

**DOCUPRINT[®] N4525
NETWORK LASER PRINTER**
Service Quick Reference Guide
Volume 1 – Print Engine

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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RJ/MP
sn/ck

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 volts 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 volts 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.

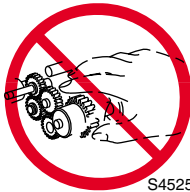
Do not touch any electrical component unless you are instructed to do so by a service procedure.



S4525-01

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



S4525-02

Laser Components

WARNING: This printer generates a laser beam as part of the printing process. The laser beam is a concentrated narrow beam of light that produces extreme heat at its focal point. The laser beam in this printer is invisible. Although you cannot see the beam, it can still cause severe 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 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 panel 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,
- Or if any liquid or foreign material is spilled into the case,
- Or if the printer is exposed to any excess moisture,
- Or if the printer is dropped or damaged,
- Or if you suspect that the product needs servicing or repair,
- And 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 volts rms between the supply conductors or between wither 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 DocuPrint® N4525 Network 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.

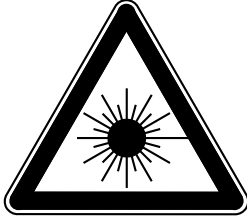
The laser and output of the laser scanner unit produces a beam that, if looked into, could cause eye damage. Service procedures must be followed exactly as written without change.

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 DocuPrint® N4525 Network Laser Printer meets the following standard: Laser class 3B, maximum 5mW, wavelength 780nm.

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 B 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:

NOTE: Installation of the Finisher and/or the Token Ring Interface results in an FCC classification change to Class A.

- 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 B limits for radio noise emissions from digital apparatus as described in the radio interference regulations of the Canadian Department of Communications.

NOTE: Installation of the Finisher and/or the Token Ring Interface results in a classification change to Class A.

Avis Canadien

Cet appareil numérique est conforme aux limites émission de bruits radioélectriques pour les appareils de classe B 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 B 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 berprufung der Serie auf Einhaltung der Bestimmungen eingeräumt.

Manual Organization

This Service Quick Reference Guide (QRG) is divided into two volumes.

Book I

Book I of the QRG contains technical information for the N4525 Print Engine (Volume 1), as well as complete Error Code and Repair Analysis Procedures (RAPs) for the Print Engine and all options for the printer. Information specific to each option is repeated in that option's volume.

NOTE: All pages, figures, tables, RAPs, RRP (Remove and Replace Procedures) and Parts List numbers are preceded by a "dash" number, indicating the volume number for that module according to the following legend

Volume	Module
1	Print Engine
2	High Capacity Feeder
3	Duplex Unit
4	Envelope Feeder
5	Face Up Bin
6	Finisher

Volume 1 - Print Engine

Frontis - Introductory, Safety and Regulatory Information

This is the section you are reading at this moment. It contains important safety information regarding technical components, regulatory agency requirements and information about this manual, which is applicable to both Books I and II.

Section 1 - General Information

This section contains a general overview of the printer and basic information regarding RAM, print engine illustrations (major assembly locations, sensor locations, general views, etc.), printer specifications and vital information regarding service call procedures.

Section 2 - Error Codes and Messages

Information regarding certain Error Codes and Messages for conditions the user may not be aware of, or conditions that exist which may not yet be made apparent by printer performance or by image quality. Also contained in this section is a vital error table which references Repair Analysis Procedures (RAPs) for the Printer and all options, and referring the reader to appropriate sections in each option manual supplement. In addition, there is additional, but valuable, information on how to use the Repair Analysis Procedures for the Print Engine and the options.

Section 3 - Troubleshooting

This section specifically discusses the most common problems (using additional Repair Analysis Procedures) encountered in the following areas:

- Printer Performance Problems
- Image Quality Problems
- Electrical Interference Problems.

Section 4 - Diagnostics, Test Prints, Service Tests & NVRAM Adjustments

This section provides a wide variety of test prints to assist in evaluating and/or troubleshooting the printer and options. Also provided are many accessed diagnostic tests and adjustments to assist in analyzing, adjusting registration and fine tuning the printer and options performance.

Section 5 - Cleaning and Maintenance

A quick guide to routine cleaning and maintenance for the printer and options.

Section 6 - Key FRU Removal and Replacement Procedures

This large section provides many procedures and illustrations for removing and replacing key Field Replaceable Units (FRUs) within the print engine. Option specific Removal and Replacement Procedures (RRPs) appear in the Volume 2 manual supplement for each option. For more detailed procedures, please refer to the CD version of the service manual.

Section 7 - FRU List

This is the parts list for the Field Replaceable Units. This section contains exploded views of the FRUs as well as part numbers for items available as FRUs.

Section 8 - Plug/Jack Connector Locations

This section contains a connector table and several locator illustrations to aid in identifying all electrical connections within the printer and options.

Section 9 - Wiring Diagram

The Master Wiring Diagram is contained in this section. Please refer to the CD version of the service manual for additional diagrams.

Book II

Book II contains technical information for all options for the N4525 Network Laser Printer. Information for each option is contained in a separate volume as see below.

Volume 2 - High Capacity Feeder (HCF)

This section contains information specific to the HCF with General Information, Error Codes, RAPs, RRP, Parts Lists, Plug/Jack Locators and wiring information.

NOTE: All page, figure, table, RAP, RRP and Parts List numbers for this section are preceded by a "2-".

Volume 3 - Duplex Unit (DUP)

This section contains information specific to the DUP with General Information, Error Codes, RAPs, RRP, Parts Lists, Plug/Jack Locators and Wiring information.

NOTE: All page, figure, table, RAP, RRP and Parts List numbers for this section are preceded by a "3-".

Volume 4 - Envelope Feeder (ENV)

This section contains information specific to the ENV with General Information, Error Codes, RAPs, RRP, Parts Lists, Plug/Jack Locators and Wiring information.

NOTE: All page, figure, table, RAP, RRP and Parts List numbers for this section are preceded by a "4-".

Volume 5 - Face Up Bin (FUB)

This section contains information specific to the FUT with General Information, Error Codes, RAPs, RRP, Parts Lists, Plug/Jack Locators and Wiring information.

NOTE: All page, figure, table, RAP, RRP and Parts List numbers for this section are preceded by a "5-".

Volume 6 - Finisher (FIN)

This section contains information specific to the FIN with General Information, Error Codes, RAPs, RRP, Parts Lists, Plug/Jack Locators and Wiring information.

NOTE: All page, figure, table, RAP, RRP and Parts List numbers for this section are preceded by a "6-".

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General Information

The DocuPrint N4525 Service Manual is the primary document used for repairing and maintaining the DocuPrint® N4525 Network Laser Printer.

To ensure complete understanding of the product, participation in Xerox DocuPrint® N4525 service training is recommended.

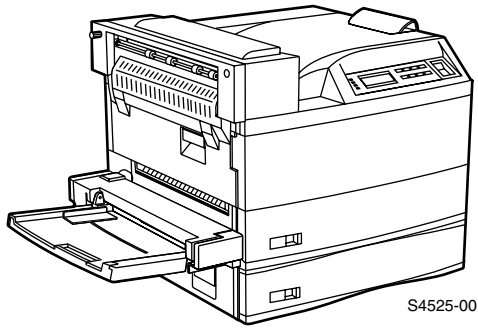


Fig 1-1 Print Engine

DocuPrint® N4525 Network Laser Printer Overview

- The DocuPrint® N4525 Network Laser Printer is a 45 page per minute monochrome, 600 dots per inch laser printer that uses a data- modulated laser beam, standard dry-ink xerographic imaging processes, and heat and pressure fusing to place a computer generated image onto the surface of a sheet of plain paper.
- The printer uses a semiconductor laser in the Laser 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.
- The printer requires 110VAC @ 60HZ (or, optionally, 220VAC @ 50HZ~60HZ) using approximately 900 watts during an average print cycle. Two power supplies within the printer convert AC line voltage to the various AC and DC voltages that are needed for printer operation.
- Safety circuits within the printer remove power to the printer whenever the Cover A, Cover B or the Front Cover is opened or the Laser Print (EP) 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 a host computer with the Print Engine Controller Board.
- The DocuPrint® N4525 Network Laser Printer comes standard with two 500 sheet paper feeders, a 50 sheet Multi-sheet Bypass Feeder, and an offset output unit. Optional paper feeders are available.
- The DocuPrint® N4525 Network Laser has one Customer Replaceable Consumable (CRC), the Laser Print (EP) Cartridge that must be replaced when depleted. The printer displays a warning message (“Replace Toner Cartridge”) when it detects the toner getting low. When the printer detects the toner level is empty, stops printing until the Laser Print (EP) Cartridge is replaced.
- The printer will advise when it is time to install a Maintenance Kit:
 - At 280,000 page count the printer will display a message informing users of the impending need to install the Maintenance Kit.
 - At 300,000 page count the printer will instruct the user to “Install Maintenance Kit.”

Parts of the Printer

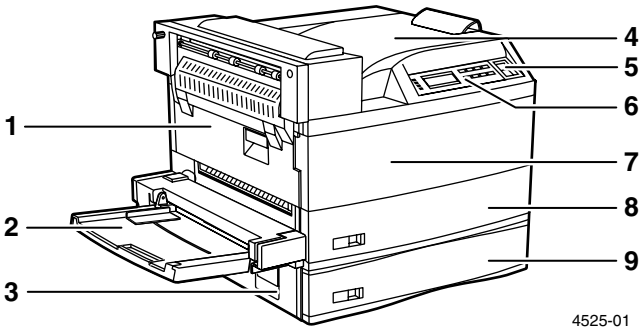
The printer contains the following major components:

Front view

1. Door A
2. Multi-sheet Bypass Feeder
3. Door B
4. Face-down output bin
5. Power switch
6. Control panel
7. Front cover
8. Tray 1
9. Tray 2

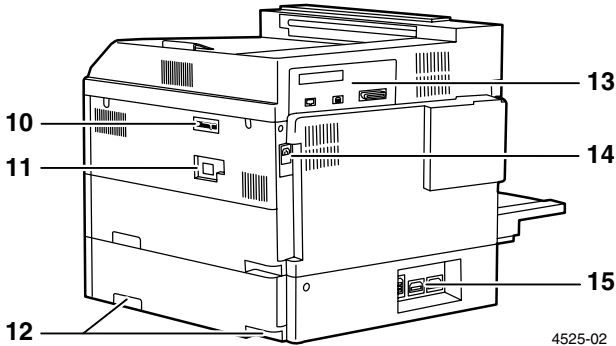
Rear view

10. Ground-Fault-Interrupt switch
11. Finisher power connection
12. Hand grips
13. Controller board with host/network interface ports
14. Power cord receptacle
15. Connectors for optional 2,500-Sheet Feeder, Finisher, and Duplex Module



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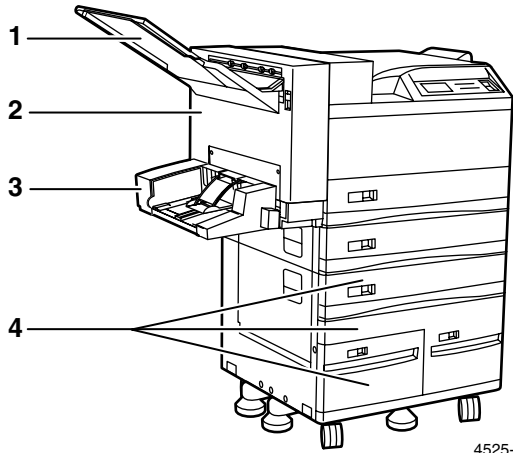
Fig 1-2 Parts of the Printer (Left/Front View)



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Fig 1-3 Parts of the Printer (Right/Rear View)

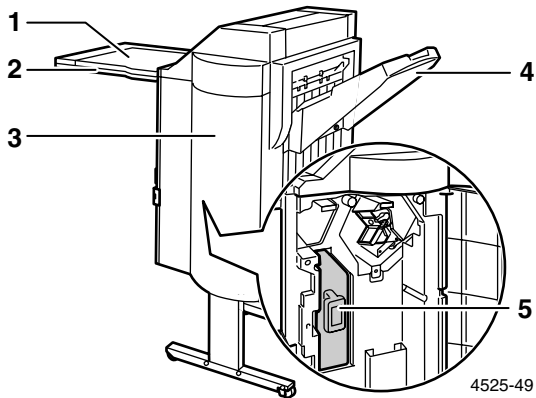
1. Face-up output bin
2. Duplex Module
3. Envelope Feeder
4. High Capacity Feeder (with Trays 3, 4, and 5)



4525-03

Fig 1-4 Console Configuration with Options:

1. Transport cover
2. Paper transport
3. Finisher access door
4. Finisher output bin
5. Punch bin



4525-49

Fig 1-5 Optional Finisher Components (Stapler/Hole Puncher):

Control Panel

The Xerox DocuPrint N4525 control panel:

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

As shown in the following figure, the printer's control panel has either icons and text, or icons only.

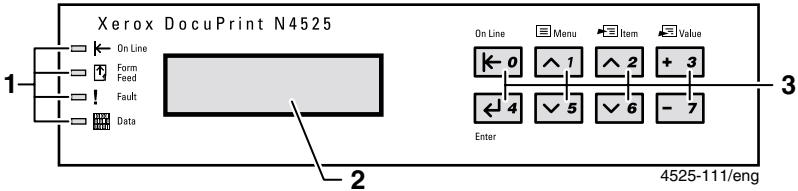


Fig 1-6 Control Panel with Icons and Text

1. Four indicator lights
2. A two-line display screen (16 characters per line)
3. Eight control panel keys

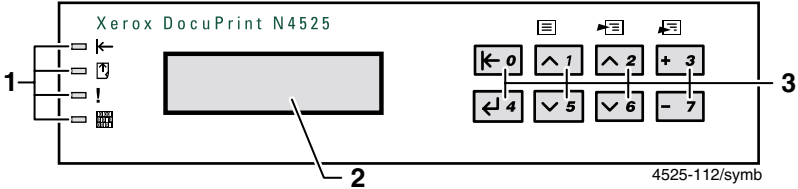


Fig 1-7 Control Panel with Icons

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 a supply (in this case, the toner is low and needs to be replaced soon):

Toner Low

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

Tray 2 Empty

- There is a problem (in this case, a paper jam in area A):

Paper Jam
Clear Area A

Rear Panel

Connectors

The rear panel of the printer features the host interface connectors:

- Bi-directional parallel (high density connector).
- Twisted Pair 10base2 Ethernet connector.
- Standard USB Port.

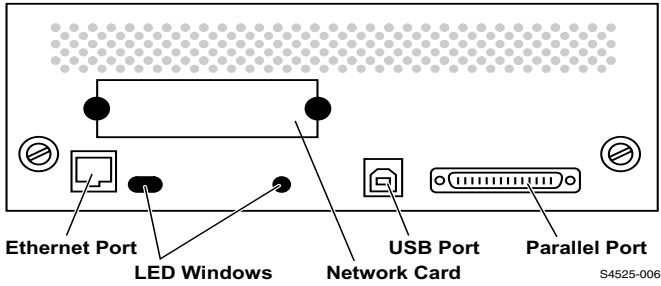


Fig 1-8 Rear Panel

Print Engine Assemblies

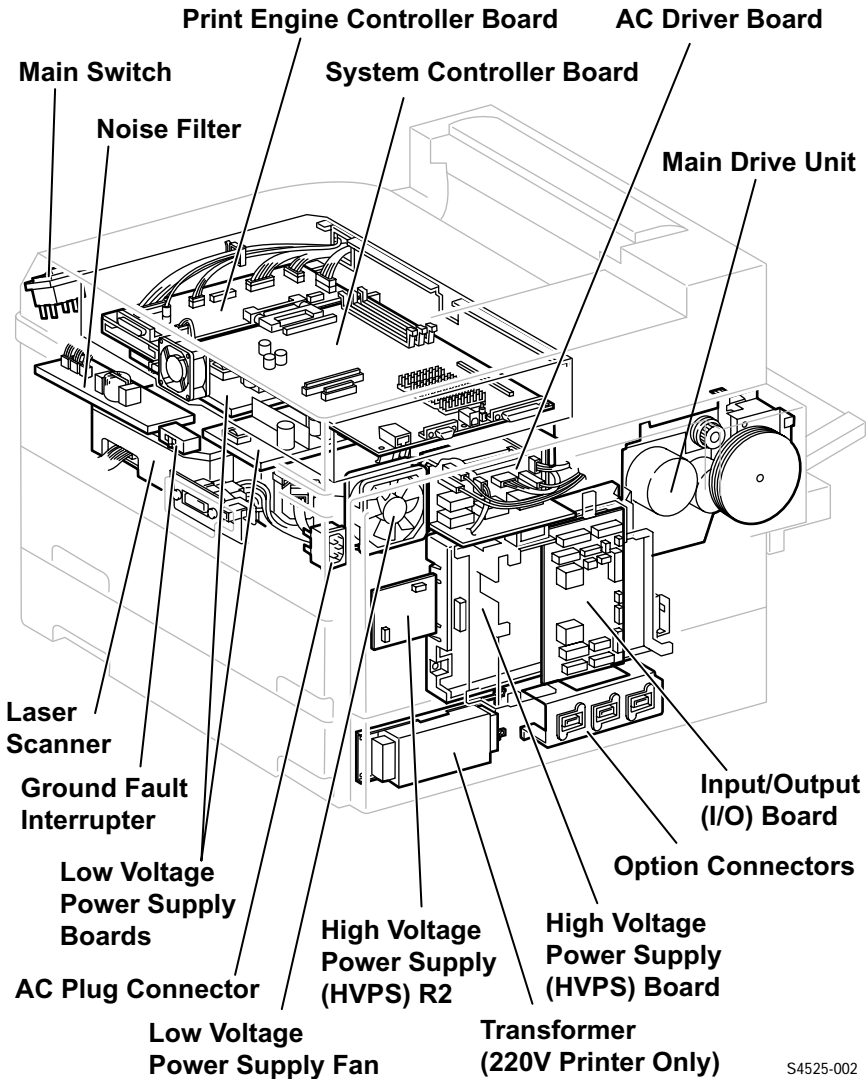
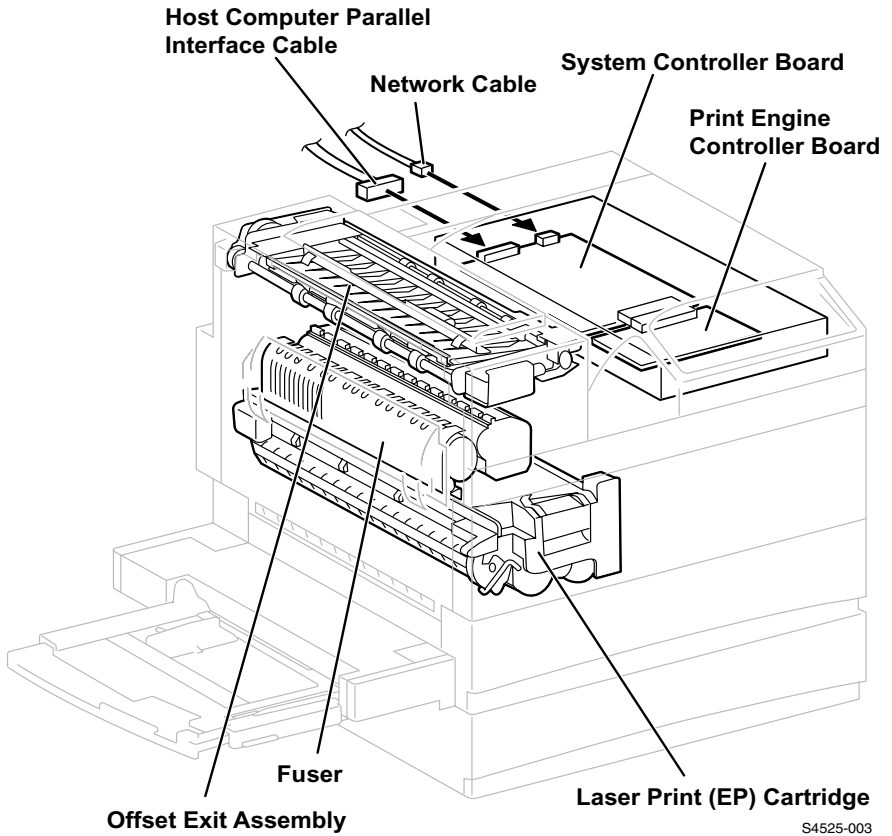
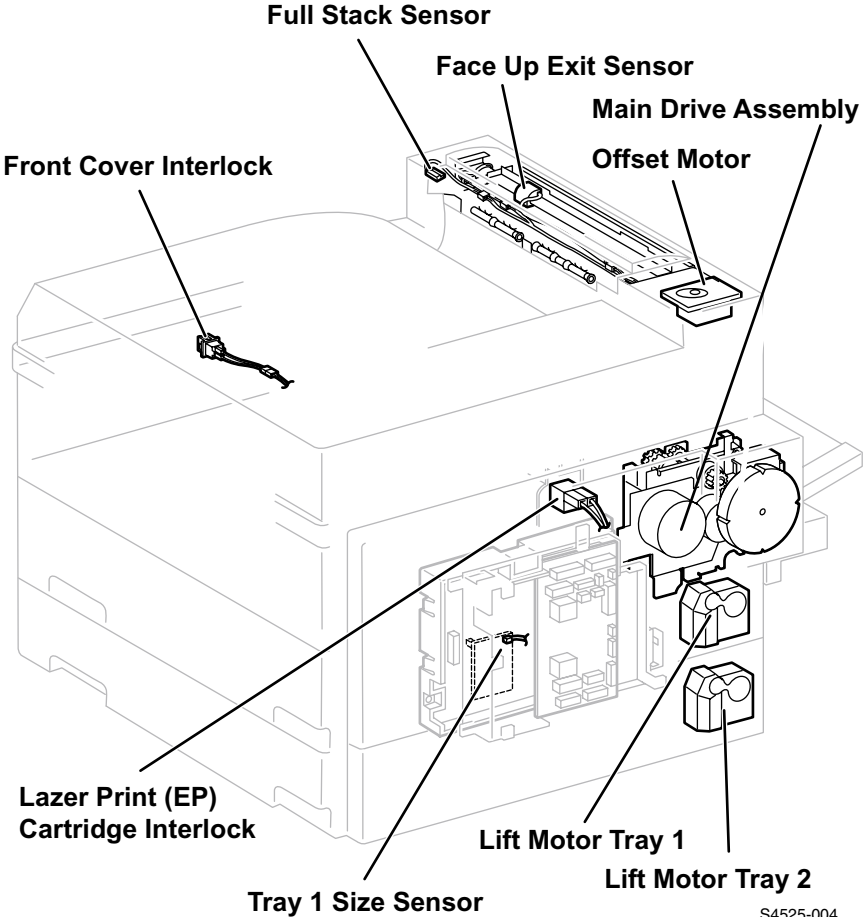


Fig 1-9 Print Engine Assemblies



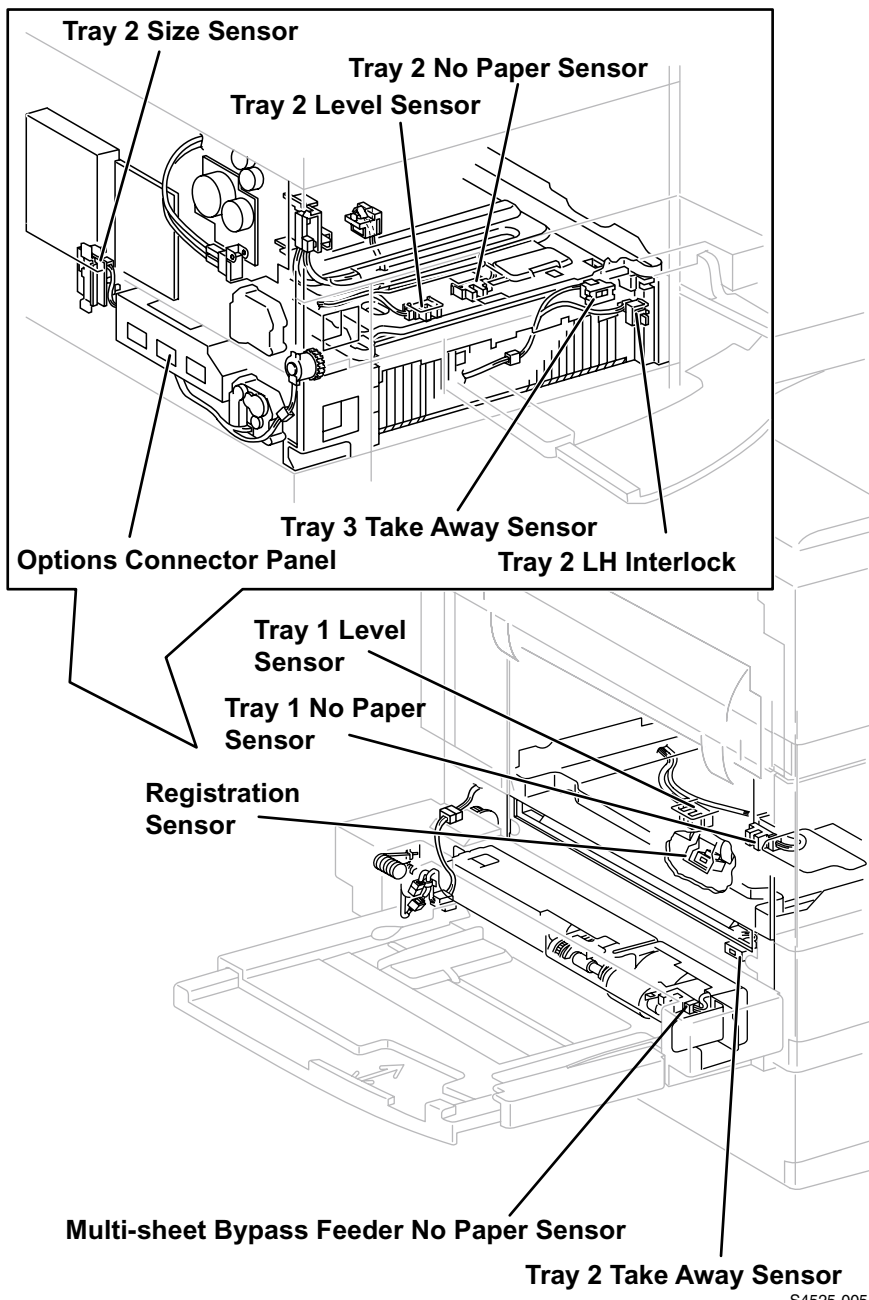
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Fig 1-10 Print Engine Assemblies, *continued*



S4525-004

Fig 1-11 Print Engine Assemblies, *continued*



S4525-005

Fig 1-12 Print Engine Assemblies, *continued*

Paper Path

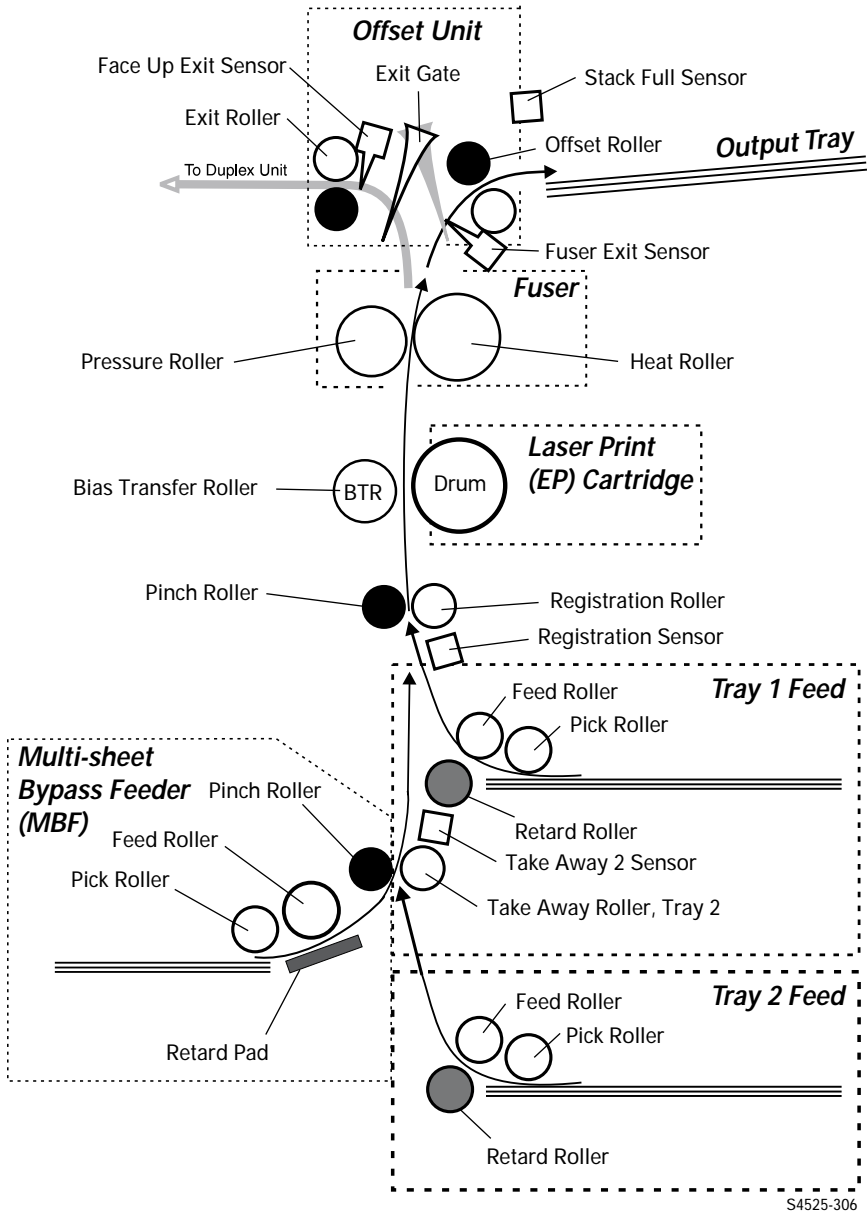


Fig 1-13 Print Engine Paper Path

About This Manual

The material contained in the QRG is extensive requiring two separate volumes to facilitate binding. There are a total of six books contained in the two volumes.

Book I — Print Engine

- **1-Print Engine** comprises the Service Quick Reference Guide for the DocuPrint N4525 Network Laser Printer. This manual covers the Print Engine, Safety Information, as well as the entirety of Error Codes and Messages, and Diagnostics for the Print Engine and the options below.

Book II — Printer Options provides sections in the Service Quick Reference Guide for the N4525 options:

- **2-High Capacity Feeder**
- **3-Duplex Module**
- **4-Envelope Feeder**
- **5-Face-Up Bin**
- **6-Finisher**

There are many cross-references to ease navigation between related topics. You will find many referrals to page numbers in the six different books. The page numbers and cross-references will normally appear in numeric form:

1-XXX where the “1” indicates Book I, Volume 1 - Print Engine and the “XXX” is the page, RAP or RRP number being referenced.

2-XXX where the “2” indicates Book II, Volume 2 - High Capacity Feeder and the “XXX” is the page, RAP or RRP number being referenced.

3-XXX where the “3” indicates Book II, Volume 3 - Duplex Unit and the “XXX” is the page, RAP or RRP number being referenced.

4-XXX where the “4” indicates Book II, Volume 4 - Envelope Feeder and the “XXX” is the page, RAP or RRP number being referenced.

5-XXX where the “5” indicates Book II, Volume 5 - Face Up Bin and the “XXX” is the page, RAP or RRP number being referenced.

6-XXX where the “6” indicates Book II, Volume 6 - Finisher and the “XXX” is the page, RAP or RRP number being referenced.

General Specifications

RAM and printer capabilities

The DocuPrint® N4525 Network Laser Printer is equipped with 32 MB of RAM and is expandable as shown below. Adding additional RAM:

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

Also, adding Flash Memory (non-volatile memory) in the Flash DIMM slot enables downloading and storing fonts, forms, and macros.

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 (volatile memory)
- Collated sets without the Hard Disk Drive.

You can essentially increase the resident fonts of the printer or create resident macros by installing Flash DIMMs and downloading resources permanently to this memory.

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.

If flash memory is to be used, this 8-Mbyte Flash DIMM should be installed in the slot labeled J6 (Bootable RAM).

Table 1-1 Memory Expansion Options

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

Physical Dimensions

Table 1-2 Physical Dimensions

Dimensions	Specification
Height	486 mm / 19.1 inches +/- 1%
Width	645 mm / 25.4 inches +/- 1%
Depth	540 mm / 21.3 inches +/- 1%
Weight (110 V model)	48.5 Kg / 106.92 Lbs. +/- 1% (65.0 Kg / 143.3 Lbs. packaged for shipment)
Weight (220 V model)	53.0 Kg / 116.85 Lbs. +/- 1% (69.5 Kg / 153.22 Lbs. packaged for shipment)

Note *Above measurements taken with the Multi-sheet Bypass Feeder (MBF) retracted.*

Table 1-3 Printer Clearances

Clearances	Specification
Front	460 mm / 18.1 inches
Back	200 mm / 7.9 inches for ventilation
Right	200 mm / 7.9 inches without Finisher 1000 mm / 39.4 inches with Finisher
Left	364 mm / 14.3 inches without Duplex Unit installed. 640 mm / 25.2 inches with Duplex Unit installed.
Top	Typically 762 mm / 30 inches
Bottom	No obstruction under printer that could block cooling vents
Mounting surface flatness	Within 2 degrees of horizontal with all four feet in contact with the table surface

Note *Above minimum space requirements are measured from the printer covers to the wall or neighboring object.*

Electrical Specifications

Table 1-4 Electrical Specifications

Category	Specification
Power supply requirements	110 V printer: 100/115 VAC (+/- 10%) @ 50/60 Hz (+/- 3 Hz)
Power supplied to the Electronic Sub-System board	5 VDC
Power consumption of the print engine during an average print cycle.	110 VAC: 900 watts / 7.8 A 220 VAC: 900 watts / 4.3 A

Environmental Specifications

Table 1-5 Environmental Specifications

Characteristic	Specification
Normal operating environment:	
Temperature	5 - 30° C
Humidity	15 - 85% Relative Humidity (no condensation)
Altitude	0 - 8200 feet above sea level
Exposure to sun	No direct sunlight (less than 3,000 LUX)

Regulatory Specifications

Table 1-6 Regulatory Specifications

Category	Specification
General safety standards observed	The packaged product meets ASTM D4169-86 and 110 V printer: UL 1950 2nd edition 220 V printer: IEC 950 2nd edition with amendment 1 (1995). CE directive.
Laser safety standards observed	110 V printer: FDA 21 CFR Chapter 1, Sub-chapter J, Sections 1010 & 1040 for CDRH Class 1 Laser Product. 220 V printer: IEC 825 Class 1 Laser Product.
Electro-Magnetic Interference standards observed	110 V printer: VCCI Information Processing Equipment, Class II. FCC Part 15, subpart B, class B (ANSI C63.4/11.4D) 220 V printer: EN55022 (CISPR Publication 22) Class B
Ozone generation	Less than 0.02 ppm in Time Weighted Average (TWA). Measured according to ECMA 129.

Functional Specifications

Table 1-7 Functional Specifications

Characteristic	Specification
Printing process	Electro-photographic (Xerography) monochrome transfer printing
Resolution of printed image	600 dpi (dots per inch)
Exposure method	Data modulated (off/on) laser beam
Development method	Dry toner and carrier mixture
Fusing method	Heat and pressure
Laser specifications	Class 3B, 5 milliwatt semiconductor laser diode
Warm-up time	From either a cold start or from sleep mode (with an ambient temperature of 22 C) to Ready to Print within 1 minute.
Maximum noise generated (excluding impulse noise)	Standby: 58.0 db Printing: 70.0 db
Laser Print (EP) Cartridge life expectancy	30,000 prints, assuming 5% image coverage and 4 mm white borders
Key component life expectancy:	
Engine	1.5 million simplex sheets 8.5 x 11 in. (A4)
Paper Feeder	1.5 million simplex sheets
Fuser Unit	300,000 prints
Bias Transfer Roller	300,000 prints
Feed Rollers (3)	300,000 prints
Usable Paper	
Input Paper tray capacity	
MBF (Multi-sheet Bypass Feeder)	50 sheets standard 20 lb. paper
Tray 1	500 sheets standard 20 lb. paper
Tray 2	500 sheets standard 20 lb. paper
HCF3 (High Capacity Feeder)	500 sheets standard 20 lb. paper
HCF4	1000 sheets standard 20 lb. paper
HCF5	1000 sheets standard 20 lb. paper
Output tray capacity (face down tray)	500 sheets standard 20 lb. paper

Printing Speeds: First Sheet Out

Table 1-8 Printing Speeds: First Sheet Out

Paper Size	Mode	Tray 1	Tray 2	Tray 3	HCF 4	HCF 5
A4 LEF	Simplex	4.0 sec	4.7 sec	5.1 sec	6.0 sec	7.2 sec
8.5 x 11 LEF	Simplex	4.0 sec	4.7 sec	5.1 sec	6.0 sec	7.2 sec
A4 LEF	Duplex	8.6 sec	9.3 sec	9.7 sec	10.6 sec	11.8 sec
8.5 x 11 LEF	Duplex	8.6 sec	9.3 sec	9.7 sec	10.6 sec	11.8 sec

Printing Speeds: Continuous Printing After the First Sheet Out

Table 1-9 Printing Speeds: Continuous Printing After the First Sheet Out

Paper Size	Mode	Trays 1 & 2 pages per minute	HCF 3 pages per minute	HCF 4 & 5 pages per minute	MBF pages per minute
A4 LEF	Simplex	45 ppm	44 ppm	43/41 ppm	36 ppm
A4 LEF	Duplex	38/37 ppm	36 ppm	39 ppm	--
LETTER LEF	Simplex	45 ppm	44 ppm	43/41 ppm	36 ppm
LETTER LEF	Duplex	38/37 ppm	36 ppm	39 ppm	--
B4 SEF	Simplex	28/27 ppm	27ppm	--	25 ppm
B4 SEF	Duplex	17 ppm	17 ppm	--	--
Legal 13" SEF	Simplex	28/27 ppm	27 ppm	--	25 ppm
Legal 13" SEF	Duplex	17 ppm	17 ppm	--	--
Legal 14" SEF	Simplex	28/27 ppm	27 ppm	--	25 ppm
Legal 14" SEF	Duplex	17ppm	17 ppm	--	--
A3 SEF	Simplex	24 ppm	24 ppm	--	22 ppm
A3 SEF	Duplex	16 ppm	16 ppm	--	--
Ledger SEF	Simplex	24 ppm	24 ppm	--	22 ppm
Ledger SEF	Duplex	16 ppm	16 ppm	--	--

Paper Input Devices

Trays 1 and 2 for the 500 Sheet Feeder (standard)

Standard feeder for the DocuPrint® N4525 Network Laser Printer. Each tray has paper size automatic sensing. Trays 1 and 2 can each hold up to 500 sheets (54 mm (2.126 in.) stack height of 20 lb. paper) of the following paper:

Table 1-10 Tray 1 and 2 Paper Sizes

Factory set Option 1	Factory set Option 2
Ledger SEF - 279.4 mm x 431.8 mm (11 x 17 in.)	Ledger SEF - 279.4 mm x 431.8 mm (11 x 17 in.)
A3 SEF - 297 mm x 420 mm (11.71 x 16.55 in.)	A3 SEF - 297 mm x 420 mm (11.71 x 16.55 in.)
B4 SEF - 257 mm x 364 mm (10.13 x 14.34)	Legal 14" SEF - 215.9 mm x 355.6 mm (8.5 x 14 in.)
Letter SEF LEF - 215.9 mm x 279.4 mm (8.5 x 11 in.)	Letter SEF LEF - 215.9 mm x 279.4 mm (8.5 x 11 in.)
Legal 13" SEF - 215.9 mm x 330.2 mm (8.5 x 13 in.)	Legal 13" SEF - 215.9 mm x 330.2 mm (8.5 x 13 in.)
A4 SEF LEF - 210 mm x 297 mm (8.27 x 11.71 in.)	A4 SEF LEF - 210 mm x 297 mm (8.27 x 11.71 in.)
Executive LEF - 184.2 mm x 266.7 mm (7.26 x 10.51 in.)	B5 LEF - 182 mm x 257 mm (7.17 x 10.13)
A5 LEF - 149 mm x 210 mm (5.87 x 8.27 in.)	A5 LEF - 149 mm x 210 mm (5.87 x 8.27 in.)
STATEMENT - 139.9 mm x 215.9 mm (5.51 x 8.5 in.)	STATEMENT - 139.9 mm x 215.9 mm (5.51 x 8.5 in.)

MBF (Multi-sheet Bypass Feeder - standard)

Standard feeder for the printer. The MBF attaches to the left side of the printer. The MBF holds up to 50 sheets (5 mm stack height of 64~105 g/m² (17~28 Lb.) paper or 190 g/m² postcard) of the following paper:

Table 1-11 Multi-sheet Bypass Feeder Paper Sizes

Factory set Option 1	Factory set Option 2
Ledger SEF - 279.4mm x 431.8 mm (11 x 17 in.)	Ledger SEF - 279.4 mm x 431.8 mm (11 x 17 in.)
A3 SEF - 297 mm x 420 mm (11.71 x 16.55 in.)	A3 SEF - 297 mm x 420 mm (11.71 x 16.55 in.)
B4 SEF - 257 mm x 364 mm (10.13 x 14.34)	Legal 14" SEF - 215.9 mm x 355.6 mm (8.5 x 14 in.)
Letter SEF LEF - 215.9 mm x 279.4 mm (8.5 x 11 in.)	Letter SEF LEF - 215.9 mm x 279.4 mm (8.5 x 11 in.)
Legal 13" SEF - 215.9 mm x 330.2 mm (8.5 x 13 in.)	Legal 13" SEF - 215.9 mm x 330.2 mm (8.5 x 13 in.)
A4 SEF LEF - 210 mm x 297 mm (8.27 x 11.71 in.)	A4 SEF LEF - 210 mm x 297 mm (8.27 x 11.71 in.)
Executive LEF - 184.2 mm x 266.7 mm (7.26 x 10.51 in.)	B5 LEF - 182 mm x 257 mm (7.17 x 10.13 in.)
Postcard - 100 mm x 148 mm (3.94 x 5.83 in.)	Postcard - 100 mm x 148 mm (3.94 x 5.83 in.)

High Capacity Feeder (HCF - option)

Table 1-12 High Capacity Feeder Tray 3 Paper Sizes

Factory set Option 1	Factory set Option 2
Ledger SEF - 279.4 mm x 431.8 mm (11 x 17 in.)	Ledger SEF - 279.4 mm x 431.8 mm (11 x 17 in.)
A3 SEF - 297 mm x 420 mm (11.71 x 16.55 in.)	A3 SEF - 297 mm x 420 mm (11.71 x 16.55 in.)
B4 SEF - 257 mm x 364 mm (10.13 x 14.34)	Legal 14" SEF - 215.9 mm x 355.6 mm (8.5 x 14 in.)
Letter SEF LEF - 215.9 mm x 279.4 mm (8.5 x 11 in.)	Letter SEF LEF - 215.9 mm x 279.4 mm (8.5 x 11 in.)
Legal 13" SEF - 215.9 mm x 330.2 mm (8.5 x 13 in.)	Legal 13" SEF - 215.9 mm x 330.2 mm (8.5 x 13 in.)
A4 SEF LEF - 210 mm x 297 mm (8.27 x 11.71 in.)	A4 SEF LEF - 210 mm x 297 mm (8.27 x 11.71 in.)
Executive LEF - 184.2 mm x 266.7 mm (7.26 x 10.51 in.)	B5 LEF - 182 mm x 257 mm (7.17 x 10.13)

Note *Tray 3 is the top tray of the High Capacity Feeder option. It senses paper size and can hold up to 500 sheets of the above paper.*

Table 1-13 High Capacity Feeder Tray 4 and Tray 5 Paper Sizes

Factory set Option 1	Factory set Option 2
Letter SEF LEF - 215.9 mm x 279.4 mm (8.5 x 11 in.)	Letter SEF LEF - 215.9 mm x 279.4 mm (8.5 x 11 in.)
A4 SEF LEF - 210 mm x 297 mm (8.27 x 11.71 in.)	A4 SEF LEF - 210 mm x 297 mm (8.27 x 11.71 in.)
Executive LEF - 184.2 mm x 266.7 mm (7.26 x 10.51 in.)	B5 LEF - 182 mm x 257 mm (7.17 x 10.13)

Note *Trays 4 and 5 can each hold up to 1000 sheets of the above paper.*

Table 1-14 Envelope Feeder Envelope Sizes

Envelope type (100 maximum)
COM #10 (Monroe Brand) - 104.8 mm x 241.3 mm (4.13 x 9.5 in.)
Monarch (Monroe Brand) - 98.4 mm x 190.5 mm (3.88 x 7.5 in.)
C5 SEF (River series #02067/Gummed) - 162 mm x 229 mm (6.38 x 9 in.)
DL (River series #01029/Gummed) - 110 mm x 220 mm (4.33 x 8.67 in.)

Note *The optional Envelope Feeder replaces the MBF. It has a No Paper Sensor and can hold up to 100 of the above envelopes.*

Paper Output Devices

The printer uses the following paper output/paper size combinations:

Face Down Tray (standard)

The Face Down Tray is the standard output tray for the printer. Paper is transported out of the printer face down onto the printer Top Cover. This tray holds up to 500 sheets of 20 lb. paper, and comes equipped with Full Stack detection. When the optional Finisher is installed on the printer, the maximum paper stack in the Face Down Tray is reduced to 300.

Offset Unit (standard)

The Offset Unit is attached above the Fuser on the print engine. Each print job is offset 10 mm from the last, then placed in the Face Down Tray.

Paper size supported by the Offset Unit:

Table 1-15 Offset Unit Paper Sizes

Paper
Letter SEF (20lb) - 216 mm x 279 mm (8.5 x 11 in.)
Legal 13" SEF (20lb) - 216 mm x 330 mm (8.5 x 13 in.)
Legal 14" SEF (20lb) - 216 mm x 356 mm (8.5 x 14 in.)
A4 SEF (RX80) - 210 mm x 297 mm (8.27 x 11.71 in.)
Ledger - 297 mm x 432 mm (11.71 x 17 in.)
A3 - 297 mm x 420 mm (11.71 x 16.55 in.)

Duplex Unit (option)

The optional Duplex Unit for the printer provides duplex printing for 64 gsm~105 gsm paper fed from Trays 1 through 5. The minimum paper size recommended for Duplex feed is B5 LEF or Executive. The maximum paper size recommended for Duplex feed is A3 SEF or 11" x 17" SEF.

Face Up Tray (option)

The optional Face Up Tray attaches to the left side of the printer. Paper is transported out of the printer face up onto the Face Up Tray. The Tray holds up to 200 sheets of 20 lb. paper. There is no Full Stack detection for this tray.

Finisher

The optional Finisher provides for hole punching (3-hole or 4-hole), compiling, stapling and stacking of finished print jobs. The stacker will hold up to 3,000 sheets of 20 lb. paper.

Printing Media Specifications

Standard Paper:

- FX L A4 (LEF)
- RX80 A4 (LEF)
- XEROX 4024 DP 20 lb. Letter (LEF)

Special Media:

Table 1-16 Special Media

Type	Size	Media Name	MBF	Tray 1 Tray 2	HCF	Env
Transparency	Letter - 8.5" x 11"	Xerox R2780 (US)	Y	Y	Tray 3 only	N
Transparency	A4 - 210 mm x 297 mm	Xerox 3R9600 (EU)	Y	Y	Tray 3 only	N
Transparency	A4 - 210 mm x 297 mm	Xerox E001 (Japan)	Y	Y	Tray 3 only	N
Labels	Letter - 8.5" x 11"	Xerox 3R4469 (US)	Y	Tray 2 only	Trays 3 & 4 only	N
Labels	A4 - 210 mm x 297 mm	Xerox 3R97406 (EU)	Y	Tray 2 only	Trays 3 & 4 only	N
Labels	A4 - 210 mm x 297 mm	Xerox V860 (Japan)	Y	Tray 2 only	Trays 3 & 4 only	N
Envelope	4 1/8" x 9 1/2"	Monroe Brand COM #10	Y	N	N	Y
Envelope	3 7/8" x 7 1/2"	Monroe Brand Monarch	Y	N	N	Y
Envelope	162 mm x 229 mm	C5 (Rivers series #02067/ Gummed	Y	N	N	Y
Envelope	110 mm x 220 mm	DL (Rivers series #01029/Gummed	Y	N	N	Y
Postcard	A6 - 100 mm x 148 mm	Japanese Official Postcard	Y	N	N	N

Note *Please refer to the FRU (Field Replaceable Unit) section for more details and part numbers.*

Print Media

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 for extended periods.

Table 1-17 Paper Weights

Acceptable Weight	Input Source
64~105 g/m ² (17~28 Lbs.)	Trays 1, 5
64~200 g/m ² (17~53 Lbs.)	Trays 2, 3, 4
64~200 g/m ² (17~53 Lbs.)	Multi-sheet Bypass Feeder
64~105 g/m ² (17~28 Lbs.)	Duplex Module
64~105 g/m ² (17~28 Lbs.)	Finisher

Table 1-18 Capacities of Input Sources

Input Source	Capacity
Trays 1, 2	500/tray*
Tray 3 (part of the optional 2,500-Sheet Feeder)	500*
Trays 4, 5 (part of the optional 2,500-Sheet Feeder)	1000/tray*
Custom Paper Tray (optional)	500*
Multi-sheet Bypass Feeder	50*
Envelope Feeder (optional)	100 Envelopes

* Maximum capacity using 80 g/m² (20 Lbs.) stock. Do not load paper above the indicated mark located on the back or side of the tray.

Print Media, continued

Table 1-19 Supported Media and Media Sizes

Media	Media Size	Tray 1	Tray 2 Tray 3	Tray 4 Tray 5	Custom Paper Tray	Multi- sheet Bypass Feeder	Envelope Feeder
A3 ⁽²⁾	297 x 420 mm	•	•		•	•	
A4 ⁽¹⁾	210 x 297 mm	•	•	•	•	•	
A5 ⁽¹⁾	148 x 210 mm	•			(6)	•	
A6 ⁽¹⁾	105 x 148 mm					•	
Statement ⁽¹⁾	5.5 x 8.5 in.	•			(6)	•	
B5-JIS ⁽¹⁾	182 x 257 mm	•	•	•	•	•	
B4-JIS ⁽²⁾	257 x 364 mm	•	•		•	•	
Executive ⁽¹⁾	7.25 x 10.5 in.	•	•	•	•	•	
Letter ⁽¹⁾	8.5 x 11 in.	•	•	•	•	•	
Folio ⁽²⁾	8.5 x 13 in.	•	•		•	•	
Legal ⁽²⁾	8.5 x 14 in.	•	•		•	•	
Ledger ⁽²⁾	11 x 17 in.	•	•		•	•	
Envelopes							
COM-10 ⁽¹⁾ (4)	4.1 x 9.5 in.					•	•
Monarch ⁽¹⁾ (4)	3.8 x 7.5 in.					•	•
DL ⁽¹⁾ (4)	110 x 220 mm					•	•
C5 ⁽¹⁾ (4)	162 x 229 mm					•	•
Transparencies							
A4 ⁽¹⁾ (4)	210 x 297 mm	•	•		•	•	
Letter ⁽¹⁾ (4)	8.5 x 11 in.	•	•		•	•	
Labels							
A4 ⁽¹⁾ (4)	210 x 297 mm		•	(5)	•	•	
Letter ⁽¹⁾ (4)	8.5 x 11 in.		•	(5)	•	•	
Custom Sizes ⁽³⁾							
					•	•	

⁽¹⁾ Use long-edge feed.

⁽²⁾ Use short-edge feed.

⁽³⁾ Custom Sizes — see the following page for the range of acceptable sizes.

⁽⁴⁾ Envelopes, transparencies, labels, and custom sizes cannot be printed in duplex mode.

⁽⁵⁾ Tray 4 only

⁽⁶⁾ Not available if Custom Paper Tray is used in Tray 2 or 3 position.

Custom paper sizes

Table 1-20 Custom Paper Sizes

Acceptable sizes	Custom paper tray	Multi-sheet Bypass Feeder
Width	181 - 298.5 mm (7.13 - 11.75 in.)	76.2 - 297 mm (3 - 11.69 in.)
Length	up to 431.8 mm (up to 17 in.)	98.4 - 431.8 mm (3.875 - 17 in.)
Tray 1	148 mm (5.83 in.) minimum	
Trays 2 & 3	182 mm (7.16 in.) minimum	

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
- Universal transparencies
- Paper with paper fasteners, ribbons, staples, tape, etc. attached
- Label stock with exposed backing sheet.

Xerox Supplies and Accessories

Table 1-21 Xerox Professional Printing Papers

Item	Size	Description	Part Number
Xerox 4024 DP	Letter (U. S.) 8.5 x 11 in.	20 lbs. (75 g/m ²)	003R00721
Xerox 4024 DP	Legal 8.5 x 14 in.	20 lbs. (75 g/m ²)	003R00727
Xerox 4024 DP	Statement 5.5 x 8.5 in.	20 lbs. (75 g/m ²)	003R02072
Rank Xerox Business	A4 (Metric Letter) 210 x 297 mm	80 g/m ²	003R901820
Rank Xerox Business	A3 297 x 420 mm	80 g/m ²	003R91821
Rank Xerox Printer	A5 148.5 x 210 mm	80 g/m ²	003R91832
Xerox Image Series Smooth	Letter (U. S.) 8.5 x 11 in.	20 lbs. (75 g/m ²)	003R00054
Xerox Image Series Smooth	Legal 8.5 x 14 in.	20 lbs. (75 g/m ²)	003R00083
Rank Xerox	Legal 215 x 356 mm	80 g/m ²	003R901741
LaserPrint 80	A4 (Metric Letter) 210 x 297 mm	80 g/m ²	003R91922
Xerox Recycled	Letter (U. S.) 8.5 x 11 in.	20 lbs. (75 g/m ²)	003R06296
Steinbeis Recycled	A4 (Metric Letter) 210 x 297 mm	80 g/m ²	003R91165
80 DP Planet Plus	A4 (Metric Letter) 210 x 297 mm	80 g/m ²	003R900652

Table 1-22 Xerox Transparency Film

Item	Size	Part Number
Xerox Clear	Letter (U. S.) 8.5 x 11 in.	003R02780
Rank Xerox Clear	A4 (Metric Letter) 210 x 297 mm	003R96002

Table 1-23 Xerox Labels

Size	Description	Part Number
Letter (U. S.) 8.5 x 11 in.	30 labels per sheet	003R04469
Letter (U. S.) 8.5 x 11 in.	24 labels per sheet	003R04471
A4 (Metric Letter) 210 x 297 mm	24 labels per sheet	003R97406

Printer Options

Table 1-24 Printer Options

Item	Part Number
Custom Paper Tray <ul style="list-style-type: none"> ■ Handles continuously variable paper sizes ■ Holds up to 500 sheets of 80 g/m² (20 lbs.) stock 	097S02562
High Capacity Feeder - 2,500-Sheet Feeder <ul style="list-style-type: none"> ■ Three additional trays ■ Increased paper-printing capacity ■ Increased printing versatility and convenience 	097S02560
Envelope Feeder <ul style="list-style-type: none"> ■ Holds 100 standard-weight envelopes 	097S02567 097K24870 (Alt.)
Duplex Module <ul style="list-style-type: none"> ■ <i>Automatic</i> duplex capability 	097S02561
Face-up Bin <ul style="list-style-type: none"> ■ Holds up to 200 sheets ■ Provides face-up output stacking 	097S02564
Finisher with stapler and hole puncher <ul style="list-style-type: none"> ■ Increased paper-output capacity ■ Holds up to 3,000 sheets of 80 g/m² (20 lbs.) stock (Letter, A4 paper) ■ Stapling capability ■ Hole-punching capability 	450S02180 3-hole positions 450S02181 4-hole positions
Hard disk drive <ul style="list-style-type: none"> ■ 5+ Gbyte hard drive ■ Store resources, fonts, forms, and macros; enables uninterrupted large-job collation 	097S02364
Memory upgrades <ul style="list-style-type: none"> ■ Improved system performance ■ Improved processing of complex jobs 	097S02356 (16 Mbyte DIMM) 097S02357 (32 Mbyte DIMM) 097S02358 (64 Mbyte DIMM)
8 Mbyte Flash DIMM <ul style="list-style-type: none"> ■ Non-volatile memory for downloading and storing fonts, forms, and macros 	097S02360
Token Ring interface card <ul style="list-style-type: none"> ■ Enables Token Ring connectivity 	097S02363
Ethernet 10Base2 Interface Card <ul style="list-style-type: none"> ■ Enables Ethernet 10Base2 connectivity 	097S02362
RS232-C serial interface card <ul style="list-style-type: none"> ■ Enables Serial connectivity 	097S02361

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Error Codes and Messages

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.

- For **Printer Performance problems**, start in the Error Codes and/or Troubleshooting Sections of Book I, Volume 1 of the QRG.
- For **Image Quality problems**, go to the Troubleshooting Section of Book I, Volume 1 of this QRG.
- For **High Capacity Feeder problems**, go to the Error Codes and Troubleshooting sections of Book II, Volume 2 in this QRG.
- For **Duplex Unit problems**, go to the Error Codes and Troubleshooting sections of Book II, Volume 3 of this QRG.
- For **Envelope Feeder problems**, go to the Error Codes and Troubleshooting sections of Book II, Volume 4 of this QRG.
- For **Finisher problems**, go to the Error Codes and Troubleshooting sections of Book II, Volume 6 of this QRG.

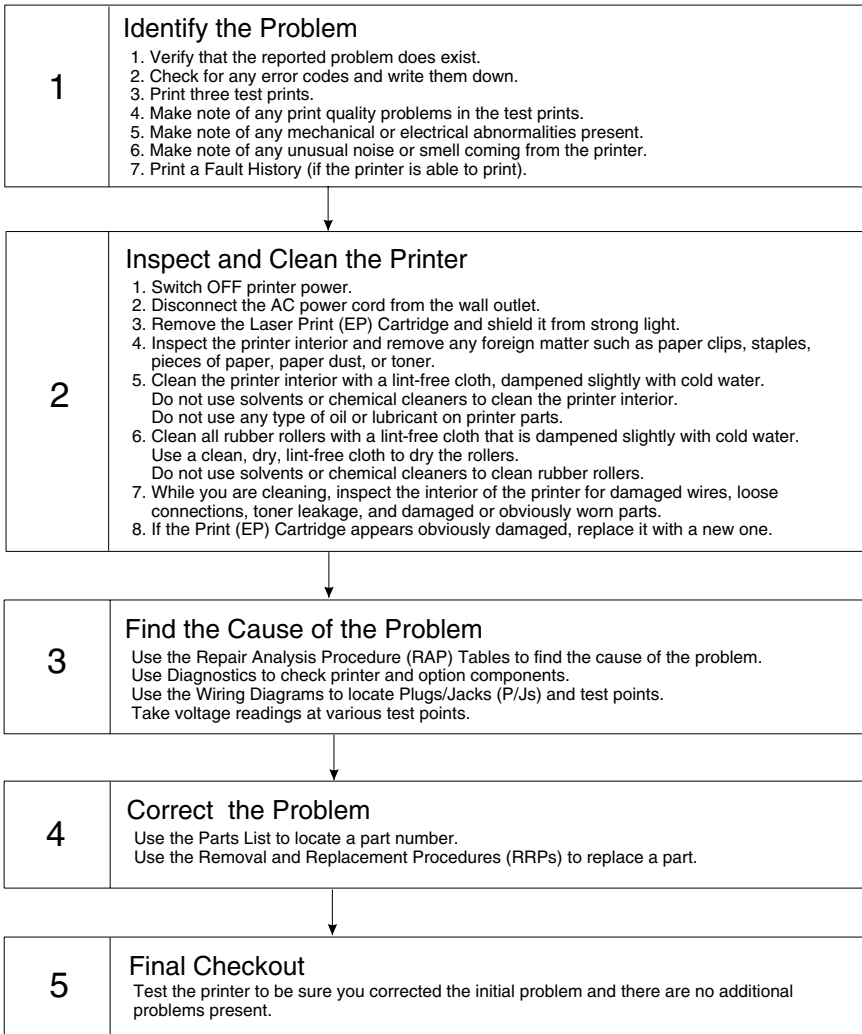
Service Flowchart

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.

Service Flowchart, continued



S4525-03

Fig 1-14 Service Flowchart

The 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 an 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 sample Repair Analysis Procedure step 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.

Table 1-25 RAP Table Example

Step	Actions and Questions	Yes	No
2	<p>NO PAPER SENSOR TEST</p> <ol style="list-style-type: none"> 1. Enter Diagnostics. 2. From the Main Menu, select Comp Output Test / HCF Unit / Tray 3 Paper Sen. 3. Slide Tray 3 out of the printer. 4. Press [4] to start, [0] to stop. 5. Manually actuate and deactuate Tray 3 No Paper Sensor. <p>Does the Control Panel display “With Paper” and “Without Paper” when the actuator is toggled to its limits?</p>	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 Code Table on page 1-44 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 the Diagnostics, Test Prints, Service Tests and NVRAM Adjustments section of this manual, on page 1-149 for details.

Before Starting the Error Code Repair Analysis Procedures:

1. Is the AC power provided at the wall outlet within specifications for this printer; either 110VAC or 220VAC?
2. Is the AC power cord in good condition (e.g. frayed or broken)?
3. Is one end of the AC power cord connected to the printer?
4. Is the other end of the AC power cord plugged into a grounded three-prong AC wall outlet?
5. Is the printer located in an area where the temperature and humidity are moderate and stable as recommended in the General Information section.
6. Is the printer located in an area that is free of dust?
7. Is the printer located away from water outlets, steamers, electric heaters, volatile gases, or open flames?
8. Is the printer shielded from the direct rays of the sun?
9. Does the printer have the correct ventilation space around all sides as recommended in the General Information section.
10. Is the printer sitting on a level and stable surface?
11. Is the paper stock used in the printer as recommended in the User Manual?
12. Does the customer use the printer as instructed in the User Manual?
13. Are consumables replaced at the intervals recommended in the General Information section.
14. Are all of the printer assemblies in place and are all printer covers and doors firmly closed?

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 refer to the System Controller Error Codes on page 1-44. If all else fails, replace the System Controller board.*

Repair Analysis Procedures (RAP)

Depending on the level of firmware on your Print Engine Controller Board some codes listed in this table may be invalid, some codes generated may not appear in this table, and Error and Message Code text presented in this table may differ slightly from the Error and Message Code text appearing on the Control Panel display. In some cases, where no RAP is indicated, follow the displayed message to clear the problem

Table 1-26 Legend

Term	Definition	Comment
PE	Print Engine	Sometimes referred to as "IOT" (Image Output Terminal) and appears in the display on the Control Panel as a result of programming.
HCF	High Capacity Feeder	Option
DUP	Duplex Module	Option
ENV	Envelope Feeder	Option
FIN	Finisher	Option
SE	Sensor	Abbreviated sensor callout identifier
SW	Switch	Abbreviated switch callout identifier

Table 1-27 Repair Analysis Procedure (RAP) Table

Displayed Error Message	Error Code	Fault Description	Go To RAP No.	Unit/Page
Clear Area A Reset Tray 1	C1-3	There is a paper jam between Paper Tray 1 and the Registration Sensor. Logic Control on the print Engine Controller Board sensed that the Registration Sensor did not actuate within the specified time after the Tray 1 Feed Clutch was actuated.	RAP 1-30	1-81
Clear Area A, B Reset Tray 2	C2-2	There is a paper jam between Paper Tray 2 and Take Away Roller 2 Sensor. Logic Control on the Print Engine Controller Board sensed that the Take Away Roller 2 Sensor did not actuate within the specified time after the Tray 2 Feed Clutch was actuated.	RAP 1-31	1-83
Paper Jam Clear Area A	C2-3	There is a paper jam between Paper Tray 2 and the Registration Sensor. Logic Control on the Print Engine Controller Board sensed that the Registration Sensor did not actuate within the specified time after the Tray 2 Feed Clutch was actuated.	RAP 1-32	1-85
Paper Jam Clear Areas A,B	C3-2	There is a paper jam between Tray 3 and Tray 2 Take Away Sensor. Logic Control on the Print Engine Controller Board sensed that the Tray 2 Take Away Sensor did not actuate within the specified time after the Tray 3 Feed Clutch was actuated.	RAP 2-1	2-373
Paper Jam Clear Area A, B	C3-3	There is a paper jam between Tray 3 and the Registration Sensor. Logic Control on the Print Engine Controller Board sensed that when paper was fed from Tray 3, the Registration Sensor did not actuate within the specified time after the Tray 2 Take Away Sensor actuated.	RAP 2-2	2-375
Clear Area C Reset Tray 4	C4-0	There is a paper jam between Paper Tray 4 and the Tray 3 Take Away Sensor. Logic Control on the Print Engine Controller Board sensed that when paper was fed from Tray 4, the Tray 3 Take Away Sensor did not actuate within the specified time after the Tray 4 Feed Clutch was actuated.	RAP 2-20	2-407
Paper Jam Clear Areas B,C	C4-1	There is a paper jam between Paper Tray 4 and the Tray 3 Take Away Sensor. Logic Control on the Print Engine Controller Board sensed that when paper was fed from Tray 4, the Tray 3 Take Away Sensor did not actuate within the specified time after the Tray 4 Feed Clutch was actuated.	RAP 2-3	2-377
Paper Jam Clear Areas A, B, C	C4-2	There is a paper jam between Tray 2 Take Away Sensor and Tray 3 Take Away Sensor. Logic Control on the Print Engine Controller Board sensed that when paper was fed from Tray 4, the Tray 2 Take Away Sensor did not actuate within the specified time after the Tray 3 Take Away Sensor was actuated.	RAP 2-4	2-379

Table 1-27 Repair Analysis Procedure (RAP) Table (cont'd.)

Displayed Error Message	Error Code	Fault Description	Go To RAP No.	Unit/ Page
Paper Jam Clear Area A, B	C4-3	There is a paper jam between Paper Tray 4 and the Registration Sensor. Logic Control on the Print Engine Controller Board sensed that when paper was fed from Tray 4, the Registration Sensor did not actuate within then specified time after the Tray 2 Take Away Sensor was actuated.	RAP 2-5	2-381
Clear Area C Reset Tray 5	C5-0	There is a paper jam between paper Tray 5 and the Tray 4 Take Away Sensor. Logic Control on the Print Engine Controller Board sensed that when paper was fed from Tray 5, the Tray 4 Take Away Sensor did not actuate within the specified time after the Tray 5 Feed Clutch was actuated.	RAP 2-6	2-383
Paper Jam Clear Areas B,C	C5-1	There is a paper jam between paper Tray 5 and the Tray 3 take Away Sensor. Logic Control on the Print Engine Controller Board sensed that when paper was fed from Tray 5, the Tray 3 Take Away Sensor did not actuate within the specified time after the Tray 4 Take Away Sensor was actuated.	RAP 2-7	2-385
Paper Jam Clear Areas A, B, C	C5-2	There is a paper jam between Tray 2 Take Away Sensor and Tray 3 Take Away Sensor. Logic Control on the Print Engine Controller Board sensed that when paper was fed from Tray 5, the Tray 2 Take Away Sensor signal did not actuate within the specified time after the Tray 3 Take Away Sensor was actuated.	RAP 2-8	2-387
Paper Jam Clear Area A, B	C5-3	There is a paper jam between paper Tray 5 and the Registration Sensor. Logic Control on the Print Engine Controller Board sensed that when paper was fed from Tray 5, the Registration Sensor did not actuate within then specified time after the Tray 2 Take Away Sensor was actuated.	RAP 2-9	2-389
Clear Area C Reset Tray 5	C5-4	There is a paper jam between Paper Tray 5 and the Tray 5 Take Away Sensor. Paper fed from Tray 5 did not reach the Take-Away Roller 5 Sensor within the specified time.	RAP 2-21	2-409
Paper Jam Clear Duplx Unit	C6-1	There is a paper jam between the Duplex Wait Sensor and the Registration Sensor. Paper fed from the Duplex Module did not reach the Registration Sensor within specified time.	RAP 3-6	3-518
Paper Jam Reset ENV/Bypass	C8-1	There is a problem with the Envelope Feed Sensor. Remaining paper detected by the Envelope Feeder/MBF Exit Sensor.	RAP 4-1	4-565
Paper Jam Clear Areas A,B	C8-2	There is a problem with the Tray Take Away Sensor. Logic Control on the Print Engine Controller Board sensed the Tray 2 Take Away Sensor was on while the printer was in standby.	RAP 1-33	1-86

Table 1-27 Repair Analysis Procedure (RAP) Table (cont'd.)

Displayed Error Message	Error Code	Fault Description	Go To RAP No.	Unit/Page
Paper Jam Clear Areas B,C	C8-3	There is a problem with the Tray 3 Take Away Sensor. Logic Control on the Print Engine Controller Board sensed the Tray 3 Take Away Sensor was on while the printer was in standby.	RAP 2-10	2-391
Paper Jam Clear Area C	C8-4	There is a problem with the Tray 4 Take Away Sensor. Logic Control on the Print Engine Controller Board sensed the Tray 4 Take Away Sensor was on while the printer was in standby.	RAP 2-11	2-392
Clear Area C Reset Tray 5	C8-5	Logic Control on the Print Engine Controller Board sensed paper remaining at the Take-Away Roller 5 Sensor.	RAP 2-22	2-411
Paper Jam Clear Duplx Unit	C8-6	There is a paper jam at the Duplex Exit Sensor. Remaining paper detected in the Duplex Module.	RAP 3-7	3-520
Paper Jam Reset ENV/Bypass	C9-1	There is a paper jam between the Envelope Tray and the Envelope Feed Sensor. Paper fed from the MBF or the Envelope Feeder did not reach the MBF/Envelope Feeder Exit Sensor within specified time.	RAP 4-2	4-566
Paper Jam Reset ENV/Bypass	C9-2	There a paper jam between the Multi-sheet Bypass Feeder (MBF) and Tray 2 Take Away Sensor. Logic Control on the Print Engine Controller Board sensed that when paper was fed from the Multi-sheet Bypass Feeder, Tray 2 Take Away Sensor did not actuate within the specified time after the MBF Feed Clutch was actuated.	RAP 1-34 RAP 4-3	1-87 4-566
Paper Jam Reset ENV/Bypass	C9-3	There is a paper jam between the Multi-sheet Bypass Feeder (MBF) and the Registration Sensor. Logic Control on the Print Engine Controller Board sensed that when paper was fed from the Multi-sheet Bypass Feeder, the Registration Sensor did not actuate within the specified time after the MBF Feed Clutch was actuated.	RAP 1-35 RAP 4-4	1-89 4-571
Paper Jam Clear Area A	E1-1	There is a paper jam at the Registration Sensor. Logic Control on the Print Engine Controller Board sensed the paper did not leave the Registration Sensor within the specified time since paper feed.	RAP 1-18	1-64
Paper Jam Clear Area A	E1-2	There is a paper jam between the Registration Sensor and the Fuser Exit Sensor. Logic Control on the Print Engine Controller Board sensed the Fuser Exit Sensor was not actuated within the specified time since the Registration Clutch was actuated.	RAP 1-19	1-66
Paper Jam Clear Area A	E1-3	There is a paper jam between the Fuser Exit Sensor and the Face Up Exit Sensor. Logic Control on the Print Engine Controller Board sensed the Face Up Exit Sensor was not actuated within the specified time since the Fuser Exit Sensor was actuated.	RAP 1-20	1-69

Table 1-27 Repair Analysis Procedure (RAP) Table (cont'd.)

Displayed Error Message	Error Code	Fault Description	Go To RAP No.	Unit/ Page
Paper Jam Clear Area A	E1-6	There is a problem at the Registration Sensor. Paper is detected on the Registration Sensor.	RAP 1-21	1-71
Paper Jam Clear Area A	E3-1	There is a paper jam at the Fuser Exit Sensor. Logic Control on the Print Engine Controller Board sensed the Fuser Exit Sensor did not de-actuate within the specified time after actuating.	RAP 1-22	1-72
Paper Jam Clear Area A	E3-6	The Fuser Exit Sensor is actuated at printer power on. Logic Control on the Print Engine Controller Board sensed the Fuser Exit Sensor was on while the printer was in standby.	RAP 1-23	1-74
Paper Jam Clear Area A	E4-1	There is a paper jam at the Face Up Exit Sensor. Logic Control on the Print Engine Controller Board sensed that during Face-Up-Mode the Face Up Exit Sensor did not de-actuate within the specified time after actuating.	RAP 1-24	1-75
Paper Jam Clear Duplx Unit	E4-2	There is a paper jam at the Duplex Exit Sensor. Paper outputted to the Face Up Tray did not reach the Duplex Exit Sensor within specified time.	RAP 3-1	3-509
Paper Jam Clear Area A	E4-3	There is a paper jam at the Face Up Exit Sensor. Logic Control on the Print Engine Controller Board sensed that during Duplex Mode the Face up Exit Sensor did not de-actuate within the specified time after actuating.	RAP 1-25	1-76
Paper Jam Clear Duplx Unit	E4-5	There is a problem near the Fuser Exit Sensor. The inverted page to be stationed in the Duplex Module did not reach the Face Up Exit Sensor within the specified time.	RAP 1-26	1-77
Paper Jam Clear Area A	E4-6	There a paper jam at the Face Up Exit Sensor. Logic Control on the Print Engine Controller Board sensed the Face Up Exit Sensor was on while the printer was in standby.	RAP 1-27	1-78
Close Door A	E5-1	The Left Door (A) is open. The Left Door (A) is closed, but Logic Control on the Print Engine Controller Board sensed the Left Door (A) Interlock Switch indicates the door is open.	RAP 1-28	1-79
Close Door B	E5-2	The Left Door (B) is open. The Left Door (B) is closed, but Logic Control on the Print Engine Controller Board sensed the Left Door (A) Interlock Switch is open.	RAP 1-29	1-80
Close Door C	E6-1	Door C is sensed to be open. Logic Control on the Print Engine Controller Board sensed that Door C is open.	RAP 2-12	2-393
Close Duplx Unit	E7-3	Duplex Unit is sensed to be open. The Duplex Unit is closed, but Logic control on the Print Engine controller board sensed that the Duplex Interlock Switch is open.	RAP 3-2	3-511
Paper Jam Clear Duplx Unit	E8-1	There is a paper jam at the Duplex Exit Sensor. Inverted Printed Page to be outputted to the Face Up Tray did not leave the Duplex Module Exit Sensor within the specified time.	RAP 3-3	3-512

Table 1-27 Repair Analysis Procedure (RAP) Table (cont'd.)

