



PHASER™ 5400 LASER PRINTER

SERVICE QUICK REFERENCE GUIDE



XEROX
NETWORK PRINTERS



Phaser[™] 5400
Laser Printer
Service Quick Reference Guide

Warning

The following servicing instructions are for use by qualified service personnel only. To avoid personal injury, do not perform any servicing other than that contained in operating instructions unless you are qualified to do so.

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Users Safety Summary

Terms in manual: Various terms are used throughout this manual to either provide additional information on a specific topic or to warn of possible danger that might be present during a procedure or action. Be aware of all symbols and terms when they are used, and always read **Note**, **Caution** and **Warning** messages.

Note: A **Note** may indicate an operating or maintenance procedure, practice or condition that is necessary to efficiently accomplish a task.

A **Note** may also provide additional information related to a specific subject or add a comment on the results achieved through a previous action.

Caution: A **Caution** indicates an operating or maintenance procedure, practice or condition that, if not strictly observed, could result in damage to, or destruction of, equipment.

Warning: A **Warning** indicates an operating, or maintenance procedure, practice or condition that, if not strictly observed, could result in injury or loss of life.

Terms on Product:

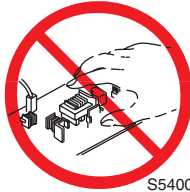
Caution: A personal injury hazard exists that may not be apparent. For example, a panel may cover the hazardous area.

Danger: A personal injury hazard exists in the area where you see the sign.

Power Source: For 110 VAC printers, do not apply more than 130 VAC RMS between the supply conductors or between either supply conductor and ground. Use only the specified power cord and connector. For 220 VAC printers, do not apply more than 250 VAC RMS between the supply conductors or between either supply conductor and ground. Use only the specified power cord and connector. Refer to a qualified service technician for changes to the cord or connector.

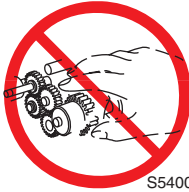
Warning: **If the product loses the ground connection, usage of knobs and controls (and other conductive parts) can cause an electrical shock.**

Power Supply and Electrical Components: Before starting any service procedure, switch off the printer power and unplug the power cord from the wall outlet. If you must service the printer with power applied, be aware of the potential for electrical shock. *Do not touch any electrical component unless you are instructed to do so by a service procedure.*



S5400-01

Mechanical Components: Manually rotate drive assemblies to inspect sprockets and gears. *Do not try to manually rotate or manually stop the drive assemblies while any printer motor is running.*



S5400-02

Laser Components

Warning: *This printer generates a laser beam as part of the printing process. The laser beam is a concentrated narrow beam of infrared light. The laser beam in this machine is invisible. Although you cannot see the beam, it can still cause severe eye damage. Direct eye exposure to the laser beam may cause eye injury or blindness.*

To avoid permanent eye damage, follow these directions:

- Before starting any service procedure, switch off the printer power and unplug the power cord from the AC wall outlet.
- Do not disassemble the Raster Output Scanner Assembly (laser scanner) or any laser component that displays a Laser Warning Sticker.
- Use caution when you are working around the Raster Output Scanner Assembly or when you are performing laser related troubleshooting or repair procedures.
- Never place a mirror or a reflective tool or object in the laser beam path.
- Do not disassemble the printer in such a way that the laser beam can exit the print engine during a print cycle.

Fuser Components

Warning: This printer uses heat and pressure to fuse the toner image to a sheet of paper. The Fuser Assembly is very hot. Switch off printer power and wait at least 30 minutes for the Fuser to cool before you attempt to service the Fuser Assembly or adjacent components.

Safety Components: Make sure covers and panels are in place and that all interlock switches are all functioning correctly after you have completed a printer service call. If you bypass, or cheat, an interlock switch during a service call, use extreme caution when working on or around the printer.

Warning Labels: Throughout the printer, warning labels are displayed on potentially dangerous components. When you service the printer, check to make certain that all warning labels are in place.

Most importantly, read and obey all posted warning labels.

Warning: *Turning the power off using the On/Off switch does not de-energize the printer. You must remove the power cord to disconnect the printer from the main power source. Keep the power cord accessible for removal in case of an emergency.*

Safety Instructions: Read all installation instructions carefully before you plug the product into a power source.

Care of Product: Disconnect the power plug by pulling the plug, not the cord.

Disconnect the power plug:

- If the power cord or plug is frayed or otherwise damaged,
- If any liquid or foreign material is spilled into the case,
- If the printer is exposed to any excess moisture,
- If the printer is dropped or damaged,
- If you suspect that the product needs servicing or repair, or
- Whenever you clean the product.

Ground the product: Plug the three-wire power cord (with grounding prong) into grounded AC outlets only. If necessary, contact a licensed electrician to install a properly grounded outlet.

Service Safety Summary

For qualified service personnel only: Refer also to the preceding Users Safety Summary.

Do not service alone: Do not perform internal service or adjustment of this product unless another person capable of rendering first aid or resuscitation is present.

Use care when servicing with power: Dangerous voltages may exist at several points in this product. To avoid personal injury, do not touch exposed connections and components while power is on.

Disconnect power before removing the power supply shield, soldering or replacing components.

Do not wear jewelry: Remove jewelry prior to servicing. Rings, necklaces and other metallic objects could come into contact with dangerous voltages and currents.

Power source: This product is intended to operate from a power source that will not apply more than 250 VAC rms between the supply conductors or between either supply conductor and ground. A protective ground connection by way of the grounding conductor in the power cord is essential for safe operation.

This product is certified under IEC 825 as a Class 1 Laser Product.

CLASS 1 LASER PRODUCT

The Phaser 5400 Laser Printer is certified to comply with Laser Product Performance Standards set by the U.S. Department of Health and Human Services as a Class 1 Laser Product. This means that this is a class of laser product that does not emit hazardous laser radiation; this is possible only because the laser beam is totally enclosed during all modes of customer operation.

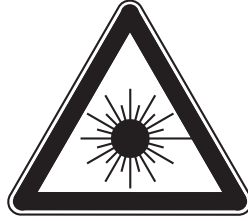
The laser and output of the laser scanner unit produces a beam that, if looked into, could cause eye damage. Service procedures must be followed exactly as written without change.

When servicing the machine or laser module, follow the procedures specified in the manual and there will be no hazards from the laser.

Laser (FDA): Any laser label visible to service must be reproduced in the service manual with location shown or indicated. Safe working procedures and clear warnings concerning precautions to avoid possible exposure must also be included.

The Laser contained in the Phaser 5400 Laser Printer meets the following standard: Laser class 3B, maximum 5 mW, wavelength 780 nm.

The following LASER symbol will be displayed at the start of any procedure where possible exposure to the laser beam exists.



LUOKAN 1 LASERLAITE

KLASS 1 LASER APPARAT

Federal Communications Commission Compliance

This equipment has been tested and found to comply with the limits set for a Class A digital device, as stated in Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation. This equipment generates, uses, and may radiate radio frequency energy. If not installed and used in accordance with the instructions provided, this equipment may cause disruptive interference to nearby radio and television communications. Even if the equipment is installed according to the instructions, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause disruptive interference to nearby radio and television reception, switch the equipment off to determine if it is the true cause of the interference. If the equipment is the cause of the interference, the user should try to minimize the interference by taking one or more of the following courses of action:

- Either re-orient or relocate the radio/television receiving antenna.
- Increase the separation between the equipment and the radio/television receiver.
- Connect the equipment to an AC outlet that is not on the same circuit as the radio/television receiver.
- If the previous solutions fail to bring results, you should consult either your equipment dealer or an experienced radio/television technician.

For more information on interference, refer to the Federal Communications Commission's booklet "How to Identify and Resolve Radio-TV Interference Problems". This booklet is available from the U.S. Government Printing Office, Washington D.C. 20402, Stock No. 004-000-00345-4.

Canadian Notice

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus as described in the radio interference regulations of the Canadian Department of Communications.

Avis Canadien

Cet appareil numérique est conforme aux limites d'émission de bruits radioélectriques pour les appareils de classe A stipulés dans le règlement sur le brouillage radioélectrique du Ministère des Communications du Canada.

European Notice

This equipment was tested and is determined to be compliant with VDE requirements for a Class A device.

Hinweis

Hiermit wird bescheinigt, dass der Babe Laserdrucker, in bereinstimmung mit den Bestimmungen der Vfg 104ß 984 funkenstört ist. Der Deutschen Bundespost wurde das Inverkehrbringen dieses Gerätes angezeigt und die Berechtigung zur berprüfung der Serie auf Einhaltung der Bestimmungen eingeräumt.

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General Information

The Phaser 5400 Printer Service Guide is the primary document used for repairing and maintaining the Phaser 5400 Laser Printer.

To ensure complete understanding of the product, participation in Xerox Phaser 5400 service training is recommended.

Machine Orientation

For servicing the Phaser 5400 Laser Printer, all references to machine orientation are as illustrated below.

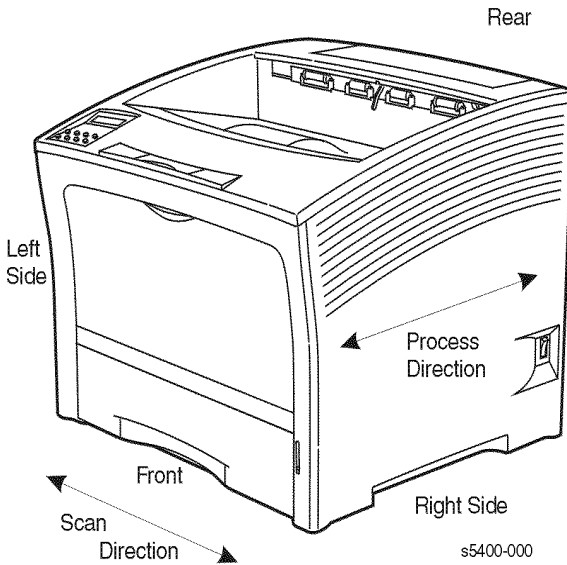


Figure 1 Machine Orientation

Process Direction = paper path

Phaser 5400 Laser Printer Overview

- The Phaser 5400 Laser Printer is a 40-page-per-minute monochrome, 600x600 and 1200x1200 dpi laser printer that uses a data-modulated laser beam, standard dry-ink Xerographic imaging process, and heat and pressure fusing to place a computer-generated image onto the surface of a sheet of paper.
 - The printer uses a semiconductor laser in the Laser Scanner (also called Raster Output Scanner) to generate a 5 milliwatt infrared laser beam. Image data sent from the host computer modulates the beam, creating a latent image on the surface of the electrically charged xerographic drum inside the Print Cartridge.
 - Also inside the Print Cartridge, electrically charged toner is applied to the drum and it adheres to the latent image, developing it.
 - Paper is fed past the drum, and a bias transfer roller (BTR), behind the paper, helps to transfer the toner from the drum to the paper.
 - The paper with dry toner statically adhered to it continues to the fuser where heat and pressure melt and bond the toner to the paper, creating a dry, permanent print.

The printer requires 110 VAC, 50/60 Hz (or optionally 220-240 VAC 50/60 Hz) using 1.1 kw for warm-up and approximately 890 watts for a print cycle. Power saver mode reduces power consumption to below 45 W to comply with ENERGY STAR requirements.

- Safety interlocks within the printer remove power to the Laser Scanner (ROS), Fuser heat rod and motor drives whenever the Rear Cover or Top Cover are opened and when the Print Cartridge is removed.
- The Print Engine Controller Board controls all printer functions, houses printer diagnostics and supporting test prints, stores operating parameters, and signals printer errors.
- The System Controller Board interfaces to host computer(s) via Ethernet, USB or Parallel ports, processes PostScript or PCL print files into Image Video data and transmits data and printing commands to the Print Engine Controller Board.
- The Phaser 5400 Laser Printer comes standard with one 500-Sheet Letter-size tray, a 150 sheet MBF (Multi-sheet Bypass Feeder), and 500-Sheet output bin.
- Four optional accessories are offered:
 - 500-Sheet Feeder Assembly (two versions, Letter-size or Ledger-size tray)
 - 2000-Sheet Feeder Assembly (for Letter size paper only)
 - Duplex Module
 - 1000-Sheet Stacker Bin (for Letter-size and smaller paper)

- The Customer-Replaceable Consumable consists of a Print Cartridge, rated at 20,000 pages at 5% coverage. The printer signals “Toner Low” when 2% - 3% toner is remaining. A front panel setting selects whether the user may continue printing (Toner Low = Continue) or must stop and change the cartridge (Toner Low = Stop).
- A Maintenance Kit, also a Customer-Replaceable Consumable and normally purchased and installed by the customer regardless of Warranty or Contract entitlement, consists of two items rated for replacement at 200,000 Letter size pages.
 - Bias Transfer Roller (BTR)
 - Fuser
- The printer’s Maintenance Kit counter signals on the front panel when the Maintenance Kit should be replaced. This is a soft error, “Printing may continue regardless of the Maintenance Kit count, but image quality may be compromised.” After installing these items, the Maintenance Kit counter must be manually reset.

Parts of the Printer

Printer Components

The base printer contains the following major components:

Front view

- 1 Standard Output Bin
- 2 Paper Guide / Curl Extension
- 3 Control Panel
- 4 Paper Support and Stopper
- 5 Multi-sheet Bypass Feeder (closed)
- 6 Tray 1
- 7 Paper Amount Indicator
- 8 Power Switch

Rear view

- 9 Rear Cover (closed)
- 10 Power Cord Receptacle
- 11 LVPS Fan Ventilation Slots
- 12 Interface Connectors
(Parallel, USB, Ethernet)
- 13 Top cover (closed)

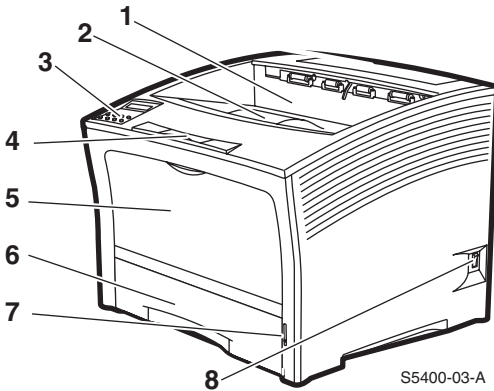


Figure 2 Front View

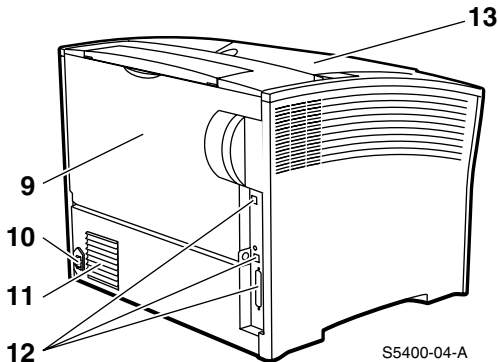


Figure 3 Rear View

Printer Options

Front view

- 1 1,000-Sheet (High Capacity) Stacker Bin
- 2 500-Sheet Feeder (A4/Letter Tray, shown as Tray 1, A3/Ledger Tray, shown as Tray 2 in the 500-sheet Feeder)
- 3 2,000-Sheet Feeder (shown as Tray 3)

Rear view

- 4 Optional Duplex Module (installed)
- 5 Optional Hard Drive (installed)
- 6 Optional Memory DIMMs (installed)

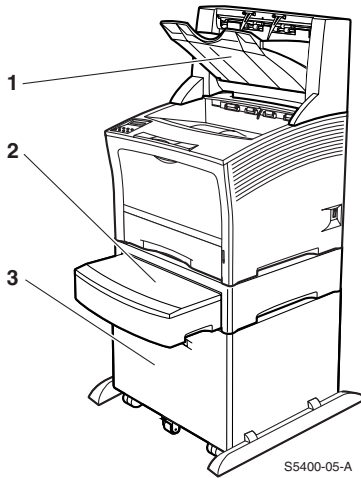


Figure 4 View from Right Front

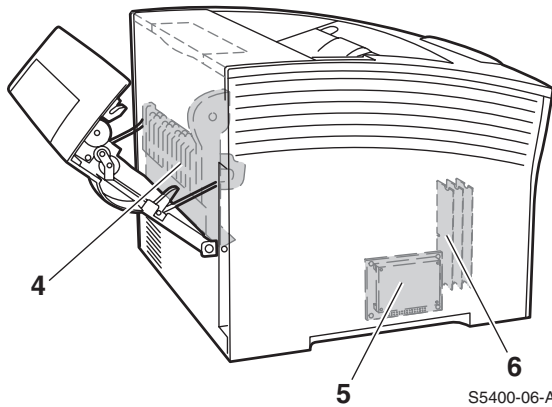
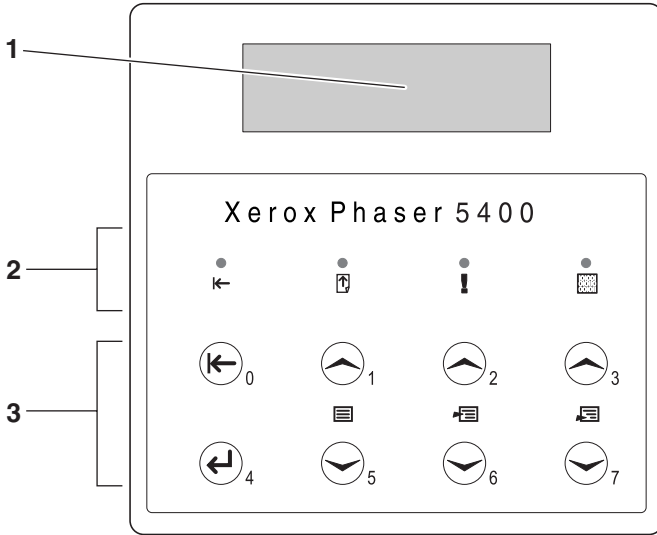


Figure 5 View from Left Rear

Control Panel

The Xerox Phaser 5400 Printer Control Panel:

- Displays printer status and jobs in process.
- Provides the means to change printer settings.
- Allows you to print reports (such as the configuration sheet, which lists the printer's current settings)



S5400-07-A

Figure 6 Control Panel

- 1 Display screen
- 2 Four indicator LEDs:
 - Online indicator LED
 - Form Feed indicator LED
 - Fault indicator LED
 - Data indicator LED
- 3 Eight control panel keys
 - Online key [0]
 - Enter key [4]
 - Menu Up key [1]
 - Menu Down key [5]
 - Item Up key [2]
 - Item Down key [6]
 - Value Up key [3]
 - Value Down key [7]

Display Screen

The control panel's display screen:

- Provides access to a hierarchy of menus to configure and control the printer. Access the menus by pressing the **Menu** keys (labeled **1** or **5**). For more information on the menu structure, refer to the *Advanced Features and Troubleshooting Manual*.

- Displays information about the status of the printer (or the job in process):

Examples:

- The printer is online and ready to accept print jobs:



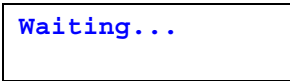
Ready..

- The printer is processing data:



Processing..

- The printer is waiting for more data:



Waiting...

- The printer is low on toner:



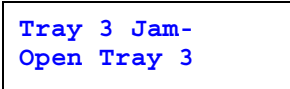
Toner Low

- A tray is empty (in this case, Tray 2 is empty and no longer is being used to print):



Tray 2 Empty

- There is a problem (in this case, a paper jam has occurred while feeding from Tray 3):



Tray 3 Jam-
Open Tray 3

Rear Panel

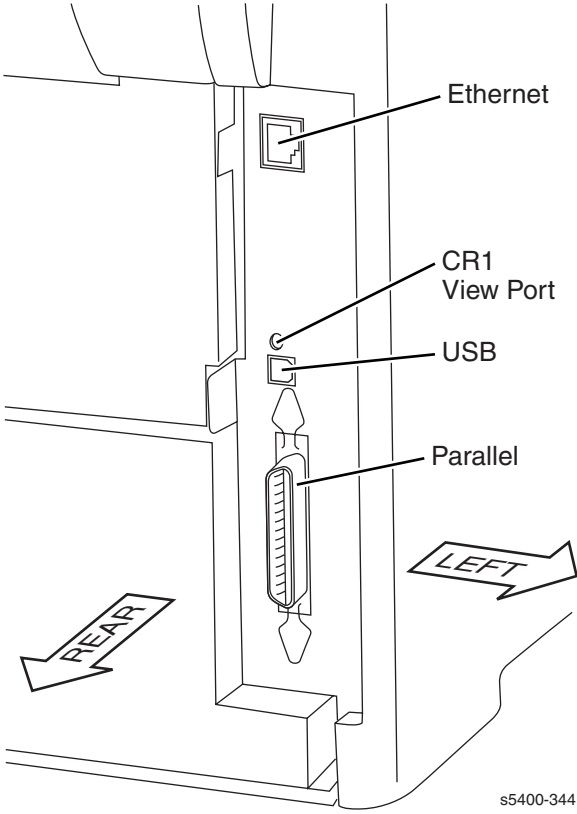


Figure 7 Rear Panel

Print Engine Assemblies

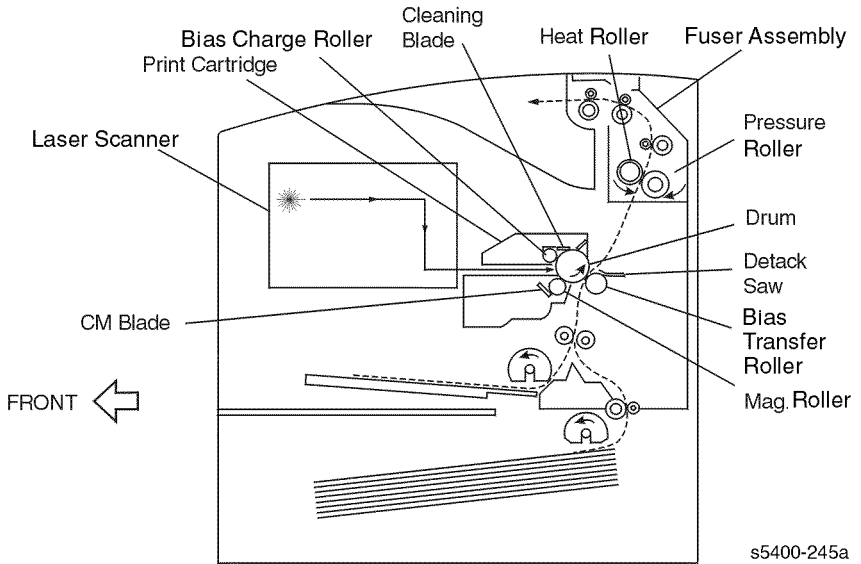
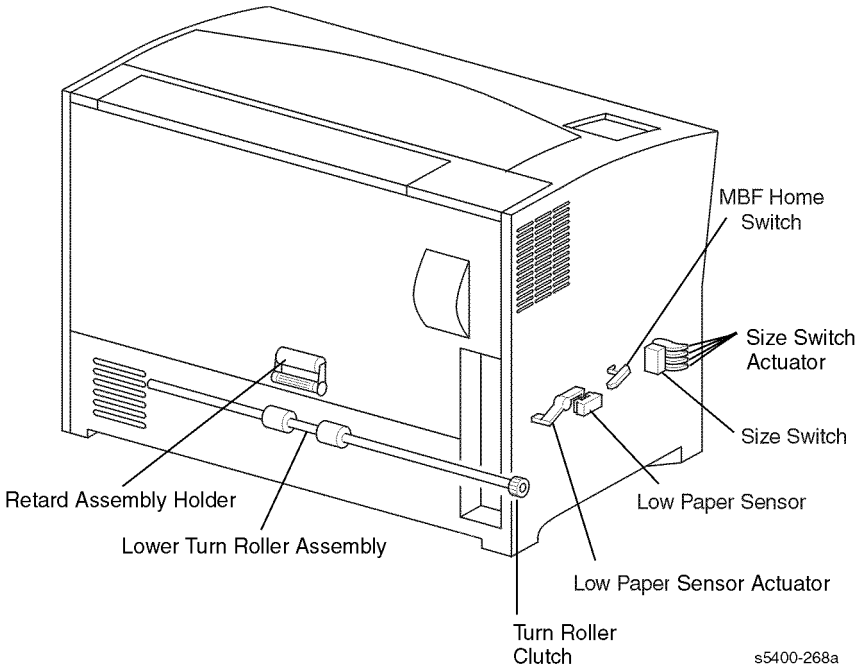


Figure 8 Print Engine Assemblies, Sensors and Interlock Locations 1 - Tray 1 and MBF Paper Path Components 1

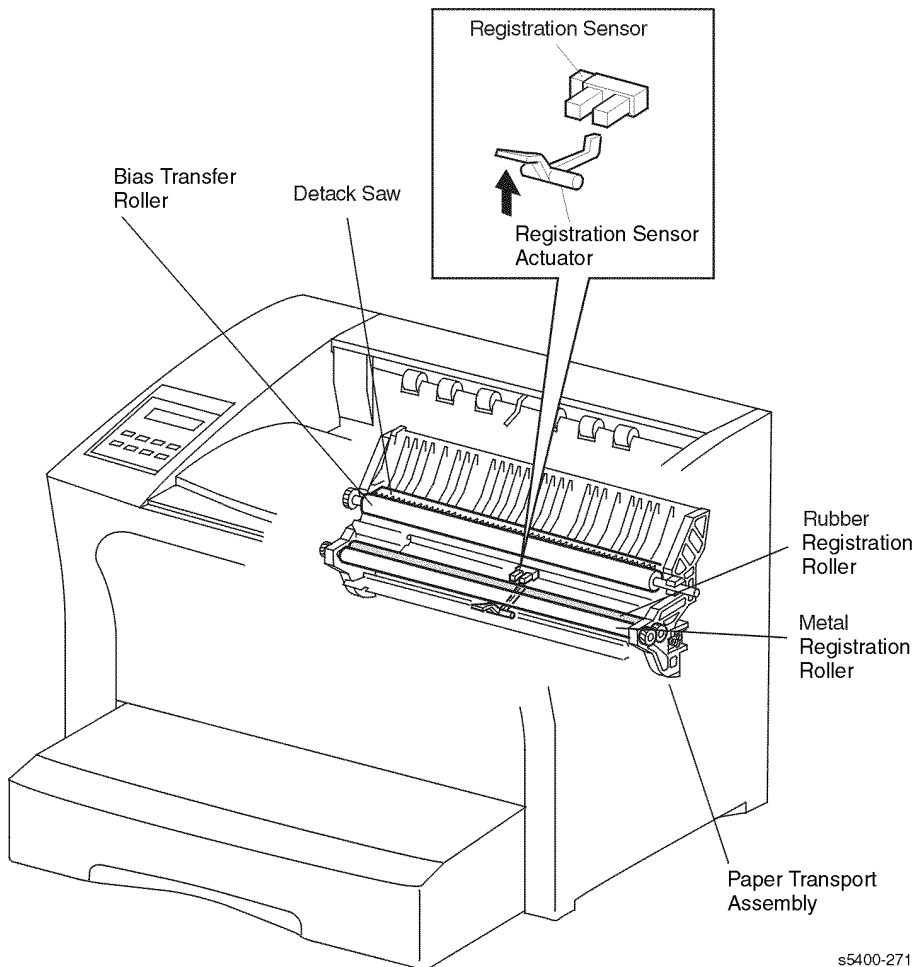
In the above figure, all of the identified items are contained in the following four FRUs:

- Laser Scanner: stand-alone unit
- Print Cartridge contains:
 - Bias Charge Roller
 - Cleaning Blade
 - Drum
 - Detack Saw
 - Mag Roller
 - CM Blade
- Fuser contains:
 - Heat Roller
 - Pressure Roller
- Bias Transfer Roller: stand-alone unit



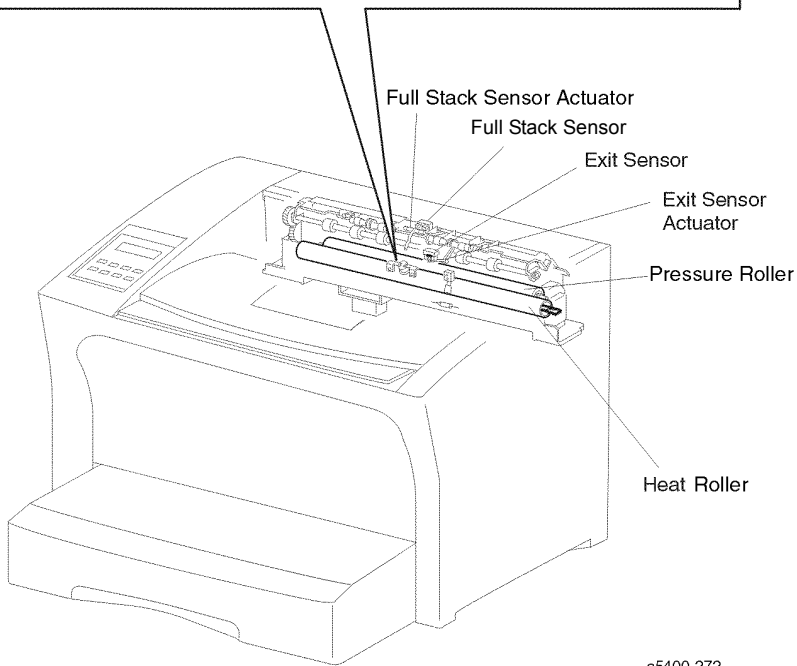
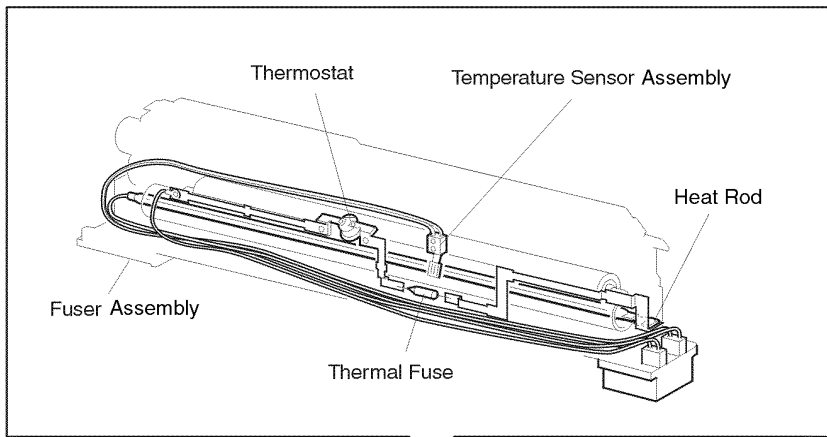
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Figure 9 FRU Assemblies, Sensors and Interlock Locations 2



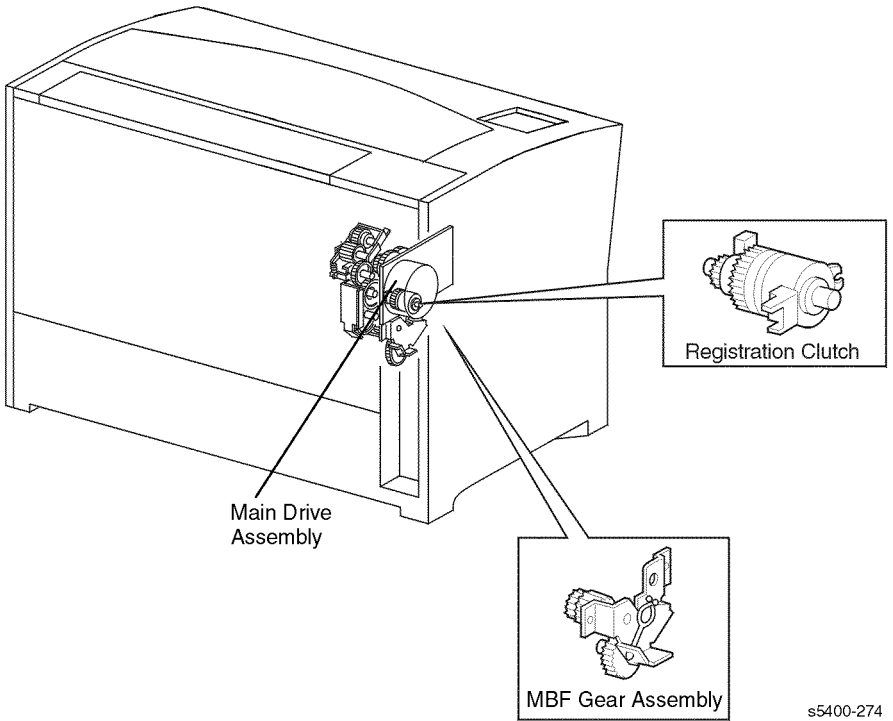
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Figure 10 FRU Assemblies, Sensors and Interlock Locations 3 - Detack Saw, Registration & Bias Transfer Rollers and Paper Transport Assembly



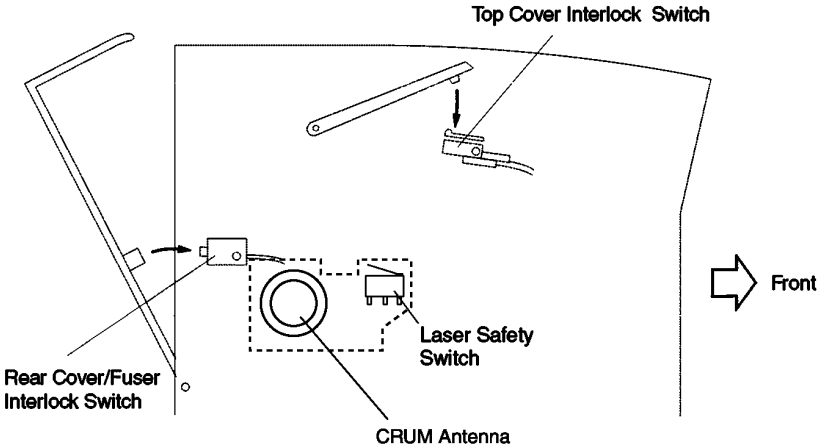
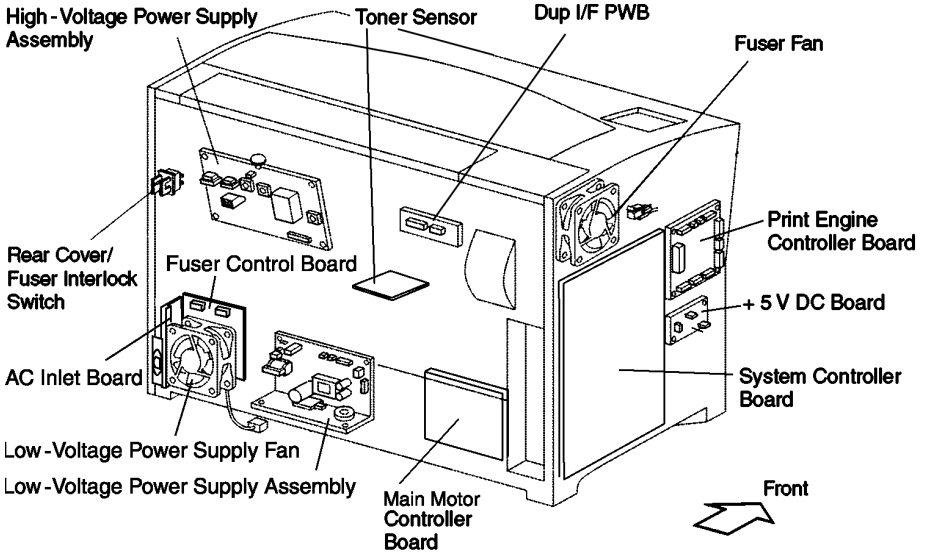
s5400-272

Figure 11 FRU Assemblies, Sensors and Interlock Locations 4 - Fuser Area



s5400-274

Figure 12 FRU Assemblies, Sensors and Interlock Locations 5 - Main Drive



s5400-277

Figure 13 FRU Assemblies, Sensors and Interlock Locations 6 - FRU Circuit Assemblies

Paper Path Information

Paper is fed from the Tray or the Multi-sheet Bypass Feeder (MBF) and transported through the printer to the exit along the paper path shown in the following figure.



s5400-253

Figure 14 Paper Path Flow

The figure below is a cut-away side view of the Phaser 5400 Laser Printer that shows the paper paths and the major components directly related to the paper transportation.

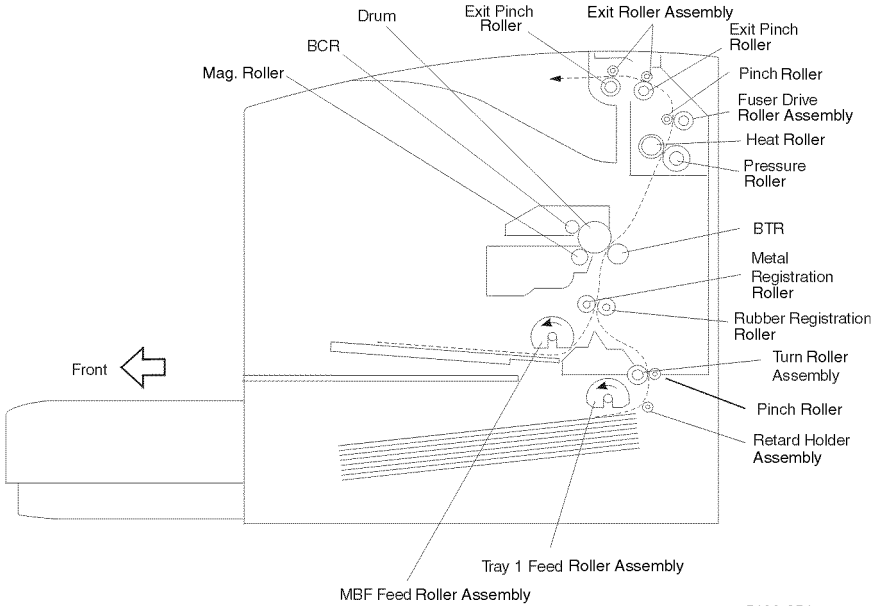


Figure 15 Paper Path Components

Printer Specifications

RAM and Printer Capabilities

The Phaser 5400 Laser Printer is equipped with 32 Mbytes of RAM and is expandable as shown below. Installing additional RAM:

- Improves system performance.
- Improves processing of complex jobs.
- Enables increased graphics at higher resolutions.
- Improves collation printing.

Memory Expansion

The base printer contains 32 MB of DRAM installed as a standard. Three option slots are provided on the System Controller Board to accommodate DIMMs per the Memory Expansion Options table below. The maximum DRAM memory, both on-board and added via DIMMs is 192 MB. Memory added beyond this limit is ignored.

Additional memory provides the following enhanced printer capabilities:

- Additional font cache
- Additional download space for fonts, macros and images
- Increased throughput for complex pages, duplex pages and larger paper sizes (A3 / Ledger)
- Increased PostScript VM (virtual memory)
- Collated sets without the Hard Disk Drive

Note: *The printer features three DIMM slots (J4, J5 and J6) for memory expansion. DRAM DIMMs can be installed in any of these slots. Refer to the instructions packed with the DIMMs.*

You can increase the resident fonts of the printer or create resident macros by installing a Flash DIMM or hard drive and downloading resources permanently to this memory. If flash memory is to be used, the 8 MB Flash DIMM can be installed in any slot (J4, J5 or J6). If a bootable flash DIMM is installed, it must be in J6 slot; however, this is not a standard option and is not likely to be seen unless a custom version of the printer were produced.

Table 1 Memory Upgrades

Memory Upgrades	Part Number
16-Mbyte DIMM	097S02356
32-Mbyte DIMM	097S02357
64-Mbyte DIMM	097S02358
8-Mbyte Flash DIMM	097S02360

Basic Specifications

Table 2 Basic Specifications

Category	Specification
Standard configuration	Print engine, MBF, 500-sheet Paper Feeder, A4/Letter Cassette (500-sheet universal paper cassette), Print Cartridge
Printing method	Xerography
Exposing method	Scanning with a semiconductor laser beam
Laser light source	Laser Diode (Nominal maximum output: 10 mW)
Print image resolution	Fixed-resolution version: 600 or 1200 dpi
Fusing method	Applying heat and pressure with rolls
Warm-up time	Within 60 seconds from a cold start after power (nominal 120 V, 220 V) is switched on. (Measured at 72° F (22° C) ambient temperature with the specified voltage)
Ranges of paper sizes	A6 Card stock to Tabloid Extra (see Table 9 and Table 10 for details).
Printable area	The print quality is not guaranteed in a 4 mm border from all edges in the printable area.
Paper capacity	650 sheets to 3150 sheets, depending on options.
Output Tray capacity	About 500 printed sheets standard; plus 1000 Letter size or smaller sheets in the optional Stacker.

Electrical Specifications

Table 3 Electrical Specifications

AC Power Required	120 V Version: 120 VAC (90 ~ 140 V), 50/60 Hz (47 ~ 63 Hz), 220 VAC Version: 220 VAC (198 ~ 264 V), 50/60 Hz (47 ~ 63 Hz)
Max. Power Required (during warm-up)	110-127 VAC rated consumption max: 1.2 kw electrical current max 11A 220-240 VAC rated consumption max: 1.3 kw electrical current max 5.5 A
Power Consumption, Printing	890 watts/3,045 BTU/hr.

Mechanical Specifications

Table 4 Physical Dimensions

	Height cm / in.	Width cm / in.	Depth cm / in.	Weight kg / lb.
Phaser 5400 printer only	39.5 / 15.6	49.0 / 19.3	46.0 / 18.1	27 / 60
500-Sheet Feeder A4 Letter size	13.4 / 5.3	50.1 / 19.7	43.9 / 17.3	9.5 / 21
500-Sheet Feeder A3 Ledger size	13.4 / 5.3	50.1 / 19.7	58.9 / 23.2	10.5 / 23
2000-Sheet Feeder	41.0 / 16.1	49.0 / 19.3	50.9 / 20.0	23 / 51
1000-Sheet Stacker	35.5 / 14.0	49.0 / 19.3	32.0 / 12.6	5 / 11

Table 5 Printer Clearances

Location	Clearance (cm / in.)
Front	76 / 30
Rear	30 / 12
Left Side	20 / 8
Right Side	10 / 4
Mounting Surface	Level within 5°

Environmental Specifications

Table 6 Environmental Specifications

Environmental conditions for installation (Printer unpacked and having the Print Cartridge installed)	Operating: 41 – 95° F (5 – 35° C) 15 – 85% RH (Without condensation) 0 – 3000 m above sea level Horizontal bias within 5° of level. Non-operating: -68 – 104° F (-20 – 40° C) 5 – 85% RH (Without condensation) 0 – 3000 m above sea level
Environmental conditions for storage of a printer packed for shipping	<p>When the Print Cartridge is packed together:</p> <ul style="list-style-type: none"> • Normal conditions (Assured period: 12 months) 32 – 95° F (0 – 35° C) 15 – 80% RH (Without condensation) • Severe conditions (Assured period: 1 month) -68 – 32° or 95 – 104° F (-20 – 0° or 35 – 40° C) 5 – 15 or 80 – 95% RH (Without condensation) <p>When the Print Cartridge is not packed together:</p> <ul style="list-style-type: none"> • Normal conditions (Assured period: 12 months) -68 – 122° F (-20 – 50° C) 5 – 85% RH (Without condensation) • Severe conditions (Assured period: 48 hours) 122 – 140° F (50 – 60° C) 85 – 95% RH (Without condensation) <ul style="list-style-type: none"> • The assured altitude is 0 – 3000 m above sea level. <p>When transported by air in a cargo room pressurized over 70.93 kPa, the assured altitude is 0 – 15000 m.</p>
Environmental conditions for storage of the Print Cartridge in the packed condition	<ul style="list-style-type: none"> • Normal conditions (Assured period: 24 months) 32 – 95° F (0 – 35° C) 15 – 80% RH (Without condensation) • Severe conditions (Assured period: 1 month) -68 – 32° or 95 – 104° F (-20 – 0° or 35 – 40° C) 5 – 15 or 80 – 95% RH (Without condensation) <p>The assured altitude is 0 – 3000 m above sea level. When transported by air in a cargo room pressurized over 70.93 kPa, the assured altitude is 0 – 15000 m. The unpacked Print Cartridge remains intact for 12 months in the above non-operating environmental conditions for the printer.</p>
Noise generation	<p>Printing: 58.1 dB (A)</p> <p>Stand by: 31.4 dB (A)</p> <p>Impulse: 63.5 dB (A)</p>
Dust generation	0.1 mg/m ³ or less
Ozone generation	0.02 ppm or less in Time Weighted Average (TWA)
Illumination	Under 3000 Lux (Direct sunlight must be avoided)

Life Expectancies

Table 7 Life Expectancies of the Print Engine and Options

Life of HCS	Either 600,000 prints or 5 years.
Life of Duplex Module	Either 600,000 prints or 5 years whichever comes first.
Life of Printer Engine	Either 600,000 prints on Letter size paper (LEF) or 5 years whichever comes earlier. A double-sided print is counted as two prints.
Life of Paper Feeder	600K for each: 500-Sheet and 2000-Sheet feeders
Life of Print Cartridge	20,000 prints (average) The life of the Print Cartridge is defined as the number of prints which satisfy the specified print quality without shaking the Print Cartridge when consecutively printing on A4/Letter size sheets (LEF) under the normal conditions with 5% image coverage. A double-sided print is counted as two prints.
Maintenance Kit	200,000 prints

Conforming Regulations and Standards

Table 8 Conforming Regulations and Standards

Laser safety regulations	100 V / 120 V Version: US FDA 21 CFR, Sections 1010 & 1040, Sub-chapter J, Chapter 1 220 V / 240 V Version: IEC825 Class I Laser Product
EMI (Electromagnetic Interference) regulations	120 V Version (USA): FCC Part 15 subpart B, Class A (ANSI C63.4/11.4D) 220 V / 240 V Version (EC): EN55022 (CISPR Publication 22), Class A
Other safety regulations and standards	100 V / 120 V Version: UL 1950 3rd Edition CSA C22.2 No. 950-M95 220 V / 240 V Version: IEC60950 2nd Edition CE Directive Nordic Agency Approvals (NEMKO, SEMKO, SETI, and DEMKO)

Printing Speed

Table 9 Printing Speed for the First Sheet Out

10.7	S: Simplex D: Duplex	Time Needed for Initial Print (sec)			
		MBF	Tray 1	Tray 2	Tray 3
Ledger SEF	S	5.66	6.06	6.83	7.61
	D	10.90	11.29	11.60	12.71
A3 SEF	S	5.59	5.99	6.76	7.54
	D	10.45	10.88	11.59	12.45
Letter LEF	S	4.41	4.81	5.58	6.36
	D	8.25	8.62	9.36	10.20
A4 LEF	S	4.38	4.78	5.55	6.32
	D	8.05	8.57	9.16	10.16
Statement LEF	S	3.97	4.37	5.14	5.92
	D	7.25	7.67	8.33	9.13

The above chart does not include RIP time.

Note: RIP time is the time expended from when the printer gets the command to print to where paper is started through the printer.

Table 10 Consecutive Printing Speed after the First Sheet Out

	Paper Size	Simplex Mode (Prints per min.)	Duplex Mode (Prints per min.)
600 dpi + 1200 image quality	Ledger SEF	19.0	14.0
	A3 SEF	19.0	14.0
	Letter LEF	40.0	28.6
	A4 LEF	40.0	28.6
True 1200 dpi	Ledger SEF	9.5	7.0
	A3 SEF	9.5	7.1
	Letter LEF	20.0	14.1
	A4 LEF	20.0	14.2

The above chart does not include RIP time.

Printing Media Feeding Means

The Phaser 5400 Laser Printer has the following four print media feeding means:

1. Multi-sheet Bypass Feeder (Standard) 150 sheet capacity
2. A4/Letter Tray (Standard) 500 sheet capacity
3. A3/Ledger Tray (Optional) 500 sheet capacity
4. A4/Letter 2000-Sheet Feeder (Optional) 2000 sheet capacity

Note: *All capacities assume a typical paper weight of 80 g/m² (20 lbs.). Capacities will differ with other weights.*

Table 11 Supported Media and Media Sizes

Tray 1, Tray 2, Tray 3					
Media	Media Size	A4/Letter	A3/Ledger	2000-Sheet Feeder	Multi-sheet Bypass Feeder
A3	297 x 420 mm	-	SEF ⁽²⁾	-	SEF
A4	210 x 297 mm	LEF	LEF	LEF	LEF
A5	148 x 210 mm	LEF ⁽²⁾	LEF ⁽²⁾	-	LEF
A6	105 x 148 mm	-	-	-	LEF ⁽¹⁾
B4-JIS	257 x 364 mm	-	SEF	-	SEF
B5-JIS	182 x 257 mm	LEF ⁽²⁾	LEF ⁽²⁾	-	LEF
Statement	5.5 x 8.5 in.	LEF ⁽³⁾	LEF ⁽³⁾	-	LEF
Executive	7.25 x 10.5 in.	LEF ⁽³⁾	LEF ⁽³⁾	-	LEF
Letter	8.5 x 11 in.	LEF	LEF	LEF	LEF
Folio	8.5 x 13 in.	-	SEF	-	SEF
Legal	8.5 x 14 in.	-	SEF	-	SEF
Ledger	11 x 11 in.	-	SEF ⁽³⁾	-	SEF
Envelopes					
COM-10	4.1 x 9.5 in.	LEF ⁽¹⁾⁽³⁾	-	-	LEF ⁽¹⁾
Monarch	3.8 x 7.5 in.	LEF ⁽¹⁾⁽³⁾	-	-	LEF ⁽¹⁾
DL	110 x 220 mm	LEF ⁽¹⁾⁽²⁾	-	-	LEF ⁽¹⁾
C5	162 x 229	LEF ⁽¹⁾	-	-	LEF ⁽¹⁾
Transparencies					
A4	210 x 297 mm	LEF ⁽¹⁾	LEF ⁽¹⁾	-	LEF ⁽¹⁾
Letter	8.5 x 11 in.	LEF ⁽¹⁾	LEF ⁽¹⁾	-	LEF ⁽¹⁾
Labels					
A4	210 x 297 mm	LEF ⁽¹⁾	LEF ⁽¹⁾	-	LEF ⁽¹⁾
Letter	8.5 x 11 in.	LEF ⁽¹⁾	LEF ⁽¹⁾	-	LEF ⁽¹⁾

SEF = Short-Edge Feed, LEF = Long-Edge Feed

⁽¹⁾ Simplex (one-sided) printing only.

⁽²⁾ Only when Defaults = Millimeters in the Control Panel System Menu.

⁽³⁾ Only when Defaults = Inches in the Control Panel System Menu.

Table 12 Custom Paper Sizes

Tray 1, Tray 2, Tray 3					
Acceptable Sizes	A4/Letter Tray	A3/Ledger Tray	2000-Sheet Feeder	Multi-sheet Bypass Feeder	
Simplex					
Width	148 - 297 mm 5.83 - 11.69 in.	210 - 297 mm 8.27 - 11.69 in.	None	76.2 - 305 mm 3 - 12 in.	
Length	98.4 - 216 mm 3.875 - 8.5 in.	139.7 - 431.8 mm 5.5 - 17 in.	None	98.4 - 508 mm 3.875 - 20 in.	
Duplex					
Width	182 - 297 mm 7.16 - 11.69 in.	210 - 297 mm	None	182 - 297 mm 7.16 - 11.69 in.	
Length	139.7 - 216 mm 5.5 - 8.5 in.	139.7 - 431.8 mm	None	139.7 - 341.8 mm 5.5 - 17 in.	

Printing Media

Table 13 Paper Weights

Acceptable Weights	Input Source
60-200 g/m ² (16 lb. bond to 110 lbs. card stock)	Main 500-Sheet Tray Optional 500-Sheet Feeders 2000-Sheet Feeder
60-135 g/m ² (16 lb. bond to 36 lbs. bond)	Multi-sheet Bypass Feeder
60-105 g/m ² (16 lb. bond to 28 lbs. bond)	Duplex Module

Storing Paper

- Store the paper on a flat surface, in a relatively low-humidity environment.
- Avoid storing paper in such a way as to cause wrinkling, bending, curling, etc.
- Do not unwrap paper until you are ready to use it, and rewrap any paper you are not using.
- Do not expose paper to direct sunlight or high humidity.

Unacceptable Media

The following media are unacceptable for use in the printer. Their use may cause high rates of jamming and other paper-handling problems:

- Excessively thick or thin paper
- Heavily textured paper
- Paper that has already been printed on (pre-printed Letterhead is allowed)
- Wrinkled, torn, or bent paper
- Moist or wet paper
- Curled paper
- Paper with an electrostatic charge
- Glued paper
- Paper with special coating
- Paper unable to withstand a temperature of 150° C (302° F)
- Thermal paper
- Carbon paper
- Paper with paper fasteners, ribbons, staples, tape, etc. attached
- Label stock with exposed backing sheet

Printing Accuracy

Table 14 Printing Accuracy

Item		Accuracy	Measuring Conditions
Registration	Lead Edge	2.0 mm	
	Side Edge	2.5 mm	
Skew		2.0 mm	At a distance of 245 mm
Orthogonality		1.3 mm	At a distance of 195 mm
Linearity	In direction of paper travel	1.0 mm	For 390 mm straight line
	At right angle of direction of paper travel	0.7 mm	For 245 mm Straight line
	At 40 degree angle to direction of paper travel	1.5 mm	For 347 mm straight line
Parallelism		2.0 mm	Over 390 mm straight lines
Magnification	In direction of paper travel	100 0.8%	At a distance of 390 mm
	At right angle to direction of paper travel	100 0.5%	At a distance of 245 mm

Components to Be Replaced Periodically

Note: *The Maintenance Kit is a user-installable consumable, not a warranty item. It is supplied and installed by the customer at regular intervals as indicated by the Control Panel. If Service personnel supply this kit, the customer must be billed for it.*

Table 15 Components to Be Replaced Periodically

Fuser Unit	200,000 prints (Letter LEF)
Bias Transfer Roll	200,000 prints (Letter LEF)

Options

The basic Phaser 5400 Laser Printer configuration consists of the base engine and a Paper Feeder (Standard feeder) with a A4/Letter 500-sheet universal cassette. There are various customer installed options available for the Phaser 5400 Laser Printer.

Table 16 Options

Option	Description
A3/Ledger cassette (500-sheet universal cassette)	Can hold regular size cut sheet up to the A3/Ledger size.
A4/Letter cassette (500-sheet universal cassette)	Can hold regular size cut sheet up to the A4/Letter size.
Duplex Module	Makes duplex printing possible.
1000-Sheet Stacker Bin	Stacks printed sheets, without offset.
A4/500-Sheet Feeder	Installed as a second or third.
A3/500-Sheet Feeder	Installed as a second or third.
Memory DIMMs	See RAM and printer capabilities
Hard Drive	
2000-Sheet Feeder	Installed as the second or third paper high capacity feeders. Note: Only one can be installed.

Part numbers and additional information for Maintenance items (fuser, BTR, etc.), Consumables (printer cartridge, media, etc.) or Options, refer to Xerox Supplies and Accessories on [page 428](#) of this manual.

Error Codes and Messages

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Introduction

The Control Panel displays error information when sensors report problems with trays or consumables, open covers, jams, system failures or other operating problems. Error codes are usually specific: the word string or code has a special meaning, which makes it important that service and users record errors exactly. Error codes are listed in this section with Repair Analysis Procedures (RAPs) that outline corrective actions that should resolve the error or conflict.

If an error is not visible on the Control Panel, fault history may be accessed one of three ways:

1. Print (if possible) the Fault History from the Control Panel's Print Menu.
2. View fault history in the Control Panel using Print Menu, Display Faults. When the [3] key is pressed, the first fault will be displayed. Continue to press the [3] key to view the entire fault history. It will read as follows:

Log Entry #1

<error code> <page count>

3. If the printer has a TCP/IP address and is connected to a network, view the printer's web page using a web browser. Enter the printer's IP address as the URL. Select the "Troubleshoot" link and fault history will be displayed.

To troubleshoot functional or performance problems (e.g. — failure to power up) and print-quality problems, refer to *Troubleshooting* on page 107.

Error messages

The Control Panel displays error codes when it encounters certain system failures or anomalies otherwise undetected by the user. These error codes are discussed in this section. When an error code first occurs, cycle power on the printer to see if the error recurs.

Measurements

Power and signal grounds are connected to frame ground, therefore all circuit troubleshooting can be performed using the metal frame (chassis) as the grounding point. If more information is needed to locate connectors or test points, refer to *Plug/Jack Connector Locations* on page 433.

Unless otherwise specified, the following voltage tolerances are used within this section:

Table 17 Voltage Measurements

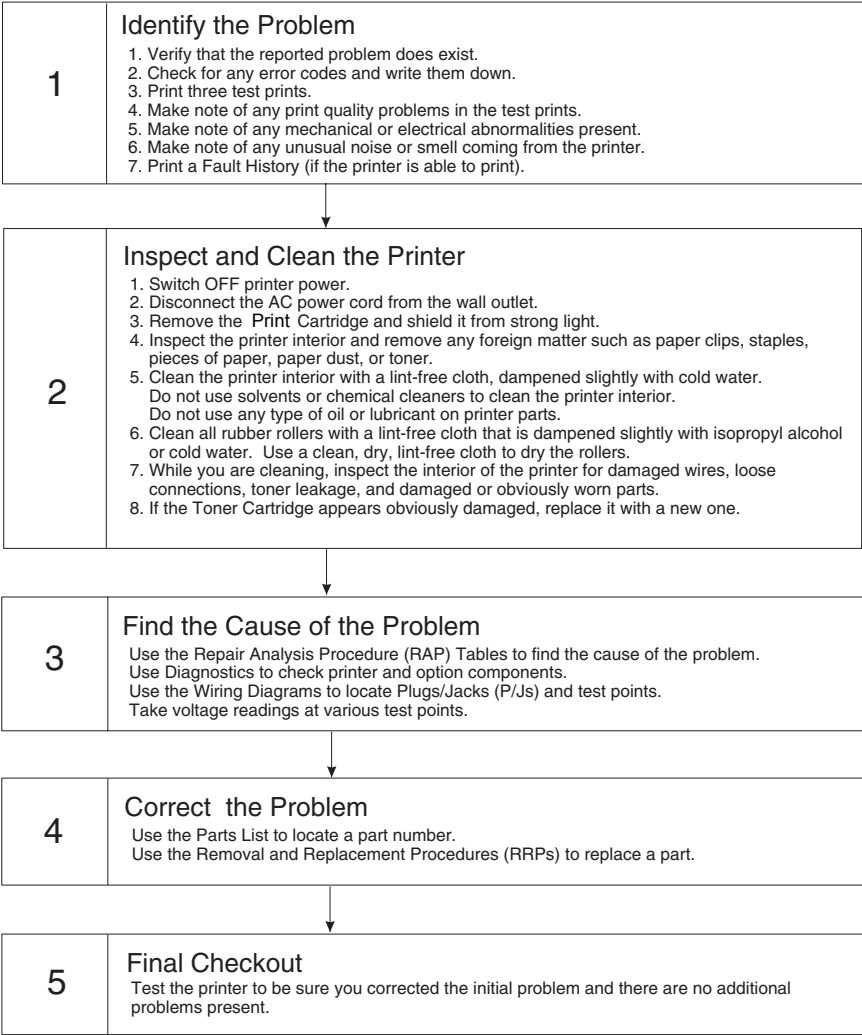
Stated	Measured
+3.3 VDC	+3.0 to 3.6 VDC
+5.0 VDC	+4.8 to +5.2 VDC
+24.0 VDC	+21.6 to +26.4 VDC
0.0 VDC	Less than +0.5 VDC

Service Flowchart

Note: *A Service Flowchart that outlines one possible approach to troubleshooting and repair of the printer has been provided. The Service Flowchart is an overview of the path a service technician could take, using this technical manual, to service the printer engine and options.*

To use the Service Flowchart, start at 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 through 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 Flowchart, it is recommended that you start at the appropriate Repair Analysis Procedure (RAP) Table and proceed from there.



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Figure 16 Service Flowchart

Repair Analysis Procedure Table

If you used the Service Flowchart, it may have directed you to this section. Follow the **Repair Analysis Procedure Table** located in this section to help you analyze your printer problem.

How to Use a Repair Analysis Procedure Table

1. If you have an error code or error message displayed, refer to the Repair Analysis Procedure in this section and locate the **ERROR CODE** in the “Error Code” column or the “Error Message” in the “**Displayed Error Message**” column, then go to the Repair Analysis Procedure indicated in the “**Go To...**” cell to the right of the **ERROR CODE**.
2. If you have a printer operation problem, go to the **PRINTER PERFORMANCE** area in the Troubleshooting Section of this manual.
3. If you have a print image problem, go to the **IMAGE QUALITY** area in the Troubleshooting section of this manual.
4. Follow the Repair Analysis Procedure Table leading from the “Problem” cell to the individual Primary Repair Analysis Procedure that corresponds to your error code, printer operation problem, or print image problem.
5. Follow the instructions presented in the Repair Analysis Procedure.
6. If the Repair Analysis Procedure instructs you to perform a diagnostic test, refer to Diagnostics area in the Tests and Adjustments Section of this manual.
7. Voltage and resistance values presented in the Repair Analysis Procedures are an approximation. Actual readings may vary from the stated values.
8. Primary Repair Analysis Procedures may direct you to a Secondary Repair Analysis Procedure.

How to Follow a Repair Analysis Procedure

See the RAP Table example below.

1. Each numbered step in a Repair Analysis Procedure instructs you to perform a certain action or procedure.
2. The **Actions and Questions** box may contain additional information and numbered procedure steps you must follow to perform the action.
3. The action is followed by a question.
4. If your response to the question is **Yes**, then follow the instructions for a Yes reply.
5. If your response to the question is **No**, then follow the instructions for a No reply.
6. Repair Analysis Procedures may ask you to take voltage readings at certain test points within the printer. The *Plug/Jack Connector Locations* and *Master Wiring Diagram* sections of this manual contain information on test point locations and signal names.
7. Repair Analysis Procedures may ask you to run a specific diagnostic routine in order to test a component or circuit. The *Tests /Adjustments* and *Resetting NVRAM* sections of this manual contain information on printer diagnostics.
8. Repair Analysis Procedures often ask you to replace a printer component. The Key FRU (Field Replaceable Unit) section of this manual provides detailed steps for removing and replacing all major parts of the printer. If the component is not part of the base engine, the Repair Analysis Procedure indicates which technical manual contains the procedure.

RAP Table Example

Step	Actions and Questions	Yes	No
2	NO PAPER SENSOR TEST 1. Enter Diagnostics. 2. From the Main Menu, select Component Test / Sensor Input / press [4] to start, [0] to stop. 3. Remove Tray 1 from the printer. 4. Manually actuate and deactuate Tray 1 No Paper Sensor. Does the LCD counter increment each time you press and release the actuator?	Go to Step 3	Replace the No Paper Sensor Assembly

General Notes on Using Repair Analysis Procedures

1. Unless indicated otherwise, the instruction “switch ON printer 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.
2. 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 board).
 - JXX means a Jack is disconnected. (Unless this jack is soldered to a board).
3. 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.
4. 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 Diagrams for signals and pin numbers.
5. 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 frame ground (frame ground) in place of any SG pin or test point.
6. Unless a Repair Analysis Procedure instructs you otherwise; before measuring voltages make sure the printer is switched ON, the Xerographic Cartridge and the paper trays are in place, and all of the interlock switches are actuated.
7. All voltage values given in the Repair Analysis Procedures are approximate values. Actual measured voltages may vary more than 25% from the values stated in the Repair Analysis Procedures. The main purpose of most voltage readings taken in the Repair Analysis Procedures is to determine whether or not a component is receiving the correct voltage value from the power supply and if gating (a voltage drop) occurs during component actuation. Gating signals may be nothing more than a pulse, resulting in a momentary drop in voltage that may be difficult or impossible to read on the average multi-meter.
8. Repair Analysis Procedures may instruct you to remove or replace a component. Refer to the Key FRU Removal and Replacement Procedures section for information on how to remove and reinstall a component.
9. When a Repair Analysis Procedure instructs you to replace a non-spared component, and that component is part of a larger assembly, you should replace the entire assembly.

Note: *Repair Analysis Procedures assume there is no malfunction in the System Controller Board. If you are unable to fix a problem using the Repair Analysis Procedures, it is recommended that you replace the System Controller board. In some instances, the Control Panel Display may not be sufficiently functional to accurately show error codes and/or messages. Before replacing the System Controller, please refer to the System Controller Error Blink Code Table on [page 222](#) to check the LED blink codes for additional help in troubleshooting.*

Using Printer Diagnostics

Repair Analysis Procedures often ask you to enter Diagnostics and perform a specific output test or input test. Diagnostics are built into the Print Engine Controller Board. Use the Control Panel to access and run the various diagnostic routines that are presented in this manual. Refer to *Diagnostics, Test Prints, Service Tests and NVRAM Adjustments* on page 219 of this manual.

To Enter Diagnostics mode

When troubleshooting, you will encounter times when it is necessary to enter Diagnostics mode. Please use the following procedure:

1. Make certain the printer is OFF.
2. Press and hold buttons [2] and [6] on the Control Panel while you switch printer power ON. Continue holding until *IOT?* appears in the display (approximately 20 seconds).
3. When the Control Panel LCD displays *IOT?*, release buttons [2] and [6], then press and hold button [4] until the LCD indicates you are in Diagnostics mode.

Note: *You have 10 seconds to complete the transition from holding [2] and [6] to pressing [4]. If you miss this 10 second window, the printer will complete a normal boot sequence, requiring you to switch printer power OFF and start over.*

4. When attempting to enter certain areas of Diagnostics, a password is required. When so requested for password, sequentially press [0], [7], [3], [4] to gain entry.

Note: *To exit Diagnostics, you must switch printer power OFF, wait 20 - 30 seconds and switch printer power ON.*

Error Codes with Repair Analysis Procedure

Table 18 Error Code / Repair Analysis Procedure

Displayed Error Message	Fault History Log	Diagnostic Message / Fault Description / Comment	Action
Insert Tray 1		C3: Tray 1 Error Tray 1 is not detected in printer. (All paper size switches not actuated.)	Install Tray 1 Go to RAP 1, page 42 .
Insert Tray 2		C3: Tray 2 Error Tray 2 is not detected in printer. (All paper size switches not actuated.)	Install Tray 2 500-Sheet Feeder Go to RAP 2, page 44 .
Insert Tray 3		C3: Tray 3 Error Tray 3 is not detected in printer. (All paper size switches not actuated.)	Install Tray 3 500-Sheet Feeder Go to RAP 2, page 44 .
Tray 2 Failure Power Off/On	C3-2E	C3-E3: HCF Elevator 1. 2000-Sheet Feeder elevator did not reach home position within the prescribed time. 2. Paper level sensor on when 2000-Sheet Feeder Tray is opened.	Open and close 2000-Sheet Feeder paper tray. Go to RAP 3, page 46 .
Tray 3 Failure Power Off/On	C3-3E	C3-E3: HCF Elevator 1. 2000-Sheet Feeder elevator did not reach home position within the prescribed time. 2. Paper level sensor on when 2000-Sheet Feeder Tray is opened.	Open and close 2000-Sheet Feeder paper tray. Go to RAP 3, page 46
Load Tray 1		C5: Tray 1 Empty Tray 1 is out of paper.	Load paper into Tray 1 Go to RAP 4, page 48
Load Tray 2		C5: Tray 2 Empty Tray 2 is out of paper.	Load paper into Tray 2 Go to RAP 4, page 48 500-Sheet Feeder Go to RAP 5, page 50 2000-Sheet Feeder Go to RAP 8, page 58
Load Tray 3		C5: Tray 3 Empty Tray 3 is out of paper.	500-Sheet Feeder Go to RAP 5, page 50 2000-Sheet Feeder Go to RAP 8, page 58
Load MBF		C5: MBF Empty MBF is out of paper.	Load paper into MBF Go to RAP 4, page 48

Table 18 Error Code / Repair Analysis Procedure (cont'd.)

Displayed Error Message	Fault History Log	Diagnostic Message / Fault Description / Comment	Action
Remove Output from Std. Bin		C5: Top Tray Full Top Tray is declared full when 5 prints are delivered to the top tray after the Full Stack sensor is actuated.	Empty Top Tray. Go to RAP 6, page 52 .
Remove Output from Stacker Bin		C5: HCS Tray Full Five prints are delivered to the top tray after the HCS Full Stack sensor is actuated.	Empty HCS Tray. Go to RAP 7, page 55 .
Disk Error Format Disk	D-1	Hard Drive error was detected.	<ul style="list-style-type: none"> ■ Power Off/On. ■ Format Hard Drive - See Reset Menu (RAP 68, page 172). ■ Replace Hard Drive. ■ Replace System Controller Board (RRP 8.1, page 305).
Init Failed Disk Locked	D-2	Cannot format disk, disk locked via PJJ or SNMP Command.	<ul style="list-style-type: none"> ■ Customer Unlock Disk. ■ Replace Hard Disk.
Format Failed Disk Locked	D-3	Cannot put disk in factory default attempt to initialize disk after it is locked.	<ul style="list-style-type: none"> ■ Customer Unlock Disk. ■ Replace Hard Disk.
Memory Failure Power Off/On	ESS-M	Controller memory has failed (32 MB on board).	<ul style="list-style-type: none"> ■ Power Off/On ■ Remove Options ■ Replace System Controller PWB (RRP 8.1, page 305).
NV Memory Fail Power Off/On	ESS-N	Controller NVM Failure	<ul style="list-style-type: none"> ■ Power Off/On ■ Replace System Controller PWB (RRP 8.1, page 305).
Paper Jam Open Top Cover Open/Extend MBF Remove PrintCart Clear Paper Path	E1-1	E1: Reg. Jam 1. Registration Sensor did not deactivate within time after actuation of Registration sensor. 2. Registration sensor is actuated at power on. 3. Registration is actuated during warm up cycle or an erase cycle.	Open Top Cover, remove EP Cartridge. Open and Extend MBF assembly and remove any paper. Go to RAP 9, page 60 .
Duplex Jam Open Rear Cover Clear Paper Path	E2-D	E2-2: Misfeed Jam Registration Sensor did not actuate within time after the actuation of the Duplex Motor in reverse.	Open Rear Cover and remove any paper. Go to RAP 13, page 67 .

Table 18 Error Code / Repair Analysis Procedure (cont'd.)

Displayed Error Message	Fault History Log	Diagnostic Message / Fault Description / Comment	Action
Paper Jam Open Top Cover Open /Extend MBF Remove All Paper	E2-1M	E2-1 Misfeed Jam 1. Simplex printing: Reg. Sensor is OFF when the specified time has passed timing from Feed Roll ON. 2. Printing from 2000-Sheet Feeder: Reg. Sensor is OFF when the timing is after receiving Feed Run status. Comment: MBF misfeed	Open Top Cover or Feeder and remove the sheets, then close the cover. Go to RAP 10, page 61 .
Tray 1 Jam Open Tray 1 Open/Extend MBF Open Top Cover Remove Print Cart. Clear Paper Path	E2-11	E2-1 Misfeed Jam 1. Simplex printing: Reg. Sensor is OFF when the specified time has passed timing from Feed Roll ON. 2. Printing from 2000-Sheet Feeder: Reg. Sensor is OFF when the timing is after receiving Feed Run status. Comment: Tray 1 Misfeed	Open Top Cover of Feeder and remove the sheets, then close the cover. Go to RAP 10, page 61 .
Tray 2 Jam Open Tray 2 Open/Extend MBF Open Top Cover Remove PrintCart Clear Paper Path	E2-12	E2-1 Misfeed Jam Simplex printing: Reg. Sensor is OFF when the specified time has passed timing from Feed Roll ON. Comment: Tray 2 misfeed with 500-Sheet Feeder installed as Tray 2.	Open Top Cover or Feeder and remove the sheets, then close the cover. Go to RAP 11, page 63 .
Tray 2 Jam Open Tray 2 Open Rear TrayDr Clear Paper Path	E2-12	E2-1 Misfeed Jam Simplex printing: Reg. Sensor is OFF when the specified time has passed timing from Feed Roll ON. Printing from 2000-Sheet Feeder: Reg. Sensor is OFF when the timing is after receiving Feed_Run status. Comment: Tray 2 misfeed with 2000-Sheet Feeder installed as Tray 2.	Open Top Cover or Feeder and remove the sheets, then close the cover. Go to RAP 12, page 65 .
Tray 3 Jam Open Tray 3 Open/Extend MBF Open Top Cover Remove PrintCart Clear Paper Path	E2-13	E2-1 Misfeed Jam Simplex printing: Reg. Sensor is OFF when the specified time has passed timing from Feed Roll ON. Comment: Tray 3 Misfeed with 500-Sheet Feeder installed as Tray 3.	Open Top Cover or Feeder and remove the sheets, then close the cover. Go to RAP 11, page 63 .

Table 18 Error Code / Repair Analysis Procedure (cont'd.)

Displayed Error Message	Fault History Log	Diagnostic Message / Fault Description / Comment	Action
Tray 3 Jam Open Tray 3 Open Rear TrayDr Clear Paper Path	E2-13	E2-1 Misfeed Jam 1. Simplex printing: Reg. Sensor is OFF when the specified time has passed timing from Feed Roll ON. 2. Printing from 2000-Sheet Feeder: Reg. Sensor is OFF when the timing is after receiving Feed_Run status. Comment: Tray 3 misfeed with 2000-Sheet Feeder installed as Tray 3.	Open Top Cover or Feeder and remove the sheets, then close the cover. Go to RAP 12, page 65 .
Paper Jam Open Top Cover Remove Print Cartridge Clear Paper Path	E3-1	E3: Reg. Jam Exit Sensor did not actuate within time after the Registration clutch is actuated.	Open Top Cover, remove EP Cartridge and remove any paper. Go to RAP 14, page 69 .
Exit Jam-Open Rear & Top Cover Remove Print Cartridge Clear Paper Path	E4-0	E-4: Exit Jam 1. Exit Sensor is not deactivated within time after it is actuated. 2. Exit Sensor is being actuated at Power-Up. 3. Exit Sensor is ON when the interlock is closed. 4. Exit Sensor turns from OFF to ON at Erase Cycle.	Open Top Cover, remove EP Cartridge and remove any paper. Go to RAP 15, page 72 .
Close Stacker Door		E5: HCS Rear Door HCS rear door interlock switch is open.	Close HCS rear door. Go to RAP 19, page 80 .
Close Tray 2 Rear Door		E5: HCF Cover 2000-Sheet Feeder rear cover interlock switch is open. Comment: 2000-Sheet Feeder installed as Tray 2.	Close 2000-Sheet feeder rear cover. Go to RAP 18, page 78 .
Close Tray 3 Rear Door		E5: HCF Cover 2000-Sheet Feeder rear cover interlock switch is open Comment: 2000-Sheet Feeder installed as Tray 3.	Close 2000-Sheet feeder rear cover. Go to RAP 18, page 78 .
Close Covers		E5: Close Cover 1. Top cover interlock is open. 2. Rear cover interlock is open.	Close Top Cover. Close Rear Cover. Go to RAP 16, page 74 .
Insert MBF		E5: MBF Extend MBF Assy. is not closed.	Close MBF. Go to RAP 17, page 76 .

Table 18 Error Code / Repair Analysis Procedure (cont'd.)

Displayed Error Message	Fault History Log	Diagnostic Message / Fault Description / Comment	Action
Duplex Jam Open Rear Cover Clear Paper Path	E7-1	E7: Duplex Jam 1. Duplex Sensor is not actuated within the time after the start of the Duplex drive motor in reverse. 2. Duplex Sensor is being actuated at Power-Up. 3. Duplex Sensor is on when the interlock is closed.	Open the Rear Cover and remove any paper. Go to RAP 20, page 82 .
Stacker Jam Open Rear Cover Open Stacker Door Clear Paper Path	E8-1	E8-1 HCS Jam 1. HCS Sensor did not actuate within time after the actuation of the Exit sensor. 2. HCS Sensor is not deactivated within time after actuation of HCS Sensor. 3. HCS Sensor is actuated at power on. Comment: Jam in the HCS	Open HCS rear door and remove any paper. Open Rear cover and remove any paper. Go to RAP 21, page 84 .
Duplex Unit Fail or Removed	E9-1	E9: Duplex Fail Duplex module removed while power is on.	Reinstall Duplex Module Go to RAP 22, page 86 .
Stacker Bin Fail Power Off/On	E9-2	E-9: HCS removed while power is on.	Reinstall HCS Go to RAP 23, page 88 .
Tray 2 Failure Power Off/On	E9-3	E-9: HCF Fail 2000-Sheet Feeder removed while power is on. Comment: 2000-Sheet Feeder installed as Tray 2.	Reinstall HCF Go to RAP 24, page 89 .
Tray 3 Failure Power Off/On	E9-3	E-9: HCF Fail 2000-Sheet Feeder removed while power is on. Comment: 2000-Sheet Feeder installed as Tray 3.	Reinstall HCF Go to RAP 24, page 89 .
Install Print Cartridge		J3: EP Cartridge Print Cartridge is not installed.	Install the Print Cartridge, or replace with the correct Print Cartridge. Go to RAP 27, page 92 .

Table 18 Error Code / Repair Analysis Procedure (cont'd.)

Displayed Error Message	Fault History Log	Diagnostic Message / Fault Description / Comment	Action
Toner Low	J5	J5: Toner Low Toner Low is detected after 10 prints while toner sensor is on.	Replace Print Cartridge. Go to RAP 25, page 90. Go to RAP 26, page 91.
Replace Print Cartridge	J6-1	Print Cartridge Life Expired	Replace Print Cartridge. Go to RAP 27, page 92.
Print Cartridge OEM ID Mismatch	J8-1	Print Cartridge ID Incorrect	Install correct Print Cartridge. Go to RAP 28, page 93.
Paper Size Jam Open Rear Cover	PSE-1	Paper Size Error There is a conflict between the size of the paper, which is detected by the Size Switches, and the length of paper the printer detects by the length of time the Registration Sensor is actuated.	Correct the mismatch. Go to RAP 29, page 94.
Motor Failure Power Off/On	U1	U1: Motor Fail Motor Fail signal is declared 0.75 seconds after start of Main Motor.	Power Off/On. Go to RAP 30, page 96.
Laser Failure Power Off/On	U2	U2: Laser Fail 1. Laser Signal intervals are longer than the Ready time interval 20 seconds after the start of Laser warm up. 2. The laser power does not reach the value in NVM when the laser diode is switched on after the start of Laser warm up. 3. Laser signal intervals become longer than the Fail time interval after Laser warm up is completed.	Power Off/On. Go to RAP 31, page 98.
Fuser Failure Power Off/On	U4	U4: Fuser Fail 1. Fuser temperature drops below the set temperature after the Fuser warm up is complete. 2. Fuser warm up does not complete within 110 seconds. 3. Thermistor circuit is detected to be open. 4. Fuser temperature rises above the set temperature. 5. Heat rod is on for 10 seconds when the Main Drive Motor is stopped, after the Fuser warm up is completed.	Power Off/On. Go to RAP 32, page 100.

Table 18 Error Code / Repair Analysis Procedure (cont'd.)

Displayed Error Message	Fault History Log	Diagnostic Message / Fault Description / Comment	Action
Fan Failure Power Off Now	U5	U5: Fan Fail 1. Fuser Fan has failed. 2. LVPS Fan has failed.	Check the Fuser Fan and the LVPS Fan. Power Off/On. Go to RAP 33, page 101 .
IOT NVM Fail Power Off/On	U6	U6: NVM Fail 1. A read error is detected during power on. 2. A write error is detected during write to the Nonvolatile Memory.	Power Off/On. Go to RAP 37, page 105 .
0101-DIMM 1		DIMM in slot J4 has failed.	Go to RAP 34, page 102 .
0101-DIMM 2		DIMM in slot J5 has failed.	Go to RAP 35, page 103 .
0101-DIMM 3		DIMM in slot J6 has failed.	Go to RAP 36, page 104 .

RAP 1 Error Code C3: Insert Tray 1

The Tray 1 Assembly is not in place.

Table 19 Error Code C3: Insert Tray Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>REMOVE & REINSTALL TRAY 1 Completely remove and reinstall Tray. Does the Insert Tray 1 message still appear?</p>	Go to Step 2.	Problem solved.
2	<p>PAPER STACK END GUIDE INSPECTION Inspect the Paper Stack End Guide position in the tray. Is the End Guide snug against the paper stack?</p>	Go to Step 4.	Go to Step 3.
3	<p>END GUIDE ADJUSTMENT 1. Adjust the End Guide to contact the paper stack. 2. Reinsert Tray and observe the Control Panel display. Does adjusting the End Guide clear the Insert Tray 1 message?</p>	Problem solved.	Go to Step 4.
4	<p>PAPER SIZE TEST 1. Enter Diagnostics Mode. 2. From the Main Menu, select Component Test / Tray 1 Size / press [4]. Does the paper size indicated on the LCD match the paper size in Tray 1?</p>	Replace Print Engine Controller Board [RRP 8.5, page 310]. If problem still exists, replace System Controller Board [RRP 8.1, page 305].	Go to Step 5.
5	<p>TRAY SIZE SENSOR TEST 1. Remove Tray 1. 2. Enter Diagnostics Mode. 3. From the Main Menu, select Component Test / Sensor Input / press [4] to start the test. 4. Press and release each of the Tray 1 size sensor actuators, while observing the LCD. Does the LCD counter increment with each actuation of a size sensor?</p>	Go to Step 6.	Go to RAP 54, page 142.
6	<p>PAPER TRAY SIZE CAM INSPECTION Inspect the size cam on the left side of the paper tray for cracks or breakage and free rotation when the Paper Tray End Guide is moved Is the cam in good condition and does it rotate freely when the Paper Tray End Guide is moved?</p>	Go to Step 7.	Replace Tray 1 [PL 2.1, page 386 / PL 2.2, page 388].

Table 19 Error Code C3: Insert Tray Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
7	<p>OBSERVING PAPER SIZE ACTUATORS</p> <ol style="list-style-type: none"> 1. Remove the Left Side Cover (RRP 1.1, page 250). 2. As you insert Tray 1, observe the size actuators (visible under the Print Engine Controller Board metal cover) move depending on the setting of Tray 1 [see Table 20below]. <p>Do the Tray 1 Size Cams contact the Paper Size Actuators correctly for each size of paper?</p>	<p>Replace the Tray 1 Left Guide Assembly [RRP 3.5, page 277].</p>	<p>Replace Tray 1 [PL 2.1, page 386 / PL 2.2, page 388] If still NO, replace Tray 1 Left Guide Assembly [RRP 3.5, page 277].</p>
8	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Wiring and connectors linking the components ■ Paper Tray and components ■ Print Engine Controller Board [RRP 8.5, page 310] ■ System Controller Board [RRP 8.1, page 305] 		

Table 20 Paper Size Actuators

Actuator	8.5” LEF	A4 LEF	B5 LEF	A5 LEF	14” SEF	8.5” SEF	A4 SEF	B4 SEF
4 Top	X			X	X	X	X	
3	X	X	X			X	X	
2			X	X	X			X
1 Bottom	X	X	X	X				

Table 21 Error Code C3: Insert Tray 2 (or Tray 3) (500-Sheet Feeder) Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>REMOVE & REINSTALL TRAY 2/3 Remove and reinstall the paper tray. Does the Insert Tray 2/3 still appear?</p>	Go to Step 2.	Problem solved.
2	<p>PAPER STACK END GUIDE INSPECTION Inspect the Paper Stack End Guide position in the tray. Is the End Guide snug against the paper stack?</p>	Go to Step 3.	Adjust the position of the End Guide.
3	<p>PAPER SIZE CHECK 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Tray 2 Size (or Tray 3 Size) / press [4]. Does the paper size indicated on the LCD match the paper size actually in Tray 2 (or Tray 3)?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to Step 4.
4	<p>PAPER SIZE SENSOR TEST 1. Remove the paper tray. 2. Scroll to Sensor Input / press [4]. 3. One at a time, press and release each of the size actuators for the problem tray. Does the LCD counter increment each time you press and release one of the actuators?</p>	Go to Step 5.	Go to RAP 54 (Size Switch), page 142.
5	<p>SIZE CAM INSPECTION Inspect the Size Cam on the left side of the Paper Tray. Are the cams in good condition (not broken or damaged) and rotate freely as the paper tray end guide is moved?</p>	Go to Step 6.	Replace Tray 1 [PL 2.1, page 386 / PL 2.2, page 388].
6	<p>LEFT GUIDE ASSEMBLY 1. Remove the 500-Sheet Feeder Left Cover [RRP 11.3, page 330]. 2. As you insert the paper tray, watch the size actuators move depending on the setting of paper tray. See Table 2 below. Do the Tray 2/3 size cams contact the Paper Size Actuators correctly for each size of paper?</p>	Replace the Tray 2/3 Left Guide Assembly [RRP 11.13, page 340].	Replace Tray 1 [PL 2.1, page 386 / PL 2.2, page 388]. If problem persists, replace the Tray 2/3 Left Guide Assembly [RRP 11.13, page 340].

Table 21 Error Code C3: Insert Tray 2 (or Tray 3) (500-Sheet Feeder) Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
7	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Print Engine Controller Board [RRP 8.5, page 310] ■ Tray 2/3 [PL 2.1, page 386; PL 2.2, page 388] ■ Left Guide Assembly [RRP 11.13, page 340] 		

Table 22 Paper Size Actuators

Actuator	8.5" LEF	A4 LEF	B5 LEF	A5 LEF	14" SEF	8.5" SEF	A4 SEF	B4 SEF
4 Top	X			X	X	X	X	
3	X	X	X			X	X	
2			X	X	X			X
1 Bottom	X	X	X	X				

RAP 3 Error Code C3-2E: Tray 2 Failure Power Off / On

Error Code C3-3E: Tray 3 Failure Power Off / On

The 2000-Sheet Feeder Tray Assembly has not been set.

Table 23 Error Code C3: 2000-Sheet Feeder Carriage Not In Position Message Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PROCEDURE</p> <p>Open and close the 2000-Sheet Feeder Tray Assembly.</p> <p>Does the Insert Tray 2/3 message still appear?</p>	Go to Step 2.	Problem solved.
2	<p>STOPPER LINK</p> <ol style="list-style-type: none"> 1. Open the 2000-Sheet Feeder Tray Assembly. 2. Manually push the actuator of the Stopper Link [RRP 12.17, page 369]. 3. Make certain the front side of the Nudger Support Assembly lowers each time you press the Stopper Link. <p>Does the Nudger Support Assembly lower each time you press the Stopper Link?</p>	Go to Step 3.	Replace the Stopper Link [RRP 12.17, page 369].
3	<p>STOPPER LINK</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Sensor Input / press [4] to start, [0] to stop. 3. Manually push the actuator of the Stopper Link [RRP 12.17, page 369]. <p>Does the LCD counter increment each time you press the Stopper Link?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to Step 4.
4	<p>“NO” FROM STEP 3 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Open the 2000-Sheet Feeder Tray Assembly. 3. Remove the Lower Rear Cover. 4. Disconnect P/J603 form the 2000-Sheet Feeder Board. 5. Switch printer power ON. 6. Measure the voltage between P/J603-3 and frame ground. <p>Does the voltage measure +3.2 VDC?</p>	Go to Step 7.	Go to Step 5.
5	<p>“NO” FROM STEP 4 ABOVE</p> <p>Measure the voltage between P601-1 and frame ground.</p> <p>Does the voltage measure +3.2 VDC?</p>	Replace the 2000-Sheet Feeder Board [RRP 12.8, page 360].	Go to Step 6.

Table 23 Error Code C3: 2000-Sheet Feeder Carriage Not In Position Message Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
6	<p>“NO” FROM STEP 5 ABOVE</p> <p>Check for continuity between P/J13-1 and P601-1.</p> <p>Is there continuity between the pins?</p>	<p>Replace the Print Engine Controller Board [RRP 8.5, page 310].</p>	<p>Replace the 2000-Sheet Feeder Harness [PL 12.2, page 420] or Feeder Harness [PL 9.1, page 404] as necessary.</p>
7	<p>“YES” FROM STEP 4 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Reconnect P/J603 to the Feeder Board. 3. Switch printer power ON. 4. Measure the voltage between P/J603-3 and frame ground. 5. Press and release the Stopper Link. <p>Does the voltage measure +3.2 VDC when the link is released and 0.0 VDC when the link is pressed?</p>	<p>Replace the Print Engine Controller Board [RRP 8.5, page 310].</p>	<p>Replace the Paper Height Sensor [RRP 12.15, page 367].</p>
8	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Stopper Link [RRP 12.17, page 369] ■ Print Engine Controller Board [RRP 8.5, page 310] ■ 2000-Sheet Feeder Board [RRP 12.8, page 360] ■ 2000-Sheet Feeder Harness [PL 12.2, page 420] ■ Feeder Harness [PL 9.1, page 404] ■ Paper Height Sensor [RRP 12.15, page 367] ■ Wiring and connectors linking the components 		

RAP 4 Load MBF / Load Tray 1 / Load Tray 2 / Load Tray 3

Logic Control on the Print Engine Controller Board detected a problem where a false message to add paper to the MBF or a Paper Tray appears on the LCD.

Table 24 Add Paper to MBF, Tray 1, 2 or 3 Message Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Does this problem appear only when using Tray 2 or Tray 3?	Go to RAP 5, page 50, [500-Sheet Feeder]. Go to RAP 8, page 58, [2000-Sheet Feeder].	Go to Step 2.
2	TRAY 1 PAPER LEVEL Inspect the paper level in Tray. Are there at least 100 sheets of paper in Tray 1?	Go to Step 3.	Load paper into Tray 1.
3	MBF PAPER LEVEL Inspect the paper level in the MBF. Is there paper in the MBF?	Go to Step 4.	Load paper into the MBF.
4	MBF TRAY TEST PRINT 1. Enter Diagnostics mode. 2. From the Main Menu, select Test Print / Input Tray / MBF / press [4] to select MBF as Input Tray. 3. From the Main Menu, select Test Print / Print Pattern / press [4] to generate a test print. Does the Load MBF message appear when you feed paper from the MBF?	Go to Step 9.	Go to Step 5.
5	TRAY 1 TEST PRINT 1. Enter Diagnostics mode. 2. From the Main Menu, select Test Print / Input Tray / Tray 1 / press [4] to select Tray 1 as Input Tray. 3. From the Main Menu, select Test Print / Print Pattern / press [4] to generate a test print. Does the Load Tray 1 message appear when you feed paper from Tray 1?	Go to Step 6.	Return to Service Flow Chart.
6	BOTTOM PLATE INSPECTION 1. Remove Tray 1 from the printer. 2. Remove the Tray Cover, if installed, and all paper from the tray. 3. Insert Tray into the printer and inspect the Bottom Plate. Is the bottom plate raised fully and evenly?	Go to Step 7.	Replace the Tray 1 Assembly [PL 2.1, page 386; PL 2.2, page 388].

Table 24 Add Paper to MBF, Tray 1, 2 or 3 Message Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
7	<p>TRAY 1 NO PAPER & LOW PAPER SENSOR ACTUATORS CHECK</p> <ol style="list-style-type: none"> 1. Remove Tray 1. 2. Manually actuate the Tray 1 No Paper and Low Paper sensor actuators. <p>Note: When checking the Low Paper Sensor using the Sensor Test, at least one Paper Size switch and the Low Paper Sensor must be actuated.</p> <p>Do the No Paper and Low Paper Sensor Actuators move smoothly?</p>	Go to Step 8.	Replace the Tray 1 No Paper Sensor Actuator [RRP 2.6, page 266] or Low Paper Sensor Actuator [PL 3.1, page 390].
8	<p>TRAY 1 NO PAPER & LOW PAPER SENSORS CHECK</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Sensor Input / press [4] to start test, [0] to stop. 3. Manually actuate the Tray 1 No Paper and Low Paper Sensors. <p>Does the LCD counter increment each time you actuate one of the actuators?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to RAP 43, page 119 [Low Paper] or RAP 53, page 140 [No Paper].
9	<p>MBF NO PAPER SENSOR ACTUATOR CHECK</p> <p>Insert, then remove a sheet of paper into the MBF.</p> <p>Does the MBF No Paper Actuator move smoothly when paper is inserted, then removed?</p>	Go to Step 10.	Replace the actuator.
10	<p>MBF NO PAPER SENSOR CHECK</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Sensor Input / press [4] to start test, [0] to stop. 3. Insert, then remove a sheet of paper into the MBF while observing the LCD. <p>Does the LCD counter increment when you insert, then remove the paper from the MBF?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to RAP 51, page 137.
11	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ MBF Tray and components ■ Print Engine Controller Board [RRP 8.5, page 310] ■ Wiring and connectors linking the components 		

RAP 5 Load Tray 2 / Load Tray 3

Tray 2 or Tray 3 is out of paper.

Table 25 Add Paper To 500-Sheet Feeder Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PAPER LEVEL</p> <p>Check the paper level in the indicated Tray Assembly.</p> <p>Is there paper in the indicated tray?</p>	Go to Step 2.	Load paper into the Tray.
2	<p>TRAY 2/3 BOTTOM PLATE</p> <ol style="list-style-type: none"> 1. Remove the tray from the 500-Sheet Feeder Assembly. 2. Remove the Tray Cover and all paper from the tray. 3. Insert the Tray into the 500-Sheet Feeder Assembly and inspect the Bottom Plate. <p>Is the bottom plate raised?</p>	Go to Step 3.	Replace the Tray [PL 2.1, page 386 / PL 2.2, page 388].
3	<p>NO PAPER SENSOR ACTUATOR</p> <ol style="list-style-type: none"> 1. Remove the Paper Tray. 2. Manually actuate the No Paper Sensor Actuator. <p>Does the No Paper Sensor Actuator move smoothly?</p>	Go to Step 4.	Replace the No Paper Sensor Actuator [RRP 11.20, page 350].
4	<p>NO PAPER SENSOR</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Sensor Input / press [4] to start, [0] to stop. 3. Press and release the No Paper Sensor Actuator. <p>Does the LCD counter increment when you press and release the actuator?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to Step 5.
5	<p>“NO” FROM STEP 4 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the 500-Sheet Feeder Left Cover [RRP 11.3, page 330]. 3. Disconnect P/J 133, and switch printer ON. 4. Measure the voltage between P133-4 and frame ground, then between P133-6 and frame ground. <p>Do both voltages measure +3.2 VDC?</p>	Go to Step 6.	Check for continuity between P/J133 & P/J13A, then between P/J13A & P/J134. Repair or replace as necessary. If the harness checks OK, replace the No Paper Sensor [RRP 11.19, page 348].

Table 25 Add Paper To 500-Sheet Feeder Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
6	<p>“YES” FROM STEP 5 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Reconnect P/J133. 3. Switch printer power ON. 4. Measure the voltage between P/J133-6 and frame ground as you actuate and deactivate the No Paper Sensor. <p>Does the voltage measure +3.2 VDC when deactivated and 0.0 VDC when actuated?</p>	Go to Step 7.	Replace the Feeder Board [RRP 11.7, page 334].
7	<p>“YES” FROM STEP 6 ABOVE</p> <p>Measure the voltage between P/J132-7 and frame ground as you actuate and deactivate the No Paper Sensor.</p> <p>Does the voltage measure +0.9 VDC when deactivated and +2.76 VDC when actuated?</p>	Go to Step 8.	Replace the Feeder Board [RRP 11.7, page 334].
8	<p>“YES” FROM STEP 7 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the printer Left Side Cover [RRP 1.1, page 250] and the Print Engine Controller Board Cover [RRP 8.5, page 310]. 3. Switch printer power ON. 4. Measure the voltage between P/J13-7 and frame ground as you actuate and deactivate the No Paper Sensor. <p>Does the voltage measure +0.9 VDC when deactivated and +2.76 VDC when actuated?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Check for continuity between P/J132 & P/J131, then between P/J131 & P/J13. Repair or replace as necessary.
9	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Feeder Board [RRP 11.7, page 334] ■ Print Engine Controller Board [RRP 8.5, page 310] ■ No Paper Sensor [RRP 11.19, page 348] ■ Paper Tray [PL 2.1, page 386 / PL 2.2, page 388] ■ Wiring and connectors linking the components 		

Error code indicates the Standard Bin is full.

Table 26 Error Code C5: Standard Bin Full Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>STACK FULL SENSOR TEST</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Sensor Input / press [4] to start, [0] to stop. 3. Actuate and deactivate the Stack Full Sensor Actuator. <p>Does the LCD counter increment each time you press and release the actuator?</p>	<p>It appears the HCS Stack Full Sensor is working correctly. If a problem persists, replace the Print Engine Controller Board [RRP 8.5, page 310].</p>	<p>Go to Step 2.</p>
2	<p>STACK FULL SENSOR ACTUATOR INSPECTION</p> <p>Visually inspect the Stack Full Sensor Actuator.</p> <p>Does the actuator move freely and appear to be in good condition (not broken or damaged)?</p>	<p>Go to Step 3.</p>	<p>Replace the Stack Full Sensor Actuator [RRP 5.4, page 294].</p>
3	<p>“YES” FROM STEP 2 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the Left Side Cover [RRP 1.1, page 250 and the Print Engine Controller Board Cover [RRP 8.5, page 310]. 3. Disconnect P/J19 from the Print Engine Controller Board. 4. Switch printer power ON. 5. Measure the voltage between P/J19-11 and frame ground, then between P/J19-13 and frame ground. <p>Do both voltages measure +3.3 VDC?</p>	<p>Go to Step 5.</p>	<p>Go to Step 4.</p>
4	<p>“NO” FROM STEP 3 ABOVE</p> <p>Measure the voltage between P/J16-4 and frame ground.</p> <p>Does the voltage measure +3.3 VDC?</p>	<p>Replace the Print Engine Controller Board [RRP 8.5, page 310].</p>	<p>Replace the LVPS [RRP 8.6, page 312].</p>

Table 26 Error Code C5: Standard Bin Full Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
5	<p>“YES” FROM STEP 3 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Reconnect P/J19 to the Print Engine Controller Board. 3. Enter Diagnostics mode. 4. From the Main Menu, select Component Test / Sensor Input / press [4] to start, [0] to stop. 5. On the Print Engine Controller Board, measure the voltage between P/J19-13 and frame ground. <p>Does the voltage measure +3.3 VDC between P19-13 and frame ground when the Stack Full Sensor is deactuated and 0.0 V when actuated?</p>	<p>Replace the Print Engine Controller Board [RRP 8.5, page 310].</p>	<p>Go to Step 6.</p>
6	<p>“NO” FROM STEP 5 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Open the Rear Cover. 3. Disconnect P/J527 (3-pin connector on HVPS Cover). 4. Switch printer power ON. 5. Measure the voltage between P/J527-3 and frame ground, then between P/J527-1 and frame ground. <p>Do both voltages measure +3.3 VDC?</p>	<p>Go to Step 9.</p>	<p>Go to Step 7.</p>
7	<p>“NO” FROM STEP 6 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the HVPS Cover [RRP 8.2, page 307]. 3. Check for continuity between P/J502 and P/J527 as follows: <ul style="list-style-type: none"> ■ J527-1 and J502-1 ■ J527-2 and J502-2 ■ J527-3 and J502-3 <p>Is there continuity between each of the pins?</p>	<p>Go to Step 8.</p>	<p>Repair or replace the harness [PL 9.1, page 404] as necessary.</p>
8	<p>“YES” FROM STEP 7 ABOVE</p> <ol style="list-style-type: none"> 1. Disconnect P/J501 from the Duplex Interface Board and P/J19 from the Print Engine Controller Board. 2. Check for continuity between P/J501 and P/J19 as follows: <ul style="list-style-type: none"> ■ J501-1 and J19-13 ■ J501-2 and J19-12 ■ J501-3 and J19-11 <p>Is there continuity between each of the pins?</p>	<p>Replace the Duplex Interface Board [RRP 8.3, page 308].</p>	<p>Repair or replace the Duplex Interface Harness, as necessary [PL 9.1, page 404].</p>
9	<p>“YES” FROM STEP 6 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Disconnect P/J507 from the Full Stack Sensor. 3. Check for continuity between P/J507 and P/J527 as follows: <ul style="list-style-type: none"> ■ J507-1 and J527-3 ■ J507-2 and J527-2 ■ J507-3 and J527-1 <p>Is there continuity between each of the pins?</p>	<p>Replace the Full Stack Sensor [RRP 5.2, page 289].</p>	<p>Repair or replace the Full Stack Sensor Harness [PL 6.1, page 398] as necessary.</p>

Table 26 Error Code C5: Standard Bin Full Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
10	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Stack Full Sensor Actuator [RRP 5.4, page 294] ■ Stack Full Sensor [RRP 5.2, page 289] ■ Print Engine Controller Board [RRP 8.5, page 310] ■ LVPS [RRP 8.6, page 312] ■ Duplex Interface Board [RRP 8.3, page 308] ■ Duplex Interface Harness [PL 9.1, page 404] ■ Stack Full Sensor Harness [PL 6.1, page 398] ■ Wiring and connectors linking the components 		

Error code indicates the Stacker Bin is full.

