Phaser® 6500/WorkCentre® 6505
Color Laser Printer/Multi-Function Printer

Phaser® 6500/ WorkCentre® 6505 Service Manual

Xerox Internal-Use Only

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Phaser® 6500/ WorkCentre® 6505 Service Manual

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About this Service Manual

The Phaser 6500/WorkCentre 6505 Service Manual is the primary document used for repairing, maintaining, and troubleshooting the printer. Use this manual as your primary resource for understanding the operational characteristics of the printer and all available options. This manual describes specifications, theory, and the diagnosis and repair of problems occurring in the printer and attached options. Also included are detailed replacement procedures, parts lists, and wiring diagrams.

Manual Terms

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

Warning

A warning indicates an operating or maintenance procedure, practice or condition that, if not strictly observed, results in injury or loss of life.

Caution

A caution indicates an operating or maintenance procedure, practice or condition that, if not strictly observed, results in damage to, or destruction of, equipment.

Replacement Note

A replacement note provides important information related to parts replacement. When needed, replacement notes appear at the end of the disassembly procedure.

Note

A note indicates an operating or maintenance procedure, practice or condition that is necessary to efficiently accomplish a task. A note can provide additional information related to a specific subject or add a comment on the results achieved through a previous action.

Manual Organization

The Phaser 6500/WorkCentre 6505 Service Manual contains these sections:

Introductory, Safety, and Regulatory Information: This section contains important safety information and regulatory requirements.

Chapter 1 - General Information: This section contains an overview of the printer's operation, configuration, specifications, and consumables.

Chapter 2 - Theory of Operation: This section contains detailed operational information on the print engine components.

Chapter 3 - Error Codes and Messages: This section provides detailed troubleshooting procedures for error messages and codes generated by resident diagnostics.

Chapter 4 - General Troubleshooting: Troubleshooting covers the operation of Power On Self Test (POST) and Service Diagnostics. In addition, this section includes troubleshooting methods for situations where an error indicator is not available.

Chapter 5 - Print-Quality Troubleshooting: This section focuses on techniques to correct image quality problems associated with printer output.

Chapter 6 - Adjustments and Calibrations: This section provides procedures for the adjustment of print engine components.

Chapter 7 - Cleaning and Maintenance: This section provides periodic cleaning procedures for the printer.

Chapter 8 - Service Parts Disassembly: This section contains removal procedures for spare parts listed in the Parts List. A replacement procedure is included when necessary.

Chapter 9 - Parts List: This section contains exploded views of the print engine and optional Field Replaceable Units (FRUs), as well as part numbers for orderable parts.

Chapter 10 - Wiring: This section contains the plug/jack locations and wiring diagrams for the printer.

Reference: This section provides an illustration of the printer's menu structure, printer firmware update instructions, and a list of acronyms and abbreviations.

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Symbols Marked on the Product

Danger invisible laser radiation when open. Avoid direct exposure to beam.

Hot surface on or in the printer. Use caution to avoid personal injury.

Use caution (or draws attention to a particular component). Refer to the manual(s) for information.

It may take 30 minutes for the Fuser to cool down.

Do not touch the item.

Do not expose the item to sunlight.

Do not expose the item to light.

Product Terms

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 Safety Precautions

Power Source

For 115 VAC printers, do not apply more than 127 volts RMS between the supply conductors or between either supply conductor and ground. For 230 VAC printers, do not apply more than 254 volts RMS between the supply conductors or between either supply conductor and ground. Use only the specified power cord and connector. This manual assumes that the reader is a qualified service technician.

Plug the three-wire power cord (with grounding prong) into a grounded AC outlet only. If necessary, contact a licensed electrician to install a properly grounded outlet. If the product loses its ground connection, contact with conductive parts may cause an electrical shock. A protective ground connection by way of the grounding conductor in the power cord is essential for safe operation.

Disconnecting Power

Warning

Turning the power Off using the power switch does not completely de-energize the printer. You must also disconnect the Power Cord from the printer's Alternating Current (AC) inlet. Disconnect the Power Cord by pulling the plug, not the cord.

Disconnect the Power Cord in the following cases:

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

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Electrostatic Discharge (ESD) Precautions

Some semiconductor components, and the respective sub-assemblies that contain them, are vulnerable to damage by Electrostatic Discharge (ESD). These components include Integrated Circuits (ICs), Large-Scale Integrated circuits (LSIs), field-effect transistors, and other semiconductor chip components. The following techniques will reduce the occurrence of component damage caused by static electricity.

Be sure the power is Off and observe these other safety precautions.

- Immediately before handling any semiconductor components assemblies, drain the electrostatic charge from your body. This can be accomplished by touching an earth ground source or by wearing a wrist strap device connected to an earth ground source. Wearing a wrist strap will also prevent accumulation of additional bodily static charges. Be sure to remove the wrist strap before applying power to the unit under test to avoid potential shock.
- After removing a static sensitive assembly from its anti-static bag, place it on a grounded conductive surface. If the anti-static bag is conductive, you may ground the bag and use it as a conductive surface.
- Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage some devices.
- Do not remove a replacement component or electrical sub-assembly from its protective package until you are ready to install it.
- Immediately before removing the protective material from the leads of a replacement device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
- Minimize body motions when handling unpacked replacement devices. Motion such as your clothes brushing together, or lifting a foot from a carpeted floor can generate enough static electricity to damage an electro-statically sensitive device.
- Handle ICs and Erasable Programmable Read-Only Memories (EPROM's) carefully to avoid bending pins.
- Pay attention to the direction of parts when mounting or inserting them on Printed Circuit Boards (PCB's).

Service Safety Summary

General Guidelines

For qualified service personnel only: Refer also to the preceding “Power Safety Precautions” on page xviii.

Avoid servicing 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 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.

Warning Labels

Read and obey all posted warning labels. Throughout the printer, warning labels are displayed on potentially dangerous components. As you service the printer, check to make certain that all warning labels remain in place.

Safety Interlocks

Make sure all covers are in place and all Interlock Switches are functioning correctly after you have completed a printer service call. If you bypass an Interlock Switch during a service call, use extreme caution when working on or around the printer.

Class 1 Laser Product

The Phaser 6500/WorkCentre 6505 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 product does not emit hazardous laser radiation; which is possible only because the laser beam is totally enclosed during all modes of customer operation. When servicing the printer or laser unit, follow the procedures specified in this manual and there will be no hazards from the laser.

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Servicing Electrical Components

Before starting any service procedure, switch the printer power Off 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.

Warning

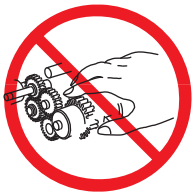
Do not touch any electrical component unless you are instructed to do so by a service procedure.

Servicing Mechanical Components

When servicing mechanical components within the printer, manually rotate the Drive Assemblies, Rollers, and Gears.

Warning

Do not try to manually rotate or manually stop the drive assemblies while any motor is running.



Servicing Fuser Components

Warning

This printer uses heat to fuse the image on the media. When operating, the Fuser is very hot. Turn the printer power Off and allow the Fuser to cool before servicing the Fuser or adjacent components.

Regulatory

Xerox has tested this product to electromagnetic emission and immunity standards. These standards are designed to mitigate interference caused or received by this product in a typical office environment.

United States (FCC Regulations)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the Federal Communications Commission (FCC) Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. If it is not installed and used in accordance with these instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment Off and On, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiver (device being interfered with).
- Increase the separation between the printer and the receiver.
- Connect the equipment into an outlet on a circuit different from that which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

Any changes or modifications not expressly approved by Xerox could void the user's authority to operate the equipment. To ensure compliance with Part 15 of the FCC rules, use shielded interface cables.

Canada (Regulations)

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

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European Union

The CE mark applied to this product symbolizes Xerox's declaration of conformity with the following applicable Directives of the European Union as of the dates indicated:

CE

December 12, 2006: Low Voltage Directive 2006/95/EC

December 15, 2004: Electromagnetic Compatibility Directive 2004/108/EC

March 9, 1999 - Radio & Telecommunications Terminal Equipment Directive (1999/5/EC)

This product, if used properly in accordance with the user's instructions, is neither dangerous for the consumer nor for the environment.

To ensure compliance with European Union regulations, use shielded interface cables.

A signed copy of the Declaration of Conformity for this product can be obtained from Xerox.

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General Information

In this chapter...

- Printer Introduction and Overview
- Printer Configuration
- Parts of the Printer
- Printer Options
- Maintenance Items
- Consumables
- Specifications

Chapter 1

Printer Introduction and Overview

The Xerox Phaser 6500/WorkCentre 6505 has a single-pass color laser architecture, which offers color and mono print speeds of 24/24-ppm, and resolutions up to 600 x 600 dots-per-inch (dpi). The printer includes an image processor supporting PostScript 3 and PCL6 page description languages The printer supports USB 2.0, 10/100/1000 Base-TX, and IPv6 Ethernet connectivity.

The Phaser 6500 is a single-function printer (SFP) that provides a 250-sheet Tray and a Manual Feed slot supporting single-sheet feed of specialty media, card stock, and envelopes. The Output Tray holds 150 sheets facedown. Available options include a Duplex Unit and an additional 250-sheet input tray (Tray 2).

The WorkCentre 6505 is a multi-function printer (MFP) that combines a 1200 dpi scanner and a G3 Fax modem with the color laser printer to provide copy, scan, and Fax functions. The Scanner supports USB Scan to Desktop, Network Scan to FTP, Network Scan to Server Message Block (SMB), and Network Scan to E-Mail with resolution up to 1200 dpi and interpolated up to 9600 dpi.

Technical Support Information

The Xerox Service Manual is the primary document used for repairing, maintaining, and troubleshooting the printer. To ensure complete understanding of this product, participation in Xerox Service Training is strongly recommended. To service this product, certification for this product is required.

For updates to the Service Manual, Service Bulletins, knowledge base, etc., go to:

- Xerox Global Service Net - https://www.xrxgsn.com/secure/main.p

For further technical support, contact your assigned Xerox Technical Support for this product.

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Printer Configuration

The tables list Phaser 6500/WorkCentre 6505 printer configuration

Single-Function Printer (SFP) Configuration

Features	Phaser 6500
Processor Speed	400 MHz
Memory Configuration[a]	256 MB
Print Speed (Color/Mono A-size)	24/24
Resolutions (dpi)	
Standard	600 x 600 x 1 bit
Enhanced	600 x 600 x 4 bit
PostScript 3 and PCL6 Fonts	Standard
USB 2.0 Support	Standard
Ethernet Interface	10/100/1000 Base-TX
Manual Feed slot (Single sheet)	Standard
Tray 1 (250 Sheets)	Standard
Tray 2 (250 Sheets)	Optional
Duplex Unit	Optional
Wireless LAN	Optional

a. Printer has one memory slot supporting 256 MB, 512 MB, or 1024 MB DDR2 DIMMs, to a maximum of 1280 MB (256 MB standard + 1024 MB optional).

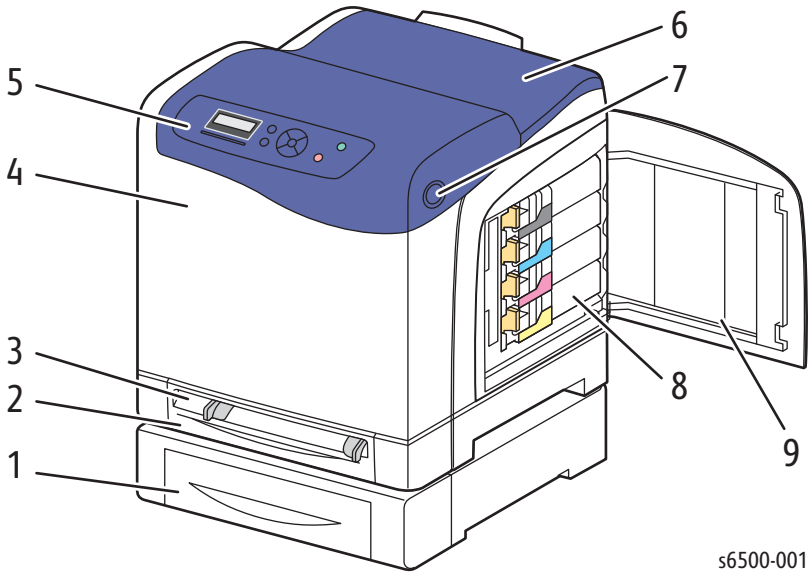
Multi-Function Printer (MFP) Configuration

Features	WorkCentre 6505
Processor Speed	400 MHz
Memory Configuration[a]	256 MB
Print Speed (Color/Mono A-size)	24/24
Resolutions (dpi)	
Standard	600 x 600 x 1 bit
Enhanced	600 x 600 x 4 bit
PostScript 3 and PCL6 Fonts	Standard
USB 2.0 Support	Standard
Ethernet Interface	10/100/1000 Base-TX
Manual Feed slot (Single sheet)	Standard
Tray 1 (250 Sheets)	Standard
Tray 2 (250 Sheets)	Optional
Duplex Unit	Optional
Wireless LAN	Optional

a. Printer has one memory slot supporting 256 MB, 512 MB, or 1024 MB DDR2 DIMMs, to a maximum of 1280 MB (256 MB standard + 1024 MB optional).

Parts of the Printer

SFP Front and Side Views



1. Optional 250-sheet Feeder (Tray 2)
2. Media tray (Tray 1 if optional 250-sheet feeder is installed).
3. Manual Feed slot
4. Front Cover
5. Control Panel
6. Output tray
7. Button for opening the Front Cover and releasing the Duplex Unit.
8. Toner Cartridges
9. Toner Door

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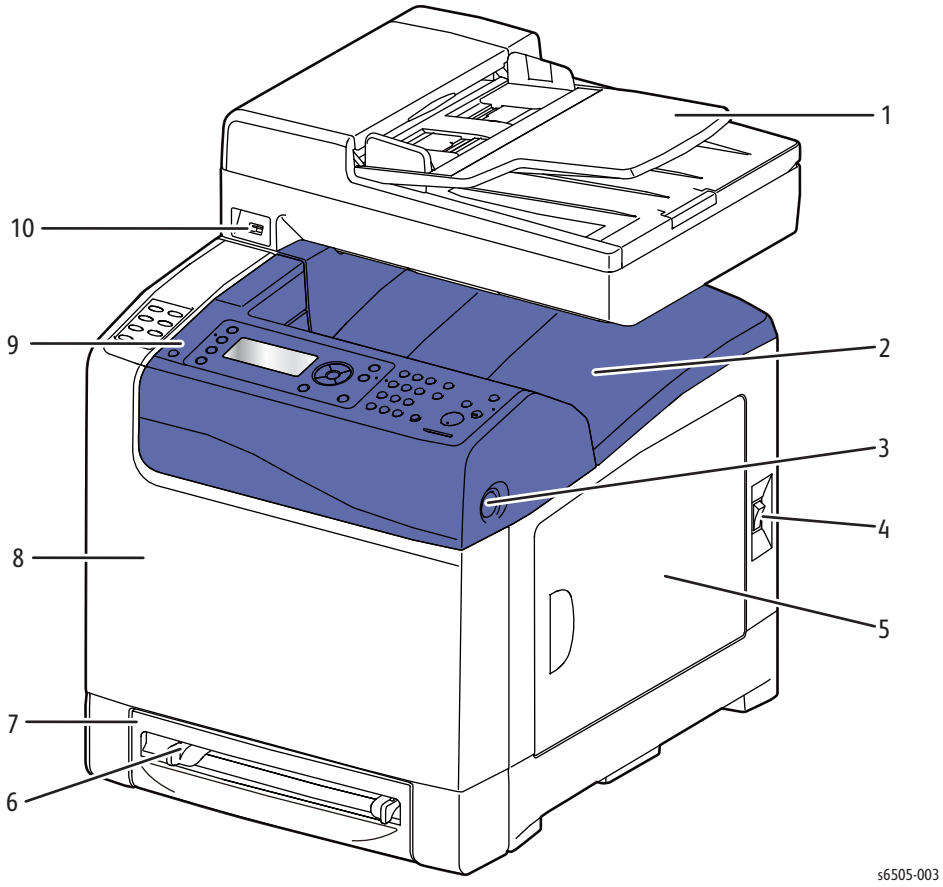
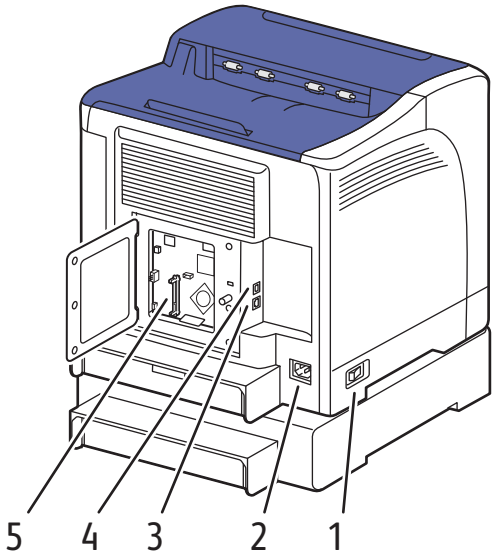
MFP Front and Side views



1. Scanner & Automatic Document Feeder
2. Output tray
3. Button for opening the Front Cover and releasing the Duplex Unit.
4. Power switch
5. Toner Door
6. Manual Feed slot
7. Media tray (Tray 1 if optional 250-sheet feeder is installed).
8. Front Cover
9. Control Panel
10. USB Port (Type A)

SFP Rear View



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1. Power switch
2. Power cord connector
3. USB port
4. Network connector
5. Optional memory slot

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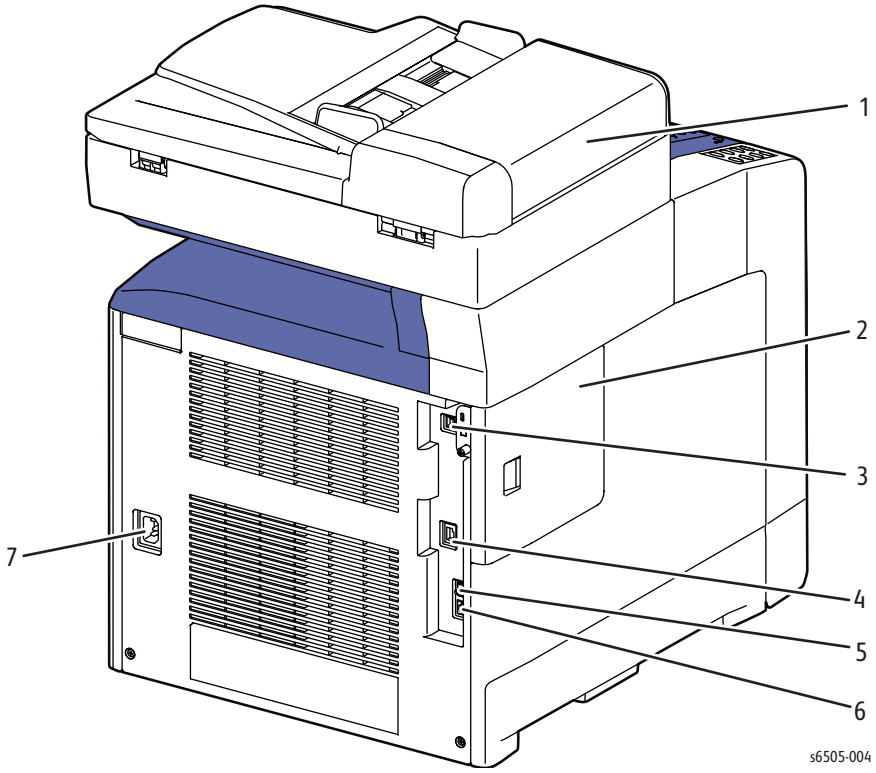
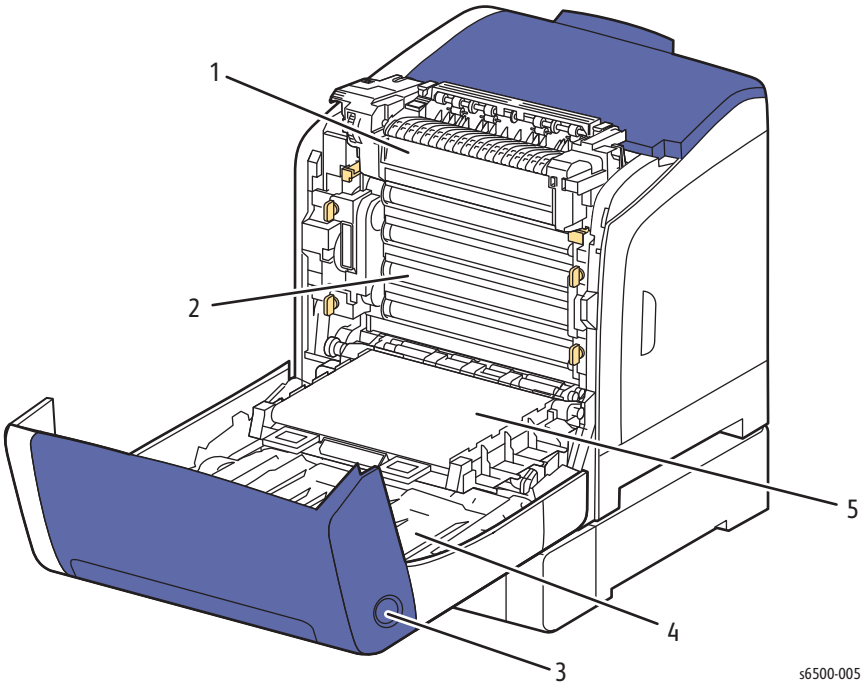
MFP Rear View



1. ADF Cover
2. IP Board Cover
3. USB Port (Type B)
4. Network connector
5. Phone Line out
6. Phone Line in
7. AC Inlet

Internal View, SFP



1. Fuser
2. Imaging Unit
3. Front Cover and Duplex Unit release.
4. Duplex Unit
5. Transfer Belt (Tray 1 removed so the Transfer Belt folds down completely).

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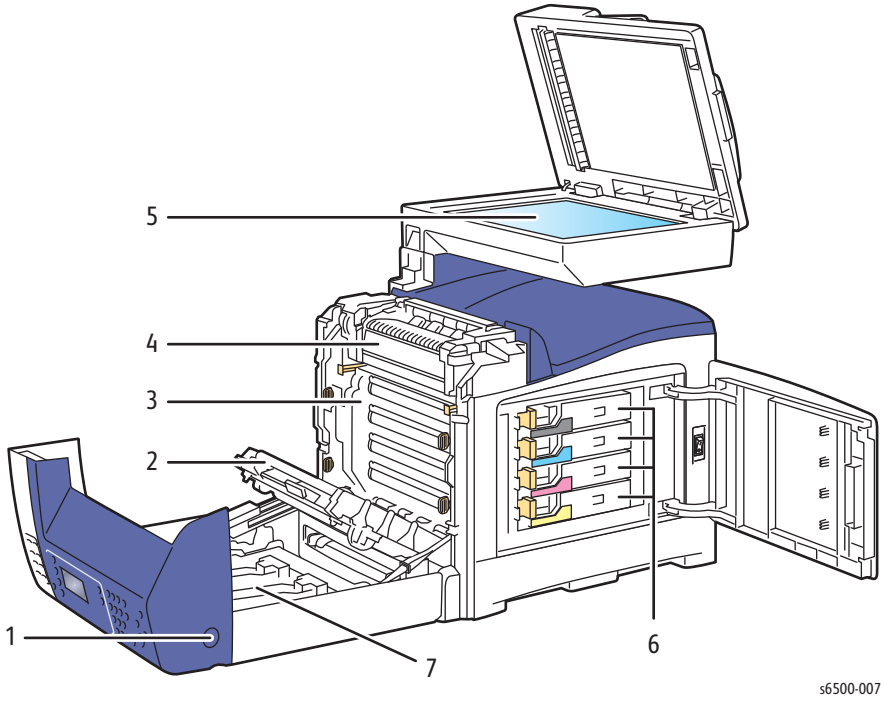
Internal View, MFP

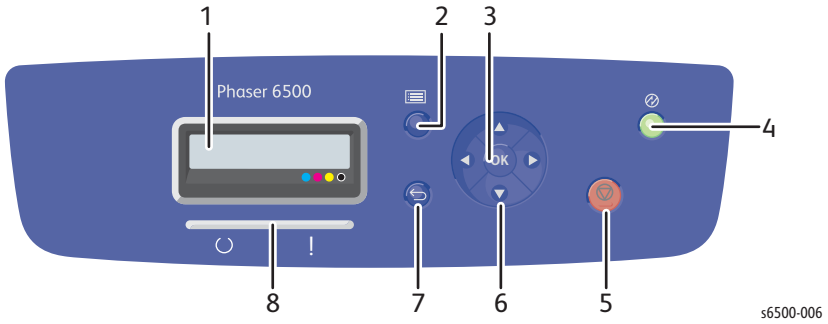


1. Front Cover and Duplex Unit release
2. Transfer Belt
3. Imaging Unit
4. Fuser
5. Document Glass
6. Toner Cartridges
7. Duplex Unit

Control Panel

The Control Panel consists of multiple LEDs, a display, and several function buttons. These buttons are used to navigate the menu system, perform functions, and select modes of operation.

SFP Control Panel Button Descriptions



1.	Display	Displays status messages, menus, and toner levels.
2.	**Menu** button	Scrolls to the menu option. Switches the display between the menus and the print screen.
3.	**OK** button	Selects the displayed menu option and also prints reports and lists.
4.	**Wake Up / Power Saver** button	Stays lit in Power Save mode. Press to exit Power Save mode and “wake up” the printer when in sleep mode. When printer is idle, press to manually put the printer in sleep mode.
5.	**Cancel** button	Cancels the current print job.
6.	**Navigation / Menu** select buttons	**Up / Down** arrows scroll up and down through the menu display. **Back / Forward** arrows move left and right through the menu display. **Back** arrow backs out of a menu level. or displays the Walk-Up Features menu.
7.	**Return** button	Lights red to indicate an error condition or warning that can be resolved by the user. Blinks when an error occurs that cannot be resolved by the user. Off when the printer is operating properly.
8.	**Status Indicator** light	■ Lights green when ready to receive data. ■ Blinks green when busy receiving data. ■ Lights red to indicate an error condition or warning that can be resolved by the user. ■ Blinks when an error occurs that cannot be resolved by the user. ■ Off when the printer is in Energy Saver mode.

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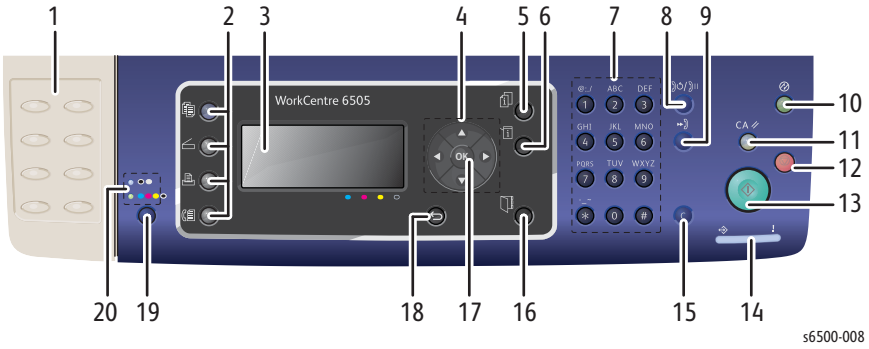
MFP Control Panel Button Descriptions



1.	One Touch keypad	Use to speed dial a phone number.
2.	Function buttons	Press to display the Copy, Scan, Print, and Fax menus on the screen.
3.	Display	Displays status messages, menus, and toner levels.
4.	Arrow buttons	Scroll up, down, forward, and back through the menus.
5.	**Job Status** button	Press to check active job status.
6.	**System** button	Switches the display to the System menus.
7.	Alphanumeric keypad	Use to enter letters and numbers for names and phone numbers.
8.	**Redial/Pause** button	Press the button to recall the last Fax number used or to insert pauses in Fax numbers.
9.	**Speed Dial** button	Press to access directories of group or individual Fax telephone numbers.
10.	**Wake Up/Power Saver** button	This light is illuminated in power saver mode. Push to exit Energy Saver mode.
11.	**Clear All** button	Clears all text, numbers or instructions.
12.	**Stop** button	Cancels the current print job.
13.	**Start** button	Press to start a copy, scan, or Fax job.
14.	**Status Indicator** light	■ Lights green when ready to receive data. ■ Blinks green when receiving data. ■ Lights red to indicate an error condition or warning. ■ Blinks red when an error occurs that requires technical support. ■ Off when the printer is in Energy Saver mode.
15.	**Cancel/Clear** button	Cancels the current print or copy job. In menus, deletes a single character each time the button is pressed.
16.	**Address Book** button	Press to access the Fax and Email address books.
17.	**OK** button	Press to accept the selected setting.
18.	**Back/Return** button	Press to go up one level in the menu.
19.	**Color Mode** button	Press to switch between Color and Black and White modes for your copy, Fax, and scan jobs.
20.	Black and White/Color indicator lights	Upper light indicates Black and White mode. Lower light indicates Color mode.

Control Panel Shortcuts

Mode	Buttons Pressed at Power On
Service Diagnostics	**Up** + **Down** arrows
Reset Password to; **Down** arrow + **Down** arrow then **OK** (required if Menus are locked)	Menu
Firmware Update for Controller (enter password to begin upload)	**Up** + **Down** arrows + **Menu**

Printer Options

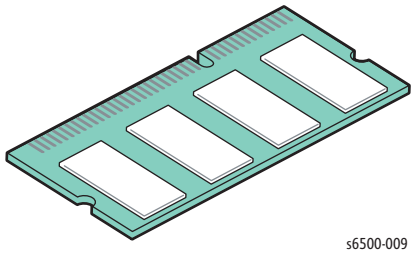
Additional Memory

The printer features one slot for optional memory that supports 256 MB, 512 MB, 1024 MB DDR2 DIMMs, to a maximum of 1280 MB (256 MB standard + 1024 MB optional). Xerox offers only 512 MB memory modules.

Memory modules must meet the following characteristics:

- 200 Pin DDR2 SO-DIMM
- Unbuffered, Non-parity

The Configuration page lists the amount of RAM installed in the printer.



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Optional Feeder

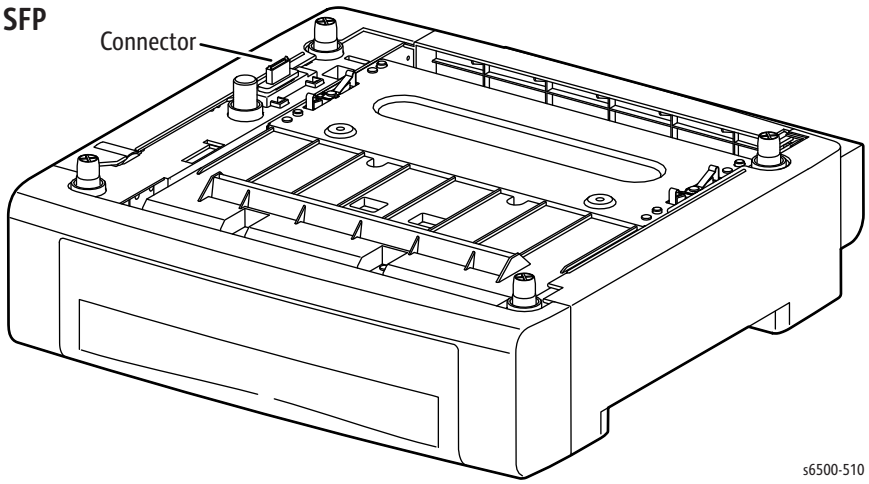
The 250-sheet, Optional Feeder (Tray 2) increases the input capacity. The feeder attaches below Tray 1 with 2 screws. Only one Optional Feeder per printer is supported. Electrical connection is made by a single interface connector.

The SFP and MFP have different Optional Feeders, even though they share the same mechanism and have identical functions. The only difference is the size, caused by the larger footprint of the MFP.

Note

Remove the protective cap from the Optional Feeder connector before installation.

SFP



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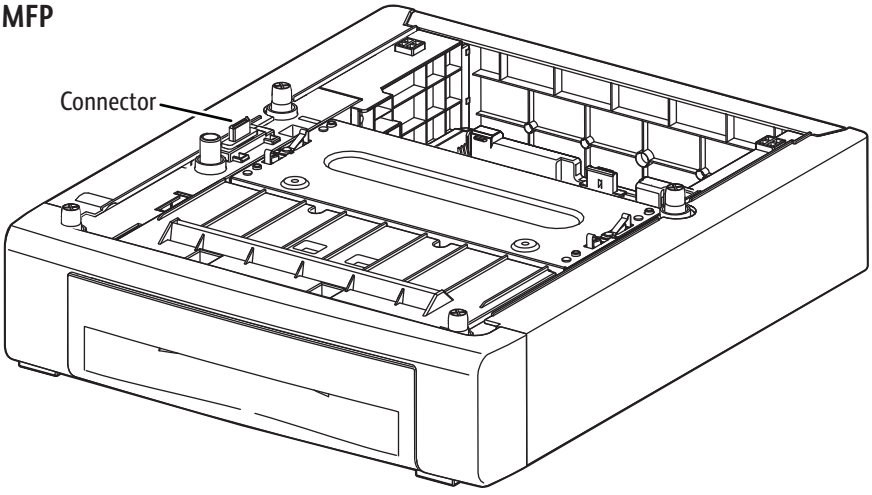
MFP



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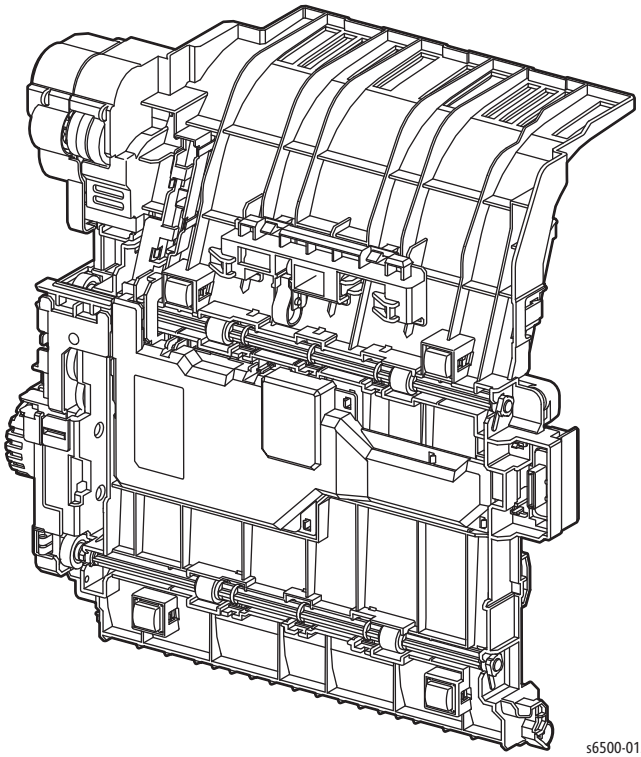
Duplex Unit

The Duplex Unit attaches to the Front Cover and is held in place by a single latch. Features on the Transfer Belt engage the Duplex Unit to properly align the media path. Electrical connection to the printer is made by a single interface connector

Note

When installing the Duplex Unit for the first time, be sure to remove the protective cap from the connector inside the Front Cover.



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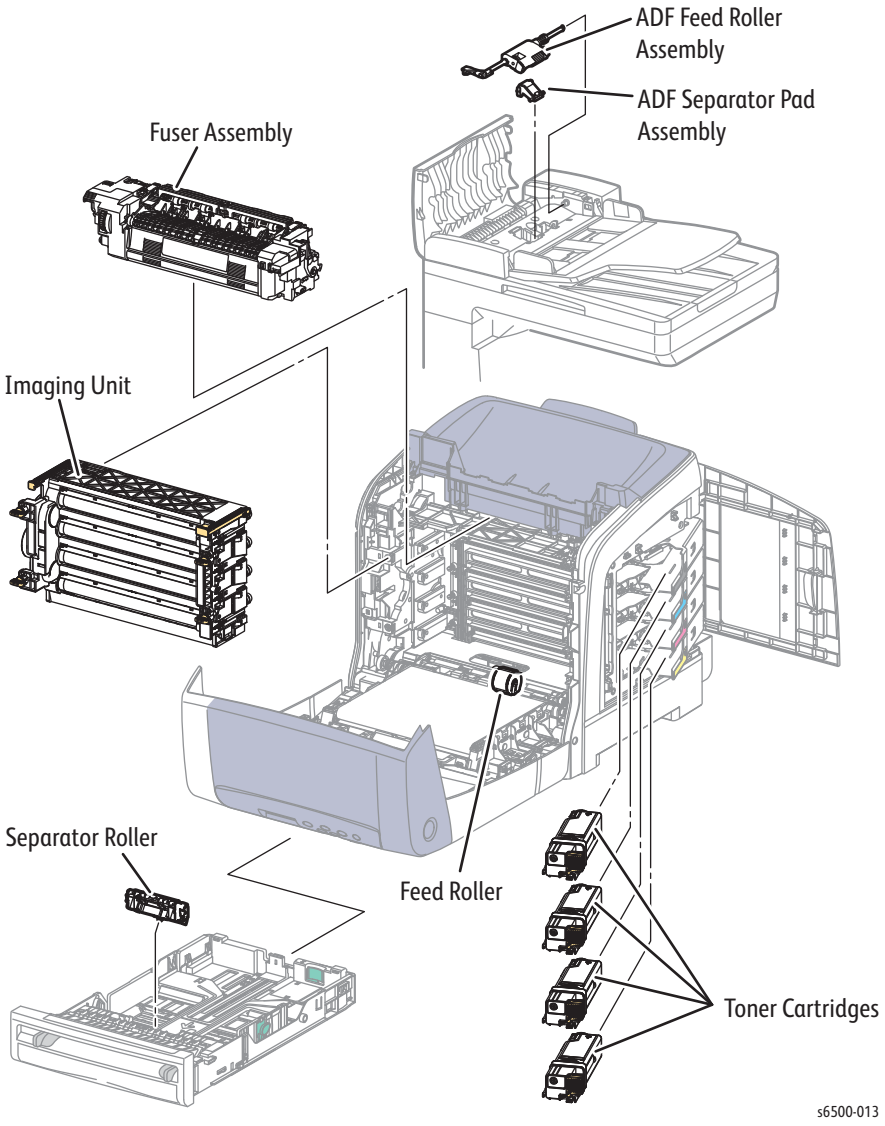
Maintenance Items

Routine maintenance items are parts or assemblies that require periodic replacement. These items are typically customer replaceable (CRU).



The listed items have limited life and require periodic replacement.

Maintenance Items

Item	Print Life
Imaging Unit	Approximately 30,000 pages
Fuser	Up to 50,000 pages
Separator Roll	Up to 50,000 pages
Feed Roller	Up to 50,000 pages
ADF Feed Roller Assembly (MFP only)	Approximately 35,000 sheets
ADF Separator Pad Assembly (MFP only)	Approximately 35,000 sheets

Note

Print life is based on “typical” office printing and 5 % coverage per color on 24 lb. paper. Print life figures are not guaranteed and varies depending on usage habits. Imaging Unit print life is based on 3-page jobs using letter-size paper.

Consumables

Consumables consist of 4 Toner Cartridges. Each Toner Cartridge (except starter cartridges) has a CRUM (Customer Replaceable Unit Monitor) to record regional and toner usage information. The CRUM maintains a count of the amount of toner consumed. When the count reaches set values, warning and error messages are displayed to notify the user when near and end of life status is reached.

CMY Toner is not consumed when printing in Black and White mode or when printing Gray scale.

Life ratings are based on A-size sheets at 5 % coverage.

Toner Cartridge	Print Life	
	C,M,Y	Black
Starter Capacity	1,000 pages	1,000 pages
Standard Capacity	1,000 pages	—
High Capacity	2,500 pages	3,000 pages

Note

Starter capacity cartridges are packaged with the printer when shipped from the factory. These starter cartridges are not available for order.

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Specifications

Printing Specifications

Characteristic	Specification	
Printing Technology	**Recording System**: Tandem electro-photographic system using OPC Drum and direct transfer by the Transport Belt	
	Exposure System: 4 semiconductors laser beam scanning system	
	Transfer System: Four-color finished toner image is transferred onto the paper	
	Fusing System: Thermal fusing system by Free Belt Nip Fusing (FBNF)	
Print Volume	Average	450 PV/month
	Maximum	40,000 PV/month
	Median	300 PV/month
Color Medium	Cyan, Magenta, Yellow, and Black Toner Cartridges	
Resolution / Addressability (dpi)	Standard	600 x 600 x 1
	Enhanced	600 x 600 x 4
Print-Quality Mode	600 x 600 x 1bit (Standard) 600 x 600 x 4bit (Enhanced)	
Average Image Coverage	Color	5 % each CMYK
	Mono	5 %
Maximum Image Coverage	240 % for all C, M, Y, K combined	
Printer Life	100,000 pages	
Maximum Duty Cycle	40,000 pages/month*	
Warm-Up Time	Less than 30 seconds from Power On	
Operating System	Windows	2003/2008 Server/ XP/ Vista/ Windows7
	Macintosh	OS 10.5 and greater
	Linux	Redhat and SuSe

* Assumes a 30 day month of printing.

Scanning Specifications

Characteristic	Specifications
Scanning Mode	■ Platen Mode: Scan document using the document glass ■ Constant Velocity Transport (CVT) Mode: Scan document via the Automatic Document Feeder (ADF)
Maximum Scan Size	■ Platen Mode: 215.9 mm x 297 mm (8.5 in. x 11.7 in.) ■ CVT mode; 215.9 mm x 355.6 mm (8.5 in. x 14 in.)
Media Size	
Minimum	■ Fast Scan Direction: 148 mm (5.8 in.) ■ Slow Scan Direction; 210 mm (8.3 in.)
Maximum	■ Fast Scan Direction: 215.9 mm (8.5 in.) ■ Slow Scan Direction: 355.6 mm (14.0 in.)
USB Scanning	
Resolution	1200 x 1200 dpi optical, up to 9600 dpi interpolated
■ Scan Interface ■ File Formats	TWAIN/ WIA 2.0 BMP, JPG, PDF, TIFF
Network Scanning	
Resolution	Up to 600 dpi
Color Mode	Color, Black & White
Original Type	Text, Photo, Mixed
File Format	JPG, PDF, TIFF
Lighter/Darker	7 levels
Sharpness	3 levels
Contrast	3 levels
Auto Exposure	Off, Normal, Higher (1, 2)
Scan to Desktop via SMB	Up to 6 SMB servers
Scan to FTP	Up to 6 FTP servers
Scan to E-mail	Yes (no individual user log in)

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Scan Performance

Function	Document	Black & White	Color
USB Scan to Computer (TWAIN/ WIA)	Document Glass, 300 dpi, 24-bit color, letter size	<20 sec.	<20 sec.
USB Scan to Computer (via Express Scan Manager)	Document Glass, 300 dpi, 24-bit color, letter size	<15 sec.	<15 sec.
Network Scan to Computer via SMB	Document Glass, 150 dpi, mixed, letter size	<15 sec.	<15 sec.
Scan to USB Thumb Drive	Document Glass, default	12 sec.	17 sec.

Copy Specifications

Copy Specifications

Characteristic	Specifications
Resolution	■ Black & White: 600 x 600 dpi ■ Color: 600 x 600 dpi
Copy Mode	Color, Black & White
Output Type	Standard, Enhanced (Best)
Original Type	Text, Photo, Text/Photo
Reduce/Enlarge	25 % -400 %
Lighter/Darker	7 levels
Color Saturation	3 levels
Sharpness	3 levels
Color Balance	4 colors, 3 densities, 5 levels
Auto Exposure	Off, Normal, Higher (1, 2)
Number of Copies	1-99
Multiple Up (N to 1)	Off, Auto, ID Copy, Manual
Duplex Copy	On, Off
Poster	2x2, 3x3, 4x4
Auto Fit	On, Off
Cloning	On, Off
Collate (max pages)	■ Color: 50 ■ B/W: 50

Fax Specifications

Fax Specifications

Characteristic	Specifications
Communication Mode	■ Priority 1: ITU-T Super G3 ■ Priority 2: ITU-T G3 ECM ■ Priority 3: ITU-T G3
Resolution Lines: Pixels	B&W (Fast Scan x Slow Scan) ■ 8 pixels x 3.85 line / mm ■ 8 pixels x 7.7 line / mm ■ 8 pixels x 15.4 line / mm ■ 16 pixels x 15.4 line /mm ■ 400 x 400 ppi / 25mm ■ 300 x 300 ppi / 25mm ■ 200 x 200 ppi / 25mm ■ 100 x 100 ppi / 25mm
Supported Protocols	■ V. 34 (Max.33.6 kbps) ■ V. 17 (14.4/12/9.6/7.2 kbps) ■ V. 29 (9.6/7.2 kbps) ■ V. 27ter (4.8/2.4 kbps)
Compression Format	B&W: 1-bit, JBIG, MMR, MR, MH Color: Not supported
Incoming Call Control	Telephone Mode, Fax Mode, Telephone/ Fax Mode, Answering Machine Mode, Distinctive Ring Pattern Detection (DRPD)
Lighter/Darker	7 levels
DM Protection	Reject junk Fax
Forwarding & Local Print	Supported
Color Fax	Not supported.
Fax Address Book	Up to 200 Speed Dial numbers and up to 6 Group Dial numbers stored in device memory. The Group Dial Numbers may have up to 200 Fax numbers associated with each group; however, the total number of allowable Fax numbers for all groups is 200.
Lan Fax	
Resolution	Normal: 200 x 100 dpi Fine: 200 x 200 dpi Super Fine: 400 x 400 dpi
Driver	PCL driver - supported PS driver - not support
Color	Not supported
Delayed Start	Up to 24 hours
Broadcast Sending	Up to 30 destinations
Zoom	25 % -400 % (same as printer driver)

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Fax Specifications (continued)

Characteristic	Specifications
Auto Reduction/ Enlarge (Auto Fit)	On/Off (same as printer driver)
Rotation	On/Off (same as printer driver)
N-Up	1/ 2/ 4/ 8/ 16/ 32 (same as printer driver)
Watermark	Supported (same as printer driver)
Phone Book	Up to 500 Speed Dial numbers and up to 500 Group Dial. Local phone book stored on PC not linked device.

Memory Specifications

Characteristic	Specifications	
Memory	Minimum	256 MB On Board memory
	Maximum	1280 MB
Supported RAM	Supports one 256, 512, or 1024 MB DDR2 SODIMM in expansion slot.	

Electrical Specifications

Characteristic	Specification
Power Supply Voltage/Frequency	
Line Voltages	110-127 VAC ± 10 %
	220-240 VAC ± 10 %
Frequency Range	50/60 Hz ± 3 Hz
Current Capacity	110 V Engine: < 9 A 220 V Engine: < 5 A
Power Consumption (with all options, 110 or 220 V)	
Power Saver Mode	5 W or less
Standby Mode (Fuser On)	50W or less
Color Continuous Printing	280W or less
B/W Continuous Printing	280W or less

Print Speed

Resolution	Color A/A4	Mono A/A4
600 Standard	24/24	24/24
600 Enhanced	24/24	24/24

Environmental Specifications

Note

Image quality is guaranteed in the optimum ranges for temperature and humidity, which represent a general office environment.

Characteristic	Specification	
Temperature		
Optimum	15 to 28° C (59 to 82° F)	
Operating	10 to 32° C (50 to 90° F)	
Standby	-20 to 40° C (-4 to 104° F)	
Humidity (% RH)		
Optimum	20 to 70 % RH	
Operating	15 to 85 % RH	
Standby	5 to 85 % RH	
Altitude		
Operating	0 to 3,100 meters (10,171 feet)	
Acoustic Noise LWA(B)	**Sound Power Level (B)**	**Sound Pressure (dBA)**
Printing	6.46	51.6
Standby	4.3	25.7

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Operating Mode

Mode	Condition	Description
Running Mode		There are three running modes: ■ **Print mode** – the print engine operates for printing and report printing in the SFP, and for printing, copying, Fax received printing, and report printing in the MFP. ■ **Scan mode** (MFP only) – the IIT is operating for copy, local, and network scanning, and for Fax sending. ■ **Fax communication mode** (MFP only) – Fax sending/receiving is in progress.
	Exposure	The Laser Unit Motor runs at the operating speed.
	Recording	The system is operating.
	Fusing	Maintained at operating temperature.
	IIT	Scanner or ADF is in operation, scanning lamp is on.
	Cooling Fan	The fan operates at high speed.
	Control Panel Operation	LCD - Backlight: On LED - Ready LED is On.
Ready Mode		The printer is in standby status, ready to run.
	Exposure	The system is at Pause.
	Recording	The system is at Pause.
	Fusing	The system keeps the standby temperature.
	IIT	The Scanner and ADF are in a standby status, ready to run.
	Cooling Fan	The fan operates at low speed.
	Control Panel Operation	LCD - Backlight: On LED: If printer is online, Ready LED is On.
Power Saver Mode (Deep Sleep)		The printer enters Power Saver mode when it has not received print data for the specified time.
	Exposure	The system is at Pause.

Mode	Condition	Description
	Recording	The system is at Pause.
	Fusing	The system is Off.
	IIT	The Scanner and ADF are off.
	Cooling Fan	The system is Off.
	Control Panel Operation	LCD: Off, LCD Backlight: Off LED: Wake Up LED is On.

NOTE When the printer receives a print or Fax job or the Wake Up/Power Saver button is pressed, the printer exits the Power Saver mode and enters the Ready mode.

First Print Output Time

First Print Output Time (FPOT) is defined as a time from when the engine receives a Start signal in Ready state, until a single page is delivered to the output tray.

The following conditions are applied:

- The Controller does not keep the print engine waiting
- The printer is at Ready mode
- Paper is A size Short Edge Feed (SEF)
- Process control time is not included

Mode	Tray	FPOT (sec.)[a]
Color	Tray	13.0 sec. or less
	Manual Feed	13.0 sec. or less
Mono	Tray	12.0 sec. or less
	Manual Feed	12.0 sec. or less

a. Maximum FPOT time is 18 seconds for mono or color. If the preceding job was all mono, and the first page in the next job is mono, FPOT is 12 seconds. If the last job had any single color page, and the first page in the next job is color, FPOT is 13 seconds. If the printer has to switch modes, FPOT is 18 seconds.

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First Copy Output Time

First Copy Output Time (FCOT) is the time required for the printer to deliver the first sheet of paper after the user presses Start. The following conditions are applied:

- The Controller does not keep the print engine waiting
- The printer is at Ready mode
- Paper is A size Short Edge Feed (SEF)
- The original is on the document glass or in the ADF
- Process control time is not included

Mode	FCOT (sec.)
Color	30.0 sec. or less
Mono	21.0 sec. or less

Physical Dimensions and Clearances

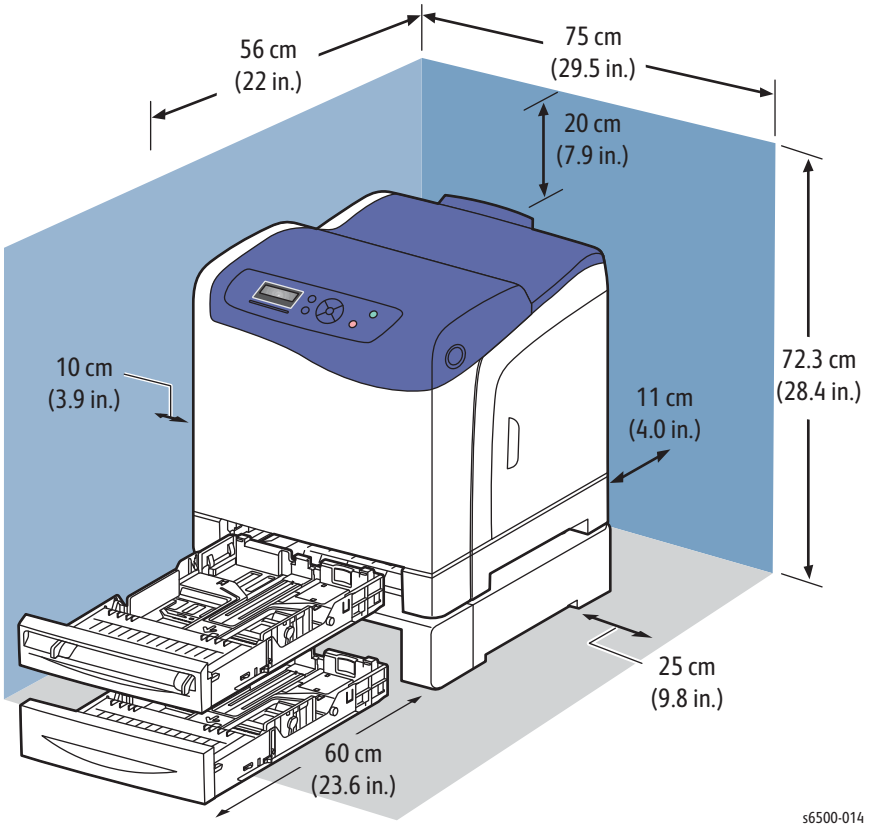
SFP Dimensions

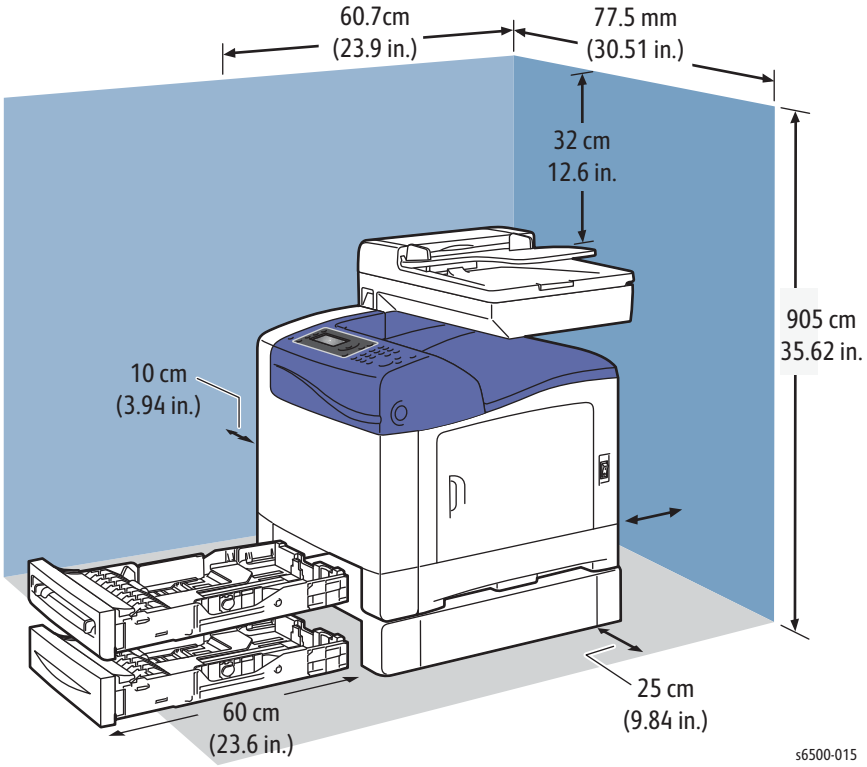
Characteristic	Measurement
Height	416 mm (16.4 in.)
Height with 250-Sheet Feeder	524 mm (25.9 in.)
Width	403 mm (15.9 in.)
Depth	469 mm (18.5 in.)
Weight (base printer with consumables)	18.6 kg (41.0 lb.)

MFP Dimensions

Characteristic	Measurement
Height	584 mm (23”)
Height with 250-Sheet Feeder	690 mm (27.1 in.)
Width	430 mm (16.9 in.)
Depth	544 mm (21.4 in.)
Weight (base printer with consumables)	28.8 kg (63.5 lb.)

Minimum Clearances





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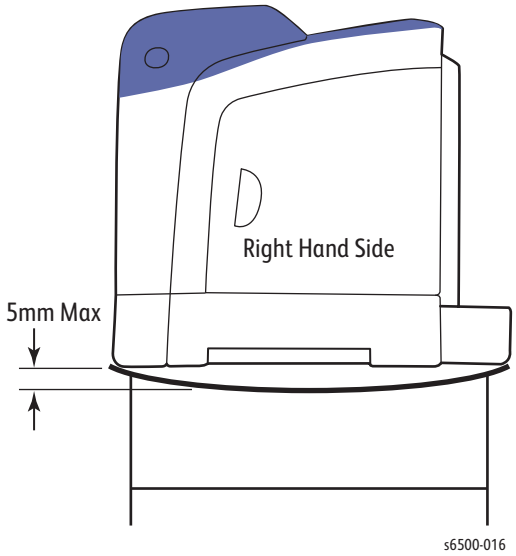
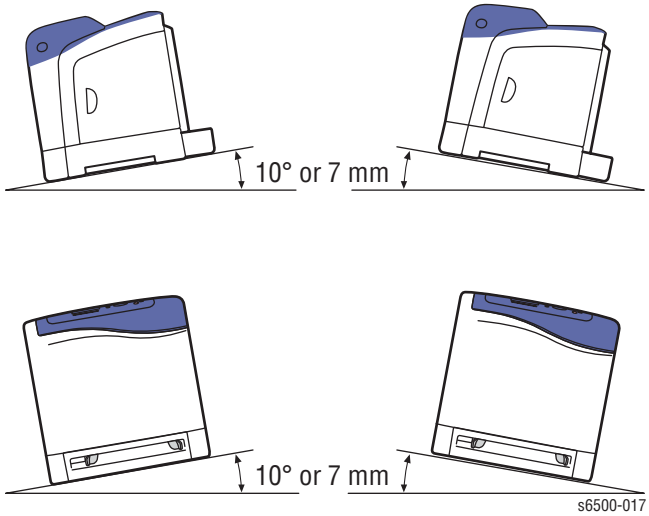
Mounting Surface Specifications

Mounting surface flatness must be within the specified range.



The printer must not be tipped or tilted more than 7 mm.



Failure to adhere to the specified mounting specifications will void all guarantees of print-quality and/or performance. Known problems that can occur as a result of exceeding the mounting surface specifications are:

- Color-to-Color mis-registration, primarily in the horizontal (laser scan) direction.
- A smear or line of toner approximately 40 mm from the trailing edge of the print.

Media and Tray Specifications

The following tables list the paper recommended for each of the printer's trays and for the Duplex Unit.

Tray 1 (Standard Tray)

Characteristic	Supported Media
Paper Size	■ Letter (8.5 x 11 in.) ■ US Folio (8.5 x 13 in.) ■ Legal (8.5 x 14 in.) ■ Executive (7.25 x 10.5 in.) ■ A4 (210 x 297 mm, 8.2 x 11.5 in.) ■ A5 (148 x 210 mm, 5.2 x 8.2 in.) ■ JIS B5 (182 x 257 mm) ■ #10 Envelope (4.1 x 9.5 in.) ■ Monarch Envelope (3.9 x 7.5 in.) ■ DL Envelope (110 x 220 mm) ■ C5 Envelope (162 x 229 mm) ■ Custom size range: Width: 3–8.5 in. (76.2–215.9 mm) Height: 5–14 in. (127–355.6 mm)
Paper Type and Weight	■ Plain (65–120 g/m2, 17–32 lb. Bond) ■ Lightweight Cardstock (100–163 g/m2, 37–60 lb. Cover) ■ Heavyweight Cardstock (163–220 g/m2, 60–80 lb. Cover) ■ Envelope ■ Labels ■ Letterhead ■ Lightweight Glossy Cardstock (100–163 g/m2, 37–60 lb. Cover) ■ Heavyweight Glossy Cardstock (163–220 g/m2, 60–80 lb. Cover) ■ Hole Punched ■ Colored Paper ■ Special
Loading Capacity	250 sheets (20 lb.)

Tray 2 (Optional 250-Sheet Feeder)

Characteristic	Supported Media
Paper Size	■ Letter (8.5 x 11 in.) ■ US Folio (8.5 x 13 in.) ■ Legal (8.5 x 14 in.) ■ Executive (7.25 x 10.5 in.) ■ A4 (210 x 297 mm) ■ A5 (148 x 210 mm) ■ JIS B5 (182 x 257 mm) ■ Custom size range: Width: 5.8–8.5 in. (147.3–215.9 mm) Height: 8.3–14 in. (210.8–355.6 mm)

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Tray 2 (Optional 250-Sheet Feeder)

Characteristic	Supported Media
Paper Type and Weight	Plain Paper (60–105 g/m2, 16–28 lb. Bond) ■ Letterhead ■ Hole Punched ■ Colored Paper
Loading Capacity	250 sheets (20 lb.)

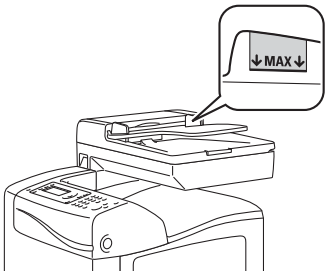
Manual Feed Slot

Characteristic	Supported Media
Paper Size	■ Letter (8.5 x 11 in.) ■ Legal (8.5 x 14 in.) ■ Executive (7.25 x 10.5 in.) ■ US Folio (8.5 x 13 in.) ■ No. 10 Envelope (4.1 x 9.5 in.) ■ Monarch Envelope (3.9 x 7.5 in.) ■ DL Envelope (110 x 220 mm) ■ C5 Envelope (162 x 229 mm) ■ A4 (210 x 297 mm) ■ A5 (148 x 210 mm) ■ JIS B5 (182 x 257 mm) ■ Custom size range: Width: 3–8.5 in. (76.2–215.9 mm) Height: 5–14 in. (127–355.6 mm)
Paper Type and Weight	■ A4 (210 x 297 mm) ■ Letter (8.5 x 11 in.) ■ US Folio (8.5 x 13 in.) ■ Legal (8.5 x 14 in.) ■ Custom size range: Width: 3–8.5 in. (76.2–215.9 mm) Height: 5–14 in. (127–355.6 mm)
Loading Capacity	One sheet at a time

Duplex Unit

Characteristic	Supported Media
Paper Size	■ A4 (210 x 297 mm) ■ Letter (8.5 x 11 in.) ■ US Folio (8.5 x 13 in.) ■ Legal (8.5 x 14 in.) ■ Custom size range: Width: 3–8.5 in. (76.2–215.9 mm) Height: 5–14 in. (127–355.6 mm)
Paper Type and Weight	■ Plain (60–105 g/m2, 16–28 lb. Bond) ■ Letterhead (plain) ■ Hole Punched (plain) ■ Colored paper (plain)
Loading Capacity	One sheet at a time

Automatic Document Feeder

Characteristic	Supported Media
Original Size	■ Width: 4.1–8.5 in. (148–216 mm) ■ Length: 8.3–14 in. (210–355.6 mm)
Weight Range	■ 50–125 g/m^2 (17–32 lb. Bond)
Loading Capacity	To MAX fill line  wc6505_007

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Theory of Operation

In this chapter...

- Phaser 6500/WorkCentre 6505 Operational Overview
- Print Process
- Media Path
- Sensors
- Major Assemblies and Functions
- Operation Modes
- Printer Control
- Drive
- Scanner
- Automatic Document Feeder
- Fax

Chapter 2

Phaser 6500/WorkCentre 6505 Operational Overview

The Phaser 6500 is a full-color printer and the WorkCentre 6505 is a full-color multifunction printer, both using raster output scanner (ROS) lasers with an electrophotographic four-color CMYK process. The tandem system consists of four color drums (C, M, Y, and K) which creates the toner image.

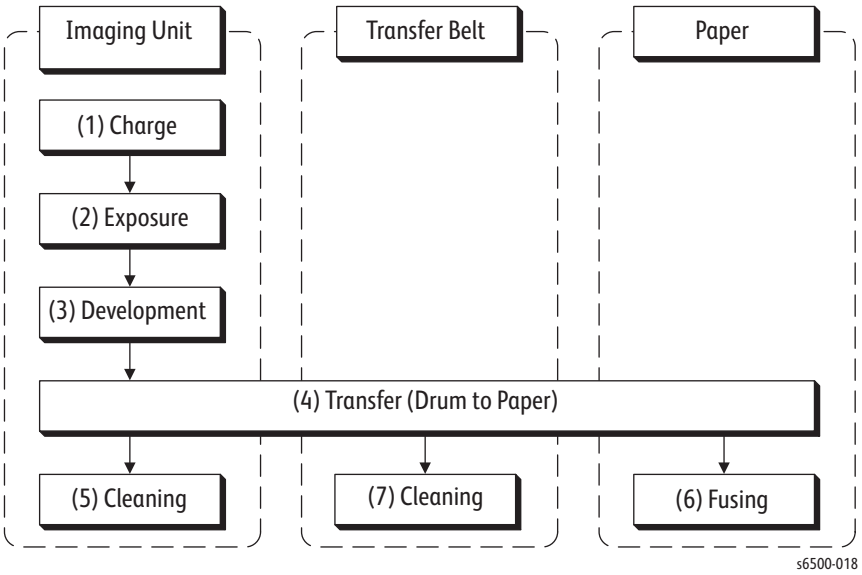
The WorkCentre 6505 MFP is equipped with a color scanner and with FAX control circuitry. The CCD array in the scanhead creates digital signals that represent documents placed on its platen or fed through its automatic document feeder. These signals are sent to the printer to make copies, to the USB or Ethernet ports for storage as data, or to the FAX control for transmission over telephone lines.

Print Process

The following block diagram provides the sequence of events for the xerographic process (dashed lines) and the paper flow (solid lines) into and out of the printer.

The print process consists of the following steps:

1. **Charging** – The drum surfaces are charged with electricity.
2. **Exposure** – The drums are exposed to laser beams.
3. **Development** – Image is developed with toner.
4. **Image Transfer** – Four color finished toner image on the drums is transferred onto the paper.
5. **Cleaning** – Excess toner is removed from the drum and BCR.
6. **Fusing** – The Fuser applies toner on to paper using heat and pressure.
7. **Cleaning** – Remaining toner is removed from the belt.



The following diagram shows the location of components involved in the print process for both the SFP and MFP.

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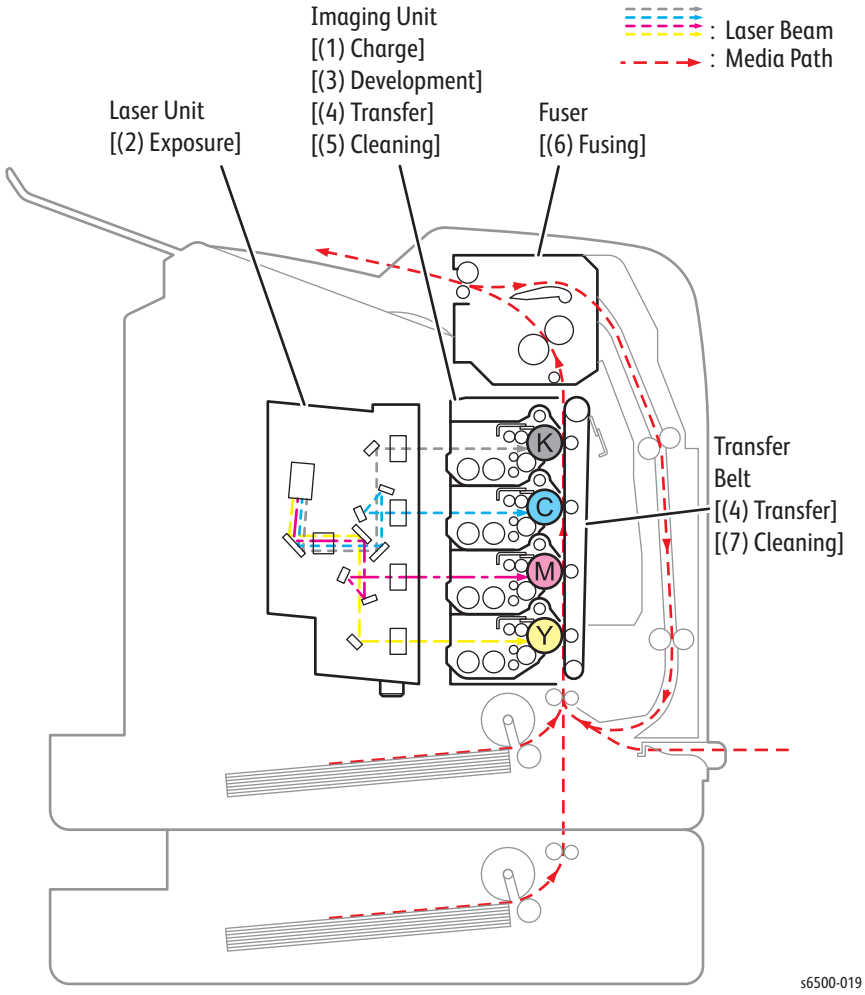

Imaging Unit
[(1) Charge]
[(3) Development]
[(4) Transfer]
[(5) Cleaning]
: Laser Beam
: Media Path
Laser Unit
[(2) Exposure]
Fuser
[(6) Fusing]
Transfer
Belt
[(4) Transfer]
[(7) Cleaning]
K
C
M
Y
s6500-019

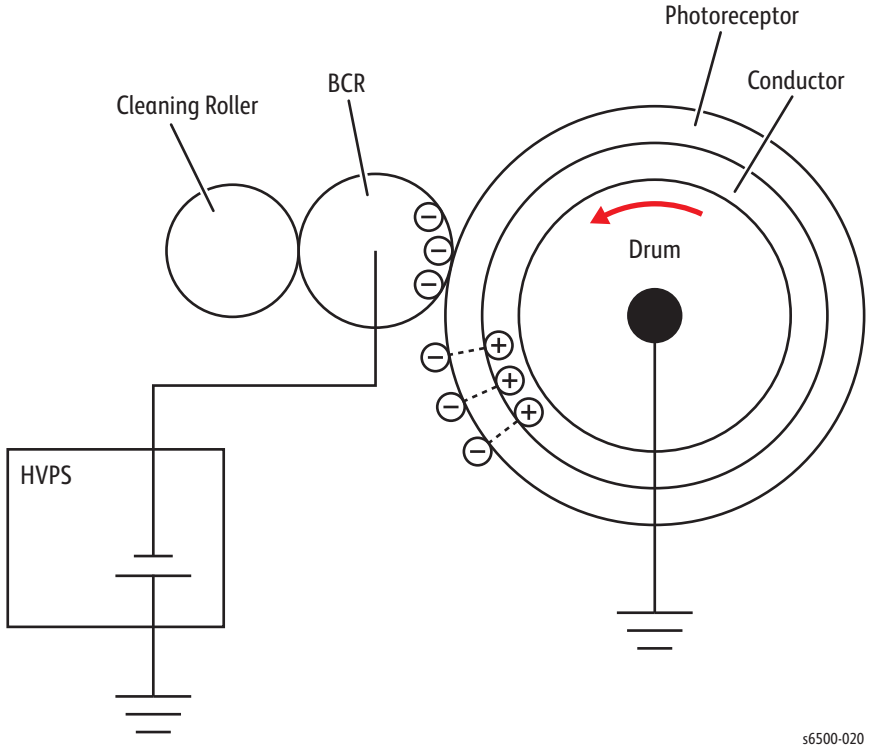
Charging

Each Imaging Unit drum's surface is charged with negative electricity by discharging of the bias charge roller (BCR) while rotating at a constant speed. This process is performed in parallel for Cyan, Magenta, Yellow, and Black.

The BCR is kept in contact with the drum and rotates with the drum. The BCR is a conductive roller, which receives negative voltage from the High-Voltage Power Supply (HVPS) and discharges a negative Direct Current (DC) voltage.

The drum surface is uniformly and negatively charged with DC bias voltage. The drum surface is a photoreceptor (which is an insulator in a dark areas and a conductor when exposed to light) and the drum inside is composed of conductor.

The cleaning roller is a sponge that contacts the BCR to catch the toner.



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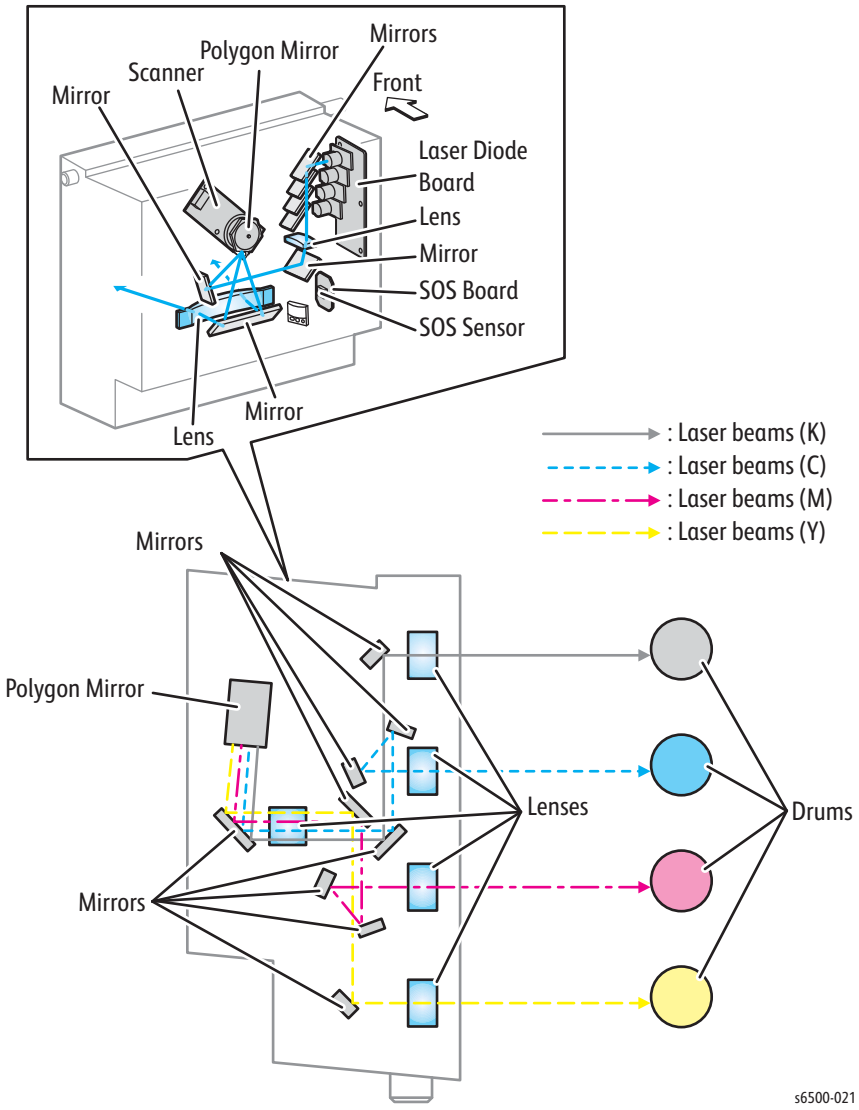
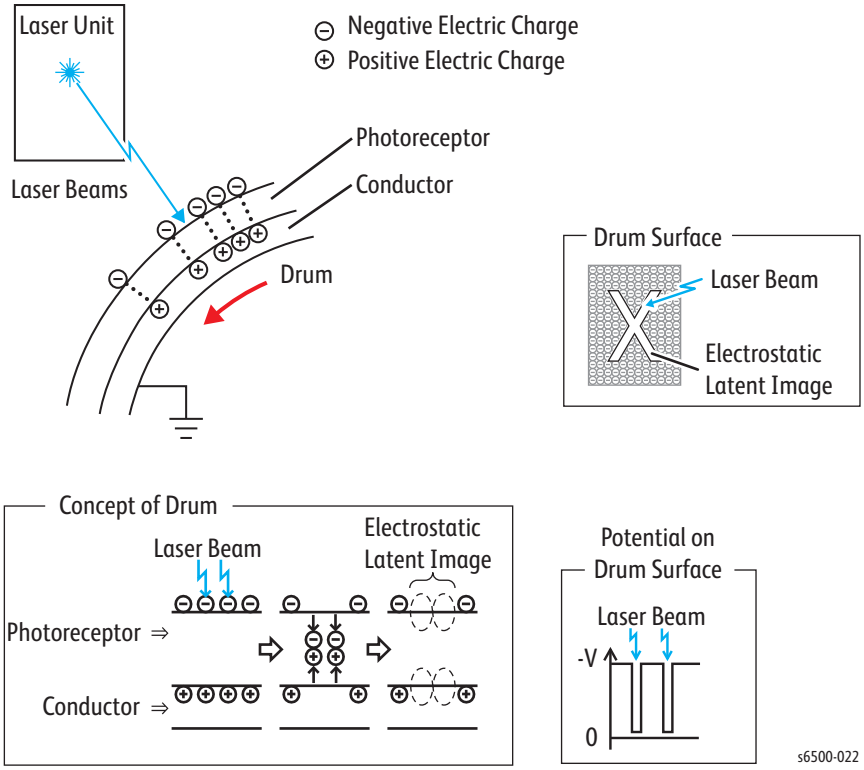
Exposure

Four laser diodes (one for each color) in the Laser Unit emit laser beams. The beams are directed by mirrors to the rotating polygon mirror attached to the scanner motor. As the polygon mirror rotates, the beams are directed through a series of lenses and mirrors to each of the drums, which are scanned by the beams from end to end in the axial direction.