Displayed Error Message	Error Code	Fault Description	Go To RAP No.	Unit/Page
Paper Jam Clear Duplx Unit	E8-2	There is a paper jam between the Face Up Exit sensor and the duplex Wait Sensor. Inverted Printed Page to be stationed in the Duplex Unit did not reach the Duplex Unit Wait Sensor within specified time.	RAP 3-4	3-514
Paper Jam Clear Duplx Unit	E8-6	There is a problem with the Duplex Exit Sensor. Paper detected on the Duplex Module's Exit Sensor.	RAP 3-5	3-516
Paper Jam Clear Area E	F4-11	The Trail Edge of paper does not leave the Finisher Transport Entrance Sensor within the specified time. (SE 31)	RAP 6-1	6-655
Paper Jam Clear Area E	F4-12	After leaving the Fuser Exit Sensor, the Lead Edge of paper does not reach the Finisher Transport Entrance Sensor within specified time. (SE 31)	RAP 6-2	6-657
Paper Jam Clear Area E	F4-16	<ul style="list-style-type: none"> ■ Remaining paper detected by the Finisher Transport Entrance Sensor. (SE 31) ■ Paper was detected by the Finisher Transport Entrance Sensor during the initialization of the Finisher. (SE 31) 	RAP 6-3	6-659
Paper Jam Clear Area F	F4-21	Paper does not leave the Finisher Transport Exit Sensor within specified time. (SE 32)	RAP 6-4	6-661
Paper Jam Clear Area F	F4-22	After leaving the Finisher Transport Entrance Sensor, the Lead Edge of paper does not reach the Finisher Transport Exit Sensor within specified time. (SE 32)	RAP 6-5	6-663
Paper Jam Clear Area F	F4-26	<ul style="list-style-type: none"> ■ Remaining paper detected by the Finisher Transport Exit Sensor. (SE 32) ■ Paper was detected by the Finisher Transport Exit Sensor when the Finisher was initialized. (SE 32) 	RAP 6-6	6-665
Paper Jam Clear Area F	F4-31	Paper does not leave the Finisher Input Path Sensor after the paper has reached the Finisher Input Path Sensor. (SE 1)	RAP 6-7	6-667
Paper Jam Clear Areas F	F4-32	After leaving the Finisher Transport Exit Sensor, the Lead Edge of paper does not reach the Finisher Input Path Sensor within specified time. (SE 1)	RAP 6-8	6-669
Paper Jam Clear Areas G	F4-36	Remaining paper detected by the Finisher Input Path Sensor. (SE 1)	RAP 6-9	6-671
Paper Jam Clear Area G	F4-41	Paper does not leave the Finisher Path Sensor after the paper has reached the Finisher Path Sensor. (SE 2)	RAP 6-10	6-673
Paper Jam Clear Area G	F4-42	Paper does not reach the Finisher Path Sensor for prescribed period of time, after the Lead Edge of paper has reached the Finisher Input Path Sensor. (SE 2)	RAP 6-11	6-675
Paper Jam Clear Area G	F4-46	Remaining paper detected by the Finisher Path Sensor. (SE 2)	RAP 6-12	6-677
Paper Jam Clear Area G	F4-51	Paper does not leave the Finisher Exit Path Sensor after paper has reached the Finisher Exit Path Sensor. (SE 3)	RAP 6-13	6-678

Table 1-27 Repair Analysis Procedure (RAP) Table (cont'd.)

Displayed Error Message	Error Code	Fault Description	Go To RAP No.	Unit/ Page
Paper Jam Clear Area G	F4-52	After the Lead Edge of paper has reached the Finisher Path Sensor, the paper does not reach the Finisher Exit Path Sensor within specified time. (SE 3)	RAP 6-14	6-680
Paper Jam Clear Area G	F4-56	Paper was detected by the Finisher Exit Path Sensor when the Finisher was initialized. (SE 3)	RAP 6-15	6-682
Paper Jam Clear Area H	F4-61	1. In Staple Mode, the Compiler Tray Exit Path Sensor does not turn OFF within a prescribed period of time from the time the set was to be ejected. 2. In Unstaple Mode, the Compiler Tray Exit Path Sensor does not turn OFF within a prescribed period of time from the time the Compiler Tray Exit Path Sensor turned ON. (SE 4)	RAP 6-16	6-684
Paper Jam Clear Area H	F4-66	Remaining paper detected by the Compiler Tray Exit Path Sensor. (SE 4)	RAP 6-17	6-686
Close Cover E	F6-1	Finisher IN Gate Cover is sensed to be open. (SE 29)	RAP 6-18	6-688
Close Door F	F6-2	Finisher Transport Door F is sensed to be open. (SE 30)	RAP 6-19	6-690
Close Stapler Door	F7-1	Finisher Stapler Door is sensed to be open. (SW 27)	RAP 6-20	6-691
Close Exit Roller Unit	F7-3	Exit Roller Unit Interlock is Open. (SW 26)	RAP 6-21	6-692
Slide In Finisher	F8-1	Finisher Interlock Switch is sensed to be open. (SW 24)	RAP 6-22	6-694
Insert Tray 1	H1-1	There is a Lift Up problem with Tray 1. Logic Control on the Print Engine Controller Board sensed that Tray 1 was not raising into position in Feeder 1.	RAP 1-36	1-91
Insert Tray 2	H1-2	There is a Lift Up problem with Tray 2. Logic Control on the Print Engine Controller Board sensed that Tray 2 was not raising into position in Feeder 2.	RAP 1-37	1-92
Insert Tray 3	H1-3	There is a problem with Tray 3. Logic Control on the Print Engine Controller Board sensed that the Tray 3 Paper Level Sensor did not actuate within the specified time after the Tray 3 Lift Motor was actuated.	RAP 2-13	2-395
Insert Tray 4	H1-4	There is a problem with Tray 4. Logic Control on the Print Engine Controller Board sensed that the Tray 4 Paper Level Sensor did not actuate within the specified time after the Tray 4 Lift Motor was actuated.	RAP 2-14	2-397
Insert Tray 5	H1-5	There is a problem with Tray 5. Logic Control on the Print Engine Controller Board sensed that the Tray 5 Paper Level Sensor did not actuate within the specified after the Tray 5 Lift Motor was actuated.	RAP 2-15	2-399

Table 1-27 Repair Analysis Procedure (RAP) Table (cont'd.)

Displayed Error Message	Error Code	Fault Description	Go To RAP No.	Unit/Page
Duplex Unit Fail Power Off/On	H2-7	There is a communication problem between the printer and the Duplex Unit. Logic Control on the Print Engine Controller Board could not initialize the Duplex Unit within the specified time.	RAP 1-38	1-93
Install Correct Duplex Unit	H2-8	Incorrect Duplex Unit detected as being installed. (N24/N32/N40 Duplexer Installed instead of N4525 Duplexer.). No RAP required.		
Load Tray 1 <size>, <type>	H4-1	Tray 1 out of paper or size/type incorrect for printed job.	RAP 1-39	1-94
Load Tray 2 <size>, <type>	H4-2	Tray 2 out of paper or size/type incorrect for printed job.	RAP 1-40	1-95
Load Tray 3 <size>, <type>	H4-3	Tray 3 out of paper or size/type incorrect for printed job.	RAP 2-16	2-401
Load Tray 4 <size>, <type>	H4-4	Tray 4 out of paper or size/type incorrect for printed job.	RAP 2-17	2-403
Load Tray 5 <size>, <type>	H4-5	Tray 5 out of paper or size/type incorrect for printed job.	RAP 2-18	2-404
Finisher Failure Power Off/On	H5-11	Failure of Finisher Bin. (SE21)	RAP 6-23	6-696
Finisher Failure Power Off/On	H5-21	Failure of Finisher Front Jogger. (SE 8)	RAP 6-24	6-698
Finisher Failure Power Off/On	H5-22	Failure of Finisher Rear Jogger. (SE 9)	RAP 6-25	6-699
Finisher Failure Power Off/On	H5-81	Failure of Exit Roller Open/Close. (SE 5)	RAP 6-26	6-700
Finisher Failure Power Off/On	H5-83	Failure of Roller Shift. (SE 6)	RAP 6-27	6-702
Finisher Failure Power Off/On	H5-91	Failure of Stapler. (SE 16)	RAP 6-28	6-704
Finisher Failure Power Off/On	H5-92	Failure of Stapler Head Home Sensor. (SE 16)	RAP 6-29	6-705
Finisher Failure Power Off/On	H5-93	Failure of Stapler Front Staple Position. (SE 10)	RAP 6-30	6-707
Finisher Failure Power Off/On	H5-96	Failure of Stapler Swing. (SE 11/12)	RAP 6-31	6-709
Finisher Failure Power Off/On	H6-7	Communication Error between Print Engine Controller and Finisher Board.	RAP 6-32	6-710
HCF NVM Fail Power Off/On	H7-3 H7-4 H7-7	There is a communication problem between the Print Engine controller and the High Capacity Feeder or a problem with NVM on the HCF. NVM on the High capacity feeder control Board cannot execute a READ/WRITE, is non-functional, or there is a communication error between the HCF and the Print Engine Controller Board.	RAP 2-19	2-406
Replace Print Cartridge	J1-2	The Laser Print (EP) Cartridge is low on toner and should be replaced. Logic Control on the Print Engine Controller Board sensed that at Main Motor start-up, the Toner Sensor was off for longer than the specified time.	RAP 1-41	1-96

Table 1-27 Repair Analysis Procedure (RAP) Table (cont'd.)

Displayed Error Message	Error Code	Fault Description	Go To RAP No.	Unit/ Page
Install Print Cartridge	J3-1	The Laser Print (EP) Cartridge is not installed or is not installed correctly. Logic Control on the Print Engine Controller Board sensed that the Laser Print (EP) Cartridge Interlock Switch was not actuated.	RAP 1-42	1-97
Replace Print Cartridge	J6-1	The Laser Print (EP) Cartridge has reached end of life. Logic Control on the Print Engine controller Board sensed that the Laser Print (EP) Cartridge has printed a specified number of prints and should be replaced with a new one.	RAP 1-43	1-98
Print Cartridge OEM ID Mismatch	J8-1	The wrong Laser Print (EP) Cartridge is installed in the printer. Logic Control on the Print Engine Controller Board sensed that the Laser Print (EP) Cartridge installed is not compatible with the printer.	RAP 1-44	1-99
Install Print Cartridge	J8-3	A laser Print (EP) Cartridge Memory error occurred. Logic Control on the Print Engine Controller Board could not read Laser Print (EP) Cartridge Memory data.	RAP 1-45	1-100
CRUM Failure Power Off/On	J8-4	A laser Print (EP) Cartridge memory communication error occurred. Logic Control on the Print Engine Controller Board could not access Laser Print (EP) Cartridge Memory data.	RAP 1-46	1-101
CRUM Failure Replace CRU	J8-5	A Laser Print (EP) Cartridge memory communication error occurred. Logic Control on the Print Engine Controller Board sensed a wrong or a counterfeit Laser Print (EP) Cartridge.	RAP 1-47	1-102
Motor Failure Power Off/On	U1-1	There is a problem with the Main Motor. Logic Control on the Print Engine Controller Board detected a problem with the Main Motor.	RAP 1-1	1-46
LVPS Fan Failure	U1-3	There is a problem with the Low Voltage Power Supply Fan. Logic Control on the Print Engine Controller Board detected a problem with the Low Voltage Power Supply Fan.	RAP 1-2	1-48
Drum Mtr Fail Power Off/On	U1-4	There is a problem with the Drum Motor. Logic Control on the Print Engine Controller Board detected a problem with the Drum Motor.	RAP 1-3	1-49
Laser Failure Power Off/On	U3-1	There is a problem with the Laser Scanner. Logic Control on the Print Engine Controller Board received a constant HIGH signal from the Start Of Scan (SOS) Sensor.	RAP 1-4	1-50
Laser Failure Power Off/On	U3-3	There is a problem with the Start Of Scan (SOS) Sensor. Logic Control on the Print Engine Controller Board detected the time between signals from the Start of Scan Sensor was longer than specified.	RAP 1-5	1-51

Table 1-27 Repair Analysis Procedure (RAP) Table (cont'd.)

Displayed Error Message	Error Code	Fault Description	Go To RAP No.	Unit/Page
Laser Failure Power Off/On	U3-4	There is a problem with the Start Of Scan (SOS) Sensor. Logic Control on the Print Engine Controller Board detected the time between signals from the Start Of Scan Sensor was shorter than specified.	RAP 1-6	1-52
Laser Failure Power Off/On	U3-5	There is a problem with the Laser Scanner. Logic Control on the Print Engine Controller Board detected that the Laser Scanner Motor has not come up to full speed within the specified time.	RAP 1-7	1-53
Fuser Failure Power Off/On	U4-1	There is a problem with the Fuser. Logic Control on the Print Engine Controller Board detected that the thermistor remained on for longer than the specified time.	RAP 1-8	1-54
Fuser Failure Power Off/On	U4-2	There is a problem with the Fuser. Logic Control on the Print Engine Controller Board detected that the Fuser temperature exceeded the temperature set for Fuser overheat.	RAP 1-9	1-55
Fuser Failure Power Off/On	U4-3	There is a problem with the Fuser. Logic Control on the Print Engine Controller Board sensed that the Fuser thermostat opened.	RAP 1-10	1-56
Fuser Failure Power Off/On	U4-4	There is a problem with the Fuser. Logic Control on the Print Engine Controller Board sensed that the Fuser thermostat opened.	RAP 1-11	1-57
Fuser Failure Power Off/On	U4-5	There is a problem with the Fuser. Logic Control on the Print Engine Controller Board detected a fuser temperature above the upper limit.	RAP 1-12	1-58
Fan Failure Power Off/On	U4-9	There is a problem with the Fuser Fan. Logic Control on the Print Engine Controller Board received a Fan Alarm signal from Fuser Fan.	RAP 1-13	1-59
IOT Memory Fail Power Off/On	U6-2	There is a problem reading information from RAM. Logic Control on the Print Engine Controller Board had a problem reading information from RAM.	RAP 1-14	1-60
IOT NVM Fail Power Off/On	U6-3	There is an unnamed problem with Non-Volatile Memory. Logic Control on the Print Engine Controller Board had a problem with NVRAM.	RAP 1-15	1-61
IOT NVM Fail Power Off/On	U6-4	There is a problem reading information from Non-Volatile Memory. Logic Control on the Print Engine Controller Board had a problem reading information from NVRAM.	RAP 1-16	1-62
IOT ASIC Fail Power Off/On	U6-5	There is a problem with ASIC-CRUM. Logic Control on the Print Engine Controller Board detected an ASIC-CRUM control circuit error.	RAP 1-17	1-63

System Controller Error Codes

The following error codes are considered to be Power-On Boot Codes.

Most Repair Analysis Procedures assume there is no malfunction in the System Controller Board. If you are unable to correct a problem using the previous error code table, it is recommended that you now check the System Controller Error Blink Codes per the table below. In some instances, the Control Panel Display may not be sufficiently functional to accurately show error codes/messages. Before replacing the System Controller, please refer to this table for additional help in troubleshooting.

The System Controller Board is programmed to display simple error codes by means of a single red LED (CR 1) near the connector edge of the board. The LED blinking pattern will indicate various detected failures connected with the board and/or accessories installed on the board. The System Controller Error Code Table below will help you pinpoint the fault. If all else fails, replace the System Controller Board.

Table 1-28 System Controller Error Code Table

Control Panel Message	LED # Blinks, Followed by 1 sec. Off	Comment
0001 - ESS	1	System Controller Board major failure. Replace System Controller Board. Go to RRP 1-73.
0001 - BASE RAM	2	System Controller Board RAM failure. Replace System Controller Board. Go to RRP 1-73.
0001 - BASE ROM	3	System Controller Board boot ROM. Replace System Controller Board. Go to RRP 1-73.
0001 - ASIC	4	System Controller Board ASIC failure. Replace System Controller Board. Go to RRP 1-73.
0001 - TIMER	4	System Controller Board Timer failure. Replace System Controller Board. Go to RRP 1-73.
0001 - PWPM	5	System Controller Board PWPM failure. Replace System Controller Board. Go to RRP 1-73.
0001 - DMA	5	System Controller Board DMA failure. Replace System Controller Board. Go to RRP 1-73.
0001 - COMM or 0001 - USB	6	System Controller Board parallel or USB port failure. Replace System Controller Board. Go to RRP 1-73.
1000 - IOT	8	<ul style="list-style-type: none">■ System Controller - IOT (Print Engine) handshake failure. Remove and reinstall the System Controller Board (RRP 1-73)■ Replace the System Controller Board (RRP 1-73)■ Replace the Print Engine Controller Board (RRP 1-72)
0010 - DISK	9	<ul style="list-style-type: none">■ Hard disk failure.■ Format Hard Disk (Call Technical Support for assistance)■ Replace the Hard Disk (Instructions supplied with the replacement hard disk)■ Replace the Print Engine Controller Board (RRP 1-73)

Table 1-28 System Controller Error Code Table (cont'd.)

Control Panel Message	LED # Blinks, Followed by 1 sec. Off	Comment
0101 - DIMM1	10	DIMM 1 failure. Replace DIMM 1.
0102 - DIMM2	11	DIMM 2 failure. Replace DIMM 2.
0103 - DIMM3	12	DIMM 3 failure. Replace DIMM 3.
2000 - XIE RAM	15	System Controller Xerox Image Enhanced PWPM failure. Replace System Controller Board. Go to RRP 1-73.
2010 - XIE PWPM	15	System Controller Xerox Image Enhanced PWPM failure. Replace System Controller Board. Go to RRP 1-73.
2020 - XIE VDMA	15	System Controller Xerox Image Enhanced VDMA failure. Replace System Controller Board. Go to RRP 1-73.
3000 - Token Ring	16	Replace the appropriate network card.
3000 - Serial		Replace System Controller Board. Go to RRP 1-73.
3000 - E-Net (10 Base 2)		
5000 - Memory	None	Memory size not large enough to load the system software Download Data. Replace System Controller Board. Go to RRP 1-73.

RAP 1-1

Error Code U1-1

Motor Failure Power Off/On

There is a problem with the Main Motor.

Logic Control on the Print Engine Controller Board detected a problem with the Main Motor.

Table 1-29 Error Code U1-1 Motor Failure Power Off/On

Step	Actions and Questions	Yes	No
1	DRIVE ASSEMBLY INSPECTION 1. Remove the Rear Cover (RRP 1-5) so you can observe the Main Motor and Drive Assembly. 2. Hand rotate (counter clockwise) the Main Motor. Can you easily rotate the Main Motor and do all of the gears on the Main Drive Assembly rotate freely and without binding?	Go to step 8	Go to step 2
2	DRIVE ASSEMBLY INSPECTION 1. Remove the Laser Print (EP) Cartridge. 2. Hand rotate (counter clockwise) the Main Motor. Can you easily rotate the Main Motor and do all of the gears on the Main Drive Assembly rotate freely and without binding?	Replace the Laser Print Cartridge with a new one.	Go to step 3
3	SUBSYSTEM ISOLATION 1. Open the Left Cover A. 2. Touching only the drive gear at the end of the Roller, hand rotate the Bias Transfer Roller. Can you easily rotate the Bias Transfer Roller?	Go to step 4	Replace the Left Upper Cover (A) Assembly (RRP 1-42)
4	SUBSYSTEM ISOLATION 1. Remove the Fuser Assembly. 2. Hand rotate (counter clockwise) the Main Motor. Can you easily rotate the Main Motor and do all of the gears on the Main Drive Assembly rotate freely and without binding?	Replace the Fuser Assembly	Go to step 5
5	SUBSYSTEM ISOLATION 1. Remove the Offset Unit (RRP 1-54). 2. Hand rotate (counter clockwise) the Main Motor. Can you easily rotate the Main Motor and do all of the gears on the Main Drive Assembly rotate freely and without binding?	Replace the Offset Unit (RRP 1-54)	Go to step 6
6	SUBSYSTEM ISOLATION 1. Remove the Tray 1 Feed Clutch (RRP 1-10). 2. Hand rotate (counter clockwise) the Main Motor. Can you easily rotate the Main Motor and do all of the gears on the Main Drive Assembly rotate freely and without binding?	Replace the Tray 1 Feed Clutch (RRP 1-10)	Go to step 7

Table 1-29 Error Code U1-1 Motor Failure Power Off/On (cont'd.)

Step	Actions and Questions	Yes	No
7	<p>SUBSYSTEM ISOLATION</p> <ol style="list-style-type: none"> 1. Remove the Multi-sheet Bypass Feeder Feed Clutch (RRP 1-29). 2. Hand rotate (counter clockwise) the Main Motor. <p>Can you easily rotate the Main Motor and do all of the gears on the Main Drive Assembly rotate freely and without binding?</p>	<p>Replace the Multi-sheet Bypass Feeder Feed Clutch (RRP 1-29)</p>	<p>Replace the Main Drive Assembly (RRP 1-66)</p>
8	<p>MAIN MOTOR TEST</p> <ol style="list-style-type: none"> 1. Enter Diagnostics Mode 2. From the Main Menu, select Comp Output Test / IOT Unit / Main Motor On to check the Main Motor function. 3. Press [4] to start, [0] to stop. <p>Does the Main Motor run when you start Main Motor Output Test?</p>	<p>Go to step 9</p>	<p>Replace the Main Drive Assembly (RRP 1-66)</p>
9	<p>PRINT ENGINE CONTROLLER BOARD REPLACEMENT</p> <p>Replace the Print Engine Controller Board (RRP 1-72).</p> <p>Does the error code appear?</p>	<p>Go to step 10</p>	<p>Problem solved</p>
10	<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 ■ Low Voltage Power Supply (RRP 1-67) ■ Input/Output Board (RRP 1-70). 		

RAP 1-2

Error Code U1-3

LVPS Fan Failure

There is a problem with the Low Voltage Power Supply Fan.

Logic Control on the Print Engine Controller Board detected a problem with the Low Voltage Power Supply Fan.

Table 1-30 Error Code U1-3 LVPSFan Failure

Step	Actions and Questions	Yes	No
1	LOW VOLTAGE POWER SUPPLY FAN TEST 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Output Test / LVPS Fan High to check the Low Voltage Power Supply Fan function. 3. Press [4] to start, [0] to stop. Does Fan rotate when you start theLVPS Fan Output Test?	Replace the Print Engine Controller Board (RRP 1-72)	Replace the Low Voltage Power Supply cooling fan (RRP 1-67)

RAP 1-3

Error Code U1-4

Drum Mtr Fail Power Off/On

There is a problem with the Drum Motor.

Logic Control on the Print Engine Controller Board detected a problem with the Drum Motor.

Table 1-31 Error Code U1-4 Drum Mtr Fail Power Off/On

Step	Actions and Questions	Yes	No
1	DRUM MOTOR TEST 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Output Test / IOT Unit / Drum Motor On to check the Drum Motor function. 3. Press [4] to start, [0] to stop. Does Drum Motor rotate when you start Output Test?	Replace the Print Engine Controller Board (RRP 1-72)	Go to step 2
2	DRUM MOTOR TEST 1. Remove the Laser Print (EP) Cartridge from the printer. 2. From the Main Menu, select Comp Output Test / IOT Unit / Drum Motor On to check the Drum Motor function. 3. Press [4] to start, [0] to stop. Does Drum Motor rotate when you start the test?	Replace the Laser Print (EP) Cartridge with a new one	Replace the Main Drive Assembly (RRP 1-66)

RAP 1-4

Error Code U3-1

Laser Failure Power Off/On

There is a problem with the Laser Scanner.

Logic Control on the Print Engine Controller Board received a constant HIGH signal from the Start of Scan (SOS) Sensor.

Table 1-32 Error Code U3-1 Laser Failure Power Off/On

Step	Actions and Questions	Yes	No
1	RESET Switch off printer main power. Wait one minute. Switch on printer main power. Does the error code appear?	Go to step 2	Suspect an intermittent problem with the Print Engine Controller Board, the Laser Diode board, the SOS Sensor, or the connectors and wiring linking these components.
2	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 3	Problem solved
3	LASER SCANNER REPLACEMENT Replace the Laser Scanner Assembly (RRP 1-47). Does the error code appear?	Go to step 4	Problem solved
4	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">■ Wiring and connectors linking the components■ Interlock switches and circuits■ Input/Output Board (RRP 1-70).		

RAP 1-5

Error Code U3-3

Laser Failure Power Off/On

There is a problem with the Start of Scan (SOS) Sensor.

Logic Control on the Print Engine Controller Board detected that the time between signals from the Start of Scan Sensor was longer than specified.

Table 1-33 Error Code U3-3 Laser Failure Power Off/On

Step	Actions and Questions	Yes	No
1	RESET Switch off printer main power. Wait one minute. Switch on printer main power. Does the U3-3 error code appear?	Go to step 2	Suspect an intermittent problem with the Print Engine Controller Board, the Laser Diode board, the SOS Sensor, or the connectors and wiring linking these components.
2	LOW VOLTAGE POWER SUPPLY +5VDC CHECK Measure the voltage between J400, pins 1, 2 & 3 (on the Print Engine Controller Board) and frame ground. Is there +5VDC between J400, pins 1,2 & 3 and frame ground?	Go to step 3	Replace the Low Voltage Power Supply Assembly (RRP 1-67)
3	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 4	Problem solved
4	LASER SCANNER REPLACEMENT Replace the Laser Scanner Assembly (RRP 1-47). Does the error code appear?	Go to step 5	Problem solved
5	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">■ Wiring and connectors linking the components■ Input/Output Board (RRP 1-70).		

RAP 1-6

Error Code U3-4

Laser Failure Power Off/On

There is a problem with the Start of Scan (SOS) Sensor.

Logic Control on the Print Engine Controller Board detected that the time between signals from the Start of Scan Sensor was shorter than specified.

Table 1-34 Error Code U3-4 Laser Failure Power Off/On

Step	Actions and Questions	Yes	No
1	RESET 1. Switch off printer main power. 2. Wait one minute. 3. Switch on printer main power.	Go to step 2	Suspect an intermittent problem with the Print Engine Controller Board, the Laser Diode board, the SOS Sensor, or the connectors and wiring linking these components.
	Does the U3-4 error code appear?		
2	LOW VOLTAGE POWER SUPPLY +5VDC CHECK Measure the voltage between J400, pins 1, 2 & 3 (on the Print Engine Controller Board) and frame ground. Is there +5VDC between J400, pins 1,2 & 3 and frame ground?	Go to step 3	Replace the Low Voltage Power Supply Assembly (RRP 1-67)
3	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 4	Problem solved
4	LASER SCANNER REPLACEMENT Replace the Laser Scanner Assembly (RRP 1-47). Does the error code appear?	Go to step 5	Problem solved
5	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. ■ Wiring and connectors linking the components ■ Input/Output Board (RRP 1-70).		

RAP 1-7

Error Code U3-5

Laser Failure Power Off/On

There is a problem with the Laser Scanner.

Logic Control on the Print Engine Controller Board detected that the Laser Scanner Motor has not come up to full speed within the specified time.

Table 1-35 Error Code U3-5 Laser Failure Power Off/On

Step	Actions and Questions	Yes	No
1	RESET <ol style="list-style-type: none">1. Switch off printer main power.2. Wait one minute.3. Switch on printer main power. <p>Does the U3-5 error code appear?</p>	Go to step 2	Suspect an intermittent problem with the Print Engine Controller Board, the Laser Scanner Motor, the SOS Sensor, or the connectors and wiring linking these components.
2	LASER SCANNER MOTOR TEST <ol style="list-style-type: none">1. Enter Diagnostics Mode.2. From the Main Menu, select Comp Output Test / IOT Unit / ROS Motor On to check the Laser Scanner Motor function.3. Press [4] to start, [0] to stop. <p>Does the Laser Scanner Motor run when you start the test?</p>	Go to step 4	Go to step 3
3	LOW VOLTAGE POWER SUPPLY +24VDC CHECK Measure the voltage between J400-8 (on the Print Engine Controller Board) and frame ground. <p>Is there +24VDC between J400-8 and frame ground?</p>	Replace the Laser Scanner Assembly (RRP 1-47)	Replace the Low Voltage Power Supply Assembly (RRP 1-67)
4	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). <p>Does the error code appear?</p>	Go to step 5	Problem solved
5	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">■ Wiring and connectors linking the components■ Input/Output Board (RRP 1-70).		

RAP 1-8

Error Code U4-1

Fuser Failure Power Off/On

There is a problem with the Fuser.

Logic Control on the Print Engine Controller Board detected that the Thermistor remained on for longer than the specified time.

Table 1-36 Error Code U4-1 Fuser Failure Power Off/On

Step	Actions and Questions	Yes	No
1	FUSER WARM-UP 1. Switch off printer main power. 2. Remove the Fuser Cover (RRP 1-1) so you can observe the Heat Rods. 3. Switch on printer main power and observe the ends of the Fuser Assembly. Do the Heat Rods glow?	Go to step 4	Go to step 2
2	FUSER AC POWER 1. Switch on printer main power. 2. Measure the AC voltage between P/J31-1 (common) to P/J32-1 and P/J33-1 on the AC Driver board. Is there line voltage (110/220 VAC) between P/J32-1 or P/J33-1 and P/J31-1 (common)?	Go to step 3	Replace the AC Driver board (RRP 1-69)
3	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 4	Problem solved
4	FUSER REPLACEMENT Replace the Fuser Assembly. Does the error code appear?	Go to step 5	Problem solved
5	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. ■ Wiring and connectors linking the components ■ Input/Output Board (RRP 1-70).		

RAP 1-9

Error Code U4-2

Fuser Failure Power Off/On

There is a problem with the Fuser.

Logic Control on the Print Engine Controller Board detected the Fuser temperature exceeded the temperature set for Fuser overheat.

Table 1-37 Error Code U4-2 Fuser Failure Power Off/On

Step	Actions and Questions	Yes	No
1	FUSER REPLACEMENT Replace the Fuser Assembly. Does the error code appear?	Go to step 2	Problem solved
2	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 3	Problem solved
3	AC DRIVER BOARD REPLACEMENT Replace the AC Driver board (RRP 1-68). Does the error code appear?	Go to step 4	Problem solved
4	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">■ Wiring and connectors linking the components■ Input/Output Board (RRP 1-70).		

RAP 1-10

Error Code U4-3

Fuser Failure Power Off/On

There is a problem with the Fuser.

Logic Control on the Print Engine Controller Board sensed that the Fuser Thermostat opened.

Table 1-38 Error Code U4-3 Fuser Failure Power Off/On

Step	Actions and Questions	Yes	No
1	FUSER REPLACEMENT Replace the Fuser Assembly. Does the error code appear?	Go to step 2	Problem solved
2	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 3	Problem solved
3	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">■ Wiring and connectors linking the components■ Input/Output Board (RRP 1-70).		

RAP 1-11

Error Code U4-4

Fuser Failure Power Off/On

There is a problem with the Fuser.

Logic Control on the Print Engine Controller Board sensed that the Fuser Thermostat opened.

Table 1-39 Error Code U4-4 Fuser Failure Power Off/On

Step	Actions and Questions	Yes	No
1	FUSER REPLACEMENT Replace the Fuser Assembly. Does the error code appear?	Go to step 2	Problem solved
2	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 3	Problem solved
3	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">■ Wiring and connectors linking the components■ Input/Output Board (RRP 1-70).		

RAP 1-12

Error Code U4-5

Fuser Failure Power Off/On

There is a problem with the Fuser.

Logic Control on the Print Engine Controller Board detected a fuser temperature above the upper limit..

Table 1-40 Error Code U4-5 Fuser Failure Power Off/On

Step	Actions and Questions	Yes	No
1	FUSER REPLACEMENT Replace the Fuser Assembly. Does the error code appear?	Go to step 2	Problem solved
2	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 3	Problem solved
3	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">■ Wiring and connectors linking the components■ Input/Output Board (RRP 1-70).		

RAP 1-13

Error Code U4-9

Fan Failure Power Off/On

There is a problem with the Fuser Fan.

Logic control on the Print Engine Controller Board received a Fan Alarm signal from the Fuser Fan.

Table 1-41 Error Code U4-9 Fan Failure Power Off/On

Step	Actions and Questions	Yes	No
1	FUSER FAN TEST 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Output Test / IOT Unit / Fuser Fan High to check the Fuser Fan function. 3. Press [4] to start, [0] to stop. Does the Fuser Fan run when you start the test?	Replace the Print Engine Controller Board (RRP 1-72)	Go to step 2
2	LOW VOLTAGE POWER SUPPLY +24VDC CHECK Measure the voltage between P/J204-1 and P/J204-4 (on the Fuser Fan). Is there +24VDC between P/J204-1 and P/J204-4 on the fuser fan connector?	Replace the Fuser Fan (PL 8.1)	Go to step 3
3	LOW VOLTAGE POWER SUPPLY REPLACEMENT Replace the Low Voltage Power Supply Assembly (RRP 1-67). Does the error code appear?	Go to step 4	Problem solved
4	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">■ Wiring and connectors linking the components■ Input/Output Board (RRP 1-70).		

RAP 1-14

Error Code U6-2

IOT Memory Fail Power Off/On

There is a problem reading information from RAM.

Logic control on the Print Engine Controller Board had a problem reading information from RAM.

Table 1-42 Error Code U6-2 IOT Memory Fail Power Off/On

Step	Actions and Questions	Yes	No
1	RESET 1. Switch off printer main power. 2. Wait one minute. 3. Switch on printer main power. Does the U6-2 error code appear?	Go to step 2	Suspect an intermittent problem with the Print Engine Controller Board, the Low Voltage Power Supply, or the connectors and wiring linking these components.
2	LOW VOLTAGE POWER SUPPLY +5VDC CHECK Measure the voltage between J400, pins 1, 2 & 3 (on the Print Engine Controller Board) and frame ground. Is there +5VDC between J400, pins 1,2 & 3 and frame ground?	Go to step 3	Replace the Low Voltage Power Supply Assembly (RRP 1-67)
3	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 4	Problem solved
4	SYSTEM CONTROLLER BOARD REPLACEMENT Replace the System Controller Board (RRP 1-73). Does the error code appear?	Go to step 5	Problem solved
5	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">■ Wiring and connectors linking the components■ Input/Output Board (RRP 1-70).		

RAP 1-15

Error Code U6-3

IOT NVM Fail Power Off/On

There is an unnamed problem with non-volatile memory.

Logic Control on the Print Engine Controller Board had a problem with NVRAM.

Table 1-43 Error Code U6-3 IOT NVM Fail Power Off/On

Step	Actions and Questions	Yes	No
1	RESET 1. Switch off printer main power. 2. Wait one minute. 3. Switch on printer main power. Does the U6-3 error code appear?	Go to step 2	Suspect an intermittent problem with the Print Engine Controller Board, the Low Voltage Power Supply, or the connectors and wiring linking these components.
2	LOW VOLTAGE POWER SUPPLY +5VDC CHECK Measure the voltage between J400, pins 1, 2 & 3 (on the Print Engine Controller Board) and frame ground. Is there +5VDC between J400, pins 1,2 & 3 and frame ground?	Go to step 3	Replace the Low Voltage Power Supply Assembly (RRP 1-67)
3	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 4	Problem solved
4	SYSTEM CONTROLLER BOARD REPLACEMENT Replace the System Controller Board (RRP 1-73). Does the error code appear?	Go to step 5	Problem solved
5	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. ■ Wiring and connectors linking the components.		

RAP 1-16

Error Code U6-4

IOT NVM Fail Power Off/On

There is a problem reading information from non-volatile memory.

Logic control on the Print Engine Controller Board had a problem reading information from NVRAM

Table 1-44 Error Code U6-4 IOT NVM Fail Power Off/On

Step	Actions and Questions	Yes	No
1	RESET 1. Switch off printer main power. 2. Wait one minute. 3. Switch on printer main power. Does the U6-4 error code appear?	Go to step 2	Suspect an intermittent problem with the Print Engine Controller Board, the Low Voltage Power Supply, or the connectors and wiring linking these components.
2	LOW VOLTAGE POWER SUPPLY +5VDC CHECK Measure the voltage between J400, pins 1, 2 & 3 (on the Print Engine Controller Board) and frame ground. Is there +5VDC between J400, pins 1,2 & 3 and frame ground?	Go to step 3	Replace the Low Voltage Power Supply Assembly (RRP 1-67)
3	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 4	Problem solved
4	SYSTEM CONTROLLER BOARD REPLACEMENT Replace the System Controller Board (RRP 1-73). Does the error code appear?	Go to step 5	Problem solved
5	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. ■ Wiring and connectors linking the components.		

RAP 1-17

Error Code U6-5

IOT ASIC Fail Power Off/On

There is a problem with ASIC-CRUM.

Logic control on the Print Engine Controller Board detect an ASIC-CRUM control circuit error.

Table 1-45 Error Code U6-5 IOT ASIC Fail Power Off/On

Step	Actions and Questions	Yes	No
1	<p>RESET</p> <ol style="list-style-type: none"> Switch off printer main power. Wait one minute. Switch on printer main power. <p>Does the U6-5 error code appear?</p>	Go to step 2	Suspect an intermittent problem with the Input/Output Board, the Print Engine Controller Board, the Low Voltage Power Supply, or the connectors and wiring linking these components.
2	<p>LOW VOLTAGE POWER SUPPLY +5VDC CHECK</p> <p>Measure the voltage between J400, pins 1, 2 & 3 (on the Print Engine Controller Board) and frame ground.</p> <p>Is there +5VDC between J400, pins 1,2 & 3 and frame ground?</p>	Go to step 3	Replace the Low Voltage Power Supply Assembly (RRP 1-67)
3	<p>INPUT/OUTPUT BOARD REPLACEMENT</p> <p>Replace the Input/Output Board (RRP 1-70).</p> <p>Does the error code appear?</p>	Go to step 4	Problem solved
4	<p>PRINT ENGINE CONTROLLER BOARD REPLACEMENT</p> <p>Replace the Print Engine Controller Board (RRP 1-72).</p> <p>Does the error code appear?</p>	Go to step 5	Problem solved
5	<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 System Controller Board (RRP 1-73) Laser Print (EP) Cartridge. 		

RAP 1-18

Error Code E1-1

Paper Jam Clear Area A

There is a paper jam at the Registration Sensor.

Logic Control on the Print Engine Controller Board sensed that paper did not leave the Registration Sensor within the specified time.

Table 1-46 Error Code E1-1 Paper Jam Clear Area A

Step	Actions and Questions	Yes	No
1	PAPER PATH INSPECTION Inspect the paper path for paper scraps that may cause a paper jam. Is the paper path free of paper scraps?	Go to step 2	Clear the paper path
2	PAPER INSPECTION Inspect the paper that is loaded in the paper tray. Is the paper loaded in the cassette wrinkled or damaged?	Replace with new paper	Go to step 3
3	PAPER SIZE INSPECTION Inspect the cassette paper guides. Are the guides set to the size of paper loaded in the cassette?	Go to step 4	Adjust the guides
4	PAPER TRAVEL INSPECTION Open the Left Upper Cover and observe the position of the jammed paper. Is the sheet of paper skewed?	Replace the Feed, Pick, and Retard Rolls (RRP 1-11)	Go to step 5
5	REGISTRATION SENSOR TEST 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Input Test / IOT Unit / Reg. Sensor. 3. Press [4] to start. 4. Open the Left Upper Cover (A). 5. Insert, then remove, a sheet of paper into the Registration Sensor. 6. Press [0] to stop. Does the Control Panel Display show “with paper” when you insert the paper into the Registration Sensor, and does it show “without paper” when you remove the paper?	Go to step 6	Replace the Registration Sensor.
6	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 7	Problem solved

Table 1-46 Error Code E1-1 Paper Jam Clear Area A (cont'd.)

Step	Actions and Questions	Yes	No
7	<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■ Input/Output Board (RRP 1-70).		

RAP 1-19

Error Code E1-2

Paper Jam Clear Area A

There is a paper jam between the Registration Sensor and the Fuser Exit Switch. Logic Control on the Print Engine Controller Board sensed the Fuser Exit Sensor was not actuated within the specified time since the Registration Clutch was actuated.

Table 1-47 Error Code E1-2 Paper Jam Clear Area A

Step	Actions and Questions	Yes	No
1	PAPER PATH INSPECTION Inspect the paper path for paper scraps that may cause a paper jam. Is the paper path free of paper scraps?	Go to step 2	Clear the paper path
2	PAPER INSPECTION Inspect the paper that is loaded in the paper tray. Is the paper loaded in the cassette wrinkled or damaged?	Replace the paper with new paper	Go to step 3
3	PAPER TRAVEL INSPECTION Open the Left Upper Cover (A) and observe the position of the jammed paper. Did the sheet of paper stop at the Registration Rolls?	Go to step 4	Go to step 5
4	REGISTRATION CLUTCH TEST 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Output Test / IOT Unit / Reg. Clutch On to check the Registration Clutch function. 3. Press [4] to start, the Registration Clutch will actuate for 2 seconds and release. Does the Registration Roller clutch Actuate when you start the test?	Clean the Registration Rollers or replace the Left Upper Cover (A) Assembly (RRP 1-42)	Replace the Registration Clutch (RRP 1-41)
5	REGISTRATION SENSOR TEST 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Input Test / IOT Unit / Reg. Sensor. 3. Press [4] to start, [0] to stop. 4. Open Left Upper Cover (A) and insert, then remove, a sheet of paper into the Registration Sensor. Does the Control Panel display “with paper” when you insert the paper into the Registration Sensor, and is “without paper” displayed when you remove the paper?	Go to step 6	Replace the Registration Sensor
6	PAPER TRAVEL INSPECTION Open the Left Upper Cover (A) and observe the position of the jammed paper. Did the sheet of paper stop on the Drum?	Go to step 7	Go to step 9

Table 1-47 Error Code E1-2 Paper Jam Clear Area A (cont'd.)

Step	Actions and Questions	Yes	No
7	<p>DRUM INSPECTION</p> <p>Open the Left Upper Cover (A) and open the Drum Shutter.</p> <p>Are the stripper fingers damaged or is there paper stuck under the fingers or stuck between the Drum and Laser Print (EP) Cartridge frame?</p>	Replace the Laser Print (EP) Cartridge	Go to step 8
8	<p>DRUM ROTATION TEST</p> <ol style="list-style-type: none"> 1. Open the Left Upper Cover and open the Drum Shutter. 2. Hand rotate (counter clockwise) the Drum Drive Motor. <p>Does the Drum rotate smoothly and without binding?</p>	Go to step 9	Replace the Laser Print (EP) Cartridge
9	<p>PAPER TRAVEL INSPECTION</p> <p>Open the Left Upper Cover, and observe the position of the jammed paper.</p> <p>Did the sheet of paper stop while exiting the Fuser?</p>	Go to step 10	Go to step 11
10	<p>FUSER INSPECTION</p> <ol style="list-style-type: none"> 1. Remove the three screws securing the Fuser Left Cover and remove the Cover so you can observe the Fuser Rolls. 2. Hand rotate (counter clockwise) the Main Drive Motor. <p>Does the Pressure Roller rotate smoothly and are the Fuser Stripper Fingers undamaged?</p>	Go to step 11	Replace the Fuser Assembly
11	<p>PAPER TRAVEL INSPECTION</p> <p>Remove the Fuser Cover (RRP 1-1) and observe the position of the jammed paper.</p> <p>Did the sheet of paper stop in the Offset Unit?</p>	Go to step 12	Go to step 13
12	<p>OFFSET UNIT INSPECTION</p> <p>Check the Offset Unit for lodged scraps of paper or damage.</p> <p>Is the Offset Unit clean and undamaged?</p>	Go to step 13	Clean or replace the Offset Unit Assembly (RRP 1-54)
13	<p>FUSER EXIT SENSOR TEST</p> <ol style="list-style-type: none"> 1. Enter Diagnostic Mode. 2. From the Main Menu, select Comp Input Test / IOT Unit / Fuser Exit Sen. 3. Press [4] to start, [0] to stop. 4. Insert, then remove, a sheet of paper into the Fuser Exit Sensor. <p>Does the Control Panel display “with paper” when you insert the paper into the Fuser Exit Sensor, and is “without paper” displayed when you remove the paper?</p>	Go to step 14	Replace the Fuser Exit Sensor (PL 9.1)
14	<p>PRINT ENGINE CONTROLLER BOARD REPLACEMENT</p> <p>Replace the Print Engine Controller Board (RRP 1-72).</p> <p>Does the error code appear?</p>	Go to step 15	Problem solved

Table 1-47 Error Code E1-2 Paper Jam Clear Area A (cont'd.)

Step	Actions and Questions	Yes	No
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 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■ Input/Output Board (RRP 1-70).		

RAP 1-20

Error Code E1-3

Paper Jam Clear Area A

There is a paper jam between the Fuser Exit Sensor and the Face Up Exit Sensor. Logic Control on the Print Engine Controller Board sensed the Face Up Exit Sensor was not actuated within the specified time since the Fuser Exit Sensor was actuated

Table 1-48 Error Code E1-3 Paper Jam Clear Area A

Step	Actions and Questions	Yes	No
1	OFFSET UNIT INSPECTION 1. Remove the Fuser Cover (RRP 1-1). 2. Check the Offset Unit for lodged scraps paper or damage. Is the Offset Unit clean and undamaged?	Go to step 2	Clean or replace the Offset Unit Assembly (RRP 1-54)
2	FACE UP CLUTCH TEST NOTE: The Duplex Unit must be installed for this test. 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Output Test / Duplex Unit / Invert Clut. CCW. 3. Press [4] to start, clutch will actuate for 2 seconds, then release. 4. Hand rotate (counter clockwise) the Main Motor. Do the Offset Rollers rotate?	Go to step 3	Replace the Offset Unit Assembly (RRP 1-54)
3	FACE UP EXIT SENSOR TEST 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Input Test / IOT Unit / FaceUp Exit Sen. 3. Press [4] to start, [0] to stop. 4. Insert, then remove, a sheet of paper into the Face Up Exit Sensor actuator. Does the Control Panel display "with paper" when you insert the paper into the Face Up Exit Sensor, and "without paper" when you remove the it?	Go to step 4	Replace the Face Up Exit Sensor (RRP 1-63)
4	DUPLEX EXIT GATE SOLENOID TEST 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Output Test / Duplex Unit / Exit Gate Sol. 3. Press [4] to test the Duplex Exit Gate Solenoid function. The Duplex Exit Gate Solenoid will actuate for two seconds, then release. Does the Exit Gate Solenoid actuate when you run the Output Test?	Go to step 5	Replace the Exit Gate Solenoid (RRP 1-56)
5	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 6	Problem solved

Table 1-48 Error Code E1-3 Paper Jam Clear Area A (cont'd.)

Step	Actions and Questions	Yes	No
6	<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■ Input/Output Board (RRP 1-70).		

RAP 1-21

Error Code E1-6

Paper Jam Clear Area A

There is a problem at the Registration Sensor.

Paper is detected on the Registration Sensor.

Table 1-49 Error Code E1-6 Paper Jam Clear Area A

Step	Actions and Questions	Yes	No
1	SENSOR INSPECTION Inspect the Registration Sensor for contamination or paper scraps that may have actuated the Sensor. Is the Registration Sensor clean and free of paper scraps?	Go to step 2	Clean or clear paper from the Sensor
2	REGISTRATION SENSOR TEST 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Input Test / IOT Unit / Reg. Sensor. 3. Press [4] to start, [0] to stop. 4. Open the Left Upper Cover (A). 5. Insert, then remove, a sheet of paper into the Registration Sensor. Does the Control Panel display “with paper” when you insert the paper into the Registration Sensor, and is “without paper” displayed when you remove the paper?	Go to step 3	Replace the Registration Sensor, then repeat this step.
3	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 4	Problem solved
4	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">■ Wiring and connectors linking the components■ Input/Output Board (RRP 1-70).		

RAP 1-22

Error Code E3-1

Paper Jam Clear Area A

There is a paper jam at the Fuser Exit Sensor.

Logic Control on the Print Engine Controller Board sensed the Fuser Exit Sensor did not de-actuate within the specified time after actuating.

Table 1-50 Error Code E3-1 Paper Jam Clear Area A

Step	Actions and Questions	Yes	No
1	PAPER TRAVEL INSPECTION 1. Remove the Fuser Cover (RRP 1-1). 2. Observe the position of the sheet of paper. Did the sheet of paper stop on the Fuser Exit Switch?	Go to step 2	Go to step 3
2	FUSER EXIT SENSOR TEST 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Input Test / IOT Unit / Fuser Exit Sen. 3. Press [4] to start, [0] to stop. 4. Insert, then remove, a sheet of paper into the Fuser Exit Sensor. Does the Control Panel display “with paper” when you insert the paper into the Fuser Exit Sensor, and is “without paper” displayed when you remove the it?	Go to step 3	Replace the Fuser Exit Sensor (PL 9.1)
3	PAPER TRAVEL INSPECTION Observe the position of the sheet of paper. Is the trail edge of the paper still in the Fuser?	Go to step 4	Go to step 5
4	FUSER INSPECTION 1. Remove the three screws securing the Fuser Left Cover and remove the Cover so you can observe the Fuser Rollers. 2. Hand rotate (counter clockwise) the Main Drive Motor. Does the Pressure Roller rotate smoothly and are the Fuser Stripper Fingers undamaged?	Go to step 5	Replace the Fuser Assembly
5	FACE UP CLUTCH TEST 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Output Test / Duplex Unit / Invert Clut. CCW to check the Invert Clutch CCW function. 3. Press [4] to start, clutch will actuate for two seconds, then release. 4. Hand rotate (counter clockwise) the Main Drive Motor. Do the Offset Rollers rotate?	Go to step 6	Replace the Offset Unit Assembly (RRP 1-54)
6	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72) Does the error code appear?	Go to step 7	Problem solved

Table 1-50 Error Code E3-1 Paper Jam Clear Area A

Step	Actions and Questions	Yes	No
7	<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■ Input/Output Board (RRP 1-70).		

RAP 1-23

Error Code E3-6

Paper Jam Clear Area A

The Fuser Exit Sensor is actuated at printer power on.

Logic Control on the Print Engine Controller Board sensed the Fuser Exit Sensor was on while the printer was in standby.

Table 1-51 Error Code E3-6 Paper Jam Clear Area A

Step	Actions and Questions	Yes	No
1	SENSOR INSPECTION Inspect the Fuser Exit Sensor for paper scraps that may have actuated the Sensor or may have caused it to stick. Is the Fuser Exit Sensor free of paper scraps?	Go to step 2	Clear paper from the Sensor
2	FUSER EXIT SENSOR TEST 1. Remove the Fuser Cover (RRP 1-1) 2. Enter Diagnostics Mode. 3. From the Main Menu, select Comp Input Test / IOT Unit / Fuser Exit Sen. 4. Press [4] to start, [0] to stop. 5. Insert, then remove, a sheet of paper into the Fuser Exit Sensor. Does the Control Panel display “with paper” when you insert the paper into the Fuser Exit Sensor, and is “without paper” displayed when you remove the paper?	Go to step 3	Replace the Fuser Exit Sensor (PL 9.1)
3	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 4	Problem solved
4	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">■ Wiring and connectors linking the components■ Input/Output Board (RRP 1-70).		

RAP 1-24

Error Code E4-1

Paper Jam Clear Area A

There is a paper jam at the Face Up Exit Sensor.

Logic Control on the Print Engine Controller Board sensed that during Face-Up-Mode, the Face Up Exit Sensor did not de-actuate within the specified time after actuating.

Table 1-52 Error Code E4-1 Paper Jam Clear Area A

Step	Actions and Questions	Yes	No
1	PAPER TRAVEL INSPECTION 1. Remove the Fuser Cover (RRP 1-1). 2. Observe the position of the sheet of paper. Did the sheet of paper stop on the Face Up Exit Sensor?	Go to step 3	Go to step 2
2	FACE UP EXIT SENSOR TEST 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Input Test / IOT Unit / FaceUp Exit Sen. 3. Press [4] to start, [0] to stop. 4. Manually actuate and deactuate the Face Up Exit Sensor. Do the Control Panel display “with paper” when you insert the paper into the Face Up Exit Sensor, and is “without paper” displayed when you remove the paper?	Replace the Print Engine Controller Board (RRP 1-72)	Replace the Face Up Exit Sensor (RRP 1-63)
3	FACE UP CLUTCH TEST 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Output Test / Duplex Unit / Invert Clut. CCW. 3. Press [4] to start, clutch will actuate for two seconds, then release. 4. Hand rotate (counter clockwise) the Main Motor. Do the Offset Rollers rotate?	Go to step 4	Replace the Offset Unit Assembly (RRP 1-54)
4	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">■ Wiring and connectors linking the components■ Input/Output Board (RRP 1-70).		

RAP 1-25

Error Code E4-3

Paper Jam Clear Clear A

There is a paper jam at the Face Up Exit Sensor.

Logic Control on the Print Engine Controller Board sensed that during Duplex Mode the Face Up Exit Sensor did not de-actuate within the specified time after actuating.

Table 1-53 Error Code E4-3 Paper Jam Clear Area A

Step	Actions and Questions	Yes	No
1	PAPER TRAVEL INSPECTION 1. Remove the Fuser Cover (RRP 1-1). 2. Observe the position of the sheet of paper. Did the sheet of paper stop on the Face Up Exit Sensor?	Go to step 3	Go to step 2
2	FACE UP EXIT SENSOR TEST 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Input Test / IOT Unit / FaceUp Exit Sen. 3. Press [4] to start, [0] to stop. 4. Manually actuate and deactivate the Face Up Exit Sensor. Does the Control Panel display “with paper” when you insert the paper into the Face Up Exit Sensor, and is “without paper” displayed when you remove the paper?	Replace the Print Engine Controller Board (RRP 1-72)	Replace the Face Up Exit Sensor (RRP 1-63)
3	FACE UP CLUTCH TEST 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Output / Duplex Unit / Invert Clut. CCW. 3. Press [4] to start, clutch will actuate for two seconds, then release. 4. Hand rotate (counter clockwise) the Main Motor. Do the Offset Rollers rotate?	Go to step 4	Replace the Offset Unit Assembly (RRP 1-54)
4	DUPLEX UNIT INSPECTION Examine the Duplex Unit operation. Is the Duplex Unit functioning correctly, and the rollers are feeding paper from the Offset Unit into the Duplex Unit?	Treat problem as an intermittent or go to step 5	Go to the Duplex Unit section of this manual and troubleshoot the problem
5	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. ■ Wiring and connectors linking the components ■ Input/Output Board (RRP 1-70).		

There is a problem near the Fuser Exit Sensor.

The inverted page to be stationed in the Duplex Module did not reach the Face Up Exit Sensor within the specified time.

Table 1-54 Error Code E4-5 Paper Jam Clear Area A

Step	Actions and Questions	Yes	No
1	<p>DUPLEX UNIT INSPECTION</p> <p>Examine the Duplex Unit operation.</p> <p>Is the Duplex Unit functioning correctly, and the rollers are feeding paper from the Offset Unit into the Duplex Unit?</p>	Go to step 2	Go to the Duplex Unit section of this manual and troubleshoot the problem
2	<p>FACE UP EXIT SENSOR TEST</p> <ol style="list-style-type: none"> 1. Enter Diagnostic Mode - Input Face Up Exit Sensor. 2. Manually actuate and deactivate the Face Up Exit Sensor. <p>Does the Control Panel display “with paper” when you insert the paper into the Face Up Exit Sensor, and is “without paper” displayed when you remove the paper?</p>	Replace the Print Engine Controller Board (RRP 1-72)	Replace the Face Up Exit Sensor (RRP 1-63)
3	<p>FACE UP CLUTCH TEST</p> <ol style="list-style-type: none"> 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Output Test / Duplex Unit / Invert Clut. CCW to check the Invert Clutch counter clockwise. 3. Hand rotate (counter clockwise) the Main Motor. <p>Do the Offset Rollers rotate?</p>	Go to step 4	Replace the Offset Unit Assembly (RRP 1-54)
4	<p>OFFSET CATCH Tray REVERSE CLUTCH TEST</p> <ol style="list-style-type: none"> 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Output Test / Duplex Unit / Invert Clut. CW to check the Invert Clutch clockwise. 3. Press [4] to start, clutch will actuate for two seconds, then release. 4. Hand rotate (counter clockwise) the Main Motor. <p>Do the Offset Rollers rotate?</p>	Go to step 5	Replace the Inverter Clutches (RRP 1-64)
5	<p>DUPLEX BOARD REPLACEMENT</p> <p>Replace the Duplex BOARD (RRP 3-5).</p> <p>Does the error code appear?</p>	Go to step 6	Problem solved
6	<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 ■ Input/Output Board (RRP 1-70). 		

RAP 1-27

Error Code E4-6

Paper Jam Clear Area A

There is a paper jam at the Face Up Exit Sensor.

Logic Control on the Print Engine Controller Board sensed the Face Up Exit Sensor was on while the printer was in standby.

Table 1-55 Error Code E4-6 Paper Jam Clear Area A

Step	Actions and Questions	Yes	No
1	FACE UP EXIT SENSOR INSPECTION 1. Remove the Fuser Cover (RRP 1-1). 2. Inspect the Face Up Exit Sensor for paper scraps that may be actuating the sensor. Is the Face Up Exit Sensor actuator free of paper scraps?	Go to step 2	Clear paper from the Sensor
2	FACE UP EXIT SENSOR INSPECTION Inspect the Face Up Exit Sensor for damage. Is the sensor undamaged?	Go to step 3	Replace the Face Up Exit Sensor (RRP 1-63)
3	FACE UP EXIT SENSOR TEST 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Input Test / IOT Unit / FaceUp Exit Sen. 3. Press [4] to start, [0] to stop. 4. Insert, then remove, a sheet of paper into the Face Up Exit Sensor. Does the Control Panel display “with paper” when you insert the paper into the Face Up Exit Sensor, and is “without paper” displayed when you remove the paper?	Go to step 4	Replace the Face Up Exit Sensor (RRP 1-58)
4	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 5	Problem solved
5	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. ■ Wiring and connectors linking the components ■ Input/Output Board (RRP 1-70).		

Error Code E5-1

Close Door A

The Left Door (A) is open.

The Left Door (A) is closed, but Logic Control on the Print Engine Controller Board sensed the Left Door (A) Interlock Switch indicates the door is open

Table 1-56 Error Code E5-1 Close Door A

Step	Actions and Questions	Yes	No
1	<p>LEFT DOOR CHECK</p> <p>Open and close the Left Door (A).</p> <p>Does the error code appear?</p>	Tighten the Switch Bracket screw (RRP 1-71)	Go to step 2
2	<p>LEFT DOOR INTERLOCK SWITCH INSPECTION</p> <p>1. Remove the Rear Cover (RRP 1-5). 2. Inspect the Left Door (A) Interlock Switch for damage, such as a broken or missing spring or a broken switch button.</p> <p>Is the switch undamaged?</p>	Go to step 3	Replace the Left Cover Interlock Switch (RRP 1-71)
3	<p>LEFT DOOR INTERLOCK ACTUATOR INSPECTION</p> <p>Open and close the Left Door (A) while observing the action of the Left Door (A) Actuator against the Interlock Switch Spring.</p> <p>Is the Left Cover Interlock Actuator pressing against the Interlock Switch Spring?</p>	Go to step 4	Replace the Left Upper Cover (RRP 1-42)
4	<p>LEFT DOOR INTERLOCK SWITCH TEST</p> <p>1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Input Test / IOT Unit / L/H Cover A. 3. Press [4] to start, [0] to stop. 4. Actuate and deactuate the Left Door Interlock Switch.</p> <p>Does the display indicate Open/Closed when you actuate and deactuate the Left Cover Interlock Switch?</p>	Go to step 5	Replace the Left Cover Interlock Switch (RRP 1-71)
5	<p>PRINT ENGINE CONTROLLER BOARD REPLACEMENT</p> <p>Replace the Print Engine Controller Board (RRP 1-72).</p> <p>Does the error code appear?</p>	Go to step 6	Problem solved
6	<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 ■ Input/Output Board (RRP 1-70). 		

RAP 1-29

Error Code E5-2

Close Door B

The Left Lower Cover (B) is open.

The Left Lower Cover (B) is closed, but Logic Control on the Print Engine Controller Board sensed the Left Lower Cover Interlock Switch is open.

Table 1-57 Error Code E5-2 Close Door B

Step	Actions and Questions	Yes	No
1	LEFT LOWER COVER CHECK Open and close the Left Lower Cover (B). Is the error code cleared?	Problem solved	Go to step 2
2	LEFT LOWER COVER INTERLOCK SWITCH INSPECTION Inspect the Left Lower Cover Interlock Switch for damage. Is the switch damaged?	Replace the Left Lower Cover Interlock Switch	Go to step 3
3	LEFT LOWER COVER INTERLOCK ACTUATOR INSPECTION Inspect the Left Lower Cover (B) Interlock Actuator for damage that may prevent the Cover from actuating the Interlock when the Cover is closed. Is the Interlock Actuator damaged?	Replace the Left Lower Cover	Go to step 4
4	LEFT LOWER COVER INTERLOCK SWITCH TEST 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Input Test / Tray 1 Cover (B). 3. Actuate and deactivate the Left Lower Cover (B) Interlock Switch. Does the display indicate Open/Closed when you actuate and deactivate the Lower Left Cover Interlock Switch?	Replace the Left Lower Cover Interlock Switch	Go to step 5
5	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 6	Problem solved
6	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">■ Wiring and connectors linking the components■ Input/Output Board (RRP 1-70).		

RAP 1-30

Error Code C1-3

Clear Area A Reset Tray 1

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

Logic Control on the Print Engine Controller Board sensed that the Registration Sensor did not actuate within the specified time after the Tray 1 Feed Clutch was actuated.

Table 1-58 Error Code C1-3 Clear Area A Reset Tray 1

Step	Actions and Questions	Yes	No
1	PAPER INSPECTION Inspect the paper that is loaded in the paper tray. Is the paper loaded in the cassette wrinkled or damaged?	Replace the paper with new paper	Go to step 2
2	PAPER PATH INSPECTION Inspect the paper path for paper scraps or foreign objects that could cause a paper jam. Is the paper path clear?	Go to step 3	Clear the paper path
3	Tray 1 LIFT MOTOR TEST 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Output Test / IOT Unit / Tray 1 Lift Mot to test the Tray 1 Lift Motor function. 3. Press [4] to start, the Tray 1 Lift Motor should actuate for two seconds, then stop. Does the Motor switch on when you start the Output Test?	Go to step 4	Replace Tray 1 Lift Motor (RRP 1-9)
4	Tray 1 FEED CLUTCH TEST 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Output Test / IOT Unit / Tray 1 Feed Clut to check the Tray 1 Feed Clutch function. 3. Press [4] to start, the clutch should actuate for two seconds, then release. Does the Tray 1 Feed Clutch actuate when you start the Output Test?	Go to step 5	Replace the Tray 1 Feed Clutch (RRP 1-10)
5	REGISTRATION SENSOR TEST 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Input Test / IOT Unit / Reg. Sensor. 3. Press [4] to start, [0] to stop. 4. Insert, then remove, a sheet of paper into the Registration Sensor. Does the Control Panel display “with paper” when you insert the paper into the Registration Sensor, and is “without paper” displayed when you remove the paper?	Go to step 6	Replace the Registration Sensor
6	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 7	Problem solved

Table 1-58 Error Code C1-3 Clear Area A Reset Tray 1

Step	Actions and Questions	Yes	No
7	<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■ Input/Output Board (RRP 1-70).		

RAP 1-31

Error Code C2-2

Clear Area A,B Reset Tray 2

There is a paper jam between Paper Tray 2 and the Take Away Roller 2 Sensor. Logic Control on the Print Engine Controller Board sensed that the Take Away Roller 2 Sensor did not actuate within the specified time after the Tray 2 Feed Clutch was actuated.

Table 1-59 Error Code C2-2 Clear Area A,B Reset Tray 2

Step	Actions and Questions	Yes	No
1	PAPER INSPECTION Inspect the paper that is loaded in the paper tray. Is the paper loaded in the cassette wrinkled or damaged?	Replace the paper with new paper	Go to step 2
2	PAPER PATH INSPECTION Inspect the paper path for paper scraps or foreign objects that could cause a paper jam. Is the paper path clear?	Go to step 3	Clear the paper path
3	Tray 2 LIFT MOTOR OPERATION 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Output Test / IOT Unit / Tray 2 Lift Mot. 3. Press [4] to start, Tray 2 Lift Motor should actuate for two seconds, then stop. Does the Lift Motor lift the Bin?	Go to step 4	Check wiring between P/J467 to P/J241. If OK, replace Tray 2 Lift Motor (PL 3.4)
4	Tray 2 FEED CLUTCH OPERATION 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Output Test / IOT Unit / Tray 2 Feed Clut to test the Tray 2 Feed Clutch. 3. Press [4] to start, the clutch should actuate for two seconds, then release. Does the clutch energize?	Go to step 5	Check wiring between P/J467 to P/J240. If OK, replace the Tray 2 Feed Clutch (RRP 1-21).
5	PAPER TRAVEL INSPECTION Generate a test print from Tray 2. Does a sheet of paper feed out Tray 2 and into the Take-Away Roller area?	Go to step 6	Replace Tray 2 Feed Rollers (RRP 1-11)
6	TAKE-AWAY ROLLER CHECK 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Output Test / IOT Unit / Main Motor On to Start the Main Motor. 3. Press [4] to start, [0] to stop. 4. Open Tray 1 and observe the Take Away Rollers. Does the Take-Away Roller rotate when you run the Main Motor?	Go to step 7	Replace Tray 2 Take-Away Rollers (RRP 1-23).

Table 1-59 Error Code C2-2 Clear Area A,B Reset Tray 2 (cont'd.)

Step	Actions and Questions	Yes	No
7	<p>Tray 2 TAKE AWAY SENSOR TEST</p> <ol style="list-style-type: none"> 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Input Test / IOT Unit / T/A Roll2 Sensor to test Tray 2 Take Away Sensor. 3. Press [4] to start, [0] to stop. 4. Alternately insert, then remove a sheet of paper over the Tray 2 Take Away Sensor. <p>Does the Control Panel display “with paper” when you insert the paper into the Tray 2 Take Away Sensor, and is “without paper” displayed when you remove the paper?</p>	Go to step 8	Check wiring between P/J467 and P/J101. If OK, replace the Tray 2 Take Away Sensor
8	<p>PRINT ENGINE CONTROLLER BOARD REPLACEMENT</p> <p>Replace the Print Engine Controller Board (RRP 1-72)</p>	Go to step 9	Problem solved
9	<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 ■ Input/Output Board (RRP 1-70). 		

RAP 1-32

Error Code C2-3

Paper Jam Clear Area A

There is a paper jam between Paper Tray 2 and the Registration Sensor.

Logic Control on the Print Engine Controller Board sensed that the Registration Sensor did not actuate within the specified time after the Tray 2 Feed Clutch was actuated.

Table 1-60 Error Code C2-3 Paper Jam Clear Area A

Step	Actions and Questions	Yes	No
1	PAPER INSPECTION Inspect the paper that is loaded in the paper tray. Is the paper loaded in the cassette wrinkled or damaged?	Replace the paper with new paper	Go to step 2
2	PAPER PATH INSPECTION Inspect the paper path for paper scraps or foreign objects that could cause a paper jam. Is the paper path clear?	Go to step 3	Clear the paper path
3	TAKE-AWAY ROLLER CHECK 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Output Test / IOT Unit / Main Motor On to start the Main Motor. 3. Press [4] to start, [0] to stop. 4. Open Tray 2 and observe the Take Away Roller. Does the Take Away Roller rotate when you run the Main Motor?	Go to step 4	Replace Tray 2 Feeder (RRP 1-22)
4	REGISTRATION SENSOR TEST 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Input Test / IOT Unit / Reg. Sensor. 3. Press [4] to start, [0] to stop. 4. Insert, then remove, a sheet of paper into the Registration Sensor. Does the Control Panel display “with paper” when you insert the paper into the Registration Sensor, and is “without paper” displayed when you remove the paper?	Go to step 5	Replace the Registration Sensor
5	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 6	Problem solved
6	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">■ Wiring and connectors linking the components■ Input/Output Board (RRP 1-70).		

RAP 1-33

Error Code C8-2

Paper Jam Clear Areas A,B

There is problem with the Tray 2 Take Away Sensor.

Logic Control on the Print Engine Controller Board sensed the Tray 2 Take Away Sensor was on while the printer was in standby.

Table 1-61 Error Code C8-2 Paper Jam Clear Areas A,B

Step	Actions and Questions	Yes	No
1	Tray 2 TAKE AWAY SENSOR INSPECTION Inspect the Tray 2 Take Away Sensor for contamination or paper scraps that may have actuated the sensor. Is the Sensor clean and free of paper scraps?	Go to step 2	Clean or clear paper scraps from the Sensor
2	Tray 2 TAKE AWAY SENSOR TEST 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Input Test / IOT Unit / T/A Roll2 Sensor to test Take-Away Roller 2 Sensor. 3. Press [4] to start, [0] to stop. 4. Open the Left Upper Cover (A). 5. Insert, then remove, a sheet of paper into the Tray 2 Take Away Sensor. Does the Control Panel display “with paper” when you insert the paper into the Tray 2 Take Away Sensor, and is “without paper” displayed when you remove the paper?	Go to step 3	Replace the Tray 2 Take Away Sensor
3	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 4	Problem solved
4	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">■ Wiring and connectors linking the components■ Input/Output Board (RRP 1-70).		

RAP 1-34

Error Code C9-2

Paper Jam Reset ENV/Bypass

There is a paper jam between the Multi-sheet Bypass Feeder and Tray 2 Take Away Sensor.

Logic Control on the Print Engine Controller Board sensed that when paper was fed from the Multi-sheet Bypass Feeder, Tray 2 Take Away Sensor did not actuate within the specified time after the Multi-sheet Bypass Feeder Feed Clutch was actuated.

Table 1-62 Error Code C9-2 Paper Jam Reset ENV/Bypass

Step	Actions and Questions	Yes	No
1	PAPER INSPECTION Inspect the paper that is loaded in the Multi-sheet Bypass Feeder. Is the paper loaded in the Multi-sheet Bypass Feeder wrinkled or damaged?	Replace the paper with new paper	Go to step 2
2	PAPER PATH INSPECTION Inspect the paper path for paper scraps or foreign objects that could cause a paper jam. Is the paper path clear?	Go to step 3	Clear the paper path
3	MULTI-SHEET BYPASS FEEDER FEED ROLLER INSPECTION 1. Run a Test Print, feeding from the Multi-sheet Bypass Feeder. 2. Observe the paper in the Multi-sheet Bypass Feeder Bin. Is the paper partially fed out of the Multi-sheet Bypass Feeder Bin?	Replace the Multi-sheet Bypass Feeder Feed Roller (RRP 1-30), Pick Roller (RRP 1-31), and Multi-sheet Bypass Feeder Pad (RRP 1-33)	Go to step 4
4	MULTI-SHEET BYPASS FEEDER DRIVE TEST Remove the Rear Cover (RRP 1-5) so you can observe the Main Drive Assembly and the Multi-sheet Bypass Feeder Multi-sheet Bypass Feeder Drive Gear Assembly. 1. Place a sheet of paper in the Multi-sheet Bypass Feeder. 2. Enter Diagnostics Mode. 3. From the Main Menu, select Comp Output Test / MBF/ENV Unit / MBF Feed Clutch to check the Multi-sheet Bypass Feeder Drive Assembly. 4. Press [4] to start, clutch should actuate for two seconds, then release. 5. Rotate the Main Drive Motor counter clockwise and observe the paper in the MBF. Does the paper begin to feed into the paper path, indicating the Main Drive Assembly rotated the Multi-sheet Bypass Feeder Drive Gear Assembly?	Go to step 5	Replace the Multi-sheet Bypass Feeder Assembly (RRP 1-25)

Table 1-62 Error Code C9-2 Paper Jam Reset ENV/Bypass (cont'd.)

Step	Actions and Questions	Yes	No
5	<p>MULTI-SHEET BYPASS FEEDER CLUTCH TEST</p> <ol style="list-style-type: none"> 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Output Test / MBF/ENV Unit / MBF Feed Clutch to check the Multi-sheet Bypass Feeder Feed Clutch. 3. Press [4] to start, clutch should actuate for two seconds, then release. <p>Did the Multi-sheet Bypass Feeder Feed Clutch actuate?</p>	Go to step 6	Replace the Multi-sheet Bypass Feeder Feed Clutch (RRP 1-29)
6	<p>Tray 2 TAKE AWAY SENSOR TEST</p> <ol style="list-style-type: none"> 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Input Test / IOT Unit / T/A Roll2 Sensor to test the Tray 2 Take-Away Roller Sensor. 3. Press [4] to start, [0] to stop. 4. Insert, then remove, a sheet of paper into the Tray 2 Take Away Sensor. <p>Does the Control Panel display “with paper” when you insert the paper into the Tray 2 Take Away Sensor, and is “without paper” displayed when you remove the paper?</p>	Go to step 7	Replace the Tray 2 Take Away Sensor
7	<p>PRINT ENGINE CONTROLLER BOARD REPLACEMENT</p> <p>Replace the Print Engine Controller Board (RRP 1-72).</p> <p>Does the error code appear?</p>	Go to step 8	Problem solved
8	<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 ■ Input/Output Board (RRP 1-70). 		

RAP 1-35

Error Code C9-3

Paper Jam Reset ENV/Bypass

There is a paper jam between the Multi-sheet Bypass Feeder and the Registration Sensor.

Logic Control on the Print Engine Controller Board sensed that when paper was fed from the Multi-sheet Bypass Feeder, the Registration Sensor did not actuate within the specified time after the Multi-sheet Bypass Feeder Feed Clutch was actuated.

Table 1-63 Error Code C9-3 Paper Jam Reset ENV/Bypass

Step	Actions and Questions	Yes	No
1	PAPER INSPECTION Inspect the paper that is loaded in the Multi-sheet Bypass Feeder. Is the paper loaded in the Multi-sheet Bypass Feeder wrinkled or damaged?	Replace the paper with new paper	Go to step 2
2	PAPER PATH INSPECTION Inspect the paper path for paper scraps or foreign objects that could cause a paper jam. Is the paper path clear?	Go to step 3	Clear the paper path
3	MULTI-SHEET BYPASS FEEDER FEED ROLLER INSPECTION 1. Run a Test Print, feeding from the Multi-sheet Bypass Feeder. 2. Observe the paper in the Multi-sheet Bypass Feeder Bin. Is the paper partially fed out of the Multi-sheet Bypass Feeder Bin?	Replace the Multi-sheet Bypass Feeder Feed Roller (RRP 1-30), Pick Roller (RRP 1-31), and Multi-sheet Bypass Feeder Pad (RRP 1-33)	Go to step 4
4	MULTI-SHEET BYPASS FEEDER DRIVE TEST 1. Remove the Rear Cover (RRP 1-5) so you can observe the Main Drive Assembly and the Multi-sheet Bypass Feeder Drive Gear Assembly. 2. Enter Diagnostics Mode. 3. From the Main Menu, select Comp Output Test / IOT Unit / Main Motor On to actuate the Main Motor to check the Multi-sheet Bypass Feeder Drive Assembly. 4. Press [4] to start, [0] to stop. Does the Main Drive Assembly rotate the Multi-sheet Bypass Feeder Drive Gear Assembly?	Go to step 5	Replace the Multi-sheet Bypass Feeder Assembly (RRP 1-25)
5	MULTI-SHEET BYPASS FEEDER CLUTCH TEST Run Diagnostic Mode - Output Multi-sheet Bypass Feeder Feed Clutch. Did the Multi-sheet Bypass Feeder Feed Clutch actuate?	Go to step 6	Replace the Multi-sheet Bypass Feeder Feed Clutch (RRP 1-29)

Table 1-63 Error Code C9-3 Paper Jam Reset ENV/Bypass (cont'd.)