Table 27 Error Code C5: Stacker Bin Full Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>STACK FULL SENSOR TEST</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Sensor Input / press [4] to start, [0] to stop. 3. Actuate and deactivate the Stack Full Sensor Actuator. <p>Does the LCD counter increment each time you press and release the actuator?</p>	<p>It appears the Stack Full Sensor is working correctly. If a problem persists, replace the Print Engine Controller Board [RRP 8.5, page 310].</p>	<p>Go to Step 2.</p>
2	<p>STACK FULL SENSOR INSPECTION</p> <p>Visually inspect the Stack Full Sensor Actuator.</p> <p>Does the actuator appear to be in good condition (not broken or damaged) and does it move freely when actuated?</p>	<p>Go to Step 3.</p>	<p>Replace the HCS Stack Full Sensor Actuator [RRP 10.7 page 324].</p>
3	<p>“YES” FROM STEP 2 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the Left Side Cover [RRP 1.1, page 250] and the Print Engine Controller Board Cover [RRP 8.5, page 310]. 3. Disconnect P/J19 from the Print Engine Controller Board. 4. Switch printer power ON. 5. ON the Print Engine Controller Board, measure the voltage P19-11 and frame ground, then between P19-13 and frame ground. <p>Do both voltages measure +3.3 VDC?</p>	<p>Go to Step 5.</p>	<p>Go to Step 4.</p>
4	<p>“NO” FROM STEP 3 ABOVE</p> <p>Measure the voltage between P/J16-4 and frame ground.</p> <p>Does the voltage measure +3.3 VDC?</p>	<p>Replace the Print Engine Controller Board [RRP 8.5, page 310].</p>	<p>Replace the LVPS [RRP 8.6, page 312].</p>

Table 27 Error Code C5: Stacker Bin Full Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
5	<p>“YES” FROM STEP 3 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Reconnect P/J19 to the Print Engine Controller Board. 3. Enter Diagnostics mode. 4. From the Main Menu, select Component Test / Sensor Input / press [4] to start, [0] to stop. 5. ON the Print Engine Controller Board, measure the voltage between P/J19-13 and frame ground while actuating and deactuating the Stack Full Sensor Actuator. <p>Does the voltage measure +3.3 VDC when the Stack Full Sensor is deactuated and 0.0 VDC when actuated?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to Step 6.
6	<p>“NO” FROM STEP 5 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Open the Rear Cover. 3. Disconnect P/J527 (3-pin connector on HVPS Cover). 4. Switch printer power ON. 5. Measure the voltage between P/J527-3 and frame ground, then between P/J527-1 and frame ground. <p>Do both voltages measure +3.3 VDC?</p>	Go to Step 9.	Go to Step 7.
7	<p>“NO” FROM STEP 6 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the HVPS Cover [RRP 8.2, page 307]. 3. Check for continuity between P/J502 and P/J527 as follows: <ul style="list-style-type: none"> ■ J527-1 and J502-1 ■ J527-2 and J502-2 ■ J527-3 and J502-3 <p>Is there continuity between the pins?</p>	Go to Step 8.	Repair or replace the HCS Stack Full Sensor Harness [PL 6.1, page 398], as necessary.
8	<p>“YES” FROM STEP 7 ABOVE</p> <ol style="list-style-type: none"> 1. Disconnect P/J501 from the Duplex Interface Board and P/J19 from the Print Engine Controller Board. 2. Check for continuity between P/J501 and P/J19 as follows: <ul style="list-style-type: none"> ■ J501-1 and J19-13 ■ J501-2 and J19-12 ■ J502-3 and J19-11 <p>Is there continuity between each of the pins?</p>	Replace the Duplex Interface Board [RRP 8.3, page 308].	Repair or replace the Duplex Interface Harness [PL 9.1, page 404], as necessary.
9	<p>“YES” FROM STEP 6 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Disconnect P/J507 from the Stack Full Sensor. 3. Check for continuity between P/J507 and P/J526 as follows: <ul style="list-style-type: none"> ■ J507-1 and J527-3 ■ J507-2 and J527-2 ■ J507-3 and J527-1 <p>Is there continuity between the pins?</p>	Replace the HCS Stack Full Sensor [RRP 10.6, page 323].	Repair or replace the HCS Stack Full Sensor [RRP 10.6] or the Stack Full Sensor Harness [PL 10.2, page 410], as necessary.

Table 27 Error Code C5: Stacker Bin Full Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
10	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ HCS Stack Full Sensor Actuator [RRP 10.7, page 324] ■ HCS Stack Full Sensor [RRP 10.6, page 323] ■ Print Engine Controller Board [RRP 8.5, page 310] ■ LVPS [RRP 8.6, page 312] ■ Duplex Interface Board [RRP 8.3, page 308] ■ Stack Full Sensor Harness [PL 10.2, page 410] 		

RAP 8 Load Tray 2 / Load Tray 3

The last sheet of paper was fed.

Table 28 Add Paper to 2000-Sheet Feeder Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PROCEDURE</p> <p>Open the 2000-Sheet Feeder paper tray.</p> <p>Is there paper in the tray?</p>	Go to Step 2.	Add paper to the tray and close.
2	<p>NO PAPER SENSOR ACTUATOR</p> <p>1. Open the 2000-Sheet Feeder Tray Assembly. 2. Inspect the No Paper Sensor Actuator.</p> <p>Is the actuator in good condition and does it move freely?</p>	Go to Step 3.	Replace the No Paper Sensor Actuator [RRP 12.19, page 371].
3	<p>NO PAPER SENSOR TEST</p> <p>1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Sensor Input / press [4] to start, [0] to stop. 3. Manually push the No Paper Sensor Actuator up and release.</p> <p>Does the LCD counter increment each time you press and release the No Paper Sensor Actuator?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to Step 4
4	<p>“NO” FROM STEP 3 ABOVE</p> <p>1. Switch printer power OFF. 2. Open the 2000-Sheet Feeder Tray Assembly. 3. Remove the Lower Rear Cover. 4. Disconnect P/J602 from the 2000-Sheet Feeder Board. 5. Switch printer power ON. 6. Measure the voltage between P/J602-3 and frame ground.</p> <p>Does the voltage measure +3.2 VDC?</p>	Go to Step 7.	Go to Step 5.
5	<p>“NO” FROM STEP 4 ABOVE</p> <p>Measure the voltage between P601-1 and frame ground.</p> <p>Does the voltage measure +3.2 VDC?</p>	Replace the 2000-Sheet Feeder Board [RRP 12.8, page 360].	Go to Step 6.
6	<p>“NO” FROM STEP 5 ABOVE</p> <p>1. Switch printer power OFF. 2. Check for continuity between P/J13-1 and P601-1.</p> <p>Is there continuity between the pins?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to Step 8.

Table 28 Add Paper to 2000-Sheet Feeder Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
7	<p>“YES” FROM STEP 4 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer OFF. 2. reconnect P/J602 to the Feeder Board. 3. Switch printer power ON. 4. Measure the voltage between P/J602-3 and frame ground. 5. Press and release the No Paper Sensor Actuator. <p>Does the voltage measure +3.2 VDC when the actuator is released and 0.0 VDC when the actuator is pressed?</p>	<p>Replace the Print Engine Controller Board [RRP 8.5, page 310].</p>	<p>Replace the No Paper Sensor [RRP 12.18, page 370].</p>
8	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ No Paper Sensor Actuator [RRP 12.19, page 371] ■ No Paper Sensor [RRP 12.18, page 370] ■ 2000-Sheet Feeder Board [RRP 12.8, page 360] ■ Print Engine Controller Board [RRP 8.5, page 310] ■ Wiring and connectors linking the components 		

There is a paper jam between the Paper Tray / Paper Handler Assembly and the Registration Sensor.

Table 29 Error Code E1-1: Paper Jam Tray to Registration Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>REGISTRATION SENSOR ACTUATOR INSPECTION</p> <p>Inspect the Registration Sensor Actuator.</p> <p>Is there foreign material blocking the Registration Sensor Actuator?</p>	Remove foreign material.	Go to Step 2.
2	<p>REGISTRATION SENSOR TEST</p> <p>1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Sensor Input / press [4] to start test, [0] to stop. 3. Manually actuate the Registration Sensor Actuator while observing the LCD.</p> <p>Does the LCD counter increment each time you actuate the Registration Sensor Actuator?</p>	Replace the Print Engine Controller Board (RRP 8.5, page 310).	Go to RAP 50, page 135.
3	<p>REGISTRATION CLUTCH TEST</p> <p>1. From the Main Menu, select Component Test / Reg Clutch / press [4] to test. 2. Listen for the Registration Clutch to actuate and deactuate.</p> <p>Did the Registration Clutch actuate & deactuate?</p>	Replace the Print Engine Controller Board (RRP 8.5, page 310).	Go to RAP 39, page 112.
4	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <p>■ Wiring and connectors linking the components</p> <p>Print Engine Controller Board [RRP 8.5, page 310].</p>		

RAP 10 Error Code E2-1M: Paper Jam Open Top Cover

Error Code E2-11: Tray 1 Jam Open Tray 1

There is a paper jam between the Tray 1 or MBF and the Registration Sensor.

Table 30 Error Code E2-1: Paper Jam Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>TEST PRINTS</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Test Print / Input Tray / MBF, Tray 1, 2 or 3 / press [4] to select as Input Tray. 3. From the Main Menu, select Test Print / Print Pattern / press [4] to generate a test print. 4. Run 10 test prints. 5. Repeat sub-steps 1~4 above for all paper feed trays and run 10 test prints from each tray. <p>Does the problem appear only when feeding from Tray 1?</p>	Go to Step 7.	Go to Step 2.
2	<p>Is the paper curled, damaged or damp?</p>	Replace with fresh, dry paper.	Go to Step 3.
3	<p>Is the paper size within specifications?</p>	Go to Step 4.	Replace with paper within size specs.
4	<p>MBF FEED ROLLERS CHECK</p> <ol style="list-style-type: none"> 1. Open the MBF door. 2. Enter Diagnostics mode. 3. From the Main Menu, select Test Print / Input Tray / MBF / press [4] to select MBF as Input Tray. 4. From the Main Menu, select Test Print / Print Pattern / press [4] to generate a test print. 5. Observe the MBF Feed Rollers. <p>Do the MBF Feed Rollers rotate one complete turn?</p>	Go to Step 6.	Go to Step 5.
5	<p>MBF GEAR AND SPRING INSPECTION</p> <ol style="list-style-type: none"> 1. Remove the MBF Assembly [RRP 2.1, page 259]. 2. Remove MBF Gear Cover and inspect the gears for cracks, broken or missing teeth. Also, inspect the return spring for the MBF Feed Roller Shaft Gear. <p>Are the MBF gears and spring OK?</p>	Go to RAP 57, page 149 .	Replace defective gears or spring.
6	<p>MBF TRAY INSPECTION</p> <ol style="list-style-type: none"> 1. Remove the MBF Assembly [RRP 2.1, page 259]. 2. Inspect the paper tray for a broken, bent or missing spring. 3. Check for a broken hinge pin, or anything that would prevent the up and down movement of the paper tray. <p>Does the problem continue?</p>	Replace the MBF Assembly [RRP 2.1, page 259].	

Table 30 Error Code E2-1: Paper Jam Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
7	<p>BOTTOM PLATE INSPECTION</p> <ol style="list-style-type: none"> 1. Remove Tray 1 and remove all paper. 2. Open the printer Top Cover, remove the Print Cartridge and extend the MBF to the paper load position. 3. Insert the Tray Assembly into the printer and observe the bottom plate. <p>Is the bottom plate raised?</p>	Go to Step 8.	Replace the tray assembly.
8	<p>Tray 1 FEED ROLLER TEST</p> <ol style="list-style-type: none"> 1. Close the MBF. 2. Reinstall the Print Cartridge. 3. Close the Top Cover. 4. Remove Tray 1. 5. Enter Diagnostics mode. 6. From the Main Menu, select Component Test / Main Motor / press [4] to start test. 7. While the Main Motor is running, select Component Test / Tray 1 Feed Sol / press [4] to test. <p>Note: It may be necessary to press [4] several times to observe the rollers.</p> <ol style="list-style-type: none"> 8. Observe the Tray 1 Feed Rollers. <p>Do the Feed Rollers rotate one complete revolution?</p>	Go to Step 9.	Go to Step 10.
9	<p>RETARD CHUTE ASSEMBLY INSPECTION</p> <ol style="list-style-type: none"> 1. Remove the Retard Chute Assembly [RRP 3.1, page 273]. 2. Inspect the retard holder and retard arm for damage. <p>Is the Retard Chute Assembly OK?</p>	Go to RAP 55, page 145.	Go to Step 10.
10	<p>RETARD CHUTE / RETARD HOLDER REPLACEMENT</p> <p>Replace the Retard Chute Assembly [RRP 3.1, page 273] or the Tray 1 Retard Holder Assembly [RRP 2.11, page 272] as necessary.</p> <p>Does the problem persist?</p>	Go to RAP 56, page 147.	Problem solved.
11	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Wiring and connectors linking the components 		

RAP 11 Error Code E2-12: Tray 2 Jam Open Tray 2 Error Code E2-13: Tray 3 Jam Open Tray 3

There is a paper jam between a 500-Sheet Feeder Assembly and the Registration Sensor.

Table 31 Paper Jam / Misfeed 500-Sheet Feeder Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PROCEDURE</p> <ol style="list-style-type: none"> 1. Remove all of the paper from the problem paper tray and reinstall the paper tray. 2. Enter Diagnostics mode. 3. From the Main Menu, select Test Print / Input Tray / scroll to the empty paper tray / press [4] to select. 4. Scroll to Print Pattern / press [4] to begin test prints, [0] to stop. <p>Does the LCD display a C5 error code?</p>	Go to Step 2.	Go to RAP 5, page 50.
2	<p>Is the paper curled, damaged or damp?</p>	Replace with fresh, dry paper.	Go to Step 3.
3	<p>Is the paper size within specifications?</p>	Go to Step 4.	Replace with paper within size specs.
4	<p>PROBLEM TRAY REPLACEMENT</p> <ol style="list-style-type: none"> 1. Remove problem paper tray and install Tray 1 into the problem feeder. 2. Enter Diagnostics mode. 3. From the Main Menu, select Test Print / Print Pattern / press [4] to start test prints, [0] to stop. 4. Print approximately twenty prints from the problem feeder. <p>Does the LCD display an E2-1 error code?</p>	Go to Step 5.	Replace the defective Tray Assembly. [PL 2.1, page 386 / PL 2.2, page 388].
5	<p>PROBLEM TRAY FEED ROLLER</p> <ol style="list-style-type: none"> 1. Remove Tray 1 from problem feeder. 2. Enter Diagnostics mode. 3. From the Main Menu, select Component Test / Main Motor / press [4] to start motor, [0] to stop. 4. Scroll to Tray 2 or Tray 3 Feed Sol / press [4]. 5. Observe the problem tray feed rollers. <p>Do the feed rollers rotate one complete turn?</p>	Go to Step 7.	Go to Step 6.
6	<p>“NO” FROM STEP 5 ABOVE</p> <ol style="list-style-type: none"> 1. Remove the Left Cover [RRP 11.3, page 330] of the 500-Sheet Feeder. 2. Enter Diagnostics mode. 3. From the Main Menu, select Component Test / Turn Roll Clutch / press [4] <p>Is the Feeder Motor rotating?</p>	Go to Step 8.	Go to RAP 65, page 167.

Table 31 Paper Jam / Misfeed 500-Sheet Feeder Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
7	<p>TURN ROLLER SHAFT TEST</p> <ol style="list-style-type: none"> 1. Open the rear door of the 500-Sheet Feeder. 2. Enter Diagnostics mode. 3. From the Main Menu, select Component Test / Turn Roll Clutch / press [4] to start. <p>Is the Turn Roller Shaft rotating?</p>	Go to Step 9.	Remove the 500-Sheet Feeder Feed Head Assembly [RRP 11.8, page 335] and inspect the gears. Replace all defective parts [PL 11.2, page 414].
8	<p>RETARD CHUTE ASSEMBLY</p> <ol style="list-style-type: none"> 1. Remove the 500-Sheet Feeder Retard Chute Assembly [RRP 11.13, page 340]. 2. Inspect the retard holder and retard arm for damage. <p>Is the Retard Chute Assembly OK?</p>	<p>Remove the Rear Chute Assembly [RRP 11.12, page 339].</p> <p>Inspect the Rear Chute Assembly for damaged, missing or broken Idler Rollers and Springs.</p>	Replace the Retard Chute Assembly [RRP 11.12, page 339].
9	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Feed Tray Assembly [PL 2.1, page 386 / PL 2.2, page 388] ■ 500-Sheet Feeder Feed Head [RRP 11.8, page 335] ■ Rear Chute Assembly [RRP 11.12, page 339] 		

RAP 12 Error Code E2-12: Tray 2 Jam Open Tray 2

Error Code E2-13: Tray 3 Jam Open Tray 3

A paper jam has occurred in the 2000-Sheet Feeder.

Table 32 Error Code E2-1: Paper Jam / Misfeed 2000-Sheet Feeder Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PROCEDURE</p> <ol style="list-style-type: none"> 1. Open the 2000-Sheet Feeder Upper Rear Cover Assembly. 2. Remove the Jammed paper. 3. Run a test print. <p>Does the error message still appear?</p>	Go to Step 2.	Problem solved.
2	<p>PAPER INSPECTION</p> <ol style="list-style-type: none"> 1. Pull out the 2000-Sheet Feeder Tray Assembly. 2. Check the paper condition and size. <p>Is the paper dry, in good condition and is the size within specifications?</p>	Go to Step 3.	Replace with fresh paper of the proper size from an unopened ream.
3	<p>FEED MOTOR ASSEMBLY</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the 2000-Sheet Feeder Right Side Cover [RRP 12-5]. 3. Open the Upper Rear Cover. 4. Manually rotate the top gear clockwise. 5. Inspect the rotation of the 2000-Sheet Feeder Motor Assembly. <p>Does the Feed Motor Assembly rotate smoothly?</p>	Go to Step 4.	Replace the 2000-Sheet Feeder Feed Motor Assembly [RRP 12.16, page 368] or gears.
4	<p>REPLACE FEED ROLLER [RRP 12.14, page 366]</p> <p>Run Test prints.</p> <p>Does the Error Code still appear?</p>	Go to Step 5.	Problem solved.
5	<p>TOP GEAR ROTATION</p> <p>Manually rotate the top gear counterclockwise.</p> <p>Does the 2000-Sheet Feeder Assembly rotate smoothly and feed a sheet of paper from the Feeder Tray Assembly?</p>	Go to Step 6.	Replace the Feeder Assembly [PL 12.3, page 422], if it does not rotate smoothly.
6	<p>DRIVE ASSEMBLY GEARS</p> <ol style="list-style-type: none"> 1. Remove the 2000-Sheet Feeder Tray Assembly [RRP 12.7, page 359]. 2. Rotate the gears of the Drive Assembly. <p>Do the gears of the Drive Assembly rotate smoothly?</p>	Go to Step 7.	Replace the Drive Assembly [RRP 12.13, page 365].

Table 32 Error Code E2-1: Paper Jam / Misfeed 2000-Sheet Feeder Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
7	<p>TEST PRINT Run a test print.</p> <p>Has the E2-1 Error Code cleared?</p>	Problem solved.	Replace the 2000-Sheet Feeder Board [RRP 12.8, page 360].
8	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Feed Motor Assembly [RRP 12.16, page 368] ■ Feed Roller Assembly [RRP 12.14, page 366] ■ Drive Assembly [RRP 12.13, page 365] ■ 2000-Sheet Feeder Board [RRP 12.8, page 360] ■ Wiring and connectors linking the components 		

RAP 13 Error Code E2-D: Duplex Jam Open Rear Cover

There is a paper jam between the Duplex Assembly and the Registration Sensor when the paper is re-fed to print a 2nd page.

Table 33 Error Code E2-D: Duplex Jam Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Is the paper curled, damaged or damp?	Replace with fresh, dry paper.	Go to Step 2.
2	Is the paper size within specification?	Go to Step 3.	Replace with paper meeting size specs.
3	<p>25 TEST PRINTS</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Test Print / Duplex / On / press [4] to set Duplex. 3. From the Main Menu, select Test Print / Print Pattern / press [4] to start printing test pages, [0] to stop. 4. Print approximately 25 pages, or until the above Paper Jam message appears and printing stops. 5. Open the Top Cover. 6. Remove the Print Cartridge. 7. Inspect the position of the paper. <p>Is the paper touching the Registration Sensor Actuator?</p>	Go to Step 6.	Go to Step 4.
4	<p>DUPLEX MOTOR TEST</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Duplex Motor On / press [4] to start the Duplex Motor, [0] to stop. <p>Does the Duplex Motor run?</p>	Go to Step 5.	Replace Duplex Assembly [RRP 9.1, page 404]. If problem still exists, replace the Print Engine Controller Board [RRP 8.5, page 310].
5	<p>DRIVE BELT INSPECTION</p> <p>Inspect the Duplex Drive Belt for breakage, missing teeth, or wear.</p> <p>Is the Drive Belt in good condition?</p>	Replace Duplex Assembly [RRP 9.1, page 317]. If problem still exists, replace the Print Engine Controller Board [RRP 8.5, page 310].	Replace Duplex Drive Belt [PL 13.1, page 426].

Table 33 Error Code E2-D: Duplex Jam Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
6	REGISTRATION SENSOR TEST 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Sensor Input Test / press [4] to start test, [0] to stop. 3. Manually actuate the Registration Sensor Actuator while observing the LCD. Does the LCD counter increment each time you press and release the actuator?	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to RAP 50, page 135.
7	SUSPECT COMPONENTS The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem. ■ Duplex Unit [RRP 9.1, page 317] ■ Print Engine Controller Board [RRP 8.5, page 310] ■ Wiring and connectors linking the components		

RAP 14 Error Code E3-1: Paper Jam / Open Top Cover

There is a paper jam between the Registration Sensor and the Exit Sensor.

Table 34 Error Code E3-1: Paper Jam / Registration To Fuser Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Is the paper loaded in the paper tray wrinkled or damaged?	Replace with fresh, dry paper.	Go to Step 2.
2	Is the paper size within specifications?	Go to Step 3.	Replace with paper meeting size specifications.
3	<p>PAPER PATH INSPECTION</p> <ol style="list-style-type: none"> 1. Open the Rear Cover. 2. Open the Rear Fuser Cover. 3. Inspection the position of paper when the error code E3 is displayed. <p>Is the paper touching the Exit Sensor Actuator?</p>	Go to Step 11.	Go to Step 4.
4	<p>DRIVE TRAIN TEST</p> <ol style="list-style-type: none"> 1. Open the Top Cover. 2. Remove the Print Cartridge. 3. Enter Diagnostics mode. 4. From the Main Menu, select Component Test / Main Motor / cheat the Top Cover Interlock and press [4] to start motor. <p>Note: If continuing to Step 5, allow motor to run until you complete the next step.</p> <ol style="list-style-type: none"> 5. Observe Gear Assembly, H/R Idler Gear and the MBF Assembly Drive Gears. <p>Do the gears rotate smoothly?</p>	Go to Step 5.	Replace the Main Gear Drive Assembly [RRP 6.1, page 295] and/or the MBF Gears [PL 4.1, page 392] [PL 4.2, page 394].
5	<p>REGISTRATION ROLLER TEST</p> <ol style="list-style-type: none"> 1. Continuing from Step 4, sub-step 5 above, from the Main Menu, select Component Test / Reg. Clutch / press [4]. 2. Observe the Metal and Rubber Registration Rollers. 3. Press [0] to stop test. <p>Do the Metal and Rubber Registration Rollers rotate smoothly?</p>	Go to Step 6.	Replace the Paper Transport Assy. [RRP 4.1, page 283].
6	<p>PAPER POSITION AT REGISTRATION ROLLERS</p> <p>Inspect the paper position when E3 is displayed.</p> <p>Has the front edge of the paper passed between the Metal Registration Roller and the Rubber Registration Roller?</p>	Go to Step 7.	Go to RAP 39, page 112 .

Table 34 Error Code E3-1: Paper Jam / Registration To Fuser Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
7	<p>PAPER HOLDING AT BTR AND PRINT CARTRIDGE DRUM</p> <ol style="list-style-type: none"> 1. Remove the Fuser Assembly [RRP 5.1, page 288]. 2. Install the Print Cartridge by first inserting a sheet of paper between the BTR Assembly and the Print Cartridge Drum. <p>Do the BTR Assembly and the Print Cartridge Drum hold the paper evenly?</p>	Go to Step 8.	Replace the Paper Transport Assembly [RRP 4.1, page 283].
8	<p>PAPER PASSAGE AT BTR AND PRINT CARTRIDGE DRUM</p> <ol style="list-style-type: none"> 1. Remove the paper inserted in Step 7, sub-step 2, above and reinstall the Print Cartridge. 2. Run a test print. 3. Inspect the position of the front edge of the paper. <p>Has the front edge of the paper passed between the BTR and the Print Cartridge Drum?</p>	Go to Step 9.	Replace the Paper Transport Assembly [RRP 4.1, page 283].
9	<p>DETACK SAW INSPECTION</p> <p>Inspect the Detack Saw.</p> <p>Is the Detack Saw clean and free of contamination?</p>	Go to Step 10.	Clean the Detack Saw or replace the Paper Transport Assembly [RRP 4.1, page 283].
10	<p>HEAT ROLLER IDLER GEAR TEST</p> <p>Rotate the Heat Roller Idler Gear.</p> <p>Does the Heat Roller Idler Gear rotate smoothly?</p>	Go to Step 11.	Replace the Fuser Assembly [RRP 5.1, page 288].
11	<p>PAPER PASSAGE AT EXIT ROLLER AND PINCH ROLLER OF FUSER</p> <ol style="list-style-type: none"> 1. Run a test print. 2. Inspect the paper path between the Paper Transport Assembly and the pinch roller of the Fuser Assembly. <p>Does the paper pass through the Exit Roller Assembly and the pinch roller of the Fuser Assembly?</p>	Go to Step 12.	Replace the Fuser Assembly [RRP 5.1, page 288].
12	<p>FUSER EXIT SENSOR TEST</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Sensor Input / Sensor Input / press [4] to start test, [0] to stop. 3. Actuate and release the Fuser Exit Sensor. <p>Does the LCD counter increment each time you actuate and release the Fuser Exit Sensor?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to RAP 67, page 170 .

Table 34 Error Code E3-1: Paper Jam / Registration To Fuser Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
13	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Main Gear Drive Assembly [RRP 6.1, page 295] ■ MBF Gears [PL 4.1, page 392] ■ Paper Transport Assembly [RRP 4.1, page 283] ■ Fuser Assembly [RRP 5.1, page 288] ■ Print Engine Controller Board [RRP 8.5, page 310] ■ Wiring and connectors linking the components 		

RAP 15 Error Code E4-0: Exit Jam Open Rear and Top Cover

There is a paper jam at the Exit Sensor.

Table 35 Error Code E4: Exit Jam Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PAPER PATH INSPECTION AND TEST PRINTS</p> <ol style="list-style-type: none"> 1. Inspect the paper path for paper, debris or foreign material causing an obstruction. 2. Enter Diagnostics mode. 3. From the Main Menu, select Test Print / Print Pattern / press [4] to start printing test pages, [0] to stop. 4. Run 25 test prints from Tray 1. <p>When the E4 Exit Jam error code is displayed, is there paper on the Exit Sensor?</p>	Go to Step 3.	Go to Step 2.
2	<p>EXIT SENSOR TEST</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Sensor Input / press [4] to start, [0] to stop. 3. Actuate and deactivate the Exit Sensor while observing the LCD. <p>Does the LCD counter increment each time you press and release the actuator?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to RAP 67, page 170.
3	<p>Does the printer have the Duplex option installed?</p>	Go to Step 8.	Go to Step 4.
4	<p>REAR COVER EXIT & PINCH ROLLERS CHECK</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Main Motor / press [4] to start motor, [0] to stop. <p>Do the Exit Rollers and Pinch Rollers on the Rear Cover rotate smoothly?</p>	Go to Step 6.	Go to Step 5.
5	<p>EXIT & FUSER DRIVE GEAR CHECK</p> <ol style="list-style-type: none"> 1. Remove the Left Side Cover [RRP 1.1, page 250]. 2. Enter Diagnostics mode. 3. From the Main Menu, select Component Test / Main Motor / press [4] to start motor, [0] to stop. 4. Observe the Exit and Fuser Drive Gears. <p>Do the gears rotate smoothly?</p>	Replace Rear Cover Assembly [RRP 1.9, page 258].	Replace the Fuser Assembly [RRP 5.1, page 288].
6	<p>RERUN TEST PRINTS</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Test Print / Print Pattern / press [4] to start test pages, [0] to stop. <p>Does the Error Code reappear?</p>	Go to Step 7.	Problem solved.
7	<p>FUSER INSPECTION</p> <p>Inspect the Fuser Assembly for obstructions or contamination.</p> <p>Is the Fuser Assembly clean and free of obstructions?</p>	Check the Exit Assembly. Clean or replace as necessary.	Clean or replace the Fuser Assembly [RRP 5.1, page 288].

Table 35 Error Code E4: Exit Jam Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
8	<p>EXIT AND PINCH ROLLERS CHECK</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Exit Motor Fwd L / press [4] to start test, [0] to stop. 3. Observe the Exit and Pinch Rollers on the Rear Cover Assembly. <p>Do the Exit Rollers and Pinch Rollers on the Rear Cover Assembly rotate smoothly?</p>	Clean, or replace, the Fuser Assembly as necessary [RRP 5.1, page 288].	Go to Step 9.
9	<p>EXIT DRIVE MOTOR AND EXIT DRIVE GEARS TEST</p> <ol style="list-style-type: none"> 1. Remove the Left Side Cover [RRP 1.1, page 250]. 2. Enter Diagnostics mode. 3. From the Main Menu, select Component Test / Exit Motor Fwd L / press [4] to start, [0] to stop. 4. Observe the Exit Drive Gears and Exit Motor L. <p>Do the gears rotate smoothly?</p>	Go to Step 12.	Go to Step 10.
10	<p>Does the Exit Motor Fwd L rotate?</p>	Go to Step 11.	Replace Duplex Assembly [RRP 9.1, page 317].
11	<p>EXIT MOTOR TEST</p> <ol style="list-style-type: none"> 1. Open the Rear Cover. 2. Cheat the Rear Cover Interlock Switch. 3. Enter Diagnostics mode. 4. From the Main Menu, select Component Test / Exit Motor Fwd L / press [4] to start motor. 5. After a few seconds, press [0] to stop motor. 6. From the Main Menu, select Component Test / Exit Motor Rev L / press [4] to start motor, [0] to stop. <p>Does the Exit Motor rotate smoothly in both directions?</p>	Replace the Rear Cover Assembly [RRP 1.9, page 258].	Replace the Duplex Assembly [RRP 9.1, page 317].
12	<p>EXIT ASSEMBLY INSPECTION</p> <ol style="list-style-type: none"> 1. Inspect the Exit Assembly for obstructions. 2. Clean all rollers in the Exit Assembly. 3. Replace Rear Cover Assembly, if necessary. <p>Does the Error Code reappear?</p>	Go to Step 13.	Problem solved.
13	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Fuser Assembly [RRP 5.1, page 288] ■ Duplex Assembly [RRP 9.1, page 317] ■ Rear Cover Assembly [RRP 1.9, page 258] ■ Print Engine Controller Board [RRP 8.5, page 310] ■ Wiring and connectors linking the components 		

RAP 16 Error Code E5: Close Covers

The Top Cover or Rear Cover is open.

Table 36 Error Code E5: Close Covers Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>OPEN CLOSE TOP COVER AND REAR DOOR Open and close the Rear Cover and the Top Cover. Is the error message still displayed?</p>	Go to Step 2.	Problem solved.
2	<p>REAR COVER 1. Open the Rear Cover. 2. Slowly close the Rear Cover checking to ensure the cover is actuating the Rear Cover Interlock Switch. Does the Rear Cover actuate the Interlock Switch?</p>	Go to Step 3.	Realign or replace the Rear Cover [RRP 1.3, page 258].
3	<p>TOP COVER 1. Open the Top Cover. 2. Slowly close the Top Cover check to ensure the cover is actuating the Top Cover Interlock Switch. Does the Top Cover actuate the Interlock Switch?</p>	Go to Step 4.	Replace the Top Cover [RRP 1.3, page 252].
4	<p>REMOVE LOWER REAR COVER 1. Switch printer power OFF. 2. Remove the Lower Rear Cover [RRP 1.7, page 256]. 3. Switch printer power ON. 4. Measure the voltage between P/J162-1 and frame ground. Does the voltage measure +24 VDC?</p>	Go to Step 5.	Go to RAP 40, page 114 .
5	<p>“YES” FROM STEP 4 ABOVE Measure the voltage between P/J162-3 and frame ground. Does the voltage measure +24 VDC?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to Step 6.
6	<p>“NO” FROM STEP 4 ABOVE 1. Switch printer power OFF. 2. Remove the Right Side Cover [RRP 1.2, page 251]. 3. Switch printer power ON. 4. Measure the voltage between the Top Cover Interlock Switch, both terminals, (P/J623) and frame ground. Do both voltages measure +24 VDC?</p>	Go to Step 7.	Check the wiring between the Rear Cover Interlock Switch. If the wiring is OK, replace the Top Cover Interlock Switch [RRP 7.4, page 302].

Table 36 Error Code E5: Close Covers Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
7	<p>“YES” FROM STEP 6 ABOVE</p> <p>Measure the voltage between the Rear Cover Interlock Switch, both terminals orange wires (P/J621 and P/J622) and frame ground.</p> <p>Do both voltages measure +24 VDC?</p>	<p>Replace the Print Engine Controller Board [RRP 8.5, page 310].</p>	<p>Check the wiring between the Top Cover Interlock Switch. If the wiring is OK, replace the Rear Cover Interlock Switch [PL 9.2, page 406].</p>
8	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Top Cover [RRP 1.3, page 252] ■ Rear Cover [RRP 1.9, page 258] ■ Print Engine Controller Board [RRP 8.5, page 310] ■ Wiring and connectors linking the components 		

RAP 17 Insert MBF

The Multi-sheet Bypass Feeder (MBF) is extended and is not in the home position.

Table 37 Insert MBF Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PROCEDURE</p> <p>Extend and close the MBF.</p> <p>Does the error code still appear?</p>	Go to Step 2.	Problem solved.
2	<p>MBF HOME SWITCH INSPECTION</p> <p>1. Extend the MBF and inspect the MBF Home Switch. 2. Manipulate the MBF Home Switch Actuator.</p> <p>Is the MBF Home Switch in good condition and does the actuator move freely?</p>	Go to Step 3.	Replace the MBF Home Switch [RRP 3.8, page 282].
3	<p>MBF HOME SWITCH TEST</p> <p>1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Sensor Input / press [4] to start, [0] to stop. 3. Actuate and deactuate the MBF Home Switch.</p> <p>Does the LCD counter increment each time you press and release the actuator?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to Step 4
4	<p>“NO” FROM STEP 4 ABOVE</p> <p>1. Switch printer power OFF. 2. Remove the Left Side Cover [RRP 1.1, page 250] and the Print Engine Controller Cover [RRP 8.5, page 310]. 3. Disconnect P/J20 from the Print Engine Controller Board. 4. Switch printer power ON. 5. Measure the voltage between P20-1 and frame ground.</p> <p>Does the voltage between P20-1 and frame ground measure +3.2 VDC?</p>	Go to Step 5.	Replace the Print Engine Controller Board [RRP 8.5, page 310].
5	<p>“YES” FROM STEP 4 ABOVE</p> <p>1. Switch print power OFF. 2. Reconnect P/J20 to the Print Engine Controller Board. 3. Switch printer power ON. 4. Measure the voltage between P20-2 and frame ground as you actuate and deactuate the switch.</p> <p>Does the voltage measure +3.2 VDC when the switch is actuated and 0.0 VDC when the switch is deactuated?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Replace the MBF Home Switch [RRP 3.8, page 282].

Table 37 Insert MBF Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
6	<p>SUSPECT COMPONENTS The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"><li>■ MBF Home Switch [RRP 3.8, page 282]<li>■ Print Engine Controller Board [RRP 8.5, page 310]<li>■ Wiring and connectors linking the components		

RAP 18 Close Tray 2 Rear Door Close Tray 3 Rear Door

The 2000-Sheet Feeder Rear Door is open.

Table 38 2000-Sheet Feeder Cover Open Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>UPPER REAR COVER INTERLOCK SWITCH</p> <ol style="list-style-type: none"> 1. Manually open and close the 2000-Sheet Feeder Upper Rear Cover Assembly. 2. Make certain the Upper Rear Cover actuates the Interlock Switch. <p>Does the 2000-Sheet Feeder Upper Rear Cover Assembly actuate the Interlock Switch?</p>	Go to Step 2.	Reinstall the Interlock Switch. If the bracket is deformed, reshape or replace the bracket.
2	<p>UPPER REAR COVER INTERLOCK SWITCH INPUT TEST</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Sensor Input / press [4] to start, [0] to stop. 3. Open and close the 2000-Sheet Feeder Upper Rear Cover. <p>Does the LCD counter increment each time you open and close the cover?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to Step 3.
3	<p>“NO” FROM STEP 3 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the 2000-Sheet Feeder Lower Rear Cover [RRP 12.4, page 356]. 3. Switch printer power ON. 4. Check the voltage between P/J604-3 and frame ground as you open and close the Upper Rear Cover. <p>Does the voltage measure +3.2 VDC when the cover is open and 0.0 VDC when the cover is closed?</p>	Go to Step 4.	Replace the Upper Rear Cover Interlock Switch [PL 12.2, page 420].
4	<p>CONTINUITY CHECK</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the Left Side Cover [RRP 1.1, page 250] and the Print Engine Controller Board [RRP 8.5, page 310]. 3. Disconnect P/J13 from the Print Engine Controller Board and P/J604 from the 2000-Sheet Feeder Board. 4. Check for continuity between the pins as follows: <ul style="list-style-type: none"> ■ P601-1 and P13-1 ■ P601-2 and P13-2 ■ P601-3 and P13-3 ■ P601-4 and P13-13 ■ P601-5 and P13-10 ■ P601-6 and P13-14 ■ P601-7 and P13-15 <p>Is there continuity between all pins measured?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310], or the 2000-Sheet Feeder Board [RRP 12.8, page 360].	Replace the appropriate harness.

Table 38 2000-Sheet Feeder Cover Open Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
5	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"><li>■ Upper Rear Cover Interlock Switch [PL 12.2, page 420]<li>■ Print Engine Controller Board [RRP 8.5, page 310]<li>■ Wiring and connectors linking the components)		

RAP 19 Close Stacker Door

The Rear Cover is open.

Table 39 Close Stacker Door Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>OPEN/CLOSE REAR COVER Open and close the HCS Rear Cover. Does the error code still appear?</p>	Go to Step 2.	Problem solved.
2	<p>REAR COVER INTERLOCK SWITCH INSPECTION Open the HCS Rear Cover and check the Rear Cover Interlock Switch. Is the Rear Cover Interlock Switch in good condition and does the actuator move freely?</p>	Go to Step 3.	Replace the HCS Rear Cover Interlock Switch [RRP 10.9, page 326].
3	<p>REAR COVER INTERLOCK SWITCH TEST 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Sensor Input / press [4] to start, [0] to stop. 3. Actuate and deactivate the Rear Cover Interlock Switch. Does the LCD counter increment each time you press and release the actuator?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to Step 4.
4	<p>“NO” FROM STEP 3 ABOVE 1. Switch printer power OFF. 2. Remove the HCS Front Cover [RRP 10.4, page 321]. 3. Disconnect P/J524 from the HCS Board. 4. Switch printer power ON. 5. Measure the voltage between P524-1 and frame ground. Does the voltage measure +3.2 VDC?</p>	Go to Step 8.	Go to Step 5.
5	<p>“NO” FROM STEP 4 ABOVE Measure the voltage between P/J514-6 and frame ground. Does the voltage measure +3.2 VDC?</p>	Replace the HCS Board [PL 10.2, page 410].	Go to Step 6.
6	<p>“NO” FROM STEP 4 ABOVE 1. Switch printer power OFF. 2. Remove the Left Side Cover [RRP 1.1, page 250] and the Print Engine Controller Board Cover [RRP 8.5, page 310]. 3. Measure the voltage between P/J19-11 and frame ground. Does the voltage measure +3.2 VDC?</p>	Go to Step 7.	Replace the Print Engine Controller Board [RRP 8.5, page 310].
7	<p>“YES” FROM STEP 6 ABOVE Check for continuity between P/J19-11 and P/J501-3, then between P/J504-6 and P/J514-6. Is there continuity between both sets of pins?</p>	Replace the Duplex Interface Board [RRP 8.3, page 308].	Repair or replace the HCS Harness [PL 10.2, page 410].

Table 39 Close Stacker Door Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
8	<p>“YES” FROM STEP 4 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Reconnect P/J524 to the HCS Board. 3. Switch printer power ON. 4. Measure the voltage between P524-1 and frame ground as you actuate and deactuate the Rear Cover Interlock Switch. <p>Does the voltage measure +3.2 VDC when the switch is deactuated and 0.0 VDC when the switch is actuated?</p>	<p>Replace the Print Engine Controller Board [RRP 8.5, page 310].</p>	<p>Replace the HCS Rear Cover Interlock Switch [RRP 10.9, page 326].</p>
9	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ HCS Rear Cover Interlock Switch [RRP 10.9, page 326] ■ Print Engine Controller Board [RRP 8.5, page 310] ■ HCS Board [PL 10.2, page 410] ■ Duplex Interface Board [RRP 8.3, page 308] ■ HCS Harness [PL 10.2, page 410] 		

RAP 20 Error Code E7-1: Duplex Jam Open Rear Cover

There is a paper jam between the Exit Assembly and the Duplex Sensor.

Table 40 Error Code E7: Duplex Jam Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PAPER PATH</p> <p>Open the printer and check for paper or other obstructions in the paper path.</p> <p>Is the printer free of jammed paper, paper scraps, or other obstructions?</p>	Go to Step 2.	Clear all jammed paper, paper scraps, and obstructions from the printer.
2	<p>DUPLEX TEST PRINTS</p> <p>1. Enter Diagnostics mode. 2. From the Main Menu, select Test Print / Duplex / On / press [4]. 3. Scroll to Print Pattern / press [4] to start, [0] to stop. 4. Run approximately 20 Duplex test prints.</p> <p>Does the error code reappear?</p>	Go to Step 3.	Problem solved.
3	<p>DUPLEX MOTOR LOW</p> <p>1. Open the Rear Cover and cheat the Rear Cover Interlock. 2. Enter Diagnostics mode. 3. From the Main Menu, select Component Test / Dup Motor On Low / press [4].</p> <p>Do the Duplex Motor and rollers turn smoothly at low speed?</p>	Go to Step 4.	Replace Duplex Assembly [PL 13.1, page 426].
4	<p>DUPLEX MOTOR HIGH</p> <p>Scroll to Dup Motor On Hi / press [4].</p> <p>Do the Duplex Motor and rollers turn smoothly at high speed?</p>	Go to Step 5.	Replace Duplex Assembly [PL 13.1, page 426].
5	<p>DUPLEX SENSOR TEST</p> <p>1. Enter Diagnostics mode. 2. From the Main Menu, select Sensor Input / press [4] to start, [0] to stop. 3. Open the Rear Cover. 4. Actuate and deactivate the Duplex Sensor Actuator.</p> <p>Does the LCD counter increment each time you press and release the actuator?</p>	Go to Step 9.	Go to Step 6.
6	<p>“NO” FROM STEP 5 ABOVE</p> <p>1. Switch printer power OFF. 2. Remove the Left Side Cover [RRP 1.1, page 250 and the Print Engine Controller Board Cover [RRP 8.5, page 310]. 3. Disconnect P/J19 from the Print Engine Controller Board. 4. Switch printer power ON. 5. Measure the voltage between P/J19-5 and frame ground.</p> <p>Does the voltage measure +3.3 VDC?</p>	Go to Step 7.	Go to Step 8.

Table 40 Error Code E7: Duplex Jam Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
7	<p>“YES” FROM STEP 6 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Reconnect P/J19 to the Print Engine Controller Board. 3. Switch printer power ON. 4. Measure the voltage between P/J19-5 and frame as you actuate and deactivate the Duplex Sensor Actuator. <p>Does the voltage measure +3.3 VDC when the sensor is deactivated and 0.0 VDC when the sensor is actuated?</p>	Go to Step 9.	Go to Step 8.
8	<p>CONTINUITY CHECK</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Disconnect P/J19 from the Print Engine Controller Board and P/J501 from the Duplex Interface Board. 3. Check for continuity between the pins as follows: <ul style="list-style-type: none"> ■ P501-1 and P19-13 ■ P501-2 and P19-12 ■ P501-3 and P19-11 ■ P501-4 and P19-10 ■ P501-5 and P19-9 ■ P501-6 and P19-8 ■ P501-7 and P19-7 ■ P501-8 and P19-6 ■ P501-9 and P19-5 ■ P501-10 and P19-4 ■ P501-11 and P19-3 ■ P501-12 and P19-2 ■ P501-13 and P19-1 <p>Is there continuity between all pins measured?</p>	Replace the Duplex Assembly.	Repair or replace the Duplex Interface Harness [PL 9.1, page 404].
9	<p>DUPLEX ROLLERS</p> <ol style="list-style-type: none"> 1. Remove the Duplex Assembly. 2. Inspect the Duplex Assembly rollers for contamination and wear. <p>Are the rollers clean and in good condition?</p>	Go to Step 10.	Clean the rollers as necessary.
10	<p>TEST PRINTS</p> <ol style="list-style-type: none"> 1. Replace the Duplex Assembly. 2. Run Duplex Test Prints per Step 2 above. <p>Does the error code reappear?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Problem solved.
11	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Duplex Assembly [PL 13.1, page 426] ■ Print Engine Controller Board [RRP 8.5, page 310] ■ Duplex Interface Harness Assembly [PL 9.1, page 404] 		

RAP 21 Error Code E8-1: Stacker Jam Open Rear Cover

There is a paper jam at the HCS Sensor.

Table 41 Error Code E8-1: Stacker Jam Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Is the lead edge of the paper located within the Exit Assembly?	Go to Step 2.	Go to Step 4.
2	EXIT GATE SOLENOID INSPECTION 1. Open Rear Cover. 2. Inspect the Exit Gate Solenoid for proper/secure installation and for proper connection. Is the Exit Gate properly installed and connected?	Go to Step 3.	Reinstall and/or reconnect the solenoid. Go to Step 3.
3	EXIT GATE SOLENOID TEST 1. Enter Diagnostics Mode. 2. Open Rear Cover and defeat the Rear Cover Interlock Switch. 3. From the Main Menu, select Component Test / Exit Gate Sol / press [4], while observing the Exit Gate Solenoid. 4. Press [4] again while observing the Exit Gate to reverse its exit position. Does the Exit Gate Solenoid change position each time [4] is pressed?	Go to Step 4.	Replace Exit Gate Solenoid. [RRP 10.5, page 322].
4	TEST PRINT 1. Remove and reinstall the HCS Assembly [RRP 10.1, page 318]. 2. Run a simplex Test Print. Does the Error Code E8-1 still appear?	Go to Step 5.	Problem solved.
5	Is the paper discharged from the top of the HCS Assembly?	Go to Step 7.	Go to Step 6.
6	“NO” FROM STEP 2 ABOVE 1. Rotate the 14/33T Idler Gear counter-clockwise manually. 2. Observe for correct contact between the 14/33T Idler Gear and the 29T Gear. Do all of the gears rotate smoothly?	Go to Step 7.	Replace any defective parts as necessary [PL 13.1, page 426].
7	“YES” FROM STEP 5 ABOVE 1. Run a Test Print. 2. Observe the rotation of the Inlet Roller. Do the Inlet and Output Rollers rotate in the same direction smoothly?	Go to Step 7.	Go to Step 8.

Table 41 Error Code E8-1: Stacker Jam Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
8	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none">■ HCS Motor Assembly [RRP 10.8, page 325]■ Print Engine Controller Board [RRP 8.5, page 310]■ HCS Sensor [RRP 10.10, page 327]■ HCS Assembly [RRP 10.1, page 318]■ Wiring and connectors linking the components		

RAP 22 Error Code: E9-1 Duplex Unit Fail or Removed

Table 42 Duplex Unit Fail or Removed Message Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PROCEDURE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the Left Side Cover [RRP 1.1, page 250] and the Print Engine Controller Board Cover [RRP 8-5, page 310]. 3. Disconnect P/J19 from the Print Engine Controller Board. 4. Switch printer power ON. 5. Measure the voltage between P19-4 on the Print Engine Controller Board and frame ground. <p>Does the voltage measure +3.3 VDC?</p>	Go to Step 2.	Replace the Print Engine Controller Board [RRP 8.5, page 310].
2	<p>“YES” FROM STEP 1 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Reconnect P/J19 to the Print Engine Controller Board. 3. Remove the HCS, if installed. 4. Switch printer power ON. 5. Measure the voltage between P19-4 on the Print Engine Controller Board and frame ground. <p>Does the voltage measure +1.6 VDC?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to Step 3.
3	<p>“NO” FROM STEP 2 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Open the Rear Cover and remove the Duplex Assembly [RRP 9.1, page 404]. 3. Remove the HVPS Cover [RRP 8.2, page 307]. 4. Disconnect P/J501 from the Duplex Interface Board and P/J19 from the Print Engine Controller Board. 5. Check for continuity between the following pins: <ul style="list-style-type: none"> ■ P501-1 and P19-13 ■ P501-2 and P19-12 ■ P501-3 and P19-11 ■ P501-4 and P19-10 ■ P501-5 and P19-9 ■ P501-6 and P19-8 ■ P501-7 and P19-7 ■ P501-8 and P19-6 ■ P501-9 and P19-5 ■ P501-10 and P19-4 ■ P501-11 and P19-3 ■ P501-12 and P19-2 ■ P501-13 and P19-1 <p>Is there continuity between all pins measured?</p>	Replace the Duplex Assembly [PL 13.1, page 426]. If problem persists, replace the Duplex Interface Board [RRP 8.3, page 308].	Replace the Duplex Interface Board Harness [PL 9.1, page 404].

Table 42 Duplex Unit Fail or Removed Message Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
4	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Print Engine Controller Board [RRP 8.5, page 310] ■ Duplex Assembly [PL 13.1, page 426] ■ Duplex Interface Board [RRP 8.3, page 308] ■ Wiring and connectors linking the components) 		

RAP 23 Error Code E9-2: Stacker Bin Fail Power Off / On

Table 43 Error Code E9-2: Stacker Bin Fail Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>+3.2 VDC CHECK</p> <ol style="list-style-type: none"> 1. Switch print power OFF. 2. Remove the Left Side Cover [RRP 1.1, page 250] and the Print Engine Controller Board [RRP 8.5, page 310]. 3. Disconnect P/J19 from the Print Engine Controller Board. 4. Switch printer power ON. 5. Measure the voltage between P/J19-11 and frame ground. <p>Does the voltage measure +3.2 VDC?</p>	Go to Step 3.	Go to Step 2.
2	<p>“NO” FROM STEP 2 ABOVE</p> <p>Measure the voltage between P/J16-4 and frame ground.</p> <p>Does the voltage measure +3.2 VDC?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Replace the LVPS [RRP 8.6, page 312].
3	<p>“YES” FROM STEP 1 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the HCS Front Cover [RRP 10.4, page 321]. 3. Disconnect P/J514 from the HCS Board. 4. Check for continuity between the following pins: <ul style="list-style-type: none"> ■ P514-2 and P19-2 ■ P514-3 and P19-3 ■ P514-4 and P19-4 ■ P514-6 and P19-11 ■ P514-7 and P19-12 <p>Is there continuity between all pins measured?</p>	Replace the HCS Board [PL 10.2, page 410].	Repair or replace the HCS Harness [PL 10.2, page 410] or the Duplex Interface Harness [PL 9.2, page 406].
4	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Print Engine Controller Board [RRP 8.5, page 310] ■ LVPS [RRP 8.6, page 312] ■ HCS Board [PL 10.2, page 410] ■ HCS Harness [PL 10.2, page 410] ■ Duplex Interface Harness [PL 9.2, page 406] 		

RAP 24 Error Code E9-3: Tray 2 Failure Power Off / On Tray 3 Failure Power Off / On

The HCF has failed or disconnected with Power-On.

Table 44 Error Code E9-3: HCF Fail (2000-Sheet Feeder) Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>HARNES CONNECTIONS</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the Lower Rear Cover. 3. Inspect the connection at both ends of the 2000-Sheet Feeder harness Assembly (P/J601 on the Feeder Board and P/J131 feeder Interface Harness). <p>Is the 2000-Sheet Feeder Interface Harness properly connected to the 2000-Sheet Feeder Board?</p>	Go to Step 2.	Secure the connections of the 2000-Sheet Feeder Harness Assembly [J131, J601].
2	<p>2000-SHEET FEEDER BOARD REPLACEMENT</p> <p>Replace the 2000-Sheet Feeder Board [PL 12.2, page 420].</p> <p>Does the problem still occur?</p>	Go to Step 3.	Problem solved.
3	<p>HARNES CONTINUITY CHECK</p> <ol style="list-style-type: none"> 1. Remove the 2000-Sheet Feeder Harness assembly. 2. Check for continuity between the pins as follows: <ul style="list-style-type: none"> ■ J601-1 and J131-7 ■ J601-2 and J131-6 ■ J601-3 and J131-5 ■ J601-4 and J131-10 ■ J601-5 and J131-13 ■ J601-6 and J131-9 ■ J601-7 and J131-8 <p>Is there continuity between all pins measured?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Repair or replace the 2000-Sheet Feeder Harness Assembly [PL 12.2, page 420].
4	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Print Engine Controller Board [RRP 8.5, page 310] ■ 2000-Sheet Feeder Board [PL 12.2] ■ 2000-Sheet Feeder Harness Assembly [PL 12.2] 		

RAP 25 Error Code J5: Toner Low

The Print Cartridge is nearing end-of-life and should be replaced.

Table 45 Error Code J5: Toner Low Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PRINT CARTRIDGE REPLACEMENT Install a new Print Cartridge.</p> <p>Does the J5 error code still appear?</p>	Go to Step 2.	Problem solved.
2	<p>CONTINUITY CHECK</p> <ol style="list-style-type: none"> 1. Remove the Left Side Cover [RRP 1.1, page 250]. 2. Remove the Print Engine Controller Board Cover [RRP 8.5, page 310]. 3. Disconnect P/J14 from the Print Engine Controller Board. 4. Check for continuity between J14-1 and P141-1 / J14-2 and P141-2 / J14-3 and P141-3. <p>Does continuity check OK between J14-1 & P141-1, J14-2 & P141-2, and J14-3 & P141-3?</p>	Go to Step 3.	Repair or replace the Toner Sensor Harness Assembly as necessary [PL 8.1, page 402].
3	<p>TONER SENSOR ASSEMBLY REPLACEMENT Replace the Toner Sensor Assembly [RRP 7.3, page 301].</p> <p>Does the problem continue to exist?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Problem solved.
4	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Print Cartridge [PL 8.1, page 402] ■ Print Engine Controller Board [RRP 8.5, page 310] ■ Wiring and connectors linking the components 		

RAP 26 Error Code J5: Toner Low

Toner Low is not displayed when the Print Cartridge appears to be empty.

Table 46 Error Code J5: Toner Low Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>TEST PRINT</p> <ol style="list-style-type: none"> 1. Run a test print or print a page from a file. 2. Inspect the print quality. <p>Does the print appear light due to an empty Print Cartridge?</p>	Go to Step 2.	Problem does not exist.
2	<p>PRINT CARTRIDGE</p> <ol style="list-style-type: none"> 1. Replace the Print Cartridge [PL 8.1, page 402]. 2. Run five test prints (Config Sheet or Demo Page). 3. Inspect the print quality. <p>Does the print quality meet specifications?</p>	Go to Step 3.	Go to Image-Quality Defect Definitions, page 177 .
3	<p>TONER SENSOR</p> <ol style="list-style-type: none"> 1. Remove Tray 1. 2. Remove any paper from the MBF. 3. Enter Diagnostics mode. 4. From the Main Menu, select Component Test / Sensor Input Test / press [4] to start test, [0] to stop. 5. Open the MBF Cover and carefully pull down, then release the Toner Sensor. <p>Does the LCD counter increment each time you pull down and release the Toner Sensor?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to Step 4.
4	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Toner Sensor Assembly [RRP 7.3, page 301] ■ Print Cartridge [PL 8.1, page 402] ■ Print Engine Controller Board [RRP 8.5, page 310] 		

RAP 27 Error Code J6-1: Replace Print Cartridge

Install Print Cartridge

Logic Control on the Print Engine Controller Board detected a problem where a message to replace the Print Cartridge is generated.

Table 47 Error Code J6-1: Replace Print Cartridge Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PRINT CARTRIDGE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Replace the Print Cartridge. 3. Switch printer power ON. <p>Does the error message still appear?</p>	Go to Step 2.	Problem solved.
2	<p>CRUM ANTENNA TESTS</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. On the Print Engine Controller Board, disconnect P/J 21 and measure the resistance between pins 1 and 2 of the connector just unplugged. <p>Does the resistance measure less than 10 ohms?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to Step 3.
3	<p>CONTINUITY CHECK</p> <p>Perform a continuity check of the harness to the CRUM Board, specifically</p> <ul style="list-style-type: none"> ■ P/J 21-1 to P/J 211-4 ■ P/J 21-2 to P/J 211-3. <p>Is there continuity between the connector pins?</p>	Replace the CRUM Antenna Board [RRP 3.7, page 281].	Replace the harness between the CRUM Antenna Board P/J 211 and the Print Engine Controller Board P/J 21.
4	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Wiring and connectors linking the components ■ Print Cartridge ■ CRUM Antenna [RRP 3.7, page 281] ■ Print Engine Controller Board [RRP 8.5, page 310] ■ System Controller Board [RRP 8.1, page 305] 		

RAP 28 Error Code J8-1: Print Cartridge OEM ID Mismatch

A Print Cartridge for a different printer is detected.

Table 48 Error Code J8-1: Print Cartridge OEM ID Mismatch Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PRINT CARTRIDGE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Replace the Print Cartridge. 3. Switch printer power ON. <p>Does the error message still appear?</p>	Go to Step 2.	Problem solved.
2	<p>CRUM ANTENNA TESTS</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. On the Print Engine Controller Board, disconnect P/J 21 and measure the resistance between pins 1 and 2 of the connector just unplugged. <p>Does the resistance measure less than 10 ohms?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to Step 3.
3	<p>CONTINUITY CHECK</p> <p>Perform a continuity check of the harness to the CRUM Board, specifically</p> <ul style="list-style-type: none"> ■ P/J 21-1 to P/J 211-4 ■ P/J 21-2 to P/J 211-3. <p>Is there continuity between the connector pins?</p>	Replace the CRUM Antenna Board [RRP 3.7, page 281].	Replace the harness between the CRUM Antenna Board P/J 211 and the Print Engine Controller Board P/J 21.
4	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Wiring and connectors linking the components ■ Print Cartridge ■ CRUM Antenna [RRP 3.7, page 281] ■ Print Engine Controller Board [RRP 8.5, page 310] 		

RAP 29 Error Code PSE-1: Paper Size Jam Open Rear Cover

There is a conflict between the size of paper the printer senses in the paper tray and/or MBF and the size of paper that is actually loaded.

Table 49 Error Code PSE-1 Paper Size Jam Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Does the problem appear when using Tray 1, 2 or 3?	Go to Step 3.	Go to Step 2.
2	MBF PAPER SIZE VERIFICATION 1. Open the MBF and verify the size of paper currently in the MBF Tray. 2. Enter User Menus, select Tray Menu / MBF Size / then scroll through the MBF Size sub-menus to find the default paper size. Does the paper size displayed on the LCD match the size actually in the MBF?	Go to Step 9.	Enter User Menu / select MBF Size / then select the size matching the paper in the MBF Tray.
3	Is the paper size in the problem tray within printer specifications?	Go to Step 4.	Replace with paper that meets specs.
4	INSPECTING GUIDES Inspect the side guides and Paper Stack End Guide in the problem Tray. Are all guides properly set for the size of paper installed?	Go to Step 5.	Properly set the guides.
5	SIZE CAM INSPECTION Inspect the size cam on the left side of the paper tray. Are the cams in good condition (not broken) and rotate freely as the paper tray end guide is moved?	Go to Step 6.	Replace the paper tray [PL 2.1, page 386 / PL 2.2, page 388].
6	TRAY SIZE TEST 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Tray (1, 2 or 3 - the problem tray) Size / press [4] to start, [0] to stop. Does the paper size displayed on the LCD match the size of the paper actually loaded?	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to Step 7.
7	SENSOR INPUT TEST 1. While still in Diagnostics mode from Step 6 above, select Component Test / Sensor Input Test / press [4] start, [0] to stop. 2. One at a time, press and release each of the problem tray size actuators. Does the LCD counter increment each time you press and release one of the actuators?	Go to Step 8.	Go to RAP 54, page 142 .

Table 49 Error Code PSE-1 Paper Size Jam Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
8	<p>PAPER TRAY INSPECTION</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the Left Side Cover [RRP 1.1, page 250]. 3. Remove, then reinsert the problem paper tray while observing the size actuators move, depending on the setting of the paper tray [see Table 50 below]. <p>Do the Tray Size Cams contact the Paper Size Actuators correctly for each size of paper?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Replace paper tray [PL 2.1, page 386 / PL 2.2, page 388]. If problem persists, replace the Tray 1 Left Guide Assembly [RRP 3.6, page 279].
9	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Registration Sensor [RRP 4.4, page 287] ■ Registration Sensor Actuator [RRP 4.2, page 285] ■ Print Engine Controller Board [RRP 8.5, page 310] ■ Guide Assembly, CST L [RRP 3.6, page 279] ■ MBF Assembly [RRP 2.1, page 259] ■ Cassette Assembly [PL 2.1, page 386; PL 2.2, page 388] ■ Size Switch [PL 3.1, page 390] ■ Harness Assembly SNS [PL 3.1, page 390] 		

Table 50 Paper Size Actuators

Actuator	8.5" LEF	A4 LEF	B5 LEF	A5 LEF	14" SEF	8.5" SEF	A4 SEF	B4 SEF
4 Top	X			X	X	X	X	
3	X	X	X			X	X	
2			X	X	X			X
1 Bottom	X	X	X	X				

There is a problem with the Main Motor.

Table 51 Error Code U1: Motor Failure Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>MOTOR ROTATION CHECK</p> <ol style="list-style-type: none"> 1. Open the Rear Cover. 2. If installed, remove the Duplex Assembly. 3. Rotate the rotor of the Main Motor counterclockwise (as viewed from the right side of the printer) manually. <p>Does the rotor of the Main Motor rotate smoothly?</p>	Go to Step 4.	Go to Step 2.
2	<p>PRINT CARTRIDGE ISOLATION</p> <ol style="list-style-type: none"> 1. Open the Top Cover and remove the Print Cartridge. 2. Manually rotate the rotor of the Main Motor clockwise. <p>Does the rotor of the Main Motor rotate smoothly?</p>	Replace the Print Cartridge [PL 8.1, page 402].	Go to Step 3.
3	<p>FUSER ISOLATION</p> <ol style="list-style-type: none"> 1. Remove the Fuser Assembly [RRP 5.1, page 288]. 2. Manually rotate the Fuser Assembly Drive Gear. <p>Does the Fuser rotate smoothly?</p>	Go to Step 4.	Replace the Fuser.
4	<p>REGISTRATION ROLLERS ROTATION CHECK</p> <ol style="list-style-type: none"> 1. Open the Top Cover. 2. Remove the Print Cartridge. 3. Manually rotate the Metal Registration Roller and the Rubber Registration Roller. <p>Do the Metal Registration Roller and the Rubber Registration Roller rotate smoothly?</p>	Go to Step 5.	Replace the Paper Transport Assembly [RRP 4.1, page 283].
5	<p>EXIT ASSEMBLY ROTATION CHECK</p> <ol style="list-style-type: none"> 1. Open the Rear Cover. 2. Manually rotate the Exit Assembly that is attached to the Rear Cover. <p>Does the Exit Assembly rotate smoothly?</p>	Go to Step 6.	Replace components or the Exit Assembly as necessary [PL 6.1, page 398].
6	<p>DRIVE GEARS ROTATION CHECK</p> <ol style="list-style-type: none"> 1. Close the Rear Cover. 2. With the Top Cover still open, cheat the Top Cover Interlock. 3. Enter Diagnostics mode. 4. From the Main Menu, select Component Test / Main Motor / press [4] to start, allow to continue running through Step 8 below. <p>Do the Main Motor and drive gears run smoothly and all drive gears are in good condition?</p>	Go to Step 7.	Go to RAP 47, page 128.

Table 51 Error Code U1: Motor Failure Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
7	<p>MBF FEED ROLLER ROTATION CHECK</p> <ol style="list-style-type: none"> 1. Remove all paper from the MBF tray. 2. With the Main Motor still running from Step 6, sub-step 4, above, select MBF Feed Sol / press [4] to test. <p>Does the MBF Feed Roller Assembly rotate smoothly?</p>	Go to Step 8.	Replace the MBF Feed Roller components as necessary [PL 4.1, page 392].
8	<p>TRAY 1 PICK UP GEAR ROTATION CHECK</p> <ol style="list-style-type: none"> 1. Remove Tray 1. 2. With the Main Motor still running from Step 6, sub-step 4 above, select Tray 1 Feed Sol / press [4] to rotate the Tray 1 Pick Up Rollers one revolution. 3. Observe the Tray 1 Pick Up Rollers through the Tray 1 opening. Press [4] as many times as necessary to evaluate the rotation of the rollers. <p>Do the Tray 1 Pick Up Rollers rotate smoothly?</p>	Go to RAP 47, page 128 .	Repair or replace the gears or assembly as necessary [PL 4.2, page 394].
9	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Main Motor and/or drive gears [PL 7.1, page 400 ■ Fuser Assembly [RRP 5.1, page 288] ■ Print Cartridge [PL 8.1, page 402] ■ Exit Assembly [PL 6.1, page 398] ■ MBF Feed Roller Assembly [PL 4.1, page 392] ■ Wiring and connectors linking the components 		

There is a problem with the Laser Assembly.

Table 52 Error Code U2: Laser (ROS (Laser Scanner)) Failure Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>RESOLUTION CHECK</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select NVM Config / enter password [0734] / Resolution / press [3] or [7] for reading. <p>Is the Resolution reading “D”?</p>	Go to Step 2.	Replace the Print Engine Controller Board [RRP 8.5, page 310].
2	<p>LASER DENSITY CHECK</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select NVM Config / enter password [0734] / Laser Density / press [3] or [7] for reading. <p>Is the Laser Density reading “4”?</p>	Go to Step 3.	Replace the Print Engine Controller Board [RRP 8.5, page 310].
3	<p>SCANNER MOTOR CHECK</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / ROS Motor / press [4] to start the Laser Scanner Motor, [0] to stop. <p>Can you hear the Laser Scanner Motor spin up?</p>	Go to Step 4.	Go to RAP 48, page 130 .
4	<p>VOLTAGE CHECK 1</p> <ol style="list-style-type: none"> 1. Switch the printer power OFF. 2. Remove the Left Side Cover [RRP 1.1, page 250]. 3. Remove the Print Engine Controller Board Cover [RRP 8.5, page 310]. 4. Disconnect P/J11 from the Print Engine Controller Board. 5. Switch printer power ON. 6. Measure the voltage between P11-7 & P11-8 on the Print Engine Controller Board. <p>Is this voltage +5.0 VDC between P11-7 & P11-8?</p>	Go to RAP 27, page 92 .	Go to Step 5.
5	<p>VOLTAGE CHECK 2</p> <p>With the printer still on from Step 4, sub-step 5, measure the voltage between P21-4 & P/H21-1 on the Print Engine Controller Board.</p> <p>Is this voltage +5 VDC between P21-4 and P/J21-1?</p>	Go to RAP 48, page 130 .	Go to RAP 40, page 114 .

Table 52 Error Code U2: Laser (ROS (Laser Scanner)) Failure Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
6	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Print Engine Controller Board [RRP 8.5, page 310] ■ Wiring and connectors linking the components 		

There is a problem with the Fuser Assembly.

Table 53 Error Code U4: Fuser Failure Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>POWER OFF / ON</p> <ol style="list-style-type: none"> 1. Switch the printer power OFF. 2. Wait a few minutes, then switch the printer power ON. <p>Does the error code reappear?</p>	Go to RAP 49, page 133.	Go to Step 2.
2	<p>TEST PRINT VERIFICATION</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Test Print / Print Pattern / press [4] to start printing test pages, [0] to stop. 3. Run 20 to 30 test pages. <p>Does the Fuser Failure error code reappear?</p>	Go to RAP 49, page 133.	Problem solved.
3	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Fuser Assembly [RRP 5.1, page 288] ■ Wiring and connectors linking the components 		

The printer is detecting incorrect fan rotation.

Table 54 Error Code U5: Fan Fail Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Do both fans rotate when printer power is switched ON?	Go to Step 3.	Go to Step 2.
2	Are both of the fans stopped?	Go to Step 4.	Replace the fan that is not running [RRP 8.4, page 309 / RRP 8-7, page 313].
3	DIAGNOSTICS CHECK 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Fan Motor High / press [4] to start, [0] to stop. Do the fans rotate at high speed?	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to Step 4.
4	VOLTAGE CHECK 1. Switch printer power OFF. Remove power cord from rear of printer. 2. Remove the Lower Rear Cover [RRP 1.7, page 256]. 3. Reconnect power cord to printer. Switch printer power ON. 4. Check for +24 VDC between P/J161-13 and frame ground. 5. Check for +0.6 VDC between P/J161-12 and frame ground. Are both voltages (+24 VDC and +0.6 VDC) correct?	Replace the LVPS [RRP 8.6, page 312].	Replace the Print Engine Controller Board [RRP 8.5, page 310].
5	DIAGNOSTICS CHECK 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Fan Motor High / press [4] to start, [0] to stop. Do the fans rotate at high speed?	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to Step 5.
6	SUSPECT COMPONENTS The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem. <ul style="list-style-type: none"> ■ Cooling Fans [RRP 8.4, page 309 / RRP 8-7, page 313] ■ Low Voltage Power Supply (LVPS) [RRP 8.6, page 312] ■ Wiring and connectors linking the components. 		

DIMM in slot J4 has failed at Power-Up.

Table 55 0101 - DIMM 1 Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PROCEDURE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the Left Side Cover [RRP 1.1, page 250]. 3. Remove the DIMM installed in Slot 1 (J4). 4. Switch printer power ON. <p>Is the “0101 - DIMM 1” error message still displayed on the Control Panel LCD?</p>	Replace the System Controller Board [RRP 8.1, page 305].	Go to Step 2.
2	<p>DIMM TEST</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Install the removed DIMM into Slot 2 (J5). 3. Switch printer power ON. <p>Is the “0102 - DIMM 2” error message displayed on the Control Panel LCD?</p>	Replace the DIMM.	Go to Step 3.
3	<p>DIMM RETEST / VERIFICATION</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the DIMM from Slot 2 (J5) and reinstall it into Slot 1 (J4). 3. Switch printer power on. <p>Is the “0101 - DIMM 1” error message still displayed on the Control Panel LCD?</p>	Replace the System Controller Board [RRP 8.1, page 305].	Attribute the problem due to a poor connection of the DIMM on the System Controller Board.
4	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Print Engine Controller Board [RRP 8.1, page 305] ■ LVPS Power Supply [RRP 8.6, page 312] ■ Harness Assembly [PL 9.1, page 404] 		

DIMM in slot J5 has failed at Power-Up.

Table 56 0102 - DIMM 2 Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PROCEDURE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the Left Side Cover [RRP 1.1, page 250]. 3. Remove the DIMM installed in Slot 2 (J5). 4. Switch printer power ON. <p>Is the “0102 - DIMM 2” error message still displayed on the Control Panel LCD?</p>	<p>Replace the System Controller Board [RRP 8.1, page 305].</p>	<p>Go to Step 2.</p>
2	<p>DIMM TEST</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Install the removed DIMM into Slot 1 (J4). 3. Switch printer power ON. <p>Is the “0101 - DIMM 1” error message displayed on the Control Panel LCD?</p>	<p>Replace the DIMM.</p>	<p>Go to Step 3.</p>
3	<p>DIMM RETEST / VERIFICATION</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the DIMM from Slot 1 (J4) and reinstall it into Slot 2 (J5). 3. Switch printer power on. <p>Is the “0102 - DIMM 2” error message still displayed on the Control Panel LCD?</p>	<p>Replace the System Controller Board [RRP 8.1, page 305].</p>	<p>Attribute the problem due to a poor connection of the DIMM on the System Controller Board.</p>
4	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Print Engine Controller Board [RRP 8.5, page 310] ■ LVPS Power Supply [RRP 8.6, page 312] ■ Harness Assembly [PL 9.1, page 404] 		

DIMM in slot J6 has failed at Power-Up.

Table 57 0103 - DIMM 3 Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PROCEDURE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the Left Side Cover [RRP 1.1, page 250]. 3. Remove the DIMM installed in Slot 3 (J6). 4. Switch printer power ON. <p>Is the “0103 - DIMM 3” error message still displayed on the Control Panel LCD?</p>	<p>Replace the System Controller Board [RRP 8.1, page 305].</p>	<p>Go to Step 2.</p>
2	<p>DIMM TEST</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Install the removed DIMM into Slot 1 (J4). 3. Switch printer power ON. <p>Is the “0101 - DIMM 1” error message displayed on the Control Panel LCD?</p>	<p>Replace the DIMM.</p>	<p>Go to Step 3.</p>
3	<p>DIMM RETEST / VERIFICATION</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the DIMM from Slot 1 (J4) and reinstall it into Slot 3 (J6). 3. Switch printer power on. <p>Is the “0103 - DIMM 3” error message still displayed on the Control Panel LCD?</p>	<p>Replace the System Controller Board [RRP 8.1, page 305].</p>	<p>Attribute the problem due to a poor connection of the DIMM on the System Controller Board.</p>
4	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Print Engine Controller Board [RRP 8.5, page 310] ■ LVPS Power Supply [RRP 8.6, page 312] ■ Harness Assembly [PL 9.1, page 404] 		

There is a problem with the Non-Volatile RAM on the Print Engine Controller Board.

Table 58 Error Code U6: IOT NVM Failure Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>POWER CYCLING</p> <p>Switch the printer power OFF, wait 20 - 30 seconds, then switch printer power ON.</p> <p>Does the IOT NVM Fail error code appear?</p>	Go to Step 3.	Go to Step 2.
2	<p>VERIFYING STEP 1 ABOVE</p> <p>To ensure the problem is solved, switch the printer power OFF and ON several times.</p> <p>Does the IOT NVM Fail error code reappear?</p>	Go to Step 3.	Problem solved.
3	<p>ENTER DIAGNOSTICS</p> <p>1. Enter Diagnostics mode. 2. From the Main Menu, select NVM Config / enter password [0734] /</p> <p>Was the password accepted and does “Resolution” now appear on the LCD?</p>	Go to Step 4.	Replace the Print Engine Controller Board [RRP 8.5, page 310].
4	<p>NON-VOLATILE MEMORY CONFIGURATION CODES</p> <p>Check the NVM Data one by one referring to the NVRAM Configuration Table of Non-Volatile Memory Configuration Codes, page 233.</p> <p>Is the data set properly?</p>	Go to Step 5.	Replace the Print Engine Controller Board [RRP 8.5, page 310].
5	<p>POWER OFF/ON</p> <p>Switch printer power OFF, wait 10-20 seconds, then switch power ON.</p> <p>Does the IOT NVM Fail error message still appear?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Problem solved.
6	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Print Engine Controller Board [RRP 8.5, page 310] ■ Wiring and connectors linking the components 		

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Troubleshooting

This topic discusses troubleshooting the printer. Troubleshooting is discussed in the following areas:

- **Printer Performance Problems:** Refer to the Repair Analysis Procedure (RAP) Table 59 “Print Performance Problems RAP Table,” on page 107.
- **Image-Quality Problems:** Refer to the Repair Analysis Procedure (RAP) Table 60 “Image-Quality Problems RAP Table,” on page 109.
- **Electrical Interference Problems:** Refer to the Repair Analysis Procedure (RAP) Table 61 “Electrical Interference RAP Table,” on page 109.

General Assumption:

When asked to run a “Test Print”, run any test print that is quick and easy for you, including sending a simple print job to the printer. The object is merely to print anything on a sheet of paper for evaluation. On other occasions, follow the procedure as instructed.

Printer Performance Problems Repair Analysis Procedure (RAP) Table

Table 59 Print Performance Problems RAP Table

Problem	Go To
AC Power	RAP 38 on page 110
Registration Clutch	RAP 39 on page 112
DC Power	RAP 40 on page 114
DC Power Loading	RAP 41 on page 116
System Controller Isolation	RAP 42 on page 118
Low Paper Tray 1/2/3	RAP 43 on page 119
Inoperative Printer	RAP 44 on page 120
Malfunctioning LCD/LED	RAP 45 on page 123
Inoperative Keypad	RAP 46 on page 126
Main Motor Assembly	RAP 47 on page 128
Laser Assembly	RAP 48 on page 130
Fuser Assembly	RAP 49 on page 133
Registration Sensor	RAP 50 on page 135

Table 59 Print Performance Problems RAP Table (cont'd.)

Problem	Go To
MBF No Paper Sensor	RAP 51 on page 137
Laser Safety Switch	RAP 52 on page 139
Tray 1 No Paper Sensor	RAP 53 on page 140
Size Switch	RAP 54 on page 142
Turn Roller Clutch Assembly	RAP 55 on page 145
Tray 1 Feed Solenoid	RAP 56 on page 147
MBF Feed Solenoid	RAP 57 on page 149
Toner Sensor Assembly	RAP 58 on page 151
HVPS Assembly	RAP 59 on page 153
Electrical Noise	RAP 60 on page 157
Low Paper Tray 2 (or Tray 3) / 500-Sheet Feeder	RAP 61 on page 159
500-Sheet Feeder Feed Solenoid	RAP 62 on page 161
500-Sheet Motor	RAP 63 on page 163
500-Sheet Feeder Assembly Not Recognized	RAP 64 on page 164
Exit Sensor	RAP 65 on page 167
Pre-Registration Sensor	RAP 66 on page 168
HCS Motor Assembly	RAP 67 on page 170
Disk Error Format Hard Disk	RAP 68 on page 172
Erratic Printer Operation	RAP 69 on page 173

Image-Quality Problems Repair Analysis Procedure (RAP) Table

Table 60 Image-Quality Problems RAP Table

Problem	Go To RAP No.
Light (Undertoned) Prints	RAP 70 on page 178
Blank Prints	RAP 71 on page 181
Spots	RAP 72 on page 183
Horizontal (Scan) Deletions	RAP 73 on page 185
Vertical (Process) Deletions	RAP 74 on page 188
Spot Deletions	RAP 75 on page 190
Vertical (Process) Streaks	RAP 76 on page 192
Horizontal (Scan) Streaks	RAP 77 on page 194
Residual Image (Ghosting)	RAP 78 on page 197
Black Prints	RAP 79 on page 199
Background	RAP 80 on page 200
Uneven Density	RAP 81 on page 202
Skewed Image	RAP 82 on page 204
Damaged Prints	RAP 83 on page 210
Registration	RAP 84 on page 212
Skips / Smears	RAP 85 on page 214
Unfused Image	RAP 86 on page 215
Resolution	RAP 87 on page 217

Electrical Interference Repair Analysis Procedure (RAP) Table

Table 61 Electrical Interference RAP Table

Problem	Go To RAP No.
Electrical Interference - Something is generating electrical noise that may be interfering with the normal operation of the printer.	RAP 60 on page 157

Printer Performance Problems

RAP 38 AC Power

There is a possible problem with the AC power.

Initial Action

Disconnect the AC power cord from the wall outlet.

Warning: Improper connection of the grounding conductor can result in the risk of electrical shock. The following must be observed:

- Never use a ground adapter plug to connect the machine to a power source.
- Never attempt any maintenance function which is not specifically called out in the service procedures.
- Never remove any covers which are fastened with screws, unless so instructed in the service procedures.

Caution: If any of the voltage measurements are not as specified in the following steps, the cause must be corrected. Caution the customer NOT to connect the machine to the wall outlet. Advise the customer that a licensed electrician must correct the wiring. Do not attempt to correct the wiring yourself. If you later find the condition has not been corrected, inform your manager in writing of the improper wiring.

Table 62 AC Power Testing Procedure

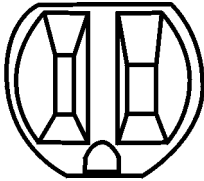
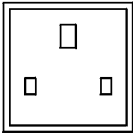
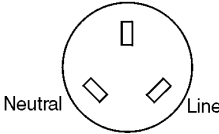
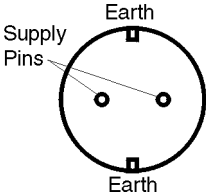
Step	Actions and Questions	Yes	No
1	US, XCI and AO [110 VAC] AC Neutral  AC Line	Go to Step 4.	Inform customer of insufficient voltage or improper wiring.
635_0203			
1. Measure the AC voltage between AC Line and Neutral, between AC Line and Ground, and between AC Neutral and Ground.			
2. The voltage between Line and Neutral and between Line and Ground should range from 104 to 127 VAC and the voltage between Neutral and Ground should be less than 3 VAC.			
Is the AC voltage within specification?			

Table 62 AC Power Testing Procedure (cont'd.)

Step	Actions and Questions	Yes	No
2	<p>XL, UK AND AO [220 VAC]</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>Earth/GND</p>  </div> <div style="text-align: center;"> <p>Earth/GND</p>  </div> </div> <ol style="list-style-type: none"> 1. Measure the AC voltage between Line and Neutral, between AC Line and Earth/Ground, and between Neutral and Earth/Ground. 2. The voltage between Line and Neutral and between Line and Earth/Ground should range from 216 to 264 VAC and the voltage between Neutral and Ground should be less than 3 VAC. <p>Is the AC line voltage within specification?</p>	Go to Step 4.	Inform customer of insufficient voltage or improper wiring.
3	<p>XL, EUROPE [220 VAC]</p> <div style="text-align: center;">  <p>635_0205</p> </div> <ol style="list-style-type: none"> 1. Measure the AC voltage between Line and Neutral, between AC Line and Earth/Ground, and between Neutral and Earth/Ground. 2. The voltage between Line and Neutral and between Line and Earth/Ground should range from 196 to 244 VAC and the voltage between Neutral and Ground should be less than 3 VAC. <p>Is the AC line voltage within specification?</p>	Go to Step 4.	Inform customer of insufficient voltage or improper wiring.
4	<p>CONTINUITY CHECK</p> <ol style="list-style-type: none"> 1. Check the continuity through all connections of the power cord. 2. The measurement should be less than 10 ohms for each connection. <p>Does continuity test per specification?</p>	Perform DC Power Check [RAP 40, page 114].	Replace the power cord.

RAP 39 Registration Clutch

Table 63 Registration Clutch Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PROCEDURE</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Reg. Clutch / press [4] to test, [0] to stop. <p>Can you hear the Registration Clutch energize?</p>	Go to Step 8.	Go to Step 2.
2	<p>“NO” FROM STEP 1 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the Left Side Cover [RRP 1.1 on page 250] and remove the Print Engine Controller Board Cover [RRP 8.5 on page 310]. 3. Disconnect P/J22 on the Print Engine Controller Board. 4. Measure the resistance between pins 1 and 2 on the disconnected plug. <p>Is the resistance approximately 170 to 185 ohms?</p>	Go to Step 4.	Go to Step 3.
3	<p>“NO” FROM STEP 2 ABOVE</p> <ol style="list-style-type: none"> 1. Remove the Print Cartridge and the MBF Assembly [RRP 2.1 on page 259]. 2. Disconnect P/J222 from the Registration Clutch. 3. Check for pin to pin continuity between P22 and P222. <p>Is there continuity between both pins?</p>	Replace the Registration Clutch [RRP 4.3 on page 286].	Repair or replace the Registration Clutch Harness as necessary [PL 9.1, page 404].
4	<p>“YES” FROM STEP 2 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power ON. 2. Measure the voltage between P/J22-1 and frame ground. <p>Does the voltage between P/J22-1 and frame ground measure +24 VDC?</p>	Go to Step 6.	Go to Step 5.
5	<p>“NO” FROM STEP 4 ABOVE</p> <p>Measure the voltage between P/J16-9 and frame ground.</p> <p>Does the voltage between P/J16-9 and frame ground measure +24 VDC?</p>	Replace the Print Engine Controller Board [RRP 8.5 on page 286].	Replace the LVPS [RRP 8.6 on page 312].
6	<p>“YES” FROM STEP 4 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Reconnect P/J22. 3. Enter Diagnostics mode. 4. From the Main Menu, select Component Test / Reg. Clutch. 5. Measure the voltage between P/J22-2 and frame ground. 6. While watching the voltmeter, press [4]. <p>Does the voltage drop from +24 VDC to 0.0 VDC?</p>	Go to Step 7.	Replace the Registration Clutch [RRP 4.3 on page 286] or Paper Transport Assy [RRP 4.1 on page 283].

Table 63 Registration Clutch Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
7	<p>REGISTRATION CLUTCH TEST</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Open the Top Cover and remove the Print Cartridge. 3. Enter Diagnostics mode. 4. From the Main Menu, select Component Test / Main Motor / press [4] to start motor. 5. Scroll to Reg. Clutch / press [4] to energize clutch. <p>Do the Registration Rollers rotate smoothly and without stalling or jerking?</p>	Problem solved.	Replace the Registration Clutch [RRP 4.3 on page 286] or Paper Transport Assy [RRP 4.1 on page 283].
8	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Registration Clutch [“RRP 4.3 Registration Clutch”] ■ Registration Clutch Harness [PL 9.1, page 404] ■ Print Engine Controller Board [RRP 8.5, page 310] ■ LVPS Power Supply [RRP 8.6, page 312] ■ Paper Transport Assy [RRP 4.1, page 283] 		

RAP 40 DC Power (LVPS)

Table 64 DC (LVPS) Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<ol style="list-style-type: none"> 1. Perform RAP 38 before starting this RAP. 2. If RAP 38 checks out OK, switch the main power OFF and disconnect the printer power. 3. Remove the Lower Rear Cover (RRP 1.7, page 256). 4. Connect printer power. 5. Switch the printer power ON. 6. Measure the voltage on the LVPS between P/ J167 pins 1 and 3. <p>Does the voltage match the line voltage?</p>	Go to Step 2.	Replace the AC Input Assembly (RRP 8.8, page 314).
2	<p>Measure the voltage between the bottom of Fuse F101 and P/ J167 pin 3.</p> <p>Does the voltage match the line voltage?</p>	Go to Step 4.	Go to Step 3.
3	<ol style="list-style-type: none"> 1. Switch the main power OFF. 2. Replace fuse F101. 3. Switch the main power ON. 4. Measure the voltage between the bottom of Fuse F101 and P/ J167 pin 3. <p>Does the voltage match the line voltage?</p>	Problem Solved.	Replace the LVPS (RRP 8.6, page 312).
4	<p>Measure the voltage between LVPS P/ J162 pin 3 and frame ground.</p> <p>Is the voltage +24 VDC?</p>	Go to Step 8.	Go to Step 5.
5	<p>On the LVPS, measure the voltage between P/ J162 pin 1 and frame ground.</p> <p>Is the voltage +24 VDC?</p>	Go to Step 6.	Replace the LVPS (RRP 8.6, page 312).
6	<p>Check the Top Cover and the printer Upper Rear Cover.</p> <p>Are both covers properly closed and actuating the interlock switches?</p>	Go to Step 7.	Repair or replace the defective cover/ interlock switch as necessary.
7	<p>Check the continuity through the interlock switches.</p> <p>Do both switches exhibit continuity?</p>	Replace if necessary (RRP 7.4, page 302/ RRP 10.9, page 326).	Go to Step 8.
8	<p>Check the voltages listed in Table 65.</p> <p>Are the voltages correct as measured?</p>	Return to the procedure that sent you here.	Go to RAP 41.

Table 65 LVPS Voltages

Red Lead	Black Lead	Voltage
P/J161 pin 10	Frame Ground	+5.0 VDC
P/J161 pin 11	Frame Ground	+3.3 VDC
P/J161 pin 3	Frame Ground	+24 VDC

RAP 41 DC Power Loading

Initial Actions

Perform RAP 40, DC Power (LVPS) Troubleshooting, before starting this RAP.

Warning: AC input voltages can be lethal. Use extreme care while checking the voltages on the LVPS. Disconnect the power cord while checking the continuity of fuses and removing or reinstalling the components.

Table 66 DC Power Loading Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Switch the printer power OFF. Remove the Lower Rear Cover (RRP 1.7 on page 256). Disconnect the following from the LVPS: <ul style="list-style-type: none">■ P/J161 (Print Engine Controller PWB)■ P/J163 (System Controller PWB)■ P/J164 (Main Motor)■ P/J165 (Main Fan)■ P/J166 (LVPS Fan)■ P/J168 (5VDC Power Supply) Switch the printer power ON and measure the voltages listed in Table 67 on the LVPS. Are all the voltages correct?	Go to Step 2.	Replace the LVPS (RRP 8.6 on page 312).
2	<ol style="list-style-type: none">1. Switch the printer power OFF.2. Reconnect P/J161 to the LVPS.3. Switch the printer power ON and measure the voltages listed in Table 67. Are all the voltages correct?	Go to Step 5.	Go to Step 3.
3	<ol style="list-style-type: none">1. Switch the printer power OFF.2. Remove the Left Side Cover and the Print Engine Controller PWB Cover.3. Reconnect all the P/Js to the LVPS.4. Disconnect the following from the Print Engine Controller PWB:<ul style="list-style-type: none">■ P/J11 (Laser)■ P/J21 (Print Cartridge Sensor)■ P/J14 (Toner Sensor)■ P/J12 (Tray 1 Feed head components/Tray 1 Low Paper Sensor)■ P/J22 (Registration Clutch)■ P/J13 (Feeder 2/3)■ P/J17 (Fuser Control PWB / Fuser)■ P/J19 (Duplex Assembly/OCT)■ P/J18 (HVPS/Registration Sensor)■ P/J20 (Tray 1 Size Sensor/MBF Home Sensor)5. Switch the printer power ON and measure the voltages listed in Table 67. Are all the voltages correct?	Go to Step 4.	Replace the Print Engine Controller PWB (RRP 8.5 on page 310).

Table 66 DC Power Loading Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
4	Switch the printer power OFF. Reconnect one of the disconnected plugs. Switch the printer power ON. Measure the voltages listed in Table 67. Are all the voltages correct?	Repeat the step with the next disconnected plug.	Replace the component just connected to the Print Engine Controller PWB.
5	1. Switch the printer power OFF. 2. Reconnect one of the disconnected plugs. 3. Switch the printer power ON. 4. Measure the voltages listed in Table 67. Are all the voltages correct?	Repeat the step with the next disconnected plug.	Replace the component just connected to the LVPS.

Table 67 LVPS Voltages

Red Lead	Black Lead	Voltage
P/J161 pin 10	Frame Ground	+5.0 VDC
P/J161 pin 11	Frame Ground	+3.3 VDC
P/J161 pin 3	Frame Ground	+24.0 VDC

RAP 42 System Controller Isolation

Table 68 System Controller Isolation Procedure

Step	Actions and Questions	Yes	No
1	<p>SYSTEM CONTROLLER ISOLATION</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Disconnect all cables connected the rear of the System Controller Board. 3. Remove the Left Side Cover [RRP 1.1, page 250]. 4. Remove all options from the System Controller Board. 5. Switch printer power ON. <p>Does the printer boot up correctly and “Ready” is displayed on the Control Panel?</p>	Go to Step 3.	Go to Step 2.
2	<p>SYSTEM CONTROLLER RESEAT</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove, then reinstall the System Controller Board [RRP 8.1, page 305] to reseat the connection with the Print Engine Controller Board. 3. Switch printer power ON. <p>Does the printer boot up correctly and “Ready” is displayed on the Control Panel?</p>	Problem solved.	Replace the System Controller Board [RRP 8.1, page 305].
3	<p>OPTIONS ISOLATION</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Reinstall one of the removed options or cables. 3. Switch printer ON. <p>Does the printer boot up correctly and “Ready” is displayed on the Control Panel?</p>	Repeat the last step with the next option or cable until the problem is found.	Replace the option or cable just installed.
4	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ System Controller Board [RRP 8.1, page 305] ■ Print Engine Controller Board [RRP 8.5, page 310] ■ Printer Options ■ Wiring and connectors linking the components 		

RAP 43 Low Paper Tray 1/2/3

Paper stack in the Paper Tray Assembly is below 50 sheets.

Table 69 Low Paper Tray 1/2/3 Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>LOAD PAPER</p> <p>Insert a full Tray Assembly into the affected position.</p> <p>Does the Error Message reappear?</p>	Go to Step 2.	Problem solved.
2	<p>LOW PAPER SENSOR ACTUATOR TEST</p> <p>1. Remove the affected Tray Assembly. 2. Push up the Low Paper Sensor Actuator [PL 3.1, page 390] manually, then release.</p> <p>Does the Low Paper Sensor Actuator return to its normal position when released?</p>	Go to Step 3.	Repair or replace the Low Paper Sensor Assembly [RRP 3.4, page 276] or Low Paper Sensor Actuator [PL 3.1, page 390].
3	<p>LOW PAPER SENSOR TEST</p> <p>Note: When checking the Low Paper Sensor using the Sensor Test, at least one Paper Size switch and the Low Paper Sensor must be actuated.</p> <p>1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Sensor Input / press [4] to start test, [0] to stop. 3. Push up the Low Paper Sensor Actuator, then release.</p> <p>Does the LCD increment each time you push and release the Actuator?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Check wiring associated with the Low Paper Sensor. If OK, replace the Low Paper Sensor.
4	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Low Paper Sensor Actuator [RRP 3.4, page 276] ■ Print Engine Controller Board [RRP 8.5, page 310] ■ Wiring and connectors linking the components 		

RAP 44 Inoperative Printer

Printer power cannot be switched ON.

Table 70 Inoperative Printer Troubleshooting

Step	Actions and Questions	Yes	No
1	<p>AC POWER CORD Ensure the power cord is properly connected to the wall outlet and to the back of the printer.</p> <p>Does the problem still exist?</p>	Go to Step 2.	Problem solved.
2	<p>AC POWER Perform RAP 38, AC Power, then return here.</p> <p>Did RAP 38 indicate the correct AC voltage is being supplied to the printer?</p>	Go to Step 3.	Notify customer that power is out of spec.
3	<p>DC POWER Perform RAP 40, DC Power (LVPS), then return here.</p> <p>Did RAP 40 indicate the correct DC voltages are being supplied throughout the printer?</p>	Go to Step 5.	Go to Step 4.
4	<p>Did RAP 40 instruct you to replace a component?</p>	Replace component as necessary.	Perform RAP 41, page 116 .
5	<p>SYSTEM CONTROLLER +3.3 VDC CHECK 1. Remove the Left Side Cover [RRP 1.1, page 250]. 2. On the System Controller Board, measure the voltage between P/J3-1 and P/J3-2.</p> <p>Does the voltage measure +3.3 VDC between P/J3-1 and P/J3-2?</p>	Go to Step 8.	Go to Step 6.
6	<p>+3.3 VDC LOAD CHECK AT SYSTEM CONTROLLER P/J3 1. Switch printer power OFF. 2. Disconnect P/J3 from the System Controller Board. 3. Switch printer power ON. 4. Check the voltage between pins 1 and 2 on the disconnected plug.</p> <p>Is the voltage +3.3 VDC between pins 1 and 2 on the disconnected plug?</p>	Go to Step 11.	Go to Step 7.
7	<p>LOW VOLTAGE POWER SUPPLY 1. Remove the Lower Rear Cover [RRP 1.7, page 256] to access the LVPS. 2. Measure the voltage between P/J163-1 and P/J163-2.</p> <p>Note: Do not reinstall the Lower Rear Cover until this RAP is completed. You may need to make additional tests on the LVPS.</p> <p>Does the voltage between P/J163-1 and P/J163-2 measure +3.3 VDC?</p>	Repair or replace the harness between the LVPS and the System Controller Board.	Replace the LVPS [RRP 8.6, page 312].

Table 70 Inoperative Printer Troubleshooting (cont'd.)

Step	Actions and Questions	Yes	No
8	<p>SYSTEM CONTROLLER +5 VDC CHECK</p> <p>Measure the voltage between pins 1 and 2 of P/J13 on the System Controller Board.</p> <p>Does the voltage between P/J13, pins 1 and 2 measure +5.0 VDC?</p>	<p>Replace the System Controller Board [RRP 1.1, page 250]. If problem persists, replace the Print Engine Controller Board [RRP 8.5, page 310].</p>	<p>Go to Step 9.</p>
9	<p>SYSTEM CONTROLLER +5 VDC LOAD CHECK</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Disconnect P/J13 from the System Controller Board. 3. Measure the voltage between pins 1 and 2 of the disconnected plug. <p>Does the voltage between pins 1 and 2 of the disconnected plug measure +5.0 VDC?</p>	<p>Go to Step 11.</p>	<p>Go to Step 10.</p>
10	<p>LVPS +24 VDC CHECK AT P/J168</p> <p>Measure the voltage between pins 1 and 2 of P/J168 on the LVPS.</p> <p>Does the voltage between P/J168, pins 1 and 2 on the LVPS measure +24 VDC?</p>	<p>Replace the System Controller Board +5 VDC Power Supply [RRP 8.9, page 315].</p>	<p>Replace the LVPS [RRP 8.6, page 312].</p>
11	<p>REMOVE OPTIONS</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove any options connected to the System Controller Board. 3. Reconnect P/J3 to the System Controller Board. 4. Switch printer power ON. 5. Check the voltage on P/J3 between pins 1 and 2. <p>Note: If there are no options installed, follow the NO path.</p> <p>Does the voltage between P/J3-1 and P/J3-2 measure +3.3 VDC?</p>	<p>Go to Step 9.</p>	<p>Replace the System Controller Board [RRP 8.1, page 305].</p>
12	<p>INSTALL OPTIONS ONE AT A TIME</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Reinstall any one of the removed options. 3. Switch printer power ON. 4. Check the voltage on P/J3 between pins 1 and 2. <p>Does the voltage between P/J3-1 and P/J3-2 measure +3.3 VDC?</p>	<p>Switch printer power OFF. Install next option and repeat Step 9 until voltage fails.</p>	<p>Replace the defective option just installed. Problem solved.</p>

Table 70 Inoperative Printer Troubleshooting (cont'd.)

Step	Actions and Questions	Yes	No
13	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"><li>■ Wiring and connectors linking the components<li>■ AC Power<li>■ Power Supply [RRP 8.9, page 315]<li>■ Print Engine Controller Board [RRP 8.5, page 310]<li>■ System Controller Board [RRP 8.1, page 305]		

RAP 45 Malfunctioning LCD/LED

The Control Panel LCD is erratic.

Table 71 Malfunctioning LCD/LED Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PROCEDURE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove any options connected to the System Controller Board. 3. Disconnect P/J18 from the System Controller Board. 4. Switch printer power ON. 5. On the System Controller Board, measure the following voltages between P/J18 and frame ground. <p>Note: Refer to Table 72 for what should be expected.</p> <p>Do all the voltages listed in the column “With P/J18 Disconnected” measure correctly?</p>	Go to Step 8.	Go to Step 2.
2	<p>+3.3 VDC AT P/J3 ON SYSTEM CONTROLLER BOARD</p> <p>Measure the voltage on P/J3-1 and P/J3-2.</p> <p>Does the voltage at P/J3-1 and P/J3-2 measure +3.3 VDC?</p>	Go to Step 5.	Go to Step 3.
3	<p>+3.3 VDC NO LOAD CHECK ON SYSTEM CONTROLLER BOARD</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Disconnect P/J3 from the System Controller Board. 3. Switch printer power ON. 4. Measure the voltage between pins 1 and 2 on the disconnected plug. <p>Does the voltage between pins 1 and 2 on the disconnected plug measure +3.3 VDC?</p>	Replace the System Controller Board [RRP 8.1, page 305].	Go to Step 4.
4	<p>LVPS P/J163 VOLTAGE CHECK</p> <p>Measure the voltage between P/J163-1 and P/J163-2.</p> <p>Does the voltage between P/J163-1 and 163-2 measure +3.3 VDC?</p>	Repair or replace the harness between the LVPS and the System Controller Board [PL 9.2, page 406].	Replace the LVPS [RRP 8.6, page 312].
5	<p>SYSTEM CONTROLLER BOARD +5 VDC CHECK</p> <p>On the System Controller Board, measure the voltage on P/J13-1 and P/J13-2.</p> <p>Does the voltage between P/J13-1 and P/J13-2 measure +5.0 VDC?</p>	Go to Step 8.	Go to Step 6.

Table 71 Malfunctioning LCD/LED Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
6	<p>SYSTEM CONTROLLER BOARD +5 VDC NO LOAD CHECK</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Disconnect P/J13 from the System Controller Board. 3. Switch printer power ON. 4. Measure the voltage between pins 1 and 2 on the disconnected plug. <p>Does the voltage between pins 1 and 2 on the disconnected plug measure +5.0 VDC?</p>	Replace the System Controller Board [RRP 8.1, page 305].	Go to Step 7.
7	<p>LVPS +24 VDC CHECK</p> <p>On the LVPS, measure the voltage between P/J168-1 and P/J168-2.</p> <p>Does the voltage between P/J 168-1 and P/J168-2 measure +24 VDC?</p>	Replace the System Controller Board +5.0 VDC Power Supply [RRP 8.1, page 305].	Replace the LVPS [RRP 8.6, page 312].
8	<p>RECONNECT P/J18 TO SYSTEM CONTROLLER BOARD</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Reconnect P/J18 to the System Controller Board. 3. Switch printer power ON. 4. Measure the voltages in Table 72 between the pins listed and frame ground. <p>Do all the voltages listed in the column “with P/J18 connected” measure correctly?</p>	Go to Step 9.	Replace the Control Panel [PL 1.1, page 384].
9	<p>REMOVE OPTIONS FROM SYSTEM CONTROLLER BOARD</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove all options, if any, from the System Controller Board. 3. Switch printer power ON. 4. Observe the LCD. <p>Is the LCD still erratic?</p>	Replace the Control Panel Assembly [PL 1.1, page 384]. If problem persists, replace the System Controller Board [RRP 8.1, page 305].	Go to Step 10.
10	<p>REINSTALL OPTIONS (ONE BY ONE)</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Reinstall the removed options on at a time, switching printer power ON and checking the voltages in Table 72 between the pins listed and frame ground. <p>Do the voltages measure correctly and does the display work correctly after reinstalling any option?</p>	Repeat this step until all options have been reinstalled. If problem persists, return to initial actions and restart.	Replace the last option reinstalled.

Table 71 Malfunctioning LCD/LED Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
11	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Control Panel Assembly [PL 1.1, page 384] ■ Harness Assembly, System Controller Board to Control Panel [PL 9.1, page 404] ■ Harness Assembly, 3.3V [PL 9.1, page 404] ■ Power Supply [PL 9.1, page 404] 		

Table 72 System Controller Board Voltages at P/J18

P18	With P/J18 Disconnected	With P/J18 Connected
Pin 1	3.3 VDC	3.3 VDC
Pin 2	0.0 VDC	0.0 VDC
Pin 3	1.3 VDC	3.3 VDC
Pin 4	0.0 VDC	0.0 VDC
Pin 5	3.3 VDC	3.3 VDC
Pin 6	1.3 VDC	3.3 VDC
Pin 7	3.3 VDC	3.3 VDC
Pin 8	0.0 VDC	3.3 VDC

RAP 46 Inoperative Keypad

Control Panel is not operative.