The negatively charged drum surface is scanned by the laser beams to form an invisible electrostatic latent image on the drum surface. The process is performed in parallel for all colors. The area on the drum where the laser beam strikes becomes conductive. The negative charge on the surface flows to the more positive drum, lowering the voltage potential.



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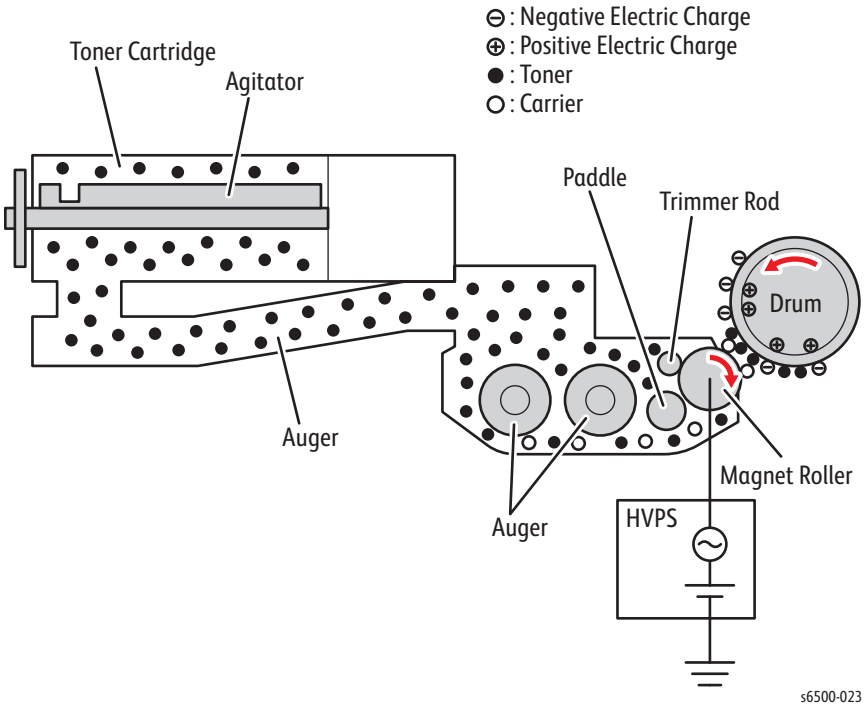
Development

Toner is electrically attached to the invisible electrostatic latent image on the drum surface to form the visible toner image on the drum.

The toner in the Toner Cartridge is agitated by the built-in agitator and fed into the developer. The augers are driven by the toner motors and the developer motor in the Main Drive Assembly. The toner is consumed according to the print count and fed into the developer. This process, called toner dispensation, is controlled by two processes: pixel count dispense control (PCDC) and automatic density control (ADC).

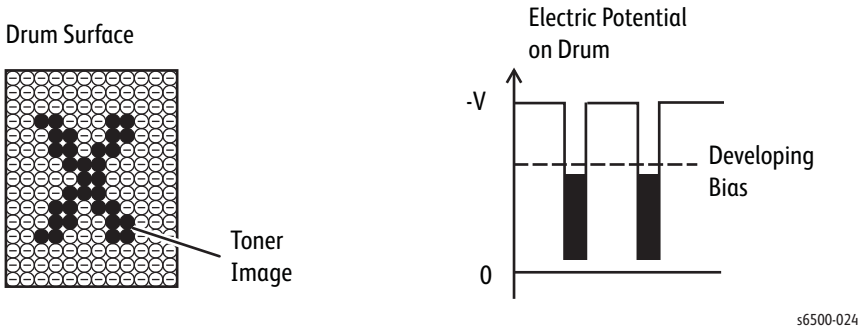
The toner fed into the developer is agitated by the auger, and supplied to the magnet roller. The toner and carrier are charged by friction due to agitation (toner in negative, carrier in positive), and they are attracted electrically. A uniform layer is formed by the trimmer bar as the carrier is attracted to the magnetic roller.



The magnet roller is covered by a thin semi-conductive sleeve. A developing bias voltage is supplied to the sleeve from the High Voltage Power Supply (HVPS). The developing bias voltage is negative DC voltage combined with AC voltage. The DC voltage holds the magnet roller at a constant negative voltage against the photoreceptor layer of the drum. Therefore, at the area where the negative electric charge on the drum surface does not decrease, the potential is lower than that of the magnet roller, while the potential is higher than that of the magnet roller at the area where the negative charge on the drum surface decreases.

The AC voltage waveform releases the developer on the magnet roll so that the toner moves to the drum. Thus, only the portions of the drum surface where the negative charge has decreased below that of the magnet roll (electrostatic latent image) attract toner to form an image on the drum.

Once the toner is deposited on the drum, the potential and the toner-attracting force of the corresponding portion decreases because the increase of negative charge lowers the potential at that portion.



Toner Dispense Path

Toner moves from the Toner Cartridge to the Imaging Unit using an auger driven by the toner motor. When the Toner Cartridge is locked in position, the Toner Cartridge shutter moves forward opening the toner supply port. The toner is fed to the Imaging Unit from a second port in the auger housing.

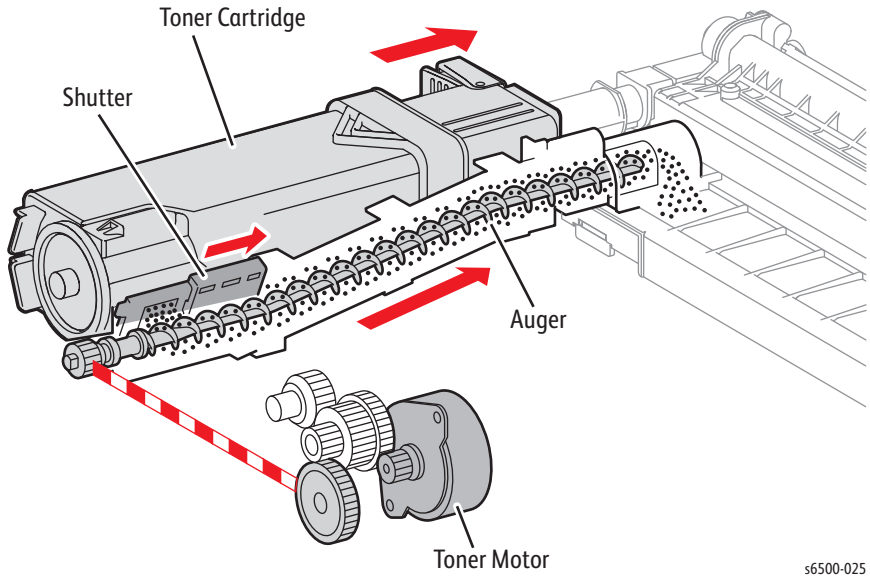


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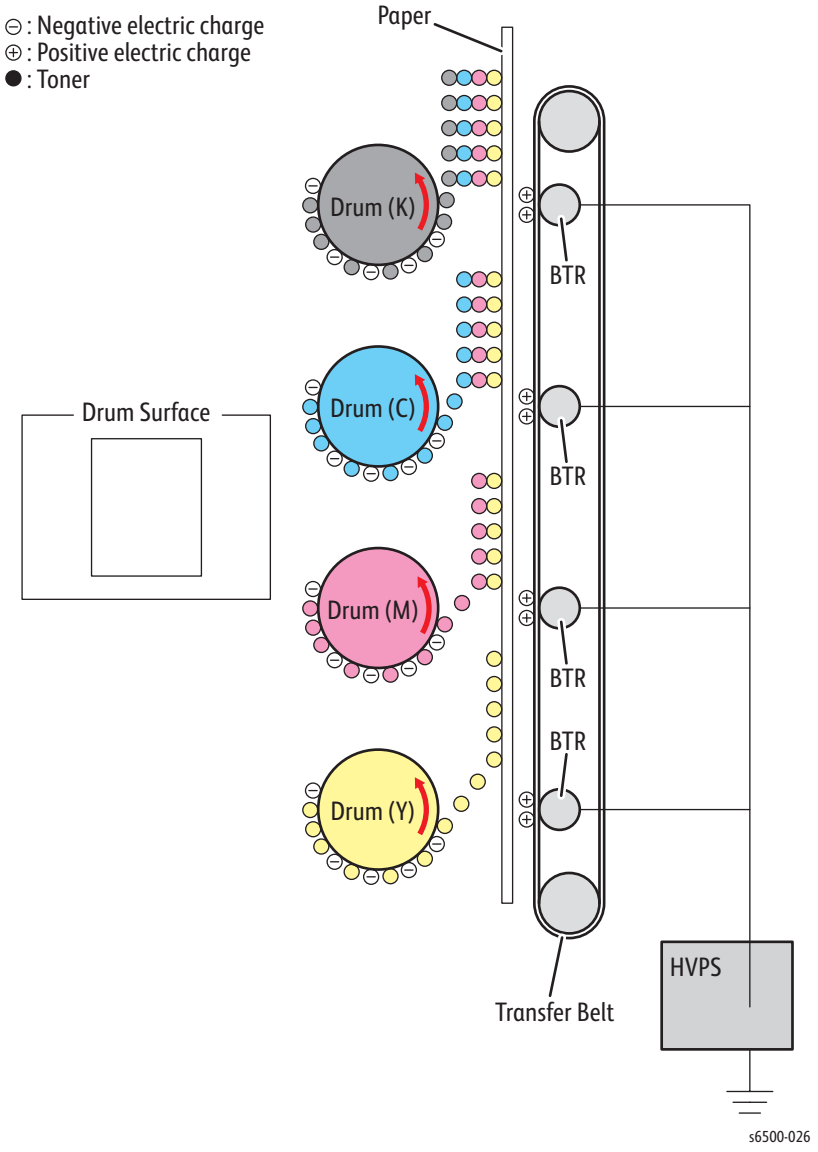
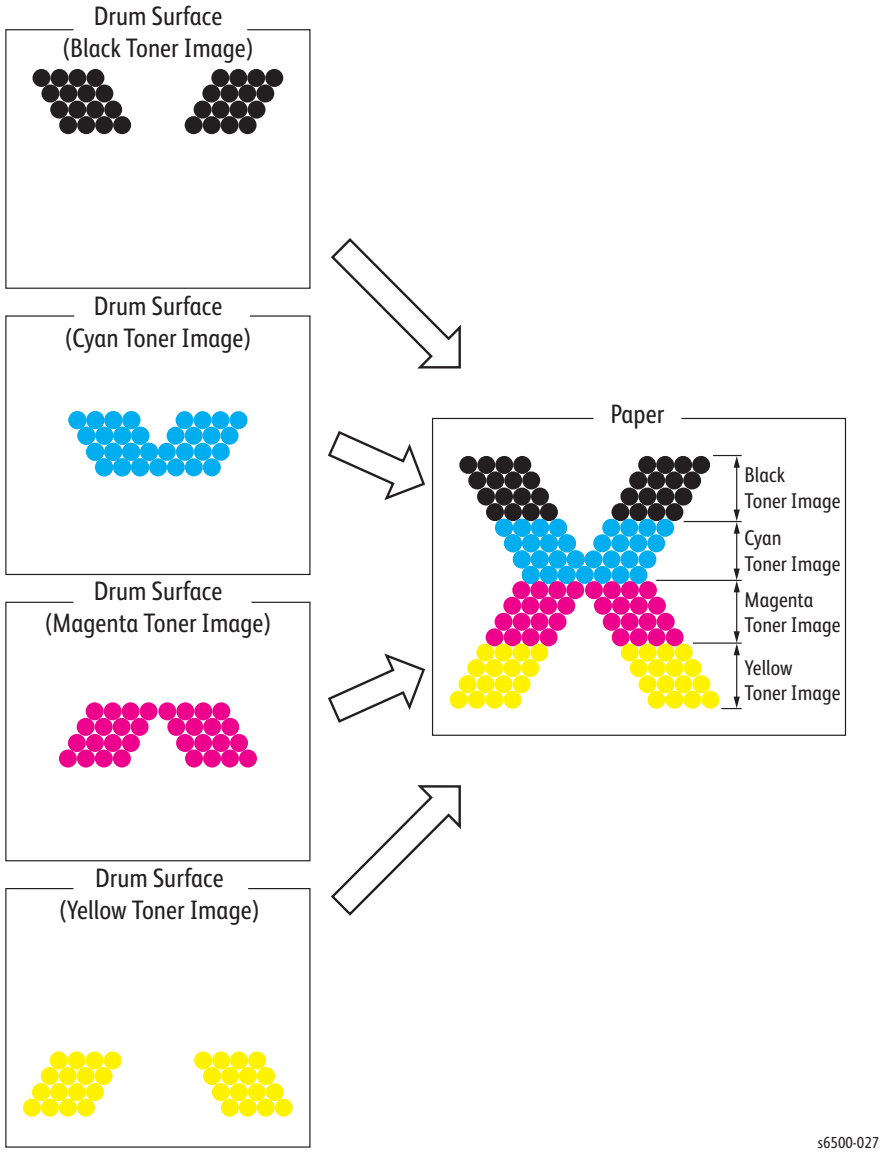
Image Transfer

During transfer, latent images formed on the drums are transferred to the media by attraction to the BTR (bias transfer rollers) in the Transfer Belt.The BTR is a metal roller, to which a positive voltage from the HVPS is applied. The BTR positively charges the belt. The toner on the drums moves towards the Transfer Belt due to the attracting force generated between the negative polarity of the toner and the positive charge on the belt. The four color separation images are transferred from the drums in Y, M, C, and K order.





- Bias Transfer Roller (BTR) – The BTR is a conductive roller that receives positive voltage from the HVPS. The BTR contacts the rear side of the Belt and applies the positive voltage to the Belt.
- Belt – The belt is a conductive unit that receives positive voltage from the BTR. After the negative charged toner image on the drum surface is drawn by the positive charge on the belt, it is transferred from the drum to the paper. The Transfer Belt feeds the paper toward the Fuser.

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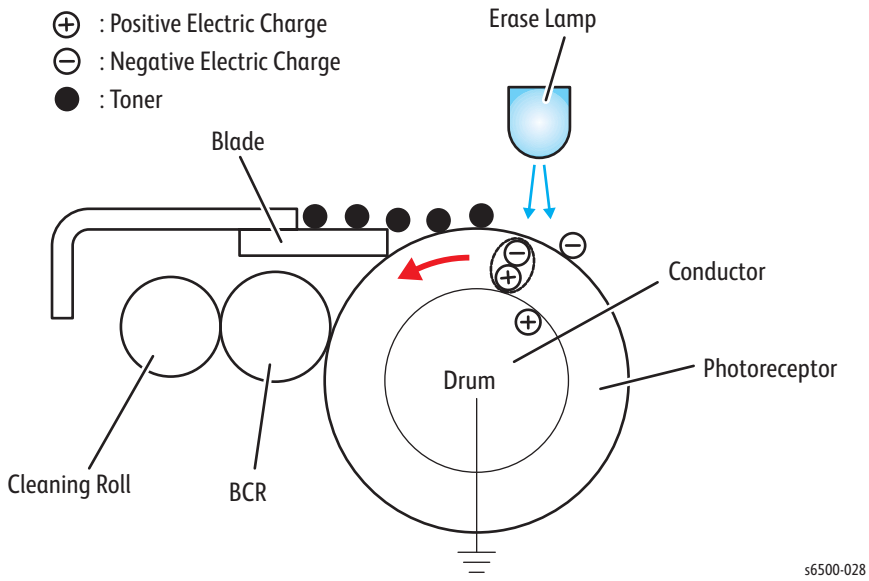
Imaging Unit

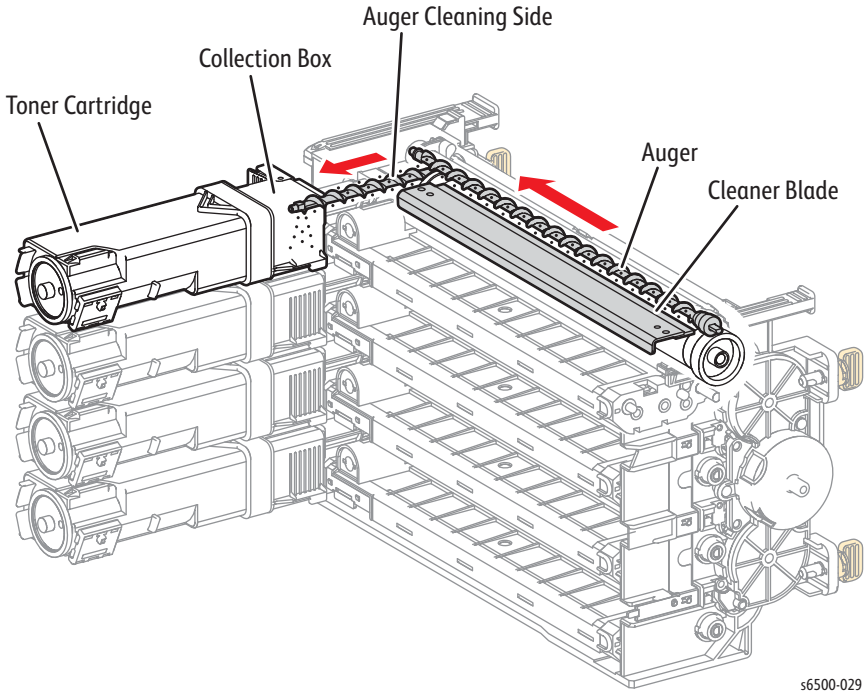
Excess toner is removed from the drum and the BCR surfaces, while excess charge is also eliminated from the drum surface.

- Drum Cleaning – The cleaning blade contacts the surface of the drum collecting the excess toner by scraping off toner.
- Cleaning Roller – The cleaning roller contacts the surface of the BCR collecting the excess toner by scraping off toner.
- Charge Cleaning – When the drum is charged by the BCR, any excess charge hinders the drum surface from being uniformly charged, which may lead to print quality problems. The the latent charge pattern remaining on the photoconductive drum is neutralized by the Erase Lamp to prepare the drum for the next exposure cycle.



Excess Toner Collection

The excess toner is collected by the cleaner blade contacting the drum. Two augers move the excess toner to the waste collection box in the Toner Cartridge. The waste toner is not reused, but is discarded along with the cartridge when the cartridge is empty.



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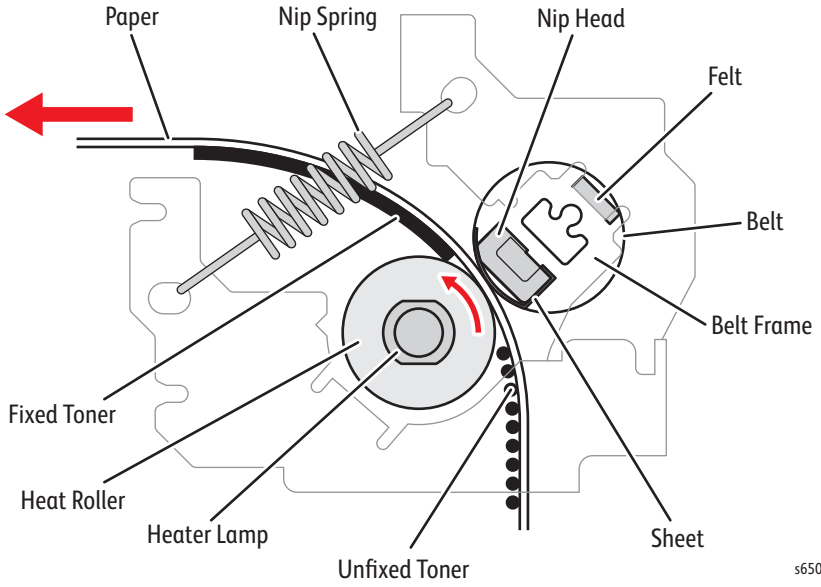
Fusing

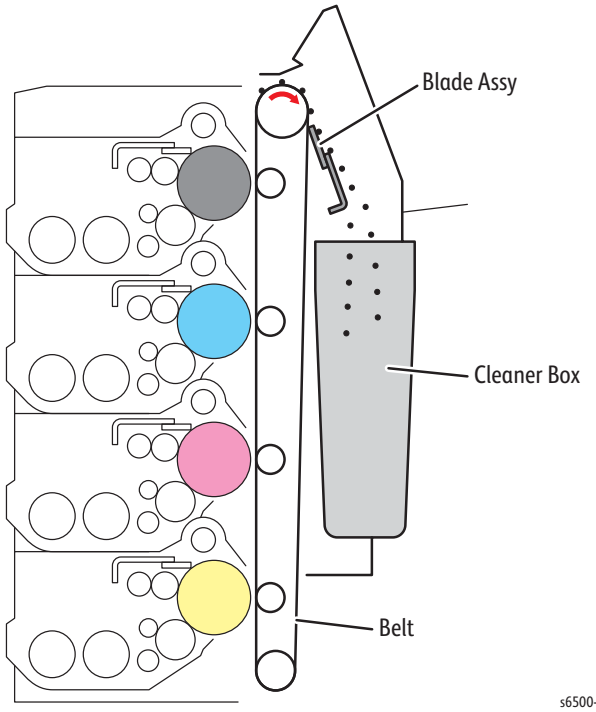
The image is bonded to the media by the Fuser. The heat roller with the heat lamp melts the toner particles. Toner is fused onto the media by the combination of heat and pressure.

	Warm-Up	Stand By	Printing
Main Heater Lamp	On	On/Off	On



Transfer Belt Cleaning

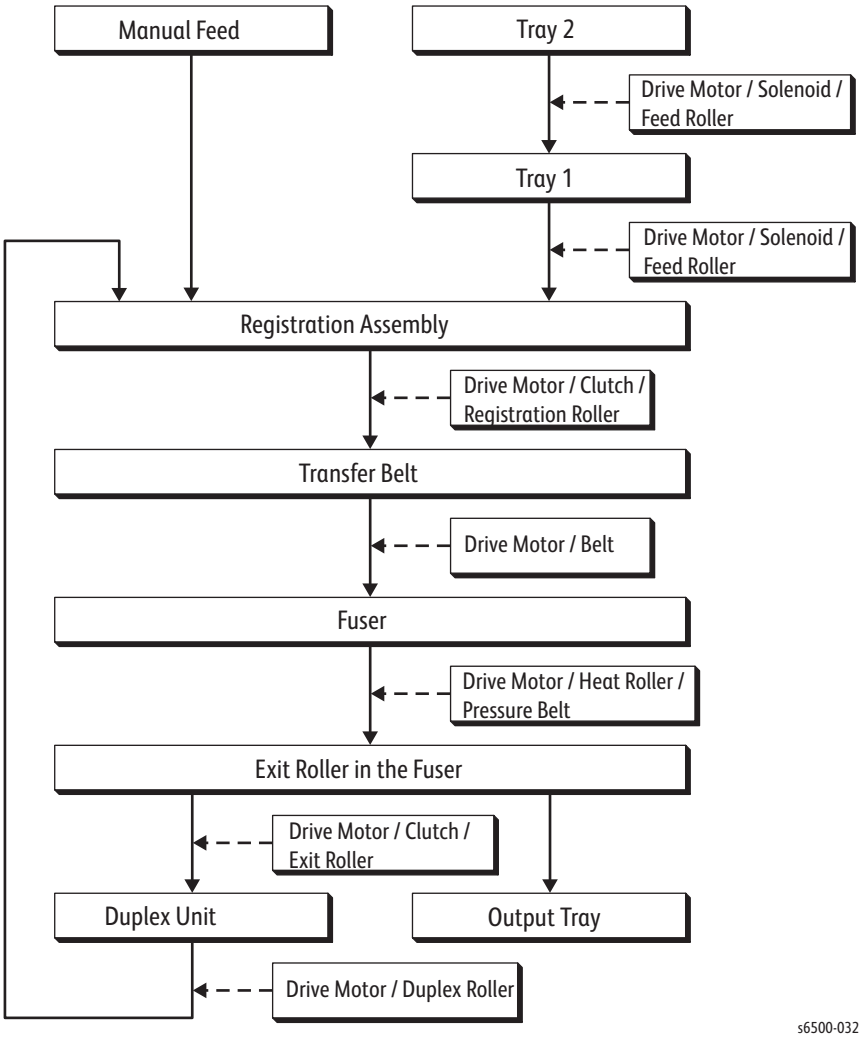
The Transfer Belt is cleaned by a cleaning blade that removes excess toner from the Transfer Belt surface and directs waste toner to a reservoir.



Media Path

Media Path Drive

Media is supplied from the Tray or the Manual Feed slot, and is transported into the printer along the paper path as shown in the diagram.



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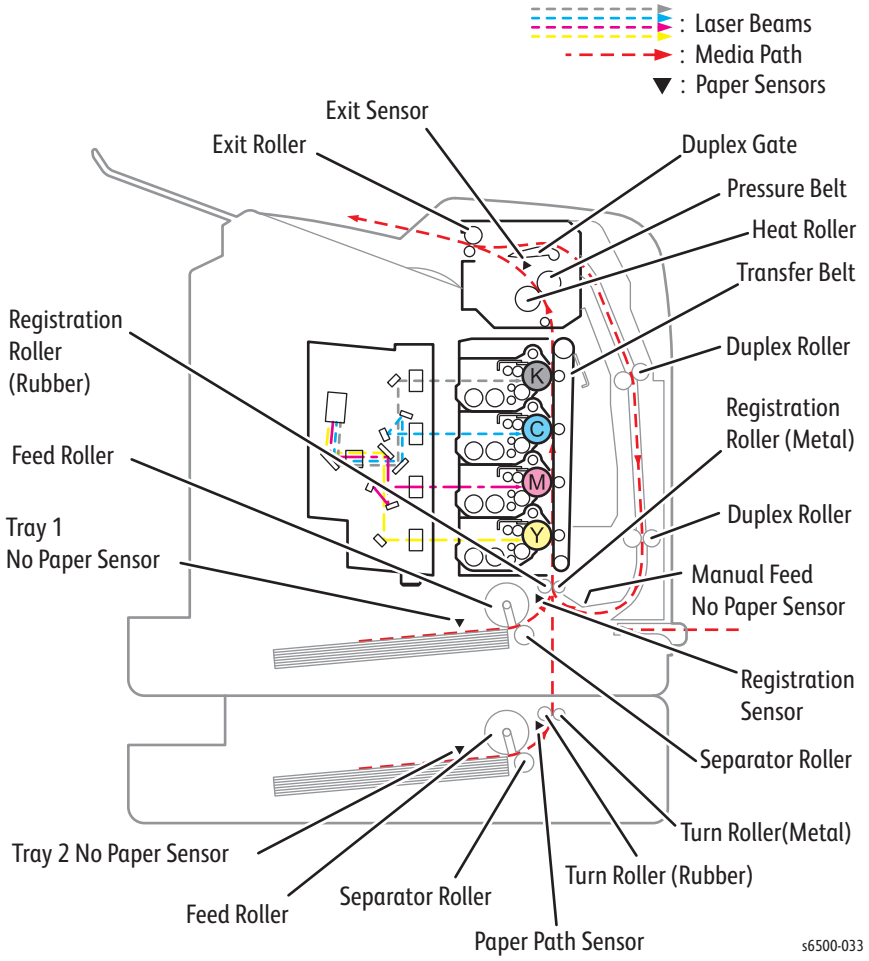
Media Path Components

Media path components are shown in the following figure.

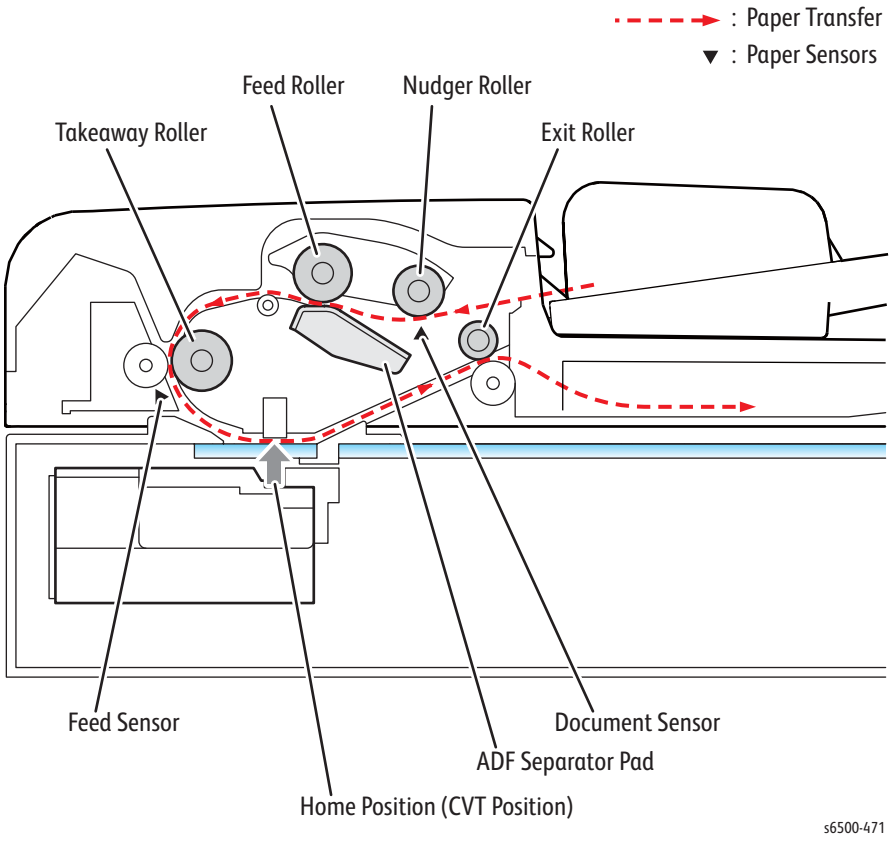


ADF Media Path

When the sheet feeding from the Document Feeder Tray of the ADF starts, the Nudger Roll and the Feed Roll that rotate driven by the torque from the ADF Motor. The sheet is nipped between the Feed Roll and the ADF Separator Pad while being fed into the ADF.

Inside the ADF, the sheet is fed by the Takeaway Roll that rotates by the torque from the ADF Motor to the Scanner Home (CVT: Constant Velocity Transport) Position in the Carriage Assy, and is scanned.

After being scanned, the sheet is ejected to the Document Output Tray of the ADF by the Exit Roll that rotates by the torque from the ADF Motor.



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Sensors

The printer contains sensors of various types that perform a variety of functions. One group of sensors track media along the media path to detects jams. Other sensors detect the presence of the Toner Cartridges, stop printer activity if a door is open (interlock), detect the presence of media in the trays, and monitor fusing temperature.

List of Sensor and Interlock Functions

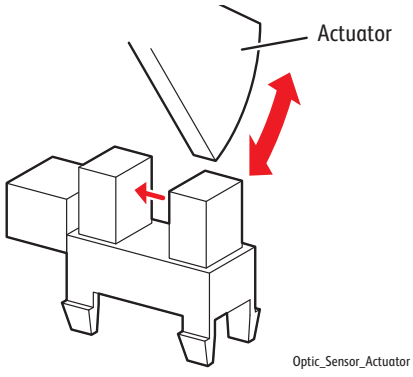
Name	Type	Function
No Paper	Photo-receptive	Detects no paper condition in all trays.
Registration	Photo-receptive	Detects paper at the registration rollers.
Exit	Photo-receptive	Detects paper as it leaves the Exit.
Stack Full	Photo-receptive	Detects when the Output Tray is full.
K Mode	Photo-receptive	Detects Black-only print mode.
Temperature	Thermistor	Monitor temperature of the Heat Roller.
Cover Interlock	Microswitch	Interrupts +24 V to the Main Motor
Start of scan	Photo	Detects laser at the start of a scan.
Fuser Thermostats	Thermostatic switches	Interrupts AC power to the Fuser.
Humidity	Integrated circuit	Monitors the printer's environment.

Sensor Types

The types of sensors used vary with function. In general, there are three types:

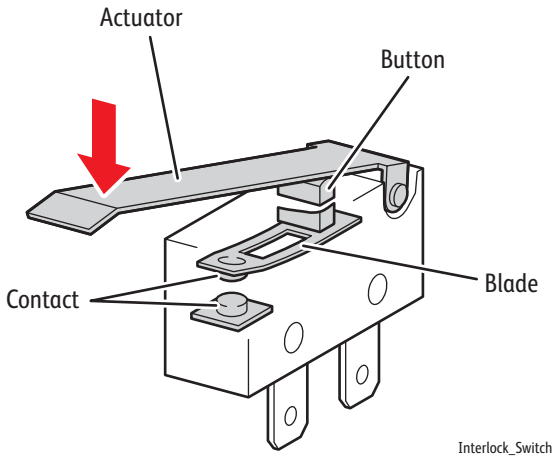
Photo Sensors

Two types of photo sensors are used, photo-reflective and photo-receptive. Photo-reflective sensors have the light emitter and light receiver aligned on a single surface. Output of the photo-receptor is High (> +4.5 V) when light is being reflected back and Low (< +.3 V) when it isn't. Photo-receptive sensors consist of a LED in one arm of a U-shaped holder, and a photo-transistor in the other arm. When the sensing area is vacant, nothing is between the arms of the sensor, light falls on the photo-receptor sending the signal High. If the light is interrupted, the photo-transistor goes Low.



Microswitches

Microswitches are used primarily as paper size sensors and cover interlocks. They are in a normally open state, and close when actuated. Microswitches frequently employ hooks or catches on the switch housing for retention in the bracket or frame.



Thermistors

Thermistors have a known value of resistance whose value varies with temperature. Used primarily in the Fuser for temperature sensing.

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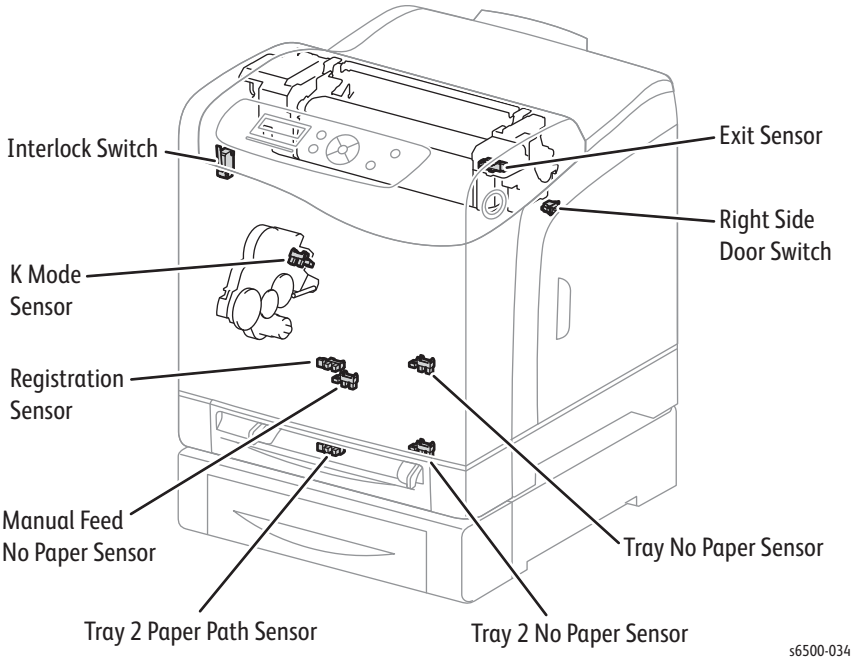
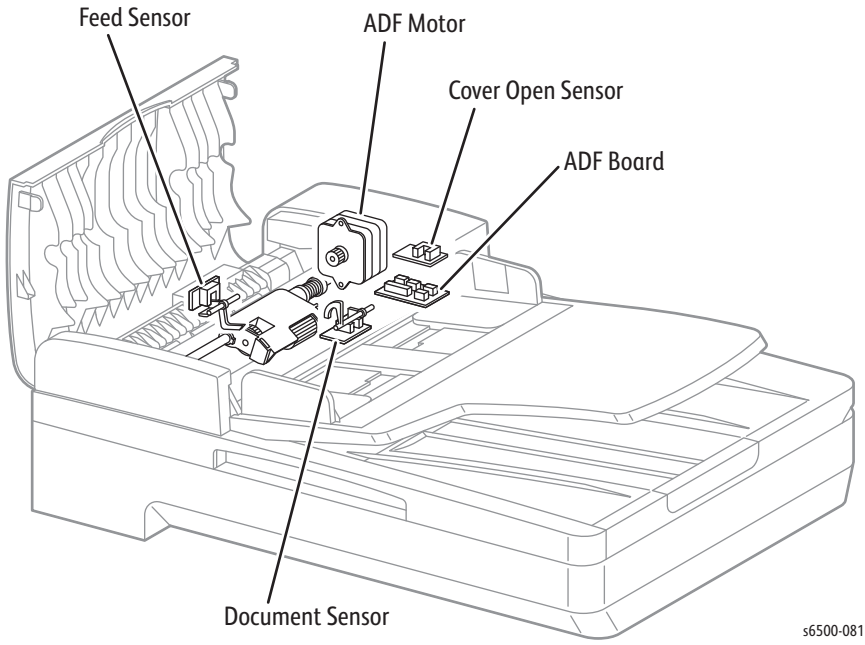
Sensors in the Media Path

The following illustration identifies the sensors located along the paper path. Error detection is based on media transport timing through the sensing area.



Sensors in the Automatic Document Feeder

This drawing shows the location of sensors in the Automatic Document Feeder on the WorkCentre 6505.

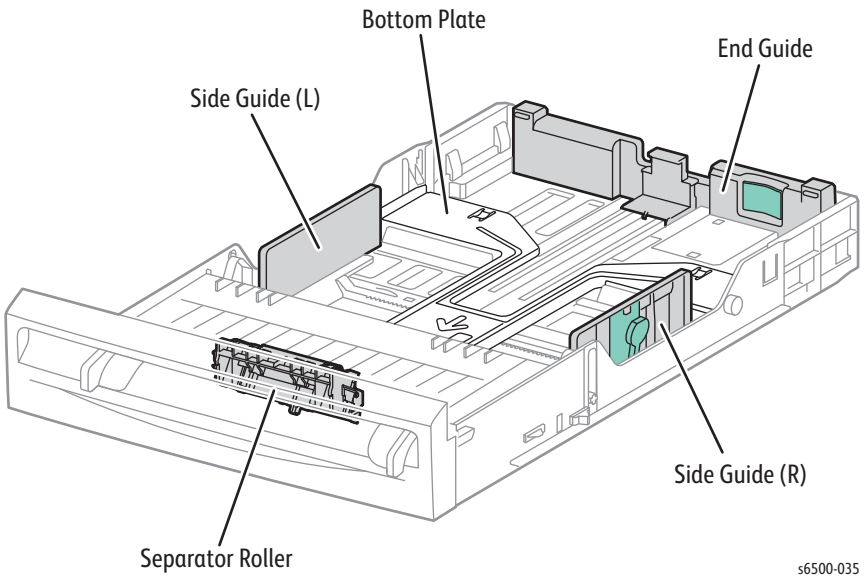


Major Assemblies and Functions

Major functional components are classified into the following categories:

- Tray
- Feeder
- Optional Feeder
- Duplex Unit
- Manual Feed & Registration
- Transfer Belt and Fuser
- Laser Unit
- Toner Cartridge & Dispenser
- Imaging Unit
- Drive
- Electrical

Tray



- Separator Roller

  The Separator Roller and Feed Roller pinch the media to prevent multiple sheets from feeding.

- Left/Right Side Guide

  The side guides move at a right angle to the paper transfer direction to align the paper width.

- Tray End Guide

  The end guide moves in toward the paper transfer direction to determine the paper size.

- Bottom Plate

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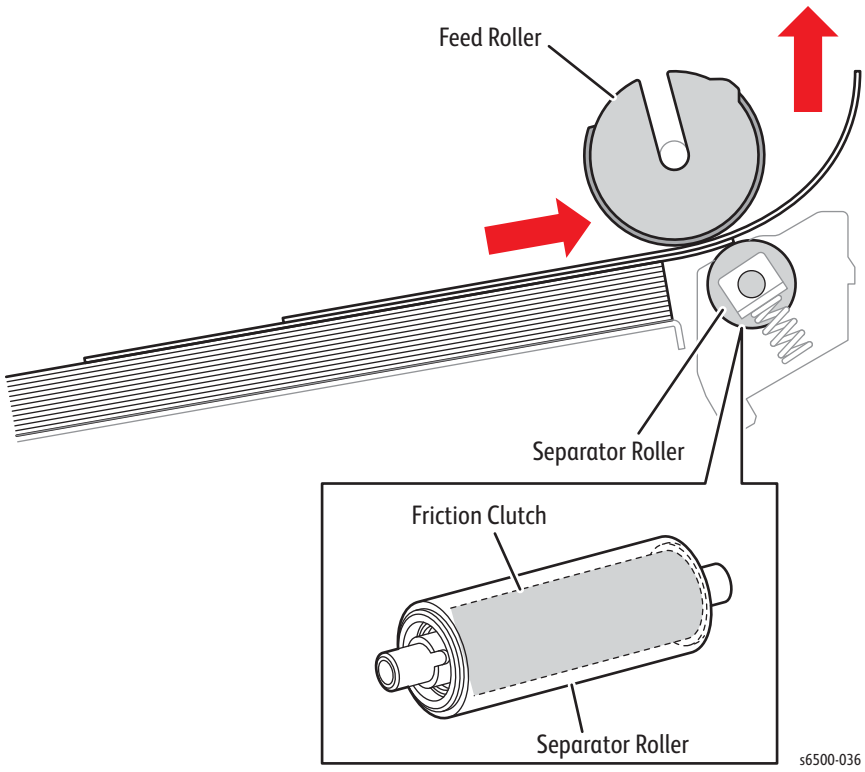
The bottom plate is locked to the Tray bottom when the Tray is pulled out of the paper feeder, and unlocked when the Tray is installed in the paper feeder. When unlocked, the bottom plate lifts the paper, pushing it against the feed roller using spring tension.

Separator Roller

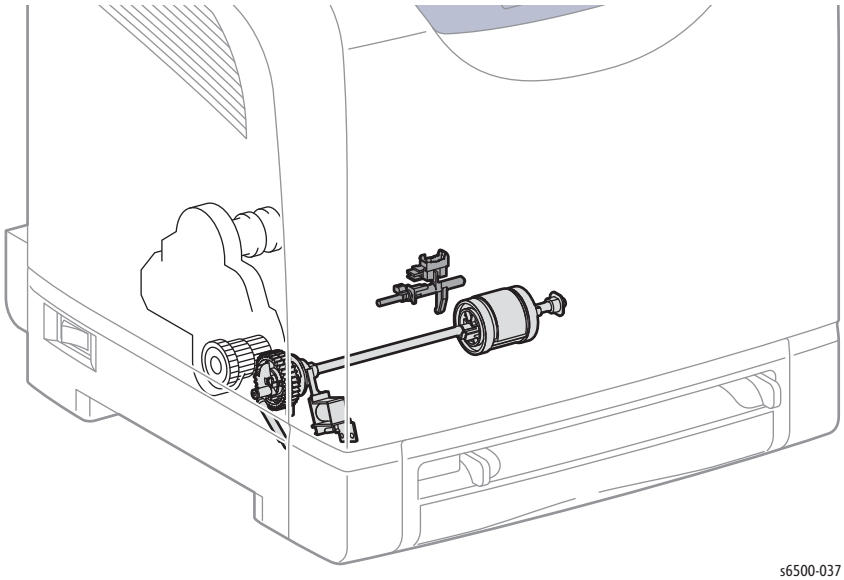
The sheets loaded into the Tray are occasionally stuck together along the edges, which can cause a multiple feed or a jam. The sheets are fed by the Feed Roller to a position between the Feed Roller and the Separator Roller. Normally, when only one sheet is fed, both the Feed Roller and Separator Roller rotate to allow the sheet to pass.

However, when two sheets are fed concurrently, only the Feed Roller rotates. The Separator Roller is locked, allowing the upper sheet to pass, separated from the lower sheet that is stopped by the friction with the Separator Roller at rest.

The Separator Roller is pushed toward the Feed Roller by spring pressure, and controlled by a friction clutch.



Feeder



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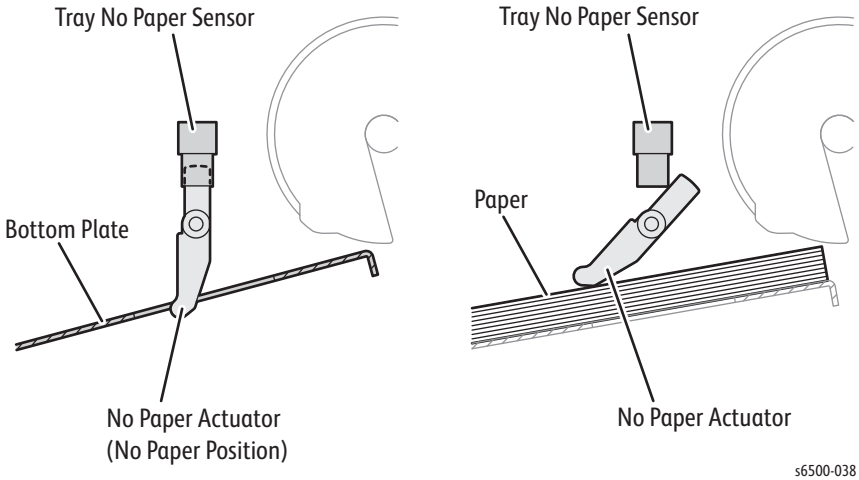
- Tray No Paper Sensor

  Detects the presence/absence of paper in the Tray based on the position of No Paper Actuator.



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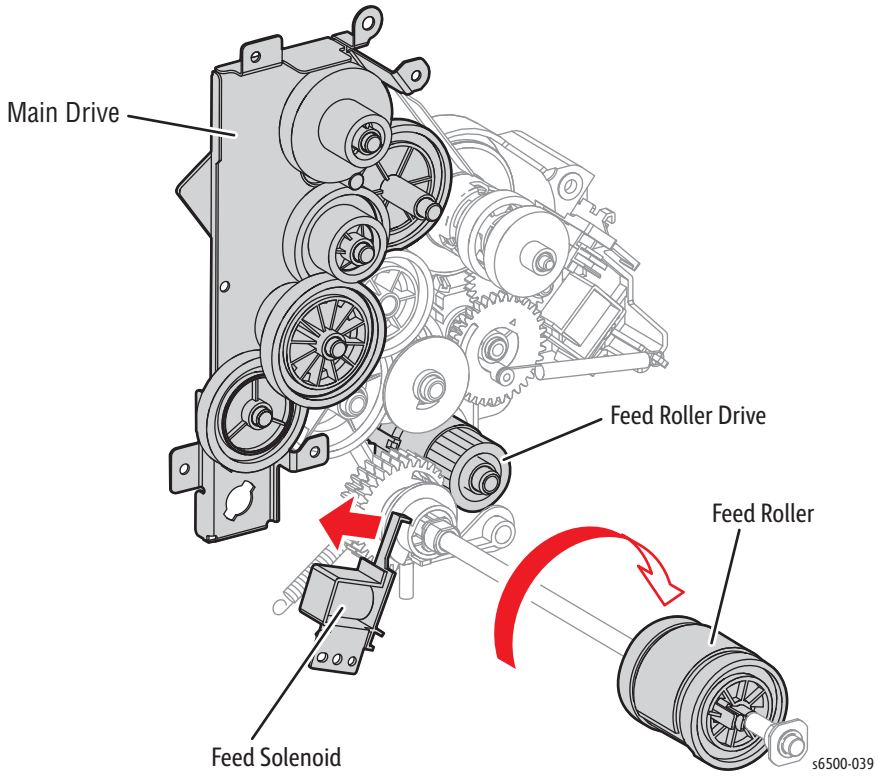
- Feed Solenoid

  The Feed Solenoid, when activated, releases the gear on the Feed Roller shaft. The gear engages with the Feed Roller Drive to rotate the Feed Roller.

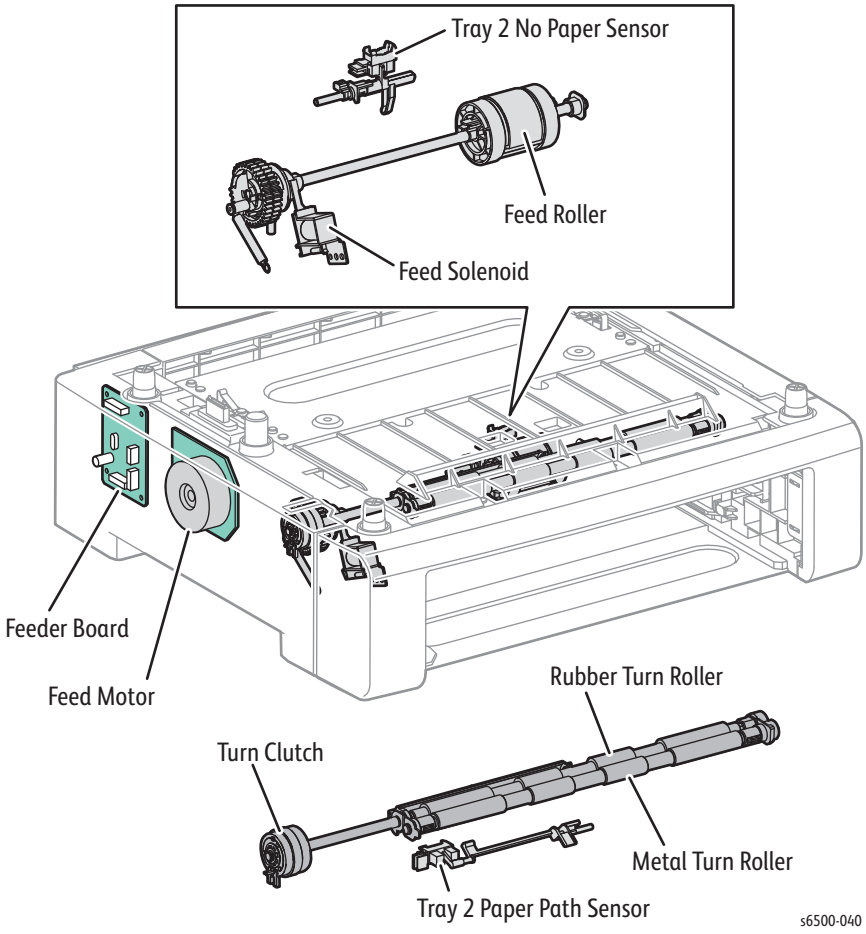
- Feed Roller

  When the Feed Solenoid operates, it allows the Feed Roller to rotate and feed the paper.



Optional Feeder

The Optional Feeder adds a second, 250-sheet input tray (Tray 2) to the printer.



- No Paper Sensor

  Detects the presence/absence of paper in the Tray based on the position of No Paper Actuator.

- Feed Solenoid

  The Feed Solenoid, when activated, releases the gear on the Feed Roller shaft. The gear engages with the feed roller drive to rotate the Feed Roller.

- Feed Roller

  When the Feed Solenoid operates, it allows the Feed Roller to rotate and feed the paper.

- Paper Path Sensor

  Detects the leading edge as the media reaches the turn chute.

- Drive Clutch

  Transmits drive from the Feed Motor to the rollers.

- Feed Motor

  The Feed Motor drives the Turn Rollers.

- Feeder Board

  The Feeder Board controls the motor, sensor and clutch of the optional feeder.

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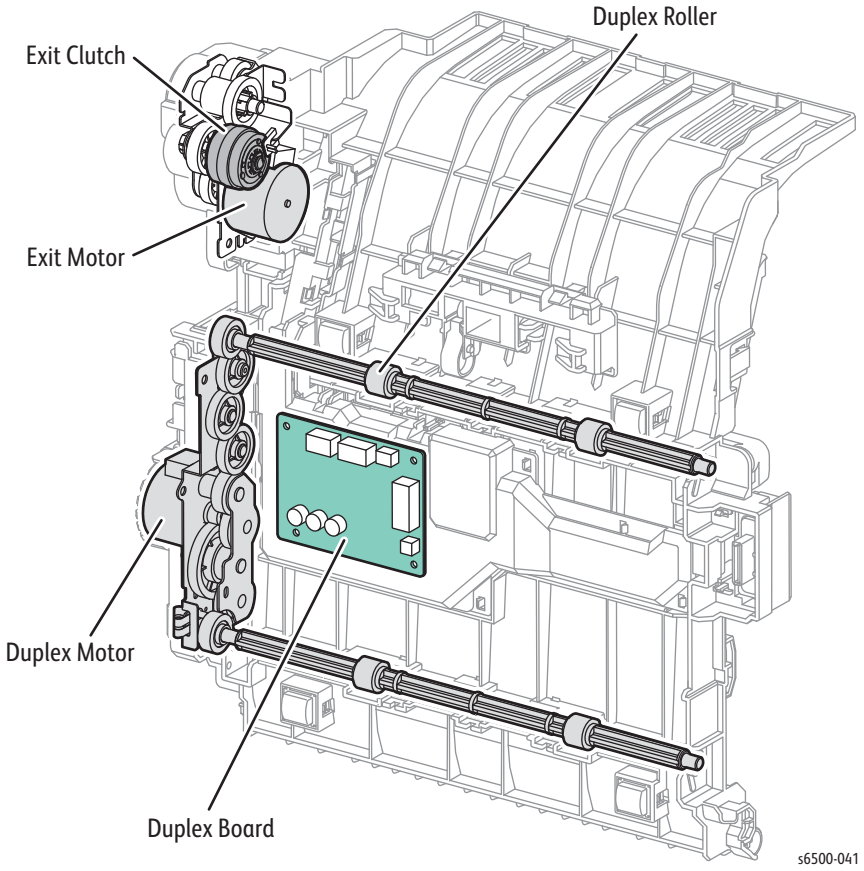
Duplex Unit



- Exit Clutch

  Transmits the drive from the exit motor to exit roller in the Fuser. When the clutch operates, the exit roller rotates in the reverse direction. The clutch is stopped when the paper reached the Duplex.

- Duplex Motor

  The Duplex Motor supplies the driving power to the Upper and Lower Duplex Rollers.

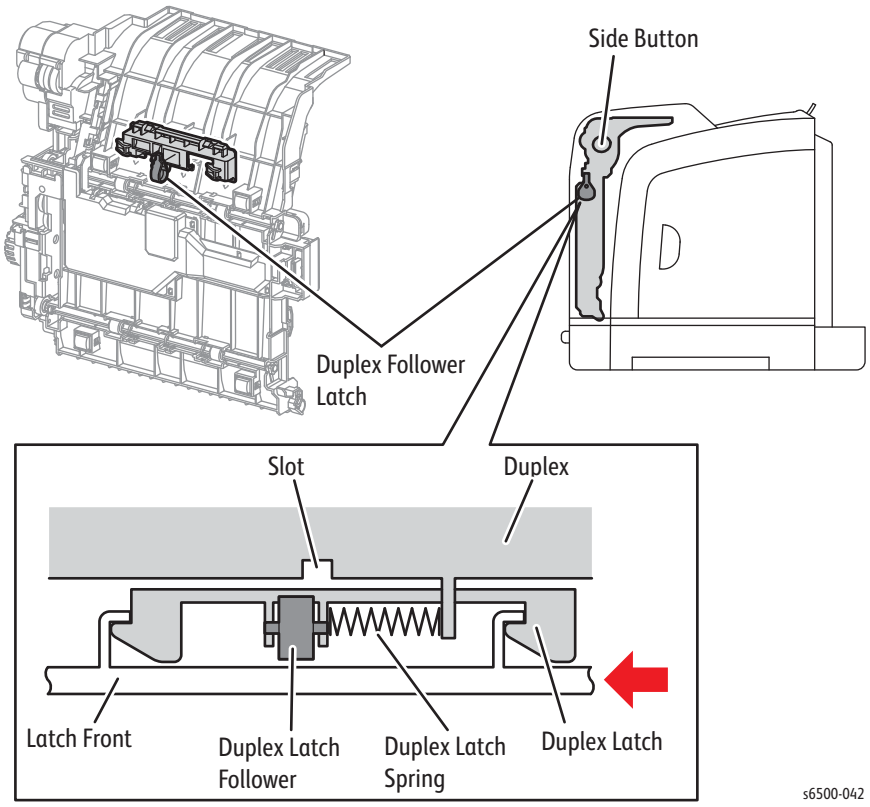
- Exit Motor

  The Exit Motor supplies the driving power to the Exit Roller in the Fuser.

- Duplex Board

  The PWBA DUP controls motor and clutch.

The Duplex Unit attaches to the Front Cover by a weighted latching mechanism. The latch maintains it's orientation to the Front Cover as the cover is opened and closed. With the Front Cover open, the latch follower is released from the locking slot allowing removal of the Duplex Unit by pushing the Front Cover release button.



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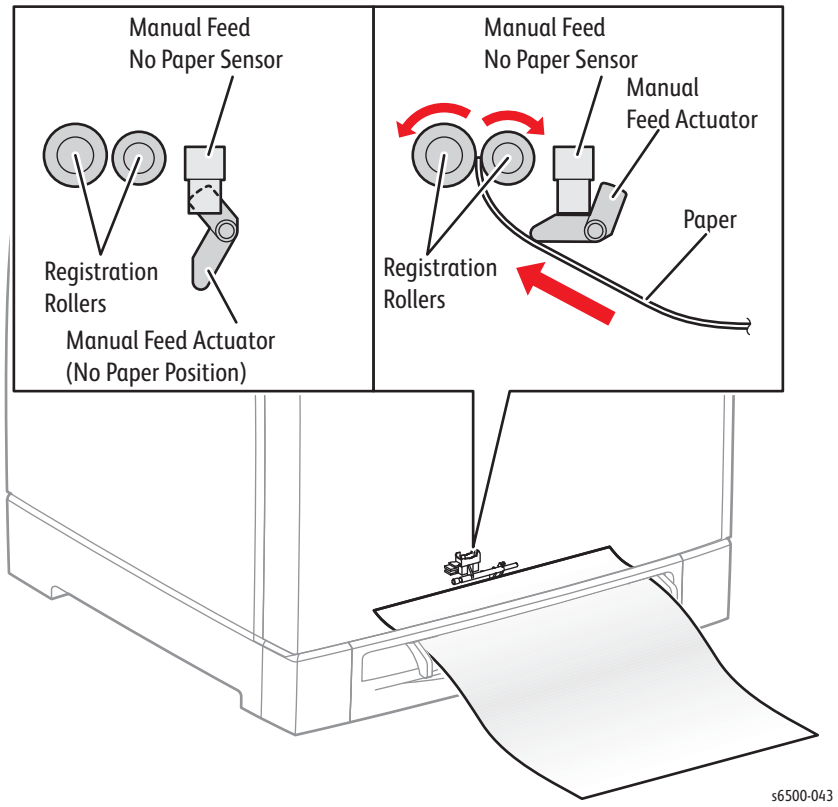
Manual Feed & Registration



- Manual Feed No Paper Sensor

  Detects media in the Manual Feed slot by the change in actuator position.

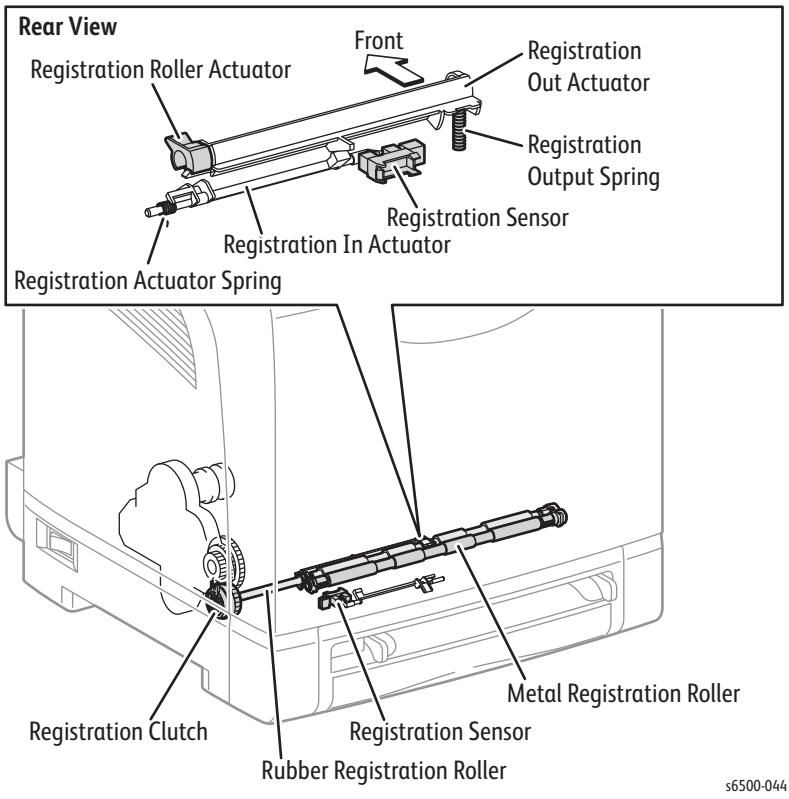
  Upon detecting the sheet, the Registration Roller rotates for a predetermined duration to feed the sheet. The rollers stop immediately when the Registration Sensor detects the media.

- Registration Sensor

  The Registration Sensor detects paper when the paper leading edge reaches the registration chute. When paper is fed from the Manual Feed slot, the Registration Sensor measures the paper length. The On time of the Registration Sensor determines the media length.

- Registration Clutch

  The Registration (Drive) Clutch transmits drive energy from the Main Drive to the rubber registration roller, and transports paper from the Tray and Manual Feed slot toward the Imaging Unit. The registration clutch must engage and start the paper moving so that it reaches the Imaging Unit at the correct time to pick up the toner image.



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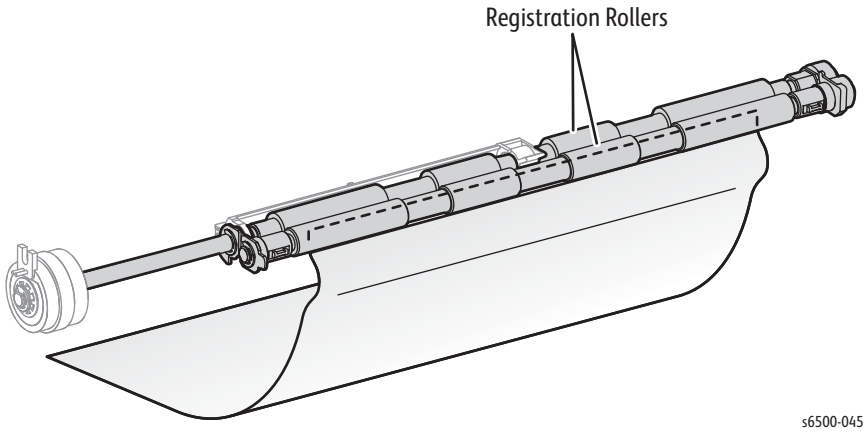
Lead Edge Registration

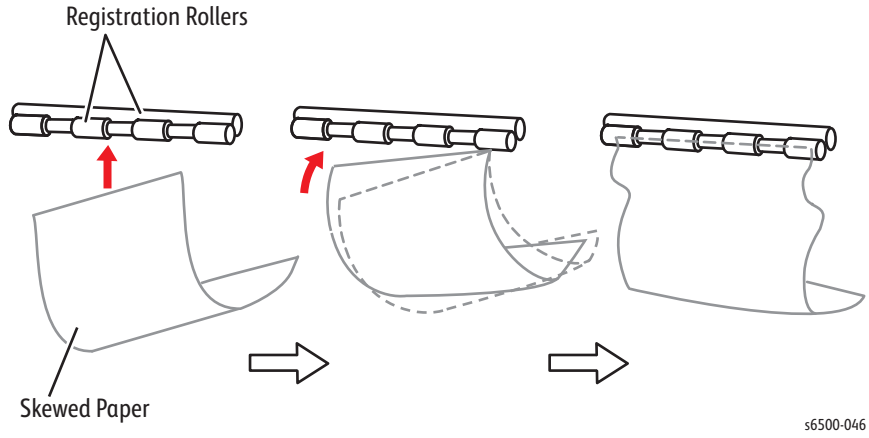
When a sheet is fed from the Tray to the toner transfer position, the registration of the sheet may not be correctly maintained due to misalignment of lead edges in the tray.

To avoid this problem, the lead edge position needs to be aligned at the Registration rollers before the sheet is fed in front of the Transfer Belt, or in front of the BTRs.



Before the registration rollers are energized, the paper is advanced from the tray to the rollers. This process aligns the leading edge as shown below.

By pushing the edge of the sheet against the registration roller that is not turning, the lead edge of the sheet is registered.



Media Size Control

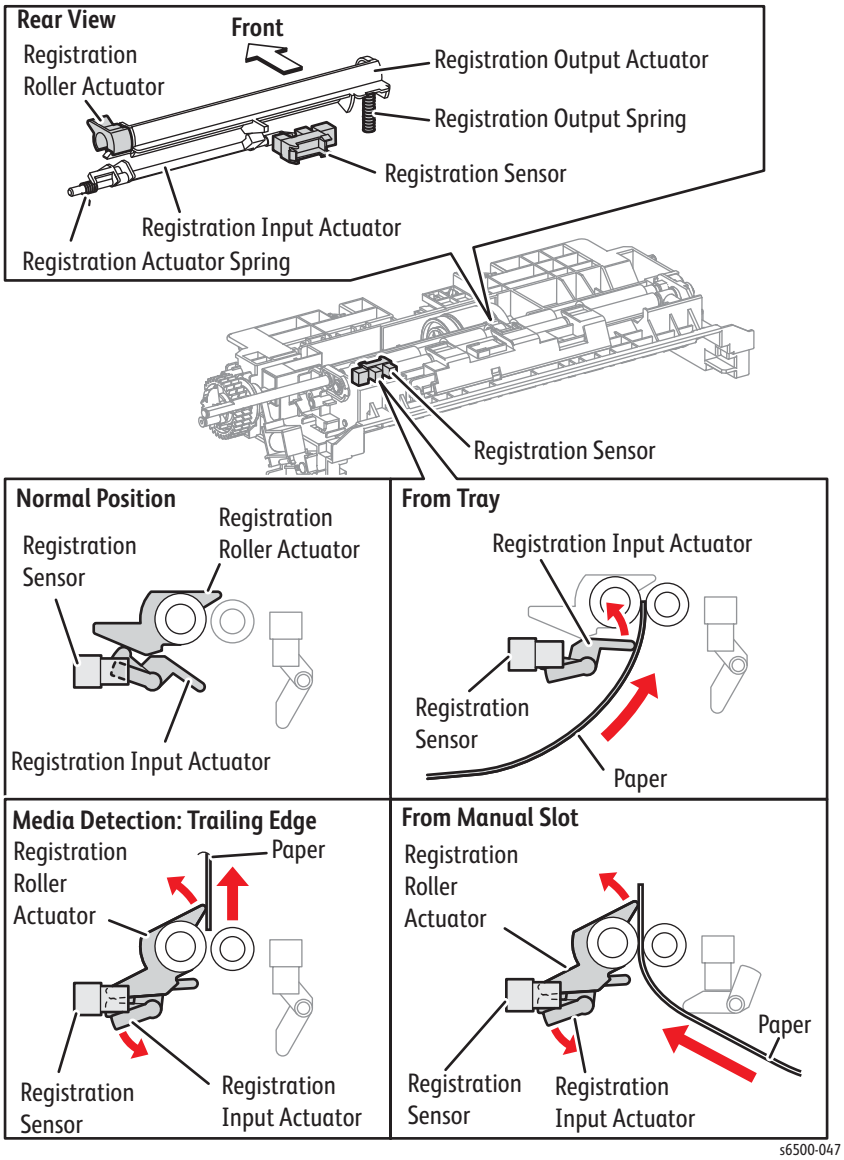
The printer has no sensors to measure the width of the paper. The length of paper is detected by the Registration Sensor. If printing data and paper size don't match, an error is sent to the Image Processor Board.

Media Detection

Since the paper path from Manual Feed slot to the Registration Sensor is different than from the Tray to the Registration Sensor, the Registration Sensor is provided with the Registration Input Actuator and the Registration Roller Actuator.

- The Registration Roller Actuator detects the sheet from the Manual Feed slot and detects the trailing edge of the paper from the Tray.
- The Registration Input Actuator detects the lead edge of the paper from the Tray.

The movement of the Registration Input Actuator does not affect the Registration Roller Actuator.



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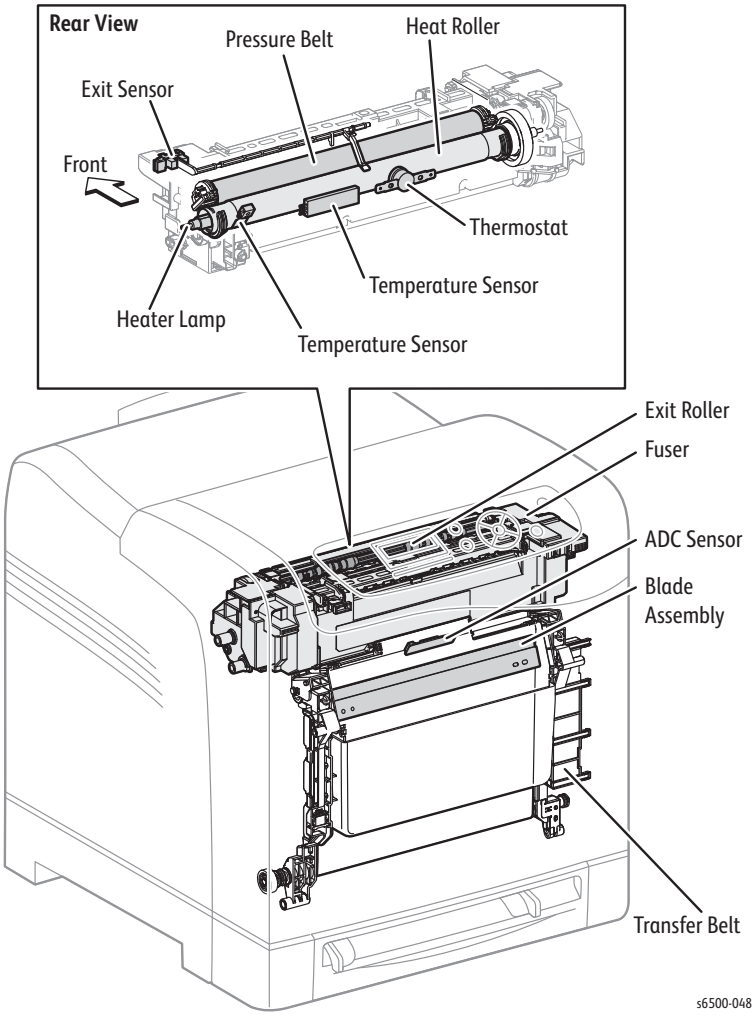
Transfer Belt and Fuser



Transfer Belt

The Transfer Belt consists of the Transfer Belt and ADC Sensor.

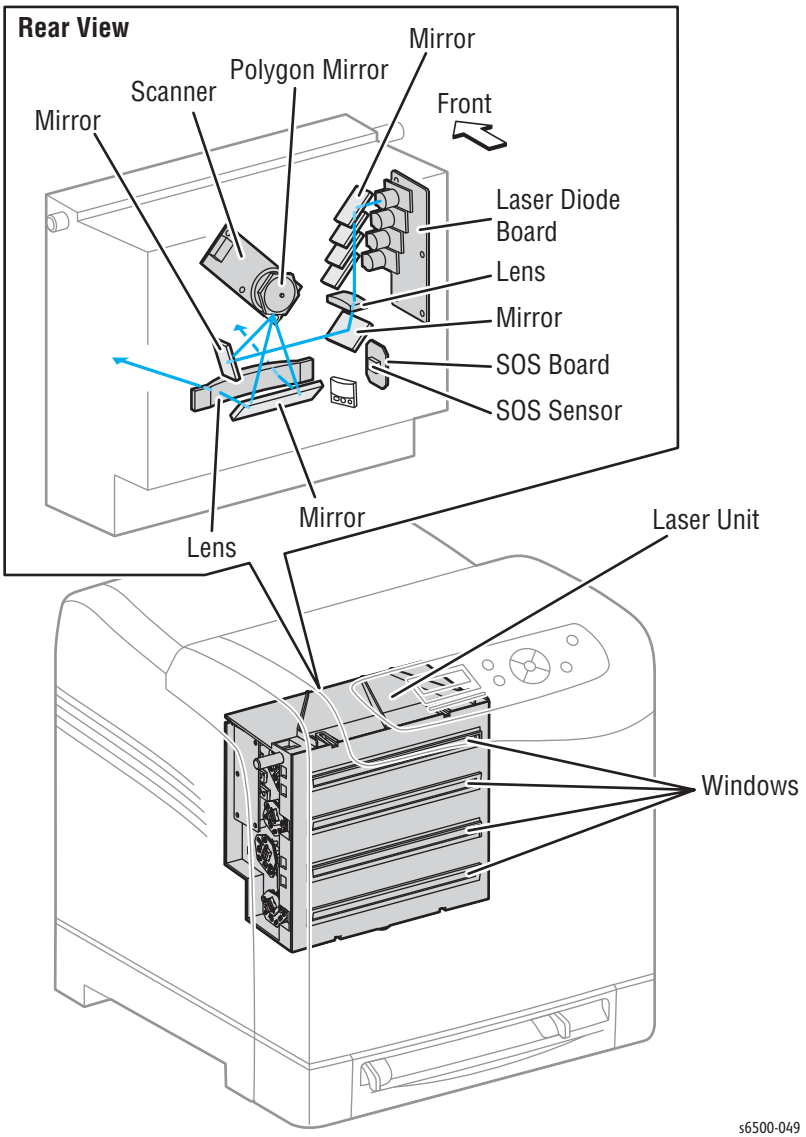
- Belt — The belt feeds media toward the Fuser.
- ADC Sensor — The ADC Sensor detects test toner patches on the belt and converts them to voltage value. The voltage value is used to control toner density.

Fuser

The Fuser fixes transferred toner onto the paper using heat and pressure and feeds the paper before and after toner is fixed. The Fuser consists of these components: heat roller, heater lamp, thermostat, temperature sensors, pressure belt, exit roller, and exit sensor.

- Exit Sensor — The exit sensor detects printed pages after fusing.

Laser Unit



The Laser Unit generates laser beams to form an electrostatic latent image on the drum surface. The Laser Unit consists of a laser diode (LD) board, scanner, start of scan (SOS) board, lenses, mirrors, and windows.

