit. (See the descriptions on zero level checks in the Service Handbook.)

Note:

1. The sensor and the potential measurement PCB are paired and must be adjusted to high precision. Since adjustment is not possible in the field, they are treated as a single part and are referred to as the "potential measurement unit."
2. The potential measurement PCB is equipped with a variable resistor. Do not touch it in the field.

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B. Controlling the Intensity of the Scanning Lamp

1. Outline

Figure 3-306 shows the circuit that controls the intensity of the scanning lamp, and the circuit has the following functions:

① Turns ON and OFF the scanning lamp.

② Controls the intensity of the scanning lamp.

- It serves to keep the intensity at a specific level in the presence of fluctuations in the power supply voltage.
- It controls the intensity to a level suited to the changes in the drum sensitivity.
- It controls the intensity to a level suited to the setting of the Copy Density key.
- It controls the intensity to suit the density of originals (AE control).

③ It detects the activation of the scanning lamp.

④ It switches lamps.

2. Operation

a. Turning ON and OFF the Scanning Lamp

When LRD (scanning lamp ON signal) is '0', the output of the differential amplifier circuit and the phase control circuit goes '0', thereby keeping the arc circuit from turning on, depriving the scanning lamp (LA1) of power.

When LRD is '1', on the other hand, the output of the differential amplifier circuit and the phase control circuit goes '1', turning ON the arc circuit, supplying the scanning lamp (LA1) with power.

b. Controlling the Intensity of the Scanning Lamp

The intensity to the scanning lamp is increased/decreased by controlling the supply voltage to the scanning lamp according to the level of the intensity adjustment signal (LINT) from the DC controller PCB.

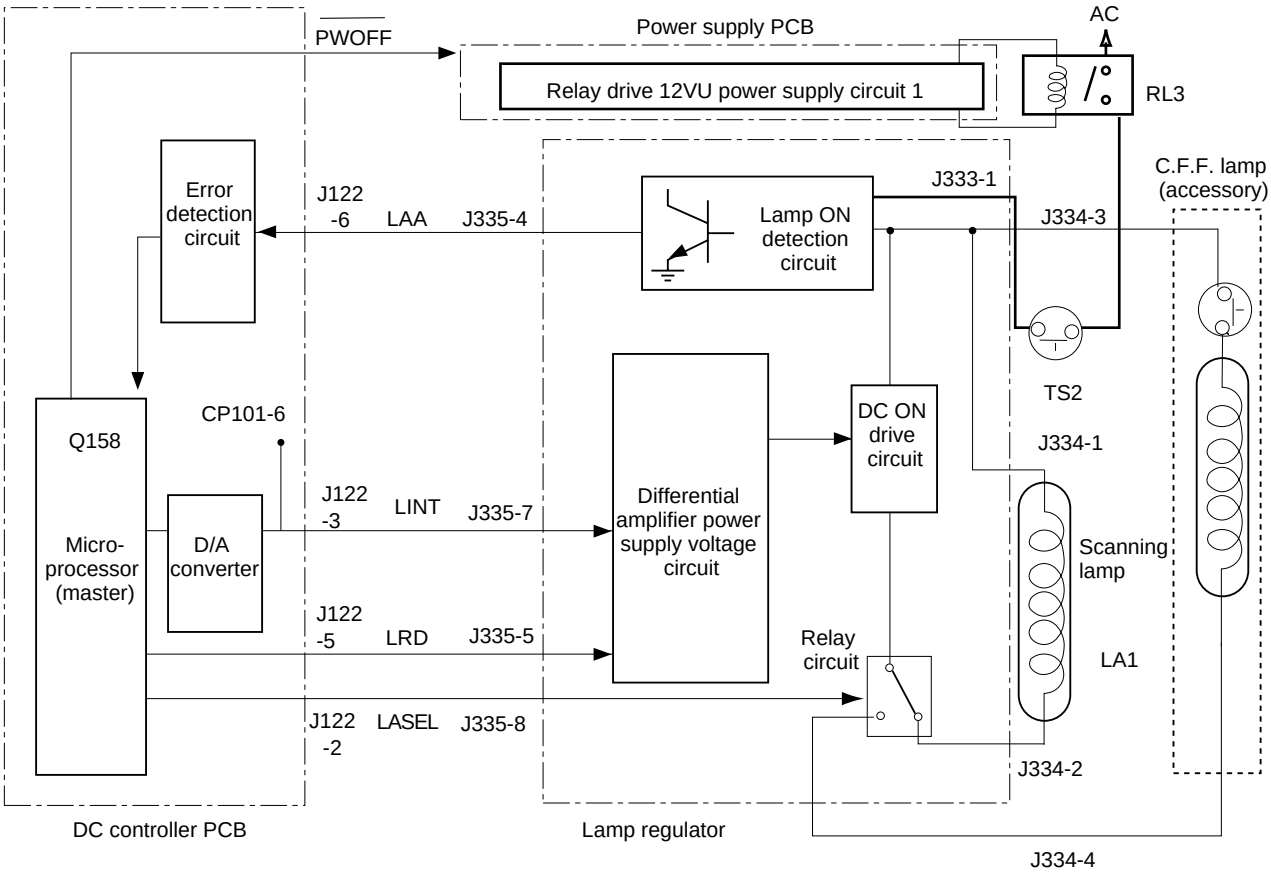

Figure 3-306

The LINT signal varies the pulse duty between 10% and 90% according to the setting of the Copy Density key, density of the original used, sensitivity of the drum, and the setting of the intensity control VR to execute phase control so that the supply voltage to the scanning lamp changes between 45 to 80 V (100V model) or between 98 and 175 V (200V model) in terms of effective values.

In the case of photo mode, however, a voltage lower than normal by 5 V is supplied.

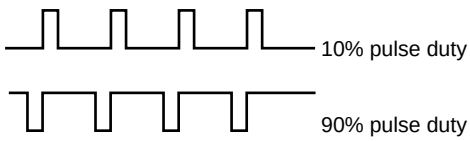

Figure 3-307

c. Detecting the Activation of the Scanning Lamp

The activation detection circuit generates the ON detection signal=1 at all times whenever the scanning lamp or the option C.F.F. lamp is ON. The LAA signal is sent to the error detection circuit on the DC controller PCB.

If a fault such as a short circuit in the ON circuit causes the scanning lamp to turn ON despite the lamp ON signal LRD=0, the LAA signal=1 will be generated. The error detection circuit on the DC controller compares the LAA signal and the LRD signal, and sends the power switch OFF signal ($\overline{\text{PWOFF}}$) to the power supply circuit to cut off the AC power supply to the lamp regulator upon detection of error activation. (For details, see the descriptions on the error detection circuit on p. 3-129.)

The activation detection circuit of the lamp regulator monitors the activation of the fixing heater at the same time. (For details, see p. 3-128.)

d. Switching the Lamps

The DC power to the option C.F.F. is supplied by the lamp regulator.

The scanning lamp is supplied with DC power when the lamp switching signal (LASEL) from the DC controller PCB is '1', and the C.F.F. lamp is supplied with DC power when it is '0'.

This switching mechanism is limited to LRD=0 (lamp OFF) and is automatic when the C.F.F. is in use.

3. Automatic Exposure Control (AE)

The NP6085 is equipped with a mechanism that automatically controls the intensity of the scanning lamp according to the density of the original being used.

In AE mode, fogging-free copies may be obtained without having to adjust the copy density manually to suit the individual originals. In addition, the lamp intensity controlled by the AE mechanism is indicated on the copy density indicator on the control panel.

The NP6085's AE mode may be AE mode by the copier or AE mode by the RDF. The RDF's AE mode will be used when originals are set in the RDF.

If the RDF's AE mechanism suffers a fault, however, the copier's AE mode may be used (selected in service mode).

The density must be controlled manually in stream reading mode, since AE is not executed on the copier.

a. AE Mode in the Copier (CMAAE)

During AE rotation (AER), the scanner is moved forward by 120 mm while keeping the scanning lamp ON; when the scanner is moved in reverse, the surface potential of the four points shown in Figure 3-308 are measured, and the results are sent to the DC controller PCB.

The DC controller PCB, in response, computes the average from the measurements of the surface potential to determine the intensity for the scanning lamp during copying.

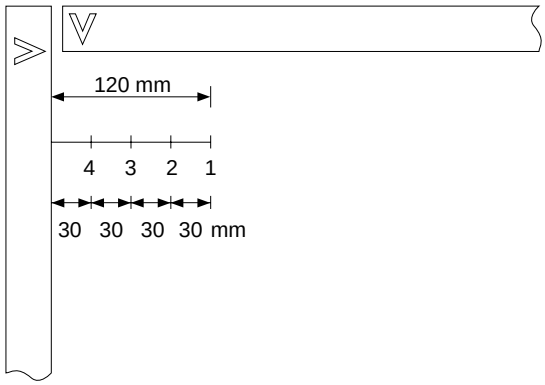

Figure 3-308

b. AE Mode in the RDF (RFAE)

An AE sensor is located in the RDF's original path for measuring the density of originals.

The AE sensor is a reflecting type sensor in which two LEDs emit light against an original and a photodiode measures the light reflected by the original. AE sensor 1 (S7) is used in left pick-up while AE sensor 2 (S33) is used in right pick-up (Figure 3-309).

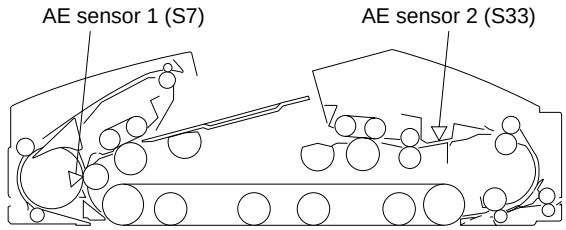

Figure 3-309

The density of an original is detected by measuring the five points shown in Figure 3-310 on the RDF side and is communicated to the copier's DC controller PCB. The DC controller PCB uses the input to determine the intensity of the scanning lamp for copying. The points of measurement differ between right pick-up and left pick-up.

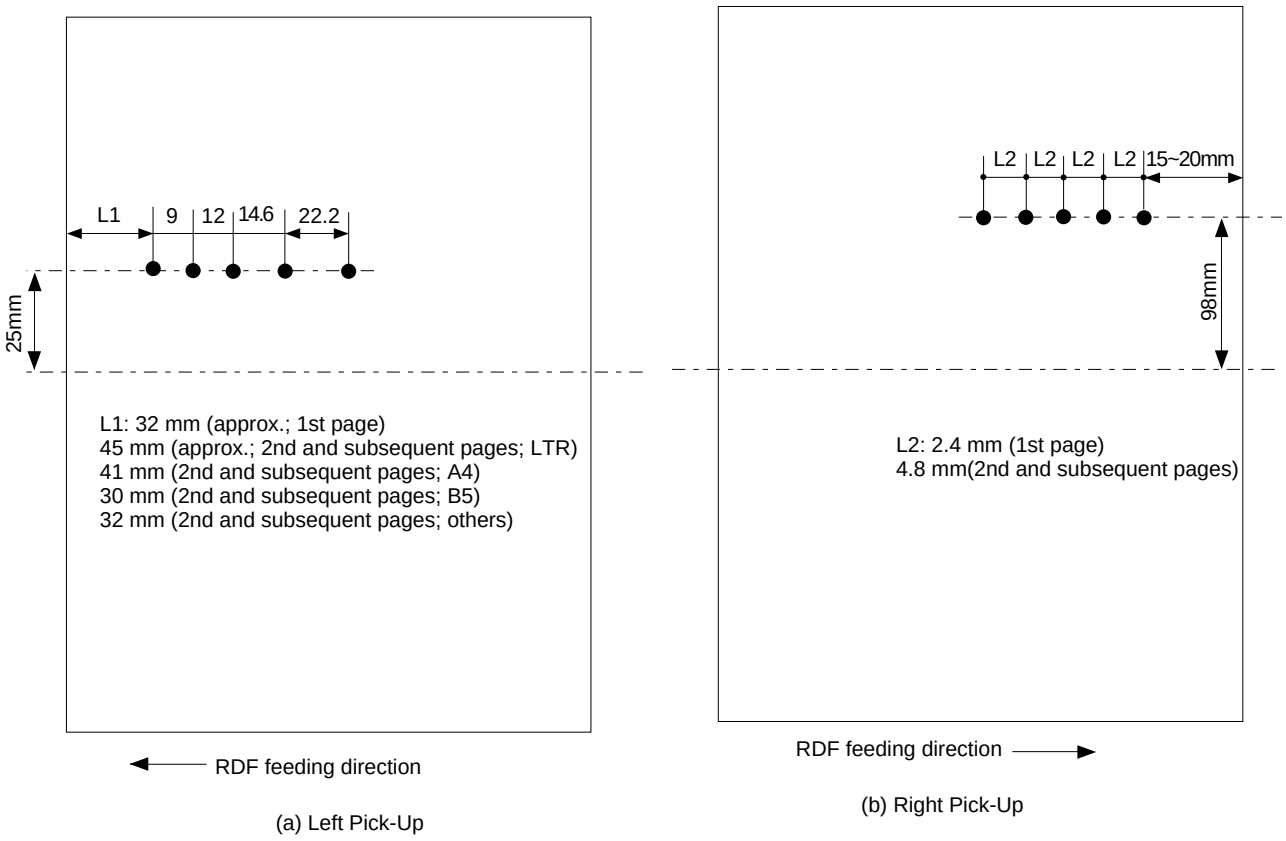

Figure 3-310 Points of Measurement on Originals

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Figure 3-311 shows changes in the intensity of the scanning lamp in relation to different densities of originals under normal humidity conditions. If the density of an original is higher (darker) than that of the Test Sheet and is lower (lighter) than that of a newspaper, the intensity of the scanning lamp is varied between 'medium' and 'maximum' in terms of copy density notations. If the density of the original is lower (lighter) than that of the Test Sheet, the scanning lamp is turned ON at the medium intensity; if it is darker than a newspaper, the scanning lamp is turned ON at the maximum intensity for copying.

In low humidity conditions, on the other hand, the scanner is turned ON at the medium intensity if the density of the original is higher (darker) than that of the Test Sheet; the intensity will be of a specific level from light to dark (Figure 3-311a). At this time, the application voltage to the primary charging assembly is lowered to lower the density.

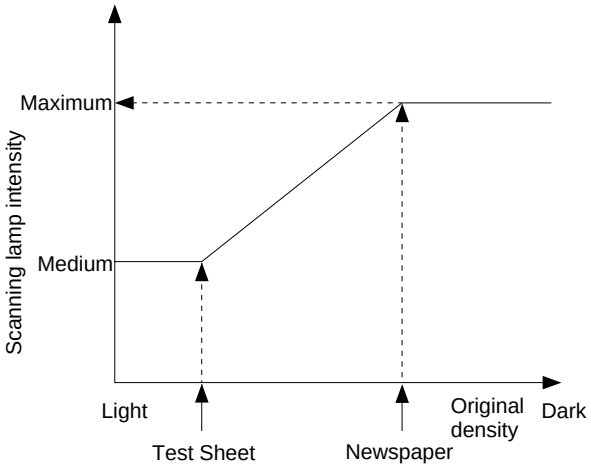


Figure 3-311a

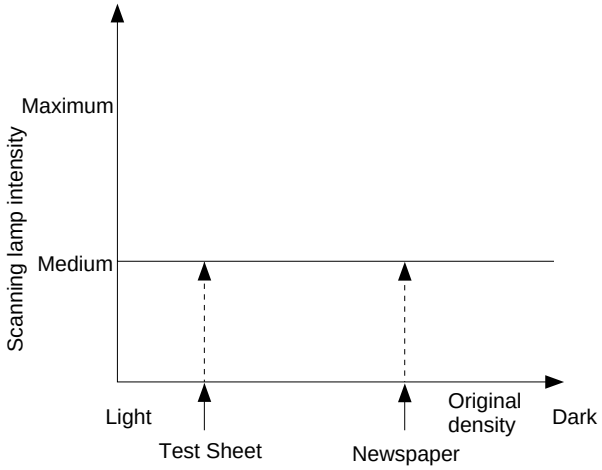


Figure 3-311b

The settings for this mode in which the intensity is maintained at a specific level in low-humidity conditions and the voltage of the primary charging assembly is varied may be varied in service mode (PRCC_SEL; ✻5✻) to suit the user's needs.

Setting	Mode
0	Enabled at all times
1	ON under low humidity conditions
2	Disabled

4. Check Point

a. Checking the Voltage at J122-5 (LRD)

Check to make sure that the voltage between J1225-5 and J122-4 (GND) on the DC controller PCB is about 5 V when the scanner is moving forward and is 0 V during initial rotation, when the scanner is moving in reverse, and during last rotation.

b. Intensity/AE Adjustment

Table 3-303 shows a list of items that may be adjusted on the scanning lamp intensity control circuit.

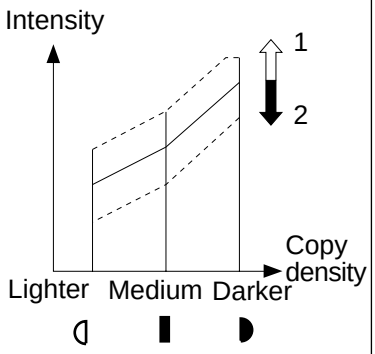
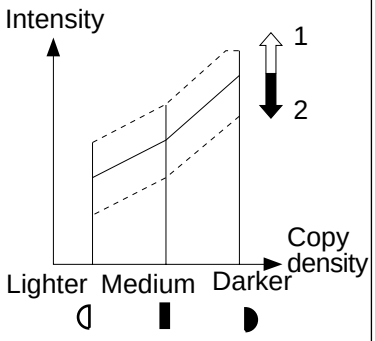
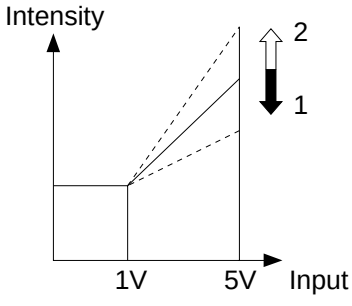
Service mode	Function	Adjustment	Remarks
✻3✻ LIGHT _5L LIGHT _5H LIGHT 5PL LIGHT 5PH CFFLIGHT	Adjusts the intensity for potential control (intensity for medium copy density)		1. If the setting is increased in service mode, The intensity during copying will increase so that the copies will be lighter. 2. If the setting is decreased in service mode, The intensity during copying will decrease so that the copies will be darker.
✻3✻ GLEAM _ 5L GLEAM _ 5H CFFGREAM	Adjusts the optimum intensity for non-potential control (intensity for medium copy density)		1. If the setting is increased in service mode, The intensity during copying will increase so that the copy will be lighter. 2. If the setting in service mode is decreased, The intensity during copying will decrease so that the copy will be darker.
✻3✻ AE _ SLOP CFFAESLP	Adjusts AE slope		1. If the setting is increased in service mode, Copies of a newspaper will be darker. 2. If the setting is decreased in service mode, Copies of a newspaper will be lighter.

Table 3-303

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C. Controlling the Blank Exposure Lamp (LED)

1. Outline

The blank exposure lamp is an array of LEDs (124 pcs.).

All of the LEDs (124 pcs.) turn ON when the drum is rotating except when an original is being exposed, potential is controlled, or measurements are taken for AE, thereby preventing adhesion of excess toner on the photosensitive drum. The two LEDs at the rear and the two LEDs at the front are kept ON at all times whenever the drum is rotating.

The LEDs are turned ON using a static activation method (serial data transfer).

2. Controlling the Activation in Reduce Mode

When the original is exposed for a reduced copy, as many LEDs (rear) as corresponding to the selected reduction ratio are turned ON to black out (white out) the non-image areas. At this time, the LEDs at the front are also kept ON to suit the copy size.

3. Controlling the Activation in Direct Mode

When making copies in Direct mode, the LEDs at the rear and the front are turned ON to suit the selected copy size, thereby blacking out (whiting out) the non-image areas.

When a default reproduction ratio is used or when a default copy size is selected in Direct mode, a non-image width is created at the front and the rear as shown in Table 3-304 (standard frame erasing).

The non-image width may be set to 0 mm in service mode.

4. Controlling the Activation in Sheet/Original Frame Erasing Mode

In sheet frame erasing mode, LEDs are turned ON so that a width of about 7 mm along the copies will be free of toner.

Reference:

When the multifeeder is used, a specific copy size may be selected or not selected (free); if a copy size is selected, frame erasing is executed accordingly. (Otherwise, frame erasing will be executed based on maximum size (297x432mm)).

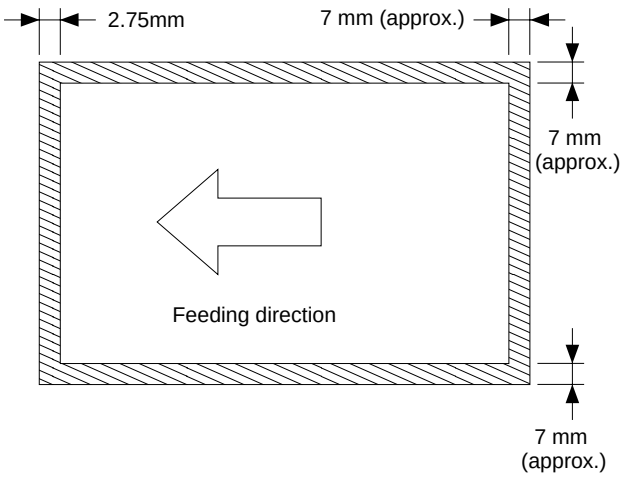


Figure 3-312

In original frame erasing, LEDs are turned ON so that a width of about 2 mm corresponding to the sides of the original will be free of toner.

Paper size	Non-image width
A4R, B5R, B4, A3, LTR R	2.75 ± 2.3mm
Other sizes	3.0 ± 2.55mm

Table 3-304

5. Controlling the Activation in Book Frame Erasing Mode

In book frame erasing mode, LEDs are turned ON so that a width of about 2 mm along the sides corresponding to the original will be free of toner.

In addition, LEDs are also turned ON so that a width of about 20 mm along the center will be free of toner. The width along the center may be adjusted between 5 and 40 mm.

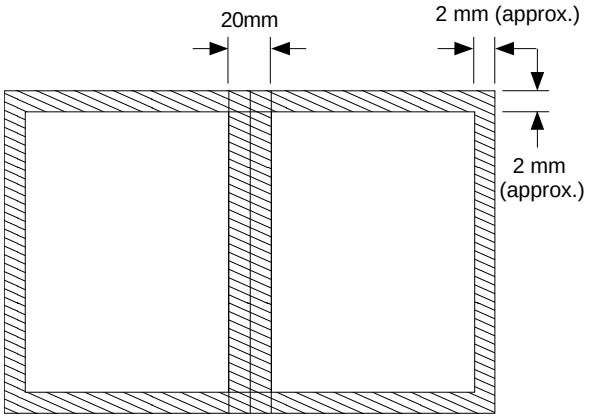


Figure 3-313

6. Controlling the Activation in Binding Erase Mode

Binding erase mode has been provided to prevent black dots on copies of an original that have holes punched for binding. LEDs are turned ON to keep away toner over a width that covers such holes.

The width may be varied between 1 and 20 mm.

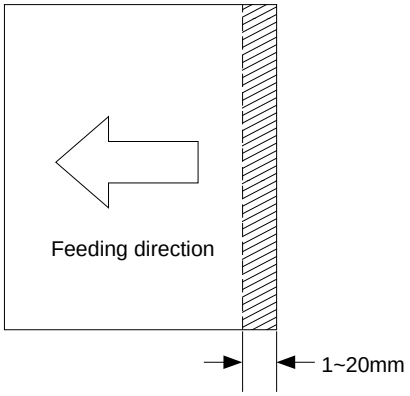


Figure 3-314

7. Controlling the Activation in AE Mode

In AE mode, the surface potential of the drum is measured, requiring the blank exposure LEDs to be OFF.

Since the area where surface potential is measured is limited on the photosensitive drum, only those blank exposure LEDs used to shine such an area are turned OFF while keeping the blank exposure LEDs over other areas ON.

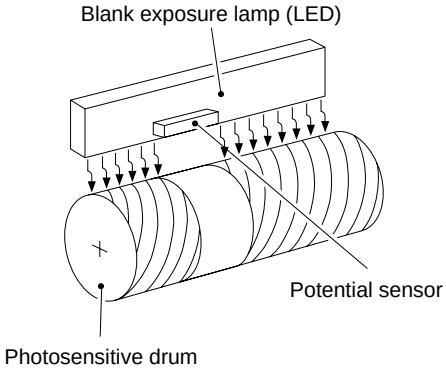


Figure 3-315

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

D. Controlling the Primary/Transfer Corona Current

1. Outline

Figure 3-316 shows the circuit that controls the primary/transfer corona, and the circuit has the following functions:

1 Turns ON and OFF the primary corona current.
2 Controls the primary corona current to a constant level.
3 Turns ON and OFF the transfer corona current.
4 Switching the transfer corona current level.

2. Controlling the Primary Corona Current

The DC controller PCB compares the drum surface potential V_D obtained by the potential detection circuit against the target potential; if there is a difference, it corrects the signals used to control the primary corona current it generates. The corrected signals are converted into analog signals (HVTPC signals) by the D/A converter circuit and sent to the high-voltage transformer, thereby controlling the primary corona current.

The primary corona current output is turned ON and OFF by the high-voltage remote signal (HVRMT) and is controlled by the HVTPC signal.

When the HVTPC signal is about 8 V or more and less than 16 V, the primary corona current turns ON; it turns OFF when the output is about 16 V or more.

a. Turning the Primary Corona Current Output

HVTPC is about 16 V or more.
HVRMT is '1'.
↳ The differential amplifier circuit turns OFF.
↳ The primary high-voltage transformer turns OFF.

b. Turning ON the Primary Corona Current Output

HVTPC is less than 16 V.
HVRMT is '0'.
↳ The differential amplifier circuit turns ON.
↳ The primary high-voltage transformer turns ON.

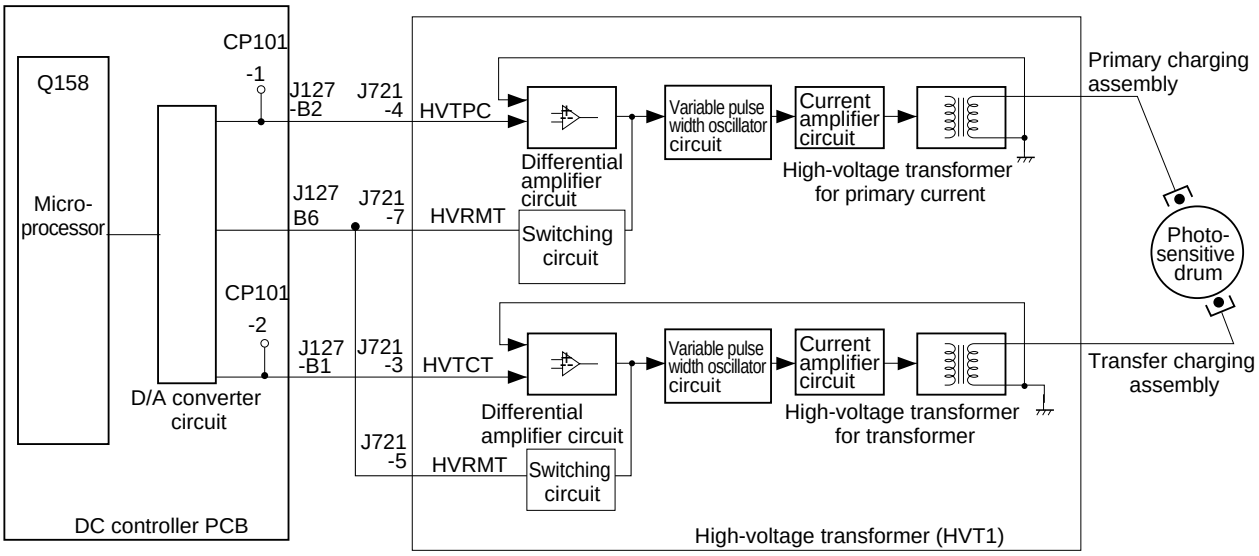


Figure 3-316

The above condition causes the high-voltage transformer to send a high-voltage corresponding to the output of the primary charging level control signal (HVTPC) to the primary charging assembly.

If an excessive amount of corona current flows from the primary charging assembly because of changes in the environment, the return signal to the differential amplification circuit increases and the output decreases, decreasing the corona current from the primary charging assembly and, ultimately, controlling the current to a specific level.

In photo mode, the target value is lower than the dark area potential (V_D) target value used for normal copying mode by about 80 V; for this reason, potential control is executed during the first copying operation in photo mode after power-on to determine the primary corona current.

The output of the primary corona current, further, is lowered according to the density of originals (e.g., if darker than the Test Sheet) depending on the setting made in service mode for low-humidity environments.

3. Controlling the Transfer Corona Current

Changes in the environment (temperature, humidity) can significantly affect the transfer efficiency, i.e., at which toner images on the photosensitive drum are transferred to copy paper.

The density of copies may be maintained at a specific level if the charges from the transfer charging assembly may be kept constant by controlling the current applied to it against changes in the environment.

To this end, the NP6085 is designed to vary the transfer current according to the changes in the absolute humidity (moisture content) detected by the environment sensor, thereby ensuring stable density characteristics.

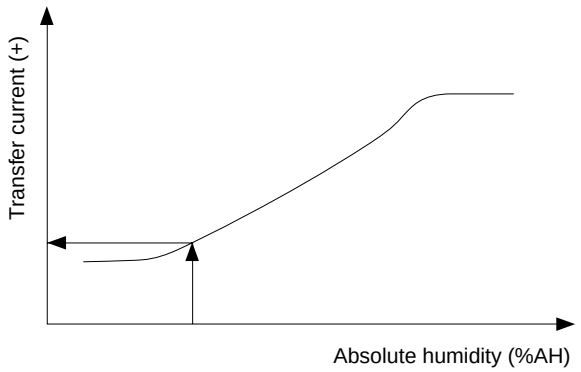


Figure 3-317

The transfer corona current output is turned ON/OFF by the HVRMT signal, and the output level of the transfer current is controlled by the transfer charging level control signal (HVTCT).

When the HVTCT signal is about 8 V or more and less than 16 V, the output of the transfer corona current turns ON; it turns OFF when the signal is about 16 V or more.

LED2 turns ON if the high-voltage transformer (HVT1) is supplied with 24VR power; the switching circuit, further, remains ON at all times.

a. Turning OFF the Transfer Corona Current Output

HVTCT is about 16 V or more.
HVRMT is '1'.
↳ The differential amplifier circuit turns OFF.
↳ The transfer high-voltage transformer turns OFF.

b. Turning ON the Transfer Corona Current Output

HVTCT is about 8 V or less than 16 V.
HVRMT is '0'.
↳ The differential amplifier circuit turns ON.
↳ The transfer high-voltage transformer turns ON.

The above condition causes the high-voltage transformer to send a high voltage according to the output of the transfer charging level control signal (HVTPC).

If an excess amount of corona current from the transfer charging assembly flows because of changes in the environment, the return signal to the differential amplifier circuit increases and the output decreases, causing the corona current from the transfer charging assembly to decrease and ultimately maintaining the current to a specific level.

4. Transfer Guide Bias

In high-humidity condition, partial transfer failure may occur. To prevent such a problem, you may decide to ground the transfer guide or not in view of the ambient humidity using service mode ('TRANSG_SW'; ✻ 5 ✻).

The followings are the adjustment method

■ Copy has partial transfer failure.

1) Set 4, and check the copy image if partial transfer failure occurs.

■ The copy paper end is dirty.

1) Set 3, and check the copy image.

E. Controlling the Separation/ Pre-Transfer Corona Current

1. Outline

Figure 3-322 shows the circuit which controls the separation corona current and the pre-transfer corona current, and the circuit has the following functions:

1 Turns ON and OFF the separation/pre-transfer corona current.
2 Switches the separation corona current level.
3 Controls the separation corona current to a specific level.
4 Switches the pre-transfer corona current levels.
5 Controls the pre-transfer corona current to a specific level.

To eliminate the effects of the environment on the corona charging, the DC component of the separation charging assembly and the pre-transfer charging assembly is controlled to a specific current level by collecting a sample signal from the secondary side of the high-voltage transformer. (The AC transformer is controlled to a specific voltage.)

To limit the effects of the changes in the environment to a minimum, the surface potential is detected during copying operation and the measurement is used together with the internal temperature and the copying mode to determine the separation corona current.

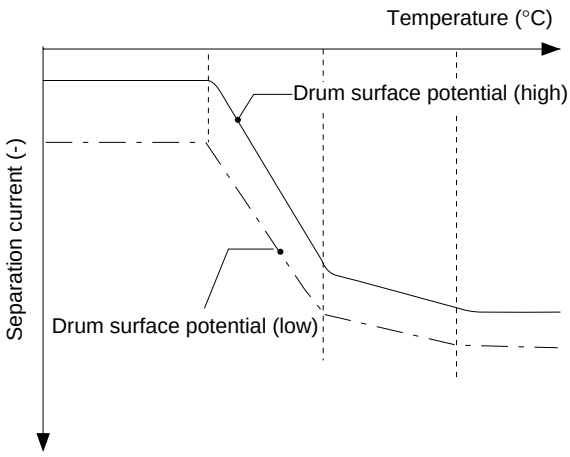


Figure 3-318

The pre-transfer corona current is determined, on the other hand, based on the temperature and the humidity detected in advance.

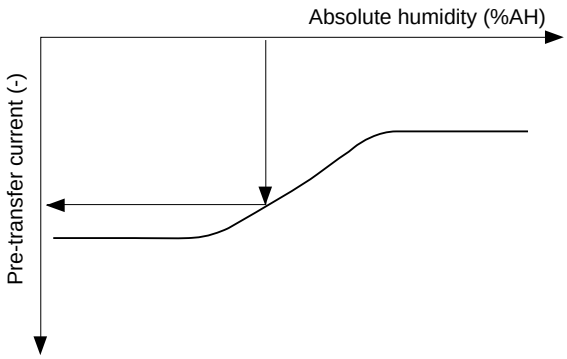


Figure 3-319

2. Turning ON and OFF the Separation/Pre-Transfer Corona Current

The separation/pre-transfer corona current is turned ON/OFF by the HVAC drive signal($\overline{\text{ACON}}$).

When $\overline{\text{ACON}}$ is '0', corona current (AC component/DC component) is applied to the separation/pre-transfer charging wire.

3. Controlling the Separation Corona Current (DC component)

The DC current level of the separation corona is switched by the HVRMT signal from the DC controller PCB.

The DC current of the separation corona current is varied according to the voltage level (8 to 16 V) of the separation charging level control signal (HVSCT).

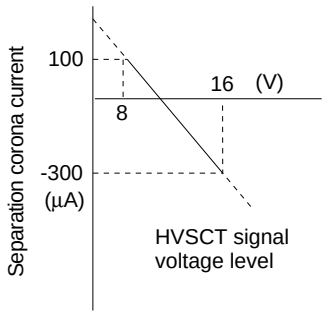


Figure 3-320

4. Controlling the Pre-Transfer Corona Current (DC component)

The DC current of the pre-transfer corona current is switched by the pre-transfer charging level control signal from the DC controller PCB.

The DC current of the pre-transfer corona current is varied according to the voltage level (7 to 16 V) of the HVPCT signal.

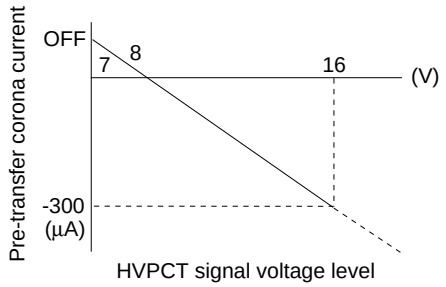


Figure 3-321

5. Controlling the DC Component Overcurrent of the Separation/Pre-Transfer Corona Current

If an overcurrent flows to the separation/pre-transfer charging assembly, the HVTDC PCB sends the high-voltage transformer stop signal (HVOFF) to the HVTAC PCB, temporarily stopping the corona current (DC/AC component) applied to the pre-transfer/separation charging assembly.

The copier operation continues in the presence of the HVOFF signal, and application of corona current will be resumed when the level of the application current returns to normal.

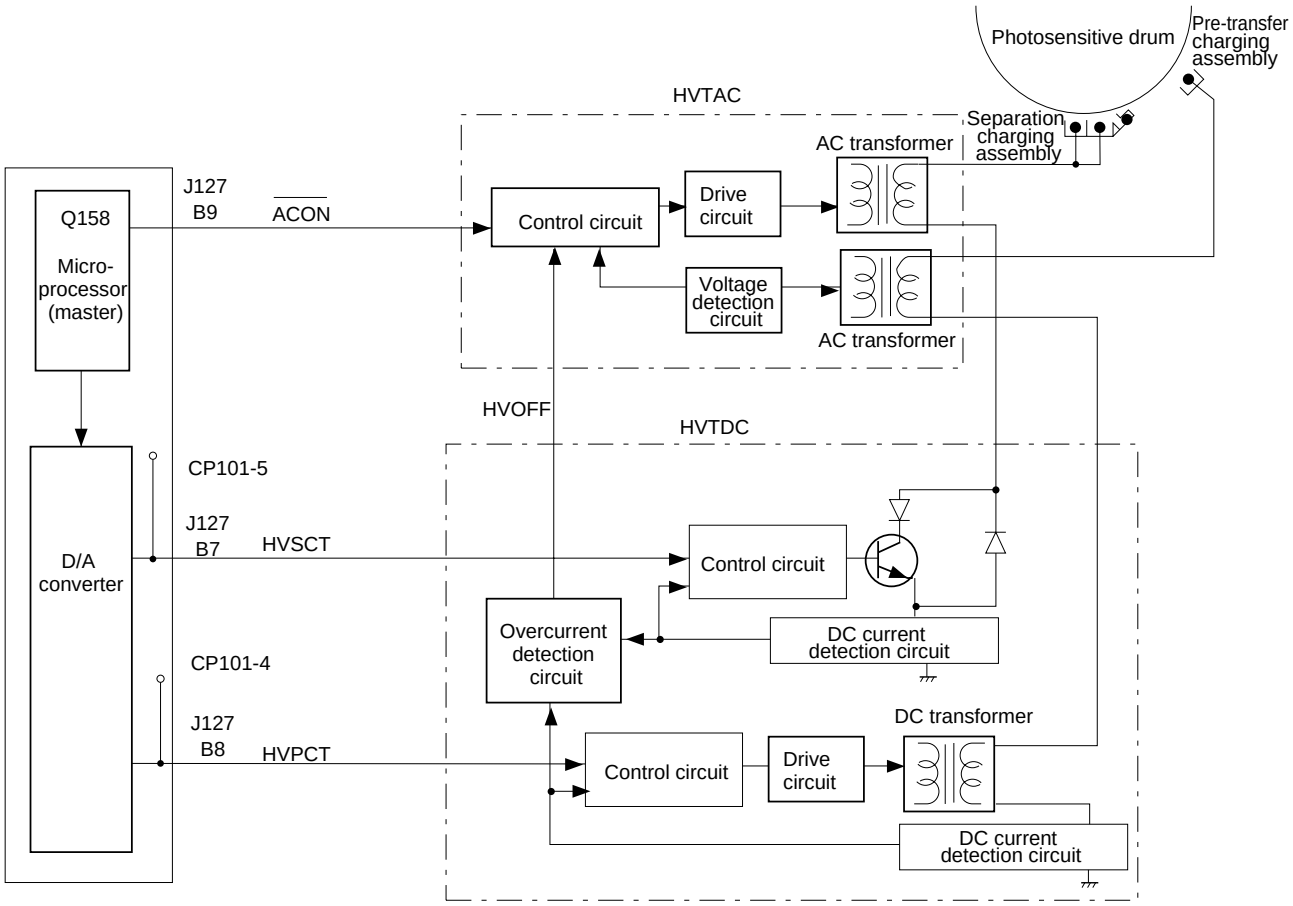


Figure 3-322

If leakage occurs and the HVOFF signal continues, however, the application of corona current will not be resumed unless the cause of the overcurrent is removed.

Caution:

Separation jams will be frequent if the corona current output applied to the transfer/separation charging assembly stops. Since such a fault will not be indicated on the control panel, check the mechanisms involved if separation jams start to occur frequently.

F. Developing Assembly/ Cleaning Assembly

1. Outline

The developing assembly is operated by turning OFF and ON the drive from the drum motor by the developing clutch (CL1).

The cleaning assembly receives drive from the drum motor through the drum gear.

The level of toner inside the developing assembly is monitored by the developing assembly black toner detecting sensor (Q85), and toner is supplied by the hopper assembly when the amount falls below a specific level.

The level of toner inside the hopper assembly is monitored by the hopper toner level sensor (Q31), and the Add Toner message is indicated on the control panel when the amount falls below a specific level.

The hopper assembly supplies toner to the developing assembly by the hopper motor (M18).

The toner scraped off by the cleaning blade is moved to the rear of the copier by the screw inside the cleaning assembly; the toner is moved through the waste toner feeding pipe for collection in the waste toner case.

The level of toner inside the waste toner case is monitored by the waste toner full detecting switch (SW13); when the toner is full, the switch sends the waste toner full signal (WTOFP) to the DC controller PCB. when 50.000copies are made thereafter, the DC controller prohibits further copying and, at the same time, indicates on the control panel that the waste toner case is full('E019').

You may use service mode ('B_ALARM'; ✻ 1 ✻) to check if the toner case is full.

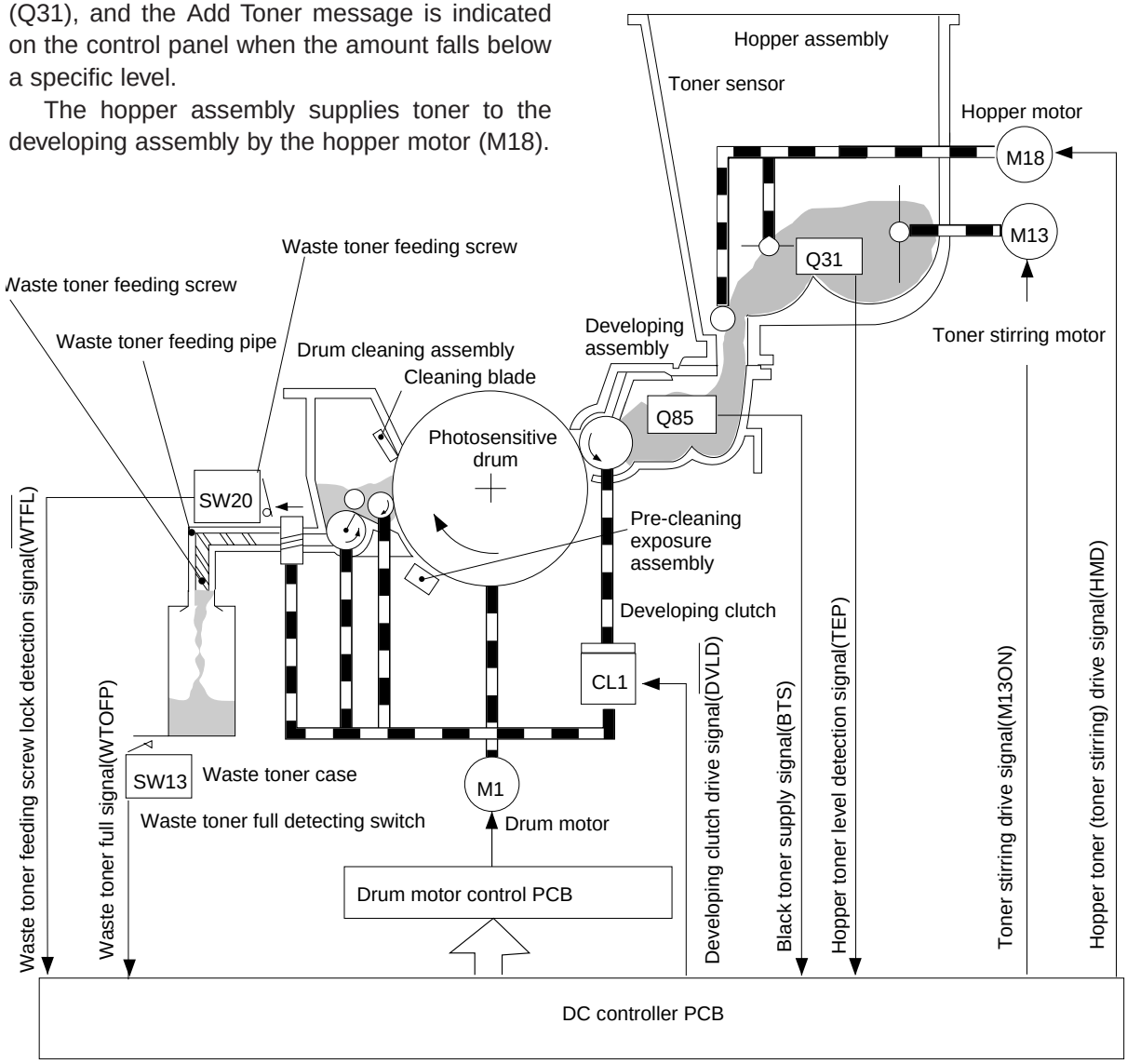


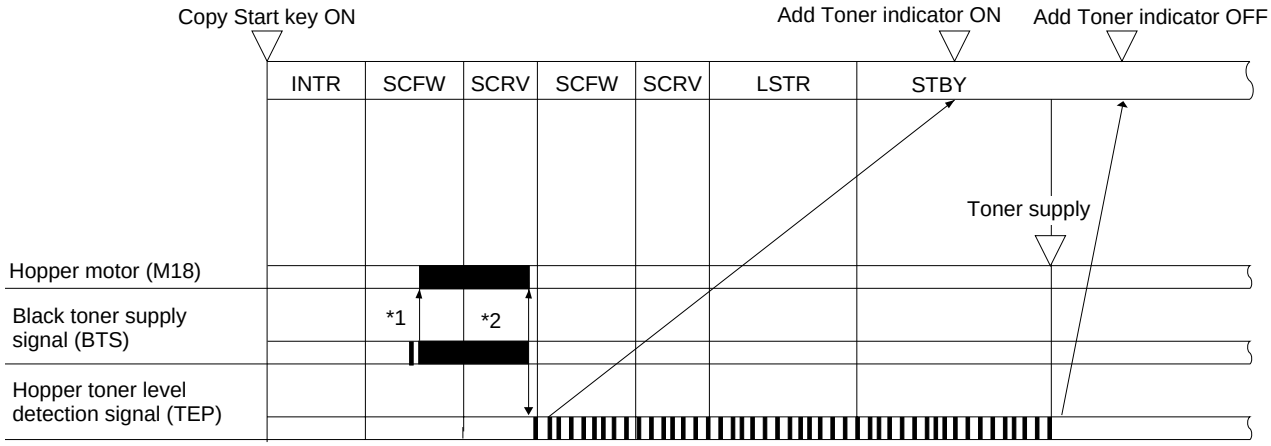
Figure 3-323

2. Detecting the Level of Toner and Controlling the Supply

The toner inside the developing assembly is checked by the black toner sensor (Q85) at intervals of 1 sec; the sensor sends the black toner supply signal BTS=0 to the DC controller when the level of toner inside the developing assembly falls below a specific level while the developing clutch (CL1) is on during copying operation.

The DC controller PCB generates the hopper motor drive signal ($\overline{HMD}$) to drive M18, thereby supplying toner to the developing assembly.

If the black toner sensor (Q85) becomes faulty for some reason or if the black toner supply signal BTS=0 is detected for 120 sec or more without a required amount of toner from the hopper, the copier will indicate 'E020' and stop its operation.



*1 Supply starts upon detection of black toner supply signal=0.
*2 Supply stops upon detection of black toner supply signal=1.

Figure 3-324

The level of toner inside the hopper assembly is checked by the hopper toner level sensor (Q31) while the hopper motor (M18) is operating to supply or stir toner.

When the amount of toner inside the hopper falls below a specific level, the hopper toner level detection signal (TEP) goes '0'. The DC controller PCB indicates the Add Toner message on the control panel if the signal is detected for 1 sec or more; thereafter, the Copy Start button turns red.

As may as 2,000 copies may be made after the Add Toner message is indicated, and copying operation will stop after making 2,000 copies.

The number of copies is stored in RAM on the DC controller PCB; the count is cleared assuming the presence of toner when the hopper toner level detection signal TEP=1 is detected for 3 sec or more, while clearing the Add Toner message on the control panel.

Reference:

The developing assembly and the hopper assembly are equipped with a piezoelectric oscillator. In the absence of toner, it oscillates at several kHz, causing the sensor output to be '0'. In the presence of toner, its oscillation stops under the weight of the toner, adjusting the sensor output to be '1'.

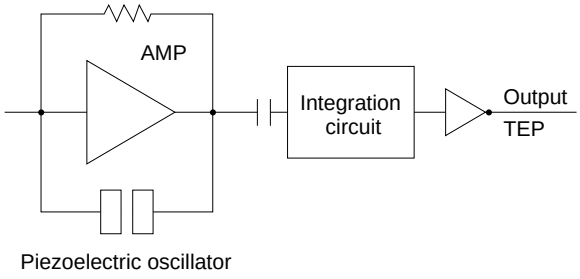


Figure 3-325

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3. Controlling the Developing Bias/Roller Electrode

a. Outline

An AC bias and a DC bias are applied to the developing cylinder during copying operation. The DC bias is the sum of the V_{L2} measured previously by the potential sensor and the developing bias light area potential DC voltage (80 V or 90 V, depending on the sensitivity of the drum;may be changed in service mode ('VL2_ADD';✻5✻)for appropriate contrast, if lower voltage is chosen, high contrast is obtained.) (During C.F.F. copying, a sum of V_{L2} and 80 V is applied.)

The DC bias level is varied to suit the surface potential of the drum to prevent adhesion of unwanted toner on the photosensitive drum when copying operation is not taking place.

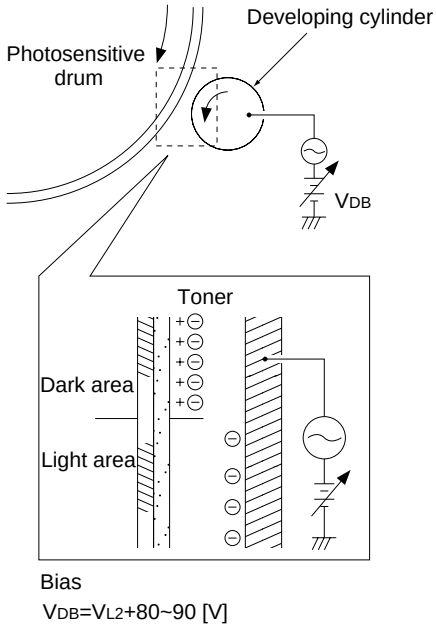

Figure 3-326

b. Control Timing

Bias	Voltage	Period	Description
DC component	+130V	WMUP, AINR, INTR	Prevents adhesion of unwanted toner to the drum.
	+600V	CNTR1, 2 LSTR	Prevents adhesion of unwanted toner to the drum by measuring the ever-changing surface potential by the potential sensor.
		INTR, AER, or LSR during copying	Prevents adhesion of unwanted toner to the drum.
	V_{L2} + 80~90 [V] (with C.F.F. in use, V_{L2} + 80 [V])	SCFW or SCRV during copying	Prevents fogging of white backgrounds.
AC component	1500V_{P-P}, 2700Hz		Executes toner projection.

Table 3-305

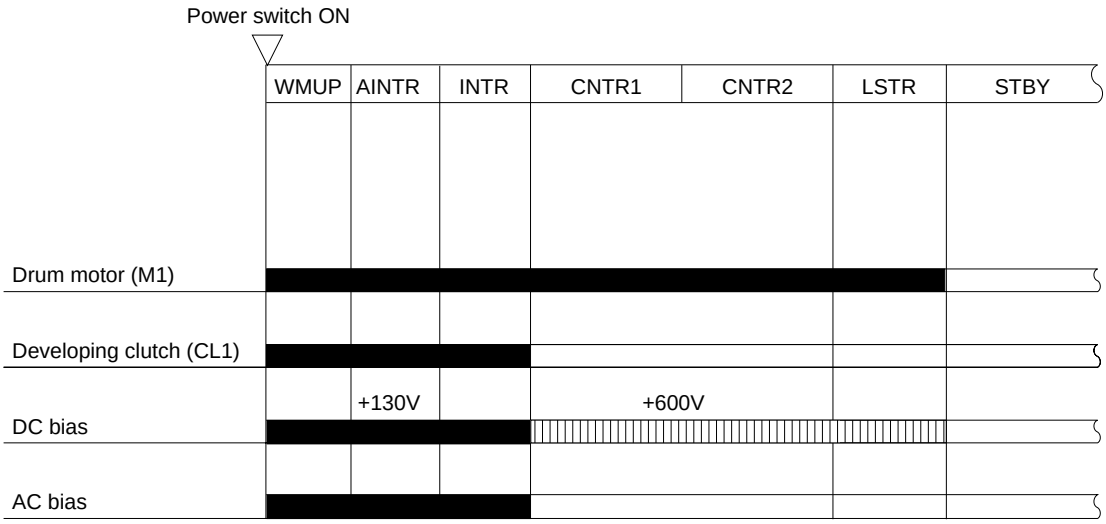

Figure 3-327

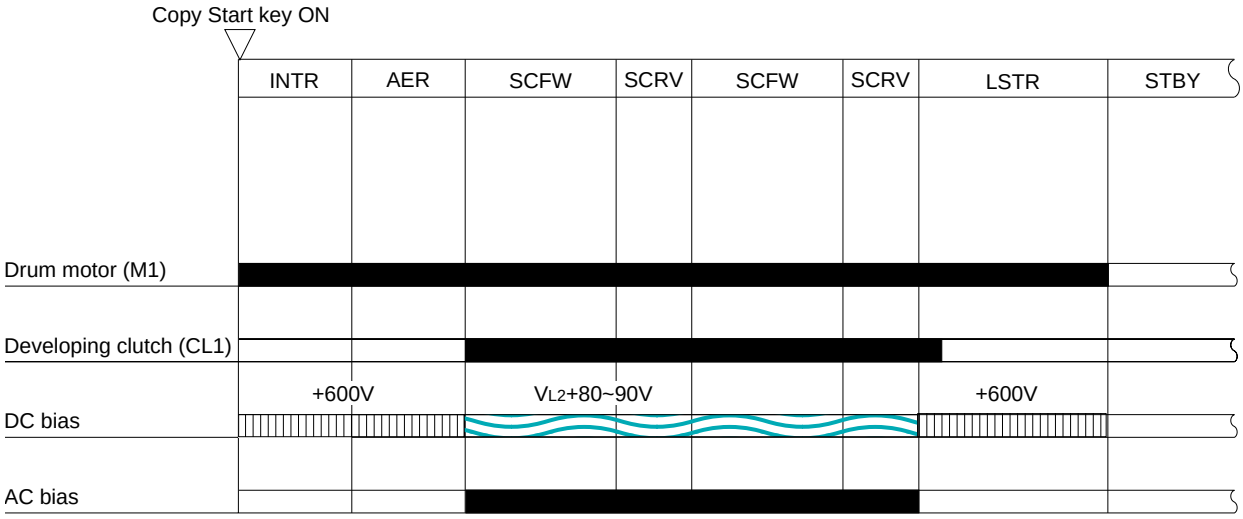

Figure 3-328

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c. Developing Bias Control Circuit

The circuit used to control the developing bias has the following functions:

(1) Turns ON and OFF the AC bias.

(2) Turns ON and OFF the DC bias.

① Turning OFF the AC Bias

$\overline{\text{ACBTP}}$ ACBTP is '1'.

↳ The AC bias switch circuit turns OFF.

↳ The high-voltage AC transformer output is cut off.

The above condition cuts off the AC bias to the developing cylinder.

② Turning ON the AC Bias

$\overline{\text{ACBTP}}$ is '0'.

↳ The AC bias switching circuit turns ON.

The above condition turns ON the drive circuit, causing the high-voltage AC transformer to supply an AC bias of 1500 Vp-p to the developing cylinder.

③ Controlling the DC Bias Voltage Level

The voltage of the DC bias is determined by signals (DCBC) from the DC controller PCB.

When the output of the DC controller PCB (DECB) increases, the voltage of the DC bias will also increase.

d. Roller Electrode Bias Control Circuit

The circuit used to control the roller electrode bias has the following functions:

(1) Turning ON and OFF the Roller Electrode

① Turning OFF the Roller Electrode

The roller electrode drive signal $\overline{\text{ROED}}$ is '1', i.e., the registration roller is at rest.

The switching circuit turns OFF.

↳ The drive circuit turns OFF.

↳ The high-voltage DC transformer turns OFF.

The above condition cuts the bias to the roller electrode.

② Turning ON the Roller Electrode Bias

$\overline{\text{ROED}}$ is '0', i.e., the registration roller is rotating.

The switching circuit turns ON.

↳ The drive circuit turns ON.

↳ The high-voltage DC transformer turns ON.

The above condition supplies a bias of about -1000 V (effective value) to the roller electrode.

4. Pre-Cleaning Exposure Assembly

The pre-cleaning exposure assembly houses 63 LEDs from the drum front to the drum rear used to remove charges remaining on the drum after transfer/separation, thereby ensuring uniform cleaning.

The sequence of operation is the same as when the pre-exposure LED turns on. (See p.3-23.)

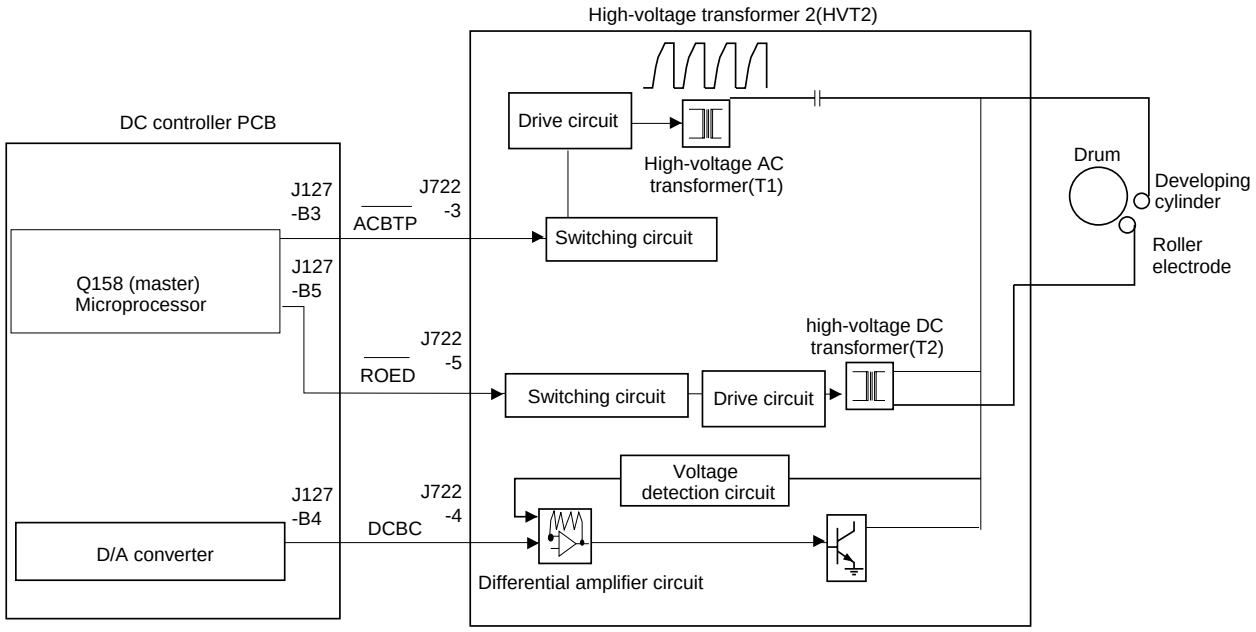

Figure 3-329

5. Detecting the Waste Toner Feeding Screw State (lock)

If the waste toner inside the waste toner feeding pipe cakes for some reason, it could prevent the waste toner feeding screw from turning.

To prevent such a problem, the NP6085 uses a feeding screw lock detection mechanism.

The gear Ⓐ (Figure 3-330) used to drive the waste toner feeding screw is subjected to force in the direction of the shaft when the feeding screw gets locked, and the condition causes the gear to move on the shaft.

The waste toner feeding screw lock detecting switch (SW20) is used to detect such movement of the gear Ⓐ.

When SW20 is pushed by the gear Ⓐ, the waste toner feeding screw lock detection signal ($\overline{\text{WTFL}}$ =0) is sent to the DC controller PCB, causing the drum motor (M1) to stop and 'E013' to be indicated on the control panel.

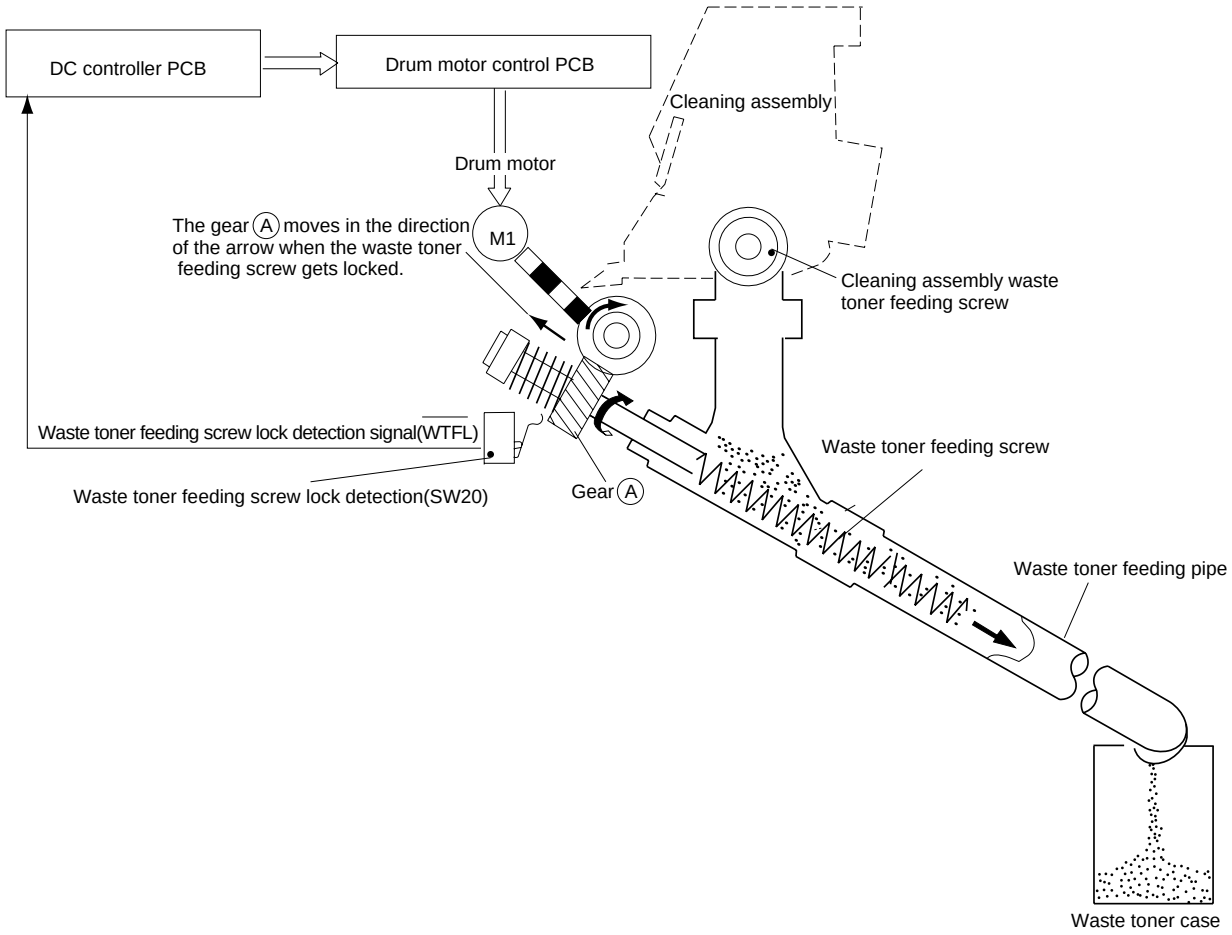

Figure 3-330 (rear view)

6. Idle Rotation of the Photosensitive Drum and the Developing Cylinder

Copy image faults include "light images at initial power-on" and "image distortion under high humidity conditions."

To prevent such faults, service mode (✻5✻) may be used to cause the photosensitive drum and the developing cylinder to rotate idly in standby mode. (See Tables 3-306 and -307.)

• Service Mode ✻5✻

Item	setting	Sequence of operations
IDL_SW	0	•Photosensitive drum idle rotation disabled Power-switch ON WMUP AINTR INTR CNTR1 CNTR2 LSTR STBY Drum motor (M1) Developing clutch (CL1)
	1	•Photosensitive drum idle rotation enabled Power switch ON WMUP AINTR INTR CNTR1 CNTR2 LSTR STBY Drum motor (M1) Developing clutch (CL1)

Table 3-306

• Service Mode ✻5✻

Item	Setting	Sequence of operations
IR_DV_RT	0	• Developing cylinder disabled Power switch ON WMUP STBY INTR CNTR1 CNTR2 AER SCFW Drum motor (M1) Developing clutch (CL1)
	1	•Developing cylinder idle rotation enabled in high-humidity condition (humidity medium: ▥ humidity high: ■) 100˚C Power switch ON WMUP STBY INTR CNTR1 CNTR2 AER SCFW Drum motor (M1) Developing clutch (CL1)
	2	• Developing cylinder idle rotation enabled Power switch ON WMUP STBY INTR CNTR1 CNTR2 AER SCFW Drum motor (M1) Developing clutch (CL1)

Figure 3-307

G. Drum Heater Control Circuit

The inside of the photosensitive drum is equipped with a drum heater (80 W), and the heater is controlled so that the surface temperature of the drum remains at a specific level.

The AC power supplied to the drum heater comes through the relay unit, door switch (SW48), drum heater switch (SW34), and then the AC driver.

When the relay unit is ON and the door switch (SW48) is ON while the drum heater drive circuit is OFF, half-wave AC power is supplied. (This, however, does not apply in auto power-off state.)

Full-wave AC power is supplied when the drum heater drive circuit is ON.

The drum heater drive circuit is turned ON and OFF by the drum heater drive signal ($\overline{\text{DHRD}}$) from the DC controller PCB. (This ON/OFF control by $\overline{\text{DHRD}}$, however, does not apply to the 208/230V model.)

See Table 3-308 for the relationship between the state of the copier and the state (ON/OFF) of the AC driver drum heater drive circuit.

State of copier	Drum heater drive circuit of the AC driver
With power plug connected and power switch at OFF (except auto power-off state)	OFF (half-wave AC power supplied)
Copying	
Standby	ON (full-wave AC power supplied)
Auto power-off state	OFF (no AC power supplied)

Table 3-308

The surface temperature of the photosensitive drum is monitored at all times by the thermistor built into the drum heater.

When the surface temperature of the photosensitive drum drops below a specific level, the output from the comparator circuit goes '1', turning ON the trigger circuit. This condition causes the triac to go ON, turning ON the drum heater.

If the surface temperature of the drum is higher than a specific level, the output from the comparator circuit goes '0', turning OFF the drum heater.

Drum hater surface temperature control value: 39°C

Thermal fuse rating: 76°C

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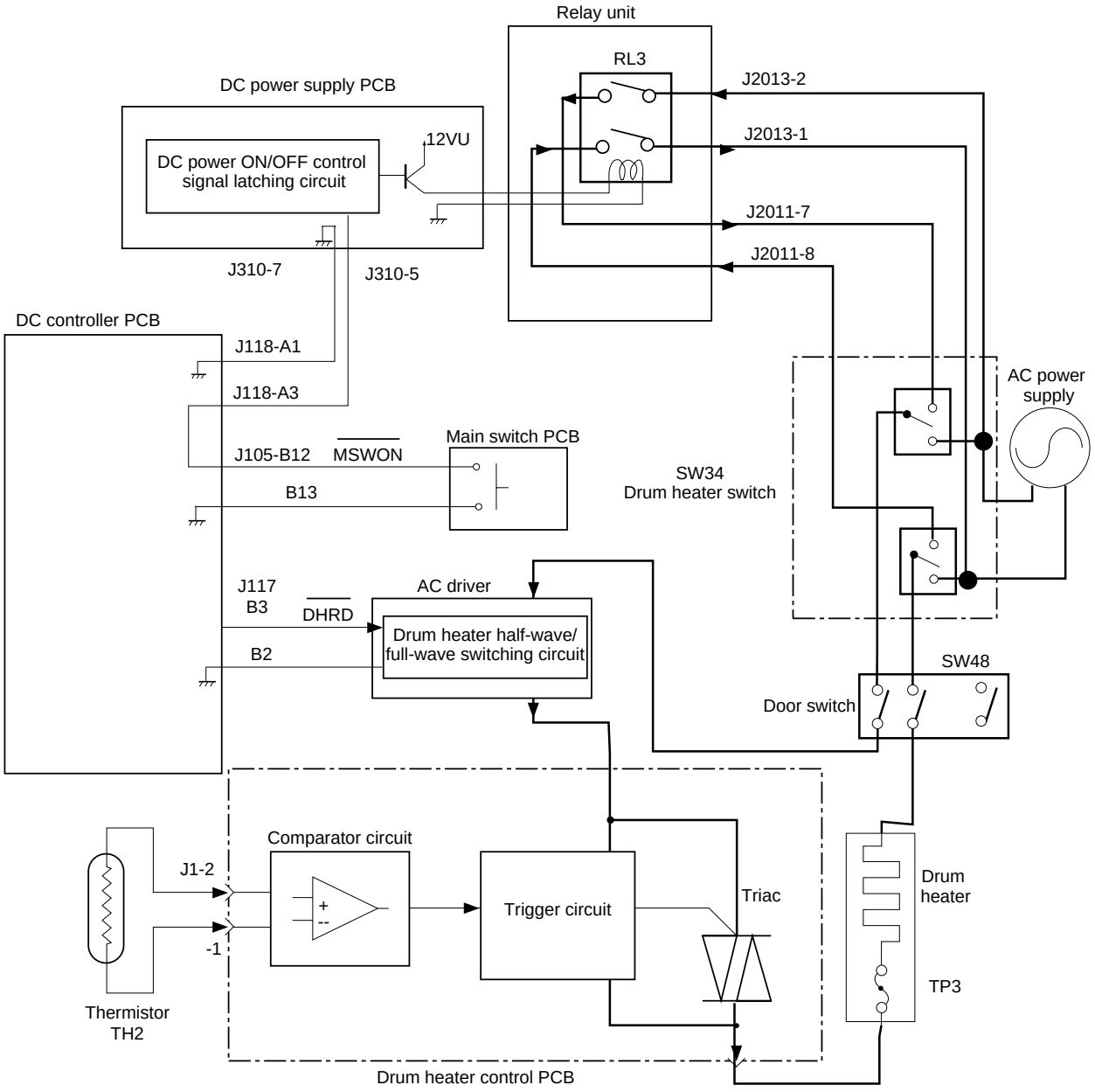
Relay unit
RL3
J2013-2
J2013-1
J2011-7
J2011-8
DC power supply PCB
DC power ON/OFF control signal latching circuit
12VU
J310-7
J310-5
DC controller PCB
J118-A1
J118-A3
AC power supply
Main switch PCB
J105-B12
MSWON
B13
SW34
Drum heater switch
J117
B3
DHRD
AC driver
Drum heater half-wave/ full-wave switching circuit
B2
SW48
Door switch
Comparator circuit
J1-2
-1
Trigger circuit
Triac
Drum heater
TP3
Thermistor
TH2
Drum heater control PCB

Figure 3-331

H. Primary Charging Wire Automatic Cleaning Mechanism

1. Outline

The NP6085 is equipped with an automatic cleaning mechanism for the charging wire used in the primary charging assembly, and cleaning is executed when the following conditions are met:

- The temperature of the fixing roller is 160°C or less at power-on.
- Charging wire cleaning is executed in additional function mode. (p. 1-26)
- Last rotation (LSTR) ended after making 2,000 copies.

If the charging wire has been cleaned under the above conditions, cleaning will be executed after making 2,000 copies thereafter.

2. Primary Charging Wire Automatic Cleaning Mechanism

If the surface temperature of the fixing roller is 160°C or less at power-on, the primary charging motor (M6) rotates clockwise to move the cleaner forward. When the cleaner rear detecting switch (SW4) located at the rear of the drum guide turns ON, the drive motor is rotated counterclockwise to move the cleaner in reverse.

Thereafter, the drive motor stops when the cleaner home position detecting switch (SW5) located in front of the drum guide is turned ON, thereby stopping the cleaner.

If an error in operation is detected for some reason, cleaning thereafter will be prevented. (Such an error may be reset by executing cleaning in user mode.)

The RAM on the DC controller PCB keeps count of the cleaning operations executed on the charging wire, and cleaning is executed for every 2,000 copies. In continuous copying mode, cleaning will be executed upon processing the specified number of copies.

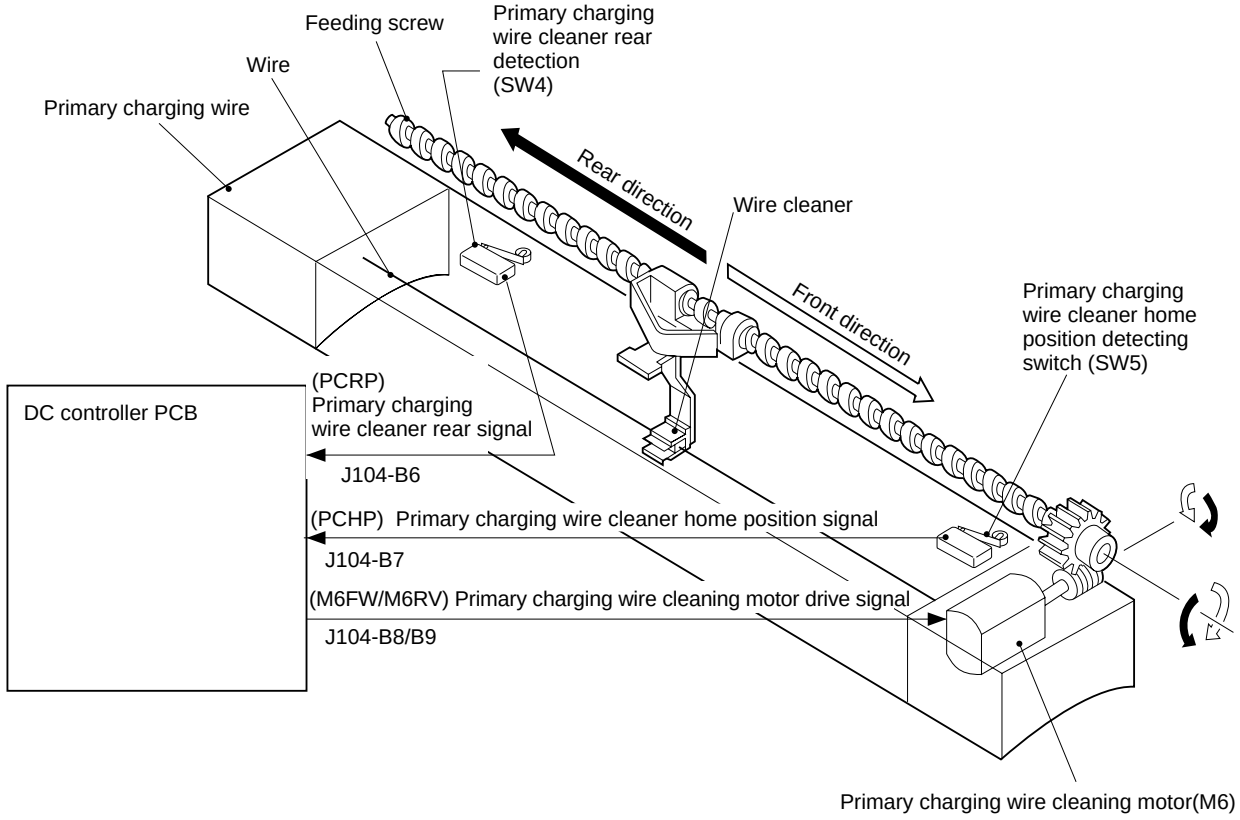

Figure 3-332

I. Pre-Transfer/Transfer/ Separation Charging Wire Automatic Cleaning

The NP6085 is equipped with an automatic cleaning mechanism for the pre-transfer/transfer/separation charging assembly.

As in the case of the automatic cleaning mechanism for the primary charging wire, the cleaner is driven by a cleaner drive motor with the help of a cleaner home position detecting switch.

The conditions of operation and the duration of operation used for the automatic cleaning mechanism for the pre-transfer/transfer/separation charging wire are the same as those for the primary charging wire.

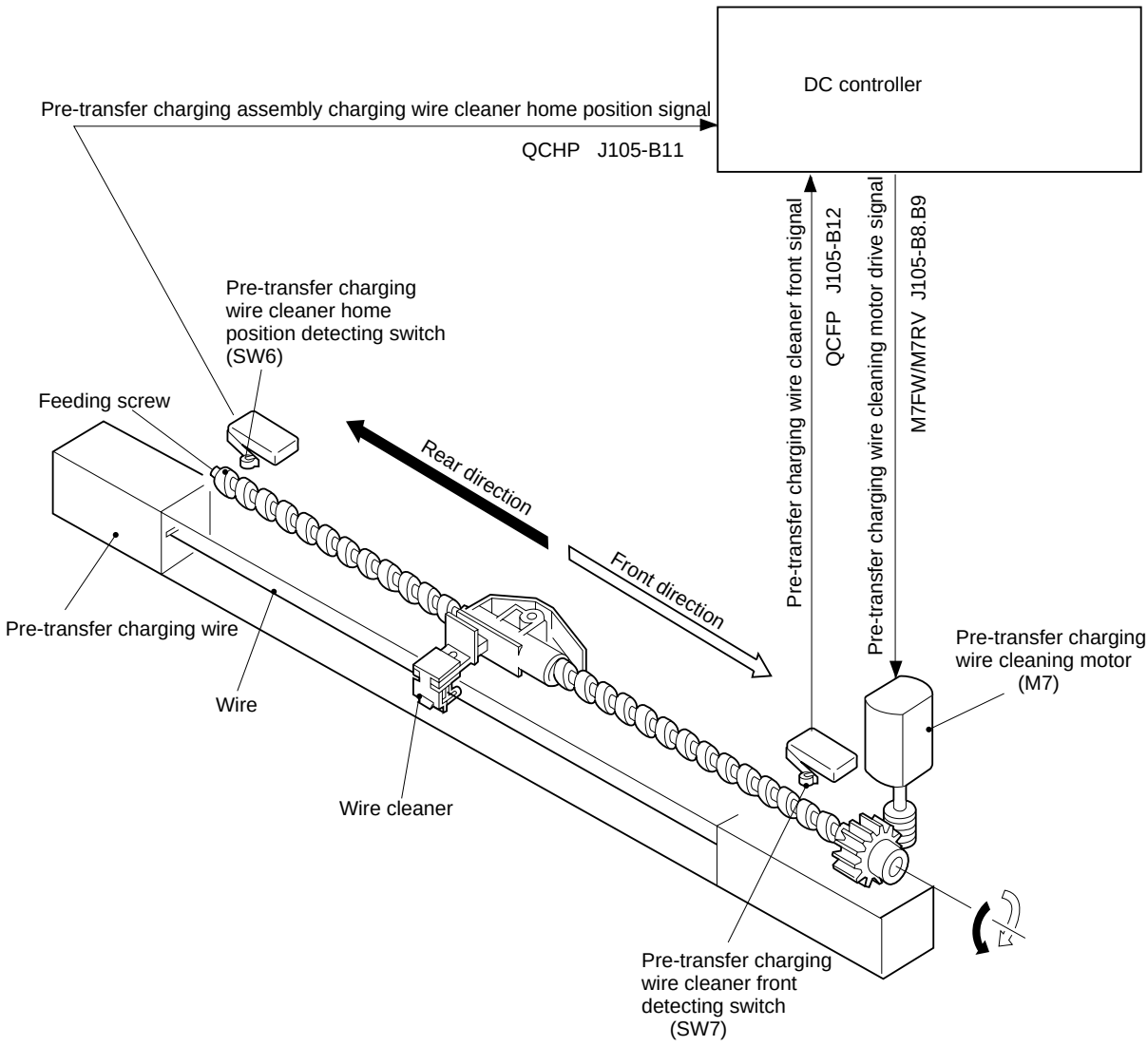

Figure 3-333 (pre-transfer charging assembly)

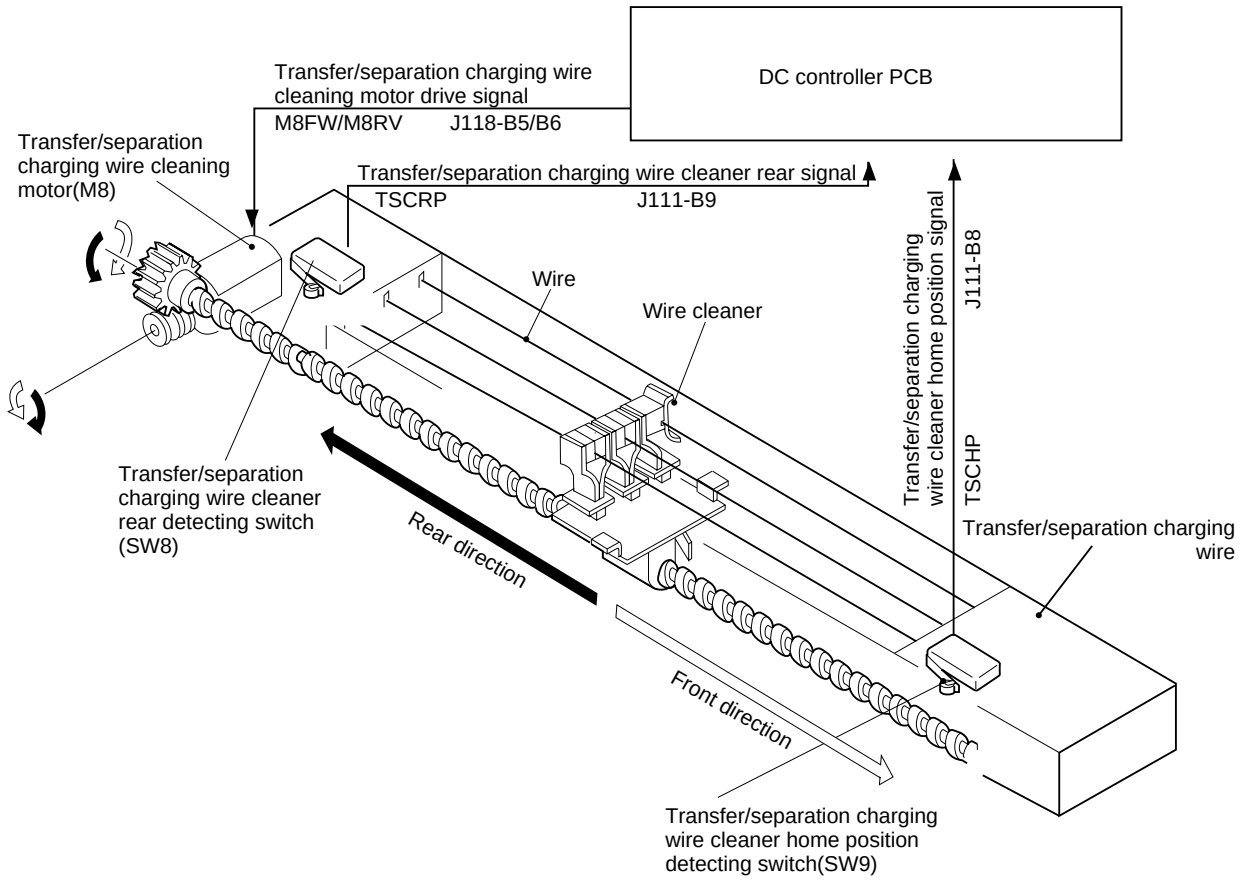

Figure 3-334 (transfer/separation charging assembly)

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IV. PICK-UP/FEEDING SYSTEM

A. Outline

The NP6085 uses center reference, in which copy paper is moved through the center of the pick-up/feeding path for stable pick-up/feeding operation.

Pick-up operation may be upper/lower front tray pick-up, paper deck pick-up, and multifeeder pick-up or re-pick up, used when making two-sided/overlay copies.

In addition to the feeding path used for one-sided copies, the NP6085 uses a separate feeding path for two-sided/overlay copies (No. 2 feeding assembly, duplexing unit) formed by the No. 1 paper deflecting plate.

When making one-sided copies, copy paper picked up from the upper/lower front tray, paper deck, or multifeeder is controlled by the registration roller so that the leading edge of the image on the photosensitive drum matches with the leading edge of the copy paper; the paper is then sent to the copy tray through the transfer, separation, feeding, fixing, and buffer path delivery assemblies.

When making two-sided/overlay copies, on the other hand, copy paper is stacked in the duplexing unit after fixing on the first side. For copying on the second side, paper is picked up from the duplexing unit and moved through the path used for one-sided copies to the copy tray.

Tables 3-401 and -402 show the sensors used to monitor the feeding of copy paper, and Figure 3-401 shows the arrangement of these sensors.

Sensor No.	Name	Sensor No.	Name	Sensor No.	Name	Sensor No.	Name
Q7	Fixing separation claw assembly paper sensor	Q15	Delivery sensor	Q27	Duplexing unit paper sensor	Q48	Upper front tray pick-up paper sensor
Q10	Fixing assembly paper sensor	Q16	No. 2 feeding assembly paper sensor	Q30	Pre-registration paper sensor	Q49	Lower front tray pick-up paper sensor
Q11	Paper reversing assembly inlet sensor	Q23	Lower front tray pick-up paper trailing edge sensor	Q33	Re-pick up paper trailing edge sensor	Q60	Buffer assembly delivery sensor
Q12	No. 2 feeding assembly inlet sensor	Q24	Upper front tray pick-up paper trailing edge sensor	Q34	Buffer assembly paper sensor		
Q13	Paper reversal sensor	Q26	Re-pick up paper sensor	Q46	Vertical path 0 paper sensor		
Q14	Paper reversing assembly outlet sensor			Q47	Vertical path 1 paper sensor		

Table 3-401

■ Paper Deck

Sensor No.	Name	Sensor No.	Name
Q36	Multifeeder pick-up paper sensor	Q35	Paper deck pick-up paper sensor
Q42	Multifeeder paper trailing edge sensor	Q44	Feeding sensor

Table 3-402

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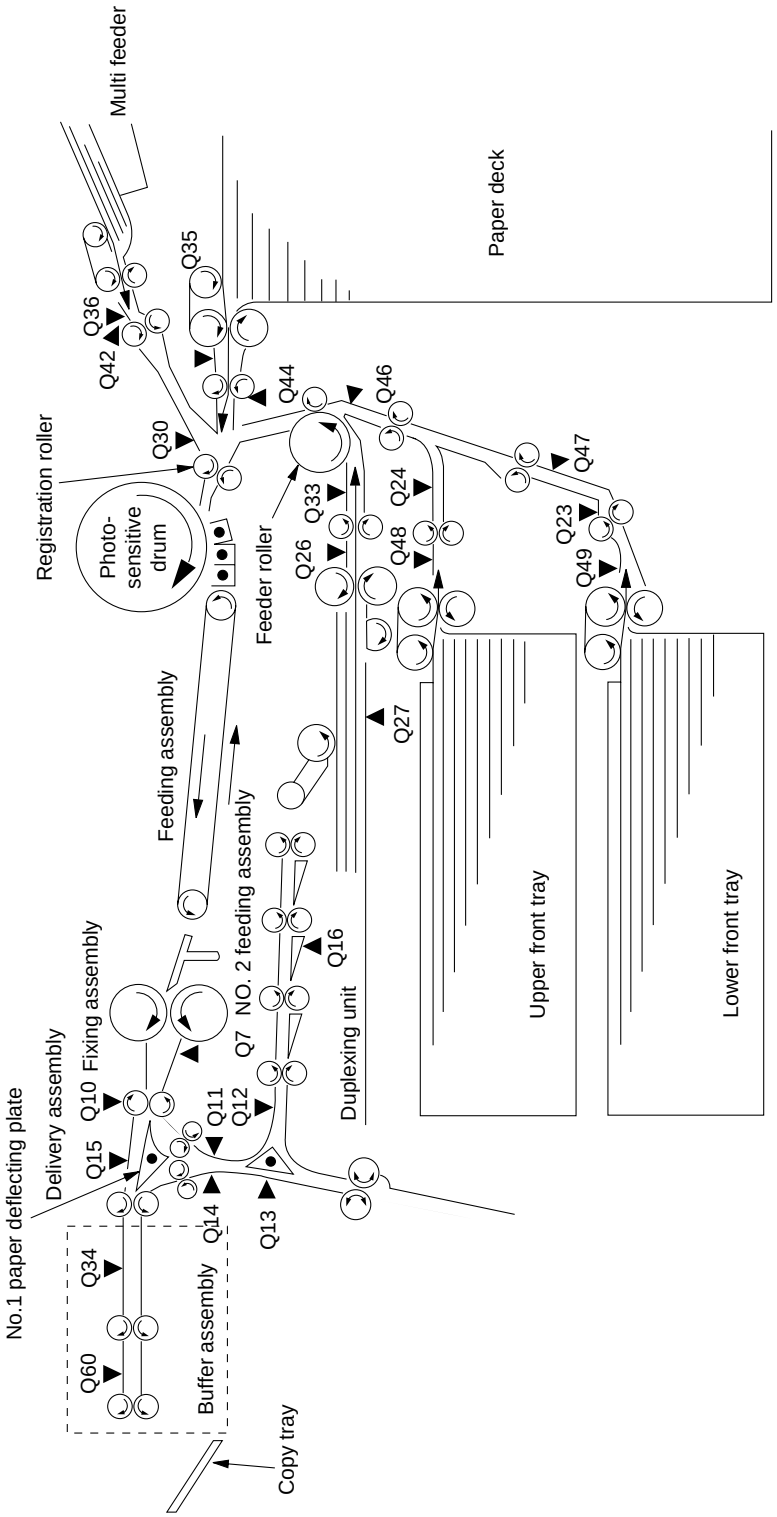
Multi feeder
Paper deck
Q35
Q36
Q42
Q44
Q46
Q30
Registration roller
Photo-sensitive drum
Feeder roller
Q33
Q24
Q47
Q23
Q26
Q48
Q49
Feeding assembly
Q27
Upper front tray
Lower front tray
NO. 2 feeding assembly
Q16
Duplexing unit
Fixing assembly
Q10
Q7
Q11
Q12
Delivery assembly
Q15
No.1 paper deflecting plate
Q14
Q13
Q34
Q60
Buffer assembly
Copy tray

Figure 3-401

B. Paper Deck

1. Pick-Up Operation

The copy paper set inside the paper deck is lifted by the lifter and kept at a specific position.

When the paper deck pick-up clutch (CL11) turns ON, the pick-up roller rotates to feed copy paper, with the pick-up/feeding roller and the separation roller making sure that only a single sheet of paper is fed forward.

When the paper deck pick-up sensor (Q35) then detects the copy paper, the roller releasing solenoid (SL7) turns ON to move the pick-up roller away from the surface of the paper.

The feeding roller rotates when the paper deck feeding roller clutch (CL8) is ON to move copy paper to the registration roller.

The paper deck paper trailing edge sensor (Q44) is used to detect passage of copy paper, upon which the second and subsequent pick-up operations are initiated.

To prevent skew movement, the copy paper is made to form an arch while the registration roller is at rest. To make sure that the copy paper will not arch excessively, the paper deck feeding roller stop clutch (CL18) is turned ON, thereby forcing the paper deck feeding roller OFF. The copy paper is then controlled so that its leading edge matches the image on the photosensitive drum.

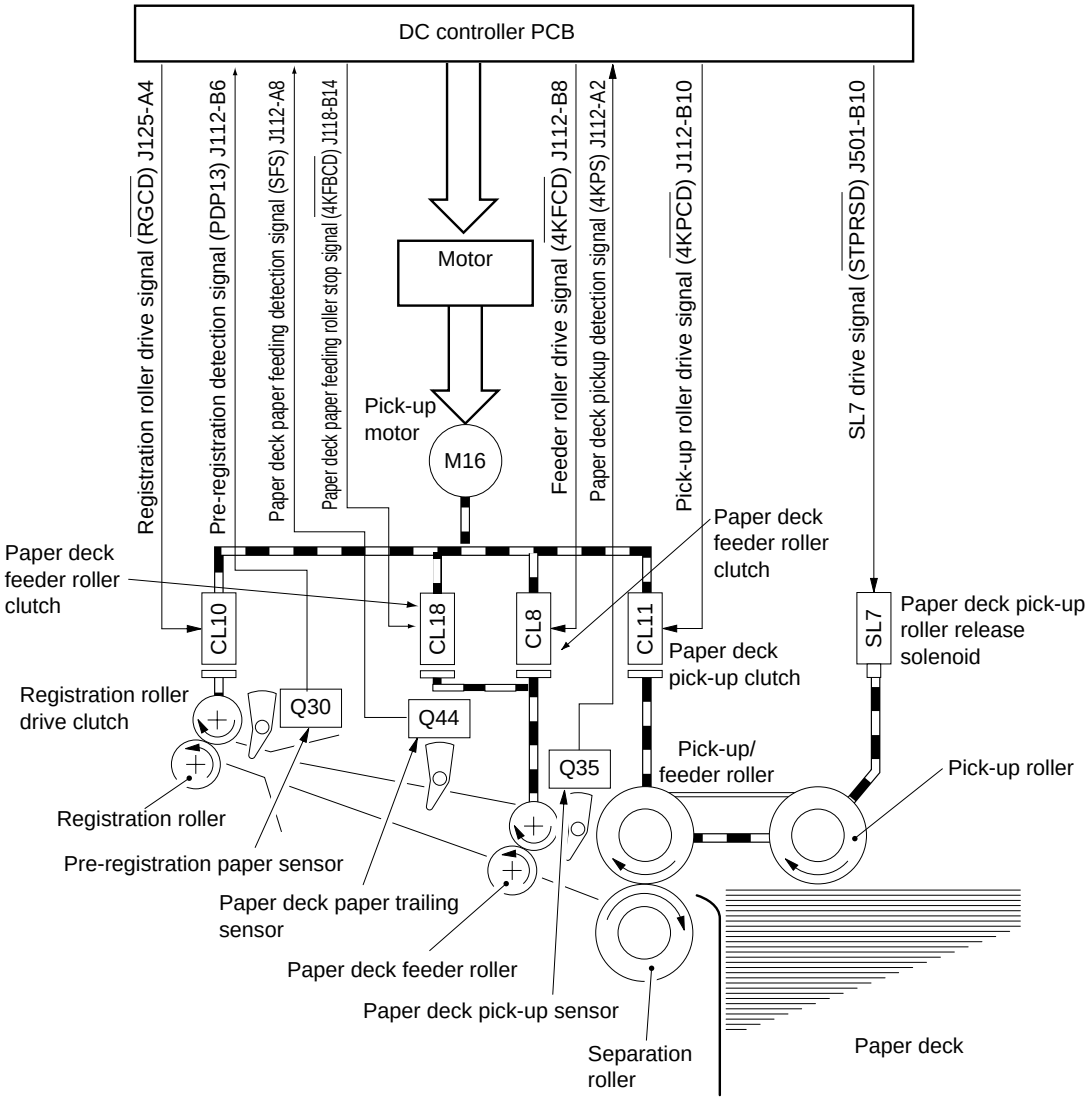

Figure 3-402

2. Sequence of Operations for Pick-Up from the Paper Deck

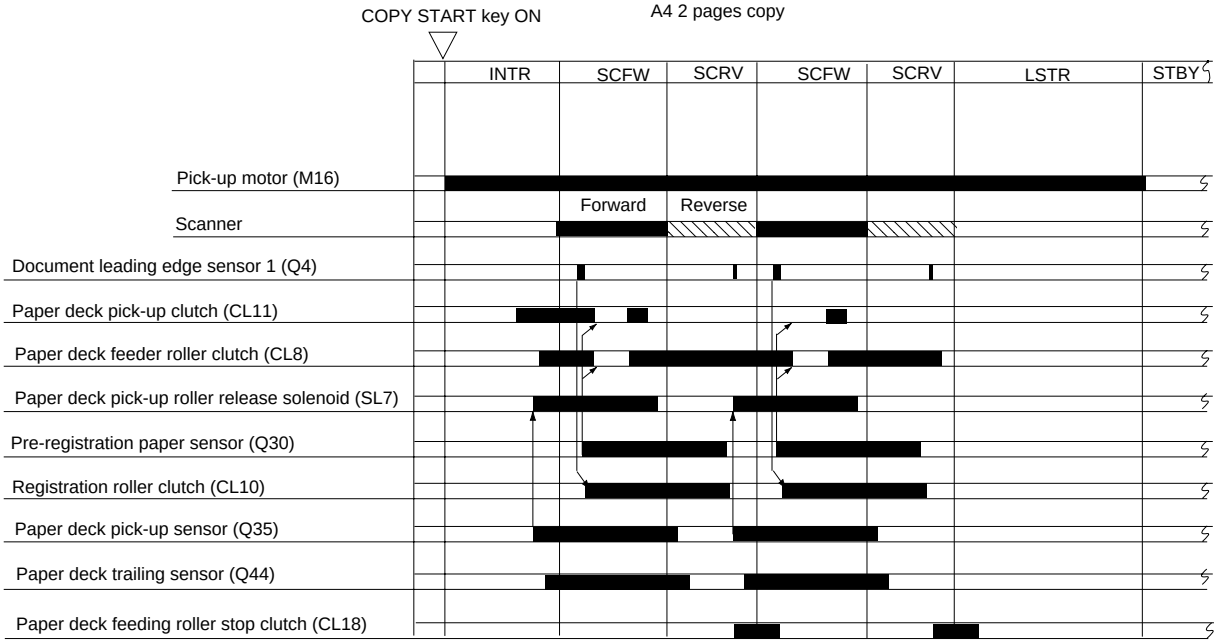

Figure 3-403

3. Paper Deck Lifter Movement

a. Outline

The paper deck lifter is moved up and down by the drive of the paper deck motor (M4). The drive is transmitted through a chain, and the direction of the lifter is changed by switching the direction of the rotation of the motor.

The paper deck motor (M4) is turned ON/OFF and its direction of rotation is switched based on combinations of signals from various sensors and switches (Q17, SW10, SW11, SW21) and the control signals from the microprocessor (Q115, master).

The lifter is stopped when the top surface of the copy paper stacked on it turns ON the lifter position sensor (Q17).

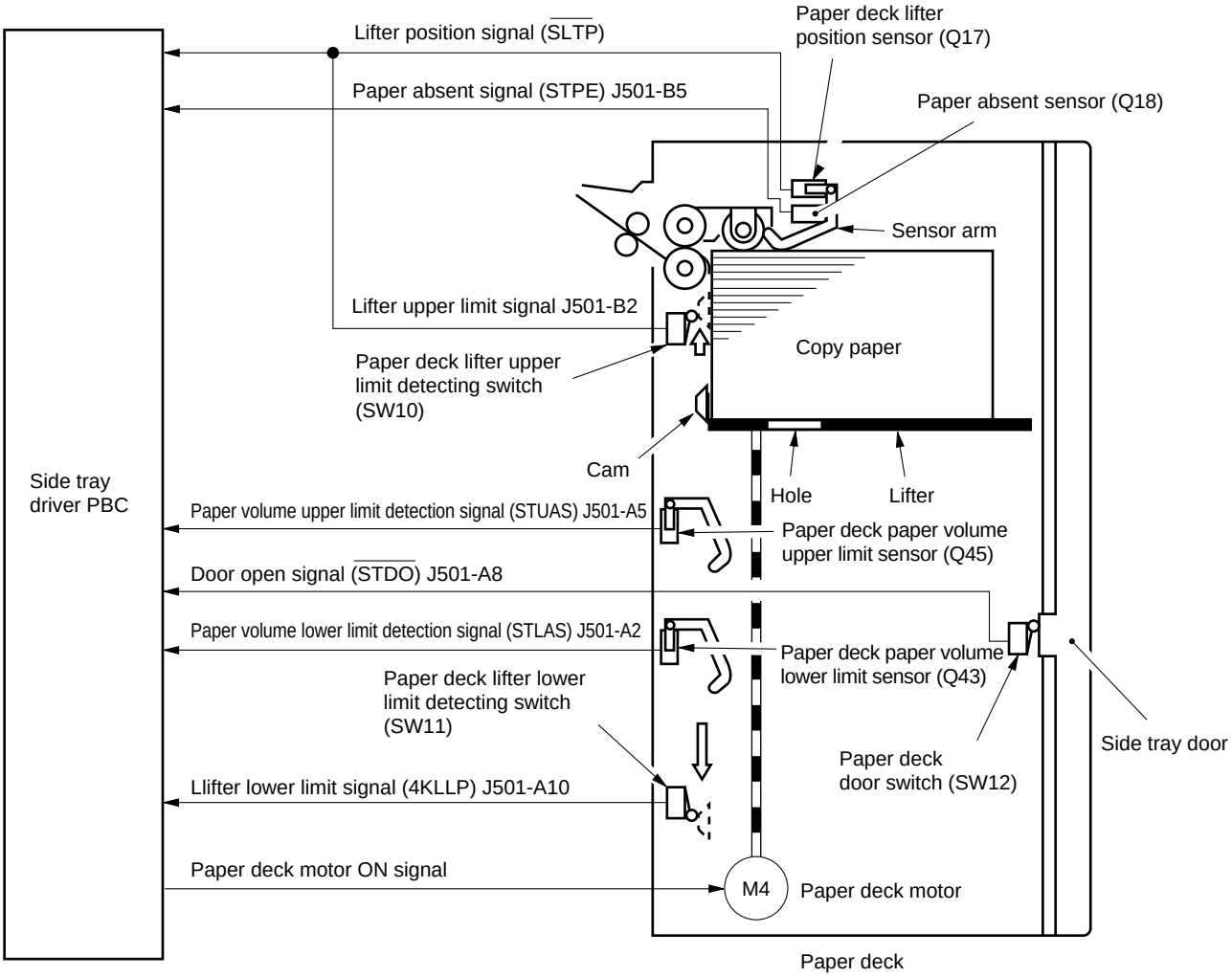

Figure 3-404

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

b. Detecting the Volume of Copy Paper

The volume of remaining copy paper is checked by three sensors (Q43, Q45, Q18), and the result is indicated on the control panel in terms of three levels or the Add Paper message.

① From when the lifter starts to move up until the sensor arm blocks the Q43, the result indicates that the volume of paper on the side tray is 1/2 or more.

② From when the lifter moves farther up until the sensor arm blocks Q43, the result indicates that the volume of paper on the side tray is between 1/2 and 1/4.

③ From when the lifter moves even farther until the sensor arm blocks Q45, the result indicates that the volume of paper on the side tray is 1/4.

Indication	Sensor No.		
	Q43	Q45	Q18
1/2 or more 	OFF	OFF	OFF
1/2 ~ 1/4 	ON	OFF	OFF
1/4 or less 	ON	ON	OFF
No paper 	ON	ON	ON

Table 3-403

When copy paper runs out and the sensor arm blocks Q18, the Add Paper will be indicated. At such times, the lifter keeps moving until the cam presses the upper limit detecting switch (SW10).

The lifter, on the other hand, keeps moving down until its cam presses the lower limit detecting switch (SW11).

At power-on, the lifter moves to the level sensor (Q45, Q43) or the lifter lower limit detecting switch (SW11) to find out the current position.

c. Paper Deck Motor Control Circuit

The paper deck motor control circuit is located on the side tray controller PCB. (See Figure 3-405 for its block diagram.)

The combination circuit in Figure 3-405 consists of various logic circuits, and it generates the up/down switching signal and the paper deck motor ON signal (=0) based on the output signals and control signals from the various sensors and switches.

The two signals are used to operate the motor drive circuit to drive the paper deck motor clockwise or counterclockwise.

If an overcurrent flows because of a short circuit in the motor, the overcurrent detection circuit forces OFF the paper deck motor ON signal. If the circuit has activated, remove the cause, and turn OFF and ON the power switch to reset.

■ Conditions to Move Up the Lifter

- The paper deck is closed so that
  → The door open signal (STDO) is '0'.
- The light-blocking plate is not at the lifter position sensor, and the lifter upper limit switch is OFF so that
  → The lifter position signal (SLTP) is '0'.
- The output of the microprocessor (Q115) on the DC controller PCB (lifter ON control signal) is '0'.
- The output of the microprocessor (Q115) on the DC controller (lifter up/down control signal) is '0'.

As the result of the above, the combination circuit generates the following outputs:

up/down switching signal=0 and
paper deck motor ON signal=0,

thereby moving up the lifter.

2. Moving Down the Lifter

a. Condition 1

- The paper deck door is opened so that
  → the door open signal (STD0) is '0'.
- The lifter lower limit switch (SW11) is OFF so that
  → the lifter lower limit signal ($\overline{\text{STLLD}}$) is '1'.

The above condition causes the combination circuit to generate the following outputs:
up/down switching signal=0 and
paper deck motor ON signal=0,
thereby, moving down the lifter.

b. Condition 2

- When a jam occurs, the output from the microprocessor (Q115) on the DC controller PCB (lifter up/down control signal) changes from '0' to '1'.
  This condition causes the up/down switching signal to go '1', causing the lifter to move down. At this time, the lifter will not move down to the lower limit but will stop at a point where the top surface of the paper stack has lowered a maximum of about 12.5 mm.

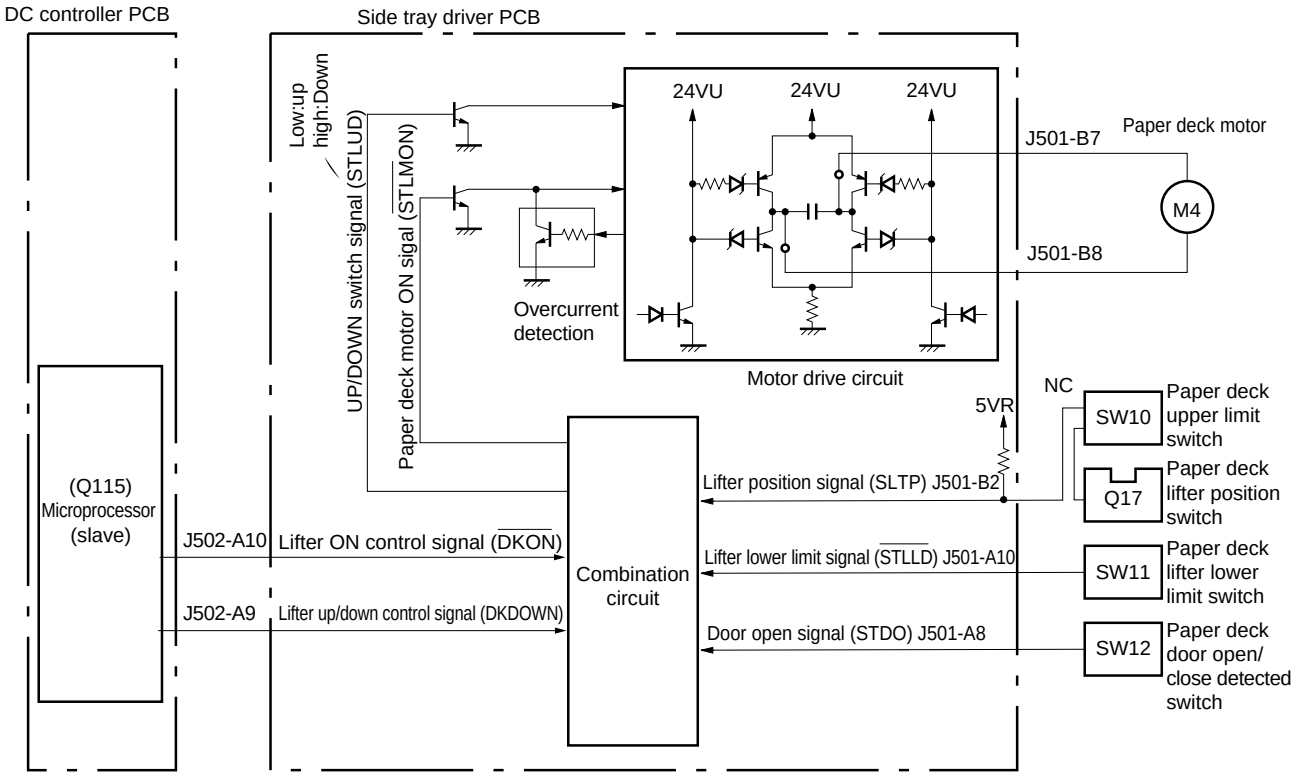

Figure 3-405

C. Upper/Lower Front Tray

1. Pick-Up Operation

The copy paper on the tray is kept up by the lifter, so that it remains in contact with the pick-up roller.

When the pick-up clutch (CL4 or CL5) turns ON, the pick-up roller starts to rotate to pick up copy paper. Then, the pick-up roller releasing solenoid (SL11 or SL15) turns ON to move the pick-up roller away from the surface of the paper.

Thereafter, the pick-up/feeding roller and the separation roller serve to make sure that only a single sheet of copy paper is fed to the feeding path, in which the copy paper is moved as far as the registration roller by the feeding roller.

The copy paper is made to arch while the registration roller is at rest to prevent skew movement. To avoid excessive arching, the pre-registration roller stop clutch (CL13) turns ON to force the side pre-registration roller OFF.

The registration roller is used to control copy paper so that its leading edge matches the leading edge of the image on the photosensitive drum.

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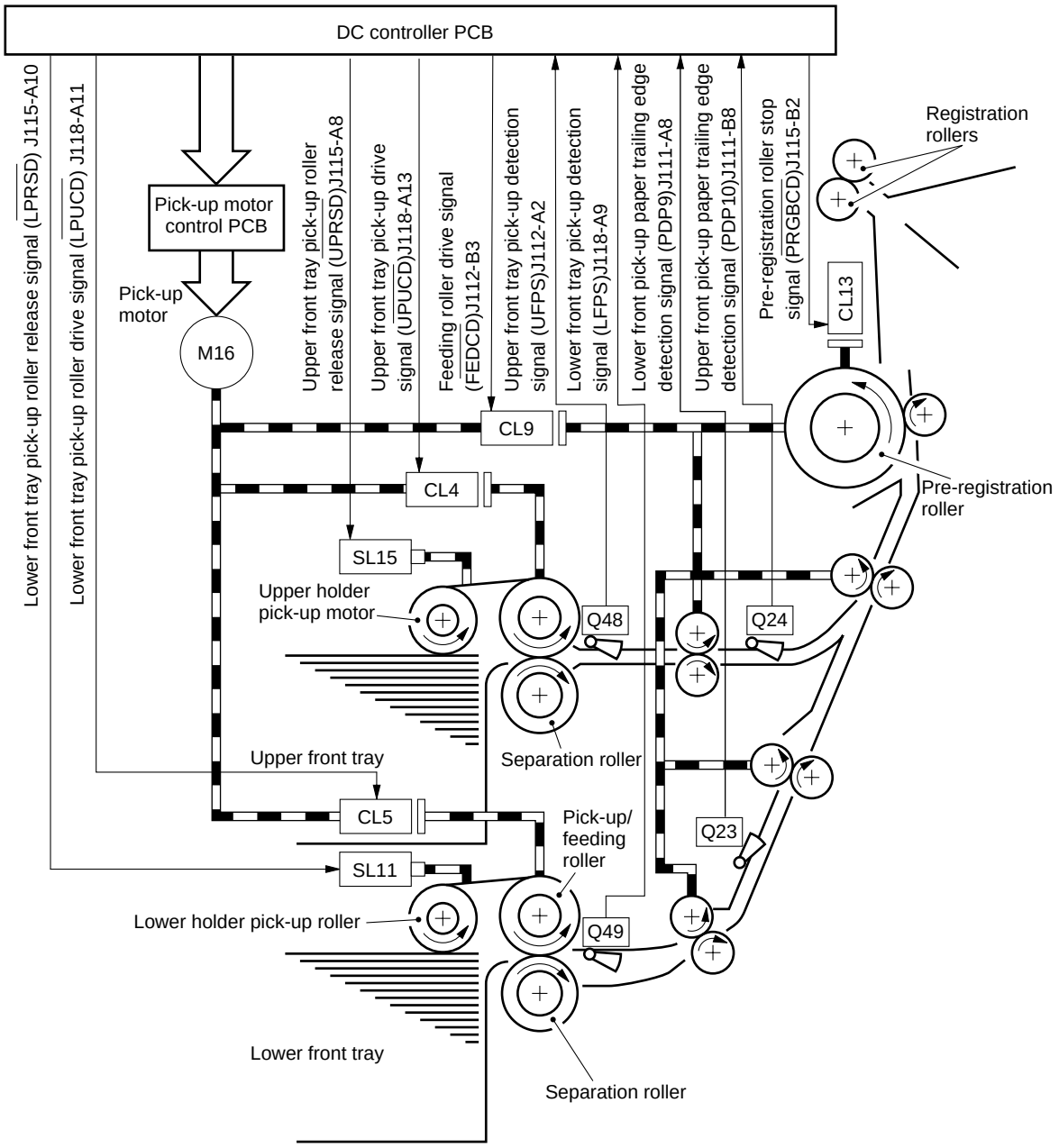

Figure 3-406

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2. Sequence of Operations (pick-up from the upper/lower front tray)

a. Sequence of Operations (pick-up from the upper front tray)

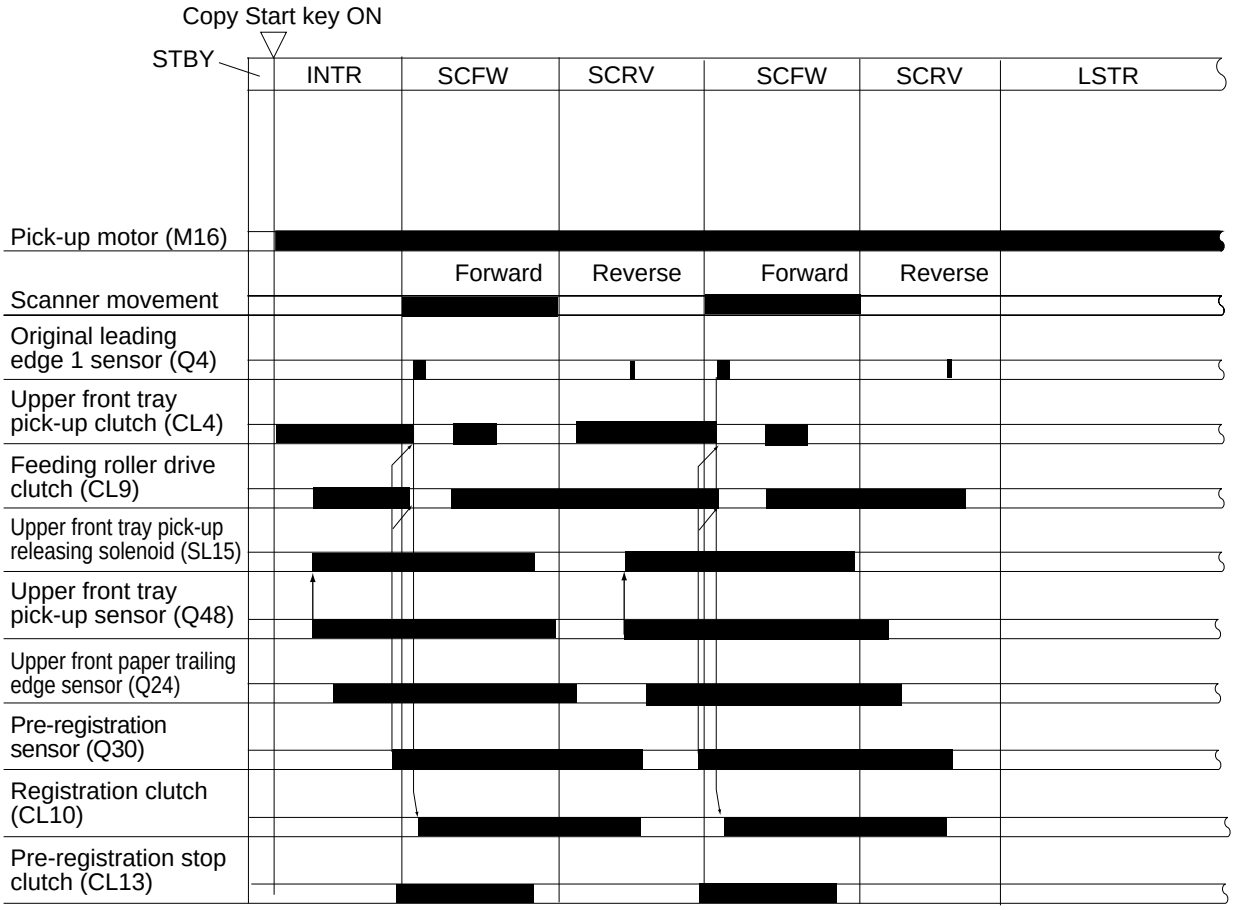

Figure 3-407

b. Sequence of Operations (pick-up from the lower front tray)

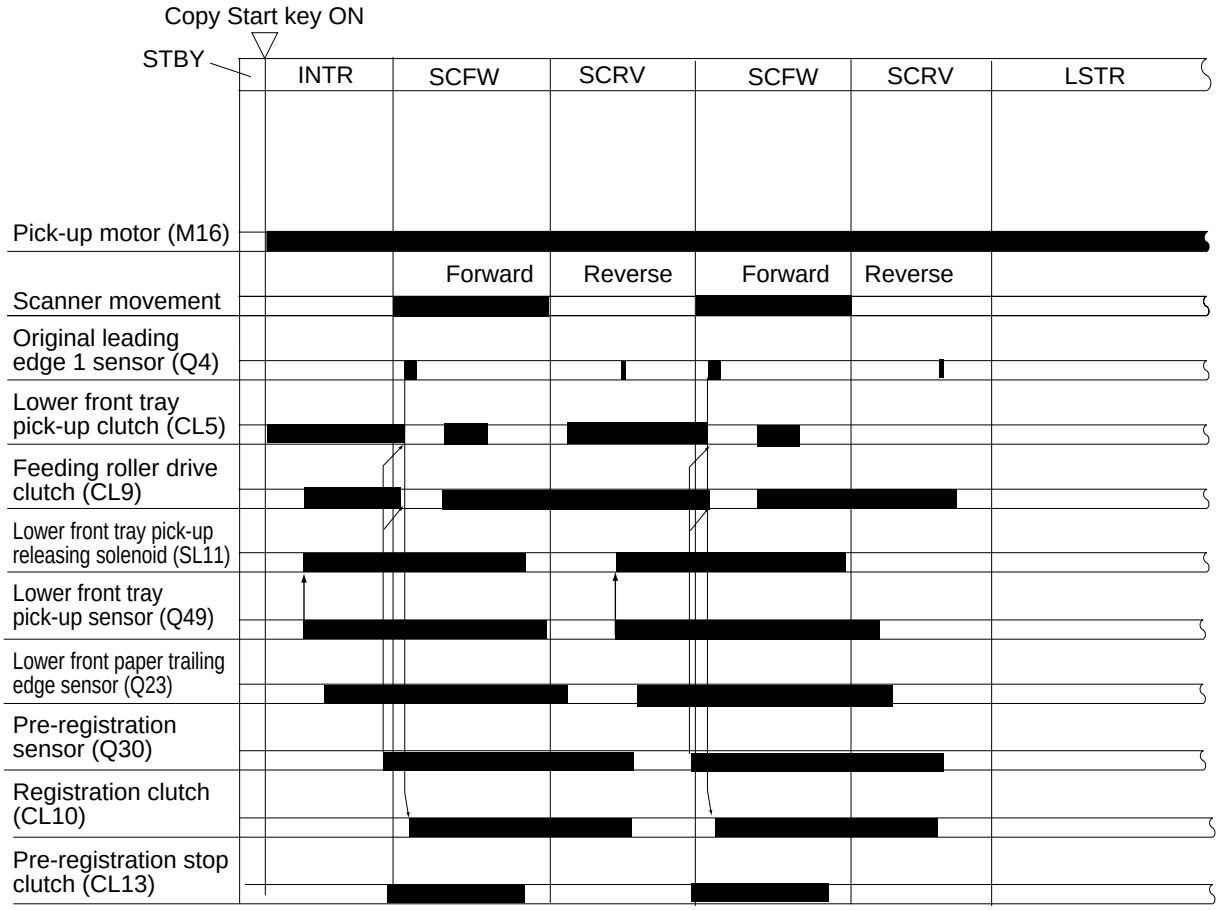

Figure 3-408

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

3. Upper/Lower Lifter Movement

a. Outline

The lifter for the upper or the lower tray starts to move up when the tray is pushed inside the copier and, as a result, the tray open/closed detecting switch (SW14, SW15) is pressed; it stops where the lifter position sensor (Q19, Q21) detects the top surface of the copy paper on the lifter.

When copy paper runs out and the sensor arm blocks the tray paper absent sensor (Q20, Q22), “Add Paper” will be indicated on the control panel, and the lifter will be stopped. The upper limit detecting switch (SW16, SW18) is used in the event that the tray paper absent sensor (Q20, Q22) fails to operate for some reason and, as a result, the lifter fails to stop moving up.

The lifter starts to move down when the tray open switch is pressed and keeps moving until the cam of the lifter presses the lower limit detecting switch (SW17, SW19).

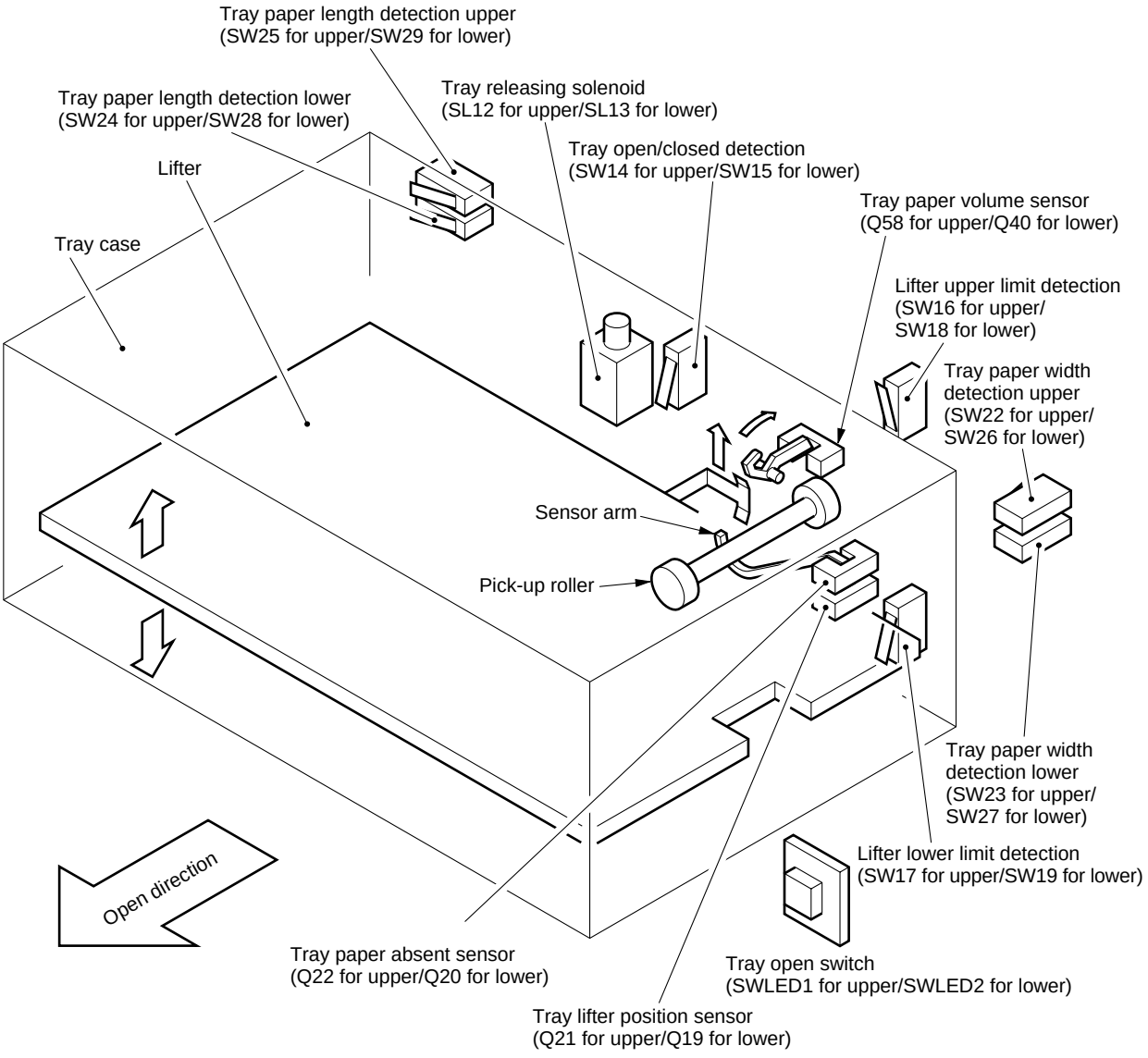

Figure 3-409 (arrangement of sensors)

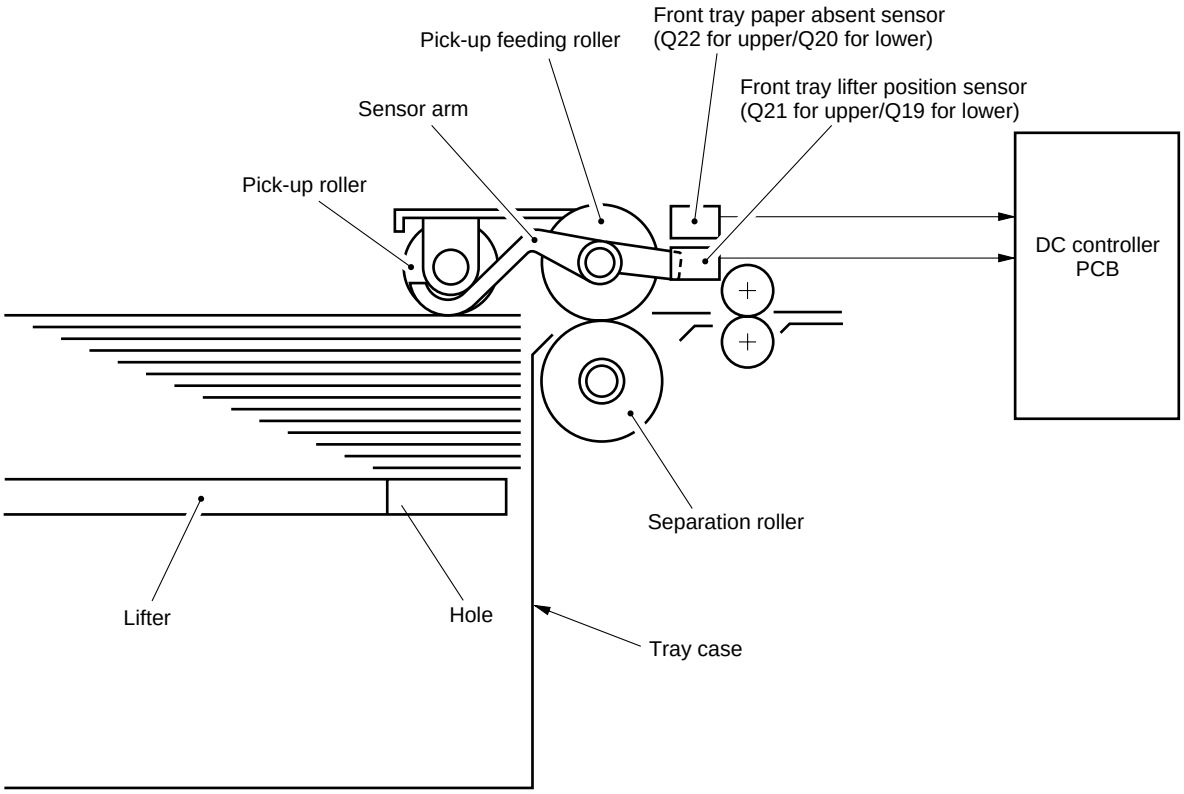

Figure 3-410 (cross section)

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The lifter for the upper and the lower front tray is suspended by a cable which is connected to a reel.

The reel rotates by the drive of the lifter motor (M3 for upper; M14 for lower), and the lifter moves up and down as the cable is taken up on the reel or released from the reel in relation to the direction of motor rotation.