Table 73 Inoperative Keypad Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PROCEDURE</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Sensor Input / press [4] to start, [0] to stop. <p>Does the printer enter the Diagnostics mode to the Sensor Input level?</p>	Go to Step 4.	Go to Step 2.
2	<p>SYSTEM CONTROLLER BOARD P/J18 VOLTAGE CHECK</p> <ol style="list-style-type: none"> 1. Disconnect P/J18 on the System Controller Board. 2. Measure the voltages listed in Table 74, between P18 on the System Controller Board and frame ground. <p>Are all voltages correct per Table 74?</p>	Go to Step 3.	Replace the System Controller Board [RRP 8.1, page 305].
3	<p>CONTINUITY CHECK</p> <ol style="list-style-type: none"> 1. Disconnect P/J421 from the Control Panel. 2. Perform a continuity check on all wires from P/J421 and P/J18. <p>Do all wires check OK for continuity?</p>	Replace the Control Panel Assembly [PL 1.1, page 384].	Replace the Wiring Harness [PL 9.1, page 404].
4	<p>KEYPAD TEST</p> <p>Press keypad buttons (1-3 and 5-7) while observing the LCD.</p> <p>Note: Keypad numbers increment the LCD counter. Keypad [4] enters the test and [0] stops the test.</p> <p>Does the LCD counter increment each time you press Keypad numbers (1-3 and 5-7)?</p>	Replace the System Controller Board [RRP 8.1, page 305].	Replace the Control Panel Assembly [PL 1.1, page 384].
5	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Control Panel Assembly [PL 1.1, page 384] ■ Wiring Harness Assembly, System Controller Board to Control Panel [PL 9.1, page 404] ■ Wiring Harness Assembly, System Controller Board 3.3 V [PL 9.1, page 404] ■ Power Supply [PL 9.1, page 404] 		

Table 74 Keypad

Pin	Voltage	Pin	Voltage
1	+3.3 VDC	5	+3.3 VDC
2	0 VDC	6	+1.3 VDC
3	+1.3 VDC	7	+3.3 VDC
4	0 VDC	8	0 VDC

RAP 47 Main Motor Assembly

Table 75 Main Motor Assembly Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PROCEDURE</p> <ol style="list-style-type: none"> 1. Open the Top Cover. 2. Remove the Print Cartridge. 3. Cheat the Top Cover Interlock. 4. Enter Diagnostics mode. 5. From the Main Menu, select Component Test / Main Motor / press [4] to start test, [0] to stop. <p>Does the Main Motor rotate?</p>	Problem solved.	Go to Step 2.
2	<p>LVPS VOLTAGES</p> <ol style="list-style-type: none"> 1. Switch print power OFF. 2. Remove the Lower Rear Cover [RRP 1.7, page 256]. 3. Switch printer power ON. 4. Measure the voltages listed in the table [see Table 76 below] on the LVPS. <p>Are all voltages correct?</p>	Go to Step 7.	Go to Step 3.
3	<p>Are the voltages on pins 1 and 2 correct?</p>	Go to Step 4.	Replace the LVPS [RRP 8.6, page 312].
4	<p>Is the voltage on pin 6 correct?</p>	Go to Step 5.	Replace the Print Engine Controller Board [RRP 8.5, page 310].
5	<p>Is the voltage on pin 5 correct</p>	Replace the LVPS [RRP 8.6, page 312].	Go to Step 6.
6	<p>“NO” FROM STEP 5 ABOVE</p> <p>Check the voltage between P/J161-11 and frame ground.</p> <p>Does the voltage on P/J161-11 measure +3.3 VDC?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Replace the LVPS [RRP 8.6, page 312].
7	<p>“YES” FROM STEP 2 ABOVE</p> <ol style="list-style-type: none"> 1. With the Top Cover Interlock still cheated, enter Diagnostics mode. 2. From the Main Menu, select Component Test / Main Motor. 3. Measure the voltage between P/J164-6 and frame ground. Note this voltage, then continue with sub-step 4. 4. Press [4] to start test, [0] to stop. 5. Measure (again) the voltage between P/J164-6 and frame ground. <p>Does the voltage drop from +4.7 VDC (measured in sub-step 3) to 0 VDC (measured in sub-step 5)?</p>	Go to Step 9.	Go to Step 8.

Table 75 Main Motor Assembly Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
8	<p>“NO” FROM STEP 7 ABOVE</p> <ol style="list-style-type: none"> 1. Remove the cheater from the Top Cover Interlock, then reinstall the cheater. 2. With Main Motor still selected, measure the voltage on the LVPS between P/J161-7 and frame ground. 3. Press [4] while watching the voltmeter. <p>Does the voltage drop from +4.7 VDC to 0 VDC?</p>	Replace the LVPS [RRP 8.6, page 312].	Replace the Print Engine Controller Board [RRP 8.5, page 310].
9	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Main Motor Assembly [RRP 6.1, page 295] ■ LVPS Power Supply [RRP, page 312] ■ Print Engine Controller Board [RRP 8.5, page 310] 		

Table 76 Main Motor Harness

From	To	Voltage
P/J164-1	Frame Ground	+24 VDC
P/J164-2	Frame Ground	+24 VDC
P/J164-5	Frame Ground	+3.2 VDC
P/J164-6	Frame Ground	+4.7 VDC
P/J164-7	Frame Ground	+4.7 VDC

This voltage is valid if printer is set for 1200 DPI.

RAP 48 Laser Assembly

Table 77 Laser Assembly Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>LASER SCANNER MOTOR</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / ROS Motor / press [4] to start, [0] to stop. <p>Do you hear the Laser Scanner motor spin up?</p>	Go to Step 5.	Go to Step 2.
2	<p>“NO” FROM STEP 1 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the Left Side Cover [RRP 1.1, page 250]. 3. Switch printer power ON. 4. Measure the voltage between P/J11-11 on the Print Engine Controller Board and frame ground. <p>Does the voltage between P/J11-11 and frame ground measure +24.0 VDC?</p>	Go to Step 4.	Go to Step 3.
3	<p>“NO” FROM STEP 2 ABOVE</p> <p>Measure the voltage between P/J16-9 on the Print Engine Controller Board and frame ground.</p> <p>Does the voltage between P/J16-9 on the Print Engine Controller Board and frame ground measure +24.0 VDC?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Replace the LVPS [RRP 8.6, page 312].
4	<p>“YES” FROM STEP 2 ABOVE</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / ROS Motor. 3. Measure the voltage between P/J11-13 and frame ground. 4. Press [4] and observe the voltmeter. <p>Does the voltage drop from +5.8 VDC to 0.6 VDC?</p>	Replace the Laser Assembly [RRP 7.1, page 297].	Replace the Print Engine Controller Board [RRP 8.5, page 310].
5	<p>“YES” FROM STEP 1 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the Left Side Cover [RRP 1.1, page 250]. 3. Remove the Print Engine Controller Board Cover [RRP 8.5, page 310]. 4. Switch printer power ON. 5. Measure the voltage between P11-8 and frame ground. <p>Does the voltage between P11 and frame ground measure +5.0 VDC?</p>	Go to Step 13.	Go to Step 6.
6	<p>“NO” FROM STEP 6 ABOVE</p> <p>Measure the voltage between P/J21-4 and frame ground.</p> <p>Does the voltage between P/J21-4 and frame ground measure +5.0 VDC?</p>	Go to Step 9.	Go to Step 7.

Table 77 Laser Assembly Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
7	<p>“NO” FROM STEP 6 ABOVE</p> <p>Measure the voltage between P/J21-3 and frame ground.</p> <p>Does the voltage P/J21-3 and frame ground measure +5.0 VDC.</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to Step 8.
8	<p>“NO” FROM STEP 7 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the Lower Rear Cover [RRP 1.7, page 256]. 3. Disconnect P/J16 from the Print Engine Controller Board. 4. Measure the resistance between pin 5 of the disconnected plug and P/J161-10 on the LVPS. <p>Is there continuity between P16-5 and P/J161-10?</p>	Replace the LVPS [RRP 8.6, page 312].	Replace the Print Engine Controller Harness [PL 9.2, page 406].
9	<p>“YES” FROM STEP 6 ABOVE</p> <p>Measure the voltage between P/J21-3 and frame ground.</p> <p>Does the voltage between P/J21-3 and frame ground measure +5.0 VDC?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to Step 10.
10	<p>PRINT CARTRIDGE TAB</p> <ol style="list-style-type: none"> 1. Open the Top Cover and remove the Print Cartridge. 2. Inspect the tab on the left side of the Print Cartridge that actuates the Print Cartridge Switch. <p>Is the tab on the Print Cartridge intact?</p>	Go to Step 11.	Replace the Print Cartridge [PL 8.1, page 402].
11	<p>LASER SAFETY SWITCH ACTUATOR</p> <p>Press and release the Laser Safety Switch Actuator.</p> <p>Does the Laser Safety Switch Actuator lever move smoothly?</p>	Go to Step 12.	Replace the CRUM PWB [RRP 3.7, page 281].
12	<p>“YES” FROM STEP 11 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Install the Print Cartridge. 3. Leave the Top Cover open. 4. Disconnect P/J21 from the Print Engine Controller Board. 5. Check for continuity between J21-4 and J21-3 as you lift and lower the cartridge. <p>Is there continuity between J21-4 and J21-3 when you lower the cartridge and no continuity when you lift the cartridge?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Replace the CRUM PWB [RRP 3.7, page 281].
13	<p>“YES” FROM STEP 5 ABOVE</p> <ol style="list-style-type: none"> 1. Run a test print while measuring the voltage between P/J11-5 and frame ground. 2. Run a test print while measuring the voltage between P/J11-6 and frame ground. <p>Does the voltage on both pins change from 0.0 VDC to +1.1 VDC and back to 0.0 VDC?</p>	Go to Step 14.	Replace the Print Engine Controller Board [RRP 8.5, page 310].

Table 77 Laser Assembly Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
14	LASER ASSEMBLY REPLACEMENT Replace the Laser Assembly [RRP 7.1, page 297]. Does the problem still appear?	Go to Electrical Noise, page 157 .	Problem solved.
15	SUSPECT COMPONENTS The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem. <ul style="list-style-type: none">■ Laser Assembly [RRP 7.1, page 297]■ Print Engine Controller Board [RRP 8.5, page 310]■ Harness Assembly [PL 9.2, page 406]■ LVPS Power Supply [RRP 8.6, page 312]■ CRUM PWB [RRP 3.7, page 281]		

RAP 49 Fuser Assembly

Warning: If the printer has been switched on, the fuser may be very hot.

Table 78 Fuser Assembly Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>RESISTANCE MEASUREMENTS</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the Fuser Assembly [RRP 5.1, page 288]. 3. Measure the resistance between pins A1 and A2, and between pins 1 and 4 or 2 and 4 on P174 on the Fuser Assembly [see Figure 17 on page 134]. <p>Does the resistance between A1 and A2 measure between 10K and 350K ohms (depending on the temperature of the fuser) and the resistance between pins 1 and 4 or 2 and 4 measure less than 5 ohms?</p>	Go to Step 2.	Replace the Fuser Assembly [RRP 5.1, page 288].
2	<p>“YES” FROM STEP 1 ABOVE</p> <ol style="list-style-type: none"> 1. Reinstall the Fuser Assembly. 2. Remove the Lower Rear Cover [RRP 1.7, page 256]. 3. Disconnect P/J172 from the Fuser Board. 4. Ensure the Rear Cover is closed. 5. Check for continuity between P172-1 and P172-3. <p>Is there continuity between P172-1 and P172-3?</p>	Go to Step 4.	Go to Step 3.
3	<p>“NO” FROM STEP 2 ABOVE</p> <ol style="list-style-type: none"> 1. Remove the Right Side Cover [RRP 1.2, page 251]. 2. Ensure the Rear Cover is closed. 3. Check for continuity between P/J172-1 and both sides of the Rear Cover Interlock Switch. <p>Is there continuity between P/J172-3 and both sides of the Rear Cover Interlock Switch?</p>	Replace the Fuser Harness Assembly [PL 9.2, page 406].	Replace the Rear Cover Interlock Switch [PL 9.2, page 406] or the Fuser Wiring Harness [PL 9.2, page 406] as necessary.
4	<p>“YES” FROM STEP 2 ABOVE</p> <ol style="list-style-type: none"> 1. Remove the Left Side Cover [RRP 1.1, page 250] and the Print Engine Controller Board Cover [RRP 8.5, page 310]. 2. Disconnect P/J17 from the Print Engine Controller Board. 3. Check for continuity between P17-7 and P17-8. <p>Is there continuity between P17-7 and P17-8?</p>	Go to Step 5.	Replace the Fuser Harness Assembly [PL 9.2, page 406].
5	<p>“YES” FROM STEP 4 ABOVE</p> <ol style="list-style-type: none"> 1. Disconnect P/J171 from the Fuser Board. 2. Check for continuity between P17-3 and P171-1, P17-2 and P171-2 and P17-1 and P171-3. <p>Is there continuity between all pins measured?</p>	Go to Step 6.	Replace the Fuser Harness Assembly [PL 9.2, page 406].

Table 78 Fuser Assembly Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
6	<p>“YES” FROM STEP 5 ABOVE</p> <ol style="list-style-type: none"> 1. Reconnect P/J171, P/J172 and P/J17. 2. Switch printer power ON. 3. Measure the voltage between J17-2 on the Print Engine Controller Board and frame ground. <p>Does the voltage measure +3.3 VDC?</p>	<p>Replace the Fuser Board [RRP 8-8, page 314]. If problem persists, replace the Print Engine Controller Board [RRP 8.5, page 310].</p>	<p>Go to Step 7.</p>
7	<p>“NO” FROM STEP 6 ABOVE</p> <p>Measure the voltage between P/J16-4 on the Print Engine Controller Board and frame ground.</p> <p>Does this voltage measure +3.3 VDC?</p>	<p>Replace the Print Engine Controller Board [RRP 8.5, page 310].</p>	<p>Replace the LVPS [RRP 8.6, page 312].</p>
8	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Fuser Assembly [RRP 5.1, page 288] ■ Print Engine Controller Board [RRP 8.5, page 310] ■ Fuser Board [RRP 8-8, page 314] ■ LVPS Power Supply [RRP 8.6, page 312] ■ Fuser Interlock Switch [PL 9.2, page 406] ■ Harness Assembly [PL 9.2, page 406] 		

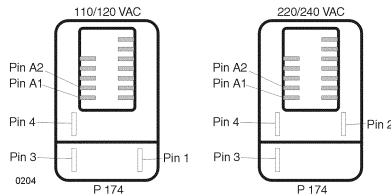


Figure 17 Fuser Connector P174

RAP 50 Registration Sensor

Table 79 Registration Sensor Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PROCEDURE</p> <ol style="list-style-type: none"> 1. Open the Top Cover and remove the Print Cartridge. 2. Extend the MBF by lifting, then pulling toward you. 3. Enter Diagnostics mode. 4. From the Main Menu, select Component Test / Sensor Input / press [4] to start, [0] to stop. 5. Actuate and deactivate the Registration Sensor. <p>Does the LCD counter increment each time you press and release the actuator?</p>	It appears the Registration Sensor is working correctly. If problem persists, replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to Step 2.
2	<p>REGISTRATION SENSOR ACTUATOR INSPECTION</p> <ol style="list-style-type: none"> 1. Visually inspect the Registration Sensor Actuator through the open MBF door. 2. Manually actuate the Registration Sensor Actuator. <p>Does the actuator move freely and appear to be in good condition (not broken or damaged)?</p>	Go to Step 3.	Replace the Registration Sensor Actuator [RRP 4.2, page 285].
3	<p>“YES” FROM STEP 2 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the Left Side Cover [RRP 1.1, page 250] and the Print Engine Controller Board Cover [RRP 8.5, page 310]. 3. Disconnect P/J18 from the Print engine Controller Board. 4. Switch printer power ON. 5. On the Print Engine Controller Board, measure the voltage between P18-11 and frame ground, then between P18-13 and frame ground. <p>Does the voltage measure +3.3 VDC between both pins and frame ground?</p>	Go to Step 4.	Replace the Print Engine Controller Board [RRP 8.5, page 310].
4	<p>“YES” FROM STEP 3 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Reconnect P/J18 to the Print Engine Controller Board. 3. Enter Diagnostics mode. 4. From the Main Menu, select Component Test / Sensor Input / press [4] to start, [0] to stop. 5. On the Print Engine Controller Board, measure the voltage between P/J18-13 and frame ground. <p>Does the voltage measure +3.3 VDC when the Registration Sensor is deactivated and 0.1 VDC when actuated?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Replace the Registration Sensor Actuator [RRP 4.4, page 287].

Table 79 Registration Sensor Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
5	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"><li>■ Registration Sensor [RRP 4.4, page 287]<li>■ Registration Sensor Actuator [RRP 4.2, page 285]<li>■ Print Engine Controller Board [RRP 8.5, page 310]<li>■ Harness Assembly [PL 9.1, page 404]		

RAP 51 MBF No Paper Sensor

Table 80 MBF No Paper Sensor Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PROCEDURE</p> <ol style="list-style-type: none"> 1. Open the MBF Door and remove all paper from the MBF. 2. Enter Diagnostics mode 3. From the Main Menu, select Component Test / Sensor Input / press [4] to start, [0] to stop. 4. Actuate and deactivate the MBF No Paper Sensor Actuator. <p>Does the LCD counter increment each time you press and release the actuator?</p>	It appears the MBF No Paper Sensor is working correctly. If a problem persists, replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to Step 2.
2	<p>MBF NO PAPER SENSOR ACTUATOR INSPECTION</p> <ol style="list-style-type: none"> 1. Manually move the MBF No Paper Sensor Actuator. 2. Visually inspect the MBF No Paper Sensor Actuator. <p>Does the actuator move freely and appear to be in good condition (not broken or damaged)?</p>	Go to Step 3.	Replace the MBF No Paper Sensor Actor [RRP 2.7, page 267].
3	<p>“YES” FROM STEP 2 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the Left Side Cover [RRP 1.1, page 250] and the Print Engine Controller Board Cover [RRP 8.5, page 310]. 3. Disconnect P/J12 from the Print Engine Controller Board. 4. Switch printer power ON. CAUTION! In the next step you will be very close to P12-10, which is the +24 VDC supply. If accidentally shorted to pin 9, the Print Engine Controller Board will be immediately destroyed. Use extreme caution in making this measurement. 5. On the Print Engine Controller Board, measure the voltage between P12-7 and frame ground, then between P12-9 and frame ground. <p>Are both voltage readings +3.28 VDC?</p>	Go to Step 4.	Replace the Print Engine Controller Board [RRP 8.5, page 310].
4	<p>“YES” FROM STEP 3 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Reconnect P/J12 to the Print Engine Controller Board. 3. Enter Diagnostics mode. 4. From the Main Menu, select Component Test / Sensor Input / press [4] to start, [0] to stop. 5. On the Print Engine Controller Board, measure the voltage between P/J12-9 and frame ground. <p>Does the voltage measure +3.28 VDC between P12-9 and frame ground when the MBF No Paper Sensor is deactivated and 0.0 VDC when actuated?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to Step 5.

Table 80 MBF No Paper Sensor Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
5	<p>MBF COMBO HARNESS CONTINUITY CHECK</p> <ol style="list-style-type: none"> Switch printer power OFF. Disconnect P/J121 from the MBF Assembly and P/J12 from the Print Engine Controller Board. Check for continuity between P/J121 and P/J12 as follows: <ul style="list-style-type: none"> ■ J121-9 and J12-7 ■ J121-8 and J12-8 ■ J121-7 and J12-9 <p>Is there continuity between each of the wires?</p>	Go to Step 6.	Replace the MBF Combo Harness [PL 4.2, page 394].
6	<p>“YES” FROM STEP 5 ABOVE</p> <ol style="list-style-type: none"> Remove the MBF Assembly and disconnect P/J125 from the MBF No Paper Sensor. Check for continuity between P/J125 and P/J121 as follows: <ul style="list-style-type: none"> ■ J125-3 and J121-4 ■ J125-2 and J121-5 ■ J125-1 and J121-6 <p>Is there continuity between each of the wires?</p>	Replace the MBF No Paper Sensor Assembly [RRP 2.7, page 267].	Replace the MBF Combo Harness [PL 4.2, page 394].
7	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ MBF No Paper Sensor Assy [PL 4.2, page 394] ■ Print Engine Controller Board [RRP 8.5, page 310] ■ LVPS Power Supply [RRP 8.6, page 312] ■ Wiring and connectors linking the components 		

RAP 52 Laser Safety Switch

The Print Cartridge is not in place or is installed incorrectly.

Table 81 Error Code J3: Laser Safety Switch Open Troubleshooting

Step	Actions and Questions	Yes	No
1	<p>PRINT CARTRIDGE INSPECTION</p> <ol style="list-style-type: none"> 1. Open the Top Cover. 2. Remove the Print Cartridge. 3. Inspect the tab on the left side of the Print Cartridge that actuates the Print Cartridge Switch. <p>Is the tab on the Print Cartridge intact?</p>	Go to Step 2.	Replace the Print Cartridge [PL 8.1, page 402].
2	<p>PRINT CARTRIDGE SWITCH ACTUATOR INSPECTION</p> <p>Press and release the Print Cartridge Switch Actuator.</p> <p>Does the Print Cartridge Switch Actuator move smoothly?</p>	Go to Step 3.	Replace the CRUM board [RRP 3.7, page 281].
3	<p>CONTINUITY CHECKS</p> <ol style="list-style-type: none"> 1. Switch the printer power OFF. 2. Install the Print Cartridge and leave the Top Cover open. 3. Remove the Left Side Cover [RRP 1.1, page 250]. 4. Remove the Print Engine Controller Board Cover [RRP 8.5, page 310]. 5. Disconnect P/J21 from the Print Engine Controller Board. 6. Check for continuity between J21-4 and J21-3 as you lift and lower the Print Cartridge. <p>Is there continuity between J21-4 and J21-3 when you lower the cartridge and no continuity when you lift the cartridge?</p>	Replace the Print Engine Controller board [RRP 8.5, page 310] and retest. If problem still exists, go to Step 4.	Replace the CRUM board [RRP 3.7, page 281].
4	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Print Cartridge [PL 8.1, page 402] ■ CRUM Board Assembly [RRP 3.7, page 281] ■ Print Engine Controller Board [RRP 8.5, page 310] ■ Wiring and connectors linking the components 		

RAP 53 Tray 1 No Paper Sensor

Table 82 Tray 1 No Paper Sensor Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PROCEDURE</p> <ol style="list-style-type: none"> 1. Remove Tray 1. 2. Enter Diagnostics mode. 3. From the Main Menu, select Component Test / Sensor Input / press [4] to start, [0] to stop. 4. Actuate the Tray No Paper Sensor Actuator. <p>Does the LCD counter increment each time you press and release the actuator?</p>	<p>It appears the Tray 1 No Paper Sensor is working correctly. If a problem persists, replace the Print Engine Controller Board [RRP 8.5, page 310].</p>	<p>Go to Step 2.</p>
2	<p>TRAY 1 NO PAPER SENSOR ACTUATOR INSPECTION</p> <ol style="list-style-type: none"> 1. Manipulate the Tray 1 No Paper Sensor Actuator. 2. Visually inspect the Tray 1 No Paper Sensor Actuator. <p>Does the actuator move freely and appear to be in good condition (not broken or damaged)?</p>	<p>Go to Step 3.</p>	<p>Replace the Tray 1 No Paper Sensor Actuator [RRP 2.6, page 266].</p>
3	<p>“YES” FROM STEP 2 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the Left Side Cover [RRP 1.1, page 250] and the Print Engine Controller Board Cover [RRP 8.5, page 310]. 3. Disconnect P/J12 from the Print Engine Controller Board. 4. Switch printer power ON. 5. On the Print Engine Controller Board, measure the voltage between P12-4 and frame ground, then measure the voltage between P12-6 and frame ground. <p>Do both voltages measure +3.28 VDC?</p>	<p>Go to Step 4.</p>	<p>Replace the Print Engine Controller Board [RRP 8.5, page 310].</p>
4	<p>“YES” FROM STEP 3 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the Left Side Cover [RRP 1.1, page 250] and the Print Engine Controller Board Cover [RRP 8.5, page 310]. 3. Disconnect P/J12 from the Print Engine Controller Board. 4. Switch printer power ON. 5. On the Print Engine Controller Board, measure the voltage between P12-6 and frame ground. <p>Does the voltage between P12-6 and frame ground measure +3.28 VDC when the Tray 1 No Paper Sensor is deactuated and 0.0 VDC when actuated?</p>	<p>Replace the Print Engine Controller Board [RRP 8.5, page 310].</p>	<p>Go to Step 5.</p>

Table 82 Tray 1 No Paper Sensor Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
5	<p>“NO” FROM STEP 4 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Disconnect P/J121 from the MBF Assembly and P/J12 from the Print Engine Controller Board. 3. Check for continuity between P/J121 and P/J12 as follows: <ul style="list-style-type: none"> ■ J121-12 and J12-4 ■ J121-11 and J12-5 ■ J121-10 and J12-6 <p>Is there continuity between each of the wires?</p>	Go to Step 6.	Replace MBF Harness [PL 4.2, page 394].
6	<p>“YES” FROM STEP 5 ABOVE</p> <ol style="list-style-type: none"> 1. Remove the MBF Assembly and disconnect P/J126 from the MBF No Paper Sensor. 2. Check for continuity between P/J126 and P/J121 as follows: <ul style="list-style-type: none"> ■ J126-3 and J121-1 ■ J126-2 and J121-2 ■ J126-1 and J121-3 <p>Is there continuity between each of the wires?</p>	Replace the Tray 1 No Paper Sensor [RRP 2.6, page 266].	Replace the MBF Combo Harness [PL 4.2, page 394].
7	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Tray 1 No Paper Sensor [RRP 2.6, page 266] ■ Print Engine Controller Board [RRP 8.5, page 310] ■ Harness Assembly [PL 4.2, page 394] ■ LVPS Power Supply [RRP 8.6, page 312] 		

RAP 54 Size Switch

The error message indicates a problem with the standard feeder, the 500-Sheet Feeder or the 2000-Sheet Feeder.

Table 83 Size Switch Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Is the problem with the 2000-Sheet Feeder?	Go to Step 10.	Go to Step 2.
2	<p>500-SHEET FEEDER TROUBLESHOOTING</p> <ol style="list-style-type: none"> 1. Remove the tray from the problem feeder. 2. Inspect the Size Cams on the left side of the paper tray. <p>Are the Size Cams intact and in good condition (no broken surfaces)?</p>	Go to Step 3.	Replace the Paper Tray [PL 2.1, page 386 / PL 2.2, page 388].
3	<p>SIZE SWITCH ACTUATOR INSPECTION</p> <p>Visually inspect the Size Switch Actuators for damage or wear.</p> <p>Do the actuators move freely and appear to be in good condition (not broken or damaged)?</p>	Go to Step 4.	Replace the Left Guide Assembly [RRP 3.6, page 279 / RRP 11.13, page 340].
4	<p>SIZE SENSORS TEST</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Sensor Input / press [4] to start, [0] to stop. 3. One at a time, press each of the Size Actuators, while observing the display. <p>Does the LCD counter increment each time you press and release one of the actuators?</p>	The Size Sensors appear to be working correctly. If the problem persists, replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to Step 5.
5	Is the problem with the Tray 1 Size Sensor?	Go to Step 9.	Go to Step 6.
6	<p>“NO” FROM STEP 5 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the Left Cover from the 500-Sheet Feeder [RRP 11.3, page 330]. 3. Disconnect P/J138 from the Feeder Board. 4. Check for continuity between the following pins, while pressing the switches indicated: <ul style="list-style-type: none"> ■ P138-1 and P138-3 when pressing SW1 Bottom ■ P138-2 and P138-3 when pressing SW2 ■ P138-4 and P138-3 when pressing SW3 ■ P138-5 and P138-3 when pressing SW4 Top <p>Is there continuity in each case?</p>	Go to Step 7.	Check for pin-to-pin continuity of the Size Sensor Harness. Repair or replace as necessary. If the harness is OK, replace the Size Sensor Switch [PL 11.3, page 416].

Table 83 Size Switch Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
7	<p>“YES” FROM STEP 6 ABOVE</p> <ol style="list-style-type: none"> 1. Reconnect P/J138 to the Feeder Board. 2. Switch printer power ON. 3. Measure the voltages in Table 84 on P/J132-5 (Tray 2) or P/J132-6 (Tray 3) as you actuate the switches. <p>Are all voltages correct?</p>	Go to Step 8.	Replace the Feeder Board [RRP 11.7, page 334].
8	<p>“YES” FROM STEP 7 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the Left Side Cover [RRP 1.1, page 250] and the Print Engine Controller Board Cover [RRP 8.5, page 310]. 3. Switch printer power ON. 4. Measure the voltages on P/J13-5 (Tray 2) or P/J132-6 (Tray 3) as you actuate the switches (see Table 84). <p>Are all voltages correct?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to Step 12.
9	<p>“YES” FROM STEP 5 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the Left Side Cover [RRP 1.1, page 250]. 3. Disconnect P/J20 from the Print Engine Controller Board. 4. Check for continuity between the following pins, of the disconnected plug, while pressing the switches: <ul style="list-style-type: none"> ■ P20-7 and P20-5 when pressing SW1 (Top) ■ P20-6 and P20-5 when pressing SW2 ■ P20-4 and P20-5 when pressing SW3 ■ P20-3 and P20-5 when pressing SW4 (Bottom) <p>Is there continuity in each case?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Check for pin-to-pin continuity of the Size Sensor Harness. Repair or replace as necessary. If the harness OK, replace the Size Sensor Switch [PL 3.1, page 390].
10	<p>“YES” FROM STEP 1 ABOVE</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Sensor Input / press [4] to start, [0] to stop. 3. Press and release the 2000-Sheet Feeder A4 Paper Sensor. <p>Does the LCD counter increment each time you press and release the sensor actuator?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to Step 11.
11	<p>“NO” FROM STEP 10 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Disconnect P/J604 from the 2000-Sheet Feeder Board. 3. Check for continuity between pins 5 and 6 as you actuate and deactuate the Paper Size Sensor. <p>Does the ohmmeter measure continuity when the sensor is actuated and infinity when deactuated?</p>	Replace the 2000-Sheet Feeder Board [RRP 12.8, page 360].	Replace the 2000-Sheet Feeder A4 Paper Sensor [RRP 12.10, page 362].

Table 83 Size Switch Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
12	<p>“NO” FROM STEP 8 ABOVE.</p> <p>Check for continuity between P/J13-5 (Print Engine Controller Board) and P/J131-5 (Tray 2) or P/J13-6 and P/J131-6 (Tray 3), then between P/J131-5 and P/J132-5 (Feeder Board) (Tray 2) or P/J131-6 and P/J132-6 (Tray 3). [P/J131 is the connector between the printer and the 500-Sheet Feeder.]</p> <p>Is there continuity between each of the sets of test points checked?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Repair or replace the harness as necessary.
13	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Wiring and connectors linking the components ■ Left Guide Assy [RRP 3.6, page 279 or RRP 11.13, page 340] ■ Print Engine Controller Board [RRP 8.5, page 310] ■ Paper Tray [PL 2.1, page 386 / PL 2.2, page 388] ■ Size Sensor Switch [PL 3.1, page 390] ■ 2000-Sheet Feeder Board [RRP 12.8, page 360]. 		

Table 84 Size Switch Voltages

Press Actuator	Voltage	Press Actuators	Voltage	Press Actuators	Voltage
4 (top)	+1.4 VDC	4 & 3	+0.4 VDC	4, 3 & 2	0.0 VDC
3	+2.3 VDC	4 & 2	+0.9 VDC	None	+3.3 VDC
2	+2.8 VDC	3 & 2	+1.8 VDC		

RAP 55 Turn Roller Clutch Assembly

Table 85 Turn Roller Clutch Assembly Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PROCEDURE</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Turn Roll Clutch / press [4] to test, [0] to stop. <p>Can you hear the Turn Roller Clutch energize?</p>	Go to Step 8.	Go to Step 2.
2	<p>“NO” FROM STEP 1 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the Left Side Cover [RRP 1.1, page 250] and remove the Print Engine Controller Board Cover [RRP 8.5, page 310]. 3. Disconnect P/J12 on the Print Engine Controller Board. 4. Measure the resistance between pins 10 and 11 on the disconnected plug. <p>Is the resistance approximately 170 to 185 ohms?</p>	Go to Step 5.	Go to Step 3.
3	<p>“NO” FROM STEP 2 ABOVE</p> <ol style="list-style-type: none"> 1. Remove the MBF Assembly. 2. On the MBF Assembly, measure the resistance between P121-7 and P121-8. <p>Is the resistance approximately 170 to 185 ohms?</p>	Repair or replace the MBF Harness [PL 9.1, page 404].	Go to Step 4.
4	<p>TURN ROLLER CLUTCH RESISTANCE</p> <ol style="list-style-type: none"> 1. Remove the MBF Gear Cover. 2. Disconnect the Turn Roller Clutch Assembly in-line connector (P/J124). 3. Measure the resistance of the clutch. <p>Is the resistance approximately 170 to 185 ohms?</p>	Repair or replace the MBF Combo Harness [PL 4.2, page 394].	Replace the Turn Roller Clutch Assembly [RRP 2.3, page 262].
5	<p>“YES” FROM STEP 2 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power ON. 2. Measure the voltage between P/J12-10 on the Print Engine Controller Board and frame ground. <p>Is the voltage +24 VDC?</p>	Go to Step 7.	So to Step 6.
6	<p>“NO” FROM STEP 5 ABOVE</p> <p>Measure the voltage between P/J16-9 and frame ground.</p> <p>Is the voltage +24 VDC?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Replace the LVPS [RRP 8.6, page 312].

Table 85 Turn Roller Clutch Assembly Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
7	<p>“YES” FROM STEP 6 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Reconnect P/J12. 3. Enter Diagnostics mode. 4. From the Main Menu, select Component Test / Turn Roll Clutch. 5. Measure the voltage between P/J12-11 and frame ground. 6. While watching the voltmeter, press [4]. <p>Does the voltage drop from +24 VDC to 0.0 VDC?</p>	Go to Step 8.	Replace the Print Engine Controller Board [RRP 8.5, page 310].
8	<p>“YES” FROM STEP 7 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Open the Top Cover and remove the Print Cartridge. 3. With the Top Cover open, cheat the Top Cover Interlock. 4. Enter Diagnostics mode. 5. From the Main Menu, select Component Test / Main Motor / press [4]. 6. Scroll to Turn Roll Clutch / press [4]. <p>Do the Turn Rollers rotate smoothly without stalling or jerking?</p>	Problem solved.	Replace the Turn Roller Clutch [RRP 2.3, page 262] or Turn Roller Assembly [RRP 2.1, page 259] as necessary.
9	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Turn Roller Clutch Assembly [RRP 2.3, page 262] ■ Print Engine Controller Board [RRP 8.5, page 310] ■ Harness Assembly, MBF Combo [PL 4.2, page 394] ■ Harness Assembly, Paper Handling [PL 9.1, page 404] ■ LVPS Power Supply [RRP 8.6, page 312] ■ MBF Assy [RRP 2.1, page 259] 		

RAP 56 Tray 1 Feed Solenoid

Table 86 Tray 1 Feed Solenoid Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PROCEDURE</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Tray 1 Feed Sol / press [4], [0] to stop. <p>Can you hear the solenoid energize?</p>	Go to Step 8.	Go to Step 2.
2	<p>“NO” FROM STEP 1 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the Left Side Cover [RRP 1.1, page 250] and the Print Engine Controller Board Cover [RRP 8.5, page 310]. 3. Disconnect P/J12 on the Print Engine Controller Board. 4. Measure the resistance between pins 12 and 13 on the disconnected plug. <p>Is the resistance approximately 90 ohms?</p>	Go to Step 5.	Go to Step 3.
3	<p>“NO” FROM STEP 2 ABOVE</p> <ol style="list-style-type: none"> 1. Remove the MBF Assembly. 2. On the MBF Assembly, measure the resistance between P121-9 and P121-10. <p>Is the resistance approximately 90 ohms?</p>	Repair or replace the MBF Harness [PL 9.1, page 404].	Go to Step 4.
4	<p>“NO” FROM STEP 3 ABOVE</p> <ol style="list-style-type: none"> 1. Remove the MBF Gear Cover. 2. Disconnect the Tray 1 Feed Solenoid in-line connector (P/J123). 3. Measure the resistance of the solenoid. <p>Is the resistance approximately 90 ohms?</p>	Repair or replace the MBF Combo Harness [PL 4.2, page 394].	Replace the Tray 1 Feed Solenoid [RRP 2.9, page 270].
5	<p>“YES” FROM STEP 2 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power ON. 2. Measure the voltage between P/J12-12 on the Print Engine Controller Board and frame ground. <p>Is the voltage +24 VDC?</p>	Go to Step 7.	Go to Step 6.
6	<p>“NO” FROM STEP 5 ABOVE</p> <p>Measure the voltage between P/J16-9 and frame ground.</p> <p>Is the voltage +24 VDC?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Replace the LVPS [RRP 8.6, page 312].

Table 86 Tray 1 Feed Solenoid Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
7	<p>“YES” FROM STEP 6 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Reconnect P/J12. 3. Enter Diagnostics mode. 4. From the Main Menu, select Component Test / Tray 1 Feed Sol. 5. Measure the voltage between P/J12-13 and frame ground. 6. While watching the voltmeter, press [4]. <p>Does the voltage drop from +24 VDC to 0.0 VDC?</p>	<p>Check for mechanical binding of the solenoid or a defective spring. If problem persists, replace the Tray 1 Feed Solenoid [RRP 2.9, page 270].</p>	<p>Replace the Print Engine Controller Board [RRP 8.5, page 310].</p>
8	<p>TRAY 1 FEED SOLENOID TEST</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Main Motor / press [4] to start, [0] to stop. 3. Scroll to Turn Roll Clutch / press [4] to energize clutch. 4. Scroll to Tray 1 Feed Sol / press [4]. <p>Was a sheet of paper fed from Tray 1 to the Registration Rollers?</p>	<p>Problem solved.</p>	<p>Replace the Tray 1 Feed Solenoid [RRP 2.9, page 270].</p>
9	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Feed Solenoid [RRP 2.9, page 270] ■ Print Engine Controller Board [RRP 8.5, page 310] ■ Harness Assembly, MBF Combo [PL 4.2, page 394] ■ Harness Assembly, Paper Handling [PL 9.1, page 404] 		

RAP 57 MBF Feed Solenoid

Table 87 MBF Feed Solenoid Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PROCEDURE</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / MBF Feed Sol / press [4], [0] to stop. <p>Can you hear the solenoid energize?</p>	Go to Step 8.	Go to Step 2.
2	<p>“NO” FROM STEP 1 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the Left Side Cover [RRP 1.1, page 250] and the Print Engine Controller Board Cover [RRP 8.5, page 310]. 3. Disconnect P/J12 on the Print Engine Controller Board. 4. Measure the resistance between pins 14 and 15 on the disconnected plug. <p>Is the resistance approximately 90 ohms?</p>	Go to Step 5.	Go to Step 3.
3	<p>“NO” FROM STEP 2 ABOVE</p> <ol style="list-style-type: none"> 1. Remove the MBF Assembly. 2. On the MBF Assembly, measure the resistance between P121-11 and P121-12. <p>Is the resistance approximately 90 ohms?</p>	Repair or replace the MBF Combo Harness [PL 4.2, page 394].	Go to Step 4.
4	<p>“NO” FROM STEP 3 ABOVE</p> <ol style="list-style-type: none"> 1. Remove the MBF Gear Cover. 2. Disconnect the MBF Feed Solenoid in-line connector (P/J122). 3. Measure the resistance of the solenoid. <p>Is the resistance approximately 90 ohms?</p>	Repair or replace the MBF Combo Harness [PL 4.2, page 394].	Replace the MBF Feed Solenoid [RRP 2.8, page 269].
5	<p>“YES” FROM STEP 2 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power ON. 2. Measure the voltage between P/J12-14 on the Print Engine Controller Board and frame ground. <p>Is the voltage +24 VDC?</p>	Go to Step 7.	Go to Step 6.
6	<p>“NO” FROM STEP 5 ABOVE</p> <p>Measure the voltage between P/J16-9 and frame ground.</p> <p>Is the voltage +24 VDC?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Replace the LVPS [RRP 8.6, page 312].

Table 87 MBF Feed Solenoid Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
7	<p>“YES” FROM STEP 5 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Reconnect P/J12. 3. Enter Diagnostics mode. 4. From the Main Menu, select Component Test / MBF Sol. 5. Measure the voltage between P/J12-15 and frame ground. 6. While watching the voltmeter, press [4]. <p>Does the voltage drop from +24 VDC to 0.0 VDC?</p>	<p>Check for mechanical binding of the solenoid or a defective spring. If the problem persists, replace the MBF Feed Solenoid [RRP 2.8, page 269].</p>	<p>Replace the Print Engine Controller Board [RRP 8.5, page 310].</p>
8	<p>MBF SOLENOID TEST</p> <ol style="list-style-type: none"> 1. Open the Top Cover and cheat the Top Cover Interlock. 2. Remove the Print Cartridge. 3. Add paper to the MBF. 4. Enter Diagnostics mode. 5. From the Main Menu, select Component Test / MBF Feed Sol / press [4] to start, [0] to stop. 6. Scroll to Main Motor / press [4] to start motor. <p>Was a sheet of paper fed from the MBF to the Registration Rollers?</p>	<p>Problem solved.</p>	<p>Replace the MBF Feed Solenoid [RRP 2.8, page 269].</p>
9	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ MBF Feed Solenoid [RRP 2.8, page 269] ■ Print Engine Controller Board [RRP 8.5, page 310] ■ Harness Assembly, MBF Combo [PL 4.2, page 394] ■ Harness Assembly, Paper Handling [PL 9.1, page 404] 		

RAP 58 Toner Sensor Assembly

Table 88 Toner Sensor Assembly Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PROCEDURE</p> <ol style="list-style-type: none"> Switch printer power OFF. Remove the Left Side Cover [RRP 1.1, page 250] and the Print Engine Controller Board Cover [RRP 8.5, page 310]. Open the Top Cover and remove the Print Cartridge. Cheat the Top Cover Interlock. Disconnect P/J14 from the Print Engine Controller Board. Switch printer power ON. Measure the voltage between P14-1 on the Print Engine Controller Board and frame ground. <p>Does the voltage measure +2.0 VDC?</p>	Go to Step 3.	Go to Step 2.
2	<p>“NO” FROM STEP 1 ABOVE</p> <p>Measure the voltage between P/J16-9 on the Print Engine Controller Board and frame ground.</p> <p>Does the voltage measure + 24.0 VDC?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Replace the LVPS [RRP 8.6, page 312].
3	<p>“YES” FROM STEP 1 ABOVE</p> <p>Measure the voltage between P14-3 and frame ground.</p> <p>Does the voltage measure +5.0 VDC?</p>	Go to Step 4.	Replace the Print Engine Controller Board [RRP 8.5, page 310].
4	<p>“YES” FROM STEP 3 ABOVE</p> <ol style="list-style-type: none"> Switch printer power OFF. Reconnect P/J14. Switch printer power ON. Raise and lower the Print Cartridge approximately 2 inches (50.8 mm) while measuring the voltage between P/J14-3 and frame ground. <p>Does the voltage measure +5.0 VDC when the cartridge is in place and 0.0 VDC when the cartridge is raised?</p>	Problem solved.	Go to Step 5.
5	<p>TONER SENSOR HARNESS CONTINUITY CHECK</p> <ol style="list-style-type: none"> Switch printer power OFF. Disconnect P/J14 from the Print Engine Controller Board and P/J 141 from the Toner Sensor. Check for continuity between all pins of P/J14 and P/J141. <p>Is there continuity between all the pins tested?</p>	Replace the Toner Sensor Assembly [RRP 7.3, page 301].	Repair or replace the Toner Sensor Harness [PL 8.1, page 402], as necessary.

Table 88 Toner Sensor Assembly Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
6	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"><li>■ Toner Sensor Assembly [RRP 7.3, page 301]<li>■ Print Engine Controller Board [RRP 8.5, page 310]<li>■ Harness Assembly, Toner Sensor [PL 8.1, page 402]		

Table 89 HVPS Assembly Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PRINT CARTRIDGE RIGHT GUIDE ASSEMBLY INSPECTION</p> <ol style="list-style-type: none"> 1. Open the Top Cover and remove the Print Cartridge. 2. Inspect all contacts on the right Print Cartridge Guide Assembly and the terminals on the Print Cartridge. <p>Are the contacts and terminals in good condition and contacting properly when the cartridge is installed?</p>	Go to Step 2.	Replace the Right Print Cartridge Guide Assembly [RRP 7.2, page 299] or the Print Cartridge [PL 8.1, page 402].
2	<p>SEAL GUIDE INSPECTION</p> <p>Inspect the Seal Guide on the rear end of the Right Print Cartridge Guide Assembly.</p> <p>Is the Seal Guide intact, free of contamination, deformation or damage?</p>	Go to Step 3.	Replace the Right Print Cartridge Guide Assembly [RRP 7.2, page 299].
3	<p>CHARGE ROLLER AC TEST</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Charge Roll AC. 3. Cheat the Top Cover Interlock switch. 4. Measure the AC voltage between the Right Side Guide Charge Terminal (connector nearest the front of the machine) and frame ground. <p>Warning: The next step will result in very high voltage being placed on an exposed contact. Use all standard high-voltage safety practices and avoid getting in close proximity of the contact or meter probe.</p> <p>5. Press [4] to read, [0] to stop.</p> <p>Does the voltage read approximately 1125 ±25 VAC?</p>	Go to Step 10.	Go to Step 4.
4	<p>“DEV BIAS AC” VOLTAGE CHECK</p> <ol style="list-style-type: none"> 1. Scroll to “Dev Bias AC-”. 2. Measure the voltage between the Right Side Guide Charge Terminal (connector nearest the back of the machine) and frame ground. <p>Warning: The next step will result in very high voltage being placed on an exposed contact. Use all standard high voltage safety practices and avoid getting in close proximity of the contact or meter probe.</p> <p>3. Press [4] to read, [0] to stop.</p> <p>Does the voltage measure approximately 620 ±25 VAC?</p>	Go to Step 9.	Go to Step 5.

Table 89 HVPS Assembly Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
5	<p>“BTR -” VOLTAGE CHECK</p> <ol style="list-style-type: none"> 1. Scroll to “BTR -”. 2. Measure the voltage between the left end of the BTR shaft and frame ground. <p>Warning: The next step will result in very high voltage being placed on an exposed contact. Use all standard high voltage safety practices and avoid getting in close proximity of the contact or meter probe.</p> <ol style="list-style-type: none"> 3. Press [4] to read, [0] to stop. <p>Does the voltage measure approximately 770 ±25 VDC?</p>	<p>Replace the HVPS [RRP 8.2, page 307].</p>	<p>Go to Step 6.</p>
6	<p>+24 VDC CHECK</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the Lower Rear Cover [RRP 1.7, page 256], Duplex Assembly [RRP 9.1, page 404] if installed, and the HVPS Cover [RRP 1.6, page 255]. 3. Switch printer power ON. 4. Measure the voltage between P/J181-10 and frame ground. <p>Does the voltage measure +24 VDC?</p>	<p>Replace the HVPS [RRP 8.2, page 307].</p>	<p>Go to Step 7.</p>
7	<p>“NO” FROM STEP 6 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the Left Side Cover [RRP 1.1, page 250] and the Print Engine Controller Board Cover [RRP 8.5, page 310]. 3. Switch printer power ON. 4. Measure the voltage between P/J18-1 on the Print Engine Controller Board and frame ground. <p>Is the voltage +24 VDC?</p>	<p>Check the wires for continuity between P/J181 and P/J18. Repair or replace as necessary.</p>	<p>Go to Step 8.</p>
8	<p>“NO” FROM STEP 7 ABOVE</p> <p>Measure the voltage between P/J16-9 on the Print Engine Controller Board and frame ground.</p> <p>Is the voltage +24 VDC?</p>	<p>Replace the Print Engine Controller Board [RRP 8.5, page 310].</p>	<p>Replace the LVPS [RRP 8.6, page 312].</p>
9	<p>“YES” FROM STEP 4 ABOVE</p> <ol style="list-style-type: none"> 1. Check the wiring connections and continuity between the charge contact on the Right Side Guide and P186 on the HVPS. 2. Repair or replace as necessary. <p>Does wiring check OK?</p>	<p>Replace the HVPS [RRP 8.2, page 307].</p>	<p>Repair or replace wire harness as necessary.</p>

Table 89 HVPS Assembly Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
10	<p>“YES” FROM STEP 3 ABOVE</p> <ol style="list-style-type: none"> 1. Scroll to Charge Roll DC. 2. Measure the voltage between the Right Side Guide Charge Terminal and frame ground. <p>Warning: The next step will result in very high voltage being placed on an exposed contact. Use all standard high voltage safety practices and avoid getting in close proximity of the contact or meter probe.</p> <ol style="list-style-type: none"> 3. Press [4] to test, [0] to stop. <p>Does the voltage measure approximately 390 ±25 VDC?</p>	Go to Step 11.	Replace the HVPS [RRP 8.2, page 307].
11	<p>“YES” FROM STEP 10 ABOVE</p> <ol style="list-style-type: none"> 1. Scroll to Dev Bias AC. 2. Measure the voltage between the Right Side Guide Developer Bias Terminal (connector nearest the back of the machine) and frame ground. <p>Warning: The next step will result in very high voltage being placed on an exposed contact. Use all standard high voltage safety practices and avoid getting in close proximity of the contact or meter probe.</p> <ol style="list-style-type: none"> 3. Press [4] to test, [0] to stop. <p>Does the voltage measure approximately 620 ±25 VAC?</p>	Go to Step 12.	Replace the HVPS [RRP 8.2, page 307].
12	<p>“YES” FROM STEP 11 ABOVE</p> <ol style="list-style-type: none"> 1. Remove the Right Print Cartridge Guide Assembly [RRP 7.2, page 299]. 2. Remove the screws that secure the Developer Wire Assembly [PL 8.1, page 402] and P/J 186 of the Xero Wire Assembly [PL 8.1, page 402]. 3. Disconnect P/J187 and P/J186 from the HVPS Assembly. 4. Check for continuity between both ends of the developer Wire Assembly and Xero Wire Assembly. <p>Is there continuity respectively through the Developer Wire Assembly and Xero Wire Assembly?</p>	Go to Step 13.	Replace the Developer Wire Assembly and/or Xero Wire Assembly [PL 8.1, page 402].
13	<p>“YES” FROM STEP 12 ABOVE</p> <p>Replace the Print Engine Controller Board [RRP 8.5, page 310].</p> <p>Does the problem still appear?</p>	Replace the HVPS [RRP 8.2, page 307].	Problem solved.

Table 89 HVPS Assembly Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
14	<p>SUSPECT COMPONENTS The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"><li>■ HVPS Assembly [RRP 8.2, page 307]<li>■ Print Cartridge Right Guide Assembly [RRP 7.2, page 299]<li>■ Harness Assembly, HVPS [PL 9.1, page 404]<li>■ Print Cartridge [PL 8.1, page 402]<li>■ Print Engine Controller Board [RRP 8.5, page 310]		

RAP 60 Electrical Noise

Table 90 Electrical Noise Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PROCEDURE</p> <ol style="list-style-type: none"> 1. Check to see if there is other electrical equipment, such as electrical generators, radio transmitters, or devices using electrical motors, within ten feet of the printer. 2. Shut off the other electrical equipment, or relocate the printer at least twenty feet away from other devices. <p>Is the electrical noise problem still present?</p>	Go to Step 2.	Problem solved.
2	<p>AC POWER</p> <p>Check the AC wall outlet and power cord [RAP 38, page 110].</p> <p>Is the wall outlet correctly wired and is the power cord in good condition (not damaged in any way)?</p>	Go to Step 3.	Inform the customer of insufficient voltage supply or improper wiring.
3	<p>RIGHT PRINT CARTRIDGE GUIDE ASSEMBLY INSPECTION</p> <ol style="list-style-type: none"> 1. Open the Top Cover and remove the Print Cartridge. 2. Inspect all contacts on the Right Print Cartridge Guide Assembly and the terminals on the Print Cartridge. <p>Are the terminals in good condition and contacting properly when the cartridge is installed?</p>	Go to Step 4.	Replace the Right Print Cartridge Guide Assembly [RRP 7.2, page 299] or the Print Cartridge [PL 8.1, page 402].
4	<p>POWER SWITCH GROUNDING</p> <ol style="list-style-type: none"> 1. Remove the Lower Rear Cover [RRP 1.7, page 256]. 2. Inspect the grounding screw for the cable connected to the printer power switch. <p>Is the cable grounded properly?</p>	Go to Step 5.	Secure the grounding screw properly.
5	<p>PRINT CARTRIDGE REPLACEMENT</p> <p>Replace the Print Cartridge [PL 8.1, page 402].</p> <p>Is the electrical noise problem still present?</p>	Go to Step 6.	Problem solved.
6	<p>“YES” FROM STEP 5 ABOVE</p> <ol style="list-style-type: none"> 1. Remove the Print Cartridge. 2. Remove the Right Print Cartridge guide Assembly [RRP 7.2, page 299]. 3. Inspect the Seal Guide on the rear end of the Right Print Cartridge Guide Assembly. <p>Is the Seal Guide intact, free of contamination, obstructions and deformities?</p>	Go to Step 7.	Clean the Seal Guide or replace the Right Print Cartridge Guide Assembly [RRP 7.2, page 299].

Table 90 Electrical Noise Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
7	<p>PAPER TRANSPORT ASSEMBLY</p> <ol style="list-style-type: none"> Remove the Paper Transport Assembly [RRP 4.1, page 283]. Check all the wires in the Paper Transport Assembly for continuity. <p>Do all the wires check OK for continuity?</p>	Go to Step 8.	Replace the Paper Transport Assembly [RRP 4.1, page 283].
8	<p>DEVELOPER WIRE ASSEMBLY</p> <p>Inspect the Developer Wire Assembly.</p> <p>Are all the wires connected properly?</p>	Go to Step 9.	Secure / connect the wires properly.
9	<p>FUSER ASSEMBLY</p> <p>Inspect the cables of P174-1 and P174-4 and the right end of the Heat Rod.</p> <p>Are the cables attached properly?</p>	Go to Step 10.	Secure / connect the cables properly or replace the Fuser Assembly [RRP 5.1, page 288].
10	<p>“YES” FROM STEP 9 ABOVE</p> <ol style="list-style-type: none"> Disconnect the HVPS (P/J18) from the Print Engine Controller Board [RRP 8.5, page 310]. Print a continuous test run of approximately twenty sheets. <p>Does the printer complete the test run without shutting down?</p>	Replace the HVPS Board Assembly [RRP 8.2, page 307].	Go to Step 11.
11	<p>PRINT ENGINE CONTROLLER BOARD REPLACEMENT</p> <p>Replace the Print Engine Controller Board [RRP 8.5, page 310].</p> <p>Is the problem still present?</p>	Go to Step 12.	Problem solved.
12	<p>GROUND CONNECTIONS</p> <p>Inspect all of the grounds in the printer.</p> <p>Are all the grounds securely connected?</p>	Go to Step 13.	Repair all poor ground connections.
13	<p>ASSEMBLY REPLACEMENT</p> <p>Replace the following components, one at a time, until the cause of the problems is found.</p> <ul style="list-style-type: none"> ■ HVPS Board Assembly [RRP 8.2, page 307] ■ Right Print Cartridge Guide Assembly [RRP 7.2, page 299] ■ Print Engine Controller Board [RRP 8.5, page 310] ■ Inlet Assembly [PL 9.2] ■ Print Cartridge [PL 8.1, page 402] ■ Fuser Assembly [RRP 5.1, page 288] ■ Paper Transport Assembly [RRP 4.1, page 283] ■ Harness Assembly, HVPS [PL 9.2] <p>Does the problem disappear after replacing one of the above assemblies?</p>	Problem solved.	Review Step 13. If problem persists, call Technical Support.

RAP 61 Low Paper Tray 2 (or Tray 3) / 500-Sheet Feeder

Tray 2 and/or Tray 3 have low paper.

Table 91 Low Paper Tray 2 (or Tray 3) / 500-Sheet Feeder Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PROCEDURE</p> <p>Fill the affected paper tray with fresh paper.</p> <p>Is the error code still displayed?</p>	Go to Step 2.	Problem solved.
2	<p>LOW PAPER SENSOR ACTUATOR TEST</p> <p>1. Remove the paper tray from the 500-Sheet Feeder Assembly.</p> <p>2. Manually push up and release the low paper actuator.</p> <p>Does the low paper sensor actuator move smoothly up and down?</p>	Go to Step 3.	Replace the Low Paper Sensor Actuator [RRP 11.18, page 347] or the Tray 2/3 Left Guide Assembly [RRP 11.13, page 340].
3	<p>LOW PAPER SENSOR ACTUATOR</p> <p>1. Enter Diagnostics mode.</p> <p>2. From the Main Menu, select Component Test / Sensor Input / press [4] to start, [0] to stop.</p> <p>3. Press and release the Low Paper Sensor Actuator.</p> <p>Does the LCD counter increment each time you press and release the actuator?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to Step 4.
4	<p>FEEDER BOARD</p> <p>1. Switch printer power OFF.</p> <p>2. Remove the 500-Sheet Feeder Left Cover [RRP 11.3, page 330].</p> <p>3. Disconnect P/J133 from the Feeder Board.</p> <p>4. Switch printer power ON.</p> <p>5. Measure the voltage between P133-1 and frame ground, then measure the voltage between P133-3 and frame ground.</p> <p>Are both measurements +3.3 VDC?</p>	Go to Step 5.	Replace the Feeder Board [RRP 11-7, page 334].
5	<p>“YES” FROM STEP 4 ABOVE</p> <p>1. Switch printer power OFF.</p> <p>2. Reconnect P/J133.</p> <p>3. Switch printer power ON.</p> <p>4. Measure the voltage between P/J133-3 and frame ground as you actuate and deactuate the Low Paper Sensor.</p> <p>Does the voltage measure +0.0 VDC when deactuated and +3.2 VDC when actuated?</p>	Go to Step 7.	Go to Step 6.

Table 91 Low Paper Tray 2 (or Tray 3) / 500-Sheet Feeder Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
6	<p>“NO” FROM STEP 5 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the 500-Sheet Feeder Left Tray Guide. 3. Check for continuity between all pins of P/J133 and P/J137. <p>Do all pins check OK for continuity?</p>	<p>Replace the Low Paper Sensor [RRP 11.18, page 347].</p>	<p>Repair or replace the harness as necessary.</p>
7	<p>“YES” FROM STEP 5 ABOVE</p> <p>Measure the voltage between P/J132-7 (Tray 2) or P/J132-8 (Tray 3) and frame ground as you actuate and deactuate the Low Paper Sensor.</p> <p>Does the voltage measure +0.9 VDC when deactuated and 0.0 VDC when actuated?</p>	<p>Go to Step 8.</p>	<p>Replace the Feeder Board [RRP 11-7, page 334].</p>
8	<p>“YES” FROM STEP 7 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the printer Left Side Cover [RRP 1.1, page 250] and the Print Engine Controller Board Cover [RRP 8.5, page 310]. 3. Switch printer power ON. 4. Measure the voltage between P/J13-7 (Tray 2) or P/J132-8 (Tray 3) and frame ground as you actuate and deactuate the Low Paper Sensor. <p>Does the voltage measure +0.9 VDC when deactuated and 0.0 VDC when actuated?</p>	<p>Replace the Print Engine Controller Board [RRP 8.5, page 310].</p>	<p>Check for continuity between P/J132 and P/J131, then between P/J131 and P/J13, all pins. Repair or replace as necessary.</p>
9	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Low Paper Sensor Actuator [RRP 11.18, page 347] ■ Tray Left Guide Assembly [RRP 11.13, page 340] ■ Feeder Board [RRP 11-7, page 334] ■ Print Engine Controller Board [RRP 8.5, page 310] 		

RAP 62 500-Sheet Feeder Feed Solenoid

The 500-Sheet Feeder is not feeding paper or not feeding paper at the correct time.

Table 92 500-Sheet Feeder Feed Solenoid Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PROCEDURE</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Tray 2 Feed Sol (or Tray 3 Feed Sol) / press [4] to start. <p>Can you hear the solenoid energize?</p>	Go to Step 10.	Go to Step 2.
2	<p>“NO” FROM STEP 2 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the 500-Sheet Feeder Left Cover [RRP 11.3, page 330]. 3. Disconnect P/J133 on the Feeder Board. 4. Measure the resistance between pins 10 and 11 on the disconnected plug. <p>Does the resistance measure approximately 90 ohms?</p>	Go to Step 4.	Go to Step 3.
3	<p>“NO” FROM STEP 2 ABOVE</p> <ol style="list-style-type: none"> 1. Disconnect P/J135 from the Feed Head Assembly. 2. Measure the resistance between P135-1 and P135-2. <p>Does the resistance measure approximately 90 ohms?</p>	Repair or replace the Feed Head Harness [PL 11.3, page 416].	Replace the Tray 2/3 Feed Solenoid [RRP 11.10, page 337].
4	<p>“YES” FROM STEP 2 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power ON. 2. Measure the voltage between P/J133-10 on the Feeder Board and frame ground. <p>Does the voltage measure +24 VDC?</p>	Go to Step 7.	Go to Step 5.
5	<p>“NO” FROM STEP 4 ABOVE</p> <p>Measure the voltage between P/J132-3 and frame ground.</p> <p>Does the voltage measure +24 VDC.</p>	Replace the Feeder Board [RRP 11-7, page 334].	Go to Step 6.
6	<p>“NO” FROM STEP 5 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the print Left Side Cover [RRP 1.1, page 250] and the Print Engine Controller Board Cover [RRP 8.5, page 310]. 3. Switch printer power ON. 4. Measure the voltage between P/J13-3 and frame ground. <p>Does the voltage measure +24 VDC?</p>	Check the continuity of the Feeder Harnesses [P/J132 to P/J131 and P/J131 to P/J13]. Repair or replace as necessary.	Replace the Print Engine Controller Board [RRP 8.5, page 310].

Table 92 500-Sheet Feeder Feed Solenoid Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
7	<p>“YES” FROM STEP 4 ABOVE</p> <ol style="list-style-type: none"> Switch printer power OFF. Reconnect P/J133. Enter Diagnostics mode. From the Main Menu, select Component Test / Tray 2 Feed Sol (or Tray 3 Feed Sol). Measure the voltage between P/J133-11 and frame ground. Press [4]. <p>Does the voltage drop from +24 VDC to 0.0 VDC?</p>	<p>Check for mechanical binding of the solenoid or a defective spring. If the problem persists, replace the Tray 2/3 Feed Solenoid [RRP 11.10, page 337].</p>	<p>Go to Step 8.</p>
8	<p>“NO” FROM STEP 7 ABOVE</p> <ol style="list-style-type: none"> Measure the voltage between P/J132-4 and frame ground. Press [4]. <p>Does the voltage change from 0.0 VDC to +3.2 VDC?</p>	<p>Replace the Tray 2/3 Feeder Board [RRP 11-7, page 334].</p>	<p>Go to Step 9.</p>
9	<p>“NO” FROM STEP 8 ABOVE</p> <ol style="list-style-type: none"> Switch printer power OFF. Remove the printer Left Side Cover [RRP 1.1, page 250] and the Print Engine Controller Board [RRP 8.5, page 310]. Switch printer power ON. Measure the voltage between P/J13-4 and frame ground. <p>Does the voltage measure +3.2 VDC?</p>	<p>Check the continuity of the Feeder Harnesses (P/J132 to P/H131 and P/J131 to P/J13). Repair or replace as necessary [PL 11.3, page 416].</p>	<p>Replace the Print Engine Controller Board [RRP 8.5, page 310].</p>
10	<p>“YES” FROM STEP 1 ABOVE</p> <ol style="list-style-type: none"> Scroll to Main Motor / press [4]. Scroll to Turn Roll Clutch / press [4]. Scroll to Tray 2 (or Tray 3) Feed Sol / press [4]. <p>Has a sheet of paper been fed from Tray 2/3 to the Registration Rollers?</p>	<p>Problem solved.</p>	<p>Replace the Tray 2/3 Feed Solenoid [RRP 11.10, page 337].</p>
11	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Tray 2 (or Tray 3) Feed Solenoid [RRP 11.10, page 337] ■ Feed Head Harness [PL 11.3, page 416] 		

RAP 63 500-Sheet Motor

Logic Control on the Print Engine Controller Board detects a problem with the 500-Sheet Feeder Main Motor.

Table 93 500-Sheet Feeder Motor Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>+24 V CHECK AT P/J 140 ON 500-SHEET FEEDER BOARD</p> <p>1. Remove the 500-Sheet Feeder Left Cover [RRP 11.6, page 333].</p> <p>2. Disconnect P/J 140 on the 500-Sheet Feeder Board.</p> <p>3. Measure the voltage at P/J 140-1 to frame ground.</p> <p>Does the voltage measure +24 VDC?</p>	<p>Replace the 500-Sheet Feeder Motor [RRP 11.6, page 333]</p>	<p>Go to Step 2.</p>
2	<p>+24 V CHECK AT P/J 132 ON 500-SHEET FEEDER BOARD</p> <p>Measure the voltage at P/J 132-3 on the 500-Sheet Feeder Board to frame ground.</p> <p>Does the voltage measure +24 VDC?</p>	<p>Replace the 500-Sheet Feeder Board [RRP 11.7, page 334].</p>	<p>Go to Step 3.</p>
3	<p>+24 V CHECK AT P/J 13 ON THE PRINT ENGINE CONTROLLER BOARD</p> <p>Measure the voltage at P/J 13-3 on the Print Engine Controller Board to frame ground.</p> <p>Does the voltage measure +24 VDC?</p>	<p>Perform continuity check on the harness from P/J 13 to P/J 132 on the Print Engine Controller Board. Repair / replace as necessary.</p>	<p>Replace the Print Engine Controller Board [RRP 8.5, page 310]</p>
4	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Print Engine Controller Board [RRP 8.5, page 310] ■ 500-Sheet Feeder Board [RRP 11.7, page 334] ■ Wiring and connectors linking the components 		

RAP 64 500-Sheet Feeder Assembly Not Recognized

Print Engine Controller Board does not recognize the Feeder Assembly.

Table 94 500-Sheet Feeder Assembly Not Recognized Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PROCEDURE</p> <ol style="list-style-type: none"> 1. Check the alignment of the printer to the 500-Sheet Feeder and the alignment of the top 500-Sheet Feeder to the second 500-Sheet Feeder, if installed. 2. Ensure the connectors are properly aligned and properly connected. <p>Are the connectors properly aligned and secured?</p>	Go to Step 2.	Reseat the Feeder and printer to obtain proper alignment and connection.
2	<p>DISCONNECT P/J13 FROM PRINT ENGINE CONTROLLER BOARD</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the Left Side Cover [RRP 1.1, page 250] and the Print Engine Controller Board Cover [RRP 8.5, page 310]. 3. Disconnect P/J13 from the Print Engine Controller Board. 4. Switch printer power ON. 5. Measure the voltage between P13-10 on the Print Engine Controller Board and frame ground. <p>Does the voltage measure +1.0 VDC?</p>	Go to Step 3.	Replace the Print Engine Controller Board [RRP 8.5, page 310].
3	<p>Is the printer equipped with only one 500-Sheet Feeder?</p>	Go to Step 8.	Go to Step 4.
4	<p>DISCONNECT P/J136 FROM FEEDER BOARD</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the Left Side Cover [RRP 11.3, page 330] from the top 500-Sheet Feeder. 3. Disconnect P/J136 from the Feeder Board. 4. Reconnect P/J13 to the Print Engine Controller Board. 5. Switch printer power ON. 6. Measure the voltage between P13-10 on the Print Engine Controller Board and frame ground. <p>Does the voltage measure +1.9 VDC?</p>	Go to Step 6.	Go to Step 5.

Table 94 500-Sheet Feeder Assembly Not Recognized Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
5	<p>“NO” FROM STEP 4 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Disconnect P/J13 from the Print Engine Controller Board and P/J132 from the Feeder Board. 3. Check for continuity between of the pins on P13 and P132 as follows: <ul style="list-style-type: none"> ■ P13-1 and P132-1 ■ P13-2 and P132-2 ■ P13-3 and P132-3 ■ P13-4 and P132-4 ■ P13-5 and P132-5 ■ P13-6 and P132-6 ■ P13-7 and P132-7 ■ P13-9 and P132-8 ■ P13-10 and P132-9 ■ P13-11 and P132-10 ■ P13-12 and P132-11 ■ P13-13 and P132-12 ■ P13-14 and P132-13 ■ P13-15 and P132-14 <p>Is continuity measured between all pins?</p>	<p>Replace the Feeder Board [RRP 11-7, page 334] in the top 500-Sheet Feeder.</p>	<p>Repair or replace the harness between P/J13 and P/J131 [PL 9.1, page 404] or between P/J131 and P/J132 [PL 1.2].</p>
6	<p>RECONNECT P/J136 TO FEEDER BOARD</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Reconnect P/J136 to the top 500-Sheet Feeder. 3. switch printer power ON. 4. Measure the voltage between P13-10 on the Print Engine Controller Board and frame ground. <p>Does the voltage measure +0.68 VDC?</p>	<p>Replace the Print Engine Controller Board [RRP 8.5, page 310].</p>	<p>Go to Step 7.</p>
7	<p>P136 TO P132 CONTINUITY</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the Left Cover [RRP 11.3, page 330] from the top 500-Sheet Feeder Board and P/J132 from the lower Feeder Board. 3. Check for continuity between each of the Pins on P136 and P132 as follows: <ul style="list-style-type: none"> ■ P136-1 and P132-1 ■ P136-2 and P132-2 ■ P136-3 and P132-3 ■ P136-4 and P132-4 ■ P136-5 and P132-5 ■ P136-6 and P132-6 ■ P136-7 and P132-7 ■ P136-8 and P132-9 ■ P136-9 and P132-10 ■ P136-10 and P132-11 ■ P136-11 and P132-12 ■ P136-12 and P132-13 ■ P136-13 and P132-14 <p>Is continuity measured between all pins?</p>	<p>Replace the Feeder Board [RRP 11-7, page 334].</p>	<p>Repair or replace the harness between P/J13 and P/J131 [PL 9.1, page 404] or between P/J131 and P/J132 [PL 11.2].</p>
8	<p>“YES” FROM STEP 3 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Reconnect P/J13 to the Print Engine Controller Board. 3. Switch printer power ON. 4. Measure the voltage between P13-10 on the Print Engine Controller board and frame ground. <p>Does the voltage measure +1.6 VDC?</p>	<p>Replace the Print Engine Controller Board [RRP 8.5, page 310].</p>	<p>Go to Step 9.</p>

Table 94 500-Sheet Feeder Assembly Not Recognized Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
9	<p>P/J13 and P/J132 CONTINUITY CHECK</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the 500-Sheet Feeder Left Cover [RRP 11.3, page 330]. 3. Disconnect P/J13 from the Print Engine Controller Board and P/J132 from the Feeder Board and frame ground. 4. Check for continuity between each of the pins on P13 and P132 as follows: <ul style="list-style-type: none"> ■ P13-1 and P132-1 ■ P13-2 and P132-2 ■ P13-3 and P132-3 ■ P13-4 and P132-4 ■ P13-5 and P132-5 ■ P13-6 and P132-6 ■ P13-7 and P132-7 ■ P13-9 and P132-8 ■ P13-10 and P132-9 ■ P13-11 and P132-10 ■ P13-12 and P132-11 ■ P13-13 and P132-12 ■ P13-14 and P132-13 ■ P13-15 and P132-14 <p>Is continuity measured between all pins?</p>	<p>Replace the Feeder Board [RRP 11-7, page 334].</p>	<p>Repair or replace the harness between P/J13 and P/J131 [PL 9.1, page 404] or between P/J131 and P/J132 [PL 11.2].</p>
10	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Print Engine Controller Board [RRP 8.5, page 310] ■ Feeder Board [RRP 11-7, page 334] ■ Harness, Wiring [PL 9.1, page 404] ■ Harness, Wiring [PL 11.2, page 414] 		

RAP 65 Exit Sensor

Table 95 Exit Sensor Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PROCEDURE</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Sensor Input / press [4], to start, [0] to stop. 3. Open the rear cover. 4. Open the Fuser Exit door. 5. Actuate and deactuate the Fuser Exit Sensor. <p>Does the LCD counter increment each time you actuate and deactuate the sensor?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to Step 2.
2	<p>“NO” FROM STEP 1 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Disconnect P/J17 from the Print Engine Controller Board. 3. Switch printer power ON. 4. Measure the voltage between P/J17-6 and frame ground. <p>Does the voltage measure +3.2 VDC?</p>	Go to Step 4.	Go to Step 3.
3	<p>“NO” FROM STEP 3 ABOVE</p> <p>Measure the voltage between JP/J16-4 and frame ground.</p> <p>Does the voltage measure +3.2 VDC?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Replace the LVPS [RRP 8.6, page 312].
4	<p>FUSER EXIT SENSOR</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Reconnect P/J17 to the Print Engine Controller Board. 3. Switch printer power ON. 4. Measure the voltage between P/J17-6 and frame ground as you actuate and deactuate the Fuser Exit Sensor. <p>Does the voltage measure +3.2 VDC when the Fuser Exit Sensor is deactuated and 0.0 VDC when actuated?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Replace the Fuser Assembly [RRP 5.1, page 288].
5	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Print Engine Controller Board [RRP 8.5, page 310] ■ LVPS [RRP 8.6, page 312] ■ Fuser Assembly [RRP 5.1, page 288] ■ Wiring and connectors linking the components 		

RAP 66 Pre-Registration Sensor

Table 96 Pre-Registration Sensor Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PRE-REGISTRATION SENSOR ACTUATOR</p> <ol style="list-style-type: none"> 1. Open the 500-Sheet Feeder Rear Cover. 2. Manually actuate and deactuate the Pre-Registration Sensor Actuator. <p>Does the Pre-Registration Sensor Actuator move smoothly?</p>	Go to Step 2.	Replace the Pre-Registration Sensor Actuator [RRP 11.21, page 351].
2	<p>PRE-REGISTRATION SENSOR</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Component Test / Sensor Input / press [4] to start, [0] to stop. 3. Press and release the Pre-Registration Sensor Actuator. <p>Does the LCD counter increment each time you press and release the actuator?</p>	Replace the Print Engine Controller Board [RRP 8.5, page 310].	Go to Step 3.
3	<p>P133-7 and P133-9 VOLTAGE MEASUREMENT</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the 500-Sheet Feeder Left Cover [RRP 11.3, page 330]. 3. Disconnect P/J133 from the Feeder Board. 4. Switch printer power ON. 5. Measure the voltage between P133-7 and frame ground, the between P133-9 and frame ground. <p>Do both voltages measure +3.2 VDC?</p>	Go to Step 4.	Replace the Feeder Board [RRP 11-7, page 334].
4	<p>“YES” FROM STEP 4 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Reconnect P/J133. 3. Switch printer power ON. 4. Measure the voltage between P/J133-9 and frame ground as you actuate and deactuate the Pre-Registration Sensor Actuator. <p>Does the voltage measure +3.2 VDC when deactuated and 0.0 VDC when actuated?</p>	Go to Step 5.	Check for continuity between P/J133 and P/J13P, then between P/J13P and P/J13C. Repair or replace as necessary. If harness checks OK, replace the Pre-Registration Sensor [RRP 11.21, page 351].
5	<p>“YES” FROM STEP 4 ABOVE</p> <p>With Paper in the tray and the tray inserted into the 500-Sheet Feeder, measure the voltage between P/J132-7 and frame ground as you actuate and deactuate the Pre-Registration Sensor.</p> <p>Does the voltage measure +2.76 VDC when deactuated and +3.2 VDC when actuated?</p>	Go to Step 6.	Replace the Feeder Board [RRP 11-7, page 334].

Table 96 Pre-Registration Sensor Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
6	<p>“YES” FROM STEP 6 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the printer Left Side Cover [RRP 1.1, page 250] and the Print Engine Controller Board Cover [RRP 8.5, page 310]. 3. Switch printer power ON. 4. Measure the voltage between P/J13-7 and frame ground as you actuate and deactuate the Pre-Registration Sensor. <p>Does the voltage measure +2.76 VDC when deactuated and +3.2 VDC when actuated?</p>	<p>Replace the Print Engine Controller Board [RRP 8.5, page 310].</p>	<p>Check for continuity between P/J132 and P/J131, the between P/J131 and P/J13.</p> <p>Repair / replace as necessary.</p>
7	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Print Engine Controller Board [RRP 8.5, page 310] ■ Pre-Registration Sensor [RRP 11.21, page 351] ■ Feeder Board [RRP 11.7, page 334] 		

RAP 67 HCS Motor Assembly

Table 97 HCS Motor Assembly Message Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>+24 VDC MEASUREMENT</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Remove the HVPS Cover [RRP 1.6, page 255]. 3. Disconnect P/J506 from the Duplex Interface Board. 4. Switch printer power ON. 5. Measure the voltage between J506-2 and frame ground. <p>Does the voltage measure +24 VDC?</p>	Go to Step 2.	Replace the LVPS [RRP 8.6, page 312].
2	<p>“YES” FROM STEP 2 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Reconnect P/J506. 3. Remove the HCS Front Cover [RRP 10.4, page 321]. 4. Disconnect P/J514 on the HCS Board. 5. Measure the voltage between J514-8 and frame ground. <p>Does the voltage measure +24 VDC?</p>	Go to Step 4.	Go to Step 3.
3	<p>CONTINUITY CHECK</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Check for continuity between P/J504 and P/J514 as follows: <ul style="list-style-type: none"> ■ J504-1 and J514-1 ■ J504-2 and J514-2 ■ J504-3 and J514-3 ■ J504-4 and J514-4 ■ J504-5 No Connection ■ J504-6 and J514-6 ■ J504-7 and J514-7 ■ J504-8 and J514-8 ■ J504-9 and J514-9 <p>Is there continuity between the pins?</p>	Replace the Duplex Board [RRP 8.3, page 308]	Repair or replace the STK-O Harness Assembly [PL 10.2] and the SK-1 Harness Assembly [PL 9.1, page 404].
4	<p>“YES” FROM STEP 2 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Reconnect P/J514. 3. Switch printer power ON. 4. On the HCS Board, measure the voltage between P/J517-3 and frame ground, then between P/J517-4 and frame ground. <p>Do both voltages measure +24 VDC?</p>	Replace the HCS Motor Assembly [PL 10.2, page 410].	Replace the HCS Board [PL 10.2, page 410].

Table 97 HCS Motor Assembly Message Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
5	<p>SUSPECT COMPONENTS The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none">■ LVPS [RRP 8.6, page 312]■ Duplex Board [RRP 8.3, page 308]■ HCS Motor Assembly [RRP 10.8, page 325]■ HCS Board [PL 10.2, page 410]■ Print Engine Controller Board [RRP 8.5, page 310]■ Wiring and connectors linking the components		

RAP 68 Disk Error Format Hard Disk

Logic Control on the Print Engine Controller Board has sensed a problem with the hard disk and requires reformatting.

Table 98 Hard Disk Formatting Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>POWER OFF</p> <ol style="list-style-type: none">1. Switch printer OFF and wait 20 - 30 seconds before proceeding with sub-step 2.2. Press and hold [0] and [4] as you switch printer power ON.3. You may release [0] and [4] after observing "initializing" on the display.4. Press [1] or [5] to scroll to "Reset Menu".5. Press [2] or [6] to scroll to "Format Disk".6. Press [4]. <p>Disk formatting is automatic. When complete, the display will say "Ready" without the error message.</p>		

RAP 69 Erratic Printer Operation

The printer has a variety of problems that are not identified by displayed error codes or messages. Problems may range from incomplete or garbled display text to intermittent power shutdowns.

Table 99 Erratic Printer Operation Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>PRINTER OPERATING ENVIRONMENT CHECK</p> <p>Compare the printer room environment, such as temperature, humidity, and space requirements, with the specifications listed in General Information section of this manual.</p> <p>Does the printer room environment meet printer specifications as listed in the General Information Section?</p>	Go to Step 2.	Move the printer to an environment that meets printer specs.
2	<p>AC POWER CHECK</p> <ol style="list-style-type: none"> 1. Unplug the printer AC power cord from the AC wall outlet. 2. Use a digital multimeter to monitor the voltage at the AC wall outlet. 3. Monitor the AC voltage for 30 minutes or longer. <p>Does the voltage at the AC wall outlet meet printer specifications as listed in the General Information Section and does the voltage remain relatively stable without wide fluctuations?</p>	Go to Step 3.	Have an electrician troubleshoot the AC line.
3	<p>AC POWER CORD REPLACEMENT</p> <ol style="list-style-type: none"> 1. Replace the AC Power Cord. 2. Monitor printer operation. <p>Does the printer display erratic operation?</p>	Go to Step 4.	Problem solved.
4	<p>TEST PRINTS</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Test Print / Print Pattern / press [4] to start printing, [0] to stop. 3. Run 20 test prints. <p>Does the printer generate test prints?</p>	Go to Step 6.	Go to Step 5.
5	<p>LVPS +5 VDC CHECK</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Disconnect P/J168 from the LVPS Assembly. 3. Switch printer power ON. 4. Measure the voltage between P161-10 and frame ground. <p>Does the voltage between P161-10 and frame ground measure +5.0 VDC?</p>	Go to Step 6.	Go to Step 11.

Table 99 Erratic Printer Operation Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
6	<p>RETEST</p> <ol style="list-style-type: none"> 1. Switch printer power OFF. 2. Reconnect P/J168 to the LVPS Assembly. 3. Switch printer power ON, entering Diagnostics mode. 4. From the Main Menu, select Test Print / Print Pattern / press [4] to start, [0] to stop. 5. Run 20 test prints. <p>Does the printer RESET while generating test prints?</p>	Go to Step 12.	Go to Step 7.
7	<p>NVRAM SETTINGS CHECK</p> <p>If applicable to your printer configuration, check the NVRAM settings to make sure they are all set to the recommended factory default values.</p> <p>Are the NVRAM settings set to the factory default values?</p>	Go to Step 8.	Return all settings to factory default values and retest. If problem still exists, go to Step 8.
8	<p>SOFTWARE RELOAD</p> <ol style="list-style-type: none"> 1. Reload print driver software in the host computer. (Refer to the Printer Installer and Utilities CD-ROM.) 2. Monitor printer operation. <p>Does the printer display erratic operation?</p>	Go to Step 9.	Problem solved.
9	<p>INTERFACE CABLE REPLACEMENT</p> <ol style="list-style-type: none"> 1. Replace the Interface Cable connecting the host computer to the printer, if applicable. IF NOT APPLICABLE, GO TO STEP 10. 2. Run test prints from the host computer. <p>Does the problem still appear?</p>	Go to Step 10.	Problem solved.
10	<p>SYSTEM CONTROLLER BOARD REPLACEMENT</p> <ol style="list-style-type: none"> 1. Replace the System Controller Board with a new one ("RRP 8.1 System Controller PWB"). 2. Monitor printer operation. <p>Does the printer display erratic operation?</p>	Go to Step 11.	Problem solved.
11	<p>LOW-VOLTAGE POWER SUPPLY REPLACEMENT</p> <ol style="list-style-type: none"> 1. Reinstall the System Controller Board ("RRP 8.1 System Controller PWB") 2. Replace the Low Voltage Power Supply ("RRP 8.6 Low-Voltage Power Supply [LVPS] Assembly"). 3. Monitor printer operation. <p>Does the printer display erratic operation?</p>	Go to Step 12.	Problem solved.
12	<p>PRINT ENGINE CONTROLLER BOARD REPLACEMENT</p> <ol style="list-style-type: none"> 1. Replace the Print Engine Controller Board ("RRP 8.5 Print Engine Controller Board"). 2. Monitor printer operation. <p>Does the printer display erratic operation?</p>	Go to Step 13.	Problem solved.

Table 99 Erratic Printer Operation Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
13	<p>ELECTRICAL NOISE CHECK</p> <ol style="list-style-type: none"> 1. Go to RAP 60 (Electrical Interference) and troubleshoot for a possible internal or external interference problem. 2. After you finish with RAP 60, return to this step and monitor printer operation. <p>Does the printer display erratic operation?</p>	Go to Step 14.	Problem solved.
14	<p>CUSTOMER NOTIFICATION</p> <ol style="list-style-type: none"> 1. Notify customer the cause of the problem seems to be a communication problem between the host computer and the printer. 2. The customer should contact support for help with the communication problem. 		
15	<p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Fault Isolation Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Wiring and connectors linking the components ■ Interlock switches and circuits ■ Xerographic components and High Voltage Power Supply (RRP 8.2, page 307) ■ Computer Interface Cable ■ Control Panel (RRP 8.9, page 315) ■ AC Driver Board (RRP 8.8, page 314) 		

Image-Quality Troubleshooting

Introduction

This section contains image-quality repair procedures to assist in correcting image-quality defects. These procedures provide defect samples, definitions and specifications to help identify the type of defect that exists, the test pattern to use, and actions required to correct the defects.

Throughout these procedures, the term “vertical” refers to the process direction (the direction paper travels through the printer); the term “horizontal” refers to the scanning direction (the direction the laser beam scans across the page).

Be sure to check the paper tray to determine whether paper is being fed long edge or short edge first. This determines “vertical” and “horizontal” for paper fed from that particular tray.

Cleaning procedures should always be performed before beginning any Print-Quality Repair procedure.

Be sure that the paper meets printer specifications. Changing the paper, or using paper from a previously unopened ream, will resolve many print-quality issues.

After resolving an image-quality problem, return to Image-Quality Checkout to verify that no other image-quality defects exist.

Sample reproductions of the various image-quality patterns are included under Image-Quality Specifications.

Use the Image-Quality RAPS to further diagnose machine problems.

In the Y/N (Yes/No) steps of the RAPS, a “Yes” response will lead you to the next step. A “No” response will indicate a corrective action, or will direct you to another step. When the indicated corrective action has been completed, go to Section 1 and restart the Initial Actions to verify that the problem has been corrected.

Image-Quality Defect Definitions

The System Controller Test Print is used to evaluate each of the print-quality parameters. Each area of the test pattern is used for a print-quality parameter. The areas and the print-quality parameters are listed in Image-Quality Checkout.

Table 100 Image-Quality Defect Definitions

Defect Definitions	Go To:	Page
LIGHT PRINTS: The overall image density is too light.	Light (Undertoned) Prints	page 178
BLANK PRINTS: Prints with no visible image.	Blank Prints	page 181
SPOTS: There are spots of toner on the page.	Spots	page 183
HORIZONTAL DELETIONS: There are areas of the image that are extremely light or missing entirely. These areas run horizontally across the in the direction of scanning.	Horizontal (Scan) Deletions	page 185
VERTICAL DELETIONS: There are areas of the image that are extremely light or missing entirely. These areas run vertically along the page in the direction of paper movement.	Vertical (Process) Deletions	page 188
SPOT DELETIONS: Solid areas are marked with irregular white areas.	Spot Deletions	page 190
VERTICAL STREAKS: Extraneous dark lines/bands in the process direction.	Vertical (Process) Streaks	page 192
HORIZONTAL STREAKS: Extraneous dark lines/bands in the direction of scan.	Horizontal (Scan) Streaks	page 194
RESIDUAL IMAGES: The image from a previous print, which was not removed during the cleaning process, has been developed on the current print.	Residual Image	page 197
BLACK PRINTS: The print is completely covered with toner and has no visible image.	Black Prints	page 199
BACKGROUND: Uniform toner contamination in non image areas. Refer to the Background specification.	Background	page 200
UNEVEN DENSITY: The text/line darkness and solid area density image varies across the print.	Uneven Density	page 202
SKEWED IMAGE: Angular displacement of the image from its intended position on the print. Refer to the specification.	Skewed Image	page 204
DAMAGED PRINTS: Creases, wrinkles, excessive curl, cuts, folds or embossed marks.	Damaged Print	page 210
REGISTRATION (Lead Edge to Trail Edge): Displacement of the image, in the process direction, from its intended position on the print. (Inboard to Outboard): Displacement of the image, in the direction of scan, from its intended position on the print.	Registration	page 212
SKIPS / SMEARS: Skip - Loss or stretching of the image in bands across the process direction. Smear - The distortion of the image in bands across the process direction that cause it to appear to be blurred or compressed.	Skips / Smears	page 214
UNFUSED IMAGE: Part of or all of the image is unfused. Refer to the specification.	Unfused Image	page 215
RESOLUTION: At 600 dpi, the two-pixel lines and halftone patches cannot be reproduced clearly on the print.	Resolution	page 217

RAP 70 Light (Undertoned) Prints

The overall image density is too light.

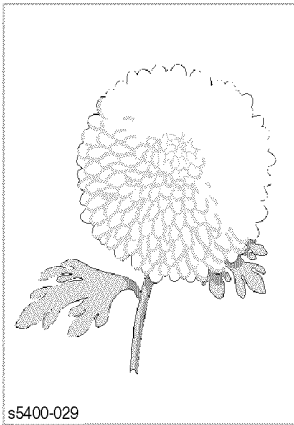


Figure 18 Light Prints

Table 101 Light (Undertoned) Prints Troubleshooting Procedure

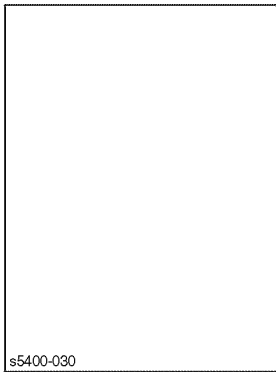
Step	Actions and Questions	Yes	No
1	INITIAL ACTIONS <ul style="list-style-type: none">■ Inspect the printer paper path for items such as staples, paper clips, paper scraps and/or other debris.■ Check the installation of the Print Cartridge.■ Check that the Print Cartridge ground contact points are clean.■ Ensure there are no obstructions in the Laser path.		
2	PAPER REPLACEMENT <ol style="list-style-type: none">1. Load fresh, dry paper.2. Run a test print. Does the image density meet specifications?	Problem solved.	Go to Step 3.
3	PRINT CARTRIDGE REPLACEMENT <ol style="list-style-type: none">1. Install a new Print Cartridge.2. Run a test print. Does the image density meet specifications?	Problem solved.	Go to Step 4.

Table 101 Light (Undertoned) Prints Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
4	<p>METAL GROUNDING CONTACT INSPECTION</p> <ol style="list-style-type: none"> 1. Remove the Print Cartridge. 2. Inspect the metal contacts on the Right Print Cartridge Guide. <p>Are the metal contacts intact and free of contamination?</p>	Go to Step 5.	Reform or clean the metal contacts so that they make better contact with the Print Cartridge, or replace the Right Print Cartridge Guide [RRP 7.2, page 299].
5	<p>“YES” FROM STEP 4</p> <p>Check for continuity between the Metal Grounding Contact and the printer body frame.</p> <p>Is there continuity between the Metal Grounding Contact and the printer frame?</p>	Go to Step 6.	Replace the Right Print Cartridge Guide [RRP 7.2, page 299].
6	<p>LASER BEAM PATH INSPECTION</p> <p>Inspect the Laser Beam path between the Laser Assembly and the Drum for obstructions.</p> <p>Is the laser beam path free obstructions?</p>	Go to Step 7.	Clean the laser window and remove any obstructions from the laser beam path.
7	<p>BIAS TRANSFER ROLLER INSPECTION</p> <p>Inspect the Bias Transfer Roller (BTR).</p> <p>Is the BTR intact and free of contamination?</p>	Go to Step 8.	Replace the BTR [RRP 7.6, page 304].
8	<p>“YES” FROM STEP 7 ABOVE</p> <ol style="list-style-type: none"> 1. Generate a Test Print and switch printer power OFF halfway through the print cycle. 2. Carefully remove the Print Cartridge and inspect the toner image on the drum just before the transfer area (BTR). <p>Is the image on the drum completely developed with sharp, black, easily read areas?</p>	Go to Step 9.	Go to RAP 59, page 153
9	<p>“YES” FROM STEP 8 ABOVE</p> <p>Inspect the toner image on the drum immediately after the transfer area (BTR).</p> <p>Has the toner image on the drum transferred completely to the paper?</p>	Go to Step 10.	Go to RAP 59, page 153

Table 101 Light (Undertoned) Prints Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
10	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"><li>■ BTR Assembly [RRP 7.6, page 304]<li>■ Fuser Assembly [RRP 5.1, page 288]<li>■ HVPS Board [RRP 8.2, page 307]<li>■ Laser Assembly [RRP 7.1, page 297, page 297]<li>■ LVPS Assembly [RRP 8.6, page 312]<li>■ Right Print Cartridge Guide [RRP 7.2, page 299]<li>■ Print Engine Controller Board [RRP 8.5, page 310]<li>■ Paper Transport Assembly [RRP 4.1, page 283]<li>■ Wiring and connectors linking the components		



No visible image anywhere on the output print.

Figure 19 Blank Prints

Table 102 Blank Prints Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>INITIAL ACTIONS</p> <ul style="list-style-type: none"> ■ Inspect the printer paper path for items such as staples, paper clips, paper scraps and/or other debris. ■ Check the installation of the Print Cartridge. ■ Check that the Print Cartridge ground contact points are clean. ■ Ensure there are no obstructions in the Laser path. ■ Ensure the blank prints are not the result of multi-sheet feeds. 		
2	<p>TEST PRINTS</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Test Print / Print Pattern / press [4] to start, [0] to stop. 3. Run at least five test prints. <p>Are the test prints blank?</p>	Go to Step 4.	Go to Step 3.
3	<p>“NO” FROM STEP 2 ABOVE</p> <ol style="list-style-type: none"> 1. Switch printer power OFF to exit Diagnostics mode. 2. Switch printer power ON to enter normal operational mode. 3. Press [1] or [5] to scroll to Menus / Print Menu, then press [2] or [6] to scroll to Print Menu / Config Sheet, press [4]. <p>Is the Configuration Sheet blank?</p>	Remove and reseal the System Controller Board. If the problem persists, replace the System Controller Board [RRP 8.1, page 305].	The problem appears to be with the host computer or the cables. If the problem persists, replace the System Controller Board [RRP 8.1, page 305].

Table 102 Blank Prints Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
4	<p>PRINT CARTRIDGE REPLACEMENT</p> <ol style="list-style-type: none"> 1. Install a new Print Cartridge. 2. Run a test print. <p>Is there a normal image on the paper?</p>	Problem solved.	Go to Step 5.
5	<p>METAL CONTACT INSPECTION</p> <ol style="list-style-type: none"> 1. Remove the Print Cartridge. 2. Inspect the metal contacts on the rear end of the Right Print Cartridge Guide. <p>Are the metal contacts intact and free of contamination?</p>	Go to Step 6.	Reform or clean the metal contacts so that they make better contact with the Print Cartridge, or replace the Right Print Cartridge Guide [RRP 7.2, page 299].
6	<p>“YES” FROM STEP 5 ABOVE</p> <p>Check for continuity between the metal contacts and the printer frame.</p> <p>Is there continuity between the metal contact and the printer frame?</p>	Go to Step 7.	Replace the Right Print Cartridge Guide [RRP 7.2, page 299].
7	<p>BIAS TRANSFER ROLLER INSPECTION</p> <p>Inspect the Bias Transfer Roller (BTR).</p> <p>Is the BTR intact and free of contamination?</p>	Go to Step 8.	Replace the BTR Assembly [RRP 7.6, page 304].
8	<p>“YES” FROM STEP 7 ABOVE</p> <ol style="list-style-type: none"> 1. Generate a Test Print and switch printer power OFF halfway through the print cycle. 2. Carefully remove the Print Cartridge and inspect the toner image on the drum just before the transfer area (BTR). <p>Is the image remaining on the drum completely developed, with sharp, black easily read area?</p>	Go to Step 9.	Go to RAP 59, page 153.
9	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ HVPS Board [RRP 8.2, page 307] ■ Laser Assembly [RRP 7.1, page 297] ■ BTR Assembly [RRP 7.6, page 304] ■ Print Engine Controller Board [RRP 8.5, page 310] ■ LVPS Assembly [RRP 8.6, page 312] ■ Right Print Cartridge Guide [RRP 7.2, page 299] ■ Wiring and connectors linking the components 		



There are spots of toner randomly scatter on the page.

Figure 20 Spots

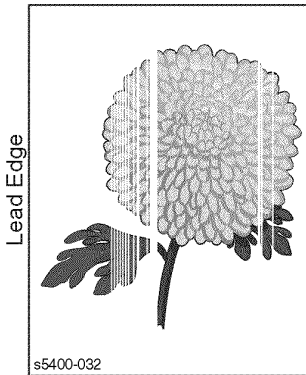
Table 103 Spots Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>INITIAL ACTIONS</p> <ul style="list-style-type: none"> ■ Check that the paper supply is clean, dry and fresh (recycled paper may have spots). ■ Inspect the printer paper path for items such as staples, paper clips, paper scraps and/or other debris. ■ Check the installation of the Print Cartridge ■ Check that the Print Cartridge ground contact points are clean. ■ Check that rollers and other components in the paper path are clean and unobstructed. 		
2	<p>PRINT CARTRIDGE REPLACEMENT</p> <ol style="list-style-type: none"> 1. Install a new Print Cartridge. 2. Run a Test Print. <p>Are the spots gone?</p>	Problem solved.	Go to Step 3.
3	<p>BIAS TRANSFER ROLLER (BTR) INSPECTION</p> <p>Inspect the BTR Assembly for contamination and wear.</p> <p>Is the BTR free of contamination and wear?</p>	Go to Step 4.	Replace the BTR Assembly [RRP 7.6, page 304].
4	<p>“YES” FROM STEP 4 ABOVE</p> <ol style="list-style-type: none"> 1. Generate a Test Print and switch printer power OFF halfway through the print cycle. 2. Carefully remove the Print Cartridge and inspect the toner image on the drum just before the transfer area (BTR). <p>Is the image remaining on the drum completely developed, with sharp, black easily read area, and free from spots?</p>	Go to Step 5.	Go to RAP 59, page 153 .

Table 103 Spots Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
5	<p>FUSER INSPECTION</p> <ol style="list-style-type: none"> 1. Open the Exit Assembly. <p>Warning: If the printer has been powered ON, the Fuser will be hot. Use extreme care when handling the Fuser.</p> <ol style="list-style-type: none"> 2. Remove the Fuser Assembly. 3. Turn the Fuser Assembly upside down. 4. Rotate the fuser idler gear manually and inspect the Heat Roller. 5. Turn the Fuser Assembly right side up. 6. Open the fuse jam access cover. 7. Rotate the fuser idler gear manually and inspect the Pressure Roller. <p>Are the Heat and Pressure Rollers free of scratches (damage) and contamination?</p>	Go to Step 6.	Replace the Fuser Assembly [RRP 5.1, page 288].
6	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ BTR Assembly [RRP 7.6, page 304] ■ Fuser Assembly [RRP 5.1, page 288] ■ Paper Transport Assembly [RRP 4.1, page 283] ■ HVPS Board [RRP 8.2, page 307] ■ Print Engine Controller Board [RRP 8.5, page 310] 		

RAP 73 Horizontal (Scan) Deletions



A deletion is an area of the print where the image is missing or extreme light. Horizontal deletions extend across the page in the scan direction.

Figure 21 Horizontal (Scan) Deletions

Table 104 Horizontal (Scan) Deletions Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	INITIAL ACTIONS <ul style="list-style-type: none"> ■ Inspect the printer paper path for items such as staples, paper clips, paper scraps and/or other debris. ■ Check the installation of the Print Cartridge. ■ Check that the Print Cartridge contact points are clean. 		
2	PRINT ENGINE CONTROLLER TEST PRINTS <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Test Print / Print Pattern / press [4] to start. 3. Run approximately five test prints, then press [0] to stop. <p>Do the test prints exhibit horizontal deletions?</p>	Go to Step 4.	Go to Step 3.
3	SYSTEM CONTROLLER TEST PRINT <ol style="list-style-type: none"> 1. Switch printer power OFF to exit Diagnostics mode. 2. Switch printer power ON to enter Ready mode. 3. From the Ready menu, press [1] or [5] to scroll to Test Print, press [2] or [6] to scroll to Config Sheet, then press [4] to print a Configuration Sheet. <p>Does the Configuration Sheet exhibit horizontal deletions?</p>	Remove and reseal the System Controller Board. If the problem persists, replace the System Controller Board [RRP 8.1, page 305].	The problem appears to be the host computer or the cables. If the problem persists, replace the System Controller Board [RRP 8.1, page 305].
4	PAPER REPLACEMENT <ol style="list-style-type: none"> 1. Load fresh, dry paper. 2. Run a Test Print. <p>Are horizontal deletions still present?</p>	Go to Step 5.	Problem solved.

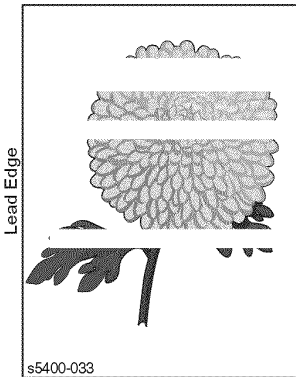
Table 104 Horizontal (Scan) Deletions Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
5	<p>PRINT CARTRIDGE REPLACEMENT</p> <ol style="list-style-type: none"> 1. Install a new Print Cartridge. 2. Run a Test Print. <p>Are horizontal deletions still present?</p>	Go to Step 6.	Problem solved.
6	<p>BIAS TRANSFER ROLLER (BTR) INSPECTION</p> <p>Inspect the BTR Assembly for contamination and wear.</p> <p>Is the BTR free of contamination and wear?</p>	Go to Step 7.	Replace the BTR Assembly [RRP 7.6, page 304]
7	<p>“YES” FROM STEP 6 ABOVE</p> <ol style="list-style-type: none"> 1. Generate a Test Print and switch printer power OFF halfway through the print cycle. 2. Carefully remove the Print Cartridge and inspect the toner image on the drum just before the transfer area (BTR). <p>Is the image remaining on the drum completely developed, with sharp, black easily read area, and free from deletions?</p>	Go to Step 8.	Go to RAP 59, page 153
8	<p>“YES” FROM STEP 7 ABOVE</p> <p>Inspect the toner image on the drum immediately after the transfer area (BTR).</p> <p>Was the toner image on the drum transferred to the paper?</p>	Go to Step 9.	Go to RAP 59, page 153
9	<p>FUSER INSPECTION</p> <ol style="list-style-type: none"> 1. Open the Exit Assembly. <p>Warning: If the printer has been powered ON, the Fuser will be hot. Use extreme care when handling the Fuser.</p> <ol style="list-style-type: none"> 2. Remove the Fuser Assembly. 3. Turn the Fuser Assembly upside down. 4. Rotate the fuser idler gear manually and inspect the Heat Roller. 5. Turn the Fuser Assembly right side up. 6. Open the fuse jam access cover. 7. Rotate the fuser idler gear manually and inspect the Pressure Roller. <p>Are the Heat and Pressure Rollers free of scratches (damage) and contamination?</p>	Go to Step 10.	Replace the Fuser Assembly [RRP 5.1, page 288].