- Laser Diode Board

  The laser diode board consists of four laser diodes (LDs) corresponding to C, M, Y, and K. Each LD converts the electric signals of incoming image data into laser beams. In order to stabilize the laser light quantity during formation of an electrostatic latent image, the laser diode board monitors the intensity of the laser beam to adjust it to the appropriate level. This process is called auto power control (APC).

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- Scanner

  The scanner consists of a scanner motor that rotates at a constant speed and a polygon mirror that is mounted on the motor shaft. The laser light output from the LD is directed onto the polygon mirror. The polygon mirror, provided with six reflecting mirror faces, changes the reflection angle of the laser light as it rotates, thereby allowing the laser light to scan the drum along its axial direction. Scanning is performed using one reflecting mirror face for each color.

- Start of Scan (SOS) Board

  The SOS Sensor on the SOS Board converts incoming laser beam, upon detection, to an electric signal as reference for starting scanning, and transmits this signal to the MCU Board. The SOS sensor signals are used to synchronize the starting point of the laser beam scanning with the starting point of the image writing.

- Lenses

  The laser light reflected from the polygon mirror reaches the drum surface via the lenses, mirror, and window. The Lenses correct aberration.

- Mirror

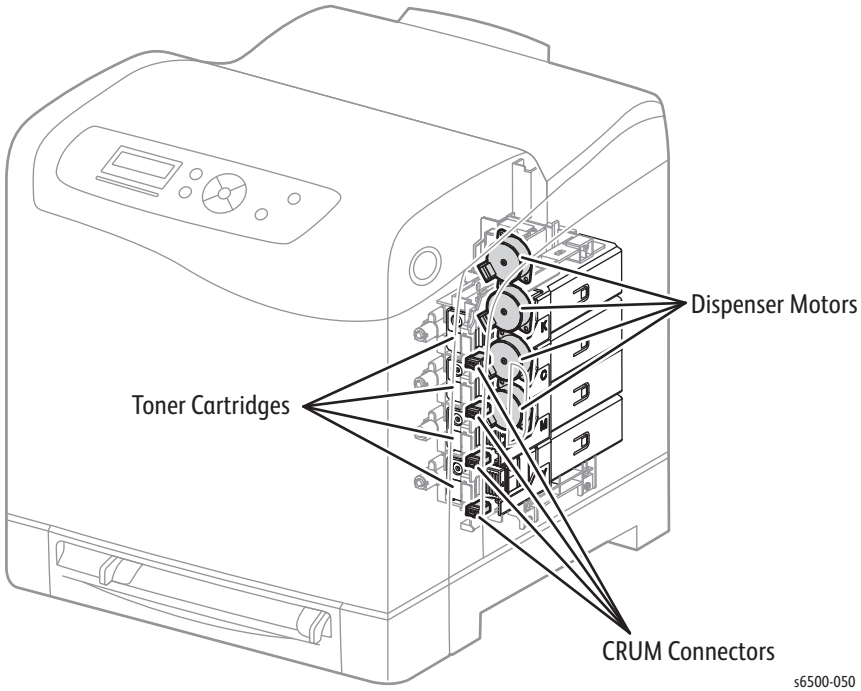
  The mirror directs the laser beam to the Imaging Unit.

- Window

  The window is the area where the laser beams exit the Laser Unit.

Toner Cartridge & Dispenser

The toner dispensing system is the same in both the SFP and MFP.



The Toner Dispenser includes the following components:

- Toner Cartridges (C/M/Y/K)

  The Toner Cartridge is a customer replaceable item. The Toner cartridge includes a CRUM (Customer Replaceable Unit Monitor) that stores printer-specific information.

- CRUM Connector

  The CRUM connector allows data transfer to and from the CRUM.

- Toner Motor (C/M/Y/K)

  The toner motors provide the drive for the agitator and auger in each Toner Cartridge, and supply toner to the developer.

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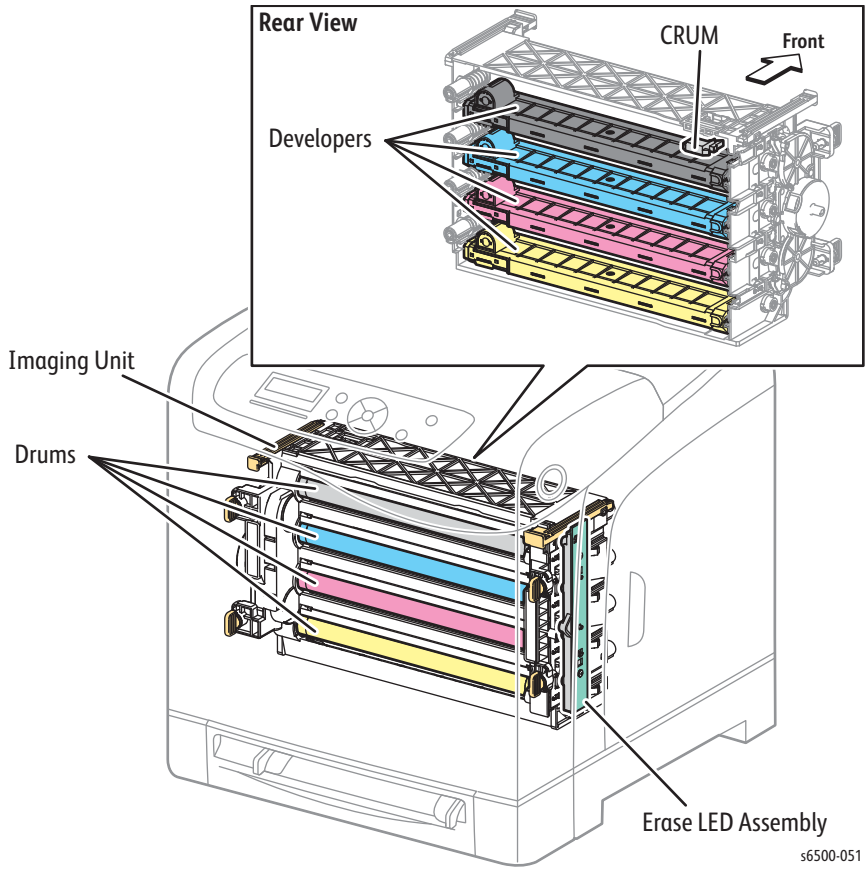
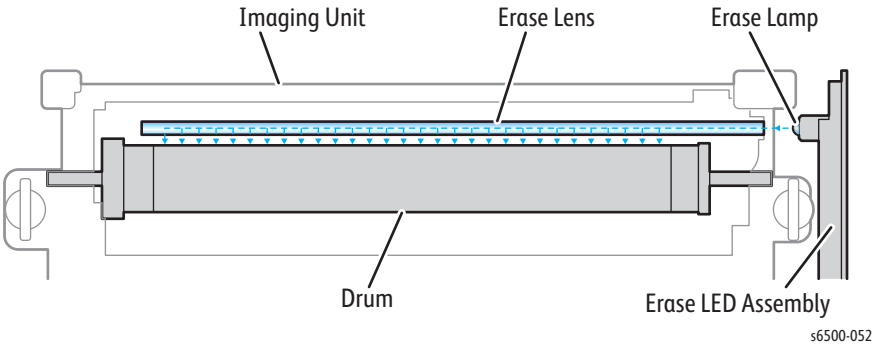
Imaging Unit



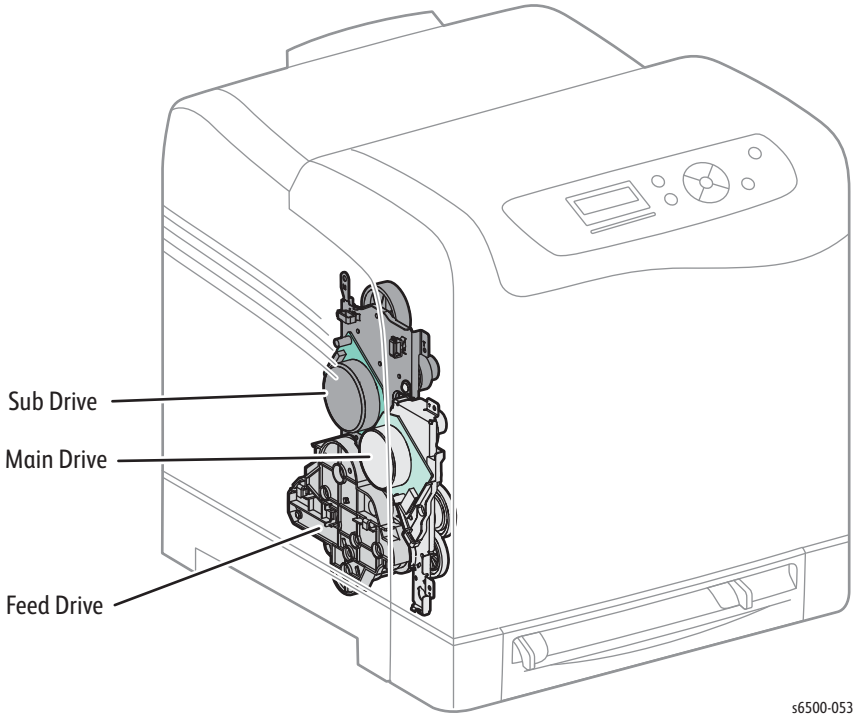
The Imaging Unit is a customer replaceable item that carries out the charging, development, transfer, and cleaning steps in the print process (see “Print Process” on page 2-2).

The Imaging Unit consists of the following items:

- Developers — Each of the four developers includes the augers that distribute the toner and the magnet roller that applies toner to the drum to develop the latent image.
- Drums — Each drum is given a latent image to which toner is applied by the developer. The resulting toner image is transferred to the paper.
- CRUM — Information specific to the Imaging Unit is stored in the CRUM.
- Erase Lamp (LED) — The light of the LED passes through the lens of the Developer, illuminates the drum, and eliminates the charge on the drum.



Drive



The drive for both the SFP and MFP consists of three assemblies:

- Main Drive Assembly — Drives the Imaging Unit, Transfer Belt, Registration Rollers, and Feeder.
- Sub Drive Assembly — Supplies drive to the Fuser and Cyan, Magenta, and Yellow developers in the Imaging Unit.
- Feed Drive Assembly — Transmits the driving force from the Main and Sub Drive Assemblies to relevant parts. The drive path is changed by the Color Mode Switching Solenoid located on the Feed Drive Assy. To change modes, the solenoid activates, allowing Gear C to engage and rotate Cam C 180 degrees. In Black and White Mode, Cam C displaces Flange D3 to disengage the sections of Gear D3. This prevents rotation of the CMY developers, allowing only the Black Developer to rotate. The Color Mode Switching Sensor detects the presence or absence of the flag on Cam C to report whether the drive path is set for color (flag present) or black and white (flag absent).

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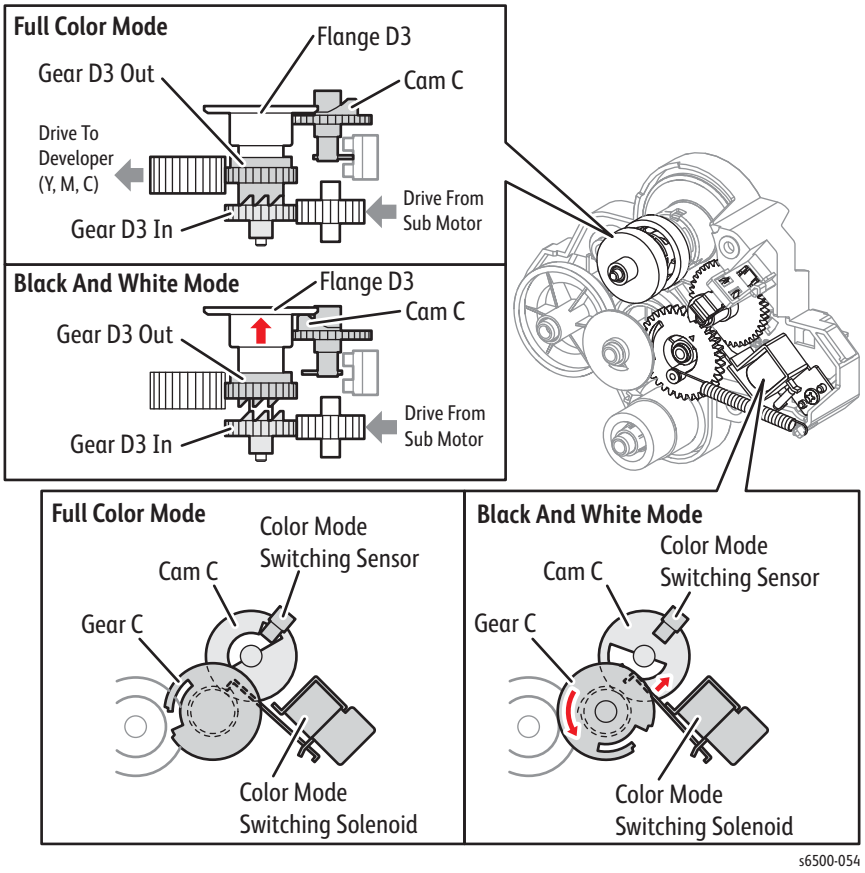
Full Color Mode
Flange D3
Gear D3 Out
Cam C
Drive To
Developer
(Y, M, C)
Drive From
Sub Motor
Gear D3 In
Black And White Mode
Flange D3
Cam C
Gear D3 Out
Drive From
Sub Motor
Gear D3 In
Full Color Mode
Color Mode
Switching Sensor
Cam C
Gear C
Color Mode
Switching Solenoid
Black And White Mode
Color Mode
Switching Sensor
Cam C
Gear C
Color Mode
Switching Solenoid

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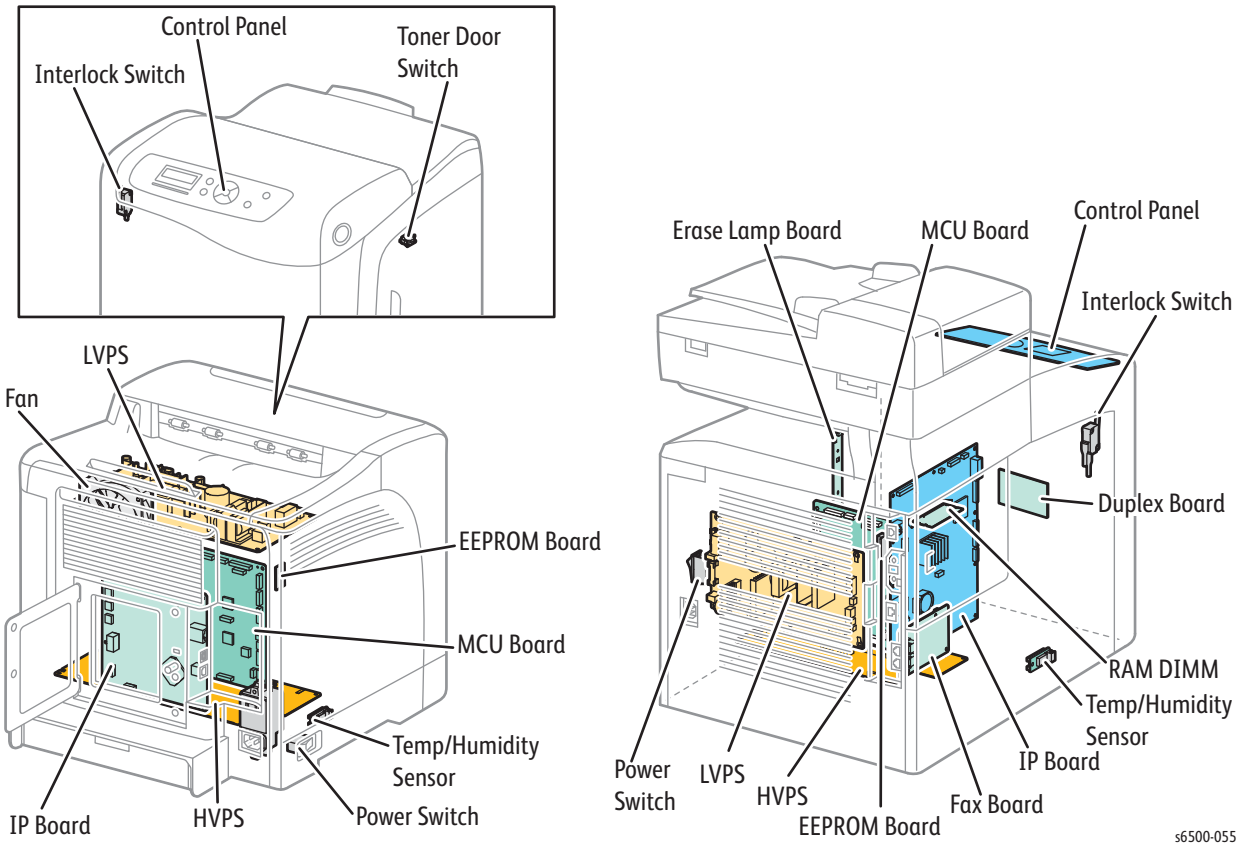
Electrical



Fan

The Fan removes heat from the printer to prevent overheating.

Power Switch

The Power Switch turns the printer AC Power Supply On/Off.

Low-Voltage Power Supply

Two types of LVPS are available: 100/120V and 230V. The LVPS supplies AC power from the power source to the Fuser Heater; the LVPS also generates and supplies stable low-voltage DC power used for the logic circuits. The LVPS contains a control circuit for the Fuser heater, in addition to the power circuit.

LVPS Over-Current Protection Circuit

This circuit stops all outputs if the power supply voltage 3.3 VDC, 5 VDC, or 24 VDC is shorted. After short is repaired, cycle main power to reset the circuit.

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LVPS Over-Voltage Protection Circuit

This circuit stops all outputs if the power supply voltage 3.3 VDC, 5 VDC, or 24 VDC exceeds the specified voltage of 32 VDC or less for 24 VDC, 7 VDC or less for 5 VDC, or 4.4 VDC or less for 3.3 VDC. The circuit resets when main power is cycled after certain period of time.

Deep Sleep Mode (Power Saver)

The output of the following power supply are stopped according to the signals.

Signal	+3.3 VDC	+5 VDC	+24 VDC
Sleep	Off	Off	On
Deep Sleep	Off	Off	Off

Fan Control

Fan control circuits on the LVPS control operation of the Fan based on signals supplied by the MCU Board.

Machine Control Unit Board

The Machine Control Unit (MCU) Board controls the printing process based on the communication with the printer Image Processor Board and information from the Sensors or Switches. Major functions include:

1. Communicates with the Image Processor Board.
2. Receives information from the Sensors or Switches.
3. Controls the Main and Sub-Drive Assemblies.
4. Distributes low-voltage DC power from the LVPS to each component.
5. Controls the Laser Unit.

Note

When replacing an MCU Board, be sure to transfer the contents of NVM from the old MCU Board to the new MCU Board.

High-Voltage Power Supply

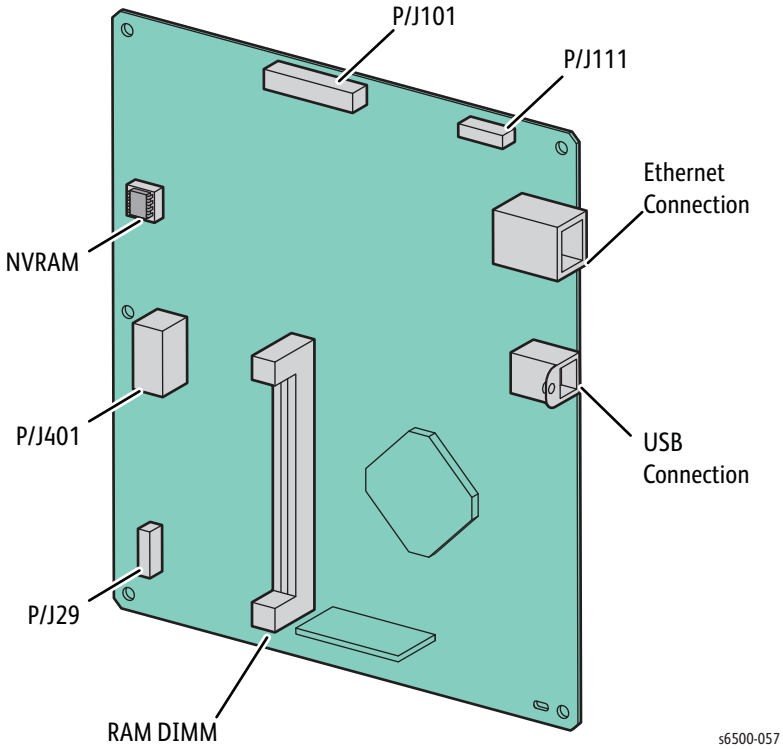
The HVPS provides high-voltage power to the Transfer Belt and Imaging Unit for charging, development, and primary transfer to the BCR, BTR, and Developer.

EEPROM Board

The EEPROM Board stores the printer unique information.

SFP Image Processor Board

The Image Processor (IP) Board is connected to the MCU Board, and controls the printer, including diagnostic, interface, and image processing. The primary function of the IP Board is to receive and process host data from the USB or Ethernet port. The host data is buffered, stored, and sent to the MCU Board in a rasterized format.



Note

When installing a new IP Board in the printer, transfer both NVRAM and RAM DIMM memory from the old board to the new board.

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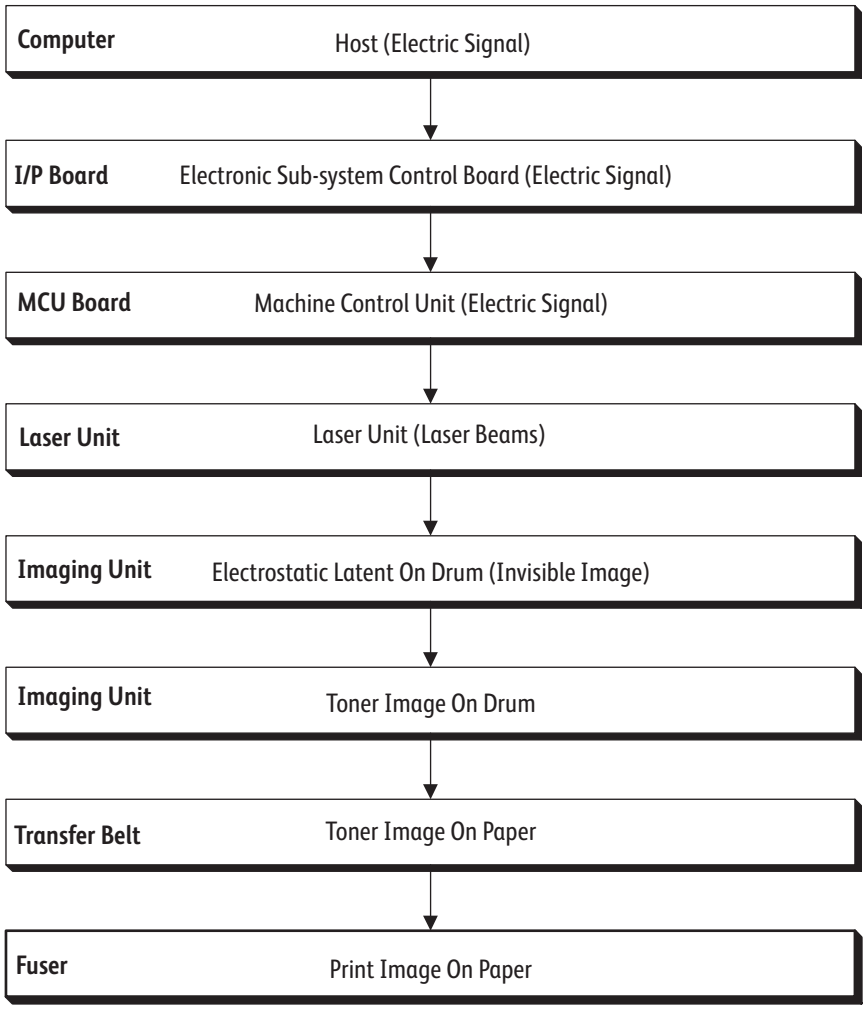
Data Flow

The electrical signal flow for the print data from the printer IP Board is shown in the following diagram.



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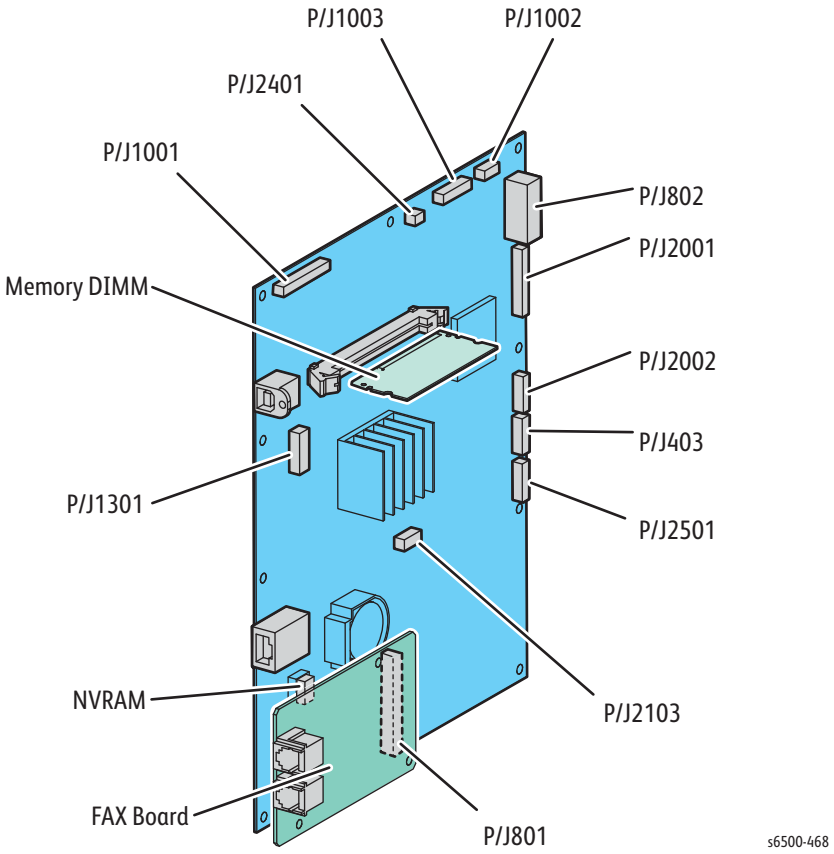
MFP Image Processor Board

Like the SFP Image Processor Board, the MFP Image Processor Board is connected to the MCU Board, and controls the printer, including diagnostic, interface, and image processing. The primary function of the IP Board is the same, but there are two additional host data sources: the Scanner, and FAX. The received host data is buffered, stored, and sent to the print engine in a rasterized format.

When installing a new IP Board in the printer, you must transfer the following parts from the old board to the new board:

- Memory DIMM
- NVRAM
- FAX Board



Humidity /Temperature Sensor

The Humidity/Temperature Sensor, located on the printer's left side in the frame below the drive motors, reads the humidity and temperature within the printer.

Interlock Switch

The Interlock Switch interrupts the supply of +24 VDC power to the HVPS or Motor upon the opening of the Front Cover.

Toner Door Switch

This switch signals the controller when the Toner Door is open.

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Operation Modes

The printer includes the following modes:

- Ready Mode — The SFP is ready for printing; the MFP is ready for printing, copying, scanning, or faxing.
- Printing Mode (SFP) — Printing is in progress.
- Running Mode (MFP) — Print, Scan, or Fax mode is in operation
  - Print Mode — Printing is in progress for job printing, copying, or received faxes
  - Scan Mode — The Scanner is in operation for copying, local or network scanning, and Fax receiving
  - Fax Mode — Fax sending or receiving is in progress
- Sleep Mode — The machine enters a power saving state after a specified period of inactivity. The period is set at the Control Panel, and can range from 3 to 60 minutes; factory default is 30 minutes.
- Deep Sleep Mode — The machine enters a deeper power saving state after a specified period in Sleep Mode. The period is set at the Control Panel and can range from 5 to 120 minutes.

Printer Control

Media Size Detection

The printer has no switches for detecting paper size; the length of the paper is detected by the Registration Sensor as the media is fed. If the detected size does not match the size sent in the print data, an error is reported.

Laser Control

The Laser Unit has four laser diodes for Yellow, Magenta, Cyan, and Black respectively and the beam intensity is automatically adjusted for each color. Image data is sent to the Laser Unit as an electric signal where the laser diodes convert the image data to optical signals (data is expressed with blinking laser beams). Variations in light quantity of laser beams or variations in the optical system (such as lenses) or drum sensitivity may affect the electrostatic image. Therefore, the laser beams are monitored and controlled by the laser diodes.

Process Control

For stable printing, the parameters related to the image development must be corrected as necessary. The process control is performed in two methods after every 25 cumulative prints, upon termination of a print run, or during a continuous run.

- Potential Control
- Toner Density Control

The following controls supplement the above controls:

- High Area Coverage Mode
- Admix Mode

Potential Control

To attain stable image density, the drum charging voltage, the developing DC voltage, and the Laser Unit beam intensity are adjusted according to the developing capability of each color carrier. The adjusted drum charging voltage, the developing DC voltage, and the Laser Unit beam intensity are fed back to keep the printing image density constant.

The outline of controls is as follows:

1. The Humidity Sensor detects humidity and temperature.
2. The patches of respective colors (Yellow, Magenta, Cyan, and Black) for the potential control are generated and transferred on the transfer belt.
3. The ADC Sensor (Density Sensor) detects the density of the patch on the Belt.
4. The drum charging voltage, developing DC voltage, and the Laser Unit beam intensity are adjusted for each color according to the detected patch density.

Toner Density Control

Toner density must be kept constant to attain stable printing. The control system for this purpose is called toner density control.

1. PCDC (Pixel Count Dispense Control)

   The amount of toner to be consumed in the developing process is calculated by counting the pixels sent to the Laser Unit. The amount of toner to be consumed is calculated by the toner dispensing time. The toner motor is driven for the calculated toner dispensing time when supplying the toner to the Developer.

2. ADC (Auto Density Control)

   The patches of respective colors (Yellow, Magenta, Cyan, and Black) for the toner density control are generated under a specified potential condition, and transferred on the Belt. The ADC Sensor measures this density, and the measured value is compared with reference value. If the toner density is low, the toner dispense quantity is increased at the next printing, or if the toner density is higher, the toner dispense quantity is reduced at the next printing. The toner dispense quantity is calculated by the toner dispense time. This calculation is made for each color.

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High Area Coverage Mode

A continuous printing of any image of area coverage exceeding the toner dispense capability causes the toner density in the Developer to be lowered.

The High Area Coverage Mode postpones the next page feed and dispenses extra toner during this time, if the toner dispense time reaches the specified value during a continuous printing.

Admix Mode

The Admix Mode dispenses toner immediately to prevent the reduction of toner density, whenever the value of the toner density control patch measured by the ADC Sensor falls far below the standard value, by dispensing extra toner. If the toner density level cannot be recovered after this operation, it is determined that toner has run out.

ADC Sensor Control Function

The ADC Sensor is a reflection type sensor that radiates light from its LED onto the target and detects the reflected light at its photoreceptor and outputs electric signals responsive to the amount of the detected light.

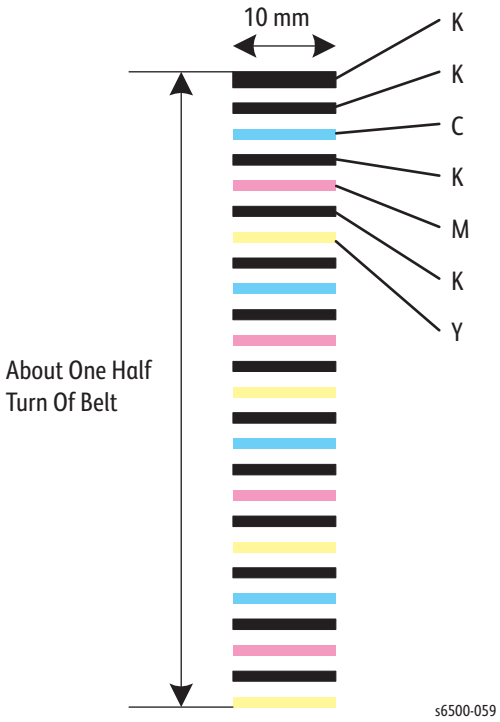
To ensure an accurate patch density measurement, the surface of the ADC sensor is cleaned to remove soil due to toner, etc., and the light amount adjustment is made so that the reflected light amount satisfies the prescribed value, when creating the patch for potential control and toner density control.

Color Registration Control

The printer uses a tandem electro-photographic system with Organic Photo Conductor (OPC) drums and direct transfer by the Transfer Belt. The images are formed on the individual drums of the respective colors and then overlapped to form one image. The color registration control calculates how much each color registration is shifted, and adjusts the Laser Unit write timing. The scan control adjusts all four colors in the process direction.

Color registration control is determined from a change in inside temperature and the print count at the time control is applied. This control is outlined as follows:

1. With no toner on the Transfer Belt, the output value of the ADC Sensor is measured to determine the threshold value.
2. The patches for color registration control are generated on the belt. These patches are composed of 10 mm lines of K, C, K, M, K, and Y in this order by the amount of four dispense counts, led by a BlackBlack trigger.



3. The ADC Sensor reads the patch density.
4. The amount of registration shift is calculated from the threshold value determined in step 1 and the patch density measured in step 3.
5. The Laser Unit write timing is changed according to the amount of registration shift.

Fuser Control

Fuser Temperature Control

The target temperature varies depending on the temperature detected by the Humidity Sensor. Other factors that contribute to the target fusing temperature include warm-up, printing, and process control.

After the target temperature is set, the heat roller surface temperature is controlled by turning the heater lamp On/Off. Temperature of individual areas of the heat roller (center/edge) is detected by the fuser non-contact sensor (NCS) in the center and the temperature sensor at the edges.

Cool Down

As printing continues, the temperature distribution across the heat roller surface becomes uneven. Cool down suspends feeding until heat roller temperature distribution returns to normal.

Sensor Warm-Up

The non-contact sensor at the center of the heat roller loses accuracy when the sensor temperature is below -5° C. Therefore, the sensor is warmed up when the temperature is below -5° C.

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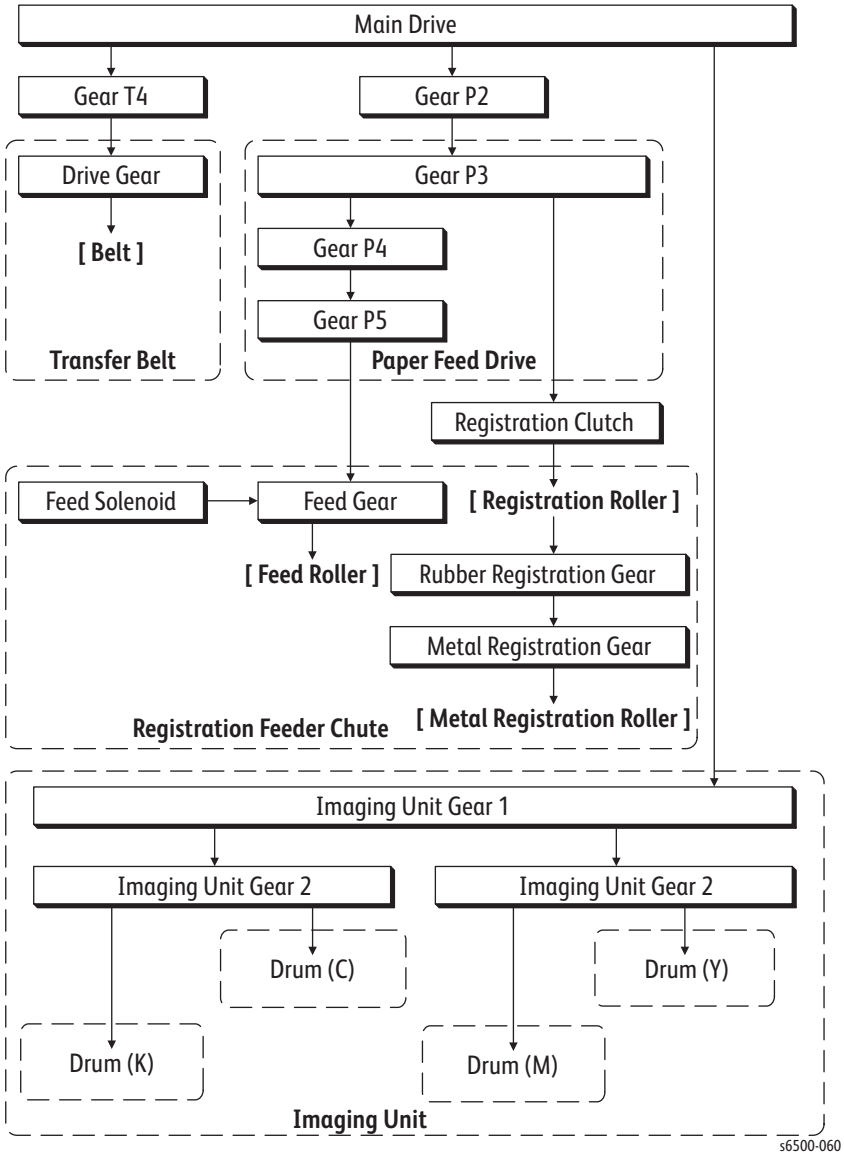
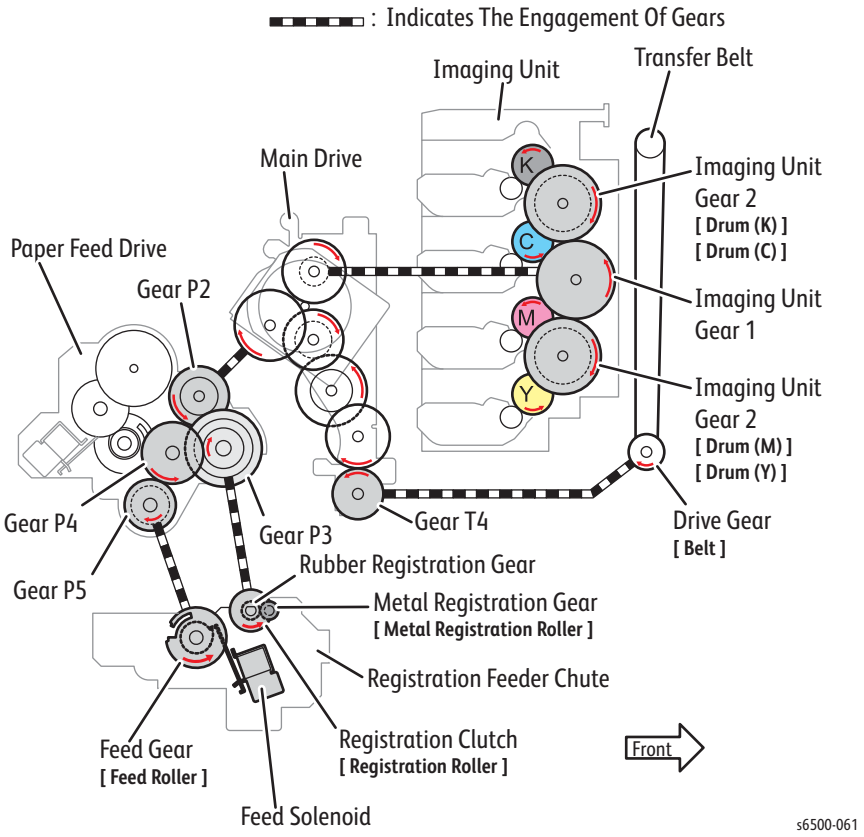
Drive

Main Drive Assembly

The Main Drive transmits power as shown in the following diagram.





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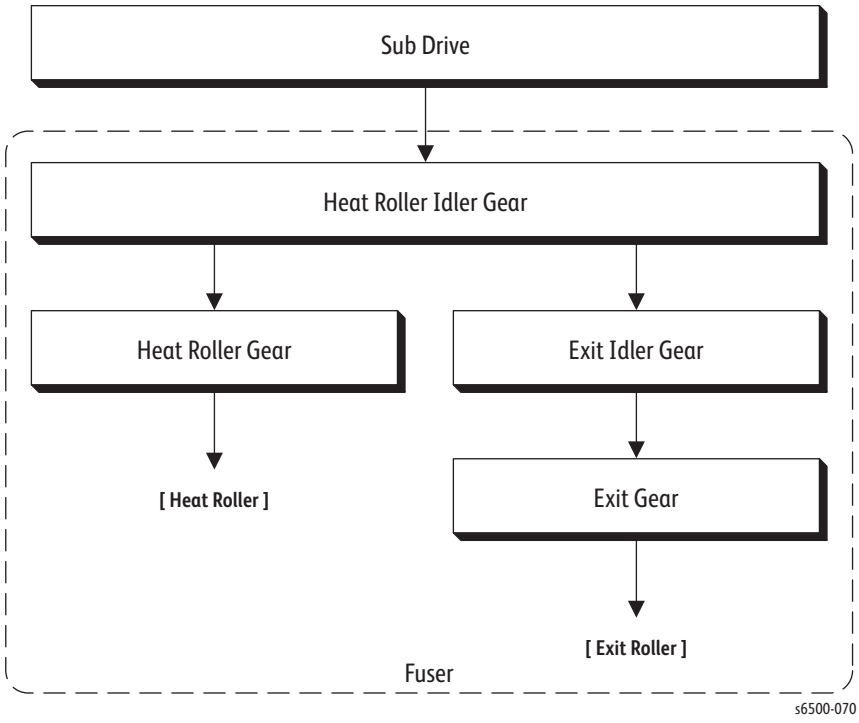
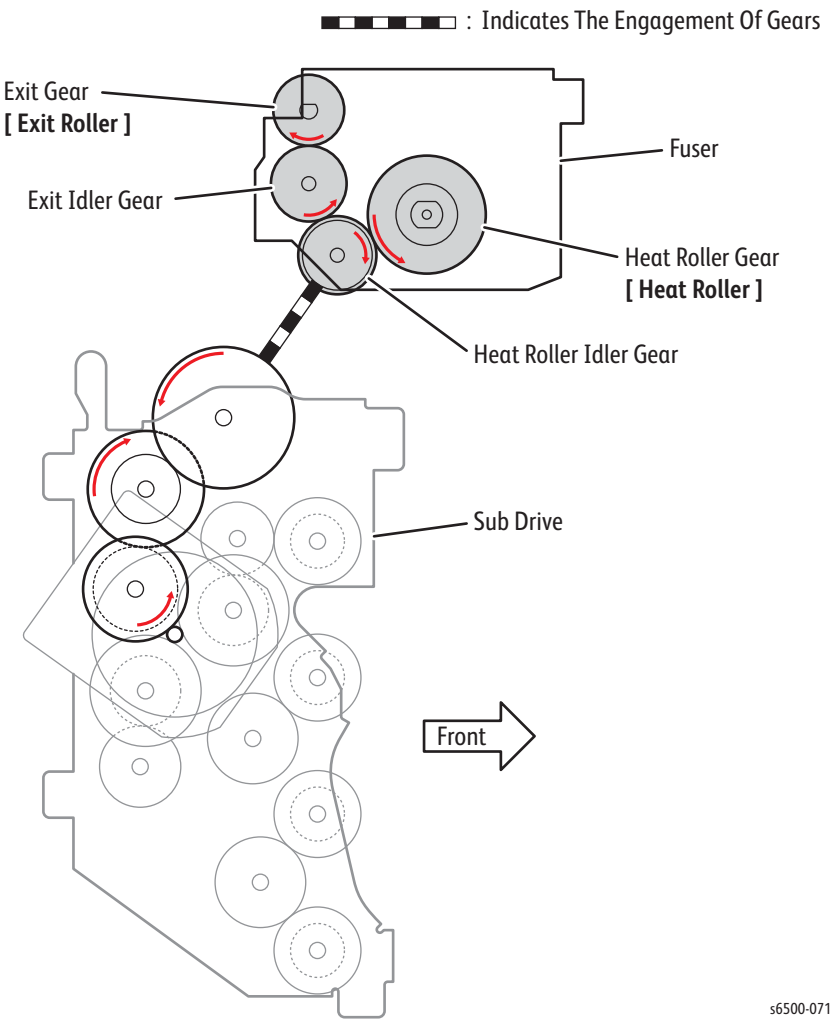
Sub Drive Assembly

The Sub Drive drives the Fuser and Imaging Unit CMY Developers dependent on the print mode (Color or Black and White). Sub Drive power is transmitted to the Fuser as shown:

Fuser Drive





Feed Drive Assembly

The Feed Drive Assy transmits the driving force from the Sub and Main Drive Assemblies to the CMYK developers. The drive path is changed by the Color Mode Switching Solenoid, located on the Feed Drive Assy to restrict drive to only the Black Developer in Black and White print mode. In Black and White mode, drive to the CMY developers from the Sub Drive Assy is disengaged. The Color Mode Switching Sensor detects whether the drive path is set for B/W or full color.

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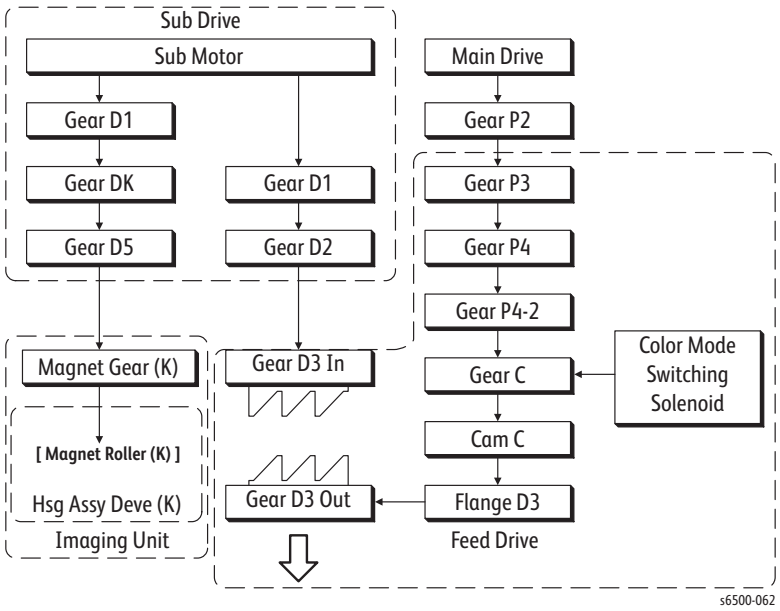
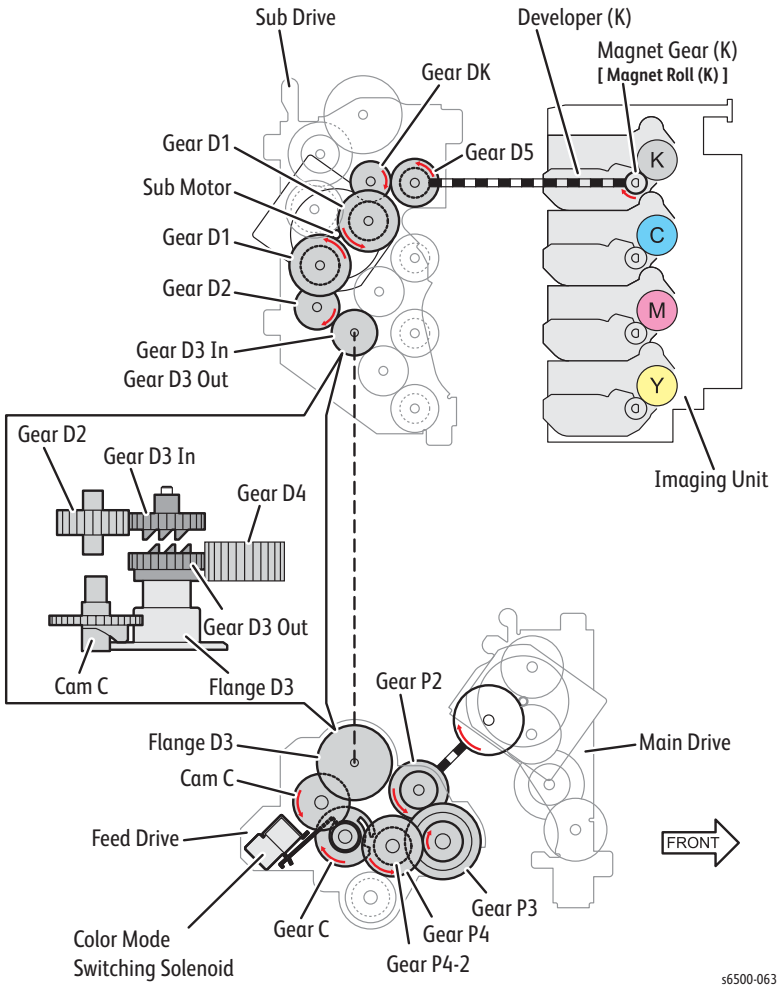
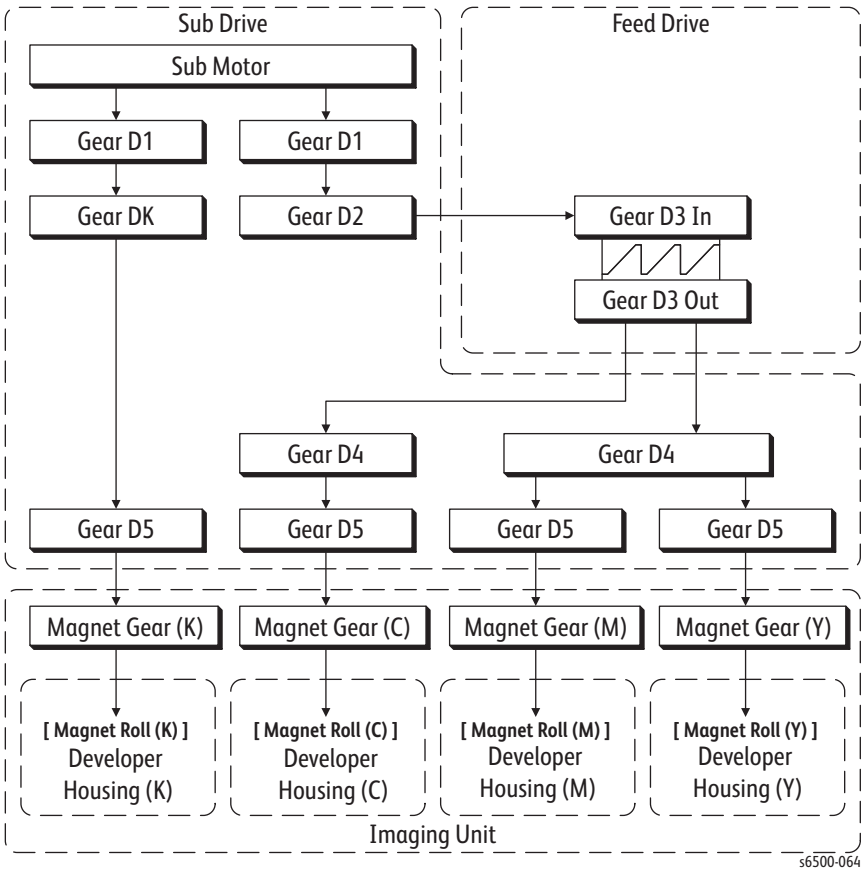
Black and White Mode

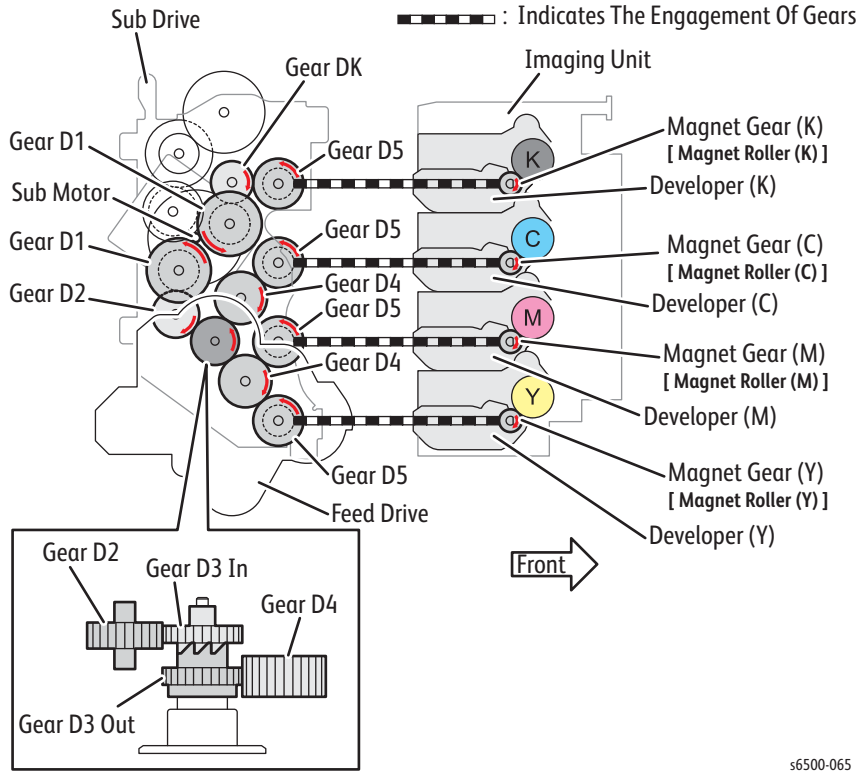


: Indicates The Engagement Of Gears.



Color Mode





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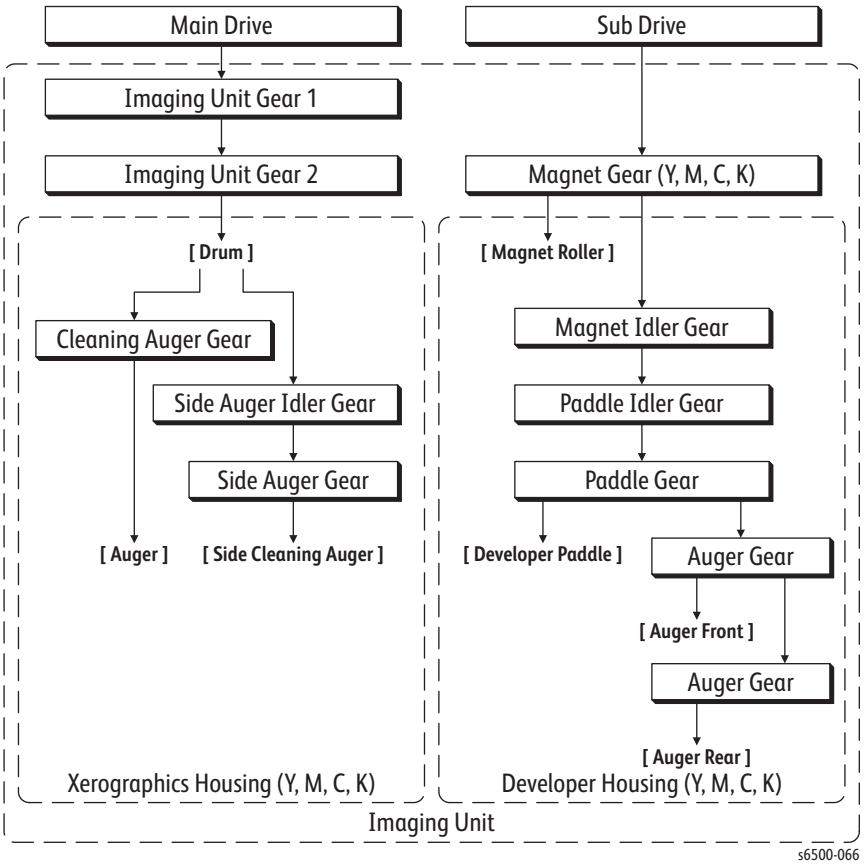
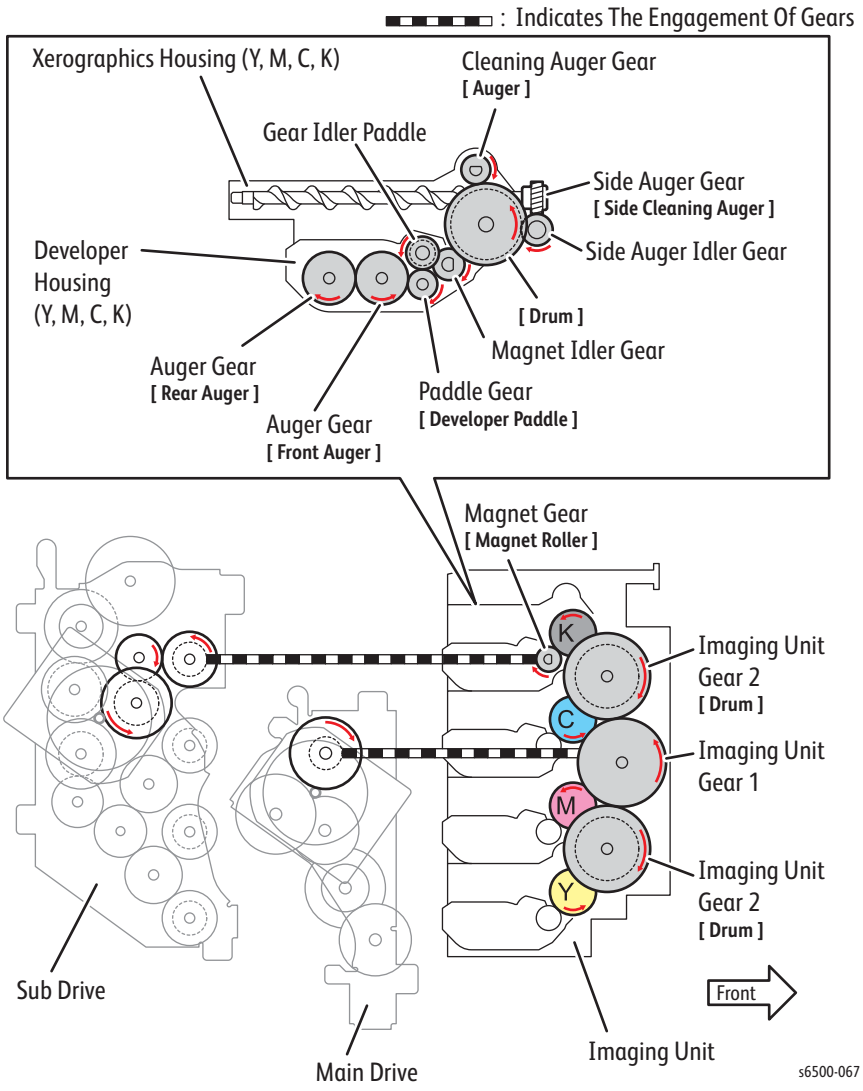
Development and Toner Collection





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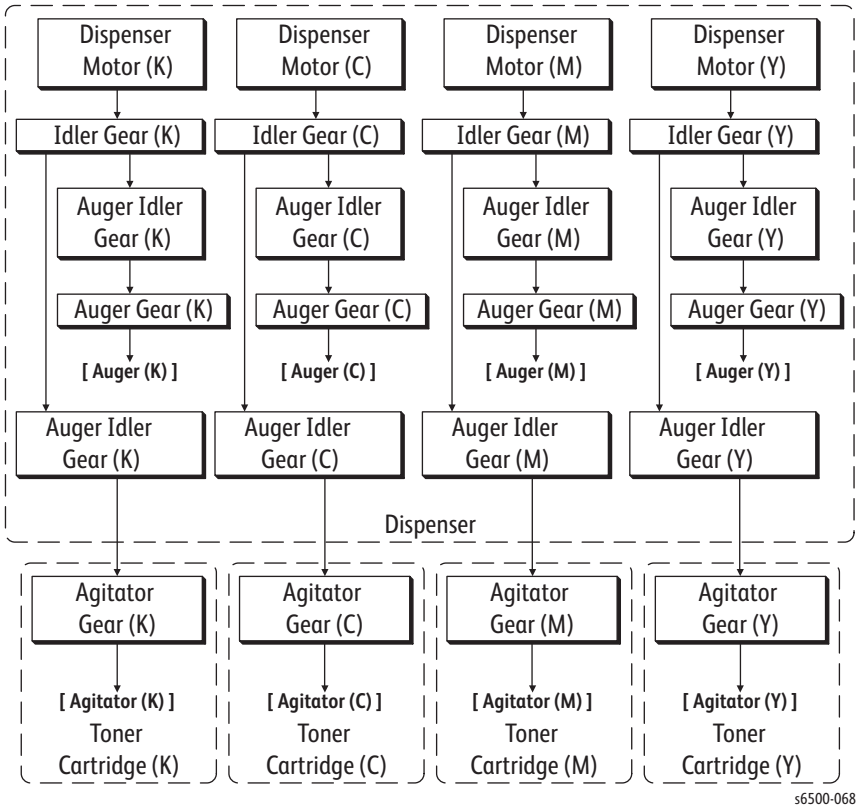
Dispense Assembly

Rotation of the toner motors drives the agitator and auger in the Toner Cartridge.



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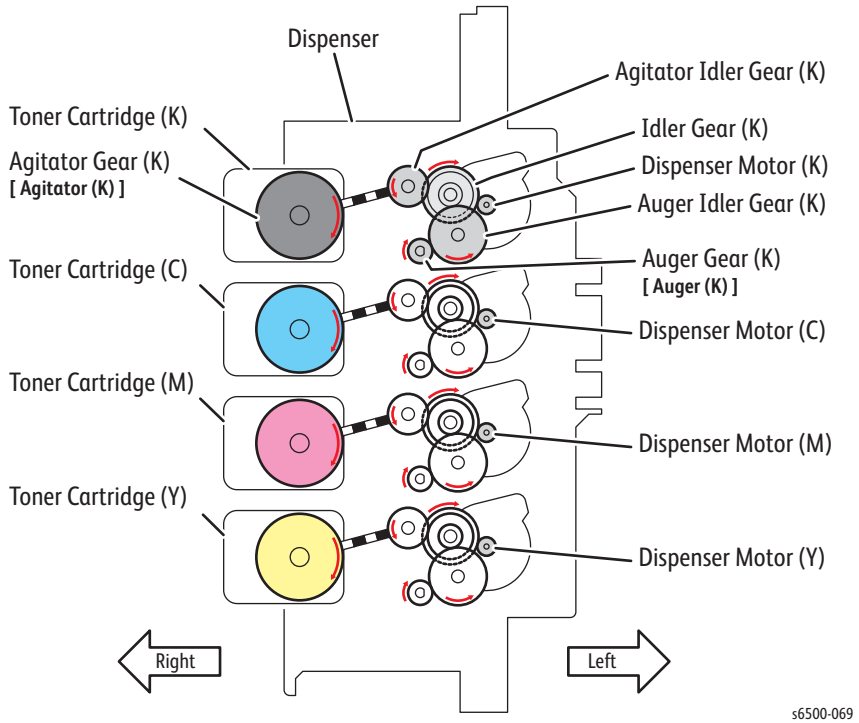
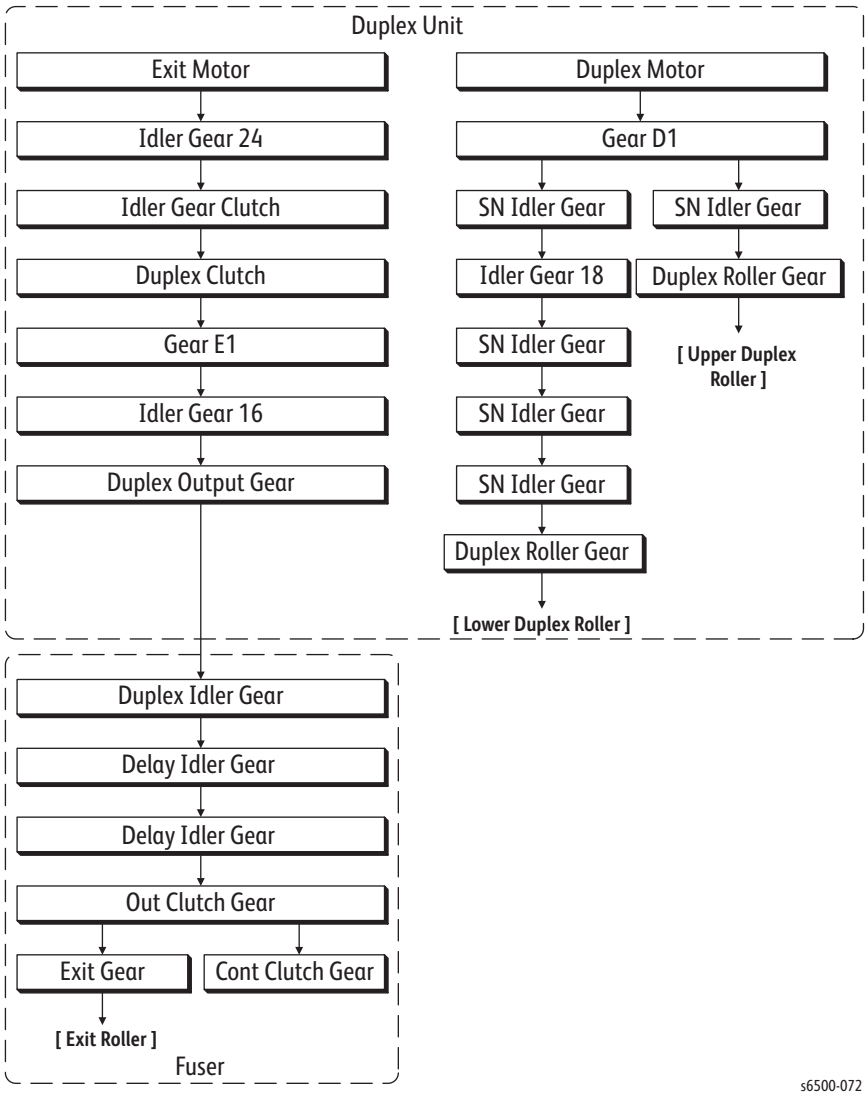


Duplex Unit



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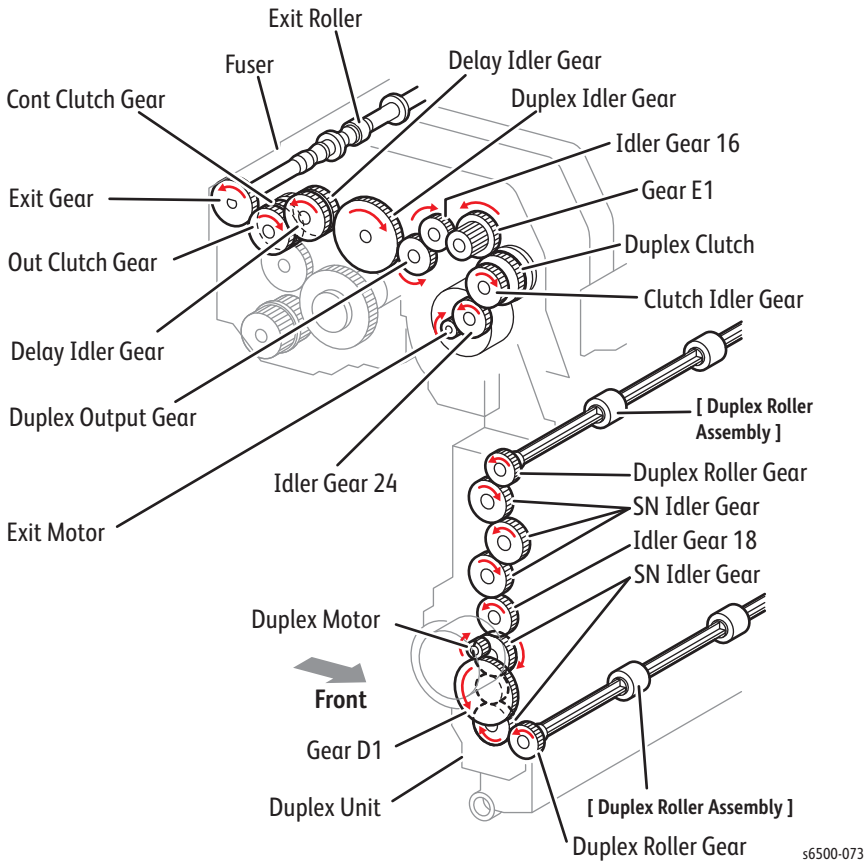
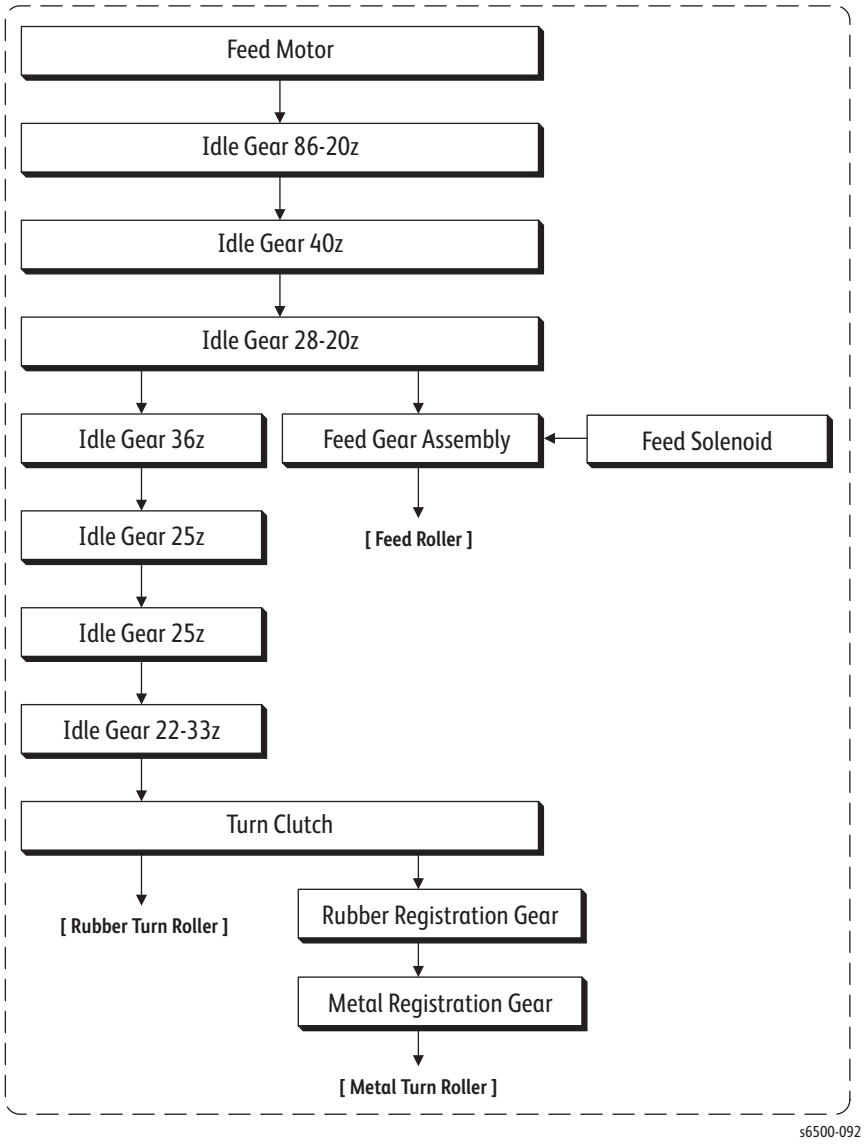

Exit Roller
Fuser
Delay Idler Gear
Cont Clutch Gear
Duplex Idler Gear
Idler Gear 16
Exit Gear
Gear E1
Out Clutch Gear
Duplex Clutch
Clutch Idler Gear
Delay Idler Gear
Duplex Output Gear
[Duplex Roller Assembly]
Idler Gear 24
Duplex Roller Gear
SN Idler Gear
Exit Motor
Idler Gear 18
SN Idler Gear
Duplex Motor
Front
Gear D1
Duplex Unit
[Duplex Roller Assembly]
Duplex Roller Gear
s6500-073

Optional Feeder



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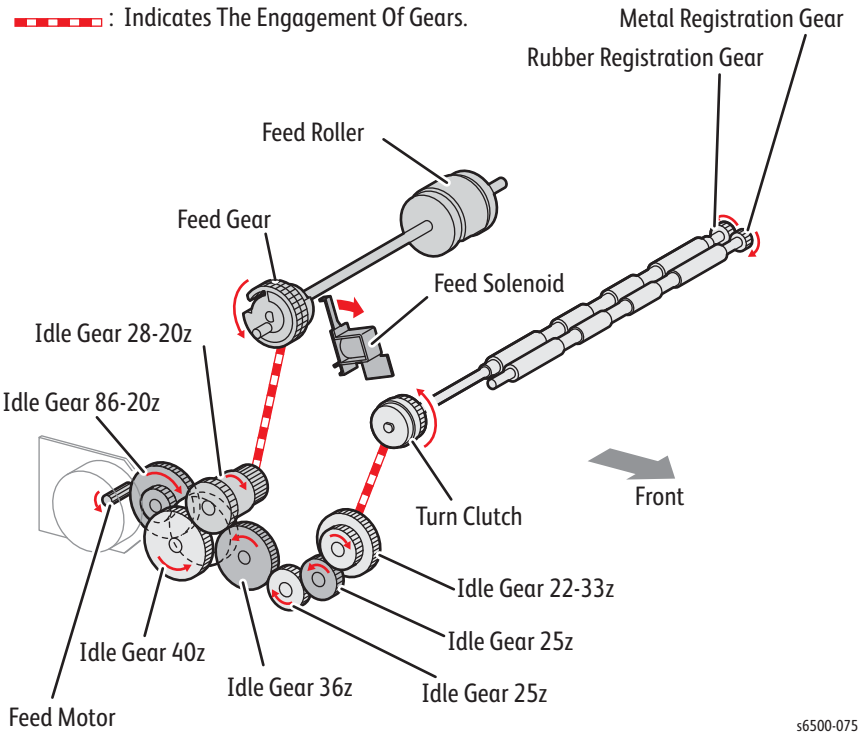

: Indicates The Engagement Of Gears.
Metal Registration Gear
Rubber Registration Gear
Feed Roller
Feed Gear
Feed Solenoid
Idle Gear 28-20z
Idle Gear 86-20z
Front
Turn Clutch
Idle Gear 22-33z
Idle Gear 25z
Idle Gear 40z
Idle Gear 36z
Idle Gear 25z
Feed Motor
s6500-075

Scanner

The Scanner consists of a lamp (fluorescent lamp, etc.) that illuminates the original document with uniform light and a Charged Coupled Device (CCD), which reads the light reflected from the image.

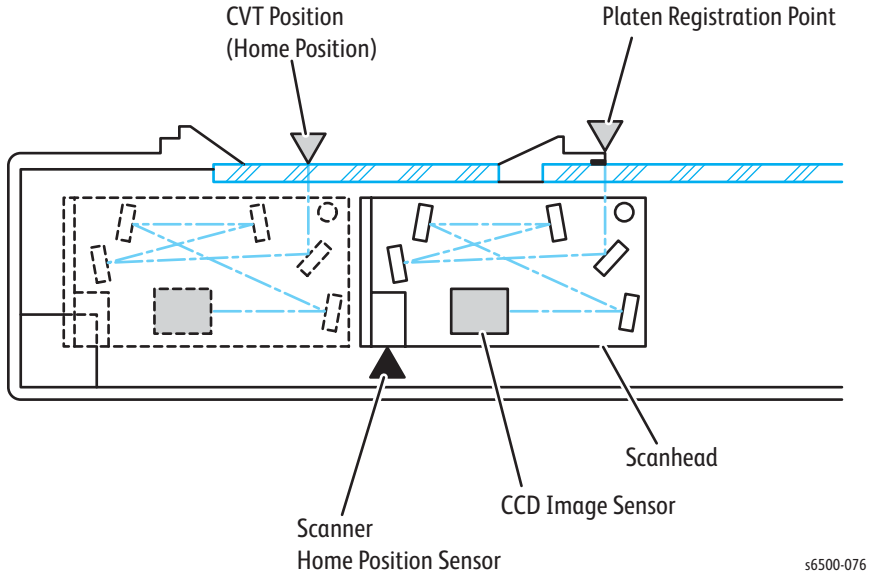
A CCD is a light-receiving element that produces an electrical signal in response to light. In the case of a Fax, a number of CCDs are arranged in a line.