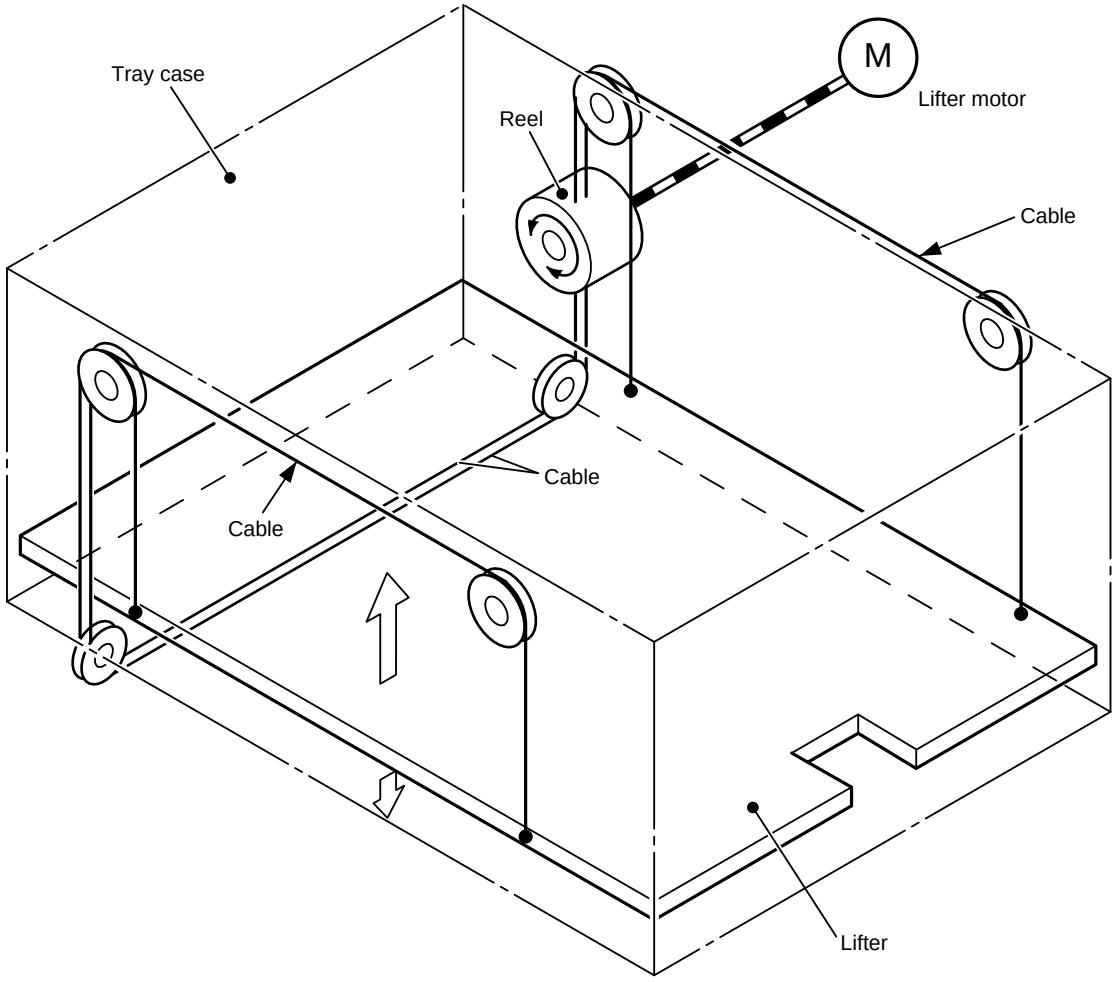

Figure 3-411

b. Upper/Lower Lifter Motor Control Circuit

The upper/lower tray lifter motor (M3/M14) control circuit is located on the DC controller PCB. (See Figure 3-412 for its block diagram.)

The signals from the various sensors and switches are read by the microprocessor (Q115); the microprocessor then generates outputs suited to such signals.

The combination circuit consists of various logic circuits and generates the up/down switching signal and the motor ON signal based on combinations of signals from the microprocessor.

These two signals are used to operate the motor drive circuit, thereby rotating the tray lifter motor (M3, M14) clockwise/counterclockwise or stopping it.

An overcurrent detecting circuit is used to check for an overcurrent occurring as a result of a short circuit in the motor; the circuit forces OFF the motor ON signal in such cases to turn OFF the motor.

If the circuit has tuned ON, remove the cause, and turn OFF and then ON the power switch to reset.

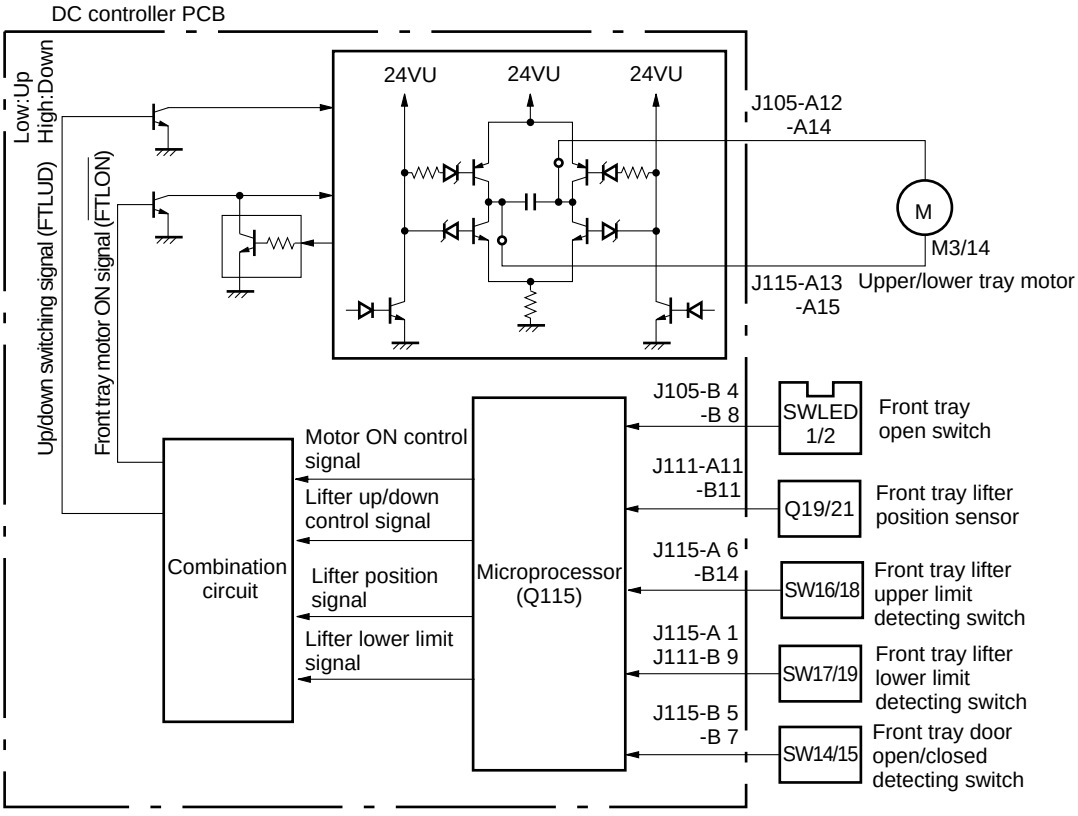

Figure 3-412

4. Opening/Closing the Upper/Lower Tray

When the tray open switch is pressed, the tray motor (M3 or M14) starts to rotate, lowering the lifter of the tray. Then, the tray motor stops when the lifter lower limit detecting switch (SW17 or SW19) detects the lifter; the tray releasing solenoid then turns ON to release the tray.

When the tray is released, it is pushed forward by several centimeters by the force of a spring.

When the tray is pushed in, the tray open/closed sensor (SW14, SW15) turns ON, causing the tray motor to rotate in the opposite direction to move up the lifter.

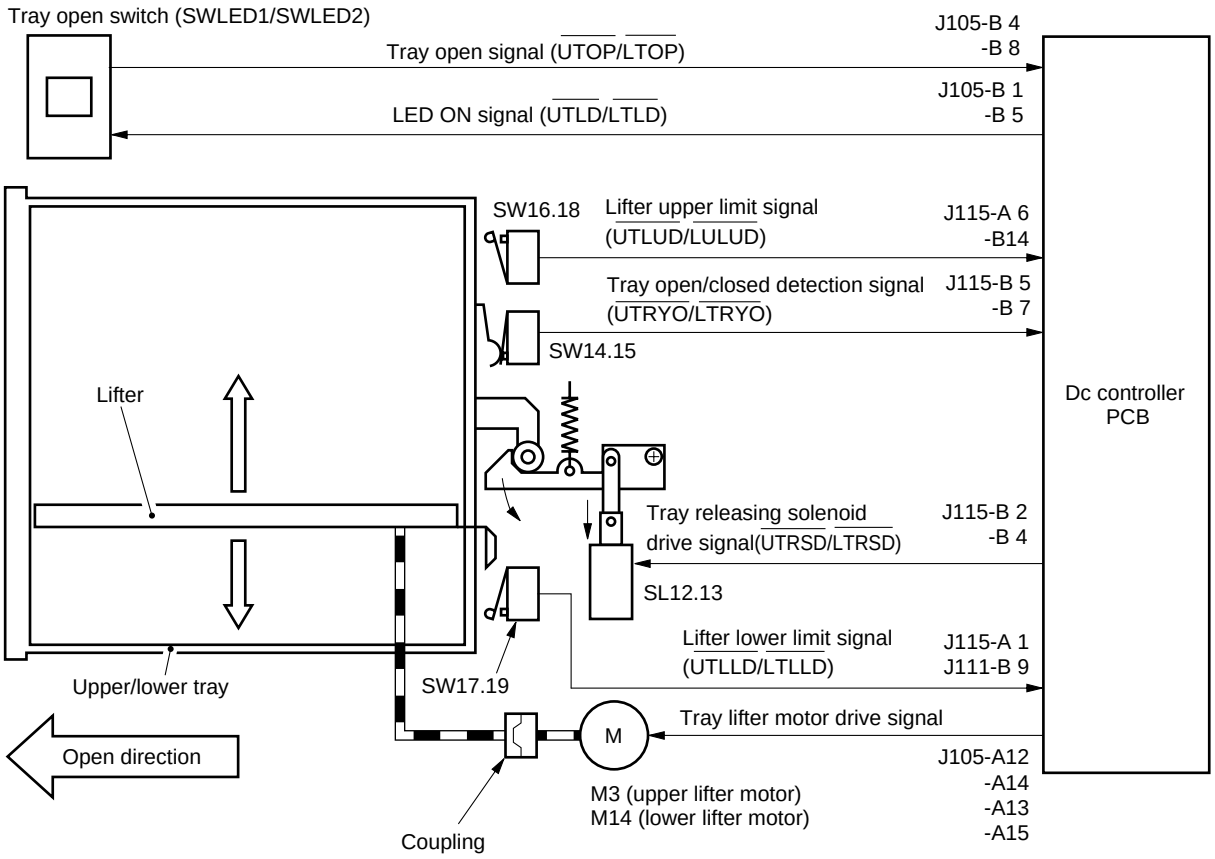

Figure 3-413

5. Sequence of Operations (opening and closing the upper/lower front tray)

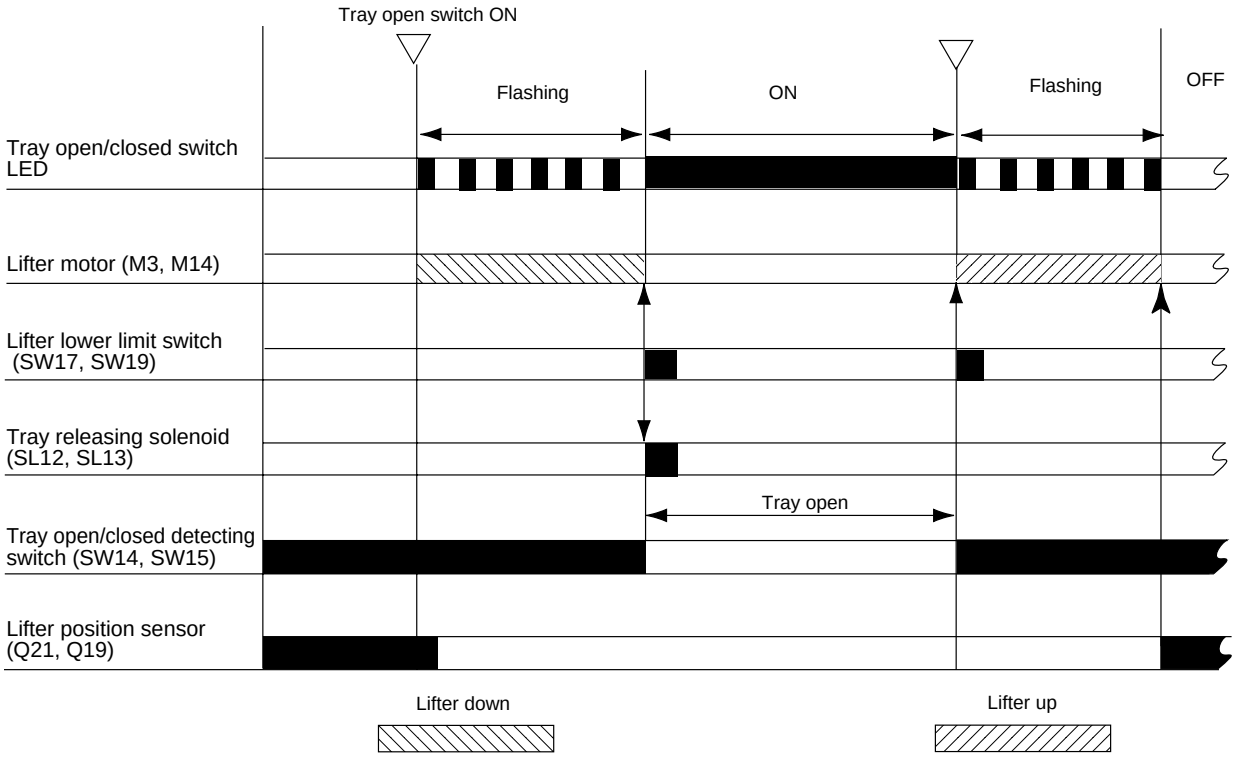

Figure 3-414

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6. Detecting the Size of Copy Paper

When the upper or the lower front tray is slid into the copier, respective size detecting switches are actuated.

The microprocessor determines the size of the copy paper based on the combinations of the actuated switches as shown in Table 3-404; at the same time, the microprocessor determines the position to which the lens should be moved, the position at which the scanner should be reversed, and the method of controlling the blank exposure lamp.

The bosses used to actuate the switches are positioned when the copy paper guide plate inside the tray is set to the size of paper.

	Size detecting switch			
Paper type / Upper tray	SW22	SW23	SW24	SW25
Paper type / Lower tray	SW26	SW27	SW28	SW29
LGL	OFF	OFF	OFF	OFF
11" x 17"	ON	OFF	OFF	OFF
B4	OFF	ON	OFF	OFF
A3	ON	ON	OFF	OFF
A4R	OFF	OFF	ON	OFF
LTR-R	OFF	OFF	OFF	ON
B5R	OFF	OFF	ON	ON
LTR	ON	OFF	ON	ON
B5	OFF	ON	ON	ON
A4	ON	ON	ON	ON

Table 3-404

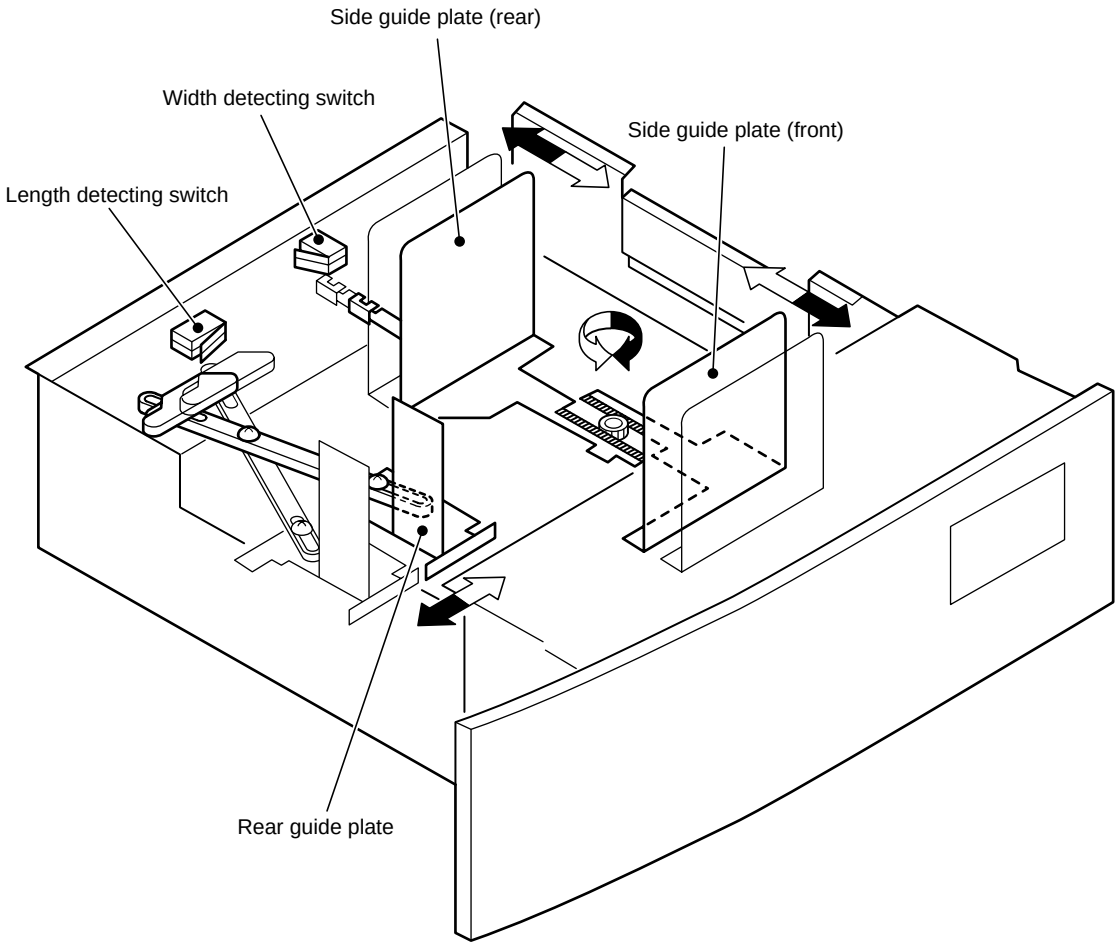

Figure 3-415

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D. Multifeeder

1. Pick-Up Operation

When copy paper is stacked on the multifeeder tray, the multifeeder paper sensor (Q29) turns ON, enabling selection of the multifeeder on the control panel.

When the Copy Start key is pressed after selecting the multifeeder, the multifeeder pick-up clutch (CL12) turns ON, causing the pick-up roller, pick-up/feeding roller, and separation roller to rotate. The roller locking solenoid (SL26) then turns ON to lower the rotating pick-up roller on the copy paper.

In this condition, copy paper is fed from the tray to the inside of the machine. When the multifeeder pick-up sensor (Q36) detects copy paper, the multifeeder pick-up roller locking solenoid (SL26) turns OFF, moving the pick-up roller away from the surface of the paper.

The feeding roller starts to rotate when the side tray pick-up timing clutch (CL8) is ON to forward copy paper to the registration roller.

The multifeeder paper trailing sensor (Q42) is used to detect the passage of copy paper over the feeding roller, initiating the second and subsequent sheets of copy paper.

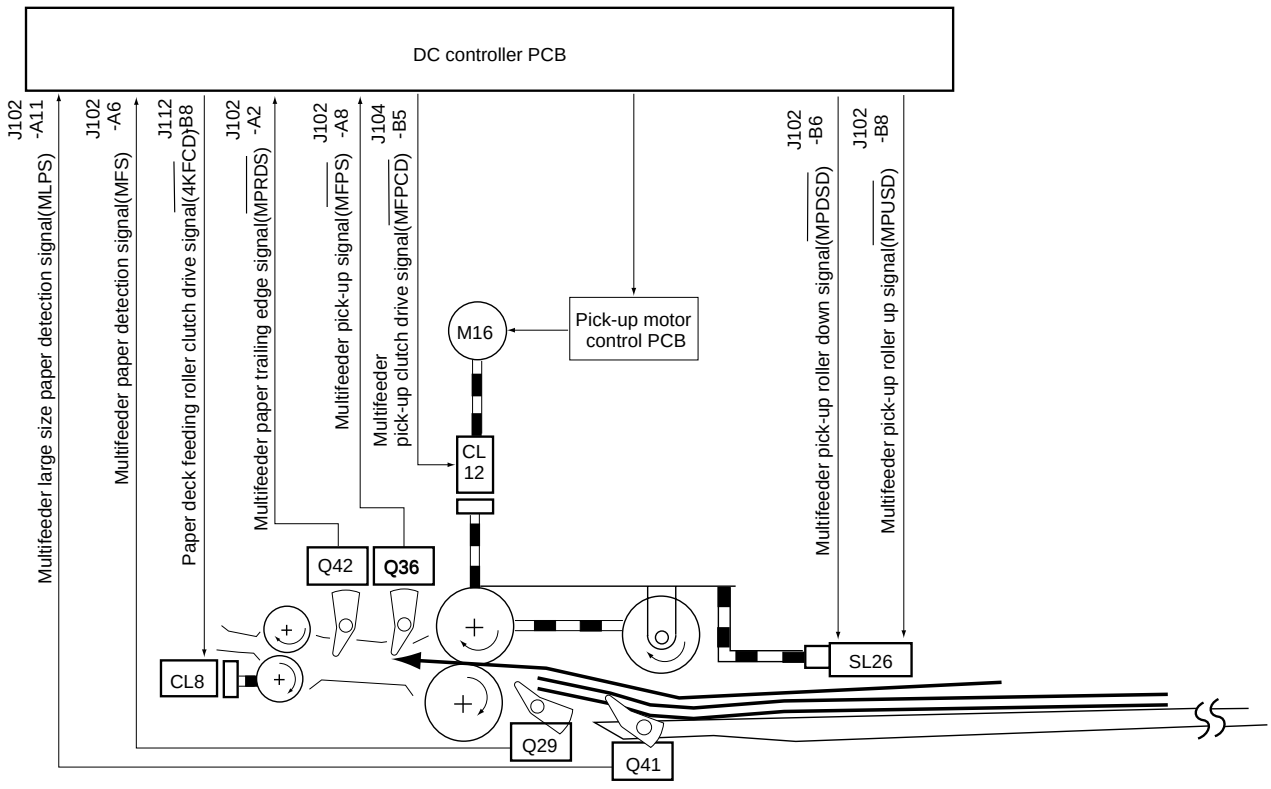

Figure 3-416

2. Detecting the Paper size in the Multifeeder

The slide guide of the multifeeder is equipped with a variable resistor to detect the width of paper.

The width of copy paper detected by the variable resistor is used for controlling the lens. The length of paper when the multifeeder is used, on the other hand, is identified the paper size whether large or small in relation to the signal in which the multifeeder large size detection sensor (Q41) remains ON.

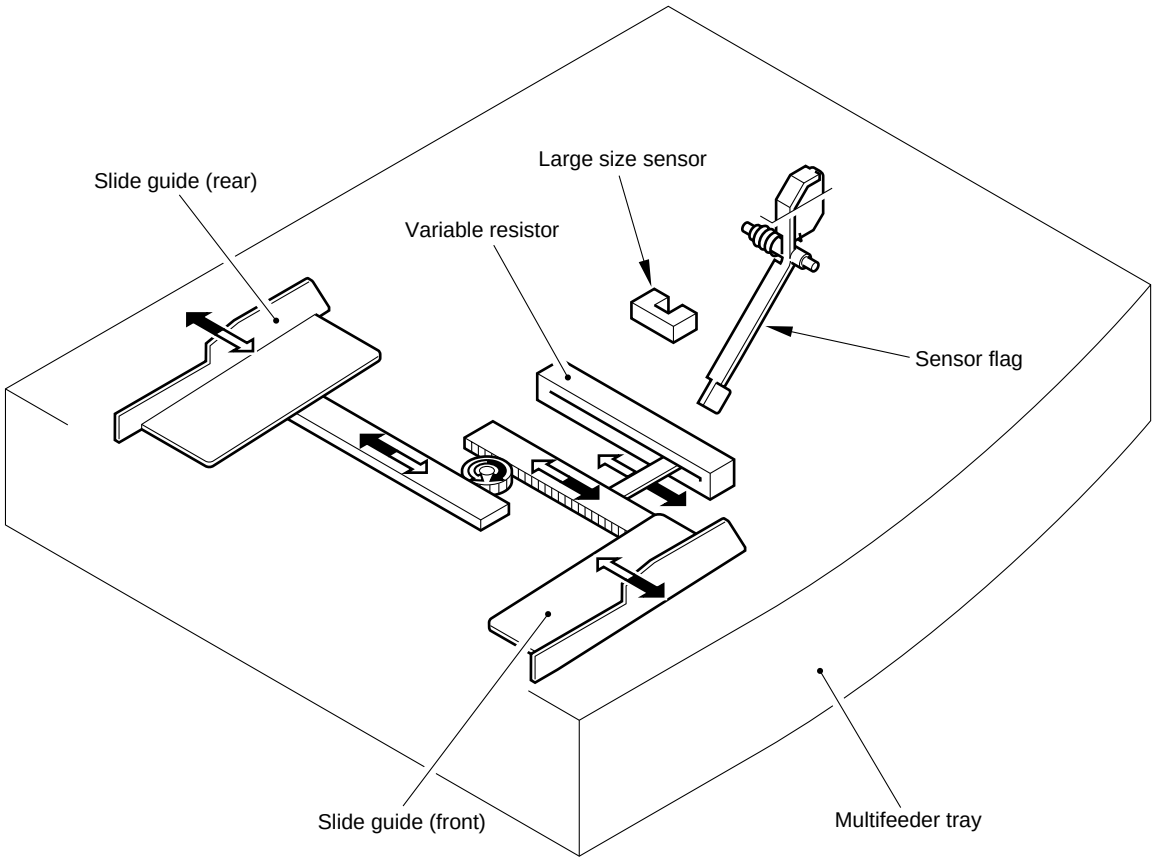

Figure 3-417

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E. Controlling the Registration Clutch

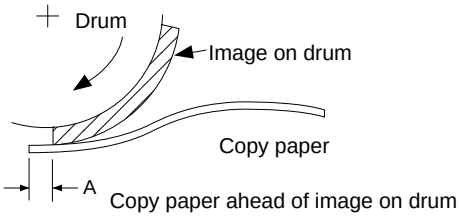
The registration clutch controls copy paper so that paper matches the image on the drum at a specific point.

Except in margin mode, copy paper is controlled by the registration clutch so that its leading edge matches the leading edge of the image on the drum.

In margin mode, control is as shown in Figure 3-418 so that a margin will be created on copies for binding.

Selected mode		Copy paper timing	Shift (mm)	Copy paper on the copy tray
One-sided original → one-sided		B	May be varied between 0 and 20 mm; the illustrations assume a shift of 5 mm.	D 5
One sided original ↓ two-sided copy	Copying to 1st side	A		D 5
	Copying to 2nd side	B		5 or 0
Two-sided original ↓ two-sided copy	Copying to 1st side	A		D 5
	Copying to 2nd side	B		5
Two-sided original ↓ one-sided copy	Copying to 1st side	B		D 5
	Copying to 2nd side	B		D 5 or 0
Page separation (one-sided copying)	Copying to 1st side (left)	B		D 5
	Copying to 2nd side (right)	B		D 5
Page separation ↓ two-sided copy	Copying to 1st side (left)	A		D 5
	Copying to 2nd side (right)	B		5
One sided original ↓ overlay copy	Copying to 1st side	B		D 5
	Copying to 2nd side	B		
Two-sided original ↓ overlay copy	Copying to 1st side	B		D 5
	Copying to 2nd side	B		
Page separation ↓ overlay copy	Copying to 1st side (left)	B		D 5
	Copying to 2nd side (right)	B		

Copy paper Image area when copying on 1st side Image area when copying on 2nd side D are: Erased by blank exposure lamp



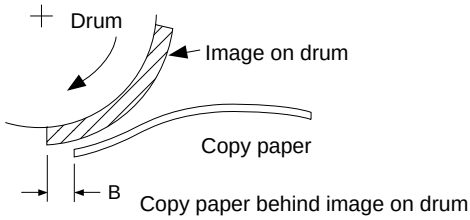


Figure 3-418

F. Making Overlay Copies (copying on 1st side)

The feeding path for copying on the first side of an overlay copy is formed shifting up the No. 1 paper deflecting plate by a solenoid (SL3) and pulling back the No. 2 paper deflecting plate by a solenoid (SL2).

The No. 1 paper deflecting plate is shifted up about 1.6 sec after copy paper reaches the pre-registration paper sensor (Q30).

The No. 1 paper deflecting plate serves to send copy paper to the No. 2 feeding assembly and then to the duplexing unit.

The sub feeding roller is moved down on the stack of copy paper each time copy paper is sent for copying on the first side, thereby making sure that the sheets are stacked properly.

The sub roller lowers about 1 sec after the No. 2 feeding assembly inlet sensor (Q12) detects copy paper.

In continuous copying, the pick-up assembly locking solenoid (SL8) is released (turned OFF) after the first sheet of copy paper has been fed by the sub feeding roller so that the first sheet of the stack is fed somewhat in advance; the pick-up assembly locking solenoid (SL8) is locked (turned ON) to operate the shutter guide for the second and subsequent sheets of copy paper.

The duplexing unit is capable of accommodating 50 sheets (50 sheets of A4, B5, LTR in horizontal feeding; 25 sheets of thick paper).

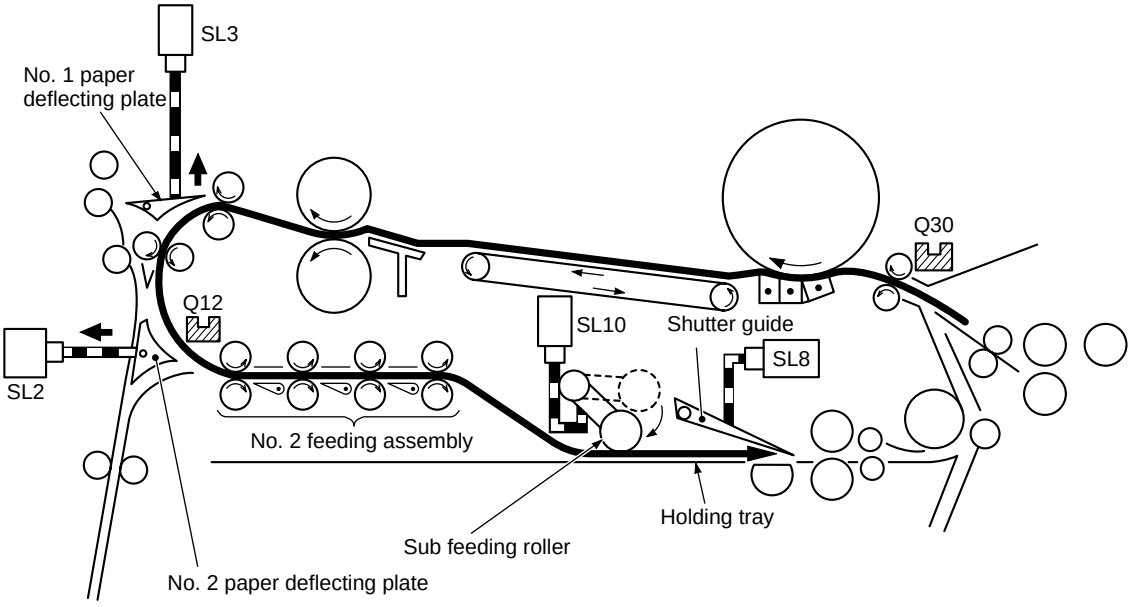
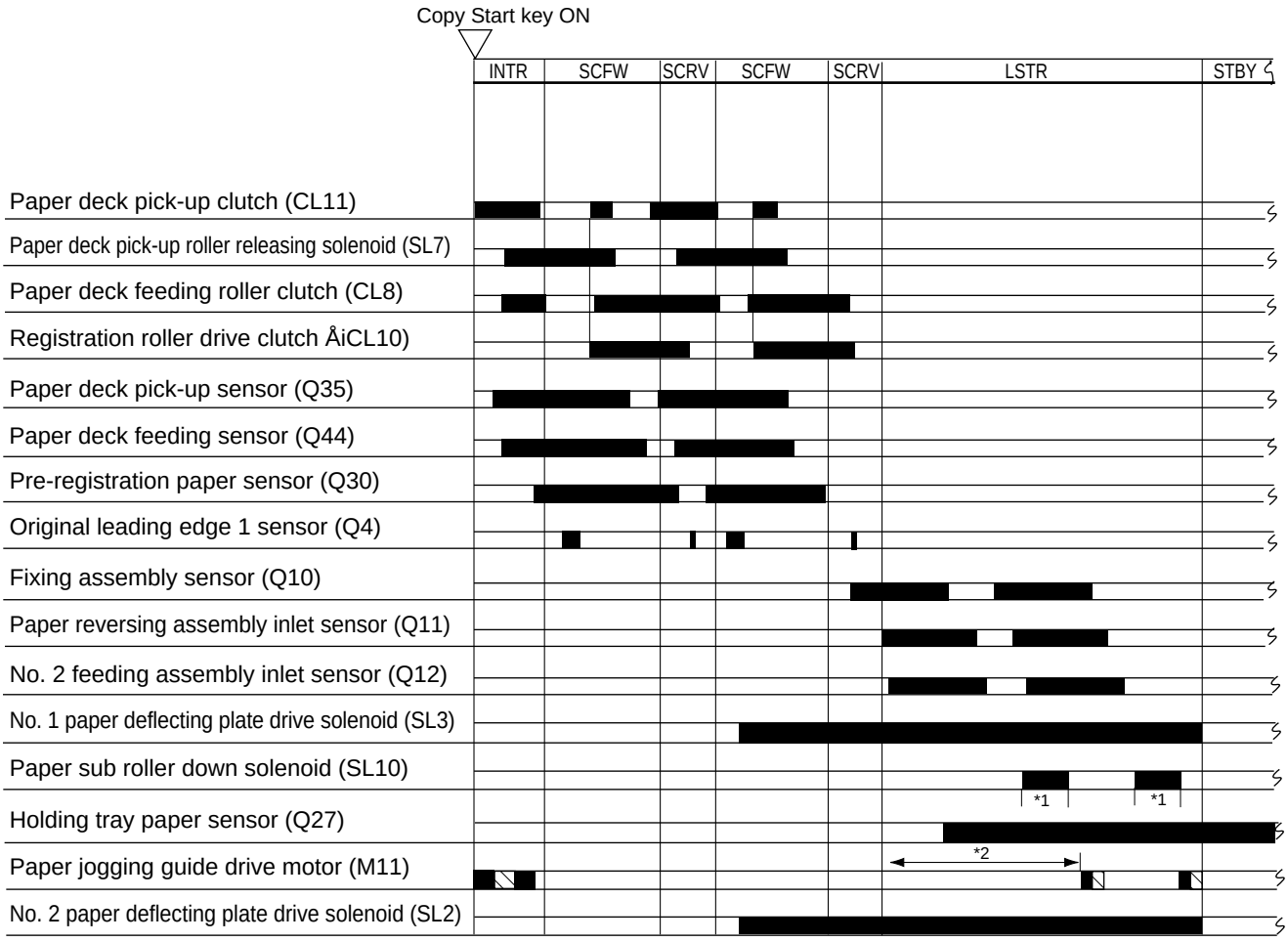


Figure 3-419

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

1. Sequence of Operations (1st side for overlay copying)

- A4, 2 Copies, Continuous



Paper jogging guide drive motor (M11)
: M11 CCW rotation (opening the guide plate)
: M11 CW rotation (closing the guide plate)
*1 : Varies depending on the thickness of the stack.
*2 : Varies depending on the size of copy paper.

Figure 3-420

G. Making Two-Sided Copies (copying on 1st side)

The feeding path for the first side of a two-sided copy is formed by the No. 1 paper deflecting plate.

The No. 1 paper deflecting plates are operated by SL3 after the pre-registration paper sensor (Q30) has detected copy paper.

When the trailing edge of copy paper has moved past the paper reversal sensor (Q13), the switch-back CW rotation clutch (CL2) turns OFF and the switch-back reversing clutch (CL3) turns ON. This condition switches back the copy paper and sends it to the No. 2 feeding assembly and then to the duplexing unit.

The sub feeding roller is moved down on the stack of copy paper each time copy paper is sent for copying on the first side, thereby making sure that the sheets are stacked properly.

The sub roller lowers about 1 sec after the No. 2 feeding assembly inlet sensor (Q12) detects copy paper.

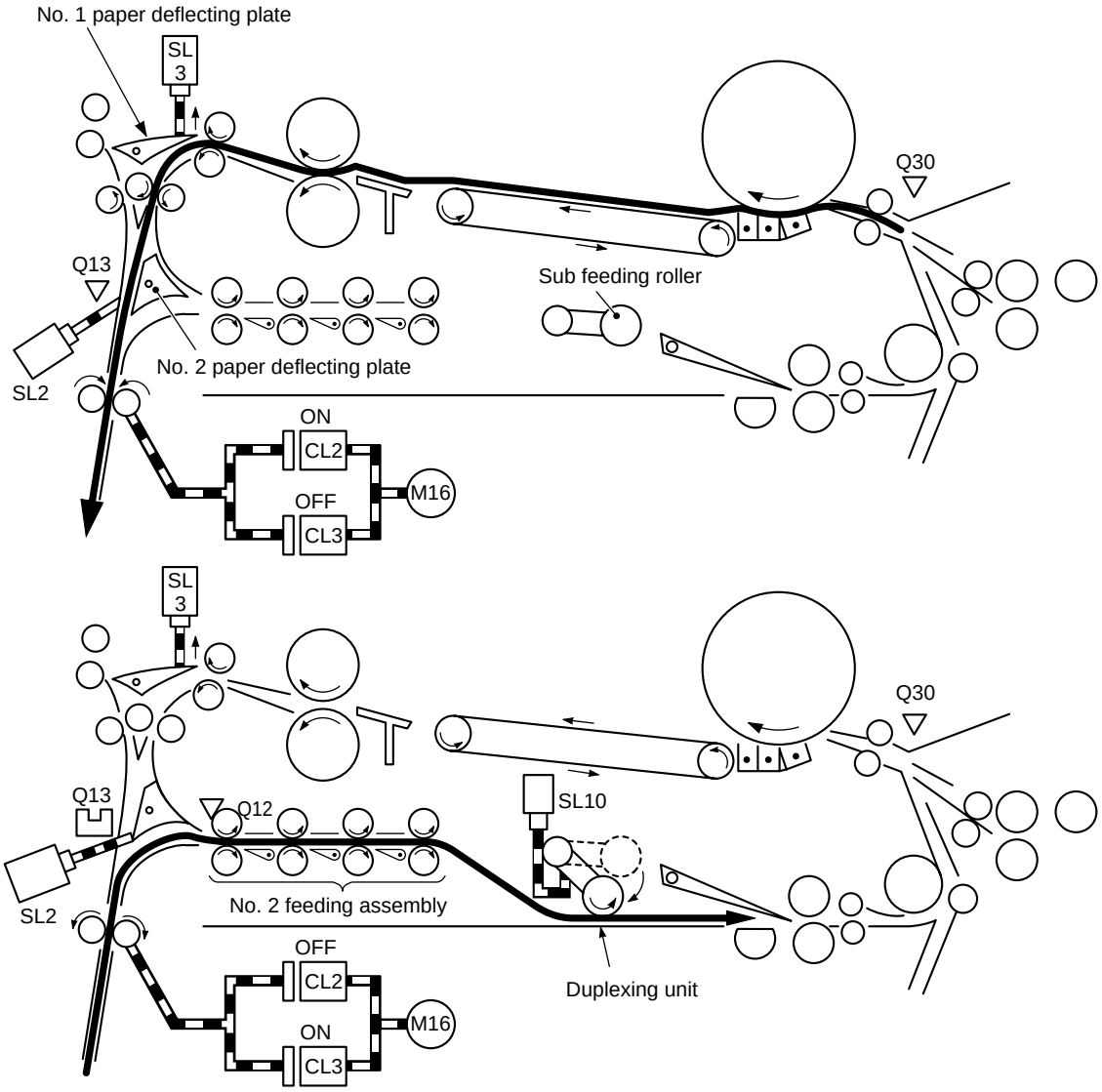


Figure 3-421

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

1. Sequence of Operations (1st side for two-sided copying)

- A4, 2 Copies, Continuous

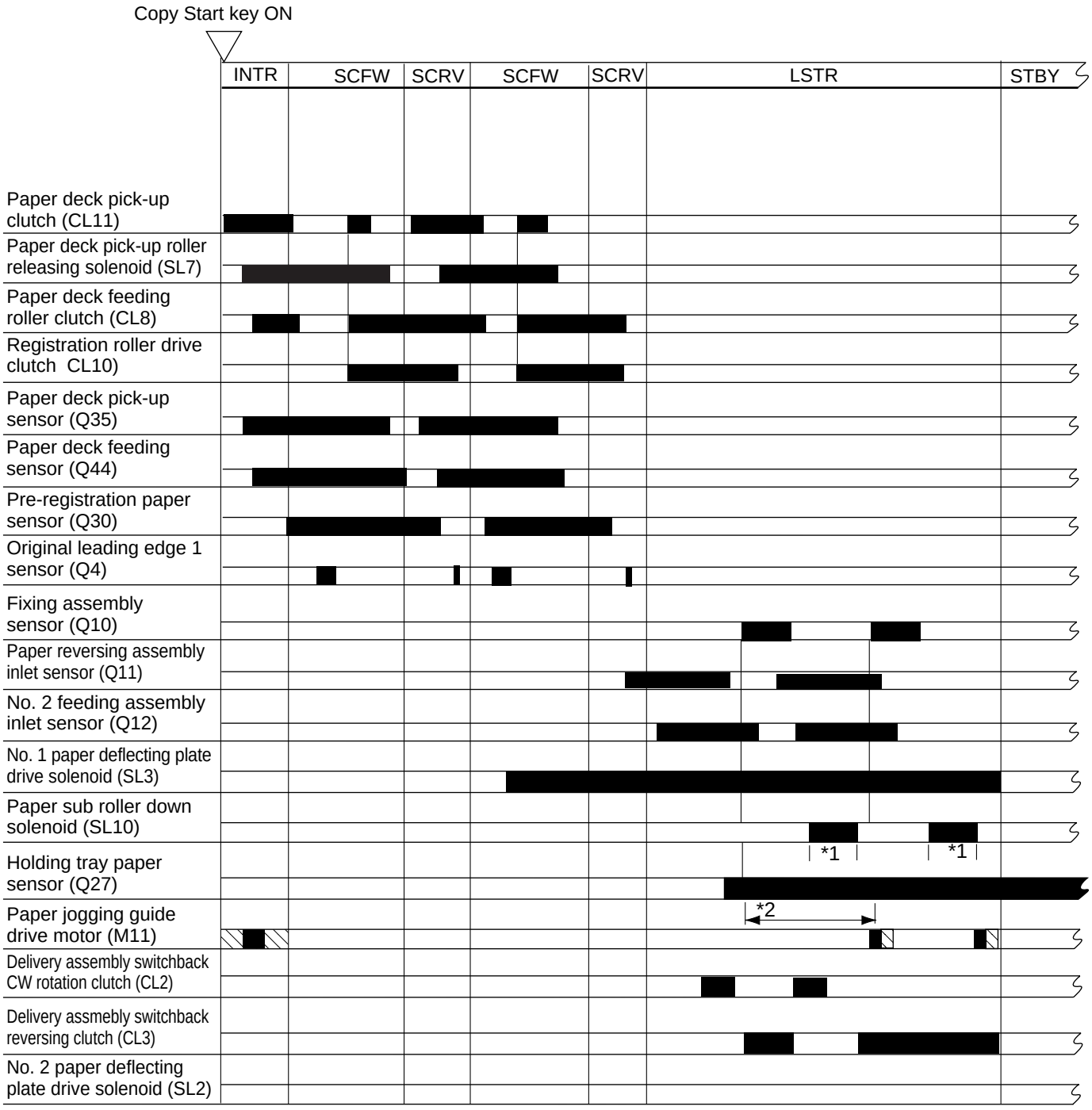


Figure 3-422

H. Making Two-Sided/Overlay Copies (copying on 2nd side)

For copying on the second side of a two-sided/ overlay copy, the paper is picked up from the duplexing unit.

When the Copy Start key is pressed, the re-pick up motor (M25) turns ON as soon as the re-pick up clutch (CL6) turns ON. At this time, the pressure on the copy paper shutter guide is removed by the pick-up assembly releasing solenoid (SL8) to feed a single sheet of copy paper.

The feeding roller then moves the copy paper as far as the registration roller.

When the original leading edge detection signal is generated, the registration roller starts to rotate for copying on the second side.

Since the No. 1 paper deflecting plate remains in the bottom position, copy paper after fixing is allowed to move to the copy tray.

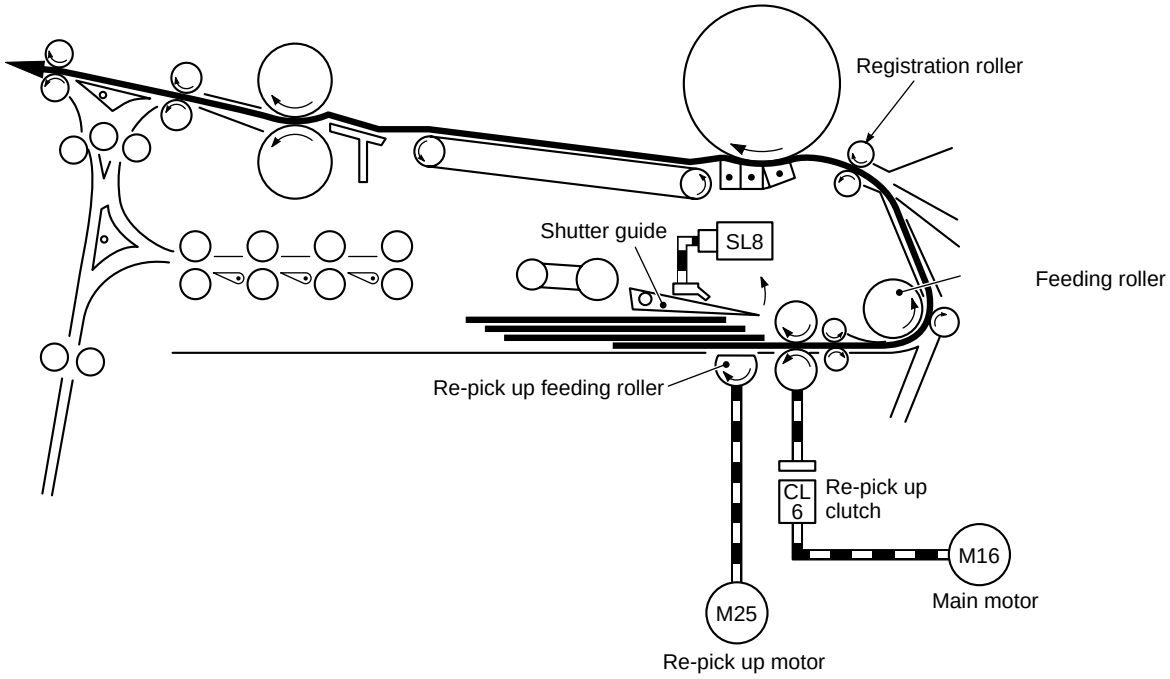


Figure 3-423

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1. Re-Pick Up Motor Drive Circuit

Figure 3-424 is a block diagram of the re-pick up motor (M25), and the circuit has the following functions:

1 Controls the speed of the motor.
2 Turns ON and OFF the motor.
3 Keeps the motor on hold.

The re-pick up motor is a 4-phase stepping motor.

The microprocessor (Q501) on the DC controller PCB generates the re-pick up motor drive signal (RPKUD) and two types of mode select signals.

The mode select signal is a combination of 2-bit signals ('0' and '1') and is used to represent three speeds; i.e., high, medium, and low to suit the selected reproduction ratio.

The motor driver circuit rotates the re-pick up roller by controlling the output timing of the pulse signals A, $\overline{A}$, B, and $\overline{B}$.

When the re-pick up roller is at rest, the home position sensor (Q87) monitors the re-pick up roller to find out whether it is at a specific position each time it makes a single rotation; the output timing of the pulse signals A, $\overline{A}$, B, and $\overline{B}$ is kept to a specific timing and the power supply is switched to +5 V to keep the re-pick up motor.

Re-pick up motor drive signal	Mode select signal		Operation
	MODE1	MODE1	
0	0	0	Stop
1	1	1	High speed
0	0	1	Medium speed
1	0	0	Low speed

Table 3-405

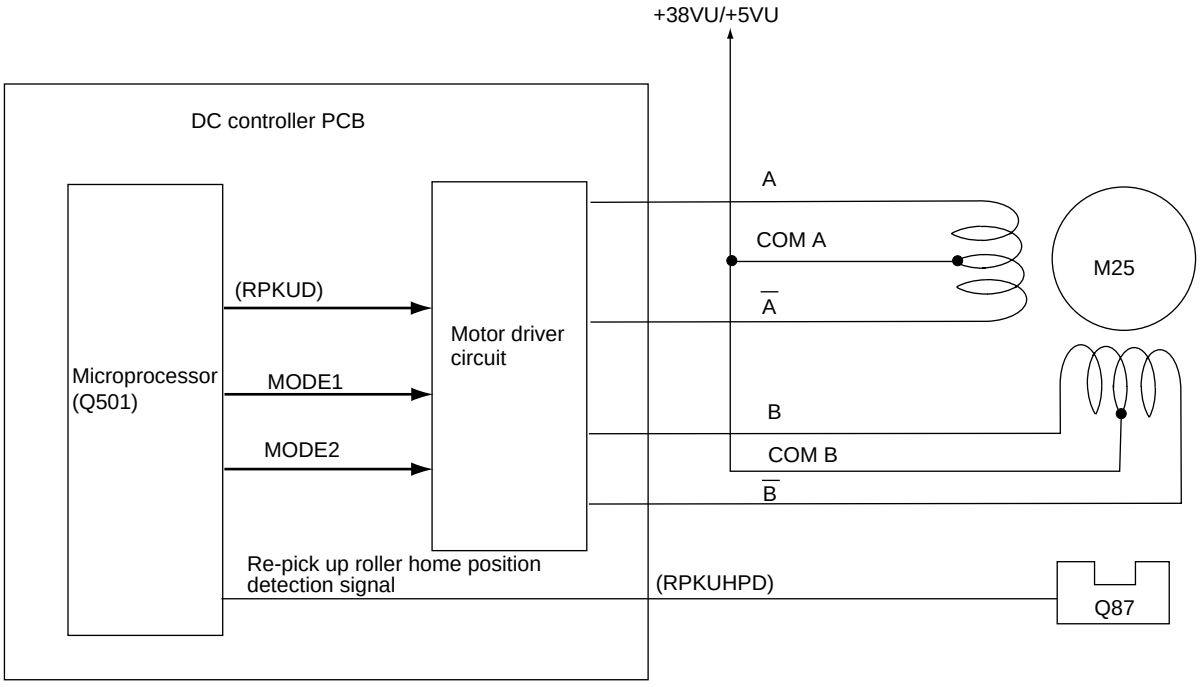

Figure 3-424

2. Sequence of Operations (copying on 2nd side for two-sided/overlay copying)

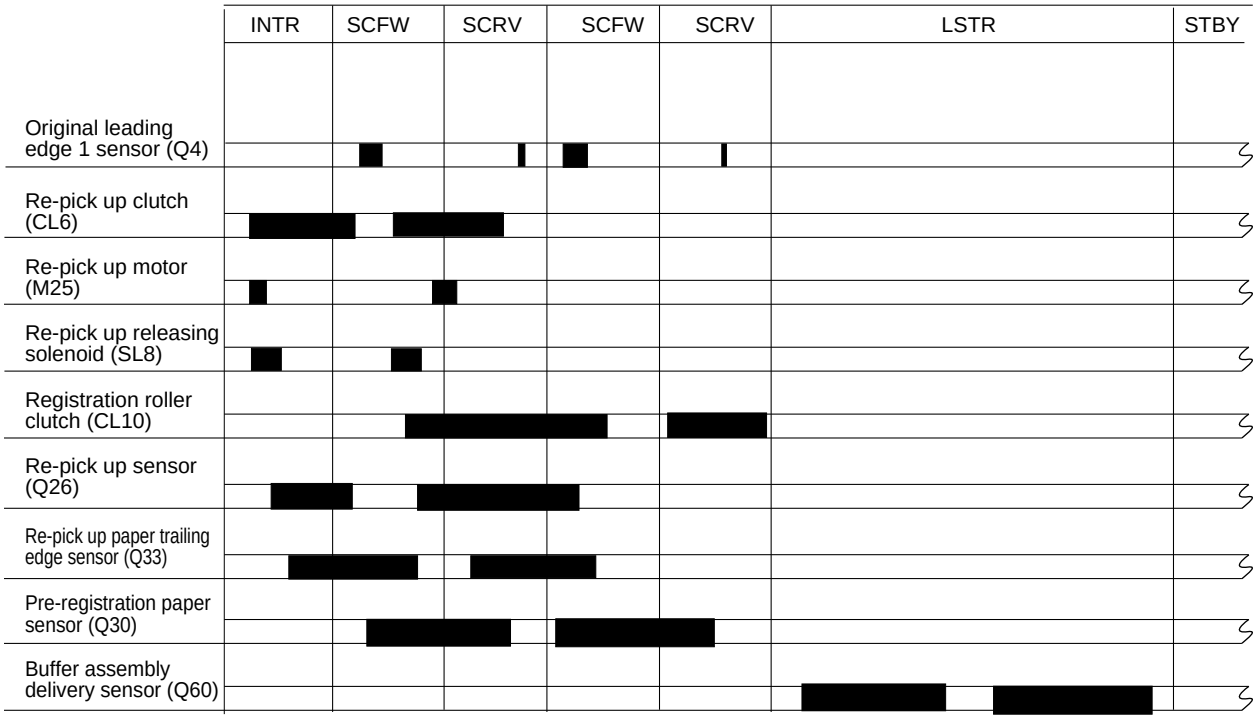

Figure 3-425

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

I. Switching Paper Sizes (overlay/two-sided copying)

1. Paper Jogging Guide Plate Operation

When the Copy Start key is pressed in two-sided/overlay mode, the paper jogging guide drive motor (M11) starts to rotate in reverse, moving the paper jogging guide plate in the direction of ➡.

The motor (M11) stops when the light-blocking plate of the paper jogging guide plate blocks the home position sensor (Q8).

Then, the DC controller PCB sends pulses according to the size of copy paper to the motor (M11).

In response, the motor (M11) rotates clockwise to move the paper jogging guide plate to the position of the copy paper. The motor (M11) then rotates counterclockwise to stop the paper jogging guide at a position about 3 mm away from the size of the copy paper (each side) and to keep it waiting for copy paper.

When copy paper arrives at the holding tray assembly, the motor (M11) rotates clockwise (moving the guide plate to and from 3 mm) and counterclockwise (moving the guide plate back and forth 3 mm) to keep the paper in order.

When the last copy paper arrives, the motor (M11) rotates clockwise, counterclockwise, and clockwise to wait for copying on the second side.

During copying on the second side, the motor (M11) does not operate but remains in wait until copying on the first side starts.

(In wait, the width of the guide plate is 1.8 mm added paper size)

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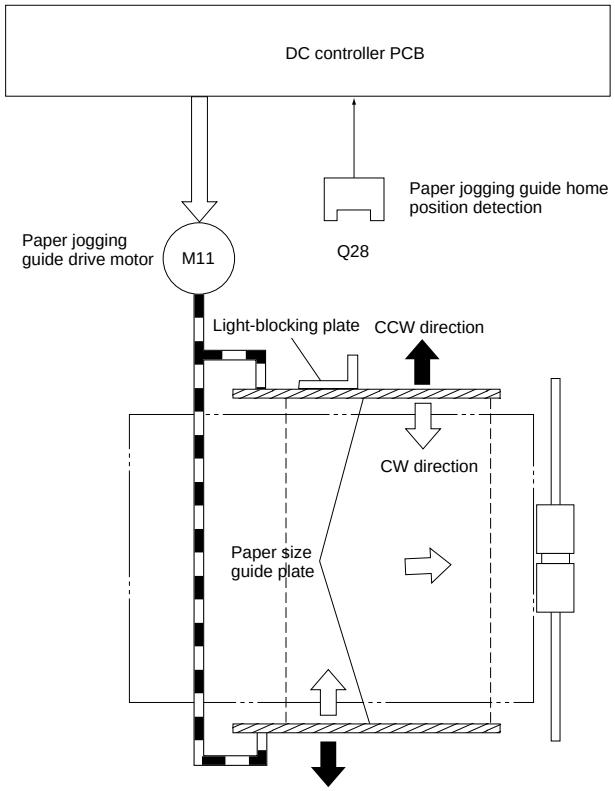

Figure 3-426 Tray Top View

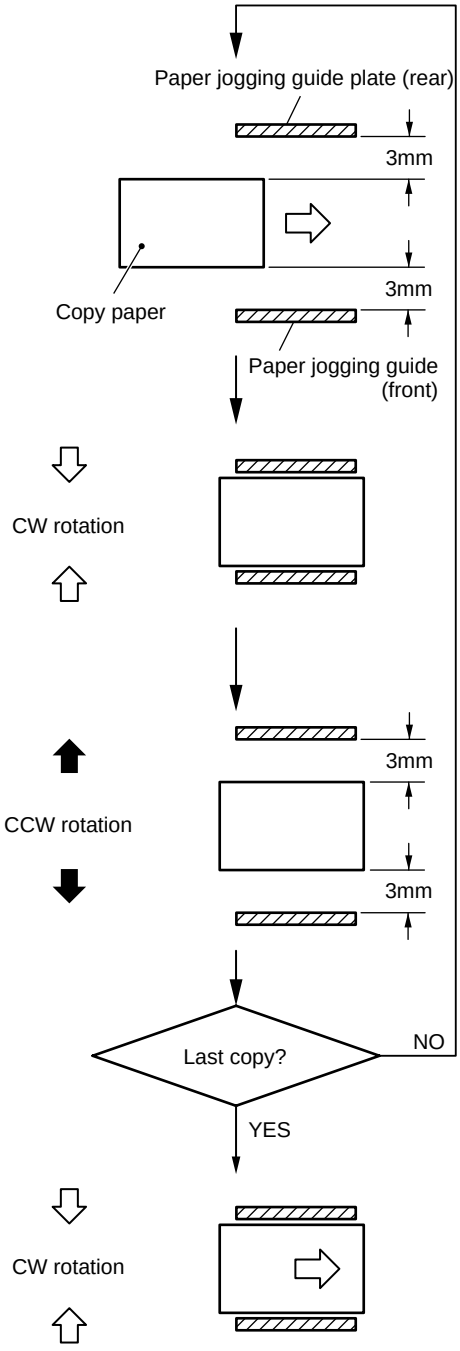

Figure 3-427 Arranging Sheets of Copy Paper

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2. Changing the No. 2 Feeding Assembly Path

When copying on the first side in two-sided or overlay mode, the paper path in the No. 2 feeding assembly is changed to suit the size of copy paper.

As many as four paths may be made by three paper deflecting plates.

The paper deflecting plates are driven by their respective solenoids.

	①	②	③	④
Length of copy paper	182mm | 229mm	230mm | 299mm	300mm | 269mm	370mm | 432mm
SL4	OFF	ON	OFF	OFF
SL5	OFF	OFF	ON	OFF
SL6	OFF	OFF	OFF	ON

Table 3-405

Each paper deflecting plate shifts up as soon as copy paper reaches the paper reversing assembly inlet sensor (Q11) to form an appropriate path.

① Equivalent of A4, B5, LTR
② Equivalent of A4R, LTRR
③ Equivalent of B4, LGL
④ Equivalent of A3, 279x432

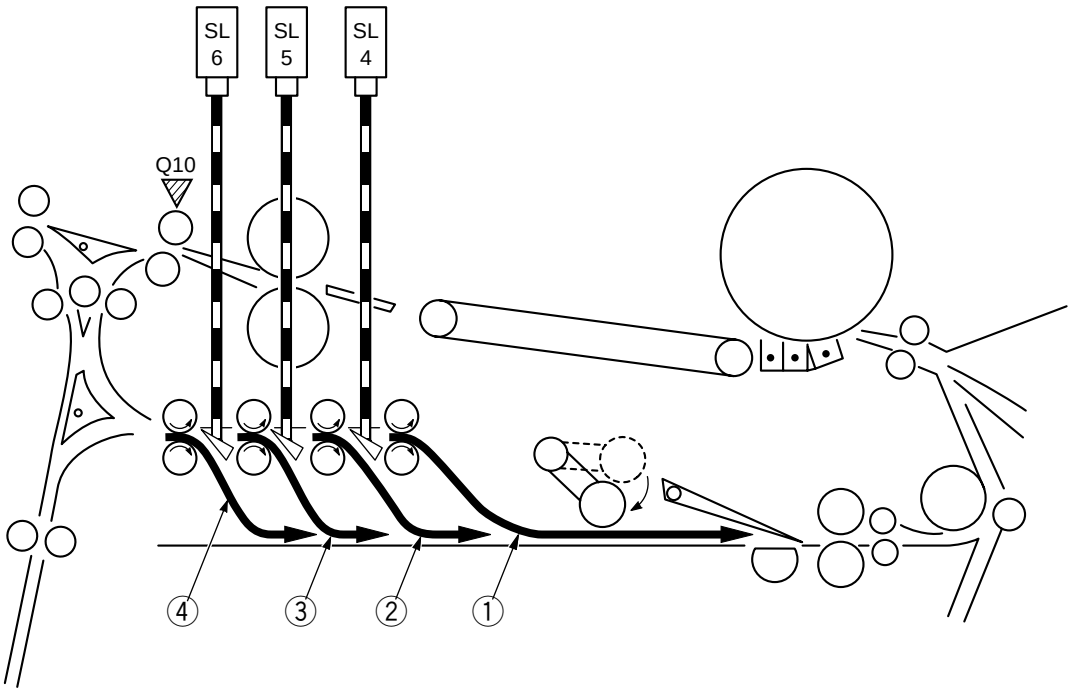

Figure 3-428

J. Skipping Operation

1. Outline

What is termed *skipping* is a copying sequence in which every other original is copied (or skipped) when making one set of two-sided copies of one-sided originals so that the space in the No. 2 feeding assembly (areas free of copy paper) is made full use of.

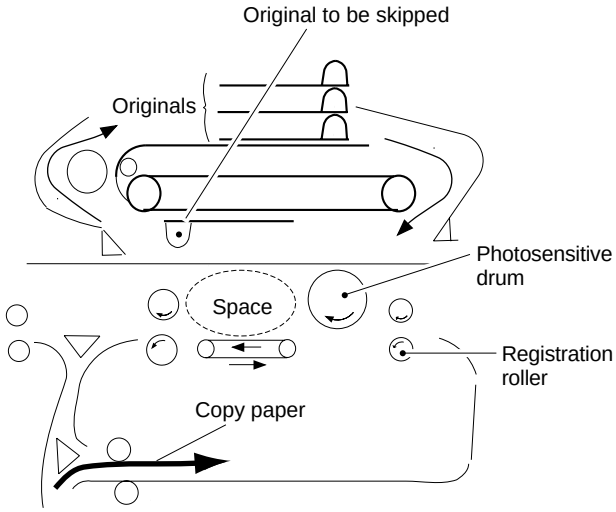

Figure 3-429

Skipping is executed under the following conditions:

- When making two-sided copies of one-sided originals using the RDF-D1.
- When making one set of copies.
- When the copy paper and the original are A4, B5, or LTR and are fed horizontally.
- When cover mode is selected.

2. Operation

Skipping consists of the following series of operations:

1 Every other original placed in the RDF-D1 is copied; the copy paper after copying is stacked in the duplexing unit.
The RDF-D1 detects the number of originals when the last original has been fed to find out whether there is an even or an odd number of originals. This is to determine how copies should be delivered.

2 Those originals which have been skipped are copied. (Pick-up will be from the duplexing unit.)

Reference:

Skipping may be disabled in user mode.

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3. Sequence of Skipping Operations (odd number of originals)

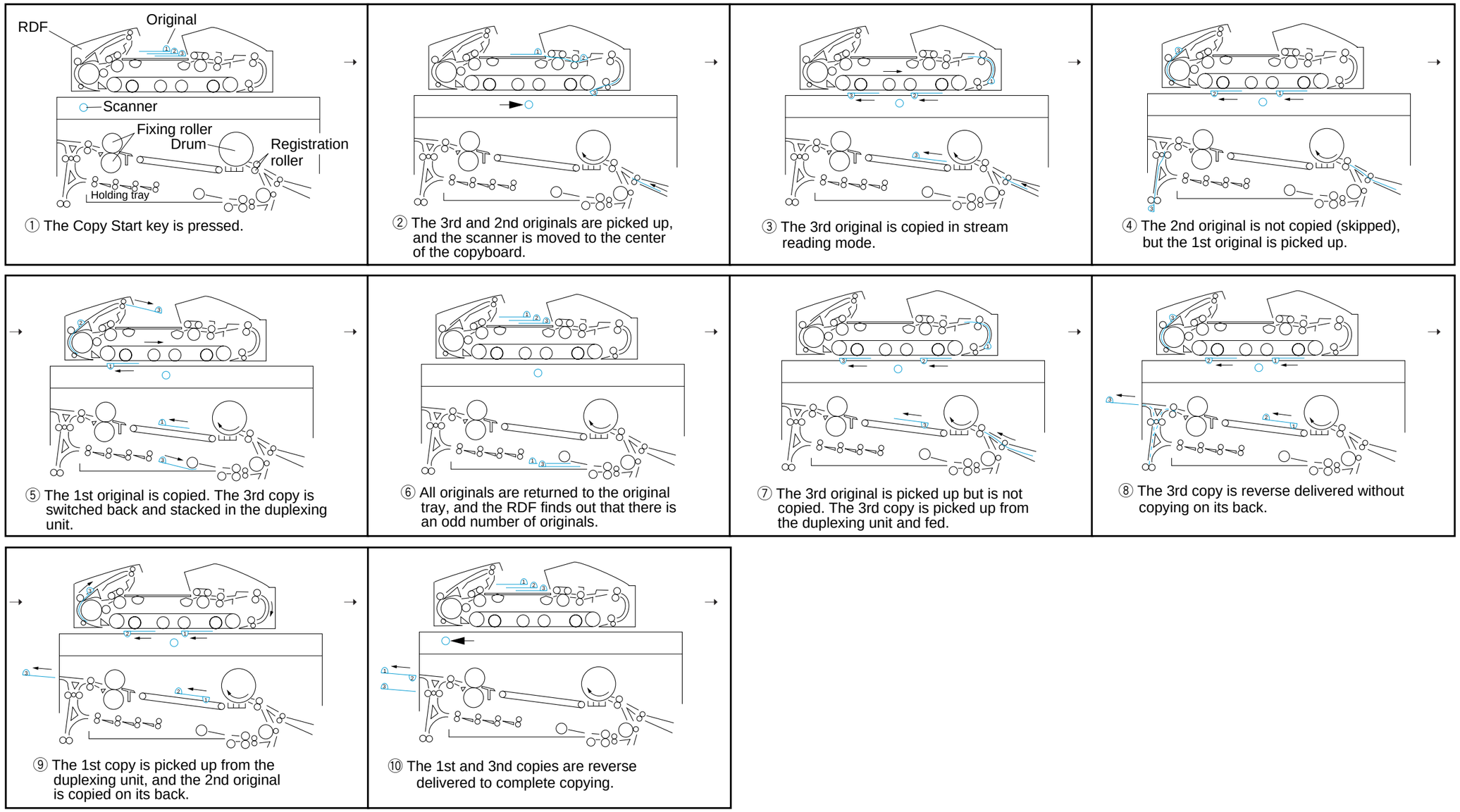


Figure 3-430

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

4. Sequence of Skipping Operations (even number of originals)

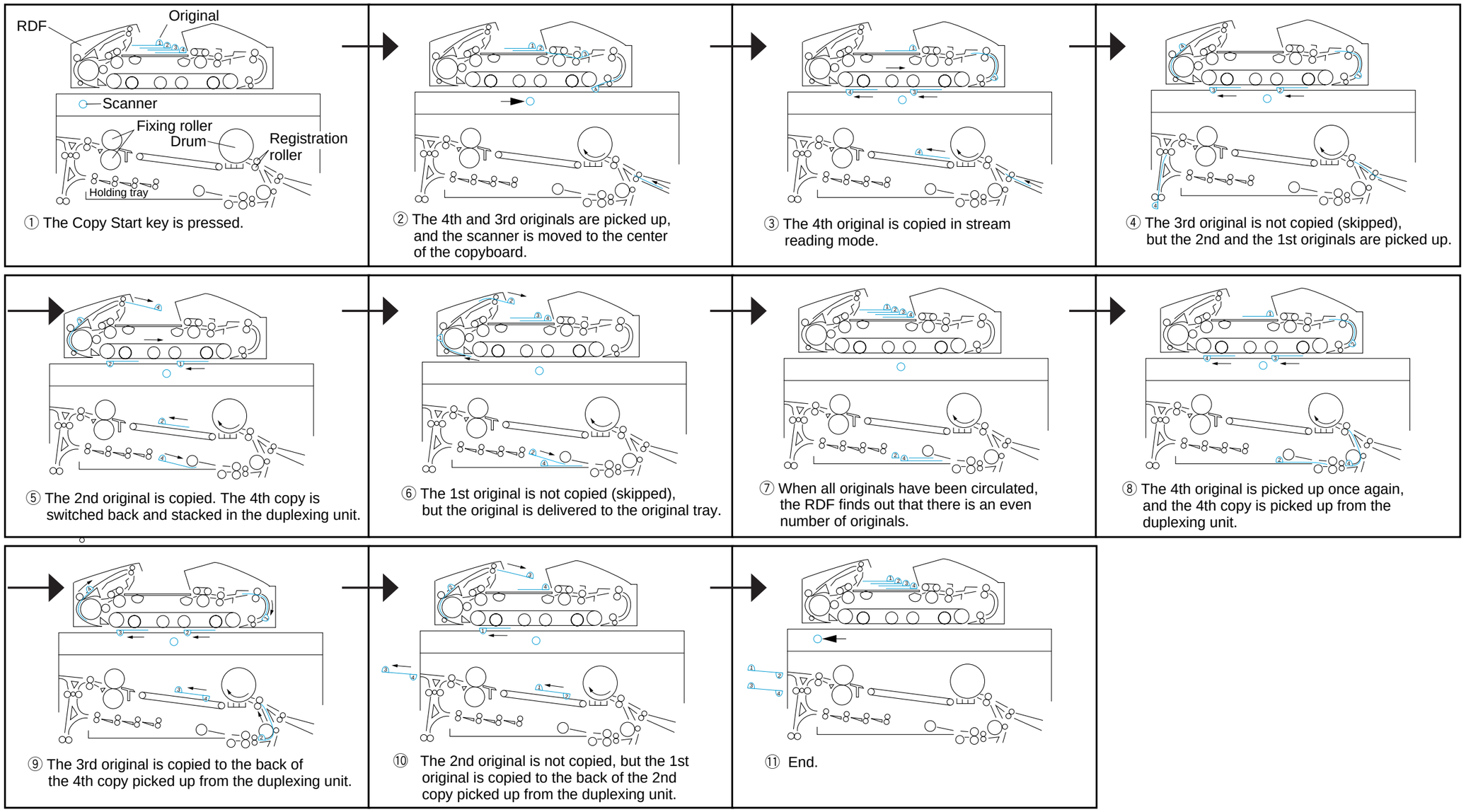


Figure 3-431

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

K. Fixing/Delivery Assembly

1. Outline

The upper and lower rollers of the fixing assembly and the delivery roller of the delivery assembly are driven by the fixing motor (M17) through a clutch. (See Figure 3-433.)

If a jam occurs in the fixing/delivery assembly, the fixing drive stop solenoid (SL17) is turned ON to stop the fixing roller immediately.

The upper roller is equipped with two built-in heaters. (See Figure 3-432.)

The fixing temperature of the upper roller is detected by a thermistor (TH1), and the DC controller PCB exerts control so that it is maintained at a specific level.

The surface temperature of the roller is controlled in either of the following two modes depending on the length of time from power-on and the ambient temperature:

1 For 45 min from power-on,
Control temperature during standby: 195°C
Control temperature during copying: 200°C
Control temperature during energy saver mode: 190°C

2 For 45 min from power-on or when the ambient temperature is 28°C or more regardless of the length of time from power-on,
Control temperature during standby: 190°C
Control temperature during copying: 195°C
Control temperature during energy saver mode*: 185°C
*May be varied in additional function mode.

Note:
Keep in mind that, due to avoid not to be separated the transparencies, when using the non recommended transparencies, '1' is set for 'OHP_TEMP' in service mode (✳ 5 ✳), and the temperature is set 20°C lower than indicated above.

The cleaning belt used to clean the upper fixing roller is taken up by moving up and down the cleaning belt take-up arm operated by the cleaning belt drive solenoid (SL1). The cleaning belt drive solenoid is turned ON once when the delivery sensor (Q15) detects the leading edge of copy paper.

The edge of the cleaning belt is provided with two notches to allow detection of the length of the belt by two photointerrupters (Q8, Q9) and a detecting lever.

Reference:
1.Heater
100V model
Main heater. . . . 930 W
Sub heater . . . . 550 W
208/220/240V model
Main heater. . . . 1600 W
2.Thermal switch. . . 240 ± 10°C

a. Fixing Assembly

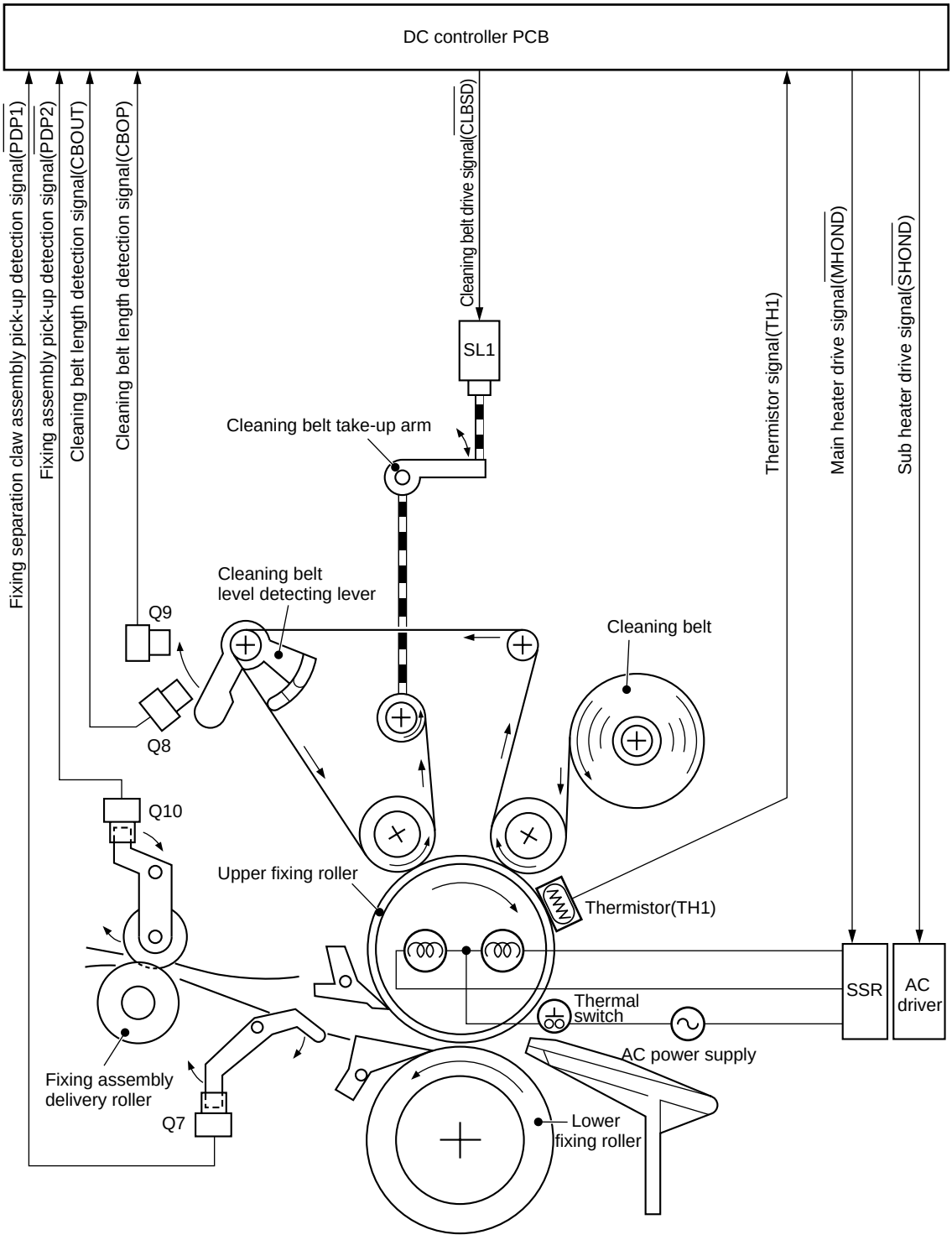


Figure 3-432

b. Outline of the Fixing/Delivery Assembly Drive System

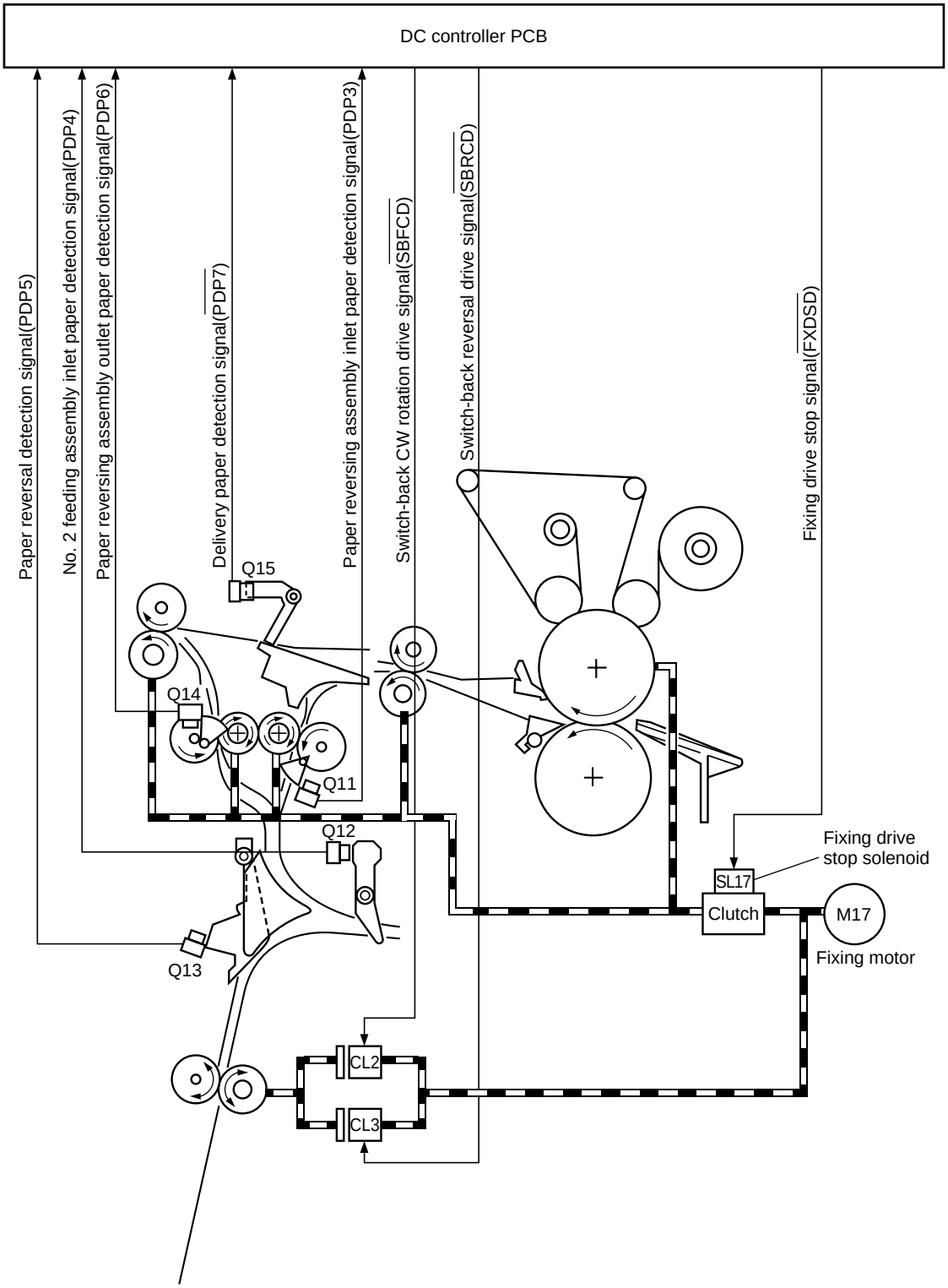


Figure 3-433

2. Cleaning Belt

The NP6085's cleaning belt is kept in contact with the upper fixing roller in such a way so that both its face and back are used as shown in Figure 3-434.

The face of the cleaning belt is intended to apply silicone oil to the upper fixing roller and the back, to clean the roller.

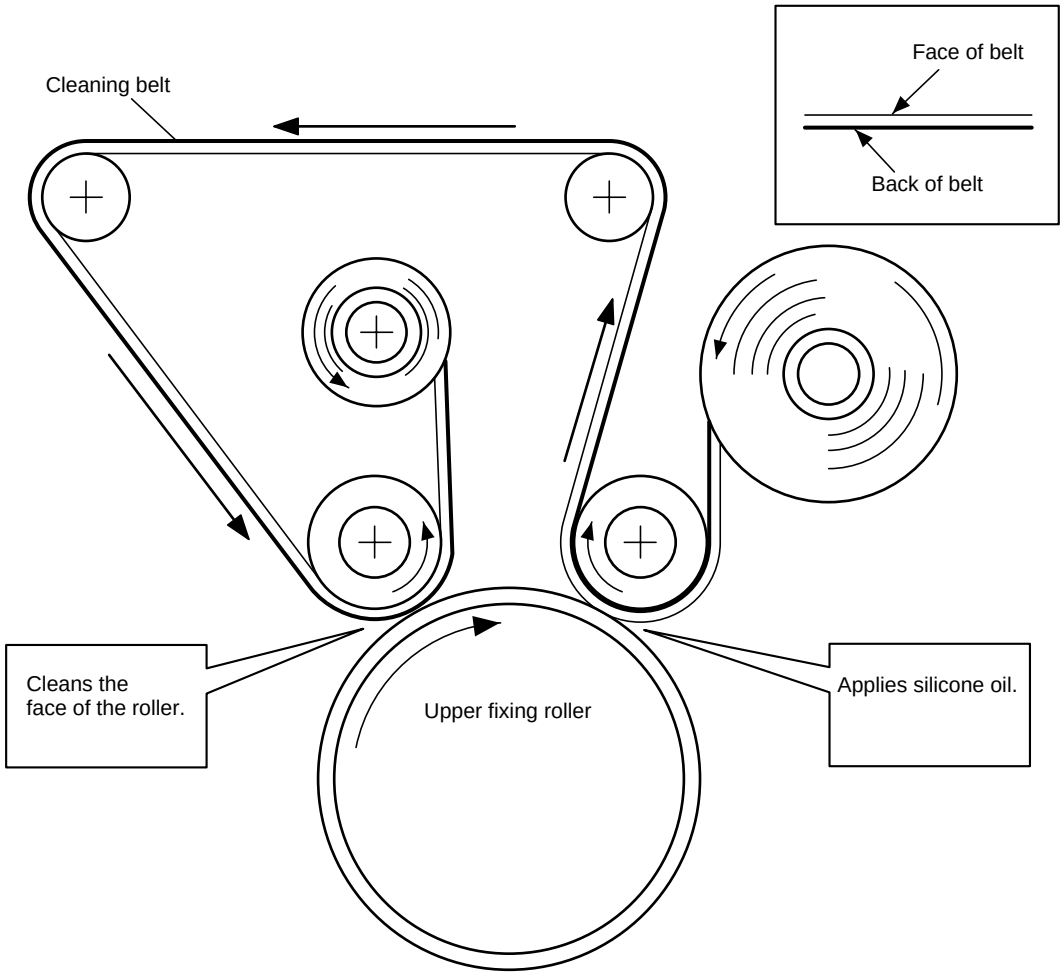


Figure 3-434

3. Detecting the Remaining Length of the Cleaning Belt

The remaining length of the cleaning belt is identified mechanically by the cleaning belt detecting lever (Figure 3-435) in reference to two notches in the belt.

When the cleaning belt detecting lever comes to the notches, a warning is indicated on the control panel.

Figure 3-435 shows the spatial relationship between the cleaning belt detecting lever and sensors when the lever detects the short notch and the long notch.

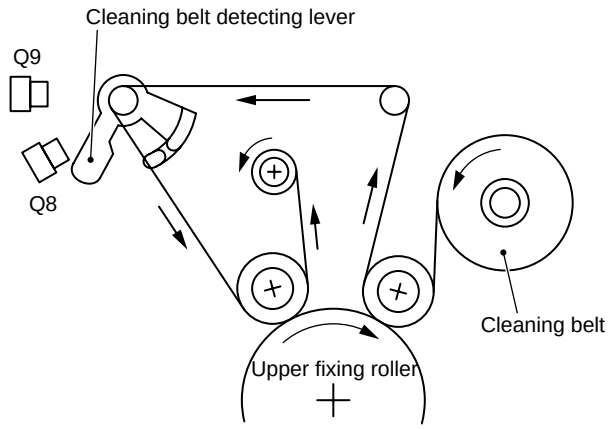
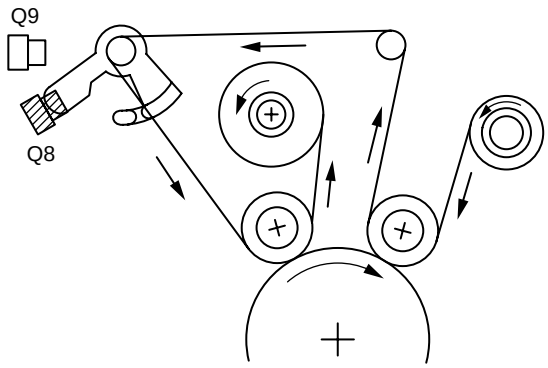
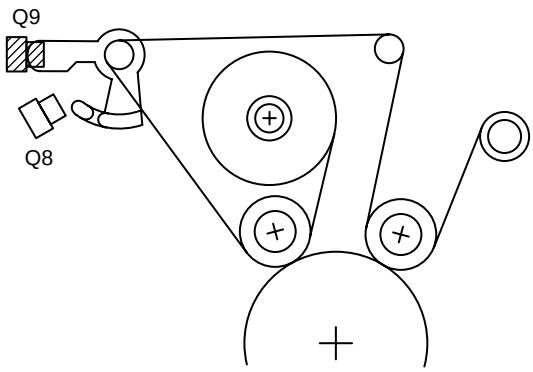
	Photointerrupter		Display on control panel	
	Q8	Q9		
Before detection	OFF	OFF	——	
After detecting short notch	ON	OFF	Indicates a warning when SW921 on the jam indicator PCB is pressed (in service mode); immediately after detection, the length is about 5600 mm, equivalent of about 100,000 copies.	
After detecting long notch	OFF	ON	E005	

Figure 3-435

4. Reciprocating Mechanism for the Thermistor

The thermistor is moved back and forth over a distance of 12 mm in the axial direction of the upper fixing roller to prevent damage to the roller by the thermistor (reciprocating mechanism).

The drive for the mechanism is obtained from the cleaning belt solenoid (SL1) through a one-way arm.

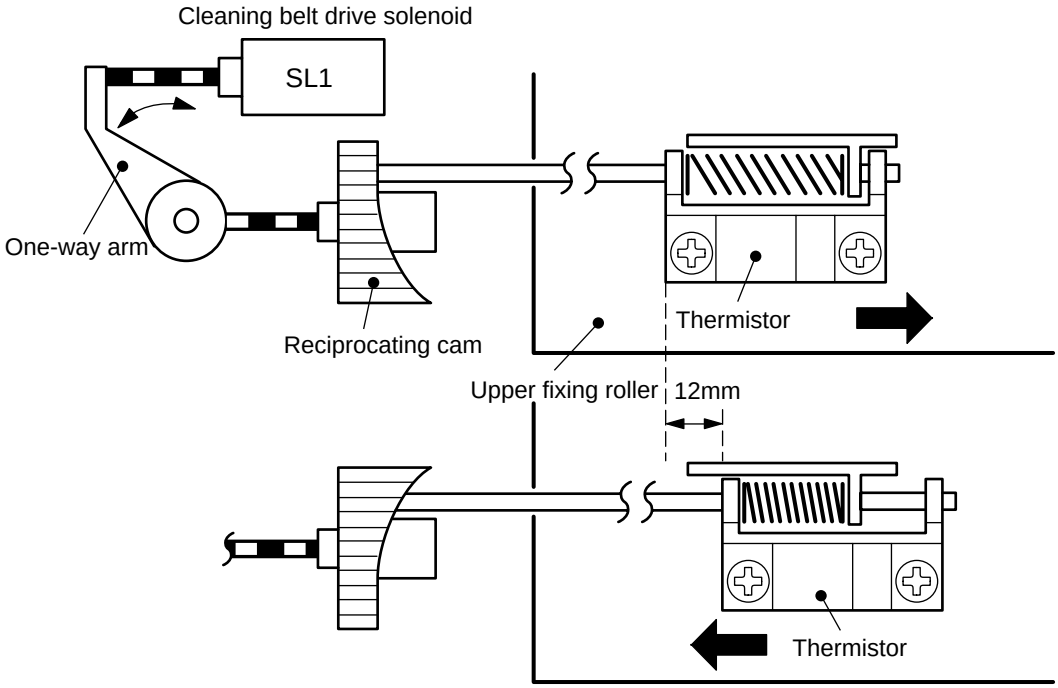


Figure 3-436

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5. Reciprocating Mechanism for the Upper Separation Claw

The upper separation claw is moved over a distance of 3 mm in the axial direction to prevent damage to the roller by the claw.

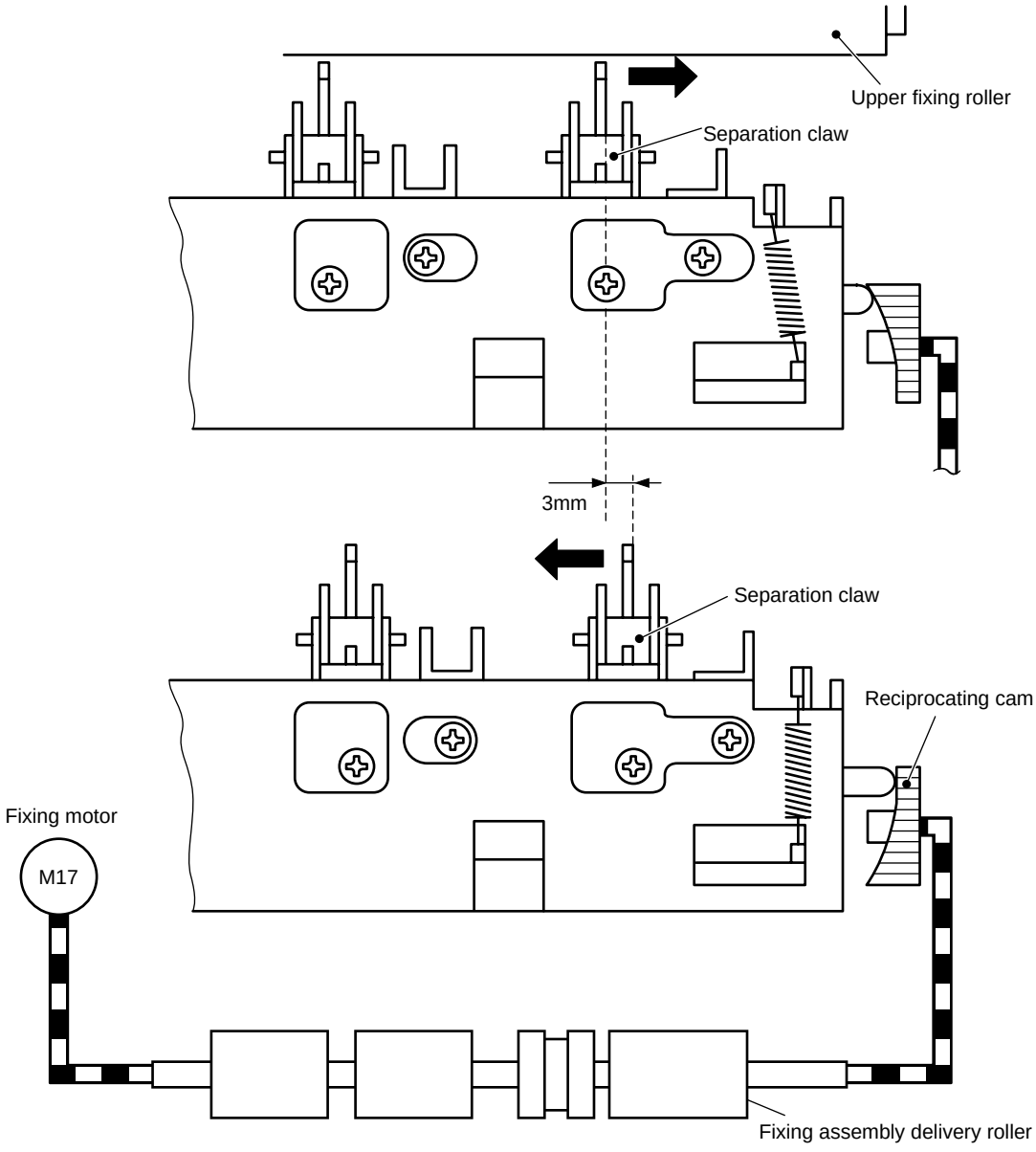

Figure 3-437

6. Sequence of Operations (1/2)

- 45 min from power-on

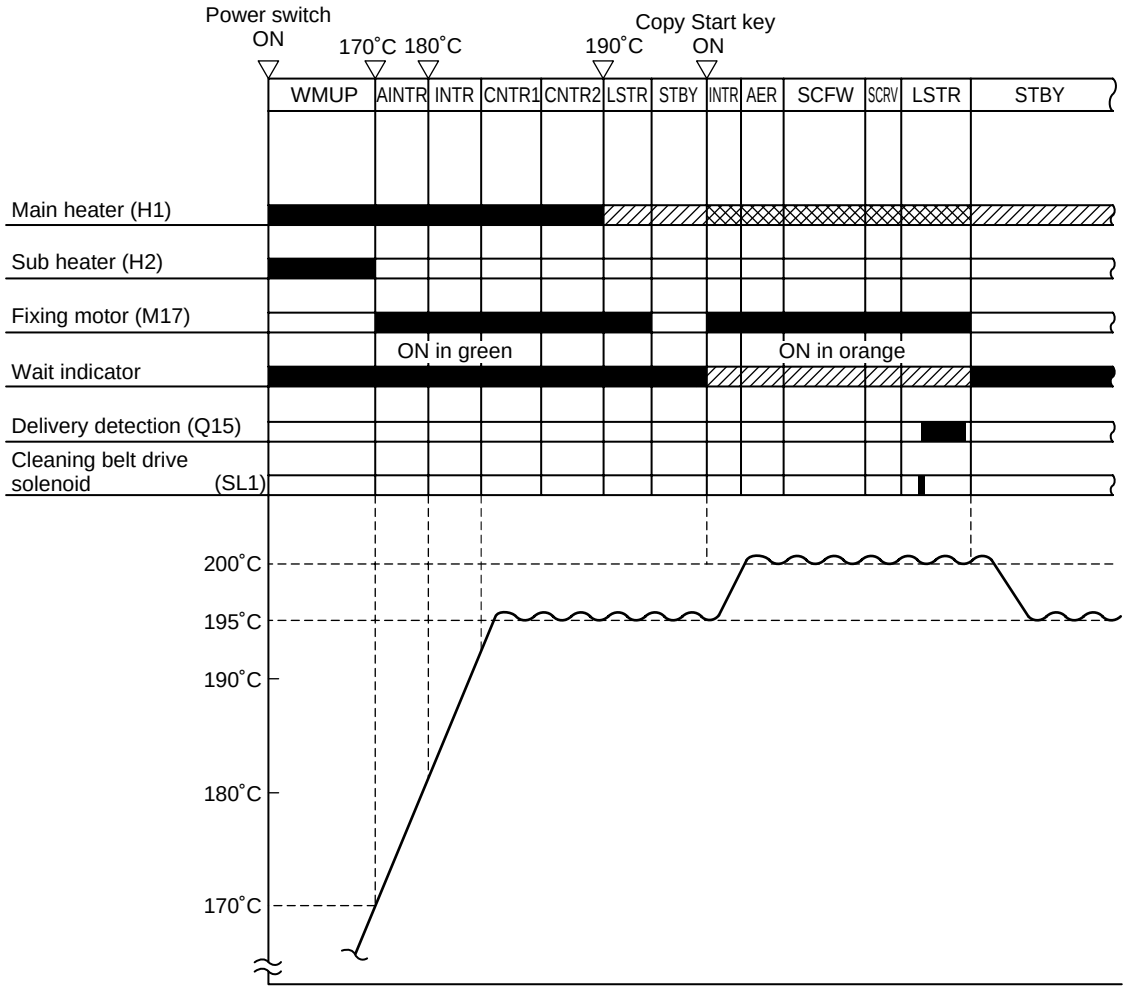

Figure 3-438

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Sequence of Operations (2/2)

- 45 min from power-on and in energy saver/auto power-off

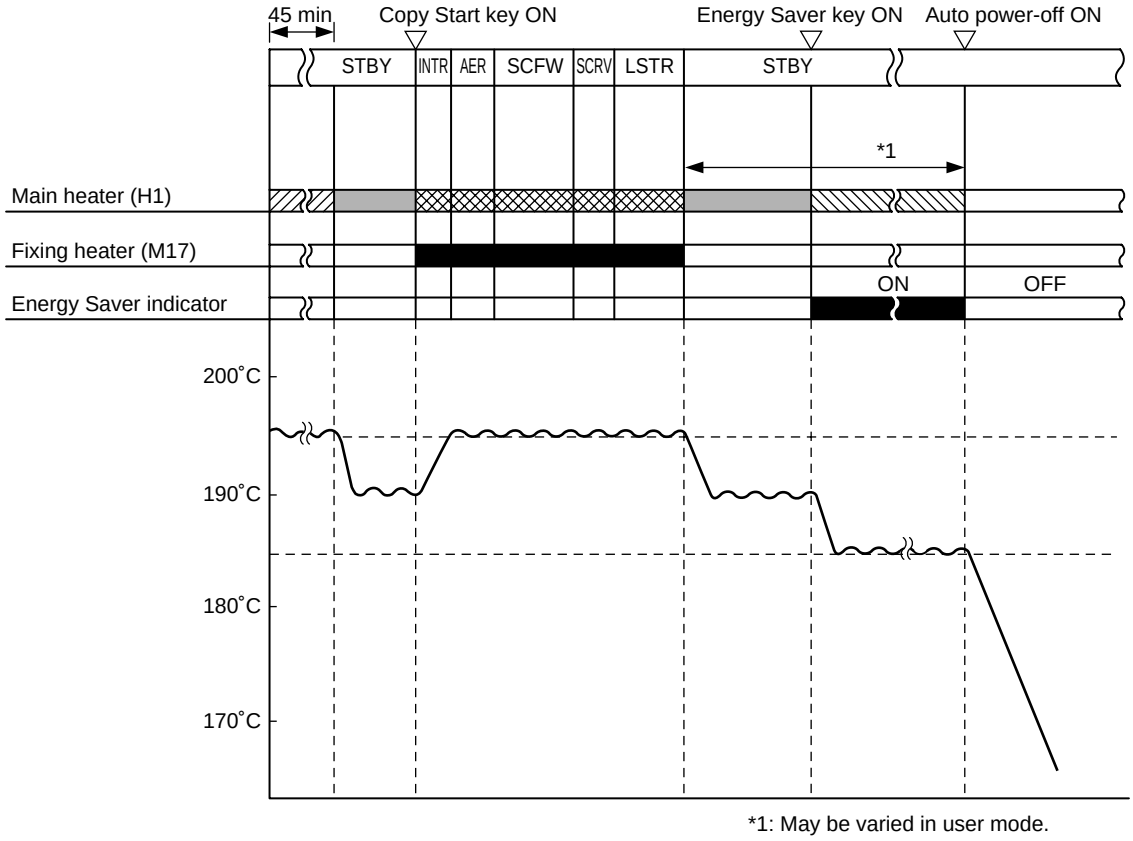

Figure 3-439

7. Fixing Assembly Locking Mechanism

The fixing assembly is designed so that it may be slid out to the front.

If a jam stops the operation and the fixing assembly paper sensor (Q10) and the delivery sensor (Q15), or Q10 and the paper reversing assembly inlet sensor (Q11) detect the copy paper at the same time, the fixing assembly locking solenoid (SL16) is powered so that the fixing assembly cannot be removed.

This is to prevent tearing of the paper if it straddles over the fixing assembly and the delivery assembly.

Advise the user to remove such a jam by opening the delivery door.

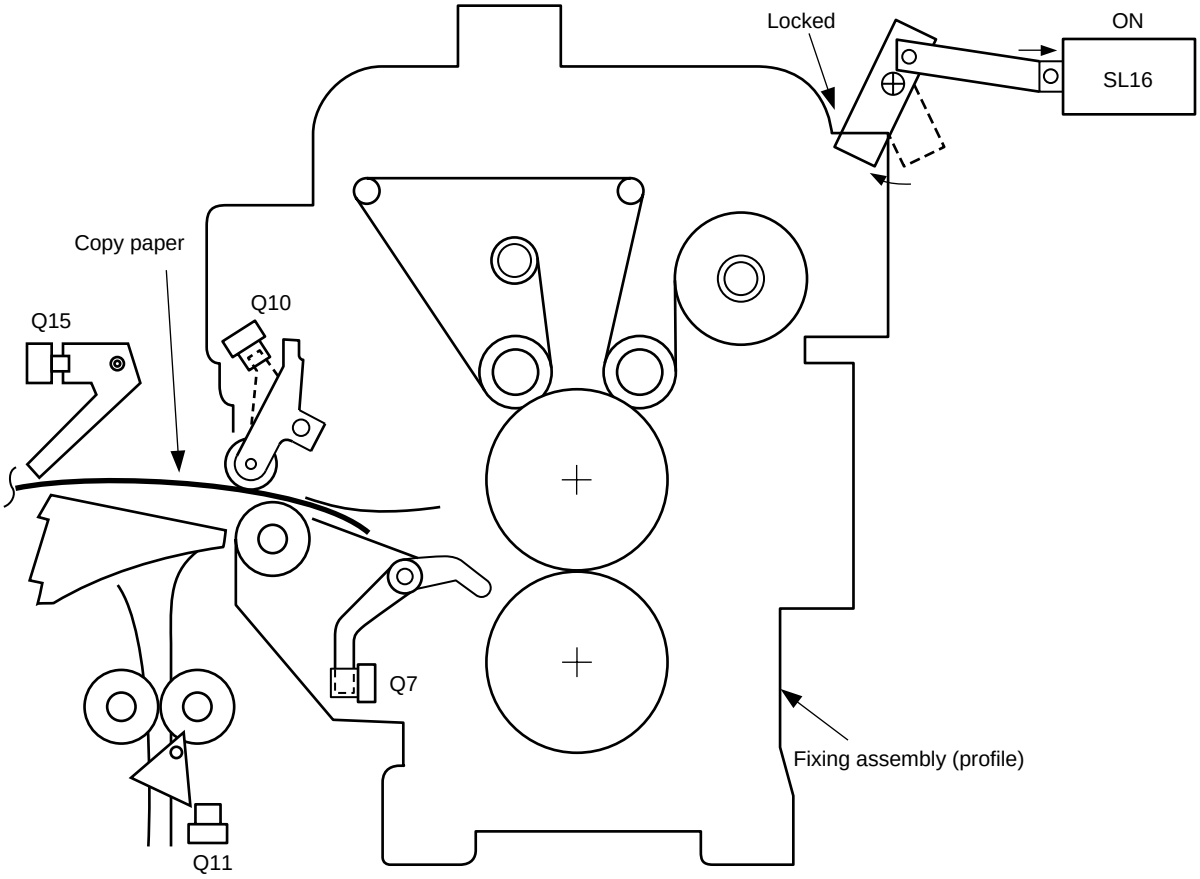

Figure 3-440

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

8. Down Sequence

The NP6085 is provided with a down sequence to ensure proper fixing in continuous copying under low-temperature conditions.

The copying speed is reduced so that the distance between sheets will be longer when the thermistor (TH1) of the fixing roller detects any of the following surface temperatures for the fixing roller.

The control mode may be any of three as selected in service mode (✻5✻; FIX-TEMP).

Copies/min	Setting 0 (initial setting)		Setting 1		Setting 2		Setting 3	
	Start temperature	Normal speed return temperature	Start temperature	Normal speed return temperature	Start temperature	Normal speed return temperature	Start temperature	Normal speed return temperature
71	155 (˚C)	160 (˚C)	160 (˚C)	165 (˚C)	150 (˚C)	155 (˚C)	165 (˚C)	170 (˚C)
66	150	160	155	165	145	155	160	170
Stop	145	160	150	165	140	155	155	170

Table 3-406

9. Controlling the Fixing Temperature for Jam Removal

Figure 3-441 explains the supply of power to the fixing assembly.

The NP6085 turns ON and OFF the fixing assembly temperature control mechanism according to the following:

- If a jam is removed by opening the front door (front door switch SW3OFF),
  The front door switch SW3 turns OFF.
  └ The main motor drive signal turns OFF.
  The sub heater drive signal turns OFF.
  └ The AC power supply turns OFF.
  The main motor turns OFF.
  The sub heater turns OFF.
- If a jam is at a specific location (Q7, Q10, Q62),
  Paper sensor Q7, Q10, or Q62 turns ON.
  └ The main heater drive signal turns OFF.
  The sub heater drive signal turns OFF.
  └ The AC power supply turns OFF.
  The main heater turns OFF.
  The sub heater turns OFF.
- If the fixing assembly is slid out (fixing assembly detecting switch SW32OFF),
  The main heater relay (RL1) turns OFF.
  The sub heater relay (RL2) turns OFF.
  └ The fixing assembly detection signal turns ON.
  The main heater drive signal turns OFF.
  The sub heater drive signal turns OFF.
  └ The main heater turns OFF.
  The sub heater turns OFF.

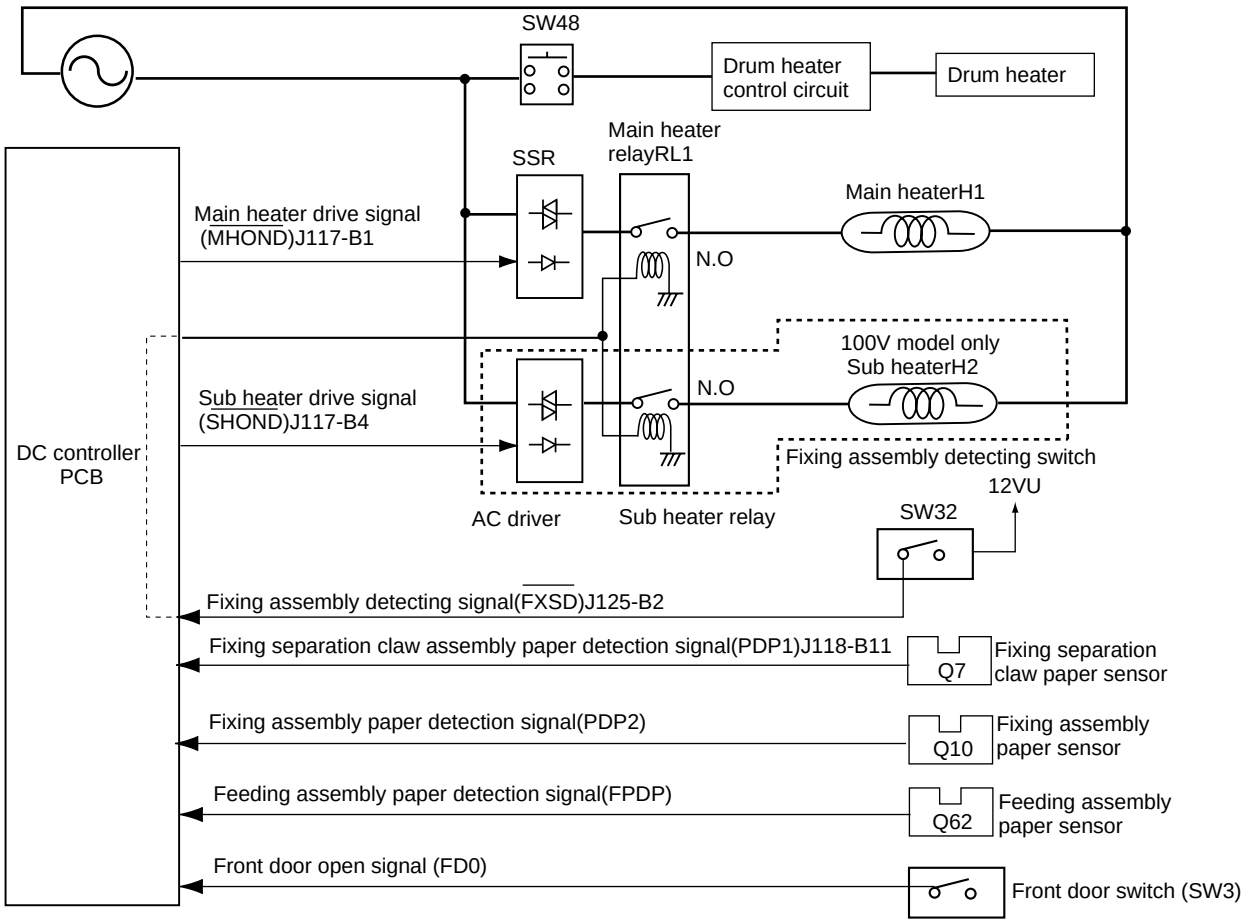

Figure 3-441

L. Error Detection Circuit

1. Outline

Figure 3-442 is a block diagram of the error detection control circuit, and the circuit has the following functions:

a. Monitors the operation of the scanning lamp (LA1) and the C.F.F. lamp.
b. Monitors the operation of the fixing heater (main, H1; sub, H2).
c. Monitors the rotation of each motor in normal mode and stream reading mode.

Each of these monitoring functions are controlled by programs stored in the gate arrays on the DC controller PCB.

2. Scanning Lamp Error Activation Detection Circuit

The gate array receives the scanning lamp ON signal (LRD) and the scanning lamp ON detection signal (LAA). If the scanning lamp is ON in the absence of the scanning lamp ON signal, an error will be identified.

If such happens, the gate array informs the master CPU on the DC controller of a scanning lamp error activation and send the power switch OFF signal ($\overline{\text{PWOFF}}$) to the power supply unit.

This condition powers the relay in the relay unit to turn OFF the main relay (RL3), thereby stopping AC power supply (called error auto power-off).

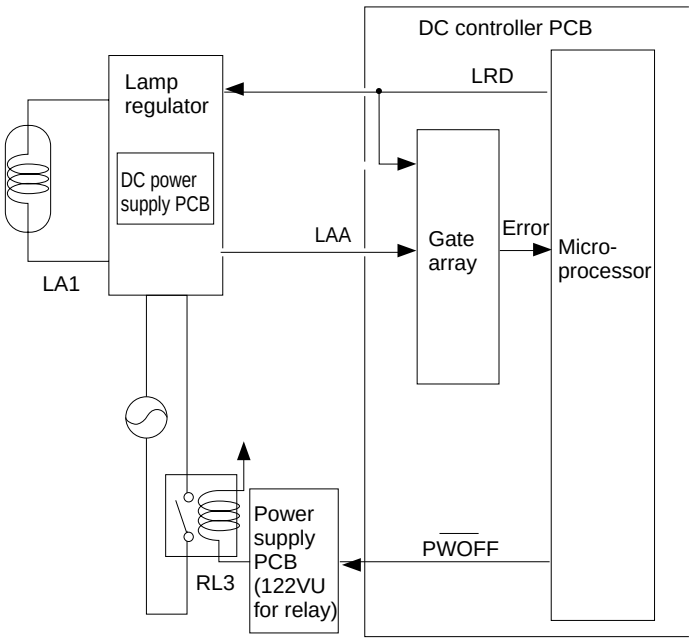

Figure 3-442

3. Fixing Heater Error Activation Detection Circuit

The gate array receives the fixing heater ON signal (HRD) and the fixing heater ON detection signal (HRA). An error will be identified if the fixing heater is ON in the absence of the fixing heater ON signal (HRD).

If such happens, the gate array informs the master CPU on the DC controller of a fixing heater error and, at the same time, generates the power switch OFF signal ($\overline{\text{PWOFF}}$).

The power switch OFF signal ($\overline{\text{PWOFF}}$) is also generated when the surface temperature of the fixing roller rises abnormally.

When the power switch OFF signal occurs, the relay in the relay unit is powered to turn OFF the main relay (RL3), thereby stopping AC power supply (auto power-off).

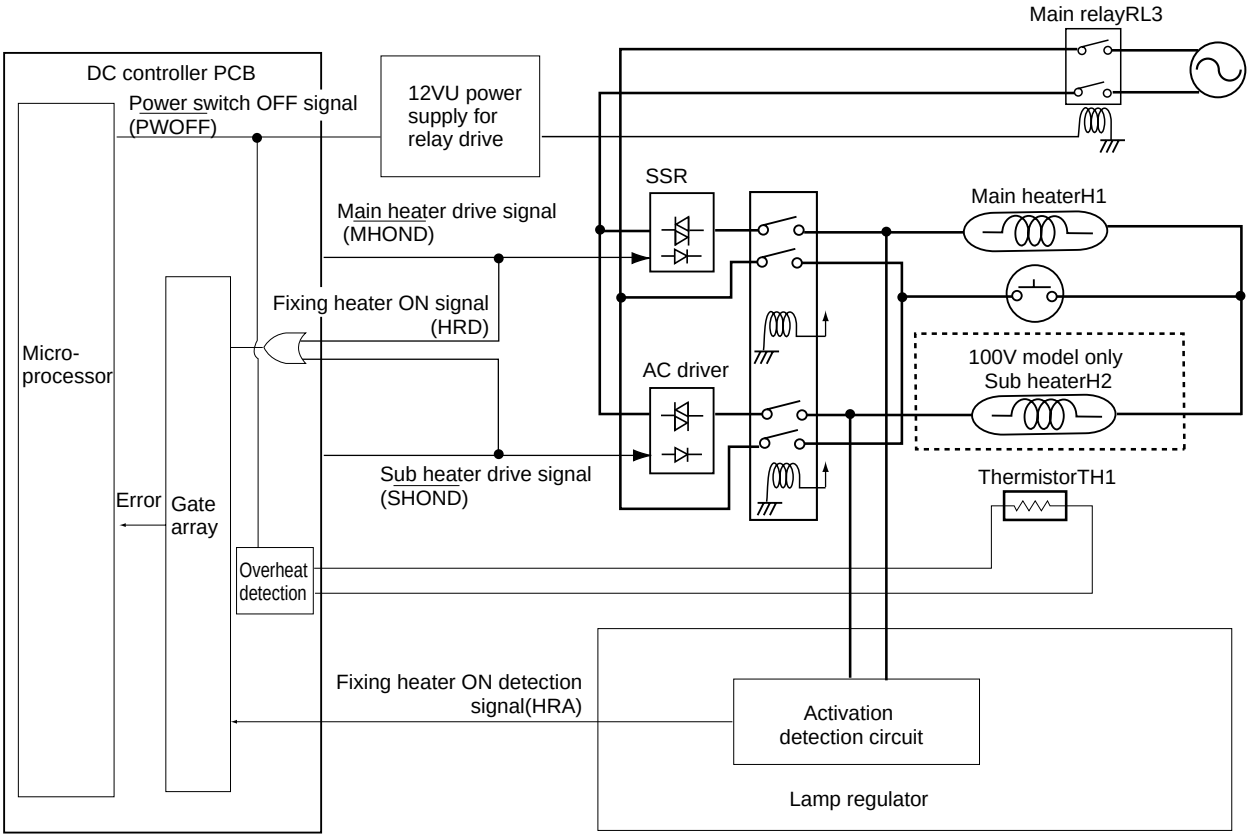

Figure 3-443

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4. Motor Error Rotation Detection Circuit

The motor error rotation detection circuit detects an error stop in relation to the operation of the scanner motor (M2), RDF belt motor (M3), and scanner original leading edge sensor 2 (Q38)/scanner home position sensor (Q5)/scanner C.F.F. position sensor (Q6).

The gate array serves to reset the DC controller in response to the motor error stop detection signal (ECDRER).

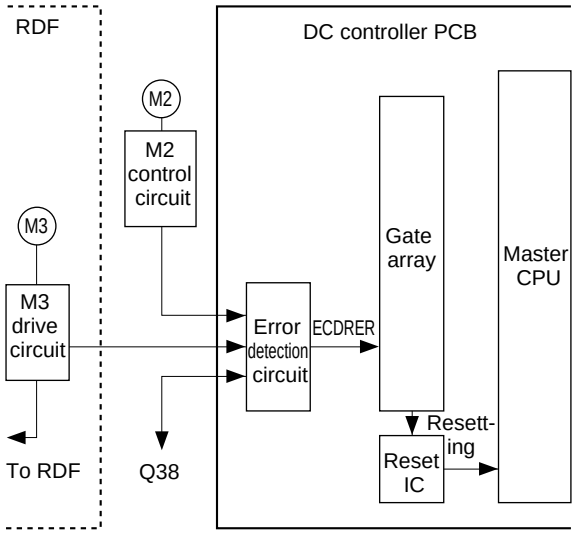

Figure 3-444

M. Face-Down Output

1. Outline

Face-down output is always executed when copying takes place in either of the following two modes so that the copies will be turned during delivery and collated on the copy tray:

a. Copies stacked with face-down output OFF (skipping, odd number of originals)

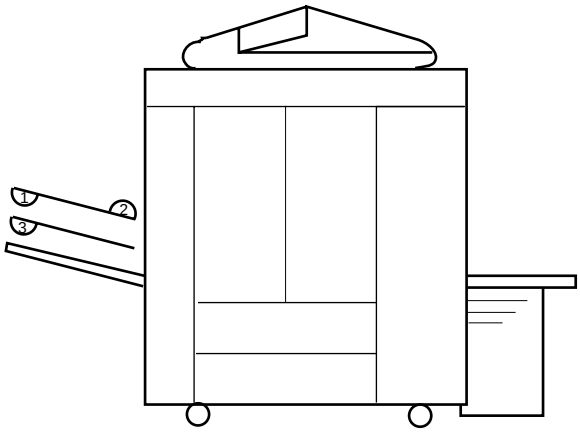

Figure 3-445a

b. Copies stacked with reversal delivery ON (skipping, odd number of originals)

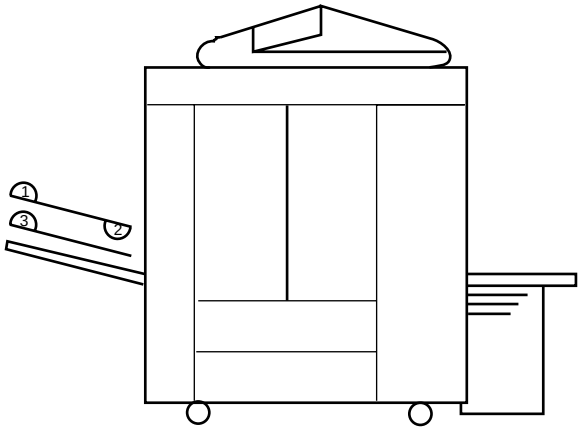

Figure 3-445b

c. Copies stacked with reversal delivery OFF (C.F.F. in use)

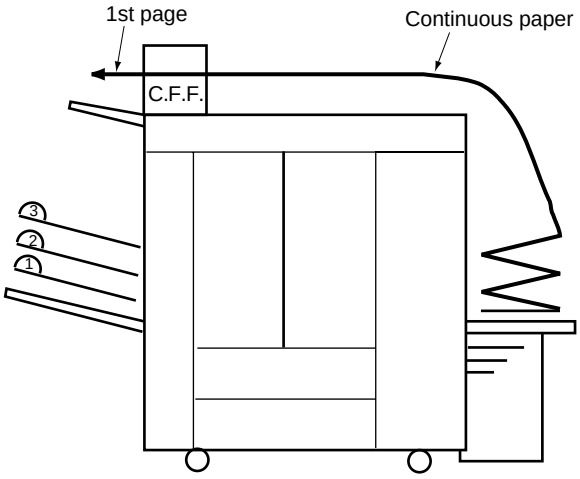

Figure 3-445c

d. Copies stacked with reversal delivery ON (C.F.F. in use)

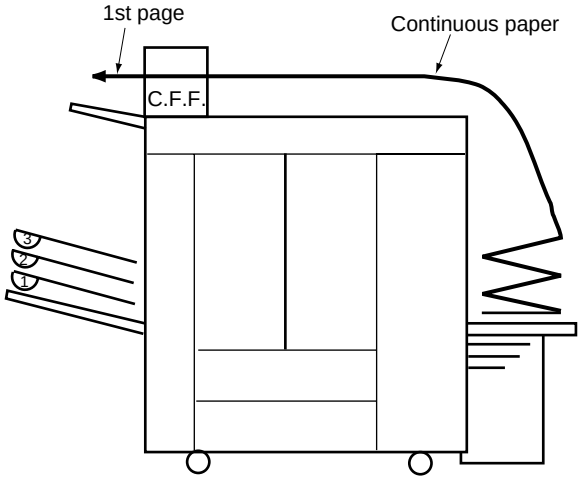

Figure 3-445d

■ Copying Mode for Reversal Delivery

1 Skipping mode for an odd number of originals

2 C.F.F. in use

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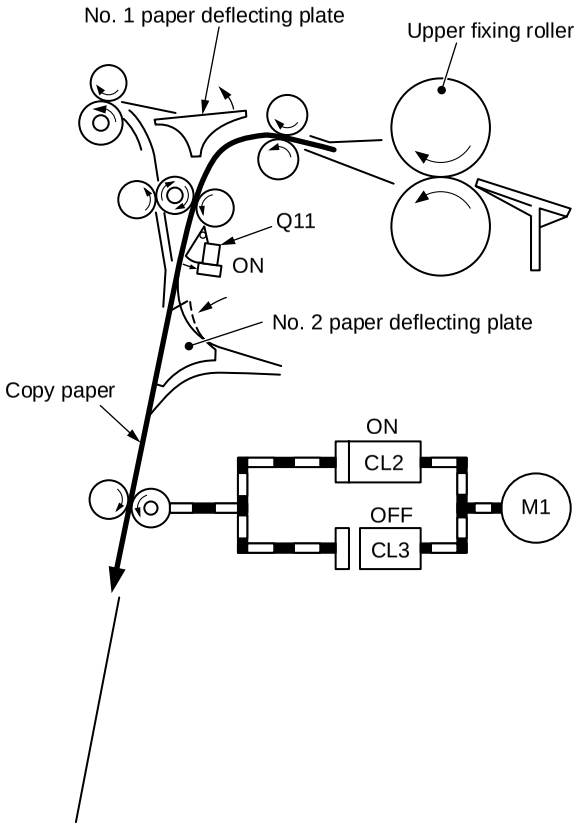
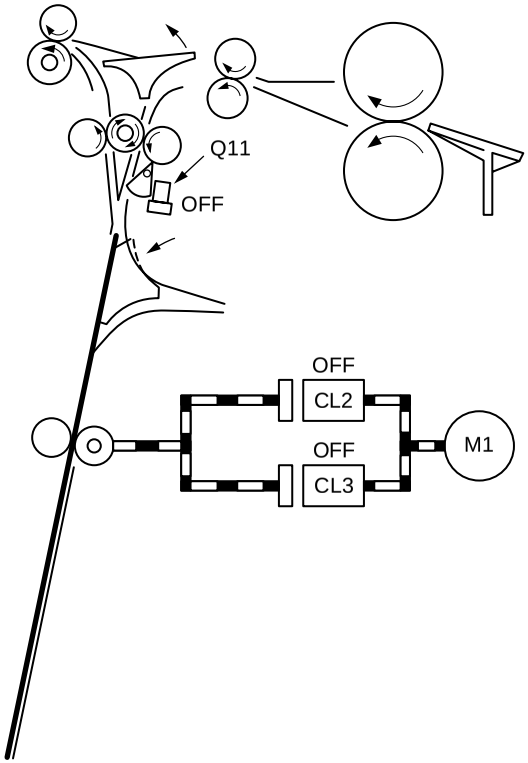
2. Details of Reversal Delivery



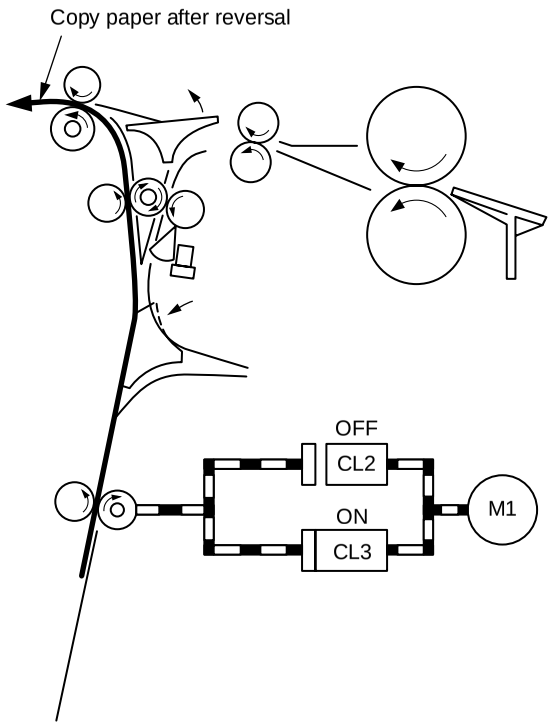
The copy paper is sent to the path shown by the No. 1 and No. 2 paper deflecting plates (Q11 ON, CL2 ON)

Figure 3-446a



When Q11 turns OFF, i.e., the trailing edge of the copy paper has not moved past the No. 2 deflecting plate, CL2 turns OFF.

Figure 3-446b



Immediately after CL2 turns OFF, CL3 turns ON to deliver the copy paper.

Figure 3-446c

N. Detecting Jams

1. Outline

Figure 3-447 shows sensors used to monitor the movement of copy paper. Checks are made by reading the signals from the sensors at such times as programmed in advance in the microprocessor. The ongoing copying operation will be stopped immediately upon detection of a jam by the microprocessor.

After stopping the operation, the Jam message will be indicated on the control panel, and the location of the jam will be indicated in the jam location indicator.

When the power is turned ON after removing the jam, post-jam sequence will be executed in preparation for the next copy.

The microprocessor assumes the presence of a jam under the following conditions:

a. Copy paper is at any of the sensors at power-on, during wait up, or during stand-by.
b. Copy paper does not reach a specific sensor within a specific period of time (delay jam).
c. Copy paper arrives at a specific sensor earlier than a specific time (timing jam).
d. Copy paper does not move past a specific sensor within a specific period of time (stationary jam).