Table 104 Horizontal (Scan) Deletions Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
10	<p>SUSPECT COMPONENTS The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none">■ HVPS Board [RRP 8.2, page 307]■ Right Print Cartridge Guide [RRP 7.2, page 299]■ BTR Assembly [RRP 7.6, page 304]■ Paper Transport Assembly [RRP 4.1, page 283]■ Laser Assembly [RRP 7.1, page 297]■ Print Engine Controller Board [RRP 8.5, page 310]■ Fuser Assembly [RRP 5.1, page 288]■ MBF Assembly [RRP 2.1, page 259]■ Registration Clutch [RRP 4.3, page 286]■ Rear Chute Assembly [RRP 3.2, page 274]■ Turn Roller Assembly [RRP 2-4, page 263]■ Wiring and connectors linking the components		

RAP 74 Vertical (Process) Deletions



A deletion is an area of the print where the image is missing or extremely light. Vertical band deletions are deletions which extend across the page in the process direction.

Figure 22 Vertical (Process) Deletions

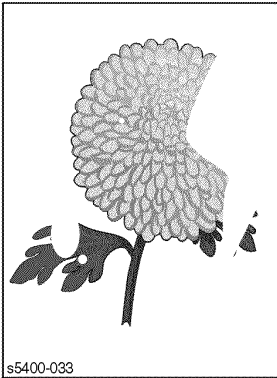
Table 105 Vertical (Process) Deletions Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	INITIAL ACTIONS <ul style="list-style-type: none"> ■ Check that the paper supply is dry and fresh. ■ Inspect the printer paper path for items such as staples, paper clips, paper scraps and/or debris. ■ Check the installation of the Print Cartridge. ■ Check that the Print Cartridge contact points are clean. ■ Ensure there are no obstructions in the Laser Beam path. ■ Check that the rollers and other components in the paper path are clean and unobstructed. 		
2	PAPER REPLACEMENT <ol style="list-style-type: none"> 1. Load fresh, dry paper. 2. Run a Test Print. Are vertical deletions still present?	Go to Step 3.	Problem solved.
3	PRINT CARTRIDGE REPLACEMENT <ol style="list-style-type: none"> 1. Install a new Print Cartridge. 2. Run a Test Print. Are vertical deletions still present?	Go to Step 4.	Problem solved.
4	LASER BEAM PATH INSPECTION <p>Inspect the laser beam path between the Laser Assembly and the Drum.</p> Is the laser beam path free of obstructions?	Go to Step 5.	Remove any obstructions from the laser beam path.
5	PAPER PATH INSPECTION <p>Inspect the paper path, between feed and exit, for contamination or obstructions.</p> Is the paper path free of contamination and obstructions?	Go to Step 6.	Remove obstructions or contamination from the paper path.

Table 105 Vertical (Process) Deletions Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
6	<p>BIAS TRANSFER ROLLER (BTR) INSPECTION Inspect the BTR Assembly for contamination and wear. Is the BTR free of contamination and wear?</p>	Go to Step 7.	Replace the BTR Assembly [RRP 7.6, page 304].
7	<p>FUSER INSPECTION 1. Open the Exit Assembly. Warning: If the printer has been powered ON, the Fuser will be hot. Use extreme care when handling the Fuser. 2. Remove the Fuser Assembly. 3. Turn the Fuser Assembly upside down. 4. Rotate the fuser idler gear manually and inspect the Heat Roller. 5. Turn the Fuser Assembly right side up. 6. Open the fuse jam access cover. 7. Rotate the fuser idler gear manually and inspect the Pressure Roller. Are the Heat and Pressure Rollers free of scratches (damage) and contamination?</p>	Go to Step 8.	Replace the Fuser Assembly [RRP 5.1, page 288].
8	<p>SUSPECT COMPONENTS The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ BTR Assembly [RRP 7.6, page 304] ■ Laser Assembly [RRP 7.1, page 297] ■ Fuser Assembly [RRP 5.1, page 288] ■ Print Engine Controller Board [RRP 8.5, page 310] ■ Wiring and connectors linking the components 		

RAP 75 Spot Deletions



Solid areas are marked with irregular white areas.

Figure 23 Spot Deletions

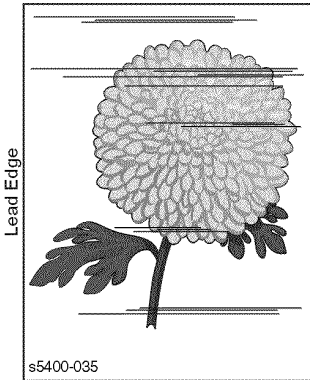
Table 106 Spot Deletions Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>INITIAL ACTIONS</p> <ol style="list-style-type: none"> 1. Check that the paper supply is dry and fresh. 2. Inspect the printer paper path for items such as staples, paper clip, paper scraps and/or debris. 3. Check the installation of the Print Cartridge. 4. Check that the Print Cartridge contact points are clean. 		
2	<p>PAPER REPLACEMENT</p> <ol style="list-style-type: none"> 1. Load fresh, dry paper. 2. Run a Test Print. <p>Are spot deletions still present?</p>	Go to Step 3.	Problem solved.
3	<p>PRINT CARTRIDGE REPLACEMENT</p> <ol style="list-style-type: none"> 1. Install a new Print Cartridge. 2. Run a Test Print. <p>Are spot deletions still present?</p>	Go to Step 4.	Problem solved.
4	<p>“YES” FROM STEP 3 ABOVE</p> <ol style="list-style-type: none"> 1. Generate a Test Print and switch printer power OFF halfway through the print cycle. 2. Carefully remove the Print Cartridge and inspect the toner image on the drum just after the transfer area (BTR). <p>Was the toner image on the drum transferred to the paper?</p>	Go to Step 5.	Replace the BTR Assembly [RRP 7.6, page 304].

Table 106 Spot Deletions Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
5	<p>FUSER INSPECTION</p> <ol style="list-style-type: none"> 1. Open the Exit Assembly. <p>Warning: If the printer has been powered ON, the Fuser will be hot. Use extreme care when handling the Fuser.</p> <ol style="list-style-type: none"> 2. Remove the Fuser Assembly. 3. Turn the Fuser Assembly upside down. 4. Rotate the fuser idler gear manually and inspect the Heat Roller. 5. Turn the Fuser Assembly right side up. 6. Open the fuse jam access cover. 7. Rotate the fuser idler gear manually and inspect the Pressure Roller. <p>Are the Heat and Pressure Rollers free of scratches (damage) and contamination?</p>	Go to Step 6.	Replace the Fuser Assembly [RRP 5.1, page 288].
6	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ BTR Assembly [RRP 7.6, page 304] ■ Paper Transport Assembly [RRP 4.1, page 283] 		

RAP 76 Vertical (Process) Streaks



Extraneous dark lines/bands in the process direction (in the direction of paper travel).

Figure 24 Vertical (Process) Streaks

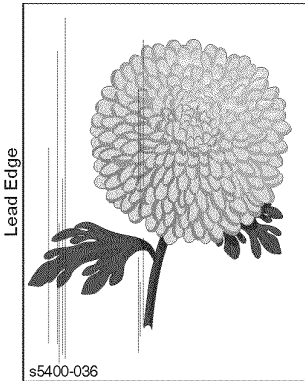
Table 107 Vertical (Process) Streaks Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>INITIAL ACTIONS</p> <ul style="list-style-type: none"> ■ Check that the paper supply is dry and fresh. ■ Inspect the printer paper path for items such as staples, paper clips, paper scraps and/or debris. ■ Check the installation of the Print Cartridge. ■ Check that the Print Cartridge contact points are clean. ■ Check that the paper is within specifications. ■ Inspect the paper path, between feed and exit, for contamination or obstructions. 		
2	<p>PRINT ENGINE CONTROLLER TEST PRINTS</p> <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Test Print / Print Pattern / press [4] to start. 3. After approximately five prints have run, press [0] to stop. <p>Do the test prints have vertical streaks?</p>	Go to Step 4.	Go to Step 3.
3	<p>SYSTEM CONTROLLER TEST PRINT</p> <ol style="list-style-type: none"> 1. Switch printer power OFF to exit Diagnostics mode. 2. Switch printer power ON to enter Ready mode. 3. From the Ready menu, press [1] or [5] to scroll to Test Print, then press [2] or [6] to scroll to Config Sheet. 4. Press [4] to print a Configuration Sheet. <p>Does the Configuration Sheet exhibit vertical streaks?</p>	Remove and reseat the System Controller Board. If the problem persists, replace the System Controller Board [RRP 8.1, page 305].	The problem appears to be with the host computer or the cables. If the problem persists, replace the System Controller Board [RRP 8.1, page 305].

Table 107 Vertical (Process) Streaks Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
4	<p>PRINT CARTRIDGE REPLACEMENT</p> <ol style="list-style-type: none"> 1. Install a new Print Cartridge. 2. Run a Test Print. <p>Are the vertical streaks gone?</p>	Problem solved.	Go to Step 5.
5	<p>LASER BEAM PATH INSPECTION</p> <p>Inspect the laser beam path between the Laser Assembly and the Drum.</p> <p>Is the laser beam path free of obstructions?</p>	Go to Step 6.	Remove any obstructions from the laser beam path.
6	<p>BIAS TRANSFER ROLLER INSPECTION</p> <p>Inspect the BTR Assembly for contamination and wear.</p> <p>Is the BTR free of contamination and wear?</p>	Go to Step 7.	Replace the BTR Assembly [RRP 7.6, page 304].
7	<p>FUSER INSPECTION</p> <ol style="list-style-type: none"> 1. Open the Exit Assembly. <p>Warning: If the printer has been powered ON, the Fuser will be hot. Use extreme care when handling the Fuser.</p> <ol style="list-style-type: none"> 2. Remove the Fuser Assembly. 3. Turn the Fuser Assembly upside down. 4. Rotate the fuser idler gear manually and inspect the Heat Roller. 5. Turn the Fuser Assembly right side up. 6. Open the fuse jam access cover. 7. Rotate the fuser idler gear manually and inspect the Pressure Roller. <p>Are the Heat and Pressure Rollers free of scratches (damage) and contamination?</p>	Go to RAP 60, page 157 .	Replace the Fuser Assembly [RRP 5.1, page 288].

RAP 77 Horizontal (Scan) Streaks



There are black lines running horizontally across the page (at a right angle to the direction of paper travel).

Figure 25 Horizontal (Scan) Streaks

Table 108 Horizontal (Scan) Streaks Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	INITIAL ACTIONS <ul style="list-style-type: none"> ■ Check that the paper supply is dry and fresh. ■ Inspect the printer paper path for items such as staples, paper clips, paper scraps and/or debris. ■ Check the installation of the Print Cartridge. ■ Check that the Print Cartridge contact points are clean. 		
2	PRINT ENGINE CONTROLLER TEST PRINTS <ol style="list-style-type: none"> 1. Enter Diagnostics mode. 2. From the Main Menu, select Test Print / Print Pattern / press [4] to start. 3. After approximately 5 prints have run, press [0] to stop. <p>Do the test prints have horizontal streaks?</p>	Go to Step 4.	Go to Step 3.
3	SYSTEM CONTROLLER TEST PRINT <ol style="list-style-type: none"> 1. Switch printer power OFF to exit Diagnostics mode. 2. Switch printer power ON to enter Ready mode. 3. From the Ready menu, press [1] or [5] to scroll to Test Print, then press [2] or [6] to scroll to Config Sheet. 4. Press [4] to print a Configuration Sheet. <p>Does the Configuration Sheet exhibit horizontal streaks?</p>	Remove and reset the System Controller Board. If the problem persists, replace the System Controller Board [RRP 8.1, page 305].	The problem appears to be with the host computer or the cables. If the problem persists, replace the System Controller Board [RRP 8.1, page 305].
4	PRINT CARTRIDGE REPLACEMENT <ol style="list-style-type: none"> 1. Install a new Print Cartridge. 2. Run a Test Print. <p>Are the horizontal streaks gone?</p>	Problem solved.	Go to Step 5.

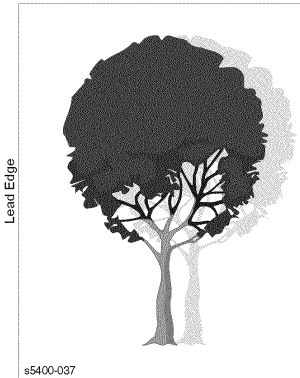
Table 108 Horizontal (Scan) Streaks Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
5	<p>METAL CONTACT INSPECTION</p> <ol style="list-style-type: none"> 1. Remove the Print Cartridge. 2. Inspect the metal contact on the Right Print Cartridge Guide. <p>Is the metal contact intact and free of contamination?</p>	Go to Step 6.	Reform or clean the metal contact so that it makes better contact with the Toner Cartridge, or replace the Right Print Cartridge Guide [RRP 7.2, page 299].
6	<p>“YES” FROM STEP 5 ABOVE</p> <p>Check for continuity between the Metal Grounding Contact and the printer Body frame.</p> <p>Is there continuity between the Ground Contact and the printer frame?</p>	Go to Step 7.	Replace the Right Print Cartridge Guide [RRP 7.2, page 299].
7	<p>BIAS TRANSFER ROLLER INSPECTION</p> <p>Inspect the BTR Assembly for contamination and wear.</p> <p>Is the BTR free of contamination and wear?</p>	Go to Step 8.	Replace the BTR Assembly [RRP 7.6, page 304].
8	<p>“YES” FROM STEP 7 ABOVE</p> <ol style="list-style-type: none"> 1. Generate a Test Print and switch printer power OFF halfway through the print cycle. 2. Carefully remove the Print Cartridge and inspect the toner image on the drum just before the transfer area (BTR). <p>Is the image remaining on the drum completely developed, with sharp, black easily read area free of streaks?</p>	Go to Step 9.	Go to RAP 59, page 153
9	<p>“YES” FROM STEP 8 ABOVE</p> <p>Inspect the toner image on the drum immediately after the transfer area (BTR).</p> <p>Was the toner image on the drum transferred to the paper?</p>	Go to Step 10.	Replace the BTR Assembly [RRP 7.6, page 304].

Table 108 Horizontal (Scan) Streaks Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
10	FUSER INSPECTION 1. Open the Exit Assembly. Warning: If the printer has been powered ON, the Fuser will be hot. Use extreme care when handling the Fuser. 2. Remove the Fuser Assembly. 3. Turn the Fuser Assembly upside down. 4. Rotate the fuser idler gear manually and inspect the Heat Roller. 5. Turn the Fuser Assembly right side up. 6. Open the fuse jam access cover. 7. Rotate the fuser idler gear manually and inspect the Pressure Roller. Are the Heat and Pressure Rollers free of scratches (damage) and contamination?	Go to RAP 60, page 157	Replace the Fuser Assembly [RRP 5.1, page 288].

RAP 78 Residual Image



The image from a previous print, which was not removed during the cleaning process, has been developed on the current print.

Figure 26 Residual Image

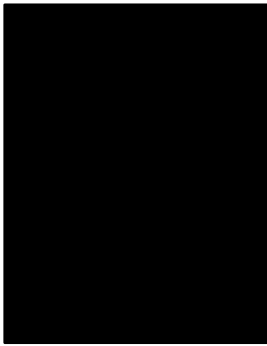
Table 109 Residual Image Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	INITIAL ACTIONS <ul style="list-style-type: none"> ■ Inspect the printer paper path for items such as staples, paper clips, paper scraps and/or debris. ■ Check the installation of the Print Cartridge. ■ Check that the Print Cartridge ground contact points are clean. ■ Verify the fuser temperature (NVM). 		
2	PAPER REPLACEMENT <ol style="list-style-type: none"> 1. Load fresh, dry paper. 2. Run a Test Print. Do residual images still appear?	Go to Step 3.	Problem solved.
3	PRINT CARTRIDGE REPLACEMENT <ol style="list-style-type: none"> 1. Install a new Print Cartridge. 2. Run a Test Print. Do residual images still appear?	Go to Step 4.	Problem solved.
4	BIAS TRANSFER ROLLER INSPECTION <p>Inspect the BTR Assembly for contamination and wear.</p> Is the BTR free of contamination and wear?	Go to Step 5.	Replace the BTR Assembly [RRP 7.6, page 304].

Table 109 Residual Image Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
5	<p>FUSER INSPECTION</p> <ol style="list-style-type: none"> 1. Open the Exit Assembly. <p>Warning: If the printer has been powered ON, the Fuser will be hot. Use extreme care when handling the Fuser.</p> <ol style="list-style-type: none"> 2. Remove the Fuser Assembly. 3. Turn the Fuser Assembly upside down. 4. Rotate the fuser idler gear manually and inspect the Heat Roller. 5. Turn the Fuser Assembly right side up. 6. Open the fuse jam access cover. 7. Rotate the fuser idler gear manually and inspect the Pressure Roller. <p>Are the Heat and Pressure Rollers free of scratches (damage) and contamination?</p>	Go to Step 6.	Replace the Fuser Assembly [RRP 5.1, page 288].
6	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ BTR Assembly [RRP 7.6, page 304] ■ Fuser Assembly [RRP 5.1, page 288] ■ HVPS Board [RRP 8.2, page 307] ■ Right Print Cartridge Guide [RRP 7.2, page 299] ■ Wiring and connectors linking the components 		

RAP 79 Black Prints



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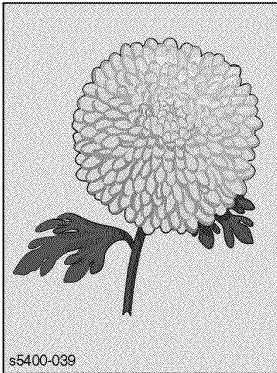
A totally black output print. There is toner on the paper with no visible image.

Figure 27 Black Prints

Table 110 Black Prints Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>INITIAL ACTIONS</p> <ol style="list-style-type: none"> 1. Power OFF the printer for 20 seconds. 2. Clear all paper from the paper path. 3. Power ON the printer. <p>Does the printer print black prints within 15 seconds after Power On?</p>	Replace the system controller board [RRP 8.1, page 305].	Go to Step 2.
2	<p>INSPECTIONS and Checks</p> <ul style="list-style-type: none"> ■ Inspect the printer paper path for items such as staples, paper clips, paper scraps and/or debris. ■ Check the installation of the Print Cartridge. ■ Check that the Print Cartridge ground contact points are clean. ■ Ensure the machine covers are in place and fit well so no outside light can enter. 		
3	<p>PRINT CARTRIDGE REPLACEMENT</p> <ol style="list-style-type: none"> 1. Install a new Print Cartridge. 2. Run a Test Print. <p>Is the print normal?</p>	Problem solved.	Go to Step 3.
4	<p>“NO” FROM STEP 2 ABOVE</p> <ol style="list-style-type: none"> 1. Shield half of the window of the Laser Assembly. 2. Run a Test Print. <p>Is the print half white and half black?</p>	Go to RAP 48, page 130.	Go to RAP 59, page 153.

RAP 80 Background



There is toner contamination on all or part of the page. The contamination appears as a very light gray dusting.

Figure 28 Background

Table 111 Background Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	INITIAL ACTIONS <ul style="list-style-type: none">■ Inspect the printer paper path for items such as staples, paper clips, paper scraps and/or debris.■ Check the installation of the Print Cartridge.■ Check that the Print Cartridge ground contact points are clean.■ Ensure the machine covers are in place and fit well so no outside light can enter.		
2	PRINT CARTRIDGE REPLACEMENT <ol style="list-style-type: none">1. Install a new Print Cartridge.2. Run a Test Print. Is the background gone?	Problem solved.	Go to Step 3.
3	“NO” FROM STEP 2 ABOVE <ol style="list-style-type: none">1. Generate a Test Print and switch printer power OFF halfway through the print cycle.2. Carefully remove the Print Cartridge and inspect the toner image on the drum just before the transfer area (BTR). Are the undeveloped areas of the drum clean and without background?	Go to Step 4.	Go to RAP 59, page 153

Table 111 Background Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
4	<p>PAPER TRANSPORT ASSEMBLY BAFFLE GROUNDING</p> <ol style="list-style-type: none"> 1. Remove the Print Cartridge. 2. Check for continuity from the front opening, between metal parts of the Paper Transport Assembly and the printer frame. <p>Is the Paper Transport Assembly Baffle grounded?</p>	Go to Step 5.	Remove and clean the contact areas of the Paper Transport Assembly [RRP 4.1, page 283]. Reinstall the assembly so that it is grounded properly. If the problem persists, replace the Paper Transport Assembly [RRP4-1].
5	<p>FUSER</p> <p>Clean or replace the Fuser Assembly.</p> <p>Is the background gone?</p>	Problem solved.	Go to Step 6.
6	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ HVPS Board [RRP 8.2, page 307] ■ Fuser Assembly [RRP 5.1, page 288] ■ Paper Transport Assembly [RRP 4.1, page 283] ■ Laser Assembly [RRP 7.1, page 297] ■ Right Print Cartridge Guide [RRP 7.2, page 299] ■ Print Engine Controller Board [RRP 8.5, page 310] ■ Wiring and connectors linking the components 		

RAP 81 Uneven Density



Image Density varies within the page in either direction.

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Figure 29 Uneven Density

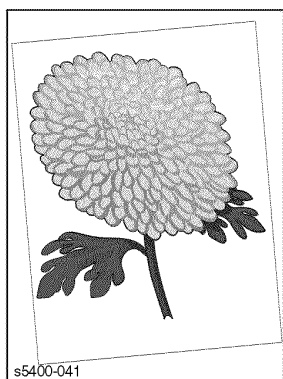
Table 112 Uneven Density Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>INITIAL ACTIONS</p> <ul style="list-style-type: none"> ■ Load fresh, dry paper. ■ Check that the correct Print Cartridge is properly installed and not empty. ■ Ensure that the machine is reasonably level. ■ Check to make sure the laser path is clean and unobstructed. ■ Remove the Print Cartridge and check the Left and Right Guide for wear, contamination, obstructions, etc. ■ Clean the laser window. 		
2	<p>TEST PRINT Run a Test Print.</p> <p>Does the Test Print image contain uneven print?</p>	Go to Step 3.	There is no problem with the printer. Check the customer's application.
3	<p>PRINT CARTRIDGE REPLACEMENT</p> <ol style="list-style-type: none"> 1. Install a new Print Cartridge. 2. Run a Test Print. <p>Does the Test Print image contain uneven print?</p>	Go to Step 4.	Problem solved.
4	<p>BIAS TRANSFER ROLLER INSPECTION</p> <p>Inspect the BTR Assembly for contamination and wear.</p> <p>Is the BTR free of contamination and wear?</p>	Go to Step 5.	Replace the BTR Assembly [RRP 7.6, page 304].

Table 112 Uneven Density Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
5	<p>FUSER INSPECTION</p> <p>1. Open the Exit Assembly.</p> <p>Warning: If the printer has been powered ON, the Fuser will be hot. Use extreme care when handling the Fuser.</p> <p>2. Remove the Fuser Assembly.</p> <p>3. Turn the Fuser Assembly upside down.</p> <p>4. Rotate the fuser idler gear manually and inspect the Heat Roller.</p> <p>5. Turn the Fuser Assembly right side up.</p> <p>6. Open the fuse jam access cover.</p> <p>7. Rotate the fuser idler gear manually and inspect the Pressure Roller.</p> <p>Are the Heat and Pressure Rollers free of scratches (damage) and contamination?</p>	Go to Step 6.	Replace the Fuser Assembly [RRP 5.1, page 288].
6	<p>“YES” FROM STEP 5 ABOVE</p> <p>1. Generate a Test Print and switch printer power OFF halfway through the print cycle.</p> <p>2. Carefully remove the Print Cartridge and inspect the image on the drum.</p> <p>Does the image on the drum have even density?</p>	Go to Step 7.	Replace the Laser Assembly [RRP 7.1, page 297].
7	<p>UNFUSED DENSITY</p> <p>Examine the print on the paper before the Fuser.</p> <p>Does the unfused image on the paper display even density?</p>	Replace the Fuser Assembly [RRP 5.1, page 288].	Replace the BTR [RRP 7.6, page 304].

RAP 82 Skewed Image



The image is not parallel to the edges of the print sheet.

Figure 30 Skewed Image

Table 113 Skewed Image Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	<p>INITIAL ACTIONS</p> <ul style="list-style-type: none"> ■ Check the paper tray(s) installation and the paper in the tray(s). ■ Load fresh, dry paper meeting specification. ■ Check the paper path for staples, paper clips, paper scraps and/or debris causing obstructions. ■ Ensure the Print Cartridge is properly installed. 		
2	<p>DUPLEX TEST PRINTS</p> <p>Run five Test Prints from each paper tray, duplexed if the printer is so equipped. If not equipped with a Duplex Module, skip to Step 4 below.</p> <p>Does the skewed image appear only on duplexed prints?</p>	Go to Step 3.	Go to Step 7.
3	<p>FUSER INSPECTION</p> <ol style="list-style-type: none"> 1. Inspect the Fuser Assembly for work parts or rollers. 2. Inspect for obstructions or contamination. <p>Were any worn parts or rollers, or were any obstructions found in the Fuser Assembly?</p>	Clean, repair or replace the Fuser Assembly [RRP 5.1, page 288].	Go to Step 4.
4	<p>EXIT ASSEMBLY INSPECTION</p> <ol style="list-style-type: none"> 1. Inspect all rollers, drives and gears in the Exit Assembly for contamination and/or wear. 2. Check for any obstructions in the Exit Assembly paper path. <p>Were any obstructions or worn/damaged parts found in the Exit Assembly?</p>	Clean, repair or replace the Rear Cover Assembly [RRP 1-9].	Go to Step 5.

Table 113 Skewed Image Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
5	<p>DUPLEX ASSEMBLY INSPECTION</p> <ol style="list-style-type: none"> 1. Inspect the Duplex Assembly for worn or contaminated parts or rollers. 2. Inspect the Duplex Assembly paper path for obstructions. <p>Were there any worn or contaminated parts or rollers found, or were there any obstructions in the paper path?</p>	Clean, repair or replace the Duplex Assembly [PL 13.1, page 426].	Go to Step 6.
6	<p>REAR CHUTE INSPECTION</p> <ol style="list-style-type: none"> 1. Inspect the Rear Chute between the Duplex Assembly and the Registration Rollers for worn parts and rollers. 2. Also inspect for obstructions and contamination. <p>Is the Rear Chute free of obstructions and contamination as well as free of worn parts and rollers?</p>	Go to Step 7.	Clean or replace any worn or contaminated parts as necessary. Remove any obstructions.
7	<p>Does the skewed image occur on prints fed from all trays?</p>	Go to Step 8.	Go to Step 13.
8	<p>REGISTRATION SENSOR ACTUATOR INSPECTION</p> <ol style="list-style-type: none"> 1. Inspect the Registration Sensor for damage, secure mounting and/or obstructions. 2. Check the Registration Sensor Actuator for damage, freedom of operation, obstructions or contamination. <p>Does the Registration Sensor Actuator move freely and is the Sensor and Actuator free of damage, contamination and obstructions?</p>	Go to Step 9.	Clean, repair or replace the Registration Sensor and/or the Actuator, as necessary [RRP 4.2, page 285 / RRP 4.4, page 287].
9	<p>REGISTRATION ROLLERS</p> <p>Inspect the Registration Rollers for cleanliness, wear, obstructions and/or contamination.</p> <p>Are the registrations rollers clean and free of obstructions and contamination?</p>	Go to Step 10.	Clean or replace the Paper Transport, if necessary [RRP 4.1, page 283].
10	<p>BTR INSPECTION</p> <p>Inspect the BTR and bearings for wear, damage or contamination.</p> <p>Is the BTR free of wear, damage or contamination?</p>	Go to Step 11.	Clean or replace the BTR as necessary [RRP 7.6, page 304].
11	<p>PRINT CARTRIDGE</p> <p>Inspect the Print Cartridge for wear, obstructions or damage.</p> <p>Is the Print Cartridge free of wear, damage or obstructions?</p>	Go to Step 12.	Replace the Print Cartridge.

Table 113 Skewed Image Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
12	<p>PAPER TRANSPORT ASSEMBLY INSPECTION Inspect the Paper Transport Assembly for wear, obstructions or contamination. Is the Paper Transport Assembly free of wear, obstructions and contamination?</p>	Go to Step 34	Clean, repair or replace the Paper Transport Assembly [RRP 4.1, page 283].
13	<p>Does the skewed image occur on printed from the MBF Tray?</p>	Go to Step 14.	Go to Step 18.
14	<p>MBF FEED ROLLERS INSPECTION Inspect the MBF Feed Rollers for contamination and/or wear. Are the MBF Feed Rollers free of contamination and wear?</p>	Go to Step 15.	Replace the MBF Feed Rollers [RRP 2.2, page 261].
15	<p>MBF RETARD PAD INSPECTION Inspect the MBF Retard Pad for wear, damage or contamination. Is the MBF Pad free of wear, damage or contamination?</p>	Go to Step 16.	Clean or replace the MBF Pad [RRP 2-5].
16	<p>MBF CHUTE INSPECTION Inspect the MBF Chute for obstructions and contamination. Is the MBF Chute free of obstructions and contamination?</p>	Go to Step 17.	Clean the MBF Chute as necessary.
17	<p>REGISTRATION SENSOR INSPECTION 1. Inspect the Registration Sensor obstructions or contamination. 2. Inspect the Registration Sensor Actuator for freedom of operation, damage, obstructions and contamination. Is the Registration Sensor (and Actuator) free of obstructions and contamination and does the Registration Sensor Actuator move freely?</p>	Go to Step 34.	Clean or replace the Registration Sensor or Actuator as necessary [RRP 4.2, page 285 / RRP 4.4, page 287].
18	<p>Does the skewed image occur on prints fed from Tray 1?</p>	Go to Step 19.	Go to Step 24.
19	<p>TRAY 1 FEED ROLLERS INSPECTION Inspect the Tray 1 Feed Rollers for wear or contamination. Are the Tray 1 Feed Rollers free of wear and contamination?</p>	Go to Step 20.	Clean or replace the Tray 1 Feed Rollers as necessary [RRP 2.10, page 271].

Table 113 Skewed Image Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
20	<p>TRAY 1 ENVELOPE FEED ROLLERS INSPECTION</p> <p>Inspect the Tray 1 Envelope Feed Rollers for wear or contamination.</p> <p>Are the Tray 1 Envelope Feed Rollers free of wear and contamination?</p>	Go to Step 21.	Clean or replace the Tray 1 Envelope Feed Rollers as necessary [RRP 2.10, page 271].
21	<p>TRAY 1 RETARD PAD INSPECTION</p> <p>Inspect the Tray 1 Retard Pad for wear and contamination.</p> <p>Is the Retard Pad free of wear and contamination?</p>	Go to Step 22.	Clean or replace the Tray 1 Retard Pad [RRP 3.1, page 273].
22	<p>TRAY 1 TURN ROLLER INSPECTION</p> <p>Inspect the Tray 1 Turn Roller Assembly for obstructions or contamination.</p> <p>Is the Tray 1 Turn Roller Assembly free of obstructions and contamination?</p>	Go to Step 23.	Clean or replace the Tray 1 Turn Roller as necessary.
23	<p>TRAY 1 FEED CHUTE INSPECTION</p> <p>Inspect the Feed Chute between Tray 1 and the Registrations Rollers for obstructions or contamination.</p> <p>Is the Feed Chute free of obstructions and contamination?</p>	Go to Step 34.	Clean or replace the Tray 1 Feed Chute [RRP 3.1, page 273].
24	<p>Does the skew occur on prints fed from Tray 2?</p>	Go to Step 25.	Go to Step 31
25	<p>TRAY 2 FEED ROLLER INSPECTION</p> <p>Inspect the Tray Feed Roller Assembly for wear and contamination.</p> <p>Are the Tray 2 Feed Rollers free of wear and contamination?</p>	Go to Step 26.	Clean or replace the Tray 2 Feed Rollers as necessary [RRP 11.9, page 336].
26	<p>TRAY 2 RETARD PAD/RETARD ROLLER INSPECTION</p> <p>Inspect the Tray 2 Retard Pad/Retard Roller for wear and contamination.</p> <p>Is the Tray 2 Retard Pad/Retard Roller free of wear and contamination?</p>	Go to Step 27.	Clean or replace the Tray 2 Retard Pad/Retard Roller [RRP 11.12, page 339].
27	<p>2000-SHEET FEEDER PICK ROLLER INSPECTION</p> <p>If a 2000-Sheet Feeder is installed, inspect the Pick Roller for wear and contamination.</p> <p>Is the 2000-Sheet Feeder Pick Roller free of wear and contamination?</p>	Go to Step 28.	Clean or replace the 2000-Sheet Feeder Pick Roller [RRP 12.14, page 366].

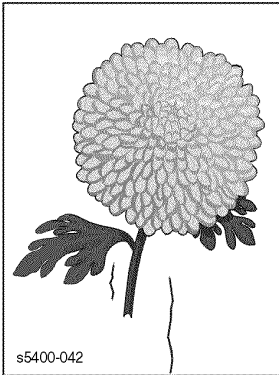
Table 113 Skewed Image Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
28	<p>FEED CHUTE INSPECTION Inspect the Feed Chute between Tray 2 and Tray 1 for obstructions and contamination.</p> <p>Is the Feed Chute free of obstructions and contamination?</p>	Go to Step 29.	Clean or replace the Feed Chute as necessary [RRP 3.1, page 273 / RRP 11.12, page 339].
29	<p>TRAY 1 LOWER TURN ROLLER INSPECTION Inspect the Tray 1 Lower Turn Roller Assembly for obstructions and contamination.</p> <p>Is the Tray 1 Lower Turn Roller Assembly free of obstructions and contamination?</p>	Go to Step 30.	Clean or replace the Tray 1 Lower Turn Roller as necessary [RRP 3.3, page 275].
30	<p>TRAY 1 REAR CHUTE INSPECTION Inspect the Tray 1 Rear Chute for obstructions and contamination.</p> <p>Is the Tray 1 Rear Chute free of obstructions and contamination?</p>	Go to Step 34.	Clean or replace the Tray 1 Rear Chute as necessary [RRP 3.1, page 273].
31	<p>TRAY 3 FEED ROLLERS INSPECTION Inspect the Tray 3 Feed Rollers for wear or contamination.</p> <p>Are the Tray 3 Feed Roller free of wear or contamination?</p>	Go to Step 32.	Clean or replace the Tray 3 Feed Rollers as necessary [RRP 11.9, page 336].
32	<p>TRAY 3 RETARD PAD/RETARD ROLLER INSPECTION Inspect the Tray 3 Retard Pad/Retard Roller Assembly for wear or contamination.</p> <p>Is the Tray 3 Retard Pad/Retard Roller free of wear and contamination?</p>	Go to Step 27, then go to Step 33.	Clean or replace the Tray 3 Retard Pad/Retard Roller [RRP 11.12, page 339].
33	<p>TRAY 3 FEED CHUTE INSPECTION Inspect the Feed chute between Tray 3 and Tray 2 for obstructions and contamination.</p> <p>Is the Feed Chute free of obstructions and contamination?</p>	Go to Step 34.	Clean or replace the Feed Chute [RRP 11.12, page 339].

Table 113 Skewed Image Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
34	<p>SUSPECT COMPONENTS The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none">■ Fuser Assembly■ Exit Assembly■ Duplex Assembly■ Registration Sensor■ Registration Sensor Actuator■ Registration Rollers■ Bias Transfer Roller / Bearings■ Print Cartridge■ Paper Transport Assembly■ MBF Feed Rollers■ MBF Retard Pad■ MBF Chute■ Tray 1/2/3 Feed Rollers■ Tray 1/2/3 Envelope Feed Rollers■ Tray 1/2/3 Retard Pad/Retard Rollers■ Tray 1 Turn Rollers■ Tray 1 Feed Chute■ Tray 1 Lower Turn Roller■ Tray 1 Rear Chute		

RAP 83 Damaged Print



The printed page comes out of the printer either wrinkled, creased, or torn.

Figure 31 Damaged Print

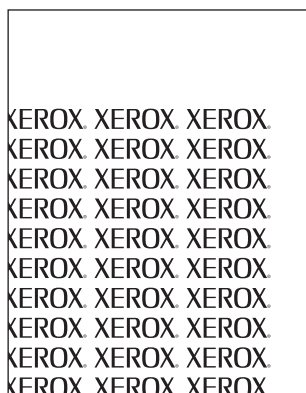
Table 114 Damaged Print Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	INITIAL ACTIONS <ul style="list-style-type: none"> ■ Check that the paper supply is dry and fresh. ■ Check that rollers and other components in the paper path are clean and unobstructed. ■ Ensure that the paper is within specification. 		
2	OBSERVE PAPER FEED Observe paper feed as you run a Test Print. Is the paper fed crooked?	Go to RAP 82, page 204	Go to Step 3.
3	PAPER REPLACEMENT <ol style="list-style-type: none"> 1. Replace paper with fresh, dry standard paper. 2. Run a Test Print. Is the paper still damaged?	Go to Step 4.	Problem solved.
4	FUSER INSPECTION <ol style="list-style-type: none"> 1. Open the Exit Assembly. <p>Warning: If the printer has been powered ON, the Fuser will be hot. Use extreme care when handling the Fuser.</p> <ol style="list-style-type: none"> 2. Remove the Fuser Assembly. 3. Turn the Fuser Assembly upside down. 4. Rotate the fuser idler gear manually and inspect the Heat Roller. 5. Turn the Fuser Assembly right side up. 6. Open the fuse jam access cover. 7. Rotate the fuser idler gear manually and inspect the Pressure Roller. Are the Heat and Pressure Rollers free of scratches (damage) and contamination?	Go to Step 5.	Replace the Fuser Assembly [RRP 5.1, page 288].

Table 114 Damaged Print Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
5	<p>PAPER PATH INSPECTION</p> <p>Inspect the paper path between the feed tray and the exit tray for contamination or obstructions.</p> <p>Is the paper path free of obstructions and contamination?</p>	Go to Step 6.	Remove obstructions or contamination from the paper path.
6	<p>ROLLER INSPECTION</p> <p>Inspect all of the roller along the paper path, between the feed tray and the exit tray, for contamination, wear or damage.</p> <p>Are the paper path roller free of contamination, wear or damage?</p>	Go to Step 7.	Replace the damaged or contaminated roller.
7	<p>PRINT CARTRIDGE REPLACEMENT</p> <p>1. Install a new Print Cartridge. 2. Run a Test Print.</p> <p>Is the print still damaged?</p>	Go to Step 8.	Problem solved.
8	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Fuser Assembly [RRP 5.1, page 288] ■ Paper Transport Assembly [RRP 4.1, page 283] ■ BTR Assembly [RRP 7.6, page 304] ■ MBF Feed Roller Assembly [RRP 2.2, page 261] ■ Retard Holder Assembly [RRP 2-5] ■ Rear Chute Assembly [RRP 3.1, page 273] ■ Turn Roller Assembly [RRP 2-4] ■ Feed Roller [RRP 2.10, page 271] ■ Tray Assembly [PL 2.1 / PL 2.2] 		

RAP 84 Registration



The image is not positioned correctly on the paper. It may be off in either the process direction or in the scan direction.

s5400_364

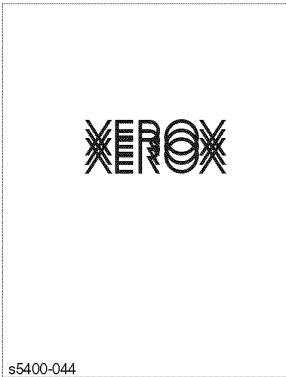
Figure 32 Registration

Table 115 Registration Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	INITIAL ACTIONS <ul style="list-style-type: none"> ■ Check to ensure that the paper is within specification. ■ Check that the paper supply is dry and fresh and loaded correctly. ■ Check that the Paper Tray guides are set correctly. ■ Check that rollers and other components in the paper path are clean and unobstructed. 		
2	TEST PRINT Run a Test Print. Is the Test Print output properly registered?	Go to Step 4.	Go to Step 3.
3	REGISTRATION CHECK Perform the registration check (page 231). Is the printer registration set correctly?	Go to Step 5.	Perform the registration adjustment procedure [page 231].
4	NEW PRINT JOB Have the customer send another print job. Is the print image properly registered?	Problem solved.	Contact Xerox Customer Support.

Table 115 Registration Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
5	<p>“YES” FROM STEP 3 ABOVE</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely.</p> <p>If misregistration occurs in the process direction, replace in sequence as necessary:</p> <ul style="list-style-type: none">■ Registration Clutch [RRP 4.3, page 286]■ Main Gear Drive [RRP 6.1, page 295]■ Registration Sensor [RRP 4.4, page 287]■ Print Engine Controller Board [RRP 8.5, page 310]■ System Controller Board [RRP 8.1, page 305].■ Paper Transport [RRP 4-1, page 283] <p>If misregistration occurs across the process direction, replace in sequence as necessary:</p> <ul style="list-style-type: none">■ Laser Assembly [RRP 7.1, page 297]■ System Controller Board [RRP 8.1, page 305]		



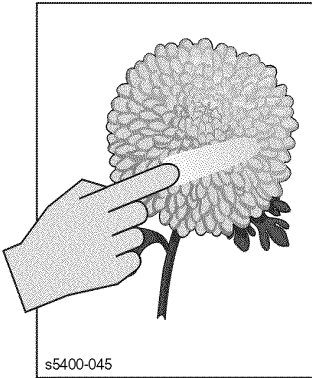
A skip is a disturbance of the image that lengthens or shortens the image in the process direction. A smear is a darkening across the process direction or a repeat of the image in the process direction.

Figure 33 Skips / Smears

Table 116 Skips / Smears Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	INITIAL ACTIONS <ul style="list-style-type: none"> ■ Check that the paper supply is dry and fresh. ■ Ensure that the paper is within specification. ■ Check that the paper path for any obstructions or debris. 		
2	TEST PRINT Run a Test Print. Does the image display skips or smears?	Go to Step 3.	Problem solved.
3	SEQUENTIAL REPLACEMENT Check, clean or replace as necessary in the following sequence: <ul style="list-style-type: none"> ■ Paper Transport [RRP 4.1, page 283]. ■ Main Drive components [RRP 6.1, page 295]. ■ Fuser Assembly [RRP 5.1, page 288]. Does the defect still occur?	Replace the Print Cartridge [PL 8.1, page 402].	Problem solved.

RAP 86 Unfused Image



The printed image is not fully fused to the paper. The image rubs off easily.

Figure 34 Unfused Image

Table 117 Unfused Image Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	INITIAL ACTIONS <ul style="list-style-type: none"> ■ Ensure that the paper is within specification. 		
2	PAPER REPLACEMENT 1. Replace paper with fresh, dry standard paper. 2. Run a Test Print. Is the problem still present?	Go to Step 3.	Problem solved.
3	CHECK FUSER SETTING Refer to Non-Volatile Memory Setup Mode and check the Fuser Setting. Is the NV code set to factory default value?	Go to Step 5.	Go to Step 4.
4	RESET TO FACTORY DEFAULT 1. Set NV code to the factory default value. 2. Run 25 Test Prints. Is the problem still present?	Increase the fuser temperature by one increment and run 25 test prints. Recheck / repeat as necessary.	Problem solved.
5	Is the overall print density within specification?	Go to Step 6.	Go to RAP 70, page 178.

Table 117 Unfused Image Troubleshooting Procedure (cont'd.)

Step	Actions and Questions	Yes	No
6	<p>FUSER INSPECTION</p> <ol style="list-style-type: none"> 1. Open the Exit Assembly. <p>Warning: If the printer has been powered ON, the Fuser will be hot. Use extreme care when handling the Fuser.</p> <ol style="list-style-type: none"> 2. Remove the Fuser Assembly. 3. Turn the Fuser Assembly upside down. 4. Rotate the fuser idler gear manually and inspect the Heat Roller. 5. Turn the Fuser Assembly right side up. 6. Open the fuse jam access cover. 7. Rotate the fuser idler gear manually and inspect the Pressure Roller. <p>Are the Heat and Pressure Rollers free of scratches (damage) and contamination?</p>	Go to Step 7.	Replace the Fuser Assembly [RRP 5.1, page 288].
7	<p>“YES” FROM STEP 6 ABOVE</p> <ol style="list-style-type: none"> 1. Open the fuser jam access cover. 2. Rotate the fuser idler gear manually and inspect the contact between the Heat Roller and the Pressure Roller along the rotation. <p>Do the Heat and Pressure Rollers contact each other uniformly?</p>	Go to Step 8.	Replace the Fuser Assembly [RRP 5.1, page 288].
8	<p>SUSPECT COMPONENTS</p> <p>The following printer components and areas are associated with this specific problem. One or more of these components or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this Repair Analysis Procedure, replace each component or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Fuser Assembly [RRP 5.1, page 288] ■ Print Engine Controller Board [RRP 8.5, page 310] ■ LVPS [RRP 8.6, page 312] 		

RAP 87 Resolution

The two pixel lines and halftone patches cannot be reproduced clearly on the print.

Table 118 Resolution Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	INITIAL ACTIONS ■ Check that the print density is set to the default value.		
2	PRINT CARTRIDGE REPLACEMENT 1. Install a new Print Cartridge [PL 8.1, page 402]. 2. From the Ready Menu, press [1] or [5] to scroll to Menu / Print Menu, then press [2] or [6] to scroll to Print Menu / Test Print, press [4] to run the Print-Quality Test Print. Does the Test Print output resolution appear to be acceptable?	Problem solved.	Go to Step 3.
3	SEQUENTIAL REPLACEMENT Replace as necessary until the defect component is found, in the following sequence: ■ Laser Assembly [RRP 7.1, page 297 ■ HVPS [RRP 8.2, page 307		

Blank Page

Diagnostics, Test Prints, Service Tests and NVRAM Adjustments

The printer has four modes of operation:

- On-Line Mode
- Power Saver Mode
- Diagnostics Mode
- Menu Mode

On-Line Mode

On-Line is the printer's normal operating mode. In this mode, the printer is on line, under the control of the System Controller Board, and ready to generate output. The On-Line Mode occurs automatically when the printer is powered ON.

If the printer goes out of the On-Line Mode during operation, it may be restored to on line by pressing the On-Line button [0] on the Control Panel.

When the printer is on line, the "On Line" LED is illuminated steadily, indicating data reception, transmission, analysis and printing are allowed. When the "On Line" LED is blinking, the printer is receiving or processing data, or printing.

Power Saver

The printer employs a Power Saver Mode to reduce power consumption by lowering the temperature of the fuser. If no data is received, or no Control Panel operation is performed within a period of time (either printer default or set by the user), the printer enters the power saving state.

The Power Saver Mode interval can be set from the System Menu (in Menu Mode) and can be preset to Off, 15, 30, 60, 90, 120 or 180 minutes.

When the printer is in the power saving state, it takes longer to start printing the first page, because it can take up to 30 seconds to warm up the fuser.

Diagnostics

Diagnostics available to the technician are built into the System Controller Board. Test prints are available from the System Controller (in normal or On-Line Mode) and the Print Engine Controller Board (in Diagnostics mode) to test functionality and make adjustments.

You can use Diagnostics to:

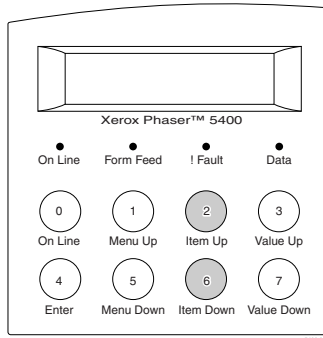
- Test the operation of printer switches and sensors.
- Test the operation of printer motors, solenoids, and electric clutches.
- Generate a test pattern to check printer operation and xerographic functions.
- Read component usage logs.
- Read and change operational parameters.
- Analyze and adjust registration both overall and for each paper feed tray.

Menu Mode

Menu Mode utilizes the Control Panel to select various printer operations, print configuration sheets and print test/demo prints. The Menu Mode also enables the operator to set, change or adjust various features/options available in the Phaser 5400 Laser Printer. If an option is not installed, the menu items for that option will not be displayed.

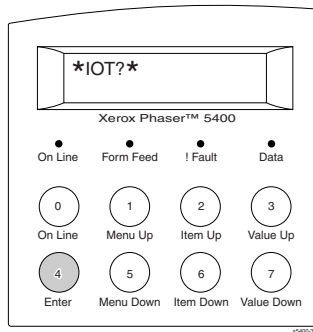
Entering Diagnostics Mode

1. Make certain the printer is OFF.
2. Press and hold buttons [2] and [6] on the Control Panel while you switch ON printer main power. Continue holding until ***IOT?*** appears in the display (approximately 20 seconds).



3. When the Control Display shows ***IOT?***, release buttons [2] and [6] and press button [4]. The Control Panel first reads "Entering IOT Diagnostics Mode" then changes to "Main Menu, Component Test." The printer is now in Diagnostics Mode.

Note: *You must press button [4] within 10 seconds after ***IOT?*** appears in the display to enter Diagnostics Mode, or the printer will default to a normal power-up sequence.*



Note: *If you miss the 10-second window, the printer will reenter its normal boot sequence. To try again, power down the printer, wait 20 - 30 seconds, and begin at step 1 above again.*

4. Diagnostics Mode menus are navigated like On Line Mode menus. Use buttons [1] and [5] to display the three top level menus, Component Test, Test Print and NVM Config. When "NVM Config" is displayed and you push buttons [2] or [6] to reach the NVRAM submenus, "Enter Password" will be displayed. Sequentially press [0], [7], [3], [4] to gain entry.
5. To exit Diagnostics, you must switch printer power OFF for 10 seconds, then switch printer power ON for normal operation in the On Line mode.

System Controller Board Error (Blink) Codes

The System Controller Board Error Code Table below identifies error conditions and error (blink) codes during the Power On Diagnostics Sequence. The Blink codes can be observed under all powered ON conditions.

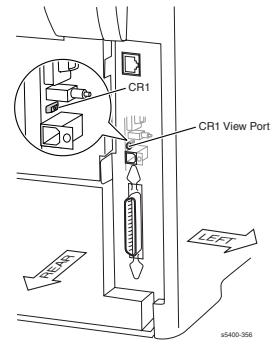


Table 119 System Controller Board Error (Blink) Codes

Failure Condition	Error Code	Control Panel Message	Number of CR1 blinks (Followed by 1 sec. off)	Comment
System Controller	0001	0001 - CONTROLLER	1	System Controller PWB major failures
System Controller Base RAM	0001	ESS - Base RAM	2	System Controller PWB on board RAM failure
System Controller ROM	0001	0001 - BASE ROM	3	System Controller PWB boot ROM failure
ASIC	0001	0001 - ASIC	4	System Controller PWB ASIC controller failure
Timer	0001	0001 - TIMER	4	System Controller Timer failure
PWPM	0001	0001 - PWPM	5	System Controller PWPM failure
DMA Controller	0001	0001 - DMA	5	System Controller PWB ASIC DMA failure
Communication Interfaces	0001	0001 - PARALLEL	6	Parallel Port failure
		0001 - USB	6	USB port failure
		0001 - ENET	6	1/100 Base-TX failure
IOT Communication	1000	1000 - IOT	8	System Controller PWB - IOT handshake failure
Hard Disk	0010	0010 - DISK	9	Hard disk failure
DIMM 1	0101	0101 - DIMM1	10	DIMM board 1 failure
DIMM 2	0102	0102 - DIMM2	11	DIMM board 2 failure
DIMM 3	0103	0103 - DIMM3	12	DIMM board 3 failure
XIE	2000	2000 - XIE	15	Xerox Image Enhancement RAM, PWPM OR VDMA failure
Memory	5000	5000 - MEMORY	None	Memory size not large enough to load the system software

Recommended Corrective Action

For most of the blink code errors, the System Controller Board should be replaced. For Hard Disk and DIMM slot errors, the cause of the error could be either the System Controller Board or the plugged-in accessory. If the blink error points to a (HD or RAM) component that is not even installed, the System Controller is to blame. Otherwise, be prepared to replace either component (DIMM or HD and the System Controller).

Power On LED Sequence

The following LEDs on the System Controller Board aid in identifying faults during the Power On sequence. The LEDs provide status information in all powered ON operating modes.

Table 120 System Controller LEDs

LED	Location	Color	Description
Power - CR6	CR 6	Red	Indicates power to the controller. Should stay on when power is turned on.
Test - CR1	CR 1	Red	Indicates that a power on diagnostics failure has occurred when flashing.
Speed	CR 4	Red	ON: 10 Mbit Ethernet OFF: 100 Mbit Ethernet
Link	CR 3	Green	OFF: Indicates no Ethernet link found ON: Indicates Ethernet link found
RXD	CR 2	Yellow	OFF: Indicates no activity on Ethernet link ON: Indicates activity on Ethernet link

Diagnostics Menu Map

The table below summarizes the operation of the Control Panel keys in Diagnostics Mode.

Note: An asterisk () indicates a factory default setting.*

Table 121 Diagnostics Menu Map

Press [1] or [5] to display: ⇒	Main Menu Test Print
Press [2] or [6] to display: ↓	Press [3] or [7] to display: ↓
Print Pattern	
Input Tray	Input Tray / Tray 1*
	Input Tray / Tray 2
	Input Tray / Tray 3
	Input Tray / MBF
Output Tray	Output Tray / Standard*
	Output Tray / HCS
Duplex	Duplex / Off*
	Duplex / On

Press [1] or [5] to display: ⇒	Main Menu NVM Config
Note: When prompted for password, press [0], [7], [3] & [4] to gain entry.	
Press [2] or [6] to display: ↓	Press [3] or [7] to display: ↓
NVM Config	
Resolution (R)	Read-only
Laser Density (R)	Read-only
Fuser Stdbby Temp (R)	Read-only
Fuser Run Temp	
Front Tray Size	
Front Tray Opt (R)	Read-only
Process Tray 1	
Process Tray 2	
Process Tray 3	
Process MBF	
Scan Tray 1	
Scan Tray 2	
Scan Tray 3	
Scan MBF	
Full Stack Count	

Table 121 Diagnostics Menu Map (cont'd.)

Press [1] or [5] to display: ⇒	Main Menu Component Test
Press [2] or [6] to display: ↓	Press [3] or [7] to display: ↓
Component Test	
Print Counter	
Sensor Input	
Fuser Temp Set	
Fuser Temp Read	
IOT ROM Checksum	
MBF Feed Sol	
Tray 1 Feed Sol	
Tray 2 Feed Sol	
Tray 3 Feed Sol	
Turn Roll Clutch	
Reg Clutch	
Main Motor	
Detack Saw	
Fan Motor High	
DUP Motor On Low	
DUP Motor On Hi	
Exit Motor Fwd L	
Exit Motor Rev L	
Exit Motor Rev H	
ROS Motor	
HCS Motor	
Exit Gate Sol	
Charge Roll AC	
Charge Roll DC	
Dev Bias AC	
Dev Bias DC	
BTR-	
BTR+	
MBF Tray Size	
Tray 1 Size	
Tray 2 Size	
Tray 3 Size	

System Controller Board Test Prints

Note: *System Controller Board Test Prints are available from the Main Menu without entering Diagnostics Mode.*

A variety of test prints are available to aid in determining the quality of output from the printer and to assist in troubleshooting problems. Most test prints are available from the Main Menu (in Menu Mode). One test print “Print Pattern” [page 229](#) is available in Diagnostics Mode.

Note: *For assistance in analyzing print-quality problems, please refer to the Troubleshooting section of this manual, [Image-Quality Troubleshooting, page 176](#).*

Main Menu Test Prints

The test prints available from the Main Menu consist of a “Test Print” for helping to evaluate print quality and alignment/registration. Other available prints provide a printer configuration sheet, fault history, menu map, PS and PCL font lists, and a PCL Demo page. Some of these test prints serve a twofold purpose by providing information germane to the printer and an indicator of measurable print quality.

Test prints from the Print Menu are PCL or PostScript files, processed and printed like a file from a host computer. These files test image processing as well as the printer’s mechanical function. Printer default settings in the System Menu, such as Paper Size, Paper Type, Print Quantity, Duplex, Resolution and Output Destination may be set as needed to exercise the desired part of the printer.

Note: *If multiple test prints are desired, enter the System Menu and change “Print Quantity” value from 1 to the desired number. Remember to reset the value back to 1 after checking/adjusting registration.*

Note: *It is not necessary to take the printer “Off Line” to run the following test prints. The [0] key takes the printer Off Line, if needed and returns all modes, except Diagnostics, to “Ready.”*

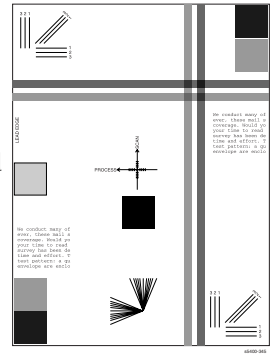
Configuration Sheet

A printer configuration sheet can be used as an indicator of print quality, as well as providing the user/technician with pertinent information regarding the printer’s configuration. It is a good idea to print a configuration sheet and keep it close to the printer for reference by users, technicians, and/or system administrators.

1. From the “Ready” menu, press [1] or [5] until “Print Menu” is displayed.
2. Press [2] or [6] until “Config Sheet” is displayed.
3. Press [4] and a printer configuration sheet is printed.

System Controller Board Test Print

The “Test Print” is a multi-purpose print displaying a wide variety of objects including text, multi-positional thin/thick lines, black painted areas, gray scale, fine alignment graduations to facilitate checking registration, lead edge and side edge alignment, etc. Normally, running this test print delivers two identical pages.



1. From the Ready menu, press [1] or [5] until “Print Menu” is displayed.
2. Press [2] or [6] until “Test Print” is displayed.
3. Press [4] and the System Controller test page is printed.

Fault History

The fault history is a printed list consisting of two columns. The first column is the page count when the fault occurred; the second column is the fault or error code, which may be found in [Error Codes and Messages](#) on page 27. If the printer is not functional and a Fault History cannot be printed, see Display Faults.

1. From the “Ready” menu, press [1] or [5] until “Print Menu” is displayed.
2. Press [2] or [6] until “Display Faults” is displayed.
3. Press [3] to view the most recent fault. Continuing to press [3] will display earlier faults, in order with page count and fault code.

Note: *It is advisable to obtain a list of fault codes for reference before calling for technical assistance.*

Display Faults

Display Faults provides fault history for the case where a page cannot be printed. It is recommended that you write down the fault history, or at least recent faults that may be pertinent to resolving a problem.

1. From the “Ready” menu, press [1] or [5] until “Print Menu” is displayed.
2. Press [2] or [6] until “Config Sheet” is displayed.
3. Press [4] and a printer configuration sheet is printed.

Menu Map

The menu map helps the user/technician navigate the multitudes of menus and sub-menus available. It is a good idea to print a menu map and keep it close to the printer for reference by users, technicians, and/or system administrators.

1. From the “Ready” menu, press [1] or [5] until “Print Menu” is displayed.
2. Press [2] or [6] until “Menu Map” is displayed.
3. Press [4] and the menu map is printed.

PS Font List

The PS Font List produces a list of internally available PostScript fonts. Use this single test page for a print quality check.

1. While in the menu mode, press [1] or [5] until “Print Menu” is displayed.
2. Press [2] or [6] until “PS Font List” is displayed.
3. Press [4] and the PS font list is printed.

PCL Font List:

Several pages of internal PCL fonts is provided with this test. This is another useful print with which to gauge print quality.

1. From the “Ready” menu, press [1] or [5] until “Print Menu” is displayed.
2. Press [2] until “PCL Font List” is displayed.
3. Press [4] and the PCL font list is printed.

PCL Demo:

The PCL Demo print shows off the printer’s capabilities and may be left with the user after a repair is completed.

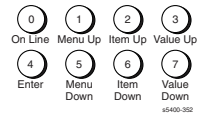
1. From the “Ready” menu, press [1] until “Print Menu” is displayed.
2. Press [2] until “PCL Demo” is displayed.
3. Press [4] and the PCL Demo test page is printed.

Print Engine Controller Board Test Print

Enter Diagnostics Mode. Refer to [page 221](#) for instructions on entering Diagnostics and [page 224](#) for navigating the Diagnostics menu.

The Print Engine Controller Board Test Print is used to bypass the System Controller Board. The “Print Pattern” test print is an excellent tool for isolating and diagnosing printer feed, paper path, registration and image-quality problems. Refer to the Registration section [page 231](#) for information on using test prints to help adjust print image registration.

The Control Panel Test Legend to the right will aid in navigating through the variety of test prints available.



Upon entering Diagnostics Mode, the Control Panel LCD will momentarily display “Entering IOT Diagnostics Mode.” Then the LCD will display “Main Menu / Component Test.

Note: An asterisk (*) indicates a factory default setting.

Table 122 Test Print Menu

Press [1] or [5] to display: ⇒ Main Menu Test Print		
Press [2] or [6] to display: ↓	Press [3] or [7] to display: ↓	Comment
Test Print Print Pattern		Press [4] to start the test print selected. Note: Print Pattern generates continuous test prints. Press [0] to stop.
Input Tray	Input Tray Tray 1*	Press [4] to select the paper feed tray desired.
	Input Tray Tray 2	Press [4] to select the paper feed tray desired.
	Input Tray Tray 3	Press [4] to select the paper feed tray desired.
	Input Tray MBF (Multi-sheet Bypass Feeder)	Press [4] to select the paper feed tray desired.
Output Tray	Output Tray Standard*	Press [4] to select the output Tray desired.
	Output Tray HCS	Outputs to the High Capacity Stacker
Test Print Duplex	Duplex Off*	Single side printing
	Duplex On	Both sides of page printed

By selecting various combinations of Input Tray, Output Tray and Duplex ON/OFF, you can test most of the printer’s functional areas as well as print quality.

Analyzing Test Prints

Test prints provide several uses in troubleshooting printer problems.

- Isolating problems to either the Print Engine Controller Board or to the System Controller Board and host software.
- Locating feed and paper transport problems.
- Detecting print-quality and image registration problems.

Note: *Always check Fault History and appropriate RAPs before initiating additional tests or investigations.*

Using Test Prints to Isolate a Problem to the Print Engine Controller Board or the System Controller Board

1. Print a sample image from the host computer.
2. Enter Printer Diagnostics and generate a Print Engine Controller Board test print.
3. Compare both prints.
4. If the problem occurs when you print from the host computer but does not occur when you print from Diagnostics, the problem may be in the System Controller Board, in the print driver software, or in the application software on the host computer.
5. If the problem occurs when you print a test print, then the problem is in the print engine.

Note: *If a Test Print image is not centered on the page or has uneven borders, refer to Registration on [page 231](#). If the Test print is centered but the host computer's image is not centered properly, a software correction must be made at the host computer by adjusting margins, page size, etc.*

Using Test Prints to Locate a Feed or Paper Transport Problem

Test prints may help you locate a problem with paper feed or with paper transportation along the paper path.

1. Enter Printer Diagnostics and generate a test print from every input tray, using Duplex (if installed) and outputting to all output trays.
2. Follow the paper along the paper path to locate the cause of the problem.

Registration

Purpose

To adjust the registration in the scan direction and the process direction.

To Set Default Tray

1. Enter Diagnostics Mode and press [1] or [5] to scroll to “Main Menu / Test Print”.
2. Ensure the paper guides are properly set to match the paper size.
3. Press [2] or [6] to scroll to “Input Tray”.
4. Press [3] or [7] to scroll to the tray that you wish to be the Default Tray.
5. Press [4] to set.

Check

1. Set the Default Tray per the above procedure.
2. Ensure paper is loaded correctly and the side paper guides are properly set.
3. Press [1] or [5] to scroll to “Main Menu / Test Print”.
4. Press [2] or [6] to scroll to “Print Pattern” and press [4].
5. After at least two prints complete, press the [0] key for one second to stop the printing.
6. The measurement should be made on two consecutive test patterns from each tray.
 - Measure the distance from the top edge of the paper to the top edge of the image (C) and measure the distance from the bottom edge of the paper to the bottom edge of the image (D). These two measurements should be equal (see Figure 35).
 - Measure the distance from the lead edge of the paper to the lead edge of the image (A) and measure the distance from the trail edge of the paper to the trail edge of the image (B). These two measurements should be equal (see Figure 35).
7. If either measurement does not meet specification perform the adjustment below.
8. Repeat steps 1 through 6 for each paper tray.

Adjustment

1. Press [1] or [5] to scroll to “NVM Config.”
2. Enter the NVM Password in this sequence: [0], [7], [3] and [4].
3. Press [2] or [6] to scroll to “Process Tray ‘X’” or “Scan Tray ‘X’” adjustment for the desired tray.
 - Process Tray X shifts the image from the Leading Edge to Trailing Edge (A to B).
 - Scan Tray X shifts the image from top to bottom (C to D).
4. Press [3] or [7] one time to display the current setting.
5. Press [3] or [7] again to scroll to a new setting / value.

Note: *Each increment of change equals approximately one-half millimeter. In the scan direction increasing the value moves the image to the right and decreasing the value moves the image to the left. In the process direction increasing the value moves the image toward the trail edge and decreasing the value moves the image towards the lead edge.*

6. Press [4] to save the setting.
7. Press [1] or [5] to scroll to “Test Print.”
8. Press [2] or [6] to scroll “Print Pattern” and press [4]. The printer begins printing test pages with the print pattern seen in the figure below.
9. Measure the distance from the left edge of the paper to the left edge of the image and measure the distance from the right edge of the paper to the right edge of the image. These two measurements should be equal.
10. Measure the distance from the lead edge of the paper to the lead edge of the image and measure the distance from the trail edge of the paper to the trail edge of the image. These two measurements should be equal.
11. Repeat steps 1 through 10 until equal side-to-side and lead edge to trail edge measurements are achieved.

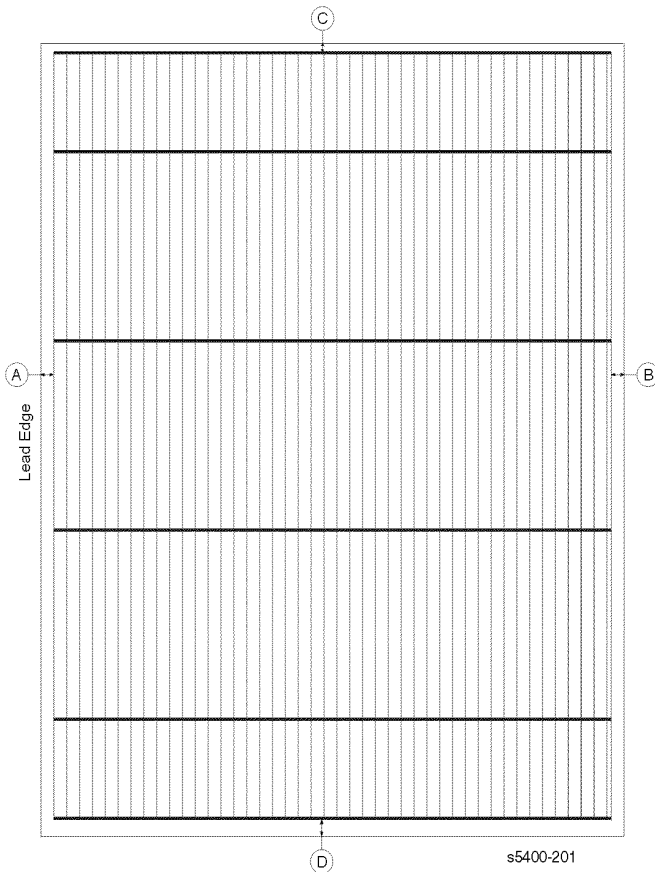


Figure 35 Registration Test Pattern

NVRAM Configuration (NVM Config)

The Non-Volatile RAM (NVRAM, or NVM) stores critical control parameters of the mechanical and electromagnetic components of the printer. The following allows service personnel to view status and/or change NVM settings.

Notes: *Information displayed here requires entering Diagnostics Mode. Refer to [Entering Diagnostics Mode](#) on page 221 for instructions on entering Diagnostics Mode.*

Some parameters are “read-only” and cannot be changed. Refer to the Read/Write column in the table for specifics.

The Control Panel Legend to the right will aid in navigating through the NVRAM Configuration Menu.

Note: “(R)” displayed on the LCD means Read-Only.

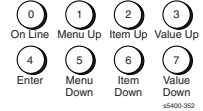


Table 123 NVRAM Configuration Menu

Press [1] or [5] to display: ⇒ Main Menu NVM Config			
Then, press [2] or (6) to display: ↓			
	To view, press	Range / Default	To Adjust
Note: When password is requested, sequentially press [0], [7], [3], [4] to gain entry.		* = default	
Resolution (R)	[3] or [7]	N/A / D*	N/A - press [0] to exit
Laser Density (R)	[3] or [7]	N/A / 4*	N/A - press [0] to exit
Fuser Stdbby Temp (R)	[3] or [7]	N/A / 8*	N/A - press [0] to exit
Fuser Run Temp (See Table 124 on page 234)	[3] or [7]	0 ~ F / 8*	Press [3] or [7] to scroll to desired setting. Press [4] to set and exit.
Front Tray Size	[3] or [7]	0 ~ F / 8*	Press [3] or [7] to scroll to desired setting. Press [4] to set and exit.
Front Tray Opt (R)	[3] or [7]	N/A / 4*	N/A - press [0] to exit
Process Tray 1	[3] or [7]	0 ~ F	Press [3] or [7] to scroll to desired setting. Press [4] to set and exit.
Process Tray 2	[3] or [7]	0 ~ F	Press [3] or [7] to scroll to desired setting. Press [4] to set and exit.
Process Tray 3	[3] or [7]	0 ~ F	Press [3] or [7] to scroll to desired setting. Press [4] to set and exit.
Process MBF	[3] or [7]	0 ~ F	Press [3] or [7] to scroll to desired setting. Press [4] to set and exit.
Scan Tray 1	[3] or [7]	0 ~ 7	Press [3] or [7] to scroll to desired setting. Press [4] to set and exit.

Table 123 NVRAM Configuration Menu (cont'd.)

Scan Tray 2	[3] or [7]	0 ~ 7	Press [3] or [7] to scroll to desired setting. Press [4] to set and exit.
Scan Tray 3	[3] or [7]	0 ~ 7	Press [3] or [7] to scroll to desired setting. Press [4] to set and exit.
Scan MBF	[3] or [7]	0 ~ 7	Press [3] or [7] to scroll to desired setting. Press [4] to set and exit.
Full Stack Count	[3] or [7]	0 ~ A	Press [3] or [7] to scroll to desired setting. Press [4] to set and exit.

Table 124 Phaser 5400 Fuser Run Temp Conversion Table

NVM Fuser Run Temp	Component Test Fuser Temp Read	Heat Roll Temp Centigrade (°C)	Heat Roll Temp Fahrenheit (°F)
0	3E	156°	312.8°
1	41	159°	318.2°
2	43	162°	323.6°
3	46	165°	329.0°
4	49	168°	334.4°
5	4C	171°	339.8°
6	4F	174°	345.2°
7	52	177°	350.6°
8 ^a	55	180°	356.0°
9	58	183°	361.4°
A	5B	186°	366.8°
B	5E	189°	372.2°
C	61	192°	377.6°
D	64	195°	383.0°
E	67	198°	388.4°
F	6A	201°	393.8°

a. Shaded Cells = Default

Component Tests

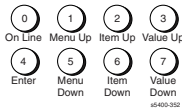
Note: Before entering Diagnostics Mode, it is recommended to print a Configuration Sheet for reference.

Component Control Output tests are used to aid in verifying proper component operation, identifying problems and isolating faulty components. Access the Component Test sequence from Diagnostics Mode. Refer to *Entering Diagnostics Mode* on page 221 for how to enter Diagnostics Mode.

Use the Control Panel legend below to help navigate through the Component Test menu.

Caution: It may be necessary to bypass or activate door interlocks in order to observe the Component Tests. Mechanisms may move that are not anticipated! Bypass the interlock switches with care. Remove any loose jewelry, neckties, or loose clothing that might be caught in the printer.

Control Panel Test Legend:



Nomenclature Legend:

IOT: Print Engine - the printer not including the System Controller Board or options.

HCE: High Capacity Feeder Option

MBF (or MSI): Multi-sheet Bypass Feeder

Table 125 Component Tests

Press [1] or [5] to display: Main Menu
Component Test

Press [2] or [6] to display: ↓	Displayed Result: ↓	Turn -On Duration	Procedure / Comment
Print Counter	Print Counter Prints = nnnnnnnn	3 sec.	1. Press [4] to display for duration. 2. Displays total pages passed the Fuser Exit Sensor for duration. Note: This number will differ from the same number on the Configuration sheet.
Sensor Input	Sensor Input Input Counts nn	N/A	1. Press [4] to start the test. 2. Actuate sensors and interlocks. 3. Observe display for Input Counts to increment with each sensor / interlock actuation. 4. Press [0] to stop.
Fuser Temp Set	Fuser Temp Set Standby Temp = nn	3 sec.	1. Press [4] to display for duration. 2. Displays Fuser temperature setting value for duration.
Fuser Temp Read	Fuser Temp Read Current Temp = nn	N/A	1. Press [4] to start test. 2. Displays current Fuser temperature. 3. Press [4] to stop.

Table 125 Component Tests (cont'd.)

Press [1] or [5] to display: Main Menu

Component Test

Press [2] or [6] to display: ↓	Displayed Result: ↓	Turn -On Duration	Procedure / Comment
IOT ROM Checksum	IOT ROM CheckSum = nnnn	3 sec.	<ol style="list-style-type: none"> 1. Press [4] to display for duration. 2. Displays a ROM checksum for duration to compare against current Engine Software Version checksum on configuration sheet.
MBF Feed Sol		3 sec.	<ol style="list-style-type: none"> 1. Press [4] to start test. 2. Actuates the MBF Feel Solenoid for duration. 3. Listen for clicks when pressing [4].
Tray 1 Feed Sol		2 sec.	<ol style="list-style-type: none"> 1. Press [4] to start test. 2. Actuates Tray 1 Feed Solenoid for duration. 3. Listen for click when pressing [4].
Tray 2 Feed Sol		2 sec.	<ol style="list-style-type: none"> 1. Press [4] to start test. 2. Actuates Tray 2 Feed Solenoid for duration. 3. Listen for click when pressing [4].
Tray 3 Feed Sol		2 sec.	<ol style="list-style-type: none"> 1. Press [4] to start test. 2. Actuates Tray 3 Feed Solenoid for duration. 3. Listen for click and short duration motor run when pressing [4].
Turn Roll Clutch		5 min.	<ol style="list-style-type: none"> 1. Press [4] to actuate Tray 1 Feed Clutch. 2. Press [0] to stop. <p>Note: Actuating this test may feed one or more sheets of paper to the Registration Roller. If this happens you may get a paper jam message, or the printer may eject one or more sheets of paper before it comes on line again. If you get a paper jam message, the jam is likely to be most visible by removing Tray 1, then lifting and pulling the MBF outward to its limit. You are then able to access the paper at the Registration Roller.</p>
Reg. Clutch		2 sec.	<ol style="list-style-type: none"> 1. Press [4] to start test. 2. Actuates the Registration Clutch for duration. 3. Listen for click when pressing [4].
Main Motor		5 min.	<ol style="list-style-type: none"> 1. Press [4] to start test. 2. Main Motor runs for duration. 3. Press [0] to stop.

Table 125 Component Tests (cont'd.)

Press [1] or [5] to display: Main Menu
Component Test

Press [2] or [6] to display: ↓	Displayed Result: ↓	Turn -On Duration	Procedure / Comment
Detack Saw		5 min.	<ol style="list-style-type: none"> 1. Press [4] to start test. 2. Detack Saw is electrically charged for duration. 3. Press [0] to stop.
Fan Motor High		5 min.	<ol style="list-style-type: none"> 1. Press [4] to start test. 2. Operates the Fan Motor at high speed for duration. 3. Press [0] to stop.
Dup Motor On Low		5 min.	<ol style="list-style-type: none"> 1. Press [4] to start test. 2. Operates the Duplex Motor at low speed for duration. 3. Press [0] to stop.
Dup Motor On Hi		5 min.	<ol style="list-style-type: none"> 1. Press [4] to start test. 2. Operates the Duplex Motor at high speed for duration. 3. Press [0] to stop.
Exit Motor Fwd L		5 min.	<ol style="list-style-type: none"> 1. Press [4] to start test. 2. Operates the Exit Motor Forward at low speed or Press [0] to stop.
Exit Motor Rev L		5 min.	<ol style="list-style-type: none"> 1. Press [4] to start test. 2. Operates the Exit Motor Reverse at low speed or Press [0] to stop.
Exit Motor Rev H		5 min.	<ol style="list-style-type: none"> 1. Press [4] to start test. 2. Operates the Exit Motor Reverse at high speed. 3. Press [0] to stop.
ROS Motor		5 min.	<ol style="list-style-type: none"> 1. Press [4] to start test. 2. Operates the Laser Scanner Motor for duration. 3. Press [0] to stop. <p>Note: Print Cartridge must be installed to conduct this test.</p>
HCS Motor		5 min.	<ol style="list-style-type: none"> 1. Press [4] to start test. 2. Operates the HCS Motor for duration or Press [0] to stop.
Exit Gate Sol		2 sec.	<ol style="list-style-type: none"> 1. Press [4] to start test. 2. Actuates the Exit Gate Solenoid for duration.
Charge Roll AC		5 min.	<ol style="list-style-type: none"> 1. Press [4] to start test. 2. The Charge Roller is AC charged for duration. 3. Press [0] to stop.
Charge Roll DC		5 min.	<ol style="list-style-type: none"> 1. Press [4] to start test. 2. The Charge Roller is DC charged for duration. 3. Press [0] to stop.

Table 125 Component Tests (cont'd.)

Press [1] or [5] to display: Main Menu
Component Test

Press [2] or [6] to display: ↓	Displayed Result: ↓	Turn -On Duration	Procedure / Comment
Dev Bias AC		5 min.	1. Press [4] to start test. 2. Developer Bias is charged with AC for duration. 3. Press [0] to stop.
Dev Bias DC		5 min.	1. Press [4] to start test. 2. Developer Bias is charged with DC for duration. 3. Press [0] to stop.
BTR —		5 min.	1. Press [4] to start test. 2. The Bias Transfer Roller is negatively charged for duration. 3. Press [0] to stop.
BTR +		5 min.	1. Press [4] to start test. 2. The Bias Transfer Roller is positively charged for duration. 3. Press [0] to stop.
MBF Tray Size		4 sec.	Press [4] to display MBF tray size for duration.
Tray 1 Size		4 sec.	Press [4] to start test to display Tray 1 size for duration.
Tray 2 Size		4 min.	Press [4] to start test display Tray 2 size for duration.
Tray 3 Size		4 min.	Press [4] to start display Tray 3 size for duration.

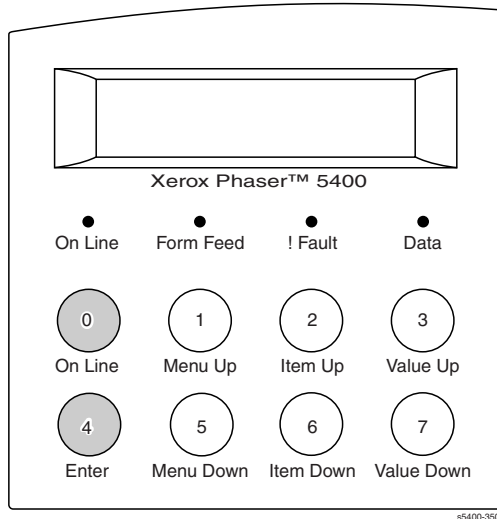
Reset Menu

The Reset Menu provides functions not normally encountered or needed during routine service of the printer. Thus, a special action step is required to gain access to the Reset Menu. Once in the Reset Menu, the following operations can be performed:

- Restore Factory Defaults (resets front panel menu defaults, except networking).
- Restore Network Defaults (resets only the front panel networking defaults).
- Enter Demo Mode (pressing any front panel key causes the PCL Demo page to print).
- Delete all spooled print jobs on an internal Hard Drive (if installed).
- Initializes the internal Hard Drive (if installed).
- Formats the Hard Drive (if installed).

Entering Reset Menu

1. To enter the Reset Menu, make certain the printer is switched OFF.
2. Press and hold [0] and [4] while switching printer power ON. Continue pressing [0] and [4] until asterisks begin appearing across the Control Panel display (LCD).



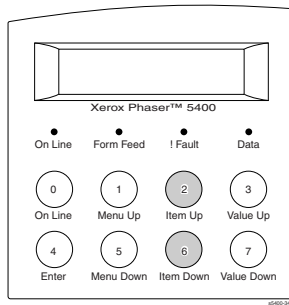
3. Release [0] and [4].
4. When "Ready" is displayed, press [1] or [5] until "Menus / Reset Menu" appears.
5. Press [2] or [6] to access the six tasks listed above. Each task is actuated using the same following steps:
 - Press [2] or [6] to scroll to the desired task.
 - Press [3] or [7] to select the desired "Yes / No" choice.
 - Press [4] to enter that choice and make it happen.

Maintenance Kit Counter Reset Procedure

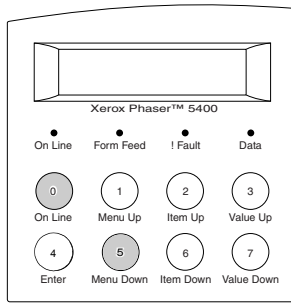
The Control Panel informs the user when it is time to install a Maintenance Kit by displaying “Maintenance Kit - Replace.” Printing is not inhibited. After a new BTR and fuser are installed, the Maintenance Kit Counter must be manually reset. Wordless reset instructions are included in the kit. The procedure below is provided for when those instructions are unavailable.

Note: *The Maintenance Kit Counter should only be reset when a complete kit has been installed.*

1. Make certain the printer is OFF.
2. Press and hold buttons [2] and [6] on the Control Panel while you switch ON printer power. Continue holding until *IOT?* appears in the display (approximately 20 seconds).



3. When the Control Display shows *IOT?*, release buttons [2] and [6], then press and hold button [0] and [5]. You have 10 seconds to release [2] and [6] and press [0] and [5]. Hold [0] and [5] until “Reset Complete Please Reboot” is displayed. This message confirms the counter has been reset.



The Maintenance Kit is a customer purchased, Customer-Replaceable Unit (CRU). The interval for replacement is 200K prints.

For Maintenance Kit part numbers, see Xerox Supplies and Accessories in the FRU Parts Lists on [page 428](#).

Maintenance and Cleaning

Scheduled Maintenance

The Phaser 5400 Laser Printer is designed and tested to require little maintenance. A User Maintenance Kit (P/N 109R00521 for 110 volt printers and 109R00522 for 220 volt printers) contains:

- Replacement Fuser
- Bias Transfer Roller
- Cleaning Cloth

The printer will tell the user when to install the User Maintenance Kit (200,000 prints). Normally, it is not necessary for a trained technician to install the kit. Following installation, it is necessary to reset the maintenance counter.

Note: See NVRAM Adjustments in the Diagnostics, Test Prints, Services Tests and NVRAM Adjustments section of this manual for this procedure.

Recommended Tools

- Standard service tools used in printer repair
- Toner vacuum, such as the 3M Toner Vac

Caution: Do NOT use a standard vacuum to clean up a toner spill.

- Suction bulb to use as an air puff blower
- Toner rags (specially treated fibrous paper cleaning “rags” that attract and pick up toner and dust particles)
- Cotton swabs (for those hard to get at places)
- Cleaning cloth
- Isopropyl alcohol
- Simple Green or equivalent cleaner

Inspect While Servicing

The above represents all the scheduled maintenance for this printer; however, it is important for all qualified service technicians to always inspect and clean “on-the-fly” whenever repairing or otherwise servicing the printer.

Areas to inspect and clean while in the printer:

- Feed rollers for wear, dirt/grime/dust
- Paper Bins for dust, lint, debris
- Paper paths for debris
- Laser print cartridge area for spilled toner
- Cabinet interior
- Multi-sheet Bypass Feeder roller and retard pad
- Duplex Unit rollers and paper path
- All exit rollers
- General overall appearance for signs of abuse, wear, unfriendly environment damage, etc.
- Clean as necessary

General Cleaning (if needed)

Whenever you check, service, or repair a printer, you should perform the following procedures. Cleaning the printer, as outlined in the following steps, assures proper operation of the printer and reduces the probability of having to service the printer in the future.

The frequency of use and the type of paper a customer prints on determines how critical cleaning the machine is. Users of ordinary Bond paper (copier paper) should have very few problems since this paper is smooth and relatively dust-free.

Ask each printer customer about the type of paper he or she uses so that you can be sure to clean the parts of the printer that particular paper may affect. If a customer is printing on the more unusual or dustier papers, then you should pay particular attention to these printer parts:

1. Turn off the printer.
2. Remove the Print Cartridge and immediately cover it to protect the drum from the light.
3. Remove the fuser.
4. Remove the paper trays.
5. Clean all printer rollers, except the Bias Transfer Roller, with a lint-free cloth dampened slightly with cold water.

Caution: Never apply alcohol to the Bias Transfer Roller.

6. Clean the laser window with puffs of air from the suction bulb. Alternately, you can vacuum the window clean.
7. Vacuum out the interior of the printer.
8. Carefully clean the area around the Bias Transfer Roller for impacted toner.
 - a. Remove the Bias Transfer Roller.
 - b. Vacuum any toner visible.
 - c. Reinstall the Bias Transfer Roller.

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FRU Removal / Replacement Procedures (RRPs)

This section contains the removal and replacement procedures that enables the Service Representative to restore the product to within specification after fault isolation. Not all Replacement Procedures are included in this Quick Reference Guide. In most cases, to reinstall a part, simply reverse the Removal Procedure shown. In some instances the Replacement Procedure is included, because it may contain special steps.

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Introduction

This repair subsection contains instructions for removal and replacement tasks. A removal and/or replacement task is included when it is not obvious how components are removed and replaced, or when special conditions (such as an adjustment) must be met during these tasks.

Step-by-step removal procedures for a specific component or assembly are provided. Numbers in the illustrations refer to steps in the procedure. For example: if step 3 in a procedure instructed you to remove a screw, the screw in the illustration would be labeled 3.

Illustrations are used to assist you with the procedures. You should refer to the specific Parts List illustration (listed under the repair title) for locating most components within a procedure.

Cautions: Always reinstall the correct type and size screws. Using the wrong screw can damage tapped holes.

Do not use excessive force to either remove or install a part.

Locations, such as left, right, front, or rear, given in the repairs assume you are facing the printer Control Panel.

Work Notes

Note: *Names of parts that appear in the RRP's may not be exactly the same as the names appear in the Section 12 Parts List. For example, a part called the Metal Registration Roller in an RRP may appear on the Parts List as Registration Metal Roller. When working on an RRP, ignore any prerequisite RRP if you have already performed that removal procedure.*

Caution: Always use the correct type and size screw. Using the wrong screw can damage tapped holes. Do not use excessive force to either remove or install either a screw or a printer part.

Warning: Unplug the AC power cord from the AC wall outlet before removing any printer part.

Preparation

Before you begin any Removal and Replacement Procedure:

1. Switch OFF the printer power and disconnect the power cord from the AC wall outlet.
2. Remove the Laser Print (EP) Cartridge and protect it from exposure to light by covering it with a piece of opaque plastic sheeting or by placing it in a light-tight container.
3. Disconnect all computer interface cables from the printer.
4. Wear an electrostatic discharge wrist strap to help prevent damage to the sensitive electronics of the printer circuit boards.
5. Wait at least 30 minutes after you have switched OFF printer power for the Fuser to cool before you work on or around the Fuser.

Notations in the RRP text

- The notation “rear” of a component, in place or removed, refers to the surface of the component that is, when installed, facing the rear of the print engine.
- The notation “front” of a component refers to the surface of the component that is, if installed, facing the front of the print engine.
- The notation “(RRP *X.Y*)” in an RRP step directs you to another RRP for information on how to perform a related or prerequisite procedure.
- Bold arrows in an illustration show direction of movement when removing or replacing a component.

Adjustment

The Phaser 5400 printer does not contain any field adjustable components.

Warning: Use of controls or adjustments other than those specified in this manual may result in an exposure to dangerous laser light.

Repair Procedures

RRP 1.1 Left Side Cover

(See PL 1.1 Covers)

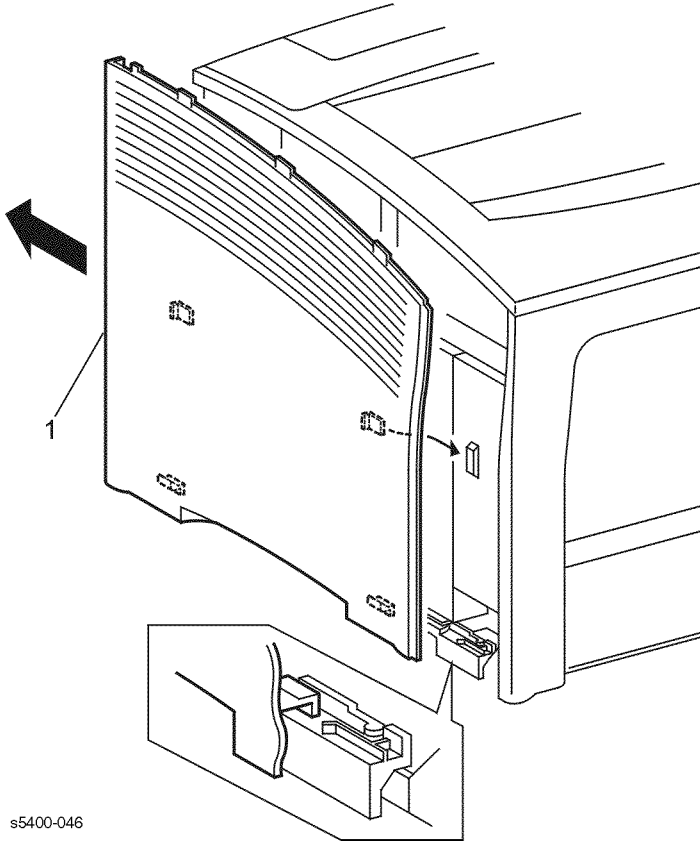


Figure 36 Removing the Left Side Cover

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Slide the Left Cover toward the rear of the printer.
2. Remove the Left Side Cover.

Replacement

Reinstall the components in the reverse order.

RRP 1.2 Right Side Cover

(See PL 1.1 Covers)

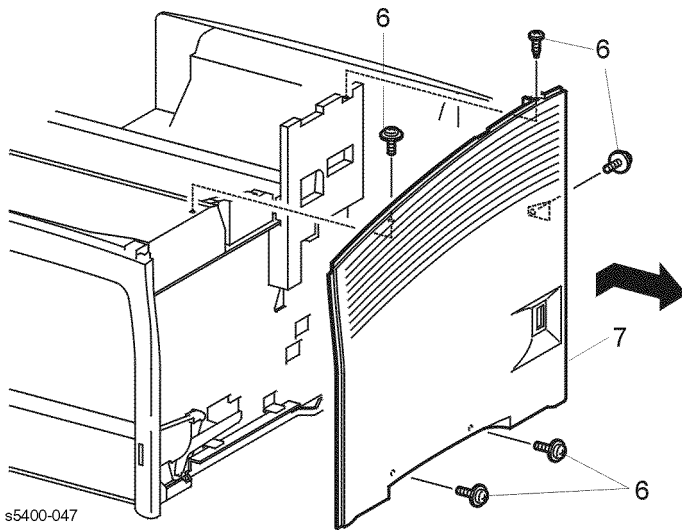


Figure 37 Right Side Cover

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the Rear Cover.
2. Remove the HCS, if installed (RRP 10.1 1000-Sheet High Capacity Stacker [HCS]).
3. Open the Top Cover and remove the Print Cartridge. Cover the cartridge to protect it from light.

Note: Place paper inside the Print Cartridge cavity to catch any dropped hardware.

4. Remove the Left Side Cover (RRP 1.1 Left Side Cover).
5. Remove the Top Cover Assembly (RRP 1.3 Top Cover Assembly).
6. Remove the five screws that secure the Right Side Cover to the printer.
7. Remove the Right Side Cover.

Replacement

Reinstall the components in the reverse order.

RRP 1.3 Top Cover Assembly

(See PL 1.1 Covers)

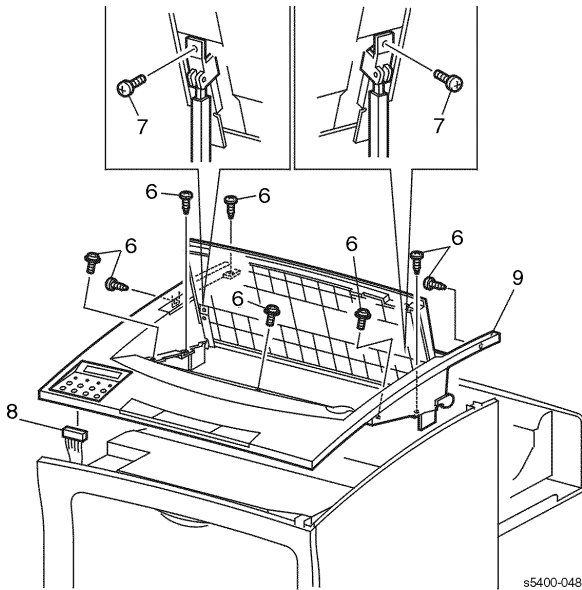


Figure 38 Top Cover Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the Rear Cover.
2. Remove the HCS, if installed (RRP 10.1 1000-Sheet High Capacity Stacker [HCS]).
3. Open the Top Cover and remove the Print Cartridge.
4. Cover the cartridge to protect it from light.
5. Remove the Left Side Cover (RRP 1.1 Left Side Cover).

Note: *The top is secured by three types of screws. Note the type and position of each of the screws as they are removed. This information will be required for replacement of the screws.*

6. Remove the eight screws that secure the Top Cover Assembly to the printer.
7. Remove the two screws that secure the Right and Left Print Cartridge Latches to the Top Cover.
8. Disconnect P/J421 from the rear of the Control Panel.
9. Remove the Top Cover Assembly. A small flat blade screwdriver may be used to release the two latches (one at each front) from the sides.

Replacement

Reinstall the components in the reverse order.

RRP 1.4 Front Cover

(See PL 1.1 Covers)

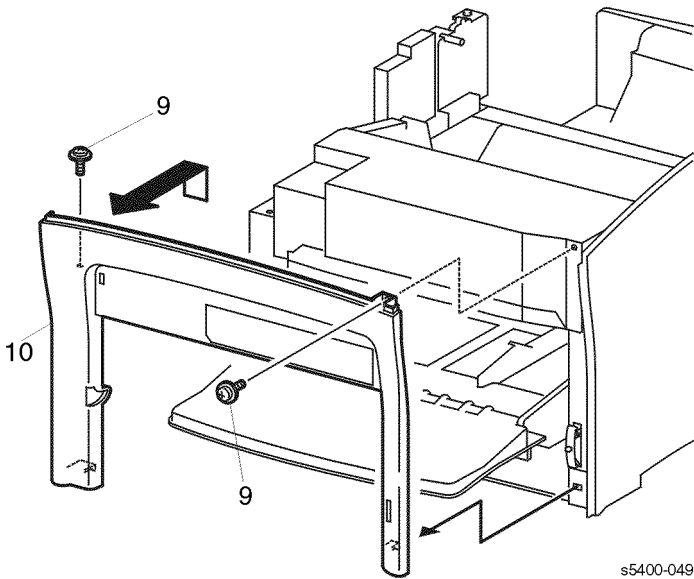


Figure 39 Front Cover

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the Rear Cover.
2. Remove the HCS, if installed (RRP 10.1 1000-Sheet High Capacity Stacker [HCS]).
3. Open the Top Cover and remove the Print Cartridge.
4. Cover the cartridge to protect it from light.

Note: *Place paper inside the Print Cartridge cavity to catch any dropped hardware.*

5. Remove the Left Side Cover (RRP 1.1 Left Side Cover).
6. Remove the Top Cover Assembly (RRP 1.3 Top Cover Assembly).
7. Open the MBF Assembly Door, lift slightly, and pull the assembly out approximately 2 inches (51 mm).
8. Pull out the Paper Tray approximately 2 inches.
9. Remove the two screws that secure the Front Cover to the printer.
10. Lift, then pull the Front Cover out to remove.

Replacement

1. Reinstall the components in the reverse order.
2. Align the two hooks on the Front Cover with the holes in the printer.

RRP 1.5 Lower Left Cover

(See PL 1.1 Covers)

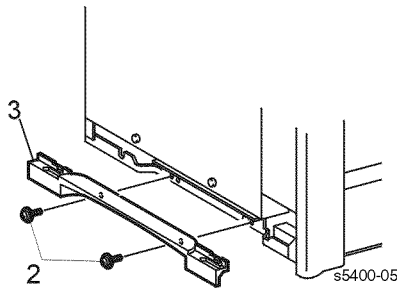


Figure 40 Lower Left Cover

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the Left Side Cover (RRP 1.1 Left Side Cover).
2. Remove the two screws that secure the Lower Left Cover to the printer.
3. Remove the Lower Left Cover.

Replacement

Reinstall the components in the reverse order.

RRP 1.6 HVPS Cover

(See PL 7.1 Frame & Drives)

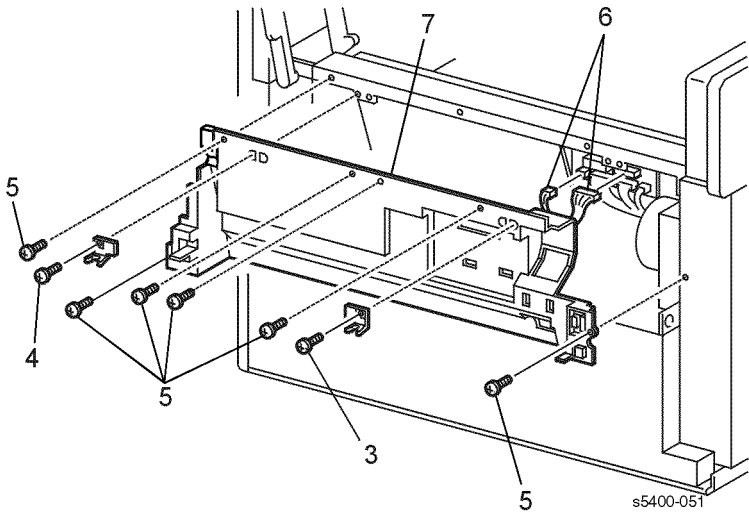


Figure 41 HVPS Cover

Removal

Warning: Switch off the power and disconnect the Power Cord.

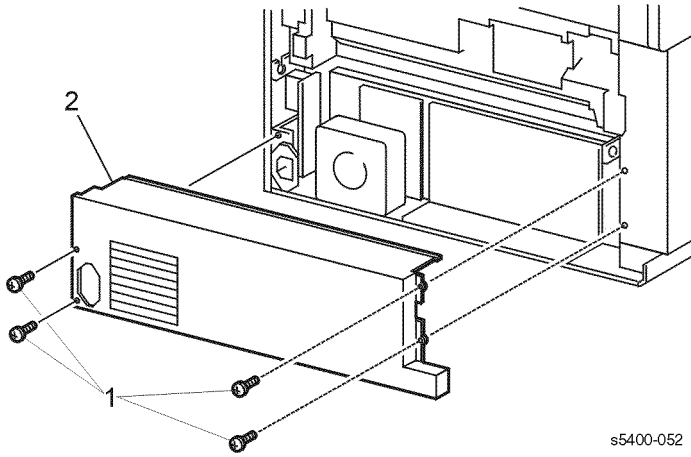
1. Remove the Rear Cover (RRP 1.9 Rear Cover).
2. Remove the Duplex Assembly, if installed (RRP 9.1 Duplex Assembly).
3. Remove the screw that secures the Left Duplex Stopper to the printer. Remove the Stopper.
4. Remove the screw that secures the Right Duplex Stopper to the printer. Remove the Stopper.
5. Remove the six screws that secure the HVPS Cover to the printer.
6. Lower the cover and disconnect P/J502 and P/J505 from the Duplex Interface PWB.
7. Remove the HVPS Cover.

Replacement

Reinstall the components in the reverse order.

RRP 1.7 Lower Rear Cover

(See PL 7.1 Frame & Drives)



s5400-052

Figure 42 Lower Rear Cover

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the four screws that secure the Lower Rear Cover to the printer.
2. Remove the Lower Rear Cover.

Replacement

Reinstall the components in the reverse order.

RRP 1.8 MBF Gear Cover

(See PL 4.2 Paper Handler)

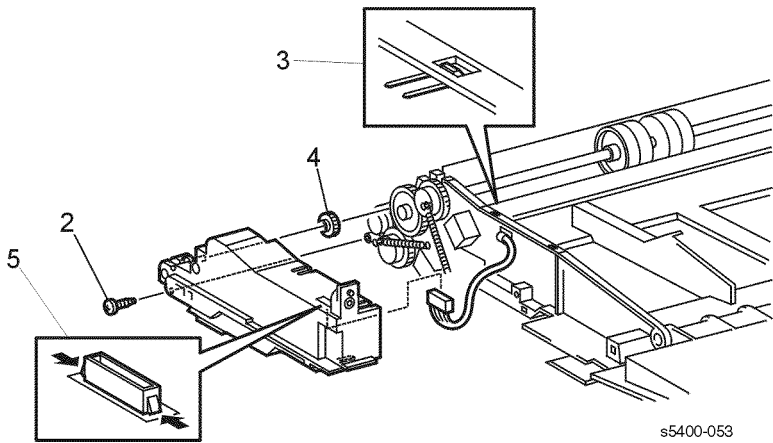


Figure 43 MBF Gear Cover

Removal

Warning: Switch off the power and disconnect the Power Cord.

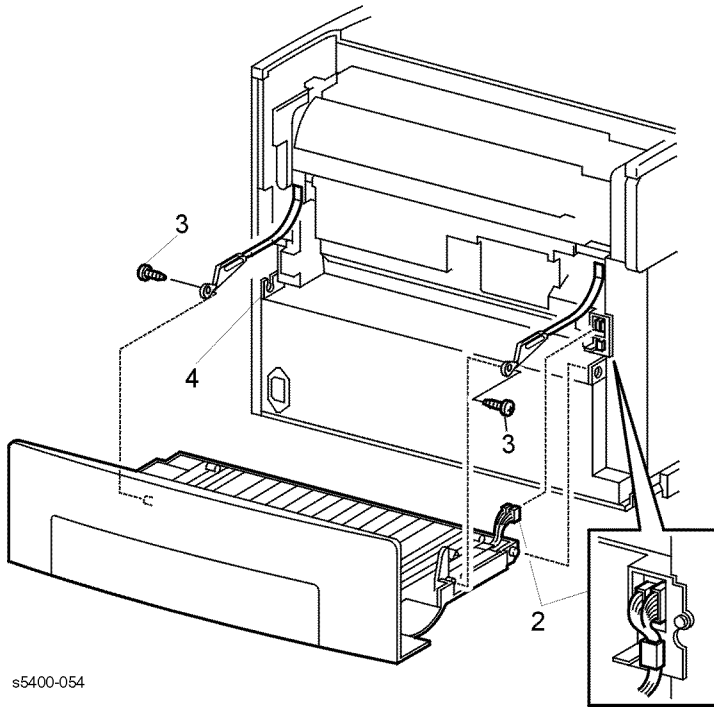
1. Remove the MBF Assembly (RRP 2.1 Multi-sheet Bypass Feeder (MBF) Assembly).
2. Remove the screw that secures the Left MBF Gear Cover to the left side of the Paper Handler.
3. Release the three locking tabs and remove the MBF Gear Cover.
4. The MBF 2 Idler Gear may come off with the cover.
5. Release the locking tabs and remove the harness from the MBF Cover.