Step	Actions and Questions	Yes	No
6	REGISTRATION SENSOR TEST 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Input Test / IOT Unit / Reg. Sensor. 3. Press [4] to start, [0] to stop. 4. Insert, then remove, a sheet of paper into the Registration Sensor. Does the Control Panel display “with paper” when you insert the paper into the Registration Sensor, and is “without paper” displayed when you remove the paper?	Go to step 7	Replace the Registration Sensor
7	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 8	Problem solved
8	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. ■ Wiring and connectors linking the components ■ Input/Output Board (RRP 1-70).		

RAP 1-36

Error Code H1-1

Insert Tray 1

There is a Lift Up problem with Tray 1.

Logic Control on the Print Engine Controller Board sensed that Tray 1 was not raising into position in Feeder 1.

Table 1-64 Error Code H1-1 Insert Tray 1

Step	Actions and Questions	Yes	No
1	<p>Tray 1 LIFT MOTOR TEST</p> <ol style="list-style-type: none"> 1. Remove the Rear Cover (RRP 1-5). 2. Load paper into Tray 1 and install Tray 1 into Feeder 1. 3. Enter Diagnostics Mode. 4. From the Main Menu, select Comp Output Test / IOT Unit / Tray 1 Lift Mot to check the Tray 1 Lift Motor. 5. Press [4] to start, Tray 1 Lift Motor should run two seconds, then stop. <p>Does the Tray 1 Lift Motor run when you start the test?</p>	Go to step 2	Replace Tray 1 Lift Motor (RRP 1-9)
2	<p>Tray 1 CHECK</p> <p>Slowly slide Tray 1 out of Feeder 1.</p> <p>Can you hear the Tray 1 bottom plate drop as you slide the Tray out of the Feeder?</p>	Go to step 2	Replace Tray 1 with a new one
3	<p>Tray 1 LEVEL SENSOR TEST</p> <ol style="list-style-type: none"> 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Input Test / IOT Unit / Tray 1 Level to check the Tray 1 Level Sensor. 3. Press [4] to start, [0] to stop. 4. Repeatedly open and close Tray 1. <p>Does the Control Panel display “Up” when you open the Bin, and “Down” when you close the Bin?</p>	Go to step 4	Replace the Tray 1 Level Sensor
4	<p>PRINT ENGINE CONTROLLER BOARD REPLACEMENT</p> <p>Replace the Print Engine Controller Board (RRP 1-72).</p> <p>Does the error code appear?</p>	Go to step 5	Problem solved
5	<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 ■ Input/Output Board (RRP 1-70). 		

RAP 1-37

Error Code H1-2

Insert Tray 2

There is a Lift Up problem with Tray 2.

Logic Control on the Print Engine Controller Board sensed that Tray 2 was not raising into position in Feeder 2.

Table 1-65 Error Code H1-2 Insert Tray 2

Step	Actions and Questions	Yes	No
1	Tray 2 LIFT MOTOR TEST <ol style="list-style-type: none">1. Remove the Rear Cover (RRP 1-5).2. Load paper into Tray 2 and install Tray 2 into Feeder 2.3. Enter Diagnostics Mode.4. From the Main Menu, select Comp Output Test / IOT Unit / Tray 2 Lift Mot to check the Tray 2 Lift Motor.5. Press [4] to start, Tray 2 Lift Motor should actuate for two seconds, then stop. Does the Tray 2 Lift Motor run when you start the test?	Go to step 2	Replace Tray 2 Lift Motor (RRP 1-9)
2	Tray 2 CHECK Slowly slide Tray 2 out of Feeder 2. Can you hear the Tray 2 bottom plate drop as you slide the Tray out of the Feeder?	Go to step 2	Replace Tray 2 with a new one
3	Tray 2 LEVEL SENSOR TEST <ol style="list-style-type: none">1. Enter Diagnostics Mode.2. From the Main Menu, select Comp Input Test / IOT Unit / Tray 2 Level to check the Tray 2 Level Sensor.3. Press [4] to start, [0] to stop.4. Repeatedly open and close Tray 2. Does the Control Panel display “Up” when you open the Bin, and “Down” when you close the Bin?	Go to step 4	Replace the Tray 2 Level Sensor
4	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 5	Problem solved
5	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">■ Wiring and connectors linking the components■ Input/Output Board (RRP 1-70).		

RAP 1-38

Error Code H2-7

Duplex Unit Fail Power Off/On

There is a communication problem between the printer and the Duplex Unit. Logic Control on the Print Engine Controller Board could not initialize the Duplex Unit within the specified time.

Table 1-66 Error Code H2-7 Duplex Unit Fail Power Off/On

Step	Actions and Questions	Yes	No
1	LOW VOLTAGE POWER SUPPLY +5VDC CHECK Measure the voltage between J400, pins 1, 2 & 3 (on the Print Engine Controller Board) and frame ground. Is there +5VDC between J400, pins 1,2 & 3 and frame ground?	Go to step 2	Replace the Low Voltage Power Supply Assembly (RRP 1-67)
2	DUPLEX BOARD REPLACEMENT Replace the Duplex Module Board (RRP 3-5). Does the error code appear?	Go to step 3	Problem solved
3	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 4	Problem solved
4	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">■ Wiring and connectors linking the components■ Input/Output Board (RRP 1-70).		

RAP 1-39

Error Code H4-1

Load Tray 1

There is a problem with paper fed from Tray 1.

Tray 1 out of paper or size/type incorrect for printed job..

Table 1-67 Error Code H4-1 Load Tray 1

Step	Actions and Questions	Yes	No
1	Tray 1 PAPER GUIDE CHECK Remove Tray 1 and inspect the Paper Guides. Are the Paper Guides adjusted so they rest against the stack of paper?	Go to step 2	Adjust the Paper Guides
2	Tray 1 SIZE SWITCH ACTUATOR With Tray 1 removed, inspect the Size Switch Actuator located on the rear of the Bin. Is the Actuator broken or chipped?	Replace the Actuator Assembly	Go to step 3
3	Tray 1 PAPER SIZE SENSOR TEST 1. Enter Diagnostics Mode. 2. From the Main Menu, select Tray Size Test / Tray 1 Size. 3. Press [4] to start, [0] to stop. 4. Take note of the displayed result. Does the paper size displayed match the size set in the Bin?	Go to step 4	Replace the Tray 1 Paper Size Sensor
4	REGISTRATION SENSOR TEST 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Input Test / IOT Unit / Reg. Sensor. 3. Press [4] to start, [0] to stop. 4. Insert, then remove, a sheet of paper into the Registration Sensor. Does the Control Panel display “with paper” when you insert the paper into the Registration Sensor, and is “without paper” displayed when you remove the paper?	Go to step 5	Replace the Registration Sensor
5	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 6	Problem solved
6	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">■ Wiring and connectors linking the components■ Input/Output Board (RRP 1-70).		

RAP 1-40

Error Code H4-2

Load Tray 2

There is a problem with paper fed from Tray 2.

Tray 2 out of paper or size/type incorrect for printed job.

Table 1-68 Error Code H4-2 Load Tray 2

Step	Actions and Questions	Yes	No
1	Tray 2 PAPER GUIDE CHECK Remove Tray 2 and inspect the Paper Guides. Are the Paper Guides adjusted so they rest against the stack of paper?	Go to step 2	Adjust the Paper Guides
2	Tray 2 SIZE SWITCH ACTUATOR With Tray 2 removed, inspect the Size Switch Actuator located on the rear of the Bin. Is the Actuator broken or chipped?	Replace the Actuator Assembly	Go to step 3
3	Tray 2 PAPER SIZE SENSOR TEST 1. Enter Diagnostics Mode. 2. From the Main Menu, select Tray Size Test / Tray 2 Size. 3. Press [4] to start, [0] to stop. 4. Take note of the displayed result. Does the paper size displayed match the size set in the Bin?	Go to step 4	Replace the Tray 2 Paper Size Sensor
4	REGISTRATION SENSOR TEST 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Input Test / IOT Unit / Reg. Sensor. 3. Press [4] to start, [0] to stop. 4. Insert, then remove, a sheet of paper into the Registration Sensor. Does the Control Panel display “with paper” when you insert the paper into the Registration Sensor, and is “without paper” displayed when you remove the paper?	Go to step 5	Replace the Registration Sensor
5	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 6	Problem solved
6	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. ■ Wiring and connectors linking the components ■ Input/Output Board (RRP 1-70).		

RAP 1-41

Error Code J1-2

Replace Print Cartridge

The Laser Print (EP) Cartridge is low on toner and should be replaced.

Logic Control on the Print Engine Controller Board sensed that at Main Motor start-up the Toner Sensor was on for longer than the specified time.

Table 1-69 Error Code J1-2 Replace Print Cartridge

Step	Actions and Questions	Yes	No
1	LASER PRINT (EP) CARTRIDGE REPLACEMENT Replace the Laser Print (EP) Cartridge with a new one. Does the error code still appear?	Go to step 2	Problem solved
2	TONER SENSOR TEST 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Input Test / IOT Unit / Toner Empty. 3. Press [4] to start, [0] to stop. 4. Open the Upper Left Cover (A) and the Front Cover. 5. Alternately remove, and install, a <u>new</u> Laser Print (EP) Cartridge. Does the Control Panel display “not empty” when you insert the cartridge into the Printer, and “empty” when you remove the cartridge from the printer?	Go to step 3	Replace the Toner Sensor (RRP 1-50)
3	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 4	Problem solved
4	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">■ Wiring and connectors linking the components■ Input/Output Board (RRP 1-70).		

RAP 1-42

Error Code J3-1

Install Print Cartridge

The Laser Print (EP) Cartridge is not installed or is not installed correctly. Logic Control on the Print Engine Controller Board sensed that the Laser Print (EP) Cartridge Interlock Switch was not actuated.

Table 1-70 Error Code J3-1 Install Print Cartridge

Step	Actions and Questions	Yes	No
1	LASER PRINT (EP) CARTRIDGE CHECK 1. Open the Upper Left Cover (A) and the Front Cover. 2. Alternately, remove, then reinstall the Laser Print (EP) Cartridge. Does the error code still appear?	Go to step 2	Problem solved
2	LASER PRINT (EP) CARTRIDGE INTERLOCK SWITCH TEST 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Input Test / IOT Unit / CRU Installed. 3. Open the Upper Left Door (A) and the Front Door. 4. Press [4] to start, then [0] to stop. 5. Alternately, remove, then reinstall the Laser Print (EP) Cartridge. Does the Control Panel display “installed” when you install the Laser Print Cartridge, and “not installed” when you remove it?	Go to step 3	Replace the Laser Print (EP) Cartridge Interlock Switch (RRP 1-51)
3	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 4	Problem solved
4	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. ■ Wiring and connectors linking the components ■ Input/Output Board (RRP 1-70).		

RAP 1-43

Error Code J6-1

Replace Print Cartridge

The Laser Print (EP) Cartridge has reached end of life.

Logic Control on the Print Engine Controller Board sensed that the Laser Print (EP) Cartridge has printed a specified number of prints and should be replaced with a new one.

Table 1-71 Error Code J6-1 Replace Print Cartridge

Step	Actions and Questions	Yes	No
1	LASER PRINT (EP) CARTRIDGE REPLACEMENT Replace the Laser Print (EP) Cartridge with a new one. Does the error code still appear?	Go to step 2	Problem solved
2	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 3	Problem solved
3	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">■ Wiring and connectors linking the components■ Input/Output Board (RRP 1-70).		

RAP 1-44

Error Code J8-1

Print Cartridge OEM ID Mismatch

The wrong Laser Print (EP) Cartridge is installed in the printer.

Logic Control on the Print Engine Controller Board sensed that the Laser Print (EP) Cartridge installed is not compatible with the printer.

Table 1-72 Error Code J8-1 Print Cartridge OEM ID Mismatch

Step	Actions and Questions	Yes	No
1	LASER PRINT (EP) CARTRIDGE REPLACEMENT Replace the Laser Print (EP) Cartridge with a different one. Does the error code still appear?	Go to step 2	Problem solved
2	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 3	Problem solved
3	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">■ Wiring and connectors linking the components■ Input/Output Board (RRP 1-70).		

RAP 1-45

Error Code J8-3

Install Print Cartridge

A Laser Print (EP) Cartridge Memory error occurred.

Logic Control on the Print Engine Controller Board could not read Laser Print (EP) Cartridge Memory data.

Table 1-73 Error Code J8-3 Install Print Cartridge

Step	Actions and Questions	Yes	No
1	LOW VOLTAGE POWER SUPPLY +5VDC CHECK Measure the voltage between J400, pins 1, 2 & 3 (on the Print Engine Controller Board) and frame ground. Is there +5VDC between J400, pins 1,2 & 3 and frame ground?	Go to step 2	Replace the Low Voltage Power Supply Assembly (RRP 1-67)
2	LASER PRINT (EP) CARTRIDGE REPLACEMENT Replace the Laser Print (EP) Cartridge with a different one. Does the error code still appear?	Go to step 3	Problem solved
3	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 4	Problem solved
4	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">■ Wiring and connectors linking the components■ Input/Output Board (RRP 1-70).		

RAP 1-46

Error Code J8-4

CRUM Failure Power Off/On

A Laser Print (EP) Cartridge memory communication error occurred.

Logic Control on the Print Engine Controller Board could not access Laser Print (EP) Cartridge Memory data.

Table 1-74 Error Code J8-4 CRUM Failure Power Off/On

Step	Actions and Questions	Yes	No
1	LOW VOLTAGE POWER SUPPLY +5VDC CHECK Measure the voltage between J400, pins 1, 2 & 3 (on the Print Engine Controller Board) and frame ground. Is there +5VDC between J400, pins 1,2 & 3 and frame ground?	Go to step 2	Replace the Low Voltage Power Supply Assembly (RRP 1-67)
2	LASER PRINT (EP) CARTRIDGE REPLACEMENT Replace the Laser Print (EP) Cartridge with a different one. Does the error code still appear?	Go to step 3	Problem solved
3	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 4	Problem solved
4	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">■ Wiring and connectors linking the components■ Input/Output Board (RRP 1-70).		

RAP 1-47

Error Code J8-5

CRUM Failure Replace CRU

A Laser Print (EP) Cartridge memory communication error occurred.

Logic Control on the Print Engine Controller Board sensed a wrong or a counterfeit Laser Print (EP) Cartridge.

Table 1-75 Error Code J8-5 CRUM Failure Replace CRU

Step	Actions and Questions	Yes	No
1	LASER PRINT (EP) CARTRIDGE REPLACEMENT Replace the Laser Print (EP) Cartridge with a different one. Does the error code still appear?	Go to step 2	Problem solved
2	PRINT ENGINE CONTROLLER BOARD REPLACEMENT Replace the Print Engine Controller Board (RRP 1-72). Does the error code appear?	Go to step 3	Problem solved
3	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">■ Wiring and connectors linking the components■ Input/Output Board (RRP 1-70).		

Troubleshooting

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

- **Printer Performance Problems:** Refer to the Printer Performance Problems Repair Analysis Procedure (RAP) Table on page, 1-105.
- **Image Quality Problems:** Refer to the Image Quality Problems Repair Analysis Procedure (RAP) Table on page, 1-113.
- **Electrical Interference Problems:** Refer to the Electrical Interference Problems Repair Analysis Procedure (RAP) Table on page, 1-147.

Printer Performance Problems Repair Analysis Procedure (RAP) Table

Table 1-76 Print Performance Problems RAP Table

Problem	Go To RAP No.	Unit/Page
Inoperative Printer	RAP 1-50	on page, 1-105
Erratic Printer Operation	RAP 1-51	on page, 1-107
Blank, Erratic or Inoperative Control Panel	RAP 1-52	on page, 1-109
The Printer Does Not Display An Error Code When Out Of Toner	RAP 1-53	on page, 1-110
The Printer Does Not Offset Paper	RAP 1-54	on page, 1-111

Image Quality Problems Repair Analysis Procedure (RAP) Table

Table 1-77 Image Quality Problems RAP Table

Problem	Go To RAP No.	Page
Light (Undertoned) Prints	RAP 1-60	on page, 1-113
Blank Prints	RAP 1-61	on page, 1-115
Black Prints	RAP 1-62	on page, 1-117
Vertical Band Deletions	RAP 1-63	on page, 1-119
Horizontal Band Deletions	RAP 1-64	on page, 1-121
Vertical Streaks	RAP 1-65	on page, 1-123
Horizontal Streaks	RAP 1-66	on page, 1-125
Spot Deletions	RAP 1-67	on page, 1-127
Spots	RAP 1-68	on page, 1-129
Residual Image (Ghosting)	RAP 1-69	on page, 1-131
Background	RAP 1-70	on page, 1-133
Toner On Back Of Print	RAP 1-71	on page, 1-135
Skewed Image	RAP 1-72	on page, 1-137
Damaged Prints	RAP 1-73	on page, 1-139
Unfused Image Or Image Easily Rubs Off Page	RAP 1-74	on page, 1-141
Repetitive Marks On Each Page	RAP 1-75	on page, 1-142
Lead Edge Registration Is Not Correct	RAP 1-76	on page, 1-143
Side-To-Side Registration Is Not Correct	RAP 1-77	on page, 1-145

Electrical Interference Repair Analysis Procedure (RAP) Table

Table 1-78 Electrical Interference RAP Table

Problem	Go To RAP No.	Page
Electrical Interference - Something is generating electrical noise that may be interfering with the normal operation of the printer.	RAP 1-80	on page, 1-147

Printer Performance Problems

RAP 1-50

Inoperative Printer

The printer appears to be dead. When you switch on the printer, the Control Panel LEDs do not light, the display remains blank, the Fuser Fan does not rotate, and the printer does not warm-up.

Table 1-79 3.1 Inoperative Printer

Step	Actions and Questions	Yes	No
1	AC POWER CORD INSPECTION Inspect the AC Power Cord. Is the AC Power Cord in good condition, and is it plugged into the printer and is the other end plugged into an AC wall outlet?	Go to step 2	Plug the AC Power Cord into the printer and into an AC wall outlet
2	AC POWER CHECK Measure the voltage at the AC wall outlet. Is there approximately 110VAC (or 220VAC if the printer is the 220VAC model) at the AC wall outlet?	Go to step 3	Troubleshoot the AC power at the wall outlet
3	AC INPUT CHECK 1. Remove the Rear Cover so you can access the Ground Fault Interrupter (RRP 1-5). 2. Measure the voltage between P/J8-1 and P/J8-3 on the Ground Fault Interrupter. Is there approximately 110VAC (or 220VAC if the printer is the 220VAC model) between P/J8-1 and P/J8-3?	Go to step 4	Replace the AC power cord
4	AC OUTPUT CHECK Measure the voltage between P/J7-1 and P/J7-2 on the Ground Fault Interrupter. Is there approximately 110VAC (or 220VAC if the printer is the 220VAC model) between P/J7-1 and P/J7-2?	Go to step 5	Replace the Low Voltage Power Supply (RRP 1-67)
5	LOW VOLTAGE POWER SUPPLY +5VDC CHECK Measure the voltage between J400, pins 1, 2 & 3 (on the Print Engine Controller Board) and frame ground. Is there +5VDC between J400, pins 1,2 & 3 and frame ground?	Go to step 6	Replace the Low Voltage Power Supply Assembly (RRP 1-67)
6	LOW VOLTAGE POWER SUPPLY +24VDC CHECK Measure the voltage between J400-8 (on the Print Engine Controller Board) and frame ground. Is there +24VDC between J400-8 and frame ground?	Go to step 7	Replace the Low Voltage Power Supply Assembly (RRP 1-67)

Table 1-79 3.1 Inoperative Printer (cont'd.)

Step	Actions and Questions	Yes	No
7	<p>SYSTEM CONTROLLER Board CHECK</p> <ol style="list-style-type: none"> 1. Switch off the Main Switch. 2. Remove the System Controller Board (RRP 1-73). 3. Switch on the Main Switch. <p>Does the printer go into warm-up?</p>	Replace the System Controller Board (RRP 1-73) with a new one	Go to step 8
8	<p>PRINT ENGINE CONTROLLER BOARD REPLACEMENT</p> <p>Replace the Print Engine Controller Board (RRP 1-73)</p> <p>Does the printer go into warm-up?</p>	Problem solved	Go to step 9
9	<p>Input/Output Board REPLACEMENT</p> <p>Replace the Input/Output Board (RRP 1-70).</p> <p>Does the printer go into warm-up?</p>	Problem solved	Go to step 10
10	<p>OPTION ISOLATION</p> <p>Remove all options, such as the Duplex Unit or the High Capacity Feeder, from the base printer.</p> <p>Do the Control Panel LEDs light up and does the printer go into warm-up?</p>	Replace the options one by one until the printer becomes inoperative again. Troubleshoot or replace the problem option.	Go to step 11
11	<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. 		

RAP 1-51

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 1-80 Erratic Printer Operation

Step	Actions and Questions	Yes	No
1	PRINTER OPERATING ENVIRONMENT CHECK Compare the printer room environment, such as temperature, humidity, and space requirements, with the specifications listed in General Information section of this manual. Does the printer room environment meet printer specifications as listed in the General Information Section?	Go to step 2	Move the printer to an environment that meets printer specifications
2	AC POWER CHECK 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. 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?	Go to step 3	Have an electrician troubleshoot the AC line
3	NVRAM SETTINGS CHECK If applicable to your printer configuration, check the NVRAM settings to make sure they are all set to the recommended factory default values. Are the NVRAM settings set to the factory default values?	Go to step 4	Return all settings to factory default values
4	SOFTWARE RELOAD 1. Reload print driver software in the host computer. (Refer to the Printer Driver CD.) 2. Monitor printer operation. Does the printer display erratic operation?	Go to step 5	Problem solved
5	AC POWER CORD REPLACEMENT 1. Replace the AC Power Cord. 2. Monitor printer operation. Does the printer display erratic operation?	Go to step 6	Problem solved
6	SYSTEM CONTROLLER Board REPLACEMENT 1. Replace the System Controller Board with a new one (RRP 1-73). 2. Monitor printer operation. Does the printer display erratic operation?	Go to step 7	Problem solved

Table 1-80 Erratic Printer Operation (cont'd.)

Step	Actions and Questions	Yes	No
7	<p>LOW VOLTAGE POWER SUPPLY REPLACEMENT</p> <ol style="list-style-type: none"> 1. Reinstall the System Controller Board (RRP 1-73) 2. Replace the Low Voltage Power Supply (RRP 1-67). 3. Monitor printer operation. <p>Does the printer display erratic operation?</p>	Go to step 8	Problem solved
8	<p>PRINT ENGINE CONTROLLER Board REPLACEMENT</p> <ol style="list-style-type: none"> 1. Replace the Print Engine Controller Board (RRP 1-72). 2. Monitor printer operation. <p>Does the printer display erratic operation?</p>	Go to step 9	Problem solved
9	<p>Input/Output Board REPLACEMENT</p> <ol style="list-style-type: none"> 1. Replace the Input/Output Board (RRP 1-70). 2. Monitor printer operation. <p>Does the printer display erratic operation?</p>	Go to step 10	Problem solved
10	<p>ELECTRICAL NOISE CHECK</p> <ol style="list-style-type: none"> 1. Go to RAP 1-80 (Electrical Interference) and troubleshoot for a possible internal or external interference problem. 2. After you finish with RAP 1-80, return to this step and monitor printer operation. <p>Does the printer display erratic operation?</p>	Go to step 11	Problem solved
11	<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 1-69) ■ Computer Interface Cable ■ Control Panel (RRP 1-7) ■ AC Driver Board (RRP 1-68). 		

RAP 1-52

Blank, Erratic, or Inoperative Control Panel

The Control Panel Display is blank or displays garbled text, or the Control Panel does not respond to user input.

Table 1-81 Blank, Erratic, or Inoperative Control Panel

Step	Actions and Questions	Yes	No
1	<p>PRINTER STATUS TEST</p> <ol style="list-style-type: none"> Switch on printer power and wait 2 minutes for warm-up to complete. Use any application on the host computer to generate a few prints. <p>Does the printer generate prints?</p>	Go to step 2	Go to RAP 1-50 and troubleshoot an inoperative printer
2	<p>CONTROL PANEL TEST</p> <p>Power on printer while simultaneously pressing [0], [5], & [7].</p> <p>Do the Control Panel LEDs light up and does the display show Chn-00 Fun-00?</p>	Go to step 3	Go to step 4
3	<p>SYSTEM CONTROLLER BOARD REPLACEMENT</p> <ol style="list-style-type: none"> Replace the System Controller Board (RRP 1-73). <p>Is the problem still present?</p>	Replace the Print Engine Controller Board (RRP 1-70)	Problem solved
4	<p>LOW VOLTAGE POWER SUPPLY +5VDC CHECK</p> <p>Measure the voltage between J400, pins 1, 2 & 3 (on the Print Engine Controller Board) and frame ground.</p> <p>Is there +5VDC between J400, pins 1,2 & 3 and frame ground?</p>	Replace the Control Panel (RRP 1-7)	Go to step 5
5	<p>LOW VOLTAGE POWER SUPPLY REPLACEMENT</p> <p>Replace the Low Voltage Power Supply (RRP 1-67).</p> <p>Is the problem still present?</p>	Go to step 6	Problem solved
6	<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 Input/Output Board (RRP 1-70). 		

RAP 1-53

The Printer Does Not Display an Error Code When Out of Toner

The Control Panel Display does not display the appropriate Error Code when the Laser Print Cartridge runs out of toner.

Table 1-82 Printer Does Not Display and Error Code When Out of Toner

Step	Actions and Questions	Yes	No
1	<p>TONER SENSOR TEST</p> <ol style="list-style-type: none"> 1. Enter Diagnostics Mode. 2. From the Main Menu, select Comp Input Test / IOT Unit / Toner Empty. 3. Press [4] to start, [0] to stop. 4. Alternately insert/remove a new Laser Print (EP) Cartridge into the printer. 5. Observe display. <p>Does the control panel display “not empty” when the Laser Print (EP) Cartridge is in place, and does the display show “Empty” when the Cartridge is removed?</p>	Go to step 2	Replace the Toner Sensor (RRP 1-50)
2	<p>PRINT ENGINE CONTROLLER Board REPLACEMENT</p> <p>Replace the Print Engine Controller Board (RRP 1-72).</p> <p>Is the problem still present?</p>	Go to step 3	Problem solved
3	<p>Input/Output Board REPLACEMENT</p> <p>Replace the Input/Output Board (RRP 1-70).</p> <p>Is the problem still present?</p>	Go to step 4	Problem solved
4	<p>SYSTEM CONTROLLER Board REPLACEMENT</p> <p>Replace the System Controller Board (RRP 1-73).</p> <p>Is the problem still present?</p>	Go to step 5	Problem solved
5	<p>LOW VOLTAGE POWER SUPPLY REPLACEMENT</p> <p>Replace the Low Voltage Power Supply (RRP 1-67).</p> <p>Is the problem still present?</p>	Go to step 6	Problem solved
6	<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 ■ Laser Print (EP) Cartridge. 		

RAP 1-54

The Printer Does Not Offset Paper

The offset function does not work or does not work correctly.

Table 1-83 Printer Does Not Offset Paper

Step	Actions and Questions	Yes	No
1	<p>MAIN DRIVE ASSEMBLY INSPECTION</p> <ol style="list-style-type: none"> 1. Remove the Rear Cover Assembly (RRP 1-5) 2. Enter Diagnostics Mode. 3. From the Main Menu, select Comp Output Test / IOT Unit / Main Motor On to check the Main Motor and Main Drive Assembly. <p>Does the Main Motor run and do the gears of the Drive Assembly rotate normally?</p>	Go to step 2	Replace the Main Drive Assembly (RRP 1-66)
2	<p>EXIT DRIVE TEST</p> <ol style="list-style-type: none"> 1. Remove the Fuser Cover (RRP 1-1). 2. Enter Diagnostics Mode. 3. From the Main Menu, select Comp Output Test / Duplex Unit / Invert Clutch CW. 4. While rotating the Main Drive Motor CCW by hand, press [4] to start, the Invert Clutch CW should actuate for two seconds, then release. 5. Observe the rotation of the exit gears. 6. Press [7] or [3] to display Invert Clutch CCW. 7. While rotating the Main Drive Motor CCW by hand, press [4] to start, the Invert Clutch CCW should actuate for two seconds, then release. 8. Observe the rotation of the exit gears - they should rotate the opposite direction as observed in step 5 above. <p>Do the clutches function properly?</p>	Go to step 3	Replace the defective clutch
3	<p>OFFSET TEST</p> <ol style="list-style-type: none"> 1. Remove the Fuser Cover (RRP 1-1). 2. Enter Diagnostics Mode. 3. From the Main Menu, select Comp Output Test / IOT Unit / Offset Motor Fnt. 4. Press [4] to start, Offset Motor should rotate and move the offset roller toward the front of the printer. 5. Press [7] or [3] to display Offset Motor Rev. 6. Press [4] to start, Offset Motor should rotate the opposite direction as in step 4 above and the offset roller should move toward the rear of the printer. <p>Does the Offset Roller shift away from the Offset Motor and toward the Motor?</p>	Go to step 4	Replace the Offset Motor Assembly (RRP 1-57)
4	<p>PRINT ENGINE CONTROLLER BOARD REPLACEMENT</p> <p>Replace the Print Engine Controller Board (RRP 1-72)</p> <p>Does Offset work correctly?</p>	Problem solved	Go to step 5
5	<p>Input/Output Board REPLACEMENT</p> <p>Replace the Input/Output Board (RRP 1-70)</p> <p>Does Offset work correctly?</p>	Problem solved	Go to step 6

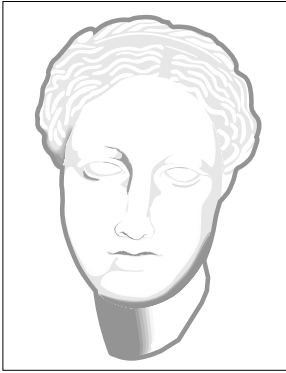
Table 1-83 Printer Does Not Offset Paper

Step	Actions and Questions	Yes	No
6	<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■ Low Voltage Power Supply (RRP 1-67).		

Image Quality Problems

RAP 1-60

Light (Undertoned) Prints



S4525-06

PROBLEM

The overall image density is too light. The image may also be unfused due to insufficient image density.

THE PRINTER DISPLAYS NO ERROR CODE.

Fig 1-15 Light (Undertoned) Prints

Table 1-84 Light (Undertoned) Prints

Step	Actions and Questions	Yes	No
1	<p>PAPER INSPECTION</p> <p>Inspect the paper that is loaded in the paper Bins.</p> <p>Is the paper wrinkled, dimpled, or show any sign of having a high moisture content?</p>	Replace with dry, newly opened paper	Go to step 2
2	<p>LASER PRINT (EP) CARTRIDGE REPLACEMENT</p> <p>Install a new Laser Print (EP) Cartridge.</p> <p>Is the image density normal?</p>	Problem solved	Go to step 3
3	<p>IMAGE DEVELOPMENT INSPECTION</p> <ol style="list-style-type: none"> 1. Remove the Rear Cover (RRP 1-5). 2. Generate a Grid Pattern Test Print and switch OFF printer power halfway through the print cycle. 3. Open the Left Upper Cover. 4. Open the Drum Shutter by pressing in the interlock plunger to the rear of the Laser Print Cartridge. 5. Hand rotate (counter clockwise) the Drum Drive Motor flywheel to advance the Drum far enough so you can see the developed image area on the Drum <u>before</u> it reached Transfer. <p>Is the image on the drum completely developed; with sharp, black, easily read areas?</p>	Go to step 4	Replace the High Voltage Power Supply Assembly (RRP 1-69)

Table 1-84 Light (Undertoned) Prints (cont'd.)

Step	Actions and Questions	Yes	No
4	<p>IMAGE TRANSFER INSPECTION</p> <ol style="list-style-type: none"> 1. Carefully remove the Test Print generated in step 3. 2. Inspect the print. <p>Was the toner image on the drum transferred completely to the paper and are the grid lines black and unbroken?</p>	Go to step 5	Replace the Bias Transfer Roller Assembly. If the problem persists, replace the High Voltage Power Supply Assembly.
5	<p>FUSER INSPECTION</p> <ol style="list-style-type: none"> 1. Generate another Grid Pattern Test Print and switch OFF printer power when the print is halfway through the Fuser. 2. Open the Left Upper Cover. 3. Examine the paper areas before the image enters the Fuser and after the image exits the Fuser. <p>Is the image normal before it enters the Fuser, but light when it exits the Fuser?</p>	Replace the Fuser Assembly	Go to step 6
6	<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 until you isolate and solve the problem.</p> <ul style="list-style-type: none"> ■ Laser Scanner Assembly (RRP 1-47) ■ Print Engine Controller Board (RRP 1-72) ■ Input/Output Board (RRP 1-70). 		

RAP 1-61

Blank Prints

PROBLEM

The entire image area is blank.

THE PRINTER DISPLAYS NO ERROR CODE.



S4525-07

Fig 1-16 Blank Prints

Table 1-85 Blank Prints

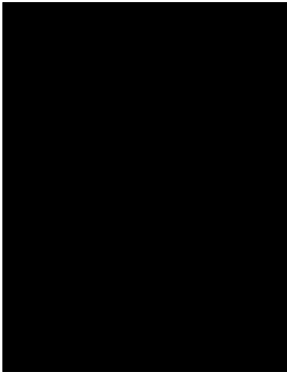
Step	Actions and Questions	Yes	No
1	CONTROLLER OR HOST SOFTWARE ISOLATION Generate a Grid Test Print. Is the test print image normal?	Troubleshoot or replace the System Controller Board (RRP 1-73) or reload the print driver software	Go to step 2
2	LASER PRINT (EP) CARTRIDGE REPLACEMENT Install a new Laser Print (EP) Cartridge. Is there a normal image on the paper?	Problem solved	Go to step 3
3	IMAGE DEVELOPMENT INSPECTION 1. Remove the Rear Cover (RRP 1-5). 2. Generate a Grid Test Print and switch OFF printer power halfway through the print cycle. 3. Open the Left Upper Cover. 4. Open the Drum Shutter. 5. Hand rotate (counter clockwise) the Drum Drive Motor flywheel to advance the Drum far enough so you can see the developed image area on the Drum <u>before</u> it reached Transfer. Is the image on the drum completely developed; with sharp, black, easily read areas?	Go to step 4	Replace the Laser Scanner Assembly (RRP 1-47)

Table 1-85 Blank Prints (cont'd.)

Step	Actions and Questions	Yes	No
4	<p>IMAGE TRANSFER INSPECTION</p> <p>1. Carefully remove the Test Print generated in step 3. 2. Inspect the print.</p> <p>Was the toner image on the drum transferred completely to the paper. And are the grid lines black and unbroken?</p>	Suspect an intermittent problem and go to step 7	Go to step 5
5	<p>BIAS TRANSFER ROLLER REPLACEMENT</p> <p>Replace the Bias Transfer Roller Assembly.</p> <p>Is the image still blank?</p>	Go to step 6	Problem solved
6	<p>HIGH VOLTAGE POWER SUPPLY REPLACEMENT</p> <p>Replace the High Voltage Power Supply (RRP 1-69).</p> <p>Is the image still blank?</p>	Go to step 7	Problem solved
7	<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"> ■ Laser Print (EP) Cartridge Connector and Contract Springs (PL 7.2) ■ Replace the Print Engine Controller Board (RRP 1-72) ■ Input/Output Board (RRP 1-70) ■ Refer to the wiring diagrams Section 14 and check for a broken wire or loose connection between components in the Xerographic sections of the printer. 		

RAP 1-62

Black Prints



S4525-08

PROBLEM

The entire image area is black. There is no image visible on the page.

THE PRINTER DISPLAYS NO ERROR CODE.

Fig 1-17 Black Prints

Table 1-86 Black Prints

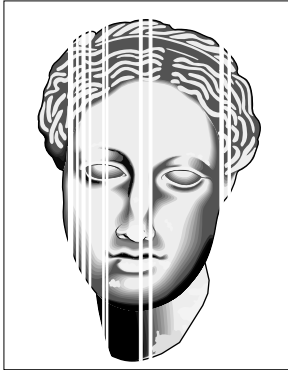
Step	Actions and Questions	Yes	No
1	CONTROLLER OR HOST SOFTWARE ISOLATION 1. Generate a Grid Test Print. Is the test print image normal?	Replace the System Controller Board (RRP 1-73) or reload the host software	Go to step 2
2	LASER PRINT (EP) CARTRIDGE REPLACEMENT Install a new Laser Print (EP) Cartridge. Is there a normal image on the paper?	Problem solved	Go to step 3
3	IMAGE DEVELOPMENT INSPECTION 1. Remove the Rear Cover (RRP 1-5). 2. Generate a Grid Test Print and switch OFF printer power halfway through the print cycle. 3. Open the Left Upper Cover. 4. Open the Drum Shutter. 5. Hand rotate (counter clockwise) the Drum Drive Motor flywheel to advance the Drum far enough so you can see the developed image area on the Drum <u>before</u> it reached Transfer. Is the image on the drum completely developed; with sharp, black, easily read areas and clear, white areas?	Replace the Bias Transfer Roller Assembly	Go to step 4

Table 1-86 Black Prints (cont'd.)

Step	Actions and Questions	Yes	No
4	<p>SYSTEM CONTROLLER BOARD MOTHER BOARD REPLACEMENT</p> <ol style="list-style-type: none"> 1. Replace the System Controller Board Mother Board (RRP 1-73) 2. Generate a Grid Test Print. <p>Is the printed Test Pattern normal?</p>	Problem solved	Go to step 5
5	<p>PRINT ENGINE CONTROLLER BOARD REPLACEMENT</p> <ol style="list-style-type: none"> 1. Replace the Print Engine Controller Board (RRP 1-72) 2. Generate a Grid Test Print. <p>Is the printed Test Pattern normal?</p>	Problem solved	Go to step 6
6	<p>Laser Scanner REPLACEMENT</p> <ol style="list-style-type: none"> 1. Replace the Laser Scanner Assembly (RRP 1-47) 2. Generate a Grid Test Print. <p>Is the printed Test Pattern normal?</p>	Problem solved	Go to step 7
7	<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"> ■ Low Voltage Power Supply (RRP 1-67) ■ Input/Output Board (RRP 1-70) ■ Refer to the wiring diagrams Section 14 and check for a broken wire or loose connection between components in the Xerographic sections of the printer. 		

RAP 1-63

Vertical Band Deletions



S4525-09

PROBLEM

There are areas of the image that are extremely light or are missing entirely. These missing areas form lines or bands that run vertically along the page in the direction of paper travel.

THE PRINTER DISPLAYS NO ERROR CODE.

Fig 1-18 Vertical Band Deletions

Table 1-87 Vertical Band Deletions

Step	Actions and Questions	Yes	No
1	Laser Scanner Window Inspection 1. Remove the Laser Print (EP) Cartridge. 2. Inspect the Laser Scanner Window for a scrap of paper or other contamination that may have lodged in front of it and could be blocking part of the laser beam from reach the Drum. Is the Laser Scanner Window free of paper or other contamination?	Go to step 2	Remove the paper scrap or clean the Laser Scanner window.
2	PAPER INSPECTION Inspect the paper that is loaded in the paper Bins. Is the paper wrinkled, dimpled, or show any sign of having a high moisture content?	Replace with dry, newly opened paper	Go to step 3
3	LASER PRINT (EP) CARTRIDGE REPLACEMENT Install a new Laser Print (EP) Cartridge. Are the vertical band deletions gone?	Problem solved	Go to step 4

Table 1-87 Vertical Band Deletions (cont'd.)

Step	Actions and Questions	Yes	No
4	<p>IMAGE TRANSFER INSPECTION</p> <ol style="list-style-type: none"> 1. Remove the Rear Cover (RRP 1-5). 2. Generate a Solid Black Test Print and switch OFF printer power halfway through the print cycle. 3. Open the Left Upper Door. 4. Open the Drum Shutter. 5. Hand rotate (counter clockwise) the Drum Drive Motor flywheel to advance the Drum far enough so you can see the developed image area on the Drum <u>before</u> it reached Transfer. <p>Before Transfer was the toner image on the drum normal and without vertical band deletions, but there were deletions after transfer?</p>	Replace the Bias Transfer Roller Assembly	Go to step 5
5	<p>FUSER INSPECTION</p> <ol style="list-style-type: none"> 1. Generate another Solid Black Test Print and switch OFF printer power when the print is halfway through the Fuser. 2. Open the Left Upper Door. 3. Examine the paper areas before the image enters the Fuser and after the image exits the Fuser. <p>Is the image on the paper normal before it enters the Fuser, but there are vertical band deletions visible when it exits the Fuser?</p>	Replace the Fuser Assembly	Go to step 6
6	<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"> ■ Refer to the wiring diagrams, See “Master Connection and Wiring Diagram” on page 356. and check for a broken wire or loose connection between components in the Xerographic sections of the printer. 		

RAP 1-64

Horizontal Band Deletions



S4525-10

PROBLEM

There are areas of the image that are extremely light or are missing entirely. These missing areas form lines or bands that run horizontally across the page perpendicular to the direction of paper travel.

THE PRINTER DISPLAYS NO ERROR CODE.

Fig 1-19 Horizontal Band Deletions

Table 1-88 Horizontal Band Deletions

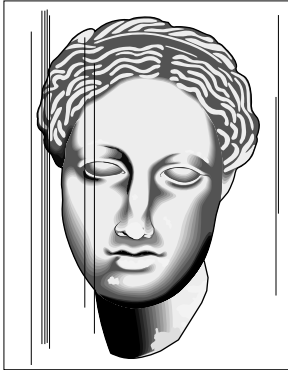
Step	Actions and Questions	Yes	No
1	PAPER INSPECTION Inspect the paper that is loaded in the paper Bins. Is the paper wrinkled, dimpled, or show any sign of having a high moisture content?	Replace with dry, newly opened paper	Go to step 2
2	LASER PRINT (EP) CARTRIDGE REPLACEMENT Install a new Laser Print (EP) Cartridge . Are the horizontal band deletions gone?	Problem solved	Go to step 3
3	IMAGE TRANSFER INSPECTION 1. Remove the Rear Cover (RRP 1-5). 2. Generate a Solid Black Test Print and switch OFF printer power halfway through the print cycle. 3. Open the Left Upper Cover. 4. Open the Drum Shutter. 5. Hand rotate (counter clockwise) the Drum Drive Motor flywheel to advance the drum far enough so you can see the developed image area on the Drum <u>before</u> it reached Transfer. Before Transfer was the toner image on the drum normal and without horizontal band deletions, but there are deletions on the paper after Transfer?	Go to step 4	Go to step 5
4	BIAS TRANSFER ROLLER REPLACEMENT 1. Replace the Bias Transfer Roller Assembly. 2. Generate a Solid Black Test Print. Is the Test Print normal, with no horizontal band deletions?	Problem solved	Go to step 5

Table 1-88 Horizontal Band Deletions (cont'd.)

Step	Actions and Questions	Yes	No
5	HIGH VOLTAGE POWER SUPPLY REPLACEMENT Replace the High Voltage Power Supply Assembly (RRP 1-69). Are the horizontal band deletions gone?	Problem solved	Go to step 6
6	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. <ul style="list-style-type: none">■ Laser Print (EP) Cartridge Connector and Contact Springs (PL 7.2)■ Print Engine Controller Board (RRP 1-72)■ Input/Output Board (RRP 1-70)■ Fuser Assembly.		

RAP 1-65

Vertical Streaks



S4525-11

PROBLEM

There are black lines running vertically along the page in the direction of paper travel.

THE PRINTER DISPLAYS NO ERROR CODE.

Fig 1-20 Vertical Streaks

Table 1-89 Vertical Streaks

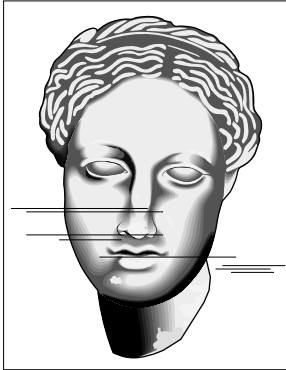
Step	Actions and Questions	Yes	No
1	PAPER PATH INSPECTION Inspect the paper path, between feed and exit, for contamination or obstructions. Is the paper path free of contamination or obstructions?	Go to step 2	Remove contamination and obstructions from the paper path.
2	LASER PRINT (EP) CARTRIDGE REPLACEMENT Install a new Laser Print (EP) Cartridge. Are the vertical streaks gone?	Problem solved	Go to step 3
3	IMAGE TRANSFER INSPECTION 1. Remove the Rear Cover (RRP 1-5). 2. Generate a Grid Test Print and switch OFF printer power halfway through the print cycle. 3. Open the Left Upper Door. 4. Open the Drum Shutter. 5. Hand rotate (counter clockwise) the Drum Drive Motor flywheel to advance the drum far enough so you can see the developed image area on the Drum <u>before</u> it reached Transfer. Before Transfer was the toner image on the drum normal and without vertical streaks, but there are vertical streaks on the paper after Transfer?	Replace the Bias Transfer Roller Assembly	Go to step 4

Table 1-89 Vertical Streaks (cont'd.)

Step	Actions and Questions	Yes	No
4	<p>FUSER INSPECTION</p> <ol style="list-style-type: none"> 1. Generate another Grid Test Print and switch OFF printer power when the print is halfway through the Fuser. 2. Open the Left Upper Door. 3. Examine the paper areas before the image enters the Fuser and after the image exits the Fuser. <p>Is the image on the paper normal before it enters the Fuser, but there are vertical streaks visible when it exits the Fuser?</p>	Go to step 5	Replace the Laser Scanner Assembly (RRP 1-47)
5	<p>FUSER ASSEMBLY REPLACEMENT</p> <ol style="list-style-type: none"> 1. Replace the Fuser Assembly. 2. Run a half dozen Grid Test Prints. <p>Are the vertical streaks gone?</p>	Problem solved	Go to step 6
6	<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"> ■ Refer to the wiring diagrams Section 14 and check for a broken wire or loose connection between components in the Xerographic sections of the printer ■ Input/Output Board (RRP 1-70). 		

RAP 1-66

Horizontal Streaks



S4525-12

PROBLEM

There are black lines running horizontally across the paper perpendicular to the direction of paper movement.

THE PRINTER DISPLAYS NO ERROR CODE.

Fig 1-21 Horizontal Streak

Table 1-90 Horizontal Streaks

Step	Actions and Questions	Yes	No
1	LASER PRINT (EP) CARTRIDGE REPLACEMENT Install a new Laser Print (EP) Cartridge. Are the horizontal streaks gone?	Problem solved	Go to step 2
2	IMAGE DEVELOPMENT INSPECTION 1. Remove the Rear Cover (RRP 1-5). 2. Generate a Blank Test Print and switch OFF printer power halfway through the print cycle. 3. Open the Left Upper Cover. 4. Open the Drum Shutter. 5. Hand rotate (counter clockwise) the Drum Drive Motor flywheel to advance the Drum far enough so you can see the developed image area on the Drum <u>before</u> it reached Transfer. Is the image on the drum completely white; without any horizontal streaks visible?	Go to step 3	Replace the Laser Scanner Assembly (RRP 1-47)
3	IMAGE TRANSFER INSPECTION Inspect the Blank Test Print you generated in step 2. Are horizontal streaks visible on the paper after Transfer?	Replace the Bias Transfer Roller Assembly	Go to step 4

Table 1-90 Horizontal Streaks (cont'd.)

Step	Actions and Questions	Yes	No
4	<p>FUSER INSPECTION</p> <ol style="list-style-type: none"> 1. Generate another Blank Test Print and switch OFF printer power when the print is halfway through the Fuser. 2. Open the Left Upper Cover. 3. Examine the paper areas before the image enters the Fuser and after the image exits the Fuser. <p>Is the image on the paper normal before it enters the Fuser, but there are horizontal streaks visible when it exits the Fuser?</p>	Replace the Fuser Assembly	Go to step 5
5	<p>SYSTEM CONTROLLER BOARD MOTHER REPLACEMENT</p> <p>Replace the System Controller Board Mother (RRP 1-73).</p> <p>Are the horizontal streaks gone?</p>	Problem solved	Go to step 6
6	<p>HIGH VOLTAGE POWER SUPPLY REPLACEMENT</p> <p>Replace the High Voltage Power Supply Assembly (RRP 1-69).</p> <p>Are the horizontal streaks gone?</p>	Problem solved	Go to step 7
7	<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"> ■ Print Engine Controller Board (RRP 1-72) ■ Input/Output Board (RRP 1-70) ■ Laser Print (EP) Cartridge Connector and Contact Springs (PL 7.2). 		

RAP 1-67

Spot Deletions



S4525-13

PROBLEM

There are areas of the image that are extremely light or are missing entirely. These missing areas form non-uniform spots that are localized to small areas of the page.

THE PRINTER DISPLAYS NO ERROR CODE.

Fig 1-22 Spot Deletions

Table 1-91 Spot Deletions

Step	Actions and Questions	Yes	No
1	PAPER INSPECTION Inspect the paper that is loaded in the paper Bins. Is the paper wrinkled, dimpled, or show any sign of having a high moisture content?	Replace with dry, newly opened paper	Go to step 2
2	LASER PRINT (EP) CARTRIDGE REPLACEMENT Install a new Laser Print (EP) Cartridge. Are the spot deletions gone?	Problem solved	Go to step 3
3	IMAGE TRANSFER INSPECTION <ol style="list-style-type: none">1. Remove the Rear Cover (RRP 1-5).2. Generate a Black Test Print and switch OFF printer power halfway through the print cycle.3. Open the Left Upper Door.4. Open the Drum Shutter.5. Hand rotate (counter clockwise) the Drum Drive Motor flywheel to advance the Drum far enough so you can see the developed image area on the Drum <u>before</u> it reached Transfer. Before Transfer was the toner image on the drum normal and without spot deletions, but there are spot deletions on the paper after Transfer?	Replace the Bias Transfer Roller Assembly	Go to step 4

Table 1-91 Spot Deletions (cont'd.)

Step	Actions and Questions	Yes	No
4	FUSER INSPECTION 1. Generate another Black Test Print and switch OFF printer power when the print is halfway through the Fuser. 2. Open the Left Upper Door. 3. Examine the paper areas before the image enters the Fuser and after the image exits the Fuser. Is the image on the paper normal before it enters the Fuser, but there are spot deletions visible when it exits the Fuser?	Replace the Fuser Assembly	Replace the paper with fresh, dry paper and thoroughly clean the inside of the printer.

RAP 1-68

Spots



S4525-14

PROBLEM

There are spots of toner scattered randomly across the page.

THE PRINTER DISPLAYS NO ERROR CODE.

Fig 1-23 Spots

Table 1-92 Spots

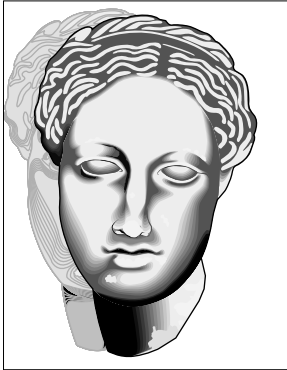
Step	Actions and Questions	Yes	No
1	LASER PRINT (EP) CARTRIDGE INSPECTION <ol style="list-style-type: none">1. Remove the Laser Print (EP) Cartridge.2. Inspect the outside of the Cartridge.3. Open the Shutter and inspect the Drum. Is the Laser Print (EP) Cartridge dirty and is it leaking toner?	Replace the Laser Print (EP) Cartridge	Go to step 2
2	INTERIOR INSPECTION AND CLEANING <ol style="list-style-type: none">1. With the Laser Print (EP) Cartridge removed, inspect the interior of the printer for toner contamination.2. Vacuum or wipe all interior surfaces, including Feed Rollers.3. Generate 30 Blank Test Prints to clean out the printer.4. Examine the last print out. Are the spots gone?	Problem solved	Go to step 3
3	IMAGE TRANSFER INSPECTION <ol style="list-style-type: none">1. Remove the Rear Cover (RRP 1-5).2. Generate a Blank Test Print and switch OFF printer power halfway through the print cycle.3. Open the Left Upper Door.4. Open the Drum Shutter.5. Hand rotate (counter clockwise) the Drum Drive Motor flywheel to advance the Drum far enough so you can see the developed image area on the Drum <u>before</u> it reached Transfer. Is the paper clean before Transfer, but there are spots on the paper after Transfer?	Replace the Bias Transfer Roller Assembly	Go to step 4

Table 1-92 Spots (cont'd.)

Step	Actions and Questions	Yes	No
4	FUSER INSPECTION 1. Generate another Blank Test Print and switch OFF printer power when the print is halfway through the Fuser. 2. Open the Left Upper Door. 3. Examine the paper areas before the image enters the Fuser and after the image exits the Fuser. Is paper clean before it enters the Fuser, but there are spots on the paper when it exits the Fuser?	Replace the Fuser Assembly	Clean or replace the Offset/Exit Assembly (RRP 1-54)

RAP 1-69

Residual Image or Ghosting



S4525-15

PROBLEM

There are faint, ghostly image appearing randomly on the page. The images may be images from a previous page.

THE PRINTER DISPLAYS NO ERROR CODE.

Fig 1-24 Residual Image or Ghosting

Table 1-93 Residual Image or Ghosting

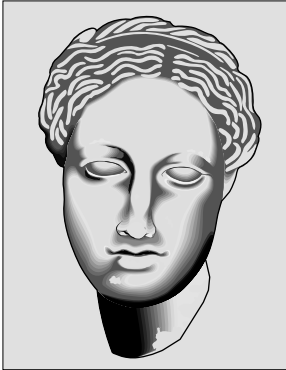
Step	Actions and Questions	Yes	No
1	CUSTOMER USAGE INSPECTION Inspect the residual images. Was the customer printing numerous copies of the same image?	Go to step 2	Go to step 3
2	Generate a print run of 30 pages of varying images. Do residual images still appear?	Go to step 3	Problem solved. Avoid printing numerous copies of the same image.
3	LASER PRINT (EP) CARTRIDGE REPLACEMENT Install a new Laser Print (EP) Cartridge. Are the ghost images gone?	Problem solved	Go to step 4
4	FUSER INSPECTION 1. Generate ten Grid Pattern Test Prints and switch OFF printer power when the last print is halfway through the Fuser. 2. Carefully remove the Laser Print (EP) Cartridge and inspect the toner image on the print before it enters the Fuser and immediately after it exits the Fuser. Is the image on the paper normal before it enters the Fuser, but there are ghost images on the paper when it exits the Fuser?	Replace the Fuser Assembly	Replace the Bias Transfer Roller Assembly

Table 1-93 Residual Image or Ghosting (cont'd.)

Step	Actions and Questions	Yes	No
5	<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"><li>■ Print Engine Controller Board (RRP 1-72).		

RAP 1-70

Background



S4525-16

PROBLEM

There is a light gray dusting of toner on all or most of the printer page.

THE PRINTER DISPLAYS NO ERROR CODE.

Fig 1-25 Background

Table 1-94 Background

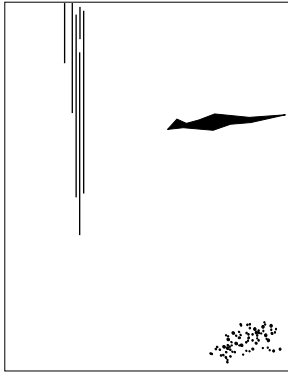
Step	Actions and Questions	Yes	No
1	LASER PRINT (EP) CARTRIDGE REPLACEMENT Install a new Laser Print (EP) Cartridge. Is the background gone?	Problem solved	Go to step 2
2	IMAGE DEVELOPMENT INSPECTION <ol style="list-style-type: none">1. Remove the Rear Cover (RRP 1-5).2. Generate a Blank Test Print and switch OFF printer power halfway through the print cycle.3. Open the Left Upper Cover.4. Open the Drum Shutter.5. Hand rotate (counter clockwise) the Drum Drive Motor Flywheel to advance the Drum far enough so you can see the developed image area on the Drum <u>before</u> it reached Transfer. Is the image on the drum completely clean and without any noticeable background toner?	Go to step 3	Replace the Laser Scanner Assembly (RRP 1-47)

Table 1-94 Background (cont'd.)

Step	Actions and Questions	Yes	No
<p>3 IMAGE TRANSFER INSPECTION</p> <ol style="list-style-type: none"> 1. Remove the Rear Cover (RRP 1-5). 2. Generate a Blank Test Print and switch OFF printer power halfway through the print cycle. 3. Open the Left Upper Door. 4. Open the Drum Shutter. 5. Hand rotate (counter clockwise) the Drum Drive Motor flywheel to advance the Drum far enough so you can see the developed image area on the Drum <u>before</u> it reached Transfer. <p>Before Transfer was the drum clean and without noticeable background toner, but there was background visible on the paper after Transfer?</p>	<p>Replace the Bias Transfer Roller Assembly</p>	<p>Go to step 4</p>	
<p>4 FUSER INSPECTION</p> <ol style="list-style-type: none"> 1. Generate another Blank Test Print and switch OFF printer power when the print is halfway through the Fuser. 2. Open the Left Upper Door. 3. Examine the paper before it enters the Fuser and after it exits the Fuser. <p>Is paper clean before it enters the Fuser, but there is background on the paper when it exits the Fuser?</p>	<p>Replace the Fuser Assembly</p>	<p>Go to step 5</p>	
<p>5</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 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"> ■ Replace the paper with another brand of paper ■ High Voltage Power Supply Assembly (RRP 1-69) ■ Print Engine Controller Board (RRP 1-72) ■ Input/Output Board (RRP 1-70). 			

RAP 1-71

Toner on Back of Print



S4525-17

PROBLEM

There is toner contamination on the back of the fused sheet of paper.

THE PRINTER DISPLAYS NO ERROR CODE.

Fig 1-26 Toner on Back of Print

Table 1-95 Toner on Back of Print

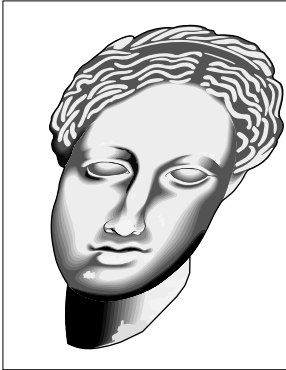
Step	Actions and Questions	Yes	No
1	PAPER JAM HISTORY Frequently a paper jam or clearing a paper jam may result in some minor toner contamination of the paper path. Did you just clear a paper jam?	Run 30 Test Prints to clear the paper path of residual toner	Go to step 2
2	PAPER Tray INSPECTION Inspect all of the paper Bins for loose toner on top of and under the paper stack. Is there toner in any of the paper Bins?	Clean the Bins and replace all of the paper with new paper	Go to step 3
3	PAPER PATH INSPECTION 1. Remove the paper Bins. 2. Remove the Laser Print (EP) Cartridge. 3. Use a flashlight to inspect the entire paper path, from Feeder to Output Bin, for any loose toner. Is the paper path free of loose toner?	Go to step 4	Thoroughly clean the paper path, from Feeders to the Output Bin, including all rubber feed Rollers
4	BIAS TRANSFER ROLLER INSPECTION Rotate and inspect the Bias Transfer Roller. Is the Bias Transfer Roller clean and free of toner?	Go to step 5	Clean or replace the Bias Transfer Roller

Table 1-95 Toner on Back of Print (cont'd.)

Step	Actions and Questions	Yes	No
5	FUSER INSPECTION <ol style="list-style-type: none">1. Generate a Blank Test Print and switch OFF printer power when the print is halfway through the Fuser.2. Open the Left Upper Cover.3. Examine the paper before it enters the Fuser and after it exits the Fuser. Is paper clean before it enters the Fuser, but there is background on the paper when it exits the Fuser?	Go to step 6	Clean or replace the Fuser Assembly
6	CLEAN PRINTER <ol style="list-style-type: none">1. Thoroughly clean the interior of the printer.2. Replace the Laser Print (EP) Cartridge.3. Generate 20 Test Prints. Does the toner still appear on the back of paper?	Go to step 7	Problem solved
7	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. <ul style="list-style-type: none">■ High Voltage Power Supply (RRP 1-69)■ Print Engine Controller Board (RRP 1-72)■ Input/Output Board (RRP 1-70).		

RAP 1-72

Skewed Image



S4525-18

PROBLEM

The image is either twisted on the page or is not parallel to the sides of the page.

THE PRINTER DISPLAYS NO ERROR CODE.

Fig 1-27 Skewed Image

Table 1-96 Skewed Image

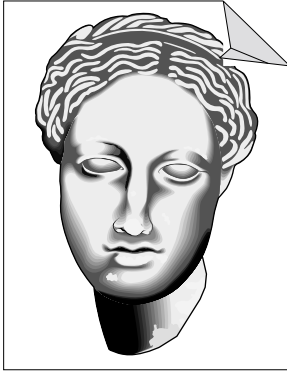
Step	Actions and Questions	Yes	No
1	PAPER FEED INSPECTION Are the paper trays installed correctly, and is the paper correctly loaded into each cassette?	Go to step 2	Reload the paper and reinstall the cassettes.
2	PAPER PATH INSPECTION Inspect the paper path, between the feed Tray and the exit Bin, for contamination or obstructions. Is the paper path free of obstructions?	Go to step 3	Remove obstructions from the paper path.
3	FEED, PICK, AND RETARD ROLLER REPLACEMENT Replace the Feed Roller, Pick Roller, and Retard Roller for the Feeder having the skew problem. Is the image still skewed?	Go to step 4	Problem solved
4	REGISTRATION ROLLER REPLACEMENT Replace the Registration Roller (RRP 1-45). Is the image still skewed?	Go to step 5	Problem solved
5	LASER PRINT (EP) CARTRIDGE REPLACEMENT Install a new Laser Print (EP) Cartridge. Is the image still skewed?	Go to step 6	Problem solved

Table 1-96 Skewed Image (cont'd.)

Step	Actions and Questions	Yes	No
6	<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">■ Laser Scanner Assembly (RRP 1-47)■ Bias Transfer Roller Assembly.		

RAP 1-73

Damaged Prints



S4525-19

PROBLEM

The printed page exits the printer either wrinkled, creased, folded or torn.

THE PRINTER DISPLAYS NO ERROR CODE.

Fig 1-28 Damaged Prints

Table 1-97 Damaged Prints

Step	Actions and Questions	Yes	No
1	PRINTER INTERIOR INSPECTION 1. Remove the paper Bins and the Laser Print (EP) Cartridge. 2. Thoroughly inspect the interior of the printer, looking for bits of paper, paper clips, staples, broken printer parts such as sensor actuators, or anything that might be rubbing against or catching on the paper as it moves along the paper path. Is the interior of the printer clear of debris or broken parts?	Go to step 2	Clean the printer interior or replace the broken printer parts
2	FEEDER ISOLATION Feed paper out of each of the available paper feeders. Is the paper damaged when fed out of only one Bin?	Go to step 3	Go to step 4
3	PAPER STACK INSPECTION Inspect the paper that is loaded in the paper Tray that feeds the damaged prints. Is the paper undamaged and is it loaded correctly in the paper Tray with the paper guides correctly positioned?	Go to step 4	Replace the paper if it is damaged or reload the paper

Table 1-97 Damaged Prints (cont'd.)

Step	Actions and Questions	Yes	No
4	<p>PAPER PATH INSPECTION - FEED TO REGISTRATION</p> <ol style="list-style-type: none"> 1. Generate a Test Print 2. Open the Left Upper Door just before the lead edge of the sheet of paper reaches the Registration Rollers. 3. Carefully remove the Laser Print (EP) Cartridge from the printer. 4. Inspect the sheet of paper. <p>Is the sheet damaged as it arrives at the Registration Rollers?</p>	<p>Replace the Feed, Pick, and Retard Rollers (RRP 1-11)</p>	<p>Go to step 5</p>
5	<p>PAPER PATH INSPECTION - REGISTRATION</p> <ol style="list-style-type: none"> 1. Generate a Test Print 2. Open the Left Upper Door just after the lead edge of the sheet of paper has passed the Registration Rollers. 3. Carefully remove the Laser Print (EP) Cartridge from the printer. 4. Inspect the sheet of paper. <p>Is the sheet damaged as it leaves the Registration Rollers?</p>	<p>Replace the Registration Roller (RRP 1-45)</p>	<p>Go to step 6</p>
6	<p>PAPER PATH INSPECTION - DRUM & BIAS TRANSFER ROLLER</p> <ol style="list-style-type: none"> 1. Generate a Test Print 2. Open the Left Upper Door just after the lead edge of the sheet of paper has passed the Bias Transfer Roller. 3. Carefully remove the Laser Print (EP) Cartridge from the printer. 4. Inspect the sheet of paper. <p>Is the sheet damaged as it leaves the Bias Transfer Roller area?</p>	<p>Replace the Laser Print (EP) Cartridge and the Bias Transfer Roller Assembly</p>	<p>Go to step 7</p>
7	<p>PAPER PATH INSPECTION - FUSER</p> <ol style="list-style-type: none"> 1. Generate a Test Print 2. Open the Left Upper Cover just after the lead edge of the sheet of paper has exited the Fuser. 3. Inspect the sheet of paper. <p>Is the sheet damaged as it leaves the Fuser?</p>	<p>Replace the Fuser Assembly</p>	<p>Clean or replace the Offset/Exit Assembly (RRP 1-54)</p>

RAP 1-74

Unfused Image or Image Easily Rubs Off of Page

PROBLEM

The toner image is not completely fused to the paper.

THE PRINTER DISPLAYS NO ERROR CODE.



S4525-20

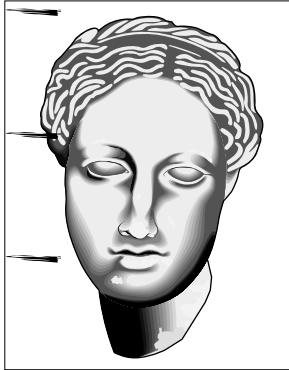
Fig 1-29 Unfused Image or Image Easily Rubs Off of Page

Table 1-98 Unfused Image or Image Easily Rubs Off of Page

Step	Actions and Questions	Yes	No
1	<p>PAPER INSPECTION</p> <p>Inspect the paper that is loaded in the paper Bins.</p> <p>Is the paper wrinkled, dimpled, or show any sign of having a high moisture content?</p>	Replace with dry, newly opened paper	Go to step 2
2	<p>IMAGE DENSITY INSPECTION</p> <p>Run a Black Test Print.</p> <p>Is the Test Print black?</p>	Go to step 3	Go to RAP 1-60 Light (Undertoned) Prints
3	<p>FUSER ASSEMBLY REPLACEMENT</p> <p>1. Replace the Fuser Assembly. 2. Run a half dozen Grid Test Prints.</p> <p>Does the image rub off?</p>	Go to step 4	Problem solved
4	<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"> ■ AC Driver Board (RRP 1-68) ■ Print Engine Controller Board (RRP 1-72) ■ Input/Output Board (RRP 1-70). 		

RAP 1-75

Repetitive Marks on Each Page



S4525-21

PROBLEM

Identical image defects appear on each or on every other printed sheet.

THE PRINTER DISPLAYS NO ERROR CODE.

Fig 1-30 Repetitive Marks on Each Page

Table 1-99 Repetitive Marks on Each Page

Step	Actions and Questions	Yes	No
1	<p>DRUM IMAGE INSPECTION</p> <ol style="list-style-type: none"> 1. Generate a single Test Print. 2. Open the Upper Left Cover when the sheet of paper is approximately half-way through the transfer process. 3. Carefully remove the Laser Print (EP) Cartridge from the printer. 4. Inspect the surface of the Drum. <p>Does the mark appear on the Drum before image transfer?</p>	Replace the Laser Print (EP) Cartridge	Go to step 2
2	<p>TRANSFER IMAGE INSPECTION</p> <p>Inspect the Test Print generated in step 1.</p> <p>Does the mark appear on the paper after image transfer?</p>	Replace the Bias Transfer Roller Assembly	Go to step 3
3	<p>FUSED IMAGE INSPECTION</p> <ol style="list-style-type: none"> 1. Generate a single Test Print. 2. Open the Upper Left Cover when the sheet of paper is approximately half-way through the Fuser. 3. Inspect the Test Print. <p>Does the mark appear on the paper after Fusing?</p>	Replace the Fuser Assembly	

RAP 1-76

Lead Edge Registration Is Not Correct



S4525-22

PROBLEM

The printed image is not centered on the page. The lead edge margin of the printed image is either too narrow or too wide, and either cuts off the lead edge of the printer image or starts the lead edge of the printed image too far into the page.

THE PRINTER DISPLAYS NO ERROR CODE.

Fig 1-31 Lead Edge Registration Is Not Correct

Table 1-100 Lead Edge Registration Is Not Correct

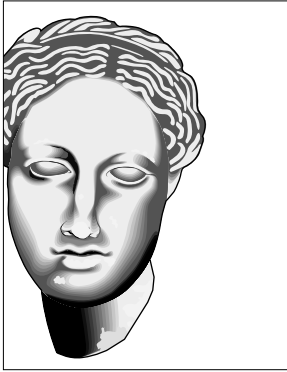
Step	Actions and Questions	Yes	No
1	PAPER Tray INSPECTION Inspect the paper that is loaded in the paper Bin. Is the paper loaded correctly and are the paper guides adjusted correctly?	Go to step 2	Reload the paper and adjust the paper guides
2	LEAD EDGE REGISTRATION Refer to the Diagnostics, Test Prints, Service Tests & NVRAM Adjustments section of this manual and use NVRAM to adjust Lead Edge Registration. Can you adjust lead edge registration using NVRAM?	Problem solved	Go to step 3
3	1. Reload print driver software. 2. Generate 5 Test Prints. Is the lead edge registration correct?	Problem solved	Go to step 4
4	1. Replace the Print Engine Controller Board (RRP 1-72) 2. Generate 5 Test Prints. Is the lead edge registration correct?	Problem solved	Go to step 5
5	1. Replace the Laser Scanner (RRP 1-47) 2. Generate 5 Test Prints. Is the lead edge registration correct?	Problem solved	Go to step 6

Table 1-100 Lead Edge Registration Is Not Correct

Step	Actions and Questions	Yes	No
6	<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">■ Registration Sensor (PL 6.1.7)■ Registration Clutch (RRP 1-41)■ System Controller Board (RRP 1-73)■ Input/Output Board (RRP 1-70).		

RAP 1-77

Side-to-Side Registration Is Not Correct



S4525-23

PROBLEM

The printed image is not centered on the page. The side margins are not equal and the image may be cut off on either the left or right side.

THE PRINTER DISPLAYS NO ERROR CODE.

Fig 1-32 Side-to-Side Registration Is Not Correct

Table 1-101 Side-to-Side Registration Is Not Correct

Step	Actions and Questions	Yes	No
1	PAPER Tray INSPECTION Inspect the paper that is loaded in the paper Bin. Is the paper loaded correctly and are the paper guides adjusted correctly?	Go to step 2	Reload the paper and adjust the paper guides
2	SIDE-TO-SIDE REGISTRATION Refer to the Diagnostics, Test Prints, Service Tests & NVRAM Adjustments section of this manual and use NVRAM to adjust Side Edge Registration. Can you adjust side-to-side registration using NVRAM?	Problem solved	Go to step 3
3	1. Reload print driver software. 2. Generate 5 Test Prints. Is the side-to-side registration correct?	Problem solved	Go to step 4
4	1. Replace the Print Engine Controller Board (RRP 1-72). 2. Generate 5 Test Prints. Is the side-to-side registration correct?	Problem solved	Go to step 5
5	1. Replace the Laser Scanner (RRP 1-47) 2. Generate 5 Test Prints. Is the side-to-side registration correct?	Problem solved	Go to step 6

Table 1-101 Side-to-Side Registration Is Not Correct

Step	Actions and Questions	Yes	No
6	<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">■ Registration Chute Assembly (RRP 1-44)■ Laser Print (EP) Cartridge■ System Controller Board (RRP 1-73)■ Input/Output Board (RRP 1-70).		

Electrical Interference Problems

RAP 1-80

Electrical Interference

Something is generating electrical noise that may be interfering with the normal operation of the printer. The interference generator may be either external or internal to the printer.

Table 1-102 Electrical Interference

Step	Actions and Questions	Yes	No
1	<p>EXTERNAL NOISE</p> <ol style="list-style-type: none"> 1. Check 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 the other devices. <p>Is the Electrical Noise problem still present?</p>	Go to step 2	Permanently relocate either the printer or the problem device.
2	<p>OPTION ISOLATION</p> <p>If the printer has options installed, such as Duplex Unit or the High Capacity Feeder, remove each option one at a time, and see how the printer operations without that option installed.</p> <p>Does the Electrical Noise problem go away when you remove a specific option?</p>	Go to the option manual and troubleshoot for arcing solenoids and motors, or faulty boards or wiring.	Go to step 3
3	<p>AC GROUND</p> <p>Check the AC wall outlet.</p> <p>Is the AC wall outlet correctly wired and grounded?</p>	Go to step 4	Repair the AC wall outlet
<p>NOTE: Steps 4 through 11 attempt to find a faulty printer component that may be generating electrical noise. If replacing a component does not solve the problem, reinstall the old component before moving on to the next step.</p>			
4	<p>LASER PRINT (EP) CARTRIDGE REPLACEMENT</p> <p>Replace the Laser Print (EP) Cartridge.</p> <p>Is the Electrical Noise problem still present?</p>	Go to step 5	Problem solved
5	<p>HIGH VOLTAGE POWER SUPPLY REPLACEMENT</p> <p>Replace the High Voltage Power Supply Assembly (RRP 1-69)</p> <p>Is the Electrical Noise problem still present?</p>	Go to step 6	Problem solved
6	<p>AC DRIVER REPLACEMENT</p> <p>Replace the AC Driver Board (RRP 1-68)</p> <p>Is the Electrical Noise problem still present?</p>	Go to step 7	Problem solved

Table 1-102 Electrical Interference (cont'd.)

