SERVICE MANUAL

Monochrome Laser Printer

EPSON EPL-N2050

COLOR IMAGING EPSON

EPSON®

SEPG99009

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PRECAUTIONS

Precautionary notations throughout the text are categorized relative to 1) Personal injury and 2) Damage to equipment.

Signals a precaution which, if ignored, could result in serious or fatal personal injury. Great caution should be exercised in performing procedures preceded by a WARNING heading.

Signals a precaution which, if ignored, could result in damage to equipment.

The precautionary measures itemized below should always be observed when performing repair/maintenance procedures.

DANGER

1. ALWAYS DISCONNECT THE PRODUCT FROM THE POWER SOURCE AND PERIPHERAL DEVICES PERFORMING ANY MAINTENANCE OR REPAIR PROCEDURES.
2. NOWORK SHOULD BE PERFORMED ON THE UNIT BY PERSONS UNFAMILIAR WITH BASIC SAFETY MEASURES AS DICTATED FOR ALL ELECTRONICS TECHNICIANS IN THEIR LINE OF WORK.
3. WHEN PERFORMING TESTING AS DICTATED WITHIN THIS MANUAL, DO NOT CONNECT THE UNIT TO A POWER SOURCE UNTIL INSTRUCTED TO DO SO. WHEN THE POWER SUPPLY CABLE MUST BE CONNECTED, USE EXTREME CAUTION IN WORKING ON POWER SUPPLY AND OTHER ELECTRONIC COMPONENTS.

WARNING

1. REPAIRS ON EPSON PRODUCT SHOULD BE PERFORMED ONLY BY AN EPSON CERTIFIED REPAIR TECHNICIAN.
2. MAKE CERTAIN THAT THE SOURCE VOLTAGES IS THE SAME AS THE RATED VOLTAGE, LISTED ON THE SERIAL NUMBER/RATING PLATE. IF THE EPSON PRODUCT HAS A PRIMARY AC RATING DIFFERENT FROM AVAILABLE POWER SOURCE, DO NOT CONNECT IT TO THE POWER SOURCE.
3. ALWAYS VERIFY THAT THE EPSON PRODUCT HAS BEEN DISCONNECTED FROM THE POWER SOURCE BEFORE REMOVING OR REPLACING PRINTED CIRCUIT BOARDS AND/OR INDIVIDUAL CHIPS.
4. IN ORDER TO PROTECT SENSITIVE MICROPROCESSORS AND CIRCUITRY, USE STATIC DISCHARGE EQUIPMENT, SUCH AS ANTI-STATIC WRIST STRAPS, WHEN ACCESSING INTERNAL COMPONENTS.
5. REPLACE MALFUNCTIONING COMPONENTS ONLY WITH THOSE COMPONENTS BY THE MANUFACTURE; INTRODUCTION OF SECOND-SOURCE ICs OR OTHER NONAPPROVED COMPONENTS MAY DAMAGE THE PRODUCT AND VOID ANY APPLICABLE EPSON WARRANTY.

PREFACE

This manual describes basic functions, theory of electrical and mechanical operations, maintenance and repair procedures of EPL-N2050. The instructions and procedures included herein are intended for the experienced repair technicians, and close attention should be given to the precautions on the preceding page. Chapters are organized as follows:

CHAPTER 1. PRODUCT DESCRIPTIONS

Provides a general overview and specifications of the product.

CHAPTER 2. OPERATING PRINCIPLES

Describes the theory of electrical and mechanical operations of the product.

CHAPTER 3. TROUBLESHOOTING

Provides the step-by-step procedures for troubleshooting.

CHAPTER 4. DISASSEMBLY AND ASSEMBLY

Describes the step-by-step procedures for disassembling and assembling the product.

CHAPTER 5. ADJUSTMENT

Provides adjusting procedures.

CHAPTER 6. MAINTENANCE

Provides preventive maintenance procedures.

APPENDIX

Provides the following addition information for reference:
- Connector Pin Diagram
- Circuit Board Component Layout
- Parts List & Exploded Diagram
- Circuit Schematics

Revision Status

Revision	Date of Issue	Description
A	December 2 , 1999	First Release

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CHAPTER

1

PRODUCT DESCRIPTION

1.1 Features

EPL-N2050 is a non-impact page printer, using the laser and electro-photographic technology. The following shows features of the printer. This manual also contains specifications for the Optional Units: Duplex Unit, Shifter, Envelope Feeder, and Large Capacity Paper Unit. Refer to the Service Manual of Optional Units for the detailed specifications of the Multibin Unit.

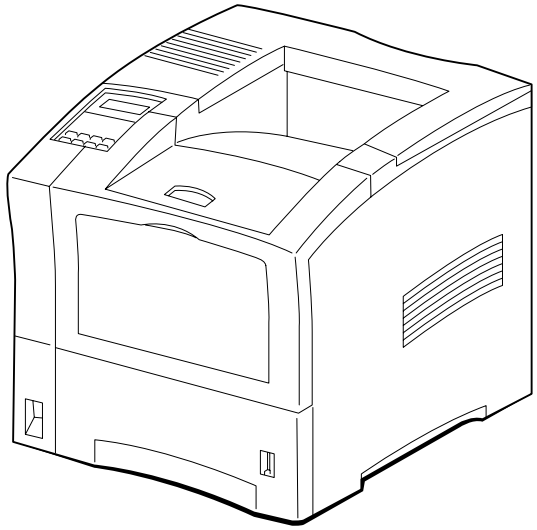


Figure 1-1. External Appearance of EPL-N2050

ENGINE FEATURES

- ☐ High-speed and high-reliability A4 engine.
- ☐ Resolution of 1200 dpi with printing speed of 20 ppm (A4) and 21 ppm (Letter).
- ☐ Standard paper supply includes one universal cassette (550 sheets) and the multiple purpose tray (100 sheets).
- ☐ Wide range of options for paper source and output bins: Universal Cassette (550 sheets) x 2, Duplex Unit, Envelope Feeder, Multibin Unit, and Shifter.

CONTROLLER FEATURES

- ☐ High-speed controller VR4310 / 166.7MHz CPU.
- ☐ 16 MB RAM as standard.
  Expandable to 256 MB using commercially available SDRAM DIMM.
- ☐ Three standard interfaces:
  - IEEE 1284 parallel interface
  - RS232 serial interface
  - Ethernet interface (100Base-TX)
- ☐ Storing data of the entire job in HDD and RAM enables high speed multiple collate function by transferring data only once.
- ☐ One slot for Type B interface (Level 3).
- ☐ One slot for Token Ring interface.
  (Optional for dealers or EPSON sales companies. Cannot be used with Type B interface at the same time.)
- ☐ Enhanced Micro Gray support.

SOFTWARE FEATURES

1. Emulation installed.

PCL5e	Paper handling support
PCLXL	1200 dpi support (Protocol 2)
ESC/Page	1200 dpi support, Enhanced Micro Gray support (disabled when printing in 1200 dpi), paper handling support, Page96 supported.
FX (FX-880), ESCP2 (LQ-2170), I239X (IBM239Plus)	Paper handling support
PJL, EJL	
PostScript Level3*	1200 dpi support (refer to Adobe PS 3 kit Product Specifications)
RCC	Firmware updating function

**PostScript Level3 is optional, and it will be installed in Slot A or B. Dedicated to EPL-N2050.*

2. Installed Utility: Web Assist

3. Rewriting of Flash ROM DIMMs
   Flash ROM DIMMs in Slot A and the program slot can be rewritten from any I/F (Not open to users except for Slot A).
   When downloading NLSP, it is written using Slot A, and it is inserted into Slot B when used.

1.2 Specifications

1.2.1 Controller Specifications

CPU

- ☐ RISC CPU VR4310 166.7MHz

RAM

- ☐ SDRAM 64bit width DIMM (168 pin, 3.3V)
  - ■ Standard 64 MB
  - ■ DIMM Option 8 MB*, 16 MB, 32 MB, 64 MB, 128 MB, 256 MB (SDRAM type, 1 slot)
    Maximum 256 MB

  *8 MB is scarcely distributed, and therefore it is not stated in the catalog or specifications.

ROM

- ☐ Fonts 4 Mbytes (mounted on the main board)
- ☐ Program 4 Mbytes (mounted on the flash ROM DIMM board)
  Program data is compressed. Decompressed on the RAM and executed when it is called.
- ☐ Expansion ROM Two ROM DIMM slots (can be mounted and removed when the power is off)
  Slot A: PS3 or option fonts
  Slot B: PS3 or option fonts
  Only one piece of PS3 can be mounted, and only one piece of ROM DIMM can be installed.

HOST INTERFACES

- ☐ Standard Parallel: IEEE 1284 compliant, bi-directional, B-type connector, compatibility, nibble, ECP
  Ethernet: 10BaseT/100BaseTX
  RS232C serial interface
- ☐ Option Type B I/F 1 slot
  Token Ring 1 slot (dealer option)
  Type B and Token Ring cannot be used together.
  Token Ring and standard network interface cannot be used together.

PRINTER SETTING

- ☐ By EJL, PJL, HTTP, SNMP and ENPC.
  Memory element EEPROM serial type 16 KB

CONTROL PANEL

- ☐ 8 switches, 6 LEDs, 20-character LCD

MOUNTING

- ☐ Fixed to main unit.

HDD OPTION

- ☐ IDE type. 6GB.

MISCELLANEOUS

- ☐ Mechanical control function is not built in.

1.2.2 Engine Specifications

- ☐ Printing Method — Electrophotographic method using scanning semiconductor laser beam and dry one-component toner.
- ☐ Resolution — 600 dpi/1200 dpi (switching with engine)
- ☐ Printing Speed — Applies to MP tray, cassette 1 and cassette 2/3 (option).

Table 1-1. Printing Speed

Paper Size	One-Side Printing (ppm)	Duplex Printing*1 (ppm)
Letter (LT)	21	14.5
A4	20	13.5
Legal 14″ (LGL)	17	11.5
Legal 13″ (GLG)	17	12
Executive (EXE)	21	15
B5	21	15
Thick Paper*2	17	--
OHP Film*2	17	--
Envelope*3	9	--

*1 *Duplex printing speed is in the case of 2 sheet batch mode.*
*2 *Switching with paper type setting.*
*3 *In the case of continuous printing, up to 20 sheets (TBD for over 21 sheets).*

- ☐ First Printing Time

Table 1-2. First Printing Time

Size	MP Tray (sec)		Cassette 1 (sec)		Cassette 2 (sec)		Cassette 3 (sec)	
	One-Side Printing	Duplex Printing*	One-Side Printing	Duplex Printing*	One-Side Printing	Duplex Printing*	One-Side Printing	Duplex Printing*
LT	13.2	20.5 21.5	13.2	20.5 21.5	14.4	21.7 22.7	15.6	22.9 23.9
A4	13.3	20.8 22.6	13.3	20.8 22.6	14.5	22.0 23.8	15.7	23.2 25.0

**Upper Tray: one sheet batch mode*
Lower Tray: two sheet batch mode

- ☐ Warm-Up Time — 65s max. (at 22°C, 100V/220V, rated voltage)

☐ Paper Supply

Table 1-3. Paper Supply

Paper Supply Method		Capacity	Paper Size	Paper Thickness
Standard	MP Tray	100 sheets	Standard Paper Xerox-4042 (LT) Xerox-RX80 (A4)	75g/m^2 (20lb)
		120 sheets	Standard Paper FX-L (A4)	64g/m^2
		30 sheets	Japanese Official Postcard*1	190g/m^2
			OHP, Labels	--
		10 sheets	Envelopes (Monarch, C10, DL, C5)*1,2	--
		Height 11.5mm	Standard or custom size shown 1-10	60-216g/m^2 (16-80lb)
	Cassette 1	550 sheets	Standard Paper Xerox-4024 (LT) Xerox-RX80 (A4)	75g/m^2 (20lb) 80g/m^2
		600 sheets	Standard Paper FX-L (A4)	64g/m^2
		200 sheets	Japanese Official Postcard*1	190g/m^2
			OHP, Labels	--
		Height 60mm	Envelopes (Monarch, C10, DL, C5)*1,2	--
		Height 60mm	Standard or custom size shown 1-10	60-105g/m^2 (16-28lb)
Option	Cassette 2	Same specification as Cassette 1.		
	Cassette 3			
	Envelope Feeder	75 sheets	Envelopes (Monarch, C10, DL, C5)*1,2	60-105g/m^2 (16-28lb)
		50 sheets	Envelopes (C5)*1,2	
		100 sheets	Japanese Official Post Card*1	190g/m^2
		Height 24mm	Standard or custom size shown 1-10	60-105g/m^2 (16-28lb)

*1 *Curls of postcards and envelopes are corrected within 5mm.*
*2 *Refer to Section 1.2.13.1 for feeding direction of envelopes.*

☐ Maximum Paper Supply Capacity*1

Table 1-4. Max. Paper Supply Capacity

Combination	MP Tray	Cassette 1	Cassette 2*2	Cassette 3*2	Total
1 (Standard Component)	100 sheets 120 sheets	550 sheets 600 sheets	--	--	650 sheets 720 sheets
2	100 sheets 120 sheets	550 sheets 600 sheets	550 sheets 600 sheets	--	1200 sheets 1320 sheets
3	100 sheets 120 sheets	550 sheets 600 sheets	550 sheets 600 sheets	550 sheets 600 sheets	1750 sheets 1920 sheets

*1 *Upper Tray: 75g/m^2 or 80g/m^2, Lower Tray: 64g/m^2*
*2 *Option*

☐ Paper Size

Table 1-5. Paper Size

Paper Type		Paper Size	Japan	Abroad	MP Tray	Cassette 1, 2, 3*1	Duplex Printing
Standard Paper	A4	210.0 x 297.0mm (8.27 x 11.69″)	❍	❍	❍	⊙	❍
	A5	148.0 x 210.0mm (5.83 x 8.27″)	❍	❍	❍	⊙	--
	B5	182.0 x 257.0mm (7.16 x 10.12″)	❍	❍	❍	⊙	--
	ISO-B5	176.0 x 250.0mm (6.93 x 9.84″)	❍	❍	❍	❍	--
	Letter (LT)	215.9 x 279.4mm (8.5 x 11.0″)	❍	❍	❍	⊙	❍
	Half Letter (HLT)	139.7 x 215.9mm (5.5 x 8.5″)	❍	❍	❍	❍	--
	Legal 13″	215.9 x 330.2mm (8.5 x 13.0″)	❍	❍	❍	⊙	❍
	Legal 14″	215.9 x 355.6mm (8.5 x 14.0″)	❍	❍	❍	⊙	❍
	EXE	184.2 x 266.7mm	❍	❍	❍	⊙	❍
	F4	210.0 x 330mm (8.27 x 13″)	❍	❍	❍	❍	--

Table 1-5. Paper Size (continued)

Paper Type			Paper Size	Japan	Abroad	MP Tray	Cassette 1, 2, 3*1	Duplex Printing
Special Paper	COM10		104.8 x 241.3mm (4.13 x 9.5″)	❍	❍	❍	❍	--
	Monarch		98.4 x 190.5mm (3.88 x 7.5″)	❍	❍	❍	❍	--
	C5		162.0 x 229.0mm (6.38 x 9.02″)	❍	❍	❍	❍	--
	DL		110.0 x 220.0mm (4.33 x 8.66″)	❍	❍	❍	❍	--
	Index (3″ x 5″)		76.2 x 127.0mm (3 x 5″)	--	❍	❍	--	--
	Japanese Official Postcard		100.0 x 148.0mm	❍	--	❍	❍	--
	Label	A4	210.0 x 297.4mm (8.27 x 11.69″)	❍	❍	❍	❍	--
		LT	215.9 x 279.4mm (8.5 x 11.0″)	❍	❍	❍	❍	--
	OHP	A4	210.0 x 297.0mm (8.27 x 11.69″)	❍	❍	❍	❍	--
		LT	215.9 x 279.4mm (8.5 11.0″)	❍	❍	❍	❍	--

*1 *Cassette 2 and 3 are optional items.*

❍: Can be fed.

⊙: Auto paper size detection.

☐ Consumables Imaging Cartridge

☐ Applicable Paper Size to Feed:

Table 1-6. Applicable Paper Size to Feed

		Paper Width	Paper Length
Standard	MP Tray	76.2-215.9mm (3-8.5 inch)	127-355.6mm (5-14 inch)
	Cassette 1	98.4-215.9mm (3.87-8.5 inch)	148.5-355.6mm (5.85-14 inch)
Option	Cassette 2 and 3	98.4-215.9mm (3.87-8.5 inch)	148.5-355.6mm (55.85-14 inch)
	Envelope Feeder	98.4-178.0mm	148.5-254.0mm

☐ Paper Feed Standard Center-line reference for each paper size.

☐ Output Paper Capacity

Table 1-7. Output Paper Capacity

Paper Output Method		Capacity	Paper Size	Usable Paper Thickness
Standard	Face Down	500 sheets	Standard Paper Xerox-4024 (LT) Xerox-RX80 (A4)	75g/m^2 (20lb) 80g/m^2
			Standard Paper FX-L (A4)	64g/m^2
Option	Shifter*1	500 sheets	Standard Paper Xerox-4024 (LT) Xerox-RX80 (A4)	75g/m^2 (20lb) 80g/m^2
			Standard Paper FX-L (A4)	64g/m^2
			Paper Width: 98.7-215.9mm (3.87-8.5 inch) Paper Length: 148.5-355.6mm (5.85-14 inch)	

*1 Off-set Deal = More than 10mm

☐ Dimension

Main Unit: 422 (W) x 439 (D) x 413 (H) mm

Optional Units:

Table 1-8. Optional Unit Dimension

	Width (mm)	Depth (mm)	Height (mm)
LCP Unit	422	433	175
Shifter	422	293 (455*1)	142 (234*2)
Envelope Feeder	289	290 (343*3)	116
Duplex Unit*4	315	250	98

**1 When the extension output tray is extended.*
**2 When exit chute and extension output tray are extended.*
**3 When extension feed tray is extended.*
**4 Installed inside the main unit.*

☐ Weight

Main Unit: 26 kg
Main Unit + Imaging Cartridge: 27.7 kg

Optional Units:
LCP Unit: 9.8 kg
Shifter: 2.5 kg
Envelope Feeder: 1.8 kg
Duplex Unit: 1.2 kg

- ☐ Power Supply
  100V Model: 100V/120V 90-132V (50-60Hz ±3Hz)
  200V Model: 220V/240V 198-264V (50-60Hz ±3Hz)
- ☐ Power Consumption*1

Table 1-9. Power Consumption

			100V	120V	220-240V
Max Rated Current			8A	6.66A	3.33A
Power Consumption	Maximum		800W	800W	800W
	Continuous Printing (Average)		TBD	386W	315W
	Stand-by (Average)	Heater ON	TBD	96W	95W
	Power Save (Average)	Heater OFF*2	30W	30W	30W

**1 Controller Supply: 3.3V/5A, 5V/2.5A*
**2 Controller Consumption: 10W(3.3V/3A)*

- ☐ Machine Life: 600,000 pages or 5 years, whichever comes earlier.
- ☐ Acoustic Noise (based on ISO7779):

Table 1-10. Acoustic Noise

	Stand-by	Power Saving	Printing
Main Unit*1	35 dB (A)	Background Noise	49.5 dB
Main Unit + Option*2	--	--	53.0 dB

**1 Measurement is done with MP Tray closed.*
**2 Options: Duplex Unit, Cassettes 2 and 3, Envelope Feeder, and Shifter.*

- ☐ Ozone Concentration: TBD (Less than 0.01ppm, in accordance with Blue Angel).
- ☐ Toxicity: OPC, toner, and plastics materials are all non-toxic.

1.2.3 Process Specification

- ☐ Method: Electrophotographic method using dry one-component developing.
- ☐ Light Source: Laser Diode
- ☐ Photoconductor Unit: OPC (Organic Photo Conductor) Drum
- ☐ Charging: Roller Charging Method
- ☐ Developing: Exposed Area Development
- ☐ Toner: One-component magnetic toner
- ☐ Transfer Method: Roller Transfer
- ☐ Fixing: Heat Roller
- ☐ Density Adjustment: Laser Power Variable (adjustment with video command is possible.)

1.2.4 Paper Specification

☐ Paper Type

- ■ Standard Paper Xerox 4024 (75 g/m^2), RX-80 (80 g/m^2)
- ■ Plain Paper
  60 g/m^2 - 105 g/m^2 (16 lb - 28 lb)
  Photocopier paper, bond paper, recycled paper
- ■ Special Paper
  Labels, Japanese official postcards, transparency films, Colored paper, thick paper, DTP paper, letter-head

Note 1 lb: Ream weight = lb/500 sheets/17"x22" (431.8 x 558.8mm)
g/m^2: 1 g/m^2 = 0.2659763 lb

Note 2 Do not use any of the paper types listed below with this printer. They may cause defective printing, paper blockages, or damage to the printer.

- *Carbon paper, non-carbon paper, thermal paper, pressure-sensitive paper, acidic paper*
- *Paper previously printed in a thermal printer or inkjet printer*
- *Extra thick or extra thin paper*
- *Damp paper*
- *Surface-coated paper or surface treated color paper.*
- *Extra smooth or glossy paper. Extra rough paper. Paper with significantly different roughness on each surface.*
- *Paper with punched holes or perforations.*
- *Folded, curled, or tom paper.*
- *Irregularly shaped paper or paper with non-perpendicular corners.*
- *Sheets of labels that peel off easily.*
- *Paper with glue, staples, or clips attached.*
- *Special inkjet paper (superfine paper, glossy film, etc.)*
- *OHP film for color laser printers or photocopiers.*
- *Sheets already printed on other color or black/white laser printers or photocpiers.*
- *Sheets of paper stuck together.*

Note 3 When printing on some postcards with pre-printed pictures, the paper may not feed correctly due to paper particles adherring to the paper-feed roller. If this occurs, clean the printer as described in Section 1.2.12 "Maintenance".

☐ Paper Batch Division

Table 1-11. Paper Batch Division

	Standard Paper	Plain Paper	Special Paper				
			OHP	Japanese Official Postcards	Labels	Thick Paper	Evnvelopes
MP Tray	●	◆	◆	●	◆	◆	◆
Cassette 1/*2/*3	●	◆	◆	●	◆	◆	◆
Env. Feeder*	X	X	X	●	X	X	◆
Duplex Unit*	●	◆	X	X	X	X	X

* Option
● Paper feeding reliability and image quality guaranteed.
◆ Paper feeding reliability and image quality guaranteed. Restricted to normally used paper types.
X Paper feeding not possible.

☐ Printing Area

Guaranteed printing area:
Entire paper area except for a 4mm margin at each edge (see the figure shown below). (a1, a2, c1, c2 = 4mm)

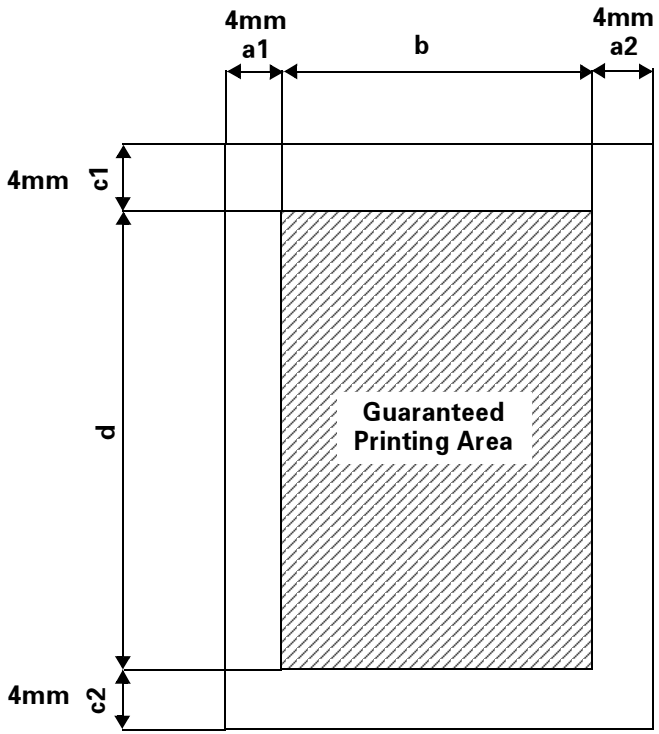


Figure 1-2. Printing Area

1.2.5 Sensors

Table 1-12. Sensors

Unit		Detected Item	Detection Method	Comments
Imaging Cartridge		Mounted/unmounted	Exist	
		Genuine SEC product	Combination of SW on the main unit and Key on the cartridge.	
		Toner near end	Automatic detection with magnetic sensor.	Detects residual volume approx. 3.3% (A4/5% duty: 500 pages)
Standard Paper Feeders	MP Tray	Out of paper	Automatic detection by photosensor and actuator.	
	Cassette 1	Cassette mounted/unmounted	By sensor SW.	
		Out of paper	By photosensor and actuator.	
		Residual paper	By photosensor and actuator.	Detects 50 ± 30 sheets.
		Paper size	By sensor switches.	7 sizes
Optional Paper Feeders	Cassette Unit	Same as Cassette 1.		
	Envelope Feeder	Unit mounted/unmounted	Automatic detection by connector.	
		Out of paper	Automatic detection by photosensor and actuator.	
Standard Paper Output Units	Face Down	Full detection	Automatic detection by photosensor and actuator.	

Table 1-12. Sensors

Unit		Detected Item	Detection Method	Comments
Optional Paper Output Units	Duplex Unit	Unit mounted/unmounted	Automatic detection by connector.	
	Shifter	Unit mounted/unmounted	Automatic detection by connector.	
		Full detection	Automatic detection by photosensor and actuator.	

1.2.6 Reliability, Durability, Serviceability

- ☐ MPBF 200,000 pages
  Note: This figure indicates the mean pages until a failure requiring part replacement or failure unrecoverable by user occurs.
- ☐ Printing Volume Maximum of 75,000 pages/month
  Average 5,000 pages/month (one-side printing)
- ☐ Paper Feeding Reliability

Table 1-13. Cassette 1/2/3 (Cassette 2, 3 are optional)

	Jam Rate		Multiple-sheet Feed Rate
	One-Side Printing	Duplex Printing	One-Side / Duplex Printing
Standard Paper	1/10,000	1/6,666	1/5,000
Plain Paper	1/5,000	1/3,333	1/2,500
Special Paper	1/1,500	--	1/800

Table 1-14. MP Tray

	Jam Rate		Multiple-sheet Feed Rate
	One-Side Printing	Duplex Printing	One-Side / Duplex Printing
Standard Paper	1/1,000	1/666	1/300
Plain Paper	1/500	1/333	1/150
Special Paper	1/100	--	1/50

Table 1-15. Envelope Feeder (Option)

	Jam Rate	Multiple-sheet Feed Rate
	One-Side Printing	One-Side Printing
Standard Paper	1/300	1/300

- ☐ Printing Start Position Accuracy
  - ■ Main Scanning Direction: ±2.0mm
  - ■ Sub Scanning Direction: ±2.5mm
- ☐ Skew
  ±0.63%
  (Reference) A4: Main Scanning Direction (202mm) ±1.27mm
  Sub Scanning Direction (289mm) ±1.82mm
- ☐ Durability 600,000 pages or 5 years, whichever comes earlier. (including replacing maintenance parts by service technicians)
- ☐ Serviceability
  MTTR: In 30 minutes average
  (time for service technician to locate and repair a failure)
- ☐ Output Paper Curl Height
  Max. 12mm (in the standard environment)

1.2.7 Operating Conditions

☐ Temperature and Humidity

Table 1-16. Temperature & Humidity

	Condition	Main Unit
Temperature	Operation	5-35°C
	No Operation	-20-40°C
Humidity	Operation	15-85%RH
	No Operation	5-85%RH

NOTE: *Including consumables.*
No condensation.

☐ Barometric Pressure Altitude: 0-3100m

☐ Horizontality Max. 1° tilt (front-rear or left-right)

☐ Illumination Max. 3000 lx (no direct sunlight)

1.2.8 Storage Environment

Table 1-17. Temperature & Humidity

	Condition		Main Unit
Temperature	Normal condition (12 months)	0-35°C	0-35°C
	Severe condition (Max. 1 month)	High temperature	35-40°C
		Low temperature	-20-0°C
Humidity	Normal condition (12 months)		15-80%
	Severe condition (Max. 1 month)	High humidity.	80-95%
		Low humidity.	5-15%

1.2.9 Electrical Characteristics

The following items do not apply to the Optional Units.

- ☐ AC Line Noise
  - ■ Pulse Width: 50-1000ns
  - ■ Pulse Polarity: +/-
  - ■ Repeating: Asynchronous
  - ■ Mode: Common / Normal
  - ■ Voltage: 1kv
    No component damage to 2kv.
- ☐ Instantaneous Power Failure

  DIP 100% (at rated voltage - 10%)
  No abnormality to quality in print cycle.
- ☐ Static Electricity Resistance
  - ■ Up to 10kv No hardware error.
    No software error that the user cannot remedy.
  - ■ Up to 15kv No component damage.
- ☐ Inrush Current
  - ■ 1/8 cycle 100A max.
  - ■ 1/2 cycle 50A max.
- ☐ Insulation Resistance 10MΩ max.
- ☐ Dielectric Strength
  No breakdown when the following voltage is applied for one minute.

	Across Primary and Chassis
100V Model	AC1000V
200V Model	AC1500V

- ☐ Leak Current
  - ■ 0.25mA max. (100V model, 100V input)
  - ■ 3.5mA max. (100V model, 120V input)
  - ■ 3.5mA max. (200V model)

1.2.10 Applicable Standards and Regulations

The engine specification meets the following standards and regulations. Depending on the destination, some standards and regulations apply to the product only when including controller.

Table 1-18. Safety Standards

Model Name	Applicable Standards
100V Model	UL 1950 CSA 22.2 No. 950 NOM
200V Model	IEC 950 CCIB, Russian Safety Standards (TBD) Singapore Safety Standards (TBD) Hong Kong Safety Standards (TBD)

Table 1-19. Safety Regulations (Laser Radiation)

Model Name	Applicable Standards
100V Model	FDA (NCDRH) Class 1
200V Model	IEC 825 Class 1

Table 1-20. EMC

Model Name	Applicable Standards
100V Model	CNS 13438 (Taiwan) FCC Part15 Subpart B Class B/CSA C108.8 Class B
200V Model	EC EMC Directive 89/336/EEC • EN55022 Class B • EN61000-3-2 • EN61000-3-3 • EN50082-1 AS/NZS 3548 Class B (Australia)

☐ Power Consumption — Complies with International Energy Star Program standards.

☐ Others

- ■ Toner — No effects on the human body (conforming to OSHA, TSCA, EINECS, Labor Safety Law, CSCL).
- ■ OPC — No effects on the human body (conforming to OSHA.)
- ■ Ozone Generation — Conforming to UL478, Edition 5.
- ■ Materials — Conforming to Swiss environmental-protection laws (not including Cds).

1.2.11 Consumables

☐ Specifications

Table 1-21. Consumables

Name	Contents	Life (Toner Consumption)
Imaging Cartridge	• OPC Drum • Charger • Developer • Black, one-component, magic toner	Average 15,000 pages*1,*2

*1 *The above is the approximate number of printable sheets when using continuous printing of Letter or A4 landscape sheets at 5% of the image occupation ratio (SEF).*
The cartridge life varies depending on the image occupation ratio and type of printing (continuous, intermittent, print density and toner saving).

*2 *If the number of photoconductor rotation reaches the value equivalent to the continuous printing of 30,000 pages before the toner life end is detected, it is handled as if toner empty of Imaging Cartridge was detected.*

☐ Storage Environment Refer to Section 1.2.8.

1.2.12 Maintenance

Table 1-22. Maintenance

Maintenance Item	Timing	Maintenance by	Possibility of User Maintenance
Cleaning Transfer Roller	When an error occured.	User	--
Replacing Transfer Roller Unit	Replace after printing 200,000 pages.	Service Personnel	O
Cleaning Paper Feed Roller	When paper-feed error occured.	User	--
Replacing Paper Feed Roller Kit	Replace after printing 200,000 pages.	Service Personnel	O
Replacing Fuser Unit	Replace after printing 200,000 pages.	Service Personnel	O
Replacing Imaging Cartridge	Replace after printing every 15,000 pages.	User	O
Retard Roller Kit of Envelope Feeder	Replace after printing every 100,000 sheets.	Service Personnel	X

O*: Can be replaced without implements.*

1.2.13 External Dimension

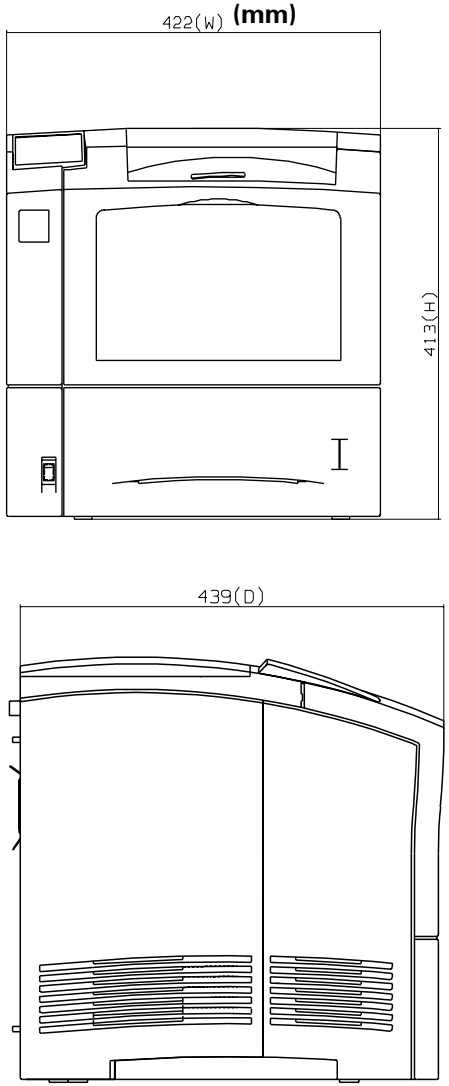


Figure 1-3. External Dimension

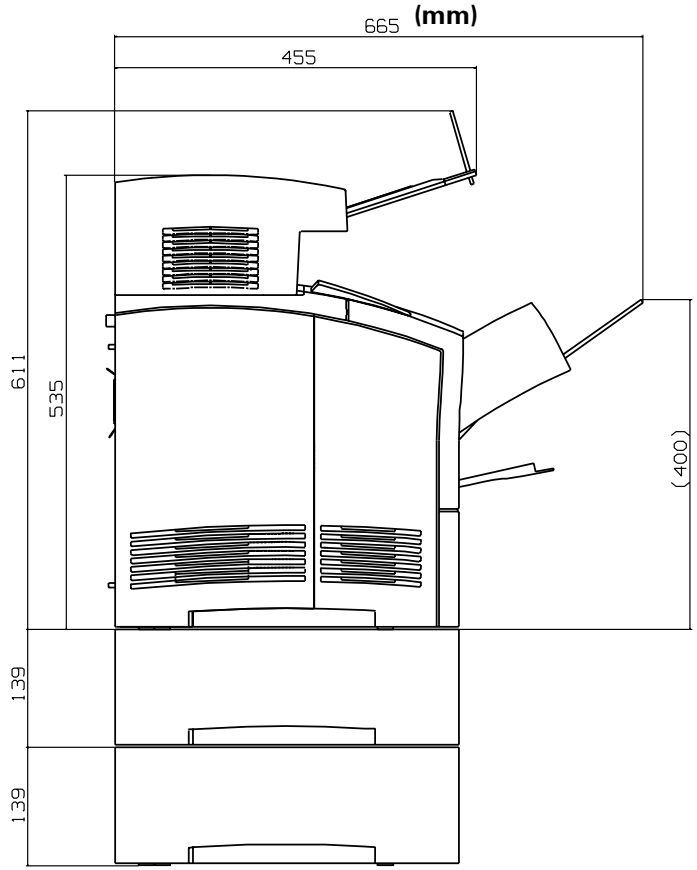
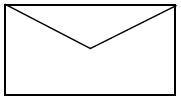
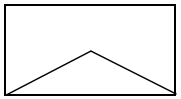
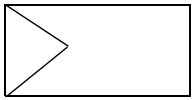


Figure 1-4. External Dimension with Optional Units

1.2.14 Other Specifications

1.2.14.1 Setting Direction for Envelopes

⇐ Feed Direction				
Envelopes	COM10, DL MONARCH	COM10, DL MONARCH	C5	C5
MP Tray	O*3	X	O*3	O*1, *3
Cassette 1, 2*2, 3*3	O*4	O*4	O*4	O*1, *4
Envelope Feeder*2	O*3	X	O*3	O*1, *3

*1 *Only for not adhesive or adhesive tape.*
*2 *Option*
*3 *Set the flap upwards.*
*4 *Set the flap downward.*

1.2.14.2 Paper Supply

If this is lower than the bin which is supplying paper, paper-supply during printing is possible.

1.2.15 Configuration

The following settings can be configured in the EPL-N2050 controller. The settings are made with jumper resistors, and they must be set at the factory. See Table1-24 for details of the jumper settings.

Table 1-23. Factory Setting for Printing Menu

	Factory Setting for Printing Menu - Page Size
RJ7 installed (RJ8 not installed)	A4
RJ8 installed (RJ7 not installed)	LT

Table 1-24. Jumper Setting

	IOP0		IOP1		IOP2		IOP3		INPT5		PB0	
	RJ1	RJ2	RJ3	RJ4	RJ5	RJ6	RJ7	RJ8	RJ9	RJ10	RJ11	RJ12
EAI Latin	O		O		O			O		O		O
Others	O		O		O		O			O		O

1.2.16 Host Interface Specifications

The EPL-N2050 has the following host interfaces as standard.

- IEEE 1284 parallel interface
- Ethernet interface
- RS232C serial interface
- Option Type B: 1 slot
- Token Ring: 1 slot
  (Remove Type B guardrail to install Token Ring)

Each interface will be affected by XXX I/F Use/No Use setting in each I/F Menu of SelecType.

Note: Type B and Token Ring, or Ethernet and Token Ring should not be installed at the same time.
Network Menu-Topology setting specifies which interface to be used.

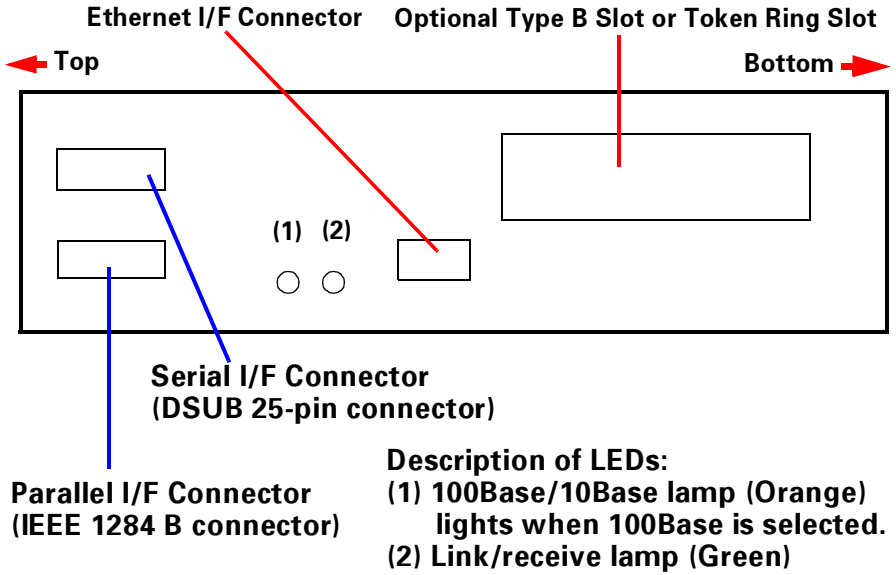


Figure 1-5. Rear View (Interface Bracket)

1.2.16.1 Parallel Interface Specifications

Interface Type: IEEE 1284 bi-directional high-speed interface

Operation Modes: Compatibility, Nibble, ECP

Connector Type: 57RE-40360-830B (D7A) DDK or equivalent

Compatible Plug: Amphenole or equivalent

The default device ID setting for this printer is as follows. The information is shown below including line breaks, but the actual data is a continuous character string with no line break characters. The CMD items are not in order. The CID, MODE and STATUS items are not included. The DES item contents are MFG and MDL connected by a space. XXXX is the product name.

When PS3 is not installed:

MFG: EPSON;
CMD: PJL, EJL, ESCPL2, ESCP9, PRPXL24-01, PCL, HPGL2-01, ESCPAGE-04, PCLXL;
MDL: XXXX;
CLS: PRINTER;
DES: EPSON XXXX;

When PS3 is installed:

MFG: EPSON;
CMD: PJL, EJL, ESCPL2, ESCP9, PRPXL24-01, PCL, HPGL2-01, ESCPAGE-04, PCLXL, POSTSCRIPT;
MDL: XXXX;
CLS: PRINTER;
DES: EPSON XXXX;

MFG, MDL, DES and CID of Device ID are user-redefinable. The DES and CID fields do not respond to the default value, but respond to the defined character string only if redefined. Device ID upon redefinition is as shown below. **** is a user-defined character string.

When PS3 is not installed:

MFG: **;**
CMD: PJL, EJL, ESCPL2, ESCP9, PRPXL24-01, PCL, HPGL2-01, ESCPAGE-04, PCLXL;
MDL: **;**
CLS: PRINTER;
DES: **;**
CID: **;**

When PS3 is installed:

MFG: **;**
CMD: PJL, EJL, ESCPL2, ESCP9, PRPXL24-01, PCL, HPGL2-01, ESCPAGE-04, PCLXL, POSTSCRIPT;
MDL: **;**
CLS: PRINTER;
DES: **;**
CID: **;**

1.2.16.2 Serial Interface Specification

Interface Type:	RS-232C
Transfer Format:	Asynchronous Mode
Transfer Rates:	300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 76800, 115200
Parity:	None, even, odd
Start Bit:	1
Stop Bit:	1, 2
Data Length:	7, 8
Hardware Protocol:	DTR, DSR
Software Protocol:	Xon/Xoff (supports Robust)
Connector Type:	17LE-13250-27 (D57) DDK or equivalent.

1.2.16.3 Ethernet Interface Specifications

Interface Type: 10BaseT, 100BaseTX, Half Duplex,
Full Duplex: Automatically switched when power is turned on.

Communication Protocol:

1) IPX/SPX (IPX, SPX, NCP, RIP, SAP, PrintServer, RemotePrinter, NDS, SNMP)
2) NetBIOS (SMB)
3) TCP/IP (IP, UDP, TCP, LPR, FTP, TELNET, ARP, ICMP, DHCP, SNMP, HTTP)
4) AppleTalk (ELAP, DDP, ATP, PAP, AARP, NBP, ZIP, RTMP)
5) ENPC (EPSON Network Peripheral Control Protocol)

Connector Type: RJ45

Appropriate Cable: 2-pair Category 3 or 4 or 5 STP (10BaseT, 100BaseTX)
For compliance with FCC Class B, EN55022 Class B, and VCCI Class B, a shielded type cable must be used.

Table 1-25. Pin Assignments

Pin	Signal	I/O
1	Tx+	O
2	Tx-	O
3	Rx+	I
4	N.C.	-
5	N.C.	-
6	Rx-	I
7	N.C.	-
8	N.C.	-

Printer Name: Factory default setting is the same as Product Name.

Product Name: Product Name

Emulation Type: See the table below.

Entity Type: See the table below.

Table 1-26.

Emulation	Emulation Type	Entity Type
PS*1	POSTSCRIPT-00*1	LaserWriter*1
ESC/Page	ESCPAGE-04	EPSONPAGE4
LJ4	PCL5E-00	EPSONPCL5
PCLXL	-	-
RCC*2	-	-
1239X	PRPXL24	EPSONPRPXL24
GL/2	HPGL2	EPSONHPGL2
FX	ESCP9	EPSONFX
ESCP2	ESCPL2	EPSONLQ2

*1 Added when PS3 is installed.
*2 RCC cannot be selected by users.

Emulation Type:

When Emulation is “Auto”:

PS not started: AUTO (Emulation Type 1, 2, 3...)
PS started: EJL (POSTSCRIPT-00, other Emulation Type 1, 2, 3...)

When Emulation is fixed:

EJL (Default Emulation Type, other Emulation Type 1, 2, 3...)

Entity Type:

When Emulation is “Auto”: As shown in the table.

When Emulation is fixed: Entity Type of default Emulation and EPSONPAGE4 are returned.

1.2.16.4 Type B Interface Specification

This printer is equipped with a Type B option interface slot as standard. For details of the Type B option interfaces which can be used, refer to the page printer option list for overseas market.

Main System Type: MTP1200dpi, PW10200dt1200dpi, PRG(****)rev, AP1300ma, SPD0fast, D4**** is ROM version. D4 from version 2. Designed for Level 3.

Printer Name: Factory default setting is the same as Product Name.

Product Name: Product Name

Emulation Type: See the table below.

Entity Type: See the table below.

Table 1-27.

Emulation	Emulation Type	Entity Type
PS*1	POSTSCRIPT-00*1	LaserWriter*1
ESC/Page	ESCPAGE-04	EPSONPAGE4
LJ4	PCL5E-00	EPSONPCL5
RCC*2	-	-
I239X	PRPXL24	EPSONPRPXL24
GL/2	HPGL2-01	EPSONHPGL2
FX	ESCP9	EPSONFX
ESCP2	ESCPL2	EPSONLQ2

*1 Added when Adobe PS 3 kit is installed.
*2 RCC and DIAG cannot be selected by users.

The cassette paper size detection jumper setting is not affected.

Emulation Type:

When Emulation is "Auto":

PS3 not started: AUTO (Emulation Type 1, 2, 3...)
PS3 started: EJL (POSTSCRIPT-00, other Emulation Type 1, 2, 3...)

When Emulation is fixed:

EJL (Default Emulation Type, other Emulation Type 1, 2, 3...)

Entity Type:

When Emulation is "Auto": As shown in the table.
When Emulation is fixed: Entity Type of default Emulation and EPSONPAGE4 are returned.

1.3 Control Panel

1.3.1 Exterior View and Parts Name

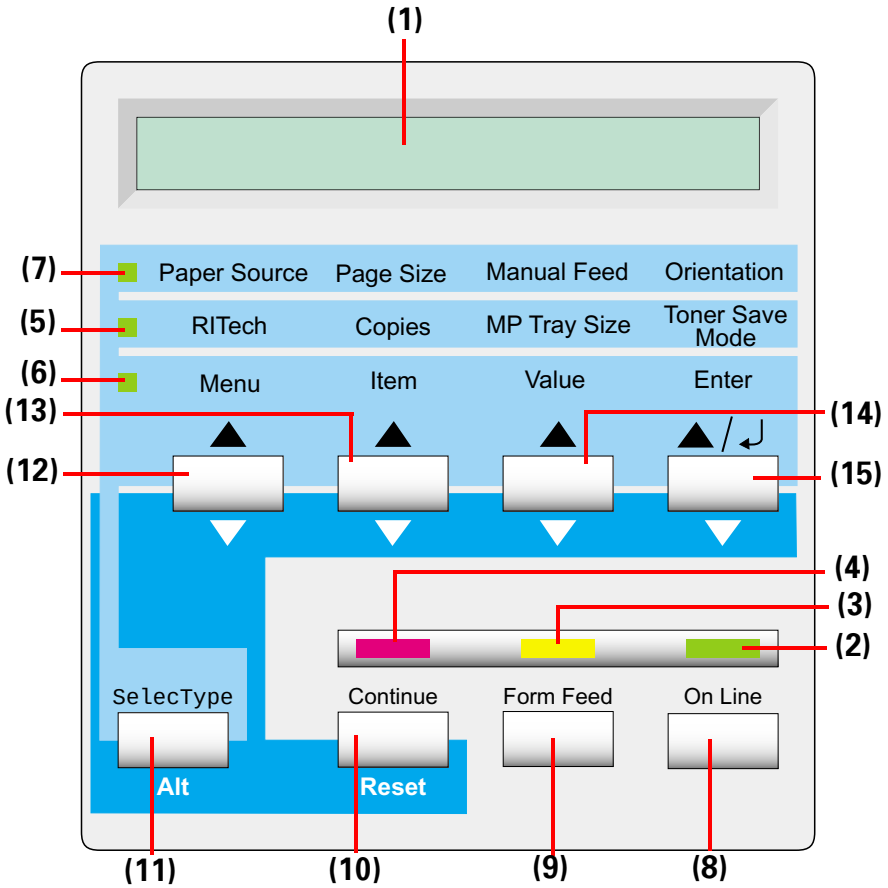


Figure 1-6. EPL-N2050 Control Panel

Table 1-28. Parts Name

	Name	Notes
(1)	LCD Panel	20 characters/row (5 x 7 dot matrix)
(2)	On Line LED	Color --- Green
(3)	Data LED	Color --- Yellow
(4)	Continue LED	Color --- Red
(5)	"One Touch" setting mode 1 LED	Color --- Green
(6)	"One Touch" setting mode 2 LED	Color --- Green
(7)	SelectType Mode LED	Color --- Green
(8)	On Line Switch	
(9)	Form Feed Switch	
(10)	Continue Switch	
(11)	SelecType/Alt Switch	Doubles with shift switch
(12)	Menu Select Switch	
(13)	Item Select Switch	
(14)	Value Select Switch	
(15)	Enter Switch	

1.3.2 One Touch Setting Functions

The following table lists the one touch setting functions supported by this printer.

Table 1-29.

Paper Source	Page Size	Manual Feed	Orientation
RITech	Copies	MP Tray Size	Toner Save
Menu	Item	Value	Enter

1.3.3 Special Operation Functions

The following table lists the special operation functions supported by this printer. The functions are not open to users except for the hexadecimal dump function, initialization of the remaining toner.

Table 1-30. Special Operation Functions

Function	Operation Method
Hex. dump	Turn on the printer while pressing the Form Feed switch.
Support Mode	Turn on the printer while pressing the Value selection switch.
Reset of remaining toner	Turn on the printer while pressing On Line + Form Feed.
Initialization of EERROM*	Turn on the printer while pressing On Line + Continue + Menu.
Initialization of panel settings	Turn on the printer while pressing the Continue switch.
Forced erasing of flash ROM module.	Turn on the printer while pressing Alt + Item +Value + Enter.
Program ROM update	Turn on the printer while pressing On Line + Alt + Value.
Copy of ROM module	Turn on the printer while pressing On Line + Alt + Enter.
Maintenance mode	Turn on the printer while pressing On Line + Form Feed + Continue.
CPU reset at service call occurrence	Press Alt + Menu + Item + Value + Enter when a service call error has occurred.
Printing of error sheet	Press Enter twice after CPU reset at the occurrence of a service call error.

**The total number of copies to be indicated on the status sheet will be initialized as it is counted by the controller side.*

1.4 Notes on Operation

1.4.1 Powering Off

This printer has an internal non-volatile memory (EEPROM), and hard disk drive.
If the printer is powered off during the process of writing to the non-volatile memory or hard disk drive, the writing operation cannot be guaranteed, and an error may occur the next time the printer is turned on.
The following cases are those in which the memory is being rewritten, and therefore, the printer should not be turned off.

- From the moment the printer is turned on until the On Line indicator lights.
- While the On Line indicator is flashing.
- While the printer is printing (while the paper feed motor is operating). To stop the printer, either put it off line or carry out Reset.
- While the Data indicator is lit or flashing.

1.4.2 High-Temperature Components

The fuser unit inside the printer becomes hot, and caution must be taken not to touch the fuser unit while opening the printer to clear paper jam.

CHAPTER

2

OPERATING PRINCIPLES

2.1 Overview

This chapter explains functions and operating principles of the engine mechanism and the controller of the EPL-N2050.

2.1.1 Electrophotographic Printing

Like other EPSON page printers, the EPL-N2050 uses the electrophtographic printing system combined with a semi-conductor laser beam scanning system, as illustrated below.

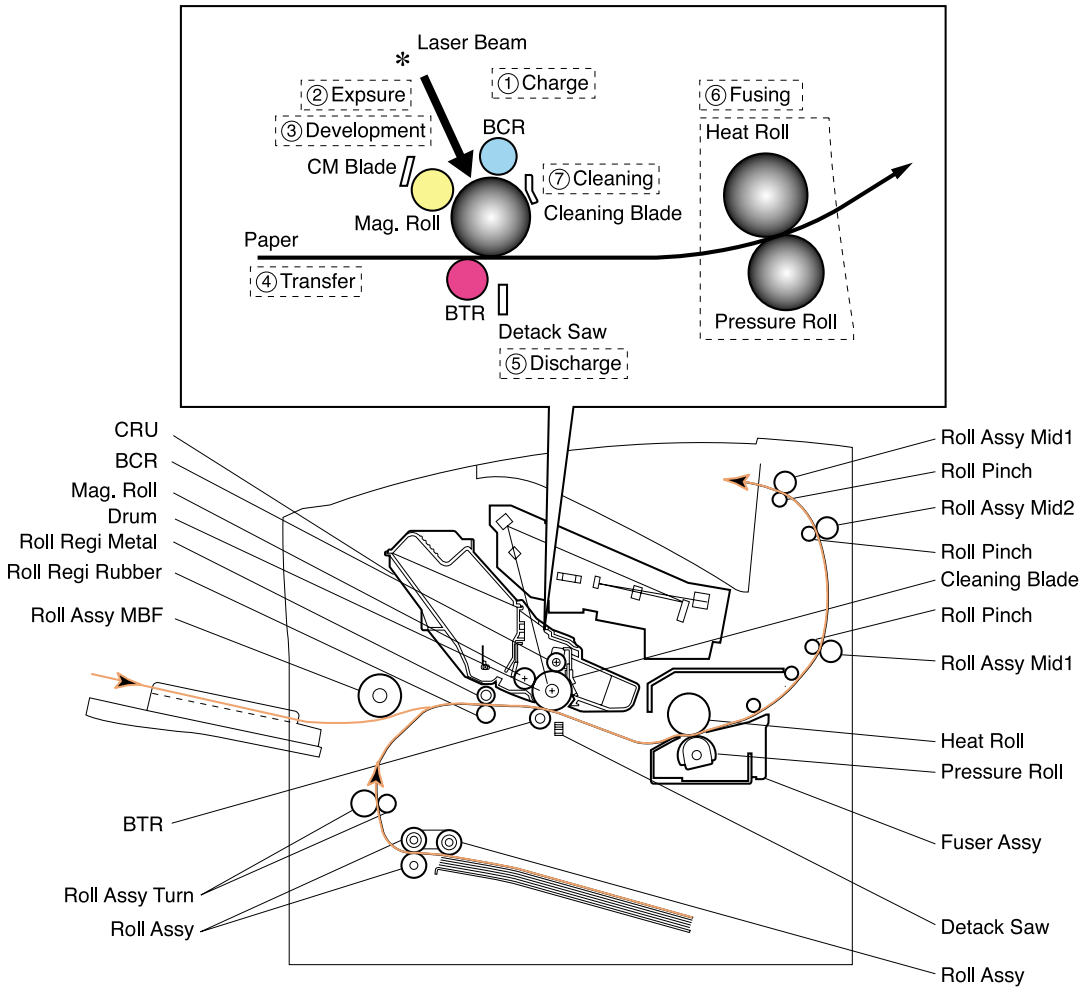


Figure 2-1. Electrophotographic Process Components

Shown below is the block diagram of the print cycle of the EPL-N2050. Refer to Chapter 2 of the EPL-N1600 Service Manual for detailed description of each step as the print cycle is basically the same.

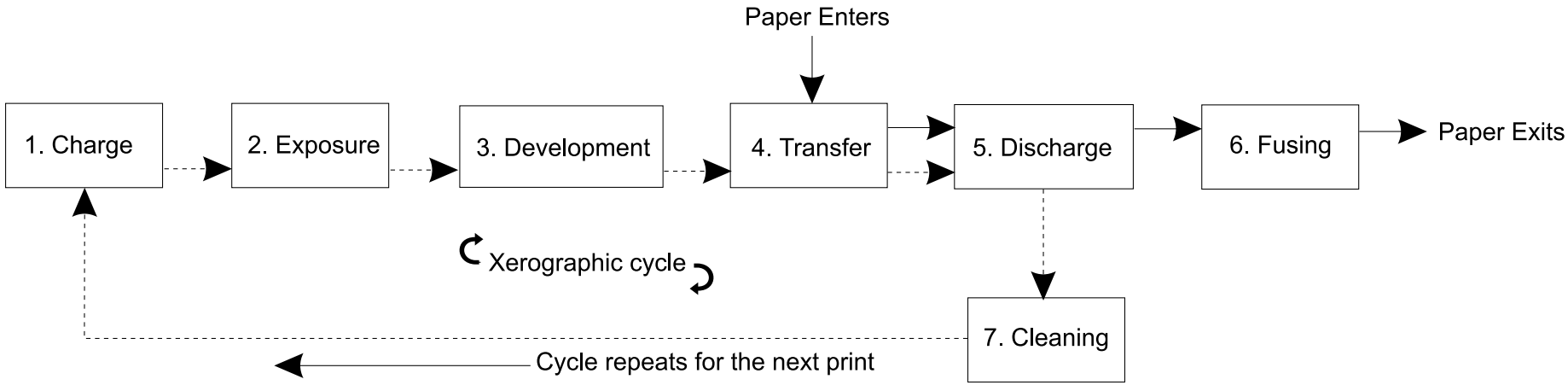


Figure 2-2. Block Diagram of Print Cycle

2.1.2 Paper Path

There are three paths that a sheet of paper can follow during one print cycle. One path is taken if paper is fed from the paper cassette. Another path is taken if paper is fed from the Multiple-Bypass Feeder (MBF). The third path is taken if paper is fed from the Envelope Feeder Assy option.

On the right is a cut-away side view of the printer showing the major components that are directly related to the paper path.

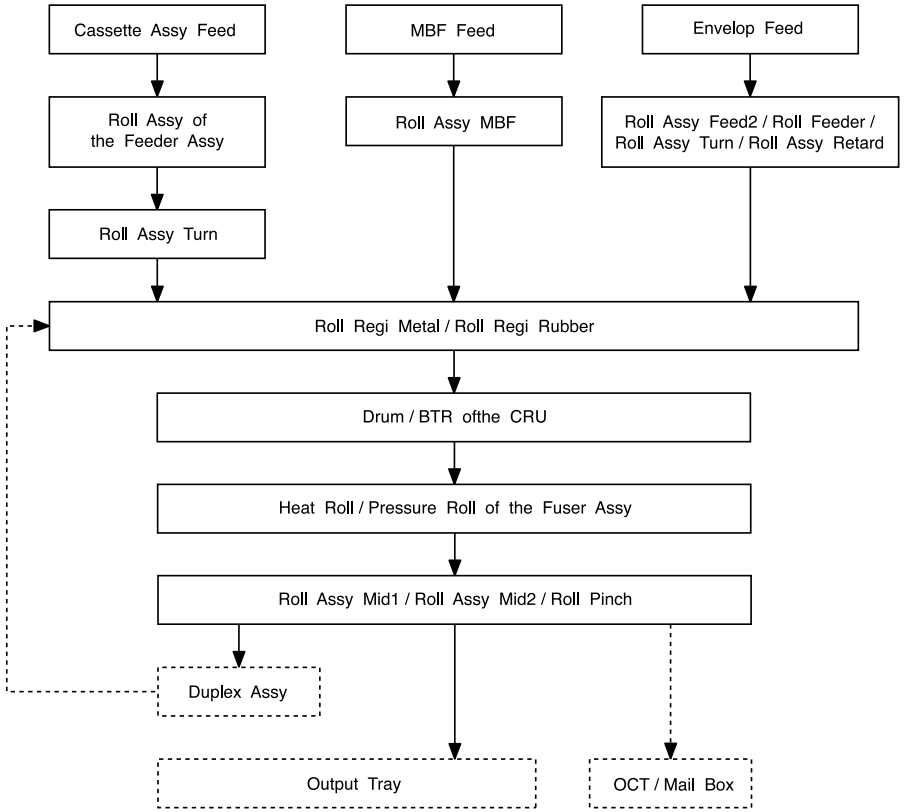


Figure 2-3. Paper Paths

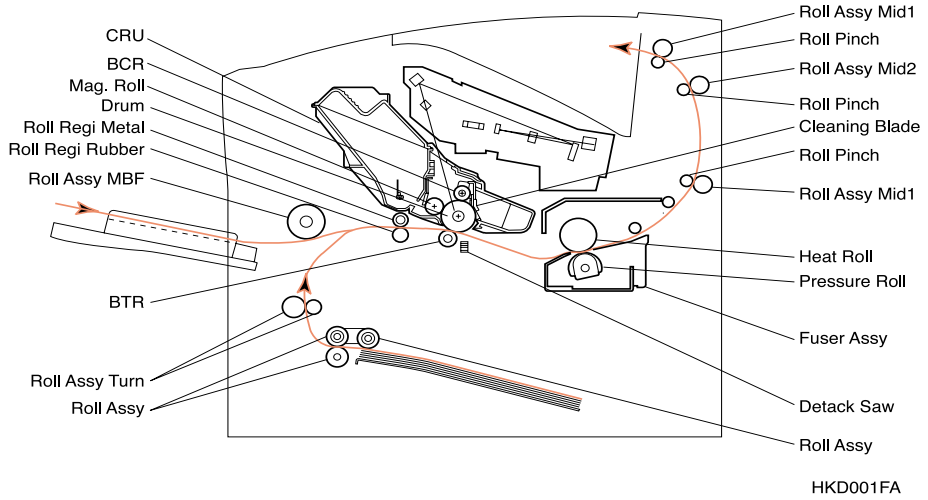


Figure 2-4. Components Related to Paper Path

2.1.3 Drive Flow

The Gear Assy Drive takes the mechanical energy that is created by the Motor Assy Main and transmits it to four printer subsystems: the Clutch Assy Turn, the drum gear of CRU, the Fuser Assy, and Optional Envelope Feeder Assy. The Motor Assy Exit provides the power needed by the exit component. The following pages show each drive section in greater detail.

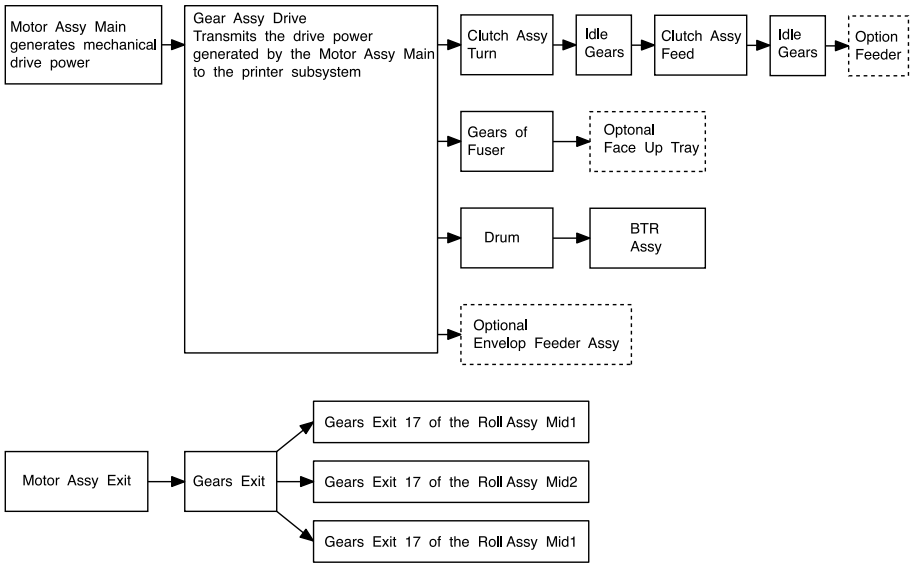


Figure 2-5. Block Diagram of Drive Flow Through the Printer

DRIVE TRANSMISSION TO THE ROLL ASSY MBF

The mechanical energy created by the Motor Assy Main is transmitted through the Gear 14 to the Gear Pick Up that drives the Roll Assy MBF. When the Solenoid Pick Up actuates, it transmits the energy from the Gear 14 to the Gear Pick Up that is located on the end of the Shaft Assy MBF.

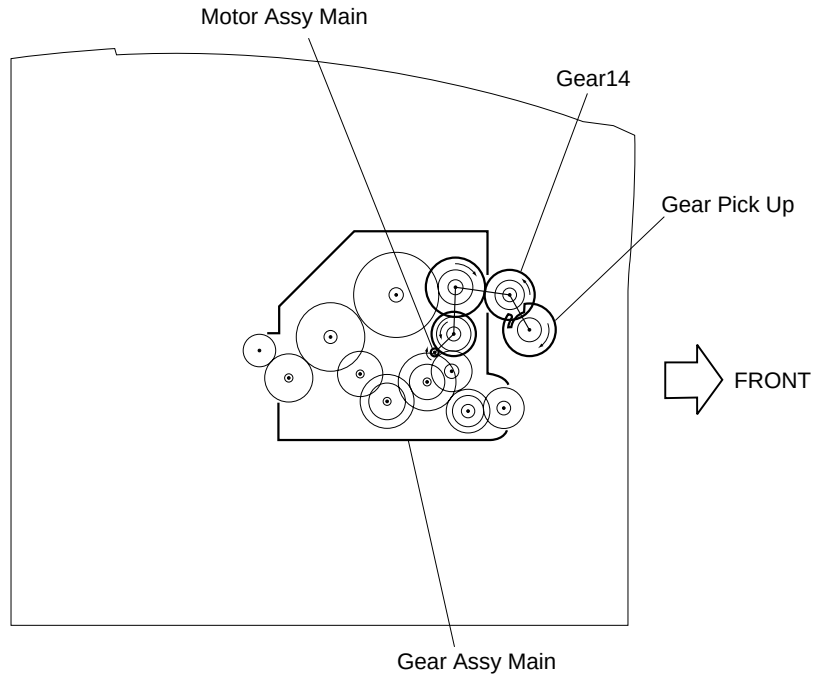


Figure 2-6. Drive Transmission to Roll Assy MBF

DRIVE TRANSMISSION TO ROLL ASSY TURN

The mechanical energy created by the Motor Assy Main is transmitted through the Gear Assy Drive to the Clutch Assy Turn. When the Clutch Assy Turn actuates, it transmits the energy to the Roll Assy Turn and the Clutch Assy Feed to the described in the next page.

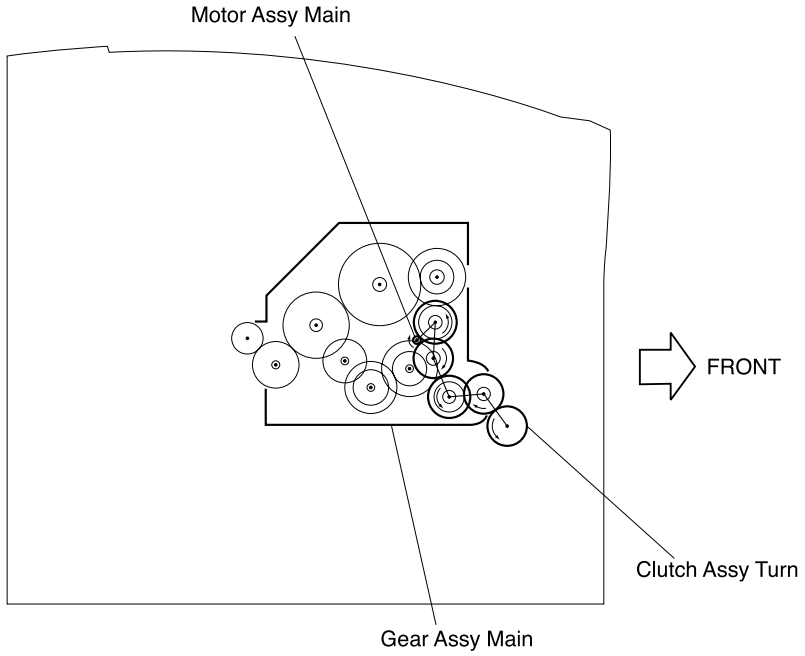


Figure 2-7. Drive Transmission to Roll Assy Turn

DRIVE TRANSMISSION TO FEEDER ASSY

The mechanical energy created by the Motor Assy Main is transmitted through the Gear Assy Drive, Clutch Assy Turn, idle gears to the Clutch Assy Feed. When the Clutch Assy Turn and the Clutch Assy Feed actuate, it transmits the energy to the Roll Assy of the Feeder Assy.

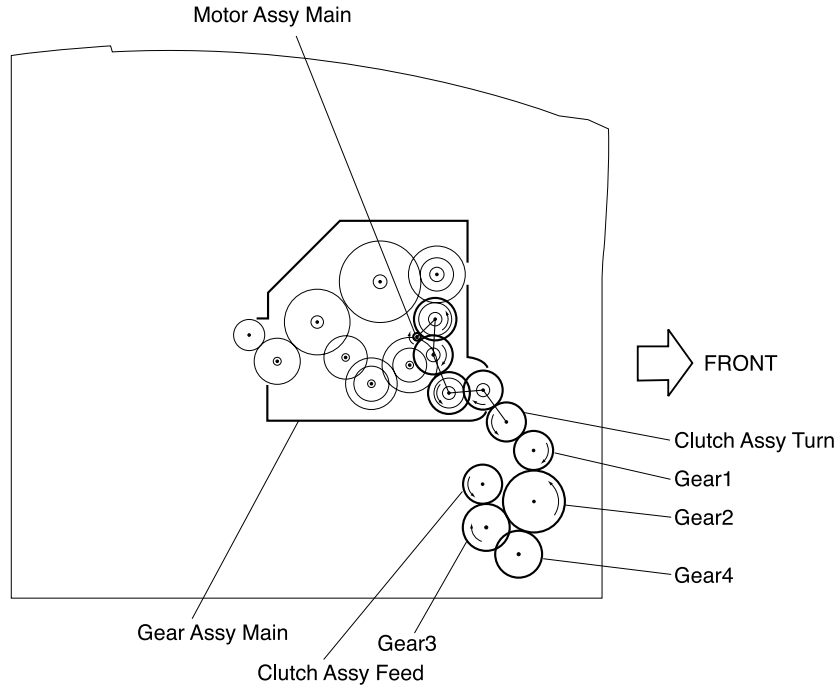


Figure 2-8. Drive Transmission to Feeder Assy

DRIVE TRANSMISSION TO ROLL REGI RUBBER

The mechanical energy created by the Motor Assy Main is transmitted through the Gear Assy Drive to the Clutch Regi that is located on the end of the Roll Regi Rubber.

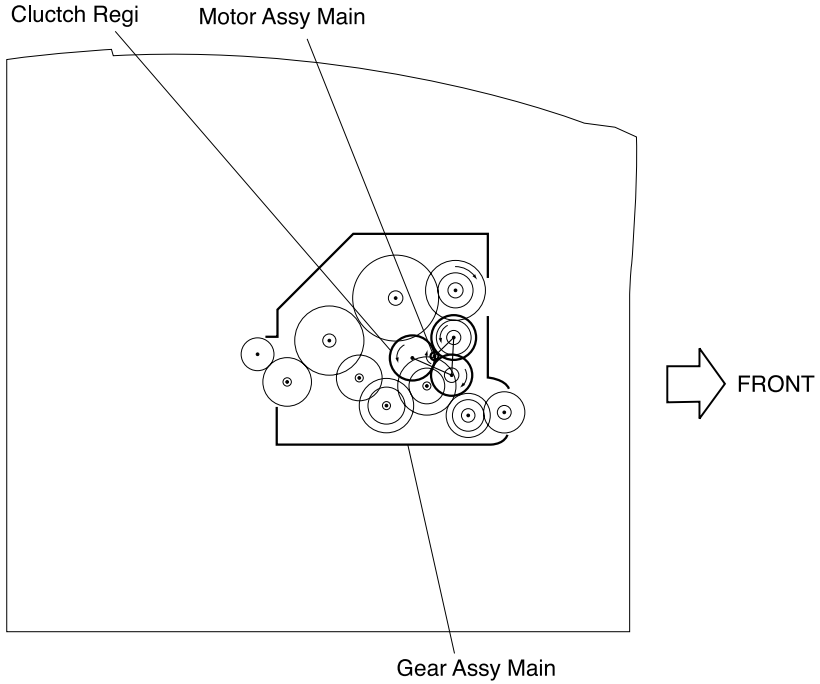


Figure 2-9. Drive Transmission to Roll Regi Rubber

DRIVE TRANSMISSION TO DRUM AND BTR

The energy created by the Motor Assy Main is transmitted through the Gear Assy Drive to the Drum Drive Gear that is located on the end of the Drum. The Drum drives the Gear BTR that is located on the end of the BTR Assy.

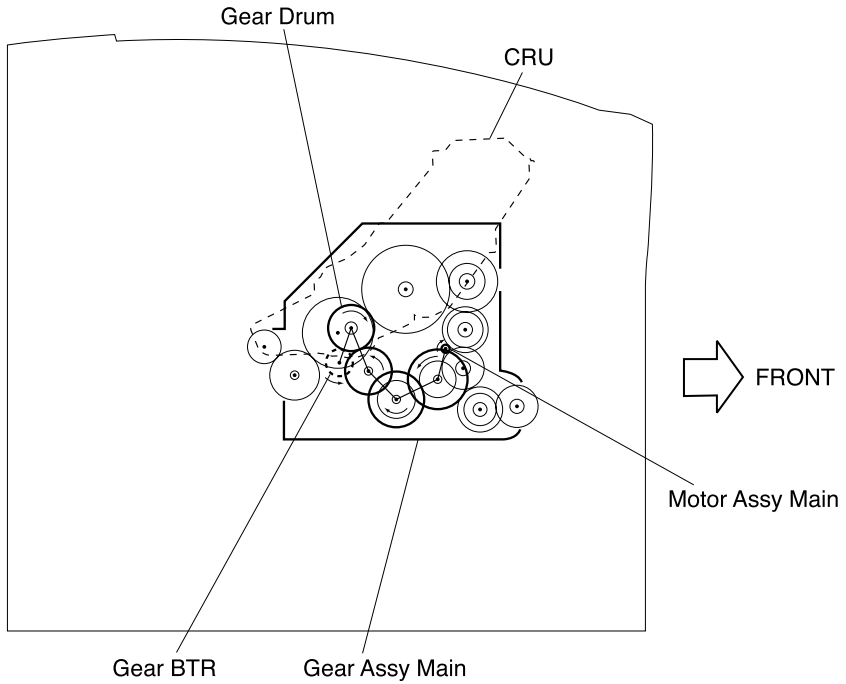


Figure 2-10. Drive Transmission to Drum and BTR

DRIVE TRANSMISSION TO FUSER ASSY

The mechanical energy created by the Motor Assy Main is transmitted through the Gear Assy Drive to the Gear Idler of the Fuser Assy. The Gear Idler transmits energy to the Gear H/R located on the Heat Roll, which transmits energy to the Gear Decurl Roll.

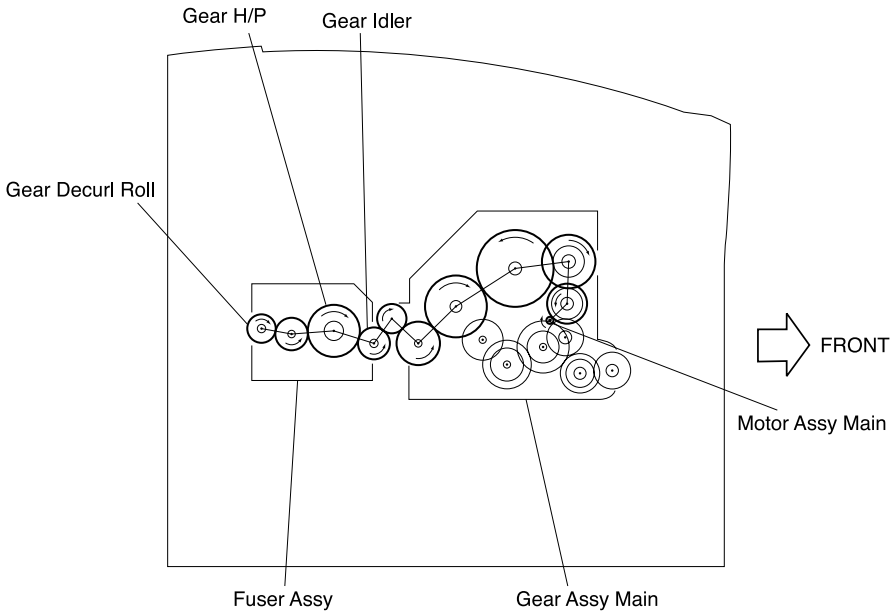


Figure 2-11. Drive Transmission to Fuser Assy

DRIVE TRANSMISSION TO EXIT COMPONENTS

The mechanical energy created by the Motor Assy Exit is transmitted through small gears to the three Gears (Gear Exit 17). Those Gears are located on the Roll Assy Mid-1 (upper and lower) and the Roll Assy Mid-2 respectively.

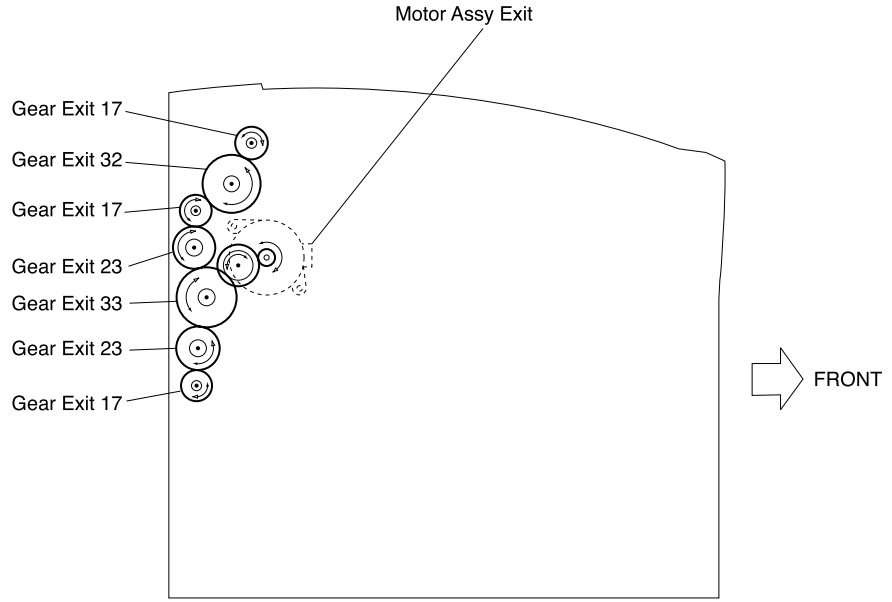


Figure 2-12. Drive Transmission to Exit Components

2.1.4 Main Component Function

This section explains the function of the printer's major components.

- ☐ Covers
- ☐ Paper Cassette
- ☐ Paper Feeder
- ☐ Chute MBF
- ☐ P/H Assy
- ☐ Chute Trans & Fuser
- ☐ Exit
- ☐ Drive & Electrophotographics
- ☐ Frame & Size Sensor

COVERS

Lever and Latch Assies: Latches the Cover Assy Front to the printer frame. Pressing the Lever disengages Latch Assy L and Latch Assy R so the Cover Assy Front can be opened.

Tray Assy MBF: The paper tray for use with the Multi-bypass Feeder (MBF).

Chute ENV and Chute MBF: The paper path components that are used with the optional Envelope Feeder. The fed envelope passes between the Chute ENV and the Chute MBF. The bottom surface of the Chute MBF serves as part of the paper path for paper fed from the Tray Assy MBF.

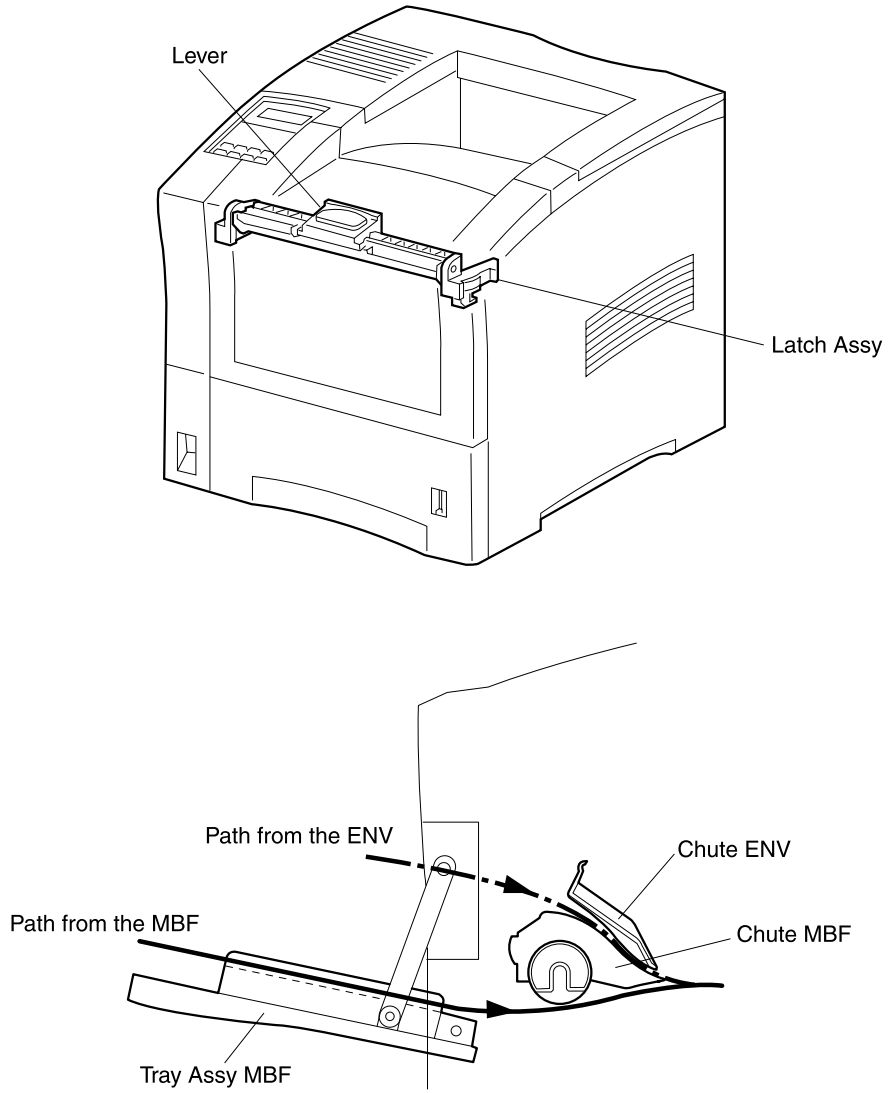


Figure 2-13. Components of Cover Assy Front

PAPER CASSETTE

Cassette Assy: Holds various sizes of plain cut paper (Envelopes are fed by the optional Envelope Feeder Assy, and post cards are fed by the MBF).
Adjust L and R of the Cassette Guides Assy to accommodate different sizes of paper. Adjustment of the Guide Assy End changes the position of actuators that press the Cams SW equipped on the right bottom of the Frame, and actuates the Paper Size Switches on the PWBA Size 1. Pattern of the actuated Size Switches signals the size of the paper loaded in the paper cassette.

Motor Assy: Adjusts the face of the top sheet of paper stacked in the Cassette Assy with the Roll Assy of the Feeder Assy to ensure feeding operation from the Cassette Assy. This Motor Assy is engaged with the Shaft Assy Torque fixed with the Plate Torque, and actuates mechanism of lifting the front end of the Plate Assy Bottom conducted by the control signal from the PWBA MCU, which is triggered by the Sensor Photo. Face Control is described on the next page.

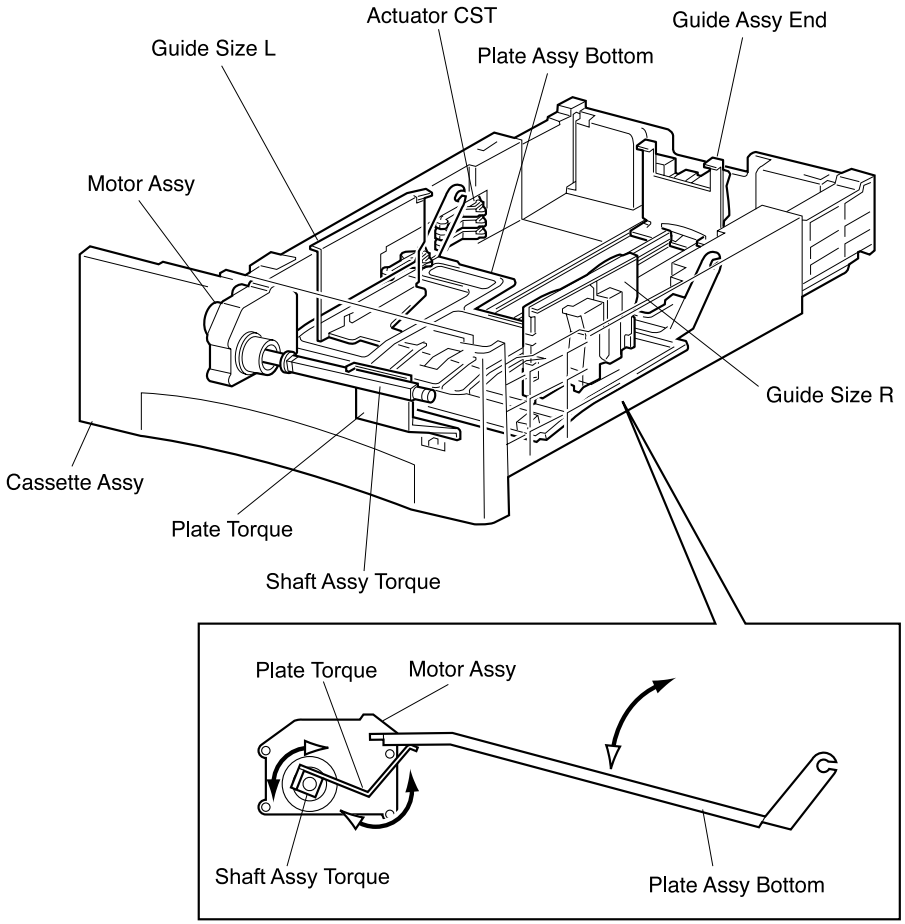


Figure 2-14. Components of the Paper Cassette

PAPER FEEDER

Clutch Assy Turn: Consists of a gear and an electric clutch. This is located on the end of a shaft of the Roll Assy Turn. This clutch controls the transmission of the drive power from the Gear Assy drive to the Roll Assy Turn by turning on and off the clutch magnet. When this clutch is activated, the drive power is transmitted to the Roll Assy Turn through the idle gears to the gear of the Clutch Assy Feed.

Clutch Assy Feed: Consists of a gear and an electric clutch. This is located on the end of a shaft of the Feeder Assy. This clutch controls the transmission of the drive power from the Gear Assy drive through the Clutch Assy Turn to the Roll Assy of the Feeder Assy by turning on and off the clutch magnet. When this clutch is activated, the drive power is transmitted to the Feeder Assy.

Feeder Assy: Consists of the Support Assy Nudger, Shaft Feed and Roll Assy. The task of this assy is to pick the paper from the Cassette Assy and feed it to the Roll Assy Turn. To ensure this task, the Support Assy Nudger acts as the actuator for the Sensor Photo: Face Control by swivelling itself up and down synchronizing the height of the stacked paper.

Roll Assy Turn: This assy feeds the paper to the Regi position of the P/H Assy. The mechanical activity is the same as the Clutch Assy Turn.

PWBA Feeder: Connective interface between the Sensor Photos, the Clutches and Motor, and the PWBA Size 1 (or PWBA Size Option for the optional feeder). This PWBA also has the Sensor Photo: No Pap 1 which detects the out of paper of the Cassette when it shielded the sensing point by the Actuator N/P.

Actuator N/P: Actuates the Sensor Photo: No Pap 1. When paper is out, this actuator will swivel down and shield the Sensor Photo: No Pap 1.