Replacement

Reinstall the components in the reverse order.

RRP 1.9 Rear Cover

(See PL 6.1 Rear Cover Assembly With Fuser)



s5400-054

Figure 44 Rear Cover

Removal

Warning: Switch off the power and disconnect the Power Cord.

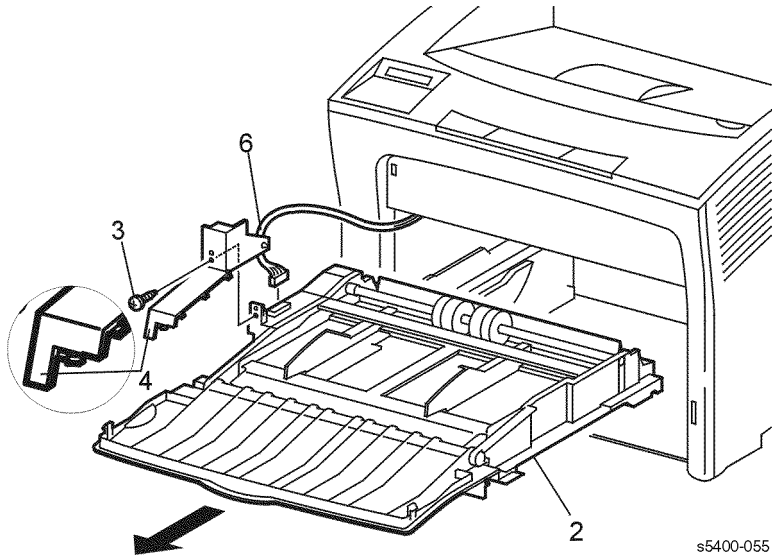
1. Open the Rear Cover.
2. Disconnect P/J527 and P/J528 and release clamp.
3. Remove the two screws that secure the Rear Cover support straps to the Rear Cover. Support Rear Cover with one hand while removing the straps from the posts.
4. With the cover positioned as shown, lift the left end (as viewed from the rear of the printer) of the Rear Cover and remove.

Replacement

Reinstall the components in the reverse order.

RRP 2.1 Multi-sheet Bypass Feeder (MBF) Assembly

(See PL 4.2 Paper Handler)



s5400-055

Figure 45 MBF Paper Handler Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove Tray 1.
2. Open and extend the MBF Assembly to the paper load position.
3. Remove the screw that secures the cover to the left side of the MBF Assembly.
4. To release the locking tab, push in slightly on the left front of the cover and rotate the cover clockwise to remove with the left hand, while pulling the rear 'piece' toward you to release the alignment pin with the right hand.
5. Release the harness from the underside of the cover.
6. Disconnect the in-line connector P/J121.
7. **Critical:** Push the MBF into the home position.
8. Push down and hold onto the left tray stop, pull out to remove.
9. Push down on the right tray stop, pull out to remove.
10. Extend the MBF Assembly until it stops.
11. Lift the front of the paper handler 1.5 to 2 in. (38 to 51 mm) and remove the MBF Assembly.

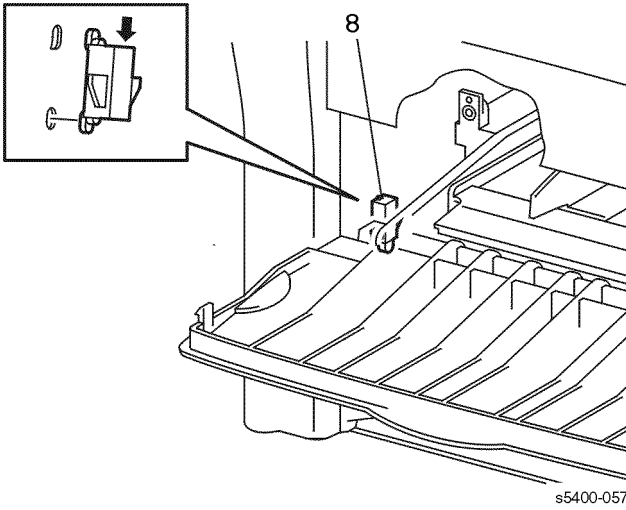


Figure 46 MBF Left Tray Stop

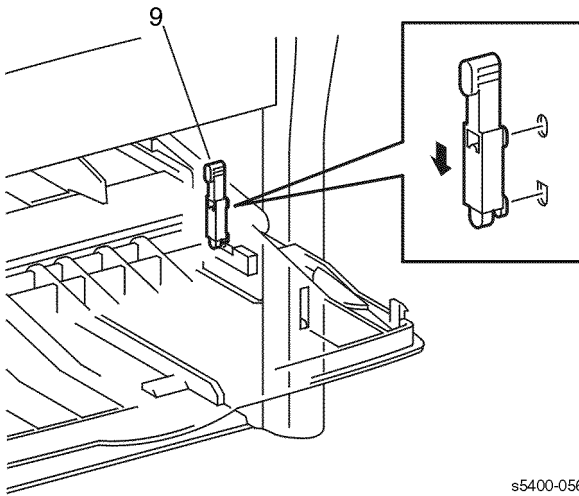


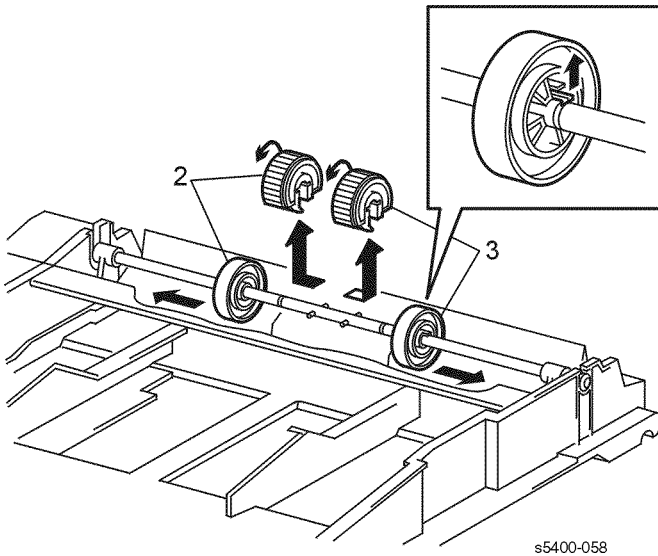
Figure 47 MBF Right Tray Stop

Replacement

Reinstall the components in the reverse order.

RRP 2.2 MBF Feed Rollers

(See PL 4.1 Multi-sheet Bypass Feeder (MBF) Assembly)



s5400-058

Figure 48 MBF Feed Roller Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the MBF Assembly (RRP 2.1 Multi-sheet Bypass Feeder (MBF) Assembly).
2. For the Left Feed Roller, lift the locking tab on the Left MBF Roller Core and slide the core to the left. Slide the MBF Feed Roller to the left and remove.
3. For the Right Feed Roller, lift the locking tab on the Right MBF Roller Core and slide the core to the right. Slide the MBF Feed Roller to the right and remove.

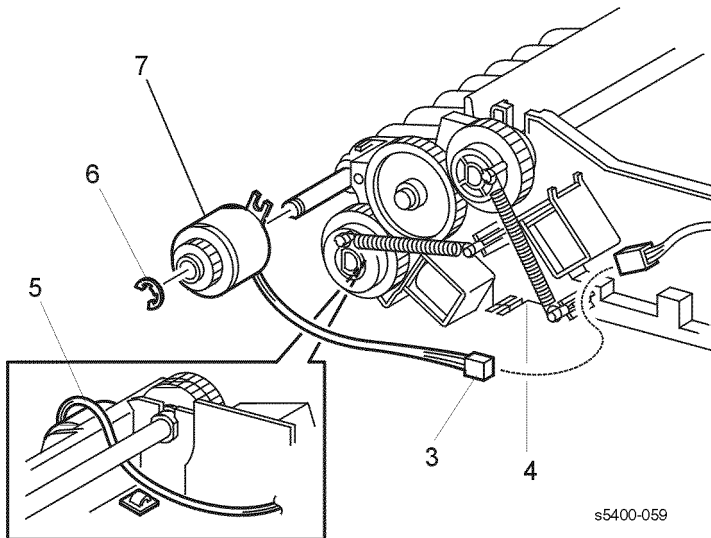
Replacement

Reinstall the components in the reverse order.

Note: *Arrows of the back side of the Feed Rollers indicate direction of rotation.*

RRP 2.3 MBF Tray 1 Turn Roller Clutch Assembly

(See PL 4.1 Multi-sheet Bypass Feeder (MBF) Assembly)



s5400-059

Figure 49 MBF Tray 1 Turn Roller Clutch Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the MBF Assembly (RRP 2.1 Multi-sheet Bypass Feeder (MBF) Assembly).
2. Remove MBF Gear Cover (RRP 1.8 MBF Gear Cover).
3. Disconnect in-line connector P/J124.
4. Remove the screw that secures the Tray 1 No Paper Sensor Assembly Bracket to the bottom of the Paper handler.
5. Note the harness path, then remove the Turn Roller Clutch harness from the cable clamps.
6. Remove the E-Ring that secures the Turn Clutch Assembly to the Paper Handler.
7. Remove the Turn Roller Clutch Assembly from the Turn Roller Assembly.

Replacement

1. Reinstall the components in the reverse order.
2. Ensure that the tab on the clutch is positioned on the pin on the Paper Handler.

RRP 2.4 Tray 1 Turn Roller Assembly

(See PL 4.1 Multi-sheet Bypass Feeder (MBF) Assembly)

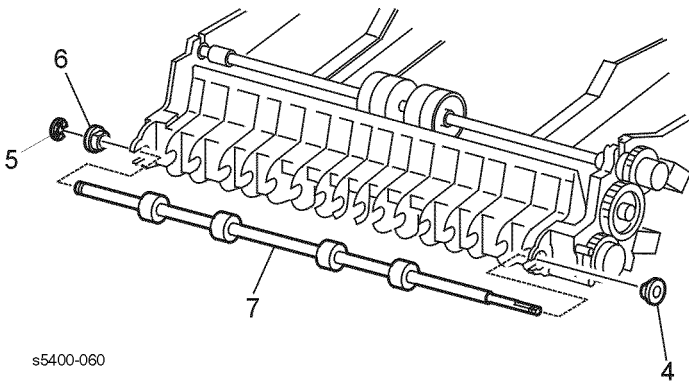


Figure 50 Tray 1 Turn Roller Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the MBF Assembly (RRP 2.1 Multi-sheet Bypass Feeder (MBF) Assembly).
2. Remove the MBF Gear Cover (RRP 1.8 MBF Gear Cover).
3. Remove the Turn Roller Clutch (RRP 2.3 MBF Tray 1 Turn Roller Clutch Assembly).
4. Remove the bearing located behind the Turn Roller Clutch.
5. Remove the E-Ring from the right end of the Turn Roller Assembly.
6. Remove the bearing from the right end of the Turn Roller Assembly Shaft.
7. Remove the Turn Roller Assembly.

Replacement

Reinstall the components in the reverse order.

RRP 2.5 MBF Retard Holder Assembly

(See PL 4.2 Paper Handler)

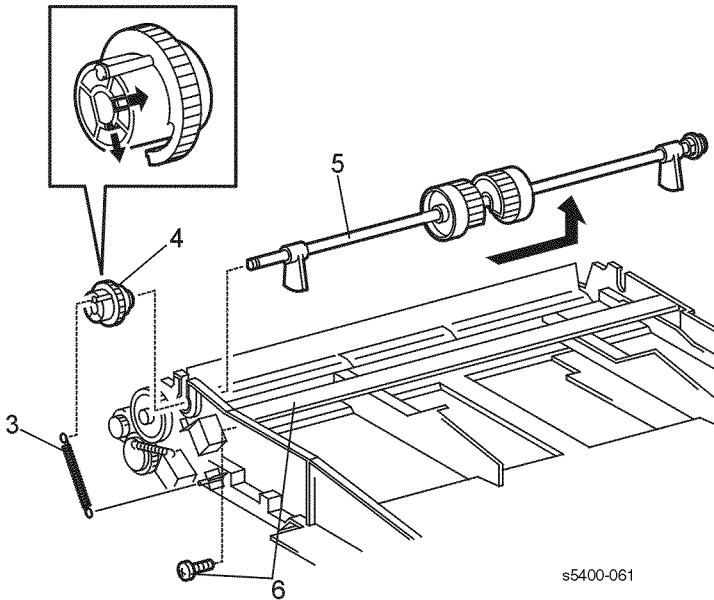


Figure 51 MBF Pick Up Shaft

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the MBF Assembly (RRP 2.1 Multi-sheet Bypass Feeder (MBF) Assembly).
2. Remove the MBF Gear Cover (RRP 1.8 MBF Gear Cover).
3. Remove the Pick-up Spring from the MBF Pick-up Gear.
4. Release the two locking tabs on the MBF Pick-up Gear and remove the gear.
5. Move the MBF Pick-up Shaft to the right and remove the shaft from the MBF.
6. Remove the screw that secures the support bracket to the MBF. Remove the bracket.
7. Insert a screwdriver between the left side of the MBF and the MBF Tray Assembly near the tray pivot point. Carefully spread the two assemblies until the tray disengages from the MBF.
8. Release the two locking tabs on the back of the retard holder and rotate the retard holder forward.
9. Continue to rotate the holder forward until it can be lifted out of the MBF base.

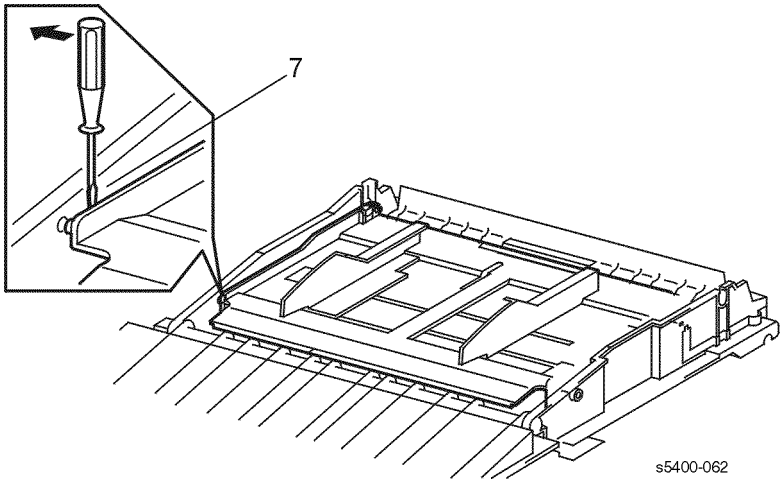


Figure 52 MBF Tray Assembly

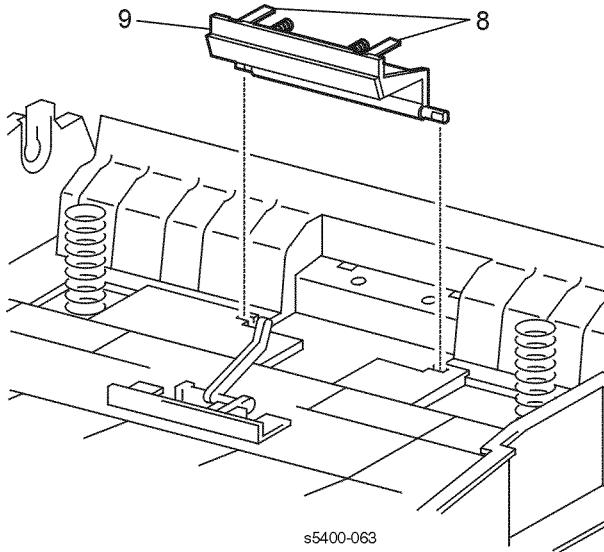


Figure 53 MBF Retard Holder Assembly

Replacement

Reinstall the components in the reverse order.

RRP 2.6 Tray 1 No Paper Sensor Assembly

(See PL 4.2 Paper Handler)

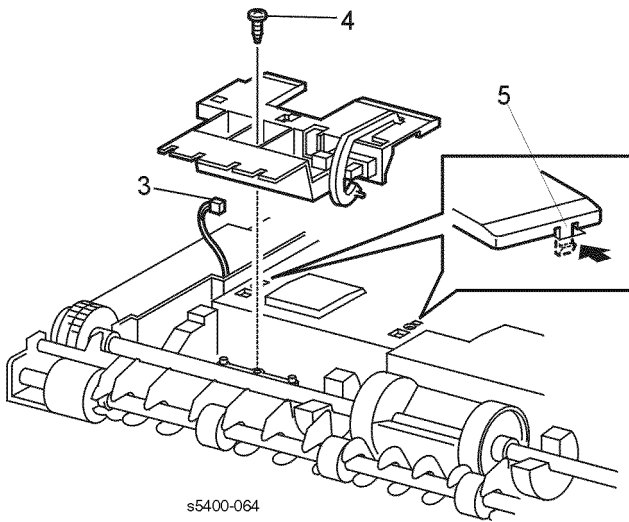


Figure 54 Tray 1 No Paper Sensor Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the MBF Assembly (RRP 2.1 Multi-sheet Bypass Feeder (MBF) Assembly).
2. Remove the MBF Gear Cover (RRP 1.8 MBF Gear Cover).
3. Disconnect P/J126 from the sensor assembly.
4. Remove the screw that secures the Tray 1 No Paper Sensor Assembly Bracket to the MBF.
5. Use a small screwdriver to carefully release the two locking tabs that secure the sensor to the sensor assembly bracket.
6. Release the sensor harness from the harness clamps and remove the sensor.

Replacement

Reinstall the components in the reverse order.

RRP 2.7 MBF No Paper Sensor Assembly

(See PL 4.2 Paper Handler)

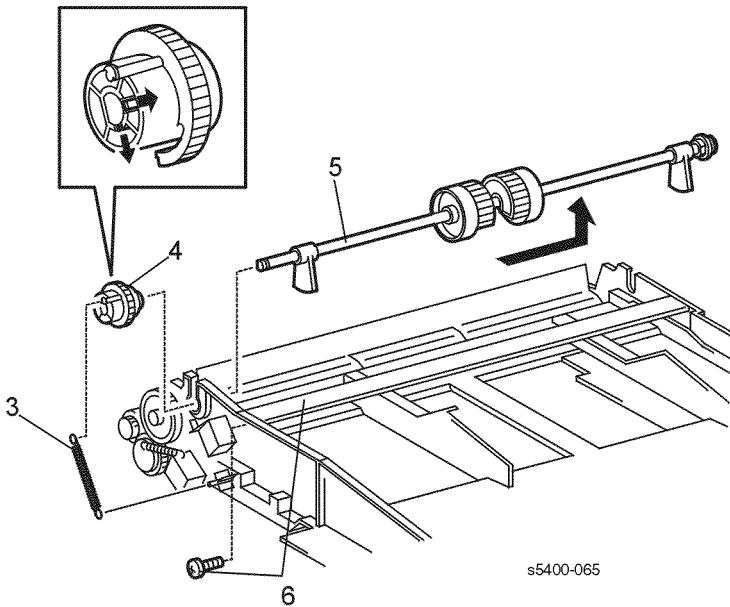
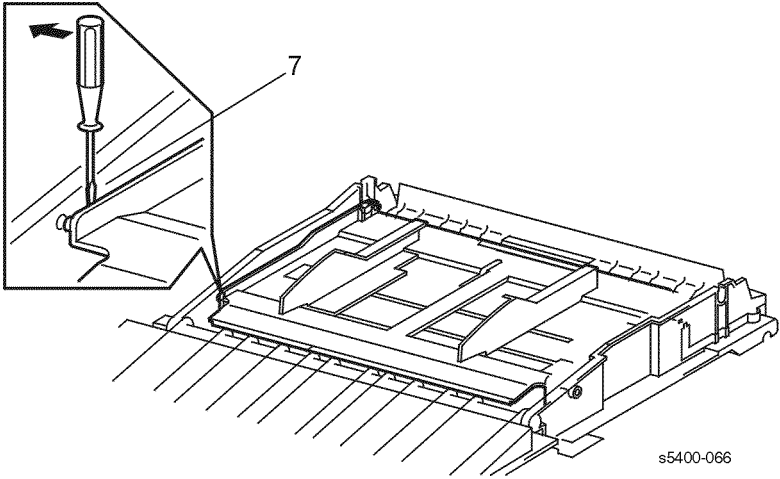


Figure 55 MBF No Paper Sensor Assembly

Removal

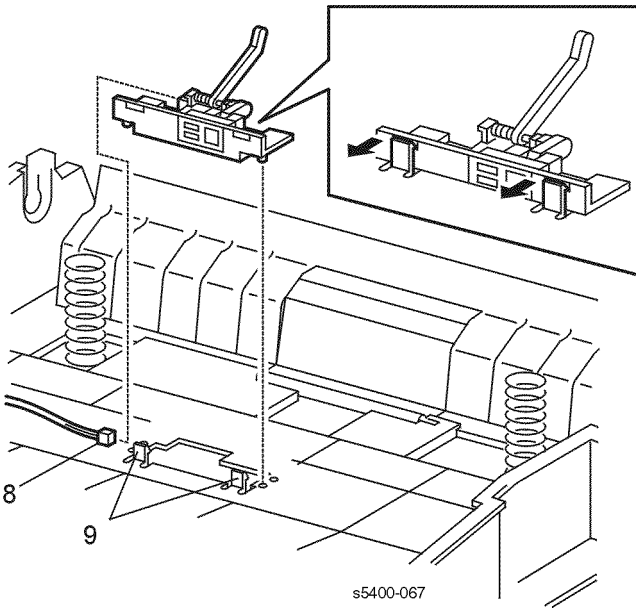
Warning: Switch off the power and disconnect the Power Cord.

1. Remove the MBF Assembly (RRP 2.1 Multi-sheet Bypass Feeder (MBF) Assembly).
2. Remove the MBF Gear Cover (RRP 1.8 MBF Gear Cover).
3. Remove the Pick Up Spring from the MBF Pick Up Gear.
4. Release the two locking tabs on the MBF Pick Up Gear and remove the gear.
5. Move the MBF Pick Up Shaft to the right and remove the shaft from the MBF.
6. Remove the screw that secures the support bracket to the MBF and remove the bracket.
7. Insert a screwdriver between the left side of the MBF and the MBF Tray Assembly near the tray pivot point. Carefully spread the two assemblies until the tray disengages from the MBF.
8. Disconnect P/J125 from the MBF No Paper Sensor Assembly.
9. Release the two locking tabs on the bottom of the Sensor Assembly and remove the sensor.



s5400-066

Figure 56 MBF Tray Assembly



s5400-067

Figure 57 MBF No Paper Sensor Assembly

Replacement

Reinstall the components in the reverse order.

RRP 2.8 MBF Feed Solenoid

(See PL 4.2 Paper Handler)

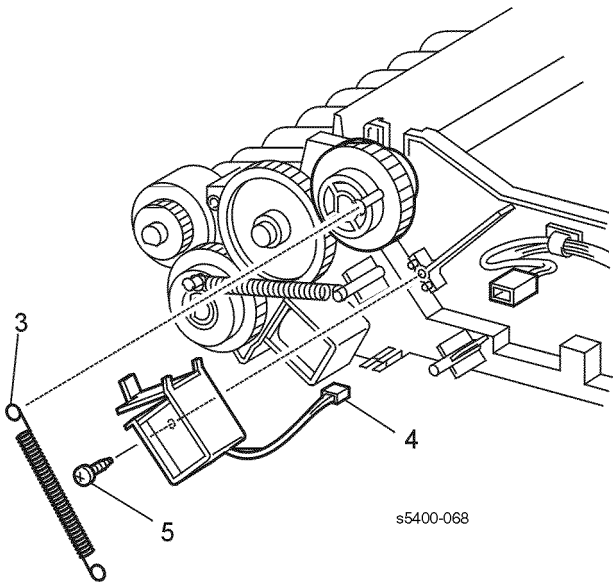


Figure 58 MBF Feed Solenoid

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the MBF Assembly (RRP 2.1 Multi-sheet Bypass Feeder (MBF) Assembly).
2. Remove the MBF Gear Cover (RRP 1.8 MBF Gear Cover).
3. Remove the Pick-up Spring from the MBF Pick-up Gear.
4. Disconnect P/J123 from the MBF Feed Solenoid.
5. Remove the screw that secures the MBF Feed Solenoid to the MBF Assembly.

Replacement

Reinstall the components in the reverse order.

RRP 2.9 Tray 1 Feed Solenoid

(See PL 4.2 Paper Handler)

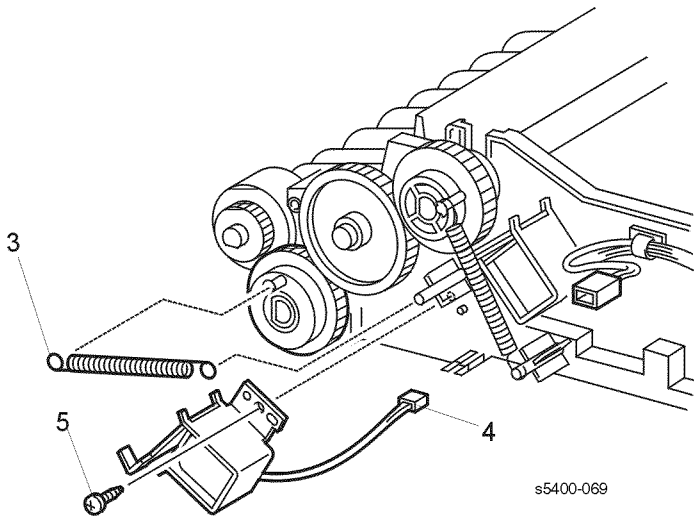


Figure 59 Tray 1 Feed Solenoid

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the MBF Assembly (RRP 2.1 Multi-sheet Bypass Feeder (MBF) Assembly).
2. Remove the MBF Gear Cover (RRP 1.8 MBF Gear Cover).
3. Remove the Pick-up Spring from the Tray 1 Pick-up Gear.
4. Disconnect P/J135 from the Tray 1 Feed Solenoid.
5. Remove the screw that secures the Tray 1 Feed Solenoid to the MBF Assembly.

Replacement

Reinstall the components in the reverse order.

RRP 2.10 Tray 1 Feed Roller

(See PL 4.1 Multi-sheet Bypass Feeder (MBF) Assembly)

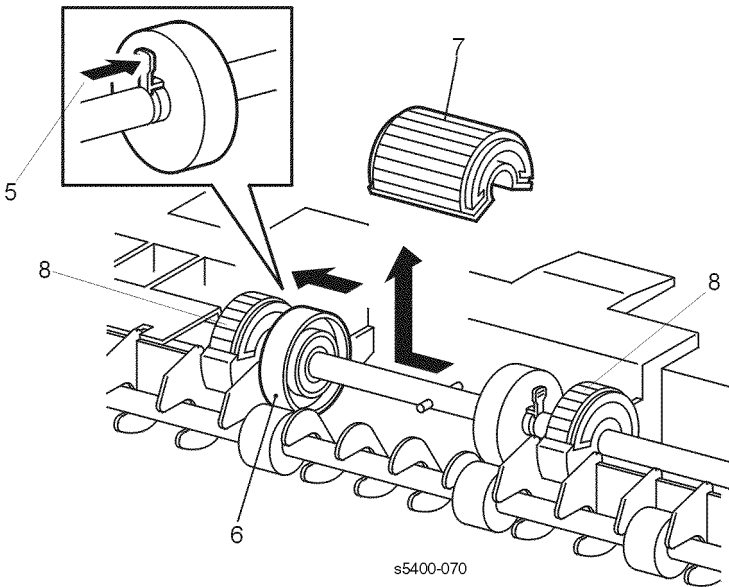


Figure 60 Tray 1 Feed Roller

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the MBF Assembly (RRP 2.1 Multi-sheet Bypass Feeder (MBF) Assembly).
2. Turn the MBF upside down.
3. Release the Tray 1 Feed Solenoid.
4. Rotate the Feed Rollers up.
5. Press locking tab that secures the Left Roller Core.
6. Slide the Left Roller Core to the left.
7. Slide the Feed Roller to the left and remove.
8. If replacing the Envelope Feed Rollers, press the locking tabs and remove the two Envelope Feed Rollers.

Replacement

Reinstall the components in the reverse order.

Note: *The arrows on the side of the Envelope Feed Rollers indicate the direction of rotation.*

RRP 2.11 Tray 1 Retard Holder Assembly

(See PL 3.1 Paper Feeder)

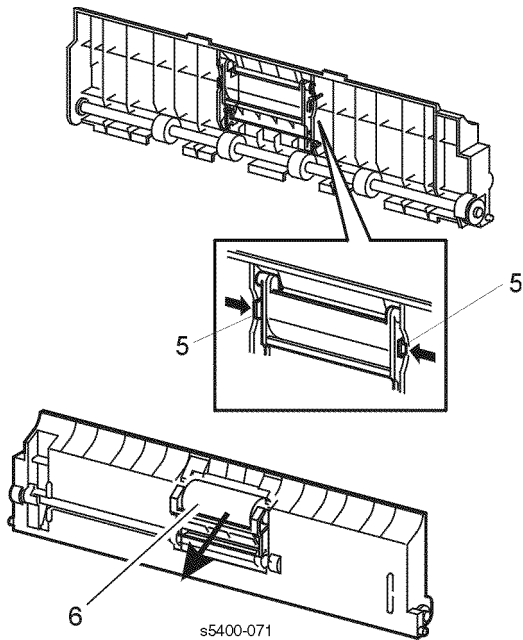


Figure 61 Tray 1 Retard Holder Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the Top Cover and remove the Print Cartridge. Cover the cartridge to protect it from light.
2. Remove Tray 1.
3. Remove the MBF Assembly (RRP 2.1 Multi-sheet Bypass Feeder (MBF) Assembly).
4. Remove the Retard Chute Assembly (RRP 3.1 Retard Chute Assembly).
5. From the rear, release the two locking tabs.
6. Remove the Retard Holder Assembly from the front.

Replacement

Reinstall the components in the reverse order.

RRP 3.1 Retard Chute Assembly

(See PL 3.1 Paper Feeder)

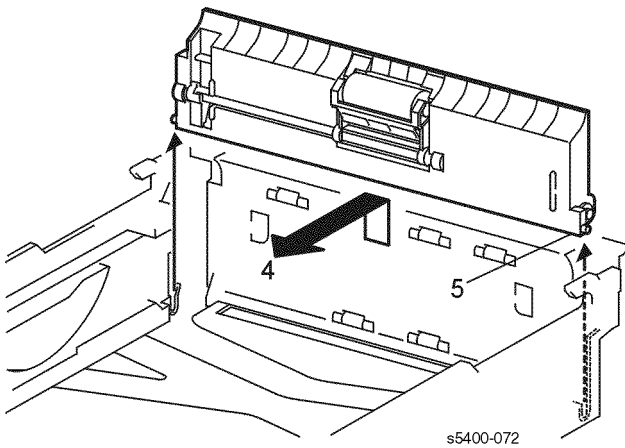


Figure 62 Rear Chute Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the Top Cover and remove the Print Cartridge. Cover the cartridge to protect it from light.
2. Remove Tray 1.
3. Remove the MBF Assembly (RRP 2.1 Multi-sheet Bypass Feeder (MBF) Assembly).
4. Tilt the top of the Retard Chute Assembly toward the front of the printer.
5. Lift up on the right end of the chute.
6. Pull the right end forward and remove.

Replacement

Reinstall the components in the reverse order.

RRP 3.2 Rear Chute Assembly

(See PL 3.1 Paper Feeder)

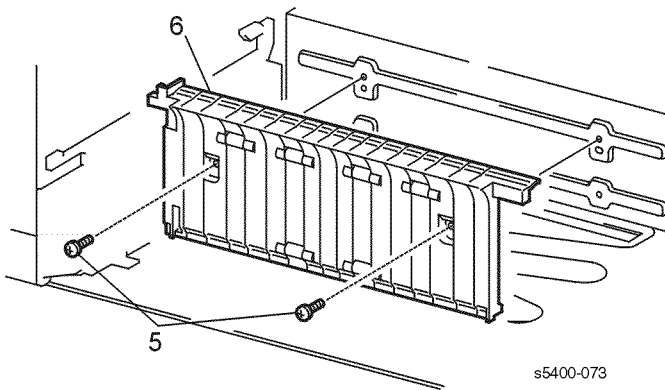


Figure 63 Rear Chute Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

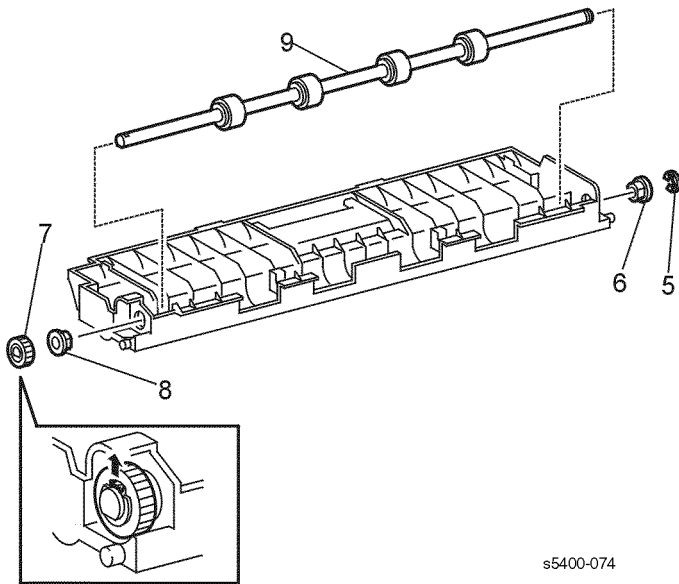
1. Open the Top Cover and remove the Print Cartridge. Cover the cartridge to protect it from light.
2. Remove Tray 1.
3. Remove the MBF Assembly (RRP 2.1 Multi-sheet Bypass Feeder (MBF) Assembly).
4. Remove the Retard Chute Assembly (RRP 3.1 Retard Chute Assembly).
5. Remove the two screws that secure the Rear Chute Assembly to the printer.
6. Bias the Rear Chute to the left. Pull the top of the chute forward and remove it from the printer. Use care not to damage the ground tabs.

Replacement

Reinstall the components in the reverse order.

RRP 3.3 Lower Turn Roller Assembly

(See PL 3.1 Paper Feeder)



s5400-074

Figure 64 Lower Turn Roller Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the Top Cover and remove the Print Cartridge. Cover the cartridge to protect it from light.
2. Remove Tray 1.
3. Remove the MBF Assembly (RRP 2.1 Multi-sheet Bypass Feeder (MBF) Assembly).
4. Remove the Retard Chute Assembly (RRP 3.1 Retard Chute Assembly).
5. Remove the E-ring from the right end of the Lower Turn Roller.
6. Remove the right bearing.
7. Release the locking tab on the Lower Turn Roller Gear and remove the gear.
8. Remove the left bearing.
9. Move the Lower Turn Roller Assembly to the left until the right end is free of the assembly.
10. Lift and remove the Lower Turn Roller Assembly.

Replacement

Reinstall the components in the reverse order.

RRP 3.4 Tray 1 Low Paper Sensor

(See PL 3.1 Paper Feeder)

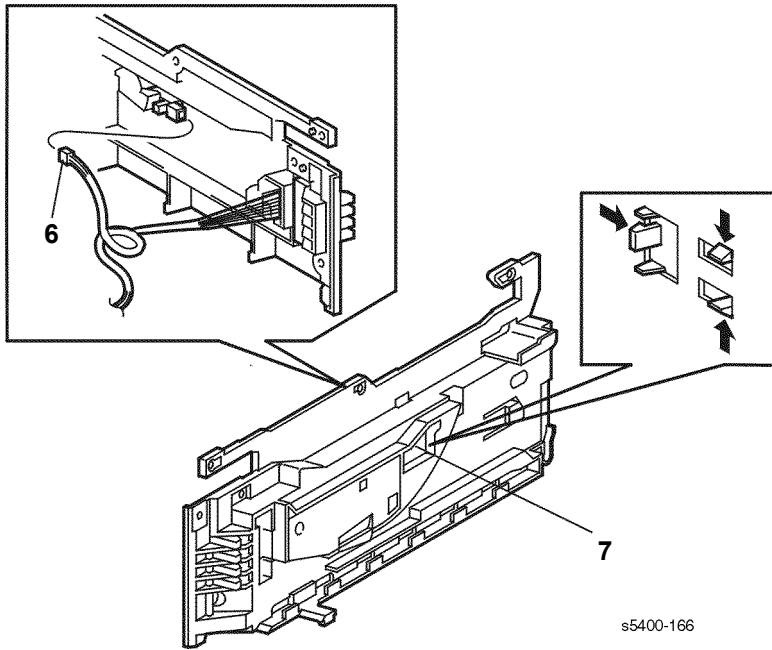


Figure 65 Tray 1 Low Paper Sensor

Removal

Warning: Switch off the power and disconnect the Power Cord.

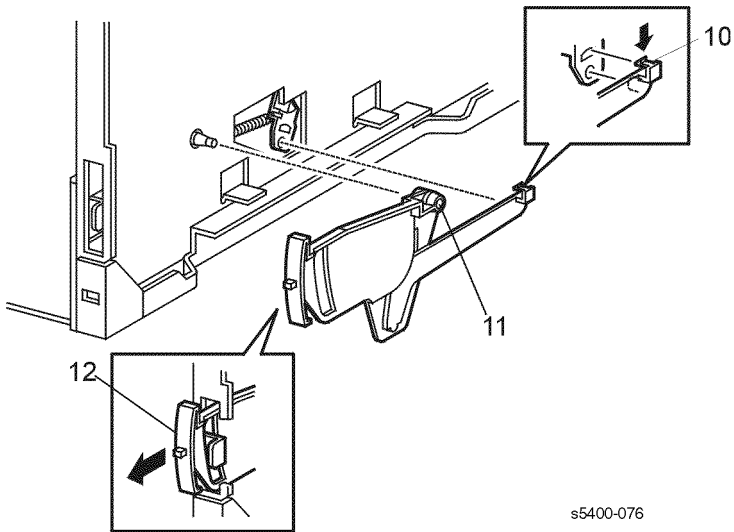
1. Open the Top Cover and remove the Print Cartridge. Cover the cartridge to protect it from light.
2. Remove Tray 1.
3. Remove the MBF Assembly (RRP 2.1 Multi-sheet Bypass Feeder (MBF) Assembly).
4. Remove the Retard Chute Assembly (RRP 3.1 Retard Chute Assembly).
5. Remove Tray 1 Left Guide Assembly (RRP 3.6 Tray 1 Left Guide Assembly).
6. Disconnect plug from the sensor.
7. Release the locking tabs and remove the sensor from the Guide Assembly.

Replacement

Reinstall the components in the reverse order.

RRP 3.5 Tray 1 Right Guide Assembly

(See PL 3.1 Paper Feeder)



s5400-076

Figure 66 Paper Level Indicator Arm

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the Rear Cover.
2. Open the Top Cover and remove the Print Cartridge. Cover the cartridge to protect it from light.
3. Remove Tray 1.
4. Remove the Left Side Cover (RRP 1.1 Left Side Cover).
5. Remove the Top Cover Assembly (RRP 1.3 Top Cover Assembly).
6. Remove the Right Side Cover (RRP 1.2 Right Side Cover).
7. Remove the MBF Assembly (RRP 2.1 Multi-sheet Bypass Feeder (MBF) Assembly).
8. Remove the Retard Chute Assembly (RRP 3.1 Retard Chute Assembly).
9. Remove Front Cover (RRP 1.4 Front Cover).
10. Carefully push down on the locking tab that secures the rod to the paper level actuator.
11. Remove the paper level assembly from the stud on the frame.
12. Move the paper level forward to unlatch then remove from the printer.

13. Remove the four screws that secure the Tray 1 Right Guide Assembly to the printer.
14. Use a small screwdriver to pry up on the locking tab that locks the guide assembly to the bottom of the printer.
15. Remove the Tray 1 Right Guide Assembly.

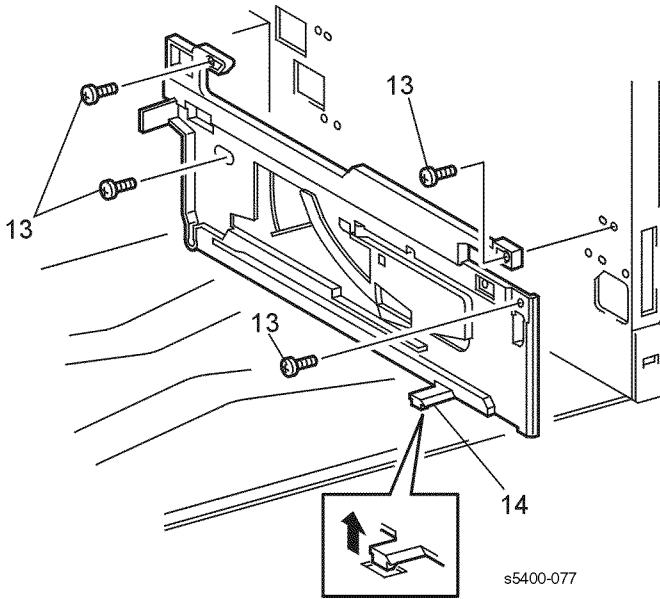


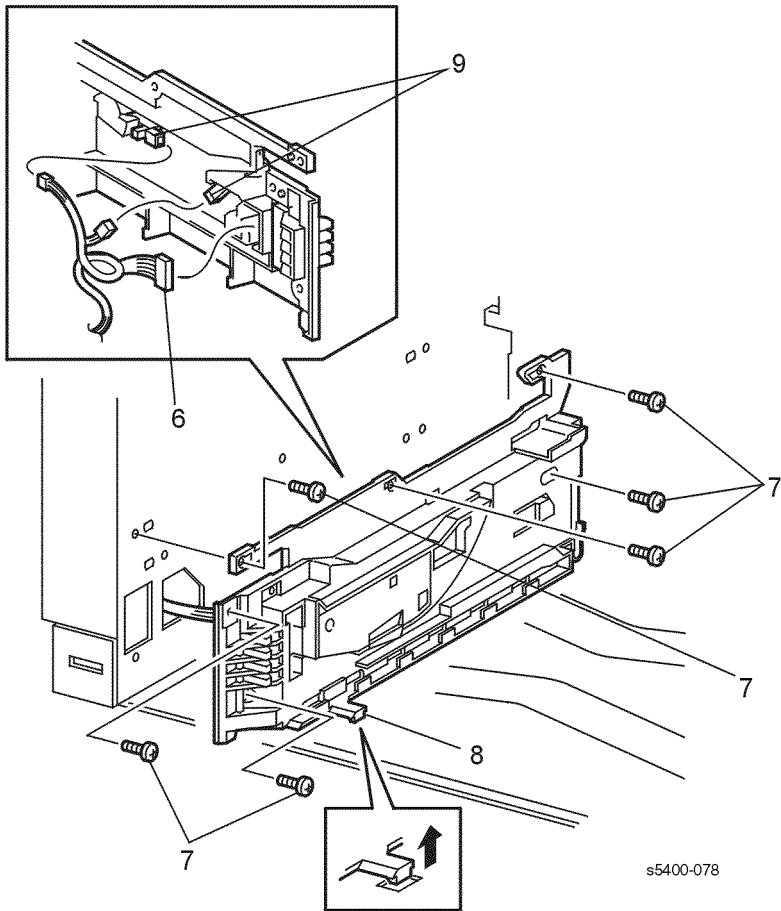
Figure 67 Tray 1 Right Guide Assembly

Replacement

Reinstall the components in the reverse order.

RRP 3.6 Tray 1 Left Guide Assembly

(See PL 3.1 Paper Feeder)



s5400-078

Figure 68 Tray Left Guide Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the Top Cover and remove the Print Cartridge. Cover the cartridge to protect it from light.
2. Remove Tray 1.
3. Remove the Left Side Cover (RRP 1.1 Left Side Cover).
4. Remove the MBF Assembly (RRP 2.1 Multi-sheet Bypass Feeder (MBF) Assembly).
5. Remove the Retard Chute Assembly (RRP 3.1 Retard Chute Assembly).
6. From the left side of the printer, disconnect P/J201 from the Tray 1 Size Sensor.
7. Remove the six screws that secure the Tray 1 left Guide Assembly to the printer.

8. Use a small screwdriver to pry up on the locking tab that locks the guide assembly to the bottom of the printer.
9. Disconnect P/J202 and P/J127 from the guide assembly.
10. Remove the Tray 1 Left Guide Assembly.

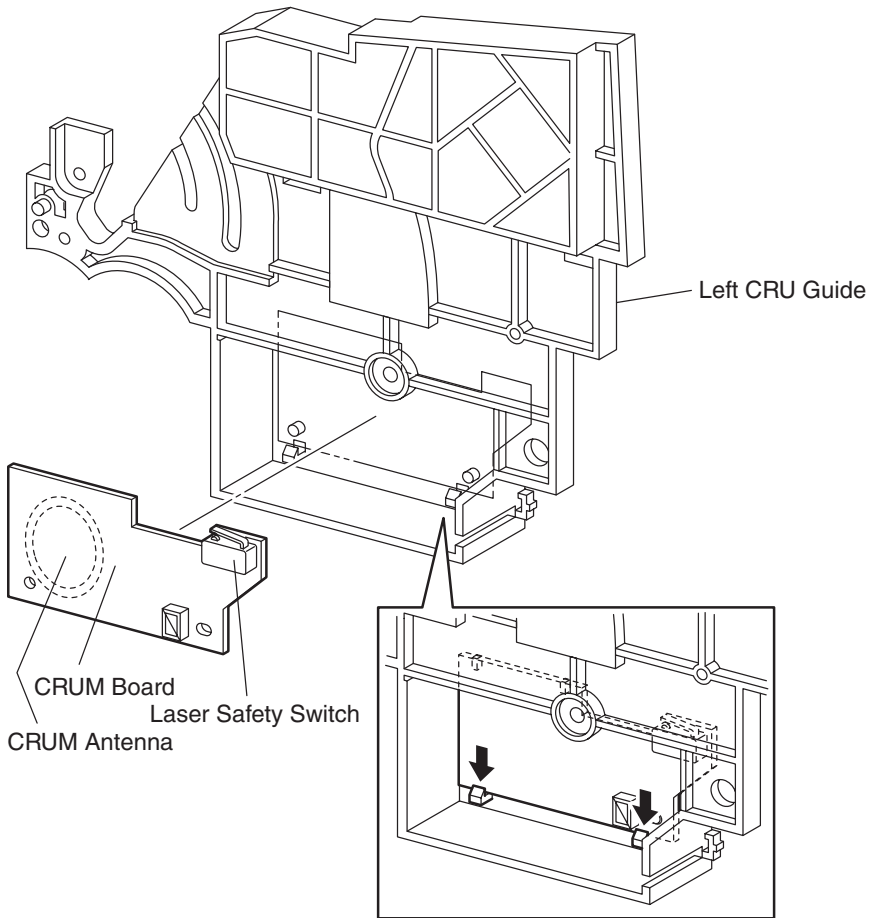
Replacement

Reinstall the components in the reverse order.

Note: *Ensure that all alignment pins are properly inserted in the frame holes before replacing the six screws.*

RRP 3.7 CRUM Board

(See PL 8.1 Xerographics)



s5400-361

Figure 69 Removing the CRUM Board

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the Left CRU Guide (RRP 7.5 Left Print Cartridge Guide Assembly).
2. Disengage the two hooks securing the CRUM Board to the CRU Guide.
3. Remove the CRUM Board.

Replacement

Reinstall the components in the reverse order.

RRP 3.8 MBF Assembly Position Sensor

(See PL 4.2 Paper Handler)

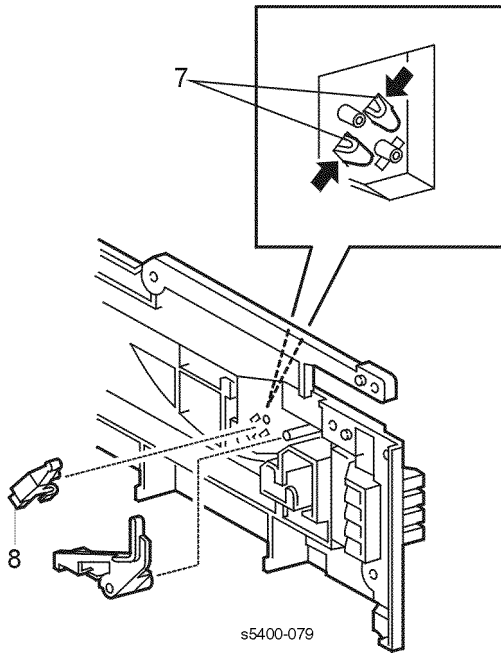


Figure 70 MBF Assembly Position Sensor

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the Top Cover and remove the Print Cartridge. Cover the cartridge to protect it from light.
2. Remove Tray 1.
3. Remove the Left Side Cover (RRP 1.1 Left Side Cover).
4. Remove the MBF Assembly (RRP 2.1 Multi-sheet Bypass Feeder (MBF) Assembly).
5. Remove the Retard Chute Assembly (RRP 3.1 Retard Chute Assembly).
6. Remove Tray 1 Left Guide Assembly (RRP 3.6 Tray 1 Left Guide Assembly)
7. Remove the two screws and remove the cover.
8. Release the locking tabs and remove the sensor from the Guide Assembly.

Replacement

Reinstall the components in the reverse order.

RRP 4.1 Paper Transport Assembly

(See PL 5.1 Paper Transport)

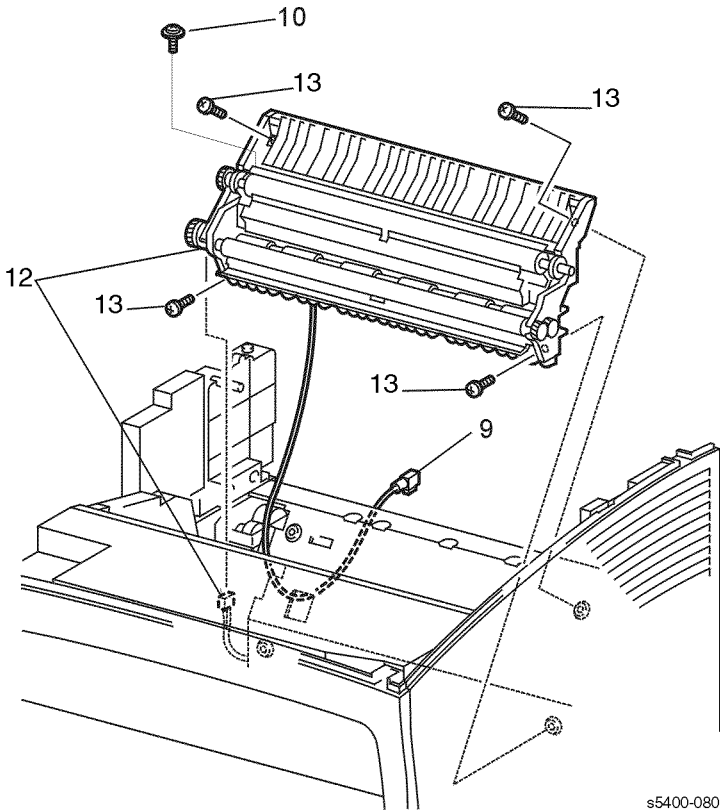


Figure 71 Paper Transport Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the Rear Cover.
2. Remove the Fuser Assembly (RRP 5.1 Fuser Assembly).
3. Open the Top Cover and remove the Print Cartridge. Cover the cartridge to protect it from light.
4. Remove Tray 1.
5. Remove the MBF Assembly (RRP 2.1 Multi-sheet Bypass Feeder (MBF) Assembly).
6. Remove the Left Side Cover (RRP 1.1 Left Side Cover).
7. Remove the Top Cover Assembly (RRP 1.3 Top Cover Assembly).
8. Remove the HVPS Cover (RRP 1.6 HVPS Cover).
9. Disconnect plug P185 (R) from the top of transformer T503 on the HVPS PWB.
10. Remove the screw that secures the Detack Saw Wire to the assembly.
11. Remove the wires from cable clamps.

12. Disconnect P/J222 from the bottom of the Registration Clutch.

13. Remove the four screws that secure the Paper Transport Assembly to the printer.

Note: ***When removing the Paper Transport Assembly, do not touch the BTR Roller with your hands. Oil from your hands can cause copy quality problems.***

14. Guide the high voltage leads through the holes in the printer frame as you remove the Paper Transport Assembly.

Replacement

Reinstall the components in the reverse order.

RRP 4.2 Registration Actuator

(See PL 5.1 Paper Transport)

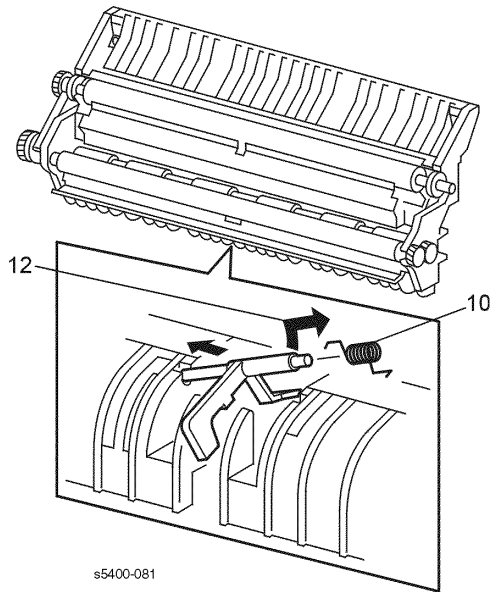


Figure 72 Registration Actuator

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the Rear Cover.
2. Remove the Fuser Assembly (RRP 5.1 Fuser Assembly).
3. Open the Top Cover and remove the Print Cartridge. Cover the cartridge to protect it from light.
4. Remove Tray 1.
5. Remove the MBF Assembly (RRP 2.1 Multi-sheet Bypass Feeder (MBF) Assembly).
6. Remove the Left Side Cover (RRP 1.1 Left Side Cover).
7. Remove the Top Cover Assembly (RRP 1.3 Top Cover Assembly).
8. Remove the HVPS Cover (RRP 1.6 HVPS Cover).
9. Remove the Paper Transport Assembly (RRP 4.1 Paper Transport Assembly)
10. Note the position and tension force of the actuator spring.
11. Move the Registration Actuator to its full actuated position.
12. Slide the Registration Actuator to the left to disengage the right end of the actuator. Pull the actuator up and out of the Paper Transport Assembly.
13. Remove the spring from the Registration Actuator.

Replacement

Reinstall the components in the reverse order.

RRP 4.3 Registration Clutch

(See PL 5.1 Paper Transport)

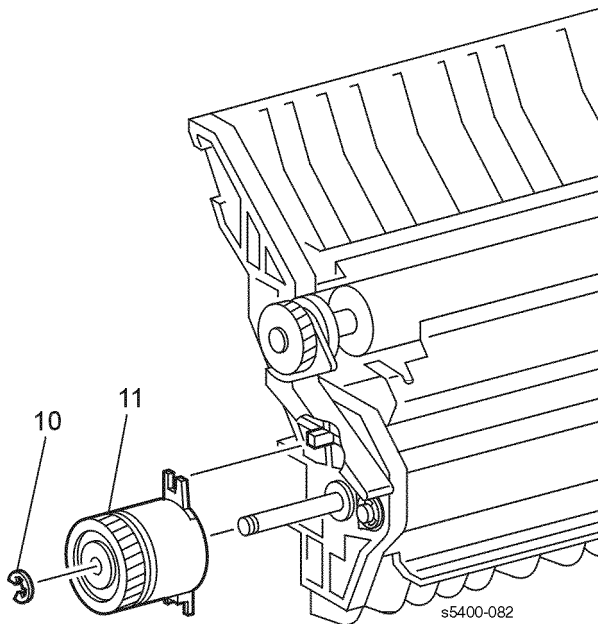


Figure 73 Registration Clutch

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the Rear Cover.
2. Remove the Fuser Assembly (RRP 5.1 Fuser Assembly).
3. Open the Top Cover and remove the Print Cartridge. Cover the cartridge to protect it from light.
4. Remove Tray 1.
5. Remove the MBF Assembly (RRP 2.1 Multi-sheet Bypass Feeder (MBF) Assembly).
6. Remove the Left Side Cover (RRP 1.1 Left Side Cover).
7. Remove the Top Cover Assembly (RRP 1.3 Top Cover Assembly).
8. Remove the HVPS Cover (RRP 1.6 HVPS Cover).
9. Remove the Paper Transport Assembly (RRP 4.1 Paper Transport Assembly)
10. Remove the E-ring that secures the Registration Clutch to the Rubber Registration Roller.
11. Remove the Registration Clutch.

Replacement

Reinstall the components in the reverse order.

RRP 4.4 Registration Sensor

(See PL 5.1 Paper Transport)

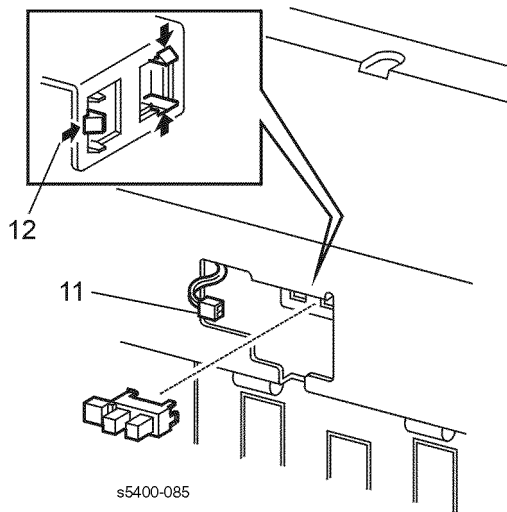


Figure 74 Registration Sensor

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the Rear Cover.
2. Remove the Fuser Assembly (RRP 5.1 Fuser Assembly).
3. Open the Top Cover and remove the Print Cartridge. Cover the cartridge to protect it from light.
4. Remove Tray 1.
5. Remove the MBF Assembly (RRP 2.1 Multi-sheet Bypass Feeder (MBF) Assembly).
6. Remove the Left Side Cover (RRP 1.1 Left Side Cover).
7. Remove the Top Cover Assembly (RRP 1.3 Top Cover Assembly).
8. Remove the HVPS Cover (RRP 1.6 HVPS Cover).
9. Remove the Paper Transport Assembly (RRP 4.1 Paper Transport Assembly).
10. Remove the HVPS PWB (RRP 8.2 High-Voltage Power Supply [HVPS] Board).
11. Disconnect P/J183 from the Registration Sensor.
12. Release the three locking tabs and remove the sensor.

Replacement

Reinstall the components in the reverse order.

RRP 5.1 Fuser Assembly

(See PL 6.1 Rear Cover Assembly With Fuser)

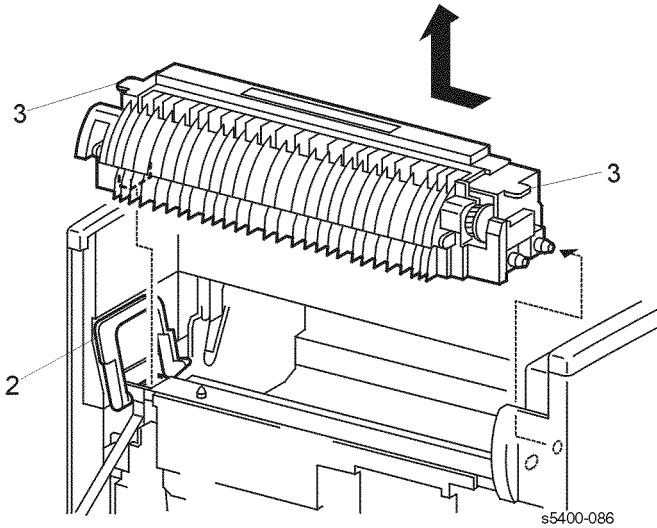


Figure 75 Fuser Assembly

Removal

Warnings: Switch off the power and disconnect the Power Cord.

If the printer has been in operation, the Fuser may be hot.

Caution: When handling the fuser, use care to prevent damage to the entrance guide.

1. Open the Rear Cover.
2. Move the Fuser Locking Lever to the left (as viewed from the rear).
3. Lift the left tab to disconnect P/J174 then lift both the left and right tabs to remove.

Replacement

Reinstall the components in the reverse order.

Note: *Install the locating pins first.*

RRP 5.2 Stack Full Sensor

(See PL 6.1 Rear Cover Assembly With Fuser)

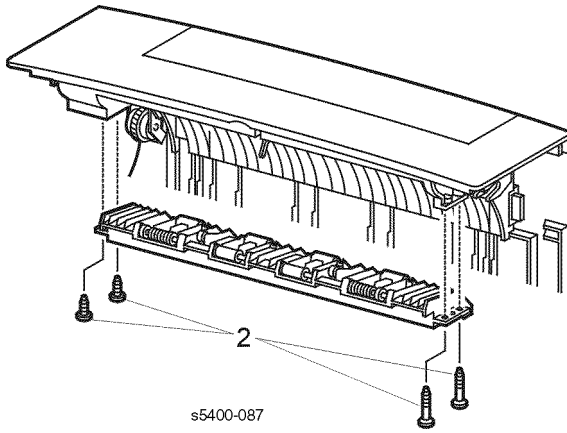


Figure 76 Lower Exit Chute

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open and remove the Rear Cover (RRP 1.9 Rear Cover).
2. Remove the four screws that secure the Lower Exit Chute Assembly. Remove the assembly.
3. Remove the four screws that secure the Upper Exit Chute. Remove the top of the Rear Cover.
4. Release the two locking tabs that secure the Stack Full Sensor Holder to the Rear Cover.
5. Remove the Stack Full Sensor Holder and Actuator from the Rear Cover.

6. Release the three locking tabs and remove the sensor from the holder.
7. Disconnect P/J507 from the Stack Full Sensor.

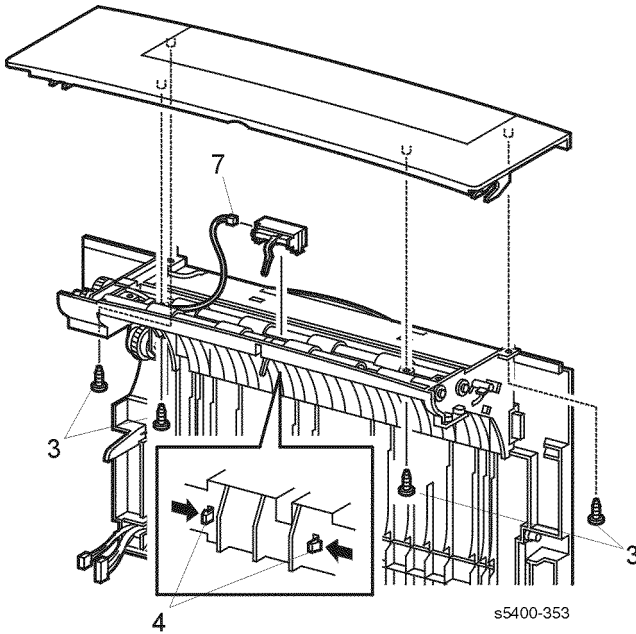


Figure 77 Upper Exit Chute

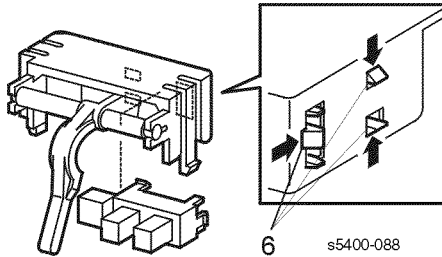


Figure 78 Stack Full Sensor

Replacement

Reinstall the components in the reverse order.

Note: *The two shoulder screws go in the right end of the Lower Exit Chute Assembly (see Figure 76).*

RRP 5.3 Exit Roller Assembly

(See PL 6.1 Rear Cover Assembly With Fuser)

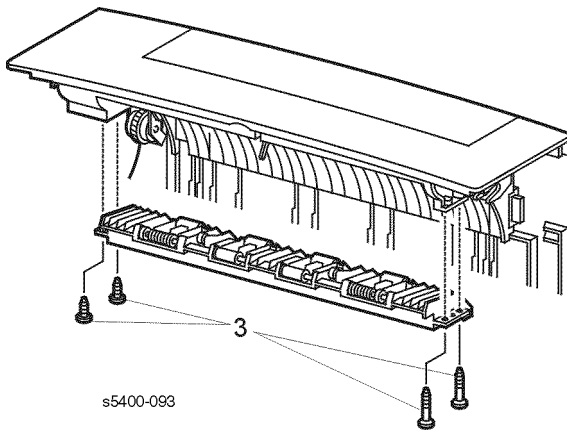


Figure 79 Lower Exit Chute

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the Rear Cover.
2. Remove the Rear Cover (RRP 1.9 Rear Cover).
3. Remove the four screws that secure the Lower Exit Chute Assembly. Remove the assembly.
4. Remove the four screws that secure the Upper Exit Chute. Remove the chute.
5. Remove the E-ring that secures the right end of the Upper Exit Roller Assembly.
6. Release the three locking tabs and remove the Gear Z15 from Upper Exit Roller Assembly.
7. Remove the left and right bearings from the Exit Roller.
8. Remove the two paper tabs from the shaft.
9. Move the Exit Roller Shaft to the left until the right end is free of the Rear Cover. Remove the Exit Roller.
10. Remove the E-ring that secures the right end of the Lower Exit Roller Assembly.
11. Release the three locking tabs and remove the Gear Z22 from Lower Exit Roller Assembly.
12. Remove the left and right bearings from the Exit Roller.
13. Move the Exit Roller Shaft to the left until the right end is free of the Rear Cover. Remove the Exit Roller.

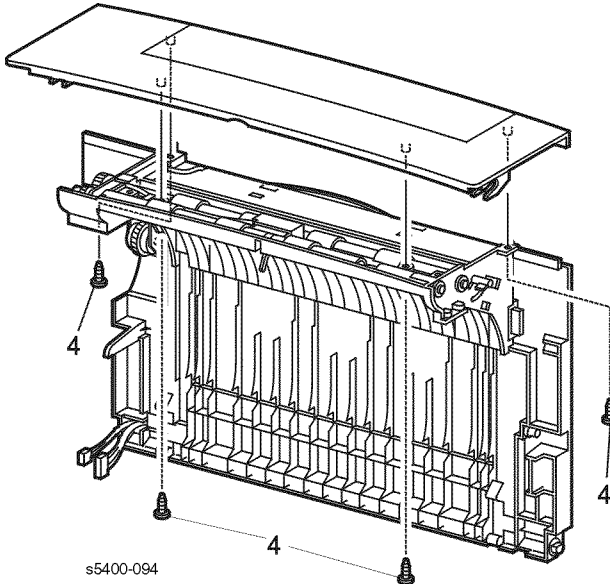


Figure 80 Upper Exit Chute

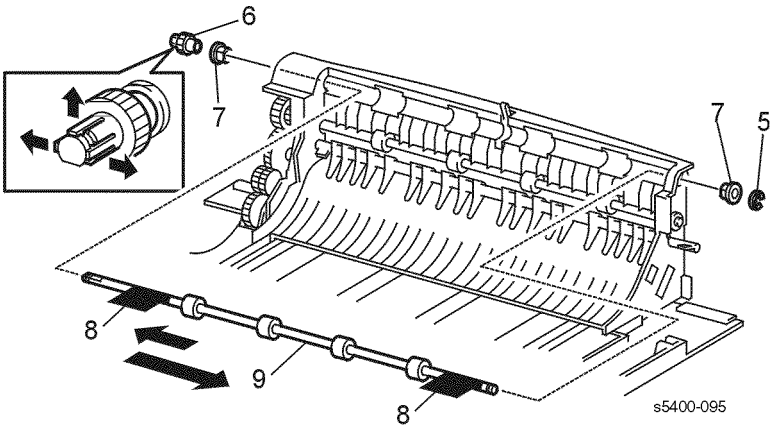


Figure 81 Upper Exit Roller Assembly

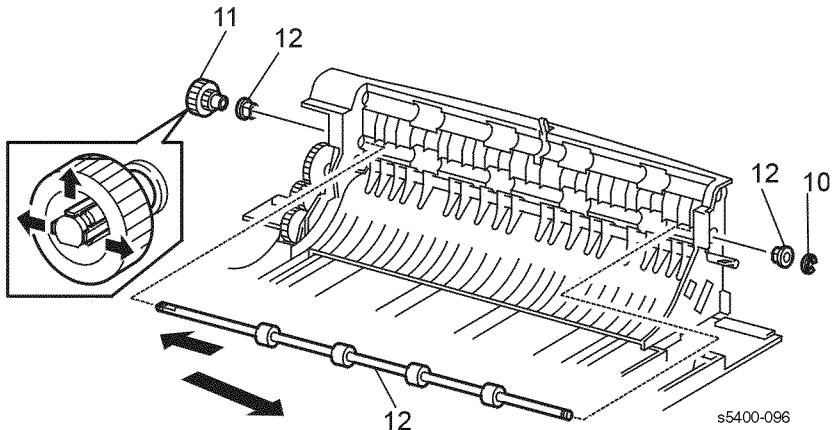


Figure 82 Lower Exit Roller Assembly

Replacement

Reinstall the components in the reverse order.

RRP 5.4 Stack Full Sensor Actuator

(See PL 6.1 Rear Cover Assembly With Fuser)

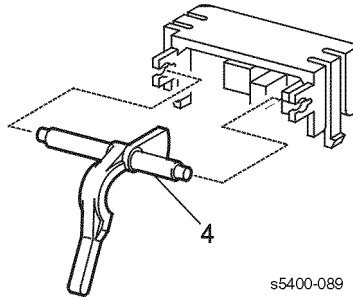


Figure 83 Stack Full Sensor Actuator

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the Rear Cover.
2. Remove the Rear Cover (RRP 1.9 Rear Cover).
3. Remove the Stack Full Sensor (RRP 5.2 Stack Full Sensor).
4. Carefully pull the actuator out of the holder.

Replacement

Reinstall the components in the reverse order.

RRP 6.1 Main Drive Gear Assembly

(See PL 7.1 Frame & Drives)

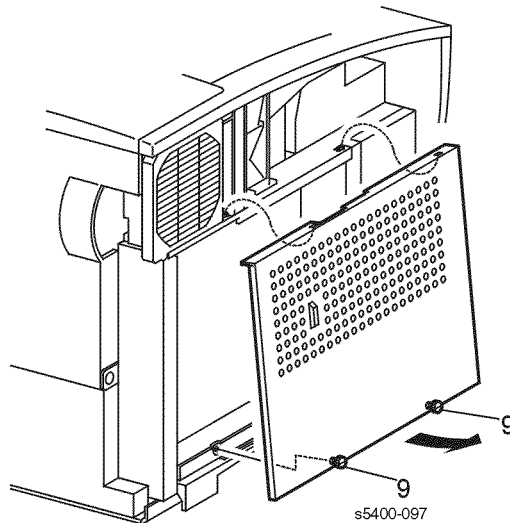


Figure 84 Shield Cover

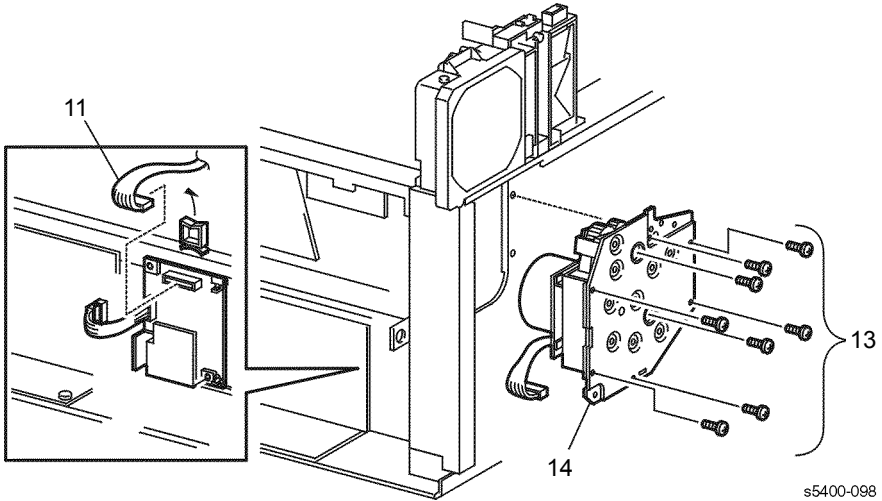
Removal

Note: *The Drive Gear Assembly includes both the Main Drive Motor Gear Assembly and Motor Assembly.*

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the Lower Rear Cover (RRP 1.7 Lower Rear Cover).
2. Open the Rear Cover.
3. Remove the Fuser Assembly (RRP 5.1 Fuser Assembly).
4. Open the Top Cover and remove the Print Cartridge.
5. Cover the cartridge to protect it from light.
6. Remove Tray 1.
7. Extend the MBF Assembly.
8. Remove the Left Side Cover (RRP 1.1 Left Side Cover).
9. Loosen the two thumb screws and remove the System Controller PWB Shield Cover.
10. Remove the System Controller PWB (RRP 8.1 System Controller PWB).

11. Disconnect CN2 from the Motor Drive PWB.
12. In the next step, there are arrows stamped into the metal indicating the eight screws to remove.
13. Remove the eight screws that secure the Gear Assembly to the printer.
14. Remove the Gear Assembly and Motor from the printer.



s5400-098

Figure 85 Gear Drive Assembly

Replacement

Reinstall the components in the reverse order.

RRP 7.1 Laser Assembly

(See PL 8.1 Xerographics)

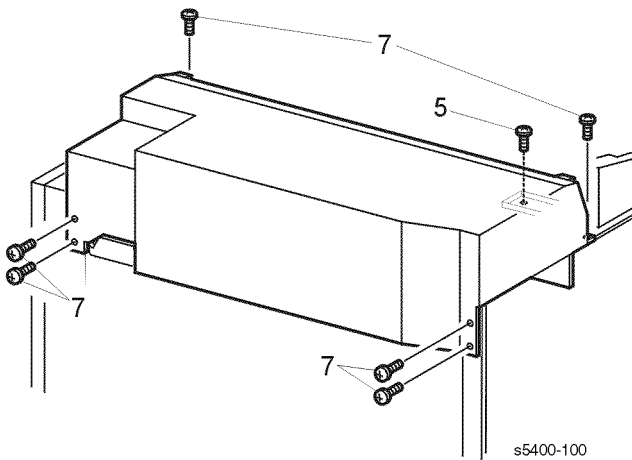


Figure 86 Laser Cover

Removal

Caution: These components are susceptible to electrostatic discharge. Observe all ESD procedures to avoid damage.

Warning: Switch off the power and disconnect the Power Cord.

1. Open the Rear Cover.
2. Open the Top Cover and remove the Print Cartridge. Cover the cartridge to protect it from light.
3. Remove the Left Side Cover (RRP 1.1 Left Side Cover).
4. Remove the Top Cover Assembly (RRP 1.3 Top Cover Assembly).
5. Remove the screw that secures the Right Side Cover to the Laser Cover.
6. Remove the Front Cover (RRP 1.4 Front Cover).
7. Remove the six screws that secure the Laser Cover to the printer. Move the top of the right cover to the right and remove the Laser Cover.

8. Disconnect P/J112 and the in-line connector P/J114 from the Laser Assembly.
9. Remove the four screws that secure the Laser Assembly to the printer.
10. Remove the Laser Assembly.

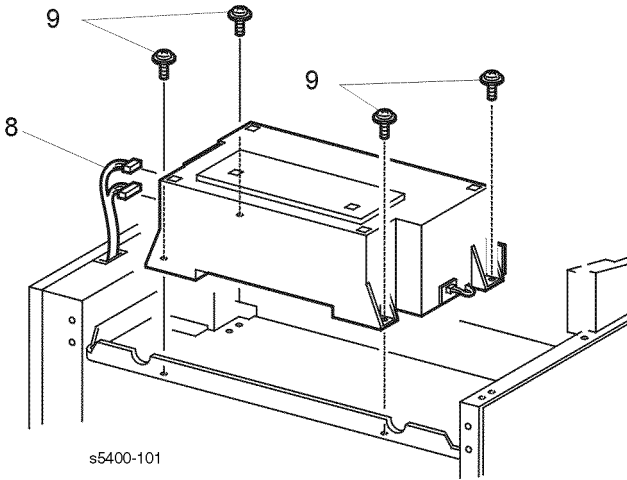


Figure 87 Laser Assembly

Replacement

Reinstall the components in the reverse order.

RRP 7.2 Right Print Cartridge Guide Assembly

(See PL 8.1 Xerographics)

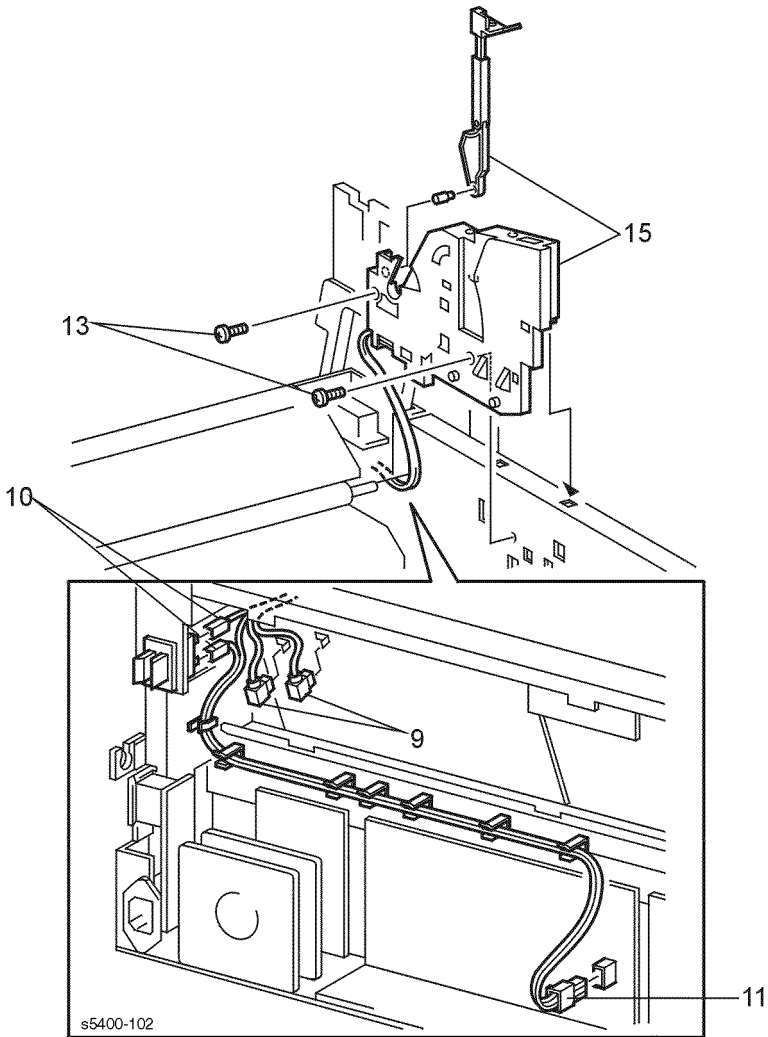


Figure 88 Right Print Cartridge Guide

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the Lower Rear Cover (RRP 1.7 Lower Rear Cover).
2. Open and remove the Rear Cover (RRP 1.9 Rear Cover).
3. Remove the Fuser Assembly (RRP 5.1 Fuser Assembly)
4. Open the Top Cover and remove the Print Cartridge. Cover the cartridge to protect it from light.

5. Remove the Left Side Cover (RRP 1.1 Left Side Cover).
6. Remove the Top Cover Assembly (RRP 1.3 Top Cover Assembly).
7. Remove the HVPS Cover (RRP 1.6 HVPS Cover).
8. Remove the BTR Assembly
(RRP 7.6 Bias Transfer Roller [BTR] Assembly).
9. Disconnect P/J186 (R) and P/J187 (W) from the HVPS PWB.
10. Disconnect P/J177 and P/J178 from the Fuser Interlock Switch.
11. Disconnect P/J162 from the LVPS PWB.
12. Remove all disconnected harnesses from cable clamps.
13. Remove the two screws that secure the right guide assembly.
14. Guide harnesses through the printer frame as you remove the Right Print Cartridge guide Assembly from the printer.

Note: *The Pin Link is not attached to the Guide Assembly and may fall into the printer when the guide assembly is removed.*

15. Remove the Right Print Cartridge Guide Assembly and Pin Link from the printer.

Replacement

Reinstall the components in the reverse order.

RRP 7.3 Toner Sensor Assembly

(See PL 8.1 Xerographics)

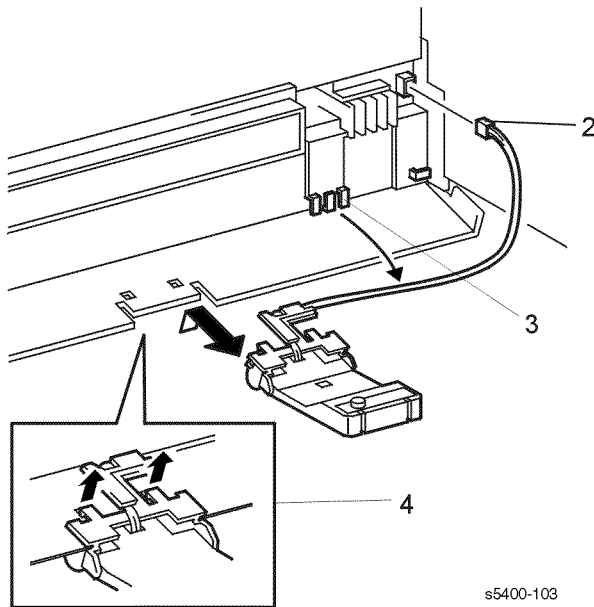


Figure 89 Toner Sensor Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the Top Cover and remove the Print Cartridge. Cover the cartridge to protect it from light.
2. Disconnect P/J141.
3. Release Toner Sensor Assembly Harness from the cable clamps and retainers.
4. Release the two locking tabs and remove the Toner Sensor Assembly from the printer.

Replacement

Reinstall the components in the reverse order.

RRP 7.4 Top Cover Interlock Switch

(See PL 8.1 Xerographics)

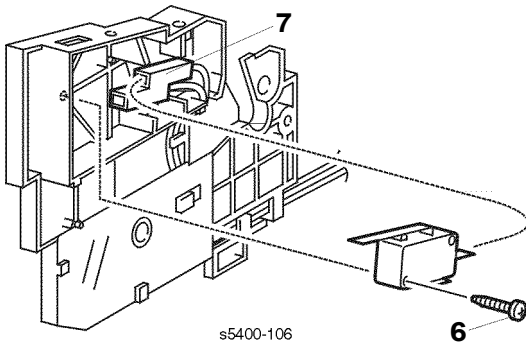


Figure 90 Top Cover Interlock Switch

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the Rear Cover.
2. Open the Top Cover.
3. Remove the Left Side Cover (RRP 1.1 Left Side Cover).
4. Remove the Top Cover Assembly (RRP 1.3 Top Cover Assembly).
5. Remove the Right Side Cover (RRP 1.2 Right Side Cover).
6. Remove the screw that secures the Interlock Switch to the Right Print Cartridge Guide Assembly.
7. Disconnect P/J623 from the Interlock Switch. Remove the switch.

Replacement

Reinstall the components in the reverse order.

RRP 7.5 Left Print Cartridge Guide Assembly

(See PL 8.1 Xerographics)

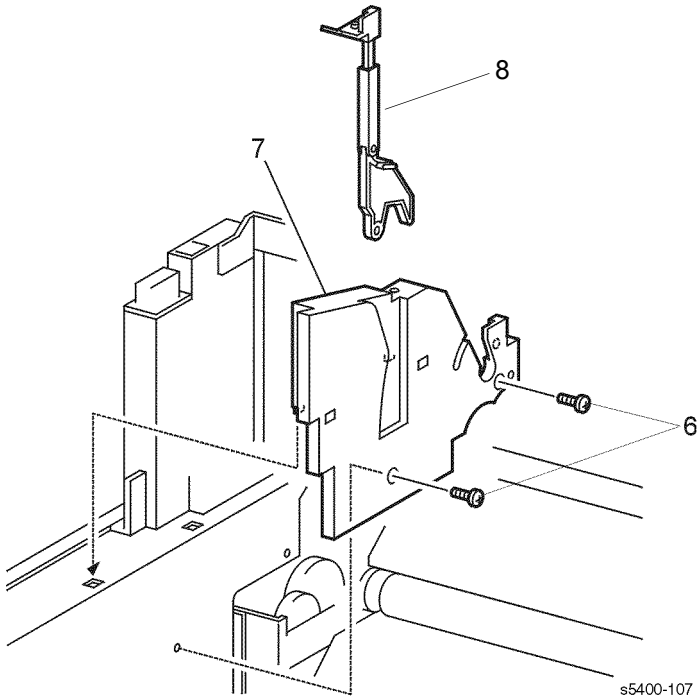


Figure 91 Left Print Cartridge Guide Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the Rear Cover.
2. Open the Top Cover and remove the Print Cartridge. Cover the cartridge to protect it from light.
3. Remove the Left Side Cover (RRP 1.1 Left Side Cover).
4. Remove the Top Cover Assembly (RRP 1.3 Top Cover Assembly).
5. Remove the BTR Assembly (RRP 7.6 Bias Transfer Roller [BTR] Assembly).
6. Remove the two screws that secure the Print Cartridge Left Guide Assembly to the printer.
7. Remove the Print Cartridge Left Guide Assembly from the printer.
8. Remove the Left Guide Link Assembly from the printer.

Replacement

Reinstall the components in the reverse order.

RRP 7.6 Bias Transfer Roller [BTR] Assembly

(See PL 5.1 Paper Transport)

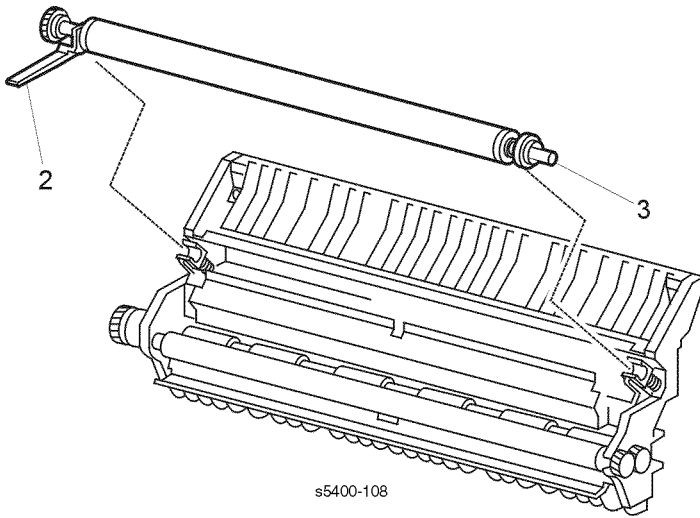


Figure 92 Bias Transfer Roller [BTR] Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the Top Cover and remove the Print Cartridge. Cover the cartridge to protect it from light.

Note: *During the following steps, do not touch the black Roller part of the BTR. Oil from your hands can cause copy quality problems.*

2. Lift the orange handle on the left end of the BTR Assembly. Pull up on the handle to free the left end of the BTR.
3. Use your finger to lift the right end of the BTR Assembly.
4. Place the BTR Roller on a sheet of clean paper and cover it with another sheet of paper.

Replacement

Reinstall the components in the reverse order.

RRP 8.1 System Controller PWB

(See PL 9.1 Electrical (1 of 2))

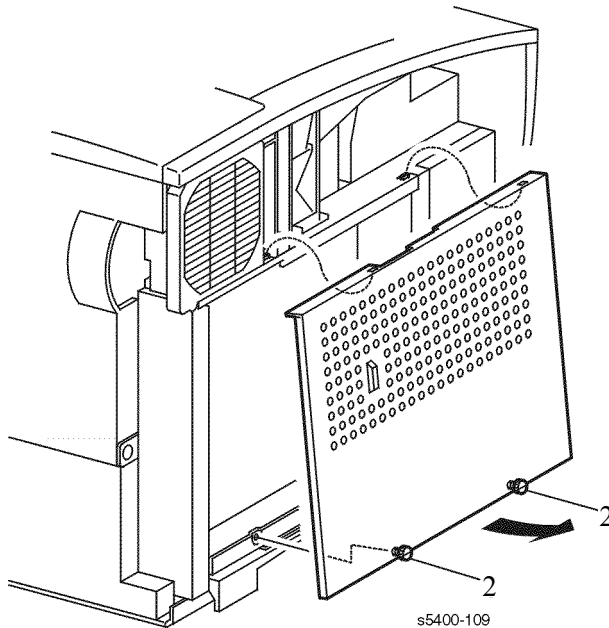


Figure 93 Shield Cover

Removal

Caution: These components are susceptible to electrostatic discharge. Observe all ESD procedures to avoid damage.

Warning: Turn the power off and disconnect the Power Cord.

1. Remove the Left Side Cover (RRP 1.1 Left Side Cover).
2. Loosen the two thumb screws that secure the Shield Cover and remove the cover.
3. Remove the four screws that secure the rear of the System Controller PWB Assembly to the printer.
4. Disconnect P/J3, P/J13, and P/J18 from the System Controller PWB.
5. Remove the seven screws that secure the System Controller PWB to the printer.
6. Slide the System Controller PWB toward the rear of the printer to disconnect P/J14 from the Print Engine Controller PWB.
7. Remove the System Controller PWB Assembly.

Note: *If replacing the System Controller PWB, continue with step 8.*

8. Remove any DIMMs from slots J5, J4, or J6 and install them on the new System Controller PWB.
9. If installed, remove the Hard Disk Drive.

10. Remove the two screws that secure the parallel connector to the frame assembly.
11. Remove the three screws that secures the System Controller PWB to the frame assembly. Remove the System Controller PWB.

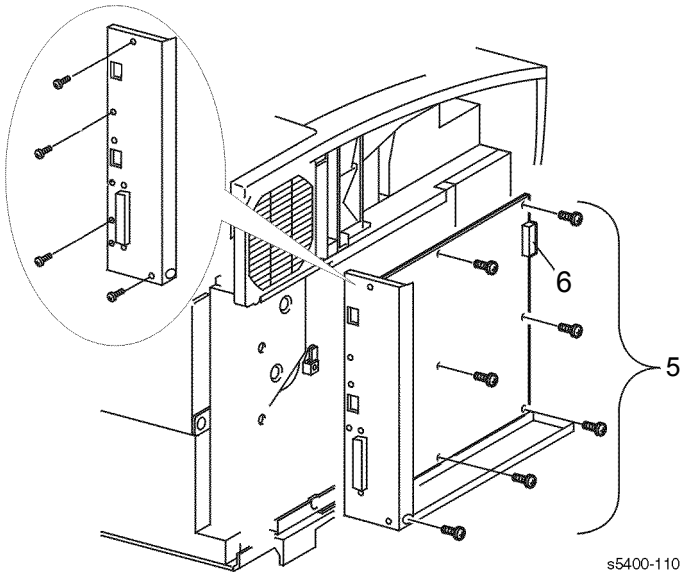


Figure 94 System Controller Board Assembly

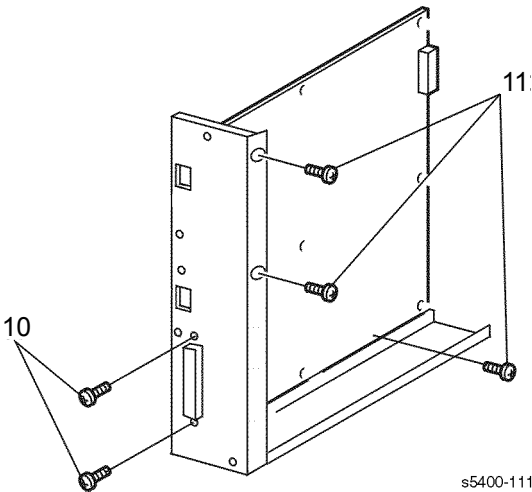


Figure 95 System Controller Board

Replacement

Reinstall the components in the reverse order.

RRP 8.2 High-Voltage Power Supply [HVPS] Board

(See PL 9.1 Electrical (1 of 2))

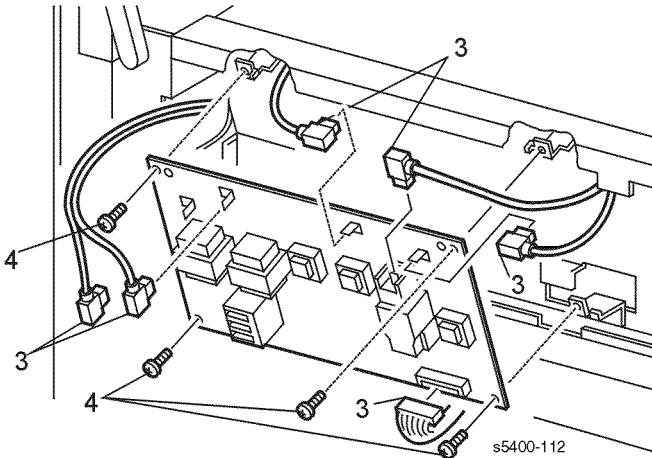


Figure 96 High-Voltage Power Supply [HVPS] Board

Removal

Caution: These components are susceptible to electrostatic discharge. Observe all ESD procedures to avoid damage.

Warning: Turn the power off and disconnect the Power Cord.

1. Remove the Rear Cover (RRP 1.9 Rear Cover).
2. Remove the HVPS Cover (RRP 1.6 HVPS Cover).
3. Disconnect P/J181, P/J182, P/J186, P/J187, P/J188, P/J185 from the HVPS PWB.

Caution: When reconnecting the yellow wire removed in step 3, be certain to route it under the HVPS board.

4. Remove the four screws that secure the HVPS PWB to the printer.
5. Remove the HVPS PWB.

Replacement

Reinstall the components in the reverse order.

RRP 8.3 Duplex Interface Board

(See PL 11.1 500-Sheet Feeder (1 of 3))

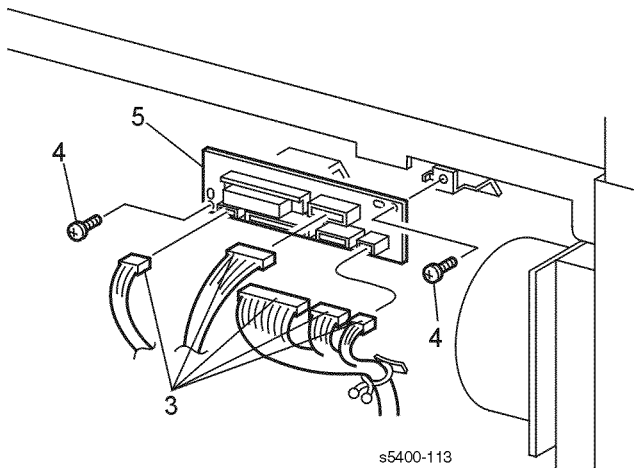


Figure 97 Duplex Interface Board

Removal

Caution: These components are susceptible to electrostatic discharge. Observe all ESD procedures to avoid damage.

Warning: Switch off the power and disconnect the Power Cord.

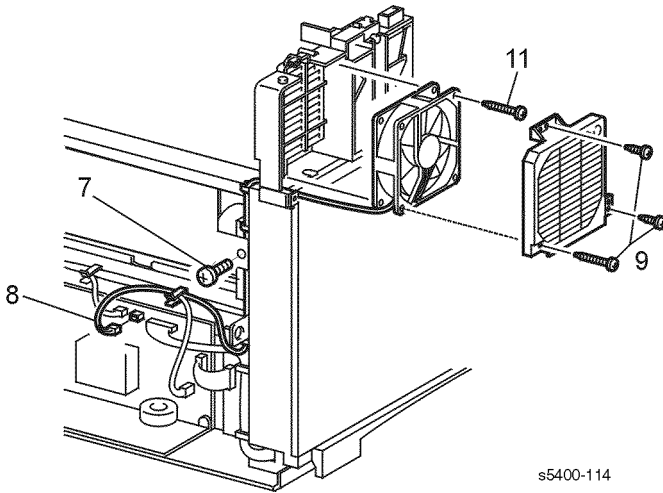
1. Remove the Rear Cover (RRP 1.9 Rear Cover).
2. Remove the HVPS Cover (RRP 1.6 HVPS Cover).
3. Disconnect P/J501, P/J504, and P/J506 from the Duplex Interface PWB.
4. Remove the two screws that secure the Duplex Interface PWB to the printer.
5. Remove the Duplex Interface PWB.

Replacement

Reinstall the components in the reverse order.

RRP 8.4 Main Fan

(See PL 9.1 Electrical (1 of 2))



s5400-114

Figure 98 Main Fan

Removal

Caution: These components are susceptible to electrostatic discharge. Observe all ESD procedures to avoid damage.

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the Lower Rear Cover (RRP 1.7 Lower Rear Cover).
2. Remove the Rear Cover (RRP 1.9 Rear Cover).
3. Remove the HCS if installed (RRP 10.1 1000-Sheet High Capacity Stacker [HCS]).
4. Remove the Left Side Cover (RRP 1.1 Left Side Cover).
5. Open the Top Cover and remove the Print Cartridge. Cover the cartridge to protect it from light.
6. Remove the Top Cover Assembly (RRP 1.3 Top Cover Assembly).
7. Remove the screw that secures the left edge of the HVPS Cover.
8. Disconnect P/J165 from the LVPS PWB.
9. Remove the three screws that secure the Fan Guard to the printer.
10. Remove Fan Harness from all clamps.
11. Remove the screw that secures the Main Fan to the printer. Remove the fan.

Replacement

Reinstall the components in the reverse order.

RRP 8.5 Print Engine Controller Board

(See PL 9.1 Electrical (1 of 2))

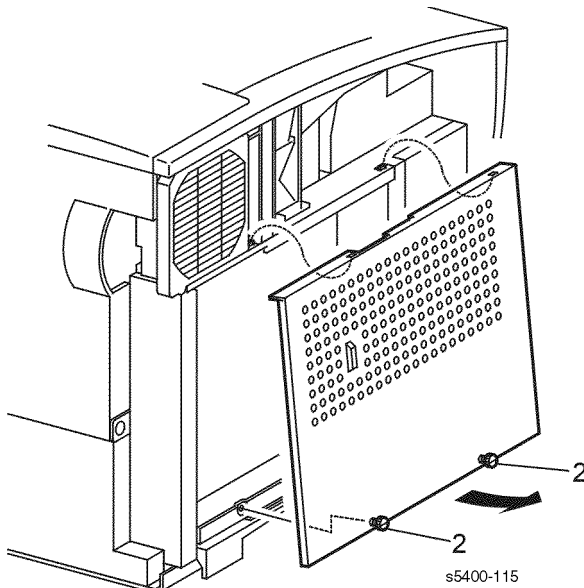


Figure 99 Shield Cover

Removal

Caution: These components are susceptible to electrostatic discharge. Observe all ESD procedures to avoid damage.

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the Left Side Cover (RRP 1.1 Left Side Cover)
2. Loosen the two thumb screws that secure the System Controller PWB Shield Cover and remove the cover.
3. Remove the four screws that secure the Print Engine Controller PWB Cover. Remove the cover.
4. Disconnect P/J11, P/J12, P/J13, P/J14, P/J16, P/J17, P/J18, P/J19, P/J20, P/J21, and P/J22 from the Print Engine Controller PWB.
5. Remove the four screws that secure the Print Engine Controller PWB to the printer. Slide the Print Engine Controller PWB to the right and remove.

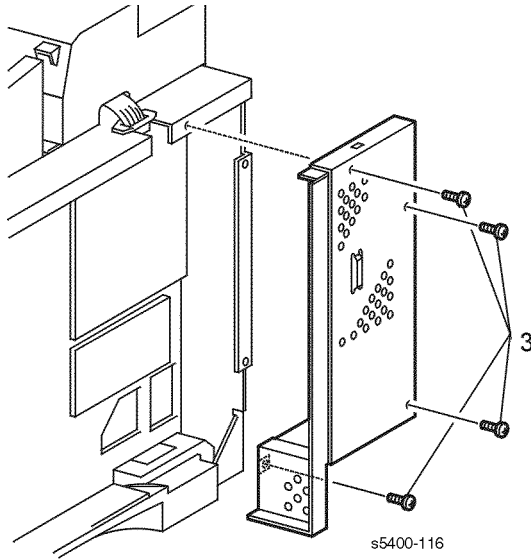


Figure 100 Print Engine Controller Board Cover

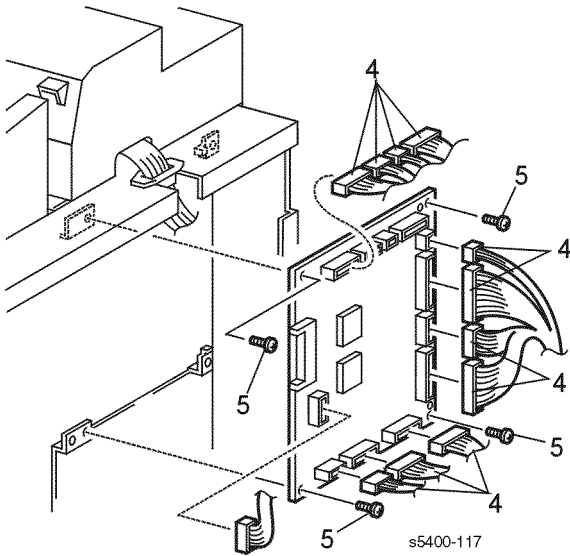


Figure 101 Print Engine Controller Board Replacement

Reinstall the components in the reverse order.

RRP 8.6 Low-Voltage Power Supply [LVPS] Assembly

(See PL 9.2 Electrical (2 of 2))

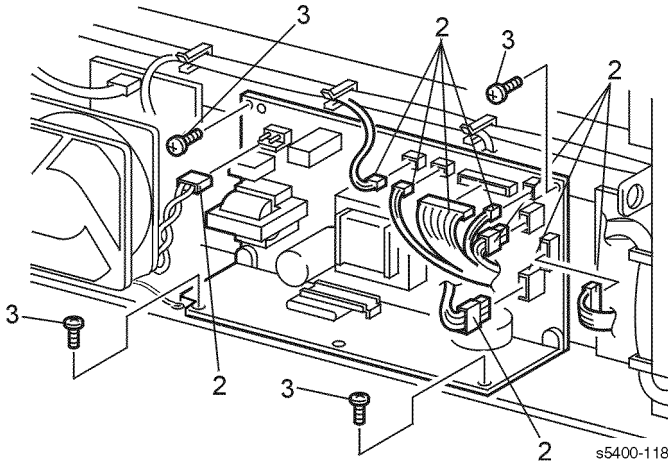


Figure 102 Low-Voltage Power Supply [LVPS]

Removal

Caution: These components are susceptible to electrostatic discharge. Observe all ESD procedures to avoid damage.