The white areas of the original document reflect the light from the lamp. The black areas reflect no light. The CCDs read the light reflected from the original, outputting sequentially to the control circuit, which areas are white and which are black as binary data (1/0 digital data: 1 bit).

To scan the original, the CCD device is shifted a distance of one line after each line is scanned. When the original is scanned directly on the document glass, the CCD is moved across the original. When the ADF is used, scanning is performed by moving the original with the CCD fixed at one position. This is called Constant Velocity Transport (CVT).

The scanning section consists of a Scanhead assembly that scans documents placed on the document glass.

The optical image reflected from the document reaches the Charged Coupled Device (CCD) image sensor via the light path.



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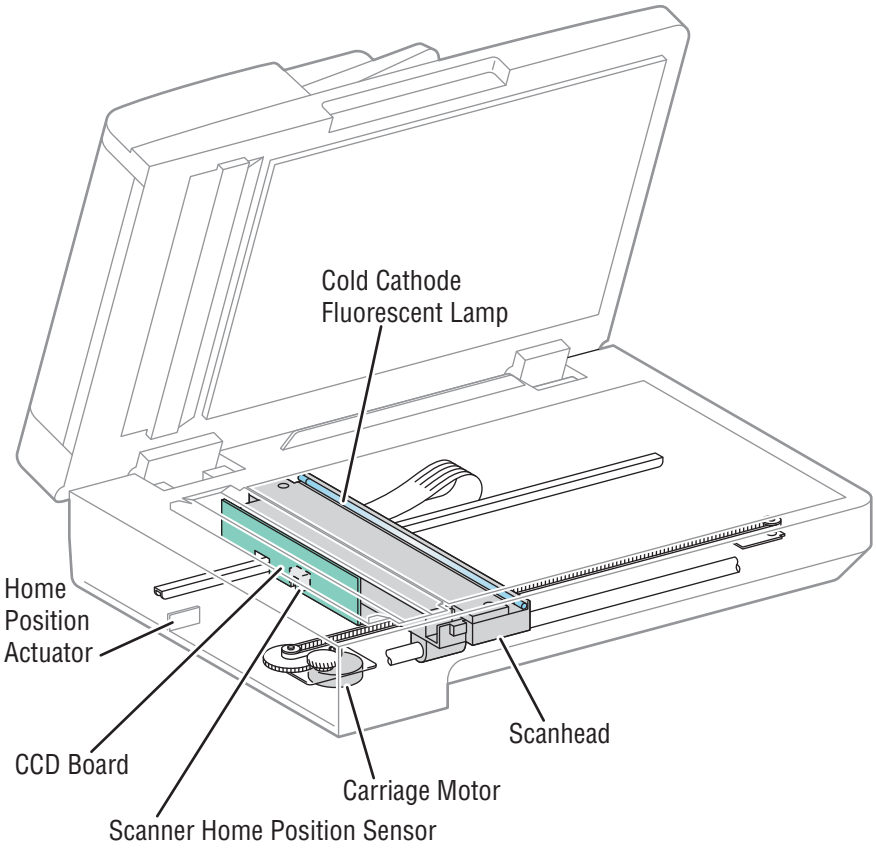
Scanner Components



- Carriage Motor

  The Carriage Motor drives the Scanhead.

- Scanner Home Position Sensor

  The Scanner Home Position Sensor is an optical sensor on the Scanhead. A part of the rear section of the Scanner frame functions as actuator for the Scanner Home Position Sensor, thus detecting the Registration position.

- Cold Cathode Fluorescent Lamp (Exposure Lamp)

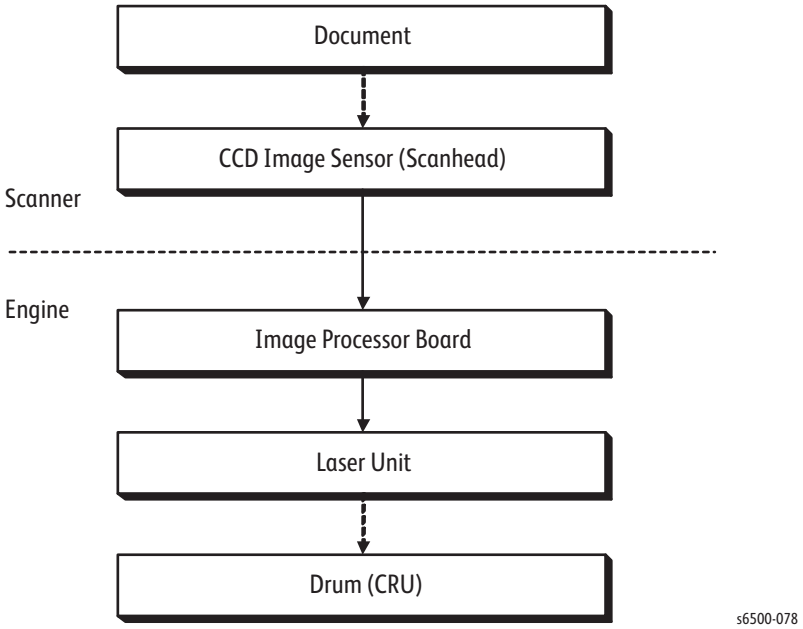
  The Cold Cathode Fluorescent Lamp exposes the document.

- Charged Coupled Device Board

  The Charged Coupled Device (CCD) Board (Image Sensor) converts optical images into electrical signals.

Image Data Flow

The image data from the document set on the document glass or ADF goes through the following components before it is printed at the Engine section.



Document Scanning Steps

A CCD Image Sensor is used to read image data from the media. The CCD Image Sensor output is adjusted to ensure the image reading is stabilized. Adjustment includes Automatic Gain Control (AGC) and Automatic Offset Control (AOC).

Reference data for adjustment is collected and used to perform compensation on the read image data. Compensation includes shading, white variation, and black variation compensations. These adjustment and compensation steps are described below:

1. AGC (Auto Gain Control): White Level Variation Adjustment

   During AGC, the Scanhead is moved to the position of the white reference plate, and the Exposure Lamp is illuminated. The light reflected from the white reference plate is read by the CCD Image Sensor as the white reference value, which is used to adjust the CCD Image Sensor output.

2. AOC (Auto Offset Control)

   AOC is performed by turning Off the Exposure Lamp after AGC. This state is read by the CCD Image Sensor as the black reference value, which is used to adjust the CCD Image Sensor output. (The order of AGC and AOC adjustment depends on the model.)

3. Shading Compensation

   Shading compensation compensates for pixel-by-pixel sensitivity variations and the non-uniformity of lamp light in the fast scanning direction. The AGC and AOC adjustment values are used to compensate for the image data read by the CCD Image Sensor.

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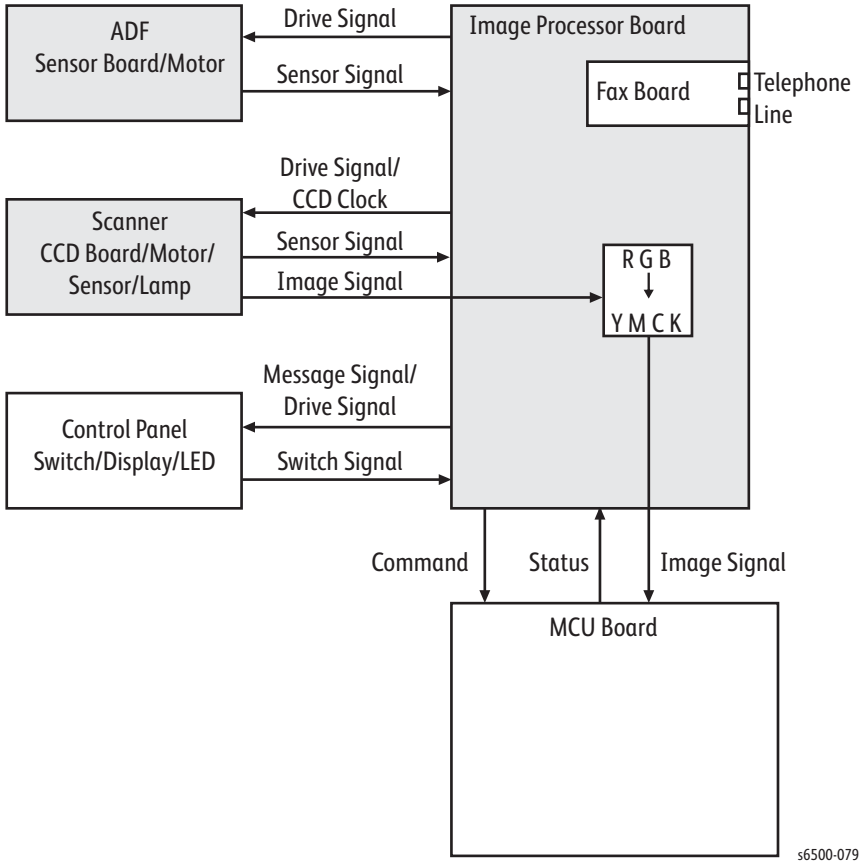
CCD Image Sensor

The CCD Image Sensor is a four-color image sensor with three lines for the respective colors R (red), G (green), B (blue) and one line for B/W (black and white).

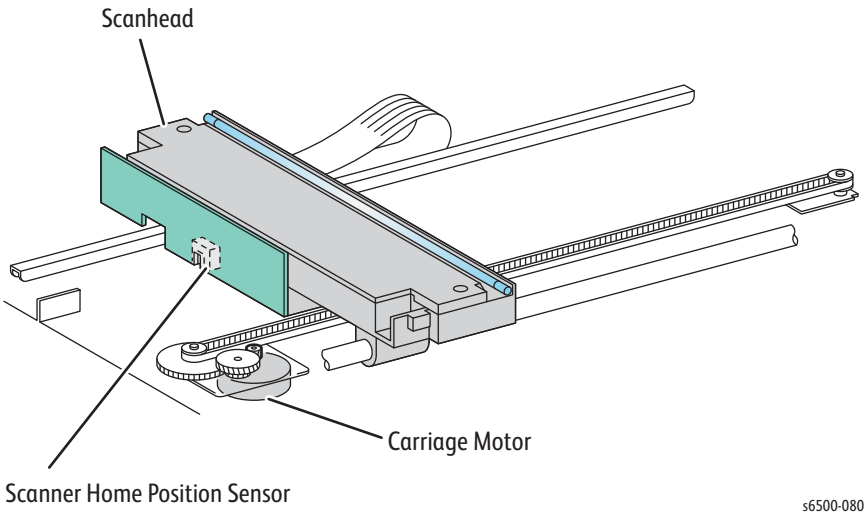
MFP System Configuration

The MFP Image Processor Board controls the FAX, Scanner, and ADF. FAX and copy operations are performed according to data entered at the Control Panel.

The following figure shows the system configuration.



Scanning on Document Glass



The Scanhead travels to read the document. The Scanhead includes the following components:

- Exposure Lamp that illuminates light onto the document,
- CCD Image Sensor that reads light reflected from the document, and
- Lenses and mirrors comprising the light path for the optical image.

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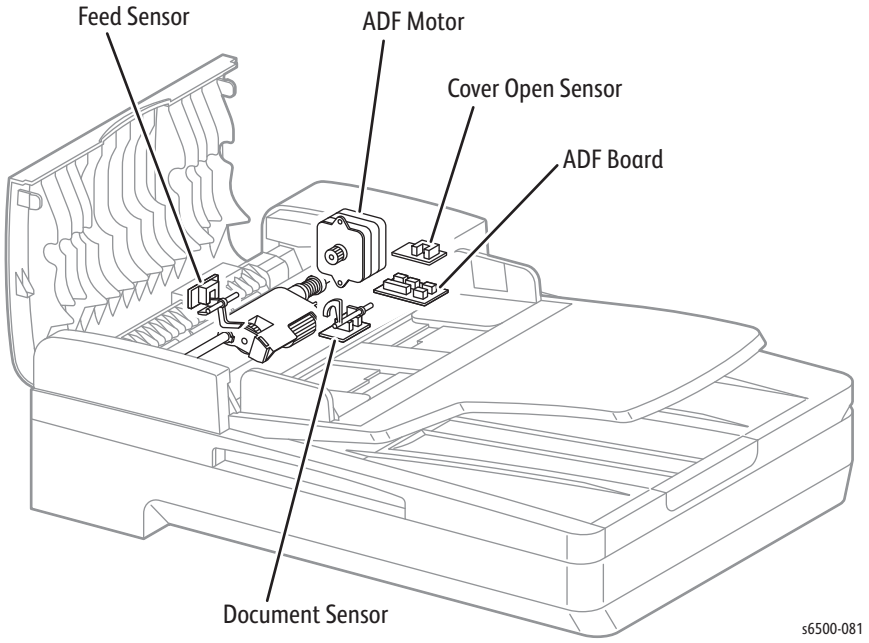
Automatic Document Feeder

ADF Components



- Document Sensor

  The Document Sensor detects the presence of media on the ADF Document Tray.

  - Present: Beam is unshielded (unblocked)
  - Absent: Beam is shielded (blocked)
- Cover Open Sensor

  The Cover Open Sensor detects whether or not the ADF Top Cover is open.
- ADF Board

  The ADF Board controls the sensors and motor in the ADF.
- Feed Sensor

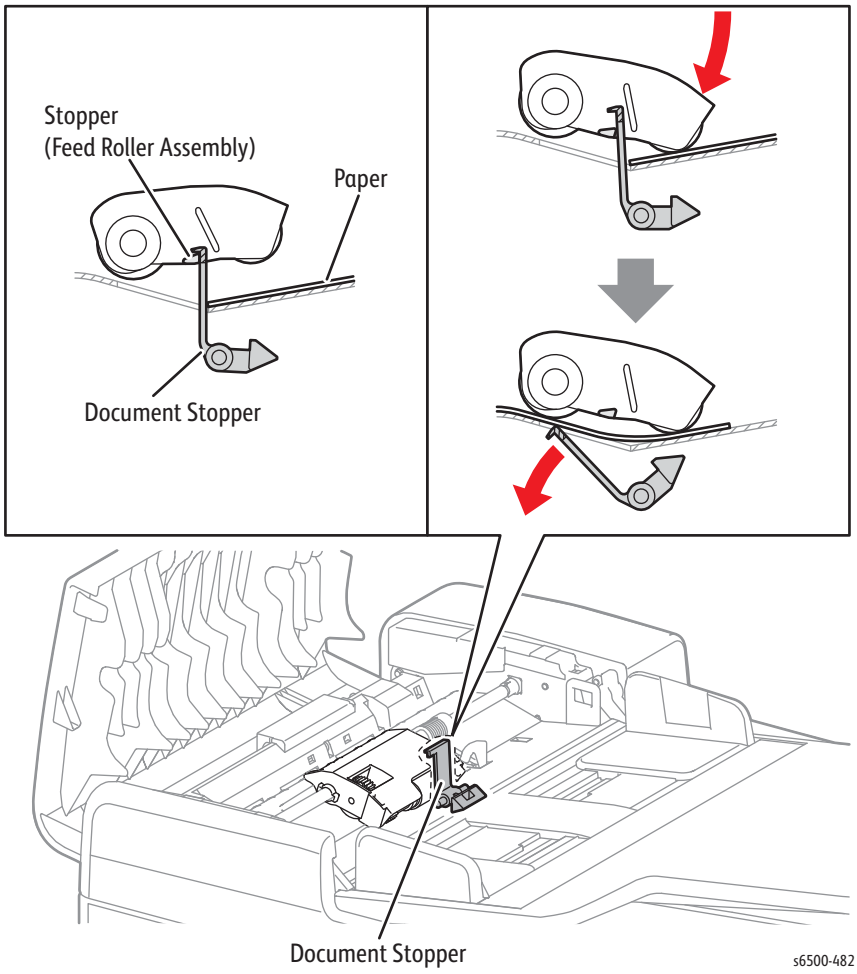
  The Feed Sensor is located downstream from the Feed Roller to detect completion of document feed.

  - Document Present: Shielded (blocked)
  - Document Absent: Unshielded (unblocked)
- ADF Motor

  The ADF Motor rotates the Nudger Roller, Feed Roller, Takeaway Roller, Registration Roller, and Exit Roller.

- Document Stopper

  The Document Stopper properly adjusts the lead edge of documents when they are set on the ADF. When the Feed Roll Assy is in its home position, a stopper located on the side of the Feed Roll Assy prevents the Document Stopper from moving. By receiving drive power, the front portion of the Feed Roll Assy lowers, then its stopper releases the Document Stopper. The Document Stopper is pressed down by the lead edge of a paper to be fed. After the paper is fed into the device, the Document Stopper returns to its original position by the spring force.



Pinch Roller Assembly

The Pinch Roller is normally pressed against the Takeaway Roller by spring tension. The rotation of the Takeaway Roller feeds documents pinched between the rollers through to the CVT Window. If a jam occurs, it is hard to retrieve documents held between the rollers due to the high spring pressure. In order to retrieve jammed documents, open the ADF Cover to release the spring pressure, and provide clearance between the Pinch and Takeaway Rollers.

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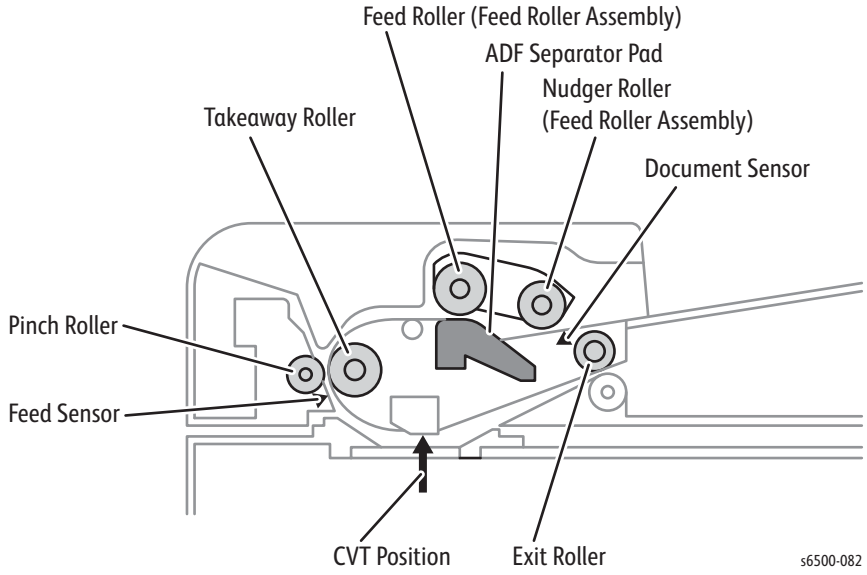
ADF Media Path

The media set in the document tray is conveyed through the Feed Roller and Takeaway Roller. The media image is scanned at the Constant Velocity Transport (CVT) position, and the media is ejected through the Exit Roller.



Media Setting

When an original is set in the Document Tray and pushed into the tray until its lead edge stops against the Document Stopper, an actuator moves to place the ADF Document Sensor in the unshielded (unblocked) state, indicating media detection.

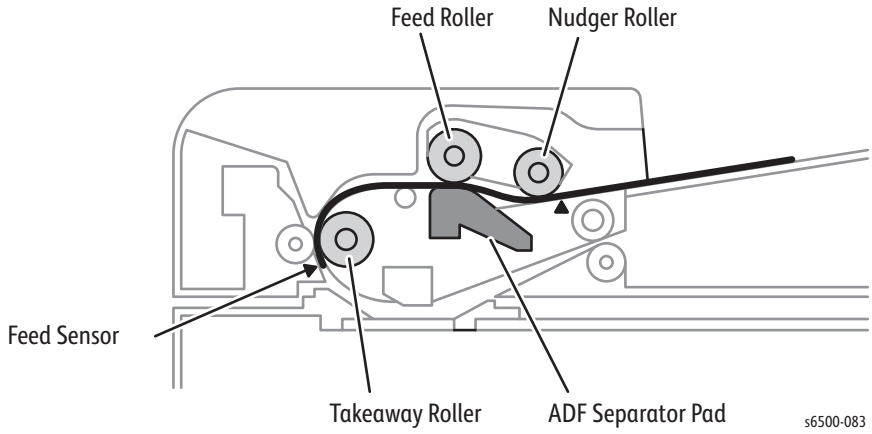
Preparation for Feed

The media in the paper tray starts feeding when the Start button is pressed.

The Nudger Roller moves down and presses onto the media in the paper tray to enable media feed. The Nudger Roller moves down with normal rotation of the ADF Motor. Upon completion of media feed, the ADF Motor reverses rotation to return the Nudger Roller to its normal position.

Prefeed

In the Prefeed process, the original is fed from the Feed Roller to the Takeaway Roller. When the Nudger Roller is pressed down to the paper surface, the ADF Motor rotates to drive the Nudger and Feed Rollers. The Nudger Roller feeds the top original in the document tray to the Feed Roller. The Feed Roller, nipped by the ADF Separator Pad, feeds the original. When the Feed Sensor detects the original, the printer recognizes that first feeding is complete.



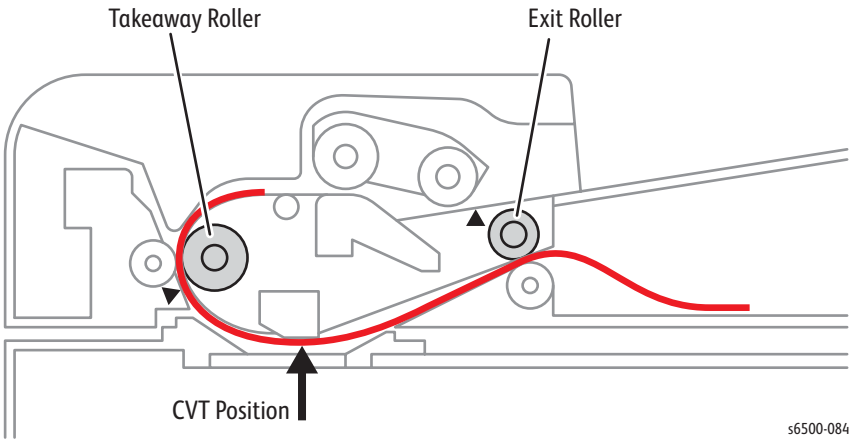
ADF Scan Control

Scanning is controlled by changing the feed speed according to the copy magnification. When the media passes the CVT position at the specified speed, the images on the media are exposed by scanning with the Exposure Lamp of the Scanhead, and read by the CCD Image Sensor.

Simplex Document

For simplex document, media feed is performed as follows:

1. The media is fed to the Takeaway Roller and then fed to the scan feed reference position.
2. The media is fed at the speed corresponding to the selected magnification, and the image on it is scanned with the Exposure Lamp at the CVT position.
3. As the image is scanned, media is fed and ejected by the Exit Roller that is driven by the ADF Motor.



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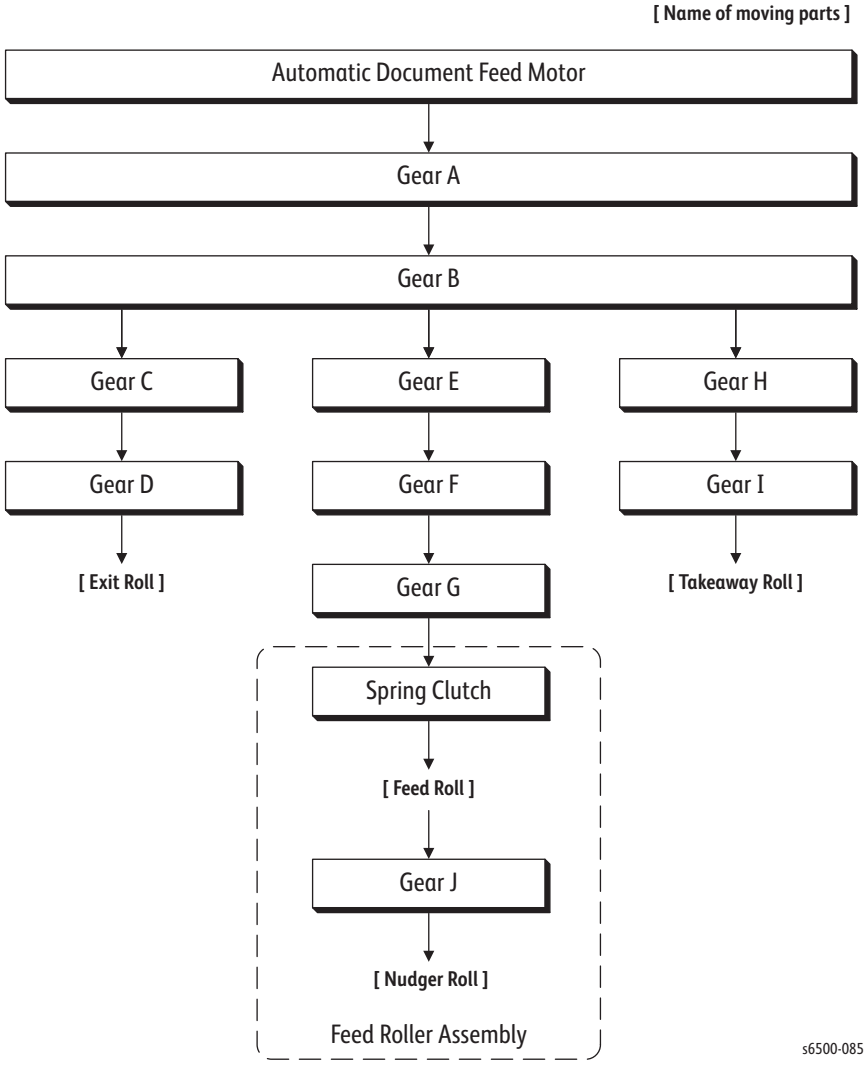
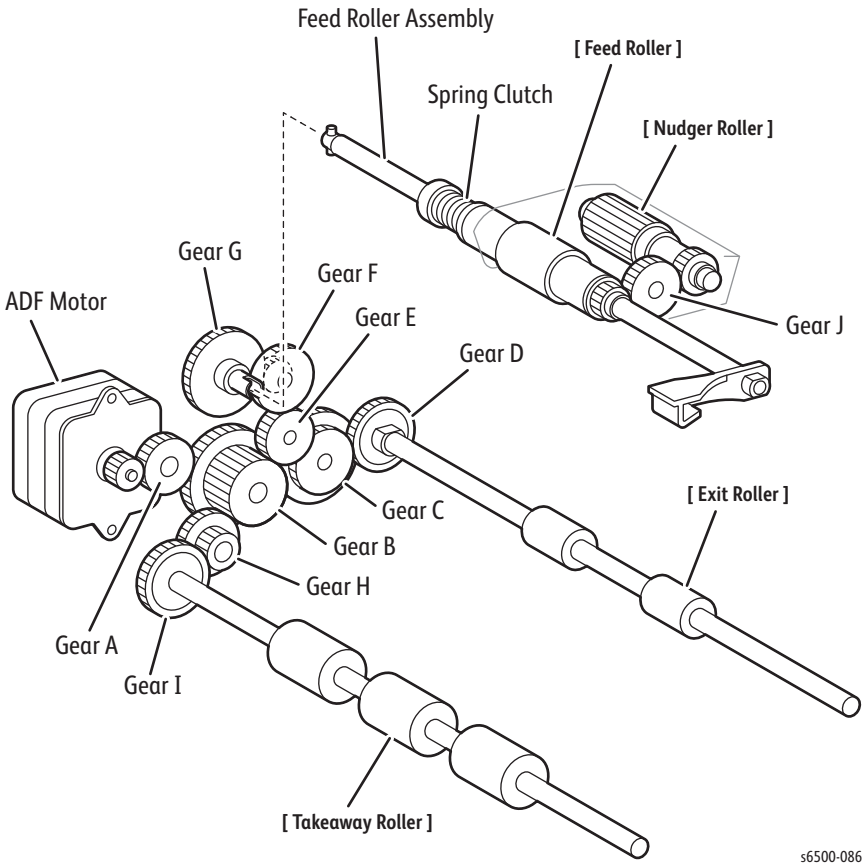
ADF Drive

ADF Motor

The torque of the ADF Motor is transferred to each Document Feeding Roller as shown in the following diagram.



Gear Layout



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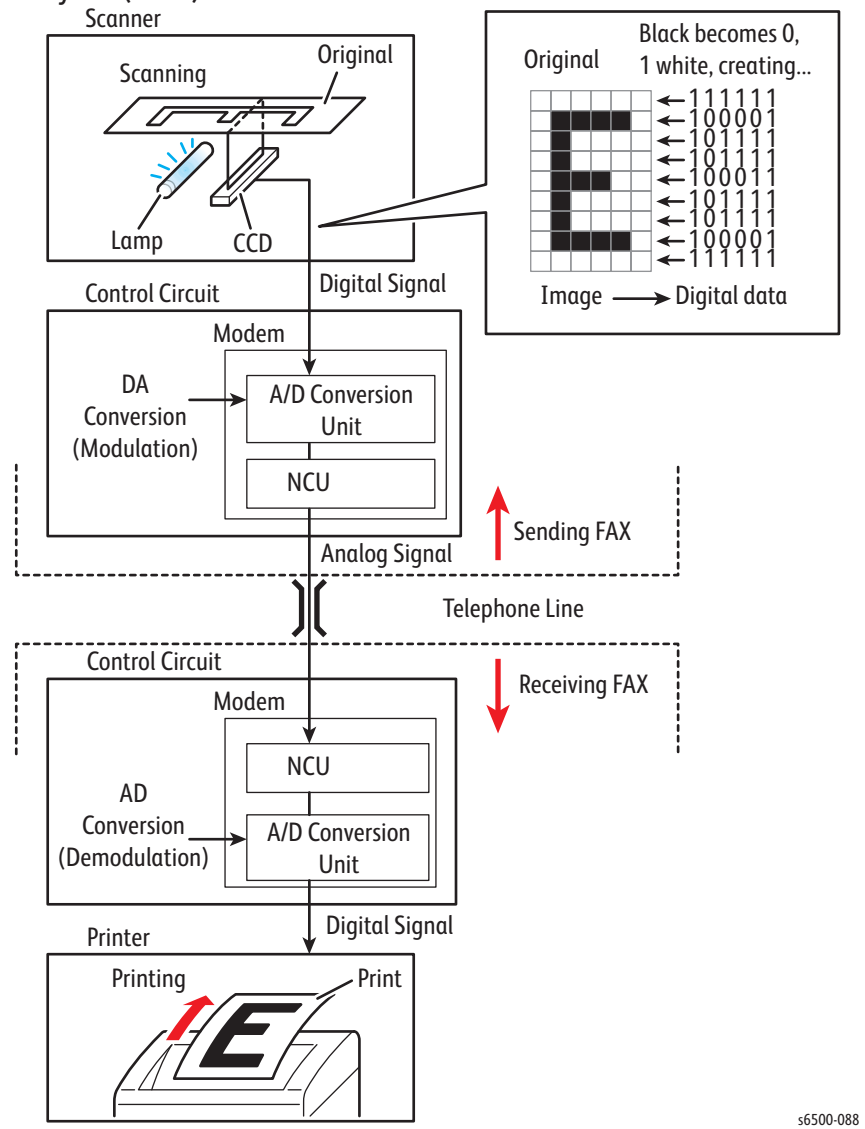
Fax

Fax Overview

A Fax is a device that sends and receives image data using either an analog or a digital telephone line. The WorkCentre 6505 MFP supports Super-G3 analog Fax, as discussed in this overview.

The three basic units of a Fax are the Scanner (for reading the image), the Control Circuit, and the Printer.

FAX System (Detail)



Scanner

The scanner splits the image into a fine grid and reads the brightness (white/black) of each cell. This operation is called scanning. The white/black information is converted to a digital signal: bright cells become 1, dark cells become 0.

For a G3 Fax (normal mode: G3 Normal), scanning is performed at the resolution of 8 divisions per millimeter (200 dpi) in the horizontal direction and 3.85 divisions per millimeter in the vertical direction. This means that the 200 dpi in-line CCD unit is shifted approximately four times per millimeter in the vertical direction. For an A4 original, the data amounts to approximately two million pixels. In the high-quality mode (G3 Fine), scanning resolution is 8 divisions per millimeter in the horizontal direction and 7.7 divisions per millimeter in the vertical direction, where the data amounts to approximately four million pixels. As resolution increases, the amount of data also increases, lengthening the transmission time.

Control Circuit

The digital signal from a scanned image is subjected to DA conversion (modulation) by the control circuit to enable transmission over an analog telephone line. After conversion, the data is sent as an analog signal. The sound audible during transmission is image data that has become an analog audio signal.

The analog signal arriving over the telephone line is then subjected to AD conversion (demodulation) by the control circuit of the receiving Fax machine, and restored to a digital signal. The digital signal is then sent to the printer.

DA conversion, analog signal transmission, analog signal reception, and AD conversion are all performed by a modem (modulator/demodulator) in the control circuit. A modem consists of a Network Control Unit (NCU) for connecting to the telephone line and an A/D conversion unit for performing DA and AD conversions.

Printer

The black/white information obtained from the AD conversion is sent to the printer, where black cells are reproduced on the paper at the positions where they were on the original.

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Fax Standards (ITU-T Recommendations)

International Fax Standards (ITU-T Recommendations) include G1 to G4. G1 to G3 use analog telephone networks. G4 uses a digital telephone network (ISDN). G3 is the standard that is currently in use. Faxes conforming to Super G3, a recent added standard, are equipped with a fast 33.6kps modem and reduce transmission times to about half those of G3 Faxes.

Fax Standards

Standard	Minimum Transmission Time for Single-Page A4 Document	Maximum Resolution	Maximum Transmission Speed	Features
Group 1 (G1)	Approx. 6 min.	100 x 100 dpi	(Analog)	Analog transmission. No band compression.
Group 2 (G2)	Approx. 3 min.	100 x 100 dpi	(Analog)	Analog transmission. Band compression technology adopted.
Group 3 (G3)	Approx. 1 min.	200 x 200 dpi	14.4kbps (Super G3: 33.6kbps)	Connection to analog line using Fax modem. Image data in digital format. Data compression. Most common standard in use.
Group 4 (G4)	Approx. 3 sec.	400 x 400 dpi	64kbps (using ISDN)	Digital transmission. Supported by various digital transmission services. Halftone supported.

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Error Messages and Codes

In this chapter...

- Introduction
- Servicing Instructions
- Messages, Codes, and Procedures
- Error Code Troubleshooting

Chapter 3

Introduction

This chapter describes error messages and numeric codes displayed on the Control Panel or listed on the Error History page. These error indications serve as the entry point into the troubleshooting process.

Troubleshooting of problems not directly indicated by or associated with an error message or code is covered in Chapter 4, General Troubleshooting. Print quality problems are covered in Chapter 5, Print Quality Troubleshooting.

The printer tracks and reports errors in a number of ways. The two types of error reporting discussed in this section include:

- Error messages and codes displayed on the Control Panel
- Engine (fatal) and Jam Error logs displayed on the Control Panel or listed on the Error History Report

Accessing Error History Report

1. From the Control Panel, press **Menu**.
2. Information Pages is displayed. Press **OK**.
3. Press the **Up** or **Down** arrow button to find Error History. Press **OK**.
4. The Error History Report is printed. When printing is finished, the menu is displayed.

Error History Report

The Error History Report provides a list of error messages and codes relating to jam and system (fatal) errors. The printer can retain up to 42 jam errors and 42 system errors.

The Error History page contains two types of history information.

System Fail History

System Fail History contains: Item Number, Total Print Count, and Chain-Link code.

Paper Jam History

Paper Jam History contains: Item No., Total Print Count, and Paper Jam Type information.

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Phaser® 6500DN
Color Laser Printer

Error History Report

System Fail History

No.	Total Print Count	Chain-Link
1	35	016-602
2	23	077-215
3	16	077-215
4	4	072-215
5	0	016-602

Paper Jam History

Page: 1(Last Page)

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Servicing Instructions

The service checklist below is an overview of the path a service technician should take when servicing the printer and printer optional equipment.

Step 1: Identify the Problem

1. Verify the reported problem does exist.
2. Check for any error codes and write them down.
3. Print normal customer prints and service test prints.
4. Make note of any print-quality problems in the test prints.
5. Make note of any mechanical or electrical abnormalities present.
6. Make note of any unusual noise or smell coming from the printer.
7. View the System Error and Paper Jam Error on the Error History Report.
8. Verify the AC input power supply is within proper specifications by measuring the voltage at the electric outlet while the printer is running.

Step 2: Inspect and Clean the Printer

1. Turn the printer power Off.
2. Disconnect the AC power cord from the wall outlet.
3. Verify the power cord is free from damage or short circuit and is connected properly.
4. Remove the Imaging Unit and protect it from light.
5. Remove the Transfer Belt.
6. Inspect the printer interior and remove any foreign matter such as paper clips, staples, pieces of paper, dust, or loose toner.
7. Do not use solvents or chemical cleaners to clean the printer interior.
8. Do not use any type of oil or lubricant on printer parts.
9. Use only an approved toner vacuum.
10. Clean all rubber rollers with a lint-free cloth, dampened slightly with cold water and mild detergent.
11. Inspect the interior of the printer for damaged wires, loose connections, toner leakage, and damaged or obviously worn parts.
12. If the Imaging Unit appears damaged, replace with a new one.

Step 3: Find the Cause of the Problem

1. Use the Error Messages and Codes and troubleshooting procedures to find the cause of the problem.
2. Use Service Diagnostics to check the printer and optional components.
3. Use the Wiring Diagrams and Plug/Jack Locator to locate test points.
4. Take voltage readings as instructed in the appropriate troubleshooting procedure.

Step 4: Correct the Problem

1. Use the Parts List to locate a part number.
2. Use the FRU Disassembly procedures to replace the part.

Step 5: Final Checkout

Test the printer to be sure you have corrected the initial problem and there are no additional problems present.

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Messages, Codes, and Procedures

The error messages and codes generated by the printer's operating system are the lead-in to the troubleshooting procedures that follow in subsequent pages. This section correlates the output of the printer's diagnostic aids and provides the troubleshooting procedures to locate and correct the reported errors.

Error Message Abbreviations

Due to limited display space, some error messages include abbreviations. The most common abbreviations used throughout this chapter are listed here.

Term	Definition
ADC	Automatic Density Control. Called CTD in some displayed error messages.
ASIC	Application-Specific Integrated Circuit
BLK	Black
COMM	Communication
CRT	Cartridge
CRU	Customer Replaceable Unit
CTD	Control, Toner Density. An alternate term for ADC.
ER/ERR	Error
ENV	Environment
FUNC	Function
MACaddress	Media Access Control Address
MCU	Machine Control Unit
NVM	Non-Volatile Memory. Used instead of NVRAM.
NVRAM	Non-Volatile Random Access Memory
PCL	Printer Control Language
PDL	Page Description Language
RAM	Random Access Memory
REG	Registration
ROM	Read Only Memory
TRAN	Transfer Belt

Error Message and Code Summary

The Error Message Summary table lists possible errors, along with the corresponding code, and page reference for the corrective procedure.

- The Status Code column lists the status code associated with the error.
- The Error column shows the message as it appears on the display when the error occurs during normal operation.
- The Status Contents column lists the fault trigger responsible for the error.
- The Go to column links to the troubleshooting procedure related to the error.

Use this table to identify the proper procedure to correct the reported error.

Note

Errors that occur when optional components are installed are gray-shaded for easier identification.

Error Code List & Error Message Summary

Error Code		Error Message LCD	Error Description	Go To
004	310	Reseat Feeder Error 004-310 Restart Printer	<IOT Option Feeder I/F Failure> An Option Feeder communication failure is detected.	page 35
005	110	Jam at ADF Open ADF Cover and Remove Paper	<PICKUP Jam> A Pick Up Jam occurred.	page 36
	121	Jam at ADF Open ADF Cover and Remove Paper	<ADF Jam> An ADF Jam occurred.	page 36
	124	Job Canceled. Open ADF Cover and Remove All Paper.	<Virtual JAM> An ADF Jam occurred when the job was cancelled.	page 36
	301	Scanner ADF Cover Open. Close ADF Cover.	<ADF Cover Open> The ADF Cover is open.	page 37
010	317	Fuser Error Error 010-317 Reseat Fuser Restart Printer	<IOT Fuser Detached> Fuser detached is detected.	page 38
	351	Replace Fuser Error 010-351 Restart Printer	<IOT Fuser Life Over> The Fuser counter has reached the replacement value.	page 40
	397	Fuser Error Error 010-397 Error Code:xxxxxxxx Restart Printer	<IOT Fuser Failure> A Fuser operation error (Temperature anomaly error etc.) is detected.	page 41
	421	Ready to Print Replace Fuser Soon. Life Almost Over.	<IOT Fuser Near Life> The Fuser is approaching replacement time.	page 43

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Error Code List & Error Message Summary (continued)

Error Code		Error Message LCD	Error Description	Go To
016	500	Erase Flash Error Error 016-500 Restart Printer	<Download Delete Error> Flash memory erase error occurred.	page 44
	501	Write Flash Error Error 016-501 Restart Printer	<Download Write Error> Flash memory write error occurred.	page 44
	502	Verify Flash Error Error 016-502 Restart Printer	<Download Verify Error> Flash memory verify error occurred.	page 44
	503	Email Error Invalid SMTP Server Error 016-503 Press Ok Button	<SMTP Server Address Resolution Fail for Maillib> SMTP server name resolution for email send failed.	page 45
	504	Email Error Invalid POP3 Server Error 016-504 Press Ok Button	<POP Server Address Resolution Fail for Maillib> POP3 server name resolution for email send failed.	page 45
	505	Email Login Error POP3 Login Failed Error 016-505 Press Ok Button	<POP Authentication Fail for Maillib> Cannot login to POP3 server to send email.	page 45
	506	Email Login Error Error 016-506 Press Ok Button	<Required user entry item is empty> Some item is not set.	page 45
	507	Email Login Error SMTP Login Failed Error 016-507 Press Ok Button	<SMTP Authentication Fail for Maillib> Cannot login to SMTP server to send email.	page 45
	520	Certificate Fail Error 016-520 Contact Administer Restart Printer	<Ipsec Certificate Error> Ipsec Certificate Error.	page 46
	530	Certificate Error Error 016-530 Restart Printer	<LDAP Address Book - Access Error> LDAP Address Book Other Access Errors.	page 47
	718	Out of Memory Job too Large Error 016-718 Press Ok Button	<Memory Over flow> The current printing job process cannot be continued because the memory capacity is exceeded.	page 48
	720	PDL Error Error 016-720 Press Ok Button	<PDL Error> The print data cannot be processed by PDL.	page 49
	737	Format Error Error 016-737 Press Ok Button	<Download Format Error> Download file format is invalid.	page 50

Error Code List & Error Message Summary (continued)

Error Code		Error Message LCD	Error Description	Go To
016	741	Protection Error Error 016-741 Press Ok Button	<Download Protect Error> Performed FW download although FW update is prohibited by panel settings.	page 50
	742	Invalid ID Error 016-742 Press Ok Button	<Download ID Error> Download file ID is invalid.	page 50
	743	Range Check Error Error 016-743 Press Ok Button	<Download Range Error> At download, write-in destination address is invalid.Range check error.	page 50
	744	Check Sum Error Error 016-744 Press Ok Button	<Download Check Sum Error> Download file checksum is invalid.	page 50
	745	Header Error Error 016-745 Press Ok Button	<Download header Error> Download file header is invalid.	page 50
	753	Wrong Password Error 016-753 Press Ok Button	<PDF password error> PDF password error.	page 51
	755	PDF Print Disabled Error 016-755 Press Ok Button	<PDF print disabled error> PDF print is not allowed.	page 51
	757	Invalid User Error 016-757 Press Ok Button	<Auditron - Invalid User> An error occurred because the user's account settings did not match those of the Administrator.	page 51
	758	Disabled Function Error 016-758 Press Ok Button	<Auditron - Disabled Function> An error occurred because a user authorized only for B&W print attempted to execute color printing.	page 52
	759	Limit Exceeded Error 016-759 Press Ok Button	<Auditron - Reached Limit> An attempt was made to print more copies than the print count limit.	page 52
	764	Network Scan Error SMTP Connection Failed Error 016-764 Press Ok Button	<SMTP Server Connection Error> Error occurs when connecting to SMTP server.	page 45
	765	Network Scan Error Email Server Full Error 016-765 Press Ok Button	<SMTP Server HD Full> Capacity of SMTP server is not enough. Check the server side.	—
	766	SMTP Server Error Error 016-766 Press Ok Button	<SMTP Server File System Error> Error in SMTP server. Check the server side.	—

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Error Code List & Error Message Summary (continued)

Error Code		Error Message LCD	Error Description	Go To
016	767	Invalid Email Address Error 016-767 Press Ok Button	<Invalid Recipient Email Address> Recipient email address is incorrect. Check the **Address Book** Email Address.	—
	768	Invalid 'From' Address Error 016-768 Press Ok Button	<Invalid Sender Address (Login Error)> Sender email address syntax is incorrect. In CWIS go to **Properties > Protocols > Email Settings**. Verify that the Return Email Address, if entered, follows the correct syntax, e.g. “user @ xerox.com.” The address need not be valid, but must use correct syntax.	—
	770	Network Error Invalid MPC FW Error 016-770 Press Ok Button	<MPC Firmware Version Mismatch> Error occurred when connecting to server during file transfer. Check the network settings and Scan to Net settings.	—
	786	Network Scan Error Communication Timeout Error 016-786 Press Ok Button	<Data Send/Receive Timeout Error> Timeout error occurs in scan data send/ receive.	page 45
	790	Network Not Ready Error 016-790 Press Ok Button	<F2N Module Starting-up> F2N module task is starting up, or IP address is not determined. Check the IP address.	—
	791	USB Memory Error USB Memory was removed. Error 016-791 Press Ok Button	<USB Memory Removal Error (During Read)> USB memory is removed while memory reading job is being executed.	page 53
	799	Invalid Job Error 016-799 Press Ok Button	<Job Environment Violation> Detects violation data for the print condition. The print data specifies paper type/ size not available for the printer.	page 53
	930	USB Host Error Unsupported Device Error 016-930 Remove from USB Port	<USB HOST Error> Devices not supported have been detected.	page 54
	931	USB Host Error Hub is not supported Error 016-931 Remove from USB Port	<USB HOST Error> It has been found that more stages of hubs than supported are connected.	page 54
This code is given when the optional 512 MB memory module is installed.				
	982	RAM Disk Full Job too Large Error 016-982 Press Ok Button	<Disk Full> The current printing job process cannot be continued because the RAM disk is full.	page 55

Error Code List & Error Message Summary (continued)

Error Code		Error Message LCD	Error Description	Go To
016	985	Email Size Limit Error 016-985 Press Ok Button	<Mail Size Error> Exceed the max mail size specified on the menu.	page 56
	986	File Size Limit Error 016-986 Press Ok Button	<File Size Error> As a result of conversion to the specified format, exceed the max file size specified for each format.	page 56
017	970	MFP Memory Full Error 017-970 Press Ok Button	<Out of Memory> AIOC memory run out.	page 56
	971	MFP Controller Error Error 017-971 Press Ok Button	<Flash ROM Error> Write error of image data storage Flash ROM.	page 58
	972	MFP Controller Error Error 017-972 Press Ok Button	<Flash ROM Error> Erase error of image data storage Flash ROM.	page 58
	973	MFP Controller Error Error 017-973 Press Ok Button	<Flash ROM Error> Suspend error of image data storage Flash ROM.	page 58
	974	MFP Controller Error Error 017-974 Press Ok Button	<Flash ROM Error> Resume error of image data storage Flash ROM.	page 58
	975	MFP Controller Error Error 017-975 Press Ok Button	<File Error> Exceed the maximum number of file handles.	page 56
	976	MFP Controller Error Error 017-976 Press Ok Button	<File Error> Exceed the maximum number of controlled files.	page 56
	977	MFP Controller Error Error 017-977 Press Ok Button	<File Error> Exceed the maximum number of controlled documents.	page 56
	978	MFP Controller Error Error 017-978 Press Ok Button	<File Error> Exceed the maximum number of pages in document.	page 56
	979	MFP Controller Error Error 017-979 Press Ok Button	<File Error> File multi-open.	page 44
	980	Report Error Error 017-980 Press Ok Button	<Report File Open/Close Error> Report job fails to open/close report file.	page 44
	986	MFP Controller Error Error 017-986 Press Ok Button	<File Error> Create empty file (0Byte).	page 44

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Error Code List & Error Message Summary (continued)

Error Code		Error Message LCD	Error Description	Go To
017	987	MFP Controller Error Error 017-987 Press Ok Button	<File Error> Cannot read file because it is bigger than read destination buffer.	page 56
	988	Scan Time Out Error 017-988 Press Ok Button	<PC Scan Time Out> Timeout at start of ScanToApplicaion.	page 59
	989	MFP Controller Error Error 017-989 Press Ok Button	<File Size Over> Stop writing because size of file to be written is bigger than read destination buffer (even if file writing is continued, it is impossible to read the file).	page 56
024	340	MCU Firmware Error Error 024-340 Error Code:xxxxxxxx Restart Printer	<IOT Firmware Error> MCU firmware error occurs.	page 60
	360	Download Mode Error 024-360 Send FW Data	<MCU DownLoad Error> Download failure of MCU firmware.	page 62
	362	PAGEC Time Error Error 024-362 Restart Printer	<IOT Start Image Marking Timeout> “Start Image Making” has not been issued within the time allowed.	page 63
	371	MCU Comm. Error Error 024-371 Restart Printer	<MCU-ESS Communication Fail> Communication fail between MCU and IP Board.	page 64
	985	Press Ok Button to Continue	<Waiting for “Continue” key to be pressed after reloading paper to the SSF> Printer starts printing automatically after a certain period of time even if the key is not pressed.	page 65
026	720	Memory Full USB Memory full Error 026-720 Press Ok Button	<USB Memory Full> USB memory is full.	page 53
	721	File Write Error Error 026-721 Press Ok Button	<USB Memory Write Error> Writing to USB memory failed.	page 53
027	446	Ready to Print IPv6 Duplicate Change IP Address	<IPv6 duplicate> Duplicate IPv6 addresses detected upon startup.	page 65
	452	Ready to Print IPv4 Duplicate Change IP Address	<IPv4 duplicate> Duplicate IPv4 addresses detected upon startup.	page 65
031	521	SMB Login Error Error 031-521 Press Ok Button	<In SMB scan, login-able workstation is restricted> In SMB scan, login-able workstation is restricted.	page 66

Error Code List & Error Message Summary (continued)

Error Code		Error Message LCD	Error Description	Go To
031	522	SMB Login Error Error 031-522 Press Ok Button	<SMB user authentication fail or SMBScanner login fail> In SMB scan, login access is rejected. Request is not allowed.	page 66
	523	SMB Error Invalid Share Name Error 031-523 Press Ok Button	<SMB Server Error> Problem with share name in SMB scan server.	page 66
	524	SMB Login Error Error 031-524 Press Ok Button	<SMB Scan User Overlimit> Exceed the upper limit of the number of SMB scan users.	page 67
	525	SMB Error File Access Error Error 031-525 Press Ok Button	<SMB scan client has no access right (Win9x)> SMB scan client has no access right.	page 68
	526	DNS Error Name Resolve Error Error 031-526 Press Ok Button	<DNS Error> SMB server name resolution failed.	page 66
	527	DNS Error Server Address Error Error 031-527 Press Ok Button	<SMB Scan DNS Server Not Set> DNS server is not set. Set DNS address, or set forwarding destination server address as IP address.	—
	528	SMB Error Server Not Found Error 031-528 Press Ok Button	<In SMB scan, server connection error> Cannot find SMB server.	page 66
	529	SMB Login Error Error 031-529 Press Ok Button	<Problem with SMB scan login name or password> Invalid password.(Win9x)	page 69
	530	Scan Error 'Scan to' Folder Not Found Error 031-530 Press Ok Button	<Problem with storage location of scanned image in SMB scan server> Problem with storage location.	page 69
	531	SMB List Error Error 031-531 Press Ok Button	<Couldn't get file/folder name of SMB scan server> Couldn't get file/folder name of server.	page 69
	532	SMB Error File Name Error Error 031-532 Press Ok Button	<Suffix of SMB scan file name/folder name is overlimit> Suffix of file name/folder name is overlimit.	page 69
	533	SMB Error Not Able to Make the File Error 031-533 Press Ok Button	<SMB Scan File Creation Fail> Fail to create file.	page 69

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Error Code List & Error Message Summary (continued)

Error Code		Error Message LCD	Error Description	Go To
031	534	SMB Error Not Able to Make the Folder Error 031-534 Press Ok Button	<SMB Scan Folder Creation Fail> Fail to create folder.	page 69
	535	SMB Error File Delete Error Error 031-535 Press Ok Button	<SMB Scan File Deletion Fail> Fail to delete file.	page 69
	536	SMB Error Folder Delete Error Error 031-536 Press Ok Button	<SMB Scan Folder Deletion Fail> Fail to delete folder.	page 69
	537	SMB Error Disk Full Error Error 031-537 Press Ok Button	<No free space in storage location on SMB scan data server> Storage location has no free space. Check the server side.	—
	539	SMB Error Server Name Error Error 031-539 Press Ok Button	<Invalid SMB server (NetBIOS) name is specified> Invalid SMB server (NetBIOS) name is specified. Ask the system administrator.	—
	540	SMB Login Error Error 031-540 Press Ok Button	<SMB protocol error(4-007)Invalid scan domain name is specified> Ask the system administrator.	—
	541	SMB Login Error Error 031-541 Press Ok Button	<SMB protocol error (4-008)Invalid scan user name is specified> Invalid scan user name is specified.	page 69
	542	SMB initializing… Error 031-542 Press Ok Button	<SMB(TCP/IP) is not active> SMB(TCP/IP) is not active. Ask the system administrator.	—
	543	SMB Login Error Error 031-543 Press Ok Button	<SMB protocol error(4-045)Scan login prohibited time> Login prohibited time. Ask the system administrator.	—
	544	SMB Login Error Error 031-544 Press Ok Button	<SMB protocol error(4-046) Password expired> Password expired. Change the password.	—
	545	SMB Login Error Error 031-545 Press Ok Button	<SMB protocol error(4-047) Password change is required> Password change is required. Change the password.	—
	546	SMB Login Error Error 031-546 Press Ok Button	<SMB protocol error(4-048)User is invalid> User is invalid.	page 69

Error Code List & Error Message Summary (continued)

Error Code		Error Message LCD	Error Description	Go To
031	547	SMB Login Error Error 031-547 Press Ok Button	<SMB protocol error(4-049)Lockout> User is locked out.	page 69
	548	SMB Login Error Error 031-548 Press Ok Button	<SMB protocol error(4-050)User is expired> User is expired. Ask the system administrator.	
	549	SMB Login Error Error 031-549 Press Ok Button	<SMB protocol error(4-051)User is restricted> User is restricted. Null password is prohibited. Ask the system administrator.	
	550	SMB Error File Append Failed Error 031-550 Press Ok Button	<SMB Scan Append Command Fail> Have no append access right to the file. Server does not support SMB append command. Ask the system administrator.	
	551	SMB Error Rename Command Failed Error 031-551 Press Ok Button	<SMB Scan Rename Command Fail> Have no rename access right to the file. Server does not support SMB rename command. Ask the system administrator.	
	552	SMB Error Duplicate File Error 031-552 Press Ok Button	<SMB Error> “Cancel” is selected for processing in the case of file name duplication, and job is cancelled because of file name duplication. Ask the system administrator.	
	574	DNS Error Scan Name Resolve Error Error 031-574 Press Ok Button	<FTP Scan Host Name Resolution Fail> DNS library call error. Ask to the system administrator and check the network setting.	
	575	DNS Error Invalid Server Address Error 031-575 Press Ok Button	<FTP Scan DNS Server Not Set> DNS library call error. Ask the system administrator and check the network setting.	
	576	FTP Error Server Not Found Error 031-576 Press Ok Button	<Server Connection Error in FTP Scan> Network connection failed.	page 69
	578	FTP Login Error Error 031-578 Press Ok Button	<FTP Scan Login Name or Password Error> USER./PASS command failed.	page 70
	579	FTP Error 'Scan to' Folder Not Found Error 031-579 Press Ok Button	<Problem with Location FTP-scanned Image is Saved in> Fail to move data to Repository Path.	page 69

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Error Code List & Error Message Summary (continued)

Error Code		Error Message LCD	Error Description	Go To
031	580	FTP Error NLST Command Error Error 031-580 Press Ok Button	<Fail to get file name/folder name of FTP scan server> NLST command failed.	page 70
	581	FTP Error File Name Error Error 031-581 Press Ok Button	<Suffix of FTP scan file name/folder name is overlimit> Same as left.	page 69
	582	FTP Error STOR Command Error Error 031-582 Press Ok Button	<FTP Scan File Creation Fail> STOR command failed.	page 70
	584	FTP Error MKD Command Error Error 031-584 Press Ok Button	<FTP Scan Folder Creation Fail> MKD command failed.	page 69
	585	FTP Error DEL Command Error Error 031-585 Press Ok Button	<FTP Scan File Deletion Fail> DEL command failed.	page 70
	587	FTP Error RMD Command Error Error 031-587 Press Ok Button	<FTP Scan Folder Deletion Fail> RMD command failed.	page 69
	588	FTP Error Write Error Error 031-588 Press Ok Button	<FTP Scan Server Data Write Fail> Data writing to FTP scan server has failed.	page 70
	590	FTP Error Duplicate File Error 031-590 Press Ok Button	<FTP Error> “Cancel” is selected for processing in the case of file name duplication, and job is cancelled because of file name duplication.	—
	594	FTP Error TYPE Command Error Error 031-594 Press Ok Button	<FTP Scan TYPE Command Fail (Network Error)> TYPE command failed.	page 69
	595	FTP Error PORT Command Error Error 031-595 Press Ok Button	<FTP Scan PORT Command Fail (Network Error)> PORT command failed.	page 70

Error Code List & Error Message Summary (continued)

Error Code		Error Message LCD	Error Description	Go To
031	598	FTP Error APPE Command Error Error 031-598 Press Ok Button	<FTP Scan Append Command Fail> APPE command failed.	page 69
	599	FTP Error Rename Error Error 031-599 Press Ok Button	<FTP Scan Rename Command Fail> RNFR command or RNTO command failed. Ask the system administrator.	—
033	501	Fax Codec Error Error 033-501 Press Ok Button	<CODEC Error> Cancel Codec processing due to error of read part during manual send.	page 71
	502	Fax Error Error 033-502 Press Ok Button	<File Open Error> A File Open error occurred.	page 44
	503	MFP Memory Full Error 033-503 Press Ok Button	<Memory Full> In receive, memory full.	page 56
	510	Fax Codec Error Error 033-510 Press Ok Button	<CODEC Error> In JBIG data decode, error in the number of decode line in one stripe.	page 58
	511	Fax Codec Error Error 033-511 Press Ok Button	<Communication Error> Result of MH,HR,MMR receive decode is 0 Line.	page 72
	512	Fax Communication Error Error 033-512 Press Ok Button	<Modem Parameter Exchange Error> Modem Parameter Exchange Error.	page 73
	513	Fax Communication Error Error 033-513 Press Ok Button	<Communication Error> Communication shutdown due to memory full.	page 56
	517	Incorrect Password Error 033-517 Press Ok Button	<DFAX Password Error> The password for D-Fax does not match the password for “FAX Function Lock”.	page 74
	518	Fax Country is not Set Error 033-518 Press Ok Button	<DFAX Fax Country is not set correctly> When DFAX job is executed, Fax Country code is “Unknown”. Enter the correct setting for **Admin Menu > Fax Setting > Country**.	—
	519	Fax Function is Disabled Error 033-519 Press Ok Button	<DFAX Fax Function is not available> When DFAX job is executed, Fax function is not Enabled. When this error occurs at the same time as 033-518, 033-519 is displayed preferentially. Set **Admin Menu > Secure Settings > Function Enable** to **Fax**.	

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Error Code List & Error Message Summary (continued)

Error Code		Error Message LCD	Error Description	Go To
033	520	Fax Codec Error Error 033-520 Press Ok Button	<JBF_ERROR_CALLBACK> Callback function returns error.	page 44
	521	Fax Codec Error Error 033-521 Press Ok Button	<JBF_ERROR_MARKER_ABORT> Detect ABORT marker.	page 44
	522	Fax Codec Error Error 033-522 Press Ok Button	<JBF_ERROR_MARKER_UNKNOWN> Detect invalid marker.	page 44
	523	Fax Codec Error Error 033-523 Press Ok Button	<JBF_ERROR_MARKER_NOT_FOUND> Predetermined marker cannot be found.	page 44
	524	Fax Codec Error Error 033-524 Press Ok Button	<JBF_ERROR_MARKER_BAD_ATMOVE> Adaptive template is moved incorrectly.	page 44
	525	Fax Codec Error Error 033-525 Press Ok Button	<JBF_ERROR_MARKER_BAD_NEWLEN> Image height is changed incorrectly.	page 44
	526	Fax Codec Error Error 033-526 Press Ok Button	<JBF_ERROR_BIH> BIH data error.	page 44
	751	Fax Communication Error Error 033-751 Press OK to retry	<Over Run> Modem receive data overrun.	page 58
	752	Target Fax Busy Error 033-752 Press Ok Button	<During Call Busy Tone> In Tel/Fax mode, detect busy tone while calling external phone.	page 75
	753	Fax Communication Error Error 033-753 Press Ok Button	<CJ Not Detection> The CJ can not be detected.	page 58
	754	Fax Communication Error Error 033-754 Press Ok Button	<V8 Error> A V8 error occurred.	page 58
	755	Fax Communication Error Error 033-755 Press Ok Button	<Phase2 Error> A Phase 2 (Line Probing) error occurred.	page 58
	756	Fax Communication Error Error 033-756 Press Ok Button	<Phase 3 Error> A Phase 3 (Primary Channel Equalizer Training) error occurred.	page 58
	757	Fax Communication Error Error 033-757 Press Ok Button	<Primary Channel Synchronization Error> A Primary Channel Synchronization Error occurred.	page 58
	758	Fax Communication Error Error 033-758 Press Ok Button	<Control Channel Synchronization Error> A Control Channel Synchronization Error occurred.	page 58

Error Code List & Error Message Summary (continued)

Error Code		Error Message LCD	Error Description	Go To
033	759	Fax Communication Error Error 033-759 Press Ok Button	<Control Channel Retrain Error> A Control Channel Retrain Error occurred.	page 58
	760	Fax Communication Error Error 033-760 Press Ok Button	<Control Channel OFF Time Out> A Control Channel OFF Time Out occurred.	page 58
	761	Fax Communication Error Error 033-761 Press Ok Button	<Primary Channel OFF Time Out> A Primary Channel OFF Time Out occurred.	page 58
	762	Fax Communication Error Error 033-762 Press Ok Button	<DM Prevention Function Receive Refuse> The incoming data was rejected by the DM prevention function.	page 76
	763	Fax Communication Error Error 033-763 Press Ok Button	<Manual Transmission Read Manuscript Not Do> In manual send, cannot make document read on time.	page 58
	764	Fax Communication Error Error 033-764 Press Ok Button	<Draw Data Create Not Do> When sending, cannot make image data creation on time.	page 58
	765	Fax Codec Error Error 033-765 Press Ok Button	<File Pointer Error> In encode/decode, Read/Write file pointer error.	page 58
	766	Fax Codec Error Error 033-766 Press Ok Button	<Target File Opening> In decode, encoding target file open.	page 58
	767	Fax Codec Error Error 033-767 Press Ok Button	<MMR MN86064 Decode Error> In MMR decode, MN86064 decode error.	page 58
	769	Fax Codec Error Error 033-769 Press Ok Button	<JBIG NEWLEN Marker Error> NEWLEN marker undetected.	page 58
	770	Fax Codec Error Error 033-770 Press Ok Button	<YD Error> Detect YD error in JBIG data decode.	page 58
	771	Fax Codec Error Error 033-771 Press Ok Button	<Abort Marker Error> Detect abort marker error in JBIG data decode.	page 58
	772	Fax Codec Error Error 033-772 Press Ok Button	<Undefined Marker Error> Detect undefined marker.	page 58
	773	Fax Codec Error Error 033-773 Press Ok Button	<BIH Error> BIH error in JBIG data decode.	page 58

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Error Code List & Error Message Summary (continued)

Error Code		Error Message LCD	Error Description	Go To
033	774	Fax Codec Error Error 033-774 Press Ok Button	<FAX TX Encode Output Buffer Over> In FAX send, JBIG encode output buffer overflow.	page 77
	775	Fax Codec Error Error 033-775 Press Ok Button	<FAX RX Encode Output Buffer Over> In FAX receive, JBIG encode output buffer overflow.	page 78
	776	Fax Codec Error Error 033-776 Press Ok Button	<SCAN Encode Output Buffer Over> In FAX scan and D-FAX scan, JBIG encode output buffer overflow.	page 77
	777	Fax Codec Error Error 033-777 Press Ok Button	<FAX RX Decode Input Buffer Over> In FAX receive, when copying from ECM buffer to JBIG decode input buffer, input buffer overflow.	page 78
	779	Fax Report Error Error 033-779 Press Ok Button	<Log File Create Fail> Cannot create log file of communication result.	page 78
	782	Fax Communication Error Error 033-782 Press Ok Button	<NSS/DCS Function disagreement> Received NSS/DCS function disagrees with capability of own terminal.	page 79
	784	Fax Codec Error Error 033-784 Press Ok Button	<Buffer Job Failure> In FAX receive, JBIG decode output buffer overflow.	page 78
	786	Fax Codec Error Error 033-786 Press Ok Button	<Codec Error Job Failure> In JBIG data decode, discrepancy between the number of decode line and the number of BIH line.	page 58
	787	MFP Memory Full Error 033-787 Press Ok Button	<Memory Full Job Failure> Calling table full.	page 58
	788	Fax Memory Full Error 033-788 Press Ok Button	<Memory Full Job Failure> Flash full. (for DFAX)	page 56
	795	Fax Send Error Last Sheet not Sent Press Ok Button	<FAX Send Count Limit> Reach the upper limit of Fax send accumulation pages. This error occurs when the sheet count of a single fax transmission exceeds 75. To send more than 75 sheets at a time, divide the documents in blocks.	
	799	Fax Codec Error Error 033-799 Press Ok Button	<Communication Job Failure> In MH,HR,MMR receive, exceed the maximum number of received lines for 1 page.	page 80

Error Code List & Error Message Summary (continued)

Error Code		Error Message LCD	Error Description	Go To
034	515	Fax Communication Error Error 034-515 Press Ok Button	<DIS DCS Illegal Command Receive> Receive illegal command such as DIS, DCS receive from calling terminal in spite of having no ability to receive.	page 73
	791	No Answer Check Line Connection Error 034-791 Press Ok Button	<Check Line Connection> A Telephone Line Connection Error is detected.	page 80
	799	Fax Number Error Error 034-799 Press Ok Button	<No Dial Data> Auto dial is activated but no dial data exist.	page 73
035	701	Target Fax is Not Answering Error 035-701 Press Ok Button	<Send T1 Time Out> In send, T1 timeout.	page 73
	702	Fax Communication Error Error 035-702 Press Ok Button	<Receive DCN> DCN receive.	page 73
	704	Fax Communication Error Error 035-704 Press Ok Button	<Not Send Ability> Remote device has no ability to send.	page 73
	705	Fax Communication Error Error 035-705 Press Ok Button	<DCS/NSS Resend Over> DCS/NSS resend over.	page 73
	706	Fax Communication Error Error 035-706 Press Ok Button	<Fall Back Error> Fall back error.	page 73
	708	Fax Communication Error Error 035-708 Press Ok Button	<Post Message Resend Over> Post message resend over.	page 73
	709	Fax Communication Error Error 035-709 Press Ok Button	<G3 Send RTN/PIN Receive> In G3 send, receive RTN/PIN.	page 73
	710	Fax Communication Error Error 035-710 Press Ok Button	<Receive PIN> PIN receive (excl. EOR)	page 73
	716	Fax Communication Error Error 035-716 Press Ok Button	<T2 Time Out> T2 timeout.	page 73
	717	Fax Communication Error Error 035-717 Press Ok Button	<G3 Receive RTN Send> In G3 receive, send RTN.	page 73
	718	Target Fax is Not Answering Error 035-718 Press Ok Button	<Receive T1 Time Out> In receive, TCP timeout.	page 73

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Error Code List & Error Message Summary (continued)

Error Code		Error Message LCD	Error Description	Go To
035	720	Fax Communication Error Error 035-720 Press Ok Button	<Not Receive Ability> Remote device has no ability to receive.	page 73
	728	Fax Communication Error Error 035-728 Press Ok Button	<G3 EOL Not Receive> In G3 image data receive, cannot receive EOL for 13 sec. (default).	page 73
	729	Fax Communication Error Error 035-729 Press Ok Button	<Career Cut> Career cut.	page 73
	730	Fax Communication Error Error 035-730 Press Ok Button	<RS Request CS NOT ON> In high-speed training, modem CS does not become ON against RS request.	page 73
	737	Fax Communication Error Error 035-737 Press Ok Button	<CTC/EOR Resend Over> CTC/EOR resend over.	page 73
	739	Fax Communication Error Error 035-739 Press Ok Button	<T5 Time Out> T5 timeout.	page 73
	740	Fax Communication Error Error 035-740 Press Ok Button	<ECM Send EOR-Q Send> IN ECM send, send EOR-Q.	page 73
	742	Fax Communication Error Error 035-742 Press Ok Button	<ECM Receive EOR-Q Receive> IN ECM receive, receive EOR-Q.	page 73
	779	Fax Communication Error Error 035-779 Press Ok Button	<FAX FWD document change error> FAX forward document change error.	page 81
	781	Target Fax Busy Error 035-781 Press Ok Button	<Busy Job Failure> Detect busy tone after dialing.	page 81
	792	Fax Communication Error Error 035-792 Press Ok Button	<JM Not Detection> JM undetected.	page 58
	793	Fax Communication Error Error 035-793 Press Ok Button	<Digital Line Detection> Connected to digital line and cannot connect. (Detect when connecting to line)	page 82
041	340	MCU NVRAM Error Error 041-340 Error Code:xxxxxxxx Restart Printer	<IOT NVRAM Error> An operation error of NVM (read/write check error etc.) is detected.	page 83
042	313	Fan Motor Error Error 042-313 Restart Printer	<IOT Fan Motor Failure> MCU detects an error upon receiving error signal from the Fan.	page 84

Error Code List & Error Message Summary (continued)

Error Code		Error Message LCD	Error Description	Go To
042	325	Motor Error Error 042-325 Restart Printer	<IOT Main Motor Failure> Main Motor failure is detected.	page 86
	326	Motor Error Error 042-326 Restart Printer	<IOT Sub Motor Failure> Sub Motor failure is detected.	page 87
	372	Solenoid Error B/W Mode Error 042-372 Restart Printer	<IOT K Mode Solenoid Error 1> An error is generated when K Mode Solenoid (Color Mode Switching Solenoid) does not operate in specified time.	page 88
	373	Solenoid Error B/W Mode Error 042-373 Restart Printer	<IOT K Mode Solenoid Error 2> An error is generated when the gear which operates by K Mode Solenoid (Color Mode Switching Solenoid) rotates two times.	page 88
	700	Printer Overheated Error 042-700 Wait for printer to cool down	<IOT Over Heat Stop> The temp. Sensor sensed high temperature.	page 90
061	370	Laser Error Error 061-370 Error Code:xxxxxxxx Restart Printer	<IOT ROS Failure> An operation error of ROS (rotational error etc.) is detected.	page 91
062	311	Scanner Error Error 062-311 Restart Printer	<IIT Initializing Error> An IIT initializing error occurred.	page 92
	320	Scanner Error Error 062-320 Restart Printer	<Scanner Error> An image acquisition error occurred.	page 93
	321	Scanner Error Error 062-321 Restart Printer	<Unexecutable error> Unexecutable error.(carriage is at the locked position, etc.)	page 92
	322	Scanner Error Error 062-322 Restart Printer	<Parameter Error> Abnormality of the parameter.	page 92
	360	Scanner Sensor Error Error 062-360 Restart Printer	<HPSensor Error> Carriage home position error.	page 92
	371	Scanner Lamp Error Error 062-371 Restart Printer	<IIT Lamp Error> An IIT Lamp error occurred.	page 92
	393	Scanner Error Error 062-393 Restart Printer	<CCD ASIC Error> A CCD ASIC communication error occurred.	page 92

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Error Code List & Error Message Summary (continued)

Error Code		Error Message LCD	Error Description	Go To
062	790	Copier Error Last Sheet not Copied Press Ok Button	<Copy Limit> Unable to continue due to copy limitation.	page 94
071	100	Jam at Tray 1 Check Tray 1. Open/Close Front Cover.	<IOT Tray1 Misfeed JAM> The Registration Sensor is not turned on within the specified time after feeding a paper from Tray 1.	page 95
072	This code is given when the Optional 250 Sheet Feeder is installed.			
	100	Jam at Tray 2 Check Tray 2 Open/Close Front Cover.	<IOT Tray2 Misfeed JAM> The Paper Path Sensor of Tray 2 is not turned on within the specified time after feeding a paper from Tray 2.	page 100
	101	Jam at Tray 2 Open Tray 2 Open/Close Front Cover.	<IOT Feeder 2 JAM> A jam has been detected between the Registration Sensor and the Paper Sensor of Tray 2.	page 105
	This code is given when the Optional 250-Sheet Feeder is installed.			
	215	250 Feeder Error Error 072-215 Restart Printer	<IOT Feeder Configuration Failure> Option Sheet Feeder Configuration error is detected.	page 110
	216	Motor Error Error 072-216 Restart Printer	<Option Feeder Motor Failure> Option Feeder Motor failure is detected.	page 111
	900	Jam at Tray 1 or 2 Open Tray 1 or 2 Open Front Cover	<IOT Remain Option Feeder JAM> Paper remains at the Paper Path Sensor of Tray 2.	page 112
075	101	Jam at Front Cover Open Front Cover and Remove Paper	<IOT SSF Insert JAM> Manual Feed No Paper Sensor detects when a paper is inserted from Manual Feed slot.	page 113
	102	Jam at Manual Feed slot Remove Paper from Manual Feed slot. Open/Close Front Cover.	<IOT SSF Paper Pullout JAM> Though it tried to feed a paper from Manual Feed slot, the paper was not loaded or it was pulled out forcibly from Manual Feed slot.	page 113
	923	Reseat Paper in the Manual Feed slot	<Waiting for reseat paper of SSF> Wait for the paper in the Manual Feed slot to be reseated.	page 113
077	100	Jam at Front Cover Open Front Cover and Remove Paper	<IOT Regi On early JAM> Paper remains at the paper transfer path between Tray 1 and the Registration Sensor.	page 115
	101	Jam at Front Cover Open Front Cover and Remove Paper	<IOT Regi OFF Jam> The paper does not pass through the Registration Sensor within the specified time.	page 117

Error Code List & Error Message Summary (continued)