Sensor Photo: Low Paper: Detects the state of low paper of the Cassette Assy.

Sensor Photo: Face Control: Detects the state that the paper level (the position of the top sheet of paper) goes near not so high to be able to feed. This sensor is actuated by the Support Assy Nudger.

Paper Level Indicator: The Cassette Sub Assy is equipped with the Indicator showing the paper level in the Cassette. This Indicator is attached to the Guide Indicator running along the Shaft Indicator. The Guide Indicator is always depressed downward by the Spring Indicator. The downward movement of the Guide Indicator is disturbed by the Lever, whose counter end is set below the Plate Assy Bottom. In case the Paper Cassette is full with paper pile, the Plate Assy Bottom is located at the lowest position in the Cassette, that causes the position of the Guide Indicator and the Indicator at the highest position. The higher the position of the Plate Assy Bottom is, the lower the position of the Indicator.

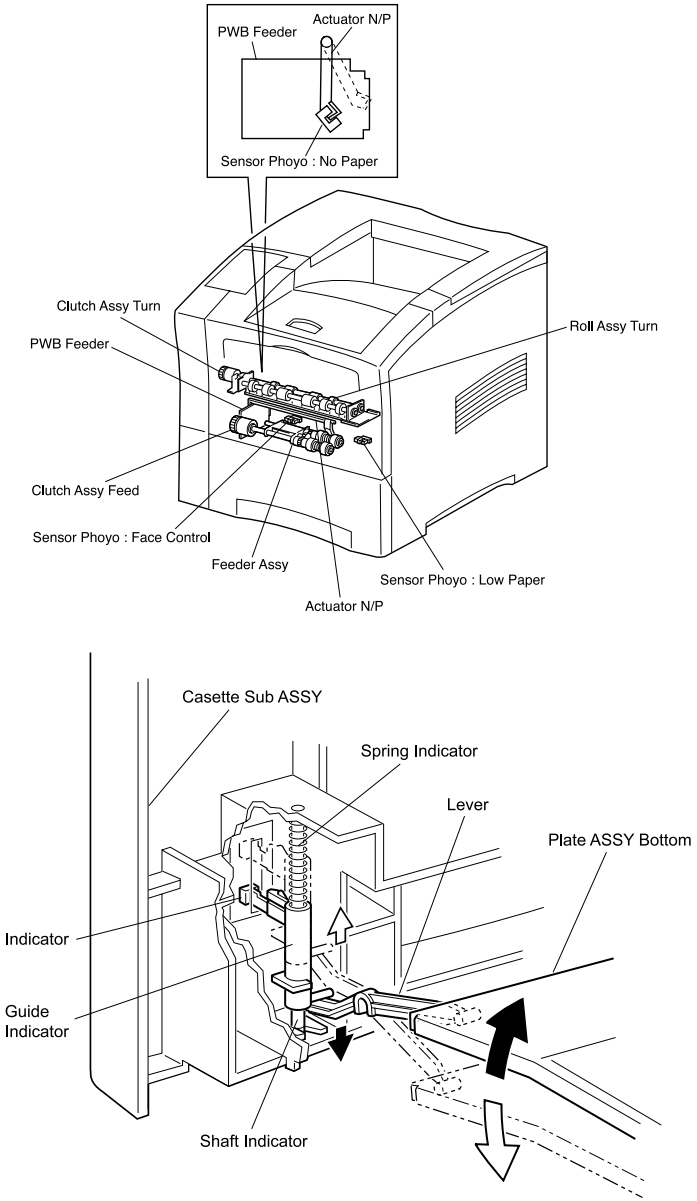


Figure 2-15. Components of Paper Feeder

CHUTE MBF

Roll Assy MBF: Consists of the Shaft Assy MBF, Roll Assy MBF and the Cam Pick Up MBF. This assy picks the paper from the Tray Assy MBF.

Solenoid Pick Up: Controls the start and stop of the rotation of the Roll Assy MBF. This engages the Gear Pick Up located in the end of the Shaft Assy MBF.

Sensor Photo: Paper Set: Detects the existence of the paper on the MBF Tray.

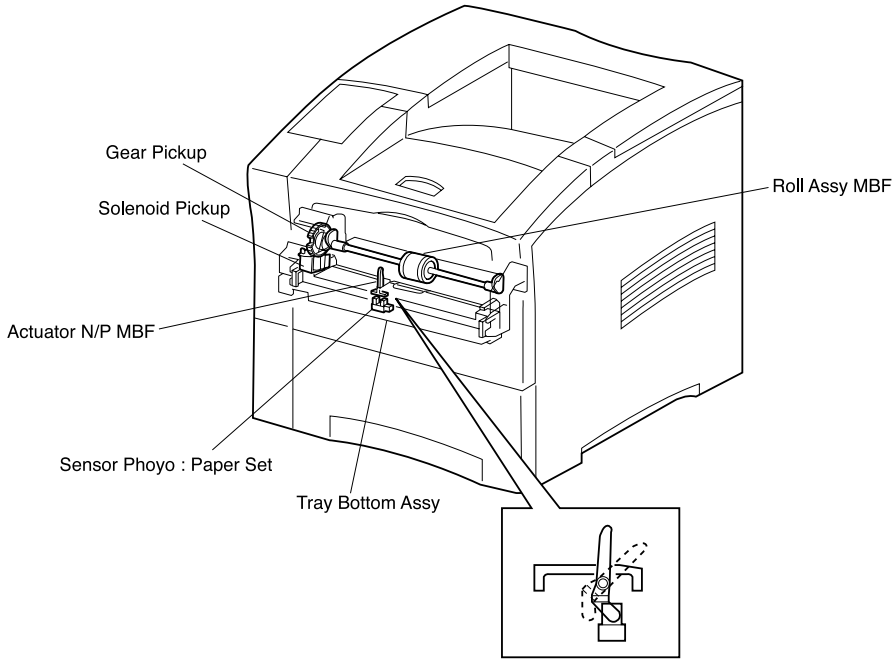


Figure 2-16. Components of Chute MBF

P/H ASSY

Sensor Photo: Regi — Detects when a sheet of paper arrives at the Inlet and Chute Bottom Upper. The Sensor Photo: Regi is part of the components that are used to register the paper with the image on the drum.

Toner Sensor: — Magnetic sensor that monitors the level of toner remaining in the CRU.

Retard Assembly: — Prevents the MBF Roll Assembly from feeding more than one sheet of paper at a time.

Clutch Regi: — Consists of the gear and the magnetic clutch and is located on the end of the Roll Regi Rubber. When the Clutch Assy Regi is actuated, the drive power is transmitted to the Roll Regi Rubber.

Roll Regi Metal

Roll Regi Rubber: — The rotation of these Rolls is controlled by the Clutch Regi, and determines the register position of the paper with the image on the Drum.

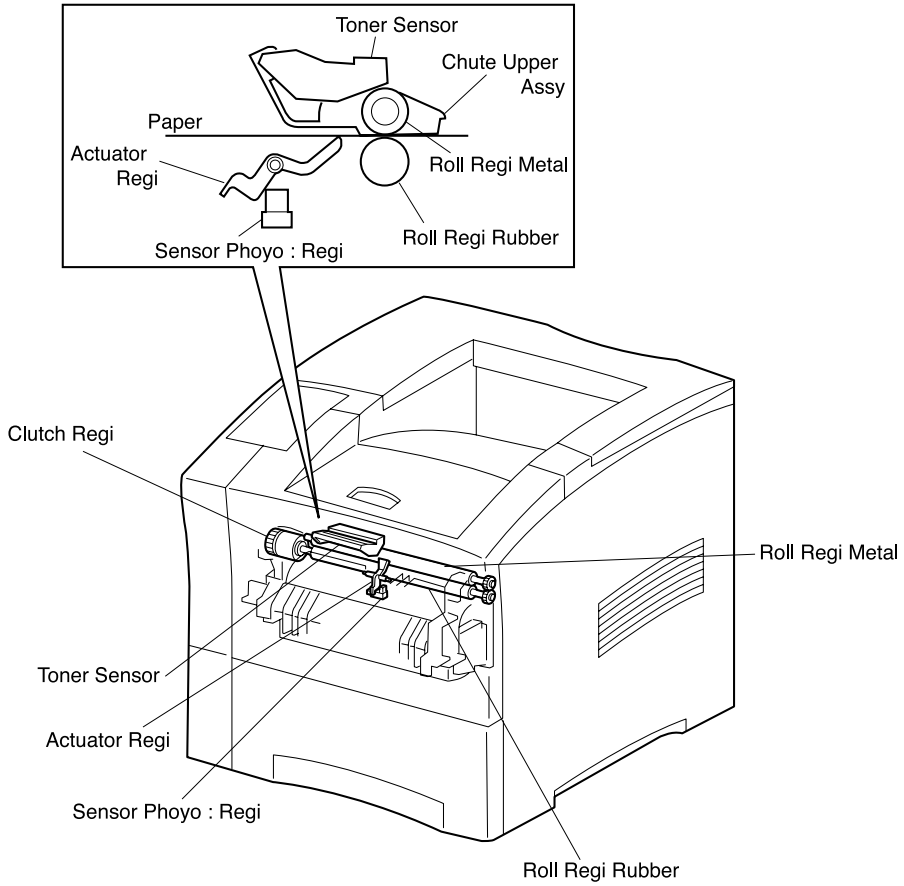


Figure 2-17. Components of P/H Assy

CHUTE TRANS & PAPER

BTR Assy (Bias Transfer Roll):

Transfers the toner image from the drum to the sheet of paper.
The BTR applies a positive charge to the back of the sheet as it travels between the BTR and the surface of the drum. The positive charge attracts the negative charged toner image on the drum, and the image transfers to the paper.

BTR Chute Assy: Uses the Detack Saw to strip the sheet of paper from the surface of the drum. The Detack Saw electrically neutralizes the paper so it will easily peel away from the drum. This assy then transfers the paper into the Fuser Assy.

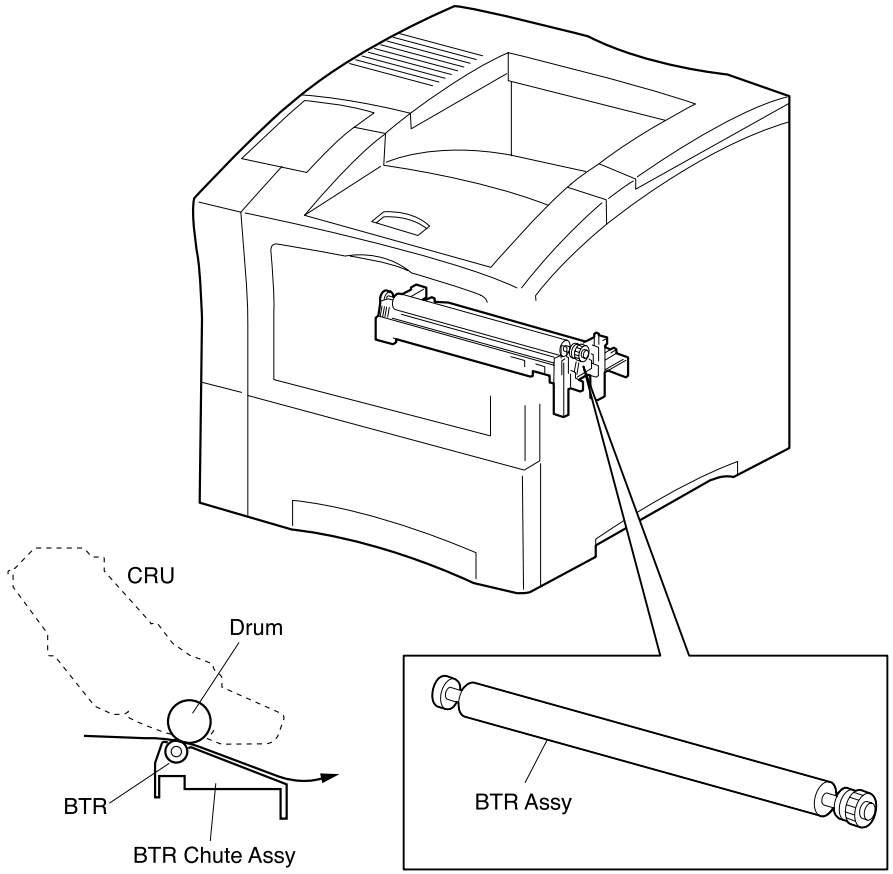


Figure 2-18. Components of Chute Trans & Fuser (1/2) BTR Chute Assy

Fuser Assy:

Uses heat and pressure to permanently fix the toner image onto the paper.
The Fuser Assy is made up of nine major components.

Heat Rod:
An electric coil that is sealed inside a glass tube. The Heat Rod is located inside the Heat Roll and provides the heat necessary to melt the toner image onto the paper.

Temperature Sensor:
Monitors the Heat Roll surface temperature, switching the Heat Rod on or off to maintain the proper temperature range. The Temperature Sensor is a temperature sensitive resistor that rides the Heat Roll surface, and it functions as the first-stage, fuser-overheat protection.

Heat Roll:
A hollow, surface-coated metal tube that is heated by the Heat Rod, and in turn applies heat to the paper to melt the toner. The negative charge that builds up on the Heat Roll is shunted through a diode to frame ground.

Pressure Roll:
A solid, rubber-coated metal shaft that presses the paper between itself and the Heat Roll. This bonds the toner to the paper.

Fuser Thermostat:
Connected in series with the Heat Rod power supply, the Thermostat functions as the second-stage, fuser-overheat prevention. If the first stage fails to prevent the overheat, the Thermostat opens the circuit between the Heat Rod and the power supply.

Fuse:
Connected in series with the Heat Rod power supply, the Fuse functions as the third-stage, fuser over-heat prevention. If the both first and the second stages fail to prevent the fuser overheat, the fuse opens the circuit between the Heat Rod and the power supply.

Sensor Exit:
Monitors when a sheet of paper passes the paper outlet. The sensor is ON when paper actuates the Actuator Exit of the Sensor Exit.

Decurl Roll:
Prevents paper from wrapping around the Heat Roll. The Decurl Roll strips the leading edge of the paper off of the Heat Roll, and bends the paper down along the Pressure Roll and into the exit area.

Actuator Exit/Sensor Exit:
Monitors when a sheet of paper passes the paper outlet.

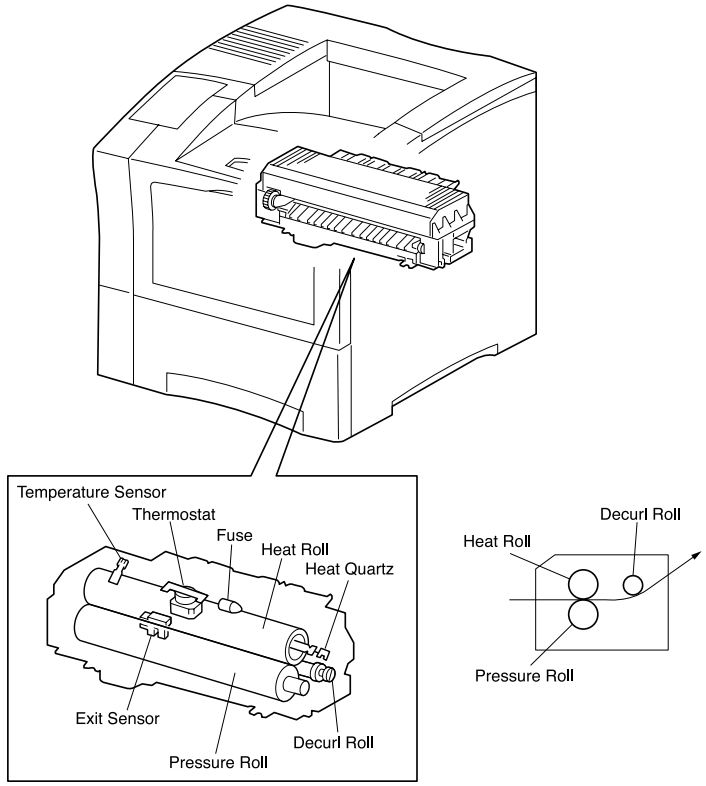


Figure 2-19. Components of Chute Trans & Fuser (2/2) Fuser Assy

EXIT

Roll Assy Mid-1

Roll Assy Mid-2: Transports the paper from the Fuser Assy to the face-down output tray, or to the optional OCT, Mailbox, or Duplex Assy.

Gate Exit: Switches the paper exit path to either the face-down output tray, or to the optional OCT or Mailbox, if installed.

Sensor Photo: Exit

Actuator Full Stack: Detects when the face-down out is full of paper. This Senor Photo: Exit is also used to detect the paper exit.

Motor Assy Exit: Drives the Roll Assy Mid-1 and the Roll Assy Mid-2.

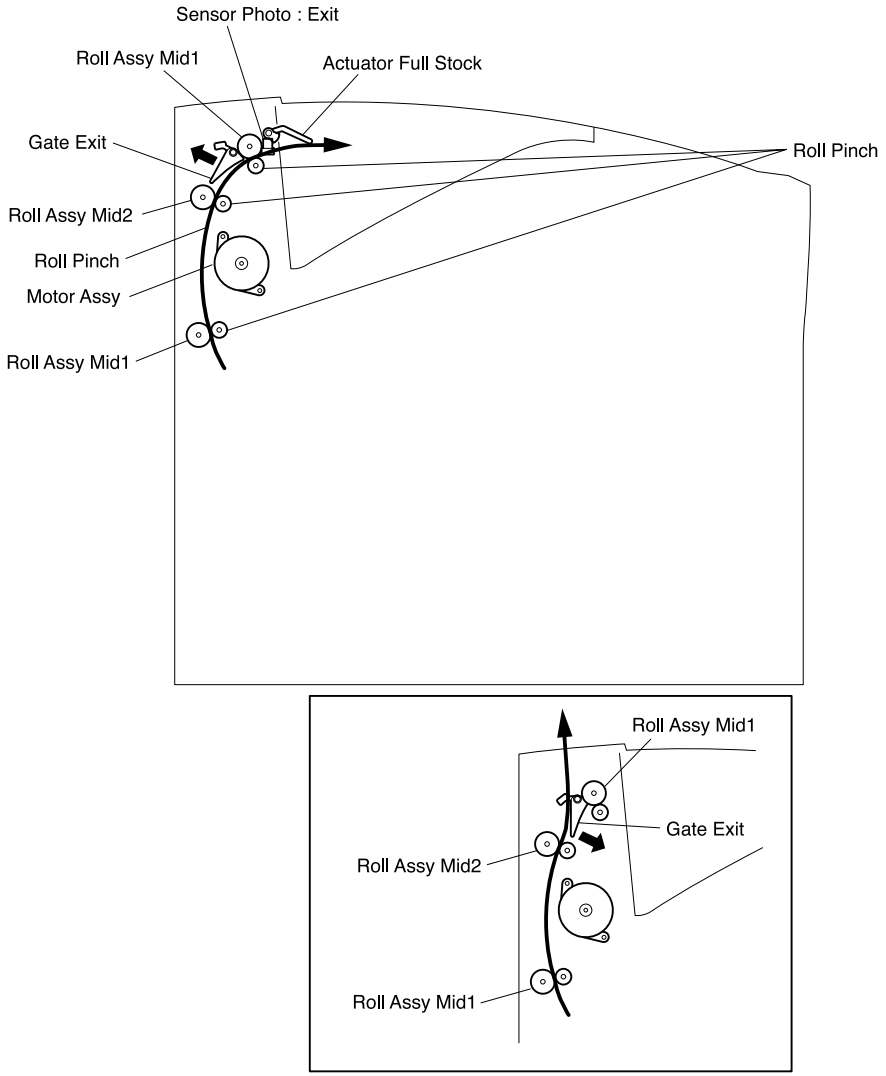


Figure 2-20. Exit Components

DRIVE & ELECTROPHOTOGRAPHICS

ROS Assy:

The ROS (Raster Output Scanner) Assy is the laser and the scanning hardware. The ROS is made up of three major components: the Laser Diode Assy, the Scanner Assy, and the PWBA SOS.

LD Assy (Laser Diode Assy):
Converts electrical signals into optical signals. The LD Assembly generates the laser beam and maintains the laser output power at a constant level.

Scanner Assy:
Routes the laser beam to the drum, and scans it across the drum surface. The Scanner Assy consists of a fifteen sided Polygon Mirror that is attached to the Scanner Motor. The Motor rotates at a constant speed. The spinning Polygon Mirror reflects the beam, through a series of lens and mirrors, onto the rotating drum surface. The movement of the spinning Polygon Mirror scans the beam from one side of the drum to the other; one scan line per mirror facet. This process repeats until the controller stops sending image data to the laser.

The Scanner Motor uses a phase-locked loop (PLL) for speed control.

The PLL compares the phase of the falling edge of the output signal from the Schmitt frequency generator (FG) with the rising edge of the Clock Signal (CLK). The output of the PLL is a voltage that is proportional to the differences in the phase of FG and CLK. The output is the phase detect (PD).

PD pulse duration indicates the amount of signal deviation observed. The frequency generator generates 15 pulses during each revolution of the Scanner Motor. A smoothing filter, using an integrating amplifier, converts the PD signal into a voltage value. The voltage is used as the feed-back to control the speed of the motor.

The Scanner Motor is driven by a three-phase, full-wave, linear drive. The current to the motor coil is switched by a Hall amplifier matrix that uses the signals from the PD to signal when to switch phases.

The signal /SCN MOT ON, from the PWBA MCU, switches the Scanner ON. The signals SPI1 and SPI2 select a ratio of frequency division of the Clock signal. This ratio switches the resolution of the scanned image. The signals are always at HIGH, so the resolution cannot be switched.

PWBA SOS (Start Of Scan):
A sensor that is in-line with the scanning laser beam. The laser beam strikes the PWBA SOS at the start of each scan to let the printer control circuitry know that a new scan is beginning.

The Structure and Operation of the ROS:

The laser light source for the ROS is a semiconductor laser diode with a maximum output of 3mW. A monitor circuit keeps laser output at a constant level. Image data received from the print controller modulates the laser beam, turning it on and off according to the image information.

The Current Switching Circuit switches the Laser Diode on and off according to /nP.DATA sent by the PWBA MCU. When /nP.DATA is LOW, the laser is ON. When /P.DATA is HIGH, the laser is OFF.

The PWBA MCU also supplies the laser drive current (VL1 and VL2). Circuits within the laser use VL1 and VL2 to maintain a constant drive current for the laser diode. If either VL1 or VL2 changes value, the current in IL1 or IL2 change accordingly. The current flowing through the laser Diode (IL) changes, and so does the current flowing through PD. PD monitors laser current, and supplies that information back to the MCU.

When you use Configuration Mode to adjust laser current, you are adjusting VL1 or VL2, so MO equals the value stored in NVRAM.

The Cylinder Lens and a slit in the ROS housing shape the laser light into an oblong beam. Mirror 1 and Mirror 2 direct the beam to the rotating Polygon Mirror. Each facet of the Polygon Mirror reflects the beam through correcting Lenses 1 and 2 and through Mirrors 3 and 4, and onto the drum surface.

The start of each scan, or of each facet reflection, is diverted by Lens 2 onto Mirror 2, which reflects the beam onto Mirror 5 through Mirror 4. Mirror 5 reflects the beam onto the SOS senor. The sensor tells the print controller that a scan has started.

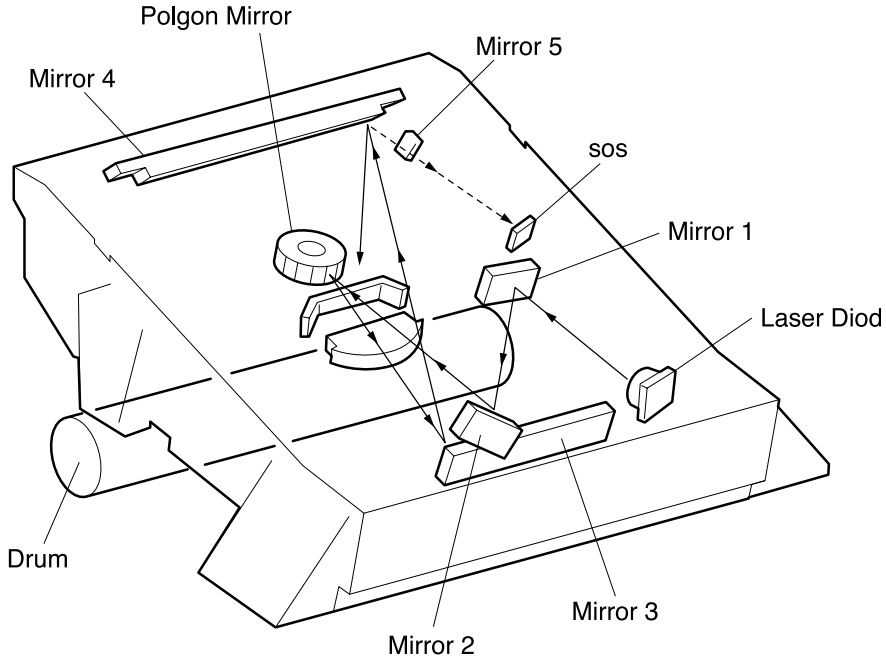


Figure 2-21. ROS Assy

Motor Assy Main: Generates the drive power.

Gear Assy Drive: Transmits the drive power created by the Motor Assy Main to the Paper Feeder, the Fuser Assy, the CRU, and the Optional Envelope Feeder Assy.

Sensor Assy CRU: The CRU Sensor monitors the presence or absence of the CRU.

CRU (Electro-Photography):

The CRU is composed of six major components.

Drum:
An aluminum cylinder with a coating of photoconductive material on the surface. The photoconductive property of the drum allows the drum surface to hold an electrical charge while in darkness, and discharge it when exposed to the light.

Bias Charge Roll (BCR):
Places a uniform electrical charge on the drum surface. At the end of a print cycle, the BCR applies an AC voltage to the drum surface to neutralize any electrical patterns remaining from the last print cycle.

Magnet Roll:
Distributes toner to the drum surface.

Charge Metal Blade (CM Blade):
Spreads an even coating of toner on the Magnet Roll, and gives the Roll a static–electric charge.

Cleaning Blade:
Removes any residual toner left on the drum from the last print cycle.

Drum Shutter:
When the CRU is in place in the printer and the Front Cover is closed, the Drum Shutter opens to expose the area of the drum surface that comes into contact with the paper during a print cycle. When the CRU is out of the printer or when the Front Cover is open, the drum shutter closes to protect the drum surface from light shock and contamination.

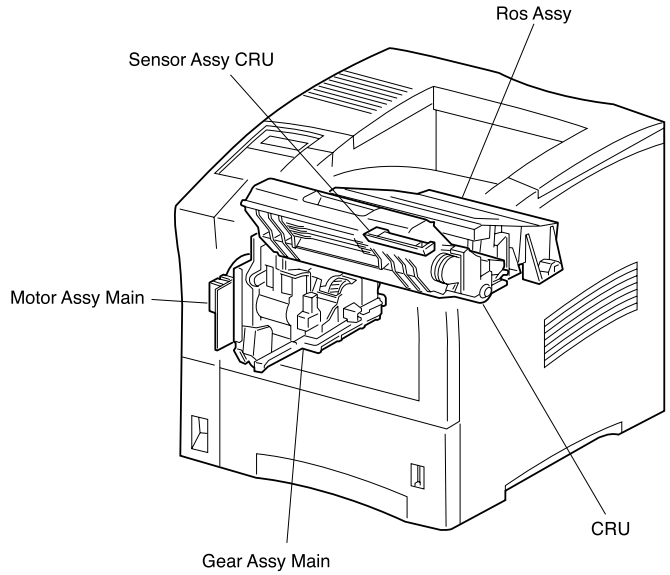


Figure 2-22. Components of Drive & Electrophotographics

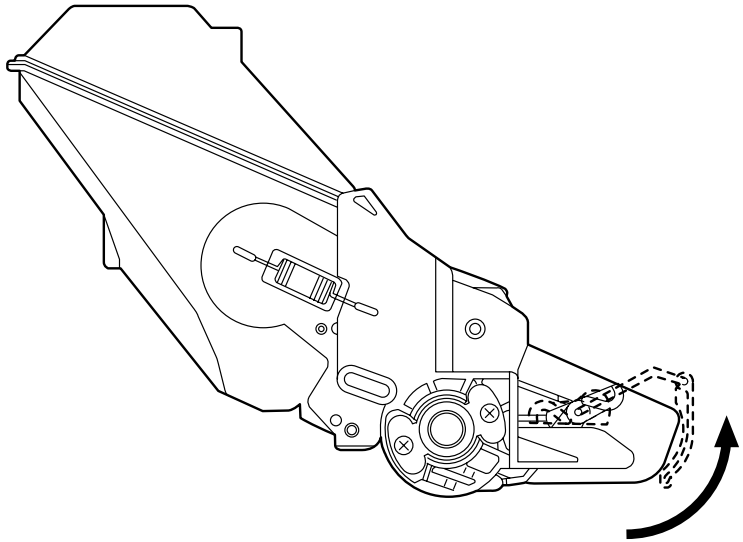


Figure 2-23. CRU Side View and Shutter

FRAME & SIZE SENSOR

PWBA Size 1: Connective PWBA between the PWBA MCU, PWBA Feeder and the PWBA Size Option. This receives and sends the signals, information data, and electric power. The Switch Size is mounted on this PWBA, which detects the paper size loaded in the Cassette through the configuration of the Cam SW actuated by the Actuator CST of the Cassette Assy.

Fan Assy: Moves air through the printer interior to prevent heat buildup.

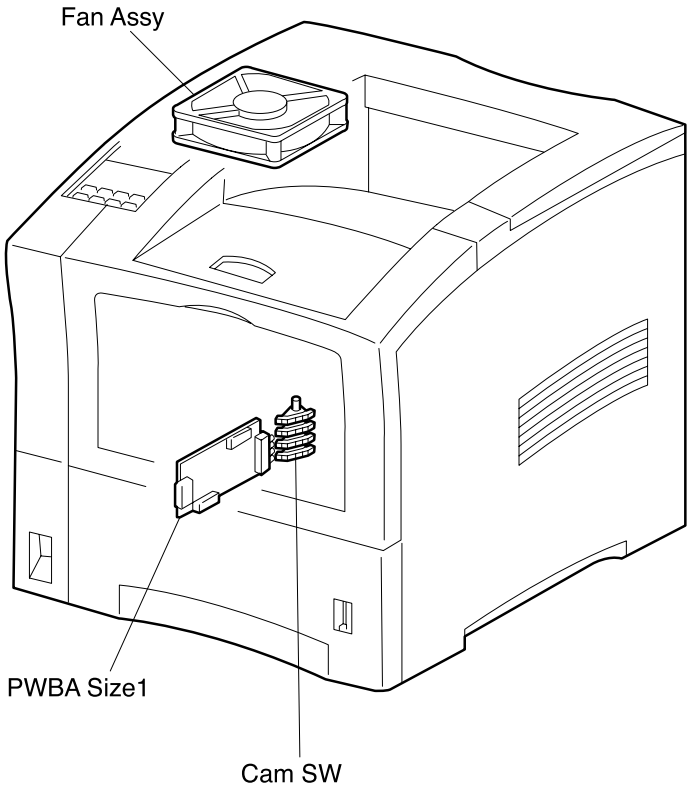


Figure 2-24. Components of Frame & Size Sensor

2.1.5 Main Control Circuit

The video data sent from the host computer is input to the controller circuit through either interface circuit or network board. The C305MAIN, which is the main control circuit of this printer, generates video signal by converting the printing data from the host computer into raster data. The video signals turn on/off the laser diode on the printhead to form latent images on the drum.

2.1.5.1 Functions of the Controller

- ☐ Communication between the host computer and network.
- ☐ Processing the printing data (analyzing the command and generating video signal).
- ☐ Sending the video signal to ROS Assembly.
- ☐ Monitoring the control panel.
- ☐ Memory Management
- ☐ Data Buffer

2.1.5.2 Specification of the Controller

Table 2-1. Main Components of C305MAIN Board

Component	Name (Location)	Function
CPU	VR4310 (µPD30210) (IC5)	CPU controls the main controller and is driven by 64 bit interior clock 166.7MHz.
ASIC	VR32 (E05B57EB) (IC11)	1 chip type, using SDRAM, correspond to 3.3V/5V Memory Access (RAM/ROM) DMA control (video, I/O) Panel and host interface control Produce video data PGI-RIT-Engine interface EIC
Memory	IPL, FONT ROM (IC3, 4)	4MB, 16Mbit Mask ROM (x 2) for Font
	ROM DIMM (CN1/CN2/CN3)	Code (4MB) Local language and Expansion (1/4/8MB, Flash)
	SDRAM (IC15, 16 & CN12)	8MB, 64Mbit(x 2) for standard, up to 256MB for expassion Various buffers
	EEPROM (IC9)	128Kbit, Serial Type, for printer establishment memory
Others	SSCG (IC7)	Clock Driver for master clock and network clock
	M51953BFP (IC10)	Reset IC for resetting sat power on
	74LVX161284 (IC13)	Transceiver IC for parallel I/F
	EEPROM_93C (IC405)	Network EEPROM
	202CBN (IC14)	Transceiver IC for serial I/F

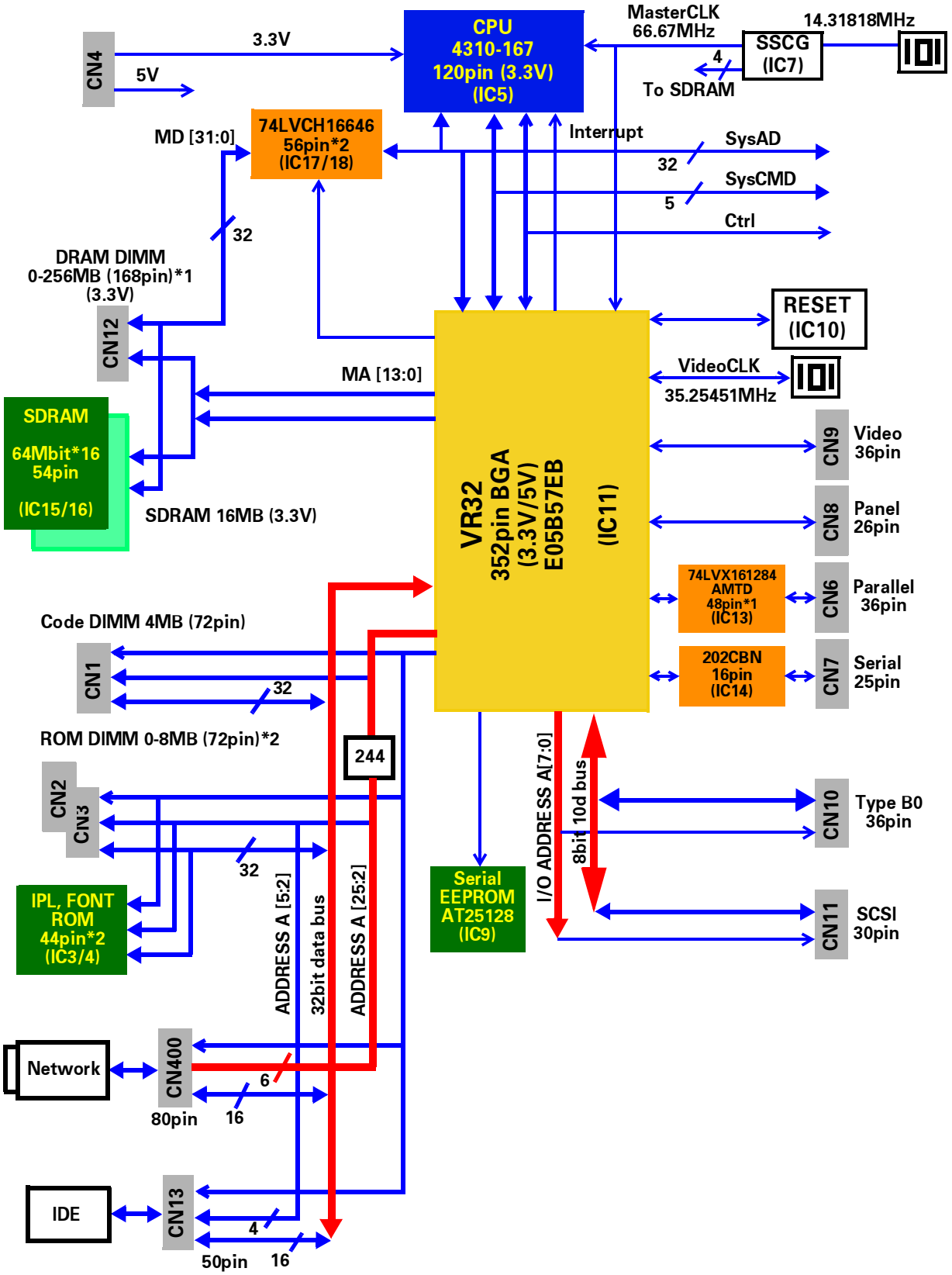


Figure 2-25. Circuit Block Diagram of C305MAIN Board

CHAPTER

3

TROUBLESHOOTING

3.1 Troubleshooting

3.1.1 Service Flowchart

To use the Service Flowchart, start from Block 1 to identify the problem. After you have identified the problem, return to the Service Flowchart and proceed to Block 2 where you inspect and clean the printer (a thorough cleaning frequently solves many printer problems). You continue down the Flowchart, in this manner, always returning to the next block in the Service Flowchart after you have completed the tasks outlined in the current block.

If you choose not to use the Service Flwochart, we recommend that you start at the appropriate Fault Isolation Procedure (FIP) Flowchart and proceed from there. In many cases, merely replacing the print cartridge with new one could solve the printer problems.

Table 3-1. Service Flowchart

Block	Procedure
1	**Identify the Problem** 1. Verify that the reported problem does exit. 2. Check for any error codes. 3. Execute three test prints. 4. Take note of any print quality problems in the three test prints. 5. Take note of any mechanical or electrical abnormalities that are present. 6. Take note of any unusual noise or smell coming from the printer. 7. When you have identified the problem, go to the next block that is listed in the Service Flowchart.
2	**Clean the Printer** 1. Switch OFF the printer power. 2. Disconnect the AC power cord from the wall outlet. 3. Disconnect the power cord from the printer. 4. Open the Cover Assy Front. 5. Remove the CRU. Cover the CRU with a dark cloth and store it away from strong light. 6. Inspect for and remove any foreign matter such as paper clips, staples, scraps of paper, paper dust, or toner from the interior of the printer. 7. Clean the interior with a lint-free cloth, dampened slightly with cold water. 8. Clean the rubber rollers with a lint-free cloth, dampened slightly with cold water. Use a clean, lint-free cloth to dry the rollers. 9. Clean the Laser Scanner window with a soft, dry, lint-free cloth. 10. Use canned air to clean the BTR. Do not touch the BTR with your fingers Do not clean the BTR with a brush or a damp cloth. 11. While cleaning, inspect the interior of the printer for damaged wires, loose connection, toner leakage, and worn or damaged part. 12. If the CRU appears excessivly dirty or obviously damaged, replace it with a new one. 13. When you nave finished cleaning the printer, go to the next block that is listed in the Service Flowchart.

Table 3-2. Service Flowchart (Continued)

Block	Procedure
3	**Final Checkout** 1. Reinstall all of the covers that you removed while servicing the printer. 2. Check that the original error code is gone and there are no new error codes displayed. 3. Execute a series of test prints. The printer generates the test prints without jamming and without any print image defects. 4. Take note of any mechanical or electrical abnormalities that are present. The printer runs through the entire print cycle without any obvious problems. 5. Take note of any unusual noise or smell coming from the printer. During the print cycle there are no unusual noises or smells coming from the printer. 6. The call is completed. Clean up your work area, and return the printer to the customer.

3.1.2 FIP Flowchart

If you used the Service Flowchart, it should have directed you to this section. Now, follow the FIP Flowchart to analyze your printer problem.

3.1.2.1 How to Use the FIP Flowchart

1. If you have an error code displayed on the screen of the Diagnostic Tool, go to the **ERROR CODE** box.
2. If you have a printer operation problem, go to the **PRINTER PERFORMANCE** box.
3. If you have a print image problem, go to the **IMAGE QUALITY** box.
4. Follow the arrow leading from your problem box to the individual FIP (Fault Isolation Procedure) that corresponds to your error code, printer operation problem, or print image problem.
5. Follow the instructions presented in the FIP.

3.1.2.2 How to Follow the FIP

1. Each numbered step in a FIP instructs you to perform a certain action or procedure.
2. The instruction is followed by a question.
3. If your response to the question is Yes, then follow the instructions for a Yes reply.
4. If your response to the question is No, then follow the instructions for a No reply.
5. FIPs often ask you to take voltage readings at certain test points within the printer.
   Appendices D and E contain information on signal names and test point locations.
6. FIPs often ask you to replace a printer component.
   Chapter 4 “Assembly and Disassembly” provides you detailed procedures for removing and replacing all major parts of the printer.

3.1.2.3 General Notes on the FIPs

1. FIPs assume there is no malfunction in printer controller. If you are unable to fix a problem using the FIPS, we recommend that you replace the printer controller.
2. FIPs use new and "known good" components as troubleshooting tools. We recommend you carry a spare CRU, PWBA MCU, and PWB ESS.
3. Unless indicated otherwise, the instruction "switch ON main power" means for you to switch ON printer power, and let the printer proceed through power-on diagnostics and warm-up until it is on-line and ready to print.
4. Conventions used to represent connectors:
   P/J XX means a Plug and its corresponding Jack, are connected.

   PXX means a Plug is disconnected (Unless this plug is soldered to a PWB).

   JXX means a Jack is disconnected (Unless this jack is soldered to a PWB).
5. When you are instructed to take a voltage reading between "P/J A–B and P/J X–Y", place the red probe (+) of your meter on pin B of P/J A, and place the black probe (–) of your meter on pin Y of P/J X.
6. When you are instructed to take voltage readings between "P/J X and P/J Y" (without specified pin numbers), check all voltage carrying pins. Refer to the Wiring/Connection Diagrams for signals and pin numbers.
7. When you are instructed to take a voltage reading, the black probe (–) is generally connected to a pin that is either RTN (Return) or SG (Signal Ground). You can substitute any RTN pin or test point in the printer, and you can use FG (Frame Ground) in place of any SG pin or test point.
8. Unless a FIP instructs you otherwise; before measuring voltages make sure the printer is switched ON, the CRU and Cassette Assy are installed, and the Cover Assy Front and Cover Assy Rear are closed (Interlock Switch is actuated).
9. All voltage values given in the FIPs are approximate values. Actual measured voltages may vary somewhat from the given values.
10. FIPs may instruct you to remove or replace a component. Refer to Section 9 Removal and Replacement, for information on how to remove and reinstall a component.
11. When a FIP instructs you to replace a component, and that component is part of a larger assembly, you should replace the entire assembly.

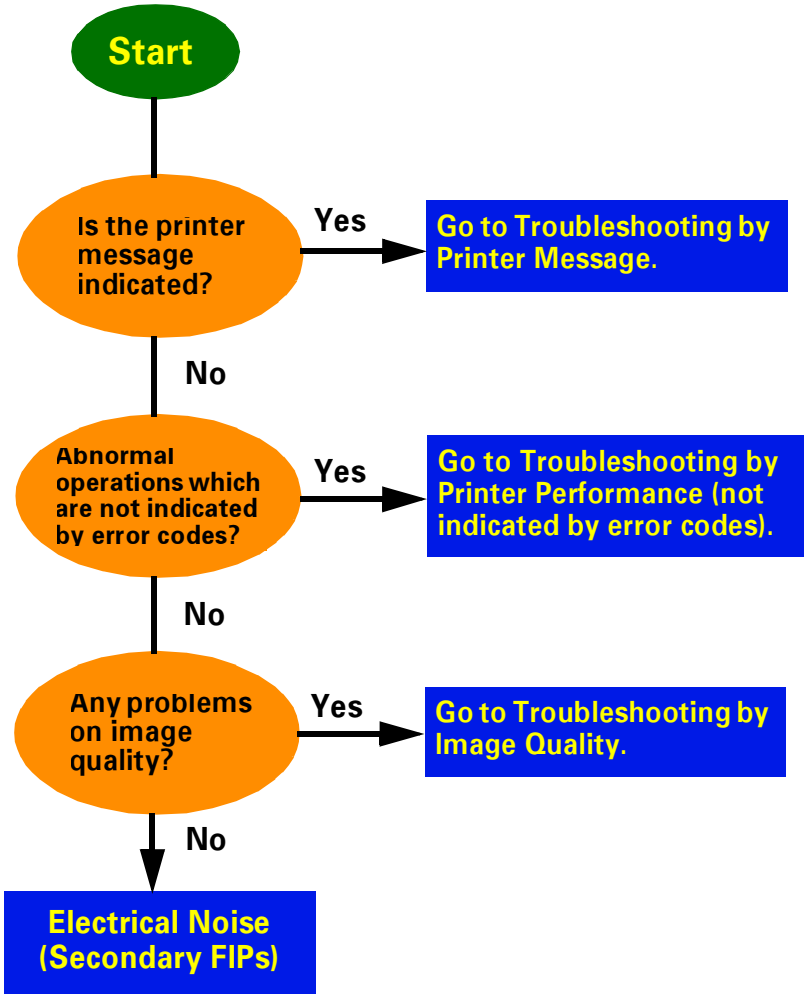


Figure 3-1. FIP Flowchart

3.2 Troubleshooting by Printer Message

The LCD panel of the control panel unit is used to display various printer status and error conditions. There are three types of messages displayed by the printer: Status Message, Error Message, and Warning Message.

The following lists the printer messages produced by the printer.

Table 3-3. Printer Messages

Message	Classification	EJL Status
(When printer is powered on)	Status	
Service Req effff	Service Call Error	6000 Refer to 1.4.1 "Engine Errors".
ROM CHECK	Status	--
RAM CHECK	Status	--
Self Test	Status	--
Reset All	Status	1004
Reset	Status	1004
Job Cancel	Status	1003
x Error yyy (x=LC Unit, DM, Multibin, Shifter, yyy=3-digit number) x yyy LC Unit 101 DM 201 Multibin 501 Shifter 701	Error	40yyy
Open Mailbox	Status	--
Enter Password=XXXX	Status	--
Password Error	Error	--
Existing Paper Jam	Error	4012
Paper Jam	Error	4008

Table 3-3. Printer Messages

Message	Classification	EJL Status
Feed Jam	Error	4009
Paper Jam in Duplex	Error	4017
Paper Jam in Multibin	Error	4205
paper Jam in Shifter	Error	4206
Face-down Full	Error	4090
Multibin 1 Full	Error	4101
Multibin 2 Full	Error	4102
Multibin 3 Full	Error	4103
Multibin 4 Full	Error	4104
Multibin 5 Full	Error	4105
Multibin 6 Full	Error	4106
Multibin 7 Full	Error	4107
Multibin 8 Full	Error	4108
Multibin 9 Full	Error	4109
Multibin 10 Full	Error	4110
Shifter Full	Error	4207
Insert Imaging Crtg	Error	4000
Multibin Cover Open	Error	4038
Front Cover Open	Error	4002
Rear Cover Open	Error	4208
FaceUp Tray Open	Error	4209
Manual Feed ssss ttt	Error	1013
Insert LC	Error	4007
Can't Print Duplex	Error	3005
Paper Out ssss ttt	Error	4010

Table 3-3. Printer Messages

Message	Classification	EJL Status
Toner Out	Error	4001
Paper Set ssss ttt	Error	3003
Print Overrun	Error	3000
Mem Overflow	Error	3001
Duplex Mem Overflow	Error	3004
Invalid HDD	Error	4202
Invalid PS3	Error	4201
Invalid AUX I/F Card	Error	4014
Invalid ROM A	Error	4003
Invalid ROM B	(Status)	4003
Write Error ROM A	Status	1005
Write Error ROM P	Status	1005
Reset to Save	Status	--
Writing ROM A	Status	1005
Writing ROM P	Warning	1005
Menus Locked (Display Panel Setting)	Warning	--
PS3 Hard Disk full	Warning	2561
Collate was disabled	Warning	2013
Check paper size	Warning	2004
Image Optimum	Warning	2002
Check paper type	Warning	2008
Outbin Select Error	Warning	2009
Need Memory	Warning	2003
Format Error ROM A	Warning	2000

Table 3-3. Printer Messages

Message	Classification	EJL Status
Format Error ROM B (Display test printing)	Warning	2000 1010
Warming Up	Status	1006
Maintenance Req 0005	Warning	2053
Toner Low	Status	2001
Off-line	Status	1001
Standby	Status	1007
Ready	Status	1000
Following messages are not displayed.		
Printing		1009
Communication to inactive I/F		1012
SSSS=LC1, LC2, LC3, MP, ENV		

3.2.1 Details of Printer Messages (New and Model-dependent)

Described below are model-dependent specification details of the printer messages.

1. X*** Error yyy (Error)
   - Explanation
     This error occurs when an option which was connected (communicated) while power was on is disconnected or communication with the option is disabled for some reason.
     X***: LC Unit, DM, Shifter, Multibin
   - LED
     The On Line LED and the Continue LED go out.
   - Action
     Turn off the printer (when XXX is Multibin, turn off the Multibin, too) and check the connection of the unit where the error has occurred, and turn the power on again (turn on the Multibin first). If the error still remains, the printer may be at fault.
2. Existing Paper Jam (Error)
   - Explanation
     Paper jam has occurred near the Fuser Unit or the Exit Roller.
   - LED
     The On Line LED and the Continue LED go out.
   - Action
     Open the rear cover, remove the jammed paper, and close the cover, and the printer will automatically recover from the error.
     After warming up, restart printing from the print data which jam occurred with.
3. Paper Jam in Duplex (Error)
   - Explanation
     Paper jam has occurred in the Duplex unit.
   - LED
     The On Line LED and the Continue LED go out.
   - Action
     Open the rear cover, pull out the Duplex unit, remove the jammed paper and close the cover, and the printer will automatically recover from the error.
     After warming up, restart printing from the print data which jam occurred with, from the front side of the paper.
4. Paper Jam in Shifter (Error)
   - Explanation
     Paper jam has occurred in the Shifter.
   - LED
     The On Line LED and the Continue LED go out.
   - Action
     Open the Shifter rear cover, and remove the jammed paper and close the cover. Open and close the printer rear cover, and the printer will automatically recover from the error.
     After warming up, restart printing from the print data which jam occurred with, from the front side of the paper.
5. Paper Jam in Multibin (Error)
   - Explanation
     Paper jam has occurred in the Multibin.
   - LED
     The On Line LED and the Continue LED go out.
   - Action
     Open the Multibin rear cover, and remove the jammed paper and close the cover. Open and close the printer rear cover, and the printer will automatically recover from the error.
     After warming up, restart printing from the print data which jam occurred with, from the front side of the paper.

6. Face-down Full (Error)
   - Explanation
     This error occurs when an attempt is made to eject paper to Face-down which is full.
   - LED
     The On Line LED and the Continue LED go out.
   - Action
     Take the paper from Face-down and press the Continue switch, and printing will resume.
7. Multibin 1 to 10 Full (Error)
   - Explanation
     This error occurs when an attempt is made to eject paper to the N bin of the Multibin which is full or open.
   - LED
     The On Line LED goes out, and the Continue LED is on.
   - Action
     Take the paper from the N bin of the Multibin, or close the bin and press the Continue switch, and printing will resume.
8. Shifter Full (Error)
   - Explanation
     This error occurs when an attempt is to eject paper to the Shifter which is full.
   - LED
     The On Line LED goes out, and the Continue LED is on.
   - Action
     Take the paper from the Shifter and press the Continue switch, and printing will resume.
9. Front Cover Open (Error)
   - Explanation
     The front cover is open.
   - LED
     The On Line LED and the Continue LED go out.
   - Action
     Close the front cover.
10. Rear Cover Open (Error)
    - Explanation
      The rear cover is open.
    - LED
      The On Line LED and the Continue LED go out.
    - Action
      Close the rear cover.
11. Multibin Cover Open (Error)
    - Explanation
      The Multibin rear cover is open.
    - LED
      The On Line LED and the Continue LED go out.
    - Action
      Close the Multibin rear cover.
12. Cannot Print Duplex (Error)
    - Explanation
      This error occurs when duplex printing cannot be performed due to the liminations on duplex printing. The message “Duplex print was off” used to be displayed after the paper was ejected with its one side printed, but now this error occurs before printing.
      If the error results from the setting of the paper feed unit, duplex printing might be performed after the error is cleared when the paper feed unit status changes.
    - LED
      The On Line LED goes out, and the Continue LED flahses.
    - Action
      When the Continue switch is pressed, printing will be started but it will be one-side printing. When Auto Cont = On in the Config Menu, one-side printing will resume after a certain time.

13. Paper Set ssss ttt (Error)

- Explanation
  The paper size placed in the selected paper feed unit ssss does not match the paper size ttt to be printed.
- LED
  The On Line LED goes out, and the Continue LED flashes.

14. Invalid HDD (Error)

- Explanation
  HDD which cannot be used with this printer is installed.
- LED
  The On Line LED and the Continue LED go out.
- Action
  Turn off the power and remove the hard disk.

15. Invalid PS3 (Error)

- Explanation
  PS3 module which cannot be used with this printer (version) is installed.
- LED
  The On Line LED and the Continue LED go out.
- Action
  Turn off the power and remove the PS3 module.

16. Collate was disabled (Warning)

- Explanation
  The print data of the entire job cannot be saved due to insufficient memory, and therefore, the number of copies cannot be specified. Only one copy of the first to the last page is printed.

17. Check Paper Type (Warning)

- Explanation
  When "Paper Source" is set to "Auto" and paper type is specified, but there is no unit where both paper size and paper type match the specified values, paper is fed from a unit where the paper size matches but the paper type is different.
  When both paper size and paper type match the specified values but there is no paper placed in the unit, paper empty error will occur instead of giving this warning.

18. Maintenance Req. XXXX (Warning)

- Explanation
  End of Fuser or BTR's service life (printed 200,000 sheets)
  (This occurs when a fuser warning is issued from the engine.)

Table 3-4.

Type of Warning	Close to the end of Fuser Unit's Service Life	Close to the end of BTR's Service Life	Close to the end of Paper Feed Roller's Service Life
Code hhhh 0005	X	X	--

19. Outbin Select Error (Warning)

- Explanation
  The paper eject port specification becomes invalid due to the limitation on paper eject units (Mail Box, Stacker) and paper is output to another paper eject unit (Face-down).

20. PS3 Hard Disk full (Warning)

- Explanation
  PS3 area in HDD becomes full.
- Action
  Either of the following can clear this message:
  Press the Continue SW.
  Execute Reset.

3.2.2 Service Call Errors

3.2.2.1 Engine Errors

The following table lists the engine-related service call errors produced by this printer.

Table 3-5. Engine Errors

Engine Code	Error Code (EJLSTATUS)	Explanation
STATUS2 bit3	E0004	Abnormal main motor
STATUS2 bit2	E0005	Abnormal fan motor
STATUS2 bit4	E0006	Abnormal polygon motor
STATUS2 bit1	E0008	Engine side EEPROM error
---	E0014	Engine communication error
STATUS2 bit6	E0030	Abnormal fuser (time-out)

3.2.2.2 Controller Errors

The following table lists the controller-related service call errors produced by this printer.

Table 3-6. Controller Errors

Error Code ffff	Explanation
0017	CPU error (Occurrence of undefined interrupt)
0081	CPU error (TLB modification exception)
0082	CPU error (TLB mistake exception [Load/Fetch])
0083	CPU error (TLB mistake exception [Store])
0084	CPU error (Address error exception [Load/Fetch])
0085	CPU error (Address error exception [Store])
0086	CPU error (Bus error exception [Fetch])
0087	CPU error (Bus error exception [Load/Store[)

Table 3-6. Controller Errors (Continued)

Error Code ffff	Explanation
0088	CPU error (SYSCALL exception)
0089	CPU error (Break exception)
0090	CPU error (Reserve command exception)
0091	CPU error (Coprocessor unused exception)
0092	CPU error (FPU exception)
0093	CPU error (TLB exception)
0094	CPU error (XTLB exception)
0095	CPU error (Cache exception)
0096	CPU error (Trap exception)
0097	CPU error (FPU error exception)
0098	CPU error (Watch exception)
0128 to 0254	CPU error (Undefined trap)
0255	CPU error (NMI exception)
0256	CPU error (Division by zero)
0257	CPU error (Operation overflow)
0258	CPU error (Occurrence of break)
0800	IPL error (Controller fault)
0900	Reboot
0910	ASSERT
1002	Standard RAM error (Not sufficient for standard size, etc.)
1010	Verify error
1020	RAM error (slot 0)
1021	RAM error (slot 1)
1022	RAM error (slot 2)

Table 3-6. Controller Errors (Continued)

Error Code ffff	Explanation
1100	ROM checksum error (bit 0 to 15) (Font)
1101	ROM checksum error (bit 16 to 31) (Font)
1120	ROM checksum error (bit 0 to 7) (Program)
1121	ROM checksum error (bit 8 to 15) (Program)
1122	ROM checksum error (bit 16 to 23) (Program)
1123	ROM checksum error (bit 24 to 31) (Program)
1170	Option font ROM checksum error
1180	Option ROM module A checksum error
1181	Option ROM module B checksum error
1185	Unsupported ROM module
1190	Cartridge access failure
1200	EEPROM write error
1210	EEPROM write count limit
1400	Engine initialization error
1700	Built-in network hardware error
1710	Token Ring hardware error
1999	Other hardware error
2000	Software error

3.2.3 RAM Expansion

This printer produces Duplex Mem Overflow, Mem Overflow, Image Optimum, Collate was disabled, and Need Memory messages.

In such cases, any of the following measures may be taken:

- Reducing the resolution to 600 dpi.
- Reducing the receiving buffer size setting to minimum.
- Using a fixed interface.

The only way of definitively avoiding memory shortage is to install more memory (limited to commercially available SDRAM DIMMs for PCs: 168-pin, 64-bit, with SPD).

3.3 Troubleshooting by Printer Performance

Before entering the Printer Performance Problem FIPs, make sure:

1. Is the printer plugged into a recommended AC wall outlet?
2. Is the AC power provided at the wall outlet within recommended specification?
3. Is the AC power cord connected to the printer?
4. Is the AC power cord in good condition, not frayed, or broken?
5. Is the printer properly grounded through the AC wall outlet?
6. Is the printer located in an area where the temperature and humidity are moderate and stable?
7. Is the printer located in an area that is free of dust?
8. Is the printer located in an area away from water outlets, steamers, electric heaters, volatile gases, or open flames?
9. Is the printer shielded from the direct rays of the sun?
10. Does the printer have recommended space around all sides for proper ventilation?
11. Is the printer sitting on a level and stable surface?
12. Is the recommended paper stock being used in the printer?
13. Does the customer use the printer as instructed in the EPL-N2050 User's Manual?
14. Are consumables, such as the CRU, replaced at recommended intervals?

3.3.1 Inoperative Printer

Table 3-7. Inoperative Printer

Step	Actions & Questions	Yes	No
1	**INITIAL ANALYSYS** **Inspect the following components:** • Control Assy Panel • PWB ESS • LVPS Assy • PWBA MCU • PWBA HVPS • Fan Assy • Solenoid Pick Up • Clutch Regi • Clutch Assy Feed • Clutch Assy Turn • Motor Assy Main • Sensor Assy Toner	Go to Step 2.	Replace the problem components.
2	**CONTROL ASSY PANEL** 1. Disconnect P/J362 on the PWBA ESS. 2. Turn ON the Main Power. **Does the Fan Assy function normally?**	Replace the Control Assy Panel.	Go to Step 3.
3	**PWB ESS** 1. Unplug the interface cable between the PWB ESS and the PWBA MCU. 2. Turn ON the Main Power. **Does the Fan Assy function normally?**	Replace the PWB ESS.	Go to Step 4.
4	**PWBA LVPS** 1. Disconnect P/J28 on the PWBA MCU. 2. Turn ON the Main Power. 3. Read voltage within 30 seconds after turning on the Main Power. **Are the following voltages present on the pins of J28?** • Is there +3.3VDC between J28-10 and J28-8? • Is there +5VDC between J28-7 and J28-8? • Is there +24VDC between J28-1 and J28-8? • Is there +24VDC between J28-2 and J28-8? • Is there +24VDC between J28-1 and J28-8?	Go to Step 5.	Replace the PWBA LVPS.

Table 3-7. Inoperative Printer (Continued)

Step	Actions & Questions	Yes	No
5	**PWBA HVPS** Unplug P/J11 on the PWBA HVPS. Turn ON the Main Power. **Does the Fan function normally?**	Replace the PWBA HVPS.	Go to Step 6.
6	**FAN ASSY** Unplug P/J283 on the PWBA MCU. Turn ON the Main Power. Check the voltage between P283-1 and P283-3. **Is there +24VCD between P283-1 and P283-3?**	Replace the Fan Assy.	Go to Step 7.
7	**CLUTCH ASSY FEED** Disconnect P/J65 from the PWBA Feeder. Turn ON the Main Power. **Does the Fan function normally?**	Replace the Clutch Assy Feeder.	Go to Step 8.
8	**CLUTCH ASSY TURN** Disconnect P/J64 from the PWBA Feeder. Turn ON the Main Power. **Does the Fan function normally?**	Replace the Clutch Assy Turn.	Go to Step 9.
9	**MOTOR ASSY** Disconnect P/J67 from the PWBA Feeder. Turn ON the Main Power. **Does the Fan function normally?**	Replace the Motor Assy.	Go to Step 10.
10	**SOLENOID PICK UP** Disconnect P/J44 from the PWBA Feeder. Turn ON the Main Power. **Does the Fan function normally?**	Replace the Solenoid Pick Up.	Go to Step 11.
11	**CLUTCH REGI** Disconnect P/J43 from the PWBA Feeder. Turn ON the Main Power. **Does the Fan function normally?**	Replace the Clutch Regi.	Go to Step 12.

Table 3-7. Inoperative Printer (Continued)

Step	Actions & Questions	Yes	No
12	**MOTOR ASSY MAIN** Disconnect P/J29 from the PWBA MCU. Turn ON the Main Power. **Does the Fan function normally?**	Replace the Motor Assy Main.	Go to Step 13.
13	**TONER SENSOR** Disconnect P/J42 from the PWBA Conn. Turn ON the Main Power. **Does the Fan function normally?**	Replace the Toner Sensor.	Go to Step 14.
14	**ROS ASSY** Unplug P/J21 from the PWBA MCU. Turn ON the Main Power. **Does the Fan function normally?**	Replace the ROS Assy.	Replace the PWBA MCU.

3.3.2 Erratic Operation

Table 3-8. Erratic Operation

Step	Actions & Questions	Yes	No
1	**INITIAL ANALYSIS** Inspect the following componets: • PWBA MCU • PWBA HVPS • PWBA LVPS **Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated?**	Go to Step 2.	Replace the problem components.
2	Does the printer enter a print cycle?	Go to Step 3.	Go to Step 4.
3	Enter DIAGNOSTIC MODE MENU. **Can you enter the DIAGNOSTIC MODE MENU?**	Go to Step 5.	Replace the PWBA MCU.
4	**Does the printer RESET while it is making a test print?**	Go to Table 3-45, “Electrical Noise,” on page 101.	Go to Step 5.
5	Install a new PWBA MCU. **Does the erratic operation still occur?**	Replace the PWB ESS.	Problem solved.

3.3.3 Inoperative Drive Components

Table 3-9. Inoperative Drive Components

Step	Actions & Questions	Yes	No
1	**INITIAL ANALYSIS** Inspect the following componets: • Gear Assy Drive • Motor Assy Main • PWBA LVPS • PWBA MCU **Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated?**	Go to Step 2.	Replace the problem components.
2	**GEAR ASSY DRIVE** Use MAIN MOTOR TEST to check the Gear Assy Drive function. **Does the Gear Assy Drive rotate smoothly?**	Go to Step 3.	Replace the Gear Assy Drive.
3	**MOTOR ASSY MAIN** Use MAIN MOTOR TEST to check the Motor Assy Main function. **Does the Motor Assy Main function correctly?**	Replace the PWBA MCU.	Go to Table 3-36, “Drive Components Failure,” on page 95.

3.4 Troubleshooting by Print Image Quality

This section shows check points for troubleshooting the printer by referring to each image quality problem.

Before entering the Image Quality FIPs, make sure:

1. Is the printer plugged into a recommended Ac wall outlet?
2. Is the AC power provided at the wall outlet within recommended specifications?
3. Is the AC power cord connected to the printer?
4. Is the AC power cord in good condition, not frayed or broken?
5. Is the printer properly grounded through the AC wall outlet?
6. Is the printer located in an area where the temperature and humidity are moderate and stable?
7. Is the printer located in an area that is free of dust?
8. Is the printer located in an area away from water outlets, streamers, electric heaters, volatile gases, or open flames?
9. Is the printer shielded from the direct rays of the sun?
10. Does the printer have recommended space around all sides for proper ventilation?
11. Is the printer sitting on a level and stable surface?
12. Is the recommended paper stock being used in the printer?
13. Does the customer use the printer as instructed in the EPL-N2050 User's Manual?
14. Are consumables, such as the CRU, replaced at recommended intervals?

3.4.1 Light (Undertone) Print

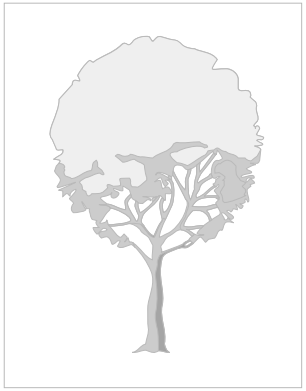
Problem	Initial Analysis
The overall image density is too light. 	1. Inspect the following components. Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated? • **CRU** • **Spring Clip** • **Chute Trans Assy** • **PWB MCU** • **PWBS LVPS** • **Harness Assy Fuser-M (J271, J11, J27, J262)** • **Cover Assy Front** • **HVPS** • **BTR Assy** • **ROS Assy** • **Harness Assy Conn (J23-J231)** • **Fuser Assy** 2. Inspect the printer paper path. Is it clear of foreign matter such as staples, paper clips, and paper scrap?

Table 3-10. Light Print

Step	Action and Question	Yes	No
1	**PAPER CONDITIONS** **Is there moisture in the paper?**	Load fresh and dry paper.	Go to Step 2.
2	**DRUM GROUND** Check the Drum Ground Path: Drum>Drum Shaft>Spring Clip>Frame **Is the Drum Ground Path complete?**	Go to Step 3.	Re-establish the Drum Ground Path.
3	**LASER BEAM PATH** Inspect the laser beam path between the ROS Assy and the Drum for contamination or obstructions. **Is the laser beam path free of obstacles?**	Go to Step 4.	Remove obstructions or contamination.
4	**BRT ASSY** Inspect the BTR Assy for contamination. **Is the BTR free of contamination?**	Go to Step 5.	Replace the BTR Assy.
5	**IMAGE TRANSFER PROCESS FAILURE** Generate a test print and switch OFF printer power halfway through the print cycle. Remove the CRU and inspect the toner image on the drum. **Was the image on the drum transferred completely to the paper?**	Go to Step 6.	Go to Table 3-44, “PWBA HVPS Failure,” on page 100.
6	**CRU FAILURE** Install a new CRU. **Is the problem solved?**	Problem solved.	Return to Initial Analysis.

3.4.2 Blank Print (No Image)

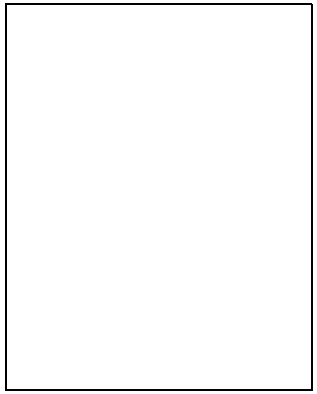
Problem	Initial Analysis
The entire page is blank. 	1. Inspect the following components. Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated? • **CRU** • **BTR Assy** • **P/H Assy** • **PWBA HVPS** • **ROS Assy** • **PWBA MCU** • **Harness Assy Conn (J23-J231)** • **PWBA LVPS** • **Fuser Assy** • **Harness Assy Fuser (J271, J11, J27, J262)** • **Cover Assy Front** 2. Inspect the printer paper path. Is it clear of foreign matter such as staples, paper clips, and paper scrap?

Table 3-11. Blank Print

Step	Action and Question	Yes	No
1	**DRUM GROUND** Check the Drum Ground Path: Drum>Drum Shaft Pin>Spring Clip>Frame **Is the Drum Ground Path complete?**	Go to Step 2.	Re-establish the Drum Ground Path
2	**LASER BEAM PATH** Inspect the laser beam path between the ROS Assy and the Drum for contamination or obstructions. **Is the laser beam path free of obstacles?**	Go to Step 3.	Remove obstructions or contamination.
3	**BTR ASSY** Inspect the BTR Assy for contamination. **Is the BTR free of contamination?**	Go to Step 4.	Replace the BTR Assy.
4	**IMAGE TRANSFER PROCESS FAILURE** Generate a test print and switch OFF printer power halfway through the print cycle. Remove the CRU and inspect the image on the drum. **Was the image on the drum transferred to the paper?**	Go to Step 5.	Go to Table 3-44, "PWBA HVPS Failure," on page 100.
5	**CRU FAILURE** Install a new CRU. **Is the problem solved?**	Problem solved.	Return to Initial Analysis.

3.4.3 Black Print

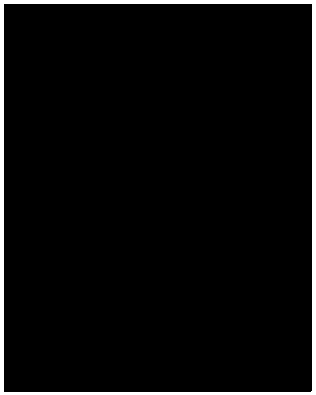
Problem	Initial Analysis
The entire page is black. 	1. Inspect the following components. Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated? • **CRU** • **Spring Clip** • **PWBA MCU** • **PWBA HVPS** • **ROS Assy** • **Harness Assy HVPS (J26-J261)** 2. Inspect the printer paper path. Is it clear of foreign matter such as staples, paper clips, and paper scrap?

Table 3-12. Black Print

Step	Action and Question	Yes	No
1	**HVPS CR** Use a sheet of paper to cover the laser beam window. Generate a test print. **Is the problem still present?**	Go to Step 2.	Go to Table 3-44, "PWBA HVPS Failure," on page 100.
2	**ROS ASSY FAILURE** Use a sheet of paer to cover HALF of the laser beam window. Generate a test print. **Is the problem still present only on the uncovered half?**	Go to Step 3.	Go to Table 3-28, "ROS Assy Failure," on page 90.
3	**CRU FAILURE** Install a new CRU. **Is the problem solved?**	Problem solved.	Return to Initial Analysis.

3.4.4 Vertical White Banding

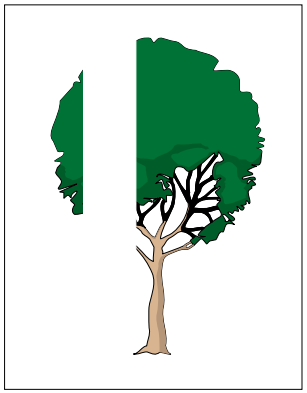
Problem	Initial Analysis
There are areas of the image that are extrreamly light or missig entirely. These missing areas form narrow lines running vertically along the pages, in the direction of paper travel. 	1. Inspect the following components. Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated? • **CRU** • **BTR Assy** • **Heat Roll** • **Fuser Assy** • **PWBA MCU** • **BTR Chute Assy** • **Pressure Roll Assy** • **ROS Assy** 2. Inspect the printer paper path. Is it clear of foreign matter such as staples, paper clips, and paper scrap?

Table 3-13. Vertical White Banding

Step	Action and Question	Yes	No
1	**LASER BEAM PATH** Inspect the laser beam path between the ROS Assy and the Drum for contamination or obstructions. **Is the laser beam path free of any obstacles?**	Go to Step 2.	Remove obstructions or contamination.
2	**BTR ASSY** Inspect the BTR Assy for contamination. **Is the BTR free of contamination?**	Go to Step 3.	Replace the BTR Assy.
3	**CRU FAILURE** Replace the CRU with a new one. **Is the problem solved?**	Problem solved.	Go to Step 4.
4	**HEAT ROLL DAMAGE** Inspect the Heat Roll for scratches, objects, or contamination. **Is the Heat Roll free of scratches and contamination?**	Go to Step 5.	Replace the Heat Roll.
5	**PAPER PATH** Inspect the paper path between feed and exit for contamination or obstructions. **Is the paper path free of obstructions?**	Return to Initial Analysis.	Remove obstructions or contamination from the paper path.

3.4.5 Vertical Linear Deletions

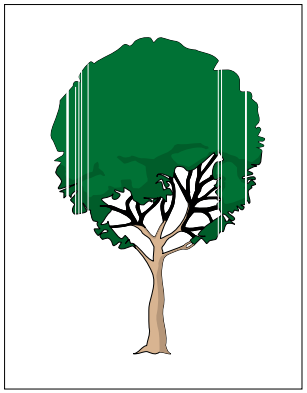
Problem	Initial Analysis
There are areas of the image that are extremely light or missing entirely. These missing areas form narrow lines running vertically along the pages, in the direction of paper travel. 	1. Inspect the following components. Are they compatible with your printer version, correctly installed, not damaged, deformed **or contaminated?** • **CRU** • **BTR Assy** • **Heat Roll** • **Fuser Assy** • **PWBA MCU** • **BTR Chute Assy** • **Pressure Roll Assy** • **ROS Assy** 2. Inspect the printer paper path. Is it clear of foreign matter such as staples, paper clips, and paper scrap?

Table 3-14. Vertical Linear Deletions

Step	Action and Question	Yes	No
1	**LASER BEAM PATH** Inspect the laser beam path between the ROS Assy and the Drum for contamination or obstructions. **Is the laser beam path free of any obstacles?**	Go to Step 2.	Remove obstructions or contamination.
2	**BTR ASSY** Inspect the BTR Assy for contamination. **Is the BTR free of contamination?**	Go to Step 3.	Replace the BTR Assy.
3	**CRU FAILURE** Replace the CRU with a new one. **Is the problem solved?**	Problem solved.	Go to Step 4.
4	**HEAT ROLL DAMAGE** Inspect the Heat Roll for scratches, objects, or contamination. **Is the Heat Roll free of scratches and contamination?**	Go to Step 5.	Replace the Heat Roll.
5	**PAPER PATH** Inspect the paper path, between feed and exit, for contamination or obstructions. **Is the paper path free of obstructions?**	Return to initial Analysis.	Remove obstructions or contamination from the paper path.

3.4.6 Horizontal White Banding

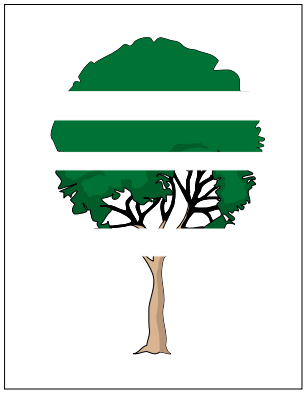
Problem	Initial Analysis
There are areas of the image that are extrreamly light or missig entirely. These missing areas form wide bands that run horizontally across the page.. 	1. Inspect the following components. Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated? • **CRU** • **PWBA HVPS** • **BTR Assy** • **Heat Roll** • **Fuser Assy** • **PWBA MCU** • **Spring Clip** • **BTR Chute Assy** • **Pressure Roll Assy** • **ROS Assy** 2. Inspect the printer paper path. Is it clear of foreign matter such as staples, paper clips, and paper scrap?

Table 3-15. Horizontal White Banding

Step	Action and Question	Yes	No
1	**PAPER CONDITIONS** **Is there moisture in the paper?** **Is the paper wrinkled?**	Replace with new and dry paper.	Go to Step 2.
2	**DRIVE COMPONENTS FAILURE** Use MAIN MOTOR TEST to check the Gear Assy Drive. **Are the Drive Assy gears turning the CRU gear?**	Go to Step 3.	Go to Table 3-36, "Drive Components Failure," on page 95.
3	**BTR ASSY** Inspect the BTR Assy for contamination. **Is the BTR free of contamination?**	Go to Step 3.	Replace the BTR Assy.
4	**IMAGE TRANSFER PROCESS FAILURE** Generate a test print and switch OFF printer power halfway through the print cycle. Remove the CRU and inspect the toner image on the Drum. **Was the image on the Drum transferred completely to the paper?**	Go to Step 5.	Go to Table 3-44, "PWBA HVPS Failure," on page 100.
5	**CRU FAILURE** Replace the CRU with a new one. **Is the problem solved?**	Problem solved.	Go to Step 7.
6	**HEAT ROLL DAMAGE** **Do the band deletions occur at intervals of approximately 62.0 mm?**	Clean or replace the Heat Roll.	Go to Step 8.
7	**PRESSURE ROLL DAMAGE** **Do the band deletions occur at intervals of approximately 61.0 mm?**	Clean or replace the Pressure Roll Assy.	Return to Initial Analysis.

3.4.7 Vertical Black Streaks

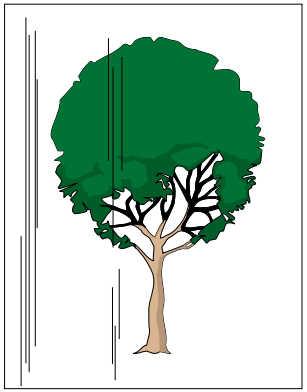
Problem	Initial Analysis
There are black lines running vertically along the page. 	1. Inspect the following components. Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated? • **CRU** • **PWBA HVPS** • **BTR Assy** • **Heat Roll** • **Fuser Assy** • **PWBA MCU** • **Spring Clip** • **BTR Chute Assy** • **Pressure Roll Assy** • **ROS Assy** 2. Inspect the printer paper path. Is it clear of foreign matter such as staples, paper clips, and paper scrap?

Table 3-16. Vertical Black Streaks

Step	Action and Question	Yes	No
1	**LASER BEAM PATH** Inspect the laser beam path between the ROS Assy and the Drum for contamination or obstructions. **Is the laser beam path free of any obstacles?**	Go to Step 2.	Remove obstructions or contamination.
2	**BTR ASSY** Inspect the BTR Assy for contamination. **Is the BTR free of contamination?**	Go to Step 3.	Replace the BTR Assy.
3	**INCOMPLETE DISCHARGE PROCESS** Remove the CRU and leave the Cover Assy Front open. Check the Switch Assy I/L Front and run MAIN MOTOR TEST. **Does the BTR function normally?**	Go to Step 4.	Replace the BTR Chute Assy.
4	**CRU FAILURE** Replace the CRU with a new one. **Is the problem solved?**	Problem solved.	Go to Step 7.
5	**HEAT ROLL DAMAGE** **Do the streaks occur at intervals of approximately 62.0 mm?**	Clean or replace the Heat Roll.	Return to Initial Analysis.

3.4.8 Horizontal Black Streaks

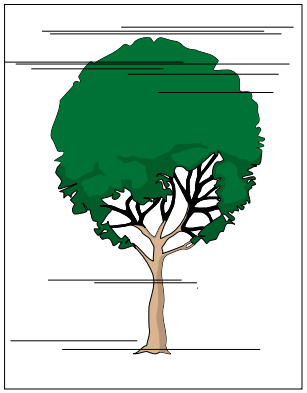
Problem	Initial Analysis
There are black lines running horizontally across the page. 	1. Inspect the following components. Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated? • **CRU** • **PWBA HVPS** • **BTR Assy** • **Heat Roll** • **Fuser Assy** • **Harness Assy Conn (J23-J231)** • **PWBA MCU** • **Spring Clip** • **BTR Chute Assy** • **Pressure Roll Assy** • **ROS Assy** • **PWBA LVPS** 2. Inspect the printer papre path. Is it clear of foreign matter such as stapled, paper clips, and paper scrap?

Table 3-17. Horizontal Black Streaks

Step	Action and Question	Yes	No
1	**DRUM GROUND** Check the Drum Ground Path: Drum>Drum Shaft Pin>Spring Clip>Frame **Is the Drum Ground Path complete?**	Go to Step 2.	Re-establish the Drum Ground Path
2	**ROS ASSY** Use a sheet of paer to cover the laser beam window. Generate a test print. **Is the problem still present?**	Go to Step 3.	Go to Table 3-28, "ROS Assy Failure," on page 90.
3	**BTR ASSY** Inspect the BTR Assy for contamination. **Is the BTR free of contamination?**	Go to Step 4.	Replace the BTR Assy.
4	**CRU FAILURE** Replace the CRU with a new one. **Is the problem solved?**	Problem solved.	Go to Step 5.
5	**HEAT ROLL ASSY** Inspect the Heat Roll for scratches, objects, or contamination. **Is the Heat Roll free of scratches and contamination?**	Go to Step 6.	Replace the Heat Roll.
6	**NOISE** Go to Table 3-45, "Electrical Noise," on page 101 for possible noise problem.		

3.4.9 White Spots

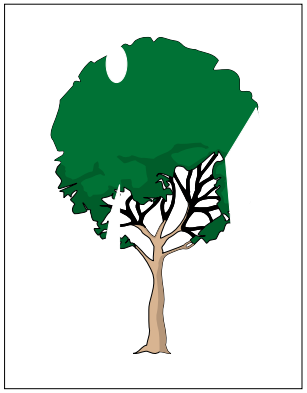
Problem	Initial Analysis
There are areas of the image that are extremely light or missing entirely. These missing areas form spots that are localized to small area of the page. 	1. Inspect the following components. Are they compatible with your printer version, correctly installed, not damaged, deformed or contaminated? • **CRU** • **Fuser Assy** • **Heat Roll** • **BTR Assy** • **Pressure Roll Assy** 2. Inspect the printer paper path. Is it clear of foreign matter such as staples, paper clips, and paper scrap?

Table 3-18. White Spots

Step	Action and Question	Yes	No
1	**PAPER CONDITIONS** **Is there moisture in the paper?** **Is the paper wrinkled?**	Replace with fresh and dry paper.	Go to Step 2.
2	**BTR Assy** Inspect the BTR Assy for contamination. **Is the BTR free of contamination?**	Go to Step 3.	Replace the BTR Assy.
3	**CRU FAILURE** Replace the CRU with a new one. **Is the problem solved?**	Problem solved.	Go to Step 4.
4	**HEAT ROLL DAMAGE** **Do the spots occur at intervals approximately 62.0 mm?**	Replace the Heat Roll.	Go to Step 5.
5	**PRESSURE ROLL DAMAGE** **Do the spots occur at intervals of approximately 61.0 mm?**	Replace the Pressure Roll Assy.	Return to Initial Analysis.

3.4.10 Black Spots

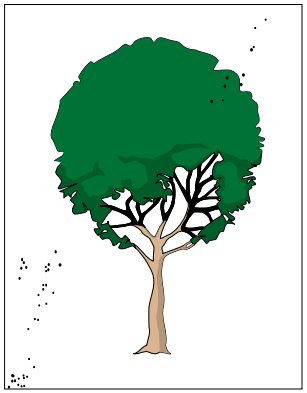
Problem	Initial Analysis
There are spots of toner randomly scattered over the page. 	1. Inspect the following components. Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated? • **CRU** • **Heat Roll** • **BTR Assy** • **Fuser Assy** • **Pressure Roll Assy** 2. Inspect the printer paper path. Is it clear of foreign matter such as staples, paper clips, and paper scrap?

Table 3-19. Black Spots

Step	Action and Question	Yes	No
1	**BTR Assy** Inspect the BTR Assy for contamination. **Is the BTR free of contamination?**	Go to Step 2.	Replace the BTR Assy.
2	**CRU FAILURE** Replace the CRU with a new one. **Is the problem solved?**	Problem solved.	Go to Step 3.
3	**HEAT ROLL DAMAGE** **Do the spots occur at intervals of approximately 62.0 mm?**	Replace the Heat Roll.	Go to Step 4.
4	**PRESSURE ROLL DAMAGE** **Do the spots occur at intervals of approximately 61.0 mm?**	Replace the Pressure Roll Assy.	Return to Initial Analysis.

3.4.11 Ghost Print

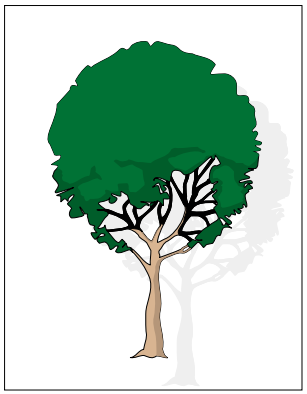
Problem	Initial Analysis
There are ghost images appearing on the page. The images may be either ghosts of the previously printed page or the part of the image being printed on the current page. 	1. Inspect the following components. Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated? • **CRU** • **Heat Roll** • **Fuser Assy** • **BTR Assy** • **Pressure Roll Assy** 2. Inspect the printer paper path. Is it clear of foreign matter such as staples, paper clips, and paper scrap?

Table 3-20. Ghost Print

Step	Action and Question	Yes	No
1	**PAPER CONDITIONS** **Is there moisture in the paper?** **Is the paper wrinkled?**	Replace with fresh and dry paper.	Go to Step 2.
2	**BTR Assy** Insepct the BTR Assy for contamination. **Is the BTR free of contamination?**	Go to Step 3.	Replace the BTR Assy.
3	**CRU FAILURE** Replace the CRU with a new one. **Is the problem solved?**	Problem solved.	Go to Step 4.
4	**HEAT ROLL DAMAGE** **Do the images occur at intervals of approximately 62.0 mm?**	Go to Step 5.	Replace the Heat Roll.
5	**PRESSURE ROLL DAMAGE** **Do the images occur at intervals of approximately 61.0 mm?**	Replace the Pressure Roll Assy.	Return to Initial Analysis.

3.4.12 Dirty Background

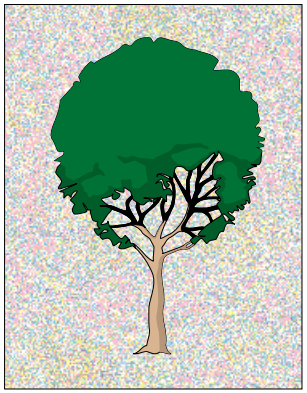
Problem	Initial Analysis
There is toner contamination on all or part of the page. The contamination appears as a very light gray dusting. 	1. Inspect the following components. Are the compatible with your printer version, correctly installed, not damaged, deformed, or contaminated? • **CRU** • **Spring Clip** • **Harness Assy Conn** • **ROS Assy** • **HVPS** • **PWBA MCU** • **PWBA LVPS** • **Fuser Assy** 2. Inspect the printer paper path. Is it clear of foreign matter such as staples, paper clips, and paper scrap?

Table 3-21. Dirty Background

Step	Action and Question	Yes	No
1	**HVPS CR** Use a sheet of paper to cover the laser beam window. Generate a test print. **Is the problem still present?**	Go to Step 2.	Go to Table 3-44, "PWBA HVPS Failure," on page 100.
2	**CRU** Install a new CRU. **Is the background still on the page?**	Problem solved.	Go to Step 3.
3	**FUSER GROUND PATH** Inspect the Fuser Ground Path within the Fuser Assy and from the Fuser Assy to the Frame Ground. **Is the Fuser Ground Path functioning correctly?**	Return to Initial Analysis.	Re-establish a fuser ground path.

3.4.13 Skewed Image

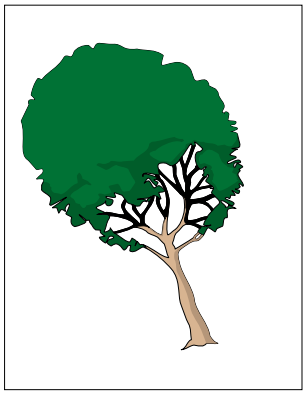
Problem	Initial Analysis
The image is not parallel with the sides of the page. 	1. Inspect the following components. Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated? • **CRU** • **BTR Chute Assy** • **Roll Assy MBF** • **Cassette Assy** • **Main Tray** • **ROS Assy** • **BTR Assy** • **P/H Assy** • **Feeder Assy** • **Plate Assy Bottom** • **Retard Pad** 2. Inspect the printer path. Is it clear of foreign matter such as staples, paper clips, and paper scrap?