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the Lower Rear Cover (RRP 1.7 Lower Rear Cover).
2. Disconnect P/J168, P/J167, P/J166, P/J165, P/J164, P/J163, P/J162, and P/J161 from the LVPS Assembly.

Caution: In the next step, when removing the four LVPS mounting screws, take note of the color. Two are silver colored and two have a slight gold tint. The gold screws secure the circuit board the frame. The silver screws secure the heat sink to the frame.

3. Remove the four screws that secure the LVPS Assembly to the printer.
4. Remove the LVPS Assembly.

Replacement

Reinstall the components in the reverse order.

Note: Reinstall the silver and gold screws in the correct position noted in step 3 or the threads can be stripped.

RRP 8.7 LVPS FAN

(See PL 9.2 Electrical (2 of 2))

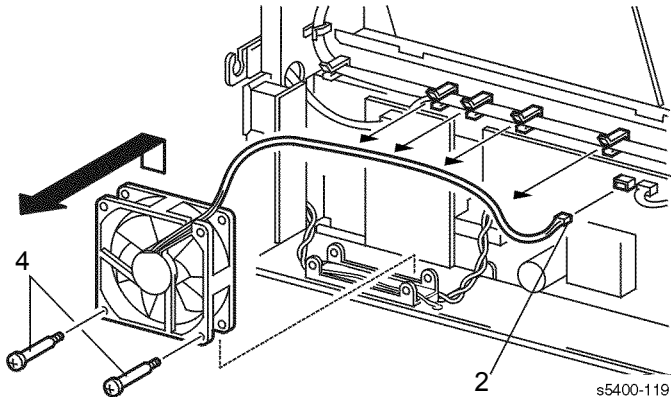


Figure 103 LVPS Fan

Removal

Caution: These components are susceptible to electrostatic discharge. Observe all ESD procedures to avoid damage.

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the Lower Rear Cover (RRP 1.7 Lower Rear Cover).
2. Disconnect P/J166 from the LVPS Assembly.
3. Remove the Fan Harness from all clamps.
4. Remove the two screws that secure the LVPS Fan to the LVPS Assembly.
5. Remove the LVPS Fan.

Replacement

Reinstall the components in the reverse order.

RRP 8.8 AC Input Assembly

(See PL 9.2 Electrical (2 of 2))

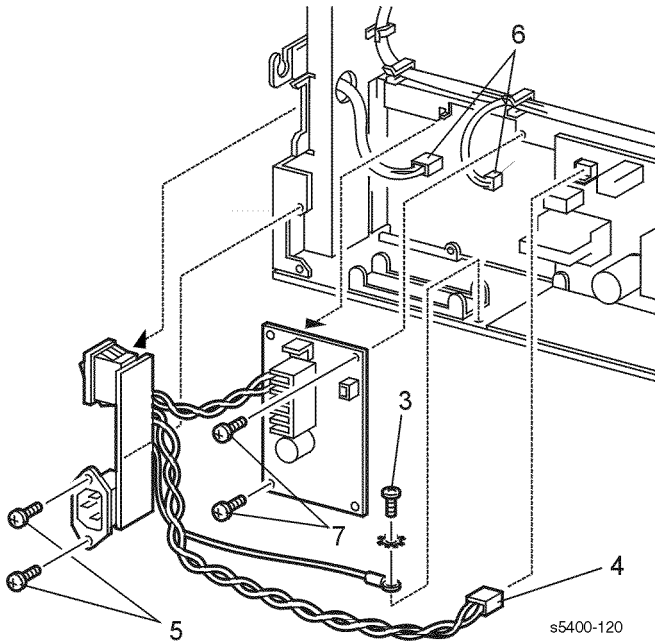


Figure 104 AC Input Assembly

Removal

Caution: These components are susceptible to electrostatic discharge. Observe all ESD procedures to avoid damage.

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the Lower Rear Cover (RRP 1.7 Lower Rear Cover).
2. Remove the LVPS Fan (RRP 8.7 LVPS FAN).

Note: *In the next step, when disconnecting the green wire (ground) from the frame, take note there are two star washers. One washer is under the wire terminal, and the other is under the screw head. Be certain to reinstall properly.*

3. Remove the screw that secures the grounding wire to the printer.
4. Disconnect P/J167 from the LVPS Assembly.
5. Remove the two screws that secure the AC Input Connector to the printer.
6. Disconnect P/J171 and P/J172 from the AC Input PWB.
7. Remove the two screws that secure the AC Input PWB to the LVPS Assembly.
8. Flex the Right Cover out as you remove the AC Input Assembly.

Replacement

Reinstall the components in the reverse order.

RRP 8.9 Control Panel +5 VDC Power Supply

(See PL 9.2 Electrical (2 of 2))

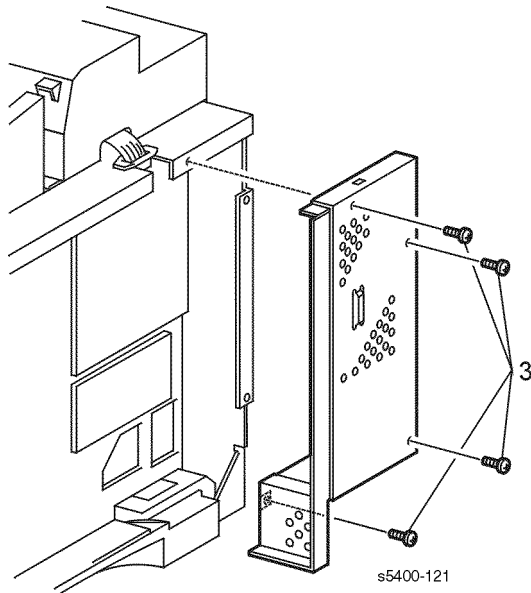


Figure 105 Print Engine Controller Board Cover

Removal

Caution: These components are susceptible to electrostatic discharge. Observe all ESD procedures to avoid damage.

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the Left Cover (RRP 1.1 Left Side Cover).
2. Loosen the two thumb nuts and remove the System Controller PWB Shield Cover.
3. Remove the four screws that secure the MCU Cover. Remove the cover.

4. Disconnect P/J169 from the +5 VDC power Supply.
5. Remove the two screws that secure the +5 VDC Power Supply. Remove the Power Supply.

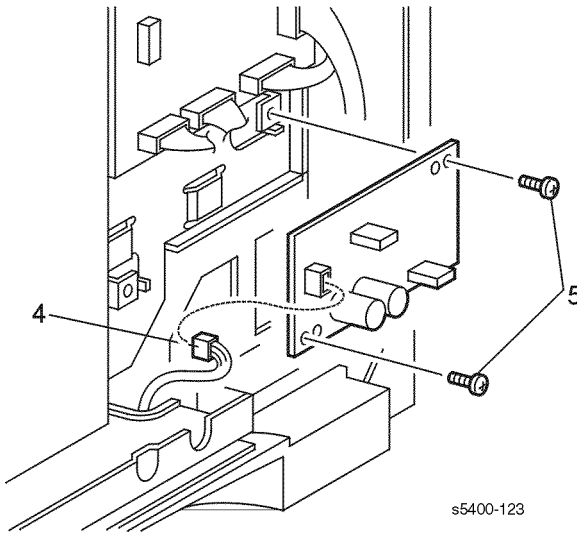


Figure 106 +5 VDC Power Supply

Replacement

Reinstall the components in the reverse order.

RRP 9.1 Duplex Assembly

(See PL 13.1 Duplex Assembly)

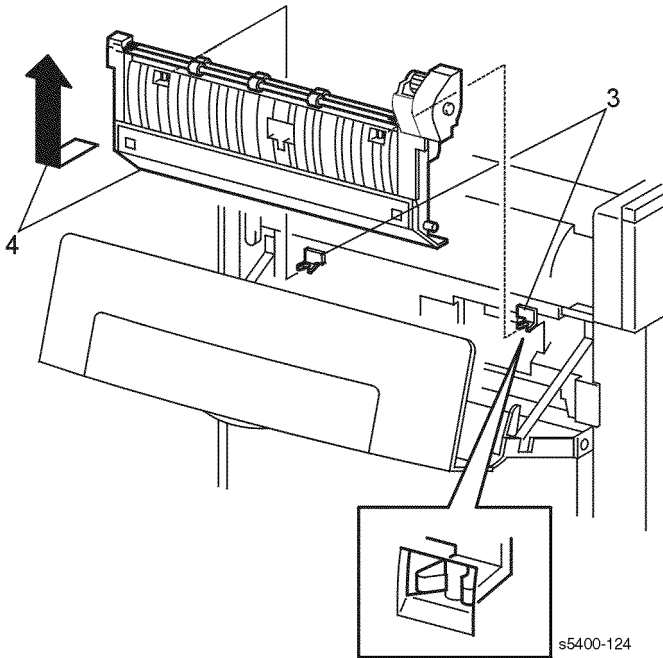


Figure 107 Duplex Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

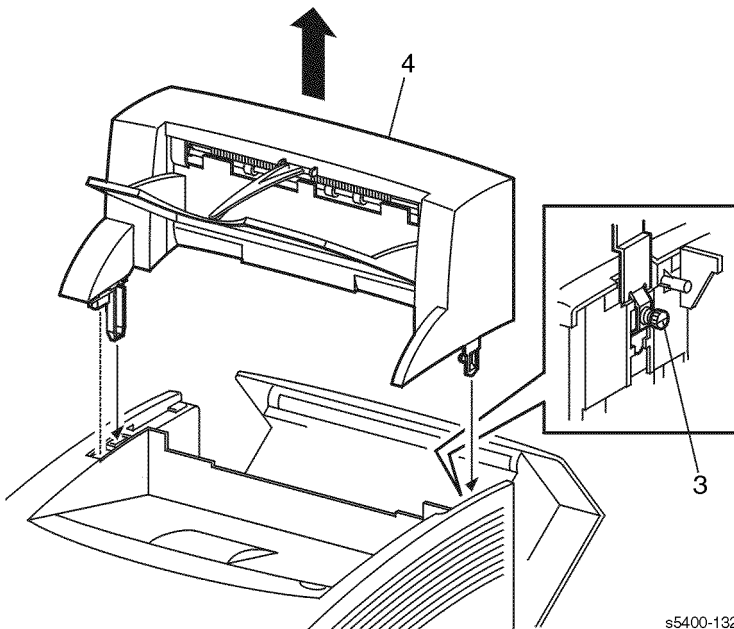
1. Open the Rear Cover.
2. Remove Left Cover (RRP 1.1 Left Side Cover).
3. Pull the top of the Duplex Assembly away from the printer to disengage the two hooks securing the unit.
4. Pull the Duplex Assembly out and up to remove.

Replacement

Reinstall the components in the reverse order.

RRP 10.1 1000-Sheet High Capacity Stacker [HCS]

(See PL 10.1 High Capacity Stacker [HCS] (1 of 2))



s5400-132

Figure 108 High Capacity Stacker [HCS] Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the printer Rear Cover.
2. Loosen the thumb screw located on the inside of the right frame.
3. Lift the High Capacity Stacker (HCS) straight up and remove.
4. Remove HCS Solenoid Assembly (RRP 10.5 HCS Exit Gate Solenoid) if removal is permanent.

Replacement

Reinstall the components in the reverse order.

RRP 10.2 HCS Top Cover

(See PL 10.1 High Capacity Stacker [HCS] (1 of 2))

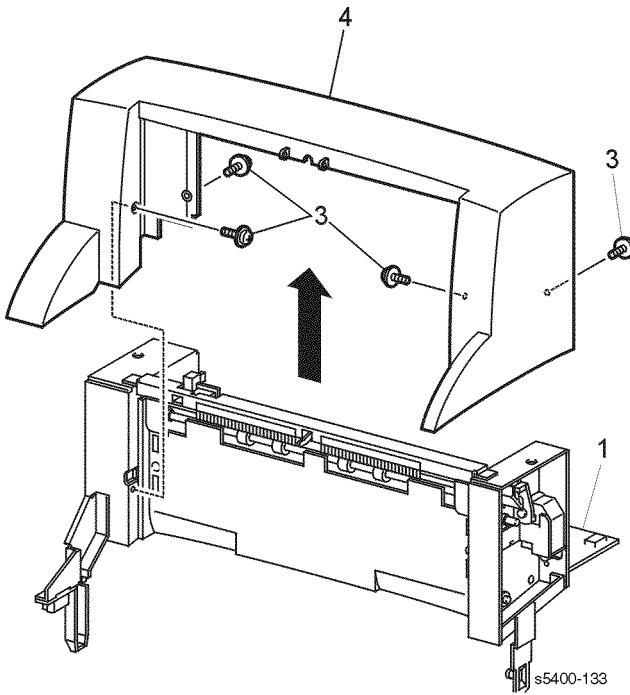


Figure 109 HCS Top Cover

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the HCS Rear Cover.
2. Remove the HCS Output Bin.
3. Remove the four screws that secure the Top Cover.
4. Lift the cover up to remove.

Replacement

Reinstall the components in the reverse order.

RRP 10.3 HCS Rear Cover Assembly

(See PL 10.1 High Capacity Stacker [HCS] (1 of 2))

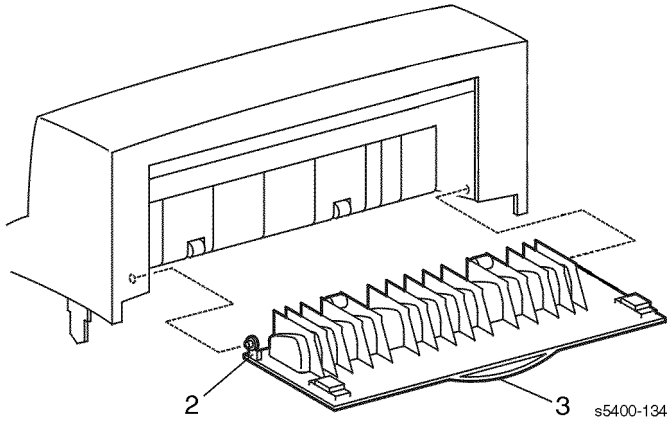


Figure 110 HCS Rear Cover

Removal

Warning: Switch off the power and disconnect the Power Cord.

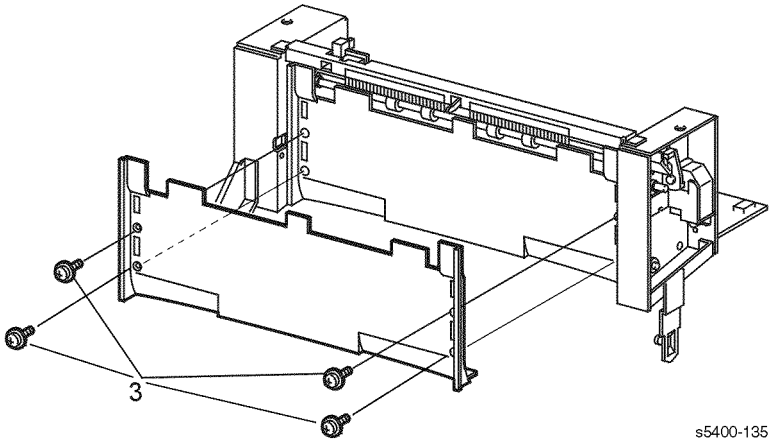
1. Open the HCS Rear Cover.
2. Carefully press in on the right bracket to disengage the cover from the frame.
3. Remove the cover.

Replacement

Reinstall the components in the reverse order.

RRP 10.4 HCS Front Cover

(See PL 10.1 High Capacity Stacker [HCS] (1 of 2))



s5400-135

Figure 111 HCS Front Cover

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the HCS Rear Cover.
2. Remove the HCS Top Cover (RRP 10.2 HCS Top Cover).
3. Remove the four screws that secure the Front Cover. Remove the cover.

Replacement

Reinstall the components in the reverse order.

RRP 10.5 HCS Exit Gate Solenoid

(See PL 10.1 High Capacity Stacker [HCS] (1 of 2))

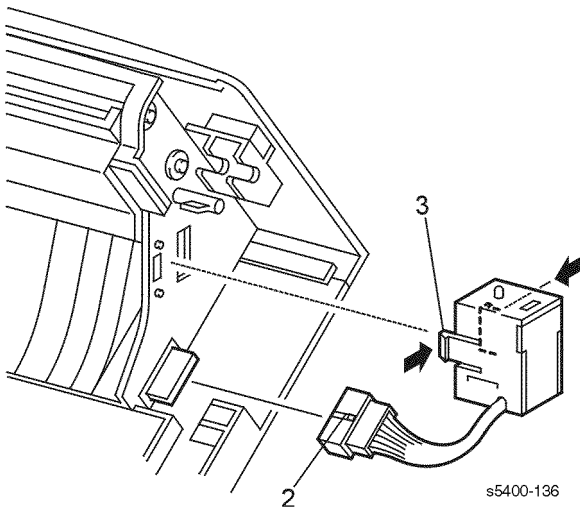


Figure 112 Exit Gate Solenoid

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the printer Rear Cover.
2. Press the locking tab and disconnect P/J519 from the Rear Cover.
3. Press the locking tab on the Solenoid Assembly and remove the solenoid.

Replacement

Reinstall the components in the reverse order.

RRP 10.6 HCS Stack Full Sensor

(See PL 10.2 High Capacity Stacker [HCS] (2 of 2))

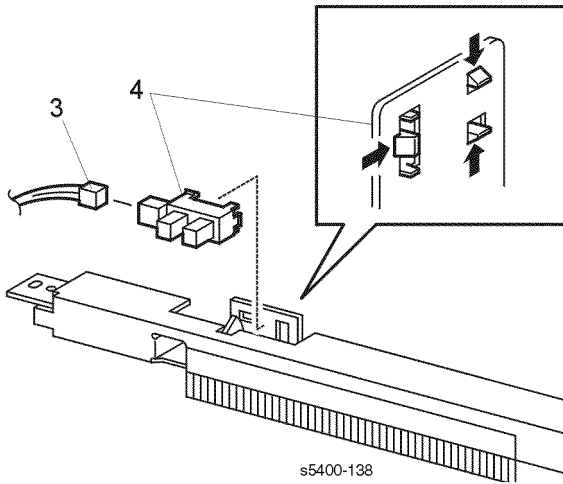


Figure 113 HCS Stack Full Sensor

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the HCS Rear Cover.
2. Remove the HCS Top Cover (RRP 10.2 HCS Top Cover).
3. Disconnect P/J521 from the Stack Full Sensor.
4. Release the three locking tabs and remove the sensor.

Replacement

Reinstall the components in the reverse order.

RRP 10.7 HCS Stack Full Sensor Actuator

(See PL 10.2 High Capacity Stacker [HCS] (2 of 2))

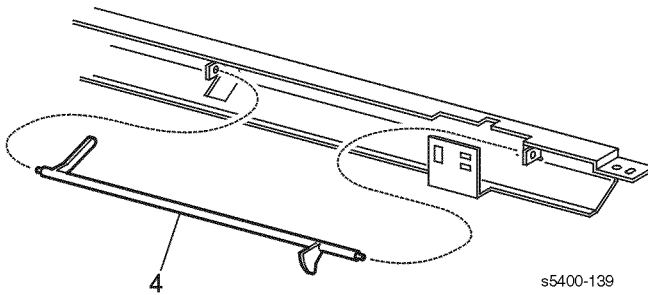


Figure 114 HCS Stack Full Sensor Actuator

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the HCS Rear Cover.
2. Remove the HCS Top Cover (RRP 10.2 HCS Top Cover).
3. Remove the Stack Full Sensor (RRP 10.6 HCS Stack Full Sensor).
4. Move the actuator to the left. Carefully flex the center of the actuator until the right end is free of the assembly.
5. Remove the actuator.

Replacement

Reinstall the components in the reverse order.

RRP 10.8 HCS Drive Motor Assembly

(See PL 10.2 High Capacity Stacker [HCS] (2 of 2))

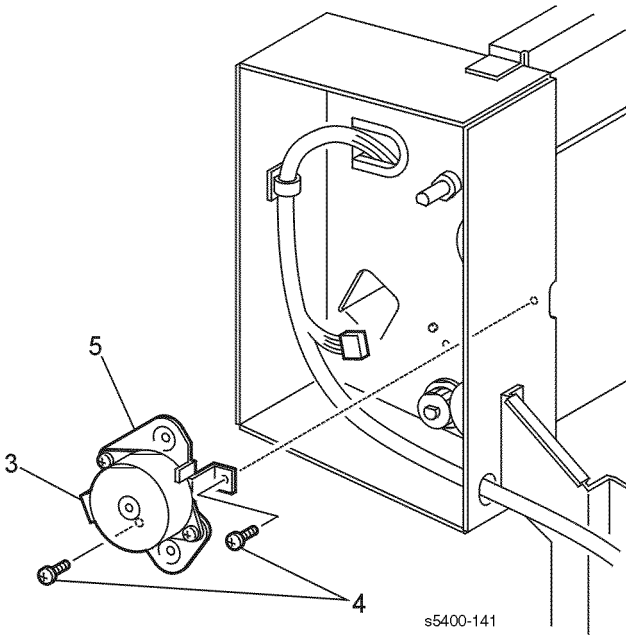


Figure 115 HCS Drive Motor Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the HCS Rear Cover.
2. Remove the HCS Top Cover (RRP 10.2 HCS Top Cover).
3. Disconnect P/J518 from the Drive Motor.
4. Remove the two screws that secure the Motor Bracket to the HCS.
5. Remove the Drive Motor and bracket.

Replacement

Reinstall the components in the reverse order.

RRP 10.9 HCS Rear Cover Interlock Switch

(See PL 10.2 High Capacity Stacker [HCS] (2 of 2))

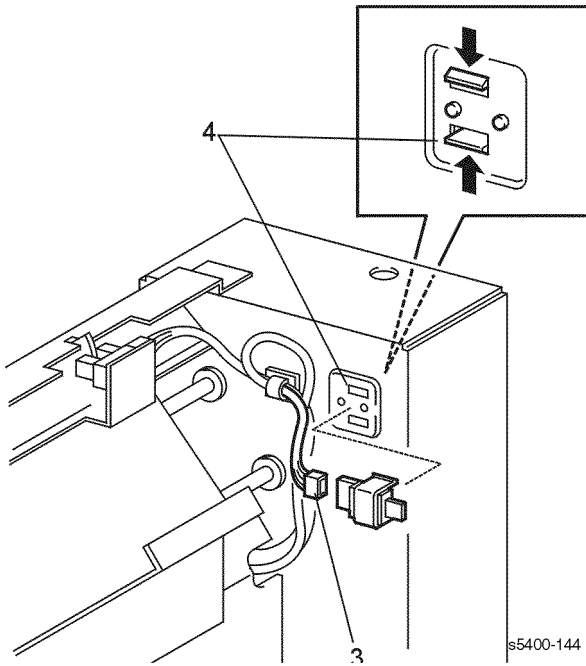


Figure 116 HCS Rear Cover Interlock Switch

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the HCS Rear Cover.
2. Remove the HCS Top Cover (RRP 10.2 HCS Top Cover).
3. Disconnect P/J525 from the interlock switch.
4. Release the two locking tabs and remove the switch.

Replacement

Reinstall the components in the reverse order.

RRP 10.10 HCS Paper Sensor

(See PL 10.2 High Capacity Stacker [HCS] (2 of 2))

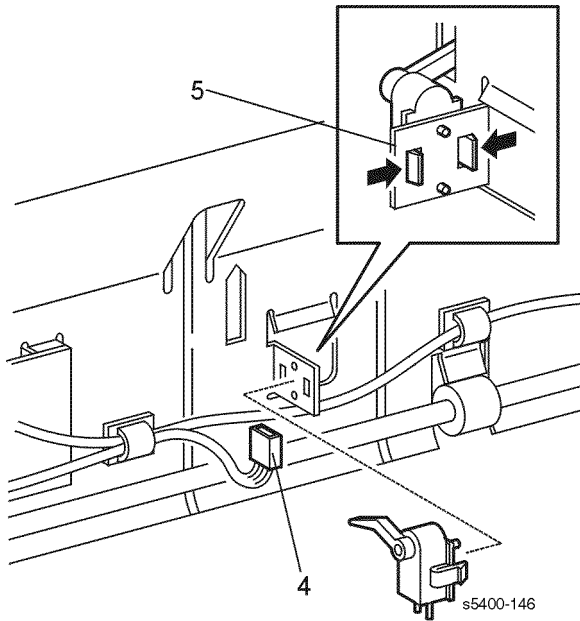


Figure 117 HCS Paper Sensor

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the HCS Rear Cover.
2. Remove the HCS Top Cover (RRP 10.2 HCS Top Cover).
3. Remove the HCS Front Cover (RRP 10.4 HCS Front Cover).
4. Disconnect P/J523 from the Paper Sensor.
5. Release the two locking tabs that secure the sensor and remove the sensor.

Replacement

Reinstall the components in the reverse order.

RRP 11.1 500-Sheet Feeder Removal

(See PL 11.1 500-Sheet Feeder (1 of 3))

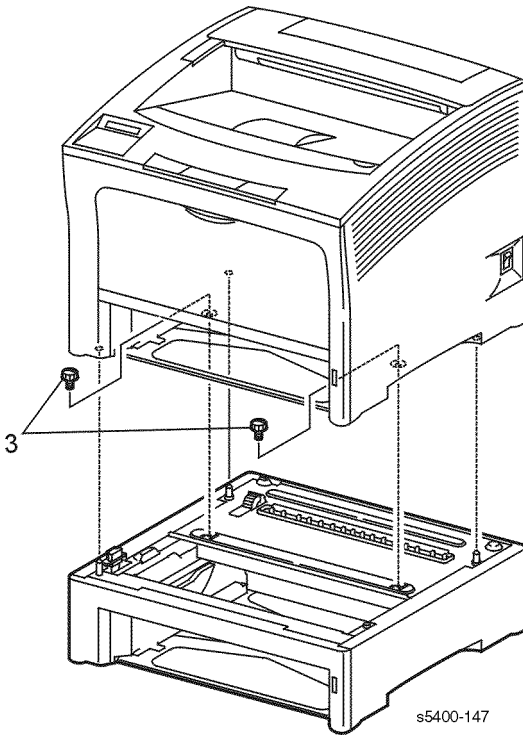


Figure 118 Feeder Removal

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the HCS, if installed
(RRP 10.1 1000-Sheet High Capacity Stacker [HCS]).
2. Remove Tray 1 from the printer.
3. Remove the two screws that secure the printer to the Optional Paper Feeder.

Warning: To avoid possible personal injury associated with lifting heavy objects, have someone assist you in removing the printer and setting it in a safe place.

4. Remove the printer.

Replacement

Reinstall the components in the reverse order.

RRP 11.2 Front Cover

(See PL 11.1 500-Sheet Feeder (1 of 3))

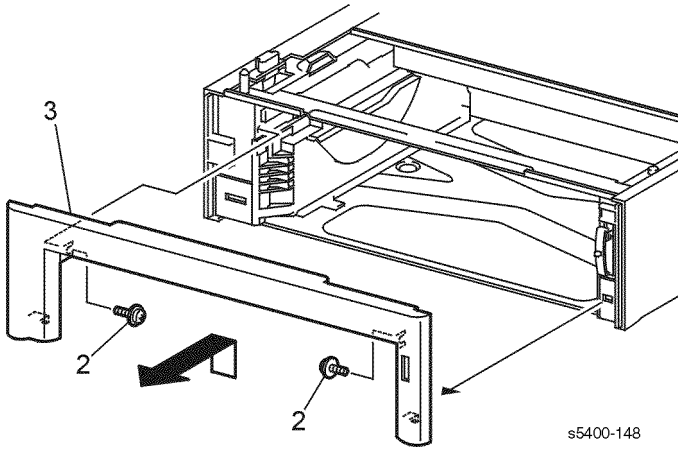


Figure 119 Front Cover

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the paper tray from the feeder.
2. Loosen the two screws that secure the front cover.
3. Pull out on the top of the Front Cover and lift slightly to remove the cover.

Replacement

Reinstall the components in the reverse order.

RRP 11.3 Left Cover

(See PL 11.1 500-Sheet Feeder (1 of 3))

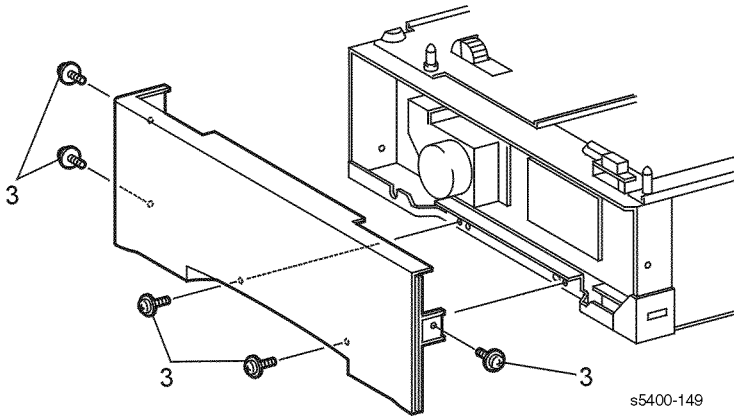


Figure 120 Left Cover

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the paper tray from the feeder.
2. Remove the Front Cover (RRP 11.2 Front Cover).
3. Remove the five screws that secure the Left Cover. Remove the cover.

Replacement

Reinstall the components in the reverse order.

RRP 11.4 Right Cover

(See PL 11.1 500-Sheet Feeder (1 of 3))

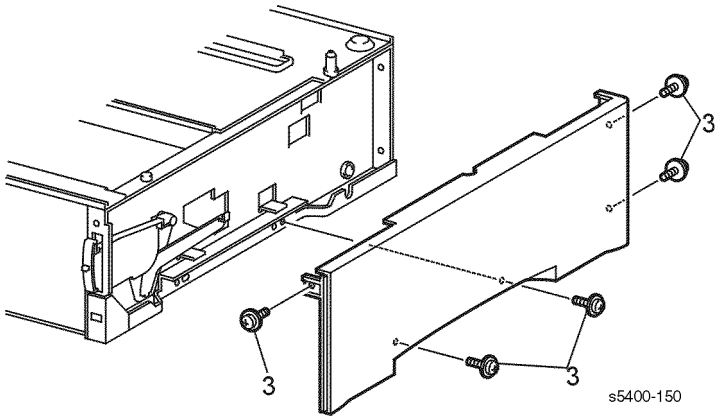


Figure 121 Right Cover

Removal

Warning: Switch off the power and disconnect the Power Cord.

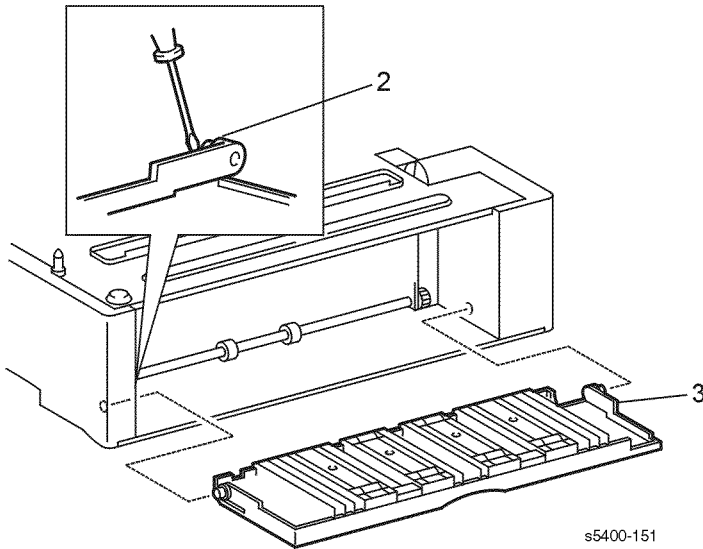
1. Remove the paper tray from the feeder.
2. Remove the Front Cover (RRP 11.2 Front Cover).
3. Remove the five screws that secure the Right Cover. Remove the cover.

Replacement

Reinstall the components in the reverse order.

RRP 11.5 Rear Cover

(See PL 11.1 500-Sheet Feeder (1 of 3))



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Figure 122 Rear Cover

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the Rear Cover.
2. Carefully pry the left hinge pin (as viewed from the rear of the feeder) out of the printer frame.
3. Pull the right end of the cover out and up. Remove the cover.

Replacement

Reinstall the components in the reverse order.

RRP 11.6 Drive Assembly

(See PL 11.2 500-Sheet Feeder (2 of 3))

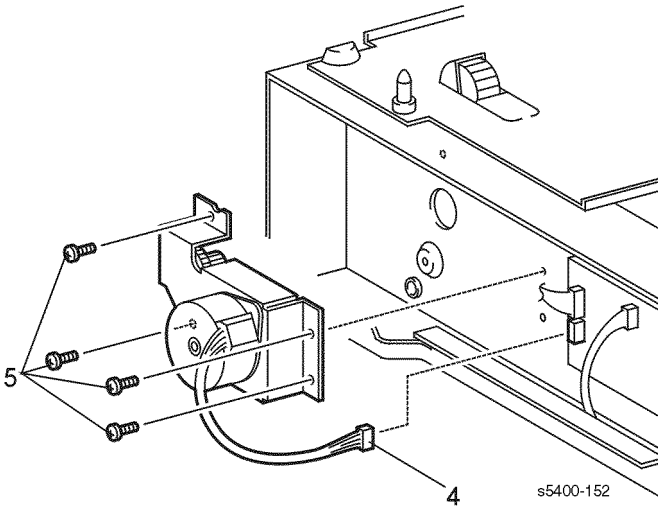


Figure 123 Feeder Drive Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the paper tray from the feeder.
2. Remove the Front Cover (RRP 11.2 Front Cover).
3. Remove the Left Cover (RRP 11.3 Left Cover)
4. Disconnect P/J13B from the Feeder PWB.
5. Remove the four screws that secure the Drive Assembly to the printer frame.
Remove the Drive Assembly.

Replacement

Reinstall the components in the reverse order.

RRP 11.7 Feeder Board

(See PL 11.2 500-Sheet Feeder (2 of 3))

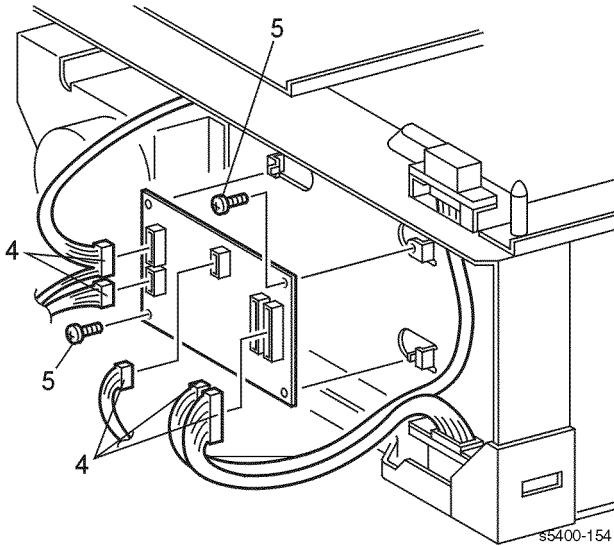


Figure 124 Feeder Board

Removal

Caution: These components are susceptible to electrostatic discharge. Observe all ESD procedures to avoid damage.

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the paper tray from the feeder.
2. Remove the Front Cover (RRP 11.2 Front Cover).
3. Remove the Left Cover (RRP 11.3 Left Cover)
4. Disconnect P/J13B, P/J133, P/J138, P/J132, and P/J136 from the Feeder PWB.
5. Remove the two screws that secure the PWB to the printer frame. Remove the PWB.

Replacement

Reinstall the components in the reverse order.

RRP 11.8 Feed Head Assembly

(See PL 11.3 500-Sheet Feeder (3 of 3))

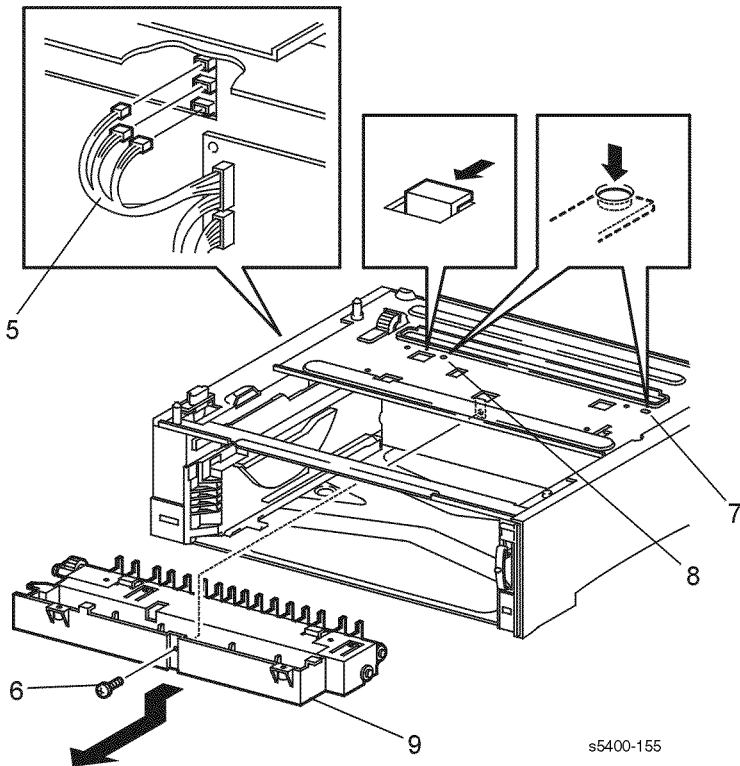


Figure 125 Feed Head Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the printer from the 500-Sheet Feeder (RRP 11.1 500-Sheet Feeder Removal).
2. Remove the paper tray from the feeder.
3. Remove the Front Cover (RRP 11.2 Front Cover).
4. Remove the Left Cover (RRP 11.3 Left Cover)
5. Disconnect P/J13A, P/J13P, and P/J135 from the Feed Head Assembly.
6. Remove the screw that secures the Feed Head to the feeder frame.
7. Push the right locking pin down and slide the right end of the Feed Head forward.
8. Push the left locking pin down and slide the left end of the Feed Head forward.
9. Slide the Feed Head forward and remove.

Replacement

Reinstall the components in the reverse order.

RRP 11.9 Feed Rollers

(See PL 11.2 500-Sheet Feeder (2 of 3))

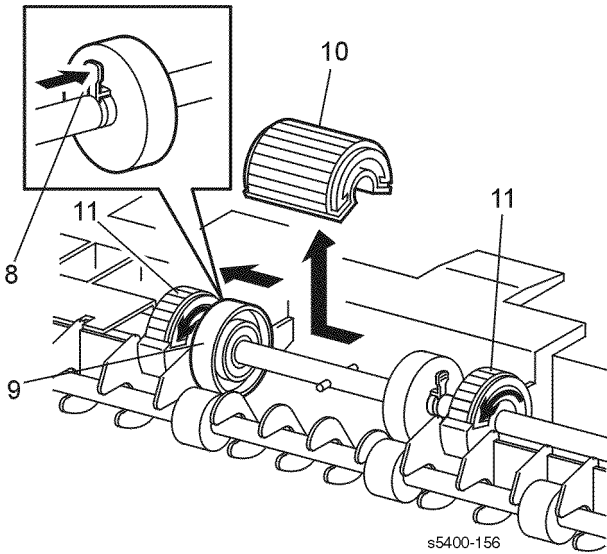


Figure 126 Feed Rollers

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the printer from the 500-Sheet Feeder (RRP 11.1 500-Sheet Feeder Removal).
2. Remove the paper tray from the feeder.
3. Remove the Front Cover (RRP 11.2 Front Cover).
4. Remove the Left Cover (RRP 11.3 Left Cover).
5. Remove the 500-Sheet Feed Head Assembly (RRP 11.8 Feed Head Assembly).
6. Release the Feed Solenoid.
7. Rotate the Feed Rollers up.
8. Press the left locking tab and slide the Roller core to the left.
9. Slide the Roller core to the left.
10. Slide the Feed Roller to the left and remove.
11. If replacing the envelope Feed Rollers, rotate the Feed Roller Shaft to access the locking tabs, press the locking tabs and remove the Rollers.

Replacement

Reinstall the components in the reverse order.

Note: *The arrows on the side of the Envelope Feed Rollers indicate the direction of rotation.*

RRP 11.10 Feed Solenoid

(See PL 11.2 500-Sheet Feeder (2 of 3))

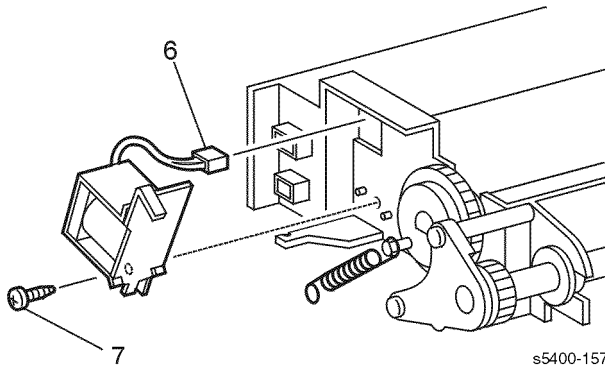


Figure 127 Feed Solenoid

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the printer from the 500-Sheet Feeder (RRP 11.1 500-Sheet Feeder Removal).
2. Remove the paper tray from the feeder.
3. Remove the Front Cover (RRP 11.2 Front Cover).
4. Remove the Left Cover (RRP 11.3 Left Cover).
5. Remove the 500-Sheet Feed Head Assembly (RRP 11.8 Feed Head Assembly).
6. Disconnect P/J135.
7. Remove the screw that secures the feed solenoid.
8. Remove the solenoid.

Replacement

Reinstall the components in the reverse order.

RRP 11.11 Turn Roller Assembly

(See PL 11.2 500-Sheet Feeder (2 of 3))

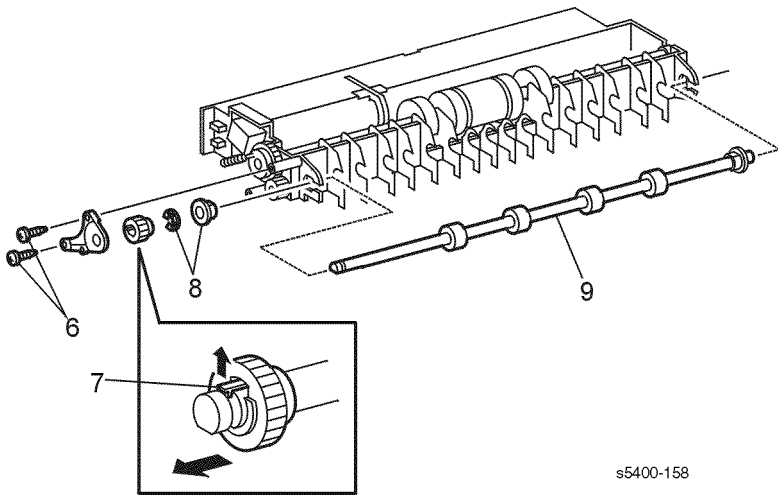


Figure 128 Turn Roller Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the printer from the 500-Sheet Feeder (RRP 11.1 500-Sheet Feeder Removal).
2. Remove the paper tray from the feeder.
3. Remove the Front Cover (RRP 11.2 Front Cover).
4. Remove the Left Cover (RRP 11.3 Left Cover).
5. Remove the 500-Sheet Feed Head Assembly (RRP 11.8 Feed Head Assembly).
6. Remove the two screws that secure the Gear Cover and remove the cover.
7. Release the locking tab and remove the turn gear.
8. Remove the E-rings and bearings from the left end of the turn shaft.
9. Remove the Turn Roller Assembly.

Replacement

Reinstall the components in the reverse order.

RRP 11.12 Retard Chute Assembly

(See PL 11.3 500-Sheet Feeder (3 of 3))

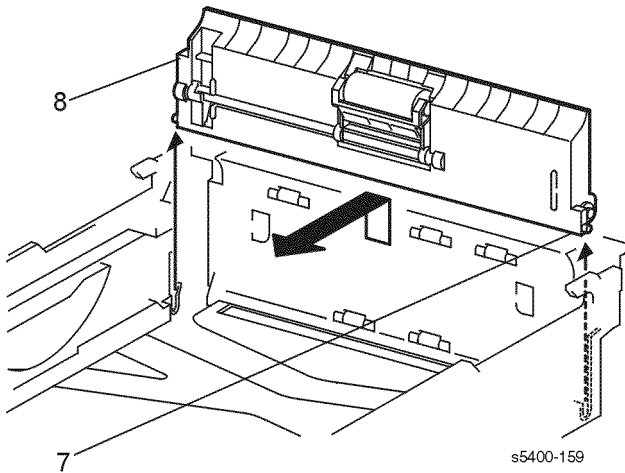


Figure 129 Retard Chute Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the printer from the 500-Sheet Feeder (RRP 11.1 500-Sheet Feeder Removal).
2. Remove the paper tray from the feeder.
3. Remove the Front Cover (RRP 11.2 Front Cover).
4. Remove the Left Cover (RRP 11.3 Left Cover).
5. Remove the 500-Sheet Feed Head Assembly (RRP 11.8 Feed Head Assembly).
6. Tilt the retard chute forward.
7. Use a screwdriver to pry up the right end of the chute.
8. Slide the chute to the right and remove.

Replacement

Reinstall the components in the reverse order.

RRP 11.13 Left Tray Guide

(See PL 11.3 500-Sheet Feeder (3 of 3))

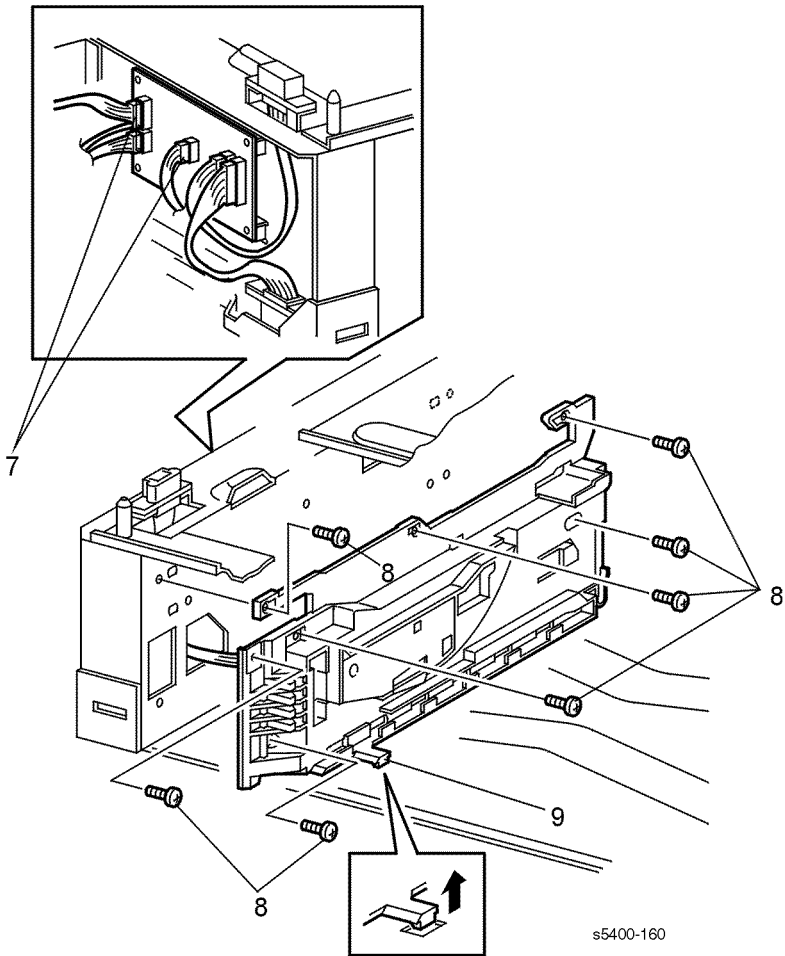


Figure 130 Left Tray Guide

Removal

Warning: Switch off the power and disconnect the Power Cord.

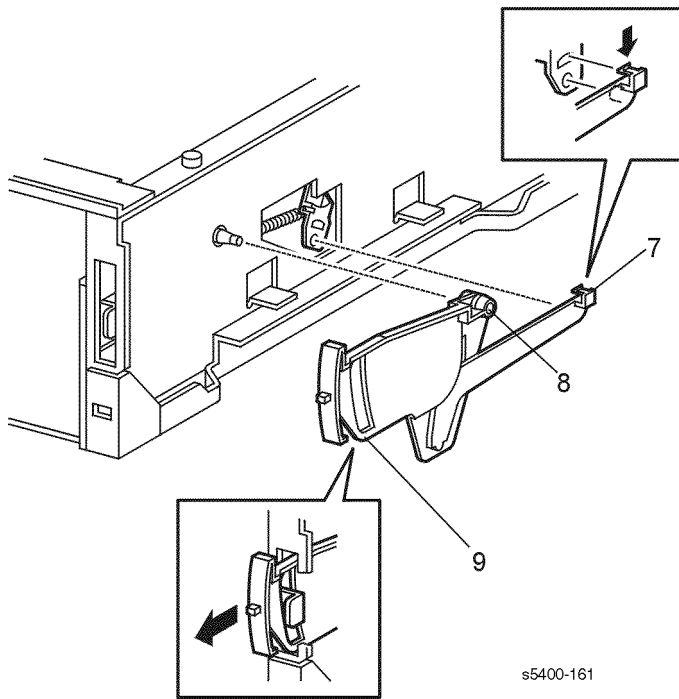
1. Remove the printer from the 500-Sheet Feeder (RRP 11.1 500-Sheet Feeder Removal).
2. Remove the paper tray from the feeder.
3. Remove the Front Cover (RRP 11.2 Front Cover).
4. Remove the Left Cover (RRP 11.3 Left Cover).
5. Remove the 500-Sheet Feed Head Assembly (RRP 11.8 Feed Head Assembly).
6. Remove the Retard Chute (RRP 11.12 Retard Chute Assembly).
7. Disconnect P/J133 and P/J138 and harness clip from the Feeder PWB.
8. Remove the seven screws that secure the Left Tray Guide to the feeder.
9. Use a small screwdriver to pry up the locking tab.
10. Remove the Left Tray Guide.

Replacement

Reinstall the components in the reverse order.

RRP 11.14 Right Tray Guide

(See PL 11.3 500-Sheet Feeder (3 of 3))



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Figure 131 Paper Level Indicator Actuator

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the printer from the 500-Sheet Feeder (RRP 11.1 500-Sheet Feeder Removal).
2. Remove the paper tray from the feeder.
3. Remove the Front Cover (RRP 11.2 Front Cover).
4. Remove the Right Cover (RRP 11.4 Right Cover).
5. Remove the 500-Sheet Feed Head Assembly (RRP 11.8 Feed Head Assembly).
6. Remove the Retard Chute (RRP 11.12 Retard Chute Assembly).
7. Carefully push down on the locking tab that secures the rod to the paper level actuator.
8. Remove the paper level assembly from the stud on the frame.
9. Move the paper level assembly forward and remove from the feeder.
10. Remove the five screws that secure the Right Tray Guide to the feeder.
11. Use a small screwdriver to pry up the locking tab.
12. Remove the Right Tray Guide.

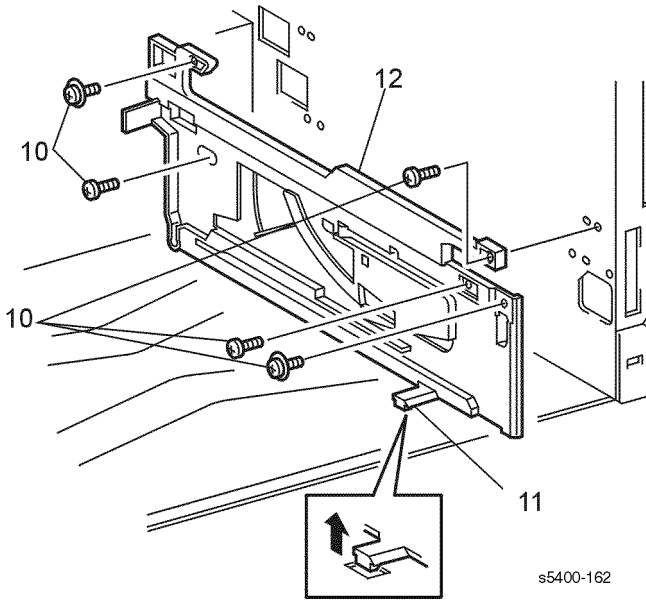


Figure 132 Right Tray Guide

Replacement

Reinstall the components in the reverse order.

RRP 11.15 Retard Holder Assembly

(See PL 11.3 500-Sheet Feeder (3 of 3))

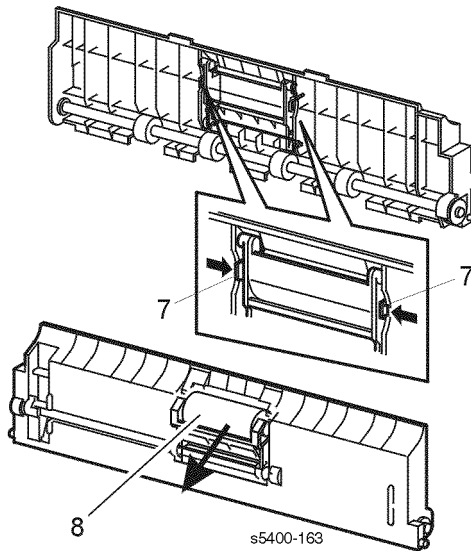


Figure 133 Retard Holder Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the printer from the 500-Sheet Feeder (RRP 11.1 500-Sheet Feeder Removal).
2. Remove the paper tray from the feeder.
3. Remove the Front Cover (RRP 11.2 Front Cover).
4. Remove the Left Cover (RRP 11.3 Left Cover).
5. Remove the 500-Sheet Feed Head Assembly (RRP 11.8 Feed Head Assembly).
6. Remove the Retard Chute (RRP 11.12 Retard Chute Assembly).
7. From the back of the Retard Chute Assembly, release the two locking tabs.
8. Remove the Retard Roller from the front of the chute.

Replacement

Reinstall the components in the reverse order.

RRP 11.16 Retard Turn Roller Assembly

(See PL 11.2 500-Sheet Feeder (2 of 3))

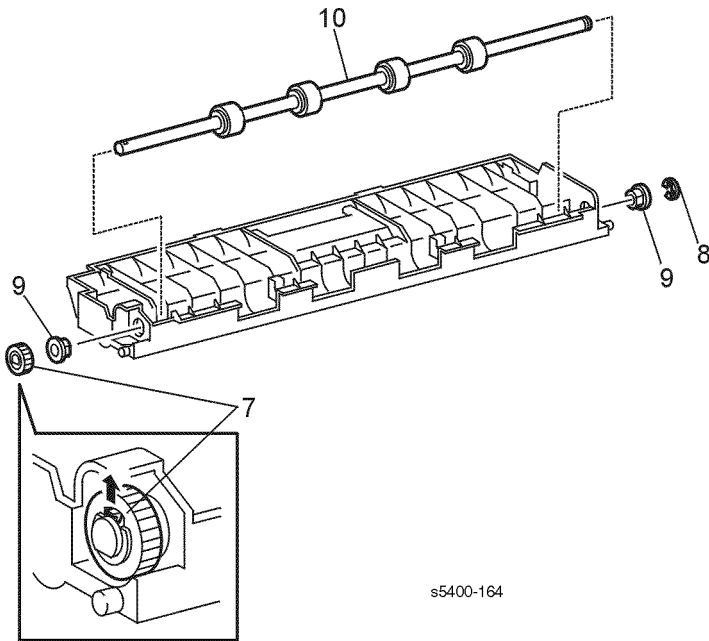


Figure 134 Turn Roller Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the printer from the 500-Sheet Feeder (RRP 11.1 500-Sheet Feeder Removal).
2. Remove the paper tray from the feeder.
3. Remove the Front Cover (RRP 11.2 Front Cover).
4. Remove the Left Cover (RRP 11.3 Left Cover).
5. Remove the 500-Sheet Feed Head Assembly (RRP 11.8 Feed Head Assembly).
6. Remove the Retard Chute (RRP 11.12 Retard Chute Assembly).
7. Press the locking tab and remove the Turn Gear from the left end of the shaft.
8. Remove the E-ring from the right end of the shaft.
9. Remove both the right and left bearings.
10. Remove the shaft.

Replacement

Reinstall the components in the reverse order.

RRP 11.17 Paper Size Sensor

(See PL 11.3 500-Sheet Feeder (3 of 3))

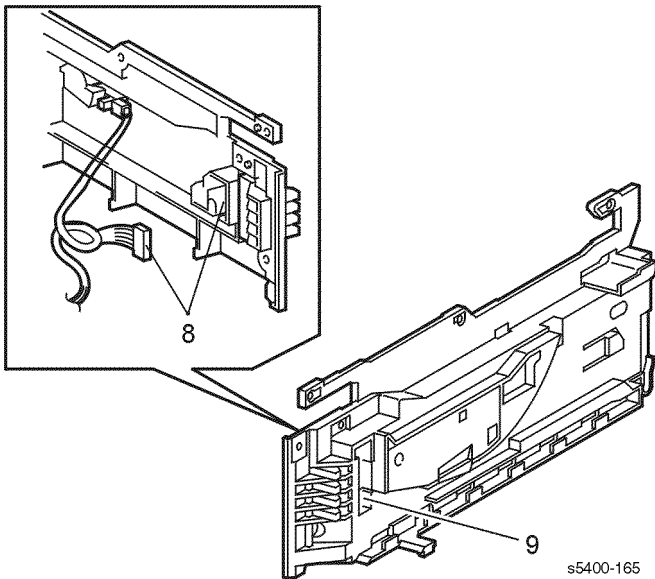


Figure 135 Paper Size Sensor

Removal

Warning: Switch off the power and disconnect the Power Cord.

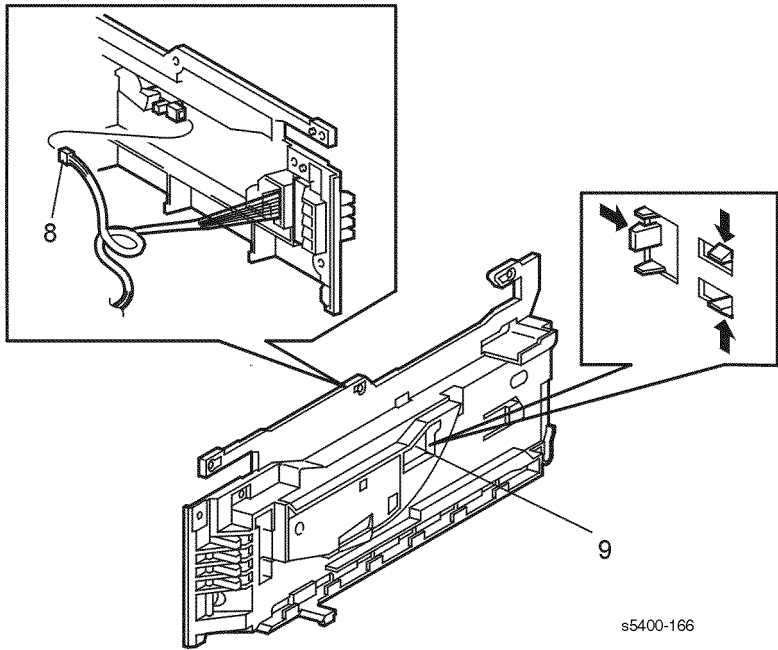
1. Remove the printer from the 500-Sheet Feeder (RRP 11.1 500-Sheet Feeder Removal).
2. Remove the paper tray from the feeder.
3. Remove the Front Cover (RRP 11.2 Front Cover).
4. Remove the Left Cover (RRP 11.3 Left Cover).
5. Remove the 500-Sheet Feed Head Assembly (RRP 11.8 Feed Head Assembly).
6. Remove the Retard Chute (RRP 11.12 Retard Chute Assembly).
7. Remove the Left Tray Guide (RRP 11.13 Left Tray Guide).
8. Disconnect P/J139 from the back of the Paper Size Sensor.
9. Release the two locking tabs and remove the sensor.

Replacement

Reinstall the components in the reverse order.

RRP 11.18 Paper Tray Sensor

(See PL 11.3 500-Sheet Feeder (3 of 3))



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Figure 136 Paper Tray Sensor

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the printer from the 500-Sheet Feeder (RRP 11.1 500-Sheet Feeder Removal).
2. Remove the paper tray from the feeder.
3. Remove the Front Cover (RRP 11.2 Front Cover).
4. Remove the Left Cover (RRP 11.3 Left Cover).
5. Remove the 500-Sheet Feed Head Assembly (RRP 11.8 Feed Head Assembly).
6. Remove the Retard Chute (RRP 11.12 Retard Chute Assembly).
7. Remove the Left Tray Guide (RRP 11.13 Left Tray Guide).
8. Disconnect P/J137 from the back of the Tray Sensor.
9. Release the three locking tabs and remove the sensor.

Replacement

Reinstall the components in the reverse order.

RRP 11.19 No Paper Sensor

(See PL 11.2 500-Sheet Feeder (2 of 3))

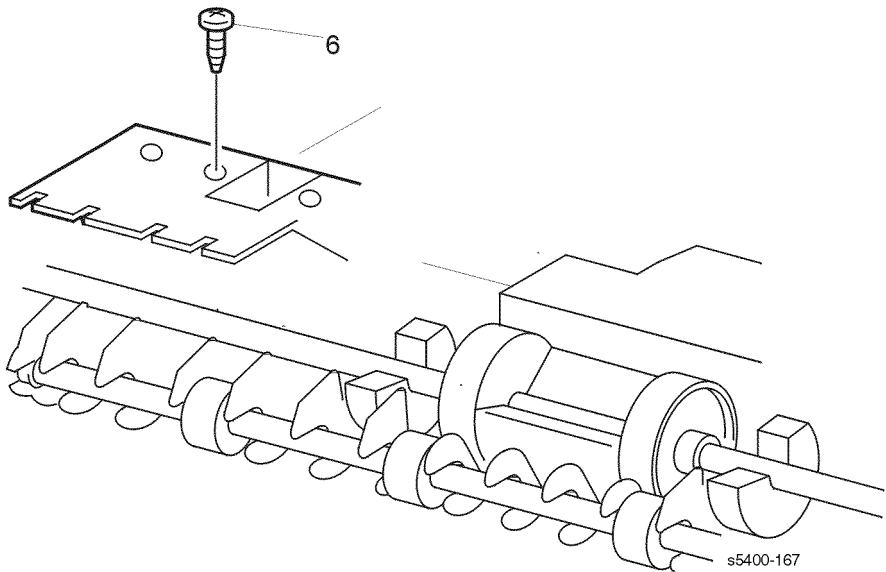


Figure 137 No Paper Sensor Cover

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the printer from the 500-Sheet Feeder (RRP 11.1 500-Sheet Feeder Removal).
2. Remove the paper tray from the feeder.
3. Remove the Front Cover (RRP 11.2 Front Cover).
4. Remove the Left Cover (RRP 11.3 Left Cover).
5. Remove the 500-Sheet Feed Head Assembly (RRP 11.8 Feed Head Assembly).
6. Remove the screw that secures the sensor cover and remove the cover.

7. Remove the No Paper Actuator (RRP 11.20 No Paper Sensor Actuator).
8. Release the Paper Feed Solenoid and rotate feed Rollers to allow access to the sensor.
9. Disconnect P/J134 from the No Paper Sensor
10. Release the three locking tabs and remove the sensor.

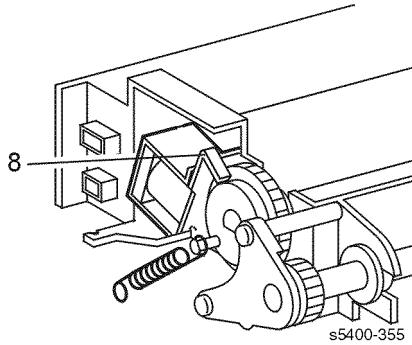


Figure 138 Feed Solenoid

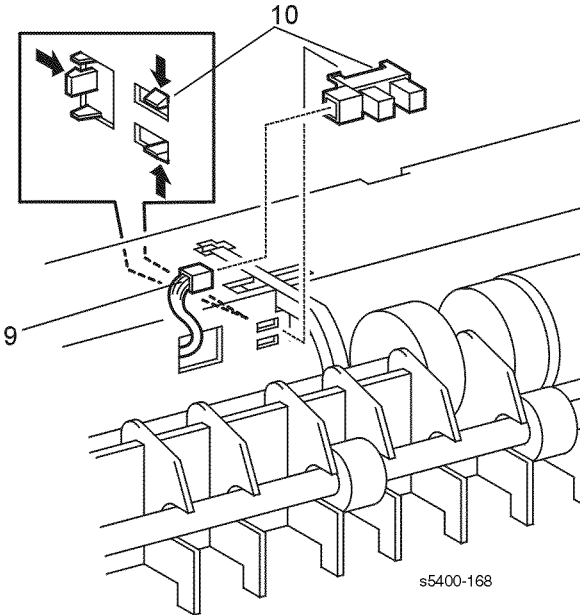


Figure 139 No Paper Sensor

Replacement

Reinstall the components in the reverse order.

RRP 11.20 No Paper Sensor Actuator

(See PL 11.2 500-Sheet Feeder (2 of 3))

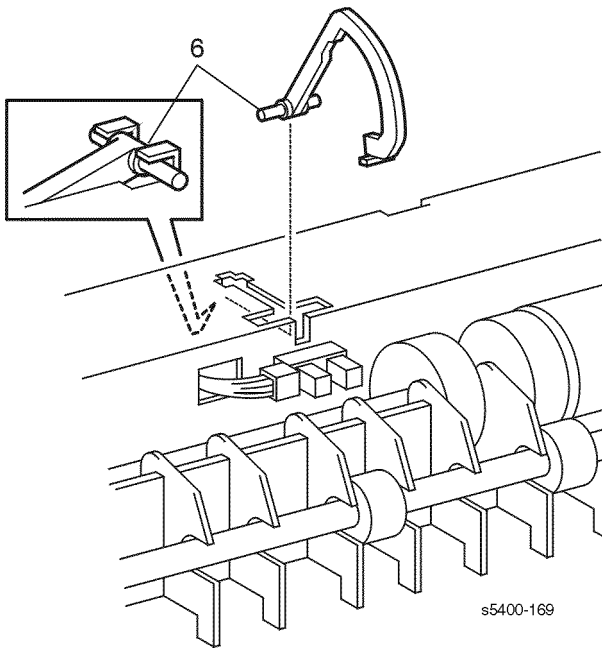


Figure 140 No Paper Sensor Actuator

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the printer from the 500-Sheet Feeder (RRP 11.1 500-Sheet Feeder Removal).
2. Remove the paper tray from the feeder.
3. Remove the Front Cover (RRP 11.2 Front Cover).
4. Remove the Left Cover (RRP 11.3 Left Cover).
5. Remove the 500-Sheet Feed Head Assembly (RRP 11.8 Feed Head Assembly).
6. Remove the actuator from the Feeder Chute. (A small screwdriver may be used to pry the actuator free of the retaining clips).

Replacement

Reinstall the components in the reverse order.

RRP 11.21 Preregistration Sensor

(See PL 11.2 500-Sheet Feeder (2 of 3))

Removal

Warning: Switch off the power and disconnect the Power Cord.

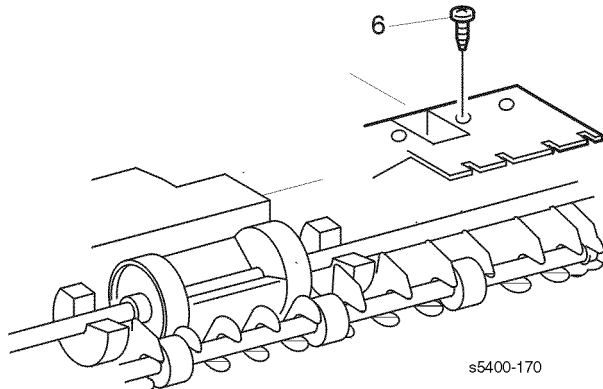


Figure 141 Sensor Cover

1. Remove the printer from the 500-Sheet Feeder (RRP 11.1 500-Sheet Feeder Removal).
2. Remove the paper tray from the feeder.
3. Remove the Front Cover (RRP 11.2 Front Cover).
4. Remove the Left Cover (RRP 11.3 Left Cover).
5. Remove the Feed Head Assembly (RRP 11.8 Feed Head Assembly).
6. Remove the screw that secures the sensor cover and remove the cover.
7. Disconnect the P/J13C from the Preregistration Sensor.
8. Release the four locking tabs and remove the sensor.

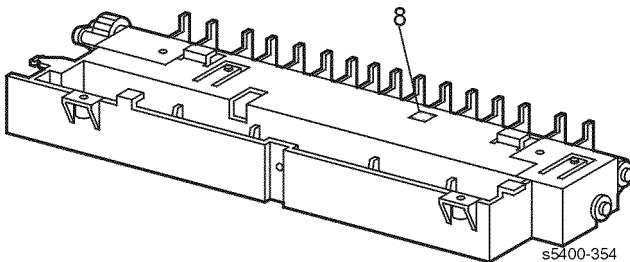


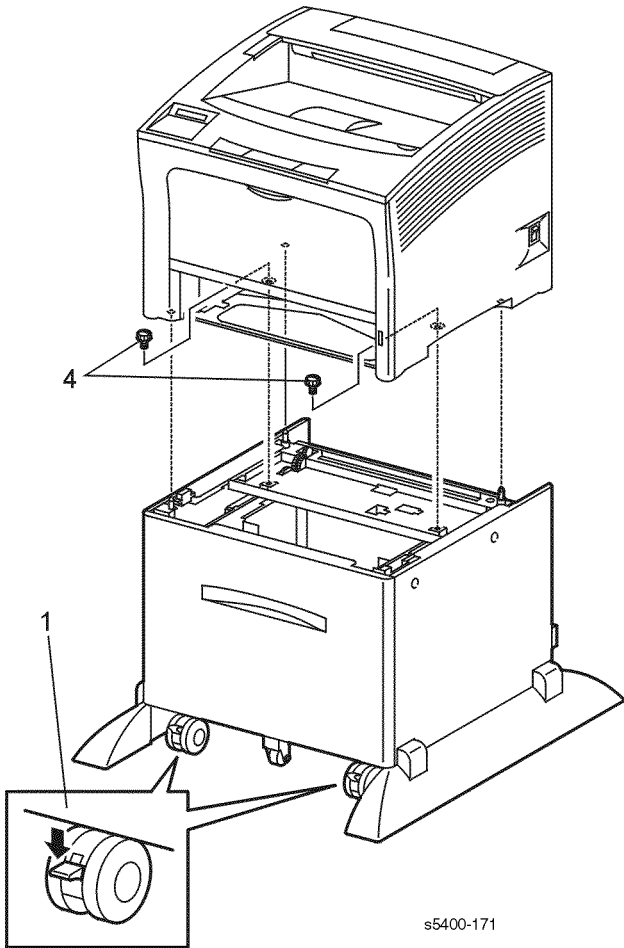
Figure 142 Preregistration Sensor

Replacement

Reinstall the components in the reverse order.

RRP 12.1 Removing the 2000-Sheet Feeder

(See PL 12.1 2000-Sheet Feeder (1 of 4))



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Figure 143 Removing the Printer

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Lock the front casters on the 2000-Sheet Feeder.
2. Remove the HCS, if installed
(RRP 10.1 1000-Sheet High Capacity Stacker [HCS]).
3. Remove Tray 1 from the printer.
4. Remove the two screws that secure the printer.

Note: For safety reasons, have someone assist you in removing the printer and setting it in a safe place.

5. Remove the printer.
6. If a 500-Sheet Feeder is installed, remove the paper tray, remove the two screws that secure the 500-Sheet Feeder to the 2000-Sheet Feeder, and remove the 500-Sheet Feeder.

Replacement

Reinstall the components in the reverse order.

RRP 12.2 Left Side Cover

(See PL 12.1 2000-Sheet Feeder (1 of 4))

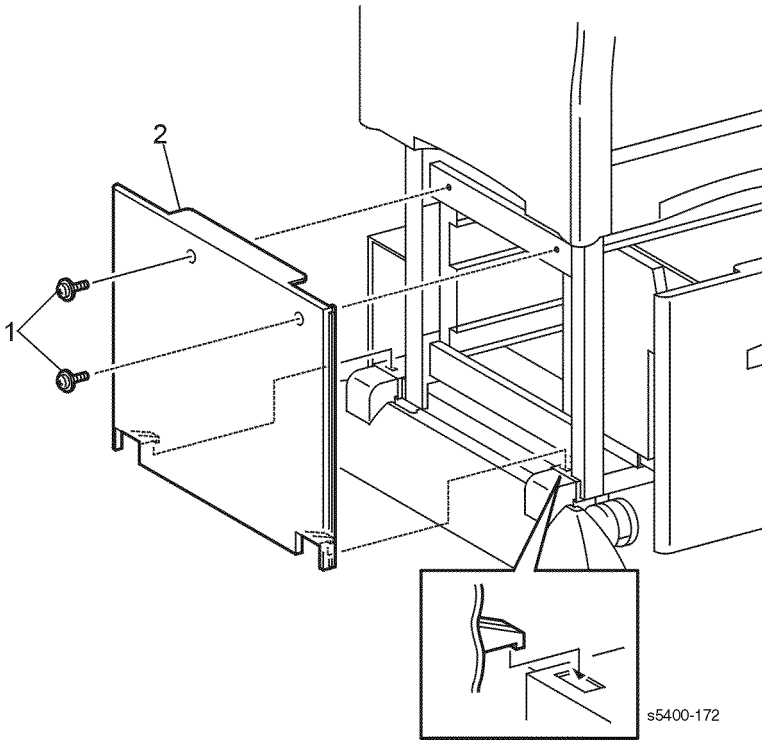


Figure 144 Left Side Cover

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the two screws that secure the Left Side Cover.
2. Pull the top of the cover out and up to remove.

Replacement

Reinstall the components in the reverse order.

RRP 12.3 Upper Rear Cover

(See PL 12.1 2000-Sheet Feeder (1 of 4))

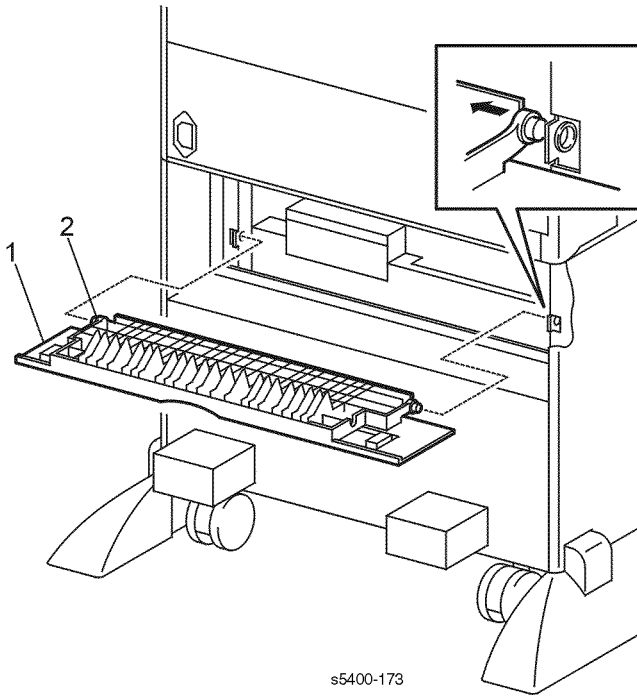


Figure 145 Upper Rear Cover

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the Upper Rear Cover.
2. Carefully push in on the left or right bracket to disengage the end of the cover.
3. Remove the cover.

Replacement

Reinstall the components in the reverse order.

RRP 12.4 Lower Rear Cover

(See PL 12.4 2000-Sheet Feeder (4 of 4))

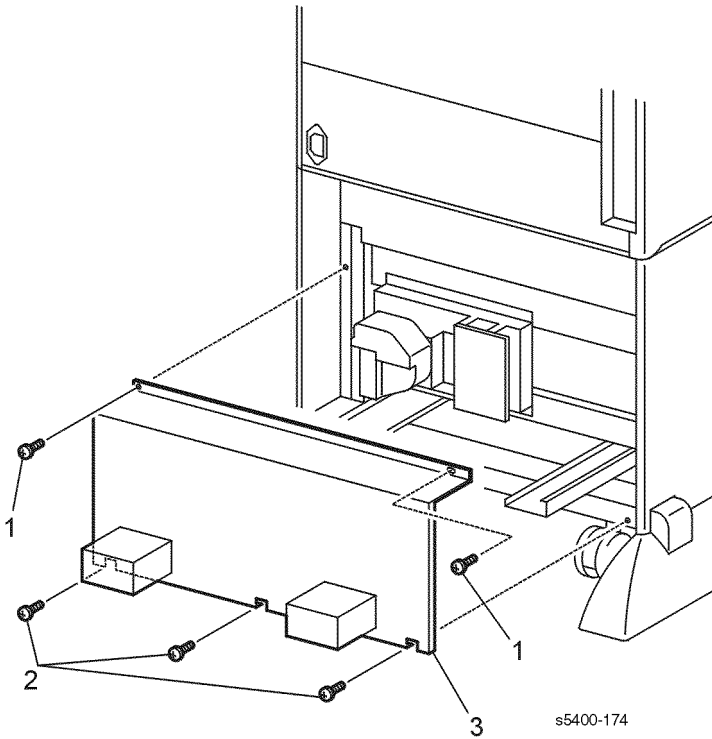


Figure 146 Lower Rear Cover

Removal

Warning: Switch off the power and disconnect the Power Cord.

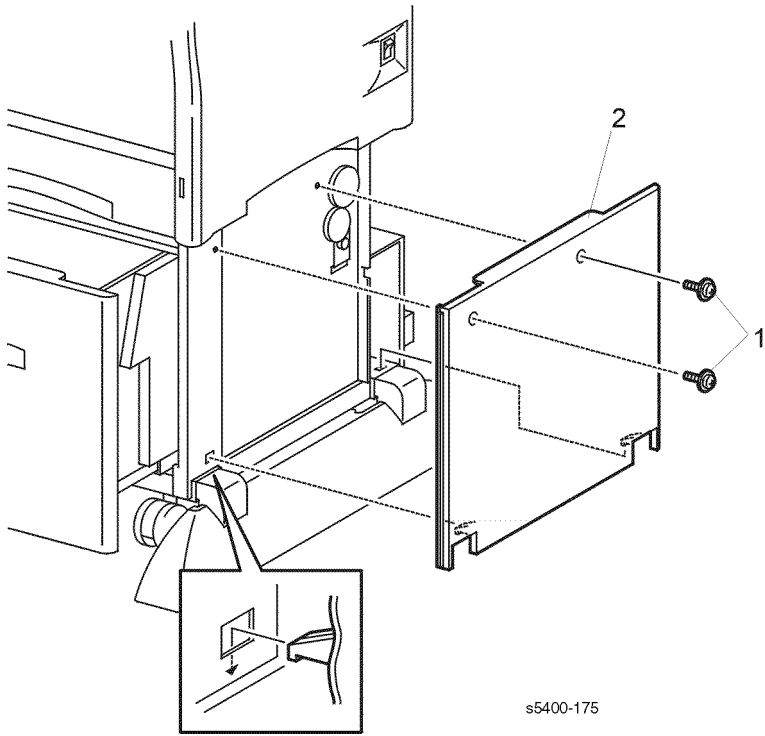
1. Remove the two screws that secure the top of the Lower Rear Cover.
2. Loosen three screws that secure the Lower Rear Cover.
3. Remove the cover.

Replacement

Reinstall the components in the reverse order.

RRP 12.5 Right Side Cover

(See PL 12.1 2000-Sheet Feeder (1 of 4))



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Figure 147 Right Side Cover

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the two screws that secure the Right Side Cover.
2. Pull the top of the cover out and up to remove.

Replacement

Reinstall the components in the reverse order.

RRP 12.6 Front Cover

(See PL 12.1 2000-Sheet Feeder (1 of 4))

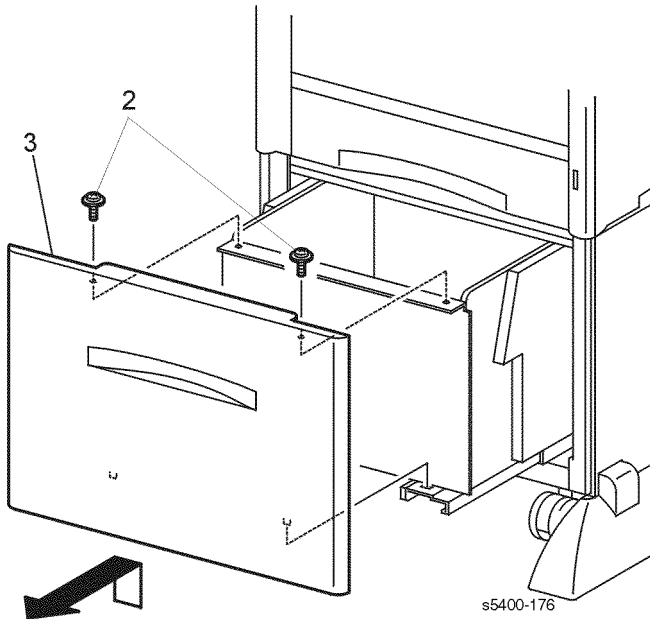


Figure 148 Front Cover

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the 2000-Sheet Feeder Tray.
2. Remove the two screws that secure the front cover.
3. Pull the top of the cover out and up to remove.

Replacement

Reinstall the components in the reverse order.

RRP 12.7 Tray Assembly

(See PL 12.4 2000-Sheet Feeder (4 of 4))

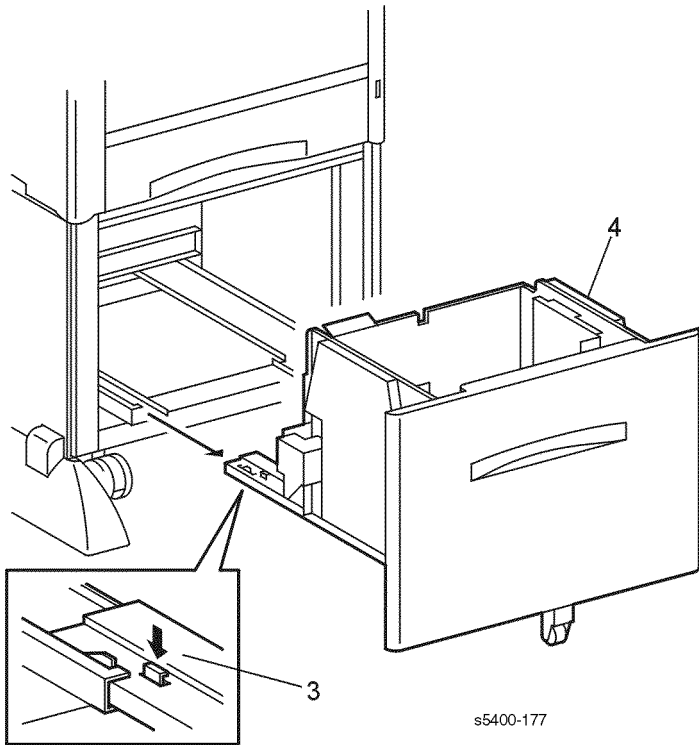


Figure 149 Tray Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Pull the 2000-Sheet Feeder Tray out until it stops.
2. Remove all paper from the tray.
3. Push and hold the button on the Left Rail to release the latch.
4. Remove the Tray Assembly.

Replacement

Reinstall the components in the reverse order.

RRP 12.8 2000-Sheet Feeder PWB

(See PL 12.2 2000-Sheet Feeder (2 of 4))

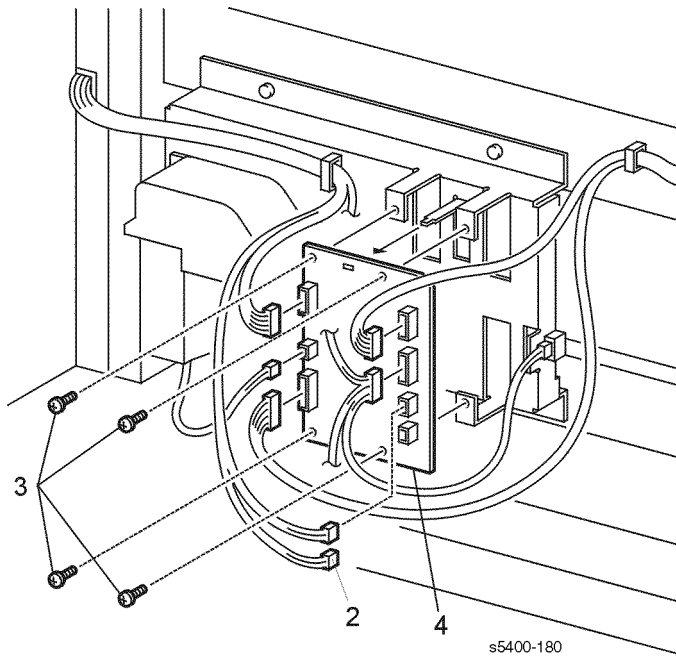


Figure 150 2000-Sheet Feeder Board

Removal

Caution: These components are susceptible to electrostatic discharge. Observe all ESD procedures to avoid damage.

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the Lower Rear Cover (RRP 12.4 Lower Rear Cover).
2. Disconnect P/J601, P/J602, P/J603, P/J604, P/J605, P/J606, and P/J607.
3. Remove the four screws that secure the PWB.
4. Remove the PWB.

Replacement

Reinstall the components in the reverse order.

RRP 12.9 Tray Lift Motor Assembly

(See PL 12.2 2000-Sheet Feeder (2 of 4))

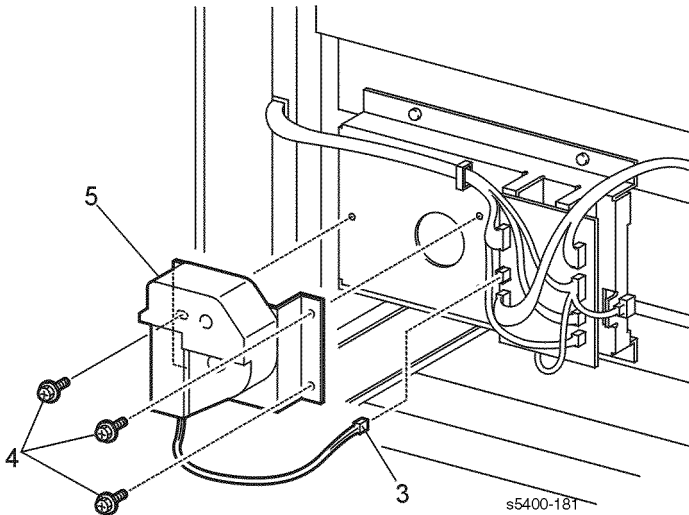


Figure 151 Tray Lift Motor Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the Lower Rear Cover (RRP 12.4 Lower Rear Cover).
2. Open the 2000-Sheet Feeder tray.
3. Disconnect P/J605 from the PWB.
4. Remove the three screws that secure the Lift Motor Assembly.
5. Remove the Tray Lift Motor Assembly.

Replacement

Reinstall the components in the reverse order.

RRP 12.10 A4 Paper Size Sensor

(See PL 12.2 2000-Sheet Feeder (2 of 4))

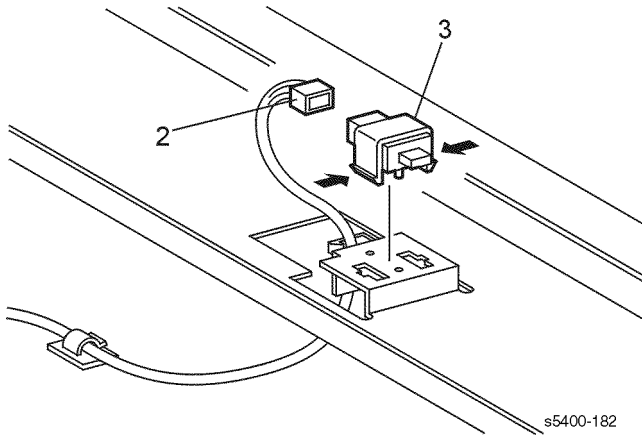


Figure 152 Paper Size Sensor

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the 2000-Sheet Feeder Tray Assembly (RRP 12.7 Tray Assembly).
2. Disconnect P/J612 from the Paper Size Sensor.
3. Release the two locking tabs and remove the Sensor.

Replacement

Reinstall the components in the reverse order.

RRP 12.11 Casters

(See PL 12.2 2000-Sheet Feeder (2 of 4))

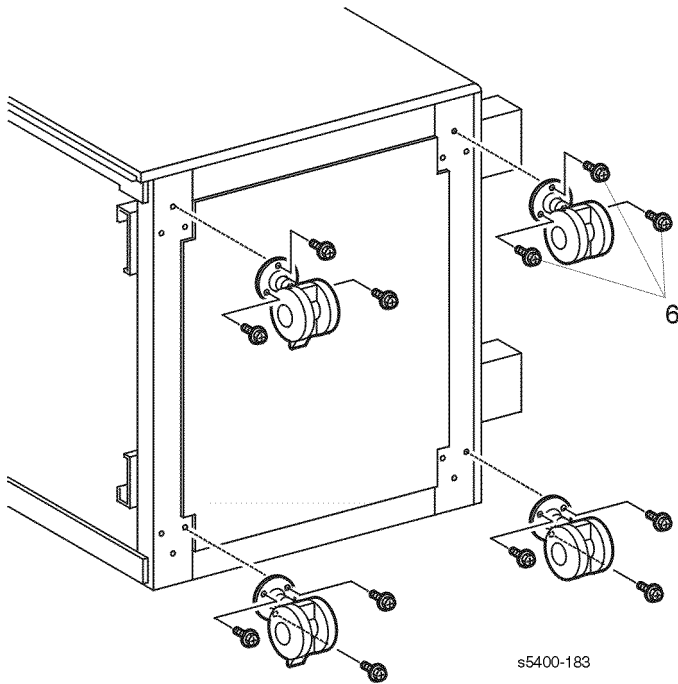


Figure 153 Casters

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the Printer / 500-Sheet Feeder (RRP 11.1 500-Sheet Feeder Removal).
2. Remove the Left Foot.
3. Remove the Left Side Cover (RRP 12.2 Left Side Cover).
4. Remove all paper from the 2000-Sheet Feeder tray.
5. Tilt the 2000-Sheet Feeder onto its left side.

Note: The front casters are locking casters and rear are not.

6. Remove the three screws that secure the defective caster.

Replacement

Reinstall the components in the reverse order.

RRP 12.12 Harness Assembly

(See PL 12.2 2000-Sheet Feeder (2 of 4))

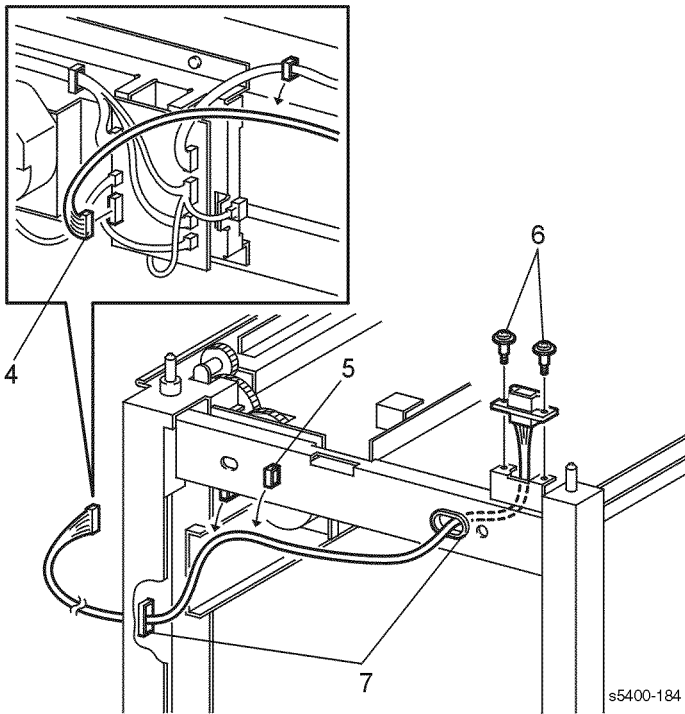


Figure 154 Harness Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the Printer / 500-Sheet Feeder (RRP 11.1 500-Sheet Feeder Removal).
2. Remove the Left Side Cover (RRP 12.2 Left Side Cover).
3. Remove the Lower Rear Cover (RRP 12.4 Lower Rear Cover).
4. Disconnect P/J601 from the 2000-Sheet Feeder PWB.
5. Release the harness from all cable clamps.
6. Remove the two screws that secure the harness connector to the frame.
7. Guide the harness through the holes in the frame as you remove it.

Replacement

Reinstall the components in the reverse order.

RRP 12.13 Drive Assembly

(See PL 12.2 2000-Sheet Feeder (2 of 4))

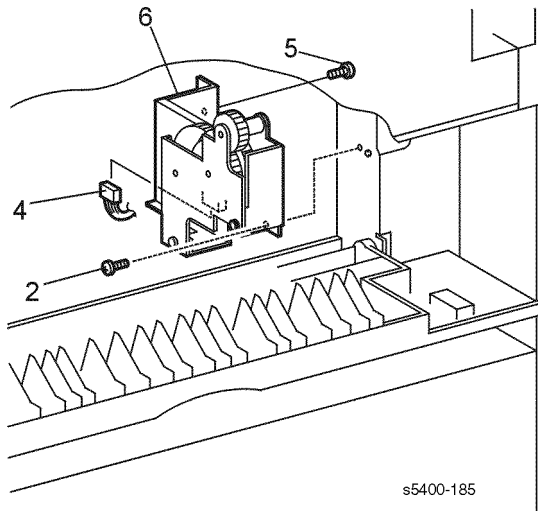


Figure 155 Drive Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the Upper Rear Cover.
2. Remove the screw that secures the back of the Drive Assembly.
3. Remove the Tray Assembly (RRP 12.7 Tray Assembly).
4. Disconnect P/J615 from the Drive Assembly.
5. Remove the screw that secures the front of the Drive Assembly.
6. Remove the Drive Assembly.

Replacement

Reinstall the components in the reverse order.

RRP 12.14 Feed, Nudger, and Retard Roller

(See PL 12.3 2000-Sheet Feeder (3 of 4))

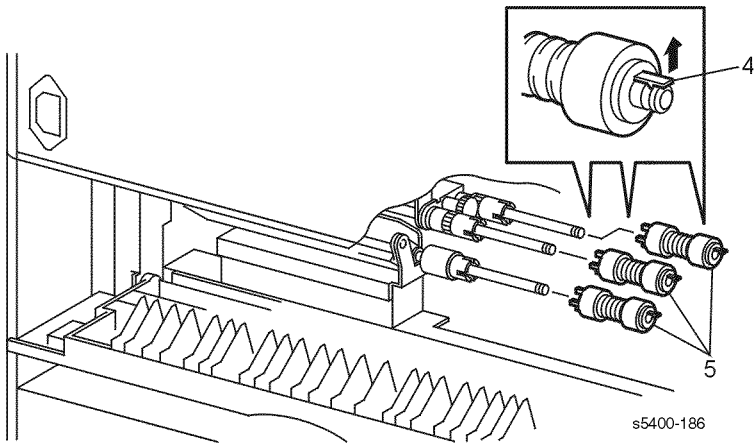


Figure 156 Pick, Feed and Retard Rollers

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the 2000-Sheet Feeder tray.
2. Open the Upper Rear Cover.
3. From the rear loosen the two thumb screws and remove the paper baffle.
4. From the rear of the feeder, carefully lift the locking tab on the Roller you wish to change.
5. Slide the Roller off the end of the shaft.

Replacement

Reinstall the components in the reverse order.

RRP 12.15 Paper Height Sensor

(See PL 12.3 2000-Sheet Feeder (3 of 4))

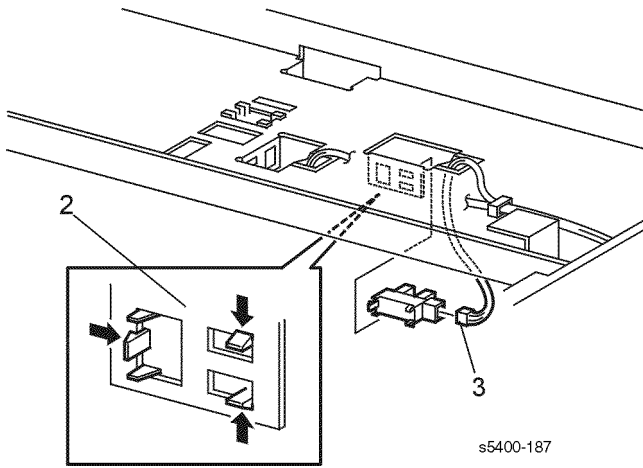


Figure 157 Paper Height Sensor

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the 2000-Sheet Feeder Tray Assembly (RRP 12.7 Tray Assembly).
2. Hold the Nudger Assembly down as you release the three locking tabs that secure the Paper Height Sensor.
3. Disconnect P/J611 from the sensor.

Replacement

Reinstall the components in the reverse order.

RRP 12.16 Paper Feed Motor Assembly

(See PL 12.3 2000-Sheet Feeder (3 of 4))

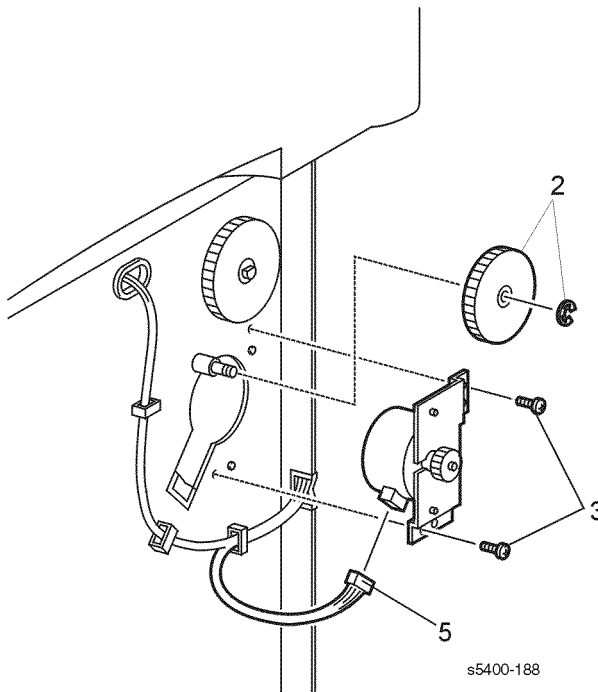


Figure 158 Paper Feed Motor Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

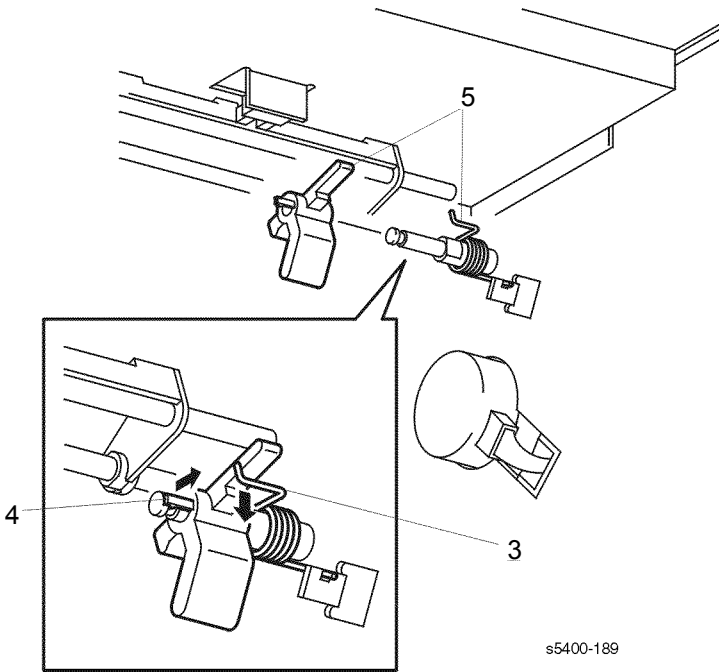
1. Remove the Right Side Cover (RRP 12.5 Right Side Cover).
2. Remove the E-ring that secures the 47T gear. Remove the gear.
3. Remove the two screws that secure the motor to the Feeder Frame.
4. Remove the Paper Feed Motor Assembly.
5. Disconnect P/J609 from the Feed Motor Assembly.

Replacement

Reinstall the components in the reverse order.

RRP 12.17 Link Stopper

(See PL 12.3 2000-Sheet Feeder (3 of 4))



s5400-189

Figure 159 Link Stopper

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the Retard Assembly (RRP 12.26 Retard Assembly).
2. Remove the 2000-Sheet Feeder Tray Assembly (RRP 12.7 Tray Assembly).
3. Unhook the torsion spring from the Link Stopper.
4. Pull up on the locking tab and remove the Link Stopper.
5. Remove the Torsion Spring.

Replacement

Reinstall the components in the reverse order.

RRP 12.18 No Paper Sensor

(See PL 12.3 2000-Sheet Feeder (3 of 4))

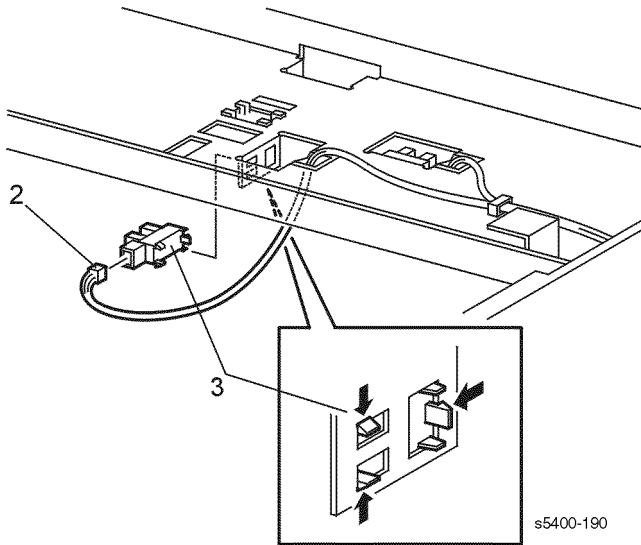


Figure 160 No Paper Sensor

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the Tray Assembly (RRP 12.7 Tray Assembly).
2. Disconnect P/J610 from the No Paper Sensor.
3. Release the three locking tabs that secure the sensor.
4. Remove the sensor.