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Sensor No.	Name	Type of jam	Sensor No.	Name	Type of jam
Q7	Fixing separation claw assembly paper sensor	Stationary jams	Q26	Re-pick up sensor	Delay jams
Q10	Fixing assembly paper sensor	Delay, stationary, timing jams	Q27	Duplexing unit paper sensor	Paper in duplexing unit
Q11	Paper reversing assembly inlet sensor	Delay, stationary, timing jams	Q30	Pre-registration paper sensor	Delay, stationary, timing jams
Q12	No. 2 feeding assembly inlet sensor	Delay, stationary, timing jams	Q33	Re-pick up paper trailing edge sensor	Delay, stationary, timing jams Paper straddling between duplexing unit and feeding path
Q13	Paper reversal sensor	Delay, stationary, timing jams	Q34	Buffer assembly paper sensor	Stationary jams
Q14	Paper reversing assembly outlet sensor	Delay, stationary, timing jams	Q46	Vertical path 0 paper sensor	Delay, stationary, timing jams
Q15	Delivery sensor	Delay, stationary, timing jams	Q47	Vertical path 1 paper sensor	Delay, stationary, timing jams
Q16	No. 2 feeding assembly paper sensor	Delay, stationary, timing jams	Q48	Upper front tray pick-up sensor	Delay jams
Q23	Lower front tray pick-up paper trailing edge sensor	Delay, stationary, timing jams Paper straddling between front tray and feeding path	Q49	Lower front tray pick-up sensor	Delay jams
Q24	Upper front tray pick-up paper trailing edge sensor	Delay, stationary, timing jams Paper straddling between front tray and feeding path	Q60	Buffer assembly delivery sensor	Delay, stationary, timing jams

Table 3-407

■ **Paper Deck**

Sensor No.	Name	Type of jam	Sensor No.	Name	Type of jam
Q36	Multifeeder pick-up sensor	Delay jams	Q35	Paper deck pick-up sensor	Delay jams
Q42	Multifeeder paper trailing edge sensor	Delay, stationary, timing jams	Q44	Paper deck feeding sensor	Delay, stationary, timing jams

Table 3-408

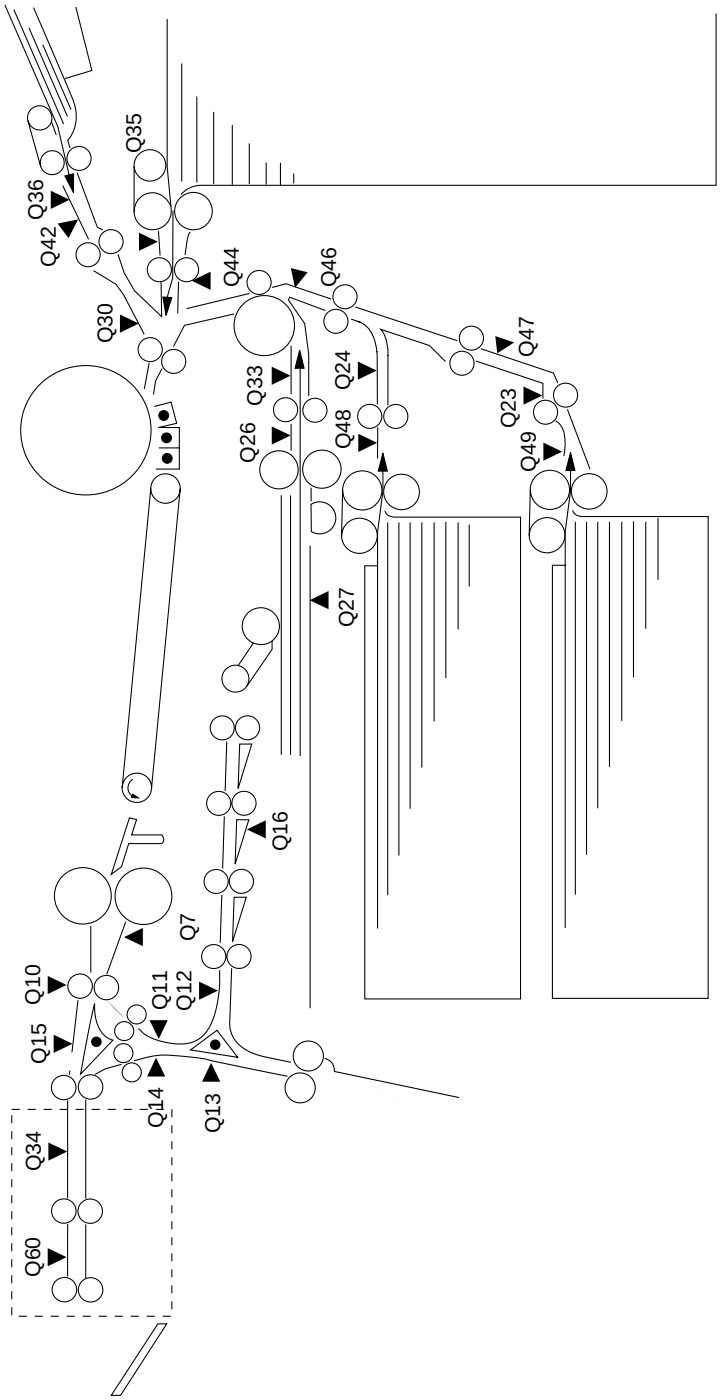


Figure 3-447

■ Main Body and the Multifeeder

1 Registration Roller Delay Jam

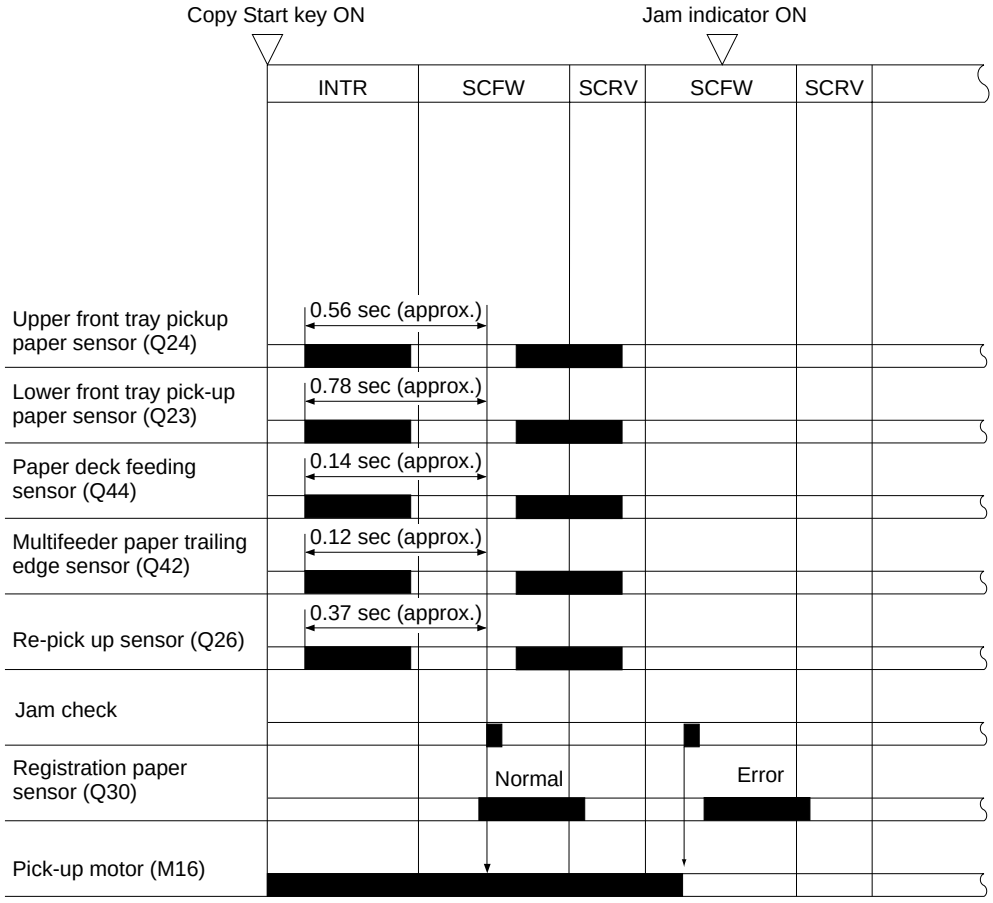
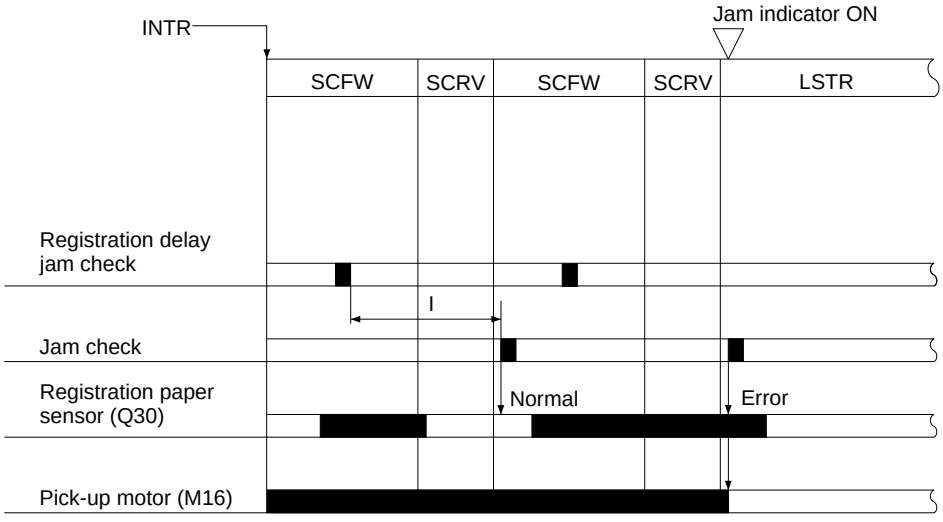


Figure 3-453

2 Registration Roller Stationary Jam



I: Varies depending on the length of copy paper.

Figure 3-454

3 Upper Front Tray Pick-Up Delay Jam

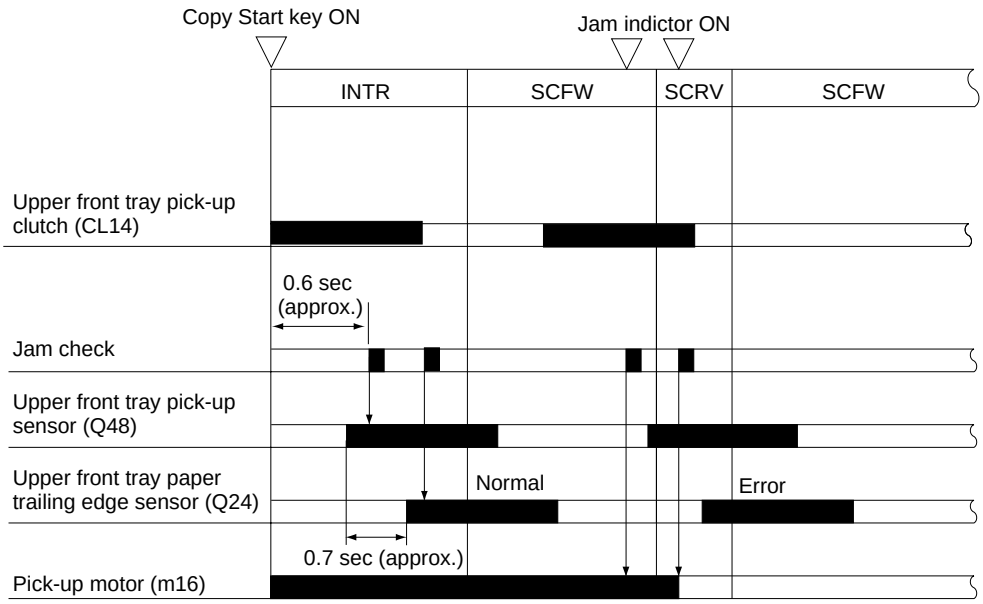


Figure 3-455

4 Lower Front Tray Pick-Up Delay Jam

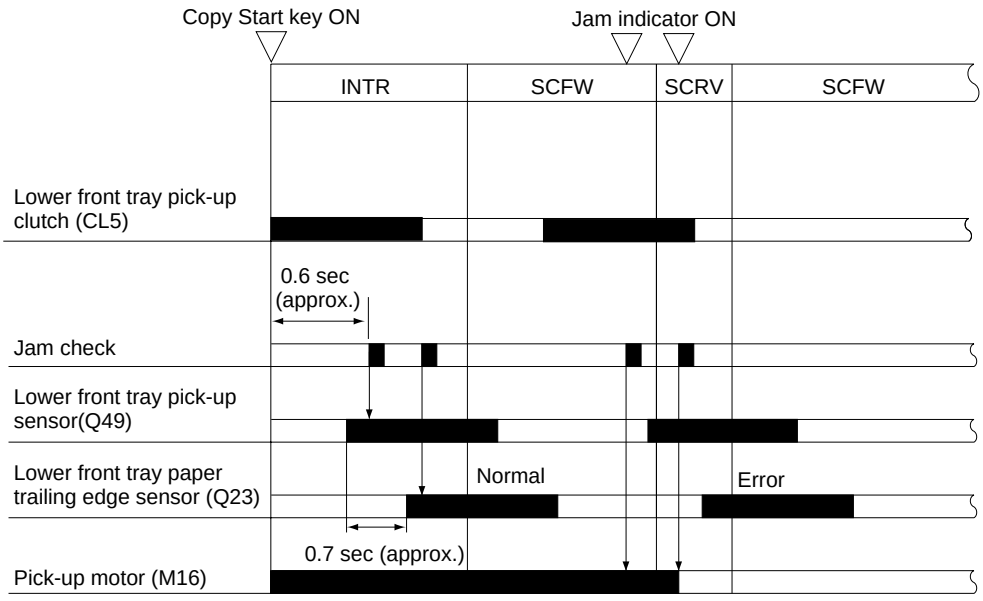


Figure 3-456

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5 Re-Pick Up Delay Jam

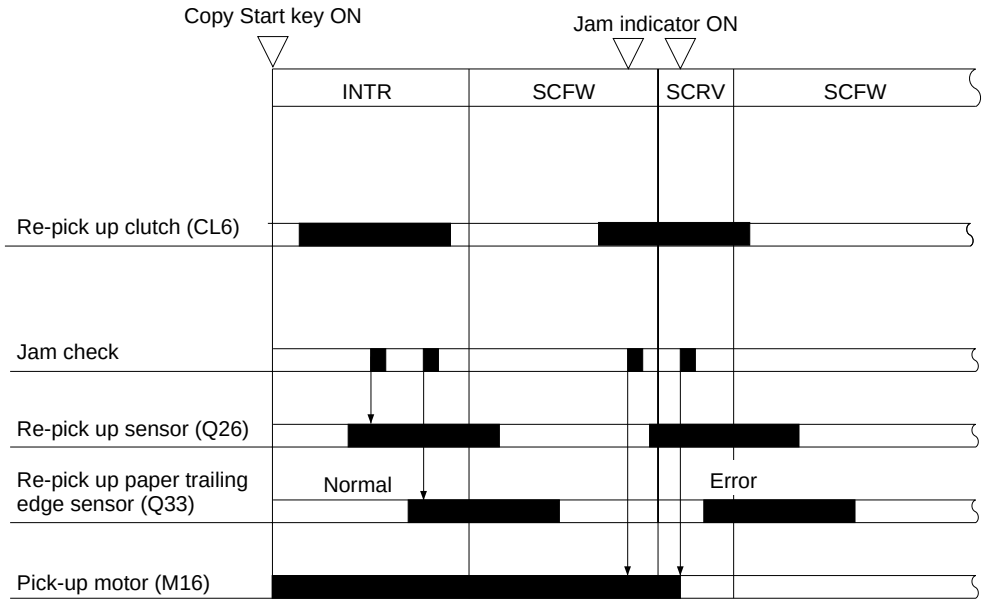


Figure 3-457

6 Fixing Feeding Delay Jam

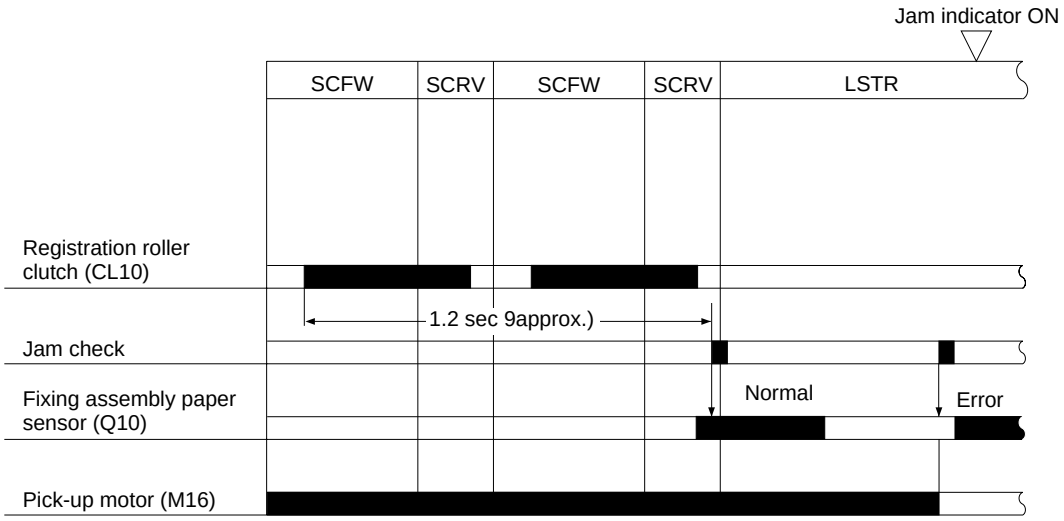
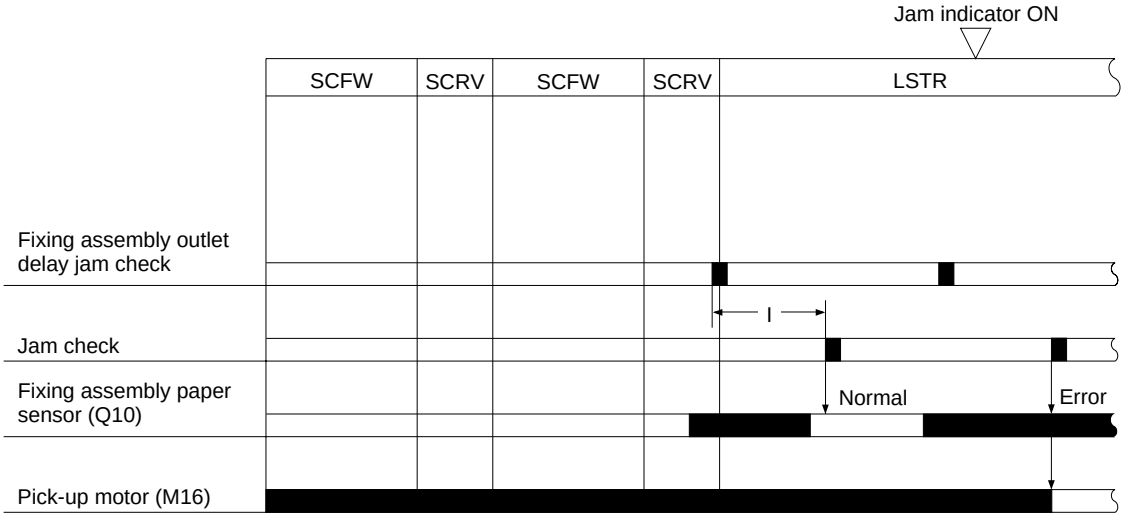


Figure 3-458

7 Fixing Feeding Stationary Jam

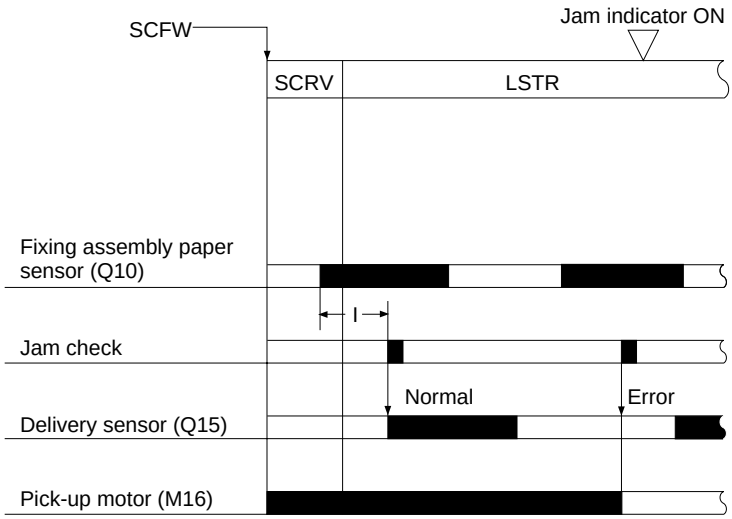


I: Varies depending on the length of copy paper.

Figure 3-459

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

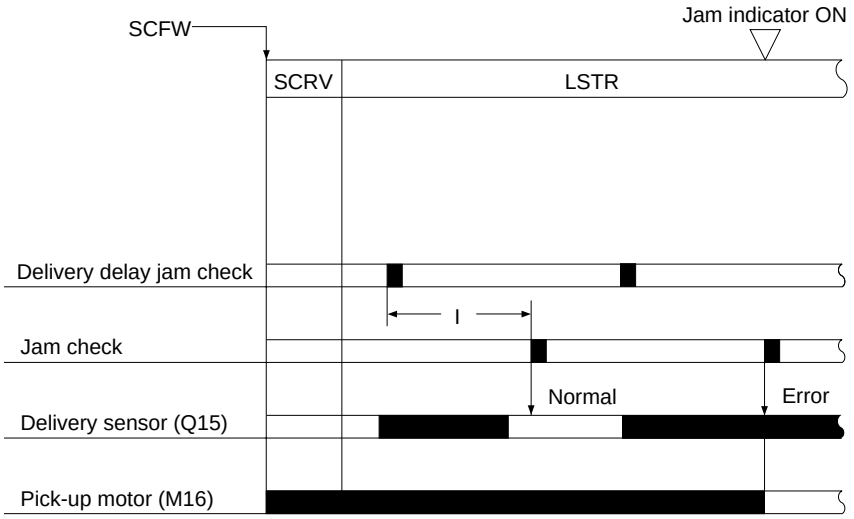
8 Delivery Delay Jam



I: In normal delivery mode, about 0.16 sec.
: In face-down output, varies depending on the length of copy paper.

Figure 3-460

9 Delivery Stationary Jam



I: Varies depending on the length of copy paper.

Figure 3-461

10 Buffer Assembly Delay Jam

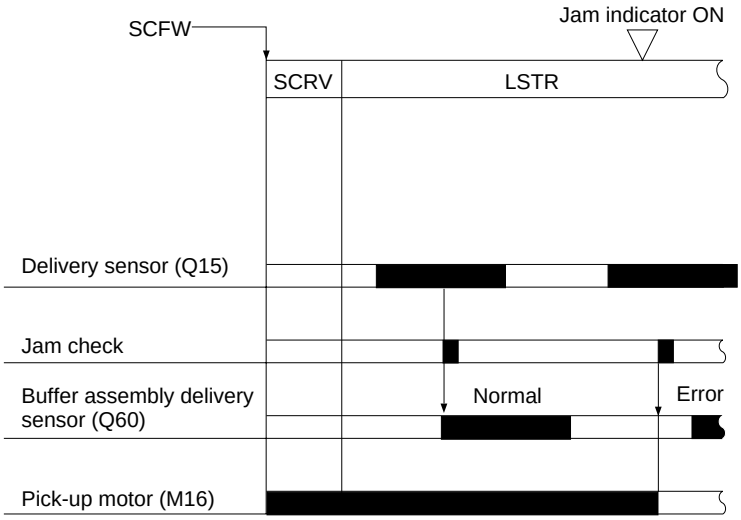
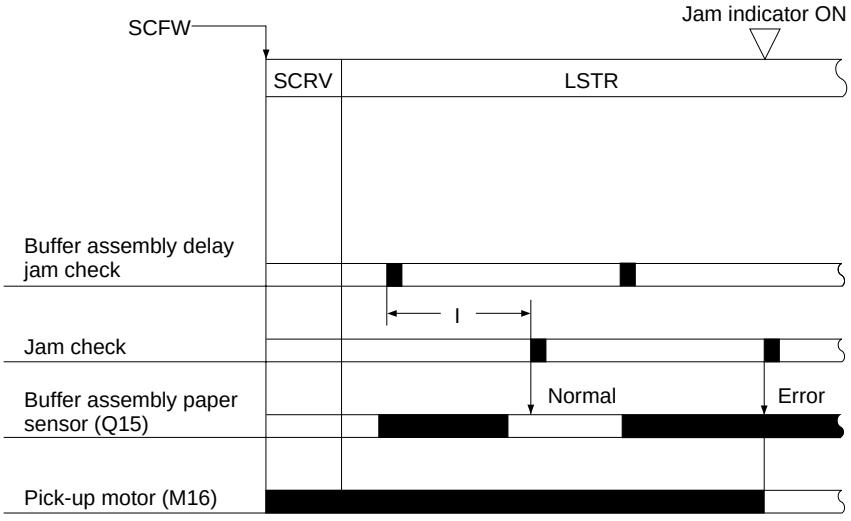


Figure 3-462

11 Buffer Assembly Delay Jam

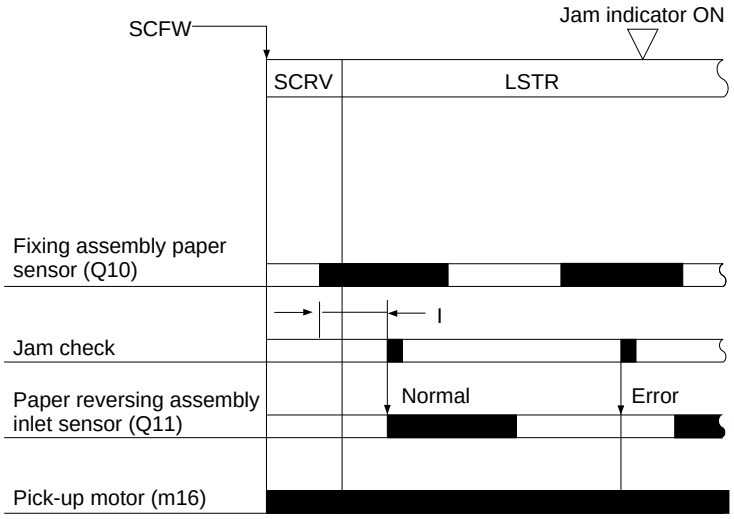


I: Varies depending on the length of copy paper.

Figure 3-463

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

12 Paper Reversal Delay Jam



I: In normal delivery mode, about 0.16 sec.
: In face-down output, varies depending on the length of copy paper.

Figure 3-464

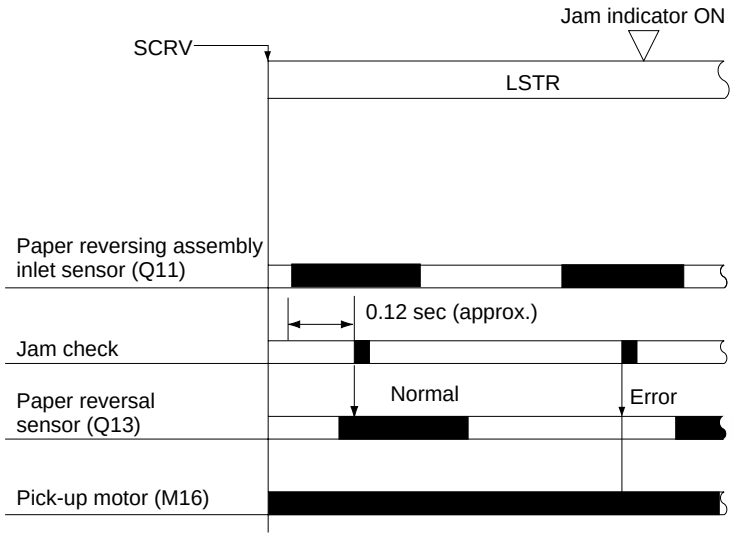
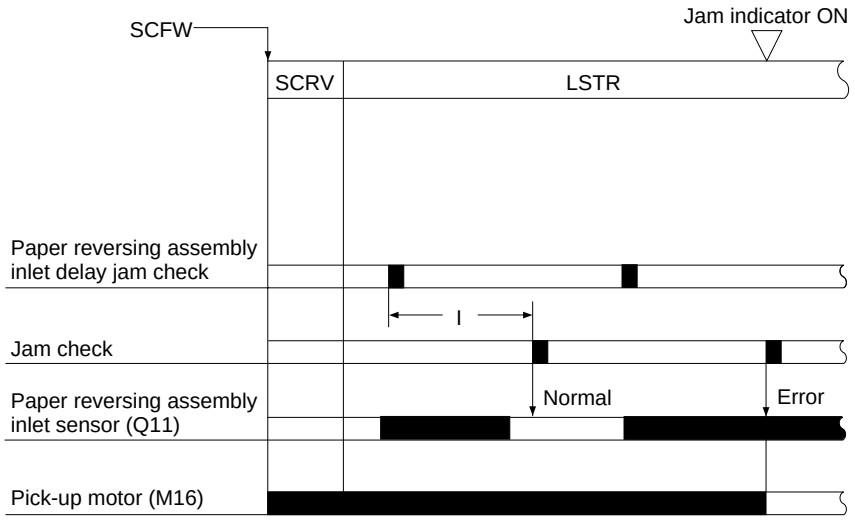


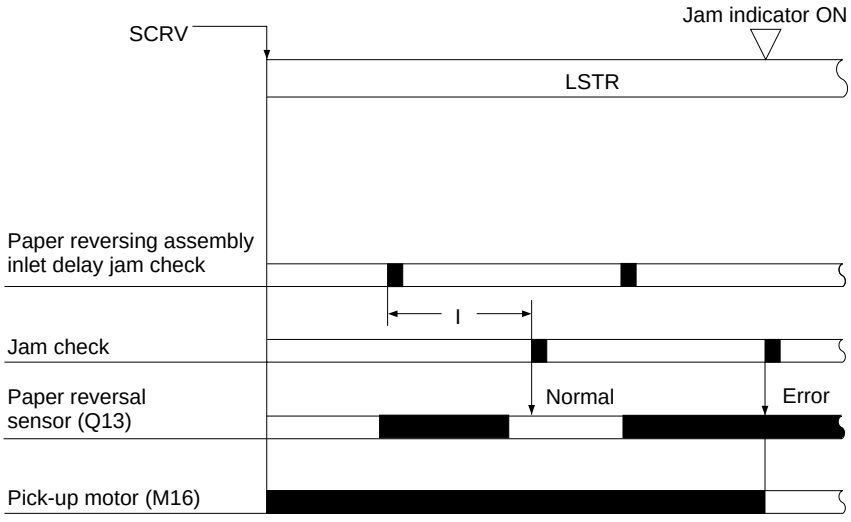
Figure 3-465

13 Paper Reversal Stationary Jam



I: Varies depending on the length of copy paper.

Figure 3-466



I: Varies depending on the length of copy paper.

Figure 3-467

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

14 Reversal Delivery Delay Jam

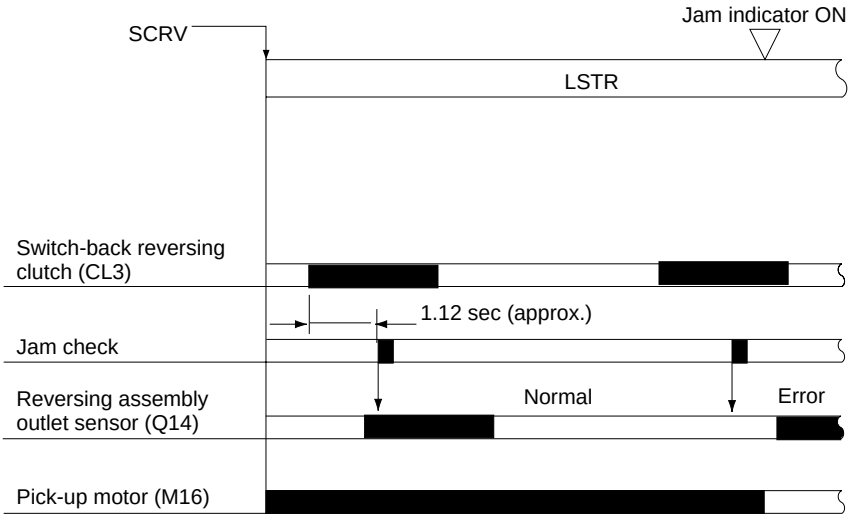
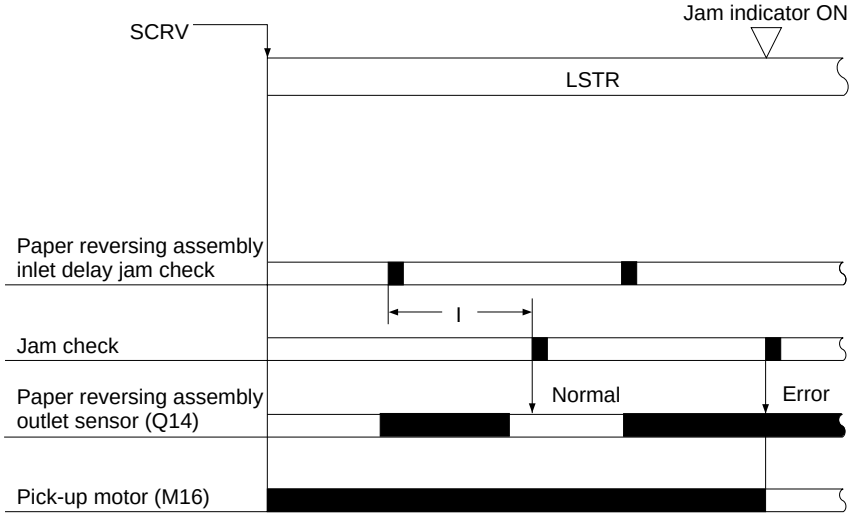


Figure 3-468

15 Reversal Delivery Stationary Jam



I: Varies depending on the length of copy paper.

Figure 3-469

16 No. 2 Feeding Assembly Inlet Delay Jam

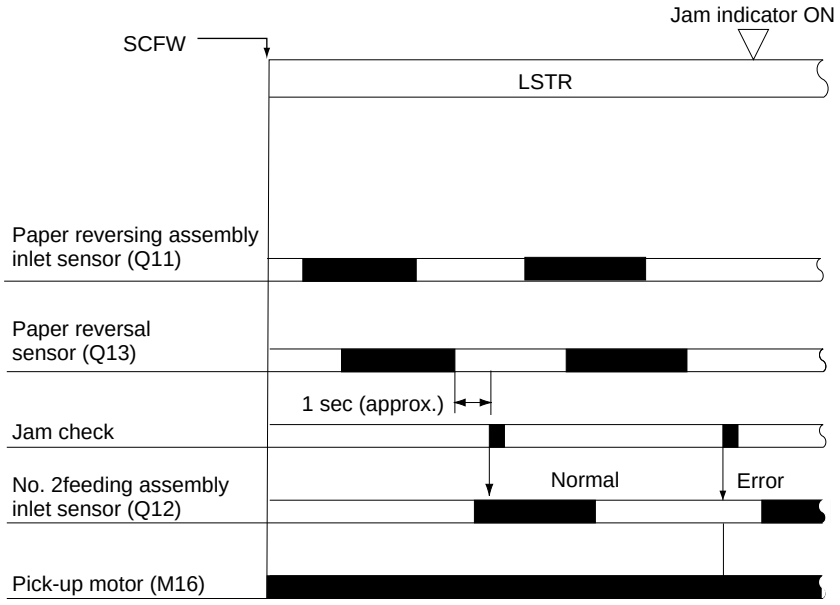
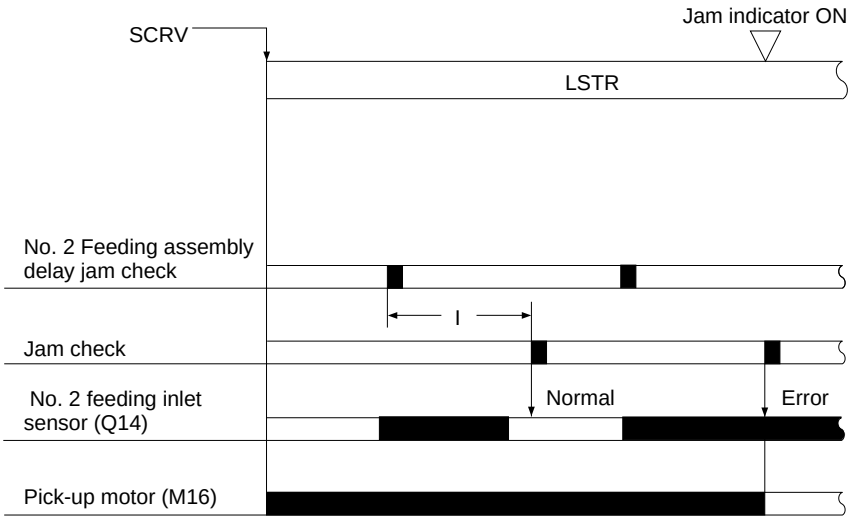


Figure 3-470

17 No. 2 Feeding Assembly Inlet Stationary Jam



I: Varies depending on the length of copy paper.

Figure 3-471

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V. CONTROL PANEL

A. Outline

The NP6085's control panel consists of a control panel controller PCB, 320x240-dot LCD panel unit, transparent touch switch panel, and key switch panel and deals with the following:

① data communication
② LCD processing
③ LCD contrast automatic adjustment
④ touch switch input
⑤ key switch input

B. Operation

1. Data Communication

The control panel controller PCB communicates with the copier's DC controller PC through an interface unit in serial.

Data communication is controlled by the microprocessor on the control panel controller PCB.

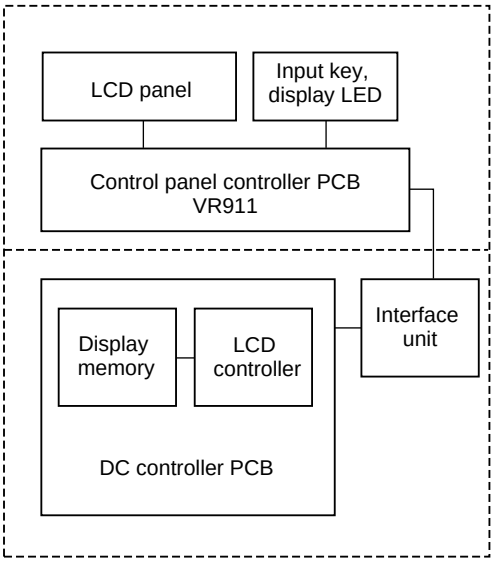

Figure 3-501

2. LCD Processing

The microprocessor on the DC control PCB sends commands to the LCD controller as instructed by stored programs. The LCD, in response, interprets and executes such commands. The LCD controller serves to turn ON and OFF indications and control various settings.

The LCD control, further, is used to write display character codes to the RAM for display memory in sequence. The RAM data for display memory is sent to the display panel according to the timing signals generated by the LCD controller.

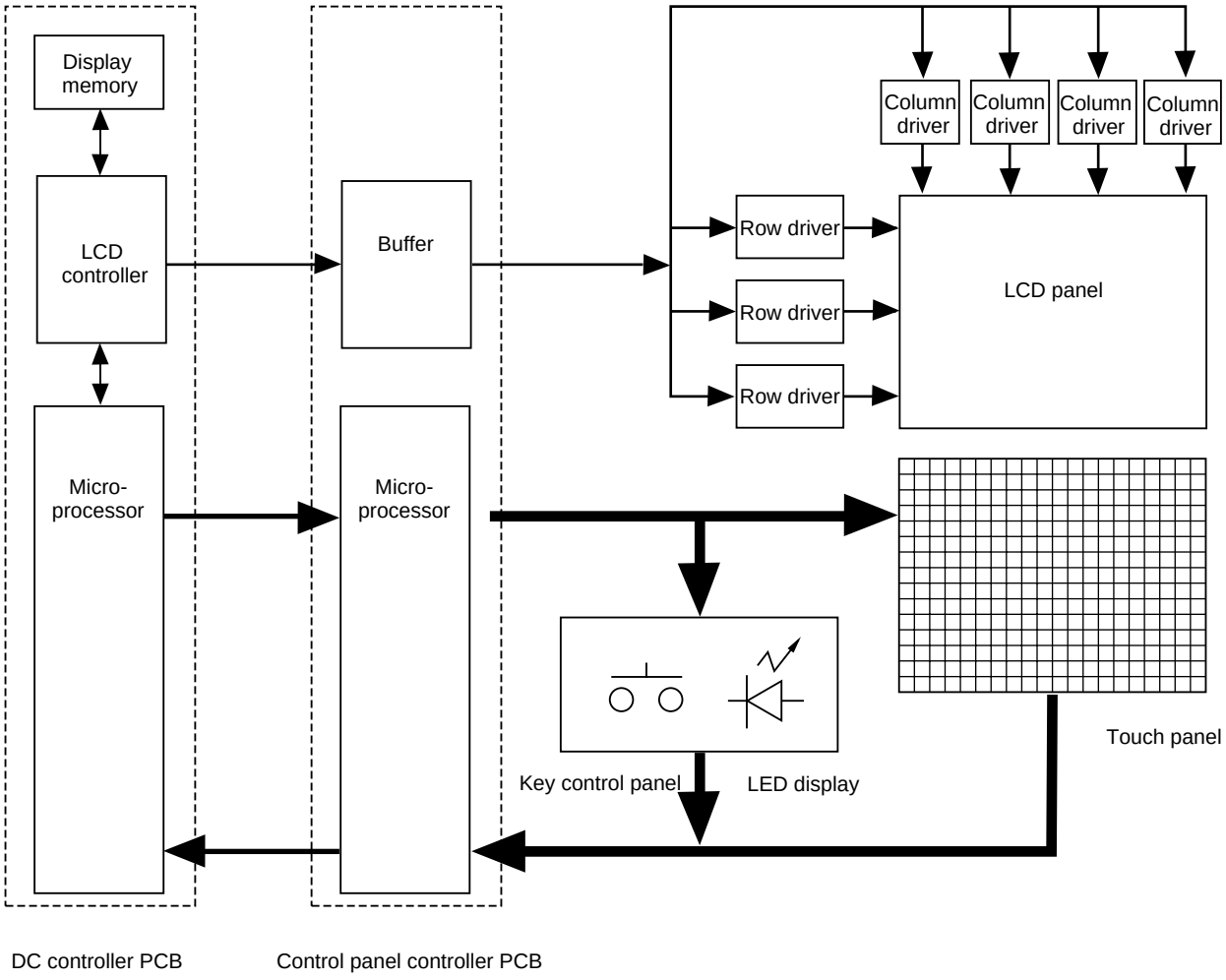

Figure 3-502

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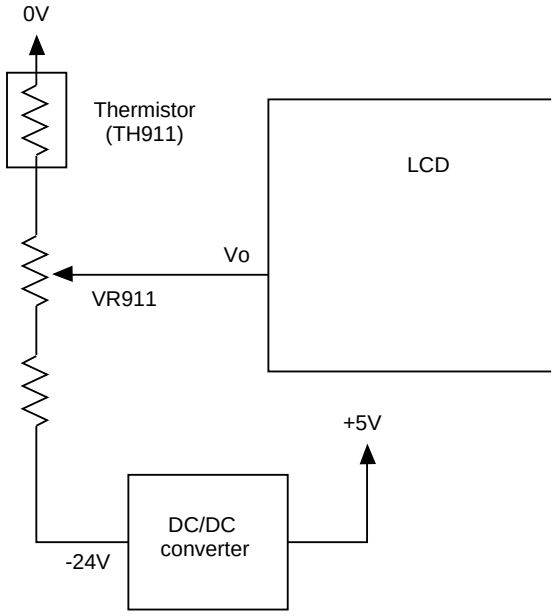
3. LCD Contrast Automatic Adjustment

The control panel controller PCB is equipped with a function which automatically controls the LCD contrast.

A thermistor (TH911) is used on the control panel controller PBC to monitor the temperature of the control panel. The changes in the resistance detected by the changes in the temperature monitored by the thermistor are used to vary the voltage supplied to the LCD, thereby maintaining the LCD contrast at all times.

The LCD contrast need not be adjusted since it is adjusted at time of shipment from the factory.



Vo: Supply voltage to LCD.

Figure 3-503

When the temperature near the control panel increases, the resistance to the thermistor decreases, increasing the supply voltage (V_O) to the LCD.

When the temperature near the control panel decreases, the resistance to the thermistor increases, decreasing the supply voltage (V_O) to the LCD.

4. Touch Switch Input

The keys on the touch switch panel and the control panel controller PCB are connected as shown in Figure 3-502. The touch switch panel consists of two glass sheets coated with transparent conducting membranes bonded with spacers in between; it has keys in 15 columns and 20 rows in a specific pattern.

When the surface of the top glass sheet is pressed, the contact between the two sheets will cause electrical continuity.

This causes a pair of electrodes to have electrical continuity, allowing detection of X/Y coordinates as in the case of a common key matrix. (The correspondence between the key scan signal from the control panel controller circuit and the input signal to the control panel controller circuit enables the control panel controller PCB to identify which key has been pressed.)

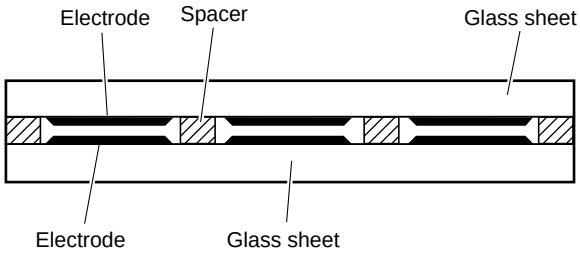


Figure 3-504

VI. FANS

As many as eleven fans are used for the NP6085, serving to exhaust ozone, draw stray toner, and cool various parts. Table 3-601 shows the function of each fan, the filter used, and the orientation of the fan. Figure 3-602 shows when each fan turns ON.

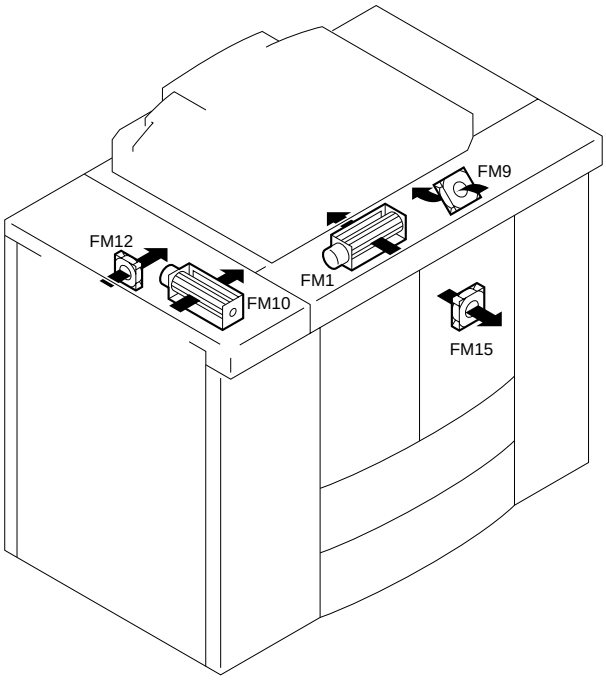


Figure 3-601a

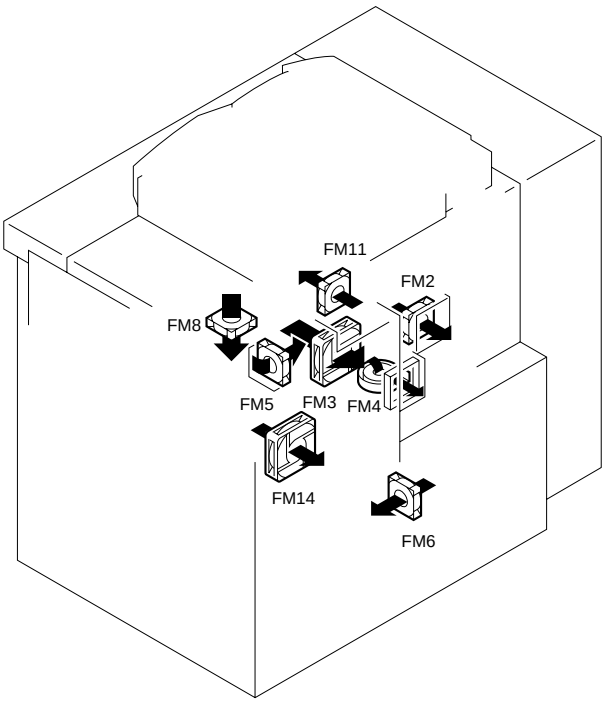
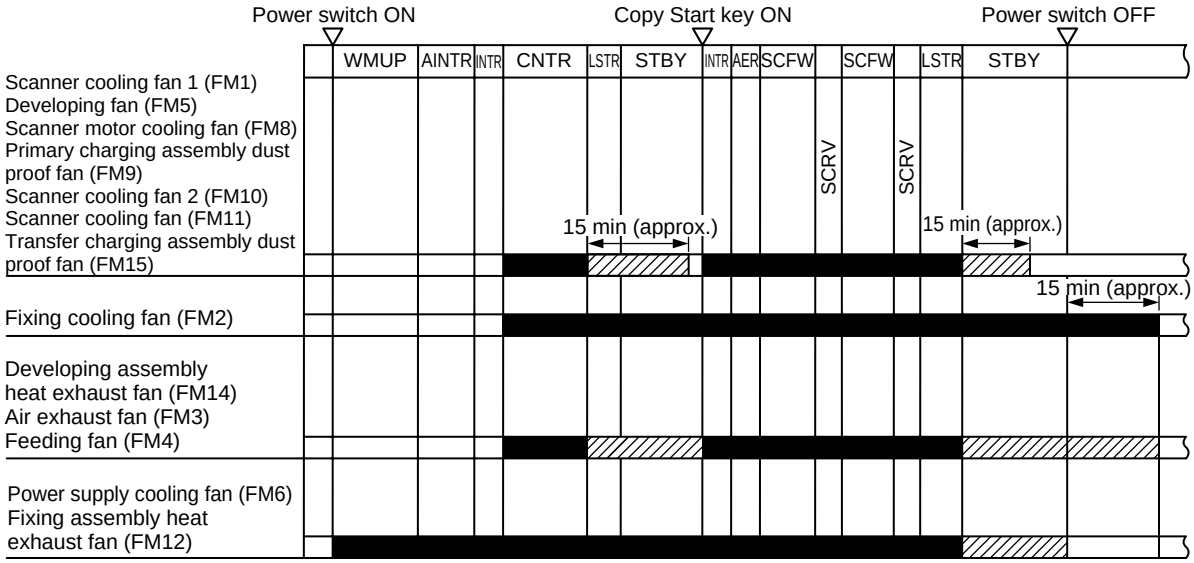


Figure 3-601b

No.	Name	Orientation	Filter	Description
FM1	Scanner cooling fan	Blowing	Air	Cools the scanner.
FM2	Fixing assembly cooling fan	Drawing	Ozone, air	• Prevents internal overheating caused by the fixing heater. • Exhausts vapors of silicone oil.
FM3	Air exhaust fan	Drawing	Ozone, air	Draws ozone generated by the primary/pre-transfer/transfer/separation charging assembly.
FM4	Feeding fan	Drawing	Ozone, air	• Draws copy paper from below the separation charging assembly so as to assist separation. • Draws copy paper on the feeding belt.
FM5	Developing fan	Drawing	Air	Draws stray toner from around the developing assembly.
FM6	Power supply cooling fan	Blowing	–	Causes currents of air around the power supply PCB, thereby preventing overheating.
FM8	Scanner motor cooling fan 1	Blowing	Air	Cools the scanner motor.
FM9	Primary charging assembly dust proof fan	Blowing	Air	Introduces outside air to the primary charging assembly to prevent collection of oil.
FM10	Scanner cooling fan 2	Drawing	–	Cools heat from around the scanner.
FM11	Scanner cooling fan 3	Blowing	–	Cools the copyboard and the scanner.
FM12	Fixing assembly heat exhaust fan	Blowing	–	Cools heat from around the fixing assembly.
FM14	Developing assembly heat exhaust fan	Drawing	Air	Exhausts heat from around the developing assembly.
FM15	Transfer charging assembly dust proof fan	Drawing	Air	Exhausts outside air to the transfer charging assembly to prevent collection of toner.

Table 3-601



*Each fan continues to rotate after the front door and the delivery door have been opened.

: High-speed rotation

: Low-speed rotation

Figure 3-602

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VII. POWER SUPPLY

A. Outline

Figure 3-701 is a block diagram showing how power is distributed inside the NP6085.

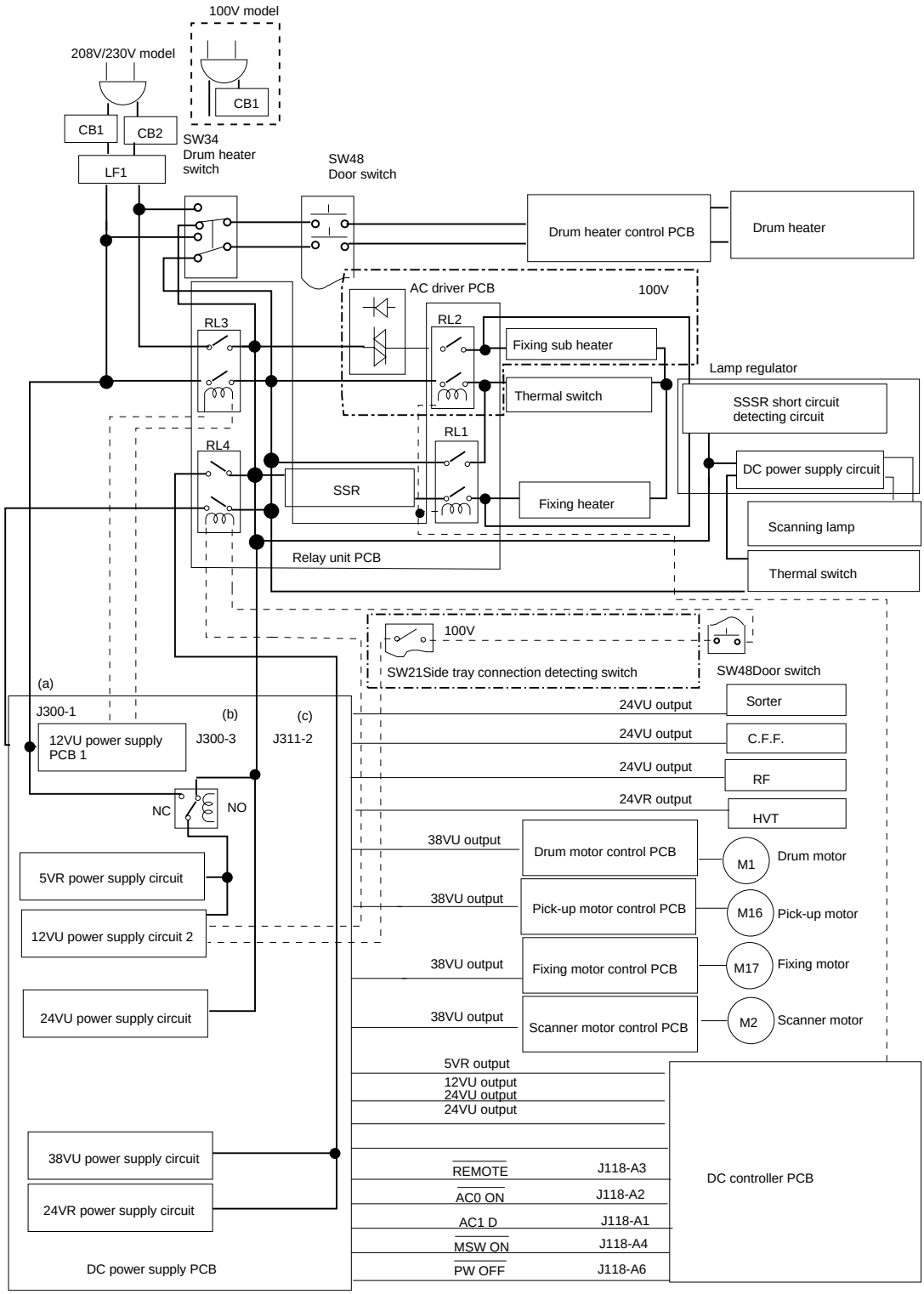

Figure 3-701

B. Power Supply Circuit

1. Outline of Operation

The NP6085's power supply circuit generates seven types of DC outputs: 38VU, 24VU, 24VR, 24VUN, 12VU1, 12VU2, and 5VR. The 12VU power supply circuit 1 operates to turn ON/OFF the power switch relay (RL3) at all times from when the copier's power plug is connected until it is disconnected.

The AC power supply may be (a) AC direct input line through a relay unit; (b) input line through RL3 on the relay unit PCB; or (c) input line through RL3 and door switch relay RL4.

When the main switch is turned ON, the DC controller PCB sends the main switch ON signal ($\overline{\text{MSWON}}$ =0) to the DC power supply ON/OFF control latch PCB of the power supply PCB to supply RL3 of the relay unit PCB with 12VU1 from the power supply circuit relay drive 12VU power supply circuit 1; AC power will reach the 24VU, 12VU2, 5VR power supply circuits through the power supply circuit relay on the AC input line (b) for distribution to the DC controller PCB.

At this time, the power supply circuit sends the indirect power supply detection signal (AC1D=1) to the DC controller PCB; the DC controller PCB, in turn, sends the direct power supply signal ($\overline{\text{AC0ON}}$ =0) to turn ON the relay in the power supply circuit to switch the AC input line to (a)/(b).

Then, the 12VU power supply circuit 2 supplies 12VU2 to RL4 in the relay unit to turn ON the relay; the AC power supply moves through the AC input line (c) to reach the 38VU and 24VR power supply circuits of the power supply circuit, and each circuit supplies the DC controller PCB with 38VU and 24VR.

If the door switch (SW48) and the side tray connection detecting switch (SW21; 100V model only) are OFF (e.g., the front door or the side tray has been separated from the copier), 12VU2 used to drive RL4 will be cut off so that the relay will turn OFF to cut out the power to the AC input line (c).

This condition will stop the output of the 24VR and the 38VU power supply circuits. (The 230V model, however, does not have SW21.)

At the same time, the DC controller PCB sends the power unit remote signal ($\overline{\text{REMOTE}}$ =0) to stop the 24VU power supply; 24VUN for error detection for the SSR and the lamp regulator (AC driver circuit also in the case of the 100V model), however will remain.

If copying does not start for a specific period of time after the DC controller PCB detects AC1D and standby mode (energy saver, alarm, intermediate, error, jam, jam standby), the auto power-off function will turn ON; the DC controller then sends the power switch OFF signal ($\overline{\text{PWOFF}}$ =0) to turn OFF RL3 (except in energy saver mode) to stop 24VU, 24VR, and 38VU power supplies.

The DC controller PCB continues to supply DC power, thereby rotating the fans for a specific period of time (about 15 min). Thereafter, the DC controller PCB stops $\overline{\text{AC0ON}}$ =0 to turn OFF the relay of the power supply circuit and switches the AC input line to (b) to stop all DC power supplies. (However, this does not apply to 12VU for RL3.)

When the main switch is turned OFF manually, the DC controller PCB sends $\overline{\text{MSWON}}$ =0 to the DC power supply ON/OFF control latch PCB of the power supply PCB to cut off 12VU1 and turn OFF RL3, thereby stopping the supplies of all DC power supply circuits. (However, this does not apply to 12VU 1 for RL3.)

The time before auto power-off may be varied in user mode.

When an error is detected, the DC controller PCB sends $\overline{\text{PWOFF}}$ =0 to the power supply PCB to turn OFF RL3, thereby immediately stopping AC power supplies.

Caution:

Be sure to disconnect the power plug before handling the DC controller PCB (e.g., for replacement).

Reference:

The DC voltage tolerances are as follows:

- +38VU ±5%
- +24VU ±5%
- +24VR 1%
- +24VUN ±5%
- +5VR ±1.5%
- +12VU ±5%

However, the above assumes that the AC input inaccuracy is limited to ±10%.

As a means of protecting the power supply PCB, the input side of the AC power supply is equipped with a fuse and each switching regulator IC is equipped with an overcurrent protection circuit.

When an overcurrent lowers because of a short circuit in the power line, the protection circuit will turn ON to turn OFF the output of the power supply unit.

If such happens, disconnect the copier's power plug, and remove the cause of activation; then, turn ON the power switch.

The protection circuit may be reset by keeping the AC power of the power supply unit OFF for about 30 sec and then turning ON the AC power supply.

Signal	Description
$\overline{\text{REMOTE}}$	24VU output control signal
$\overline{\text{AC 0 ON}}$	Relay drive signal in power supply circuit (switches from line b to line a)
AC 1 D	b line detection signal
$\overline{\text{MSW ON}}$	Main switch ON/OFF signal
$\overline{\text{PW OFF}}$	Power off signal for auto power-off and error detection

Table 3-701

Caution:

If an overcurrent flows to the output of the power supply unit, the protection circuit will normally turn ON before the AC input fuse blows.

Turning ON and OFF the AC power supply of the power unit repeatedly while a short circuit exists in the power supply unit can blow the fuse in the AC input.

Caution:

Replace the lithium battery only with the one listed in the Parts Catalog.

Use of another battery may present a risk of fire or explosion. The battery may present a fire or chemical burn hazard if mistreated. Do not recharge, disassemble or dispose of it in fire. Keep the battery out of children and discard any used battery promptly.

C. Date/Time Display Power Supply

A lithium battery is provided on the DC controller PCB to serve as a back-up power supply when the power plug is disconnected.

The lithium battery has a life of about five years with the power plug disconnected.

The date/time display will stop when the battery reaches its life. It will start once again when the power plug is connected.

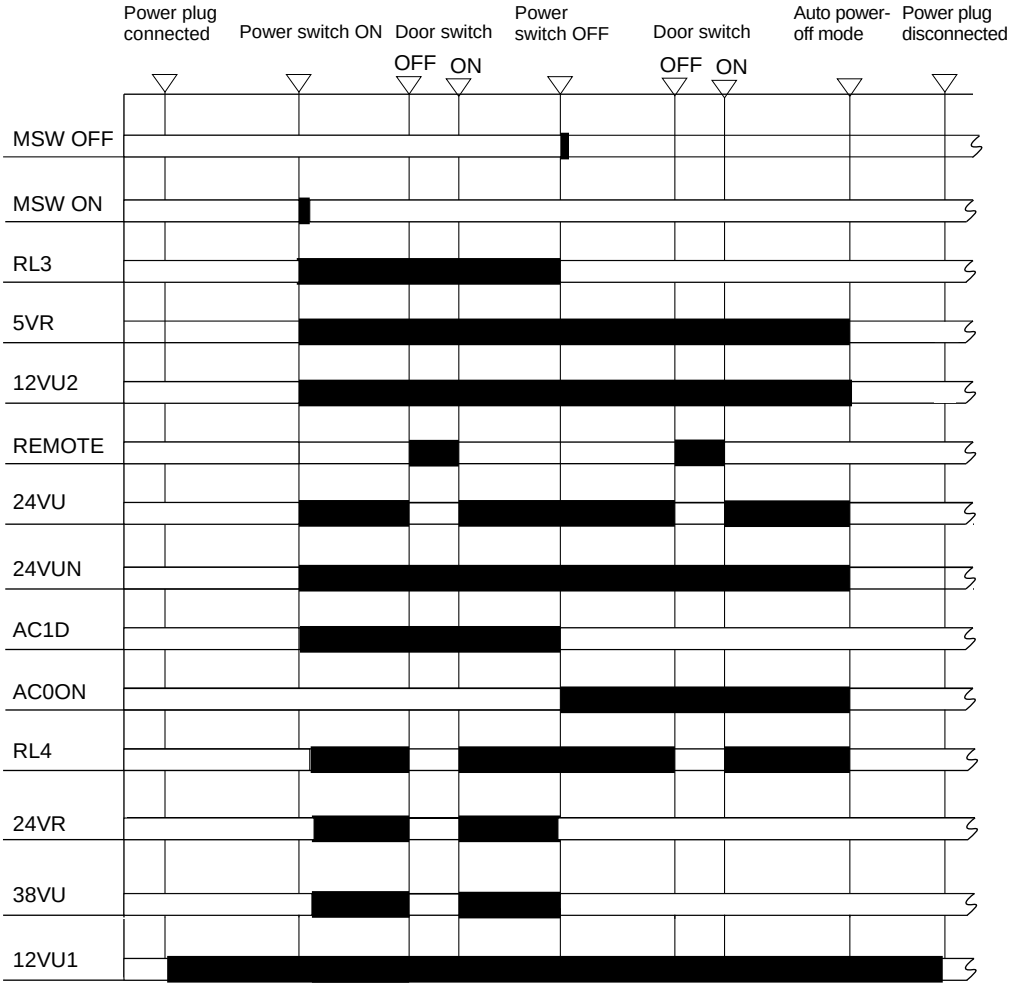

Figure 3-702

7 types of DC outputs in power supply unit

38VU	Drum, pick-up fixing, scanner motor, and etc. driving voltage
24VU	Sorter, C.F.F. and RDF driving voltage
24VUN	Detecting voltage during high voltage error
12VU1	Relay 3 driving voltage
12VU2	Relay 1/2/4 driving voltage
5VR	DC controller, sensor and etc. driving voltage

Table 3-702

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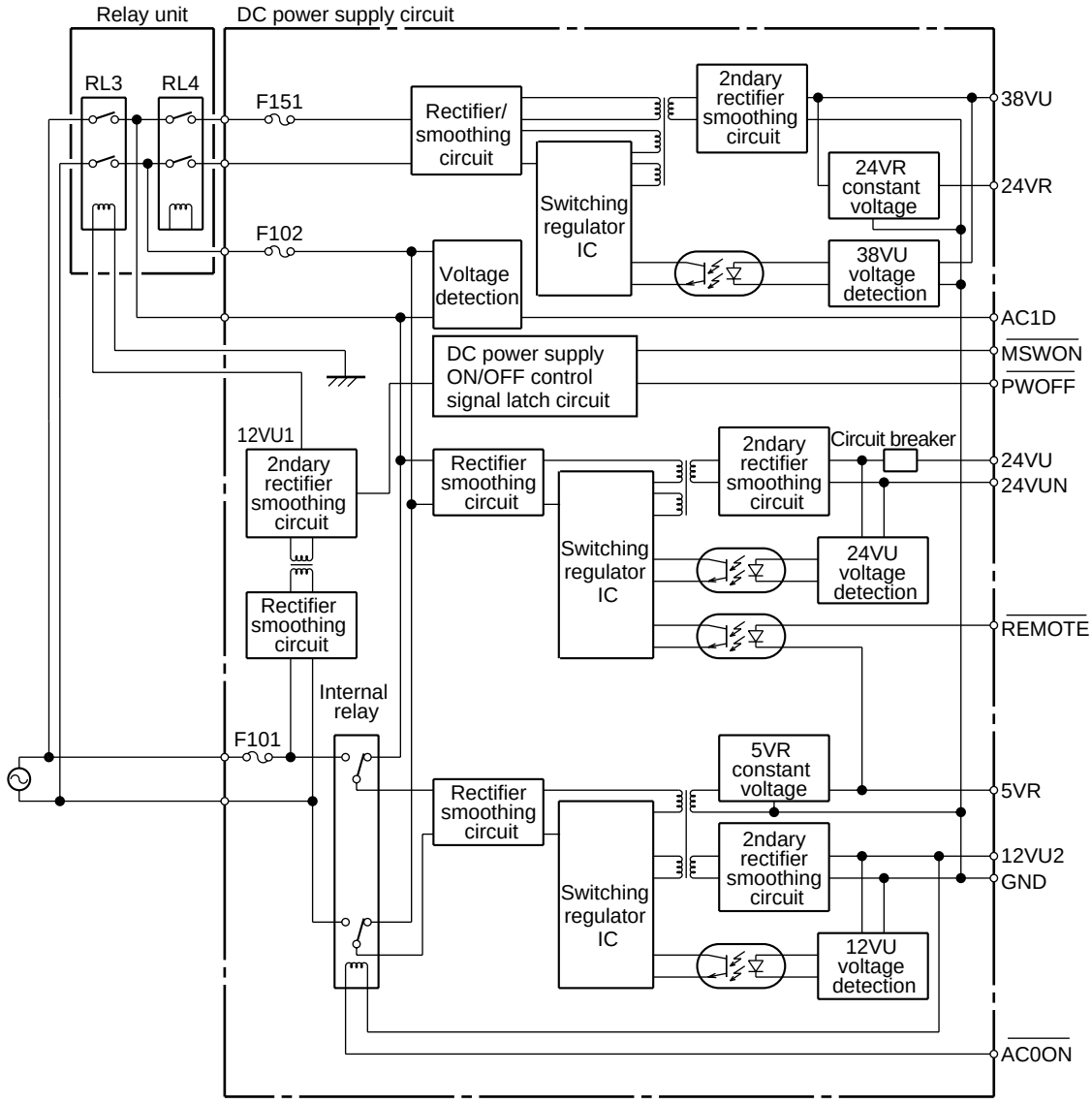

Figure 3-703 (DC power supply circuit block diagram)

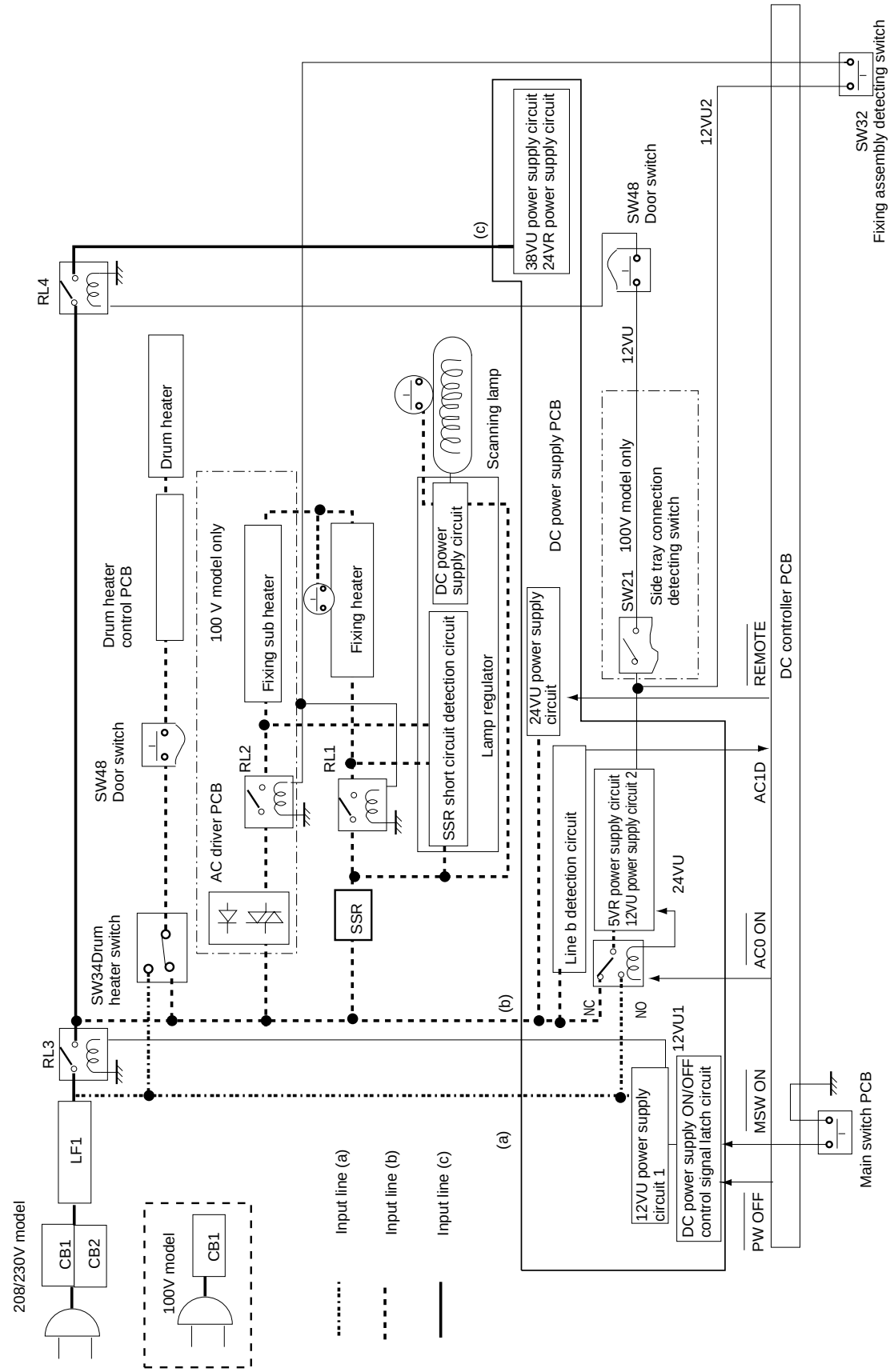

Figure 3-704 (AC power supply connection conceptual diagram)

VIII. C.F.F. (COMPUTER FORM FEEDER)

A. Outline

The C.F.F. is a device used to feed continuous paper (computer forms) capable of accommodating as large as 381x304.8 mm paper.

The copier feeds continuous paper into the C.F.F. without moving the scanner to expose the original pages for copying.

See Figure 3-801 for a block diagram of the signals exchanged between copier and C.F.F.

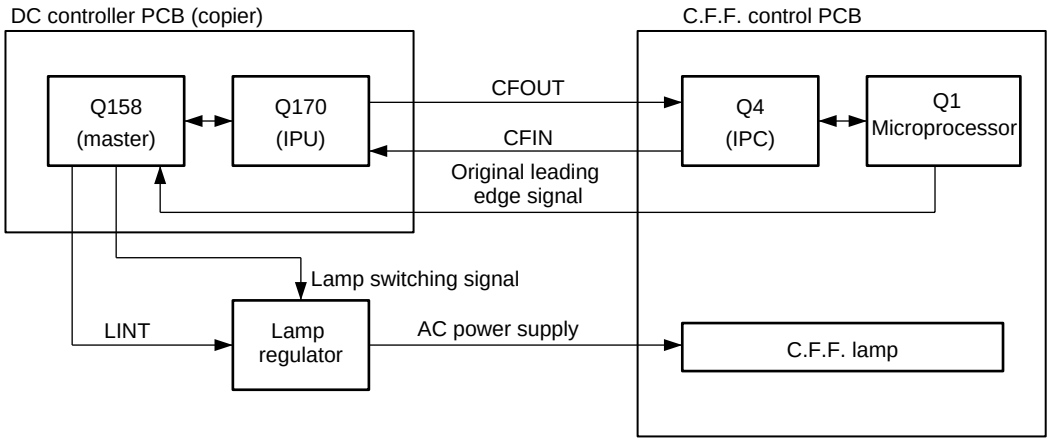

Figure 3-801

Signal	Description
CFOUT	Signals (data) sent by the copier to the C.F.F.
CFIN	Signals (data) sent by the C.F.F. to the copier.
Original leading edge signal (CFLE)	Signals sent by the C.F.F. to the copier. Copying is executed based on these signals.

Table 3-801

B. Inputs to and Outputs from the C.F.F. Controller

Inputs to and Outputs from the C.F.F. Controller (1/2)

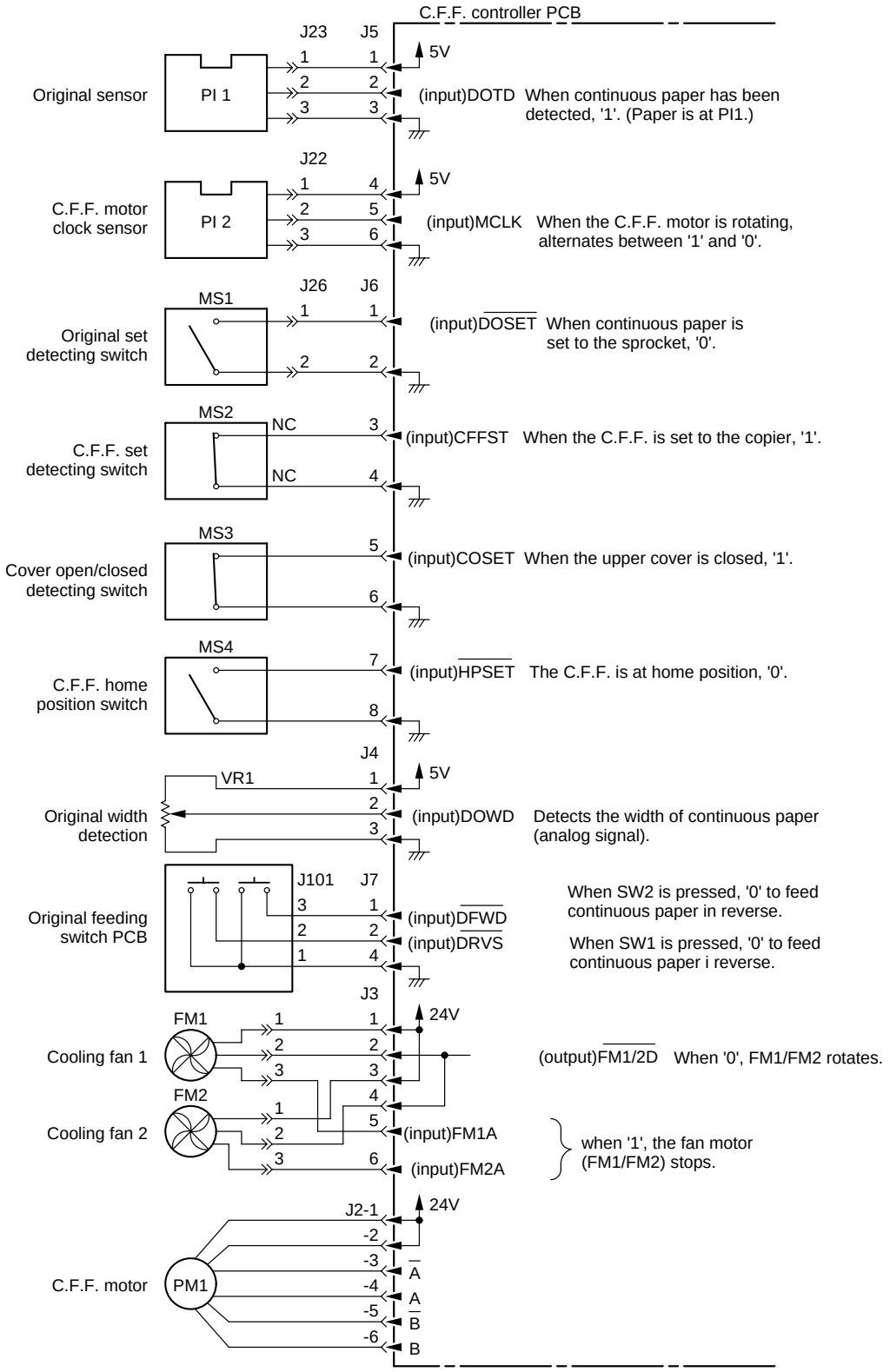

Figure 3-802

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

Inputs to and Outputs from the C.F.F. Controller (2/2)

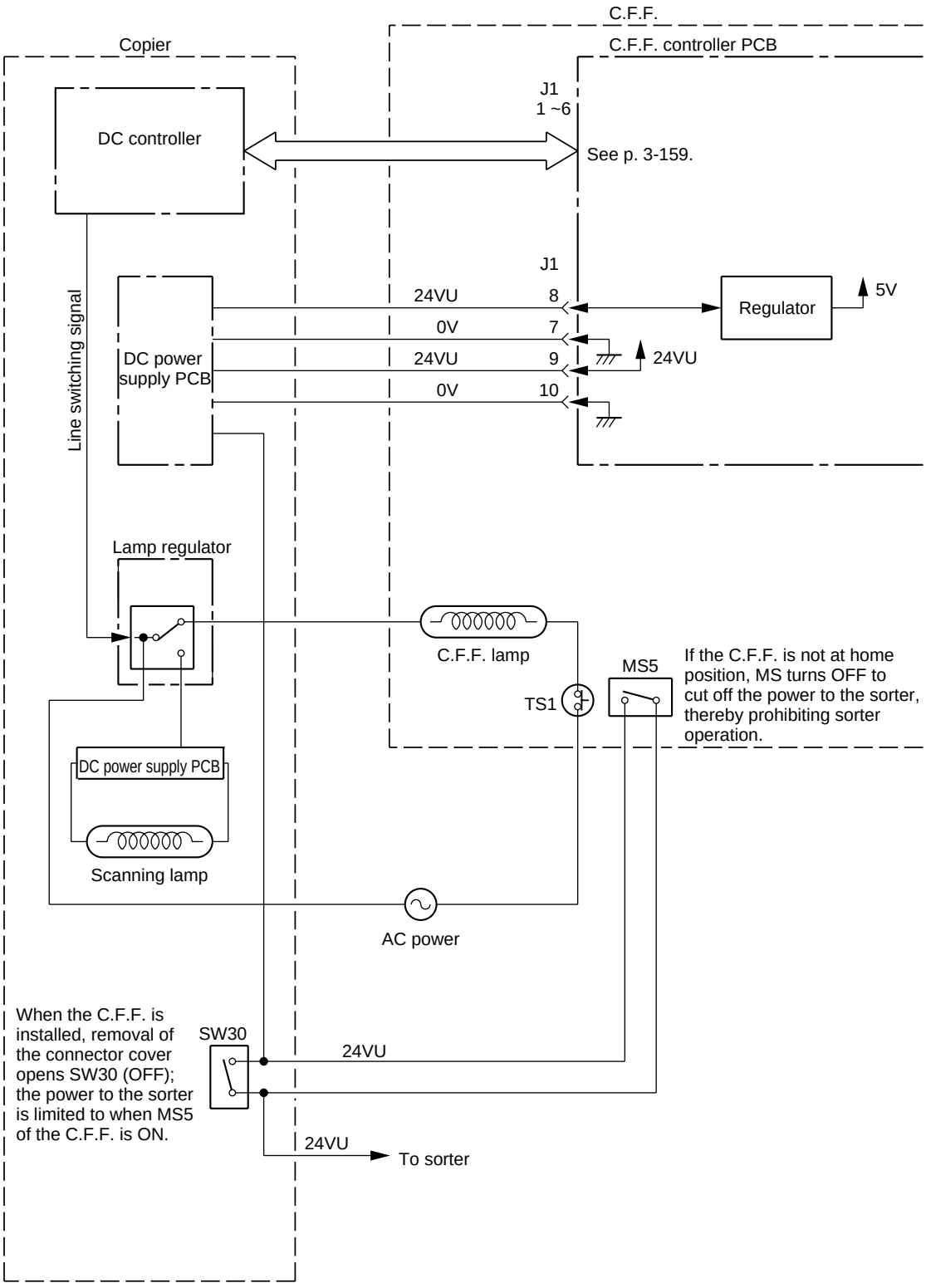

Figure 3-803

C. Basic Operations

1. Outline of Operations

The tractor and the delivery roller are driven using drive belts with drive from a stepping motor (M11) to move continuous paper.

To crease the continuous paper sent to the original tray, the paper is moved at low speed up to the sixth page and the speed is increased thereafter.

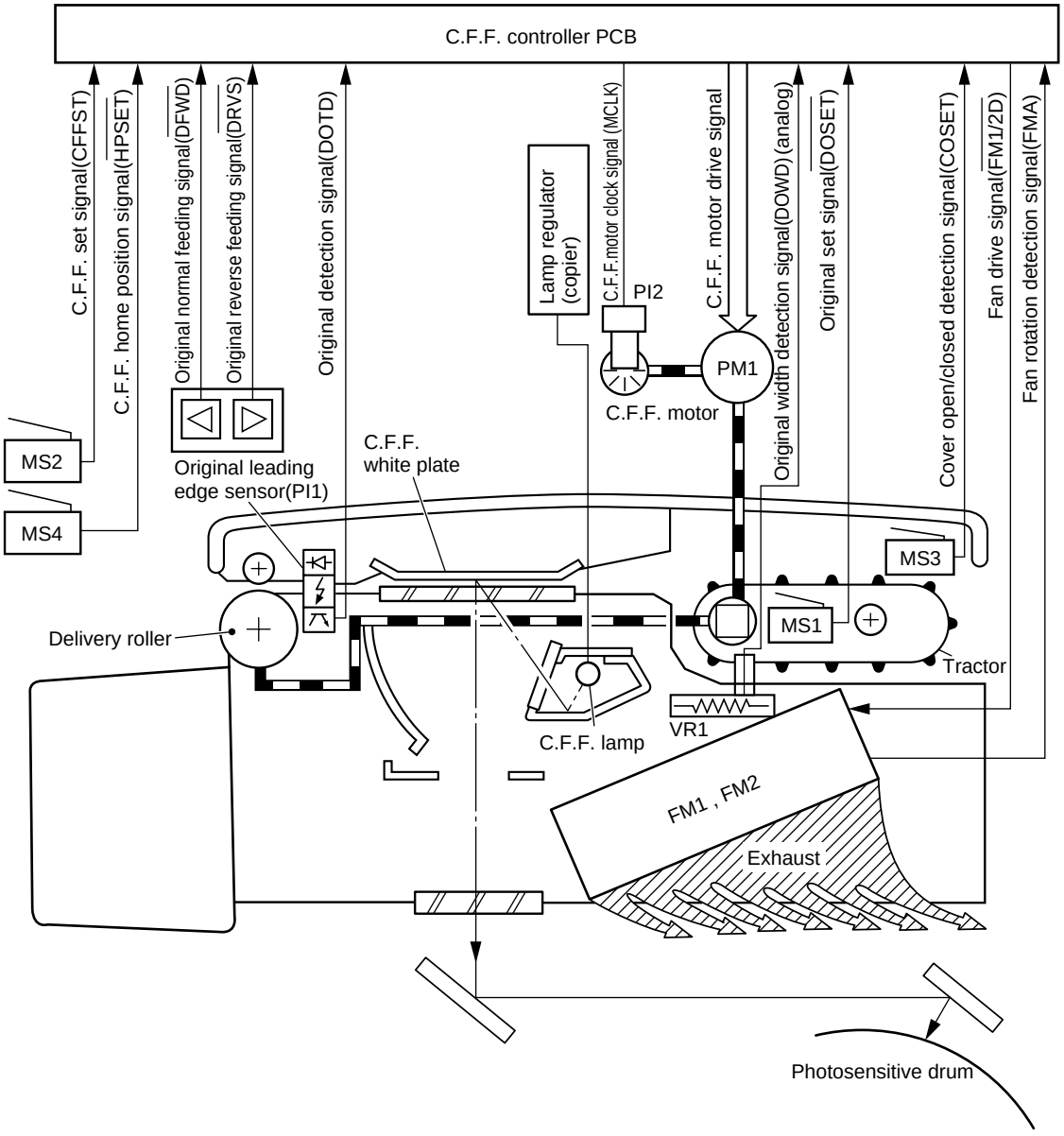

Figure 3-804

Continuous paper is set to the C.F.F., and the copier's Copy Start key is pressed.

1 The Copy Start key (copier) is pressed. (Figure 3-805)

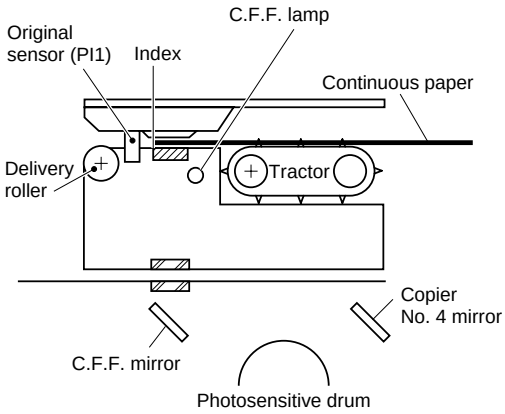

Figure 3-805

2 The stepping motor (C.F.F. motor PM1) rotates clockwise to move the continuous paper in normal direction. (Figure 3-806)

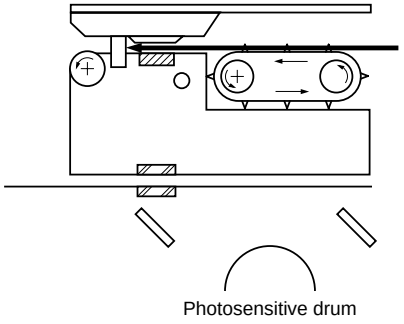

Figure 3-806

3 The original sensor (PI1) detects the continuous paper, and the C.F.F. motor (PM1) rotates counterclockwise so that the paper stops where it does not cover the C.F.F.'s white plate. (reference is to PI1; Figure 3-807)

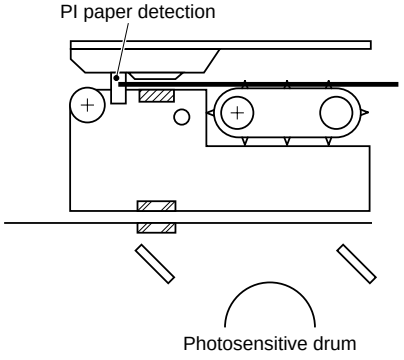

Figure 3-807a

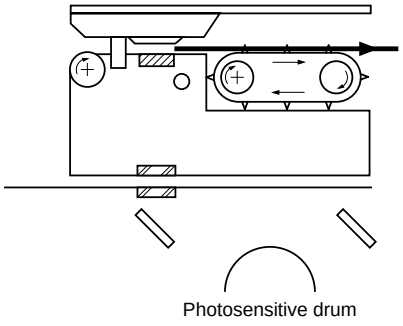

Figure 3-807b

4 The C.F.F. lamp illuminates the C.F.F. white plate, and the potential is measured. (Figure 3-808)

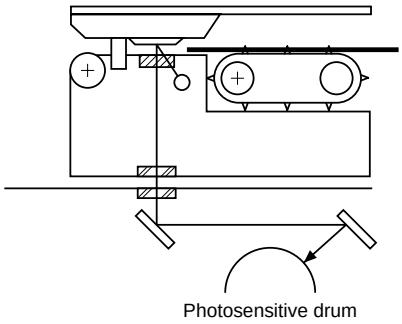

Figure 3-808

5 The C.F.F. motor (PM1) rotates clockwise to move the continuous paper in normal direction up to a point where the original sensor (PI1) can detect it. The C.F.F. motor stops upon detection. (Figure 3-809)

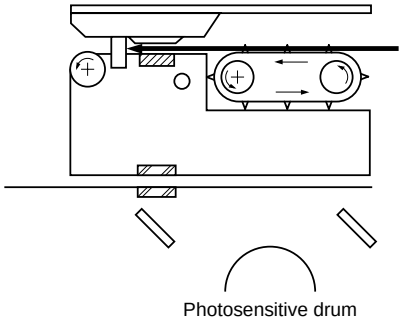

Figure 3-809

6 The C.F.F. lamp illuminates the continuous paper, and AE measurement (p. 3-168) is executed. (Figure 3-810)

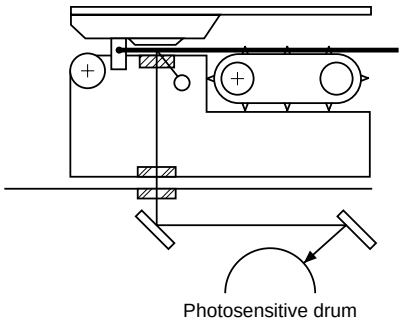

Figure 3-810

7 The C.F.F. motor (PM1) rotates counterclockwise and moves the continuous paper to a point where its leading edge can be read. (Figure 3-811)

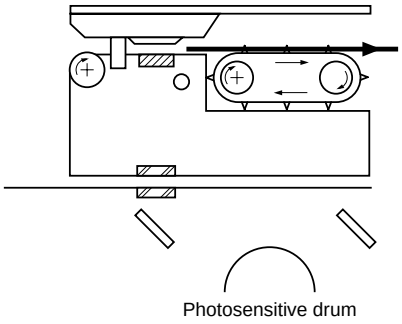

Figure 3-811

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8 The C.F.F.'s microprocessor sends the image leading edge signal to the copier, which in turn starts copying using the signal. (Figure 3-812)

9 After copying the area between perforations of the continuous paper (single page), the C.F.F. motor is rotated counterclockwise to ensure coverage of images near perforation by moving the paper in reverse.
Thereafter, the paper is moved in normal direction for copying the second page. (The images near perforations will be copied over two consecutive pages.)

The above operations are repeated until the last page is copied. (Figure 3-813)
The sequence of operations involved in potential measurement and AE measurement are executed for the first page of continuous paper only and not executed at the start of operation after jam removal or the like.

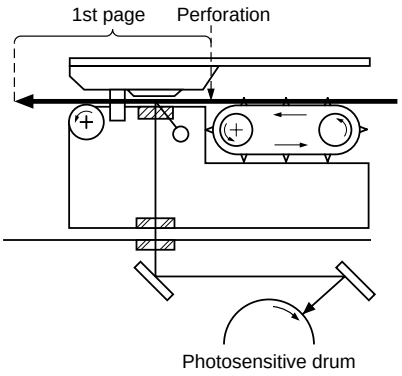

Figure 3-812

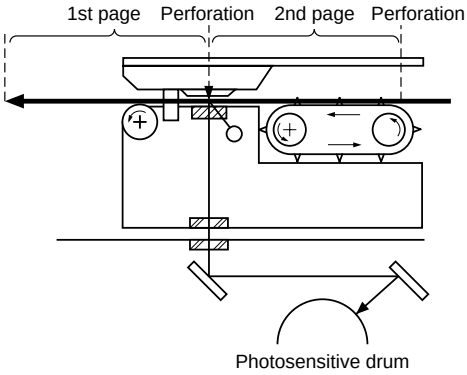

Figure 3-813a

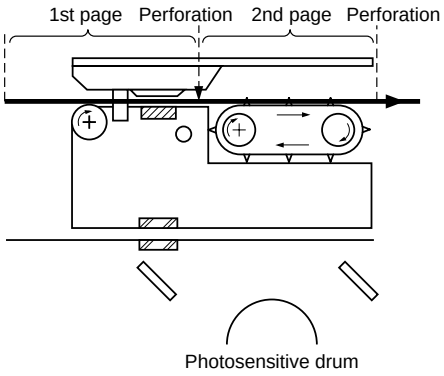

Figure 3-813b

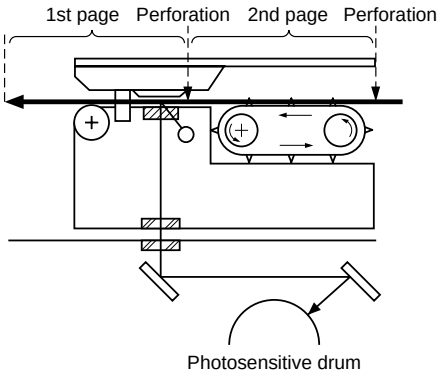

Figure 3-813c

2. Sequence of Operations (with C.F.F. in use)

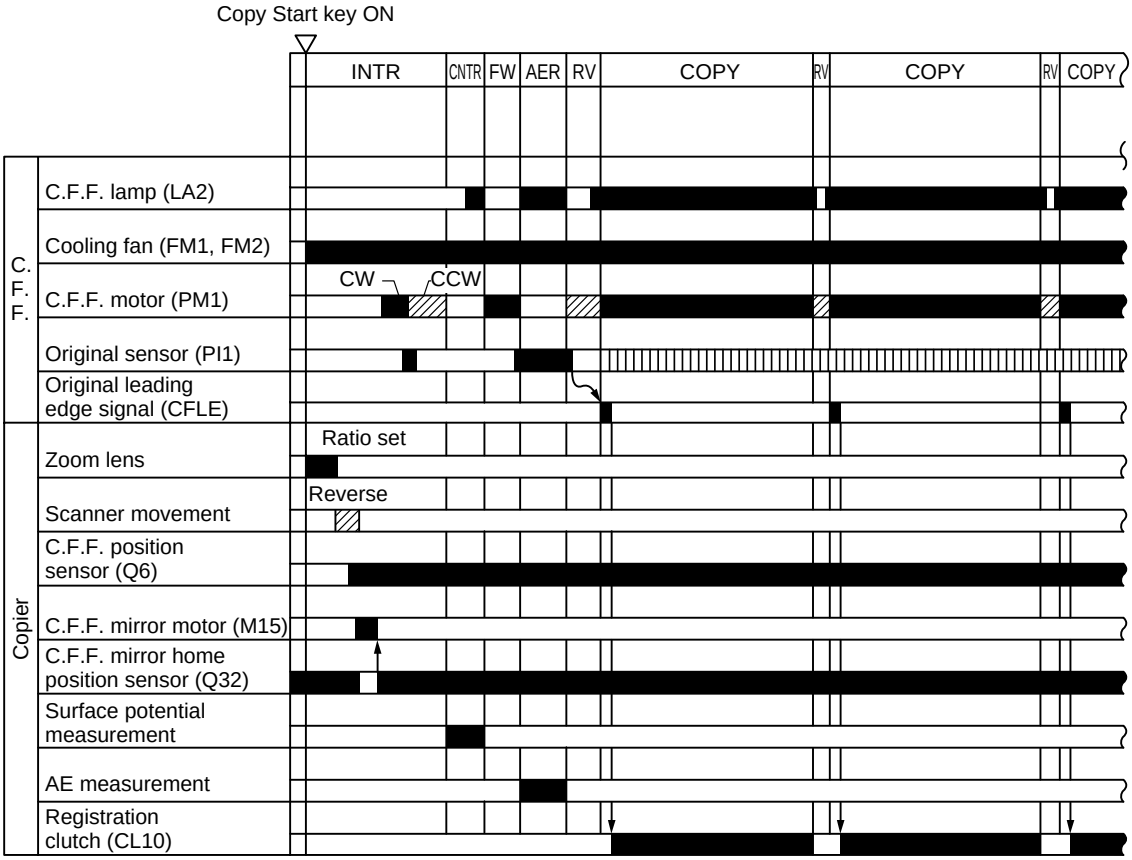

Figure 3-814

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D. Optical Path with the C.F.F. in Use

As mentioned, the copier reads original pages on continuous paper while feeding it by the C.F.F. (stream reading).

When the C.F.F. is used, the No. 1 and No. 2 mirror mounts are moved farther left (C.F.F. position) than normal; then, the C.F.F. mirror shifts up to form the optical path for the C.F.F.

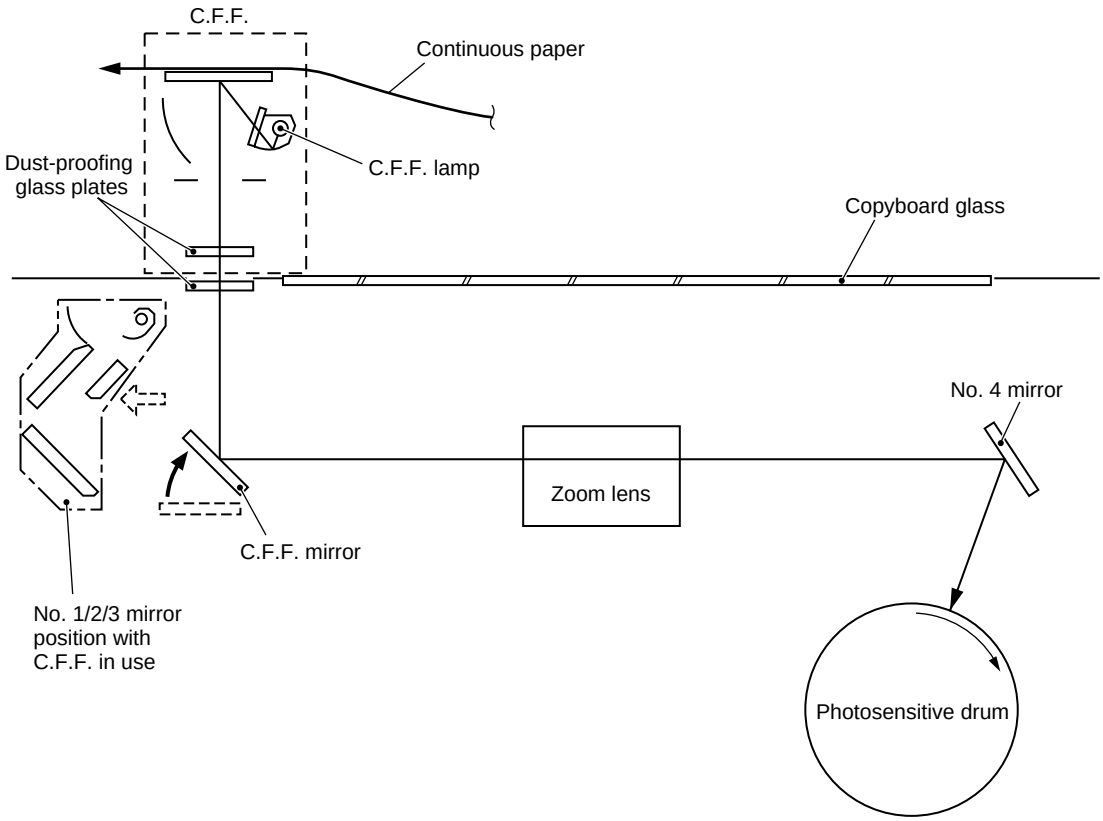

Figure 3-815

E. Automatic Exposure Control (AE)

An automatic exposure function is used to automatically control the intensity of the C.F.F. lamp according to the density of the original pages on continuous paper when the C.F.F. is used.

With the C.F.F. in use, AE measurement is executed by illuminating the first page only of the continuous paper with the C.F.F. lamp (LA2) while the paper is kept stationary. While this takes place, the surface potential of the photosensitive drum is measured, and the result is sent to the DC controller PCB.

The DC controller PCB in turn determines the intensity of the C.F.F. lamp for copying based on the surface potential measurement it has received.

The C.F.F. lamp is controlled by the copier's lamp regulator, and the power is switched to the scanning lamp or the C.F.F. lamp by the relay circuit inside the lamp regulator.

The intensity control mechanism for the C.F.F. lamp is operated by the intensity adjustment signal (LINT) used for the scanning lamp of the copier. For this reason, the intensity of the C.F.F. lamp determined by the DC controller PCB is under the control of the LINT signal.

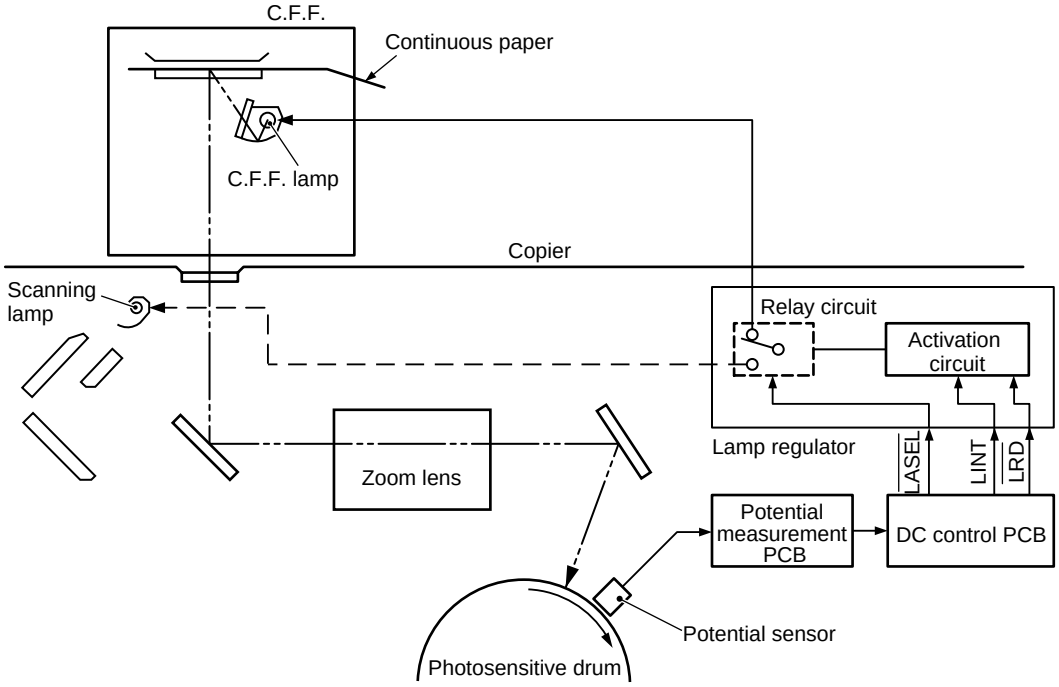

Figure 3-816

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

F. Automatic Paper Selection

The C.F.F.'s tractor (front) is designed to move to suit the width of continuous paper.

The tractor is equipped with a variable resistor whose resistance varies when the tractor is adjusted to the width of continuous paper, thereby allowing identification of the width of continuous paper.

The length of continuous paper per page is identified in reference to the number of feeding holes in the paper. (You must enter the number on the copier's control panel.)

These two references are used to find out the size of the original to select A4 (LTR) or A4R (LTRR). (Table 3-802)

G. Auto Reproduction Selection

As mentioned for auto paper selection, the size of copy paper is determined according to the size of a single original page.

A reproduction ratio is automatically selected so that the entire original page may be copied on the selected paper. (Table 3-802)

When the C.F.F. is used, however, the ratio must be between 64% and 100%.

The reproduction ratio in the axial direction of the drum is varied by the lens; the reproduction ratio in the original feeding direction, on the other hand, is by varying the speed of feeding the original.

The lens is moved so that the image of the original will be at the center (in relation to the drum axis) of the copy paper.

Reference:

The reproduction ratio may be set to any value in 1% increments; however, it must be between 64% and 100%.

Original width	Feeding size (number of holes)	Copy paper selected automatically	Reproduction ratio selected automatically
381 mm (15 in)	279.4 mm (11 in) (22)	A4R (LTR)	69% (71%)
373.4 mm (14.7/8 in)	205.7 mm (8.1/2 in) (17)	A4R (LTR)	79% (74%)
228.6 mm (9 in)	279.4 mm (11 in) (22)	A4R (LTR-R)	96% (94%)

table 3-802

H. Fan Error Detection

The C.F.F. is equipped with two fans used to exhaust the heat of the C.F.F. lamp.

These fans have a built-in rotation signal circuit, and the state of rotation is monitored in reference to the rotation signal sent to the C.F.F. controller PCB.

If any of the two fans stops (FM1A or FM2A signal goes '1') or doe not rotate in response to the fan drive signal (FM1A or FM2A signal goes '0'), the machine will be stopped and 'E44' will be indicated on the copier's control panel.

If such happens, remove the cause and turn OFF and then ON the copier's power switch to reset.

The fans continue to rotate for about 5 min after the end of copying (C.F.F. operation).

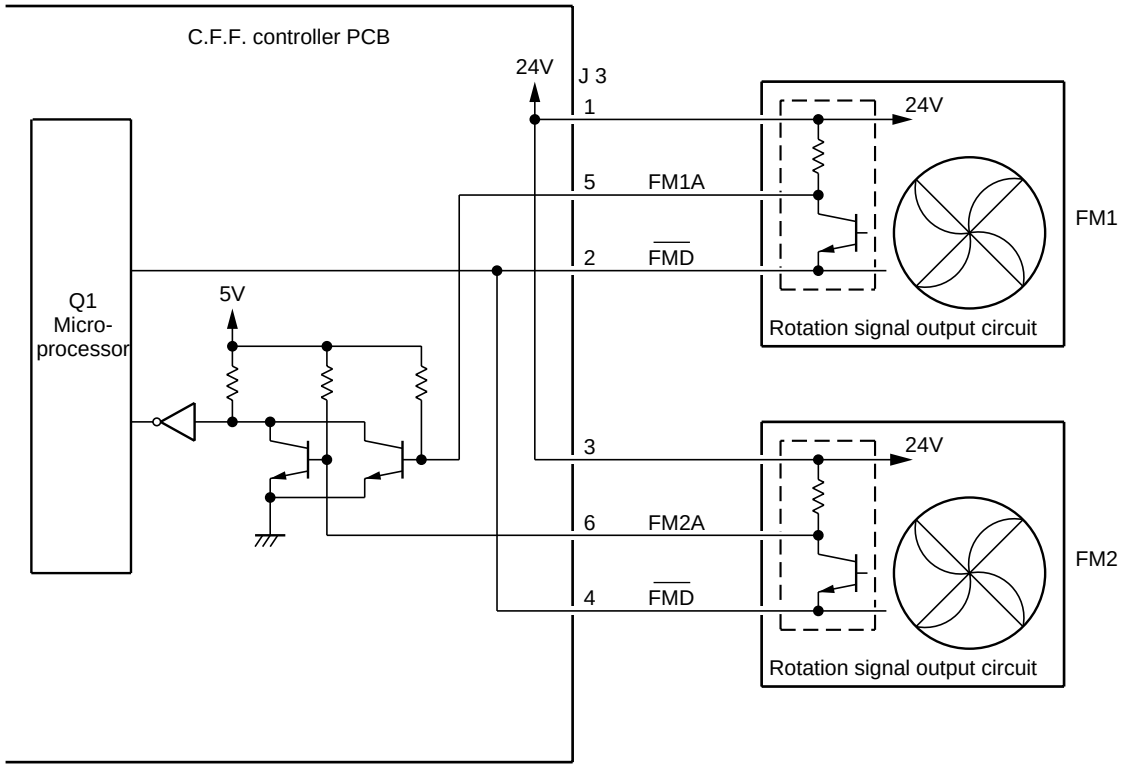

Figure 3-817

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

I. Checking the Feeding Operation

The C.F.F. monitors every other hole in continuous paper being fed by its original sensor (PI1).

The holes in the continuous paper are made at equal intervals, and the machine will be stoped if the holes are not identified at specific time intervals when the paper is moved at a specific speed, assuming the presence of a feeding fault (original jam).

You may set the machine in service mode (✻ 5 ✻) so that each hole may be checked instead of every other hole.

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IX. SPECIFICATION AND ADJUSTMENT

A. Mechanical

1 Leading Edge Non-Image Width

Select 'LE_BLANK' in service mode (✻3✻).

Adjust so that the leading edge non-image width is 4.0 +1.5, -1.0 mm when the Test Sheet is copied in Direct.

(unit: 0.1 mm)

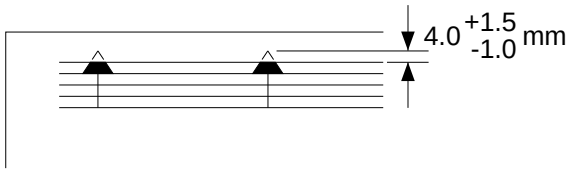

Figure 3-901

2 Leading Edge Margin (registration)

Select 'REGIST_L' or 'REGIST_H' in service mode (✻3✻).

Adjust so that the leading edge margin is 4.0 +1.5, -1.0 mm when the Test Sheet is copied.

(unit: 0.1 m for both REGIST_H and REGIST_L)

REGIST_H : between 200% and 64%

REGIST_L : between 63% and 50%

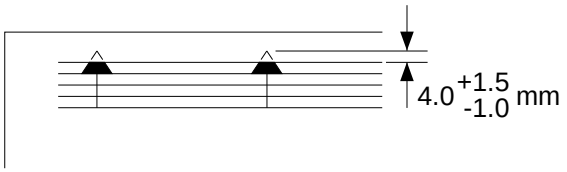

Figure 3-902

3 Left/Right Registration (paper deck; upper/ lower front tray position)

Select 'ERASE' and enter '1' in service mode (✻5✻).

Adjust by moving the paper deck and the horizontal registration adjusting plate of the upper/lower front tray so that the distance between the edge of the copy image and the edge of copy page is 0 ±1.5 mm in Direct.

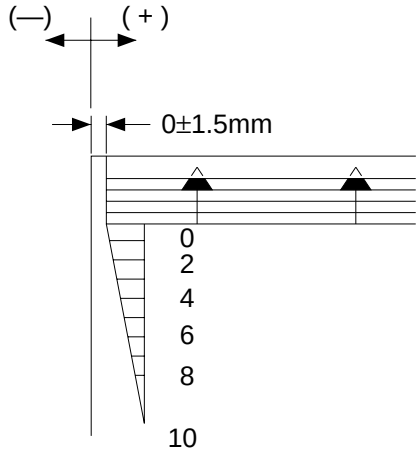

Figure 3-903

After adjustment, enter '0'.

If 'ERASE' in service mode (✻5✻) is set to '0' (with standard frame erasing ON), the left/right non-image width will be as shown in Table 3-901.

Paper	Left/right non-image width
A4R,B5R,B4, A3,LTRR	2.75 ± 2.3mm
Other sizes	3.0 ± 2.55mm

Table 3-901

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

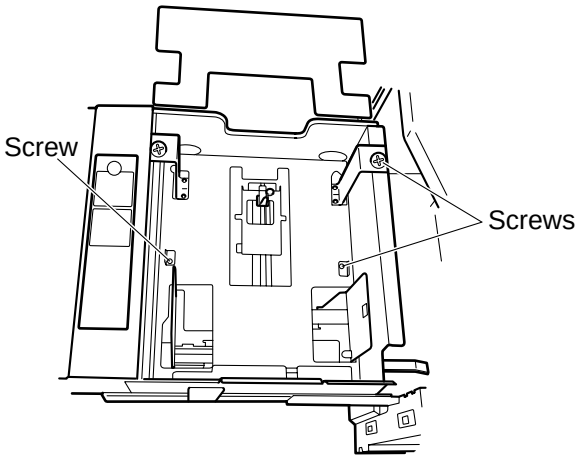

Figure 3-904 (horizontal registration adjusting plate of front tray)

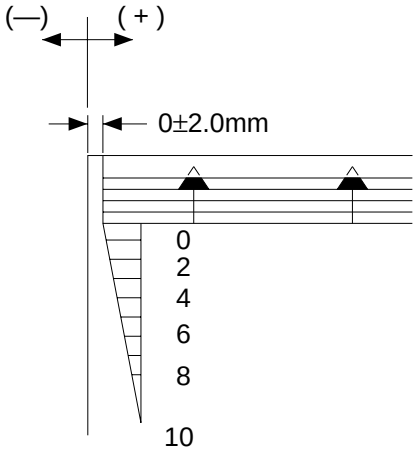

Figure 3-906

4 Left/ Right Registration (duplexing unit position; 2nd side of two-sided/ overlay copy)

Select 'ERASE' in service mode (✻5✻), and enter '1'.

Remove the front cover of the duplexing unit.

Adjust by moving the guide plate of the re-pick up assembly so that the distance between the edge of the copy image and the end of copy paper is 0 ±2.0 mm in Direct.

After adjustment, enter '0'.

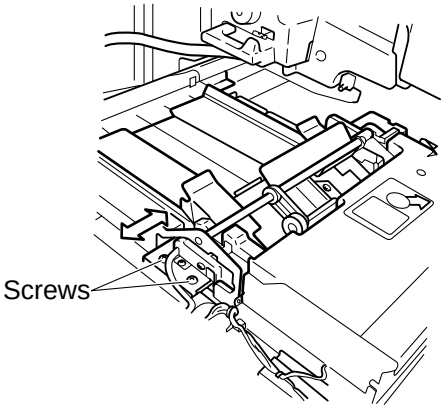

Figure 3-905

B. Electrical System

1 AE Automatic Adjustment

1) Open the front door, and insert the door switch actuator into the door switch assembly.
2) Press the service mode switch with a hex key.
3) Select 'AE_ADJ' in service mode (✻ 4 ✻).
4) Place the Test Sheet on the copyboard, and close the copyboard cover.

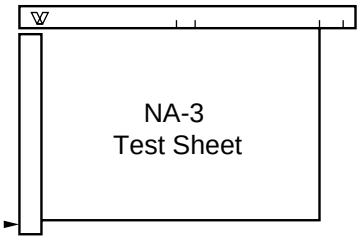

Figure 3-907

5) Press the OK key, and select '1' and make sure the number is '1' [AE_ADJ:0 (1: EXECUTING)]
6) Wait until the display changes from 'F5' to 'F9'.
7) Place a newspaper on the copyboard, and close the copyboard cover.
8) Press the OK key.
   The adjustment is over when the display has changed from 'F9' to 'F5'.
   If the display alternates between 'F5' and 'F9', indicating an adjustment error, start over.
9) Press the Reset key twice to end service mode.

2 AE Slope Adjustment

After executing AE automatic adjustment, make copies of a dark original (e.g., newspaper).

1) Open the front door, and insert the door switch actuator into the door switch assembly.
2) Press the service mode switch with a hex key.
3) Select 'AE_SLOP' in service mode (✻ 3 ✻).
4) Place a dark original (e.g., newspaper) on the copyboard.
5) Adjust 'AE_SLOP'.
   1 Decreasing the setting in adjustment mode causes copies of a newspaper to be lighter.
   2 Increasing the setting in adjustment mode causes copies of a newspaper to be darker.

Note:
A press on the Copy Start key will start copying operation.

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

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3 C.F.F. AE Automatic Adjustment

1) Open the front door, and insert the door switch actuator into the door switch assembly.
2) Press the service mode switch with a hex key.
3) Select 'CFFAEADJ' in service mode (*4*).
4) Without placing an original on the C.F.F. platen glass, close the C.F.F. cover.
5) Press the OK key to execute the mode.
6) Wait until the display changes from 'F1' to 'F5'.
7) Place the Test Chart (FY9-9302-000) on the C.F.F. platen glass, and set it to the tractor.
   Move the Test Chart so that its leading edge is at the C.F.F. original delivery slot, and close the C.F.F. cover.

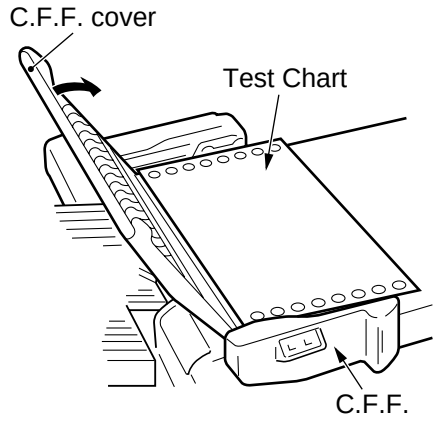

Figure 3-908

8) Press the OK key.
   Wait until the display changes from 'F5' to 'F9'.
9) Remove the Test Chart, place a newspaper, and close the C.F.F. cover.
   (You need not set it to the tractor.)
10) Press the OK key.
    The display changes from 'F9' to 'F5'.
    If the display alternates between 'F5' and 'F9', indicating an adjustment error, start over.
11) Press the Reset key twice to end service mode.

Reference:

A press on the Copy Start key during CFFAE automatic adjustment will not initiate copying operation or C.F.F. feeding operation.

4 C.F.F. AE Slope Adjustment

After executing CFFAE auto adjustment, make a copy of a user original*. If the copy is foggy or too light, perform the following steps:

*Colored original, light original, recycled paper original, and the like.

1) Open the front door, and insert the door switch actuator into the door switch assembly.
2) Press the service mode switch with a hex key.
3) Select 'CFFAESLP' in service mode (*3*).
4) Set an original used by the user to the C.F.F.
5) Adjust 'CFFESLP'.
   1 Decreasing the setting in adjustment mode will cause the copies of the original to be lighter.
   2 Increasing the setting in adjustment mode will cause the copies of the original to be darker.

Note:

A press on the Copy Start key will initiate copying operation.

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

5 RF AE Automatic Adjustment

1) Open the front door, and insert the door switch actuator into the door switch assembly.
2) Press the service mode switch with a hex key.
3) Select 'RF_AE' in service mode (✻ 7 ✻).
4) Place the Test Sheet in the RDF, and close the RDF.
5) Press the OK key to execute the mode.
6) Press the Reset key twice to end service mode.

Reference:

a. A press on the Copy Start key during RDF AE automatic adjustment will not initiate copying operation or RDF feeding operation.
b. RDF AE automatic adjustment may be executed regardless of the setting (e.g., copier AE) under 'RDF-AE' in service mode.
c. If a fault occurs in RDF AE while the RDF is being used, you may switch to copier AE using 'AE_SW' in service mode (✻ 5 ✻). (See p. 3-238.)

6 RDF AE Slope Adjustment

After AE automatic adjustment, make copies of a dark original (e.g., newspaper). If the copies are foggy or too light, perform the following adjustments for AE in left/right pick-up (right pick-up AE and left pick-up AE use different points of measurement, requiring adjustment for both):

■ AE Adjustment for Left Pick-Up

1) Open the front door, and insert the door switch actuator into the door switch assembly.
2) Press the service mode switch with a hex key.
3) Select 'RFAE_F5L' in service mode (✻ 7 ✻).
4) Place the Test Sheet in the RDF.
5) Adjust 'RFAE_F5L'.
   1 Decreasing the setting in adjustment mode causes copies of the Test Sheet to be lighter.
   2 Increasing the setting in adjustment mode causes copies of the Test Sheet to be darker.
6) Select 'RFAE_F9L' in service mode (✻ 7 ✻).
7) Place a dark original (e.g., newspaper) in the RDF.
8) Adjust 'RFAE_F9L'.
   1 Decreasing the setting in adjustment mode causes copies of a newspaper to be lighter.
   2 Increasing the setting in adjustment mode causes copies of a newspaper to be darker.

Note:
A press on the Copy Start key will initiate copying operation.

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

■ AE Adjustment for Right Pick-Up

1) Open the front door, and insert the door switch tool into the door switch assembly.
2) Press the service mode key with a hex key.
3) Select 'RFAE_F5R' and 'RFAE_F9R' in service mode (✻ 7 ✻).
4) Hereafter, perform the same steps as for left pick-up.

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7 Adjusting the Volume of the Primary Charging Assembly

Adjust the volume of the primary charging assembly if

- you have replaced the drum,
- you have replaced the primary charging assembly, or
- the value of VDM in service mode (✻ 1 ✻) is not VDT ±30 V.

1) Connect the power plug, and wait for 10 min or more after turning on the drum heater.
2) Turn the volume of the charging assembly fully to the left (to prevent excess increases in potential).
3) Select 'GRID_ADJ' in service mode (✻ 4 ✻).
4) Press the OK key.
5) Turn the volume clockwise slowly while the photosensitive drum rotates for 30 sec so that the value of DPOT is VDT ±60 V (as close to VDT as possible).
6) Press the Reset key (//).
7) Turn OFF and then ON the power switch.
8) Check to make sure that the value of VDM in service mode (✻ 1 ✻) is VDT ±30 V.
   Otherwise, start over with step 3).

8 After Replacing the DC Controller PCB

1) Install the new DC controller PCB.
2) Press the service mode switch (SW921) with a hex key.
3) Select 'RAM_INIT' in service mode (✻ 4 ✻).
4) Press the OK key (to initialize the RAM).
5) Enter the values recorded on the label behind the front door.
6) Execute AE adjustment.
7) Enter the settings prepared for the user in service mode (✻ 5 ✻).
8) Press the Reset key (//) twice.

9 Checking the Surface Potential Control System

a. Outline

When image faults occur, it is important to find out if the cause is in the latent image formation block (including the photosensitive drum and the potential control system) or in the developing/transfer mechanism.

To do so in turn requires a check to make sure that the surface potential is correct. (Use service mode to make such a check.)

b. Disabling Automatic Control

You can check if the corona current control, lamp intensity control, or developing bias control mechanism is normal or otherwise by disabling automatic control (non-automatic control mode).

You may take advantage of non-automatic control mode as an emergency remedy for a fault in any of the above automatic control mechanisms.

In non-automatic control mode, outputs are fixed to defaults:

① Steps

1) Select 'PO.CONT' in service mode (✻ 4 ✻).
2) Check to make sure that the notation on the message display is as follows:

PO.CONT : 0 (0 : ON 1 : OFF)

3) Press the OK key on the control panel. (This switches to non-automatic control mode.)
4) Press the Reset key (//) on the control panel twice.

Note:
Initiating non-automatic control mode fix all outputs of corona current control, intensity control, and developing bias control to their respective default values.

② Taking Advantage of Non-Automatic Control Mode

Use non-automatic control mode to find out if the cause of an image fault is on the input side or the output side of the microprocessor on the DC controller PCB.

If the problem is corrected somewhat in non-automatic control mode, you can suspect a fault in the potential measurement unit or the DC controller PCB.

c. Zero-Level Check

A zero-level check may be used to see if the surface potential control circuit is normal or otherwise.

Reference:

In a zero-level check, a check is made to find out whether the microprocessor identifies 0 V when the surface potential is 0 V, indicating whether the microprocessor on the DC controller PCB and the measurement unit are normal or faulty.

A zero-level check may be initiated using either of two methods; use method 1 to check the level shift circuit of the DC controller PCB, and use method 2 to check the potential measurement circuit.

① Method 1

1) Turn OFF the power switch.
2) Remove the upper cover and the upper right cover.
3) Disconnect the connector J4 from the potential measurement PCB.
4) Short J132-1 and J132-2 on the DC controller PCB with a jumper wire.
5) Insert the door switch actuator into the door switch assembly, and turn ON the power.
6) Select the screen showing 'DPOT' (drum surface potential) in service mode (✻ 5 ✻).
7) Check to make sure that DPOT on the message display is 0 ±30 V.

Note:

If the value is not 0 ±30 V, suspect a fault on the DC controller PCB.

8) Turn OFF the power switch, and remove the door switch actuator.
9) Remove the jumper wire from the DC controller PCB.
10) Connect the connector to J4 of the potential measurement PCB.
11) Install the upper cover and the upper right cover.
12) Turn ON the power switch.

② Method 2

1) Turn OFF the power switch.
2) Remove the blank exposure lamp assembly.
3) Connect the connector of the potential sensor.
4) Set the potential sensor checking electrode (TKN-0197) to the potential sensor.

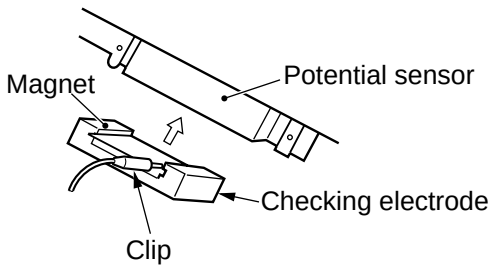

Figure 3-909

Caution:

When setting the checking electrode to the potential sensor, take care so that the magnet of the checking electrode will not touch the potential sensor cover.

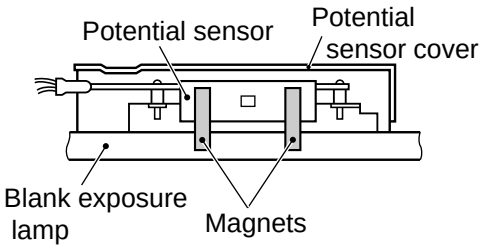

Figure 3-910

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5) Set the clip for the jumper wire to the potential sensor checking electrode.

Caution:
Take extra care never to let the clip touch the sensor cover. Keep it sufficiently away from the sensor window.

6) Connect one end of the jumper wire to J4-1 of the potential measurement PCB.
7) Insert the door switch actuator into the door switch assembly.
8) Turn ON the power switch.

Caution:
Do not touch the potential sensor once you have turned on the power switch.

9) Select the screen showing 'DPOT' (drum surface potential) in service mode (✻1✻).
10) Check to make sure that DPOT on the message display is 0 ±30 V.

Reference:
1. If the indication is as specified in method 1 and not in method 2,
you may suspect dirt on the sensor or a fault in the potential measurement unit.
2. If the indication is as specified in method 1 and method 2,
you may assume that the signal path and operations from the potential sensor unit to the microprocessor on the DC controller PC are normal.

11) Turn OFF the power switch.
12) Remove the potential sensor checking electrode.
13) Install the blank exposure lamp assembly.
14) Turn ON the power switch.

10 Checking the Environment Sensor

1) Start service mode (✻1✻), and check the temperature/humidity on the control panel. (Take notes of the readings.)
   Data A
   'RTMP' °C data A1
   'HUM' % data A 2
2) Press the Reset key twice, and turn OFF the power switch.
3) Remove the environment sensor, and insert the environment sensor tool (FY9-3014) in its place.
4) Turn ON the power switch, and leave it alone for 5 min.
5) Start service mode (✻1✻), and check the temperature/humidity on the control panel. (Take notes of the readings.)
   'RTMP' °C data B1
   'HUM' % data B2
6) Compare data A and data B.
   - difference between data A1 and data B1 is 0 ±5
   - difference between data A2 and data B2 is 0 ±20

   If the difference between data A and data B is not as indicated, replace the environment sensor.
7) Press the Reset key twice, and turn OFF the power switch.
8) Remove the environment sensor tool, and insert the environment sensor.
9) Install all covers.

Caution:
The environment sensor tool (FY9-3014) is adjusted at the factory to high precision. Keep it in an airtight case with a drying agent.

X. SERVICE MODE

A. Outline

The NP6085's service mode is classified into the following seven types:

Item	Display	Description
✻ 1 ✻	DISPLAY	Display mode
✻ 2 ✻	I/O DISPLAY	I/O display mode
✻ 3 ✻	ADJUST	Adjustment mode
✻ 4 ✻	FUNCTION	Function mode
✻ 5 ✻	USER OPTION	User option mode
✻ 6 ✻	COUNTER	Counter mode
✻ 7 ✻	APPLICATION	Option mode

Table 3-1001

Each mode has its own items as discussed in the pages that follow. Make sure of the message display as necessary for checks.

B Using Service Mode

1) Open the front doors, and insert the door switch actuator. If you want to use such modes as I/O display mode while making copies, set appropriate copying modes.
2) Press the service mode switch (SW921 on the service switch PCB) with a hex key.
   - The machine starts service mode and indicates '$' in the upper left corner of the message display.

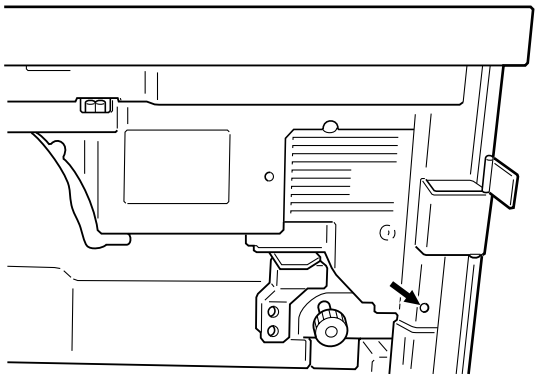


Figure 3-1001 (service mode switch)

3) Press the ✻ key twice to open the Selection screen.
   Then, select the mode (Table3-1001) you want to check or adjust.
4) Press the « / » key to select the appropriate screen.
5) Make a check or adjustments.
6) End service mode.
   - Press the Reset key (//) once to end the current mode.
   - Press the Reset key twice to end service mode.
   - Service mode ends when the power switch is turned OFF or the power plug is disconnected. (It cannot be ended, however, by opening the front door or the delivery door.)

Reference:

A press on the ↑ key will bring up the Selection screen.

C. Using Adjustment Mode and User Option Mode

In adjustment mode and user option mode, the settings on the control panel are stored in the RAM on the DC controller PCB to simulate conventional VRs and SWs.

Figure 3-1002 shows the label attached behind the copier's front right door.

Each copier is adjusted in the factory, and the adjustment values are recorded on the label.

You must always enter the values recorded on the label in the RAM on the DC controller PCB whenever you have replaced the DC controller PCB or the RDF controller PCB or cleared the RAM.

Further, be sure to record any new values you used in the field.

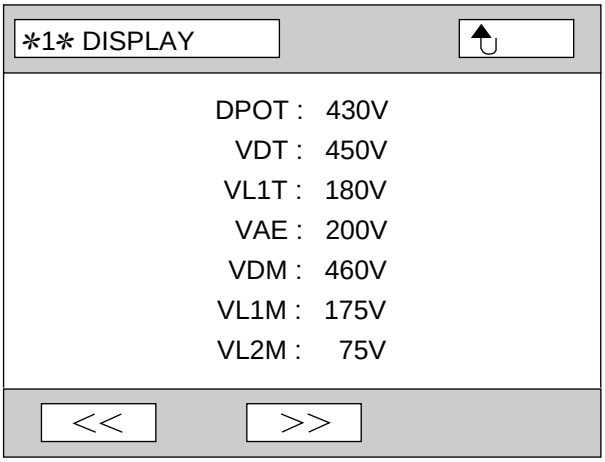
	TYP		
DRUM_SEL			
ATM			
BRAKE_SC			
LE_BLANK			
MULT_SZ			
PRETRANS			
TRN_ 1			
TRN_ 2			
SEP_ 1			
SEP_ 2			
REGIST_H			
LIGHT_ 5H			
LIGHT_ 5PH			
GLEAM_ 5H			
AE_SLOP			
REGIST_L			
LIGHT_ 5L			
LIGHT_ 5PL			
GLEAM_ 5L			
CFFRGST			
CFFLIGHT			
CFFGLEAM			
CFFAESLP			

	TYP		
A 4_PSZ			
A 3_PSZ			
A 4 R_PSZ			
B 4_PSZ			
B 5_PSZ			
B 5 R_PSZ			
LTR_PSZ			
11X17_PSZ			
LTRR_PSZ			
LGL_PSZ			
BOOK_ERA			
PRIMARY			
DOC_ST_R			
DOC_ST_L			
DOC_ST_M			
LA_LCKPS			
RF_LENSY			
P_INTL_R			
P_INTL_L			
RF_AEF5L			
RF_AEF9L			
RF_AEF5R			
RF_AEF9R			

Figure 3-1002

D. Display Mode (✻ 1 ✻)

- Select the screen using the « / » key.



Screen 1-1

Item	Description	Remarks
DPOT	Drum surface potential	Unit: V
VDT	Indicates the V_D (dark area potential) target value.	
VL 1 T	Indicates the V_{L1} (light area potential) target value.	
VAE	Indicates the average surface potential during AE measurement.	
VDM	Indicates the V_D (dark are potential) measurement value.	
VL 1 M	Indicates the V_{L1} (light area potential) measurement value.	
VL 2 M	Indicates the V_{L2} (developing bias light are a potential) measurement value.	

- When making copies using the C.F.F., data for the C.F.F. is displayed.
- While making copies in photo mode, data for photo mode is displayed.