Error Code		Error Message LCD	Error Description	Go To
077	102	Jam at Exit Open Front Cover and Remove Paper	<IOT Exit On JAM> The paper does not reach the Exit Sensor within the specified time.	page 121
	103	Jam at Exit Open Front Cover and Remove Paper	<IOT Exit On early JAM> Paper remains at the paper transfer path between the Exit Sensor and the Registration Sensor	page 121
	104	Jam at Exit Open Front Cover and Remove Paper	<IOT Exit Off JAM> The paper does not pass through the Exit Sensor within the specified time.	page 125
	105	Jam at Exit Open Front Cover and Remove Paper	<IOT Exit Off early JAM> The paper passed through the Exit Sensor earlier than the specified time.	page 125
	106	Jam at Front Cover Open Front Cover and Remove Paper	<IOT Stop Reservation JAM> Detect jam when stopped before Fuser in forced stop mode.	page 121
	107	Jam at Duplexer Open Front Cover Lift Duplexer and Remove Paper	<IOT Duplex Misfeed JAM> In the duplex printing mode, the lead edge does not reach the Registration Sensor when the sheet changes the direction in the Duplexer after the standby.	page 127
	108	Jam at Duplexer Open Front Cover Lift Duplexer and Remove Paper	<IOT Duplex JAM> In the duplex printing mode, the lead edge does not reach the Manual Feed No Paper Sensor when the sheet changes the direction in the Duplexer after the standby.	page 127
	215	Duplexer Error Error 077-215 Restart Printer	<IOT Duplexer Failure> An error is detected by Duplexer communication check.	page 129
	300	Front Cover Open. Close Front Cover.	<IOT Cover Front Open> The Front Cover is open.	page 131
	301	Side Door Open. Close Side Door.	<IOT Side Cover Open> The Toner Access Cover is open.	page 132
	900	Jam at Exit Open Front Cover and Remove Paper	<IOT Exit JAM> Paper remains at the Exit Sensor.	page 134
	901	Jam at Front Cover Open Front Cover and Remove Paper	<IOT Remain Registration JAM> Paper remains at the Registration Sensor.	page 136
	907	Jam at Duplexer Open Front Cover Lift Duplexer and Remove Paper	<IOT Remain Duplex JAM> Paper remains at the Duplex area.	page 138

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Error Code List & Error Message Summary (continued)

Error Code		Error Message LCD	Error Description	Go To
091	402	Ready to Print Replace Imaging Unit Soon. Life Almost Over.	<IOT PHD Life Pre Warning> The PHD Unit is approaching the replacement time.	page 139
	912	Imaging Unit Error Remove Imaging Unit and Confirm all Yellow Ribbons are Removed	<PHD Tape Staying> Detect the tape staying on the PHD Unit.	page 140
	916	CRUM Error Imaging Unit Error 091-916 Restart Printer	<IOT PHD CRUM ID Error> An unsupported PHD Unit is detected.	page 141
	935	Replace Imaging Unit	<IOT PHD Life Over> The PHD Unit has reached the replacement time.	page 142
	941	Waste Full Yellow Cartridge	<IOT CRU Waste (Y) Full> Waste Toner (Y) Counter has reached replacement value.	page 143
	942	Waste Full Magenta Cartridge	<IOT CRU Waste (M) Full> Waste Toner (M) Counter value has reached replacement time.	page 143
	943	Waste Full Cyan Cartridge	<IOT CRU Waste (C) Full> Waste Toner (C) Counter value has reached replacement time.	page 143
	944	Waste Full Black Cartridge	<IOT CRU Waste (K) Full> Waste Toner (K) Counter value has reached replacement time.	page 143
	972	Insert Imaging Unit	<IOT PHD Detached> The PHD Unit is not installed in the printer.	page 144
092	310	CTD Sensor Error Error 092-310 Error Code:xxxxxxxx Restart Printer	<IOT CTD (ADC) Sensor Error> CTD (ADC) sensor error (analog-to-digital conversion etc.) is detected.	page 145
	410	Ready to Print CTD Sensor Replace Soon	<CTD (ADC) Sensor Dustiness Warning> The ADC Sensor is approaching Cleaning time.	page 148
	661	Env Sensor Error Error 092-661 Error Code:xxxxxxxx Restart Printer	<IOT Environment Sensor Error> The Temperature sensor detected a temperature anomaly.	page 149
	910	CTD Sensor Error Restart Printer	<IOT CTD (ADC) Sensor Dustiness> The ADC Sensor has reached Cleaning time.	page 148

Error Code List & Error Message Summary (continued)

Error Code		Error Message LCD	Error Description	Go To
093	423	Ready to Print Replace Yellow Toner Soon. Life Almost Over.	<IOT Toner Cartridge (Y) Near Life> Toner Cartridge (Y) is approaching the replacement time. When all the toner cartridges are simultaneously approaching the replacement time, a warning is indicated on the LCD panel in the following order: 1)Black → 2)Cyan → 3)Magenta → 4)Yellow	page 150
	424	Ready to Print Replace Magenta Toner Soon. Life Almost Over.	<IOT Toner Cartridge (M) Near Life> Toner Cartridge (M) is approaching the replacement time. When all the toner cartridges are simultaneously approaching the replacement time, a warning is indicated on the LCD panel in the following order: 1)Black → 2)Cyan → 3)Magenta → 4)Yellow	page 150
	425	Ready to Print Replace Cyan Toner Soon. Life Almost Over.	<IOT Toner Cartridge (C) Near Life> Toner Cartridge (C) is approaching the replacement time. When all the toner cartridges are simultaneously approaching the replacement time, a warning is indicated on the LCD panel in the following order: 1)Black → 2)Cyan → 3)Magenta → 4)Yellow	page 150
	426	Ready to Print Replace Black Toner Soon. Life Almost Over.	<IOT Toner Cartridge (K) Near Life> Toner Cartridge (K) is approaching the replacement time. When all the toner cartridges are simultaneously approaching the replacement time, a warning is indicated on the LCD panel in the following order: 1)Black → 2)Cyan → 3)Magenta → 4)Yellow	page 150
	919	Low Yellow Density. Remove Yellow Toner, Shake Cartridge, and Reinstall.	<IOT Y Toner Low Density> Detects low density of yellow.	page 151
	920	Low Magenta Density. Remove Magenta Toner, Shake Cartridge, and Reinstall.	<IOT M Toner Low Density> Detects low density of magenta.	page 151
	921	Low Cyan Density. Remove Cyan Toner, Shake Cartridge, and Reinstall.	<IOT C Toner Low Density> Detects low density of cyan.	page 151

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Error Code		Error Message LCD	Error Description	Go To
093	922	Low Black Density. Remove Black Toner, Shake Cartridge, and Reinstall.	<IOT K Toner Low Density> Detects low density of black.	page 151
	925	Blk - CRUM Error Error 093-925 Restart Printer	<IOT Black Toner CRUM Comm Fail> A Black Toner Cartridge CRUM communication failure is detected.	page 154
	926	Invalid Toner Black	<IOT (K) CRUM ID Error> An unsupported Toner Cartridge (K) is detected.	page 155
	930	Replace Yellow Cartridge	<IOT Toner Cartridge (Y) Life Over> Toner Cartridge (Y) has reached the replacement time. When all the toner cartridges have simultaneously reached the replacement time, a warning is indicated on the LCD panel in the following order: 1)Black → 2)Cyan → 3)Magenta → 4)Yellow	page 157
	931	Replace Magenta Cartridge	<IOT Toner Cartridge (M) Life Over> Toner Cartridge (M) has reached the replacement time. When all the toner cartridges have simultaneously reached the replacement time, a warning is indicated on the LCD panel in the following order: 1)Black → 2)Cyan → 3)Magenta → 4)Yellow	page 157
	932	Replace Cyan Cartridge	<IOT Toner Cartridge (C) Life Over> Toner Cartridge (C) has reached the replacement time. When all the toner cartridges have simultaneously reached the replacement time, a warning is indicated on the LCD panel in the following order: 1)Black → 2)Cyan → 3)Magenta → 4)Yellow	page 157
	933	Replace Black Cartridge	<IOT Toner Cartridge (K) Life Over> Toner Cartridge (K) has reached the replacement time. When all the toner cartridges have simultaneously reached the replacement time, a warning is indicated on the LCD panel in the following order: 1)Black → 2)Cyan → 3)Magenta → 4)Yellow	page 157
	950	Y - CRUM Error Error 093-950 Restart Printer	<IOT Yellow Toner CRUM Comm Fail> A Yellow Toner Cartridge CRUM communication failure is detected.	page 154
	951	M - CRUM Error Error 093-951 Restart Printer	<IOT Magenta Toner CRUM Comm Fail> A Magenta Toner Cartridge CRUM communication failure is detected.	page 154

Error Code List & Error Message Summary (continued)

Error Code		Error Message LCD	Error Description	Go To
093	952	C - CRUM Error Error 093-952 Restart Printer	<IOT Cyan Toner CRUM Comm Fail> A Cyan Toner Cartridge CRUM communication failure is detected.	page 154
	960	Invalid Toner Yellow	<IOT (Y) CRUM ID Error> An unsupported Toner Cartridge (Y) is detected.	page 155
	961	Invalid Toner Magenta	<IOT (M) CRUM ID Error> An unsupported Toner Cartridge (M) is detected.	page 155
	962	Invalid Toner Cyan	<IOT (C) CRUM ID Error> An unsupported Toner Cartridge (C) is detected.	page 155
	970	Insert Yellow Toner Cartridge	<IOT Toner Cartridge (Y) Detached> Toner Cartridge (Y) is not installed in the printer. If no toner cartridge has been installed in the printer, a warning is indicated on the LCD panel in the following order: 1)Black → 2)Cyan → 3)Magenta → 4)Yellow	page 157
	971	Insert Magenta Toner Cartridge	<IOT Toner Cartridge (M) Detached> Toner Cartridge (M) is not installed in the printer. If no toner cartridge has been installed in the printer, a warning is indicated on the LCD panel in the following order: 1)Black → 2)Cyan → 3)Magenta → 4)Yellow	page 157
	972	Insert Cyan Toner Cartridge	<IOT Toner Cartridge (C) Detached> Toner Cartridge (C) is not installed in the printer. If no toner cartridge has been installed in the printer, a warning is indicated on the LCD panel in the following order: 1)Black → 2)Cyan → 3)Magenta → 4)Yellow	page 157
	973	Insert Black Toner Cartridge	<IOT Toner Cartridge (K) Detached> Toner Cartridge (K) is not installed in the printer. If no toner cartridge has been installed in the printer, a warning is indicated on the LCD panel in the following order: 1)Black → 2)Cyan → 3)Magenta → 4)Yellow	page 157
094	422	Ready to Print Replace Transfer Unit Soon. Life Almost Over.	<IOT Belt Unit Near Life> The Belt Unit is approaching replacement time.	page 159
	911	Replace Transfer Unit	<IOT Belt Unit Life Over> The Belt Unit has reached replacement time.	page 160

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Error Code		Error Message LCD	Error Description	Go To
116	210	USB Host Error Error 116-210 Restart Printer	<USB Host Error> Fatal error of USB Host driver	page 44
	315	RAM Error Error 116-315 Restart Printer	<ESS On Board RAM R/W Check Fail> An error occurred during the on board RAM read/write check at the time of initialization.	page 44
	This code is given when the Optional 512MB Memory is installed.			
	316	RAM Error Error 116-316 Restart Printer	<ESS DIMM Slot RAM R/W Check Fail> Unsupported additional memory module is detected in the memory slot.	page 160
	317	Controller Error Error 116-317 Restart Printer	<ESS ROM Check (Main) Fail> Checksum error occurred in the main program ROM.	page 44
	This code is given when the Optional 512MB Memory is installed.			
	320	RAM Error Error 116-320 Restart Printer	<ESS DIMM Slot RAM Error> Additional memory module is not completely inserted in the slot.	page 160
	323	NV RAM Error Error 116-323 Restart Printer	<ESS NVRAM 1 R/W Check Fail> An error occurred during the master NVRAM 1 read/write check at the time of initialization.	page 44
	324	Controller Error Error 116-324 Restart Printer	<ESS Illegal Exception> An Exception error occurred.	page 44
	326	NV RAM Error Error 116-326 Restart Printer	<ESS NVRAM 2 R/W Check Fail> An error occurred during the slave NVRAM 2 read/write check at the time of initialization. (Reserved)	page 44
	327	Controller Error Error 116-327 Restart Printer	<ESS Instruction Cache Error> A CPU instruction cache error occurred.	page 44
	328	Controller Error Error 116-328 Restart Printer	<ESS Data Cache Error> A CPU cache error occurred.	page 44
	343	ASIC Error Error 116-343 Restart Printer	<ESS ASIC Fail> An ASIC error occurred.	page 44
	350	Network Error Error 116-350 Restart Printer	<ESS Network Communication Fail> A communication error occurred between the On Board Network and IP Board firmware.	page 44

Error Code List & Error Message Summary (continued)

Error Code		Error Message LCD	Error Description	Go To
116	355	Network Error Error 116-355 Restart Printer	<On Board Network Fatal Error> An error occurred during the on board network check.	page 161
	361	PCI Error Error 116-361 Restart Printer	<PCI Bus#0 Error Detected> Connection error occurred between the PCI BUS port and the port of peripheral devices.	page 162
	362	PCI Error Error 116-362 Restart Printer	<PCI Bus#0 Host Bridge Controller Error> Connection error occurred between the PCI BUS port and the port of peripheral devices.	page 162
	363	PCI Error Error 116-363 Restart Printer	<PCI Bus#1 Host Bridge Controller Error> Connection error occurred between the PCI BUS port and the port of peripheral devices.	page 162
	364	Clock Error Error 116-364 Restart Printer	<Timer Fail> A timer fault is detected.	page 44
	366	PCI Error Error 116-366 Restart Printer	<PCI Bus#1 Error Detected> Connection error occurred between the PCI BUS port and the port of peripheral devices.	page 162
	368	PCI Error Error 116-368 Restart Printer	<PCI Error Messages received from Bus#0-Device#1> Connection error occurred between the PCI BUS port and the port of peripheral devices.	page 162
	369	PCI Error Error 116-369 Restart Printer	<PCI Error Messages received from Bus#0-Device#0> Connection error occurred between the PCI BUS port and the port of peripheral devices.	page 162
	390	NV RAM Error Error 116-390 Restart Printer	<ESS NVRAM 1 SIZE And ID Check Fail> Upon turning the power On, an error occurred during checks on consistency of the NVRAM size between the system-required one and actual one and on consistency of the recorded IDs.	page 44
	396	Scan Error Error 116-396 Restart Printer	<Software Bag> -Fatal Maillib Related Error. -Other File2Net Lib Error.	page 44
This code is given when the optional 512 MB memory module is installed.				
	721	Memory Full Job too Large Error 116-721 Press Ok Button	<Collate Full> Unable to collate due to insufficient memory.	page 162

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Error Code List & Error Message Summary (continued)

Error Code		Error Message LCD	Error Description	Go To
116	987	Scan Error Error 116-987 Restart Printer	<Software Bag> A fatal error related to the format library.	page 44
117	315	MFP EEPROM Error Error 117-315 Restart Printer	<EEPROM Driver Error> An EEPROM Driver program error occurred.	page 44
	331	Controller Error Error 117-331 Restart Printer	<DSP-related Program Internal Error> In relation to DSP, the following internal error has occurred. EOS function return value error. EDSP program load fail.	page 44
	344	Fax Error Error 117-344 Restart Printer	<FLASHFILE Task Error> A FLASHFILE Task error occurred.	page 44
	362	MFP EEPROM Error Error 117-362 Restart Printer	<EEPROM Sum Check Error> EEPROM sum check value error.	page 44
	363	MFP NVM Error Error 117-363 Restart Printer	<NVM Sum Check Error> NVM sum check value error.	page 44
	365	RTC Low Voltage Error Error 117-365 Restart Printer	<Low Voltage> RTC detected Low Voltage. RTC clock setting and content of SRAM are invalid. Initialize them.	page 44
123	314	Control Panel Error Error 123-314 Restart Printer	<Panel Power On Error> Communication error at panel power on. Startup sequence does not start from AIOC within 1 minute after panel power on.	page 44
131	398	Scan Error Error 131-398 Restart Printer	<SMB Error> A fatal error occurred in SMB client.	page 44
	399	Scan Error Error 131-399 Restart Printer	<FTP Error> A fatal error occurred in FTP client.	page 44
133	231	Fax Communication Error Error 133-231 Restart Printer	<TFAXCOM Data Receive I/F Error> A data processing interface error on TFAXCOM occurred.	page 58
	234	Fax Error Error 133-234 Restart Printer	<JBIG Parameter Error> A JBIG parameter setting error occurred.	page 58
	235	Fax Error Error 133-235 Restart Printer	<MHR Parameter Error> An MHR parameter setting error occurred.	page 58

Error Code List & Error Message Summary (continued)

Error Code		Error Message LCD	Error Description	Go To
133	236	Fax Error Error 133-236 Restart Printer	<MHR Encode Error> A coding error occurred at the MHR.	page 58
	237	Fax Codec Error Error 133-237 Restart Printer	<MHR Input Buffer Error> A Data error occurred at MHR Input Buffer.	page 58
	238	Fax Codec Error Error 133-238 Restart Printer	<MHR Output Buffer Error> A Data error occurred at MHR Output Buffer.	page 58
	239	Fax Error Error 133-239 Restart Printer	<FAX ECM Buffer Address Error> A Fax ECM Buffer Read/Write Address error occurred.	page 58
	240	Fax Error Error 133-240 Restart Printer	<Resolution Change Error> A Fax Resolution Conversion error occurred at Sending/Receiving.	page 58
	241	Fax Error Error 133-241 Restart Printer	<Memory Pool Get Error> A Memory Pool acquisition error occurred. (OS Error)	page 58
	242	Fax Error Error 133-242 Restart Printer	<Memory Pool Release Error> A Memory Pool release error occurred.(OS error)	page 58
	243	Fax Error Error 133-243 Restart Printer	<Message Send Error> A Message communication error occurred. (OS error)	page 58
	244	Fax Error Error 133-244 Restart Printer	<Message Receive Error> A message reception error occurred.(OS error)	page 58
	246	Fax Error Error 133-246 Restart Printer	<Memory Pool Get Error> A Memory Pool acquisition error occurred. (OS error)	page 58
	247	Fax Error Error 133-247 Restart Printer	<Message Send Error> A communication error occurred. (OS error)	page 58
	248	Fax Error Error 133-248 Restart Printer	<Memory Pool Release Error> A Memory Pool release error occurred. (OS error)	page 58
	249	Fax Error Error 133-249 Restart Printer	<Message Receive Error> A message receive error occurred. (OS error)	page 58
	251	Fax Error Error 133-251 Restart Printer	<File Open Error> A File Open error occurred.	page 58
	252	Fax Error Error 133-252 Restart Printer	<File Close Error> A File Close error occurred.	page 58

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Error Code List & Error Message Summary (continued)

Error Code		Error Message LCD	Error Description	Go To
133	253	Fax Error Error 133-253 Restart Printer	<File Erase Error> A File Erasing error occurred.	page 58
	254	Fax Error Error 133-254 Restart Printer	<Memory Full> Cannot secure memory necessary to print.	page 58
	259	Fax Error Error 133-259 Restart Printer	<OS Call Error> An OS Call error occurred.	page 44
	260	Fax Error Error 133-260 Restart Printer	<File Open Error> A File Open error occurred.	page 44
	261	Fax Error Error 133-261 Restart Printer	<File Close Error> A File Close error occurred.	page 44
	269	Fax Error Error 133-269 Restart Printer	<File Close Error> A File Close error occurred.	page 44
	271	Fax Error Error 133-271 Restart Printer	<Memory Pool Get Error> A Memory Pool acquisition error occurred. (OS error)	page 44
	272	Fax Error Error 133-272 Restart Printer	<Message Send Error> A Message Send error occurred. (OS error)	page 44
	273	Fax Error Error 133-273 Restart Printer	<Memory Pool Release Error> A Memory Pool release error occurred.	page 44
	274	Fax Error Error 133-274 Restart Printer	<Message Receive Error> A Message Receive error occurred.	page 44
	276	Fax Error Error 133-276 Restart Printer	<File Open Error> A File Open error occurred.	page 44
	277	Fax Error Error 133-277 Restart Printer	<File Close Error> A File Close error occurred.	page 44
	279	Fax Error Error 133-279 Restart Printer	<FAX CODEC I/F Error> A FAX CODEC I/F error occurred.	page 73
	280	Fax Error Error 133-280 Restart Printer	<Error Fax Time> A Fax Timer error occurred.	page 58
	281	Fax Report Error Error 133-281 Restart Printer	<Power Off Report Create Fail> Failed to Create Power Off report.	page 44

Error Code List & Error Message Summary (continued)

Error Code		Error Message LCD	Error Description	Go To
133	282	Fax Error Error 133-282 Restart Printer	<Memory Pool Get Error> A Memory Pool acquisition error occurred. (OS Error)	page 44
	283	Fax Error Error 133-283 Restart Printer	<Message Send Error> A Message send error occurred.	page 44
	286	Fax Error Error 133-286 Restart Printer	<OS Call Error> An OS call error occurred.	page 44
	287	Fax Error Error 133-287 Restart Printer	<File Open Error> A File Open error occurred.	page 44
	288	Fax Error Error 133-288 Restart Printer	<File Close Error> A File Close error occurred.	page 44
	289	Fax Error Error 133-289 Restart Printer	<File Erase Error> A File Erase error occurred.	page 44
	290	Fax Error Error 133-290 Restart Printer	<Print Decode Error> A decoding error occurred three times consecutively during the decoding of JBIG data.	page 73
134	211	Fax Error Error 134-211 Restart Printer	<Fax Card Modem Error> Fax Card parts error (MODEM error).	page 163
193	700	Ready to Print Non-Xerox Toner	<Custom Toner Mode> The printer is in custom toner mode.	page 164

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Error Code Troubleshooting

IOT Option Feeder I/F Failure

An Option Feeder communication failure is detected.

Applicable Error Code

- 004-310

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Option Harness Assy (PL3.1.20) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6) ■ Optional Feeder Assy (PL12.1.3) ■ Tray Harness Assy (Optional Feeder Harness) (PL12.3.23)	■ "SFP Optional Feeder Plug/Jack Designators" on page 10-5 ■ "Map 5 - SFP Optional Feeder" on page 10-10 ■ "MFP Optional Feeder Plug/Jack Designators" on page 10-14 ■ "Map 10 - MFP Optional Feeder" on page 10-19

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Is the Optional Feeder installed correctly?	Go to step 3.	Reseat the Optional Feeder, then go to step 2.
2	Does the error still occur when printing?	Go to step 3.	Complete.
3	Are the connections between the MCU Board and Option Feeder Board (P/J27, P/J273, and P/J419) connected securely?	Go to step 5.	Reconnect the Plugs/Jacks securely, then go to step 4.
4	Does the error still occur when printing?	Go to step 5.	Complete.
5	Check the Optional Feeder Harness for continuity. Disconnect P/J419 from the Option Feeder Board and P/J273 from the Option Harness Assy. Is each cable of P/J419 <=> P/J273 continuous?	Go to step 6.	Replace the Optional Feeder Harness (page 8-179).

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
6	Check the Option Harness Assy for continuity. Disconnect P/J27 from the MCU Board. Disconnect P/J273 from the Optional Feeder Harness. Is each cable of P/J27 <=> P/J273 continuous?	Go to step 7.	Replace the Option Harness Assy.
7	Check after replacing the Optional Feeder. Replace the Optional Feeder. Does the error still occur when the power is turned On?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Complete.

MFP Pickup Jam / ADF Jam / Virtual Jam

Applicable Error Codes

- 005-110 / 005-121 / 005-124

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board (ESS) (SFP PL8.1.7; MFP PL8.1.2) ■ ADF ASSY (PL10.1.3) ■ Feed Roller Assy & Separator Pad Assy(PL10.1.5, PL10.1.6)	■ “Map 8 - MFP LVPS, IP Board, and Drive” on page 10-17 ■ “ADF” on page 10-48

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the document Does the document meet the ADF SPEC?	Go to step 2.	Use the platen mode or change the paper type.
2	Check the connector connection Reseat the connector (P/J1003) on the IP Board. Does the error still occur when copying?	Go to step 3.	Complete.
3	Check the ADF Is the ADF closed against the platen glass completely?	Go to step 4.	Close the ADF completely.

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Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
4	Check the paper feeding Does the ADF feed the document?	Go to step 5.	Go to step 7.
5	Check the document path Open the ADF Cover and check the document path. Is there a foreign substance on the document path?	Remove the foreign substance.	Go to step 6.
6	Replace the ADF Assy. (page 8-192) Does the error still occur when copying?	Replace the IP Board (page 8-144).	Complete.
7	Check the ADF Feed Roller installation Is the roller installed correctly? Also are they not contaminated or damaged, and rotate smoothly?	Replace the ADF Assy. (page 8-192).	Replace the Feed Roller Assy & Separator Pad Assy. (page 8-13.)

ADF Cover Open

Applicable Error Code

- 005-301

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board (ESS) (SFP PL8.1.7; MFP PL8.1.2) ■ ADF Assy (PL10.1.3) ■ ADF Top Cover (PL10.1.4)	■ “Map 8 - MFP LVPS, IP Board, and Drive” on page 10-17 ■ “ADF” on page 10-48

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Is the ADF Cover completely closed?	Go to step 2.	Close the ADF Cover.
2	Is the ADF Cover damaged?	Replace the ADF Cover.	Go to step 3.
3	Reseat the connector (P/J1003) on the IP Board. Does the error still occur when copying?	Go to step 4.	Complete.
4	Check after replacing the ADF ASSY Replace the ADF Assy. (page 8-192) Does the error still occur when copying?	Replace the IP Board. (page 8-144)	Complete.

IOT Fuser Detached

Applicable Error Code

- 010-317

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser Assy (PL6.1.1) ■ Fuser Harness Assy (PL6.1.2) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6)	■ "Map 1 - SFP Print Engine" on page 10-6 ■ "Map 4 - SFP MCU Board" on page 10-9 ■ "Map 6 - MFP Print Engine" on page 10-15 ■ "Map 9 - MFP MCU Board and HVPS" on page 10-18

Warning

To avoid possible burns, allow the Fuser Assy to cool before beginning the procedure.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Reseat the Fuser Assy. Does the error still occur when the power is turned Off and On?	Go to step 2.	Complete.
2	Remove the Fuser Assy. Check these connections: ■ Between the MCU Board (P/J17) and Fuser Assy (P/J171). ■ Between the Fuser Assy (P/J171) and LVPS (P/J47). ■ Between the LVPS (P/J501 and P/J502) and MCU Board (P/J14 and P/J15). Are these connectors connected properly?	Go to step 4.	Reconnect connector(s) P/J17, P/J47, P/J171, P/J501, P/J502, P/J14 and/or P/J15 properly, then go to step 3.
3	Does the error still occur when the power is turned Off and On?	Go to step 4.	Complete.
4	Check the Fuser Harness Assy for continuity. Disconnect J17 from the MCU Board. Disconnect J47 from the LVPS. Is each cable of J17 and J47 <=> P171 continuous? **NOTE** P171 is attached to the frame.	Go to step 5.	Replace the Fuser Harness Assy.

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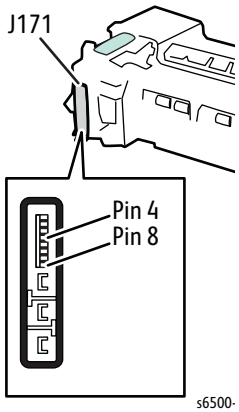
Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
5	Check the resistances of Temp. Sensor in the Fuser Assy. Remove the Fuser Assy. Check for 370 ± 10 kΩ across the following pins of J171 *when the fuser is cold*. ■ pin 4 to pin 5 ■ pin 6 to pin 7 ■ pin 6 to pin 8 Are the resistances correct?. 	Replace the LVPS. (SFP, page 8-124; MFP, page 8-145) Then go to step 6.	Replace the Fuser Assy. (page 8-10) After replacing the Fuser, be sure to reset the Fuser counter.
6	Does the error still occur when the power is turned Off and On?	Replace the MCU Board (SFP, page 8-138; MFP, page 8-160)	Complete.

IOT Fuser Life Over

Applicable Error Code

- 010-351

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser Assy (PL6.1.1) ■ Fuser Harness Assy (PL6.1.2) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6)	■ "Map 1 - SFP Print Engine" on page 10-6 ■ "Map 4 - SFP MCU Board" on page 10-9 ■ "Map 6 - MFP Print Engine" on page 10-15 ■ "Map 9 - MFP MCU Board and HVPS" on page 10-18

Warning

To avoid possible burns, allow the Fuser Assy to cool before beginning the procedure.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the life counter value of the Fuser Assy. Does the life counter value show the near of the end?	Replace the Fuser Assy. (page 8-10) After replacing the Fuser, be sure to reset the Fuser counter.	Go to step 2.
2	Check after resetting the Fuser Assy. Reseat the Fuser Assy. Does the error still occur when the power is turned Off and On?	Go to step 3.	Complete.
3	Check after replacing the Fuser Assy. Replace the Fuser Assy. (page 8-10) Does the error still occur when the power is turned Off and On? NOTE: After replacing the Fuser, be sure to reset the Fuser counter.	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Complete.

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IOT Fuser Failure

Applicable Error Code

- 010-397

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser Assy (PL6.1.1) ■ Fuser Harness Assy (PL6.1.2) ■ LVPS (SFP PL 8.2.1; MFP PL8.2.12) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6) ■ LVPS Main Harness Assy (PL9.1.3)	■ "Map 1 - SFP Print Engine" on page 10-6 ■ "Map 4 - SFP MCU Board" on page 10-9 ■ "Map 6 - MFP Print Engine" on page 10-15 ■ "Map 9 - MFP MCU Board and HVPS" on page 10-18

Warning

To avoid possible burns, allow the Fuser Assy to cool before beginning the procedure.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Does the error still occur when the power is turned Off and On?	Go to step 2.	Complete.
2	Reseat the Fuser Assy. Does the error still occur when the power is turned Off and On?	Go to step 3.	Complete.
3	Remove the Fuser Assy. Check the connections between the MCU Board (P/J17) and Fuser Assy (P/J171). Check the connections between the Fuser Assy (P/J171) and LVPS (P/J47). Check the connections between the LVPS (P/J501 and P/J502) and MCU Board (P/J14 and P/J15). Are these connectors connected correctly?	Go to step 5.	Reconnect the connector(s) P/J17, P/J47, P/J171, P/J501, P/J502, P/J14 and/or P/J15 correctly, then go to step 4.
4	Does the error still occur when the power is turned Off and On?	Go to step 5.	Complete.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
5	Check the Fuser Harness Assy for continuity. Disconnect J17 from the MCU Board. Disconnect J47 from the LVPS. Is each cable of J17 and J47 <=> P171 continuous? **NOTE** P171 is attached to the frame.	Go to step 6.	Replace the Fuser Harness Assy.
6	Check the LVPS Main Harness Assy for continuity. Disconnect J14 from the MCU Board. Disconnect J501 from the LVPS. Is each cable of J14 <=> J501 continuous?	Go to step 7.	Replace the LVPS Main Harness Assy.
7	Replace the Fuser Assy. (page 8-10) Does the error still occur when the power is turned Off and On? **NOTE** After replacing the Fuser, be sure to reset the Fuser counter.	Go to step 8.	Complete.
8	Check after the LVPS. Replace the LVPS. (SFP, page 8-124; MFP, page 8-145) Does the error still occur when the power is turned Off and On?	Replace the MCU Board (SFP, page 8-138; MFP, page 8-160)	Complete.

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IOT Fuser Near Life

Applicable Error Code

- 010-421

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser Assy (PL6.1.1) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6)	■ "Map 1 - SFP Print Engine" on page 10-6 ■ "Map 4 - SFP MCU Board" on page 10-9 ■ "Map 6 - MFP Print Engine" on page 10-15 ■ "Map 9 - MFP MCU Board and HVPS" on page 10-18

Warning

To avoid possible burns, allow the Fuser Assy to cool before beginning the procedure.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Is the Fuser Assy installed correctly?	Go to step 3.	Reseat the Fuser Assy, then go step 2.
2	Does the error still occur when the power is turned Off and On?	Go to step 3.	Complete.
3	Replace the Fuser Assy. (page 8-10) Does the error still occur when the power is turned Off and On? **NOTE** After replacing the Fuser, be sure to reset the Fuser counter.	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Complete.

Image Processor Board Error

Applicable Error Codes

- 016-500 / 016-501 / 016-502
- 017-979 / 017-980 / 017-986 (MFP Only)
- 033-502 / 033-520 / 033-521 / 033-522 / 033-523 / 033-524 / 033-525 / 033-526 (MFP Only)
- 116-315 / 116-317 / 116-323 / 116-324 / 116-326 / 116-327 116-328 / 116-343 / 116-350 / 116-390 /
- 116-210 / 116-364 / 116-396 / 116-987 (MFP Only)
- 117-315 / 117-331 / 117-344 / 117-362 / 117-363 / 117-365 (MFP Only)
- 123-314 (MFP Only)
- 131-398 / 131-399 (MFP Only)
- 133-259 / 133-260 / 133-261 / 133-269 / 133-271 / 133-272 / 133-273 / 133-274 / 133-276 / 133-277 / 133-281 / 133-282 / 133-283 / 133-286 / 133-287 / 133-288 / 133-289 (MFP Only)

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board (ESS) (SFP PL8.1.7; MFP PL8.1.2)	■ "Map 3 - SFP IP Board, LVPS, and Drive" on page 10-8 ■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Does the error still occur when the power is turned Off and On?	Replace the Image Processor Board. (SFP page 8-120; MFP page 8-144.)	Complete.

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Server Setting Error

Applicable Error Codes

- 016-503 / 016-504 / 016-505 / 016-506 / 016-507 / 016-764 / 016-786

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board (ESS) (SFP PL8.1.7; MFP PL8.1.2)	■ "Map 3 - SFP IP Board, LVPS, and Drive" on page 10-8 ■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the network connection Check the network connection using the **ping** command. Does the printer connect the network?	Go to step 4.	Go to step 2.
2	Check the network connection Reseat the network cable connector. Does the error still occur when using the server?	Go to step 3.	Complete.
3	Contact the System Admin to verify the following: ■ Are Network settings correct? ■ Are **Address Book** settings correct? ■ Do printer settings match server settings?	Go to step 4.	Make changes as necessary.
4	Check the IP Board installation Reseat the IP Board. (SFP, page 8-120; MFP, page 8-144) Does the error still occur when using the server?	Replace the IP Board. (SFP, page 8-120; MFP, page 8-144)	Complete.

Ipsec Certificate Error

Applicable Error Code

- 016-520

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board (ESS) (SFP PL8.1.7; MFP PL8.1.2) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6)	■ "Map 3 - SFP IP Board, LVPS, and Drive" on page 10-8 ■ "Map 4 - SFP MCU Board" on page 10-9 ■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17 ■ "Map 9 - MFP MCU Board and HVPS" on page 10-18

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Does the error still occur when the power is turned Off and On?	Go to step 2.	Complete.
2	Check after replacing the IP Board. Replace the IP Board. (SFP, page 8-120; MFP, page 8-144) Does the error still occur when the power is turned Off and On?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Complete.

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LDAP Address Book - Access Error

Applicable Error Code

- 016-530

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board (ESS) (MFP PL8.1.2)	■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the LDAP settings Is LDAP set correctly?	Go to step 4.	Verify that LDAP settings are correct in CWIS.
2	Check the firmware version Is the firmware the latest version?	Go to step 3.	Update the firmware ("Firmware Update" on page A-16), then go to step 3.
3	Check the IP Board installation Reseat the IP Board. (SFP, page 8-120; MFP, page 8-144) Does the error still occur when turning the power Off and On?	Replace the IP Board. (SFP, page 8-120; MFP, page 8-144)	Complete.

Memory Over flow

Applicable Error Code

- 016-718

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Optional Memory Card (SFP PL8.1.15; MFP PL8.1.4)	■ None

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check for memory expansion. Is additional memory installed? Is the additional memory installed properly?	Go to step 2.	Install additional memory. Or, re-install it properly.
2	In the printer driver, set the Print Mode to "**Standard**". Does the error persist during printing?	Go to step 3.	Complete.
3	In the Control Panel, go to **Admin Menu > Maintenance (Mode)** and delete data by executing **Clear Storage**. Does the error persist during printing?	The current printing job process cannot be continued because the memory capacity is exceeded.	Complete.

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PDL Error

Applicable Error Code

- 016-720

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board (ESS) (SFP PL8.1.7; MFP PL8.1.2)	■ "Map 3 - SFP IP Board, LVPS, and Drive" on page 10-8 ■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the cable between the Printer and PC (or Printer and Hub). - For local printer: USB cable (USB2.0) - For network printer: Ethernet cable (10Base-T/100Base-TX / 1000Base-T) Does the cable meet the specifications?	Go to step 2.	Use a cable that meets the specifications. - For local printer: USB cable (USB2.0) - For network printer: Ethernet cable(10Base-T/ 100Base-TX / 1000Base-T)
2	Plug and unplug the cable. (USB cable or I/F cable) Does the error still occur when printing?	Go to step 3.	Complete.
3	Replace the cable. (USB cable or I/F cable) Does the error still occur when the power is turned Off and On?	Replace the IP Board. (SFP, page 8-120; MFP, page 8-144)	Complete.

Download Format Error / Download Protect Error / Download ID Error / Download Range Error / Download Check Sum Error / Download header Error

Applicable Error Codes

- 016-737 / 016-741 / 016-742 / 016-743 / 016-744 / 016-745

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board (ESS) (SFP PL8.1.7; MFP PL8.1.2)	■ "Map 3 - SFP IP Board, LVPS, and Drive" on page 10-8 ■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the download file. Was the file for WC 6505 downloaded?	Go to step 2.	Re-download the correct file.
2	Check the cable between the Printer and PC (or Printer and Hub). - For local printer: USB cable (USB2.0) - For network printer: Ethernet cable (10Base-T/ 100Base-TX / 1000Base-T) Does the cable meet the requirements?	Go to step 3.	Use a cable that meets the requirements. - For local printer: USB cable (USB2.0) - For network printer: Ethernet cable (10Base-T/ 100Base-TX / 1000Base-T)
3	Plug and unplug the cable. Does the error still occur when the power is turned Off and On?	Go to step 4.	Complete.
4	Replace the Cable. Does the error still occur when the power is turned Off and On?	Replace the IP Board. (SFP, page 8-120; MFP, page 8-144)	Complete.

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PDF password error / PDF print disabled error

Applicable Error Codes

- 016-753 / 016-755

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the PDF data. -Enter the correct PDF document password again. -Change the PDF document security setting. Does the error still occur when printing?	Complete.	Update the firmware (“Firmware Update” on page A-16).

Auditron - Invalid User

Applicable Error Code

- 016-757

This error occurs when a user who does not have access tries to print to the printer.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the user‘s account setting in CWIS (http://xxx.xxx.xxx.xxx/frameprinter.htm). Set the correct user‘s account (user name and password). Does the error still occur when printing?	Complete.	Update the firmware (“Firmware Update” on page A-16).

Auditron - Disabled Function

Applicable Error Code

- 016-758

This error occurs when a user whose account is enabled for Black-only access attempts to print a color job.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the **Black&White** setting. Set the **Color Mode** to **Color**. Does the error still occur when printing?	Complete.	Update the firmware (“Firmware Update” on page A-16).

Auditron - Reached Limit

Applicable Error Code

- 016-759

This error occurs when the printer reaches the page-number limit set for the user.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the “**XEROX Color Track**” setting. Increase the page-number limit of **User Registration**. Does the error still occur when printing?	Complete.	Update the firmware (“Firmware Update” on page A-16).

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USB Memory Error

Applicable Error Codes

- 016-791 / 026-720 / 026-721

Note

This error applies to memory connected to the Front USB port.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board (ESS) (SFP PL8.1.7; MFP PL8.1.2)	■ "Map 3 - SFP IP Board, LVPS, and Drive" on page 10-8 ■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17 ■ "Scanner - IIT Sub-Assembly" on page 10-49

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Plug in a known-good USB memory device. Does the error still occur?	Replace the IP Board. (SFP, page 8-120; MFP, page 8-144)	Complete.

Job Environment Violation

Applicable Error Code

- 016-799

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board (ESS) (SFP PL8.1.7; MFP PL8.1.2)	■ "Map 3 - SFP IP Board, LVPS, and Drive" on page 10-8 ■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the paper size. Does the paper size in use meet the specifications?	Go to step 3.	Use paper that meets the specifications, then go to step 2.
2	Does the error still occur when printing?	Go to step 3.	Complete.
3	Do the **Paper Size** settings for **Tray Settings > Tray 1 (or 2)** match the size of the paper in use?	Go to step 5.	Go to step 4.
4	In the printer driver, specify the correct paper size. Does the error still occur when printing?	Go to step 5.	Complete.
5	Send a Windows test print to the printer. Does the error still occur when printing the Windows test print?	Go to step 6.	Complete.
6	Check the firmware version. Is the firmware the latest version?	Replace the IP Board. (SFP, page 8-120; MFP, page 8-144)	Update the firmware (“Firmware Update” on page A-16).

USB HOST Error

Applicable Error Codes

- 016-930 / 016-931

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board (ESS) (SFP PL8.1.7; MFP PL8.1.2)	■ “Map 3 - SFP IP Board, LVPS, and Drive” on page 10-8 ■ “Map 8 - MFP LVPS, IP Board, and Drive” on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Remove the devices from the USB port. Does the error still occur when the power is turned Off and On?	Replace the IP Board. (SFP, page 8-120; MFP, page 8-144)	Complete.

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Disk Full

Applicable Error Code

- 016-982

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board (ESS) (SFP PL8.1.7; MFP PL8.1.2) ■ Optional Memory Card (SFP PL8.1.15; MFP PL8.1.4)	■ "Map 3 - SFP IP Board, LVPS, and Drive" on page 10-8 ■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the file data in the printer. Print or clear the stored files and data at the printer memory. Does the error still occur when printing?	Go to step 2.	Complete.
2	Print a small size file (like a Windows test page). Does the error still occur when printing?	Go to step 3.	Add an Optional Memory Card, or divide the printing job.
3	Is the customer using the recommended memory card?	Go to step 4.	Replace to the recommended memory card.
4	Reseat the Optional Memory Card. Does the error still occur when turning on the power?	Go to step 5.	Complete.
5	Replace the Optional Memory Card. Does the error still occur when turning on the power?	Replace the IP Board. (SFP, page 8-120; MFP, page 8-144)	Complete.

Mail Size Error / File Size Error

Applicable Error Codes

- 016-985 / 016-986

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board (ESS) (SFP PL8.1.7; MFP PL8.1.2)	■ "Map 3 - SFP IP Board, LVPS, and Drive" on page 10-8 ■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Turn the power Off and On. Does the error still occur when turning On the power?	Go to step 2.	Complete.
2	Try a smaller or different file to determine if the file data is too large or corrupt. Does the error still occur when turning On the power?	Go to step 3.	Complete.
3	Reseat the IP Board. (SFP, page 8-120; MFP, page 8-144) Does the error still occur when turning On the power?	Replace the IP Board. (SFP, page 8-120; MFP, page 8-144)	Complete.

Out of Memory

Applicable Error Codes

- 017-970 / 017-975 / 017-976 / 017-977 / 017-978 / 017-987 / 017-989 / 033-503 / 033-513 / 033-788

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board (ESS) (SFP PL8.1.7; MFP PL8.1.2) ■ Optional Memory Card (SFP PL8.1.15; MFP PL8.1.4)	■ "Map 3 - SFP IP Board, LVPS, and Drive" on page 10-8 ■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17

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Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Are there Pending FAX Jobs?	Delete Pending FAX jobs and go to step 2.	Go to step 3.
2	Is the error still present?	Go to step 3.	Break the FAX job into smaller pieces.
3	Check the Job Status-Print Menu-Secure Receive. Does the **Secure Receive** message appear in the display?	Print, file, or delete secure print jobs or faxes.	Go to step 4.
4	Check the firmware version. Is the firmware the latest version?	SFP: Go to step 6. MFP: Go to step 5.	Update the firmware ("Firmware Update" on page A-16), then MFP go to step 5, SFP go to step 6
5	Does the error still occur when turning the power Off and On?	MFP: Replace the FAX Board (page 8-143). Then go to step 6.	Complete.
6	Does the error still occur when turning the power Off and On?	Replace the IP Board. (SFP, page 8-120; MFP, page 8-144)	Complete

PWBA FAX (FAX Board) Error

Applicable Error Codes

- 017-971 / 017-972 / 017-973 / 017-974
- 033-510 / 033-751 / 033-753 / 033-754 / 033-755 / 033-756 / 033-757 / 033-758 / 033-759 / 033-760 / 033-761 / 033-763 / 033-764 / 033-765 / 033-766 / 033-767 / 033-769 / 033-770 / 033-771 / 033-772 / 033-773 / 033-786 / 033-787
- 035-792
- 133-231 / 133-234 / 133-235 / 133-236 / 133-237 / 133-238 / 133-239 / 133-240 / 133-241 / 133-242 / 133-243 / 133-244 / 133-246 / 133-247 / 133-248 / 133-249 / 133-251 / 133-252 / 133-253 / 133-254 / 133-280

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board (ESS) (MFP PL8.1.2) ■ FAX Board (MFP PL8.1.5)	■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Is the firmware the latest version?	Go to step 2.	Update the firmware ("Firmware Update" on page A-16), then go to step 2.
2	Is the phone line analog?	Go to step 3.	Make customer aware that the WC6505 supports only analog fax connections.
3	Connect an analog handset and listen to the connection. Is the line free of hum or severe noise?	Go to step 4.	Make sure line polarity is not reversed, and that the line is properly grounded. Customer might need to contact phone provider.
4	Replace the FAX Board. (page 8-143) Does the error still occur when faxing?	Replace the IP Board. (page 8-144)	Complete.

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PC Scan Time Out

Applicable Error Code

- 017-988

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board (ESS) (MFP PL8.1.2)	■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the USB connection Reconnect the PC and the printer. Does the error still occur when scanning?	Go to step 2.	Complete.
2	Before checking the driver software, verify the following: ■ The WC6505 and the PC are connected with a USB cable. ■ The Windows Image Acquisition service is enabled (**Start > Control Panel > Administrative Tools > Services**.) Is the **Xerox WC 6505** icon present in **Control Panel > Scanners and Cameras**?	Go to step 3.	Install the driver software.
3	On the PC, go to **Start > Control Panel > Add or Remove Programs**. Is the **Xerox WC 6505 ScanButton Manager** listed in the "Currently installed programs:"?	Go to step 4.	Install the software.
4	Check the ScanButton Manager settings with the following procedure: Click **Start,** then sequentially select **All programs**, **XEROX Printers**, **Xerox WC 6505**] and **ScanButton Manager**. Are the ScanButton Manager settings correct?	Go to step 5.	Set these items correctly. ■ Scan Form ■ Image Type ■ Resolution ■ Paper size ■ Output Destination **NOTE** Check that the directory specified for Output Destination really exists.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
5	Check the software. Checked by the following procedures. 1) Select the **Xerox WC 6505** in the **Scanners and Cameras** of the **Printers and Other Hardware** of the **Control Panel** and then open the **Properties**. (click the right button of the mouse or **Properties** button) 2) Select the **Properties** and then select the **Events** tab of the Xerox WC 6505 Scanner Properties screen. For Windows XP/Vista/Server 2003: 3) Check that **Start this program** displays the **Xerox WC 6505 Scan Button Manager** and the **Select an event** is set correctly. For Windows 2000: 3) Check that the **Xerox WC 6505 Scan Button Manager** is checked and the **Scanner events** is set correctly. Is the selecting of software correct?	Retry scanning. If "Select the program to launch for this action" appears on the PC monitor, select the **Xerox WC 6505 Scan Button Manager** within 30 seconds.	Set the **Events** tab menu of the **Xerox WC 6505 Scanner Property** correctly.

IOT Firmware Error

Applicable Error Code

- 024-340

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU Board (SFP PL8.2.13; MFP PL8.3.6)	■ "Map 4 - SFP MCU Board" on page 10-9 ■ "Map 9 - MFP MCU Board and HVPS" on page 10-18

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Does the error still occur after cycling the power On and Off several times?	Go to step 2.	Complete.[a]

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Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
2	Check the firmware version. Is the firmware the latest version?	Go to step 3.	Update the firmware (“Firmware Update” on page A-16), then go to step 3.
3	Reseat the MCU Board. Does the error still occur when the power is turned Off and On?	Go to step 4.	Complete.[a]
4	Check after replacing the MCU Board. Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160) Does the error still occur when the power is turned Off and On?	Go to “Electrical Noise” on page 4-79.	Complete.

a. Electrical noise could be a possible cause. Go to “Electrical Noise” on page 4-79 to make sure.

MCU DownLoad Error

Applicable Error Code

- 024-360

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU Board (SFP PL8.2.13; MFP PL8.3.6)	■ "Map 4 - SFP MCU Board" on page 10-9 ■ "Map 9 - MFP MCU Board and HVPS" on page 10-18

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the firmware version Is the firmware the latest version?	Go to step 2.	Update the firmware ("Firmware Update" on page A-16), then go to step 2.
2	Check the error. Does the error still occur when printing?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Complete.

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IOT Start Image Marking Time-out

Applicable Error Code

- 024-362

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board (ESS) (SFP PL8.1.7; MFP PL8.1.2)	■ "Map 3 - SFP IP Board, LVPS, and Drive" on page 10-8 ■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the firmware version Is the firmware the latest version?	Go to step 2.	Update the firmware ("Firmware Update" on page A-16), then go to step 2.
2	Check the error. Does the error still occur when printing?	Replace the IP Board. (SFP, page 8-120; MFP, page 8-144)	Complete.

MCU-ESS Communication Fail

Applicable Error Code

- 024-371

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board (ESS) (SFP PL8.1.7; MFP PL8.1.2) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6) ■ IP Board (ESS) Harness Assy (PL9.1.1)	■ "Map 3 - SFP IP Board, LVPS, and Drive" on page 10-8 ■ "Map 4 - SFP MCU Board" on page 10-9 ■ "Map 9 - MFP MCU Board and HVPS" on page 10-18 ■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17 ■ "SFP System Control" on page 10-34 ■ "MFP System Control" on page 10-47

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check after resetting the IP Board and MCU Board. Reseat the IP Board and MCU Board. Does the error still occur when the power is turned Off and On?	Go to step 2.	Complete.
2	Check the connections between the MCU Board and IP Board. Are P/J10 and SFP P/J101 or MFP P/J2001properly connected?	Go to step 4.	Reconnect the connector(s) P/J10 and/or P/J101 or P/J2001, then go to step 3.
3	Does the error still occur when the power is turned Off and On?	Go to step 4.	Complete.
4	Check the IP Board Harness Assy for continuity. Disconnect J10 from the MCU Board. Disconnect J101 from the SFP IP Board or J2001 from the MFP IP Board. Is each wire in the harness continuous?	Go to step 5.	Replace the IP Board Harness Assy.
5	Check the firmware version Is the firmware the latest version?	Go to step 6.	Update the firmware ("Firmware Update" on page A-16).

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Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
6	Replace the IP Board. (SFP, page 8-120; MFP, page 8-144) Does the error still occur when the power is turned Off and On?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Complete.

Waiting for "Continue" key to be pressed after reloading paper to the SSF

Applicable Error Code

- 024-985

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board (ESS) (SFP PL8.1.7; MFP PL8.1.2)	■ "Map 3 - SFP IP Board, LVPS, and Drive" on page 10-8 ■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the error. Does the error still occur when the power is turned Off and On?	Replace the IP Board. (SFP, page 8-120; MFP, page 8-144)	Complete.

IPv6 duplicate / IPv4 duplicate

Applicable Error Codes

- 027-446 / 027-452

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the IP addresses and remove any duplicate IP addresses. Does the error still occur when the power is turned Off and On?	Update the firmware ("Firmware Update" on page A-16).	Complete.

SMB Logging Error

Applicable Error Codes

- 031-521 / 031-522

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board (ESS) (MFP PL8.1.2)	■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the customer operation Did the customer input the login name and the password correctly?	Go to step 2.	Try the login again.
2	Check the access limitation Does the system administrator set the access limit number?	Ask to the system administrator.	Go to step 3.
3	Check the printer setting Is **Default Settings > Scan Defaults > Scan To Network** set to **Computer**?	Go to step 4.	Set to **Computer**.
4	Use the "ping" command to check the network connection. Are the printer and the PC connected to the network?	Replace the IP Board. (page 8-144)	Check the network.

SMB Server Error/DNS Error/In SMB scan, server connection error

Applicable Error Codes

- 031-523 / 031-526 / 031-528

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board (ESS) (MFP PL8.1.2)	■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17

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Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the sharing folder. Is the sharing folder name correct?	Go to step 2.	Rename the Shared Folder.
2	Check the server setting. Is the **Share Name** of the **Address Book > Server Address** tab correct?	Go to step 3.	Rename the **Share Name**.
3	Check the printer. Turn the printer power Off and On. Does the error still occur when network scanning?	Check the server.	Complete.

SMB Scan User Overlimit

Applicable Error Code

- 031-524

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board (ESS) (MFP PL8.1.2)	■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the access limitation Does the system administrator set the access limit number?	Ask to the system administrator.	Go to step 2.
2	Check the server setting Is the **User Limit** of the **Sharing** tab in the sharing folder properties set to **Maximum allowed**?	Go to step 3.	Set to **Maximum allowed**.
3	Check the printer Turn the printer power Off and On. Does the error still occur when network scanning?	Replace the IP Board. (page 8-144)	Complete.

SMB scan client has no access right (Win9x)

Applicable Error Code

- 031-525

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board (ESS) (MFP PL8.1.2)	■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the client PC. Does the client PC use Windows 2000 or later?	Go to step 2.	Replace with Windows 2000 or later PC.
2	Check the printer. Turn the printer power Off and On. Does the error still occur when network scanning?	Replace the IP Board. (page 8-144)	Complete.

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SMB Error

Applicable Error Codes

- 031-529 / 031-530 / 031-531 / 031-532 / 031-533 / 031-534 / 031-535 / 031-536 / 031-541 / 031-546 / 031-547:

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ MFP IP Board (ESS) (MFP PL8.1.2)	■ “Map 8 - MFP LVPS, IP Board, and Drive” on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the customer operation. Did the customer input the login name and the password correctly?	Go to step 2.	Try the login again.
2	Check the Address Book settings. Is the **Address Book > Server Address** tab set correctly?	Go to step 3.	Set it correctly.
3	Check the sharing folder. Is the **Sharing** tab of the sharing folder set correctly?	Go to step 4.	Set it correctly.
4	Check the printer. Turn the printer power Off and On. Does the error still occur when network scanning?	Replace the IP Board. (MFP, page 8-144)	Complete.

FTP File Appended Error

Applicable Error Codes

- 031-576 / 031-579 / 031-581 / 031-584 / 031-587 / 031-594 / 031-59

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ MFP IP Board (ESS) (MFP PL8.1.2)	■ “Map 8 - MFP LVPS, IP Board, and Drive” on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the customer operation. Did the customer input the login name and the password correctly?	Go to step 2.	Try the login again.
2	Check the Address Book settings. Is the **Address Book > Server Address** tab set correctly?	Go to step 3.	Set it correctly.
3	Check the sharing folder. Is the **Sharing** tab of the sharing folder set correctly?	Go to step 4.	Set it correctly.
4	Check the printer. Turn the printer power Off and On. Does the error still occur when network scanning?	Replace the IP Board. (MFP, page 8-144)	Complete.

FTP File Changed Error

Applicable Error Codes

- 031-578 / 031-580 / 031-582 / 031-585 / 031-588 / 031-595

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ MFP IP Board (ESS) (MFP PL8.1.2)	■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the customer operation. Did the customer input the login name and the password correctly?	Go to step 2.	Try the login again.
2	Check the Address Book settings. Is the **Address Book > Server Address** tab set correctly?	Go to step 3.	Set it correctly.
3	Check the sharing folder. Is the **Sharing** tab of the sharing folder set correctly?	Go to step 4.	Set it correctly.
4	Check the printer. Turn the printer power Off and On. Does the error still occur when network scanning?	Replace the IP Board. (MFP, page 8-144)	Complete.

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CODEC Error

Applicable Error Code

- 033-501

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ MFP IP Board (ESS) (MFP PL8.1.2) ■ IIT Sub Assembly (MFP PL10.1.11)	■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17 ■ "Scanner - IIT Sub-Assembly" on page 10-49

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the firmware version. Is the firmware the latest version?	Go to step 2.	Update the firmware ("Firmware Update" on page A-16), then go to step 2.
2	Check after replacing the IP Board Replace the IP Board. (page 8-144) Does the error still occur when the power is turned Off and On?	Replace the IIT Sub Assembly. (page 8-195)	Complete.

Communication Error

Applicable Error Code

- 033-511

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ FAX Board (MFP PL8.1.5) ■ MFP IP Board (ESS) (MFP PL8.1.2)	■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the telephone line connection. Reconnect the telephone line connector. Does the error still occur when faxing?	Go to step 2.	Complete.
2	Check the receiving side Fax Send the Fax data to known good Fax machine. Does the error still occur when faxing?	Go to step 3.	END, check the receiving side Fax machine.
3	Check the firmware version. Is the firmware the latest version?	Go to step 4.	Update the firmware ("Firmware Update" on page A-16), then go to step 4.
4	Replace the FAX Board. (page 8-143) Does the error still occur when faxing?	Replace the IP Board. (page 8-144)	Complete.

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Communication Job Failure

Applicable Error Codes

- 033-512 / 034-515 / 034-799 / 035-701 / 035-702 / 035-704 / 035-705 / 035-706 / 035-708 / 035-709 / 035-710 / 035-716 / 035-717 / 035-718 / 035-720 / 035-728 / 035-729 / 035-730 / 035-737 / 035-739 / 035-740 / 035-742 / 133-279 / 133-290

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ FAX Board (MFP PL8.1.5) ■ MFP IP Board (ESS) (MFP PL8.1.2)	■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the telephone line connection. Reconnect the telephone line connector. Does the error still occur when receiving Fax?	Go to step 2.	Complete.
2	Check the receiving side Fax. Send the Fax data to known good Fax machine. Does the error still occur when faxing?	Go to step 3.	END, check the receiving side Fax machine.
3	Check the firmware version. Is the firmware the latest version?	Go to step 4.	Update the firmware ("Firmware Update" on page A-16), then go to step 4.
4	Replace the FAX Board. (page 8-143) Does the error still occur when faxing?	Replace the IP Board. (page 8-144)	Complete.

DFAX Password Error

Applicable Error Code

- 033-517

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ MFP IP Board (ESS) (MFP PL8.1.2)	■ “Map 8 - MFP LVPS, IP Board, and Drive” on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the password. Check the password of Fax/Scanner Lock in the Panel Lock menu. Is the password correct?	Go to step 2.	Set the correct password.
2	Check the printer setting In the **Admin** menu, set **Secure Settings… > Panel Lock > Panel Lock Set** to **Disable**. Does the error still occur when executing the D-FAX?	Replace the IP Board. (page 8-144)	Set **Panel Lock Set** to **Enable**. If the error occurs again, replace the IP Board.

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During Call Busy Tone

Applicable Error Code

- 033-752

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ FAX Board (MFP PL8.1.5) ■ MFP IP Board (ESS) (MFP PL8.1.2)	■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the sending side Fax. Receive Fax data from known good Fax machine. Does the error still occur when receiving Fax?	Go to step 2.	END, check the sending side Fax machine.
2	Check the printer setting. In the **Admin** menu, is **Fax Settings… > Country** set correctly?	Go to step 3.	Set **Country** correctly.
3	Check the firmware version. Is the firmware the latest version?	Go to step 4.	Update the firmware ("Firmware Update" on page A-16), then go to step 4.
4	Replace the FAX Board. (page 8-143) Does the error still occur when faxing?	Replace the IP Board. (page 8-144)	Complete.

DM Prevention Function Receive Refuse

Applicable Error Code

- 033-762

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ FAX Board (MFP PL8.1.5) ■ MFP IP Board (ESS) (MFP PL8.1.2)	■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Fax setting. Is the Junk Fax Setup mode on?	Go to step 2.	Go to step 3.
2	Setting the receiving side Fax. Set the Speed Dial. Does the error still occur when receiving the Fax?	Go to step 3.	Complete.
3	Check the firmware version. Is the firmware the latest version?	Go to step 4.	Update the firmware ("Firmware Update" on page A-16), then go to step 4.
4	Replace the FAX Board. (page 8-143) Does the error still occur when faxing?	Replace the IP Board. (page 8-144)	Complete.

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Buffer Over

Applicable Error Codes

- 033-774 / 033-776

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ FAX Board (MFP PL8.1.5) ■ MFP IP Board (ESS) (MFP PL8.1.2)	■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the resolution setting. Retry sending by lowering the resolution setting. Does the error still occur when faxing?	Go to step 2.	Complete.
2	Check the firmware version. Is the firmware the latest version?	Go to step 3.	Update the firmware ("Firmware Update" on page A-16), then go to step 3.
3	Replace the FAX Board. (page 8-143) Does the error still occur when faxing?	Replace the IP Board. (page 8-144)	Complete.

Buffer Job Failure

Applicable Error Codes

- 033-775 / 033-777 / 033-779 / 033-784

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ FAX Board (MFP PL8.1.5) ■ MFP IP Board (ESS) (MFP PL8.1.2)	■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the sending side Fax. Receive the Fax data from known good Fax machine. Does the error still occur when faxing?	Go to step 2.	END, check the sending side Fax machine or retry sending by lowering the resolution setting.
2	Check the firmware version. Is the firmware the latest version?	Go to step 3.	Update the firmware ("Firmware Update" on page A-16), then go to step 3.
3	Replace the FAX Board. (page 8-143) Does the error still occur when faxing?	Replace the IP Board. (page 8-144)	Complete.

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NSS/DCS Function disagreement

Applicable Error Code

- 033-782

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ FAX Board (MFP PL8.1.5) ■ MFP IP Board (ESS) (MFP PL8.1.2)	■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the printer setting. In the **Admin** menu, set **Fax Settings… > Modem Speed** to **2.4Kbps**, and **Fax Settings… > ECM** to **Off**. Does the error still occur when faxing?	Go to step 2.	Complete.
2	Check the firmware version. Is the firmware the latest version?	Go to step 3.	Update the firmware ("Firmware Update" on page A-16), then go to step 3.
3	Replace the FAX Board. (page 8-143) Does the error still occur when faxing?	Replace the IP Board. (page 8-144)	Complete.

Communication Job Failure

Applicable Error Code

- 033-799

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ FAX Board (MFP PL8.1.5) ■ MFP IP Board (ESS) (MFP PL8.1.2)	■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the sending side Fax. Receive the Fax data from known good Fax machine. Does the error still occur when faxing?	Go to step 2.	END, check the sending side Fax machine or sending data.
2	Check the firmware version. Is the firmware the latest version?	Go to step 3.	Update the firmware ("Firmware Update" on page A-16), then go to step 3.
3	Replace the FAX Board. (page 8-143) Does the error still occur when faxing?	Replace the IP Board. (page 8-144)	Complete.

Check Line Connection

Applicable Error Code

- 034-791

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ FAX Board (MFP PL8.1.5)	■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Reconnect the telephone line connector. Does the error still occur when faxing?	Replace the FAX Board. (page 8-143)	Complete.

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FAX FWD Document Change Error

Applicable Error Code

- 035-779

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ FAX Board (MFP PL8.1.5) ■ MFP IP Board (ESS) (MFP PL8.1.2)	■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the firmware version. Is the firmware the latest version?	Go to step 2.	Update the firmware ("Firmware Update" on page A-16), then go to step 2.
2	Replace the FAX Board. (page 8-143) Does the error still occur when faxing?	Replace the IP Board. (page 8-144)	Complete.

Busy Job Failure

Applicable Error Code

- 035-781

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ FAX Board (MFP PL8.1.5) ■ MFP IP Board (ESS) (MFP PL8.1.2)	■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the receiving side Fax. Send the Fax data to known good Fax machine. Does the error still occur when faxing?	Go to step 2.	END, check the receiving side Fax machine.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
2	Check the following settings in **Admin Menu > Fax Settings...**: ■ **Line Type** ■ **Tone/Pulse** ■ **Country** Are these settings correct?	Go to step 3.	Set the menu correct.
3	Check the firmware version. Is the firmware the latest version?	Go to step 4.	Update the firmware ("Firmware Update" on page A-16), then go to step 4.
4	Replace the FAX Board. (page 8-143) Does the error still occur when faxing?	Replace the IP Board. (page 8-144)	Complete.

Digital Line Detection

Applicable Error Code

- 035-793

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ FAX Board (MFP PL8.1.5) ■ MFP IP Board (ESS) (MFP PL8.1.2)	■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the PSTN line. Is the printer connected to the PSTN line?	Change to PBX line. Set **Admin Menu > Fax Settings... > Line Type** to **PBX**.	Go to step 2.
2	Replace the FAX Board. (page 8-143) Does the error still occur when faxing?	Replace the IP Board. (page 8-144)	Complete.

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IOT NVRAM Error

Applicable Error Code

- 041-340

Note

If the error occurred after replacing the MCU Board, transfer the internal data of the old MCU Board to the new one.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Imaging Unit (PL4.1.21) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6) ■ EEPROM Board (SFP PL8.2.16; MFP PL8.3.4) ■ PHD XPRO Harness Assy (PL9.1.11)	■ “Map 4 - SFP MCU Board” on page 10-9 ■ “SFP Xerographics” on page 10-30 ■ “Map 9 - MFP MCU Board and HVPS” on page 10-18 ■ “MFP Xerographics” on page 10-43

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Does the error still occur after cycling the power On and Off several times?	Go to step 2.	Complete.[a]
2	Reseat the Imaging Unit and four Toner Cartridges. Does the error still occur when the power is turned Off and On?	Go to step 3.	Complete.[a]
3	Reseat the MCU Board. Does the error still occur when the power is turned Off and On?	Go to step 4.	Complete.[a]
4	Check the connectors for connection. Check the connections between the PWBA EEPROM and MCU Board. Are P/J 144, and P/J 42 connected surely?	Go to step 6.	Reconnect the connector(s) P/J42 and P/J144 securely, then go to step 5.
5	Does the error still occur when the power is turned Off and On?	Go to step 6.	Complete.
6	Check the PHD XPRO Harness Assy for continuity. Disconnect J42 from the MCU Board. Disconnect J144 from the EEPROM Board. Is each cable of J42 <=> J144 continuous?	Go to step 7.	Replace the PHD XPRO Harness Assy (SFP, page 8-128; MFP, page 8-148).

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
7	Check the power to the EEPROM Board. Disconnect J42 from the MCU Board. Is the voltage across P42-3 <=> ground on the MCU Board, about +3.3 VDC?	Replace the EEPROM Board (SFP, page 8-139; MFP, page 8-161).	Go to step 8.
8	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160) Does the error still occur when the power is turned Off and On?	Go to "Electrical Noise" on page 4-79.	Complete.

a. Electrical noise could be a possible cause. Go to "Electrical Noise" on page 4-79 to make sure.

IOT Fan Motor Failure

Applicable Error Code

- 042-313

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Fan (SFP PL8.1.1; MFP PL8.2.8) ■ LVPS (SFP PL8.2.1; MFP PL8.2.12) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6) ■ LVPS Main Harness Assy (PL9.1.3)	■ "Map 3 - SFP IP Board, LVPS, and Drive" on page 10-8 ■ "Map 4 - SFP MCU Board" on page 10-9 ■ "SFP LVPS" on page 10-26 ■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17 ■ "Map 9 - MFP MCU Board and HVPS" on page 10-18 ■ "MFP LVPS" on page 10-39 ■

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Does the error still occur when the power is turned Off and On?	Go to step 2.	Complete.
2	Check the Fan for rotation. In the Printer Diagnostic tests, use **Engine Diag > Motor Test > Fan HIGH**. During this check, close the Front Cover. Does the Fan function normally?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Go to step 3.

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Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
3	Check the connection between the Fan and the LVPS. Is P/J503 on the LVPS connected correctly?	Go to step 5.	Reconnect the connector P/J 503, then go to step 4.
4	Does the error still occur when the power is turned Off and On?	Go to step 5.	Complete.
5	Check the connections between the LVPS and MCU Board. Are P/J501 and P/J14 connected correctly?	Go to step 7.	Reconnect the connector(s) P/J501 and P/J14 correctly, then go to step 6.
6	Does the error still occur when the power is turned Off and On?	Go to step 7.	Complete.
7	Check the LVPS Main Harness Assy for continuity. Disconnect J501 from the LVPS. Disconnect J14 from the MCU Board. Is each wire of J501 <=> J14 continuous?	Go to step 8.	Replace the LVPS Main Harness Assy.
8	Check the power to the Fan. Disconnect J503 from the LVPS. Is the voltage across P503-1 <=> ground on the LVPS, about +24 VDC when the interlock switch (Interlock Harness Assy) is pushed?	Replace the Fan. (SFP, page 8-119; MFP, page 8-141)	Go to step 9.
9	Replace the LVPS. (SFP, page 8-124; MFP, page 8-145) Does the error still occur when the power is turned Off and On?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Complete.

IOT Main Motor Failure

Applicable Error Code

- 042-325

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Main Drive Assy (PL7.1.2) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6)	■ "Map 3 - SFP IP Board, LVPS, and Drive" on page 10-8 ■ "Map 4 - SFP MCU Board" on page 10-9 ■ "SFP Main Drive" on page 10-28 ■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17 ■ "Map 9 - MFP MCU Board and HVPS" on page 10-18 ■ "MFP Main Drive" on page 10-41

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Does the error occur when the power is turned Off and On?	Go to step 2.	Complete.
2	Reseat the Imaging Unit. Does the error still occur when the power is turned Off and On?	Go to step 3.	Complete.
3	Check the Main Motor for rotation. In the Printer Diagnostic tests, use **Engine Diag > Motor Test > Main Motor FULL1**. Does the Main Motor function normally?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Go to step 4.
4	Check the connections between the MCU Board and Main Drive Assy. Are P/J21 and P/J211 connected correctly?	Go to step 6.	Reconnect the connector(s) P/J21 and/or P/J211 correctly, then go to step 5.
5	Does the error still occur when the power is turned Off and On?	Go to step 6.	Complete.
6	Reseat the Main Drive Assy. Does the error still occur when the power is turned Off and On?	Go to step 7.	Complete.
7	Disconnect J21 from the MCU Board. Measure the voltages across J21-2/J21-4 <=> ground on the MCU Board. Are the voltages about +24 VDC when the interlock switch (Interlock Harness Assy) is pushed?	Replace the Main Drive Assy. (page 8-114)	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)

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IOT Sub Motor Failure

Applicable Error Code

- 042-326

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Sub Drive Assembly (PL7.1.1) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6) ■ Sub Motor Harness Assy (PL9.1.8)	■ "Map 3 - SFP IP Board, LVPS, and Drive" on page 10-8 ■ "Map 4 - SFP MCU Board" on page 10-9 ■ "SFP Main Drive" on page 10-28 ■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17 ■ "Map 9 - MFP MCU Board and HVPS" on page 10-18 ■ "MFP Main Drive" on page 10-41

Warning

To avoid possible burns, allow the Fuser Assy to cool before beginning the procedure.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Does the error still occur when the power is turned Off and On?	Go to step 2.	Complete.
2	Reseat the Fuser Assy and Imaging Unit. Does the error still occur when the power is turned Off and On?	Go to step 3.	Complete.
3	In the Printer Diagnostic tests, use **Engine Diag > Motor Test > Sub Motor FULL1**. Does the Sub Motor function normally?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Go to step 4.
4	Check the connections between the MCU Board and Sub Drive Assembly. Are P/J22 and P/J221 connected correctly?	Go to step 6.	Reconnect the connector(s) P/J22 and/or P/J221 correctly, then go to step 5.
5	Does the error still occur when the power is turned Off and On?	Go to step 6.	Complete.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
6	Check the Sub Motor Harness Assy for continuity. Disconnect J22 from the MCU Board. Disconnect J221 from the Sub Drive Assembly. Is each cable of J22 <=> J221 continuous?	Go to step 7.	Replace the Sub Motor Harness Assy.
7	Reseat the Sub Drive Assembly. Does the error still occur when the power is turned Off and On?	Go to step 8.	Complete.
8	Check the power to the Sub Drive Assembly. Disconnect J22 from the MCU Board. Are the voltages across J22-2/J22-4 <=> ground on the MCU Board, about +24 VDC when the interlock switch (Interlock Harness Assy) is pushed?	Replace the Sub Drive Assembly. (page 8-113)	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)

IOT K Mode Solenoid Error 1/2

Applicable Error Codes

- 042-372 / 042-373

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Feed Drive Assembly (PL7.1.4) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6)	■ “Map 3 - SFP IP Board, LVPS, and Drive” on page 10-8 ■ “Map 4 - SFP MCU Board” on page 10-9 ■ “SFP Main Drive” on page 10-28 ■ “Map 8 - MFP LVPS, IP Board, and Drive” on page 10-17 ■ “Map 9 - MFP MCU Board and HVPS” on page 10-18 ■ “MFP Main Drive” on page 10-41

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Does the error still occur when the power is turned Off and On?	Go to step 2.	Complete.

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Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
2	In the Printer Diagnostic tests, use **Engine Diag > Motor Test > K Mode Solenoid**. During this check, close the Front Cover. Do you hear the K Mode Solenoid click when you perform the K Mode Solenoid?	Go to step 3.	Go to step 4.
3	Reseat the Feed Drive Assembly. Does the error still occur when the power is turned Off and On?	Go to step 8.	Complete.
4	Check the connection between the MCU Board and K Mode Solenoid. Is P/J24 connected correctly?	Go to step 6.	Reconnect the connector P/J24 correctly, then go to step 5.
5	Does the error still occur when the power is turned Off and On?	Go to step 6.	Complete.
6	Disconnect J24 from the MCU Board. Is the voltage across P24-1 <=> ground on the MCU Board, about +24 VDC when the Interlock Switch (Interlock Harness Assy) is pushed?	Go to step 7.	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)
7	Disconnect P/J24 from the MCU Board. Measure the resistance between J24-1 and J24-2. Does the resistance measure about 80 to 110-ohm?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Replace the Feed Drive Assembly. (page 8-117)
8	Check the connections between the MCU Board and K Mode Sensor. Are P/J26 and P/J261 connected correctly?	Go to step 10.	Reconnect the connector(s) P/J26 and/or P/J261correctly, then go to step 9.
9	Does the error still occur when the power is turned Off and On?	Go to step 10.	Complete.
10	Disconnect J26 from the MCU Board. Is the voltage across P26-1 <=> ground on the MCU Board, about +3.3 VDC?	Go to step 11.	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)
11	Perform the procedure “K Mode Sensor” on page 4-24 to check the K Mode Sensor operation. Does the status (L or H) change when you insert a piece of paper into the gap of the K Mode Sensor?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Replace the Feed Drive Assembly. (page 8-117)

IOT Over Heat Stop

Applicable Error Code

- 042-700

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Humidity Sensor (SFP PL8.2.7; MFP PL8.1.10) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6) ■ **MFP:** Left Side Harness Assy (PL 3.1.18) ■ **SFP:** Humidity Harness Assy (PL9.1.6)	■ "Map 3 - SFP IP Board, LVPS, and Drive" on page 10-8 ■ "Map 4 - SFP MCU Board" on page 10-9 ■ "SFP Xerographics" on page 10-30 ■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17 ■ "Map 9 - MFP MCU Board and HVPS" on page 10-18 ■ "MFP Xerographics" on page 10-43

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the connections between the MCU Board and Humidity Sensor. Are P/J20 and P/J201 connected surely?	Go to step 3.	Reconnect the connector(s) P/J20 and/or P/J201 surely, then go to step 2
2	Does the error still occur when the power is turned Off and On?	Go to step 3.	Complete.
3	Disconnect P/J20 from the MCU Board. Disconnect P/J201 from the Humidity Sensor. Is each wire of P/J20 <=> P/J201 continuous?	Go to step 4.	**SFP:** Replace the Humidity Harness Assy. (PL 9.1.6) **MFP:** Replace the Left Side Harness Assy. (PL 3.1 18)
4	Disconnect P/J20 on the MCU Board. Is the voltage across ground <=> J20-4 on the MCU Board, about +5VDC?	Replace the Humidity Sensor. (SFP, page 8-130; MFP, page 8-153)	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)

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IOT ROS Failure

Applicable Error Code

- 061-370

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Laser Unit (PL4.1.1) ■ Laser RE Harness Assy (PL4.1.22) ■ Laser Video Harness Assy (PL4.1.23) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6)	■ “Map 2 - SFP Laser Unit and Feeder” on page 10-7 ■ “Map 4 - SFP MCU Board” on page 10-9 ■ “SFP Laser Unit” on page 10-29 ■ “Map 7 - MFP Laser Unit and Feeder” on page 10-16 ■ “Map 9 - MFP MCU Board and HVPS” on page 10-18 ■ “MFP Laser Unit” on page 10-42

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Does the error still occur when the power is turned Off and On?	Go to step 2.	Complete.
2	Check after resetting the MCU Board. Reseat the MCU Board. Does the error still occur when the power is turned Off and On?	Go to step 3.	Complete.
3	Check after resetting the Laser Unit. Reseat the Laser Unit. Does the error still occur when the power is turned Off and On?	Go to step 4.	Complete.
4	Check the connections between the Laser Unit and MCU Board. Are P/J40, P/J41, P/J411 and P/J412 connected correctly?	Go to step 6.	Reconnect the connector(s) P/J40, P/J41, P/J411 and/or P/J412 correctly, then go to step 5.
5	Does the error still occur when the power is turned Off and On?	Go to step 6.	Complete.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
6	Check the Laser RE Harness Assy for continuity. Disconnect P/J40 from the MCU Board. Disconnect P/J411 from the Laser Unit. Is each cable of J40 <=> J411 continuous?	Go to step 7.	Replace the Laser RE Harness Assy.
7	Check the Laser Video Harness Assy for continuity. Disconnect J41 from the MCU Board. Disconnect J412 from the Laser Unit. Is each cable of J41 <=> J412 continuous?	Go to step 8.	Replace the Laser Video Harness Assy.
8	Check after replacing the Laser Unit. Replace the Laser Unit. (SFP, page 8-86; MFP, page 8-92) Does the error still occur when the power is turned Off and On?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Complete.