Step	Actions and Questions	Yes	No
7	<p>LOW VOLTAGE POWER SUPPLY ASSEMBLY REPLACEMENT</p> <p>Replace the Low Voltage Power Supply Assembly (RRP 1-67)</p> <p>Is the Electrical Noise problem still present?</p>	Go to step 8	Problem solved
9	<p>PRINT ENGINE CONTROLLER BOARD Board REPLACEMENT</p> <p>Replace the Print Engine Controller Board (RRP 1-72)</p> <p>Is the Electrical Noise problem still present?</p>	Go to step 10	Problem solved.
10	<p>MAIN DRIVE ASSEMBLY REPLACEMENT</p> <p>Replace the Main Drive Assembly (RRP 1-66)</p> <p>Is the Electrical Noise problem still present?</p>	Go to step 11	Problem solved.
11	<p>The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this Fault Isolation Procedure, replace each component listed below, one at a time, until the problem disappears.</p> <ul style="list-style-type: none"> ■ Lift Motors ■ Feed Clutches ■ Laser Scanner Assembly (RRP 1-47) ■ Offset Unit (RRP 1-54) ■ System Controller Board (RRP 1-73) ■ Input/Output Board (RRP 1-70). 		

Diagnostics, Test Prints, Service Tests and NVRAM Adjustments

The printer has four modes of operation:

- On-Line Mode
- Power Saver Mode
- Diagnostic 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 takes some time to raise the fuser temperature.

Diagnostics

Diagnostics available to the technician are built into the System Controller Board. However, test prints are available from both the System Controller and the Print Engine Controller as described below.

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 variety of test patterns to check printer operation and xerographic functions.
- Print fault history
- 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 DocuPrint N4525 Network laser Printer. If an option is not installed, the menu items for that option will not be displayed.

Maintenance Reset Procedure

The Maintenance Kit is a user installable kit which replaces the paper feed rollers, bias transfer roller, cleaning cloth, gloves and a fuser. The printer's control panel display informs the user when it is time to install a Maintenance Kit.

Upon completing the Maintenance Kit installation, it is necessary to reset the Maintenance Kit Counter. Although wordless instructions are included with the kit, the procedure below is provided for when those instructions are not available to you.

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

Maintenance Kit Counter Reset Procedure

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], 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.
4. Reboot the printer by powering OFF, waiting 20 - 30 seconds and powering ON.

The Maintenance Kit is a customer purchased / customer replaced unit (CRU). The interval for replacement is 300K prints.

For Maintenance Kit part numbers, see Xerox Supplies and Accessories in the FRU Parts Lists on page 1-338.

Test Prints

A variety of test prints are available to aid in determining the quality of output from the printer and to assist in troubleshooting problems. Some test prints are available from the System Controller Board and others from the Print Engine Controller Board. This section shows how to select and produce all test prints available.

Note *For assistance in analyzing print quality problems, please refer to the Troubleshooting section of this manual, Image Quality Problems on page 1-113.*

System Controller Test Prints

The test prints available from the System Controller Board 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.

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:

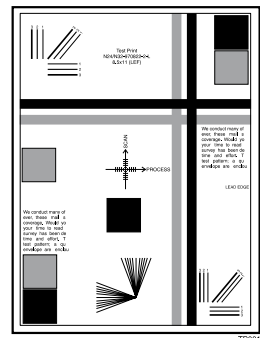
A printer configuration sheet can be used as an indicator of print quality, as well as providing the user/technician with myriad of pertinent information regarding the printer’s configuration. It is a good idea to print a configuration sheet and keep it close to the printer for reference by users, technicians,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

1. While in the menu mode, 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 will be printed.

System Controller 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. While in the menu mode, 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 will be printed.



Fault History:

The fault history provides two columns of figures to help track faults. A Page Count, which refers to the actual page count of the printer where a problem occurred. The Fault Description column lists the Fault (Error) Codes pertaining to the problem. In many cases, these codes can be found in the Error Codes section of this manual as an aid to troubleshooting. Not every code is listed in this manual. This fault history can become helpful in troubleshooting difficult problems by providing the page count/fault description code to Technical Support, if needed.

1. While in the menu mode, press [1] or [2] until "PRINT MENU" is displayed.
2. Press [2] or [6] until "Fault History" is displayed.
3. Press [4] and the fault history will be printed.

Note *It is advisable to print a fault history and have it ready when contacting Technical Support.*

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 configuration sheet and keep it close to the printer for reference by users, technicians, and/or system administrators.

1. While in the menu mode, 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 will be printed.

PS Font List:

The PS Font List produces a list of internally available PostScript fonts. This single test page is an excellent tool with which to help determine print quality.

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 will be printed.

PCL[®] Font List:

Three pages of internal PCL fonts is provided with this test. This is another useful print quality test print.

1. While in the menu mode, 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 will be printed.

PCL[®] Demo Test Print:

The internal PCL Demo test page provides an additional print quality test for the printer. The page is rich in graphics, black and grayscale painting and text variations.

1. While in the menu mode, press [1] until "PRINT MENU" is displayed.
2. Press [2] until "PCL Demo" is displayed.
3. Press [4] and the PCL Demo test page will be printed.

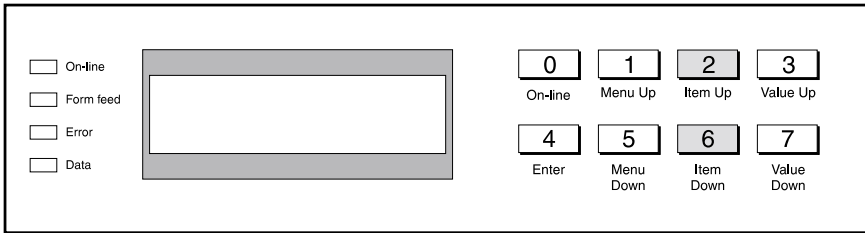
Print Engine Controller Board Test Prints

Various test print images are stored in ROM on the Print Engine Controller Board. Use this Test Print Diagnostic routine to bypass the System Controller Board and print a variety of test prints directly from the Print Engine Controller Board. Running the Test Print Diagnostic routine is an excellent tool for isolating and diagnosing printer feed, paper path, and image quality problems. Refer to the NVRAM section of this manual for information on using test prints to help adjust print image registration.

Note *You must enter Diagnostic Mode to generate the following test prints.*

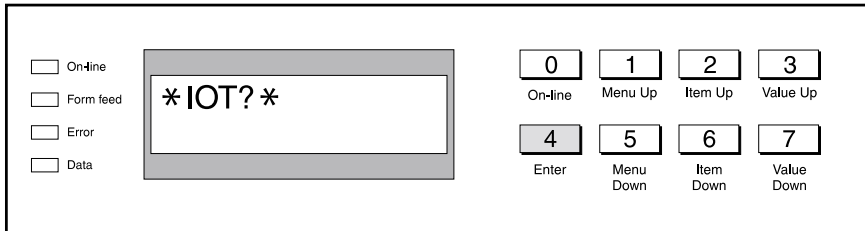
To Enter Diagnostic Mode

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).



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3. When the Control Display shows ***IOT?***, release buttons [2] and [6], then press and hold button [4]. You have 10 seconds to release [2] and [6] and press [4]. Hold [4] until "Main Menu Test Print" is display. You are now in Diagnostics Mode.



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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. When requested for **password**, sequentially press [0], [7], [3], [4] to gain entry.

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

Print Engine Controller Test Prints

The Print Engine Controller Board Test Prints require entering Diagnostics Mode. Refer to page 1-154 for instructions on how to enter Diagnostics Mode.

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

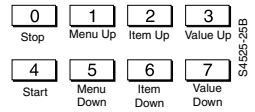


Table 1-103 Print Engine Controller Test Prints

Press [1] or [5] to display: ⇒ Main Menu		
Press [2] or [6] to display: ↓ Print Menu		
Press [2] or [6] to display: ↓	Press [3] or [7] to display: ↓	Comment
Test Print Start Print		Press [4] to start the test print selected. Press [0] to stop.
Test Print Print Quantity	Print Quantity 1*	Press [3] or [7] until desired quantity is selected (1~999), then press [4].
Test Print 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 ⁽¹⁾	Press [4] to select the paper feed tray desired.
	Input Tray Tray 4 ⁽¹⁾	Press [4] to select the paper feed tray desired.
	Input Tray Tray 5 ⁽¹⁾	Press [4] to select the paper feed tray desired.
	Input Tray MBF/ENV ⁽⁴⁾	Multi-sheet Bypass Feeder or Envelope Feeder
Test Print Output Tray	Output Tray Face Down*	Press [4] to select the output Tray desired. This selection outputs to the Face Down output Tray using no offset.
	Output Tray Face Dw F Offset	Outputs to the Face Down output Tray using front offset
	Output Tray Face Dw R Offset	Outputs to the Face Down output Tray using rear offset
	Output Tray Face up ⁽²⁾	Outputs to the Face up tray
	Output Tray Finisher ⁽³⁾	Outputs to the Finisher
Test Print Duplex	Duplex Off*	Single side printing
	Duplex On	Both sides of page printed
Test Print Staple Selection	Staple Selection No Staple ⁽³⁾	
	Staple Selection Front Staple ⁽³⁾	45° relative to the front (Control Panel side) of the printer

Table 1-103 Print Engine Controller Test Prints (cont'd.)

Press [1] or [5] to display: ⇒ Main Menu		
Print Menu		
Press [2] or [6] to display: ↓	Press [3] or [7] to display: ↓	Comment
	Staple Selection Rear Staple ⁽³⁾	45° relative to the rear of the printer
	Staple Selection Dual Staple ⁽³⁾	Two in-line staples and parallel to the long edge (near the center)
Pages Per Set	Pages Per Set 2*	Selects the number of pages per print/staple set (2~50).
Test Print Punch Selection	Punch Selection On*	
	Punch Selection Off	
Test Print Select Pattern	Select Pattern Grid*	Wide, fine line grid pattern suitable for checking and adjusting registration.
	Select Pattern Dark Dusting	Paints the printable area dark gray.
	Select Pattern H Pattern	H pattern covering the entire printable area.
	Select Pattern Blank	Blank page - suitable for inspecting for unwanted shading, pattern or objects.

(1) If the High Capacity Feeder is installed.
(2) If the Face Up Tray is installed.
(3) If the Finisher is installed.
(4) If the Multi-sheet Bypass Feeder or Envelope Feeder is desired.
* = Default

Analyzing the Test Print

Test prints provide several uses in troubleshooting printer problems.

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

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

You can use test prints to determine if a problem is caused by a faulty print engine or by a faulty System Controller Board or host software.

Note *This procedure presumes you have investigated any displayed error code or message. If not, please do so now.*

1. Print a sample image from the host computer.
2. Enter Printer Diagnostics and generate a 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 *You can also use the above procedure to assist in determining if a print quality problem is caused by a faulty print engine, system controller board or host software. If the print quality problem is an image registration problem, refer to the NVRAM section of this manual for instructions on adjusting image registration.*

Using Test Prints to Locate a Feed or Paper Transport Problem

You can use test prints to locate a problem with paper feed or with paper transportation along the paper path.

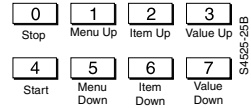
Note *This procedure presumes you have investigated any displayed error code or message pertaining to paper feed or transport problems. If not, please do so now.*

1. Enter Printer Diagnostics and generate a test print.
2. Follow the paper along the paper path to locate the cause of the problem.

NVRAM Counters Menu

The Non-Volatile RAM counters provide page counts, ROM versions and/or other information for selected items. Information displayed here requires entering Diagnostics Mode. Refer to page 1-154 for instructions on entering Diagnostics Mode.

The Control Panel Test Legend to the right will aid in navigating through the variety of counters available. Press [4] to start the counter selected, press [0] to stop or wait approximately 5 seconds and it will stop automatically.



Note Some displayed acronyms are parenthically clarified.

NVRAM Counters

Press [1] or [5] to display: ⇒ Main Menu
NVM Counters

Then, press [2] or (6) to display: ↓	Range	
	Minimum	Maximum
Note When password is requested, sequentially press [0], [7], [3], [4] to gain entry.		
System Type - Press [4]	00	99
Face-Up Install - Press [4]	Not Installed	Installed
Total Print - Press [4]	0	1500000
BTR {Bias Transfer Roller} Total - Press [4]	0	999999
Total CRU {Laser Print Cartridge} Print - Press [4]	0	999999
Drum Rotate Time - Press [4]	0	999999
Tray 1 Feed - Press [4]	0	999999
Tray 2 Feed - Press [4]	0	999999
Tray 3 Feed - Press [4]	0	999999
Tray 4 Feed - Press [4]	0	999999
Tray 5 Feed - Press [4]	0	999999
Toner Rest Value - Press [4]	0	100000
MCU {Print Engine Controller} ROM Version - Press [4]	0	99
MCU {Print Engine Controller} ROM Release - Press [4]	0	99
DM {Duplex Module} ROM Version - Press [4]	0	99
DM {Duplex Module} ROM Release - Press [4]	0	99
Finisher ROM Version - Press [4]	0	99
Finisher ROM Release - Press [4]	0	99
HCF {High Capacity Feeder} ROM Release - Press [4]	0	99
HCF {High Capacity Feeder} ROM Release - Press [4]	0	99

NVRAM Adjustment Procedures

The NVRAM Adjustment Procedures instruct you in adjusting registration globally, as well as for each individual tray and for simplex and duplex operations. In addition, the adjustments in the table below enable you to adjust a variety of fuser temperatures and to toggle Trail Force Erase on and off.

Information displayed here requires entering Diagnostics Mode. Refer to page 1-154 for instructions on entering Diagnostics Mode.

The Control Panel Test Legend to the right will aid in navigating through the variety of adjustments available. Press [4] to start the adjustment selected, press [0] to stop. For additional information on checking registration, refer to the registration information beginning on page 1-163

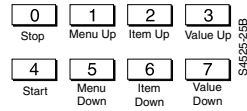


Table 1-104 NVRAM Adjustment Table

Line No.	Press [1] or [5] to display: ↓	Press [2] or [6] to display: ↓	Press [4] to write to NVRAM, [0] to exit.	Press (3) or (7) to display "value". Continue pressing [3] or [7] to adjust "value". Value Up (3) / Value Down (7) Adjustment Range		
				Min	Def	Max
1	Main Menu NVM Side Edge	NVM Side Edge SPX All Trays	SPX All Trays {Simplex} Each value step = .252 mm	1	50	99
2		NVM Side Edge SPX Tray 1	SPX Tray 1 Each value step = .252 mm	1	50	99
3		NVM Side Edge SPX Tray 2	SPX Tray 2 Each value step = .252 mm	1	50	99
4		NVM Side Edge SPX Tray 3	SPX Tray 3 Each value step = .252 mm	1	50	99
5		NVM Side Edge SPX Tray 4	SPX Tray 4 Each value step = .252 mm	1	50	99
6		NVM Side Edge SPX Tray 5	SPX Tray 5 Each value step = .252 mm	1	50	99
7		NVM Side Edge MBF	MBF {Multi-sheet Bypass Feeder} Each value step = .252 mm	1	50	99
8		NVM Side Edge Envelope	Envelope Each value step = .252 mm	1	50	99
9		NVM Side Edge DPX All Trays	DPX All Trays Each value step = .252 mm	1	50	99
10		NVM Side Edge DPX Tray 1	DPX Tray 1 Each value step = .252 mm	1	50	99
11		NVM Side Edge DPX Tray 2	DPX Tray 2 Each value step = .252 mm	1	50	99
12		NVM Side Edge DPX Tray 3	DPX Tray 3 Each value step = .252 mm	1	50	99
13		NVM Side Edge DPX Tray 4	DPX Tray 4 Each value step = .252 mm	1	50	99

Table 1-104 NVRAM Adjustment Table (cont'd.)

Line No.	Press [1] or [5] to display: ↓	Press [2] or [6] to display: ↓	Press [4] to write to NVRAM, [0] to exit.	Press (3) or (7) to display "value". Continue pressing [3] or [7] to adjust "value". Value Up (3) / Value Down (7) Adjustment Range		
				Min	Def	Max
14		NVM Side Edge DPX Tray 5	DPX Tray 5 Each value step = .252 mm	1	50	99
15		NVM Side Edge DPX MBF	DPX MBF Each value step = .252 mm	1	50	99
16	Main Menu NVM Lead Edge	NVM Lead Edge All Trays Reg.	All Trays Reg. Each value step = .41 mm	10	27	50
17		NVM Lead Edge Duplex All Trays	Duplex All Trays Each value step = .41 mm	0	9	16
18		NVM Lead Edge Tray 1 Reg.	Tray 1 Reg. Each value step = .41 mm	0	8	16
19		NVM Lead Edge Tray 2~5 Reg.	Tray 2~5 Reg. Each value step = .41 mm	0	8	16
20		NVM Lead Edge MBF Reg.	MBF Reg. Each value step = .41 mm	0	7	16
21		NVM Lead Edge Envelope Reg.	Envelope Reg. Each value step = .41 mm	0	10	16
22	Main Menu NVM Fuser Adj.	NVM Fuser Adj. Ready Temp	Ready Temp Each value step = .85° C	16 (145°c)	38 (165°c)	51 (175°c)
23		NVM Fuser Adj. Standby Temp	Standby Temp Each value step = .82° C	19 (150°c)	42 (170°c)	55 (180°c)
24		NVM Fuser Adj. Standby 2 Temp	Standby 2 Temp Each value step = .78° C	21 (160°c)	46 (180°c)	59 (190°c)
25		NVM Fuser Adj. OHP Temp	OHP Temp Each value step = .82° C	0 (160°c)	50 (190°c)	68 (205°c)
26		NVM Fuser Adj. TR1 Temp	TR1 Temp Each value stepe = .84° C	11 (180°c)	49 (200°c)	61 (210°c)
27		NVM Fuser Adj. TR2 Temp	TR2 Temp Each value step = .80° C	11 (165°c)	49 (195°c)	55 (200°c)
28		NVM Fuser Adj. TM1 Temp	TM1 Temp Each value step = .83° C	11 (180°c)	49 (200°c)	61 (210°c)
29		NVM Fuser Adj. TM2 Temp	TM2 Temp Each value step = .80° C	11 (165°c)	49 (195°c)	55 (200°c)
30		NVM Fuser Adj. TE1 Temp	TE1 Temp Each value step = .80° C	12 (170°c)	50 (200°c)	62 (210°c)

Table 1-104 NVRAM Adjustment Table (cont'd.)

Line No.	Press [1] or [5] to display: ↓	Press [2] or [6] to display: ↓	Press (3) or (7) to display "value".	Value Up (3) / Value Down (7) Adjustment Range		
			Continue pressing [3] or [7] to adjust "value".	Min	Def	Max
31		NOTE - The following papers are applicable for the temperature settings: <u>TR1 & TM1</u> 11 x 17 - SEF A3 - SEF A4 - LEF or SEF 8.5 x 11 - LEF or SEF B4 - SEF B5 - LEF 7.25 x 10.5 (Executive) - LEF 5.5 x 8.5 (Statement) - LEF 8.5 x 14 (Legal) - SEF <u>TR2</u> B5 - SEF <u>TM2</u> B5 - SEF C6 - SEF A5 - SEF 5.5 x 8.5 - SEF A6 (Postcard) - SEF <u>TE1 & TE2</u> #10 - SEF Monarch - LEF DL - LEF C5 - LEF				
32	Main Menu NVM Others Adj.	NVM Others Adj. Trail Force Ers	Trail Force Ers Each step value = .41 mm	0	54	97

Tray Size Test

The tray size test provides a convenient method of checking the paper feed tray sizes from the Control Panel. This is a tray size test only. No adjustments can be made.

Information displayed here requires entering Diagnostics Mode. Refer to page 1-154 for instructions on entering Diagnostics Mode.

The Control Panel Test Legend to the right will aid in navigating through the variety of tests available. Press [4] to start the test selected, press [0] to stop.

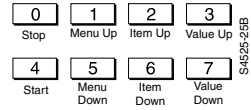


Table 1-105 Tray Size Test

Press [1] or [5] to display: ↓	Press [2] or [6] to display: ↓	Press (3) or (7) to display "value". Continue pressing [3] or [7] to adjust "value". Press [4] to write to NVRAM, [0] to exit.
Main Menu	Tray Size Test	Press [4] start, [0] stop
Tray Size Test	Tray 1 Size	Tray 1 paper size is displayed
	Tray Size Test	Press [4] start, [0] stop
	Tray 2 Size	Tray 2 paper size is displayed
	Tray Size Test	Press [4] start, [0] stop
	Tray 3 Size	Tray 3 paper size is displayed
	Tray Size Test	Press [4] start, [0] stop
	Tray 4 Size	Tray 4 paper size is displayed
	Tray Size Test	Press [4] start, [0] stop
	Tray 5 Size	Tray 5 paper size is displayed
	Tray Size Test	Press [4] start, [0] stop
	MBF Tray Size	MBF Tray paper size is displayed
	Tray Size Test	Press [4] start, [0] stop
	Env Tray Size	ENV Tray envelope size is displayed

Checking Lead Edge Registration

Note *NVM (Non-Volatile Memory) and NVRAM (Non-Volatile Random Access Memory) are synonymous. NVM is displayed by the Control Panel. NVRAM appears in documented text.*

Note *Use only A4 paper or 8.5" x 11" paper and make certain the tray being tested is the only tray installed when generating the test print.*

Checking Lead Edge Registration

1. Generate a Registration Grid Pattern Test Print, see page 1-155 to set up and page 1-156 for specifics on Grid Pattern test print launch.

Note *The Grid Pattern test print on your printer may, or may not, display edge lines. If no edge lines appear in your test print, simply measure to the end of any line perpendicular to the Lead Edge.*

2. Using a metric scale, measure the distance from the lead edge of the test sheet to the end of any line, or the edge line. The distance should be 4.0 mm (+/- 1.5 mm in Simplex, +/- 1.9 mm in Duplex), see illustration.

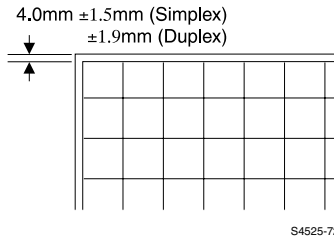


Fig 1-33 Lead Edge Registration

3. If the line is within +/- 1.5 mm from the Lead Edge, the printer is within specification. If it is greater than 1.5 mm, refer to line 16 in Table 1-104 “NVRAM Adjustment Table,” beginning on page 159 (Lead Edge Registration) for adjustment information.

Note *When checking registration, it is recommended to run test prints from all available trays and compare individual results before making any adjustments. Doing this will help you determine where any adjustments are required.*

Adjusting Lead Edge Registration

1. Enter Diagnostics Mode, see page 1-154.
2. Press [1] or [5] until “NVM Lead Edge” appears in the bottom line of the display.
3. Press [2] or [6] until the tray you wish to adjust appears in the bottom line of the display.
4. When prompted for a password, sequentially press [0], [7],[3], [4] to gain entry.
5. Press [3] or [7] once to display the current numerical registration setting.

Note *The larger the value, the closer the print will move toward the lead edge. Each incremental change of the NVM value is equal to .41 mm when adjusting the lead edge registration.*

6. Continue to press [3] or [7] to change the lead edge registration value.
7. Press [4] to write the new value into NVRAM.
8. Recheck the new lead edge registration by repeating the Checking Lead Edge Registration test above.

Checking Feed Tray Side Edge Registration

1. Generate a Registration Grid Pattern Test Print from the tray you wish to check, see page 1-154 for information on running a test print.

Note *The Grid Pattern test print on your printer may, or may not, display edge lines. If no edge lines appear in your test print, simply measure to the end of any line perpendicular to the Side Edge.*

2. Using a metric scale, measure the distance from the side edge of the test sheet to the end of any line, or the edge line. The distance should be 4.0 mm (+/- 2.0 mm in Simplex, +/- 2.4 mm in Duplex), see illustration.

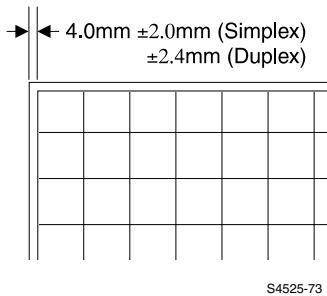


Fig 1-34 Side Edge Registration

3. If the line is within +/- 4.0 mm from the Side Edge, the printer is within specification. If it is greater than 1.5 mm, refer to Line 1 in Table 1-104 “NVRAM Adjustment Table,” beginning on page 159 (Side Edge Registration - All Trays) in the NVRAM Adjustment Table above for adjustment information.

Adjusting Side Edge Registration

1. Enter Diagnostics Mode, see page 1-154.
2. Press [1] or [5] until “NVM Side Edge” appears in the bottom line of the display.
3. Press [2] or [6] until the tray you wish to adjust appears in the bottom line of the display.
4. When prompted for a password, sequentially press [0], [7],[3], [4] to gain entry.
5. Press [3] or [7] once to display the current numerical registration setting.

Note *The larger the value, the closer the print will move toward the side edge. Each incremental change of the NVM value is equal to .252 mm when adjusting the side edge registration.*

6. Continue to press [3] or [7] to change the side edge registration value.
7. Press [4] to write the new value into NVRAM.
8. Recheck the new side edge registration by repeating the Checking Feed Tray Side Edge Registration test above.

Service Tests

The printer utilizes an extensive variety of Component Control Input and Output tests to aid in diagnosing functional problems. The following Diagnostic Service Tests are provided by the System Controller Board.

Component Control Input

Component Control Input tests are used to aid in verifying proper component operation and identifying problems and isolating faulty components. To access the following tests, you must enter Diagnostics Mode:

1. Enter Diagnostics Mode - press and hold [2] and [6] while powering up the printer. Continue holding [2] and [6] until *IOT?* is displayed.
2. Release [2] and [6], then press and hold [4] until "Main Menu" appears in the top line of the display. You are now in Diagnostics Mode.
3. Use the Legend below to help navigate through the various items in the Component Control Input Tests table.
4. Press [1] or [5] until "Main Menu Comp Input Test" is displayed.
5. Follow the table headings, and the Control Panel Test Legend below, to navigate to the desired test.

The tests in the table below enable the technician to test the many input sensors and switches providing vital information to the Print Engine Controller Board.

Control Panel Test Legend:

0 Stop	1 Menu Up	2 Item Up	3 Value Up
4 Start	5 Menu Down	6 Item Down	7 Value Down

Nomenclature Legend:

IOT: Print Engine - the printer not including the System Controller Board or options.
HCF: High Capacity Feeder Option
MBF (or MSI): Multi-sheet Bypass Feeder
ENV: Envelope Feeder Option
Fin: Finisher Option
ROS: Laser Scanner

Table 1-106 Component Control Input Tests

Press [1] or [5] until to display: Main Menu
Comp Input Test

Press [2] or [6] to display: ↓	Press [3] or [7] to display: ↓	Action To Take	Displayed Result
Comp Input Test	IOT Unit	1. Press [4] to begin test.	Close
IOT Unit	L/H Cover A	2. Open L/H Cover A. 3. Press [0] to end test.	Open
	IOT Unit Tray 1 Cover B	1. Press [4] to begin test. 2. Open Tray 1 Cover B. 3. Press [0] to end test.	Close Open
	IOT Unit Front Cover	1. Press [4] to begin test. 2. Open Front Cover. 3. Press [0] to end test.	Close Open

Table 1-106 Component Control Input Tests

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

Comp Input Test (cont'd.)

Press [2] or [6] to display: ↓	Press [3] or [7] to display: ↓	Action To Take	Displayed Result
IOT Unit Tray 1 Paper Sen		<ol style="list-style-type: none"> 1. Remove Tray 1. 2. Press [4] to start test. 3. Manually actuate/deactuate the Tray 1 No Paper Sensor and observe display. 4. Press [0] to end test. 	<p>With paper Without Paper</p>
IOT Unit Tray 2 Paper Sen		<ol style="list-style-type: none"> 1. Remove Tray 2. 2. Press [4] to start test. 3. Manually actuate/deactuate the Tray 2 No Paper Sensor and observe display. 4. Press [0] to end test. 	<p>With Paper Without Paper</p>
IOT Unit Tray 1 Level		<ol style="list-style-type: none"> 1. Press [4] to begin test. 2. Pull Tray 1 part way out/push in. 3. Press [0] to end test. 	<p>Up Down</p>
IOT Unit Tray 2 Level		<ol style="list-style-type: none"> 1. Press [4] to begin test. 2. Pull Tray 2 part way out/push in. 3. Press [0] to end test. 	<p>Up Down</p>
IOT Unit FaceDn Tray Full		<ol style="list-style-type: none"> 1. Press [4] to begin test. 2. Move Full Stack Sensor lever up. 3. Press [0] to end test. 	<p>Without Paper With Paper</p>
IOT Unit Reg. Sensor		<ol style="list-style-type: none"> 1. Press [4] to begin test. 2. Open L/H Door A/Place paper over registration sensor. 3. Press [0] to end test. 	<p>Without Paper With Paper</p>
IOT Unit T/A Roll2 Sensor		<ol style="list-style-type: none"> 1. Press [4] to begin test. 2. Open L/H Door A/insert thin strip of paper over Take Away Roller 2 Sensor. 3. Press [0] to end test. 	<p>Without Paper With Paper</p>
IOT Unit CRU Installed		<ol style="list-style-type: none"> 1. Press [4] to begin test. 2. Open Front Cover & L/H Door A/ Remove Laser Print Cartridge. 3. Press [0] to end test. 	<p>Installed Not Installed</p>
IOT Unit Toner Empty		<ol style="list-style-type: none"> 1. Press [4] to begin test. 2. Open Front Door & L/H Door A/ Alternately remove and insert Laser Print Cartridge. 3. Observe display. 4. Press [0] to end test. 	<p>Not Empty Empty</p>
IOT Unit Fuser Ctr. Main		<ol style="list-style-type: none"> 1. Press [4] to begin test. 2. Press [0] to end test 	<p>20 - 250 C (Reads Fuser Temp.)</p>
IOT Unit Fuser Ctr. Sub		<ol style="list-style-type: none"> 1. Press [4] to begin test. 2. Press [0] to end test. 	<p>20 - 250 C (Reads Fuser Temp.)</p>
IOT Unit Fuser Exit Sen.		<ol style="list-style-type: none"> 1. Press [4] to begin test. 2. Open L/H Door A/Actuate Fuser Exit Sensor. 3. Press [0] to end test. 	<p>Without Paper With Paper</p>
IOT Unit FaceUp Exit Sen.		<ol style="list-style-type: none"> 1. Press [4] to begin test. 2. Open L/H Door A/Actuate Face Up Exit Sensor. 3. Press [0] to end test. 	<p>Without Paper With Paper</p>

Table 1-106 Component Control Input Tests

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

Comp Input Test (cont'd.)

Press [2] or [6] to display: ↓	Press [3] or [7] to display: ↓	Action To Take	Displayed Result
Comp Input Test HCF Unit	HCF Unit HCF Cab. Cover C	1. Press [4] to begin test. 2. Open L/H Door C. 3. Press [0] to end test.	Close Open
	HCF Unit Tray 3 Paper Sen	1. Remove Tray 3. 2. Press [4] to start test. 3. Manually actuate/deactuate the Tray 3 No Paper Sensor and observe display. 4. Press [0] to end test.	With Paper Without Paper
	HCF Unit Tray 4 Paper Sen	1. Remove Tray 4. 2. Press [4] to start test. 3. Manually actuate/deactuate the Tray 4 No Paper Sensor and observe display. 4. Press [0] to end test.	With Paper Without Paper
	HCF Unit Tray 5 Paper Sen	1. Remove Tray 5. 2. Press [4] to start test. 3. Manually actuate/deactuate the Tray 5 No Paper Sensor and observe display. 4. Press [0] to end test.	With Paper Without Paper
	HCF Unit Tray 3 Level	1. Press [4] to begin test. 2. Pull Tray 3 part way out/push in. 3. Press [0] to end test.	Down Up
	HCF Unit Tray 4 Level	1. Press [4] to begin test. 2. Pull Tray 4 part way out/push in. 3. Press [0] to end test.	Down Up
	HCF Unit Tray 5 Level	1. Press [4] to begin test. 2. Pull Tray 5 part way out/push in. 3. Press [0] to end test.	Down Up
	HCF Unit T/A Roll3 Sensor	1. Press [4] to begin test. 2. Open L/H Door B/Place paper over Take Away Roller 3 Sensor. 3. Press [0] to end test.	Without Paper With Paper
	HCF Unit T/A Roll4 Sensor	1. Press [4] to begin test. 2. Open L/H Door C/Place paper over Take Roller 4 Sensor. 3. Press [0] to end test.	Without Paper With Paper
	HCF Unit T/A Roll5 Sensor	1. Press [4] to begin test. 2. Open L/H Door C/Slide paper into Tray 5 exit transport. 3. Press [0] to end test.	Without Paper With Paper
Comp Input Test Duplex Unit	Duplex Unit Interlock	1. Press [4] to begin test. 2. Open Duplex Unit. 3. Press [0] to end test.	Close Open
	Duplex Unit Exit Sensor	1. Press [4] to begin test. 2. Actuate Duplex Exit Sensor. 3. Press [0] to end test.	Without Paper With Paper
	Duplex Unit Wait Sensor	1. Press [4] to begin test. 2. Open Duplex Unit/Actuate Wait Sensor at bottom. 3. Press [0] to end test.	Without Paper With Paper

Table 1-106 Component Control Input Tests

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

Comp Input Test (cont'd.)

Press [2] or [6] to display: ↓	Press [3] or [7] to display: ↓	Action To Take	Displayed Result
Comp Input Test MBF/ENV Unit	MBF/ENV Unit	1. Press [4] to begin test.	Without Paper
	MBF Paper Sensor	2. Insert a sheet of paper into the MBF. 3. Press [0] to end test.	With Paper
	MBF/ENV Unit	1. Press [4] to begin test.	Without Paper
	Env Paper Sensor	2. Insert an envelope into the Envelope Feeder. 3. Press [0] to end test.	With Paper
	MBF/ENV Unit	1. Press [4] to begin test.	Without Paper
	Env Feed Out Sen	2. Insert a folded paper into the right side of the paper path. 3. Press [0] to end test.	With Paper
Comp Input Test Finisher Unit	Finisher Unit	1. Press [4] to begin test.	Without Paper
	Input Path Sen.	2. Actuate Input Path Sensor. 3. Press [0] to end test.	With Paper
	Finisher Unit	1. Press [4] to begin test.	Without Paper
	Path Sensor	2. Actuate Path Sensor. 3. Press [0] to end test.	With Paper
	Finisher Unit	1. Press [4] to begin test.	Without Paper
	Exit Path Sen.	2. Actuate Exit Path Sensor. 3. Press [0] to end test.	With Paper
	Finisher Unit	1. Press [4] to begin test.	Without Paper
	Compile Exit	2. Actuate Compile Exit Sensor. 3. Press [0] to end test.	With Paper
	Finisher Unit	1. Press [4] to begin test.	Not Home
	Exit Rol Open HP	2. Actuate Exit Roller Open HP Sensor. 3. Press [0] to end test.	Home
	Finisher Unit	1. Press [4] to begin test.	Not Home
	Sht Rol HP Front	2. Actuate Sheet Roller Home Position Front Sensor. 3. Press [0] to end test.	Home
	Finisher Unit	1. Press [4] to begin test.	Not Home
	Jogger HP Front	2. Actuate Jogger Home Position Front Sensor. 3. Press [0] to end test.	Home
	Finisher Unit	1. Press [4] to begin test.	Not Home
	Jogger HP Rear	2. Actuate Jogger Home Position Rear Sensor. 3. Press [0] to end test.	Home
	Finisher Unit	1. Press [4] to begin test.	Not Home
	Stpl Traverse HP	2. Actuate Staple Traverse Home Position Sensor. 3. Press [0] to end test.	Home
	Finisher Unit	1. Press [4] to begin test.	Not Home
	Stpl Swing Sen 1	2. Actuate Staple Swing Sensor 1. 3. Press [0] to end test.	Home
	Finisher Unit	1. Press [4] to begin test.	Not Home
	Stpl Swing Sen 2	2. Actuate Staple Swing Sensor 2. 3. Press [0] to end test.	Home
	Finisher Unit	1. Press [4] to begin test.	Without Paper
	Compile Tr Paper	2. Actuate Compile Tr Paper Sensor. 3. Press [0] to end test.	With Paper

Table 1-106 Component Control Input Tests

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

Comp Input Test (cont'd.)

Press [2] or [6] to display: ↓	Press [3] or [7] to display: ↓	Action To Take	Displayed Result
Finisher Unit Low Stpl Switch		1. Press [4] to begin test.	With Pin
		2. Actuate Low Staple Switch Sensor. 3. Press [0] to end test.	Without Pin
Finisher Unit Stpl Cart Switch		1. Press [4] to begin test.	With Cartridge
		2. Actuate Staple Cartridge Switch Sensor. 3. Press [0] to end test.	Without Cartridge
Finisher Unit Stpl Cam HP		1. Press [4] to begin test.	Not Home
		2. Actuate Staple Cam Home Position Sensor. 3. Press [0] to end test.	Home
Finisher Unit Stpl Ready Sen.		1. Press [4] to begin test.	Without Pin Pos
		2. Actuate Staple Ready Sensor. 3. Press [0] to end test.	With Pin Pos
Finisher Unit Stker Tray Paper		1. Press [4] to begin test.	With Paper
		2. Actuate Stacker Bin Paper Sensor. 3. Press [0] to end test.	
Finisher Unit Stk Hight Sen Lw		1. Press [4] to begin test.	Without Paper
		2. Actuate Stacker Height Low Sensor. 3. Press [0] to end test.	With Paper
Finisher Unit Stk Hight Sen Up		1. Press [4] to begin test.	Without Paper
		2. Actuate Stacker Height Up Sensor. 3. Press [0] to end test.	With Paper
Finisher Unit Stker Upper Limit		1. Press [4] to begin test.	Off Position
		2. Actuate Stacker Upper Limit Sensor. 3. Press [0] to end test.	On Position
Finisher Unit Stker Lower Lmt		1. Press [4] to begin test.	Off Position
		2. Actuate Stacker Lower Limit Sensor. 3. Press [0] to end test.	On Position
Finisher Unit Stker Position		1. Press [4] to begin test.	Not Pass Slit
		2. Actuate Stacker Position Sensor. 3. Press [0] to end test.	Pass Slit
Finisher Unit Docking Lock		1. Press [4] to begin test.	Docked
		2. Actuate Docking Lock Sensor. 3. Press [0] to end test.	Not Docked
Finisher Unit Exit Roller Lock		1. Press [4] to begin test.	Out of Range
		2. Actuate Exit Roller Lock Sensor. 3. Press [0] to end test.	In Range
Finisher Unit Front Cover Lock		1. Press [4] to begin test.	Close
		2. Actuate Front Cover Lock Sensor. 3. Press [0] to end test.	Open
Finisher Unit Punch Dust Box		1. Press [4] to begin test.	Without Box
		2. Remove Punch Dust Box/ Reinstall. 3. Press [0] to end test.	With Box

Table 1-106 Component Control Input Tests

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

Comp Input Test (cont'd.)

Press [2] or [6] to display: ↓	Press [3] or [7] to display: ↓	Action To Take	Displayed Result
Finisher Unit H Trans Gate		1. Press [4] to begin test.	Close
		2. Actuate Horizontal Transport In-Gate Sensor.	Open
<hr/>			
Finisher Unit H Trans Cover		1. Press [4] to begin test.	Close
		2. Open Horizontal Transport Cover.	Open
<hr/>			
Finisher Unit H Trans Input P		1. Press [4] to begin test.	Without Paper
		2. Actuate Horizontal Transport Input Path Sensor.	With Paper
<hr/>			
Finisher Unit H Trans Exit P		1. Press [4] to begin test.	Without Paper
		2. Actuate Horizontal Transport Exit Path Sensor.	With Paper
<hr/>			
Finisher Unit Face Dn Full Sen		1. Press [4] to begin test.	Not Full
		2. Actuate Face Down Bin Full Sensor.	Full
<hr/>			
Finisher Unit Punch Dust Full		1. Press [4] to begin test.	Not Full
		2. Actuate Punch Dust Full Sensor.	Full
<hr/>			
<hr/>			

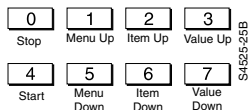
Component Control Output Tests

Component Control Output tests are used to aid in verifying proper component operation and identifying problems and isolating faulty components. To access the following tests, you must enter Diagnostics Mode:

1. Enter Diagnostics Mode - press and hold [2] and [6] while powering up the printer. Continue holding [2] and [6] until *IOT?* is displayed.
2. Release [2] and [6], then press and hold [4] until “Main Menu” appears in the top line of the display. You are now in Diagnostics Mode.
3. Use the Control Panel Test Legend below to help navigate through the various items in the Component Control Output table.
4. Press [1] or [5] until “Main Menu Comp Output Test” is displayed.
5. Follow the table headings, and the Control Panel Test Legend below, to navigate to the desired test.

The tests in the table below enable the technician to test the many output devices performing work inside the printer.

Control Panel Test Legend:



Nomenclature Legend:

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

HCF: High Capacity Feeder Option

MBF (or MSI): Multi-sheet Bypass Feeder

ENV: Envelope Feeder Option

Fin: Finisher Option

Table 1-107 Component Control Output

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

Comp Output Test

Press [2] or [6] to display: ↓	Press [3] or [7] to display: ↓	Turn -On Duration	Comment
Comp Output Test IOT Unit	Main Motor On	2 min.	Press [4] to start test. Actuate Main Drive Motor for duration or Press [0] to stop.
	Fuser Fan High	2 min.	Press [4] to start test. Actuate Fuser Fan for duration or Press [0] to stop.
	LVPS Fan High	2 min.	Press [4] to start test. Actuate Low Voltage Power Supply fan for duration or Press [0] to stop.
	ROS Motor On	2 min.	Press [4] to start test. Actuate Laser Scanner Motor for duration or Press [0] to stop.
	ROS Motor Stabby	2 min.	Press [4] to start test. Places Laser Scanner Motor in standby for duration or Press [0] to stop.
	Tray 1 Lift Mot	2 sec.	Press [4] to start test. Actuate Tray 1 Lift Motor for duration or Press [0] to stop.

Table 1-107 Component Control Output

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

Comp Output Test

Press [2] or [6] to display: ↓	Press [3] or [7] to display: ↓	Turn -On Duration	Comment
	Tray 2 Lift Mot	2 sec.	1. Press [4] to start test. 2. Actuate Tray 2 Lift Motor for duration or Press [0] to stop.
	Drum Motor On	2 min.	1. Press [4] to start test. 2. Actuate Drum Motor for duration or Press [0] to stop.
	Reg. Clutch On	2 sec.	1. Press [4] to start test. 2. Actuate Registration Clutch for duration or Press [0] to stop.
	Tray 1 Feed Clut	2 sec.	1. Press [4] to start test. 2. Actuate Tray 1 Feed Clutch for duration or Press [0] to stop.
	Tray 2 Feed Clut	2 sec.	1. Press [4] to start test. 2. Actuate Tray 2 Feed Clutch for duration or Press [0] to stop.
	Dev. Bias	2 sec.	1. Press [4] to start test. 2. Turns on Developer Bias output for duration or Press [0] to stop.
	DB AC Clock	2 sec.	1. Press [4] to start test. 2. Turns on DB AC Clock output for duration or Press [0] to stop.
	BCR/AC	2 sec.	1. Press [4] to start test. 2. Turns on Bias Charge Roller AC output for duration or Press [0] to stop.
	BCR/DC	2 sec.	1. Press [4] to start test. 2. Turns on Bias Charge Roller DC output for duration or Press [0] to stop.
	BTR Sel.	2 sec.	1. Press [4] to start test. 2. Turns on Bias Transfer Roller Sel. output for duration or Press [0] to stop.
	BTR RMT	2 sec.	1. Press [4] to start test. 2. Turns on Bias Transfer Roller RMT output for duration or Press [0] to stop.
	DTS	2 sec.	1. Press [4] to start test. 2. Turns on DTS output for duration or Press [0] to stop.
	Fuser Bias	2 sec.	1. Press [4] to start test. 2. Turns on Fuser Bias output for duration or Press [0] to stop.
	Fuser Bias Sel.	2 sec.	1. Press [4] to start test. 2. Turns on Fuser Bias Sel. output for duration or Press [0] to stop.
	Offset Motor Fnt	1 sec.	1. Press [4] to start test. 2. Actuate Offset Motor front
	Offset Motor Rev	1 sec.	1. Press [4] to start test. 2. Actuate Offset Motor reverse
CompOutput Test HCF Unit	Tray 3 Lift	2 sec.	1. Press [4] to start test. 2. Actuate Tray 3 Lift Motor for duration or Press [0] to stop.
	Tray 4 Lift	2 sec.	1. Press [4] to start test. 2. Actuate Tray 4 Lift Motor for duration or Press [0] to stop.
	Tray 5 Lift	2 sec.	1. Press [4] to start test. 2. Actuate Tray 5 Lift Motor for duration or Press [0] to stop.

Table 1-107 Component Control Output

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

Comp Output Test

Press [2] or [6] to display: ↓	Press [3] or [7] to display: ↓	Turn -On Duration	Comment
	TTM Feed Motor	2 min.	1. Press [4] to start test. 2. Actuate TTM Feed Motor for duration or Press [0] to stop.
	Tray 3 Feed Clut	2 sec.	1. Press [4] to start test. 2. Actuate Tray 3 Feed Clutch for duration or Press [0] to stop.
	Tray 4 Feed Clut	2 sec.	1. Press [4] to start test. 2. Actuate Tray 4 Feed Clutch for duration or Press [0] to stop.
	Tray 5 Feed Clut	2 sec.	1. Press [4] to start test. 2. Actuate Tray 5 Feed Clutch for duration or Press [0] to stop.
Comp Output Test Duplex Unit	Motor Slow	2 min.	1. Press [4] to start test. 2. Actuate Exit Motor slow for duration or Press [0] to stop.
	Motor Fast	2 min.	1. Press [4] to start test. 2. Actuate Exit Motor fast for duration or Press [0] to stop.
	Exit Gate Sol.	2 sec.	1. Press [4] to start test. 2. Actuate the Exit Gate for duration or Press [0] to stop.
	Wait Clutch	2 sec.	1. Press [4] to start test. 2. Actuate Wait Clutch for duration or Press [0] to stop.
	Invert Clut CW	2 sec.	1. Press [4] to start test. 2. Actuate Clockwise Invert Clutch for duration or Press [0] to stop.
	Invert Clut CCW	2 sec.	1. Press [4] to start test. 2. Actuate Counter Clockwise INvert Clutch for duration or Press [0] to stop.
Comp Output Test MBF/ENV Unit	MBF Feed Clutch	2 sec.	1. Press [4] to start test. 2. Actuate Multi-sheet Bypass Feeder feed clutch for duration or Press [0] to stop.
	Env Feed Motor	2 min.	1. Press [4] to start test. 2. Actuate Envelope Feed Motor for duration or Press [0] to stop.
	Env Clutch On	2 sec.	1. Press [4] to start test. 2. Actuate Envelope Feeder feed clutch for duration or Press [0] to stop.
Comp Output Test Finisher Unit	Finisher Unit Fin Main Motor	2 min.	1. Press [4] to start test. 2. Actuates Finisher Main Motor for duration or Press [0] to stop.
	Finisher Unit Compile Tray Mot	2 min.	1. Press [4] to start test. 2. Actuate Compile Tray Motor for duration or Press [0] to stop.
	Finisher Unit Exit Motor CW	2 min.	1. Press [4] to start test. 1. Actuates Exit Motor clockwise for duration or Press [0] to stop.
	Finisher Unit Exit Motor CCW	2 min.	1. Press [4] to start test. 2. Actuates Exit Motor counter clockwise for duration or Press [0] to stop.
	Finisher Unit Exit Motor Open	2 sec.	1. Press [4] to start test. 2. Actuates Exit Motor Open function.
	Finisher Unit Exit Motor Close	2 sec.	1. Press [4] to start test. 2. Actuates Exit Motor Close function.

Table 1-107 Component Control Output

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

Comp Output Test

Press [2] or [6] to display: ↓	Press [3] or [7] to display: ↓	Turn -On Duration	Comment
	Finisher Unit Shift Motor Rear	2 sec.	1. Press [4] to start test. 2. Actuates Shift Motor moving Shift Roller toward the Rear.
	Finisher Unit Shift Motor Frnt	2 sec.	1. Press [4] to start test. 2. Actuates Shift Motor moving Shift Roller toward the Front.
	Finisher Unit Jogging Motor F	2 sec.	1. Press [4] to start test. 2. Actuates the Jogging Motor Front for duration or Press [0] to stop.
	Finisher Unit Jogging Motor R	2 sec.	1. Press [4] to start test. 2. Actuates the Jogging Motor Rear for duration or Press [0] to stop.
	Finisher Unit Sheet Clamp Mot	2 sec.	1. Press [4] to start test. 2. Actuates the Sheet Clamp Motor in the Stacker Bin.
	Finisher Unit Trav Mot Front45	2 sec.	1. Extend Compiler Tray (tongue) to facilitate stapler movement. 2. Press [4] to start test. 3. Actuates the Traverse Motor, moving the Stapler to the front of the Finisher. Note: All four Traverse Motor Tests result in similar movement, bringing the Stapler to the front of the Finisher.
	Finisher Unit Trav Mot Rear	2 sec.	1. Extend Compiler Tray (tongue) to facilitate stapler movement. 2. Press [4] to start test. 3. Actuates the Traverse Motor, moving the Stapler to the front of the Finisher. Note: All four Traverse Motor Tests result in similar movement, bringing the Stapler to the front of the Finisher.
	Finisher Unit Trav Mot Rear45	2 sec.	1. Extend Compiler Tray (tongue) to facilitate stapler movement. 2. Press [4] to start test. 3. Actuates the Traverse Motor, moving the Stapler to the front of the Finisher. Note: All four Traverse Motor Tests result in similar movement, bringing the Stapler to the front of the Finisher.
	Finisher Unit Trav Mot Front	2 sec.	1. Extend Compiler Tray (tongue) to facilitate stapler movement. 2. Press [4] to start test. 3. Actuates the Traverse Motor, moving the Stapler to the front of the Finisher. Note: All four Traverse Motor Tests result in similar movement, bringing the Stapler to the front of the Finisher.
	Finisher Unit Swing Mot Frnt45	2 sec.	1. Extend Compiler Tray (tongue) to facilitate stapler movement. 2. Gently pull the Stapler to the front of the Finisher. 3. Press [4] to start test. 4. Actuates Stapler Swing Motor to swing Stapler 45° to the front.

Table 1-107 Component Control Output

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

Comp Output Test

Press [2] or [6] to display: ↓	Press [3] or [7] to display: ↓	Turn -On Duration	Comment
	Finisher Unit Swing Mot Rear45	2 sec.	<ol style="list-style-type: none"> 1. Extend Compiler Tray (tongue) to facilitate stapler movement. 2. Gently push the Stapler to the rear of the Finisher. 3. Press [4] to start test. 4. Actuates the Stapler Swing Motor to swing the Stapler 45° to the rear.
	Finisher Unit Swing Mot Flat	2 sec.	<ol style="list-style-type: none"> 1. Press [4] to start test. 2. Actuates the Stapler Swing Motor to swing the Stapler to the flat position to facilitate traverse movement.
	Finisher Unit Stapler Motor	2 sec.	<ol style="list-style-type: none"> 1. Extend Compiler Tray (tongue) to facilitate stapler movement. 2. Place paper into the Compiler Tray and “jog” to the front of the Finisher. 3. Press [4] to start test. 4. Actuates the Stapler. <p>Note: Staple head must be in the staple position and paper must be in the Compiler Tray.</p>
	Finisher Unit Stacker Mot down	2 sec.	<ol style="list-style-type: none"> 1. Press [4] to start test. 2. Actuates the Stacker Motor for duration to drive the Stacker Bin down.
	Finisher Unit Stacker Mot Up	2 sec.	<ol style="list-style-type: none"> 1. Press [4] to start test. 2. Actuates the Stacker Motor for duration to drive the Stacker Bin up.
	Finisher Unit Punch Clutch	2 sec.	<ol style="list-style-type: none"> 1. Press [4] to start test. 2. Momentarily actuates the Punch Clutch. Listen for click.
	Finisher Unit Punch Mot & Clut	3 sec.	<ol style="list-style-type: none"> 1. Press [4] to start test. 2. Actuates the Punch Motor and Clutch for duration.
	Finisher Unit H Tran Gate Pull	2 sec.	<ol style="list-style-type: none"> 1. Press [4] to start test. 2. Opens the Horizontal Transport In-Gate.
	Finisher Unit H Tran Gate Push	2 sec.	<ol style="list-style-type: none"> 1. Press [4] to start test. 2. Closes the Horizontal Transport In-Gate.

Maintenance and Cleaning

Scheduled Maintenance

The DocuPrint N4525 is designed and tested to require little maintenance. A User Maintenance Kit (P/N 109R00048 for 110 volt printer and 109R00049 for 220 volt printers) contains:

- Replacement Fuser
- Bias Transfer Roller
- Feed Rollers (15 ea. - three for each paper input Bin)
- Rubber gloves for handling Feed and Bias Transfer rollers
- Cleaning cloth.

The printer will tell the user when to install the User Maintenance Kit (300,000 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 standad vacuum to clean up a toner spill.*

- Suction bulb to use as an air puff blower
- Toner rags (specially treat 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 schedule maintenance for this printer. However, it is important for all qualified service technicians to always inspect and clean “on-the-fly” whenever repairing or other wise 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
- Envelope Feeder rollers (if installed)
- All exit rollers
- General overall appearance for signs of abuse, wear, unfriendly environment damage, etc.
- Clean as necessary.

Cleaning (general - 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. You should thoroughly inspect and clean these printers.

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 Laser Print (EP) Cartridge and immediately cover it to protect the drum from the light.
3. Remove the fuser.
4. Remove the paper Bins.
5. Slide out the Finisher (if installed).
6. Clean all printer rollers, except the Bias Transfer Roller, with alcohol-dampened wipes only. Never apply alcohol to the Bias Transfer Roller.

- 7.** Clean the laser window with puffs of air from the suction bulb. Alternately, you can vacuum the window clean.
- 8.** Vacuum out the interior of the printer.
- 9.** 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.

Blank Page

Key FRU Removal / Replacement Procedures (RRPs)

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Removal and Replacement Procedures (RRPs)

This section contains the removal and replacement procedures for selected parts of the printer. 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.

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. See RRP 48 for details.
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.

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.*

Notations in the RRP text

- Locations, such as R or right, given in the RRP assume you are facing the printer control panel.
- 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.
- The notation "(Figure X)" points to the illustration that corresponds to the RRP you are performing.
- The notation "(PLX)" indicates that this component is listed in the PLX parts list.
- Bold arrows in an illustration show direction of movement when removing or replacing a component.

Note *For more detailed instructions and for RRP not listed in the QRG, refer to the CD-ROM (on-line) version of the N4525 Service Manual and/or to Xerox Service and Support Resources "On-Line Service Files" for this printer.*

RRP 1-1 Fuser Cover (PL 1.1)

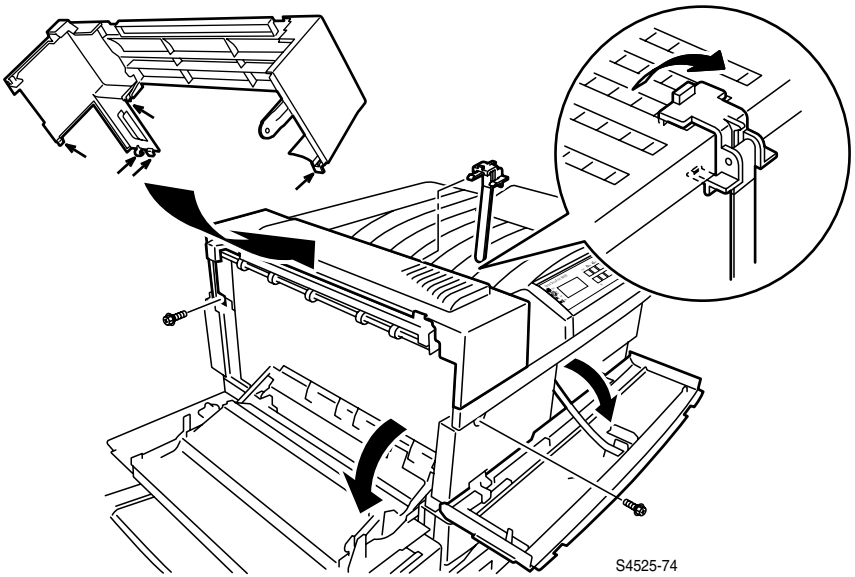


Fig 1-35 Fuser Cover

Removal

1. Remove the Finisher, if installed.
2. Open the Duplex Module, if installed.
3. Pull back and remove the Paper Assembly Damper (PL 1.1.7).
4. Open the Left Upper Cover Assembly (A) and remove the machine screw securing the Fuser Cover to the frame (see figure).
5. Open the Front Cover and remove the machine screw securing the Fuser Cover to the frame (see figure).
6. Lift the Fuser Cover off of the Top Cover Assembly.

RRP 1-2 Top Cover Assembly (PL 1.1)

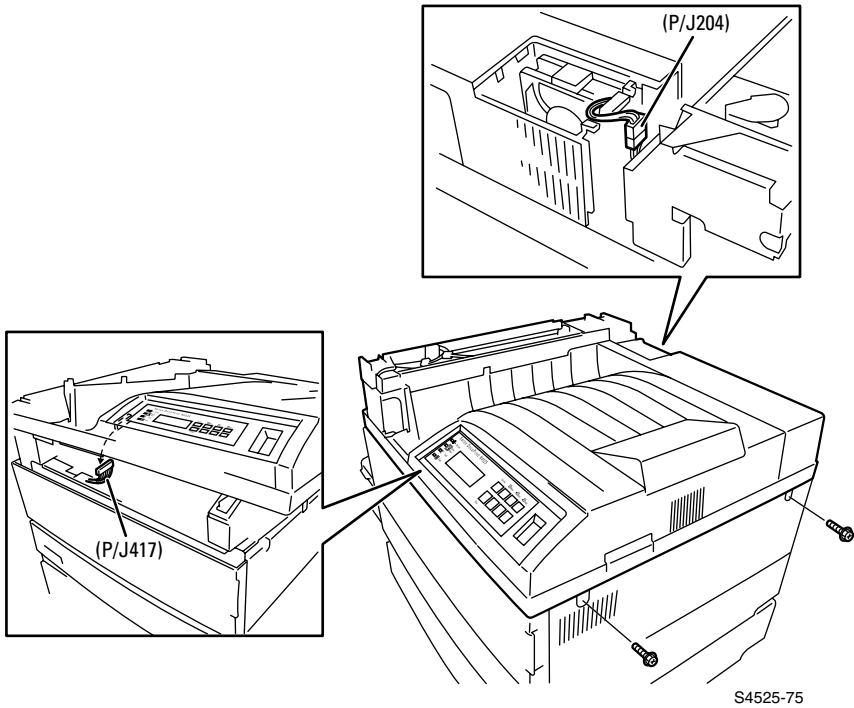


Fig 1-36 Top Cover Assembly

Removal

1. Unplug the AC Power Cord from the rear of the printer.
2. Remove the Fuser Cover (RRP 1-1).
3. Disconnect the Fuser Fan (P/J204).
4. Remove the two machine screws securing the right side of the Top Cover Assembly and the Right Cover (see figure) to the printer frame.
5. Carefully lift the Top Cover a few inches off of the printer frame.
6. Disconnect the P/J417 from the Control Panel, and lift the Top Cover Assembly off of the printer frame.

RRP 1-3 Front Cover Assembly (PL 1.1)

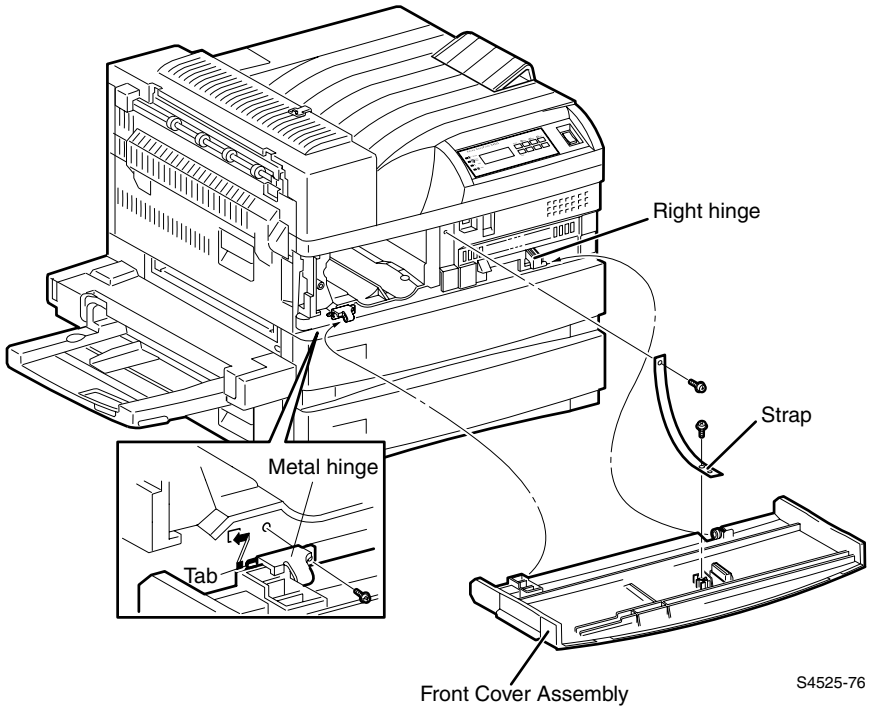
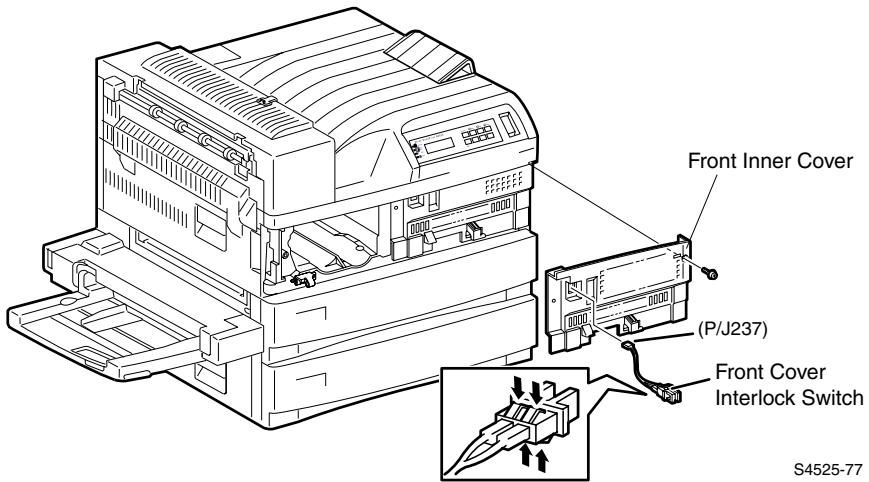


Fig 1-37 Front Cover Assembly

Removal

1. Open the Front Cover.
2. Remove the black self-tapping screw securing the plastic strap to the printer frame and free the strap.
3. Remove the black machine screw securing the metal hinge to the printer frame.
4. Slide the Front Cover to the left to free the Front Cover right hinge from the frame and the metal hinge from the frame, and remove the Front Cover.

RRP 1-4 Front Inner Cover (PL 2.3)



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Fig 1-38 Front Inner Cover

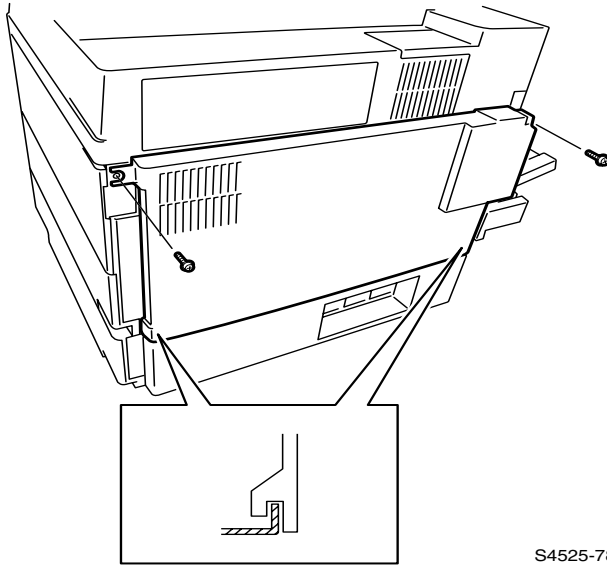
Removal

1. Unplug the AC Power Cord from the rear of the printer.
2. Remove the Front Cover (RRP 1-3).
3. Remove the black machine screw securing the Front Inner Cover to the printer frame and carefully pull the Cover away from the printer.
4. Disconnect the two wires attached to the Interlock Switch and remove the Cover.

Note *The two wires attached to the Interlock Switch are not polarized. It is not necessary to reconnect them to the same terminal on the Interlock Switch.*

5. If you are replacing the Interlock Switch, squeeze the latches securing the Interlock Switch to the Cover and slide the Switch out of the Cover.

RRP 1-5 Rear Cover Assembly (PL 3.3)



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Fig 1-39 Rear Cover Assembly

Removal

1. Remove the AC power cord from the rear of the printer.
2. Remove the two machine screws securing the Rear Cover Assembly to the printer frame.
3. Lift the Rear Cover 1/4" (6 mm), then pull the bottom of the Rear Cover away from the printer frame and slide the cover down to remove it.

RRP 1-6 Right Cover (PL 3.2)

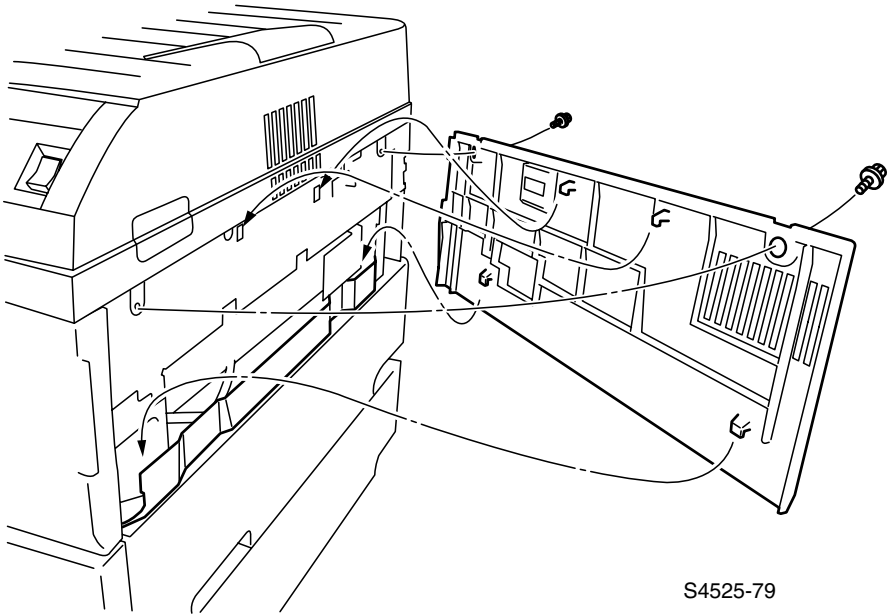
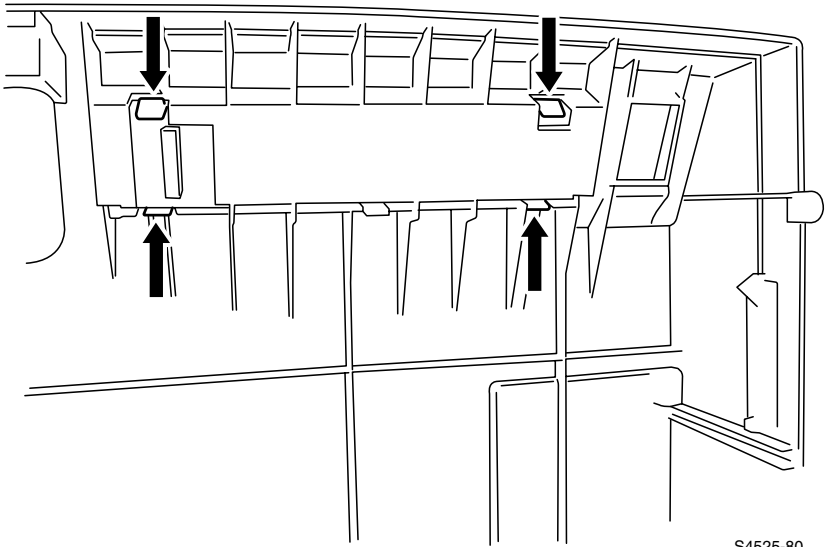


Fig 1-40 Right Cover

Removal

1. Remove the two machine screws securing the Top Cover and the Right Cover to the printer frame.
2. Carefully raise the right end of the Top Cover and at the same time lift the Right Cover up and away from the printer frame.

RRP 1-7 Control Panel (PL 1.1)



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Fig 1-41 Control Panel

Removal

1. Remove the Top Cover (RRP 1-2).
2. Disconnect the P/J417 from the Control Panel.
3. Push in on the four tabs securing the Control Panel to the Top Cover, while you press the Control Panel out of the Cover.

RRP 1-8 Rear Lower Cover (PL 3.4)

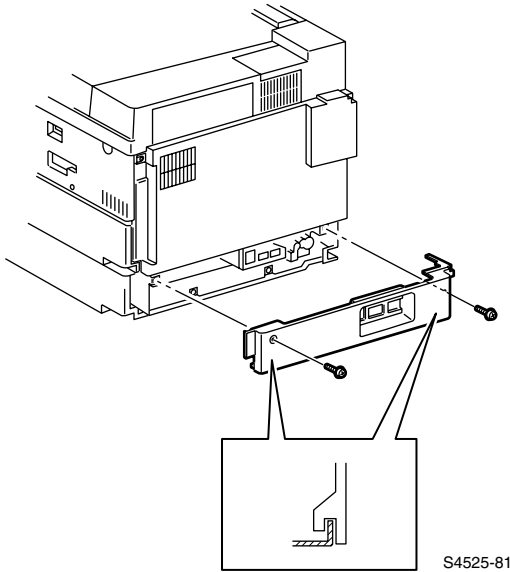


Fig 1-42 Rear Lower Cover

Removal

1. Disconnect all option plugs from the Plug Jack located at the rear of the printer.
2. Remove the two screws securing the Rear Lower Cover to the printer frame.
3. Lift up on the Cover and remove it from the printer frame.

RRP 1-9 Tray 1 Lift Motor (PL 3.1)

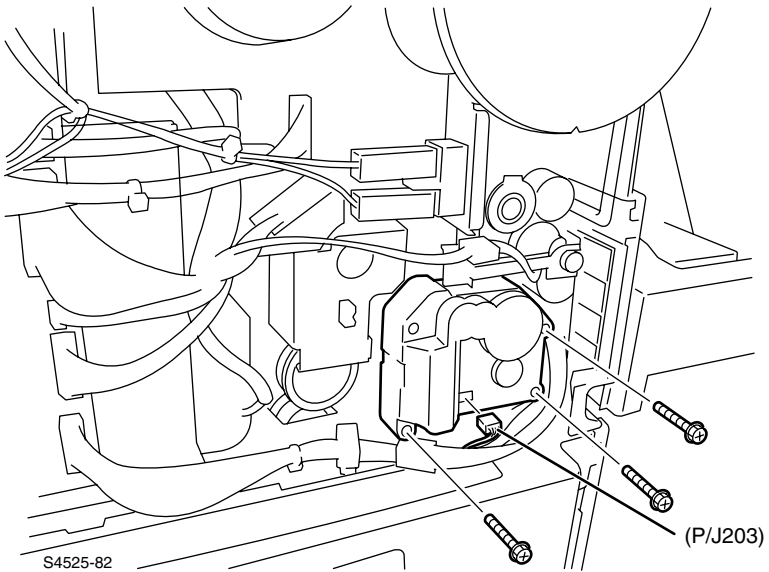


Fig 1-43 Tray 1 Lift Motor

Removal

1. Slide Tray 1 halfway out of the printer.
2. Remove the Rear Cover (RRP 1-5).
3. Disconnect the P/J203 from the rear of Tray 1 Lift Motor.
4. Remove the three long screws securing the Motor to the printer frame.
5. Slide the Motor out to remove it.

RRP 1-10 Tray 1 Feed Clutch (PL 3.2)

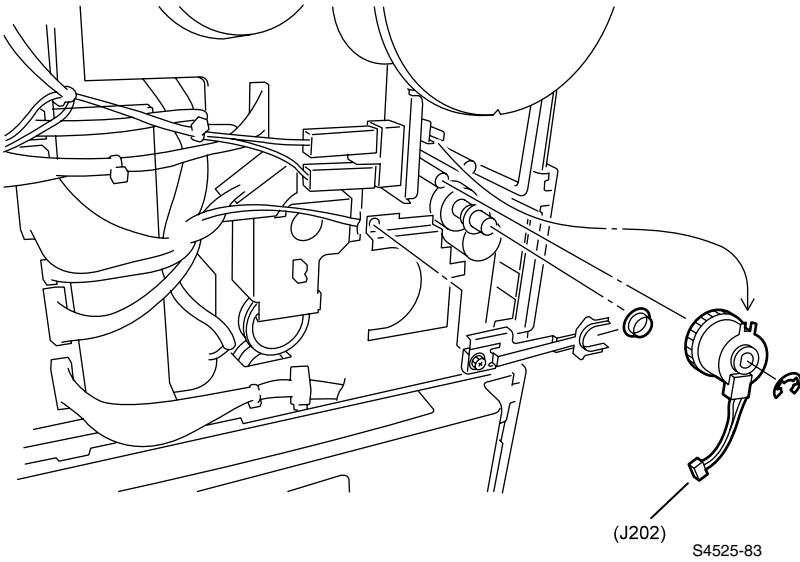


Fig 1-44 Tray 1 Feed Clutch

Removal

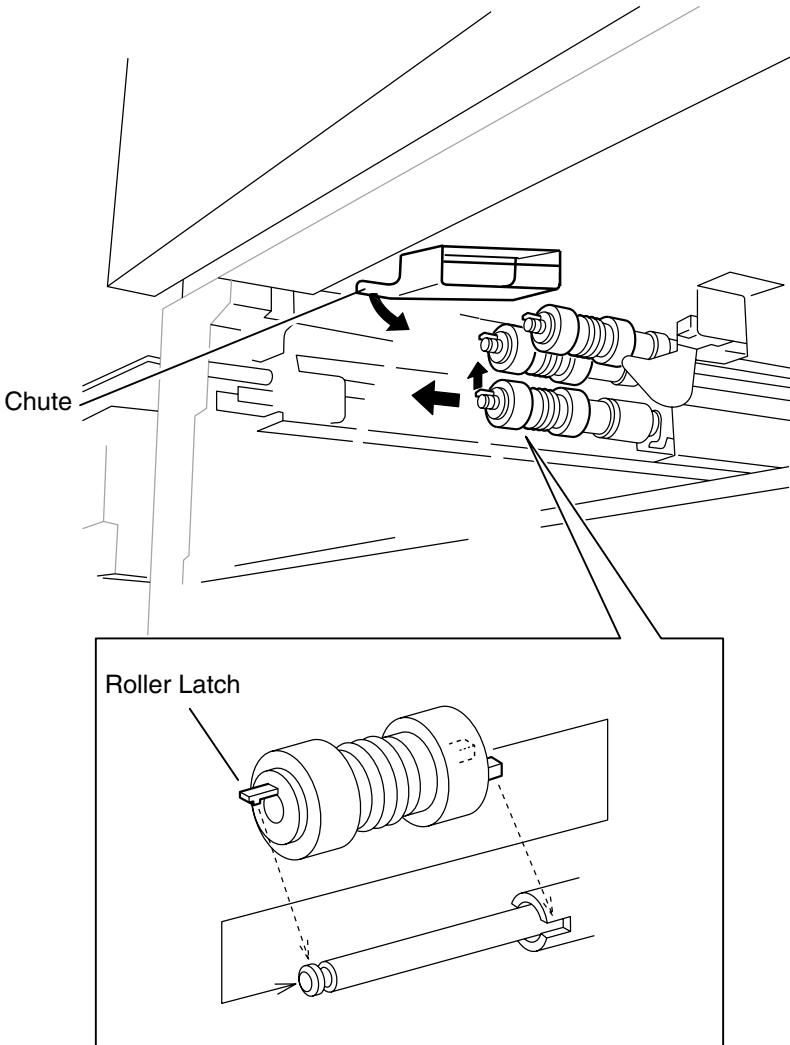
1. Remove the Rear Cover (RRP 1-5).
2. Open the Duplex Module, if installed.
3. Open the Left Upper Cover (A).
4. Disconnect the Tray 1 Feed Clutch (P/J202).
5. Remove the E-ring that is securing the Feed Clutch to the shaft.
6. Slide the Feed Clutch away from the printer frame, then rotate the Clutch until you have enough clearance from the Support Spring to slide the Clutch completely off of the shaft.