Replacement

Reinstall the components in the reverse order.

RRP 12.19 No Paper Sensor Actuator

(See PL 12.3 2000-Sheet Feeder (3 of 4))

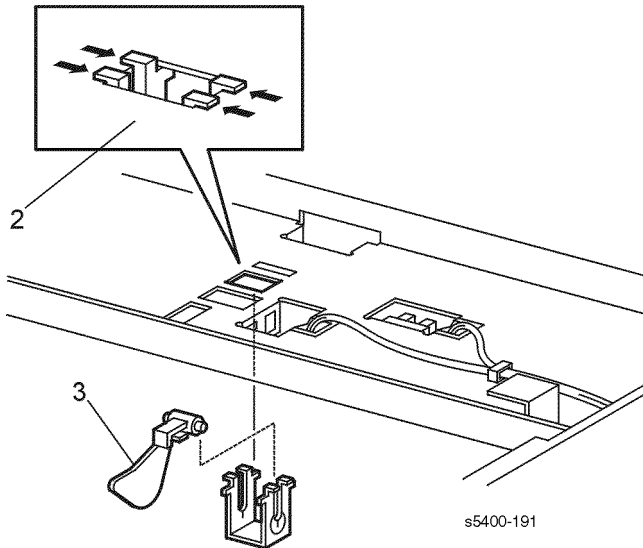


Figure 161 No Paper Sensor Actuator

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the Tray Assembly (RRP 12.7 Tray Assembly).
2. Release the four locking tabs that secure the actuator and support.
3. Remove the actuator from the Actuator Support.

Replacement

Reinstall the components in the reverse order.

RRP 12.20 Left and Right Wire Cover

(See PL 12.4 2000-Sheet Feeder (4 of 4))

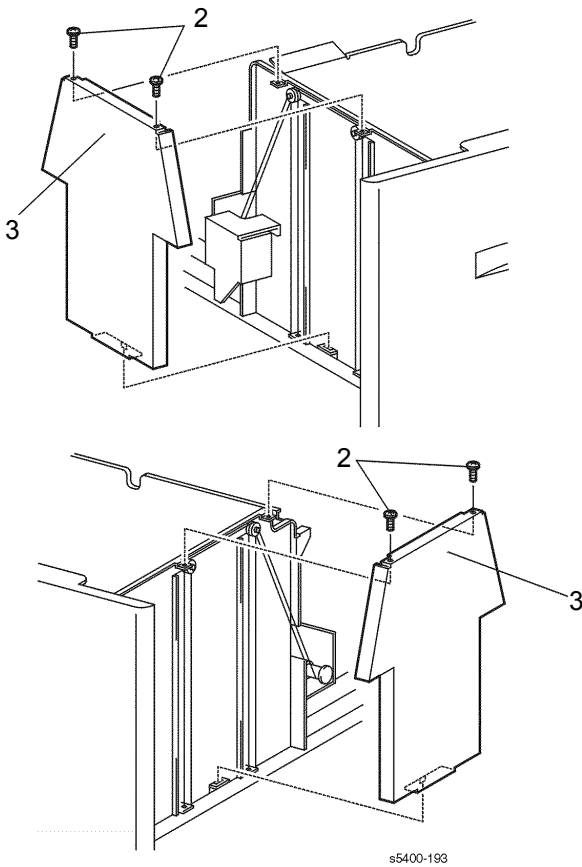


Figure 162 Tray Assembly Wire Covers

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Open the 2000-Sheet Feeder Tray Assembly until it stops.
2. Remove the two screws that secure the Wire Cover to the Tray Assembly.
3. Pull the top of the cover out and up to remove.

Replacement

Reinstall the components in the reverse order.

RRP 12.21 Shaft Cover Assembly

(See PL 12.4 2000-Sheet Feeder (4 of 4))

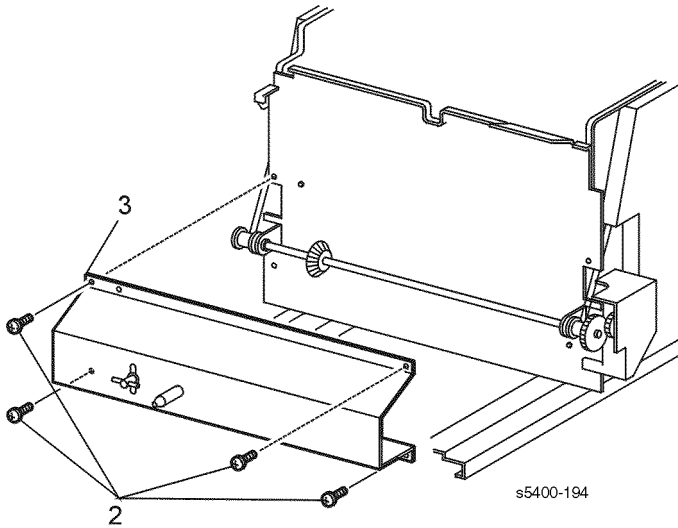


Figure 163 Shaft Cover Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the 2000-Sheet Feeder Tray Assembly (RRP 12.7 Tray Assembly).
2. Remove the four screws that secure the Shaft Cover Assembly to the Tray Assembly.
3. Remove the cover.

Replacement

Reinstall the components in the reverse order.

RRP 12.22 Drive Shaft Assembly

(See PL 12.4 2000-Sheet Feeder (4 of 4))

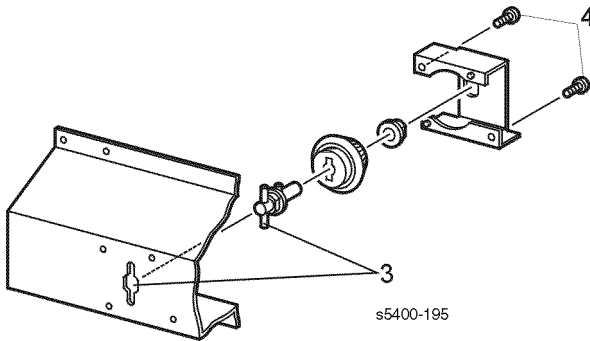


Figure 164 Drive Shaft Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the 2000-Sheet Feeder Tray Assembly (RRP 12.7 Tray Assembly).
2. Remove the Shaft Cover Assembly (RRP 12.21 Shaft Cover Assembly).
3. Align the Drive Shaft Assembly with the hole in the Shaft Cover Assembly.
4. Remove the two screws that secure the Drive Shaft Bracket to the shaft cover.
5. Remove the Drive Shaft Assembly.

Replacement

Reinstall the components in the reverse order.

RRP 12.23 Brake Assembly

(See PL 12.4 2000-Sheet Feeder (4 of 4))

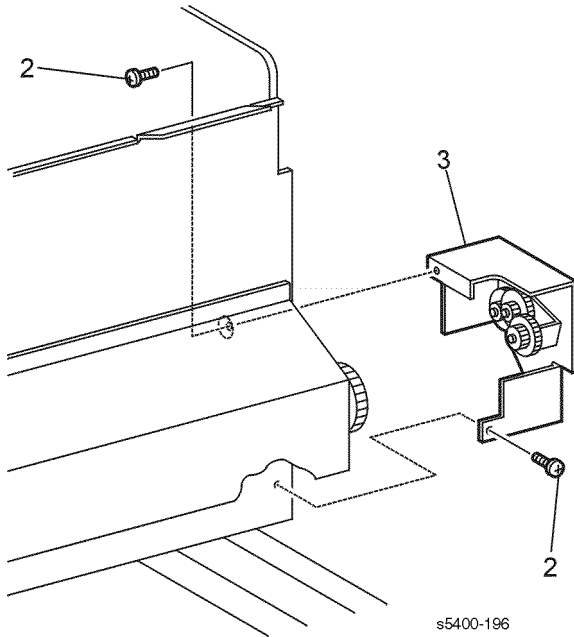


Figure 165 Brake Assembly

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the 2000-Sheet Feeder Tray Assembly (RRP 12.7 Tray Assembly).
2. Remove the two screws that secure the Brake Assembly to the Tray Assembly.
3. Remove the Brake Assembly.

Replacement

Reinstall the components in the reverse order.

RRP 12.24 Left Tray Wires

(See PL 12.4 2000-Sheet Feeder (4 of 4))

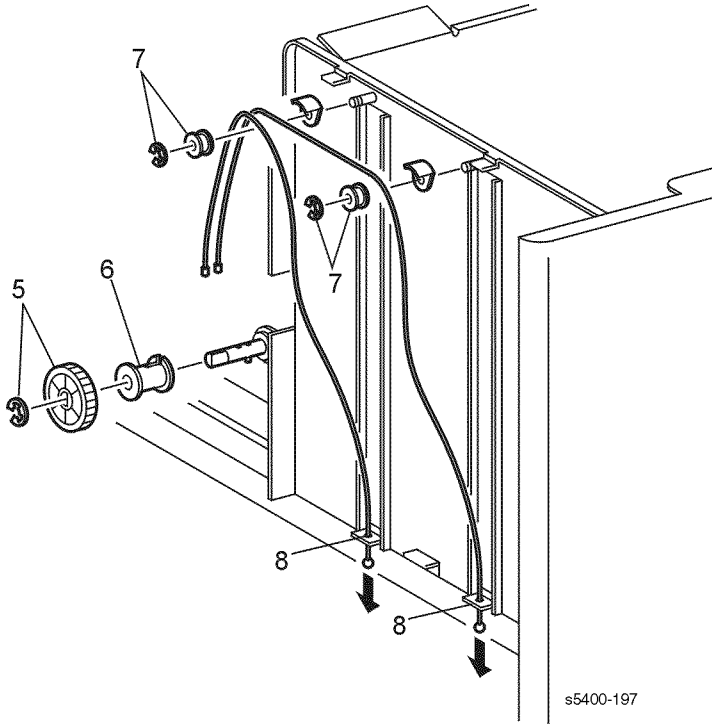


Figure 166 Left Tray Wires

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the 2000-Sheet Feeder Tray Assembly (RRP 12.7 Tray Assembly).
2. Remove the Shaft Cover Assembly (RRP 12.21 Shaft Cover Assembly).
3. Remove the Brake Assembly (RRP 12.23 Brake Assembly).
4. Remove the Left Wire Cover (RRP 12.20 Left and Right Wire Cover).
5. Remove the E-ring that secures the 33 Gear and remove the gear.
6. Remove the Cable Pulley from the shaft.
7. Remove the E-rings and pulleys from the two shafts on the tray assembly.
8. Remove the wires down through the holes in the tray assembly.

Replacement

1. Ensure the black plastic wire guides are at the top of the pulleys.
2. Reinstall the components in the reverse order.
3. The longer wire goes to the front of the tray.

RRP 12.25 Right Tray Wires

(See PL 12.4 2000-Sheet Feeder (4 of 4))

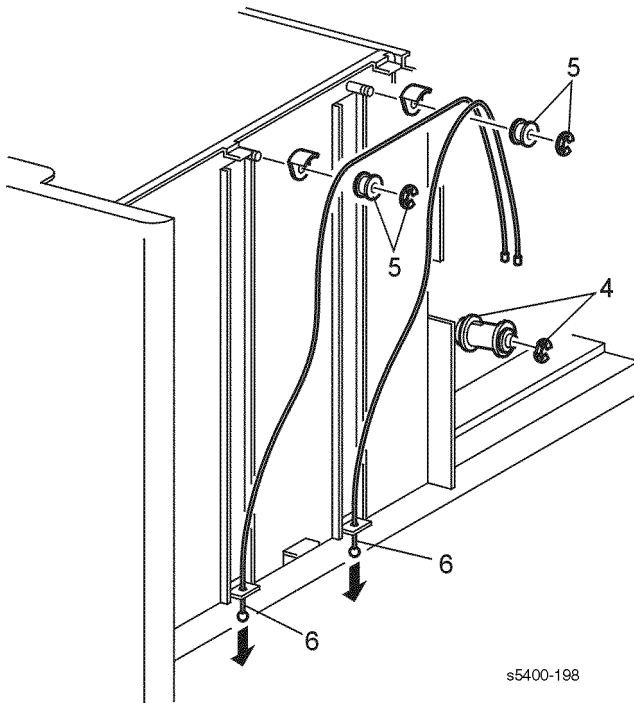


Figure 167 Right Tray Wires

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the 2000-Sheet Feeder Tray Assembly (RRP 12.7 Tray Assembly).
2. Remove the Shaft Cover Assembly (RRP 12.21 Shaft Cover Assembly).
3. Remove the Right Wire Cover (RRP 12.20 Left and Right Wire Cover).
4. Remove the E-ring that secures the Cable Pulley. Remove the pulley.
5. Remove the E-rings and pulleys from the two shafts on the tray assembly.
6. Remove the wires down through the holes in the tray assembly.

Replacement

1. Ensure the black plastic wire guides are at the top of the pulleys.
2. Reinstall the components in the reverse order.
3. The longer wire goes to the front of the tray.

RRP 12.26 Retard Assembly

(See PL 12.3 2000-Sheet Feeder (3 of 4))

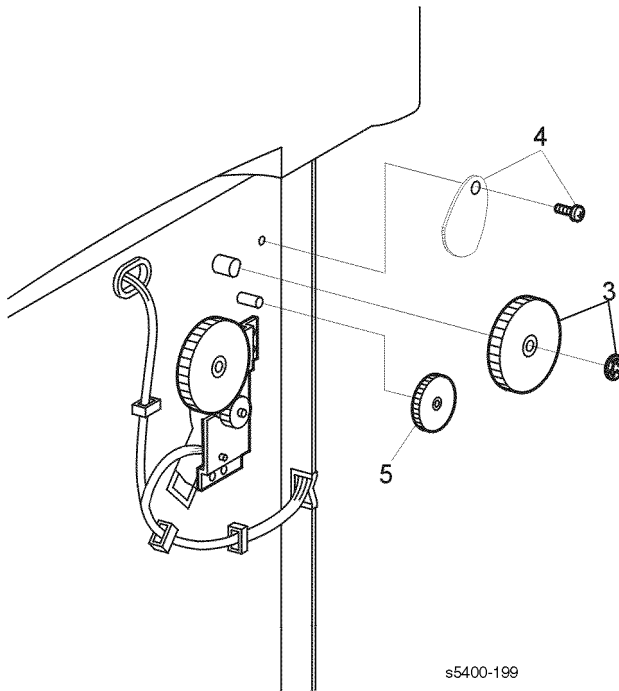


Figure 168 Feed Gears

Removal

Warning: Switch off the power and disconnect the Power Cord.

1. Remove the 2000-Sheet Feeder Tray Assembly (RRP 12.7 Tray Assembly).
2. Remove the Right Side Cover (RRP 12.5 Right Side Cover).
3. Remove the E-ring that secures the 50T Gear to the Feeder Shaft, then remove the gear.
4. Remove the screw that secures the Stopper Gear, then remove the gear.
5. Remove Gear 22T from the Retard Shaft.
6. Open the Rear Door.

7. Release the spring from the left end (as viewed from the rear) of the Retard Support.
8. Remove the two screws that secure the Retard Support Assembly to the feeder.
9. Lift the Retard Support Assembly, slide it to the right and remove.

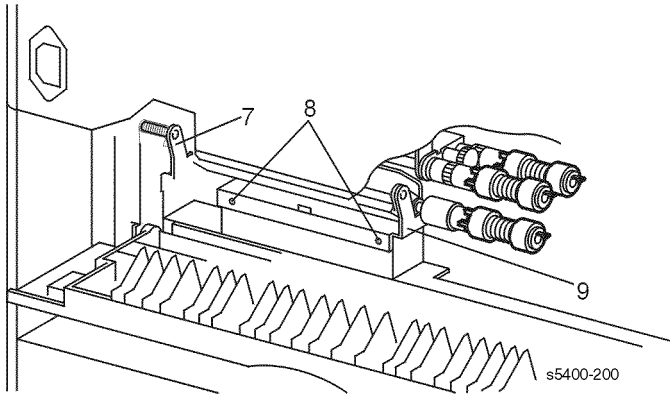


Figure 169 Retard Assembly

Replacement

Reinstall the components in the reverse order.

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FRU Parts List

Introduction

The Parts List section provides exploded-view illustrations of all spared subsystem components and a listing of the corresponding part numbers. The illustrations show the relationships between parts.

Changes to the printer may be made to accommodate improved components as they become available. When ordering parts and/or supplies, it is important to include the following information:

- Component's part number,
- Printer type or model number,
- Printer serial number,
- Modification number, if any.

Organization of this Section

The following elements make up the Parts List section: Parts Lists (PL), each item number in the part numbers listing corresponds to an item number in the illustration. All the parts in a given subsystem of the machine will be located in the same illustration or in a series of associated illustrations. The parts which are spared are indicated by a part number in the Part Number column. Conversely, the lack of a part number for any given part indicates that part is not spared and is only available on its parent assembly.

Exploded-View Illustrations: an item that is called out on an illustration has a corresponding listing within this section. Components are given item numbers that correspond to the part number listings. Hardware items are lettered. All hardware dimensions are in millimeters unless otherwise noted.

Assemblies and kits are a combination of several separate components. A bracket is used on the illustration when an assembly or kit is spared but is not shown. The item number of the assembly or kit precedes the bracket, the item numbers of the piece parts follow it.

Part Number Index: this index lists all the spared parts in the system in numerical order. Each number is followed by a reference to the parts list on which the part may be found.

Using the Parts List

1. The numbers shown in each illustration correspond to the parts list number for that illustration.
2. Throughout this manual, parts are identified by the prefix “PL”, followed by a number, a decimal point, and another number. For example, PL3.1.12 means the part is item 12 of parts list 3.1.
3. The capital letters “C”, “E”, and “S” shown in an illustration stand for C-ring, E-ring, and Screw, respectively.
4. A shaded triangle *t* in an illustration indicates the item is part of an assembly.
5. The notation “with X~Y” following an part name indicates an assembly that is made up of components X through Y. For example, “1 (with 2~4)” means part 1 consists of part 2, part 3, and part 4.
6. The notation “RS” means that the part is a requested spare. Part numbers for these parts will be provided as soon as they are available.
7. An asterisk * following a part name indicates the page contains a note about this part.
8. The notation “J1 <> J2 and P2” is attached to a wire harness. It indicates that connector jack 1 is attached to one end of the wire harness and connector jack 2 is attached to the other end that is plugged into plug 2.

9. A notation “(part of item 1.1)” indicates that the part is included with item 1.2.1 (PL1.2, line item 1).

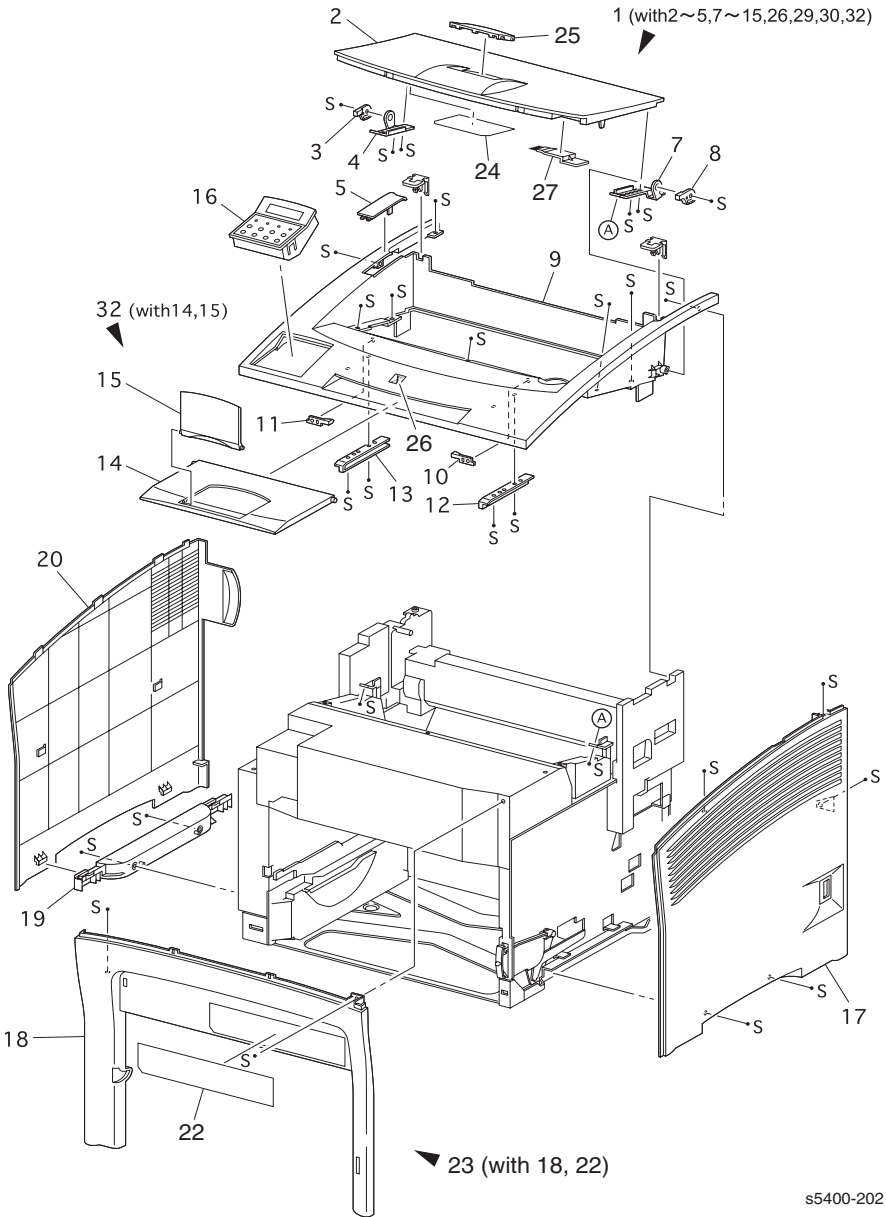
Note: *Only parts showing part numbers are available for support. Parts not showing part numbers are available on the parent assembly.*

Table 126 Legend:

Identifier	Meaning
C	C-ring
E	E-ring
KL	E-clip
S	Screw

Parts Lists

PL 1.1 Covers



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Figure 170 Covers

Table 127 PL 1.1 Covers

ID No.	Part Number	Qty	Name / Description
1	802K29441	1	Cover Assembly, Top [includes 2~5, 7-15, 26, 29, 30, 32]
2		1	Door, Top Access [P/O item 1]
3		1	Stopper, Left [P/O item 1]
4		1	Bracket, Left [P/O item 1]
5	048E64291	1	Cap, Top Cover
6			
7		1	Bracket, Right [P/O item 1]
8		1	Stopper, Right [P/O item 1]
9		1	Cover, Top [P/O item 1]
10		1	Latch, Right [P/O item 1]
11		1	Latch, Left [P/O item 1]
12		1	Tray Guide, Right [P/O item 1]
13		1	Tray Guide, Left [P/O item 1]
14		1	Tray Extension [P/O item 1]
15	050E88420	1	Tray Stopper
16	101K37901	1	Control Panel Assembly
17	048E64122	1	Cover, Right
18		1	Cover, Front [P/O item 23]
19	048E64102	1	Cover, Left Lower
20	048E64082	1	Left Cover
21			
22			Label Front [P/O Item 23]
23	802K04213	1	Cover Assy, Front [with 18, 22]
24		1	Label, Access Cover 3 [P/O item 1]
25		1	Stand Cover, Pop Up
26	892E08500	1	Badge
27	042K92000	1	Cleaning Brush
28			
S	600K76430		Kit, Hardware (includes screws and E-rings)

PL 2.1 Paper Tray [A3/Ledger]

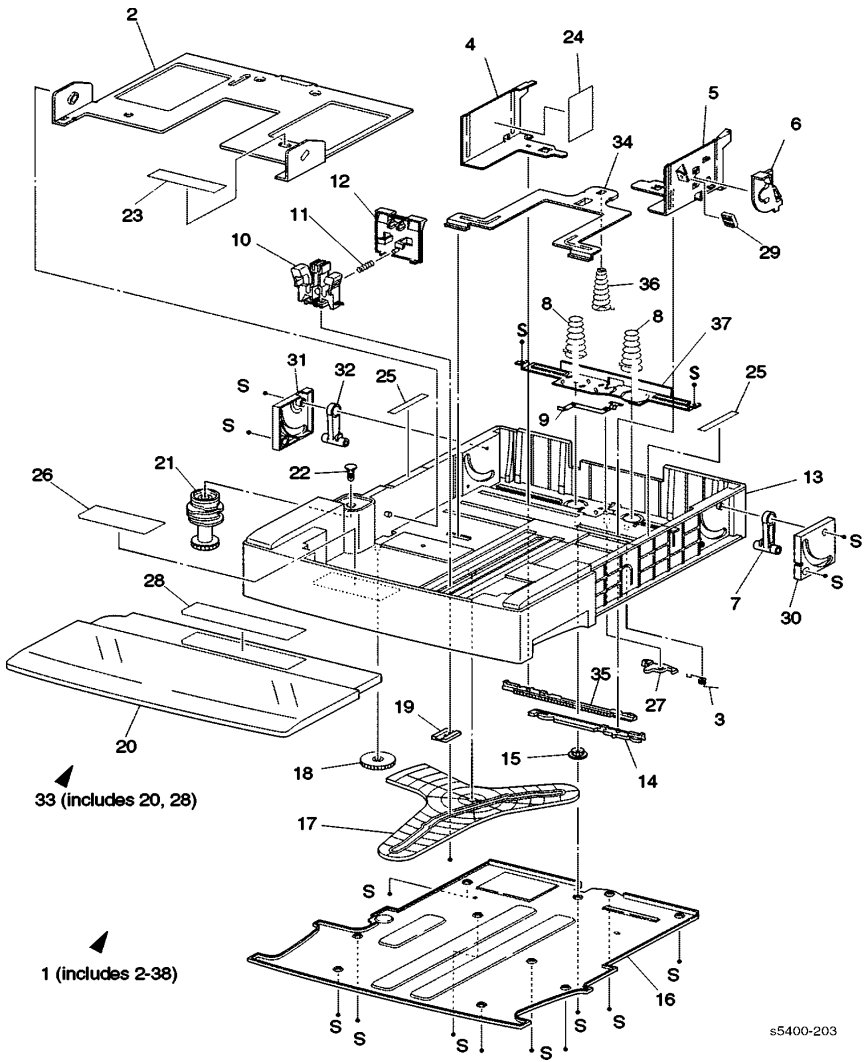
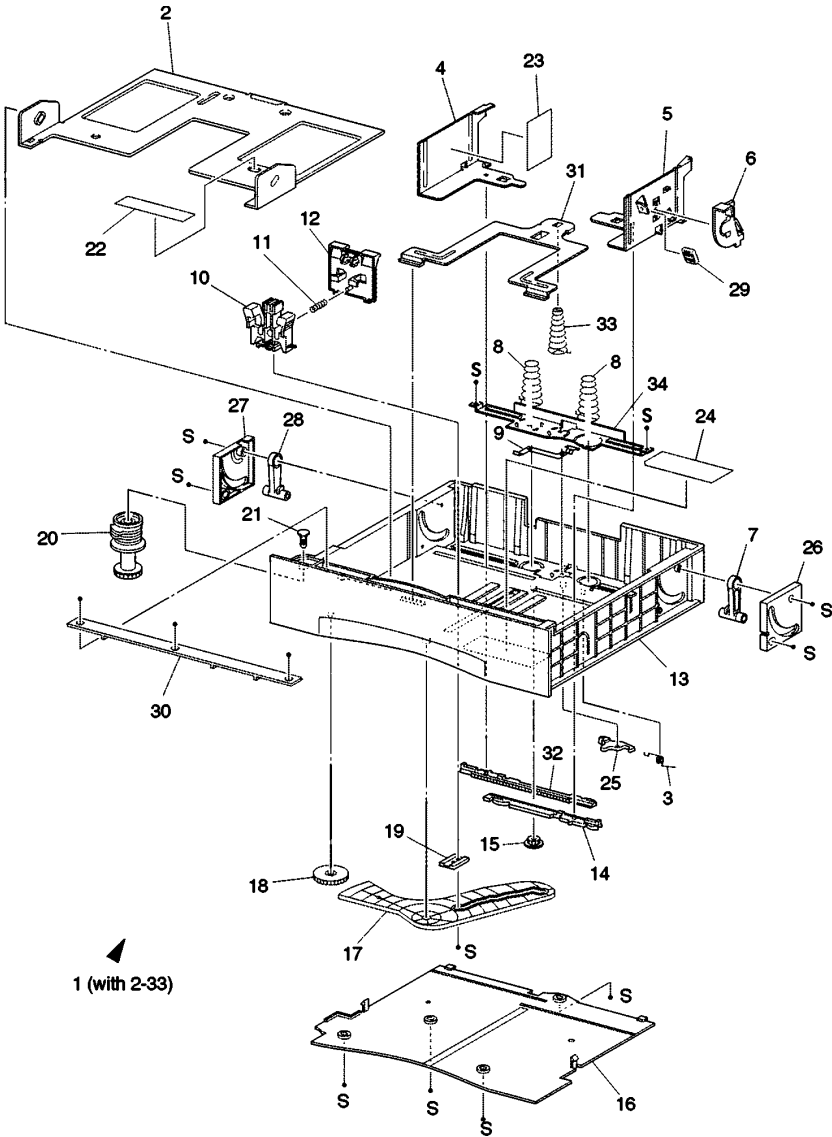


Figure 171 Paper Tray (A3/Ledger)

Table 128 PL 2.1 Paper Tray [A3/Ledger]

ID No.	Part Number	Qty	Name / Description
1	109R00523	1	Tray Assembly, [A3/Ledger (includes 2~37)]
2		1	Bottom [P/O item 1]
3		1	Sprint, Latch [P/O item 1]
4		1	Plate, Side Guide [left] [P/O item 1]
5		1	Plate, Side Guide [right] [P/O item 1]
6		1	Lever, Side [right] [P/O item 1]
7		1	Latch Assembly [right] [P/O item 1]
8		2	Spring, Long [P/O item 1]
9		1	Spring, Ground [P/O item 1]
10		1	Guide, End [P/O item 1]
11		1	Spring, End Guide Plate [P/O item 1]
12		1	Guide, End Plate [P/O item 1]
13		1	Tray, Long Housing 1 [P/O item 1]
14		1	Rack [P/O item 1]
15		1	Pinion [P/O item 1]
16		1	Cover, Bottom [long] [P/O item 1]
17		1	Gear, Sector [long] [P/O item 1]
18		1	Gear, Idler [P/O item 1]
19		1	Lock, End Guide [P/O item 1]
20		1	Cover, Tray 1 [P/O item 1]
21		1	Cam, Size [long] [P/O item 1]
22		1	Lock, Pin [P/O item 1]
23		1	Label, Long Side [P/O item 1]
24		1	Label, Max Paper [P/O item 1]
25		2	Label, Hold Here [P/O item 1]
26		1	Label, Paper Set [P/O item 1]
27		1	Latch [P/O item 1]
28		1	Label, Tray Set [P/O item 1]
29		1	Cap, Side [right] [P/O item 1]
30		1	Cover, Latch [right] [P/O item 1]
31		1	Cover, Latch [left] [P/O item 1]
32		1	Latch Assembly [left] [P/O item 1]
33	802K05701	1	Cover Assembly, Tray [with 20, 28] [P/O item 1]
34		1	Plate, Mini Bottom [P/O item 1]
35		1	Rack [left] [P/O item 1]
36		1	Spring, N/F Center [P/O item 1]
37		1	Plate, Tray [P/O item 1]
S	600K76430		Hardware Kit (includes screws and E-rings)

PL 2.2 Paper Tray [A4/Letter]



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Figure 172 Paper Tray [A4/Letter]

Table 129 PL 2.2 Paper Tray [A4/Letter]

ID No.	Part Number	Qty	Name / Description
1	109R00524	1	Tray Assembly, A4/Letter [includes 2~33]
2		1	Plate Assembly, Bottom
3		1	Spring, Latch
4		1	Plate, Side Guide [left]
5		1	Plate, Side Guide [right]
6		1	Lever, Side [right]
7		1	Latch Assembly [right]
8		2	Spring
9		1	Spring, Ground
10		1	End Guide
11		1	End Guide, Spring Plate
12		1	Guide, End Plate
13		1	Housing, Tray 1 [short]
14		1	Rack
15		1	Pinion
16		1	Cover, Bottom [short]
17		1	Gear, Sector [short]
18		1	Gear, Idler
19		1	Lock, End Guide
20		1	Cam, Size [A4/Letter]
21		1	Lock, Pin
22		1	Label, Side [short]
23		1	Label, Max Paper
24		1	Label, Set Paper
25		1	Latch
26		1	Cover, Latch [right]
27		1	Cover, Latch [left]
28		1	Latch Assembly [left]
29		1	Cap, Side [right]
30		1	Cover, Handle
31		1	Plate, Mini Bottom
32		1	Rack [left]
33		1	Spring, N/F Center
34		1	Plate, Tray
S	600K76430		Hardware Kit (includes screws and E-rings)

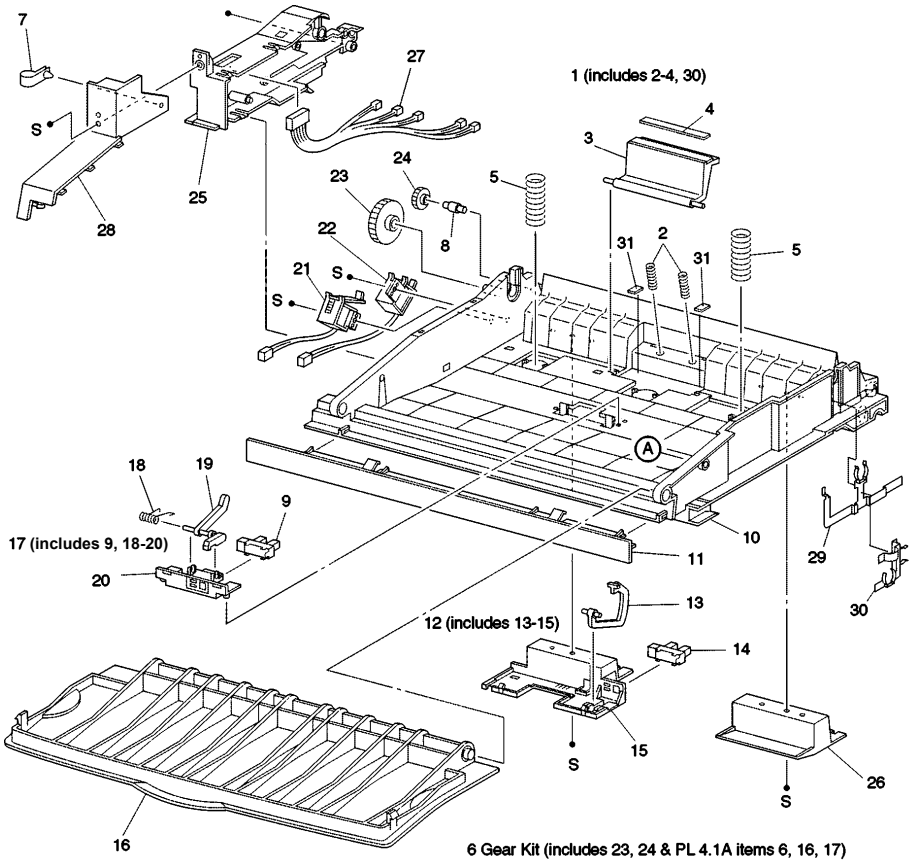
Table 130 PL 3.1 Paper Feeder

ID No.	Part Number	Qty	Name / Description
1	054K13043	1	Chute Assembly, Rear [includes 2~4]
2		1	Chute, Rear [P/O item 1]
3		8	Roller, Pinch [P/O item 1]
4		8	Spring, Pinch [P/O item 1]
5		1	Rod, Paper Level Indicator [P/O item 16]
6		1	Collar, Paper Level Indicator [P/O item 16]
7		1	Guide Assembly, Tray 1 [with 5, 6 & 16] [P/O item 16]
8	054K13055	1	Chute Assembly, Retard [includes 9~'5, 31 & 32]
9		1	Chute, Retard [P/O item 8]
10		1	Roller Assembly, Turn [left] [P/O item 8]
11		2	Support, Bearing [P/O item 8]
12		2	Bearing, ES8 [P/O item 8]
13	019K94613	1	Holder Assembly, Retard [P/O item 8]
14		1	Arm, Retard [P/O item 8]
15		1	Gear, Turn [P/O item 8]
16	604K01890	1	Guide Assembly, Tray 1 [right] [includes 5, 6 & 17~19]
17		1	Guide, Tray 1 [right] [P/O item 16]
18		1	Actuator, GG [P/O item 16]
19		1	Spring, Paper Level Indicator [P/O item 16]
20	032K93788	1	Guide Assembly, Tray 1 [left] [includes 21~30]
21		1	Guide, Tray 1 [left] [P/O item 20]
22		4	Actuator, Size [P/O item 20]
23	110E98320	1	Switch, Paper Size
24	162K42630	1	Harness Assembly, Sensor [J20~J201, J202]
25		1	Harness Assembly, Low Paper Sensor [J127~P128] [P/O item 20]
26	130E82030	1	Switch, MBF Home
27		1	Actuator, MBF [P/O item 20]
28	130E81970	1	Sensor, Tray 1 Low Paper
29		1	Sensor Actuator, Tray 1 Low Paper [P/O item 20]
30		1	Spring, Tray 1 Low Paper Sensor Actuator [P/O item 20]
31		1	Lever, Retard [P/O item 8]
32		1	Spring, Release [P/O item 8]
33		1	Clip, Ground [P/O item 16]
S	600K76430		Kit, Hardware (includes screws and E-rings)

Table 131 PL 4.1 MBF Assembly

ID No.	Part Number	Qty	Name / Description
1	059K19206	1	MBF Assembly [includes 2, 5~11, 13~24 (PL 4.2 items 2~5, 7~11, 13~16 & 18~27, 29~31)]
2		1	Tray Assembly [P/O item 1]
3	003K85592	1	Latch Assembly [left]
4		2	Guide, Upper
5	809E35460	1	Spring, MBF 1 [P/O item 1]
6		1	Gear, Pick Up [P/O item 1 & 25]
7		2	Cam, Pick Up [P/O item 1]
8		2	Roller, Core [P/O item 1]
9		2	Roller, MBF Feed [P/O item 26]
10		1	Shaft, Pick Up [P/O item 1]
11		5	Bearing #8 [P/O item 1]
12	003K85941	1	Latch Assembly [right]
13	121K20060	1	Clutch, Tray 1 Turn Roller
14	059K13064	1	Roller Assembly, Tray 1 Turn
15		1	Bracket [P/O item 1]
16		1	Gear, Tray 1 Pick Up [P/O item 1 & 25]
17		1	Gear, MBF Idler 1 [P/O item 1 & 25]
18		1	Roller, Tray 1 Core [P/O item 1]
19		2	Roller, Envelope Feed [P/O item 27]
20		2	Bearing, Core #8 [P/O item 1]
21	809E35460	1	Spring
22	059K14641	1	Roller, Tray 1 Feed
23		1	Shaft, MBF Turn Roller [P/O item 1]
24		1	Label [P/O item 1]
25	600K72223		Kit, Gear [includes 6, 16, 17 & PL 4.1B items 23 & 24]
26	600K 73123		Kit, Feed Roller [2 pieces]
27	604K10040		Kit, Envelope Feed Roller [2 pieces]
S	600K76430		Kit, Hardware (includes screws and E-rings)

PL 4.2 Paper Handler



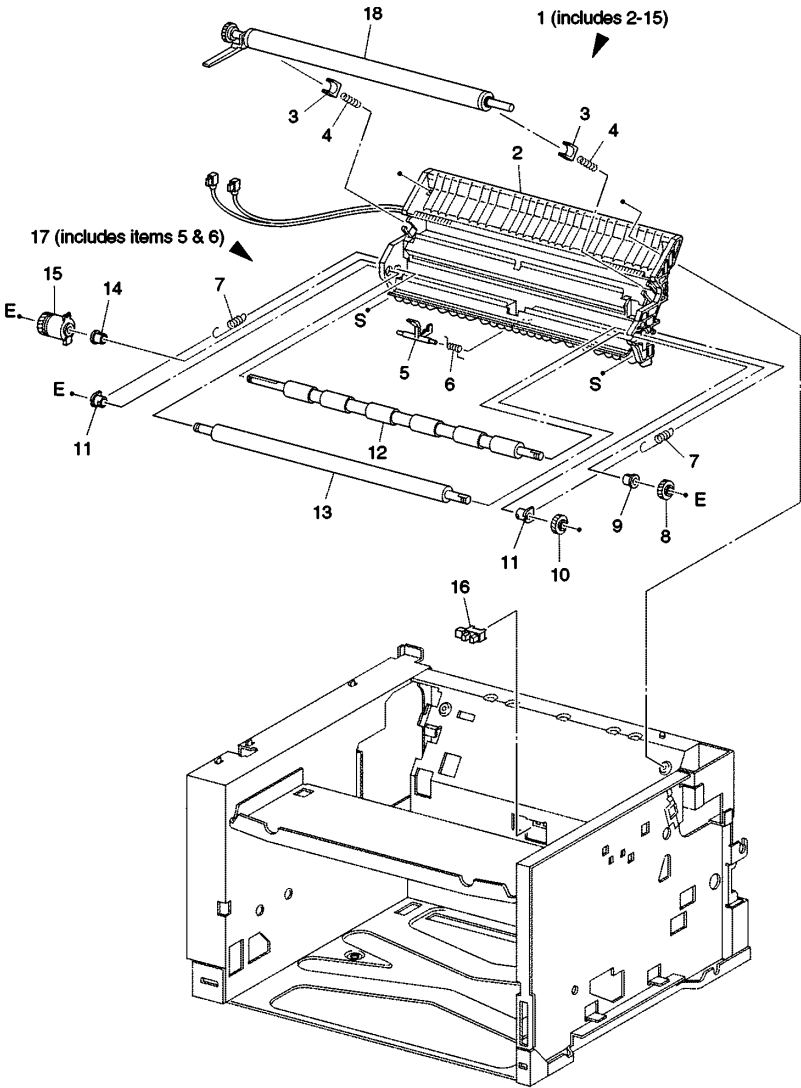
s5400-207

Figure 175 Paper Handler

Table 132 PL 4.2 Paper Handler

ID No.	Part Number	Qty	Name / Description
1	600K72192	1	Holder Assembly, Retard [includes 2~4]
2		2	Spring, NIP [P/O item 1]
3		1	Holder, Retard [P/O item 1]
4		1	Pad, Retard [P/O item 1]
5		2	Spring N/F
6	600K72223	1	Kit, Gear [includes 23, 24 & PL 4.1 (items 6, 16 & 17)]
7		1	Clamp [P/O PL 4.1 item 1]
8		1	Pin, Idler [P/O PL 4.1 item 1]
9		1	Sensor, No/Low Paper
10		1	Chute
11		1	Cover, Lower [P/O PL 4.1 item 1]
12	019K94931	1	Sensor Assembly, Tray 1 Sensor [includes 13~15]
13		1	Actuator, Tray 1 No Paper Sensor [P/O item 12]
14		1	Sensor, No Paper [P/O item 12]
15		1	Holder, Tray 1 Sensor [P/O item 12]
16	050K43611	1	Door, MBF
17	019K94921	1	Sensor, MBF No/Low Paper [includes 9 & 18~20]
18		1	Spring, MBF No/Low Paper Sensor [P/O item 17]
19		1	Actuator, MBF No/Low Paper Sensor [P/O item 17]
20		1	Holder, Sensor [P/O item 17]
21	121K27230	1	Solenoid, MBF Feed
22	121K18810	1	Solenoid, Tray 1 Feed
23		1	Gear, MBF In [P/O item 6]
24		1	Gear, MBF Idler 2 [P/O item 6]
25		1	Cover, MBF Gear
26		1	Chute, Lower [P/O PL 4.1 item 1]
27	162K42620	1	Harness, MBF Combo [P121~P122, P123, P124, J125 & J126]
28	048E64172	1	Cover
29		1	Plate, Lower Ground [P/O PL 4.1 item 1]
30		1	Plate, Ground [P/O PL 4.1 item 1]
31		2	Holder, Retard Pad [P/O PL 4.1 item 1]
S	600K76430		Kit, Hardware (includes screws and E-rings)

PL 5.1 Paper Transport



s5400-208

Figure 176 Paper Transport

Table 133 PL 5.1 Paper Transport

ID No.	Part Number	Qty	Name / Description
1	054K18572	1	Transport Assembly, Paper [includes 2~15]
2		1	Transport, Chute [P/O item 1]
3		2	Bearing, BTR [P/O item 1]
4		2	Spring BTR [P/O item 1]
5		1	Actuator, Registration [P/O item 17]
6		1	Spring, Sensor [P/O item 17]
7		2	Spring, Registration [P/O item 1]
8		1	Gear, Registration [rubber roller shaft] [P/O Item 1]
9		1	Bearing, Right [rubber roller shaft] [P/O Item 1]
10		1	Gear, Registration [metal shaft] [P/O Item 1]
11		2	Bearing [metal shaft] [P/O Item 1]
12		1	Roller, Registration [rubber roller shaft] [P/O Item 1]
13		1	Roller, Registration [metal shaft] [P/O Item 1]
14		1	Bearing, Left [rubber roller shaft] [P/O Item 1]
15	121E84300	1	Clutch, Registration
16	130E82740	1	Sensor, Registration
17	600K72231	1	Kit, Actuator
18	022K62410	1	Roller, Bias Transfer [BTR]
S	600K76430		Kit, Hardware (includes screws and E-rings)

PL 6.1 Rear Cover Assembly With Fuser

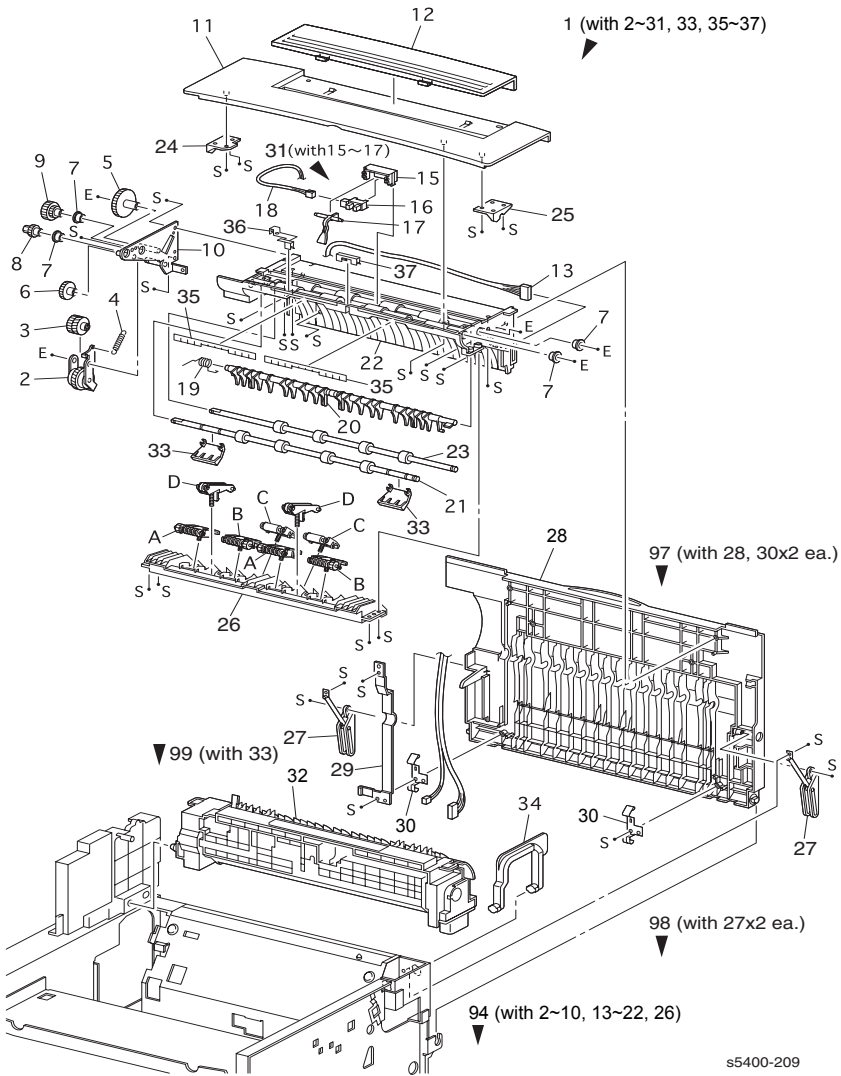


Figure 177 Rear Cover Assembly

Table 134 PL 6.1 Rear Cover Assembly with Fuser

ID No.	Part Number	Qty	Name / Description
14, 38			ID Numbers not used
1	802K04577	1	Cover Assembly, Rear [includes 2-31, 33, 35-37]
2		1	Gear Assembly, Cover Gate [P/O item 1]
3		1	Gear, Z20/20 [P/O item 1]
4		1	Spring, Cover Gate Gear [P/O item 1]
5		1	Gear, Z37 [P/O item 1]
6		1	Gear, Z27 [P/O item 1]
7		4	Bearing, Exit [P/O item 1]
8		1	Gear, Z15 [P/O item 1]
9		1	Gear, Z22/15 [P/O item 1]
10		1	Plate Assembly, Exit Drive [P/O item 1]
11		1	Cover, Top Exit [P/O item 1]
12		1	Cover, Gate [P/O item 1]
13	162K43690	1	Harness, Direction Solenoid [P/O item 1]
15		1	Holder, Full Stack Sensor [P/O item 31]
16		1	Sensor, Full Stack [P/O item 31]
17		1	Actuator, Full Stack Sensor [P/O item 31]
18	162K43700	1	Harness, Full Stack Sensor [P/O item 1]
19		1	Spring, Exit Gate [P/O item 1]
20		1	Gate, Exit [P/O item 1]
21	059K11893	1	Shaft, Rear Cover Roller [P/O item 1]
22		1	Chute, Upper Exit [P/O item 1]
23		1	Roller Assembly, Pre-Exit
24		1	Latch, Left Exit
25		1	Latch, Right Exit
26		1	Lower Exit Chute
27	001K68072	2	Kit, Exit Strap
28		1	Cover, Rear Exit
29		1	Plate, Earth
30		2	Spring, Earth Exit
31	600K72254	1	Sensor Assembly, Full Stack (with 15-17)
32		1	Fuser Assembly (P/O Item #99)
33		2	Flapper, Exit
34	011E07992	1	Handle, Fuser Latch
35		2	Cloth, Anti-Static [P/O Item 1]
36		1	Clip, Ground L [P/O Item 1]
37		4	Clip, Ground R [P/O Item 1]
94		1	Kit Assembly, Exit (with 2-10, 13-22, 26)
97		1	Kit Assembly, Rear, Exit Cover (with 28, 30x2 pcs)
98		1	Kit, Exit Strap (with 27x2pcs)
99	109R00521	1	Kit, Usage, (Fuser 110V~BTR) with 33, (PL5.1.18))
99	109R00522	1	Kit, Usage, (Fuser 220V~BTR) with 33, (PL5.1.18))
S	600K76430		Kit, Hardware (includes screws and E-rings)

PL 7.1 Frame & Drives

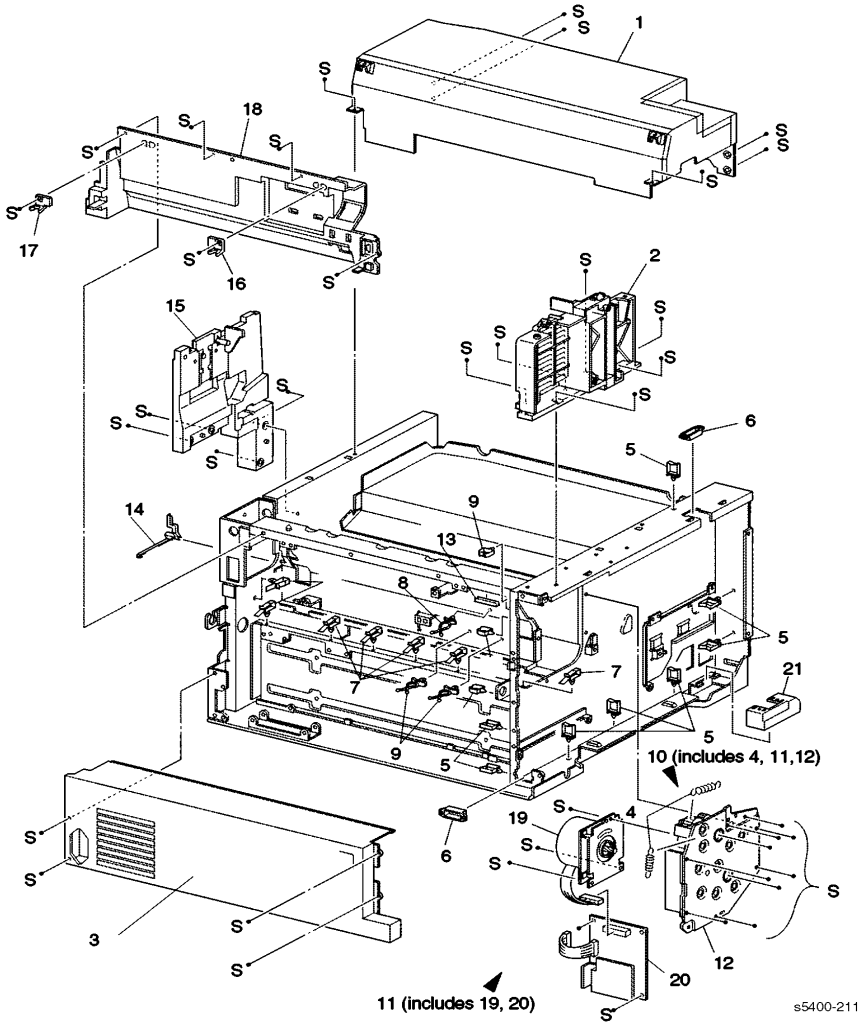
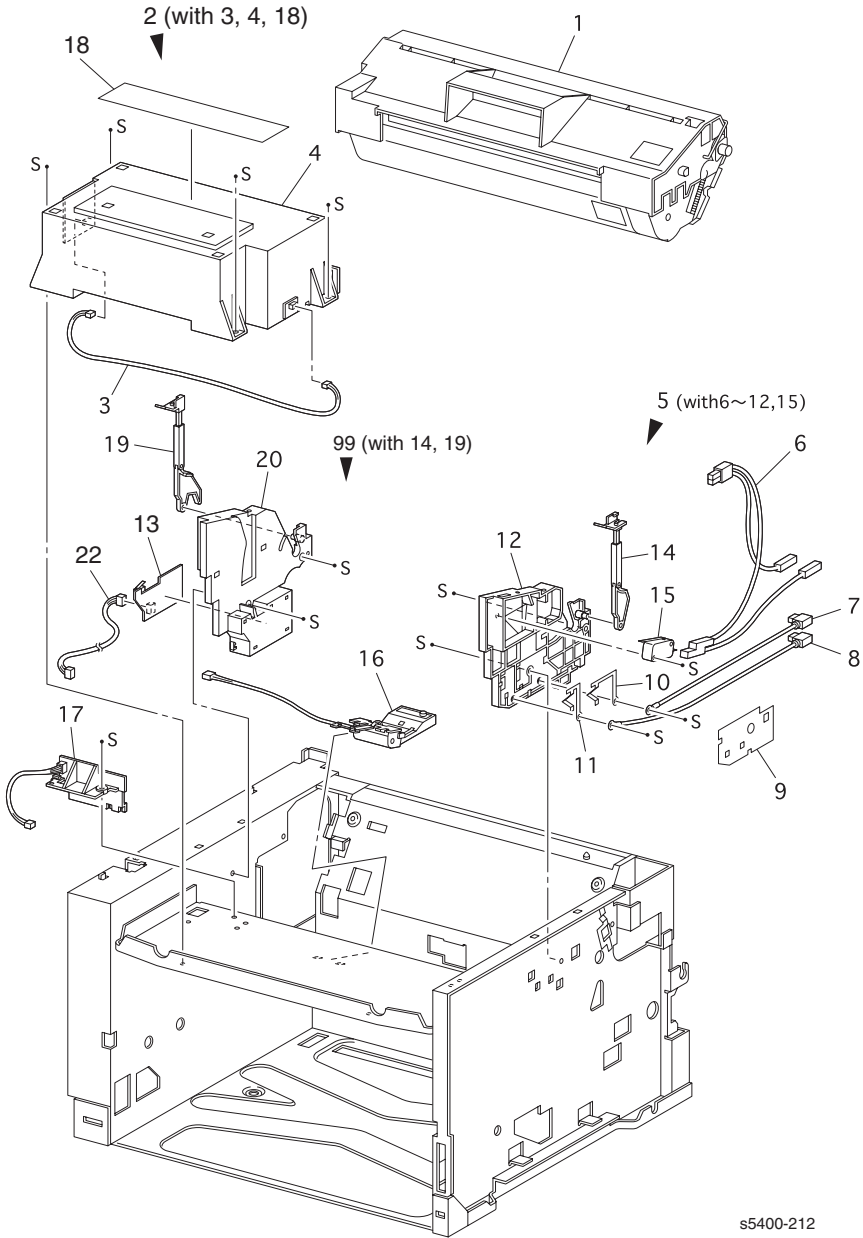


Figure 178 Frame and Drives

Table 135 PL 7.1 Frame and Drives

ID No.	Part Number	Qty	Name / Description
1		1	Cover, Laser
2		1	Bracket, HCS [left]
3		1	Cover, Lower Rear
4	809E10940	1	Kit, Main Drive Motor Spring [2 pieces] [P/O item 11]
5		8	Clamp
6		2	Clamp, Laser
7		6	Clamp
8		1	Clamp
9		3	Clamp
10	007K86761	1	Gear Assembly, Drive [includes 4, 11 & 12]
11		1	Motor Assembly [includes 19 & 20] [P/O item 10]
12		1	Gear Assembly, Main Drive Motor [P/O item 10]
13		1	Harness, HCS Bush
14		1	Bush, High Voltage
15		1	Bracket, HCS [right]
16	003E46230	1	Stopper, Duplex [left]
17	003E46240	1	Stopper, Duplex [right]
18	048E65002	1	Cover, HVPS
19		1	Motor [P/O item 10]
20		1	Controller Board, Main Drive Motor [P/O item 10]
21		1	Cover, Drawer
S	600K76430		Kit, Hardware (includes screws and E-rings)

PL 8.1 Xerographics



s5400-212

Figure 179 Xerographics

Table 136 PL 8.1 Xerographics

ID No.	Part Number	Qty	Name / Description
1	113R00495	1	Cartridge, Print
2	062K10803	1	Laser Scanner Assembly, (with 3, 4, 18)
3		1	Harness Assembly, Laser Scanner [J115-1~J115-2]
4		1	Scanner, Laser (Reference only) [P/O Item 2]
5	032K93933	1	Guide Assembly, Print Cartridge [right] (with 6~12,15)
6		1	Harness Assembly, Interlock (J162~J621, J622, J623) [P/O item 5]
7		1	Wire Assembly, Developer [P/O item 5]
8		1	Wire Assembly, Xerographic [P/O item 5]
9		1	Seal, Guide [P/O item 5]
10		1	Plate, Developer [P/O item 5]
11		1	Plate, Xerographic [P/O item 5]
12		1	Guide, Print Cartridge [right] [P/O item 5]
13	160K75680	1	Antenna, CRUM
14		1	Link Assembly, Right [P/O Item 99]
15		1	Interlock Switch (P/O Item 5)
16	130K57891	1	Sensor Assembly, Toner
17		1	Sensor Assembly, Print Cartridge
18		1	Laser label
19			Link Assembly, Left [P/O Item 99]
20	032E16202	1	Guide, Print Cartridge [left]
21			
22		1	Wire Harness, Interlock
99	600K72262	1	Kit, Link (with 14, 19)
S	600K76430		Kit, Hardware (includes screws and E-rings)

PL 9.1 Electrical (1 of 2)

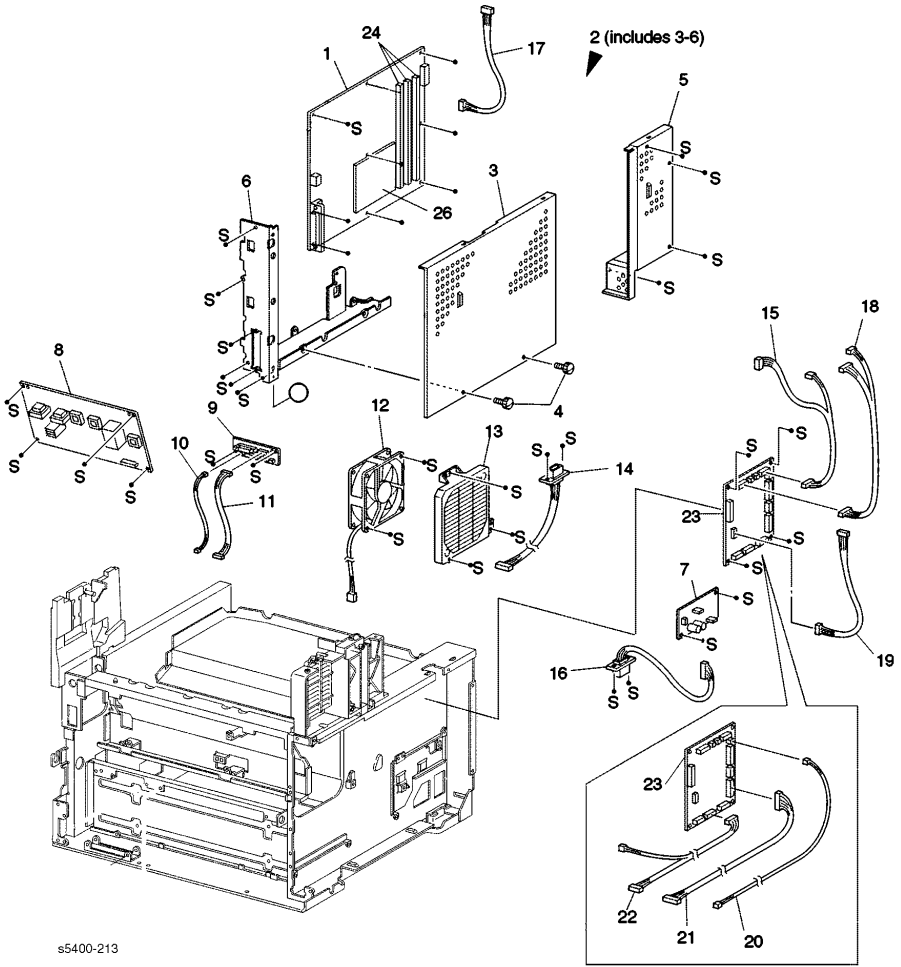
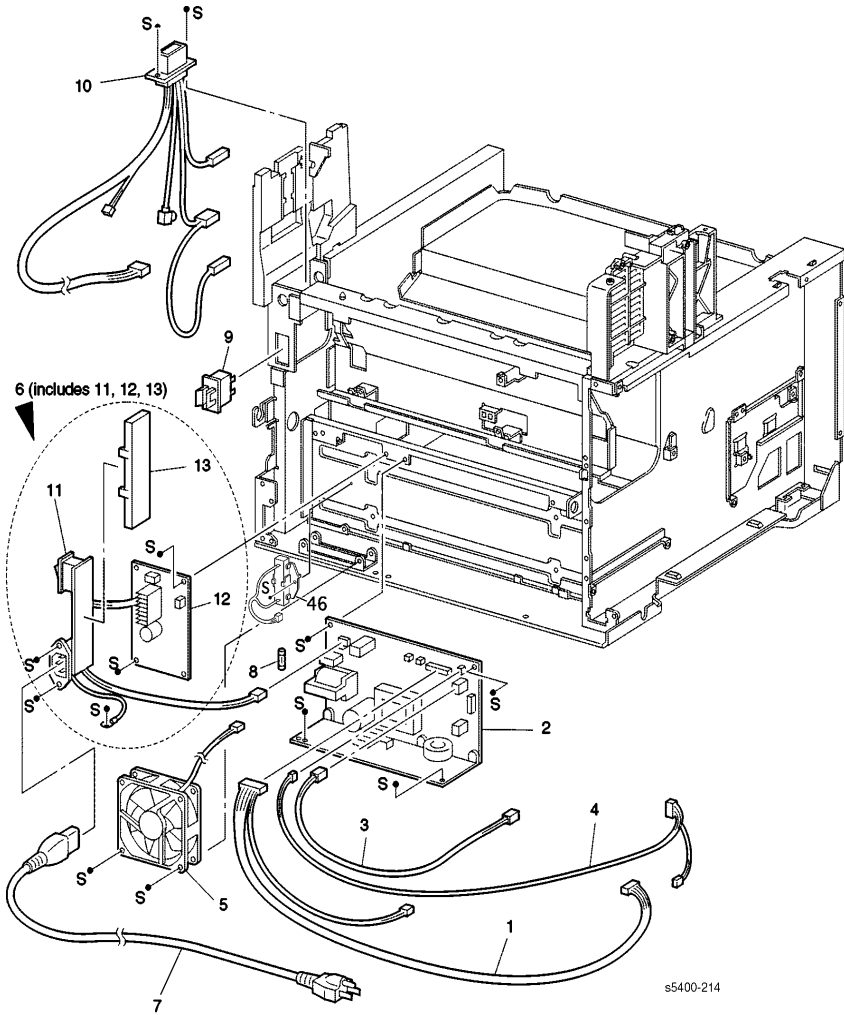


Figure 180 Electrical (1 of 2)

Table 137 PL 9.1 Electrical (1 of 2)

ID No.	Part Number	Qty	Name / Description
1	160K83452	1	Board, System Controller
2		1	Kit, Cover Assembly [includes 3~6]
3		1	Cover, Shield
4		2	Screw, Thumb
5		1	Cover, Print Engine Controller Board (MCU)
6	802K35520	1	Panel, Rear
7	105K19330	1	Board, 5 VDC Power Supply
8	105K19091	1	Board, High Voltage Power Supply (HVPS)
9	160K74360	1	Board, Duplex Interface
10	162K43530	1	Harness, Full DUP-1 [J502-J527]
11	162K43550	1	Harness, Flap-1 [J505-J528]
12	127K32011	1	Fan, Fuser Cooling
13	055E33041	1	Cover, Fuser Fan
14	162K43542	1	Harness, STK-1 [J504-J526]
15	162K42610	1	Harness, P/H [J12-J121, J128]
16	162K42640	1	Harness, Tray 2/3 Feeder [J13-P131]
17	162K42821	1	Harness, System Controller Board to User Interface [J18-J421]
18	162K42880	1	Harness, Laser NS [J11-J112, J114]
19		1	Harness
20	162K42740	1	Harness, Reg [J22-J222]
21	162K43521	1	Harness, Duplex Interface [J19-J501]
22	162K42720	1	Harness, HVPS [J18-J181, J183]
23	160K83415	1	Board, Print Engine Controller [110 VAC] [US]
	160K83425		Board, Print Engine Controller 220 VAC] [EU]
24	733W14695	As required	16 MB DIMM
	733W14696		16 MB DIMM
	733W14697		16 MB DIMM
	160K71940		8 MB Flash DIMM
25	650-4238-00		Drive, Hard Disk (20 GB)
S	600K76430		Kit, Hardware (includes screws and E-rings)

PL 9.2 Electrical (2 of 2)



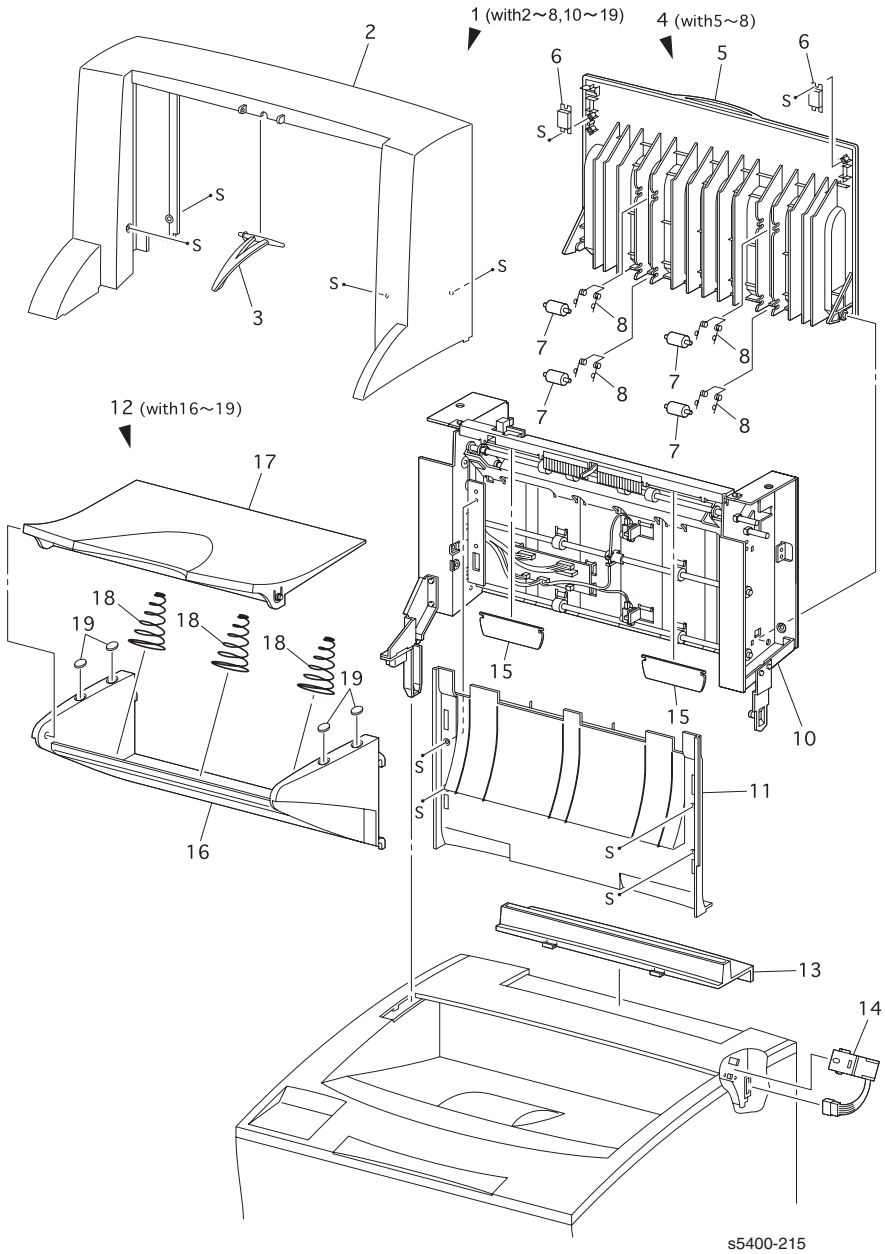
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Figure 181 Electrical (2 of 2)

Table 138 PL 9.2 Electrical (2 of 2)

ID No.	Part Number	Qty	Name / Description
1	162K42681	1	Harness, Low Voltage Power Supply (LVPS) [J161-J16, J506]
2	105K19080	1	Power Supply, Low Voltage [110 VAC]
	105K19170		Power Supply, Low Voltage [220 VAC]
3	962K05780	1	Harness, System Controller [3.3V] [J163-J3]
4	162K42800	1	Harness, System Controller [5V] [J169-J168, J13]
5	127E81781	1	Fan, LVPS Exhaust
6		1	Inlet Assembly [includes 11~13] [P/O Item 2]
7		1	Cord, Power [US]
8		1	Fuse [P/O Item 2]
9	110E98300	1	Switch, Rear Cover Fuser Interlock
10	162K62621	1	Harness, Fuser [115 VAC [J174, J17, J171, J177, J178 & J182]
	162K62641		Harness, Fuser [220 VAC] [J174, J17, J171, J177, J178 & J182]
11		1	Inlet [reference only] [P/O Item 2]
12		1	Board [reference only] [P/O Item 2]
13			Cover, Inlet
14	103K80930	1	Resistor, Flicker (220V only)
S	600K76430		Kit, Hardware (includes screws and E-rings)

PL 10.1 High Capacity Stacker [HCS] (1 of 2)



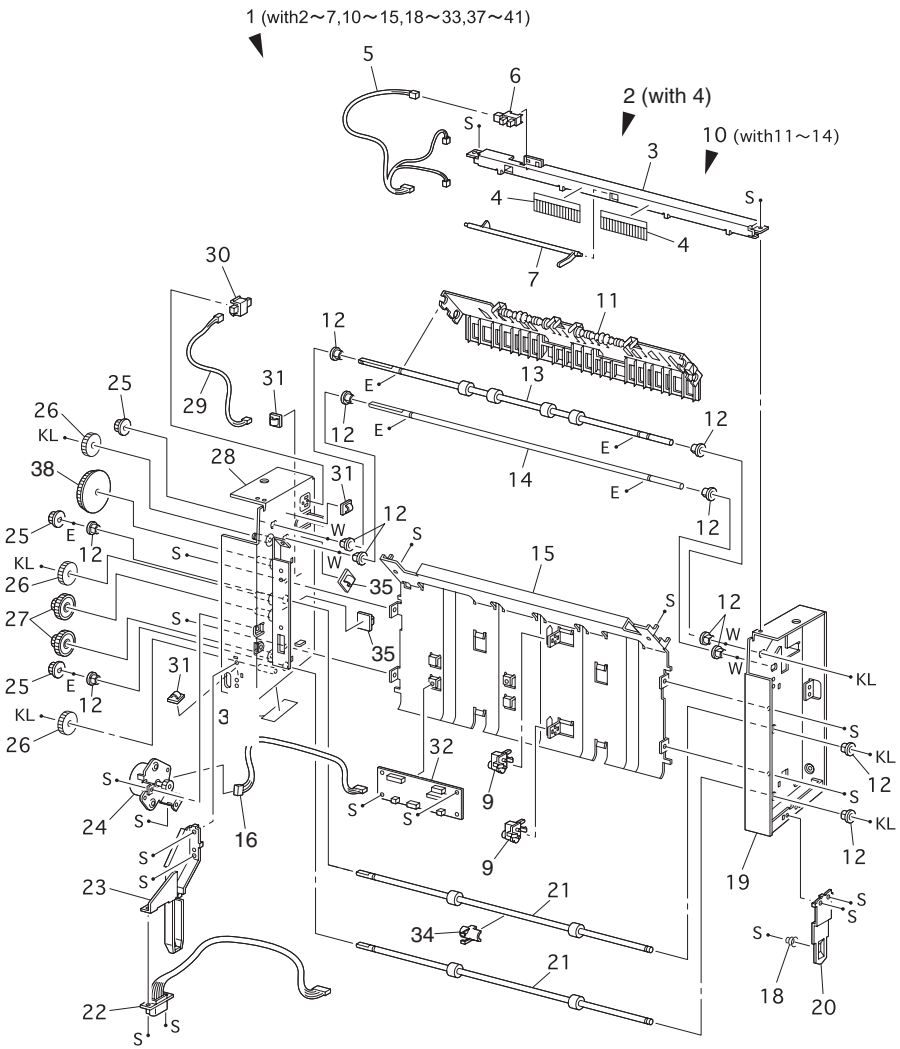
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Figure 182 High Capacity Stacker (1 of 2)

Table 139 PL 10.1 High Capacity Stacker (1 of 2)

ID No.	Part Number	Qty	Name / Description
1	097S02715	1	Stacker Assembly, High Capacity (HCS) (with 2-8, 10-19)
2	802E24491	1	Cover, Top [P/O Item 1]
3	036E91371	1	Weight, Paper [P/O Item 1]
4	802K26211	1	Cover Assembly, Rear (with 5~8) [P/O Item 1]
5		1	Cover, Rear [P/O Item 4]
6		1	Holder, Magnet [P/O Item 4]
7		4	Roller, Turn Pinch [P/O Item 4]
8		4	Spring, HCS Pinch [P/O Item 4]
9			
10	001K74192	1	P/H, Assembly, HCS [same as PL 14.2, item 1]
11	802K24531	1	Cover, Front
12	050K43412	1	Tray Assembly, HCS (with 16-19)
13	048E64831	1	Cover, Gate
14	121K18871	1	Solenoid Assembly, Exit Gate
15		2	Flapper, HCS
16		1	Tray, Bottom [P/O Item 12]
17		1	Tray, Top [P/O Item 12]
18		3	Spring [P/O Item 12]
19		4	Cap [P/O Item 12]
S	600K76430		Kit, Hardware (includes screws and E-rings)

PL 10.2 High Capacity Stacker [HCS] (2 of 2)



s5400-216

Figure 183 High Capacity Stacker (2 of 2)

Table 140 PL 10.2 High Capacity Stacker (2 of 2)

ID No.	Part Number	Qty	Name / Description
8, 16-17, 34-36			ID Numbers not used
1	001K74193	1	Paper Handling, HCS Assembly (with 2-7, 10-15, 18-33, 37-41) [same PL 14.1.10]
2		1	Eliminator Assembly, Static [with 3, 4, 6, 7]
3		1	Bracket, Stack Full
4		2	Eliminator
5	162K63540	1	Harness, Stack Full Sensor [J520-J521, J523]
6	130E82740	1	Sensor, HCS Stack Full
7	120E16941	1	Actuator, Stack Full Sensor
9	130K61650	2	Sensor, Jam
10		1	Chute Assembly, HCS Exit (with 11-14)
11		1	Chute Assembly
12		10	Bearing, Exit
13		1	Roller
14		1	Shaft
15		1	Chute, HCS
18		1	Screw, Spring
19		1	Frame, Side [right]
20		1	Support [right]
21		2	Roller, Inlet
22	162K63530	1	Harness, STK-0 [J514-P526]
23		1	Support [left]
24	127K31970	1	Motor Assembly, HCS
25		3	Gear
26		3	Gear, 29T
27		2	Gear, Idler 14/23
28		1	Frame Assembly, Left Side, HCS
29	162K63550	1	Harness, OP STK COV [J524-J525]
30	110E93440	1	Switch, Rear Cover Interlock
31		3	Clamp
32		1	Board, HCS
33		2	Sensor
37	162K63560	1	Harness Assembly, Stacker Motor (J517-J518)
38		1	Gear, Z49
39		1	Harness, Collar
40		2	Clamp
41		1	Label, SP HCS
S	600K76430		Kit, Hardware (includes screws and E-rings)

Table 141 PL 11.1 500-Sheet Feeder (1 of 3)

ID No.	Part Number	Qty	Name / Description
1	097S02712	1	Feeder Assembly, Complete [w/A4 CST]
	097S02711		Feeder Assembly, Complete [w/A3 CST] [customer purchased item]
2	802K11761	1	Cover Assembly, Rear [includes 3, 6 & 8~10]
3		2	Latch [P/O item 2]
4	802E03103	1	Cover, Front
5	802E28501	1	Cover, Left
6		1	Cover, Rear [P/O item 2]
7	019K94731	1	Roller Assembly, Pinch [includes 8~10]
8		4	Holder [P/O item 2] [P/O item 7]
9		3	Spring Torsion [P/O item 2] [P/O item 7]
10		3	Roller, Pinch [P/O item 2] [P/O item 7]
11	802E03091	1	Cover, Right
12		1	Label
S	600K76430		Kit, Hardware (includes screws and E-rings)

PL 11.2 500-Sheet Feeder (2 of 3)

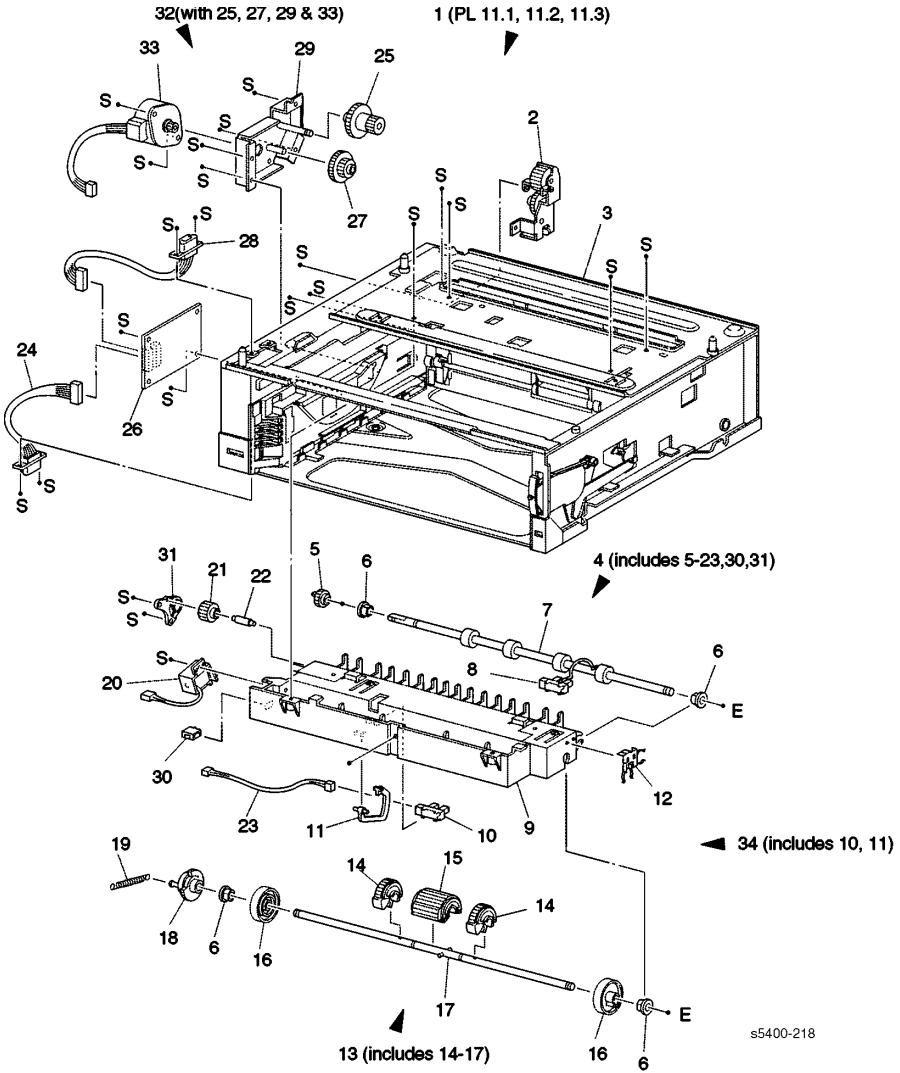


Figure 185 500-Sheet Feeder (2 of 3)

Table 142 PL 11.2 500-Sheet Feeder

ID No.	Part Number	Qty	Name / Description
1		1	Feeder Assembly, Complete [P/O PL 11.1, item 1] [customer purchased item]
2	015K39481	1	Bracket Assembly, Gear 28
3		1	Sub-Assembly, Feeder [same as PL 11.3, item1]
4	054K14729	1	Head Assembly, Feed [includes 5~22]
5		1	Gear, Turn
6		4	Bearing
7		1	Roller Assembly, Turn
8	130K60371	1	Sensor, Pre-Registration
9		1	Chute, Feeder
10		1	Sensor, No Paper [P/O item 34]
11		1	Actuator, No Paper Sensor [P/O item 34]
12		1	Plate, Ground
13		1	Roller Assembly, Feed [includes 14~17]
14	600K73132	2	Roller Assembly, Envelope Feed
15	059K14641	1	Roller, Feed
16		2	Roller, Core
17		1	Shaft, Pick Up
18		1	Gear, Pick Up
19	809E35460	1	Spring, Pick Up 300
20	121K18810	1	Solenoid, Feed
21		1	Gear, 17T
22		1	Shaft, Gear
23	162k47400	1	Harness, Tray 2/3 J134 [J13A-J134]
24	162K47410	1	Harness, J136 [P131-J136]
25		1	Gear [P/O item 32]
26	160K74332	1	Board, Feeder
27		1	Gear [P/O item 32]
28	162K47380	1	Harness J131 [J131-J132]
29		1	Bracket Assembly, Drive [P/O item 32]
30	913W01204	1	Connector
31		1	Plate, Shaft
32	015K50131	1	Drive Assembly [includes 25, 27, 29 & 33]
33		1	Motor Assembly [P/O item 32]
34	019K94931		Kit, No Paper Sensor
S	600K76430		Kit, Hardware (includes screws and E-rings)

PL 11.3 500-Sheet Feeder (3 of 3)

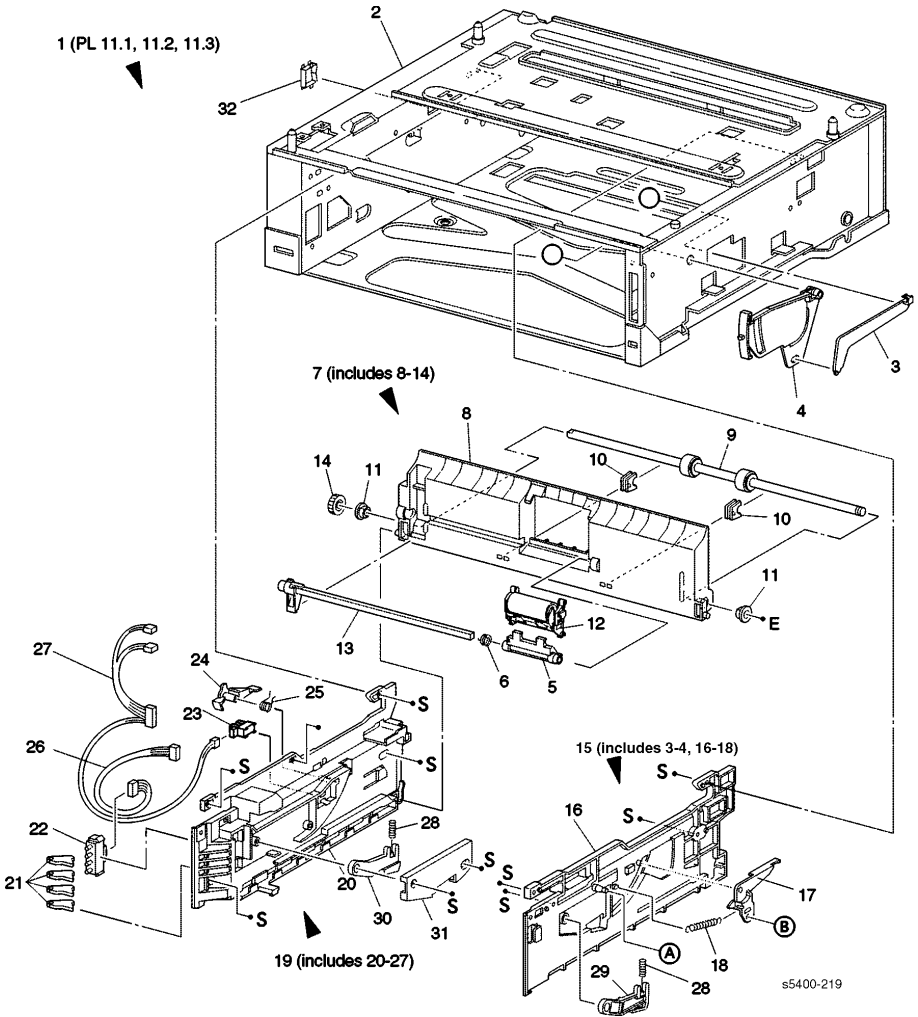


Figure 186 500-Sheet Feeder (3 of 3)

Table 143 PL 11.3 500-Sheet Feeder (3 of 3)

ID No.	Part Number	Qty	Name / Description
1		1	Feeder Assembly, Complete [customer purchased item]
2		1	Frame Assembly
3		1	Rod, Paper Level Indicator [P/O Item 15]
4		1	Collar Assembly, Paper Level Indicator [P/O Item 15]
5		1	Lever, Retard [P/O item 7]
6		1	Spring, Release [P/O item 7]
7	054K13055	1	Chute Assembly, Retard [includes 8~14]
8		1	Chute, Retard [P/O item 7]
9		1	Roller Assembly, Turn [P/O item 7]
10		2	Support, Bearing [P/O item 7]
11		2	Bearing, 8T [P/O item 7]
12	019K94613	1	Holder Assembly, Retard [P/O item 7]
13		1	Arm, Retard [P/O item 7]
14		1	Gear, Turn [left] [P/O item 7]
15	604K01890	1	Guide Assembly [right] [includes 3,4,16~18]
16		1	Guide [right]
17		1	Actuator, Paper Level
18		1	Spring, Paper Level
19	032K93788	1	Guide Assembly [left] [includes 20~28]
20		1	Guide [left]
21		4	Actuator, Size
22	110E98320	1	Switch, Paper Size
23		1	Sensor, Low Paper
24		1	Actuator, Low Paper Sensor
25		1	Spring
26		1	Harness, J138 [J138-J139]
27		1	Harness, J133 [J133-J13A, P135, J137]
28		2	Spring, Tray 1
29		1	Arm, Tray 1 [right]
30		1	Arm, Tray 1 [left]
31		1	Cap, Tray 1
32		1	Edge, Saddle
S	600K76430		Kit, Hardware (includes screws and E-rings)

PL 12.1 2000-Sheet Feeder (1 of 4)

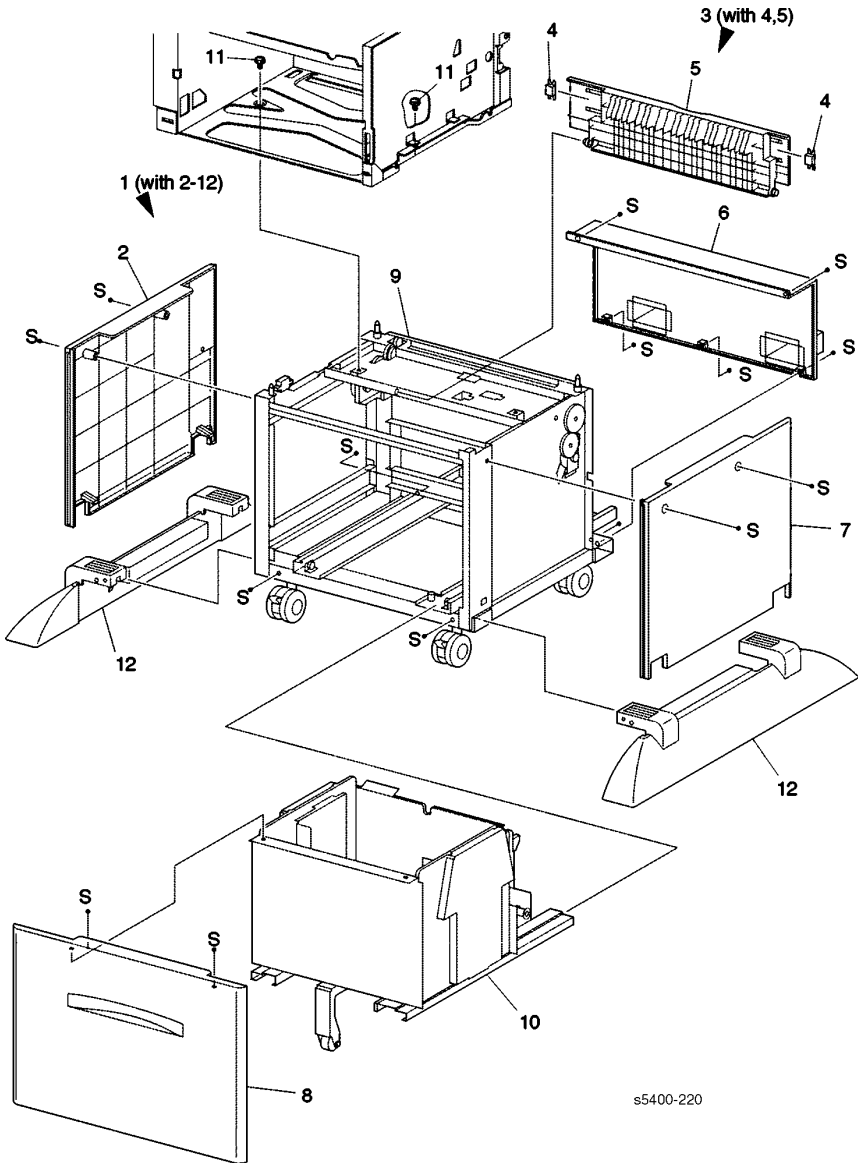
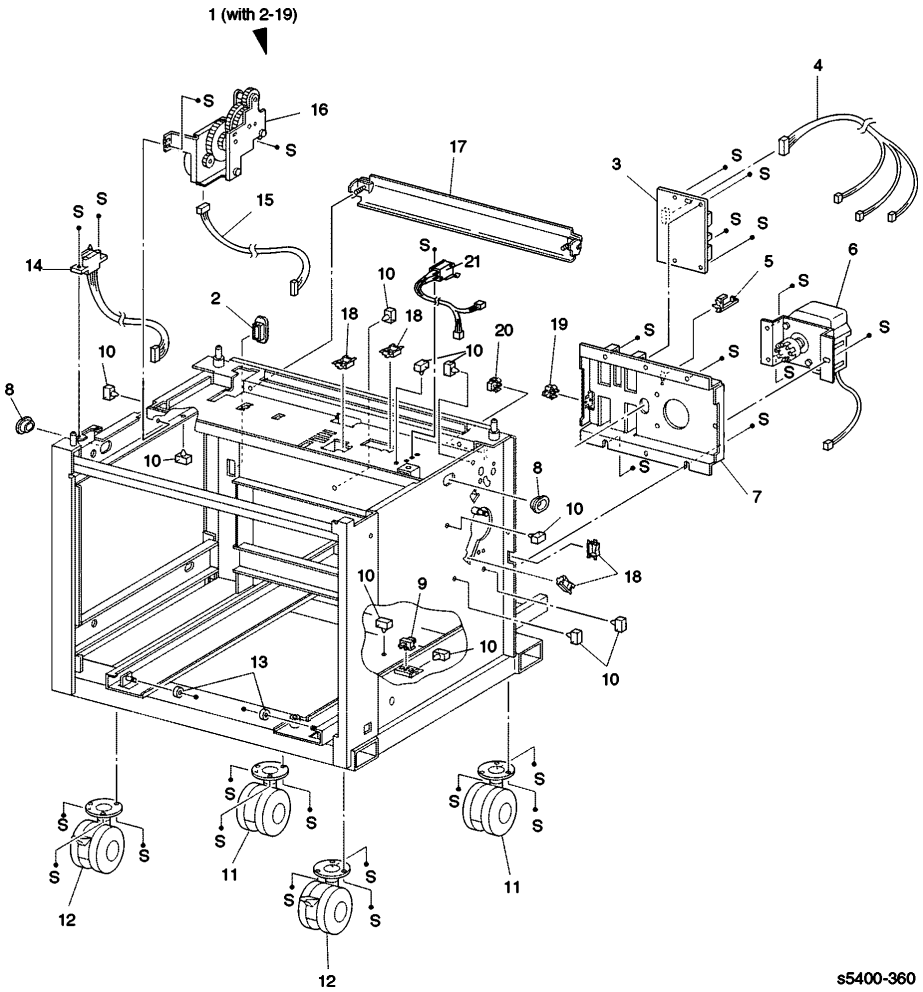


Figure 187 2000-Sheet Feeder (1 of 4)

Table 144 PL 12.1 2000-Sheet Feeder (1 of 4)

ID No.	Part Number	Qty	Name / Description
1	097S02714	1	2000-Sheet Feeder Complete
2	048K77441	1	Cover Assembly, Side [left]
3	048K77533	1	Cover Assembly, Rear [includes 4 & 5]
4		2	Holder, Magnetic
5		1	Cover/Door, Rear
6	802K05400	1	Cover, Rear Bottom
7	048K77451	1	Cover Assembly, Side [right]
8	048K69591	1	Cover, Front
9		1	Assembly, Frame & Drive [reference only]
10		1	Tray Assembly, 2000-Sheet Feeder
11		2	Screw
12		2	Foot
S	600K76430		Kit, Hardware (includes screws and E-rings)

PL 12.2 2000-Sheet Feeder (2 of 4)



s5400-360

Figure 188 2000-Sheet Feeder (2 of 4)

Table 145 PL 12.2 2000-Sheet Feeder (2 of 4)

ID No.	Part Number	Qty	Name / Description
1		1	Assembly, Frame & Drive [includes 2~20]
2		1	Bushing
3	160K74350	1	Board, 2000-Sheet Feeder
4	162K47560	1	Harness, 2000-Sheet Feeder SW [J604-J612, J613, J614]
5		1	Clamp
6	127K24971	1	Motor Assembly, Tray Lift
7		1	Bracket, 2000-Sheet Feeder Board
8		2	Guide, Tray
9	110E93440	1	Sensor, A4 Paper
10		9	Clamp
11	017E91980	2	Caster
12	017E91970	2	Caster, Locking
13	600K78420	1	Kit, Roller [2 pieces]
14	162K43610	1	Harness, 2000-Sheet Feeder-1 [J131, J601]
15	162K43590	1	Harness, 2000-Sheet Feeder Tray Feed Motor [J607, J615]
16	007K86830	1	Drive Assembly, 2000-Sheet Feeder
17		1	Assembly, Chute Feed Out
18		2	Edge, Saddle
19	110E93440	1	Switch, Tray Interlock
20	110E93440	1	Switch, Rear Cover Interlock
21	110K10600	1	Switch, Limit
S	600K76430		Kit, Hardware (includes screws and E-rings)

PL 12.3 2000-Sheet Feeder (3 of 4)

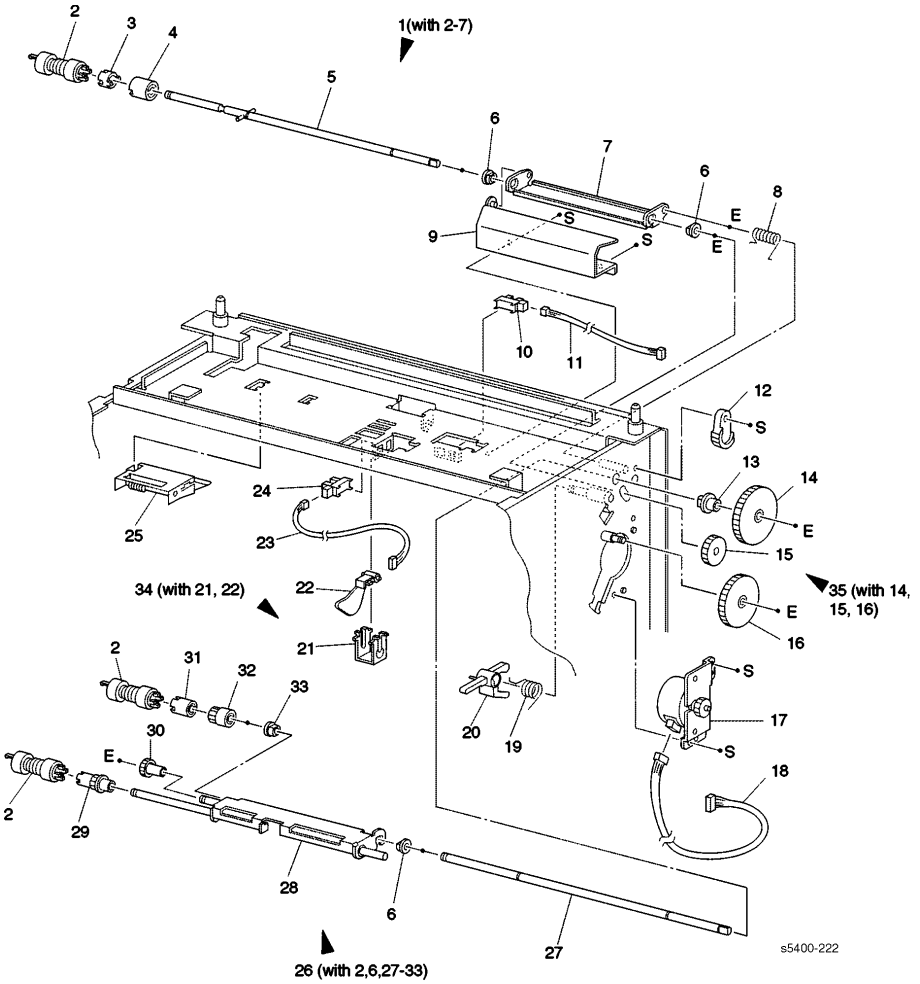


Figure 189 2000-Sheet Feeder (3 of 4)

Table 146 PL 12.3 2000-Sheet Feeder (3 of 4)

ID No.	Part Number	Qty	Name / Description
1	050K38810	1	Retard Assembly, 2000-Sheet Feeder [includes 2~7]
2	600K78460	1	Feed Roller Kit, [3 pieces]
3		1	Spacer [P/O item 1]
4		1	Clutch Assembly, Friction [P/O item 1]
5		1	Shaft Assembly, Retard [P/O item 1]
6		3	Bearing, S6 [P/O item 1]
7		1	Support, Retard [P/O item 1]
8	809E20551	1	Spring, Retard
9		1	Support Assembly, Retard
10	130E82740	1	Sensor, Paper Height
11	162K47550	1	Harness, 2000-Sheet Feeder FRDY [J603-J611]
12		1	Gear, Stopper
13		1	Bearing
14		1	Gear, 50T [P/O item 35]
15		1	Gear, 22T [P/O item 35]
16		1	Gear, 47T [P/O item 35]
17	007K86890	1	Motor Assembly, Feed
18	162K47530	1	Harness, 2000-Sheet Feeder Feed Motor [J606-J609]
19	600K78440		Kit, Link Stopper / Spring
20		1	Stopper, Link [P/O item 19]
21		1	Support, Actuator [P/O item 34]
22		1	Actuator [P/O item 34]
23	162K47540	1	Harness, 2000-Sheet Feeder No Paper Sensor [J602-J610]
24	130E82740	1	Sensor, No Paper
25	054K08820	1	Chute Assembly, Front
26	050K36761	1	Feed Roller Assembly, [includes 2, 6 & 27~33]
27		1	Shaft, 2000-Sheet Feeder
28		1	Support Assembly, Nudger
29		1	Gear, 25T
30		1	Gear, 31T
31		1	Clutch Assembly, One-Way
32		1	Gear, 25T Clutch
33		1	Bearing
34	600K78450		Kit, No Paper Actuator [includes 21 & 22]
35	604K02070		Kit, 2000-Sheet Feeder Gear [includes 14~16]
S	600K76430		Kit, Hardware (includes screws and E-rings)

PL 12.4 2000-Sheet Feeder (4 of 4)

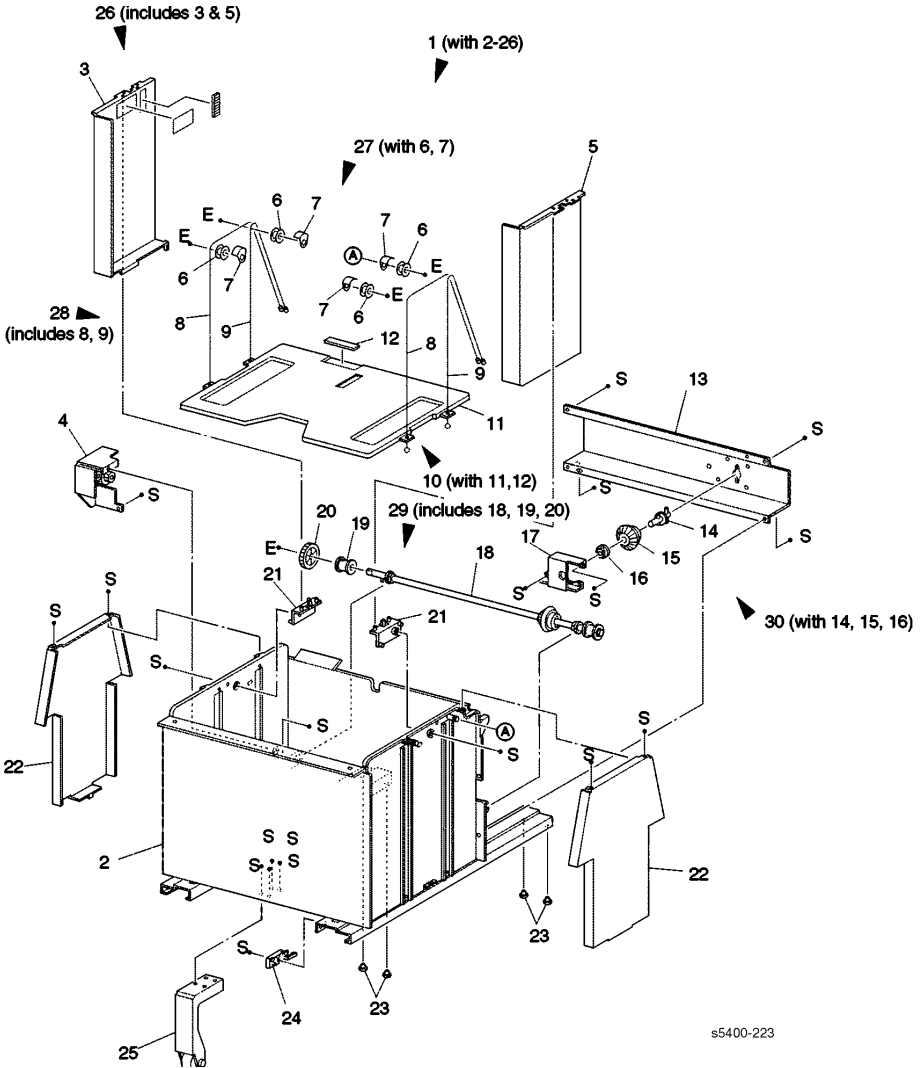


Figure 190 2000-Sheet Feeder (4 of 4)

Table 147 PL 12.4 2000-Sheet Feeder (4 of 4)

ID No.	Part Number	Qty	Name / Description
1		1	Tray Assembly, 2000-Sheet Feeder [includes 2~25]
2		1	Housing Assembly, 2000-Sheet Feeder
3		1	Guide, Side [left] [P/O item 26]
4	019K94630	1	Brake Assembly
5		1	Guide, Side [right] [P/O item 26]
6		4	Pulley [P/O item 27]
7		4	Guide, Wire [P/O item 27]
8		2	Wire 2 [P/O item 28]
9		2	Wire 1 [P/O item 28]
10		1	Plate Assembly, Bottom [includes 11 & 12]
11		1	Plate, Bottom
12	019E19780	1	Pad, Bottom
13		1	Cover Assembly, Shaft
14		1	Shaft Assembly, Drive [P/O item 30]
15	007E55100	1	Gear, Bevel [P/O item 30]
16		1	Bearing [P/O item 30]
17		1	Bracket, Gear
18		1	Shaft Assembly, Elevator [P/O item 29]
19		1	Pulley, Cable [P/O item 29]
20		1	Gear, 33T [P/O item 29]
21	003E48202	2	Latch, Side Guide
22		2	Cover, Wire
23	600K78500	1	Kit, Spacer [4 pieces]
24	003E23672	1	Latch, Tray
25	017K92370	1	Caster Assembly, Tray
26	600K78470		Kit, 2000-Sheet Feeder Tray Side Guide [includes 3 & 5]
27	600K78480		Kit, Elevator Wire Guide [includes 6 & 7]
28	600K78490		Kit, Elevator Wire [includes 8 & 9]
29	600K78520		Kit, 2000-Sheet Feeder Elevator Shaft [includes 18~20]
30	600K78510		Kit, Drive Gear [includes 14~16]
S	600K76430		Kit, Hardware (includes screws and E-rings)

PL 13.1 Duplex Assembly

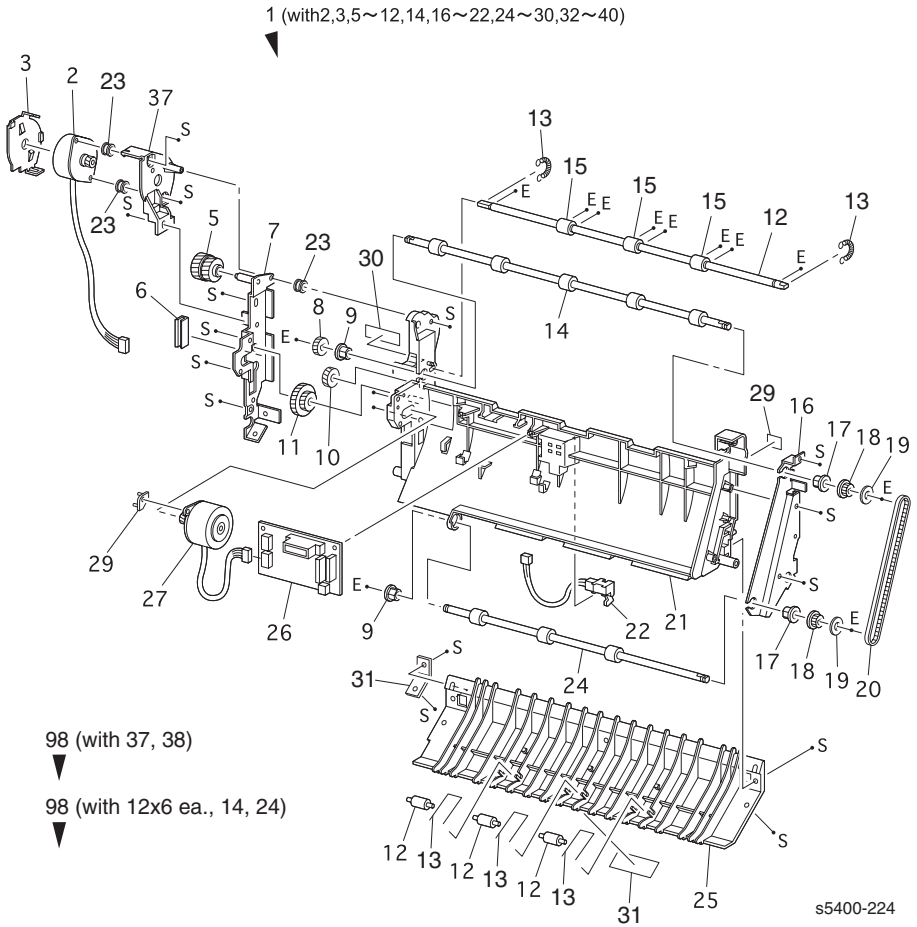


Figure 191 Duplex Assembly

Table 148 PL 13.1 Duplex

ID No.	Part Number	Qty	Name / Description
4, 13, 15, 23, 31			ID Numbers not used
1	097S02713	1	Duplex Assembly (with 2, 3, 5-12, 14, 16-22, 24-30, 32-40)
2		1	Motor Assembly, Exit
3		1	Cover, Duplex Motor
5		1	Gear, Z18/37
6		1	Clamp
7		1	Bracket Assembly, Duplex Left
8		1	Gear, Z15
9		2	Bearing, Duplex
10		1	Gear, Z16
11		1	Gear, Z45/17
12		3	Roller, Duplex, Pinch
14		1	Roller Assembly, Upper Duplex [P/O item 28]
16		1	Bracket, Duplex, Right
17		2	Bearing, Exit
18		2	Pulley, 16T Duplex
19		2	Collar
20	023E15680	1	Belt 160 S2M
21		1	Frame, Duplex
22	130K59671	1	Sensor Assembly, Duplex
24			Roller Assembly [lower] [P/O item 28]
25		1	Holder, Duplex Pinch
26		1	Board, Duplex
27		1	Motor Assembly, Duplex
28		3	Spring, Duplex Pinch Lower
29		1	Spacer, Motor
30		1	Damper, Motor Case
32		2	Spring, Upper Pinch
33		3	Roller, Duplex Pinch Upper
34		1	Shaft, Duplex Pinch
35		1	Label, Handle Left
36		1	Label, Handle Right
37		1	Case, Duplex Motor
38		2	Damper, Exit Motor
39		1	Plate, Reinforcement
40		1	Label, SP Duplex
98		1	Kit, Duplex Motor Case Assembly (with 37,38)
99	600K72271	1	Kit, Roller (with item 12x3 pcs), 14, 24
S	600K76430		Kit, Hardware (includes screws and E-rings)

Xerox Supplies and Accessories

The following are the printer's Customer-Replaceable Consumables (CRCs):

1. Laser Print Cartridge (accessed through the top cover)
2. Maintenance Kit (Fuser and Bias Transfer Roll)

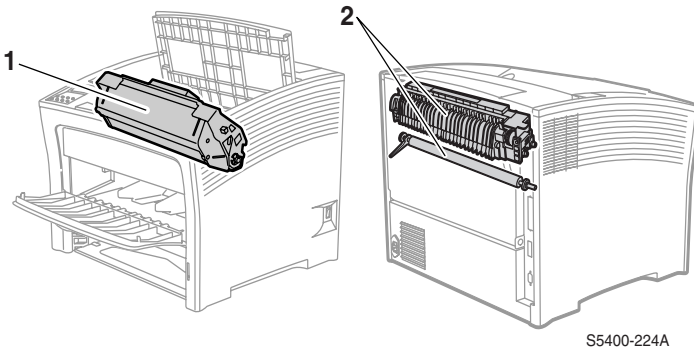


Figure 192 CRC Locations

Your printer displays messages on the control panel when user intervention is required. Attention messages do not result in printer shutdown, but warn of an action that should be taken to avert a shutdown.