Table 3-22. Skewed Image

Step	Action and Question	Yes	No
1	**PAPER FEED** • Are the paper cassettes installed correctly? • Is the paper loaded into the cassette correctly?	Go to Step 2.	Reload the paper and re-install the paper cassette.
2	**PAPER PATH** Inspect the entire paper path for any ostructoion or contamination. Is the paper path free of obstruction or contamination?	Go to Step 3.	Clean or remove the obstruction in the paper path.
3	**PAPER PATH ROLLS** Inspect all rolls along the paper path for any contamination, wear or damage. Are the paper path rolls free of contamination, wear or damage?	Go to Step 4.	Replace the damaged or worn rolls to new one.
4	**IMAGING CARTRIDGE** Install a new Imaging Cartridge. Is the print image normal?	Go to suspect component.	Problem solved.

3.4.14 Damaged Print

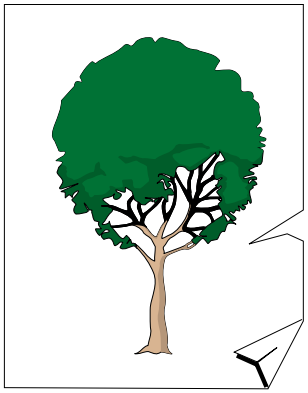
Problem	Initial Analysis
The printed paper comes out of the printer either wrinkled, creased, or torn. 	1. Inspect the following components. Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated? • **Fuser Assy** • **Heat Roll** • **Pressure Roll Assy** 2. Inspect the printer paper path. Is it clear of foreign matter such as staples, paper clips, and paper scrap?

Table 3-23. Damaged Print

Step	Action and Question	Yes	No
1	**PAPER CONDITIONS** **Is there moisture in the paper?** **Is the paper wrinkled?**	Replace with fresh and dry paper.	Go to Step 2.
2	**HEAT ROLL DAMAGE** Inspect the Heat Roll for scratches, objects, or contamination. **Is the Heat Roll free of scratches and contamination?**	Go to Step 3.	Replace the Heat Roll.
3	**PRESSURE ROLL DAMAGE** Inspect the Pressure Roll for scratches, objects, or contamination. Is the Pressure Roll free of scratches and contamination?	Go to Step 4.	Replace the Pressure Roll Assy.
4	**SKEWED IMAGE** Inspect the print. Is the print image skewed?	Go to 3.4.13 Skewed Image.	Go to Step 5.
5	**PAPER PATH** Inspect the paper path between the feed tray and the exit tray for contamination or obstructions. **Is the paper path free of obstructions?**	Go to Step 6.	Remove obstructions or contamination from the paper path.
6	**PAPER PATH ROLLS** Inspect the rolls along the paper path between the feed tray and the exit tray for contamination, scratches, or damage. **Are the paper path rolls free of contamination, scratches, or damage?**	Return to Initial Analysis.	Replace the problem roller Assy.

3.4.15 Unfused Image

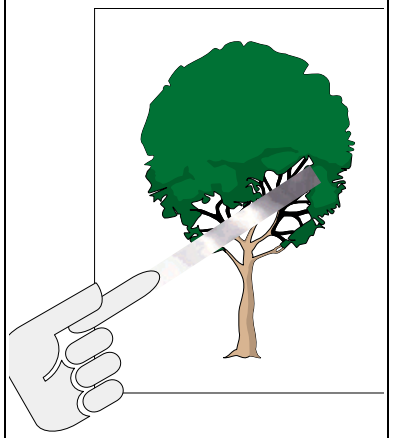
Problem	Initial Analysis
The printed image is not fully fused to the paper. The image rubs off easily. 	1. Inspect the following components. Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated? • **PWBA MCU** • **Heat Roll** • **PWBA LVPS** • **Fuser Assy** • **Pressure Roll Assy** 2. Inspect the printer paper path. Is it clear of foreign matter such as staples, paper clips, and paper scrap?

Table 3-24. Unfused Image

Step	Action and Question	Yes	No
1	**PAPER CONDITIONS** **Is there moisture in the paper?** **Is the paper wrinkled?**	Replace with fresh and dry paper.	Go to Step 2.
2	**CAP ENVELOP** Open the Cover Rear. Inspect the Cap Envelop **Is the Cap Envelop set properly?**	Go to Step 3.	Recover the NIP of the Fuser Assy.
3	**NVRAM DATA** Enter Configuration Mode. **Is the Config Code 09 parameter correct?**	Go to Step 4.	Correct the parameter.
4	**HEAT ROLL** Inspect the Heat Roll for scratches, objects, or contamination. **Is the Heat Roll free of scratches and contamination?**	Go to Step 5.	Replace the Heat Roll.
5	**PRESSURE ROLL** Inspect the Pressure Roll for scratches, objects, or contamination. **Is the Pressure Roll free of scratches and contamination?**	Go to Step 6.	Replace the Pressure Roll Assy.
6	**FUSER Assy** Inspect the contact between the Heat and Pressure Rolls. **Are the Heat and Pressure Rolls contacting correctly?**	Return to Initial Analysis.	Replace the Fuser Assy.

3.4.16 Misregistration

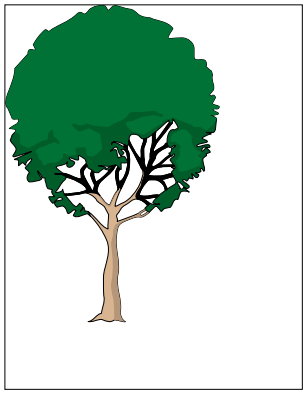
Problem	Suspect Components
The printed image is not centered on the page or is bleeding off the page. 	1. Inspect the following components. Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated? • **CRU** • **BTR Chute Assy** • **Roll Assy MBF** • **Cassette Assy** • **Main Tray** • **ROS Assy** • **BTR Assy** • **P/H Assy** • **Feeder Assy** • **Plate Assy Bottom** • **Retard Pad** 2. Inspect the printer paper path. Is it clear of foreign matter such as staples, paper clips, and paper scrap?

Table 3-25. Misregistration

Step	Action and Question	Yes	No
1	**PAPER CONDITIONS** **Is there moisture in the paper?** **Is the paper wrinkled?**	Replace with fresh and dry paper.	Go to Step 2.
2	**SKEWED IMAGE** Inspect the print. **Is the print image skewed?**	Go to 3.4.13 Skewed Image.	Go to Step 3.
3	**REGISTRATION ADJUSTMENT** Generate a test print. Inspect the print. **Is the test print misregistered?**	Go to Step 4.	Check the application software printer settings. Replace the PWB ESS.
4	**PAPER PATH** Inspect the paper path between the feed tray and the exit tray for contamination or obstruction. **Is the paper path free of obstructions?**	Go to Step 5.	Remove obstructions or contamination from the paper path.
5	**PAPER PATH ROLLS** Inspect the rolls along the paper path between the feed tray and the exit tray for contamination, scratches, wear, or damage. **Are the paper path rolls free of contamination, scratches, wear, or damage?**	Return to Initial Analysis.	Replace the problem roller Assy.

3.5 Secondary FIPs

The FIP Flowchart or primary FIPs should have directed you to this section.

Before entering the secondary FIPs, make sure:

1. Is the printer plugged into a recommended AC wall outlet?
2. Is the AC power provided at the wall outlet within recommended specifications?
3. Is the AC power cord connected to the printer.
4. Is the AC power cord in good condition; not frayed or broken?
5. Is the printer properly grounded through the AC wall outlet?
6. Is the printer located in an area where the temperature and humidity are moderate and stable?
7. Is the printer located in an area that is free of dust?
8. Is the printer located in an area away from water outlets, steamers, electric heaters, volatile gases, or open flames?
9. Is the printer shielded from the direct rays of the sun?
10. Does the printer have recommended space around all sides for proper ventilation?
11. Is the printer sitting on a level and stable surface?
12. Is recommended paper stock being used in the printer?
13. Does the customer use the printer as instructed in the EPL-N2050 User's Manual?
14. Are consumables, such as the CRU, replaced at recommended intervals?

Table 3-26. LVPS Failure (+3.3VDC)

Step	Actions & Questions	Yes	No
1	**INITIAL ANALYSIS** Inspect the following components. • PWBA MCU • PWBA LVPS **Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated?**	Go to Step 2.	Replace the problem components.
2	**PWBA LVPS** Turn ON the Main Power Take the following readings within 65 seconds after turning ON Main Power. **Is there +3.3VDC between J282-1 and J282-2?**	Replace the PWBA MCU.	Replace the PWBA LVPS.

Table 3-27. LVPS Failure (+24VDC)

Step	Actions & Questions	Yes	No
1	**INITIAL ANALYSIS** Inspect the following components. • PWBA LVPS • PWBA MCU **Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated?**	Go to Step 2.	Replace the problem components.
2	**PWBA LVPS** Turn ON the Main Power. Take the following readings within 65 seconds after turning ON the Main Power. **Is there +24VDC between P1–1 and P1–2 on the PWBA PS-200(100)?**	Go to Step 3.	Replace the PWBA LVPS.
3	**SWITCH ASSY I/L FRONT** Actuate the Switch Assy I/L Front. Is there +5VCD between P288-1 and P288-2 on the PWBA 5VDC? Deactuate the Switch Assy I/L Front. **Is there +0VDC between P288-1 and P288-2 on the PWBA 5VDC?**	Replace the PWBA MCU.	Replace the PWBA 5VDC.

Table 3-28. ROS Assy Failure

Step	Actions & Questions	Yes	No
1	**INITIAL ANALYSIS** Inspect the following components. • PWBA MCU • PWBA LVPS • PWBA 5VDC • ROS Assy • Harness Assy ROS (J21-J211, J212, J213) **Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated?**	Go to Step 2.	Replace the problem components.
2	**PWBA LVPS** Turn ON the Main Power. **Is there +5VDC between P281-7 and P281-8 on the PWBA 5VDC?**	Go to Step 3.	Replace the PWBA LVPS.
3	**ROS MOTOR POWER SUPPLY** Disconnect P/J21 from the PWBA MCU. Turn ON the Main Power. Determine the print resolution of the printer, and take the corresponding voltage readings between P21-11 and P21-10 on the PWBA MCU. **Is there +24VDC between P21-11 and P21-10?**	Go to Step 4.	Replace the PWBA MCU.
4	**SOS PWB POWER SUPPLY** **Is there +5VDC between P21-7 and P21-9 on the PWBA MCU?**	Go to Step 5.	Replace the PWBA 5VDC.
5	Replace the PWBA MCU. **Is the problem still present?**	Go to Step 6.	Problem solved.
6	**HARNESS ASSY ROS (J21-J211, J212, J213)** **Is there continuity (0Ω) between all wires on J21<=>J212, J21<=>J211 and J21<=>J213?**	Replace the ROS Assy.	Replace the Harness Assy ROS (J21-J211, J212, J213).

Table 3-29. Heat Rod Failure

Step	Actions & Questions	Yes	No
1	**INTIAL ANALYSIS** Inspect the following components. • Fuser Assy • Harness Assy Fuser-M (J271, J11, J27, J262) • PWBA MCU • PWBA LVPS • PWBA HVPS • ROS Assy **Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated?**	Go to Step 2.	Replace the problem components.
2	**HEAT ROD** Unplug the AC line from the wall outlet. Disconnect P/J11 on the PWBA LVPS. **Is there continuity between J11-1 and J11-2?**	Go to Step 3.	Go to Step 7.
3	**PWBA LVPS** Perform these checks within 65 seconds after Fuser Warm-up has finished. After 65 seconds, the LVPS shuts down. **Is there +3.3VDC between P282-1 and P282-2 on the PWBA LVPS?**	Go to Step 4.	Replace the PWBA LVPS.
4	**HEAT ROD ACTUATOR SIGNAL** Disconnect P/J28 from the PWBA MCU. **Perform these checks when the Fuser Assy has cooled to room temperature.** **Is there 0VDC between P28-12 and P28-8 on the PWB MCU when you actuate the Switch Assy I/L Front?** **Is there +5VDC between P28-12 and P28-8 on the PWB MCU when you deactuate the Switch Assy I/L Front?**	Replace the PWBA LVPS.	Go to Step 5.
5	**HEAT ROD TEMPERATURE** Disconnect P/J27 from the PWBA MCU. **Is there the continuity between J24-2 and J27-1?**	Go to Table 3-30, "Temperature Sensor Failure," on page 92.	Go to Step 6.

Table 3-29. Heat Rod Failure (Continued)

Step	Actions & Questions	Yes	No
6	**HEAT ROD SIGNAL** Disconnect J282 from the HVPS Assy. Disconnect P/J27 from the PWB MCU. Turn ON the Main Power. **Does the Heat Rod glow?**	Replace the ROS Assy.	Replace the PWB MCU.
7	**HARNESS ASSY FUSER-M (J271, J11, J27, J262)** Disconnect the AC power plug from the back of the printer. Disconnect P/J27, P/J271 and J282. **Is there continuity (0Ω) at the each harness?**	Go to Step 9.	Replace the Harness Assy Fuser-M (J271, J11, J27, J262).
8	**THERMOSTAT AND FUSE** Remove the Fuser Assembly from the printer. Disassemble the Fuser Assy **Is there continuity (0Ω) between the two ends of the Thermostat?** **Is there continuity (0Ω) between the two ends of the Plate Fuse?**	If your are unable to determine the problem, replace the Fuser Assy, PWBA LVPS, and the PWBA MCU.	Replace the Fuser Assy.

Table 3-30. Temperature Sensor Failure

Step	Actions & Questions	Yes	No
1	**INITIAL ANALYSIS** Inspect the following components. • Fuser Assy • Harness Assy Fuser-M (J271, J11, J27, J262) • Temperature Sensor Assy • PWBA MCU • PWBA LVPS **Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated?**	Go to Step 2	Replace the problem components.
2	**TEMPERATURE SENSOR** Inspect the Thermistor. **Is the Temperature Sensor damaged, deformed, or contaminated?**	Clean or replace the Temperature Sensor Assy	Go to Step 3.
3	**TEMPERATURE SENSOR** Turn OFF printer power. Allow the Fuser Assy to cool to room temperature. Check the continuity between J27-1 and J27-2. **Is there approximately T.B.DΩ between J27-1 and J27-2?**	Replace the PWBA MCU.	Replace the Fuser Assy.

Table 3-31. Sensor Exit Failure

Step	Actions & Questions	Yes	No
1	**INITIAL ANALYSIS** Inspect the following components. • Sensor Exit in the Fuser Assy • Fuser Assy • PWBA MCU • Harness Assy Fuser-M (J271, J11, J27, J262) • PWBA LVPS **Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated?**	Go to Step 2.	Replace the problem components.
2	**SENSOR EXIT in the Fuser ASSY** Disconnect P/J27 from the PWBA MCU. Check the voltage between P27-3 and P27-4. **Is there +3.3VDC between P27-3 and P27-4?**	Go to Step 3.	Replace the PWBA MCU.
3	**SENSOR EXIT ACTUATING SIGNAL** Check the voltage between P/J27-4 and P/J27-5. Use a piece of paper to actuate the Sensor Exit. **Is there +0 VDC between P/J27-4 and P/J27-5?** Remove the piece of paper from the Sensor Exit. **Is there +5 VDC between P/J27-4 and P/J27-5?**	Replace the PWBA MCU.	Replace the Fuser Assy.

Table 3-32. Sensor Photo: Regi Failure

Step	Actions & Questions	Yes	No
1	**INITIAL ANALYSIS** Inspect the following components. P/H Assy PWBA MCU Harness Assy Regi (J43-J431, J423) PWBA PS-200(100) **Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated?**	Go to Step 2.	Replace the problem components.
2	**SENSOR PHOTO: REGI POWER** Check the voltage between P/J43-4 and P/J43-3. **Is there +3.3 VDC between P43-4 and P43-3?**	Go to Step 3.	Go to Table 3-26, "LVPS Failure (+3.3VDC)," on page 89.
3	**SENSOR PHOTO: REGI SIGNAL** Move the Actuator Regi by a sheet of paper. Check the voltage between P/J43-5 and P/J43-4. **Does the voltage between P/J43-5 and P/J43-4 fall down from +3.3VDC to 0VDC when the Actuator Regi is pushed down by a sheet of paper?**	Replace the PWBA MCU.	Replace the Sensor Photo: Regi.

Table 3-33. Sensor Photo: No Pap 1 Failure

Step	Actions & Questions	Yes	No
1	**INITIAL ANALYSIS** Inspect the following components. • Sensor Photo: No Pap 1 on the PWBA Feeder • Sensor Photo: Face Control • Motor Assy • Plate Torque • Plate Assy Bottom • PWBA Feeder • PWBA Size 1 • Harness Assy Feeder (J33-J331) • PWBA MCU • Harness Assy N/MOT • PWBA PS-200 (100) **Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated?**	Go to Step 2.	Replace the problem components.
2	**SENSOR PHOTO: NO PAP 1** Remove the Cassette Assy. Check the Voltage between P/J33-2 and P/J33-7 on the PWBA MCU. **Does the Voltage Fall down From +3.3VDC to 0VDC when the Cassette removed?**	Replace the PWBA MCU.	Go to Step 3.

Table 3-33. Sensor Photo: No Pap 1 Failure

Step	Actions & Questions	Yes	No
3	**HARNESS ASSY FEEDER (J33-J331)** Check the continuity between L331-16 and J33-2, J331-11 and J33-8, and J331-10 and J33-8. **Is there the continuity between L331-16 and J33-2, J331-11 and JJ33-8, and J331-10 and J33-8?**	Go to Step 4.	Replace the Harness Assy Feeder (J33-J331).
4	**PWBA SIZE 1** Check the continuity between P61-5 and P331-16, P61-3 and P331-10, and P61-4 and P331-11. **Is there the continuity between P61-5 and P331-16, P61-3 and P331-10, and P61-4 and P331-11?**	Replace the PWBA Size 1.	Go to Step 5.
5	**PWBA FEEDER** Check the voltage between P/J61-5 and P/J61-4 falling down from +3.3VDC to 0VDC when the Actuator N/P shields the sensing point of the Sensor Photo. **Does the voltage between P/J61-5 and P/J65-4 fall down to 0VDC?**	Replace the PWBA MCU.	Replace the PWBA Feeder.

Table 3-34. Sensor Photo: Exit Failure

Step	Actions & Questions	Yes	No
1	**INITIAL ANALYSIS** Inspect the following components. • Sensor Photo: Exit in the Fuser Assy • PWBA MCU • PWBA LVPS **Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated?**	Go to Step 2.	Replace the problem components.
2	**SENSOR PHOTO: EXIT** Disconnect P/J 27 from the PWBA MCU. **Is there +3.3VDC between P27-3 and P27-4?**	Go to Step 3.	Go to Table 3-26, "LVPS Failure (+3.3VDC)," on page 89.
3	**SENSOR PHOTO: EXIT SIGNAL** Check the voltage between P/J27-3 and P/J27-2 when you push up and release the Actuator Exit with inserting and removing a sheet of paper at the Fuser Assy. **Is there 0VDC when pushing up the Actuator Exit and +5VDC when releasing it?**	Replace the PWBA MCU.	Replace the Fuser Assy.

Table 3-35. Sensor Assy CRU Failure

Step	Actions & Questions	Yes	No
1	**INITIAL ANALYSIS** Inspect the following components. Sensor Assy CRU • PWBA LVPS • CRU • PWBA MCU • Harness Assy CRU SNS (J25-J251) **Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated?**	Go to Step 2.	Replace the problem components.
2	**CRU** **Does the tab on the CRU actuate the Sensor Assy CRU?**	Go to Step 3.	Replace the CRU.
3	**SENSOR ASSY CRU** Disconnect P/J25 on the PWBA MCU. Cheat the Switch Assy I/L Front. Remove the CRU. **Is there some amount of resistance measured between J25-2 <=> J25-1?** Reinstall the CRU. **Is there continuity (0Ω) between J25-2 <=> J25-1?**	Go to Step 4.	Replace the Sensor Assy CRU.
4	**HARNESS ASSY FS SNR (J30-J301)** **Is there continuity (0Ω) between all wires on J30 and J301?**	Go to Table 3-26, "LVPS Failure (+3.3VDC)," on page 89.	Replace the Harness Assy FS SNR (J30--J301).

Table 3-36. Drive Components Failure

Step	Actions & Questions	Yes	No
1	**INITIAL ANALYSIS** Inspect the following components. • Motor Assy Main • Gear Assy Drive • Feeder Assy • Roll Assy Turn • Roll Assy MBF • P/H Assy • BTR Chute Assy • Fuser Assy • Roll Assy Mid-1 • Roll Assy Mid-2 • Roll Pinch • Roll Pinch Exit • PWBA LVPS • PWBA MCU **Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated?**	Go to Step 2.	Replace the problem components.
2	**GEAR ASSY DRIVE and MOTOR ASSY MAIN** Remove the CRU. Remove the Fuser Assy. Cheat the Switch Assy I/L Front. Use MAIN MOTOR TEST to check the rotation of Gear Assy Drive. **Do the Motor Assy Main and all of the Gear Assy Drive rotate smoothly?**	Go to Step 5.	Go to Step 3.
3	**MOTOR ASSY MAIN** Remove the Motor Assy Main remaining the connection of harness assy. Use MAIN MOTOR TEST to check the rotation of Gear Assy Drive. **Do the Motor Assy Main rotate smoothly?**	Go to Step 4.	Replace the Motor Assy Main.
4	**GEAR ASSY DRIVE** Remove the Gear Assy Drive. Rotate the gear of the Gear Assy Drive. **Do the Gear Assy Drive rotate smoothly?**	Go to Step 5.	Replace the Gear Assy Drive.

Table 3-36. Drive Components Failure (Continued)

Step	Actions & Questions	Yes	No
5	**ROLL REGI METAL and ROLL REGI RUBBER** Open the Cover Assy Front. Rotate the Roll Assy Metal clockwise by manual. **Do the Roll Regi Metal and Roll Regi Rubber rotate smoothly?**	Go to Step 6.	Replace the P/H Assy.
6	**ROLL ASSY MBF** Open the Cover Assy Front. Actuate the Solenoid Pick Up Using SOLENOID MBF TEST. Rotate the Roll Assy MBF counterclockwise by manual. **Do the Roll Assy MBF rotate smoothly?**	Go to Step 7.	Replace the Roll Assy MBF.
7	**FEEDER ASSY** Remove the Cassette Assy. Rotate the Roll Assy of the Feeder Assy counterclockwise by manual. **Do the Feeder Assy rotate smoothly?**	Go to Step 8.	Replace the Feeder Assy.
8	**ROLL ASSY TURN** Open the Cover Assy Front. Rotate the Roll Assy Turn clock wisely by manual. **Do the Roll Assy Turn rotate smoothly?**	Go to Step 9.	Replace the Roll Assy Turn.

Table 3-36. Drive Components Failure (Continued)

Step	Actions & Questions	Yes	No
9	**CRU** Remove the CRU. Rotate the Drum Gear clockwise by manual. **Does the Drum Gear rotate smoothly?**	Go to Step 10.	Replace the CRU.
10	**FUSER ASSY** Remove the Fuser Assy. Rotate the Heat Roll Gear clockwise by manual. **Do all of the gears rotate smoothly?**	Go to Step 11.	Replace the Fuser Assy.
11	Install a new PWBA MCU. **Is the problem still present?**	Go to Table 3-38, “Solenoid Pick Up Failure,” on page 97, Table 3-39, “Clutch Assy Feed Failure,” on page 98, Table 3-40, “Clutch Assy Turn Failure,” on page 98, and Table 3-43, “Exit Failure,” on page 100.	Problem solved.

Table 3-37. Paper Size Sensor Failure

Step	Actions & Questions	Yes	No
1	**INITIAL ANALYSIS** Inspect the following components. • Cassette Assy • Switch Size on the PWBA Size 1 • PWBA MCU PWB • PWBA LVPS **Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated?**	Go to Step 2.	Replace the problem components.
2	**ACTUATOR CST** Remove the Cassette Assy from the printer. Press and release each Actuator for CST. **Does each Actuator CST move smoothly?**	Go to Step 3.	Replace the Cassette Assy.
3	**SWITCH SIZE on the PWBA SIZE** Use SENSOR/SWITCH CHECK to check the Switch Size. Push and release the Cam SW respectively by manual and observe the increment of the SENSOR CHECK counter. **Does the counter increment followed by the push and release of the Cam SW?**	Replace the PWBA MCU.	Replace the PWBA Size 1.

Table 3-38. Solenoid Pick Up Failure

Step	Actions & Questions	Yes	No
1	**INITIAL ANALYSIS** Inspect the following components. • Solenoid Pick Up • Gear Pick Up • Spring MSI 300 • Roll Assy MBF • PWBA MCU • PWBA LVPS **Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated?**	Go to Step 2.	Replace the problem components.
2	**SOLENOID PICK UP** Use SOLENOID MBF TEST to check the function. **Is the function of the Solenoid Pick Up normal?**	Go to Step 3.	Go to Step 4.
3	**Does the error still occur?**	Replace the PWBA MCU.	Problem solved.
4	**SOLENOID PICK UP POWER** Check the voltage between P/J44-1 and P/J44-2 when use SOLENOID MBF TEST. **Is there +24VDC when the Solenoid MBF Test?**	Replace the Solenoid Pick Up.	Go to Table 3-27, “LVPS Failure (+24VDC),” on page 90.

Table 3-39. Clutch Assy Feed Failure

Step	Actions & Questions	Yes	No
1	**INITIAL ANALYSIS** Inspect the following components: • Clutch Assy Feed • Feeder Assy • Cassette Assy • PWBA Size 1 • PWBA Feeder • Harness Assy Feeder (J33-J331) • PWBA MCU • PWBA LVPS **Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated?**	Go to Step 2.	Replace the problem components.
2	**CLUTCH ASSY FEED** Use FEED CLUTCH TEST to check the function. **Is the function of the Clutch Assy Feed normal?**	Go to Step 3.	Go to Step 4.
3	**Does the error still occur?**	Go to Step 5.	Problem solved.
4	**CLUTCH ASSY FEED POWER** Check the voltage between P/J651-1 and P/J651-4 when use FEED CLUTCH TEST. **Is there +24VDC when the FEED CLUTCH TEST?**	Replace the Clutch Assy Feed.	Go to Table 3-27, "LVPS Failure (+24VDC)," on page 90.

Table 3-40. Clutch Assy Turn Failure

Step	Actions & Questions	Yes	No
1	**INITIAL ANALYSIS** Inspect the following components: • Clutch Assy Turn • Roll Assy Turn • Cassette Assy • PWBA Size 1 • PWBA Feeder • Harness Assy Feeder (J33-J331) • PWBA MCU • PWBA LVPS **Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated?**	Go to Step 2.	Replace the problem components.
2	**CLUTCH ASSY TURN** Use TURN CLUTCH TEST to check the function. **Is the function of the Clutch Assy Turn normal?**	Go to Step 3.	Go to Step 4.
3	**Does the error still occur?**	Go to Step 5.	Problem solved.
4	**CLUTCH ASSY TURN** Check the voltage between P/J641-1 and P/J641-4 when use TURN CLUTCH TEST. **Is there +24VDC when the TURN CLUTCH TEST?**	Replace the Clutch Assy Turn.	Go to Table 3-27, "LVPS Failure (+24VDC)," on page 90.

Table 3-41. Fan Assy Failure

Step	Actions & Questions	Yes	No
1	**INITIAL ANALYSIS** Inspect the following components: • Fan Assy • Harness Assy LVPS (J28-J281) • PWBA MCU • PWBA LVPS **Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated?**	Go to Step 2.	Replace the problem components.
2	**FAN ASSY POWER** Check the voltage between P/J283-1 and P/J283-3 when the Main Power is On. **Is there +24VDC between P/J283-1 and P/J283-3?**	Go to Step 3.	Go to Table 3-27, "LVPS Failure (+24VDC)," on page 90.
3	**FAN ACTUATING SIGNAL** Disconnect P/J26 from the PWBA MCU. Use FAN TEST to check the Fan operation. Check the voltage between P26-13 and P26-8. **Is there +3.3VDC between P26-13 and P26-8?**	Replace the Fan Assy.	Replace the PWBA MCU.

Table 3-42. Toner Sensor Failure

Step	Actions & Questions	Yes	No
1	**INITIAL ANALYSIS** Inspect the following components: • Toner Sensor • Holder Toner Sensor • Cushion TSN • PWBA MCU • PWBA LVPS • Harness Assy Toner Sensor (J42-J421) **Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated?**	Go to Step 2.	Replace the problem components.
2	**TONER SENSOR** Disconnect P/J42 from the PWBA Conn. Check the voltage between P42-3 <=> P42-1. **Is there ?24VDC between P42-3 <=> P42-1?**	Go to Step 3.	Go to Table 3-27, "LVPS Failure (+24VDC)," on page 90.
3	**TONER SENSOR ACTUATING SIGNAL** Disconnect P/J42 from the PWBA Conn. Check the voltage between P42-4 <=> frame ground. **Is there +3.3VDC between P42-4 <=> frame ground?**	Go to Step 6.	Go to Step 4.
4	**HARNESS ASSY TONER SENSOR (J42-J421)** **Is there continuity (0Ω) between all wires on J42 and J421?**	Go to Step 5.	Replace the Harness Assy Toner Sensor.
5	**PWBA CONN** Check the continuity between P42-4 and P231-9, P42-3 and P231-11, and P42-1 and P231-12. **Is there continuity (0Ω)?**	Go to Table 3-27, "LVPS Failure (+24VDC)," on page 90.	Replace the PWBA Conn.

Table 3-43. Exit Failure

Step	Actions & Questions	Yes	No
1	**INITIAL ANALYSIS** Inspect the following components: • Motor Assy Exit • Harness Assy LVPS (J28-J281) • PWBA LVPS • PWBA MCU • Roll Assy Mid-1 • Roll Assy Mid-2 • Roll Pinch Exit • Roll Pinch **Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated?**	Go to Step 2.	Replace the problem components.
2	**MOTOR ASSY EXIT** Check the voltage between P/J32–1 frame ground. **Is there +24VDC between P/J32–1 and frame ground?**	Go to Step 3.	Go to Table 3-27, "LVPS Failure (+24VDC)," on page 90.
3	**HARNESS ASSY LVPS (J28-J281)** **Is there continuity (0Ω) between all wires on J28 and J281?**	Go to Step 4.	Replace the Harness Assy LVPS.
4	**MOTOR ASSY EXIT** **Is there continuity between**: P/J25–1 and P/J25–2? P/J25–1 and P/J25–3? P/J25–1 and P/J25–4? P/J25–1 and P/J25–5?	Go to Step 6.	Replace the Motor Assy EXIT.
5	**ROLL ASSY MID-1 AND MID-2** Rotate the Roll Assy Mid-1 and Mid-2 manually. **Do both Rolls rotate smoothly?**	Go to Step 7.	Replace the gears and rolls.
6	**MOTOR ASSY EXIT** Rotate the Motor Assy Exit manually. **Does the Motor Assy Exit rotate smoothly?**	Replace the PWBA MCU.	Replace the Motor Assy EXIT.

Table 3-44. PWBA HVPS Failure

Step	Actions & Questions	Yes	No
1	**INITIAL ANALYSIS** Inspect the following components: • PWBA MCU • PWBA HVPS • Harness Assy HVPS (J26-J261) • PWBA LVPS **Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated?**	Go to Step 2.	Replace the problem components.
2	**PWBA HVPS** Disconnect P/J26 from the PWBA MCU. Check the voltage between P26-2 and P26-3. **Is there +24 VDC between P26-2 and P26-3?**	Go to Step 3.	Go to Table 3-27, "LVPS Failure (+24VDC)," on page 90.
3	**PWBA HVPS** Disconnect P/J26 from the PWBA MCU. Check the voltage between P26-4 and P26-5. **Is there +3.3VDC between P26-4 and P26-5?**	Go to Step 4.	Go to Table 3-27, "LVPS Failure (+24VDC)," on page 90.
4	**HARNESS ASSY HVPS (J26-J261)** **Is there continuity (0Ω) between all wires on J26 and J261?**	Go to Step 6.	Replace the PWBA HVPS.
5	Install a new MCU PWB. **Is the problem still present?**	Replace the PWBA HVPS.	Problem solved.

Table 3-45. Electrical Noise

Step	Actions & Questions	Yes	No
1	**INITIAL ANALYSIS** Inspect the following components: • PWBA MCU • PWBA HVPS • Fuser Assy • Heat Rod • Harness Assy Fuser -M (J271,J11, J27, J262) • PWBA LVPS • CRU • P/H Assy • Resist Buffle • BTR Chute Assy • Spring Earth Exit • Chute Assy MBF • Cover Assy Front **Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated?**	Go to Step 2.	Replace the problem components.
2	Check the AC power cord and the AC wall outlet. **Is the printer properly grounded?**	Go to Step 3.	Ground the printer.
3	Check the area around the printer. **Is there an electrical device, such as a generator or an appliance, near the printer**.	Move the device, or relocated the printer.	Go to Step 4.
4	**P/H ASSY** Check to make sure the Springs Earth are firmly attached to the P/H Assy. **Are the Springs Earth firmly attached to the P/H Assy?**	Go to Step 5.	Re-secure the Spring Earth.
5	**SPRING EARTH EXIT** Check to make sure the Spring Earth Exit is firmly attached to the Chute Exit: **Are the Spring Chute Exit firmly attached to the Chute Exit?**	Go to Step 6.	Re-secure the Spring Chute Exit.

Table 3-45. Electrical Noise (Continued)

Step	Actions & Questions	Yes	No
6	**HARNESS ASSY FUSER-M (J271, J11, J27, J262)** **Is there continuity (0Ω) between J27–1 and J271-5, and J27-3 and J271-3?**	Go to Step 7.	Replace the Harness Assy Fuser-M (J271, J11, J27, J262).
7	**FUSER ASSY** Remove the Fuser Top Cover and Left Cover. **Is there continuity (0Ω) between the Heat Roll and the Nip Lever L?**	Go to Step 8.	Reinstall the components to establish continuity.
8	**CRU** Install a new CRU. **Is the noise still present?**	Go to Step 9.	Problem solved.
9	Inspect the machine ground path. **Is there continuity (0Ω) along the entire printer ground path?**	Go to Step 10.	Repair the ground path.
10	Try the initial analysis again. **Is there a faulty component?**	Replace the component.	Look for an external device causing the noise.

CHAPTER

4

DISASSEMBLY AND ASSEMBLY

4.1 Overview

This section contains the removal and assembly procedures for the main parts and subsystems of the EPL-N2050 printer.

4.1.1 Preparation

1. Switch OFF the main power.
2. Disconnect the AC power cord from the wall outlet, then start your work.
3. Remove the *Cassette Assy*.
4. Open the Cover Front.
5. Remove the Image Cartridge and store it at a dark and safety place free from direct sunlight.
6. In performing work for the *FUSER ASSY* periphery, wait until the *FUSER ASSY* and its periphery have become cool enough.
7. Disconnect all interface cables from the rear panel of printer.
8. In performing work, to eliminate static electricity in your body, wear wristbands, etc. to take grounding properly.

4.1.2 Tools

The table below shows the tools recommended for disassembling and assembling. Use only tools that meet these specification.

Name	Availability	Code
+ Driver No. 1	O	B743800100
+ Driver No. 2	O	B743800500
- Driver	O	B743000100
A Pair of Tweezers	O	B641000100
Cutting Pliers	O	B740400100
Box Driver (Diagonal: 5mm)	O	-

4.1.3 Notations in the Manual

The printer orientation expressed in the procedure is defined as follows:

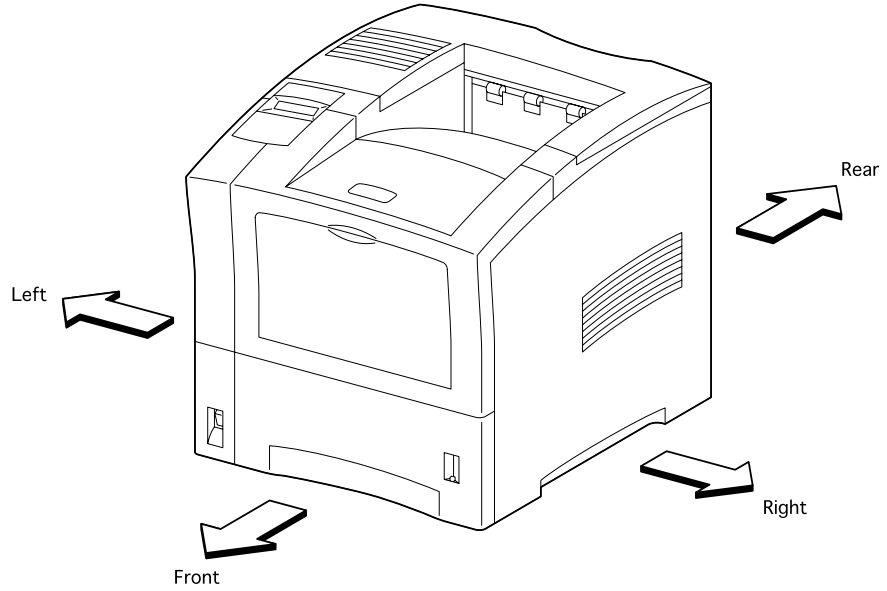


Figure 4-1. Printer Orientation

- Black arrows in the illustration imply that the part should be moved in the arrow direction, and when numbers are assigned to black arrows, the parts should be moved in the order of given numbers.
- Refer to Chapter 7 “Appendix” for the location of connectors (P/J).

4.2 Disassembly and Assembly

4.2.1 Cover Left

4.2.1.1 Removal

1. Remove the *Cover Assy I/F* (Section 4.2.2).
2. Remove the two screws securing the *Cover Left* to the printer.
3. Remove the *Cover Left* from the printer.

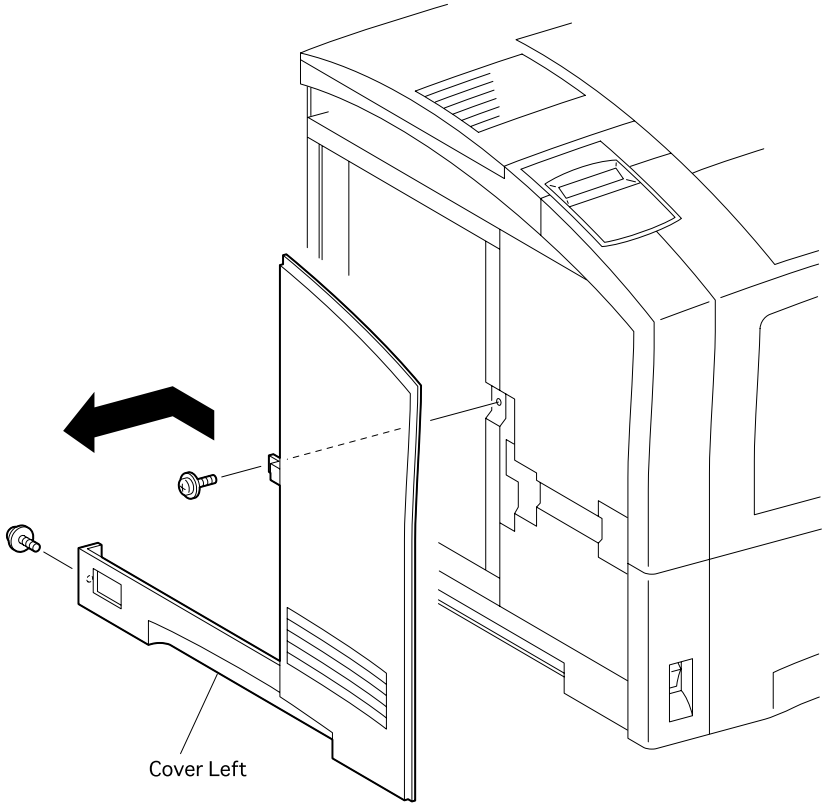


Figure 4-2. Cover Left Removal

4.2.1.2 Assembly

NOTE: *In the following steps, mount the Cover Left while paying attention to the sections overlapped with the Cover Assy Top and the Cover Assy L/H.*

1. Align the *Cover Left* with its mount position on the printer.
2. Secure the *Cover Left* to the printer with two screws.
3. Mount the *Cover Assy I/F* (Section 4.2.2).

4.2.2 Cover Assy I/F

4.2.2.1 Removal

1. Remove the two screws securing the *Cover Assy I/F* to the printer.
2. Remove the *Cover Assy I/F* from the printer.

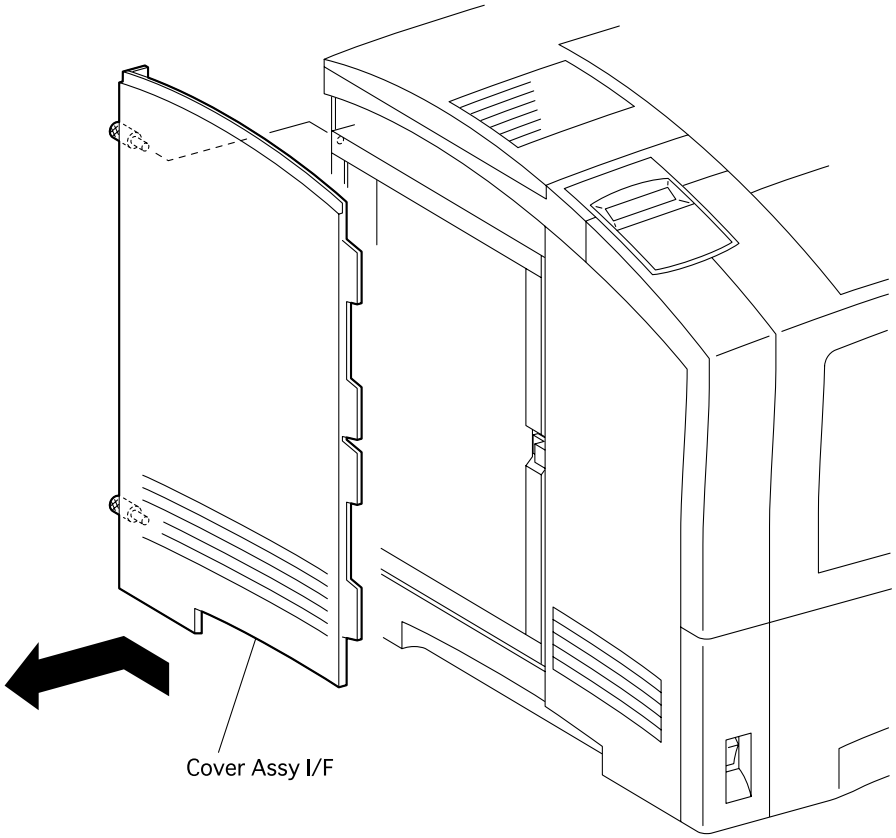


Figure 4-3. Cover Assy I/F Removal

4.2.2.2 Assembly

NOTE: *In the following steps, mount the Cover Assy I/F while paying attention to the sections overlapped with the Cover Assy Top and the Cover Left.*

1. Align the *Cover Assy I/F* with its mount position on the printer.
2. Secure the *Cover Assy I/F* to the printer with two screw.

4.2.3 Cover Option

4.2.3.1 Removal

1. Open the *Cover Rear.*
2. Pushing two latches at the rear of *Cover Option* from the printer, release the latches from the *Cover Assy Top.*

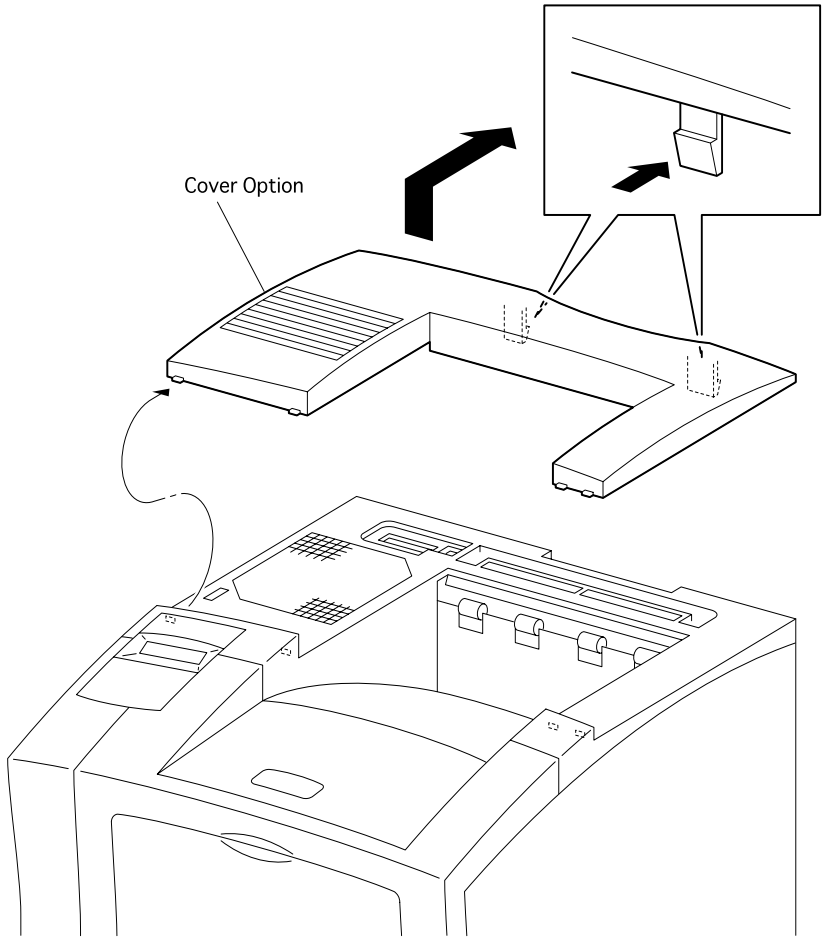


Figure 4-4. Cover Option Removal

4.2.3.2 Assembly

1. Align four bosses at the front of *Cover Option* with mounting holes in the *Cover Assy Top.*
2. Pushing the rear side of *Cover Option,* insert two latches of *Cover Option* into the *Cover Assy Top.*
3. Close the *Cover Rear.*

4.2.4 Cover Assy Top

4.2.4.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Open the *Cover Rear.*
4. Remove the *Cover Option* (Section 4.2.3).
5. Remove the four screws securing the *Cover Assy Top* to the printer.
6. Raising a little the *Cover Assy Top* from the printer, unplug the connector (P/J362) on the back side of *Control Assy Panel*.
7. Remove the *Cover Assy Top* from the printer.
8. Remove the *Control Assy Panel* (Section 4.2.5).

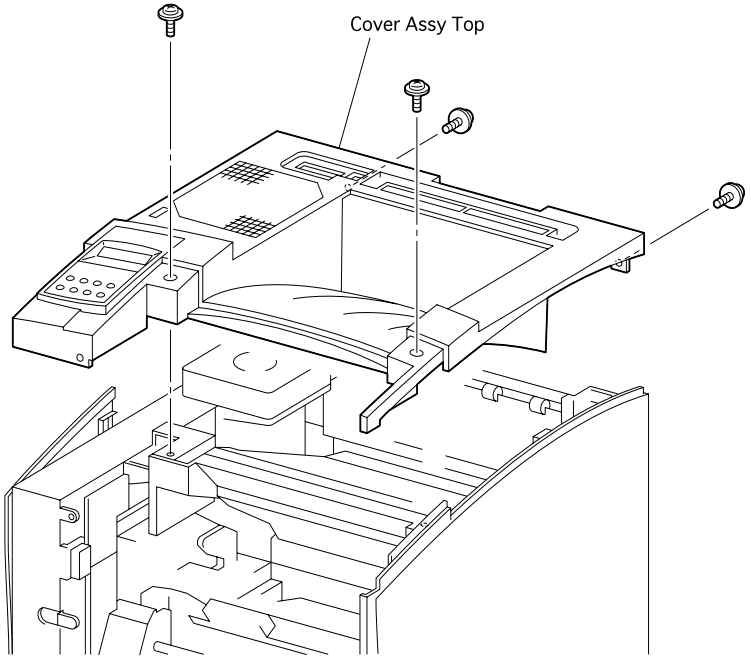


Figure 4-5. Cover Assy Top Removal

4.2.4.2 Assembly

NOTE: *In the following steps, mount the Cover Assy Top while paying attention to the sections overlapped with the Cover Left, Cover Assy I/F, and Cover Right.*

1. Mount the *Control Assy Panel* (Section 4.2.5) on the *Cover Assy Top* (Section 4.2.4).
2. Plug the connector (P/J362) on the back side of *Control Assy Panel* from the *Cover Assy Top*.
3. Align the *Cover Assy Top* with its mount position on the printer.
4. Secure the *Cover Assy Top* to the printer with four screws.
5. Mount the *Cover Option* (Section 4.2.3).
6. Close the *Cover Rear.*
7. Mount the *Cover Front L/H* (Section 4.2.10).
8. Mount the *Cover Assy Front* (Section 4.2.8).

4.2.5 Control Assy Panel

4.2.5.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Open the *Cover Rear.*
4. Remove the *Cover Assy Top* (Section 4.2.4).
5. Remove the four screws securing the *Control Assy Panel* to the *Cover Assy Top*.
6. Remove the *Control Assy Panel* from the *Cover Assy Top*.

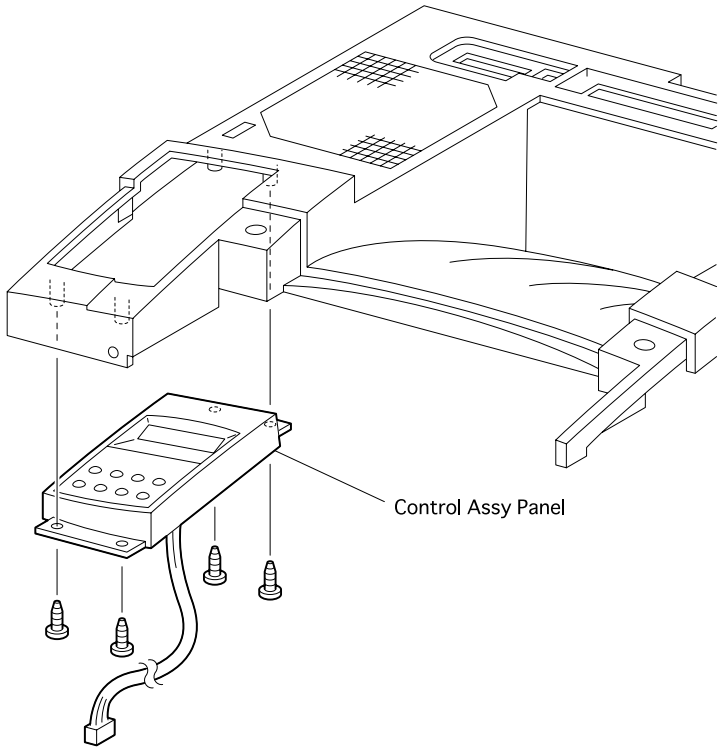


Figure 4-6. Control Assy Panel Removal

4.2.5.2 Assembly

NOTE: *In the following steps, mount the Control Assy Panel while paying attention to the sections overlapped with the Cover Assy Top.*

1. Align the *Control Assy Panel* with its mount position on the *Cover Assy Top*.
2. Secure the *Control Assy Panel* to the *Cover Assy Top* with four screws.
3. Mount the *Cover Assy Top* (Section 4.2.4).
4. Close the *Cover Rear.*
5. Mount the *Cover Front L/H* (Section 4.2.10).
6. Mount the *Cover Assy Front* (Section 4.2.8).

4.2.6 Harness Assy Panel

4.2.6.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Open the *Cover Rear.*
4. Remove the *Cover Assy Top* (Section 4.2.4).
5. Remove the *Cover Assy Panel*.
6. Unplug the connector (P/J363) of *Harness Assy Panel* from the *Control Assy Panel*, and remove the *Harness Assy Panel*.

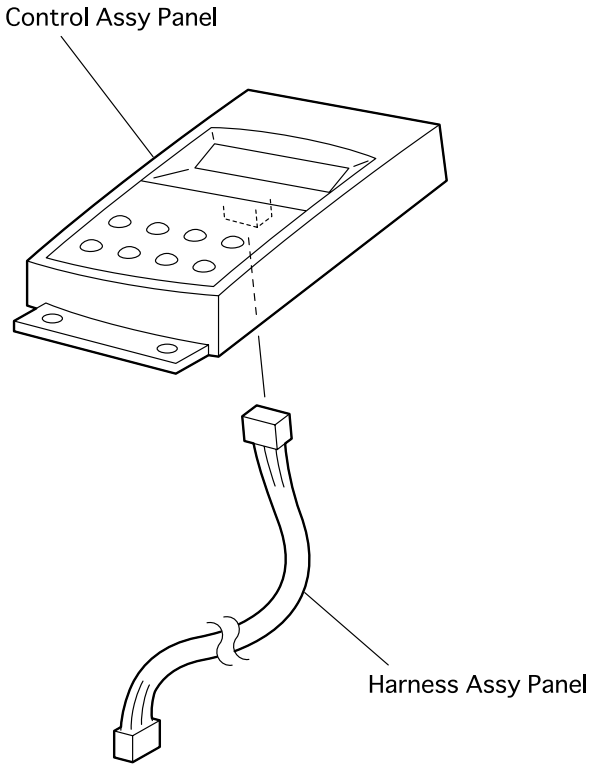


Figure 4-7. Harness Assy Panel Removal

4.2.6.2 Assembly

NOTE: *In the following steps, mount the Harness Assy Panel while paying attention to the sections overlapped with the Cover Assy Top.*

1. Plug the connector (P/J363) of *Harness Assy Panel* to the *Control Assy Panel*, and mount the *Harness Assy Panel*.
2. Mount the *Control Assy Panel*.
3. Mount the *Cover Assy Top* (Section 4.2.4).
4. Close the *Cover Rear.*
5. Mount the *Cover Front* L/H (Section 4.2.10).
6. Mount the *Cover Assy Front* (Section 4.2.8).

4.2.7 Cover Right

4.2.7.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Open the *Cover Rear.*
4. Remove the *Cover Assy Top* (Section 4.2.4).
5. Remove the four screws securing the *Cover Right* to the printer.
6. Disengage two hooks at the top of *Cover Right* from the holes in the printer.
7. Disengage two hooks at the bottom of *Cover Right* from the holes in the printer.
8. Remove the *Cover Right*.

4.2.7.2 Assembly

NOTE: *In the following steps, mount the Cover Right while paying attention to the sections overlapped with the Cover Assy Top.*

1. Align the *Cover Right* with its mount position on the printer.
2. Engage four hooks of the *Cover Right* with the holes in the printer to lock.
3. Secure the *Cover Right* to the printer with four screws.
4. Mount the *Cover Assy Top* (Section 4.2.4).
5. Close the *Cover Rear.*
6. Mount the *Cover Front L/H* (Section 4.2.10).
7. Mount the *Cover Assy Front* (Section 4.2.8).

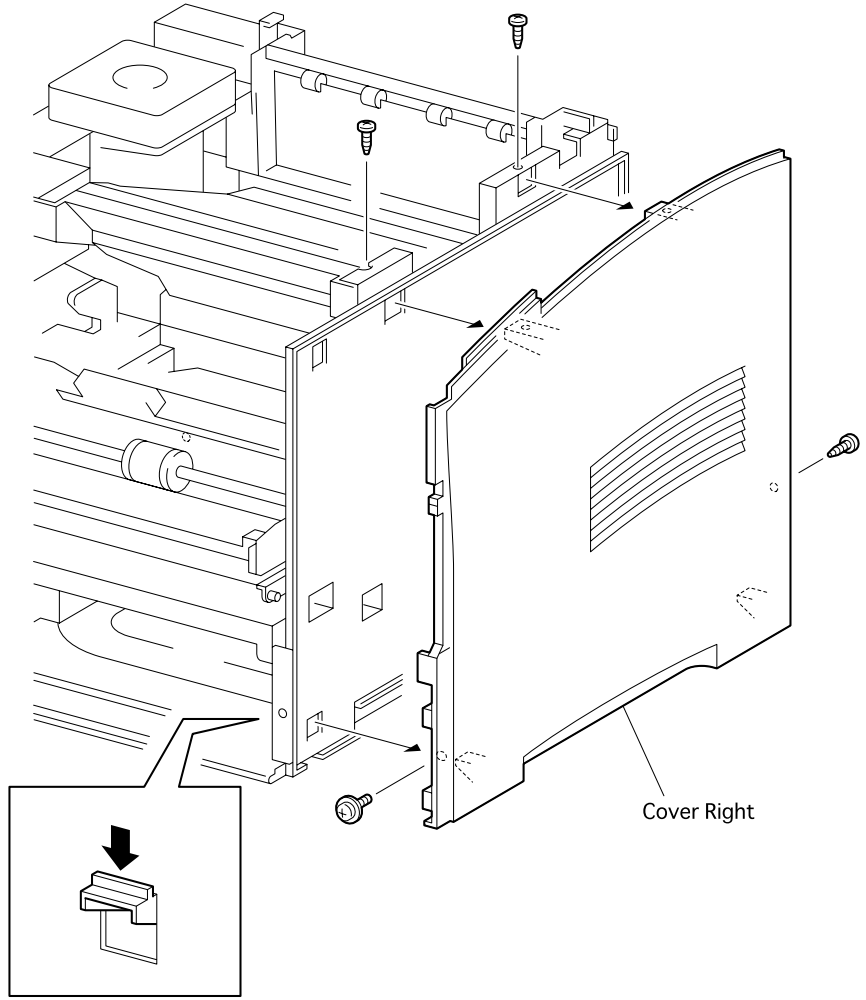


Figure 4-8. Cover Right Removal

4.2.8 Cover Assy Front

4.2.8.1 Removal

NOTE: *In the following steps, take care not to drop and damage the Cover Assy Front.*

1. Open the *Cover Assy Front*.
2. Remove the KL clip that secures the left bearing bore of *Cover Assy Front* to the left stud of the printer.
3. From the *Cover Right*, remove the *Stopper Cover* that secures the *Cover Assy Front* to the printer.
4. Sliding the *Cover Assy Front* to the right from the printer, release the left and right bearing bores of *Cover Assy Front* from the left and right studs, then remove the *Cover Assy Front*.

4.2.8.2 Assembly

NOTE: *In the following steps, take care not to drop and damage the Cover Assy Front.*

1. Aligning the left and right bearing bores of *Cover Assy Front* with the left and right studs of the printer, mount the *Cover Assy Front* on the printer.
2. Mount the *Stopper Cover* for *Cover Assy Front* on the *Cover Right*.
3. Secure the left bearing bore of *Cover Assy Front* to the left stud of printer with the KL clip.
4. Close the *Cover Assy Front*.

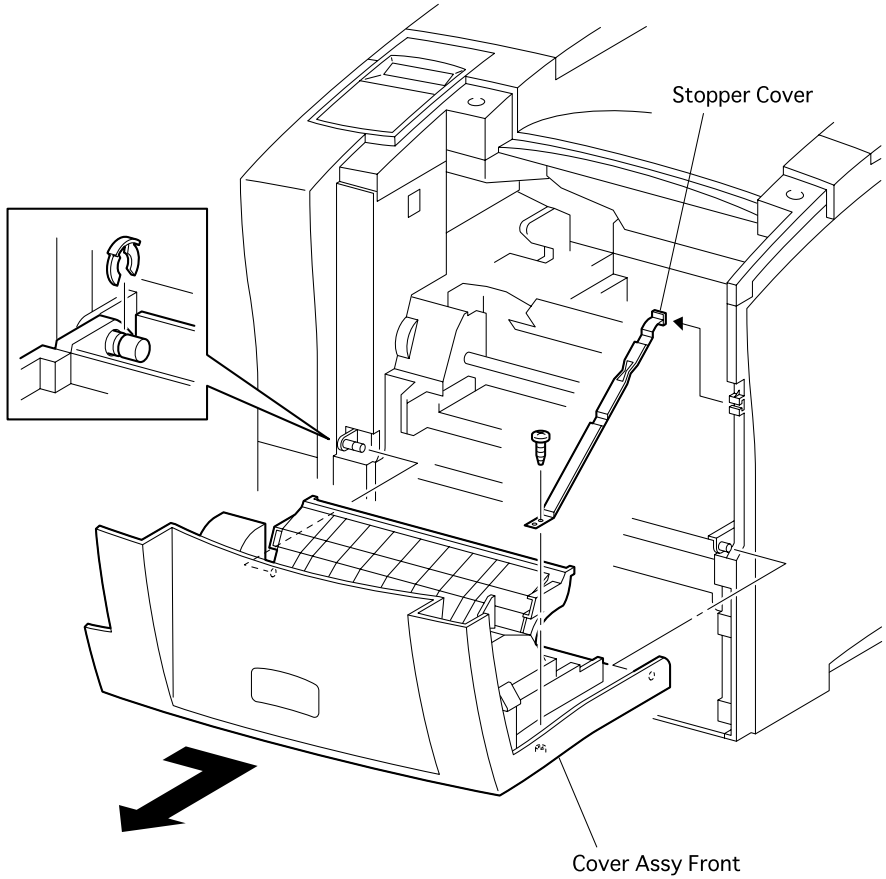


Figure 4-9. Cover Assy Front Removal

4.2.9 Tray Assy MBF

4.2.9.1 Removal

1. Open the *Cover Assy Front*.
2. Remove the *Cover Assy Front* (Section 4.2.8).
3. Disengage the *Clip* that secures the *Stopper Tray* to the *Tray Assy MBF*.

NOTE: *In the following steps, do not detach Cover Assy Front and Tray Assy MBF far away because they are linked with the Stopper Tray.*

4. Face the *Cover Assy Front* toward the rear, insert a small screwdriver into a gap at the front right end between *Cover Assy Front* and *Tray Assy MBF* to deflect the right side of *Cover Assy Front*, and disengage the boss.
5. Insert a small screwdriver into a gap at the front left end between *Cover Assy Front* and *Tray Assy MBF* to deflect the left side of *Cover Assy Front*, and disengage the boss, then detach the *Tray Assy MBF*.
6. Aligning the boss of *Tray Assy MBF* with a slit of *Stopper Tray*, remove the *Tray Assy MBF* from the *Cover Assy Front*.

NOTE:

4.2.9.2 Assembly

1. Aligning the boss of *Tray Assy MBF* with a slit of *Stopper Tray*, mount the *Tray Assy MBF*.

NOTE: *In the following steps, do not detach Cover Assy Front and Tray Assy MBF far away because they are linked with the Stopper Tray.*

2. Face the *Cover Assy Front* toward the rear, insert the left boss of *Tray Assy MBF* into the left hole in the *Cover Assy Front*.
3. Insert a small screwdriver into a gap at the front right end between *Cover Assy Front* and *Tray Assy MBF* to deflect the right side of *Cover Assy Front*, and engage the boss at the front right end of *Tray Assy MBF*.
4. Secure the *Stopper Tray* to the shaft of *Tray Assy MBF* with the *Clip*.
5. Mount the *Cover Assy Front* (Section 4.2.8).
6. Close the *Cover Assy Front*.

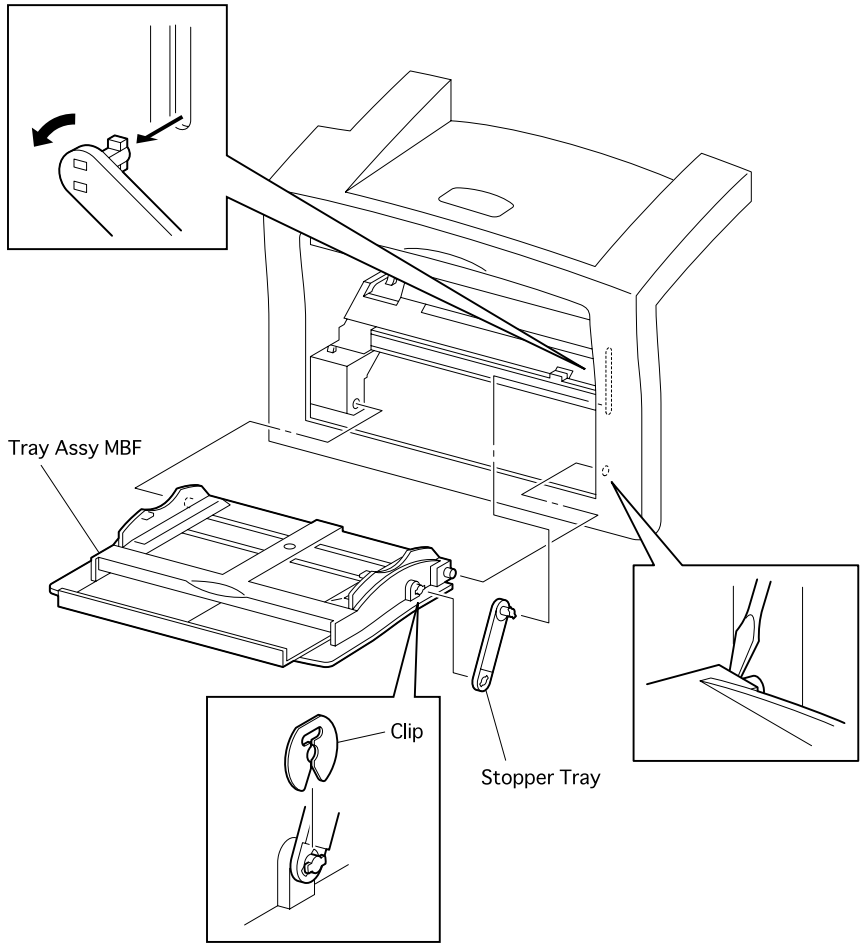


Figure 4-10. Tray Assy MBF Removal

4.2.10 Cover Front L/H

4.2.10.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the three screws securing the *Cover L/H* to the printer.
3. Disengage the upper left hook of *Cover L/H*, draw it a little toward the front from the printer.
4. Remove the *Cover L/H* from the printer.

4.2.10.2 Assembly

NOTE: *In the following steps, mount the Cover L/H while paying attention to the sections overlapped with the Cover Assy Top and Cover Left.*

1. Align the Cover L/H with its mount position to the printer.
2. Engage the hook of *Cover L/H* with a hole on the left side of *Cover Assy Top* to secure the *Cover L/H*.
3. Secure the *Cover L/H* to the printer with three screws.
4. Mount the *Cover Assy Front* (Section 4.2.8).

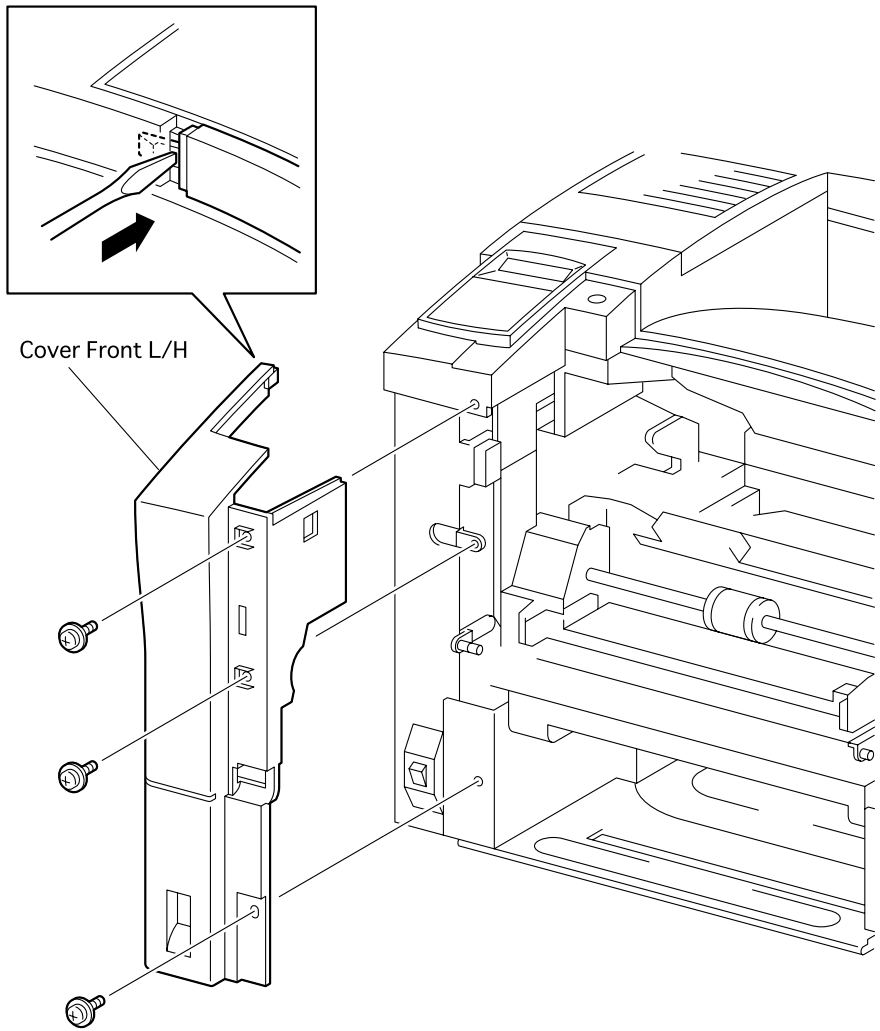


Figure 4-11. Cover Front L/H Removal

4.2.11 Cap Envelope

4.2.11.1 Removal

1. Open the *Cover Rear* from the printer.
2. Draw the right *Cap Envelope* secured to the *Chute Assy Face Up* from the *Cover Rear*.
3. Draw the left *Cap Envelope* secured to the *Chute Assy Face Up* from the *Cover Rear*.

4.2.11.2 Assembly

1. Mount the *Cap Envelope* on the right hole in the *Chute Assy Face Up* of the *Cover Rear*.
2. Mount the *Cap Envelope* on the left hole in the *Chute Assy Face Up* of the *Cover Rear*.
3. Close the *Cover Rear*.

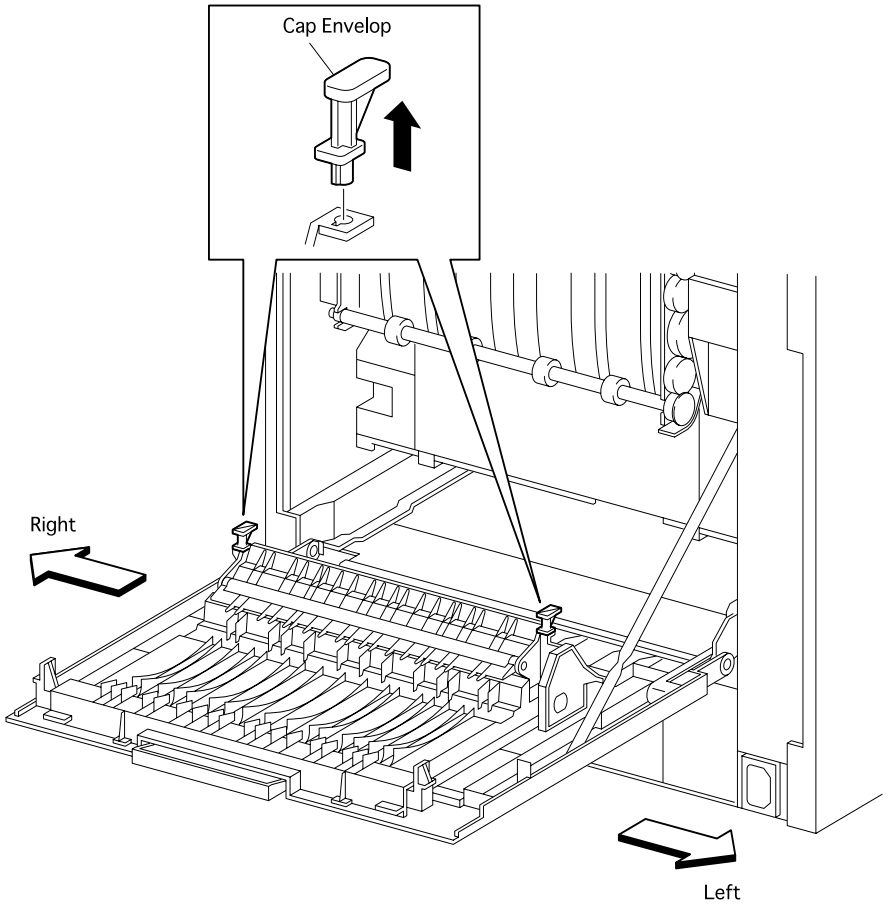


Figure 4-12. Cap Envelope Removal

4.2.12 Stopper

4.2.12.1 Removal

1. Remove the *Cover Rear* (Section 4.2.13).
2. Remove the one screw securing the *Stopper* to the printer.
3. Remove the *Stopper* to the printer.

4.2.12.2 Assembly

1. Align the *Stopper* with its mount position to the printer.
2. Secure the *Stopper* to the printer with one screw.
3. Mount the *Cover Rear* (Section 4.2.13).

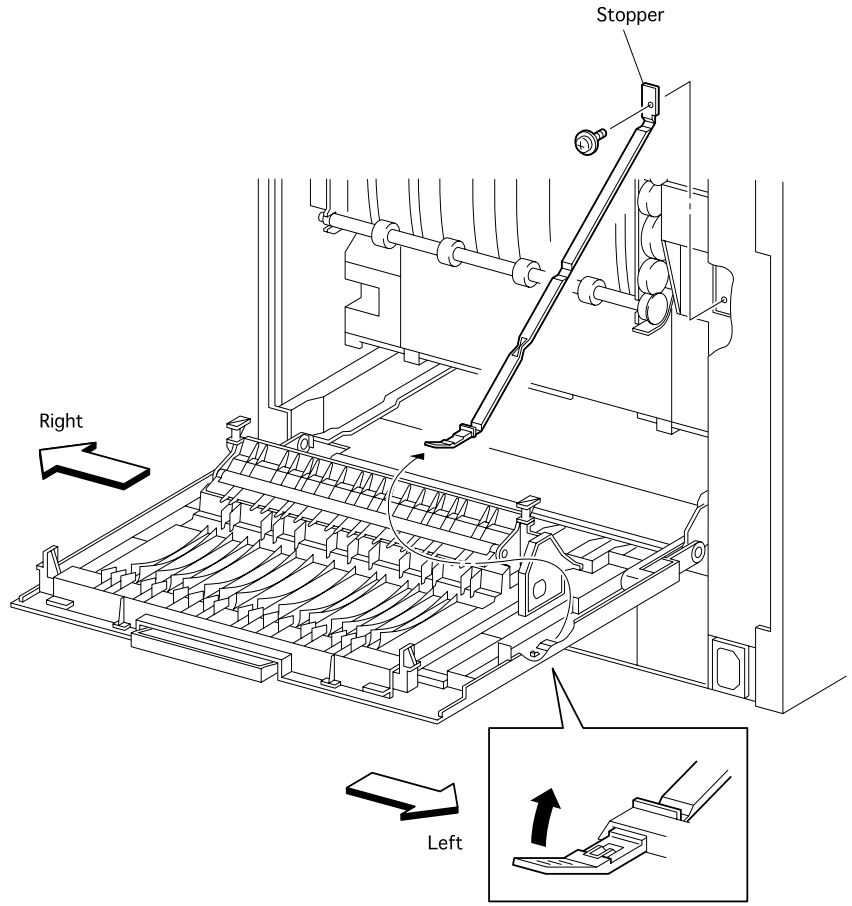


Figure 4-13. Stopper Removal

4.2.13 Cover Rear

4.2.13.1 Removal

NOTE: *In the following steps, take care not to drop and then damage the Cover Rear.*

1. Open the Cover Rear from the printer.
2. Draw the lead edge of *Stopper* secured to the *Cover Rear* off the hole in the *Cover Rear*.
3. Pull upward to unlock the *Stopper Pivot R* that secures the left *Cover Rear* to the printer.
4. Sliding the *Cover Rear* to the left, release the bearing bores of *Cover Rear* from the left and right bosses of printer and remove it from the printer.

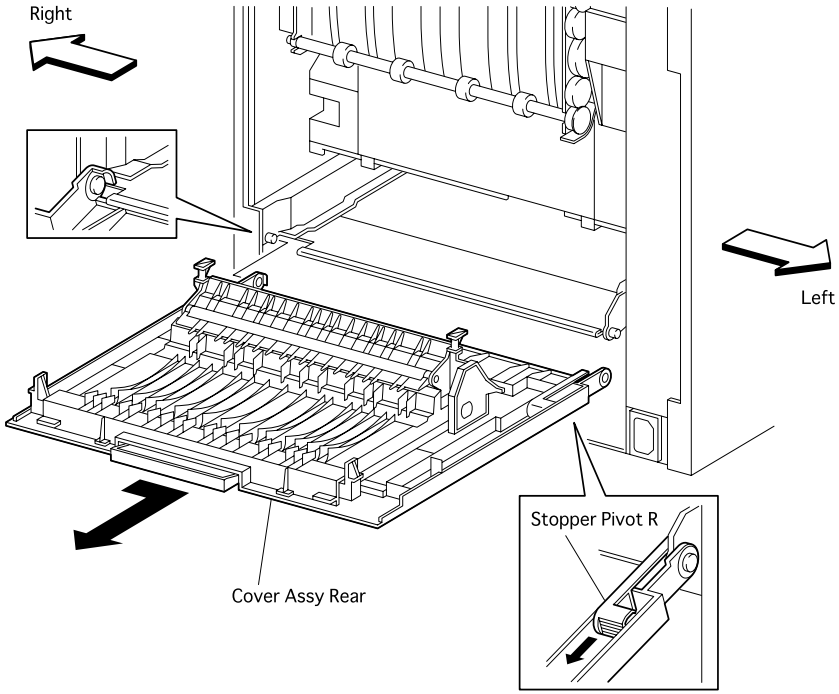


Figure 4-14. Cover Rear Removal

4.2.13.2 Assembly

NOTE: *In the following steps, take care not to drop and then damage the Cover Rear.*

1. Align the left and right bearing bores of *Cover Rear* with the left and right bosses on the rear side of the printer.
2. Sliding the *Cover Rear* to the right, mount it on the printer.
3. Secure the left side of *Cover Rear* to the printer with the *Stopper Pivot R*.
4. Insert the lead edge of *Stopper* into a hole in the *Cover Rear*.
5. Close the *Cover Rear*.

4.2.14 Cassette Assy

4.2.14.1 Removal

NOTE: *Draw the Cassette Assy from the printer.*

4.2.14.2 Assembly

NOTE: *Aligning the position exactly, insert the Cassette Assy into the printer.*

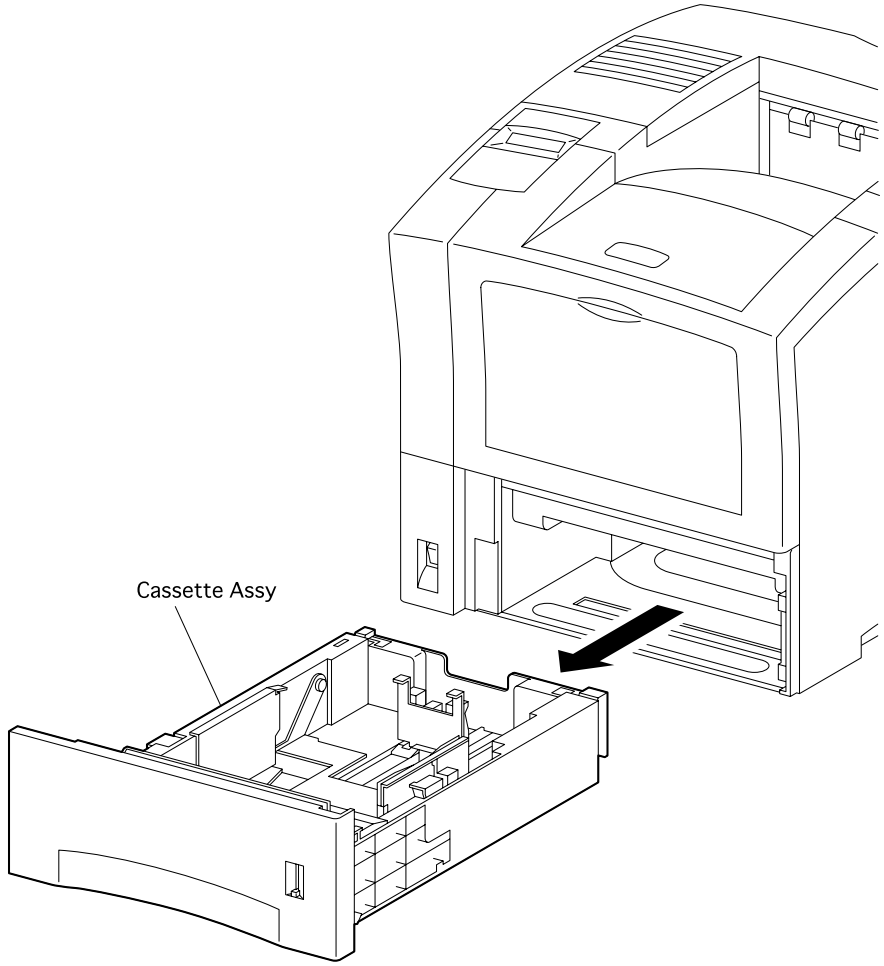


Figure 4-15. Cassette Assy Removal

4.2.15 Clutch Assy Friction

4.2.15.1 Removal

1. Draw the *Cassette Assy* from the printer.
2. Release the left and right latches of *Cassette Assy* that secures the *Chute Retard Base L* and *Chute Retard Base R* from the *Cassette Assy*.
3. Open the *Chute Retard* together with *Chute Retard Base L* and *Chute Retard Base R* from the *Cassette Assy*.
4. Remove the *Roll Assy* (Section 4.2.26).
5. Draw the *Clutch Assy Friction* of the shaft of *Shaft Assy Retard* from the *Cassette Assy*.

4.2.15.2 Assembly

1. Align the position of *Clutch Assy Friction* with the shaft of *Shaft Assy Retard* in the *Cassette Assy*.
2. Insert the *Clutch Assy Friction* into the shaft of *Shaft Assy Retard*.
3. Mount the *Roll Assy* (Section 4.2.26).
4. Close the *Chute Retard* together with *Chute Retard Base L* and *Chute Retard Base R* from the *Cassette Assy*.
5. Secure the *Chute Retard Base L* and *Chute Retard Base R* with the left and right latches from the *Cassette Assy*.
6. Mount the *Cassette Assy* to the printer (Section 4.2.14).

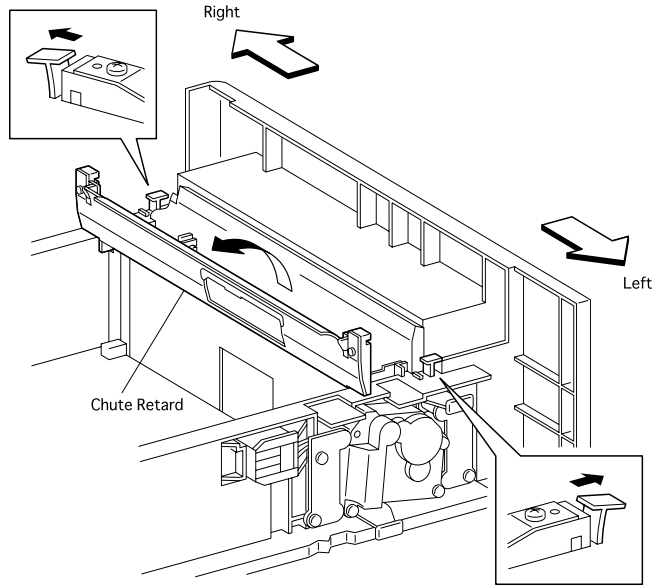


Figure 4-16. Removal of Clutch Assy Friction (1)

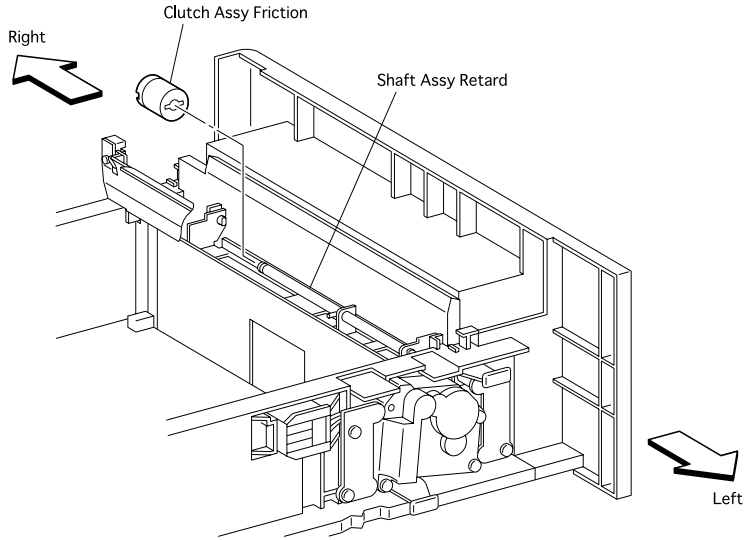


Figure 4-17. Removal of Clutch Assy Friction (2)

4.2.16 Roll Assy

4.2.16.1 Removal

1. Draw the *Cassette Assy* from the printer.
2. Release the left and right latches of *Cassette Assy* that secures the *Chute Retard Base L* and *Chute Retard Base R* from the *Cassette Assy*.
3. Open the *Chute Retard* together with *Chute Retard Base L* and *Chute Retard Base R* from the *Cassette Assy*.
4. Unhook the *Roll Assy* secured to the groove of *Shaft Assy Retard* from the *Cassette Assy*.
5. Draw the *Roll Assy* from *Shaft Assy Retard*.

4.2.16.2 Assembly

1. Aligning the position exactly, mount the *Roll Assy* on the *Shaft Assy Retard* in the *Cassette Assy*.
2. Hook the *Roll Assy* to the groove of *Shaft Assy Retard*.
3. Close the *Chute Retard* together with *Chute Retard Base L* and *Chute Retard Base R* from the *Cassette Assy*.
4. Secure the *Chute Retard Base L* and *Chute Retard Base R* with the left and right latches of *Cassette Assy*.
5. Mount the *Cassette Assy* to the printer (Section 4.2.14).

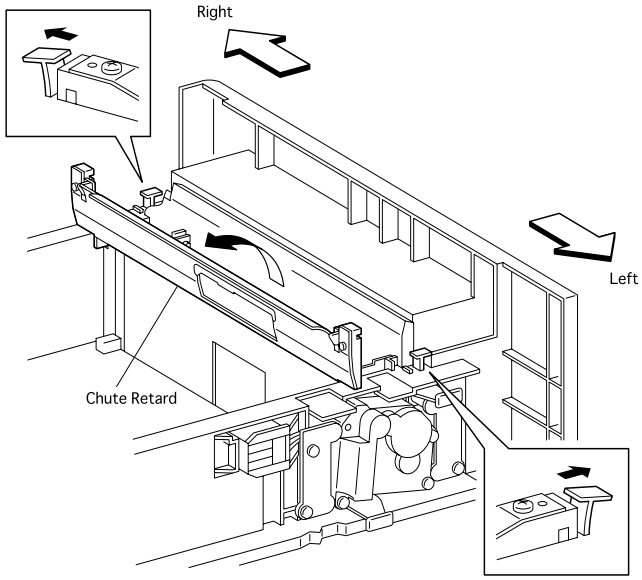


Figure 4-18. Roll Assy Removal (1)

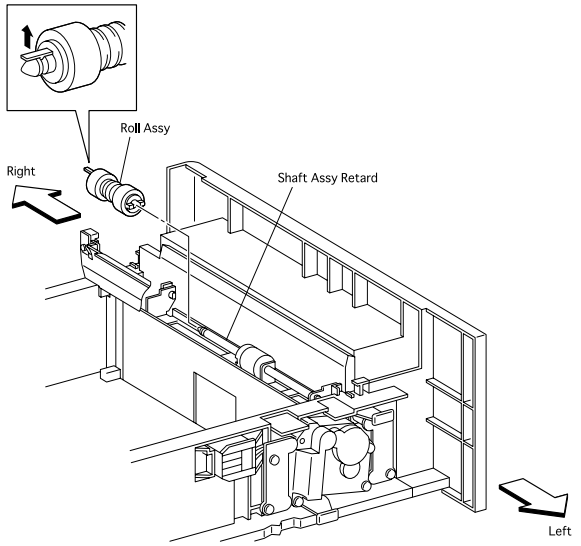


Figure 4-19. Roll Assy Removal (2)

4.2.17 Spring Retard

4.2.17.1 Removal

1. Draw the *Cassette Assy* from the printer.
2. Release the left and right latches of *Cassette Assy* that secures the *Chute Retard Base L* and *Chute Retard Base R* from the *Cassette Assy*.
3. Open the *Chute Retard* together with *Chute Retard Base L* and *Chute Retard Base R* from the *Cassette Assy*.
4. Open the *Bracket Retard* from the *Cassette Assy*.
5. Remove the *Spring Retard* from the *Cassette Assy*.