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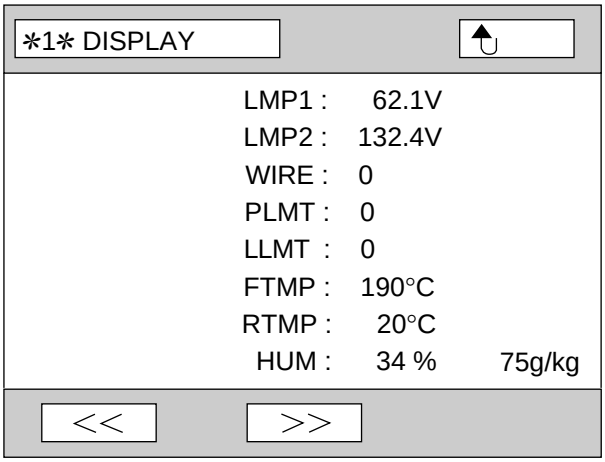

Screen 1-2

Item	Description	Remarks
LMP 1	Indicates the ON voltage for the scanning lamp (100V model).	Unit: V
LMP 2	Indicates the ON voltage for the scanning lamp (208/220/240V model).	
WIRE	Indicates a value other than '0' if the primary/pre-transfer/transfer/ separation charging wire cleaner stops at a point which is not its home position. (Note 1)	See Table 3-1002.
PLMT	Indicates '1' if the current reaches the upper limit or the lower limit when current control is imposed on the primary charging assembly.	0: Normal 1: Error
LLMT	Indicates '1' if the current of the ON voltage for the scanning lamp reaches the upper limit.	0: Normal 1: Error
FTMP	Indicates the surface temperature (output of thermistor TH1) of the upper fixing roller.	Unit: °C
RTMP	Indicates the machine internal temperature.	Unit: °C
HUM	Indicates the machine internal humidity.*	Unit: %, g/kg

*:The ratio and amount of the humidity displayed are measured when the previous copy is made.

- LMP1 and LMP2 indicate the ON control voltage value even when the scanning lamp is OFF.

Caution: You must execute 'wire cleaning' in user mode (✻ mode) if a number other than '0 is indicated under 'WIRE' because of an error in the charging wire cleaner.
If the wire cleaning motor and the wire cleaning assembly are normal, executing 'wire cleaning' will operate the cleaner unit; as a result, it will stop at home position and the indication will change to '0'.
(Wire cleaning will be prohibited unless you execute 'wire cleaning'. This state will remain even when the power switch is turned OFF/ON.)

Indication	Charging assembly with an error in the cleaner
0	Normal end
1	Primary charging assembly
2	Pre-transfer charging assembly
3	Primary charging assembly, pre-transfer assembly
4	Transfer/separation charging assembly
5	Primary charging assembly, transfer/separation charging assembly
6	Pre-transfer charging assembly, transfer/separation charging assembly
7	Primary charging assembly, pre-transfer charging assembly, transfer/separation charging assembly

table 3-1002

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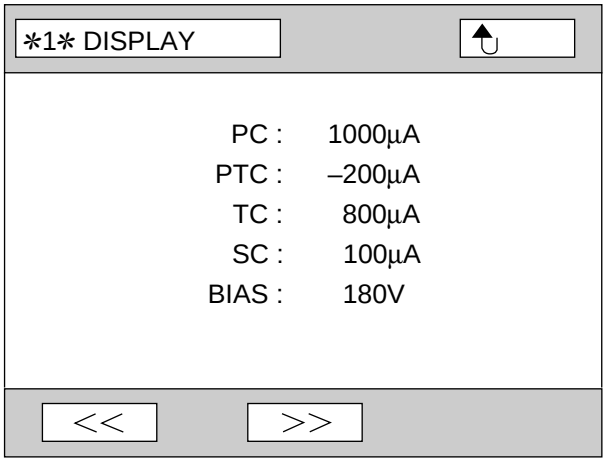
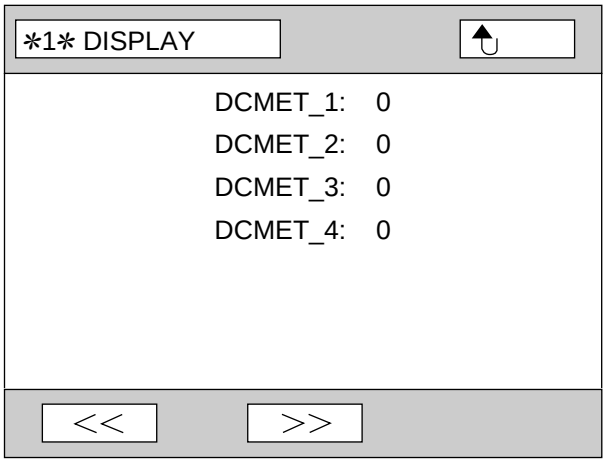


Screen 1-3

Item	Description	Remarks
PC	Indicates the current value for the primary charging assembly.	Unit: µA
PTC	Indicates the current value for the pre-transfer charging assembly.	Unit: µA
TC	Indicates the current value of the transfer charging assembly.	Unit: µA
SC	Indicates the current value for the separation charging assembly.	Unit: µA
BIAS	Indicates the DC value of the developing bias.	Unit: V

- The indication will be '0' when the HVT unit turns OFF.



Screen 1-4

Item	Description	Remarks
DCMET_1	Indicates the output value of original size detection 1.	0 / 1
DCMET_2	Indicates the output value of original size detection 2.	0 / 1
DCMET_3	Indicates the output value of original size detection 3.	0 / 1
DCMET_4	Indicates the output value of original size detection 4.	0 / 1

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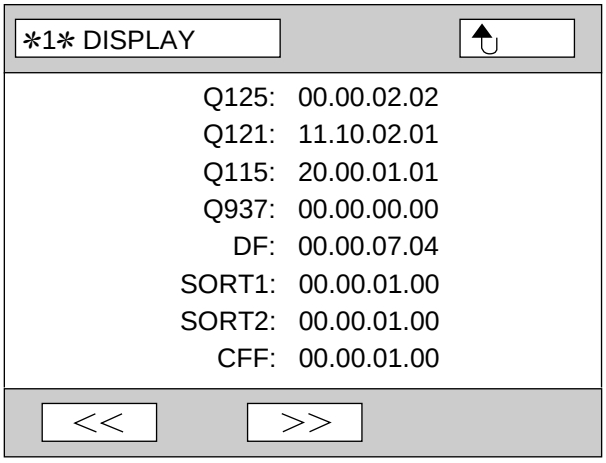
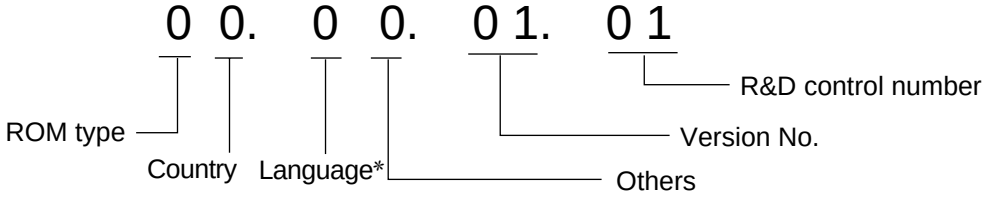


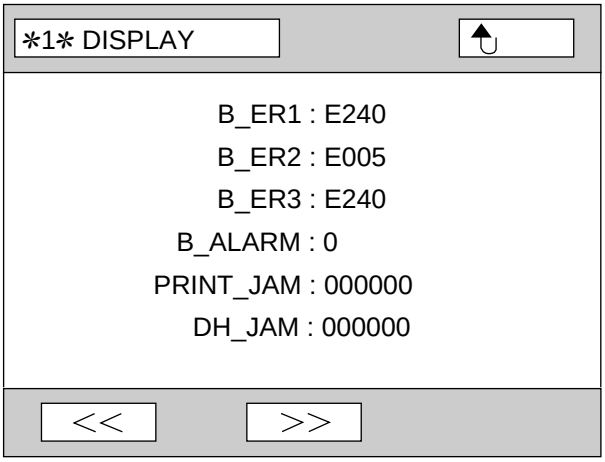
Screen 1-5

Item	Description	Remarks
Q125	Indicates the version No. of the master ROM (Q125) on the DC controller PCB.	Refer to “Guide to Version Indication.”
Q121	Indicates the version No. of the slave ROM (Q121) on the DC controller PCB.	
Q115	Indicates the version No. of the internal processor (Q115) of the slave CPU.	
Q937	Indicates the version No. of the internal processor (Q937) of the controller CPU.	
DF	Indicates the version No. of the ROM on the RDF controller PCB.	
SORT 1	Indicates the version No. of the ROM on the sorter controller PCB.	
SORT 2	Indicates the version No. of the ROM on the sorter controller PCB.	
CFF	Indicates the version No. of the ROM on the C.F.F. controller PCB.	

■ Guide to Version Indication



* 0:Common, 1:Japanese, 2:English, 3:French, 4:German, 5:Danish, 6:Dutch, 7:FInnish, 8:Italian, 9:Norwegian, A:Portuguese, B:Spanish, C:Swedish



Screen 1-6

Item	Description	Remarks
B_ER 1	Indicates the latest self diagnosis code for the copier, RDF, C.F.F., and sorter.	
B_ER 2	Indicates the second latest self diagnosis code for the copier, RDF, C.F.F., and sorter.	
B_ER 3	Indicates the third latest diagnosis code for the copier, RDF, C.F.F., and sorter.	
B_ALARM	Indicates a number other than '0' when the web runs out or the waste toner container full. (0: normal, 1: web out, 2: toner full, 3: web out and toner full)	
PRINT_JAM	Indicates the times that the copier jam are occured.	
DH_JAM	Indicates the times that the jams of the RDF and C.F.F. are occured.	

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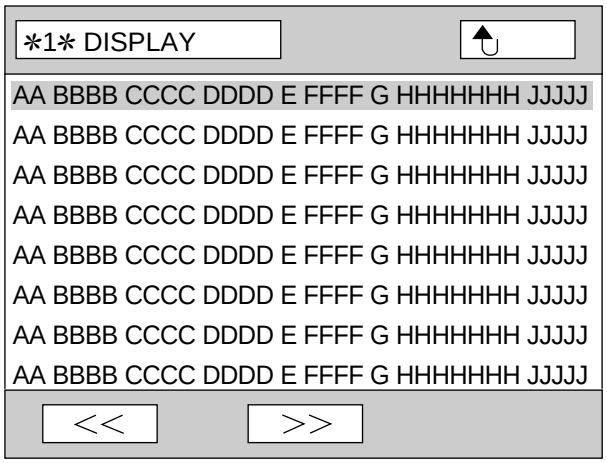

Screens 1-7 through -11 (8 rows x 5 pages of data per page)

Item	Description	Remarks
AA	Indicates the history No. for the respective jam. (01 to 40; a higher number represents an older jam.)	
BBBB	Indicates the date of the respective jam. (e.g., if September 4, 0904)	
CCCC	Indicates the time of the respective jam. (e.g., if 11:45, 1145)	
DDDD	Indicates the jam return time, i.e., the time at which the machine started standby after jam removal.	
E	Indicates the machine classification of the respective jam. (0, if copier; 1, if feeder; 2, if sorter; 3, if C.F.F.; 4, if power ON jam)	
FFFF	Indicates the location of the respective jam in code (if multiple sensors are used, the one nearest the delivery assembly): Jam Code (4-digit): XXYY The upper 2 digits indicate the cause of the jam (01, for delay; 02, for stationary; 03, for timing). The lower 2 digits indicate the location of the jam (Table 3-1003).	
G	Indicates the source of paper (1, for upper front tray; 2, for lower front tray; 3, for paper deck; 8, for multifeeder; 9, for duplexing unit).	
HHHHHHH	Indicates the total copy count by source of paper.	
JJJJJ	Indicates the size of paper.	

■ Low-Order 2 Digits

Display code	Sensor (jam location)	Sensor No.
05	Upper front tray pick-up detection	Q48
06	Lower front tray pick-up detection	Q49
07	Re-pick up detection / Not leading detection	Q26 / Q27
08	Upper side tray pick-up detection	Q65
09	Middle side tray pick-up detection	Q69
0A	Lower paper deck pick-up detection	Q73
0B	Multifeeder pick-up detection	Q36
0C	Paper deck pick-up detection	Q35
0D	Upper front tray pick-up paper trailing edge detection	Q24
0E	Lower front tray pick-up paper trailing edge detection	Q23
0F	Re-pick up paper trailing edge detection	Q33
10	Upper side tray paper trailing edge detection	Q66
11	Middle side tray paper trailing edge detection	Q70
12	Lower side tray paper trailing edge detection	Q74
13	Multifeeder paper trailing edge detection	Q42
14	Paper deck feeding detection	Q44
15	Fixing assembly paper detection	Q10
16	Delivery detection	Q15
17	Buffer assembly delivery detection	Q60
18	Paper reversing assembly inlet detection	Q11
19	Paper reversing assembly outlet detection	Q14
20	Side tray vertical path detection 2	Q78
21	Side tray vertical path detection 1	Q77
1A	Paper reversal detection	Q13
1B	No. 2 feeding assembly inlet detection	Q12
1C	No. 2 feeding assembly paper detection	Q16
1D	Pre-registration paper detection	Q30
1E	Vertical path 0 paper detection	Q46
1F	Vertical path 1 paper detection	Q47

Table 3-1003 (copier)

Code	Type of jam
03	Feeding delay jam
04	Feeding stationary jam
07	Power-on jam
08	Door open jam (while feeding copy paper)
09	Door open jam (during stapling)

Table 3-1004 (sorter)

Code	Type of jam
01	Pick-up delay jam
02	Feeding fault/original error
03	Original trailing edge jam/feeding system fault

Tale 3-1005 (C.F.F.)

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■ RDF Jam Codes

	Type of jam	Sensor	Description	Code
Right/left pick-up	Original left behind	S5	S5 detects an original after the belt motor (M3) has rotated counterclockwise.	19
	Original pulled out	S1, S2	S2 does not detect an original for a specific period of time and, in addition, S1 does not detect an original after the pick-up motor (M1) has turned ON.	21
	Original pulled out	S15, S27	S15 does not detect an original for a specific period of time and, in addition, S27 does not detect an original after the pick-up motor (M1) has turned ON.	66
	Lever idle swing	S29, S30	The re-circulating lever made an idle rotation without coming into contact with an original.	03
Left pick-up	Left pick-up trailing edge skew movement	S3, S4	After left pick-up, there is a difference of 8 mm or more in terms of length between when the original moved past S3 and when it moved past S4.	11
	Left pick-up error	S3	After advance edge feeding, S3 is free of an original.	13
	Left pick-up delay	S3	S3 does not detect an original after feeding 50 mm in terms of length after the pick-up motor (M1) has turned ON.	22
	Registration delay	S2, S3	S3 does not detect an original after feeding 60 mm in terms of length after S2 has detected an original.	23
	Left pick-up skew movement	S3, S4	After left pick-up, there is a difference of 10 mm or more in terms of length between when S3 detects an original and when S4 detects an original.	24
	Left pick-up stationary	S3	S3 detects an original for 660 mm or more in terms of length.	31
Right pick-up	Right pick-up delay	S15	S15 does not detect an original after feeding 500 mm in terms of length after the pick-up motor (M1) has turned ON.	61
	Right registration delay	S16, S17	S16 does not detect an original after feeding 160 mm in terms of length after S17 has detected an original.	62
	Right registration delay	S17, S20	S17 does not detect an original after feeding 130 mm in terms of length after S17 has detected an original.	63
	Right pick-up stationary	S17	S17 detects an original for 266 mm or more in terms of length.	64
	Right pick-up leading edge skew movement	S15, S16	After right pick-up, there is a difference of 15 mm or more in terms of length between when the original moved past S15 and when it moved past S16.	65
	Right pick-up trailing edge skew	S15, S16	After right pick-up, there is a difference of 15 mm or more in terms of length in the timing at which the original leaves S15 and S16.	71

Table 3-1006a (RDF)

	Type of jam	Sensor	Description	Code
Manual feed	Manual feed pick-up stationary	S32	After the feeding motor (M8) has turned ON, the original does not move past S32 after feeding 1000 mm or more in terms of length.	91
	Manual feed pick-up delay	S20	After the feeding motor (M8) has turned ON, S20 does not detect an original after feeding 1000 mm or more in terms of length.	92
	Manual feeding pick-up stationary	S20	S20 detects an original for 750 mm or more in terms of length.	A1
	Manual feed delivery stationary	S20	After the belt motor (M3) has turned ON, S20 does not detect an original after feeding for 532 mm or more in terms of length.	A2
	Manual feed delivery stationary	S19, S20	After S20 has detected an original, the original does not move past S19 after feeding 'feeding direction length x 1.5' mm or more in terms of length.	A3
	Manual feed original left behind	S5	S5 detects an original after the belt motor (M3) has rotated counterclockwise.	A4
Reversal	Reversal leading edge skew movement	S3, S4	After reversal has started, there is a difference of 10 mm or more in terms of length between the original detection timing of the S3 and that of S4.	15
	Reversal original left behind	S3	After reversal has started, paper exists over S3.	51
	Reversal pick-up delay	S3, S5	At reversal, S3 does not detect paper after feeding 163 mm from S5 in terms of length.	52
	Reversal pick-up leading edge skew movement	S3, S4	At reversal, there is a difference of 10 mm or more in terms of length in the original detection timing of S3 and that of S4.	53
	Reversal pick-up stationary	S3	At reversal, the original does not leave S3 after feeding 'feeding direction length x 1.5' mm in terms of length.	54
	Reversal delay	S5	After the belt motor (M3) has turned ON, S5 does not detect an original after feeding 115 mm in terms of length.	14
	Reversal stationary	S5	S5 detects an original for 'feeding direction length x 1.5' mm in terms of length.	41

Table 3-1006b (RDF)

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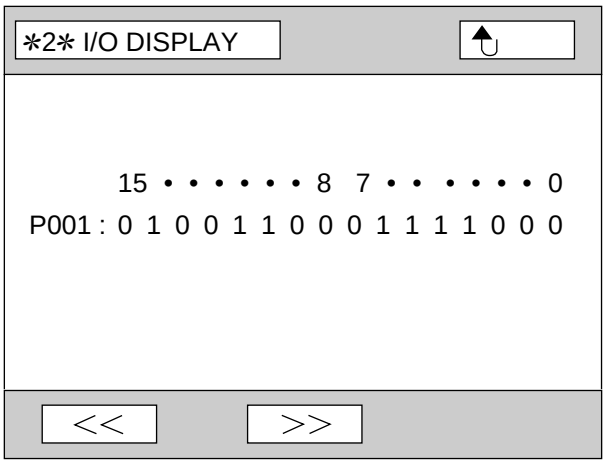
	Type of jam	Sensor	Description	Code
Delivery	Delivery delay	S5, S6	After S5 has detected an original, S6 does not detect an original after feeding 218 mm in terms of length.	25
	Delivery stationary	S6	S6 detects an original for 'feeding direction length x 1.5' mm or more in terms of length.	26
Others	RDF open	S31	The RDF is opened during operation.	E1
	Cover open	S13, S14 S23, S24	The right or left cover is opened during operation.	E2
	Pick-up signal error		The pick-up command came from the copier when the RDF is not ready for pick-up.	E3
	Initial original left behind		At the start of operation, an original is detected in the paper path.	E4
	Size error		An L-size original is detected in image composition mode.	E6
	Stream reading fault	S20	1. In stream reading mode, the speed of the belt motor (M3) is lower than specified when the leading edge of the original reaches the point where exposure starts. 2. In stream reading, a command arrives from the copier requesting of the belt motor (M3) to rotate at a speed outside the possible range.	F4H
		S17	In stream reading mode, the stop position of the advance feeding ahead of the pre-registration is outside the possible range.	
	Error detection		When a condition for E402, E403, E406, or E408 is detected. Note: Such an error condition will be treated as a jam in the RDF for the first three; thereafter, such a condition will be treated as an error. This is to prevent issuing an error when an original is damaged or placed improperly. The count returns to '0' when the power switch is turned OFF/ON.	FEH

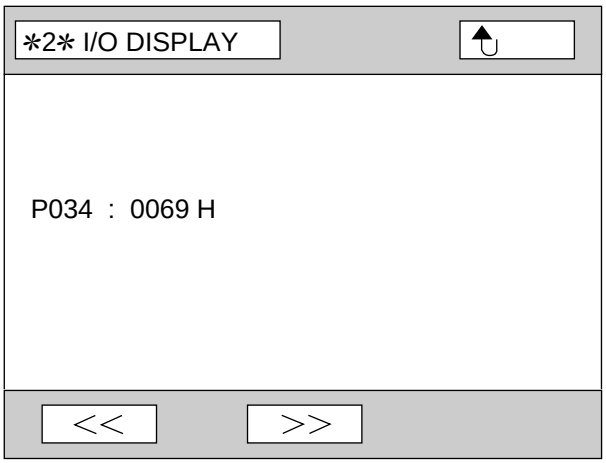
Table 3-1006c (RDF)

E. I/O Display Mode (✻ 2 ✻)

- Press the « / » key or enter the appropriate address number on the numeric keypad to select the appropriate screen.
- The screens will show the state of input or output ports.



Screen 2-1



Screen 2-2

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

Address	Bit	Display	Notation	Jack	Remarks
P001 (input)	0	Upper front tray paper absent detection (Q22) signal	UTPE	J111-B14	1: Paper absent
	1	Upper front tray pick-up detection (Q48) signal	UFPS	J111-A2	1: Paper present
	2	Upper front tray pick-up paper trailing edge detection (Q24) signal	PDP10	J111-B8	1: Paper present
	3	Lower front tray paper absent detection (Q20) signal	LTPE	J111-A14	1: Paper absent
	4	Lower front tray pick-up detection (Q49) signal	LFPS	J118-A9	1: Paper present
	5	Lower front tray pick-up paper trailing edge detection (Q23) signal	PDP9	J111-A8	1: Paper present
	6	Upper side tray paper absent detection (Q67) signal	USPE	J602-B8	1: Paper absent
	7	Upper side tray pick-up detection (Q65) signal	USPS	J602-A2	1: Paper present
	8	Upper side tray paper trailing edge detection (Q66) signal	USPRDS	J602-B2	1: Paper present
	9	Middle side tray paper absent detection (Q71) signal	MSPE	J602-A14	1: Paper absent
	10	Middle side tray pick-up detection (Q69) signal	MSPS	J602-B11	1: Paper present
	11	Middle side tray paper trailing edge detection (Q70) signal	MSPRDS	J602-A5	1: Paper present
	12	Lower side tray paper detection (Q75) signal	$\overline{\text{LSPE}}$	J603-B11	1: Paper present
	13	Lower side tray pick-up detection (Q73) signal	LSPS	J602-B14	1: Paper present
	14	Lower side tray paper trailing edge detection (Q74) signal	LSPRDS	J603-A2	1: Paper present
	15	Pre-registration paper detection (Q30) signal	PDP13	J112-B6	1: Paper present
P002 (output)	0	Upper front tray pick-up roller releasing solenoid (SL15) drive signal	$\overline{\text{UPRSD}}$	J115-A8	1: SL15 ON
	1	Upper front tray pick-up clutch (CL4) drive signal	$\overline{\text{UPUCD}}$	J118-A13	1: CL4 ON
	2	Lower front tray pick-up roller releasing solenoid (SL11) drive signal	$\overline{\text{LPRSD}}$	J115-A10	1: SL11 ON
	3	Lower front tray pick-up roller (CL5) drive signal	$\overline{\text{LPUCD}}$	J118-A11	1: CL5 ON
	4	Upper side tray pick-up roller releasing solenoid (SL20) drive signal	USPRSD	J604-B2	1: SL20 ON
	5	Upper side tray pick-up roller (CL14) drive signal	$\overline{\text{USPUCD}}$	J604-A2	1: CL14 ON
	6	Middle side tray pick-up roller releasing solenoid (SL22) drive signal	$\overline{\text{MSPRSD}}$	J604-B4	1: SL22 ON
	7	Middle side tray pick-up roller (CL15) drive signal	$\overline{\text{MSPUCD}}$	J604-A4	1: CL15 ON

Address	Bit	Display	Notation	Jack	Remarks
P002 (output)	8	Lower side tray pick-up roller releasing solenoid (SL24) drive signal	$\overline{\text{LSPRSD}}$	J604-B6	1: SL24 ON
	9	Lower side tray pick-up roller (CL16) drive signal	$\overline{\text{LSPUCD}}$	J604-A6	1: CL16 ON
	10	Paper deck pick-up roller releasing solenoid (SL7) drive signal	$\overline{\text{STPRSD}}$	J501-B10	1: SL7 ON
	11	Paper deck pick-up clutch (CL11) drive signal	$\overline{\text{4KPCD}}$	J112-B10	1: CL11 ON
	12	Feeding roller clutch (CL9) drive signal	$\overline{\text{FEDCCD}}$	J112-B4	1: CL9 ON
	13	Side tray vertical path roller (CL17) drive signal	$\overline{\text{STVCD}}$	J605-A2	1: CL17 ON
	14	Paper deck feeding roller clutch (CL8) drive signal	$\overline{\text{4KFCD}}$	J112-B9	1: CL8 ON
	15	Pre-registration roller stop clutch (CL13) drive signal	$\overline{\text{PRGBCD}}$	J112-B1	1: CL13 ON
P003 (output)	0	Drum motor (M1) drive signal	$\overline{\text{DMD}}$	J125-A12	1: M1 ON
	1	Pick-up motor (M16) drive signal	$\overline{\text{PMD}}$	J123-B6	1: M16 ON
	2	Side tray pick-up motor (M22) drive signal		J605-B13	1: M22 ON
	3	Fixing motor (M17) drive signal	$\overline{\text{FMD}}$	J111-B2	1: M17 ON
	4	Scanner forward signal (M2)	$\overline{\text{M2F/R}}$	J124-A4	1: M2 ON FD
	5	Scanner motor (M2) drive control signal	$\overline{\text{M2ON}}$	J124-A3	1: M2 ON
	6	Copier ratio select signal (0)	M2MDO	J124-A7	
	7	Copier ratio select signal (1)	M2MD1	J124-A6	
	8	Copier ratio select signal (2)	M2MD2	J124-A5	
	9	Scanner Uncontrolled signal	M2CLK	J124-A1	0: Uncontrolled
	10	Scanner stop signal	$\overline{\text{M2BRK}}$	J124-A2	0: STOP
	11	Scanner cooing fan 1 (FM1)		J104-A8	1: FM ON
		Developing fan (FM5)		J127-B12	High speed
		Scanner motor cooling fan (FM8)		J127-B10	
		Primary charging dust-proofing fan (FM9)		J104-A9	
		Scanner cooling fan 2 (FM10)		J123-A13	
		Scanner cooling fan 3 (FM11)		J123-B11	
		Fan motor 1 high-speed rotation drive signal	FMDH1		
	12	Same as above		Same as	1: FM ON
		Fan motor 1 low-speed rotation drive signal	FMDL1	adove	Low speed
	13	Exhaust fan (FM3)		J126-B3	1: FM ON
		Feeding fan (FM4)		J116-1	High speed
		Power supply cooling fan (FM6)		J111-B5	
		Developing assembly heat exhaust fan (FM14)		J116-1	
		Fan motor 2 high-speed rotation drive signal	FMDH2		

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Address	Bit	Display	Notation	Jack	Remarks
P003 (output)	14	Fixing cooling fan (FM2)		J125-A11	1: FM ON
		Exhaust fan (FM3)		J126-B3	Low speed
		Feeding fan (FM4)		J116-1	
		Power supply cooling fan (FM6)		J111-B5	
		Developing assembly heat exhaust fan (FM14)		J116-1	
		Transfer assembly dust proofing fan (FM15)		J121-A10	
		Fan motor 2 low-speed rotation drive signal	FMDL2		
	15	Not used			
P004 (input)	0	Paper deck paper absent detection (Q18) signal	STPE	J501-B5	1: Paper absent
	1	Paper deck pick-up detection (Q35) signal	4KPS	J112-A2	1: Paper present
	2	Side tray paper feeding detection (Q44) signal	SFS	J112-A8	1: Paper present
	3	Multifeeder paper detection (Q29) signal	MFS	J102-A5	1: Paper present
	4	Multifeeder pick-up detection (Q36) signal	MFPS	J102-A2	1: Paper present
	5	Multifeeder paper trailing edge detection (Q42) signal	MPRDS	J102-A8	1: Paper present
	6	Duplexing unit paper detection (Q27) signal	PDP12	J120-A8	1: Paper present
	7	Re-pick up detection (Q26) signal	PDP11	J120-A6	1: Paper present
	8	Re-pick up paper trailing edge detection (Q33) signal	PDP14	J112-A11	1: Paper present
	9	Fixing assembly paper detection (Q10) signal	$\overline{\text{PDP2}}$	J125-A8	0: Paper present
	10	Delivery detection (Q15) signal	$\overline{\text{PDP7}}$	J127-A10	0: Paper present
	11	Buffer assembly delivery detection (Q60) signal	BDS	J123-A9	1: Paper present
	12	Paper reversing assembly inlet (Q11) signal	PDP3	J125-B12	1: Paper present
	13	Paper reversing assembly outlet (Q14) signal	PDP6	J117-A5	1: Paper present
	14	Paper reversal detection (Q13) signal	PDP5	J117-A8	1: Paper presentl
	15	Registration roller drive detection signal			1: Registration roller ON
P005 (output)	0	Multifeeder pick-up roller drive solenoid (SL26) UP signal	$\overline{\text{MPUSD}}$	J605-A14	1: Up
	1	Multifeeder pick-up roller drive solenoid (SL26) DOWN signal	$\overline{\text{MPDSD}}$	J605-A12	1: Down
	2	Multifeeder pick-up clutch (CL12) drive signal	$\overline{\text{MFPCD}}$	J112-B12	1: CL12 ON
	3	Re-pick up clutch (CL6) drive signal	$\overline{\text{DUPCD}}$	J120-B12	1: CL6 ON
	4	Duplexing unit pick-up motor (M25) drive signal	SMON	J120-A3	1: ON
	5	Re-pick up assembly releasing solenoid (SL8) drive signal	$\overline{\text{DPSSD}}$	J120-A1	1: SL8 ON

Address	Bit	Display	Notation	Jack	Remarks
P005 (output)	6	Paper sub feeding roller (SL10) DOWN signal	$\overline{\text{DPISD}}$	J120-A3	1: SL10 ON
	7	Scanner locking solenoid (SL18) drive signal	$\overline{\text{SLCKSD}}$	J123-A15	1: SL18 ON
	8	Side tray feeding roller stop signal (CL18)	$\overline{\text{4KFBCD}}$	J118-B14	1: CL18 ON
	9	Duplexing unit pick-up motor (M25) mode 1 signal			
	10	Duplexing unit pick-up motor (M25) mode 2 signal			
	11	Not used			
	12	Not used			
	13	Not used			
	14	Not used			
	15	Not used			
P006 (output)	0	Roller electrode bias drive signal	$\overline{\text{ROED}}$	J127-B5	1: ON
	1	AC transformer drive signal	$\overline{\text{ACON}}$	J127-B9	1: ON
	2	Developing bias AC output signal	$\overline{\text{ACBTP}}$	J127-B3	1: ON
	3	Potential measurement circuit drive signal	POTON	J104-B2	1: ON
	4	Hopper motor (M18) drive signal	$\overline{\text{HMD}}$	J124-B2	1: ON
	5	Developing clutch (CL1) drive signal	$\overline{\text{DVLD}}$	J126-B5	1: ON
	6				
	7	Scanning lamp (LA1) ON signal	LRD	J122-5	1: ON
	8	Scanning lam select (LA1) signal	LASEL	J122-2	1: LA1 ON
	9	Blank exposure ON signal		J107-7	1: Data send
	10	Blank strong signal		J107-5	0: Intensity up
	11	Fixing assembly locking solenoid(SL16) drive signal	$\overline{\text{FIXLK}}$	J103-B11	1: ON
	12	Main heater (H1) drive signal	$\overline{\text{MHOND}}$	J117-B1	0: ON
	13	Sub heater (H2) drive signal	$\overline{\text{SHOND}}$	J117-B4	0: ON
	14	Drum heater (H3) drive signal	$\overline{\text{DHRD}}$	J117-B3	0: Half wave
	15	High-voltage unit drive signal	HVRMT	J127-B6	1: ON
P007 (input)	0	No. 2 feeding assembly inlet paper detection (Q12) signal	PDP4	J125-B9	1: Paper present
	1	No. 2 feeding assembly outlet paper detection (Q16) signal	PDP8	J117-B12	1: Paper present
	2	Fixing separation claw paper detection (Q7) signal	$\overline{\text{PDP1}}$	J125-B2	1: Paper present
	3	Vertical path 1 paper detection (Q47) signal	PS47D	J111-A5	1: Paper present
	4	Vertical path 0 paper detection (Q46) signal	PS46D	J112-A5	1: Paper present

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Address	Bit	Display	Notation	Jack	Remarks
P007 (input)	5	Side tray vertical path 1 paper detection (Q77) signal	Q77D	J603-A5	1: Paper present
	6	Side tray vertical path 2 paper detection (Q78) signal	Q78D	J602-A8	1: Paper present
	7	Buffer assembly paper detection (Q34) signal	BPS	J123-A6	1: Paper present
	8	Not used			
	9	Not used			
	10	Scanner home position (Q5) signal	SCHP	J124-B9	1: HP
	11	Scanner C.F.F. position (Q6) signal	$\overline{\text{SCFFP}}$	J127-A7	1: CFF HP
	12	Scanner original leading edge 2 detection (Q38) signal	SCDP2	J123-B13	1: HP
	13	Developing toner detection (Q85) signal	BTS	J105-B10	1: Toner present
	14	Hopper toner level detection (Q31) signal	TEP	J124-B4	1: Toner present
	15	Main switch ON signal	$\overline{\text{MSWON}}$	J118-A5	0: Power on
P008 (output)	0	Registration roller drive clutch (CL10) drive signal	RGCD	J121-A4	0: CL10 ON
	1	Registration roller drive clutch (CL10) stop signal	RGCD	J121-A4	0: CL10 OFF
	2	Switch-back CW rotation (CL2) drive signal	$\overline{\text{SBFCD}}$	J126-B7	1: CL2 ON
	3	Switch-back CCW (CL3) drive signal	$\overline{\text{SBRCD}}$	J126-B9	1: CL3 ON
	4	S-size paper deflecting plate (SL4) drive signal	SDSD	J117-B6	1: SL4 ON
	5	M-size paper deflecting plate solenoid (SL5) drive signal	MDSD	J117-B8	1: SL5 ON
	6	L-size paper deflecting plate solenoid (SL6) drive signal	LDSD	J117-B10	1: SL6 ON
	7	Not used			
	8	No. 1 deflecting plate solenoid (SL3) drive signal	$\overline{\text{DSD1}}$	J117-A10	1:SL3 ON
	9	No. 1 deflecting plate solenoid (SL3) hold signal			
	10	Not used			
	11	No. 2 deflecting plate solenoid (SL2) drive signal	$\overline{\text{DSD2}}$	J117-A13	1: SL2 ON
	12	Paper jogging guide motor (M11) hold internal signal			
	13	Fixing drive stop solenoid (SL17) drive signal	$\overline{\text{FXDSD}}$	J126-B1	1: SL1 7ON
	14	Cleaning belt solenoid (SL1) drive signal	$\overline{\text{CLBSD}}$	J125-B5	1: SL1 ON
	15	Not used			

Address	Bit	Display	Notation	Jack	Remarks
P009 (output)	0	Internal signal (watch dog)			
	1	Direct power supply signal	AC0ON	J118-A2	1: ON
	2	DC controller PCB LED ON signal			
	3	Total copy counter (CNT1) drive signal	$\overline{\text{TCNTD}}$	J105-A1	1: ON
	4	S-size copy counter (CNT2) drive signal	$\overline{\text{SCNTD}}$	J105-A3	1: ON
	5	Control card drive signal	$\overline{\text{CCNTD}}$	J104-B4	1: ON
	6	Copy count (ASSIST) signal	$\overline{\text{CNTP}}$	J119-A10	1: ON
	7	Buffer assembly lamp (LA2) ON signall	$\overline{\text{LA2ON}}$	J123-A3	1: ON
	8	Front tray lamp (LA3) ON signal	$\overline{\text{LA3ON}}$	J124-B11	1: ON
	9	Power supply stop signal	PWOFF	J118-A2	1: Power off
	10	Power supply unit remote signal	$\overline{\text{REMOTE}}$	J118-A7	0: 24V OFF
	11	Indirect power supply detection signal	$\overline{\text{AC1D}}$	J118-A4	
	12	Jam indicator display back light ON signal		J106-A6	1: ON
	13	Toner stirring motor (M13) drive signal		J124-B7	1: ON
	14	Not used			
	15	Not used			
P010 (input)	0	Fixing motor clock (M17) signal	FMPL	J111-B1	
	1	Side tray motor clock signal (M22)	3KFG	J605-B14	
	2	Counter operation error detection signal			1: Error
	3	Scanner cooling fan 1/2/3 error detection signal		J105-B6, J123A11, B9	1: Error
	4	Not used			
	5	Not used			
	6	Not used			
	7	Not used			
P011 (input)	0	Fixing assembly detection (SW32) signal	$\overline{\text{FXSD}}$	J105-A13	0: Set
	1	Not used			
	2	Auto shut-off circuit error detection signal			
	3	Waste toner feeding screw lock detection (SW20) signal	$\overline{\text{WTFL}}$	J121-A6	0: Pipe closed
	4	Waste toner full detection (Q86) signal	WTOFP	J104-B10	0: Full
	5	Not used			
	6	Not used			
	7	Not used			
P012 (output)	0	Digit signal 0 (internal signal)			1: Output
	1	Digit signal 1 (internal signal)			1: Output
	2	Digit signal 2 (internal signal)			1: Output

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Address	Bit	Display	Notation	Jack	Remarks
P012 (output)	3	Digit signal 3 (internal signal)			1: Output
	4	Digit signal 4 (internal signal)			1: Output
	5	Digit signal 5 (internal signal)			1: Output
	6	Digit signal 6 (internal signal)			1: Output
	7	Digit signal 7 (internal signal)			1: Output
P013 (input)	0	Return signal 0 (internal signal)			1: Input
	1	Return signal 1 (internal signal)			1: Input
	2	Return signal 2 (internal signal)			1: Input
	3	Return signal 3 (internal signal)			1: Input
	4	Return signal 4 (internal signal)			1: Input
	5	Return signal 5 (internal signal)			1: Input
	6	Return signal 6 (internal signal)			1: Input
	7	Return signal 7 (internal signal)			1: Input
P014 (input)	0	Front door detection (SW3) signal		J103-B14	1: Closed
	1	Delivery door switch		J104-B7	1: Closed
	2	Multifeeder open detection (SW31) signal	$\overline{\text{MFO}}$	J102-B4	1: Open
	3	Side tray right door open detection (SW46) signal (master CPU)	RDO	J605-A5	Alternates 0 and 1 at ON.
	4	Side tray connection detection (SW21) signal	STC	J103-B13	1: Connected
	5	Duplexing unit set detection signal			
	6	Control card detection signal	$\overline{\text{CCNNT}}$	J104-B3	0: Connected
	7	Option connection detection signal (SW51)	$\overline{\text{SF1D}}$	J123-A2	0: Connected
P015 (input)	0	Paper deck select signal			1: Paper deck
	1	Not used			
	2	Multifeeder L-size paper detection (Q41) signal	MLPS	J605-A11	1:Paper present
	3	Cleaning belt absent (Q8) signal	CBOUT	J125-A5	1: Belt absent
	4	Cleaning belt length detection (Q9) signal	CBOP	J125-A2	1: Belt short
	5	Not used			
	6	Not used			
	7	Not used			
P016 (input)	0	DIP switch 1 signal (AB/INCH)			1: ON
	1	DIP switch 1 signal (AB/INCH)			1: ON
	2	DIP switch signal (counter mode)			1: ON
	3	DIP switch 1 signal (counter mode)			1: ON
	4	DIP switch 1 signal (Japan/overseas)			1: ON
	5	DIP switch 1 signal (Japan/overseas)			1: ON

Address	Bit	Display	Notation	Jack	Remarks
P016	6	Not used			1: ON
(input)	7	Not used			1: ON
P017 (input)	0	Upper front tray paper width detection (SW22) signal	UTPWU	J119-B9	Alternates 0 and 1 at ON.
	1	Upper front tray paper width lower detection (SW23) signal	UTPWD	J119-B11	Alternates 0 and 1 at ON.
	2	Upper front tray paper length lower detection (SW24)	UTPLD	J119-A1	Alternates 0 and 1 at ON.
	3	Upper front tray paper length upper detection (SW25) signal	UTPLU	J119-A3	Alternates 0 and 1 at ON.
	4	Lower front tray paper width upper detection (SW26) signal	LTPWU	J119-B1	Alternates 0 and 1 at ON.
	5	Lower front tray paper width lower detection (SW27) signal	LTPWD	J120-B3	Alternates 0 and 1 at ON.
	6	Lower front tray paper length lower detection (SW28) signal	LTPLD	J120-B5	Alternates 0 and 1 at ON.
	7	Lower front tray paper length upper detection (SW29) signal	LTPLU	J120-B7	Alternates 0 and 1 at ON.
P018 (output)	0	Not used			
	1	Not used			
	2	Not used			
	3	Not used			
	4	Not used			
	5	Not used			
	6	Not used			
	7	Not used			
P019 (input)	0	Original size 1 detection signal (DSZ1)	DSZ1	J121-B6	
	1	Original size 2 detection signal (DSZ2)	DSZ2	J121-B3	
	2	Original size 3 detection signal (DSZ3)	DSZ3	J121-B12	
	3	Original size 4 detection signal (DSZ4)	DSZ4	J121-B11	
	4	Copyboard cover detection signal (Q89)	CBCD	J121-A2	1: Cover closed.
	5	Not used			
	6	Not used			
	7	Not used			
P020		Factory mode			
P021		Factory mode			
P022 (input)	0	Not used			
	1	Upper front tray paper length detection (Q58) signal	UTAS	J115-A4	1: Paper running short.

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Address	Bit	Display	Notation	Jack	Remarks
P022 (input)	2	Upper front tray open detection (SW14) signal	$\overline{\text{UTRYO}}$	J115-B5	0: Open
	3	Upper front tray open signal (SWLED1)	$\overline{\text{UTOP}}$	J105-B4	0: Open
	4	Upper front tray lifter position detection (Q21) signal	ULTP	J111-B11	1: Upper limit.
	5	Upper front tray lifter down detection (SW17) signal	$\overline{\text{UTLLD}}$	J115-A1	0: Switch pressed.
	6	Not used			
	7	Not used			
P023 (input)	0	Not used			
	1	Lower front tray paper length detection (Q40) signal	LTAS	J115-B12	1: Paper running short.
	2	Lower front tray open detection (SW15) signal	$\overline{\text{LTRYO}}$	J115-B7	0: Open
	3	Lower front try open signal (SWLED2)	$\overline{\text{LTOP}}$	J105-B8	0: Open
	4	Lower front tray lifter position detection (Q19) signal	LLTP	J111-A11	1: Upper limit.
	5	Lower front tray lifter lower limit detection (SW19) signal	$\overline{\text{LTLLD}}$	J111-B9	0: Switch pressed.
	6	Not used			
	7	Not used			
P024 (input)	0	Not used			
	1	Upper side tray paper length detection (Q80) signal	USTAS	J601-A4	1: Paper running short.
	2	Upper side tray open detection (SW33) signal	USTRYO	J604-A7	Alternates 0 and 1 at ON.
	3	Upper side tray open signal	$\overline{\text{USOP}}$	J603-B3	0: Open
	4	Upper side tray lifter position detection (Q68) signal	USLTP	J602-B5	1: Upper limit.
	5	Upper side tray lifter down detection (SW39) signal	USLLD	J601-A2	0: Switch pressed.
	6	Not used			
	7	Not used			
P025 (input)	0	Not used			
	1	Middle side tray paper level detection (Q82) signal	MSTAS	J601-A11	1: Paper running short.
	2	Middle side tray open detection (SW35)	MSTRYO	J604-A9	Alternates 0 and 1 at ON.
	3	Middle side tray open signal	$\overline{\text{MSOP}}$	J603-B7	0: Open
	4	Middle side tray lifter position detection (Q72) signal	MSLTP	J602-A11	1: Upper limit.

Address	Bit	Display	Notation	Jack	Remarks
P025 (input)	5	Middle side tray lifter lower limit detection (SW40) signal	MSLLD	J601-A9	0: Switch pressed.
	6	Paper deck door open detection (SW12) signal	$\overline{\text{STDO}}$	J501-A8	0: Open
	7	Side tray right door open detecting (SW46) signal (slave CPU)	RDO	J605-A5	0: Open
P026 (input)	0	Not used			
	1	Lower side tray paper level detection (Q84) signal	LSTAS	J601-B4	1: Paper running short.
	2	Lower side tray open detection (SW37) signal	LSTRYO	J604-A11	Alternates 0 and 1 at ON.
	3	Lower side tray open signal	$\overline{\text{LSOP}}$	J603-B11	0: Open
	4	Lower side tray lifter position detection (Q76) signal	LSLTP	J601-B6	1: Upper limit.
	5	Lower side tray lifter lower limit detection (SW41) signal	$\overline{\text{LSLLD}}$	J601-B2	0: Switch pressed.
	6	Paper deck paper level lower detection (Q43) signal	$\overline{\text{STLAS}}$	J501-A2	1: Lower level
	7	Paper deck paper level upper detection (Q45) signal	$\overline{\text{STUAS}}$	J501-A5	1: Upper level
P027 (output)	0	Upper front tray lifter motor (M3) drive signal			0: M3 ON
	1	Upper front tray lifter motor (M3) CW/CCW rotation signal			0: UP
	2	Upper front tray releasing solenoid (SL13) drive signal	$\overline{\text{UTRSD}}$	J115-B2	1: SL13 ON
	3	Upper front tray open LED ON (SWLED1) signal	$\overline{\text{UTLD}}$	J105-B1	1: ON
	4	Lower front tray lifter motor (M14) drive signal			0: M14 ON
	5	Lower front tray lifter motor (M14) CW/CCW rotation signal			0: UP
	6	Lower front tray releasing solenoid (SL12) drive signal	$\overline{\text{LTRSD}}$	J115-B4	1: SL12 ON
	7	Lower front tray open LED ON (SWLED2) signal	$\overline{\text{LTLD}}$	J105-B5	1: ON
P028 (output)	0	Upper side tray lifter motor (M24) drive signal	USLMD	J601-B9	0: M24 ON
	1	Upper side tray lifter motor (M24) CW/CCW rotation signal			0: UP
	2	Upper side tray release (SL19) signal	$\overline{\text{USRSD}}$	J604-B8	1: SL19 ON
	3	Upper side tray open LED (SWLED3) signal	$\overline{\text{USLD}}$	J603-B1	0: ON
	4	Middle side tray lifter motor (M23) drive signal	MSLMD	J601-B11	0: M23 ON

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Address	Bit	Display	Notation	Jack	Remarks
P028 (output)	5	Middle side tray lifter motor (M23) CW/CCW rotation signal			0: UP
	6	Middle side tray release (SL21) signal	$\overline{\text{MSRSD}}$	J604-B10	0: SL21 ON
	7	Middle side tray open LED (SWLED4) signal	$\overline{\text{MSLD}}$	J603-B5	0: ON
P029 (output)	0	Lower side tray lifter motor (M19) drive signal	LSLMD	J601-B13	0: M19 ON
	1	Lower side tray lifter motor (M19) CW/CCW rotation signal			0: UP
	2	Lower side try release (SL23) signal	$\overline{\text{LSRSD}}$	J604-B12	1: SL23 ON
	3	Lower side tray open LED ON (SWLED5) signal	$\overline{\text{LSLD}}$	J603-B9	1: ON
	4	Paper deck lifter motor force down signal		J110-A1	0: DOWN
	5	Paper deck ON signal		J110-A1	1: ON
	6	Not used			
	7	Not used			
P030 (output)	0	Primary charging wire cleaning motor CW rotation signal (M6)	M6FW	J103-B8	1: Forward
	1	Primary charging wire cleaning motor CCW rotation signal (M6)	M6RV	J103-B9	1: Reverse
	2	Transfer/separation charging wire cleaning motor CW rotation signal (M8)	M8FW	J118-B5	1: Forward
	3	Transfer/separation charging wire cleaning motor CCW signal (M8)	M8RV	J118-B6	1: Reverse
	4	Pre-transfer charging wire cleaning motor CCW signal (M7)	M7FW	J105-A5	1: Forward
	5	Pre-transfer charging wire cleaning motor CCW rotation signal (M7)	M7RV	J105-A6	1: Reverse
	6	C.F.F. mirror CW rotation signal (M15)	M15FW	J127-A5	1: Forward
	7	C.F.F. mirror CCW rotation signal (M15)	M15RV	J127-A4	1: Reverse
P031 (input)	0	Paper jogging guide motor (M11) drive signal			0: ON
	1	Not used			
	2	Not used			
	3	CPU wire select signal			
	4	Not used			
	5	Not used			
	6	Not used			
	7	Not used			

Address	Bit	Display	Notation	Jack	Remarks
P032 (output)	0	Lens X motor hold signal (M9)	LX-HOLD	J103-A9	0: Hold
	1	Lens Y motor hold signal (M10)	LY-HOLD	J103-A4	0: Hold
	2	Not used			
	3	Control panel reset signal		J106-B4	1: Reset
	4	Control panel LCD back light ON signal		J106-B1	1: ON
	5	Paper jogging guide motor hold signal (M11)		J120-B3	0: Hold
	6	Not used			
	7	Not used			
P033 (input)	0	Primary charging wire cleaner home position (SW5) signal	$\overline{\text{PCHP}}$	J103-B7	0: Switch ON
	1	Primary charging wire cleaner rear (SW4) signal	$\overline{\text{PCRP}}$	J103-B6	0: Switch ON
	2	Pre-transfer charging wire cleaner front position (SW7) signal	$\overline{\text{QCFP}}$	J105-A9	0: Switch ON
	3	Pre-transfer charging wire cleaner home position (SW6)	$\overline{\text{QCHP}}$	J105-A8	0: Switch ON
	4	Transfer/separation charging wire cleaner home position (SW9) signal	$\overline{\text{TSCHP}}$	J118-B9	0: Switch ON
	5	Transfer/separation charging wire cleaner rear (SW8) signal	$\overline{\text{TSCRP}}$	J118-B8	0: Switch ON
	6	Not used			
	7	Not used			
P034 (input)		Fixing roller temperature detection signal	TH1	J125-B7	
P035 (input)		Potential measurement signal	POT	J104-B3	
P036 (input)		Internal temperature detection signal	TH2	J104-A2	
P037 (input)		Multifeeder paper width detection (VR1) signal	MPSZ	J102-B2	
P038 (input)		Internal humidity detection signal	HUM1	J104-A4	

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Address	Bit	Display	Notation	Jack	Remarks
P039	0	Solenoid 2 drive signal	$\overline{\text{SL2D}}$		0: ON
	1	Clutch 1 drive signal	$\overline{\text{CL1D}}$		0: ON
	2	Solenoid 4 drive signal	$\overline{\text{SL4D}}$		0: ON
	3	Solenoid 6 drive signal	$\overline{\text{SL6D}}$		0: ON
	4	Solenoid 5 drive signal	$\overline{\text{SL5D}}$		0: ON
	5	Solenoid 1 drive signal (release)	$\overline{\text{SL1RD}}$		0: OFF
	6	Solenoid 1 drive signal	$\overline{\text{SL1AD}}$		0: ON
	7	Solenoid overdrive signal			0: ON
P040	0	Not used			
	1	Not used			
	2	Not used			
	3	Not used			
	4	Stopper motor (M7) excitation A signal			0: ON
	5	Stopper motor (M7) excitation B signal			0: ON
	6	Stopper motor (M7) drive signal			0: ON
	7	AE sensor discharging signal			0: ON
P041	0	Edge detection signal	EDGO		1: ON
	1	Cooling fan (M9) drive signal	$\overline{\text{M9D}}$		0: ON
	2	Re-circulating motor (M4) drive signal	$\overline{\text{RCMD}}$		0: ON
	3	Not used			
	4	Not used			
	5	Not used			
	5	Not used			
	6	Not used			
	7	Not used			
P042	0	Edge detection signal (S20)	EDG		0: Paper present
	1	Registration detection signal (S3)	RG1		0: Paper present
	2	Belt motor clock detection signal (S11)	BTLK		Alternates 0 and 1
	3	Pick-up motor clock detection signal (S9)	PCLK		Alternates 0 and 1
	4	Pre-registration detection signal (S17)	RGF		0: Paper present
	5	Not used			
	6	Not used			
	7	Not used			

RDF

Address	Bit	Display	Notation	Jack	Remarks
P043	0	D/A converter serial signal			
	1	D/A converter load signal			
	2	Reversing motor (M2) mode 0 signal			
	3	Reversing motor (M2) mode 1 signal			
	4	D/A converter serial communication clock signal			
	5	Delivery motor clock detection signal (S12)	DLCLK		Alternates 0 and 1
	6	Not used			
	7	Not used			
P044	0	Internal signal (sensor sensitivity switching signal 2)			
	1	Internal signal (sensor sensitivity switching signal 1)			
	2	Reversing motor (M2) drive signal			0: ON
	3	Belt motor reference clock signal			Alternates 0 and 1
	4	Feeding motor clock detection signal (S22)	FDCLK		Alternates 0 and 1
	5	Pick-up motor (M1) CW rotation signal			1: CW
	6	Pick-up motor (M1) rotation speed control signal			1: ON
	7	Pick-up motor (M1) CCW rotation signal			1: CCW
P045	0	Reversing motor (M2) rotation speed control signal			
	1	Solenoid 7 drive signal	SL7D		0: ON
	2	Delivery motor (M5) rotation speed control signal			
	3	Solenoid 8 drive signal	SL8D		0: ON
	4	Belt motor (M3) pulse 1 signal			
	5	Belt motor (M3) pulse 2 signal			
	6	Belt motor (m3) pulse 3 signal			
	7	Belt motor (M3) pulse 4 signal			
P046	0	Tray motor (M6) drive signal	TRMD		0: ON
	1	Solenoid 2 drive signal	SL2D		0: ON
	2	Not used			
	3	Pick-up roller home position detection signal 2 (S21)	PRHP2		0: HP
	4	Not used			

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Address	Bit	Display	Notation	Jack	Remarks
P046	5	Slip detection signal (S10)	SLP		Alternates 0 and 1
	6	Pick-up motor clock detection signal (S9)	PCLK		Alternates 0 and 1
	7	Reversal detection signal (S5)	TRS		1: Paper present
P047	0	Not used			
	1	Not used			
	2	Not used			
	3	Not used			
	4	DIP switch 1-1 detection signal			1: ON
	5	DIP switch 1-2 detection signal			1: ON
	6	DIP switch 1-3 detection signal			1: ON
	7	DIP switch 1-4 detection signal			1: ON
P048	0	Not used			
	1	Not used			
	2	Not used			
	3	Not used			
	4	DIP switch 1-5 detection signal			1: ON
	5	DIP switch 1-6 detection signal			1: ON
	6	DIP switch 1-7 detection signal			1: ON
	7	Right cover open/closed detection signal (S23/24)	RCVF/ RCVR		1: Closed
P049	0	Not used			
	1	Not used			
	2	Not used			
	3	Not used			
	4	Push switch 1 detection signal			1: ON
	5	Push switch 2 detection signal			1: ON
	6	Push switch 3 detection signal			1: ON
	7	Left cover open/closed detection signal (S13/14)	LCVF/ LCVR		1: Closed
P050	0	Not used			
	1	Not used			
	2	Not used			
	3	Not used			
	4	Re-circulating lever hold detection signal			0: Hold
	5	RDF open detection signal (S31)	RFOS		1: Closed
	6	Manual feed set detection signal (S32)	MFST		1: Paper present
	7	Sub tray detection signal (S28)	TYP		1: Closed

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Address	Bit	Display	Notation	Jack	Remarks
P051	0	Re-circulating lever detection signal 2 (S30)	RSC2		0: Flag absent
	1	Re-circulating lever detection signal 1 (S29)	RSC1		0: Flag absent
	2	Pick-up roller home position detection signal 1 (S8)	PRHP1		1: HP
	3	Skew detection signal 2 (S16)	SKW2		1: Paper present
	4	Pick-up detection signal 2 (S15)	PDP2		1: Paper present
	5	Power supply drop monitor signal			1: Voltage low
	6	Stopper home position detection signal (S26)	SPHP		1: HP
	7	Tray position detection signal (S25)	TRY		1: DOWN
P052	0	Not used			
	1	Original set indictor LED ON signal			0: ON
	2	LED 1 ON signal			0: ON
	3	LED 2 ON signal			0: ON
	4	LED 3 ON signal			0: ON
	5	Not used			
	6	Not used			
	7	Not used			
P053	0	Matrix digit 0 signal			
	1	Matrix digit 1 signal			
	2	Matrix digit 2 signal			
	3	Matrix digit 3 signal			
	4	Matrix common 0 signal			
	5	Matrix common 1 signal			
	6	Matrix common 2 signal			
	7	Matrix common 3 signal			
P054	0	A/D demultiplexer select signal 1			
	1	A/D demultiplexer select signal 2			
	2	A/D demultiplexer select signal 3			
	3	Encoder FV conversion adjustment signal			
	4	Feeding motor (M8) drive signal			0: ON
	5	Feeding motor CW rotation signal			1: CW
	6	Feeding motor mode 1 signal			
	7	Feeding motor mode 2 signal			

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Address	Bit	Display	Notation	Jack	Remarks
P055	0	Skew detection signal 1 (S4)	SKW1		0: Paper present
	1	Manual feed registration detection signal (S19)	MFRG		0: Paper present
	2	Original detection signal 1 (S1)	DOD1		1: Paper present
	3	Original detection signal 2 (S27)	DOD2		1: Paper present
	4	Original detection signal 1 (S2)	PDP1		1: Paper present
	5	Reversal detection signal (S5)	TRS		1: Paper present
	6	Delivery detection signal (S6)	DER		1: Paper present
	7	Power supply drop monitor signal (internal)			1: Voltage low
P056		Belt motor current control DA signal			4-digit in hexa-decimal
P057		Reversing motor current control DA signal			
P058		AE sensor LED (O) DA signal			
P059		AE sensor LED (G) DA signal			
P060		AE sensor LED offset DA signal			
P061		Original sensor(S1) DA signal			
P062		Registration sensor 1 (S3) DA signal			
P063		Skew sensor (S4) DA signal			
P064		Image leading edge sensor (S20) DA signal			
P065		Manual feed set sensor (S32) DA signal			
P066		Original sensor 2 (S27) DA signal			
P067		Not used			
P068		Original width detection variable resistor value (VR1)			
P069		AE sensor average value			
P070		AE sensor peak value			
P071		Not used			
P072		Not used			
P073		Pick-up motor (M1) speed value			
P074		Delivery motor (M5) speed value			
P075		Cooling fan (M9) error AD value			
P076		Original sensor 1 (S1) AD value			
P077		Registration sensor (S3) AD value			
P078		Skew sensor (S4) AD value			
P079		Image leading edge sensor (S20) AD value			
P080		Manual feed set sensor (S32) AD value			
P081		Original sensor 2 (S27) AD value			

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Address	Bit	Display	Notation	Jack	Remarks
P082	0	Feeding motor (M1) control signal	FDPWM		1: ON
	1	Push bar drive motor (M7) rotation control signal			1: UP
	2	Not used			
	3	Push bar drive motor (M7) drive signal			1: ON
	4	Guide bar motor (M8) pulse signal 1	GBMA		1: ON
	5	Guide bar motor(M8) pulse signal 2	GBMB		1: ON
	6	Guide bar motor (M8) pulse signal 3	$\overline{\text{GBMA}}$		1: ON
	7	Guide bar motor (M8) pulse signal 4	$\overline{\text{GBMB}}$		1: ON
P083	0	Reference wall drive motor (M6) control signal 1	GWMA		1: ON
	1	Reference wall drive motor (M6) control signal 2	GWMB		1: ON
	2	Non-sort paper detection signal (PI 3)	NSPEXT		1: Paper present
	3	Reference wall home position signal (PI 13)	GWHP		1: HP
	4	Sorter paper detection signal (PI 4)	SPEXT		1: Paper present
	5	Guide bar home position signal (PI 16)	GBHP		1: HP
	6	Multiguide drive motor control signal 1 (M5)	MGMA		1: ON
	7	Multiguide drive motor control signal 1 (M5)	MGMB		1: ON
P084	0	D/A converter serial signal			
	1	Not used			
	2	Feeding motor (M1) speed variable signal	FDMVC		1: Speed control
	3	D/A converter load signal			0: Load
	4	D/A conversion serial communication clock signal			
	5	Not used			
	6	Not used			
	7	Not used			
P085	0	Feeding motor (M1) CW rotation signal	FDMCW		1: ON
	1	Feeding motor (M1) CCW rotation signal	FDMCCW		1: ON
	2	Stapler unit fixed claw releasing solenoid (SL5) drive signal	MHRSLD		1: ON
	3	Paper path switching solenoid (SL1) drive signal	PSLD		1: ON
	4	Paper retaining solenoid (SL3) drive signal	PHSLD		1: ON
	5	Stapler unit position fixing claw releasing solenoid (SL2) drive signal	HDRSLD		1: ON

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Address	Bit	Display	Notation	Jack	Remarks
P085	6	Stapler motor (M2) CCW rotation signal	SPMCCW		1: ON
	7	Stapler motor (M2) CW rotation signal	SPMCW		1: ON
P086	0	Bin shift motor (M9) drive signal			1: UP
	1	Stapler unit swing motor (M4) rotation signal			1: ON
	2	Stapler unit swing motor (M4) drive signal			1: ON
	3	Not used			
	4	Not use			
	5	Not used			
	6	Not used			
	7	Not used			
P087	0	Stapler unit swing home position signal (S2)	MVHP		1: HP
	1	Logic voltage monitor signal			1: Voltage low
	2	Not used			
	3	Bin paper sensor 2 analog input signal (S7)			Alternates 1 and 0 at input.
	4	Stapler paper sensor analog input signal			Alternates 1 and 0 at input.
	5	Bin sensor analog input signal (S4)			Alternates 1 and 0 at input.
	6	Feeding motor current analog input signal			Alternates 1 and 0 at input.
	7	Feeding motor speed variable analog input signal			Alternates 1 and 0 at input.
P088	0	Not used			
	1	Not use			
	2	Not used			
	3	Not used			
	4	Staple unit shift motor (M3) pulse signal 1	$\overline{\text{SLDMB}}$		1: ON
	5	Stapler unit shift motor (M3) pulse signal 2	$\overline{\text{SLDMA}}$		1: ON
	6	Stapler unit shift motor (M3) pulse signal 3	SLDMB		1: ON
	7	Stapler unit shift motor (M3) pulse signal 4	SLDMA		1: ON
P089	0	Stapler unit swing motor (PI8) clock signal	SWMCLK		Alternates 0 and 1
	1	Bin shift motor (PI17) clock signal	BMCLK		Alternates 0 and 1
	2	Feeding motor (PI5) clock signal	FMCLK		Alternates 0 and 1
	3	Lead cam home position detection signal (PI20)	LDP		1: ON

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Address	Bit	Display	Notation	Jack	Remarks
P089	4	Lead cam center position detection signal (PI21)	LDCP		1: ON
	5	Not used			
	6	Not used			
	7	Not used			
P090	0	Stapler unit swing motor (M4) pulse oscillation signal			
	1	Push bar drive motor (M7) pulse oscillation signal			
	2	Feeding motor (M1) rotation speed reference value signal	FDREF		
	3	Not use			
	4	Bin shift motor (M9) pulse signal 1	SFTA		1: ON
	5	Bin shift motor (M9) pulse signal 2	SFTB		1: ON
	6	Bin shift motor (M9) pulse signal 3	$\overline{\text{SFTA}}$		1: ON
	7	Bin shift motor (M9) pulse signal 4	$\overline{\text{SFTB}}$		1: ON
P091	0	Matrix digit output signal 0			
	1	Matrix digit output signal 1			
	2	Matrix digit output signal 2			
	3	Matrix digit output signal 3			
	4	Matrix digit output signal 4			
	5	Matrix SEG output signal 0			
	6	Matrix SEG output signal 1			
	7	Matrix SEg output signal 2			
P092	0	Matrix COM input signal 0			
	1	Matrix COM input signal 1			
	2	Matrix COM input signal 2			
	3	Matrix COM input signal 3			
	4	Matrix COM input signal 4			
	5	Gear swinging solenoid (SL4) drive signal	GCSLD		1: ON
	6	Not used			
	7	All solenoid drive signal			1: ON
P093	0	Stapling home position signal (Q1)	SPL-HP		1: HP
	1	Sub reference wall home position detection signal (PI 13)	GWHP		1: HP
	2	Stapler unit swing home position detection signal (PI 9)	SWHP		1: HP

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Address	Bit	Display	Notation	Jack	Remarks
P093	3	Multiguide home position detection signal (PI 12)	MGHP		1: HP
	4	Stapler unit swing prohibit position signal (MSW2)	SGSTPP		1: Stapling enabled.
	5	Stapler unit orientation fixing position 2 signal (S1)	HLD2		1: Front 1 point.
	6	Stapler unit orientation fixing position 1 signal (S1)	HLD1		1: 2 points/Rear 1 point.
	7	Paper retaining signal (PI 11)	PHS		1: Retaining point
P094	0	Not used			
	1	Multiguide drive motor/reference wall drive motor drive signal			1: ON
	2	Not used			
	3	Not used			
	4	Not used			
	5	Not used			
	6	Not used			
	7	Not used			
P095	0	Stapling position LED4 ON signal			1: ON
	1	Stapling position LED1 ON signal			1: ON
	2	Staple absent LED ON signal			1: ON
	3	Stapling position LED 5 ON signal			1: ON
	4	Stapling position LED 2 ON signa			1: ON
	5	Front retrieval key LED ON signal			1: ON
	6	Stapling position LED 3 ON signal			1: ON
	7	Stapling key LED ON signal			1: ON
P096	0	DIP switch 1-4 detection signal			1: ON
	1	DIP switch 1-3 detection signal			1: ON
	2	DIP switch 1-2 detection signal			1: ON
	3	DIP switch 1-1 detection signal			1: ON
	4	Joint signal (PI1)	JNTS		1: Connected.
	5	Not used			
	6	Not used			
	7	Not used			

Sorter

Address	Bit	Display	Notation	Jack	Remarks
P097	0	DIP switch 1-8 detection signal			1: ON
	1	DIP switch 1-7 detection signal			1: ON
	2	DIP switch 1-6 detection signal			1: ON
	3	DIP switch 1-5 detection signal			1: ON
	4	Front door open signal (MSW3)	DROPN		1: Closed
	5	Not used			
	6	Not used			
	7	Not used			
P098	0	Stapling mode key check signal			1: ON
	1	Stapling unit set detection signal			1: Stapler unit present.
	2	Staple absent signal (SW1)	HKEPN		1: Stapler absent
	3	Stapler safety detection signal (MSW1)	SFTYSW		1: ON
	4	Stapler unit swing position signal (PI10)	SWGP		1: ON
	5	Not used			
	6	Not used			
	7	Not used			
P099	0	Front retrieval key check signal			1: ON
	1	Shift down key check signal			1: ON
	2	Bin home position signal (PI18)	BHP		1: HP
	3	PCB check signal			0: S-order PCB
	4	Front door open internal signal	DROPN		1: Door closed.
	5	Not used			
	6	Not used			
	7	Not used			
P100	0	Stapling start key check signal			1: ON
	1	Shift up key check signal			1: ON
	2	Feeding guide home position detection signal (PI 6)			1: ON
	3	Bin external paper detection signal (PI 7)			1: Paper present.
	4	Feeding guide up signal (PI 2)			1: UP
	5	Not used			
	6	Not used			
	7	Not used			

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Address	Bit	Display	Notation	Jack	Remarks
P101	0	Not used			
	1	Not used			
	2	Not used			
	3	Not used			
	4	Not used			
	5	Controller PCB LED1 ON signal			1: ON
	6	Controller PCB LED2 ON signal			1: ON
	7	Not used			
P102		Bin paper sensor 2 (S7) A/D input value			4-digit hexa-decimal
P103		Stapler paper sensor (S5) A/D input value			
P104		Bin paper sensor (S4) A/D input value			
P105		Feeding motor current value (M1) A/D input value			
P106		Feeding motor speed variable (M1) A/D input value			
P107		Stapler paper sensor (S5) D/A output value			
P108		Swing motor current value (M4) D/A output value			
P109		Stapler unit shift motor current value (M3) D/A output value			
P110		Bin shift motor current value (M9) D/A output value			
P111		Guide drive motor current value (M8) D/A output value			
P112		Bin paper sensor adjustment intensity value (S4) D/A output value			
P113		Push bar drive motor current value (M7)			
P114		Bin paper sensor 2 adjustment value (S7) D/A output value			

C.F.F.

Address	Bit	Display	Notation	Jack	Remarks
P115 (output)	0	C.F.F. motor (PM1) drive pulse	A	J2-3	
	1	C.F.F. motor (PM1) drive pulse	$\overline{A}$	J2-4	
	2	C.F.F. motor (PM1) dive pulse	B	J2-5	
	3	C.F.F. motor (PM1) drive pulse	$\overline{B}$	J2-6	
	4	Not used			
	5	Not used			
	6	LED1 ON	–	–	
	7	Original leading edge signal	CFRE	J1-2	
P116 (input)	0	–	–	–	
	1	Original set detection (MS1) signal	$\overline{DOSET}$	J6-1	
	2	C.F.F. set detection (MS2) signal	CFFST	J6-3	
	3	Cover open/closed detection (MS3) signal	COSET	J6-5	1: Cover closed.
	4	Original leading edge sensor (PI1) signal	DOTP	J5-2	1: Original present
	5	Original feeding switch (SW2) signal	DFWD	J7-1	
	6	C.F.F. motor clock sensor (PI2) signal	MCLK	J7-5	
	7	Original switch (SW1) signal	DRVS	J7-2	
P117 (output)	0	–			
	1	–			
	2	–			
	3	–			
	4	Heat exhaust fan (FM1, 2) drive signal	$\overline{FMD}$	J3-2	1: Rotate
	5	–			
	6	–			
	7	–			
P118 (input)	0	–			
	1	For factory			
	2	For factory			
	3	For factory			
	4	Heat exhaust fan rotation detection signal	$\overline{FM1A}$	J3-5	0: Rotate
			$\overline{FM2A}$	J3-6	
	5	C.F.F. home position (MS4) signal	$\overline{HPSET}$	J6-7	0: HP
	6	–			
	7	–			
P119		Original width value	DOWD	J4-2	Hexa-decimal

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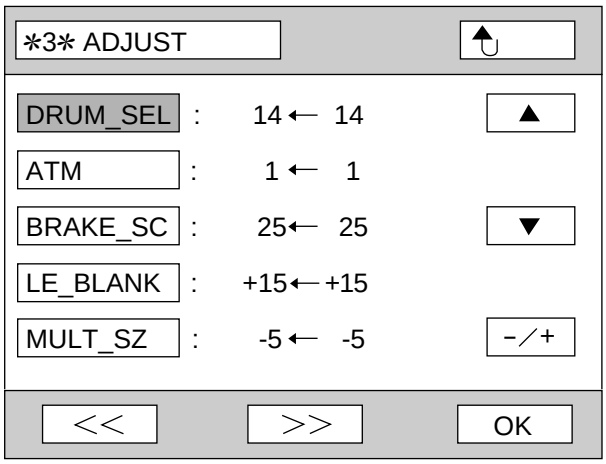
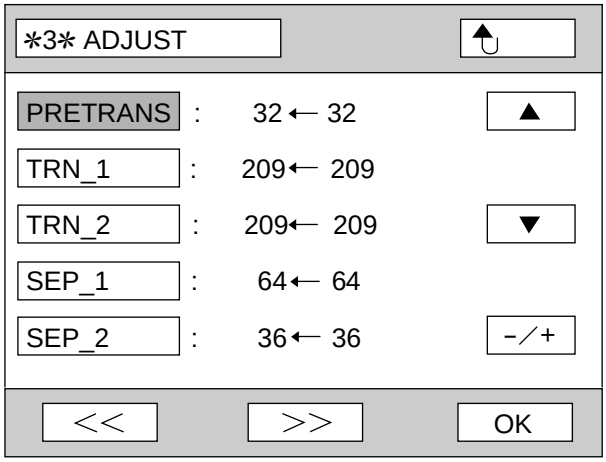
F. Adjustment Mode (✻ 3 ✻)

- Press the « / » key to select the appropriate screen.
- Press the item to select. (The selected item will be highlighted.)
- Enter the appropriate value using the numeric keypad or the ▲/▼ key; then, press the OK to store the value.
- Use the – / + key to enter a negative value.



Screen 3-1

Item	Description	Settings	Remarks
DRUM_SEL	Use it to set the sensitivity to suit the photosensitive drum.	1-30	After replacing the photosensitive drum, enter the setting recorded on the sheet that comes with the drum. A press on the OK key will execute potential control. (Only if PO.CONT is ON.)
ATM	Use it to set the operating environment in relation to the atmospheric pressure. (A higher setting will lower the target potential of potential control. A low pressure tends to cause leakage, requiring lowering the target potential for potential control.)	0-3	0: For low density (Select if the copies are too light.) 1: 1 to 0.70 atm (Select if the elevation is up to about 3,000 m.) 2: 0.70 to 0.65 atm (Select if the elevation is between 3,000 and 3,500 m.) 3: 0.65 to 0.60 atm (Select if the elevation is between about 3,500 and 4,500 m.)
BRAKE_SC	Use it to adjust the braking for when the scanner is moving in reverse.	2-40	A higher setting will increase the braking on the scanner.
LE_BLANK	Use it to adjust the margin along the leading edge width. (ON period of blank exposure lamp)	-128-+127	A higher setting will increase the leading edge width. (unit: 0.1 mm)
MULT_SZ	Use it to correct the input data of the multifeeder paper width detecting variable resistor.	-128-+127	A higher setting will increase the correction data, thereby increasing the value of detection width.



Screen 3-2

Item	Description	Settings	Remarks
PRETRANS	Use it to adjust the current for the pre-transfer charging assembly.	1-221	A higher setting will increase the current sent to the charging assembly.
TRN_1	Use it to adjust the current for the transfer charging assembly. (1st side)	34-254	
TRN_2	Use it to adjust the current for the transfer charging assembly. (2nd side)		
SEP_1	Use it to adjust the current for the separation charging assembly. (1st side)	8-248	A higher setting will increase the output sent to the charging assembly.
SEP_2	Use it to adjust the current for the separation charging assembly. (2nd side)		

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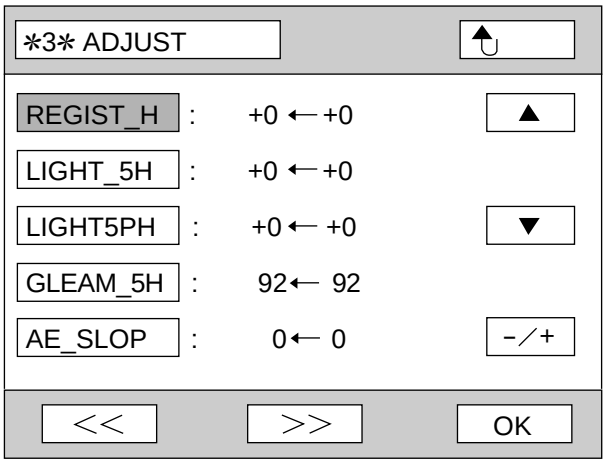
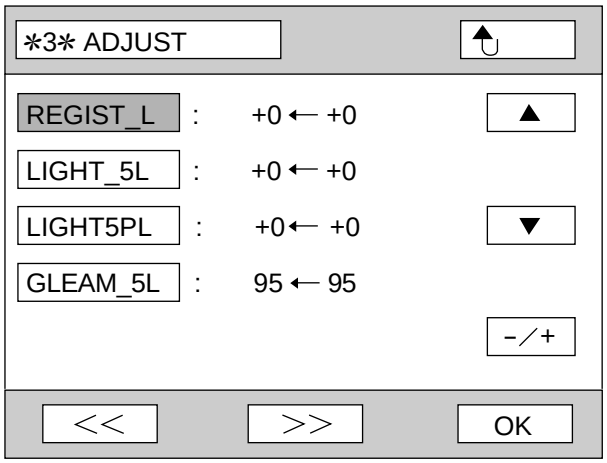


Screen 3-3

Item	Description	Settings	Remarks
REGIST_H	Use it to adjust the leading edge margin (registration) for copying at a 64% to 200% ratio.	-128-+127	A higher setting delays the registration roller ON timing, decreasing the leading edge margin. (unit: 0.1 mm)
LIGHT_5H	Use it to adjust the scanning lamp reference ON voltage for copying at a 64% to 200% ratio.		A higher setting will decrease the copy density, thereby generating lighter copies.
LIGHT5PH	Use it to adjust the scanning lamp reference ON voltage for copying in photo mode at a 64% to 200% ratio.		A higher setting will decrease the copy density in photo mode, thereby generating lighter copies.
GLEAM_5H	Use it to adjust the optimum exposure (in non-potential control mode) for copying at a 64% to 200% ratio.	25-230	A higher setting will decrease the copy density, thereby generating lighter copies.
AE_SLOP	Use it to adjust the intensity for newspaper originals in AE mode	-128-+127	A higher setting will increase the density of newspaper originals. (p. 3-174)



Screen 3-4

Item	Description	Settings	Remarks
REGIST_L	Use it to adjust the leading edge margin (registration) for overlay copying at a 50% to 63% ratio.	-128-+127	A higher setting will delay the registration roller ON timing, thereby decreasing the leading edge margin. (unit: 0.1 mm)
LIGHT_5L	Use it to adjust the scanning lamp reference ON voltage for overlay copying at a 50% to 63% ratio.		A higher setting will decrease the copy density, thereby generating lighter copies.
LIGHT5PL	Use it to adjust the scanning lamp reference ON voltage for copying in photo mode at a 50% to 63% ratio.		A higher setting will decrease the copy density in photo mode, thereby generating lighter copies.
GLEAM_5L	Use it to adjust the optimum exposure for overlay copying at 50% to 63% ratio. (in non-potential control)	25-230	A higher setting will decrease the copy density, thereby generating lighter copies.

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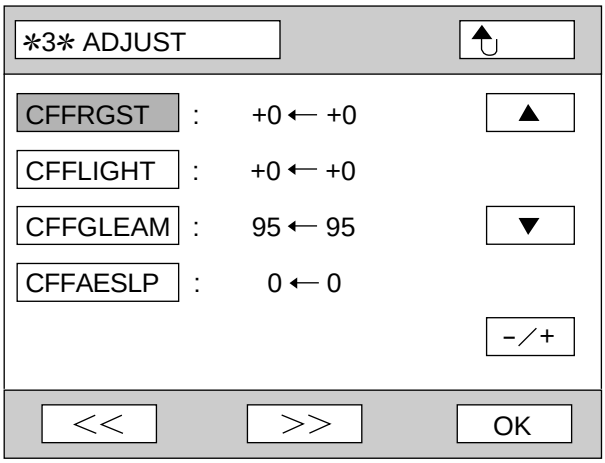
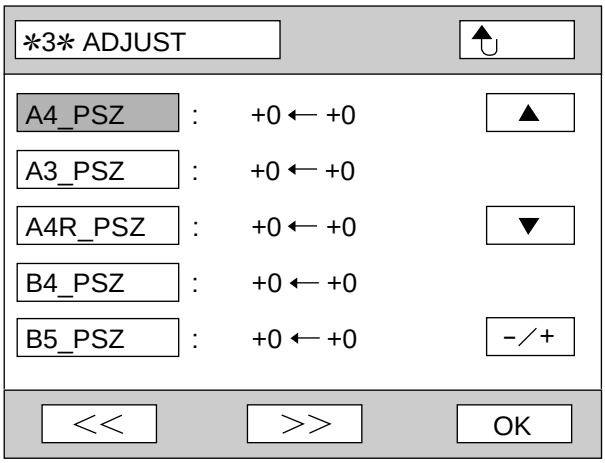


Screen 3-5

Item	Description	Settings	Remarks
CFFRGST	Use it to adjust the leading edge margin (registration) for copying using the C.F.F.	-128-+127	A higher setting will delay the registration roller ON timing, thereby increasing the leading edge margin in copying with the C.F.F. (unit: 0.1 mm)
CFFLIGHT	Use it to adjust the reference ON voltage adjustment for the C.F.F. lamp.		A higher setting will decrease the copy density when copying with the C.F.F., thereby generating lighter copies.
CFFGLEAM	Use it to adjust the optimum exposure ON voltage for the C.F.F. lamp. (non-potential control)	25-230	
CFFAESLP	Use it to adjust the original exposure intensity for newspaper originals in AE mode for copying using the C.F.F.	-128-+127	A higher setting will increase the density of a newspaper original, thereby generating darker copies.



Screen 3-6

Item	Description	Settings	Remarks
A4_PSZ A3_PSZ A4R_PSZ B4_PSZ B5_PSZ	Use it to fine-adjust the paper jogging guide plate shift width of the duplexing unit for each paper size. Use this mode if the size of copy paper is a non-default size when making two-sided/overlay copies.	-9- +9	• Setting it to +9 will increase the width shift by 9 mm in relation to the paper size. • Setting it to -9 mm will decrease the width shift by 9 mm in relation to the shift width. • However, the settings must be between 180 and 299 mm because of mechanical constraints.

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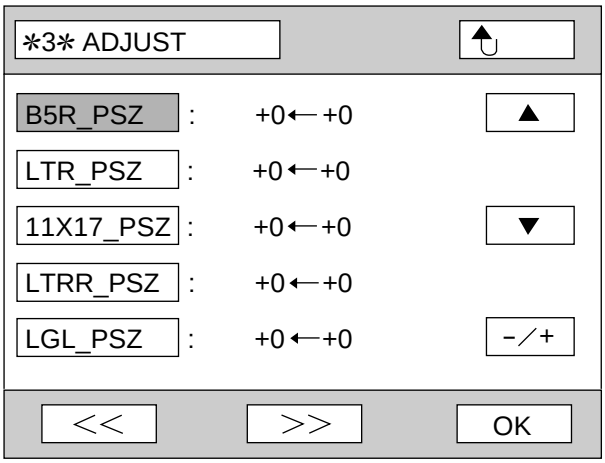
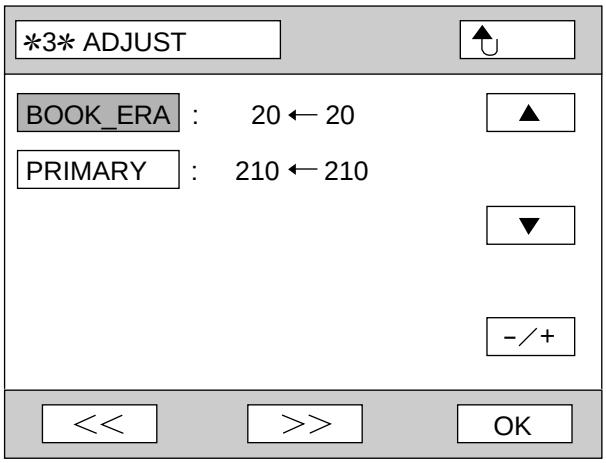


Screen 3-7

Item	Description	Settings	Remarks
B5R_PSZ LTR_PSZ 11X17_PSZ LTRR_PSZ LGL_PSZ	Use it to fine-adjust the paper jogging guide plate shift width of the duplexing unit for each paper size. Use this mode if the size of copy paper is a non-default size when making two-sided/overlay copies.	-9 - +9	• Setting it to +9 will increase the width shift by 9 mm in relation to the paper size. • Setting it to -9 mm will decrease the width shift by 9 mm in relation to the shift width. • However, the settings must be between 180 and 299 mm for mechanical constraints.



Screen 3-8

Item	Description	Settings	Remarks
BOOK_ERA	Use it to set the book frame erasing width.	5-40	(unit: 1 mm) A higher setting will increase the margin.
PRIMARY	Use it to correct the application voltage for the primary charging assembly. (for factory adjustment)	8-254	

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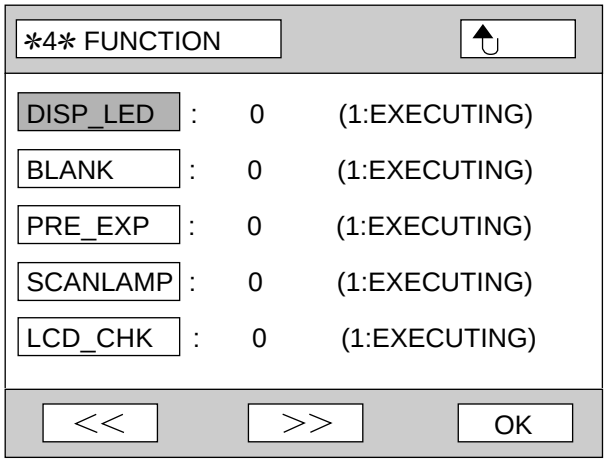
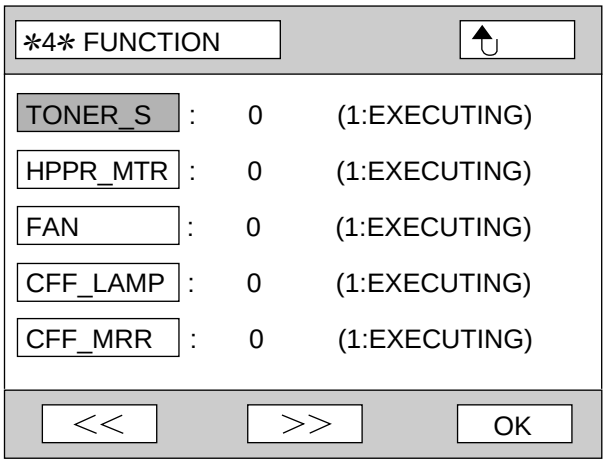
G. Function Mode (✻ 4 ✻)

- Press the « / » key to select the appropriate screen.
- Press the item to select. (The selected item will be highlighted.)
- Press the OK key to start the function.
- Be sure to execute each item in standby state.
- In this mode, the Copy Start key will be disabled.



Screen 4-1

Item	Description	Remarks
DISP_LED	Use it to check if the indications on the control panel turn ON.	A press on the OK key will keep the LEDs on the control panel ON for 3 sec. (all ON)
BLANK	Use it to check if the blank exposure LED turns ON.	A press on the OK key will keep the blank exposure LED ON for 5 sec. (all ON)
PRE_EXP	Use it to check if the pre-exposure LED turns ON.	A press on the OK key will keep the pre-exposure LED ON for 5 sec. (all ON)
SCANLAMP	Use it to check if the scanning lamp turns ON.	A press on the OK key will keep the scanning lamp ON for 3 sec.
LCD_CHK	Use it to turn ON the LCD (all ON).	A press on the OK key will turn the entire LCD white for 3 sec, blue for 1 sec, and back to normal.



Screen 4-2

Item	Description	Remarks
TONER_S	Use it supply toner at time of installation.	A press on the OK key supplies toner from the hopper to the developing assembly (10 min max.). Thereafter, the toner inside the developing assembly will be stirred (5 min), and the operation will stop automatically.
HPPR_MTR	Use it to check the operation of the hopper motor.	A press on the OK key will rotate the hopper motor for 3 sec.
FAN	Use it to check the operation of the fan.	A press on the OK key will rotate all fans for 10 sec.
CFF_LAMP	Use it to check the activation of the C.F.F. lamp.	A press on the OK key will keep the C.F.F. lamp ON for 3 sec.
CFF_MRR	Use it to check the operation of the C.F.F. mirror.	A press on the OK key will shift up the C.F.F. mirror. (Be sure to press the OK key once again to return the mirror to its original position.)

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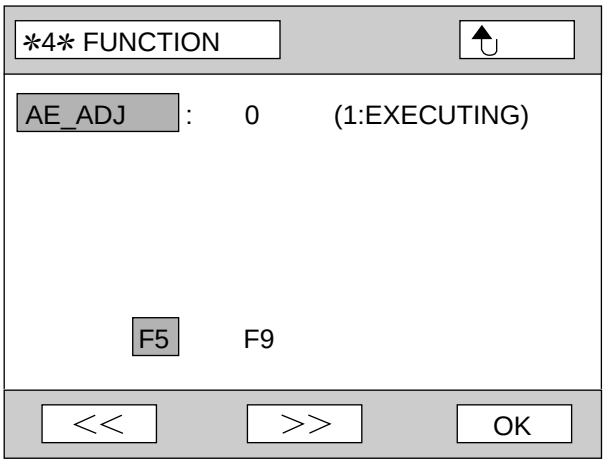
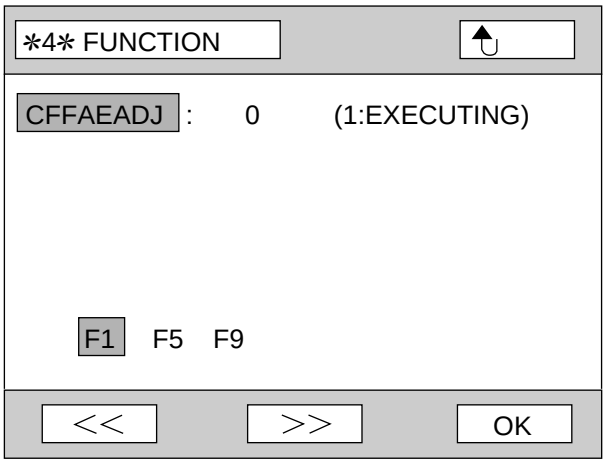


Screen 4-3

Item	Description	Remarks
AE_ADJ	Use it to execute density measurement level automatic adjustment for AE mode.	See p. 3-174. (only if PO.CONT is ON.)



Screen 4-4

Item	Description	Remarks
CFFAEADJ	Use it to execute density measurement level automatic adjustment for C.F.F. AE mode.	See p. 3-175. (only if PO.CONT is ON.)

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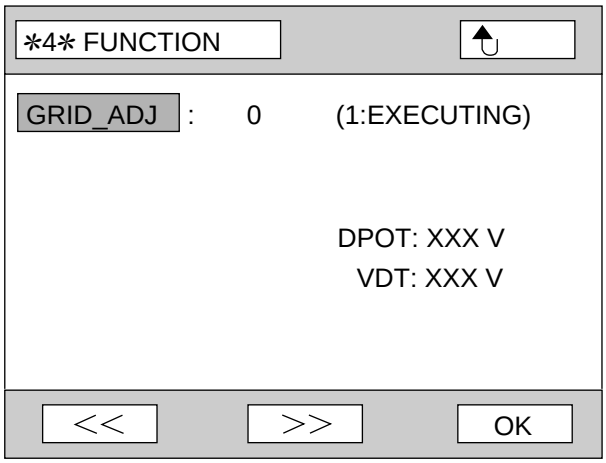
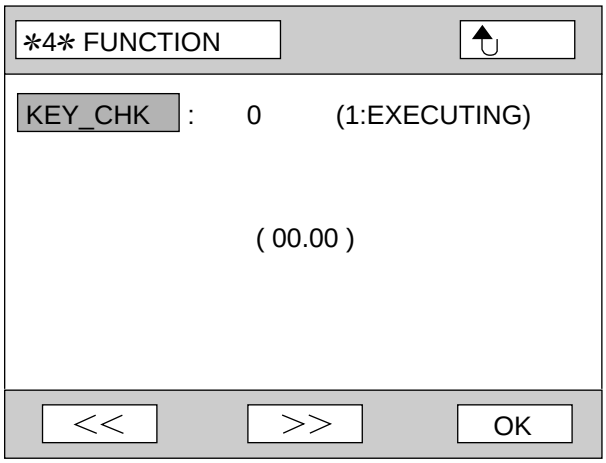


Screen 4-5

Item	Description	Remarks
GRID_ADJ	Use it to adjust the primary charging assembly grid voltage.	See p. 3-177.



Screen 4-6

Item	Description	Remarks
KEY_CHK	A press on each key on the control panel will display the corresponding key. (See the guide below.)	See Table3-1007. Press the OK key and then each key. To end the current mode, press the Reset key.

■ Guide to Key Codes

Display	Key	Display	Key	Display	Key	Display	Key
0 0. OF	Reset	0 5. OF	7	0 A. OF	0	0 F. OF	Power Saver
0 1. OF	Stop	0 6. OF	Clear	0 B. OF	3	1 0. OF	Interrupt
0 2. OF	Start	0 7. OF	2	0 C. OF	6	1 1. OF	User Mode
0 3. OF	1	0 8. OF	5	0 D. OF	9	1 2. OF	Guide
0 4. OF	4	0 9. OF	8	0 E. OF	ID		

Table 3-1007

■ Guide to Key Codes (touch panel)

##. ##

Row number of touch panel (00 to 19; hexadecimal notation)

Column number of touch panel (00 to 15; hexadecimal notation)

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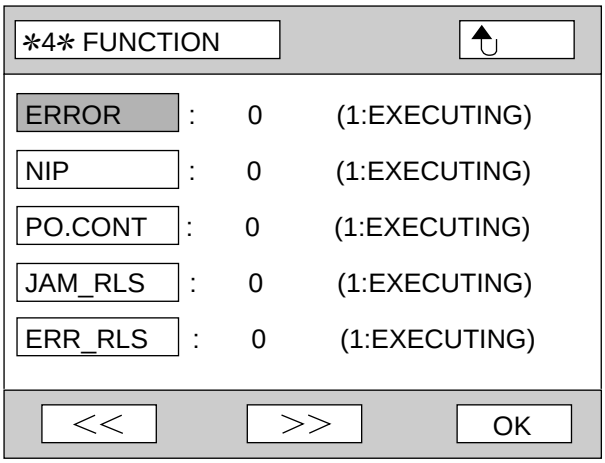

Screen 4-7

Item	Description	Remarks
ERROR	Use it to clear E000, E001, E002, E003, E005, or E020.	To clear the respective error code, press the [OK] key.
NIP	Use it to execute nip automatic measurement of the fixing roller. A vertical stripe image will be prepared automatically and stopped at the fixing roller position; in about 20 sec, it will be discharged automatically.	Press the [OK] key to execute.
PO.CONT	Use it to turn ON/OFF the potential control function: 0: Enable potential control. 1: Disable potential control.	To disable potential control, press the [OK] key so that the indication will be '1'.
JAM_RLS	Use it to clear the jam history shown in service mode ([*][1][*]).	To clear the jam history, press the [OK] key so that the indication will be '1'.
ERR_RLS	Use it to clear the self diagnosis code history shown in service mode ([*][1][*]).	To clear the self diagnosis code history. Press the [OK] key so that the indication will be '1'.

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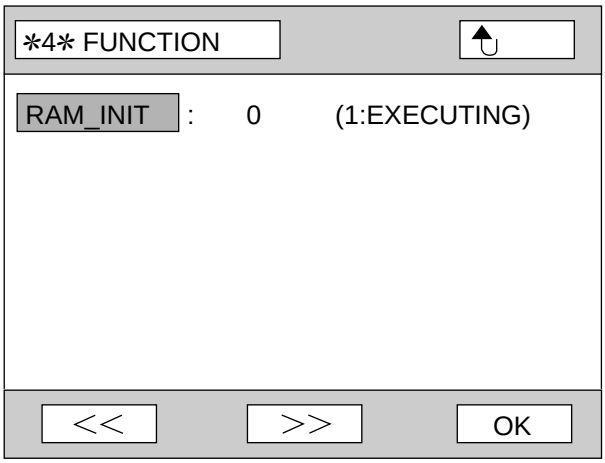

Screen 4-8

Item	Description	Remarks
RAM_INIT	Use it to clear the data in the RAM on the DC controller PCB.	A press on the OK key will initialize the data in the RAM.

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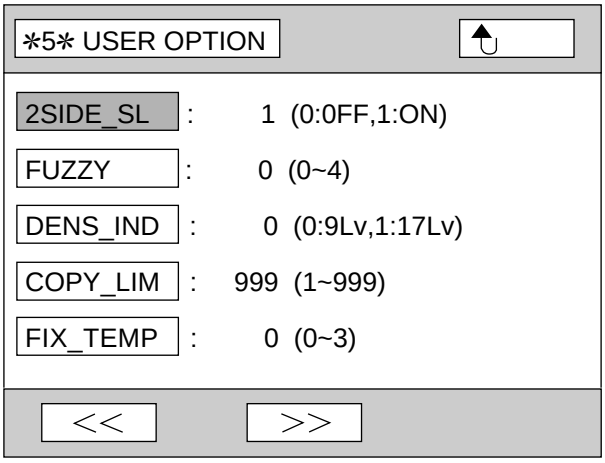
H. User Option Mode (✻ 5 ✻)

- Press the « / » key to select the appropriate screen.
- Press the item to select. (The selected item will be highlighted.)
- Enter the appropriate value using the numeric keypad.



Screen 5-1

Item	Description	Settings	Remarks
2SIDE_SL	Use it to set standard settings for two-sided (one-sided to two-sided) copying.	0: Select so that one-sided copying is standard. 1: Select so that two-sided copying is standard. (default)	Press '0' or '1' on the numeric keypad.
FUZZY	Use it to execute fuzzy control and to set environment settings.	You can control (fuzzy control) the current applied to the pre-transfer, transfer, or separation charging assembly according to ambient temperature. Or, you can prohibit control to select 4-point settings. You can set the mode to be enabled in response to a press on the Reset key.	0: Select to enable fuzzy control. (default) 1: Select if images are too light because of low humidity. 2: Select if the ambient humidity is normal. 3: Select if the cleaning separation claw and copy paper come into contact because of high humidity. 4: Select if '3' fails for high humidity. Press '0', '1', '2', '3', or '4' on the numeric keypad.
DENS_IND	Use it to change the copy density notation.	You can switch between 9-step and 17-step notations for copy density. 0: 9 steps (default) 1: 17 steps	
COPY_LIM	Use it to set the upper limit for the copy count.	Enter any number between 1 and 999.	Enter an appropriate number on the numeric keypad.
FIX_TEMP	Use it to switch among copying sequences. (If fixing faults occur, select 1 or 3.)	Select so that the fixing temperature is one of the following: 0: 155°C (default) 1: 160°C 2: 150°C 3: 165°C	Enter '0', '1', '2', or '3' on the numeric keypad.

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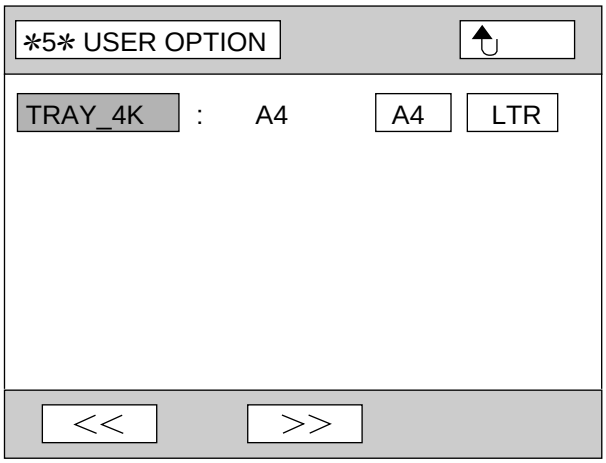
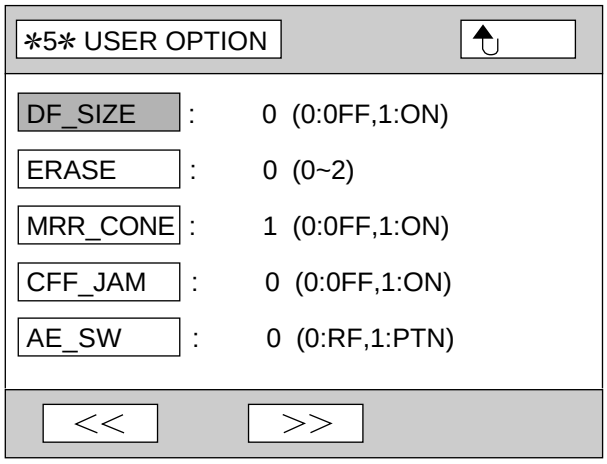


Screen 5-2

Item	Description	Settings	Remarks
TRAY_4K	Use it to select the appropriate paper size.	Use it to select the appropriate paper size.	Use it to select the appropriate paper size.



Screen 5-3

Item	Description	Settings	Remarks
DF_SIZE	Use it to set original size detection mechanisms for both AB- and inch-configured papers when using the RDF.	Both AB- and inch-configured originals are checked for size regardless of the country of installation. 0: OFF (default) 1: ON	For example, if '1' is selected, paper of the appropriate size will be selected if an A4 or LTR original is copied using the RDF-D1.
ERASE	Use it to select the standard sheet frame erasing function.	You can change the frame erasing width for copy paper (leading edge, trailing edge, side). 0: 4, 2, 2.5 (default) 1: 4, 2, 0 2: 3, 1, 0 (unit: mm)	
MRR_CONE	Use it so that the copier will know that the C.F.F. mirror is installed.	The copier cannot recognize the presence of the C.F.F. mirror so that you must force it to recognize it in this mode. 0: C.F.F. mirror not connected. 1: C.F.F. mirror connected. (default)	Be sure to select '1' if you have connected the mirror.
CFF_JAM	Use it to delay jam detection timing.	The holes in the continuous paper is checked to detect a jam in the C.F.F. Use this mode so that the detection is in reference to all holes or sets of two holes. 0: all holes 1: sets of two holes	
AE_SW	Select the RDF or the copier for AE.	Normally, use the RDF for AE; if the RDF AE mechanism fails for some reason, select copier AE.	0: RDF (default) 1: copier

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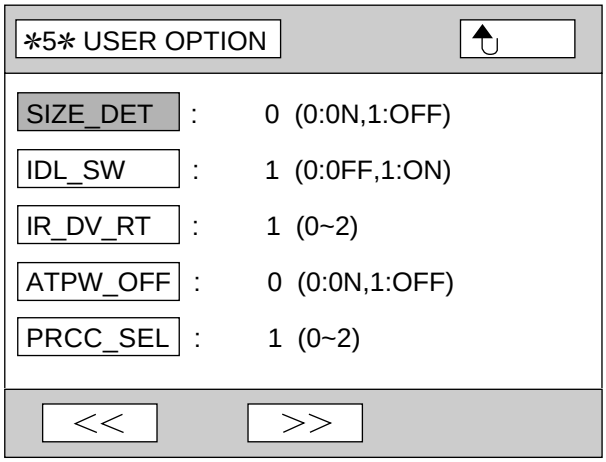
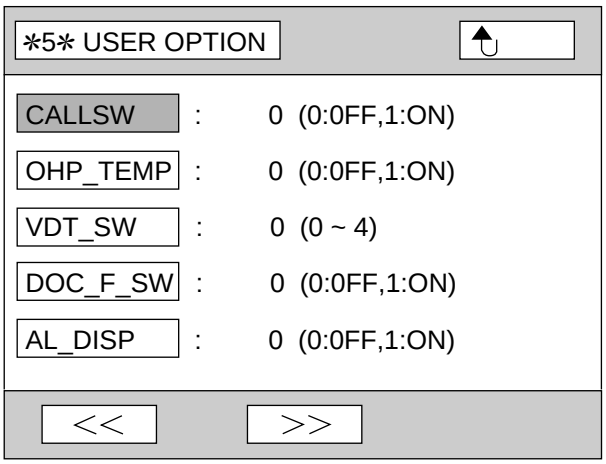


Screen 5-4

Item	Description	Settings	Remarks
SIZE_DET	Use it to enable or disable the size detection function.	0: Enable original size detection. (default) 1: Disable original size detection.	
IDL_SW	Use it to enable/disable drum idle rotation at power-on.	Use it if the images are too light at power-on in the morning or distorted because of high humidity. 0: Disable idle rotation. 1: Enable idle rotation. (default)	Enter '0' or '1' on the numeric keypad. See p. 3-75.
IR_DV_RT	Use it to enable or disable idle rotation of the developing cylinder between power-on and potential control ON.	Use it if the images are too light at power-on in the morning or distorted because of high humidity. 0: OFF 1: ON only in high-humidity environment (default) 2: ON	See p. 3-75.
ATPW_OFF	Use it to enable or disable auto power-off mode.	0: Enable auto power-off mode. (default) 1: Disable auto power-off mode.	Enter '0' or '1' on the numeric keypad.
PRCC_SEL	Use it to select the mode in which the density is varied by changing the application voltage to the primary charging assembly if the copy density is set to generate lighter-than-optimum copies.	0: ON 1: ON only in low-humidity environment (default) 2: OFF This mode keeps the intensity of the scanning lamp at a specific level and varies the primary application voltage to prevent character fogging.	



Screen 5-5

Item	Description	Settings	Remarks
CALL SW	Use it to store copying modes current at time of a press on the Copy Start key. (up to 5)	0: OFF (default) 1: ON (A call key will be indicated on the message display; the user may press the key to select one from the most recent five.)	Enter '0' or '1' on the numeric keypad.
OHP_TEMP	Use it to select a fixing temperature for transparencies.	0: OFF (default) 1: ON (20Þ lower thean normal for temperature control)	
VDT_SW	Use it to select a target value of dark area potential (V_D) for use in primary cyrrent control.	0: Standard voltage (default) 1: target potential at -20 V of standard voltage. 2: target potential at -10 V of standard voltage. 3: target potential at +10 V of standard voltage. 4: target potential at +20 V of standard voltage.	See p. 3-51.
DOC_F_SW	Use it to select a stream reading mode.	0: OFF (default) 1: ON	
AL_DISP	Use it to select when the message "The cleaning web needs to be replaced" is shown.	0: OFF (default; Indicates the message at the service mode.) 1: ON (Indicates the message always.)	

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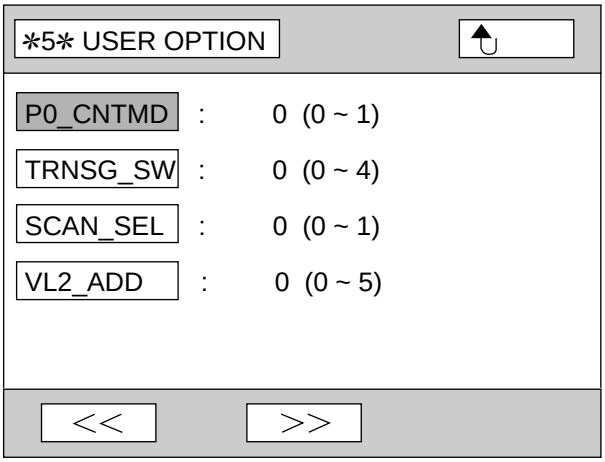
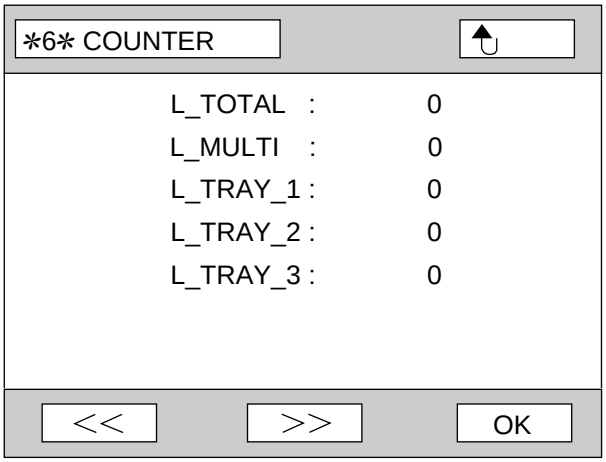


Screen 5-6

Item	Description	Settings	Remarks
P0_CNTMD	Use it to select a times of the electro-potential controll.	0: Executes 10 minutes and 60 minutes after power ON. (standard) 1: Executes once after power ON.	
TRNSG_SW	Use it to setect a voltage of the trans-fer guide bias.	0: Charges the bias voltage at high humidity 1: Grounds at humidity that is 22g/kg or less. 2: Grounds at humidity that is 18g/kg or less. 3: Grounds always. 4: Charges the bias voltage always.	See p. 3-64.
SCAN_SEL	With an RDF in use, use it to support non-default size papers.	0: default-size paper only 1: sapport non-default size papers	
VL2_ADD	Use it to change the developing bias light area potential DC voltage.	0: default 1: -20 V 2: -40 V 3: -60 V 4: +20 V 5: +40 V	See p. 3-71.

I. Counter Mode (✻ 6 ✻)

- Press the « / » key to select the appropriate screen.
- Press the counter name to select (highlight); then, press the Clear key to select the appropriate screen. Press the OK key to return the counter reading to '00000000'.



Screen 6-1

Item	Description	Copy size	Notation
L_TOTAL	L-size total copy counter	L-size (300 mm or more in length and non-default size)	99999999 (thereafter returns to 00000000)
L_MULTI	L-size multifeeder pick-up copy counter		
L_TRAY_1	L-size upper front tray pick-up copy counter		
L_TRAY_2	L-size lower front tray pick-up counter		
L_TRAY_3	L-size paper deck pick-up copy counter		

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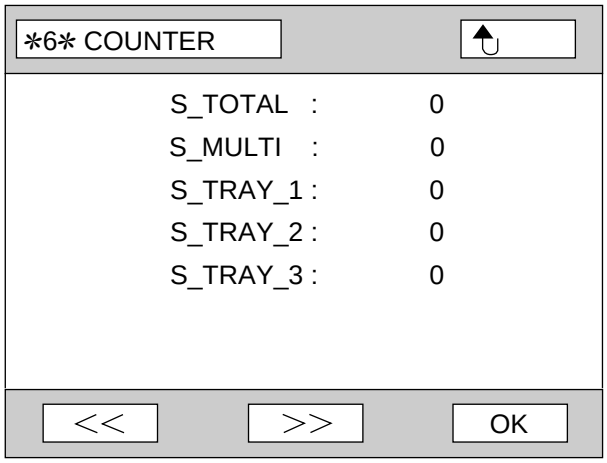
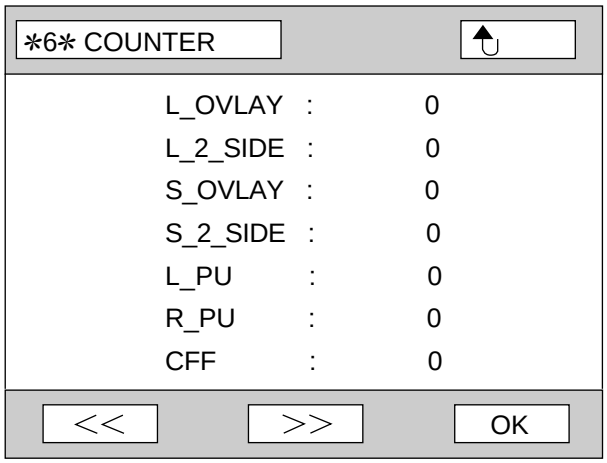


Screen 6-2

Item	Description	Copy size	Notation
S_TOTAL	S-size total copy counter	S-size (300 mm or less in paper length)	99999999 (thereafter returns to 00000000)
S_MULTI	S-size multifeeder pick-up copy counter		
S_TRAY_1	S-size upper front tray pick-up copy counter		
S_TRAY_2	S-size lower front tray pick-up counter		
S_TRAY_3	S-size paper deck pick-up copy counter		



Screen 6-3

Item	Description	Copy size	Notation
L_OVLAY	L-size overlay copy counter	L-size (300 mm or more in length and non-default size)	99999999 (thereafter returns to 00000000)
L_2_SIDE	L-size two-sided copy counter		
S_OVLAY	S-size overlay copy counter	S-size (300 mm or less in paper length)	
S_2_SIDE	S-size two-sided copy counter		
L_PU	Left pick-up original feed counter		
R_PU	Right pick-up original feed counter		
CFF	Copy counter with C.F.F. in use		

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■ Incrementing the Count

1 TOTAL
   - For one-sided copying and copying on the second side of overlay/two-sided copies, when pick-up occurs at its respective source of paper.

2 OVLAY, 2_SIDE
   - For overlay/two-sided copying, when the copy paper is picked up for copying on the second side.

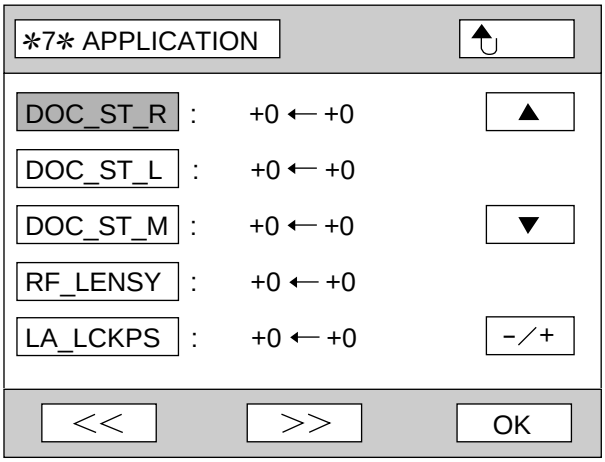
3 MULTI, TRAY_1–5
   - When copy paper is picked up at its respective source of paper.

4 L_PU, R_PU
   - When the size of the original is identified after the original has been pulled into the RDF.

5 C.F.F.
   - When pick-up occurs for C.F.F. copying.

J. Option Adjustment Mode (✻ 7 ✻)

- Press the « / » key to select the screen.
- Press the item to select. (The selected item will be highlighted.)
- Enter the appropriate value using the numeric keypad or the ▲/▼ key; then, press the OK to store the value.



Screen 7-1

Item	Description	Settings	Remarks
DOC_ST_R	Use it to adjust the original stop position. (for RDF right pick-up)	-10~+10	A higher setting moves the original in feeding direction. (For how, see the service manual.) (unit; 0.5 mm) For instance, the shift is to the left for right pick-up and manual feed.
DOC_ST_L	Use it to adjust the original stop position. (for RDF left pick-up)		
DOC_ST_M	Use it to adjust the original stop position. (for RDF manual feed)		
RF_LENSY	Use it to adjust offset in Y direction when right pick-up mode is used for the RDF (i.e., to adjust the shift of the lens reference position for right pick-up mode in relation to left pick-up mode).	-50~+50	A higher setting will increase the shift (i.e., moves the copy image to the front). (unit: 0.1 mm)
LA_LCKPS	Use it to adjust the image leading edge position in stream reading mode.		A higher setting advances the copier registration ON timing, thereby increasing the margin. (unit: 0.1 mm)

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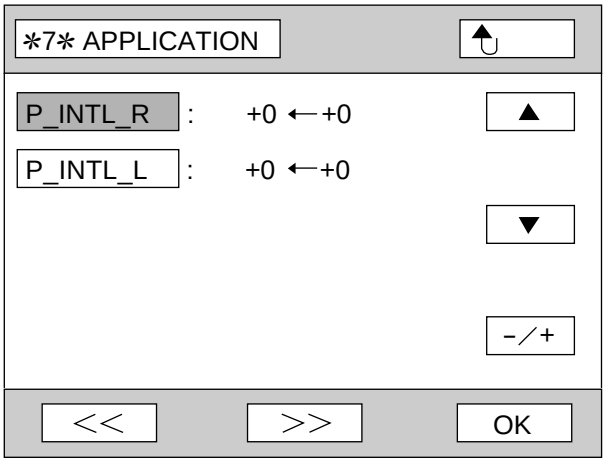
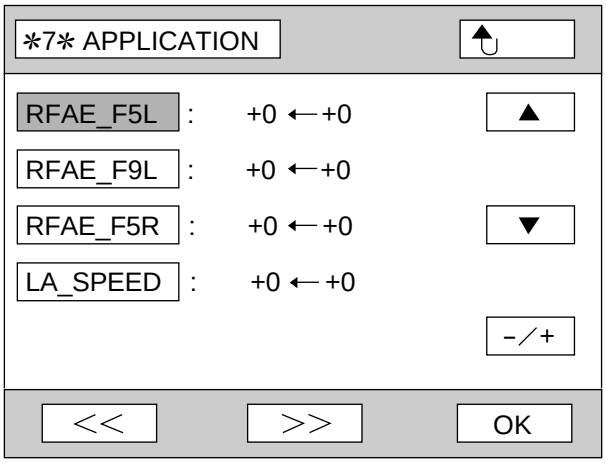


Screen 7-2

Item	Description	Settings	Remarks
P_INTL_R	Use it to adjust the RDF (2-on-1 mode) right pick-up original-to-original distance. (The RDF changes the left/right pick-up position.)	-10~+10	Unit: 0.5 mm
P_INTL_L	Use it to adjust the RDF (2-on-1 mode) left pick-up original-to-original distance. (The RDF changes the left/right pick-up position.)		



Screen 7-3

Item	Description	Settings	Remarks
RFAE_F5L	Use it to adjust the scanning lamp reference ON voltage for RFAE mode/left pick-up.	0 ~ 255	A higher setting will decrease the copy density in RFAE mode, thereby generating lighter copies.
RFAE_F9L	Use it to adjust the scanning intensity for newspaper originals in RFAE mode/left pick-up.	0 ~ 255	A higher setting will increase the density for newspaper originals, thereby generating darker copies.
RFAE_F5R	Use it to adjust the scanning lamp reference ON voltage for RFAE mode/right pick-up.	0 ~ 255	A higher setting will decrease the copy density in RFAE mode, thereby generating lighter copies.
RFAE_F9R	Use it to adjust the scanning intensity for newspaper originals for RFAE mode/right pick-up.	0 ~ 255	A higher setting will increase the density of newspaper originals, thereby generating darker copies.
LA_SPEED	Use it to adjust the stream reading speed.	-30 ~ +30	A higher setting will increase the stream reading speed. (unit : 0.1%)

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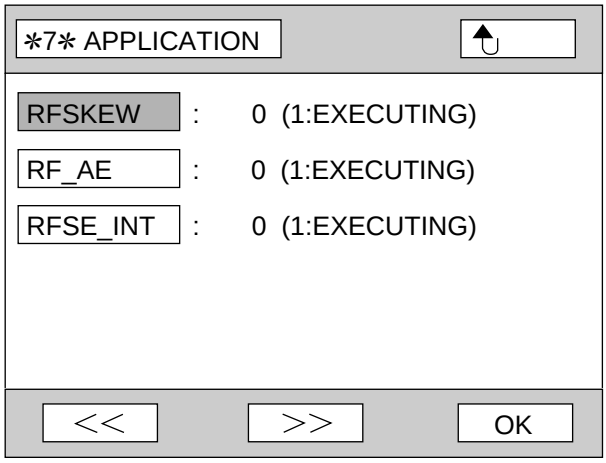

Screen 7-4

Item	Description	Settings	Remarks
RFSKEW	Use it to execute automatic adjustment of the RF skew detection reference value. (See 1 and 3 of Note.)		Press the OK key to start.
RF_AE	Use it to execute automatic adjustment of the RF AE sensor. (See 3 of Note.)		Press the OK key to start.
RFSE_INT	Use it to execute initial adjustment of the RDF sensor. (See 3 and 2 of Note.)		Press the OK key to start.

Note:

1. Execute when replacing the RDF controller PCB, registration sensor 1, or skew sensor 1.
2. Execute when replacing the RDF controller PCB, original sensor 1, registration sensor 1, skew sensor 1, manual registration sensor, image leading edge sensor, or original sensor 2.
3. The Copy Start key remains disabled when this screen is on to prevent malfunction.

Caution:

Keep the following in mind for items in service mode (✻ 7 ✻) relating to the RDF; e.g., 'DOC-ST-R', 'DOC-ST-L', 'DOC-ST-M', 'P-INTL-R', and 'P-INTL-L':

1. These items affect the memory values on the RDF's RDF controller PCB. You need not enter the values for these items, since initializing the copier's RAM will not affect the memory of the RDF controller PCB.
2. For these items, the following are true; they are for direct input to the RDF controller PCB.

Operation 1

When the data value under 'DOC-ST-R' is changed from 5 to 8, the result will be 8 - 5 = +3, causing the original stop position to shift by +3.

Operation 2

When the data value under 'P-INTL-R' is changed from -7 to -5, the result will be -5 - (-7) = +2, causing the original-to-original distance to shift by +2.

3. For these items, the OK key on the copier's control panel will cause pick-up and delivery registration instead of SW1 on the RDF controller PCB.

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XI. SELF DIAGNOSIS

The microprocessor on the NP6085's controller PCB is equipped with a function to check the condition of the machine (sensors in particular), issuing an error code to the control panel for display upon detection of an error.

A. Copier

Code	Cause	Description
E000 *1	• Thermistor (TH1; poor contact or open circuit) • Fixing heater (H1; open circuit) • Thermal switch (TS1; open circuit) • SSR (fault) • DC controller PCB (fault)	• After power-on, the upper fixing roller does not reach 100°C within 5 min.
E001 *1	• Thermistor (TH1; short circuit) • SSR (fault) • DC controller PCB (fault)	• The temperature of the upper fixing roller exceeds 230°C for 5 sec or more.
E002 *1	• Thermistor (TH1; poor contact or open circuit) • Fixing heater (H1; open circuit) • Thermal switch (TS1; open circuit) • SSR (fault) • DC controller PCB (fault)	• After the temperature of the upper fixing roller has exceeded 100°C, it does not reach 180°C within 5 min.
E003 *1	• Thermistor (TH1; poor contact or open circuit) • Fixing heater (H1; open circuit) • Thermal switch (TS1; open circuit) • SSR (fault) • DC controller PCB	• After the temperature of the upper fixing roller has reached 180°C, it drops to 100°C or less for 5 sec or more. • After power-on, the temperature of the upper fixing roller does not reach 56°C within 2 min.
E004	• Cleaning belt (fixing assembly; taken up) • Cleaning belt sensor (Q8, Q9; fault) • DC controller PCB (fault)	• The length used of the cleaning belt inside the fixing assembly has exceeded a specific value.

Code	Cause	Description
E012	• Drum motor (M1; fault) • DC controller PCB (fault)	• After the drum motor drive signal has been generated, clock pulses are not generated within 2 sec.
E013	• Waste toner feeding screw (error) • DC controller PCB (fault)	• After the waste toner feeding screw has become locked, the detecting switch (SW20) is pressed a multiple number of times within a specific period of time.
E014	• Fixing motor (M17; fault) • DC controller PBC (fault)	• When the fixing motor (M17) is rotating, an error is detected for 2 sec or more.
E015	• Pick-up motor (M16; fault) • DC controller PCB (fault)	• After the pick-up motor drive signal has been generated, clock pulses are not generated within 2 sec.
E019	• Waste toner container (full) • Waste toner full switch (SW13; fault) • DC controller (fault)	• As many as 50,000 copies have been made after detecting a waste toner full condition.
E020 *1	• Hopper motor (M18; faulty) • Developing assembly toner level detection circuit (fault) • Hopper toner level detection circuit (fault) • DC controller PCB (fault)	• During copying, the toner supply signal is '0', indicating the absence of toner, for 3 min or more. • During toner supply sequence at time of installation, the toner supply signal does not go '1' after 6 min or more.
E030	• Total copy counter (open circuit) • DC controller PCB (fault)	• After the total copy counter has turned OFF, an open circuit is detected for the total copy counter.
E032	• Copy Data Controller-A1 (open circuit in count signal line or fault in controller PCB) • DC controller (fault)	• After the count pulse signal reached the IPC communication format of the copier DC controller PCB, the Copy Data Controller-A1 does not detect the signal.
E050	Duplexing Unit • Paper jogging guide home position sensor (Q28; fault) • Paper jogging guide motor (M11; fault) • DC controller PCB (fault)	• While the paper jogging guide motor (M11) drive signal is being generated, the paper guide home position signal (THP) is not generated within 4 sec. • While the paper jogging guide motor (M11) is being generated, the paper jogging guide home position signal (THP) is generated for 2 sec or more.

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Code	Cause	Description
E202 *2	• Scanner (M2; fault) • Scanner home position sensor (Q5; fault) • DC controller PCB (fault)	• The scanner home position signal (SCHP) is not generated within 10 sec after the power switch or the Copy Start key is pressed.
E203	• Scanner home position sensor (Q5; fault) • Scanner motor (M2; fault) • DC controller PCB (fault)	• While the scanner motor drive signal is being generated, clock pulses are not generated within 2 sec.
E204 *2	• Scanner motor (M2; fault) • Scanner original leading edge sensor (Q4; fault) • DC controller PCB (fault)	• The scanner leading edge signal (SCDP1) is not generated within 0.8 sec after the scanner has started to move forward (within 3 sec for the C.F.F.). • The scanner leading edge signal (SCDP1) is not generated within 1 sec after the scanner has started to move in reverse.
E209	• Scanner motor (M2; fault) • Scanner C.F.F. position sensor (Q6; fault) • DC controller PCB (fault)	• The scanner C.F.F. position signal (SCFFP) is not generated within 10 sec after the C.F.F. has been set.
E210	• Lens X home position sensor (Q2; fault) • Lens X motor (M9; fault) • DC controller PCB (fault)	• The lens X home position signal (LXHP) is not generated within 9 sec after the power switch or the Copy Start key is turned ON. • The lens X home position signal (LXHP) is generated for 2 sec or more.
E212	• Lens Y home position sensor (Q3; fault) • Lens Y motor (M10; fault) • DC controller PCB (fault)	• The lens Y home position signal (LYHP) is not generated within 9 sec after the power switch or the Copy Start key is turned ON. • The lens Y home position signal (LYHP) is generated for 2 sec or more.
E213	• Scanner original leading edge sensor (Q38: fault) • DC controller PCB (fault)	• In stream reading mode, the scanner original leading edge sensor 2 signal (SCDP2) is not generated for 5 pages continuously .
E214	• Scanner cooling fan (FM1, FM10, FM11; fault) • DC controller PCB (fault)	• While the scanner cooling fan (FM1, FM10, FM11) is rotating, an error signal is generated for 2 sec or more.

Code	Cause	Description
E270	• Scanner motor (M2; fault) • DC controller PCB (fault) • Scanner original leading edge sensor (Q38: fault)	• In stream reading mode, the scanner leading edge signal (SCDP2) is not generated within specific period of time after a command has been issued to lock the scanner.
E710	• DC controller PCB (fault)	• At power-on, the IPC (Q170) on the DC controller PCB cannot be initialized.
E711	• DC controller PCB (fault)	• After power-on, the IPC (Q170) on the DC controller PCB goes out of order.
E712	• RDF controller PCB (fault) • Connector (poor contact) • 24V power supply (fault)	• The communication IC on the RDF controller PCB has gone out of order.
E713	• Sorter controller PCB (fault) • Connector (poor connection) • 24V power supply	• The communication IC on the sorter control PCB has gone out of order.
E715	C.F.F. Error • C.F.F. controller PCB (fault) • Connector (poor connection) • 24V power supply (fault)	• The communication IC on the C.F.F. controller PCB has gone out of order.
E717	Copy Data Controller-A1 Error • Controller PCB (fault) • Connector (poor connection) • 24V power supply (fault)	• The communication IC on the Copy Data Controller-A1 PCB has gone out of order.
E800 *3	• Auto power-off circuit (open circuit) • DC controller PCB (fault)	• An open circuit is detected in the auto power-off circuit. • The auto power-off signal is generated twice or more within 2 sec.
E801	• Lamp regulator PCB (fault) • DC controller PCB (fault)	• Current flows from the activation circuit in the absence of the scanning lamp ON signal. • Current flows from the activation circuit in the absence of the fixing heater ON signal.
E802	• Auto power-off circuit (open circuit) • DC controller PCB (fault)	• The relay (RL3) in the power supply unit does not operate in spite of the auto power-off signal.

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Caution:

1. When the self diagnosis function has turned ON, you can reset the machine by turning its power switch OFF once.
   E000, E001, E002, E003, E005 or E020 is not reset by turning OFF the power switch; this is to prevent the user from casually resetting the machine when the thermistor has an open circuit, since such would overheat and damage the fixing roller and would cause overflowing of toner from the hopper.
   To clear E000, E001, E002, E003, E005, or E020, you must clear the data in the RAM on the DC controller PCB as follows:

1) Start service mode (* 4 *).
2) Press the « / » key to select 'ERROR'.
3) Press the OK key to clear the E code.

- The message display on the control panel will be refreshed, and the copy mode screen will return.

2. E202 and E204 lock the keys but do not indicate a code. To make a check, start service mode (* 1 *), and select 'B_ER1', 'B_ER2', or 'B_ER3'.

3. For E801, the copier will shut its power without indicating a code.

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B. RDF Self Diagnosis

Code	Cause	Description
E400	• Copy data communication (fault)	• The communication is monitored at all times. The exchange of data with the copier is absent for 5 sec or more.
E401	• Pick-up roller sensor (S8, S21; fault) • Pick-up motor (M1; fault) • Pick-up clutch (CL1; fault)	• Initialization does not end in 2 sec; otherwise, for the pick-up roller, the flat face of the D-cut roller is at the top and is at home position.
E402	• Belt motor clock sensor (S11; fault) • Belt motor (M3; fault)	• The number of belt motor clock pulses for 100 msec is less than a specific value.
E403	• Reversing motor clock sensor (S10; fault) • Reversing motor (M2; faulty)	• The number of reversing motor clock pulses within 100 msec is less than a specific value.
E404	• Delivery motor clock sensor (S12; fault) • Delivery motor (M5; fault)	• The number of motor clock pulses within 200 msec is less than a specific value.
E405	• Pick-up motor clock sensor (S9; fault) • Pick-up motor (M1; fault)	• The number of pick-up motor clock pulses for 20 msec is less than a specific value.
E406	• Original stopper motor (M7; fault) • Stopper home position sensor (S26; fault)	• The guide does not complete movement within a specific period of time (operated by the original stopper motor).
E407	• Original tray ascent motor (M6; faulty) • Tray position sensor (S25; faulty)	• The tray does not complete movement within a specific period of time (operated by the original tray ascent motor).
E408	• Feeding motor clock sensor (S22; fault) • Feeding motor (M8; fault)	• The number of feeding motor clock pulses within 100 msec is less than a specific value.
E411	• Registration sensor 1 (S3; fault) • Skew sensor1 (S4; fault) • Manual feed registration sensor (S19; fault) • Image leading edge sensor 1 (S20; fault) • Original sensor 1 (S1; fault) • Original sensor 2 (S27; fault)	• The output of the sensor is 2.3 V or more in the absence of paper.

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Caution:

When the self diagnosis has activated, you can reset the machine by turning the copier's power switch OFF and then ON.