Caution *Carefully work J202 around the spring arm to avoid damage to the wires and/or the spring arm.*

Replacement

1. Position the Feed Clutch over the end of the Feed Shaft. Rotate the rear bearing of the clutch until it engages the flat on the shaft.
2. Rotate the Clutch until the slot in the Clutch lines up with the key on the frame.
3. Press the Clutch onto the shaft until the gear engages and the clutch bottoms, and make sure the key on the frame is in the slot in the Clutch.
4. Use an E-ring to secure the Clutch to the shaft.
5. Reconnect J202 to the Feed Clutch.
6. Reinstall the Rear Cover (RRP 1-5).

RRP 1-11 Feeder, Pick and Retard Rollers (PL 3.2~PL 3.3~PL 3.5 and PL 3.6)



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Fig 1-45 Feeder, Pick and Retard Rollers

Note Use this procedure for Feeders 1 and 2. Replace the Feeder, Pick and Retard rollers at the same time.

Removal

1. Remove the paper Tray from the appropriate feeder.
2. Swing the Chute down so it clears the Rollers.
3. Pull out on the Roller latch and slide the Roller off of the shaft.
4. Repeat step 3 for the remaining two Rollers.

Replacement

1. Swing the Chute down so it clears the Rollers.
2. Position the Roller with the latch end facing out, and slide the Roller onto the shaft.
3. Rotate and push the Roller down the shaft until the latch locks the Roller into place.
4. Repeat steps 2 and 3 for the remaining two Rollers.
5. Reinstall the paper Bin.

RRP 1-12 Tray 1 Take-Away Roller Assembly (PL 3.3)

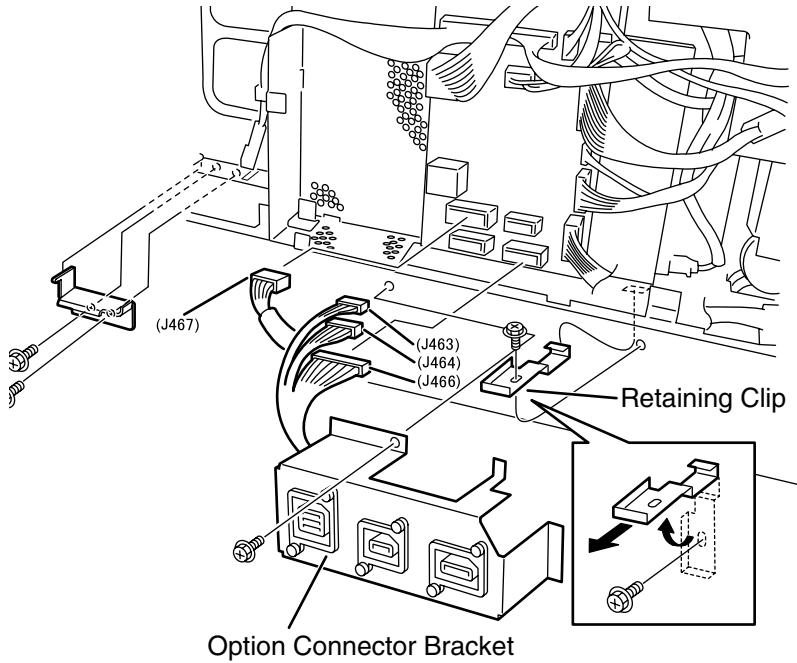


Figure 1

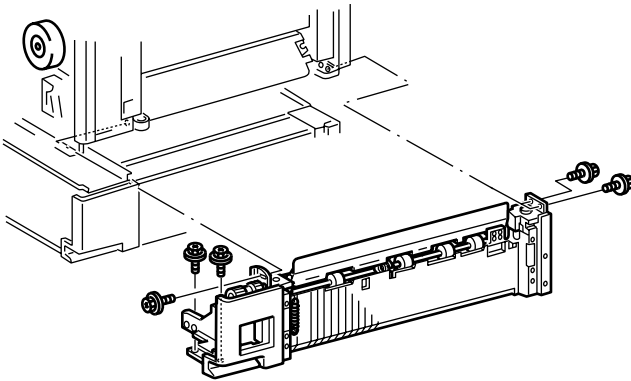


Fig 1-46 Tray 1 Take-Away Roller Assembly

S4525-1

Removal

1. Remove the Duplex Module, if installed.
2. Remove the Laser Print (EP) Cartridge.

Caution *Store the Laser Print (EP) Cartridge in a light proof storage bag or in a dark place to prevent light damage to the drum.*

3. Remove Bins 1 and 2.

Caution *Do not place paper Bins flat on carpet. Place on a smooth surface that cannot grab and dislodge the springs underneath the Bin. Alternatively, remove any paper from the Tray and lean against a wall or object.*

4. Remove the Left Upper Cover Assembly (RRP 1-42).
5. Remove the Rear Cover Assembly (RRP 1-5).
6. Remove the Multi-sheet Bypass Feeder Support Assembly (RRP 1-27).
7. Remove the Left Middle Cover Assembly (RRP 1-36).

Caution *Exercise caution in removing the Left Middle Cover after removing the four screws. The Pinch Roller Assembly is loose and can drop and be damaged.*

8. Remove the retaining KL-clip from the docking stud that is located at the lower right of Tray 1 and remove the stud.
9. Remove the machine screw securing the retaining clip that is located above the Option Connector Bracket and remove the clip (see magnified detail in Figure 1).
10. Disconnect J463, J464, J466, and J467 from the Input/Output Board.
11. Remove the self-tapping screw securing the retaining clip that is located at the upper left corner of Tray 2, and remove the clip.
12. Remove Tray 1 Lift Motor (RRP 1-9).

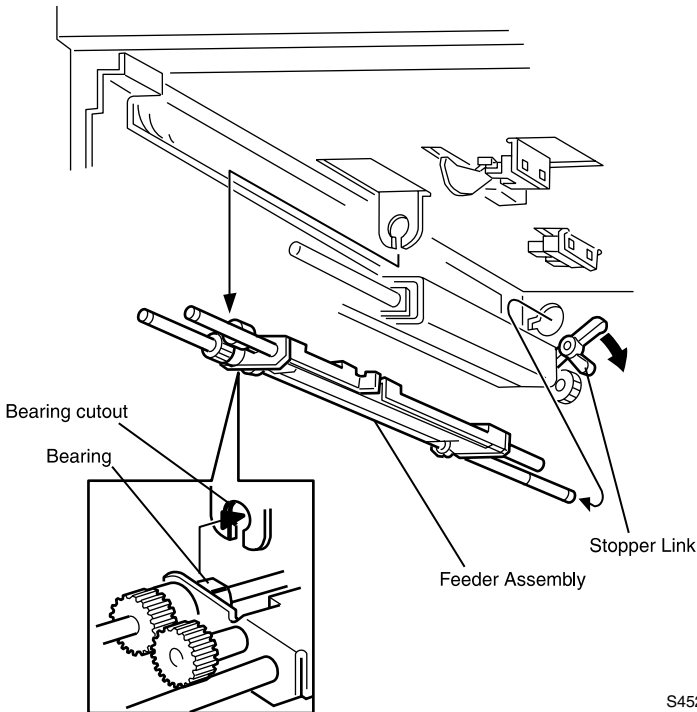
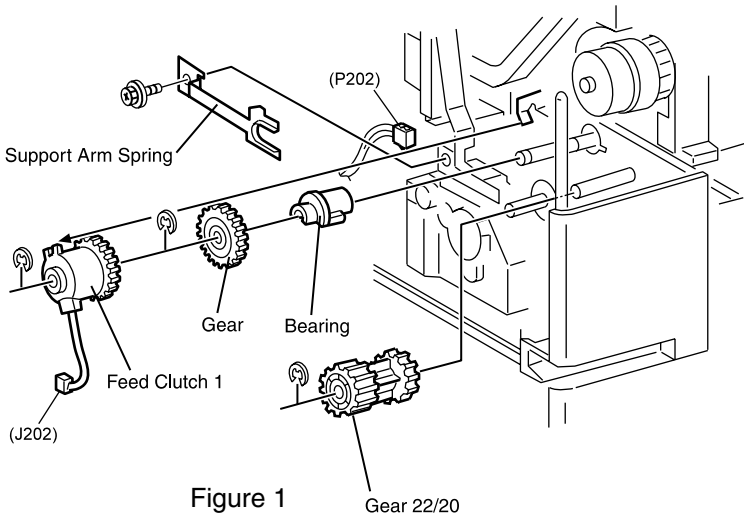
Warning *The following step has you lift the printer. The printer is very heavy and requires two people to lift it. Do not attempt to lift the printer by yourself.*

13. Lift the printer off of Tray 2.
14. Set the printer, with the right side down, on a level and stable work surface.
15. Remove the Support Assembly Spring.

Caution *Remove the outer bushing, which floats in the Support Assembly Spring arm as a precaution against losing it or dropping it into the printer and causing damage.*

16. Remove the Tray 1 Feed Clutch, along with the gear and bearing, (RRP 1-10).
17. Remove the three machine screws securing the Tray 1 Take-Away Roller Assembly to the rear of the frame (see Figure 2).
18. Remove the two machine screws securing Tray 1 Take-Away Roller Assembly to the front of the frame (see Figure 2).
19. Locate the two plastic mounting pins, located at each end of the Assembly, that secure the top of the Assembly to the bottom of the printer frame.
20. Angle the front of the assembly down to release the front locating pin from the frame. Then pull Tray 1 Take Away Assembly away from the printer, disengaging the rear locating pin from the frame as you remove the assembly.

RRP 1-13 Tray 1 Feeder Assembly (PL 3.2)



S4525-86

Fig 1-47 Tray 1 Feeder Assembly

Removal

1. Tray 1 from the printer.

Caution *Do not place paper Bins flat on carpet. Place on a smooth surface that cannot grab and dislodge the springs underneath the Bin. Alternatively, remove any paper from the Tray and lean against a wall or object.*

2. Remove the Rear Cover (RRP 1-5).
3. Remove the Front Chute (RRP 1-16).
4. Remove Tray 1 Feed Clutch (RRP 1-10) along with the Feed Gear and Bearing. (Refer to the figure).
5. Remove the Feed, Pick and Retard Rollers (RRP 1-11).
6. Remove the E-ring that is securing the Feed Gear (located behind the Feed Clutch) to the shaft, and remove the Feed Gear and Bearing.
7. Hold down the Stopper Link while pulling the Feeder Assembly to the front of the printer frame.

Caution *Take care not to break or dislodge the No Paper Actuator when removing or replacing the Tray 1 Feeder Assembly.*

8. Remove the Tray 1 Feeder Assembly.

Replacement

1. Hold down the Stopper Link while you insert the end of the Feed Shaft into the opening in the rear of the printer frame.
2. Slide the Bearing into the Bearing cutout (refer to the figure).
3. When both the Bearing is in place and the end of the Feed Shaft is through the opening in the rear of the frame, release the Stopper Link.
4. The Pick Roller Shaft should rest on top of the Stopper Link, and the Link should secure the Feeder Assembly in place on the frame.
5. Make sure the Paper Level Actuator tab on the Feeder is positioned in the center of the arms of the Paper Level Sensor.
6. Slide the Feed Bearing onto the Feed Shaft and press the Bearing into the cutout in the frame.
7. Reinstall the Feed Gear onto the Feed Shaft, and use an E-ring to secure it to the Shaft.
8. Reinstall the Feed, Pick and Retard Rollers (RRP 1-11).
9. Reinstall Tray 1 Feed Clutch (RRP 1-10) along with the Feed Gear and Bearing.
10. Reinstall the Front Chute (RRP 1-16).
11. Reinstall the Rear Cover (RRP 1-5).
12. Reinstall Tray 1.

RRP 1-15 Tray 1 Retard Assembly (PL 3.3)

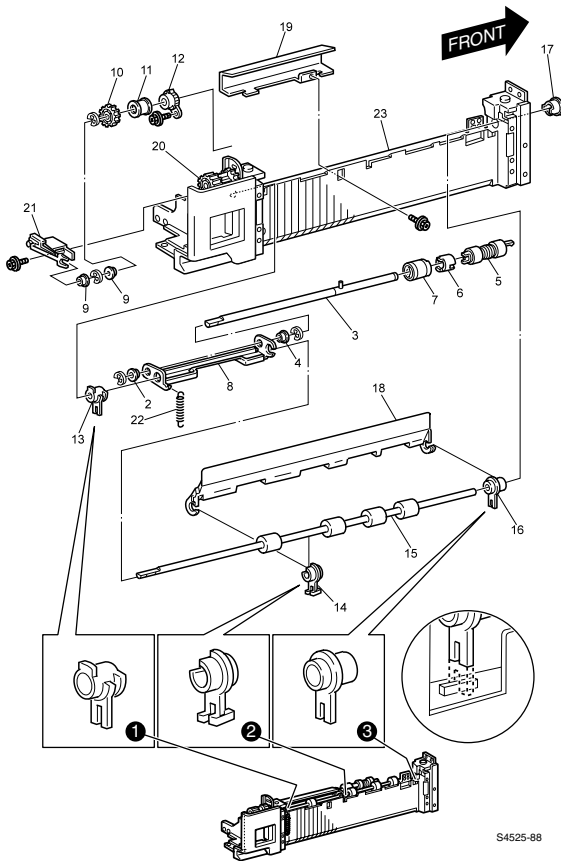


Fig 1-48 Tray 1 Retard Assembly

Removal

1. Remove the Tray 1 Take-Away Roller Assembly (RRP 1-12).
2. Remove the machine screw securing the Feed In Chute (19) to the Assembly and slide the Chute to the front of the Assembly to remove it.
3. Remove the plastic Feed Chute (18) from the Take-Away Roller.
4. Unhook the spring from the Retard Support.
5. Remove Tray 1 Support Assembly Spring (21) (RRP 1-15).
6. Remove the screw securing the Gear Stopper (12) to the Assembly, and move the Stopper out of the way.
7. Remove the plastic bearing securing the Take-Away Roller Shaft to the front of the Retard Frame, and remove the Retard Assembly and Take-Away Roller.
8. Remove the E-rings and Gears (PL 3.3.10-12) attached to the rear of the Take-Away Roller Shaft.
9. Remove the Center Bearing on the Take-Away Roller Shaft, and slide the Roller out of the Retard Support.

RRP 1-16 Tray 1 & Tray 2 Front Chute Assemblies (PL 3.1~PL 3.4)

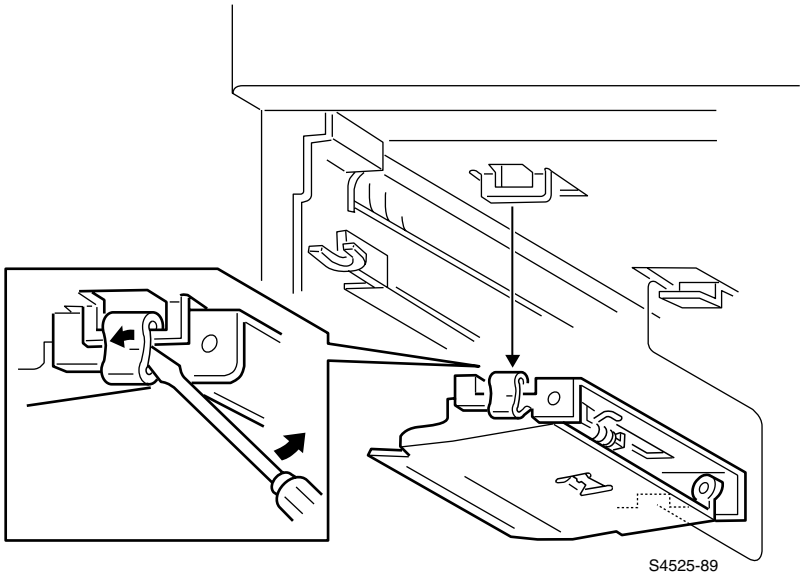


Fig 1-49 Tray 1 & Tray 2 Front chute Assemblies

Removal

1. Remove either Paper Tray 1 or Paper Tray 2.

Caution *Do not lay paper Bins flat on carpeted floors. The carpet can grab the spring on the bottom of the Tray and, when lifted, the spring may pop off, rendering the paper Tray useless.*

2. Use a flat blade screwdriver to unhook the front of the Chute, and remove the Chute.

Replacement

1. Remove either Paper Tray 1 or Paper Tray 2.
2. Reinstall the Chute by sliding the opening in the rear of the Chute into the tab on the printer frame, then hooking the tab at the front of the Chute into the opening on the frame.
3. Reinstall the Paper Bin.

RRP 1-20 Tray 1 & Tray 2 Paper Size Sensors (PL 3.1~PL 3.4)

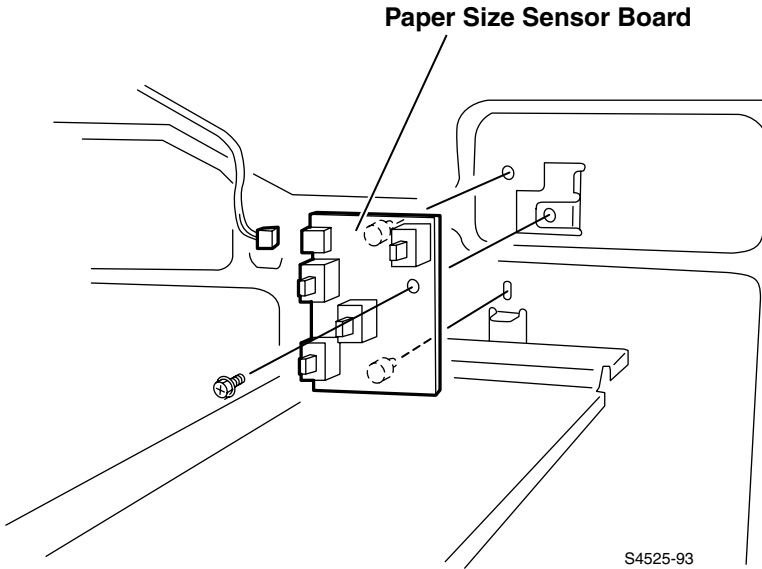


Fig 1-50 Tray 1 & Tray 2 Paper Size Sensors

Note Use this procedure to remove and replace the Paper Size Sensors for Bins 1 and 2.

Removal

1. Remove either Paper Tray 1 or Paper Tray 2 from the printer.

Caution Do not lay paper Bins flat on carpeted floors. The carpet can grab the spring on the bottom of the Tray and, when lifted, the spring may pop off, rendering the paper Tray useless.

2. Disconnect the P/J from the Size Sensor Board.

3. Remove the screw securing the Size Sensor Board to the printer frame, pull the board straight out and remove it from the frame.

RRP 1-21 Tray 2 Feed Clutch (PL 3.5)

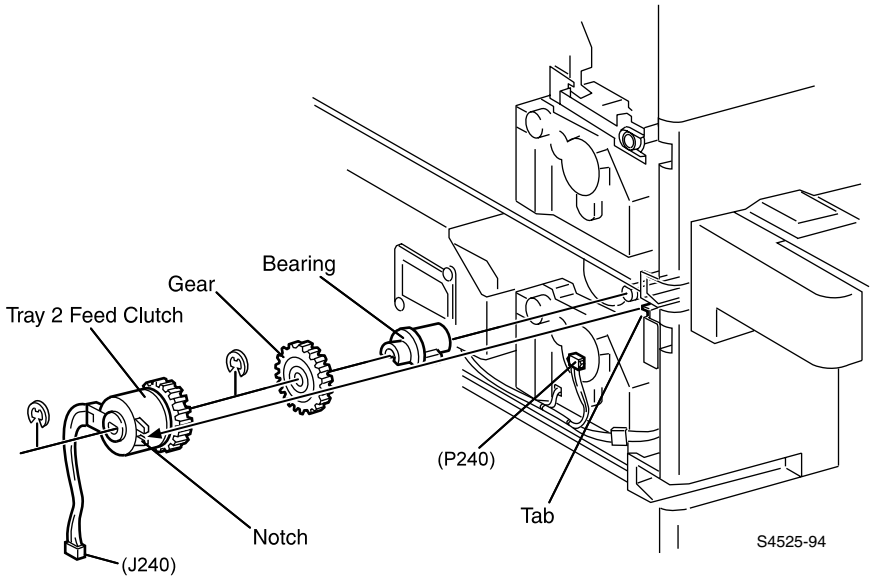


Fig 1-51 Tray 2 Feed Clutch

Removal

1. Remove the Rear Cover (RRP 1-6).
2. Disconnect the Feed Clutch connector P/J240.
3. Remove the E-ring securing the Clutch to the shaft, and slide the Clutch off of the shaft.

RRP 1-22 Tray 2 Feeder Assembly (PL 3.5)

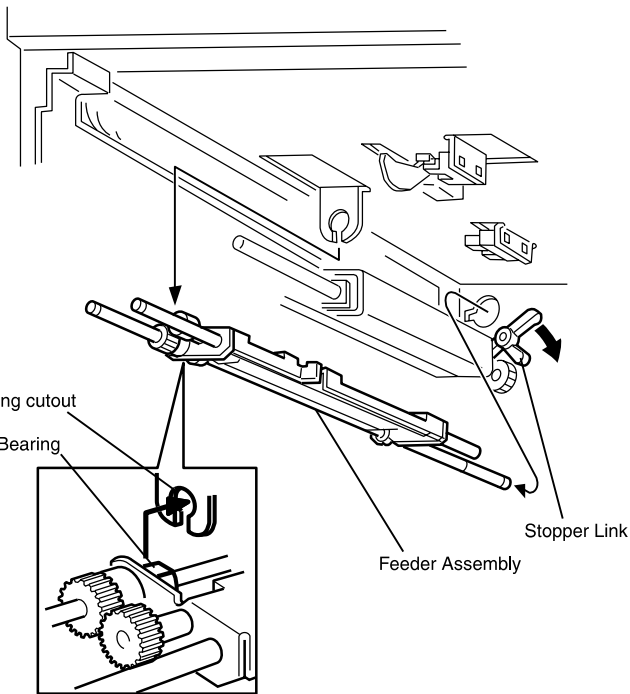
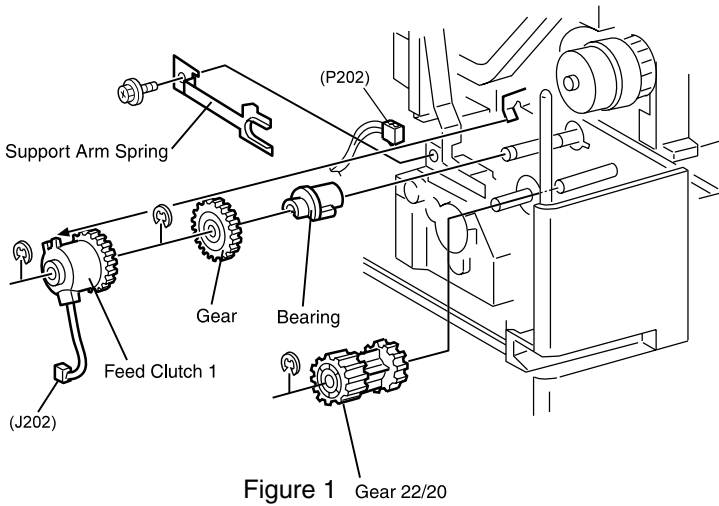


Figure 2

S4525-95

Fig 1-52 Tray 2 Feeder Assembly

Caution Take care not to break or dislodge the No Paper Actuator when removing or replacing the Tray 2 Feeder Assembly.

Removal

1. Remove Tray 2 from the printer.

Caution *Do not lay paper Bins flat on carpeted floors. The carpet can grab the spring on the bottom of the Tray and, when lifted, the spring may pop off, rendering the paper Tray useless.*

2. Remove the Rear Cover (RRP 1-5).
3. Remove the Front Chute (RRP 1-16).
4. Remove Tray 2 Feed Clutch (RRP 1-21) along with the Feed Gear and Bearing. (Refer to the figure).
5. Remove the E-ring that is securing the Feed Gear (located behind the Feed Clutch) to the shaft, and remove the Feed Gear and Bearing.
6. Hold down the Stopper Link while you pull the Feeder Assembly to the front of the printer frame.
7. Remove the Feeder Assembly from Feeder 2.

Replacement

1. Hold down the Stopper Link while you insert the end of the Feed Shaft into the opening in the rear of the printer frame.
2. Slide the Bearing into the Bearing cutout (refer to the figure).
3. When both the Bearing is in place and the end of the Feed Shaft is through the opening in the rear of the frame, release the Stopper Link.
4. The Pick Roller Shaft should rest on top of the Stopper Link, and the Link should secure the Feeder Assembly in place on the frame.
5. Make sure the Paper Level Actuator tab on the Feeder is positioned in the center of the arms of the Paper Level Sensor.
6. Slide the Feed Bearing onto the Feed Shaft and press the Bearing into the cutout in the frame.
7. Reinstall the Feed Gear onto the Feed Shaft, and use the E-ring (removed in Step 5 above) to secure it to the Shaft.
8. Reinstall Tray 2 Feed Clutch (RRP 1-21).
9. Reinstall the Front Chute (RRP 1-16).
10. Reinstall the Rear Cover (RRP 1-5).
11. Reinstall Tray 2.

RRP 1-23 Tray 2 Take-Away Roller Assembly (PL 3.6)

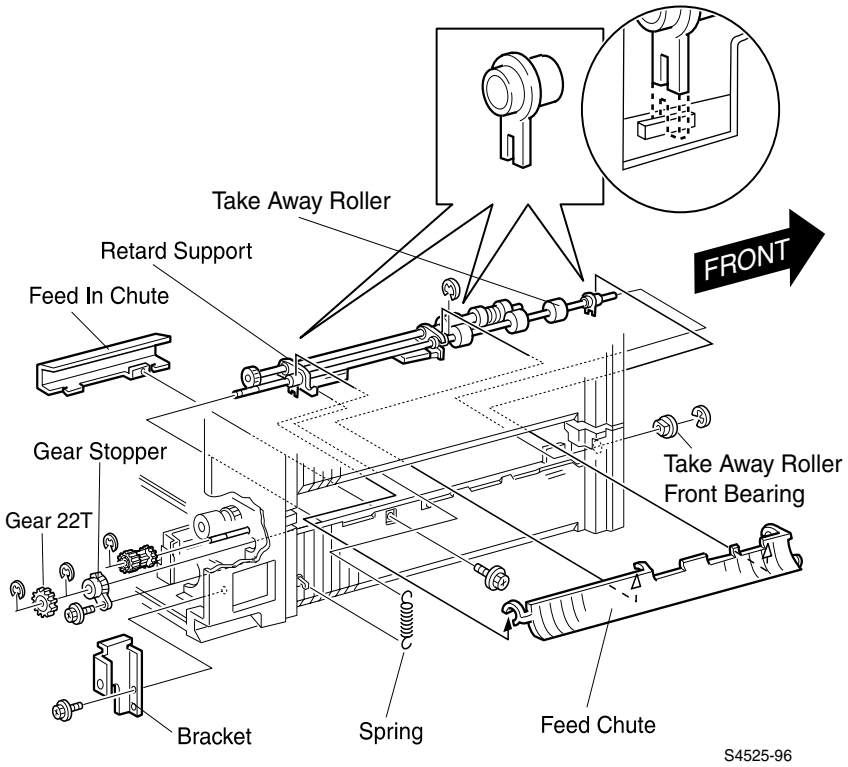


Fig 1-53 Tray 2 Take-Away Roller Assembly

Removal

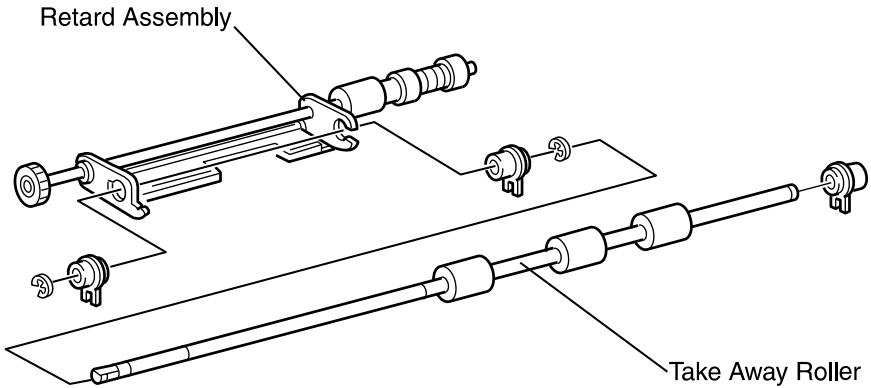
1. Open the Left Lower Cover.
2. Remove Rear Cover (RRP 5)
3. Remove the machine screw securing the Feed In Chute to the Assembly, and slide the Chute to the front of the Assembly to remove it.
4. Remove the plastic Feed Chute from the Take-Away Roller.

Caution *Use extreme caution when removing the Feed Chute. It is easily broken.*

5. Unhook and remove the spring from the Retard Support.
6. Remove the machine screw securing the Bracket, then remove the Bracket.
7. Remove the machine screw securing the Gear Stopper to the assembly.
8. Remove the E-ring securing the Gear Stopper, then remove the Gear Stopper from the shaft.
9. Remove the E-ring securing Gear 22/20T to the shaft and remove the gear.
10. Remove the E-ring securing Gear 22T to the shaft and remove the gear.
11. Remove E-ring securing the plastic bearing and the Take-Away Roller Shaft to the front of the printer frame. Then remove the Retard Assembly and attached Take-Away Roller by moving it as far to the rear as possible, then swinging the front end of the shaft to the right to clear the printer frame. Remove the Take-Away Roller Assembly by sliding it out toward the front of the printer.

Note *When removing the Take-Away Roller Assembly, it may be necessary to hold down the Stopper Link (see RRP 22, Figure 2) while gently moving the assembly in various directions to find the best position to get it out easily.*

RRP 1-24 Tray 2 Retard Assembly (PL 3.6)



S4525-97

Fig 1-54 Tray 2 Retard Assembly

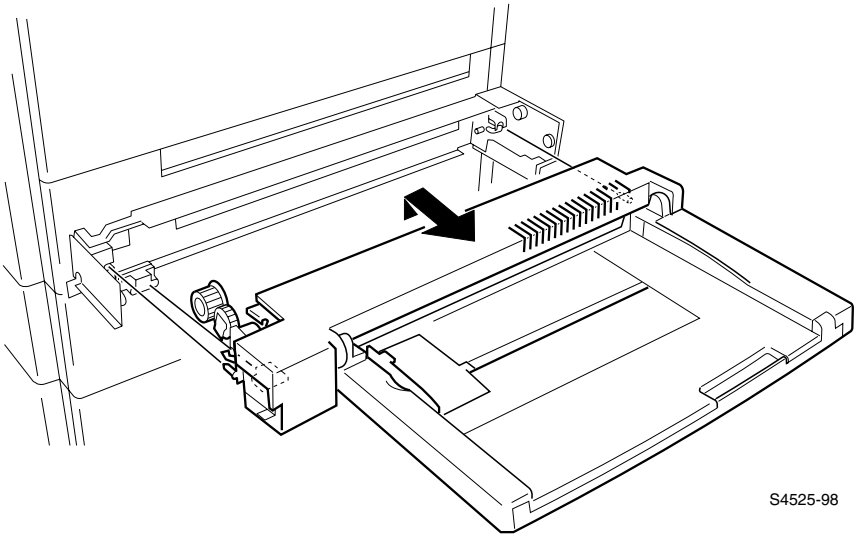
Removal

1. Remove the Take-Away Roller Assembly (RRP 1-21).
2. Remove the E-ring securing the rear bearing on the Take-Away Roller and remove the bearing.
3. Slide the Take-Away Roller Shaft out of the Retard Assembly.
4. Remove the E-ring securing the center bearing on the Take-Away Roller shaft and remove the bearing.

Replacement

1. Reinstall the center bearing on the Take-Away Roller shaft and secure with the E-ring (removed in Step 4 above).
2. Slide the Take-Away Roller Shaft into the Retard Assembly.
3. Reinstall the bearing and secure with the E-ring (removed in Step 2 above).
4. Reinstall the Take-Away Roller Assembly (RRP 1-21).

RRP 1-25 Multi-sheet Bypass Feeder Assembly (PL 4.2)



S4525-98

Fig 1-55 Multi-Sheet Bypass Feeder Assembly

Removal

1. Face the left side of the printer.
2. Hold both sides of the Multi-sheet Bypass Feeder Assembly and firmly pull the Assembly toward you and out of the printer.

Replacement

1. Face the left side of the printer.
2. Position the Multi-sheet Bypass Feeder against the Multi-sheet Bypass Feeder Support.
3. Tilt the Multi-sheet Bypass Feeder so the Feed Gear slides through the cutout in the printer cover.
4. Hold the Multi-sheet Bypass Feeder Assembly level and push the Assembly against the printer, making certain the top cover hides the metal frame.

RRP 1-26 Multi-sheet Bypass Feeder Tray Assembly (PL 4.2)

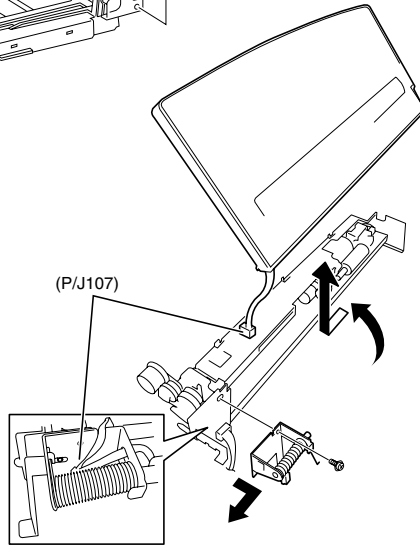
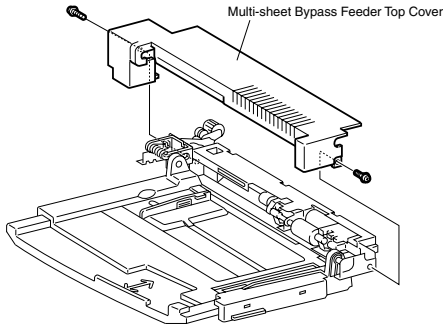


Fig 1-56 Multi-sheet Bypass Feeder Tray Assembly

Removal

1. Remove the Duplex Module, if installed.
2. Remove the Multi-sheet Bypass Feeder Assembly (RRP 1-25).
3. Remove the two machine screws (one at each end) securing the Multi-sheet Bypass Feeder Top Cover to the Multi-sheet Bypass Feeder Assembly, and remove the Top Cover by sliding it slightly toward the Bin.
4. Disconnect the P/J107 that runs from the Tray Assembly to the Feeder Assembly (the three wire connector residing adjacent to the Tray Spring).
5. Remove the screw securing the Tray Spring and free the Spring.
6. Push out on the Front Support as you slightly bow the Bin, and release the pivot hole on the right side of the Tray from the metal shaft on the Front Support.
7. Remove the Multi-sheet Bypass Feeder Tray Assembly.

RRP 1-27 Multi-sheet Bypass Feeder Support Assembly (PL 4.1).

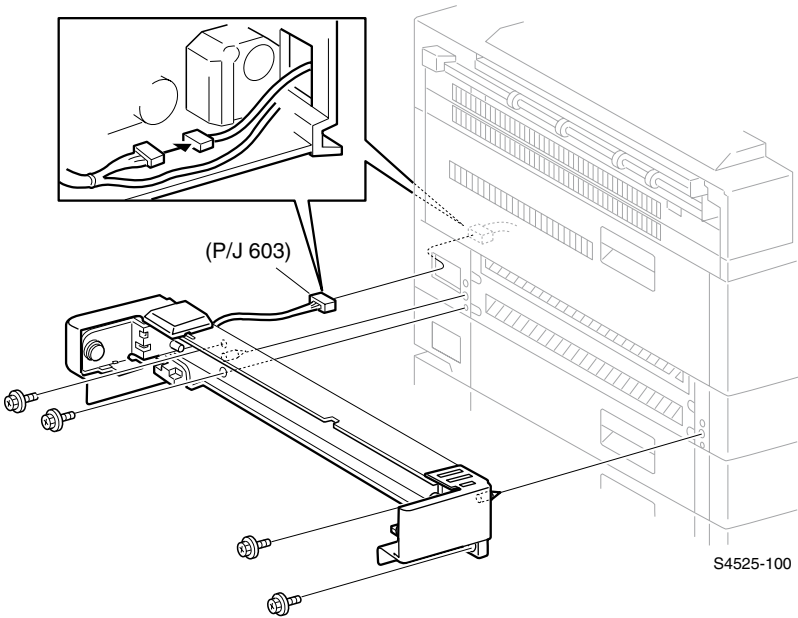


Fig 1-57 Multi-sheet Bypass Feeder Support Assembly

Removal

1. Remove the Multi-sheet Bypass Feeder Assembly (RRP 1-25).
2. Remove the Rear Cover Assembly (RRP 1-5).
3. Disconnect P/J603 and free the harness from the wire retaining wrap to facilitate removal of the support assembly without risk to the wires.
4. Remove the four machine screws securing the Multi-sheet Bypass Feeder Support Assembly to the printer frame, and remove the Assembly.

Note *It is not necessary to remove the two end covers to remove the MBF Support Assembly. If you do remove the end covers, take note of the different length of the two machine screws securing same. The four screws securing the support assembly are longer than the two screws securing the end covers.*

Replacement

1. Position the Multi-sheet Bypass Feeder Support Assembly a few inches from the printer frame.
2. Insert the wire harness into the cutout in the printer frame.
3. Slide the two positioning pins that are located at both ends of the Support Assembly into the holes in the frame.
4. Use the four machine screws (removed in Step 4 above) to secure the Assembly to the frame.
5. Reconnect J603.
6. Reinstall the Rear Cover Assembly (RRP 1-5).
7. Reinstall the Multi-sheet Bypass Feeder Assembly (RRP 1-25).

RRP 1-28 Multi-sheet Bypass Feeder Size Sensor Assembly (PL 4.4)

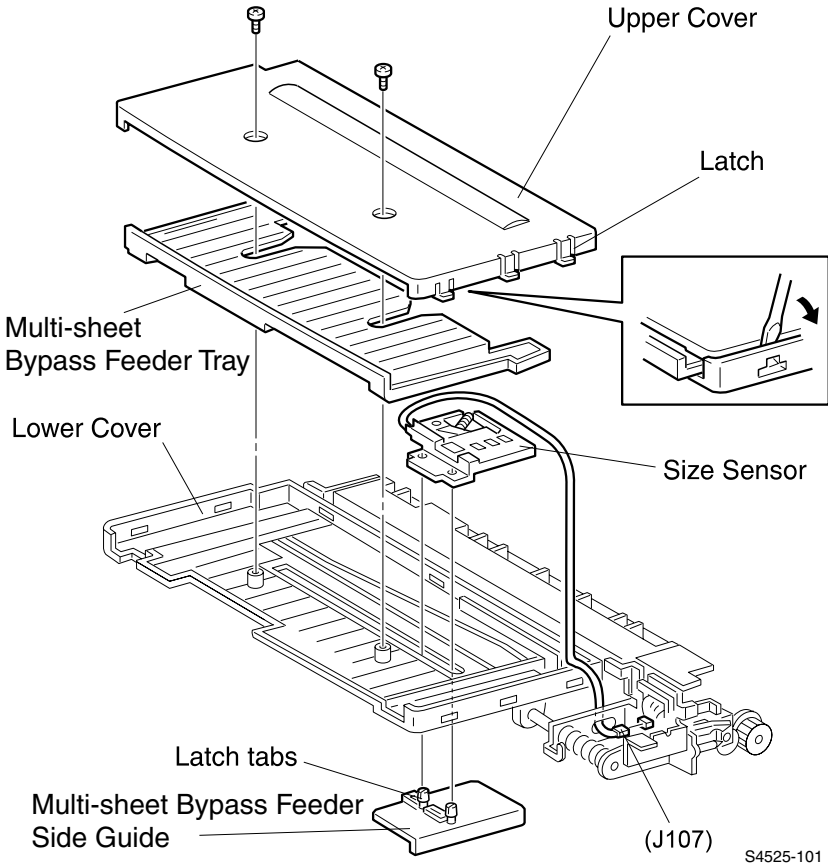


Fig 1-58 Multi-sheet Bypass Feeder Size Sensor Assembly

Removal

1. Remove the Multi-sheet Bypass Feeder Assembly (RRP 1-25).
2. Place the Multi-sheet Bypass Feeder upside down, with the Tray facing you.
3. Remove the two self-tapping screws securing the Lower Cover to the Upper Cover.
4. Locate the three latches on the right side of the Bin.
5. Press the first latch while you pry the edge of the Lower Cover out and over the latch of the Upper Cover.
6. Repeat step 5 for the remaining two latches located on the right side of the Bin.
7. Repeat step 5 for the two latches that are located on the left side of the Bin, and remove the Lower Cover from the Upper Cover.
8. Remove the Multi-sheet Bypass Feeder Bin.
9. Squeeze together the latches holding the Multi-sheet Bypass Feeder Size Sensor to the Multi-sheet Bypass Feeder Side Guide, and pry the Sensor off and away from the Upper Cover.
10. Disconnect P/J107 and remove the Sensor Assembly.

Replacement

1. Reinstall the Multi-sheet Bypass Feeder Side Guide, making sure the two latch tabs at the bottom of the Guide fit through the cutout in the Upper Cover.
2. Slide the Side Guide all the way to the right (toward the Multi-sheet Bypass Feeder Tray Spring).
3. Hold the Side Guide in place while you press the two holes in the Size Sensor onto the two latch tabs.
4. Press hard enough so the Size Sensor locks (snaps) into place.
5. Make sure the spring-loaded arm of the Sensor is under the molded track.
6. Slide the Sensor Assembly to the left to make sure it moves smoothly and the spring-loaded arm lowers as you move the Sensor to the left, and raises when you move the Sensor to the right.
7. Route the Sensor wire harness along the molded channel and through the cutout on the right side of the Upper Cover.
8. Reconnect P/J107.
9. Reinstall the Multi-sheet Bypass Feeder Bin, with the arrow side down.
10. Slide the three tabs on the upper edge of the Upper Cover into the three cutouts in Lower Cover, and press the Upper Cover onto the Lower Cover.
11. Press at the five latch locations to make sure the latches have locked the Lower Cover in place.
12. Use the two self-tapping screws (removed in Step 3 above) to secure the Lower Cover to the Upper Cover.
13. Reinstall the Multi-sheet Bypass Feeder Assembly (RRP 1-25).

RRP 1-29 Multi-sheet Bypass Feeder Feed Clutch (PL 4.3)

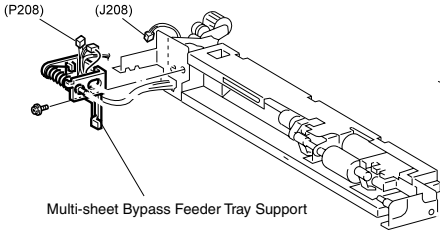


Figure 1

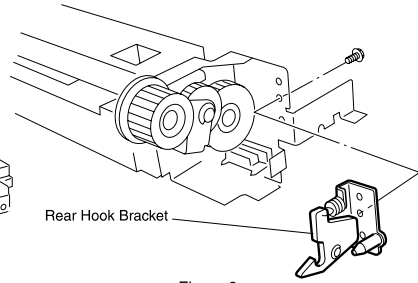


Figure 2

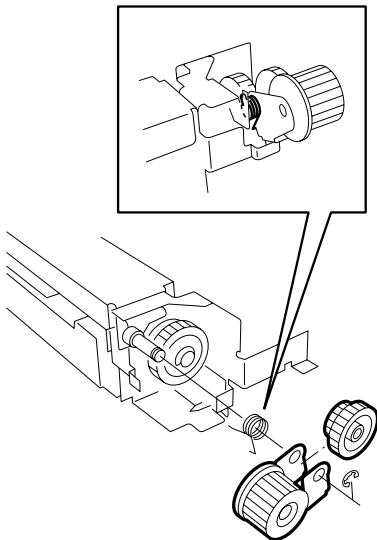


Figure 3

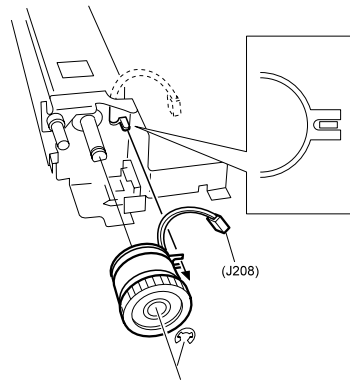


Figure 4

S4525-102

Fig 1-59 Multi-sheet Bypass Feeder Feed Clutch

Removal

1. Remove the Multi-sheet Bypass Feeder Tray Assembly (RRP 1-26).
2. Remove the machine screw securing the Multi-sheet Bypass Feeder Tray Support to the Feeder Assembly, and pull the Support away from the Assembly (Figure 1).
3. Disconnect the P/J208 running to the Multi-sheet Bypass Feeder Feed Clutch.
4. Remove the machine screw securing the Rear Hook Bracket to the Feeder Assembly and remove the Bracket (Figure 2).
5. Unhook either end of the torsion spring to release tension **BEFORE** removing the E-ring securing the MBF Link Gear in step (6).

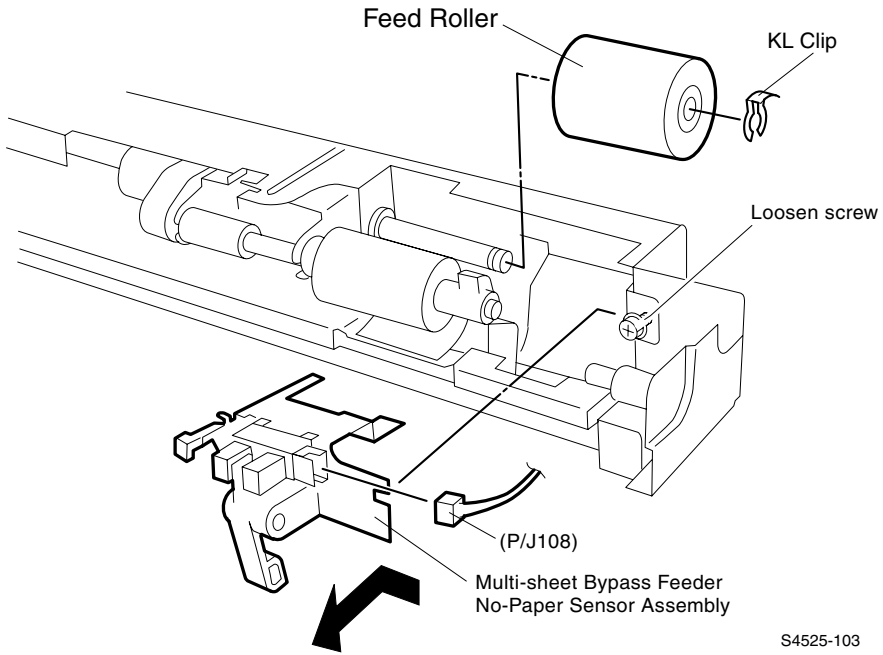
Warning *For safety, it is important to release the torsion spring to prevent it from flying and causing injury. Also, take note of its orientation so as to enable proper reinstallation.*

6. Remove the E-ring securing the Multi-sheet Bypass Feeder Link Gear to the idler shaft, and slide the Gear, along with the Multi-sheet Bypass Feeder Drive Gear Assembly, and spring, off of the shaft (Figure 3).
7. Remove the E-ring securing the Multi-sheet Bypass Feeder Feed Clutch to the Feed Shaft and slide the Clutch off of the Feed Shaft (Figure 4).

Replacement

1. Position the Multi-sheet Bypass Feeder Feed Clutch with the gear facing out, and slide the Clutch onto the Feed Shaft.
2. Thread the Clutch wire harness through the cutout in the Support frame.
3. Rotate the Clutch so the notch in the Clutch fits into the key in the Assembly (Figure 4).
4. Use the E-ring (removed in Step 7 above) to secure the Multi-sheet Bypass Feeder Feed Clutch to the Feed Shaft.
5. Reinstall the Link Spring onto the Rear Latch (Figure 3).
6. Slide the Multi-sheet Bypass Feeder Link Gear, along with the Multi-sheet Bypass Feeder Drive Gear Assembly and torsion spring, onto the idler shaft.
7. Use the E-ring (removed in Step 6 above) to secure the Multi-sheet Bypass Feeder Link Gear to the idler shaft.
8. Reinstall the Rear Hook Bracket to the Feeder Assembly, and use the machine screw (removed in Step 4 above) to secure the Bracket.
9. Reconnect J208.
10. Reinstall the Multi-sheet Bypass Feeder Tray Support and use the machine screw (removed in Step 2 above) to secure it to the Feeder Assembly.
11. Reinstall the Multi-sheet Bypass Feeder Tray Assembly (RRP 1-26).
12. Re-hook the ends of the torsion spring as they were prior to unhooking same in step (5) of the Remove Procedure above.
13. Check for free rotation of the Link, Idler and Clutch gears, and for free movement of the Link Gear arm and return to proper rest position by the spring.

RRP 1-30 Multi-sheet Bypass Feeder Feed Roller (PL 4.3)



S4525-103

Fig 1-60 Multi-sheet Bypass Feeder Feed Roller

Removal

1. Remove the Multi-sheet Bypass Feeder Tray Assembly (RRP 1-25).
2. Remove the Multi-sheet Bypass Feeder Top Cover per Step 3 of RRP 1-26.
3. Disconnect P/J108 from the Multi-sheet Bypass Feeder No-Paper Sensor Assembly.
4. Loosen the machine screw securing the Multi-sheet Bypass Feeder No-Paper Sensor Assembly to the Feeder Assembly and move the Assembly out of the way.
5. Remove the KL-clip securing the Multi-sheet Bypass Feeder Feed Roller to the Feed Shaft, and slide the Feed Roller off of the shaft.

RRP 1-31 Multi-sheet Bypass Feeder Pick Roller (PL 4.3)

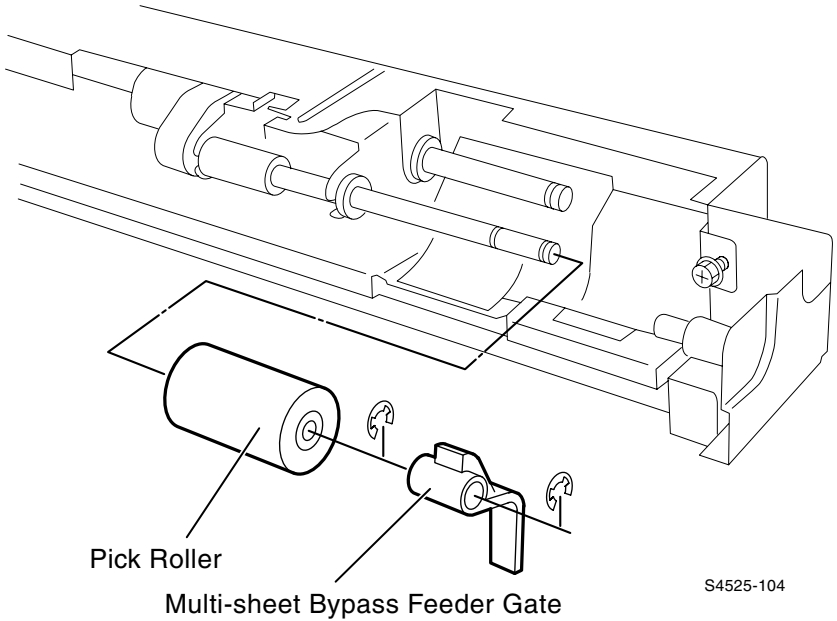


Fig 1-61 Multi-sheet Bypass Feeder Pick Roller

Removal

1. Remove Multi-sheet Bypass Feeder Feed Roller (RRP 1-30).
2. Remove the E-ring securing the Multi-sheet Bypass Feeder Gate to the shaft and remove the Gate.
3. Remove the E-ring securing the Pick Roller to the shaft and slide the Pick Roller off of the shaft.

RRP 1-32 Multi-sheet Bypass Feeder Pick Roller Assembly (PL 4.3)

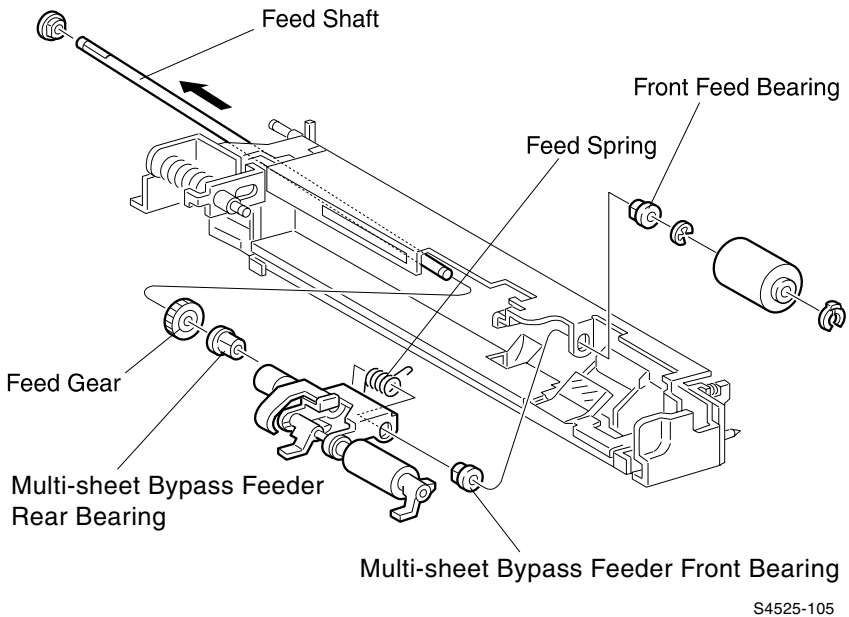


Fig 1-62 Multi-sheet Bypass Feeder Pick Roller Assembly

Removal

1. Remove the Multi-sheet Bypass Feeder Feed Clutch (RRP 1-29).
2. Remove Multi-sheet Bypass Feeder Feed Roller (RRP 1-30).
3. Remove the E-ring securing the Multi-sheet Bypass Feeder Front Feed Bearing to the Feed Shaft, and remove the Bearing.

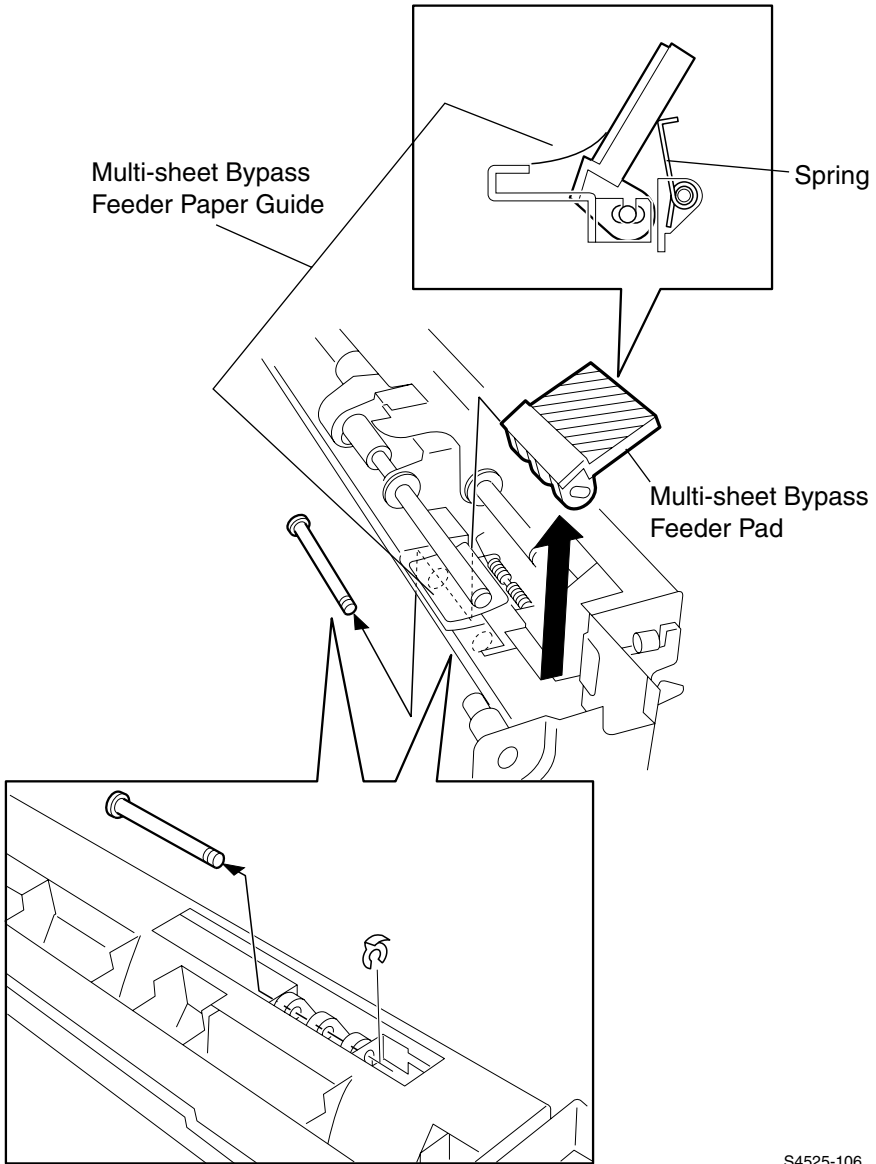
Warning *Before performing Step (4) below, take note of the Feed Spring and its positioning before sliding out the Feed Shaft. Take care to prevent the spring from releasing suddenly, which could result in it flying and causing injury.*

4. Slide the Feed Shaft out of the Pick Roller Assembly, and remove the Assembly from the Multi-sheet Bypass Feeder frame.
5. Remove the Front and Rear Feed Bearings from the Pick Roller Assembly.

Replacement

1. Reinstall the Front and Rear Feed Bearings onto the Pick Roller Assembly (see the figure for correct placement).
2. Hook one end of the Feed Spring over the Pick Roller Assembly frame.
3. Reinstall the Pick Roller Assembly into the Multi-sheet Bypass Feeder Assembly.
4. Hold the Feed Gear in place, with the flat side against the Pick Roller Assembly.
5. Slide the Feed Shaft through the Feed Gear, through the Rear Feed Bearing, through the Pick Roller Assembly, through the Feed Spring, through the Front Multi-sheet Bypass Feeder Bearing, and out through the cutout for the Front Feed Bearing.
6. Slip the Front Feed Bearing over the end of the Feed Shaft, and slide the Bearing into the cutout in the frame.
7. Continue sliding the Feed Shaft as far as it will go.
8. Use the E-ring (removed in Step 3 above) to secure the Shaft to the Front Feed Bearing.
9. Hook the free end of the Feed Spring through the opening at the rear of the Assembly frame.
10. Reinstall the Multi-sheet Bypass Feeder Feed Roller (RRP 1-30).
11. Reinstall the Multi-sheet Bypass Feeder Feed Clutch (RRP 1-29).

RRP 1-33 Multi-sheet Bypass Feeder Pad (PL 4.2)



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Fig 1-63 Multi-sheet Bypass Feeder Pad

Removal

1. Remove the Multi-sheet Bypass Feeder (RRP 1-25).
2. Remove the Multi-sheet Bypass Feeder Top Cover per Step 3 of RRP 1-26.
3. Remove the Multi-sheet Bypass Feeder Feed Roller (RRP 1-30).
4. Remove the Multi-sheet Bypass Feeder Pick Roller (RRP 1-31).
5. Turn the Multi-sheet Bypass Feeder upside down.
6. Remove the KL-clip securing the Multi-sheet Bypass Feeder Pad Pin to the Feeder, and slide the Pin out of the Multi-sheet Bypass Feeder Pad.
7. Turn the Multi-sheet Bypass Feeder right side up.
8. Flex back the Multi-sheet Bypass Feeder Paper Guide, push the Pad up, then slide the Pad to the right and out of the Feeder.

Replacement

1. Flex back the Multi-sheet Bypass Feeder Paper Guide and slide the Multi-sheet Bypass Feeder Pad between the Guide and the Pad Spring.
2. Turn the Multi-sheet Bypass Feeder upside down.
3. Slide the Multi-sheet Bypass Feeder Pad Pin into the hole in the Feeder, through the holes in the three legs of the Multi-sheet Bypass Feeder Pad, and out through the other hole in the Feeder.
4. Use the KL-clip (removed in Step 4 above) to secure the Multi-sheet Bypass Feeder Pad Pin to the Feeder.
5. Make certain the two spring arms are resting on the back side of the Pad.
6. Press down on the Multi-sheet Bypass Feeder Pad to make sure it moves smoothly and has a spring-action return. RRP 1-31
7. Reinstall the Multi-sheet Bypass Feeder Pick Roller (RRP 1-30).
8. Reinstall the Multi-sheet Bypass Feeder Feed Roller (RRP 1-30).

RRP 1-34 Multi-sheet Bypass Feeder Friction Clutch (PL 4.3)

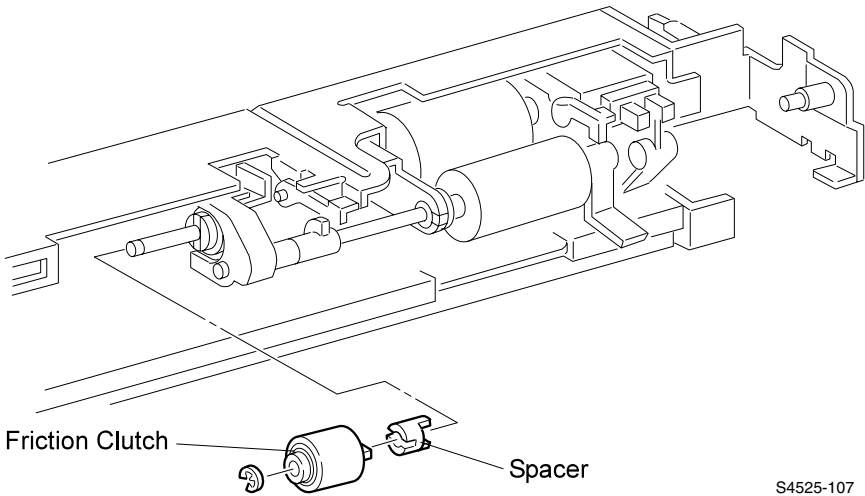


Fig 1-64 Multi-sheet Bypass Feeder Friction Clutch

Removal

1. Remove the Multi-sheet Bypass Feeder Tray Assembly (RRP 1-26).
2. Remove the E-ring securing the Clutch to the shaft.
3. Rotate the Clutch clockwise as you pull it off of the shaft.

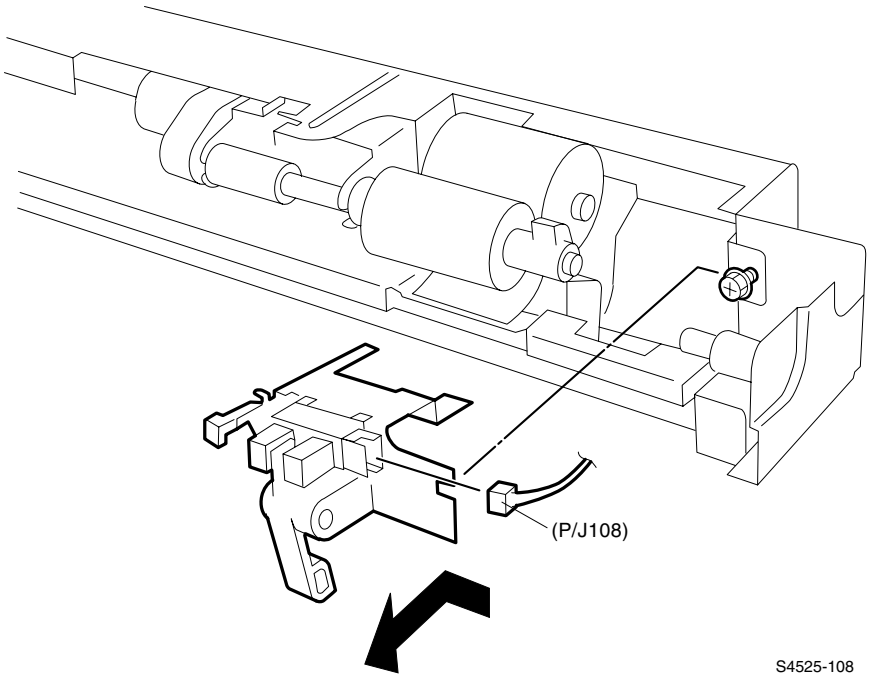
Replacement

1. Make sure the Spacer is in place on the Clutch shaft.
2. Rotate the Spacer so the tabs on the Spacer mesh with the notches on the Clutch Gear.

Caution *When performing step 3 below, push only on the rear of the Clutch. Never press the sides of the Clutch. Pressing the sides of the Clutch may break the Clutch.*

3. Slide the Friction Clutch onto the shaft, rotating the Clutch as you slide it toward the Spacer.
4. Make sure the Clutch and Spacer mesh.
5. Use the E-ring (removed in Step 2 above) to secure the Clutch to the shaft.
6. Reinstall the Top Cover.
7. Reinstall the Multi-sheet Bypass Feeder Tray Assembly (RRP 1-26).

RRP 1-35 Multi-sheet Bypass Feeder No-Paper Sensor Assembly (PL 4.3)



S4525-108

Fig 1-65 Multi-sheet Bypass Feeder No-Paper Sensor Assembly

Removal

1. Remove the Multi-sheet Bypass Feeder Assembly (RRP 1-25).
2. Loosen the machine screw securing the Multi-sheet Bypass Feeder No-Paper Sensor Bracket to the Feeder Assembly, and lift the Sensor Bracket off of the Feeder.
3. Disconnect P/J108 from the Multi-sheet Bypass Feeder No-Paper Sensor.
4. Squeeze the Sensor latches and remove the Sensor from the Bracket.

RRP 1-36 Left Middle Cover Assembly (PL 5.1)

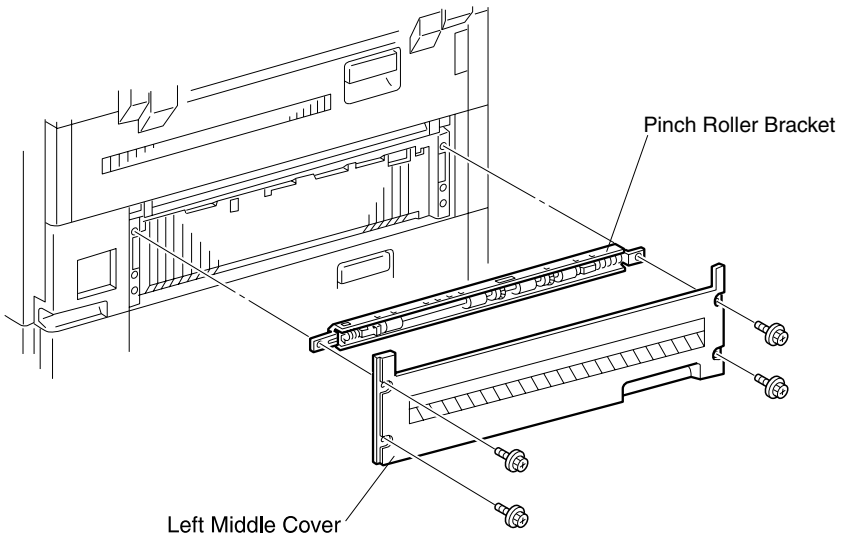


Figure 1

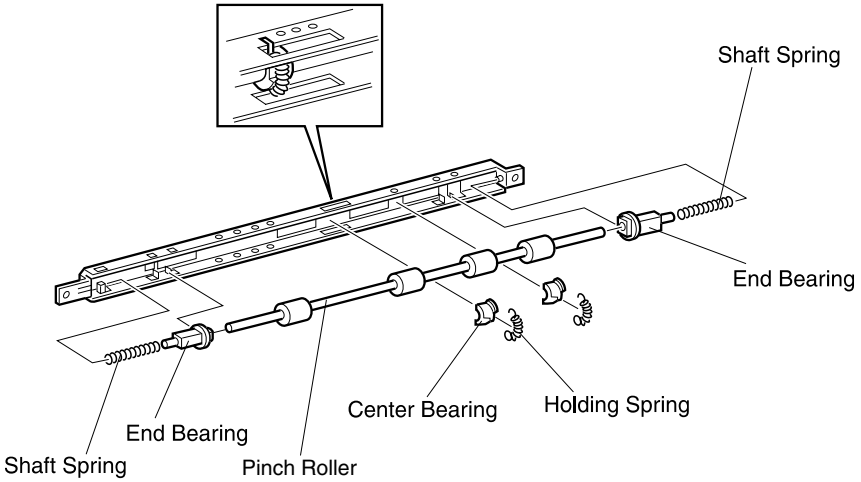


Figure 2

S4525-109

Fig 1-66 Left Middle Cover Assembly

Removal

1. Remove the Multi-sheet Bypass Feeder Support Assembly (RRP 1-27).

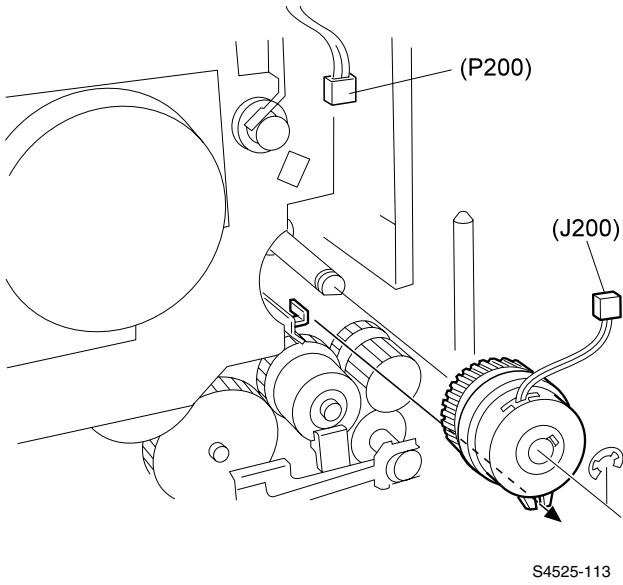
Caution *Exercise caution in removing the Left Middle Cover after removing the four screws. The Pinch Roller Assembly is loose and can be damaged from dropping.*

2. Remove the four self-tapping screws securing the Left Middle Cover to the printer frame, and remove the Cover.
3. Lift the Pinch Roller Bracket off of the Left Middle Cover.
4. Remove the two Holding Springs, and lift the Pinch Roller out of the Bracket.
5. Remove the two Center Bearings, the two Shaft Springs, and the two End Brackets from the Shaft.

Replacement

1. Reinstall the two End Bearings onto the Shaft.
2. Reinstall the two Shaft Springs over the End Bearings.
3. Compress the Shaft Springs and reinstall the Shaft into the Bracket.
4. Make sure that the lip of each Bearing is trapped behind the tabs in the Bracket, and that each Pinch Roller lines up with the corresponding cutout in the Bracket.
5. Hook one end of each Holding Spring into a spring hole in one side of the Bracket.
6. Bring the Springs over the Shaft and hook the other end of each Spring into the spring hole on the opposite side of the Bracket.
7. Slide a Center Bearing under each Holding Spring, as shown in the figure.
8. Reinstall the Pinch Roller Bracket onto the Left Middle Cover, as shown in the figure.
9. Reinstall the Left Middle Cover onto the printer frame.
10. Use the four self-tapping screws (removed in Step 2 above) to secure the Left Middle Cover to the printer frame.
11. Reinstall the Multi-sheet Bypass Feeder Support Assembly (RRP 1-27).