4.2.17.2 Assembly

1. Align the *Spring Retard* with the specified mount position on the *Cassette Assy*, and mount the *Spring Retard* to the *Cassette Assy*.
2. Close the *Bracket Retard* from the *Cassette Assy*.
3. Close the *Chute Retard* together with *Chute Retard Base L* and *Chute Retard Base R* from the *Cassette Assy*.
4. Secure the *Chute Retard Base L* and *Chute Retard Base R* with the left and right latches from the *Cassette Assy*.
5. Mount the *Cassette Assy* to the printer (Section 4.2.14).

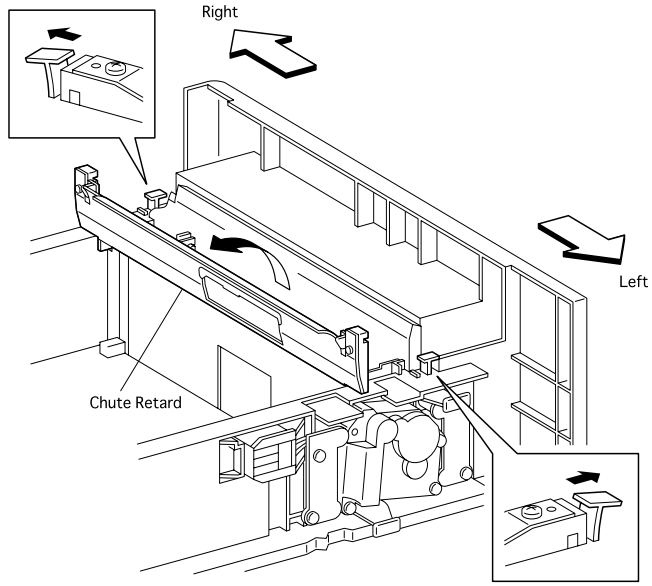


Figure 4-20. Spring Retard Removal (1)

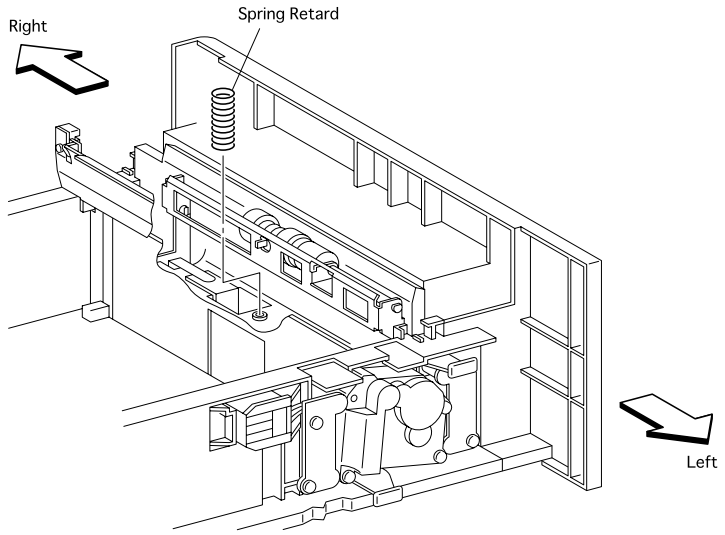


Figure 4-21. Spring Retard Removal (2)

4.2.18 Motor Assy

4.2.18.1 Removal

1. Draw out the *Cassette Assy* from the printer.

NOTE: *In the following steps, take care not to drop and miss the Spring Motor.*

2. Remove the two screws securing the *Holder L* to the *Cassette Assy*.
3. Remove the *Holder L* from the *Cassette Assy* together with the *Spring Motor*.
4. Remove the two screws securing the *Holder R* to the *Cassette Assy*.
5. Remove the *Holder R* from the *Cassette Assy* together with the *Spring Motor*.
6. Unplug the connector (P672/J673) of the *Motor Assy* from the *Connector* of *Cassette Assy*.
7. Remove the three screws securing the *Motor Assy* to the *Cassette Assy*.
8. Remove the *Motor Assy* from the *Cassette Assy*.

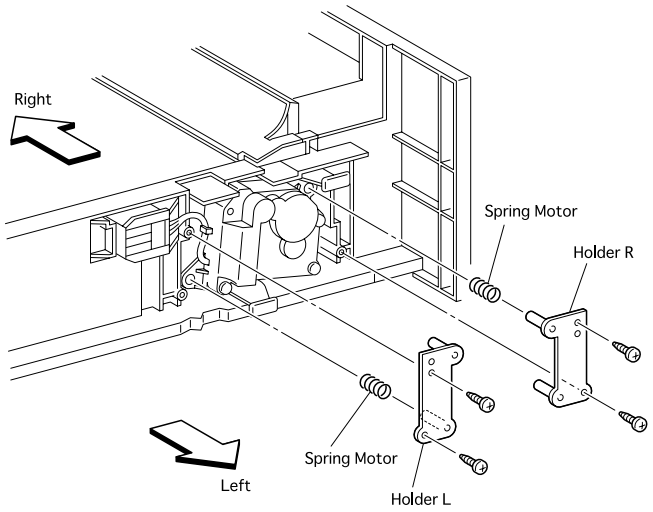


Figure 4-22. Motor Assy Removal (1)

4.2.18.2 Assembly

1. Engaging the groove at a rotational part of *Motor Assy* with the boss of *Shaft Assy Tongue*, mount the *Motor Assy* on the *Cassette Assy*.
2. Secure the *Motor Assy* to the *Cassette Assy* with three screws.
3. Plug the connector (P672/J673) of the *Motor Assy* from the *Connector* of *Cassette Assy*.

NOTE: *In the following steps, take care not to drop and miss the Spring Motor.*

4. Insert the *Spring Motor* into the left and right shafts of *Holder R*.
5. Place the *Holder R* to the position on the *Cassette Assy* together wit the *Spring Motor* inserting the shafts of the *Holder R* into the holes in the *Motor Assy*.
6. Secure the *Holder R* to the *Cassette Assy* using two screws.
7. Insert the *Spring Motor* into the left and right shafts of *Holder L*.
8. Place the *Holder L* to the position on the Cassette *Assy* together wit the *Spring Motor* inserting the shafts of the *Holder L* into the holes in the *Motor Assy*.
9. Secure the *Holder L* to the *Cassette Assy* using two screws.
10. Mount the *Cassette Assy* to the printer (Section 4.2.14).

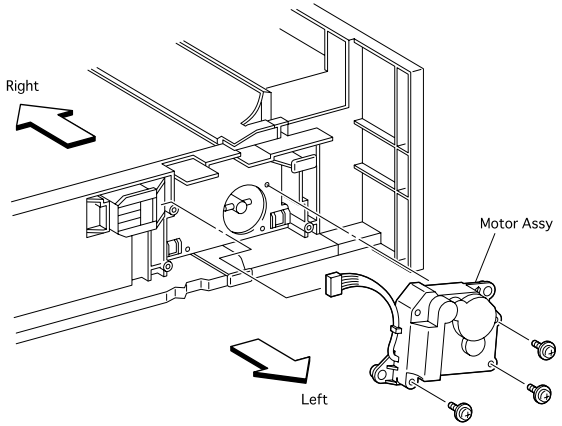


Figure 4-23. Motor Assy Removal (2)

4.2.19 Connector and Guide Socket

4.2.19.1 Removal

1. Draw out the *Cassette Assy* from the printer.

NOTE: *In the following steps, take care not to drop and miss the Spring Motor.*

2. Remove the two screws securing the *Holder L* to the *Cassette Assy*.
3. Remove the *Holder L* from the *Cassette Assy* together with the *Spring Motor*.

NOTE: *In the following steps, take care not to drop and miss the Spring.*

4. Unplug the connector (P672/J673) of the *Motor Assy* from the *Connector*.
5. Remove the two screws securing the *Guide Socket* to the *Cassette Assy*.
6. Remove the *Guide Socket* together with *Connector* from the *Cassette Assy*.
7. Remove the *Spring* (Section 4.2.20).
8. Sliding the *Connector* upward, disconnect it from the *Guide Socket*.

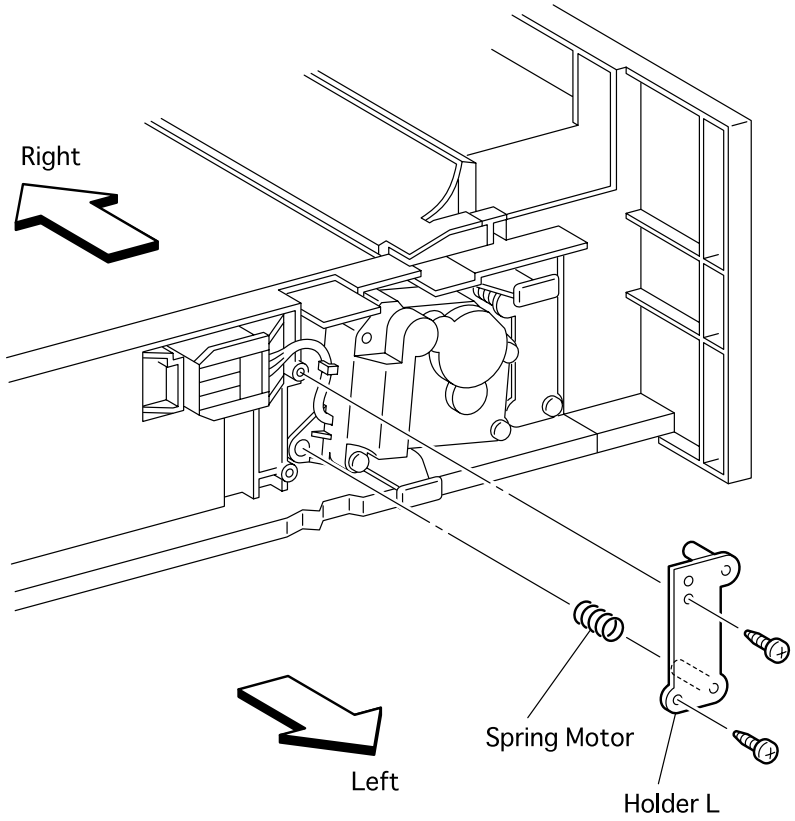


Figure 4-24. Removal of Connector and Guide Socket (1)

4.2.19.2 Assembly

1. Aligning the *Connector* with the rail of *Guide Socket*, slide the *Connector* downward to connect.

NOTE: *In the following steps, take care not to drop and miss the Spring.*

2. Mount the *Spring* (Section 4.2.20).
3. Aligning the position exactly, mount the *Guide Socket* together with *Connector* on the *Cassette Assy*.
4. Secure the *Guide Socket* to the *Cassette Assy* with two screws.

NOTE: *In the following steps, take care not to drop and miss the Spring Motor.*

5. Plug the connector (P672/J673) of the *Motor Assy* to the *Connector*.
6. Insert the *Spring Motor* into the left and right shafts of *Holder L*.
7. Place the *Holder L* to the position on the *Cassette Assy* together wit the *Spring Motor* inserting the shafts of the *Holder L* into the holes in the *Motor Assy*.
8. Secure the *Holder L* to the *Cassette Assy* using two screws.
9. Mount the *Cassette Assy* to the printer (Section 4.2.14).

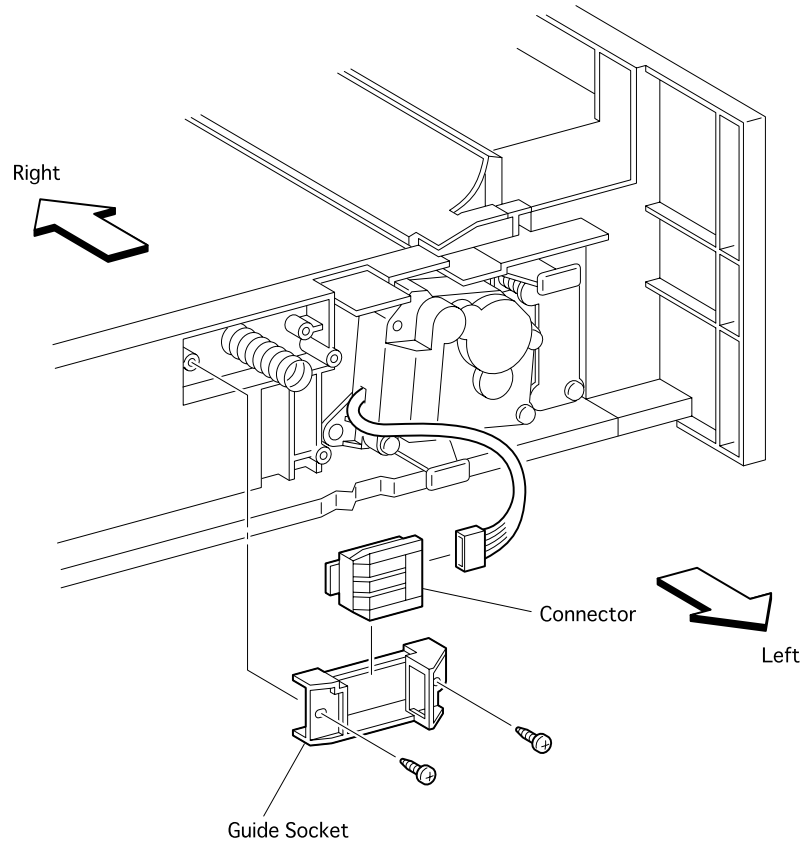


Figure 4-25. Removal of Connector and Guide Socket (2)

4.2.20 Spring

4.2.20.1 Removal

1. Draw the *Cassette Assy* from the printer.

NOTE: *In the following steps, take care not to drop and miss the Spring Motor.*

2. Remove the two screws securing the *Holder L* to the *Cassette Assy*.
3. Remove the *Holder L* from the *Cassette Assy* together with the *Spring Motor*.

NOTE: *In the following steps, take care not to drop and miss the Spring.*

4. Remove the *Guide Socket* (Section 4.2.19).
5. Remove the *Spring* from the *Cassette Assy*.

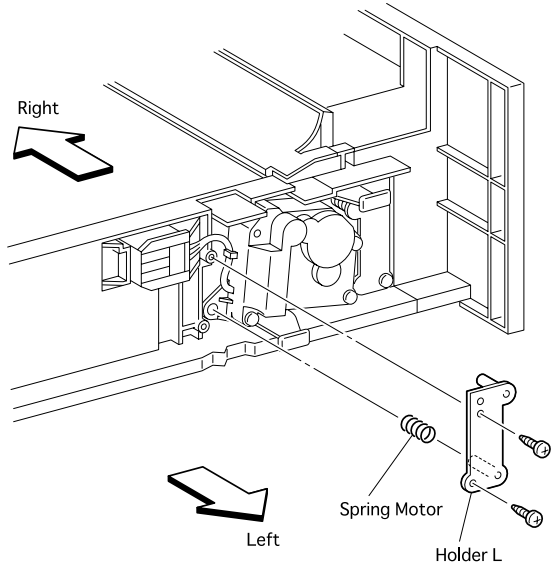


Figure 4-26. Spring Removal (1)

4.2.20.2 Assembly

NOTE: *In the following steps, take care not to drop and miss the Spring.*

1. Mount a *Spring* to the boss of *Cassette Assy*.
2. Mount the *Guide Socket* (Section 4.2.19).

NOTE: *In the following steps, take care not to drop and miss the Spring Motor.*

3. Insert the *Spring Motor* into the left and right shafts of *Holder L*.
4. Insert the *Spring Motor* into the left and right shafts of *Holder L*.
5. Place the *Holder L* to the position on the *Cassette Assy* together wit the *Spring Motor* inserting the shafts of the *Holder L* into the holes in the *Motor Assy*.
6. Secure the *Holder L* to the *Cassette Assy* using two screws.
7. Mount the *Cassette Assy* to the printer (Section 4.2.14).

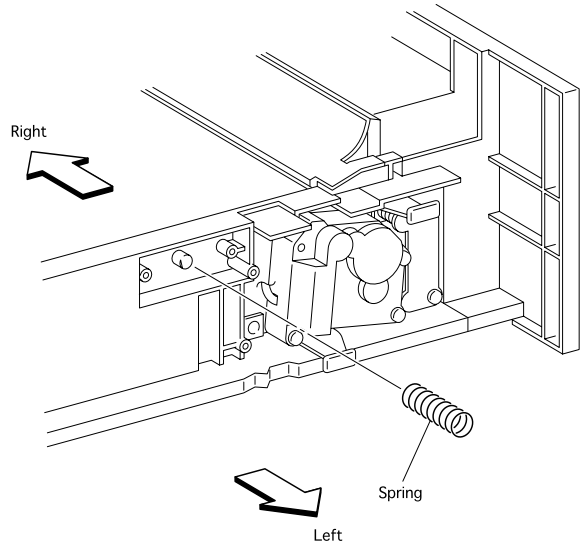


Figure 4-27. Spring Removal (2)

4.2.21 Roll Assy Turn

4.2.21.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).
4. Remove the *Cover Assy L/F* (Section 4.2.2).
5. Remove the *Cover Left* (Section 4.2.1).
6. Remove the *Cover Assy Top* (Section 4.2.4).
7. Remove the *Cover Right* (Section 4.2.7).
8. Remove the *Plate Assy Left* (Section 4.2.71).
9. Remove the *Plate Handle* (Section 4.2.73).
10. Remove the *PWBA PS*. (Section 4.2.86)
11. Remove the *Paper Feeder* (Section 4.2.30).
12. Unplug the connector (P/J641) on the *Clutch Assy Turn* from the *Paper Feeder*.
13. Remove the four screws securing the *Roll Assy Turn* to the Paper Feeder.
14. Remove the *Roll Assy Turn* together with *Spring Extension* and *Spring Chute* from the Paper Feeder.
15. Remove the *Spring Chute* (Section 4.2.22).
16. Unhook the left *Spring Extension* from two notches of *Roll Assy Turn*, and remove the *Spring Extension*.
17. Unhook the right *Spring Extension* from two notches of *Roll Assy Turn*, and remove the *Spring Extension*.

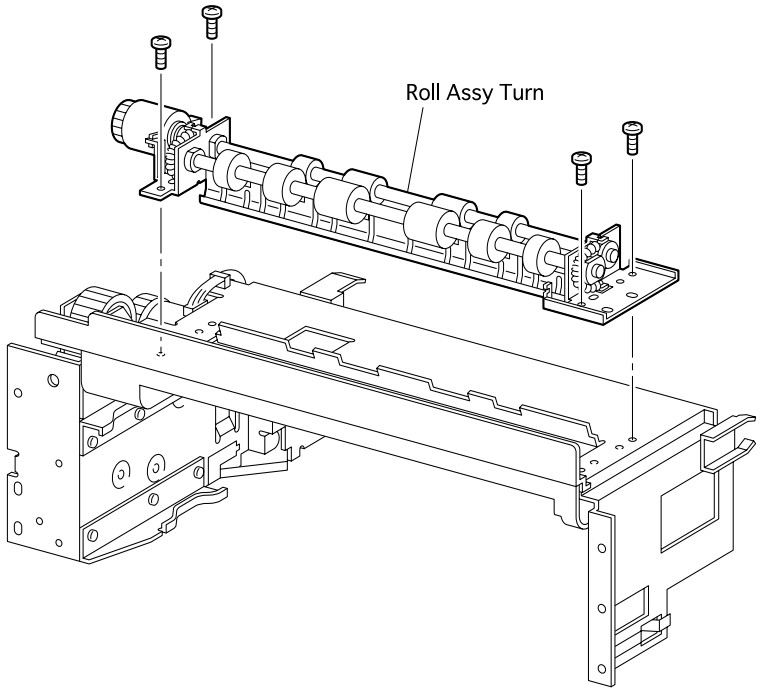


Figure 4-28. Roll Assy Turn Removal (1)

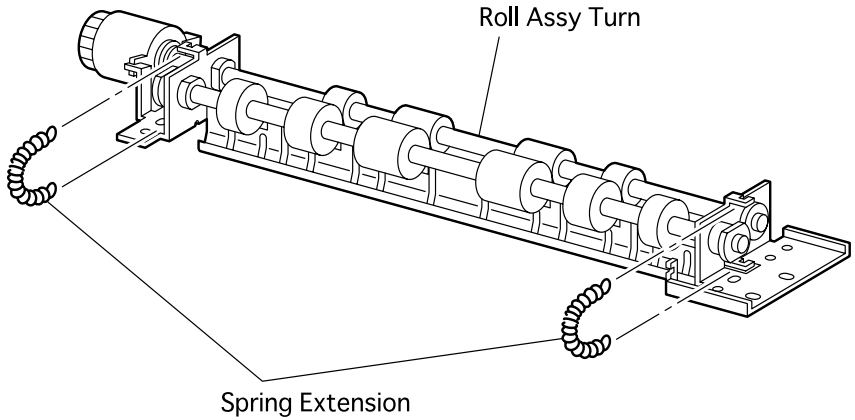


Figure 4-29. Roll Assy Turn Removal (2)

4.2.21.2 Assembly

1. Hook the *Spring Extension* to two notches on the right side of *Roll Assy Turn* to secure the *Spring Extension* to the *Roll Assy Turn*.
2. Hook the *Spring Extension* to two notches on the left side of *Roll Assy Turn* to secure the *Spring Extension* to the *Roll Assy Turn*.
3. Mount the *Spring Chute* (Section 4.2.22).
4. Align the *Roll Assy Turn*, together with the *Spring Extension* and *Spring Chute*, to the *Paper Feeder*.
5. Secure the *Roll Assy Turn* to the *Paper Feeder* with four screws.
6. Plug the connector (P/J641) to the *Clutch Assy Turn* from the *Paper Feeder*.
7. Mount the *Paper Feeder* (Section 4.2.30).
8. Mount the *PWBA PS* (Section 4.2.86).
9. Mount the *Plate Handle* (Section 4.2.73).
10. Mount the *Plate Assy Left* (Section 4.2.71).
11. Mount the *Cover Right* (Section 4.2.7).
12. Mount the *Cover Assy Top* (Section 4.2.4).
13. Mount the *Cover Left* (Section 4.2.1).
14. Mount the *Cover Assy I/F* (Section 4.2.2).
15. Mount the *Chute MBF Assy* (Section 4.2.31).
16. Mount the *Cover Front L/H* (Section 4.2.10).
17. Mount the *Cover Assy Front* (Section 4.2.8).

4.2.22 Spring Chute

4.2.22.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).
4. Remove the *Cover Assy I/F* (Section 4.2.2).
5. Remove the *Cover Left* (Section 4.2.1).
6. Remove the *Cover Assy Top* (Section 4.2.4).
7. Remove the *Cover Right* (Section 4.2.7).
8. Remove the *Plate Assy Left* (Section 4.2.71).
9. Remove the *Plate Handle* (Section 4.2.73).
10. Remove the *PWBA PS* (Section 4.2.86).
11. Remove the *Paper Feeder* (Section 4.2.86).
12. Unplug the connector (P/J641) on the *Clutch Assy Turn* from the *Paper Feeder*.
13. Remove the four screws securing the *Roll Assy Turn* to the *Paper Feeder*.
14. Remove the *Roll Assy Turn* together with *Spring Extension* and *Spring Chute* from the *Paper Feeder*.
15. Unhook the *Spring Chute* securing to the *Roll Assy Turn* at two places, and remove the *Spring Chute*.

4.2.22.2 Assembly

1. Hook the *Spring Chute* to the boss of the right Chute of the *Roll Assy Turn*.
2. Hook the *Spring Chute* to the notch of the right bracket of the *Roll Assy Turn*.
3. Aligning the position exactly, mount the *Roll Assy Turn* together with *Spring Extension* and *Spring Chute* to the *Paper Feeder*.
4. Secure the *Roll Assy Turn* to the *Paper Feeder* with four screws.
5. Plug the connector (P/J641) to the *Clutch Assy Turn* from the *Paper Feeder*.
6. Mount the *PWBA PS* (Section 4.2.86).
7. Mount the *Paper Feeder* (Section 4.2.30).
8. Mount the *Plate Handle* (Section 4.2.73).
9. Mount the *Plate Assy Left* (Section 4.2.71).
10. Mount the *Cover Right* (Section 4.2.7).
11. Mount the *Cover Assy Top* (Section 4.2.4).
12. Mount the *Cover Left* (Section 4.2.1).
13. Mount the *Cover Assy I/F* (Section 4.2.2).
14. Mount the *Chute MBF Assy* (Section 4.2.31).
15. Mount the *Cover Front L/H* (Section 4.2.10).
16. Mount the *Cover Assy Front* (Section 4.2.8).

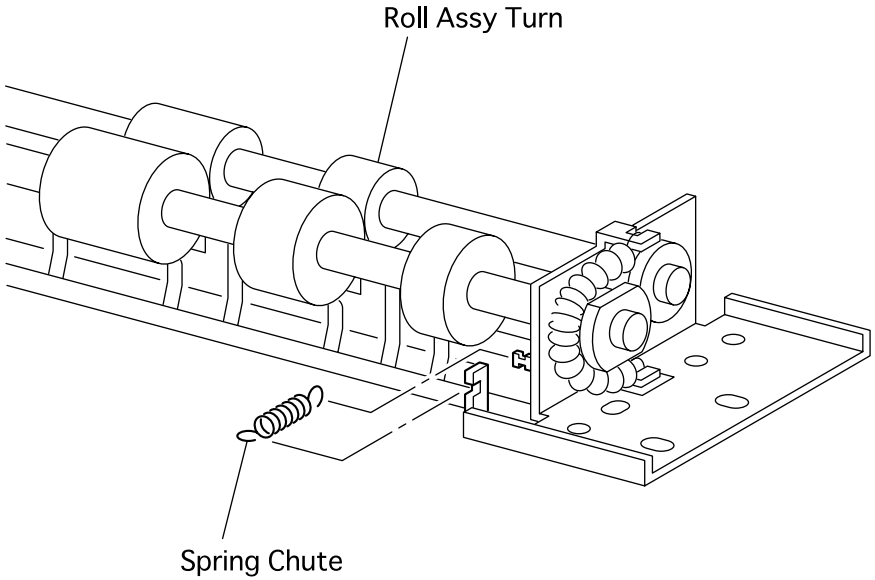


Figure 4-30. Spring Chute

4.2.23 Actuator N/P

4.2.23.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).
4. Remove the *Cover Assy I/F* (Section 4.2.2).
5. Remove the *Cover Left* (Section 4.2.1).
6. Remove the *Cover Assy Top* (Section 4.2.4).
7. Remove the *Cover Right* (Section 4.2.7).
8. Remove the *Plate Assy Left* (Section 4.2.71).
9. Remove the *Plate Handle* (Section 4.2.73).
10. Remove the *PWBA PS* (Section 4.2.86).
11. Remove the *Paper Feeder* (Section 4.2.86).
12. Unhook the left and right shafts of *Actuator N/P* from the left and right *Support Actuators*, and remove the *Actuator N/P* from the *Paper Feeder*.

4.2.23.2 Assembly

1. Aligning the position exactly, mount the *Actuator N/P* on the left and right *Support Actuators* of *Paper Feeder*.
2. Insert the left and right shafts of *Actuator N/P* into the *Support Actuator*.
3. Mount the *Paper Feeder* (Section 4.2.86).
4. Mount the *PWBA PS* (Section 4.2.86).
5. Mount the *Plate Handle* (Section 4.2.73).
6. Mount the *Plate Assy Left* (Section 4.2.71).
7. Mount the *Cover Right* (Section 4.2.7).
8. Mount the *Cover Assy Top* (Section 4.2.4).
9. Mount the *Cover Left* (Section 4.2.1).
10. Mount the *Cover Assy I/F* (Section 4.2.2).
11. Mount the *Chute MBF Assy* (Section 4.2.31).
12. Mount the *Cover Front L/H* (Section 4.2.10).
13. Mount the *Cover Assy Front* (Section 4.2.8).

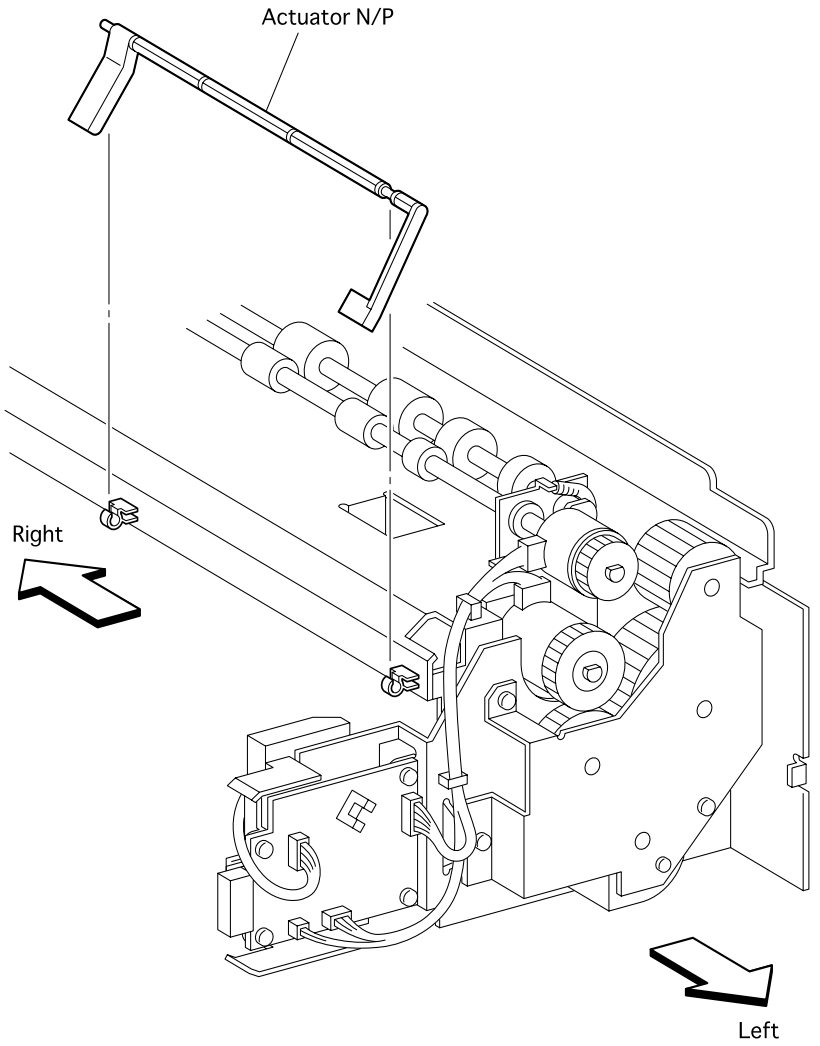


Figure 4-31. Actuator N/P Removal

4.2.24 Sensor Photo: Face Control, Low Paper

4.2.24.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).
4. Remove the *Cover Assy I/F* (Section 4.2.2).
5. Remove the *Cover Left* (Section 4.2.1).
6. Remove the *Cover Assy Top* (Section 4.2.4).
7. Remove the *Cover Right* (Section 4.2.7).
8. Remove the *Plate Assy Left* (Section 4.2.71).
9. Remove the *Plate Handle* (Section 4.2.73).
10. Remove the *PWBA PS* (Section 4.2.86).
11. Remove the *Paper Feeder* (Section 4.2.86).
12. Unplug the connector (P/J662) on the left *Sensor Photo: Face Control* from the *Paper Feeder*.
13. Disengage five hooks of left *Sensor Photo: Face Control* from the *Paper Feeder*, and remove the *Sensor Photo: Face Control*.
14. Unplug the connector (P/J661) on the right *Sensor Photo: Low Paper* from the *Paper Feeder*.
15. Disengage five hooks of right *Sensor Photo: Low Paper* from the *Paper Feeder*, and remove the *Sensor Photo: Low Paper*.

4.2.24.2 Assembly

1. Secure the *Sensor Photo: Low Paper* to the mounting hole on the right side of *Paper Feeder* with five hooks.
2. Plug the connector (P/J611) to the right *Sensor Photo: Low Paper* from the *Paper Feeder*.
3. Secure the *Sensor Photo: Face Control* to the mounting hole on the left side of *Paper Feeder* with five hooks.
4. Plug the connector (P/J662) to the left *Sensor Photo: Face Control* from the *Paper Feeder*.
5. Mount the *Paper Feeder* (Section 4.2.86).
6. Mount the *PWBA PS* (Section 4.2.86).
7. Mount the *Plate Handle* (Section 4.2.73).
8. Mount the *Plate Assy Left* (Section 4.2.71).
9. Mount the *Cover Right* (Section 4.2.7).
10. Mount the *Cover Assy Top* (Section 4.2.4).
11. Mount the *Cover Left* (Section 4.2.1).
12. Mount the *Cover Assy I/F* (Section 4.2.2).
13. Mount the *Chute MBF Assy* (Section 4.2.31).
14. Mount the *Cover Front L/H* (Section 4.2.10).
15. Mount the *Cover Assy Front* (Section 4.2.8).

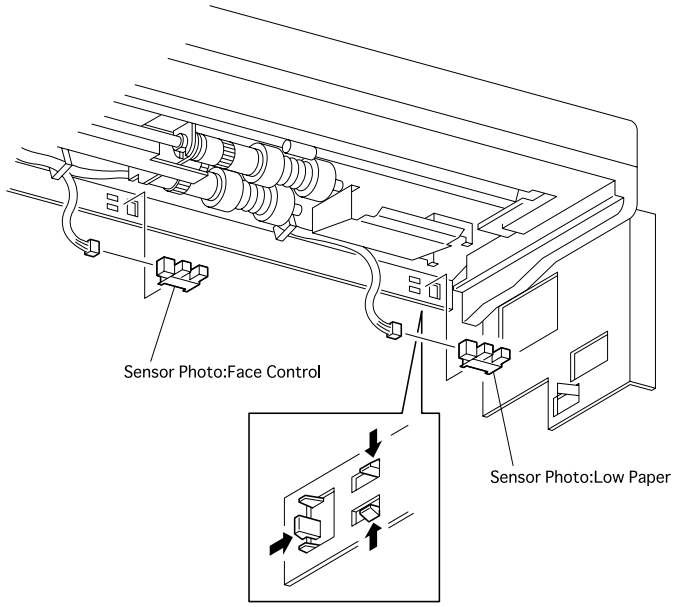


Figure 4-32. Removal of Sensor Photo: Face Control, Low Paper

4.2.25 Feeder Assy

4.2.25.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).
4. Remove the *Cover Assy I/F* (Section 4.2.2).
5. Remove the *Cover Left* (Section 4.2.1).
6. Remove the *Cover Assy Top* (Section 4.2.4).
7. Remove the *Cover Right* (Section 4.2.7).
8. Remove the *Plate Assy Left* (Section 4.2.71).
9. Remove the *Plate Handle* (Section 4.2.73).
10. Remove the *PWBA PS* (Section 4.2.86).
11. Remove the *Paper Feeder* (Section 4.2.86).
12. Remove the *Clutch Assy Feed (Section 4.2.28).*
13. Remove the *Sensor Photo: Face Control* (Section 4.2.24).
14. Disengage the E-ring that secures the left shaft of *Feeder Assy* to the *Paper Feeder*.

NOTE: *In the following steps, place thick paper under the Paper Feeder to protect the Roll of Roll Assy Turn from damage. Take care not to drop and lose the Spring Nudger.*

15. Reverse the *Paper Feeder so that the top surface faces down.*
16. Draw the *Bearing* securing the left shaft of *Feeder Assy* to the *Paper Feeder*.
17. Open the *Chute Assy Front* from the *Paper Feeder*.
18. Sliding the *Feeder Assy* to the right, draw the shaft of *Feeder Assy* from the left bearing bore of the *Paper Feeder*, and remove the *Feeder Assy* from the *Paper Feeder*.
19. Remove the *Spring Nudger* from the boss of *Paper Feeder*.

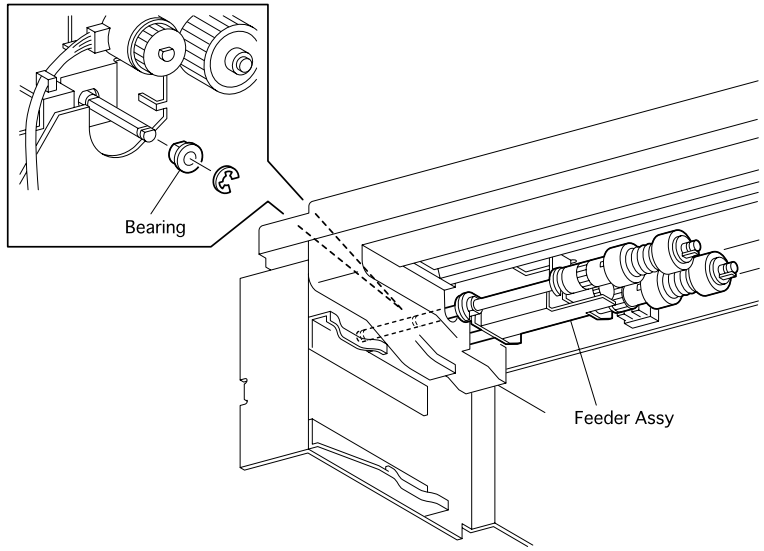


Figure 4-33. Feeder Assy Removal (1)

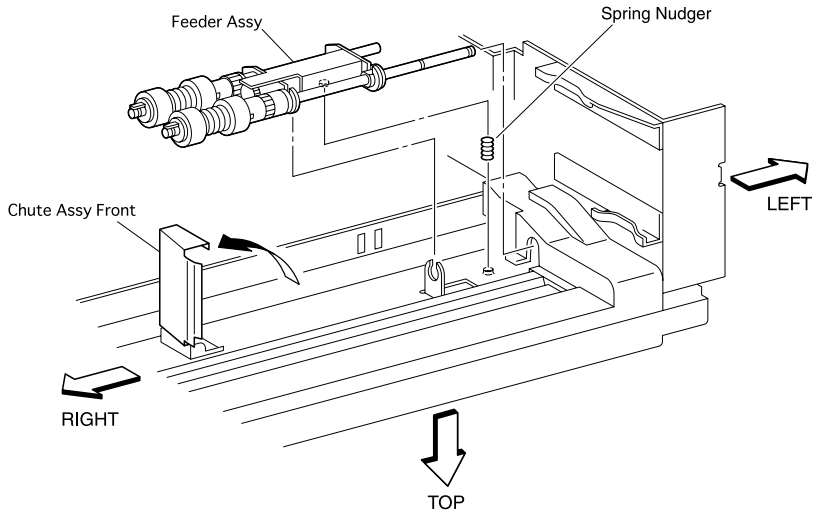


Figure 4-34. Feeder Assy Removal (2)

4.2.25.2 Assembly

NOTE: *In the following steps, take care not to drop and lose the Spring Nudger.*

1. Align the position exactly, mount the *Spring Nudger* on the boss of the *Paper Feeder*.
2. Open the *Chute Assy Front* from the *Paper Feeder*.

NOTE: *In the following steps, align the Feeder Assy position so that the leading end of Spring Nudger enters the boss of Feeder Assy.*

3. Insert the lead edge of left shaft of *Feeder Assy* into the left bearing bore of *Paper Feeder*, and slide the *Feeder Assy* to the left.
4. Secure the left shaft of *Feeder Assy* to the *Paper Feeder* with the *Bearing*.
5. Restore the reversed *Paper Feeder* so that the top surface faces up.
6. Secure the left shaft of *Feeder Assy* to the *Paper Feeder* with the E-ring.
7. Mount the *Clutch Assy Feed (Section 4.2.28)*.
8. Mount the *Paper Feeder* (Section 4.2.86).
9. Mount the *PWBA PS* (Section 4.2.86).
10. Mount the *Plate Handle* (Section 4.2.73).
11. Mount the *Plate Assy Left* (Section 4.2.71).
12. Mount the *Cover Right* (Section 4.2.7).
13. Mount the *Cover Assy Top* (Section 4.2.4).
14. Mount the *Cover Left* (Section 4.2.1).
15. Mount the *Cover Assy I/F* (Section 4.2.2).
16. Mount the *Chute MBF Assy* (Section 4.2.31).
17. Mount the *Cover Front L/H* (Section 4.2.10).
18. Mount the *Cover Assy Front* (Section 4.2.8).

4.2.26 Roll Assy

4.2.26.1 Removal

1. Draw the *Cassette Assy* from the printer.
2. Open the *Chute Assy Front* from the *Paper Feeder* in the printer.
3. Unhook the *Roll Assy* secured to the front shaft of *Feeder Assy* in the *Paper Feeder*.
4. Draw the *Roll Assy* from the front shaft of *Feeder Assy*.
5. Unhook the *Roll Assy* secured to the rear shaft of *Feeder Assy* from the *Paper Feeder*.
6. Draw the *Roll Assy* from the rear shaft of *Feeder Assy*.

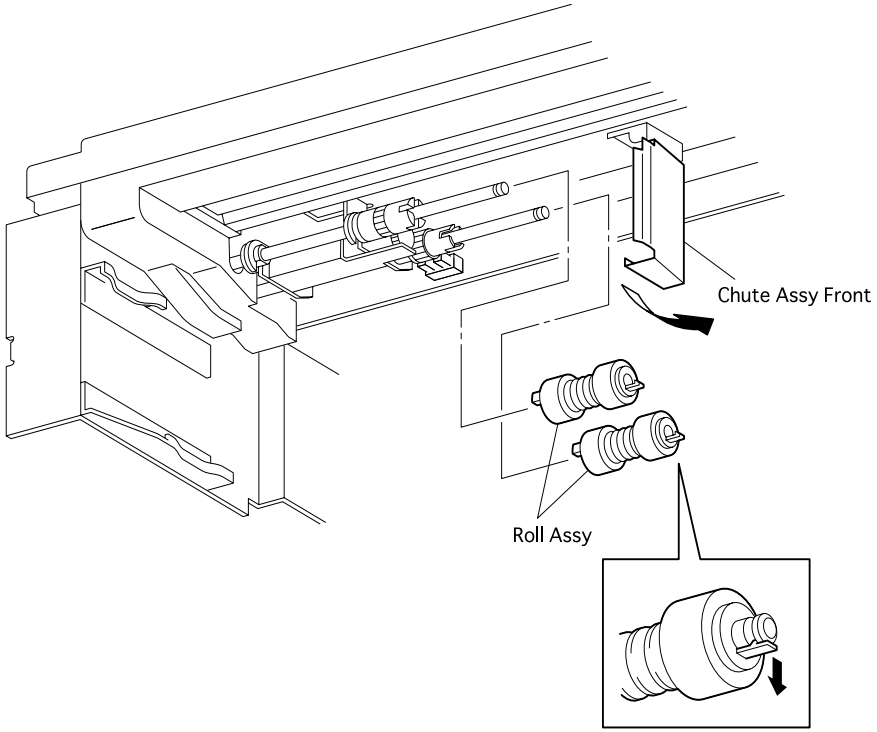


Figure 4-35. Roll Assy Removal

4.2.26.2 Assembly

1. Open the *Chute Assy Front* from the *Paper Feeder* in the printer.
2. Insert the *Roll Assy* into the rear shaft of *Feeder Assy* from the *Paper Feeder*.
3. Hook the *Roll Assy* to the groove in the rear shaft of *Feeder Assy* to secure.
4. From the *Paper Feeder*, insert the *Roll Assy* into the front shaft of *Feeder Assy*.
5. Hook the *Roll Assy* to the groove in the front shaft of *Feeder Assy* to secure.
6. Mount the *Cassette Assy* (Section 4.2.14).

4.2.27 PWBA Feeder

4.2.27.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).
4. Remove the *Cover Assy I/F* (Section 4.2.2).
5. Remove the *Cover Left* (Section 4.2.1).
6. Remove the *Cover Assy Top* (Section 4.2.4).
7. Remove the *Cover Right* (Section 4.2.7).
8. Remove the *Plate Assy Left* (Section 4.2.71).
9. Remove the *Plate Handle* (Section 4.2.73).
10. Remove the *PWBA PS* (Section 4.2.86).
11. Remove the *Paper Feeder* (Section 4.2.86).
12. Unplug the connector (P/J64) on the *PWBA Feeder* from the *Paper Feeder*.
13. Unplug the connector (P/J65) on the *PWBA Feeder* from the *Paper Feeder*.
14. Unplug the connector (P/J66) on the *PWBA Feeder* from the *Paper Feeder*.
15. Unplug the connector (P/J67) on the PWBA Feeder from the *Paper Feeder*.
16. Remove the four screws securing the *PWBA Feeder* to the *Paper Feeder*.
17. Remove the *PWBA Feeder* from the *Paper Feeder*.

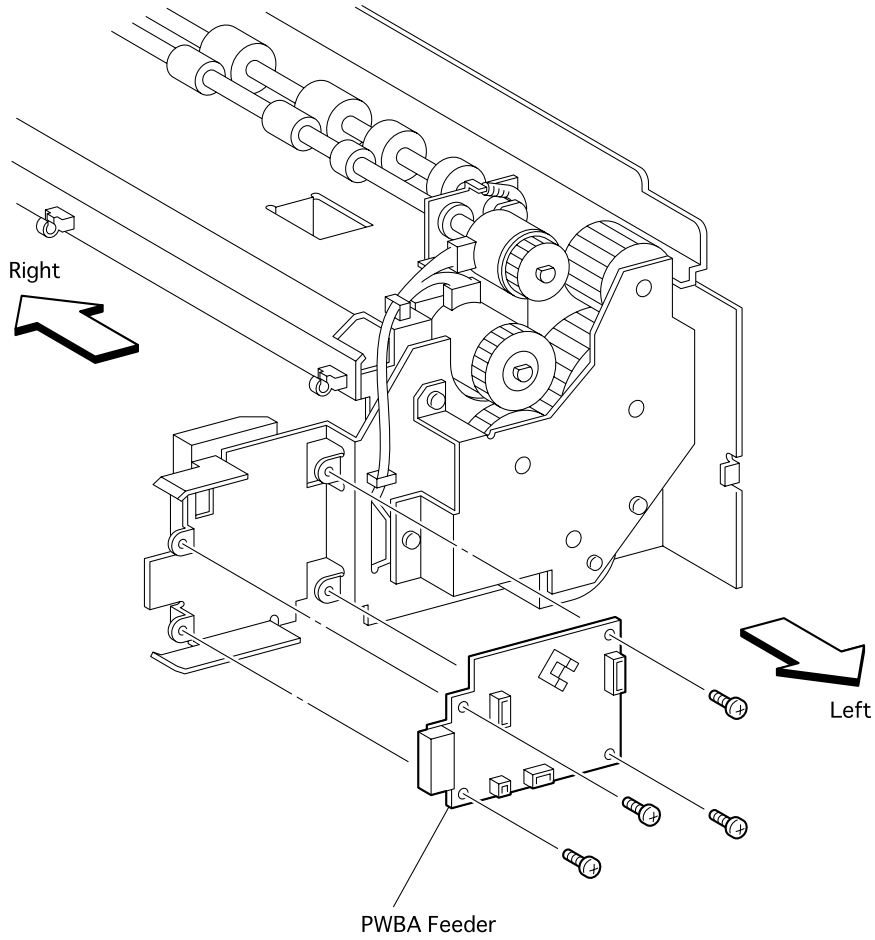


Figure 4-36. PWBA Feeder Removal

4.2.27.2 Assembly

1. Align the *PWBA Feeder* with its mount position to the *Paper Feeder*.
2. Secure the *PWBA Feeder* to the *Paper Feeder* with four screws.
3. Plug the connector (P/J64) to the *PWBA Feeder*.
4. Plug the connector (P/J65) to the *PWBA Feeder*.
5. Plug the connector (P/J66) to the *PWBA Feeder*.
6. Plug the connector (P/J67) to the *PWBA Feeder*.
7. Mount the *Paper Feeder* (Section 4.2.86).
8. Mount the *PWBA PS* (Section 4.2.86).
9. Mount the *Plate Handle* (Section 4.2.73).
10. Mount the *Plate Assy Left* (Section 4.2.71).
11. Mount the *Cover Right* (Section 4.2.7).
12. Mount the *Cover Assy Top* (Section 4.2.4).
13. Mount the *Cover Left* (Section 4.2.1).
14. Mount the *Cover Assy I/F* (Section 4.2.2).
15. Mount the *Chute MBF Assy* (Section 4.2.31).
16. Mount the *Cover Front L/H* (Section 4.2.10).
17. Mount the *Cover Assy Front* (Section 4.2.8).

4.2.28 Clutch Assy Feed

4.2.28.1 Removal

4.2.28.2 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).
4. Remove the *Cover Assy I/F* (Section 4.2.2).
5. Remove the *Cover Left* (Section 4.2.1).
6. Remove the *Cover Assy Top* (Section 4.2.4).
7. Remove the *Cover Right* (Section 4.2.7).
8. Remove the *Plate Assy Left* (Section 4.2.71).
9. Remove the *Plate Handle* (Section 4.2.73).
10. Remove the *PWBA PS* (Section 4.2.86).
11. Remove the *Paper Feeder* (Section 4.2.86).
12. Remove the four screws securing the *Bracket* from the *Paper Feeder*.
13. Remove the *Bracket* from the *Paper Feeder*.
14. Draw the *Gear 3* from the shaft of *Paper Feeder*.
15. Draw the *Gear 2* from the shaft of *Paper Feeder*.
16. Disengage the E-ring that secures the *Clutch Assy Feed* to the *Paper Feeder*.
17. Unplug the harness of *Clutch Assy Feed* from the *Paper Feeder*.
18. Unplug the connector (P/J65) from the *PWBA Feeder*.
19. Draw the *Clutch Assy Feed* from the shaft of *Feeder Assy* in the *Paper Feeder*.

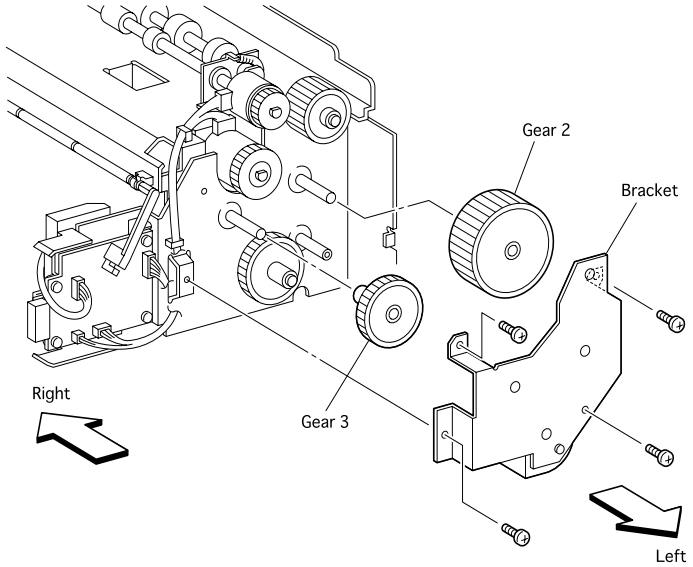


Figure 4-37. Clutch Assy Feed Removal (1)

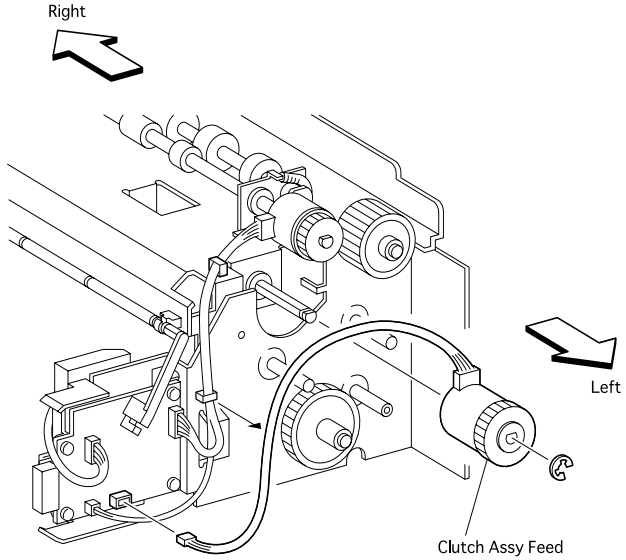


Figure 4-38. Clutch Assy Feed Removal (2)

4.2.28.3 Assembly

1. Aligning the position exactly, insert the *Clutch Assy Feed* into the shaft of *Feeder Assy* in the *Paper Feeder*.
2. Plug the connector (P/J65) to the *PWBA Feeder*.
3. Clamp the harness of *Clutch Assy Feed* to the *Paper Feeder.*
4. Secure the *Clutch Assy Feed* to the shaft of *Feeder Assy* in the *Paper Feeder* with the E-ring.
5. Aligning the position exactly, insert the *Gear 2* into the shaft of *Paper Feeder*.
6. Aligning the position exactly, insert the *Gear 3* into the shaft of *Paper Feeder*.
7. Align the *Bracket* with its mount position to the *Paper Feeder*.
8. Secure the *Bracket* from the *Paper Feeder* with four screws.
9. Mount the *Paper Feeder* (Section 4.2.86).
10. Mount the *PWBA PS* (Section 4.2.86).
11. Mount the *Plate Handle* (Section 4.2.73).
12. Mount the *Plate Assy Left* (Section 4.2.71).
13. Mount the *Cover Right* (Section 4.2.7).
14. Mount the *Cover Assy Top* (Section 4.2.4).
15. Mount the *Cover Left* (Section 4.2.1).
16. Mount the *Cover Assy I/F* (Section 4.2.2).
17. Mount the *Chute MBF Assy* (Section 4.2.31).
18. Mount the *Cover Front L/H* (Section 4.2.10).
19. Mount the *Cover Assy Front* (Section 4.2.8).

4.2.29 Socket

4.2.29.1 Removal

1. Draw the *Cassette Assy* from the printer.
2. Remove the two screws securing the *Socket* to the *Paper Feeder* in the printer.

NOTE: *In the following steps, do not detach Paper Feeder and Socket far away because they are connected with the harness.*

3. Detach the *Socket* a little from the *Paper Feeder*.
4. Unplug the connector (P/J671) from the *Socket*.

4.2.29.2 Assembly

1. Plug the connector (P/J671) to the *Socket*.

NOTE: *In the following steps, do not allow the harness to get caught between Paper Feeder and Socket.*

2. Aligning the position exactly, insert the boss of *Socket* into a hole in the *Paper Feeder*.
3. Secure the *Socket* to the *Paper Feeder* with two screws.
4. Mount the *Cassette Assy* (Section 4.2.14).

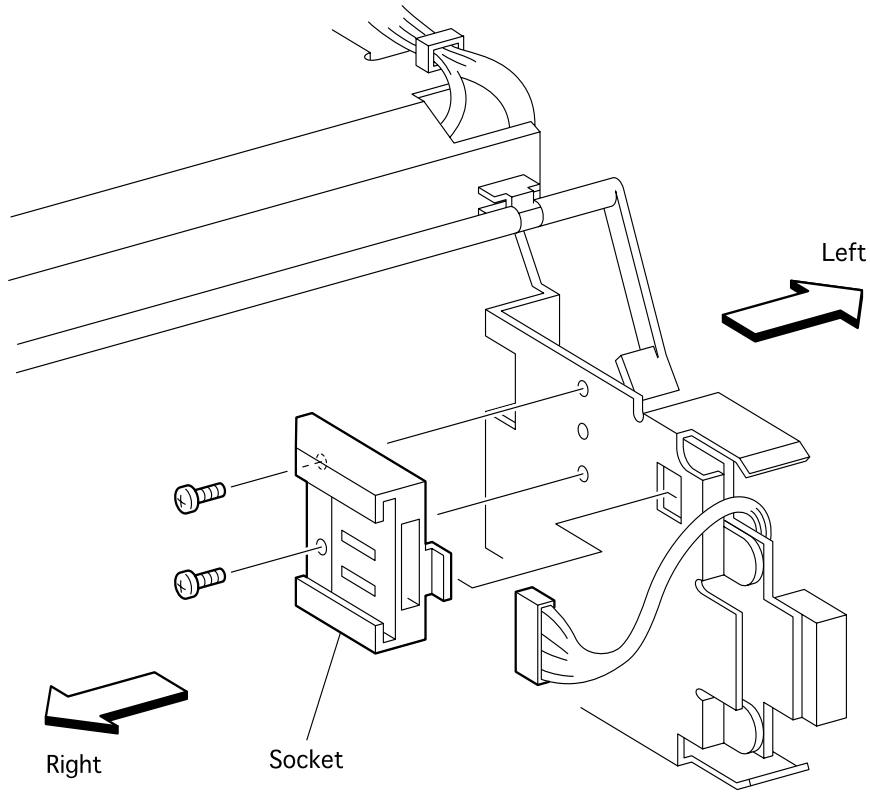


Figure 4-39. Socket Removal

4.2.30 Paper Feeder

4.2.30.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).
4. Remove the *Cover Assy I/F* (Section 4.2.2).
5. Remove the *Cover Left* (Section 4.2.1).
6. Remove the *Cover Assy Top* (Section 4.2.4).
7. Remove the *Cover Right* (Section 4.2.7).
8. Remove the *Plate Assy Left* (Section 4.2.71).
9. Remove the *Plate Handle* (Section 4.2.73).
10. Remove the *PWBA PS* (Section 4.2.86).
11. Remove the seven screws securing the *Paper Feeder* to the Printer
12. Draw the *Paper Feeder* toward the front to remove from the printer.

4.2.30.2 Assembly

1. Aligning the position exactly, insert the *Paper Feeder* into the printer.
2. Secure the *Paper Feeder* to the printer with seven screws.
3. Mount the *PWBA PS* (Section 4.2.86).
4. Mount the *Plate Handle* (Section 4.2.73).
5. Mount the *Plate Assy Left* (Section 4.2.71).
6. Mount the *Cover Right* (Section 4.2.7).
7. Mount the *Cover Assy Top* (Section 4.2.4).
8. Mount the *Cover Left* (Section 4.2.1).
9. Mount the *Cover Assy I/F* (Section 4.2.2).
10. Mount the *Chute MBF Assy* (Section 4.2.31).
11. Mount the *Cover Front L/H* (Section 4.2.10).
12. Mount the *Cover Assy Front* (Section 4.2.8).

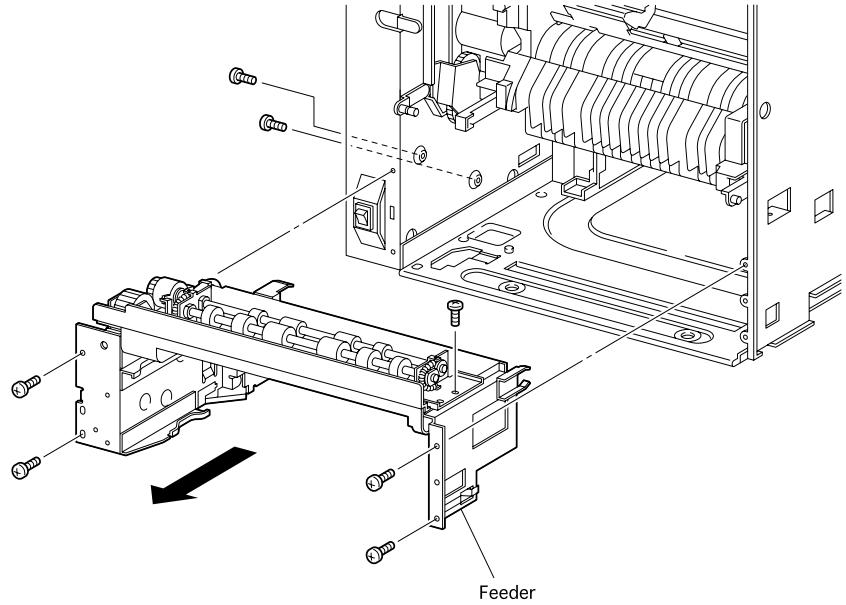


Figure 4-40. Paper Feeder Removal

4.2.31 Chute MBF Assy

4.2.31.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Unplug the connector (P/J44) of the *Chute MBF Assy*.
4. Unplug the connector (P/J45) of the *Chute MBF Assy*.
5. Unplug the connector (P/J231) of the *Chute MBF Assy*.
6. Release three clamps securing the harness of *Chute MBF Assy* to the printer.
7. Remove the four screws securing the *Chute MBF Assy* to the Printer
8. Remove the *Chute MBF Assy* from the printer.

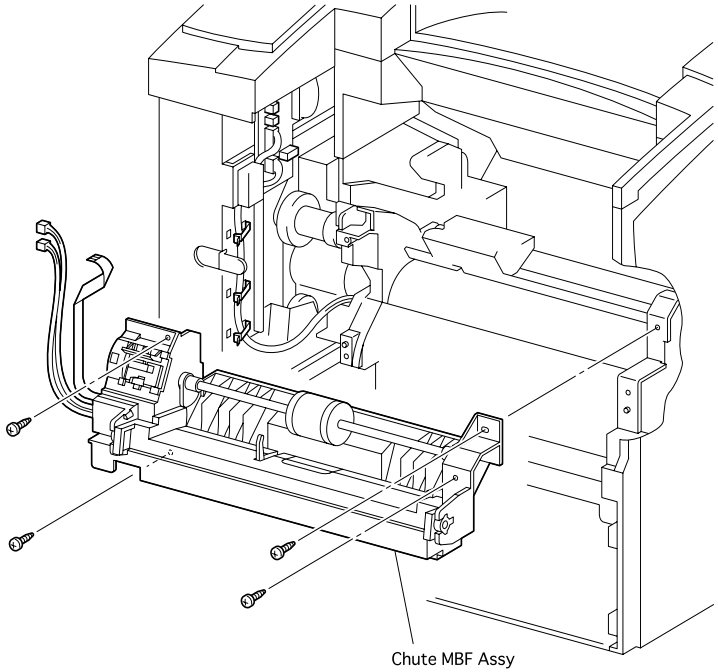


Figure 4-41. Chute MBF Assy Removal

4.2.31.2 Assembly

1. Align the *Chute MBF Assy* with its mount position to the Printer.
2. Secure the *Chute MBF Assy* to the printer with four screws.
3. Plug the connector (P/J44) in the *Chute MBF Assy*.
4. Plug the connector (P/J45) in the *Chute MBF Assy*.
5. Plug the connector (P/J231) in the *Chute MBF Assy*.
6. Secure the harness of *Chute MBF Assy* to the printer with three clamps.
7. Mount the *Cover Front L/H* (Section 4.2.10).
8. Mount the *Cover Assy Front* (Section 4.2.8).

4.2.32 Roll Assy MBF (with 3-6, 28)

4.2.32.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).
4. Remove the *Spring MSI 300* (Section 4.2.39).
5. Remove the *Gear Pick Up* (Section 4.2.40).
6. Unhook the right *Cam Pick Up MBF* secured to the *Shaft Assy MBF*, and shift the *Cam Pick Up MBF* to the left from the *Chute MBF Assy*.
7. Unhook the left *Cam Pick Up MBF* (left) secured to the *Shaft Assy MBF*, and shift the *Cam Pick Up MBF* (left) to the right from the *Chute MBF Assy*.
8. Aligning the boss of left shaft of *Shaft Assy MBF* with the left slit of *Chute MBF Assy*, move the *Roll Assy MBF* (with 3-6, 28) to the left, and remove the right shaft of *Shaft Assy MBF* from the *Bearing*.
9. Raising the right shaft of *Roll Assy MBF* (with 3-6, 28), draw off the *Roll Assy MBF* (with 3-6, 28) toward the diagonal right while passing the boss of left shaft of *Shaft Assy MBF* through the left slit of *Chute MBF Assy*.

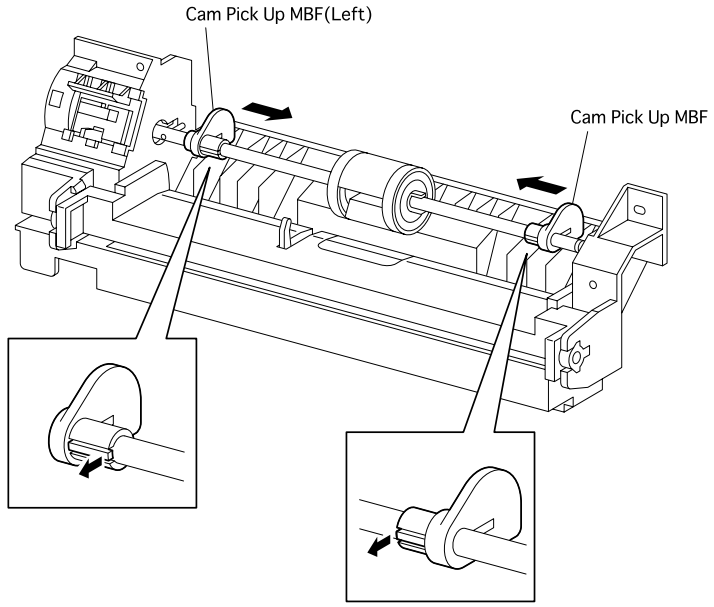


Figure 4-42. Roll Assy MBF Removal (1)

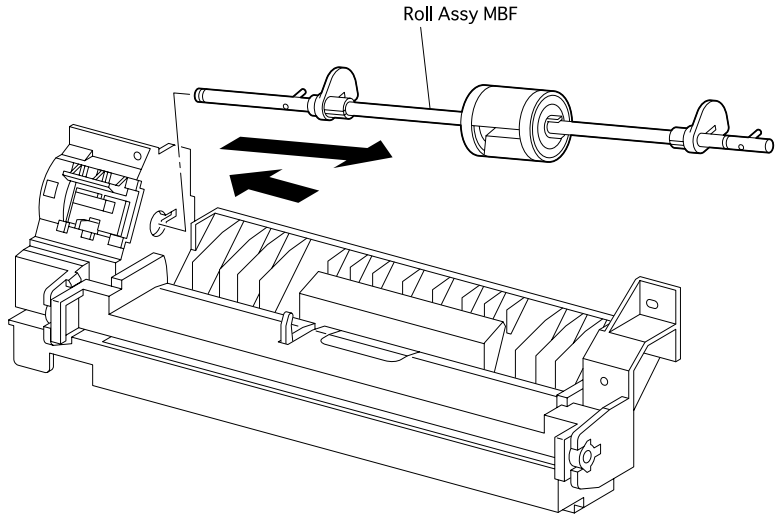


Figure 4-43. Roll Assy MBF Removal (2)

4.2.32.2 Assembly

1. Insert the boss of left shaft of *Shaft Assy MBF* into the left slit of *Chute MBF Assy*.
2. Aligning the boss of left shaft of *Shaft Assy MBF* with the left slit of *Chute MBF Assy*, move the *Roll Assy MBF* (with 3-6) to the right, and insert the right shaft of *Shaft Assy MBF* into the *Bearing*.
3. Aligning the slit of left *Cam Pick Up MBF* on the *Shaft Assy MBF* with the left boss of *Shaft Assy MBF*, move the *Cam Pick Up MBF* to the left and secure it with a hook.
4. Aligning the slit of right *Cam Pick Up MBF* on the *Shaft Assy MBF* with the right boss of *Shaft Assy MBF*, move the *Cam Pick Up MBF* to the right and secure it with a hook.
5. Mount the *Gear Pick Up* (Section 4.2.40).
6. Mount the *Spring MSI 300* (Section 4.2.39).
7. Mount the *Chute MBF Assy* (Section 4.2.31).
8. Mount the *Cover Front L/H* (Section 4.2.10).
9. Mount the *Cover Assy Front* (Section 4.2.8).

4.2.33 Roll Assy MBF

4.2.33.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).
4. Unhook the right Core secured to the *Shaft Assy MBF*, and shift the *Core* to the right from the *Chute MBF Assy*.
5. Move the *Roll Assy MBF* to the right, which is secured to the *Shaft Assy MBF*, and raise it upward to remove from the *Chute MBF Assy*.

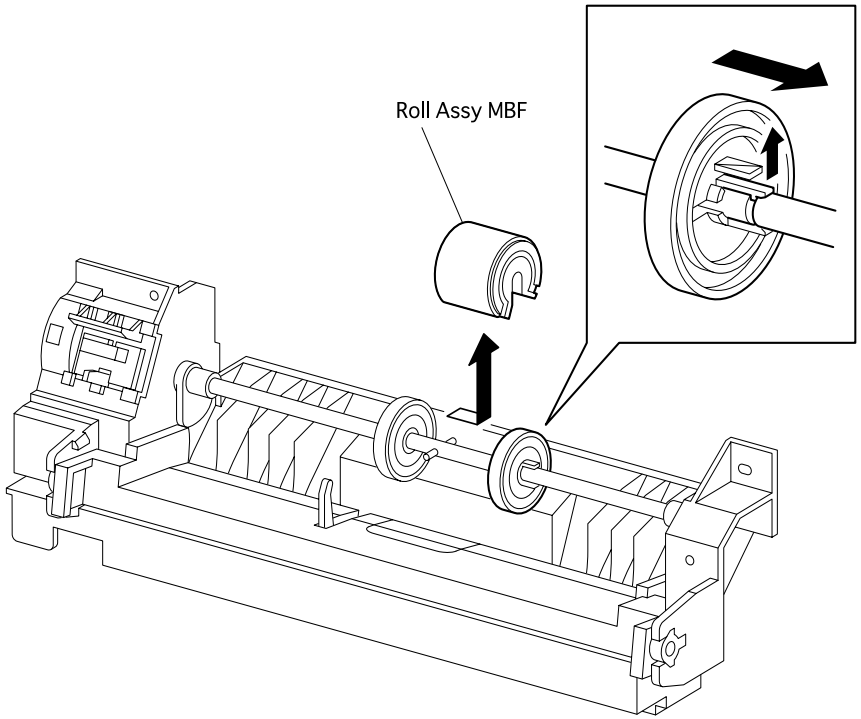


Figure 4-44. Roll Assy MBF Removal

4.2.33.2 Assembly

1. Aligning the position exactly, mount the *Roll Assy MBF* on the shaft of *Shaft Assy MBF* from the *Chute MBF Assy*.
2. Aligning the groove of *Roll Assy MBF* with a boss of *Shaft Assy MBF*, move the *Roll Assy MBF* to the left, and secure the *Roll Assy MBF* to the *Shaft Assy MBF*.
3. Move the right *Core* on the *Shaft Assy MBF* to the left from the *Chute MBF Assy*, hook the *Core* to the groove of *Shaft Assy MBF*.
4. Mount the *Chute MBF Assy* (Section 4.2.31).
5. Mount the *Cover Front L/H* (Section 4.2.10).
6. Mount the *Cover Assy Front* (Section 4.2.8).

4.2.34 Tray Bottom Assy

4.2.34.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).
4. Remove the *Spring MSI 300* (Section 4.2.39).
5. Remove the *Gear Pick Up* (Section 4.2.40).
6. Remove the *Roll Assy MBF* (with3-6,28) (Section 4.2.32).
7. Disengaging two hooks that secure the *Tray Bottom Assy* to the *Chute MBF Assy*, open the *Tray Bottom Assy* toward the front.
8. Remove the *Tray Bottom Pick Up* (Section 4.2.42).
9. Unhook the right *Bearing Exit* secured to the *Tray Bottom Assy* from the *Chute MBF Assy*.
10. Unhook the left *Bearing Exit* secured to the *Tray Bottom Assy* from the *Chute MBF Assy*.
11. Remove the *Tray Bottom Assy* together with the left and right *Bearing Exits* from the *Chute MBF Assy*.
12. Remove the *Bearing Exits* from the left and right shafts of *Tray Bottom Assy*.

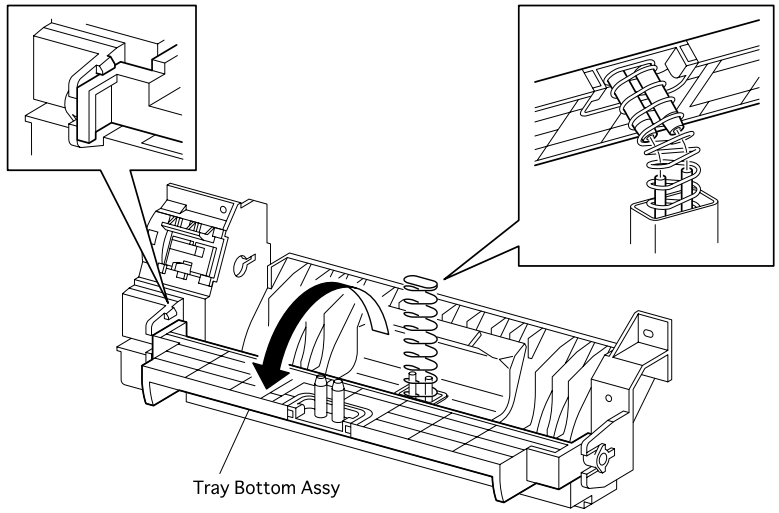


Figure 4-45. Tray Bottom Assy Removal (1)

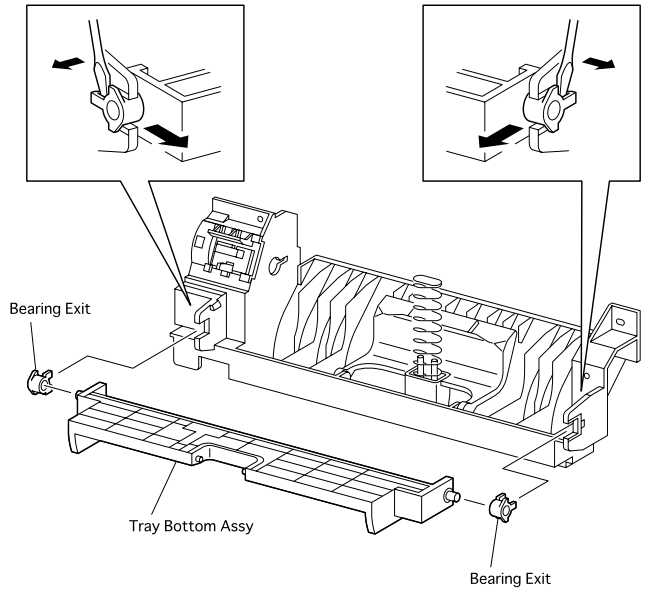


Figure 4-46. Tray Bottom Assy Removal (2)

4.2.34.2 Assembly

1. Mount the *Bearing Exits* on the left and right shafts of *Tray Bottom Assy*.
2. Aligning the position exactly, mount the *Tray Bottom Assy* together with the left and right *Bearing Exits* on the bearing section of *Chute MBF Assy*.
3. Secure the left shaft of *Tray Bottom Assy* to the *Chute MBF Assy* with a hook of *Bearing Exit*.
4. Secure the right shaft of *Tray Bottom Assy* to the *Chute MBF Assy* with a hook of *Bearing Exit*.
5. Mount the *Tray Bottom Pick Up* (Section 4.2.42).
6. Insert the *Spring Tray Bottom MBF* into two studs of *Tray Bottom Pick Up* from the *Chute MBF Assy*.
7. Deflecting the right hook of *Chute MBF Assy*, rotate the *Tray Bottom Assy* together with the *Tray Bottom Pick Up* toward the rear.
8. Insert two shafts of *Chute MBF Assy* into two stud holes of *Tray Bottom Pick Up* to secure the *Tray Bottom Assy* with left and right hooks of *Chute MBF Assy*.
9. Mount the *Roll Assy MBF* (with3-6, 28) (Section 4.2.32).
10. Mount the *Gear Pick Up* (Section 4.2.40).
11. Mount the *Spring MSI 300* (Section 4.2.39).
12. Mount the *Chute MBF Assy* (Section 4.2.31).
13. Mount the *Cover Front L/H* (Section 4.2.10).
14. Mount the *Cover Assy Front* (Section 4.2.8).

4.2.35 Actuator N/P MBF

4.2.35.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).
4. Remove the *Spring MSI 300* (Section 4.2.39).
5. Remove the *Gear Pick Up* (Section 4.2.40).
6. Remove the *Roll Assy MBF* (with3-6, 28) (Section 4.2.32).
7. Disengaging two hooks that secure the *Tray Bottom Assy* to the *Chute MBF Assy*, open the *Tray Bottom Assy* toward the front.
8. Remove the *Tray Bottom Pick Up* (Section 4.2.42).
9. Disengaging two hooks that secure the *Actuator N/P MBF* to the back of *Tray Bottom*, remove the *Actuator N/P MBF* from the *Chute MBF Assy*.

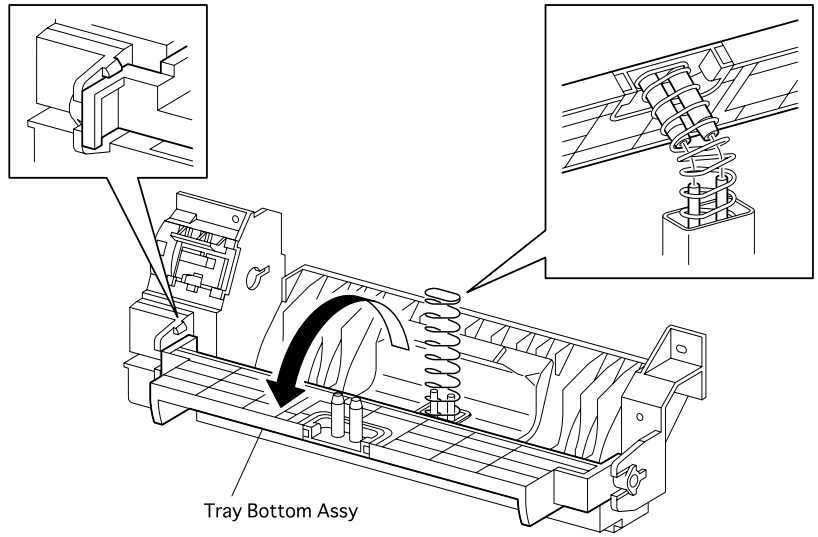


Figure 4-47. Actuator N/P MBF Removal (1)

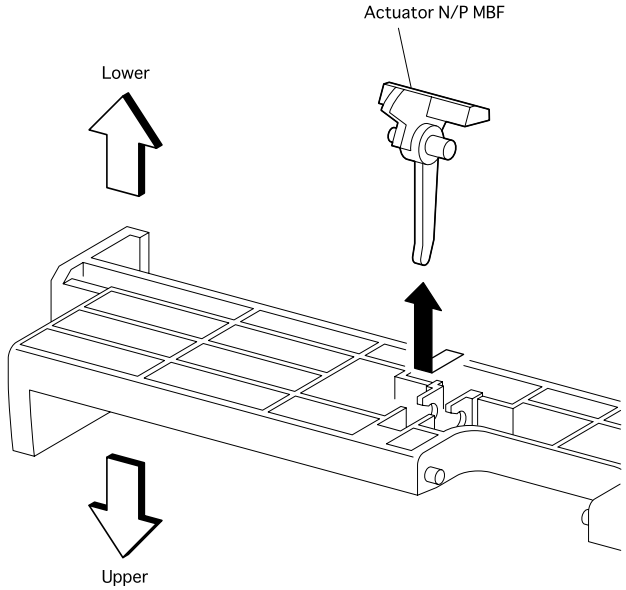


Figure 4-48. Actuator N/P MBF Removal (2)

4.2.35.2 Assembly

1. Aligning the position exactly, mount the *Actuator N/P MBF* on the back of *Tray Bottom* in the *Chute MBF Assy*.
2. Secure the shaft of *Actuator N/P MBF* to two hooks on the back of *Tray Bottom*.
3. Mount the *Tray Bottom Pick Up* (Section 4.2.42).
4. Insert the *Spring Tray Bottom MBF* into two studs of *Tray Bottom Pick Up* from the *Chute MBF Assy*.
5. Deflecting the right hook of *Chute MBF Assy*, rotate the *Tray Bottom Assy* together with the *Tray Bottom Pick Up* toward the rear.
6. Insert two shafts of *Chute MBF Assy* into two stud holes of *Tray Bottom Pick Up* to secure the *Tray Bottom Assy* with left and right hooks of *Chute MBF Assy*.
7. Mount the *Roll Assy MBF* (with3-6, 28) (Section 4.2.32).
8. Mount the *Gear Pick Up* (Section 4.2.40).
9. Mount the *Spring MSI 300* (Section 4.2.39).
10. Mount the *Chute MBF Assy* (Section 4.2.31).
11. Mount the *Cover Front L/H* (Section 4.2.10).
12. Mount the *Cover Assy Front* (Section 4.2.8).

4.2.36 Pad Assy Retard

4.2.36.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).
4. Remove the *Spring MSI 300* (Section 4.2.39).
5. Remove the *Gear Pick Up* (Section 4.2.40).
6. Remove the *Roll Assy MBF* (with3-6, 28) (Section 4.2.32).
7. Disengaging two hooks that secure the *Tray Bottom Assy* to the *Chute MBF Assy*, open the *Tray Bottom Assy* toward the front.
8. Remove the *Tray Bottom Pick Up* (Section 4.2.42).
9. Deflecting the left bracket of *Pad Assy Retard* from the *Chute MBF Assy*, disengage the hole in the *Pad Assy Retard* from the boss of *Chute MBF Assy*.
10. Deflecting the right bracket of *Pad Assy Retard* from the *Chute MBF Assy*, disengage the hole in the *Pad Assy Retard* from the boss of *Chute MBF Assy*, and remove the *Pad Assy Retard*.

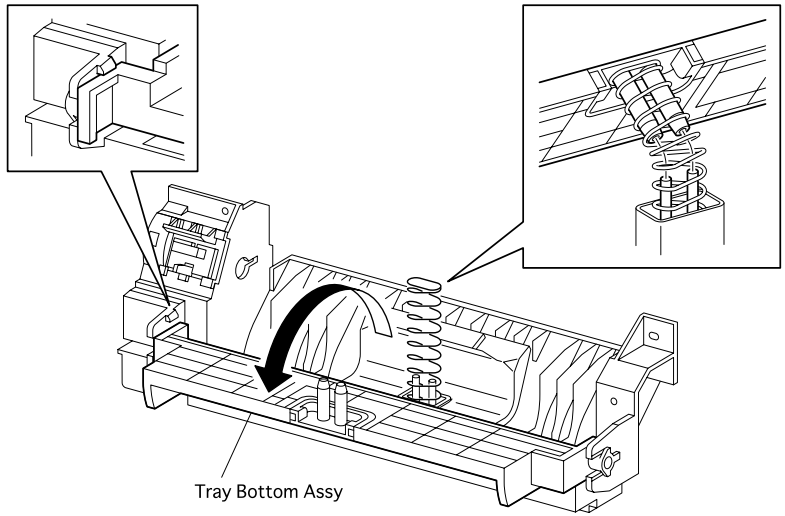


Figure 4-49. Pad Assy Retard Removal (1)

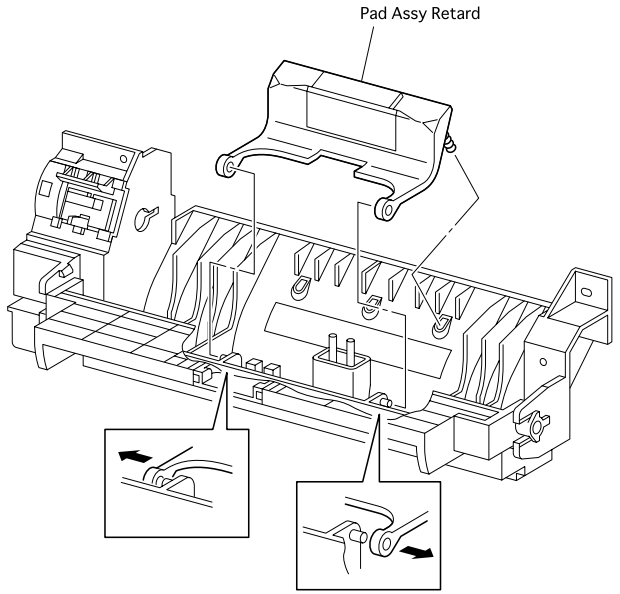


Figure 4-50. Pad Assy Retard Removal (2)

4.2.36.2 Assembly

1. Engage the hole in the right bracket of *Pad Assy Retard* with the right boss of *Chute MBF Assy*.
2. Deflecting the left bracket of *Pad Assy Retard*, engage the left boss of *Chute MBF Assy* with the hole in the right bracket of *Pad Assy Retard*.
3. Mount the *Tray Bottom Pick Up* (Section 4.2.42).
4. Insert the *Spring Tray Bottom MBF* into two studs of *Tray Bottom Pick Up* from the *Chute MBF Assy*.
5. Deflecting the right hook of *Chute MBF Assy*, rotate the *Tray Bottom Assy* together with the *Tray Bottom Pick Up* toward the rear.
6. Insert two shafts of *Chute MBF Assy* into two stud holes of *Tray Bottom Pick Up* to secure the *Tray Bottom Assy* with left and right hooks of *Chute MBF Assy*.
7. Mount the *Roll Assy MBF* (with3-6, 28) (Section 4.2.32).
8. Mount the *Gear Pick Up* (Section 4.2.40).
9. Mount the *Spring MSI 300* (Section 4.2.39).
10. Mount the *Chute MBF Assy* (Section 4.2.31).
11. Mount the *Cover Front L/H* (Section 4.2.10).
12. Mount the *Cover Assy Front* (Section 4.2.8).

4.2.37 Sensor Photo: Paper Set

4.2.37.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).
4. Remove the *Spring MSI 300* (Section 4.2.39).
5. Remove the *Gear Pick Up* (Section 4.2.40).
6. Remove the *Roll Assy MBF* (with3-6, 28) (Section 4.2.32).
7. Disengaging two hooks that secure the *Tray Bottom Assy* to the *Chute MBF Assy*, open the *Tray Bottom Assy* toward the front.
8. Remove the *Tray Bottom Pick Up* (Section 4.2.42).
9. Draw off the *Spring Tray Bottom MBF* from two studs in the *Chute MBF Assy*.
10. Unplug the connector (P/J451) from the *Sensor Photo: Paper Set*.
11. Disengage five hooks of *Sensor Photo: Paper Set*, and remove the *Sensor Photo: Paper Set* from the *Chute Assy MBF*.