You can continue to make copies by disconnecting the RDF's lattice connector and placing originals on the copyboard.

C. Sorter Self Diagnosis

Code	Cause	Description
E500	• CPU (Q1) or communication IC (Q3) on sorter controller PCB (fault)	• An error has been identified in the communication between sorter and copier.
E510	• Feeding motor (M1; fault)	• Clock signals from the clock sensor (PI 5) of the motor are absent for 250 msec or more.
E522	• Push bar motor (M7; fault)	• The operation does not end within 2 sec after the generation of the motor drive signal.
E523	• Reference wall motor (M6; fault)	• The operation does not end within 2 sec after the generation of the motor drive signal.
E524	• Multiguide motor (M5; fault)	• The operation does not end within 2 sec after the generation of the motor drive signal.
E525	• Bin paper sensor automatic adjustment (fault)	• The bin paper sensor cannot be adjusted automatically or an error occurs in the automatic adjustment value.
E530	• Guide bar swing motor (M8; fault)	• The operation does not end within a specific period* of time after the generation of the motor drive signal. *5 sec for front retrieval; 2 sec for others.
E531	• Stapler unit swing motor (M4; fault)	• The operation does not end within 2 sec after the generation of the motor drive signal. • The clock signal from the motor clock sensor (PI 8) is off for 250 msec. • The input signal from the swing home position sensor (PI 9) does not change for 1 sec or more.

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Code	Cause	Description
E532	• Stapler unit shift motor (M3; fault)	• The operation does not end in 500 msec after the generation of the motor drive signal.
E533	• Stapler paper sensor automatic adjustment (fault)	• The stapler paper sensor cannot be adjusted automatically or an error occurs in the automatic adjustment value.
E540	• Bin shift motor (M9; fault)	• The operation does not end within a specific period* of time after the generation of the motor drive signal. *20 sec for initialization; 2 sec for others. • The clock signal from the motor clock sensor (PI 17) is OFF for 250 msec or more. • The input signal from the lead cam position sensor (PI 20) does not change for 2 sec or more.
E550	• Circuit breaker (CB1), Fuse resistor (R63), Door switch (MSW3), C.F.F. connection detecting switch (SW30), C.F.F. home position switch (MS5); fault	• 24 VP is not supplied during the copier's initial rotation or when the Copy Start key is pressed.

■ Resetting

Method 1

① The Jam message is indicated.

② After jam reset, the “Turn OFF/ON Power” message is indicated.

③ After turning OFF/ON the power, the copier runs a self check and is reset if the result is good; otherwise, the copier starts down sate*, indicating ‘E5XX’ on its control panel.

Method 2

① The “Turn OFF/ON Power” message is indicated.

② After turning OFF/ON the power, the copier runs a self check and is reset if the result is good; otherwise, the copier starts down state*, indicating ‘E5XX’ on its control panel.

*A state in which an E code is indicated.

• Copier Operation in Down State

① ‘E5XX’ is indicated.

② You can continue to make copies after disconnecting the lattice connector and detaching the sorter.

* State in which an error code “E” is indicated.

D. C.F.F. Self Diagnosis

Code	Cause	Description
E441	• C.F.F. motor (PM1; fault) • C.F.F. motor clock sensor (PI 2; fault) • C.F.F. controller PCB (fault)	• The microprocessor on the C.F.F. controller PCB cannot detect clock pulses even though the C.F.F. motor drive signal is being generated.
E442	• Heat exhaust fan (FM1, FM2; fault) • Fan rotation detection sensor (fault) • C.F.F. controller PCB (fault)	• The rotation detection signal FM1A or FM2A does not go '0' even when the fan drive signal is being generated.
E446	• C.F.F. mirror motor (M15; fault) • C.F.F. mirror position sensor (Q32; fault) • Copier DC controller PCB (fault)	• The output of the mirror position sensor does not change from '1' to '0' and to '1' even when the mirror drive signal is being generated.
E447	• C.F.F. position (error) • C.F.F. home position (MS4; fault)	• The C.F.F. leaves home position when copies are being made without using the C.F.F. (in a machine equipped with a sorter).

■ Resetting

The machine can be reset by turning OFF/ON the copier's power switch.

If 'E447' is indicated, however, be sure to turn OFF/ON the power switch after returning the C.F.F. to home position, since the C.F.F. will have left home position and cut off the power to the sorter.

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CHAPTER 4

MECHANICAL SYSTEM

1. ⚠ Disconnect the power cord for safety before disassembly or reassembly work.
2. Group the screws by type (length and diameter) and location.
3. The fixing screw for the grounding wire and varistors is fitted with a washer to ensure electric continuity; be sure to use the washer for reassembly.
4. If possible, avoid operating the machine with any of its parts removed.
5. Unless otherwise noted, reassembly is the reverse of disassembly.

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I. EXTERNALS

A. External Covers

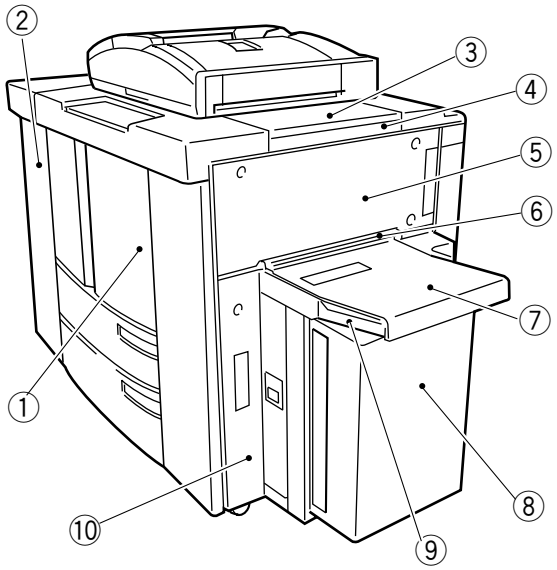

Figure 4-101

① Front right door
② Front left door
③ Hopper upper cover
④ Hopper supply mouth cover
⑤ Upper right cover (4)
⑥ Upper left cover (2)
⑦ Multifeeder cover
⑧ Paper deck cover
⑨ Multifeeder tray
⑩ Front left cover (2)

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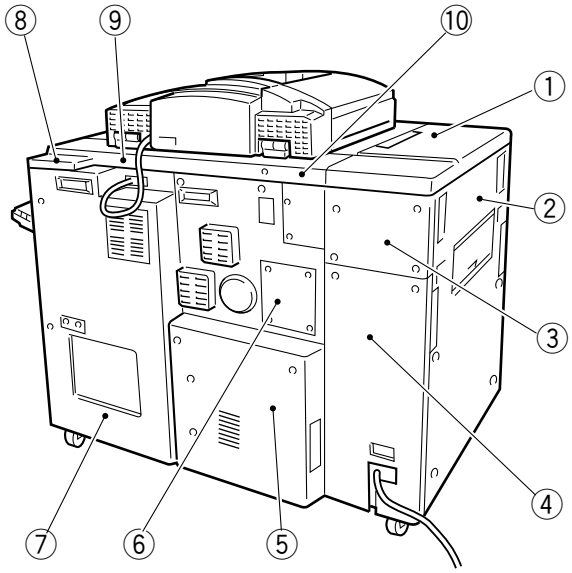

Figure 4-102

① Upper left cover (2)
② Left cover (6)
③ Buffer upper rear cover (4)
④ Buffer lower rear cover (2)
⑤ Rear lower left cover (2)
⑥ Upper rear left cover (3)
⑦ Rear right cover (3)
⑧ Rear upper right cover (4)
⑨ Rear upper cover 2 (2)
⑩ Rear upper cover 1 (3)

Note: The number in parentheses indicates the number of mounting screws used.

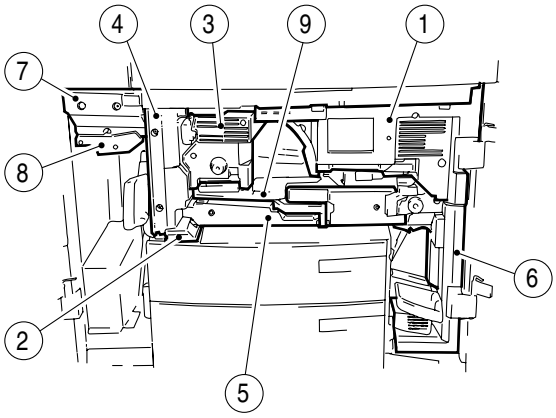

Figure 4-103

① Process cover (3)
② Inside left cover (2)
③ Fixing assembly cover (2)
④ Delivery assembly cover (2)
⑤ Duplexing unit front cover (2)
⑥ Pick-up assembly cover (3)
⑦ Buffer assembly upper cover (2)
⑧ Buffer assembly inside cover (2)
⑨ Fixing assembly lower cover (2)

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Remove the covers as necessary to clean, inspect, or repair the inside of the machine.

Those covers that may be removed by mere removal of mounting screws are left out of discussions.

1. Removing the Process Cover

1) Open the front door.
2) Slide out the duplexing unit assembly ①, and shift the jam removal lever ② in the direction of the arrow.

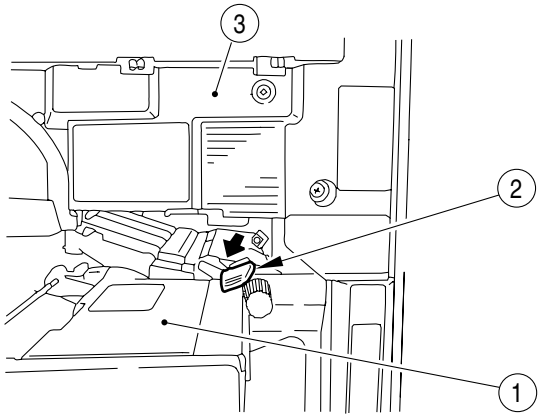

Figure 4-104

3) Remove the three mounting screws, and remove the process cover ③.

Caution:

If the back of the process cover is soiled, wipe it with a moist cloth (especially the area around the magnet plate).
At this time, check to make sure that no droplet of water remains.

2. Removing the Pick-Up Assembly Cover

1) Open the front door.
2) Remove the mounting screw ①, and remove the jam removal grip ②; then, remove the screw, and remove the jam removal handle ③.
3) Remove the three mounting screws ④, and lift the pick-up assembly cover ⑤ slightly to remove.

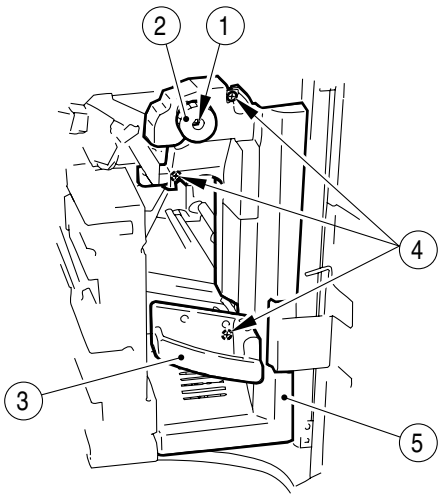

Figure 4-105

3. Removing the Duplexing Unit Front Cover

1) Open the front door, and slide out the duplexing unit.
2) Remove the mounting screw ①, and remove the duplexing unit releasing lever ②.

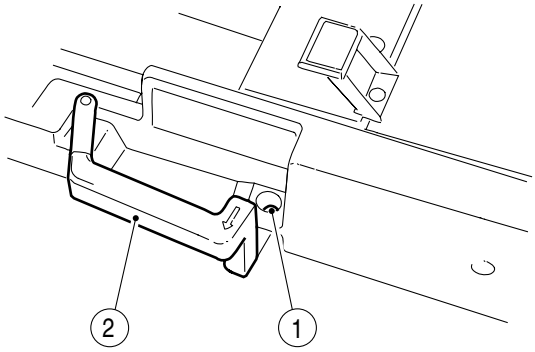

Figure 4-106

3) Remove the two screws ③, and remove the duplexing unit front cover ④.

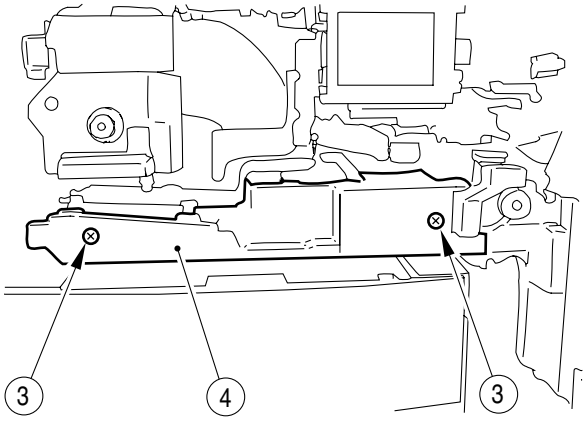

Figure 4-107

B. Control Panel

1. Removing the Control Panel

1) Shift the RDF upright.
2) Remove the two screws ①, and remove the magnet plate ②.

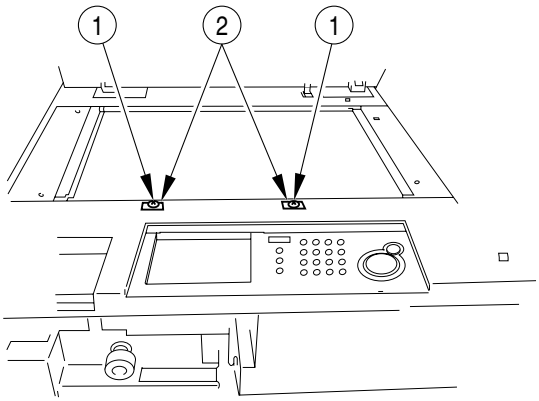

Figure 4-108

3) Open the front door, and remove the six mounting screws ③; then, remove the control panel unit ④.

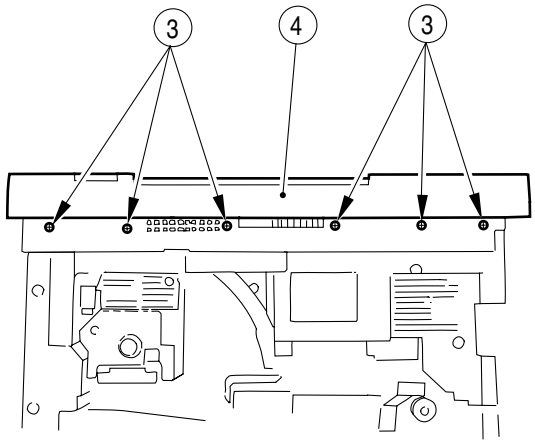

Figure 4-109

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4) Turn over the control assembly unit; then, remove the screw ⑤, and remove the harness guide ⑥ used to keep the harness in place. Release the four wire saddles ⑦, and remove the cable ⑧.
5) Remove the three mounting screws ⑨, and remove the insulating sheet ⑩; then, disconnect the eight connectors ⑪, and remove the control assembly ⑫.

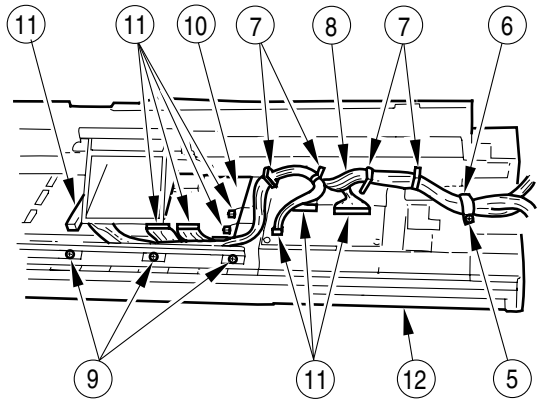

Figure 4-110

2. Points to Note When Disassembling and Assembling the Control Panel

① Do not touch the switches mounted on the PCB.
② Be sure to put the insulating sheet between the PCB and the cover when assembling the panel.
③ Take care to avoid dust on the display of the LCD.
④ Make sure all PCB mounting screws have been fitted.
⑤ Take care when tightening the self-tapping screws on the PCB.

C. Door Switch Assembly

1. Removing the Front Door Switch Assembly

1) Remove the control panel from the copier. (p. 4-4)
2) Remove the scanner cooling fan 1. (p. 4-6)
3) Remove the two screws ①, and move the harness guide plate ② to the rear.

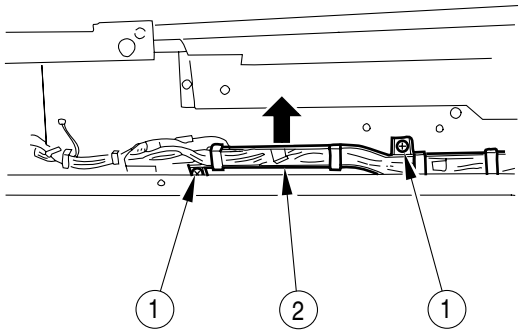

Figure 4-111

4) Remove the three mounting screws ③, and remove the door switch assembly ④ from the stay.

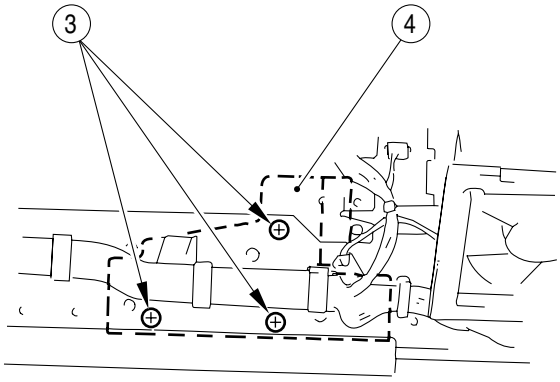

Figure 4-112

5) Remove the eight door switch harnesses, and remove the door switch assembly.

2. Removing the Delivery Door Switch Assembly

1) Open the front door, and remove the two mounting screws; then, remove the delivery assembly cover.
2) Push the fixing assembly releasing lever, and slide out the fixing assembly; remove the screw and the two fastons, and remove the delivery door switch assembly ③.

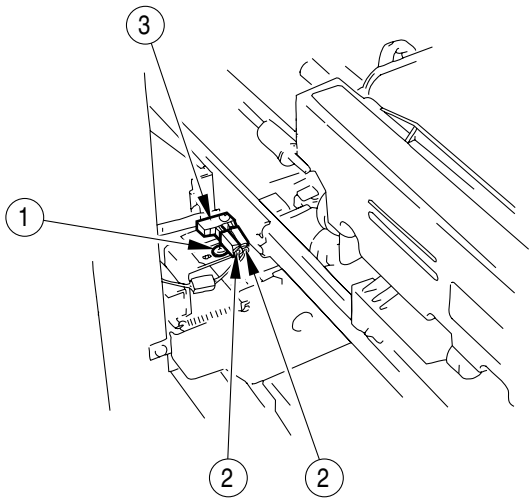

Figure 4-113

D. Fans

1. Removing the Scanner Cooling Fan 1 (FM1)

1) Remove the control panel. (p. 4-4)
2) Remove the three mounting screws ①, and remove the duct plate ②.

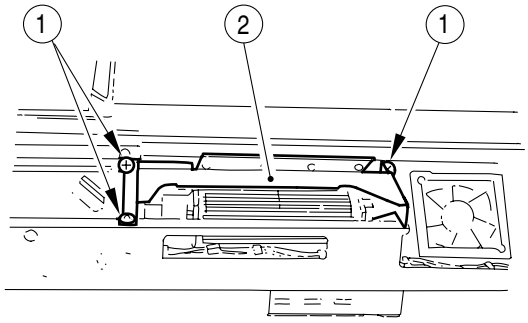

Figure 4-114

3) Disconnect the connector ③, and remove the two mounting screws ④; then, remove the scanner cooling fan 1 ⑤.

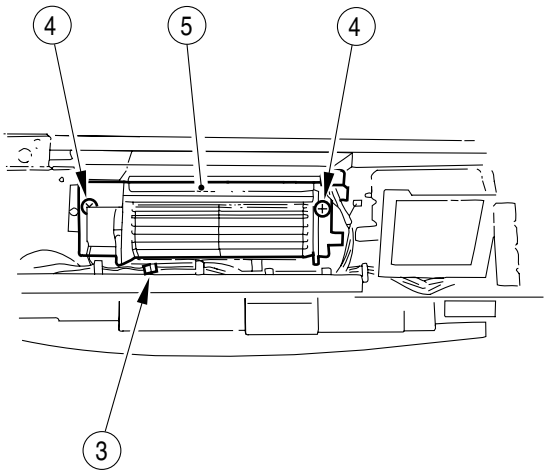

Figure 4-115

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2. Removing the Scanner Cooling Fan 2 (FM10)

1) Remove the upper left cover.
2) Remove the two mounting screws ①, and disconnect the connector ②; then, remove the scanner cooling fan ③.

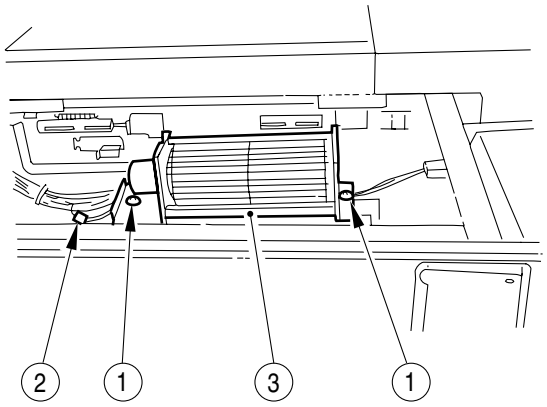

Figure 4-116

3. Removing the Scanner Cooling Fan 3 (FM11)

1) Remove the rear right cover.
2) Remove the rear upper cover.
3) Remove the two mounting screws ①, and push down the harness guide plate ②.
4) Remove the two screws ③, and disconnect the connector ④; then, remove the scanner cooling fan 3 ⑤.

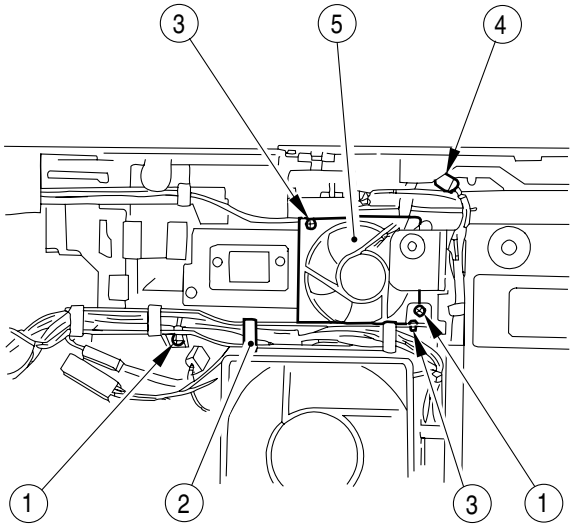

Figure 4-117

4. Removing the Fixing Cooling Fan (FM2), Exhaust Fan (FM3), and Power Supply Cooling Fan (FM6)

1) Remove the rear cover.
2) Remove the two mounting screws ①, and disconnect the connector ②; then, remove the fixing cooling fan ③.
3) Remove the two mounting screws ④, and disconnect the connector ⑤; then, remove the exhaust fan ⑥.
4) Remove the mounting screw ⑦, and disconnect the connector; then, remove the power supply cooling fan assembly ⑨ together with the fan stay.

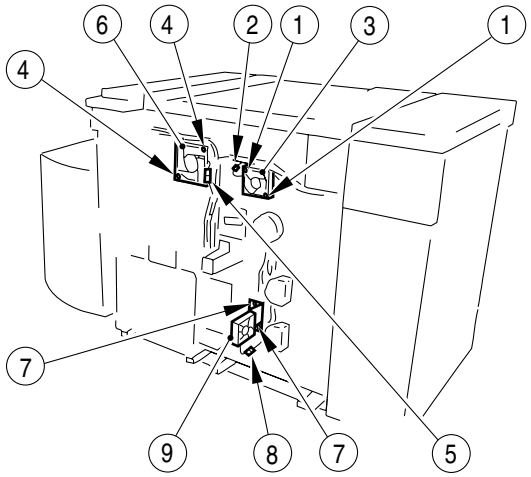

Figure 4-118

5. Removing the Feeding Fan (FM4)

1) Remove the rear cover.
2) Remove the three mounting screws ①, and move the harness guide plate ② to the left.

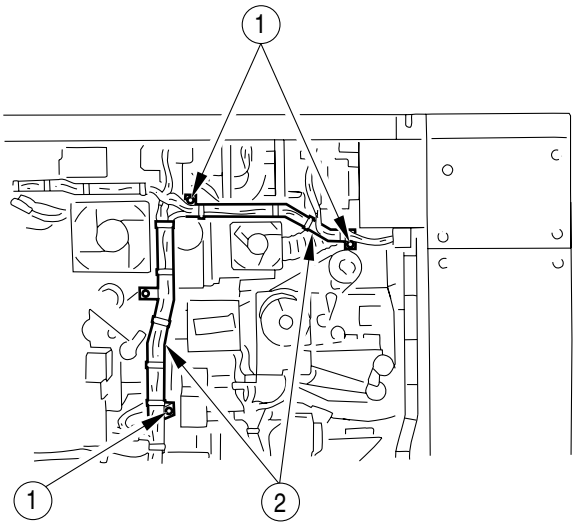

Figure 4-119

3) Remove the two mounting screws ③, and disconnect the connector ④; then, remove the feeding fan assembly ⑤.

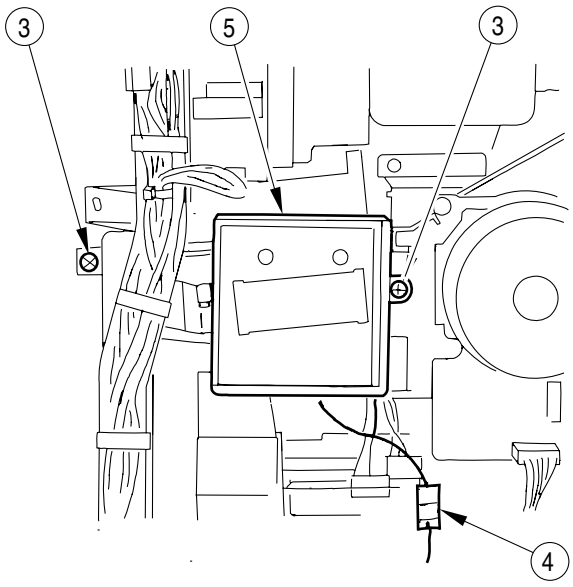

Figure 4-120

6. Removing the Developing Fan (FM5)

1) Remove the primary charging assembly from the front of the copier.
2) Remove the exhaust fan. (p. 4-7)
3) Remove the mounting screw ①, and disconnect the high-voltage connector ② of the primary charging assembly; then, remove the two screws ③, and disconnect the connector ④ to remove the developing fan assembly ⑤.

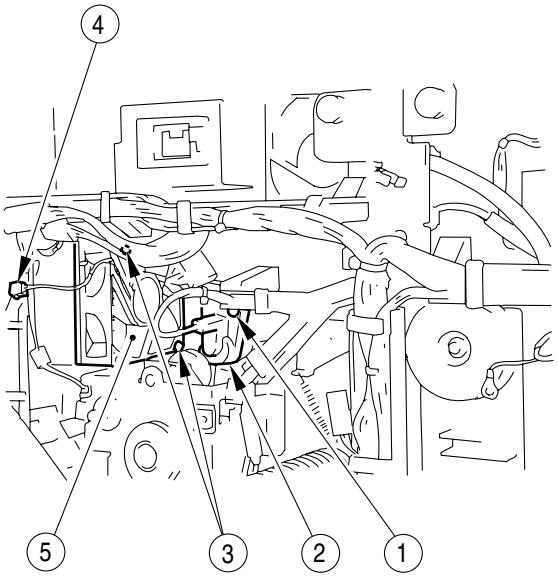

Figure 4-121

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7. Removing the Primary Charging Exhaust Fan (FM9)

1) Remove the control panel (p. 4-4)
2) Remove the two mounting screws ①, and disconnect the connector ②; then, remove the primary charging exhaust fan ③.

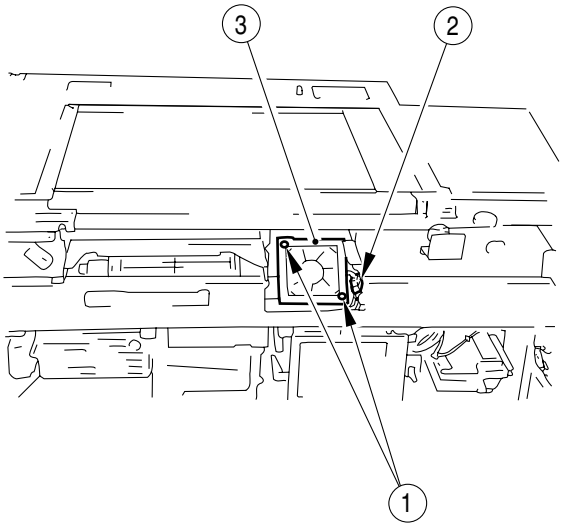

Figure 4-122

8. Removing the Scanner Motor Cooling Fan (FM8)

1) Remove the rear upper right cover.
2) Remove the mounting screw ①, and move the harness rail ② downward.
3) Remove the two mounting screws ③, and disconnect the connector ④; then, remove the scanner motor cooling fan assembly ⑤.

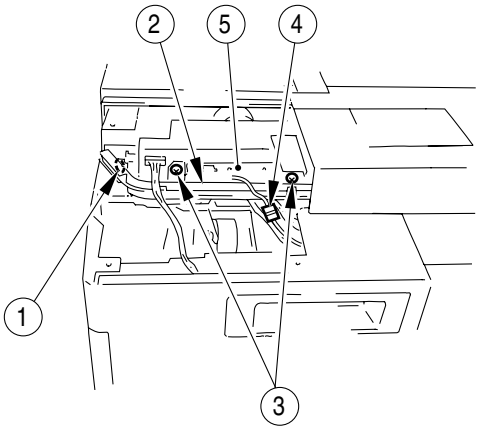

Figure 4-123

9. Removing the Fixing Cooling Fan (FM2)

1) Remove the rear right cover and the rear upper left cover.
2) Remove the two mounting screws ①, and disconnect the connector ②; then, remove the fixing cooling fan ③.

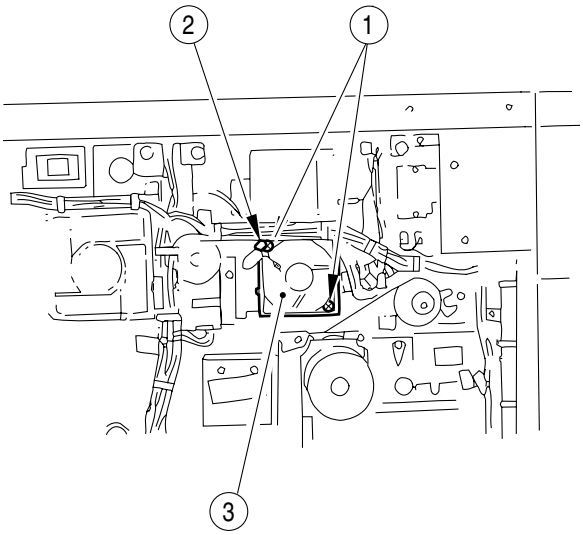

Figure 4-124

10.Removing the Fixing Heat Exhaust Fan 2 (FM13)

1) Remove the upper left cover and the left cover, release the buffer assembly.
2) Disconnect the connector ①, and loosen the six mounting screws ② (front, rear); then, remove the buffer path upper unit ③.

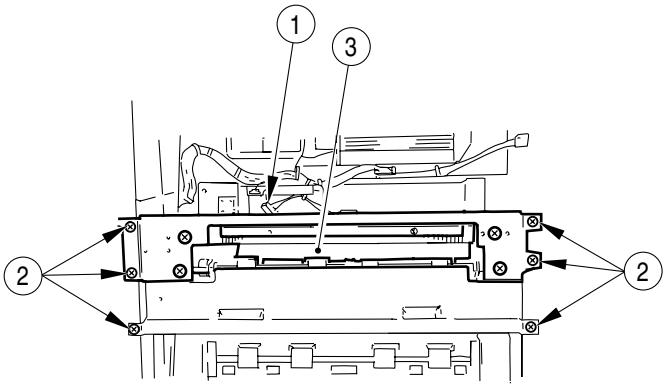

Figure 4-127

3) Remove the two mounting screws ④, and remove the fixing heat exhaust fan 2 ⑤.

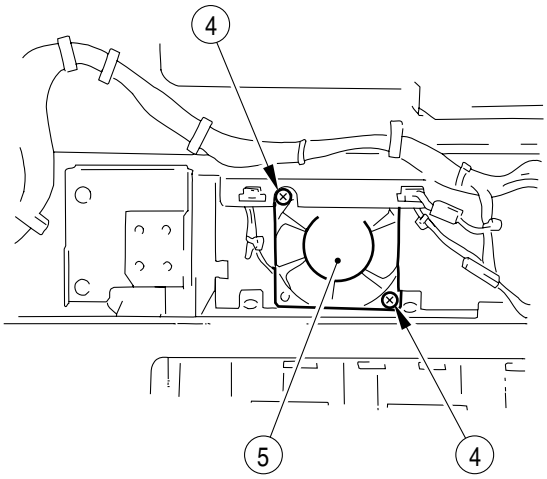

Figure 4-128

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11.Removing the Developing Assembly Heat Exhaust Fan (FM14)

1) Remove the rear right cover.
2) Remove the two mounting screws ①, and disconnect the connector ②; then, remove the developing assembly heat exhaust fan ③.

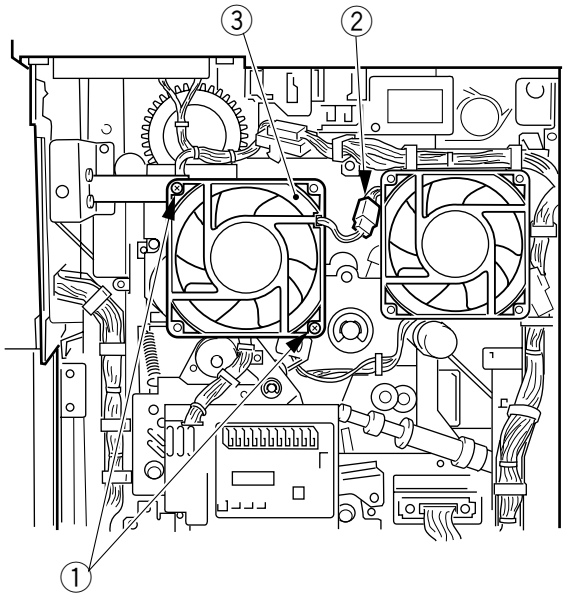

Figure 4-129

12.Removing the Transfer Charging Dust-Proofing Fan (FM15)

1) Remove the process cover.
2) Remove the three mounting screws ①, and disconnect the connector ②; then, remove the transfer charging dust-proofing fan ③.

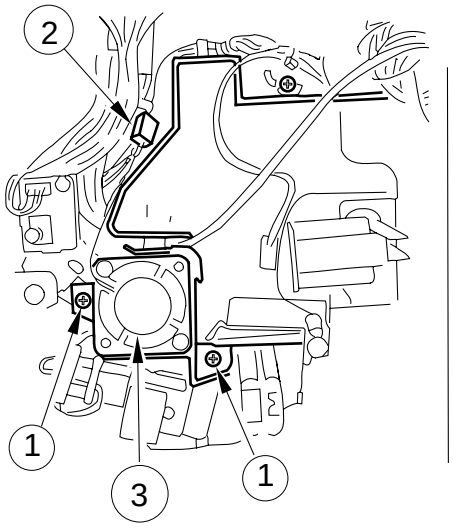

Figure 4-129-1

Caution:

When removing the transfer charging dust-proofing fan, be sure to perform cleaning work as follows:

1) Replace the filter (every 250,000 copies).

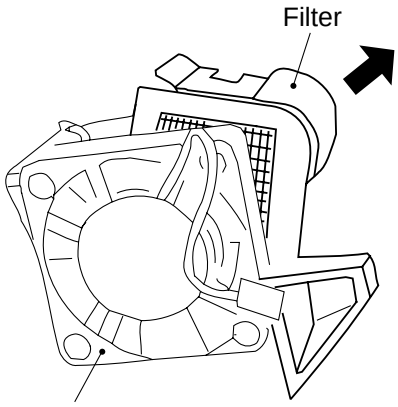

Figure 4-130

2) To clean the transfer charging dust-proofing fan, tap it above waste paper (copy paper) so that it is free of residual toner.

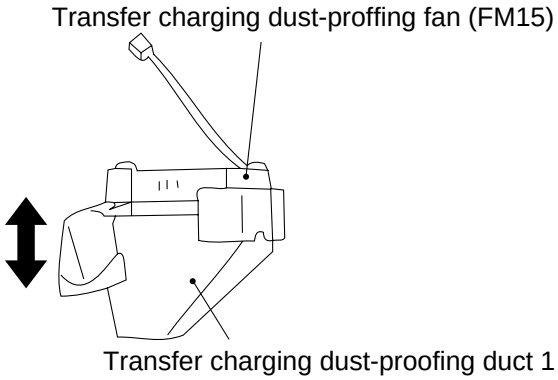

Figure 4-131

3) Remove the drum unit. (See p. 4-64)

4) Remove the two screws, and remove the transfer charging dust-proofing duct; tap it above waste paper (copy paper) so that it is free of residual toner.

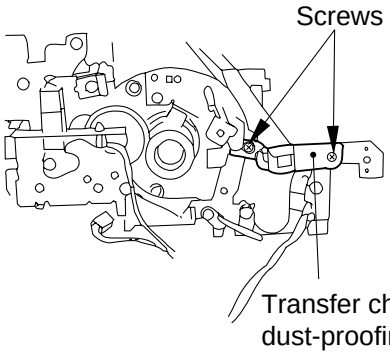

Figure 4-132

5) Remove the screw, and remove the cap.

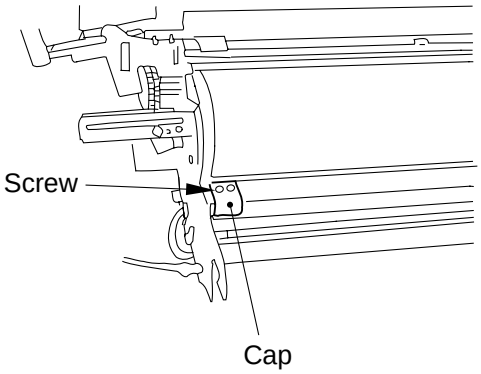

Figure 4-133

6) Pull out the transfer charging dust-proofing duct 3, and tap it above waste paper (copy paper). Then, clean the magnet area with a moist cloth. (Check to make sure that no droplet of water remains.)

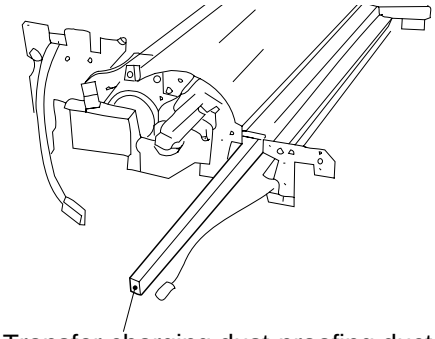

Figure 4-134

E. Removing the Power Supply Cord Mount

1) Open the front door.
2) Remove the four mounting screws ①, and remove the power supply cover ②.

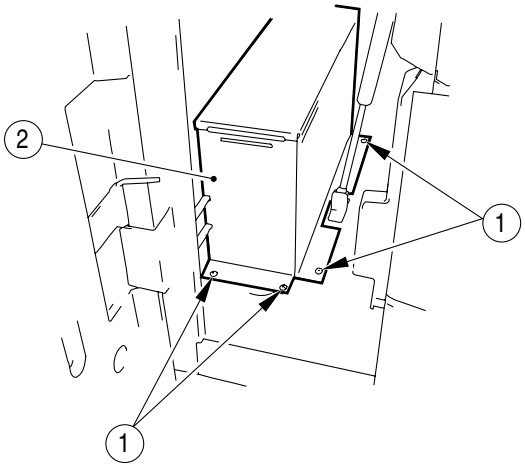

Figure 4-135

3) Remove the buffer rear lower cover.
4) Disconnect the four connectors ③, and remove the two mounting screws ④; then lift the power cord mount assembly ⑤ slightly to remove.

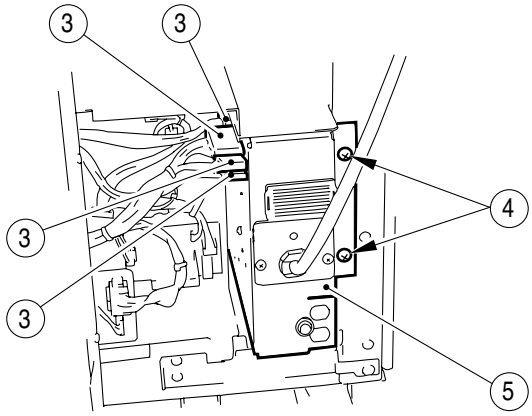

Figure 4-136

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F. Removing the Counter Assembly

1) Remove the pick-up assembly cover.
2) Remove the mounting screw ①, and remove the environment sensor. Remove the mounting screw ③, and disconnect the connector ④; then, remove the counter assembly ⑤ together with the support plate.

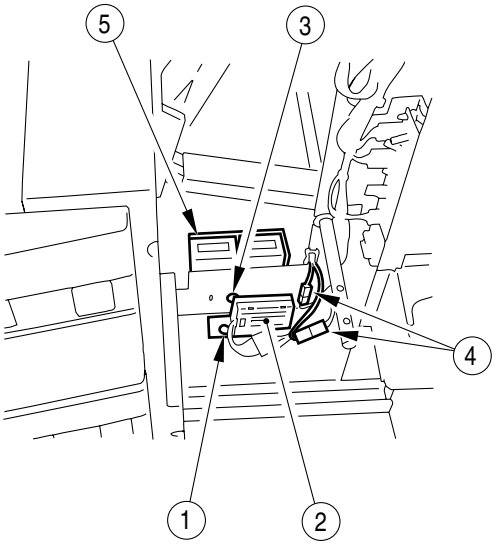

Figure 4-137

II. DRIVE SYSTEM

A. Scanner Drive Assembly

1. Removing the Scanner Drive Motor

1) Remove the rear upper right cover and the rear right cover.
2) Remove the two mounting screws ①, and disconnect the connector; then, remove the developing assembly heat exhaust fan ③.
3) Remove the two mounting screws ④, and remove the fan support plate ⑤.

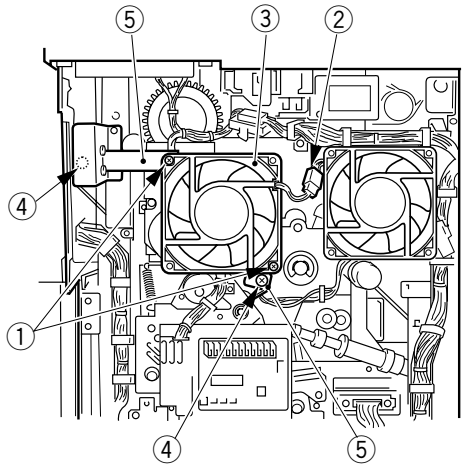

Figure 4-201

4) Disconnect the three connectors ⑥. Remove the mounting screw ⑦, and remove the harness guide plate ⑧.
5) Remove the four mounting screws ⑨, and disconnect the two connectors from the pick-up motor driver ⑩; then, remove the pick-up motor.

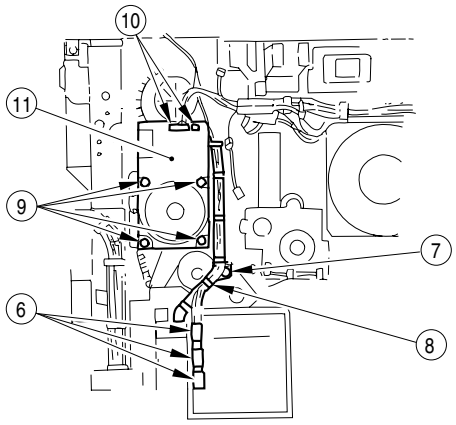

Figure 4-202

6) Remove the four mounting screws ⑫, and remove the scanner drive motor ⑬.

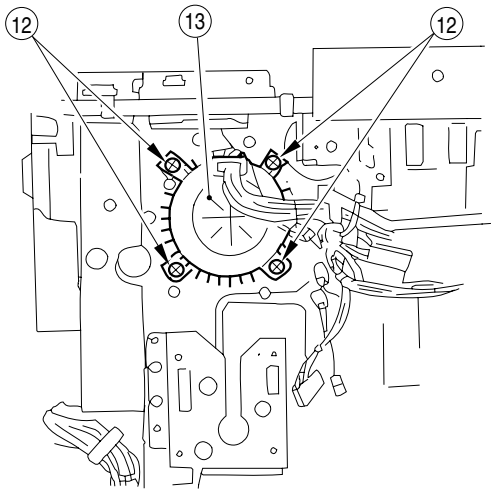

Figure 4-203

(The drive belt is on the pully of the motor shaft; remove the motor while detaching the belt from the pully.)

Caution:

In the case of the replacement of the scanner drive motor, the following procedure should be executed after the scanner drive motor is attached to copier.

1. Remove the hopper assembly. (see p. 4-79)
2. Loose the one screw, wait until the tensioner is stable.

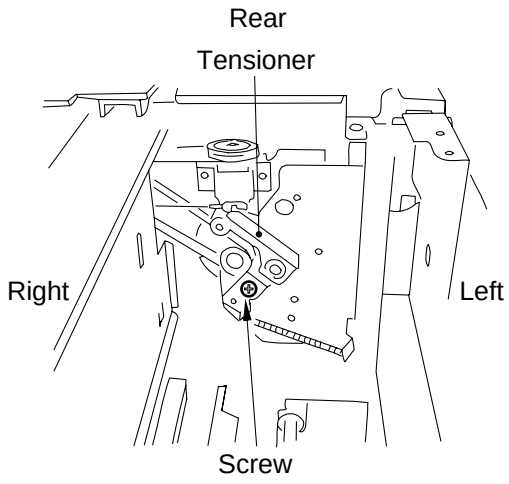

Figure 4-203a

3. Tie the one screw of the tensioner.
4. Assemble the hopper assembly.

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2. Routing the Scanner Drive Cable

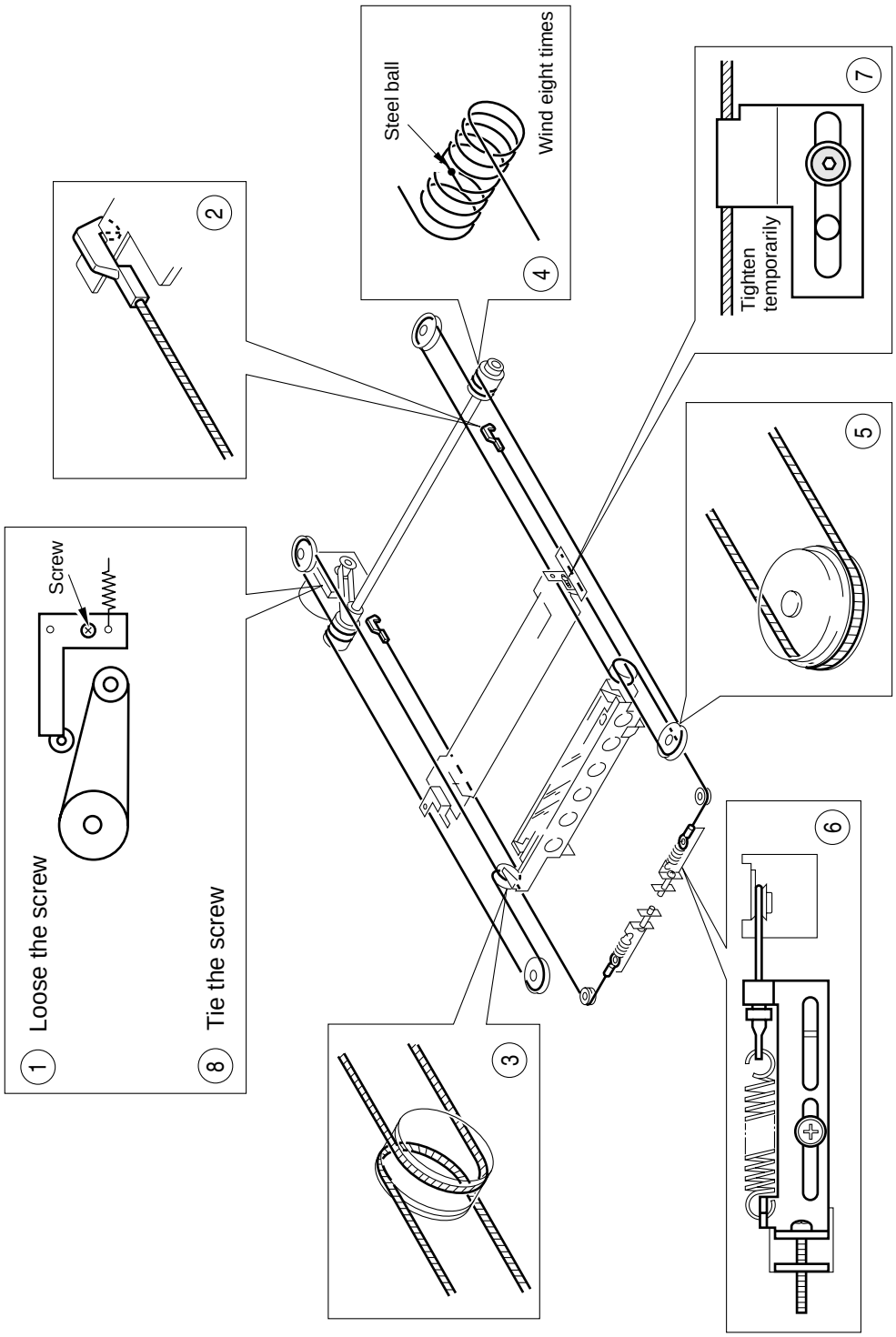

Figure 4-204

3. Adjusting the Tension of the Scanner Drive Cable

After routing the scanner drive cable, be sure to perform the following to adjust its tension:

1) Remove the two mounting screws, and remove the upper left cover.
2) Loosen the fixing screw of the tension spring bracket.
3) Turn the tension adjusting screw so that the distance a in Figure 4-205 is as indicated.
   - 1.0 ±0.5 mm if the cable has been replaced.
   - 0.5 to 3.5 if the cable has been in service.

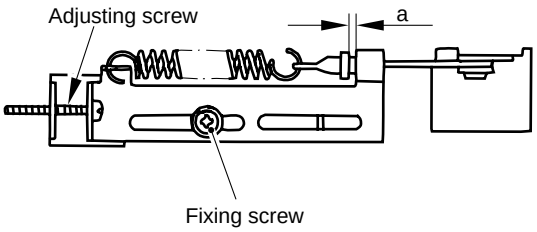

Figure 4-205

Reference:

Turning the adjusting screw clockwise increases the distance a, thereby increasing the tension.

Caution:

1. Check to make sure that the scanner drive cable is not twisted or it has not ridden over the pulley.
2. Move the No. 1 mirror mount and the No. 2 mirror mount by hand to make sure that they move smoothly. At this time, be careful not to touch the deflecting plate.

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

1) Move the No. 1 mirror mount and No. 2/No. 3 mirror mount to the left.
2) Set the mirror positioning tool (front, TKN-0509) and the mirror positioning tool (rear, TKN-0510) as shown.

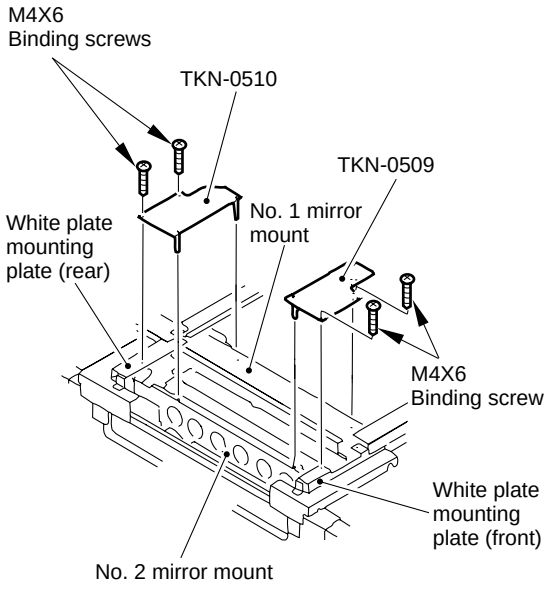

Figure 4-206

3) Tighten the screw on the clamp used to fix the scanner drive cable to the No. 1 mirror mount.

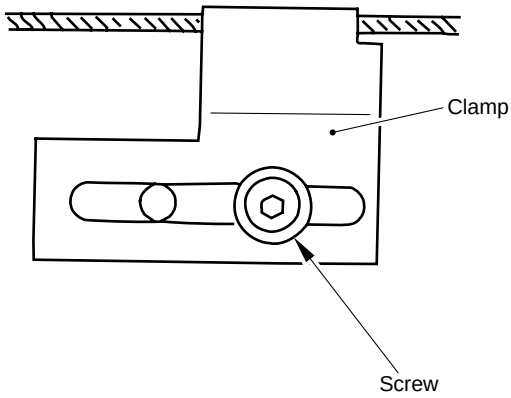

Figure 4-207

4) Remove the tools.

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5. Adjusting Scanner Home Position

Select 'BRAKE_SC' in service mode (✻ 3 ✻).

Insert a ruler into the hole in which the C.F.F. home position sensor is installed, and stop the scanner at home position. Change the setting using the numeric keypad so that the position is 37 ±2.5 mm from the left side plate; then, press the OK key.

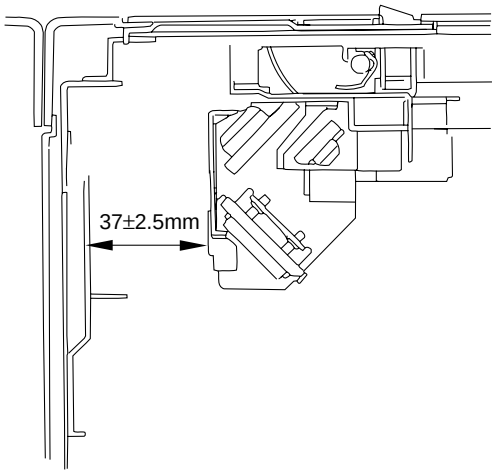

Figure 4-208

B. Lens Drive Assembly

Do not turn on the power while the lens metal fixing of the lens stage is in place and do not move the lens or the lens stage while the power plug is connected; such can damage the gear of the output shaft for the zoom lens and the lens stage drive motor:

1) At time of installing the machine, be sure to remove the lens metal fixing of the lens stage before connecting the power plug.
2) Be sure to disconnect the power plug before moving the lens stage or the zoom lens by hand.
   In addition, take care to move it slowly.

1. Removing the Lens Y Direction Drive Motor

1) Remove the copyboard glass.
2) Remove the two mounting screws ①, and disconnect the connector ②; then, remove the original sensor unit ③.
3) Remove the three mounting screws ④, and remove the lens cover ⑤.

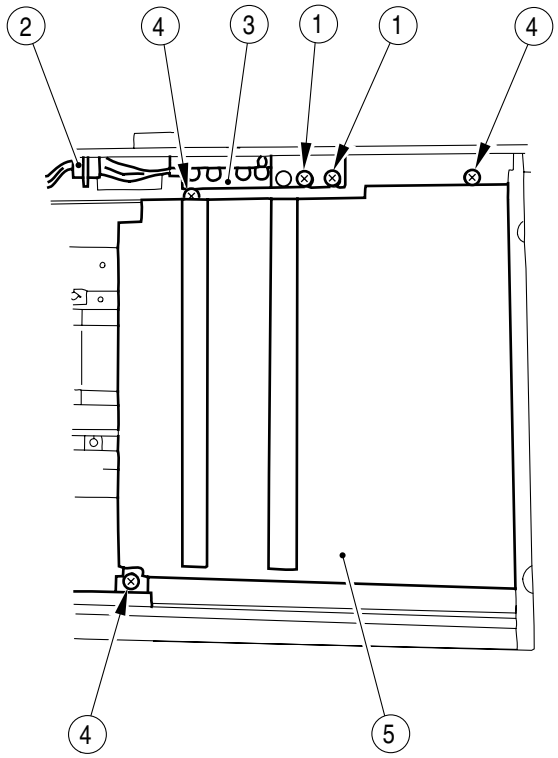

Figure 4-209

4) Disconnect the connector ⑥, and remove the two mounting screws ⑦; then, remove the lens Y direction motor ⑧ together with the support plate.

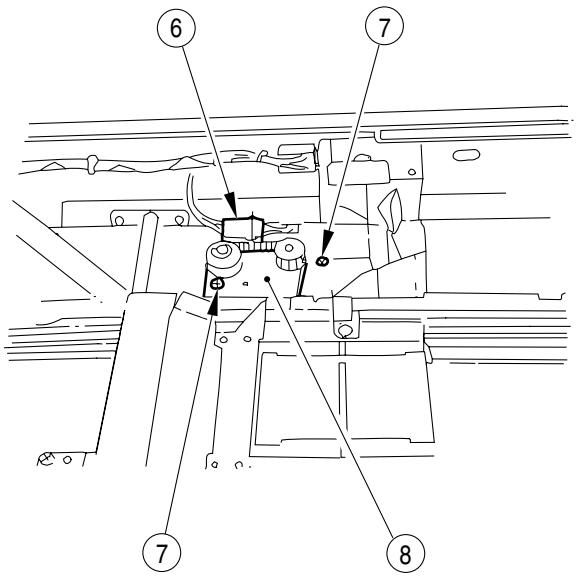

Figure 4-210

5) Detach the Y direction drive belt from the Y direction drive motor.
6) Remove the two mounting screws, and remove the motor from the support plate.

Caution:

When installing the lens cover, push the rear light-blocking plate toward the inside so that it will securely fit the inside of the lens cover.

2. Lens X Direction Drive Motor

1) Remove the copyboard glass.
2) Remove the two mounting screws ①, and disconnect the connector ②; then, remove the original sensor unit ③.
3) Remove the three mounting screws ④, and remove the lens cover ⑤.

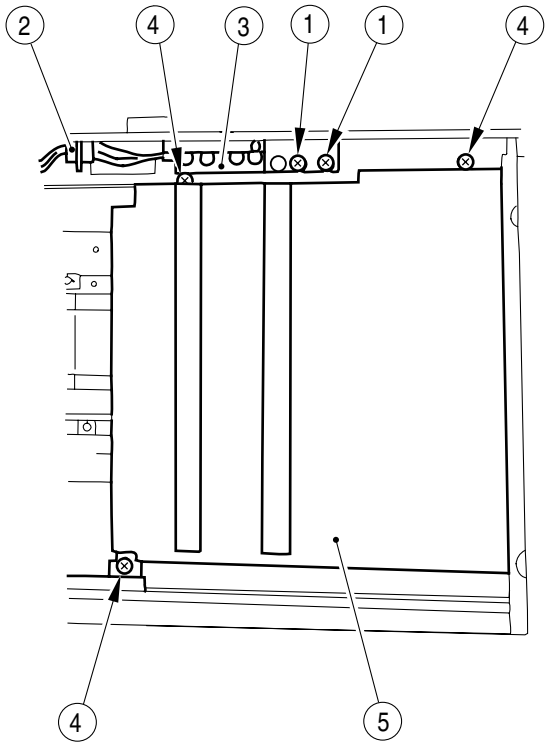

Figure 4-211

4) Remove the two mounting screws ⑥, and remove the X direction drive belt cover ⑦.

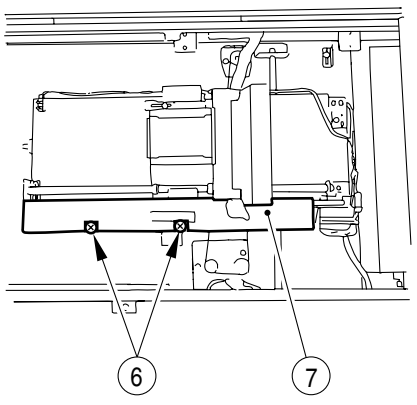

Figure 4-212

5) Disconnect the connector ⑧, and remove the two mounting screws ⑨; then, remove the X direction drive motor assembly ⑩ together with the support plate.

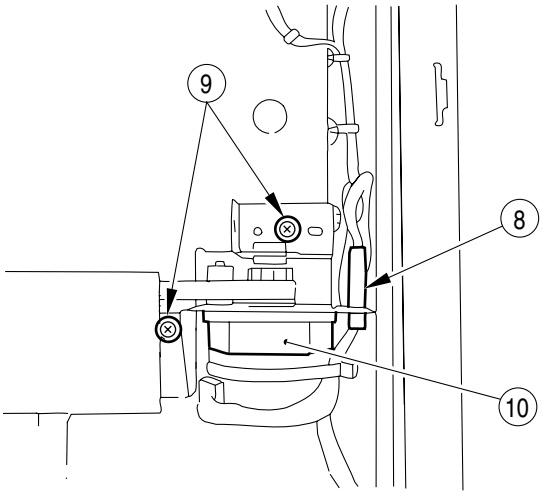

Figure 4-213

6) Detach the X direction drive belt from the pulley on the left side.
7) Remove the two mounting screws, and remove the X direction drive motor from the support plate while detaching the X direction drive belt.

C. Drum Motor Assembly

1. Removing the Drum Motor Assembly

1) Remove the rear cover.
2) Remove the mounting screw, and remove the harness guide plate.
3) Remove the exhaust fan. (p. 4-7)
4) Disconnect the two connectors ①, and remove the four mounting screws ②; then, while loosening the tensioner ③, remove the drum motor assembly ④.

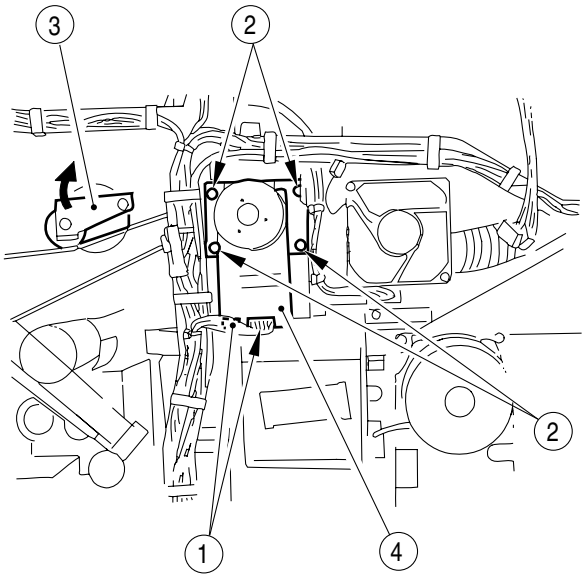

Figure 4-214

Caution:
When installing the drum motor to the copier, fix it in place with screws while moving the motor to the delivery side.

D. Pick-Up Motor Assembly

1. Removing the Pick-Up Motor Assembly

1) Remove the rear right cover.
2) Remove the two mounting screws ①, and disconnect the connector ②; then, remove the developing assembly heat exhaust fan ③.
3) Remove the two mounting screws ④, and remove the fan support plate ⑤.

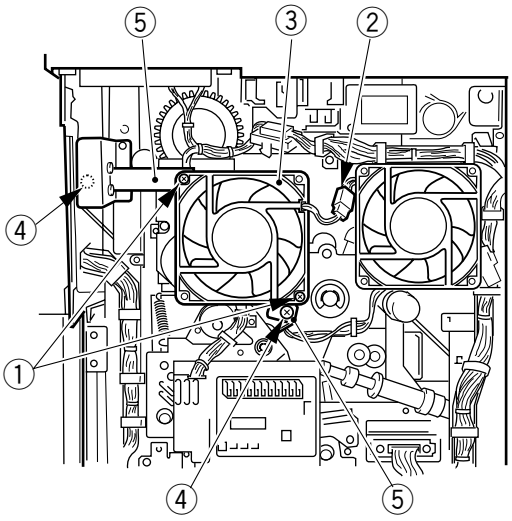

Figure 4-215

4) Disconnect the three connectors ⑥, and remove the screw ⑦; then, shift the harness guide ⑧ to the side.

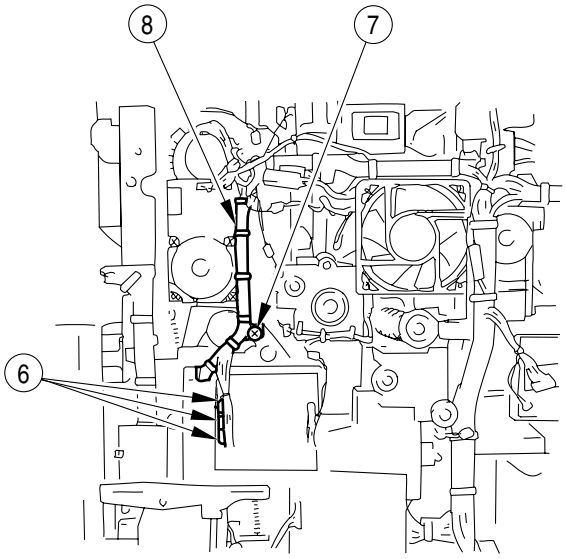

Figure 4-216

5) Disconnect the two connectors ⑨, and remove the four mounting screws ⑩; then, remove the pick-up motor assembly ⑪.

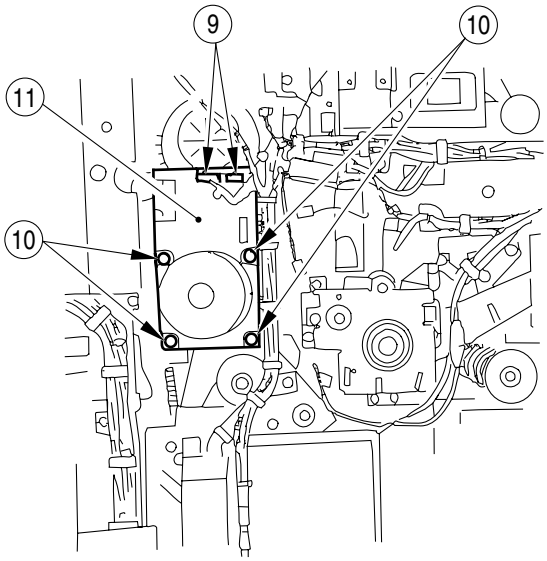

Figure 4-217

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E. Fixing Motor Assembly

1. Removing the Fixing Motor Assembly

1) Remove the rear upper left cover and the rear lower left cover.
2) Disconnect the two connectors ①, and remove the four mounting screws ②; then, remove the fixing motor assembly ③.

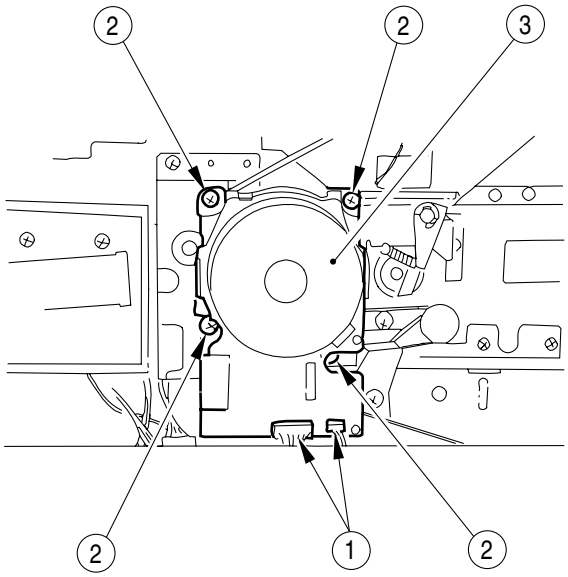

Figure 4-218

Reference:

When removing the fixing motor assembly from the copier, lift it slightly while pulling it off.

F. Drum/Developing Drive Assembly

1. Construction

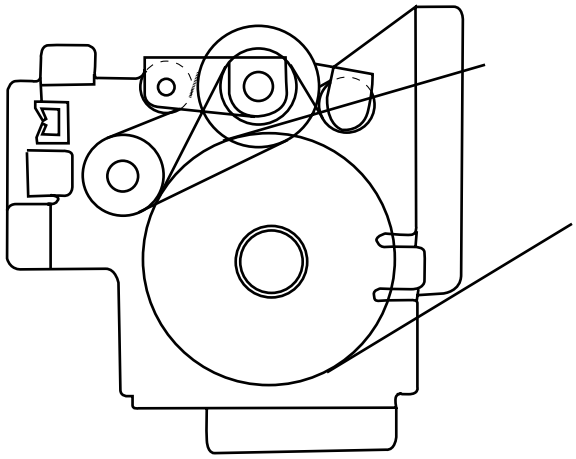

Figure 4-219

2. Removing the Drum/Developing Assembly

1) Open the front door, and pull out the drum unit from the copier. (p. 4-64)
2) Remove the rear upper left cover and the rear upper right cover; then, remove the exhaust fan. (p. 4-7)
3) Remove the drum motor assembly. (p. 4-7)
4) Remove the high-voltage cable from the harness retainer of the drum/developing drive assembly.
5) Remove the six mounting screws ①, and remove the drum/developing drive assembly ② slowly while detaching the drive belt from the gear.

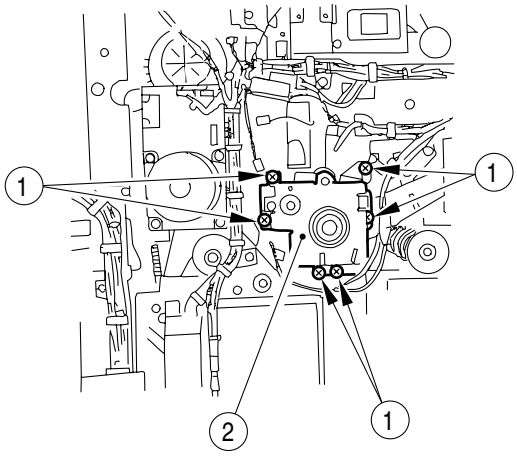

Figure 4-220

G. Pick-Up Drive Assembly

1. Construction

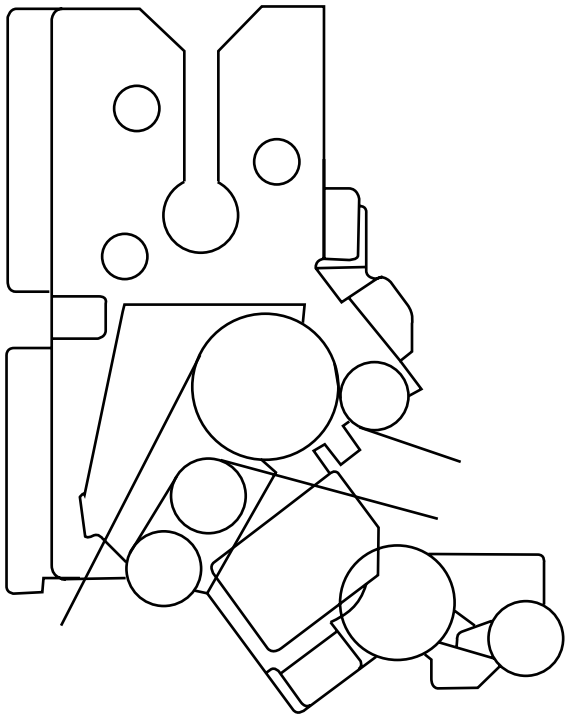

Figure 4-221

2. Removing the Pick-Up Drive Assembly

1) Remove the rear upper right cover and the rear right cover.
2) Remove the two mounting screws, and disconnect the connector; then, remove the exhaust fan. (p. 4-7)
3) Remove the pick-up motor. (p. 4-20)
4) Remove the DC controller PCB. (p. 4-95)
5) Remove the five mounting screws, and remove the DC power supply unit. (p. 4-95)
6) Remove the mounting screw, and remove the harness guide plate ①.
7) Disconnect the five connectors, and remove the two mounting screws ②: then, remove the scanner motor controller PCB ③.

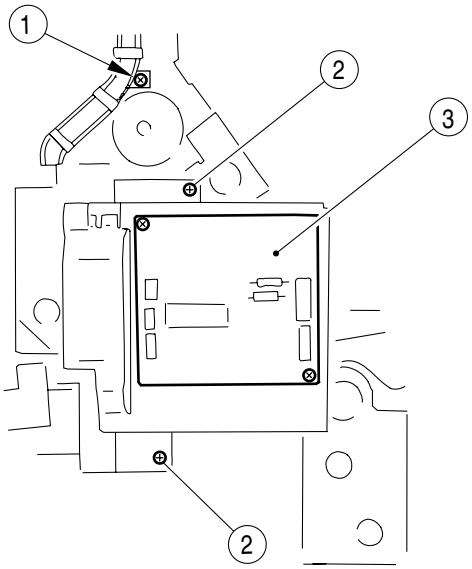

Figure 4-222

8) Remove the three mounting screws ④, and remove the clutch unit ⑤; then, detach the drive belt from the pulley ⑥.

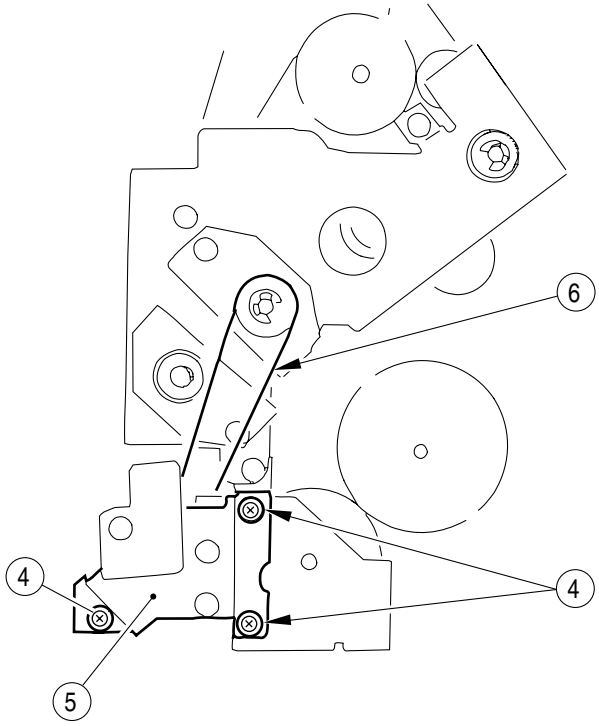

Figure 4-223

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9) Remove the spring ⑦ from the tension pulley assembly. Remove the two mounting screws ⑧, and remove the drive assembly cover ⑨; then, release the drive belt ⑩ from the pulley.

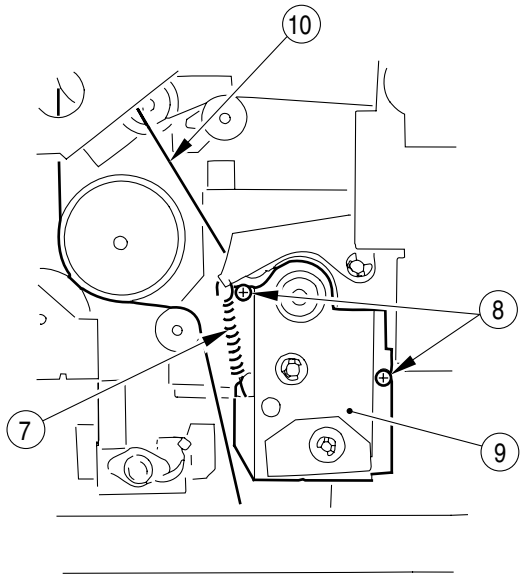

Figure 4-224

10) Remove the four mounting screws ⑪, and remove the pick-up drive assembly ⑫ to the front.

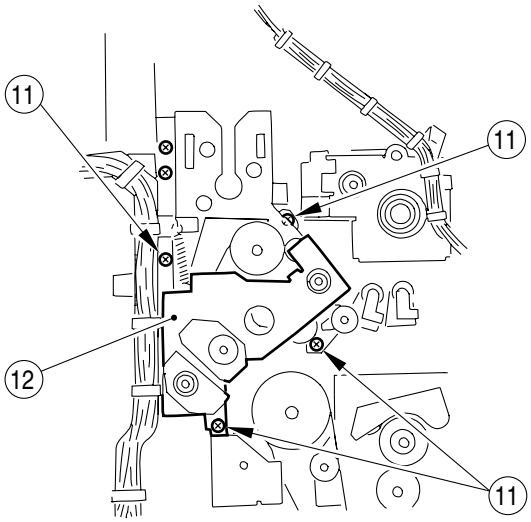

Figure 4-225

Reference:

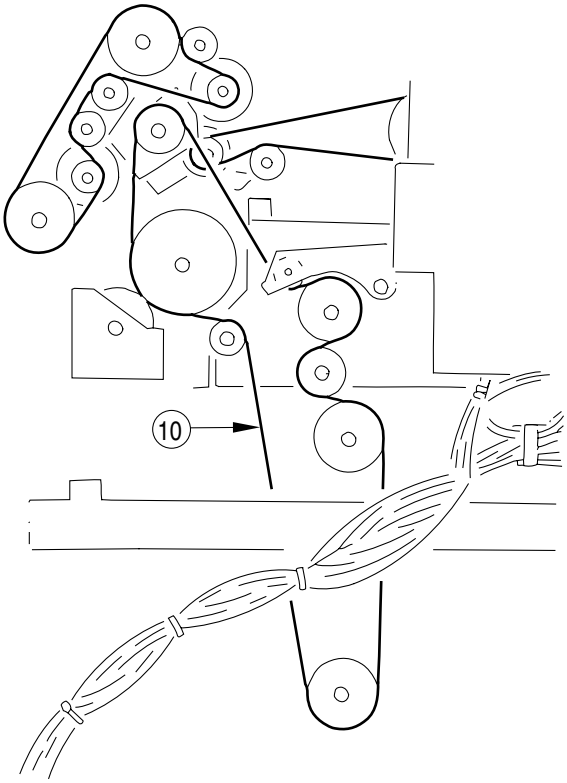

Figure 4-226

3. Removing the Front Tray Pick-Up Clutch

1) Remove the rear upper right cover and the rear right cover.
2) Remove the screw ①, and remove the harness guide plate. Remove the two mounting screws ②, and disconnect the six connectors ③; then, remove the scanner motor controller PCB ④.

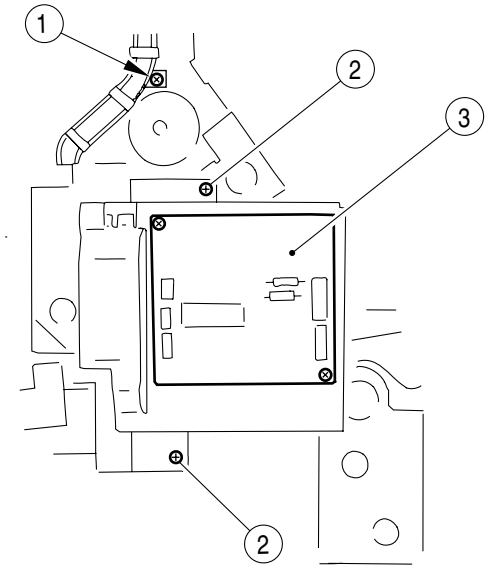

Figure 4-227

3) To remove the pick-up clutch of the upper font tray, remove the tension adjusting spring ⑤, and remove the two mounting screws ⑥ to remove the bearing stopper plate ⑦.

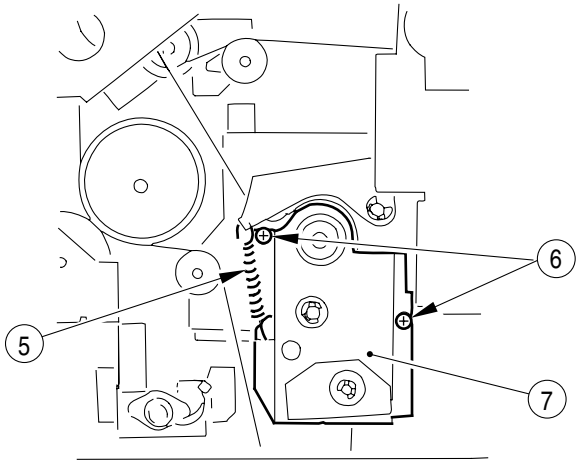

Figure 4-228

4) To remove the pick-up clutch of the lower front tray, remove the DC controller PCB (p. 4-95) and the DC power supply unit (p. 4-95).
5) Remove the E-ring ⑧ and the bearing ⑨; then, remove the two E-rings ⑩, and disconnect the connector to remove the clutch ⑪ together with the gear.
(For the pick-up clutch of the lower front tray, remove the E-ring only.)

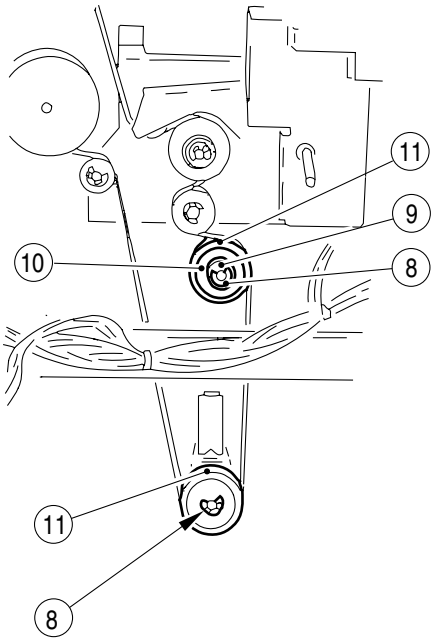

Figure 4-229

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

■ Points to Not When Installing the Front Tray Pick-Up Clutch
When installing the clutch, make sure that the boss ① at the clutch rear is aligned with the slip stop.

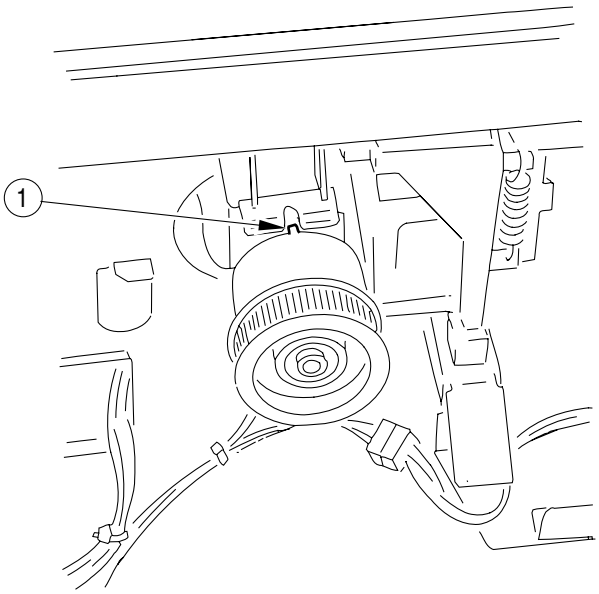

Figure 4-230

4. Removing the Feeding Roller Clutch and the Feeding Roller Stop Clutch

1) Remove the rear right cover.
2) Remove the screw ①, and remove the harness guide plate. Disconnect the five connectors ②, and remove the two mounting screws ③; then, remove the scanner motor controller PCB ④.

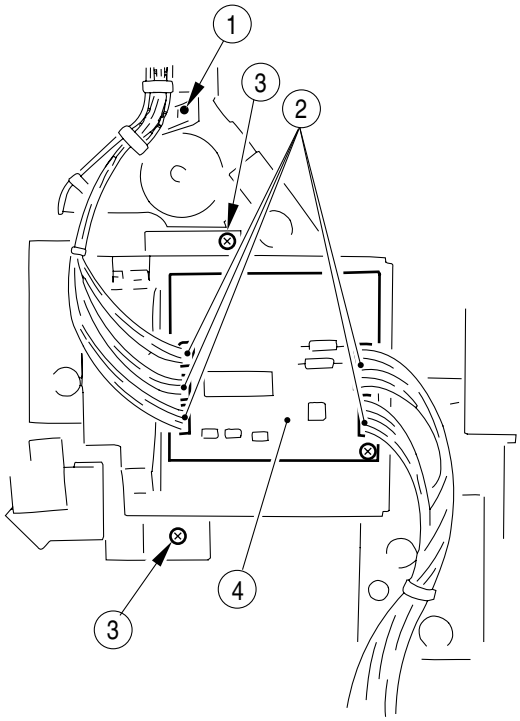

Figure 4-231

3) Remove the E-ring ⑤, and remove the pulley ⑥.
(Take care not to drop the parallel pin.)
Remove the three mounting screws ⑦, and remove the pick-up drive assembly cover ⑧. Loose the one screw ⑨, push the tensioner plate to the arrow to loose the tension. Remove the belt ⓐ.

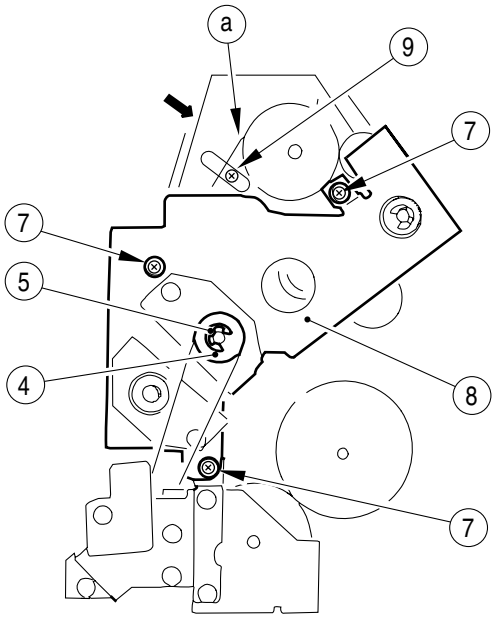

Figure 4-232

4) Remove the E-ring ⑩ and the bearing ⑪, and loosen the two screws ⑫ with a hex hole.
Disconnect the connector ⑬, and remove the feeding roller clutch ⑭ together with the gear.

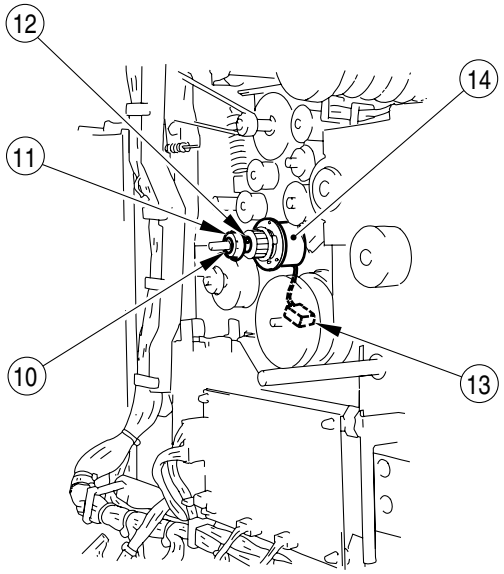

Figure 4-233

5) To remove the feeding roller stop clutch, remove the three mounting screws ⑭, and remove the feeding roller stop clutch assembly ⑮.
(Do not remove the pick-up drive assembly cover.)

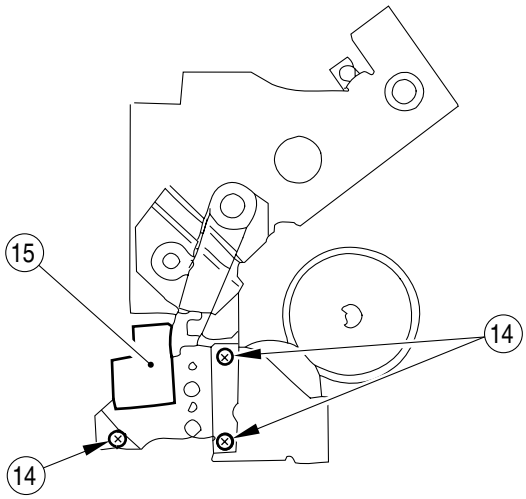

Figure 4-234

6) Remove the two mounting screws, and loosen the two mounting screws with a hex hole; remove the feeding roller stop clutch.

Caution:
When installing the feeding roller stop clutch, be sure to align the boss at the clutch rear with the slip stop.

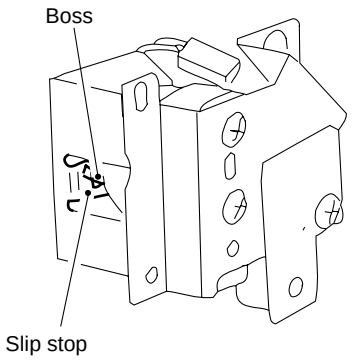

Figure 4-235

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

H. Front Tray Drive Assembly

1) Remove the rear upper right cover and the rear right cover.
2) Remove the scanner motor controller PCB.
3) Remove the tension spring ①, and remove the two mounting screws; then, remove the bearing stopper plate ③.
   (At this time, remove the timing belt.)

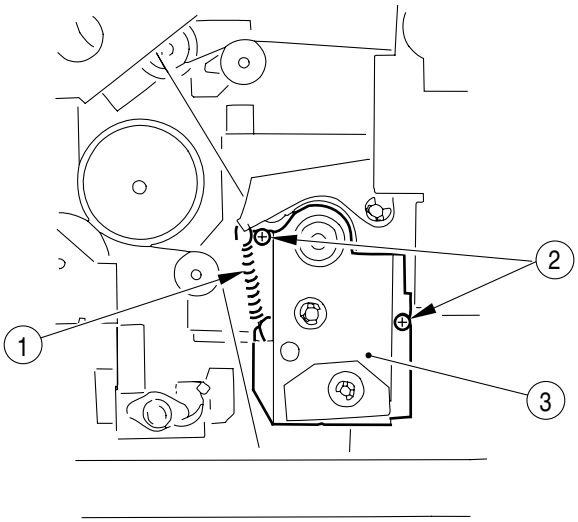

Figure 4-236

4) Remove the E-ring ④, and remove the pulley ⑤.
   (Take care not to drop the parallel pin.)
   Remove the three mounting screws ⑥, and remove the pulley unit ⑦.
   Remove the drawer connector ⑧ and the four mounting screws ⑨ of the duplexing unit, and remove the front tray drive assembly ⑩.

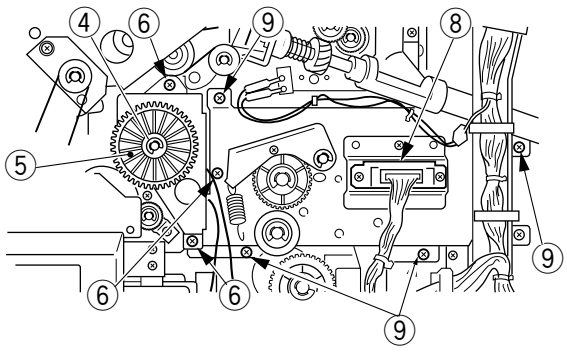

Figure 4-237

■ Points to Note When Disconnecting the Drawer Connector
When disconnecting the drawer connector, remove it while pushing down the connector releasing claw ⑦ found at the bottom of both ends of the connector.

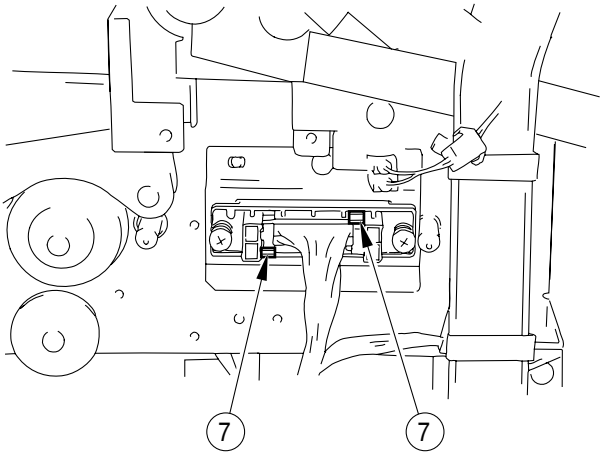

Figure 4-238

I. Front Tray Lifter Motor Assembly

1. Removing the Front Tray Lifter Motor Assembly

1) Remove the rear lower left cover.
2) Disconnect the connector ①, and remove the three mounting screws ②; then, remove the front tray lifter motor assembly ③.

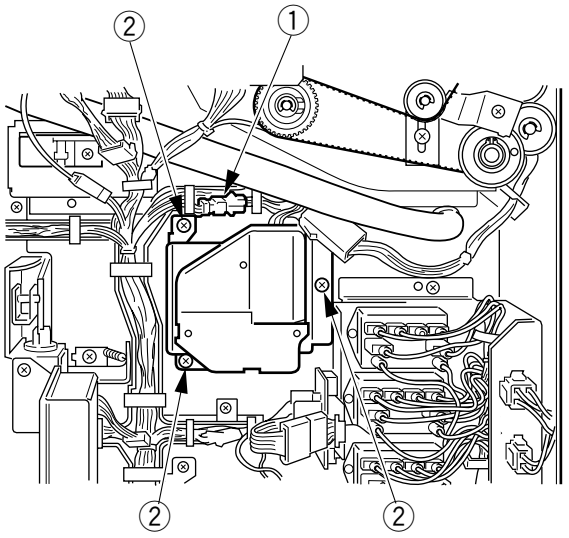

Figure 4-239

J. Fixing Relay Drive Assembly

1. Construction

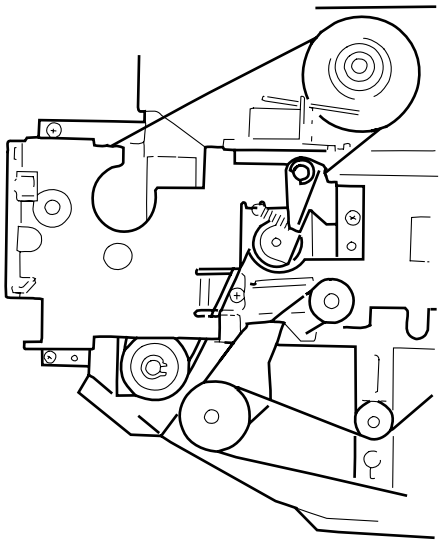

Figure 4-240

2. Removing the Fixing Relay Drive Assembly

1) Remove the rear cover.
2) Remove the fixing motor (p. 4-21)
3) Remove the sprig of the tensioner, and remove the four mounting screws ①; then, remove the fixing relay drive assembly ②.

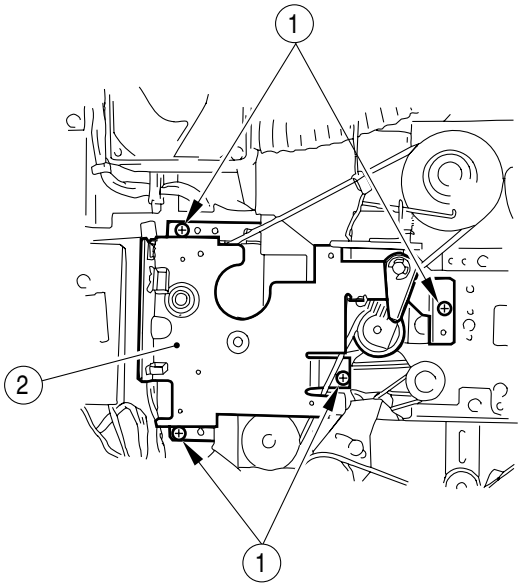

Figure 4-241

K. Fixing Buffer Drive Assembly

1. Construction

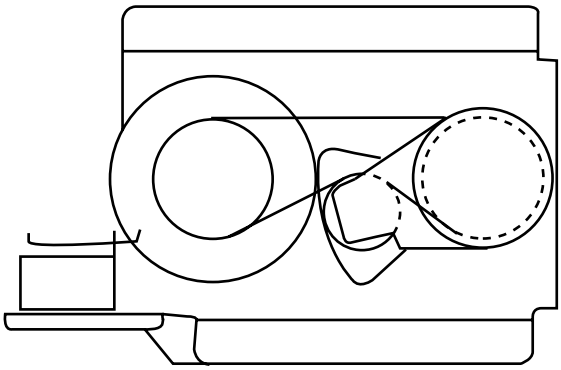

Figure 4-242

2. Removing the Fixing Buffer Drive Assembly

1) Remove the rear right over, rear upper left cover, rear lower left cover, buffer assembly upper cover, buffer assembly lower cover, left cover, upper left cover, and buffer assembly upper cover.
2) Release the buffer assembly, and remove the mounting screw ① (front, rear; each).

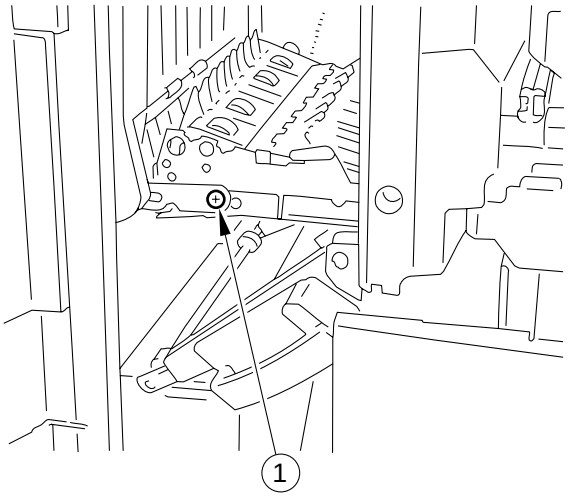

Figure 4-243

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

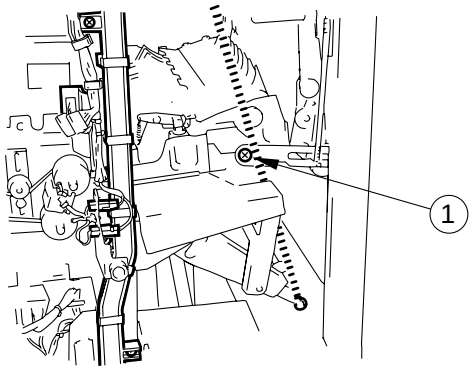

Figure 4-244

3) Remove the seven mounting screws ②, and disconnect the connector ③; then, remove the buffer path unit ④.

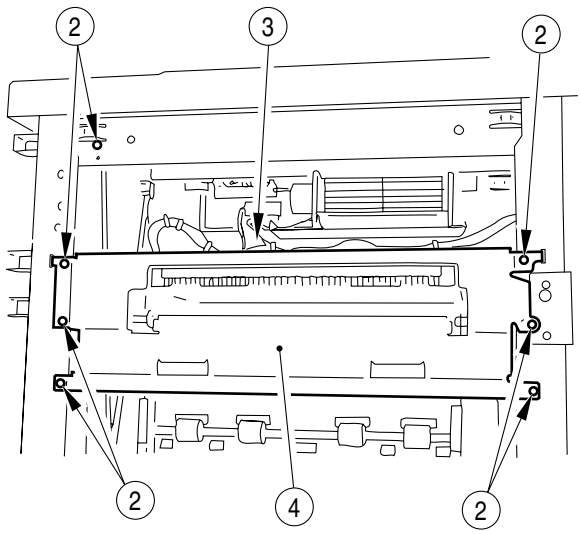

Figure 4-245

Caution:

If the buffer path unit is disassembled.
Do not pull over the buffer path unit far from body.
The metal plate may jump to you.

4) Remove the four mounting screws ⑤, and disconnect the two connectors ⑥; then, remove the fan unit ⑦.

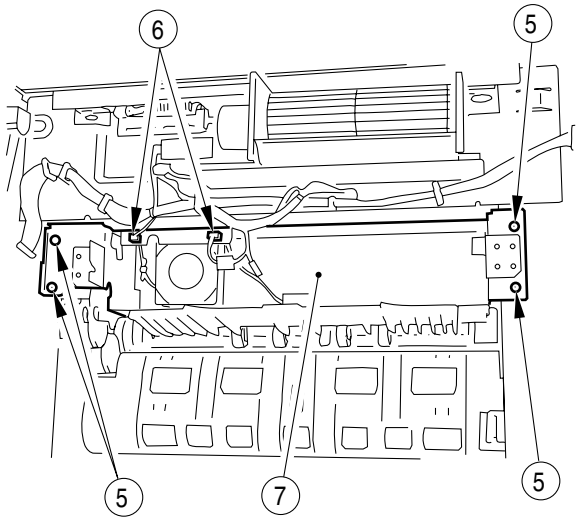

Figure 4-246

5) Mark the position with a scribe, and remove the two mounting screws ⑧; then, remove the gear unit ⑨.

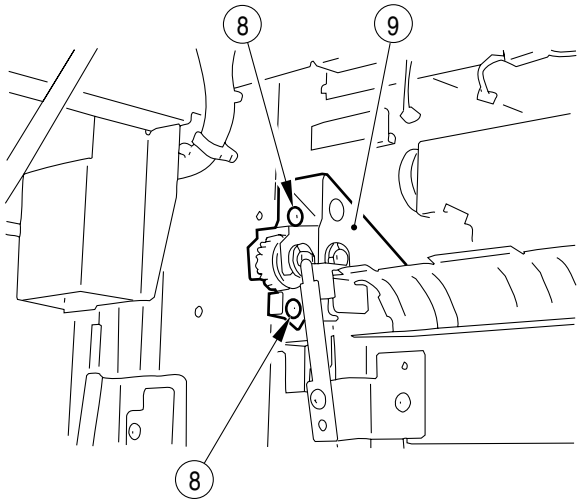

Figure 4-247

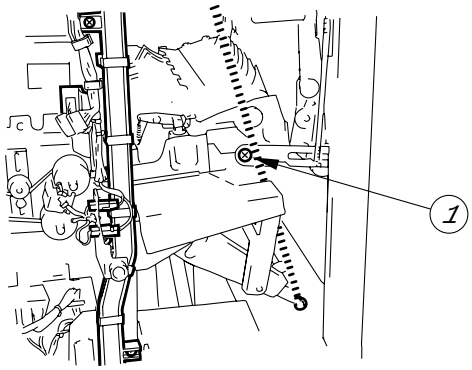

Figure 4-244

3) Remove the seven mounting screws ②, and disconnect the connector ③; then, remove the buffer path unit ④.

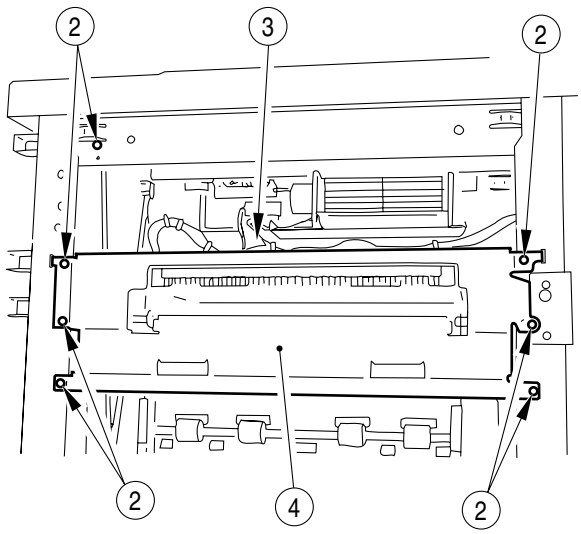

Figure 4-245

Caution:

If the buffer path unit is disassembled.
Do not pull over the buffer path unit far from body.
The metal plate may jump to you.

4) Remove the four mounting screws ⑤, and disconnect the two connectors ⑥; then, remove the fan unit ⑦.

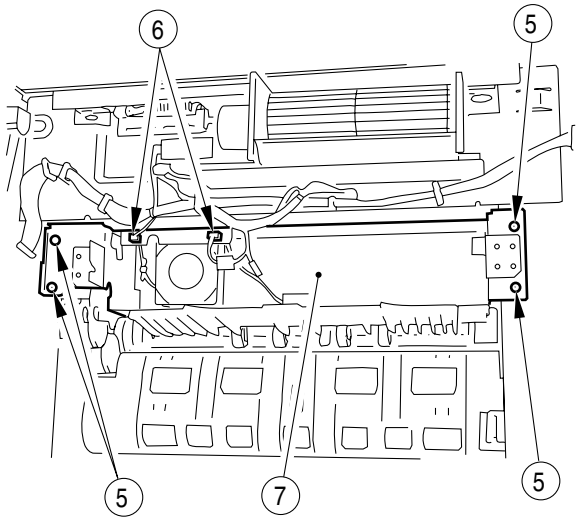

Figure 4-246

5) Mark the position with a scribe, and remove the two mounting screws ⑧; then, remove the gear unit ⑨.

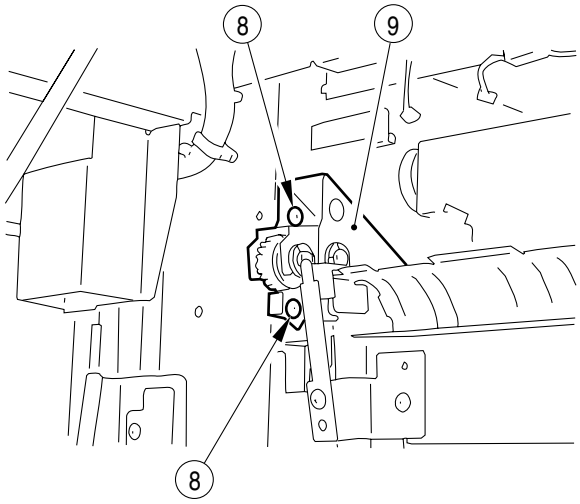

Figure 4-247

6) Remove the fixing motor. (p. 4-21)
7) Remove the fixing relay drive assembly. (p.4-28)
8) Remove the three mounting screws ⑩, and remove the fixing buffer drive assembly ⑪.

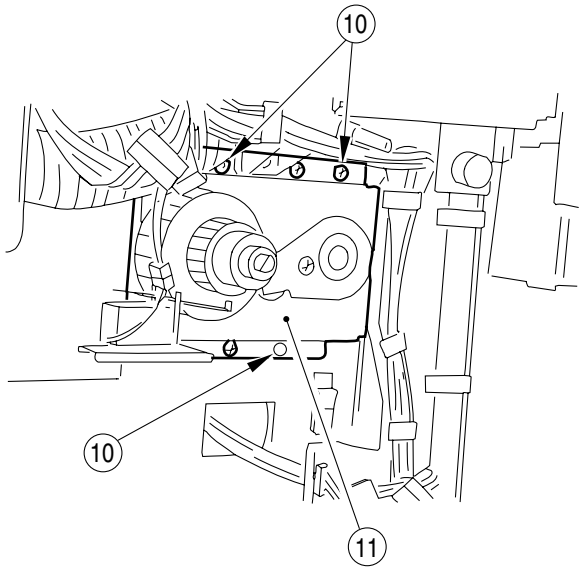

Figure 4-248

Caution:
Be sure to mark the position with a scribe before loosening the tension of the fixing drive assembly.

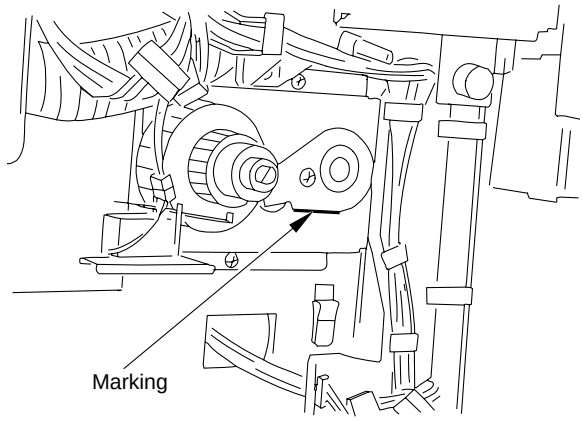

Figure 4-249

L. CW/CCW Rotation Roller

1. Construction

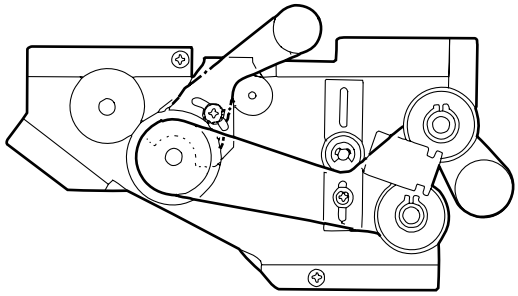

Figure 4-250

2. Removing the CW/CCW Rotation Roller

1) Remove the rear right cover and the rear lower left cover.
2) Remove the fixing motor. (p. 4-21)
3) Remove the fixing relay drive assembly. (p. 4-28)
4) Remove the E-ring ①, and loosen the drive belt ②. Disconnect the two connectors ③ of the clutch, and remove the four mounting screws ④; then, remove the CW/CCW rotation roller drive assembly ⑤.

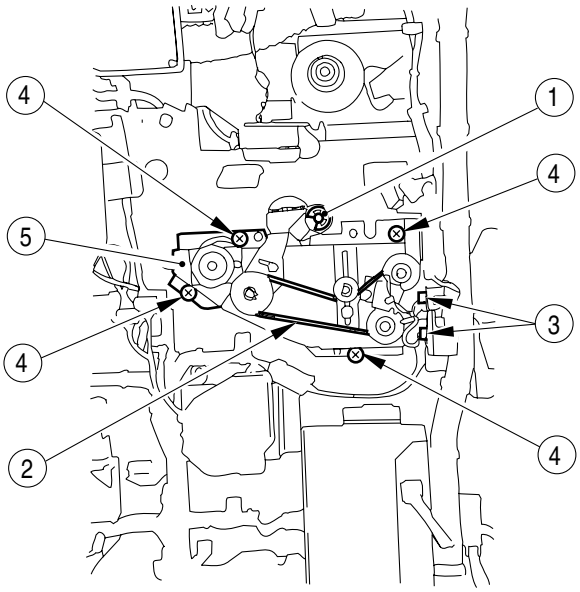

Figure 4-251

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

3. Adjusting the Tension of the Drive Belt

Adjust the drive belt to transmit the drive of the CW/CCW rotation roller drive assembly to each gear so that the values are as shown in Figure 4-252.

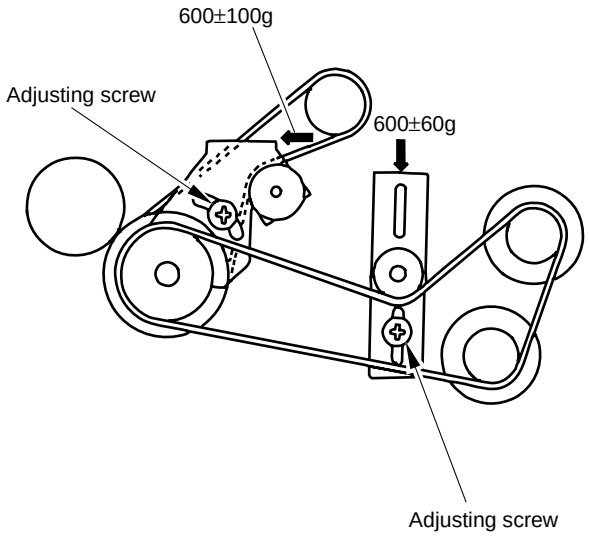

Figure 4-252

III. PICK-UP/FEEDING SYSTEM

A. Multifeeder Assembly

1. Removing the Multifeeder Assembly

1) Remove the rear upper right cover, rear right cover, and upper right cover.
2) Remove the two screws, and remove the front right cover.
3) Remove the two mounting screws ①, and disconnect the two connectors ②; then, remove the multifeeder assembly.

Caution:
Be sure to mark the position of the multifeeder assembly with a scribe before removing it.

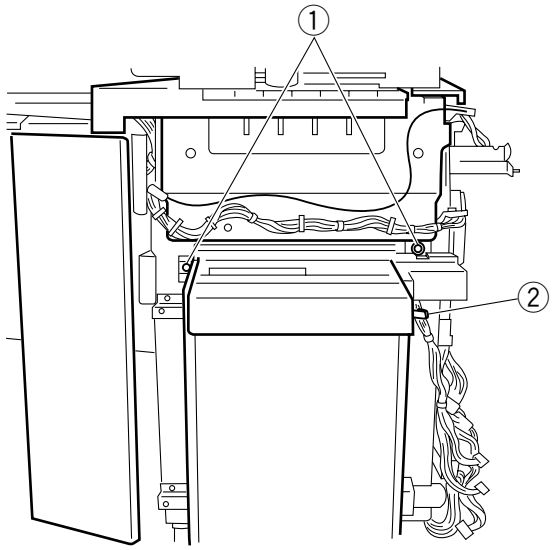

Figure 4-301

2. Removing the Pick-Up Roller

1) Remove the multifeeder assembly.
2) Remove the multifeeder cover.
3) Remove the two mounting screws, and remove the upper left cover.
4) Remove the two mounting screws ①, and remove the two multi shutter stoppers ②.

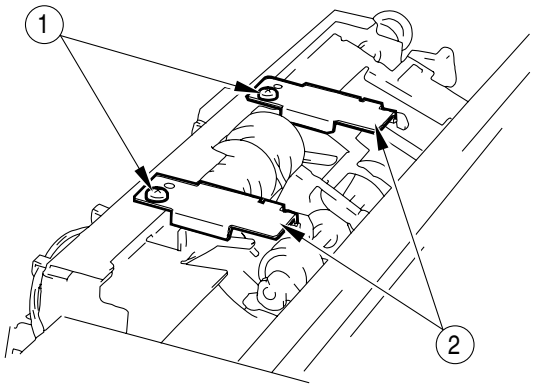

Figure 4-302

5) Remove the three stop rings ③ at the front, and remove the shutter ④; then, remove the pick-up roller ⑤.
(Take care not to drop the parallel pin.)

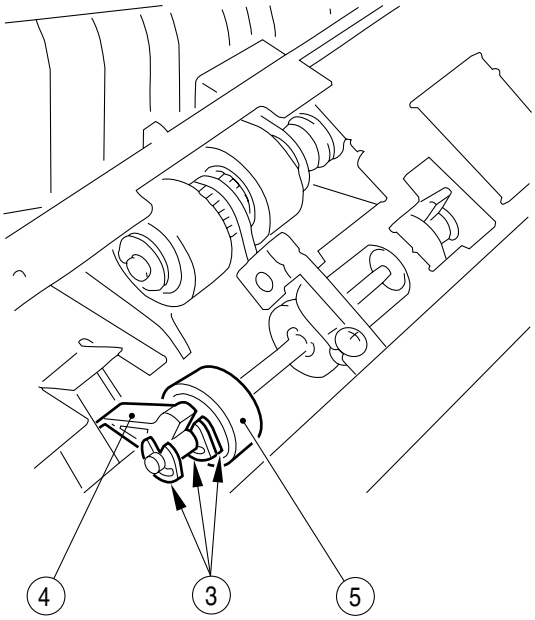

Figure 4-303

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

6) Remove the two stop rings ⑤ at the rear, and remove the shutter ⑥.
Remove the E-ring, and pull out the parallel pin of the gear by moving the pulley and the gear to the front.
Move the pick-up roller shaft ⑧ to the rear, and remove the pick-up roller ⑨ together with the parallel pin.
(Be careful not to drop the parallel pin.)

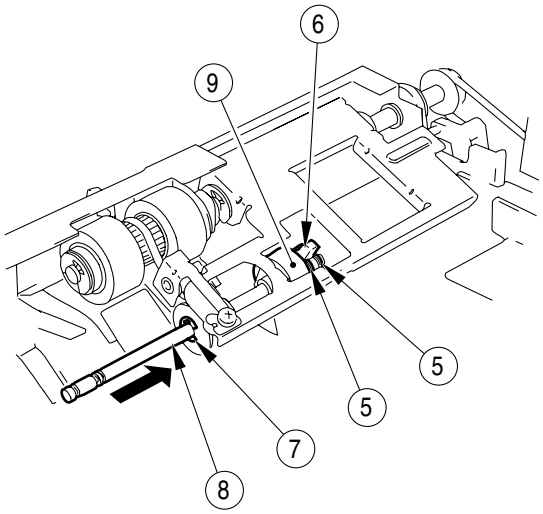

Figure 4-304

■ Orientation of the Pick-Up Roller
When installing the pick-up roller, be sure that the marking shown in Figure 3-305 is toward the rear of the copier.

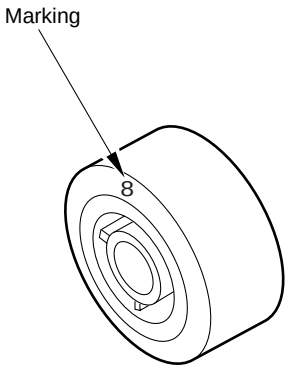

Figure 4-305

■ Orientation of the Shutter (front, rear)
When installing the shutter, be sure so that it is oriented as shown in Figure 4-306.

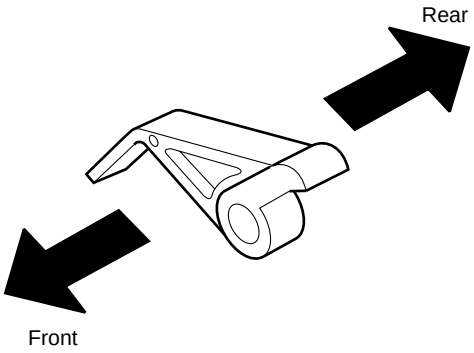

Figure 4-306

3. Removing the Pick-Up/Feeding Roller

1) Remove the multifeeder assembly.
2) Remove the multifeeder cover.
3) Remove the two mounting screws, and remove the upper left cover.
4) Remove the mounting screw ①, and remove the roller stopper plate ②.

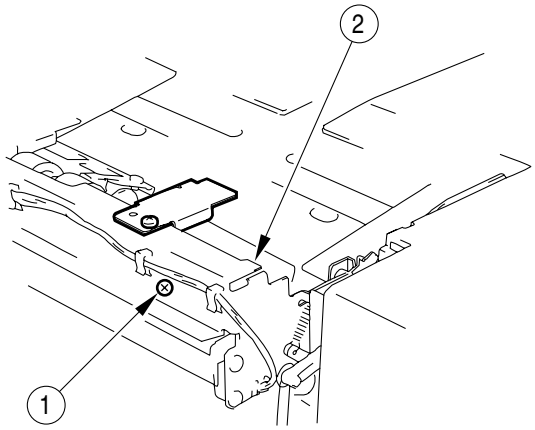

Figure 4-307

5) Remove the two mounting screws ③, and remove the two multi shutter stopper plates ④.
6) Remove the mounting screw ⑤, and remove the tensioner ⑥.
7) Remove the stop ring ⑦, and remove the timing belt ⑧; then, remove the pick-up/feeding roller ⑨.

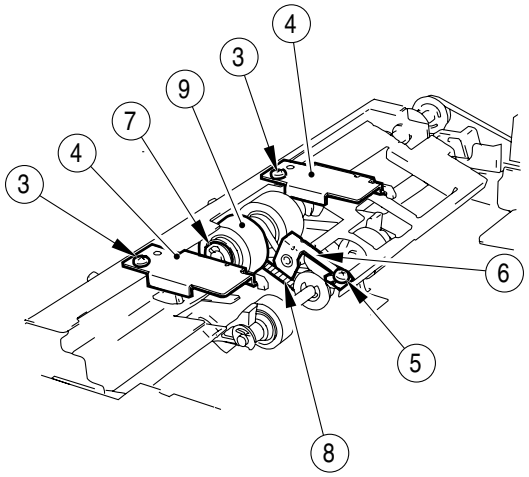

Figure 4-308

4. Removing the Separation Roller

1) Remove the multifeeder assembly.
2) Remove the multifeeder cover.
3) Remove the two mounting screws, and remove the upper left cover.
4) Remove the spring ① at the front, and remove it from the releasing lever ②.

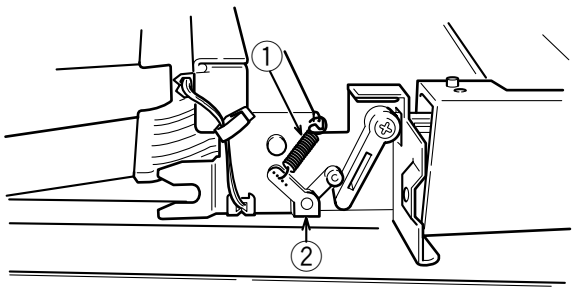

Figure 4-309

5) Turn over the multifeeder assembly, and lift the separation roller locking plate ③ to remove the separation roller ④.

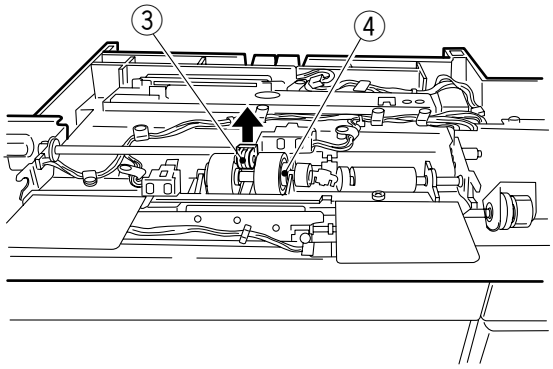

Figure 4-310

5. Adjusting the Pick-Up/Feeding Roller Pressure

1) If pick-up failure or double feeding occurs frequently, remove the multifeeder assembly and change the position of the spring.
   ① If pick-up failure occurs, increase the separation pressure.
   ② If double feeding occurs, decrease the separation pressure.

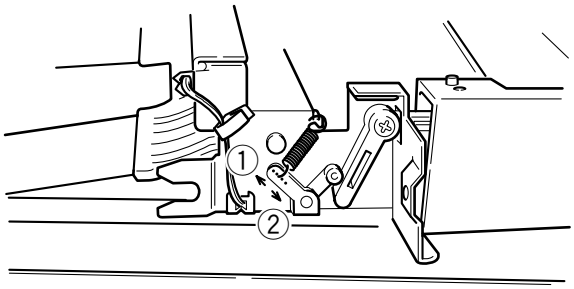

Figure 4-310a

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

B. Paper Deck Assembly

1. Removing the Paper Deck Assembly

1) Remove the multifeeder assembly. (p. 4-32)
2) Mark the position of the paper deck with a scribe in advance, remove the four mounting screws ①, and disconnect the three connectors ②; then, remove the paper deck assembly by lifting it.

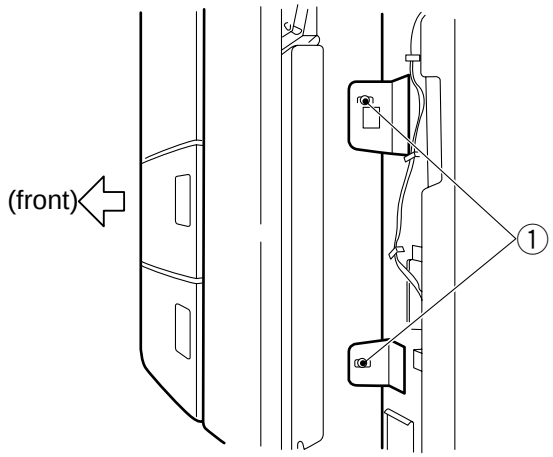

Figure 4-311

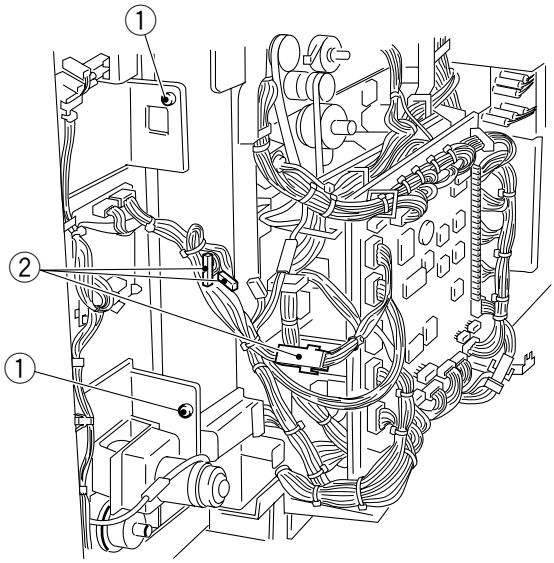

Figure 4-312

2. Removing the Pick-Up Roller

1) Open the paper deck cover, and remove the stop ring ① at the front and at the rear; then, remove the pick-up roller ②.
(Be careful not to drop the parallel pin.)

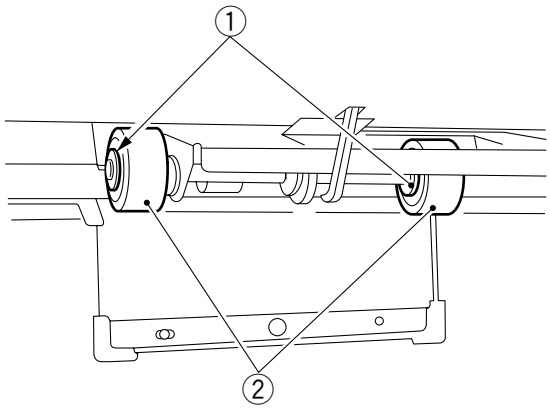

Figure 4-313

■ Orientation of the Pick-Up Roller

The pick-up roller has a specific orientation. When installing it to the pick-up roller shaft, be sure that the marking (8) is toward the rear of the copier.

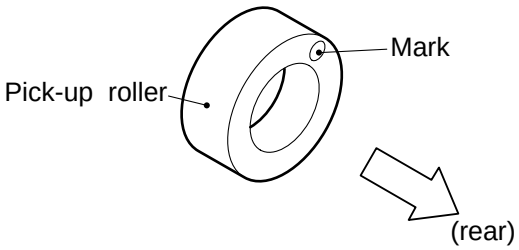

Figure 4-314

3. Removing the Pick-Up/Feeding Roller

1) Remove the multifeeder assembly from the copier. (p. 4-32)
2) Remove the mounting screw ①, and remove the roller stopper plate ②.

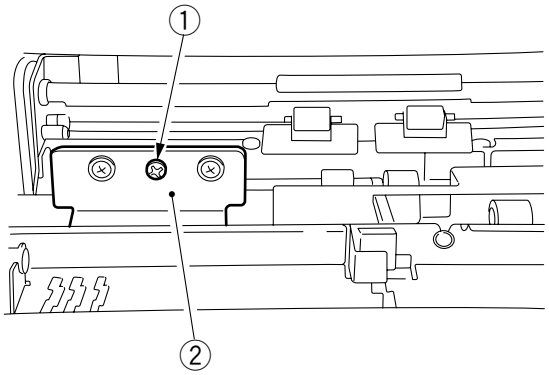

Figure 4-315

3) Remove the pick-up roller at the front.
4) Remove the stop ring ④ and the bushing; then, pull out the pick-up roller shaft ⑥ to the rear.

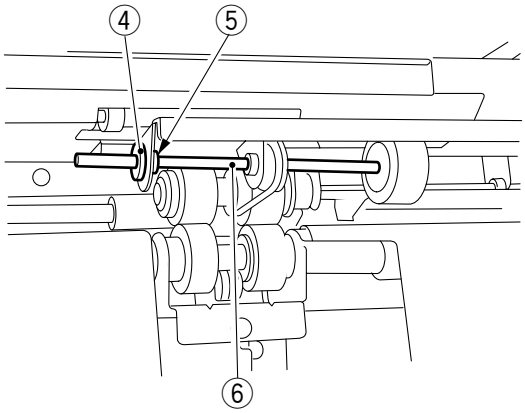

Figure 4-316

5) Remove the mounting screw ⑦, and remove the separation roller assembly cover ⑧.

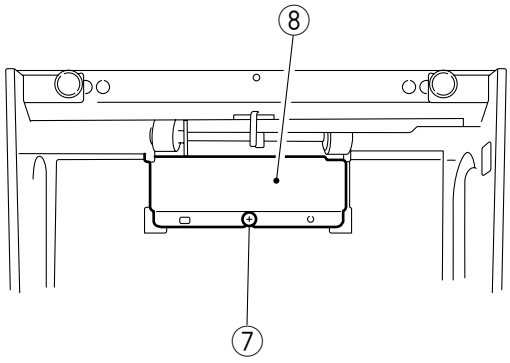

Figure 4-317

6) Remove the stop ring ⑨.
7) While pushing down the separation roller assembly ⑩, detach the timing belt ⑪ and remove the pick-up/feeding roller assembly ⑫.

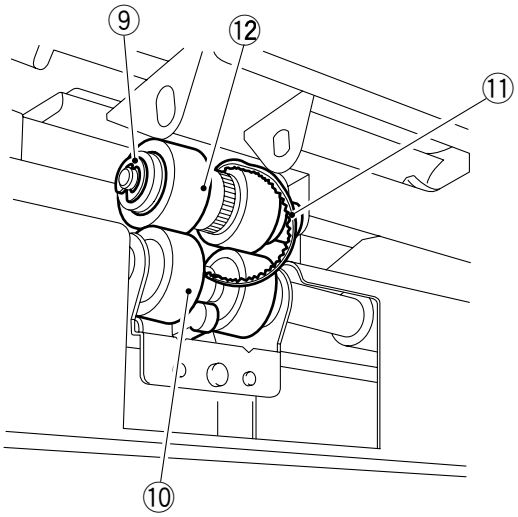

Figure 4-318

■ Orientation of the Pick-Up/Feeding Roller

The pick-up/feeding roller has a specific orientation.

When installing it, be sure that the marking (8) is toward the rear of the copier.

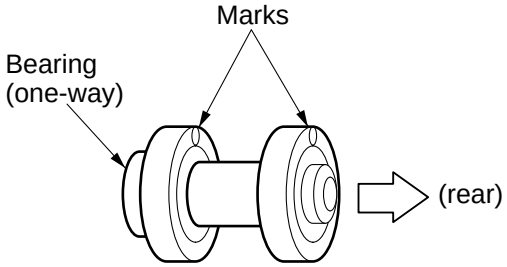

Figure 4-319

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

4. Removing the Separation Roller

1) Open the paper deck cover, and remove the mounting screw ①; then, remove the separation roller assembly cover ②.

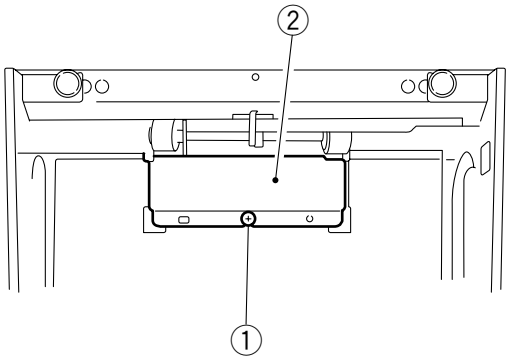

Figure 4-320

2) Remove the mounting screw ③, and remove the separation roller together with the support plate while pushing down the separation roller locking roll ④.