RRP 1-41 Registration Clutch (PL 6.1)



S4525-113

Fig 1-67 Registration Clutch

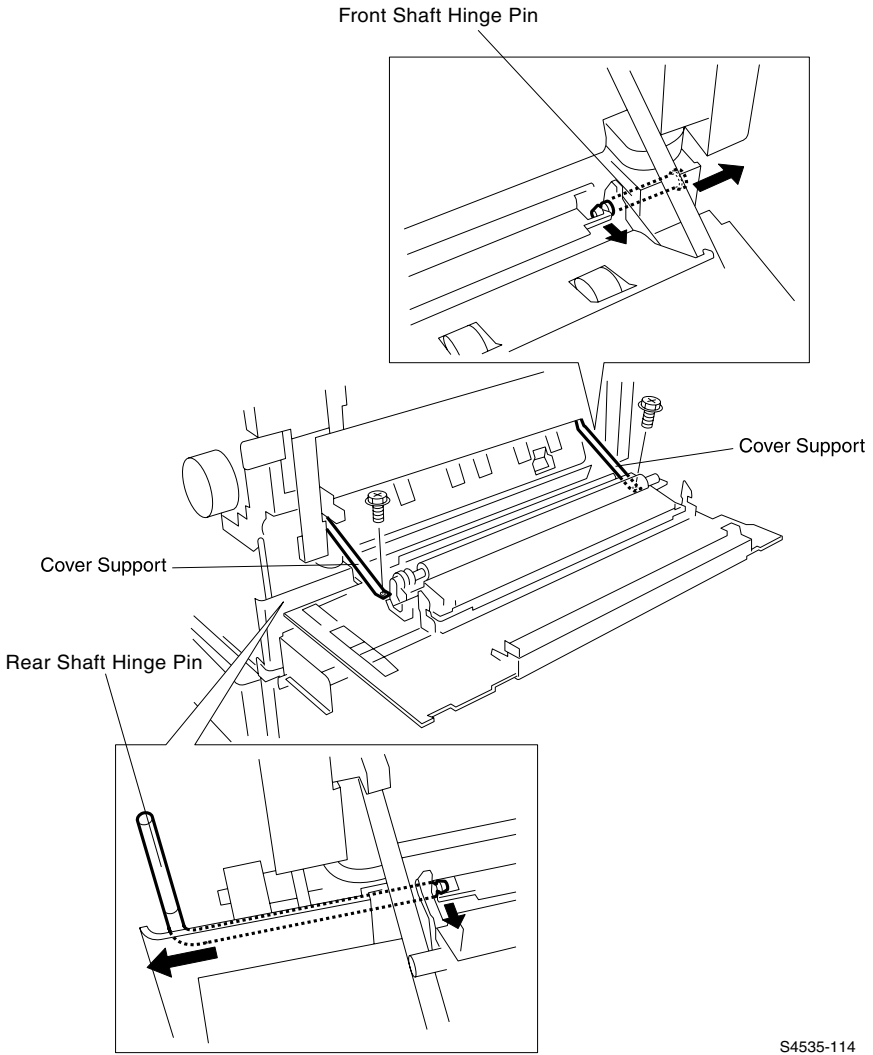
Removal

1. Remove the Rear Cover (RRP 1-5).
2. Remove the Flywheel Assembly (RRP 1-65)
3. Disconnect P/J200 from the Registration Clutch.
4. Remove the E-ring securing the Registration Clutch to the Registration Shaft.
5. Push out on the shaft latch as you slide the Clutch off of the shaft.

Replacement

1. Slide the Registration Clutch onto the shaft. The shaft latch snaps the Clutch into place on the shaft.
2. Use the E-clip (removed in Step 4 above) to secure the Registration Clutch to the Registration Shaft.
3. Reconnect P/J200 from the Registration Clutch.
4. Reinstall the Flywheel Assembly (RRP 1-65).
5. Reinstall the Rear Cover (RRP 1-5).

RRP 1-42 Left Upper Cover Assembly (PL 6.2)



S4535-114

Fig 1-68 Left Upper Cover Assembly

Removal

1. Remove the Rear Cover (RRP 1-5).
2. Remove the Duplex Module, if installed.
3. Open the Left Upper Cover.

Caution *When the Left Upper Cover is open, the Bias Transfer Roller is exposed. Do not touch the Bias Transfer Roller. Grease and dirt on the Bias Transfer Roller, or physical damage to the Bias Transfer Roller will affect print quality.*

4. Use a small screwdriver blade to release the latch securing the Front Shaft Hinge Pin, and slide it out of the Cover Assembly.

Caution *Remove this smaller Hinge Pin to prevent it from falling into the printer and causing damage, or to prevent it from falling out and getting lost.*

5. Use a small screwdriver blade to release the latch securing the Rear Shaft Hinge Pin, and slide it out of the Cover Assembly.
6. Pull the Left Upper Cover Assembly away from the printer frame.
7. Remove the two black self-tapping screws securing the two Cover Supports to the frame, and remove the Cover. See illustration.

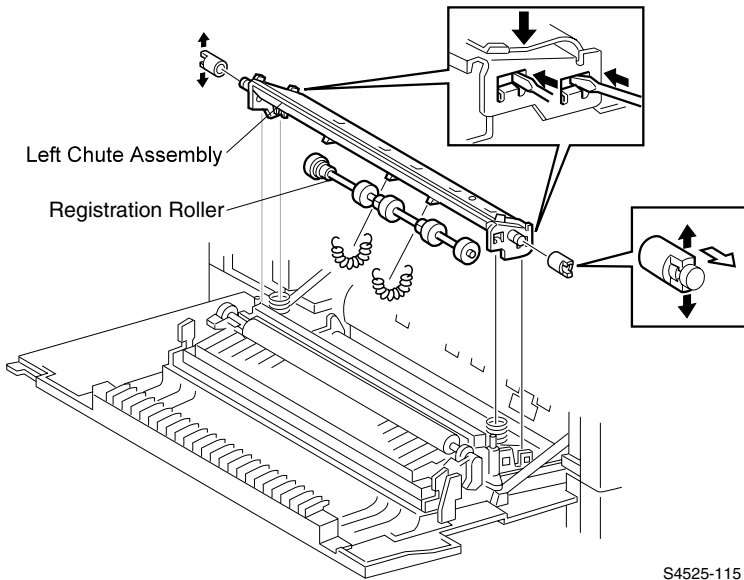
Replacement

1. Open the Duplex Module.

Caution *When the Left Upper Cover is open, the Bias Transfer Roller is exposed. Do not touch the Bias Transfer Roller. Grease and dirt on the Bias Transfer Roller, or physical damage to the Bias Transfer Roller will effect print quality.*

2. Reinstall the Left Upper Cover Assembly so the hinge openings in the Cover arms line up with the hinge holes in the printer frame.
3. Slide the Rear Shaft Hinge into the hinge opening in the Rear Cover arm, until the latch locks the Hinge onto the shaft.
4. Slide the Front Shaft Hinge into the hinge opening in the Front Cover arm, until the latch locks the Hinge onto the shaft.
5. Use the two black self-tapping screws to secure the two Cover Supports to the frame.
6. Reinstall the Rear Cover (RRP 1-5).
7. Open and close the Cover to make sure it opens and latches correctly.

RRP 1-43 Left Chute Assembly (PL 6.2)



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Fig 1-69 Left Chute Assembly

Removal

1. Open the Left Upper Cover.
2. Remove the Bias Transfer Roller Assembly.
3. Push down on the rear of the Chute Assembly and use the blade of a small screwdriver to free the rear latches from the Cover.
4. Push down on the front of the Chute Assembly and use the blade of a small screwdriver to free the front latches from the Cover.
5. Remove the Left Chute Assembly.
6. Release the two springs and remove the Registration Roller Assembly from the Chute Assembly.

RRP 1-44 Registration Chute (PL 6.1)

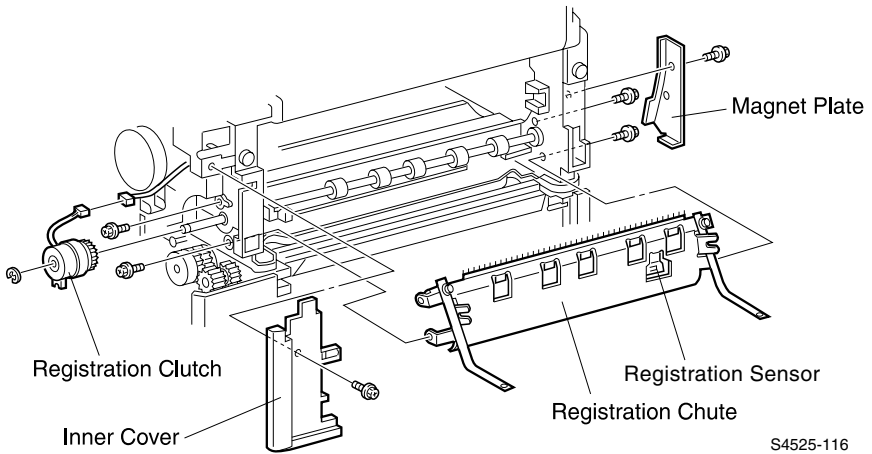
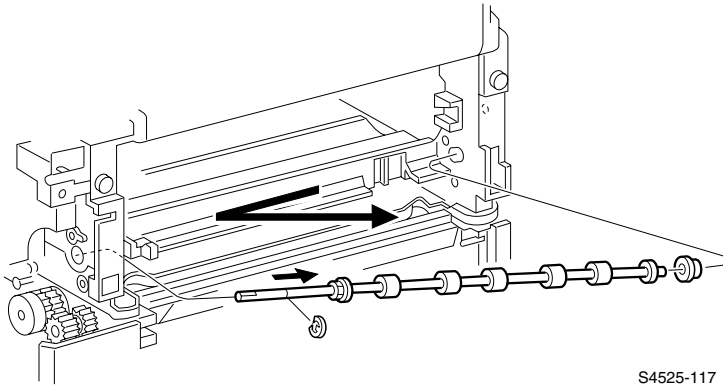


Fig 1-70 Registration Chute

Removal

1. Remove the Left Upper Cover Assembly (RRP 1-42).
2. Remove the Registration Clutch (RRP 1-41).
3. Open the Front Cover.
4. Remove the black machine screw securing the Inner Cover to the printer frame, and remove the Inner Cover.
5. Remove the Laser Print (EP) Cartridge.
6. Remove the black machine screw securing the Magnet Plate to the printer frame, and remove the Plate.
7. Remove the two screws (under the Magnet Plate) securing the front of the Registration Chute to the printer frame.
8. Remove the two screws (under the Registration Clutch) securing the rear of the Registration Chute to the printer frame, and remove the Chute.
9. Disconnect P/J200 from the rear of the Registration Sensor.

RRP 1-45 Registration Roller Assembly (PL 6.2)



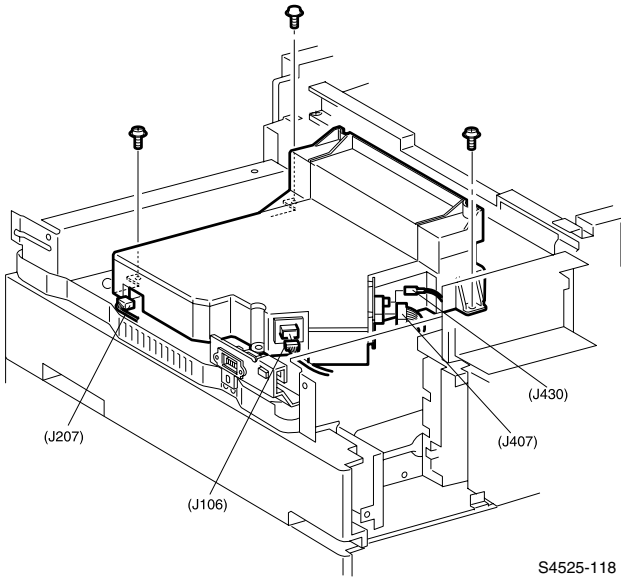
S4525-117

Fig 1-71 Registration Roller Assembly

Removal

1. Remove the Registration Chute (RRP 1-44).
2. Remove the E-ring from the rear of the Registration Roller Shaft.
3. Slide the Shaft to the rear to free the front of the Shaft from the front bearing.
4. Remove the Registration Roller Assembly.

RRP 1-47 Laser Scanner Assembly (PL 7.1)



S4525-118

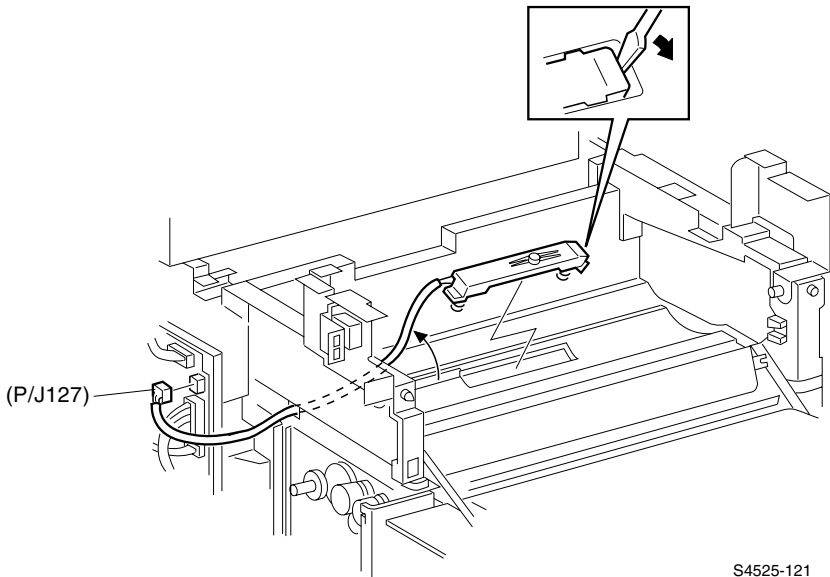
Fig 1-72 Laser Scanner Assembly

Removal

1. Remove the Low Voltage Power Supply (RRP 1-67).
2. Disconnect the J106, J207, J407, and J430 from the Laser Scanner.
3. Remove the three screws that secure the Laser Scanner to the printer frame.
4. Lift the Laser Scanner Assembly off of the printer frame.
5. Place the Laser Scanner Assembly on a flat and stable surface.

Warning *Do not remove Laser Scanner covers or disassemble the Laser Scanner Assembly. There are no replaceable parts or field adjustable points located inside the Laser Scanner Assembly.*

RRP 1-50 Toner Sensor (PL 7.2)



S4525-121

Fig 1-73 Toner Sensor

Removal

1. Remove the Rear Cover (RRP 1-5).
2. Disconnect P/J127 from the Input/Output Board.
3. Open the Left Upper Cover.
4. Remove the Laser Print (EP) Cartridge.
5. Remove the Flywheel Assembly (RRP 1-65)
6. Remove the Left Cover Interlock Switch (RRP 1-71)
7. Remove the Main Drive Assembly (RRP 1-66)
8. Use the flat blade of a screwdriver to pry up the front end of the Toner Sensor (refer to the figure).
9. When the front end is freed, remove the Sensor along with the attached wire harness.

RRP 1-51 Laser Print Cartridge Interlock Switch (PL 7.2)

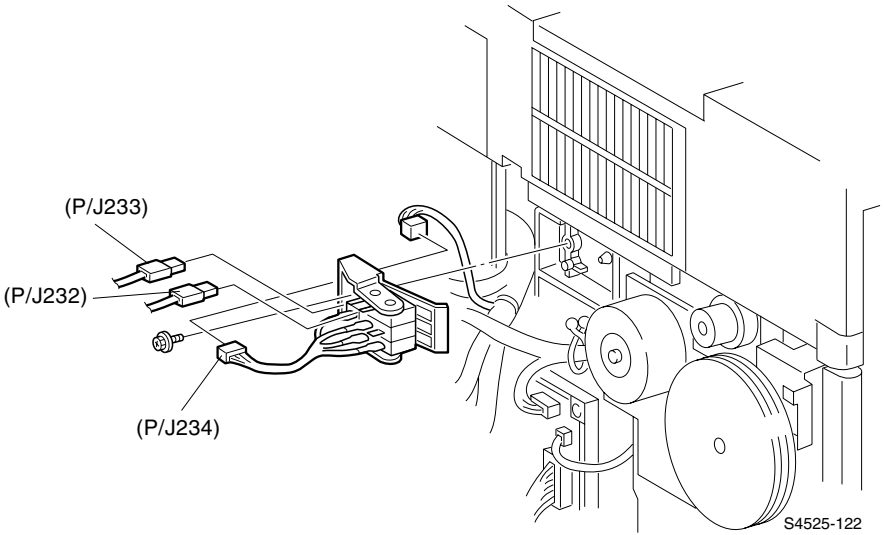
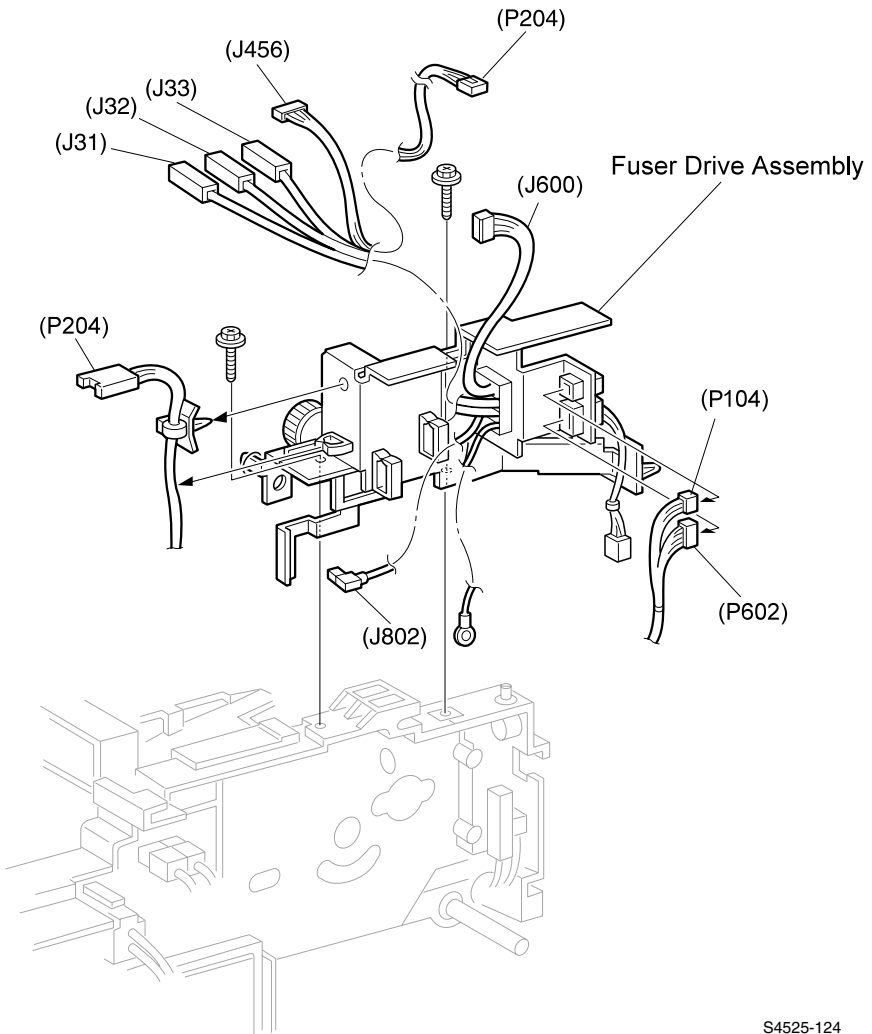


Fig 1-74 Laser Print Cartridge Interlock Switch

Removal

1. Remove the Laser Print (EP) Cartridge.
2. Remove the Rear Cover (RRP 1-5).
3. Disconnect J232 and J233 from the Laser Print Cartridge Interlock Switch.
4. Disconnect P/J234 from the Interlock Switch wire harness.
5. Remove the screw securing the Laser Print Cartridge Interlock Switch to the printer frame, and remove the Switch.

RRP 1-53 Fuser Drive Assembly (PL 10.2)



S4525-124

Fig 1-75 Fuser Drive Assembly

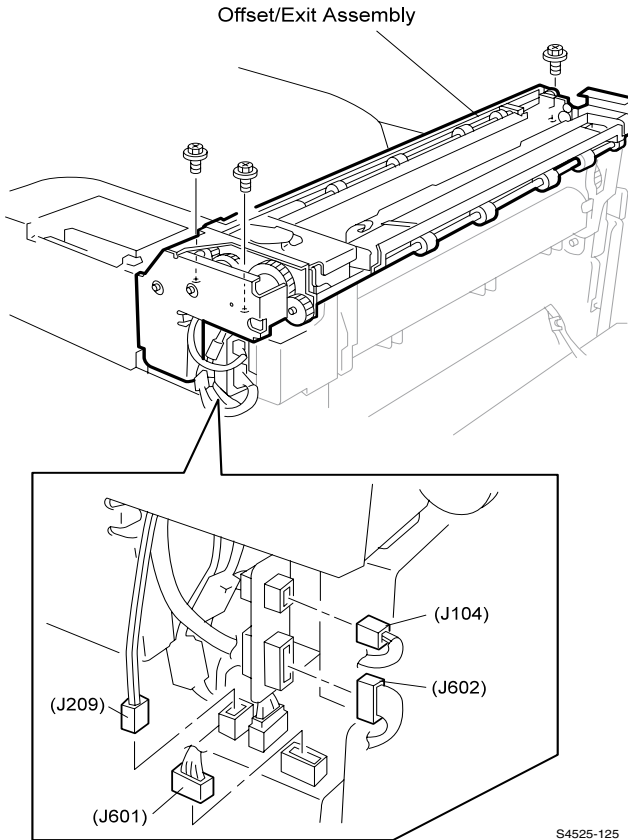
Removal

1. Remove the Fuser Assembly.
2. Remove the Laser Print (EP) Cartridge.
3. Remove the Offset Exit Unit Assembly (RRP 1-54).
4. Disconnect J31, J32, and J33 from the AC Driver Board and free the wire harness from the harness clips.
5. Disconnect J802 from High Voltage Power Supply-R2 and free the wire harness from the harness clips.
6. Remove P204 wire harness from the Fuser Drive Assembly.
7. Disconnect J104, J456 (on the Input/Output Board), J600, and J602.
8. Remove the two screws (one black self-tapping and one black machine screw) securing the Fuser Drive Assembly to the printer frame, and lift the Assembly off of the frame.
9. Remove the Input/Output Board and chassis sufficiently to swing out of the way and access the High Voltage Power Supply (RRP 1-70).
10. Remove the High Voltage Power Supply sufficiently to access the machine screw attaching the green wire (ground) termination.
11. Remove the machine screw securing the green ground wire to the printer frame.
12. Pull up and remove the Fuser Drive Assembly.

Replacement

1. Reinstall the Fuser Drive Assembly onto the printer frame. (Refer to the figure for correct positioning)
2. Align the Assembly so the screw holes and locating holes in the Assembly line up with the screw holes and locating tabs on the frame.
3. Use two screws to secure the Assembly to the frame.
4. Reinstall the green ground wire to the printer frame using the machine screw (removed in Step 11 above) to secure the wire.
5. Reinstall the High Voltage Power Supply.
6. Reinstall the Input/Output Board and chassis.
7. Reconnect J104, J456, J600, and J602.
8. Reinstall P204 wire harness to the Fuser Drive Assembly.
9. Reconnect J802 to High Voltage Power Supply-R2 and secure the wire harness under the harness clips.
10. Reconnect J31, J32, and J33 to the AC Driver Board and secure the wire harness under the harness clips.
11. Reinstall the Offset Unit Assembly (RRP 1-51).
12. Reinstall the Laser Print (EP) Cartridge (RRP 1-45).
13. Reinstall the Fuser Assembly (RRP1- 49).

RRP 1-54 Offset/Exit Assembly (PL 9.1~PL 9.4)



S4525-125

Fig 1-76 Offset/Exit Assembly

Removal

1. Remove the Fuser Cover (RRP 1-1).
2. Remove the Rear Cover Assembly (RRP 1-5).
3. Open the Duplex Module.
4. Open the Upper Left Cover.
5. Remove J104, J209, J601, and J602 from the Offset Unit Assembly.
6. Remove the three black machine screws (one screw at the front of the Assembly, next to the solenoid, and two screws at the rear of the Assembly) securing the Offset Unit to the printer frame.
7. Lift the Offset Unit up and off of the printer frame.

RRP 1-55 Exit Drive Assembly (PL 9.4)

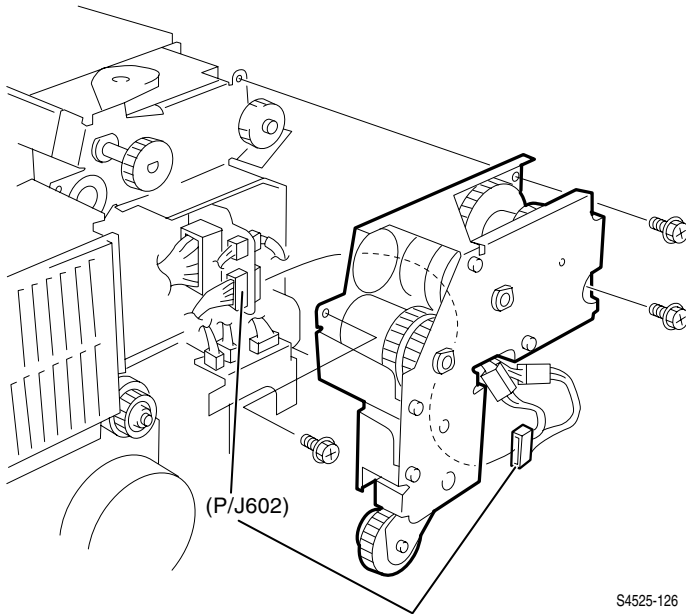


Fig 1-77 Exit Drive Assembly

Removal

1. Disconnect P/J602.
2. Remove the three black machine screws securing the Exit Drive Assembly to the Offset Assembly.
3. Carefully pull the Exit Drive Assembly straight out and away from the Offset Unit.

Replacement

1. Align the Exit Drive Assembly with the Offset Assembly so the white drive gear and shaft fit through the corresponding opening in the Exit Drive Assembly.
2. Press the Exit Drive Assembly onto the Offset Assembly, slightly repositioning the Exit Drive Assembly so the positioning pin on the upper right side of the Offset Assembly fits through the corresponding hole in the Exit Drive Assembly.

Caution *Make certain not to trap any wire harnesses between the Exit Drive Assembly and the Offset Assembly.*

3. Use the three black machine screws (removed in Step 2 above) to secure the Exit Drive Assembly to the Offset Assembly.

RRP 1-56 Exit Gate Solenoid (PL 9.1)

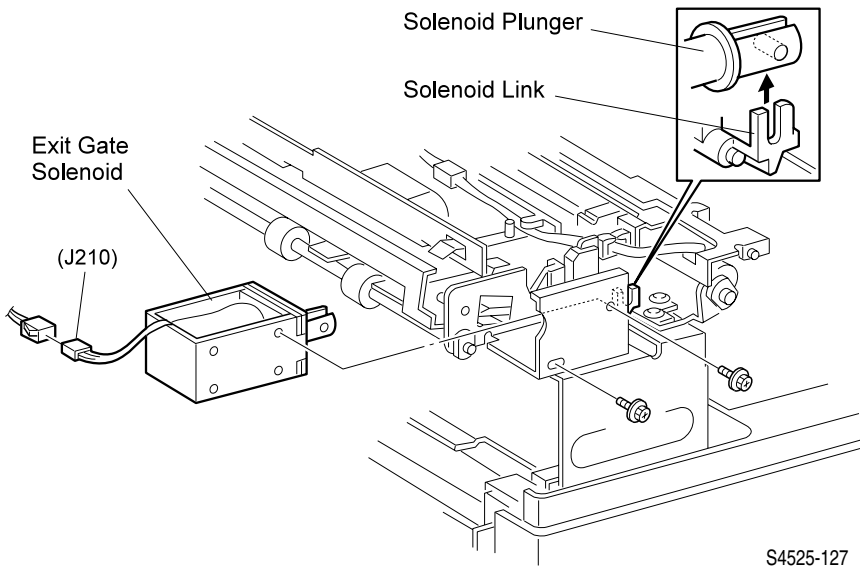


Fig 1-78 Exit Gate Solenoid

Removal

1. Remove the Fuser Cover (RRP 1-1).
2. Disconnect the Exit Gate Solenoid J210 from the wire harness.
3. Remove the wire harness from the harness clips.
4. Remove the two black machine screws securing the Exit Gate Solenoid to the Offset Assembly, and remove the Solenoid.

Replacement

1. Position the Exit Gate Solenoid so the wire harness faces up.
2. Reinstall the Solenoid onto the Offset Assembly, making sure the crossbar of the solenoid plunger latches onto the Solenoid Link.
3. Use the two screws (removed in Step 4 above) to secure the Solenoid to the Assembly.
4. Reconnect J210.
5. Secure the wire harness to the harness clips.
6. Reinstall the Fuser Cover (RRP 1-1).

RRP 1-57 Offset Motor (PL 9.1)

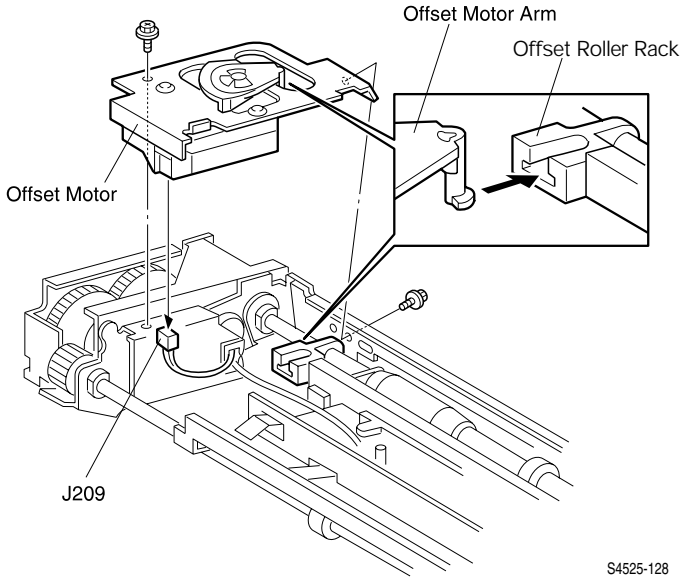


Fig 1-79 Offset Motor

Removal

1. Remove the Fuser Cover (RRP 1-1).
2. Remove the two black machine screws securing the Motor to the Offset Assembly.

Caution *Do not remove the brass colored screws when removing the Offset Motor.*

3. Lift the Motor off of the Assembly and free the Motor arm from the Offset Roller Rack.
4. Disconnect J209 from the Offset Motor.

RRP 1-58 Full Stack Sensor (PL 9.1)

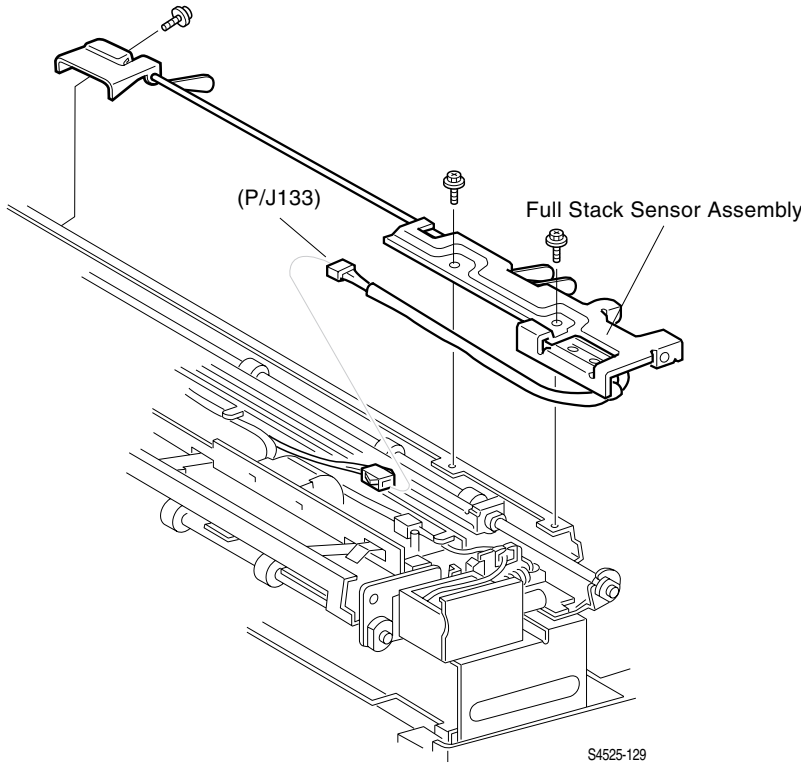


Fig 1-80 Full Stack Sensor

Removal

1. Remove the Fuser Cover (RRP 1-1).
2. Disconnect P/J133.
3. Remove the two screws securing the Full Stack Sensor Switch Assembly Bracket and remove the Assembly.

RRP 1-59 Offset Roller Assembly (PL 9.2)

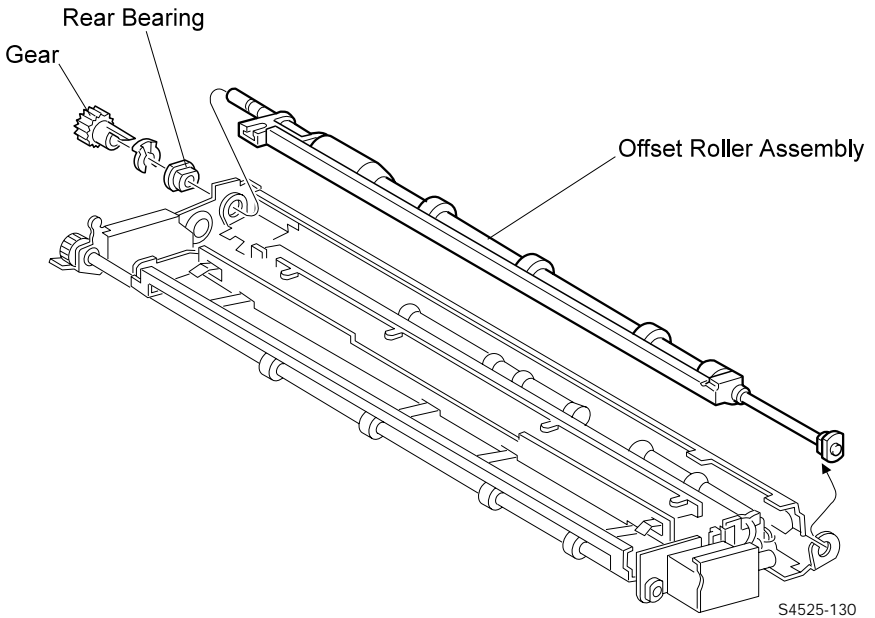


Fig 1-81 Offset Roller Assembly

Removal

1. Remove the Exit Drive Assembly (RRP 1-55)
2. Remove the Offset Motor (RRP 1-57).
3. Remove the Face Up Exit Sensor (RRP 1-58).
4. Remove the gear located at the end of the Roller Assembly.
5. Remove the KL-clip securing the Roller shaft to the rear bearing.
6. Slide the bearing out of the Offset Assembly frame.
7. Slide the front bearing out the Assembly frame, and remove the Offset Roller Assembly.

RRP 1-60 Lower Chute Assembly (PL 9.1)

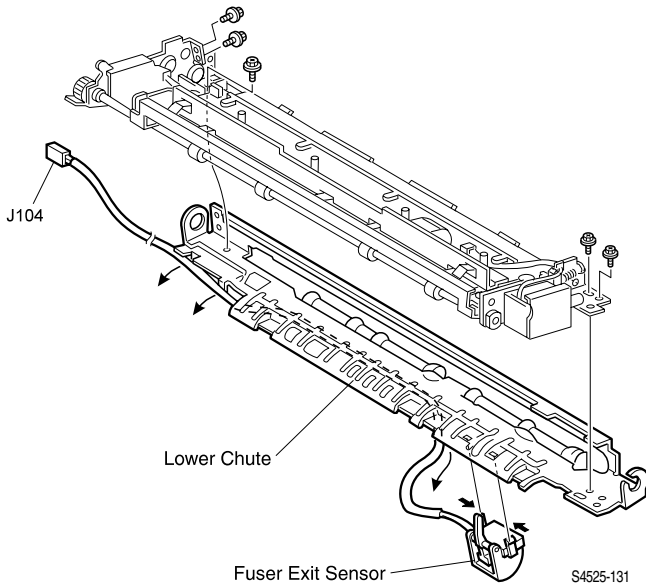


Fig 1-82 Lower Chute Assembly

Removal

1. Remove the Offset Roller Assembly (RRP 1-59).
2. Remove the five black machine screws securing the Lower Chute to the Exit Assembly frame, and separate the Lower Chute from the frame.
3. Release P/J104 wire harness from the harness clips.
4. Squeeze the latches to unlock the Fuser Exit Sensor, and remove the Sensor from the Lower Chute.

RRP 1-61 Upper Chute Assembly (PL 9.3)

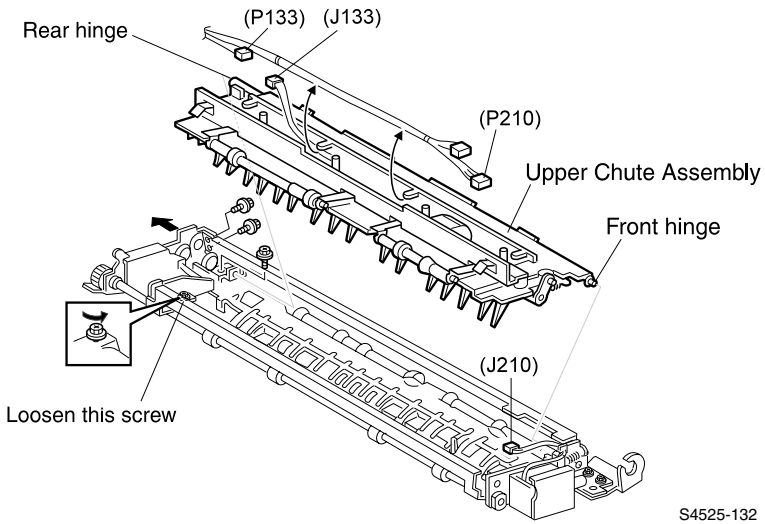


Fig 1-83 Upper Chute Assembly

Removal

1. Remove the Offset Roller Assembly (RRP 1-59).
2. Disconnect P/J133 and free the wire harness from the harness clips.
3. Disconnect P/J210 and free the wire harness from the harness clips.
4. Open the Upper Chute Assembly and loosen, do not remove, the rear black machine screw securing the Face Up Lower Chute to the frame.
5. Remove the three rear black machine screws that secure the Lower Chute to the frame.
6. Carefully pull the frame far enough to the rear to free the rear hinge of the Upper Chute.
7. Pull the Upper Chute to the rear and free the front hinge and remove the Upper Chute Assembly.

RRP 1-62 Exit Roller Assembly (PL 9.2)

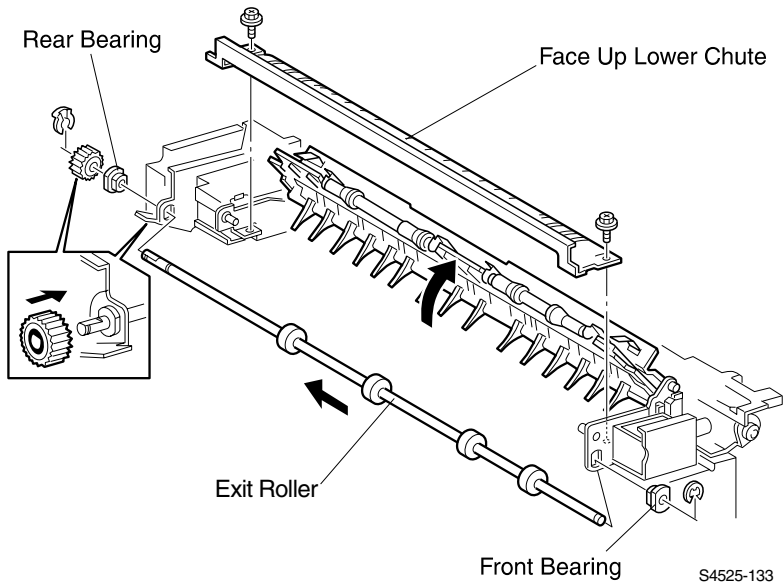
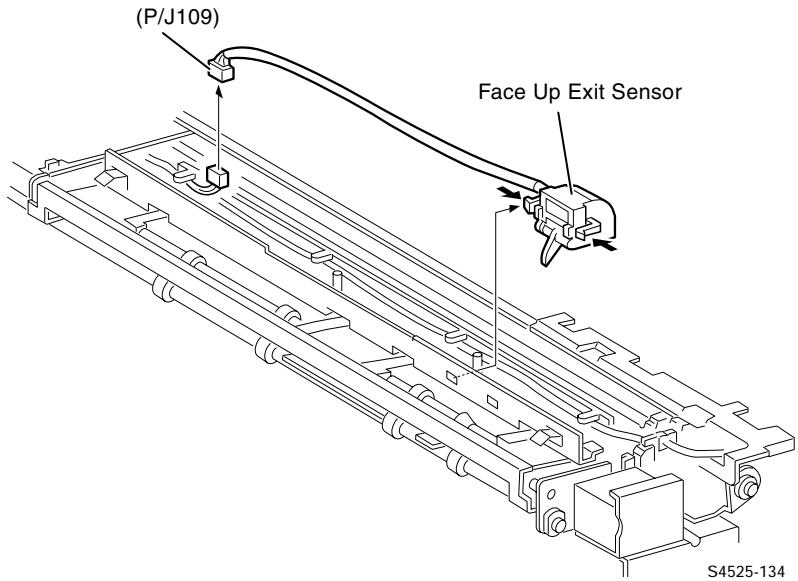


Fig 1-84 Exit Roller Assembly

Removal

1. Remove the Exit Drive Assembly (RRP 1-55).
2. Remove the two black machine screws securing the Face Up Lower Chute to the Assembly frame, and remove the Chute.
3. Remove the KL-clip securing the Gear located at the rear of the Exit Roller shaft, and remove the Gear and rear bearing.
4. Remove the E-ring securing the front of the Exit Roller shaft to the Assembly frame, and remove the front bearing.
5. Slide the shaft to the rear, and remove the shaft from the Assembly.

RRP 1-63 Face Up Exit Sensor (PL 9.3)



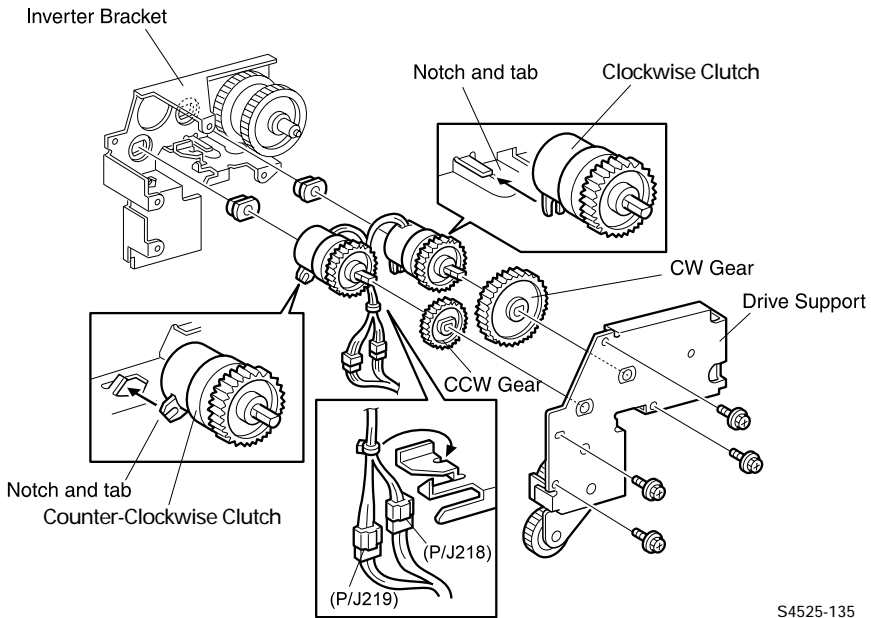
S4525-134

Fig 1-85 Face Up Exit Sensor

Removal

1. Remove the Fuser Cover (RRP 1-1).
2. Disconnect P/J109 and remove the wire harness from the harness clips.
3. Squeeze the latches to unlock the Face Up Exit Sensor, and remove the Sensor from the Offset Assembly.

RRP 1-64 Inverter Clutches (PL 9.4)



S4525-135

Fig 1-86 Inverter Clutches

Removal

1. Remove the Exit Drive Assembly (RRP 1-55).
2. Remove the four black machine screws securing the Drive Support to the Inverter Bracket, and lift the Support off of the Bracket.
3. Disconnect P/J218 and P/J219, and free the wire harness from the harness clips.
4. Slide the Counter-Clockwise Gear off of the Counter-Clockwise Clutch.
5. Slide the Clockwise Gear off of the Clockwise Clutch.
6. Lift the Counter-Clockwise Clutch off of the bearing, and remove the Clutch.
7. Lift the Clockwise Clutch off of the bearing, and remove the Clutch.

RRP 1-65 Flywheel Assembly (PL 10.1)

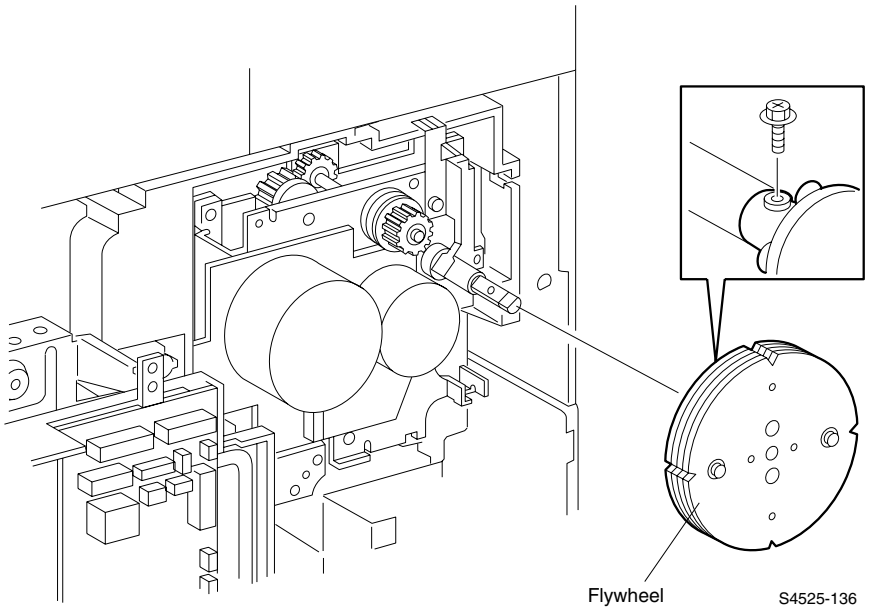


Fig 1-87 Flywheel Assembly

Removal

1. Remove the Rear Cover (RRP 1-5).
2. Remove the black machine screw securing the Flywheel to the Drive Assembly shaft and pull the Flywheel off of the shaft.

RRP 1-66 Main Drive Assembly (PL 10.1)

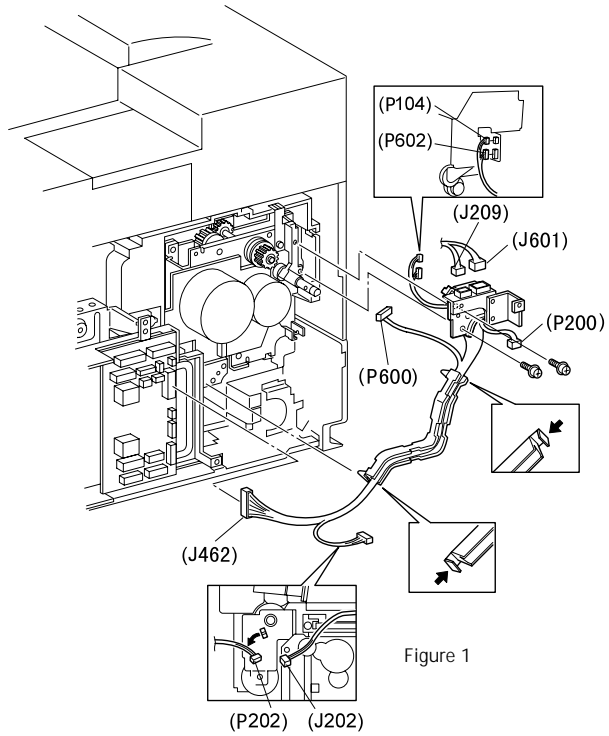


Figure 1

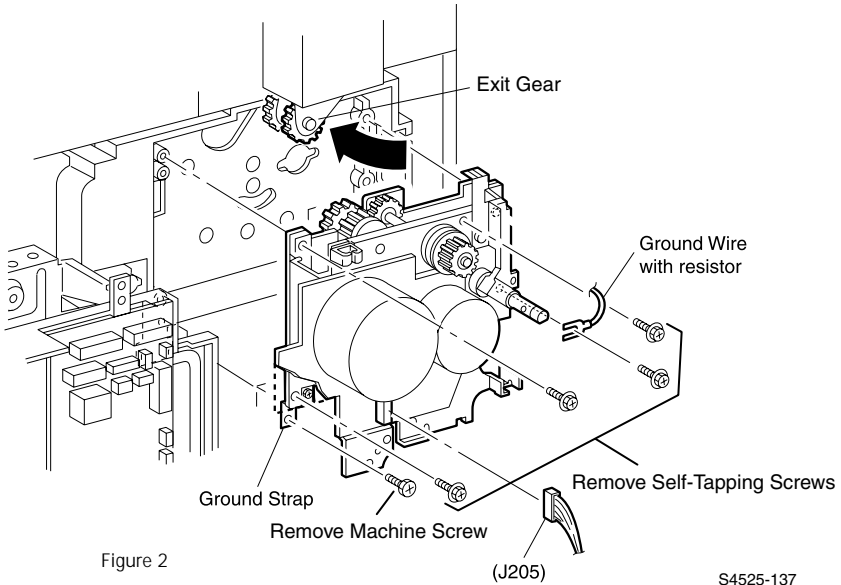


Figure 2

S4525-137

Fig 1-88 Main Drive Assembly

Removal

1. Remove the Laser Print (EP) Cartridge.

Caution *Do not attempt to remove the Main Drive Assembly without first removing the Laser Print (EP) Cartridge.*

2. Remove the Rear Cover (RRP 1-5).
3. Open the Left Upper Cover.
4. Remove the Flywheel Assembly (RRP 1-65).
5. Remove the Left Cover Interlock Switch Assembly (RRP 1-71).
6. Remove the screw securing the Inner Cover (next to the flywheel) to the printer frame, and remove the Inner Cover.
7. Disconnect J205 from the Main Motor Board.
8. Release the wire harness that is located just above the Main Motor Board from the wire clip and move the harness out of the way.
9. Remove the E-ring securing the Tray 1 Feed Clutch and slide the Feed Clutch out just enough to rotate the keyslot away from the Main Drive Frame.
10. Disconnect P/J462 from the Input/Output Board.
11. Disconnect P/J202, J209, J600, and J601 from the Harness Support Bracket.
12. Remove the two black machine screws securing the Harness Support to the Main Drive Assembly, and move the Harness Support and attached harness out of the way.
13. Remove the four black self-tapping screws securing the Main Drive Assembly to the printer frame (see figure 2).

Note *The bottom right screw also secures a ground wire (with attached resistor) to the printer frame.*

14. Remove the bottom machine screw securing a ground strap to the printer frame at the bottom left of the Main Drive Assembly.
15. Lift the Exit Gear out of the way, and pull the Main Drive Assembly straight back and out of the printer frame.

Note *If you are having difficulty removing the Main Drive Assembly, check to make sure there are no wire harnesses in the way, the Registration Clutch location notch is not in the way, and that the drive pin on the Drive Assembly is in the center of the cutout in the printer frame.*

RRP 1-67 Low Voltage Power Supply Assembly (PL 11.1)

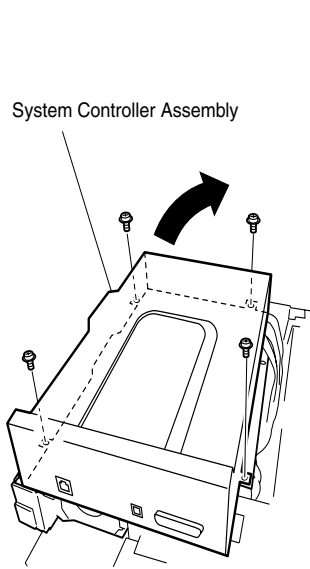


Figure 1

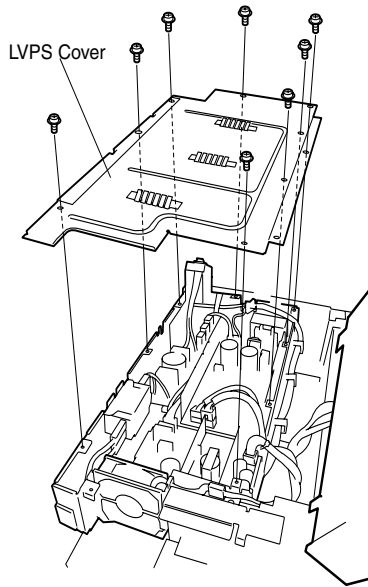


Figure 2

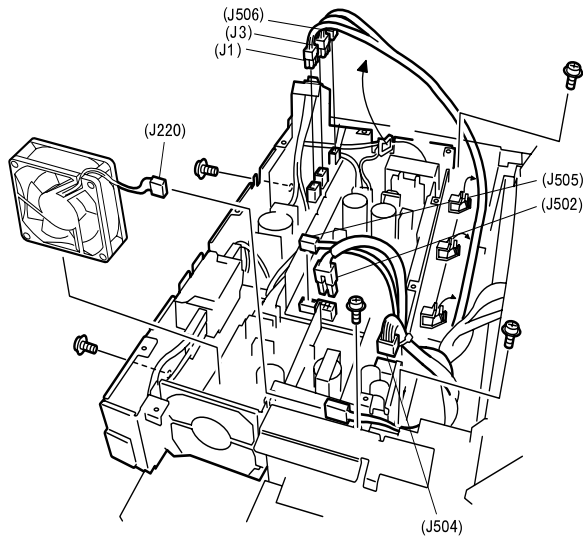


Figure 3

S4525-138

Fig 1-89 Low Voltage Power Supply Assembly

Removal

1. Remove the Fuser cover (RRP 1-1).
2. Remove the Top Cover Assembly (RRP 1-2).
3. Remove the Front Inner Cover (RRP 1-4)
4. Remove the Right Cover (RRP 1-6).
5. Remove the four machine screws securing the System Controller Assembly to the Low Voltage Power Supply, and tilt the System Controller Assembly back and out of the way (Figure 1).
6. Remove the machine screws securing the Low Voltage Power Supply Cover to the Low Voltage Power Supply and remove the Cover (Figure 2).
7. Disconnect J1, J3, J220, J502, J504, J505, and J506 from the Low Voltage Power Supply (Figure 3).
8. Remove the wire harnesses from the harness clips at the rear of the Low Voltage Power Supply.
9. Remove the five machine screws securing the Low Voltage Power Supply to the printer frame (Figure 3).
10. Remove the Low Voltage Power Supply Assembly.

RRP 1-68 AC Driver Board (PL 11.2)

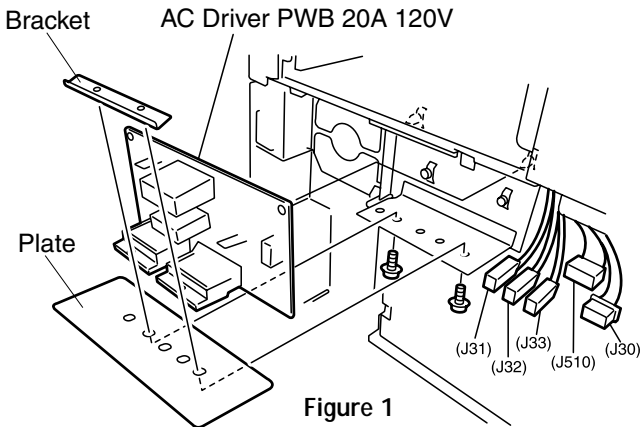


Figure 1

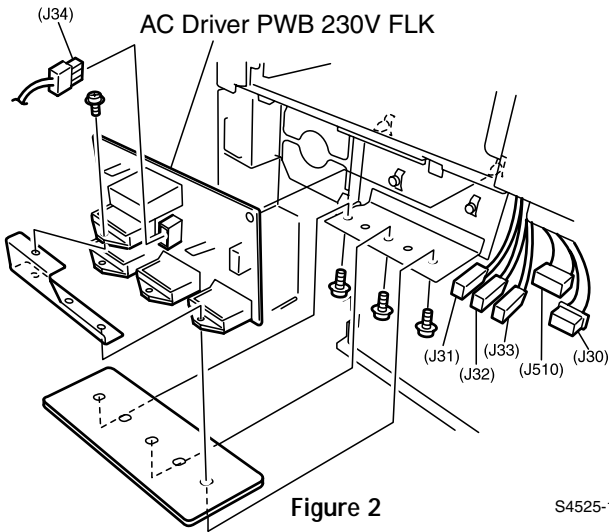


Figure 2

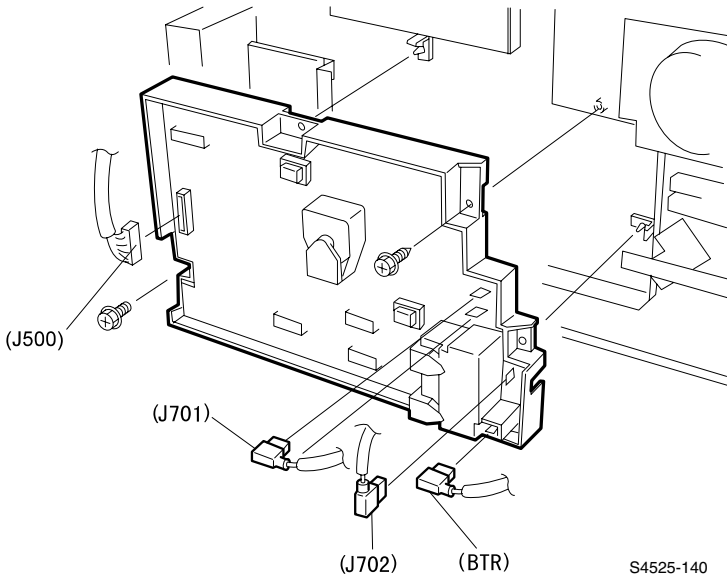
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Fig 1-90 AC Driver Board

Removal

1. Remove the Input/Output Board (RRP 1-70).
2. Remove the five P/Js (J30, J31, J32, J33 and, J510) from the AC Driver Board.
3. Remove the two machine screws securing the Plate, Bracket, and AC Drive Board to the frame and remove the Bracket and the Plate.
4. Press in on the two latches securing the top of the AC Driver Board to the printer frame and remove the board.

RRP 1-69 High Voltage Power Supply (PL 11.2)



S4525-140

Fig 1-91 High Voltage Power Supply

Removal

1. Remove the Input/Output Board (RRP 1-70).
2. Disconnect J500, P701, P702 and BTR (Bias Transfer Roller) from the High Voltage Power Supply Board.

Caution *The board is easily broken. Use care when removing the P/Js from the High Voltage Power Supply Board. Use your fingers to hold down the board while you carefully disconnect each P/J.*

3. Remove the two machine screws, one on the left side and one on the right side, that secure the High Voltage Power Supply Assembly to the printer frame.
4. Pull out on the High Voltage Power Supply Assembly while you release the two clips, one at the top and one on the right side, that secure the High Voltage Power Supply to the printer frame.
5. Remove the High Voltage Power Supply Assembly from the frame.

RRP 1-70 Input/Output Board (PL 11.2)

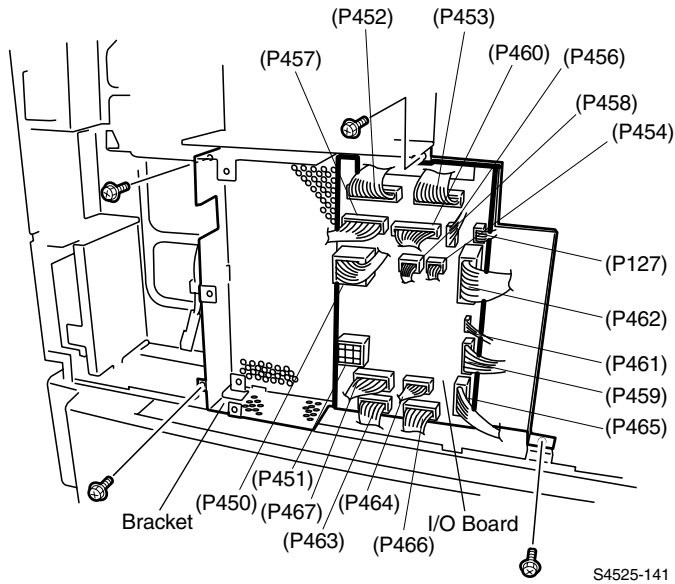


Fig 1-92 Input/Output Board

Removal

1. Remove the Rear Cover (RRP 1-5).
2. Disconnect the eighteen P/Js (see Illustration) from the Input/Output Board.
3. Remove the four machine screws securing the Input/Output Board Bracket to the printer frame and remove the Bracket.
4. Remove the six machine screws securing the Input/Output Board to the Bracket and remove the board.

RRP 1-71 Left Cover Interlock Switch Assembly (PL 11.2)

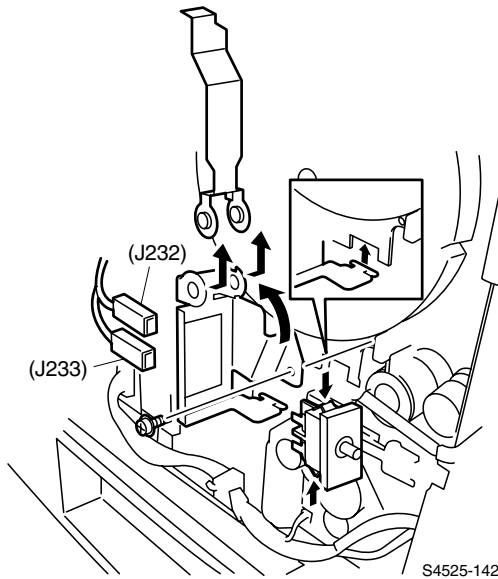


Fig 1-93 Left Cover Interlock Switch Assembly

Removal

1. Remove the Rear Cover Assembly (RRP 1-5).
2. Disconnect J232 and J233 from the Interlock Switch.
3. Remove the screw that secures the Interlock Switch Bracket to the printer frame, and pull the Assembly out of the printer.
4. Rotate the Switch Lever so it is straight up, and slide it off of the Bracket.
5. Press the two clips securing the Switch to the Bracket and push the Switch out of the Bracket.

RRP 1-72 Print Engine Controller Board (PL 11.3)

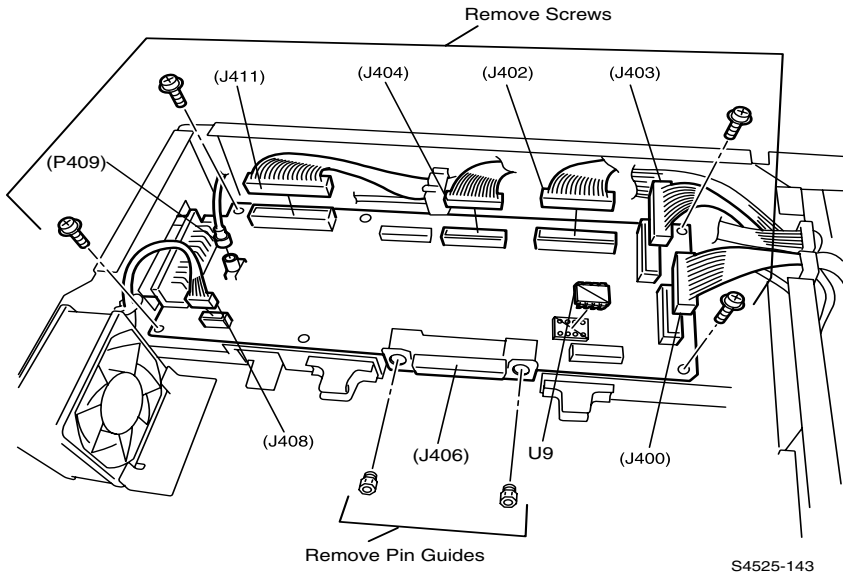


Fig 1-94 Print Engine Controller Board

Removal

Caution *Wear an electrostatic wrist strap and use caution when working with the Print Engine Controller Board. Static electricity can damage the sensitive electronics of the Print Engine Controller Board.*

1. Remove Fuser Cover (RRP 1-1).
2. Remove Top Cover (RRP 1-2).
3. Remove the System Controller Board (RRP 1-73).
4. Remove the System Controller Assembly Cover by removing the 14 machine screws securing the cover to the assembly, then lifting the cover off of the assembly.
5. Disconnect the six P/J's (J400, J402, J403, J404, J408 and J411) and the video plug (P409) that are connected to the Print Engine Controller Board.
6. Remove the six screws securing the Print Engine Controller Board to the System Controller Assembly.
7. Remove the two 7mm nuts from J406.
8. Lift the Print Engine Controller Board out of the System Controller Assembly.
9. Remove the U9 EEPROM from the Print Engine Controller Board and retain.

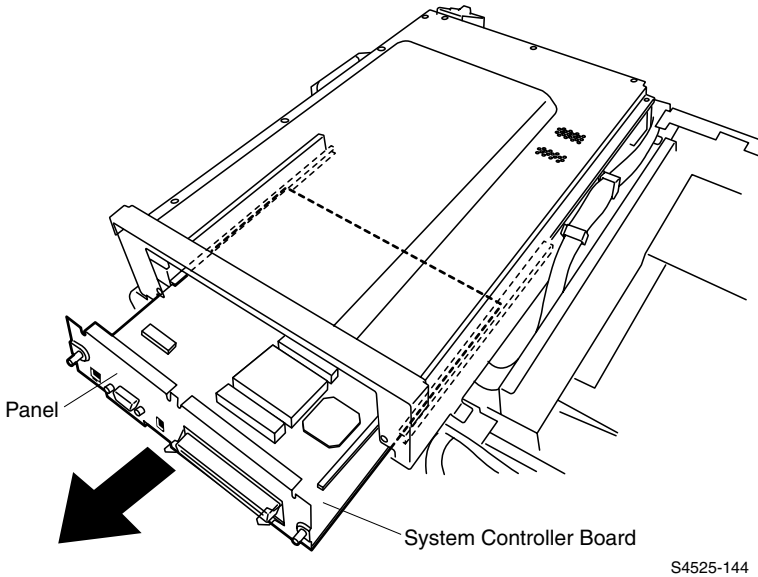
Replacement

1. Install the U9 EEPROM from the "old" Print Engine Controller Board onto the "new" board.

2. Reinstall the Print Engine Controller Board onto the System Controller Assembly. Align the board such that J406 faces the System Controller Board location.
3. Reinstall the two 7mm nuts onto J406 and the six mounting screws (removed in step 6 above) loosely. When all screws have been started, tighten them.
4. Reconnect J400, J402, J403, J404, J408, J411 and the video plug (P409) into their respective connectors on the Print Engine Controller Board.
5. Reinstall the System Controller Board, mating with J406 on the Print Engine Controller Board.
6. Reconnect J400, J402, J403, J404, J408, J409 and J411 to the Print Engine Controller Board.
7. Reinstall the System Controller Assembly Cover.
8. Reinstall the Top Cover (RRP 1-2).
9. Reinstall the Fuser Cover (RRP 1-1).

Note *After Replacement, verify Lead and Side Edge Registration for all Bins.*

RRP 1-73 System Controller (PL 11.3)



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Fig 1-95 System Controller

Removal

1. Turn OFF the printer.

Caution *Wear an electrostatic wrist strap and use caution when working with the System Controller Board. Static electricity can damage the sensitive electronics of the System Controller.*

2. Disconnect all input cables from the connectors on the System Controller Board Panel.
3. Loosen the two thumbscrews that secure the System Controller Assembly Panel to the System Controller Box.
4. Slide the System Controller Board out of the System Controller Box.
5. Place the System Controller Board and the attached Drawer Panel on a grounded anti-static work mat.

FRU Parts List

This topic provides a list of Field Replaceable Units for the DocuPrint® N4525 Network Laser Printer.

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, and
- Modification number, if any.

Using the Parts List

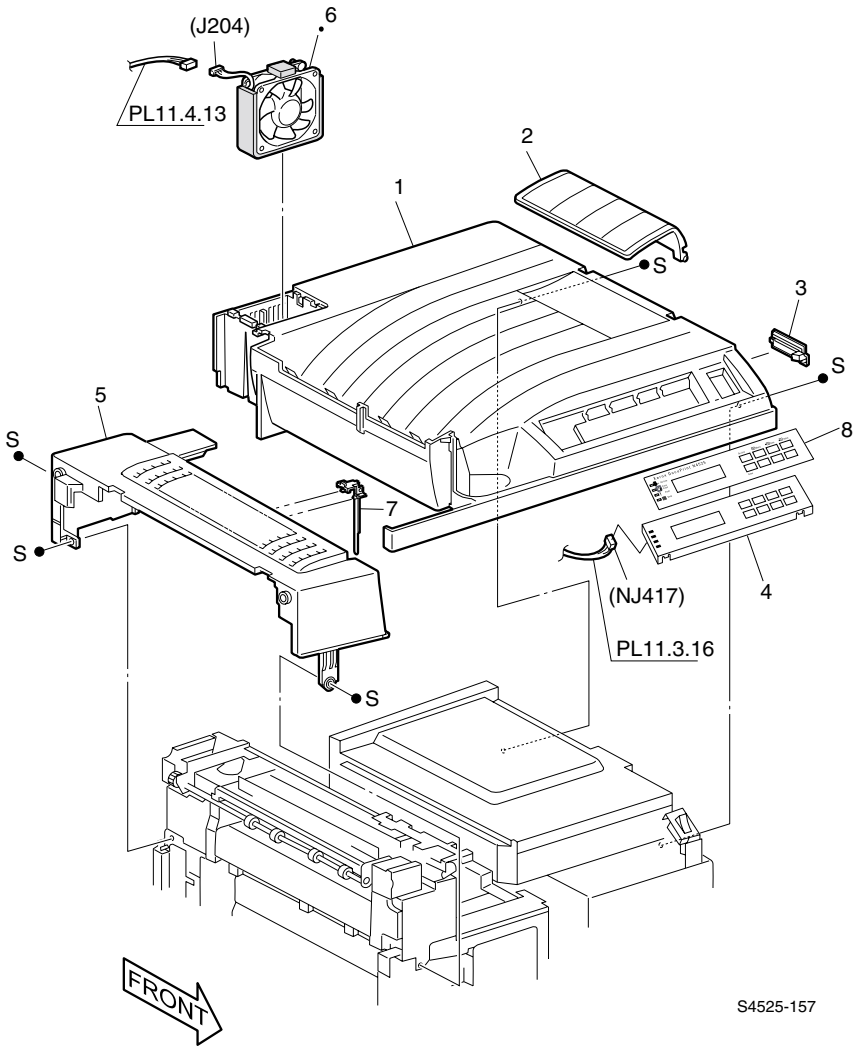
1. The callout numbers shown in each parts exploded illustration correspond to the parts list numbers for that illustration.
2. Throughout this manual, parts are identified by the prefix "PL", followed by a number, a decimal point, and another number. For example, PL9.3.3 means the part is item 3 of Parts List 9.3.
3. A black triangle preceding a number followed by a parenthetical statement in an illustration means the item is an assembly, made up of the individual parts called out in parentheses.
4. The notation "**with X~Y**" following a 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.
5. An asterisk (*) following a part name indicates the page contains a note about this part.
6. 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 J2 is attached to the other end that is plugged into P2.

Note *Only parts showing part numbers are available for support.
Parts not showing part numbers are available on the parent assembly.*

Fig 1-96 Legend:

Identifier	Meaning
C	C-ring
E	E-ring
KL	E-clip
S	Screw

PL 1.1 Top Cover Assembly



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Fig 1-97 Top Cover Assembly

Table 1-108 PL 1.1 Top Cover Assembly.