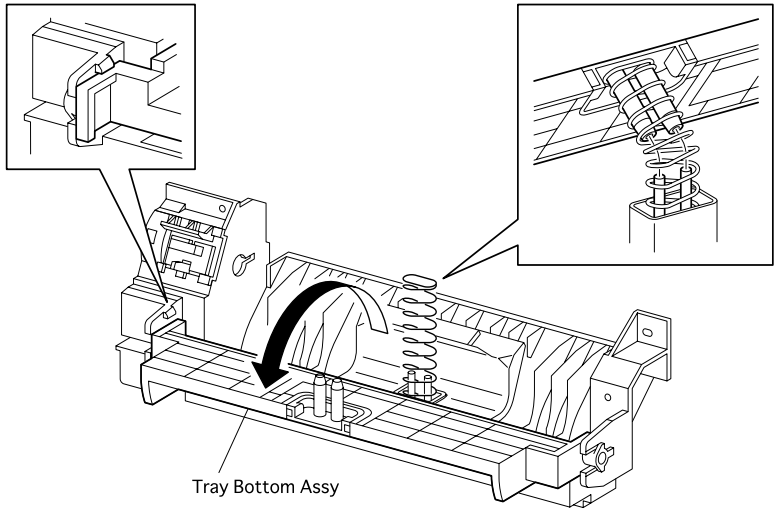


Figure 4-51. Removal of Sensor Photo: Paper Set (1)

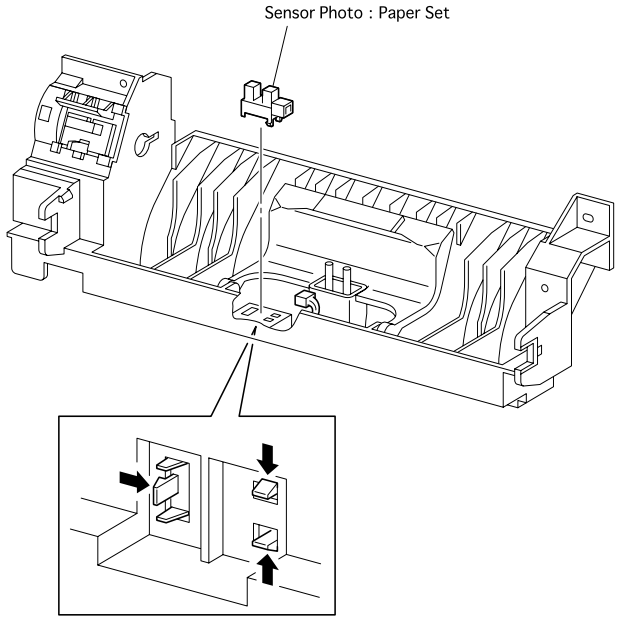


Figure 4-52. Removal of Sensor Photo: Paper Set (2)

4.2.37.2 Assembly

1. Aligning the position exactly, secure the *Sensor Photo: Paper Set* to the *Chute Assy MBF* with five hooks.
2. Plug the connector (P/J451) to the *Sensor Photo: Paper Set*.
3. Insert the *Spring Tray Bottom MBF* into two studs of *Chute MBF Assy*.
4. Mount the *Tray Bottom Pick Up* (Section 4.2.42).
5. Insert the *Spring Tray Bottom MBF* into two studs of *Tray Bottom Pick Up* from the *Chute MBF Assy*.
6. Deflecting the right hook of *Chute MBF Assy*, rotate the *Tray Bottom Assy* together with the *Tray Bottom Pick Up* toward the rear.
7. Insert two shafts of *Chute MBF Assy* into two stud holes of *Tray Bottom Pick Up* to secure the *Tray Bottom Assy* with left and right hooks of *Chute MBF Assy*.
8. Mount the *Roll Assy MBF* (with3-6, 28) (Section 4.2.32).
9. Mount the *Gear Pick Up* (Section 4.2.40).
10. Mount the *Spring MSI 300* (Section 4.2.39).
11. Mount the *Chute MBF Assy* (Section 4.2.31).
12. Mount the *Cover Front L/H* (Section 4.2.10).
13. Mount the *Cover Assy Front* (Section 4.2.8).

4.2.38 Solenoid Pick Up

4.2.38.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).
4. Remove the *Spring MSI 300* (Section 4.2.39).
5. Remove the *Gear Pick Up* (Section 4.2.40).
6. Remove the one screw securing the *Solenoid Pick Up* to the *Chute MBF Assy*.
7. Remove the *Solenoid Pick Up* from the *Chute MBF Assy*.

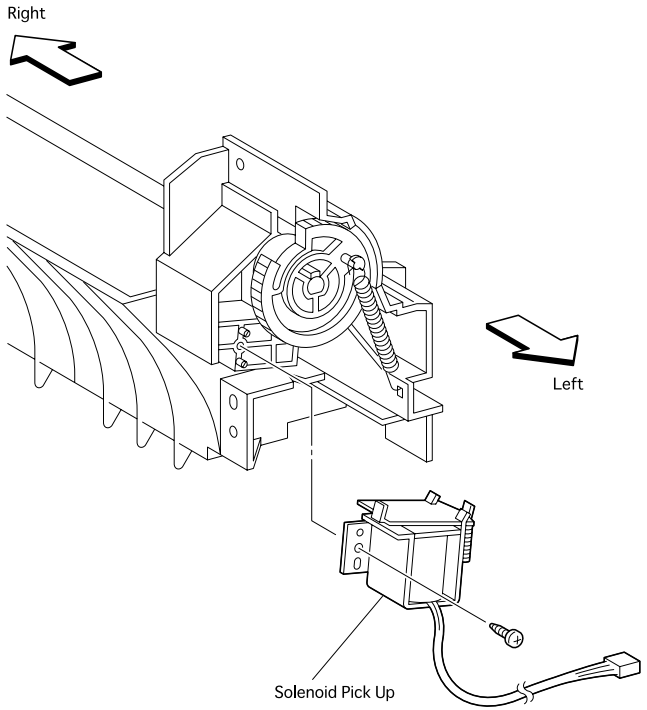


Figure 4-53. Removal of Solenoid Pick Up

4.2.38.2 Assembly

1. Align the *Solenoid Pick Up* with its mount position to the *Chute MBF Assy*.
2. Secure the *Solenoid Pick Up* to the *Chute MBF Assy* with one screw.
3. Mount the *Gear Pick Up* (Section 4.2.40).
4. Mount the *Spring MSI 300* (Section 4.2.39).
5. Mount the *Chute MBF Assy* (Section 4.2.31).
6. Mount the *Cover Front L/H* (Section 4.2.10).
7. Mount the *Cover Assy Front* (Section 4.2.8).

4.2.39 Spring MSI 300

4.2.39.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).
4. Unhook the *Spring MSI 300* secured to the *Gear Pick Up* from the *Chute MBF Assy*.
5. Unhook the *Spring MSI 300* secured to the hole in the *Chute MBF Assy*, and remove the *Spring MSI 300*.

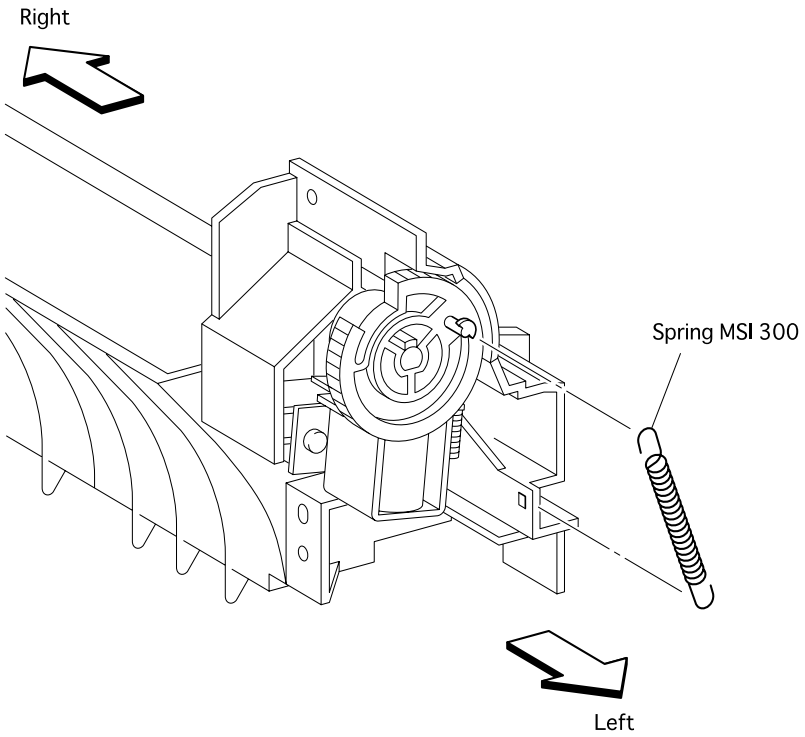


Figure 4-54. Spring MSI 300 Removal

4.2.39.2 Assembly

1. Hook the *Spring MSI 300* to the boss of *Gear Pick Up* of *Chute MBF Assy*.
2. Hook the *Spring MSI 300* to the hole in *Chute MBF Assy*.
3. Mount the *Chute MBF Assy* (Section 4.2.31).
4. Mount the *Cover Front L/H* (Section 4.2.10).
5. Mount the *Cover Assy Front* (Section 4.2.8).

4.2.40 Gear Pick Up

4.2.40.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).
4. Remove the *Spring MSI 300* (Section 4.2.39).
5. Unhook the *Gear Pick Up* secured to the *Shaft Assy MBF* from the *Chute MBF Assy*.
6. Draw the *Gear Pick Up* from the *Shaft Assy MBF*.

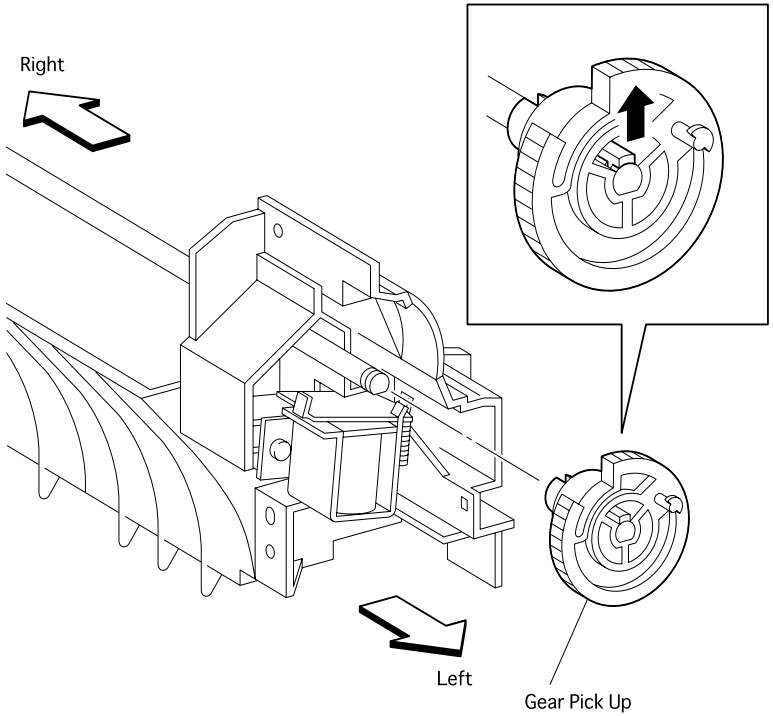


Figure 4-55. Gear Pick Up Removal

4.2.40.2 Assembly

1. Insert the *Gear Pick Up* into the left shaft of *Shaft Assy MBF* from the *Chute MBF Assy*.
2. Hook the *Gear Pick Up* to the groove in the shaft of *Shaft Assy MBF*.
3. Mount the *Spring MSI 300* (Section 4.2.39).
4. Mount the *Chute MBF Assy* (Section 4.2.31).
5. Mount the *Cover Front L/H* (Section 4.2.10).
6. Mount the *Cover Assy Front* (Section 4.2.8).

4.2.41 Connector Assy ENV

4.2.41.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).
4. Sliding the *Plate ENV Assy* toward the left, remove it from the *Chute Assy MBF*.
5. Remove the two screws securing the *Connector Assy ENV* to the *Plate ENV Assy*.
6. Remove the *Connector Assy ENV* from the *Plate ENV Assy*.

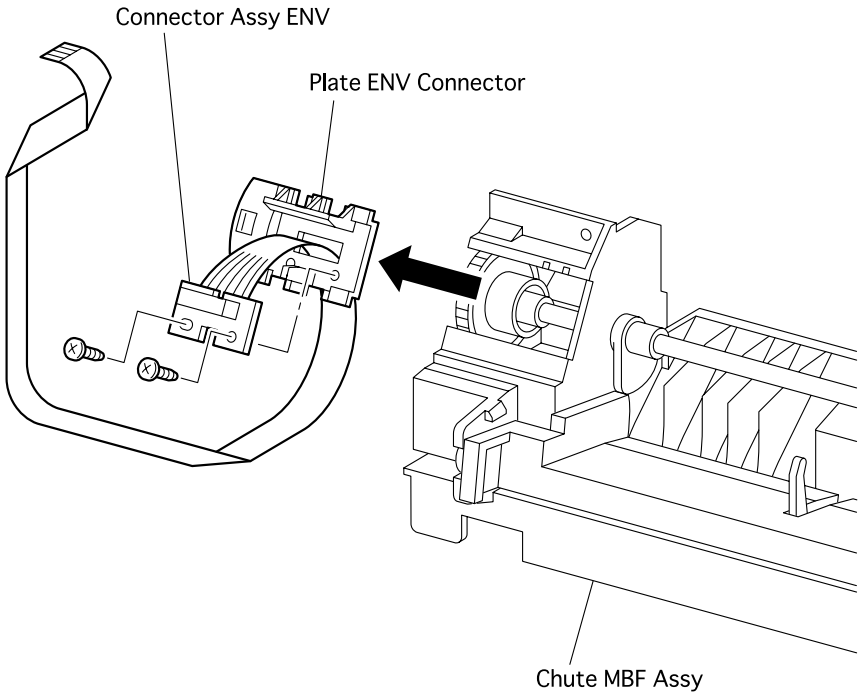


Figure 4-56. Connector Assy ENV Removal

4.2.41.2 Assembly

1. Align the *Connector Assy ENV* with its mount position to the *Plate ENV Assy*.
2. Secure the *Connector Assy ENV* to the *Plate ENV Assy* with two screws.
3. Sliding the *Plate ENV Assy* toward the right, mount it to the *Chute Assy MBF*.
4. Mount the *Chute MBF Assy* (Section 4.2.31).
5. Mount the *Cover Front L/H* (Section 4.2.10).
6. Mount the *Cover Assy Front* (Section 4.2.8).

4.2.42 Tray Bottom Pick Up

4.2.42.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).
4. Remove the *Spring MSI 300* (Section 4.2.39).
5. Remove the *Gear Pick Up* (Section 4.2.40).
6. Remove the *Roll Assy MBF* (with3-6, 28) (Section 4.2.32).
7. Disengaging two hooks that secure the *Tray Bottom Assy* to the *Chute MBF Assy*, open the *Tray Bottom Assy* toward the front.
8. Rotate the *Tray Bottom Pick Up* by about 90 degrees toward the front from the *Tray Bottom Assy*.
9. Remove the *Tray Bottom Pick Up* from the shaft of *Tray Bottom Assy*.

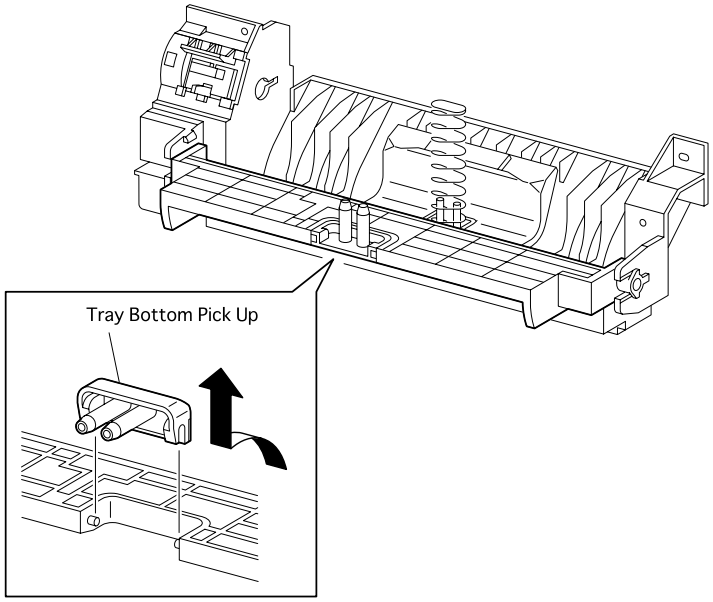


Figure 4-57. Tray Bottom Pick Up Removal

4.2.42.2 Assembly

1. Aligning the position exactly, mount the *Tray Bottom Pick Up* on the shaft of *Tray Bottom Assy* from the *Chute MBF Assy*.
2. Rotate the *Tray Bottom Pick Up* by about 90 degrees toward the rear from the *Tray Bottom Assy*.
3. Insert the *Spring Tray Bottom MBF* into two studs of *Tray Bottom Pick Up* from the *Chute MBF Assy*.
4. Deflecting the right hook of *Chute MBF Assy*, rotate the *Tray Bottom Assy* together with the *Tray Bottom Pick Up* toward the rear.
5. Insert two shafts of *Chute MBF Assy* into two stud holes of *Tray Bottom Pick Up* to secure the *Tray Bottom Assy* with left and right hooks of *Chute MBF Assy*.
6. Mount the *Roll Assy MBF* (with3-6, 28) (Section 4.2.32).
7. Mount the *Gear Pick Up* (Section 4.2.40).
8. Mount the *Spring MSI 300* (Section 4.2.39).
9. Mount the *Chute MBF Assy* (Section 4.2.31).
10. Mount the *Cover Front L/H* (Section 4.2.10).
11. Mount the *Cover Assy Front* (Section 4.2.8).

4.2.43 P/H Assy

4.2.43.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).
4. Remove the *Shaft 14* (Section 4.2.52).
5. Remove the *Gear 14* (Section 4.2.52).
6. Unplug the connector (P/J42) in the *P/H Assy*.
7. Unplug the connector (P/J43) in the *P/H Assy*.
8. Release three clamps on the harness of *P/H Assy*.
9. Remove the five screws securing the *P/H Assy* to the printer.
10. Raising a little the right end of *P/H Assy* to shift to the right, remove the *P/H Assy* upward from the printer.

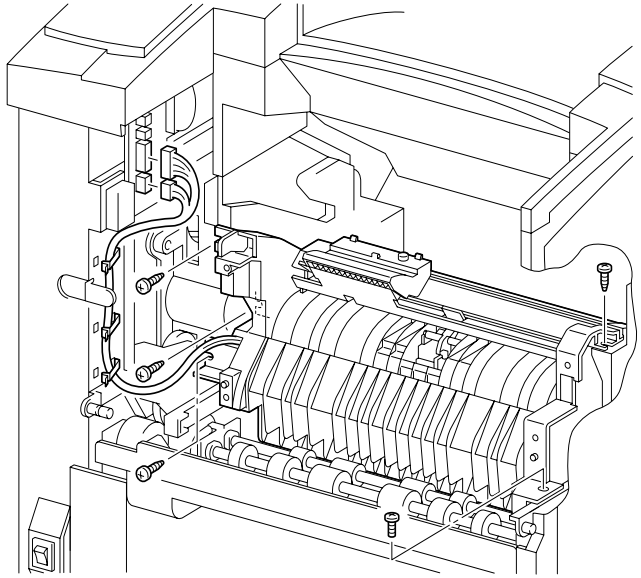


Figure 4-58. P/H Assy Removal (1)

4.2.43.2 Assembly

1. Insert the *P/H Assy* from diagonal right into the printer, and align the position.
2. Secure the *P/H Assy* to the printer with five screws.
3. Secure the harness of *P/H Assy* with three clamps.
4. Plug the connector (P/J42) in the *P/H Assy*.
5. Plug the connector (P/J43) in the *P/H Assy*.
6. Mount the *Gear 14* (Section 4.2.52).
7. Mount the *Shaft 14* (Section 4.2.52).
8. Mount the *Chute MBF Assy* (Section 4.2.31).
9. Mount the *Cover Front L/H* (Section 4.2.10).
10. Mount the *Cover Assy Front* (Section 4.2.8).

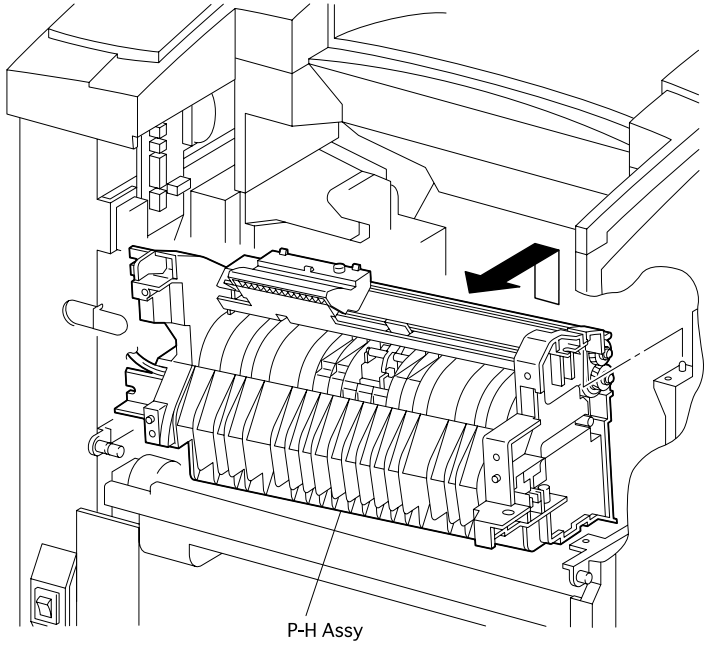


Figure 4-59. P/H Assy Removal (2)

4.2.44 Roll Regi Rubber

4.2.44.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).
4. Remove the *Shaft 14* (Section 4.2.52).
5. Remove the *Gear 14* (Section 4.2.52).
6. Remove the *P/H Assy* (Section 4.2.43).
7. Remove the *Spring Regi* (Section 4.2.48).
8. Remove the *Gear Regi Metal* (Section 4.2.49).
9. Remove the *Gear Regi Rubber* (Section 4.2.50).
10. Remove the *Clutch Regi* (Section 4.2.51).
11. Disengage the left E-ring that secures the *Roll Regi Metal* to the *P/H Assy*.
12. Unhook the *Spring Torsion* from the notch of *Chute Upper Assy*.
13. Move the Spring Torsion to the left from the *P/H Assy*, avoiding the boss of *Bearing Metal R*.
14. Closing the *Chute Upper Assy* and *Chute Inlet*, align the boss of *Bearing Metal R* with the right slit, and draw the *Bearing Metal R* from the *P/H Assy*.
15. Closing the *Chute Upper Assy* and *Chute Inlet*, align the boss of *Bearing Metal* with the left slit, and draw the *Bearing Metal* from the *P/H Assy*.
16. Draw upward the right shaft of *Roll Regi Metal* from the right bearing of *P/H Assy*.
17. Draw diagonal rightward the *Roll Regi Metal* together with *Chute Upper Assy* and *Chute Inlet* from the *P/H Assy*.
18. Remove the *Bearing Rubber R* that secures the *Roll Regi Rubber* to the *P/H Assy*.
19. Remove the *Bearing Rubber L* that secures the *Roll Regi Rubber* to the *P/H Assy*.
20. Moving the *Roll Regi Rubber* to the right from the *P/H Assy*, draw the left shaft of *Roll Regi Rubber* from the left bearing bore of *P/H Assy*.
21. Draw upward the right shaft of *Roll Regi Rubber* from the bearing of *P/H Assy*, and draw diagonal rightward the *Roll Regi Rubber* from the *P/H Assy*.

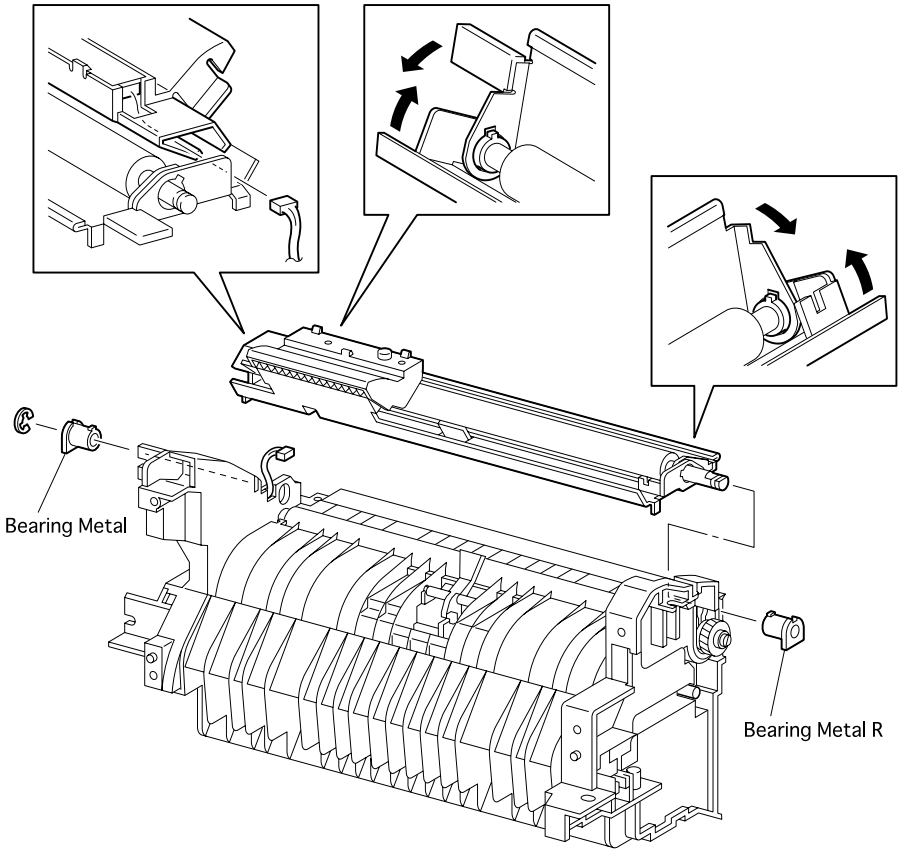


Figure 4-60. Roll Regi Rubber Removal (1)

4.2.44.2 Assembly

1. Insert the left shaft of *Roll Regi Rubber* into the left bearing bore of *P/H Assy*.
2. Insert the right shaft of *Roll Regi Rubber* into the right bearing of *P/H Assy*.
3. Insert the right shaft of *Roll Regi Rubber* into the left bearing bore of *P/H Assy*.
4. Secure the *Roll Regi Rubber* to the *P/H Assy* with the *Bearing Rubber L*.
5. Secure the *Roll Regi Rubber* to the *P/H* Assy with the *Bearing Rubber R*.
6. Insert the right shaft of *Roll Regi Metal* together with *Chute Upper Assy* and *Chute Inlet* into the left bearing bore of *P/H Assy*.
7. Insert the right shaft of *Roll Regi Metal* into the right bearing of *P/H Assy*.
8. Closing the *Chute Upper Assy* and *Chute Inlet* from the *P/H Assy*, engage the boss of *Bearing Metal* with the left slit, and secure the *Roll Regi Metal* with the *Bearing Metal*.
9. Closing the *Chute Upper Assy* and *Chute Inlet* from the *P/H Assy*, engage the boss of *Bearing Metal R* with the right slit, and secure the *Roll Regi Metal* with the B*earing Metal R*.
10. Moving the *Spring Torsion* to the right from *P/H Assy*, insert it into the *Bearing Metal R* while avoiding the boss of *Bearing Metal R*.
11. From the *P/H Assy*, hook the *Spring Torsion* to the notch of *Chute Upper Assy*.
12. Secure the left shaft of *Roll Regi Metal* to the *P/H Assy* with the E-ring.
13. Mount the *Clutch Regi* (Section 4.2.51).
14. Mount the *Gear Regi Rubber* (Section 4.2.50).
15. Mount the *Gear Regi Metal* (Section 4.2.49).
16. Mount the *Spring Regi* (Section 4.2.48).
17. Mount the *P/H Assy* (Section 4.2.43).
18. Mount the *Gear 14* (Section 4.2.52).
19. Mount the *Shaft 14* (Section 4.2.52).
20. Mount the *Chute MBF Assy* (Section 4.2.31).
21. Mount the *Cover Front L/H* (Section 4.2.10).
22. Mount the *Cover Assy Front* (Section 4.2.8).

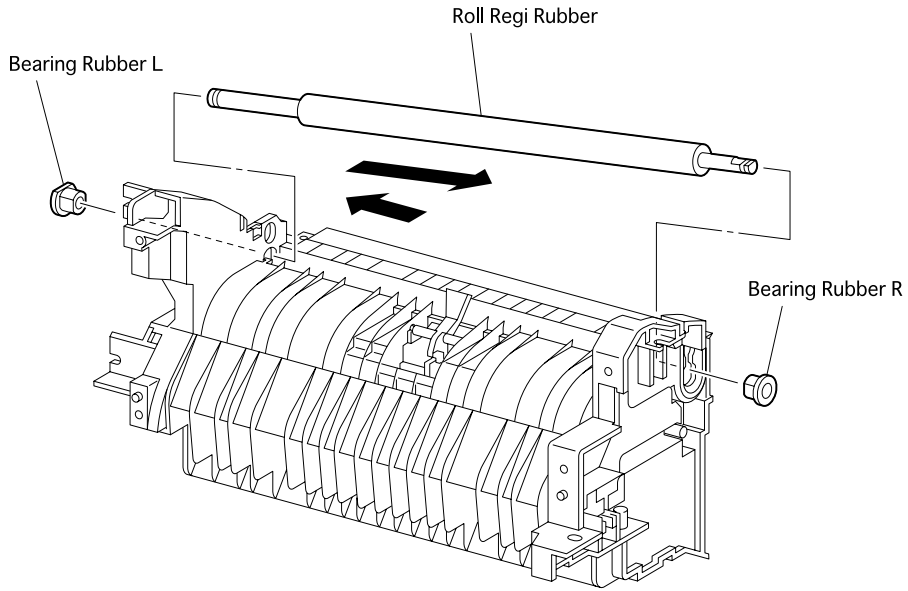


Figure 4-61. Roll Regi Rubber Removal (2)

4.2.45 Actuator Regi

4.2.45.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).
4. Remove the *Shaft 14* (Section 4.2.52).
5. Remove the *Gear 14* (Section 4.2.52).
6. Remove the *P/H Assy* (Section 4.2.43).
7. Open upward the *Chute Upper* together with *Holder Toner Sensor* from the *P/H Assy*.
8. Disengage the right hook of *Spring Sensor Regi* from the *P/H Assy*.
9. Holding the operating lever of *Actuator Regi*, move it to the left to remove the right shaft of *Actuator Regi* toward the upper right from the *P/H Assy*.
10. Remove the *Spring Sensor Regi* inserted in the shaft of *Actuator Regi*.

4.2.45.2 Assembly

1. Insert the *Spring Sensor Regi* into the right shaft of *Actuator Regi*.
2. Holding the operating lever of *Actuator Regi*, insert the left shaft into the left hole in the *P/H Assy*.
3. Holding the operating lever of *Actuator Regi*, push the bracket of *P/H Assy* with the left shaft to deflect, and insert the right shaft of *Actuator Regi* into the right hole in the *P/H Assy*.
4. Engage the left hook of *Spring Sensor Regi* with the back of operating lever of *Actuator Regi*, and engage the right hook with the right hole in the *P/H Assy*.
5. Close downward the *Chute Upper* together with *Holder Toner Sensor* from the *P/H Assy*.
6. Mount the *P/H Assy*.
7. Mount the *Gear 14*.
8. Mount the *Shaft 14*.
9. Mount the *Chute MBF Assy*.
10. Mount the *Cover Front L/H*.
11. Mount the *Cover Assy Front*.

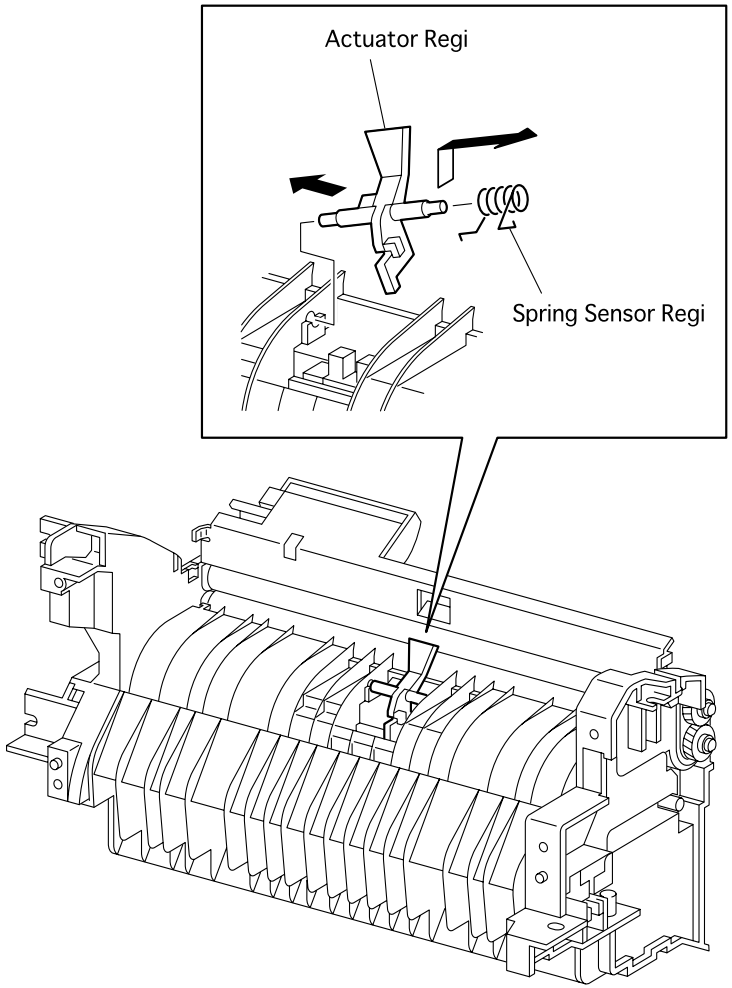


Figure 4-62. Actuator Regi Removal

4.2.46 Spring Sensor Regi

4.2.46.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).
4. Remove the *Shaft 14* (Section 4.2.52).
5. Remove the *Gear 14* (Section 4.2.52).
6. Remove the *P/H Assy* (Section 4.2.43).
7. Open upward the *Chute Upper* together with *Holder Toner Sensor* from the *P/H Assy*.
8. Disengage the right hook of *Spring Sensor Regi* from the *P/H Assy*.
9. Holding the operating lever of *Actuator Regi*, move it to the left to remove the right shaft of *Actuator Regi* toward the upper right from the *P/H Assy*.
10. Remove the *Spring Sensor Regi* inserted in the shaft of *Actuator Regi*.

4.2.46.2 Assembly

1. Insert the *Spring Sensor Regi* into the right shaft of *Actuator Regi*.
2. Holding the operating lever of *Actuator Regi*, insert the left shaft into the left hole in the *P/H Assy*.
3. Holding the operating lever of *Actuator Regi*, push the bracket of *P/H Assy* with the left shaft to deflect, and insert the right shaft of *Actuator Regi* into the right hole in the *P/H Assy*.
4. Engage the left hook of *Spring Sensor Regi* with the back of operating lever of *Actuator Regi*, and engage the right hook with the right hole in the *P/H Assy*.
5. Close downward the *Chute Upper* together with *Holder Toner Sensor* from the *P/H Assy*.
6. Mount the *P/H Assy* (Section 4.2.43).
7. Mount the *Gear 14* (Section 4.2.52).
8. Mount the *Shaft 14* (Section 4.2.52).
9. Mount the *Chute MBF Assy* (Section 4.2.31).
10. Mount the *Cover Front L/H* (Section 4.2.10).
11. Mount the *Cover Assy Front* (Section 4.2.8).

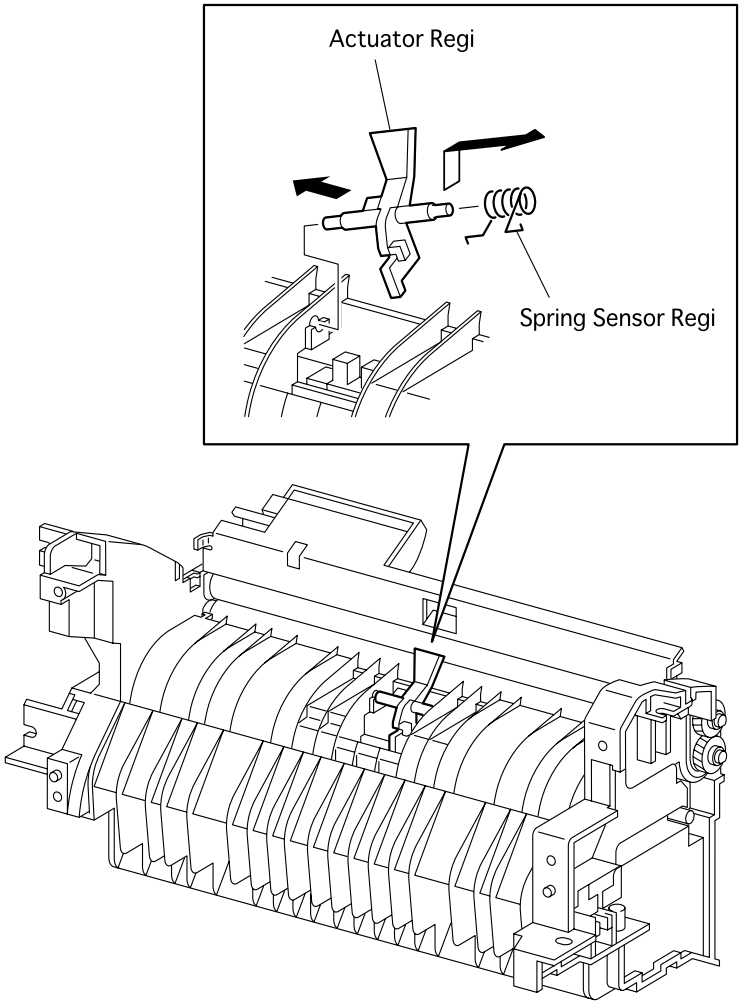


Figure 4-63. Spring Sensor Regi Removal

4.2.47 Sensor Photo: Regi

4.2.47.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).
4. Remove the *Shaft 14* (Section 4.2.52).
5. Remove the *Gear 14* (Section 4.2.52).
6. Remove the *P/H Assy* (Section 4.2.43).
7. Open upward the *Chute Upper* together with *Holder Toner Sensor* from the *P/H Assy*.
8. Remove the *Actuator Regi*.
9. Unplug the connector (P/J432) from the *Sensor Photo*.
10. Disengage three hooks that secure the *Sensor Photo*, and remove the *Sensor Photo* from the rear side of *P/H Assy*.

4.2.47.2 Assembly

1. Aligning the position exactly, secure the *Sensor Photo* to the *P/H Assy* with three hooks.
2. Plug the connector (P/J432) in the *Sensor Photo*.
3. Mount the *Actuator Regi*.
4. Close down-ward the *Chute Upper* together with *Holder Toner Sensor* from the *P/H Assy*.
5. Mount the *P/H Assy* (Section 4.2.43).
6. Mount the *Gear 14* (Section 4.2.52).
7. Mount the *Shaft 14* (Section 4.2.52).
8. Mount the *Chute MBF Assy* (Section 4.2.31).
9. Mount the *Cover Front L/H* (Section 4.2.10).
10. Mount the *Cover Assy Front* (Section 4.2.8).

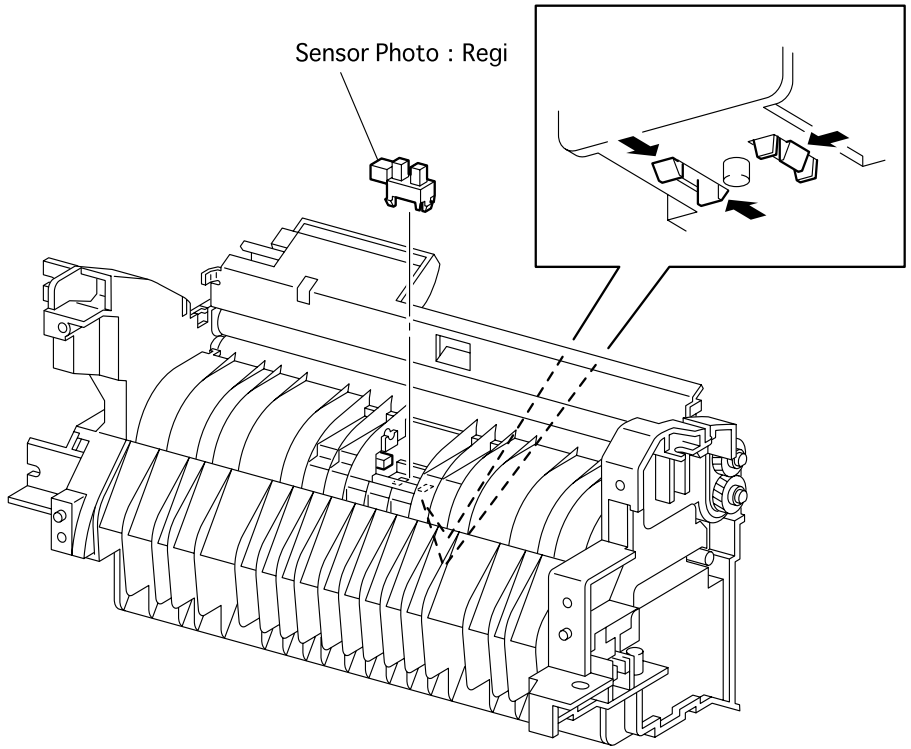


Figure 4-64. Sensor Photo: Regi

4.2.48 Spring Regi

4.2.48.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).
4. Remove the *Shaft 14* (Section 4.2.52).
5. Remove the *Gear 14* (Section 4.2.52).
6. Remove the *P/H Assy* (Section 4.2.43).
7. Using a small screwdriver, unhook the right *Spring Regi* secured to the *Bearing Metal R*.
8. Using a small screwdriver, unhook the right *Spring Regi* secured to the *Chute Bottom Upper*.
9. Using a small screwdriver, unhook the left *Spring Regi* secured to the *Bearing Metal L*.
10. Using a small screwdriver, unhook the left *Spring Regi* secured to the *Chute Bottom Upper*.
11. Draw downward the right *Spring Regi* from the *P/H Assy*.
12. Draw downward the left *Spring Regi* from the *P/H Assy*.

4.2.48.2 Assembly

1. From the left side of *P/H Assy*, pass the hook at the top of *Spring Regi* through a section between *Roll Regi Metal* and *Chute Inlet*.
2. From the *P/H Assy*, engage the hook at the top of left *Spring Regi* with the *Bearing Metal L*.
3. From the *P/H Assy*, engage the hook at the bottom of left *Spring Regi* with the *Screw Earth*.
4. From the right side of *P/H Assy*, pass the hook at the top of *Spring Regi* through a section between *Roll Regi Metal* and *Chute Inlet*.
5. From the *P/H Assy*, engage the hook at the top of right *Spring Regi* with the *Bearing Metal R*.
6. From the *P/H Assy*, engage the hook at the bottom of right *Spring Regi* with the *Screw Earth*.
7. Mount the *P/H Assy* (Section 4.2.43).
8. Mount the *Gear 14* (Section 4.2.52).
9. Mount the *Shaft 14* (Section 4.2.52).
10. Mount the *Chute MBF Assy* (Section 4.2.31).
11. Mount the *Cover Front L/H* (Section 4.2.10).
12. Mount the *Cover Assy Front* (Section 4.2.8).

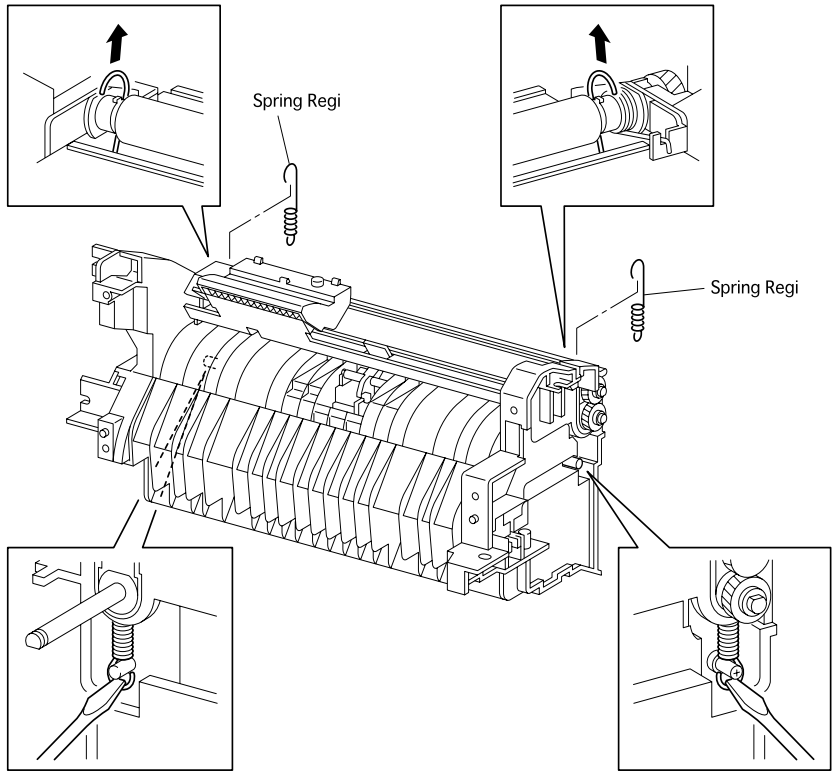


Figure 4-65. Spring Regi Removal

4.2.49 Gear Regi Metal

4.2.49.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).
4. Remove the *Shaft 14* (Section 4.2.52).
5. Remove the *Gear 14* (Section 4.2.52).
6. Remove the *P/H Assy* (Section 4.2.43).
7. Disengage the E-ring that secures the *Gear Regi Metal* from the *P/H Assy*.
8. Draw the *Gear Regi Metal* from the *P/H Assy*.

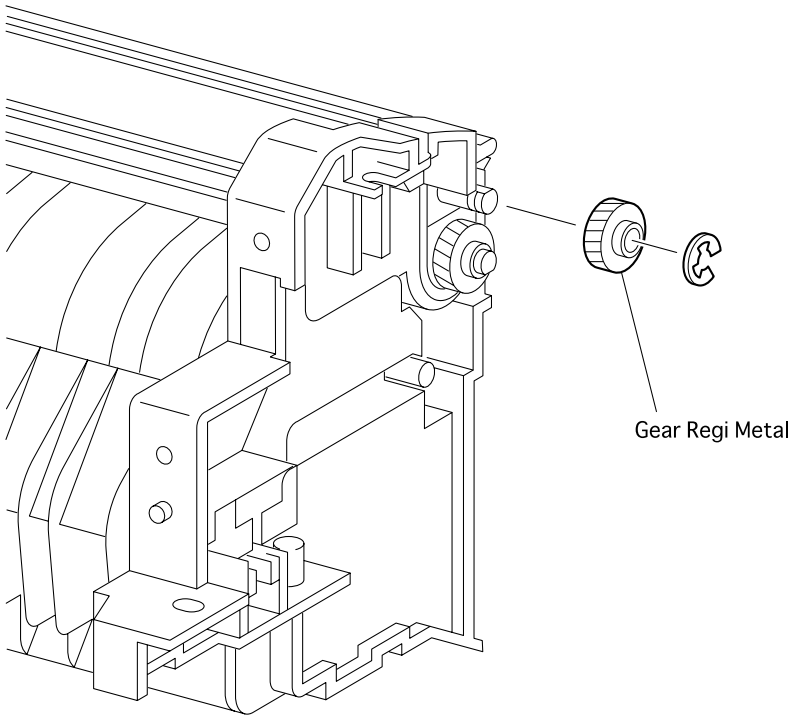


Figure 4-66. Gear Regi Metal Removal

4.2.49.2 Assembly

1. Mount the *Gear Regi Metal* on the *Roll Regi Metal* from the *P/H Assy*.
2. Secure the *Gear Regi Metal* to the *Roll Regi Metal* of *P/H Assy* with the E-ring.
3. Mount the *P/H Assy* (Section 4.2.43).
4. Mount the *Gear 14* (Section 4.2.52).
5. Mount the *Shaft 14* (Section 4.2.52).
6. Mount the *Chute MBF Assy* (Section 4.2.31).
7. Mount the *Cover Front L/H* (Section 4.2.10).
8. Mount the *Cover Assy Front* (Section 4.2.8).

4.2.50 Gear Regi Rubber

4.2.50.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).
4. Remove the *Shaft 14* (Section 4.2.52).
5. Remove the *Gear 14* (Section 4.2.52).
6. Remove the *P/H Assy* (Section 4.2.43).
7. Disengage the E-ring that secures the *Gear Regi Rubber* from the *P/H Assy*.
8. Draw the *Gear Regi Rubber* from the *P/H Assy*.

4.2.50.2 Assembly

1. Mount the *Gear Regi Rubber* on the *Roll Regi Rubber* of the *P/H Assy*.
2. Secure the *Gear Regi Rubber* to the *Roll Regi Rubber* from *P/H Assy* with the E-ring.
3. Mount the *P/H Assy* (Section 4.2.43).
4. Mount the *Gear 14* (Section 4.2.52).
5. Mount the *Shaft 14* (Section 4.2.52).
6. Mount the *Chute MBF Assy* (Section 4.2.31).
7. Mount the *Cover Front L/H* (Section 4.2.10).
8. Mount the *Cover Assy Front* (Section 4.2.8).

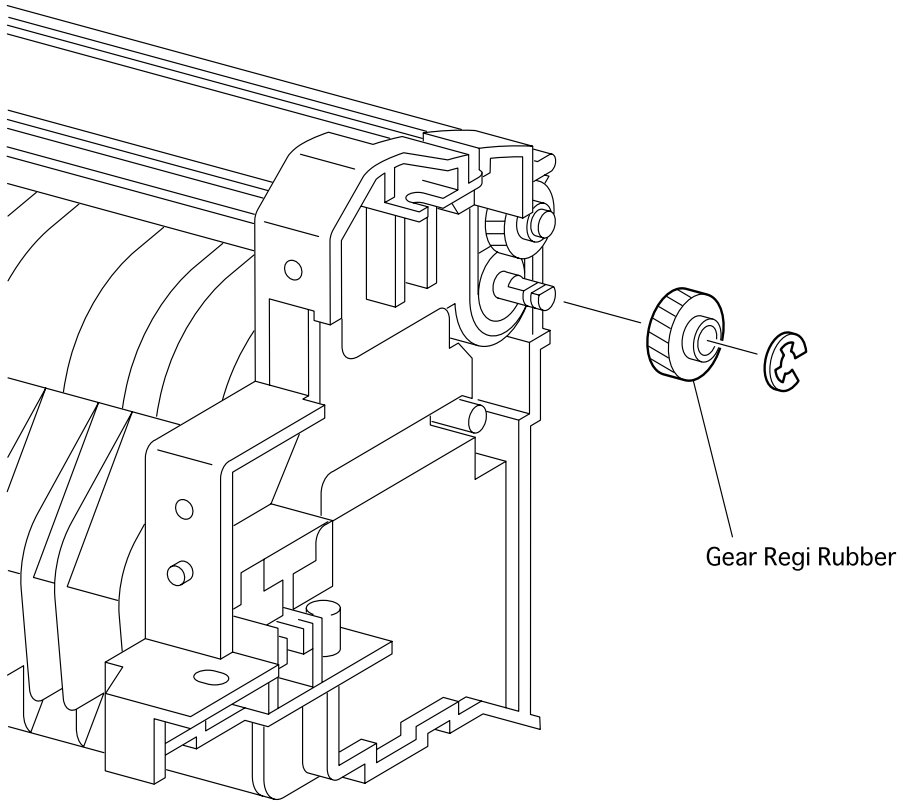


Figure 4-67. Gear Regi Rubber Removal

4.2.51 Clutch Regi

4.2.51.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).
4. Remove the *Shaft 14* (Section 4.2.52).
5. Remove the *Gear 14* (Section 4.2.52).
6. Remove the *P/H Assy* (Section 4.2.43).
7. Unplug the connector (P/J433) of the *Clutch Regi*.
8. Disengage the E-ring that secures the *Clutch Regi* from the *P/H Assy*.
9. Draw the *Clutch Regi* from the *P/H Assy*.

4.2.51.2 Assembly

1. Mount the *Clutch Regi* on the *Roll Regi Rubber* of the *P/H Assy*.
2. Secure the *Clutch Regi* to the *Roll Regi Rubber* from *P/H Assy* with the E-ring.
3. plug the connector (P/J433) in the *Clutch Regi*.
4. Mount the *P/H Assy* (Section 4.2.43).
5. Mount the *Gear 14* (Section 4.2.52).
6. Mount the *Shaft 14* (Section 4.2.52).
7. Mount the *Chute MBF Assy* (Section 4.2.31).
8. Mount the *Cover Front L/H* (Section 4.2.10).
9. Mount the *Cover Assy Front* (Section 4.2.8).

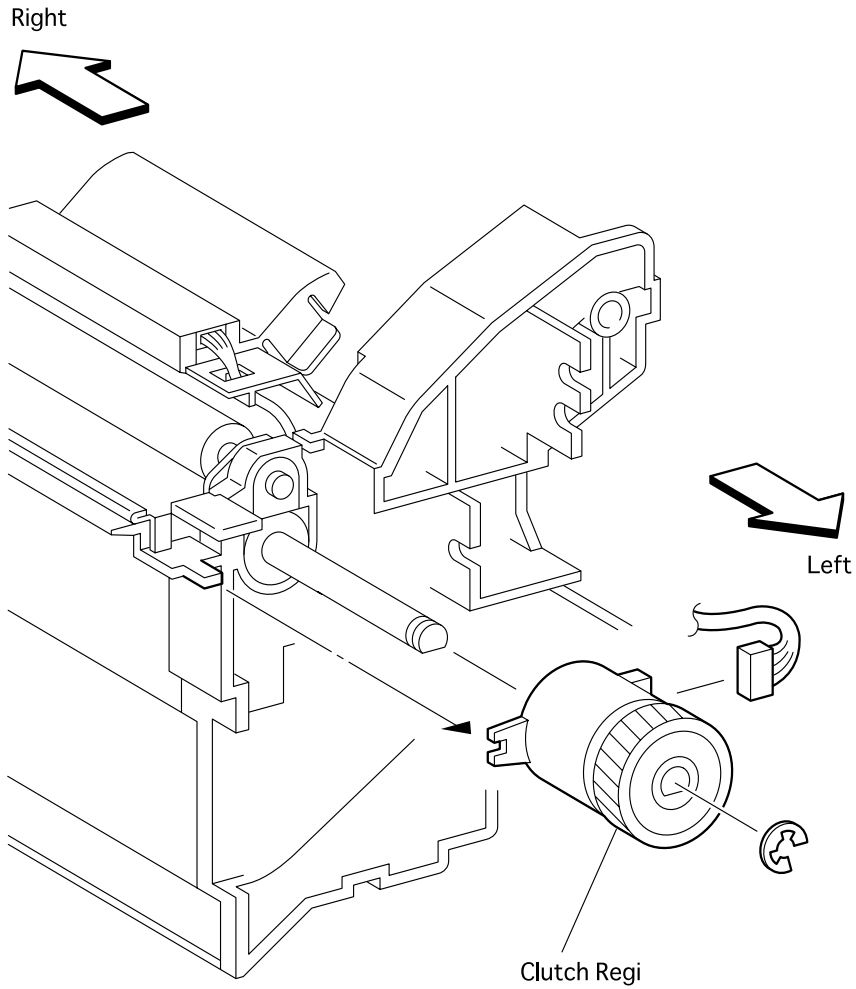


Figure 4-68. Clutch Regi Removal

4.2.52 Shaft 14 and Gear 14

4.2.52.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).

NOTE: *In the following steps, take care not to drop and then damage the Gear 14.*

4. Holding the Gear 14, draw off the Shaft 14 that secures the P/H Assy from the printer using long-nose pliers.
5. Remove the *Gear 14* from the printer.

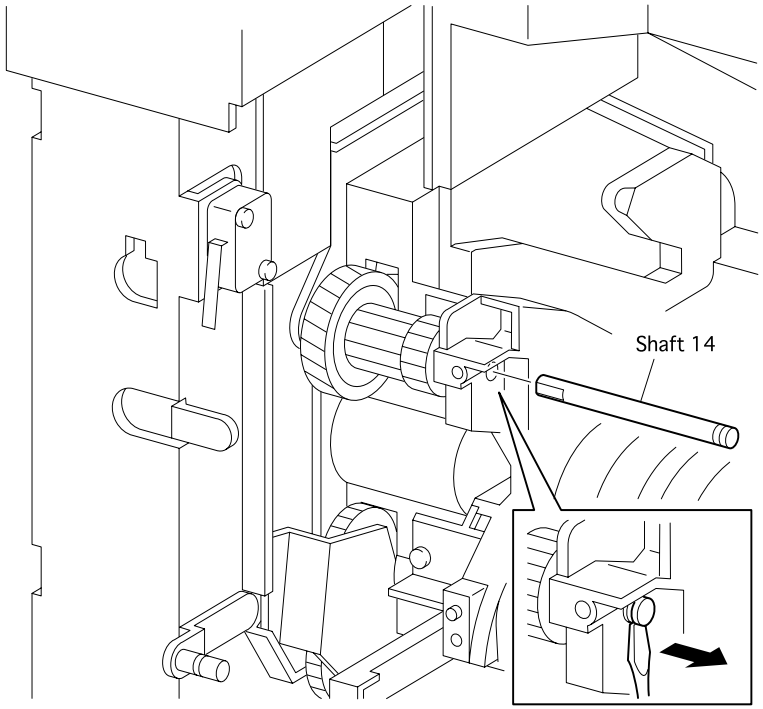


Figure 4-69. Shaft 14 Removal

4.2.52.2 Assembly

1. Align the *Gear 14* with its mount position to the printer.
2. Insert the *Shaft 14* from the hole in the *P/H Assy*, and secure the *Gear 14* to the printer.
3. Mount the *Chute MBF Assy* (Section 4.2.31).
4. Mount the *Cover Front L/H* (Section 4.2.10).
5. Mount the *Cover Assy Front* (Section 4.2.8).

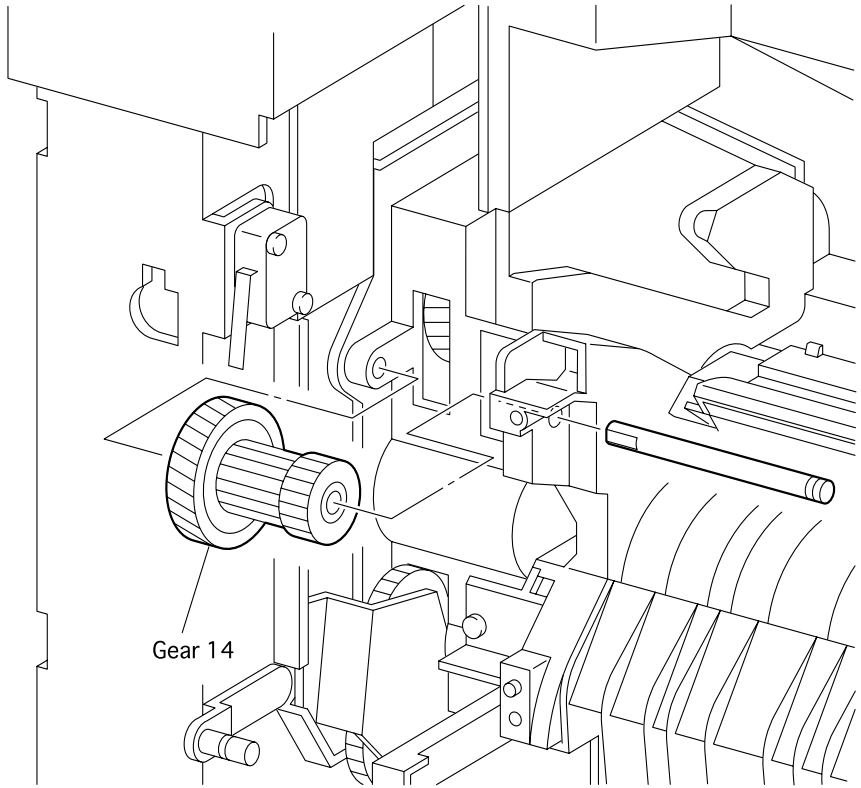


Figure 4-70. Gear 14 Removal

4.2.53 Toner Sensor

4.2.53.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).
4. Remove the *Shaft 14* (Section 4.2.52).
5. Remove the *Gear 14* (Section 4.2.52).
6. Remove the *P/H Assy* (Section 4.2.43).
7. Unplug the connector (P/J421) on the *Toner Sensor* from the *P-H Assy*.
8. Deflecting the left bracket of *Toner Sensor*, from the *P/H Assy*, disengage the left boss of the *Holder Toner Sensor* from a hole in the bracket of *Chute Upper Assy*.
9. Disengage the right boss of the *Holder Toner Sensor* from the hole in the right bracket of *Chute Upper Assy*, and remove the *Holder Toner Sensor* from the *P/H Assy* together with the *Toner Sensor* and the *Cushion TNS*.

4.2.53.2 Assembly

1. Align the *Toner Sensor Holder* with its mount position to the *P/H Assy*.
2. Engage the right boss of the *Holder Toner Sensor* with the hole in the right bracket of *Chute Upper Assy*.
3. Deflecting the left bracket of *Holder Toner Sensor*, from the *P/H Assy*, engage the left boss of *Holder Toner Sensor* with a hole in the bracket of *Chute Upper Assy.*
4. Plug the connector (P/J421) to the *Toner Sensor* from the *P-H Assy*.
5. Mount the *P/H Assy* (Section 4.2.43).
6. Mount the *Gear 14* (Section 4.2.52).
7. Mount the *Shaft 14* (Section 4.2.52).
8. Mount the *Chute MBF Assy* (Section 4.2.31).
9. Mount the *Cover Front L/H* (Section 4.2.10).
10. Mount the *Cover Assy Front* (Section 4.2.8).

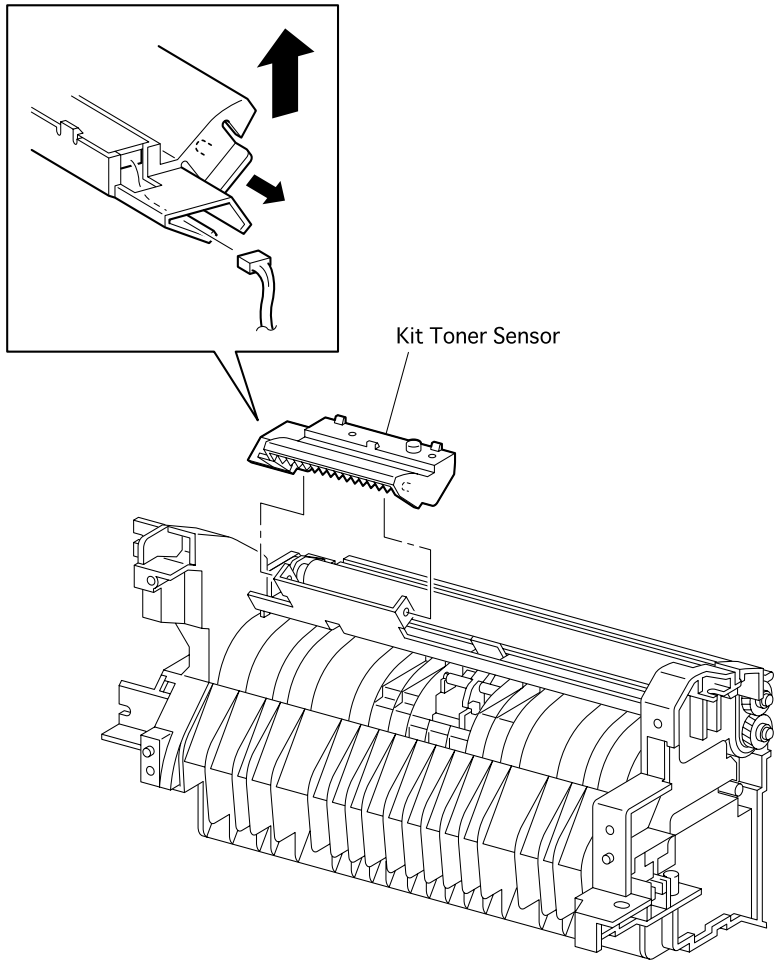


Figure 4-71. Toner Sensor Removal

4.2.54 BTR Assy

4.2.54.1 Removal

CAUTION

- **In the following steps, do not touch the roll surface of BTR Assy and the Detack Saw of Chute Trans Assy.**
- **In removing the *BTR Assy* from the printer, take care not to damage the roll of *BTR Assy*.**

NOTE: *After removing the BTR Assy, cover it with A3/Ledger size paper and store it at a safety place.*

1. Open the *Cover Assy Front* from the printer.
2. Push to unlock the left and right latches of *BTR Chute Assy* that secure the *BTR Assy* from the printer.
3. Holding the left and right knobs of *BTR Assy*, remove the *BTR Assy* from the *BTR Chute Assy*.

4.2.54.2 Assembly

CAUTION

- **In replacing the *BTR Assy* with a new one, peel off the stripping paper that protects the roll of *BTR Assy* before mounting.**
- **In the following steps, do not touch the roll surface of *BTR Assy* and the *Detack Saw* of *Chute Trans Assy*.**
- **In removing the BTR Assy from the printer, take care not to damage the roll of BTR Assy.**

1. Holding the left and right knobs of *BTR Assy*, engage the left and right shafts of *BTR Assy* with the left and right latches of *BTR Chute Assy* in the printer.
2. Pushing the left and right latches of *BTR Chute Assy*, secure the *BTR Assy*.
3. Mount the *Chute MBF Assy* (Section 4.2.31).
4. Mount the *Cover Assy Front* (Section 4.2.8).

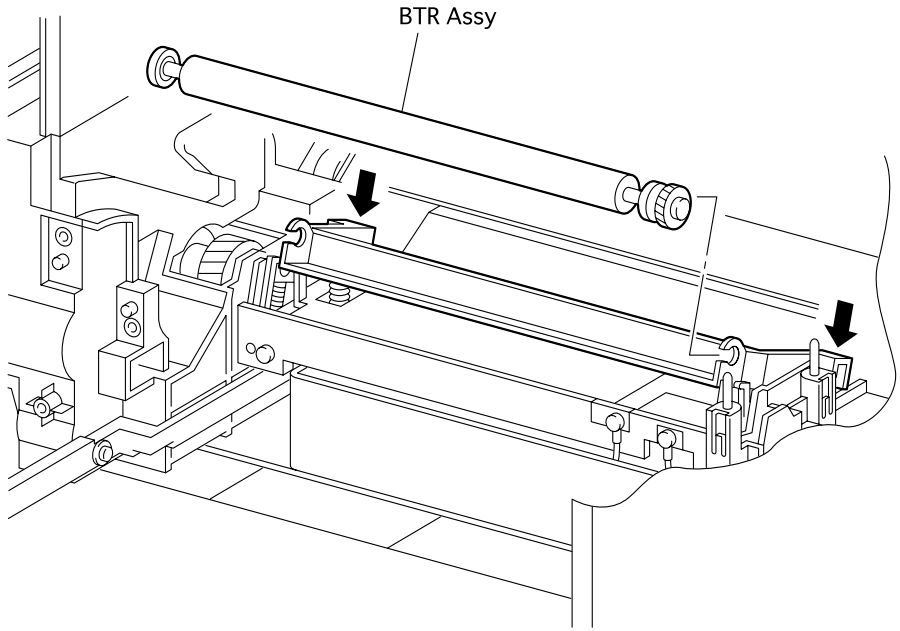


Figure 4-72. BTR Assy Removal

4.2.55 Chute Trans Assy

4.2.55.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).
4. Remove the *Shaft 14* (Section 4.2.52).
5. Remove the *Gear 14* (Section 4.2.52).
6. Remove the *P/H Assy* (Section 4.2.43).
7. Remove the *BTR Assy* (Section 4.2.54).
8. From the printer, remove the one screw securing the earth of *Wire Assy DTS* to the *Chute Trans Assy*.
9. From the printer, remove the one screw securing the earth of *Wire Assy TR* to the *Chute Trans Assy*.
10. Remove the two screws securing the *Chute Trans Assy* to the printer.
11. Remove the *Chute Trans Assy* from the printer.

4.2.55.2 Assembly

1. Align the *Chute Trans Assy* with its mount position to the printer.
2. Secure the *Chute Trans Assy* to the printer with two screws.
3. Secure the earth of *Wire Assy DTS* to the front left hole in the *Chute Trans Assy* with one screw.
4. Secure the earth of *Wire Assy TR* to the front right hole in the *Chute Trans Assy* with one screw.
5. Mount the *BTR Assy* (Section 4.2.54).
6. Mount the *P/H Assy* (Section 4.2.43).
7. Mount the *Gear 14* (Section 4.2.52).
8. Mount the *Shaft 14* (Section 4.2.52).
9. Mount the *Chute MBF Assy* (Section 4.2.31).
10. Mount the *Cover Front L/H* (Section 4.2.10).
11. Mount the *Cover Assy Front* (Section 4.2.8).

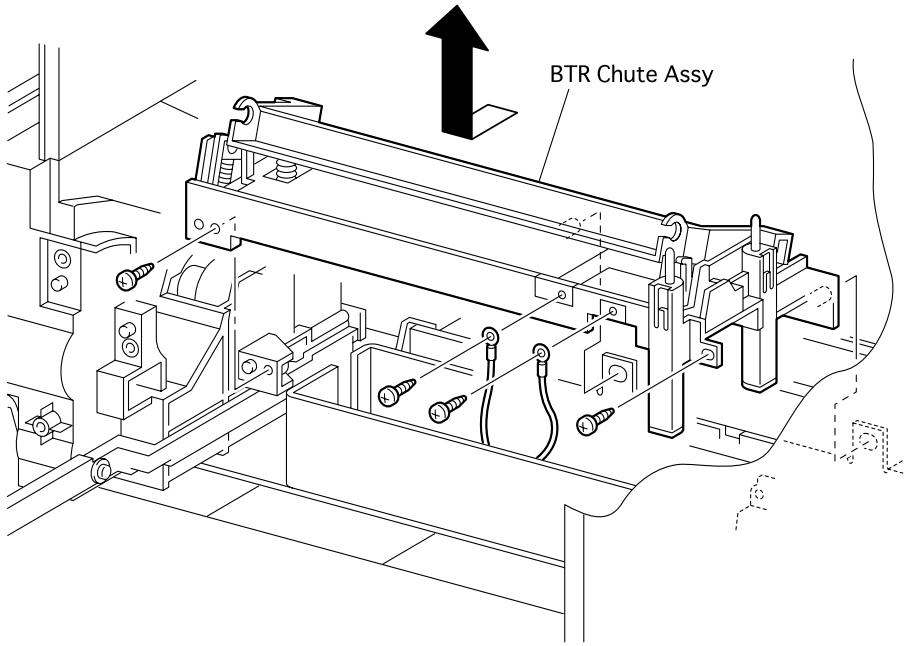


Figure 4-73. Chute Trans Assy Removal

4.2.56 Fuser Assy

4.2.56.1 Removal

1. Open the *Cover Rear* from the printer.
2. Remove the two screws securing the *Fuse Assy* to the printer.
3. Remove the *Fuser Assy* from the Printer.

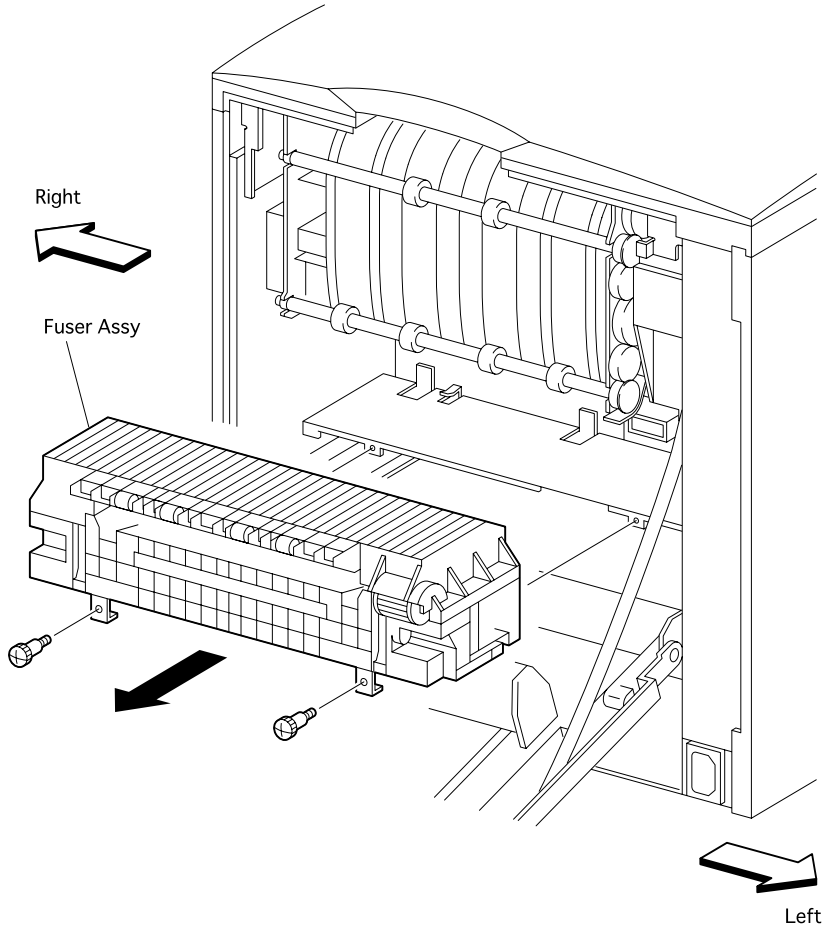


Figure 4-74. Fuser Assy Removal

4.2.56.2 Assembly

1. Align the *Fuser Assy* with its mount position to the printer.
2. Secure the *Fuser Assy* to the printer with two screws.
3. Close the *Cover Rear*.

4.2.57 Harness Assy Fuser-M

4.2.57.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Cover Rear* (Section 4.2.13).
4. Remove the *Fuser Assy* (Section 4.2.56).
5. Remove the *Cover Assy* I/F (Section 4.2.2).
6. Remove the *Cover Left* (Section 4.2.1).
7. Remove the *Cover Assy Top* (Section 4.2.4).
8. Remove the *Chute MBF Assy* (Section 4.2.31).
9. Remove the *Shaft 14* (Section 4.2.52).
10. Remove the *Gear 14* (Section 4.2.52).
11. Remove the *P/H Assy* (Section 4.2.43).
12. Remove the *Chute Trans Assy* (Section 4.2.55).
13. Remove the *Plate Assy Left* (Section 4.2.71).
14. Remove the *CRU Top Guide Assy* (Section 4.2.66).
15. Remove the *Plate Handle* (Section 4.2.73).
16. Remove the *PWBA MCU* (Section 4.2.84).
17. Remove the *Motor Assy Main* (Section 4.2.69).
18. Remove the *PWBA PS* (Section 4.2.86).
19. Remove the *Gear Assy Drive* (Section 4.2.68).
20. Unplug the connector (P/J262) on the *PWBA HVPS* from the printer.
21. Remove the one screw securing the *Housing HVPS* together with *PWBA HVPS* from the printer.
22. Remove the *Housing HVPS* together with *PWBA HVPS* from the printer.
23. Unplug the connector (P/J34) from the *PWBA MCU*.
24. Unplug the connector (P/J11) from the *PWBA PS*.
25. Pull the *Harness Assy Fuser-M* from the left hole in the printer.
26. Remove the two screws securing the *Harness Assy Fuser-M* to the printer.
27. Remove the *Harness Assy Fuser-M* from the printer.

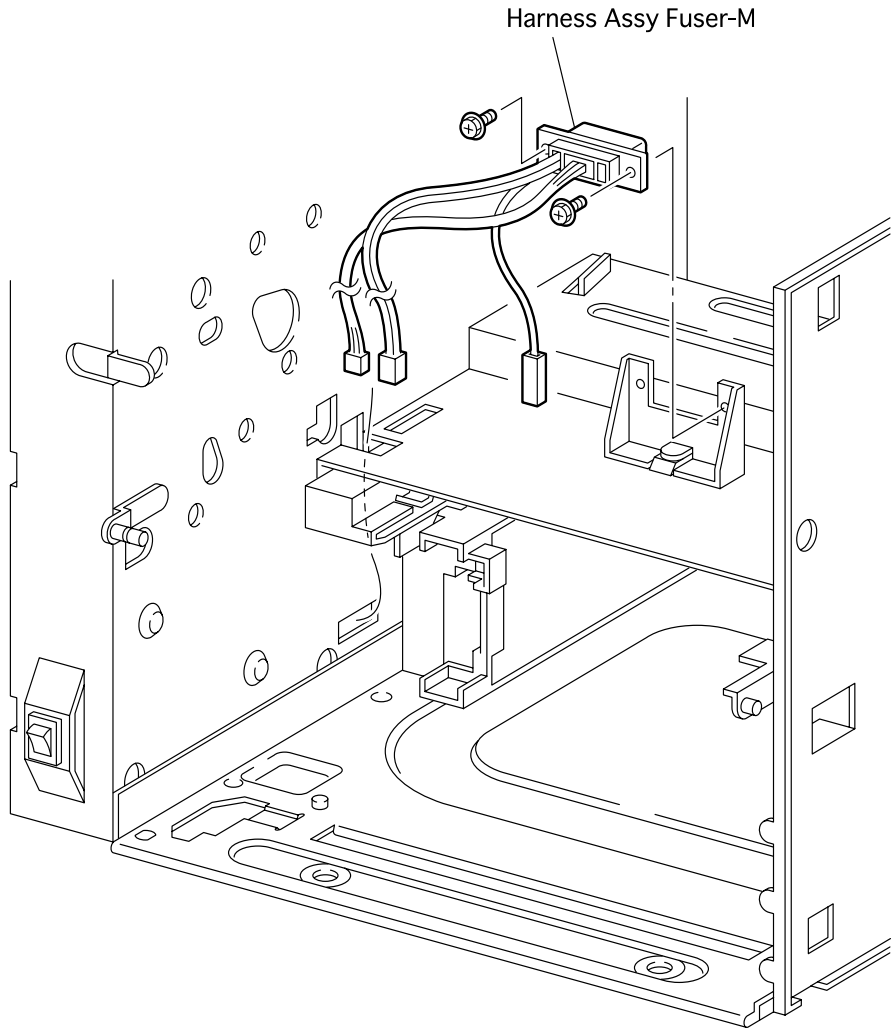


Figure 4-75. Removal of Harness Assy Fuser-M

4.2.57.2 Assembly

1. Align the *Harness Assy Fuser-M* with its mount position to the printer.
2. Secure the *Harness Assy Fuser-M* to the printer with two screws.
3. Pass the *Harness Assy Fuser-M* through the left hole in the printer.
4. Plug the connector (P/J11) to the *PWBA PS*.
5. Plug the connector (P/J34) to the *PWBA MCU*.
6. Align the *Housing HVPS* together with *PWBA HVPS* to the printer.
7. Secure the *Housing HVPS* together with *PWBA HVPS* to the printer with one screw.
8. Plug the connector (P/J262) to the *PWBA HVPS*.
9. Mount the *Gear Assy Drive* (Section 4.2.68).
10. Mount the *PWBA PS* (Section 4.2.86).
11. Mount the *Motor Assy Main* (Section 4.2.69).
12. Mount the *PWBA MCU* (Section 4.2.84).
13. Mount the *Plate Handle* (Section 4.2.73).
14. Mount the *CRU Top Guide Assy* (Section 4.2.66).
15. Mount the *Plate Assy Left* (Section 4.2.71).
16. Mount the *Chute Trans Assy* (Section 4.2.55).
17. Mount the *P/H Assy* (Section 4.2.43).
18. Mount the *Gear 14* (Section 4.2.52).
19. Mount the *Shaft 14* (Section 4.2.52).
20. Mount the *Chute MBF Assy* (Section 4.2.31).
21. Mount the *Cover Assy Top* (Section 4.2.4).
22. Mount the *Cover Left* (Section 4.2.1).
23. Mount the *Cover Assy I/F* (Section 4.2.2).
24. Mount the *Fuser Assy* (Section 4.2.56).
25. Mount the *Cover Rear* (Section 4.2.13).
26. Mount the *Cover Front L/H* (Section 4.2.10).
27. Mount the *Cover Assy Front* (Section 4.2.8).

4.2.58 Eliminator Assy Exit

4.2.58.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Cover Rear* (Section 4.2.13).
4. Remove the *Cover Assy Top* (Section 4.2.4).

NOTE: *In the following steps, take care not to damage the Actuator Full Stack.*

5. Raising upward the left end of *Eliminator Assy Exit* from the left mounting position of the *Chute Assy Exit*, remove it from the printer.
6. Draw the right end of *Eliminator Assy Exit* from the right mounting position of the *Chute Assy Exit*.

4.2.58.2 Assembly

NOTE: *In the following steps, take care not to damage the Actuator Full Stack.*

1. Insert the right end of *Eliminator Assy Exit* into the right mounting position of the *Chute Assy Exit* from the printer.
2. Insert the left end of *Eliminator Assy Exit* into the left mounting position of the *Chute Assy Exit*.
3. Mount the *Cover Assy Top* (Section 4.2.4).
4. Mount the *Cover Rear* (Section 4.2.13).
5. Mount the *Cover Front L/H* (Section 4.2.10).
6. Mount the *Cover Assy Front* (Section 4.2.8).

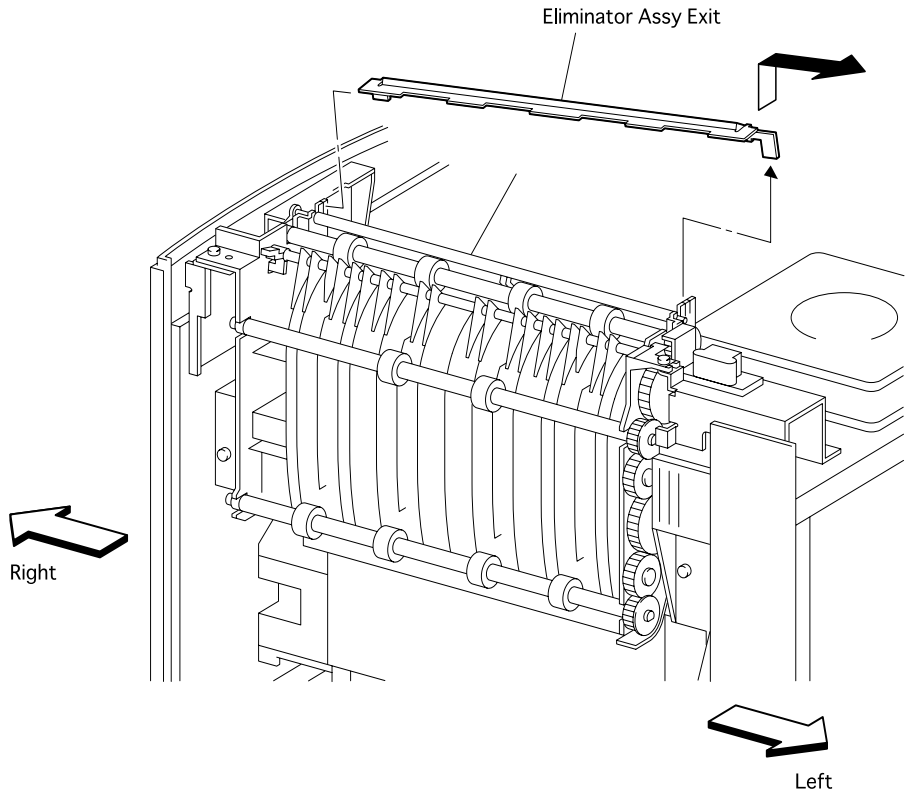


Figure 4-76. Removal of Eliminator Assy Exit

4.2.59 Actuator Full Stack

4.2.59.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Cover Rear* (Section 4.2.13).
4. Remove the *Cover Assy Top* (Section 4.2.4).

NOTE: *In the following steps, take care not to damage the Actuator Full Stack.*

5. Remove the *Eliminator Assy Exit* (Section 4.2.58).
6. Raise the left shaft of *Actuator Full Stack* to remove from the left bearing of *Chute Assy Exit* in the printer.
7. Draw the right shaft of *Actuator Full Stack* from the right bearing of *Chute Assy Exit*, and remove the *Actuator Full Stack*.

4.2.59.2 Assembly

NOTE: *In the following steps, take care not to damage the Actuator Full Stack.*

1. Insert the right shaft of *Actuator Full Stack* into the right bearing of *Chute Assy Exit*.
2. Insert the left shaft of *Actuator Full Stack* into the left bearing of *Chute Assy Exit*.
3. Mount the *Eliminator Assy Exit* (Section 4.2.58).
4. Mount the *Cover Assy Top* (Section 4.2.4).
5. Mount the *Cover Rear* (Section 4.2.13).
6. Mount the *Cover Front L/H* (Section 4.2.10).
7. Mount the *Cover Assy Front* (Section 4.2.8).

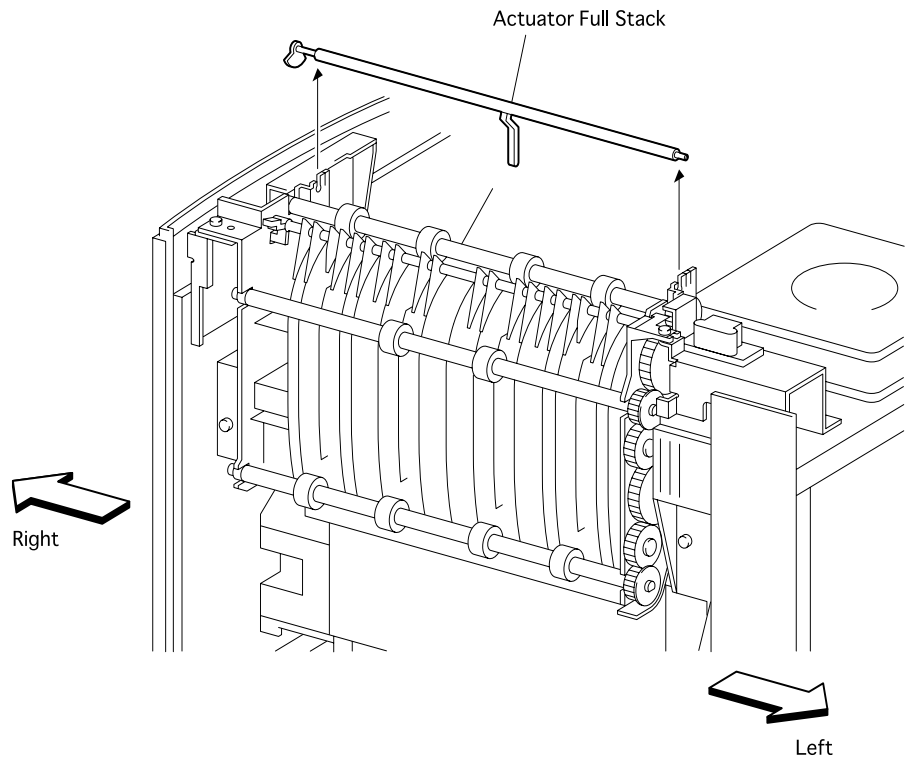


Figure 4-77. Removal of Actuator Full Stack

4.2.60 Bearing Exit and Roll Assy MID-1

4.2.60.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Cover Rear* (Section 4.2.13).
4. Remove the *Cover Assy I/F* (Section 4.2.2).
5. Remove the *Cover Left* (Section 4.2.1).
6. Remove the *Cover Assy Top* (Section 4.2.4).
7. Remove the *Plate Assy left* (Section 4.2.71).
8. Remove the *Cover Interlock* (Section 4.2.63).
9. Remove the *Eliminator Assy Exit* (Section 4.2.58).
10. Remove the *Chute Assy Exit* (Section 4.2.65).
11. Unhook the *Gear Exit-17* secured to the upper *Roll Assy MID-1* from the *Chute Assy Exit*.
12. Draw the *Gear Exit-17* from the upper *Roll Assy MID-1*.
13. Unhook the *Gear Exit-17* secured to the *Roll Assy MID-2* from the *Chute Assy Exit*.
14. Draw the *Gear Exit-17* from the *Roll Assy MID-2*.
15. Remove the *Gear Exit-32* from the *Chute Assy Exit*.
16. Unhook the *Bearing Exit* that secures the left and right shafts of upper *Roll Assy MID-1* from the *Chute Assy Exit*.
17. Remove the upper *Roll Assy MID-1* together with the left and right *Bearing Exits* on the *Roll Assy MID-1* from the *Chute Assy Exit*.
18. Draw the left and right *Bearing Exits* from the *Roll Assy MID-1*.
19. Unhook the *Gear Exit-17* secured to the lower *Roll Assy MID-1* from the *Chute Assy Exit*.
20. Draw the *Gear Exit-17* from the lower *Roll Assy MID-1*.
21. Unhook the *Bearing Exit* that secures the left and right shafts of lower *Roll Assy MID-1* from the *Chute Assy Exit*.
22. Remove the lower *Roll Assy MID-1* together with the left and right *Bearing Exits* on the *Roll Assy MID-1* from the *Chute Assy Exit*.
23. Draw the left and right *Bearing Exits* from the *Roll Assy MID-1*.