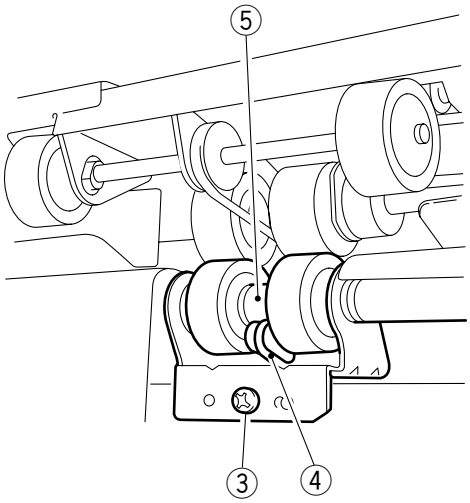

Figure 4-321

3) Remove the stop ring and the bearing from the front of the separation roller assembly; then, pull out the separation roller shaft from the separation roller assembly to remove the separation roller.

■ Adjusting the Pick-Up/Feeding Roller Pressure

If pick-up failure or double feeding occurs frequently, change the position of the spring to change the pick-up pressure of the roller.

① If pick-up failure occurs, increase the pick-up pressure.

② If double feeding occurs, decrease the pick-up pressure.

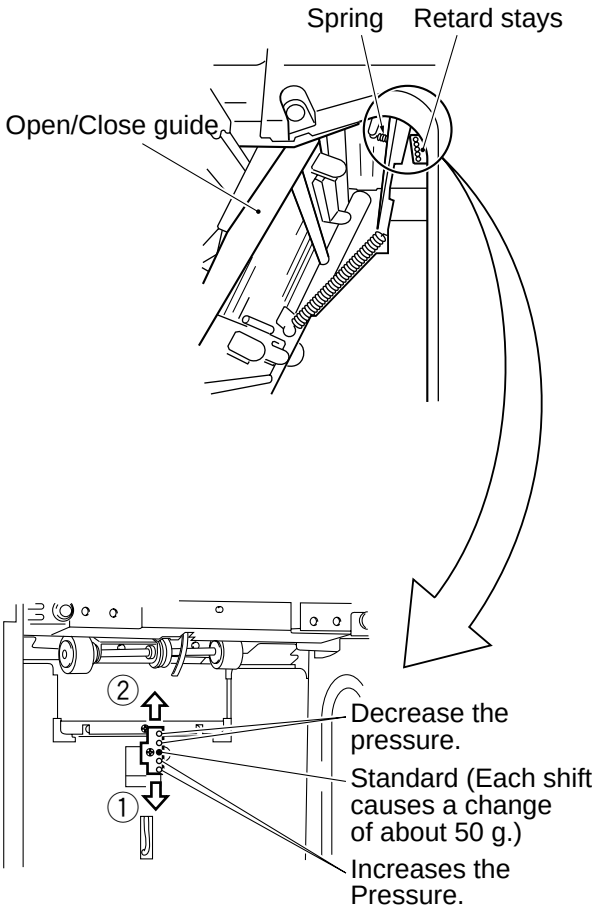

Figure 4-322

5. Adjusting the Position of the Pick-Up Roller Releasing Solenoid

1) Place a sheet of copy paper on the paper deck lifter, and turn ON the power switch.
2) When the lifter has stopped moving up, disconnect the power plug, and open the paper deck tray cover.
3) Remove the paper deck cover (rear).
4) Install the solenoid so that the pick-up roller is 4.0 ±1 mm from the surface of the paper when the plunger of the pick-up roller releasing solenoid is pushed in.

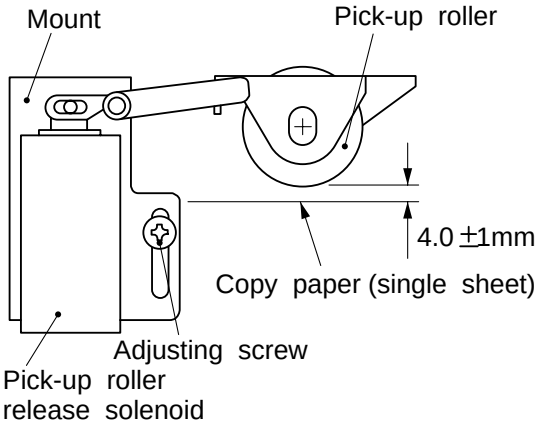

Figure 4-323

C. Front Tray Assembly

Caution:
When handling the front tray, be sure to hold it with your hands at its front and rear. (Figure 4-341)

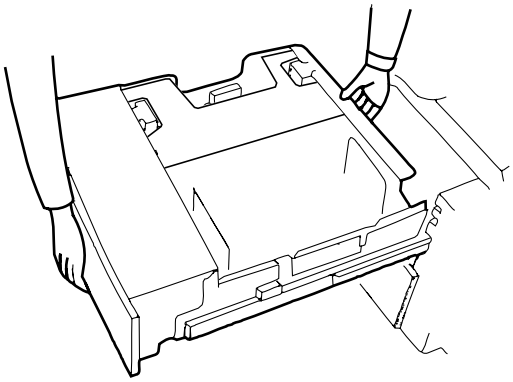

Figure 4-341

① You could deform the separation plate if you held the plate when lifting the front tray.

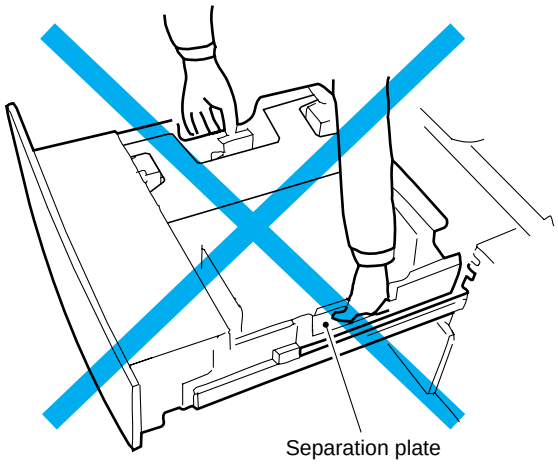

Figure 4-342

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

② You could deform the size detecting rail at the rear if you lifted its front.

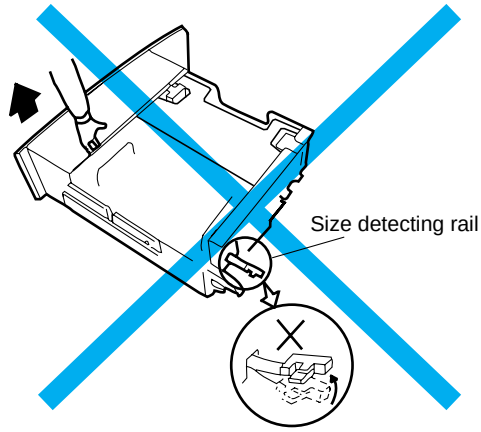

Figure 4-343

1. Removing the Front Tray

1) Remove the rear cover, and turn ON the front tray releasing solenoid to pull out the front tray until it butts against the front.
2) Remove the four mounting screws found in the four corners inside the tray; then, lift the front tray to remove.

2. Removing the Pick-Up Roller Assembly

1) Remove the front tray.
2) Remove the stop ring from the front and the rear, and remove the pick-up roller.
(Be careful not to lose the pin.)

■ Orientation of the Pick-Up Roller

The pick-up roller has a specific orientation. When installing it to the pick-up roller shaft, be sure so that the marking (5) faces the front of the copier.

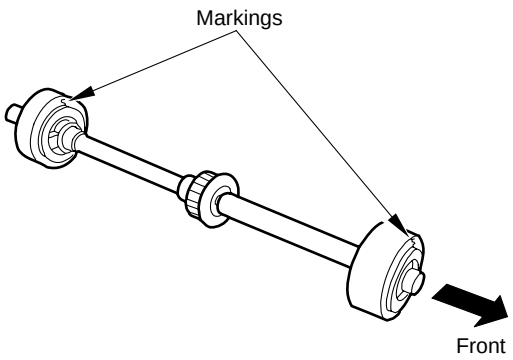

Figure 4-344

3. Removing the Pick-Up/Feeding Roller

1) Remove the front tray.
2) Slide out the duplexing unit; while lifting the feeding assembly, remove the mounting screw ① and the roller stopper plate ②.
3) Remove the E-ring ③, and move the drive belt ④ to the front. Remove the stop ring ⑤, and remove the pick-up/feeding roller ⑥ while detaching the drive belt ④.

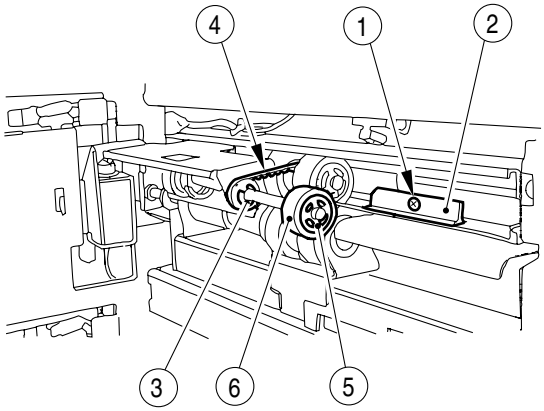

Figure 4-345

■ Orientation of the Pick-Up/Feeding Roller

The pick-up/feeding roller has a specific orientation.

When installing it, be sure the marking (8) faces the front of the copier.

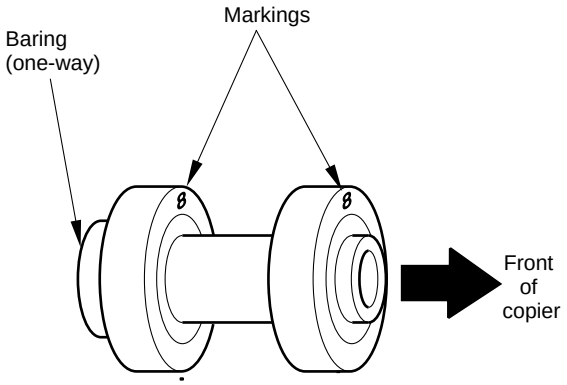

Figure 4-346

4. Removing the Separation Roller

1) Remove the front tray.
2) Remove the mounting screw ①, and remove the separation roller assembly ② together with the support plate.

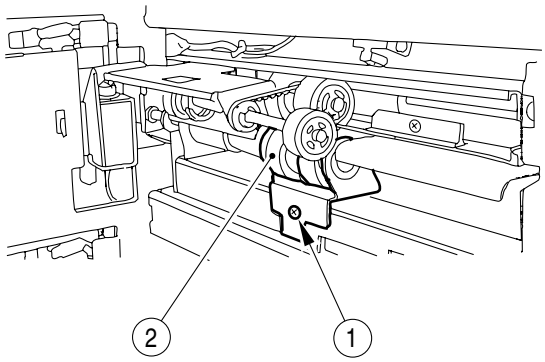

Figure 4-347

3) Remove the stop ring and the bearing from the front of the separation roller assembly; then, pull out the separation roller shaft from the separation roller assembly to remove the separation roller.
(At this time, be careful not to drop the pin.)

5. Adjusting the Pressure of the Pick-Up/ Feeding Roller

If pick-up failure or double feeding occurs frequently, pull out both front trays, and change the position of the spring hooked on the C-roller stay.

1) Remove the separation roller. (p. 4-46)
2) Remove the two mounting screws ①, and remove the C-roller stay assembly ②.

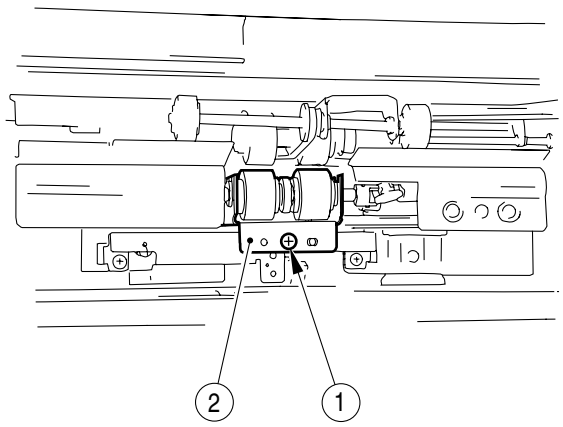

Figure 4-348

① If pick-up failure occurs, increase the pressure.
② If double feeding occurs, decrease the pressure.

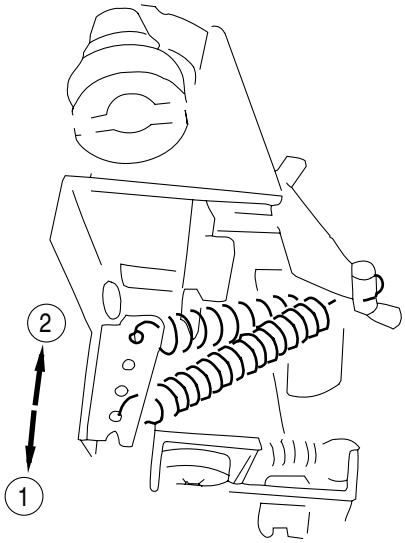

Figure 4-349

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

6. Adjusting the Paper Height on the Front Tray

If pick-up failure or double feeding jams occur frequently, check the position of the lifter (sensor); as necessary, make the following adjustments:

■ Adjusting the Paper Height

1) Remove the duplexing unit, plate paper on the front tray; then, move up the lifter.
2) Place a ruler on the paper, and check to make sure that the position when the ruler is in contact with the separation plate on the pick-up side is about 1/2. (Figure 4-350)

Caution:

- When checking the height of the upper front tray, slide out the duplexing unit, and keep the feeding assembly is place with a long screwdriver.
- When checking the height of the lower front tray, remove the upper front tray in advance.

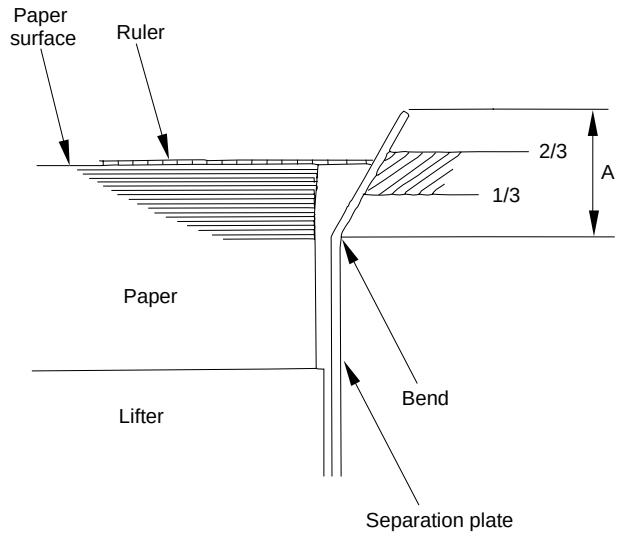

Figure 4-350a (front tray separation plate assembly)

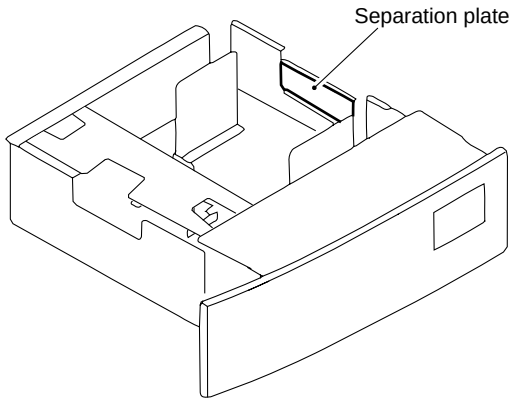

Figure 4-350b (front tray separation plate assembly)

3) If the position of the paper surface is not as indicated, loosen the two adjusting screws of the paper sensor plate, and move the sensor support plate up and down to adjust the position. (Figure 4-351)
   - If the paper surface is low, lower the paper sensor support plate.
   - If the paper surface is high, raise the paper sensor support plate.

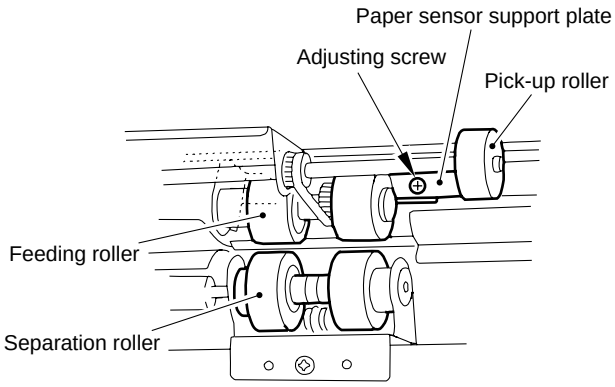

Figure 4-351

7. Routing the Lifter Cable for the Front Tray

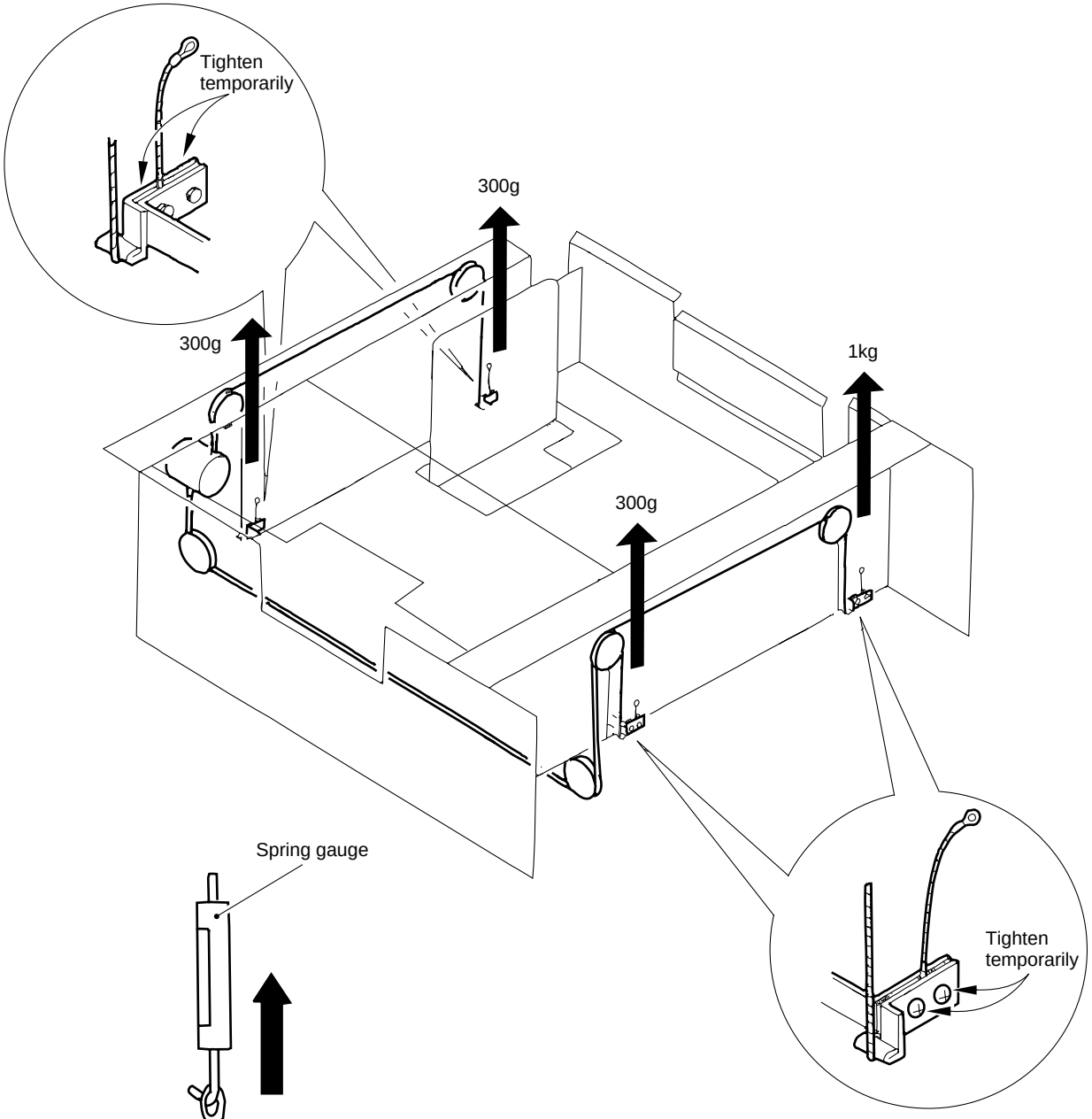

Figure 4-352

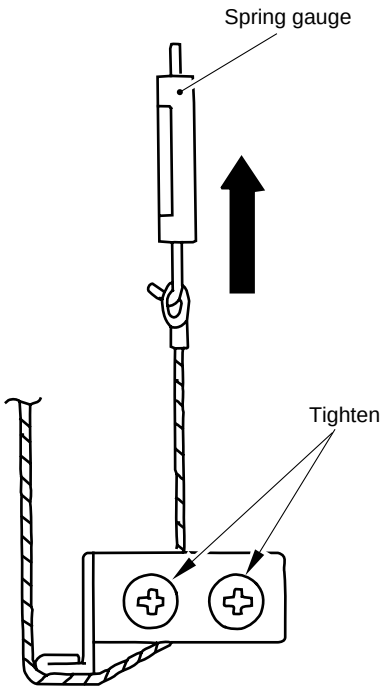

Figure 4-352a

Place two packs of copy paper (A3), and tighten the screws when the tension at each cable end is as indicated (reading of the spring gauge).

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8. Adjusting the Position of the Front Tray Pick-Up Roller Releasing Solenoid

Adjust the position of the solenoid so that the distance from the center of the solenoid mounting plate and the solenoid is 19.8 ±0.3 mm.

(To facilitate the work, you may remove the front pick-up roller releasing solenoid assembly.)

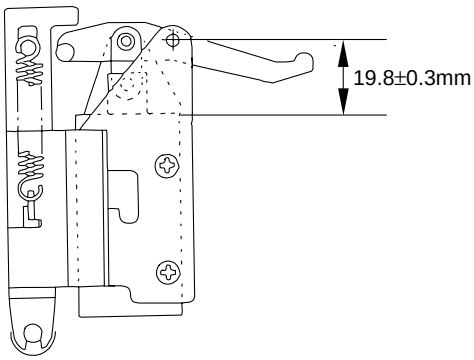

Figure 4-353

9. Adjusting the Position of the Front Tray Releasing Solenoid

Install the solenoid so that the claw edge of the latch lowers 14 mm or more when the plunger of the solenoid is pushed in.

(To facilitate the work, you may remove the solenoid from the copier.)

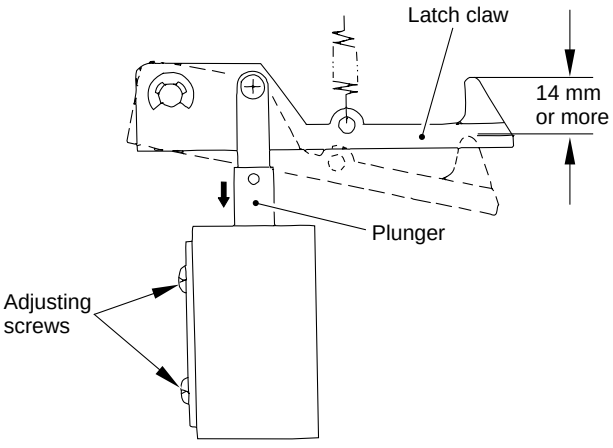

Figure 4-354

D. Pick-Up Vertical Path Roller Assembly

1. Removing the Pick-Up Vertical Path Roller from the Copier

1) Remove the copier's rear right cover.
2) Remove the scanner motor controller PCB.
3) Rotate the pulley ①, and fix it in place so that the flat portion of the pulley and the gear ② will not interfere.

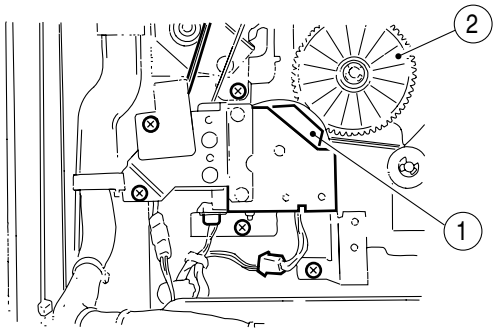

Figure 4-355

4) Remove the E-ring ③, pulley ④, parallel pin ⑤, E-ring ⑥, and bearing ⑦ in the order indicated.
(Be careful not to drop the parallel pin.)

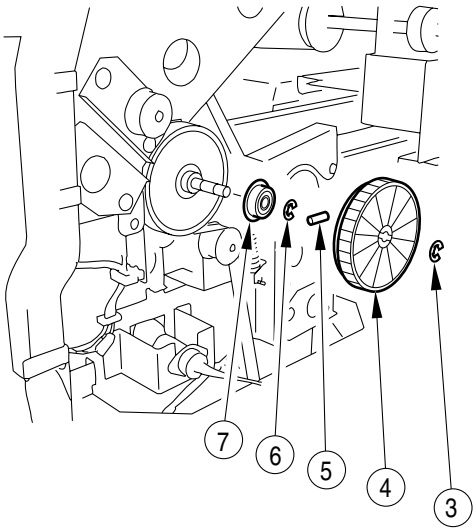

Figure 4-356

5) Remove the three screws ⑧ (w/ hex hole), and loosen the tensioner of the drive belt; then, remove the drive gear 1 ⑩ toward the front.

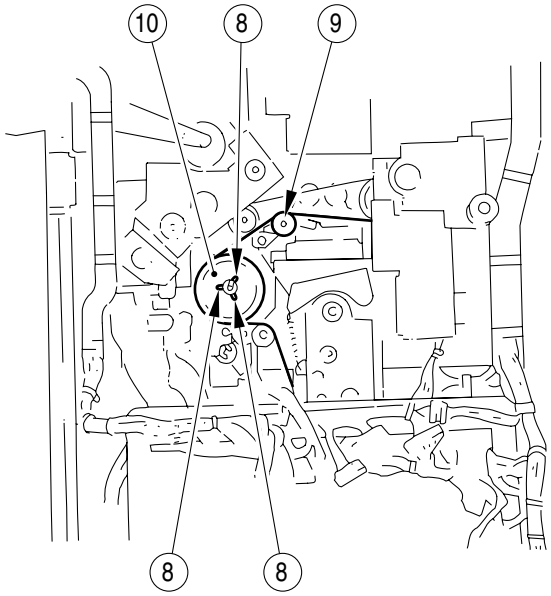

Figure 4-357

6) Remove the mounting screw ⑪, and remove the slip stop ⑫ of the clutch. Remove the two E-rings ⑬, and remove the drive gear 2 ⑭ together with the drive belt.
(Be careful not to drop the parallel pin.)

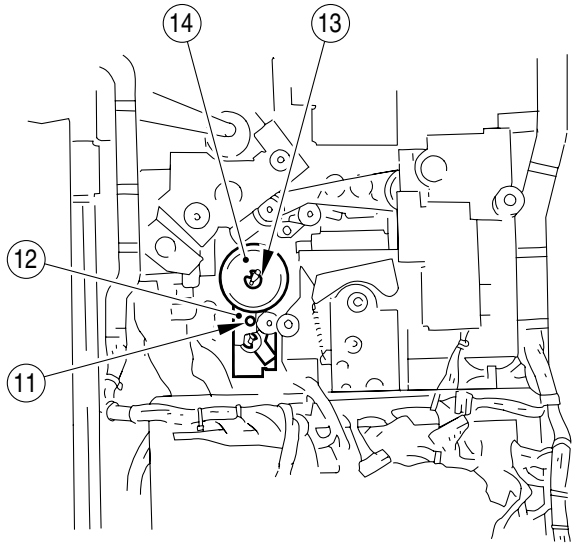

Figure 4-358

7) Remove the two mounting screws ⑮, and remove the two float pins ⑯.
8) Remove the E-ring ⑰, and remove the bearing ⑱.

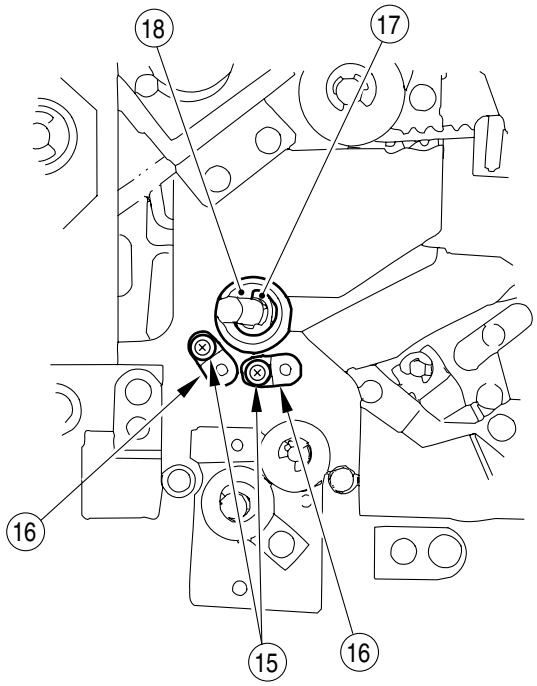

Figure 4-359

9) Open the front doors, and remove the pick-up cover and the duplexing unit from the copier. (p. 4-3)
10) Remove the two mounting screws ⑲, and remove the two float pins ⑳.
11) Remove the C-ring ㉑, and remove the gear ㉒.

12) Remove the E-ring ㉓, and remove the bearing ㉔.

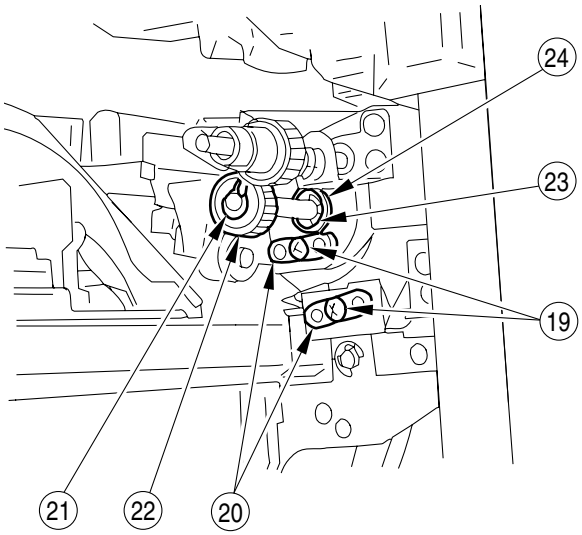

Figure 4-360

13) Remove the two screw ㉕, and take off the plate ㉖. While lifting the feeding assembly, move the duplexing pick-up paper guide ㉗ to the left.

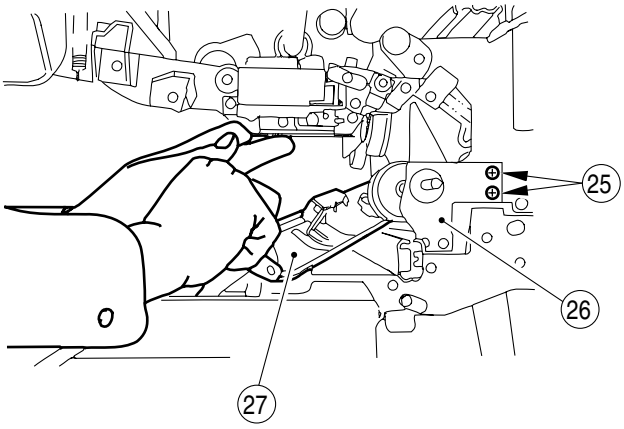

Figure 4-361

14) Remove the U-guide and the two E-rings ㉘ (front, rear) and the two bushings ㉙ (front, rear) of the pick-up roller shaft assembly; then, remove the U-guide plate ㉚ from the pick-up roller shaft.

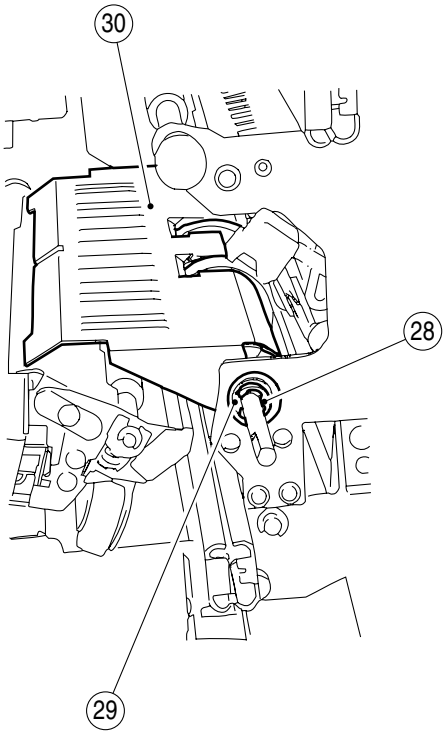

Figure 4-362

15) Remove the pick-up vertical path roller together with the shaft toward the front.

E Feeding Assembly

1. Construction

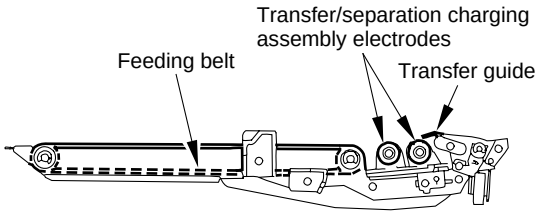

Figure 4-363

2. Removing the Feeding Assembly from the Copier

1) Remove the rear right cover, rear upper left cover, and rear lower left cover.
2) Remove the fixing motor. (p. 4-21)
3) Remove the fixing relay drive assembly. (p. 4-28)
4) Remove the E-ring ① and gear ② from the feeding assembly support shaft.
   (Be careful not to drop the parallel pin from the gear.)

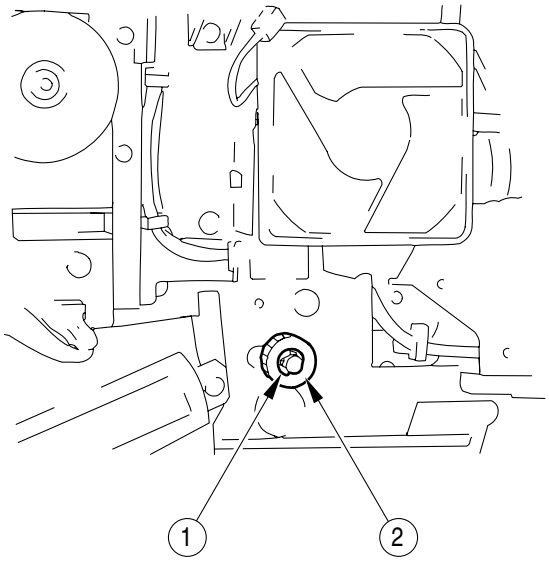

Figure 4-364

5) Remove the E-ring ③ from the feeding assembly support shaft, and remove the bearing.

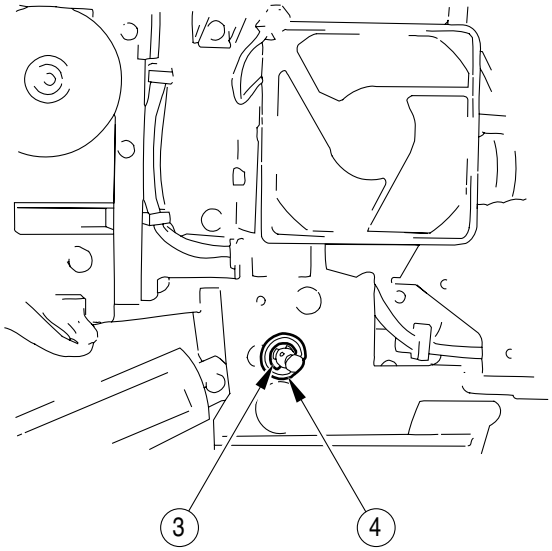

Figure 4-365

6) Remove the feeding fan. (p. 4-8)
7) Remove the three wire saddles ⑤ from the high-voltage transformer assembly; then, remove the high-voltage harness ⑥ from the harness guide.

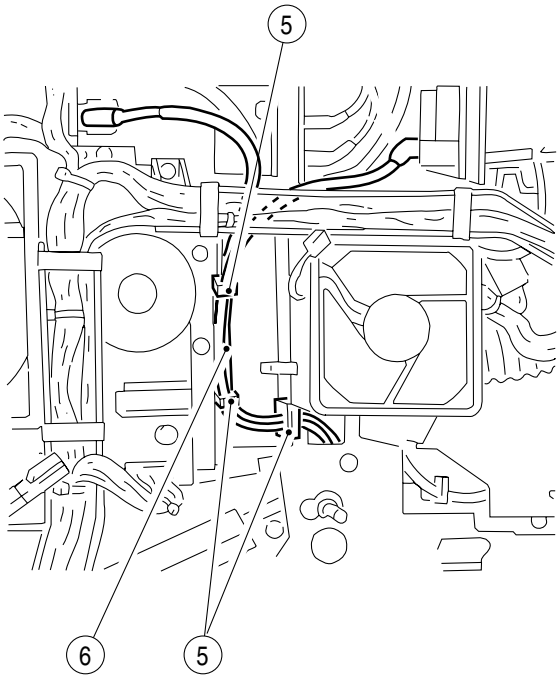

Figure 4-366

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

8) Remove the two fastons ⑦ (green; transfer/ separation) for high-voltage cable from the high-voltage transformer assembly.

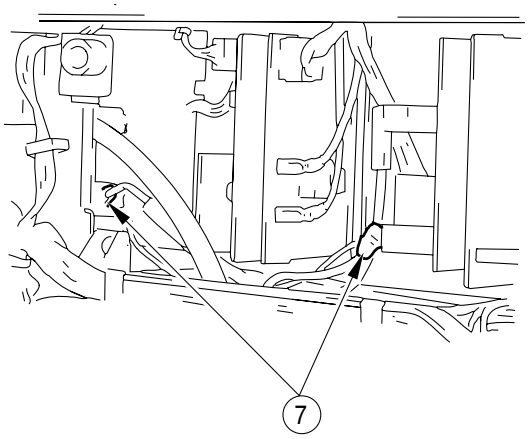

Figure 4-367

Caution:
Take note of the position of the cable connected to the high-voltage transformer.

9) Open the copier's front doors.
10) Remove the drum unit and the duplexing unit assembly. (pp. 4-64, -52)
11) Remove the four mounting screws, and remove the fixing cover and fixing lower cover.
12) Remove the four mounting screws ⑧, and remove the guide plate ⑨.
13) Remove the spring ⑩ used to suspend the feeding assembly.
14) Remove the E-ring ⑪ and the bearing ⑫ from the feeding assembly support shaft, and pull out the feeding assembly slowly toward the front.

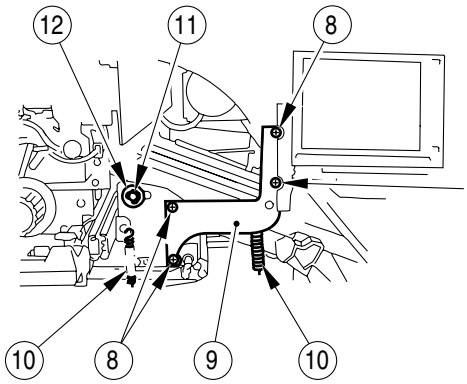

Figure 4-368

3. Removing the Feeding Belt

1) Remove the seven mounting screws ①, and remove the duct ②.
2) Remove the three mounting screws ③, and remove the holding tray feeding rail ④.

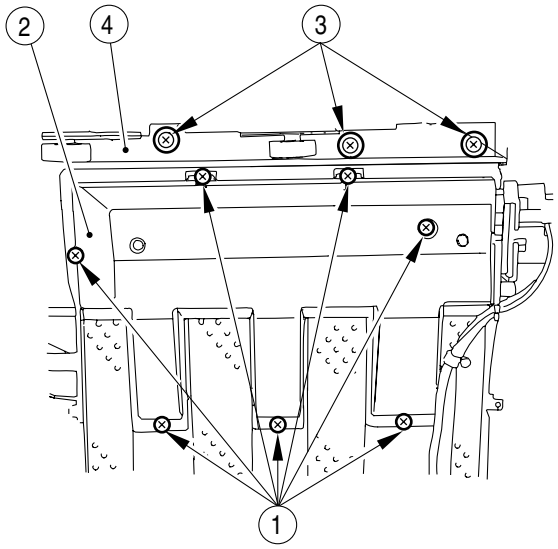

Figure 4-369

3) Remove the E-ring ⑤, two rolls ⑥, and bearing ⑦ from both ends of the belt roller shaft (left); then, remove the belt roller shaft (left).

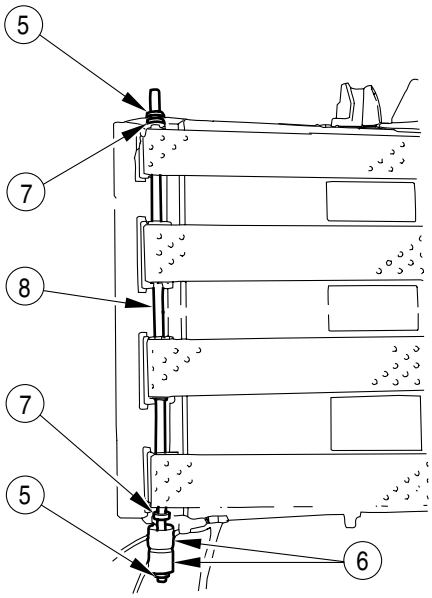

Figure 4-370

4) Remove the mounting screw ⑨ from the rear of the feeding assembly, and remove the leaf spring ⑩.
5) Remove the two stepped screws ⑪, and remove the transfer/separation charging assembly electrode ⑫.

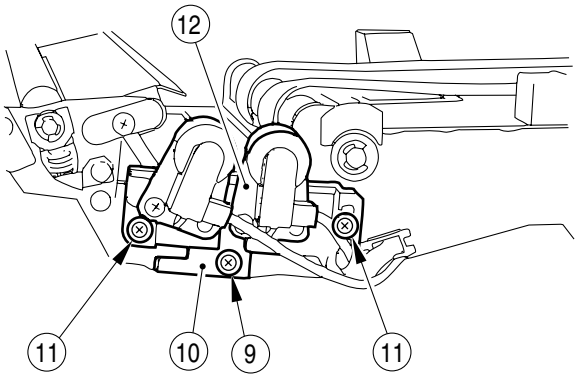

Figure 4-371

6) Remove the two screws ⑬ at the front and the rear, and remove the float pin ⑭; then, remove the feeding stay ⑮.
7) Remove the E-ring ⑯ from the front and the rear, and remove the bushing block ⑰ and the spring ⑱.
8) Remove the stepped screw ⑲ at the front, and remove the guide plate ⑳ and the bush ㉑; then, remove the wire cleaning tool drive shaft ㉒.

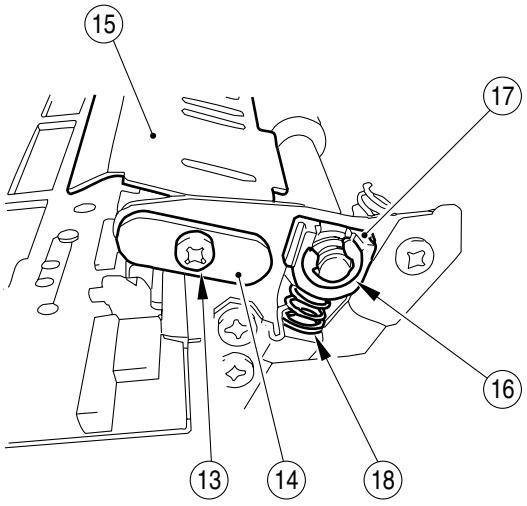

Figure 4-372

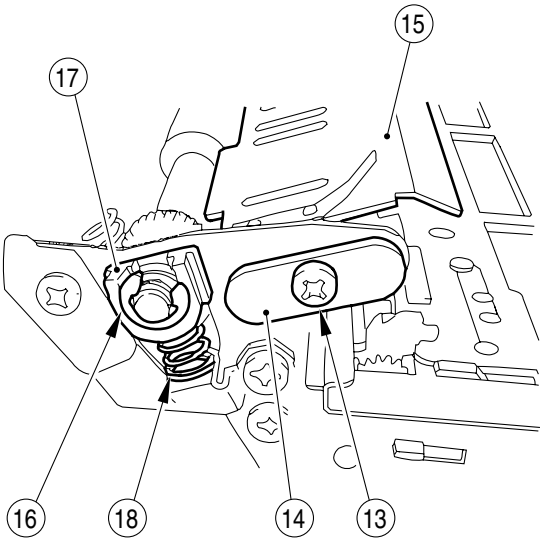

Figure 4-373

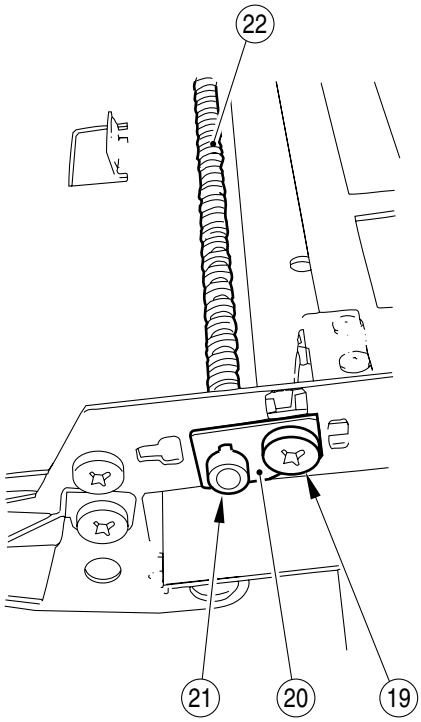

Figure 4-374

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

9) Remove the wire cleaning motor together with the support plate.
10) Remove the mounting screws ㉓ from the front and the rear (7 in total); then, remove the transfer/ separation charging assembly.

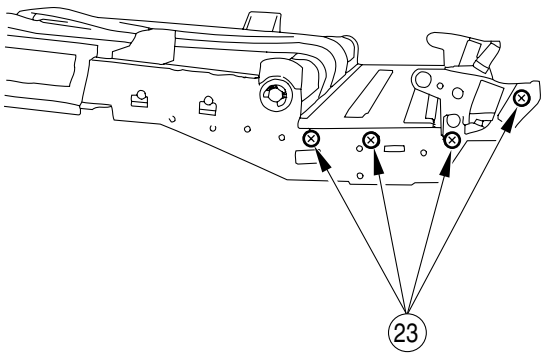

Figure 4-375a

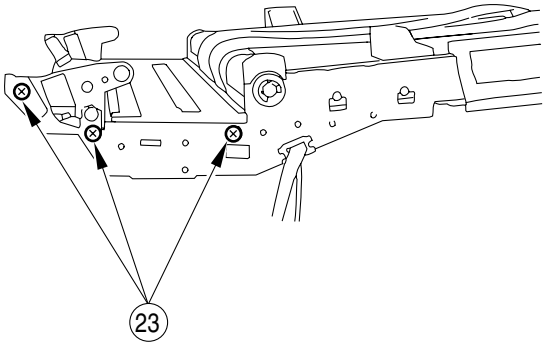

Figure 4-375b

11) Remove the two mounting screws ㉔, and remove the guide plate ㉕; then, detach the feeding belt from the feeding assembly.

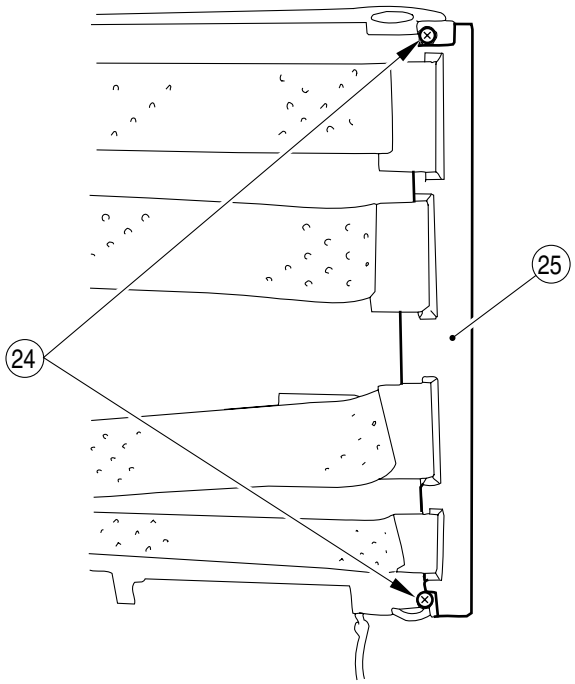

Figure 4-376

F. No. 2 Feeding Assembly

1. Removing the No. 2 Feeding Assembly from the Copier

1) Remove the rear right cover, rear upper left cover, and rear lower left cover.
2) Remove the fixing motor assembly. (p. 4-21)
3) Remove the fixing relay drive unit. (p. 4-28)
4) Remove the E-ring ①, drive belt ②, drive gear ③, and hinge ④.
   (Be careful not to lose the metal spacer between the hinge and the copier frame.)

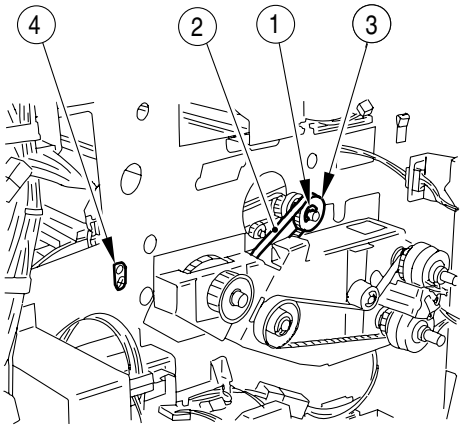

Figure 4-377

5) Remove the two E-rings ⑤ and the bearing ⑥; then, disconnect the connector ⑦.

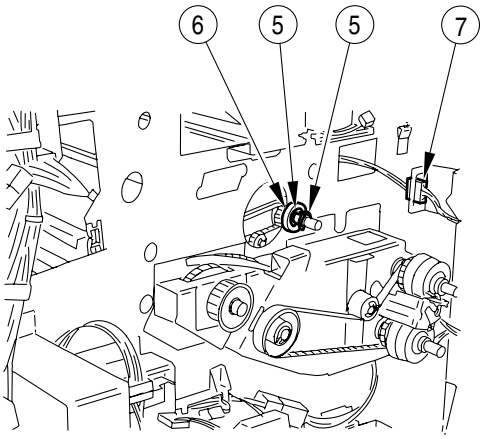

Figure 4-378

6) Remove the fixing assembly and the duplexing unit from the copier. (pp. 4-84, -52)
7) Remove the two screws, and remove the delivery assembly cover.
8) Remove the two screws ⑧, and move the fixing assembly switch assembly ⑨ to the left.

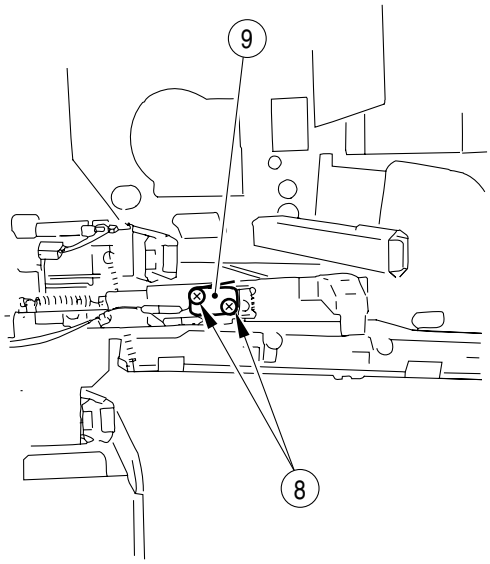

Figure 4-379

9) Remove the mounting screw ⑩, and pull out the hinge ⑪ (front) used to support the front of the No. 2 feeding assembly.
   (Be careful not to lose the metal spacer between the hinge and the copier frame.)
10) Remove the E-ring ⑫ from the front, and remove the bearing ⑬. Remove the two springs ⑭, and pull out the No. 2 feeding assembly ⑮ toward the front.

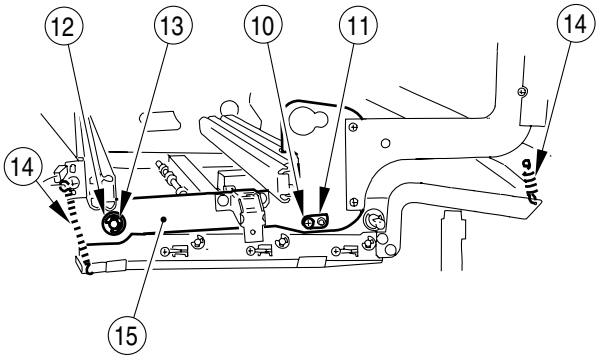

Figure 4-380

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

2. Adjusting the Position of the No. 2 Feeding Assembly Paper Deflecting Plate

Install the solenoid so that each paper deflecting plate is as shown in Figure 4-381 when the plungers of the S, M, and L paper deflecting plate drive solenoids are pushed in.

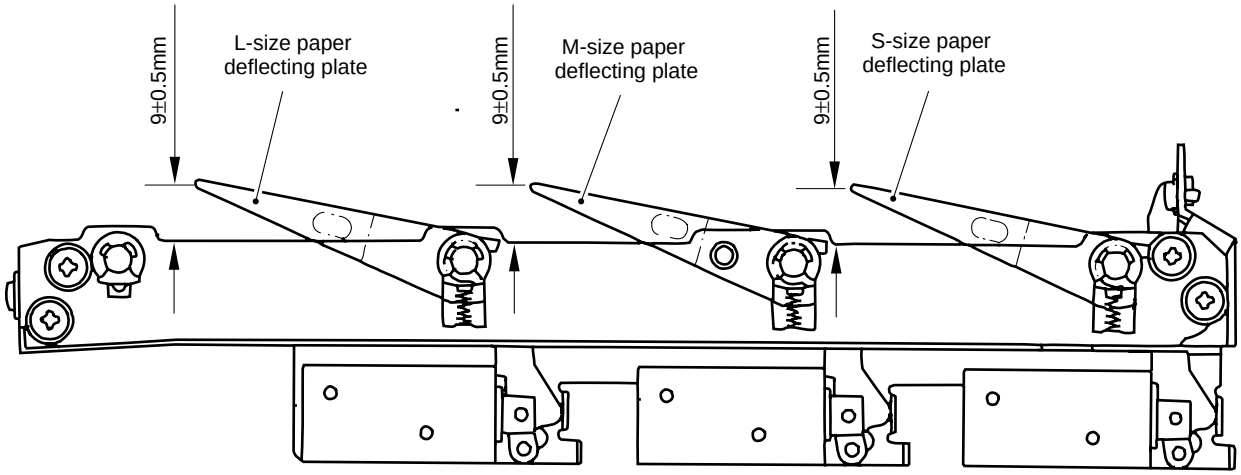

Figure 4-381

G. Duplexing Unit

1. Removing the Duplexing Unit from the Copier

1) Turn OFF the power switch, and open the front doors; then, slide out the duplexing unit until it stops.
2) Remove the grip, and remove the two mounting screws; then, remove the duplexing unit front cover.

Caution:
Hold on to the grip when removing the cover.

3) Remove the two screws ① on the left of the duplexing unit and the two screws ② of the rail assembly on the right side; then, lift the duplexing unit assembly to remove.

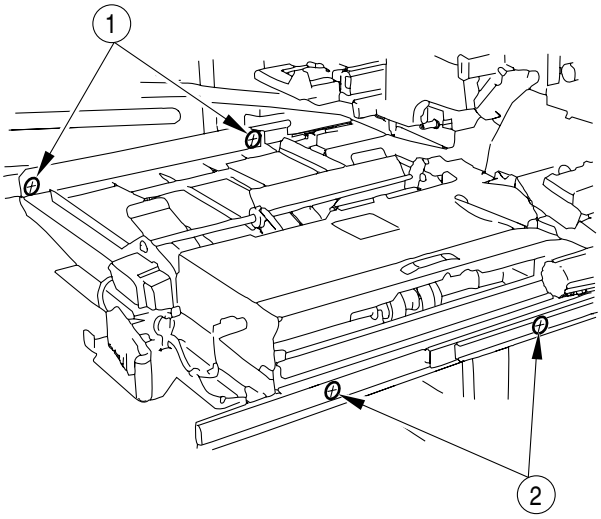

Figure 4-382

2. Removing the Feeding Roller

1) Open the front door, and slide out the duplexing unit assembly.
2) Remove the mounting screw ① from the bottom of the duplexing unit, and remove the feeding roller assembly ②.

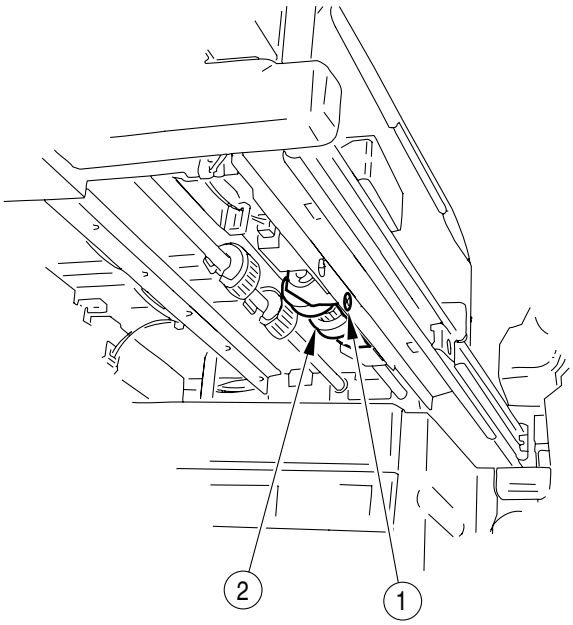

Figure 4-383

3) Remove the stop ring and the bushing; then, remove the feeding roller.

■ Orientation of the Feeding Roller
The feeding roller has a specific orientation.
1) When installing the feeding rubber roller to the roller collar, install it so that the marking (5) on the collar faces the coupling side (rear of the copies).

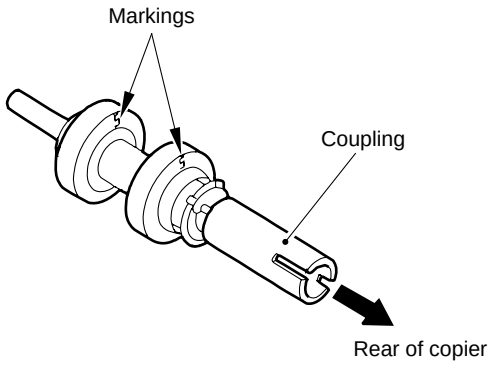

Figure 4-384

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

3. Removing the Separation Roller

1) Slide out the duplexing unit from the copier.
2) Remove the three mounting screws, and remove the upper cover of the duplexing unit assembly.
3) Remove the two mounting screws, and remove the separation roller support ② from the right side of the duplexing unit; then, while releasing the locking lever, remove the separation roller ③.

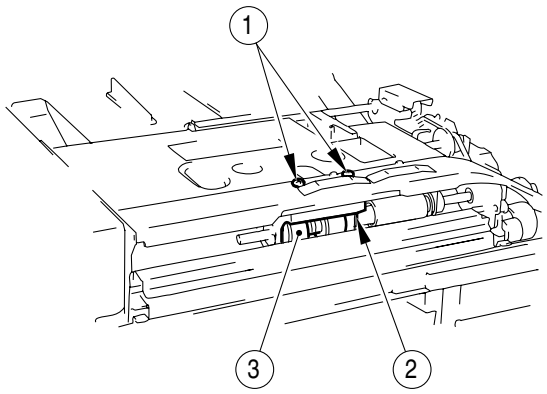

Figure 4-385

4) Remove the stop ring and the bearing; then, remove the separation roller.

■ Orientation of the Separation Roller

The separation roller has a specific orientation. Install it so that the marking (white dot) faces the rear of the copier.

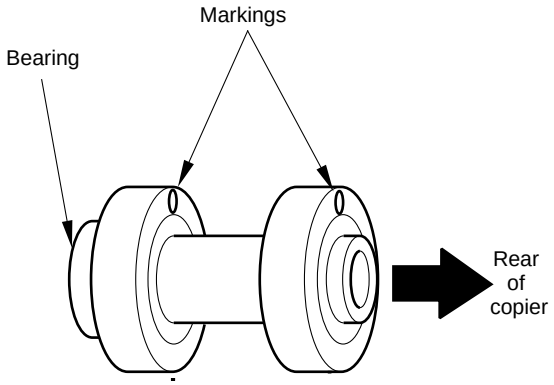

Figure 4-386

4. Removing the Re-Pick Up Feeding Roller

1) Turn OFF the power switch, and open the front doors; then, slide out the duplexing unit until it stops.
2) Remove the four mounting screws ①, and remove the re-pick up feeding roller ②.

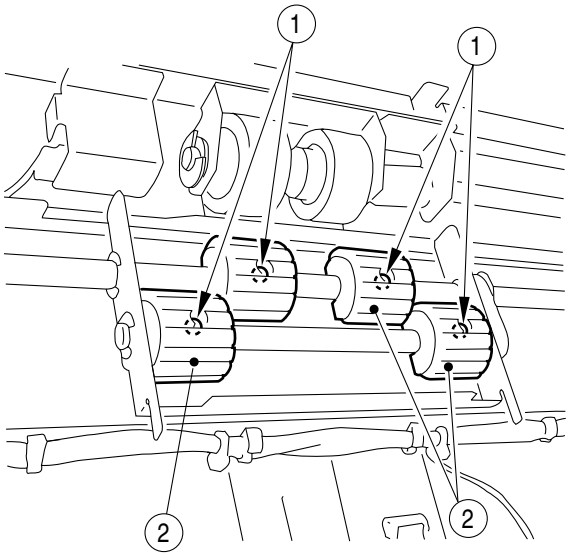

Figure 4-387

Caution:

When installing the re-pick up feeding roller, check to make sure that the sensor flag is at the point of sensor detection; put it on from above the roller shaft.

5. Removing the Paper Jogging Guide Drive Motor

1) Remove the duplexing unit. (p. 4-52)
2) Remove the mounting screw ①, and remove the motor cover ②.

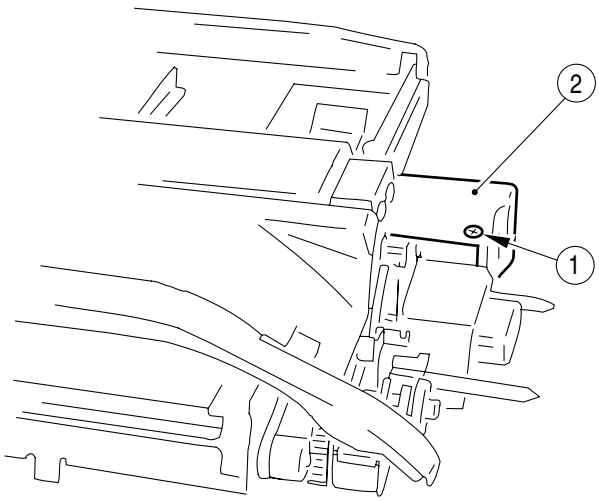

Figure 4-388

3) Remove the two mounting screws ③ from the back of the duplexing unit; then, remove the connector cover ④, and disconnect the connector ⑤.

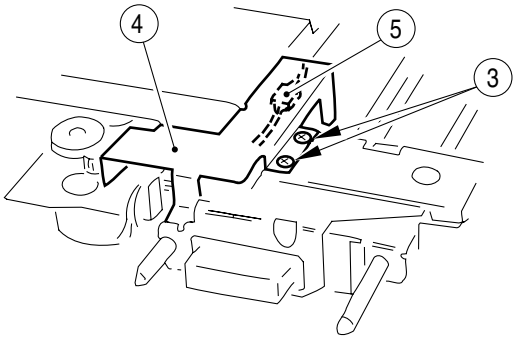

Figure 4-389

4) Remove the two mounting screws ⑥, and remove the paper jogging guide drive motor ⑦.

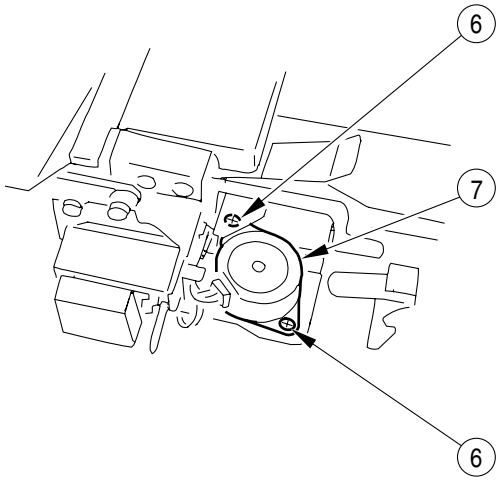

Figure 4-390

6. Removing the Re-Pick Up Drive Clutch

1) Remove the duplexing unit. (p. 4-52)
2) Remove the three mounting screws ①, and remove the connector unit ②.

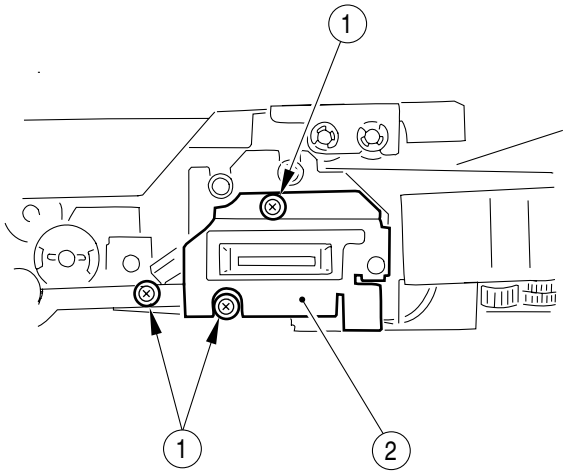

Figure 4-391

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

3) Disconnect the connector ③, and loosen the two set screws ④; then, while opening the duplexing unit upper cover, remove the clutch ⑤.

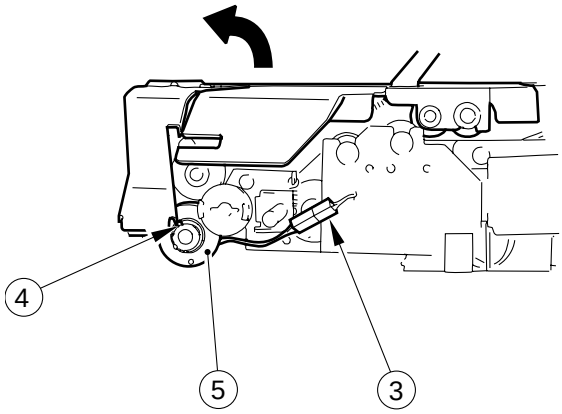

Figure 4-392

7. Positioning the Paper Sub Feeding Roller Down Solenoid

Adjust the position of the solenoid so that the distance between the sub roller escape lever and the sub roller support collar is 1.5 ±0.5 mm when the paper sub feeding roller comes into contact with the paper feeding surface in response to a push on the solenoid of the plunger.

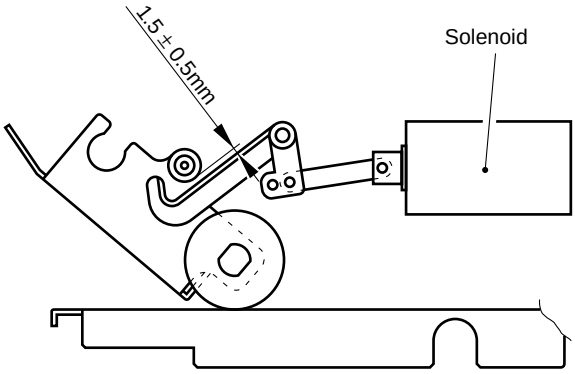

Figure 4-393

8. Positioning the Re-Pick Up Releasing Solenoid

Adjust so that the stroke of the solenoid is 3 ±0.5 mm when the shutter guide locking spring is in contact with the shutter guide.

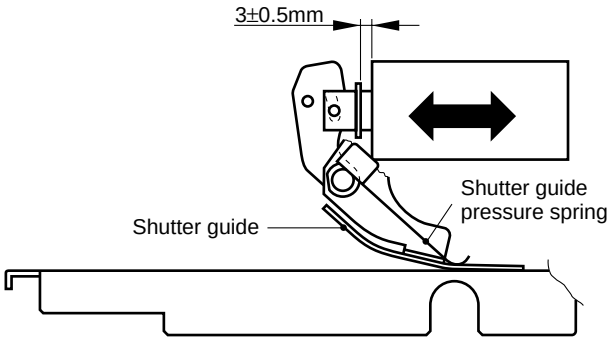

Figure 4-394

9. Adjusting the Re-Pick Up Separation Pressure

Change the position of the spring hooked on the stay.

① If pick-up failure occurs, move it in the direction of C, thereby decreasing the separation pressure.

② If double feeding occurs, move it in the direction of A, thereby increasing the separation pressure.

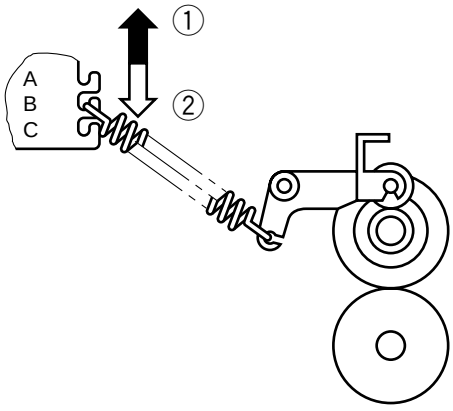

Figure 4-395

10. Adjusting the Re-Pick Up Roller Stop Position

Loosen the mounting screw, and adjust so that the stop position of the re-pick up roller is as A or B in Figure 4-396.

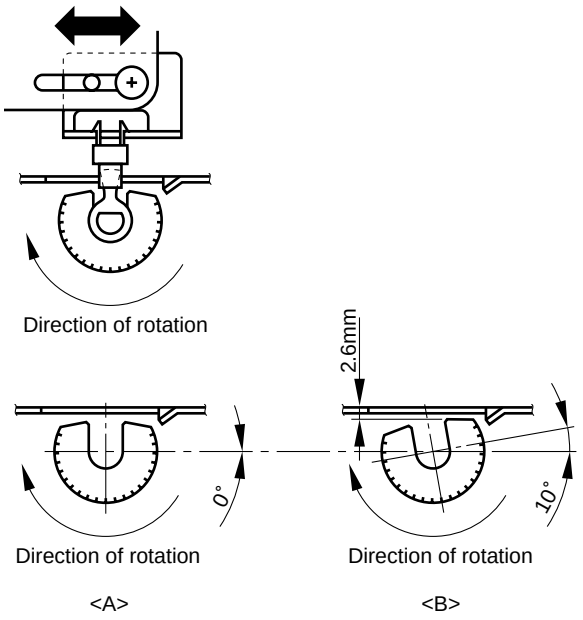

Figure 4-396

11. Adjusting the Re-Pick Up Motor Tension

Tighten the two screws while pulling the re-pick up motor in the direction of the arrow with a force of 500 g.

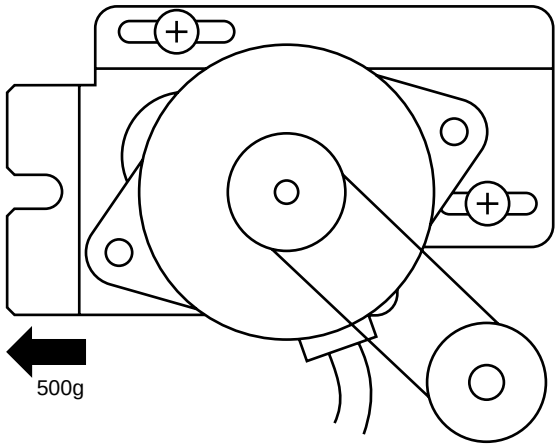

Figure 4-397

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

H. Buffer Assembly

1. Construction of the Vertical Path Unit

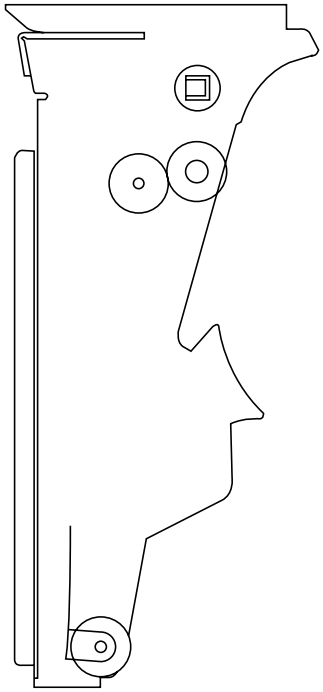

Figure 4-398

2. Removing the Vertical Path Unit

1) Remove the buffer rear upper cover and the buffer rear lower cover.
2) Open the front covers.
3) Release the buffer assembly.
4) Remove the mounting screw.

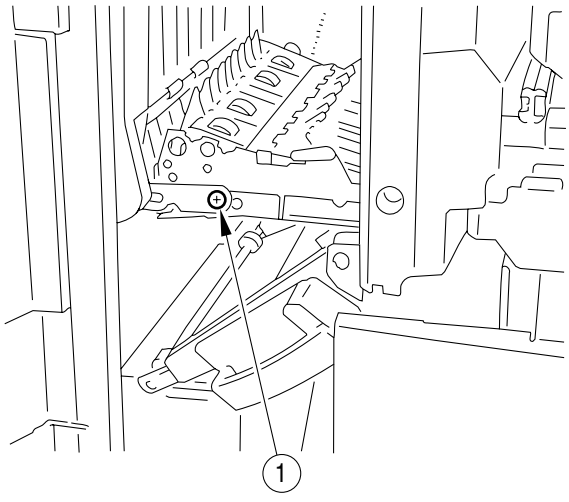

Figure 4-399

5) Remove the mounting screw ② and the E-ring ③; then, remove the spring ④ used to suspend the vertical path unit while lifting the buffer assembly.
6) Disconnect the three connectors ⑤, and remove the three mounting screws ⑥; keep the rear of the harness rail ⑦ lifted at the rear.

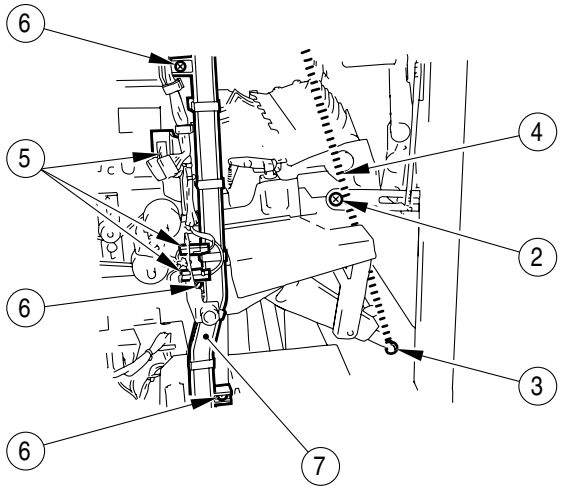

Figure 4-400

7) Disconnect the two female connectors ⑧ from the support shaft plate.
8) Remove the two mounting screws ⑨, and remove the support shaft plate ⑩.

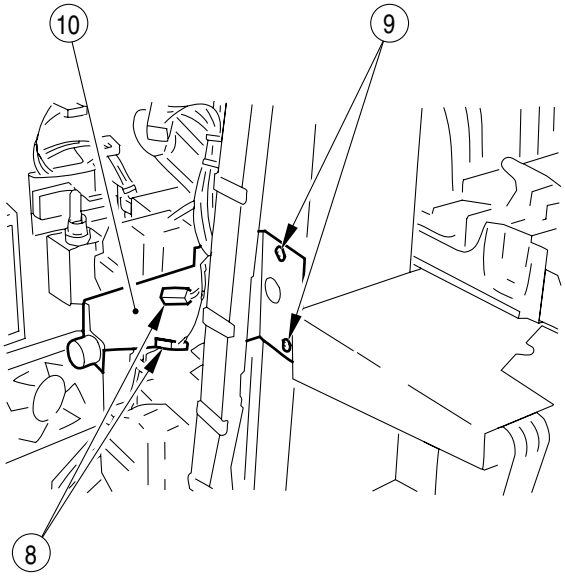

Figure 4-401

9) Disconnect the connector under the CW/CCW rotation drive assembly; then, remove the buffer assembly while shifting it up.

3. Removing the Duplexing Vertical Path Roller

1) Remove the vertical path unit. (p. 4-57)
2) Remove the four mounting screws ① (2 pcs. at front and rear), and remove the duplexing vertical path roller cover ②.

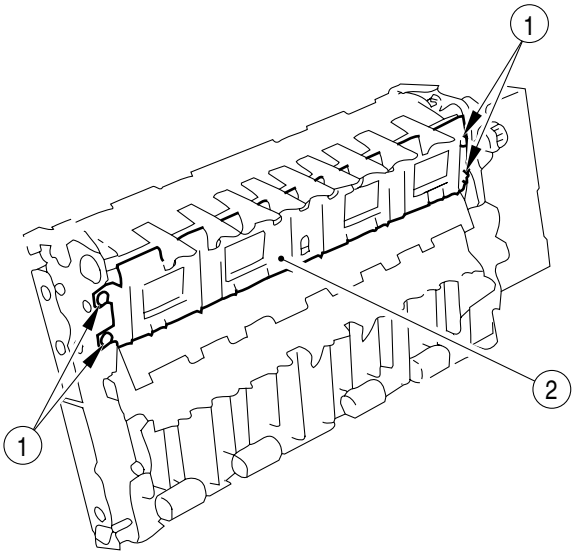

Figure 4-402

3) Remove the E-ring ③, gear ④, spacer ⑤, two E-rings ⑥, spring ⑦, and bushing from the rear of the roller shaft.

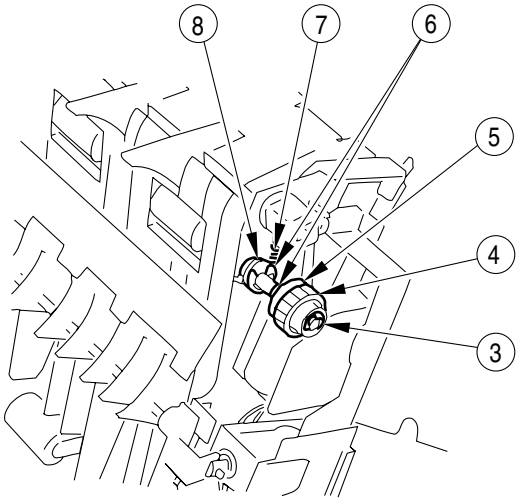

Figure 4-403

4) Remove the E-ring ⑨ and the bushing ⑩; then, pull out the duplexing vertical path roller ⑪ together with the shaft.

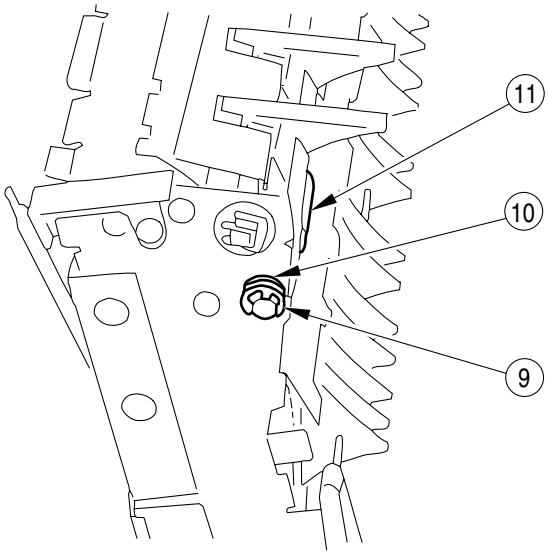

Figure 4-404

4. Positioning the No. 1 Paper Deflecting Plate Drive Solenoid

Adjust the position of the solenoid so that the No. 1 paper deflecting plate is as shown when the plunger of the solenoid is pushed.

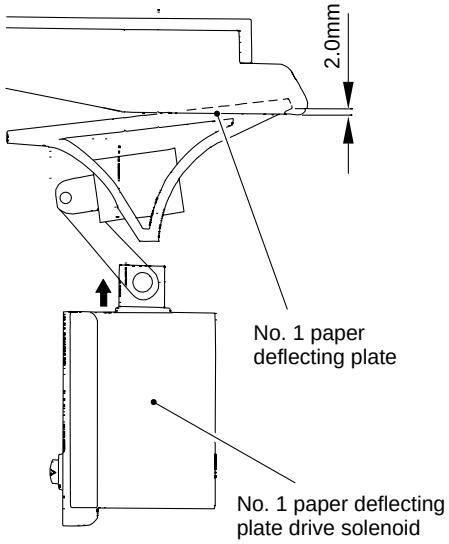

Figure 4-405

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5. Removing the Buffer Lower Feeding Roller

1) Remove the buffer rear lower cover.
2) Loosen the tension ① at the rear, and remove the drive belt ②; then, remove the E-ring ③, drive gear ④, parallel pin ⑤, spacer ⑥, E-ring ⑦, and bearing ⑧.

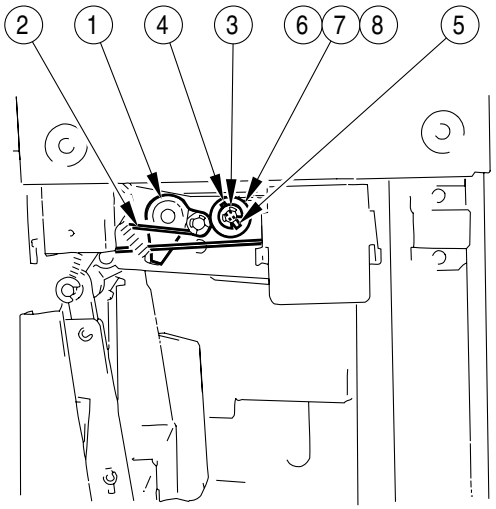

Figure 4-406

3) Remove the two mounting screws, and remove the buffer assembly inside cover.
4) Remove the E-ring ⑨ and the bearing ⑩; then, remove the lower feeding roller ⑪.

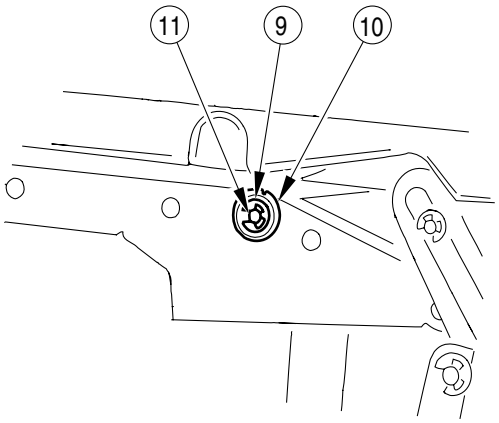

Figure 4-407

6. Removing the Delivery Roller

1) Remove the rear lower buffer cover.
2) Remove the mounting screw ①, and remove the buffer assembly lamp ②.

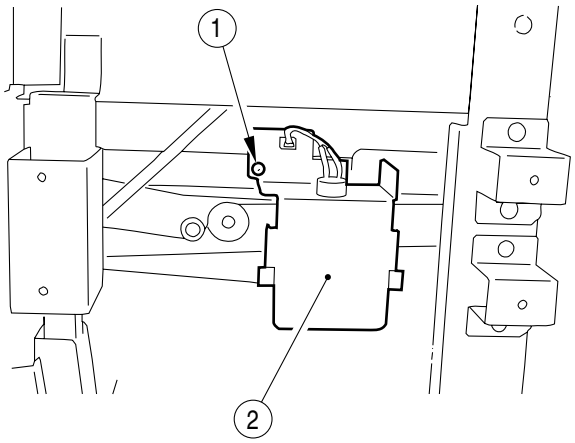

Figure 4-408

3) Remove the drive belt ③ at the rear; then, remove the E-ring ④, drive gear ⑤, parallel pin ⑥, E-ring ⑦, and bearing ⑧.
4) Remove the four mounting screws ⑨.

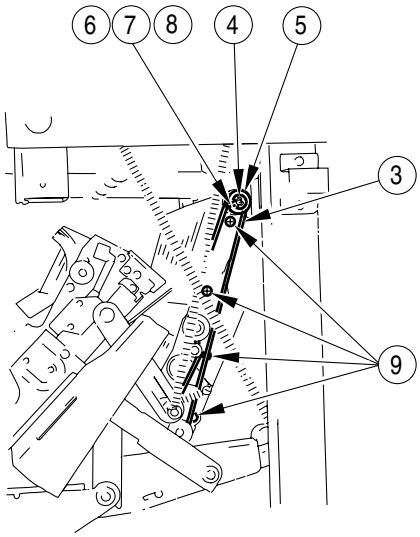

Figure 4-409

5) Remove the buffer assembly inside cover.
6) Remove the E-ring ⑩ and the bearing ⑪ from the front.
7) Remove the four mounting screws ⑫.
8) Remove the delivery roller ⑬.

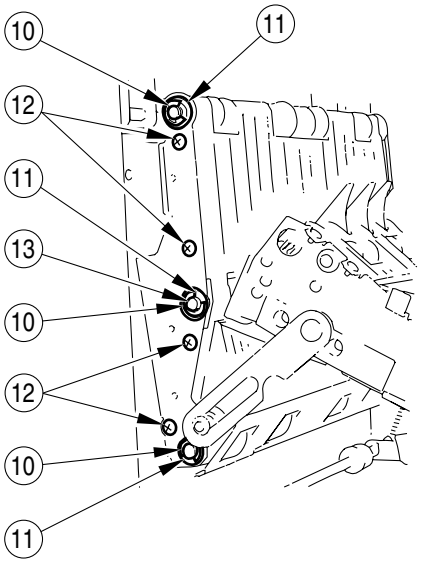

Figure 4-410

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

IV. EXPOSURE SYSTEM

A. Scanning Lamp Assembly

1. Removing the Scanning Lamp Assembly

1) Remove the two screws, and remove the upper left cover.
2) Remove the copyboard glass retainer, and remove the copyboard glass.
3) Remove the two face plates ①, remove the five mounting screws; then, remove the white plate cover ② and the white plate left cover ③.

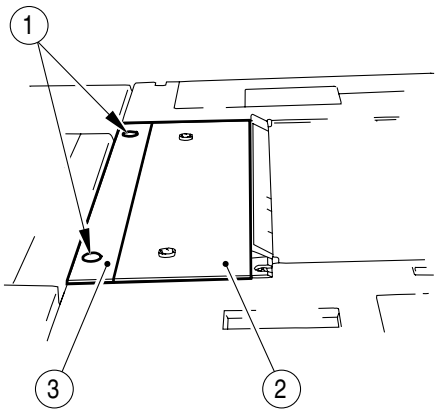

Figure 4-411

4) Remove the two mounting screws ④, and remove the standard white plate ⑤.

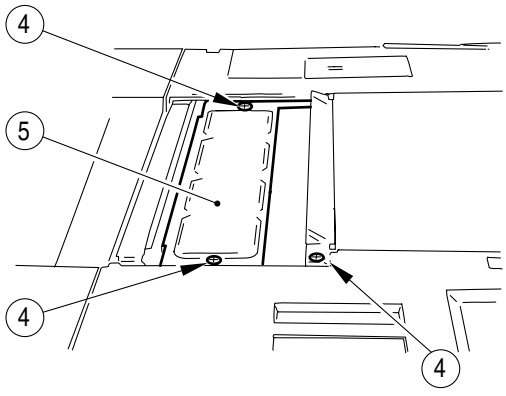

Figure 4-412

5) Remove the two mounting screws ⑥, and remove the plate of the reflecting shade ⑦.
6) While pushing the spring plate ⑧, remove the scanning lamp ⑨.
(When installing the scanning lamp, make sure that the protruding side is toward the left.

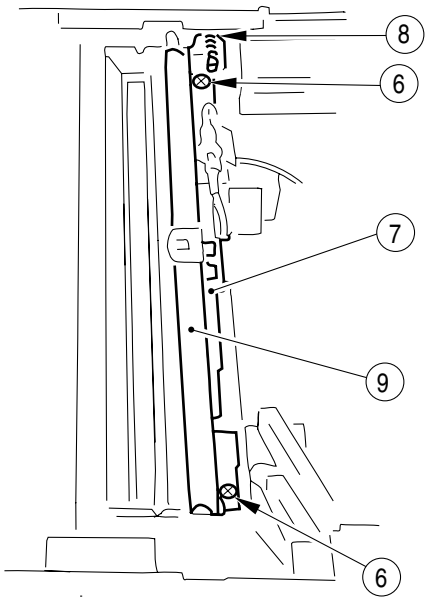

Figure 4-413

Caution:

1. Wait until the surface of the scanning lamp has cooled before starting the work.
2. The heat absorption glass may be very hot at power-off; take care.
3. Do not leave fingerprints on the surface of the light. You should pinch the end of the scanning lamp.
4. If the surface of the scanning lamp is soiled, dry wipe it.
5. Do not leave fingerprints on the reflecting shade.
6. Do not deform the reflecting shade.
7. Check to make sure that the protruding side (the enclosure part) of the scanning lamp is toward the left.

B. Standard White Plate Assembly

1. Removing the Standard White Plate

1) Remove the upper left cover.
2) Remove the copyboard glass, and remove the copyboard glass.
3) Move the No. 1 mirror mount to the right until it stops.
4) Remove the two face plates ①, and remove the five mounting screws; then, remove the white plate cover ② and the white plate left cover ③.

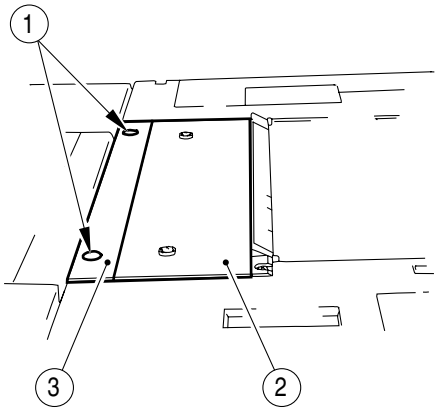

Figure 4-414

5) Remove the three mounting screws ④, and remove the standard white plate ⑤.

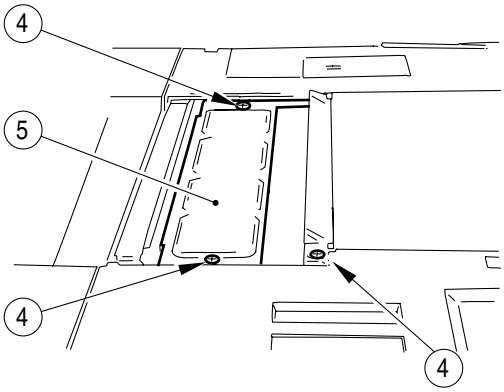

Figure 4-415

2. Removing the Thermal Switch

1) Remove the two fasten sleeves and the two mounting screws ①, and remove the thermal fuse ②.

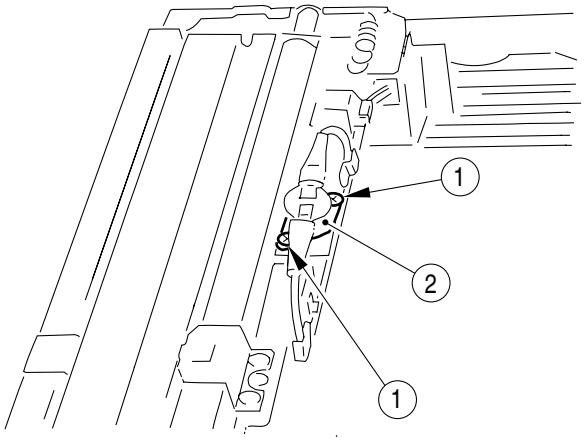

Figure 4-416

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

C. Pre-Exposure Lamp Assembly

1. Removing the Pre-Exposure Lamp Assembly

1) Remove the drum unit from the copier. (p. 4-64)
2) Remove the spring from the rear of the pre-exposure lamp assembly.
3) Remove the mounting screw ① and disconnect the connector ② at the front of the pre-exposure assembly; then, remove the pre-exposure lamp assembly.
   (Be careful not to damage the photosensitive drum.)

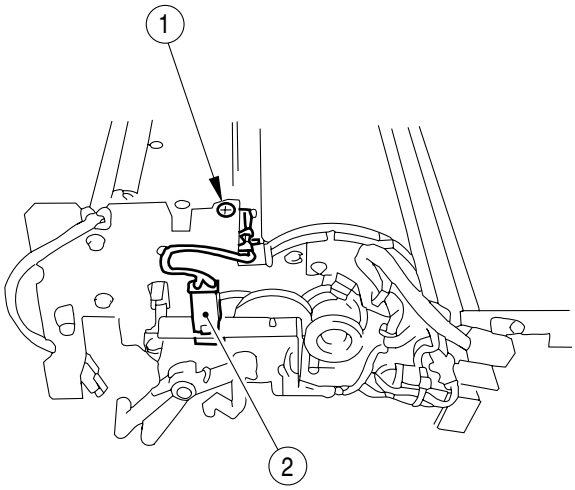

Figure 4-417

D. Blank Exposure Lamp Assembly

1. Removing the Blank Exposure Assembly

1) Open the front doors, and slide out the duplexing unit; then, remove the process cover.
2) Remove the drum unit from the copier. (p. 4-64)
3) Slide out the blank exposure lamp assembly slowly.

Caution:

When removing the blank exposure assembly and setting the blank exposure assembly, or if you accidentally trapped the harness on the rail mount, check to make sure that the connector (J660) is not disconnected from the potential sensor.
Further, take care, as you could disconnect the connector (J660) if you pulled on the cord excessively after setting the blank exposure assembly. (Figure 4-418)

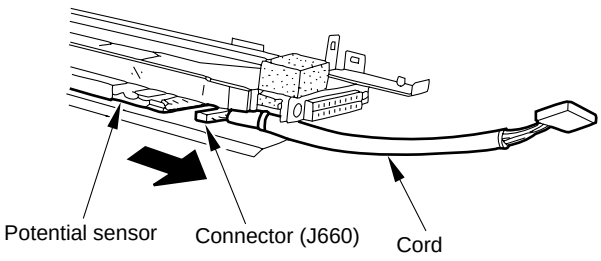

Figure 4-418

V. CHARGING ASSEMBLY

A. Photosensitive Drum

1. Removing the Drum Unit

1) Open the front covers, and remove the process cover.
2) Remove the mounting screw ①, and disconnect the three connectors ②; then, open the LCD screen.

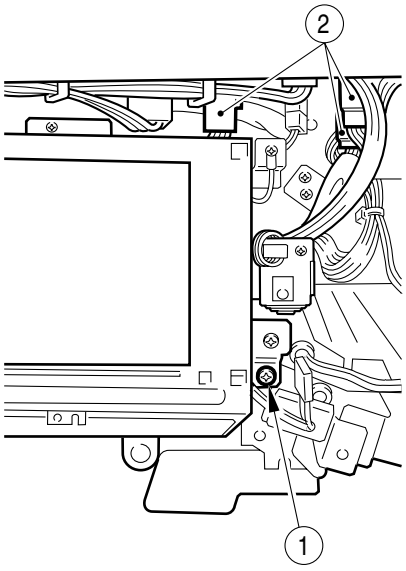

Figure 4-501

3) Remove the transfer charging dust-proofing fan. (see p. 4-11)

4) Disconnect the connector ③ from the toner level detection PCB, and disconnect the faston from the pole positioning plate.

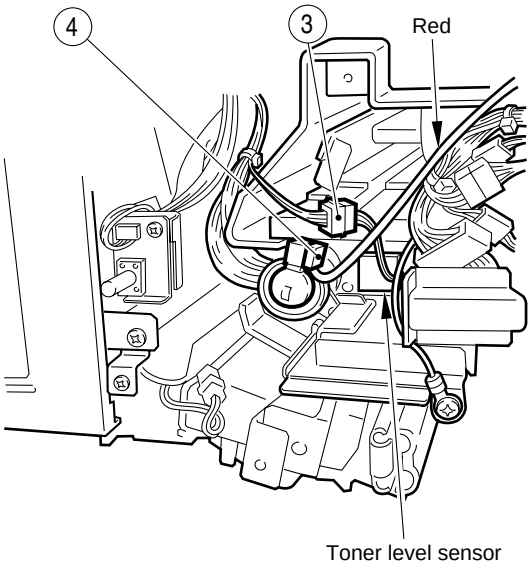

Figure 4-502

Caution:

Be sure to hold the positioning plate with fingers whenever pulling off the faston ④ of the pole positioning plate. (Otherwise, the pole positioning plate may come off the cylinder shaft.)

5) Remove the two mounting screws ⑤, and remove the developing assembly duct ⑥.

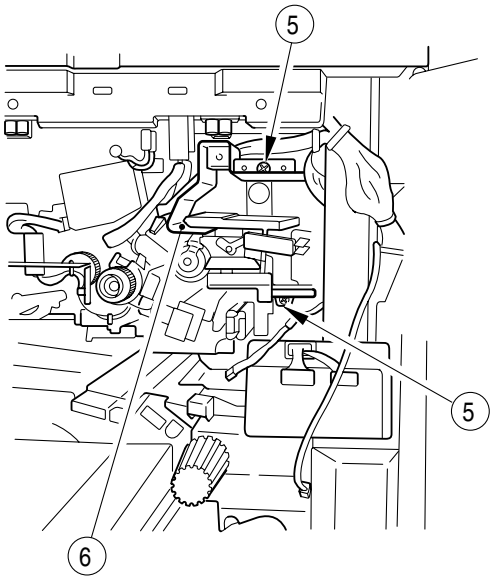

Figure 4-503

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

6) Turn the developing assembly releasing lever ⑦ counterclockwise to release the developing assembly from the photosensitive drum.

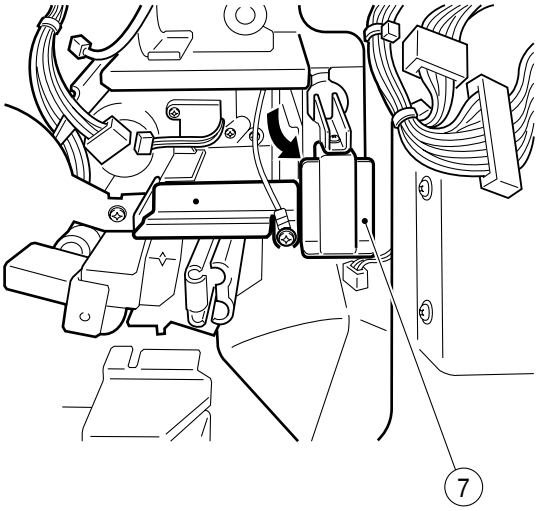

Figure 4-504

7) Remove the mounting screw ⑧, and hook the blank exposure assembly ⑨ on the rail mount ⑩.

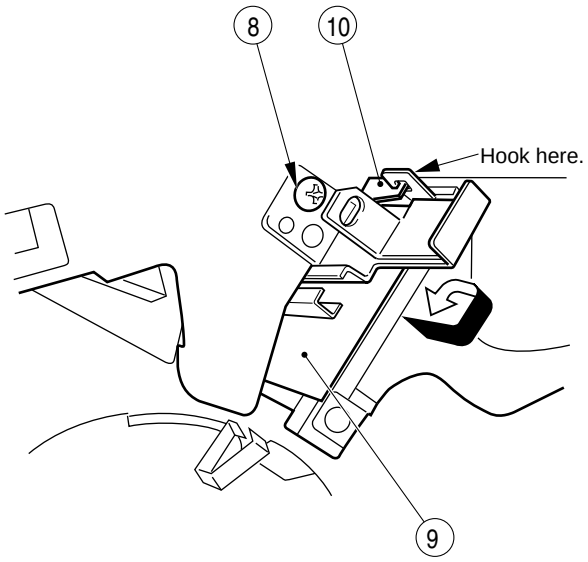

Figure 4-505

8) Remove the primary charging assembly and the pre-transfer charging assembly. (p. 4-71)
9) Remove the mounting screw ⑪, and remove the drum positioning block ⑫.

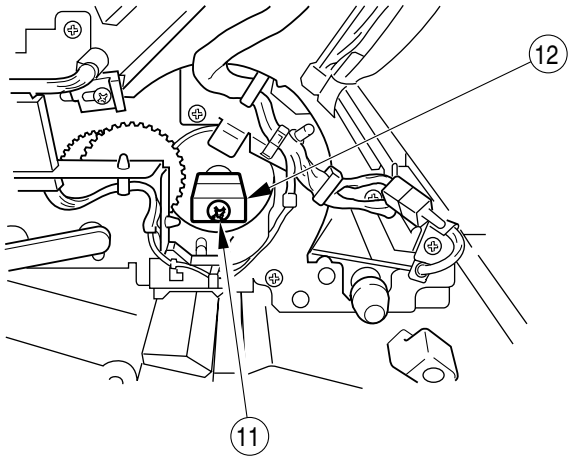

Figure 4-506a

Caution:
Be sure to hold the nob whenever you have to turn the mounting screw on the drum positioning block.

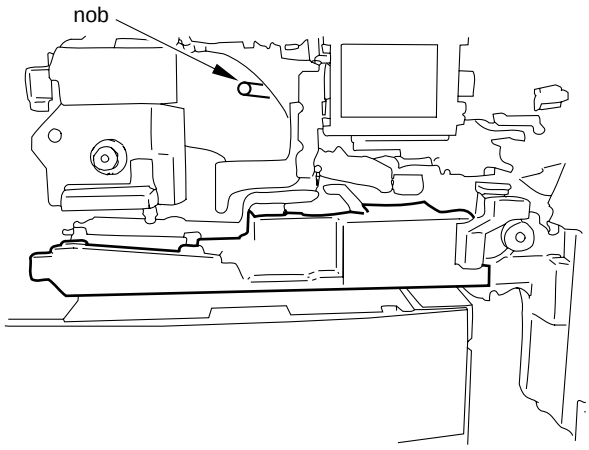

Figure 4-506b

10) Slide out the duplexing unit.
11) Remove the two mounting screws ⑬ (W/washer, silver); then, hook a finger in the shaded area (Figure 4-507) of the front plate, and move the drum unit to the front until it stops.

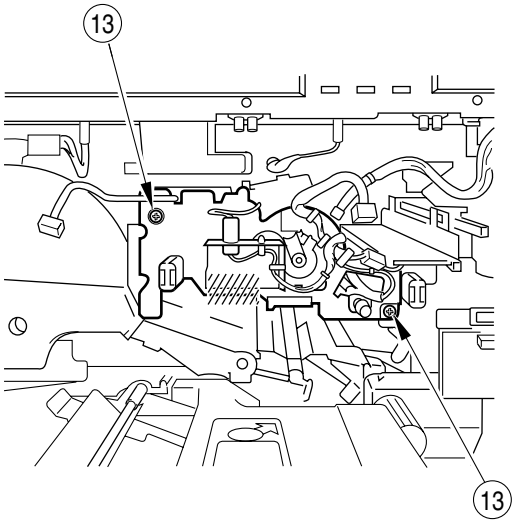

Figure 4-507

Reference:

When inserting the drum unit on the rail, check to make sure that the copier's positioning shaft and the hole in the drum are matched. Move it slowly.

2. Removing the Photosensitive Drum

1) Slide out the drum unit. (p. 4-64)
2) Turn the pre-exposure lamp assembly ① in the direction of the arrow to release it from the photosensitive drum.

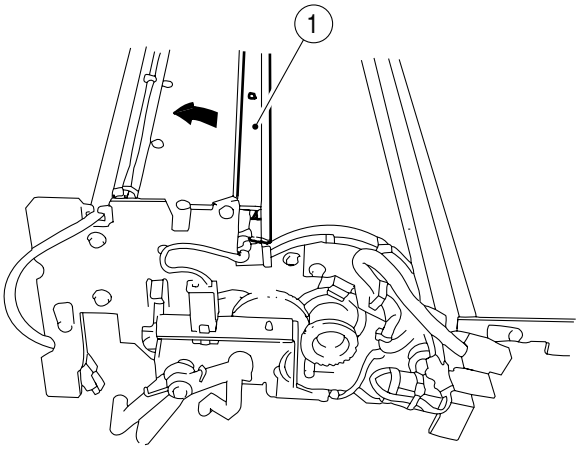

Figure 4-508

3) Remove the two mounting screws ②, and remove the drum stopper ③.

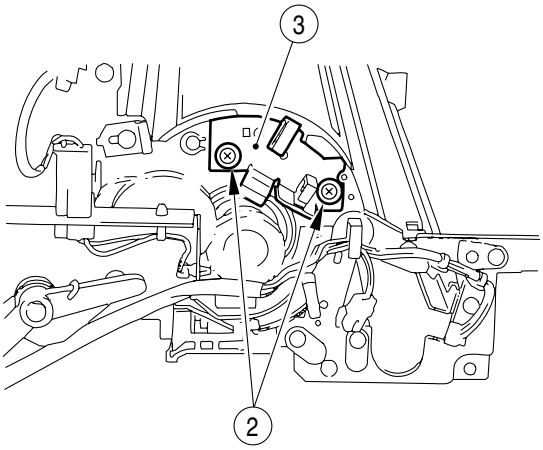

Figure 4-509

4) Slide the photosensitive drum to the rear together with the bearing ④ and the gear ⑤; then, lift it to remove.

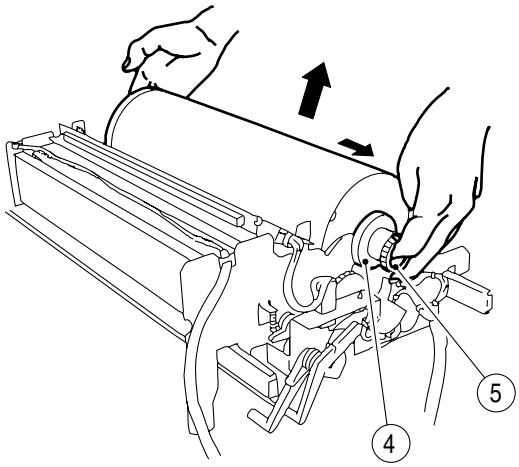

Figure 4-510

5) Remove the gear and the bearing (front, rear) of the drum shaft.

3. Replacing the Drum Heater

1) Remove the photosensitive drum from the copier.
2) Remove the two mounting screws ①, and remove the flange from the front.

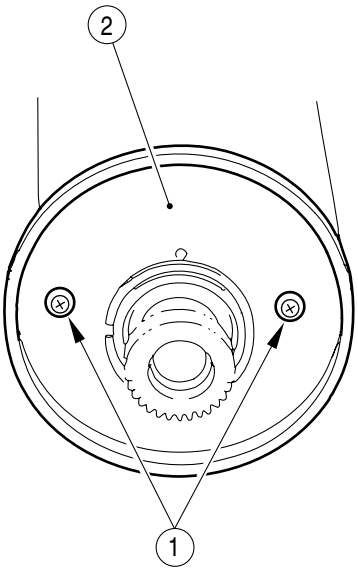

Figure 4-511

3) Pull the flange at the rear, and remove the drum heater assembly from the photosensitive drum; then, disconnect the connector, and remove the drum heater.

4. Installing the Photosensitive Drum

Install the photosensitive drum by reversing the steps used to remove it with the following in mind:

a. The surface of the drum must be free of dirt and scratches.
b. Install it so that the label on the inner side of the drum is toward the front.
   (If the rear and the front are reversed, differences in density between left and right will occur.)
   When replacing the photosensitive drum, you must enter the drum sensitivity once gain.
   Go through the following for replacement:

1) Install the photosensitive drum to the drum unit.
2) Install the drum stopper and the drum positioning block, and set the drum unit to the copier.
4) Install the pre-transfer charging assembly and the primary charging assembly.
5) Set the duplexing unit to the copier.
6) Turn ON the power switch.
7) Select 'DRUM_SEL' in service mode (✻ 3 ✻).
8) Enter the drum sensitivity value recorded on the drum sensitivity sheet that comes in the box containing the photosensitive drum.
9) Press the OK key.
10) Press the Reset key twice.
11) Attach the drum sensitivity sheet behind the left front door.
12) Install all covers.

Caution:

Check to make sure that the rear bearing is securely set. Operating the drum without the rear bearing will damage the drum.

5. Cleaning the Pre-Cleaning Exposure Cover

1) Remove the drum unit. (See p. 4-64.)
2) Remove the photosensitive unit. (See p. 4-66.)
3) Remove the screw ①, and remove the mounting plate ②.

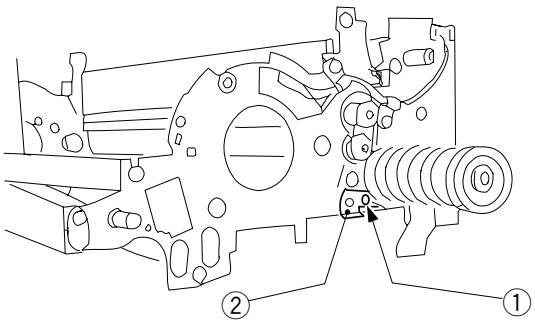

Figure 4-512

4) Slide out the pre-cleaning exposure cover ③, and clean it.

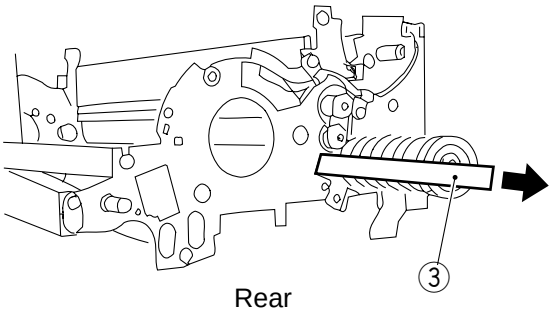

Figure 4-513

5) Push in the pre-exposure cover, and install the mounting plate and the photosensitive drum; then, install the drum unit.

6. Cleaning the Upper Transfer Guide

1) Remove the drum unit. (See p. 4-64.)
2) Remove the screw ① (front, rear), and remove the positioning bush ② (front, rear).

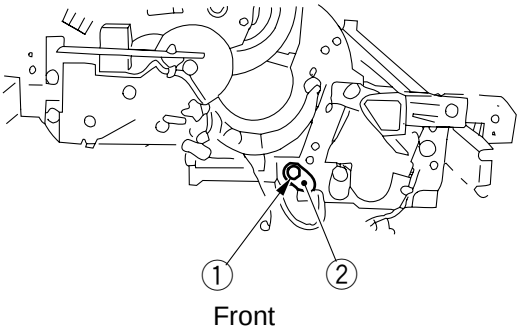

Figure 4-514

3) Holding the right side of the upper transfer guide ③, turn it in the direction of the arrow.

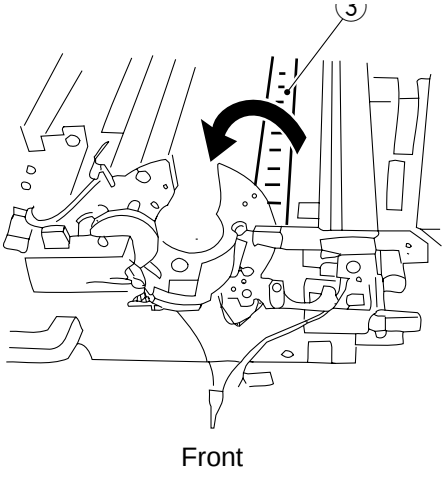

Figure 4-515

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4) clean the upper transfer guide ④.

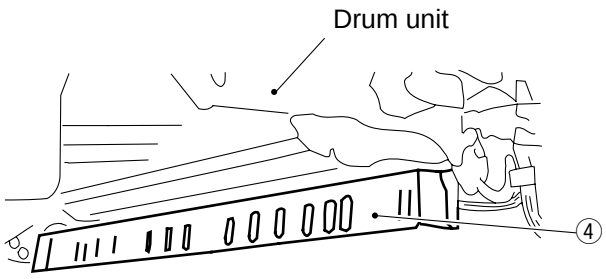

Figure 4-516

5) Install the upper transfer guide by reversing the steps used to remove it.

7. Cleaning the Photosensitive Drum

- Check the images every 250,000 copies. Clean the photosensitive drum if uneven density is noted in the form of horizontal bands of halftone with the same noted on the drum.

1) Turn the pre-exposure lamp to release it.
2) Put about 0.2 to 0.3 g of cleaning powder (CK-0429) on lint-free paper, and put about 5 to 10 cc of alcohol over it.
3) While lightly pressing over the lint-free paper, move it from the front to the rear and vice versa. At this time, try so that each width of about 5 to 10cm is wiped 5 to 6 times.
4) When the alcohol has evaporated, dry wipe the surface with lint-free paper.
5) Turn the gear of the photosensitive drum, and repeat steps 2) through 4) to cover the entire surface of the drum.

Caution:

- Be sure to clean the photosensitive drum before replacing the cleaning blade.
- Take care so that the drum cleaning powder (CK-0429) will not turn into paste when performing step3).
- Check to make sure that no drum cleaning powder (CK-0429) remains on the drum.

B. Potential Sensor Assembly

1. Removing the Potential Sensor Assembly

1) Remove the blank exposure lamp assembly from the copier. (p. 4-63)
2) Remove the two mounting screws ①, and remove the potential sensor assembly from the blank exposure lamp together with the support plate.

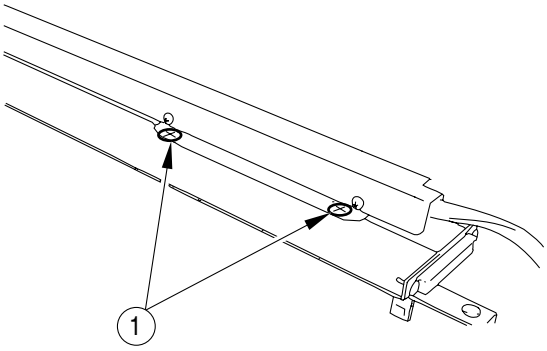

Figure 4-517

Caution:

You need not adjust the position of the potential sensor. When replacing the potential sensor, be sure to replace it together with the potential measurement PCB. (Check to make sure that the potential sensor and the potential measurement PCB have the same number.)

C. Primary Charging Assembly

1. Removing the Primary Charging Assembly

1) Open the front doors.
2) Slide out the duplexing unit, and remove the process cover.
3) Loosen the mounting screw ①, and slide the charging assembly stopper ② to the left.
4) Disconnect the connector ③, and pull out the primary charging assembly ④ slowly.

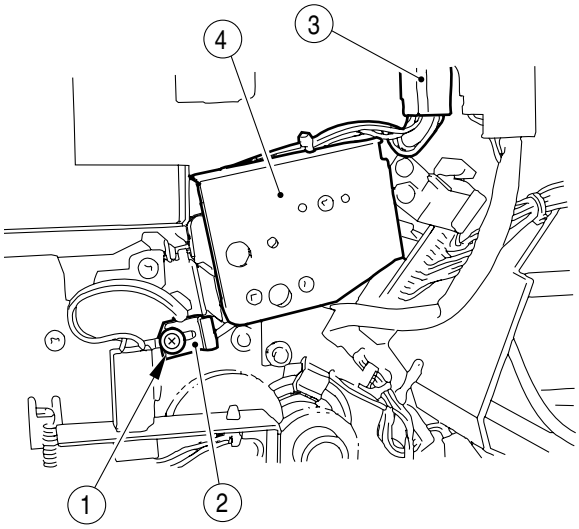

Figure 4-518

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D. Pre-Transfer Charging Assembly

1. Removing the Pre-Transfer Charging Assembly

1) Open the front doors.
2) Slide out the duplexing unit, and remove the process cover.
3) Remove the mounting screw ①, and pull out the pre-transfer charging assembly ③.

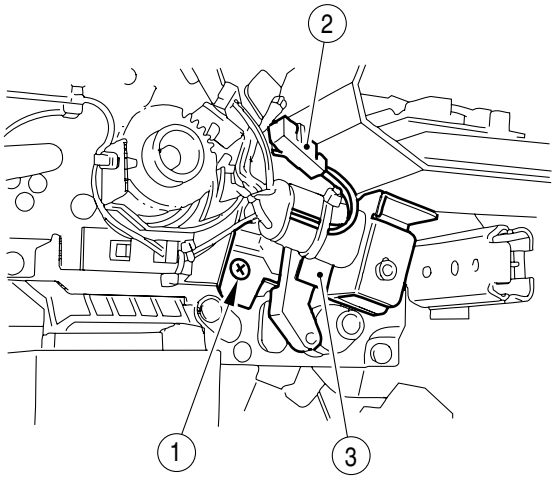

Figure 4-519

E. Transfer/Separation Charging Assembly

1. Removing the Transfer/Separation Charging Assembly

1) Open the front door.
2) Slide out the duplexing unit, and remove the process cover; then, set the duplexing unit to the copier once again.
3) Insert a long screwdriver into the hole in the stay at the front of the feeding assembly; then, slide out the duplexing unit while lifting the feeding assembly.
4) Remove the two mounting screws ①, and remove the charging assembly stopper plate ②; then, pull out the transfer/separation charging assembly.

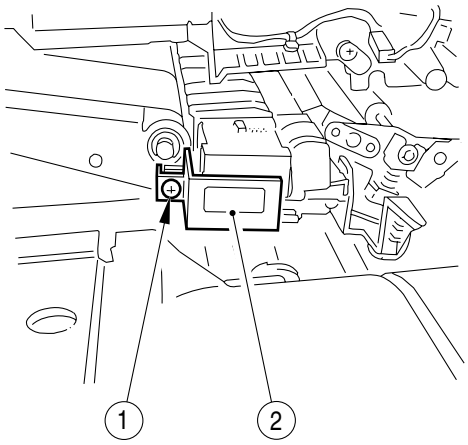

Figure 4-520

2. Installing the Transfer/Separation Charging Assembly

Install the charging assembly while the cleaner drive block mounted to the charging assembly rail of the feeding assembly is at the front.

If the cleaning drive block is not at the front, while keeping the charging assembly outside, select 'adjust/clean', 'wire cleaning', and then 'start' to execute wire cleaning; when the wire has been cleaned, install the charging assembly.

Caution:

In case of installing the charging assembly, be sure the charging assembly is set completely then, install the stopper plate.

F. Charging Wire

1. Outline

As many as three charging assemblies (primary, pre-transfer, transfer/separation) are installed around the photosensitive drum.

Use a charging wire of 0.06 mm in diameter for these charging assemblies.

As a grid wire, use a 0.1mm-dia. stainless wire.

2. Removing the Wire Cleaner of the Primary Charging Wire

1) While holding the wire cleaner with fingers, disengage it with a flat-blade screwdriver.

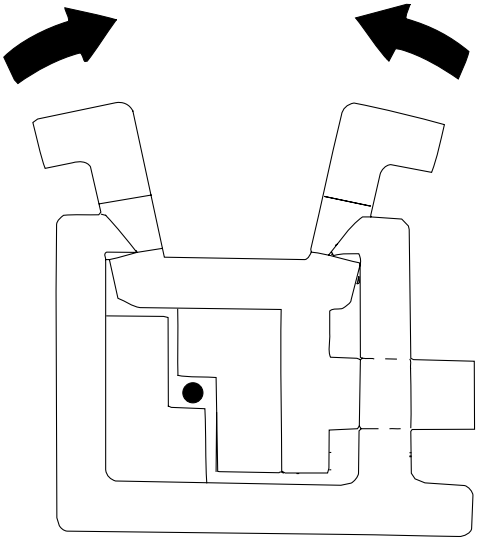

Figure 4-521

3. Routing the Charging Wire

You can route the charging wire (not the grid wire) of all charging assemblies in the same way; the following uses the primary charging wire:

1) Remove the shielding plate (right, left) of the charging assembly. To prevent deformation (slack) of the primary charging assembly, remove the left and the right shielding plates independently.
   (Do not loosen the screws ① on the left and the right shielding plates at the same time.)

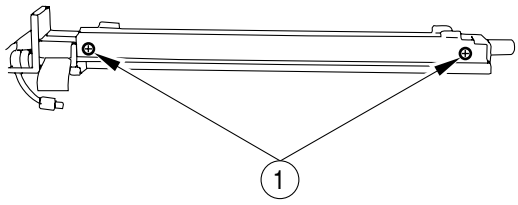

Figure 4-522

2) Remove the wire cleaner.

Caution:
Remove the lids (2 pcs.) for other charging assemblies.

3) Free a length of about 5 cm charging wire from the reel, and form a loop with a diameter of about 2 mm.

Reference:
To form a loop, wind the charging wire once around a hex key; then, turn the hex key three to four times, and twist the charging wire.

4) Cut the excess end of the twisted charging wire by a nipper.
5) Hook the loop on the stud.

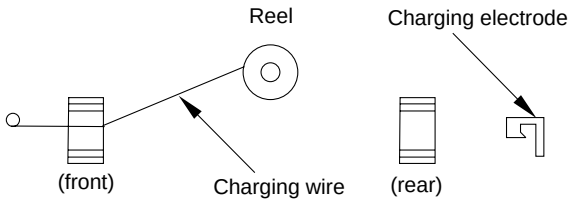

Figure 4-523

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6) Hook the charging wire on the charging wire positioner at the rear; then, hook the charging wire tension spring on the charging wire as shown, and twist it.

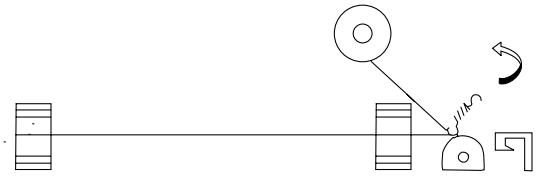

Figure 4-524

7) Cut the excess end of the charging wire with a nipper.
8) Pick the end of the charging wire tension spring with tweezers, and hook it on the charging electrode.
   In the case of the pre-transfer charging assembly, hook the loop of the charging wire on the charging electrode, and hook the spring on the pin at the front.

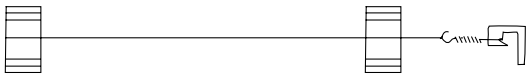

Figure 4-525

Caution:
Check to make sure of the following:
- The charging wire is free of bends or twists and its gold plating has not peeled.
- The charging wire is in the V-shaped charging wire positioning groove.

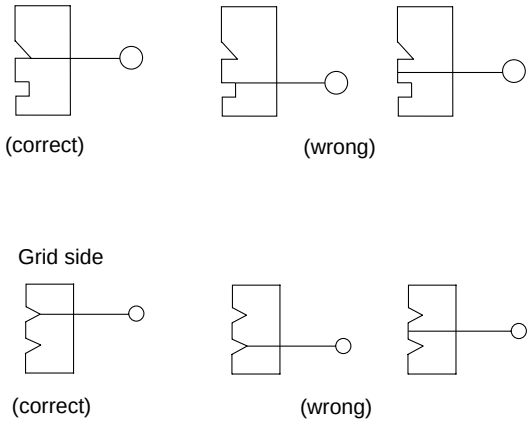

Figure 4-526 Primary Charging Wire

9) Install the cushion to the front of the charging assembly. (This does not apply to the primary charging assembly.)
10) Install the shielding plate (left, right).

Caution:
For other charging assemblies, install the lids (2 pcs.).

11) Install the wire cleaner. (At this time, make sure that the orientation of the wire cleaner is correct.)
12) Wipe the charging wire with lint-free paper moistened with alcohol.

Caution:
- Do not clean the wires with a cloth coated with metal powder.
- Do not clean the wires with a moist cloth. Dry wipe the wires with lint-free paper; then, use alcohol. Check to make sure that the part is completely dry before installing it to the copier.

4. Routing the Grid Wire of the Primary Charging Assembly

1) Loosen the two screws at the front used to keep the left and the right shielding plates in place.
2) Loosen the four screws used to keep the motor unit in place at the front.

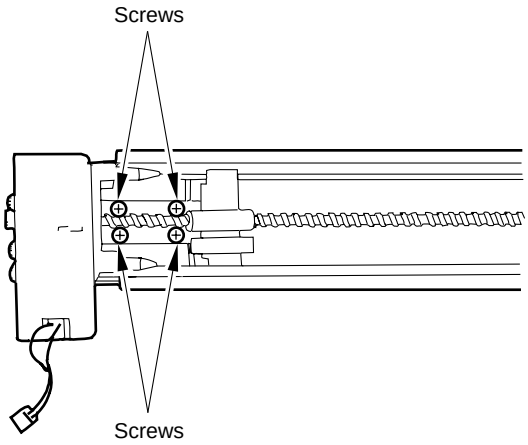

Figure 4-527

3) Loosen the screw, and move it in the direction of the arrow; then, tighten it temporarily.

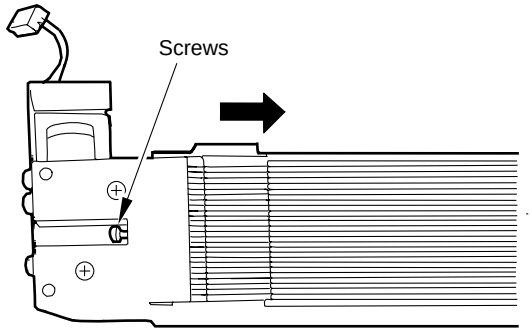

Figure 4-528

4) Free a length of about 5 cm from the charging wire reel (0.1mm-dia.), and form a loop at its end with a diameter of about 2 mm.

Reference:

To form a loop, wind the charging wire around a hex key once; then, turn the hex key three to four times, and twist the charging wire.

5) Cut the excess end of the twisted charging wire with a nipper.
6) Hook the loop on the stud A.
7) After routing it for 41 runs, wind it around the stud B once. Then, put its end between the washer and the monitor unit, wind it around the stop screw (clockwise), and fix it in place with a screw.

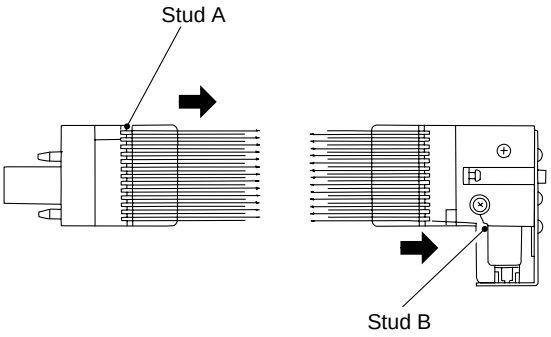

Figure 4-529

8) Cut the excess charging wire with a nipper.
9) Tighten the screw loosened in step 3).
   Keep tightening the screw until the tension of the grid wire is even.
   Make sure that the charging assembly is free of deformation (slack). (Try to tighten the screw at the front of the left/right shielding plate as early as possible.)
10) Tighten the screw loosened in step 2).
11) Wipe the grid wire with lint-free paper moistened with alcohol.

Caution:

- Do not clean the wire with a cloth coated with metal powder.
- Do not use a moist cloth. Dry wipe it with lint-free paper, and use alcohol. (Check to make sure that the part is completely dry before installing it to the copier.)
- Check to make sure that the grid wire is free of bends and twists.
- Check to make sure that the runs are at even intervals (i.e., it is in the groove of the block).

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5. Adjusting the Height of the Charging Wire

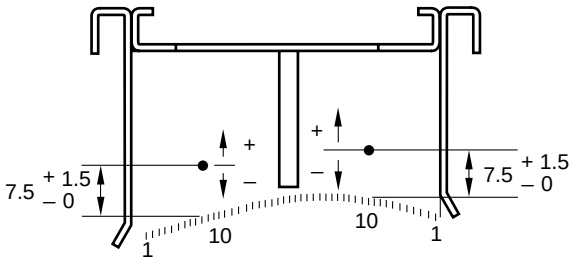
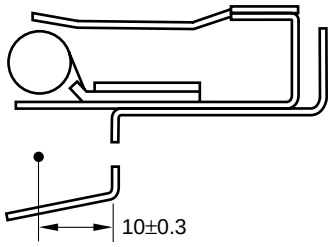
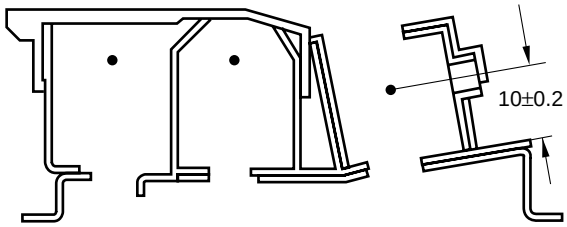
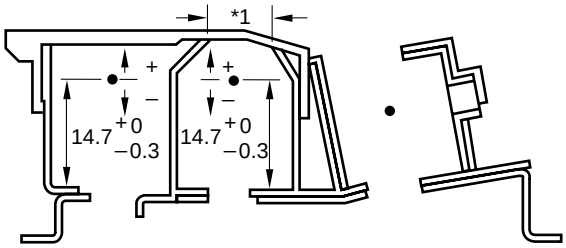
Charging wire	Height of the charging wire (mm)	Range
Primary		± 1 mm
Pre-transfer		No adjusting mechanism
Transfer		± 2 mm
Separation		No adjusting mechanism

Figure 4-530

Reference:

The height (position) of the primary and the transfer charging assembly may be adjusted by turning the screw found behind the charging assembly. A full turn of the screw changes the position of the charging wire by about 0.7 mm.

*1: The opening of the separation charging assembly is assembled with high precision. Take care not to bend the shielding plate so that the opening width will not increase or decrease.

VI. DEVELOPING ASSEMBLY

A. Developing Assembly

Caution:

The NP6085's developing assembly is not equipped with a developing cylinder protection cover. Take extra care whenever you have removed the developing assembly so as not to damage the developing cylinder.

1. Removing the Developing Assembly from the Copier

1) Open the front doors, slide out the duplexing unit, and release the releasing lever; then, remove the process cover.
2) Disconnect the connector ① of the developing assembly toner level sensor, and remove the developing bias cable from its wire saddle ②; then, remove the developing bias connector ④ of the pole positioning plate ③.

Caution:

Be sure to hold the pole positioning plate when removing the developing bias connector ④. (Otherwise, the pole positioning plate may come off the developing cylinder shaft.)

3) Remove the screw ⑤ (w/ washer) used to keep the grounding wire in place; then, remove the developing assembly stopper ⑥.
4) Turn the developing assembly releasing lever ⑦ counterclockwise; then, remove the developing assembly from the photosensitive drum slowly.