IIT Error

Applicable Error Codes

- 062-311 / 062-321 / 062-322 / 062-360 / 062-371 / 062-393

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IIT Sub Assembly (MFP PL10.1.11) ■ IP Board (ESS) (MFP PL8.1.2)	■ “Map 8 - MFP LVPS, IP Board, and Drive” on page 10-17 ■ “Scanner - IIT Sub-Assembly” on page 10-49

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Reseat connectors (P/J 1001 and 1002) on the IP Board. Does the error still occur when turning the power Off and On?	Go to step 2.	Complete.
2	Replace the IIT Sub Assembly. (page 8-195) Does the error still occur when turning the power Off and On?	Replace the IP Board. (page 8-144)	Complete.

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Scanner Error

Applicable Error Code

- 062-320

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IIT Sub Assembly (MFP PL10.1.11) ■ IP Board (ESS) (MFP PL8.1.2)	■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17 ■ "Scanner - IIT Sub-Assembly" on page 10-49

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the file data in the printer. Print or clear the stored files and data at the printer memory. Does the error still occur when scanning?	Go to step 2.	Complete.
2	Check the setting at **Defaults Settings > Scan Defaults… > Resolution**. Is it set to **600 x 600**?	Set to the default value.	Go to step 3.
3	Check the setting at **Defaults Settings > Scan Defaults… > Color**. Is it set to **Color (Photo)**?	Set to **Color (Photo)**.	Go to step 4.
4	Replace the IIT Sub Assembly. (page 8-195) Does the error still occur when turning the power Off and On?	Replace the IP Board. (page 8-144)	Complete.

Copy Limit

Applicable Error Code

- 062-790

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board (ESS) (MFP PL8.1.2)	■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the error. Does the error message disappear automatically within 70 seconds, or disappear after pressing **OK**?	Go to step 2.	Go to step 4.
2	Check the error Does the error message still occur when copying, scanning, or faxing the original?	Go to step 3.	Go to step 4.
3	Check the original. Print **System > Information Pages > Configuration**, then copy, scan, or fax the page. Does the error still occur when copying, scanning or faxing the **Configuration** page?	Replace the IP Board. (MFP, page 8-144)	Complete.
4	Check the error. Turn the power Off and On. Does the error message still occur when copying, scanning, or faxing the original?	Replace the IP Board. (MFP, page 8-144)	Complete.

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IOT Tray1 Misfeed JAM

Applicable Error Code

- 071-100

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Cassette Assy 250 (PL2.1.1) ■ Separator Holder Assy (PL2.1.5) ■ Drive Clutch and Regi Bearing Kit (PL3.1.97) ■ Feed Solenoid Kit (PL3.1.99) ■ Left Side Harness Assy (PL3.1.18) ■ Feed Roller Assy (PL3.2.4) ■ Registration Input Actuator (PL3.2.11) ■ Registration Sensor (Sensor Photo) (PL3.2.13) ■ Main Drive Assy (PL7.1.2) ■ Feed Drive Assembly (PL7.1.4) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6)	■ “Map 3 - SFP IP Board, LVPS, and Drive” on page 10-8 ■ “Map 4 - SFP MCU Board” on page 10-9 ■ “SFP Media Feed” on page 10-27 ■ “SFP Main Drive” on page 10-28 ■ “Map 8 - MFP LVPS, IP Board, and Drive” on page 10-17 ■ “Map 9 - MFP MCU Board and HVPS” on page 10-18 ■ “MFP Media Feed” on page 10-40 ■ “MFP Main Drive” on page 10-41

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the paper condition. Is the paper in Tray 1 wrinkled or damaged?	Replace with new dry paper, then go to step 2.	Go to step 3.
2	Does the error still occur when printing?	Go to step 3.	Complete.
3	Reload Tray 1 with new paper. Does the error still occur when printing?	Go to step 4.	Complete.
4	Open and close the Front Cover, making sure to latch correctly. Does the error still occur when printing?	Go to step 5.	Complete.
5	Perform the procedure “Main Drive Assembly” on page 4-29. Does the Main Motor (Main Drive Assy) operate properly?	Go to step 6.	Go to step 19.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
6	Check the Feed Drive Assembly for operation. Perform the procedure “Registration Clutch” on page 4-33 Do the Feed, Regi, and Regi Metal Rollers rotate properly?	Go to step 7.	Reseat or replace the Feed Drive Assembly. (page 8-117)
7	Does paper feed from Tray 1?	Go to step 12.	Go to step 8.
8	Reset the Tray 1 Side and End Guides, and return the tray to the printer. Does the error still occur when printing?	Go to step 9.	Complete.
9	Remove Tray 1 from the printer. Is the Separator Holder Assy free of contamination and/or damage, and does it rotate smoothly?	Go to step 10.	Replace the Separator Holder Assy. (page 8-6)
10	Remove Tray 1 from the printer. Is the Feed Roller Assy free of contamination and/or damage, and does it rotate smoothly?	Go to step 11.	Replace the Feed Roller Assy. (page 8-9)
11	Perform the procedure “Tray 1 Feed Solenoid” on page 4-34. Does the Tray 1 Feed Solenoid operate properly?	Replace the Cassette Assy 250. (Parts List 2.1 Tray 1.)	Go to step 22.
12	Does the paper leading edge stop before the Regi Roller Assy and Regi Metal Roller?	Go to step 13.	The paper leading edge stops past the Regi Roller Assy and Regi Metal Roller; go to step 16.
13	Check the paper path between the Feed Roller Assy and Regi Roller Assy. Are there any obstacles in the paper path?	Remove the obstacles from the paper transfer path.	Go to step 14.
14	Perform the procedure “Registration Sensor” on page 4-22. Does the number on the screen increase by one, when the actuator (Registration Input Actuator) is operated?	Go to step 15.	Go to step 26.
15	Remove the Lower Chute Assembly (page 8-84; PL3.2.27) to check the shape and operation of the Registration Input Actuator (PL3.2.11). Are the shape and operation normal?	Go to step 16.	Reseat the Registration Input Actuator. If broken or deformed, replace it.

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Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
16	Perform the procedure "Registration Clutch" on page 4-33. Does the Registration Clutch (Drive Clutch Assy) operate properly, and the Regi Roller Assy and Regi Metal Roller rotate?	Go to step 17.	Go to step 30
17	Remove the Lower Chute Assembly (page 8-84; PL3.2.27) to check the shape and operation of the Regi Roller Actuator. Are the shape and operation normal?	Go to step 18.	Reseat the Regi Roller Actuator. If broken or deformed, replace the Feeder Assy (SFP, page 8-72; MFP, page 8-73).
18	Perform the procedure "Registration Sensor" on page 4-22. Does the number on the screen increase by one, when the actuator (Registration Input Actuator) is operated?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Go to step 26.
19	Check the connections between the MCU Board and Main Drive Assy (Main Motor). Are P/J21 and P/J211 connected correctly?	Go to step 20.	Reconnect the connector(s) P/J21 and/or P/J211 correctly.
20	Check the Main Motor Harness Assy for continuity. Disconnect J21 from the MCU Board. Disconnect J211 from the Main Drive Assy. Is each wire of J21 <=> J211 continuous?	Go to step 21.	Replace the Main Motor Harness Assy.
21	Disconnect J21 from the MCU Board. Measure the voltages across J21-2/J21-4 <=> ground on the MCU Board. Are the voltages about +24 VDC when the interlock switch (Interlock Harness Assy) is pushed?	Replace the Main Drive Assy. (page 8-114)	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)
22	Check the connections between the MCU Board and Feed Solenoid. Are P/J23 and P/J231 connected correctly?	Go to step 23.	Reconnect the connector(s) P/J23 and/or P/J231 correctly.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
23	Check the Left Side Harness Assy for continuity. Disconnect J23 from the MCU Board. Disconnect P231 from the Feed Solenoid. Is each wire of the harness continuous?	Go to step 24.	Replace the Left Side Harness Assy. (PL 3.1.18)
24	Disconnect J23 from the MCU Board. Press the Interlock Switch (Interlock Harness Assy) while Measuring the voltage across P23-1 <=> ground on the MCU Board. Is the voltage about +24 VDC?	Go to step 25.	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)
25	Check the Feed Solenoid for resistance. Disconnect P/J231 of the Feed Solenoid and measure the resistance across J231-1 and J231-2. Is the resistance about 96 ohm?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Replace the Feed Solenoid. (page 8-49)
26	Check the connections between the MCU Board and Registration Sensor. Are P/J23 and P/J232 connected correctly? **NOTE** Access to the Registration Sensor requires removal of the Upper Frame (SFP, page 8-51; MFP, page 8-67).	Go to step 27.	Reconnect the connector(s) P/J23 and/or P/J232 correctly.
27	Check the Left Side Harness Assy for continuity. Disconnect J23 from the MCU Board. Disconnect J232 from the Registration Sensor. Is each cable of J23 <=> J232 continuous?	Go to step 28.	Replace the Left Side Harness Assy. (PL 3.1.18)
28	Check the power to the Registration Sensor. Disconnect J23 from the MCU Board. Measure the voltage across P23-3 <=> ground on the MCU Board. Is the voltage about +3.3 VDC?	Go to step 29.	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)
29	Check the voltage across J23-5 <=> ground on the MCU Board. Remove the Lower Chute Assembly (page 8-84; PL3.2.27) to check the operation of the Registration Sensor. Does the voltage change when you operate the Registration Input Actuator?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Replace the Registration Sensor. (page 8-80)

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Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
30	Check the connections between the MCU Board and Drive Clutch Assy. Are P/J26 and P/J262 connected correctly?	Go to step 31.	Reconnect the connector(s) P/J26 and/or P/J262 correctly.
31	Check the K-Sensor/Regi Clutch Harness Assy for continuity. Disconnect J26 from the MCU Board. Disconnect P262 from the Drive Clutch Assy. Is each wire of the K-Sensor/Regi Clutch Harness Assy continuous?	Go to step 32.	Replace the K-Sensor/ Regi Clutch Harness Assy.
32	Check the power to the Drive Clutch Assy. Disconnect J26 from the MCU Board. Press the Interlock Switch (Interlock Harness Assy) and measure the voltage across P26-4 <=> ground on the MCU Board, Is the voltage about +24 VDC?	Go to step 33.	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)
33	Check the Drive Clutch Assy resistance. Disconnect P/J262 of the Drive Clutch Assy. and measure the resistance across J262-1 and J262-2. Is the resistance approximately 280-ohm?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Replace the Drive Clutch and Regi Bearing Kit. (page 8-48)

IOT Tray2 Misfeed JAM

Applicable Error Code

- 072-100

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU Board (SFP PL8.2.13; MFP PL8.3.6) ■ Optional Feeder (PL12.1.1) ■ Tray Comp Harness Assy (PL12.2.20) ■ Feeder Board (PL12.2.1) ■ Feed Solenoid Kit (PL12.2.97) ■ Drive Clutch Assy (PL12.2.6) ■ Feed Motor Kit (PL12.2.98) ■ Feed Roller Assy (PL12.4.4) ■ Paper Path Sensor (Sensor Photo) (PL12.4.13) ■ Optional Cassette Assy 250 (PL12.5.1) ■ Separator Holder Assy (PL12.5.5)	■ “Map 4 - SFP MCU Board” on page 10-9 ■ “Map 9 - MFP MCU Board and HVPS” on page 10-18 ■ “Map 5 - SFP Optional Feeder” on page 10-10 ■ “Map 10 - MFP Optional Feeder” on page 10-19 ■ “SFP Option Feeder” on page 10-35 ■ “MFP Option Feeder” on page 10-50

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the paper condition. Is the paper in the Tray 2 wrinkled or damaged?	Replace with new and dry paper, then go to step 2.	Go to step 3.
2	Does the error still occur when printing?	Go to step 3.	Complete.
3	Load new paper in Tray 2. Does the error still occur when printing?	Go to step 4.	Complete.
4	Check the Front Cover for latching. Open and close the Front Cover, and then latch correctly. Does the error still occur when printing?	Go to step 5.	Complete.
5	In the Printer Mode Diagnostic tests, check **Tray2 PathSensor** in **Engine Diag > Sensor Test.** Does the number on the screen increase by one, when the actuator (Registration Input Actuator) is operated?	Go to step 6.	Go to step 15.

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Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
6	Using the Printer Diagnostics, test the operation of the Motor Subassembly: **Engine Diag > Motor Test > Sub Motor FULL 2.** During this check, cheat the interlock switch (Interlock Harness Assy). Does the Motor Subassembly operate properly?	Go to step 7.	Go to step 19.
7	Check the paper feeding. Is the paper fed from the Tray 2?	Go to step 12.	Go to step 8.
8	Check after resetting the Guide Sides and End Guide on the Tray 2. Reset the Guide Sides and End Guide, and reseat the Tray2 to the printer correctly. Does the error still occur when printing?	Go to step 9.	Complete.
9	Check the Separator Holder Assy on the Tray 2 for shape and rotation. Pull Tray 1 out from the printer. Is the Separator Holder Assy not contaminated and/or damaged, and rotated smoothly?	Go to step 10.	Replace the Separator Holder Assy. (page 8-6)
10	Check the Feed Roller Assy for shape and rotation Pull the Tray 2 out from the printer. Is the Feed Roller Assy not contaminated and/or damaged, and rotated smoothly?	Go to step 11.	Replace the Feed Roller Assy. (page 8-9)
11	Using the Printer Diagnostics, test the operation of the Tray 2 Feed Solenoid: **Engine Diag > Motor Test > Tray2 Feed Solenoid (Auto)** During this check, cheat the interlock switch (Interlock Harness Assy). Does the Tray 2 Feed Solenoid operate properly?	Replace the Optional Cassette Assy 250.	Go to step 22.
12	Using the Printer Diagnostics, test the operation of the Tray 2 Turn Clutch: **Engine Diag > Motor Test > Tray2 Turn Roll** During this check, cheat the interlock switch (Interlock Harness Assy). Does the Tray 2 Turn Clutch (Drive Clutch Assy) operate properly?	Go to step 13.	Go to step 26.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
13	Check the paper lead edge staying position. Does the paper lead edge stay before the Regi Roller Assy and Regi Metal Roller?	Go to step 14.	Replace the Optional Feeder. (page 8-167)
14	Check the paper path. Remove the Tray 1 and Tray 2 paper cassettes. Are there any obstacles on the paper transfer path between the Tray 2 and the Regi Assy?	Remove the obstacles or stains from the paper transfer path.	Replace the Optional Feeder. (page 8-167)
15	Check the connections between the Feeder Board and Paper Path Sensor. Are P/J420 and P/J4202 connected correctly?	Go to step 16.	Reconnect the connector(s) P/J420 and/or P/J4202 correctly.
16	Check the Tray Comp Harness Assy for continuity. Disconnect J420 from the Feeder Board. Disconnect J4202 from the Paper Path Sensor. Is each cable of J420 <=> J4202 continuous?	Go to step 17.	Replace the Tray Comp Harness Assy. (PL 12.2.20)
17	Check the power to the Paper Path Sensor. Disconnect J420 from the Feeder Board. Is the voltage across P420-6 <=> ground on the Feeder Board, about +3.3 VDC?	Go to step 18.	Replace the Feeder Board. (page 8-173)
18	Check the Paper Path Sensor for operation. Check the voltage across J420-5 <=> ground on the Feeder Board. Does the voltage change, when you operate the Registration Input Actuator?	Replace the Feeder Board. (page 8-173)	Replace the Paper Path Sensor. (page 8-187)
19	Check the connections between the Feeder Board and Motor Subassembly. Are P/J422 and P/J4221 connected correctly?	Go to step 20.	Reconnect P/J422 and/or P/J4221 correctly.

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Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
20	Check the Tray Motor Harness Assy for continuity. Disconnect J422 from the Feeder Board. Disconnect J4221 from the Motor Subassembly. Is each cable of J422 <=> J4221 continuous?	Go to step 21.	Replace the Tray Motor Harness Assy. (PL 12.2.2)
21	Check the power to the Motor. Disconnect J422 from the Feeder Board. Are the voltages across J422-6 <=> ground on the Feeder Board, about +24 VDC when the interlock switch (Interlock Harness Assy) is pushed?	Replace the Feed Motor Kit. (page 8-177)	Replace the Feeder Board. (page 8-173)
22	Check the connectors of the Feed Solenoid for connection. Check the connections between the Feeder Board and Feed Solenoid. Are P/J421 and P/J4211 connected correctly?	Go to step 23.	Reconnect the connector(s) P/J421 and/or P/J4211 correctly.
23	Check the HARN TRAY COMP for continuity. Disconnect J421 from the Feeder Board. Disconnect P4211 from the Feed Solenoid. Is each cable of J421 <=> P4211 continuous?	Go to step 24.	Replace the Tray Comp Harness Assy. (PL 12.2.20)
24	Check the power to the Feed Solenoid. Disconnect J421 from the Feeder Board. Is the voltage across P421-1 <=> ground on the Feeder Board, about +24 VDC when the Interlock Switch (Interlock Harness Assy) is pushed?	Go to step 25.	Replace the Feeder Board. (page 8-173)
25	Check the Feed Solenoid for resistance. Disconnect P/J4211 of the Feed Solenoid. Is the resistance across J4211-1 and J4211-2 approximately 96 ohm?	Replace the Feeder Board. (page 8-173)	Replace the Feed Solenoid Kit. (page 8-49
26	Check the connectors of the Feed Clutch (Drive Clutch Assy) for connection. Check the connections between the Feeder Board and Feed Clutch. Are P/J420 and P/J4201 connected correctly?	Go to step 27.	Reconnect the connector(s) P/J420 and/or P/J4201 correctly.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
27	Check the HARN TRAY COMP for continuity. Disconnect J420 from the Feeder Board. Disconnect P4201 from the Feed Clutch. Is each cable of J420 <=> P4201 continuous?	Go to step 28.	Replace the Tray Comp Harness Assy. (PL 12.2.20)
28	Check the power to the Feed Clutch. Disconnect J420 from the Feeder Board. Is the voltage across P420-1 <=> ground on the Feeder Board, about +24 VDC when the Interlock Switch (Interlock Harness Assy) is pushed?	Go to step 29.	Replace the Feeder Board. (page 8-173)
29	Check the Feed Clutch resistance. Disconnect P/J4201 of the Feed Clutch. Is the resistance across J4201-1 and J4201-2 approximately 280-ohm?	Replace the Feeder Board. (page 8-173)	Replace the Drive Clutch Assy. (page 8-174)

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IOT Feeder 2 JAM

Applicable Error Code

- 072-101

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Cassette Assy 250 (PL2.1.1) ■ Separator Holder Assy (PL2.1.5) ■ Left Side Harness Assy (PL3.1.18) ■ Drive Clutch and Regi Bearing Kit (PL3.1.97) ■ Feeder Assy (PL3.1.98) ■ Feed Solenoid Kit (PL3.1.99) ■ Feed Roller Assy (PL3.2.4) ■ Registration Input Actuator (PL3.2.11) ■ Registration Sensor (Sensor Photo) (PL3.2.13) ■ Main Drive Assy (PL7.1.2) ■ Feed Drive Assembly (PL7.1.4) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6)	■ “Map 4 - SFP MCU Board” on page 10-9 ■ “Map 9 - MFP MCU Board and HVPS” on page 10-18 ■ “Map 5 - SFP Optional Feeder” on page 10-10 ■ “Map 10 - MFP Optional Feeder” on page 10-19 ■ “SFP Option Feeder” on page 10-35 ■ “MFP Option Feeder” on page 10-50

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the paper condition. Is the paper in Tray 1 or Tray 2 wrinkled or damaged?	Replace with new, dry paper, then go to step 2.	Go to step 3.
2	Does the error still occur when printing?	Go to step 3.	Complete.
3	Load new paper in Tray 1 or Tray 2. Does the error still occur when printing?	Go to step 4.	Complete.
4	Check the Front Cover for latching. Open and close the Front Cover, and then latch correctly. Does the error still occur when printing?	Go to step 5.	Complete.
5	Perform the procedure “Main Drive Assembly” on page 4-29. Does the Main Motor (Main Drive Assy) operate properly?	Go to step 6.	Go to step 19.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
6	Perform the procedure “Registration Clutch” on page 4-33 Do the Feed, Regi, and Regi Metal Rollers rotate properly?	Go to step 7.	Reseat or replace the Feed Drive Assembly. (page 8-117)
7	Check the paper feeding position Is the paper not fed from Tray 1 or Tray 2?	Go to step 8.	Go to step 12.
8	Reset the Guide Sides and End Guide, and reseat Tray 1 or Tray 2 to the printer correctly. Does the error still occur when printing?	Go to step 9.	Complete.
9	Check the Separator Holder Assy on Tray 1 or Tray 2 for shape and rotation. Pull Tray 1 or Tray 2 out from the printer. Is the Separator Holder Assy not contaminated and/or damaged, and rotates smoothly?	Go to step 10.	Replace the Separator Holder Assy. (page 8-6)
10	Check the Feed Roller Assy for shape and rotation. Pull Tray 1 or Tray 2 out from the printer. Is the Feed Roller Assy not contaminated and/or damaged, and rotated smoothly?	Go to step 11.	Replace the Feed Roller Assy. (page 8-9)
11	Perform the procedure “Tray 1 Feed Solenoid” on page 4-34. Does the Tray 1 Feed Solenoid operate properly?	Replace the Cassette Assy 250. (Parts List 2.1 Tray 1.)	Go to step 22.
12	Check the paper lead edge staying position. Does the paper lead edge stay before the Regi Roller Assy and Regi Metal Roller?	Go to step 13.	The paper lead edge stay after the Regi Roller Assy and Regi Metal Roller, then go to step 16.
13	Check the paper transfer path between the Feed Roller Assy and Regi Roller Assy. Are there any obstacles on the paper transfer path?	Remove the obstacles or stains from the paper transfer path.	Go to step 14.
14	Remove the Lower Chute Assembly (page 8-84; PL3.2.27) to check the shape and operation of the Registration Input Actuator. Are the shape and operation normal?	Go to step 15.	Reseat the Registration Input Actuator. If broken or deformed, replace it.

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Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
15	Perform the procedure "Registration Sensor" on page 4-22. Does the number on the screen increase by one, when the actuator (Registration Input Actuator) is operated?	Go to step 16.	Go to step 26.
16	Perform the procedure "Registration Clutch" on page 4-33. Does the Registration Clutch (Drive Clutch Assy) operate properly, and the Regi Roller Assy and Regi Metal Roller rotate?	Go to step 17.	Go to step 30.
17	Remove the Lower Chute Assembly (page 8-84; PL3.2.27) to check the shape and operation of the Regi Roller Actuator. Are the shape and operation normal?	Go to step 18.	Reseat the Regi Roller Actuator. If broken or deformed, replace the Feeder Assy (SFP, page 8-72; MFP, page 8-73).
18	Perform the procedure "Registration Sensor" on page 4-22. Does the number on the screen increase by one, when the actuator (Registration Input Actuator) is operated?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Go to step 26.
19	Check the connectors for connection Check the connections between the MCU Board and Main Drive Assy (Main Motor). Are P/J21 and P/J211 connected correctly?	Go to step 20.	Reconnect the connector(s) P/J21 and/or P/J211 correctly.
20	Check the Main Motor Harness Assy for continuity. Disconnect J21 from the MCU Board. Disconnect J211 from the Main Drive Assy. Is each cable of J21 <=> J211 continuous?	Go to step 21.	Replace the Main Motor Harness Assy.
21	Check the power to the Main Drive Assy Disconnect J21 from the MCU Board. Are the voltages across J21-2/J21-4 <=> ground on the MCU Board, about +24 VDC when the interlock switch (Interlock Harness Assy) is pushed?	Replace the Main Drive Assy. (page 8-114)	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
22	Check the connectors of the Feed Solenoid for connection. Check the connections between the MCU Board and Feed Solenoid. Are P/J23 and P/J231 connected correctly?	Go to step 23.	Reconnect the connector(s) P/J23 and/or P/J231 correctly.
23	Check the Left Side Harness Assy for continuity. Disconnect J23 from the MCU Board. Disconnect P231 from the Feed Solenoid. Is each cable of J23 <=> P231 continuous?	Go to step 24.	Replace the Left Side Harness Assy. (PL 3.1.18)
24	Check the power to the Feed Solenoid. Disconnect J23 from the MCU Board. Is the voltage across P23-1 <=> ground on the MCU Board, about +24 VDC when the Interlock Switch (Interlock Harness Assy) is pushed?	Go to step 25.	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)
25	Check the Feed Solenoid for resistance. Disconnect P/J231 of the Feed Solenoid. Is the resistance across J231-1 and J231-2 about 96 ohm?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Replace Feed Solenoid Kit. (page 8-176)
26	Check the connections between the MCU Board and Registration Sensor. Are P/J23 and P/J232 connected correctly?	Go to step 27.	Reconnect the connector(s) P/J23 and/or P/J232 correctly.
27	Check the Left Side Harness Assy for continuity. Disconnect J23 from the MCU Board. Disconnect J232 from the Registration Sensor. Is each cable of J23 <=> J232 continuous?	Go to step 28.	Replace the Left Side Harness Assy. (PL 3.1.18)
28	Check the power to the Registration Sensor. Disconnect J23 from the MCU Board. Is the voltage across P23-3 <=> ground on the MCU Board, about +3.3 VDC?	Go to step 29.	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)

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Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
29	Check the voltage across J23-5 <=> ground on the MCU Board. Remove the Lower Chute Assembly (page 8-84; PL3.2.27) to check the operation of the Registration Sensor. Does the voltage change when you operate the Registration Input Actuator?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Replace the Registration Sensor (page 8-80)
30	Check the connections between the MCU Board and Drive Clutch Assy. Are P/J26 and P/J262 connected correctly?	Go to step 31.	Reconnect the connector(s) P/J26 and/or P/J262 correctly.
31	Check the K-Sensor/Regi Clutch Harness Assy for continuity. Disconnect J26 from the MCU Board. Disconnect P262 from the Drive Clutch Assy. Is each cable of J26 <=> P262 continuous?	Go to step 32.	Replace the K-Sensor/Regi Clutch Harness Assy.
32	Check the power to the Drive Clutch Assy. Disconnect J26 from the MCU Board. Is the voltage across P26-4 <=> ground on the MCU Board, about +24 VDC when the Interlock Switch (Interlock Harness Assy) is pushed?	Go to step 33.	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)
33	Check the Drive Clutch Assy for resistance. Disconnect P/J262 of the Drive Clutch Assy. Is the resistance across J262-1 and J262-2 approximately 280-ohm?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Replace the Drive Clutch and Regi Bearing Kit. (page 8-48)

IOT Feeder Configuration Failure

Applicable Error Code

- 072-215

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Option Harness Assy (PL3.1.20) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6) ■ Optional Feeder (PL12.1.99) ■ Tray Harness Assy (PL12.3.23)	■ “Map 2 - SFP Laser Unit and Feeder” on page 10-7 ■ “Map 4 - SFP MCU Board” on page 10-9 ■ “Map 5 - SFP Optional Feeder” on page 10-10 ■ “Map 6 - MFP Print Engine” on page 10-15 ■ “Map 9 - MFP MCU Board and HVPS” on page 10-18 ■ “Map 10 - MFP Optional Feeder” on page 10-19 ■ “SFP Option Feeder” on page 10-35 ■ “MFP Option Feeder” on page 10-50

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Optional Feeder for installation. Is the Optional Feeder installed correctly?	Go to step 3.	Reseat the Optional Feeder, then go to step 2.
2	Does the error still occur when the power is turned Off and On?	Go to step 3.	Complete.
3	Check the connectors for connection. Check the connections between the Feeder Board and MCU Board. Are P/J27, P/J273, and P/J419 connected surely?	Go to step 5.	Reconnect the connector(s) P/J27, P/J273 and/or P/J419 surely, then go to step 4.
4	Does the error still occur when the power is turned Off and On?	Go to step 5.	Complete.
5	Check the Tray Harness Assy for continuity. Disconnect P/J419 from the Feeder Board. Disconnect P/J273 from the Option Harness Assy. Is each cable of P/J419 <=> P/J273 continuous?	Go to step 6.	Replace the Tray Harness Assy.

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Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
6	Check the Option Harness Assy for continuity. Disconnect P/J27 from the MCU Board. Disconnect P/J273 from the Tray Harness Assy. Is each cable of P/J27 <=> P/J273 continuous?	Go to step 7.	Replace the Option Harness Assy.
7	Check after replacing the Optional Feeder. Replace the Replace the Optional Feeder. (page 8-167) Does the error still occur when the power is turned Off and On?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Complete.

Option Feeder Motor Failure

Applicable Error Code

- 072-216

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Motor Subassembly (PL12.2.98) ■ Feeder Board (PL12.2.1) ■ Tray Motor Harness Assy (PL12.2.2) ■ Optional Feeder (PL12.1.99)	■ "Map 5 - SFP Optional Feeder" on page 10-10 ■ "SFP Option Feeder" on page 10-35 ■ "Map 10 - MFP Optional Feeder" on page 10-19 ■ "MFP Option Feeder" on page 10-50

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Does the error still occur when the power is turned Off and On?	Go to step 2.	Complete.
2	Check the connectors of the Motor Subassembly for connection. Check the connections between the Feeder Board and Motor Subassembly. Are P/J422 and P/J4221 connected correctly?	Go to step 4.	Reconnect the connector(s) P/J422 and/or P/J4221 correctly, then go to step 3.
3	Does the error still occur when the power is turned Off and On?	Go to step 4.	Complete.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
4	Check the Tray Motor Harness Assy for continuity. Disconnect J422 from the Feeder Board. Disconnect J4221 from the Motor Subassembly. Is each cable of J422 <=> J4221 continuous?	Go to step 5.	Replace the Tray Motor Harness Assy.
5	Check after resetting the Motor Subassembly. Reseat the Motor Subassembly. Does the error still occur when the power is turned Off and On?	Replace the Optional Feeder. (page 8-167)	Complete.

IOT Remain Option Feeder JAM

Applicable Error Code

- 072-900:

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Tray 2 Path Sensor (Sensor Photo) (PL12.4.13) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6) ■ Tray Comp Harness Assy (PL12.2.20)	■ “Map 5 - SFP Optional Feeder” on page 10-10 ■ “SFP Option Feeder” on page 10-35 ■ “Map 10 - MFP Optional Feeder” on page 10-19 ■ “SFP Option Feeder” on page 10-35 ■ “MFP Option Feeder” on page 10-50

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Using the Printer Diagnostics, test the operation of the Tray 2 Paper Path Sensor: **Engine Diag > Sensor Test > Tray 2 Path Sensor.** Does the number on the screen increase by one, when the actuator (Registration Input Actuator) is operated?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Go to step 2.

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Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
2	Check the connectors for connection. Check the connections between the Feeder Board and Paper Path Sensor. Are P/J420 and P/J4202 connected correctly?	Go to step 3.	Reconnect the connector(s) P/ J420 and/or P/J4202 correctly.
3	Check the Tray Comp Harness Assy for continuity. Disconnect J420 from the Feeder Board. Disconnect J4202 from the Paper Path Sensor. Is each cable of J420 <=> J4202 continuous?	Go to step 4.	Replace the Tray Comp Harness Assy.
4	Check the power to the Paper Path Sensor. Disconnect J420 from the Feeder Board. Is the voltage across P420-6 <=> ground on the Feeder Board, about +3.3 VDC?	Replace the Optional Feeder.	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)

IOT SSF Insert JAM / IOT SSF Paper Pullout JAM / Waiting for reseat paper of SSF

Applicable Error Codes

- 075-101 / 075-102 / 075-923

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Left Side Harness Assy (PL3.1.18) ■ Manual Feed No Paper Sensor (Sensor Photo) (PL3.2.13) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6)	■ “Map 3 - SFP IP Board, LVPS, and Drive” on page 10-8 ■ “Map 4 - SFP MCU Board” on page 10-9 ■ “Map 8 - MFP LVPS, IP Board, and Drive” on page 10-17 ■ “Map 9 - MFP MCU Board and HVPS” on page 10-18 ■ “SFP Media Feed” on page 10-27 ■ “MFP Media Feed” on page 10-40

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the customer operation. Did the customer insert the paper to the Manual Feed slot during print?	After print completion, insert the paper to the Manual Feed slot.	Go to step 2.
2	Perform the procedure “Manual Feed Sensor” on page 4-20 to check operation of the Manual Feed No Paper Sensor. Does the number on the screen increase by one when you insert paper?	Go to step 3.	Go to step 4.
3	Check the error. Does the error still occur when printing?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Complete.
4	Check the connections between the MCU Board and Manual Feed No Paper Sensor. Are P/J23 and P/J233 connected correctly?	Go to step 6.	Reconnect the connector(s) P/J23 and/or P/J233 correctly, then go to step 5.
5	Does the error still occur when printing?	Go to step 6.	Complete.
6	Check the Left Side Harness Assy for continuity. Disconnect J23 from the MCU Board. Disconnect J233 from the Manual Feed No Paper Sensor. Is each cable of J23 <=> J233 continuous?	Go to step 7.	Replace the Left Side Harness Assy. (PL 3.1.18)
7	Check the power to the Manual Feed No Paper Sensor. Disconnect J23 from the MCU Board. Is the voltage across P23-6 <=> ground on the MCU Board about +3.3 VDC?	Go to step 8.	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)
8	Check the voltage across J23-8 <=> ground on the MCU Board. Remove the Lower Chute Assembly (page 8-84; PL3.2.27) to check the operation of the Manual Feed No Paper Sensor. Does the voltage change when you operate the Manual Feed Actuator?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Replace the Manual Feed No Paper Sensor.

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IOT Regi On early JAM

Applicable Error Code

- 077-100

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Left Side Harness Assy (PL3.1.18) ■ Registration Input Actuator (PL3.2.11) ■ Registration Sensor (Sensor Photo) (PL3.2.13) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6) ■ Feeder Assy. (PL 3.1.98) ■ Drive Clutch Assy. (PL 3.1.97)	■ "Map 3 - SFP IP Board, LVPS, and Drive" on page 10-8 ■ "Map 4 - SFP MCU Board" on page 10-9 ■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17 ■ "Map 9 - MFP MCU Board and HVPS" on page 10-18 ■ "SFP Media Feed" on page 10-27 ■ "MFP Media Feed" on page 10-40

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the error. Replace to known good paper. Does the error still occur when printing?	Go to step 2.	Complete.
2	Open the Front Cover and check the Registration Rollers. Is the metal roller pressed against the rubber roller by the spring pressure?	Go to step 3.	Replace Feeder Assy. (SFP, page 8-72; MFP, page 8-73).
3	Perform the first part of the procedure "Registration Clutch" on page 4-33 to check the Registration Clutch. Do you hear a click when the clutch is energized?	Go to step 4.	Replace the Drive Clutch Assy. (page 8-48).
4	Perform the procedure "Registration Sensor" on page 4-22 to check operation of the Registration Sensor. Does the number on the screen increase by one when you operate the actuator?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Go to step 5.
5	Check the connections between the MCU Board and Registration Sensor. Are P/J23 and P/J232 connected correctly?	Go to step 6.	Reconnect P/J23 and/or P/J232.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
6	Remove the Lower Chute Assembly (page 8-84; PL3.2.27) to check the shape and operation of the Registration Input Actuator (PL3.2.11). Are the shape and operation normal?	Go to step 7.	Reseat the Registration Input Actuator. (page 8-77) If broken or deformed, replace it.
7	Check the Left Side Harness Assy for continuity. Disconnect J23 from the MCU Board and J232 from the Registration Sensor. Is each cable of J23 <=> J232 continuous?	Go to step 8.	Replace the Left Side Harness Assy. (PL 3.1.18)
8	Check the power to the Registration Sensor. Disconnect J23 from the MCU Board. Is the voltage across P23-3 <=> ground on the MCU Board, about +3.3 VDC?	Go to step 9.	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)
9	Remove the Lower Chute Assembly (PL3.2.27) to check the operation of the Registration Sensor. Check the voltage across J23-5 <=> ground on the MCU Board. Does the voltage change, when you operate the Registration Input Actuator?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Replace the Registration Sensor (page 8-80)

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IOT Regi OFF Jam

Applicable Error Code

- 077-101

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Cassette Assy 250 (PL2.1.1) ■ Separator Holder Assy (PL2.1.5) ■ Drive Clutch and Regi Bearing Kit (PL3.1.97) ■ Feeder Assy (PL3.1.98) ■ Feed Solenoid Kit (PL3.1.99) ■ Left Side Harness Assy (PL3.1.18) ■ Feed Roller Assy (PL3.2.4) ■ Regi Roller Actuator (PL3.2.8) ■ Registration Input Actuator (PL3.2.11) ■ Registration Sensor (Sensor Photo) (PL3.2.13) ■ Main Drive Assy (PL7.1.2) ■ Feed Drive Assembly (PL7.1.4) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6)	■ “Map 3 - SFP IP Board, LVPS, and Drive” on page 10-8 ■ “Map 4 - SFP MCU Board” on page 10-9 ■ “Map 8 - MFP LVPS, IP Board, and Drive” on page 10-17 ■ “Map 9 - MFP MCU Board and HVPS” on page 10-18 ■ “SFP Media Feed” on page 10-27 ■ “SFP Main Drive” on page 10-28 ■ “MFP Media Feed” on page 10-40 ■ “MFP Main Drive” on page 10-41

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the paper condition. Is the paper in Tray 1 wrinkled or damaged?	Replace the paper with a new and dry one, then go to step 2.	Go to step 3.
2	Does the error still occur when printing?	Go to step 3.	Complete.
3	Reload new paper in Tray 1. Does the error still occur when printing?	Go to step 4.	Complete.
4	Check the Front Cover for latching. Open and close the Front Cover, and then latch correctly. Does the error still occur when printing?	Go to step 5.	Complete.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
5	Perform the procedure “Main Drive Assembly” on page 4-29 to check the Main Motor (Main Drive Assy) for operation. Does the Main Motor (Main Drive Assy) operate properly?	Go to step 6.	Go to step 18.
6	Perform the procedure “Registration Clutch” on page 4-33 to check the Feed Drive Assembly for operation. Do the Feed Roller Assy, Regi Roller Assy and Regi Metal Roller rotate properly?	Go to step 7.	Reseat or replace the Feed Drive Assembly. (page 8-117)
7	Check the paper feeding position. Is the paper not fed from Tray 1?	Go to step 8.	Go to step 12.
8	Reset the Guide Sides and End Guide, and reseat Tray 1 correctly in the printer . Does the error still occur when printing?	Go to step 9.	Complete.
9	Check the Separator Holder Assy on Tray 1 for shape and rotation. Pull Tray 1 out from the printer. Is the Separator Holder Assy not contaminated and/or damaged, and rotated smoothly?	Go to step 10.	Replace the Separator Holder Assy. (page 8-6)
10	Check the Feed Roller Assy for shape and rotation. Pull Tray 1 out from the printer. Is the Feed Roller Assy not contaminated and/or damaged, and rotated smoothly?	Go to step 11.	Replace the Feed Roller Assy. (page 8-9)
11	Perform the procedure “Tray 1 Feed Solenoid” on page 4-34 to check the Tray 1 Feed Solenoid for operation. Does the Tray 1 Feed Solenoid operate properly?	Replace the Cassette Assy 250. (Parts List 2.1 Tray 1)	Go to step 20.
12	Check the paper lead edge staying position. Does the paper lead edge stay before the Regi Roller Assy and Regi Metal Roller?	Go to step 13.	The paper lead edge stay after the Regi Roller Assy and Regi Metal Roller, then go to step 16.
13	Check the paper transfer path between the Feed Roller Assy and Regi Roller Assy. Are there any obstacles on the paper transfer path?	Remove the obstacles or stains from the paper transfer path.	Go to step 14.

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Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
14	Perform the procedure "Registration Sensor" on page 4-22 to check the Registration Sensor for operation. Does the number on the screen increase by one, when you operate the Registration Input Actuator?	Go to step 15.	Go to step 24.
15	Remove the Lower Chute Assembly (page 8-84; PL3.2.27) to check the shape and operation of the Registration Input Actuator. Are the shape and operation normal?	Go to step 16.	Reseat the Registration Input Actuator. (page 8-77) If broken or deformed, replace it.
16	Perform the procedure "Registration Clutch" on page 4-33 to check the Registration Clutch (Drive Clutch Assy) for operation, and Regi Roller Assy and Regi Metal Roller for rotation. Does the Registration Clutch (Drive Clutch Assy) operate properly, and the Regi Roller Assy and Regi Metal Roller rotate?	Go to step 17.	Go to step 18.
17	Remove the Lower Chute Assembly (page 8-84; PL3.2.27) to check the shape and operation of the Regi Roller Actuator. Are the shape and operation normal?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Reseat the Regi Roller Actuator. If broken or deformed, replace the Feeder Assy (SFP, page 8-72; MFP, page 8-73).
18	Check the connectors for connection. Check the connections between the MCU Board and Main Drive Assy (Main Motor). Are P/J21 and P/J211 connected correctly?	Go to step 19.	Reconnect the connector(s) P/J21 and/or P/J211 correctly.
19	Check the power to the Main Drive Assy. Disconnect J21 from the MCU Board. Are the voltages across J21-2/J21-4 <=> ground on the MCU Board, about +24 VDC when the interlock switch (Interlock Harness Assy) is pushed?	Replace the Main Drive Assy. (page 8-114)	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
20	Check the connectors of the Feed Solenoid for connection. Check the connections between the MCU Board and Feed Solenoid. Are P/J23 and P/J231 connected correctly?	Go to step 21.	Reconnect the connector(s) P/J23 and/or P/J231 correctly.
21	Check the Left Side Harness Assy for continuity. Disconnect J23 from the MCU Board. Disconnect P231 from the Feed Solenoid. Is each cable of J23 <=> P231 continuous?	Go to step 22.	Replace the Left Side Harness Assy. (PL 3.1.18)
22	Check the power to the Feed Solenoid. Disconnect J23 from the MCU Board. Is the voltage across P23-1 <=> ground on the MCU Board, about +24 VDC when the Interlock Switch (Interlock Harness Assy) is pushed?	Go to step 24.	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)
23	Check the Feed Solenoid for resistance. Disconnect P/J231 of the Feed Solenoid. Is the resistance across J231-1 and J231-2 about 96 ohm?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Replace the Feed Solenoid Kit. (page 8-176)
24	Check the connections between the MCU Board and Registration Sensor. Are P/J23 and P/J232 connected correctly?	Go to step 25.	Reconnect the connector(s) P/J23 and/or P/J232 correctly.
25	Check the Left Side Harness Assy for continuity. Disconnect J23 from the MCU Board. Disconnect J232 from the Registration Sensor. Is each cable of J23 <=> J232 continuous?	Go to step 26.	Replace the Left Side Harness Assy. (PL 3.1.18)
26	Check the power to the Registration Sensor. Disconnect J23 from the MCU Board. Is the voltage across P23-3 <=> ground on the MCU Board, about +3.3 VDC?	Go to step 27.	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)

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Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
27	Check the voltage across J23-5 <=> ground on the MCU Board. Remove the Lower Chute Assembly (page 8-84; PL3.2.27) to check the operation of the Registration Sensor. Does the voltage change when you operate the Registration Input Actuator?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Replace the Registration Sensor (page 8-80)

IOT Exit On JAM / IOT Exit On early JAM / IOT Stop Reservation JAM

Applicable Error Codes

- 077-102 / 077-103 / 077-106

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Cassette Assy 250 (PL2.1.1) ■ Separator Holder Assy (PL2.1.5) ■ Feeder Assy (PL3.1.98) ■ Drive Clutch and Regi Bearing Kit (PL3.1.97) ■ Feed Solenoid Kit (PL3.1.99) ■ Left Side Harness Assy (PL3.1.18) ■ Feed Roller Assy (PL3.2.4) ■ Registration Input Actuator (PL3.2.11) ■ Registration Sensor (Sensor Photo) (PL3.2.13) ■ Main Drive Assy (PL7.1.2) ■ Feed Drive Assembly (PL7.1.4) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6)	■ “Map 3 - SFP IP Board, LVPS, and Drive” on page 10-8 ■ “Map 4 - SFP MCU Board” on page 10-9 ■ “Map 8 - MFP LVPS, IP Board, and Drive” on page 10-17 ■ “Map 9 - MFP MCU Board and HVPS” on page 10-18 ■ “SFP Media Feed” on page 10-27 ■ “SFP Main Drive” on page 10-28 ■ “MFP Media Feed” on page 10-40 ■ “MFP Main Drive” on page 10-41

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the paper condition. Is the paper in Tray 1 wrinkled or damaged?	Replace the paper with a new and dry one, then go to step 2.	Go to step 3.
2	Does the error still occur when printing?	Go to step 3.	Complete.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
3	Reload new paper in Tray 1. Does the error still occur when printing?	Go to step 4.	Complete.
4	Check the Front Cover for latching. Open and close the Front Cover, and then latch correctly. Does the error still occur when printing?	Go to step 5.	Complete.
5	Perform the procedure "Main Drive Assembly" on page 4-29 to check Main Motor operation. Does the Main Motor (Main Drive Assy) operate properly?	Go to step 6.	Go to step 18.
6	Perform the procedure "Registration Clutch" on page 4-33 to check the Feed Drive Assembly for operation. Do the Feed Roller Assy, Regi Roller Assy and Regi Metal Roller rotate properly?	Go to step 7.	Reseat or replace the Feed Drive Assembly. (page 8-117)
7	Check the paper feeding position. Is the paper not fed from Tray 1?	Go to step 8.	Go to step 12.
8	Reset the Guide Sides and End Guide, and reseat Tray 1 to the printer correctly. Does the error still occur when printing?	Go to step 9.	Complete.
9	Pull Tray 1 out to check the Separator Holder Assy for shape and rotation. Is the Separator Holder Assy free of contamination and/or damage, and does it rotate smoothly?	Go to step 10.	Replace the Separator Holder Assy. (page 8-6)
10	Check the Feed Roller Assy for shape and rotation. Pull Tray 1 out from the printer. Is the Feed Roller Assy not contaminated and/or damaged, and rotated smoothly?	Go to step 11.	Replace the Feed Roller Assy. (page 8-9)
11	Perform the procedure "Tray 1 Feed Solenoid" on page 4-34 to check the Tray 1 Feed Solenoid for operation. Does the Tray 1 Feed Solenoid operate properly?	Replace the Cassette Assy 250. (Parts List 2.1 Tray 1.)	Go to step 20.

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Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
12	Check the paper lead edge staying position. Does the paper lead edge stay before the Regi Roller Assy and Regi Metal Roller?	Go to step 13.	The paper lead edge stays after the Regi Roller Assy and Regi Metal Roller, then go to step 16.
13	Check the paper transfer path between the Feed Roller Assy and Regi Roller Assy. Are there any obstacles on the paper transfer path?	Remove the obstacles or stains from the paper transfer path.	Go to step 14.
14	Remove the Lower Chute Assembly (page 8-84; PL3.2.27) to check the shape and operation of the Registration Input Actuator. Are the shape and operation normal?	Go to step 15.	Reseat the Registration Input Actuator. (page 8-77) If broken or deformed, replace it.
15	Perform the procedure “Registration Sensor” on page 4-22 to check the Registration Sensor for operation. Does the number on the screen increase by one when you operate the Registration Input Actuator?	Go to step 16.	Go to step 24.
16	Perform the procedure “Registration Clutch” on page 4-33 to check the Registration Clutch (Drive Clutch Assy) for operation, and Regi Roller Assy and Regi Metal Roller for rotation. Does the Registration Clutch (Drive Clutch Assy) operate properly, and the Regi Roller Assy and Regi Metal Roller rotate?	Go to step 17.	Go to step 19.
17	Remove the Lower Chute Assembly (page 8-84; PL3.2.27) to check the shape and operation of the Regi Roller Actuator. Are the shape and operation normal?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Reseat the Regi Roller Actuator. If broken or deformed, replace the Feeder Assy (SFP, page 8-72; MFP, page 8-73).
18	Check the connections between the MCU Board and Main Drive Assy (Main Motor). Are P/J21 and P/J211 connected correctly?	Go to step 19.	Reconnect the connector(s) P/J21 and/or P/J211 correctly.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
19	Disconnect J21 from the MCU Board. Are the voltages across J21-2/J21-4 <=> ground on the MCU Board, about +24 VDC when the interlock switch (Interlock Harness Assy) is pushed?	Replace the Main Drive Assy. (page 8-114)	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)
20	Check the connections between the MCU Board and Feed Solenoid. Are P/J23 and P/J231 connected correctly?	Go to step 21.	Reconnect the connector(s) P/J23 and/or P/J231 correctly.
21	Check the Left Side Harness Assy for continuity. Disconnect J23 from the MCU Board. Disconnect P231 from the Feed Solenoid. Is each cable of J23 <=> P231 continuous?	Go to step 22.	Replace the Left Side Harness Assy. (PL 3.1.18)
22	Check the power to the Feed Solenoid. Disconnect J23 from the MCU Board. Is the voltage across P23-1 <=> ground on the MCU Board, about +24 VDC when the Interlock Switch (Interlock Harness Assy) is pushed?	Go to step 23.	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)
23	Check the Feed Solenoid resistance. Disconnect P/J231 of the Feed Solenoid. Is the resistance across J231-1 and J231-2 about 96 ohm?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Replace the Feed Solenoid. (page 8-176)
24	Check the connections between the MCU Board and Registration Sensor. Are P/J23 and P/J232 connected correctly?	Go to step 25.	Reconnect the connector(s) P/J23 and/or P/J232 correctly.
25	Check the Left Side Harness Assy for continuity. Disconnect J23 from the MCU Board. Disconnect J232 from the Registration Sensor. Is each cable of J23 <=> J232 continuous?	Go to step 26.	Replace the Left Side Harness Assy. (PL 3.1.18)
26	Disconnect J23 from the MCU Board. Is the voltage across P23-3 <=> ground on the MCU Board, about +3.3 VDC?	Go to step 27.	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)

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Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
27	Check the voltage across J23-5 <=> ground on the MCU Board. Remove the Lower Chute Assembly (page 8-84; PL3.2.27) to check the operation of the Registration Sensor. Does the voltage change when you operate the Registration Input Actuator?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Replace the Registration Sensor (page 8-80)

IOT Exit Off JAM / IOT Exit Off early JAM

Applicable Error Codes

- 077-104 / 077-105

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser Assy (PL6.1.1) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6) ■ Fuser Harness Assy (PL6.1.2) ■ Feeder Assy. (PL 3.1.98) ■ Drive Clutch Assy. (PL 3.1.97)	■ “Map 1 - SFP Print Engine” on page 10-6 ■ “Map 6 - MFP Print Engine” on page 10-15 ■ “SFP Fuser” on page 10-33 ■ “MFP Fuser” on page 10-46

Warning

To avoid possible burns, allow the Fuser Assy to cool before beginning the procedure.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the error. Replace to known good paper. Does the error still occur when printing?	Go to step 2.	Complete.
2	Perform the procedure “Exit Sensor” on page 4-23 to check the Exit Sensor operation. Does the number on the screen increase by one, when you operate the Exit Sensor actuator in the Fuser Assy?	Go to step 7.	Go to step 3.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
3	Check the connectors of the Exit Sensor in the Fuser Assy for connection. Check the connections between the MCU Board and Fuser Assy. Are P/J17 and P/J171 connected correctly?	Go to step 4.	Reconnect the connector(s) P/J17 and/or P/J171 correctly.
4	Check the Fuser Harness Assy for continuity. Remove the Fuser Assy. Disconnect J17 from the MCU Board. Is each cable of J17 <=> P171 continuous? NOTE: P171 is attached to the frame.	Go to step 5.	Replace the Fuser Harness Assy.
5	Check the power to the Exit Sensor in the Fuser Assy. Disconnect the connector of J17 on the MCU Board. Is the voltage across J17-1 <=> ground on the MCU Board, about +3.3 VDC?	Go to step 6.	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)
6	Check the Exit Sensor for operation. Check the voltage across J17-3 <=> ground on the MCU Board. Does the voltage change, when the actuator of the Exit Sensor is operated?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Replace the Fuser Assy. (page 8-10) After replacing the Fuser, be sure to reset the Fuser counter.
7	Open the Front Cover and check the Registration Rollers. Is the metal roller pressed against the rubber roller by the spring pressure?	Go to step 8.	Replace Feeder Assy. (SFP, page 8-72; MFP, page 8-73).
8	Perform the first part of the procedure “Registration Clutch” on page 4-33 to check the Registration Clutch. Do you hear a click when the clutch is energized?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Replace the Drive Clutch Assy. (page 8-48).

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IOT Duplex Misfeed JAM / IOT Duplex JAM

Applicable Error Codes

- 077-107 / 077-108

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Left Side Harness Assy (PL3.1.18) ■ Option Harness Assy (PL3.1.20) ■ Regi Roller Assy (PL3.2.9) ■ Regi Metal Roller (PL3.2.10) ■ Duplex Roller Assy (PL11.2.9) ■ Registration Sensor (Sensor Photo) (PL3.2.13) ■ Fuser Assy (PL6.1.1) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6) ■ Duplex Unit (PL11.1.1)	■ "Map 1 - SFP Print Engine" on page 10-6 ■ "Map 2 - SFP Laser Unit and Feeder" on page 10-7 ■ "Map 4 - SFP MCU Board" on page 10-9 ■ "Map 6 - MFP Print Engine" on page 10-15 ■ "Map 7 - MFP Laser Unit and Feeder" on page 10-16 ■ "Map 9 - MFP MCU Board and HVPS" on page 10-18 ■ "SFP Media Feed" on page 10-27 ■ "SFP Fuser" on page 10-33 ■ "MFP Media Feed" on page 10-40 ■ "MFP Fuser" on page 10-46 ■ "SFP Duplex Unit" on page 10-36 ■ "MFP Duplex Unit" on page 10-51

Warning

To avoid possible burns, allow the Fuser Assy to cool before beginning the procedure.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Front Cover for latching. Open and close the Front Cover, then check the latching. Does the error still occur when printing?	Go to step 2.	Complete.
2	Check after resetting the Fuser Assy. Reseat the Fuser Assy. Does the error still occur when printing?	Go to step 3.	Complete.
3	Reseat the Duplex Unit. Does the error still occur when printing?	Go to step 4.	Complete.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
4	Perform the procedure “Duplex Exit Motor” on page 4-39 to check the Exit Drive Assy operation. Does the Exit Drive Assy operate properly?	Go to step 5.	Replace the Duplex Unit. (page 8-162).
5	Perform the procedure “Duplex Motor” on page 4-41 to check the Duplex Drive Assy operation. Does the Duplex Drive Assy operate properly?	Go to step 6.	Replace the Duplex Unit. (page 8-162).
6	Perform the procedure “Duplex Clutch” on page 4-40 to check the Duplex Clutch operation. Does the Duplex Clutch operate properly?	Go to step 7.	Replace the Duplex Unit. (page 8-162).
7	Perform the procedure “Registration Sensor” on page 4-22 to check the Registration Sensor for operation. Does the number on the screen increase by one when you operate the Registration Input Actuator?	Go to step 8.	Go to step 10.
8	Turn the Duplex Roller Assy with your finger to check for shape and operation. Is the Duplex Roller Assy seated correctly? Also, is it free of contamination and/or damage, and does it rotate smoothly?	Go to step 9.	Replace Duplex Unit. (page 8-162)
9	Check the Option Harness Assy for continuity Disconnect J27 from MCU Board. Disconnect P272 from Option Harness Assy. Is each cable of J27 <=> P272 continuous?	Go to step 14.	Replace Option Harness Assy.
10	Check the connections between the MCU Board and Registration Sensor. Are P/J23 and P/J232 connected correctly?	Go to step 11.	Reconnect P/J23 and/or P/J232 correctly.
11	Check the Left Side Harness Assy for continuity. Disconnect J23 from the MCU Board. Disconnect J232 from the Registration Sensor. Is each cable of J23 <=> J232 continuous?	Go to step 12.	Replace the Left Side Harness Assy. (PL 3.1.18)

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Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
12	Disconnect J23 from the MCU Board and measure the voltage across P23-3 <=> ground on the MCU Board. Is the voltage about +3.3 VDC?	Go to step 13.	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)
13	Check the voltage across P23-5 <=> ground on the MCU Board. Remove the Lower Chute Assembly (page 8-84; PL3.2.27) to check the operation of the Registration Sensor. Does the voltage change when you operate the Registration Input Actuator?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Replace the Registration Sensor.
14	Check after replacing Duplex Unit. Replace Duplex Unit. (page 8-162) Does the error still occur when printing?	Go to step 15.	Complete.
15	Check after replacing Fuser Assy. Replace Fuser Assy. Does the error still occur when printing? NOTE: After replacement, be sure to clear life counter value.	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Complete.

IOT Duplexer Failure

Applicable Error Code

- 077-215

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Option Harness Assy (PL3.1.20) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6) ■ Duplex Harness Assy (PL11.1.14) ■ Duplex Unit (PL11.1.1)	■ “Map 1 - SFP Print Engine” on page 10-6 ■ “Map 6 - MFP Print Engine” on page 10-15 ■ “Map 11 - Duplex Unit” on page 10-20 ■ “SFP Duplex Unit” on page 10-36 ■ “MFP Duplex Unit” on page 10-51

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Option Duplex for installation. Is the Option Duplex installed correctly?	Go to step 3.	Reseat the Option Duplex, then go to step 2.
2	Does the error still occur when the power is turned Off and On?	Go to step 3.	Complete.
3	Check the connections between the Duplex Board and MCU Board. Are P/J27, P/J271, P/J272 and P/J 601 connected surely?	Go to step 5.	Reconnect the connector(s) securely, then go to step 4.
4	Does the error still occur when the power is turned Off and On?	Go to step 5.	Complete.
5	Check the Duplex Harness Assy for continuity. Disconnect P/J601 from the Duplex Board. Disconnect P/J271 from the Option Harness Assy. Is each cable of P/J601 <=> P/J271 continuous?	Go to step 6.	Replace the Duplex Harness Assy.
6	Check the Option Harness Assy for continuity. Disconnect P/J27 from the MCU Board. Disconnect P/J 271 from the HARNESS ASSY DUP. Is each cable of P/J27<=> P/J271 continuous?	Go to step 7.	Replace the Option Harness Assy.
7	Check after replacing the Duplex Unit. Replace the Duplex Unit. (page 8-162) Does the error still occur when the power is turned Off and On?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Complete.

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IOT Cover Front Open

Applicable Error Code

- 077-300

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Front Cover (SFP PL1.2.1; MFP PL1.2.1) ■ LVPS (SFP PL8.2.1; MFP PL8.2.12) ■ Harn Assy Interlock (SFP PL 8.2.5; MFP PL8.1.1) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6) ■ LVPS Main Harness Assy (PL9.1.3)	■ "Map 3 - SFP IP Board, LVPS, and Drive" on page 10-8 ■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17 ■ "SFP LVPS" on page 10-26 ■ "MFP LVPS" on page 10-39

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Front Cover (Front Cover) for shape. Are there any damages on the Front Cover?	Replace the Front Cover. (SFP, page 8-22; MFP, page 8-33)	Go to step 2.
2	Check the Front Cover for latching. Open and close the Front Cover. Is the Front Cover latched correctly?	Go to step 3.	Reseat or replace the Front Cover. (SFP, page 8-22; MFP, page 8-33)
3	Perform the procedure "Cover Open Sensor (Interlock Switch)" on page 4-26 to check the Interlock Switch operation. Does the number on the screen increase by one, when the Front Cover is closed and opened?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Go to step 4.
4	Check the connectors for connection. Check the connections between MCU Board and LVPS. Are P/J14 and P/J501 connected correctly?	Go to step 6.	Reconnect the connector(s) P/J14 and/or P/J501 correctly, then go to step 5.
5	Does the error still occur when the power is turned Off and On?	Go to step 6.	Complete.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
6	Check the LVPS Main Harness Assy for continuity. Disconnect J14 from the MCU Board. Disconnect J501 from the LVPS. Is each cable of J14 <=> J501 continuous?	Go to step 7.	Replace the LVPS Main Harness Assy.
7	Check the power to the Interlock Switch Disconnect the connector of J44 on the LVPS. Is the voltage across P44-1 <=> ground on the LVPS, about +24 VDC?	Go to step 8.	Replace the LVPS (SFP, page 8-124; MFP, page 8-145)
8	Check the Interlock Switch for operation Check the voltage across P44-3 <=> ground on the LVPS. Does the voltage change, when the Interlock Switch is turned On/Off?	Replace the LVPS (SFP, page 8-124; MFP, page 8-145)	Replace the Interlock Harness Assy. (SFP, page 8-125; MFP, page 8-146)

IOT Side Cover Open

Applicable Error Code

- 077-301

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Toner Door (SFP PL1.1.7;MFP PL1.1.7) ■ Toner Door Switch (PL5.1.9) ■ Toner Dispenser Assembly (PL5.1.1) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6)	■ “Map 1 - SFP Print Engine” on page 10-6 ■ “Map 3 - SFP IP Board, LVPS, and Drive” on page 10-8 ■ “Map 6 - MFP Print Engine” on page 10-15 ■ “Map 8 - MFP LVPS, IP Board, and Drive” on page 10-17 ■ “SFP LVPS” on page 10-26 ■ “MFP LVPS” on page 10-39

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Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Toner Door for shape. Are there any damages on the Toner Door?	Replace the Toner Door. (SFP, page 8-21; MFP, page 8-42)	Go to step 2.
2	Check the Toner Door for latching. Open and close the Toner Door. Is the Toner Door latched correctly?	Go to step 3.	Replace the Toner Door. (SFP, page 8-21; MFP, page 8-42)
3	Check the Toner Door Switch (PL5.1.9) for operation. In the Printer Diagnostic tests, use **Engine Diag > Sensor Test > Side Switch.** Does the number on the screen increase by one, when the Toner Door is closed and opened?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Go to step 4.
4	Check the Toner Door Switch Harness for continuity. Disconnect J29 from the MCU Board. Disconnect J291 from the Toner Door Switch. Is each cable of J29 <=> J291 continuous?	Go to step 5.	Replace the Toner Dispenser Assembly. (SFP, page 8-98; MFP, page 8-104)
5	Replace the Toner Door Switch. (SFP, page 8-135; MFP, page 8-150) Does the error still occur when the power is turned Off and On?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Complete.

IOT Exit JAM

Applicable Error Code

- 077-900

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser Assy (PL6.1.1) ■ Fuser Harness Assy (PL6.1.2) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6)	■ "Map 1 - SFP Print Engine" on page 10-6 ■ "Map 4 - SFP MCU Board" on page 10-9 ■ "Map 6 - MFP Print Engine" on page 10-15 ■ "Map 9 - MFP MCU Board and HVPS" on page 10-18 ■ "SFP Fuser" on page 10-33 ■ "MFP Fuser" on page 10-46

Warning

To avoid possible burns, allow the Fuser Assy to cool before beginning the procedure.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check paper feeding Was paper fed from the Manual Feed slot?	Go to step 2.	Go to step 4.
2	Was the paper inserted straight into the Manual Feed slot and not at an angle?	Go to step 4.	Insert paper straight into the Manual Feed slot, and go to step 3.
3	Does the error still occur when printing?	Go to step 4.	Complete.
4	Check the paper condition Is the paper wrinkled or damaged?	Replace with new, dry paper, then go to step 5.	Go to step 6.
5	Does the error still occur when printing?	Go to step 7.	Complete.
6	Reload with new paper. Does the error still occur when printing?	Go to step 7.	Complete.

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Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
7	Open and close the Front Cover, and then latch correctly. Does the error still occur when printing?	Go to step 8.	Complete.
8	Check the Fuser Assy Does any paper and/or foreign substance remain in the Fuser Assy?	Remove the paper and/or substance, then go to step 9.	Go to step 9.
9	Reseat the Fuser Assy. Does the error still occur when printing?	Go to step 10.	Complete.
10	Perform the procedure “Exit Sensor” on page 4-23 to check the Exit Sensor operation. Does the number on the screen increase by one, when you operate the Exit Sensor actuator in the Fuser Assy?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Go to step 11.
11	Check the connections between the MCU Board and Fuser Assy. Are P/J17 and P/J171 connected correctly?	Go to step 12.	Reconnect the connector(s) P/J17 and/or P/J171 correctly.
12	Check the Fuser Harness Assy continuity. Remove the Fuser Assy. Disconnect J17 from the MCU Board. Is each cable of J17 <=> P171 continuous? NOTE: P171 is attached to the frame.	Go to step 13.	Replace the Fuser Harness Assy.
13	Check the power to the Exit Sensor in the Fuser Assy. Disconnect the connector of J17 on the MCU Board. Is the voltage across J17-1 <=> ground on the MCU Board, about +3.3 VDC?	Go to step 14.	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)
14	Check the Exit Sensor operation. Check the voltage across J17-3 <=> ground on the MCU Board. Does the voltage change, when the actuator of the Exit Sensor is operated?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Replace the Fuser Assy. (page 8-10) After replacing the Fuser, be sure to reset the Fuser counter.

IOT Remain Registration JAM

Applicable Error Code

- 077-901

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Left Side Harness Assy (PL3.1.18) ■ Registration Input Actuator (PL3.2.11) ■ Registration Sensor (Sensor Photo) (PL3.2.13) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6) ■ Feeder Assy. (PL 3.1.98) ■ Drive Clutch Assy. (PL 3.1.97)	■ “Map 2 - SFP Laser Unit and Feeder” on page 10-7 ■ “Map 4 - SFP MCU Board” on page 10-9 ■ “Map 7 - MFP Laser Unit and Feeder” on page 10-16 ■ “Map 9 - MFP MCU Board and HVPS” on page 10-18 ■ “SFP Media Feed” on page 10-27 ■ “MFP Media Feed” on page 10-40

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the error. Replace to known good paper. Does the error still occur when printing?	Go to step 2.	Complete.
2	Open the Front Cover and check the Registration Rollers. Is the metal roller pressed against the rubber roller by the spring pressure?	Go to step 3.	Replace Feeder Assy. (SFP, page 8-72; MFP, page 8-73).
3	Perform the first part of the procedure “Registration Clutch” on page 4-33 to check the Registration Clutch. Do you hear a click when the clutch is energized?	Go to step 4.	Replace the Drive Clutch Assy. (page 8-48).
4	Perform the procedure “Registration Sensor” on page 4-22 to check the Registration Sensor for operation. Does the number on the screen increase by one when you operate the Registration Input Actuator?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Go to step 5.
5	Remove the Lower Chute Assembly (page 8-84; PL3.2.27) to check the shape and operation of the Registration Input Actuator. Are the shape and operation normal?	Go to step 6.	Reseat the Registration Input Actuator. (page 8-77) If broken or deformed, replace it.

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Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
6	Check the connectors of the for connection. Check the connections between the MCU Board and Registration Sensor. Are P/J23 and P/J232 connected correctly?	Go to step 7.	Reconnect the connector(s) P/J23 and/or P/J232 correctly.
7	Check the Left Side Harness Assy for continuity. Disconnect J23 from the MCU Board. Disconnect J232 from the Registration Sensor. Is each cable of J23 <=> J232 continuous?	Go to step 8.	Replace the Left Side Harness Assy. (PL 3.1.18)
8	Disconnect J23 from the MCU Board and measure the voltage across P23-3 <=> ground on the MCU Board. Is the voltage about +3.3 VDC?	Go to step 9.	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)
9	Check the voltage across P23-5 <=> ground on the MCU Board. Remove the Lower Chute Assembly (page 8-84; PL3.2.27) to check the operation of the Registration Sensor. Does the voltage change when you operate the Registration Input Actuator?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Replace the Registration Sensor (page 8-80)

IOT Remain Duplex JAM

Applicable Error Code

- 077-907

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Left Side Harness Assy (PL3.1.18) ■ Manual Feed No Paper Sensor (Sensor Photo) (PL3.2.13) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6)	■ "Map 2 - SFP Laser Unit and Feeder" on page 10-7 ■ "Map 4 - SFP MCU Board" on page 10-9 ■ "Map 7 - MFP Laser Unit and Feeder" on page 10-16 ■ "Map 9 - MFP MCU Board and HVPS" on page 10-18 ■ "SFP Media Feed" on page 10-27 ■ "MFP Media Feed" on page 10-40

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Perform the procedure "Manual Feed Sensor" on page 4-20 to check operation of the Manual Feed No Paper Sensor. Does the number on the screen increase by one when you insert paper?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Go to step 2.
2	Check the connections between the MCU Board and Manual Feed No Paper Sensor. Are P/J23 and P/J233 connected correctly?	Go to step 3.	Reconnect the connector(s) P/J23 and/or P/J233 correctly.
3	Check the Left Side Harness Assy for continuity. Disconnect J23 from the MCU Board. Disconnect J233 from the Manual Feed No Paper Sensor. Is each cable of J23 <=> J233 continuous?	Go to step 4.	Replace the Left Side Harness Assy. (PL 3.1.18)
4	Check the power to the Manual Feed No Paper Sensor. Disconnect J23 from the MCU Board. Is the voltage across P23-6 <=> ground on the MCU Board, about +3.3 VDC?	Replace the Manual Feed No Paper Sensor.	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)

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IOT PHD Life Pre Warning

Applicable Error Code

- 091-402

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Imaging Unit (PL4.1.21) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6)	—

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the life counter value of the Imaging Unit. Does the life count value show the near of the end?	Replace the Imaging Unit. (page 8-7)	Go to step 2.
2	Reseat the Imaging Unit. Does the error still occur when the power is turned Off and On?	Go to step 3.	Complete.
3	Check after replacing the Imaging Unit. Replace the Imaging Unit. (page 8-7) Caution: Be sure to pull all eight sealing tapes out from a new Imaging Unit before installation. Does the error still occur when the power is turned Off and On?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Complete.

PHD Tape Staying

Applicable Error Code

- 091-912

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Imaging Unit (PL4.1.21) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6)	—

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Turn off the power, and open the Front Cover. Remove the Imaging Unit. Have all eight sealing tapes been removed? After Check, reseat the Imaging Unit correctly.	Go to step 3.	Pull out the sealing tapes, then go to step 2.
2	Does the error still occur when the power is turned Off and On?	Go to step 3.	Complete.
3	Replace the Imaging Unit. (page 8-7) Caution: Be sure to pull all eight sealing tapes out from a new Imaging Unit before installation. Does the error still occur when the power is turned Off and On?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Complete.

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IOT PHD CRUM ID Error

Applicable Error Code

- 091-916

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Imaging Unit (PL4.1.21) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6) ■ PHD XPRO Harn Assy (PL9.1.11)	■ "Map 4 - SFP MCU Board" on page 10-9 ■ "Map 9 - MFP MCU Board and HVPS" on page 10-18 ■ "SFP Xerographics" on page 10-30 ■ "MFP Xerographics" on page 10-43

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Does the error still occur when the power is turned Off and On?	Go to step 2.	Complete.
2	Check the Imaging Unit type. Is the correct Imaging Unit installed?	Go to step 4.	Replace the Imaging Unit, then go to step 3.
3	Does the error still occur when the power is turned Off and On?	Go to step 4.	Complete.
4	Reseat the Imaging Unit. Does the error still occur when the power is turned Off and On?	Go to step 5.	Complete.
5	Are P/J42 and P/J422 connected correctly?	Go to step 7.	Reconnect the connector(s) P/J42 and/or P/J422 securely, then go to step 6.
6	Does the error still occur when the power is turned Off and On?	Go to step 7.	Complete.
7	Check the PHD XPRO Harness Assy for continuity. Disconnect P422 from the Imaging Unit. Disconnect J42 from the MCU Board. Is each cable of P422 <=> J42 continuous?	Go to step 8.	Replace the PHD XPRO Harness Assy. (SFP, page 8-128; MFP, page 8-148)

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
8	Replace the Imaging Unit. (page 8-7) Does the error still occur when the power is turned Off and On?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Complete.

IOT PHD Life Over

Applicable Error Code

- 091-935

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Imaging Unit (PL4.1.21) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6)	■ "Map 4 - SFP MCU Board" on page 10-9 ■ "Map 9 - MFP MCU Board and HVPS" on page 10-18 ■ "SFP Xerographics" on page 10-30 ■ "MFP Xerographics" on page 10-43

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Using Printer Diagnostics, check the life count values of the Imaging Unit: **Printer Diag > Parameter > Life IU (Y, M, C, K) Time, Life IU Xero, Life IU Deve K**. Do the values returned indicate near end-of-life? (Refer to "Maintenance Items" on page 1-15 for Imaging Unit life specifications.)	Replace the Imaging Unit. (page 8-7)	Go to step 2.
2	Reseat the Imaging Unit. Does the error still occur when the power is turned Off and On?	Go to step 3.	Complete.
3	Replace the Imaging Unit. (page 8-7) Caution: Be sure to pull all eight sealing tapes out from a new Imaging Unit before installation. Does the error still occur when the power is turned Off and On?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Complete.

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IOT CRU Waste (YMCK) Full

Applicable Error Codes

- 091-941 / 091-942 / 091-943 / 091-944

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Toner Cartridge (Y) (PL5.1.24) ■ Toner Cartridge (M) (PL5.1.23) ■ Toner Cartridge (C) (PL5.1.22) ■ Toner Cartridge (K) (PL5.1.21) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6)	—

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Replace the Toner Cartridge (Y, M, C or K). (page 8-12) Does the error still occur when the power is turned Off and On?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Complete.