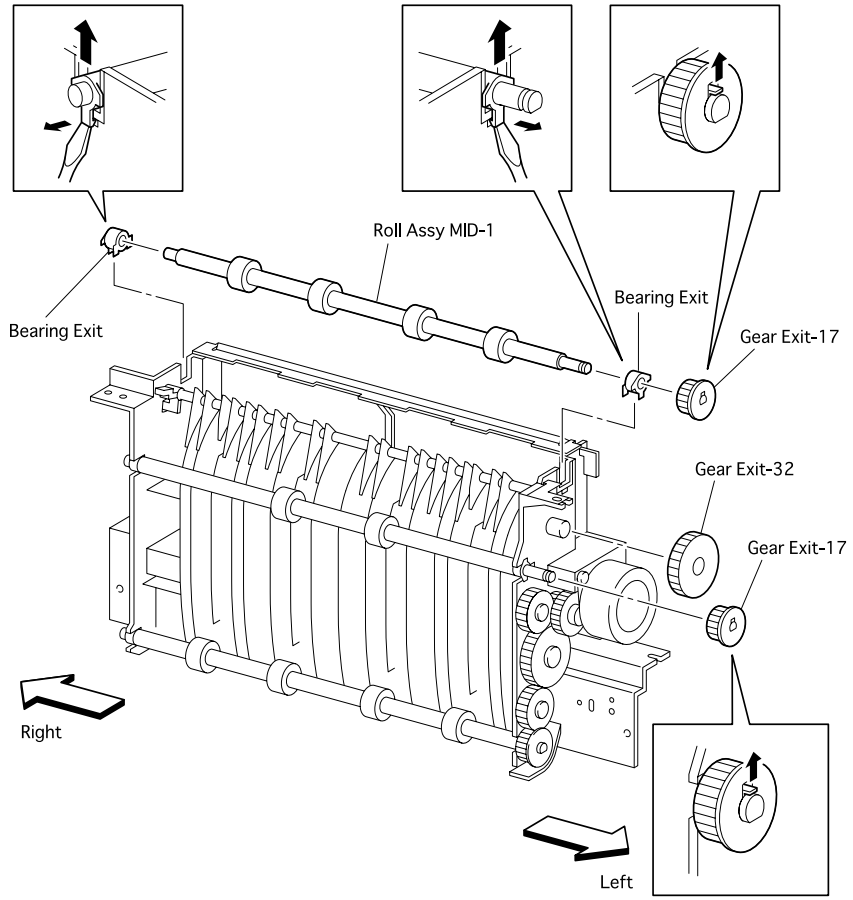


Figure 4-78. Removal of Bearing Exit and Roll Assy MID-1 (1)

4.2.60.2 Assembly

1. Insert the *Bearing Exit* into the left and right shafts of lower *Roll Assy MID-1*.
2. Mount the lower *Roll Assy MID-1* together with the left and right *Bearing Exits* on the *Roll Assy MID-1* to the *Chute Assy Exit*.
3. Secure the left and right shafts of lower *Roll Assy MID-1* to the *Chute Assy Exit* with the hook of *Bearing Exit*.
4. Insert the *Gear Exit-17* into the shaft of lower *Roll Assy MID-1* from the *Chute Assy Exit*.
5. Hook the *Gear Exit-17* to the shaft of lower *Roll Assy MID-1*.
6. Insert the *Bearing Exit* into the left and right shafts of upper *Roll Assy MID-1*.
7. Mount the upper *Roll Assy MID-1* together with the left and right *Bearing Exits* on the *Roll Assy MID-1* to the *Chute Assy Exit*.
8. Secure the left and right shafts of upper *Roll Assy MID-1* to the *Chute Assy Exit* with the hook of *Bearing Exit*.
9. Aligning the position exactly, insert the *Gear Exit-32* into the *Chute Assy Exit*.
10. Insert the *Gear Exit-17* into the shaft of *Roll Assy MID-2* from the *Chute Assy Exit*.
11. Hook the *Gear Exit-17* to the shaft of *Roll Assy MID-2*.
12. Insert the *Gear Exit-17* into the shaft of upper *Roll Assy MID-1* from the *Chute Assy Exit*.
13. Hook the *Gear Exit-17* to the shaft of upper *Roll Assy MID-1*.
14. Mount the *Chute Assy Exit* (Section 4.2.65).
15. Mount the *Eliminator Assy Exit* (Section 4.2.58).
16. Mount the *Cover Interlock* (Section 4.2.63).
17. Mount the *Plate Assy left* (Section 4.2.71).
18. Mount the *Cover Assy Top* (Section 4.2.4).
19. Mount the *Cover Left* (Section 4.2.1).
20. Mount the *Cover Assy I/F* (Section 4.2.2).
21. Mount the *Cover Rear* (Section 4.2.13).
22. Mount the *Cover Front L/H* (Section 4.2.10).
23. Mount the *Cover Assy Front* (Section 4.2.8).

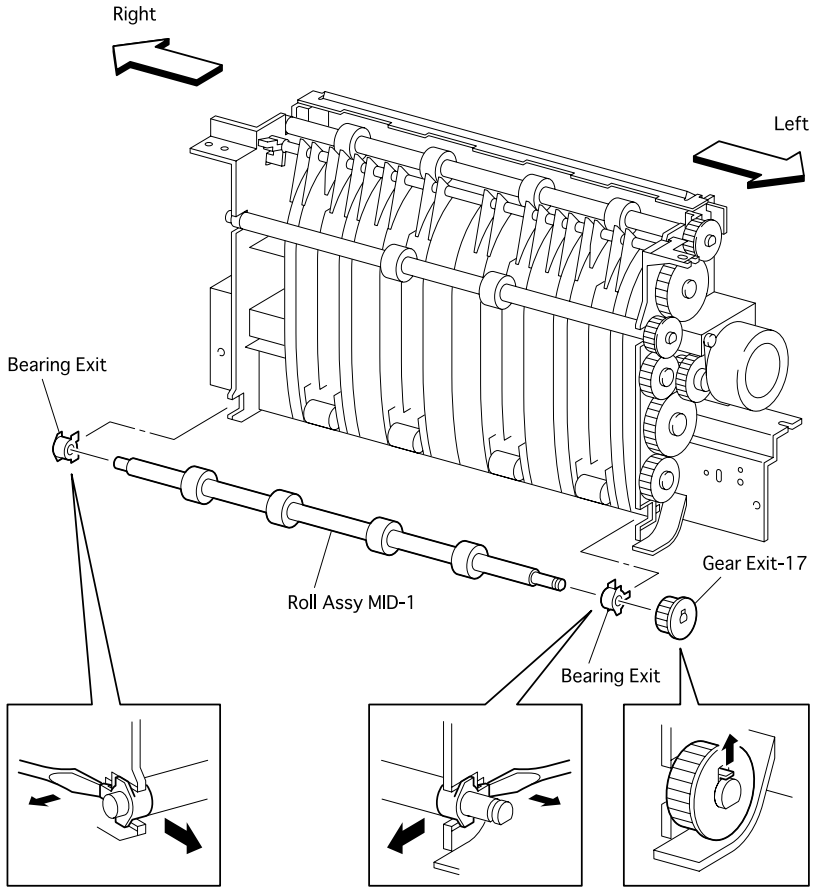


Figure 4-79. Removal of Bearing Exit and Roll Assy MID-1 (2)

4.2.61 Bearing Exit and Roll Assy MID-2

4.2.61.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Cover Rear* (Section 4.2.13).
4. Remove the *Cover Assy I/F* (Section 4.2.2).
5. Remove the *Cover Left* (Section 4.2.1).
6. Remove the *Cover Assy Top* (Section 4.2.4).
7. Remove the *Plate Assy left* (Section 4.2.71).
8. Remove the *Cover Interlock* (Section 4.2.63).
9. Remove the *Eliminator Assy Exit* (Section 4.2.58).
10. Remove the *Chute Assy Exit* (Section 4.2.65).
11. Unhook the *Gear Exit-17* secured to the upper *Roll Assy MID-1* from the *Chute Assy Exit*.
12. Draw the *Gear Exit-17* from the upper *Roll Assy MID-1*.
13. Unhook the *Gear Exit-17* secured to the *Roll Assy MID-2* from the *Chute Assy Exit*.
14. Draw the *Gear Exit-17* from the *Roll Assy MID-2*.
15. Remove the *Gear Exit-32* from the *Chute Assy Exit*.
16. Unhook the *Bearing Exit* that secures the left and right shafts of *Roll Assy MID-2* from the *Chute Assy Exit*.
17. Remove the *Roll Assy MID-2* together with the left and right *Bearing Exits* on the *Roll Assy MID-2* from the *Chute Assy Exit*.
18. Draw the left and right *Bearing Exits* from the *Roll Assy MID-2*.

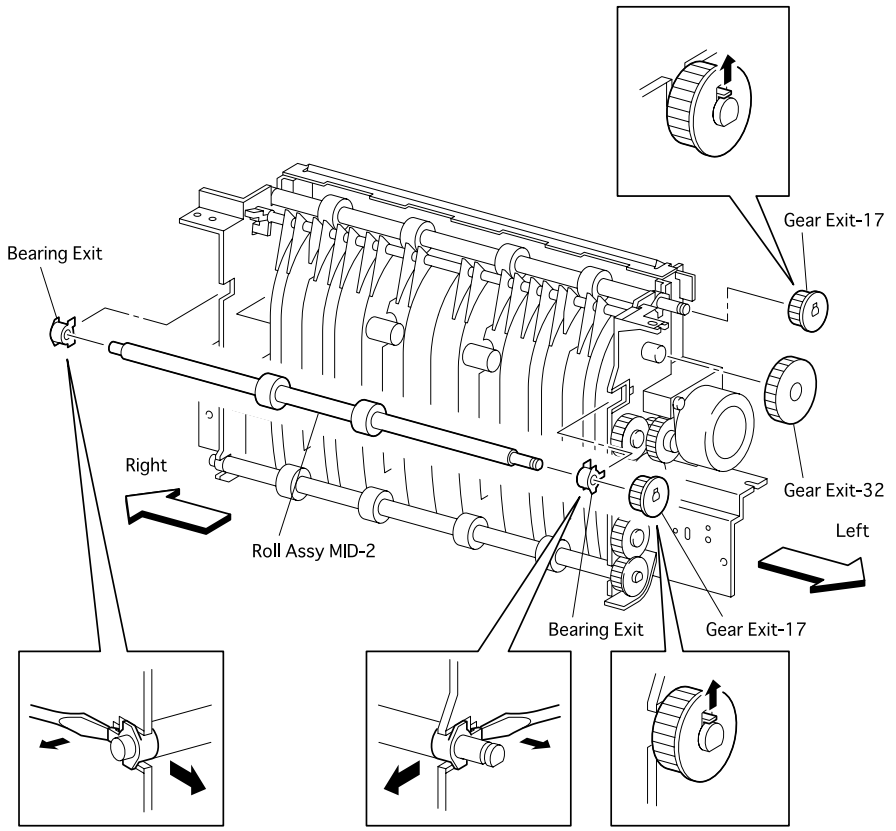


Figure 4-80. Removal of Bearing Exit and Roll Assy MID-2

4.2.61.2 Assembly

1. Insert the *Bearing Exit* into the left and right shafts of *Roll Assy MID-2*.
2. Mount the *Roll Assy MID-2* together with the left and right *Bearing Exits* on the *Roll Assy MID-2* to the *Chute Assy Exit*.
3. Secure the left and right shafts of *Roll Assy MID-2* to the *Chute Assy Exit* with the hook of *Bearing Exit*.
4. Aligning the position exactly, insert the *Gear Exit-32* into the *Chute Assy Exit*.
5. Insert the *Gear Exit-17* into the shaft of *Roll Assy MID-2* from the *Chute Assy Exit*.
6. Hook the *Gear Exit-17* to the shaft of *Roll Assy MID-2*.
7. Insert the *Gear Exit-17* into the shaft of upper *Roll Assy MID-1* from the *Chute Assy Exit*.
8. Hook the *Gear Exit-17* to the shaft of upper *Roll Assy MID-1*.
9. Mount the *Chute Assy Exit* (Section 4.2.65).
10. Mount the *Eliminator Assy Exit* (Section 4.2.58).
11. Mount the *Cover Interlock* (Section 4.2.63).
12. Mount the *Plate Assy left* (Section 4.2.71).
13. Mount the *Cover Assy Top* (Section 4.2.4).
14. Mount the *Cover Left* (Section 4.2.1).
15. Mount the *Cover Assy I/F* (Section 4.2.2).
16. Mount the *Cover Rear* (Section 4.2.13).
17. Mount the *Cover Front L/H* (Section 4.2.10).
18. Mount the *Cover Assy Front* (Section 4.2.8).

4.2.62 Sensor Photo: Exit

4.2.62.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Cover Rear* (Section 4.2.13).
4. Remove the *Cover Assy Top* (Section 4.2.4).
5. Remove the *Eliminator Assy Exit* (Section 4.2.58).
6. Remove the *Actuator Full Stack* (Section 4.2.59).
7. Unplug the connector (P/J311) on the *Sensor Photo: Exit*.
8. Disengage five hooks of *Sensor Photo: Exit* secured to the *Chute Assy Exit* in the printer.
9. Remove the *Sensor Photo: Exit* from the *Chute Assy Exit*.

4.2.62.2 Assembly

1. Aligning the position exactly, mount the *Sensor Photo: Exit* on the *Chute Assy Exit* in the printer.
2. Secure the *Sensor Photo: Exit* to the *Chute Assy Exit* with five hooks.
3. Plug the connector (P/J311) to the *Sensor Photo: Exit*.
4. Mount the *Actuator Full Stack* (Section 4.2.59).
5. Mount the *Eliminator Assy Exit* (Section 4.2.58).
6. Mount the *Cover Assy Top* (Section 4.2.4).
7. Mount the *Cover Rear* (Section 4.2.13).
8. Mount the *Cover Front L/H* (Section 4.2.10).
9. Mount the *Cover Assy Front* (Section 4.2.8).

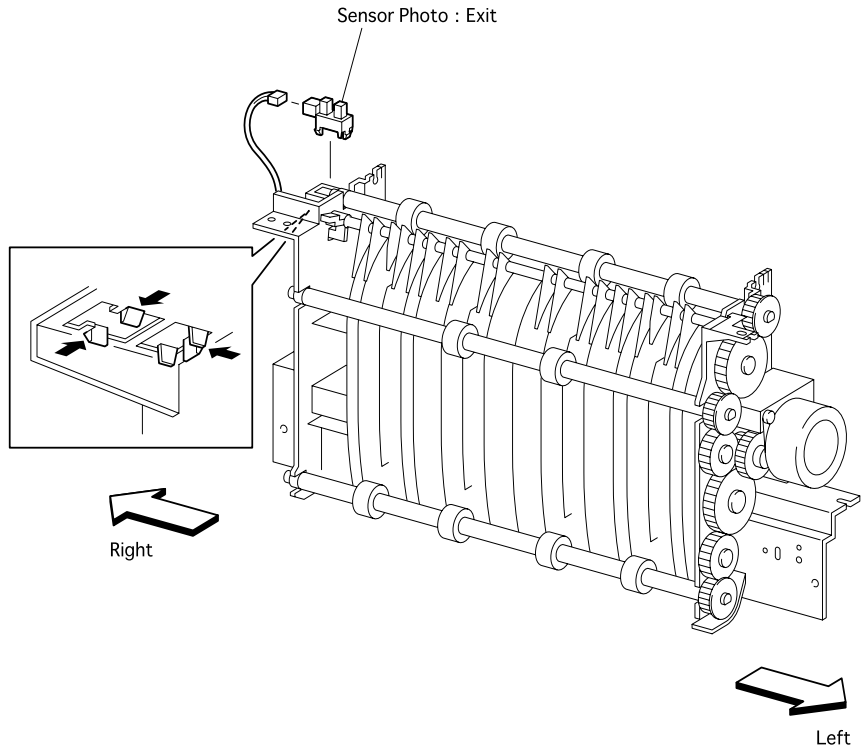


Figure 4-81. Sensor Photo: Exit

4.2.63 Cover Interlock

4.2.63.1 Removal

10. Remove the *Cover Rear* (Section 4.2.13).
11. Remove the one screw securing the *Stopper* together with *Cover Interlock* to the printer.
12. Remove the two screws securing the *Cover interlock* to the printer.
13. Remove the *Cover interlock* from the printer.

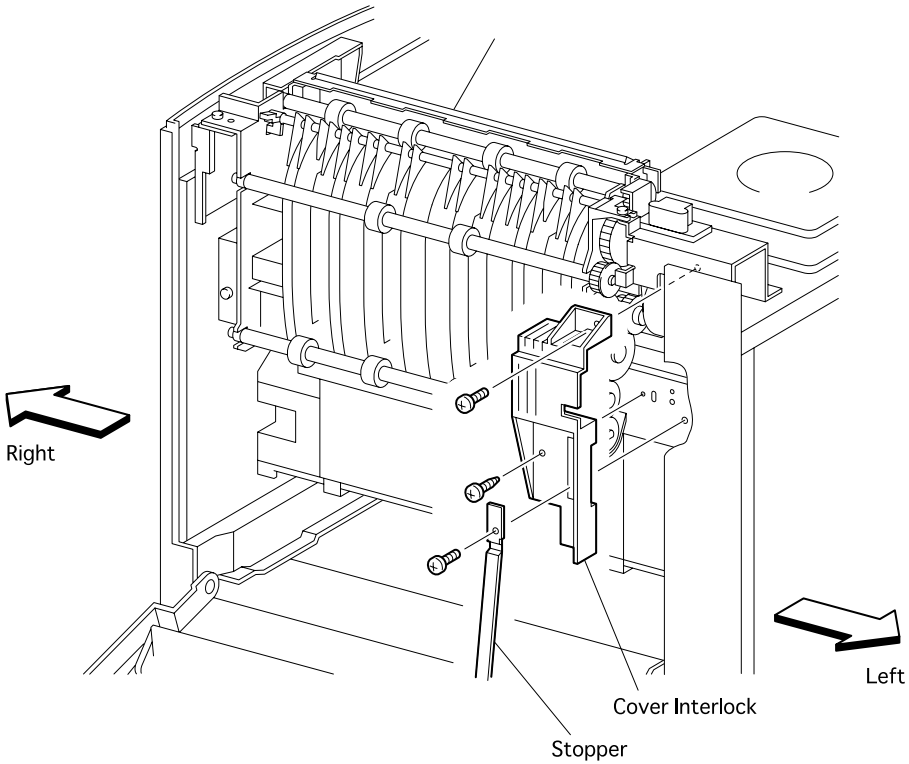


Figure 4-82. Cover Interlock

4.2.63.2 Assembly

1. Align the *Cover interlock* with it mount position to the printer.
2. Secure the *Cover interlock* to the printer with two screws.
3. Secure the *Stopper* together with *Cover Interlock* with one screw.
4. Mount the *Cover Rear* (Section 4.2.13).

4.2.64 Motor Assy Exit

4.2.64.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Cover Rear* (Section 4.2.13).
4. Remove the *Cover Assy I/F* (Section 4.2.2).
5. Remove the *Cover Left* (Section 4.2.1).
6. Remove the *Cover Assy Top* (Section 4.2.4).
7. Remove the *Plate Assy left* (Section 4.2.71).
8. Remove the *Cover Interlock* (Section 4.2.63).
9. Remove the *Chute Assy Exit* (Section 4.2.65).
10. Remove the two screw securing the *Motor Assy Exit* to the *Chute Assy Exit*.
11. Remove the *Motor Assy Exit* from the *Chute Assy Exit*.

4.2.64.2 Assembly

1. Align the *Motor Assy Exit* with it mount position to the *Chute Assy Exit*.
2. Secure the *Motor Assy Exit* to the *Chute Assy Exit* with two screws.
3. Mount the *Chute Assy Exit* (Section 4.2.65).
4. Mount the *Cover Interlock* (Section 4.2.63).
5. Mount the *Plate Assy left* (Section 4.2.71).
6. Mount the *Cover Assy Top* (Section 4.2.4).
7. Mount the *Cover Left* (Section 4.2.1).
8. Mount the *Cover Assy I/F* (Section 4.2.2).
9. Mount the *Cover Rear* (Section 4.2.13).
10. Mount the *Cover Front L/H* (Section 4.2.10).
11. Mount the *Cover Assy Front* (Section 4.2.8).

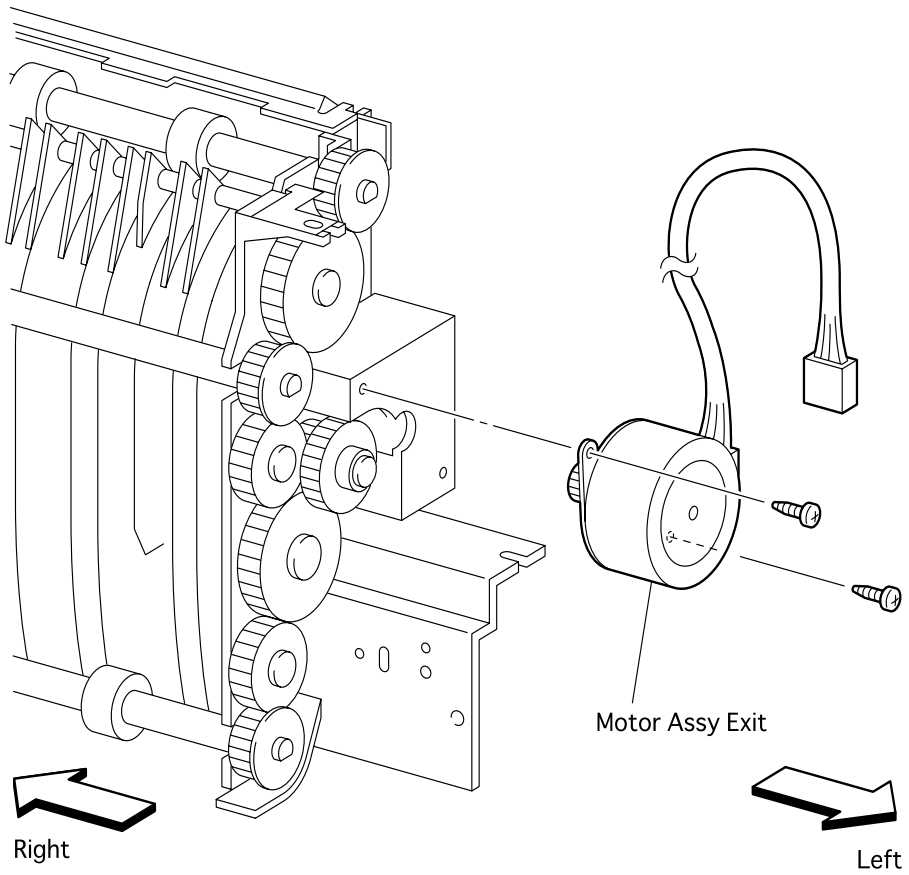


Figure 4-83. Motor Assy Exit

4.2.65 Chute Assy Exit

4.2.65.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Cover Rear* (Section 4.2.13).
4. Remove the *Cover Assy I/F* (Section 4.2.2).
5. Remove the *Cover Left* (Section 4.2.1).
6. Remove the *Cover Assy Top* (Section 4.2.4).
7. Remove the *Plate Assy left* (Section 4.2.71).
8. Remove the *Cover Interlock* (Section 4.2.63).
9. Unplug the connector (P/J31) from the *PWBA MCU*.
10. Unplug the connector (P/J32) from the *PWBA MCU*.
11. Remove the three screw securing the *Chute Assy Exit* to the printer.
12. Remove the *Chute Assy Exit* from the printer.

4.2.65.2 Assembly

1. Align the *Chute Assy Exit* with it mount position to the printer.
2. Secure the *Chute Assy Exit* to the printer with three screws.
3. Plug the connector (P/J32) to the *PWBA MCU*.
4. Plug the connector (P/J31) to the *PWBA MCU*.
5. Mount the *Cover Interlock* (Section 4.2.63).
6. Mount the *Plate Assy left* (Section 4.2.71).
7. Mount the *Cover Assy Top* (Section 4.2.4).
8. Mount the *Cover Left* (Section 4.2.1).
9. Mount the *Cover Assy I/F* (Section 4.2.2).
10. Mount the *Cover Rear* (Section 4.2.13).
11. Mount the *Cover Front L/H* (Section 4.2.10).
12. Mount the *Cover Assy Front* (Section 4.2.8).

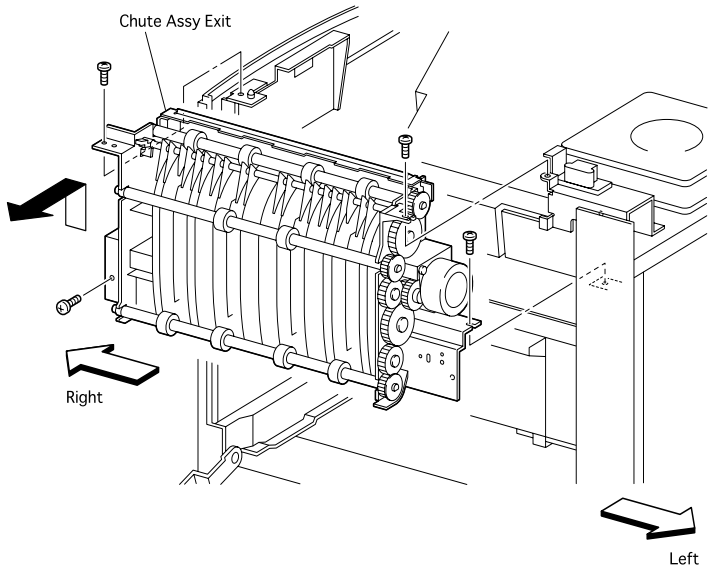


Figure 4-84. Chute Assy Exit Removal (1)

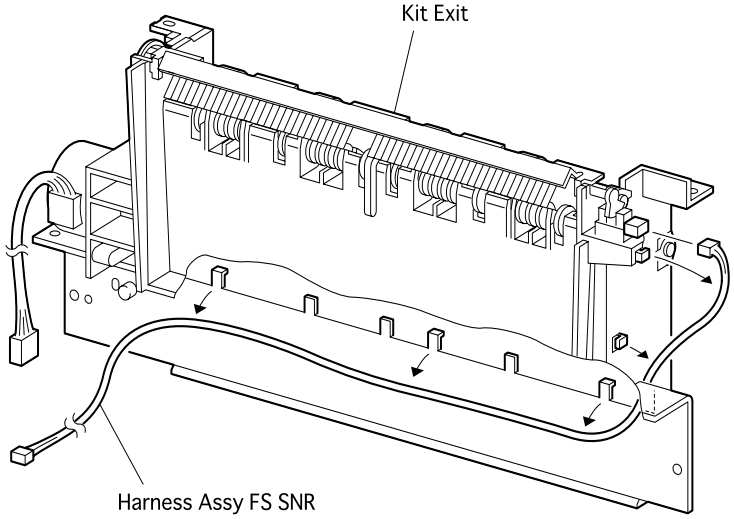


Figure 4-85. Chute Assy Exit Removal (2)

4.2.66 CRU Top Guide Assy

4.2.66.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Cover Rear* (Section 4.2.13).
4. Remove the *Cover Assy I/F* (Section 4.2.2).
5. Remove the *Cover Left* (Section 4.2.1).
6. Remove the *Cover Assy Top* (Section 4.2.4).
7. Remove the *Plate Assy left* (Section 4.2.71).
8. Unplug the connector (P/J25) from the *PWBA MCU*.
9. Remove the two screw securing the *CRU Top Guide Assy* to the printer.
10. Remove the *CRU Top Guide Assy* together with *Sensor Assy CRU* from the printer.
11. Remove the *Sensor Assy CRU* (Section 4.2.70).

4.2.66.2 Assembly

1. Mount the *Sensor Assy CRU* (Section 4.2.70).
2. Plug the connector (P/J25) to the *PWBA MCU*.
3. Align the *CRU Top Guide Assy* with its mount position together with *Sensor Assy CRU* to the printer.
4. Secure the *CRU Top Guide Assy* to the printer with two screws.
5. Mount the *Plate Assy left* (Section 4.2.71).
6. Mount the *Cover Assy Top* (Section 4.2.4).
7. Mount the *Cover Left* (Section 4.2.1).
8. Mount the *Cover Assy I/F* (Section 4.2.2).
9. Mount the *Cover Rear* (Section 4.2.13).
10. Mount the *Cover Front L/H* (Section 4.2.10).
11. Mount the *Cover Assy Front* (Section 4.2.8).

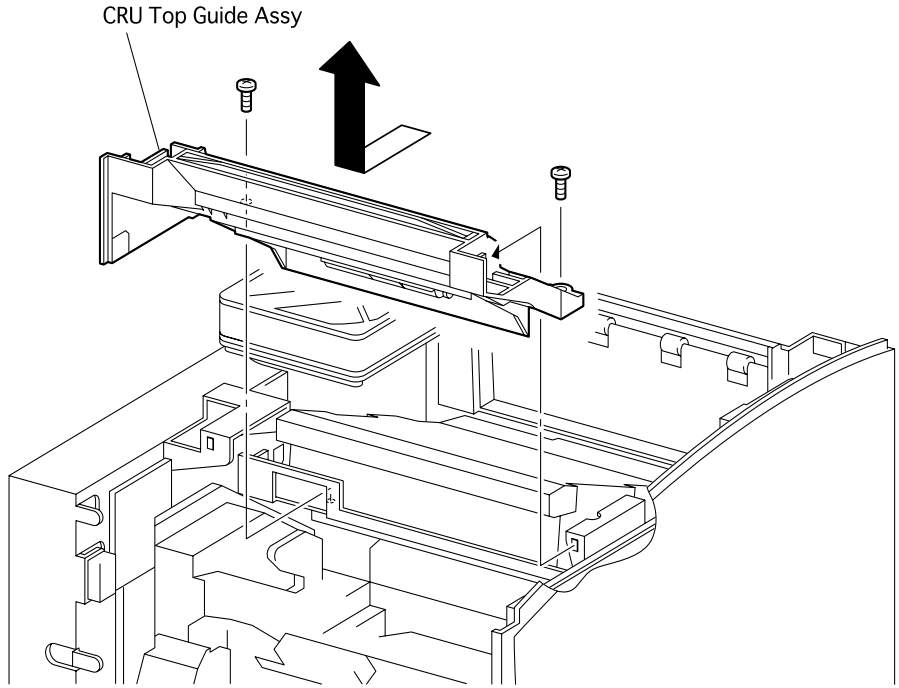


Figure 4-86. Removal of CRU Top Guide Assy

4.2.67 ROS Assy

4.2.67.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Cover Rear* (Section 4.2.13).
4. Remove the *Cover Assy Top* (Section 4.2.4).
5. Unplug the connector (P/J212) from the *ROS Assy*.
6. Unplug the connector (P/J213) from the *ROS Assy*.
7. Remove the four screws securing the *ROS Assy* to the printer.
8. Raising the *ROS Assy* a little, unplug the connector (P/J211) on the back side.
9. Remove the *ROS Assy* from the printer.

4.2.67.2 Assembly

1. Plug the connector (P/J211) on the back side of *ROS Assy*.
2. Plug the connector (P/J213) in the *ROS Assy*.
3. Plug the connector (P/J212) in the *ROS Assy*.
4. Align the *ROS Assy* with its mount position to the printer.
5. Secure the *ROSS Assy* to the printer with four screws.
6. Mount the *Cover Assy Top* (Section 4.2.4).
7. Mount the *Cover Rear* (Section 4.2.13).
8. Mount the *Cover Front L/H* (Section 4.2.10).
9. Mount the *Cover Assy Front* (Section 4.2.8).

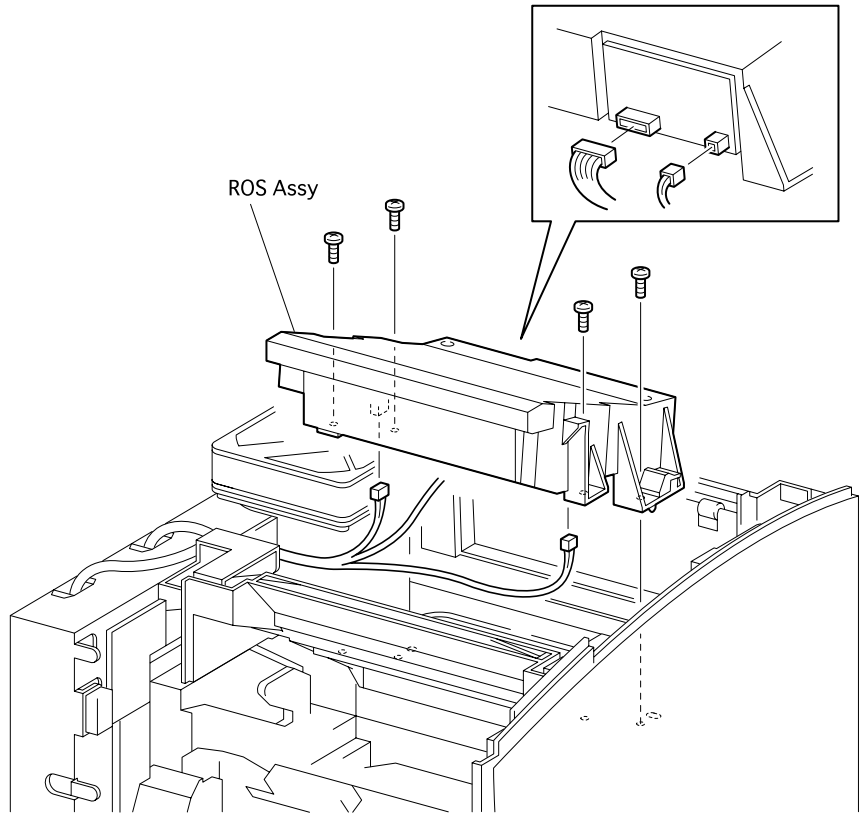


Figure 4-87. ROS Assy Removal

4.2.68 Gear Assy Drive

4.2.68.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Cover Rear* (Section 4.2.13).
4. Remove the *Fuser Assy* (Section 4.2.56).
5. Remove the *Cover Assy* I/F (Section 4.2.2).
6. Remove the *Cover Left* (Section 4.2.1).
7. Remove the *Cover Assy Top* (Section 4.2.4).
8. Remove the *Cover Right* (Section 4.2.7).
9. Remove the *Chute MBF Assy* (Section 4.2.31).
10. Remove the *Shaft 14* (Section 4.2.52).
11. Remove the *Gear 14* (Section 4.2.52).
12. Remove the *P/H Assy* (Section 4.2.43).
13. Remove the *Chute Trans Assy* (Section 4.2.55).
14. Remove the *Plate Assy Left* (Section 4.2.71).
15. Remove the *CRU Top Guide Assy* (Section 4.2.66).
16. Remove the *Plate Handle* (Section 4.2.73).
17. Remove the *PWBA MCU* (Section 4.2.84).
18. Remove the *Motor Assy Main* (Section 4.2.69).
19. Remove the *PWBA PS* (Section 4.2.86).
20. Remove the *Paper Feeder* (Section 4.2.30).
21. Remove the four screws securing the *Gear Assy Drive* to the printer.
22. Remove the *Gear Assy Drive* from the printer.

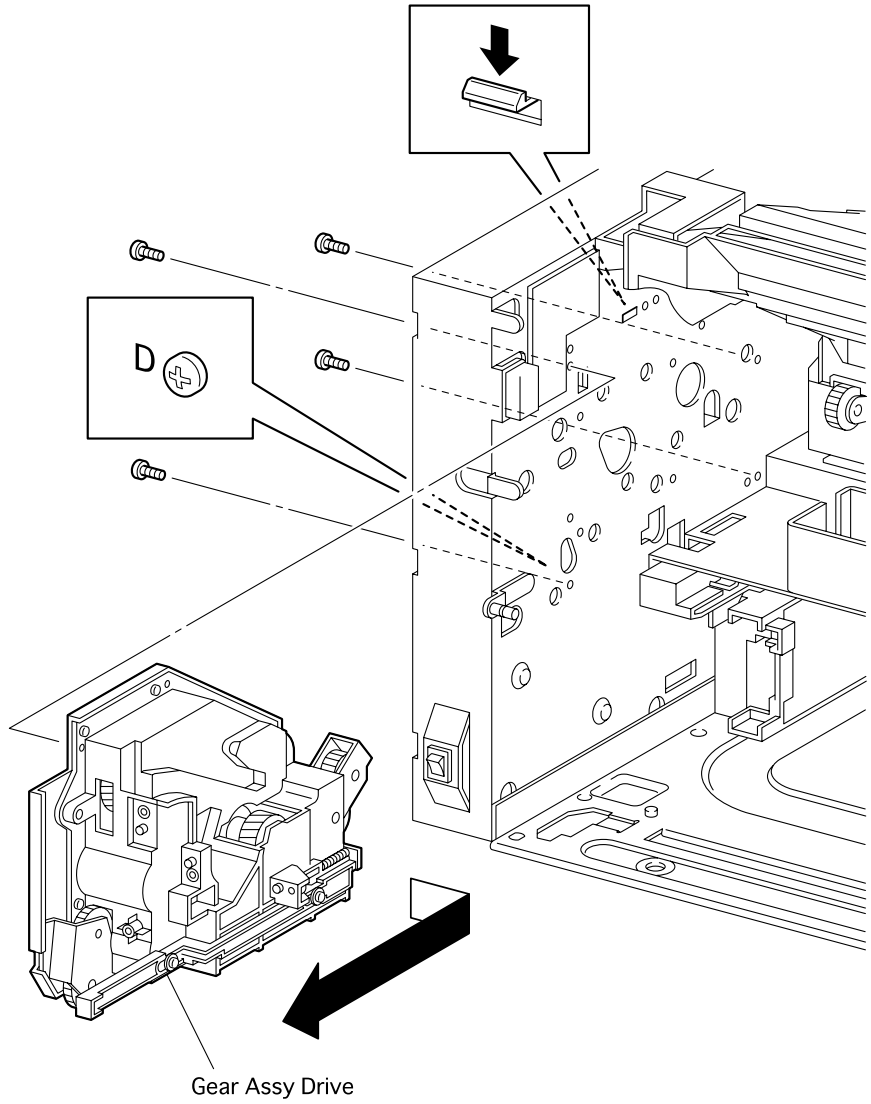


Figure 4-88. Gear Assy Drive Removal

4.2.68.2 Assembly

NOTE: *Take care not to tangle the harness near the Gear Assy Drive mounting position when mounting the Gear Assy Drive. "D" is scribed around four holes in the printer where the Gear Assy Drive is mounted.*

1. Align the *Gear Assy Drive* with its mount position to the printer.
2. Secure the *Gear Assy Drive* to the printer with four screws.
3. Mount the *Paper Feeder* (Section 4.2.30).
4. Mount the *PWBA PS* (Section 4.2.86).
5. Mount the *Motor Assy Main* (Section 4.2.69).
6. Mount the *PWBA MCU* (Section 4.2.84).
7. Mount the *Plate Handle* (Section 4.2.73).
8. Mount the *CRU Top Guide Assy* (Section 4.2.66).
9. Mount the *Plate Assy Left* (Section 4.2.71).
10. Mount the *Chute Trans Assy* (Section 4.2.55).
11. Mount the *P/H Assy* (Section 4.2.43).
12. Mount the *Gear 14* (Section 4.2.52).
13. Mount the *Shaft 14* (Section 4.2.52).
14. Mount the *Chute MBF Assy* (Section 4.2.31).
15. Mount the *Cover Right* (Section 4.2.7).
16. Mount the *Cover Assy Top* (Section 4.2.4).
17. Mount the *Cover Left* (Section 4.2.1).
18. Mount the *Cover Assy I/F* (Section 4.2.2).
19. Mount the *Fuser Assy* (Section 4.2.56).
20. Mount the *Cover Rear* (Section 4.2.13).
21. Mount the *Cover Front L/H* (Section 4.2.10).
22. Mount the *Cover Assy Front* (Section 4.2.8).

4.2.69 Motor Assy Main

4.2.69.1 Removal

23. Remove the *Cover Assy I/F* (Section 4.2.2).
24. Remove the *Cover Left* (Section 4.2.1).
25. Remove the *Plate Assy left* (Section 4.2.71).
26. Unplug the connector (P/J29) from the *PWBA MCU*.

NOTE: *In the following steps, take care not to drop and damage the Motor Assy Main.*

27. Remove the four screws securing the *Motor Assy Main* to the printer.
28. Remove the *Motor Assy Main* from the printer.

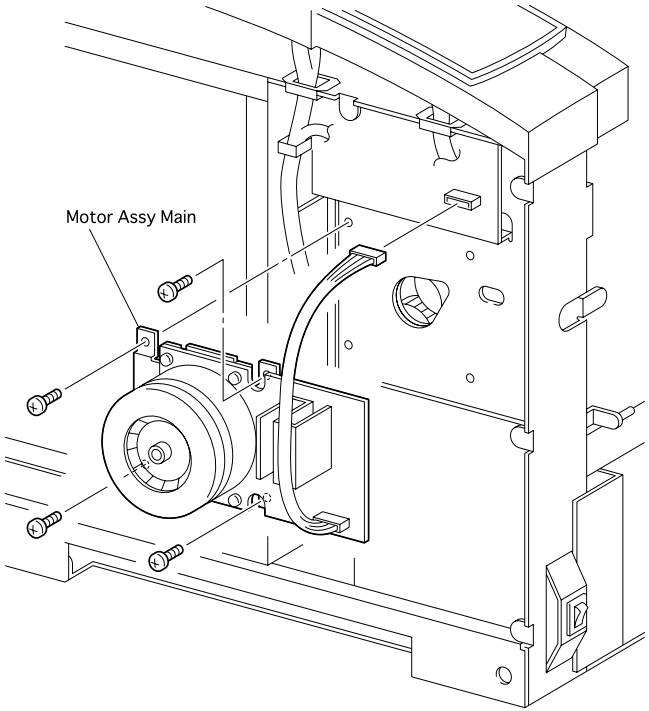


Figure 4-89. Motor Assy Main Removal

4.2.69.2 Assembly

NOTE: *In the following steps, take care not to drop and damage the Motor Assy Main.*

1. Align the *Motor Assy Main* with it mount position to the printer.
2. Secure the *Motor Assy Main* to the printer with four screws.
3. Plug the connector (P/J29) in the *PWBA MCU*.
4. Mount the *Plate Assy Left* (Section 4.2.71).
5. Mount the *Cover Left* (Section 4.2.1).
6. Mount the *Cover Assy I/F* (Section 4.2.2).

4.2.70 Sensor Assy CRU

4.2.70.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Cover Rear* (Section 4.2.13).
4. Remove the *Cover Assy I/F* (Section 4.2.2).
5. Remove the *Cover Left* (Section 4.2.1).
6. Remove the *Cover Assy Top* (Section 4.2.4).
7. Remove the *Plate Assy Left* (Section 4.2.71).
8. Remove the *CRU Top Guide Assy* (Section 4.2.67).
9. Release the harness of *Sensor Assy CRU* from three clamps of *CRU Top Guide Assy*.
10. Deflecting the right bracket of *CRU Top Guide Assy* with a small screwdriver, draw off the right shaft of *Sensor Assy CRU*.
11. Draw the left shaft of *Sensor Assy CRU* from the hole in the left bracket of *CRU Top Guide Assy*.

4.2.70.2 Assembly

1. Insert the left shaft of *Sensor Assy CRU* into a hole in the left bracket of *CRU Top Guide Assy*.
2. Deflecting the right bracket of *CRU Top Guide Assy* with a small screwdriver, insert the right shaft of *Sensor Assy CRU* into a hole in the right bracket of *CRU Top Guide Assy*.
3. Secure the harness of *Sensor Assy CRU* with three clamps of *CRU Top Guide Assy*.
4. Mount the *CRU Top Guide Assy* (Section 4.2.67).
5. Mount the *Plate Assy Left* (Section 4.2.71).
6. Mount the *Cover Assy Top* (Section 4.2.4).
7. Mount the *Cover Left* (Section 4.2.1).
8. Mount the *Cover Assy I/F* (Section 4.2.2).
9. Mount the *Cover Rear* (Section 4.2.13).
10. Mount the *Cover Front L/H* (Section 4.2.10).
11. Mount the *Cover Assy Front* (Section 4.2.8).

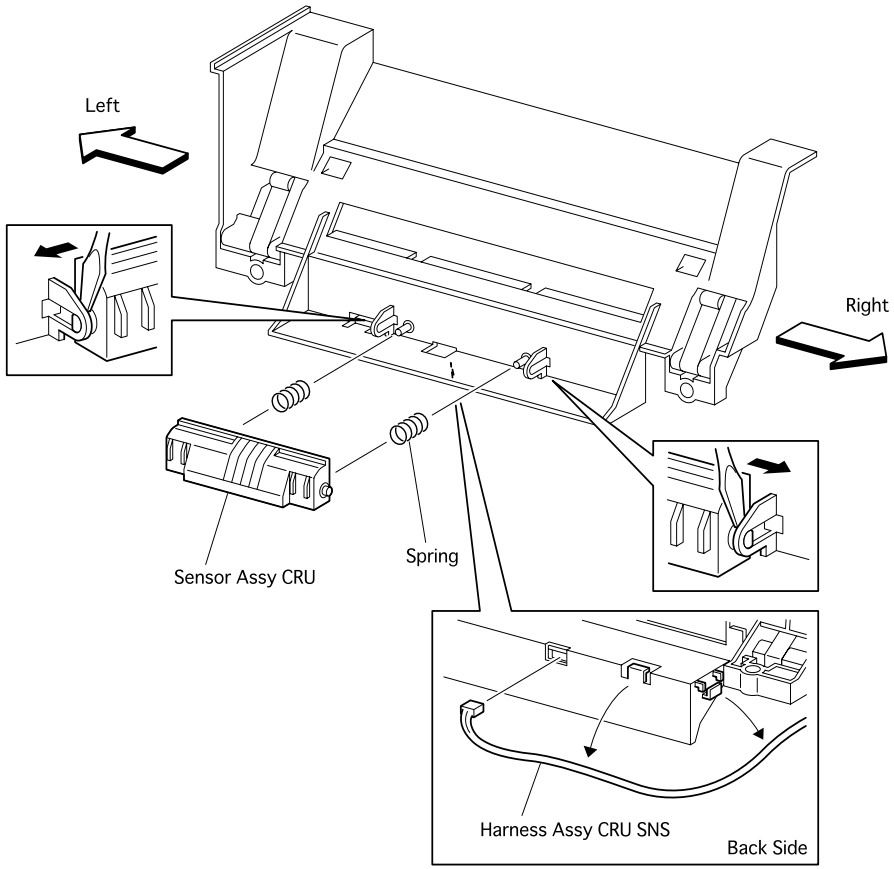


Figure 4-90. Sensor Assy CRU Removal

4.2.71 Plate Assy Left

4.2.71.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Cover Assy I/F* (Section 4.2.2).
4. Remove the *Cover Left* (Section 4.2.1).
5. Remove the six screws securing the *Plate Assy Left* to the printer.
6. Remove the *Plate Assy Left* from the printer.

4.2.71.2 Assembly

1. Align the *Plate Assy Left* with it mount position to the printer.
2. Secure the *Plate Assy Left* to the printer with six screws.
3. Mount the *Cover Left* (Section 4.2.1).
4. Mount the *Cover Assy I/F* (Section 4.2.2).
5. Mount the *Cover Front L/H* (Section 4.2.10).
6. Mount the *Cover Assy Front* (Section 4.2.8).

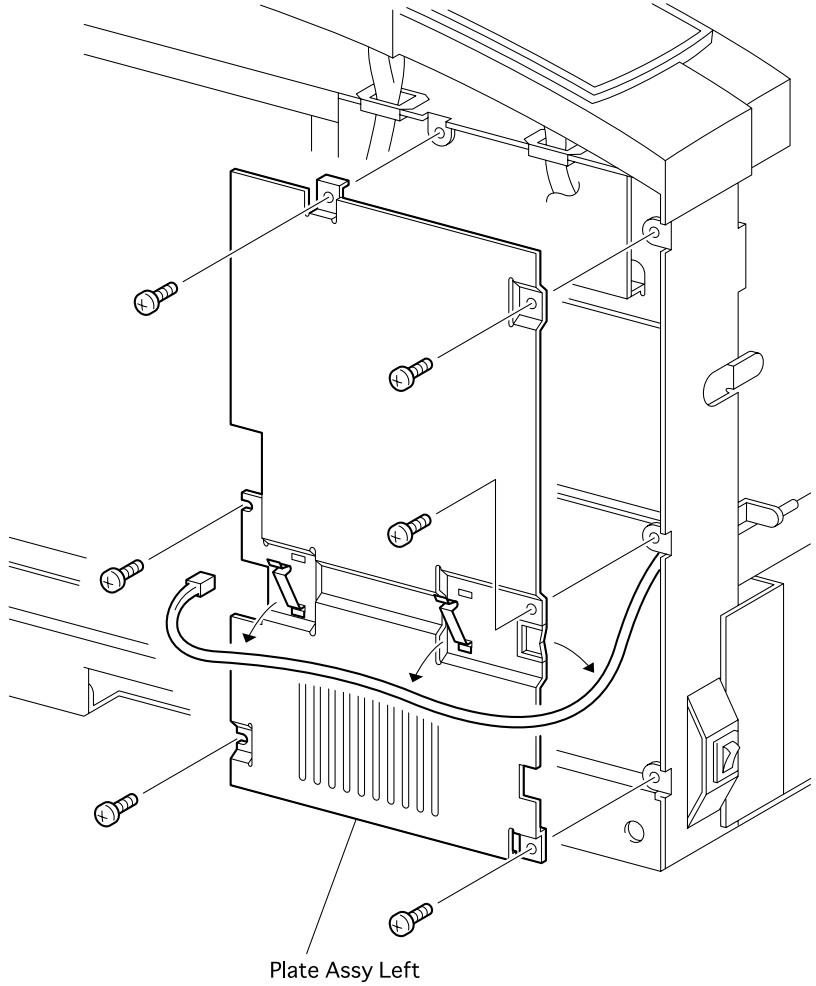


Figure 4-91. Plate Assy Left Removal

4.2.72 Fan Assy

4.2.72.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Cover Rear* (Section 4.2.13).
4. Remove the *Cover Assy I/F* (Section 4.2.2).
5. Remove the *Cover Left* (Section 4.2.1).
6. Remove the *Cover Assy Top* (Section 4.2.4).
7. Remove the *Plate Assy Left* (Section 4.2.71).
8. Unplug the connector (P/J283) of *Fan Assy* from the *PWBA MCU*.
9. Release the harness of *Fan Assy* from two clamps from the printer.
10. Remove the four screws securing the *Fan Assy* to the printer.
11. Remove the *Fan Assy* from the printer.

4.2.72.2 Assembly

1. Align the *Fan Assy* with its mount position to the printer.
2. Secure the *Fan Assy* to the printer with four screws.
3. Plug the connector (P/J283) of *Fan Assy*.
4. Secure the harness of connector (P/J283) to the printer with two clamps.
5. Mount the *Plate Assy Left* (Section 4.2.71).
6. Mount the *Cover Assy Top* (Section 4.2.4).
7. Mount the *Cover Left* (Section 4.2.1).
8. Mount the *Cover Assy I/F* (Section 4.2.2).
9. Mount the *Cover Rear* (Section 4.2.13).
10. Mount the *Cover Front L/H* (Section 4.2.10).
11. Mount the *Cover Assy Front* (Section 4.2.8).

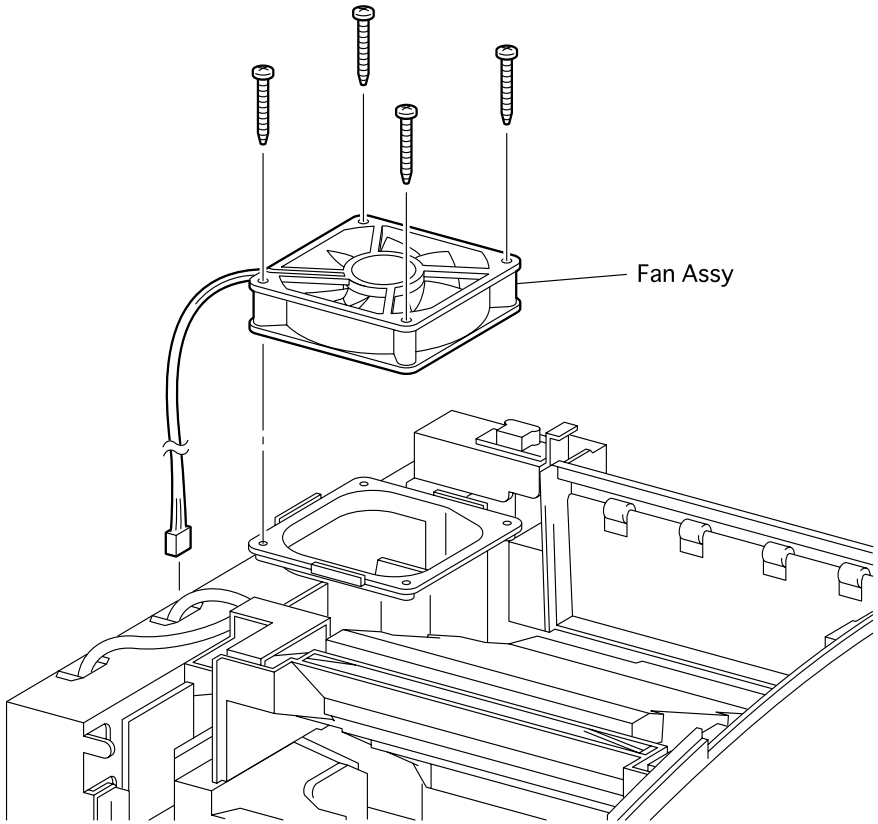


Figure 4-92. Fan Assy Removal

4.2.73 Plate Handle

4.2.73.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Cover Assy I/F* (Section 4.2.2).
4. Remove the *Cover Left* (Section 4.2.1).
5. Remove the *Plate Assy Left* (Section 4.2.71).
6. Remove the four screws securing the *Plate Handle* to the printer.
7. Remove the *Plate Handle* from the printer.

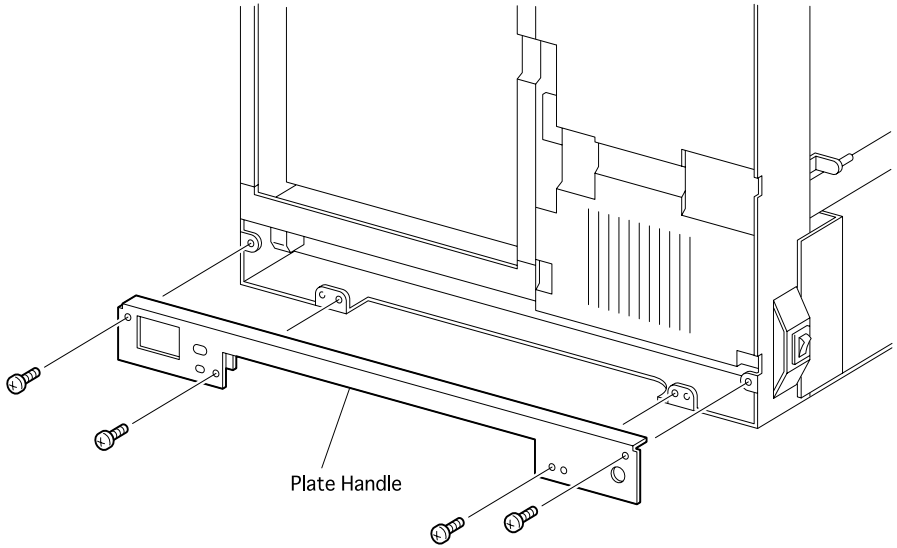


Figure 4-93. Plate Handle Removal

4.2.73.2 Assembly

1. Align the *Plate Handle* with it mount position to the printer.
2. Secure the *Plate Handle* to the printer with four screws.
3. Mount the *Plate Assy Left* (Section 4.2.71).
4. Mount the *Cover Left* (Section 4.2.1).
5. Mount the *Cover Assy I/F* (Section 4.2.2).
6. Mount the *Cover Front L/H* (Section 4.2.10).
7. Mount the *Cover Assy Front* (Section 4.2.8).

4.2.74 PWBA Size 1

4.2.74.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Cover Assy I/F* (Section 4.2.2).
4. Remove the *Cover Left* (Section 4.2.1).
5. Remove the *Plate Assy Left* (Section 4.2.71).
6. Remove the *Plate Handle* (Section 4.2.73).
7. Remove the *Housing Size Sensor* (Section 4.2.77).
8. Remove the *Cover Size Sensor* (Section 4.2.76).
9. Remove the four screws securing the *PWBA Size 1* to the *Housing Size Sensor*.

NOTE: *In the following steps, do not detach the Housing Size Sensor and the PWBA Size 1 far away because they are connected with the harness.*

10. Detach the *PWBA Size 1* a little from the *Housing Size Sensor*.
11. Unplug the connector (P/J331) from the *PWBA Size 1*.
12. Unplug the connector (P/J51) from the *PWBA Size 1*, and remove the *PWBA Size 1*.

4.2.74.2 Assembly

1. Plug the connector (P/J51) in the *PWBA Size 1*.
2. Plug the connector (P/J331) in the *PWBA Size 1*.
3. Align the *PWBA Size 1* with it mount position to the *Housing Size Sensor.*
4. Secure the *PWBA Size 1* to the *Housing Size Sensor* with four screws.
5. Mount the *Cover Size Sensor* (Section 4.2.76).
6. Mount the *Housing Size Sensor* (Section 4.2.77).
7. Mount the *Plate Handle* (Section 4.2.73).
8. Mount the *Plate Assy Left* (Section 4.2.71).
9. Mount the *Cover Left* (Section 4.2.1).
10. Mount the *Cover Assy I/F* (Section 4.2.2).
11. Mount the *Cover Front L/H* (Section 4.2.10).
12. Mount the *Cover Assy Front* (Section 4.2.8).

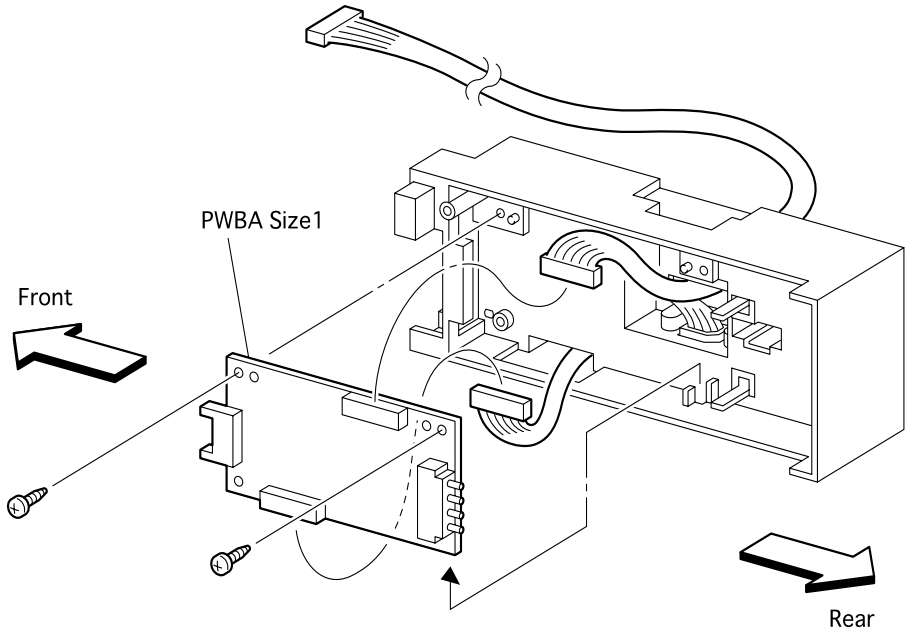


Figure 4-94. PWBA Size 1 Removal

4.2.75 Harness Assy Size M

4.2.75.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Cover Assy I/F* (Section 4.2.2).
4. Remove the *Cover Left* (Section 4.2.1).
5. Remove the *Plate Assy Left* (Section 4.2.71).
6. Remove the *Plate Handle* (Section 4.2.73).
7. Remove the *Housing Size Sensor* (Section 4.2.77).
8. Remove the *Cover Size Sensor* (Section 4.2.76).
9. Unplug the connector (P/J51) of *Harness Assy Size M* from the *PWBA Size 1*.
10. Remove the two screws securing the *Harness Assy Size M* to the *Housing Size Sensor*.
11. Draw off the harness of *Harness Assy Size M* from three holes in the *Housing Size Sensor*, and Remove the *Harness Assy Size M*.

4.2.75.2 Assembly

1. Insert the harness of *Harness Assy Size M* into three holes in the *Housing Size Sensor*.
2. Align the *Harness Assy Size M* with its mount position to the *Housing Size Sensor*.
3. Secure the *Harness Assy Size M* to the *Housing Size Sensor* with two screws.
4. Plug the connector (P/J51) of *Harness Assy Size M* to the *PWBA Size 1*.
5. Mount the *Cover Size Sensor* (Section 4.2.76).
6. Mount the *Housing Size Sensor* (Section 4.2.77).
7. Mount the *Plate Handle* (Section 4.2.73).
8. Mount the *Plate Assy Left* (Section 4.2.71).
9. Mount the *Cover Left* (Section 4.2.1).
10. Mount the *Cover Assy I/F* (Section 4.2.2).
11. Mount the *Cover Front L/H* (Section 4.2.10).
12. Mount the *Cover Assy Front* (Section 4.2.8).

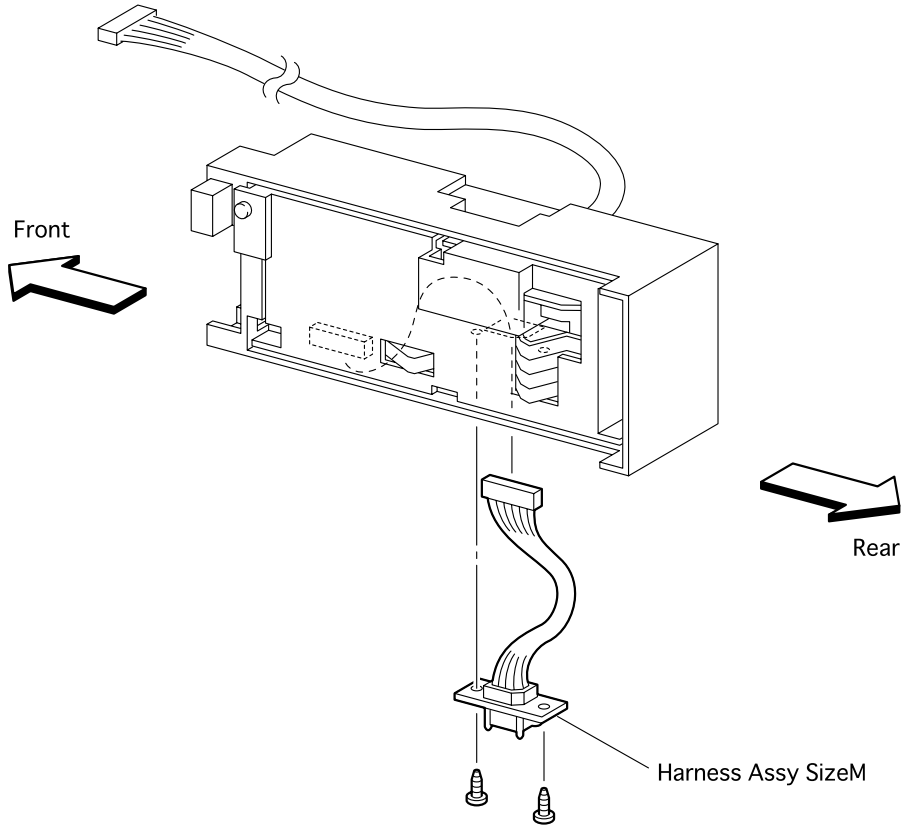


Figure 4-95. Removal of Harness Assy Size M

4.2.76 Cover Size Sensor

4.2.76.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Cover Assy I/F* (Section 4.2.2).
4. Remove the *Cover Left* (Section 4.2.1).
5. Remove the *Plate Assy Left* (Section 4.2.71).
6. Remove the *Plate Handle* (Section 4.2.73).
7. Remove the *Housing Size Sensor* (Section 4.2.77).
8. Remove four screws securing the *Cover Size Sensor* to the *Housing Size Sensor*.
9. Disengage two hooks of *Cover Size Sensor* from the *Housing Size Sensor*.
10. Remove the *Cover Size Sensor* from the *Housing Size Sensor*.

4.2.76.2 Assembly

1. Disengage the back of *Cam SW* on *Cover Size Sensor* from a square hole, and while holding the back of *Cam SW*, mount the *Cover Size Sensor* on the *Housing Size Sensor*.
2. Secure the *Cover Size Sensor* to the *Housing Size Sensor* with two hooks.
3. Secure *Cover Size Sensor* to the *Housing Size Sensor* with four screws.
4. Mount the *Housing Size Sensor* (Section 4.2.77).
5. Mount the *Plate Handle* (Section 4.2.73).
6. Mount the *Plate Assy Left* (Section 4.2.71).
7. Mount the *Cover Left* (Section 4.2.1).
8. Mount the *Cover Assy I/F* (Section 4.2.2).
9. Mount the *Cover Front L/H* (Section 4.2.10).
10. Mount the *Cover Assy Front* (Section 4.2.8).

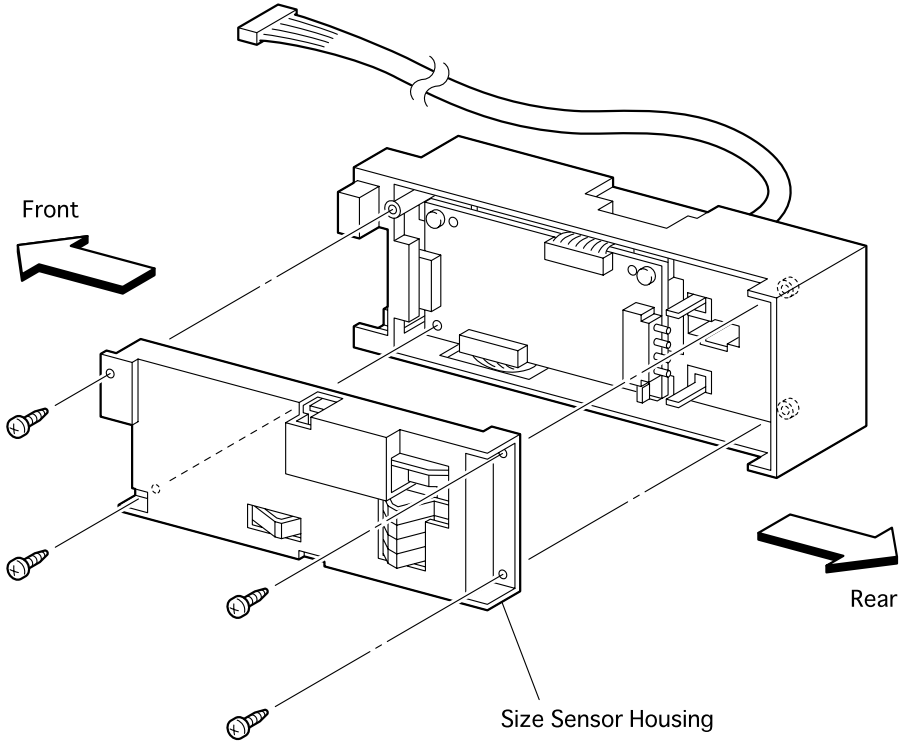


Figure 4-96. Cover Size Sensor Removal

4.2.77 Housing Size Sensor

4.2.77.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Cover Assy I/F* (Section 4.2.2).
4. Remove the *Cover Left* (Section 4.2.1).
5. Remove the *Plate Assy Left* (Section 4.2.71).
6. Unplug the connector (P/J33) from the *MCU PWB*.
7. Release three clamps on the harness of *Housing Size Sensor* from the printer.

NOTE: *In the following steps, do not detach the Housing Size Sensor and the printer far away because they are connected with the harness.*

8. Pushing a boss that secures the *Housing Size Sensor* to the printer with a small screwdriver, draw off the *Housing Size Sensor* toward the rear.
9. Draw the harness of *Housing Size Sensor* from the hole in the printer.

4.2.77.2 Assembly

1. Insert the harness of *Housing Size Sensor* into the hole in the printer.
2. Align four hooks of *Housing Size Sensor* with four holes in the printer.
3. Pushing the rear of *Housing Size Sensor*, slide it toward the front and secure four hooks of *Housing Size Sensor* to four holes in the printer.
4. Plug the connector (P/J33) to the *MCU PWB*.
5. Secure the harness of *Housing Size Sensor* to the printer with three clamps.
6. Mount the *Plate Handle* (Section 4.2.73).
7. Mount the *Plate Assy Left* (Section 4.2.71).
8. Mount the *Cover Left* (Section 4.2.1).
9. Mount the *Cover Assy I/F* (Section 4.2.2).
10. Mount the *Cover Front L/H* (Section 4.2.10).
11. Mount the *Cover Assy Front* (Section 4.2.8).

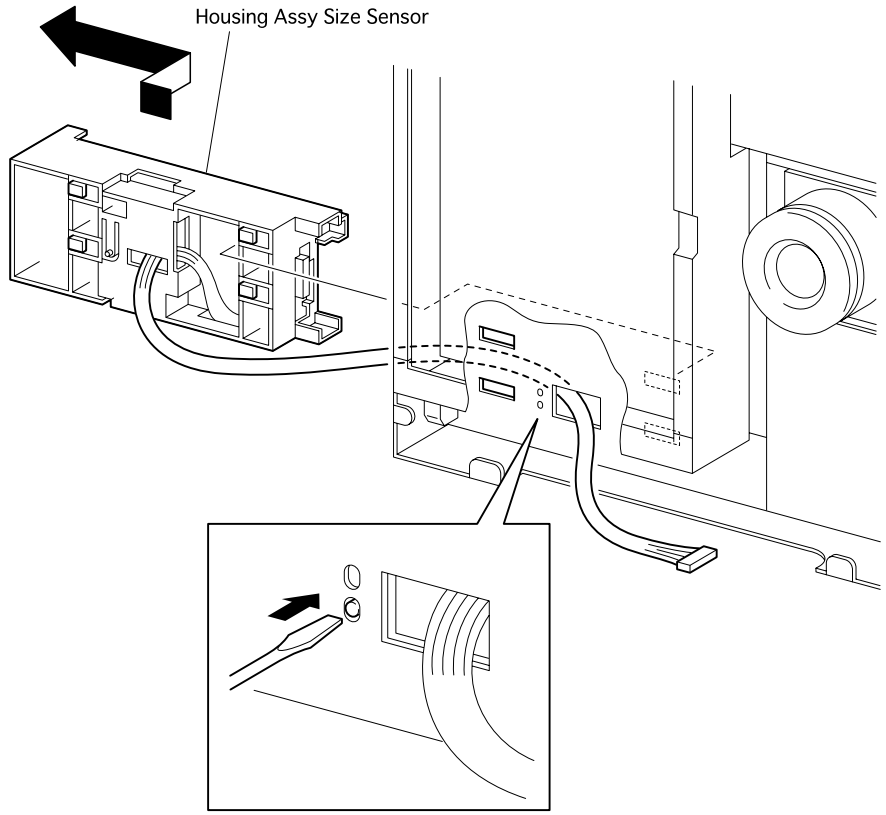


Figure 4-97. Housing Size Sensor Removal

4.2.78 PWB ESS

4.2.78.1 Removal

1. Remove the *Cover Assy I/F* (Section 4.2.2).
2. Unplug the connector (P/J) from the *PWB ESS*.
3. Unplug the connector (P/J) from the *PWB ESS*.
4. Remove the five screws securing the *PWB ESS* to the printer.
5. Shifting the *PWB ESS* toward the rear, unplug the connector (P/J) from the printer.
6. Remove the *PWB ESS* from the printer.

4.2.78.2 Assembly

1. Align the *PWB ESS* with its mount position to the printer.
2. Shifting the *PWB ESS* toward the front of printer, plug the connector of *PWB ESS* to the connector (P/J) of *PWBA MCU*.
3. Secure the *PWB ESS* to the printer with five screws.
4. Plug the connector (P/J) to the *PWB ESS*.
5. Plug the connector (P/J) to the *PWB ESS*.
6. Mount the *Cover Assy I/F* (Section 4.2.2).

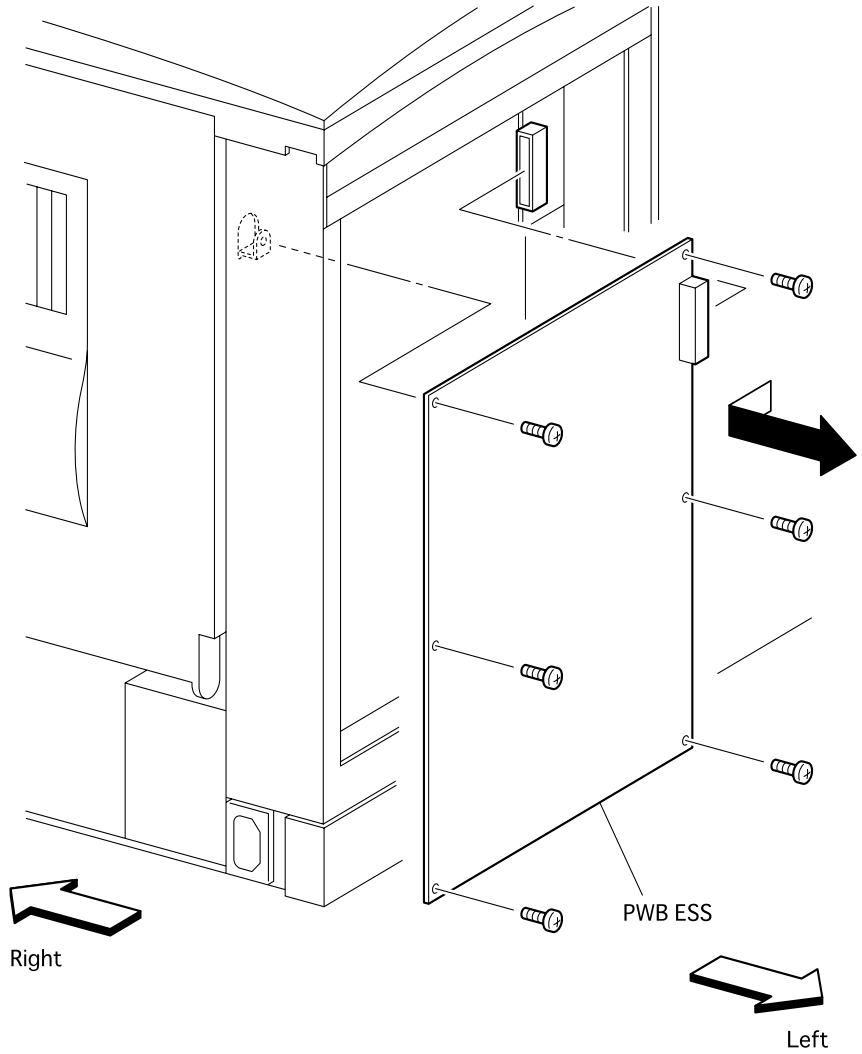


Figure 4-98. PWB ESS Removal

4.2.79 Harness Assy OCT-M

4.2.79.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Cover Assy I/F* (Section 4.2.2).
4. Remove the *Cover Left* (Section 4.2.1).
5. Remove the *Plate Assy Left* (Section 4.2.71).
6. Remove the *Cover Interlock* (Section 4.2.63).
7. Remove the *Chute Assy Exit* (Section 4.2.65).
8. Unplug the connector (P/J35) from the *PWBA MCU*.
9. Unclamp the harness of *Harness Assy OCT-M* from the printer

NOTE: *In the following steps, do not detach the Harness Assy OCT-M and the printer far away because they are connected with the harness.*

10. Remove the two screws securing the *Harness Assy OCT-M* to the printer.
11. Detach the harness of *Harness Assy OCT-M* a little from the printer.
12. Draw the harness of *Harness Assy OCT-M* from the hole in the printer.

4.2.79.2 Assembly

1. Insert the harness of *Harness Assy OCT-M* into the hole in the printer.
2. Align the *Harness Assy OCT-M* with its mount position to the printer.
3. Secure the *Harness Assy OCT-M* to the printer with two screws.
4. Plug the connector (P/J35) to the *PWBA MCU*.
5. Clamp the harness of *Harness Assy OCT-M* to the printer.
6. Mount the *Chute Assy Exit* (Section 4.2.65).
7. Mount the *Cover Interlock* (Section 4.2.63).
8. Mount the *Plate Assy Left* (Section 4.2.71).
9. Mount the *Cover Left* (Section 4.2.1).
10. Mount the *Cover Assy I/F* (Section 4.2.2).
11. Mount the *Cover Front L/H* (Section 4.2.10).
12. Mount the *Cover Assy Front* (Section 4.2.8).

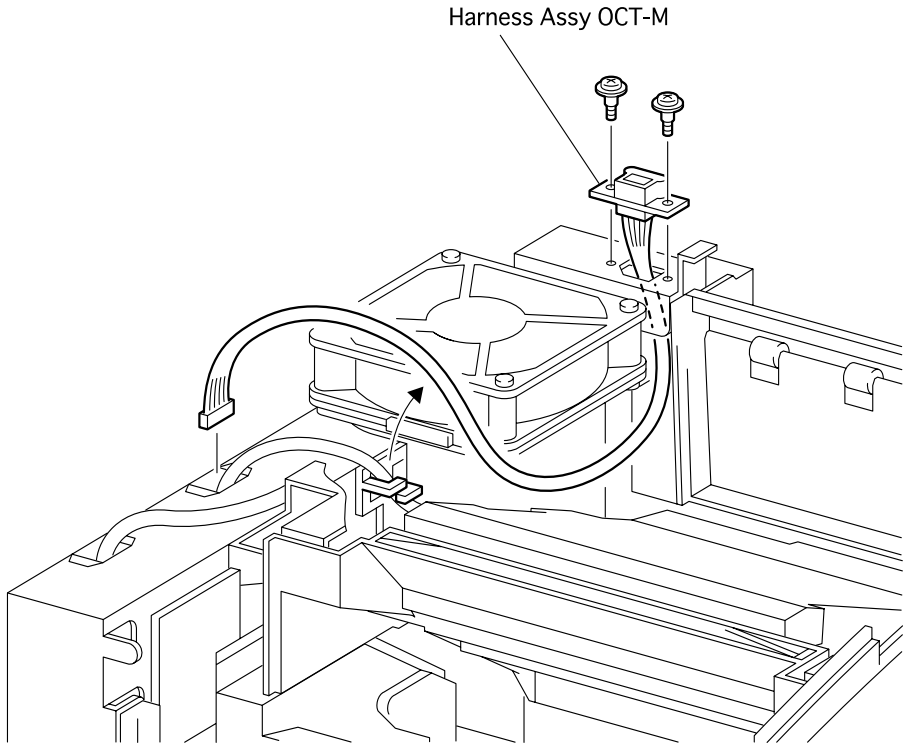


Figure 4-99. Harness Assy OCT-M

4.2.80 Switch Assy I/L Rear

4.2.80.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Cover Rear* (Section 4.2.13).
4. Remove the *Cover Assy I/F* (Section 4.2.2).
5. Remove the *Cover Left* (Section 4.2.1).
6. Remove the *Cover Assy Top* (Section 4.2.4).
7. Remove the *Plate Assy Left* (Section 4.2.71).
8. Remove the *Cover Interlock* (Section 4.2.63).
9. Remove the *Chute Assy Exit* (Section 4.2.65).
10. Unplug the connector (P/J30) from the *PWBA MCU*.
11. Unclamp the harness of *Switch Assy I/L Rear* from the printer.

NOTE: *In the following steps, do not detach the Switch Assy I/L Rear and the printer far away because they are connected with the harness.*

12. Remove the two screws securing the *Switch Assy I/L Rear* to the printer.
13. Detach the harness of *Harness Assy OCT-M* a little from the printer.
14. Draw the harness of *Harness Assy OCT-M* from the hole in the printer.

4.2.80.2 Assembly

1. Insert the harness of *Switch Assy I/L Rear* into the hole in the printer.
2. Align the *Switch Assy I/L Rear* with its mount position to the printer.
3. Secure the *Switch Assy I/L Rear* to the printer with two screws.
4. Plug the connector (P/J30) to the *PWBA MCU*.
5. Clamp the harness of *Switch Assy I/L Rear* to the printer.
6. Mount the *Chute Assy Exit* (Section 4.2.65).
7. Mount the *Cover Interlock* (Section 4.2.63).
8. Mount the *Plate Assy Left* (Section 4.2.71).
9. Mount the *Cover Assy Top* (Section 4.2.4).
10. Mount the *Cover Left* (Section 4.2.1).
11. Mount the *Cover Assy I/F* (Section 4.2.2).
12. Mount the *Cover Rear* (Section 4.2.13).
13. Mount the *Cover Front L/H* (Section 4.2.10).
14. Mount the *Cover Assy Front* (Section 4.2.8).

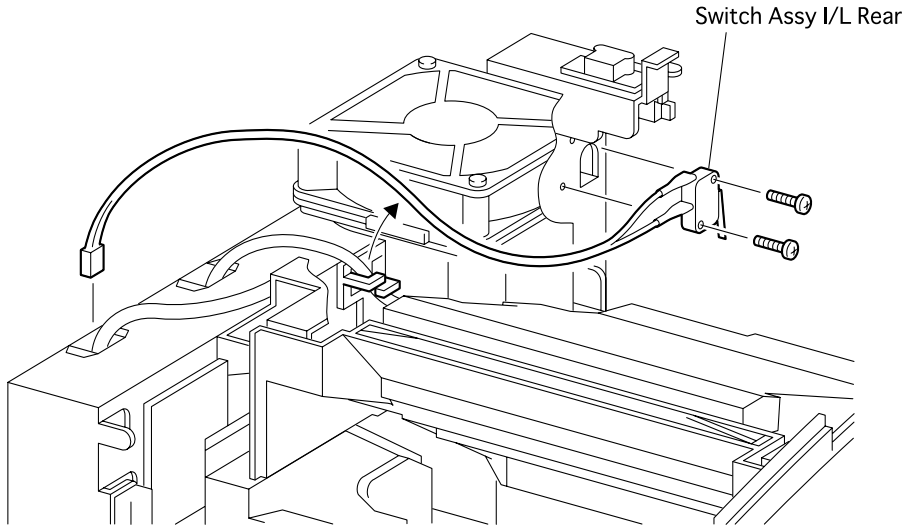


Figure 4-100. Removal of Switch Assy I/L Rear

4.2.81 Harness Assy DUP-M

4.2.81.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Cover Rear* (Section 4.2.13).
4. Remove the *Fuser Assy* (Section 4.2.56).
5. Remove the *Cover Assy* I/F (Section 4.2.2).
6. Remove the *Cover Left* (Section 4.2.1).
7. Remove the *Cover Assy Top* (Section 4.2.4).
8. Remove the *Chute MBF Assy* (Section 4.2.31).
9. Remove the *Shaft 14* (Section 4.2.52).
10. Remove the *Gear 14* (Section 4.2.52).
11. Remove the *P/H Assy* (Section 4.2.43).
12. Remove the *Chute Trans Assy* (Section 4.2.55).
13. Remove the *Plate Assy Left* (Section 4.2.71).
14. Remove the *CRU Top Guide Assy* (Section 4.2.66).
15. Remove the *Plate Handle* (Section 4.2.73).
16. Remove the *PWBA MCU* (Section 4.2.84).
17. Remove the *Motor Assy Main* (Section 4.2.69).
18. Remove the *PWBA PS* (Section 4.2.86).
19. Remove the *Gear Assy Drive* (Section 4.2.68).
20. Unplug the connector (P/J34) from the *PWBA MCU*.

NOTE: *In the following steps, do not detach the Harness Assy DUP-M and the printer far away because they are connected with the harness.*

21. Remove the two screws securing the *Harness Assy DUP-M* to the printer.
22. Detach the harness of *Harness Assy DUP-M* a little from the printer.
23. Draw the harness of *Harness Assy DUP-M* from the hole in the printer.

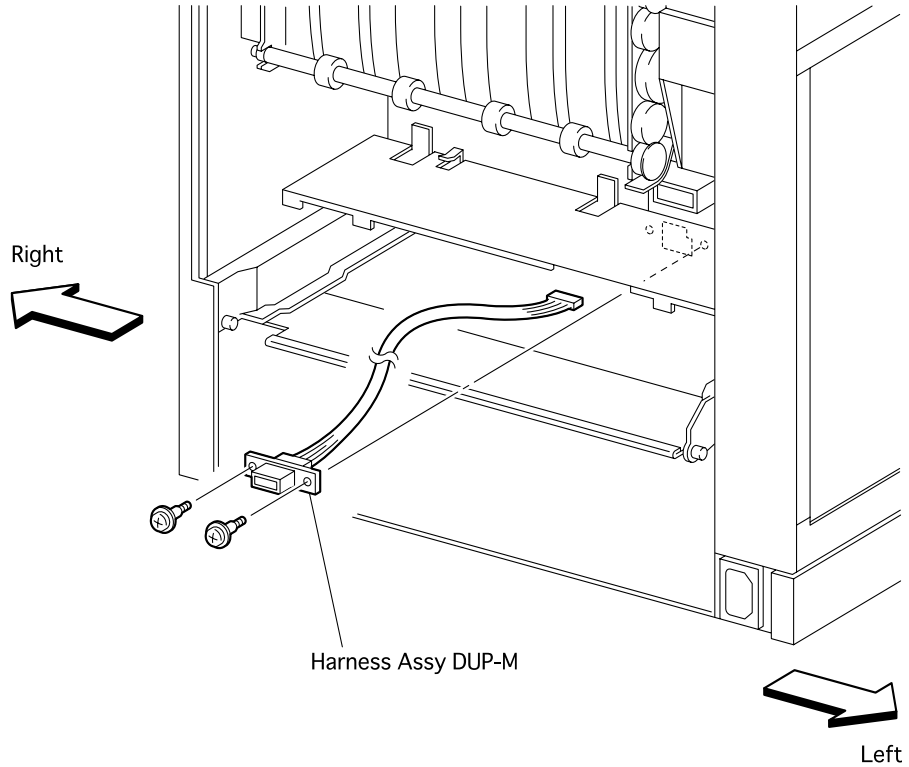


Figure 4-101. Removal of Harness Assy DUP-M

4.2.81.2 Assembly

1. Insert the harness of *Harness Assy DUP-M* into the hole in the printer.
2. Align the *Harness Assy DUP-M* with its mount position to the printer.
3. Secure the *Harness Assy DUP-M* to the printer with two screws.
4. Plug the connector (P/J34) to the *PWBA MCU*.
5. Mount the *Gear Assy Drive* (Section 4.2.68).
6. Mount the *PWBA PS* (Section 4.2.86).
7. Mount the *Motor Assy Main* (Section 4.2.69).
8. Mount the *PWBA MCU* (Section 4.2.84).
9. Mount the *Plate Handle* (Section 4.2.73).
10. Mount the *CRU Top Guide Assy* (Section 4.2.66).
11. Mount the *Plate Assy Left* (Section 4.2.71).
12. Mount the *Chute Trans Assy* (Section 4.2.55).
13. Mount the *P/H Assy* (Section 4.2.43).
14. Mount the *Gear 14* (Section 4.2.52).
15. Mount the *Shaft 14* (Section 4.2.52).
16. Mount the *Chute MBF Assy* (Section 4.2.31).
17. Mount the *Cover Assy Top* (Section 4.2.4).
18. Mount the *Cover Left* (Section 4.2.1).
19. Mount the *Cover Assy I/F* (Section 4.2.2).
20. Mount the *Fuser Assy* (Section 4.2.56).
21. Mount the *Cover Rear* (Section 4.2.13).
22. Mount the *Cover Front L/H* (Section 4.2.10).
23. Mount the *Cover Assy Front* (Section 4.2.8).