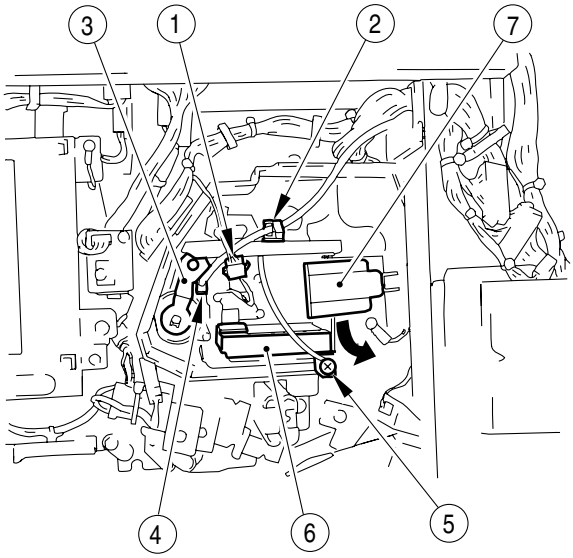


Figure 4-601

5) Slide the dust-proofing shutter ⑧ used to keep foreign matter out of the developing assembly in the direction of the arrow to close the toner supply mouth ⑨.

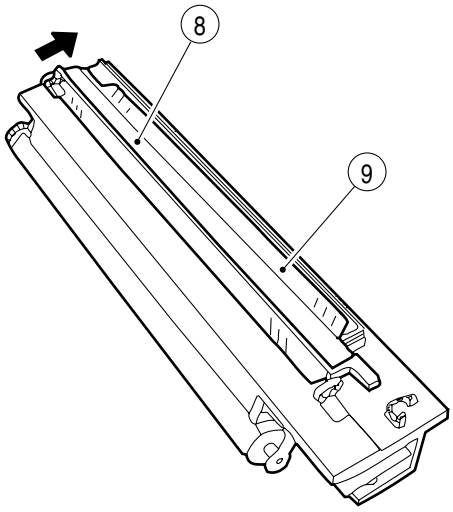


Figure 4-602

2. Installing the Developing Assembly to the Copier

Install the developing assembly to the copier by reversing the steps used to remove it with the following in mind:

① Clean the developing assembly rail before inserting the developing assembly into the copier.

② When inserting the developing assembly into the copier, be sure that the dust-proofing shutter is opened in the direction of the arrow (Figure 4-603).

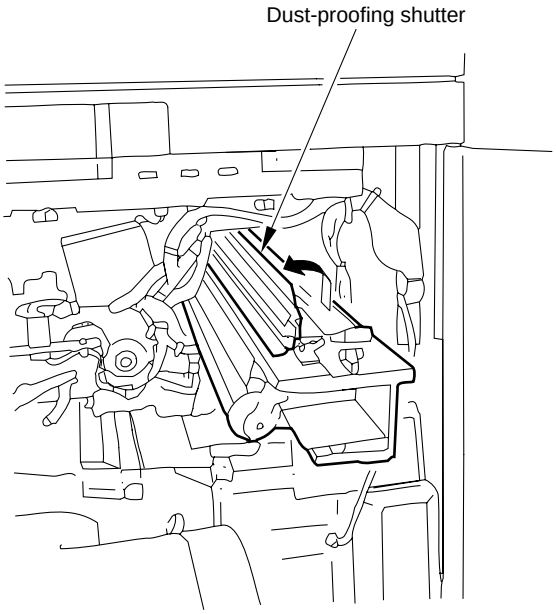


Figure 4-603

③ When installing the developing assembly, take care so that it will not hit any other parts.

3. Removing the Blade/Developing Cylinder

1) Remove the developing assembly from the copier. (p. 4-76)
2) Open the dust-proofing shutter, and remove the two mounting screws ①; then, remove the upper cover.

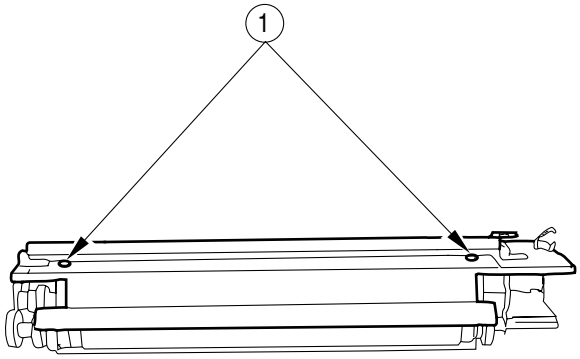


Figure 4-604

3) Place a newspaper or the like on the floor, and empty the developing assembly of toner.
4) Remove the mounting screw ② (w/ toothed washer) from the front of the developing assembly, and remove the pole positioning plate ③.

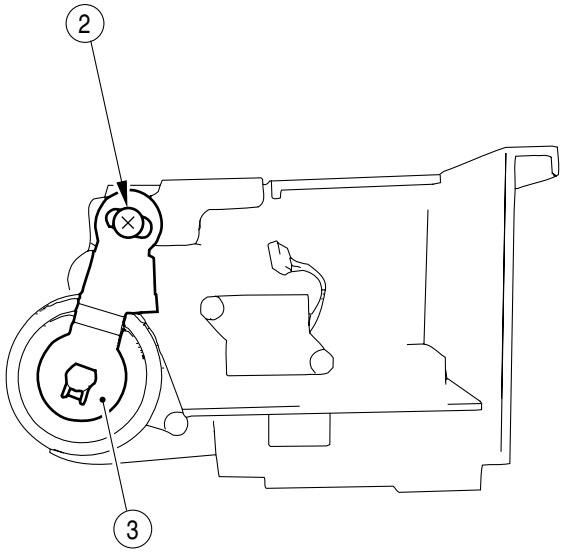


Figure 4-605

5) Put a sheet of copy paper between the blade and the developing cylinder.
6) Remove the four mounting screws ④, and remove the blade mount together with the blade.
   At this time, take care so that the blade will not hit the developing cylinder.

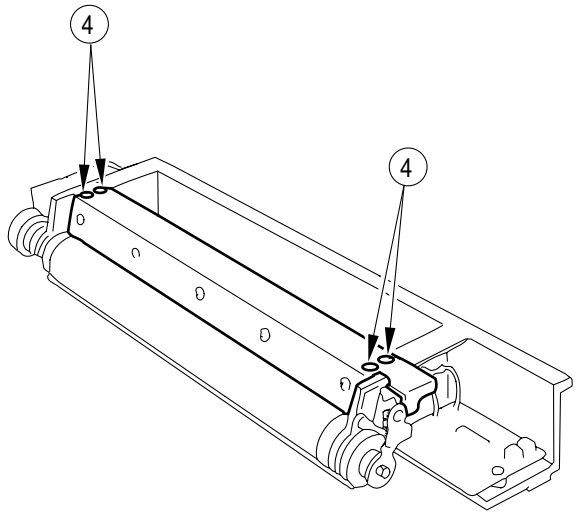


Figure 4-606

Caution:
- Do not detach the blade from the blade mount.
- The left rear side screw is long. Make sure if it is assembled.

7) Remove the grip ring ⑤, plastic film ⑥, spacer ⑦, roll ⑧, and C-ring ⑨ in the order shown in Figure 4-607 from the cylinder shaft at the front of the developing assembly.

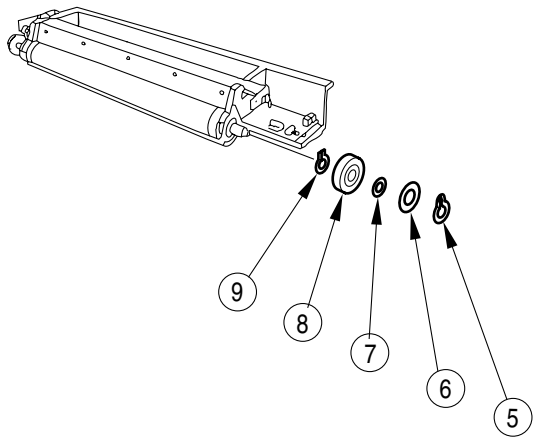


Figure 4-607

8) Remove the two mounting screws ⑩ from the rear of the developing assembly, and remove the gear support plate ⑪.

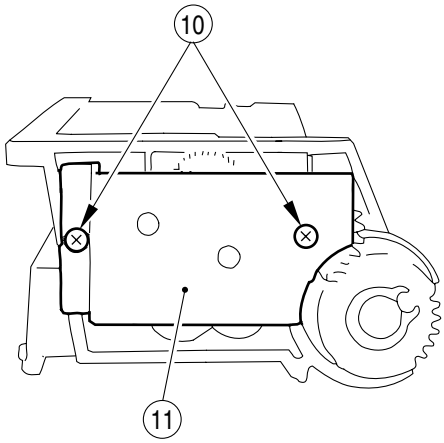


Figure 4-608

9) Remove the gear ⑫, and remove the gear ⑬; then, remove the bearing from the gear ⑬.

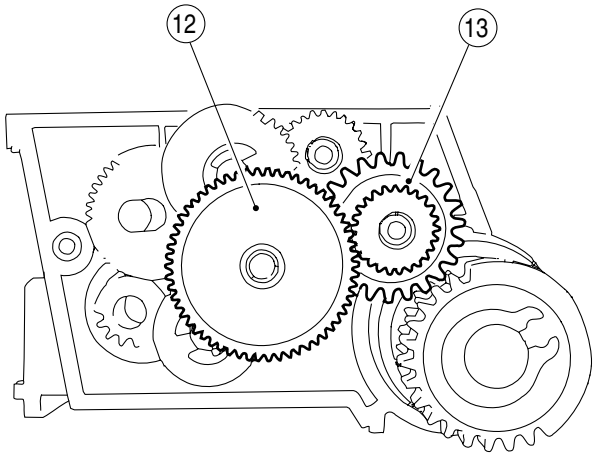


Figure 4-609

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10) Remove the grip ring ⑭, gear ⑮, E-ring ⑰, gear ⑱, grip ring ⑳, plastic film ㉑, roll ㉒, and spacer ㉓ in the order indicated in Figure 4-610 from the cylinder shaft at the rear.

Caution:

Take care not to drop the parallel pins ⑯/ ⑲ from the gear ⑮/ ⑱.

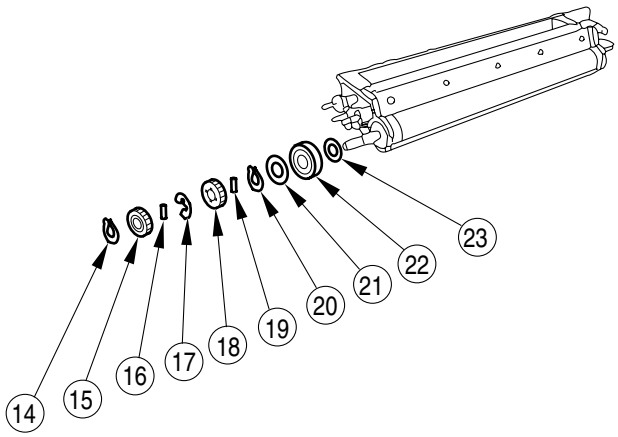

Figure 4-610

11) Remove the bearing from the front and the rear; then, remove the developing cylinder.

Caution:

Do not leave fingerprints or oils on the surface of the developing cylinder.
If necessary, dry wipe it with lint-free paper.
If the image corresponding to the dry wiped area becomes too light, wipe the area on the cylinder with lint-free paper moistened with water.
Do not use solvent.

B. Hopper Assembly

1. Removing the Hopper Assembly from the Copier

1) Remove the developing assembly from the copier. (p. 4-76)
2) Open the RDF, and shift it upright. Remove the two screws, and remove the copyboard glass trainer.
3) Open the hopper upper cover.
4) Remove the four mounting screws, and remove the hopper supply mouth cover.
5) Disconnect the connector, and lift the hopper to remove.

Caution:

Be sure to clean the developing assembly rail of toner in advance of inserting the developing assembly.

Caution:

When cleaning the hopper assembly, perform the following with a moist cloth while taking care not to leave any droplet of water:

1) Open the hopper cover, and clean its face and back.
2) Clean the hopper inside cover, hopper supply mouth cover, slide lid, and the area around them.
3) Insert a ruler from the rear of the slide lid, and move it up and down several times so that the residual toner will fall into the hopper.

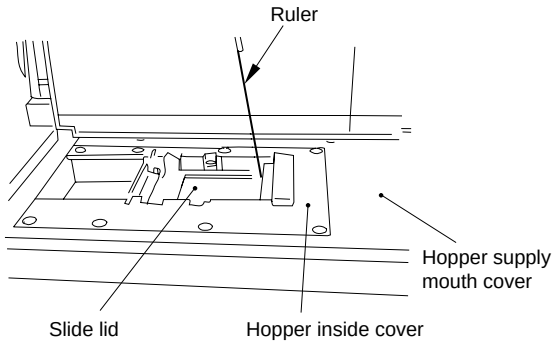

Figure 4-611

VII. DRUM CLEANING ASSEMBLY

A. Drum Cleaner

1. Construction

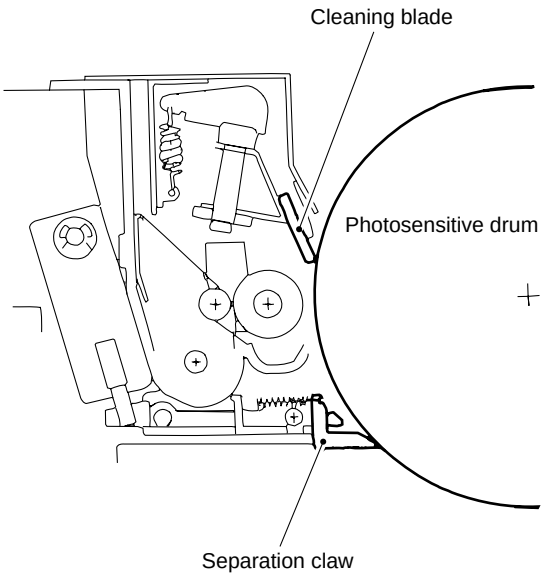

Figure 4-701

2. Removing the Cleaner Blade

1) Slide out the drum unit from the copier. (p. 4-64)
2) Remove the pre-exposure lamp assembly from the drum unit. (p.4-63)
3) Remove the five mounting screws ①, and remove the cleaning blade assembly ②.

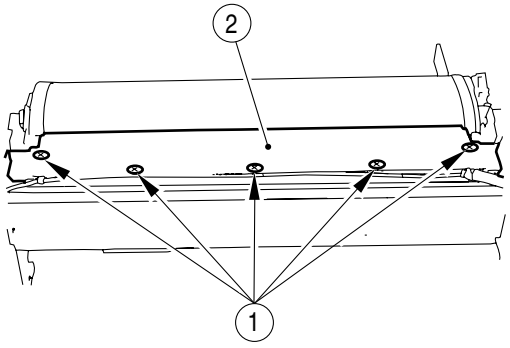

Figure 4-702

4) Remove the mounting screw ③, and remove the roller ④; then, remove the leaf spring ⑤.

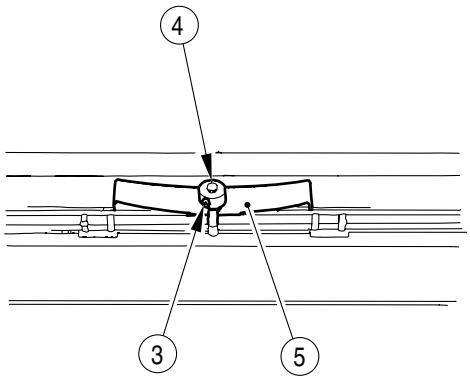

Figure 4-703

5) Remove the cleaning bladesupport plate ⑥ from the cleaning blade assembly.

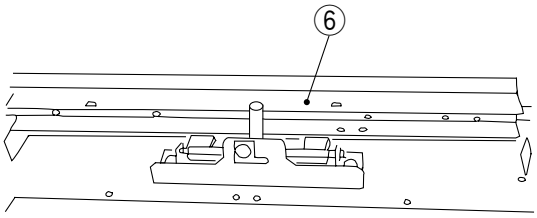

Figure 4-704

6) Loosen the five mounting screws ⑦, and detach the cleaning blade from the blade support plate.

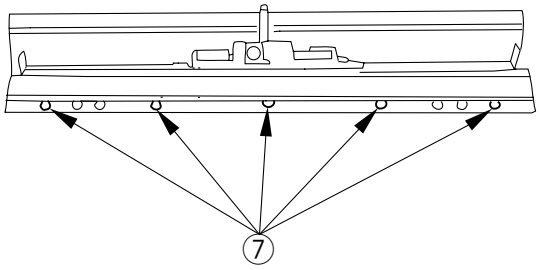

Figure 4-705

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3. Installing the Cleaning Blade

Install the cleaning blade by reversing the steps used to remove it with the following in mind. (Be sure to fix the cleaning blade in place while butting it against the rear.)

1) Check to make sure that there is no gap on both ends of the cleaning blade, and push the center of the blade with a finger.

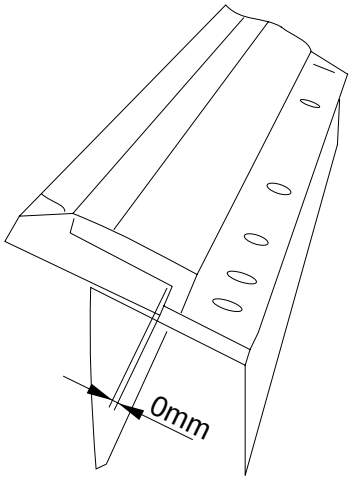

Figure 4-706

2) Check to make sure that numbers are in view at the end of the blade, and tighten the screws in the order indicated.

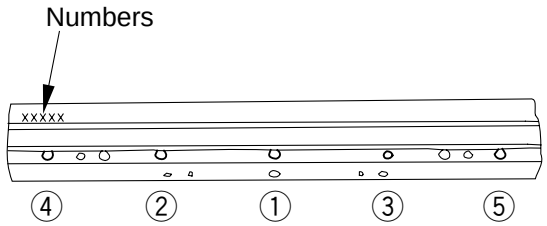

Figure 4-707

3) After installing the cleaning blade, check to make sure that its edge is not conspicuously wavy. (Such will occur if toner or foreign matter exists in the groove of the blade support plate; clean the groove in advance of installing the blade.)

4. Installing the Side Seal

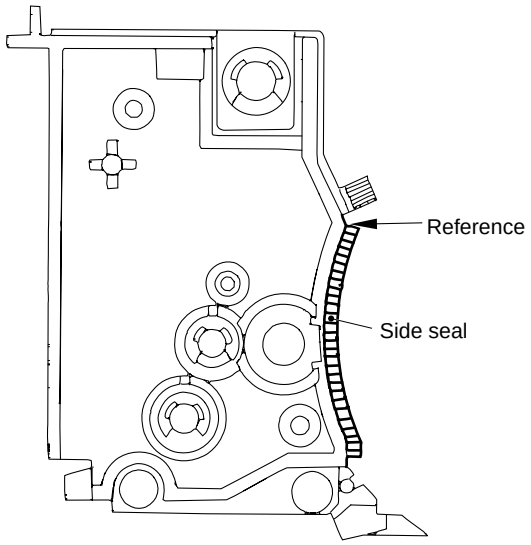

Figure 4-708

Be sure that the side seal does not extend into the inside of the cleaner housing.

B. Separation Claw Drive Assembly

1. Removing the Separation Claw Drive Assembly from the Drum Unit

1) Remove the drum unit from the copier. (p. 4-64)
2) Remove the two mounting screws ①, and remove the separation claw drive assembly.

Caution:
1. Take care not to break the separation claw.
2. Take care not to damage the photosensitive drum.

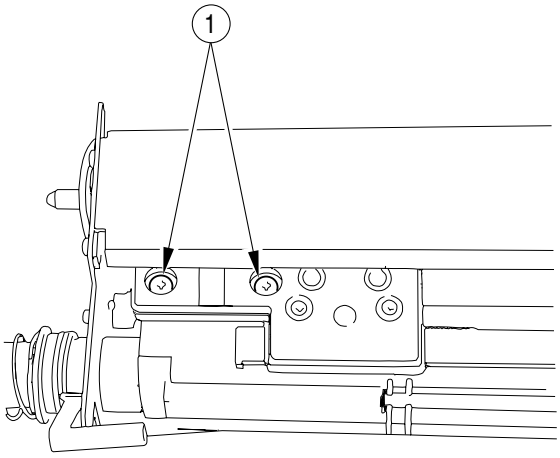

Figure 4-709

C. Waste Toner Feeding Assembly

1) Slide out the drum unit from the copier. (p. 4-64)
2) Remove the two mounting screws ①, and remove the harness guide.
3) Remove the four mounting screws ②, and remove the mounting plate ③.

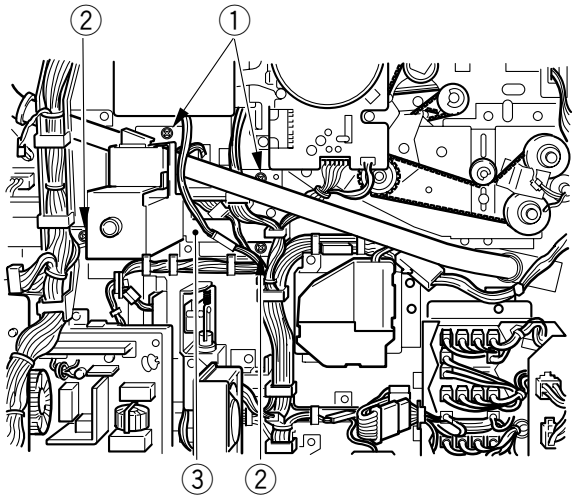

Figure 4-710

4) Remove the mounting screw ④, and remove the waste toner feeding screw lock detecting assembly ⑤.
5) Remove the three mounting screws ⑥, and remove the waste toner feeding assembly from the copier.

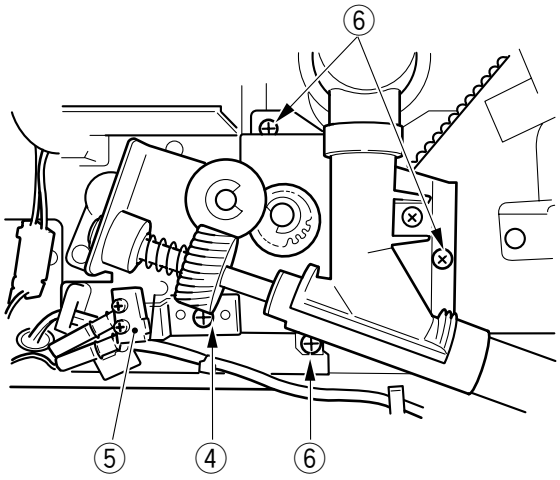

Figure 4-711

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D. Waste Toner Receptacle

1) Slide out the both of front trays.
2) Remove the inside left cover.
3) Pull out the waste toner receptacle from front side.

Caution:

In case of installing, the waste toner receptacle should be pushed up to the end.

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

VIII. FIXING SYSTEM

A. Fixing Assembly

1. Construction

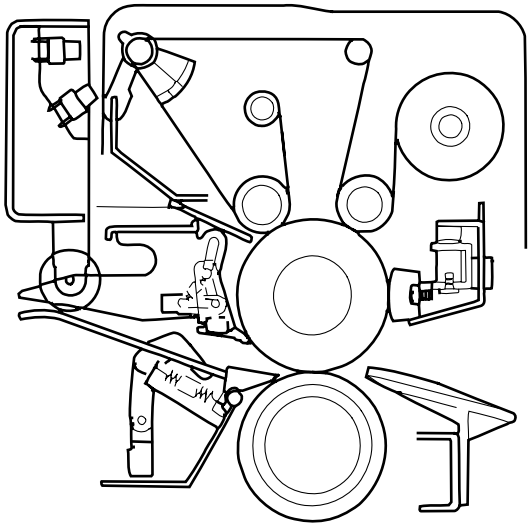


Figure 4-800

2. Locking Mechanism

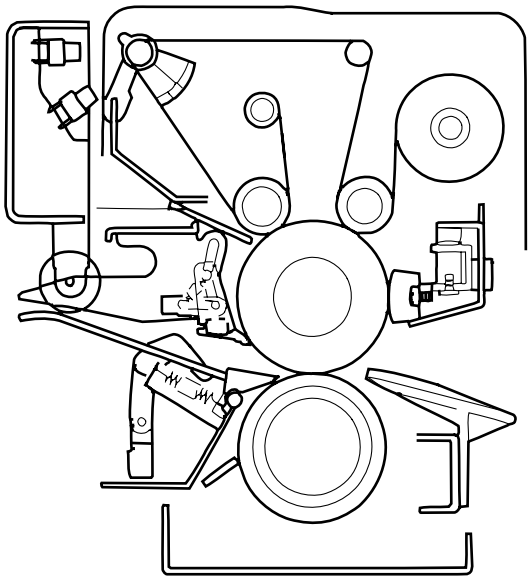


Figure 4-801

3. Removing the Fixing Assembly from the Copier

1) Turn OFF the power switch, and slide out the fixing assembly to the front until it stops; then, remove the fixing assembly cover.
2) Remove the mounting screw and the fixing assembly stopper ①; then, pull the fixing assembly to the front, and lift it to remove.

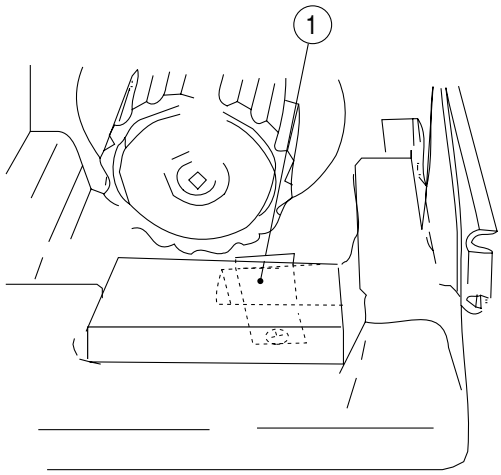


Figure 4-802

Caution:

When lifting the fixing assembly, avoid the connector assembly at the rear.

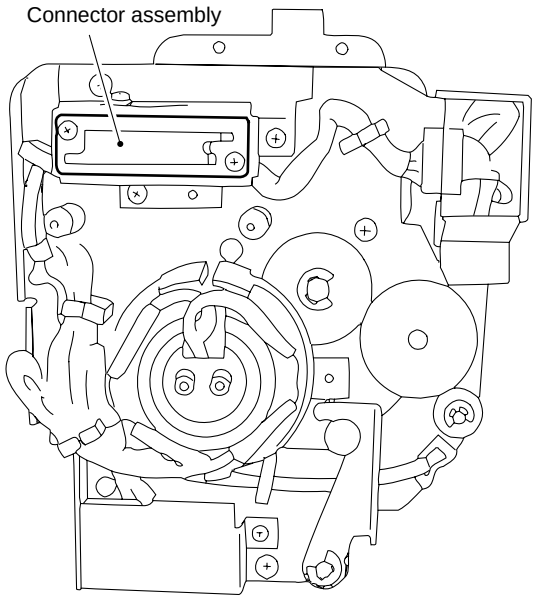


Figure 4-803

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

4. Positioning the Fixing Assembly Locking Solenoid

Slide out the fixing assembly, and remove the process cover to make adjustments.

Adjust so that the dimension b of the solenoid plunger is 6.6 ±0.2 mm when the arm is butted against the stopper shaft (Figure 4-804).

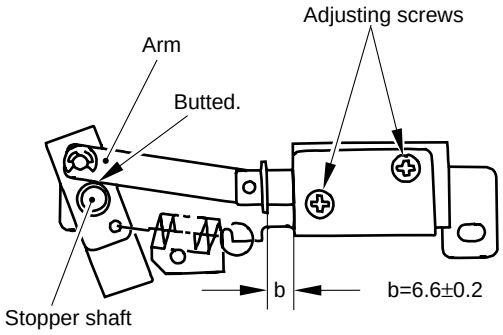


Figure 4-804

5. Removing the Lower Roller

1) Remove the fixing assembly from the copier.
2) Pull the upper roller assembly locking arm (front, rear) to release; then, open the upper roller assembly.
   (Be careful, as opening the upper roller assembly will move the center of gravity to the right.)
3) Remove the mounting screw ①, and slide the paper guide plate ② in the direction of the arrow to remove.

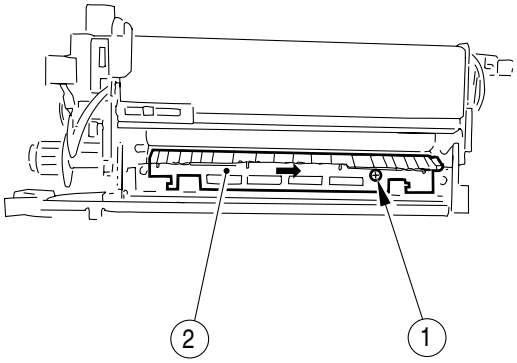
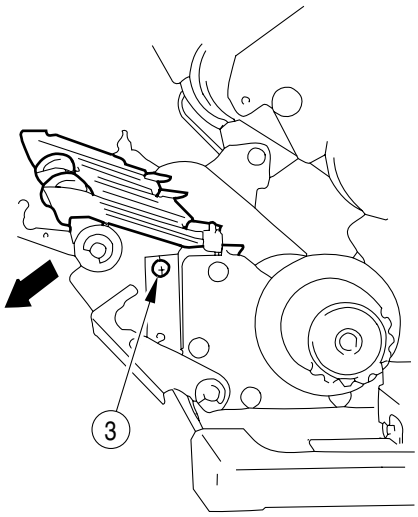


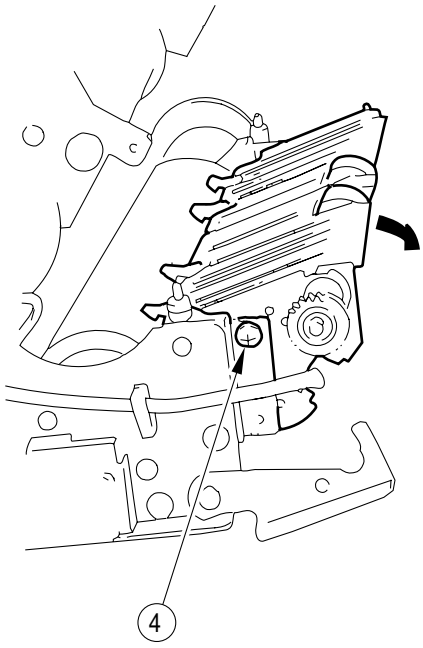
Figure 4-805

4) Remove the screw ③ at the front and the screw ④ at the rear; then, remove the lower separation assembly.



Front

Figure 4-806



Rear

Figure 4-807

5) Remove the lower roller from the fixing assembly, and remove the bearing (front, rear) from the lower roller.

Caution:

Keep the following in mind when closing the upper roller:

1. Close it slowly.
2. Close it while pushing the reciprocating lever at the front of the fixing assembly in the direction of the arrow.

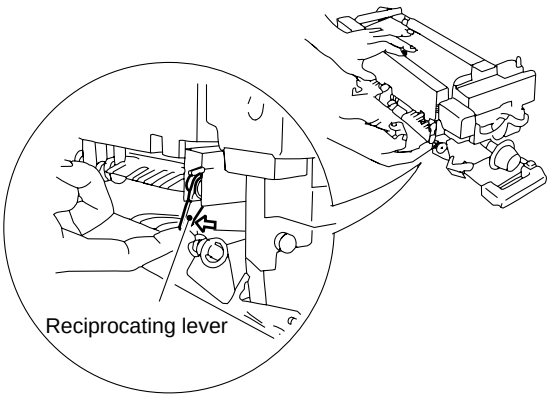
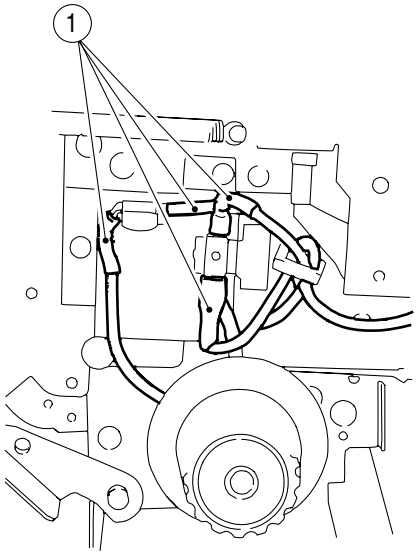


Figure 4-808

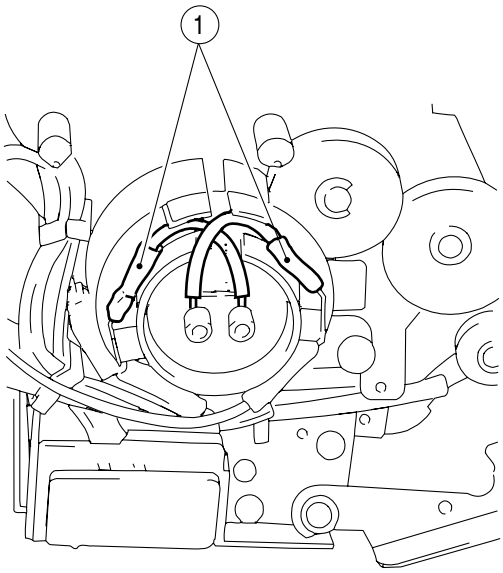
6. Removing the Heater

1) Remove the fixing assembly from the copier.
2) Remove the six fastons ① from the heater at the front and the rear.



Front

Figure 4-809-1



Rear

Figure 4-809-2

3) Remove the two mounting screws, and remove the heater guide at the rear while being careful not to damage the heater.
4) Remove the four mounting screws ②, and remove the two heater support plates ③ from the front.

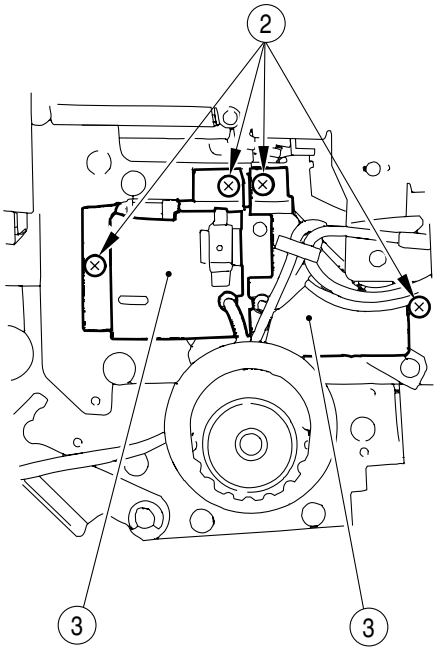


Figure 4-810

5) Pull out the heater slowly toward the rear being careful not to damage it.

7. Installing the Heater

Install the heater by reversing the steps used to remove it with the following in mind:

① Do not touch the surface of the heater.

② For both heaters, install them so that the side with the longer heater harness is toward the front.

③ Install the longer heater to the right and the shorter heater to the left while viewing from the front of the fixing assembly.

8. Removing the Upper Roller

1) Remove the fixing assembly from the copier. (p. 4-84)
2) Remove the mounting screw, and remove the fixing assembly upper cover.
3) Remove the two screws ① used to keep the cleaning belt unit in place to release the cleaning belt.

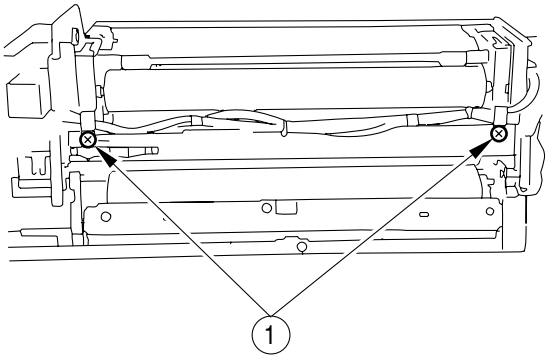


Figure 4-811

4) Remove the grip ring ② at the rear of the upper roller, and remove the gear ③.

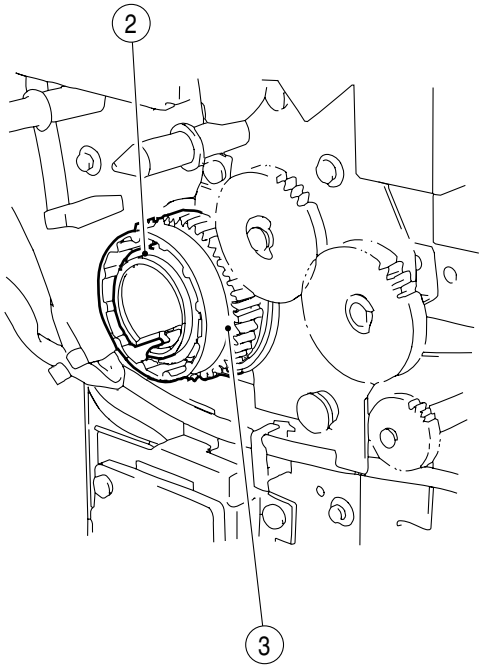


Figure 4-812

5) Remove the four bearing retaining plates ④ (front, rear), and remove the bearing ⑤.

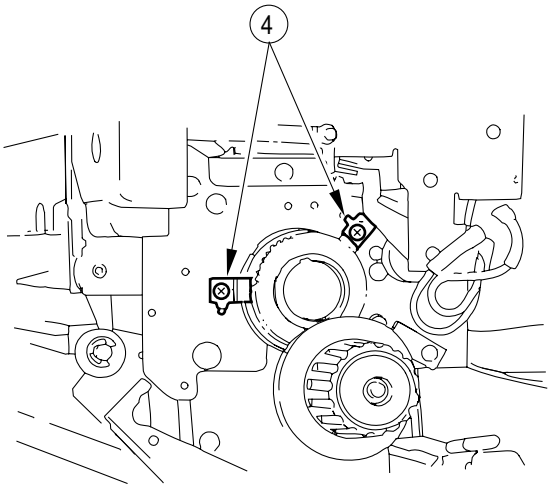


Figure 4-813

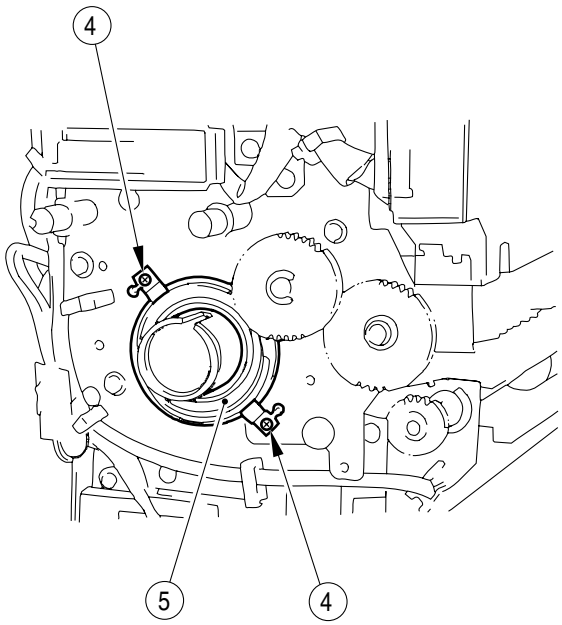


Figure 4-814

6) Release the locking arm, and open the upper roller assembly.
7) Remove the rear bearing of the upper roller from the side plate, and remove the upper roller while paying attention to the thermistor, thermal switch, and upper separation claw.
8) Remove the C-ring, gear, insulating bush, and bearing from the front of the removed roller; then, remove the insulating bush from the rear of the roller.

9. Installing the Upper Roller

Install the upper roller by reversing the steps used to remove it with the following in mind:

① When handling the upper roller, it is best to wrap the roller in copy paper to protect its surface against dirt and scratches.
② Install the upper roller so that the side with the A (stepping shaft) is toward the rear.

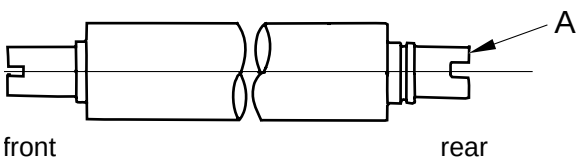


Figure 4-815

10.Removing the Thermistor

1) Remove the fixing assembly from the copier.
2) Remove the mounting screw, and remove the fixing assembly upper cover.
3) Remove the two screws ①, and open the cleaning unit.

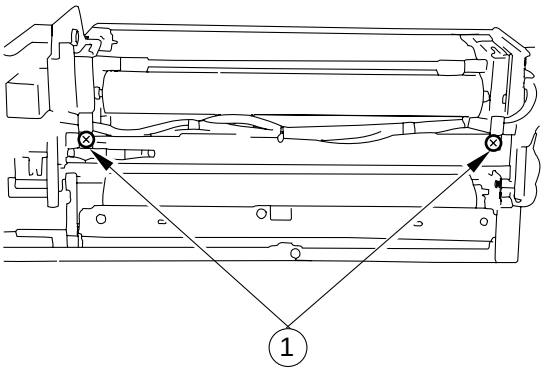


Figure 4-816

4) Remove the mounting screw ②, and remove the thermistor assembly.

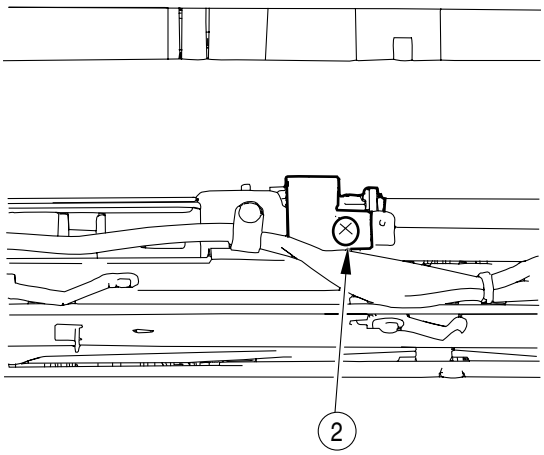


Figure 4-817

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11.Removing the Upper Separation Claw

1) Remove the fixing assembly from the copier.
2) Push the upper separation claw unit release button, and open the upper separation claw unit.
3) Remove the spring ①, and remove the upper separation claw ②.

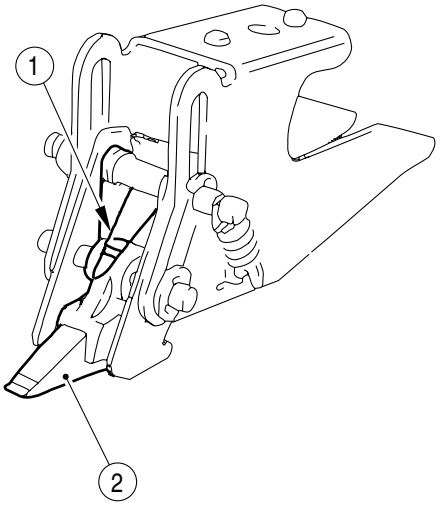

Figure 4-818

Caution:
When closing the upper separation claw unit, close it slowly while pressing the upper separation claw unit release button.

12.Removing the Lower Separation Claw

1) Remove the fixing assembly from the copier.
2) Turn the locking arm to release the roller; then, open the upper roller assembly.
3) Remove the mounting screw ① from the rear and the front of the fixing assembly; then, open the lower separation unit slowly.

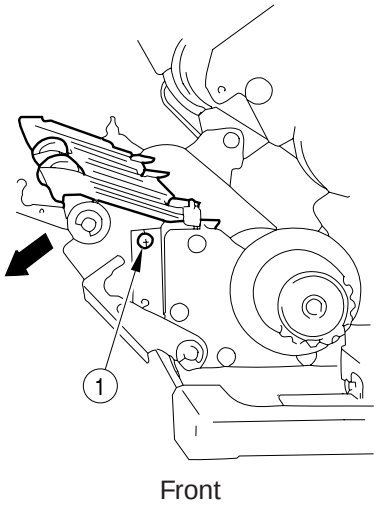

Figure 4-819

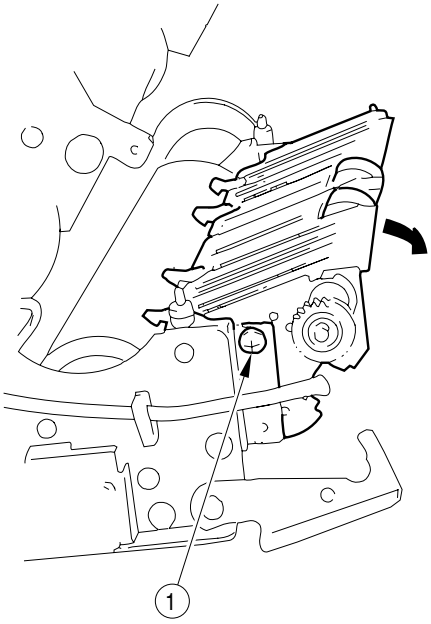

Figure 4-820

4) Remove the mounting screw, and remove the lower separation claw together with the support plate.
5) Remove the tension spring, and remove the lower separation claw.

13.Replacing the Fixing Cleaning Belt

a. Removing the Fixing Cleaning Belt

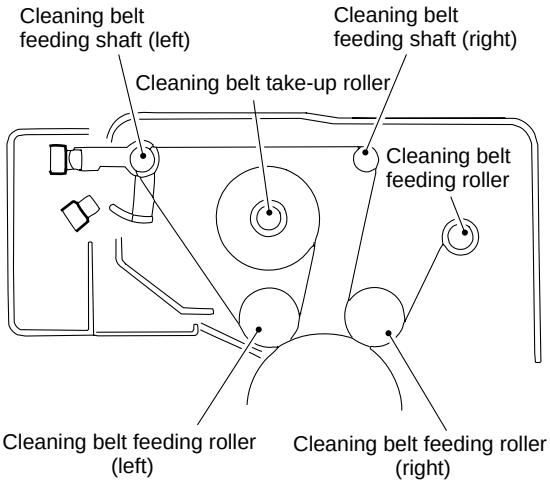

Figure 4-821

1) Open the front door, and slide out the fixing assembly from the copier.
2) Remove the mounting screw, and remove the fixing assembly upper cover.
3) Remove the two mounting screws ①, and open the cleaning belt unit.

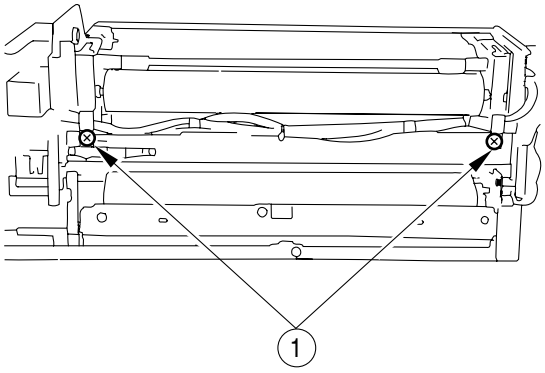

Figure 4-822

4) Remove the two mounting screws ②, and close the cleaning belt unit while keeping the cleaning belt feeding roller (right) ③ opening in the direction of the arrow.

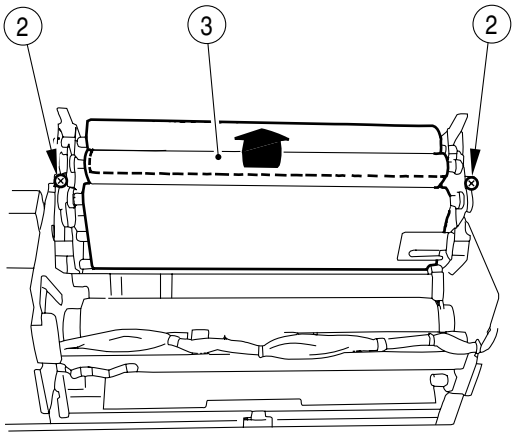

Figure 4-823

5) Slide the cleaning belt roller ④ toward the rear, and remove it from the bushing at the front; then, remove it from the bushing at the rear.

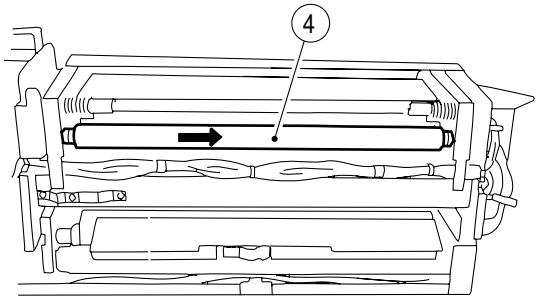

Figure 4-824

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

6) Open the cleaning belt unit once again, and open the cleaning belt feeding roller (right).
7) Lead the cleaning belt feeding roller ⑥ through the two cleaning belt feeding rollers ⑤; then, close the cleaning belt unit after closing the cleaning belt feeding roller (right).

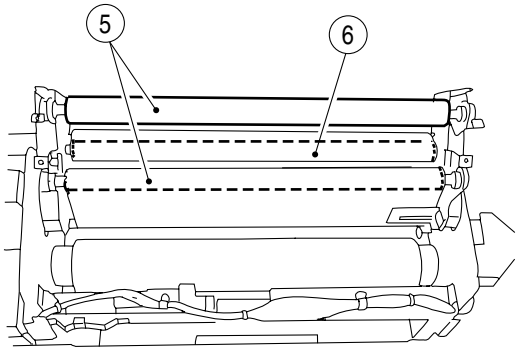

Figure 4-825

8) Remove the cleaning belt feeding roller from the cleaning belt unit.
9) With the upper separation claw unit ⑦ half open, push the cleaning belt feeding roller ⑧ through the gap.

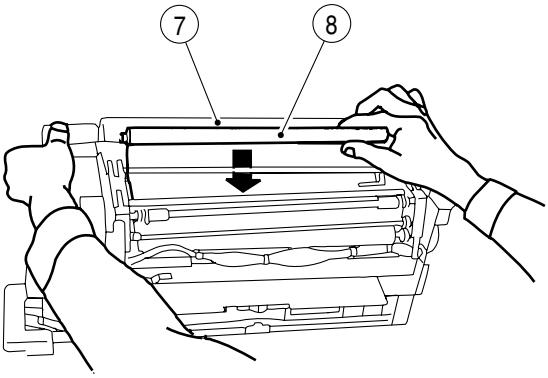

Figure 4-826

10) Open the cleaning belt unit, and open the cleaning belt feeding roller (right).
11) Slide the cleaning belt pick-up roller ⑨ to the rear, and remove it from the bushing at the front; then, remove it from the bushing at the rear.

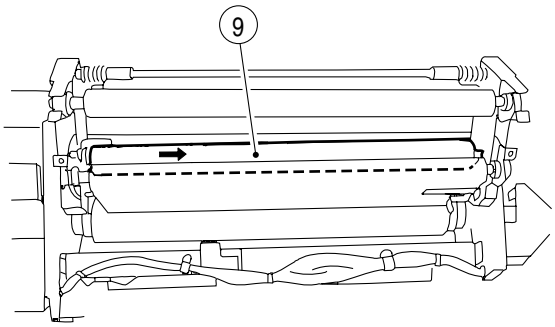

Figure 4-827

12) Remove the cleaning belt from the cleaning belt unit.

b. Installing the Fixing Cleaning Belt

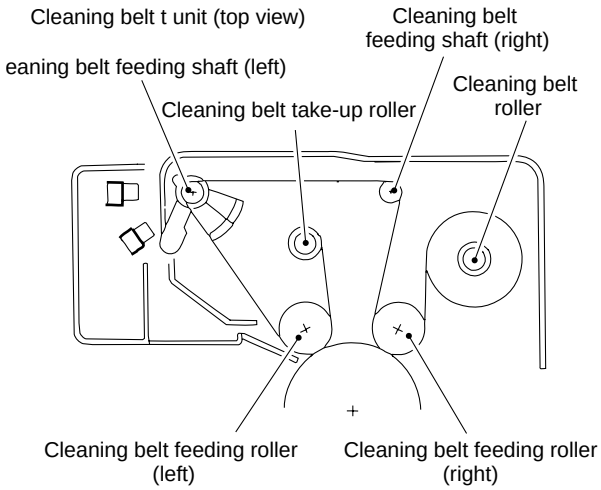

Figure 4-828

1) Open the cleaning belt unit, and open the cleaning belt feeding roller (right) ②.
2) Attach the cleaning belt on the cleaning belt feeding roller (right) ②, and up the cleaning belt take-up roller ③ through the two cleaning belt feeding rollers.

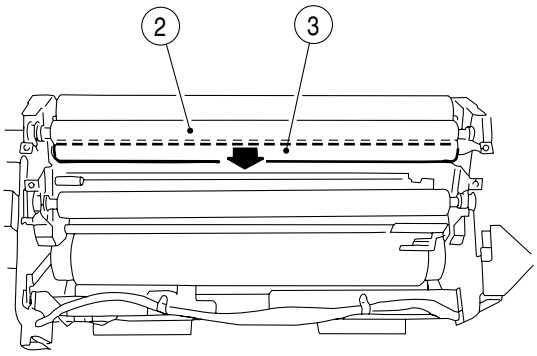

Figure 4-829

3) With the cleaning belt unit closed, install the cleaning belt feeding roller ①.
(To install it, set the feeding shaft to the bushing at the rear, and slide it to the rear; then, set it to the bushing at the front.)

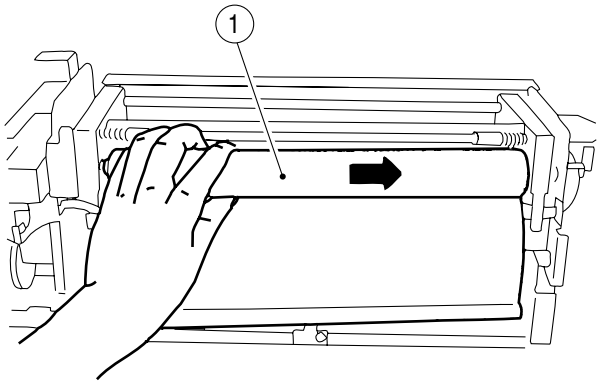

Figure 4-830

4) Close the cleaning belt feeding roller (right) and the cleaning belt unit.
5) Remove the cleaning belt take-up roller ④ from above, and attach the belt to the cleaning belt feeding shaft (right) ⑤ and the cleaning belt feeding shaft (left) ⑥.

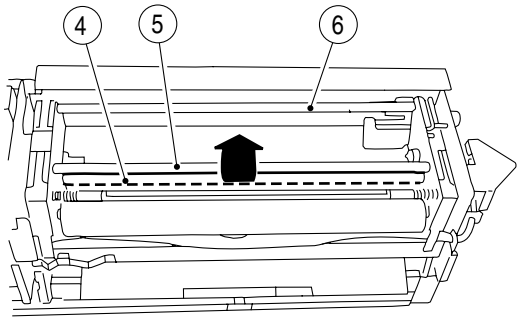

Figure 4-831

6) With the cleaning belt unit half open, lead the cleaning belt take-up roller ⑨ through the gap between the cleaning belt feeding shaft (left) ⑦ and the upper separation claw unit ⑧.

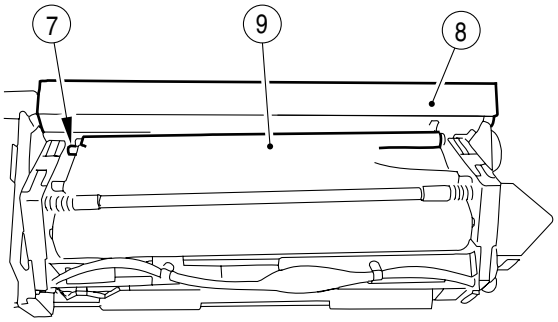

Figure 4-832

7) Open the cleaning belt unit, and open the cleaning belt feeding roller (right).

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8) Attach the cleaning belt to the cleaning belt feeding roller (left), and lead the cleaning belt take-up roller ⑪ through the gap between the two cleaning belt feeding rollers.

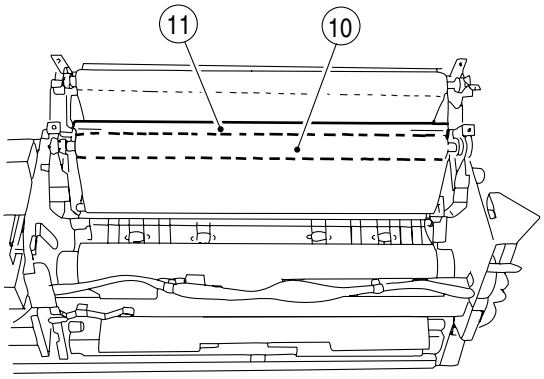


Figure 4-833

9) Set the cleaning belt take-up roller ⑪ to the bushing at the rear; then, slide the shaft to the rear, and set the roller to the bushing at the front.

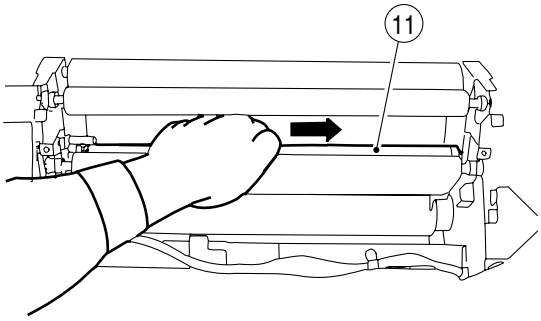


Figure 4-834

10) Close the cleaning belt feeding roller (right), and fix it in place with two mounting screws.
11) Close the cleaning belt unit, and fix it in place with two mounting screws.

12) Lift the cleaning belt drive lever ⑫ several times with fingers to remove the slack. (Check with the naked eye.)

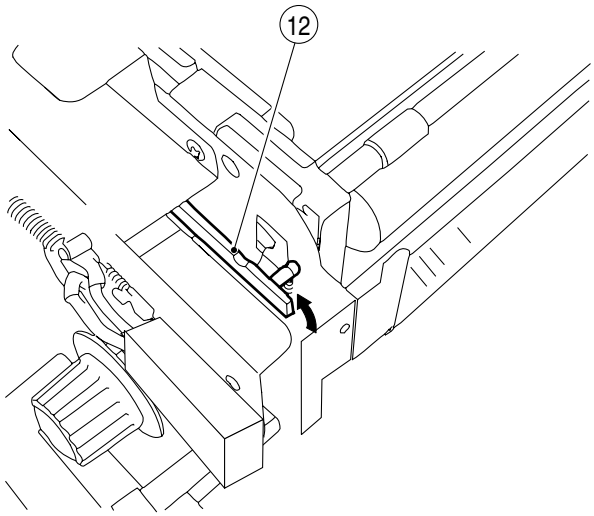


Figure 4-835

13) Install the fixing assembly upper cover, and install the fixing assembly to the copier.

15.Adjusting the Nip (tightening the pressure adjusting hex nut)

Perform the following whenever you have replaced the upper roller or the lower roller or if fixing faults occur.

If the roller is cold, wait 15 min after the end of the wait period and make 20 copies before taking measurements.

1) Open the RDF, and select 'NIP' in service mode (✻3✻).
2) Press the OK key on the LCD control panel screen. (Paper will be discharged automatically.)
3) Measure the width of the area (Figure 4-836; where toner is shiny). (The solid will be In stripes.)
   The measurement paper should be the second drawing paper.

Note:
a and c are pits 10 to 15 mm on both edges of the copy paper.

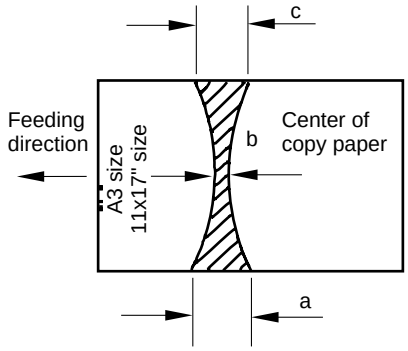


Figure 4-836

Dimension	Measured when both upper and lower rollers are sufficiently heated
b	100V : 9.0 ± 0.5 mm
	208/220/240V : 10.5 ±0.5 mm
| a – c |	0.5 mm or less

Table 4-801

4) If the dimensions are not as indicated, turn the pressure adjusting nut at the rear and the front to adjust.

16.Positioning the Guide Plate

Place the fixing assembly on a level surface, and make adjustments so that the distance from the surface is 52.7 ±0.2 mm as shown.

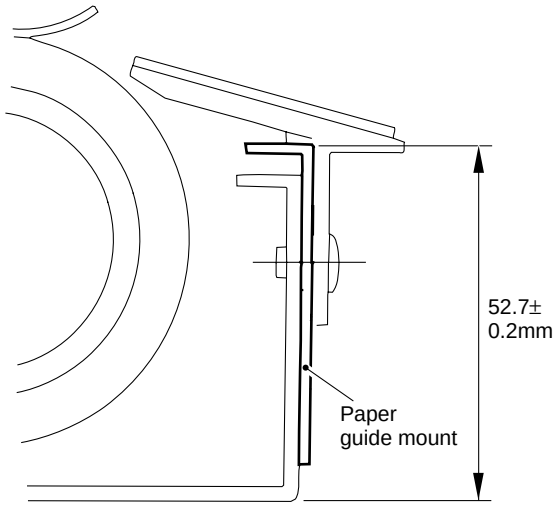


Figure 4-837

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

IX. ELECTRICAL SYSTEM

A. Power Supply Assembly

1. Removing the DC Controller PCB

1) Disconnect the connector of the paper deck.
2) Remove the rear upper right cover and the rear right cover.
3) Disconnect the connectors, and remove the cable from the wire saddle.
4) Remove the three mounting screws ① (silver), and remove the DC controller PCB ② while moving it upward.

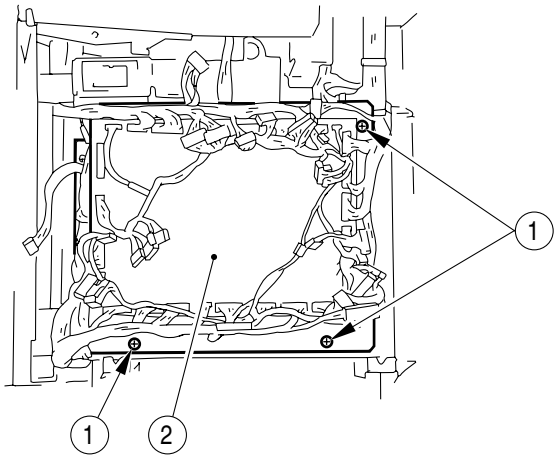


Figure 4-901

2. Removing the Power Supply Assembly

1) Disconnect the connector of the paper deck.
2) Remove the rear upper right cover, rear right cover, and rear lower left cover.
3) Remove the DC controller PCB. (Figure 4-901)
4) Disconnect the connectors, and remove the cable from the wire saddle.
5) Remove the five mounting screws ①, and remove the power supply assembly ②.

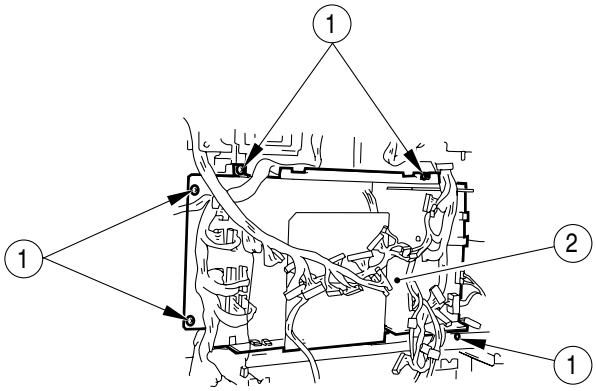


Figure 4-902

3. Removing the High-Voltage Transformer Assembly

1) Disconnect the connector of the paper deck.
2) Remove the rear right cover and the rear upper left cover.
3) Remove the face plate, and remove the rear upper cover 1 and the rear upper cover 2.
4) Remove the three mounting screws ①, and remove the harness from the wire saddle; then, remove the rear cover support plate ②. (Move the harness rail downward.)

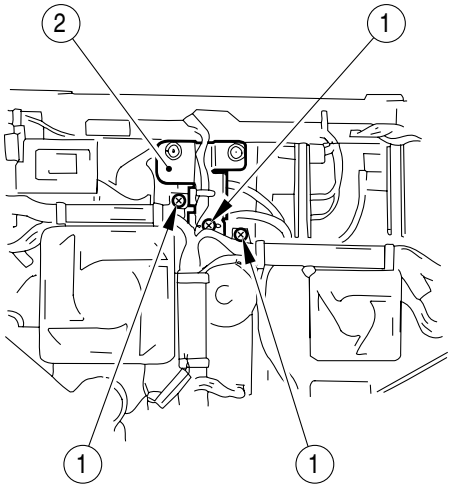


Figure 4-903

5) Remove the three mounting screws ③, and remove the RDF support plate cover ④.

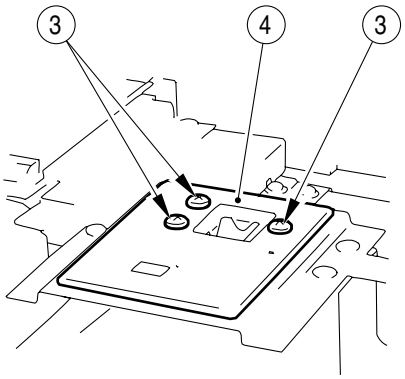


Figure 4-904

6) Remove the exhaust fan.
7) Remove the two screws ⑥, and remove the harness guide plate ⑤.

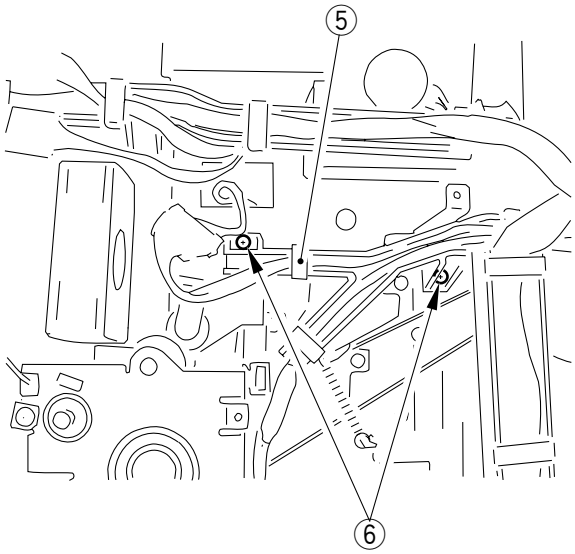


Figure 4-905

8) Remove the two screws ⑧, and remove the high-voltage transformer assembly support plate ⑦.

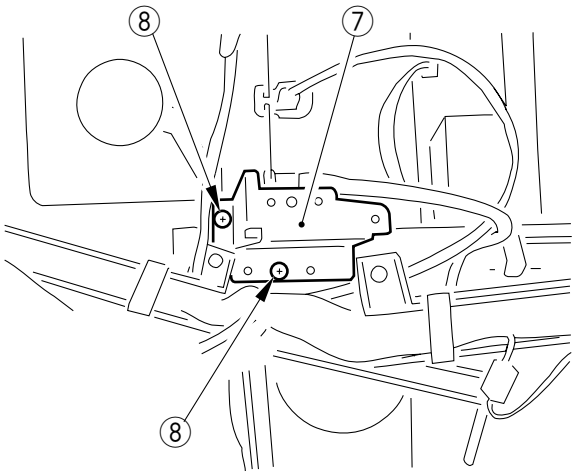


Figure 4-906

9) Remove the six high-voltage cables ⑨, disconnect the three connectors⑩, and remove the three mounting screws ⑪; then, remove the high-voltage transformer assembly ⑫.

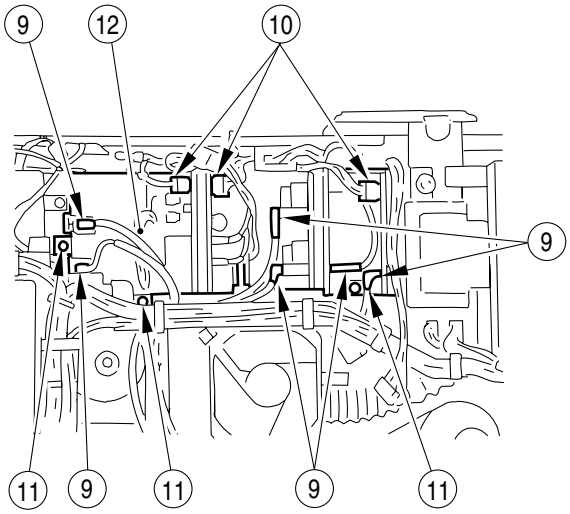
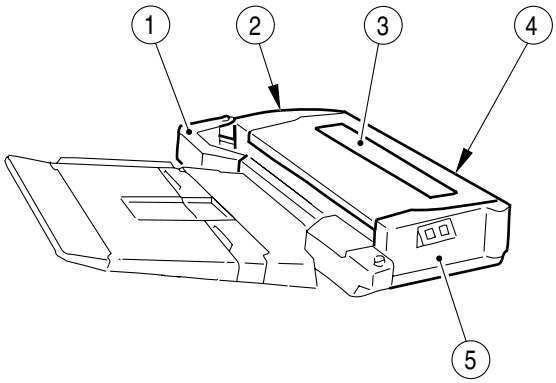


Figure 4-907

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

X. C.F.F. EXTERNALS

A. External Covers



① Arm
② Rear cover
③ Upper cover
④ Right cover
⑤ Front cover

Figure 4-1001

1. Removing the Upper Cover

1) Slide the releasing knob ① in the direction of the arrow (Figure 4-1002), and remove the upper cover ②.

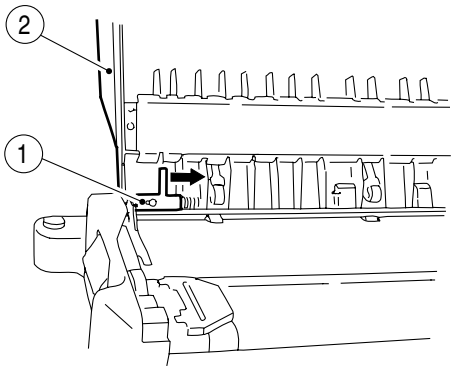


Figure 4-1002

B. Feeding Key

1) Remove the two mounting screws ② of the front cover ①.

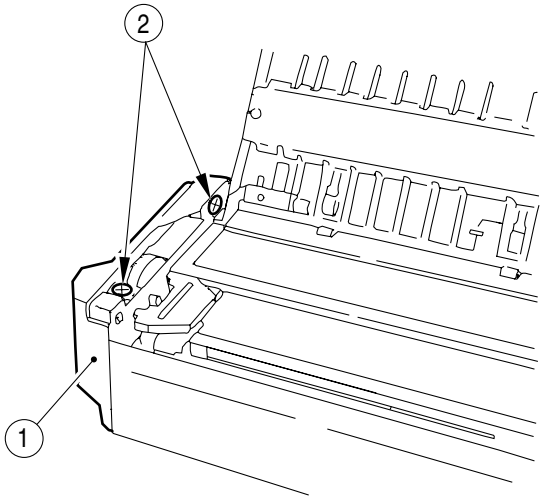


Figure 4-1003

2) Open the front cover ① as shown, and disconnect the connector ③.

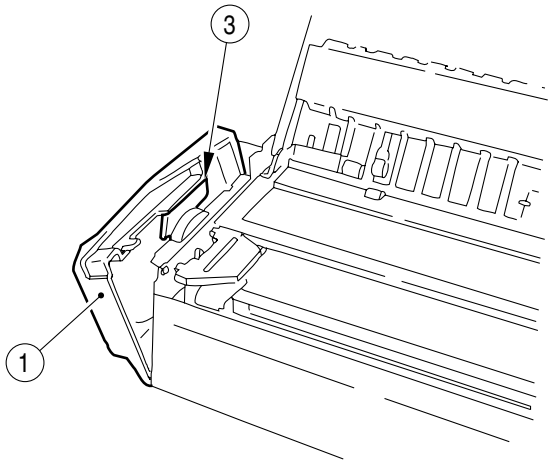


Figure 4-1004

C. Exhaust Fan

1) Remove the three mounting screws ②, and remove the original guide plate ①.

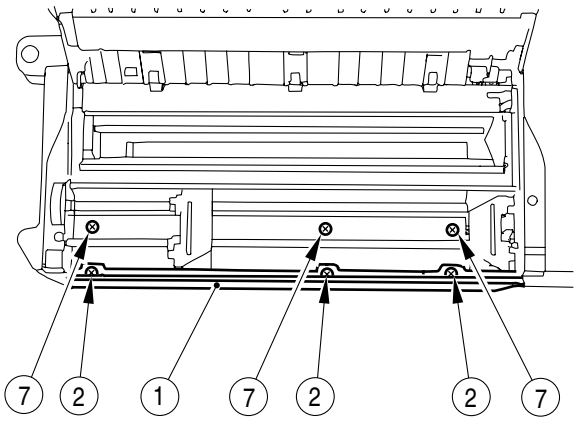


Figure 4-1005

2) Remove the screw ③ of the width detecting VR.

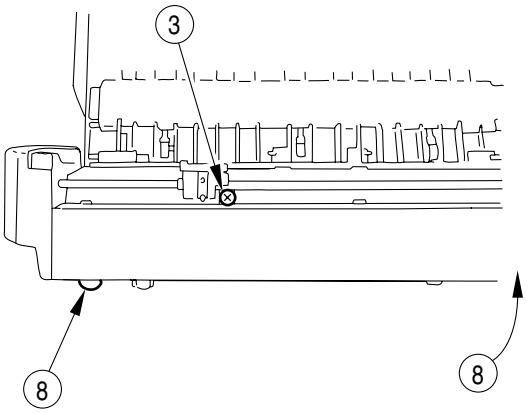


Figure 4-1006

3) Remove the right cover.
(3 mounting screws from face ⑦; 2 mounting screws from back ⑧)

Caution:
- The harness of the VR is attached; take care.
- The screws ⑦ are tightened with the grounding wire; pay attention to avoid turning and warping the grounding plate.

4) As necessary, cut the harness band used to keep the exhaust fan harness together.
5) Remove the mounting screws ④ and disconnect the connectors ⑤ from each fan; then, remove the exhaust fan ⑥.

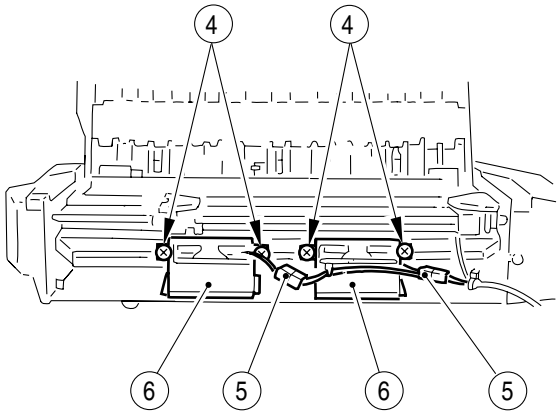


Figure 4-1007

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

XI. C.F.F. ILLUMINATING SYSTEM

A. Illuminating System

1. Removing the C.F.F. Lamp

1) Remove the upper cover.
2) Remove the two mounting screws ①, and open the platen glass mount ②.

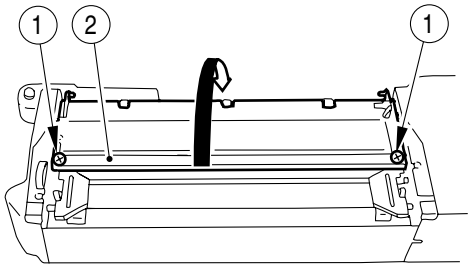


Figure 4-1101

3) Remove the glass support plate ③ and the thermal switch ④.

Caution:
The thermal switch PCB is located under the thermal switch ④; be careful not to drop it or not to leave it out during installation.

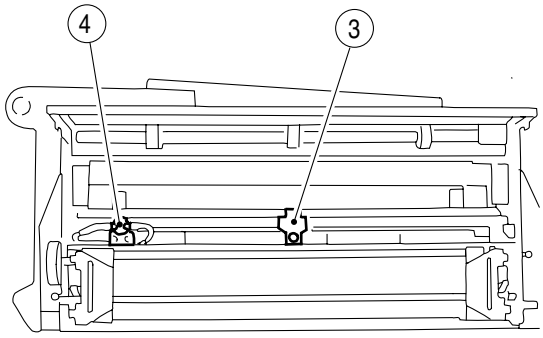


Figure 4-1102

4) Remove the mounting screw ⑤ from the front and the stepped screw ⑥ from the rear; then, remove the reflecting plate ⑦.

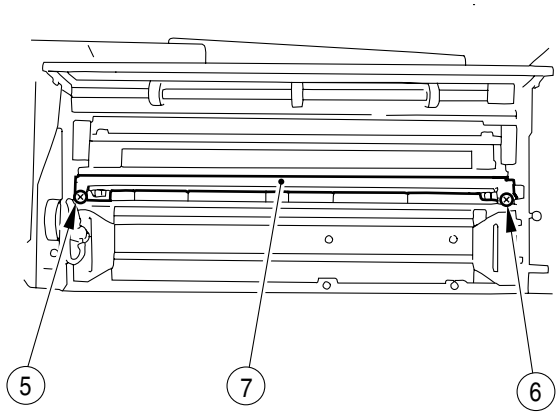


Figure 4-1103

5) Push the lamp electrode rear ⑧ to remove the lamp ⑨.

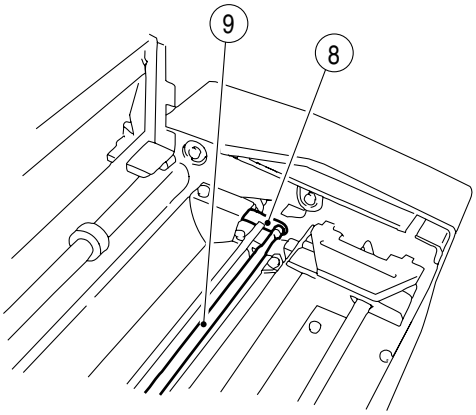


Figure 4-1104

2. Points to Note When Installing the C.F.F. Lamp

① Use a stepped screw for the rear of the reflecting plate.
② Check to make sure that the thermal switch is in contact with the reflecting plate.

XII.C.F.F. DRIVE/ ELECTRICAL SYSTEM

A. C.F.F. Controller PCB

1) Remove the original stacking tray.
2) Remove the three mounting screws ①, ②, and ③; then, remove the grip cover ④.

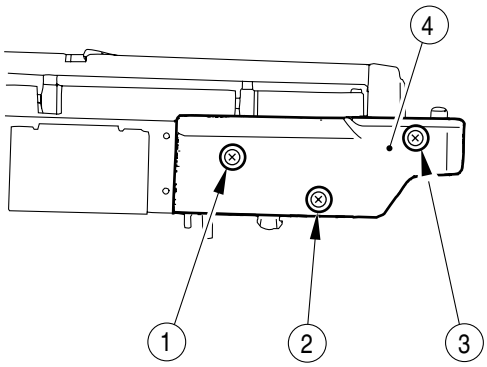


Figure 4-1201

Caution:
The screw ③ is a self-tapping screw; take care not to tighten it excessively.

3) Remove the microswitch actuator ⑤.

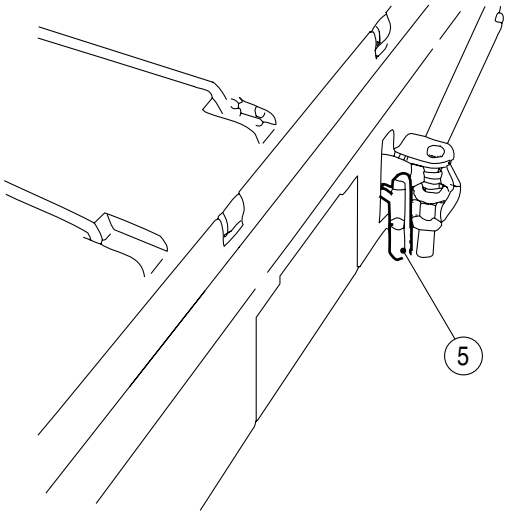


Figure 4-1202

4) Remove the mounting screw ⑥, and remove the arm ⑦.

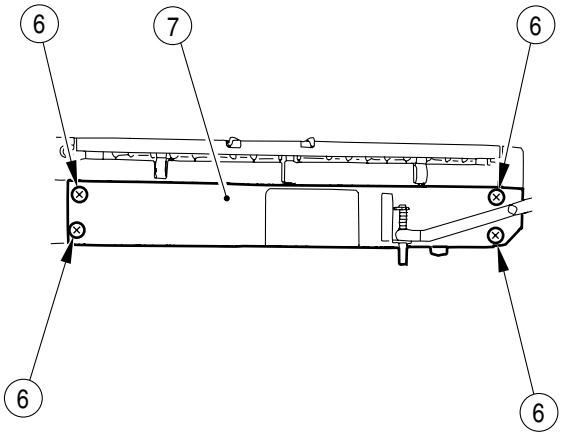


Figure 4-1203

5) Disconnect the connector of the C.F.F. controller PCB ⑧; then, remove the PCB.

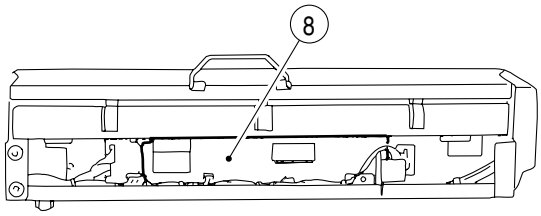


Figure 4-1204

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B. C.F.F. Motor

1) Disconnect the connector of the C.F.F. controller PCB.
2) Remove the rear cover.
3) Mark the position of the connector mount ① with a scribe, and remove the screws ② ③; then, loosen the screw ④.

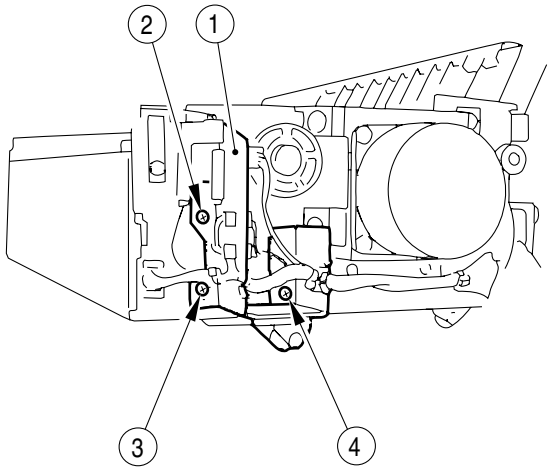

Figure 4-1205

4) Slide the connector mount as indicated; then, using a hex wrench ⑤, remove the clock plate ⑥.

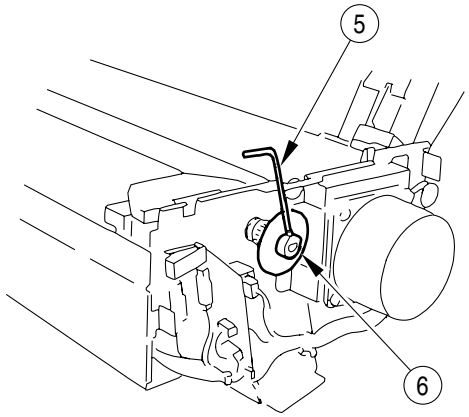

Figure 4-1206

5) Remove the drive belt ⑦.

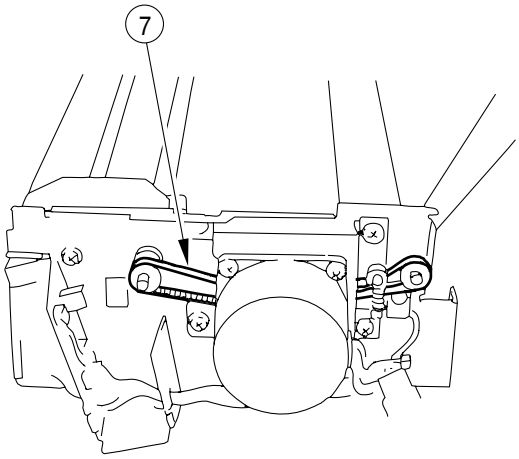

Figure 4-1207

6) Remove the mounting screw ⑧, and remove the C.F.F. motor ⑨.

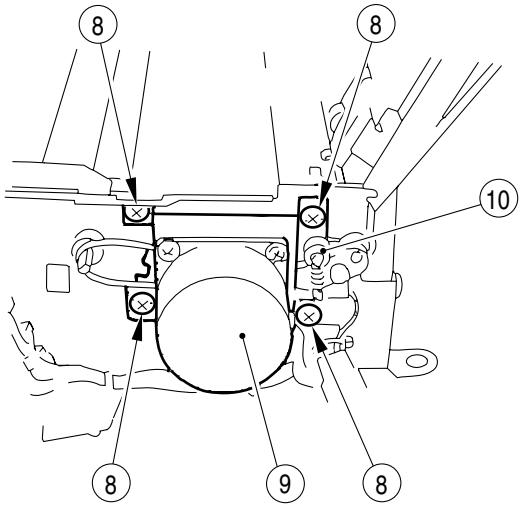

Figure 4-1208

7) To assemble, tighten the screw ⑧ temporarily; then, tighten it fully after making sure that the tensioner ⑩ is in contact with the belt and is pushing to apply a specific tension.

C. Replacing the ROM

1) Remove the original stacking tray.
2) Remove the mounting screw ① from the bottom of the C.F.F., and remove the ROM cover ②.

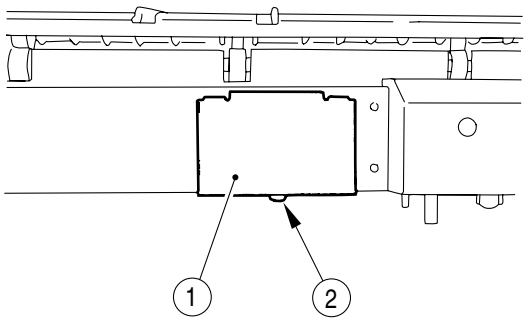

Figure 4-1209

3) Replace the ROM ③ while being careful not to damage the elements nearby.

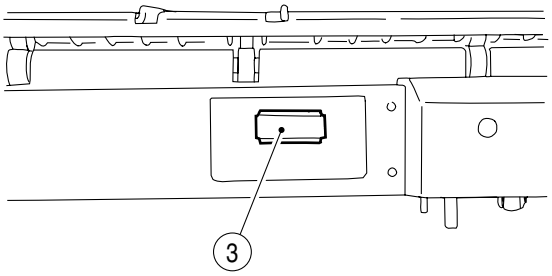

Figure 4-1210

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CHAPTER 5

INSTALLATION

 CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

I. SELECTING THE SITE

Make the following considerations when selecting the site; if possible, pay a visit to the user's before the delivery of the machine:

1. The site must provide apower outlet exclusively for the machine and it must be capable of supplying the rated power (±10%).
   In North America, Check the power voltage.
   If the power voltage is 240V, be sure to replace the heater.
   Contents:
   FH7-4510 230V 1600W halogen heater
   FH7-4506 230V 160W drum heater
2. The site must be between 15° and 30°C in temperature and between 5% and 80% in humidity; in particular, avoid areas near water faucets, water boilers, humidifiers, and refrigerators.
3. Avoid areas near sources of fire and areas subject to dust, ammonium gas, or direct rays of the sun. (Provide curtains as necessary.)
4. The site must be level so that all feet of the machine will remain in contact and the machine will remain level.
5. The site must allow enough space for operation of the machine. (The machine must be installed at least 18 cm from any wall.)

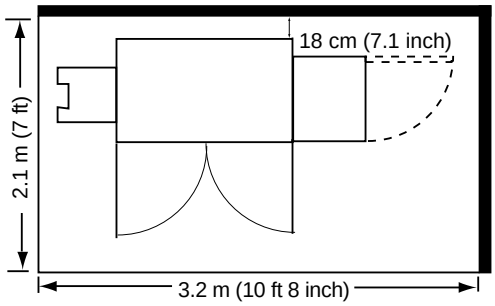


Figure 5-1

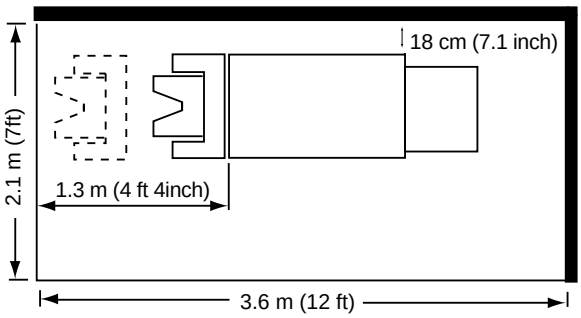


Figure 5-2 Sorter

6. Make sure that the room is well ventilated.
   If multiple copiers are installed, arrange them so that the exhaust from one will not enter another.
   Do not install any copier near an air inlet.
   In general, the silicone gas (vapors of silicone oil from the fixing assembly) emitted by a copier will soil the corona charging wire, making its life shorter. This tends to be conspicuous in low-humidity conditions.

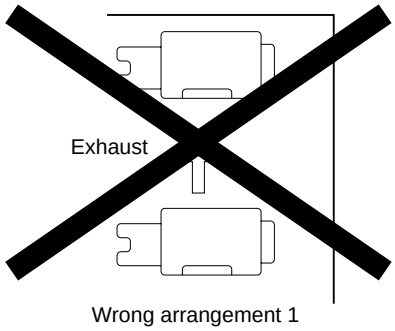


Figure 5-3

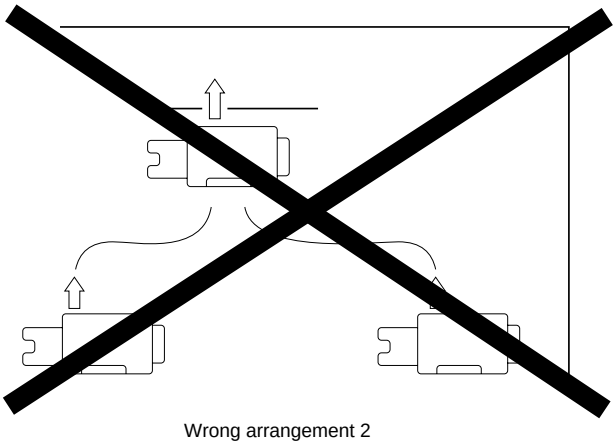


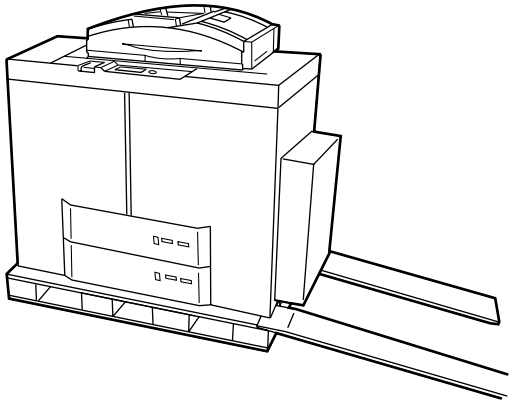
Figure 5-4

II. UNPACKING AND INSTALLATION

When a piece of metal is brought in from a cold to warm place, droplets of water tend to form on its surface. This phenomenon is called *condensation*, and a copier suffering from condensation may generate blank copies.

If the machine is to be installed after bring brought from a cold to warm place, leave it at the site of installation for one hour or more without unpacking; start the work after the machine has become used to the room temperature.

A. Unpacking

Step	Work	Checks/remarks
1	Unpack the copier, and remove the plastic sheets.	
2	Lift the pick-up side of the copier, and remove the two bottom pads.	Be sure to work in a group of three while lifting the pick-up side. (The copier weighs about 300 kg.)
3	Lift the delivery side of the copier, and remove the two bottom pads. (Keep hands away from the bottom of the front tray.)	Be sure to work in a group of three. (The copier weighs about 300 kg.)
4	Take the two slope plates out of the skid.	
5	Turn over the slope plates; after matching the pin holes in the skid and the pin holes in the slope plate, put the pin (taped to the slope plate) through the holes. Push the machine slowly to move it down the slope plates. Take care so that the castors will not roll off the skid.	
6	Open the cardboard box that came with the machine, and take out the parts and materials.	Check to make sure that none of the following is missing: • Developing assembly • Cassette size plate/size label (2 pcs) • Case cam plate/mounting screw (2 pcs) • Toner • Operator's Manual • Grip assembly cover/mounting screw (4 pcs) • Hinge cover • Sub tray • Multifeeder tray • Multifeeder cover

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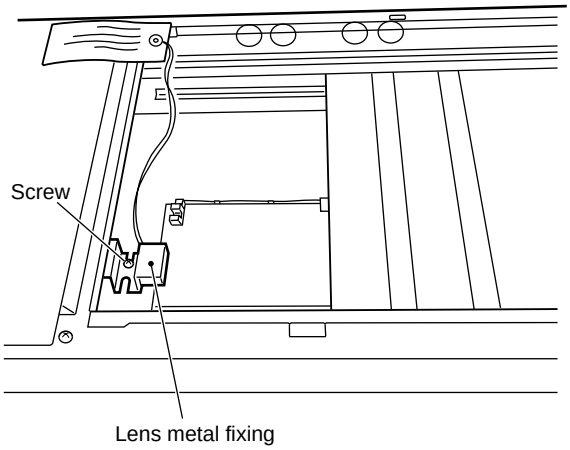
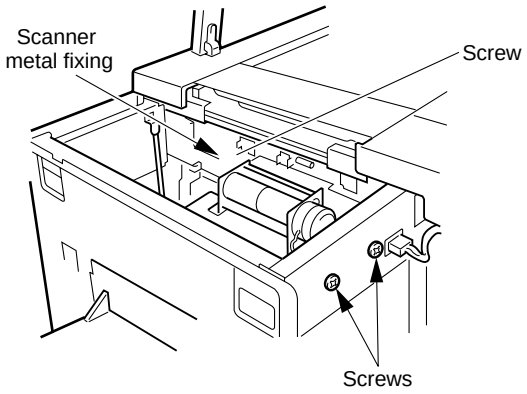
Step	Work	Checks/remarks
7	Pull out the four grips, and install the grip assembly cover (accessory) to the front left and rear left and front right with screws (accessory).	

B. Installing the Lens/Scanner System

Step	Work	Checks/remarks
1	Remove the packing tape and the DO NOT LIFT label from the machine.	
2	Lift the grip of the RDF unit to open.	Remove the protection tape for the size index and the protection material for the copyboard cover.
3	Remove the two screws, and remove the copyboard glass retainer (right) and the copyboard glass.	
4	Remove the lens metal fixing. (Keep the metal fixing for possible relocation of the machine.)	
5	Butt the copyboard glass against the front left, and install the copyboard glass retainer right with two screws.	
6	Open the left and right front doors, and loosen the two screws to remove the upper left cover; then, remove the screw, and remove the scanner metal fixing. (Keep the metal fixing for possible relocation of the machine.)	
7	Install the upper left cover.	

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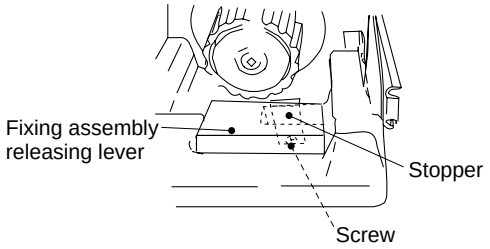
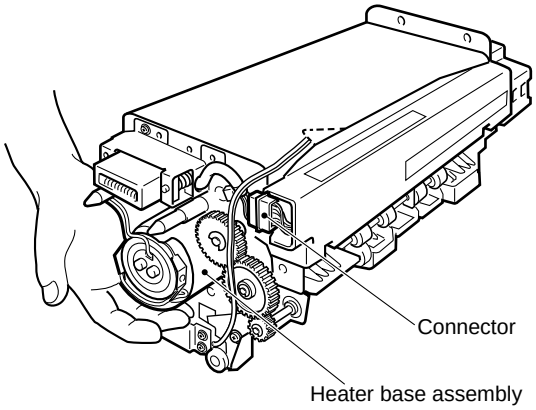
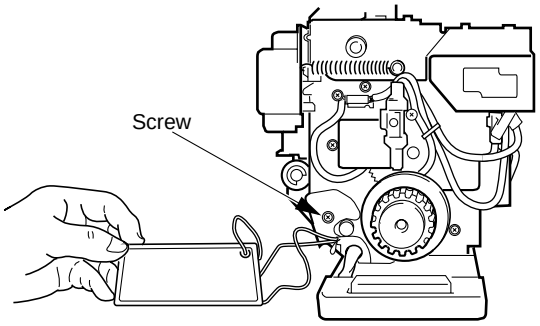
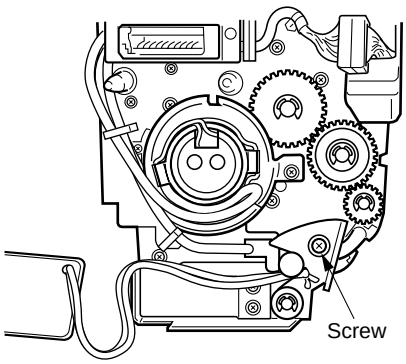
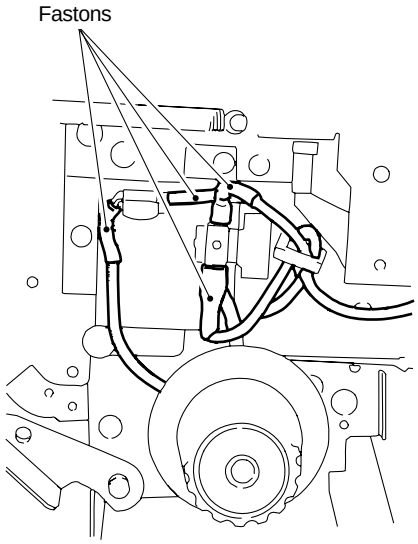
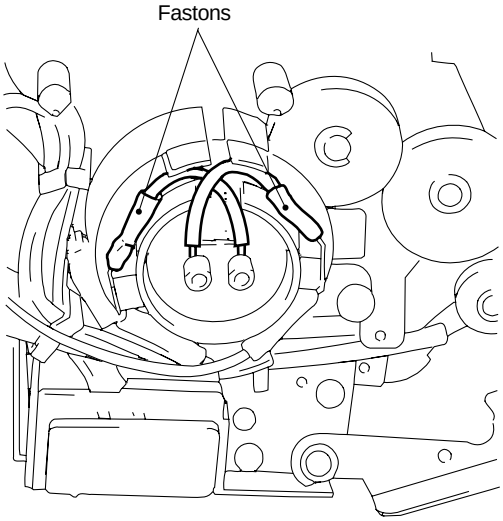
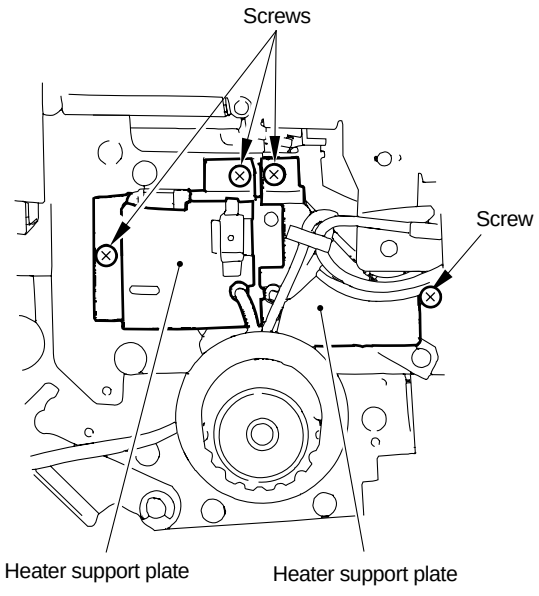
C. Installing the Fixing Assembly

Step	Work	Checks/remarks
1	Open the left and right front door; then, remove the two screws, and remove the fixing assembly cover.	
2	Push down the fixing assembly releasing lever, and slide out the fixing assembly.	
3	Remove the screw, and remove the fixing assembly stopper; then, while pushing down the releasing lever, pull it slightly to the front. Then, while holding the heater base assembly at the rear, take out the fixing assembly. Do not hold the connector assembly at the rear of the fixing assembly when lifting the assembly.	
4	Remove the two screws (front, rear) of the fixing assembly locking lever (found with a tag).	 

Step	Work	Checks/remarks
5	To change the voltage rating of the power supply from 208 to 240V for a North American model, perform the following; for 208V North American model and other models, go to step 13. Remove the fastons from the heaters at the front and the rear (total of 6).	Front;  Rear; 
6	Remove the two mounting screws, and remove the heater guide from the gear while taking care not to damage the heater.	
7	Remove the four mountings screws, and remove the two heater support plates.	

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Step	Work	Checks/remarks
8	Pull out the heater to the rear while being careful not to damage it.	
9	Insert the drum heater for the 240V model (FH7-4510 230V 1600W) while being careful not to damage the heater.	• Do not touch the surface of the heater. • Orient both heaters so that the side with the longer heater harness is toward the front. • Install the longer heater on the side and the shorter heater on the left while viewing the fixing assembly from the front.
10	Install the two heater support plates at the front using four screws.	
11	Install the rear heater with two mounting screws. Take care not to damage the heater.	
12	Connect the fastons of the heaters (front, rear; total of 6).	

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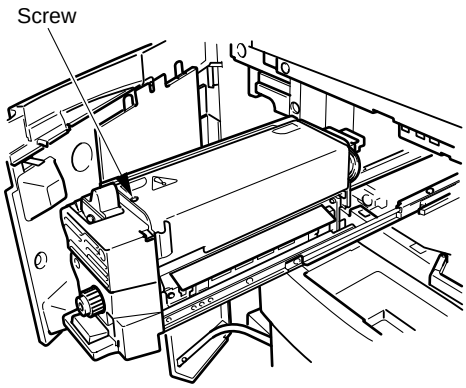
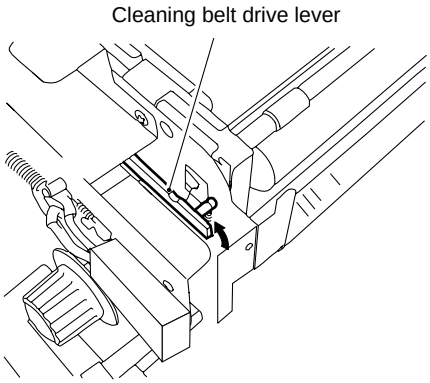
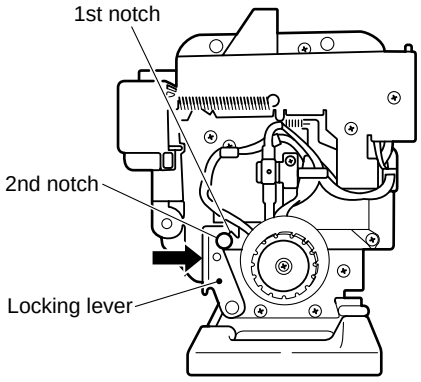
Step	Work	Checks/remarks
13	Remove the screw from the front of the fixing assembly upper cover, and remove the fixing assembly upper cover.	
14	Lift the cleaning belt drive lever with fingers several times to remove the slack. After checking to make sure that the slack has been removed, install the fixing assembly cover with a screw.	
15	Push the top of the fixing assembly, and set the locking lever to notch 2 at the front and the rear.	
16	Place the fixing assembly on its rail.	
17	Install the fixing assembly stopper.	
18	Install the fixing assembly cover.	
19	Slide in the fixing assembly slowly into the machine.	Keep the front doors open, and move to the installation of the photosensitive drum.

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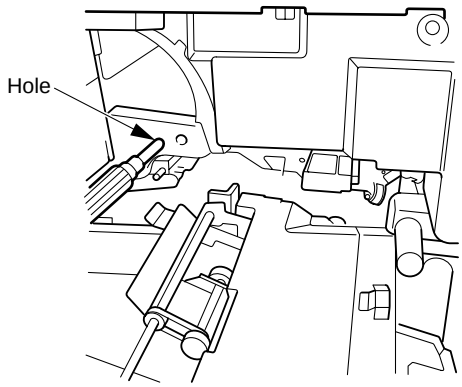
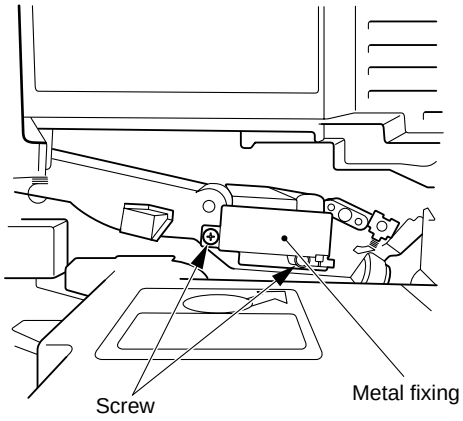
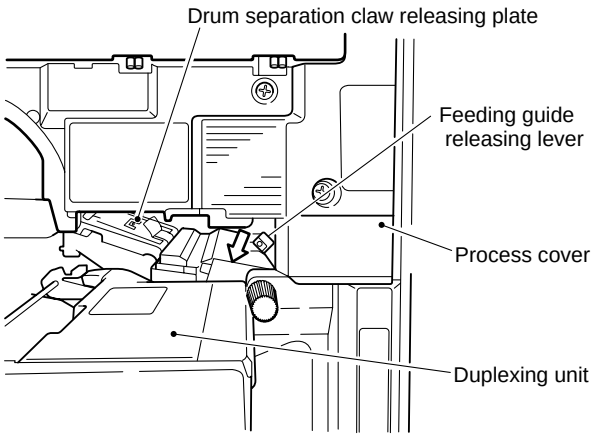
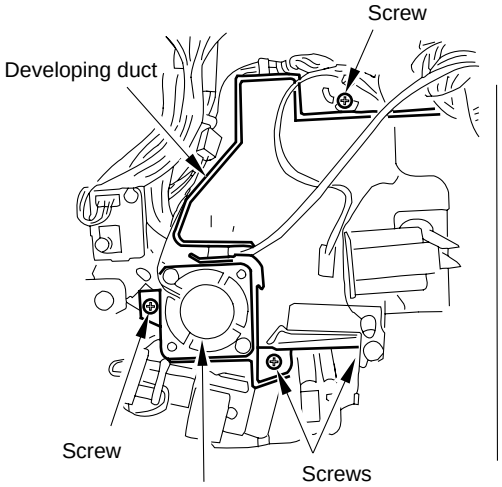
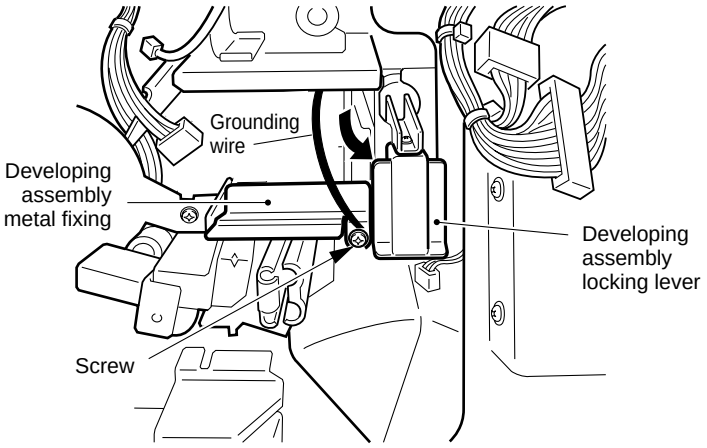
D. Installing the Developing Assembly

Step	Work	Checks/remarks
1	Pull out the grip of the duplexing unit until it stops. (Perform the work that follows with the duplexing unit in this position.)	Remove the packing material.
2	Lift the feeding assembly, and insert a screwdriver or the like into the hole indicated, thereby keeping the feeding assembly in place at middle position.	
3	Remove the two mounting screws, and remove the transfer/separation charging assembly metal fixing; then, remove the transfer/separation charging assembly.	
4	While holding the feeding assembly in place, remove the screwdriver used to keep it in middle position; then, lower the feeding assembly.	

Step	Work	Checks/remarks
5	Release the feeding guide releasing lever; then, pull out the drum separation claw releasing plate in upper left direction to remove. Keep the drum separation claw releasing plate for later use.	
6	Remove the three screws, and remove the process cover.	
7	Remove the four screws, and remove the developing duct and transfer charging dust-proofing fan.	
8	Turn the developing assembly locking lever counterclockwise to release. Remove the screw with a washer tightened with the grounding wire; then, remove the developing assembly metal fixing.	

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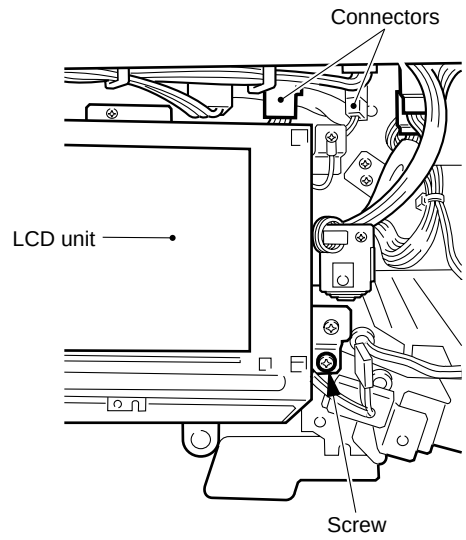
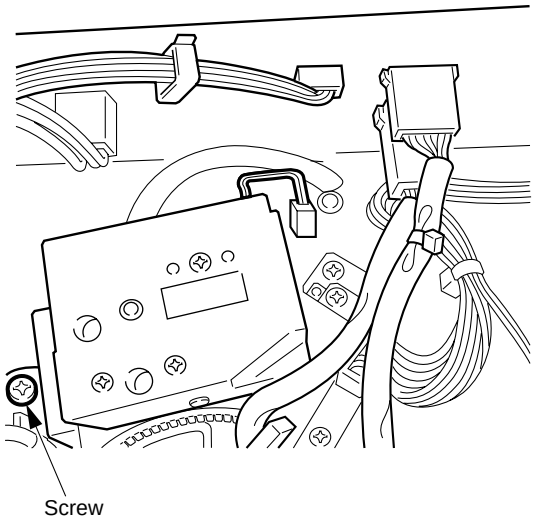
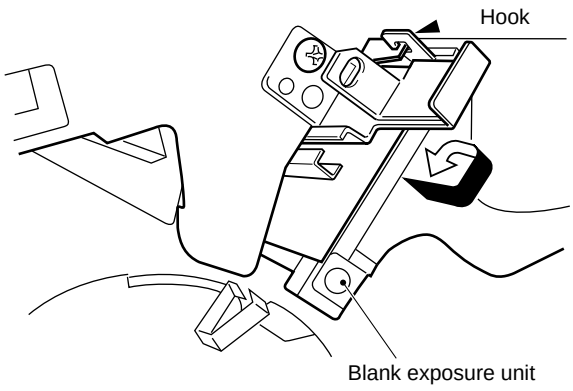
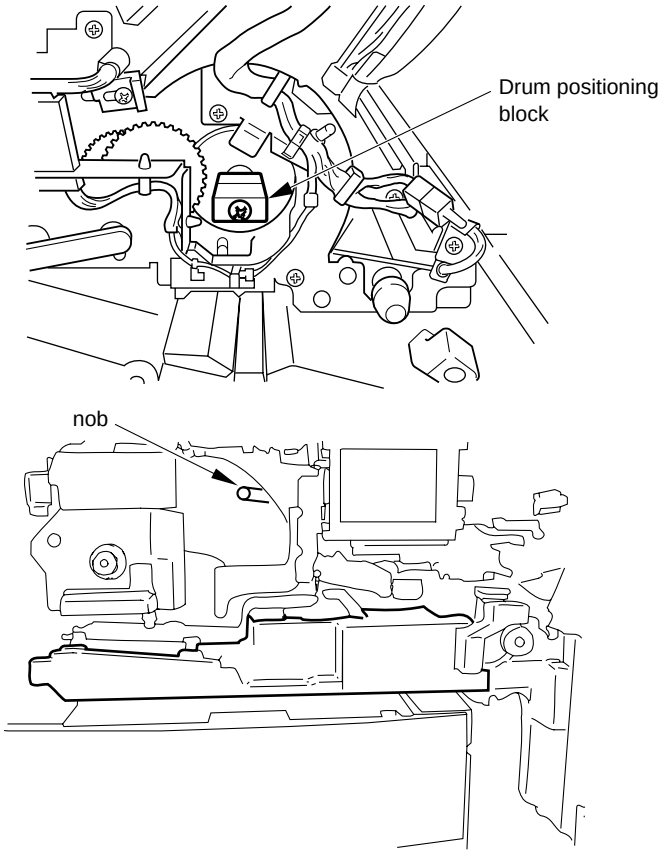
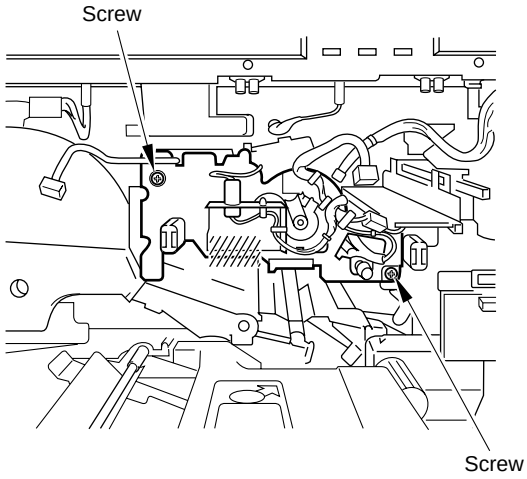
Step	Work	Checks/remarks
9	Remove the screw, and open the LCD unit to the left; then, disconnect the two connectors.	
10	Remove the screw, and remove the primary charging assembly.	
11	To change the voltage rating of the power supply from 208 to 240V for a North American model, perform the following; for 208V Noth American model and other models, go to step 31. Release the blanking exposure unit (1 screw).	• Releasing the Blanking Exposure Unit 

Step	Work	Checks/remarks
12	Remove the drum positioning block (1 screw; you will be using the block later). Be sure to hold the nob when turning the mounting screw on the drum positioning block.	
13	Remove the two drum unit fixing screws (silver); then, hook fingers on the shaded area (figure) of the drum unit front plate, and remove the drum unit to the front. Check to make sure that the duplexing unit has been slid out.	

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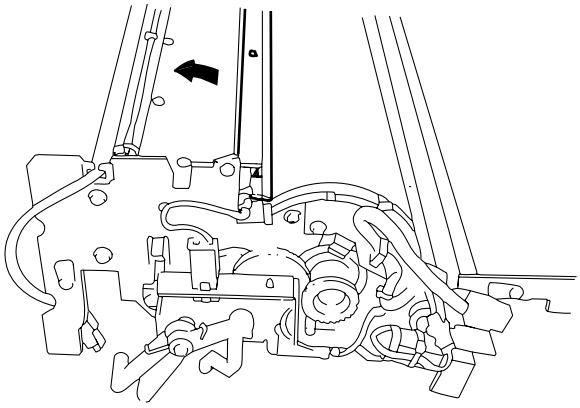
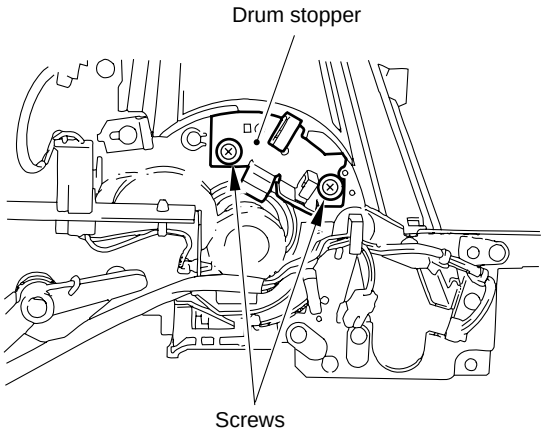
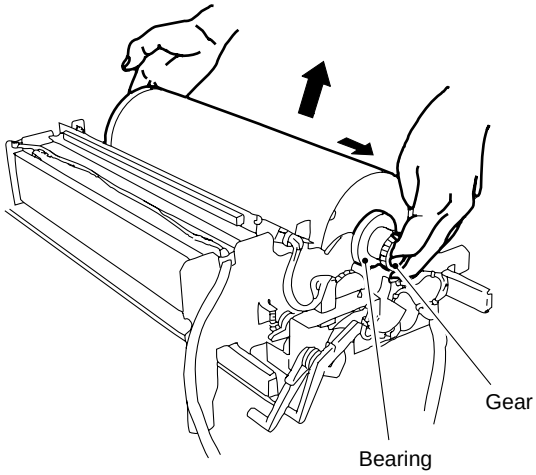
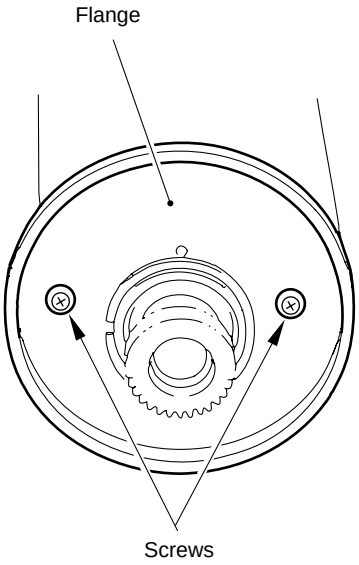
Step	Work	Checks/remarks
14	Turn the pre-exposure lamp in the direction of the arrow, thereby releasing from the photosensitive drum.	Pre-exposure lamp assembly 
15	Remove the two mounting screws, and remove the drum stopper.	
16	Slide the photosensitive drum to the rear together with the bearing and the gear; then, lift it to remove. Wrap the photosensitive drum with copy paper to prevent exposure to natural light.	
17	Remove the gear and bearing (front, rear) from the drum shaft.	

Step	Work	Checks/remarks
18	Remove the two mounting screws, and remove the flange from the front.	
19	Pull the flange at the rear, and remove the drum heater assembly from the photosensitive drum; then, disconnect the connector, and remove the drum heater.	
20	Connect the connector of the drum heater assembly for 240V (FH7-4506 230V 160W), and install the drum heater for 240V (FH7-4506 230V 160W); then, insert the flange at the rear.	Be sure to install it so that the label on the inner side of the drum is toward the front. (Otherwise, the density will be different between left and right.)
21	Install the flange at the front with two screws.	
22	Install the gear and bearing (front, rear) to the drum shaft.	
23	Detach the copy paper from the photosensitive drum, and check to make sure that the photosensitive drum is free of foreign matter.	• The surface of the drum must be free of dirt and scratches. • If foreign matter is found, dry wipe the surface with lint-free paper, taking care not to scratch the photosensitive drum.

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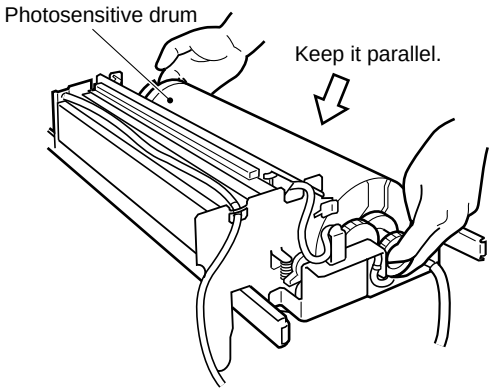
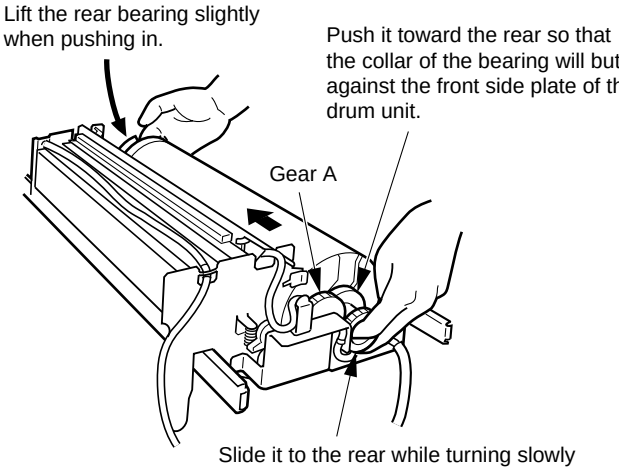
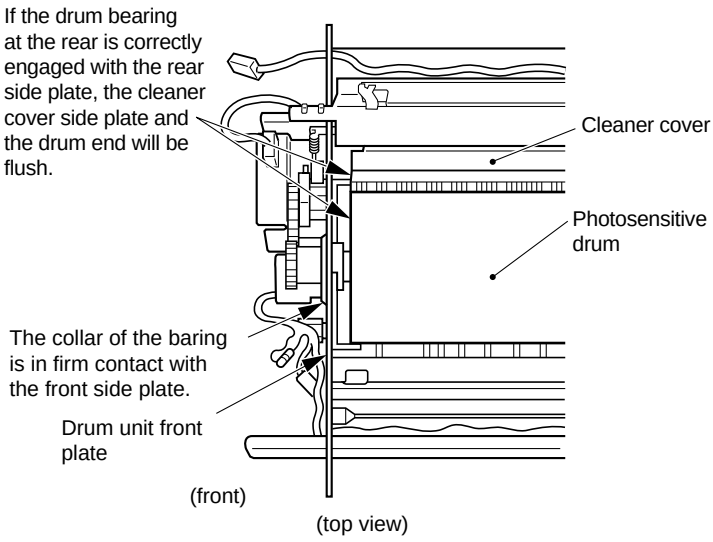
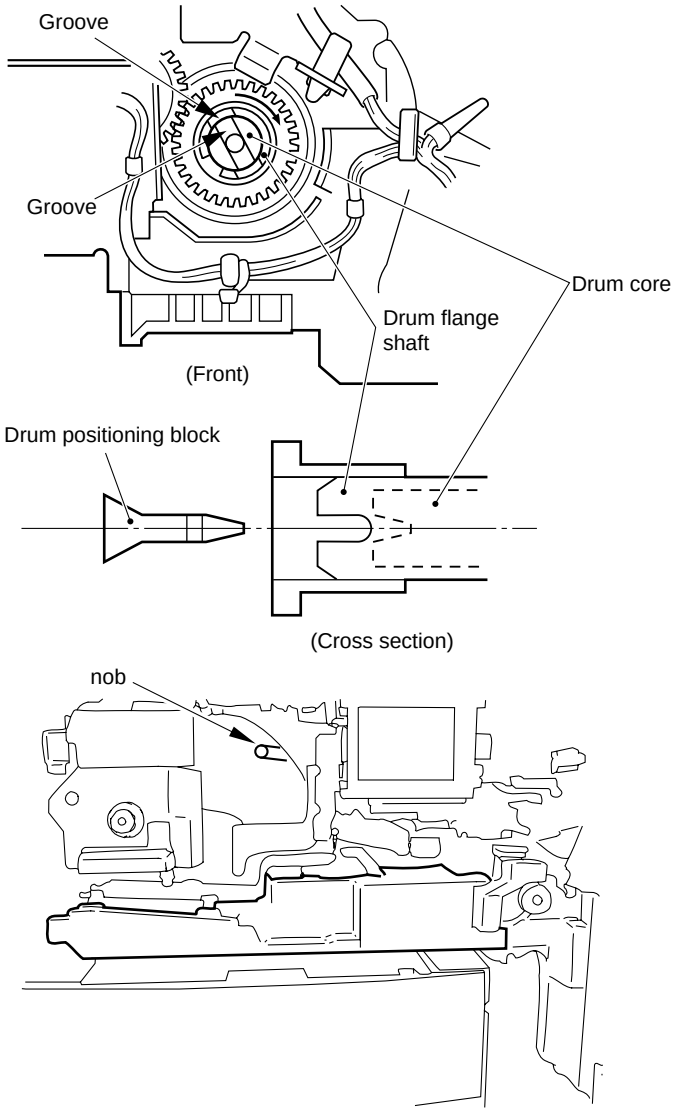
Step	Work	Checks/remarks
24	Install the photosensitive drum to the drum unit.	  

Caution:
Check to make sure that the gears are engaged properly and are free of gaps.

Step	Work	Checks/remarks
25	Install the drum stopper, and fix it in position with two screws. Lead the harness through the harness retainer.	
26	Return the pre-exposure lamp to its initial position, and insert the drum unit into the machine slowly while pressing the two areas of the drum unit where screws are used.	Remove the newspaper from above the duplexing unit.
27	Fix the drum unit with two screws.	
28	Turn the drum flange gear in the direction of drum rotation so that the groove of the drum flange shaft and the groove of the drum shaft match. Be sure to hold the nob when turning the mounting screw on the drum positioning block.	
29	Install the drum positioning block.	
30	Clean the feeding assembly, and keep the feeding assembly up with a screwdriver once again.	

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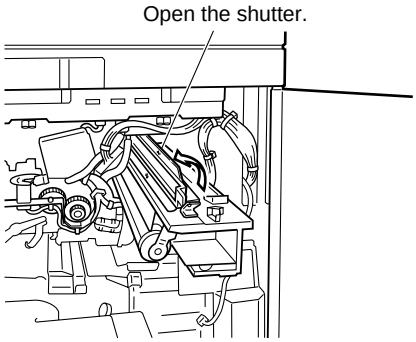
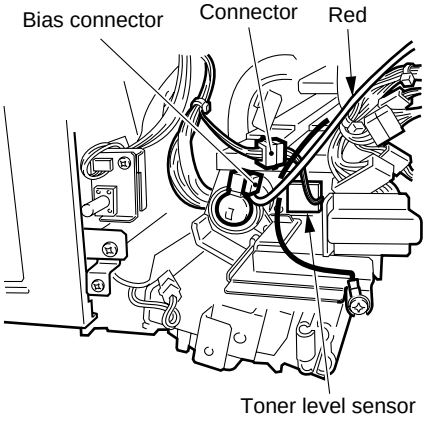
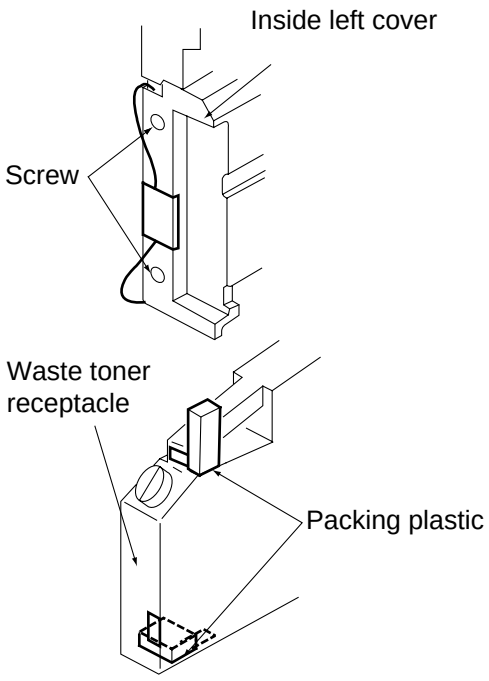
Step	Work	Checks/remarks
31	Remove the screw, and disconnect the connector; then, remove the pre-transfer charging assembly.	
32	Clean the feeding assembly, and lift the feeding assembly with a screwdriver once again.	
33	Clean the primary charging assembly, pre-transfer charging assembly, and transfer/separation charging assembly; then, install them. Connect the connectors of the charging assemblies securely.	Clean them using alcohol. Check to make sure that the parts are completely dry before insertion into the machine.
34	Connect the two connectors.	
35	Remove the screwdriver used to keep the feeding assembly in place, and slide the duplexing unit into the machine.	
36	While opening the shutter of the developing assembly, push the developing assembly into the machine until it stops.	
37	Install the developing assembly metal fixing.	Check to make sure that the tip of the metal fixing is on a specific hook of the developing assembly rail. Further, move the grounding wire to ward the developing rail and fix it in position under as crew.
38	Connect the developing bias connector to the developing assembly, and connect the toner level detection connector; then, lead the bias harness and the toner level detection harness to the harness retainer on the developing assembly.	

Step	Work	Checks/remarks
39	Install the developing duct with four screws.	Be sure to tighten the screw so that the grounding wire is kept in place by the screw.
40	Turn the locking lever clockwise to force the developing assembly against the photosensitive drum.	
41	Fix the LCD unit in place with a screw.	

E. Installing the Waste Toner Receptacle

Step	Work	Checks/remarks
1	Open the front left door, and slide out the both of front tray.	
2	Remove the two screws and the inside left cover, take off the two packing plastics fixing the waste toner receptacle. Push in the waste toner receptacle	
3	Install the inside left cover with two screw, and set the front tray.	