IOT PHD Detached

Applicable Error Code

- 091-972

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Imaging Unit (PL4.1.21) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6) ■ PHD XPRO Harn Assy (PL9.1.11)	■ "Map 4 - SFP MCU Board" on page 10-9 ■ "Map 9 - MFP MCU Board and HVPS" on page 10-18 ■ "SFP Xerographics" on page 10-30 ■ "MFP Xerographics" on page 10-43

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Reseat the Imaging Unit. Does the error still occur when the power is turned Off and On?	Go to step 2.	Complete.
2	Check the connectors between the MCU Board and Imaging Unit. Are P/J42 and P/J422 connected correctly?	Go to step 4.	Reconnect the connector(s) P/J42 and/or P/J422 securely, then go to step 3.
3	Does the error still occur when the power is turned Off and On?	Go to step 4.	Complete.
4	Check the PHD XPRO Harness Assy for continuity. Disconnect P422 from the Imaging Unit. Disconnect J42 from the MCU Board. Is each cable of P422 <=> J42 continuous?	Go to step 5.	Replace the PHD XPRO Harness Assy (SFP, page 8-128; MFP, page 8-148).
5	Check after replacing the Imaging Unit. Replace the Imaging Unit. (page 8-7) Caution: Be sure to pull eight sealing tapes out from a new Imaging Unit before installation. Does the error still occur when the power is turned Off and On?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Complete.

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IOT CTD (ADC) Sensor Error

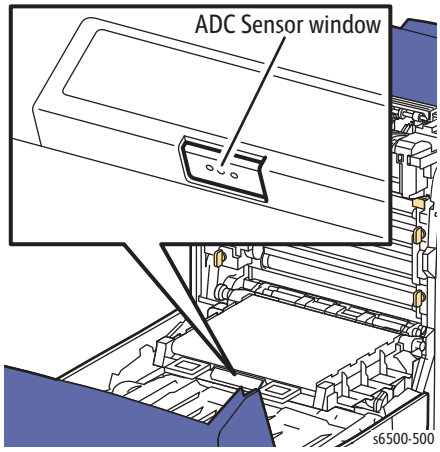
Applicable Error Code

- 092-310

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Imaging Unit (PL4.1.21) ■ Dispenser Assy (PL5.1.1) ■ Motor Frame Assy (PL5.1.2) ■ Dispenser Motor Assy (PL5.1.3) ■ Toner Cartridge (Y) (PL5.1.24) ■ Toner Cartridge (M) (PL5.1.23) ■ Toner Cartridge (C) (PL5.1.22) ■ Toner Cartridge (K) (PL5.1.21) ■ Toner Motor Harness Assy (PL5.1.25) ■ Transfer Belt (PL6.1.7) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6)	■ "Map 4 - SFP MCU Board" on page 10-9 ■ "Map 9 - MFP MCU Board and HVPS" on page 10-18 ■ "SFP Xerographics" on page 10-30 ■ "SFP Toner Dispenser" on page 10-32 ■ "MFP Xerographics" on page 10-43 ■ "MFP Toner Dispenser" on page 10-45

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Is the shipping protection sheet still on the Imaging Unit?	Remove the protection sheet.	Go to step 2.
2	Open the Front Cover and check the ADC Sensor Window. Is the ADC Sensor window dirty? 	Go to step 3.	Go to step 4.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
3	Turn off the power, and gently wipe the ADC Sensor window with a clean dry cloth or cotton swab. After wiping the window, close the Front Cover. Does the error still occur when the power is turned Off and On?	Go to step 4.	Complete.
4	Reseat the Toner Cartridges (Y, M, C and K), and check that the lock key is in the lock position. Does the error still occur when the power is turned Off and On?	Go to step 5.	Complete.
5	Perform the procedure “Toner Motors” on page 4-31to check the Toner Motors (Y, M, C and K) for rotation. Does each Toner Motor function normally?	Go to step 6.	Go to step 7.
6	Check the gears of the Dispenser Assy for shape and operation. Are the shape and operation of the gears of the Dispenser Assy normal?	Go to step 11.	Replace the Dispenser Assy. (SFP, page 8-98; MFP, page 8-104)
7	Check the connectors between the MCU Board and Toner Motors (Y, M, C and K). Are the following connected correctly? ■ P/J18 ■ P/J181(Y) ■ P/J182(M) ■ P/J19 ■ P/J191(C) ■ P/J192(K)	Go to step 9.	Reconnect all the connectors, then go to step 8.
8	Does the error still occur when the power is turned Off and On?	Go to step 9.	Complete.
9	Check the Toner Motor Harness Assy for continuity. Disconnect J18 and J19 from the MCU Board. Disconnect J181(Y)/J182(M)/J191(C)/ J192(K) from the Toner Motors. Is each wire of J18 <=> J181/182 continuous? Is each wire of J19 <=> J191/192 continuous?	Go to step 10.	Replace the Toner Motor Harness Assy.

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Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
10	Check the power to the Dispenser Motor Assy. Disconnect J18 from the MCU Board and measure the voltage across P18-3 <= > ground on the MCU Board. Does the voltage measure about +24 VDC when the interlock switch (Interlock Harness Assy) is pushed?	Replace the Dispenser Assy. (SFP, page 8-98; MFP, page 8-104)	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)
11	Reseat the Imaging Unit. Does the error still occur when the power is turned Off and On?	Go to step 12.	Complete.
12	Replace the Toner Cartridge (Y, M, C or K), and check that the lock key is in the lock position. (page 8-12) Does the error still occur when the power is turned Off and On?	Go to step 13.	Complete.
13	Replace the Imaging Unit. (page 8-7) Does the error still occur when the power is turned Off and On?	Go to step 14.	Complete.
14	Reseat the Transfer Belt. connectors? Does the error still occur when the power is turned Off and On?	Replace the Transfer Belt. (page 8-112)	Complete.

CTD (ADC) Sensor Dustiness Warning / IOT CTD (ADC) Sensor Dustiness

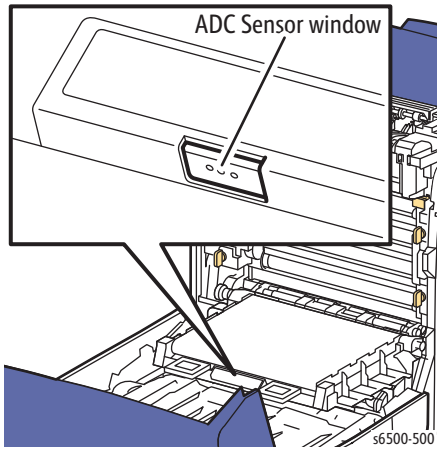
Applicable Error Codes

- 092-410 / 092-910

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Left Side Harness Assy (PL3.1.18) ■ Transfer Belt (PL6.1.7) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6)	■ “Map 4 - SFP MCU Board” on page 10-9 ■ “Map 9 - MFP MCU Board and HVPS” on page 10-18 ■ “SFP Xerographics” on page 10-30 ■ “SFP Toner Dispenser” on page 10-32 ■ “MFP Xerographics” on page 10-43 ■ “MFP Toner Dispenser” on page 10-45 ■

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Turn OFF the power, and gently wipe the ADC Sensor window with a clean dry cloth or cotton swab. After wiping the window, close the Front Cover. Does the error still occur when the power is turned Off and On? 	Go to step 2.	Complete.
2	Check the connectors between the MCU Board and ADC Sensor. Are P/J28 and P/J281connected correctly?	Go to step 4.	Reconnect P/J28 and/or P/J281 correctly, then go to step 3.
3	Does the error still occur when the power is turned Off and On?	Go to step 4.	Complete.

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Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
4	Check the Left Side Harness Assy for continuity. Disconnect J28 from the MCU Board. Disconnect J281 from the Transfer Belt. Is each cable of J28 <=> J281 continuous?	Go to step 5.	Replace the Left Side Harness Assy. (PL 3.1.18)
5	Is surface of the Transfer Belt dirty?	Clean the belt with a clean dry cloth, then go to step 6.	Go to step 7.
6	Does the error still occur when the power is turned Off and On?	Go to step 7.	Complete.
7	Replace the Transfer Belt. (page 8-112) Does the error still occur when the power is turned Off and On?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Complete.

IOT Environment Sensor Error

Applicable Error Code

- 092-661

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Humidity Sensor (SFP PL8.2.7; MFP PL8.1.10) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6) ■ **SFP:** Humidity Harness Assy (PL9.1.6) ■ **MFP:** Left Side Harness Assy (PL 3.1.18)	■ "Map 3 - SFP IP Board, LVPS, and Drive" on page 10-8 ■ "Map 4 - SFP MCU Board" on page 10-9 ■ "Map 8 - MFP LVPS, IP Board, and Drive" on page 10-17 ■ "Map 9 - MFP MCU Board and HVPS" on page 10-18 ■ "SFP Xerographics" on page 10-30 ■ "MFP Xerographics" on page 10-43

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Does the error still occur when the power is turned Off and On?	Go to step 2.	Complete.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
2	Check after resetting the Humidity Sensor. Reseat the Humidity Sensor. Does the error still occur when the power is turned Off and On?	Go to step 3.	Complete.
3	Check the Left Side Harness Assy for continuity. Disconnect J20 from the MCU Board. Disconnect J201 from the Humidity Sensor. Is each cable of J20 <=> J201 continuous?	Go to step 4.	**SFP:** Replace the Humidity Harness Assy. (PL 9.1.6) **MFP:** Replace the Left Side Harness Assy. (PL 3.1.18)
4	Check power to Humidity Sensor. Disconnect the connector of J20 from the MCU Board. Measure the voltage across P20-4 <=> ground on the MCU Board. Does the voltage measure about +5 VDC?	Replace the Humidity Sensor. (SFP, page 8-130; MFP, page 8-153)	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)

IOT Toner Cartridge Near Life

Applicable Error Codes

- 093-423 / 093-424 / 093-425 / 093-426:

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Toner Cartridge (Y) (PL5.1.24) ■ Toner Cartridge (M) (PL5.1.23) ■ Toner Cartridge (C) (PL5.1.22) ■ Toner Cartridge (K) (PL5.1.21) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6)	—

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Replace the Toner Cartridge (Y, M, C or K). (page 8-12) Does the error still occur when the power is turned Off and On?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Complete.

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IOT YMCK Toner Low Density

Applicable Error Codes

- 093-919 / 093-920 / 093-921 / 093-922:

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Imaging Unit (PL4.1.21) ■ Dispenser Assy (PL5.1.1) ■ Motor Frame Assy (PL5.1.2) ■ Dispenser Motor Assy (PL5.1.3) ■ Gear Idler (PL5.1.6) ■ Gear Idler Aug (PL5.1.7) ■ Gear Idler Agi (PL5.1.8) ■ Toner Cartridge (Y) (PL5.1.24) ■ Toner Cartridge (M) (PL5.1.23) ■ Toner Cartridge (C) (PL5.1.22) ■ Toner Cartridge (K) (PL5.1.21) ■ Toner Motor Harness Assy (PL5.1.25) ■ Transfer Belt (PL6.1.7) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6)	■ “Map 4 - SFP MCU Board” on page 10-9 ■ “Map 9 - MFP MCU Board and HVPS” on page 10-18 ■ “SFP Xerographics” on page 10-30 ■ “SFP Toner Dispenser” on page 10-32 ■ “MFP Xerographics” on page 10-43 ■ “MFP Toner Dispenser” on page 10-45

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Toner Type. Is XEROX Toner in use?	Go to step 2.	Go to step 5.
2	Are the sealing tapes still in the Imaging Unit?	Pull the tape out.	Go to step 3.
3	Using Printer Diagnostics, check the life count value of the Toner Cartridges (Y, M, C or K): **Printer Diag > Parameter > Life (Y, M, C, K) Toner**. Does the value returned indicate near end-of-life? (Refer to “Consumables” on page 1-16 for toner life specifications.)	Replace the Toner Cartridge (Y, M, C or K), then go to step 4. (page 8-12)	Go to step 7.
4	Does the error still occur when the power is turned Off and On?	Go to step 7.	Complete.
5	Check the toner remaining in Non-XEROX Toner Cartridges (Y, M, C or K). Is there just a little toner remaining in the Non-XEROX Toner Cartridge?	Replace the Non-XEROX Toner Cartridge, then go to step 6.	Go to step 7.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
6	Does the error still occur when the power is turned Off and On?	Go to step 7.	Complete.
7	Check the sealing tapes for yellow toner of the Imaging Unit staying. Turn off the power, and open the Front Cover. Remove the Imaging Unit. Has the sealing tapes for yellow toner been pulled out? After Check, reseat the Imaging Unit.	Go to step 9.	Pull the sealing tapes out, then go to step 8.
8	Does the error still occur when the power is turned Off and On?	Go to step 9.	Complete.
9	Check after resetting the Toner Cartridge (Y, M, C or K). Remove the Toner Cartridge (Y, M, C or K), and shake it from side to side. Reseat the Toner Cartridge (Y, M, C or K), and check that the lock key is in the lock position. Does the error still occur when the power is turned Off and On?	Go to step 10.	Complete.
10	Perform the procedure “Toner Motors” on page 4-31to check the Toner Motors (Y, M, C and K) for rotation. Does each Toner Motor function normally?	Go to step 11.	Go to step 12.
11	Check the Dispenser Assy gears. Are the gears worn or damaged?	Go to step 16.	Replace the Dispenser Assy. (SFP, page 8-98; MFP, page 8-104)
12	Check the connectors between the MCU Board and Toner Motors (Y, M, C and K). Are the following connected correctly? ■ P/J18 ■ P/J181(Y) ■ P/J182(M) ■ P/J19 ■ P/J191(C) ■ P/J192(K)	Go to step 14.	Reconnect all the connectors, then go to step 8.
13	Does the error still occur when the power is turned Off and On?	Go to step 14.	Complete.

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Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
14	Check the Toner Motor Harness Assy for continuity. Disconnect J18 from the MCU Board. Disconnect J181(Y)/J182(M)/J191(C)/ J192(K) from the DISPENSE MOTOR (YMCK) MOT. Is each cable of J18 <=> J181/182 continuous? or Is each cable of J19 <=> J191/192 continuous?	Go to step 15.	Replace the Toner Motor Harness Assy.
15	Check the power to TNR (Y) MOT (Dispenser Motor Assy). Disconnect J18/J19 from the MCU Board. Is the voltage across P18P/19-3 <= > ground on MCU Board, about +24 VDC when the interlock switch (Interlock Harness Assy) is pushed.	Replace the Dispenser Motor Assy or Motor Frame Assy.	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)
16	Check after replacing the Toner Cartridge (Y, M, C or K). Replace the Toner Cartridge (Y, M, C or K), and check that the handle is in the lock position. (page 8-12) Does the error still occur when the power is turned Off and On?	Go to step 17.	Complete.
17	Check after replacing the Imaging Unit. Replace the Imaging Unit. (page 8-7) Does the error still occur when the power is turned Off and On?	Go to step 18.	Complete.
18	Check after resetting the Transfer Belt. Reseat the Transfer Belt. Does the error still occur when the power is turned Off and On?	Replace the Transfer Belt. (page 8-112)	Complete.

IOT Toner (YMCK) CRUM Comm Error

Applicable Error Codes Code

- 093-925 / 093-950 / 093-951 / 093-952

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Toner Cartridge (Y) (PL5.1.24) ■ Toner Cartridge (M) (PL5.1.23) ■ Toner Cartridge (C) (PL5.1.22) ■ Toner Cartridge (K) (PL5.1.21) ■ CRUM Connector (PL5.1.14) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6) ■ Toner CRUM Harness Assy (PL5.1.26)	■ "Map 1 - SFP Print Engine" on page 10-6 ■ "Map 4 - SFP MCU Board" on page 10-9 ■ "Map 6 - MFP Print Engine" on page 10-15 ■ "Map 9 - MFP MCU Board and HVPS" on page 10-18 ■ "SFP Xerographics" on page 10-30 ■ "SFP Toner Dispenser" on page 10-32 ■ "MFP Xerographics" on page 10-43 ■ "MFP Toner Dispenser" on page 10-45

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Reseat the Toner Cartridge (Y, M, C or K). Does the error still occur when the power is turned Off and On?	Go to step 2.	Complete.
2	Check the connections between the MCU Board and CRUM Connector (Y, M, C or K). Are P/J31 and P/J311(Y) / P/J312 (M) / P/J313(C) / P/J314 (K) seated securely?	Go to step 4.	Reseat the connector(s) securely, then go to step 3.
3	Does the error still occur when the power is turned Off and On?	Go to step 4.	Complete.
4	Check the Toner CRUM Harness Assy for continuity. Disconnect P/J11 from the MCU Board. Disconnect P/J311(Y) / P/J312 (M) / P/J313(C) / P/J314 (K) from the CRUM Connector (YMCK). Is each cable of P/J31 <=> P/J311(Y) / P/J312 (M) / P/ J313(C) / P/J314 (K) continuous?	Go to step 5.	Replace the Toner CRUM Harness Assy.

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Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
5	Check the output power of CRUM Connector (Y, M, C or K). Disconnect P/J31 on the MCU Board. Is the voltage across ground <=> J31-3(Y), -7(M), -11(C), -15(K) on the MCU Board, about +3.3VDC?	Replace the Dispenser Assy. (SFP, page 8-98; MFP, page 8-104)	Go to step 6.
6	Replace the Toner Cartridge (Y, M, C or K). Does the error still occur when the power is turned Off and On?	Replace the MCU Board (SFP, page 8-138; MFP, page 8-160)	Complete.

IOT (YMCK) CRUM ID Error

Applicable Error Codes

- 093-926 / 093-960 / 093-961 / 093-962

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ CRUM Connector (PL5.1.14) ■ Toner Cartridge (Y) (PL5.1.24) ■ Toner Cartridge (M) (PL5.1.23) ■ Toner Cartridge (C) (PL5.1.22) ■ Toner Cartridge (K) (PL5.1.21) ■ Toner CRUM Harness Assy (PL5.1.26) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6)	■ “Map 1 - SFP Print Engine” on page 10-6 ■ “Map 4 - SFP MCU Board” on page 10-9 ■ “Map 6 - MFP Print Engine” on page 10-15 ■ “Map 9 - MFP MCU Board and HVPS” on page 10-18 ■ “SFP Xerographics” on page 10-30 ■ “SFP Toner Dispenser” on page 10-32 ■ “MFP Xerographics” on page 10-43 ■ “MFP Toner Dispenser” on page 10-45

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Close the Toner Door correctly. Does the error still occur when the power is turned Off and On?	Go to step 2.	Complete.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
2	Check the toner type. Is XEROX Toner installed?	Go to step 3.	Verify that the non-Xerox toner in use is compatible with the Phaser 6500/ WorkCentre 6505 printers.
3	Reseat the Toner Cartridge (Y, M, C or K), and check that the lock key is in the lock position. Does the error still occur when the power is turned Off and On?	Go to step 4.	Complete.
4	Replace the Toner Cartridge (Y, M, C or K), and check that the lock key is in the lock position. (page 8-12) Does the error still occur when the power is turned Off and On?	Go to step 5.	Complete.
5	Check the connectors between the MCU Board and CRUM Connector. Are P/J31 and P/J311(Y), P/J312(M), P/J313(C), P/J314(K) connected correctly?	Go to step 7.	Reconnect P/ J31 and/or P/J311 (Y), P/J312 (M), P/J313 (C), P/J314 (K) securely, then go to step 6.
6	Does the error still occur when the power is turned Off and On?	Go to step 7.	Complete.
7	Check the Toner CRUM Harness Assy for continuity. Disconnect J31 from the MCU Board. Disconnect J311, J312, J313, and/or J314 from the CRUM Connector. Is each cable of J31 <=> J311/J312/ J313/J314 continuous?	Go to step 8.	Replace the Toner CRUM Harness Assy (Y, M, C or K).
8	Check the output power of CRUM Connector (Y, M, C or K). Disconnect P/J31 on the MCU Board. Is the voltage across ground <=> P31-3(Y), -7(M), -11(C), -15(K) on the MCU Board, about +3.3VDC?	Replace the CRUM Connector (Y, M, C or K).	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)

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IOT Toner Cartridge Life Over

Applicable Error Codes

- 093-930 / 093-931 / 093-932 / 093-933

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Toner Cartridge (Y) (PL5.1.24) ■ Toner Cartridge (M) (PL5.1.23) ■ Toner Cartridge (C) (PL5.1.22) ■ Toner Cartridge (K) (PL5.1.21) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6)	—

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Replace the Toner Cartridge (Y, M, C or K). (page 8-12) Does the error still occur when the power is turned Off and On?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Complete.

IOT Print Cartridge Detached

Applicable Error Codes

- 093-970 / 093-971 / 093-972 / 093-973:

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Toner Cartridge (Y) (PL5.1.24) ■ Toner Cartridge (M) (PL5.1.23) ■ Toner Cartridge (C) (PL5.1.22) ■ Toner Cartridge (K) (PL5.1.21) ■ Toner CRUM Harness Assy (PL5.1.26) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6)	■ “Map 1 - SFP Print Engine” on page 10-6 ■ “Map 4 - SFP MCU Board” on page 10-9 ■ “Map 6 - MFP Print Engine” on page 10-15 ■ “Map 9 - MFP MCU Board and HVPS” on page 10-18 ■ “SFP Toner Dispenser” on page 10-32 ■ “MFP Toner Dispenser” on page 10-45

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Does the error still occur when the power is turned Off and On?	Go to step 2.	Complete.
2	Check the Toner Type. Is XEROX Toner installed?	Go to step 3.	Verify that the non-Xerox toner in use is compatible with the Phaser 6500/ WorkCentre 6505 printers.
3	Reseat the Toner Cartridge (Y, M, C or K), and check that the lock key is in the lock position. Does the error still occur when the power is turned Off and On?	Go to step 4.	Complete.
4	Replace the Toner Cartridge (Y, M, C or K). (page 8-12) Does the error still occur when the power is turned Off and On?	Go to step 5.	Complete.
5	Check the Toner CRUM Harness Assy for continuity. Disconnect J31 from the MCU Board. Disconnect J311 (Y) from the CRUM Connector. Are P/J31 and P/J311(Y),P/J312(M),P/J313(C),P/J314(K) connected correctly?	Go to step 6.	Replace the Toner CRUM Harness Assy
6	Reseat the MCU Board connectors. Does the error still occur when the power is turned Off and On?	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)	Complete.

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IOT Belt Unit Near Life

Applicable Error Code

- 094-422

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Transfer Belt (PL6.1.7) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6)	■ "Map 1 - SFP Print Engine" on page 10-6 ■ "Map 4 - SFP MCU Board" on page 10-9 ■ "Map 6 - MFP Print Engine" on page 10-15 ■ "Map 9 - MFP MCU Board and HVPS" on page 10-18

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Does the error still occur when the power is turned Off and On?	Go to step 2.	Complete.
2	Using Printer Diagnostics, check the life count value of the Transfer Unit: **Printer Diag > Parameter > Life DTB Waste > Read.** Do the values returned indicate near end-of-life (100 K)? Does the life counter value indicate near end of life?	After replacing the Transfer Belt (page 8-112), initialize the life counter value: **Printer Diag > Parameter > Life DTB Waste > Read**	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)

IOT Belt Unit Life Over

Applicable Error Code

- 094-911

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Transfer Belt (PL6.1.7) ■ MCU Board (SFP PL8.2.13; MFP PL8.3.6)	■ "Map 1 - SFP Print Engine" on page 10-6 ■ "Map 4 - SFP MCU Board" on page 10-9 ■ "Map 6 - MFP Print Engine" on page 10-15 ■ "Map 9 - MFP MCU Board and HVPS" on page 10-18

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Does the error still occur when the power is turned Off and On?	Go to step 2.	Complete.
2	Using Printer Diagnostics, check the life count value of the Transfer Unit: **Printer Diag > Parameter > Life DTB Waste > Read.** Do the values returned indicate near end-of-life (100 K)? Does the life counter value indicate near end of life?	After replacing the Transfer Belt (page 8-112), initialize the life counter value: **Printer Diag > Parameter > Life DTB Waste > Read**	Replace the MCU Board. (SFP, page 8-138; MFP, page 8-160)

ESS DIMM Slot RAM R/W Check Fail / ESS DIMM Slot RAM Error

Applicable Error Codes

- 116-316 / 116-320

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board (ESS) (SFP PL8.1.7; MFP PL8.1.2) ■ Optional Memory Card (SFP PL8.1.15; MFP PL8.1.4)	—

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Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Is the customer using the recommended memory card?	Go to step 3.	Replace with recommended memory, then go step 2.
2	Does the error still occur when the power is turned Off and On?	Go to step 3.	Complete.
3	Reseat the Optional Memory Card. Does the error still occur when turning on the power?	Go to step 4.	Complete.
4	Replace the Optional Memory Card. Does the error still occur when turning on the power?	Replace the IP Board. (SFP, page 8-120; MFP, page 8-144)	Complete.

On Board Network Fatal Error

Applicable Error Code

- 116-355

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board (ESS) (SFP PL8.1.7; MFP PL8.1.2)	—

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Unplug the ethernet cable. Does the error still occur when the power is turned Off and On?	Replace the IP Board. (SFP, page 8-120; MFP, page 8-144)	Initialize the Network settings and configure the settings again. For details of the Network settings, refer to the *User Guide*.

PCI Bus# (0/1) Error Detected / PCI Bus# (0/1) Host Bridge Controller Error / PCI Error Messages received from Bus#0-Device# (0/1)

Applicable Error Codes

- 116-361 / 116-362 / 116-363 / 116-366 / 116-368 / 116-369

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board (ESS) (SFP PL8.1.7; MFP PL8.1.2)	■

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Cycle the power Off, then On. Does the error still occur?	Replace the IP Board. (SFP, page 8-120; MFP, page 8-144)	Complete.

Collate Full

Applicable Error Code

- 116-721

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Cycle the power Off, then On. Does the error still occur?	Go to step 2.	Complete.
2	Check RAM Disk size settings. Does the error occur when printing after reducing the size setting of the RAM Disk?	Split the document into blocks to decrease the number of pages to be collated.	Complete.

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Fax Card Modem Error

Applicable Error Code

- 134-211

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board (ESS) (MFP PL8.1.2) ■ FAX Board (MFP PL8.1.5)	—

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Cycle the power Off, then On. Does the error still occur when faxing?	Go to step 2.	Complete.
2	Reseat the FAX Board. (page 8-143) Does the error still occur when faxing?	Go to step 3.	Complete.
3	Replace the FAX Board. (page 8-143) Does the error still occur when faxing?	Replace the IP Board. (MFP, page 8-144)	Complete.

Custom Toner Mode

Applicable Error Code

- 193-700:

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board (ESS) (SFP PL8.1.7; MFP PL8.1.2)	—

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Toner Cartridge. Is Xerox toner installed in the printer?	Go to step 2.	Complete.[a]
2	Replace with known good toner cartridges. Does the error still occur when turning on the power?	Replace the IP Board. (SFP, page 8-120; MFP, page 8-144)	Complete.

a.Advise the customer that Xerox cannot guarantee compatibility of non-Xerox toner cartridges, and that use of non-Xerox toner can adversely affect output quality.

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General Troubleshooting

In this chapter...

- Introduction
- System Startup
- Power On Self Test (POST)
- Service Diagnostics
- Print Engine Test Procedures
- Duplex Unit Test Procedures
- Optional Feeder Test Procedures
- Engine Test Print (SFP)
- Engine Test Print (MFP)
- Fax/Scanner Diagnostic Tests
- Control Panel Troubleshooting
- Inoperable Printer Troubleshooting
- Abnormal Noises
- Operating System and Application Problems

Chapter 4

Introduction

This chapter covers the System Startup, Power On Self Test (POST), Service Diagnostics, and troubleshooting procedures not associated with an error code or Control Panel error message. For troubleshooting problems associated with a error message, refer to “Error Messages and Codes” on page 3-1. Print-quality problems are covered in “Print-Quality Troubleshooting” on page 5-1.

Initial Actions

Some problems are easy to resolve. Use these steps in an attempt to quickly isolate the problem.

1. Turn Off the printer, wait 10 seconds, then turn On the printer. This often solves problems related to power transients, ESD, and software errors.
2. If a message appears on the Control Panel, see “Error Message and Code Summary” on page 3-6 for specific procedures related to error messages.
3. Check the power cord. Is the power cord plugged into the printer and a properly grounded electrical outlet? Is the power cord damaged?
4. Check the electrical outlet. Is the outlet turned off by a switch or breaker?
5. Does other electrical equipment plugged into the outlet operate?
6. Are all options properly installed?

Display Problems

If the Control Panel displays only diamonds or is blank:

1. Turn Off the printer, wait 10 seconds, then turn On the printer.
2. Self Test Messages should appear on the display. If not, see “Control Panel Troubleshooting” on page 4-66.
3. When tests complete, “Ready to Print” should appear on the display.

If the problem persists see “Control Panel Troubleshooting” on page 4-66, and “DC Power Supply Troubleshooting” on page 4-68.

Printing Problems

If menu settings entered from the Control Panel have no effect, change or disable print settings from the print driver, the print utilities, or the application.

Note

Settings made in the application, print driver, or print utilities override settings made from the Control Panel.

If a job did not print correct or incorrect characters were printed, check the following:

1. Check for “Ready” on the display before sending a print job.
2. Check the loaded media.
3. Check the print driver.
4. Check the printer connections to Ethernet or USB.

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5. Verify that the correct print media size is selected.
6. If using a print spooler, verify that the spooler has not stalled.
7. Check the printer's interface configuration. Determine the host interface you are using. Print a Configuration page to verify that the current settings are correct.

Secure Print

If secure print is not available or not printing, refer to the requirements below.

- Enable or increase RAM Disk size if optional memory is installed.
- The number of secure print jobs the printer can store is dependent on the job size including number of pages, graphics, color attributes, and the amount of memory installed. To increase this number, add memory.

Media-Based Problems

1. Check that the correct type of media is being used; for the correct media types and weights, refer to"Media Guidelines" on page A-14. The customer should be using a quality laser printer paper. The printer may have trouble picking glossy or overly smooth paper.
2. Use only Xerox Premium Transparency Film in this printer.
3. Inspect the paper for bent, torn, or folded corners.
4. Check the media path for obstructions or debris.
5. Ensure that the correct media type is set at the Control Panel.
6. Ensure that the media guides are set correctly.
7. Ensure that the media is a supported type for the tray.
8. Load a fresh ream of paper in the tray.

Multiple-Sheet Pick

1. Check the media. Is the media in good condition and listed as supported media? Quality office laser printer paper works best.
2. Check that the printer is printing within its environmental specifications by printing and reviewing the Status page.
3. Remove the tray and remove, fan, and reload the media. Ensure that the guides are securely against the paper and the tray has not been over filled.
4. Try loading paper from a fresh ream, fan the paper, and then insert into the tray or flip existing paper over.
5. Check the tray's Separator Roller for damage.
6. Clean the Feed Rollers with a clean, dry, lint-free wipe.
7. Replace the Feed Rollers.
8. Replace the Tray.

Mis-Pick

1. Check that the correct type of media is being used and the media guides are set correctly.
2. Remove, fan, and reload the media. Check that the tray is not over filled.
3. Try loading media from a fresh ream, fan, and then insert the media into the tray or flip existing media over.
4. Clean the Feed and Separator Rollers with a clean, dry, lint-free wipe.

Skewed Image

1. The image area is not parallel, Skewed, with the sides of the page but the printer neither jams nor displays an error code.
2. Remove the tray and ensure the paper guides are set correctly.
3. Check that the correct type of media for the tray is being used.
4. Ensure that the tray has not been over filled. (Skewed images are a common defect when the tray is overfilled.)
5. Verify the Feed Rollers are installed correctly.
6. Clean the Feed and Separator Rollers with a clean, dry, lint-free wipe.

Damaged Prints

The printed page exits the printer either wrinkled, creased, or torn. The printer neither jams nor displays an error code.

1. Stop the sheet at various points in the media path to determine where the media is damaged.
2. Try using the next heaviest type of paper.
3. Feed paper through the printer from each of the available trays. Is the paper damaged when fed out of one tray but not when fed out of the others? If so, inspect the tray for damage, ensure that the media guides are set correctly and verify that the proper media is being used.
4. If media shows damage from all trays, check the registration rollers.
5. Inspect the tray and media path for debris or broken components.

Wrinkled Envelopes

Envelope wrinkling of varying severity can sometimes occur. In general, envelope wrinkling is considered a laser technology limitation due to the fusing process which relies on heat and pressure to bond toner to the media. The #10 Commercial envelopes are particularly susceptible to wrinkling.

1. Check the media path for obstructions or debris.
2. Check that the media guides are set correctly.
3. Test envelopes from other manufacturers to find the best result.

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Fuser Jams

1. Check that the Fuser is properly seated, locked, and operates normally.
2. Ensure that the paper is in good condition and is listed as supported media. Try loading new media from a fresh ream.
3. Ensure that only supported transparency film is being used.
4. Check that the printer is operating within its environmental specifications by printing the Configuration page.
5. Ensure that the loaded media matches the Control Panel settings.
6. Are the margins on the page greater than 4 mm?
7. Check the Fuser area for debris.
8. Visually inspect the Fuser for burrs.
9. Test the Fuser drive using Service Diagnostics.

Exit Jams

1. Check that the correct type of media is being used; refer to"Media Guidelines" on page A-14.
2. Ensure the printer is within its operating environmental specifications.
3. If media is showing excessive curl when exiting, try turning the media over, loading new media from a fresh ream, or a different type of media.
4. Ensure that the loaded media matches the Control Panel settings.
5. Is the jam caused by a heavy, stiff paper being used for two-sided printing? In such cases, a lighter grade of paper should be used.
6. If debris is visible, clean all exit locations in the Fuser and the Duplex Unit, with a clean, dry, lint-free wipe.
7. Does the exit roller turn? Test the duplex motor using Service Diagnostics.

System Startup

Listed here is a typical startup routine from a cold start. The printer requires approximately 20 seconds to complete this sequence.

1. When the power switch is turned On, the printer loads and runs POST diagnostics.
2. The Ready, Error, and Power Save LEDs turn On and the **Diagnosing**... message is displayed.
3. If POST test pass, Ready, Error, and Power Save LEDs are turned Off. If a POST test fails, an error is displayed.
4. The Ready LED is turned On and the message changes to **Xerox (TM) Toner Cartridge**.
5. If the Configuration page is disabled at power On, The Ready LED turns Green and the **Ready** message is displayed. If Configuration page printing is enabled, the message changes to **Processing...**, then **Configuration Printing** and the Ready LED begins to blink as the configuration data is being read.
6. The message changes to **Please Wait Calibrating...** and the Ready LED stops blinking as the Configuration page prints.
7. The message returns to **Ready** when the printer is ready to accept new data.

Power On Self Test (POST)

POST tests run when the printer is powered On. Errors are reported to the display.

1. Checks and initializes CRU Register.
2. Initializes ASIC.
3. Checks RAM.
4. Initializes the Control Panel driver.
5. Checks the ROM checksum.
6. Checks memory.
7. Initializes EEPROM driver.
8. Initializes IOT controller.
9. Starts the operating system.

POST Test Description

Test	Error	Description
CodeROM	116-317	This test calculates the ROM checksum and compares it to the value stored in CodeROM.
FontROM		This test calculates the FontROM checksum and compares it to the value stored in FontROM.
	116-310	Checksum error is in the built-in FontROM.
	116-317	Checksum error is in the main program ROM.
EEPROM		This test verifies the EEPROM.
	116-323	Error in EEPROM0 during initialization.
	116-326	Error in EEPROM1 during initialization.
DRAM		This test checks the DRAM.
	116-315	Error if included RAM is different.
	116-316	Error if extended RAM is different.
	116-320	Error if extended RAM is not supported.
MAC+PHY Test	116-352	This test performs PHY internal loopback.
ASIC	116-343	Runs register test.
PANEL		This test checks Control Panel function.
IOT	024-371	This test Runs communication tests between the print engine and controller.

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Service Diagnostics

The Phaser 6500 and WorkCentre 6505 printers have built-in diagnostics to test electromechanical components, display status, and provide some NVRAM access. Additionally, the WorkCentre 6505 MFP has diagnostic tests for the Fax and Scanner subsystems. Use these tests to diagnose problems and isolate which component or sub assembly part needs replacement.

If you are confronted with an error that requires more than a cursory investigation to clear, or when you are directed by a troubleshooting procedure, use the diagnostic tests to exercise selected sub-assemblies or parts in the vicinity of the reported error. Diagnostic tests are controlled from the Control Panel and are described in detail in “Printer Diagnostic Test Descriptions” on page 4-12.

Using Service Diagnostics

Service Diagnostics for the Phaser 6500 and WorkCentre 6505 printers consist of two separate sets: the Printer diagnostics that test the print engine, and the Fax/Scanner diagnostics that test the copy, scan, and Fax functions of the MFP.

Most diagnostic tests are straightforward and require no additional explanation, but there are some that require specific conditions be met to achieve meaningful results. These instructions cover each of the test groups, listing special instructions, conditions, or other information necessary to successfully interpret the results of the diagnostic tests.

Diagnostic tests are arranged in a menu structure. Use the arrow buttons to scroll through the menus and highlight the desired test. The **OK** button runs the test. During the test, the Ready and Error LEDs are turned On. Press **Cancel** to stop the test. To switch between test groups, exit the current diagnostics mode and return to the Service Mode menu.

Note

To switch between Printer Diag mode and Fax/Scanner Diag mode, you must exit Service Mode and restart it to select the other mode.

Control Panel button functions while in Service Diagnostics:

Button	Function
Up	Moves or selects an item or parameter.
Down	Moves or selects an item or parameter.
Left	Moves the cursor to the left.
Right	Moves the cursor to the right.
OK	Confirms settings or runs the selected test.
Cancel	Resets a diagnostic item, cancel, or exit the menu.

For parameters, pressing **OK** after selecting an item from the menu displays the current value of the item.

Entering Service Diagnostics

1. Turn the printer Off.
2. Press and hold the **Up** and **Down** arrows simultaneously and turn the printer On.
3. Release the buttons when **Service Mode** and **ESS Diag** appear on the SFP display, or **Service Mode**, **Printer**, and **Fax/Scanner** appear on the MFP display.

Exiting Service Diagnostics

Scroll to **Exit Mode**, select Complete, then press **OK**.

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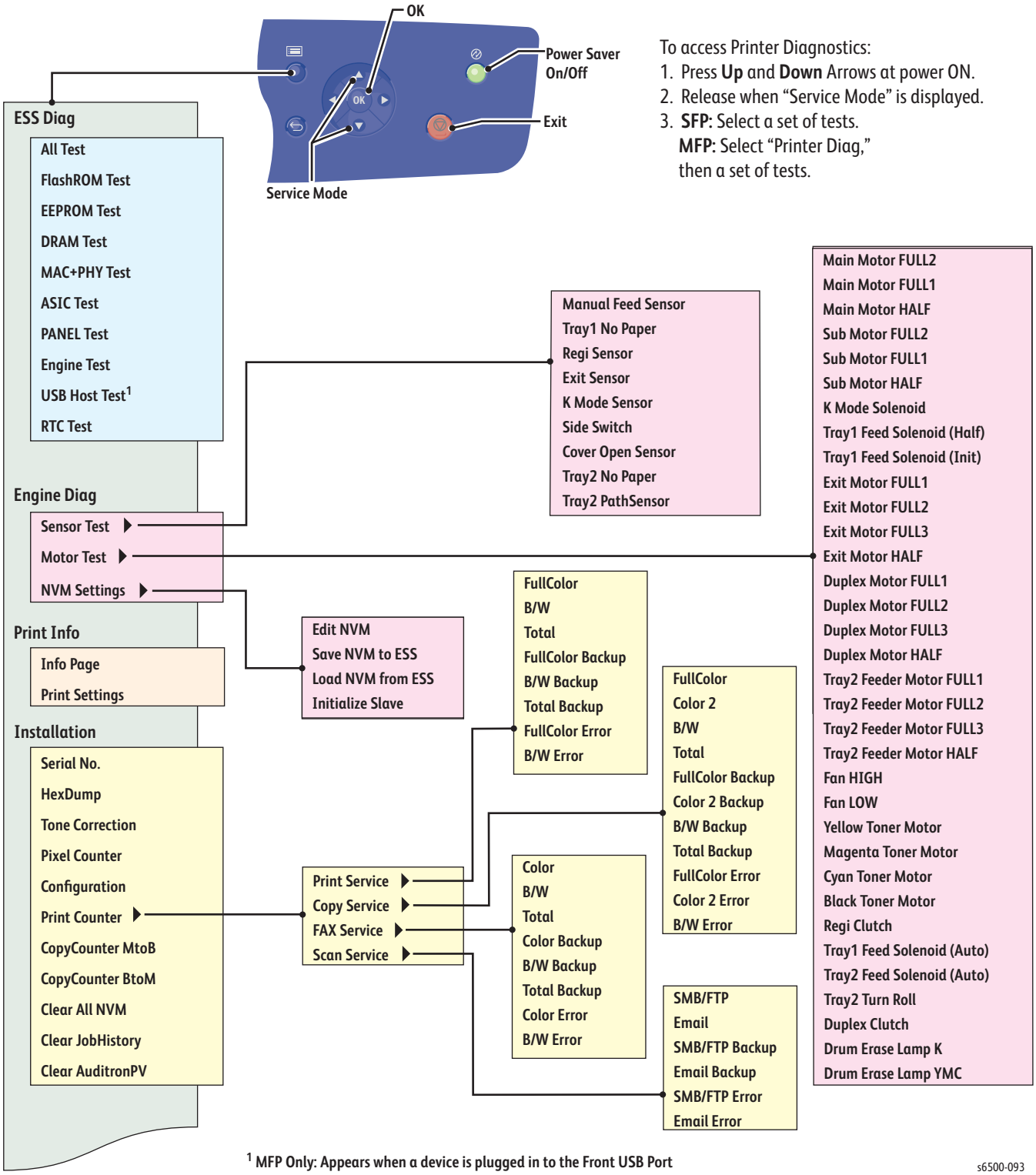
Service Diagnostics Menu Maps

Printer Diagnostic Menu Map Page 1



To access Printer Diagnostics:

1. Press **Up** and **Down** Arrows at power ON.
2. Release when "Service Mode" is displayed.
3. **SFP:** Select a set of tests.
   MFP: Select "Printer Diag," then a set of tests.

[1] MFP Only: Appears when a device is plugged in to the Front USB Port

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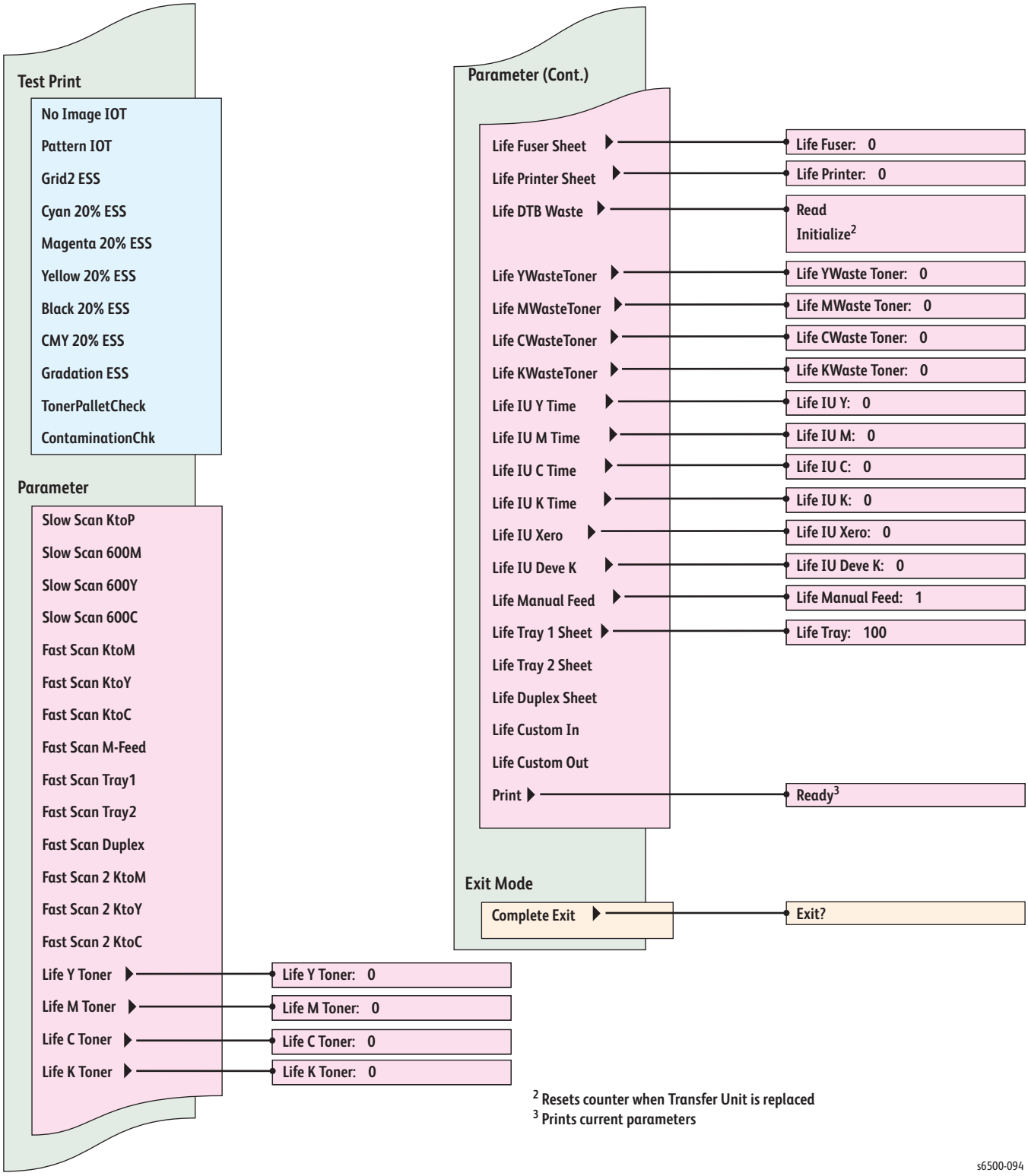
Printer Diagnostic Menu Map Page 2



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Fax/Scanner Mode Diagnostic Menu Map

To access FAX/Scanner Mode Diagnostics:
1. Turn off the power.
2. Turn on the power while holding down the **Up Arrow** and **Down Arrow** buttons.
3. Release the buttons when "Service Mode" is displayed and select "FAX/Scanner Diag".

- Fax/Scanner Diag.
  - Board Test
    - All Test
      - Ready
    - Fax Memory Test
      - Fax Flash W/R Test
      - SRAM W/R Test
    - I/F Test
      - Fax Card I/F Test
      - AFE Serial I/F Test
      - IIT I/F Test
    - Fire3 Test
      - Fire3 IJAC Test
      - Fire3 IBIG Test
    - Relay/Signal Test
      - Relay Test
        - Relay Toggle Test
        - Relay Set Test
      - Hook Test
        - Hook Toggle Test
        - Hook Set Test
      - Signal Tone Send
      - DTMF Send
        - DTMF Continuous
        - DTMF Individually
      - Dial Pulse Send
        - DP10 Individually
        - DP20 Individually
      - Ring back Tone
      - Data Send
        - V.34 33600bps
        - V.34 31200bps
        - V.34 28800bps
        - V.34 26400bps
        - V.34 24000bps
        - V.34 21600bps
        - V.34 19200bps
        - V.34 16800bps
        - V.34 14400bps
        - V.34 12000bps
        - V.34 9600bps
        - V.34 7200bps
        - V.34 4800bps
        - V.34 2400bps
        - V.29 9600bps
        - V.29 7200bps
        - V.29 4800bps
        - V.27ter 4800bps
        - V.27ter 2400bps
        - V.21 300bps
        - V.17 14400bps
        - V.17 12000bps
        - V.17 9600bps
        - V.17 7200bps
      - Line Voltage
      - Line Current
  - Information
    - Scan Counter
  - Scanner Maintenance
    - White Balance
      - Auto Adjust(FB)
      - Auto Adjust(ADF)
    - Shading Parameter
      - Coeff FB RED
      - Coeff FB GREEN
      - Coeff FB BLUE
      - Coeff FB GRAY
      - Coeff ADF RED
      - Coeff ADF GREEN
      - Coeff ADF BLUE
      - Coeff ADF GRAY
      - Target RED
      - Target GREEN
      - Target BLUE
      - Target GRAY
    - Registration Param.
      - Regi FB Lead
      - Regi FB Side
      - Regi ADF Lead
      - Regi ADF Side
    - Auto Registration
    - Sensor Parameter
      - Feed Sensor
    - Vertical Scan Mag.
      - Mag FB COLOR
      - Mag FB GRAY
      - Mag ADF COLOR
      - Mag ADF GRAY
    - Test Pattern
      - Pattern No.
      - Pt03:Grid Size
      - Pt04:Gradation
      - Pt05:Gradation
      - Pt06:R Level
      - Pt06:G Level
      - Pt06:B Level
      - Pt07:Step Cycle
      - Pt08:Step Cycle
      - Pt11:R Level
    - IIT I/O Check
      - Home Pos Sensor
      - Tray Sensor
      - Feed Sensor
      - ADF Cover Sensor
      - Lamp
      - FB Motor
      - ADF Motor
    - SCAN Counter Clear
      - Counter Clear (FB)
      - Counter Clear (ADF)
  - Parameter
  - Backup Data
    - All Clear
    - User Clear
    - System Clear
    - User & System Clear
    - System Data Init
    - Document Clear
  - Complete

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Printer Diagnostic Test Descriptions

The table below lists the Printer Diagnostic tests available in Service Mode, the expected results, and a brief description of each test. If a test fails and displays an error code, use the troubleshooting procedure in Chapter 3 specific to the error. If the test indicates component failure, replace the failed component using the procedures in Chapter 8. If test results are inconclusive, isolate the problem using the general procedures in this chapter.

Caution

Do not turn the printer Off during ESS (IP Board) Diag testing.

Test	Control Panel Display	Test Description
ESS Diag	Tests core print engine components.	
All Test	■ Start ■ Processing ■ Check OK or <*Failed Test*> Error	This test runs all ESS Diag tests except Panel tests. Test returns Check OK or failed test name.
FlashROM Test	■ Start ■ Processing ■ Check OK (cycle power) or NG	Calculates the ROM checksum and compares it with the stored value. Run this test when a 016-317 SFP error occurs, or when 016-500, 016-501, or 016-502 MFP errors occur.
EEPROM Test	■ Start ■ Processing ■ Check OK or NG	This test checks the diag. area of the EEPROM. Run this test when 116-323, 116-324 and 116-390 errors occur.
DRAM Test	■ Start ■ Processing ■ Check OK or NG	This test checks the DRAM address lines. Optional memory is checked if found. Run this test when 116-315, 116-316 and 116-320 errors occur.
MAC+PHY Test	■ Start ■ Processing ■ Check OK or NG	Run this test when 116-314, 116-350, 116-351, 116-352 and 116-355 errors occur.
ASIC Test	■ Start ■ Check OK or ASIC Error	ASIC Register check. Run this test when 116-343 errors occur.
PANEL Test	■ Start	This test checks the Control Panel buttons. Button function is indicated on the display and LEDs.

Button	LED			Display
	Ready	Error	Power Save	
Up	On	On	Off	UP
Down	On	On	Off	DOWN.
Left	On	Off	Off	LEFT
Right	On	Off	Off	RIGHT
OK	Off	On	Off	SET
Menu	Off	On	Off	MENU.
Cancel	Off	Off	Off	CANCEL JOB
Power Save	Off	Off	On	POWER SAVE

Engine Test	■ Start ■ Check OK or Engine Error	Print engine communication test. Run this test when 024-371 errors occur.

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Test	Control Panel Display	Test Description
USB Host Test		Tests communication between the USB Host port and the device to which it is connected. **NOTE:** This test is intended for manufacturing use. It is not useful for service.
	TEST MODE	
	Test	**Component**
	■ Test J	The port is J state.
	■ Test K	The port is K state.
	■ Test SE0	The port is SE0 state.
	■ Test PACKET	The port repeats the test packet.
	■ Test ENABLE	The port compulsorily enters the state of ENABLE.
	■ **Single Step**	
	■ Address:000 ■ DATA In	Collects the Device Descriptor of the specified device address.
	■ **Get Device Info**	
	■ VID ■ PID ■ Add ■ Prt	Value of VendorID Value of ProductID Device Address Number of Downstream port of Controller or Hub.
RTC Test	■ Start ■ OK or RTC ERROR	Checks the Real Time Clock chip. Execute this test when 117-365 Error occurred.
Engine Diag	Tests for print engine components. See “Print Engine Test Procedures” on page 4-20.	
Sensor Test	At the start, L - 0 is displayed. L changes to H and back to L while the counter increments when a sensor is turned On from Off. Component tests:	These tests check whether the sensors operate normally. The Sensor Test is performed for all the components. Press the **OK** button to run the selected test. Press **Cancel to** exit the test. The display returns to the Service Mode menu. **NOTE** During the Sensor Test, no other diagnostic. functions can be performed. The printer only accepts DI components and exit commands.
	Test	**Component**
	Manual Feed Sensor	Manual Feeder No Paper Sensor
	Tray No Paper	Tray 1 No Paper Sensor
	Regi Sensor	Registration Sensor
	Exit Sensor	Exit Sensor
	K Mode Sensor	K Mode Sensor
	Side Switch	Toner Door Switch
	Cover Open Sensor	Interlock Switch
	Option No Paper	Tray 2 No Paper Sensor
	Option Path Sensor	Tray 2 Registration Sensor

Test	Control Panel Display	Test Description
Motor Test	Component tests.	These tests check operation of the electromechanical components. Press **OK** button to run the selected test. Press **Cancel** to exit the test. The display returns to the Service Mode menu. **NOTE** During the Motor Tests, no other diagnostic. functions can be performed. The printer only accepts component and exit commands.
	Test	**Component**
	Main Motor (FULL2) Main Motor (FULL1) Main Motor (HALF)	Main Drive Assembly
	Sub Motor (FULL2) Sub Motor (FULL1) Sub Motor (HALF)	Sub Drive Assembly
	K Mode SOLENOID (Auto OFF)	Color Mode Switching Solenoid
	Tray Feed SOLENOID (Half) Tray Feed SOLENOID (Init)	Tray 1 Feed Solenoid
	Exit Motor (FULL1) Exit Motor (FULL2) Exit Motor (FULL3) Exit Motor (HALF)	Duplex Exit Motor
	Duplex Motor (FULL1) Duplex Motor (FULL2) Duplex Motor (FULL3) Duplex Motor (HALF)	Duplex Motor
	Option Feeder Motor (FULL1) Option Feeder Motor (FULL2) Option Feeder Motor (FULL3) Option Feeder Motor (HALF)	Optional Feeder Feed Motor
	Fan (HIGH) Fan (LOW)	Fan
	Yellow Toner Motor Magenta Toner Motor Cyan Toner Motor Black Toner Motor	Toner Motors
	Regi Clutch	Drive Clutch
	Tray Feed SOLENOID (Auto)	Tray 1 Feed Solenoid
	Option Feed SOLENOID (Auto)	Tray 2 Feed Solenoid
	Option Turn Roll	Optional Feeder Drive Clutch
	Duplex Clutch	Duplex Clutch
	Drum Erase Lamp K	Black Erase lamp
	Drum Erase Lamp YMC	Color Erase Lamps

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Test	Control Panel Display	Test Description
NVM Settings	Edits, saves, loads, and prints NVM information.	
Edit NVM	■ Ad0000=00000000* ■ Please wait	Displays current NVM values. Use this function to edit NVM information. Not recommended for field use. Caution: Change NVM values only when directed to do so by a troubleshooting procedure.
Save NVM to ESS	■ Save NVM to ESS OK? ■ Processing ■ Saved ■ Please wait	Saves MCU NVM to the IP Board when replacing MCU Board.
Load NVM from ESS	■ Load NVM from ESS OK? ■ Processing ■ Loaded ■ Please wait	Loads MCU NVM from the IP Board following replacement of MCU Board.
Initialize Slave	■ OK? ■ Processing ■ Initialized ■ Please wait	Initializes slave. Not recommended for field use.
Print Info	Provides printer configurations and settings information.	
Info Page	■ Ready ■ Processing	Prints version information. The Configuration Page contains: ■ Engine unit information ■ Standard Tray ■ Optional Tray (displaying version) ■ Optional Duplex Unit (displaying version) ■ Engine ROM Revision No. ■ MCU NVM Revision No.
Print Settings	■ Ready ■ Processing	Prints the configured settings. ■ Serial No. ■ HexDump On/Off Information ■ Tone Correction On/Off Information ■ Color Print Count ■ B/W Print Count ■ Total Print Count ■ Color Backup Count ■ B/W Backup Count ■ Total Backup Count ■ Color Error Count ■ B/W Error Count
Installation	Provides printer installation information.	
Serial No.	■ PPPRSSSSS or ■ MMMSSSSSSc	Displays the printer Serial Number. See “Serial Number Format” on page 9-2. This value is read-only.
Hex Dump	■ OFF * ■ ON	Sets **HexDump** On/Off. Used to analyze received data in case of an error. Setting Hex Dump to **On** enables printing of received data via **Print Info > Info Page**.

Test	Control Panel Display	Test Description
Tone Correction	**Tone Correction** ■ ON * ■ OFF	Controls TRC in conjunction with process control to keep density constant. Turn Off tone correction when correction exceeds the limit. Sets Tone Correction mode On/Off. **NOTE** When Toner Correction is changed, an "*" appears next to the text.
Pixel Counter	■ Y: nn.n ■ C: nn.n ■ M: nn.n ■ K: nn.n	Displays the ratio (% used) of the number of pixels per C/M/Y/K counted by the Controller to A4 size area except 4 mm area from the edge on the last page printed. ■ 100 % = empty Toner Cartridge The value is rounded to one decimal place. For B/W print, only K is displayed. The ranges are from 0-100 % for each color (CMYK).
Configuration	Not Used for Testing	
Print Counter	Displays the respective counter values in the master NVM and backup NVM. (read only)	
	Print Service	
	■ Full Color n	Color prints.
	■ B/W n	Black and White prints.
	■ Total n	Total of all color prints (full, 1 and 2)
	■ Full Color Error n	Errors in color prints.
	■ B/W Error n	Errors in Black and White prints.
	Copy Service (MFP only)	
	■ Full Color n	Color copies.
	■ Color 2 n	Mono color or 2-color copies.
	■ B/W n	Black and White copies.
	■ Total n	Total of all copies
	■ Full Color Error n	Errors in color copies.
	■ Color 2 Error n	Errors in Color 2 copies.
	■ B/W Error n	Errors in Black and White copies.

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Test	Control Panel Display	Test Description
	Fax Service (MFP only)	
	■ Color n	Color Fax received.
	■ B/W n	Black and White Fax received.
	■ Total n	Total Fax received.
	■ Color Error n	Errors in color Fax reception.
	■ B/W Error n	Errors in Black and White Fax reception.
	Scan Service (MFP only)	
	■ SMB/FTP n	Transferred pages (SMB or FTP).
	■ Email n	Scan to Email pages.
	■ SMB/FTP Error n	Errors in scan to **SMB/FTP** transfers.
	■ Email Error n	Errors in Scan to Email transfers.
Copy Counter MtoB	■ OK? ■ Processing ■ Copied	Copies the values from Master NVM to Backup NVM on the IP Board. ■ Device-specific information called "Personal info" in the first 128 Byte ■ PV counter master ■ Printer counter master
Copy Counter BtoM	■ OK? ■ Processing ■ Copied	Copies the values from Backup NVM to Master NVM on the IP Board. ■ Device-specific information called "Personal info" in the first 128 Byte ■ PV counter backup ■ Printer counter backup
Clear All NVM	■ OK? ■ Processing ■ Initialized	Clears all NVM.
Clear Job History	■ OK? ■ Processing ■ Initialized	Deletes job history data from NVM.
Clear Auditron PV		Clears print volume (PV) value, or Print Auditron value when Print Auditron is enabled.
Test Print	Test prints for troubleshooting the printer. See "Test Prints" on page 5-43 for more detailed descriptions.	
No Image IOT	■ Ready ■ Processing	Prints a blank page.
Pattern IOT	■ Ready ■ Processing	Prints the Engine Test print. This page isolates the IP Board.
Grid 2 ESS	■ Ready ■ Processing	Prints a built-in grid pattern. This print isolates IP Board function.
Cyan 20%	■ Ready ■ Processing	20 % density pattern of Cyan.
Magenta 20%	■ Ready ■ Processing	20 % density pattern of Magenta.
Yellow 20%	■ Ready ■ Processing	20 % density pattern of Yellow.
Black 20%	■ Ready ■ Processing	20 % density pattern of Black.

Test	Control Panel Display	Test Description
CMY 20%	■ Ready ■ Processing	20 % density pattern of Cyan, Magenta, and Black combined.
Gradation	■ Ready ■ Processing	Prints a pattern in which the density of CMYK is varied from 0-100 %.
Toner Pallet Check	Toner Pallet Check	Pattern of 100 % density all colors.
Contamination Check	Contamination Check	Prints a scale pattern for each color (sheets 1-4) and the Pitch Chart, a repeating defects page (sheet 5).
Parameter	Reads/writes the parameter values, errors, and life counter values stored in the printer. **NOTE** Print the parameter list using the **Print** function of the **Parameter** menu before changing the value of the registration.	
Slow Scan K to P	■ -128 * ■ : ■ 127 *	Adjusts registration in the feed direction.
Slow Scan 600M	■ -128 * ■ : ■ 127 *	
Slow Scan 600Y	■ -128 * ■ : ■ 127 *	
Slow Scan 600C	■ -128 * ■ : ■ 127 *	
Fast Scan KtoM	■ -128 * ■ : ■ 127 *	Adjusts registration in the scan direction.
Fast Scan KtoY	■ -128 * ■ : ■ 127 *	
Fast Scan KtoC	■ -128 * ■ : ■ 127 **	
Fast Scan M-feed	■ -30 * ■ : ■ 30 *	Adjusts registration in the scan direction.
Fast Scan Tray 1 & 2	■ -30 * ■ : ■ 30 *	
Fast Scan Duplex		
Fast Scan 2 KtoM	■ -1 * ■ : ■ 2 *	Adjusts registration in the scan direction.
Fast Scan 2 KtoY	■ -1 * ■ : ■ 2 *	
Fast Scan 2 KtoC	■ -1 * ■ : ■ 2 *	
Life Y Toner	■ 0	Yellow toner cartridge life count.
Life M Toner	■ 0	Magenta toner cartridge life count.
Life C Toner	■ 0	Cyan toner cartridge life count.
Life K Toner	■ 0	Black toner cartridge life count.

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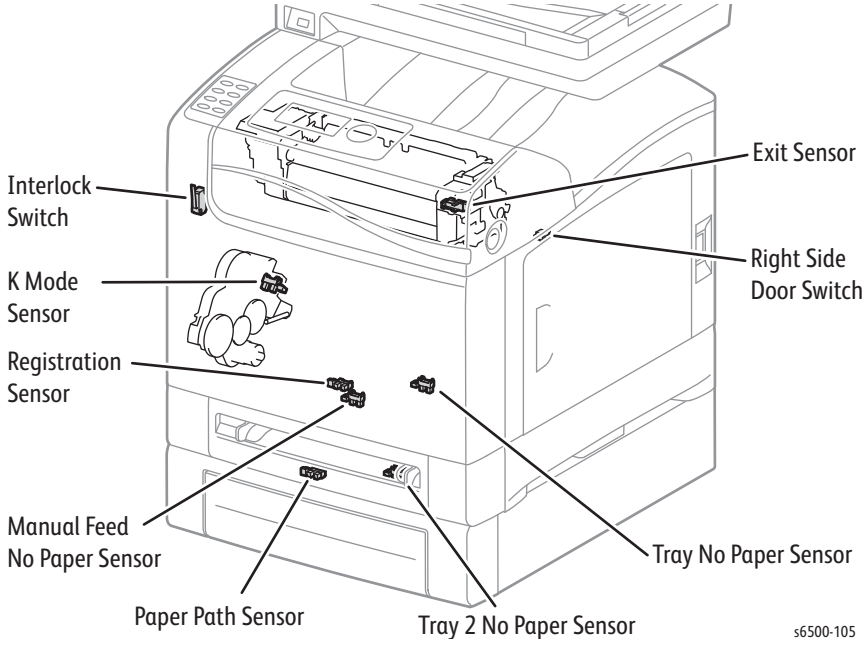
Test	Control Panel Display	Test Description
Life Fuser Sheet	■ 0	Fuser sheet life count.
Life Printer Sheet	■ 0	Printer life count.
Life DTB Waste	■ 0	Belt Waste life count.
Life Y Waste Toner	■ 0	Yellow waste toner life count.
Life M Waste Toner	■ 0	Magenta waste toner life count.
Life C Waste Toner	■ 0	Cyan waste toner life count.
Life K Waste Toner	■ 0	Black waste toner life count.
Life IU Y Time	■ 0	Yellow drum cycle count.
Life IU M Time	■ 0	Magenta drum cycle count.
Life IU C Time	■ 0	Cyan drum cycle count.
Life IU K Time	■ 0	Black drum cycle count.
Life IU Xero	■ 0	Imaging Unit motor operating time.
Life IU Deve K	■ 0	K Developer sheet count.
Life Manual Feed	■ 0	Manual Feed slot sheet count.
Life Tray 1 Sheet	■ 0	Tray sheet count.
Life Tray 2 Sheet	■ 0	Tray sheet count.
Life Duplex Sheet	■ 0	Duplex sheet count.
Life Custom In	■ 0	Custom sheet count.
Life Custom Out	■ 0	Custom sheet count.
Print	■ Ready	Prints current parameter values.
Exit Mode	Exits Service Mode.	
Complete Exit	Complete Exit ■ Exit?	Pressing **OK** twice, exits the Service Diagnostic menu.

Print Engine Test Procedures

The print engine diagnostic test procedures are divided into three major groups: Sensor Tests, Motor Tests, ana NVM Settings.

Sensor Tests

The following procedures test each print engine sensor using Service Diagnostics. This illustration depicts the MFP; the sensors in the SFP are the same and in the same locations.



Manual Feed Sensor

1. Enter Service Diagnostics (page 4-8).
2. Run the Manual Feed Sensor test: **Engine Diag** > **Sensor Test** > **Manual Feed Sensor**.
3. Slide a sheet of paper in and out of the Manual Feed slot.

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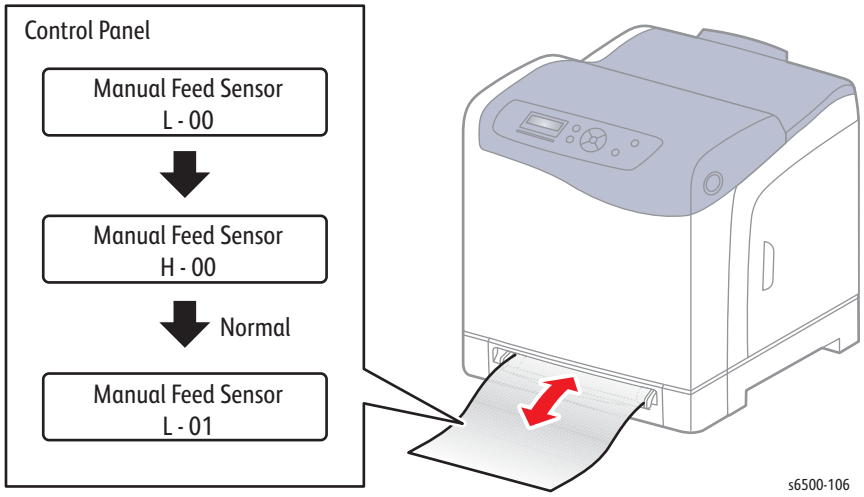
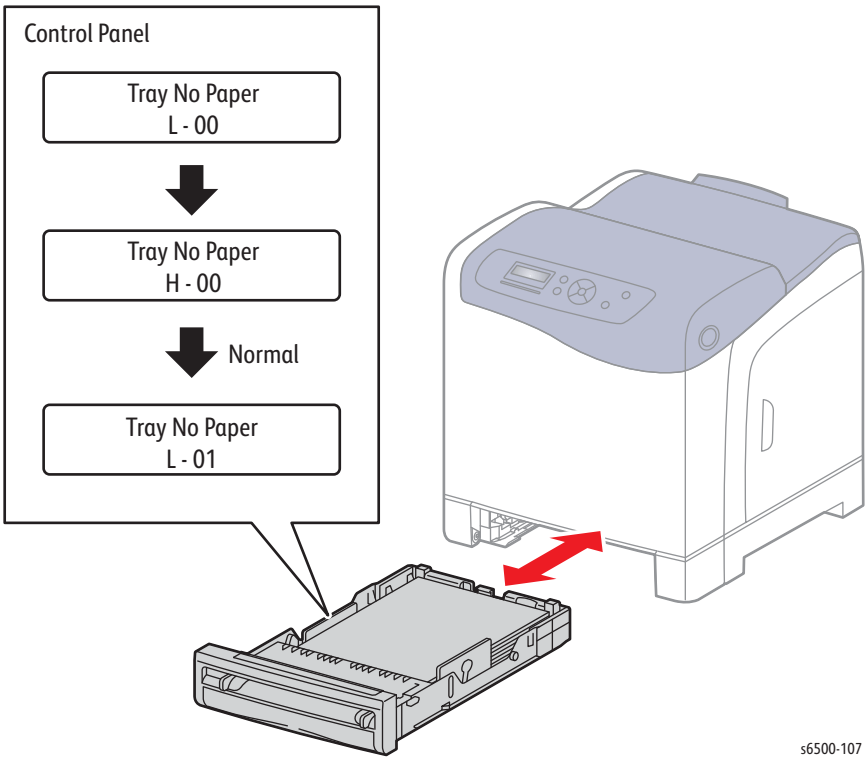


Note

Press **Cancel** to stop the test.

Tray 1 No Paper Sensor

1. Enter Service Diagnostics (page 4-8).
2. Run the Tray No Paper test: **Engine Diag** > **Sensor Test** > **Tray No Paper**.
3. Remove Tray.
4. Move the Actuator up and down while checking the Control Panel display.



Note

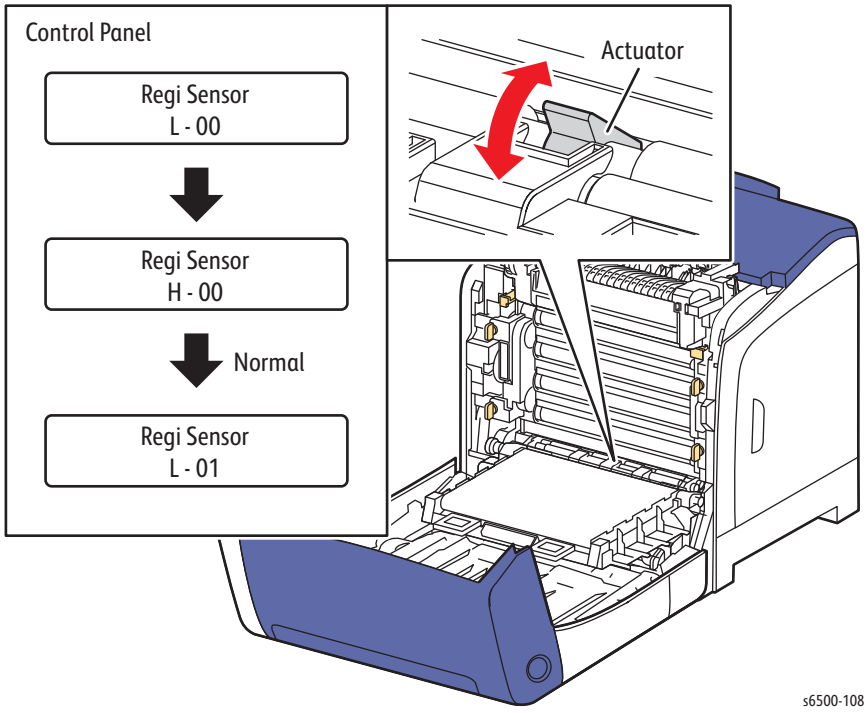
Press **Cancel** to stop the test.

Registration Sensor

Caution

Cover the Imaging Unit to prevent light exposure.

1. Enter Service Diagnostics (page 4-8).
2. Remove Tray 1.
3. Open the Front Cover.
4. Lower the Transfer Belt.
5. Remove the Imaging Unit (page 8-7)
6. Run the Registration Sensor test: **Engine Diag** > **Sensor Test** > **Regi Sensor**.
7. Operate the actuator while checking the Control Panel display.



Note

Press **Cancel** to stop the test.

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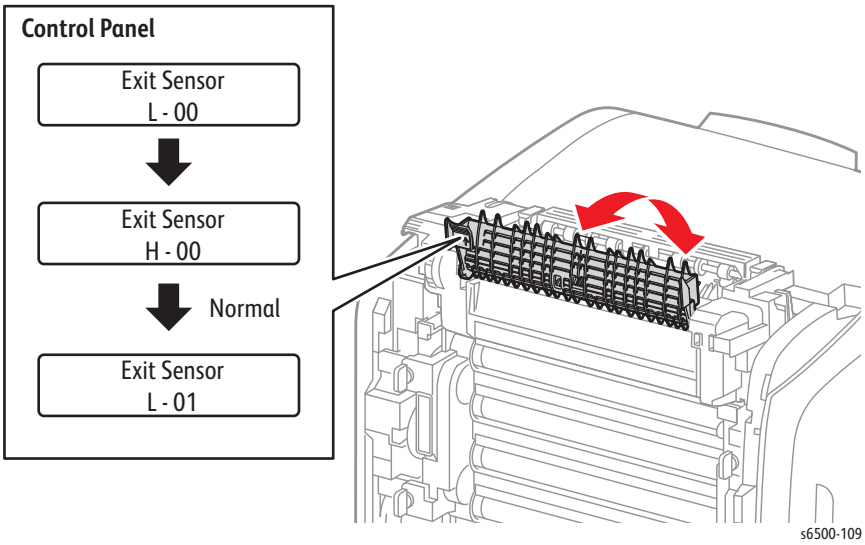
Exit Sensor

Warning

Allow the Fuser to cool before using this procedure.

1. Enter Service Diagnostics (page 4-8).
2. Open the Front Cover.
3. Run the Exit Sensor test: **Engine Diag** > **Sensor Test** > **Exit Sensor**.
4. Move the chute up and down and check the Control Panel display.



Note

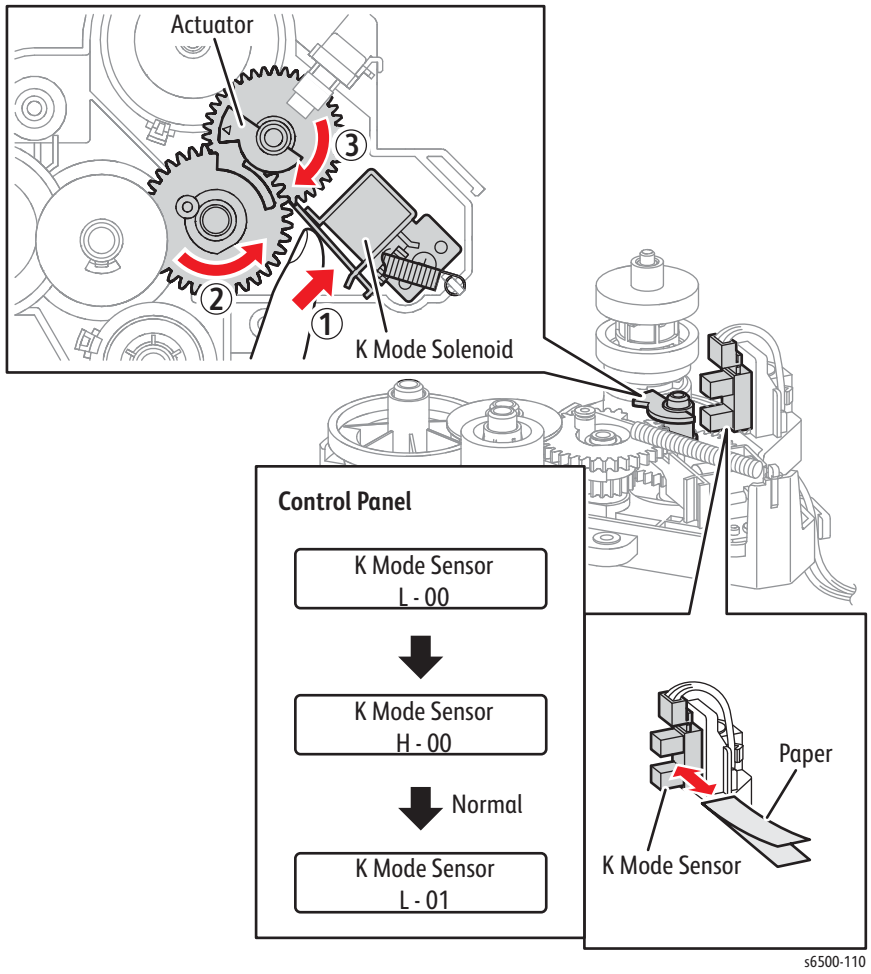
Press **Cancel** to stop the test.