4.2.82 PWBA CONN

4.2.82.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Cover Assy I/F* (Section 4.2.2).
4. Remove the *Cover Left* (Section 4.2.1).
5. Remove the *Cover Assy Top* (Section 4.2.4).
6. Remove the *Plate Assy Left* (Section 4.2.71).
7. Unplug the connector (P/J41) from the *PWBA CONN*.
8. Unplug the connector (P/J42) from the *PWBA CONN*.
9. Unplug the connector (P/J43) from the *PWBA CONN*.
10. Unplug the connector (P/J44) from the *PWBA CONN*.
11. Unplug the connector (P/J45) from the *PWBA CONN*.
12. Unplug the connector (P/J231) from the *PWBA CONN*.
13. Remove the three screws securing the *PWBA CONN* to the printer.
14. Remove the *PWBA CONN* from the printer.

4.2.82.2 Assembly

1. Align the *PWBA CONN* with it mount position to the printer.
2. Secure the *PWBA CONN* to the printer with three screws.
3. Plug the connector (P/J41) in the *PWBA CONN*.
4. Plug the connector (P/J42) in the *PWBA CONN*.
5. Plug the connector (P/J43) in the *PWBA CONN*.
6. Plug the connector (P/J44) in the *PWBA CONN*.
7. Plug the connector (P/J45) in the *PWBA CONN*.
8. Plug the connector (P/J231) in the *PWBA CONN*.
9. Mount the *Plate Assy Left* (Section 4.2.71).
10. Mount the *Cover Assy Top* (Section 4.2.4).
11. Mount the *Cover Left* (Section 4.2.1).
12. Mount the *Cover Assy I/F* (Section 4.2.2).
13. Mount the *Cover Front L/H* (Section 4.2.10).
14. Mount the *Cover Assy Front* (Section 4.2.8).

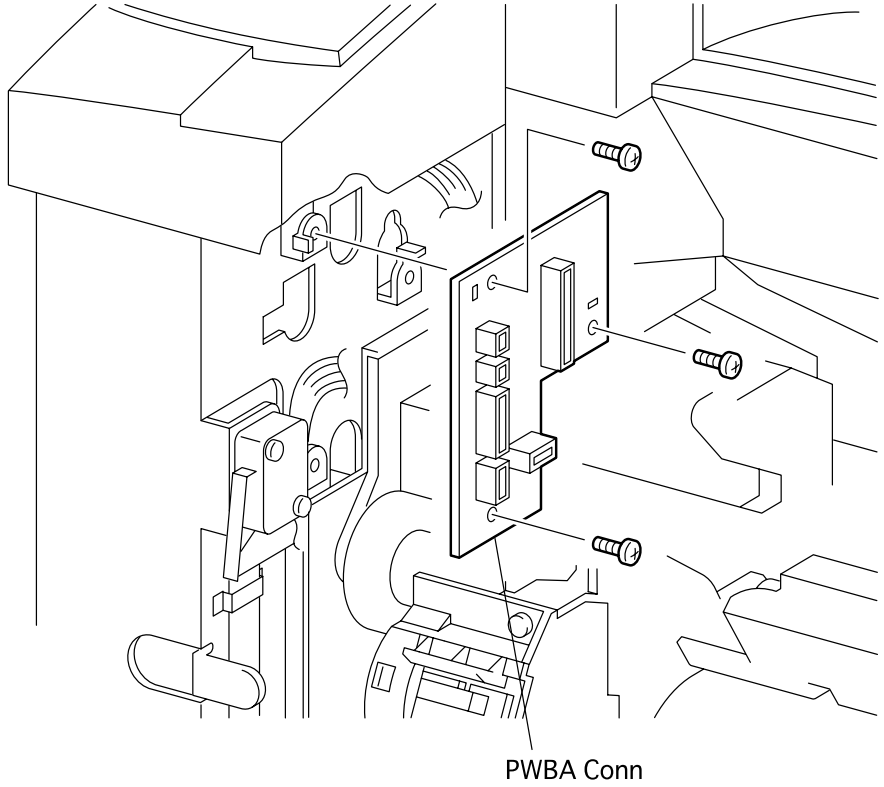


Figure 4-102. PWBA CONN Removal

4.2.83 Switch Assy I/L Front

4.2.83.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Cover Assy I/F* (Section 4.2.2).
4. Remove the *Cover Left* (Section 4.2.1).
5. Remove the *Cover Assy Top* (Section 4.2.4).
6. Remove the *Plate Assy Left* (Section 4.2.71).
7. Unplug the connector (P/J) from the *PWBA PS*.
8. Unclamp the harness of *Switch Assy I/L Front* from the printer.
9. Remove the two screws securing the *Switch Assy I/L Front* to the printer.
10. Remove the *Switch Assy I/L Front* from the printer.

4.2.83.2 Assembly

1. Align the *Switch Assy I/L Front* with its mount position to the printer.
2. Secure the *Switch Assy I/L Front* to the printer with two screws.
3. Clamp the harness of *Switch Assy I/L Front* to the printer.
4. Plug the connector (P/J) to the *PWBA PS*.
5. Mount the *Plate Assy Left* (Section 4.2.71).
6. Mount the *Cover Assy Top* (Section 4.2.4).
7. Mount the *Cover Left* (Section 4.2.1).
8. Mount the *Cover Assy I/F* (Section 4.2.2).
9. Mount the *Cover Front L/H* (Section 4.2.10).
10. Mount the *Cover Assy Front* (Section 4.2.8).

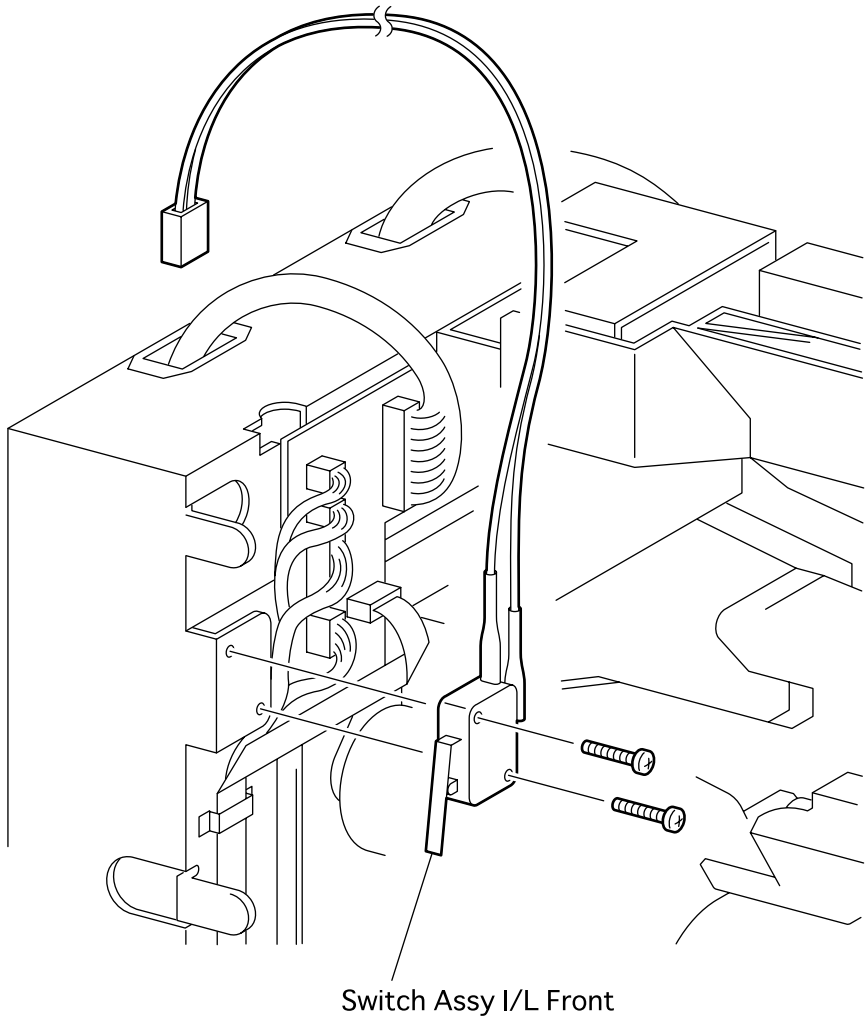


Figure 4-103. Removal of Switch Assy I/L Front

4.2.84 PWBA MCU

4.2.84.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Cover Assy I/F* (Section 4.2.2).
4. Remove the *Cover Left* (Section 4.2.1).
5. Remove the *Cover Assy Top* (Section 4.2.4).
6. Remove the *Plate Assy Left* (Section 4.2.71).
7. Unplug the connector (P/J23) from the *PWBA MCU*.
8. Unplug the connector (P/J32) from the *PWBA MCU*.
9. Unplug the connector (P/J29) from the *PWBA MCU*.
10. Unplug the connector (P/J30) from the *PWBA MCU*.
11. Unplug the connector (P/J28) from the *PWBA MCU*.
12. Unplug the connector (P/J33) from the *PWBA MCU*.
13. Unplug the connector (P/J27) from the *PWBA MCU*.
14. Unplug the connector (P/J26) from the *PWBA MCU*.
15. Unplug the connector (P/J22) from the *PWBA MCU*.
16. Unplug the connector (P/J37) from the *PWBA MCU*.
17. Unplug the connector (P/J31) from the *PWBA MCU*.
18. Unplug the connector (P/J21) from the *PWBA MCU*.
19. Unplug the connector (P/J25) from the *PWBA MCU*.
20. Unplug the connector (P/J34) from the *PWBA MCU*.
21. Unplug the connector (P/J35) from the *PWBA MCU*.
22. Remove the four screws securing the *PWBA MCU* to the printer.
23. Remove the *PWBA MCU* from the printer.

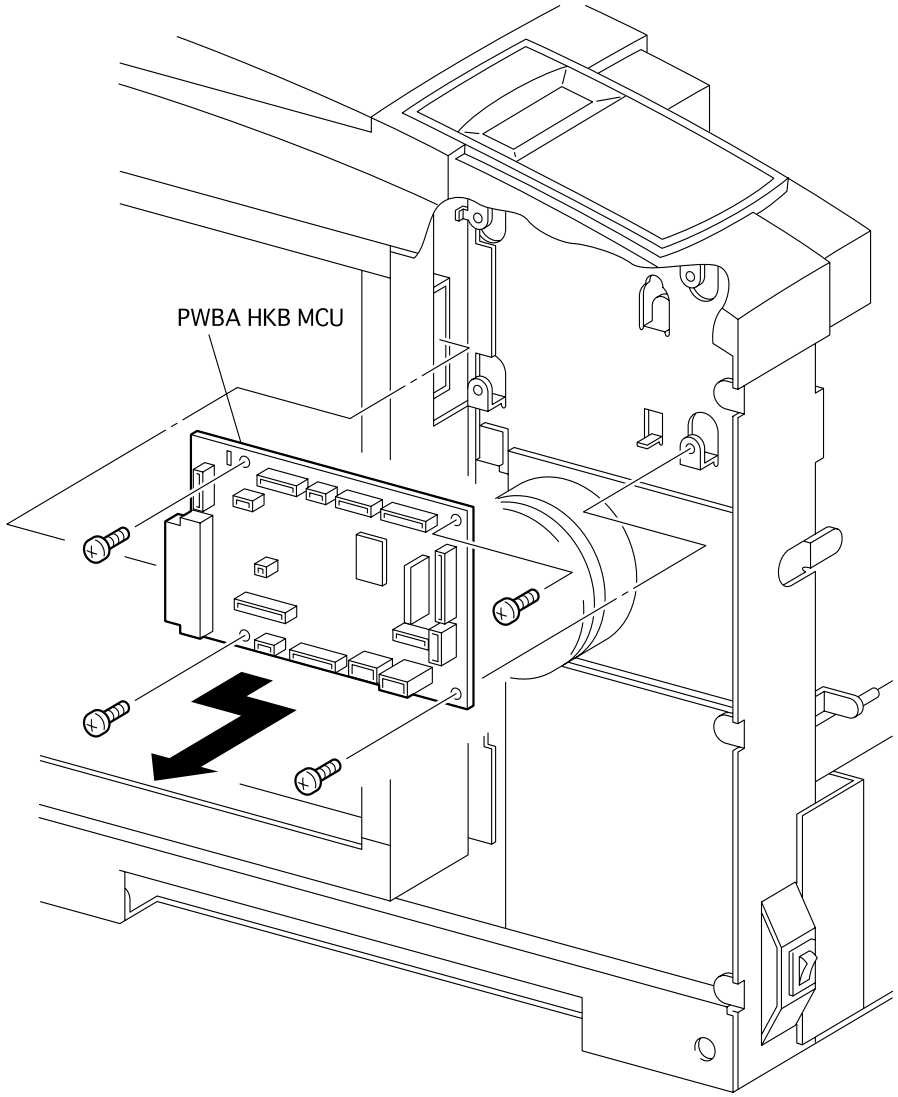


Figure 4-104. PWBA Removal

4.2.84.2 Assembly

1. Align the *PWBA MCU* with it mount position to the printer.
2. Secure the *PWBA MCU* to the printer with four screws.
3. Plug the connector (P/J23) in the *PWBA MCU*.
4. Plug the connector (P/J32) in the *PWBA MCU*.
5. Plug the connector (P/J29) in the *PWBA MCU*.
6. Plug the connector (P/J30) in the *PWBA MCU*.
7. Plug the connector (P/J28) in the *PWBA MCU*.
8. Plug the connector (P/J33) in the *PWBA MCU*.
9. Plug the connector (P/J27) in the *PWBA MCU*.
10. Plug the connector (P/J26) in the *PWBA MCU*.
11. Plug the connector (P/J22) in the *PWBA MCU*.
12. Plug the connector (P/J37) in the *PWBA MCU*.
13. Plug the connector (P/J31) in the *PWBA MCU*.
14. Plug the connector (P/J21) in the *PWBA MCU*.
15. Plug the connector (P/J25) in the *PWBA MCU*.
16. Plug the connector (P/J34) in the *PWBA MCU*.
17. Plug the connector (P/J35) in the *PWBA MCU*.
18. Mount the *Plate Assy Left* (Section 4.2.71).
19. Mount the *Cover Assy Top* (Section 4.2.4).
20. Mount the *Cover Left* (Section 4.2.1).
21. Mount the *Cover Assy I/F* (Section 4.2.2).
22. Mount the *Cover Front L/H* (Section 4.2.10).
23. Mount the *Cover Assy Front* (Section 4.2.8).

4.2.85 PWBA 5VDC

4.2.85.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Cover Assy I/F* (Section 4.2.2).
4. Remove the *Cover Left* (Section 4.2.1).
5. Remove the *Cover Assy Top* (Section 4.2.4).
6. Remove the *Plate Assy Left* (Section 4.2.71).
7. Unplug the connector (P/J288) from the *PWBA 5VDC*.
8. Unplug the connector (P/J101) from the *PWBA 5VDC*.
9. Remove the two screws securing the *PWBA 5VDC* to the printer.
10. Remove the *PWBA 5VDC* from the printer.

4.2.85.2 Assembly

1. Align the *PWBA 5VDC* with it mount position to the printer.
2. Secure the *PWBA 5VDC* to the printer with two screws.
3. Plug the connector (P/J101) to the *PWBA 5VDC*.
4. Plug the connector (P/J288) to the *PWBA 5VDC*.
5. Mount the *Plate Assy Left* (Section 4.2.71).
6. Mount the *Cover Assy Top* (Section 4.2.4).
7. Mount the *Cover Left* (Section 4.2.1).
8. Mount the *Cover Assy I/F* (Section 4.2.2).
9. Mount the *Cover Front L/H* (Section 4.2.10).
10. Mount the *Cover Assy Front* (Section 4.2.8).

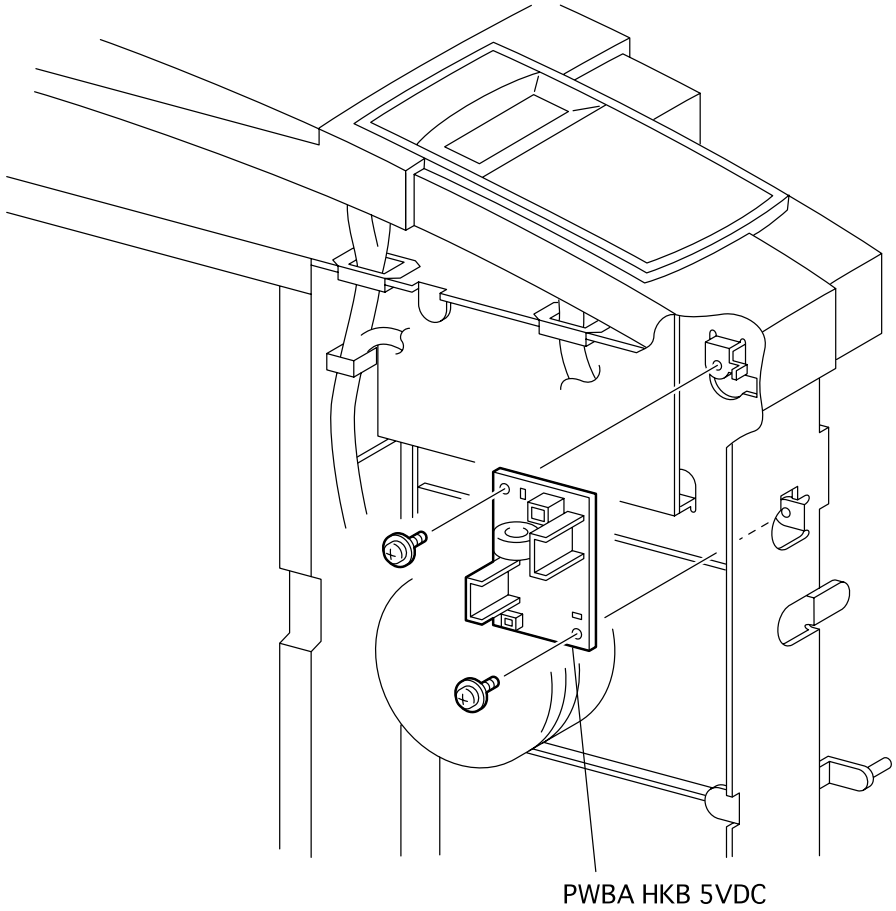


Figure 4-105. PWBA 5VDC Removal

4.2.86 PWBA PS

4.2.86.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Cover Assy I/F* (Section 4.2.2).
4. Remove the *Cover Left* (Section 4.2.1).
5. Remove the *Cover Assy Top* (Section 4.2.4).
6. Remove the *Plate Assy Left* (Section 4.2.71).
7. Remove the *Plate Handle* (Section 4.2.73).
8. Unplug the connector (P/J11) from the *PWBA PS*.
9. Unplug the connector (P/J285) from the *PWBA PS*.
10. Unplug the connector (P/J283) from the *PWBA PS*.
11. Unplug the connector (P/J281) from the *PWBA PS*.
12. Unplug the connector (P/J284) from the *PWBA PS*.
13. Unplug the connector (P/J281) from the *PWBA PS*.
14. Remove the four screws securing the *PWBA PS* to the printer.

NOTE: *In the following steps, do not detach Main Switch and PWBA PS far away because they are connected with the harness.*

15. Detach the *PWBA PS* a little from the printer.
16. Connect the connector (P/J) of *PWBA PS* to the *Main Switch* on the printer.

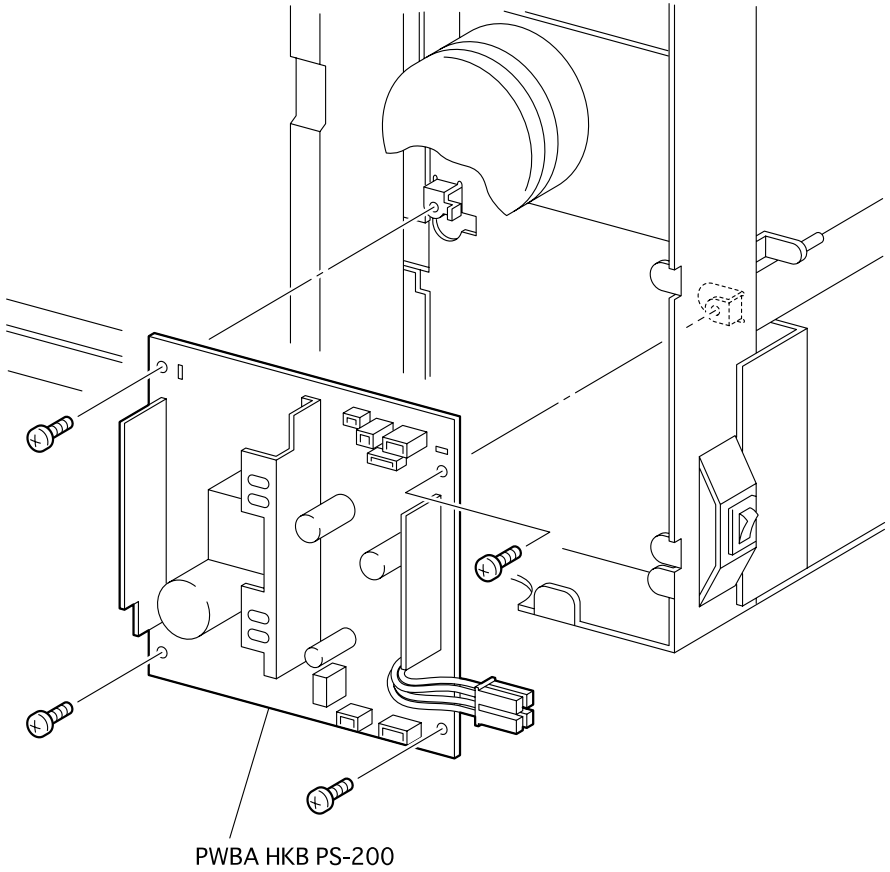


Figure 4-106. PWBA PS Removal

4.2.86.2 Assembly

1. Connect the connector (P/J) of *PWBA PS* to the *Main Switch* on the printer.
2. Align the *PWBA PS* with it mount position to the printer.
3. Secure the *PWBA PS* to the printer with four screws.
4. Plug the connector (P/J11) in the *PWBA PS*.
5. Plug the connector (P/J285) in the *PWBA PS*.
6. Plug the connector (P/J283) in the *PWBA PS*.
7. Plug the connector (P/J281) in the *PWBA PS*.
8. Plug the connector (P/J284) in the *PWBA PS*.
9. Plug the connector (P/J281) in the *PWBA PS*.
10. Mount the *Plate Handle* (Section 4.2.73).
11. Mount the *Plate Assy Left* (Section 4.2.71).
12. Mount the *Cover Assy Top* (Section 4.2.4).
13. Mount the *Cover Left* (Section 4.2.1).
14. Mount the *Cover Assy I/F* (Section 4.2.2).
15. Mount the *Cover Front L/H* (Section 4.2.10).
16. Mount the *Cover Assy Front* (Section 4.2.8).

4.2.87 Main Switch

4.2.87.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Cover Assy I/F* (Section 4.2.2).
4. Remove the *Cover Left* (Section 4.2.1).
5. Remove the *Cover Assy Top* (Section 4.2.4).
6. Remove the *Plate Assy Left* (Section 4.2.71).
7. Remove the *Plate Handle* (Section 4.2.73).

NOTE: *In the following steps, do not detach the Main Switch and the PWBA PS far away because they are connected with the harness.*

8. Remove the *PWBA Assy* (Section 4.2.86).
9. Push The rear of Main Switch so that it comes out of the front from the printer.

4.2.87.2 Assembly

NOTE: *Align the position exactly, mount the Main Switch on the printer with its ON side up.*

1. Align the *Main Switch* with it mount position to the printer.
2. Fit the *Main Switch* in the printer to secure.
3. Mount the *PWBA Assy*.
4. Mount the *Plate Handle* (Section 4.2.73).
5. Mount the *Plate Assy Left* (Section 4.2.71).
6. Mount the *Cover Assy Top* (Section 4.2.4).
7. Mount the *Cover Left* (Section 4.2.1).
8. Mount the *Cover Assy I/F* (Section 4.2.2).
9. Mount the *Cover Front L/H* (Section 4.2.10).
10. Mount the *Cover Assy Front* (Section 4.2.8).

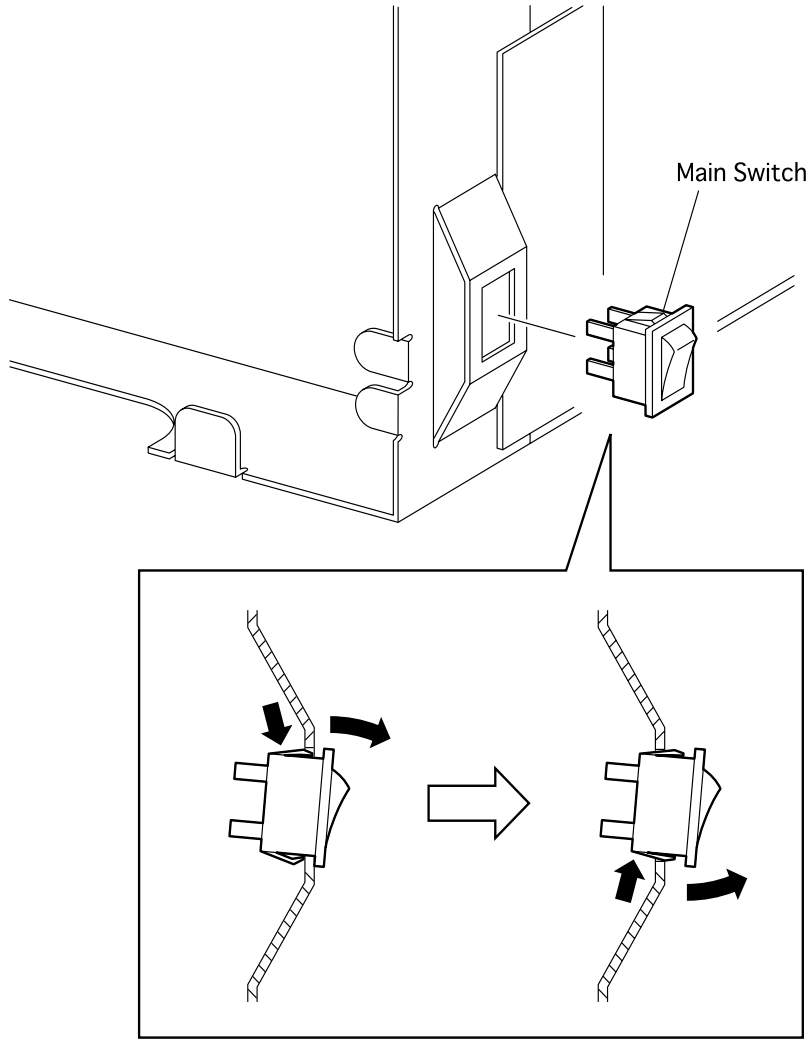


Figure 4-107. Main Switch Removal

4.2.88 PWBA HVPS

4.2.88.1 Removal

1. Remove the *Cover Assy Front* (Section 4.2.8).
2. Remove the *Cover Front L/H* (Section 4.2.10).
3. Remove the *Chute MBF Assy* (Section 4.2.31).
4. Remove the *Shaft 14* (Section 4.2.52).
5. Remove the *Gear 14* (Section 4.2.52).
6. Remove the *P/H Assy* (Section 4.2.43).
7. Remove the *BTR Assy* (Section 4.2.54).
8. Remove the *Chute Trans Assy* (Section 4.2.55).
9. Unplug the connector (P/J261) from the *PWBA HVPS*.
10. Unplug the connector (P/J262) from the *PWBA HVPS*.
11. Remove the one screw securing the *PWBA HVPS* together with *Housing HVPS* to the printer.
12. Remove the *Housing HVPS* together with *Wire Assy DTS*, *Wire Assy TR* and *PWBA HVPS* from the printer.
13. Unplug the connector (P/J DTS) of *Wire Assy DTS* from the *PWBA HVPS*, and remove the *Wire Assy DTS*.
14. Unplug the connector (P/J TR) of *Wire Assy TR* from the *PWBA HVPS*, and remove the *Wire Assy TR*.
15. Deflecting two hooks that secure the *PWBA HVPS* to the *Housing HVPS*, remove the *PWBA HVPS* from the *Housing HVPS*.

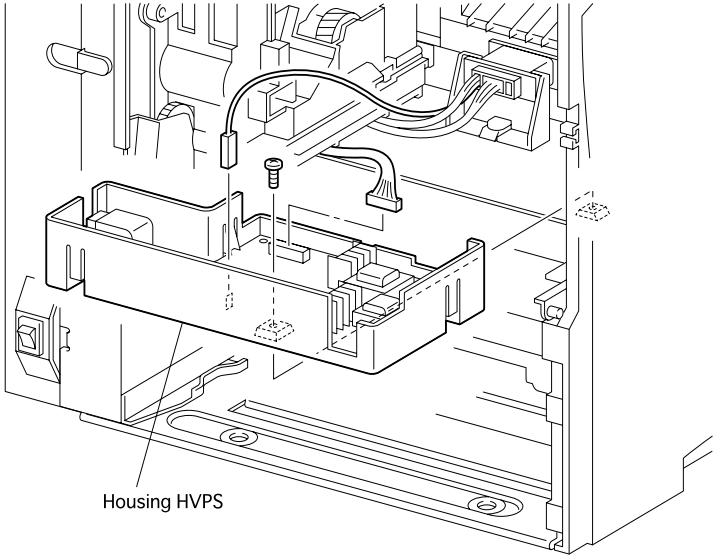


Figure 4-108. PWBA HVPS Removal (1)

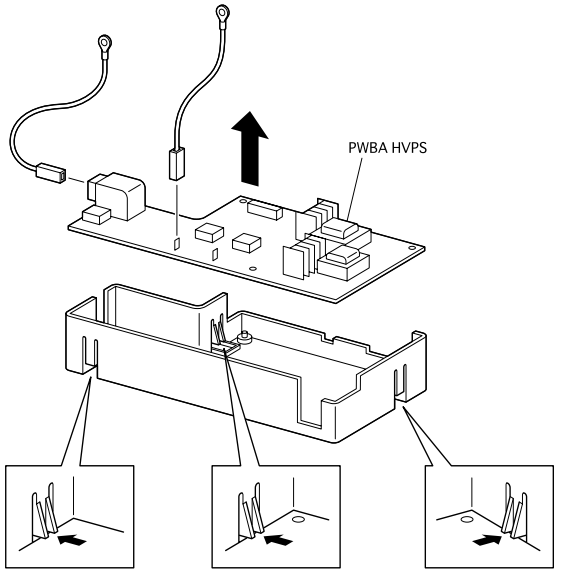


Figure 4-109. PWBA HVPS Removal (2)

4.2.88.2 Assembly

1. Deflecting two hooks of *Housing HVPS*, mount the *PWBA HVPS* on the *Housing HVPS*.
2. Plug the connector (P/J TR) of *Wire Assy TR* to the *PWBA HVPS*.
3. Plug the connector (P/J DTS) of *Wire Assy DTS* to the *PWBA HVPS*.
4. Mount the *Housing HVPS* together with *Wire Assy DTS*, *Wire Assy TR* and *PWBA HVPS* to the printer.
5. Secure the *PWBA HVPS* together with *Housing HVPS* to the printer with one screw.
6. Plug the connector (P/J262) to the *PWBA HVPS*.
7. Plug the connector (P/J261) to the *PWBA HVPS*.
8. Mount *Chute Trans Assy* (Section 4.2.55).
9. Mount the *BTR Assy* (Section 4.2.54).
10. Mount the *P/H Assy* (Section 4.2.43).
11. Mount the *Gear 14* (Section 4.2.52).
12. Mount the *Shaft 14* (Section 4.2.52).
13. Mount *Chute MBF Assy* (Section 4.2.31).
14. Mount the *Cover Front L/H* (Section 4.2.10).
15. Mount the *Cover Assy Front* (Section 4.2.8).

CHAPTER

5

ADJUSTMENT

No specific adjustment is required on this printer after repair.

CHAPTER

6

MAINTENANCE

6.1 Overview

This section explains about maintenance of this printer. Lubrication and adhesion points are not specially regulated; however, there are some exchange items by users that are regulated.

6.1.1 Maintenance by Users

The maintenance item performed by users is shown below.

Table 6-1. Unit Exchanged by Users

Name	Life
Imaging Cartridge	150,000 sheets

6.1.2 Maintenance by Service Personnel

The units listed below are replace by the service personnel. Refer to the figures on the following pages for the location of those units.

Table 6-2. Exchange Units by Service Personnel

Figure No.	Name	Life
6-1	Fuser Assy	200,000 pages
6-2	BTR Assy	200,000 pages
6-3	Roll Assy Kit	100,000 pages
6-4	Roll Assy MBF	100,000 pages

CAUTION

- **After replacing the Fuser Assembly, make sure to clear the Fuser Assy Counter.**

Fuser Assy Counter Clear

1. ***Enter the Maintenance Mode by the following procedure: Turn on the printer while pressing "Continue", "Form Feed", and "On Line" buttons together.***
2. ***Enter "Maintenance Menu" by selecting "Menu".***
3. ***Enter "Fuser Counter Clear" by selecting "Item", push the "Enter" button, and the printer will automatically clear the Counter.***

- **The Roll Assy Kit consists of three Assies. At the time of periodical replacement, all of the three Assies must be replaced together.**

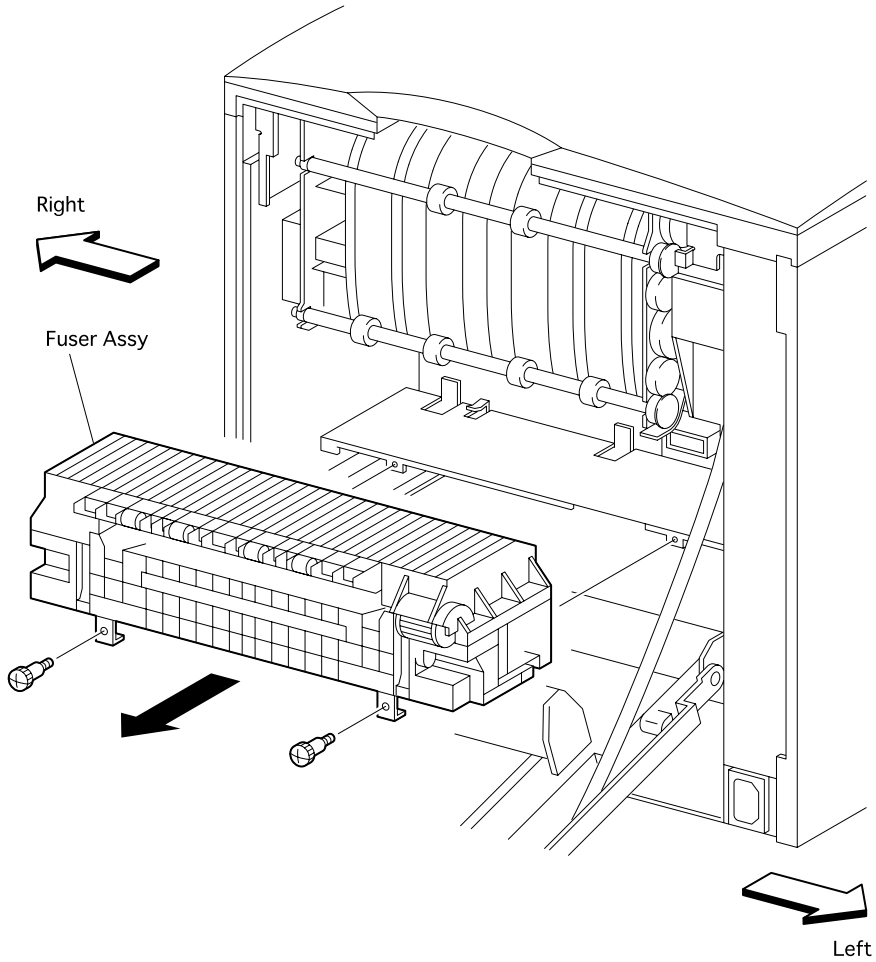


Figure 6-1. Fuser Assy

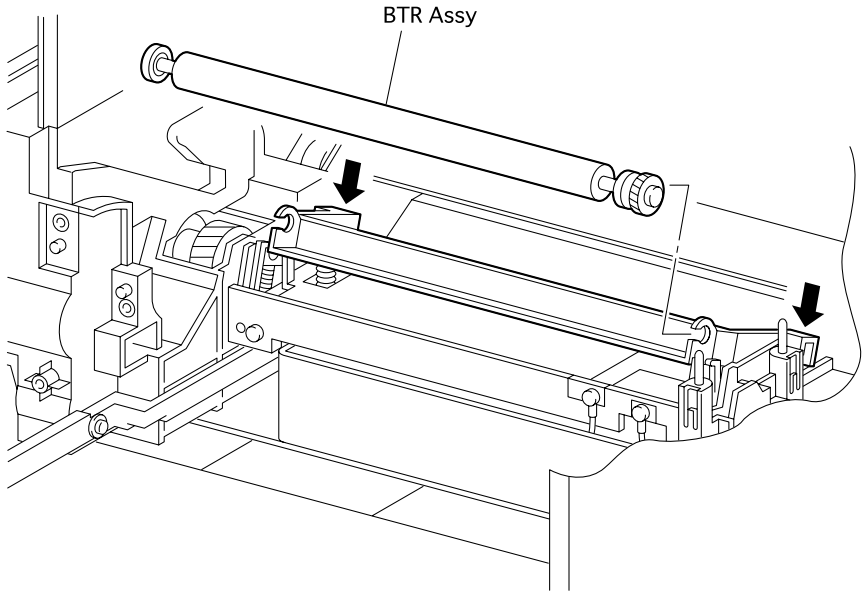


Figure 6-2. BTR Assy

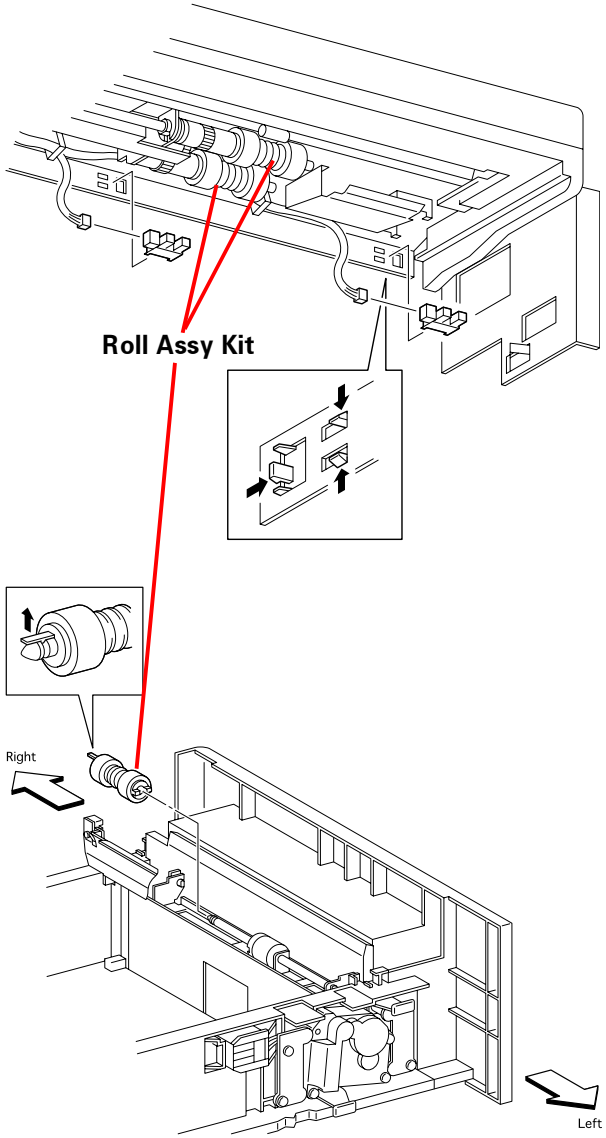


Figure 6-3. Roll Assy Kit

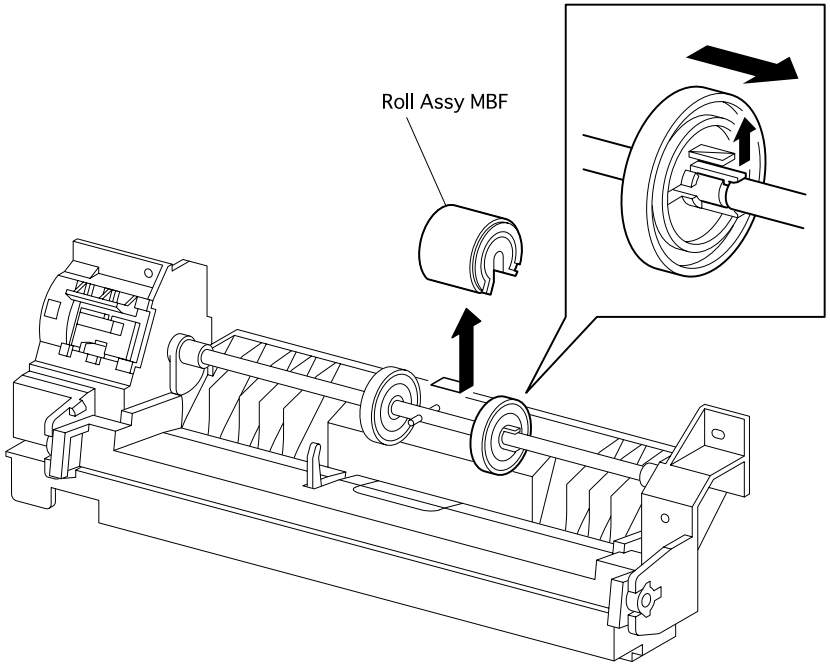


Figure 6-4. Roll Assy MBF

CHAPTER

7

APPENDIX

7.1 Connector Pin Diagram

This section provides supplemental information about the electrical connection in the EPL-N2050.

7.1.1 Connectors - C305MAIN

The figure below shows interconnections with the C305 Main Board.

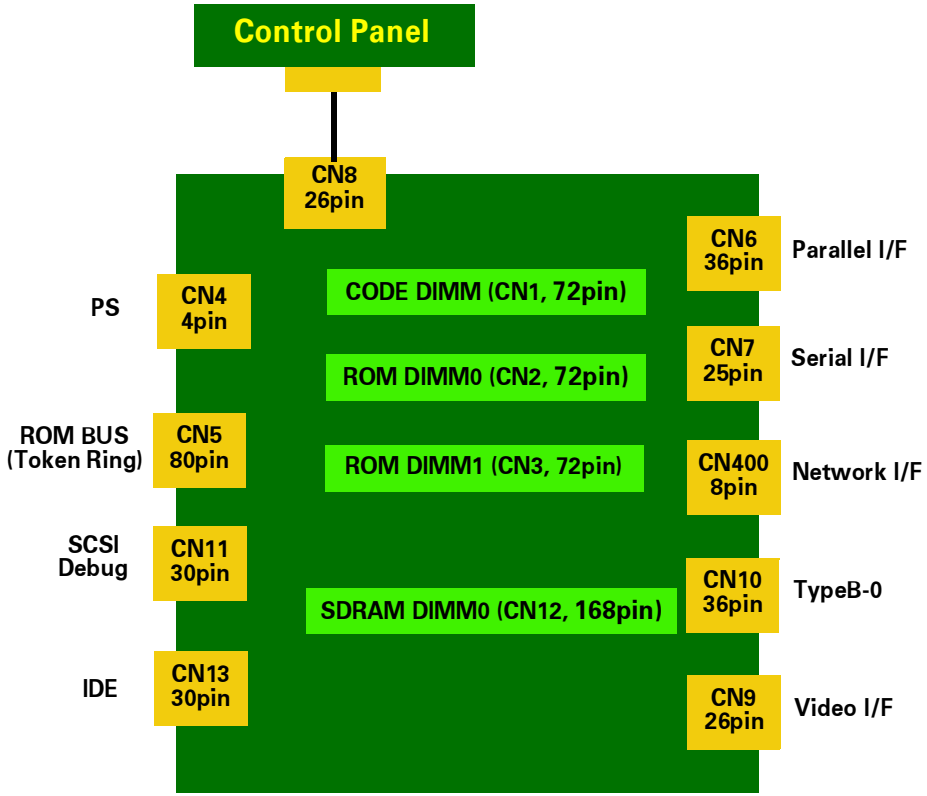


Figure 7-1. Connectors - C305MAIN

Table 7-1. Connector List

Board	Connector	Function	Reference
C305MAIN	CN1	CODE DIMM Slot	Tables 7-2, 3
	CN2	ROM DIMM Slot for Expansion	--
	CN3	ROM DIMM Slot for Expansion	--
	CN4	PS	--
	CN5	ROM BUS (Token Ring)	Tables 7-4, 5
	CN6	IEEE-1284 Parallel Interface	Table 6
	CN7	RS-232C Serial Interface	Tables 7-7, 8
	CN8	Control Panel	Tables 7-9, 10
	CN9	Video Interface	Table 7-11
	CN10	Type B Interface	Table 7-12
	CN11	SCSI (Not used. Reserved for board development.)	Tables 7-13, 14
	CN12	SDRAM DIMM Slot for Expansion	Tables 7-15, 16
	CN13	IDE Hard Disk	Tables 7-17, 18
	CN400	Network Interface	--

Table 7-2. Pin Assignment - CN1

Pin	I/O	Signal	Pin	I/O	Signal
1	--	GND	2	I/O	D0
3	I/O	D1	4	I/O	D2
5	I/O	D3	6	I/O	D4
7	I/O	D5	8	I/O	D6
9	I/O	D7	10	--	Vcc
11	O	A20	12	O	A0
13	O	A1	14	O	A2
15	O	A3	16	O	A4
17	O	A5	18	O	A6
19	O	A10	20	O	A12
21	I/O	D8	22	I/O	D9
23	I/O	D10	24	I/O	D11
25	I/O	D12	26	I/O	D13
27	I/O	D14	28	O	A7
29	O	A11	30	--	Vcc
31	O	A8	32	O	A9
33	O	A13	34	O	RDX
35	I/O	D15	36	O	A14
37	I/O	D16	38	I/O	D17
39	--	GND	40	O	BE0X
41	O	BE2X	42	O	BE3X
43	O	BE1X	44	O	CSX
45	O	A15	46	O	A16
47	O	WR0X	48	O	WR1X

Table 7-2. Pin Assignment - CN1

Pin	I/O	Signal	Pin	I/O	Signal
49	I/O	D18	50	I/O	D19
51	I/O	D20	52	I/O	D21
53	I/O	D22	54	I/O	D23
55	O	A17	56	I/O	D24
57	I/O	D25	58	I/O	D26
59	I/O	D28	60	I/O	D27
61	--	Vcc	62	I/O	D29
63	I/O	D30	64	I/O	D31
65	O	A18	66	O	A21
67	O	A22	68	O	A23
69	I	IDX	70	--	NC
71	O	A19	72	--	GND

Table 7-3. Description of Signals - CN1

Signal Name	I/O	Description
D[31:0]	I/O	Data bus
A[23:0]	O	Address bus. A22 is not connected. A23 is connected with A24 of VR32.
CSX	O	DIMM select signal
RDX	O	Read signal
WR0, 1X	O	Write signal
BE[3:0]X	O	Byte enable signal
IDX	I	Detect pin. Can be read by VR32 register.

Table 7-4. Pin Assignment - CN5

Pin	I/O	Signal Name	Pin	I/O	Signal Name
1	--	+5V	2	--	+5V
3	I/O	D0	4	I/O	D1
5	I/O	D2	6	I/O	D3
7	I/O	D4	8	I/O	D5
9	I/O	D6	10	I/O	D7
11	--	GND	12	I/O	D8
13	I/O	D9	14	I/O	D10
15	I/O	D11	16	I/O	D12
17	I/O	D13	18	I/O	D14
19	I/O	D15	20	--	GND
21	O	CSX	22	O	RDX
23	O	BE0X	24	O	BE1X
25	O	A0	26	O	A2
27	O	A4	28	O	A6
29	O	A8	30	O	A10
31	O	A12	32	O	A14
33	O	A16	34	O	A18
35	O	A20	36	O	A22
37	I	WAITX	38	I	IREQX
39	--	GND	40	--	GND
41	--	+5V	42	--	+5V
43	I/O	D16	44	I/O	D17
45	I/O	D18	46	I/O	D19
47	I/O	D20	48	I/O	D21

Table 7-4. Pin Assignment - CN5

Pin	I/O	Signal Name	Pin	I/O	Signal Name
49	I/O	D22	50	I/O	D23
51	--	GND	52	I/O	D24
53	I/O	D25	54	I/O	D26
55	I/O	D27	56	I/O	D28
57	I/O	D29	58	I/O	D30
59	I/O	D31	60	--	GND
61	I	DTCTX	62	O	WRX
63	O	BE2X	64	O	BE3X
65	O	A1	66	O	A3
67	O	A5	68	O	A7
69	O	A9	70	O	A11
71	O	A13	72	O	A15
73	O	A17	74	O	A19
75	O	A21	76	O	A23
77	O	RESETX	78	I	DREQX
79	--	GND	80	--	GND

Table 7-5. Description of Signals - CN5

Signal Name	I/O	Description
D[31:0]	I/O	Data bus
A [23:0]	O	Address bus. A23 is not connected.
CSX	O	Chip select signal
RDX	O	Read signal
WRX	O	Write signal
WAITX	I	Wait signal
IREQX	I	Interfere signal
DREQX		DMA request signal. Not used in this controller.
RESET	O	Reset signal
DTCTX	I	Board detection signal. Not used in this controller.

Table 7-6. Pin Assignment - CN6

Pin	I/O	Signal Name	Pin	I/O	Signal Name
1	I	STRBX	19	O	GND
2-9	I/O	D1-D8	20	I	GND
10	O	ACKX	21-23	--	GND
11	O	BUSY	24	O	GND
12	O	PE	25-30	--	GND
13	--	SELOT	31	I	INITX
14	--	AUTOX	32	O	ERRX
15	--	NC	33	--	GND
16	--	GND	34	--	NC
17	--	CHASSIS GND	35	--	+5V
18	--	P. L. High (+5V)	36	I	SELINX

Table 7-7. Pin Assignment - CN7

Pin	I/O	Signal Name	Pin	I/O	Signal Name
1	--	CHASSI GND	6	I	DSR
2	O	TXD	7	--	SIGNAL GND
3	I	RXD	8-19	--	NC
4	O	RTS	20	O	DTR
5	I	CTS	21-25	--	NC

Table 7-8. Description of Signals - CN7

Signal Name	I/O	Description
TXD	O	Serial data output signal at RS232C level
RXD	I	Serial data input signal at RS232C level
RTS	O	Output signal at RS232C level. Requests transmission.
CTS	I	Input signal at RS232C level. Permits transmission. NC in this controller.
DSR	I	Input signal at RS232C level. Lets the host know that the opposite side is ready to communicate.
DTR	O	Output signal at RS232C level. Lets the opposite side know that communication is available. This signal can be masked by the software.

Table 7-9. Pin Assignment - CN8

Pin	I/O	Signal Name	Pin	I/O	Signal Name
1, 2	--	VCC	14-16	O	LED4X-LED6X
3	O	LCDX	17	--	GND
4	O	A1	18	O	LCDCLK
5	O	LCDWRX	19	--	GND
6-9	O	DB3-DB0	20-23	I	SW4X-SW1X
10-13	I	SW5X-SW8X	24-26	O	LED3X-LED1X

Table 7-10. Description of Signals - CN8

Signal Name	I/O	Description
LCDCLK	O	LCD controller clock signal
SW1X - SW8X	I	Switch interfere request signal
A1	O	Command / Data select signal
LCDX	O	LCD controller select signal
LCDWRX	O	LCD controller writing signal
LED1X - LED6X	O	LED blinking data writing signal
SWRDX	O	Switch read signal
DB[3:0]	I/O	LCD data bus

Table 7-11. Pin Assignment - CN9

Pin	I/O	Signal Name	Pin	I/O	Signal Name
a1	--	S. GND	b1	--	VIDEOX
a2	O	S. GND	b2	--	PRFDX
a3	I	SRCLKX	b3	--	CMDX
a4	O	CPRDYX	b4	--	PRINTX
a5	I	CTBSUX	b5	--	S. GND
a6	I	NC	b6	--	STSX
a7	--	ETBSYX	b7	O	TODX
a8	--	PRRDYX	b8	--	EPRDYX
a9	--	S. GND	b9	--	HSYNCX
a10	--	S. GND	b10-13	--	NC
a11-13	--	NC			

Table 7-12. Pin Assignment - CN10

Pin	I/O	Signal Name	Pin	I/O	Signal Name
1-6	--	+5V	14	I	WRRDYX
7	O	TDX*	15	I	RDREQX
8	O	READYX*	16	O	WRX
9	I	RXD*	17	O	RDX
10	--	NC	18	O	CSX
11	O	RESET	19-24	--	GND
12	O	INH	25-28	O	A3-A0
13	I	CMREQX	29-36	I/O	D7-D0

*Not used in this controller.

Table 7-13. Pin Assignment - CN11

Pin	I/O	Signal Name	Pin	I/O	Signal Name
1-4	--	Vcc	12	O	DREQIX*
5	I	DREQOX*	13	O	WRX
6	I	NMIX	14	O	RDX
7	I	RESETX	15	O	CEX
8, 9	O	AB4, AB3	16-19	--	GND
10	O	LTCSX*	20-22	O	AB2-AB0
11	--	NC	23-30	I/O	DB7-DB0

Table 7-14. Description of Signals - CN11

Signal Name	I/O	Description
DB	I/O	Data bus
AB	O	Address bus
CEX	O	Chip select signal
RDX	O	Read signal
WRX	O	Write signal
NMIX	I	Interfere signal
RESETX	O	Reset signal

Table 7-15. Pin Assignment - CN12

Pin	I/O	Signal	Pin	I/O	Signal
1	--	Vss	85	--	Vss
2-5	I/O	DQ0-3	86-89	I/O	DQ32-35
6	--	Vcc	90	--	Vcc
7-11	I/O	DQ4-8	91-95	I/O	DQ36-40
12	--	Vss	96	--	Vss
13-17	I/O	DQ9-13	97-101	I/O	DQ41-45
18	--	Vcc	102	--	Vcc
19, 20	I/O	DQ14, 15	103, 104	I/O	DQ46, 47
21, 22	--	NC (DP)	105, 106	--	NC (DP)
23	--	Vss	107	--	Vss
24, 25	--	NC	108, 109	--	NC
26	--	Vcc	110	--	Vcc
27	O	WEX	111	O	CASX
28, 29	O	DQMB0, 1	112, 113	O	DQMB4, 5
30	O	CS0X	114	O	CS1X
31	--	NC (DU)	115	O	RASX
32	--	Vss	116	--	Vss
33-	O	A0	117	O	A1
34	O	A2	118	O	A3
35	O	A4	119	O	A5
36	O	A6	120	O	A7
37	O	A8	121	O	A9
38	O	A10 (AP)	122	O	BA
39	O	BA1	123	O	A11

Table 7-15. Pin Assignment - CN12

Pin	I/O	Signal	Pin	I/O	Signal
40	--	Vcc	124	--	Vcc
41	--	Vcc	125	O	CK1
42	O	CK0	126	O	A12
43	--	Vss	127	--	Vss
44	--	NC (DU)	128	O	CKE0
45	O	CS2X	129	O	CS3X
46, 47	O	DQMB2, 3	130, 131	O	DQMB6, 7
48	--	NC (DU)	132	--	NC (A13)
49	--	Vcc	133	--	Vcc
50, 51	--	NC	134, 135	--	NC
52, 53	--	NC (DP)	136, 137	--	NC (DP)
54	--	Vss	138	--	Vss
55-58	I/O	DQ16-19	139-142	I/O	DQ48-51
59	--	Vcc	143	--	Vcc
60	I/O	DQ20	144	I/O	DQ52
61	--	NC	145	--	NC
62	--	NC (Vref)	146	--	NC (Vref)
63	O	CKE1	147	--	NC
64	--	Vss	148	--	Vss
65-67	I/O	DQ21-23	149-151	I/O	DQ53-55
68	--	Vcc	152	--	Vss
69-72	I/O	DQ24-27	153-156	I/O	DQ56-59
73	--	Vcc	157	--	Vcc
74-77	I/O	DQ28-31	158	I/O	D60
78	--	Vss	159-161	--	DQ61-63

Table 7-15. Pin Assignment - CN12

Pin	I/O	Signal	Pin	I/O	Signal
79	O	CK2	162	--	Vss
80, 81	--	NC	163	O	CK3
82	I/O	SDA	164	--	NC
83	O	SCL	165-167	O	SA0-2
84	--	Vcc	168	--	Vcc

Table 7-16. Description of Signals - CN12

Signal Name	I/O	Description
A[12:0]	O	Address output signal
BA	O	Bank select address signal
DQ[63:0]	I/O	Data bus
CS[3:0]X	O	Chip select signal
RASX	O	Row address strobe signal
CASX	O	Column address strobe signal
WEX	O	Light enable signal
DQMB[7:0]	O	Byte data mask signal
CK[3:0]	O	Clock output signal
CKE[1:0]	O	Clock enable signal
SDA	I/O	SPD data signal
SCL	O	SPD clock signal
SA[2:0]	O	SPD address signal

Table 7-17. Pin Assignment CN13

Pin	I/O	Signal Name	Pin	I/O	Signal Name
A1	--	+5V	B1	--	GND
A2	I	INTRX (IDE_IRQX)	B2	--	WAITX (NC)
A3	O	RESETX (SRESETX)	B3	--	W/RX (NC)
A4	O	IOWRX (IO_WRX)	B4	O	IORDX (IO_RDX)
A5	O	IOCSX (IDE_CSX)	B5	--	A23 (NC)
A6	--	PRSNTX (NC)	B6	--	RSVD (NC)
A7	--	GND	B7	--	GND
A8	I/O	D0 (IO_D0)	B8	I/O	D1 (IO_D1)
A9	I/O	D2 (IO_D2)	B9	I/O	D3 (IO_D3)
A10	I/O	D4 (IO_D4)	B10	I/O	D5 (IO_D5)
A11	I/O	D6 (IO_D6)	B11	I/O	D7 (IO_D7)
A12	I/O	D8 (IO_D8)	B12	I/O	D9 (IO_D9)
A13	I/O	D10 (IO_D10)	B13	I/O	D11 (IO_D11)
A14	I/O	D12 (IO_D12)	B14	I/O	D13 (IO_D13)
A15	I/O	D14 (IO_D14)	B15	I/O	D15 (IO_D15)
A16	--	GND	B16	--	GND
A17	O	A2 (CIO_A2)	B17	O	A3 (CIO_A3)
A18	O	A4 (CIO_A4)	B18	O	A5 (CIO_A5)
A19	--	A6 (NC)	B19	O	A7 (CIO_A5X)
A20	--	A8 (NC)	B20	--	A9 (NC)
A21	--	A10 (NC)	B21	--	A11 (NC)
A22	--	A12 (NC)	B22	--	A13 (NC)

Table 7-17. Pin Assignment CN13

Pin	I/O	Signal Name	Pin	I/O	Signal Name
A23	--	A14 (NC)	B23	--	A15 (NC)
A24	--	A16 (NC)	B24	--	A17 (NC)
A25	--	+5V	B25	--	GND

Table 7-18. Description of Signals - CN13

Signal Name	I/O	Description
IOCSX	O	Command block register select signal
IORX	O	Read signal
IOWX	O	Write signal
A[5:2]	O	Address signal
A7	O	Reverse of A5
D[15:0]	I/O	Data bus
RESETX	O	Reset signal
INTRX	I	Interfere request signal

7.1.2 Pin Alignment

The figure below shows wiring diagram of major component in this printer.

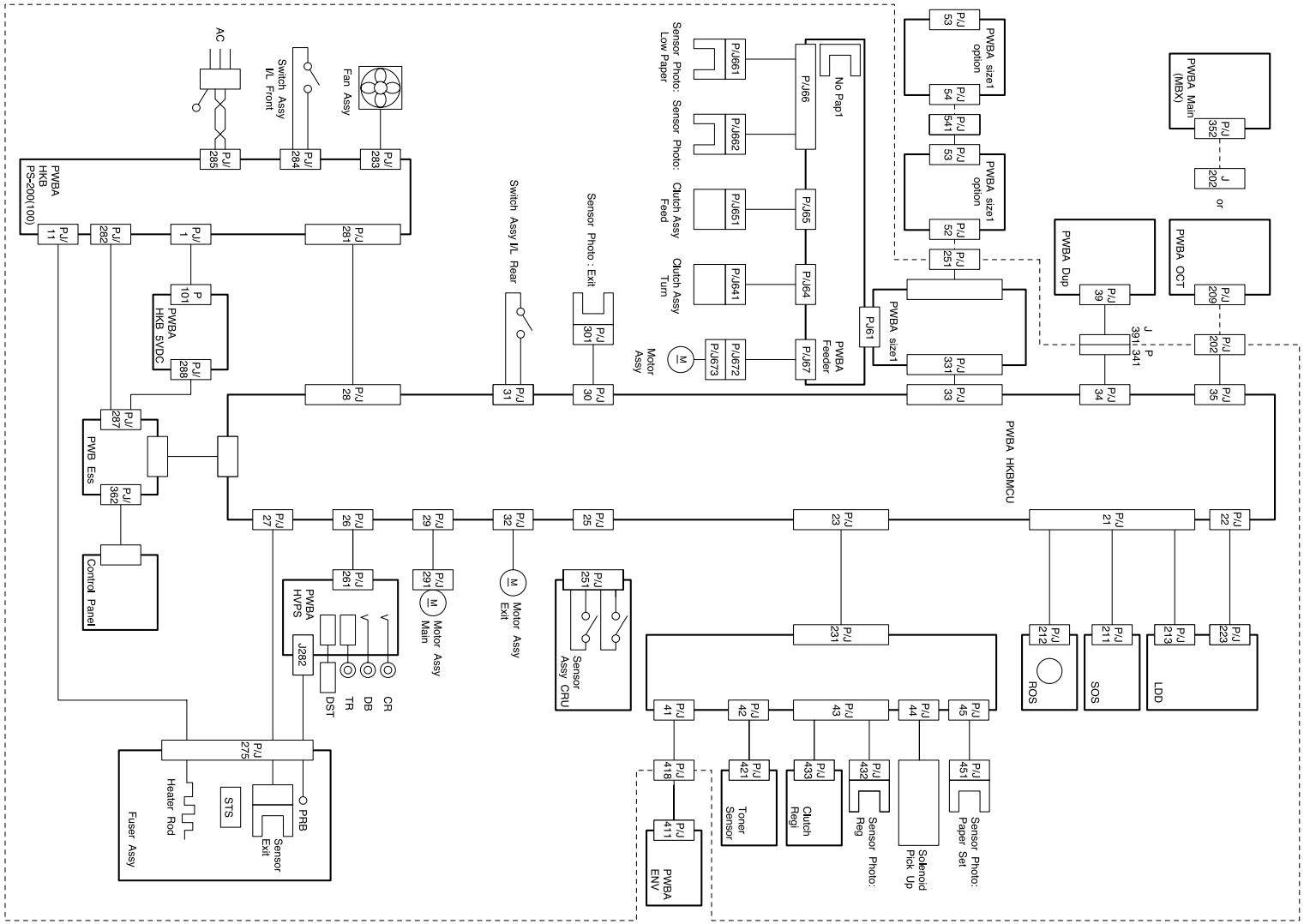


Figure 7-2. Major Component Wiring Diagram

7.1.3 P/J Location Table and Map

Use the table and maps in this section to locate the specific P/J connectors within the printer. To find the location of a P/J:

1. Locate the P/J connector number in the first column of the table.
2. See the figure number in the second column for the corresponding map.
3. Go to that figure and find the connector.

Table 7-19. P/J Location Table

P/J	Location		Harness	Notes
	Figure	Location Name		
1	---	PWBA LVPS	---	Connects PWBA LVPS and PWBA 5VDC.
11	7-5	PWBA LVPS	Harness Assembly Fuser-M	Connects PWBA LVPS and Fuser Assembly.
21	7-5	PWBA MCU	Harness Assembly ROS	Connects PWBA MCU PWB and ROS Assembly (PWBA LDD).
22	7-5	PWBA MCU	Harness Assembly ROS	Connects PWBA MCU PWB and ROS Assembly (SOS Assembly, Scanner Assembly, PWBA LDD).
23	7-5	PWBA MCU	Harness Assembly CONN	Connects PWBA MCU PWB and PWBA CONN.
25	7-5	PWBA MCU	Harness Assembly CRU SNS	Connects PWBA MCU PWB and Sensor Assembly CRU.
26	7-5	PWBA MCU	Harness Assembly HVPS	Connects PWBA MCU PWB and PWBA HVPS.
27	7-5	PWBA MCU	Harness Assembly Fuser-M	Connects PWBA MCU PWB and Fuser Assembly.

Table 7-19. P/J Location Table

P/J	Location		Harness	Notes
	Figure	Location Name		
28	7-5	PWBA MCU	Harness Assembly LVPS	Connects PWBA MCU PWB and PWBA LVPS.
29	7-5	PWBA MCU	Motor Assembly Main	Connects PWBA MCU PWB and Motor Assembly Main.
30	7-5	PWBA MCU	Switch Assembly I/L Rear	Connects PWBA MCU PWB and Switch Assembly I/L Rear.
31	7-5	PWBA MCU	Harness Assembly FS SNR	Connects PWBA MCU PWB and Sensor Photo:Exit.
32	7-5	PWBA MCU	Motor Assembly Exit	Connects PWBA MCU PWB and Motor Assembly Exit.
33	7-5	PWBA MCU	Harness Assembly Feeder	Connects PWBA MCU PWB and PWBA Size 1.
34	7-5	PWBA MCU	Harness Assembly DUP-M	Connects PWBA MCU PWB and Duplex Assembly.
35	7-5	PWBA MCU	Harness Assembly OCT-M	Connects PWBA MCU PWB and Offset Catch Tray.
36	7-5	PWBA MCU	PWB ESS	Connects PWBA MCU PWB and PWB ESS.
37	7-5	PWBA MCU	---	---
41	7-3	PWBA CONN	Connector Assembly ENV	Connects PWBA CONN and Connector Assembly ENV.
42	7-3	PWBA CONN	Harness Assembly Toner Sensor	Connects PWBA CONN and Toner Sensor.

Table 7-19. P/J Location Table

P/J	Location		Harness	Notes
	Figure	Location Name		
43	7-3	PWBA CONN	Harness Assembly Regi.	Connects PWBA CONN, Sensor Photo:Regi. and Clutch Regi.
44	7-3	PWBA CONN	Solenoid Pick Up	Connects PWBA CONN and Solenoid Pick Up.
45	7-3	PWBA CONN	Harness Assembly MBF NOPAP	Connects PWBA CONN and Sensor Photo:Paper Set.
51	7-4	PWBA Size 1	Harness Assembly Size M	Connects PWBA Size 1and Option Feeder.
61	7-4	PWBA Size 1	PWBA Feeder	Connects PWBA Size 1and PWBA Feeder.
64	7-4	PWBA Feeder	Clutch Assembly Turn	Connects PWBA Feeder and Clutch Assembly Turn.
65	7-4	PWBA Feeder	Clutch Assembly Feed	Connects PWBA Feeder and Clutch Assembly Feed.
66	7-4	PWBA Feeder	Harness Assembly N/ SNSR	Connects PWBA Feeder, Sensor Photo:Low Paper and Sensor Photo:Face Control.
67	7-4	PWBA Feeder	Harness Assembly N/MOT	Connects PWBA Feeder and Socket.
101	7-5	PWBA 5VDC	---	Connects PWBA 5VDC and PWBA LVPS.
202	7-3	Frame Assembly	Harness Assembly OCT-M	Connects Offset Catch Tray and PWBA MCU.

Table 7-19. P/J Location Table

P/J	Location		Harness	Notes
	Figure	Location Name		
211	7-5	ROS Assembly	Harness Assembly ROS	Connects ROS Assembly (SOS Assembly) and PWBA MCU.
212	7-5	ROS Assembly	Harness Assembly ROS	Connects ROS Assembly (Scanner Assembly) and PWBA MCU.
213	7-5	ROS Assembly	Harness Assembly ROS	Connects ROS Assembly (PWBA LDD) and PWBA MCU.
223	7-5	ROS Assembly	Harness Assembly ROS	Connects ROS Assembly (PWBA LDD) and PWBA MCU.
231	7-3	PWBA CONN	Harness Assembly CONN	Connects PWBA CONN and PWBA MCU.
251	7-3	Sensor Assembly CRU	Harness Assembly CRU SNS	Connects Sensor Assembly and PWBA MCU.
261	7-4	PWBA HVPS	Harness Assembly HVPS	Connects PWBA HVPS and PWBA MCU.
262	7-4	PWBA HVPS	Harness Assembly Fuser-M	Connects PWBA HVPS and Fuser Assembly.
271	7-3	Frame Assembly	Harness Assembly Fuser-M	Connects Fuser Assembly, PWBA LVPS, PWBA MCU and PWBA HVPS.
281	7-5	PWBA LVPS	Harness Assembly LVPS	Connects PWBA LVPS and PWBA MCU.
282	7-5	PWBA LVPS	Harness Assembly ESS	Connects PWBA LVPS and PWB ESS.

Table 7-19. P/J Location Table

P/J	Location		Harness	Notes
	Figure	Location Name		
283	7-5	PWBA LVPS	Fun Assembly	Connects PWBA LVPS and Fan Assembly.
284	7-5	PWBA LVPS	Switch Assembly I/L Front	Connects PWBA LVPS and Switch Assembly I/L Front.
285	7-5	PWBA LVPS	Wire Assembly AC	Connects PWBA LVPS and Wire Assembly AC.
287	---	PWB ESS	Harness Assembly ESS	Connects PWB ESS, PWBA LVPS and PWBA 5VDC.
288	7-5	PWBA 5VDC	Harness Assembly ESS	Connects PWBA 5VDC and PWB ESS.
291	7-5	Motor Assembly Main	Motor Assembly Main	Connects Motor Assembly Main and PWBA MCU.
311	7-3	Chute Assembly Exit	Harness Assembly FS SNR	Connects Sensor Photo:Exit and PWBA MCU.
331	7-4	PWBA Size 1	Harness Assembly Feeder	Connects PWBA Size 1 and PWBA MCU.
341	7-5	Frame Assembly	Harness Assembly DUP-M	Connects Duplex Assembly and PWBA MCU.
362	---	PWBA ESS	Harness Assembly Panel	Connects PWB ESS and Control Assembly Panel.
363	7-3	Control Assembly Panel	Harness Assembly Panel	Connects Control Assembly and PWB ESS.
418	7-3	Chute MBF Assembly	Connector Assembly ENV	Connects Envelope Feeder and PWBA CONN.

Table 7-19. P/J Location Table

P/J	Location		Harness	Notes
	Figure	Location Name		
421	7-3	Toner Sensor	Harness Assembly Toner Sensor	Connects Toner Sensor and PWBA CONN.
432	7-3	P-H Assembly	Harness Assembly Regi	Connects Sensor Photo:Regi and PWBA CONN.
433	7-3	P-H Assembly	Harness Assembly Regi	Connects Clutch Regi and PWBA CONN.
451	7-3	Chute MBF Assembly	Harness Assembly MBF NOPAP	Connects Sensor Photo:Paper Set and PWBA CONN.
511	7-5	Housing Size Sensor	Harness Assembly Size M	Connects Option Feeder and PWBA Size 1.
641	7-4	Feeder Assembly	Clutch Assembly Turn	Connects Clutch Assembly Turn and PWBA Feeder.
651	7-4	Feeder Assembly	Clutch Assembly Feed	Connects Clutch Assembly Feed and PWBA Feeder.
661	7-4	Feeder Assembly	Harness Assembly N/SNSR	Connects Sensor Photo:Low paper and PWBA Feeder.
662	7-4	Feeder Assembly	Harness Assembly N/SNSR	Connects Sensor Photo:Face Control and PWBA Feeder.
671	7-4	Feeder Assembly	Harness Assembly N/MOT	Connects Socket and PWBA Feeder.
672	7-4	Feeder Assembly	Socket	Connects Feeder Assembly and Cassette Assembly.

Table 7-19. P/J Location Table

P/J	Location		Harness	Notes
	Figure	Location Name		
673	7-4	Cassette Assembly	Motor Assembly	Connects Motor Assembly and Socket.
DTS	7-4	PWBA HVPS	Wire Assembly DTS	Connects PWBA HVPS and Chute Trans Assembly.
TR	7-4	PWBA HVPS	Wire Assembly TR	Connects PWBA HVPS and Chute Trans Assembly.

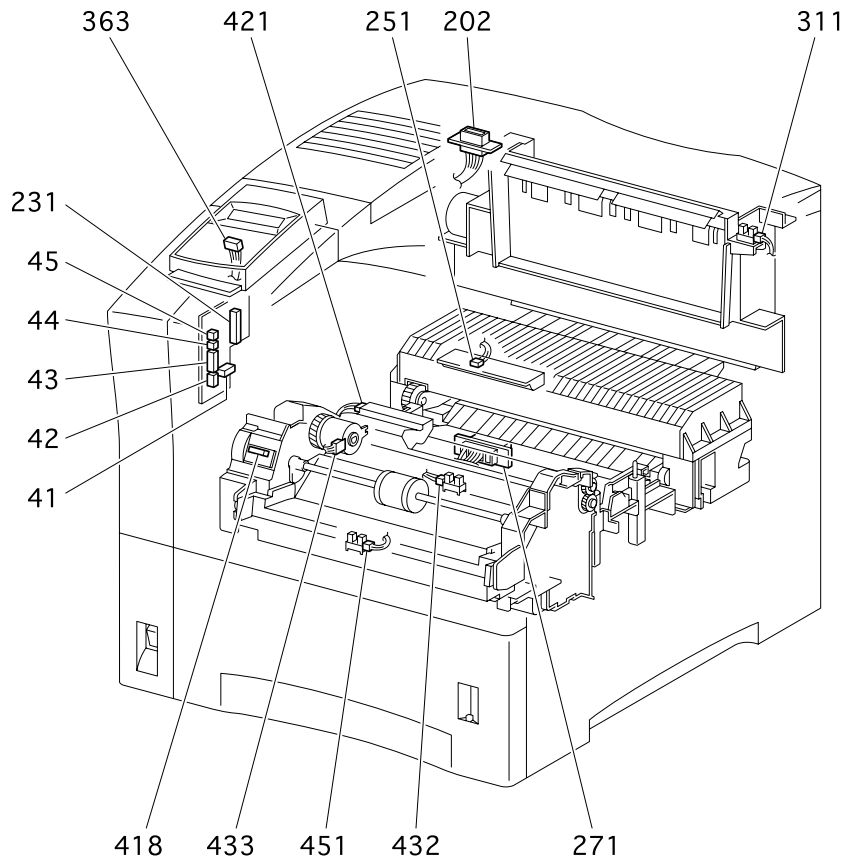


Figure 7-3. P/J Location Map 1

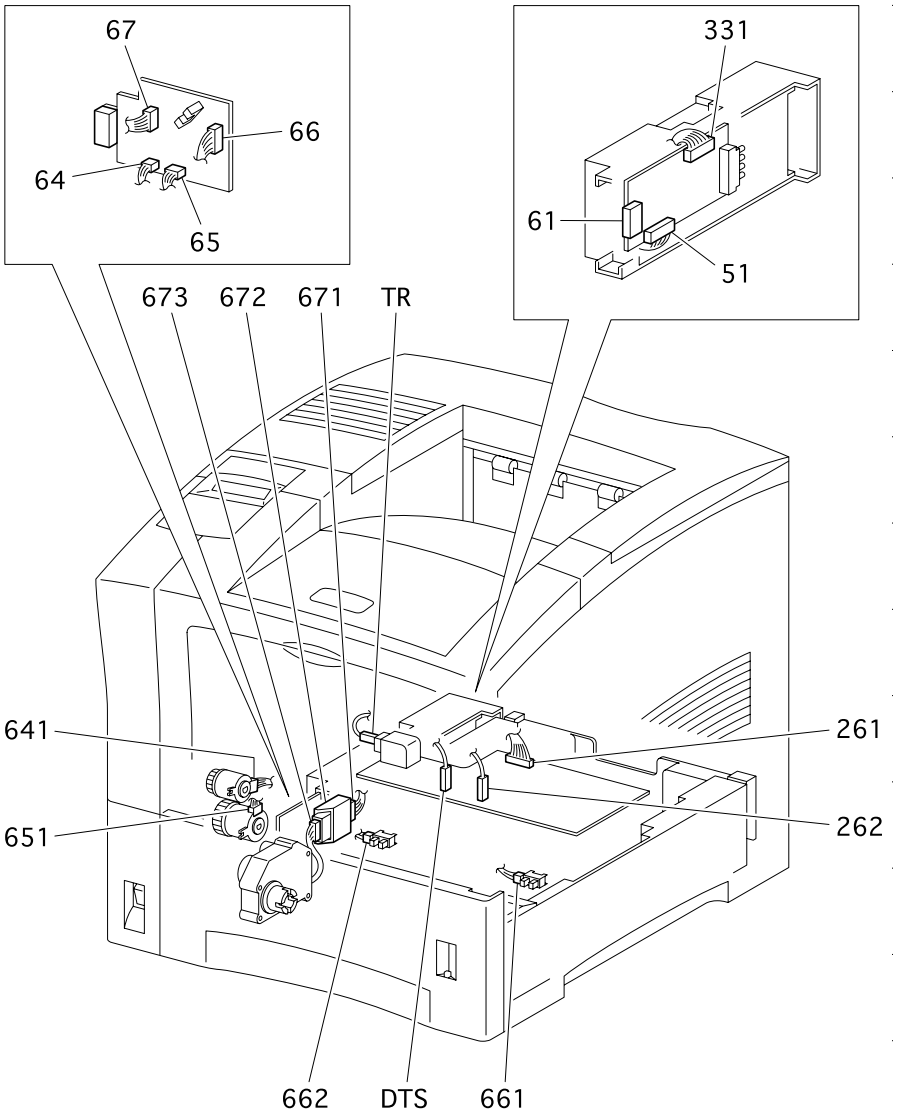


Figure 7-4. P/J Location Map 2

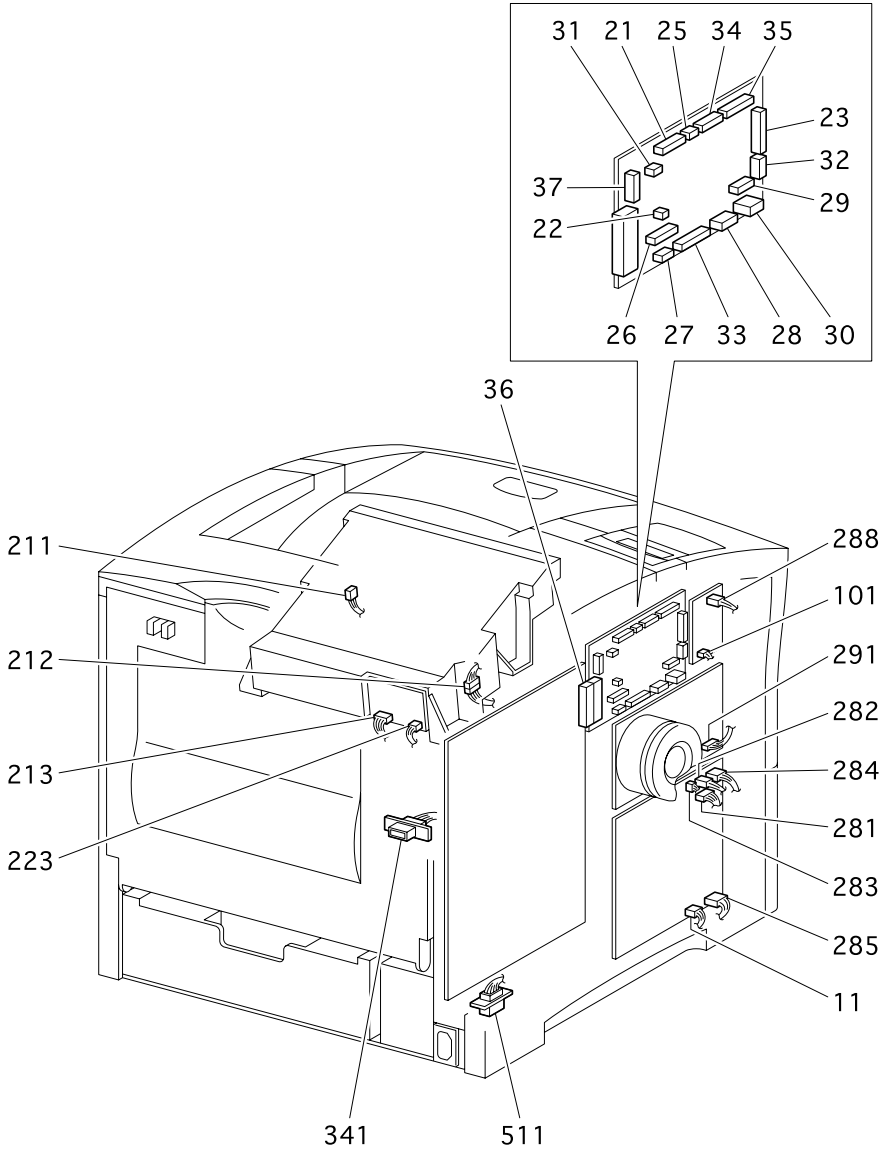


Figure 7-5. P/J Location Map 3

7.1.4 Signal Information

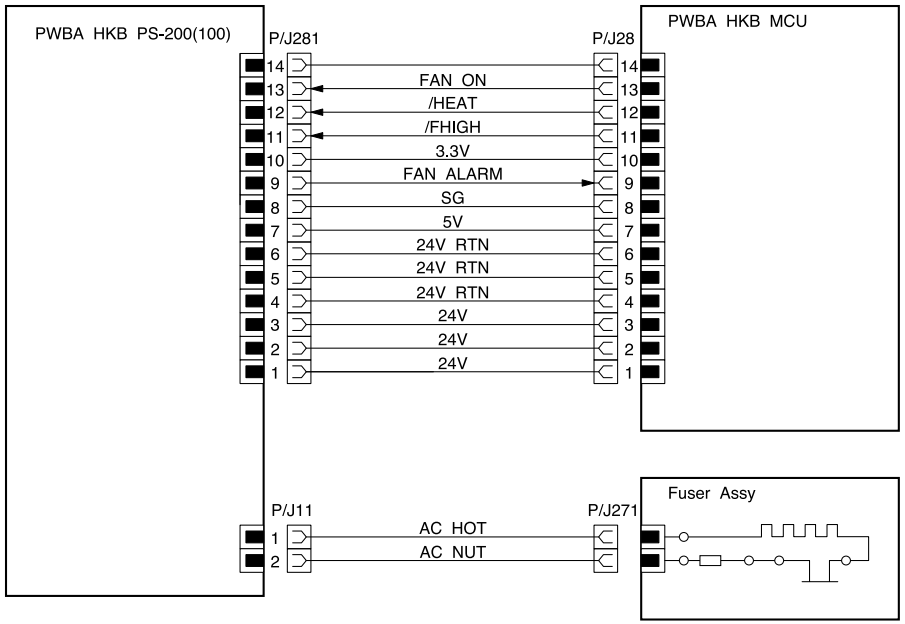


Figure 7-6. PWBA MCU <=> PWBA PS-200 (100) and Fuser Assy

Table 7-20. Signal Name

Signal Name	Description
FAN ON	Fan drive power that drives the Fan Assy with 2 voltages, 24V for High speed and 5V for Low speed.
/HEAT (TTL)	Fuser control signal to switch AC power to the Heat Rod on and off. Low: ON, High: OFF
/FHIGH (24V)	Fan speed switching signal that switches the speed of rotation of the Fan Assy between High and Low. Low: High speed, High: Low speed
FAN ALARM (TTL)	Fan monitor signal. Goes Low when the rotation of the Fan Assy is abnormal. Low: Abnormal, High: Normal

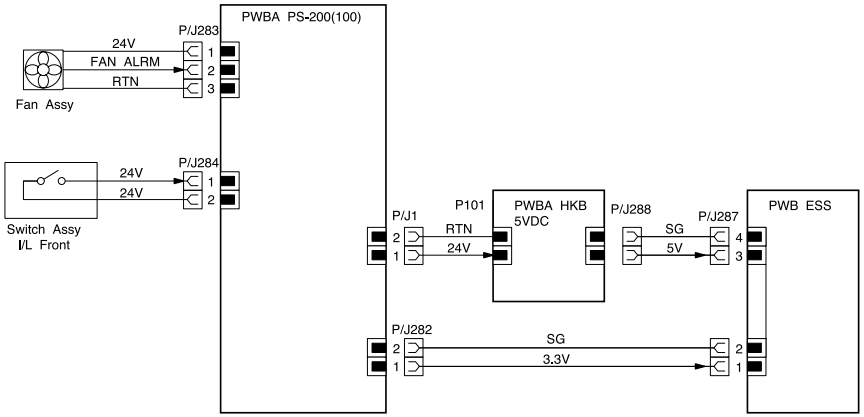


Figure 7-7. PWBA PS-200 (100) <=> Fan Assy, Switch Assy I/L Front, PWBA 5VDC and PWB ES

Table 7-21. Signal Name

Signal Name	Description
FAN ALARM	Actuates the Cassette 1 Feed Solenoid (Normally LOW, and HIGH when paper is fed).