ID No.	Part Number	Qty	Name / Description
1	802E25441	1	Cover, Top
2	003E52030	1	Stopper
3	802E08700	1	Cover, Connector
4	802K18182	1	Assembly, Control Panel NOTE: When ordering this part, be certain to order the appropriate item #8, also.
5	802E08760	1	Cover, Fuser
6	127K19110 (Alt.) 127K21470	1	Assembly, Fuser Fan
7	004K01730	1	Damper Assembly, Paper
8	892E38280	1	Overlay, Control Panel, English
	892E38290	1	Overlay, Control Panel, Spanish, Portuguese, Chinese
	892E38310	1	Overlay, Control Panel, Symbols Only

PL 1.2 Front Cover

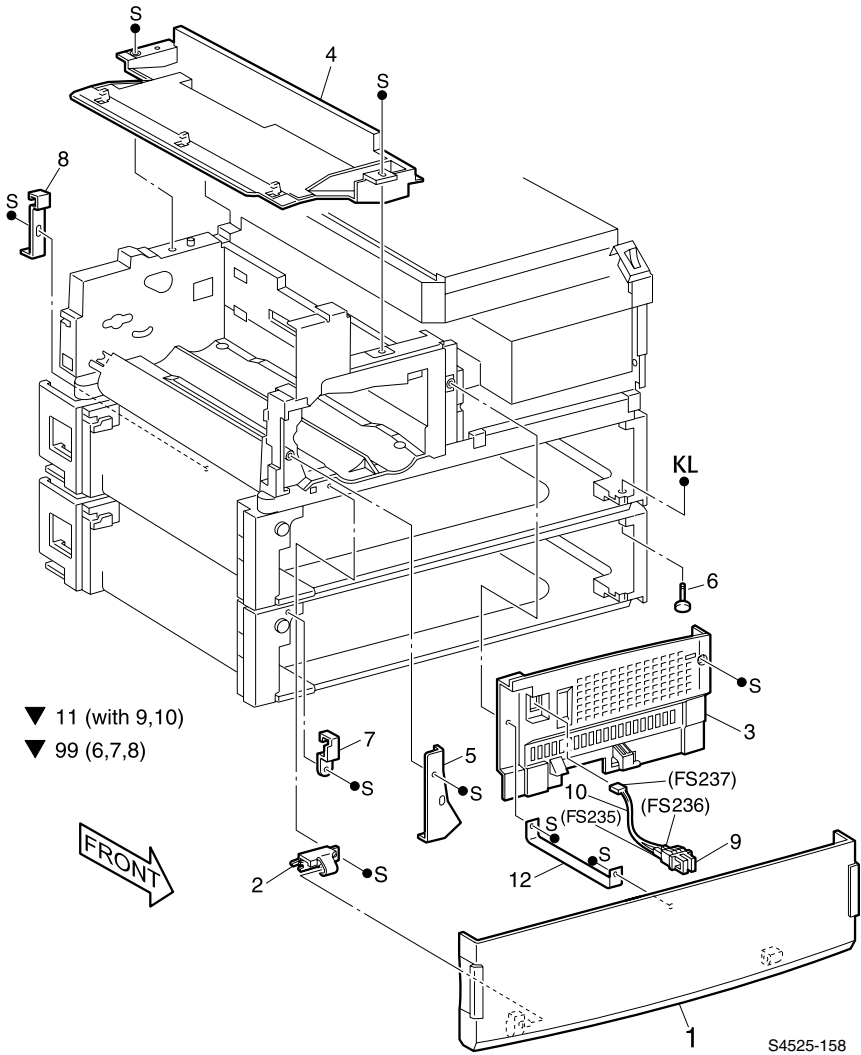


Fig 1-98 Font Cover

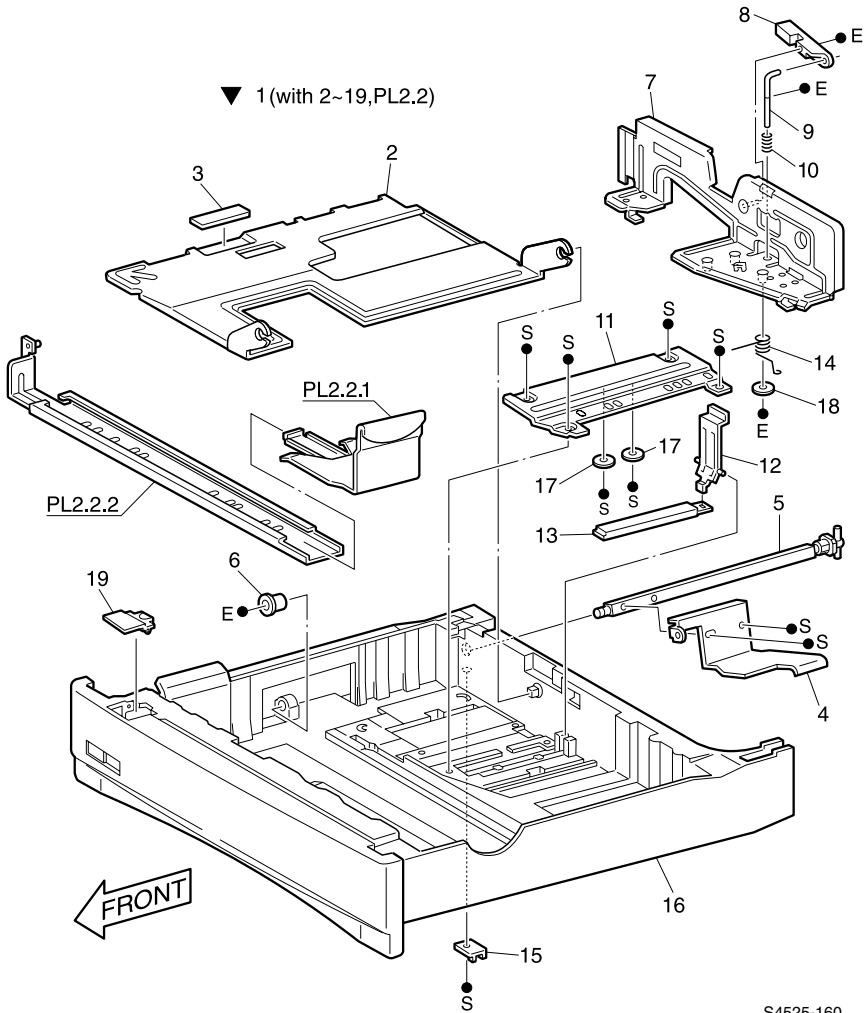
Table 1-109 PL 1.2 Front Cover

ID No.	Part Number	Qty	Name / Description
1	802K25941	1	Assembly, Front Cover
2	830E44250	1	Hinge
3	802E08421	1	Cover, Inner Front
4	054K15471	1	Assembly, Duct
5		1	Plate, Cover
6		1	Stud, Docking (part of 99)
7		1	Bracket, Left Docking (part of 99)
8		1	Bracket, Rear Docking (part of 99)
9		1	Switch, Front Cover Interlock (part of 11)
10		1	Harness Assembly, Front Interlock (part of 11) [FS237 <> FS235/FS236]
11	110K10630	1	Switch Assembly, Interlock (with 9-10)
12	830E44240	1	Support, Cover
99	600K85070	1	Kit, Tray 2 Mounting (with 6-8)

Table 1-110 PL 1.3 Rear, Left and Right Covers

ID No.	Part Number	Qty	Name / Description
1	802E08370	1	Cover, Inner Left Hand
2	802E08581	1	Cover, Right Hand
3	802K10221	1	Cover Assembly, Rear
4	048E37410	1	Cover, Rear Bottom

PL 2.1 Tray Unit - Paper Stack



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Fig 1-100 Tray Unit - Paper Stack

Table 1-111 PL 2.1 Tray Unit - Paper Stack

ID No.	Part Number	Qty	Name / Description
1	109R00504	1	Tray Assembly (with 2~19 & PL 2.2)
2		1	Plate, Bottom (part of 1)
3		1	Pad, Bottom (part of 1)
4		1	Plate, Tongue (part of 1)
5		1	Shaft Assembly, Tongue (part of 1)
6		1	Bearing (part of 1)
7		1	Guide Assembly, Side (part of 1)
8		1	Lever (part of 1)
9		1	Shaft (part of 1)
10		1	Spring, Compression (part of 1)
11		1	Plate, Side (part of 1)
12		1	Actuator (part of 1)
13		1	Link (part of 1)
14		1	Spring, Torsion (part of 1)
15		1	Stopper, Left Hand (part of 1)
16		1	Housing, Tray (part of 1)
17		2	Washer (part of 1)
18		1	Washer (part of 1)
19		1	Cap, Tray (part of 1)

PL 2.2 Tray Unit - End Guide

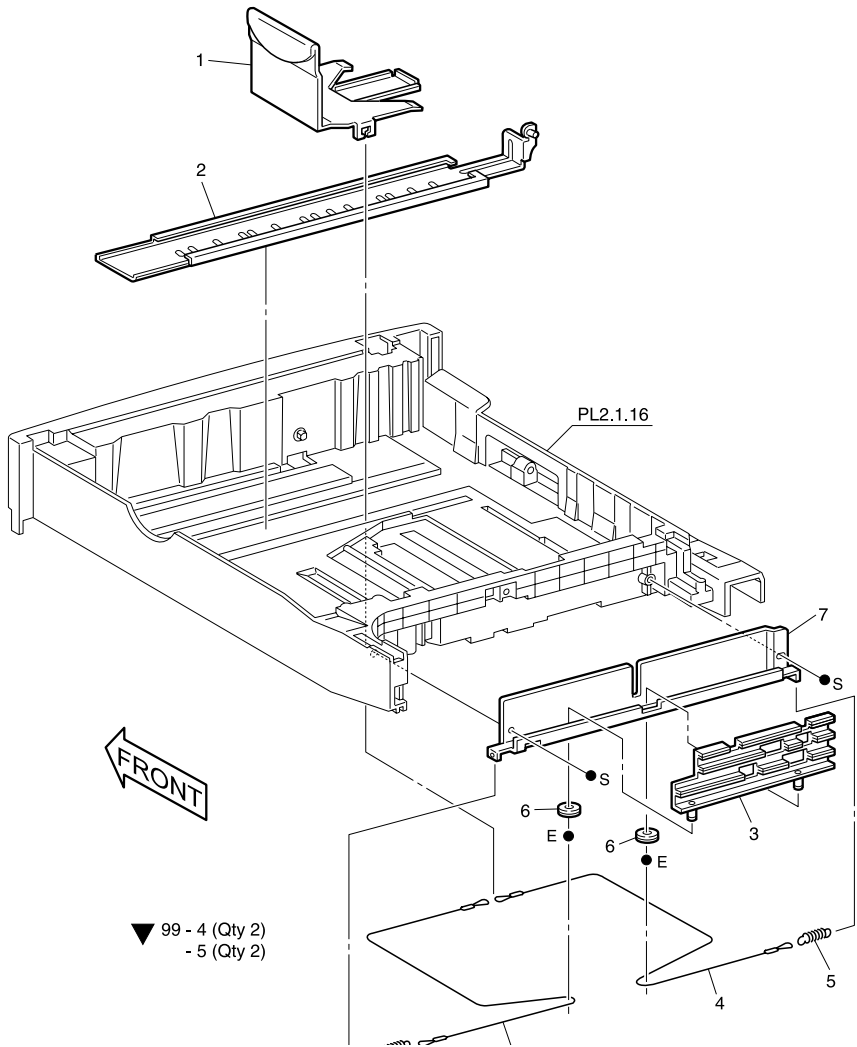


Fig 1-101 Tray Unit - End Guide

Table 1-112 PL 2.2 Tray Unit - End Guide

ID No.	Part Number	Qty	Name / Description
1		1	Guide Assembly, End (part of PL 2.1, item 1)
2		1	Plate Assembly, End (part of PL 2.1, item 1)
3		1	Assembly, Actuator (part of PL 2.1, item 1)
4		2	Assembly, Cable (part of PL2.1, item 1)
5		2	Spring, Tension (part of PL 2.1, item 1)
6		2	Pulley (part of PL 2.1, item 1)
7		1	Actuator, Guide (part of PL 2.1, item 1)
99	600K61610	1	Kit, Tray Cables

Table 1-113 PL 2.3 Tray Unit - Paper Stack (Custom)

ID No.	Part Number	Qty	Name / Description
1	097S02562	1	Tray Assembly (Custom - with 2~21 & PL 2.4)
2		1	Plate, Bottom (part of 1)
3		1	Pad, Bottom (part of 1)
4		1	Plate, Tongue (part of 1)
5		1	Shaft Assembly, Tongue (part of 1)
6		1	Bearing (part of 1)
7		1	Guide Assembly, Side (Custom) (part of 1)
8		1	Lever (part of 1)
9		1	Shaft (part of 1)
10		1	Spring, Compression (part of 1)
11		1	Plate, Side (part of 1)
12		1	Actuator (part of 1)
13		1	Link (part of 1)
14		1	Spring, Torsion (part of 1)
15		1	Stopper, Left Hand (part of 1)
16		1	Housing, Tray (part of 1)
17		2	Washer (part of 1)
18		1	Washer, Side Guide (part of 1)
19		1	Cap, Tray (part of 1)
20		2	Roller, Tray (part of 1)
21		1	Spring, Tray (Custom) (part of 1)

PL 2.4 Tray Unit - End Guide (Custom)

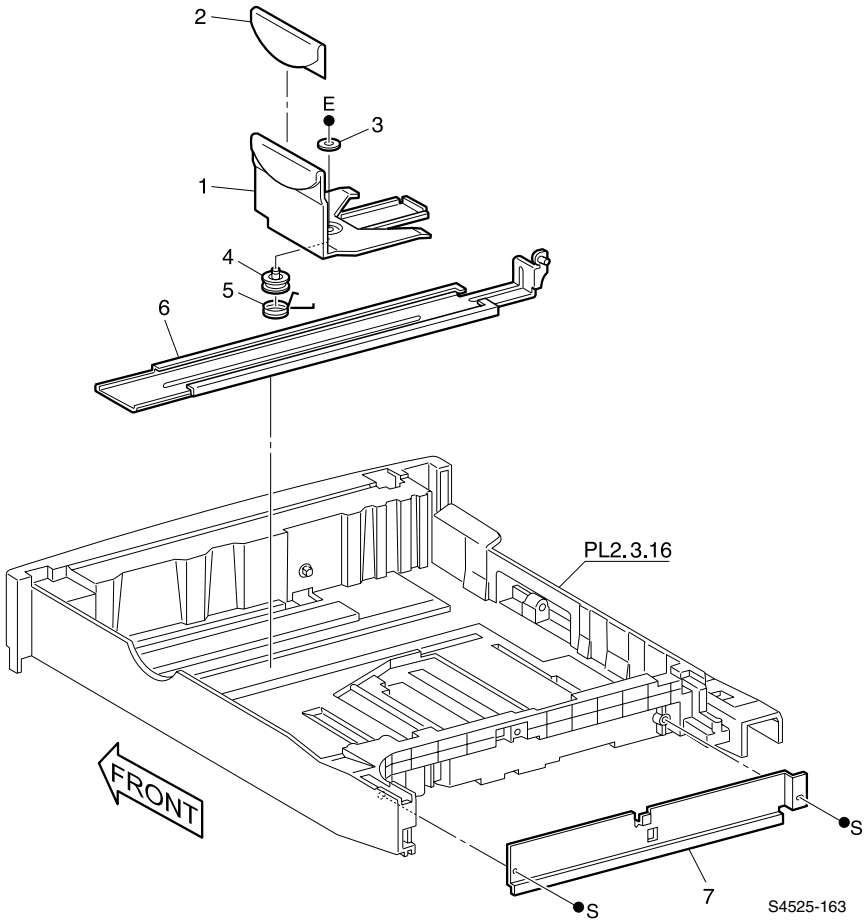


Fig 1-103 Tray Unit - End Guide (Custom)

Table 1-114 PL 2.4 Tray Unit - End Guide (Custom)

ID No.	Part Number	Qty	Name / Description
1		1	Guide, Paper End (part of PL 2.3, item 1)
2		1	Label, End-Guide (part of PL 2.3, item 1)
3		1	Washer, Nylon (part of PL 2.3, item 1)
4		1	Pinslide (Custom) (part of PL 2.3, item 1)
5		1	Spring, Torsion (part of PL 2.3, item 1)
6		1	Plate Assembly, End (part of PL 2.3, item 1)
7		1	Guide, Actuator (part of PL 2.3, item 1)

PL 3.1 Tray Interface - Tray 1

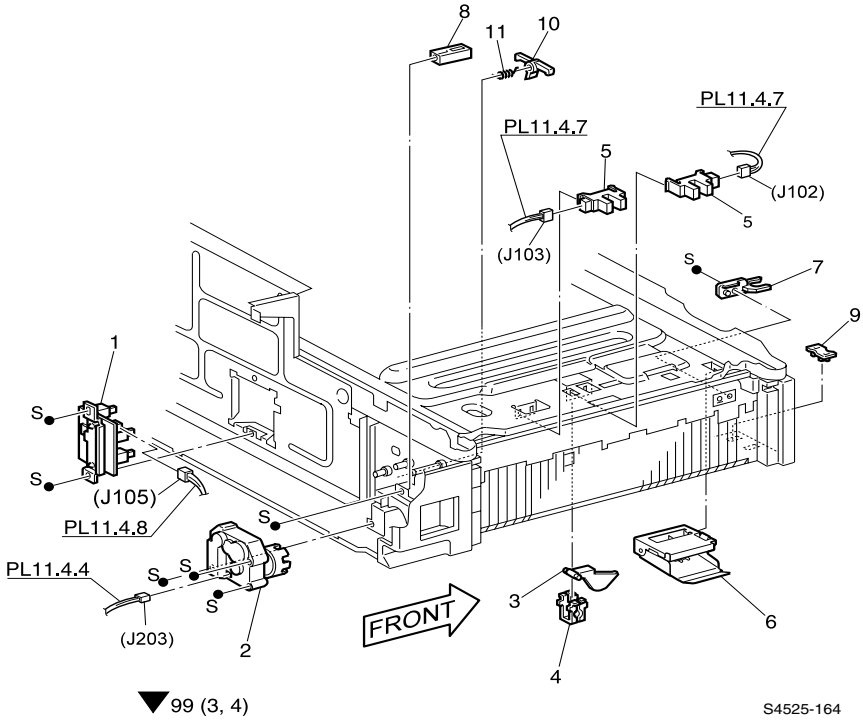


Fig 1-104 Tray Interface - Tray 1

Table 1-115 PL 3.1 Tray Interface - Tray 1

ID No.	Part Number	Qty	Name / Description
1	110K07740	1	Switch Assembly, Paper Size
2	127K20662	1	Motor Assembly
3		1	Actuator, Sensor (part of 99)
4		1	Support, Actuator (part of 99)
5	107E08680	2	Sensor, Photo Interrupter (J103) - Lift Up Sensor (J102) - No Paper Sensor
6	054K09020	1	Chute Assembly, Front, (for Tray 1 only)
7	003E23672	1	Stopper, Tray, Front
8	003E23690	1	Stopper, Tray, Rear
9		1	Spacer, Left
10	023E13230	1	Link, Stopper (Tray 1 only)
11	809E05870	1	Spring, Torsion
99	600K56730	1	Kit, Actuator Sensor Assembly (with 3-4)

PL 3.2 Paper Pick Up - Tray 1

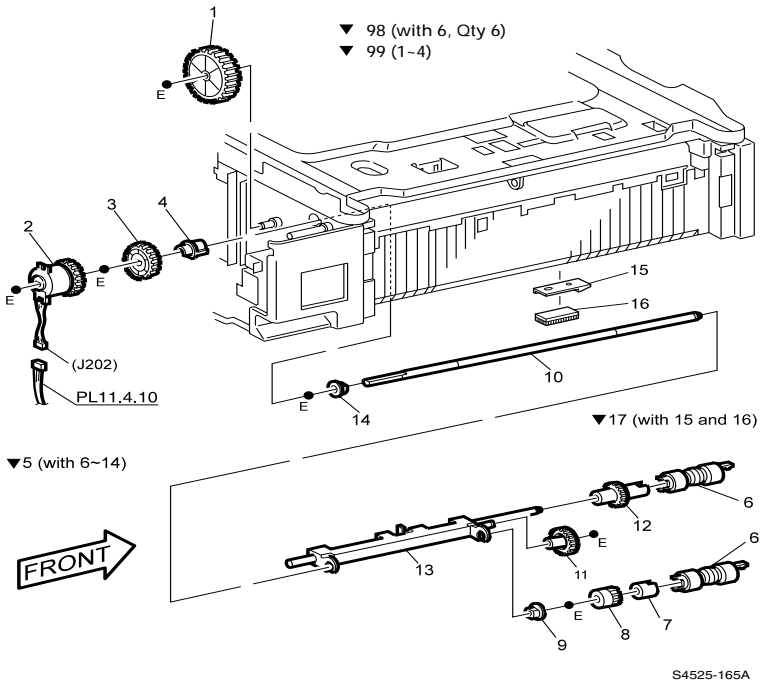
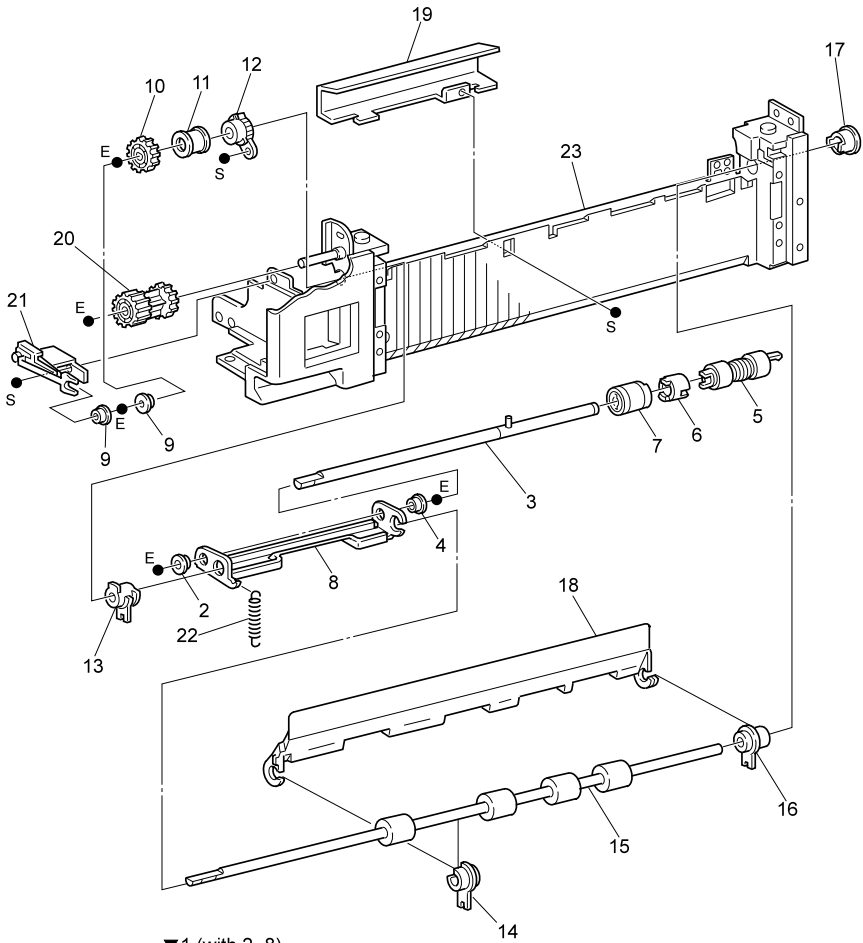


Fig 1-105 Paper Pick Up - Tray 1

Table 1-116 PL 3.2 Paper Pick Up - Tray 1

ID No.	Part Number	Qty	Name / Description
1		1	Gear, 46T (part of 99)
2		1	Clutch Assembly (part of 99)
3		1	Gear, 28T (part of 99) [for Tray 1 only]
4		1	Clutch, One-Way (part of 99) [for Tray 1 only]
5	050K43520	1	Feeder Assembly (with 6~14)
6		2	Roller Assembly (part of 5)
7		1	Clutch Assembly, One-Way (part of 5)
8		1	Clutch Gear, 25T (part of 5)
9		1	Bearing (part of 5)
10		1	Shaft, Feed (part of 5)
11		1	Gear, 31T (part of 5)
12		1	Gear, 25T (part of 5)
13		1	Support Assembly, Pick (part of 5)
14		1	Bearing (part of 5)
15		1	Support, Brush
16		1	Web, Feed
17		1	Brush Assembly, Feed (with items 15 & 16)
98	604K01130	1	Kit, Feed Roller (with item 6, Qty. 6)
99	600K85080	1	Kit, Tray 1 Clutch (with 1~4)

PL 3.3 Retard and Take Away - Tray 1



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Fig 1-106 Retard and Take Away - Tray 1

Table 1-117 PL 3.3 Retard and Take Away Assembly - Tray 1

ID No.	Part Number	Qty	Name / Description
1		1	Retard Assembly, (with 2~8) {part of 98}
2		1	Spacer, Retard {part of 1}
3		1	Shaft Assembly, Retard (part of item 1)
4		1	Bearing (part of item 1)
5		1	Roller Assembly (part of item 1)
6		1	Spacer (part of item 1)
7		1	Clutch Assembly, Friction
8		1	Support, Retard (part of item 1)
9		2	Bearing {part of 98}
10		1	Gear, 22T {part of 98} {part of 99}
11		1	Spacer (part of 98)
12		1	Gear Stopper {part of 98}
13		1	Bearing, {part of 98}
14		1	Bearing, {part of 98}
15		1	Roller Assembly {part of 98}
16		1	Bearing {part of 98}
17		1	Bearing {part of 98}
18	054K88590	1	Chute Assembly, Feed, Out {part of 98}
19		1	Chute, Feed In {part of 98}
20		1	Gear, 22/20T {part of 98} {part of 99}
21	074K92500	1	Support Assembly, Spring {part of 98}
22	809E27440	1	Spring {part of 98}
23		1	Retard Frame {part of 98}
98	604K01160	1	Retard Assembly, Tray 1 High (with 1~23)
99	604K01860	1	Kit, Take Away Gear, Tray 1 (with 10 & 20)

PL 3.4 Tray Interface - Tray 2

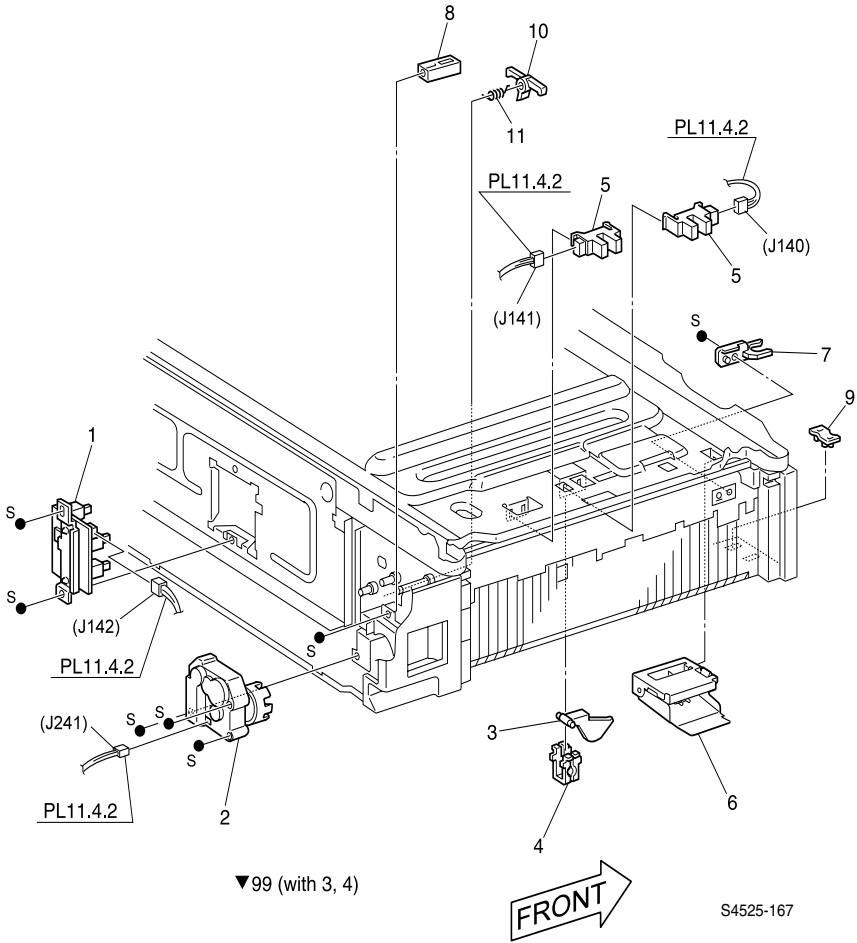


Fig 1-107 Tray Interface - Tray 2

Table 1-118 PL 3.4 Tray Interface - Tray 2

ID No.	Part Number	Qty	Name / Description
1	110K07740	1	Switch Assembly, Paper Size
2	127K20662	1	Motor Assembly
3		1	Actuator, Sensor (part of item 99)
4		1	Support, Actuator (part of item 99)
5	107E08680	2	Photo Interrupter (No Paper Sensor / Lift Up Sensor)
6	054K09030	1	Chute Assembly, Front, (for Tray 2 only)
7	003E23672	1	Stopper, Tray, Front
8	003E23690	1	Stopper, Tray, Rear
9		1	Spacer, Left
10	023E08660	1	Link, Stopper
11	809E05870	1	Spring, Torsion
99	600K56730	1	Kit, Actuator Sensor (with 3 & 4)

PL 3.5 Paper Pick Up - Tray 2

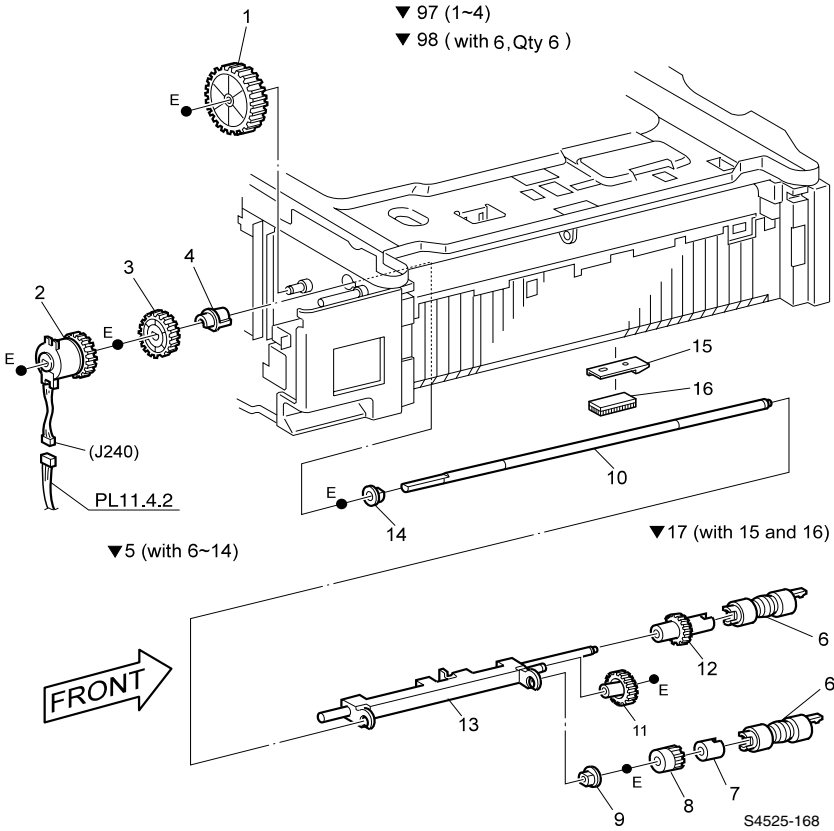


Fig 1-108 Paper Pick Up - Tray 2

Table 1-119 PL 3.5 Paper Pick Up Assembly - Tray 2

ID No.	Part Number	Qty	Name / Description
1		1	Gear, 46T {part of 97}
2		1	Clutch Assembly {part of 97}
3		1	Gear, 28T (for Tray 2 only) {part of 97}
4	013E86260	1	Bearing, Feeder (for Tray 2 and High Capacity Feeder only) {part of 97}
5	050K43520	1	Feeder Assembly (with 6-14)
6		2	Roller Assembly {part of item 5}
7		1	Clutch Assembly, One-Way {part of item 5}
8		1	Clutch Gear, 25T {part of item 5}
9		1	Bearing {part of item 5}
10		1	Shaft, Feed {part of item 5}
11		1	Gear, 31T {part of item 5}
12		1	Gear, 25T {part of item 5}
13		1	Support Assembly, Pick {part of item 5}
14		1	Bearing {part of item 5}
15		1	Support, Brush
16		1	Web, Feed
17		1	Brush Assembly, Feed (with items 15 & 16)
97	600K65470	1	Kit, Tray 2 Clutch (with 1-4)
98	604K01130	1	Kit, Feed Roller (with 6, Qty. 6)

PL 3.6 Retard and Take Away - Tray 2

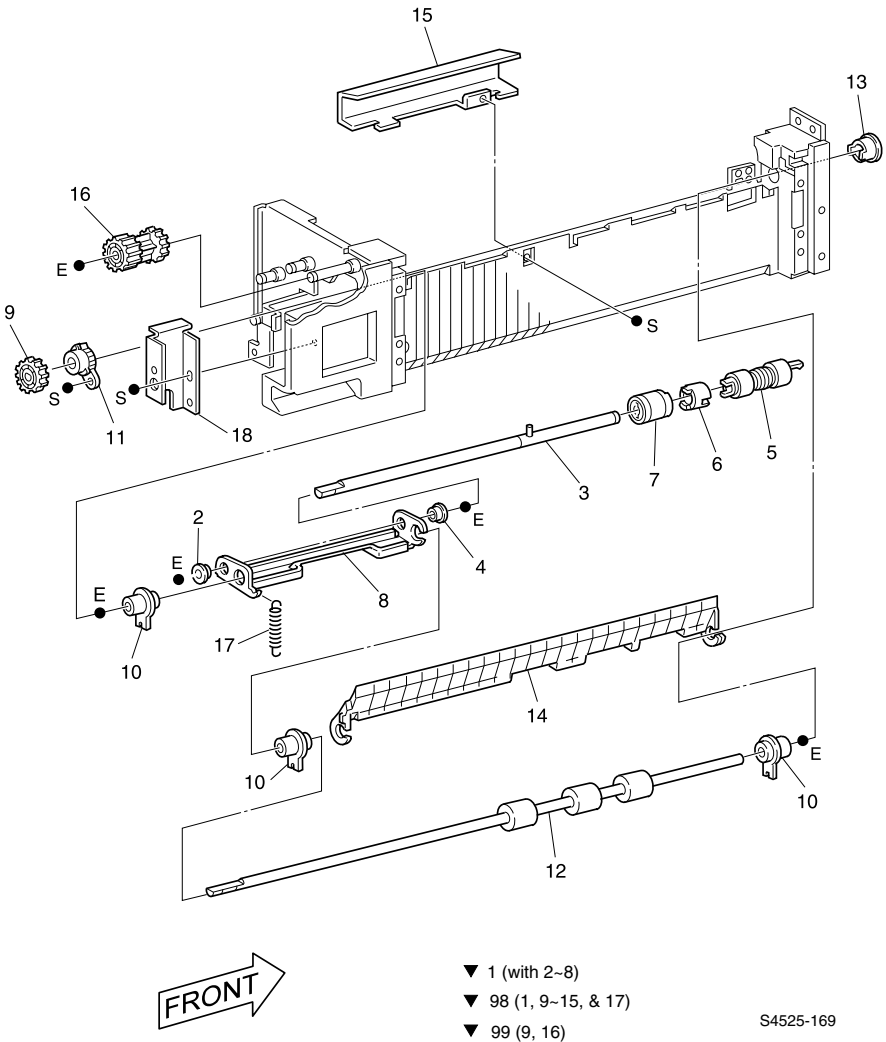
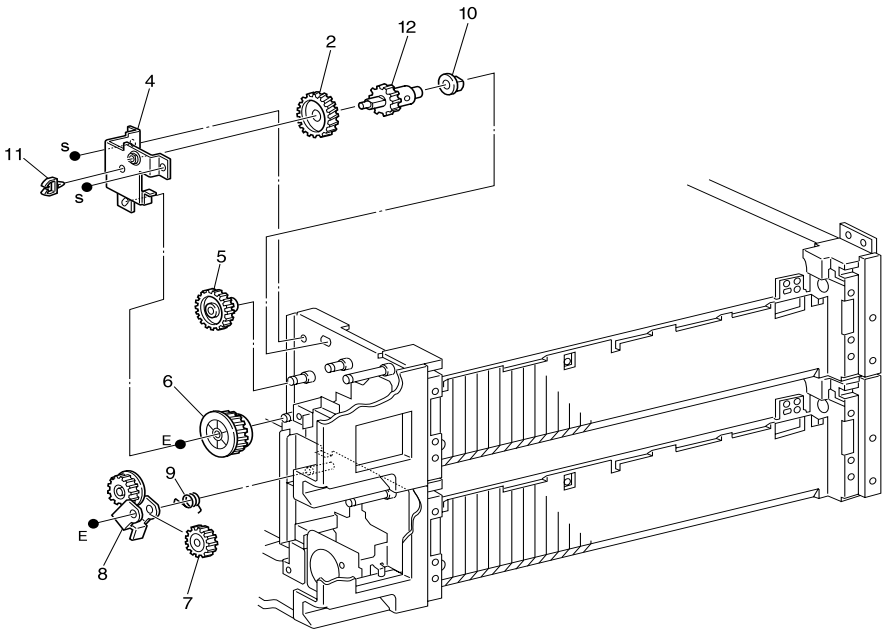


Fig 1-109 Retard and Take Away - Tray 2

Table 1-120 PL 3.6 Retard and Take Away Assembly - Tray 2

ID No.	Part Number	Qty	Name / Description
1		1	Retard Assembly, (with 2~8), {part of item 98}
2		1	Gear, 22T {part of item 1}, {part of item 99}
3		1	Shaft Assembly, Retard {part of item 1}
4		2	Bearing {part of item 1}
5		1	Roller Assembly {part of item 1}
6		1	Spacer {part of item 1}
7		1	Clutch Assembly, Friction {part of item 1}
8		1	Support, Retard {part of item 1}
9		1	Gear, 22T {part of item 98}, {part of item 99}
10		3	Bearing {part of item 98}
11		1	Gear Stopper {part of item 98}
12		1	Roller Assembly {part of item 98}
13		1	Bearing {part of item 98}
14	054E08680	1	Chute, Feed Out {part of item 98}
15		1	Chute, Feed In
16		1	Gear, 22/20 {part of item 99}
17	809E27440	1	Spring
18		1	Bracket, Stopper
98	600K85160	1	Retard Assembly, Tray 2 High (with 1, 9-15 & 17)
99	600K85090	1	Kit, Take Away Gear, Tray 2 (with 9 & 16)

PL 3.7 Feed Drive Transmission



▼99 (1~12)

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Fig 1-110 Feed Drive Transmission

Table 1-121 PL 3.7 Feed Drive Transmission

ID No.	Part Number	Qty	Name / Description
1		--	--
2		1	Gear, 30T {part of item 99}
3		--	--
4		1	Support Assembly {part of item 99}
5		1	Gear, 31T {part of item 99}
6		1	Gear, 33T {part of item 99}
7		1	Gear. 16/22T {part of item 99}
8		1	Link Assembly {part of item 99}
9		1	Spring, Torsion {part of item 99}
10		1	Bearing, {part of item 99}
11		1	Harness Clamp {part of item 99}
12		1	Shaft/Gear 16T Assembly
99	600K85100	1	Kit, Feed Drive Repair (2, 4~12)

PL 4.1 Multi-sheet Bypass Feeder and Duplex Support

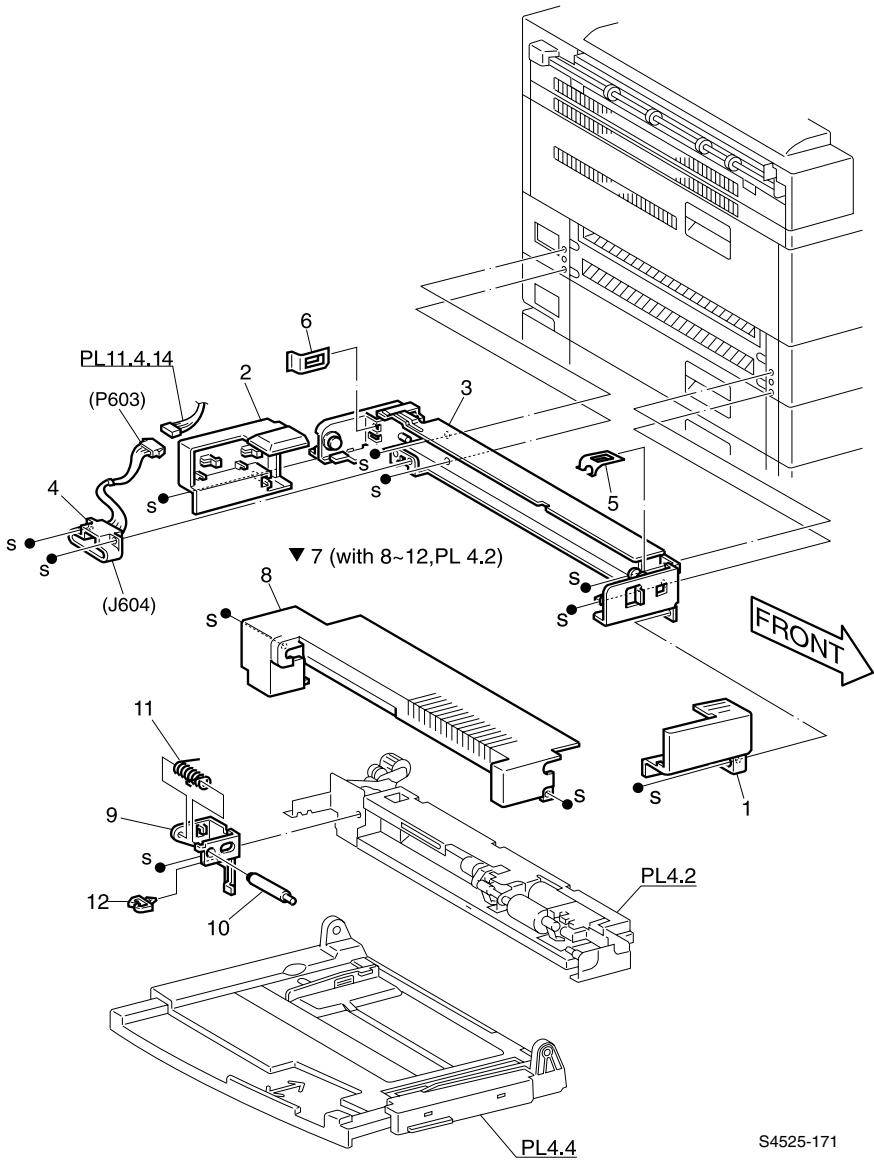


Fig 1-111 Multi-sheet Bypass Feeder and Duplex Support

Table 1-122 PL 4.1 Multi-sheet Bypass Feeder and Duplex Module Support

ID No.	Part Number	Qty	Name / Description
1	048E37370	1	Cover, Front
2	048K58760	1	Cover, Rear Assembly
3	068K11630	1	Support Assembly, Multi-Sheet Bypass Feeder / Duplex Module
4	162K20380	1	Harness Assembly, Drawer (J603<>J604)
5		1	Spring, Front Damper
6		1	Spring, Rear Damper
7	059K14753	1	Feeder Assembly, Multi-sheet Bypass (with 8 - 12 & PL 4.2)
8	048E37401	1	Cover, Top {part of item 7}
9		1	Bracket Spring {part of item 7}
10		1	Stud {part of item 7}
11		1	Spring, Torsion {part of item 7}
12		1	Clamp, Cable {part of item 7}

Table 1-123 PL 4.2 Multi-sheet Bypass Feeder Assembly

ID No.	Part Number	Qty	Name / Description
1		1	Feeder Assembly, Multi-sheet Bypass (with 2 - 17 & PL 4.3) {part of PL 4.1}
2		1	Gear, 16/22 {part of item 1 & PL 4.1}
3		1	Link Assembly {part of item 1 & PL 4.1}
4		1	Spring, Torsion {part of item 1 & PL 4.1}
5		1	Plate, Tie {part of item 1 & PL 4.1}
6	019K92810	1	Pad Assembly, Multi-sheet Bypass Feeder {part of item 1 & PL 4.1}
7		1	Pin, Retard {part of item 1 & PL 4.1}
8		1	Shaft, Multi-sheet Bypass Feeder Pad {part of item 1 & PL 4.1}
9		1	Spring, Multi-sheet Bypass Feeder Pad {part of item 1 & PL 4.1}
10		1	Guide, Paper {part of item 1 & PL 4.1}
11		1	Bracket, Frame, Front {part of item 1 & PL 4.1}
12		1	Latch Assembly, Front {part of item 1 & PL 4.1}
13		1	Latch Assembly, Rear {part of item 1 & PL 4.1}
14		1	Latch, Front {part of item 1 & PL 4.1}
15		2	Spring, Latch {part of item 1 & PL 4.1}
16		1	Support, Retard {part of item 1 & PL 4.1}
17		1	Latch, Rear {part of item 1 & PL 4.1}

PL 4.3 Upper Feeder Assembly

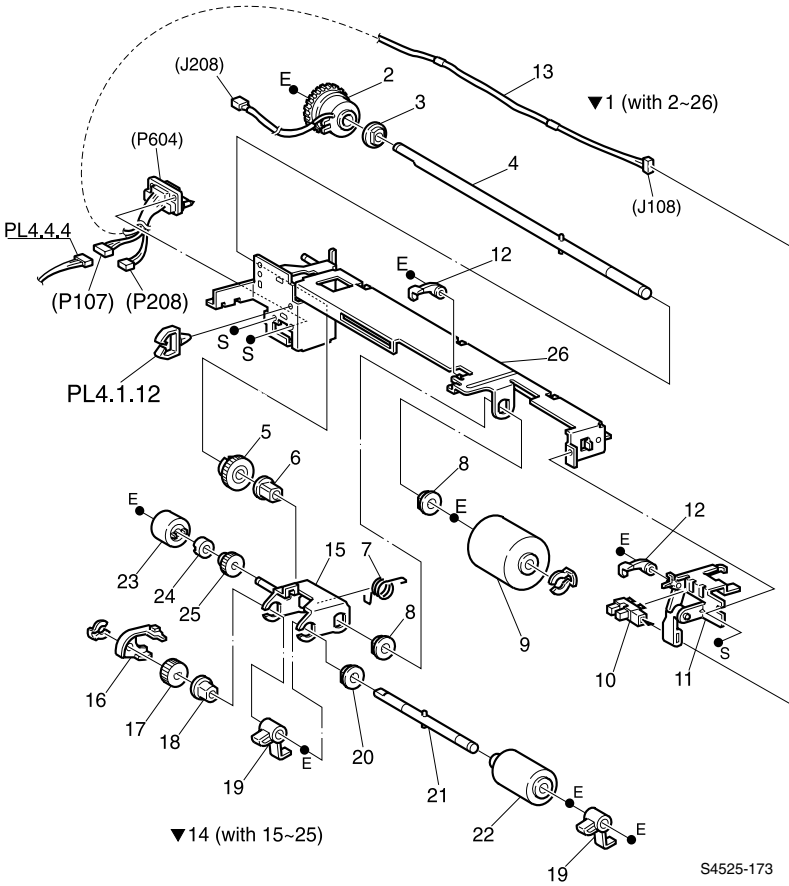


Fig 1-113 Upper Feeder Assembly

Table 1-124 PL 4.3 Upper Feeder Assembly

ID No.	Part Number	Qty	Name / Description
1		1	Feeder Assembly, Upper (with 2~26) {part of PL 4.2, item 1}
2	121K82880	1	Clutch Assembly {part of item 1}
3		1	Bearing {part of item 1}
4		1	Shaft Assembly, Feed {part of item 1}
5		1	Gear, Spur, 40T {part of item 1}
6		1	Bearing {part of item 1}
7		1	Spring, Torsion {part of item 1}
8		2	Bearing {part of item 1}
9	022K57020	1	Roller, Feed, Multi-sheet Bypass Feeder {part of item 1}
10	107E08680	1	Interrupter, Photo {part of item 1}
11		1	Bracket Assembly {part of item 1}
12		2	Gate, Reset {part of item 1}
13		1	Harness Assembly, Multi-sheet Bypass Feeder (P604<->J108/P107/P208) {part of item 1}
14	059K14760	1	Roller Assembly, Pick (with 15 - 25) {part of item 1}
15		1	Support Assembly, Pick Roller {part of item 1} {part of item 14}
16		1	Cover, Gear {part of item 1} {part of item 14}
17		1	Gear, Spur, 30T {part of item 1} {part of item 14}
18		1	Bearing {part of item 1} {part of item 14}
19		2	Gate, Multi-sheet Bypass Feeder {part of item 1} {part of item 14}
20		20	Bearing {part of item 1} {part of item 14}
21		1	Shaft Assembly, Pick Roller {part of item 1} {part of item 14}
22	059K14560	1	Roller, Pick {part of item 1} {part of item 14}
23	005K80880	1	Clutch, Friction {part of item 1} {part of item 14}
24		1	Spacer {part of item 1} {part of item 14}
25		1	Gear, Spur {part of item 1} {part of item 14}
26		1	Chute Assembly, Upper {part of item 1}

PL 4.4 Multi-sheet Bypass Feeder Tray Assembly

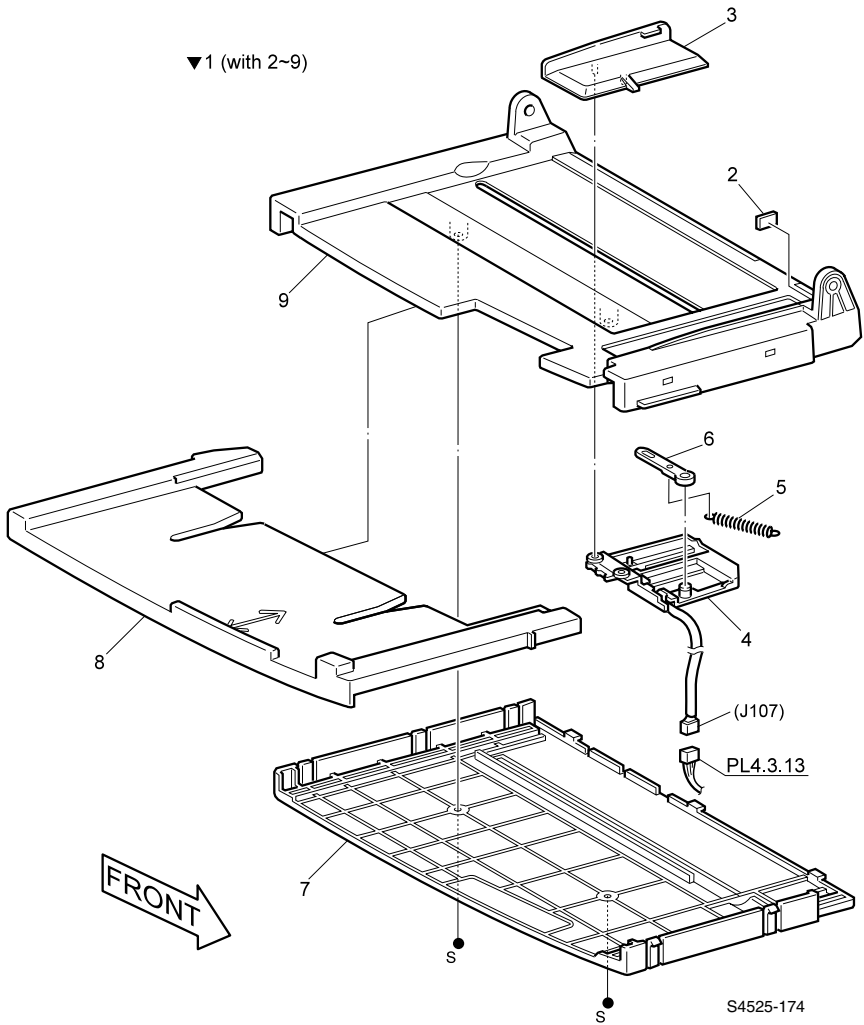


Fig 1-114 Multi-sheet Bypass Feeder Tray Assembly

Table 1-125 PL 4.4 Multi-sheet Bypass Feeder Tray Assembly

ID No.	Part Number	Qty	Name / Description
1	050K42631	1	Tray Assembly, Multi-sheet Bypass Feeder (with 2~9)
2		1	Pad {part of item 1}
3		1	Guide, Side {part of item 1}
4	130K83360	1	Size Sensor Assembly, Multi-sheet Bypass Feeder {part of item 1}
5		1	Spring, Sensor {part of item 1}
6		1	Link, Sensor {part of item 1}
7		1	Tray, Cover {part of item 1}
8		1	Tray, Low {part of item 1}
9		1	Tray, Multi-sheet Bypass Feeder {part of item 1}

PL 5.1 Tray 1 Frame and Left Cover

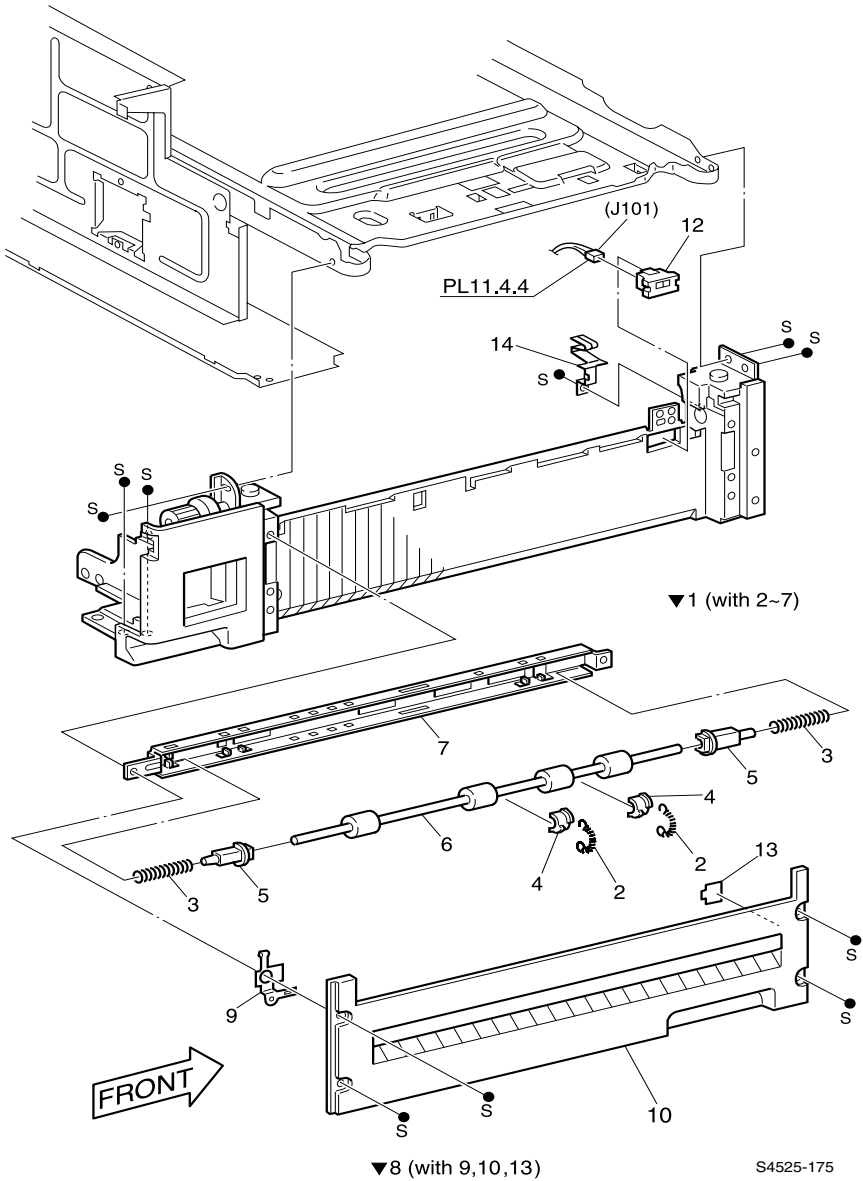


Fig 1-115 Tray 1 Frame and Left Cover

Table 1-126 PL 5.1 Tray 1 Frame and Left Cover

ID No.	Part Number	Qty	Name / Description
1	068K79283	1	Bracket Assembly, Pinch (with 2 - 7)
2		2	Spring, Exit {part of item 1}
3		2	Spring, Compression {part of item 1}
4		2	Bearing, In {part of item 1}
5		2	Bearing {part of item 1}
6		1	Roller Assembly, Pinch {part of item 1}
7		1	Bracket, Pinch {part of item 1}
8	802K18130	1	Cover Assembly, Left Hand, Low (with 9, 10 and 13)
9		1	Spring, Earth {part of item 8}
10		1	Cover, Left, Low {part of item 8}
11		1	Feeder Assembly
12	130E81311	1	Sensor, Tray 2 Take Away
13		1	Pad, {part of item 8}
14		1	Spring, Front, Electro-Magnetic Emission

PL 5.2 Tray 2 Frame and Left Cover

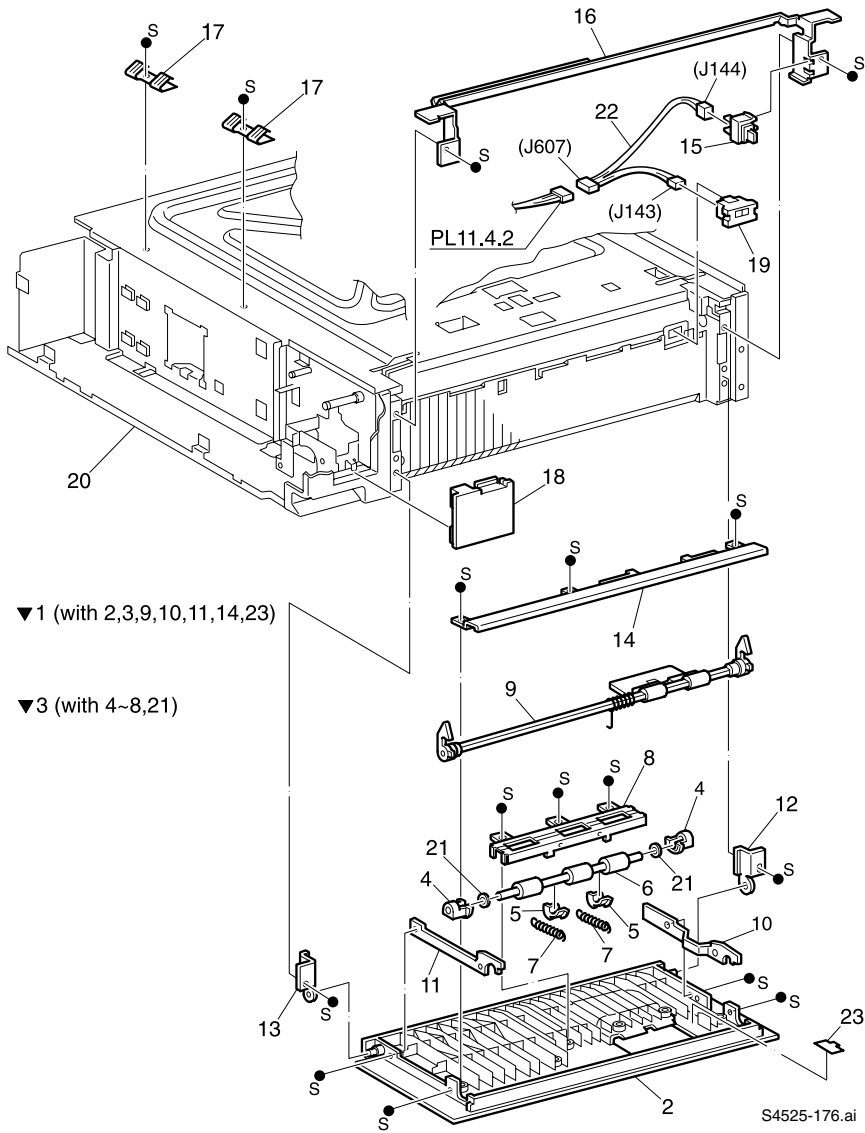


Fig 1-116 Tray 2 Frame and Left Cover

Table 1-127 PL 5.2 Tray 2 Frame and Left Cover

ID No.	Part Number	Qty	Name / Description
1	048K55751	1	Cover Assembly, Left Hand (with 2, 3, 9~11, 14 and 23)
2		1	Cover, Left Hand {part of item 1}
3	068K83512	1	Bracket Assembly, Pinch (with 4~8 and 21) {part of item 1}
4		2	Bearing, Out {part of item 3}
5		2	Bearing, In {part of item 3}
6		1	Roller Assembly, Pinch {part of item 3}
7		2	Spring, Exit {part of item 3}
8		1	Bracket, Pinch {part of item 3}
9		1	Handle Assembly, Left Hand {part of item 1}
10		1	Support, Cover, Outboard {part of item 1}
11		1	Support, Cover, Inboard {part of item 1}
12		1	Hinge, Cover, Outboard
13		1	Hinge, Cover, Inboard
14		1	Support, Cover {part of item 1}
15	110E93440	1	Switch, Interlock
16		1	Chute Assembly, Upper
17		2	Spring, Electro-Magnetic Emission
18		1	Cap
19	130E81311	1	Sensor ¹ , Take Away 3
20		1	Support, Rear
21		2	Washer, Nylon {part of item 3}
22		1	Harness Assembly, Left Hand (J607<>J143/J144)
23		1	Pad {part of item 1}

Table 1-128 PL 6.1 Registration section

ID No.	Part Number	Qty	Name / Description
1	121K83190	1	Clutch Assembly, Registration
2		2	Bearing
3	022K33900	1	Roller Assembly, Registration
4	054K17501	1	Chute Assembly, Registration (with 5 & 6)
5		1	Chute, Registration {part of item 4}
6		1	Eliminator, Static {part of item 4}
7	130E81311	1	Sensor, Registration
8	103K80192	1	Assembly, Resistor/Capacitor (R/C)
99	600K65500	1	Kit, Bearing (with 2 (qty. 2))

Table 1-129 PL 6.2 Upper Left Cover Assembly

ID No.	Part Number	Qty	Name / Description
1		1	Shaft, Hinge
2		1	Shaft, Hinge Rear
3	802K10631	1	Cover Assembly, Left Hand (with 4~14 and PL 6.3)
4		1	Chute, Lower {part of item 3}
5		1	Guide, Paper {part of item 3}
6		2	Spring, Compression {part of item 3}
7	054K88605	1	Chute Assembly, Left Hand (with 8 - 13) {part of item 3}
8		2	Spring, Extension {part of item 3} {part of item 7}
9		1	Roller Assembly, Registration, Left Hand {part of item 3} {part of item 7}
10		1	Chute Assembly, Registration, Left Hand (with 12) {part of item 3} {part of item 7}
11		1	Guide, Paper {part of item 3} {part of item 7}
12		1	Guide, Paper {part of item 3} {part of item 7} {part of item 10}
13		2	Pulley {part of item 3} {part of item 7}
14	074E91101	2	Support, Left Hand Cover {part of item 3}

PL 6.3 Transport Chute Assembly

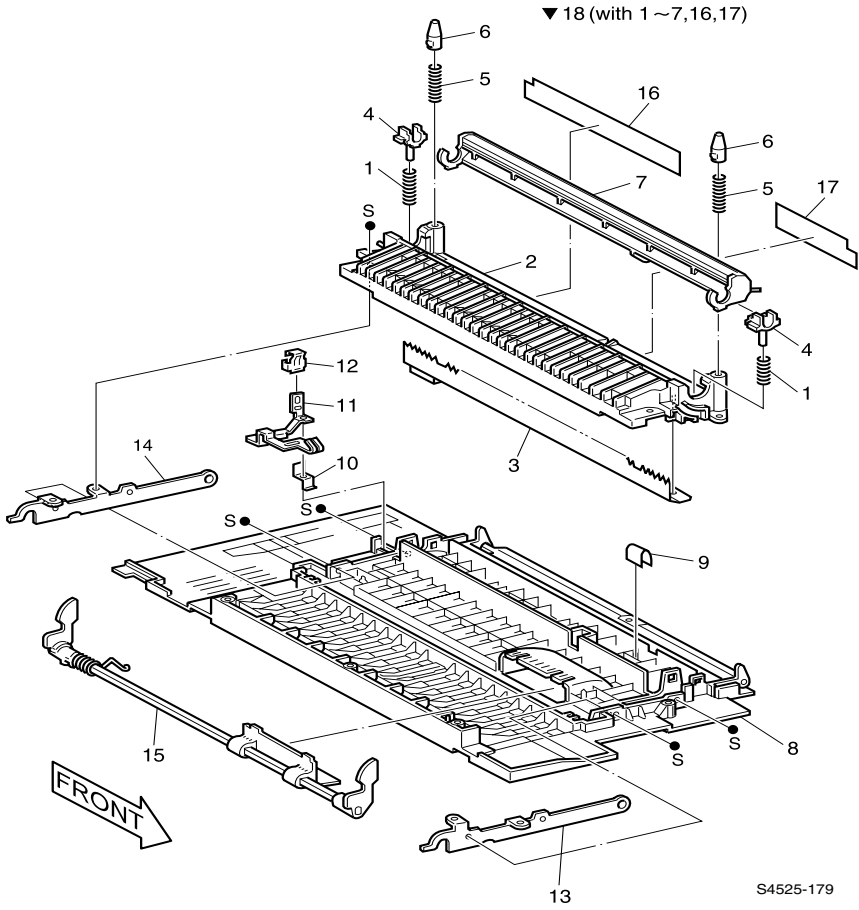


Fig 1-119 Transport Chute Assembly

Table 1-130 PL 6.3 Transport Chute Assembly

ID No.	Part Number	Qty	Name / Description
1		1	Spring, Bias Transfer Roller, In {part of item 18}
2		1	Chute, Transport {part of item 18}
3		1	Plate, Eliminator {part of item 18}
4		2	Sleeve, Bias Transfer Roller {part of item 18}
5		2	Spring, Rod {part of item 18}
6		2	Rod, {part of item 18}
7		1	Chute Assembly, Inlet {part of item 18}
8		1	Cover Assembly, Left Hand
9		1	Pad
10		1	Bracket, Left Hand
11		1	Plate, Contact, Left Hand
12		1	Plate, Contact, Left Hand
13		1	Frame, Left Hand, Front
14		1	Frame, Left Hand, Rear
15		1	Handle Assembly, Left Hand
16		1	Shield, Bias Transfer Roller {part of item 18}
17		1	Shield, Bias Transfer Roller {part of item 18}
18		1	Chute Assembly, Transport (with 1~7, 16 and 17) {part of PL 6.2}

PL 7.1 Laser Scanner Assembly

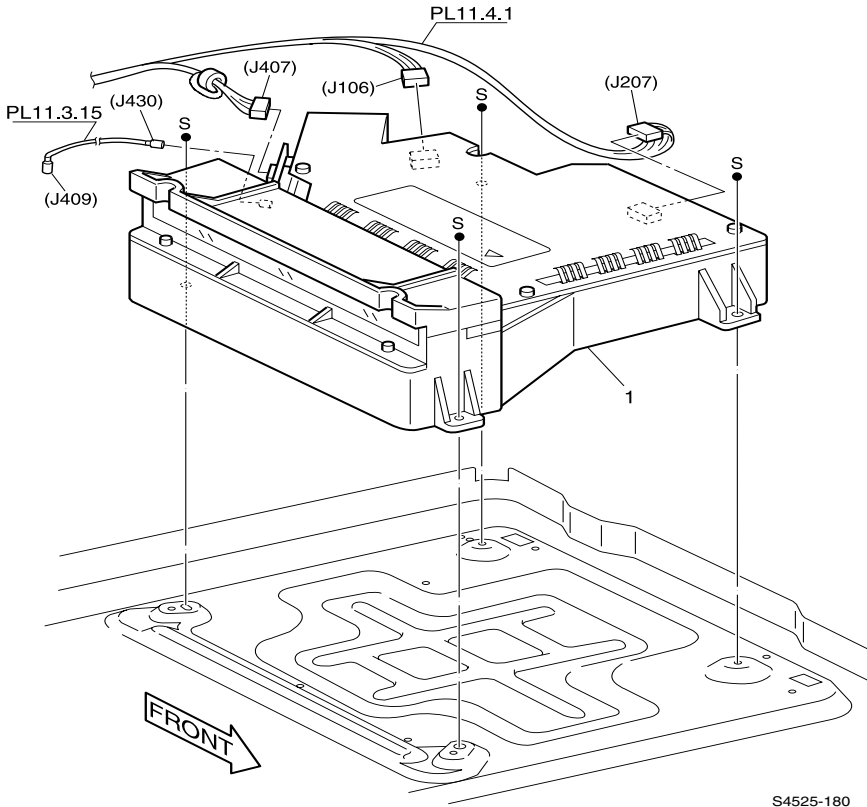
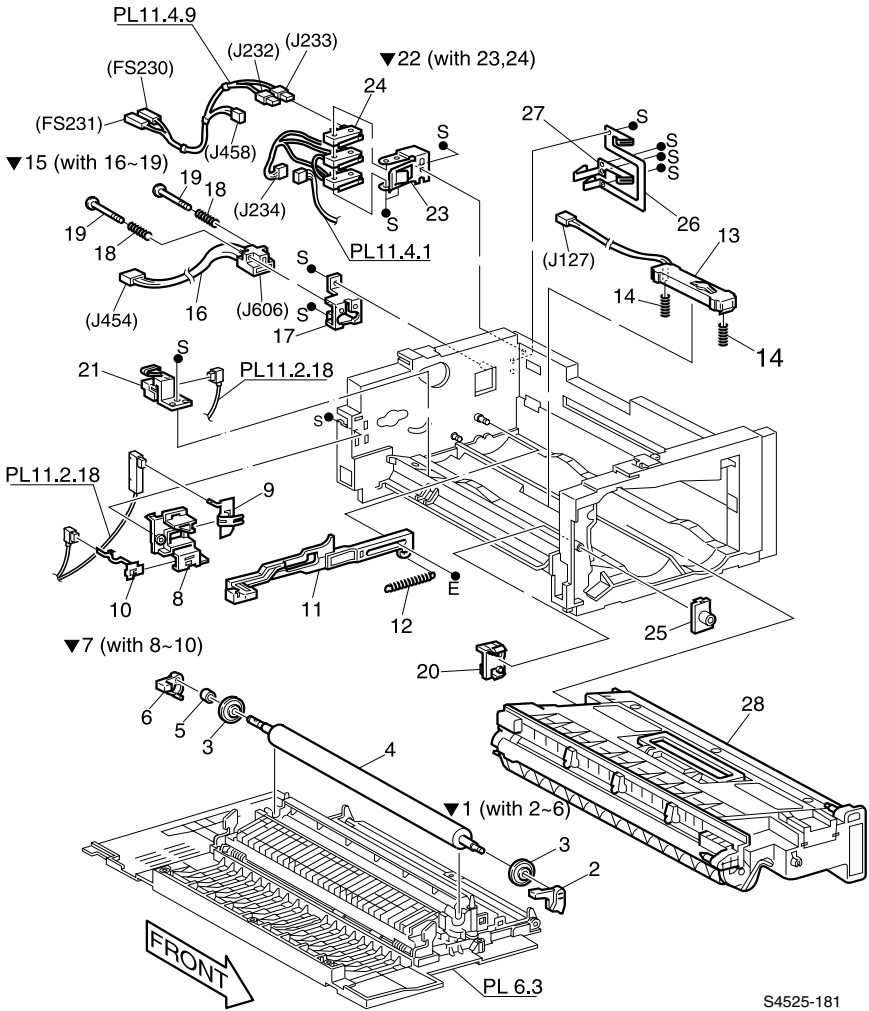


Fig 1-120 Laser Scanner

Table 1-131 PL 7.1 Laser Scanner Assembly

ID No.	Sub-ID	Part Number	Qty	Name / Description
1		062K09874	1	Laser Scanner Assembly

PL 7.2 Xerography and Development



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Fig 1-121 Xerography and Development

Table 1-132 PL 7.2 Xerography and Development section

ID No.	Part Number	Qty	Name / Description
1	022K57070 (Alt. 022K61720)	1	Roller Assembly, Bias Transfer (with 2 - 6)
2		1	Lever, Bias Transfer Roller, OUT {part of item 1}
3		2	Roller, Tracking, Bias Transfer Roller {part of item 1}
4		1	Roller, Bias Transfer Roller {part of item 1}
5		1	Spacer, Bias Transfer Roller {part of item 1}
6		1	Lever, Bias Transfer Roller, IN {part of item 1}
7	038K81662	1	Guide, Assembly, IN (with 8 - 10)
8		1	Guide, Bias Transfer Roller, IN {part of item 7}
9		12	Plate, Bias {part of item 7}
10		1	Plate, Contact {part of item 7}
11	024K92312	1	Rod Assembly, Exit
12		1	Spring, Rod Exit
13	130K55770	1	Sensor Assembly, Toner Empty
14	009E55260	2	Spring, Sensor
15	162K55360	1	Harness Assembly (with 16 - 19)
16		1	Harness, Laser Print Cartridge Memory (J454<->J606) {part of item 15}
17		1	Bracket, Connector {part of item 15}
18		2	Spring, Compression {part of item 15}
19		2	Stud, Screw {part of item 15}
20		1	Guide, Bias Transfer Roller, OUT
21	019K93342	1	Holder Assembly, Charge Bias
22	110K98770	1	Switch Assembly, Interlock (with 23 and 24)
23		1	Bracket, Interlock Switch {part of item 22}
24		1	Switch Assembly, Interlock {part of item 22}
25		1	Clamp Guide, Bias Transfer Roller
26	015E50040	1	Plate, Contact
27	015E50050	1	Plate, Contact
28	113R00195	1	Laser Print (EP) Cartridge,

PL 8.1 Fuser Assembly

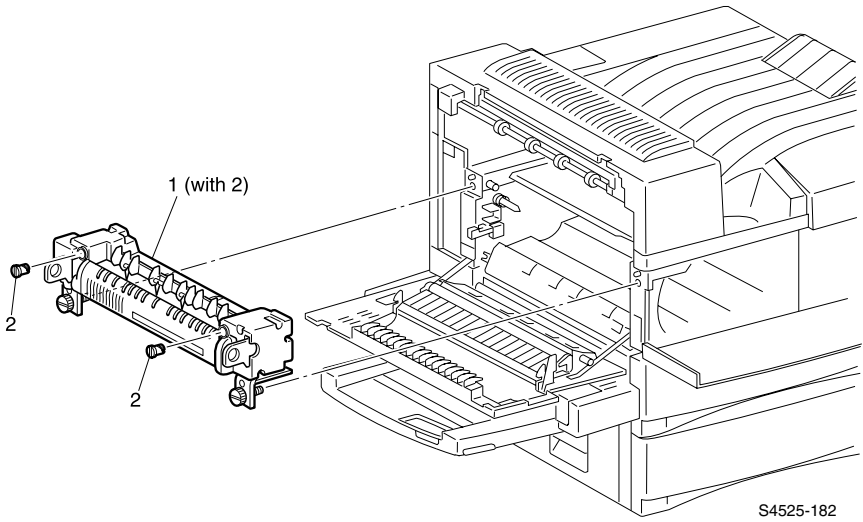


Fig 1-122 Fuser Assembly

Table 1-133 PL 8.1 Fuser Assembly

ID No.	Part Number	Qty	Name / Description
1	126K10638	1	Fuser Assembly, 115 VAC (Customer Replaceable Unit) (with 2)
	126K10648	1	Fuser Assembly, 220 VAC (Customer Replaceable Unit) (with 2)
2		2	Holder, Nip-Clip Note: Remove and discard the two Nip-Clip Holders when installing a replacement Fuser Assembly.
99A	109R00048	1	Kit, Maintenance (110 VAC)
99B	109R00049	1	Kit, Maintenance (220 VAC)