An empty Laser Print Cartridge or expended maintenance item may reduce print quality and/or prevent printing.

- Keep consumables and maintenance items in supply.
- Add or replace when prompted by the printer.

To order supplies and accessories, contact your local dealer, or visit the Xerox web site: www.xerox.com/officeprinting

Table 149 Customer-Replaceable Consumables

Item	Average Life	Part Number
Laser Print Cartridge	20,000 prints*	113R00495
Maintenance Kit	200,000 prints	109R00521 for 110 V (60 Hz)
Contains: a Fuser Cartridge, Bias Transfer Roll, cleaning cloth, and instructions.		109R00522 for 220 V (50 Hz)

* Average life of a Laser Print Cartridge is based on page coverage of 5 percent using Letter- or A4-size paper. The printer displays a message on the control panel when the toner is low and when you need to replace the Laser Print Cartridge.

Table 150 Xerox Professional Printing Paper

Item	Size	Description	Part Number
Standard Papers			
Xerox 4024 DP	Letter (U. S.) 8.5 x 11 in.	20 lbs. (75 g/m ²)	3R721
Xerox Business Multi-purpose 4200	Letter (U. S.) 8.5 x 11 in.	20 lbs. (75 g/m ²)	3R2047
Xerox 4024 DP 3-hole punch	Letter (U. S.) 8.5 x 11 in.	20 lbs. (75 g/m ²)	3R2193
Xerox 4024 DP	Legal 8.5 x 14 in.	20 lbs. (75 g/m ²)	3R727
Xerox 4024 DP	Ledger 11 x 17 in.	20 lbs. (75 g/m ²)	3R729
Xerox Premier Paper	A4 (Metric Letter) 210 x 297 mm	80 g/m ²	3R91805
Xerox Business Paper	A4 (Metric Letter) 210 x 297 mm	80 g/m ²	3R91820
Xerox Cover Stock	Letter (U. S.) 8.5 x 11 in.	65 lbs. (243 g/m ²)	3R3041
Alternative Paper			
Xerox Image Series Smooth	Letter (U. S.) 8.5 x 11 in.	20 lbs. (75 g/m ²)	3R54
Recycled Paper			
Xerox Planet Plus	A4 (Metric Letter) 210 x 297 mm	80 g/m ²	3R90652

Table 151 Xerox Transparency Film

Item	Size	Part Number
Xerox Clear	Letter (U. S.) 8.5 x 11 in.	3R3117

Table 151 Xerox Transparency Film (cont'd.)

Item	Size	Part Number
Xerox Paperback, Clear	Letter (U. S.) 8.5 x 11 in.	3R3028
Xerox Type C, Plain	A4 (Metric Letter) 210 x 297 mm	3R96002

Table 152 Xerox Labels

Size	Description	Part Number
A4 (Metric Letter) 210 x 297 mm	24 labels per sheet	3R96178
Letter (U.S.) 8.5 x 11 in.	30 labels per sheet	3R4469

Table 153 Options

Option and Features	Part Number
Hard Disk Drive <ul style="list-style-type: none"> ■ 2+ Gbyte hard drive ■ Store resources, fonts, forms, and macros; enables uninterrupted large-job collation 	097S02965
A3-/Ledger-/Legal-size Cassette <ul style="list-style-type: none"> ■ Additional/Replacement - Tray only 	109R00523
A4-/Letter-size Cassette <ul style="list-style-type: none"> ■ Additional/Replacement - Tray only 	109R00524
500-Sheet Feeder with A3-/Ledger-size tray <ul style="list-style-type: none"> ■ Additional media tray and feeder ■ A3-/Ledger-size tray is interchangeable with Tray 1 or any 500-Sheet Feeder 	097S02711
500-Sheet Feeder with A4-/Letter-size tray <ul style="list-style-type: none"> ■ Additional media tray and feeder ■ A4-/Letter-size tray is interchangeable with Tray 1 or any 500-Sheet Feeder 	097S02712
2,000-Sheet Feeder <ul style="list-style-type: none"> ■ Enables loading of up to 2,000 sheets of paper of A4- or Letter-size ■ Increased paper-printing capacity ■ Increased printing versatility and convenience 	097S02714
1,000-Sheet Stacker Bin <ul style="list-style-type: none"> ■ Enables stacking of up to 1,000 sheets of paper ■ Supplements the standard output bin 	097S02715
Duplex Module <ul style="list-style-type: none"> ■ Enables <i>automatic</i> duplex capability 	097S02713

Table 153 Options (cont'd.)

Option and Features	Part Number
Memory (DIMMs)	
■ Increases the font capability and enhances the speed of data transfer and complex page processing	
■ Memory kits available in three configurations, packaged in single units each:	
■ 16 Mbytes	097S02356
■ 32 Mbytes	097S02357
■ 64 Mbytes	097S02358
Flash Memory (DIMMS)	097S02360
■ Provides 8 Mbytes of memory for storage of downloaded fonts and overlays	

Blank Page

Plug/Jack Connector Locations

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Plug/Jack (P/J) Locations for the Engine

Use the table and maps in this section to locate specific plug/jack (P/J) connectors within the printer.

To find the location of a P/J within the printer;

1. Locate the P/J connector number in the first column of the table.
2. Locate the corresponding coordinates in the second column, such as I7 or J7.
3. Go to the map.
4. Cross-reference the letter and number of the P/J coordinates with the letters and numbers on the map.
5. The P/J connector is located within the area where the coordinates cross.

Contents

Plug/Jack (P/J) Connector Location Table 1

Plug/Jack (P/J) Connector Location Maps

Table 154 Plug/Jack Connector Locations - Engine

P/J	Map & Number	Connect to...	Other and connected to...
11	H-18	Print Engine Controller	P/J 112 Laser Assembly P/J 114 Laser Assembly
12	I-17	Print Engine Controller	P/J 121 MBF Assembly P/J 128 - P/J 127 Tray 1 Low Paper Sensor
13	I-18	Printer Engine Controller	P/J 131 Second Feeder
14	I-18	Print Engine Controller	P/J 141 Toner Sensor
15	H-19	Empty	Not Used
16	I-19	Print Engine Controller	P/J 161 LVPS
17	I-18	Print Engine Controller	P/J 171 Fuser PWB
18	H-19	Print Engine Controller	P/J 183 Reg Sensor P/J 181 HVPS
19	I-19	Print Engine Controller	P/J 501 Duplex Interface PWB
20	H-20	Print Engine Controller	P/J 202 MBF Home Switch P/J 201 Paper Size Switch
21	H-18	Print Engine Controller	P/J211 CRUM PWB
22	I-18	Print Engine Controller	P/J 222 Reg Clutch
31	H-24	System Controller PWB	Connects Print Engine Controller PWB to System Controller PWB.
112	G-23	Laser Assembly	P/J 11 Print Engine Controller
113	D-23	Laser Assembly	P/J 115 LD Laser Assembly
114	H-22	Laser Assembly	P/J 11 Print Engine Controller
115	G-23	Laser Assembly	P/J 113 SOS Laser Assembly

Table 154 Plug/Jack Connector Locations - Engine (cont'd.)

P/J	Map & Number	Connect to...	Other and connected to...
121	C-8	MBF Assembly	P/J 12 Print Engine Controller P/J 122 MBF Solenoid P/J 123 Tray 1 Solenoid P/J 124 Turn Roll Clutch P/J 125 MBF No Paper Sensor P/J 126 Tray 1 No Paper Sensor
122	D-9	MBF Solenoid	P/J 121 MBF Assembly
123	D-9	Tray 1 Solenoid	P/J 121 MBF Assembly
124	D-9	Turn Roll Clutch	P/J 121 MBF Assembly
125	E-9	MBF No Paper Sensor	P/J 121 MBF Assembly
126	F-9	Tray 1 No Paper Sensor	P/J 121 MBF Assembly
127	G-26	Tray 1 Low Paper Sensor	P/J 128
128	I-25	In Line Connector	P/J 127 Tray 1 Low paper Sensor P/J 12 Print Engine Controller
131	B-10	Second Feeder	P/J 13 Print Engine Controller
141	C-7	Toner Sensor	P/J 14 Print Engine Controller
161	E-41	LVPS	P/J 16 Print Engine Controller P/J 506 Duplex Interface PWB
162	F-42	LVPS	P/J 621 Rear Cover Interlock SW P/J 622 Rear Cover Interlock SW P/J 623 Top Cover Interlock SW
163	F-42	LVPS	P/J 311 System Controller
164	F-42	LVPS	Main Motor Control PWB
165	E-41	LVPS	Fuser Fan
166	E-41	LVPS	LVPS Fan
167	D-41	LVPS	Power Cord Connector
168	F-41	LVPS	P/J 169 5v Power Supply P/J 312 System Controller
169	H-26	5 V Power Supply	P/J 312 System Controller P/J 168 LVPS
171	C-41	Fuser PWB	P/J 17 Print Engine Controller
172	C-41	Fuser PWB	P/J 176 Rear Cover Interlock SW
174	J-7	Fuser Assembly	P/J 17 Print Engine Controller P/J 177 Rear Cover Interlock P/J 182 HVPS
177	J-8	Rear Cover Interlock SW	P/J 174 Fuser Assembly
178	J-8	Rear Cover Interlock SW	P/J 172 Fuser PWB
181	E-34	HVPS	P/J 18 Print Engine Controller
182	D-33	HVPS	P/J 174 Fuser Assembly
183	G-8	Reg Sensor	P/J 18 Print Engine Controller
185	E-33	HVPS	Paper Transport BTR
186	C-33	HVPS	Print Cartridge Charge Roll

Table 154 Plug/Jack Connector Locations - Engine (cont'd.)

P/J	Map & Number	Connect to...	Other and connected to...
187	C-33	HVPS	Print Cartridge Dev Bias
188	E-33	HVPS	Paper Transport Detack Saw
201	H-26	Size Switch	P/J 20 Print Engine Controller
202	H-26	MBF Home Sw	P/J 20 Print Engine Controller
212	C-7	CRUM PWB	P/J 21 Print Engine Controller
222	E-7	Reg Clutch	P/J 22 Print Engine Controller
311	F-27	System Controller	P/J 163 LVPS
312	H-26	System Controller	P/J 169 5V Power Supply P/J 168 LVPS
411	G-24	System Controller	P/J 421 Control Panel
421	B-6	Control Panel	P/J 411 System Controller
501	I-34	Duplex Interface PWB	P/J 19 Print Engine Controller
502	I-34	Duplex Interface PWB	P/J 527-P/J 507 Full Stack Sensor
503	I-34	Duplex Interface PWB	Duplex PWB
504	I-34	Duplex Interface PWB	P/J 526
505	I-34	Duplex Interface PWB	P/J 528-P/J 519 Exit Gate Solenoid
506	J-34	Duplex Interface PWB	LVPS
507	G-5	Full Stack Sensor	P/J 527
519	J-6	Exit Gate Solenoid	P/J 528
526	D-5	Stacker	Duplex I/F PWB.
527	E-26	Full Stack Sensor	P/J 507 Full Stack Sensor P/J 502 Duplex Interface PWB
528	E-26	Exit Gate Solenoid	P/J 519 Exit Gate Solenoid P/J 505 Duplex Interface PWB
621	J-8	Rear Cover Interlock SW	P/J 162 LVPS
622	J-8	Rear Cover Interlock SW	P/J 162 LVPS
623	H-7	Top Cover Interlock SW	P/J 162 LVPS

Plug/Jack Location Map 1 - Engine

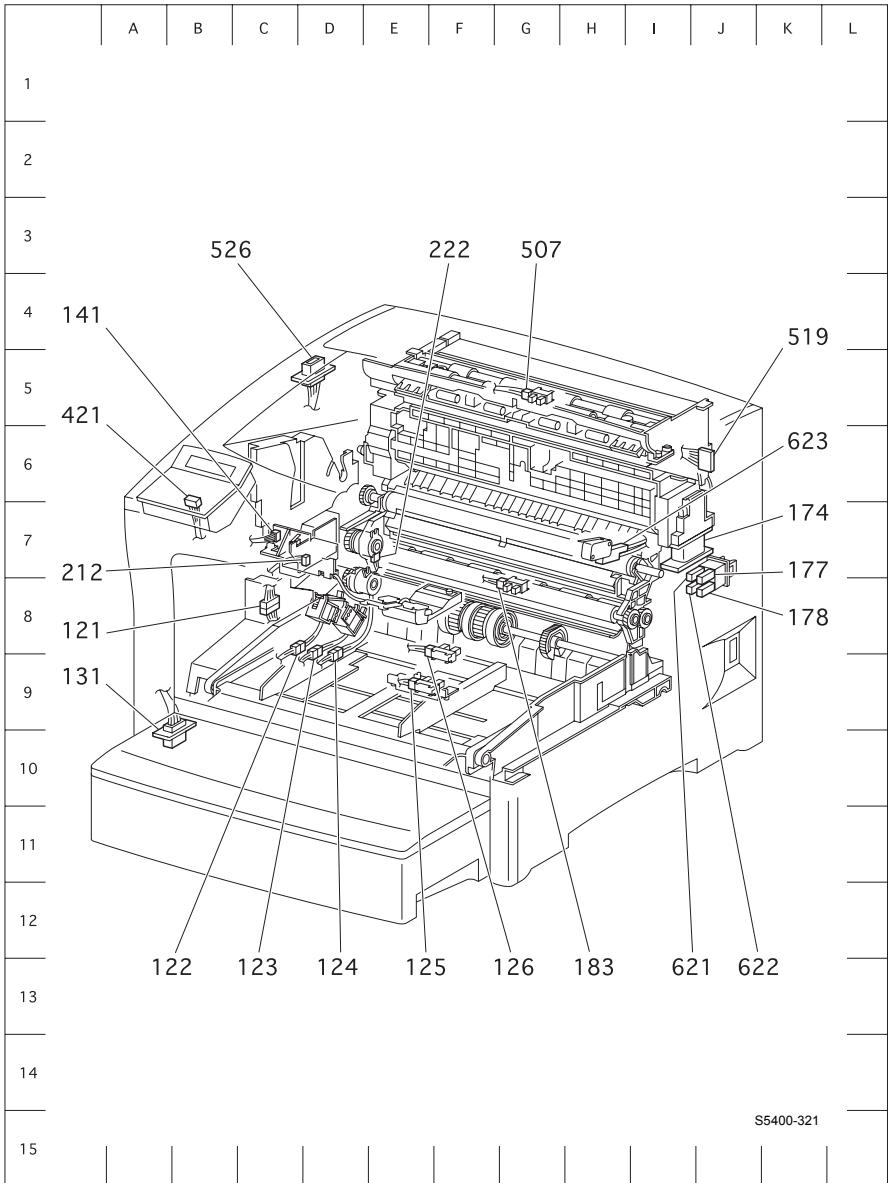


Figure 193 P/J Location Map 1 - Engine

Plug/Jack Location Map 2 - Engine

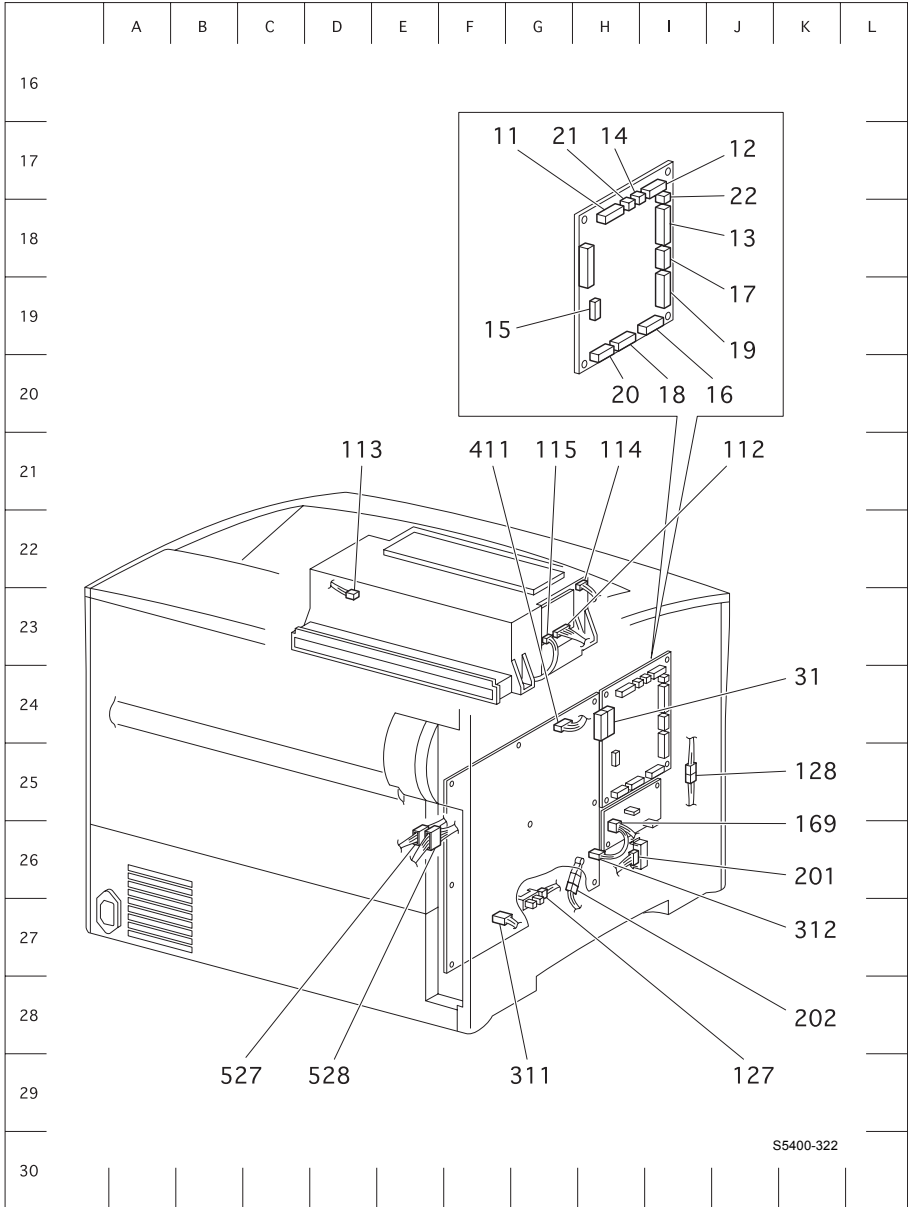


Figure 194 P/J Location Map 2 - Engine

Plug/Jack Location Map 3 - Engine

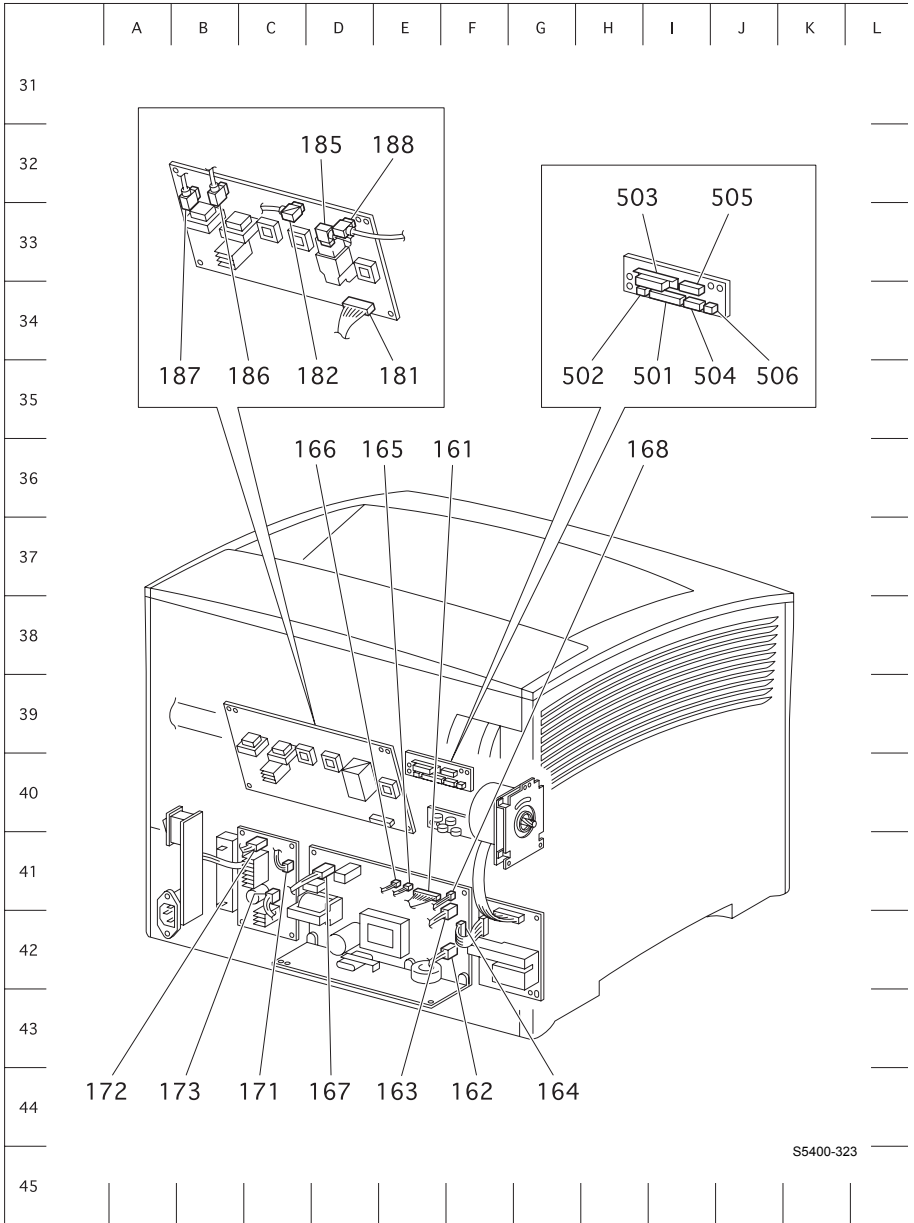
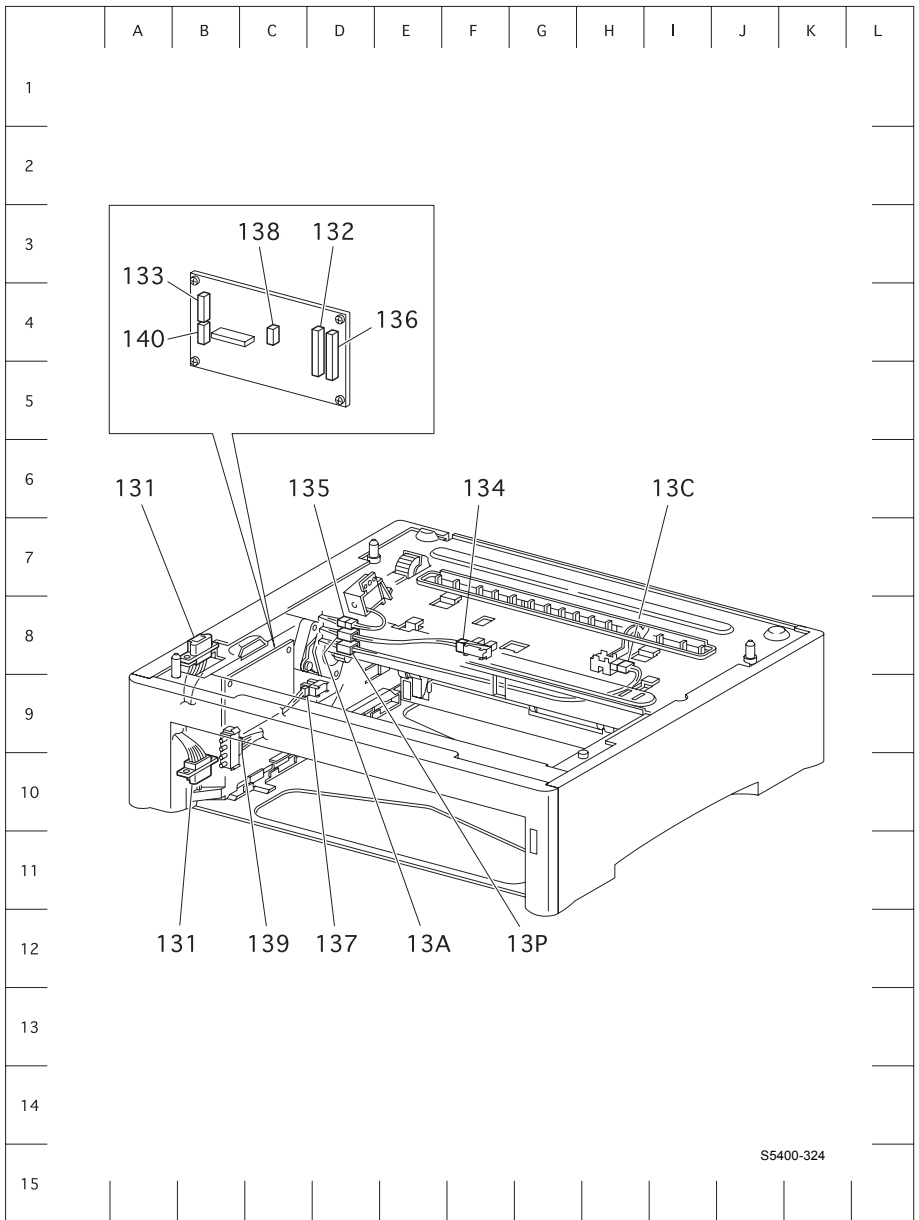


Figure 195 P/J Location Map 3 - Engine

Plug/Jack Location Map 4 - 500-Sheet Feeder

Table 155Map 4 - 500-Sheet Feeder

P/J	Map & Number	Connect to...	Other and connected...
13A	D8	In Line Connector	P/J 134 No Paper Sensor P/J 133 Feeder PWB
13C	H-8	Pre Reg Sensor	P/J 13P - P/J 133 Feeder PWB
13P	D-8	In Line Connector	P/J 13C Pre Reg Sensor P/J 133 Feeder PWB
131	B8	Printer or Second Feeder	P/J 136 Feeder PWB
131	B10	Third Feeder	P/J 132 Feeder PWB
132	D4	Feeder PWB	P/J 131 Third Feeder
133	B4	Feeder PWB	P/J 135 Feed Solenoid P/J 13A - P/J 134 No Paper Sensor P/J 137 Low Paper Sensor P/J 13P - P/J 13C Pre Reg Sensor
134	F8	No Paper Sensor	P/J 13A - P/J 133 Feeder PWB
135	D8	Feed Solenoid	P/J 133 Feeder PWB
136	D5	Feeder PWB	P/J 131 Printer or Second Feeder
137	C9	Low Paper Sensor	P/J 133 Feeder PWB
138	C4	Feeder PWB	P/J 139 Size Switch
139	B10	Size Switch	P/J 138 Feeder PWB
140	B-4	Feeder PWB	Motor



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Figure 196 P/J Location Map 4 - 500-Sheet Feeder

Plug/Jack Location Map 5 - Duplex Assembly

Table 156 Plug/Jack Connector Locations

P/J	Map & Number	Connect to...	Other and Connected to...
503	D7	Connects the Duplex Assembly (Duplex PWB) to the Printer.	
508	C8	Duplex PWB.	P/J 509 Duplex Drive Motor
509	C7	Duplex Drive Motor.	P/J 508 Duplex PWB
510	C7	Duplex PWB.	P/J 511 Exit Motor
511	B5	Exit Motor	P/J 510 Duplex PWB
512	E8	Duplex PWB.	P/J 513 Duplex Jam Sensor
513	F8	Duplex Jam Sensor.	P/J 512 Duplex PWB

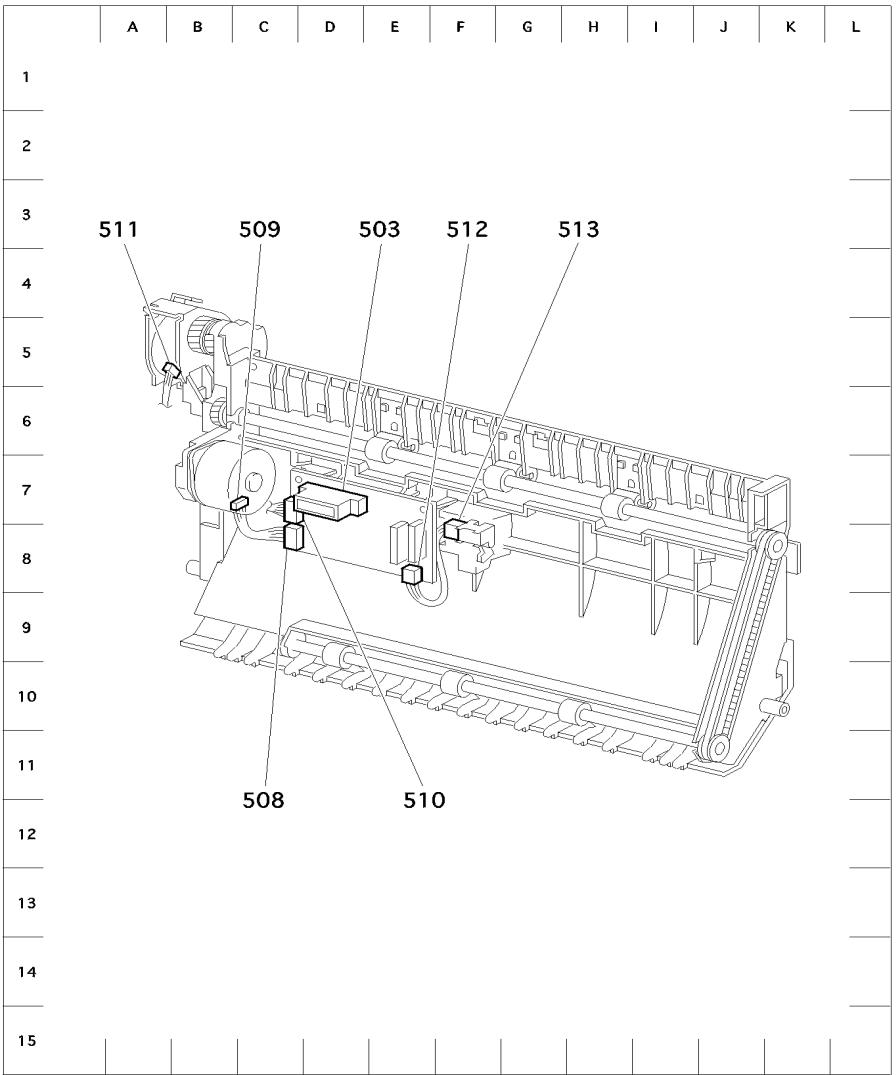


Figure 197 P/J Location Map 5 - Duplex Assembly

Plug/Jack Location - 1000-Sheet (High Capacity) Stacker

Table 157 Plug/Jack Connector Locations - 1000-Sheet (High Capacity) Stacker

P/J	Map & Number	Connect to...	Other and connected to...
514	E6	Feeder PWB	P/J 526 - P/J 504 Duplex Interface Pwb
517	F6	Stacker PWB	P/J 518 Stacker Motor
518	C6	Stacker Motor	P/J 517 Stacker PWB
519	J9	Exit Gate Solenoid.	P/J 528 - P/J 505 Duplex Interface PWB
520	E6	Stacker PWB	P/J 521 Stack Full Sensor P/J 523 Jam Sensor 1 P/J 524 Jam Sensor 2
521	D5	Stack Full Sensor	P/J 520 Stacker PWB
523	G7	Jam Sensor 1	P/J 520 Stacker PWB
524	E6	Feeder PWB	P/J 525 Rear Cover Interlock
525	D5	Rear Cover Interlock.	P/J 524 Stacker PWB
526	B8	Stacker Connector	P/J 514 - P/J 504 Duplex Interface PWB

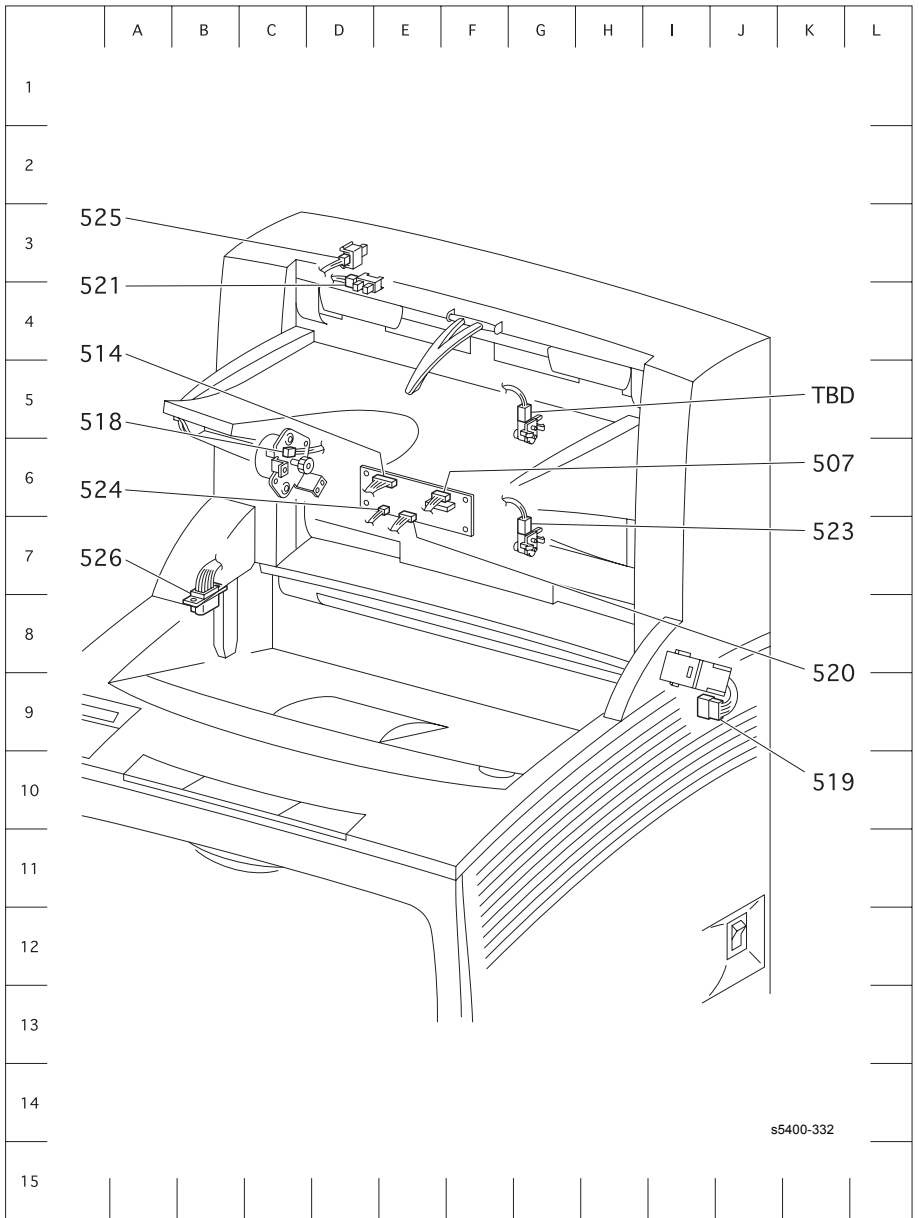


Figure 198 P/J Location Map 6 - 1000-Sheet High Capacity Stackers

Plug/Jack Location - 2000-Sheet Feeder

Table 158 Plug/Jack Connector Locations - 2000-Sheet Feeder

P/J	Map & Number	Connect to...	Other and connected to...
131	B7	Printer or second feeder	P/J601 HCF PWB
513A	G-8	Stack Height Sensor	P/J 603 HCF PWB
513B	F-8	No Paper Sensor	P/J 602 HCF PWB
601	I5	HCF PWB	P/J 131
602	J5	HCF PWB	P/J 513B No Paper Sensor
603	J5	HCF PWB	P/J P/J 513A Stack Height Sensor
604	J4	HCF PWB	P/J 614 Tray in Switch P/J 613 Rear Cover Interlock P/J 612 Paper Size Switch
605	I5	HCF PWB	
606	I4	HCF PWB	P/J 609 Feed Motor
607	J4	HCF PWB	P/J 608 Lift Motor
608	H9	Lift Motor	P/J 607 HCF PWB
609	H9	Feed Motor	P/J 606 HCF PWB
612	G10	Paper Size Switch	P/J 604 HCF PWB
613	H8	Rear Cover Interlock	P/J 604 HCF PWB
614	F9	Tray in Switch	P/J 614 HCF PWB
615	C8	Drive Motor	P/J 607 HCF PWB

Plug/Jack Location Map 7 - 2000-Sheet Feeder

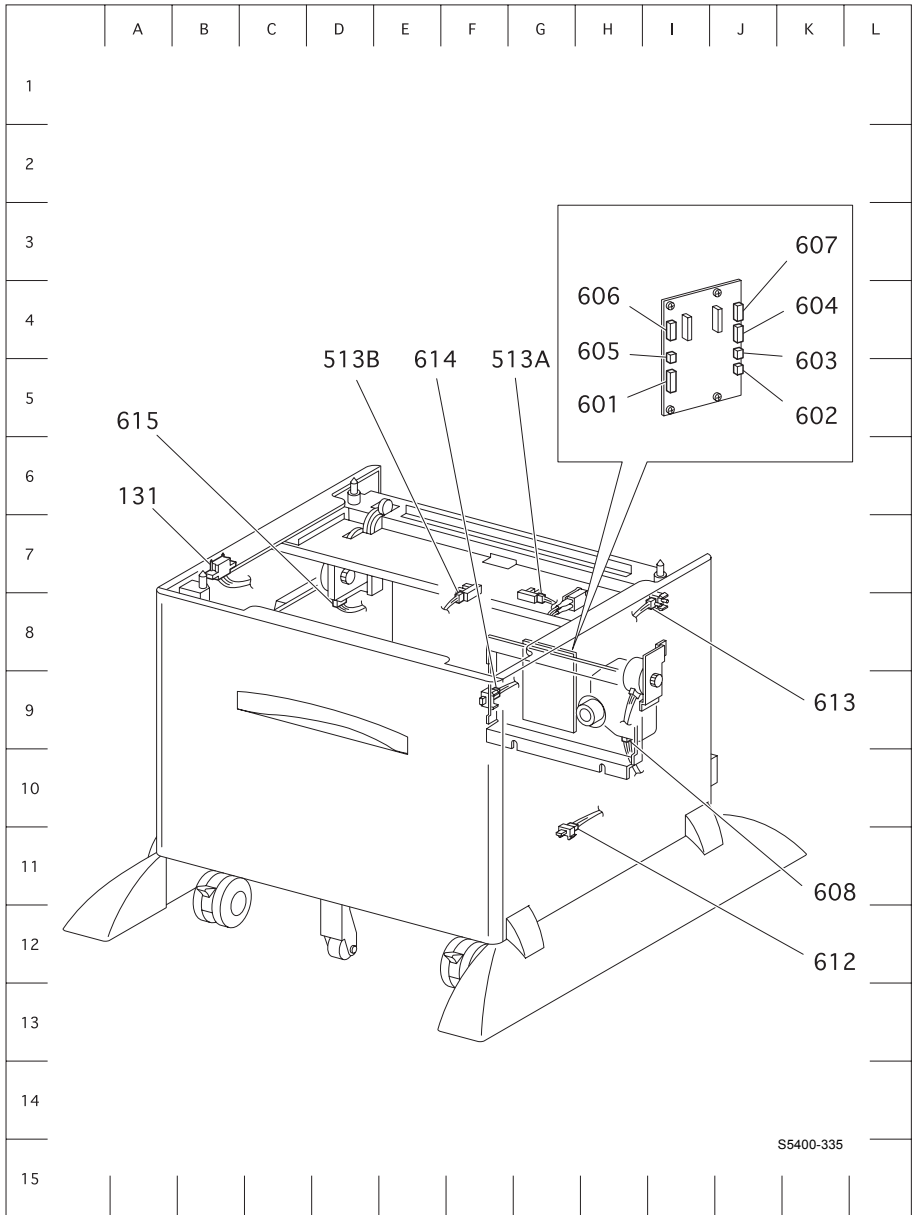


Figure 199 P/J Location Map 7 - 2000-Sheet Feeder

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Wiring Diagrams

Wiring Diagram Notations

This section of the manual contains a Master Wiring Diagram for the printer. The Master Wiring Diagram shows the interconnections of the major subsystems. More detailed wiring diagrams are contained in the CD Service Manual.

For more detailed information, refer to the On-Line CD version which contains complete wiring information.

The following circuit notations are used to describe components and signal paths throughout the Master Wiring Diagram.

Symbols	Description
	A plug
	A jack
	P/J Plug/Jack Connector
<u>5VDC</u>	5VDC supply circuit
<u>24VDC</u>	24VDC supply circuit
<u>/HEAT (TTL)</u>	"/" indicates that the signal is a negative logic signal and goes Low when it is ON. "TTL" indicates that the voltage level of the signal is TTL compatible. High: 4 to 5 VDC Low: 0 to 0.8 VDC
<u>/FAN FAST ON(L) xx VDC</u>	"ON(L)" indicates that the signal goes Low when it is ON. "Xx VDC" indicates the voltage when the signal is High.
SG FG RTN	Signal Ground Frame Ground Return * There is continuity between SG and RTN. Continuity between SG and FG depends on the circuit specifications.

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Organization

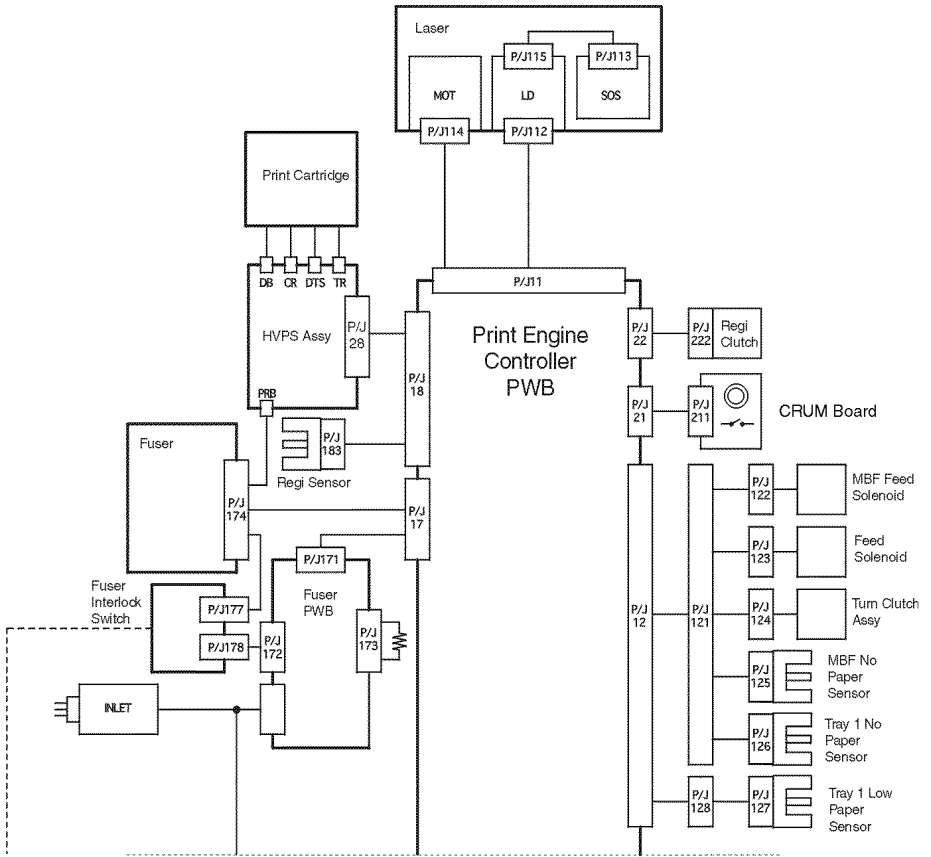
Base Engine

- Master Wiring Diagram - Figure 200 and Figure 201
- Wiring Diagrams and Signal Description between Components
 - Figure 202 Print Engine Controller PWB <=> LVPS <=> Interlock Switch and Fans (page 454)
 - Figure 203 Print Engine Controller PWB <=> Fuser Assembly, Fuser PWB (page 455)
 - Figure 204 Print Engine Controller PWB-Laser and CRUM PWB (page 456)
 - Figure 205 Print Engine Controller PWB, HVPS and Print Cartridge (page 457)
 - Figure 206 Print Engine Controller PWB <=> Registration Clutch and Registration Sensor (page 458)
 - Figure 207 Print Engine Controller PWB <=> Feed Solenoid, Turn Clutch, No-Paper Sensor (page 459)
 - Figure 208 Print Engine Controller PWB, Low Paper Sensor, MBF Home Switch, and Tray 1 Paper Size Switch (page 460)
 - Figure 209 Print Engine Controller PWB <=> Main Motor (page 461)
 - Figure 210 Print Engine Controller PWB <=> Toner Sensor (page 462)
 - Figure 211 Print Engine Controller PWB <=> Duplex Interface PWB <=> Full Stack Sensor (page 463)
 - Figure 212 Controller and Control Panel (page 464)

Options

- 500-Sheet Feeder
 - Figure 213 500-Sheet Feeder - Tray 2 Wiring Diagram and Signal Information Between Components (page 465)
 - Figure 214 500-Sheet Feeder - Tray 3 Wiring Diagram and Signal Information Between Components (page 466)
- Duplex Assembly
 - Figure 215 Duplex Assembly - Wiring Diagrams and Signal Information Between Components (page 467)
- 1000-Sheet (High Capacity Stacker)
 - Figure 216 Master Wiring Diagram, High Capacity Stacker (page 468)
- 2000-Sheet Feeder
 - Figure 217 2000-Sheet Feeder - Wiring Diagram and Signal Information Between Components (page 469)
 - Figure 218 2000-Sheet Feeder PWB <=> No Paper Sensor (page 470)
 - Figure 219 2000-Sheet Feeder PWB <=> Low Paper Sensor (page 470)
 - Figure 220 2000-Sheet Feeder PWB <=> Switches (page 471)

Master Connection and Wiring Diagram



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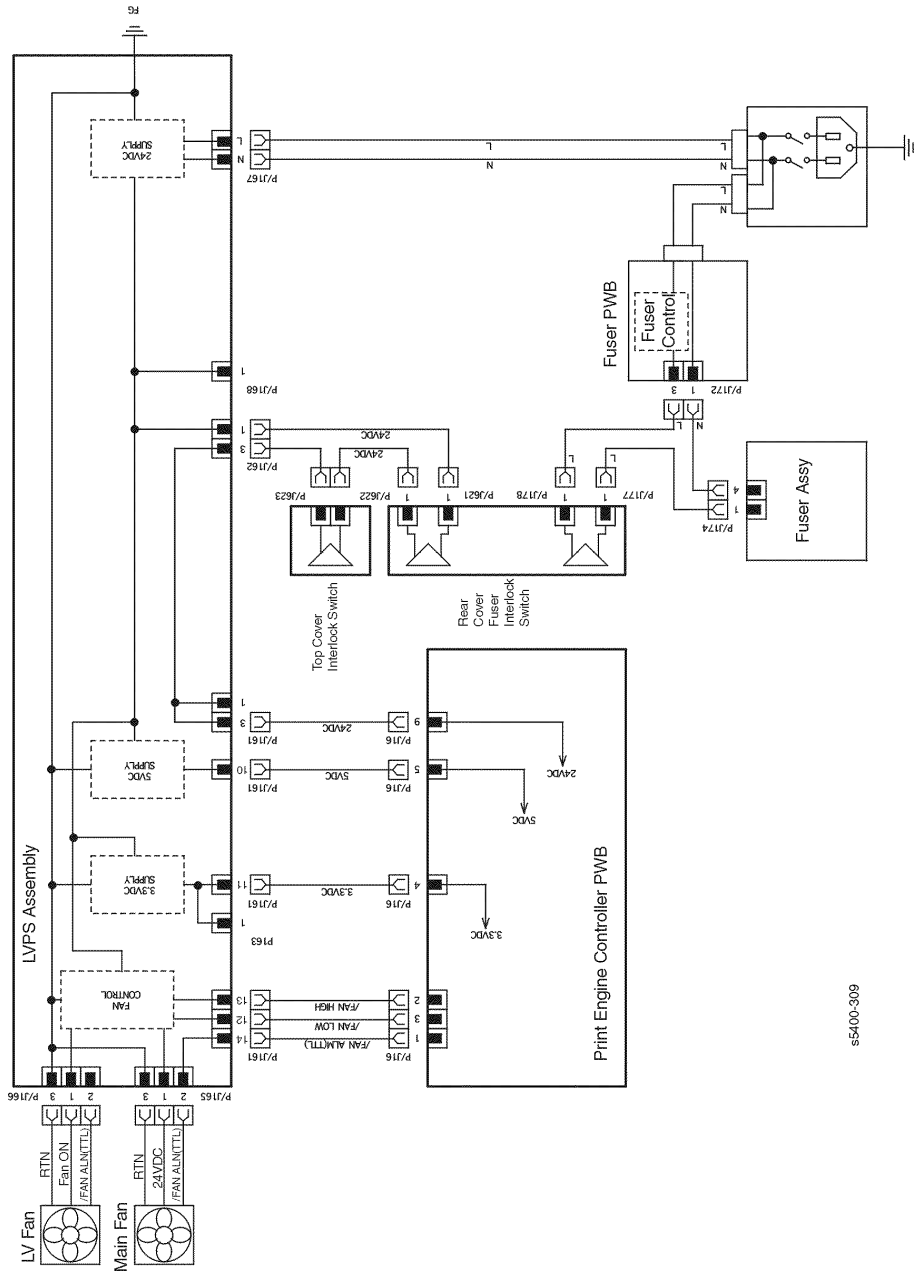
Figure 200 Master Wiring Diagram 1 of 2

Table 159 Legend:

CCW	Counter-Clockwise	NOP	No Paper
CL	Clutch	NUT	Neutral - associated with electrical power to the printer
CONN	Connector	HCS	Offset
CW	Clockwise	REGI	Registration
GFI	Ground Fault Indicator	SNR	Sensor
HVPS	High Voltage Power Supply	SOL	Solenoid
INTLK	Interlock	SOS	Start Of Scan - associated with the Laser Scanner timing
LVPS	Low Voltage Power Supply	SW	Switch
MBF	Multi-sheet Bypass Feeder	TA	Take Away
MOT	Motor		

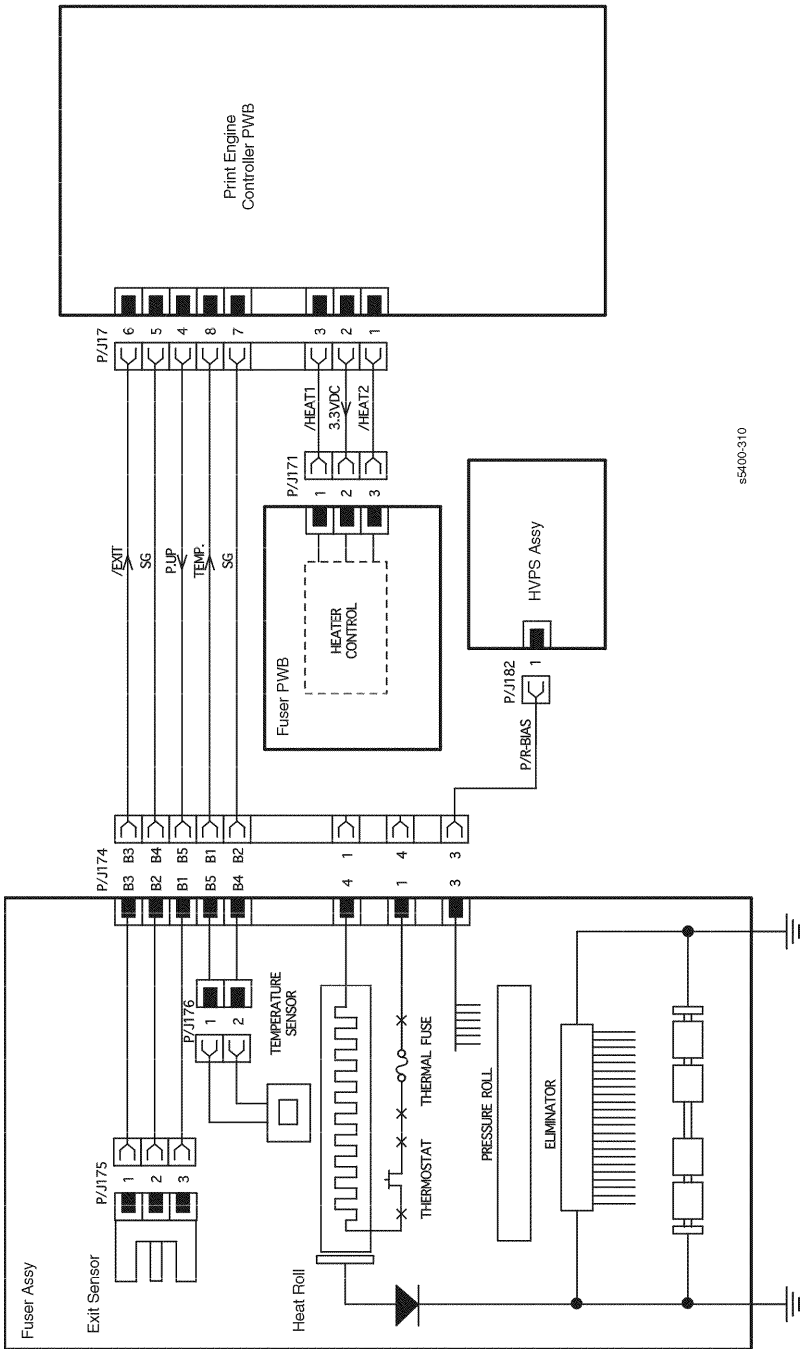
Note: *The Duplex Interface PWB and the components connected to it by means of P/J503, P/J504, and P/J505 are the components of the Duplex Assembly and HCS.*

Base Engine Wiring Diagrams



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Figure 202 Print Engine Controller PWB ↔ LVPS ↔ Interlock Switch and Fans



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Figure 203 Print Engine Controller PWB ↔ Fuser Assembly, Fuser PWB

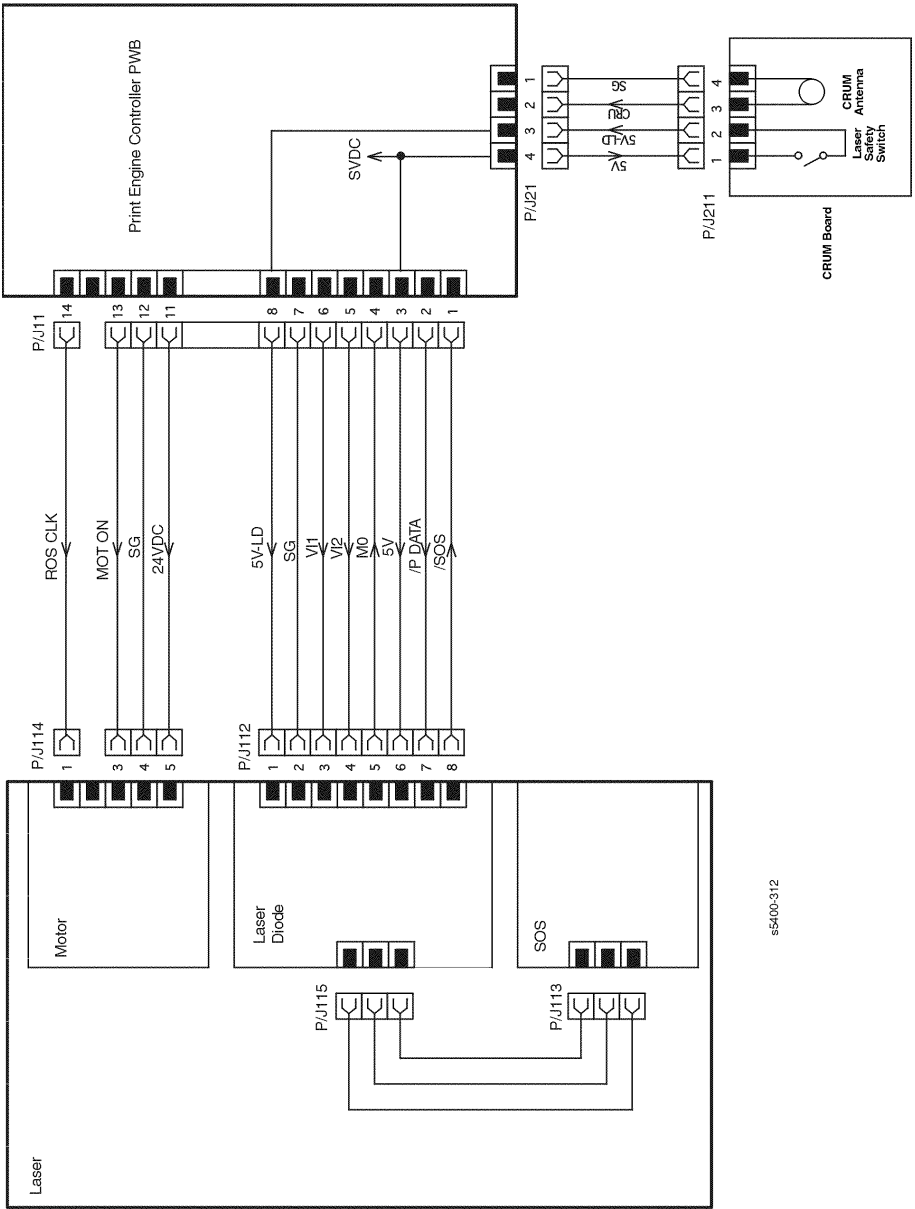
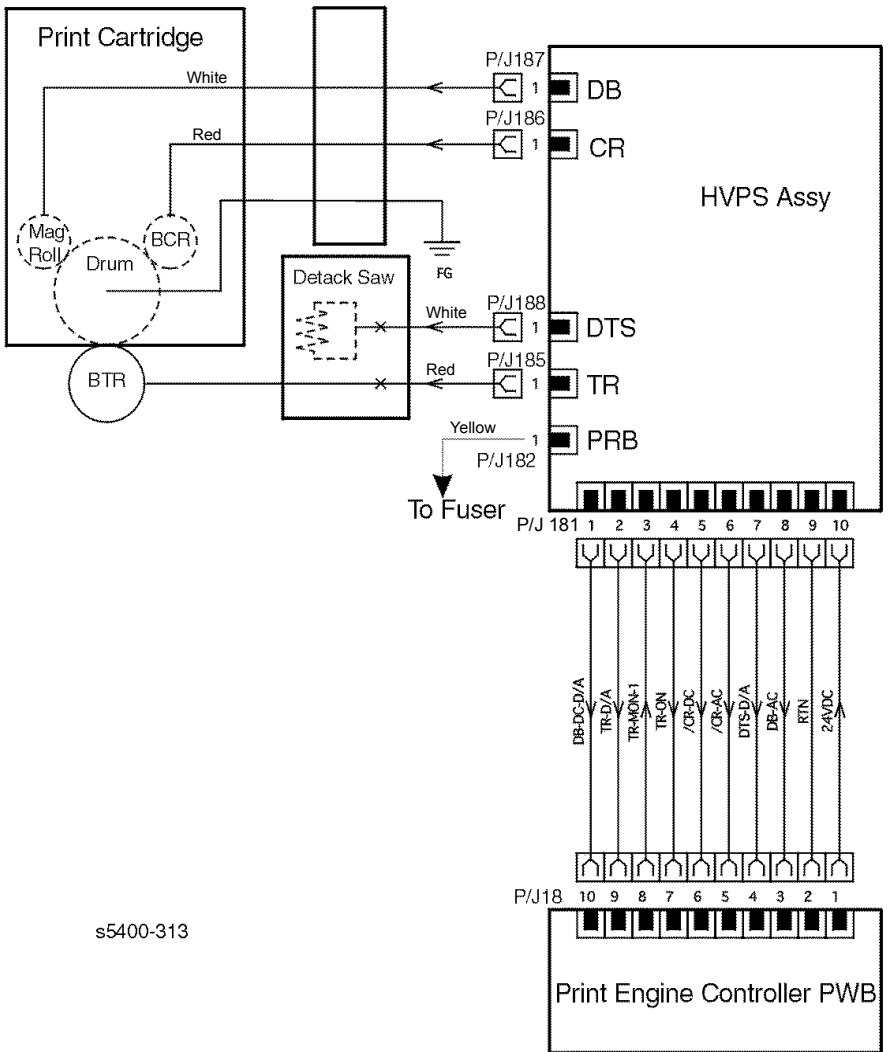


Figure 204 Print Engine Controller PWB-Laser and CRUM PWB



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Figure 205 Print Engine Controller PWB, HVPS and Print Cartridge

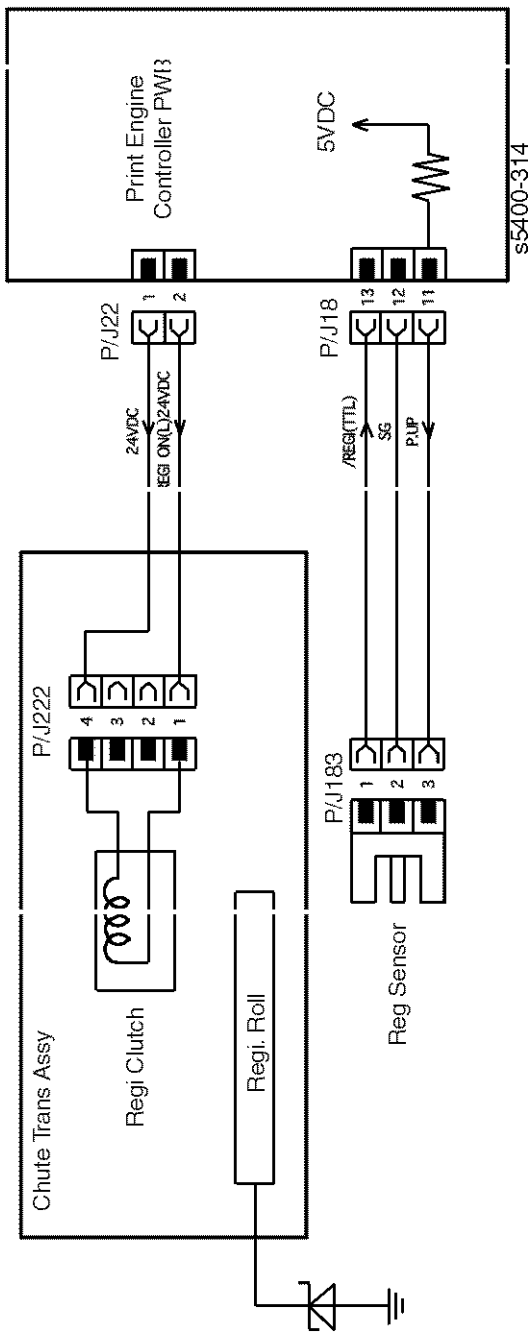


Figure 206 Print Engine Controller PWB ↔ Registration Clutch and Registration Sensor

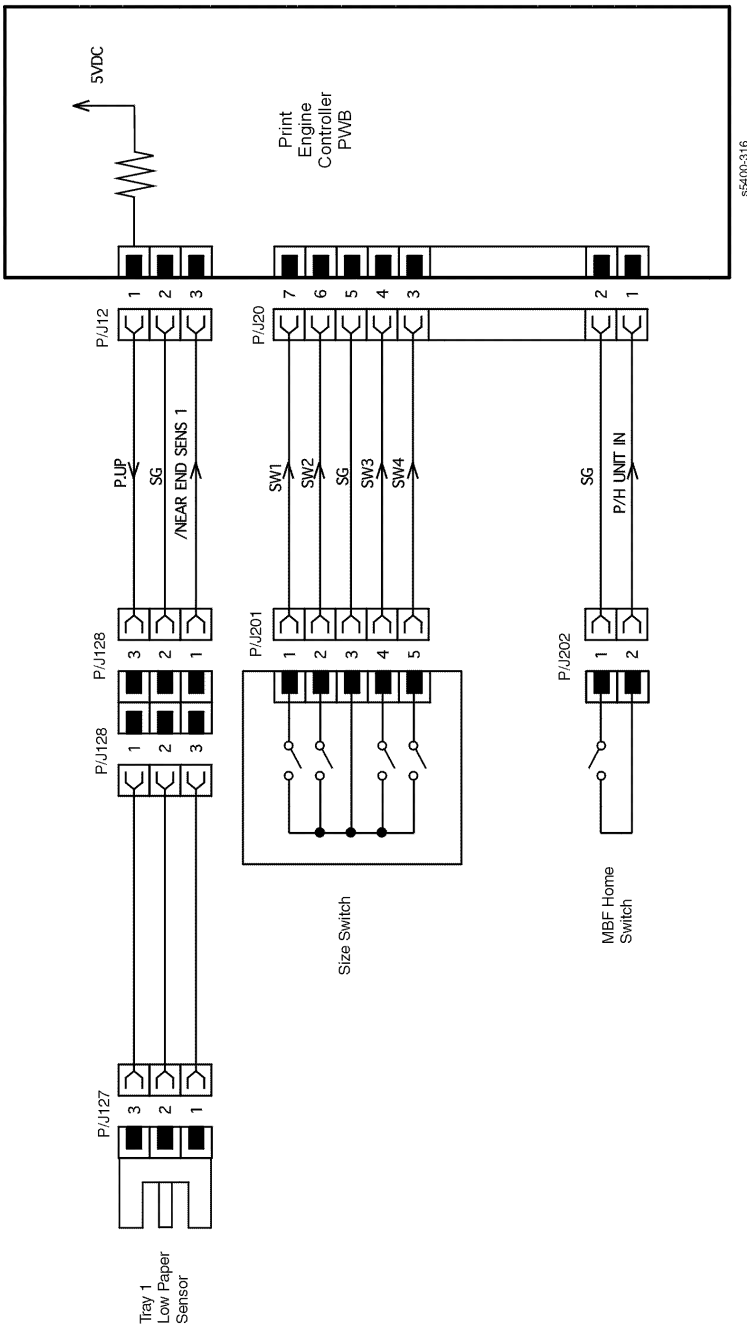
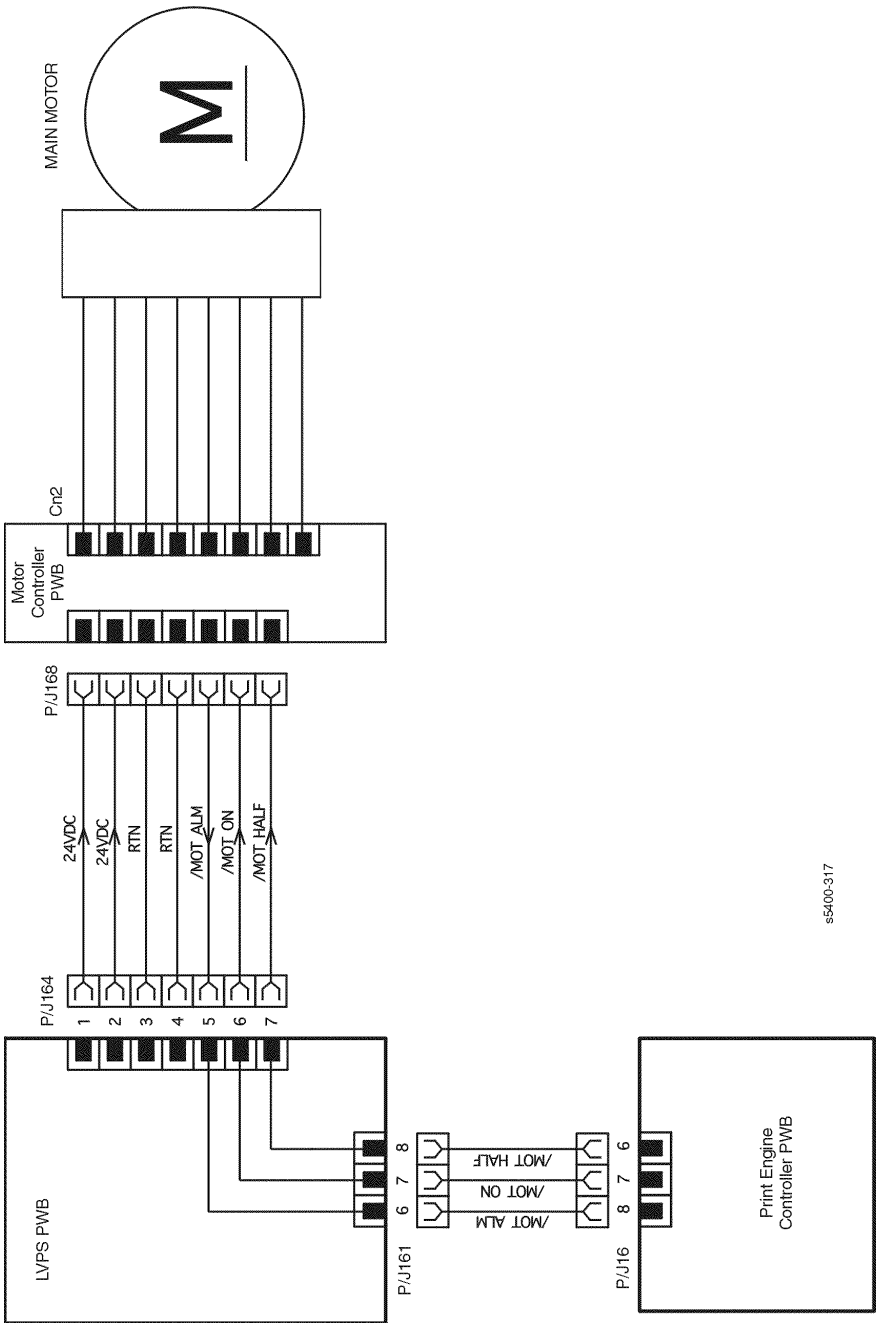


Figure 208 Print Engine Controller PWB, Low Paper Sensor, MBF Home Switch, and Tray 1 Paper Size Switch



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Figure 209 Print Engine Controller PWB ↔ Main Motor

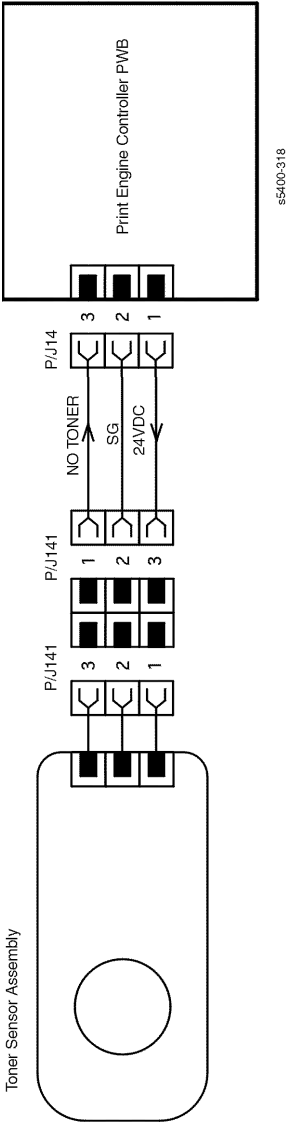


Figure 210 Print Engine Controller PWB <-> Toner Sensor

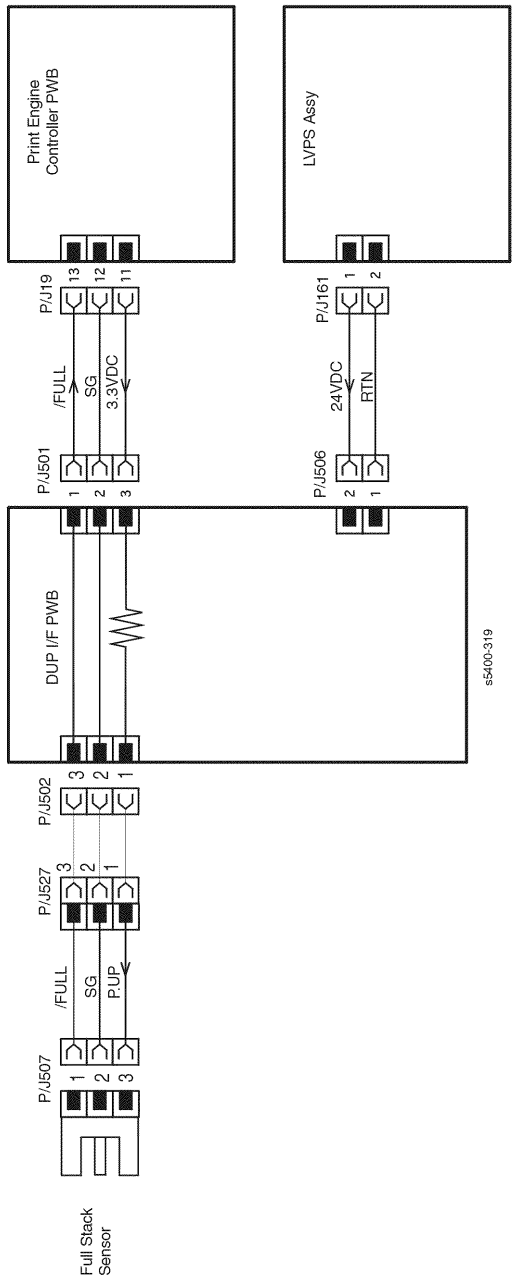


Figure 211 Print Engine Controller PWB ↔ Duplex Interface PWB ↔ Full Stack Sensor

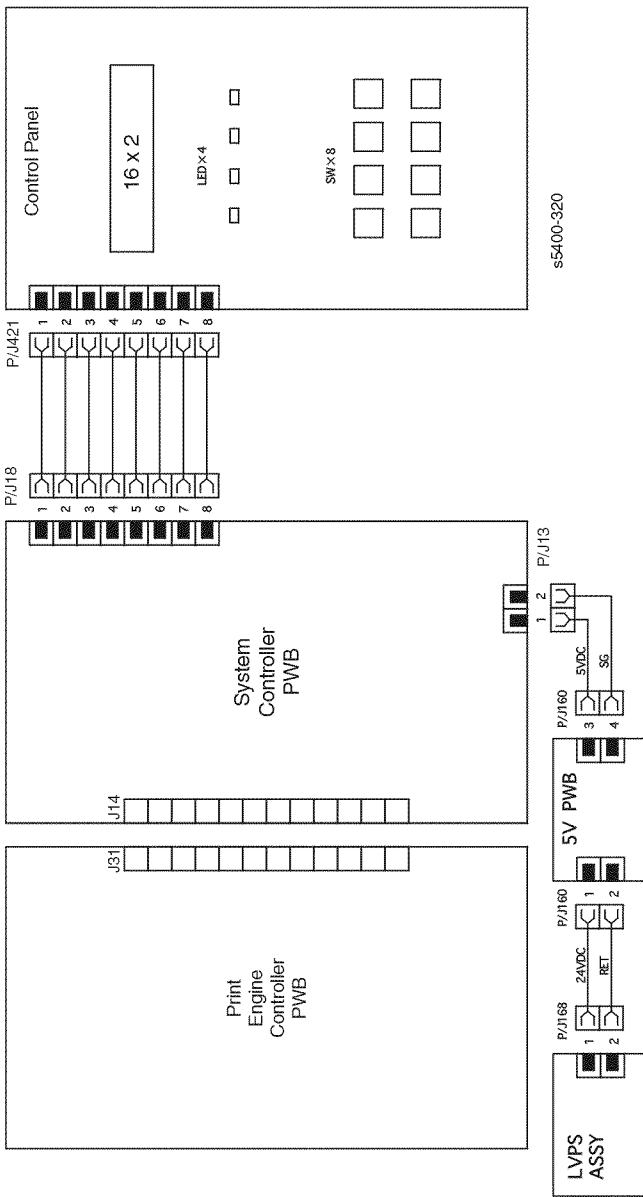
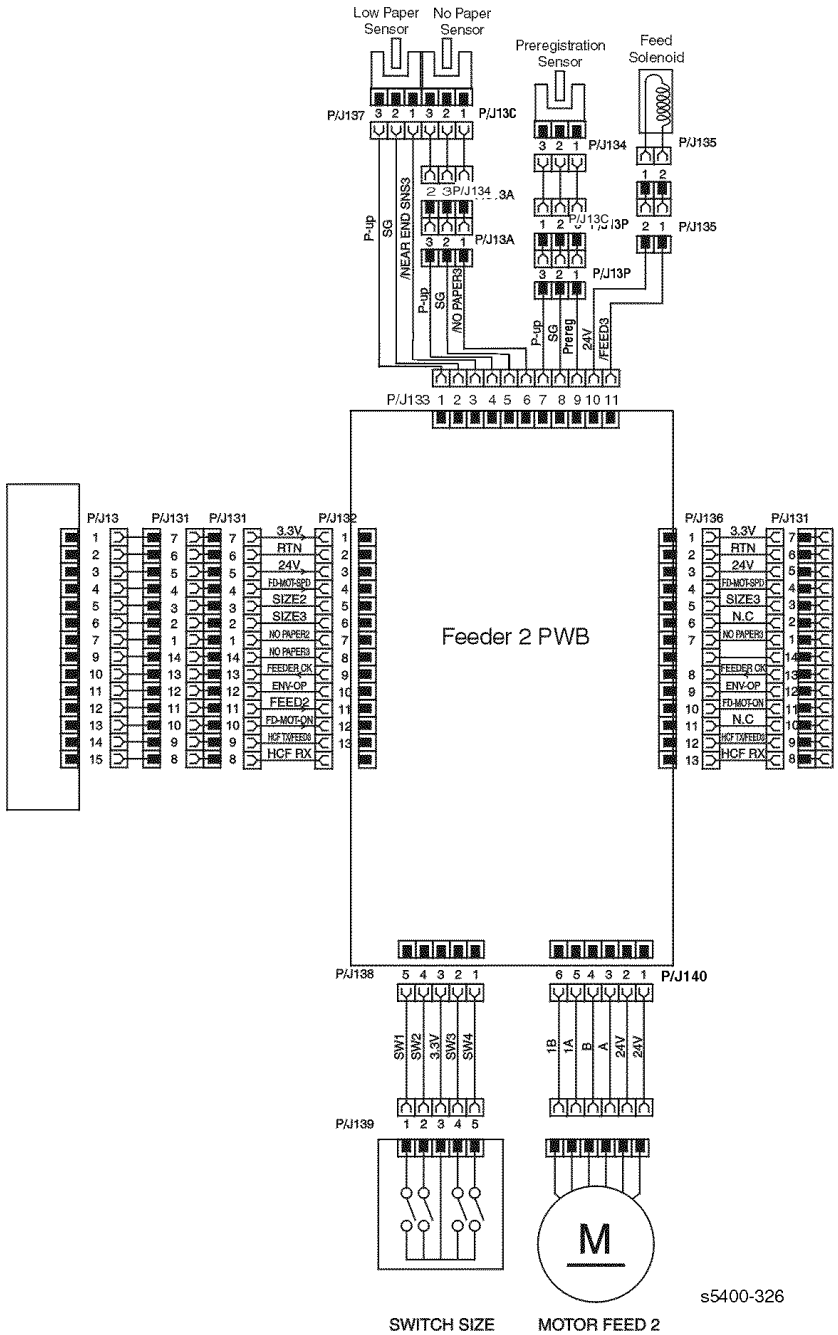


Figure 212 Controller and Control Panel

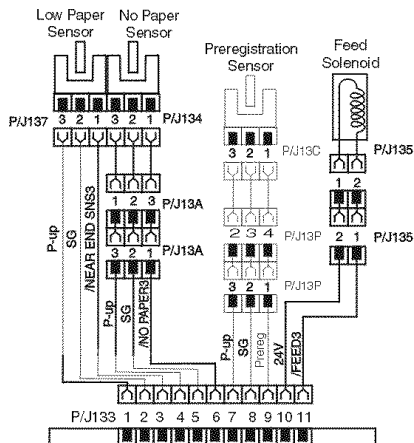
500-Sheet Feeder



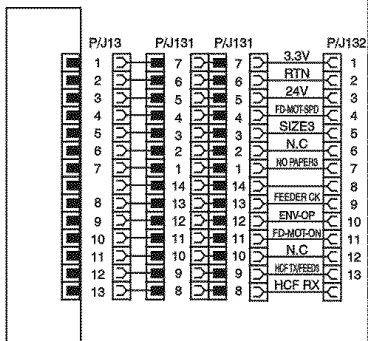
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SWITCH SIZE MOTOR FEED 2

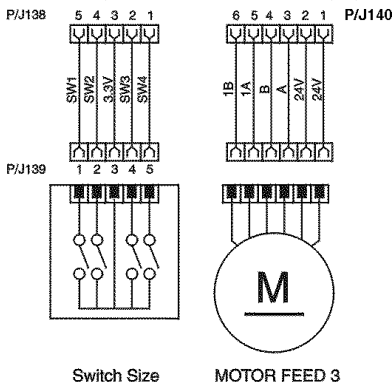
Figure 213 500-Sheet Feeder - Tray 2 Wiring Diagram and Signal Information Between Components



Feeder 2 PWB



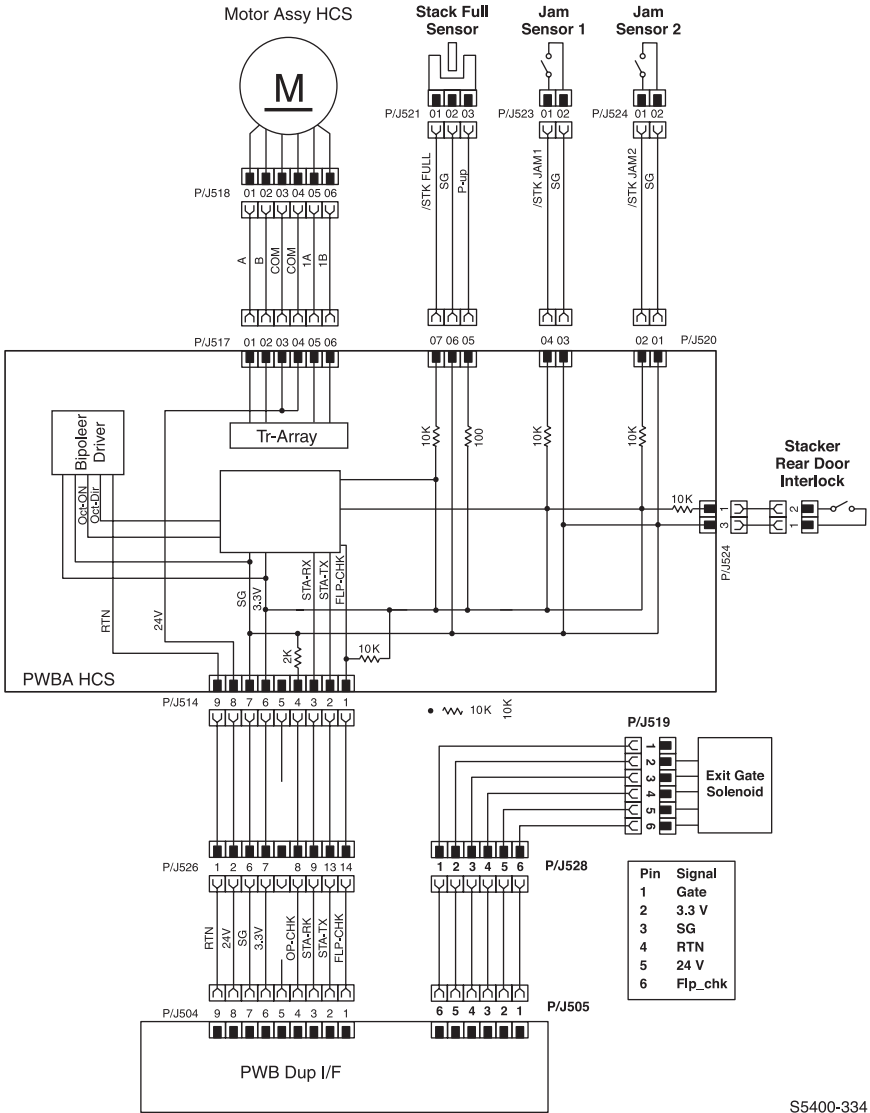
Feeder 3 PWB



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Figure 214 500-Sheet Feeder - Tray 3 Wiring Diagram and Signal Information Between Components

1000-Sheet (High Capacity Stacker)



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Figure 216 Master Wiring Diagram, High Capacity Stacker

2000-Sheet Feeder

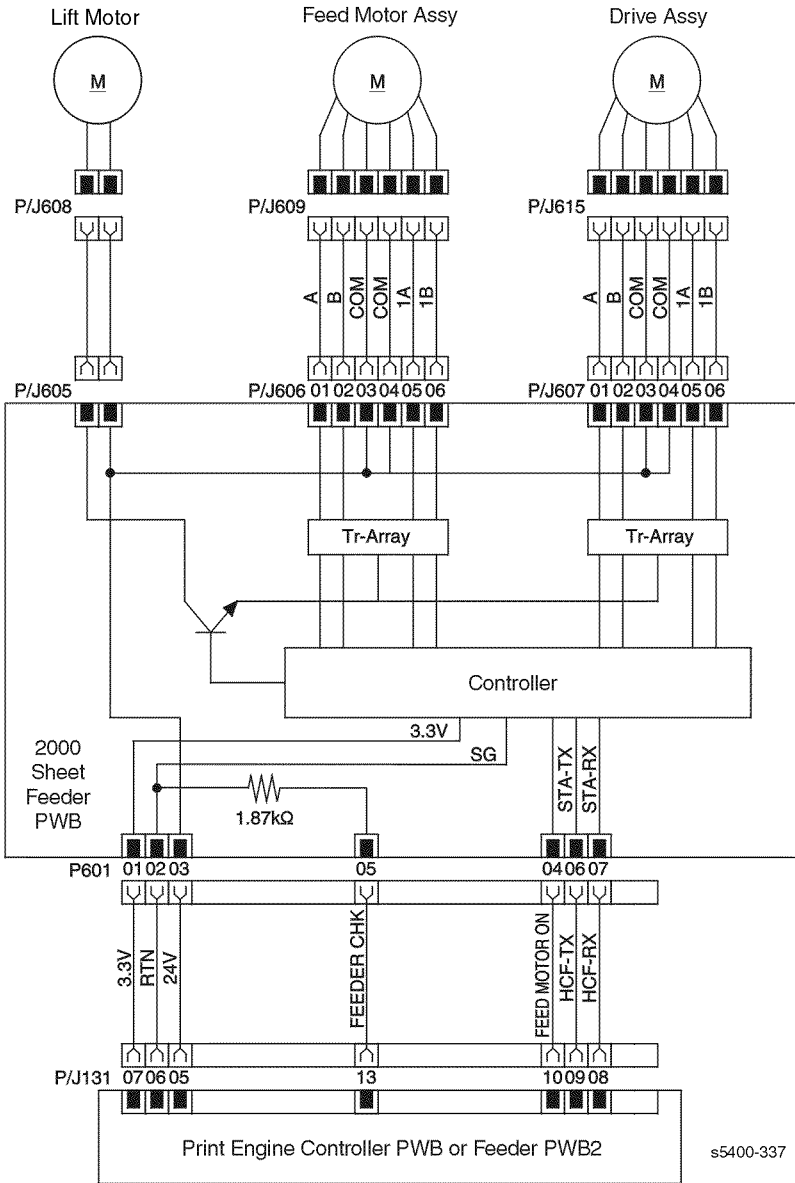


Figure 217 2000-Sheet Feeder - Wiring Diagram and Signal Information Between Components

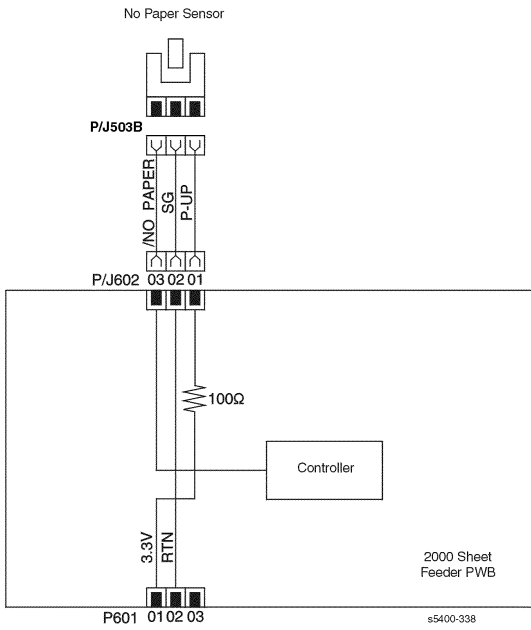


Figure 218 2000-Sheet Feeder PWB ↔ No Paper Sensor

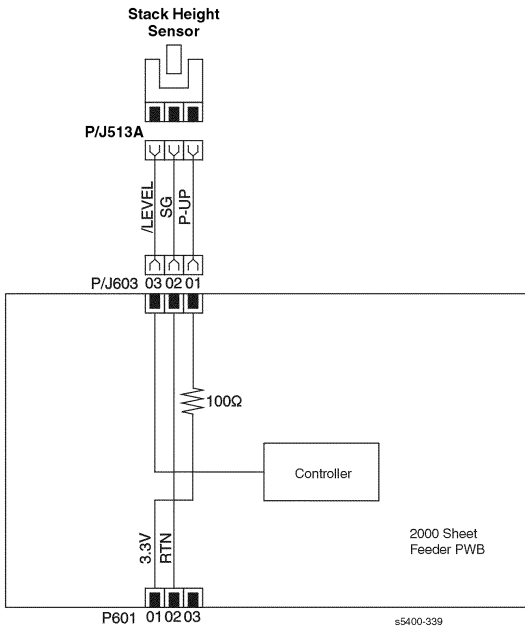
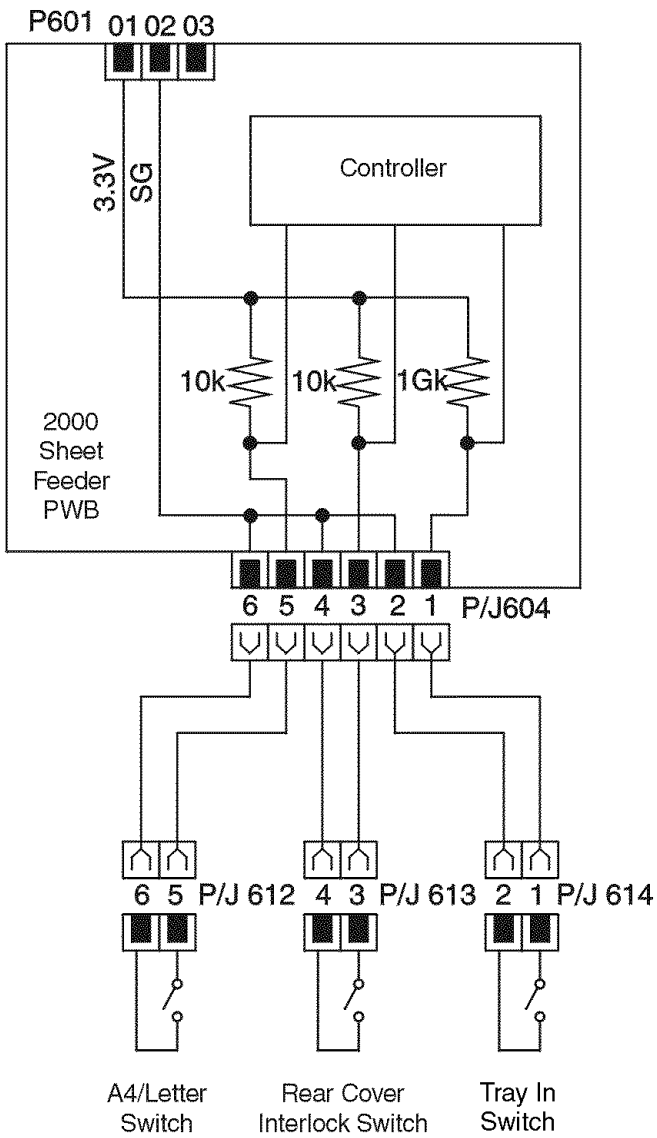


Figure 219 2000-Sheet Feeder PWB ↔ Low Paper Sensor



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Figure 220 2000-Sheet Feeder PWB ↔ Switches

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