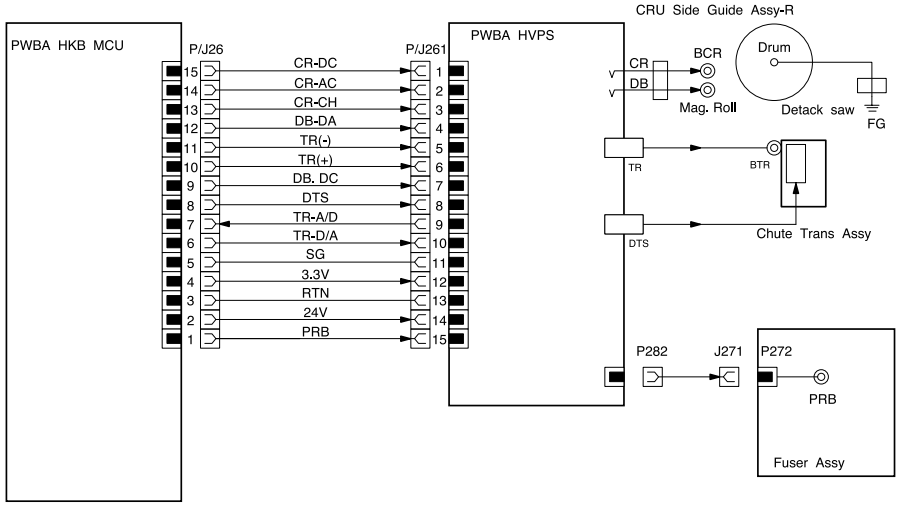


Figure 7-8. PWBA MCU <=> PWBA HVPS <=> BTR, CRU, and Fuser Assy

Table 7-22. Signal Name - DB3 PWBA MCU <=> PWBA HVPS

Signal Name	Description
CR-DC	Control signal to switch the Charge Voltage for DC component of the CR and the PBR on and off. Low: OFF, High: ON (applied charge voltage)
CR-AC	Constant-frequency pulse signal that provides the source of oscillation for generating the AC component of the CR
CR-CH	
DB-DA	Constant-frequency pulse signal that provides the source of oscillation for generating the AC component of the DB (Development Bias) in the HVPS
TR(-)	Transfer Voltage (-) to be applied onto BTR (Analog)
TR(+)	Transfer Voltage (+) to be applied onto BTR (Analog)
DB.DC	Control signal to select the Development Voltage for DC component (Analog)
DTS	Control signal to select the DTS Voltage (Analog)
TR-A/D	
TR-D/A	Control signal to select the TR(+) voltage (0 to 3.3VDC) as determined by the ATDVC (Analog)
PRB	Pressure Roll Bias to be applied on the Pressure Roll

Table 7-23. Signal Name - PWBA HVPS <=> BTR, CRU, and Fuser Assy

Signal Name	Description
CR	HVPS output to the Magnet Roll
DB	HVPS output to the BCR
TR	HVPS output to the BTR (+DC in Transfer operation, and -DC when cleaning the BTR)
DTS	HVPS output to the DTS
PRB	HVPS output to the Pressure Roll

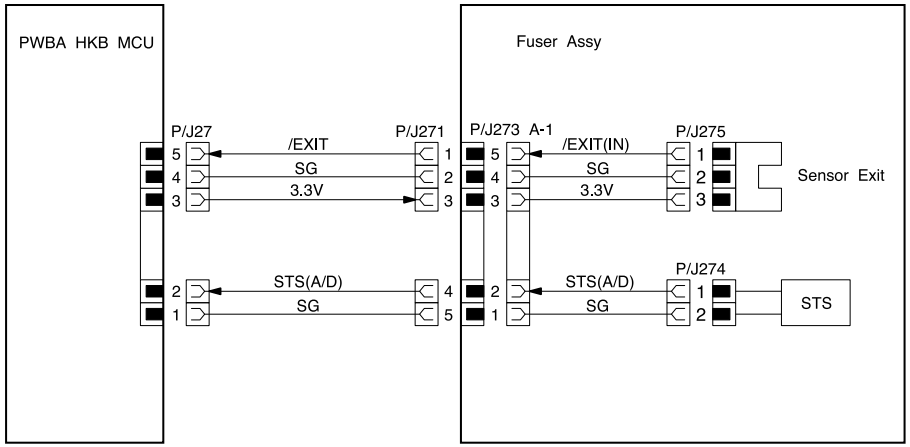


Figure 7-9. PWBA MCU <=> Fuser Assy

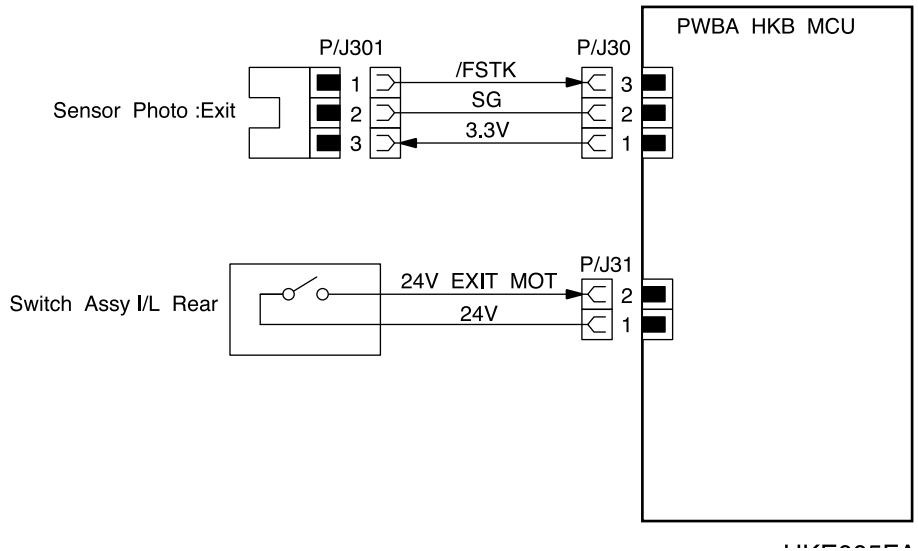


Figure 7-10. PWBA MCU <=> Sensor Photo: Exit, and Switch Assy I/L Rear

Table 7-24. Signal Name

Signal Name	Description
/EXIT	Signal from the Sensor Exit. This signal is Low when the Sensor Exit is activated.
STS	Signal from the Temperature Sensor which monitors the Fuser Heat Roll temperature. (Analog)

Table 7-25. Signal Name

Signal Name	Description
/FSTK	Signal from the Sensor Photo: Full Stack. This signal is Low when the Sensor Photo:Full Stack is activated.
24V EXIT MOT	Signal from the Switch Assy I/L Rear. Goes Low when the Cover Rear is open and breaks the 24VDC circuit for the Motor Assy Exit.

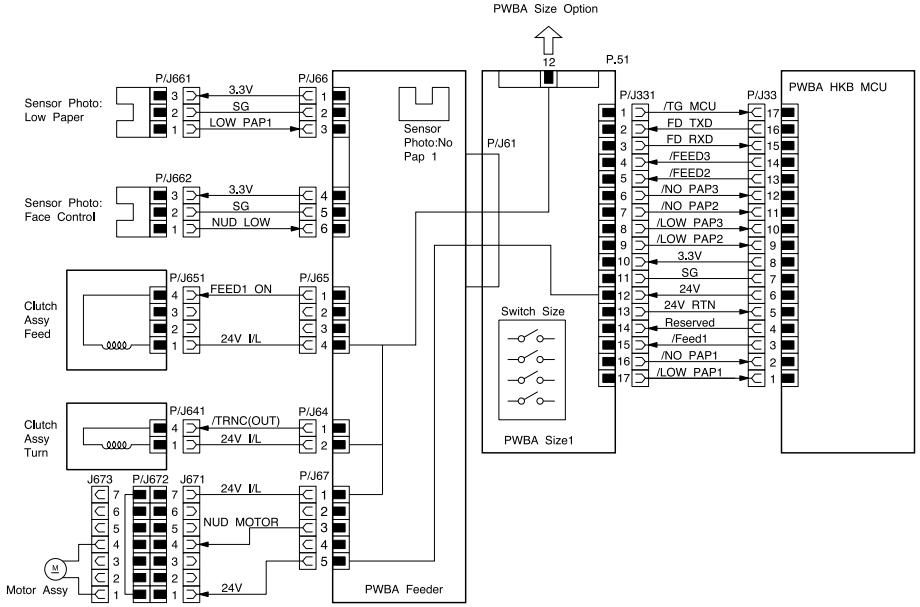


Figure 7-11. PWBA MCU <=> PWBA Size 1 <=> PWBA Feeder <=> Sensor Photo: Low Paper, Sensor Photo: Face Control, Clutch Assy Feed, Clutch Assy Turn and Motor Assy

Table 7-26. Signal Name - PWBA MCU <=> PWBA Size 1

Signal Name	Description
/TG MCU	Option Feeder check signal which is transferred from the PWBA MCU
FD TXD	Control data which is transferred from the PWBA MCU
FD RXD	Received data from the Feeder
/FEED 3	Feed control signal for the Feeder 3. The Clutch Assy Feed and the clutch Assy Turn are activated when this signal goes Low.
/FEED 2	Feed control signal for the Feeder 2. The Clutch Assy Feed and the clutch Assy Turn are activated when this signal goes Low.
/NO PAP 3	Signal from the Sensor Photo: No Pap 3 (equipped on the Option Feeder 3). This signal is Low when the Sensor Photo: No Pap 3 is activated.
/NO PAP 2	Signal from the Sensor Photo:No Pap 2 (equipped on the Option Feeder 2). This signal is Low when the Sensor Photo:No Pap 3 is activated.
/LOW PAP 3	Signal from the Sensor Photo: Low Paper 3 (equipped on the Option Feeder 3).This signal is Low when the Sensor Photo: Low Paper 3 is activated.
/LOW PAP 2	Signal from the Sensor Photo: Low Paper 2 (equipped on the Option Feeder 2).This signal is Low when the Sensor Photo: Low Paper 3 is activated.
/FEED 1	Feed control signal for the Feeder 1. The Clutch Assy Feed and the clutch Assy Turn are activated when this signal goes Low.
/NO PAP 1	Signal from the Sensor Photo: No Pap 1 (equipped on the Feeder). This signal is Low when the Sensor Photo:No Pap 1 is activated.
/LOW PAP 1	Signal from the Sensor Photo: Low Paper (equipped on the Feeder).This signal is Low when the Sensor Photo:Low Paper is activated.

Table 7-27. Signal Name - Sensor Photo: Low Paper, Sensor Photo: Face Control, Clutch Assy Feed, Clutch Assy Turn and Motor Assy

Signal Name	Description
LOW PAP 1	Signal from the Sensor Photo:Low Paper. This signal is Low when the Sensor Photo: Low paper is activated.
FEED 1 ON	Control signal which actuates the Clutch Assy Feed.
/TRNC (OUT)	Control signal which actuates the Clutch Assy turn. The Clutch Assy Turn is interlocked with the Clutch Assy Feed.
NUD MOTOR	Control signal which turns on the motor Assy.
24V I/L	Interlock signal which related with the all clutches and motors equipped on the PWBA Feeder.

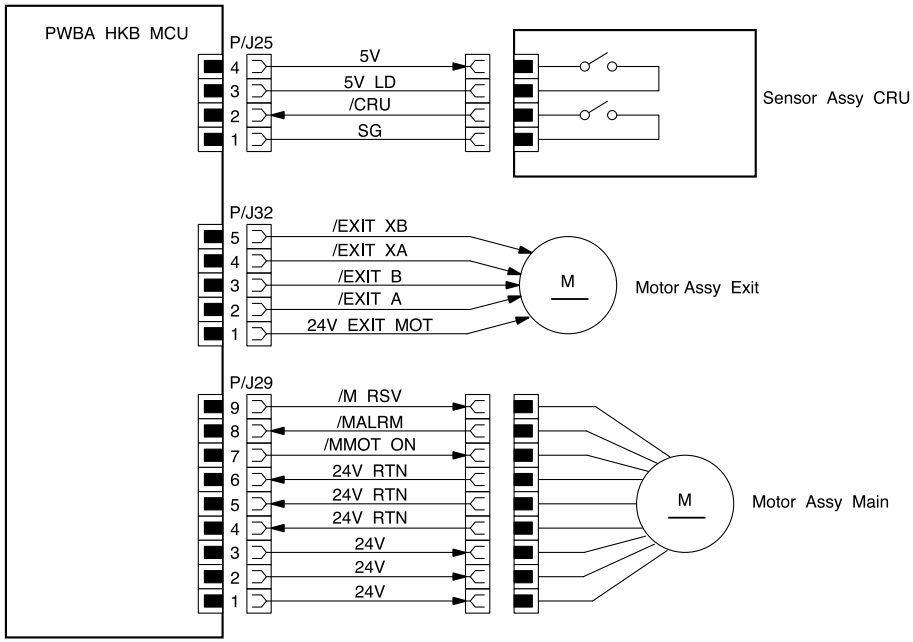


Figure 7-12. PWBA MCU <=> Motor Assy Main, Motor Assy Exit and Sensor Assy CRU

Table 7-28. Signal Name

Signal Name	Description
5VLD	+5V power source to the Laser Diode (0V when the CRU is not in place.)
/CRU	Signal which activates the 5VLD circuit (0V when the CRU is not in place)
/EXIT XB	Phase XB drive signal for the stepping motor (LOW when driving, and High when not driving)
/EXIT XA	Phase XA drive signal for the stepping motor (LOW when driving, and High when not driving)
/EXIT B	Phase B drive signal for the stepping motor (LOW when driving, and High when not driving)
/EXIT A	Phase A drive signal for the stepping motor (LOW when driving, and High when not driving)
/M RSV	
/MALRM	Main motor monitor signal. Goes Low when the rotation of the Motor Assy Main is abnormal.

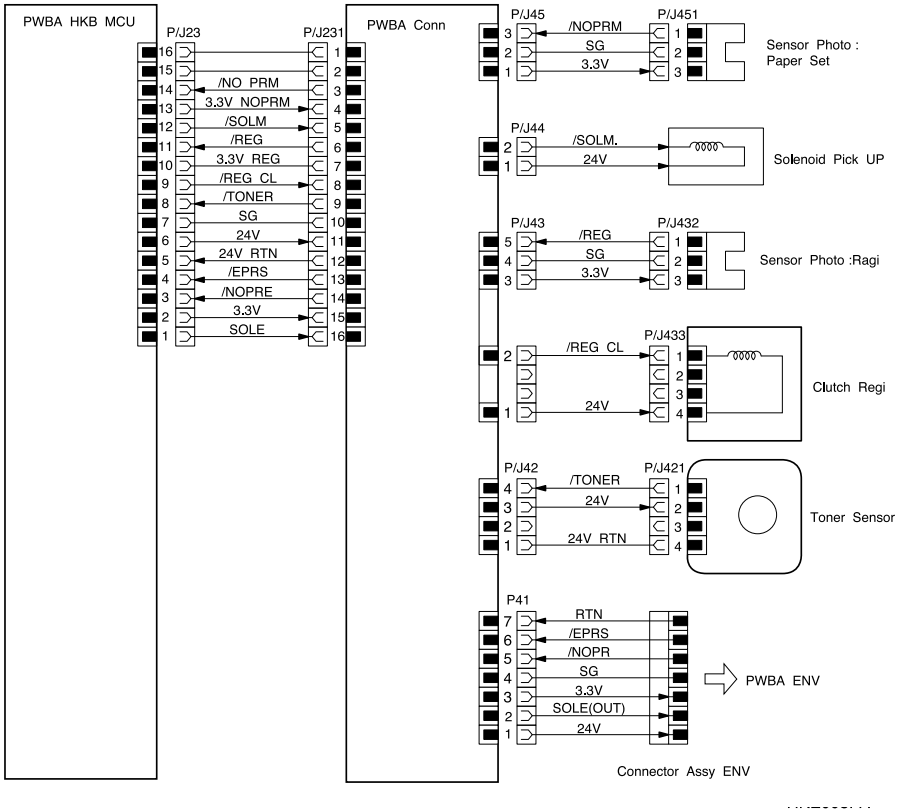


Figure 7-13. PWBA MCU <=> PWBA Conn <=> Sensor Photo: Paper Set, Sensor Photo: Regi, Clutch Regi, Toner Sensor, Solenoid Pick Up

Table 7-29. Signal Name - PWBA MCU <=> PWBA Conn

Signal Name	Description
/NO PRM	Signal from the Sensor Photo:Paper Set. This signal is Low when the Sensor Photo:Paper Set is activated.
/SOLM	Control signal which activates the Solenoid Pick Up
/REG	Signal from the Sensor Photo:Regi. This signal is Low when the Sensor Photo:Regi is activated.
/REG CL	Control signal which activates the Clutch Regi
/TONER	Signal from the Toner Sensor. This signal is Low when the Toner Sensor is activated.
/EPRS	Signal from the Sensor Assy Exit ENV equipped on the ENV. This signal is Low when the Sensor Assy Exit ENV is activated.
/NOPER	Signal from the Sensor Photo:No Paper equipped on the ENV. This signal is Low when the Sensor Photo:No Paper is activated.
SOLE	Control signal which activate the Clutch Elec equipped on the ENV

Table 7-30. Signal Name - PWBA Conn <=> Sensor Photo: Paper Set, Sensor Photo: Regi, Clutch Regi, Toner Sensor, Solenoid Pick Up

Signal Name	Description
/NO PRM	Signal from the Sensor Photo:Paper Set. This signal is Low when the Sensor Photo:Paper Set is activated.
/SOLM	Control signal which activates the Solenoid Pick Up
/REG	Signal from the Sensor Photo:Regi. This signal is Low when the Sensor Photo:Regi is activated.
/REG CL	Control signal which activates the Clutch Regi
/TONER	Signal from the Toner Sensor. This signal is Low when the Toner Sensor is activated.
/EPRS	Signal from the Sensor Assy Exit ENV equipped on the ENV. This signal is Low when the Sensor Assy Exit ENV is activated.
/NOPER	Signal from the Sensor Photo:No Paper equipped on the ENV. This signal is Low when the Sensor Photo:No Paper is activated.
SOLE	Control signal which activate the Clutch Elec equipped on the ENV

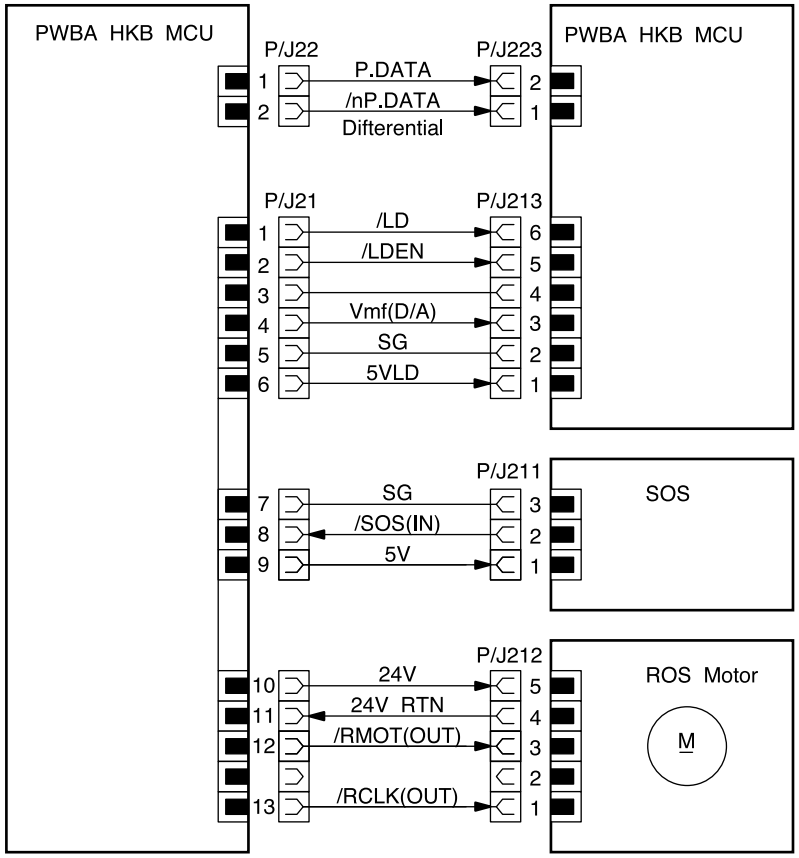


Figure 7-14. PWBA MCU <=> ROS Assy

Table 7-31. Signal Name

Signal Name	Description
P.DATA	Print Image Data
/nP.DATA	Print Image Data
/LD	Control signal which determines the drive voltage for the Laser Diode.
/LDEN	Control signal which determines the drive voltage for the Laser Diode.
Vmf(D/A)	Control signal for the Laser Diode
/SOS(IN)	Synchronization signal generated by the PWBA SOS which indicates the start of each scan.
5VLD	+5V power source to the Laser Diode (0V when the Cover Assy Front is open or the CRU is not in place.)
/RMOT(OUT)	Scanner Motor Control signal which switches the ROS Motor on and off Low: ON, High: OFF
/RCLK	Synchronization signal for the ROS Motor.

7.2 Board Component Layout

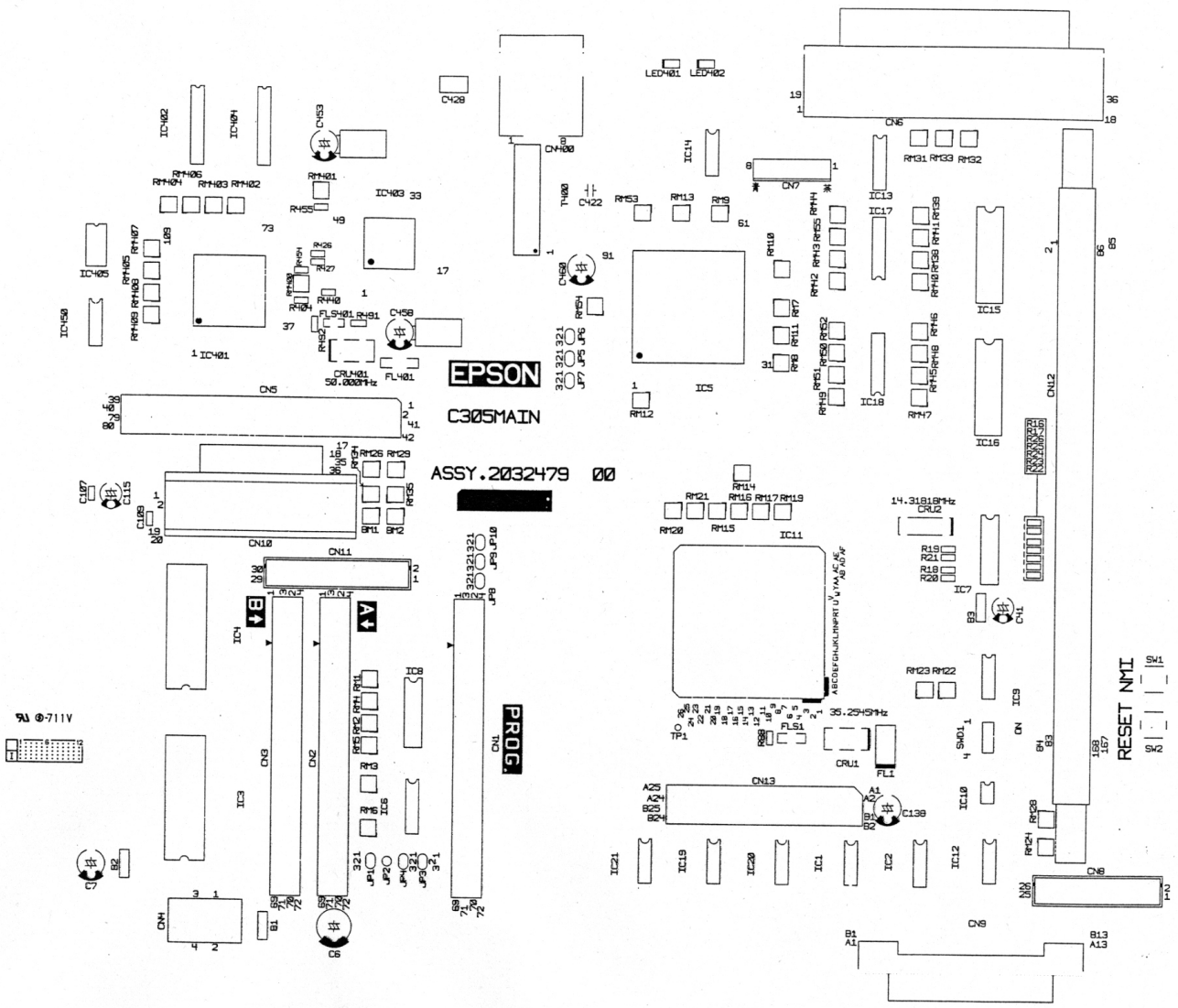


Figure 7-15. C305MAIN Component Layout

7.3 Parts List and Exploded Diagram

7.3.1 Covers I

Table 7-32. Parts List for Covers I

No. in Figure	Unit / Parts Name
1	COVER LEFT
2	COVER ASSY I/F
3	---
4	COVER OPTION
5	COVER ASSY TOP
6	CONTROL ASSY PANEL (with 7)
7	HARNESS ASSY PENEL
8	COVER RIGHT
9	COVER ASSY FRONT (with 10-13, 15-17, 20-22)
10	COVER FRONT
11	LATCH ASSY L
12	LEVER
13	LATCH ASSY R
14	STOPPER COVER
15	CHUTE ENV.
16	STOPPER TRAY
17	TRAY ASSY MBF
18	---
19	COVER FRONT L/H
20	CHUTE MBF
21	ENV GEAR COVER
22	CLIP

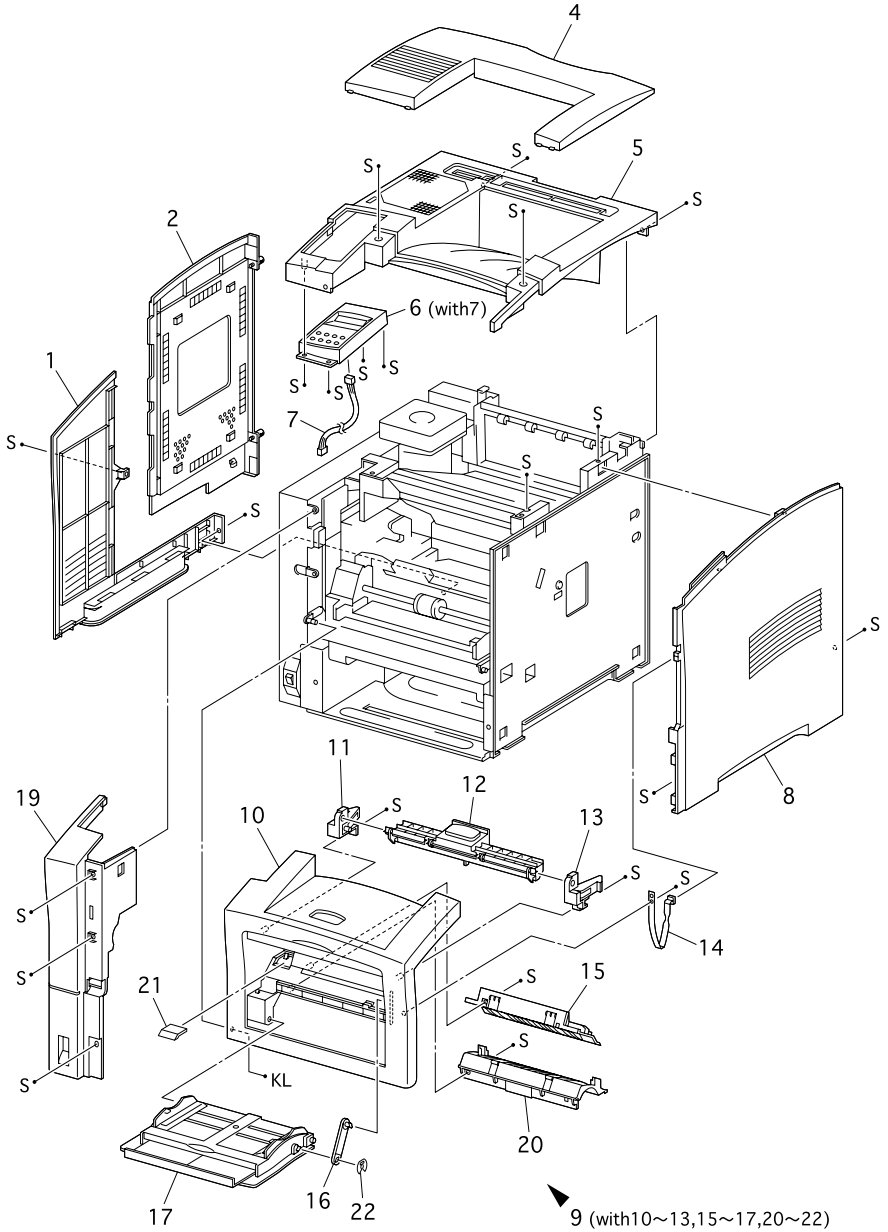


Figure 7-16. Exploded Diagram for Covers I

7.3.2 Covers II

Table 7-33. Parts List for Covers II

No. in Figure	Unit / Parts Name
1	SPRING LATCH
2	LATCH L
3	LATCH R
4	COVEER LATCH
5	COVER REAR
6	ARM DIRECTION
7	CAP ENVELOPE
8	CHUTE ASSY FACE UP
9	STOPPER PIVOT R
10	STOPPER
11	GUIDE RAIL DUP L
12	GUIDE RAIL DUP R
13	COVER FACE UP
99	COVER ASSY REAR (with 1-9)

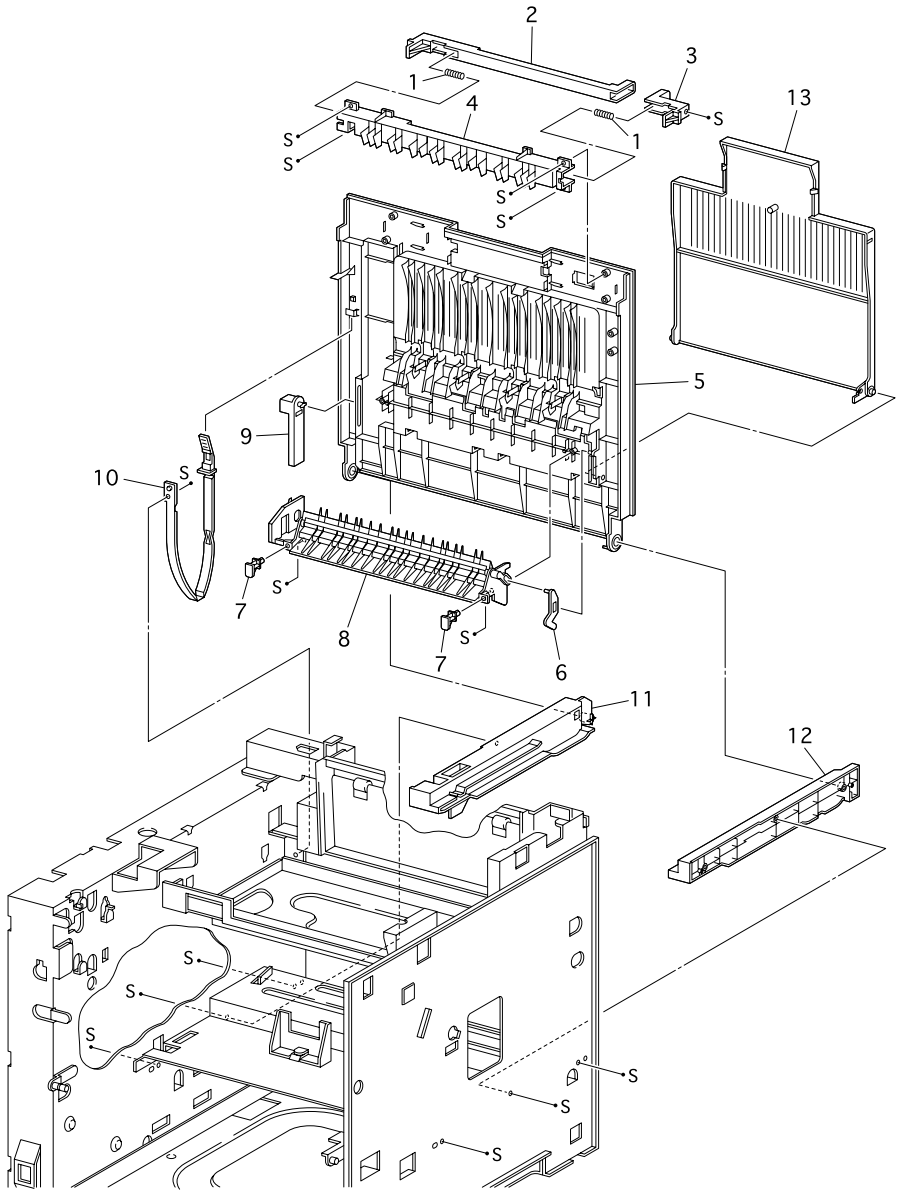


Figure 7-17. Exploded Diagram for Covers II

7.3.3 Paper Cassette I

Table 7-34. Parts List for Paper Cassette I

No. in Figure	Unit / Parts Name
1	CASSETTE ASSY (with 2-23)
2	PLATE ASSY BOTTOM
3	---
4	---
5	GUIDE ASSY END
6	HOUSING EXTENSION
7	SLIDE RACK
8	SPRING EXTENSION
9	LATCH SPRING
10	PLATE SIZE
11	BASE EXTENSION
12	GUIDE SIZE L
13	GUIDE ASSY SIDE R
14	LINK
15	BASE CST
16	RACK
17	PINION
18	CASSETTE SUB ASSY
19	ACTUATOR CST
20	COVER ACTUATOR
21	LABEL BUTTON
22	LABEL INDICATOR
23	LABEL CST INSTRUCTION

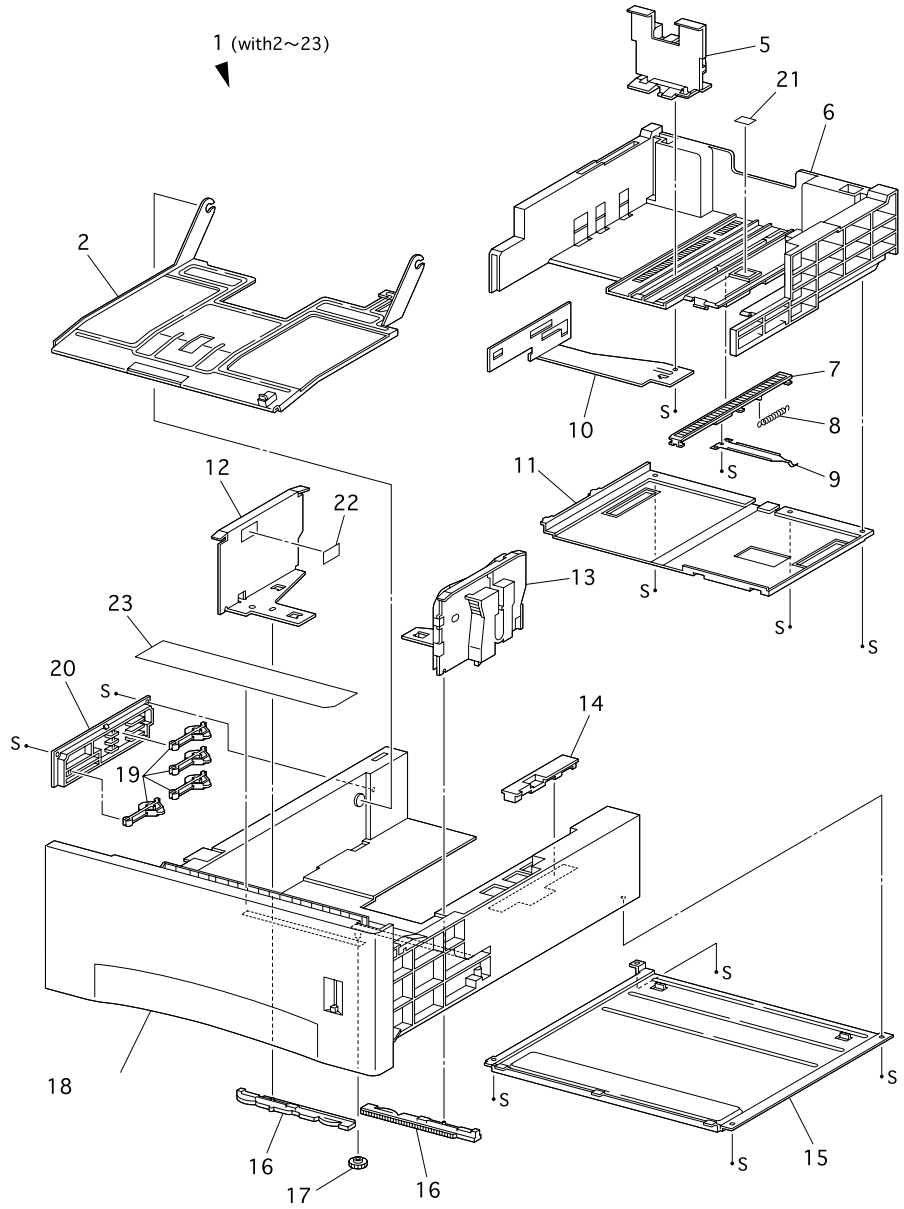


Figure 7-18. Exploded Diagram for Paper Cassette I

7.3.4 Paper Cassette II

Table 7-35. Parts List for Paper Cassette II

No. in Figure	Unit / Parts Name
1	CASSETTE SUB ASSY (with 2-27)
2	CAP RETARD
3	CHUTE RETARD BASE L
4	CHUTE RETARD
5	CHUTE RETARD BASE R
6	SHAFT ASSY RETARD
7	CLUTCH ASSY FRICTION
8	ROLL ASSY
9	BRACKET RETARD
10	SPRING RETARD
11	PLATE TONGUE
12	SHAFT ASSY TONGUE
13	HOLDER SHAFT LIFT UP
14	BEARING
15	SPRING EARTH LIFT UP
16	HUSING CASSETTE
17	LEVER
18	HANDLE ASSY CASSETTE
19	SPRING MOTOR
20	HOLDER R
21	HOLDER L
22	MOTOR ASSY
23	---
24	HOLDER ASSY MOTOR

Table 7-35. Parts List for Paper Cassette II

No. in Figure	Unit / Parts Name
25	CONNECTOR
26	SPRING
27	GUIDE SOCKET
30	INDICATOR
31	SHAFT INDICATOR
32	GUIDE INDICATOR
33	SPRING INDICATOR
99	KIT ROOL FEED (3)

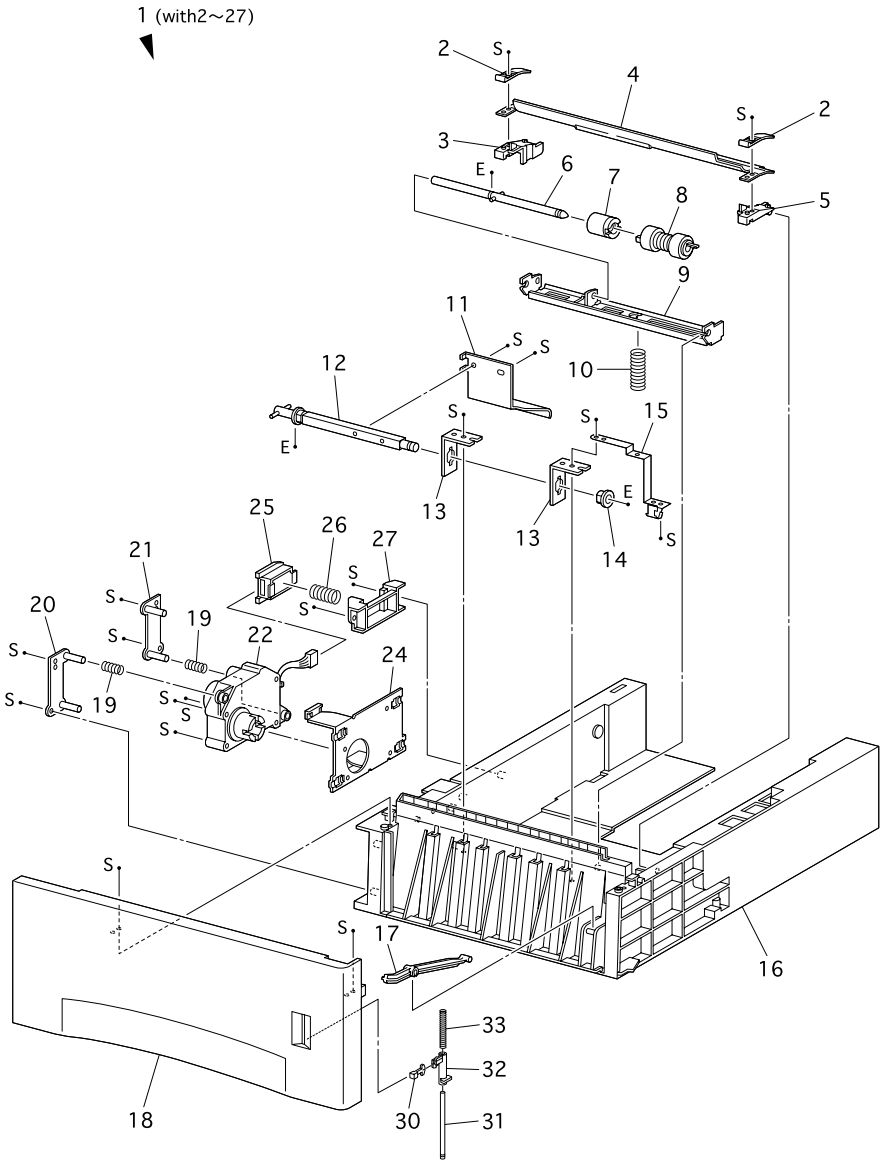


Figure 7-19. Exploded Diagram for Paper Cassette II

7.3.5 Paper Feeder

Table 7-36. Parts List for Paper Feeder

No. in Figure	Unit / Parts Name
1	ROLL ASSY TURN (with 2)
2	CLUTCH ASSY TURN
3	SPRING EXTENSION
4	SPRING CHUTE
5	COVER CST FEED
6	ACTUATOR N/P
7	SUPPORT ACTUATOR
8	FRAME ASSY FEEDER
9	CLAMP
10	SPRING LATCH L
11	ACTUATOR LOW PAPER
12	SUPPORT ACTUATOR L/P
13	SENSOR PHOTO: FACE CONTROL, LOW PAPER
14	HARNESS ASSY N/SNSR (J66-j662) or (J66-J661-J662)
15	CHUTE ASSY FRONT
16	---
17	ROLL 7
18	COVER FEEDER
19	FEEDER ASSY (with 20-29)
20	SHAFT FEED
21	BEARING
22	SUPPORT ASSY NUDGER
23	CLUTCH NUDGER

Table 7-36. Parts List for Paper Feeder

No. in Figure	Unit / Parts Name
24	CLUTCH GEAR
25	CLUTCH ASSY O/W
26	ROLL ASSY
27	GEAR 25T
28	GEAR 31T
29	SPRING NUDGER
30	GEAR 4
31	GEAR 2
32	COVER GEAR
33	BRACKET
34	GEAR 3
35	GEAR 1
36	PWBA FEEDER
37	CLUTCH ASSY FEED
38	BEARING
39	HARNESS ASSY N/MOT (J67-J671)
40	SOCKET
41	SUPPORT ROLL-7
42	CHUTE TURN
97	KIT ACTUATOR & SUPPORT (with 6 and 7)

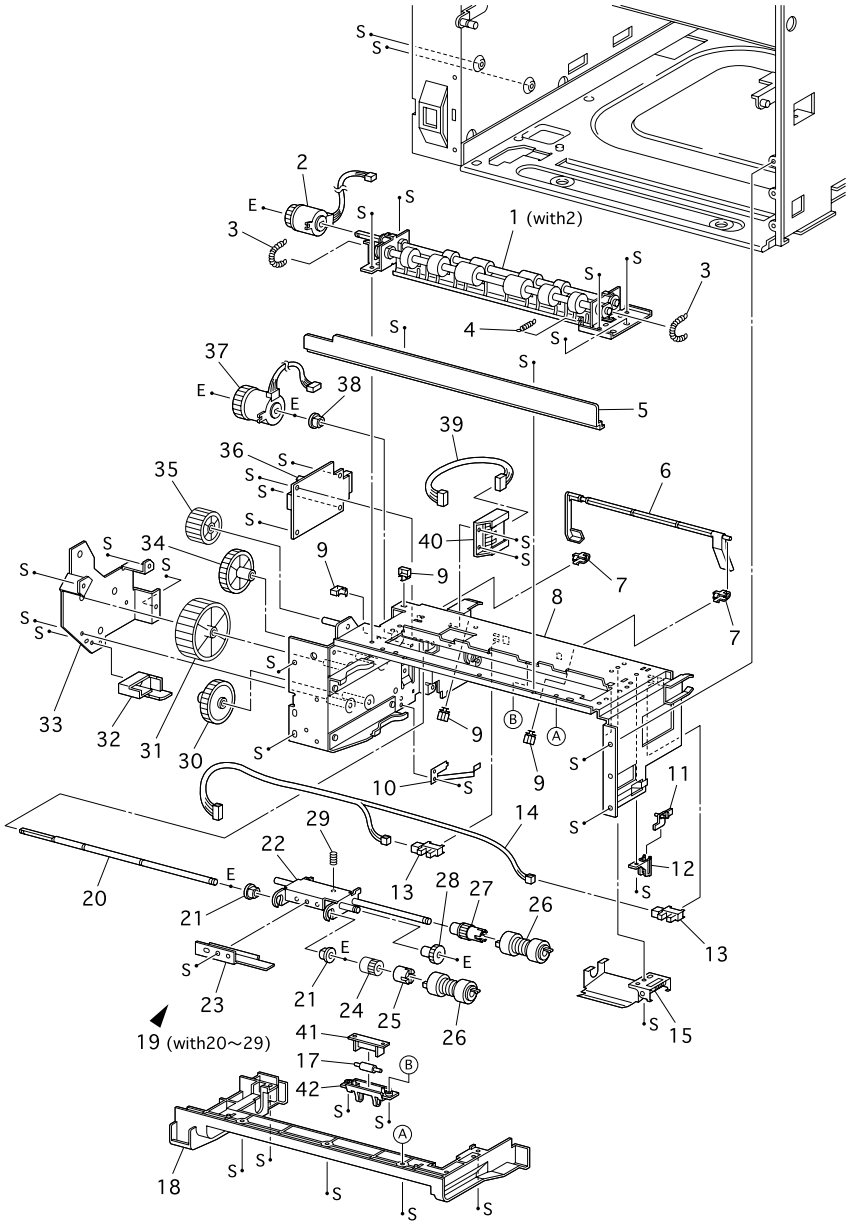


Figure 7-20. Exploded Diagram for Paper Feeder

7.3.6 Chute MBF

Table 7-37. Parts List for Chute MBF

No. in Figure	Unit / Parts Name
1	CHUTE MBF ASSY (with 2-30)
2	ROLL ASSY MBF (with 3-6, 28)
3	SHAFT ASSY MBF
4	CAM PICK UP MBF
5	CORE
6	ROLL ASSY MBF
7	BEARING
8	TRAY BOTTOM ASSY (with 11, 12)
9	PAD BOTTOM MBF
10	TRAY BOTTOM PICK UP
11	TRAY BOTTOM
12	ACTUATOR N/P MBF
13	SPRING TRAY BOTTOM MBF
14	BEARING EXIT
15	PAD ASSY RETARD
16	---
17	---
18	---
19	SENSOR PHOTO: PAPER SET
20	PLATE EARTH MBF
21	CHUTE ASSY MBF
22	---
23	SOLENOID PICK UP
24	SPRING MBF

Table 7-37. Parts List for Chute MBF

No. in Figure	Unit / Parts Name
25	GEAR PICK UP
26	PLATE ENV CONNECTOR
27	CONNECTOR ASSY ENV
28	CAM PICK UP MBF (LEFT)
29	HARNESS ASSY MBF NOPAP (J45-J451)
30	PLATE ENV ASSY (with 26, 27)
99	PAD PICK UP ASSY (with 9 and 19)

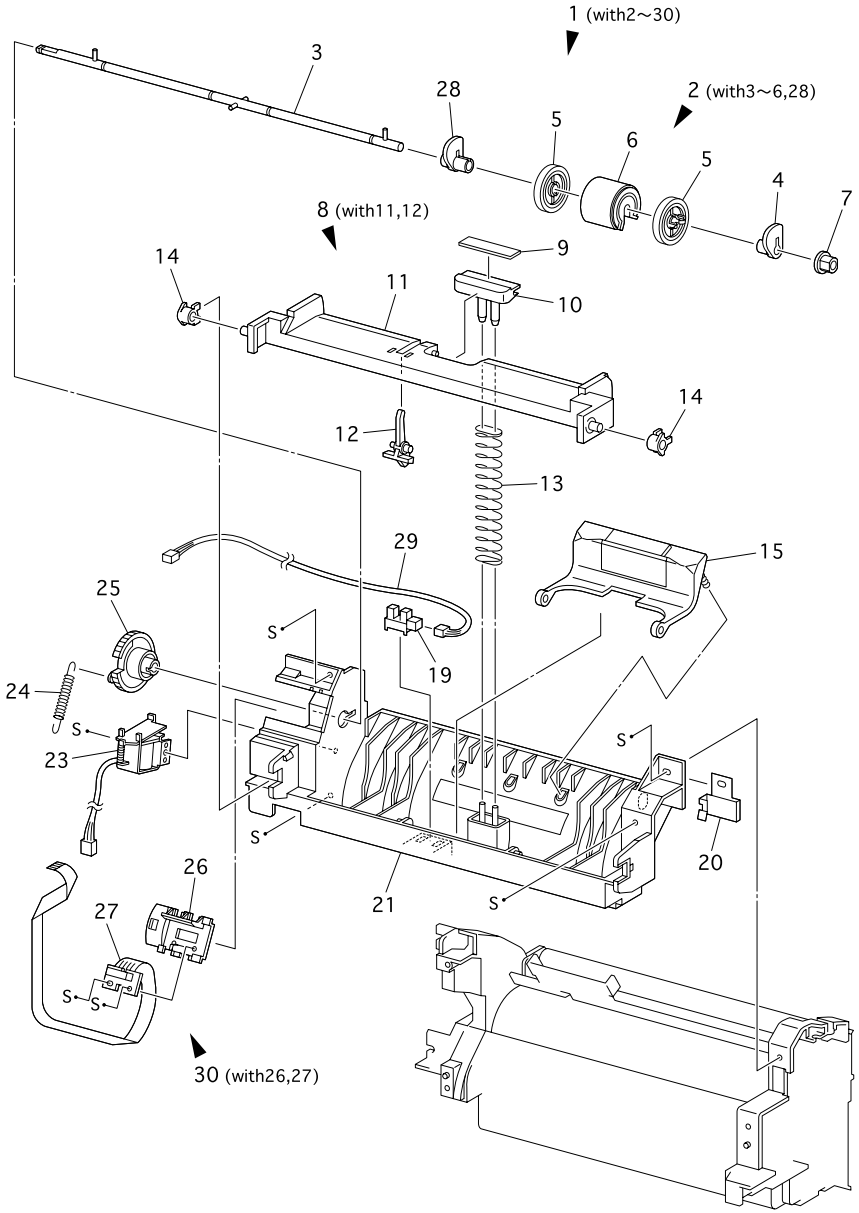


Figure 7-21. Exploded Diagram for Chute MBF

7.3.7 P/H Assy

Table 7-38. Parts List for P/H Assy

No. in Figure	Unit / Parts Name
1	TONER SENSOR
2	HOLDER TONER SENSOR
3	SPRING TONER SENSOR
4	P/H ASSY (with 2, 5-31, 36-38)
5	ROLL REGI METAL
6	CHUTE UPPER ASSY
7	ROLL REGI RUBBER
8	CHUTE INLET
9	SPRING EARTH BOTTOM
10	ACTUATOR REGI
11	SPRING SENSOR REGI
12	SENSOR PHOTO: REGI
13	BEARING METAL
14	SPRING REGI
15	GEAR REGI METAL
16	GEAR REGI RUBBER
17	BEARING RUBBER R
18	BEARING RUBBER L
19	CLUTCH REGI
20	CHUTE BOTTOM UPPER
21	SPRING EARTH RIGHT
22	SPRING EARTH CENTER
23	SCREW EARTH
24	SPRING LEFT

Table 7-38. Parts List for P/H Assy

No. in Figure	Unit / Parts Name
25	RESIST BUFFLE
26	CHUTE BOTTOM LOWER
27	CHUTE CST
28	HARNESS ASSY REGI (J43-431, J432)
29	SPRING TORTION
30	HANDLE LEVER
31	BEARING METAL R
32	HARNESS ASSY TONER SENSOR (J42-J421)
33	CUSHION TNS
34	SHAFT 14
35	GEAR 14
36	SPRING REGI L
37	LABEL INLET
38	CLAMP
99	KIT TONER SENSOR (with 1-3, 32, 33)

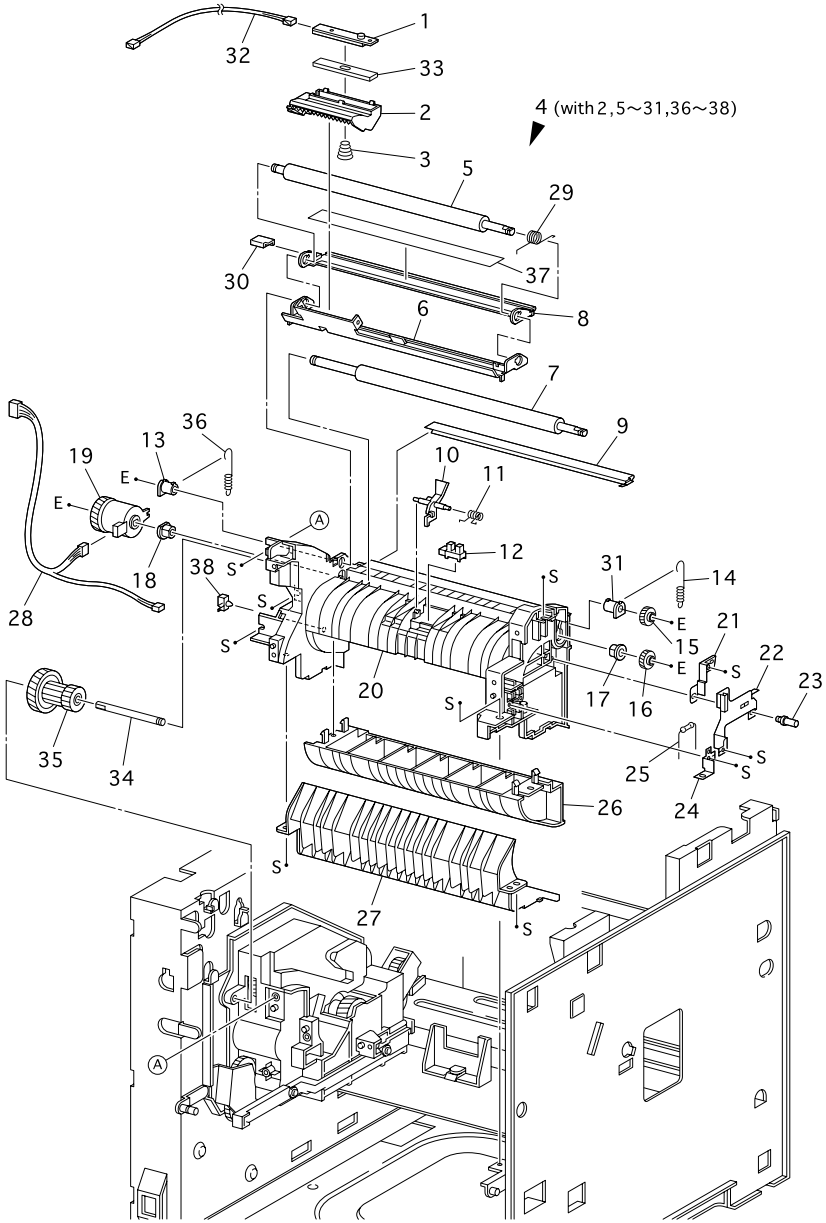


Figure 7-22. Exploded Diagram for P/H Assy

7.3.8 Chute Trans & Fuser

Table 7-39. Parts List for Chute Trans & Fuser

No. in Figure	Unit / Parts Name
1	BTR CHUTE ASSY (with 2-6, 13)
2	BTR ASSY
3	CHUTE TRANS ASSY (with 4-6, 13)
4	BEARING BTR SUP
5	SPRING BTR
6	CHUTE TRANS
7	FUSER ASSY
8	---
9	---
10	WIRE ASSY DTS
11	WIRE ASSY TR
12	HARNESS ASSY FUSER-M (J271, J11, J27, J262)
13	SPRING BTR L
99	USAGE KIT 120V SEC (with 2, 7, Screw x 2)
99	USAGE KIT 230V SEC (with 2, 7, Screw x 2)

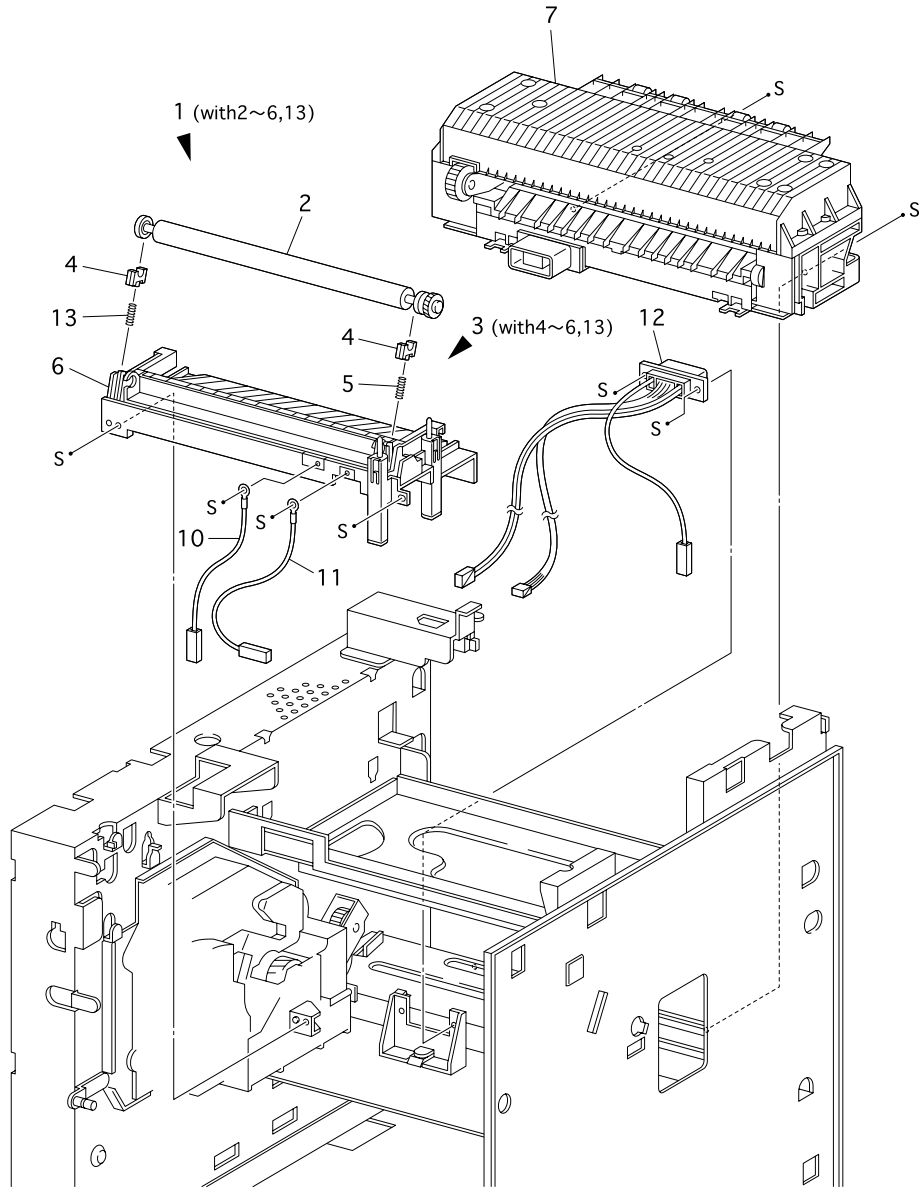


Figure 7-23. Exploded Diagram for Chute Trans & Fuser

7.3.9 Exit

Table 7-40. Parts List for Exit

No. in Figure	Unit / Parts Name
1	ELIMINATOR ASSY EXIT
2	ACTUATOR FULL STACK
3	GATE EXIT
4	SPRING EXIT
5	GEAR EXIT-17
6	BEARING EXIT
7	ROLL ASSY MID-1
8	ROLL PINCH EXIT OUT
9	ROLL PINCH EXIT
10	SPRING PINCH EXIT
11	ROLL ASSY MID-2
12	ROLL PINCH
13	SPRING PINCH MID
14	SPRING PINCH
15	CHUTE EXIT
16	SENSOR PHOTO: EXIT
17	HARNESS ASSY FS SNR (J31-J311)
18	COVER INTERLOCK
19	GEAR EXIT-23
20	GEAR EXIT-33
21	MOTOR ASSY EXIT
22	GEAR EXIT-17/47
23	GEAR EXIT-32
24	SPRING EARTH EXIT

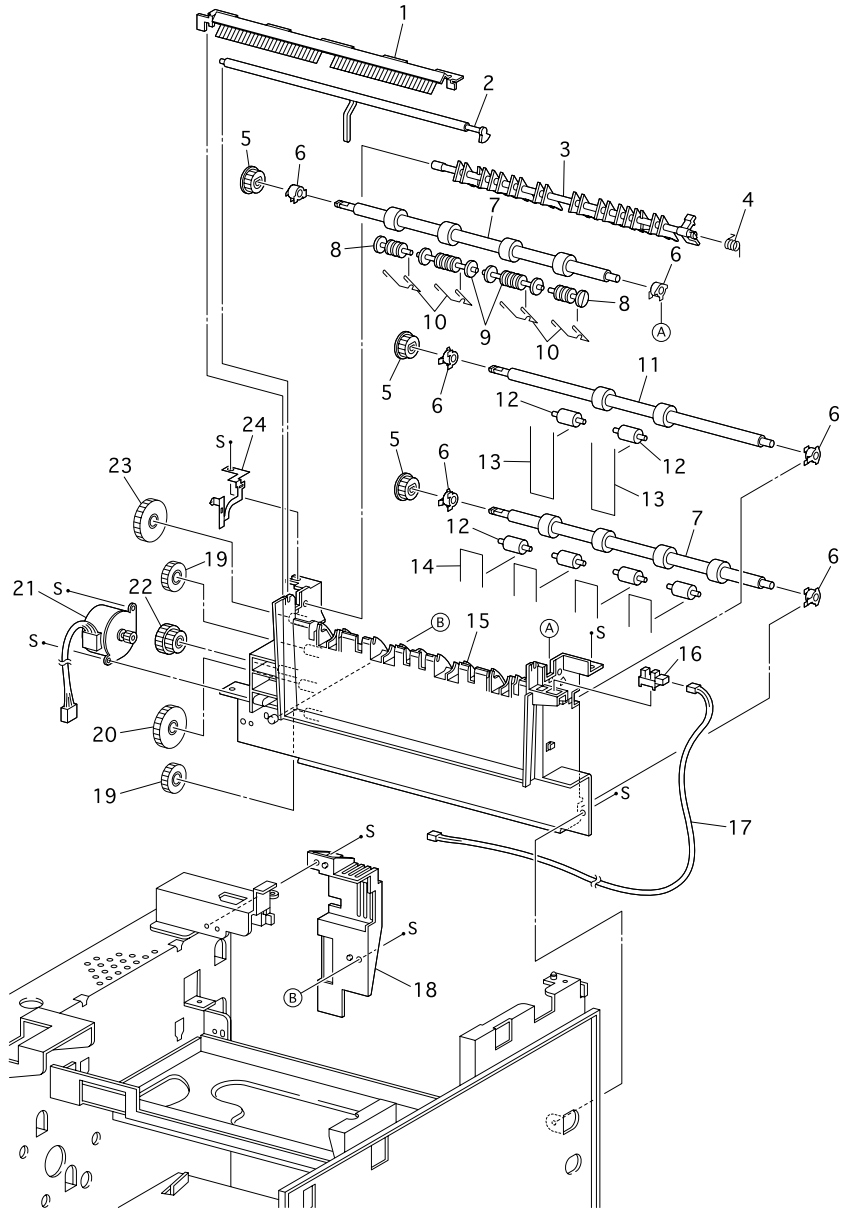


Figure 7-24. Exploded Diagram for Exit

7.3.10 Drive & Electrophotographics

Table 7-41. Parts List for Drive & Electrophotographics

No. in Figure	Unit / Parts Name
1	CRU
2	HARNESS ASSY CRU SNS (J25-J251)
3	LABEL ARROW
4	CRU TOP GUIDE ASSY (with 3)
5	SPRING
6	SENSOR ASSY CRU
7	HARNESS ASSY ROS (J21, J22-J211, J212, J213, J223)
8	---
9	ROS ASSY
10	CRU SIDE GUIDE ASSY-R (with 11, 12)
11	CRU SIDE GUIDE
12	SPRING CLIP
13	GEAR ASSY DRIVE
14	MOTOR ASSY MAIN (N)
	MOTOR ASSY MAIN (S)
15	ARM GUIDE A
16	SPRING GUIDE A
17	SPRING GUIDE B
18	ARM GUIDE B
99	KIT SENSOR CRU (with 2, 5, 6)

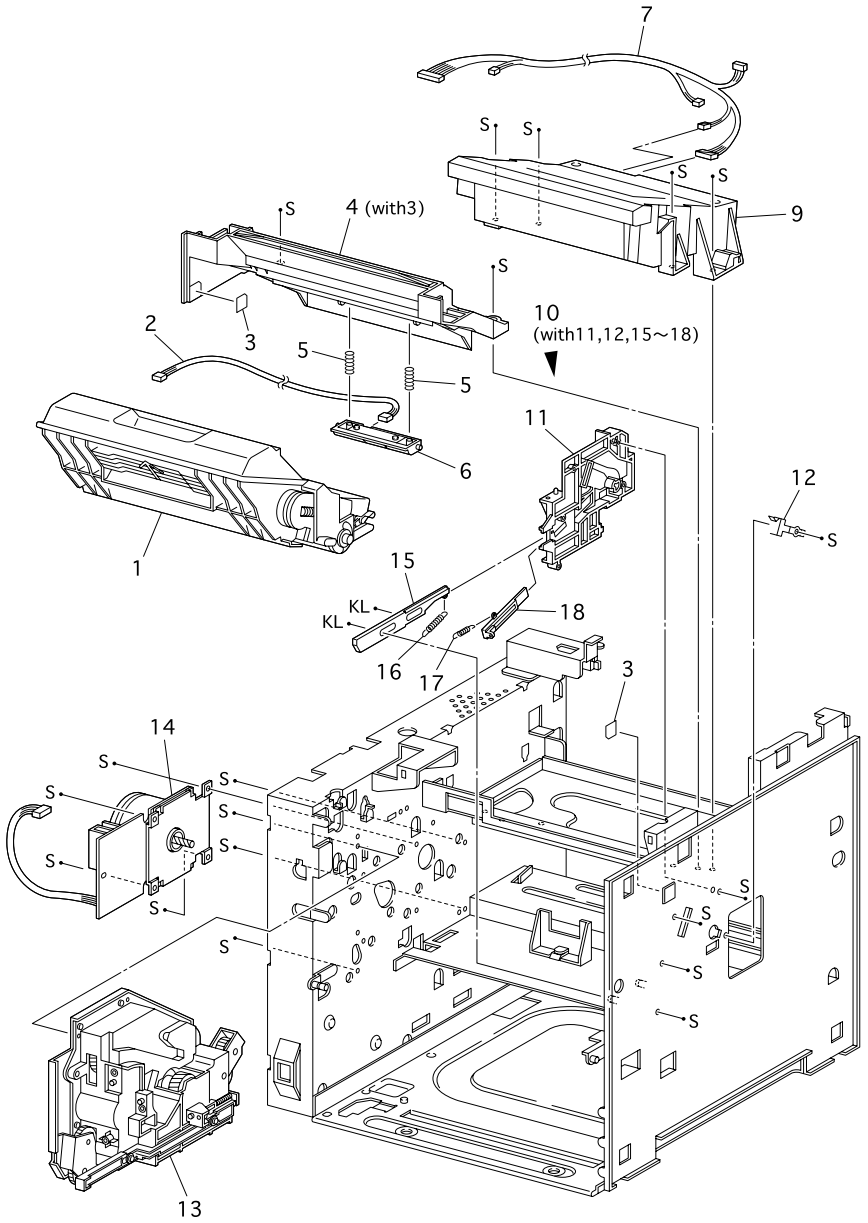


Figure 7-25. Exploded Diagram for Drive & Electrophotographics

7.3.11 Frame & Size Sensor

Table 7-42. Parts List for Frame & Size Sensor

No. in Figure	Unit / Parts Name
1	PLATE ASSY LEFT
2	---
3	CLAMP PRESS L
4	CLAMP I/F
5	ELEC BOX LOWER B
6	ELEC BOX LOWER A
7	FAN ASSY
8	DUCT
9	EDGE SADDLE H
10	CLAMP AC
11	PLATE INSULATOR
12	PLATE HANDLE
13	HARNESS ASSY FEEDER (J33-J331)
14	SHAFT CAM
15	CAM SW
16	COVER SIZE SENSOR
17	SPRING CAM
18	LEVER CAM
19	PWBA SIZE 1
20	HARNESS ASSY SIZE M (J51-J52)
21	HOUSING SIZE SENSOR
99	KIT SIZE ACTUATOR (with 14-18)

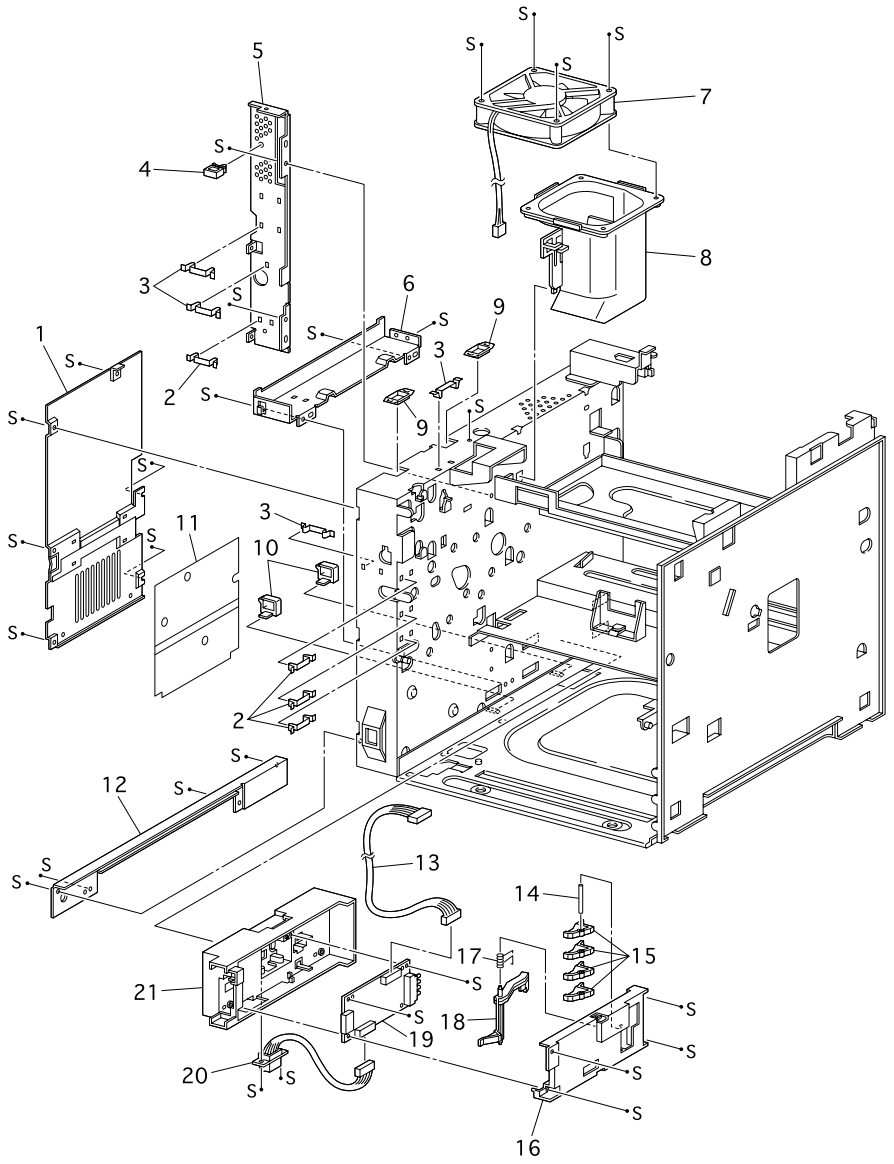


Figure 7-26. Exploded Diagram for Frame & Size Sensor

7.3.12 Electrical

Table 7-43. Parts List for Electrical

No. in Figure	Unit / Parts Name
1	HARNESS ASSY ESS (J287-J282, J288)
2	PWB ESS
3	PANEL BACK
4	HARNESS ASSY OCT-M (J35-P351)
5	ADAPTER
6	POWER CORD
7	SWITCH ASSY I/L REAR
8	WIRE ASSY AC (J285)
9	HARNESS ASSY DUP-M (J34-P341)
10	HARNESS ASSY CONN (J23-J231)
11	PWBA CONN
12	SWITCH ASSY I/L FRONT
13	PWBA MCU
14	PWBA 5VDC
15	HARNESS ASSY LVPS (J28-J281)
16	---
17	PWBA PS-100
	PWBA PS-200
18	MAIN SWITCH
19	HARNESS ASSY HVPS (J26-J261)
20	PWBA HVPS
21	HOUSING HVPS

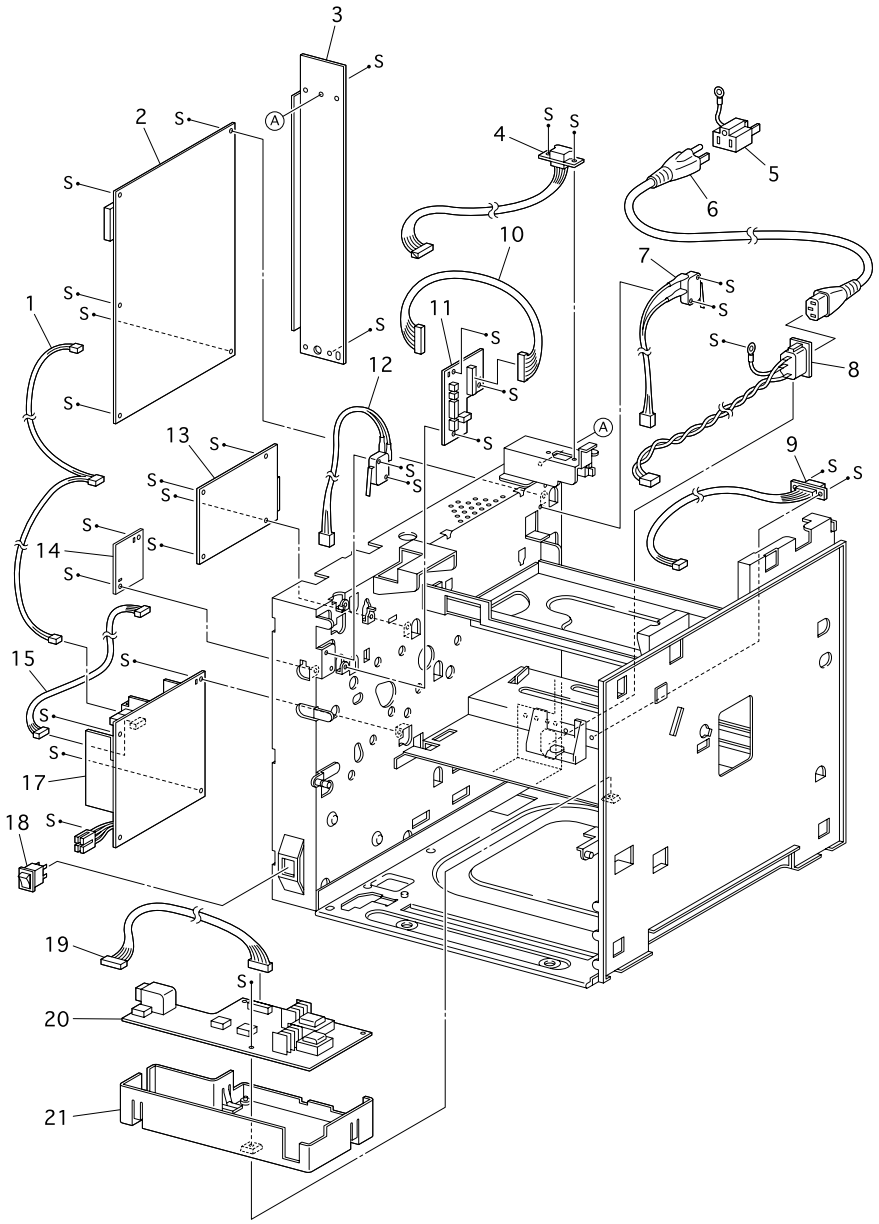
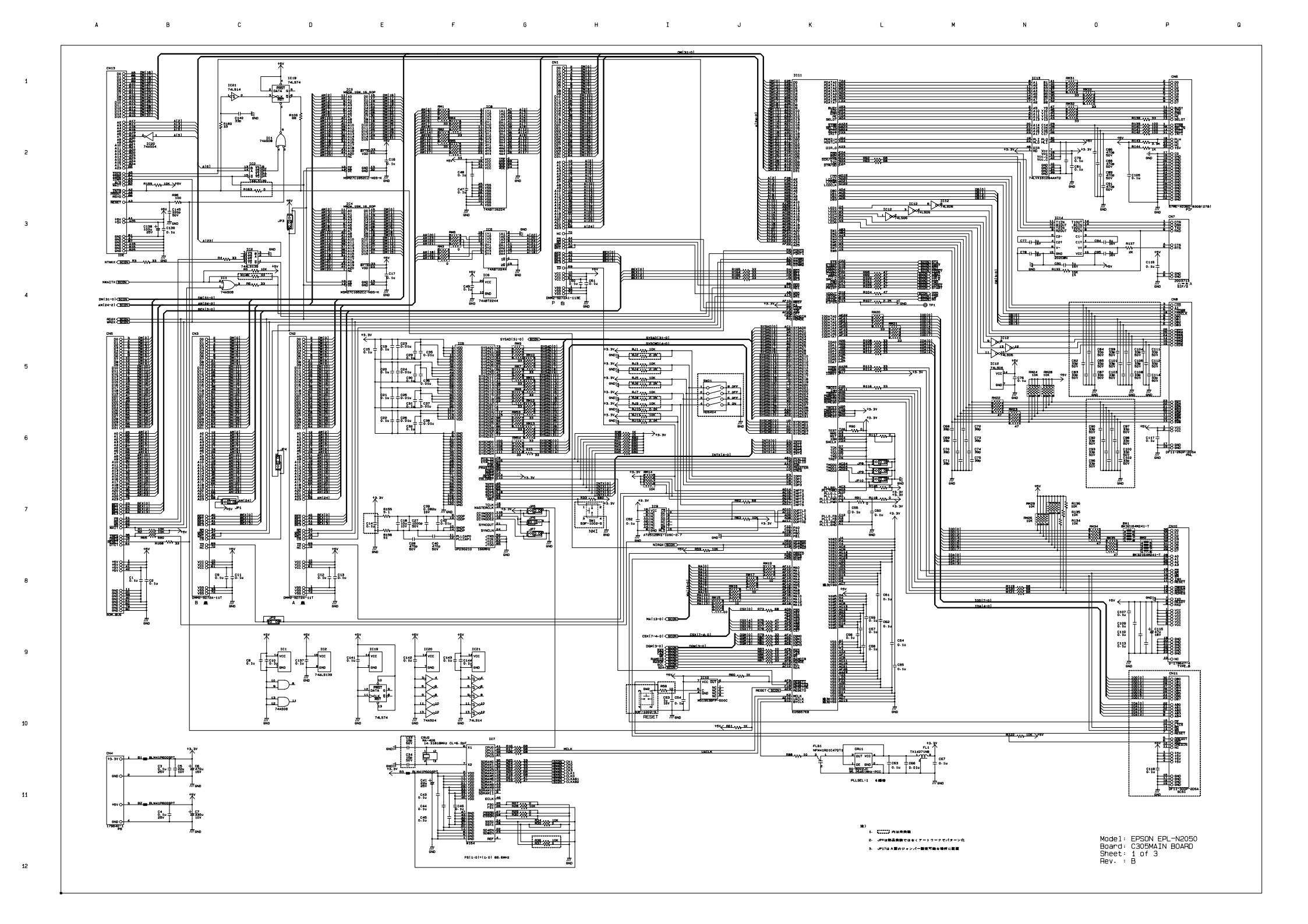


Figure 7-27. Exploded Diagram for Electrical

7.4 Circuit Diagram

The following pages show the circuit diagrams for the C305 Main Board.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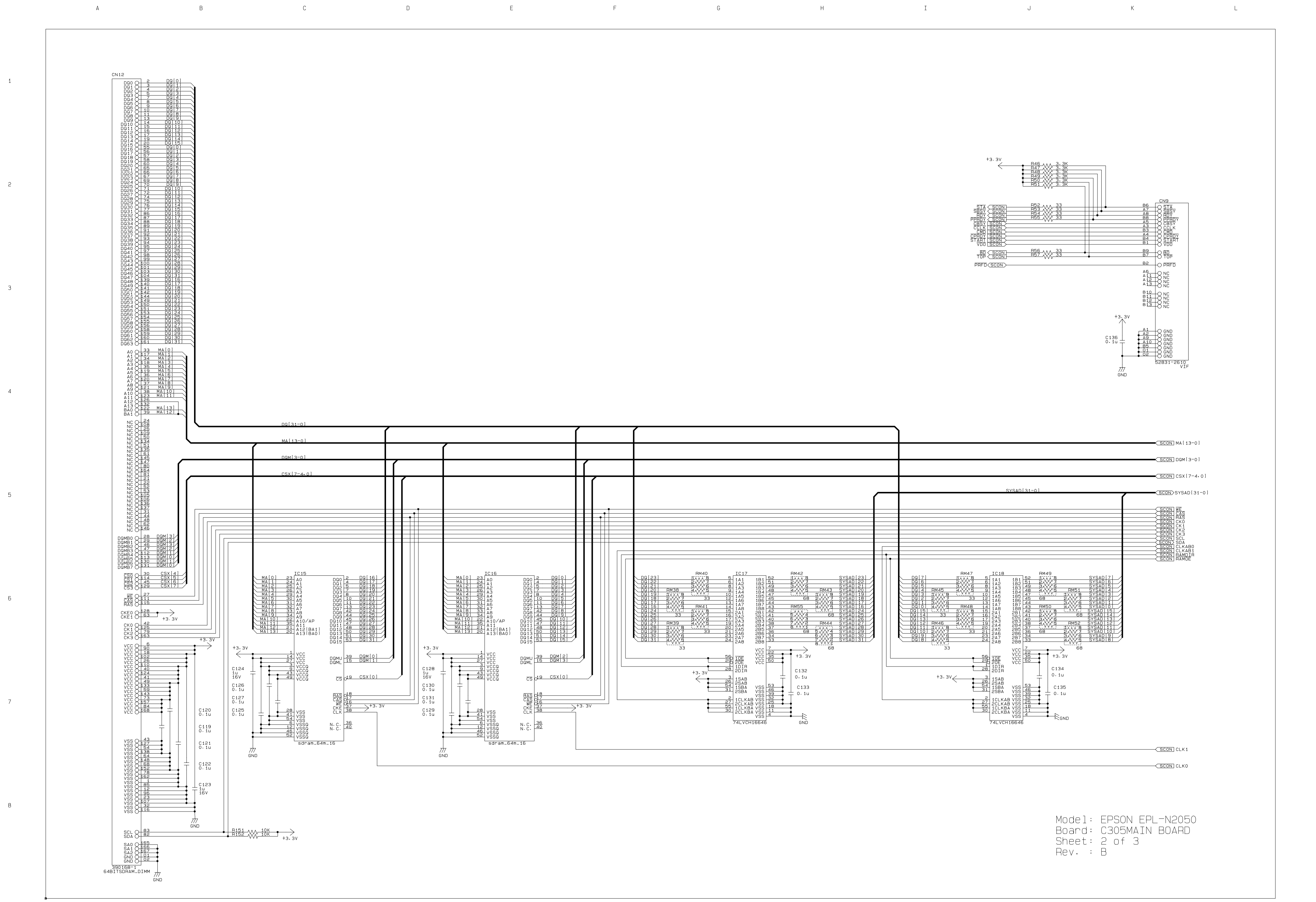
Board: C305MAIN BOARD
Sheet: 1 of 3
Rev. : B



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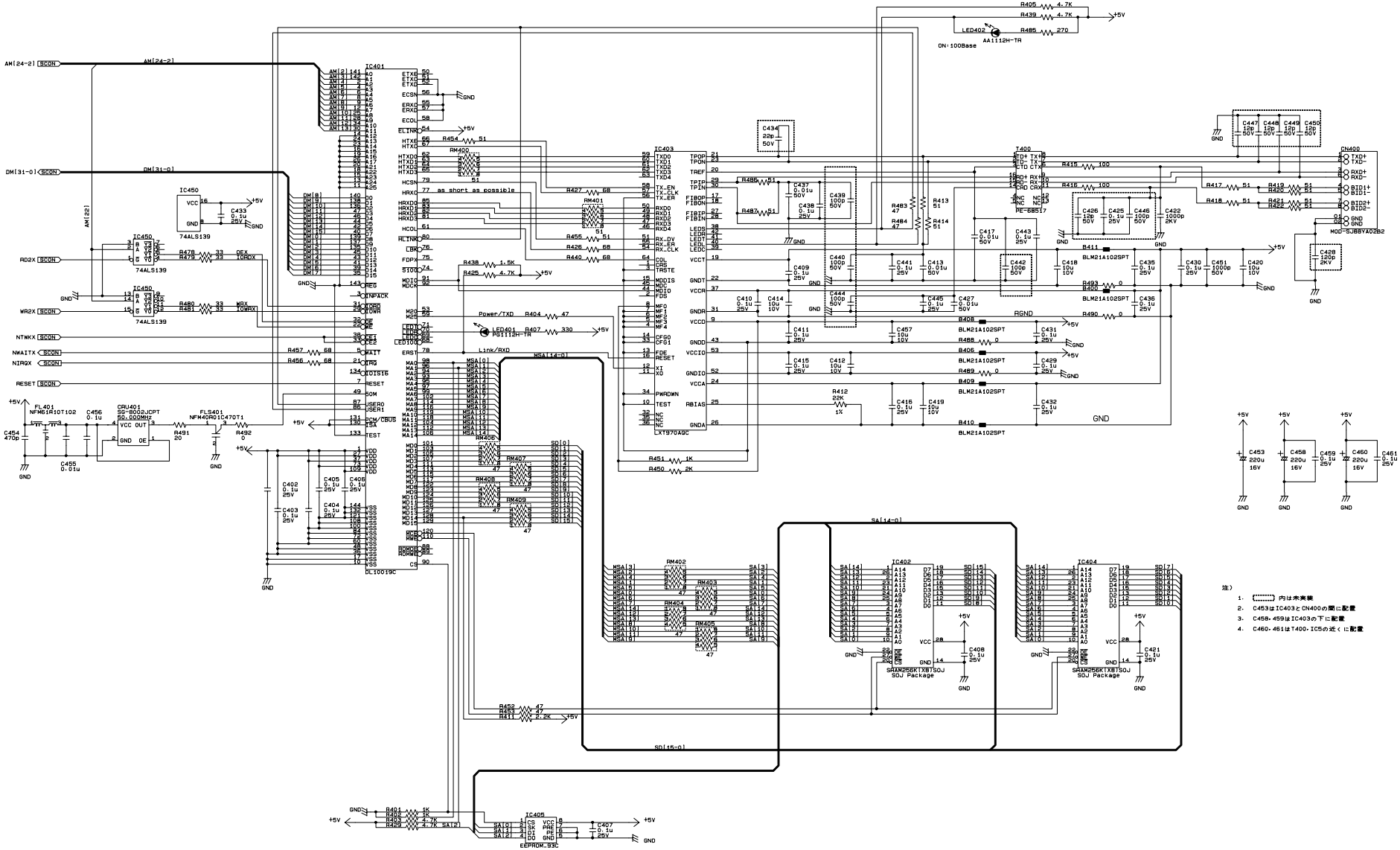
Rev. : B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