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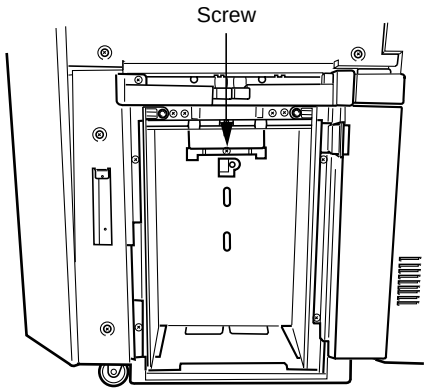
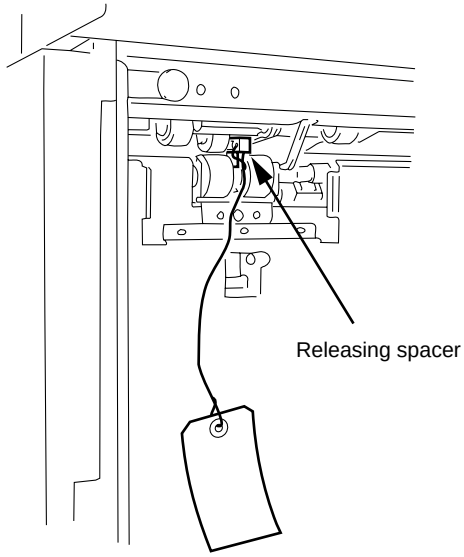
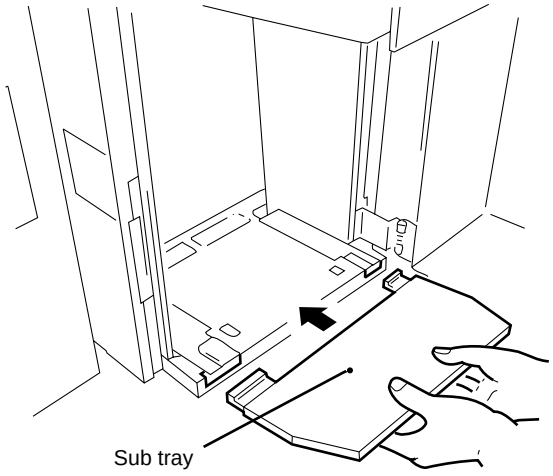
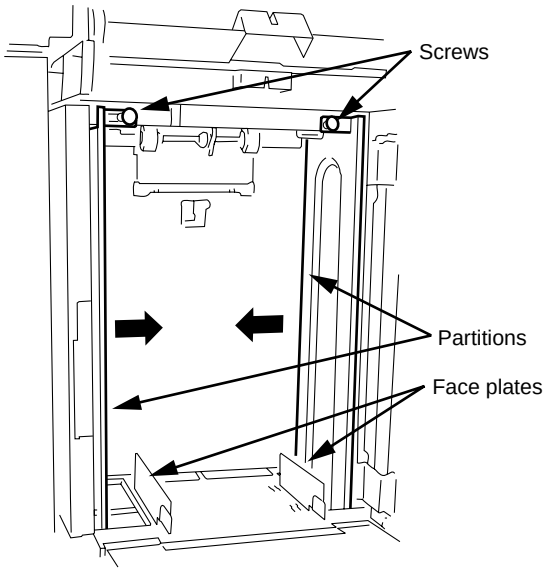
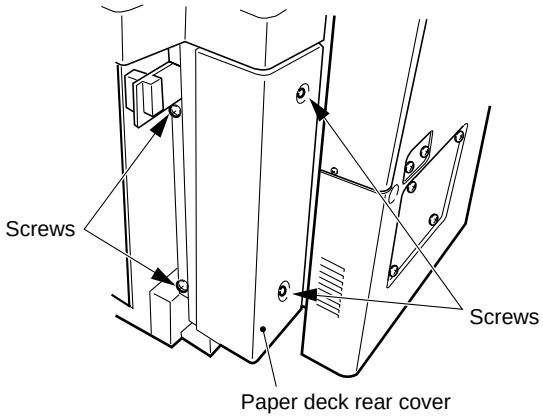
G. Switching the Paper Deck Size

Step	Work	Checks/remarks
1	Remove the screw, and remove the roller cover metal plate.	
2	Pull out the releasing spacer downward, and install the roller cover metal plate once again.	
3	For B4/B5 paper, shift up the front and rear face plates, and insert the sub tray. For LGL/LTR-R paper, remove the face plates, and insert the sub tray.	

Step	Work	Checks/remarks
4	Match the positions of the front and rear size partitions with the size of paper; if face plates are used, arrange them so that they match the positions of the partitions.	
5	Remove the paper deck rear cover. For B4/LGL paper, perform this step. Skip the step if B5/LTR-R paper is used.	

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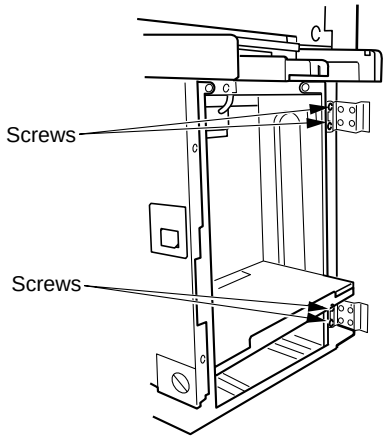
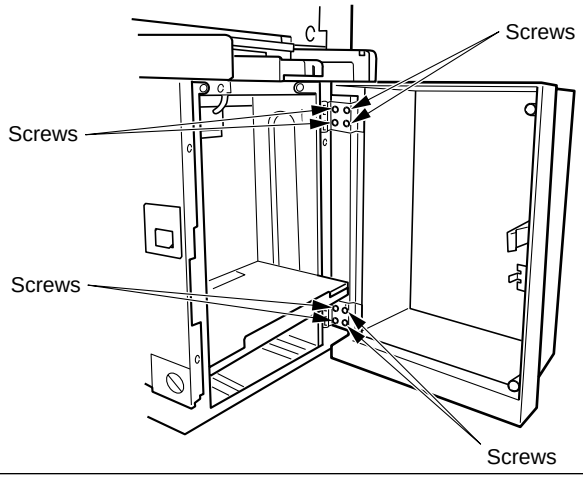
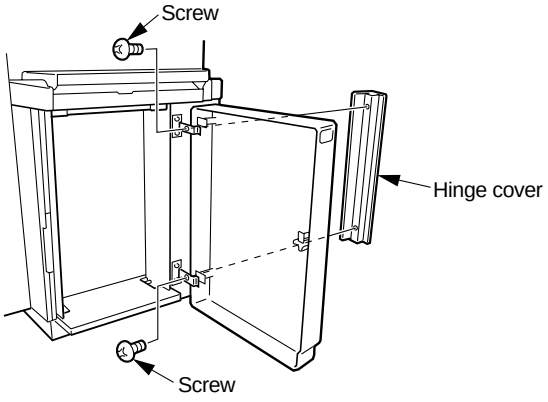
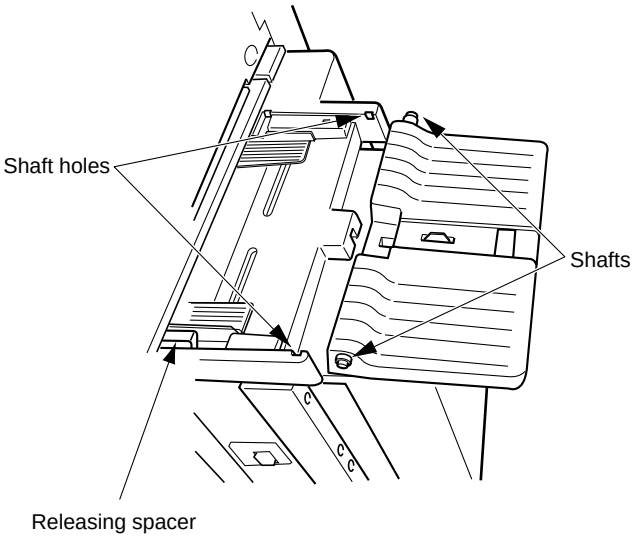
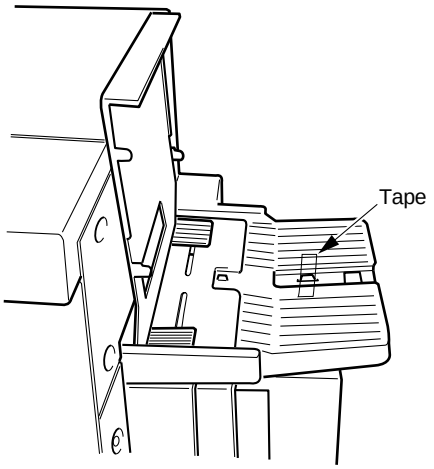
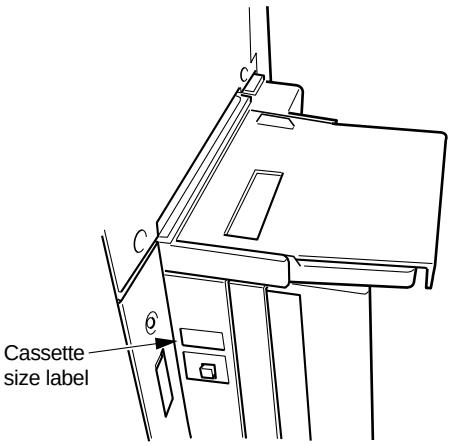
H. Installing the Paper Deck Cover

Step	Work	Checks/remarks
1	Install the hinge metal fixings to the paper deck position at two locations with four screws.	
2	Install the paper deck cover to the copier's hinge metal fixings with eight screws.	
3	Install the hinge cover, and fix it in place with two screws; then, close the cover.	

Step	Work	Checks/remarks
4	Keep the multifeeder tray upright; insert the shaft at the rear of the multifeeder tray into its corresponding shaft hole and the shaft at the front into its corresponding hole, and then shift it to the right. Remove the releasing spacer from the left of the multifeeder tray.	
5	Keep the multifeeder tray upright; insert the shaft at the rear of the multifeeder tray into its corresponding shaft hole and the shaft at the front into its corresponding hole; and close the cover. Attach the cassette size label. Remove the tape used to keep the sensor actuator in place.	 

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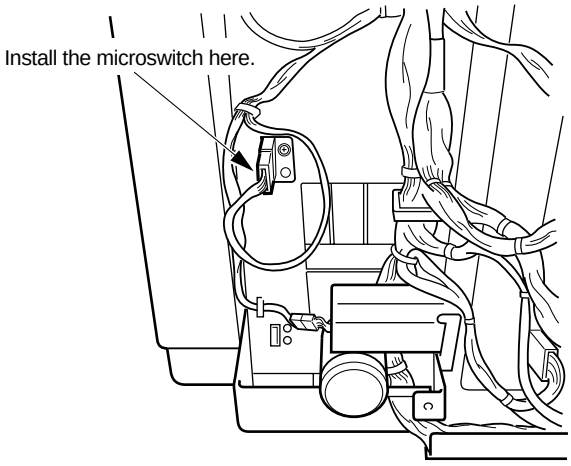
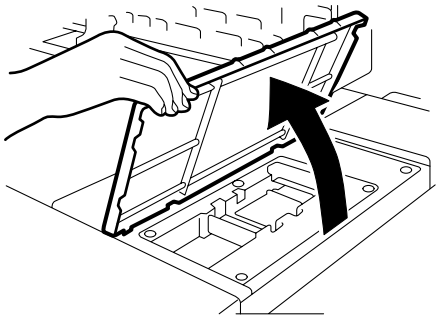
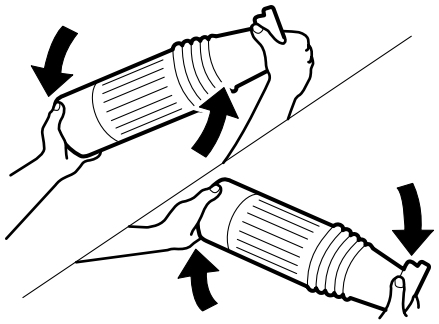
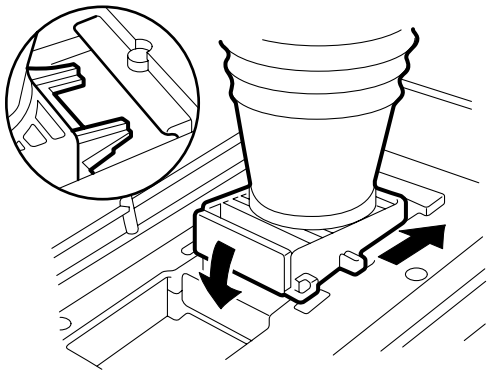
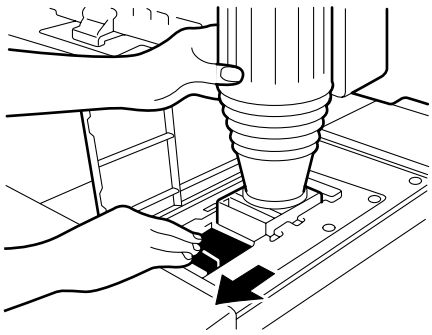
Step	Work	Checks/remarks
6	Lift the lifter plate as high as possible. Perform this step for B4/LGL; skip this step for B5/LTR-R.	
7	Change the position of the microswitch used to detect the lifter lower limit. (Take care so that the harness of the microswitch will not become trapped on the chain.) Perform this step for B4/LGL; skip this step for B5/LTR.	
8	Install the paper deck rear cover. Perform this step for B4/LGL; skip this step for B5/LTR-R.	

I. Supplying Toner

Step	Work	Checks/remarks
1	Open the hopper top cover.	
2	Shake the toner bottle ten times or more.	
3	Open the toner supply cover, and fit the boss at the tip of the toner bottle into the groove of the toner supply mouth; then, slide the bottle to the rear. This will lock the toner bottle to the toner supply mouth.	
4	Hold the slide tab (black) on the copier's toner box found at the front of the toner supply mouth, pull the slide to the front. (Keep pulling the shutter until it stops.)	

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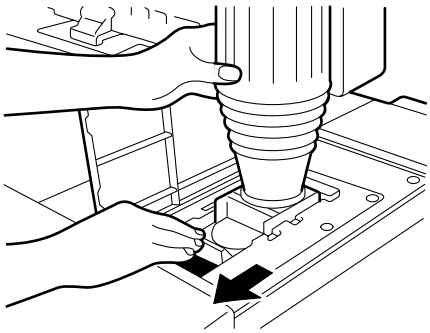
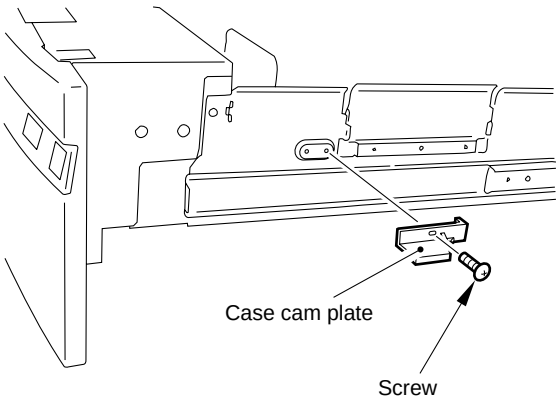
Step	Work	Checks/remarks
5	Pull the shutter on the toner bottle side to the front. Toner starts to pour from the toner bottle to the hopper; tap the toner bottle lightly to make sure all toner has poured out.	
6	Hold the shutter on the toner bottle, and push it to its rear position.	
7	Push the slide tab of the copier's toner box up as far as the ▲ marking. • A click should be heard, indicating that the toner bottle has been released.	
8	Pull the toner bottle in rear upward direction to remove.	
9	Close the hopper top cover.	

J. Checking Images and Operations/Setting User Mode

Step	Work	Checks/remarks
1	Connect the connector of the RDF to the copier.	
2	Connect the power plug to the power outlet, and insert the door switch actuator into the door switch assembly of the front door.	
3	Turn ON the main switch.	Check that the Add Paper indicator has turned ON. Press keys on the numeric keypad and Clear key to make sure that a specific copy count is indicated.
4	Press the service switch (SW921).	
5	Select 'TRAY 4K' in service mode (✻5✻), and set the paper size for each tray.	
6	Press the Open switch for the upper/lower front tray, and pull out the tray to the front; then, install the case cam to the upper/lower front tray with a screw. Then, remove the packing material from inside the tray.	
7	Set the paper size guide plate of the upper/front tray to suit the appropriate paper size.	
8	Put copy paper in the tray.	

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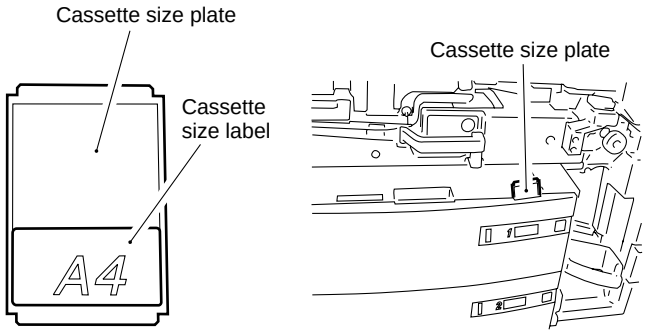
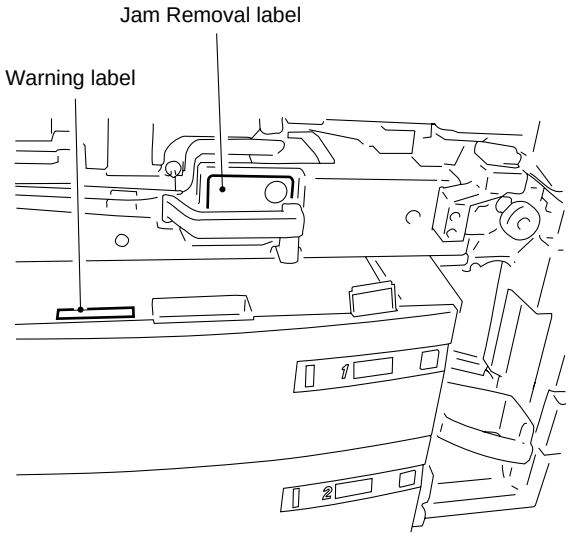
Step	Work	Checks/remarks
9	Attach the cassette size label to the cassette size plate to suit the size of paper on each tray; then, slide in the cassette size plate into the upper/lower front tray.	
10	Attach the Jam Removal label to the duplexing unit, and attach the Warning label to the upper/lower front tray.	
11	Push in the trays into the copier.	
12	Stack copy paper on each tray, and close the tray.	
13	If you are not installing the sorter, install the copy tray to the copier.	
14	Check to make sure that the developing assembly locking lever is locked before execution: Select 'TONER-S' in service mode (✻4✻); then, enter '1' using the numeric keypad, and press the OK key to execute toner supply mode.	• Keep the front doors almost closed so that light will not enter the inside of the machine. • This mode remains ON for a maximum of 10 min, during which toner is supplied from the hopper to the developing assembly. Do NOT turn off the power while the machine is operating.

Step	Work	Checks/remarks
15	Place the Test Sheet on the copyboard, and check the copy images. At times, toner may drop from the drum separation claw, soiling the first ten or so copies. Soiling should stop as more copies are made.	• Check to make sure that no abnormal sound is heard. • Check copy images for each default reproduction ratio. • Check to make sure that as many copies as specified are made. • If the density differs between left and right, adjust the height of the primary charging wire (at the rear) to correct.
16	Place copy paper on the copyboard, and make a copy with the copy density set to maximum.	
17	Place the copy made in step 16 on the copyboard, close the RDF cover, and press the Copy Start key to check the copy image. If the copy has uneven density at intervals of 7 cm or white spots, perform the following: 1) Remove the developing assembly from the copier, and place it on copy paper. 2) Holding lint-free paper in one hand, put it lightly against the surface of the developing sleeve; turn the drive gear of the developing sleeve with the other hand so that the drive gear makes a full single turn. Repeat this to clean the developing sleeve from the front to the rear. 3) After cleaning, rotate the drive gear of the developing sleeve to make sure that the coating of toner on the developing sleeve is even. 4) Install the developing assembly to the copier. 5) Check the copy image on the copy made in step 16; if uneven density at even intervals is noted still, repeat the above steps.	
18	Make copies using the multifeeder.	Check to make sure that the copying operation is normal.
19	Execute two-sided and overlay copying modes.	• Make sure that no abnormal sound is heard. • Make sure that paper is fed normally in the duplexing unit.

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Step	Work	Checks/remarks
20	Set the user's preferences in user mode as necessary.	For user mode, see the Operator's Manual. In North America, at time of shipment, the copier is set to 'one-sided to two-sided' copying; check with the user to make necessary changes. To select 'one -sided to one-sided' copying, perform the following; 1) Start service mode (✻5✻), and select '2 SIDE_SL'. 2) Enter '0' using the keypad. 3) Press the Reset key to end service mode.
21	Select 'WIRE' in service mode (✻1✻). • If '0' is indicated, press the Reset key twice to end service mode. • If the indication is other than '0', end service mode, press ✻, 'adjustment/cleaning', 'wire cleaning', and 'start' to execute wire cleaning. Thereafter, check the indication; if '0' is indicated, go to the next step.	After pressing ✻, 'adjustment/cleaning', 'wire cleaning', and 'start', if '4' is indicated, take off the transfer changing assembly and press ✻, 'adjustment/cleaning', 'wire cleaning', and 'start'. Put on the transfer changing assembly after executing wire cleaning.
22	Press the Reset key to end service mode.	
23	Remove the door switch actuator, and slide out the duplexing unit; then, release the feeding guide releasing lever, and install the process cover. Slide in the duplexing unit, set the feeding guide releasing lever, and close the front doors.	If you are installing an option (e.g., sorter,) install it after this step. (See the respective Installation Procedure.)
24	Clean up the area around the machine.	
25	Move the machine to the site of installation, and fix it in place by turning the stop screw.	
26	Turn ON the drum switch (SW34) if necessary for the site environment.	
27	Fill out the service sheet.	
28	Enter user mode (✻), and select 'data/time setting' under 'timer setting' to check the current time. To correct any discrepancy, enter the correct year / month / day / hour /minute using the keypad, and press the OK key; then, press the OK key, select the day of the week, and press the OK key once again.	

III. RELOCATING THE MACHINE

Perform the following if you need to relocate the machine by truck or other means of transportation.

Step	Work	Checks/remarks
1	Make a copy in Direct.	
2	Remove all copy paper from the front trays and paper deck.	
3	Turn OFF the power switch, and disconnect the power plug from the power outlet. Fix the lens in place with its metal fixing.	Check to make sure that the lens will not move.
4	Remove the left cover, and move the No. 1 mirror mount with the scanner metal fixing.	Check to make sure that the No. 1 mirror mount will not move.
5	Install the left cover.	
6	Remove the developing assembly.	Use a separate box for the developing assembly.
7	Set the drum separation claw releasing plate to the feeding assembly.	
8	Fix the drum unit in place with a screw, and set the charging assemblies and duplexing unit.	
9	Tape the transfer charging assembly, feeding assembly releasing lever, developing assembly releasing lever, and duplexing unit in place to prevent displacement by vibration.	
10	Remove the multifeeder cover, multifeeder tray, and sub tray from the copier.	
11	Tape the front doors, delivery assembly cover, hopper cover, upper/lower front tray, and paper deck in place.	
12	Place A3 copy paper on the copyboard glass, and tape the RDF in place.	

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IV. INSTALLING THE CONTROL CARD V

1) Remove the magnet plate.
2) Remove the control panel.
3) Remove the control card inlet face plate.
4) Remove the six screws ①, and remove the upper front cover.

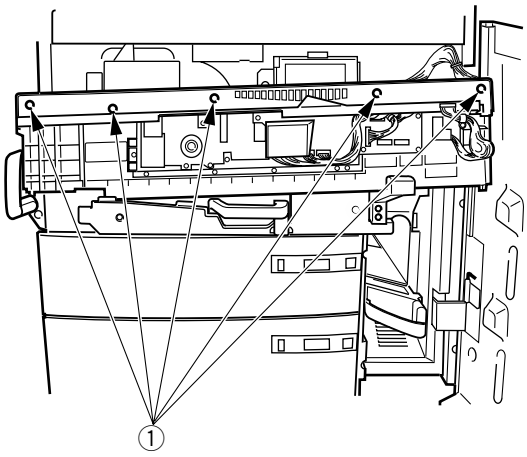

Figure 5-5

5) Remove the seven screws ①, and remove the two screws ③ used to fix the grounding wire in place; then, remove the wire saddle ④, and remove the metal plate.

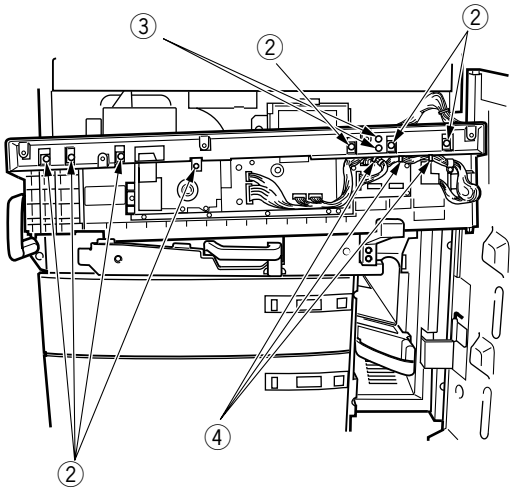

Figure 5-6

6) Remove the screw from the face plate ⑤.

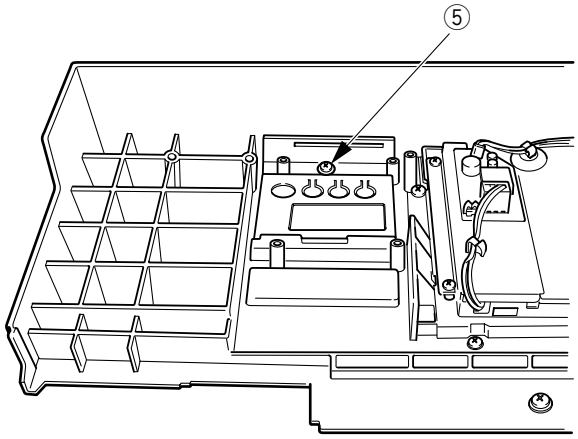

Figure 5-7

7) Remove the protection sheet from the display of the Control Card V.
8) Fix the Control Card V to the control panel with four screws ⑥.
   At this time, insert a card ⑧ into the Control Card V ⑦, and fix the Control Card V in place where the card may be slid in and out smoothly.

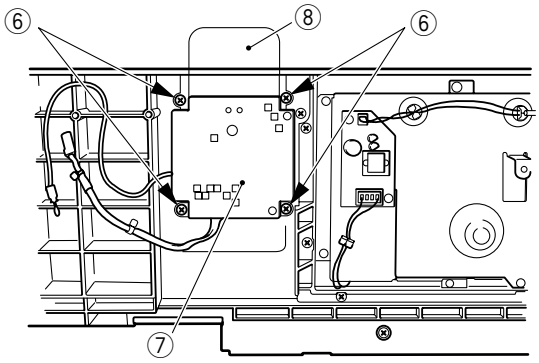

Figure 5-8

Further, check that the connector ⑨ for the printer is centered over the hole.

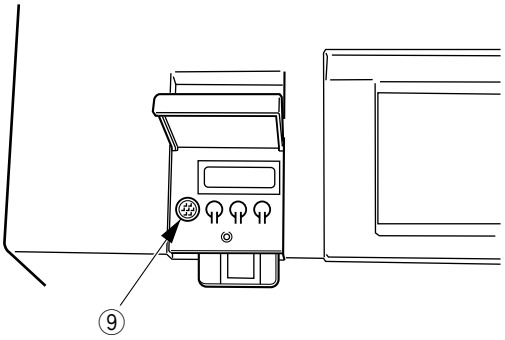

Figure 5-9

10) Install the grounding wire ⑩ of the Control Card V where indicated.

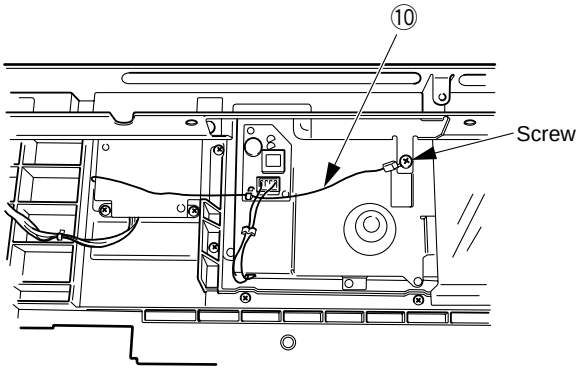

Figure 5-10

13) Disconnect the shorting connector ⑪ shown in Figure 5-11 from the 4P connector ⑬.

14) Connect the 4P connector ⑫ of the Control Card V and the 4P connector ⑬ of the copier.

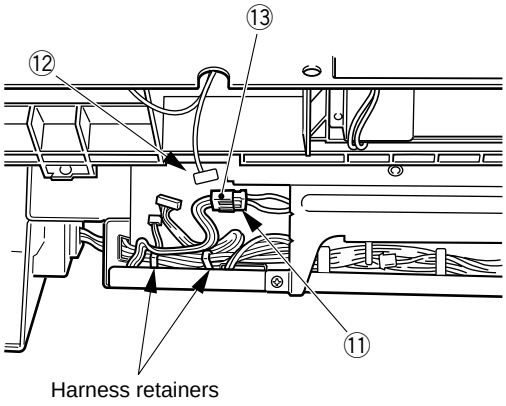

Figure 5-11

15) Remove the protection sheet from the control panel guide plate of the Control Card V, and put the plastic sheet ⑭ over the hole (display hole of the Control Card V) in the control panel.

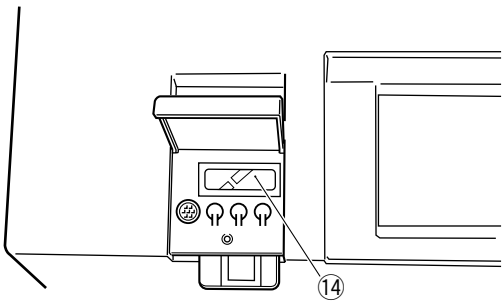

Figure 5-12

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16) Attach the control panel guide plate ⑮ to the copier's control panel.

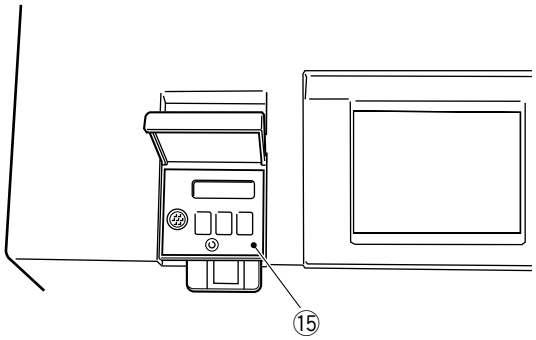

Figure 5-13

17) Install the control panel to the copier.
18) Attach the memory record sheet and the transparent sheet.
19) Turn ON the copier's power switch, and check the operation of the Control Card V.

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V. REMOTE DIAGNOSTIC DEVICE II

Observe the following when installing the device to the copier:

1. Follow the applicable laws of the respective country.
2. Check to make sure that the copier has been properly installed before starting the work.
3. Keep the copier's power plug disconnected during the work.
4. Identify the screws by type (length, diameter) and location.
5. Keep the settings data for the device ready for the computer installed at the service station.

1) Remove the two screws ② of the top cover of the device, and remove the cover ①.

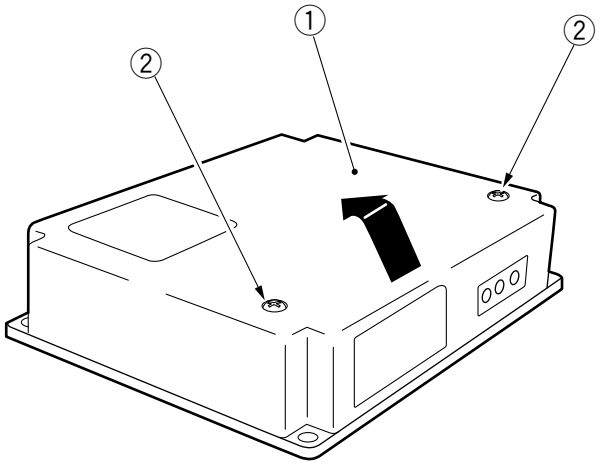

Figure 5-14

2) Connect the connector ⑤ of the power supply unit to the connector ⑥ of the device.

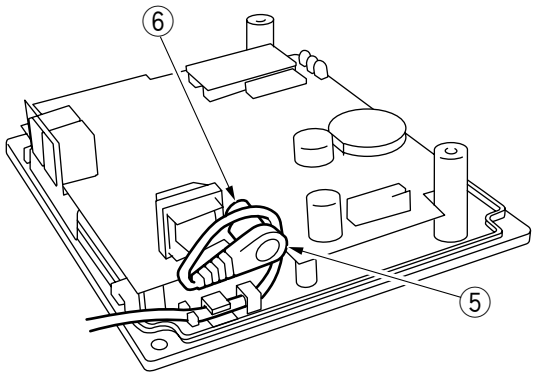

Figure 5-15

3) Remove the four screws ⑧, and remove the four screws ⑧ from the face plate ⑦ of the copier's rear cover.

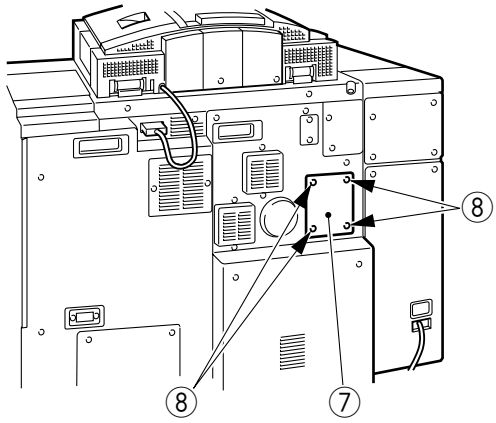

Figure 5-16

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4) Connect the copier's connector ⑨ and the cable ⑩ of the device.

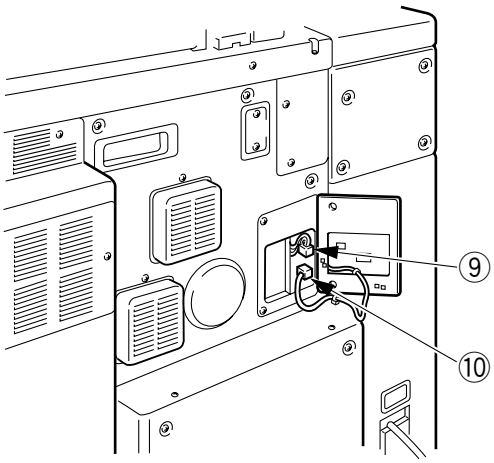

Figure 5-17

5) Fix the device to the copier's rear cover with four screws. (Use the screws that came with the copier.)

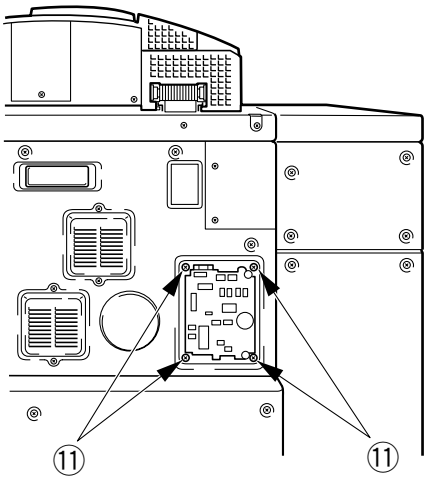

Figure 5-18

6) Remove the slack from the cable between the copier and the device; keep the excess length of the cable on the copier, and fix it in place with the harness band ⑭.

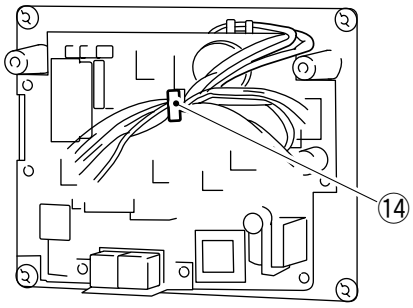

Figure 5-19

7) Shift bit 4 of the DIP switch ⑮ (SW2) of the device to OFF so that the communication mode between the copier and the device is serial.

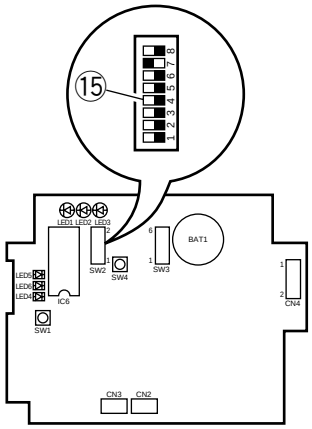

Figure 5-20

8) If the IC6 ⑯ is installed to the PCB of the device, shift bit 7 of the DIP switch ⑰ (SW2) to ON; otherwise, shift it to OFF.

Note:
If the ROM (IC6) ⑯ is not installed, you need not install it.

Note:
You must shift bit 7 of the DIP switch ⑰ (SW2) to ON when installing or replacing the ROM (IC6) ⑯ to upgrade the device.

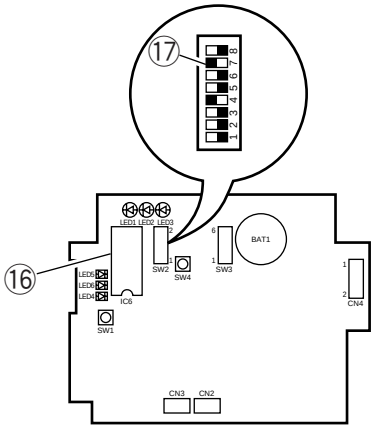

Figure 5-21

9) Set each bit of the DIP switch ⑱ (SW3) on the PCB of the device as indicated.

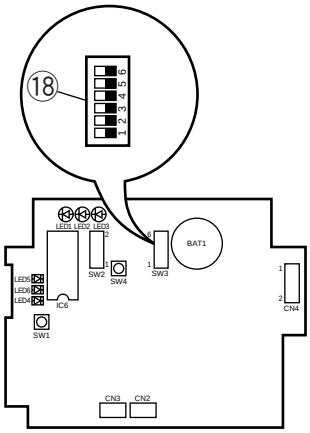

Figure 5-22

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<table>
<tr><th>Switch notation</th><th>Setting</th><th>Description</th></tr>
<tr><td>SW3-1

SW3-2</td><td>See right.</td><td>
<table>
<tr><th>SW3-1</th><th>SW3-1</th><th>Function</th></tr>
<tr><td>OFF</td><td>OFF</td><td>Sets the modem signal transmission level to -16 dBm.</td></tr>
<tr><td>ON</td><td>OFF</td><td>Sets the modem signal transmission level to -14 dBm.</td></tr>
<tr><td>OFF</td><td>ON</td><td>Sets the modem signal transmission level to -18 dBm.</td></tr>
<tr><td>ON</td><td>ON</td><td>Sets the modem signal transmission level to -10 dBm.</td></tr>
</table>
</td></tr>
<tr><td>SW3-3</td><td>OFF</td><td>Keep it OFF at all times.</td></tr>
<tr><td rowspan="2">SW3-4</td><td>ON</td><td>Use it to select push pulse for the line circuit of the device.</td></tr>
<tr><td>OFF</td><td>Use it to select dial pulse for the line circuit of the device.</td></tr>
<tr><td rowspan="2">SW3-5</td><td>ON</td><td>Use it to set the dial pulse speed to 20 PPS.</td></tr>
<tr><td>OFF</td><td>Use it to set the dial pulse speed to 10 PPS.</td></tr>
<tr><td>SW3-6</td><td>–</td><td>Not used.</td></tr>
</table>

Table 5-1

10) Connect the power supply unit to the power plug, and check to make sure that LED1 ⑲ (green) on the PCB of the device has turned ON.

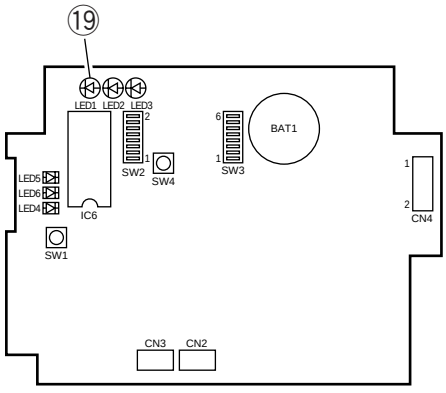

Figure 5-23

11) Execute RAM clear for the device.
Set the bits of the DIP switch ⑳ (SW2) as indicated; then, press the push switch ㉑ (SW4). LED5 ㉒ (red) will turn ON when the push switch ㉑ (SW4) is pressed.

Bits on SW2	Setting
SW2-1	OFF
SW2-2	OFF
SW2-3	ON
SW2-4	ON
SW2-5	OFF
SW2-6	OFF
SW2-7	See step 8).
SW2-8	OFF

Table 5-2

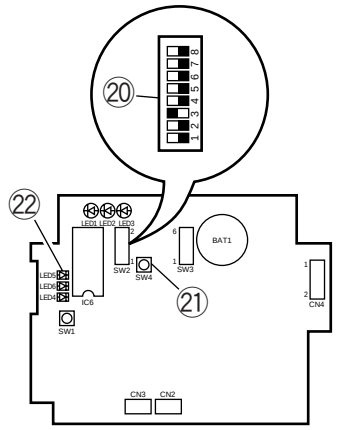

Figure 5-24

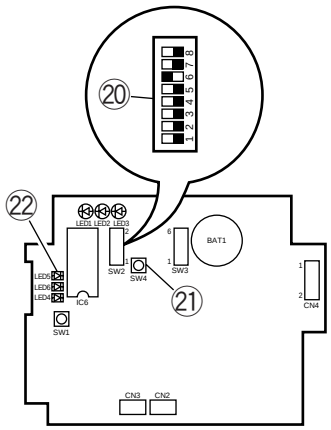

Figure 5-25

12) After checking that LED5 ㉒ (red) has turned ON, set the bits of the DIP switch ⑳ (SW2) on the PCB of the device as indicated; then, press the push switch (SW4) so that LED5 ㉒ (red) turns OFF, indicating that RAM clear has ended.

Bits on SW2	Setting
SW2-1	OFF
SW2-2	OFF
SW2-3	OFF
SW2-4	ON
SW2-5	OFF
SW2-6	ON
SW2-7	See step 8).
SW2-8	OFF

Table 5-3

13) Shift bit 6 of the DIP switch ㉓ (SW2) on the PCB of the copier to OFF.

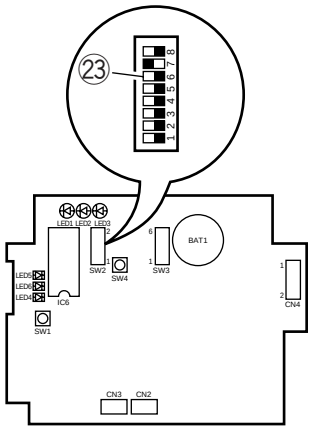

Figure 5-26

14) Connect the device to the telephone line.
If the device is to be connected on its own, connect the modular jack cable to the connector ㉔ (LINE) of the device.
If the extension function of the device is to be used, use the connector ㉕ (TEL) of the device for the existing telephone or the fax machine and use the connector ㉖ (LINE) for connection to the telephone line.

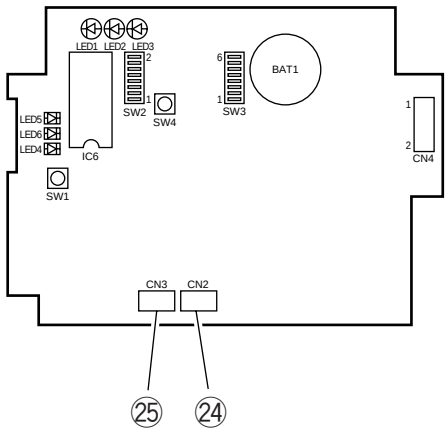

Figure 5-27

15) Call the service station, and request initial settings for the device.
(In response to a call, LED4 ㉖ (red) of the device will start to flash.)

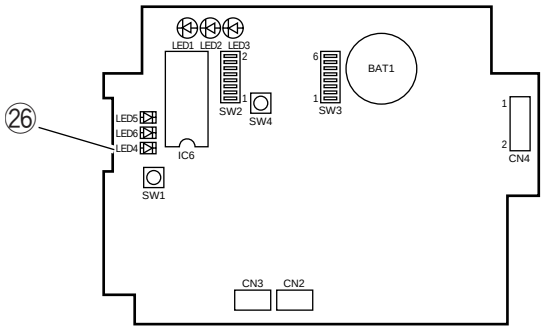

Figure 5-28

16) Call the service station to check if initial settings for the device have been made.
If settings operation has failed, repeat steps 8) through 10) and request settings.

Caution:
You must make sure that the settings are correct by contacting the service station.

17) Check to make sure that the device is capable of calling the computer at the service station.
Press the push switch ㉑ (SW4) on the PCB of the device. In response, LED6 ㉗ (red) turns ON; upon completion of transmission, LED6 ㉗ (red) turns OFF. (The LED will flash if transmission has failed.)
A press on the push switch ㉑ (SW4) while LED6 ㉗ is flashing starts transmission once again.
A press on the push switch (SW1) ㉘ while LED6 ㉗ is flashing cancels transmission.

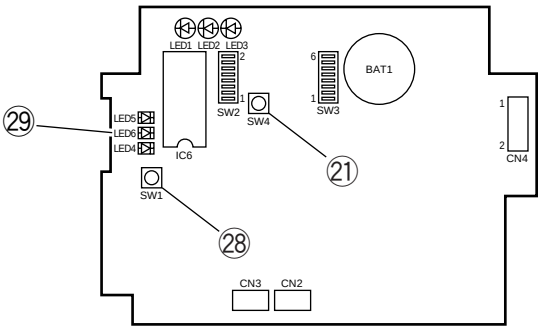

Figure 5-29

18) Check to make sure that communication between the copier and the device is normal. Connect the copier's power plug, and check to make sure that LED2 ㉙ (orange) flashes.

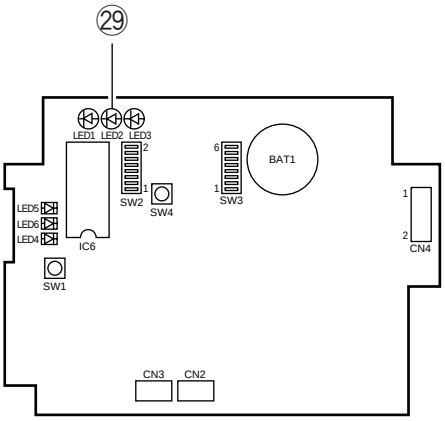

Figure 5-30

19) Check to make sure that LED3 ㉚ (pink) flashes each time delivery is made by pressing the copier's Copy Start key.

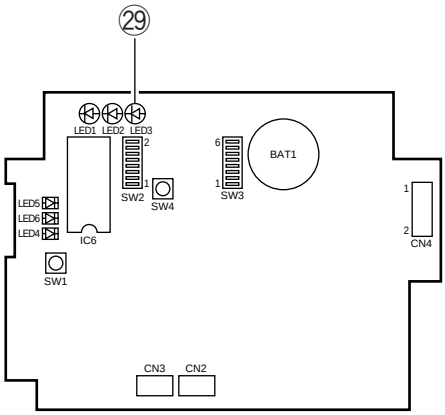

Figure 5-31

20) Attach the switch settings label on the top cover of the device, and record all switch settings.

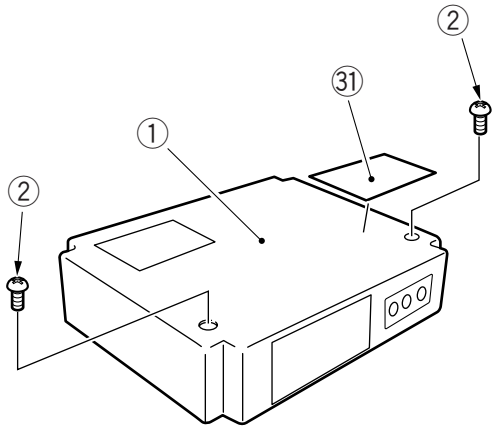

Figure 5-32

21) Fix the top cover ① of the device with two screws ②. (Be sure that the cable of the power supply unit is fixed in position on the cable guide inside the device and not trapped by the top cover ①.)

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VI. INSTALLING THE COPY DATA CONTROLLER-A1

A. Setting the Copy Data Controller-A1

1) Remove the two screws ②, and remove the top cover of the Copy Data Controller-A1.

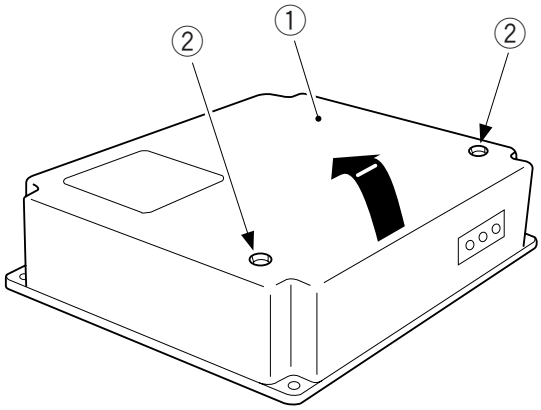

Figure 5-33

	Bit	Setting	Function	Remarks
SW1	1 ~ 3	OFF	For normal operation mode.	
	4	ON	For IPC communication.	NP6085, CLC700/800, NP6750, NP6016, GP55 Series
		OFF	For serial communication.	NP6030, NP6060, NP8530, NP9800
	5	ON	For using a central control device.	Needs the Copy Data Interface Board-B1.
		OFF	For normal operation mode or for remote control by a commercially available modem.	Needs the Copy Data Interface Board-B1 if remote control is needed with a commercially available modem.
	6	ON	RAM clear	
		OFF	For normal operation.	
SW5	1	OFF	For normal operation.	
	2	ON	For using inch-configured papers (11x17, LTR, LGL, STMT).	For sizes other than the left, use service mode.
		OFF	For using AB-configured papers (A3, A4, B4, B5).	See 5-37. "Checking the Operations."
	3	OFF	For normal operation mode.	
	4	ON	For using group control.	See Note.
		OFF	For not using group control.	
	5 , 6	OFF	Reserved.	

Note: Shift bit 4 of the DIP switch (SW5) to OFF if the Control Card V is used or only remote control by the Copy Data Controller-A1 is used (i.e., if ID input, control by paper size, Control by toner color, control by copying mode, and control by paper type is not used).

Table 5-4

2) Set the bits of the DIP switches (SW1, SW5) on the Copy Data Controller-A1 to suit the needs of the user.

2-1) Shift bit 4 of the DIP switch (SW1) to ON.

2-2) If group control is wanted, shift bit 2 of the DIP switch (SW5) to suit the control paper size.
Shift it to OFF for AB-configured papers (A3, A4, B4, B5).
Shift it to ON for inch-configured papers (11x17, LTR, LGL, STMT).

2-3) If group control is not wanted, shift bit 4 of the DIP switch (SW5) to OFF.
If you are installing the Copy Data Interface Board-B1, or Remote Diagnostic Unit-A1, see 3. “Setting the Board” for each board.

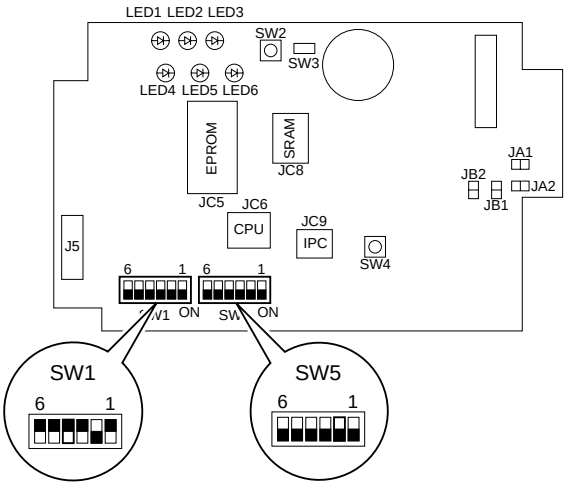

Figure 5-34

3) Set the jumper connectors (JA1, JA2, JB1, JB2) on the Copy Data Controller-A1 to suit the needs of the user.

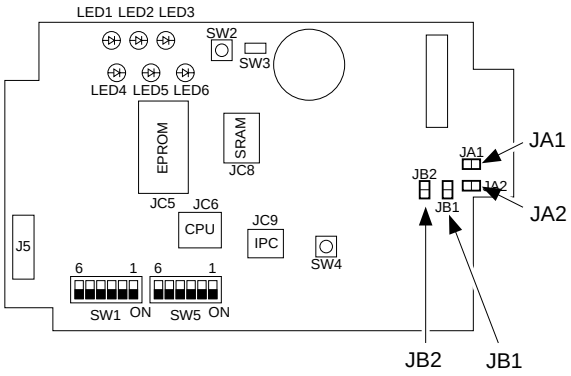

Figure 5-35

A: To connect the Remote Diagnostic Unit-A1 or the Copy Data Interface Board-B1,

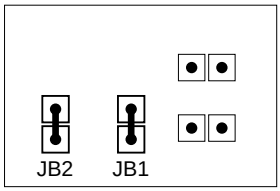

Figure 5-36a

B: To NOT connect the Remote Diagnostic Unit-A1 or the Copy Data Interface Board-B1,

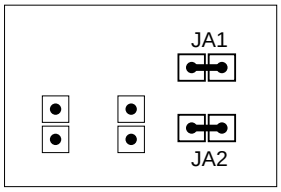

Figure 5-36b

For connection, you must have the Power Supply-A1.

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4) If you are using the Card Reader-A1, connect the Card Reader-A1 relay cable to J4 (9P) of the Copy Data Controller-A1.

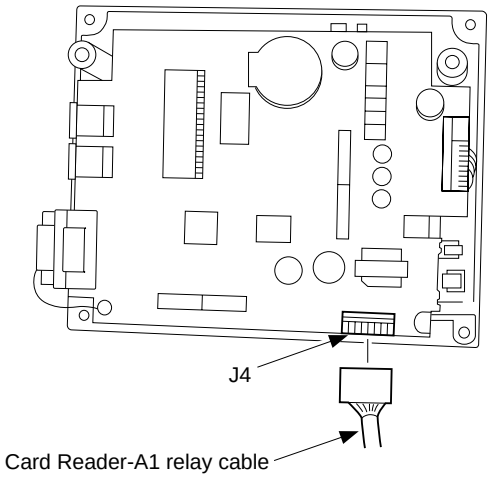

Figure 5-37

B. Installing to the Copier

1) Remove the four screws ②, and remove the face plate ① of the copier's rear cover.

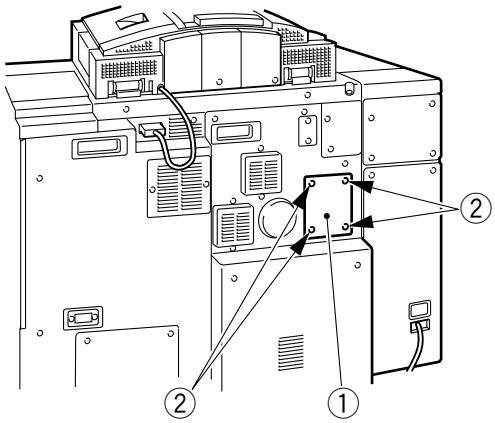

Figure 5-38

2) Connect the 8P connector of the copier and the Copy Data Controller-A1 cable ⑥.

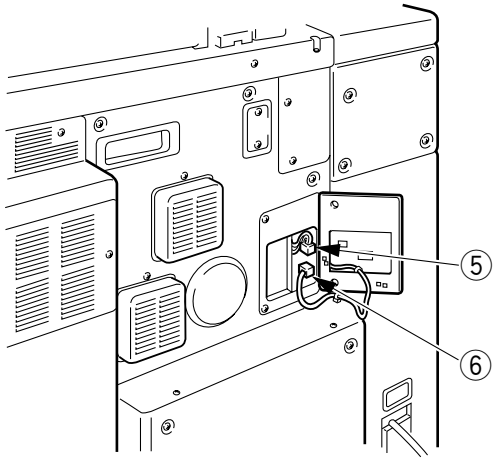

Figure 5-39

3) Fix the Copy Data Controller-A1 to the rear upper left cover with four screws ⑦.

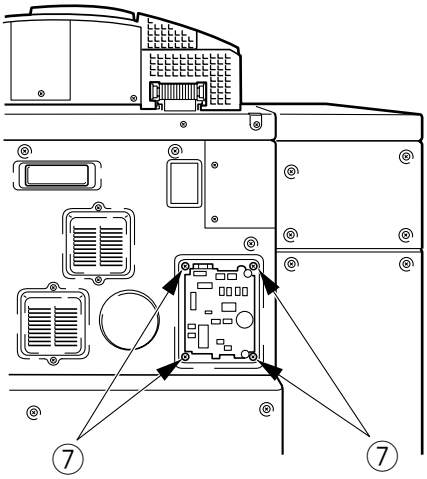

Figure 5-40

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C. Checking the Operations

1) If you are not connecting the Communication Control Board-A1 or the Copy Data Interface Board-B1*, go to step 1.
   You do not need the Power Supply-A1.
   Connect the connector ① of the Power Supply-A1 to the connector ② of the Copy Data Controller-A1 securely as shown.
   Check to make sure that the cord is in the groove of the board.

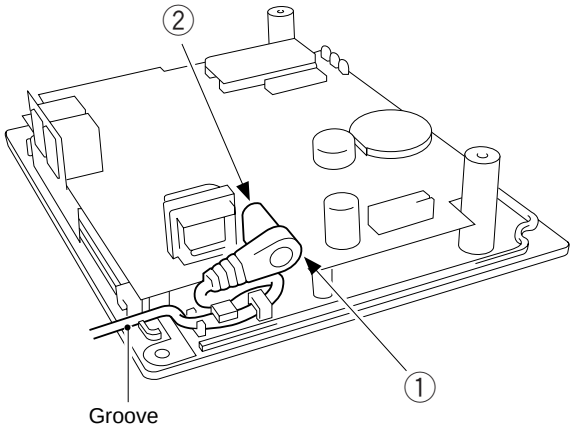

Figure 5-41

2) Connect the Power Supply-A1 to the power plug, and check to make sure that LED1 of the Copy Data Controller-A1 has turned ON.

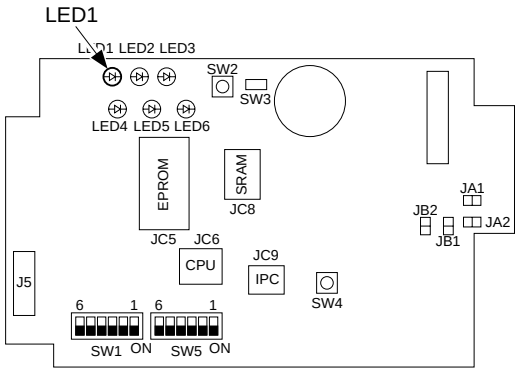

Figure 5-42

3) Turn ON the copier's main switch, and check to make sure that LED2 on the Copy Data Controller-A1 flashes.
   Make a copy to check that LED3 flashes during copying operation.

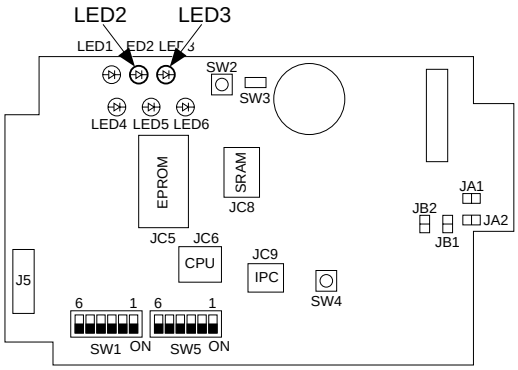

Figure 5-43

4) If you are connecting* the Communication Control Board-A1 or the Interface Board-B1, go to step 5).
   *Does not require the Power Supply-A1.
   Turn ON the copier's main switch, and check to make sure that LED1 of the Copy Data Controller-A1 turns ON and LED2 flashes.
   Make a copy and check that LED3 flashes during copying operation.

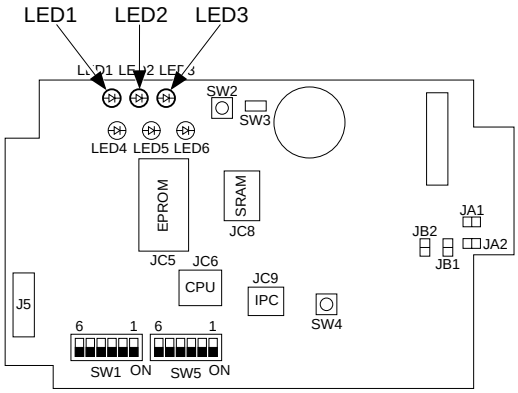

Figure 5-44

5) If group control is not wanted, go to step 11). Set the method of input, method of control, and size of paper to suit the needs of the user. Shift bit 3 of the DIP switch of the Copy Data Controller-A1 to ON.

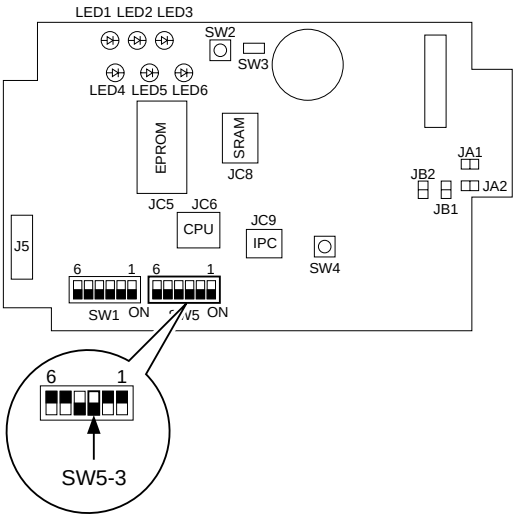

Figure 5-45

6) Connect the connector ③ of the Numeric Key Pad-A1 to the connector (J3) ④ of the Copy Data Controller-0A1.

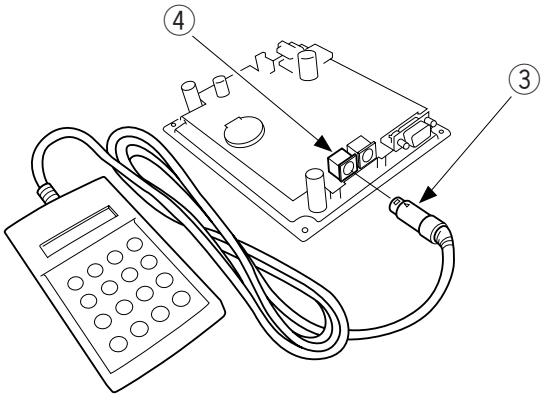

Figure 5-46

7) Press the switch (SW2) on the Copy Data Controller-A1 to start service mode.

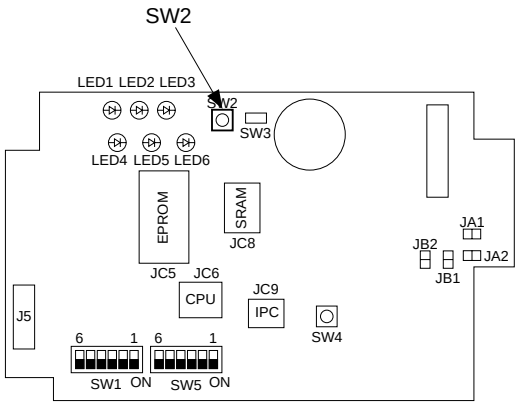

Figure 5-47

8) Set the method of input as follows:

8-1) Set card/ID No. control using the keys on the Numeric Keypad-A1. (The initial setting is by card.)

8-2) To change from card input to ID input, perform the following:
To change from ID No. to card input (requires the Card Reader-A1), go to 8-4).
MANAGE=CARD is indicated.

8-3) Press the key ②, and press the ENT key.
MANAGE=ID is indicated.

8-4) To change to card input, see that MANAGE=ID is indicated. Then, press the key ①, and press the ENT key.
MANAGE=CARD is indicated.

Code	Input
1	Card
2	ID No.

Table 5-5

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Note:

1.If bit 4 of the DIP switch of the Copy Data Controller-A1 is shifted to OFF, the notation will be as follows to indicate that group control is not done:

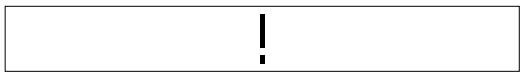

Figure 5-48

2.If the copier's memory is used for ID No. control, the existing ID Nos. may be used for the Copy Data Controller-A1. Work as follows:

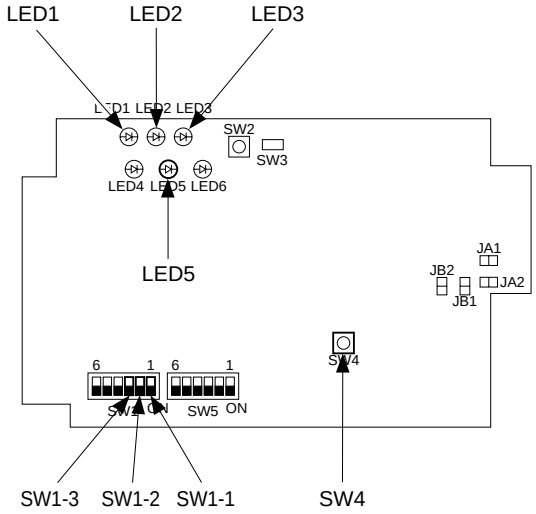

Figure 5-49

■ Using Existing ID Nos.

a. Set the DIP switch (SW1) of the Copy Data Controller-A1 as follows:

	Bit	Setting
SW1	1 , 2	ON
	3	OFF

Table 5-6

b. Press the switch (SW4) on the Copy Data Controller-A1.
LED5 turns ON instantaneously when the switch is pressed.

c. When data has been drawn successfully, LED5 turns ON.
If the attempt to draw data has failed, LED5 flashes. Press the switch (SW4) once again to make sure that LED5 turns ON. The copier will not discharge paper while data is being drawn.

d. Set the DIP switch (SW1) of the Copy Data Controller-A1 as indicated. (LED5 will turn OFF.)

	Bit	Setting
SW1	1 , 2 , 3	OFF

Table 5-7

9) Set the method of control.

9-1) Use the Numeric Keypad-A1 to select the method of control.
Use ⓥ and ⓐ so that [FORMAT= 1] is indicated.

9-2) Set the control method number as follows to suit the needs of the user. (The initial setting is '1'.)

No.	Number of groups	Paper size	Mode
1	3000	5	
2	1000	5	One-sided/two-sided
3	1000	5	Mono/2-color/full color

Table 5-8

9-3) To set '3' as the control method number,
1 [FORMAT= 1] is indicated. Since the initial setting is '1', change it to '3'.
Press the key ③.
2 When [FORMAT= 3_] has appeared, press the (ENT) key.
A press on the Ⓒ key will clear the input, allowing you to enter a number.
You may press (ESC) to stop the attempt.
3 [FORMAT= 3_] appears, and the cursor flashes indicating formatting operation. The number will be set to '3' in a while (flashing stops).

Note:
You must enter the unit cost, upper limit, counter reading, and ID Nos. once again since changing the control method number will clear such settings as well.

10) Set the control paper size.

10-1) Change the control paper size using the DIP switch on the Copy Data Controller-A1 and the Numeric Keypad-A1.
To keep the existing setting, go to step 11).

10-2) Use ⓥ and ⓐ to scan through the sizes. (However, control paper size 5 'OTH' cannot be changed and, therefore, is not shown.)

EX. 1
1 [SIZE 1 = A3] is indicated.
2 Press ⓥ.
3 [SIZE 2 = A4] is indicated.
4 Press ⓥ.
5 [SIZE 3 = B4] is indicated.
6 Press ⓥ.
7 [SIZE 4 = B5] is indicated.
8 Press ⓐ.
9 [SIZE 3 = B4] is indicated.
10 Press ⓐ.
11 [SIZE 2 = A4] is indicated.

EX. 2
To change B4 of control paper size 3 to LGL,
1 Use ⓥ and ⓐ so that [SIZE 3 = B4] is indicated.
2 From the conversion code table of Table 5-16, find the size for LL, and press ① and ③.
3 [SIZE 3 = 13] is indicated.
4 Press (ENT).
5 [SIZE 3 = LGL] appears to complete the change.

Note:
1. You cannot set multiple settings of the same paper sizes for SIZE1 through 4.
2. The counter reading will remain after the change.

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10-3) See the conversion table.

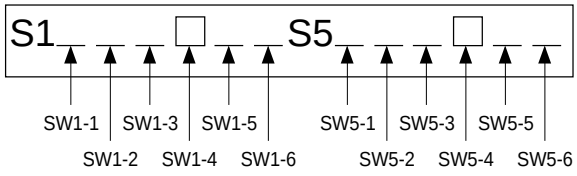
Size	Code	Size	Code
B5	1	Post card	25
FOOLS	2	U LARGE 2	26
A4	3	GLTR	27
B4	5	10 X 8	28
A3	7	GLGL	29
U SMALL (US)	8	KLGL	33
STMT	9	OFFICIO	35
U LARGE (UL)	10	EOFFICIO	36
LTR	11	AOFFICIO	37
LGL	13	BOFFICIO	38
11 X 17	15	ALTR	39
A5	17	ALGL	41
AFOOLS	18	12 X 18	48
A6	19	B3	49
FOLIO	21	A2	50
COMPUTER	23	17 X 22	51
U SMALL 2	24	18 X 24	52

Table 5-9

11) Check the DIP switch settings.

11-1) Set bit 3 of the DIP switch (SW5) of the Copy Data Controller-A1 to OFF.

11-2) Using ⓥ and ⓐ, operate so that the setting of the DIP switches (SW1, SW5) of the Copy Data Controller-A1 appears.



□ : Indicates bits at ON.

__ : Indicates bits at OFF.

Figure 5-50

11-3) Check the settings of the DIP switches (SW1, SW5) on the main board. (See Table 5-4.)

If the settings are wrong, set it as instructed for setting the Copy Data Controller-A1.

If you are installing the Interface Board-B11, Interface Board-A1, or Communication Control Board-A1 as an option, work as instructed in the respective Installation Procedure.

11-4) Press the switch (SW2).

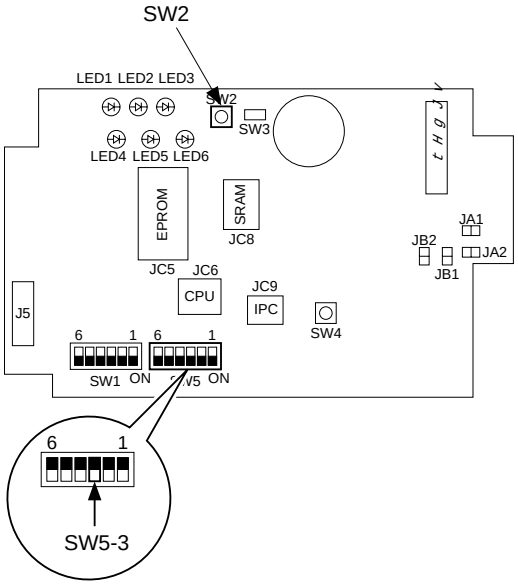


Figure 5-51

11-5) Check to make sure that the display of the Numeric Keypad-A1 is as shown, and disconnect the Numeric Keypad-A1.

Figure 5-52

12) Attach the switch settings label ⑥ to the top cover of the Copy Data Controller-A1, and record all the switch settings on the label.

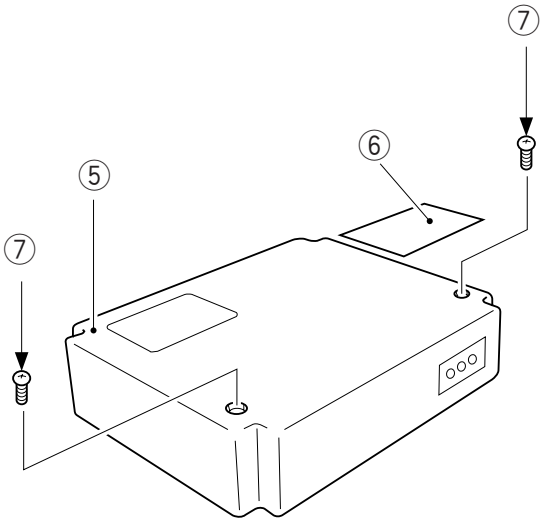


Figure 5-53

13) Fix the top cover of the Copy Data Controller-A1 with two screws 2.
(Make sure that the cable of the power supply unit is fixed in place to the cable guide inside the Copy Data Controller-A1 and is not trapped by the top cover.)

14) As necessary, connect the Control Card Printer A-1 to the connector J4 of the Copy Data Controller-A1. (Use a relay cable if necessary.)
IF off-line control is planned, connect it to the RS232C I/F connector of Copy Data Controller-A1.

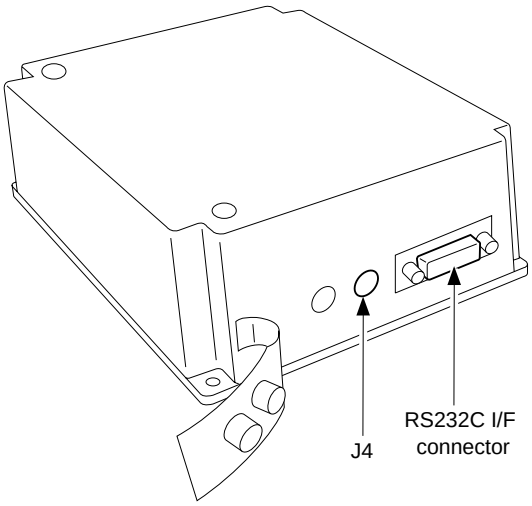


Figure 5-54

15) If no part of the cable is outside the Copy Data Controller-A1, end the work by attaching the petty-pull to the lower right of the copier's rear.

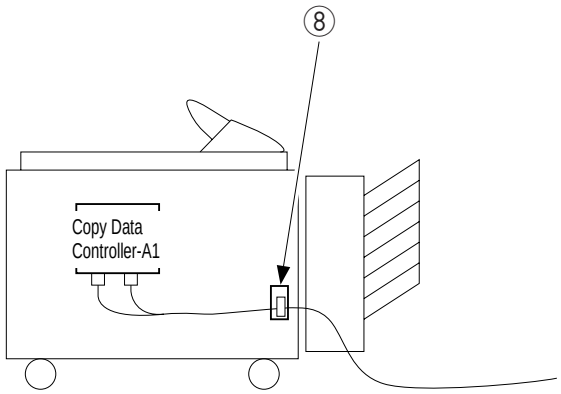


Figure 5-55

16) Fix the cable connect to the Copy Data Controller-A1 to the petty pull.

17) Check to make sure that no cable is trapped by the copier or the sorter castors.

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VII.INSTALLING THE CARD READER-A1

Caution:
You must have the Copy Data Controller-A1 to install the Card Reader-A1 to the copier.

A. Setting the Copy Data Controller-A1

1) Remove the two screws ②, and remove the top cover ① of the Copy Data Controller-A1.

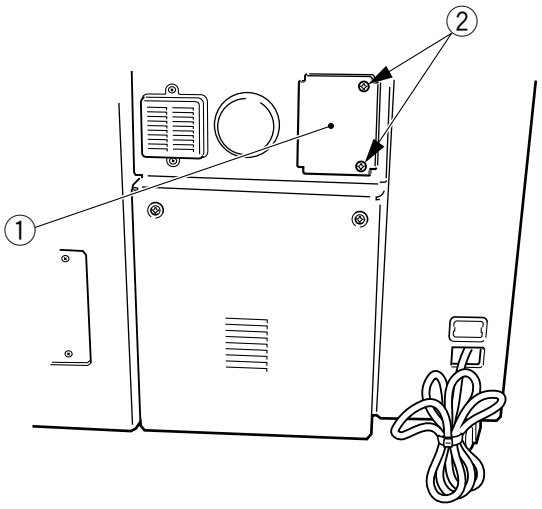

Figure 5-56

2) Set the DIP switches (SW1, SW5) of the Copy Data Controller-A1 to suit the needs of the user.

2-1) Shift bit 4 of the DIP switch (SW1) to ON.

2-2) For group control, set bit 2 of the DIP switch (SW5) to suit the control paper size.
For AB-configured papers (A3, A4, B4, B5), to OFF.
For inch-configured papers (LDR, LTR, LGL, STMT), to ON.

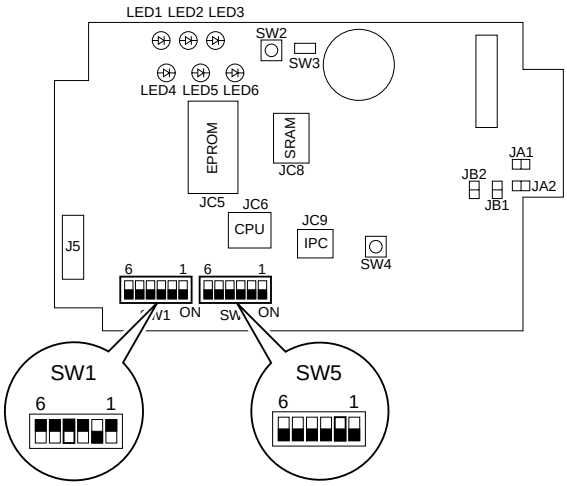

Figure 5-57

3) Set the jumper connectors (JA1, JA2, JB1, JB2) on the Copy Data Control-A1 to suit the needs of the user.

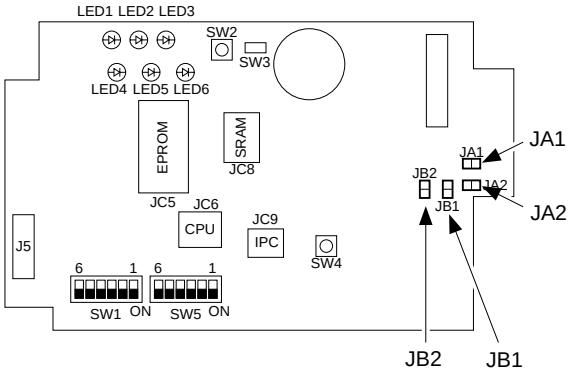

Figure 5-58

A: To connect the Remote Diagnostic Unit-A1 or the Copy Data Interface Board-B1,

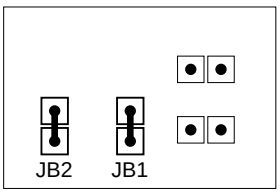

Figure 5-59

B: To NOT connect the Remote Diagnostic Unit-A1 or the Copy Data Interface Board-B1,

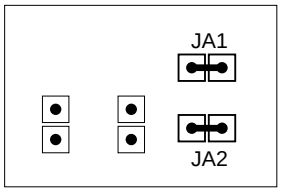

Figure 5-60

For connection, you must have the Power Supply-A1.

4) Connect the Card Reader-A1 relay cable ④ to the 9P connector (J4) ③ of the Copy Data Controller-A1.

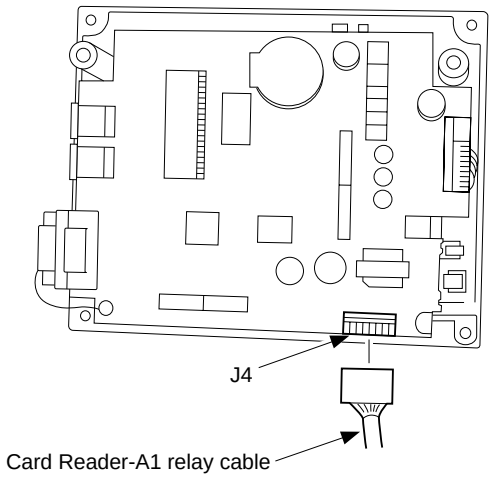

Figure 5-61

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

B. Installation to the Copier

Caution:

Observe the following when installing the Card Reader-A1 to the copier:

1. Make sure that the copier has been properly installed.
2. Keep the copier's power plug disconnected for the work.
   If the Power Supply-A1 is connected to the Copy Data Controller-A1, disconnect the Power Supply-A1 from the power outlet.
3. Identify the screws by type (length, diameter) and location.

1) Remove the magnet plate.
2) Remove the control panel.
3) Remove the inlet face plate of the Card Reader-A1.
4) Remove the six screws ①, and remove the front upper cover.

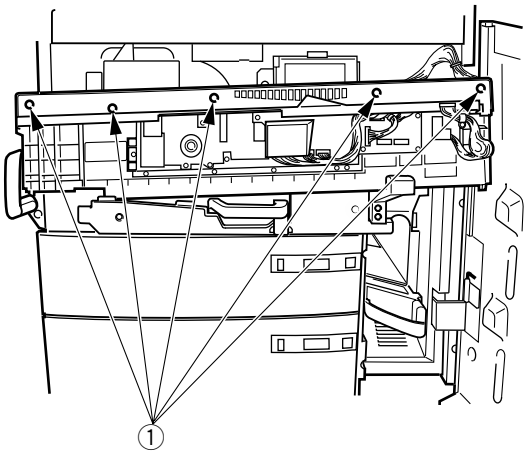

Figure 5-62

5) Remove the seven screws ② and the two screws ③ used to keep the grounding wire in place; then, remove the wire saddle ④ and the metal plate.

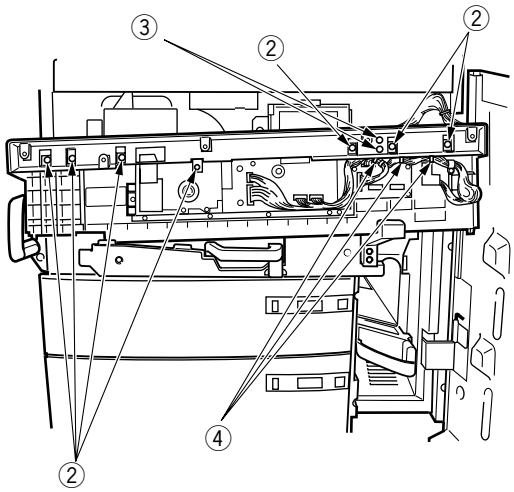

Figure 5-63

6) Remove the screw ⑤ from the face plate.

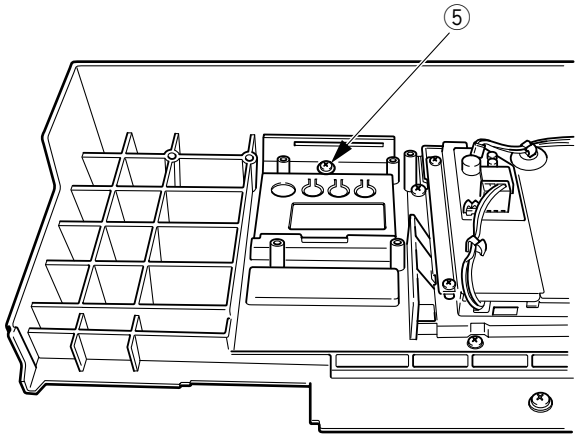

Figure 5-64

7) Fix the Card Reader-A1 in place on the control panel with four screws ⑥.
Check to make sure that the stickers indicated by arrows are in view and are correctly oriented.
At this time, insert a card ⑦ into the Card Reader-A1, and fix the Card Reader-A1 in place where the card may be slid in and out smoothly.

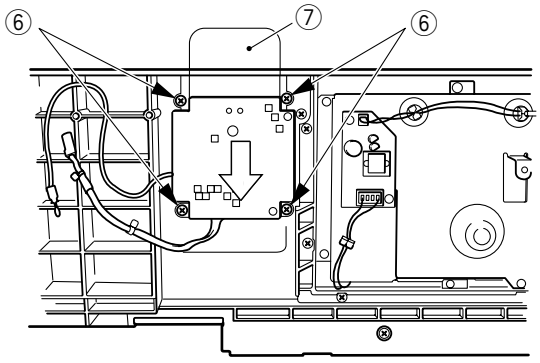

Figure 5-65

8) Install the grounding wire ⑧ of the Card Reader-A1 where indicated with a screw ⑨.

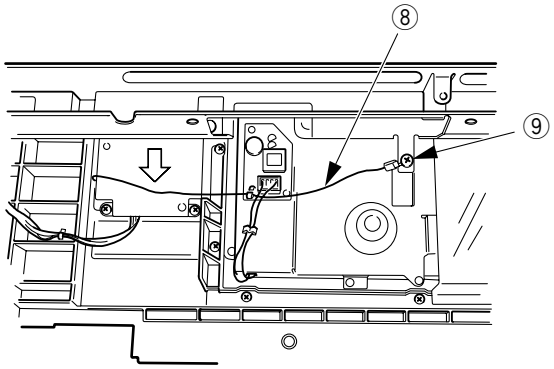

Figure 5-66

9) Connect the 9P connector ⑩ of the Card Reader-A1 and the 9P connector ⑪ of the copier.

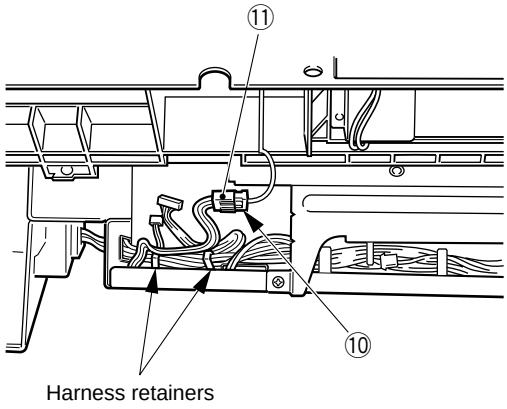

Figure 5-67

10) Install the control panel to the copier.

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C. Connecting to the Copy Data Controller-A1

1) Remove the four screws ①, and remove the Copy Data Controller-A1.

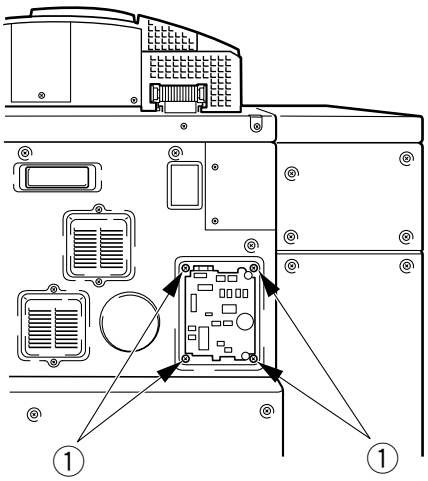

Figure 5-68

2) Connect the 8P connector ② of the copier and the relay cable ③ of the Card Reader-A1.

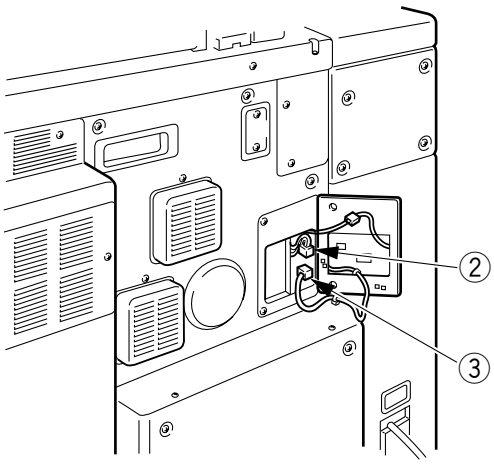

Figure 5-69

3) Fix the Copy Data Controller-A1 to the mounting with four screws.

D. Checking the Operations

For how to check the operations, see p. 5-45.

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CHAPTER 6

MAINTENANCE AND INSPECTION

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

I. PERIODICALLY REPLACED PARTS

Some parts of the NP6085 must be replaced on a periodical basis regardless of the presence/absence of damage. Plan replacement so that it coincides with a scheduled servicing.

As of end of June 1996

No.	Part	Part No.	Q'ty	Life	Remarks
1	Pre-transfer/transfer/separation charging wire	FY3-0030-000	AR	250,000	100V
		FY3-0040-000	AR	250,000	208/220/240V
2	Primary charging wire	FY1-0275-000	AR	250,000	
3	Thermistor (fixing assembly)	FH7-7385-000	1	500,000	
4	Thermal switch (fixing assembly)	FH7-7154-000	1	1,000,000	

Note: The above values are estimates only and are subject to change based on future data.

Table 6-101

II. CONSUMABLES AND DURABLES

Some parts of the NP6085 may have to be replaced once or more over the period of warranty. Replace them as necessary.

A. Copier

As of end of June 1996

No.	Part	Part No.	Q'ty	Life	Remarks
1	Scanner lamp	FH7-3287-000	1	250,000	100V
		FH7-3288-000	1	250,000	208/220/240V
2	Separation roller (front tray/paper deck)	FB2-7777-000	3	250,000	Actual copies made.
3	Separation roller (multifeeder)	FB2-9269-000	1	250,000	Replace
4	Pick-up/feeding roller (front tray/paper deck/multifeeder)	FA6-8089-000	8	250,000	simultaneously.
5	Sub feeding roller (re-pick up assembly)	FB2-9299-000	2	250,000	Actual copies made.
6	Pick-up/feeding roller (re-pick up assembly)	FA6-8089-000	2	250,000	Actual copies made.
7	Separation roller (re-pick up assembly)	FC1-9410-000	2	250,000	Replace simultaneously.
8	Cleaner separation claw	FA3-1937-020	2	250,000	
9	Fixing cleaning belt	FA5-3720-000	1	250,000	
10	Transfer dust-proofing filter	FF5-5838-000	1	250,000	
11	Cleaning blade (drum cleaning assembly)	FB3-8809-000	1	500,000	The edge of cleaning blade:250,000
12	Pick-up roller (front/multifeeder)	FA6-7777-000	6	500,000	
13	Pick-up roller (paper deck)	FA6-8089-000	2	500,000	Actual copies made
14	Crescent roller (re-pick up)	FB1-9830-000	4	500,000	Actual copies made
15	Primary charging wire cleaner 1	FF2-3552-000	2	500,000	Actual copies made
16	Primary charging wire cleaner 2	FF2-3551-000	2	500,000	
17	Primary charging assembly grid wire	FY1-0883-000	AR	500,000	
18	Transfer charging wire cleaner 1	FF5-5783-000	1	500,000	
19	Transfer charging wire cleaner 2	FF5-5782-000	1	250,000	
20	Separation charging wire cleaner	FF5-5774-000	1	250,000	

Table 6-201a

CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

No.	Part	Part No.	Q'ty	Life	Remarks
21	Pre-transfer charging wire cleaner	FF5-3090-000	1	500,000	
22	Pre-transfer charging assembly scraper	FB3-7820-000	1	500,000	
23	Upper fixing roller	FB1-9885-000	1	500,000	Replace simultaneously.
24	Insulating bush (front/rear)	FB1-9927-000	2	500,000	
25	Lower fixing roller	FBI-9886-000	1	500,000	
26	Delivery upper separation claw	FC1-0391-000	4	500,000	
27	Primary charging wire	FG2-1984-110	1	1,000,000	
28	Transfer/separation charging assembly	FG5-8133-000	1	1,000,000	
29	Pre-transfer charging assembly	FG5-7607-000	1	1,000,000	
30	Developing cylinder	FF5-1960-000	1	1,000,000	
31	Developing assembly roll	FA5-3770-000	2	1,000,000	
32	Bearing (upper fixing roller)	XG9-0247-000	2	1,000,000	
33	Delivery lower separation claw	FA2-8345-000	4	1,000,000	
34	Bearing (lower fixing roller)	XG9-0300-000	2	1,000,000	

Table 6-201b

B. C.F.F.

No.	Part	Part No.	Q'ty	Life	Remarks
1	C.F.F. lamp	FH7-3226-000	1	250,000	100V
		FH7-3227-000	1	250,000	208/220/240V

Note: The values above are estimates only and are subject to change based on the field data.

Table 6-201c

III. SCHEDULED SERVICING

Note:

1. As a rule, provide scheduled servicing every 250,000 copies.
2. Check the service record before setting out on a visit, and take parts if replacement is expected.

No.	Work	Checks	Remarks
1	Meet the person in charge.	Check the general conditions.	
2	Record the counter reading.	Check faulty copies.	
3	Make test copies.	Check the following: a. Image density b. White background (for soiling) c. Character clarity d. Leading edge margin e. Fixing, registration, back (for soiling) f. Counter operation	Standard: 5.5 to 3.0 mm
4	Clean the optical path • Scanning lamp reflecting plate • Scanning side reflecting plate • Lens, mirror • Dust-proofing glass • Standard white plate • Heat absorption glass		Use a blower brush; if dirt cannot be removed, use alcohol. Dry wipe the part.
5	Clean/replace the charging assembly. • Charging wire, charging assembly • Grid wire • Shielding plate • Roller electrode		Dry wipe with lint-free paper; then, clean with alcohol.
6	Clean the transfer guide: • Transfer guide plate (upper, lower) • Transfer/separation charging assembly guide rail		
7	Clean the separation/feeding assembly: • Feeding belt		

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No.	Work	Checks	Remarks
8	Clean the fixing/delivery assembly: • Inlet guide • Oil receptacle • Thermistor • Separation claw (upper, lower) • Fixing roller (upper, lower) • Check the cleaning belt.		 Use solvent. Use solvent. Use solvent. Use cleaning oil.
9	Clean the exposure assembly: • Blank exposure assembly scoop-up sheet • Pre-exposure assembly scoop-up sheet		
10	Clean the filter: • Ozone filter • Dust-proofing fan filter		
11	Check the waste toner case.	If the waste toner case is half or more full, collect the waste toner in a plastic bag or replace the case.	
12	Provide scheduled servicing according to the number of copies made. (See p. 6-6.)		
13	Clean the copyboard glass.		
14	Make test copies.	Perform the image adjustment procedure to adjust the image.	
15	Make sample copies.		
16	Put sample copies in order, and clean up the area around the machine.		
17	Record the final counter reading.		
18	Fill out the service sheet, and report to the person in charge.		

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IV. SCHEDULED SERVICING CHART

A. Copier

Caution: Do not use solvents or oils other than those specified.

Unit	Part	Maintenance intervals				Remarks
		Upon installation	Every 250,000 copies	Every 500,000 copies	Every 1,000,000 copies	
Externals	Copyboard glass		△			Use alcohol.
	Ozone filter		△			
	Dust-proofing fan filter			△		
	Process cover		△			Be sure no droplet of water remains.
	Hopper upper cover		△			
	Hopper supply mouth cover		△			
	Hopper inside cover		△			
	Hoooer assembly slide lid		△			
Scanner drive assembly	Scanner cable		◎ □			Inspect/adjust after the initial 250,000 copies.
	Scanner rail			△ ×		Use alcohol; then, apply lubricant (CK-0451-000).
	Slide shoe			△ ×		
Optical path	No. 1 through No.4 mirror (Note)		△			Use a blower brush. If the dirt cannot be removed, use alcohol.
	Dust-proofing glass		△			
	Heat absorption glass		△			
	Scanning lamp reflecting plate		△			
	Standard white plate		△			Dry wipe.
	Scanning lens		△			
Feeding assembly	Transfer guide plate		△			Use alcohol.
	Registration roller (upper, lower)		△			
	Feeding belt		△			Use alcohol.
	Feeding rollers		△			
Holding tray	Re-pick up assembly outlet guide		△			Use alcohol.
	Re-pick up assembly sub feeding roller		△			Use alcohol.
	Re-pick up assembly pick-up/ feeding roller		△			Use alcohol.
	Re-pick up assembly separation roller		△			Use alcohol.

Note: Take care not to touch the mirror sand lenses.

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Unit	Part	Maintenance intervals				Remarks
		Upon installation	Every 200,000 copies	Every 500,000 copies	Every 1,000,000 copies	
Charging assembly	Charging wire		●			
	Primary charging assembly grid wire		△			Use alcohol.
	Charging assembly		△			
	Roller electrode assembly (pre-transfer charging assembly)		△			Dispose of the waste toner, and clean.
Photosensitive drum	Photosensitive drum		◎ △			Put drum cleaning powder (CK0429) and alcohol on lint-free paper, and clean; then, dry wipe.
	Blank exposure assembly scoop-up sheet		△			Dry wipe.
	Transfer dust-proofing filter		●			
	Transfer dust-proofing duct 1		△			
	Transfer dust-proofing duct 2		△			
	Transfer dust-proofing duct 3		△			
	Pre-cleaning exposure cover		△			
	Cleaning blade (edge)		●			
Developing assembly	Developing cylinder	◎ △				Supply toner, and dry wipe with lint-free paper.
	Developing assembly roll		△			Use alcohol.
Fixing assembly	Inlet guide		△			Use alcohol.
	Oil receptacle		△			
	Cleaning belt	◎				Take it up upon installation.
	Thermistor		△	●		Use solvent.
	Thermal switch				●	
	Fixing roller (upper, lower)		△			Use cleaning oil (TKN-0464-000).
Delivery assembly	Separation claw (upper, lower)		△			Use solvent.
Waste toner collection assembly	Waste toner case		◎			

B. C.F.F.

△: Clean ●: Replace ✕: Oil □: Adjust ◎: Check

Item	Installation	minimum interval for copier	Remarks
Platen glass		△	Figure 6-1, ②
white plate		△	Figure 6-1, ③
paper sensor		△	
Dustproof glass		△	Figure 6-1, ④
C.F.F. mirror		△	Figure 6-1, ⑤
Optional shutter side		△	Figure 6-1, ⑥

Note:

Use the copier counter reading as guide, and carry out the works as needed.

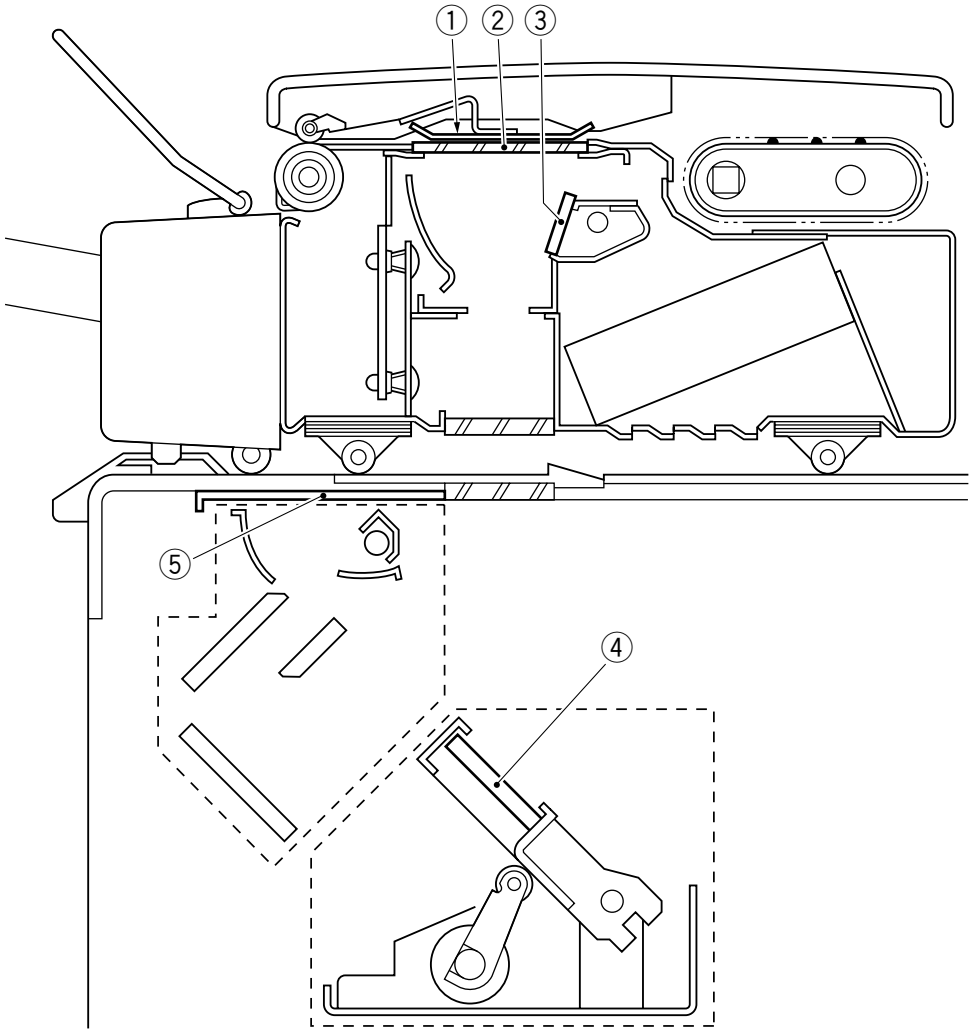


Figure 6-1

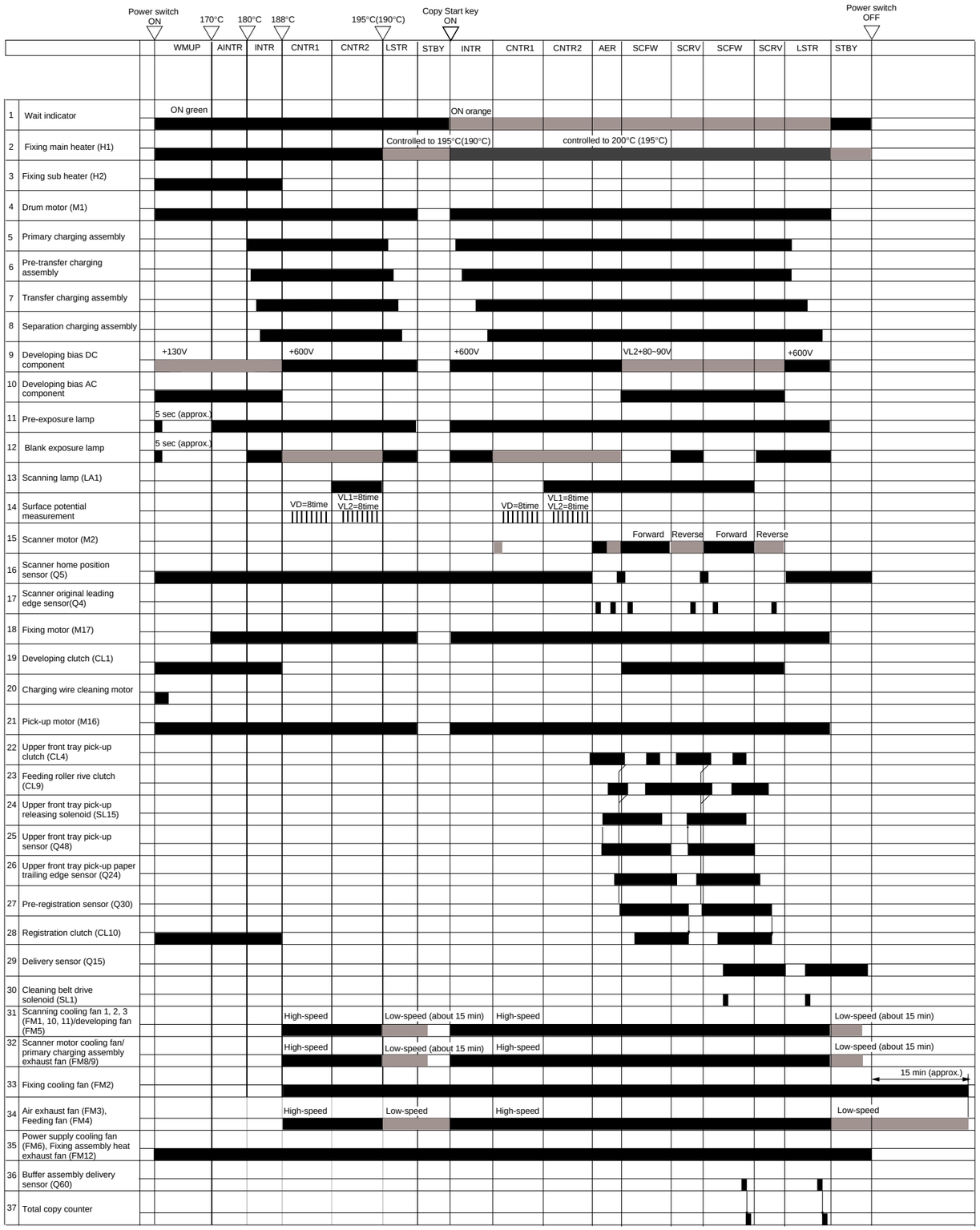
CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

APPENDIX

 CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

A. General Timing Chart

upper front tray, A4, 2 copies, continuous



CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

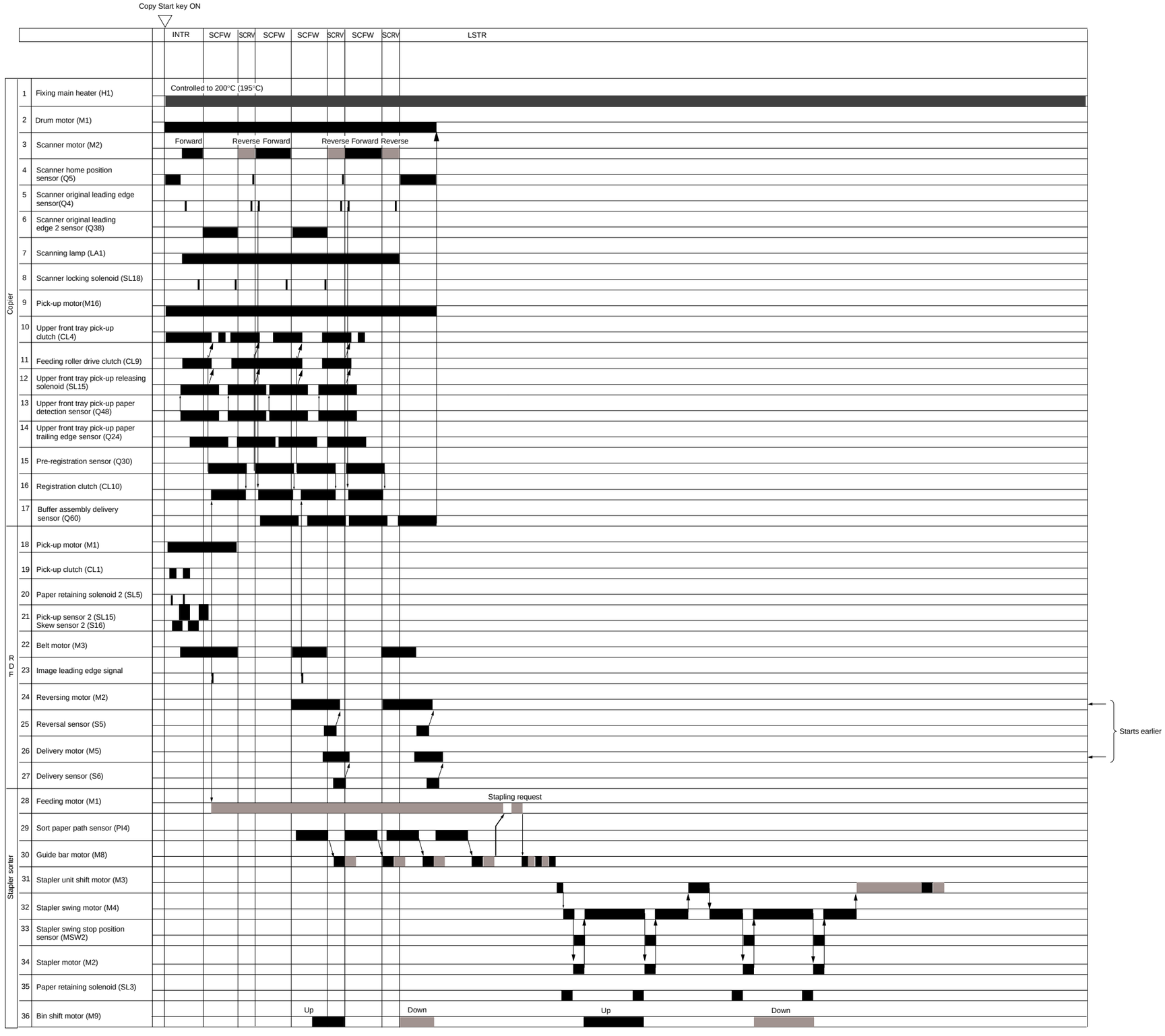
A. General Timing Chart

copier + RDF-D1 + Stapler Sorter-E2
continuous copying

upper front tray, A4, 2 originals, 2 copies, continuous

RDF: right pick-up (stream reading)

sorter: double binding



CANON NP6085 REV.0 JULY 1996 PRINTED IN JAPAN (IMPRIME AU JAPON)

B. LIST OF SIGNALS/COMMANDS

SIGNALS AND COMMANDS

4KFBCD	PAPER DECK FEEDING ROLLER STOP signal
4KFCD	PAPER DECK FEEDING ROLLER CLUTCH DRIVE signal
4KPCD	PAPER DECK PICK-UP CLUTCH DRIVE signal
4KPS	PAPER DECK PICK-UP PAPER DETECTION signal
A	PAPER JOGGING GUIDE MOTOR PHASE A
AC0ON	DIRECT POWER SUPPLY signal
AC1D	INDIRECT POWER SUPPLY DETECTION signal
ACBTP	DEVELOPING BIAS AC OUTPUT signal
ACON	AC TRANSFORMER DRIVE signal
B	PAPER JOGGING GUIDE MOTOR PHASE B
BDS	BUFFER ASSEMBLY DELIVERY DETECTION signal
BPS	BUFFER ASSEMBLY PAPER DETECTION signal
BTS	DEVELOPING ASSEMBLY BLACK TONER DETECTION signal
CBCD	COPYBOARD COVER DETECTION signal
CBOUT	CLEANING BELT ABSENT signal
CBOP	CLEANING BELT LENGTH DETECTION signal
CCNNT	CONTROL CARD DETECTION signal
CCNTD	CONTROL CARD DRIVE signal
CFFST	C.F.F. SET signal
CFLE	ORIGINAL LEADING EDGE signal
CLBSD	CLEANING BELT SOLENOID DRIVE signal
CNTP	COPY COUNT signal
COM	PAPER JOGGING GUIDE MOTOR COMMON signal
COSET	C.F.F. COVER 0 CLOSE signal
(DCBC)	DEVELOPING BIAS DC OUTPUT signal
DDO	DELIVERY DOOR OPEN DETECTION signal
DFWD	ORIGINAL FORWARD signal
DHRD	DRUM HEATER DRIVE signal
DKON	LIFTER ON CONTROL signal
DKDOWN	LIFTER UP/DOWN CONTROL signal
DMD	DRUM MOTOR DRIVE signal
DMFG	DRUM MOTOR CLOCK signal
DMFS	DRUM MOTOR SPEED CONTROL signal
DOSET	ORIGINAL SET signal
DOTD	ORIGINAL LEADING EDGE DETECTION signal
DOWD	ORIGINAL WIDTH DETECTION signal
DPISD	PAPER SUB FEEDING ROLLER DOWN signal
DPSSD	RE-PICK UP ASSEMBLY RELEASING SOLENOID DRIVE signal
DRVS	ORIGINAL REVERSAL signal
DSD1	NO. 1 DEFLECTING PLATE SOLENOID DRIVE signal
DSD2	NO. 2 DEFLECTING PLATE SOLENOID DRIVE signal
DSZ1	ORIGINAL SIZE 1 DETECTION signal
DSZ2	ORIGINAL SIZE 2 DETECTION signal
DSZ3	ORIGINAL SIZE 3 DETECTION signal
DSZ4	ORIGINAL SIZE 4 DETECTION signal
DUPCD	RE-PICK UP CLUTCH DRIVE signal
DVLD	DEVELOPING CLUTCH DRIVE signal
ECDRER	MOTOR ERROR STOP DETECTION signal
FDO	FRONT DOOR CLOSED DETECTION signal
FEDCD	FEEDING ROLLER CLUTCH DRIVE signal
FILS	FIXING ASSEMBLY INTERLOCK DETECTION signal
FIXC	FIXING ASSEMBLY HEAT DISCHARGE FAN DRIVE signal
FIXLK	FIXING ASSEMBLY LOCKING SOLENOID DRIVE signal
FM1A	FAN MOTOR 1 DRIVE signal
FM2A	FAN MOTOR 2 DRIVE signal
FM1/2D	C.F.F. FAN DRIVE signal
FMD	FIXING MOTOR DRIVE signal
FMDH1	FAN MOTOR 1 HIGH-SPEED ROTATION DRIVE signal
FMDH2	FAN MOTOR 2 HIGH-SPEED ROTATION DRIVE signal
FMDL1	FAN MOTOR 1 LOW-SPEED ROTATION DRIVE signal
FMDL2	FAN MOTOR 2 LOW-SPEED ROTATION DRIVE signal
FMFG	FIXING MOTOR CLOCK signal
FMFS	FIXING MOTOR SPEED CONTROL signal
FTLON	FRONT TRAY MOTOR ON signal
FTLUD	UP/DOWN SWITCH signal
FXDSD	FIXING DRIVE STOP signal
FXSD	FIXING ASSEMBLY DETECTION signal
HMD	HOPPER MOTOR DRIVE signal
HPSET	C.F.F. HOME POSITION signal
HRA	HEATER ON DETECTION signal
HRD	FIXING HEATER ON signal
(HUM1)	HUMIDITY DETECTION signal
(HVPCT)	PRE-TRANSFER CORONA CURRENT CONTROL signal
HVRMT	HIGH-VOLTAGE UNIT DRIVE signal
(HVSCT)	SEPARATION CORONA CURRENT CONTROL signal
(HVTCT)	TRANSFER CORONA CURRENT CONTROL signal
(HVTPC)	PRIMARY CORONA CURRENT CONTROL signal
LAA	LAMP ON DETECTION signal
LA2ON	BUFFER ASSEMBLY LAMP ON signal
LA3ON	FRONT TRAY LAMP ON signal
LASEL	SCANNING LAMP SELECT signal
LDSD	L-SIZE PAPER DEFLECTING PLATE SOLENOID DRIVE signal
LFPS	LOWER FRONT TRAY PICK-UP DETECTION signal
LINT	INTENSITY CONTROL signal
LLTP	LOWER FRONT TRAY LIFTER POSITION DETECTION signal
LPUCD	LOWER FRONT TRAY PICK-UP ROLLER DRIVE signal
LPRSD	LOWER FRONT TRAY PICK-UP ROLLER RELEASING SOLENOID DRIVE signal
LRD	SCANNING LAMP ON signal
LSPE	LOWER SIDE TRAY PAPER ABSENT DETECTION signal
LSTAS	LOWER SIDE TRAY PAPER LEVEL DETECTION signal
LSPS	LOWER SIDE TRAY PICK-UP DETECTION signal
LSLUD	LOWER SIDE TRAY LIFTER UPPER LIMIT DETECTION signal
LSLLD	LOWER SIDE TRAY LIFTER LOWER LIMIT signal
LSPUCD	LOWER SIDE TRAY PICK-UP ROLLER DRIVE signal
LSLD	LOWER SIDE TRAY OPEN LED signal
LSLMD	LOWER SIDE TRAY LIFTER MOTOR DRIVE signal
LSRSD	LOWER SIDE TRAY RELEASE signal
LSOP	LOWER SIDE TRAY OPEN signal
LSPRSD	LOWER SIDE TRAY PICK-UP ROLLER RELEASING SOLENOID DRIVE signal
LSPRDS	LOWER SIDE TRAY PAPER TRAILING EDGE signal
LTLLD	LOWER FRONT TRAY LIFTER LOWER LIMIT DETECTION signal
LTLD	LOWER FRONT TRAY OPEN LED ON signal
LTRSD	LOWER FRONT TRAY RELEASING SOLENOID DRIVE signal
LTLUD	LOWER FRONT TRAY LIFTER UPPER LIMIT DETECTION signal
LTOP	LOWER FRONT TRAY OPEN signal
LTPE	LOWER FRONT TRAY PAPER ABSENT signal
LTPLD	LOWER FRONT TRAY PAPER LENGTH LOWER DETECTION signal
LTPLU	LOWER FRONT TRAY PAPER LENGTH UPPER DETECTION signal
LTAS	LOWER FRONT TRAY PAPER LEVEL DETECTION signal
LTPWD	LOWER FRONT TRAY PAPER WIDTH LOWER DETECTION signal
LTPWU	LOWER FRONT TRAY PAPER WIDTH UPPER DETECTION signal
LTRYO	LOWER FRONT TRAY OPEN DETECTION signal
LSTRYO	LOWER SIDE TRAY OPEN DETECTION signal
LSLTP	LOWER SIDE TRAY LIFTER POSITION DETECTION signal
LX-A	LENS X MOTOR PHASE A
LX-B	LENS X MOTOR PHASE B
LX-HOLD	LENS X MOTOR HOLD signal
LXHP	LENS X HOME POSITION signal
LY-A	LENS Y MOTOR PHASE A
LY-B	LENS Y MOTOR PHASE B
LY-HOLD	LENS Y MOTOR HOLD signal
LYHP	LENS Y MOTOR POSITION signal
M2BRK	SCANNER STOP signal
M2CLK	SCANNER CLOCK PULSE signal
M2F/4	SCANNER FORWARD signal
M2FS	SCANNER SPEED signal
M2MD0/1/2	COPIER REPRODUCTION RATIO SELECT signal
M2ON	SCANNER MOTOR DRIVE CONTROL signal
M4FG	SIDE TRAY MOTOR CLOCK signal
M4FS	SIDE TRAY SPEED CONTROL signal
M4ON	SIDE TRY MOTOR ON signal
6FW	PRIMARY CHARGING WIRE CLEANING MOTOR CW signal
M6RV	PRIMARY CHARGING WIRE CLEANING MOTOR CCW signal
M15FW	C.C.F. MIRROR CW signal
M15RV	C.C.F. MIRROR CCW signal
M7FW	PRE-TRANSFER CHARGING WIRE CLEANING MOTOR CW signal
M7RV	PRE-TRANSFER CHARGING WIRE CLEANING MOTOR CCW signal
M8FW	TRANSFER/SEPARATION CHARGING WIRE CLEANING MOTOR CW signal
M8RV	TRANSFER/SEPARATION CHARGING WIRE CLEANING MOTOR CCW signal
MCLK	C.F.F. MOTOR CLOCK PULSE signal
MDSD	M-SIDE PAPER DEFLECTING PLATE SOLENOID DRIVE signal
MFPCD	MULTIFEEDER PICK-UP CLUTCH DRIVE signal
MFS	MULTIFEEDER PAPER DETECTION signal
MPRDS	SIDE TRAY MULTIFEEDER PAPER TRAILING EDGE DETECTION signal
MLPS	SIDE TRAY MULTIFEEDER LARGE-SIZE PAPER DETECTION signal
MFPS	SIDE TRY MULTIFEEDER PICK-UP DETECTION signal
MHP	C.C.F. MIRROR HOME POSITION signal
MSPRDS	MIDDLE SIDE TRAY PAPER TRAILING EDGE DETECTION signal
MHOND	MAIN HEATER DRIVE signal
MSTRYO	MIDDLE SIDE TRAY OPEN DETECTION signal
MODEM-RXD	COPY DATA CONTROLLER-A1/COMMUNICATION CONTROL DEVICE II RECEPTION DATA
MODEM-TXD	COPY DATA CONTROLLER-A1/COMMUNICATION CONTROL DEVICE II TRANSMISSION DATA
MSPE	MIDDLE SIDE TRAY PAPER ABSENT DETECTION signal
MPDSD	MULTIFEEDER PICK-UP ROLLER DRIVE SOLENOID DOWN signal
MSTAS	MIDDLE SIDE TRAY PAPER LEVEL DETECTION signal

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MSPS	MIDDLE SIDE TRAY PICK-UP DETECTION signal
MPUSD	MULTIFEEDER PICK-UP ROLLER DRIVE SOLENOID UP signal
MSPUCD	MIDDLE SIDE TRAY PICK-UP ROLLER DRIVE signal
MSLD	MIDDLE SIDE TRAY OPEN LED signal
MSRSD	MIDDLE SIDE TRAY RELEASE signal
MSOP	MIDDLE SIDE TRAY OPEN signal
MSPRSD	MIDDLE SIDE TRAY PICK-UP ROLL RELEASING SOLENOID DRIVE signal
MSLMD	MIDDLE SIDE TRAY LIFTER MOTOR DRIVE signal
MSWON	MAIN SWITCH ON signal
MSLLD	MIDDLE SIDE TRAY LIFTER LOWER LIMIT DETECTION signal
MFO	MULTIFEEDER OPEN DETECTION signal
(MPSZ)	MULTIFEEDER PAPER WIDTH DETECTION signal
MSLUD	MIDDLE SIDE TRAY LIFTER UPPER LIMIT DETECTION signal
MSLTP	MIDDLE SIDE TRAY LIFTER POSITION DETECTION signal
PCHP	PRIMARY CHARGING WIRE CLEANER HOME POSITION signal
PCRP	PRIMARY CHARGING WIRE CLEANER REAR signal
PDP1	FIXING ASSEMBLY CLAW PAPER DETECTION signal
PDP10	UPPER FRONT TRAY PICK-UP TRAILING EDGE DETECTION signal
PDP11	RE-PICKUP DETECTION signal
PDP12	DUPLEXING UNIT PAPER DETECTION signal
PDP13	PRE-REGISTRATION DETECTION signal
PDP14	RE-PICK-UP PAPER TRAILING EDGE signal
PDP2	FIXING ASSEMBLY PAPER DETECTION signal
PDP3	PAPER REVERSING ASSEMBLY INLET signal
PDP4	NO. 2 FEEDING ASSEMBLY INLET PAPER DETECTION signal
PDP5	PAPER REVERSAL DETECTION signal
PDP6	PAPER REVERSING ASSEMBLY OUTLET signal
PDP7	DELIVERY DETECTION signal
PDP8	NO. 2 FEEDING ASSEMBLY OUTLET PAPER DETECTION signal
PDP9	LOWER FRONT TRAY PICK-UP PAPER TRAILING EDGE DETECTION signal
PEXP	PRE-EXPOSURE LED ON signal
PRGBCD	PRE-REGISTRATION ROLLER STOP CLUTCH DRIVE signal
PMD	PICK-UP MOTOR DRIVE signal
PMFG	PICK-UP MOTOR CLOCK signal
PMFS	PICK-UP MOTOR SPEED CONTROL signal
(POT)	POTENTIAL MEASUREMENT signal
POTON	POTENTIAL MEASUREMENT CIRCUIT DRIVE signal
PWOFF	POWER SUPPLY STOP signal
PS46D	VERTICAL PATH 0 PAPER DETECTION signal
PS47D	VERTICAL PATH 1 PAPER DETECTION signal
Q77D	SIDE TRAY VERTICAL PATH 1 PAPER DETECTION signal
Q78D	SIDE TRAY VERTICAL PATH 2 PAPER DETECTION signal
QCFP	PRE-TRANSFER CHARGING WIRE CLEANER FRONT POSITION signal
QCHP	PRE-TRANSFER CHARGING WIRE CLEANER HOME POSITION signal
RDO1	SIDE TRAY RIGHT DOOR OPEN DETECTION signal 1
RDO2	SIDE TRAY RIGHT DOOR OPEN DETECTION signal 2
RDO3	SIDE TRAY RIGHT DOOR OPEN DETECTION signal 3
REMOTE	POWER SUPPLY UNIT REMOTE signal
RGCD	REGISTRATION ROLLER DRIVE CLUTCH DRIVE signal
ROED	ROLLER ELECTRODE BIAS DRIVE signal
RPKUHPD	RE-PICK UP ROLLER HOME POSITION DETECTION signal
SBFCD	SWITCH-BACK CW DRIVE signal
SBRCD	SWITCH-BACK CCW DRIVE signal
SCDP1	SCANNER ORIGINAL LEADING EDGE 1 signal
SCDP2	SCANNER ORIGINAL LEADING EDGE 2 DETECTION signal
SCFFP	SCANNER C.C.F. POSITION signal
SCHP	SCANNER HOME POSITION signal
SLCKSD	SCANNER LOCKING SOLENOID DRIVE signal
SCNTD	SMALL-SIZE COPY COUNTER DRIVE signal
SDSD	SMALL-SIZE PAPER DEFLECTING PLATE DRIVE signal
SF1D	OPTION CONNECTION signal
SFS	PAPER DECK PAPER FEEDING DETECTION signal
SHOND	SUB HEATER DRIVE signal
SMON	DUPLEXING UNIT PICK-UP MOTOR DRIVE signal
STC	SIDE TRAY CONNECTION DETECTION signal
STDO	SIDE TRAY DOOR OPEN DETECTION signal
STLLD	SIDE TRAY LIFTER LOWER LIMIT DETECTION signal
STLMON	PAPER DECK MOTOR ON signal
STLUD	UP/DOWN SWITCH signal
SLTP	SIDE TRAY LIFTER POSITION DETECTION signal
STLAS	SIDE TRAY PAPER LEVEL LOWER LIMIT signal
STPE	SIDE TRAY PAPER ABSENT DETECTION signal
STPRSD	SIDE TRAY PICK-UP ROLLER RELEASING SOLENOID DRIVE signal
STUAS	SIDE TRAY PAPER LEVEL UPPER DETECTION signal
STVCD	SIDE TRAY VERTICAL PATH ROLLER DRIVE signal
TCNTD	TOTAL COPY COUNTER DRIVE signal
TEP	HOPPER TONER LEVEL DETECTION signal
TRY3, 4, 5LTON	LIFTER ON CONTROL signal
TRY3, 4, 5DW/UP	LIFTER UP/DOWN CONTROL signal
TSCHP	TRANSFER/SEPARATION CHARGING WIRE CLEANER HOME POSITION signal
TSCRP	TRANSFER/SEPARATION CHARGING WIRE CLEANER REAR signal
(TH1)	FIXING ASSEMBLY TEMPERATURE DETECTION signal
(TH2)	ROOM TEMPERATURE DETECTION signal
THP	PAPER JOGGING GUIDE HOME POSITION signal
UFPS	UPPER FRONT TRAY PICK-UP DETECTION signal
UPUCD	UPPER FRONT TRAY PICK-UP CLUTCH DRIVE signal
UPRSD	UPPER FRONT TRAY PICK-UP ROLLER RELEASING SOLENOID DRIVE signal
USLMD	UPPER SIDE TRAY LIFTER MOTOR DRIVE signal
USPRDS	UPPER SIDE TRAY PAPER TRAILING EDGE DETECTION signal
USPE	UPPER SIDE TRAY PAPER ABSENT DETECTION signal
USTAS	UPPER SIDE TRAY PAPER LEVEL DETECTION signal
USPS	UPPER SIDE TRAY PICK-UP DETECTION signal
USLLD	UPPER SIDE TRAY LIFTER LOWER LIMIT DETECTION signal
USTRYO	UPPER SIDE TRAY OPEN DETECTION signal
USLTP	UPPER SIDE TRAY LIFTER POSITION DETECTION signal
USPUCD	UPPER SIDE TRAY PICK-UP ROLLER DRIVE signal
USLD	UPPER SIDE TRAY OPEN LED signal
USOP	UPPER SIDE TRAY OPEN signal
USRSD	UPPER SIDE TRAY RELEASE signal
USPRSD	UPPER SIDE TRAY PICK-UP ROLLER RELEASING SOLENOID DRIVE signal
USLUD	UPPER SIDE TRAY LIFTER UPPER LIMIT DETECTION signal
UTPLU	UPPER FRONT TRAY POWER LENGTH UPPER DETECTION signal
UTAS	UPPER FRONT TRAY PAPER LEVEL DETECTION signal
ULTP	UPPER FRONT TRAY LIFTER POSITION DETECTION signal
UTLD	UPPER FRONT TRAY OPEN LED ON signal
UTLLD	UPPER FRONT TRAY LIFTER LOWER LIMIT DETECTION signal
UTRSD	UPPER FRONT TRAY RELEASING SOLENOID DRIVE signal
UTLUD	UPPER FRONT TRAY LIFTER UPPER LIMIT DETECTION signal
UTOP	UPPER FRONT TRAY OPEN signal
UTPE	UPPER FRONT TRAY PAPER ABSENT DETECTION signal
UTPLD	UPPER FRONT TRAY PAPER LENGTH LOWER DETECTION signal
UTPWD	UPPER FRONT TRAY PAPER WIDTH LOWER DETECTION signal
UTPWU	UPPER FRONT TRAY PAPER WIDTH UPPER DETECTION signal
UTRYO	UPPER FRONT TRAY OPEN DETECTION signal
WTFL	WASTE TONER FEEDING SCREW LOCK DETECTION signal
WTOFP	WASTE TONER FULL DETECTION signal

LIST OF ABBREVIATIONS

AER	AE (MEASUREMENT) ROTATION
AINTR	ADDITIONAL ROTATION
CNTR1	CONTROL ROTATION 1
CNTR2	CONTROL ROTATION 2
INTR	INITIAL ROTATION
LSTR	LAST ROTATION
SCFW	SCANNER FORWARD
SCRV	SCANNER REVERSE
STBY	STANDBY
WAIT	WAIT
WMUP	WARM UP
WMUPR	WARM UP ROTATION

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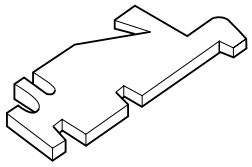
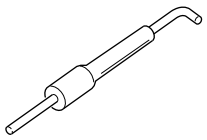
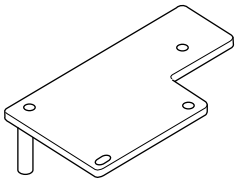
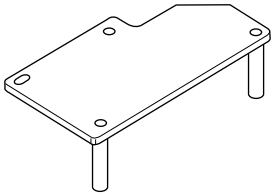
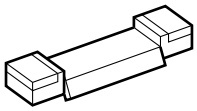
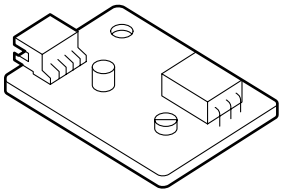
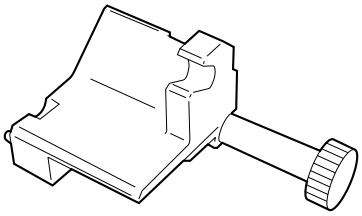
N. LIST OF SPECIAL TOOLS

No.	Tool name	Tool No.	Shape	Code	Application/remarks
1	Door switch actuator	TKN-0093		A	
2	Speing scale (compression)	CK-0054		B	• Measuring strength of casette springs • Adjusting scanner drive cable tension
3	Cleaning oil	TKN-0464		A	
4	Mirror positioning tool (front)	TKN-0509		B	Use it when adjusting the position of mirrors 1 and 2; use it together with the mirror positioning tool (rear)
5	Mirror positioning tool (rear)	TKN-0510		B	Use it when adjusting the position of mirrors 1 and 2; use it together with the mirror positioning tool (front)
6	Electrode potential sensor	TKN-0197		B	For checking the potential sensor.
7	Environment sensor checking tool	TY9-3014		B	For checking the environment sensor.
8	Scanner lock positioning tool	FY9-3023		C	For adjusting the scanner position for stream reading.

O. SOLVENTS AND OILS

No.	Description	Use	Composition	Description
1	Ethyl alcohol (Etanol) Isopropyl alcohol (Isopropanol)	Cleaning: e.g., glass, plastic, rubber parts; external covers	C2H5O (CHZ3)2 CHOH	• Do not bring near open fire. • Procure localy. • Isopropyl alcohol may be substituted.
2	MEK	Cleaning: e.g., metal; oil or toner	CH3COC2H5	• Do not bring near fire. • Procure locally.
3	Heat-resisting grease	Lubricating; e.g., fixing drive assemblies	Lithium soap (mineral oil family) Moblybdenum bisulfide	• CK-0427 (500 g/can)
4	Lubricant oil	Lubricating: scanner rail; spring clutch	Mineral oil (paraffin family)	• CK-0451 (100 cc)
5	Lubricant oil	Lubricating: pick-up assembly roller bushing (FS2-1005-000)	Mineral oil (paraffin family)	• CK-0524 (100 cc)
6	Lubricant oil	Lubricating: drive and friction parts	Slicone oil	• CK-0562 (20 g)
7	Cleaning powder	Photosensitive drum	Ceric oxide Lanthanum oxide Neodymium oxide Praseodymium oxide	• Drum cleaning powder (CK0429)

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