PL 9.1 Lower Exit Chute

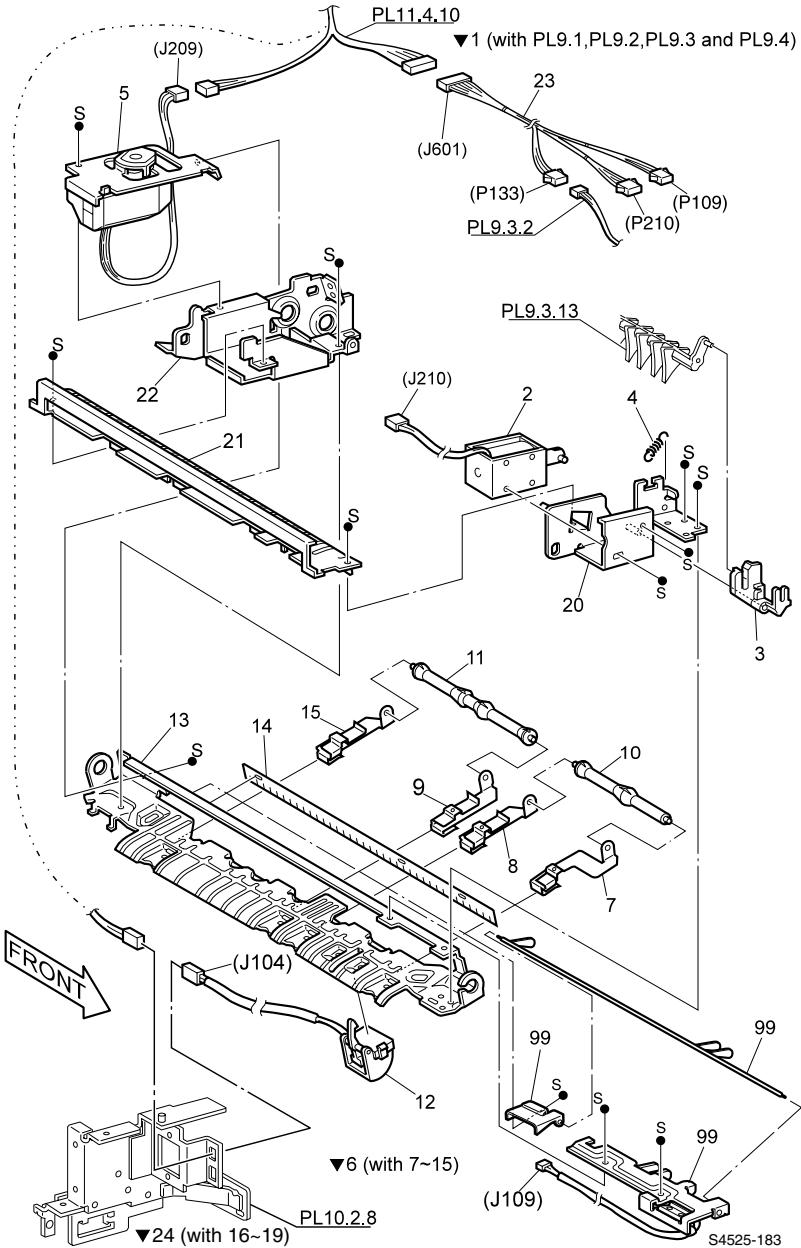


Fig 1-123 Lower Exit Chute

Table 1-134 PL 9.1 Lower Exit Chute

ID No.	Part Number	Qty	Name / Description
1	022K61824	1	Offset/Exit Assembly (with 2-22, PL 9.2, PL 9.3 and PL 9.4)
2	121K82870	1	Solenoid Assembly {part of item 1}
3		1	Link, Solenoid {part of item 1}
4		1	Spring {part of item 1}
5	127K18861	1	Motor Assembly, Offset {part of item 1}
6		1	Lower Assembly, Chute, Offset (with 7 - 15) {part of item 1}
7		1	Spring, Pinch {part of item 6} {part of item 1}
8		1	Spring, Pinch {part of item 6} {part of item 1}
9		1	Spring, Pinch {part of item 6} {part of item 1}
10		1	Roller, Pinch {part of item 6} {part of item 1}
11		1	Roller, Pinch {part of item 6} {part of item 1}
12	110K94632	1	Switch Assembly, Fuser Exit Sensor {part of item 6} {part of item 1}
13		1	Chute, Lower {part of item 6} {part of item 1}
14		1	Eliminator, Static {part of item 6} {part of item 1}
15		1	Spring, Pinch {part of item 6} {part of item 1}
16		--	--
17		--	--
18		--	--
19		--	--
20		1	Frame Assembly, Front {part of item 1}
21		1	Chute, Lower {part of item 1}
22		1	Bracket Assembly, Drive {part of item 1}
23		1	Harness Assembly, Face Up Tray (J601<->P109/P110/P133/P210)
99	600K87660	1	Switch Assembly, Stack Full Sensor

PL 9.2 Offset Roller Assembly

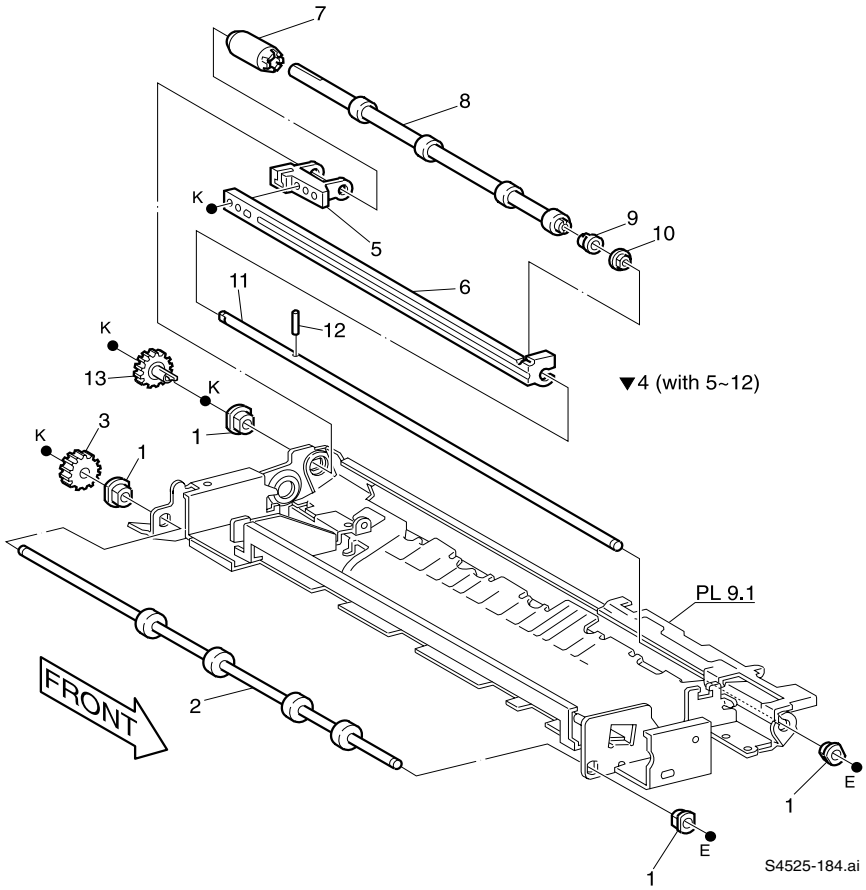


Fig 1-124 Offset Roller Assembly

Table 1-135 PL 9.2 Offset Roller Assembly

ID No.	Part Number	Qty	Name / Description
1		4	Bearing {part of PL 9.1, item 1}
2	022K35430	1	Roller Assembly, Face Up Tray Exit {part of PL 9.1, item 1}
3		1	Gear, 19T {part of PL 9.1, item 1}
4	022K57200	1	Roller Assembly, Offset (with 5 - 12) {part of PL 9.1, item 1}
5		1	Rack, Offset {part of item 4} {part of PL 9.1, item 1}
6		1	Bracket, Offset {part of item 4} {part of PL 9.1, item 1}
7		1	Sleeve, Offset {part of item 4} {part of PL 9.1, item 1}
8		1	Roller Assembly {part of item 4} {part of PL 9.1, item 1}
9		1	Bearing, IN {part of item 4} {part of PL 9.1, item 1}
10		1	Bearing, OUT {part of item 4} {part of PL 9.1, item 1}
11		1	Shaft, Offset {part of item 4} {part of PL 9.1, item 1}
12		1	Pin {part of item 4} {part of PL 9.1, item 1}
13		1	Gear, 19T {part of PL 9.1, item 1}

PL 9.3 Upper Exit Chute Assembly

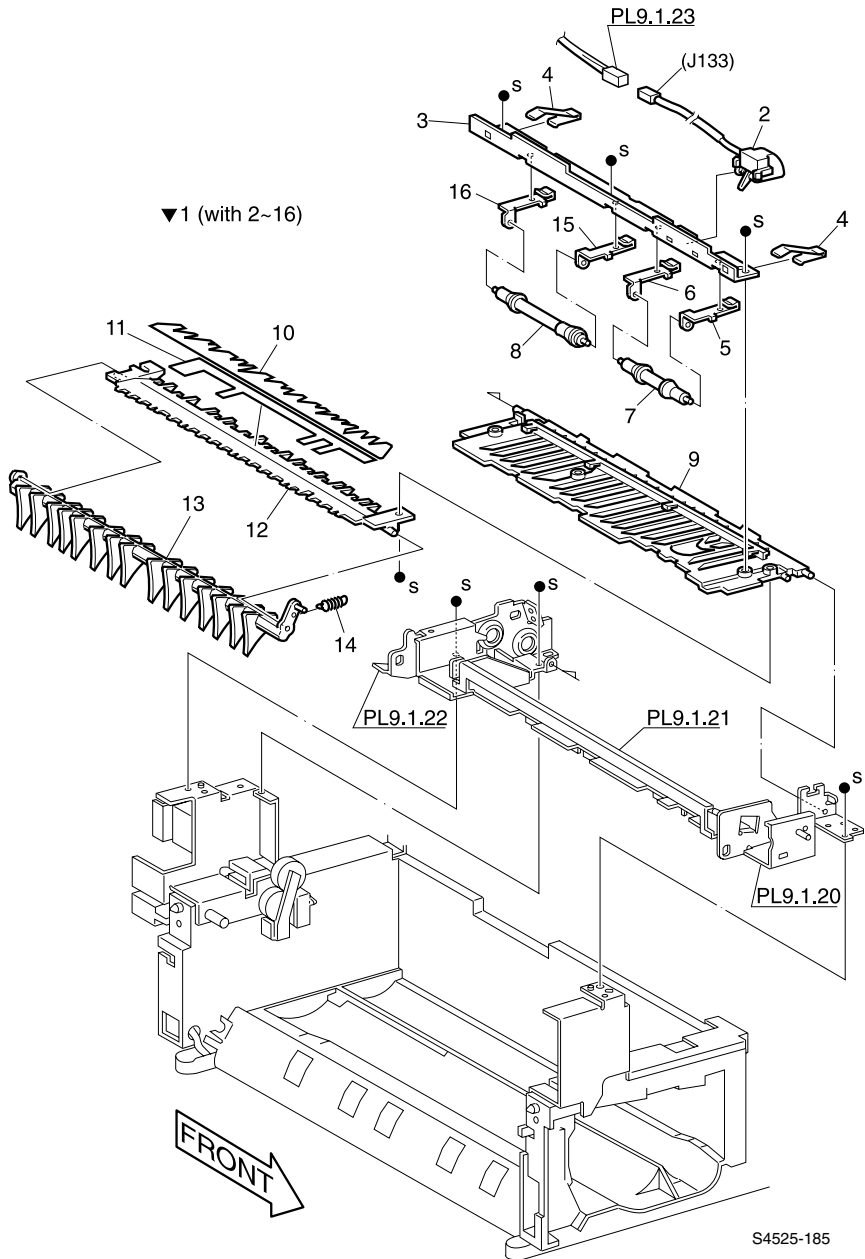


Fig 1-125 Upper Exit Chute Assembly

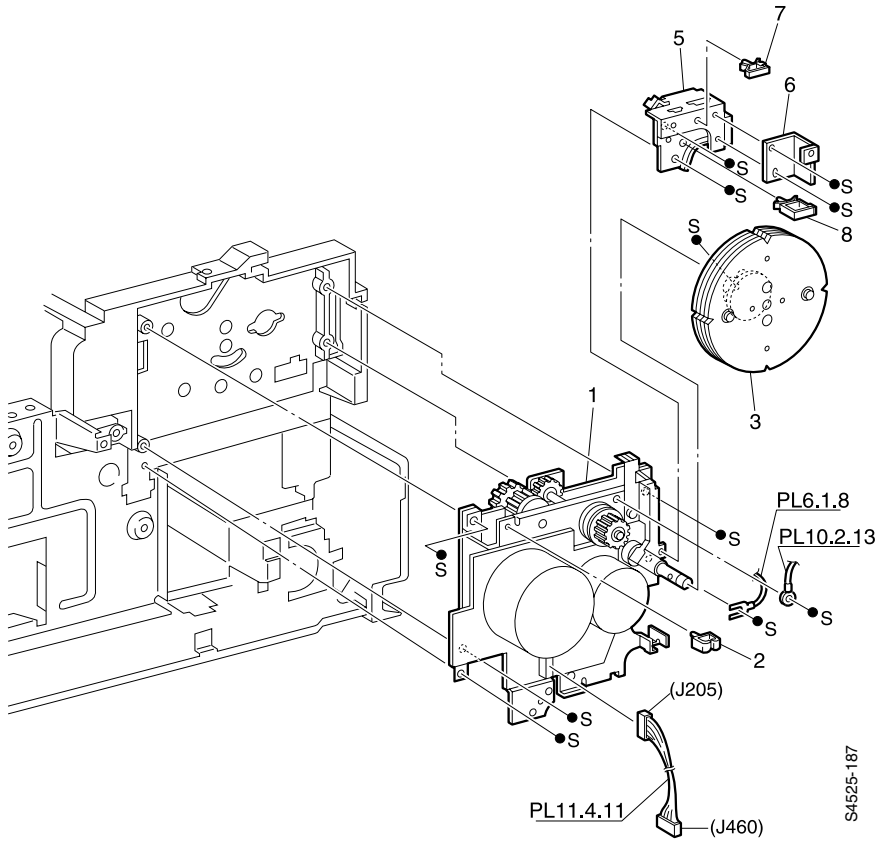
Table 1-136 PL 9.3 Upper Exit Chute Assembly

ID No.	Part Number	Qty	Name / Description
1	054K08504	1	Chute Assembly, Upper (with 2-16) {part of PL 9.1, item 1}
2	110K94651	1	Switch Assembly, Face Up Exit Sensor {part of item 1}
3		1	Plate, Tie {part of item 1}
4		1	Spring, Plate {part of item 1}
5		1	Spring Assembly, Pinch {part of item 1}
6		1	Spring Assembly, Pinch {part of item 1}
7		1	Roller, Pinch {part of item 1}
8		1	Roller, Pinch {part of item 1}
9		1	Chute, Upper {part of item 1}
10		1	Guide, Paper {part of item 1}
11		1	Guide, Paper {part of item 1}
12		1	Chute, Middle {part of item 1}
13		1	Gate, Exit {part of item 1}
14		1	Spring, Exit {part of item 1}
15		1	Spring Assembly, Pinch {part of item 1}
16		1	Spring Assembly, Pinch {part of item 1}

Table 1-137 PL 9.4 Exit Drive Assembly

ID No.	Part Number	Qty	Name / Description
1	068K20660	1	Bracket Assembly, Drive (with 2 - 17) {part of PL 9.1, item 1}
2		1	Support, Exit Drive {part of item 1}
3		1	Pulley, Exit Drive Idler {part of item 1}
4		1	Gear, Exit 1 {part of item 1}
5		1	Gear, Exit 2 {part of item 1}
6		1	Bracket, Exit Gear 2 {part of item 1}
7		1	Gear, Exit Idler {part of item 1}
8		1	Spring, Exit Ratchet {part of item 1}
9		1	Gear, 25T {part of item 1}
10	121K84520.	2	Gear/Clutch Assembly, Electric {part of item 1}
11		2	Shaft, Clutch {part of item 1}
12		2	Bearing {part of item 1}
13		1	Gear, 42T {part of item 1}
14		1	Gear/Clutch Assembly, Friction {part of item 1}
15		1	Gear, 42T {part of item 1}
16		1	Bracket, Inverter {part of item 1}
17		1	Harness Assembly {part of item 1} (J602<->J218/J219)

PL 10.1 Main Drive Assembly



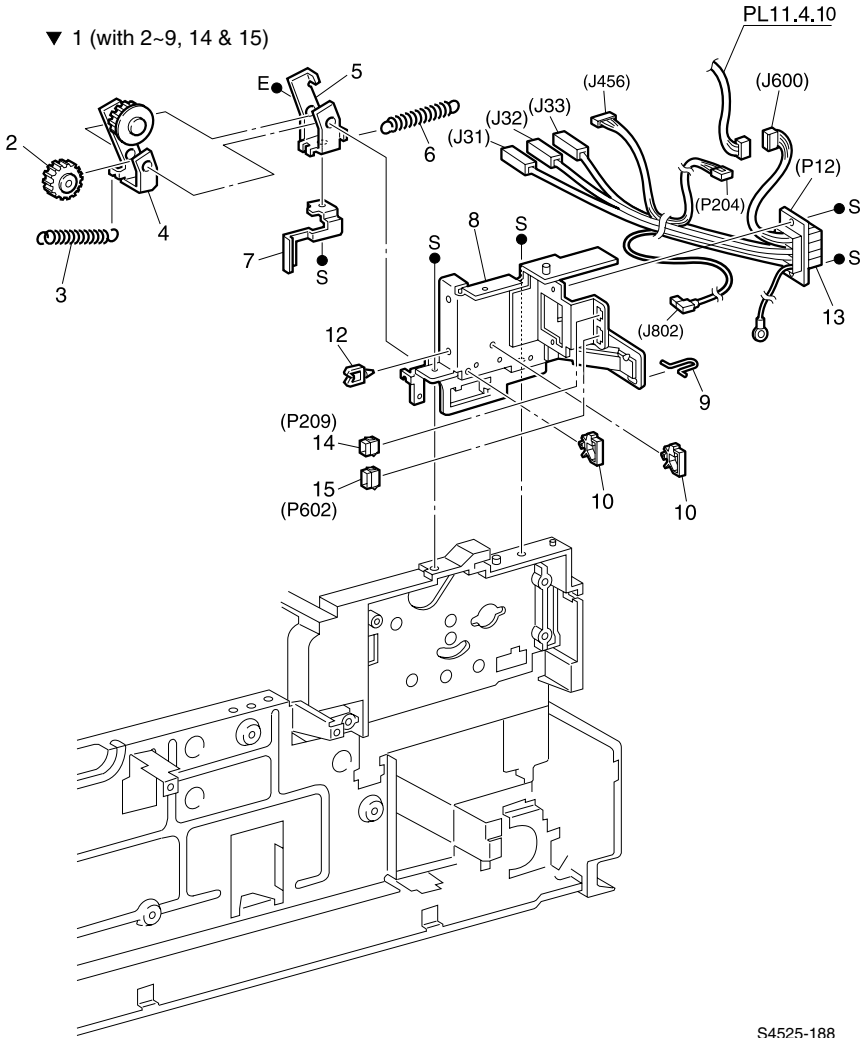
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Fig 1-127 Main Drive Assembly

Table 1-138 PL 10.1 Main Drive Assembly

ID No.	Part Number	Qty	Name / Description
1	007K85362	1	Drive Assembly, Main
2		1	Clamp, Harness
3	020K98171	1	Flywheel Assembly
4		1	Flange, Flywheel
5		1	Support, Harness
6		1	Bracket
7		1	Clamp, Harness
8		1	Clamp, Harness

PL 10.2 Fuser Drive Assembly



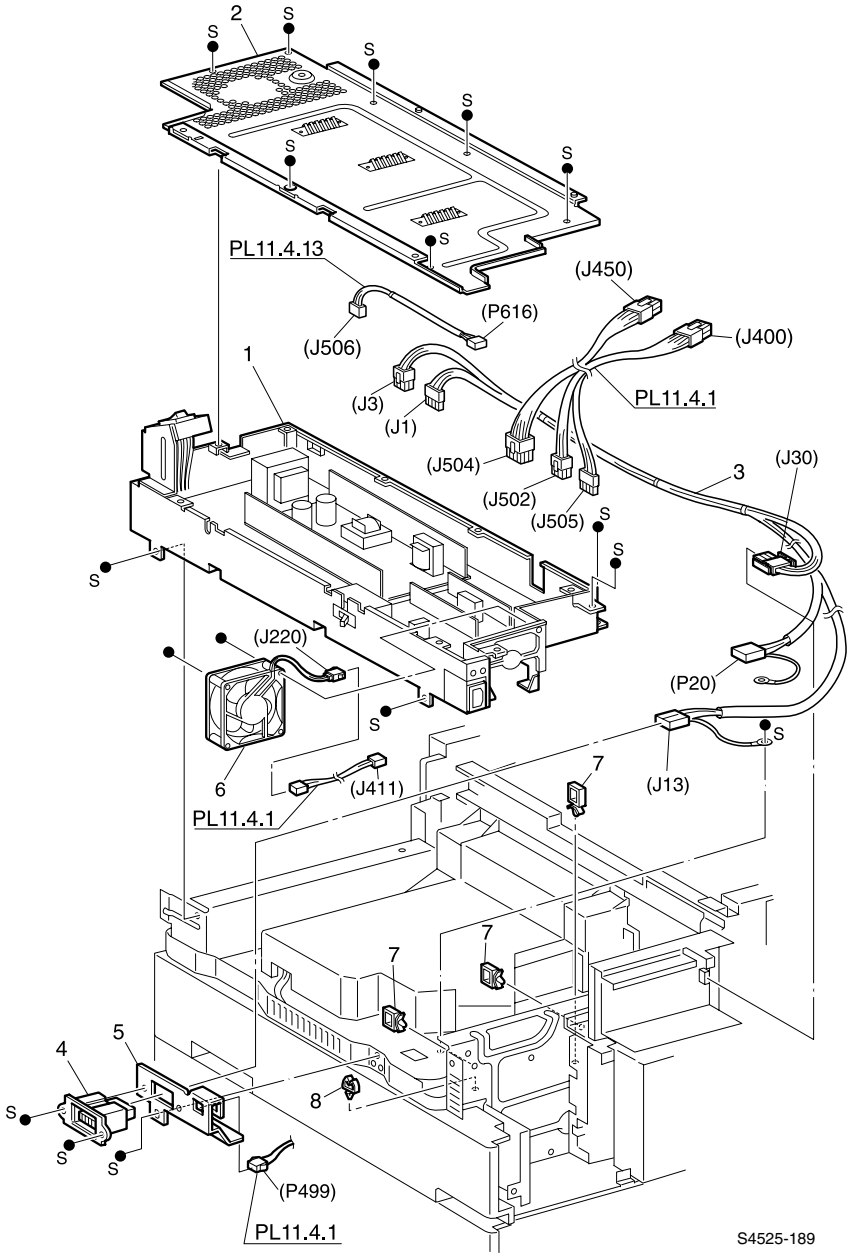
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Fig 1-128 Fuser Drive Assembly

Table 1-139 PL 10.2 Fuser Drive Assembly

ID No.	Part Number	Qty	Name / Description
1	068K18272	1	Frame Assembly, Rear Exit (with 2- 9, 14 & 15)
2		1	Gear, 22T {part of item 1}
3		1	Spring {part of item 1}
4		1	Bracket Assembly {part of item 1}
5		1	Bracket {part of item 1}
6		1	Spring, Exit {part of item 1}
7		1	Bracket {part of item 1}
8		1	Frame Assembly, Exit, Rear {part of item 1}
9		1	Holder {part of item 1}
10		1	Clamp, Harness, 1
11		1	Clamp, Harness, 2
12		1	Clamp, Harness, 3
13	162K53843	1	Connector, Fuser (P12<>J31/J32/J33/J600)
14		1	Connector (P104)
15		1	Connector (P602)

PL 11.1 Power Unit



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Fig 1-129 Power Unit

Table 1-140 PL 11.1 Power Unit

ID No.	Part Number	Qty	Name / Description
1	105K15540	1	Power Unit (110 VAC), with 6
	105K15550	1	Power Unit (220 VAC), with 6
2		1	Cover Assembly, Low Voltage Power Supply
3		1	Harness Assembly, AC Main (J3, J1<>J13, J30, P20)
4		1	Connector, Outlet
5		1	Bracket, Finisher
6	127K21460	1	Fan, Power Unit
7		3	Clamp
8		1	Clamp

PL 11.2 High Voltage Power Supply and Input/Output Board

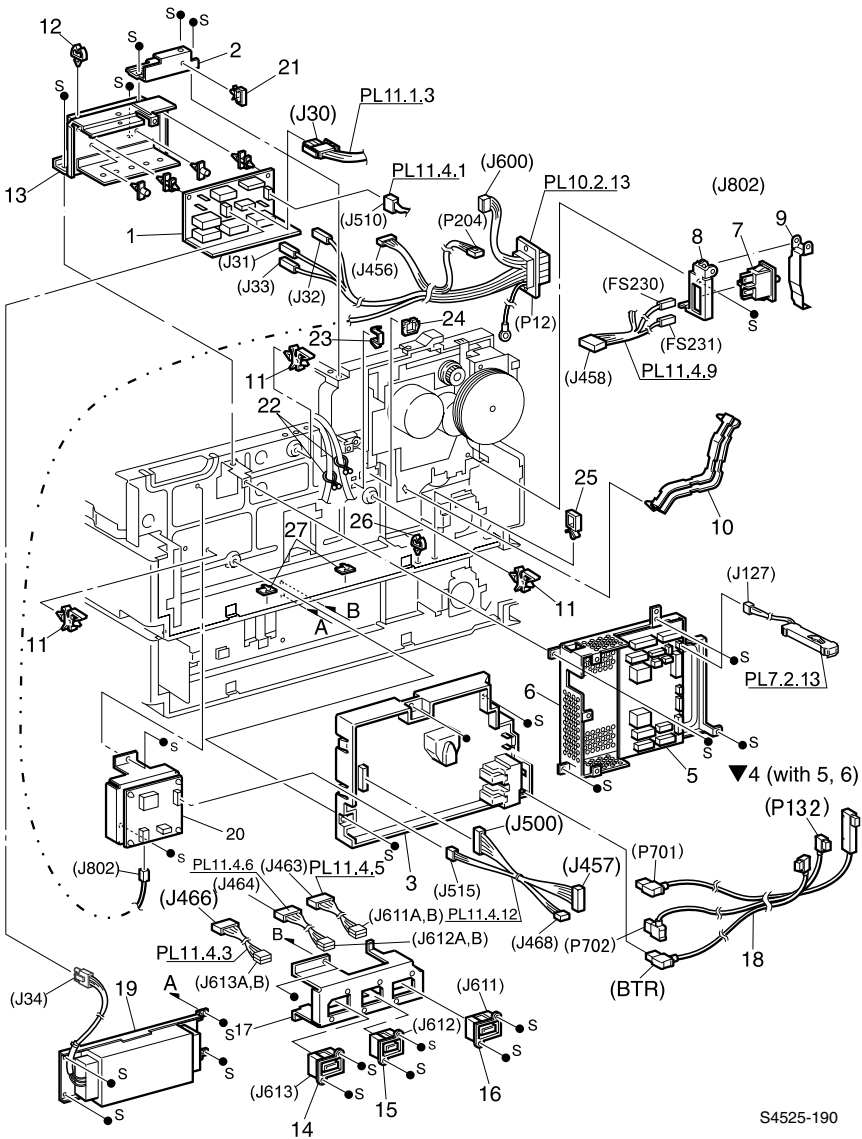


Fig 1-130 High Voltage Power Supply and Input/Output Board

Table 1-141 PL 11. 2 High Voltage Power Supply and I/O Board

ID No.	Part Number	Qty	Name / Description
1	160K62830	1	Board, AC, Driver, 220 VAC
	160K62400	1	Board, AC, Driver, 110 VAC
2		1	Bracket, System Controller, Rear
3	105K15631	1	High Voltage Power Supply, R1
4	101K35030	1	Chassis Assembly, Input/Output (Input/Output) (with 5 & 6)
5		1	Board, Input/Output {part of item 4}
6		1	Bracket, Board {part of item 4}
7	110E93460	1	Switch, Interlock
8		1	Bracket, Switch
9		1	Lever, Switch
10		1	Support, Harness
11		3	Support, Board
12		1	Clamp, Mini-Saddle
13		1	Bracket Assembly, AC Driver
14		1	Harness, Tray
15		1	Harness, Output
16		1	Harness, Duplex
17		1	Bracket, Connector
18		1	Harness Assembly, Exit
19	105E09921	1	Transformer (220 VAC version only)
20	105E09290	1	High Voltage Power Supply, R2

Table 1-142 PL 11.3 System Controller Assembly

ID No.	Part Number	Qty	Name / Description
1	101K37191	1	Assembly, System Controller (with 2 - 9, 11, 12, and 17)
2		1	Bracket Assembly, Board {part of item 1}
3	160K74034 or 160K74044	1	Board Assembly, Print Engine Controller 110 VAC {part of item 1}
		1	Board Assembly, Print Engine Controller 220 VAC {part of item 1}
4		1	Saddle, Bush {part of item 1}
5		1	Guide {part of item 1}
6	127K20030	1	Fan Assembly {part of item 1}
7		1	Bracket, Fan {part of item 1}
8		1	Box Assembly, System Controller {part of item 1}
9		1	Panel, Rear {part of item 1}
10		1	Cover, System Controller
11		1	Rail, {part of item 1}
12		3	Clamp {part of item 1}
13	160K80181	1	Board, System Controller (with item 14)
	121K25530 121K25970 (Alt.) 121K29430 (Alt.)		Option, Hard Disk Drive, 6+ Gbyte (not shown)
	733W14695		Option, Memory Upgrade, 16 MB DIMM (not shown)
	733W14696		Option, Memory Upgrade, 32 MB DIMM (not shown)
	733W14697		Option, Memory Upgrade, 64 MB DIMM (not shown)
	160K71940		Option, Flash DIMM, 8 Mbyte (not shown)
	160K71530		Option, Interface Card, Ethernet 10Base2 (not shown)
	160K71520		Option, Interface Card, RS232-C, Serial (not shown)
	160K71540		Option, Interface Card, Token Ring (not shown)
14		1	Panel, System Controller Drawer {part of item 13}
15		1	Harness Assembly, Laser Scanner (J409<->P430)
16	162K52990	1	Harness Assembly, Console (NJ417<->J401)
17		1	Clamp {part of item 1}

PL 11.4 Wiring Harness

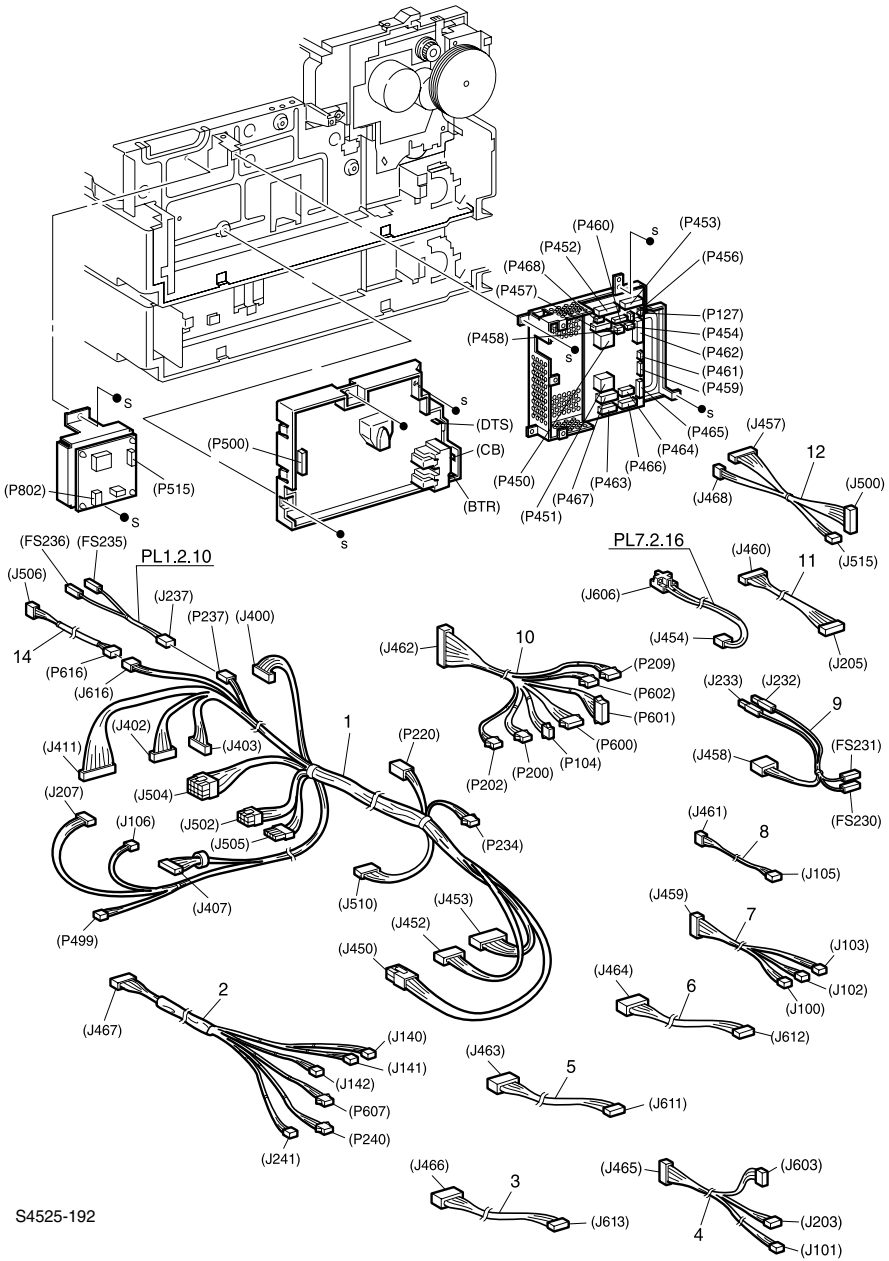


Table 1-143 PL 11.4 Wiring Harness

ID No.	Part Number	Qty	Name / Description
1		1	Harness Assembly, DC Main Low Voltage Power Supply: (J400/J450<>J502/J504/J505/J506/ System Controller Board: J452/J453<>J402/J403 Laser Scanner: J411<>P220/P237?J106/J207/P234/J407/P499/ J510
2		1	Harness Assembly, 1TM, Rear (J467<>J140/J141/J142/P607/P240/J241)
3		1	Harness Assembly, Tray (J466<>J613A/B)
4		1	Harness Assembly, Bottom (J465<>J101/J203//J603)
5		1	Harness Assembly, Duplex (J463<>J611A/B)
6		1	Harness Assembly, Output (J464<>J612A/B)
7		1	Harness Assembly (J459<>J100/J102/J103)
8		1	Harness Assembly (J461<>J105)
9		1	Harness Assembly, Interlock Switch (J458<>J232/J233/FS230/FS231)
10		1	Harness Assembly, DC, Rear, (J462<>P104/P200/P202/P209/P600/P601/P602)
11		1	Harness Assembly, Motor (J460<>J205)
12		1	Harness Assembly, High Voltage Power Supply (J457<>J500)
13		1	Harness Assembly, Fuser Fan (J456<>J204)

Xerox Supplies and Accessories

Table 1-144 Customer-Replaceable Consumables

Item	Average Life	Part Number
Laser Print Cartridge	30,000 prints*	113R00195
Staple Cartridge Refills	3 cartridges 5,000 staples per cartridge	108R00158
Maintenance Kit	300,000 prints	109R00048
Contains: a Fuser Cartridge, Bias Transfer Roller, 15 Feed Rolls (three for each paper input tray), gloves, cleaning cloth, and instructions		for 110 V (60 Hz) 109R00049 for 220 V (50 Hz)

*Average life of Laser Print Cartridge based on page coverage of 5% Letter or A4 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 1-145 Miscellaneous

Item	Part Number
Power Cord, 110 VAC	117E15940
Repackaging Kit	600K86720
Screw Kit	600K65640

Table 1-146 Xerox Professional Printing Paper

Item	Size	Description	Part Number
Xerox 4024 DP	Letter (U. S.) 8.5 x 11 in.	20 lbs. (75 g/m ²)	003R00721
Xerox 4024 DP	Legal 8.5 x 14 in.	20 lbs. (75 g/m ²)	003R00727
Xerox 4024 DP	Statement 5.5 x 8.5 in.	20 lbs. (75 g/m ²)	003R02072
Rank Xerox Business	A4 (Metric Letter) 210 x 297 mm	80 g/m ²	003R901820
Rank Xerox Business	A3 297 x 420 mm	80 g/m ²	003R91821
Rank Xerox Printer	A5 148.5 x 210 mm	80 g/m ²	003R91832
Xerox Image Series Smooth	Letter (U. S.) 8.5 x 11 in.	20 lbs. (75 g/m ²)	003R00054
Xerox Image Series Smooth	Legal 8.5 x 14 in.	20 lbs. (75 g/m ²)	003R00083
Rank Xerox	Legal 215 x 356 mm	80 g/m ²	003R901741
LaserPrint 80	A4 (Metric Letter) 210 x 297 mm	80 g/m ²	003R91922
Xerox Recycled	Letter (U. S.) 8.5 x 11 in.	20 lbs. (75 g/m ²)	003R06296
Steinbeis Recycled	A4 (Metric Letter) 210 x 297 mm	80 g/m ²	003R91165
80 DP Planet Plus	A4 (Metric Letter) 210 x 297 mm	80 g/m ²	003R900652

Table 1-147 Xerox Transparency Film

Item	Size	Part Number
Xerox Clear	Letter (U. S.) 8.5 x 11 in.	003R02780
Rank Xerox Clear	A4 (Metric Letter) 210 x 297 mm	003R96002

Table 1-148 Xerox Labels

Size	Description	Part Number
Letter (U. S.) 8.5 x 11 in.	30 labels per sheet	003R04469
Letter (U. S.) 8.5 x 11 in.	24 labels per sheet	003R04471
A4 (Metric Letter) 210 x 297 mm	24 labels per sheet	003R97406

Table 1-149 Options

Option and Features	Part Number
Custom Paper Tray <ul style="list-style-type: none"> ■ Handles continuously variable paper sizes ■ Holds up to 500 sheets of 80 g/m² (20 lbs.) stock 	097S02562
2,500-Sheet Feeder <ul style="list-style-type: none"> ■ Three additional trays ■ Increased paper-printing capacity ■ Increased printing versatility and convenience 	097S02560
Envelope Feeder <ul style="list-style-type: none"> ■ Holds 100 standard-weight envelopes 	097S02567 097K24870 (Alt.)
Duplex Module <ul style="list-style-type: none"> ■ <i>Automatic</i> duplex capability 	097S02561
Face-up Bin <ul style="list-style-type: none"> ■ Holds up to 200 sheets ■ Provides face-up output stacking 	097S02564
Finisher with stapler and hole puncher <ul style="list-style-type: none"> ■ Increased paper-output capacity ■ Holds up to 3,000 sheets of 80 g/m² (20 lbs.) stock (Letter, A4 paper) ■ Stapling capability ■ Hole-punching capability 	450S02180 3 hole positions 450S02181 4 hole positions
Hard disk drive <ul style="list-style-type: none"> ■ 5+ Gbyte hard drive ■ Store resources, fonts, forms, and macros; enables uninterrupted large-job collation 	097S02364
Memory upgrades <ul style="list-style-type: none"> ■ Improved system performance ■ Improved processing of complex jobs 	097S02356 (16-Mbyte DIMM) 097S02357 (32-Mbyte DIMM) 097S02358 (64-Mbyte DIMM)
8-Mbyte Flash DIMM <ul style="list-style-type: none"> ■ Non-volatile memory for downloading and storing fonts, forms, and macros 	097S02360
Ethernet 10Base2 Interface Card <ul style="list-style-type: none"> ■ Enables Ethernet 10Base2 connectivity 	097S02362
Token Ring interface card <ul style="list-style-type: none"> ■ Enables Token Ring connectivity 	097S02363
RS232-C serial interface card <ul style="list-style-type: none"> ■ Enables Serial connectivity 	097S02361

Plug/Jack Connector Locations

Locating Plug/Jack Connectors

Contents

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P/J Location

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 P/J Location table.
2. Locate the corresponding map and location number, such as M2-5, in the second column.
3. With this information, go to the appropriate map (in this case, Map 2) and locate item number 5.

Table 1-150 Plug/Jack Location

P/J	Map & Number	Connected to...	Other end connected to...
1	M8-16	AC Distribution Board	P/J13 Finisher Option
2	M8-1	AC Distribution Board	Low Voltage Power Supply
3	M8-17	AC Distribution Board	P/J30 AC Driver Board
4	M8-14	Low Voltage Power Supply - B3	P/J1 AC Distribution Board
5	M8-15	AC Distribution Board	- -
7	M8-2	AC Distribution Board	Main Power Switch
8	M8-3	AC Power Inlet	Main Power Switch
12	M4-5	Fuser	P/J31, P/J32, P/J33 AC Driver Board FS & T3 High Voltage Power Supply P/J600
13	M1-8	Finisher AC Connector	P/J1 AC Distribution Board
20	M7-8	P/J4	P/J1 AC Distribution Board
30	M8-10	AC Driver Board	P/J3 AC Distribution Board
31	M8-13	AC Driver Board	P/J12 Fuser
32	M8-9	AC Driver Board	P/J12 Fuser
33	M8-12	AC Driver Board	P/J12 Fuser
34	M8-11	AC Driver Board	220VAC Transformer
100	M2-6	Registration Sensor	P/J459 Input/Output Board
101	M2-8	Take Away 2 Sensor	P/J465 Input/Output Board
102	M2-7	Tray 1 No Paper Sensor	P/J459 Input/Output Board
103	M2-5	Tray 1 Level Sensor	P/J459 Input/Output Board
104	M4-11	Fuser Exit Sensor	P/J462 Input/Output Board
105	M3-28	Tray 1 Size Sensor	P/J461 Input/Output Board
106	M1-4	Start of Scan Sensor	P/J411 Print Engine Controller Board
107	M2-1	Multi-sheet Bypass Feeder Size Sensor	P/J465 Input/Output Board
108	M2-9	Multi-sheet Bypass Feeder No Paper Sensor	P/J465 Input/Output Board
109	M4-3	Face Up Exit Sensor	P/J462 Input/Output Board
127	M3-13	Input/Output Board	Toner Empty Sensor

Table 1-150 Plug/Jack Location (cont'd.)

P/J	Map & Number	Connected to...	Other end connected to...
133	M4-1	Full Stack Sensor	P/J462 Input/Output Board
140	M5-5	Tray 2 No Paper Sensor	P/J467 Input/Output Board
141	M5-4	Tray 2 Level Sensor	P/J467 Input/Output Board
142	M5-1	Tray 2 Size Sensor	P/J467 Input/Output Board
143	M5-6	Take-Away Roller 2 Sensor	P/J467 Input/Output Board
144	M5-7	Interlock Switch	P/J467 Input/Output Board
200	M3-14	Registration Clutch	P/J462 Input/Output Board
202	M3-17	Tray 1 Feed Clutch	P/J462 Input/Output Board
203	M3-18	Tray 1 Lift Motor	P/J465 Input/Output Board
204	M4-4	Fuser Fan	P/J456 Input/Output Board
205	M3-15	Main Motor Assembly	P/J460 Input/Output Board
207	M1-9	Laser Scanner Motor	P/J411 Print Engine Controller Board
208	M2-2	Multi-sheet Bypass Feeder Feed Clutch	P/J465 Input/Output Board
209	M4-6	Offset Motor	P/J462 Input/Output Board
210	M4-2	Exit Gate Solenoid	P/J462 Input/Output Board
218	M4-7	Inverter Clockwise Clutch	P/J462 Input/Output Board
219	M4-8	Inverter Counter Clockwise Clutch	P/J462 Input/Output Board
220	M8-7	Low Voltage Power Supply Fan	P/J411 Print Engine Controller Board
232	M3-8	Interlock Switch 1	FS231 Interlock Switch 2
233	M3-7	Interlock Switch 1	P/J458 Input/Output Board
234	M3-6	Laser Print (EP) Cartridge Interlock Switch	P/J411 Print Engine Controller Board & P/J407 Laser Scanner LD
237	M1-3	Front Cover Interlock Switch	P/J411 Print Engine Controller Board
240	M5-9	Tray 2 Feed Clutch	P/J467 Input/Output Board
241	M5-10	Tray 2 Lift Motor	P/J467 Input/Output Board
400	M6-9	Print Engine Controller Board	P/J502 & P/J504 Low Voltage Power Supply
401	M6-4	Print Engine Controller Board	
402	M6-7	Print Engine Controller Board	P/J452 Input/Output Board
403	M6-8	Print Engine Controller Board	P/J453 Input/Output Board
404	M6-5	Print Engine Controller Board	P/J417 Control Panel
405	M6-13	Print Engine Controller Board	- -
406	M6-11	Print Engine Controller Board	System Controller Board
407	M1-5	Laser Scanner LD	P/J411 Print Engine Controller Board
408	M6-12	Print Engine Controller Board	System Controller Board Fan
409	M6-2	Print Engine Controller Board	P/J430 Video Data Laser Scanner LD
410	M6-10	Print Engine Controller Board	- -

Table 1-150 Plug/Jack Location (cont'd.)

P/J	Map & Number	Connected to...	Other end connected to...
411	M6-1	Print Engine Controller Board	P/J106 SOS P/J207 Laser Scanner Motor P/J220 Low Voltage Power Supply Fan P/J237 Front Cover Interlock Switch P/J407 Laser Print (EP) Cartridge Interlock Switch P/J499 Test Connector P/J506 AC Distribution Board P/J510 AC Distribution Board AC Distribution Board
417	M6-3	Control Panel	P/J404 Print Engine Controller Board
430	M1-6	Laser Scanner LD	P/J409 Print Engine Controller Board
450	M3-2	Input/Output Board	P/J502, P/J504, P/J505 Low Voltage Power Supply
451	M3-27	Input/Output Board	MFD Card
452	M3-4	Input/Output Board	P/J402 Print Engine Controller Board
453	M3-11	Input/Output Board	P/J403 Print Engine Controller Board
454	M3-16	Input/Output Board	P/J606 Laser Print (EP) Cartridge
456	M3-12	Input/Output Board	P/J204 Fuser Fan
457	M3-3	Input/Output Board	P/J500 High Voltage Power Supply
458	M3-5	Input/Output Board	P/J233 Interlock Switch 1 FS230 Interlock Switch 2
459	M3-21	Input/Output Board	P/J100 Registration Sensor P/J102 Tray 1 No Paper Sensor P/J103 Tray 1 Paper Level Sensor
460	M3-10	Input/Output Board	P/J205 Main Motor Assembly
461	M3-20	Input/Output Board	P/J105 Tray 1 Size Sensor
462	M3-19	Input/Output Board	P/J104 Fuser Exit Sensor P/J109 Face Up Exit Sensor P/J133 Full Stack Sensor P/J200 Registration Clutch P/J202 Tray 1 Feed Clutch P/J209 OCT Motor P/J210 Exit Gate Solenoid P/J218 Inverter Clockwise Clutch P/J219 Inverter Counter Clockwise Clutch
463	M3-25	Input/Output Board	P/J473 Duplex Board
464	M3-23	Input/Output Board	P/J612 Finisher
465	M3-22	Input/Output Board	P/J101 Take Away Sensor P/J203 Tray 1 Lift Motor P/J604 Multi-sheet Bypass Feeder or Envelope Feeder
466	M3-24	Input/Output Board	P/J480 High Capacity Feeder

Table 1-150 Plug/Jack Location (cont'd.)

P/J	Map & Number	Connected to...	Other end connected to...
467	M3-26	Input/Output Board	P/J140 Tray 2 No Paper Sensor P/J141 Tray 2 Level Sensor P/J142 Tray 2 Size Sensor P/J143 Take Away Sensor 2 P/J144 L/H Interlock Switch P/J240 Tray 2 Feed Clutch P/J241 Tray 2 Lift Motor
468	M3-29	Input/Output Board	P/J515 High Voltage Power Supply-FB
499	M1-7	Test Connector	P/J411 Print Engine Controller Board
500	M3-1	High Voltage Power Supply	P/J457 Input/Output Board
502	M8-5	Low Voltage Power Supply	P/J400 Print Engine Controller Board P/J450 Input/Output Board
504	M8-6	Low Voltage Power Supply	P/J400 Print Engine Controller Board P/J450 Input/Output Board
505	M8-4	Low Voltage Power Supply	P/J450 Input/Output Board
506	M8-18	Low Voltage Power Supply	P/J411 Print Engine Controller Board
510	M8-8	AC Driver Board	P/J411 Print Engine Controller Board
515	M3-31	High Voltage Power Supply-R2	P/J468 Input/Output Board
600	M4-9	P/J12 Fuser	P/J462 Input/Output Board
601	M4-10	P/J109 Face Up Exit Sensor P/J133 Full Stack Sensor P/J210 Exit Gate Solenoid	P/J462 Input/Output Board
602	M4-12	P/J218 Inverter Clockwise Clutch P/J219 Inverter Counter Clockwise Clutch	P/J462 Input/Output Board
603	M2-4	P/J604 Multi-sheet Bypass Feeder	P/J465 Input/Output Board
604	M2-3	P/J603	P/J107 Multi-sheet Bypass Feeder Size Sensor P/J108 Multi-sheet Bypass Feeder No Paper Sensor P/J208 Multi-sheet Bypass Feeder Feed Clutch
606	M3-9	Laser Print (EP) Cartridge	P/J454 Input/Output Board
607	M5-8	P/J143 Tray 2 Take Away Sensor P/J144 Tray 2 L/H Interlock Switch	P/J604
611	M7-6	P/J473 Duplex Board	P/J463 Input/Output Board
612	M7-5	P/J830 Finisher	P/J464 Input/Output Board
613	M7-7	P/J480 High Capacity Feeder	P/J466 Input/Output Board
615	M6-6	P/J417 Control Panel	P/J401 Print Engine Controller Board

Table 1-150 Plug/Jack Location (cont'd.)

P/J	Map & Number	Connected to...	Other end connected to...
802	M3-30	High Voltage Power Supply-R2	Fuser
Bias Transfer Roller	M7-4	Bias Transfer Roller	High Voltage Power Supply
CB	M7-3	Charge Roller	High Voltage Power Supply
DTS	M7-1	Detach Saw	High Voltage Power Supply
FS230	M5-3	Interlock Switch 2	P/J458 Input/Output Board
FS231	M5-2	Interlock Switch 2	P/J232 Interlock Switch 1
FS235	M1-2	P/J237	P/J411 Print Engine Controller Board
FS236	M1-1	P/J237	P/J411 Print Engine Controller Board

P/J Location Map 1

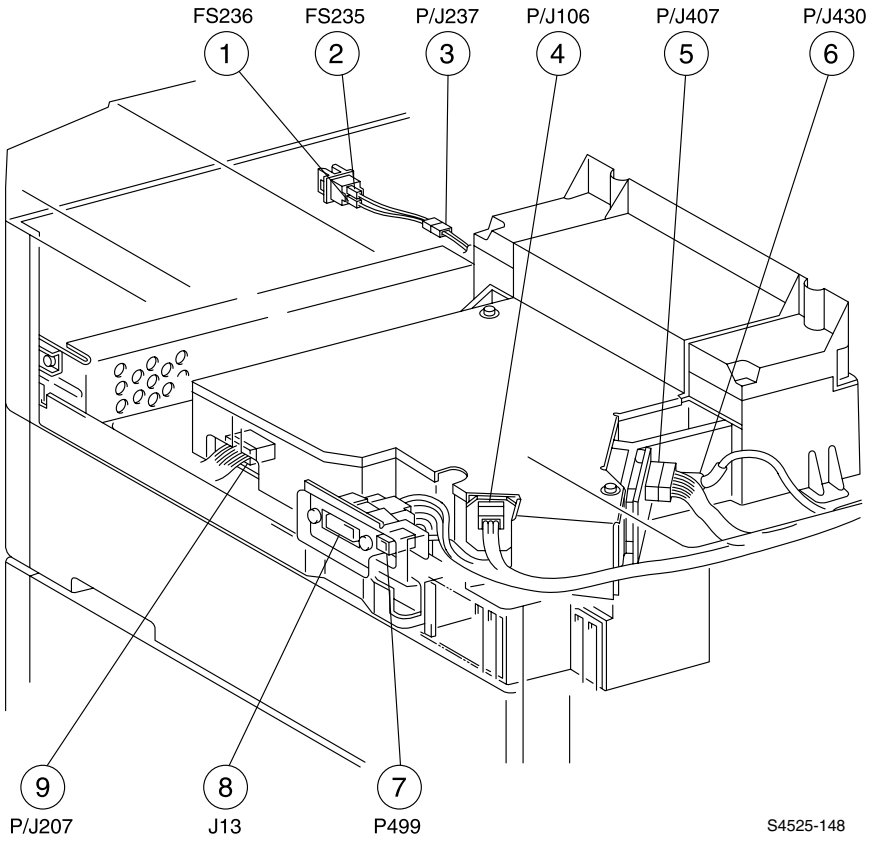
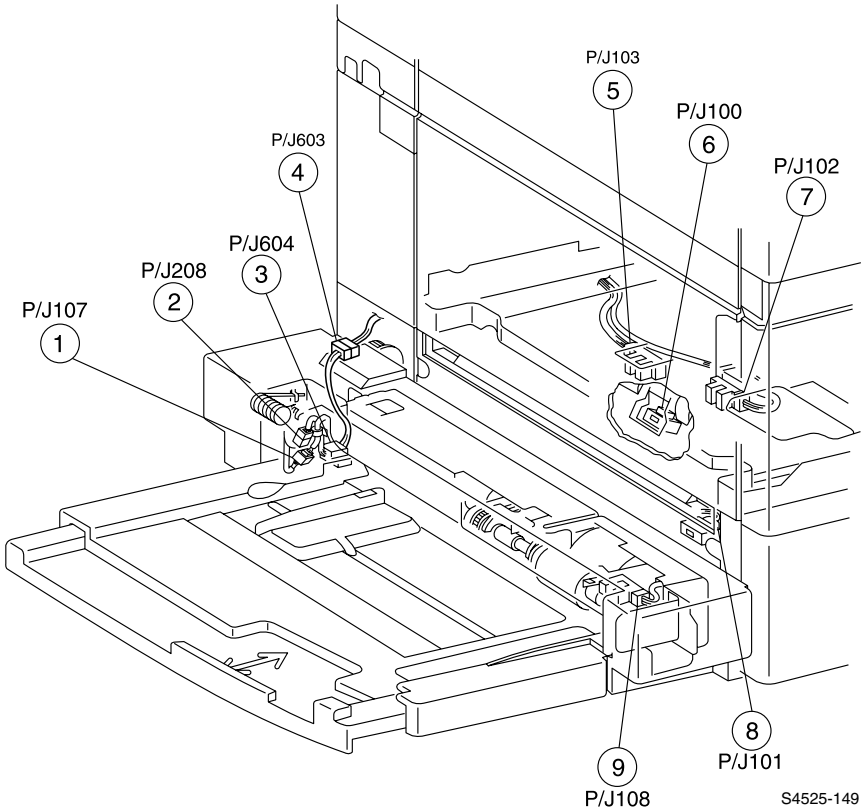


Fig 1-133 P/J Location Map 1

P/J Location Map 2



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Fig 1-134 P/J Location Map 2

P/J Location Map 3

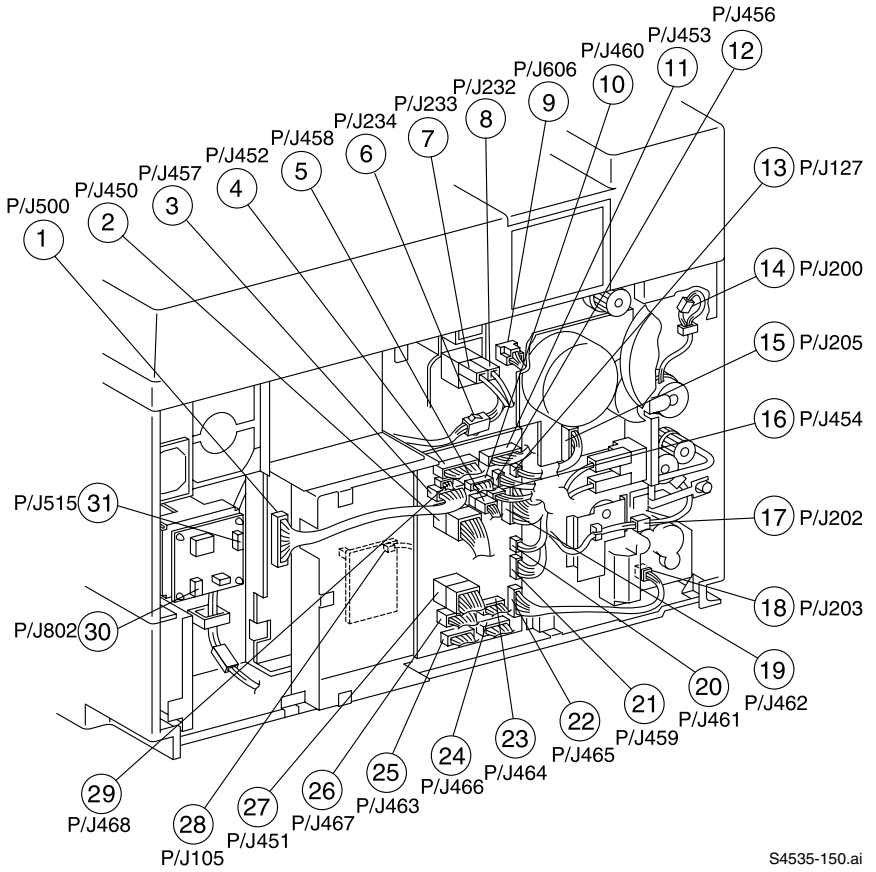


Fig 1-135 P/J Location Map 3

P/J Location Map 4

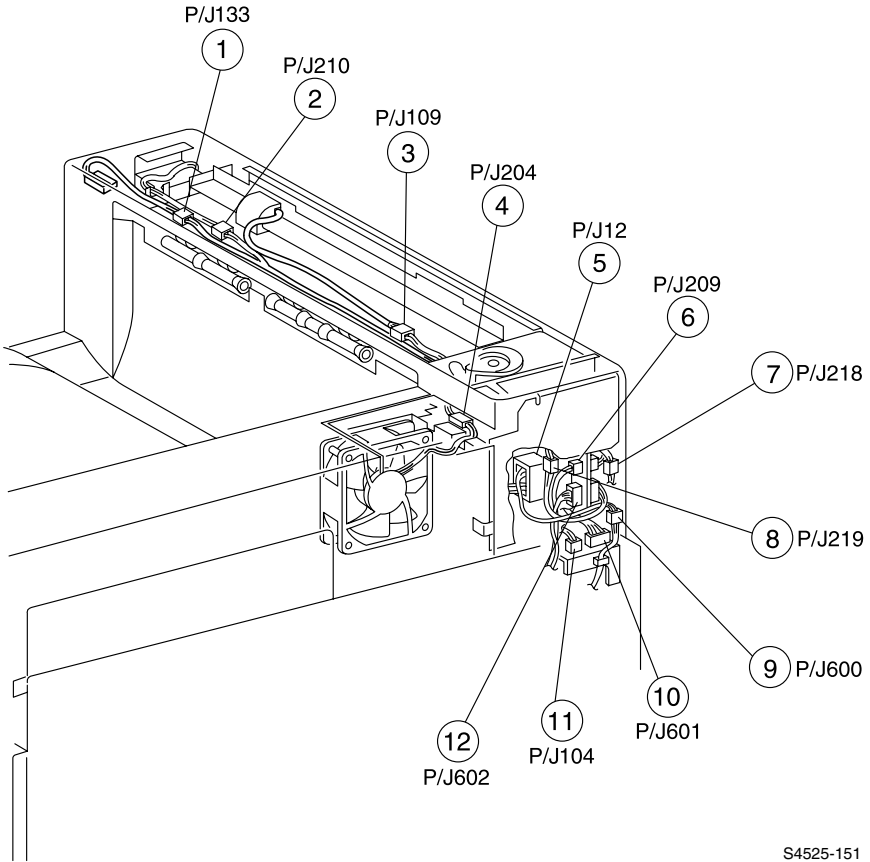


Fig 1-136 P/J Location Map 4

P/J Location Map 5

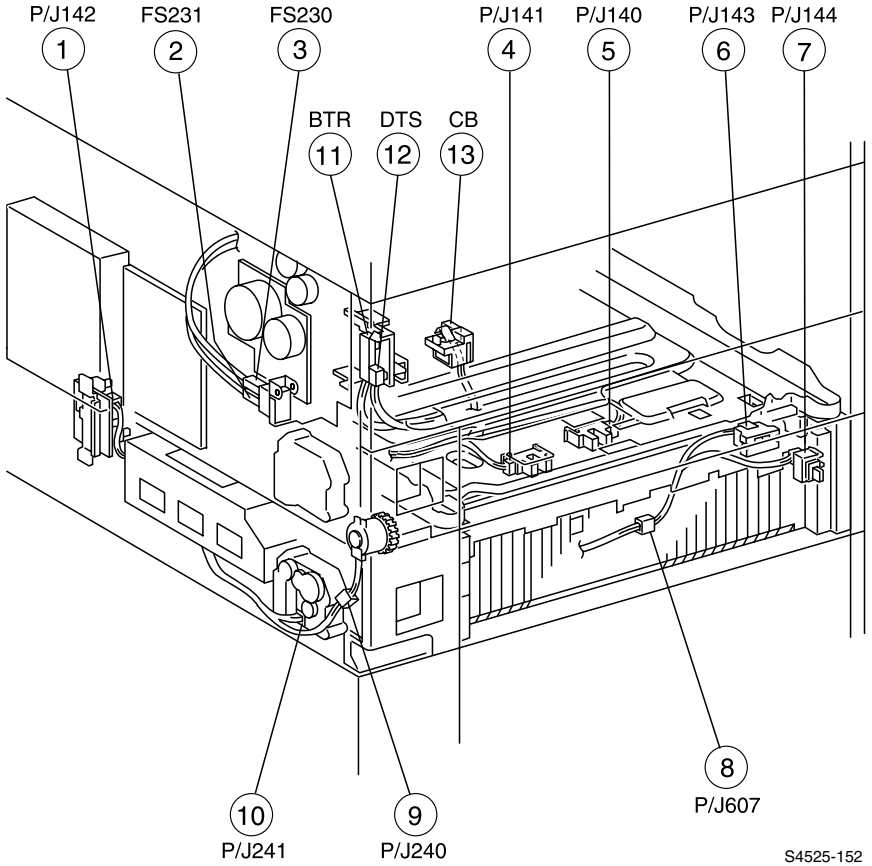
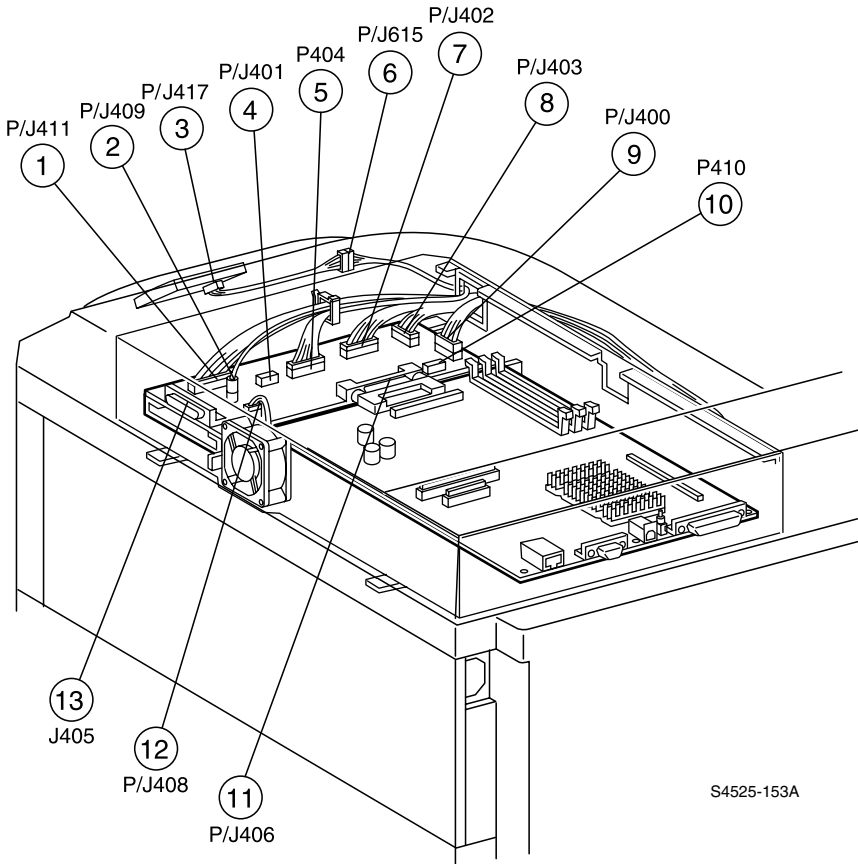


Fig 1-137 P/J Location Map 5

P/J Location Map 6



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Fig 1-138 P/J Location Map 6

P/J Location Map 7

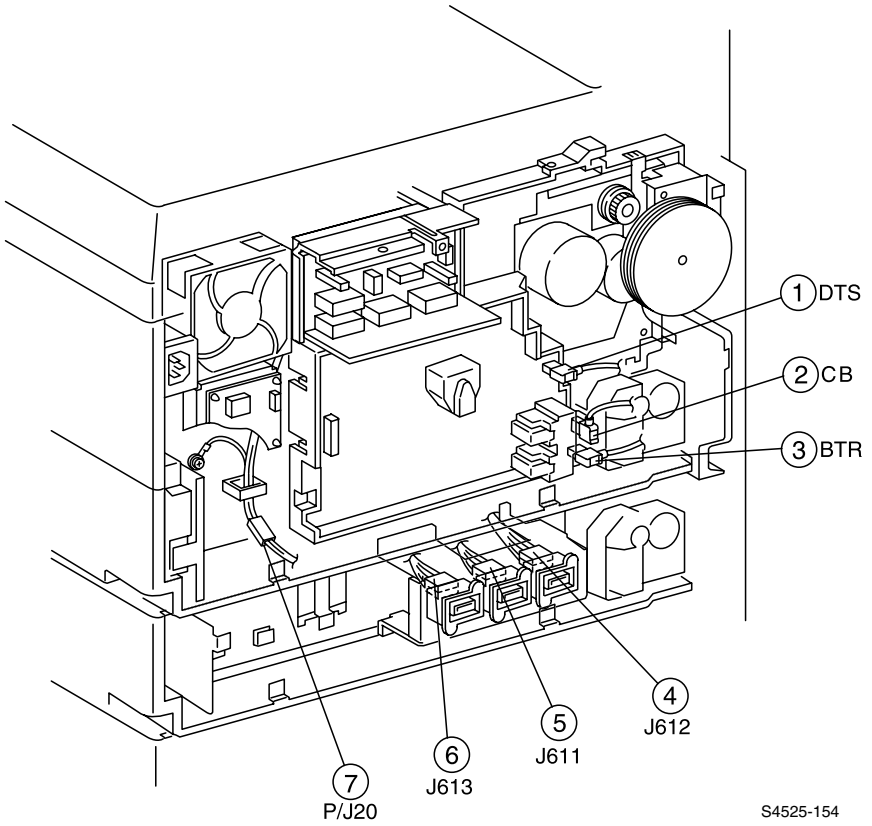
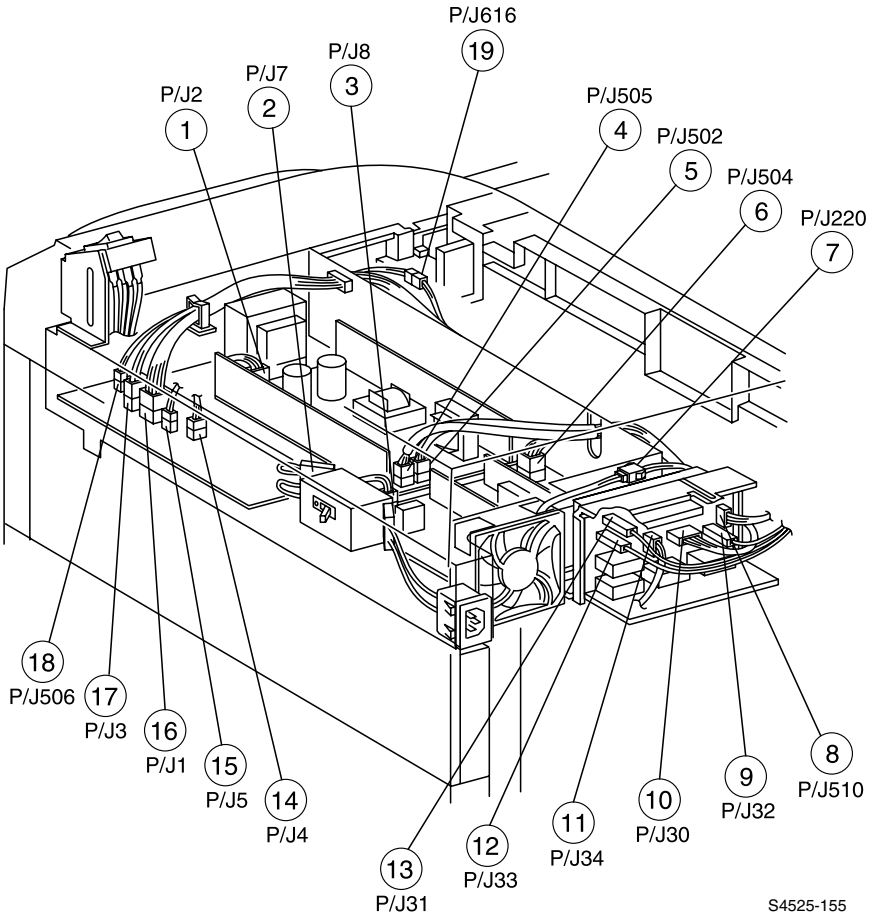


Fig 1-139 P/J Location Map 7













P/J Location Map 8



S4525-155

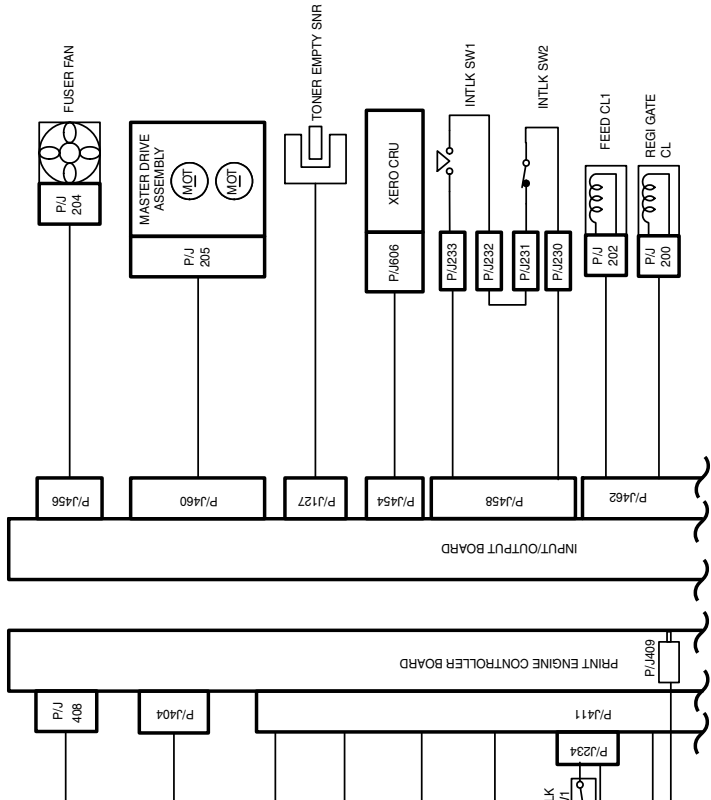
Fig 1-140 P/J Location Map 8

The following circuit notations are used to describe components and signal paths throughout the Master Wiring Diagram.

	<p>Plug/Jack XX  is a male connector (plug) of P/U xx  is a female connector (jack) of P/U xx</p>
	<p>Component name</p>
	<p>Component or sub-assembly within a larger assembly</p>
	<p>Wire connection</p>
	<p>Frame ground wire fastened with a screw to the printer frame</p>
	<p>Wire with signal name and direction of signal flow. In some cases, such as a signal name of SVDC, the signal is a steady flow of approximately 5VDC. In other cases, such as a signal name /HEAT, the signal is near 5VDC when off and near 0VDC when on. Or in the case of the signal name HEAT, the signal is near 5VDC when on and near 0VDC when off.</p>
	<p>Frame ground</p>
	<p>Signal ground</p>
	<p>Signal return</p>
	<p>Diagram simplification; connector, component, or PWB is continued on the indicated Block Diagrams</p>

S4625-193

Wiring Diagram



S4525-305A

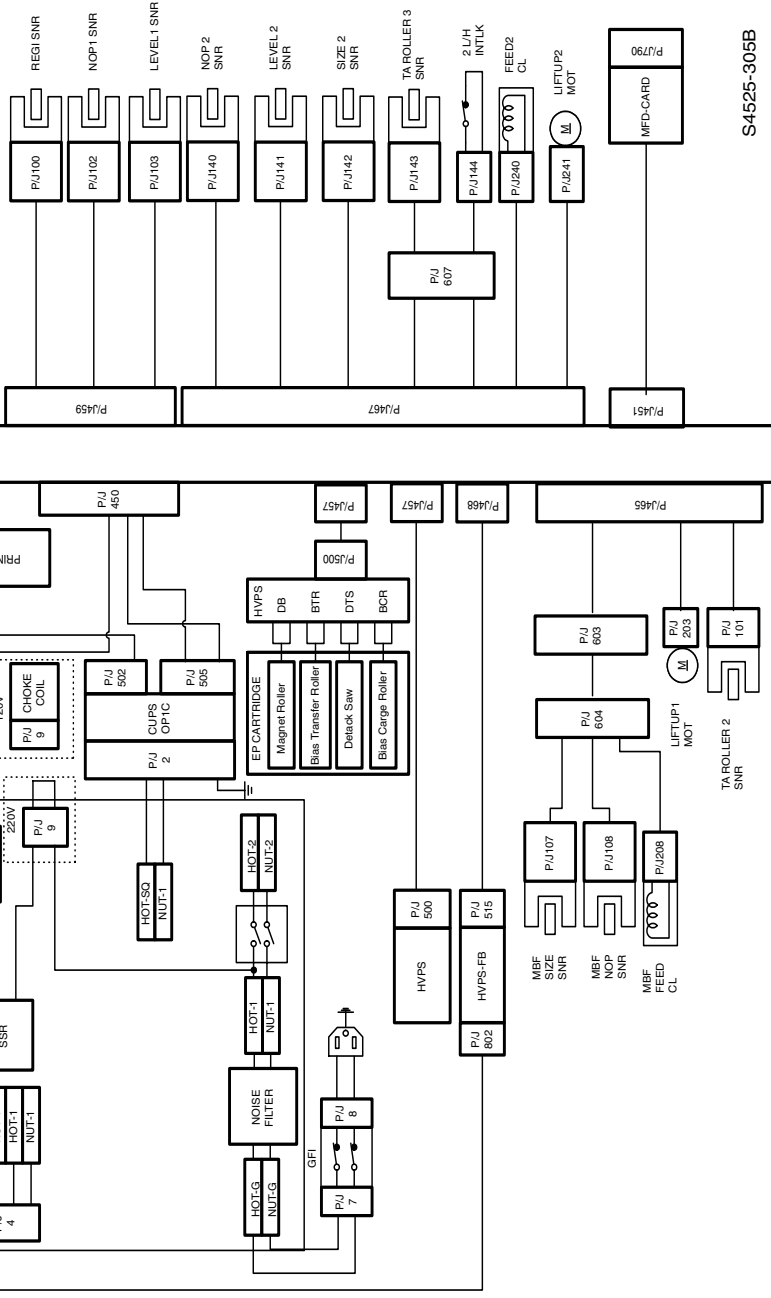


Fig 1-142 Master Connection and Wiring Diagram 2 of 2

S4525-305B

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