K Mode Sensor

Note

Close the Interlock Switch to provide power to the device under test.

1. Enter Service Diagnostics (page 4-8).
2. Remove Tray 1.
3. Open the Front Cover.
4. Lower the Transfer Belt.
5. Remove the Imaging Unit (page 8-7).
6. Remove the Left Side Cover (page 8-18).
7. Remove the Feed Drive Assembly (page 8-117) but do not disconnect the harness.
8. Run the K Mode Sensor test: **Engine Diag** > **Sensor Test** > **K Mode Sensor**.
9. Press the lever mounted on the solenoid to retract the actuator from the sensor.
10. Move a strip of paper in and out of the sensor to simulate the actuator.



Note

Press **Cancel** to stop the test.

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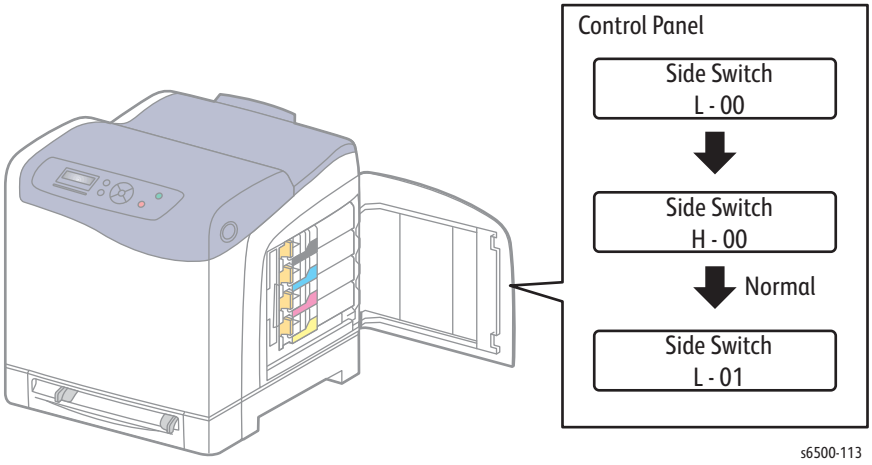
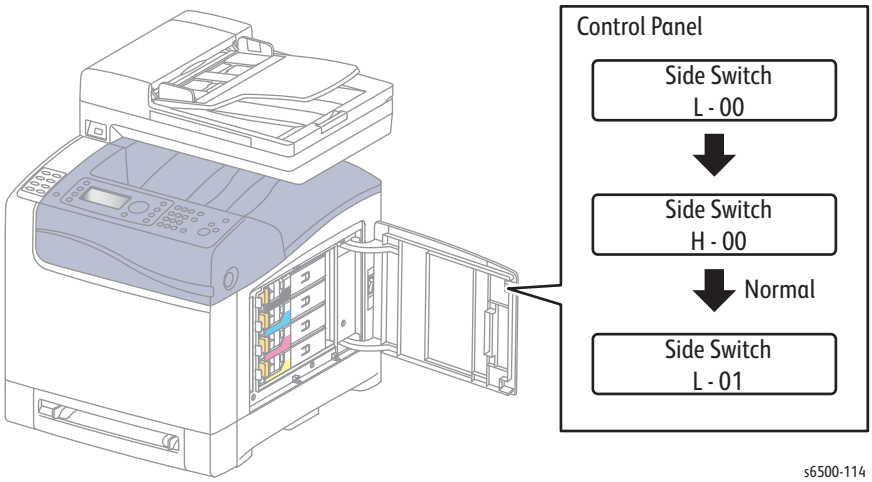
Side (Toner Door) Switch

1. Enter Service Diagnostics (page 4-8).
2. Run the Side Switch test: **Engine Diag** > **Sensor Test** > **Side Switch**.
3. Open and close the Toner Door while checking the display.



s6500-113



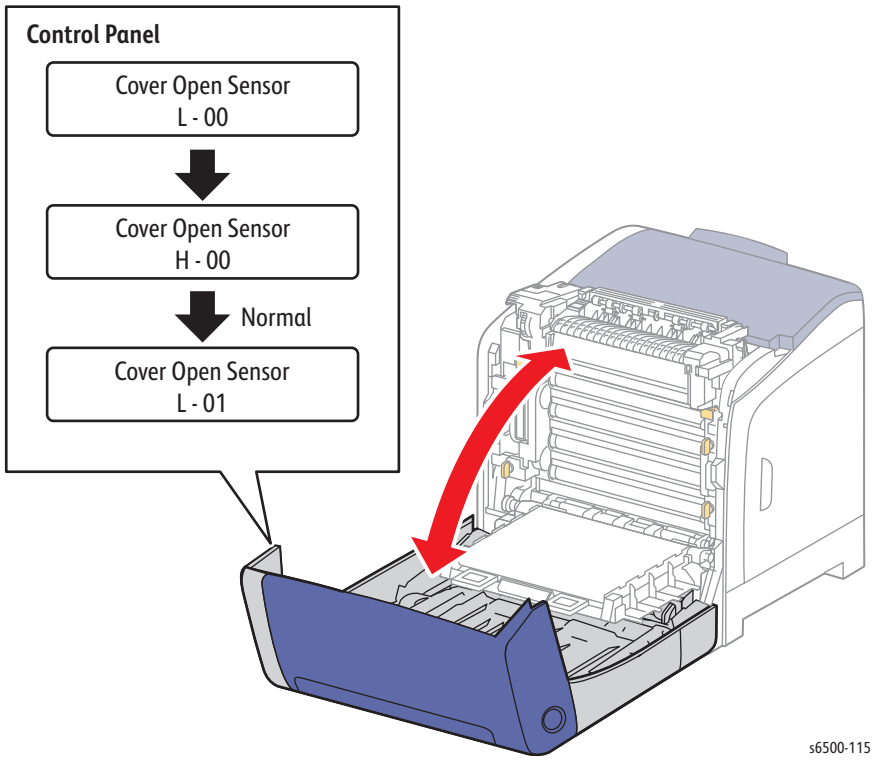
s6500-114

Note

Press **Cancel** to stop the test.

Cover Open Sensor (Interlock Switch)

1. Enter Service Diagnostics (page 4-8).
2. Run the Interlock Switch test: **Engine Diag** > **Sensor Test** > **Cover Open Sensor**.
3. Open and close the Front Door while checking the Control Panel display.



Note

Press **Cancel** to stop the test.

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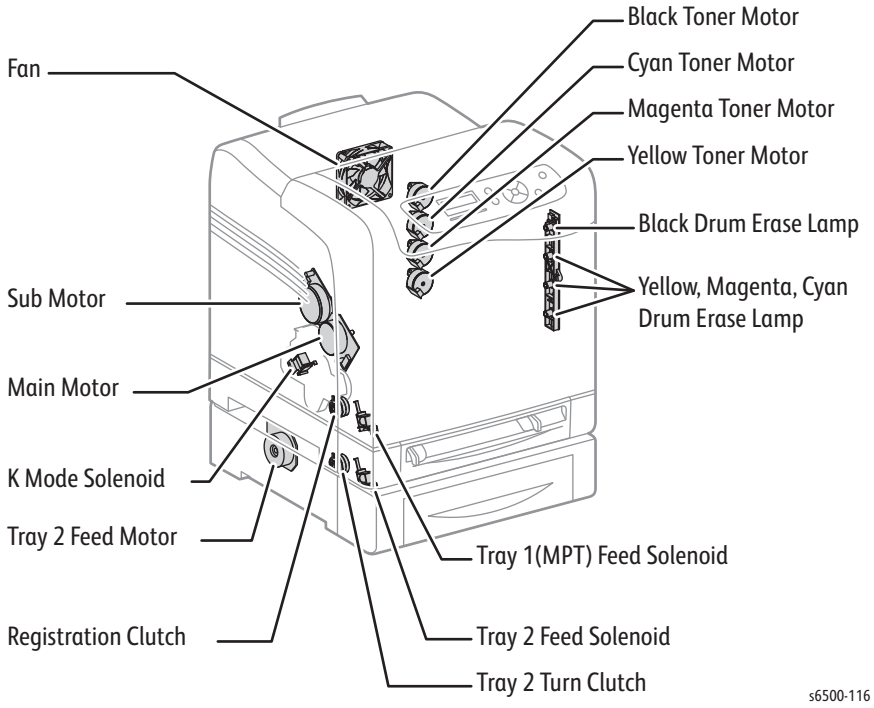
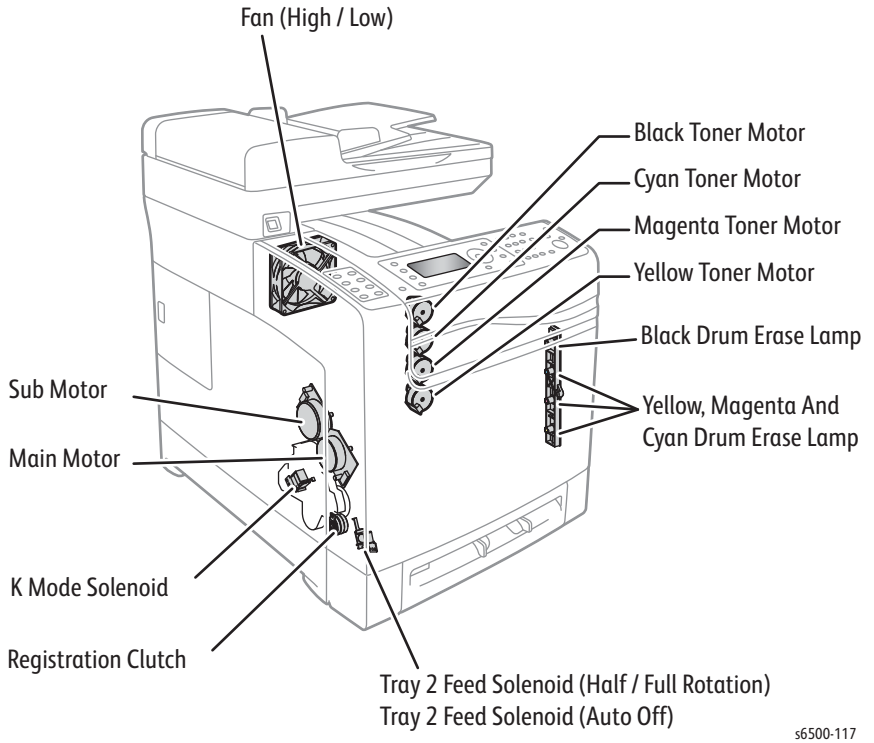
Motor Tests

The following test procedures are for print engine motors, solenoids and clutches. These components are identified below.





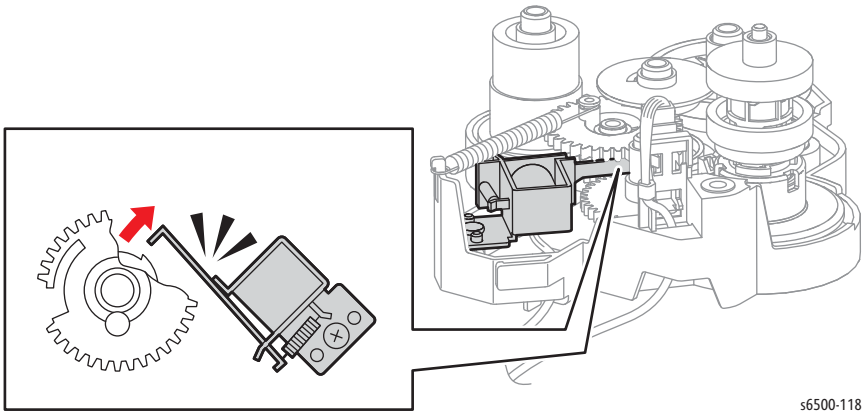
K Mode Solenoid

The K Mode Solenoid shifts the gear drive depending on color or mono mode.

Note

Close the Interlock Switch to provide power to the device under test.

1. Remove the Feed Drive Assembly (page 8-117), but leave the harness connected.
2. Enter Service Diagnostics (page 4-8).
3. Run the K Mode Solenoid test: **Engine Diag > Motor Test > K Mode Solenoid**.



Note

Press **Cancel** to stop the test.

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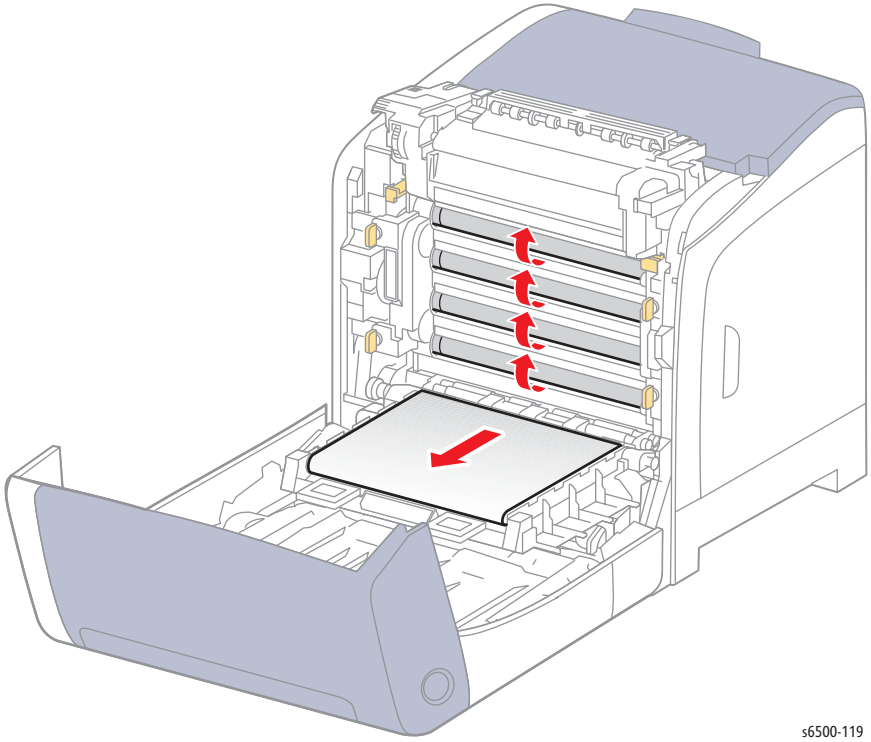
Main Drive Assembly

The Main Drive Assembly drives the Transfer Belt and Imaging Unit drums.

Note

Close (cheat) the Interlock Switch to provide power to the device under test.

1. Enter Service Diagnostics (page 4-8).
2. Remove Tray 1.
3. Open the Front Cover.
4. Lower the Transfer Belt.
5. Run the Main Motor test: **Engine Diag** > **Motor Test** > **Main Motor Full2, Full1, Half**.
6. Verify that the Imaging Unit drums are rotating, and Transfer Belt is moving.



s6500-119

Note

Press **Cancel** to stop the test.

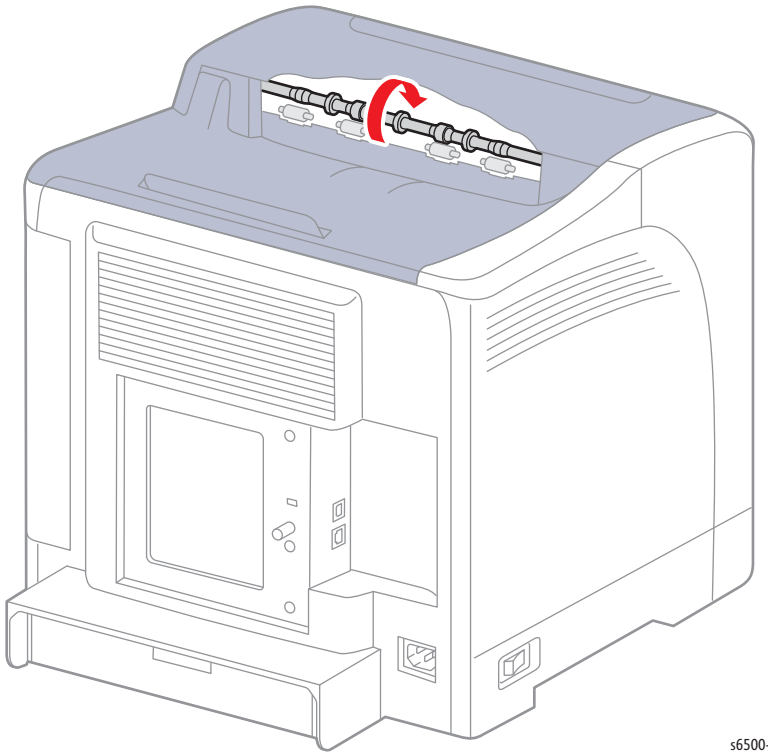
Sub Drive Assembly

The Sub Motor is located in the Main Drive and drives the Fuser and Developer.

Note

Close (cheat) the Interlock Switch to provide power to the device under test.

1. Enter Service Diagnostics (page 4-8).
2. Run the Sub Motor test: **Engine Diag** > **Motor Test** > **Sub Motor Full2, Full1, Half**.
3. Verify that the Exit Roller is rotating.



Note

Press **Cancel** to stop the test.

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Toner Motors

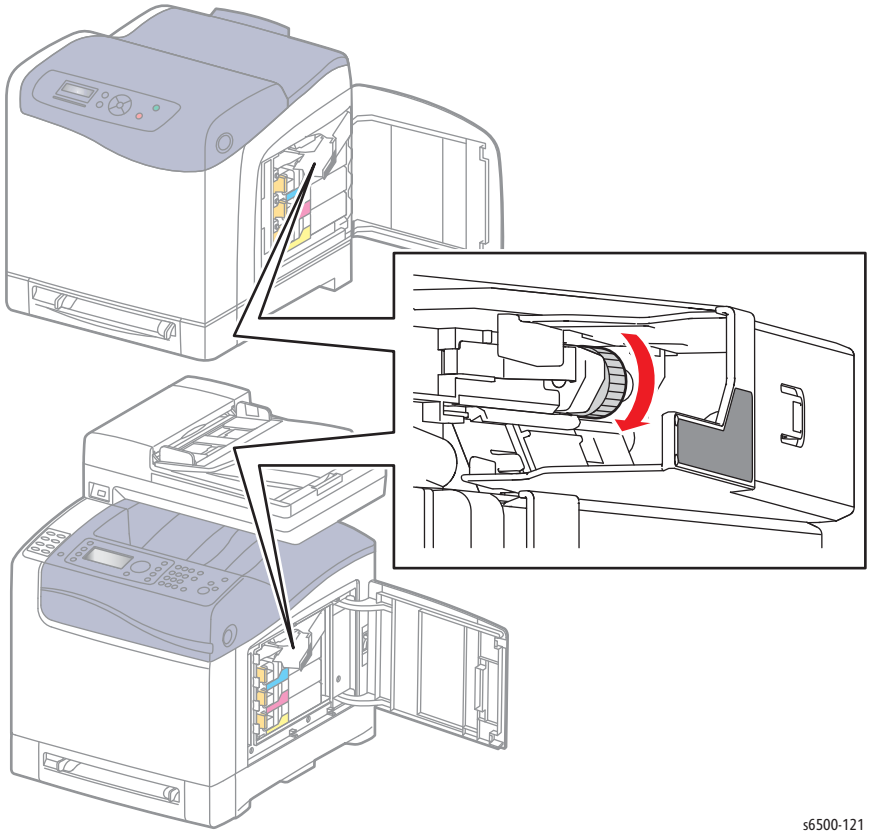
Caution

Running the Toner Motor for longer than a few seconds can result in toner spilling from the Imaging Unit.

Note

Close the Interlock Switch to provide power to the device under test.

1. Enter Service Diagnostics (page 4-8).
2. Remove the Toner Cartridge (page 8-12) of the color under test.
3. Open the Toner Cartridge Holder of the color under test.
4. Run the Toner Motor test: **Engine Diag** > **Motor Test** > **(C)(M)(Y)(K) Toner Motor**.
5. Check that the gear is rotating for the selected color.



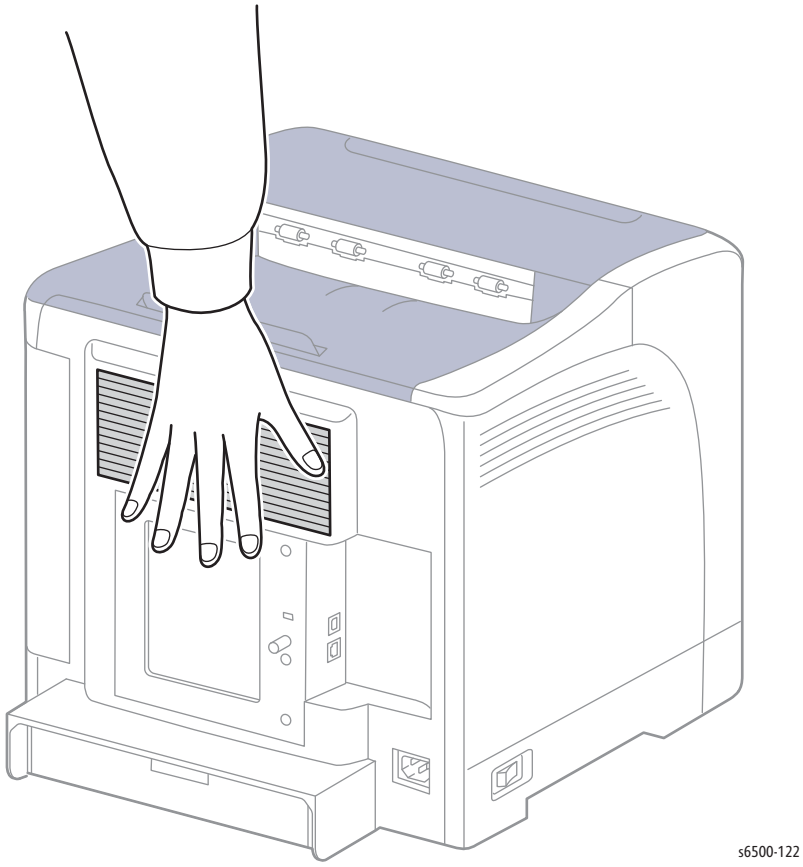
s6500-121

Note

Press **Cancel** to stop the test.

Fan

1. Enter Service Diagnostics (page 4-8).
2. Run the Fan test: **Engine Diag** > **Motor Test** > **Fan High or Low**.
3. Check for airflow from the vent.



s6500-122

Note

Press **Cancel** to stop the test.

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Registration Clutch

The Registration Clutch controls drive to the Registration Roller. To test the Registration Clutch:

1. Enter Service Diagnostics (page 4-8).
2. Run the Registration Clutch test: **Engine Diag** > **Motor Test** > **Regi Clutch**.

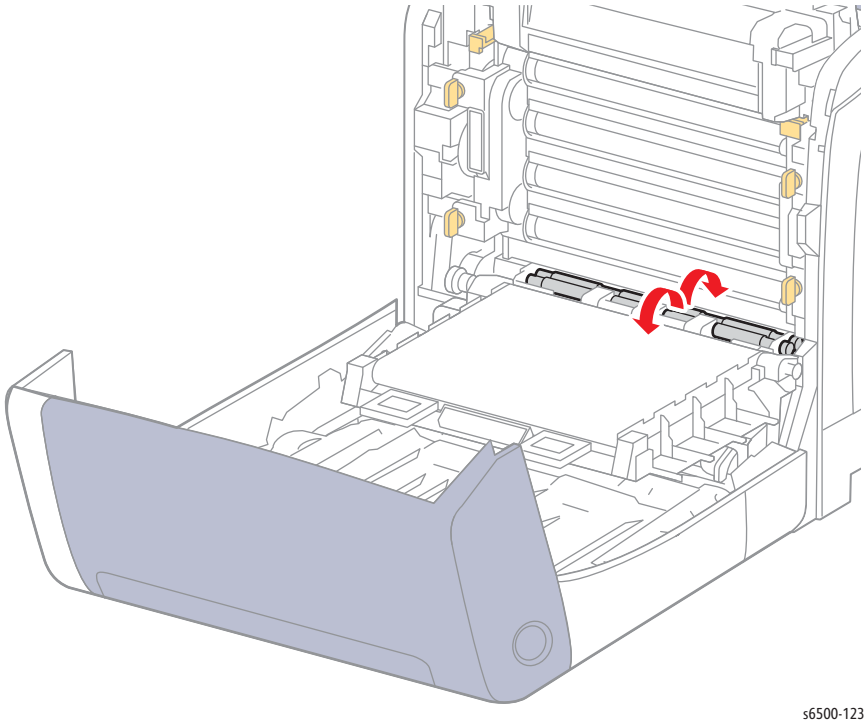
A click is heard when the clutch is energized.

To test the Registration Clutch in combination with the Registration Rollers:

Note

Close (cheat) the Interlock Switch to provide power to the device under test.

1. Enter Service Diagnostics (page 4-8).
2. Open the Front Cover.
3. Remove Tray 1.
4. Remove the Imaging Unit (page 8-7).
5. Run the Main Motor Full2 test: **Engine Diag** > **Motor Test** > **Main Motor Full2**.
6. While the Main Motor is running, press the **Up** arrow to find **Regi Clutch**. Press **OK** to run the Regi Clutch test.
7. Check that the Registration Rollers are rotating.



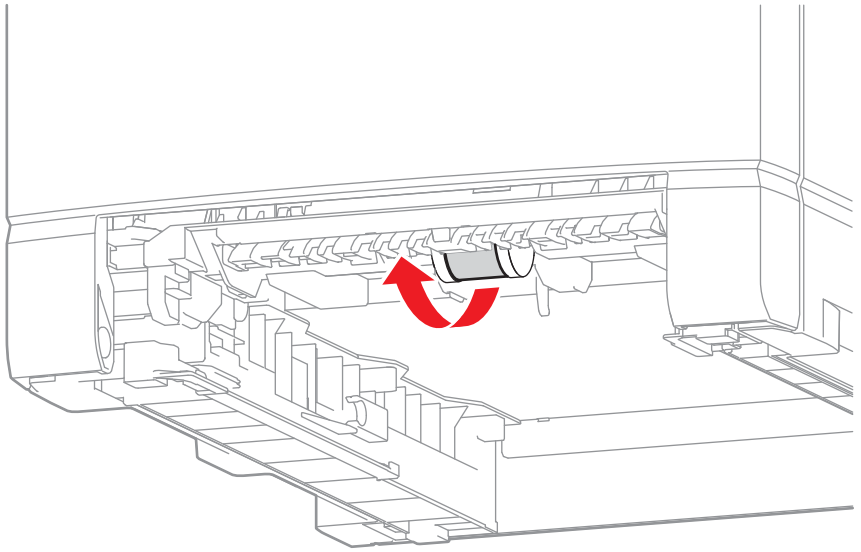
s6500-123

8. Press **Cancel** to stop the test.
9. Press the **Down** arrow to find Main Motor Full2
10. Press **Cancel** to stop the test.

Tray 1 Feed Solenoid

This test operates the Feed Solenoid and engages the Feed Roller. When **Half** is selected, the Feed Roller makes a half rotation; When **Init** is selected, the Feed Roller makes a full-rotation. When **Auto** is selected, the solenoid clicks.

1. Enter Service Diagnostics (page 4-8).
2. Remove the Paper Tray.
3. Run the Tray Feed Solenoid (Half), (Init), or (Auto) test: **Engine Diag > Motor Test> Feed Roller Half, or Init, or Auto.**



Note

Press **Cancel** to stop the test.

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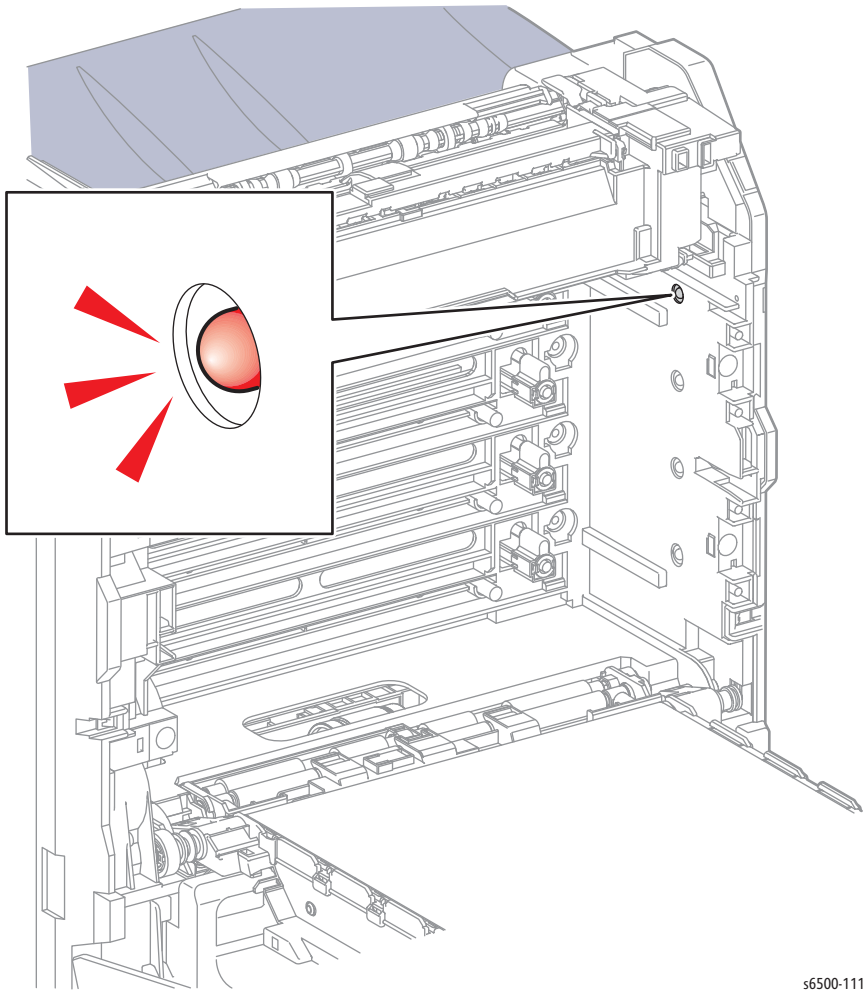
Drum Erase Lamp (K)

Note

Close the Interlock Switch to provide power to the device under test.

1. Enter Service Diagnostics (page 4-8).
2. Remove Tray 1.
3. Open the Front Cover.
4. Lower the Transfer Belt.
5. Remove the Imaging Unit (page 8-7).
6. Run the Drum Erase Lamp K test: **Engine Diag** > **Motor Test** > **Drum Erase Lamp K**.
7. Verify that the lamp is operating.



Note

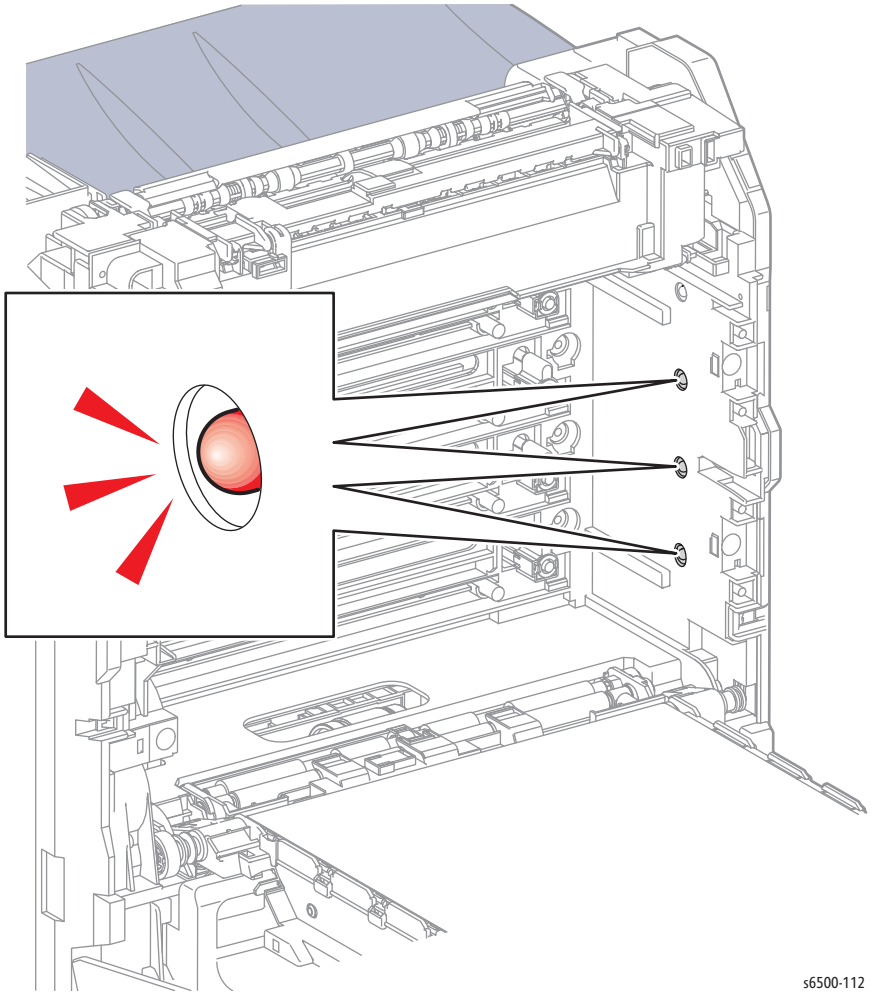
Press **Cancel** to stop the test.

Drum Erase Lamp (C, M, Y)

Note

Close the Interlock Switch to provide power to the device under test.

1. Enter Service Diagnostics (page 4-8).
2. Remove Tray 1.
3. Open the Front Cover.
4. Lower the Transfer Belt.
5. Remove the Imaging Unit (page 8-7).
6. Run the Drum Erase Lamp YMC test: **Engine Diag** > **Motor Test** > **Drum Erase Lamp YMC**.
7. Verify that the lamps are operating.



Note

Press **Cancel** to stop the test.

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NVM Settings

These are specialized tests for transferring settings data back and forth between the MCU non-volatile memory the IP Board non-volatile memory.

Edit NVM

Caution

Editing the data in non-volatile memory can affect printer operation. Field use of this test is not recommended.

Save NVM to ESS

Use this test to preserve NVM settings when replacing the MCU Board.

1. Enter Service Diagnostics (page 4-8).
2. Run the Save NVM to ESS test: **Engine Diag** > **NVM Settings**> Save NVM to ESS.
3. Press **OK** to perform the NVM Save.
4. When the NVM Save is complete, press the **Cancel** button several times to display **Engine Diag**, then exit Service Diagnostics.

Load NVM from ESS

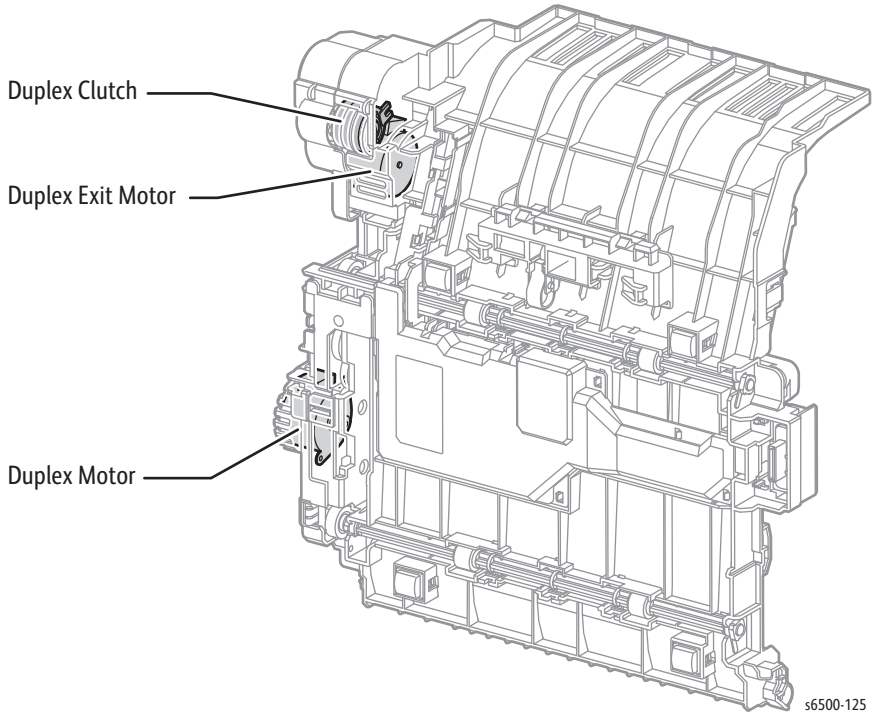
Use this test to restore NVM settings after replacing the MCU Board.

1. Enter Service Diagnostics (page 4-8).
2. Run the Load NVM from ESS test: **Engine Diag** > **NVM Settings**> Load NVM from ESS.
3. Press **OK** to perform the NVM Save.
4. When the NVM Save is complete, press the **Cancel** button several times to display **Engine Diag**, then exit Service Diagnostics.

Initialize Slave

Field use of this test is not recommended.

Duplex Unit Test Procedures



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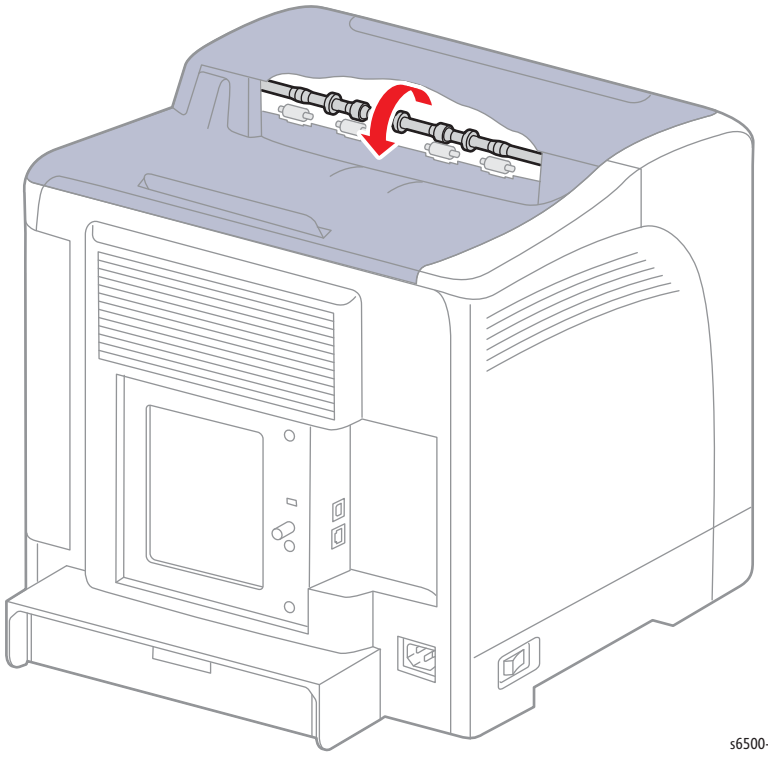
Duplex Exit Motor

The Duplex Exit Motor drives the Exit Roller.

Note

Close the Interlock Switch to provide power to the device under test.

1. Enter Service Diagnostics (page 4-8).
2. Run the Main Motor test: **Engine Diag** > **Motor Test** > **Exit Motor Half, Full1, Full2, Full3**.
3. Check that the Exit Roller is rotating.



s6500-126

Note

Press **Cancel** to stop the test.

Duplex Clutch

The Duplex clutch engages drive to the rollers. To test the clutch:

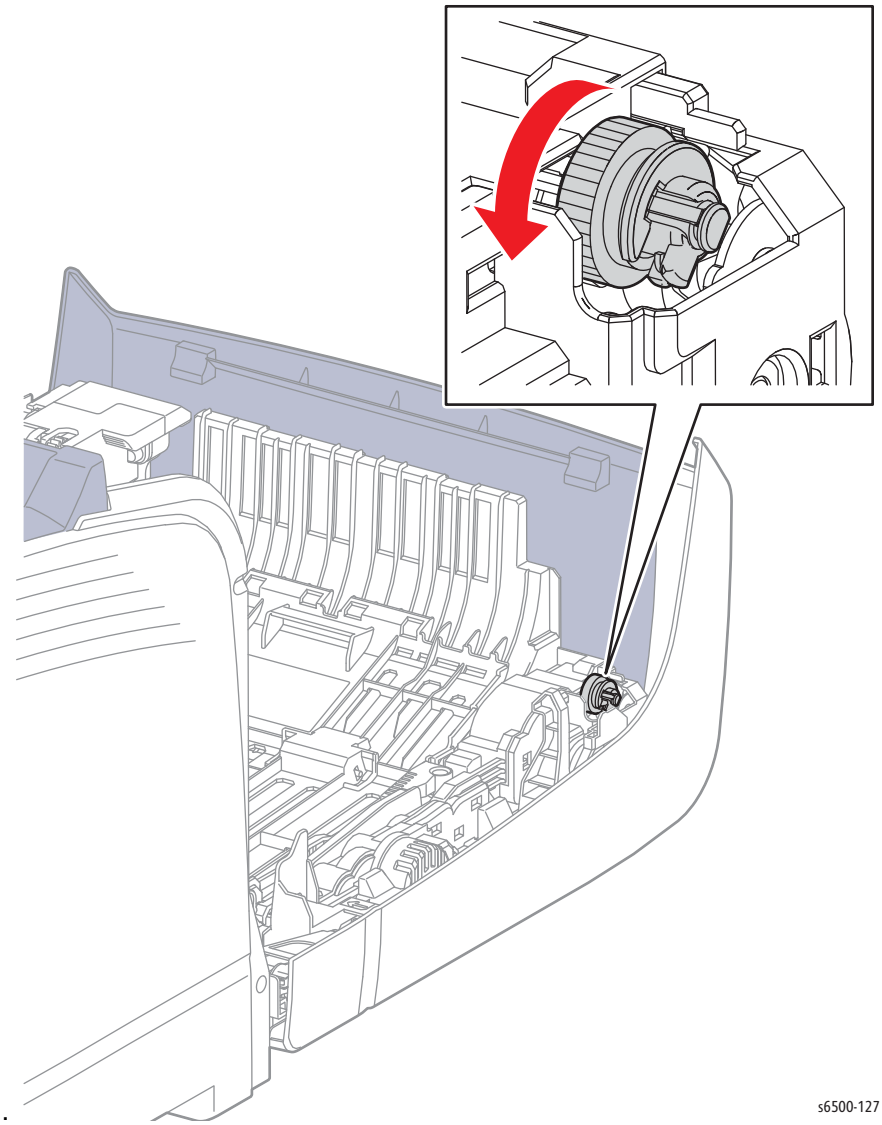
Note

Close the Interlock Switch to provide power to the device under test.

1. Enter Service Diagnostics (page 4-8).
2. Run the Duplex Clutch test: **Engine Diag** > **Motor Test** > **Duplex Clutch**.

A click is heard when the clutch is energized.To test the clutch and the duplex exit motor:

1. Enter Service Diagnostics (page 4-8).
2. Open the Front Cover.
3. Run the Exit Motor Full2 test: **Engine Diag** > **Motor Test** > **Exit Motor Full2**.
4. While the motor is running, press the **Up** arrow to find **Duplex Clutch**. Press **OK** to run the test.
5. Check that the gear is rotating



6. Press **Cancel** to stop the test.
7. Press the **Down** arrow to find Exit Motor Full2 and **Cancel** the test.

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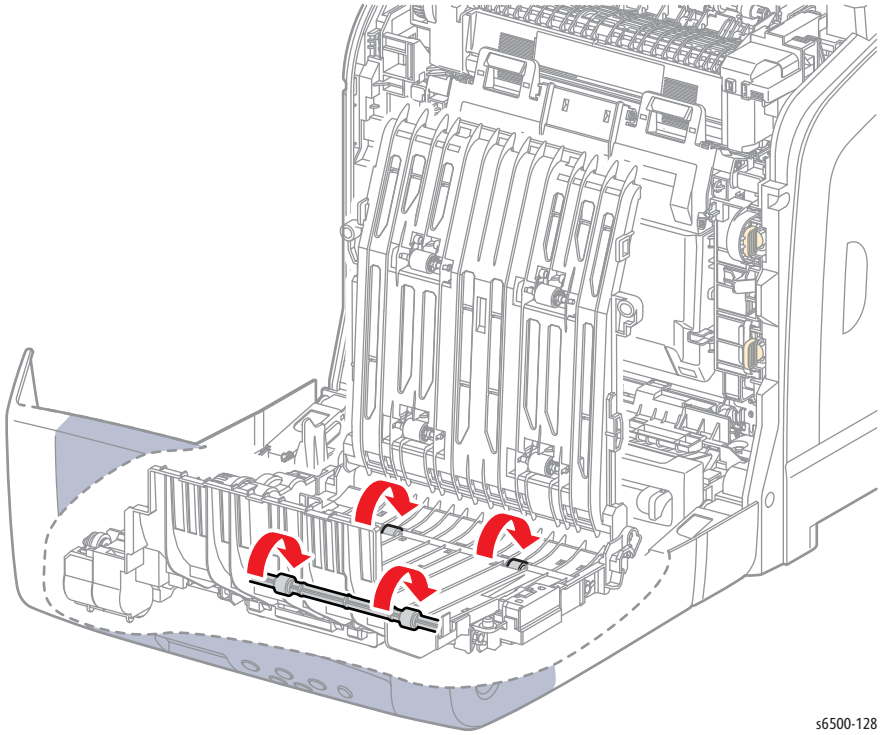
Duplex Motor

The duplex motor drives the duplex rollers.

Note

Close the Interlock Switch to provide power to the device under test.

1. Enter Service Diagnostics (page 4-8).
2. Open the Front Cover and duplex chute.
3. Run the Main Motor test: **Engine Diag > Motor Test > Duplex Motor Half, Full1, Full2, Full3**.
4. Check that the duplex rollers are rotating.



s6500-128

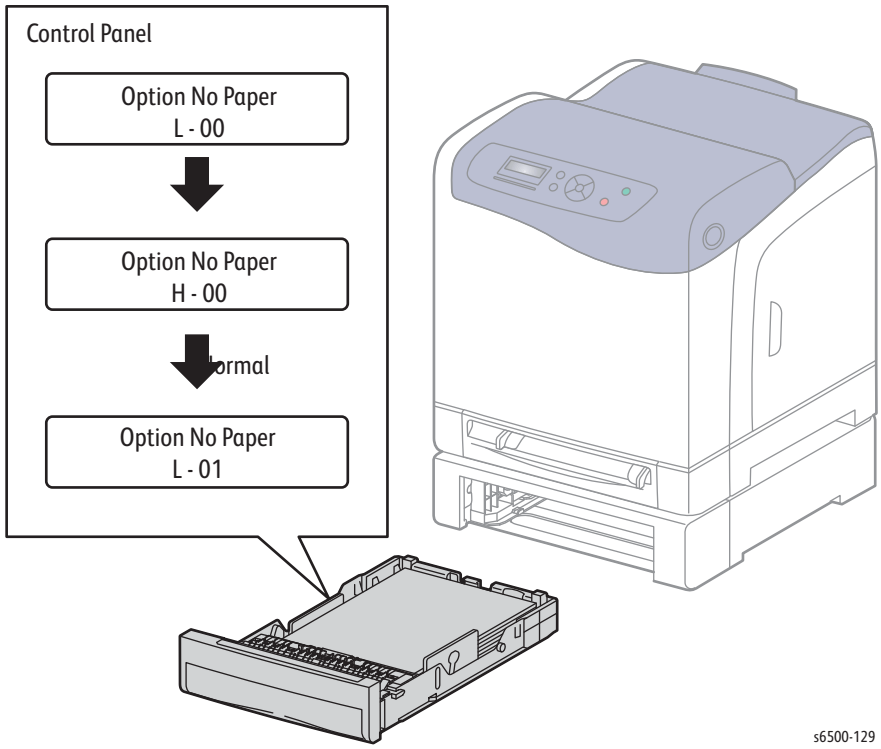
Note

Press **Cancel** to stop the test.

Optional Feeder Test Procedures

Tray 2 No Paper Sensor

1. Enter Service Diagnostics (page 4-8).
2. Run the Tray No Paper test: **Engine Diag** > **Sensor Test** > **Tray 2 No Paper**.
3. Remove Tray.
4. Move the Actuator up and down while checking the Control Panel display.



Note

Press **Cancel** to stop the test.

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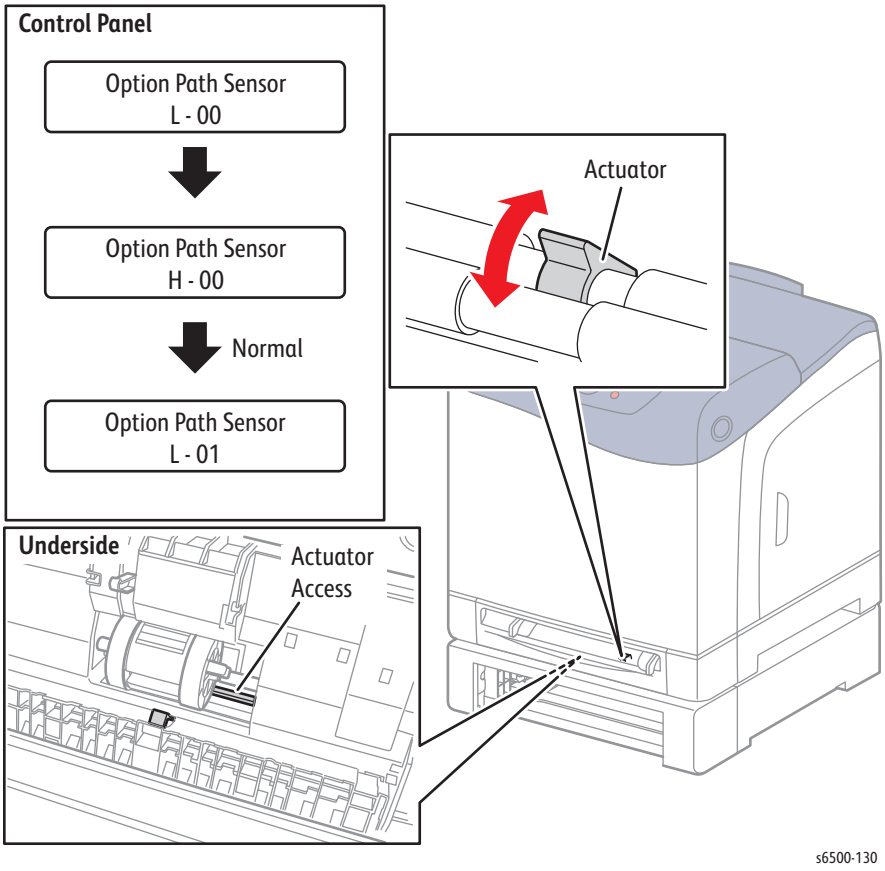
Tray 2 Paper Path Sensor

1. Enter Service Diagnostics (page 4-8).
2. Run the Tray No Paper test: **Engine Diag** > **Sensor Test** > **Tray 2 Path Sensor**.
3. Remove Tray 2.
4. Reach into the Tray 2 cavity and move the actuator while checking the Control Panel display.



Note

Press **Cancel** to stop the test.

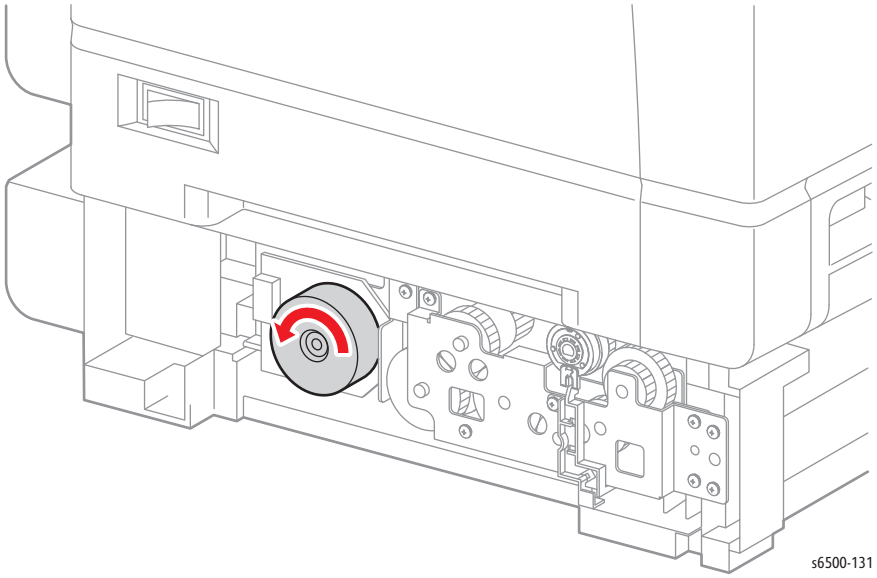
Tray 2 Feeder Motor Test

The Tray 2 feed motor drives the pick roller.

Note

Do not remove the Optional Feeder from the printer and close the Interlock Switch to provide power to the device under test.

1. Enter Service Diagnostics (page 4-8).
2. Remove Tray 2 from the Optional Feeder.
3. Remove the Rear Cover from the Optional Feeder ().
4. Remove the Left Side Cover from the Optional Feeder ().
5. Run the Main Motor test: **Engine Diag > Motor Test > Tray2 Feeder Motor Half, Full1, Full2, Full3**.
6. Check that the motor rotates CCW.



Note

Press **Cancel** to stop the test.

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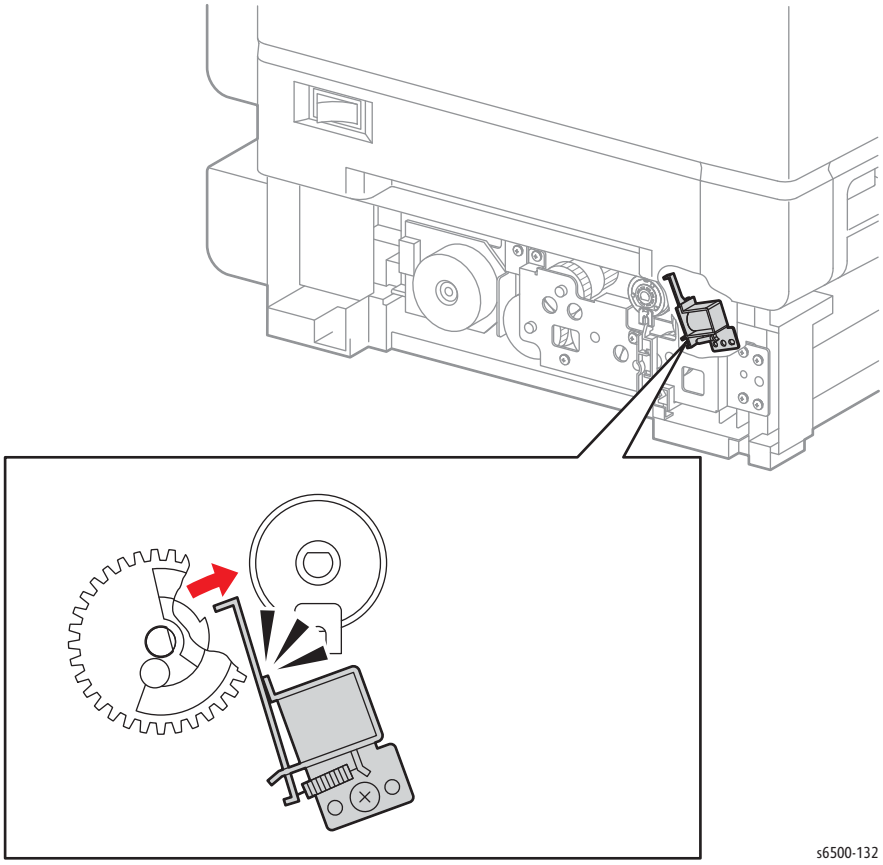
Tray 2 Feed Solenoid Test

The Tray 2 Feed Solenoid engages the pick roller.

Note

Do not remove the Optional Feeder from the printer and close the Interlock Switch to provide power to the device under test.

1. Enter Service Diagnostics (page 4-8).
2. Remove Tray 2 from the Optional Feeder.
3. Remove the Rear Cover from the Optional Feeder ().
4. Remove the Left Side Cover from the Optional Feeder ().
5. Run the Main Motor test: **Engine Diag > Motor Test > Tray 2 Feed Solenoid Auto**.
6. Check Feed Solenoid movement.



s6500-132

Note

Press **Cancel** to stop the test.

Tray 2 Drive Clutch

The Tray 2 Drive Clutch engages drive to the turn rollers. To test the Drive Clutch.

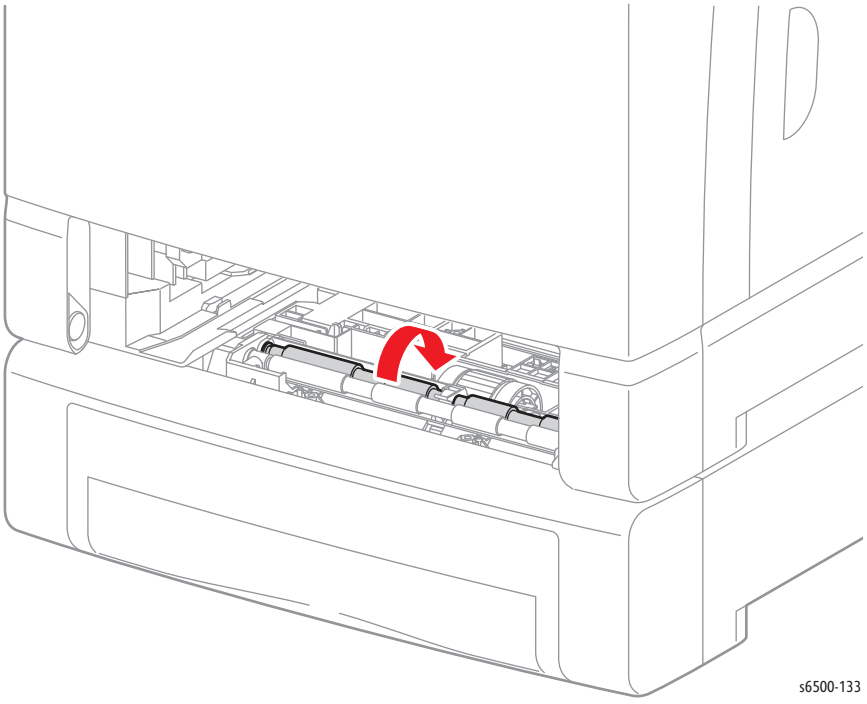
Note

Do not remove the Optional Feeder from the printer and close the Interlock Switch to provide power to the device under test.

1. Enter Service Diagnostics (page 4-8).
2. Run the Option Turn Roll test: **Engine Diag** > **Motor Test** > **Tray 2 Turn Roll**.

A click occurs when the clutch is energized.To test the turn clutch in combination with the turn rollers:

1. Enter Service Diagnostics (page 4-8).
2. Remove Trays 1 and 2.
3. Run the Option Feeder Motor Full2 test: **Engine Diag** > **Motor Test** > **Tray 2 Feeder Motor Full2**.
4. While the motor is running, press the **Up Arrow** button to find **Option Turn Roll**. Press the **OK** button to run the test.
5. Check that the turn rollers are rotating.



6. Press **Cancel** to stop the test.
7. Press the **Down** arrow to find Option Feeder Motor Full2.
8. Press **Cancel** to stop the test.

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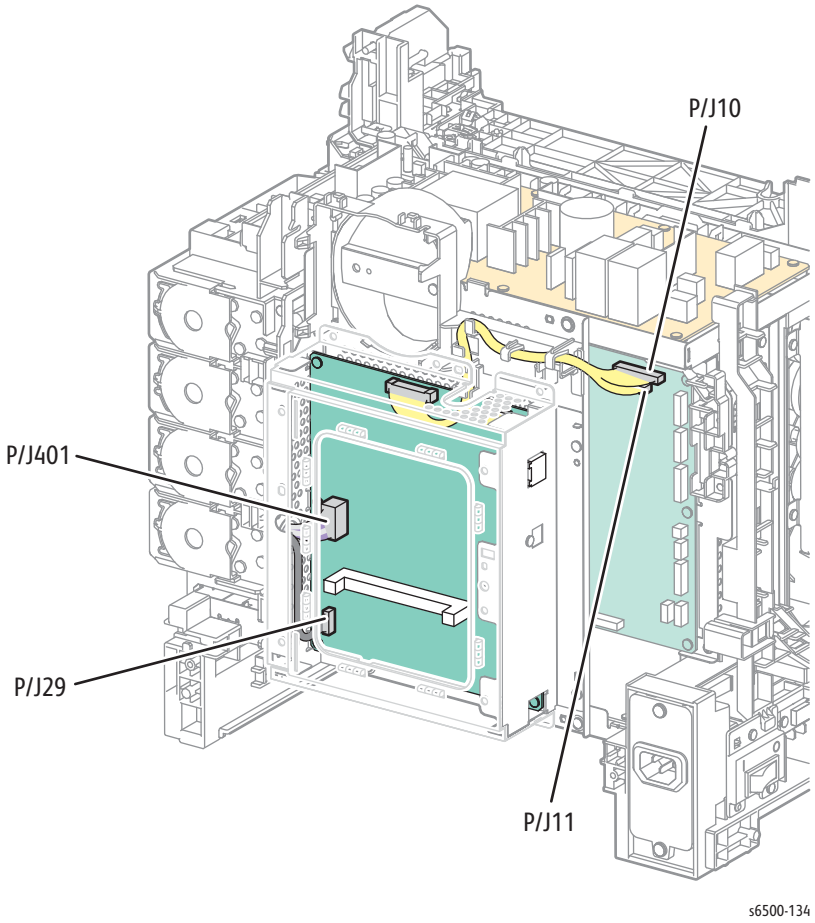
Engine Test Print (SFP)

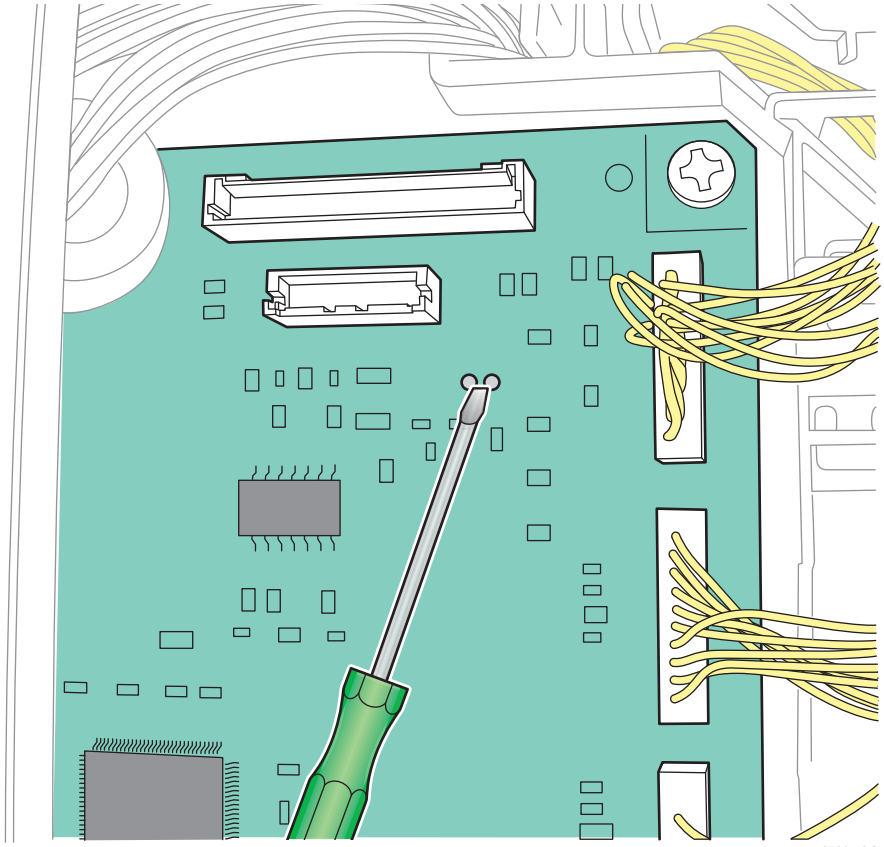
The Engine (Pattern IOT) test print isolates printer hardware problems to either the MCU or Image Processor Board by eliminating the need for image data transfer between the two. The printer requires no Image Processor Board circuitry to produce the image.

Use this procedure to print an Engine Test print by shorting two contacts on the MCU Board.

1. Turn the printer Off.
2. Open the Front Cover.
3. Remove the Top Cover (page 8-15).
4. Remove the Right Side Cover (page 8-17).
5. Remove the Left Side Cover (page 8-18).
6. Remove the Rear Tray Cover (page 8-19).
7. Remove the Rear Cover (page 8-20).
8. Disconnect P/J401 and P/J29 from the IP Board.
9. Disconnect P/J10 and P/J11 from the MCU Board.



10. Close the Front Cover.
11. Locate the “Test Print” contacts on the MCU Board.
12. Close the Toner Door Interlock Switch.
13. Turn the printer On.
14. Using a flat-blade screwdriver, roll the tip of the screwdriver from one contact to the other until they are shorted out.



Note

The contacts are sensitive in response to being shorted out. It may require multiple attempts to get a test print.

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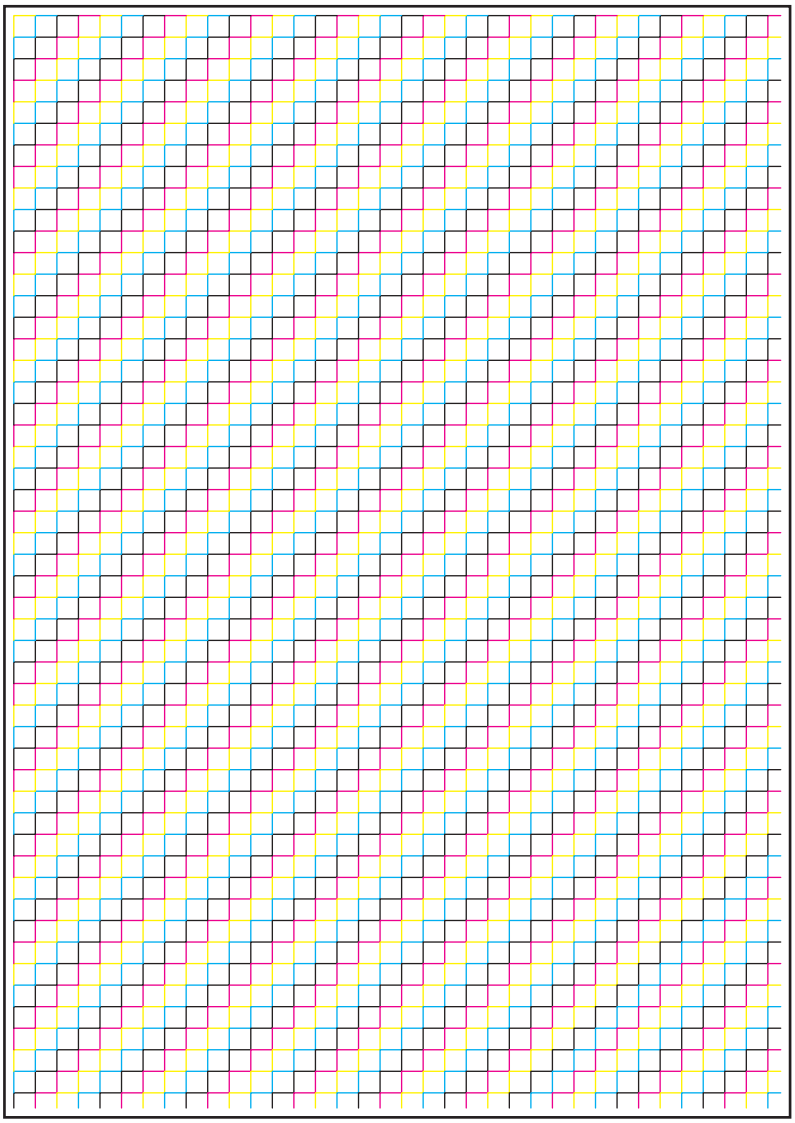
When done successfully, the engine will immediately start and print out a test page. If the test fails, the MCU Board is most likely at fault.



s6500-137

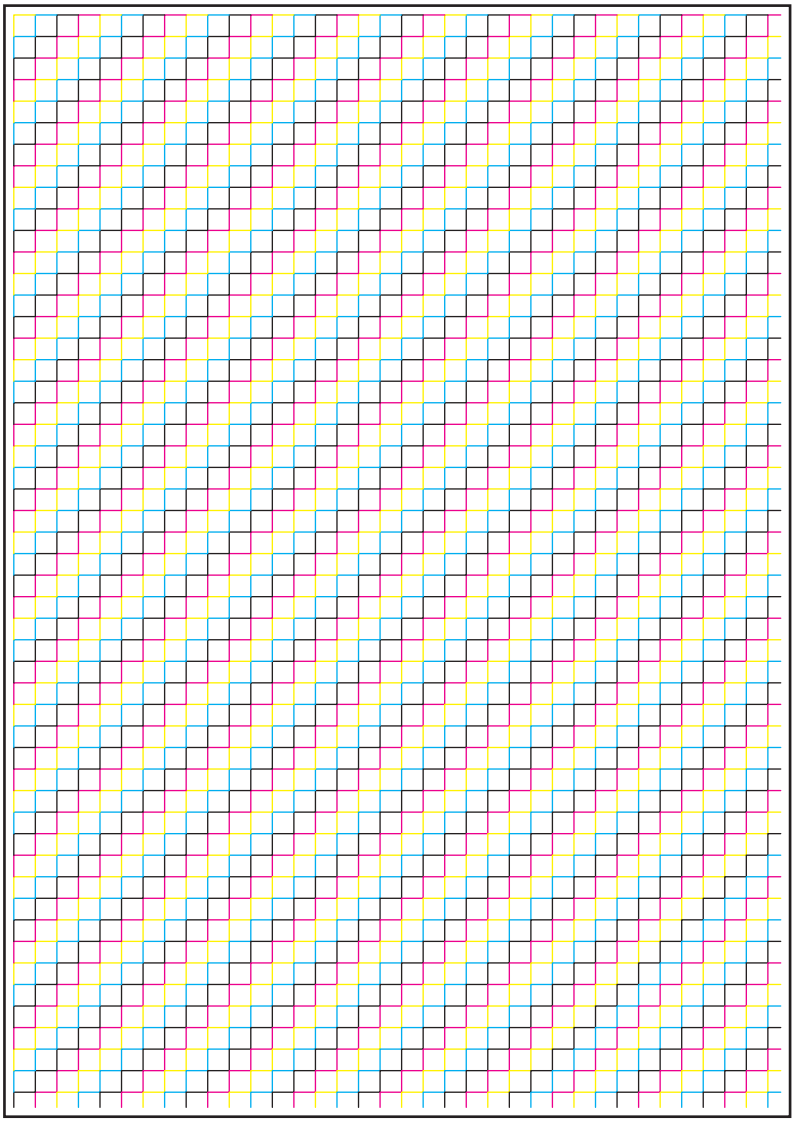
Engine Test Print (MFP)

For the MFP, use the Service Diagnostics to print the **Pattern IOT** test print, a built-in 600 dpi pattern. Because the test pattern is stored on the MCU Board, the pattern is printed without using the IP Board.

To print the Pattern IOT:

1. Press the **Up** and **Down** arrows at power on.
2. Release when **Service Mode** is displayed.
3. Select **Printer Diag > Test Print > Pattern IOT**.

Compare the printed output to the sample shown here. If the pattern prints correctly, the IP Board is most likely at fault. If the pattern fails to print or prints incorrectly, the problem is most likely in the MCU Board or other component associated with the print
process.



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Fax/Scanner Diagnostic Tests

Test	Control Panel Display	Test Description
Board Tests	Tests the function of the Fax, ADF, and Scanner boards.	
All Test	All Test ■ Ready ■ Now checking ■ Check OK or NG	Runs all board tests.
Fax Memory		
RTC Test	■ Ready ■ Now checking ■ Check OK or NG	This test checks the Real Time Clock chip. Run this test when error 117-365 occurs.
Fax Flash Test	■ Ready ■ Now checking ■ Check OK or NG	Performs write/read/verification on the Fax Flash memory. Run this test when error 017-971, 017-972, 017-973, 017-974, or 117-344 occurs.
SDRAM Test	■ Ready ■ Now checking ■ Check OK or NG	Performs write/read/verify on the SRAM. Run this test when error 117-311, 117-362, 117-363, 133-254, 017-970, 033-503, or 033-787 occurs.
I/F Test		
Fax Card Test	■ Ready ■ Now checking ■ Check OK or NG	This test checks communication with the Fax Board. Run this test when Fax related errors occur.
AFE Serial Test	■ Ready ■ Now checking ■ Check OK/Check NG	This test checks communication with the AFE serial interface. Run this test when Fax or Scanner related errors occur.
FPGA IIT I/F Test	■ Ready ■ Now checking ■ Check OK/Check NG	This test checks communication with the IIT interface. Run this test when Fax or Scanner related errors occur.
Fire3 Test		
Fire3 IJAC Test	■ Ready ■ Now checking ■ Check OK or NG	This test checks the Fire3 IJAC. Run this test when Fax or Scanner related errors occur.
Fire3 IBIG Test	■ Ready ■ Now checking ■ Check OK or NG	This test checks the Fire3 IBIG. Run this test when Fax or Scanner related errors occur.
Relay/Signal Test		
Relay Test		Switches the relay circuit between the Fax and telephone lines.
Relay Toggle Test	Relay Toggle Test ■ Time [10ms]:0000 ■ Now Switching	This test switches the relay circuit between the Fax and telephone lines at a set cycle multiple. Cycle value range is 50 to 9999, and the toggle interval is 10ms. (Time = CV x 10ms). Data 1: Default is 2 seconds.
Relay Set Test	Relay Set Test ■ Set ON [OPEN] ■ Set OFF [CLOSE] ■ Complete	This test connects the relay circuit to the Fax or telephone line. ■ Set ON: Connect the Fax line. ■ Set OFF: Connect the telephone line.

Test	Control Panel Display	Test Description
Hook Test		This test switches the telephone line between on and off-hook states.
Hook Toggle Test	Hook Toggle Test ■ Time [10ms]:0000 ■ Now Switching	This test switches the telephone line between on and off-hook states at a set cycle. Cycle value range is 50 to 9999, and the toggle interval is 10ms. (Time = CV x 10ms). Data 1: Default is 2 seconds.
Hook Set Test	Hook Set Test ■ Set ON ■ Set OFF ■ Complete	This test switches the telephone line between on or off-hook states. ■ Set ON: Connect the on-hook circuit. ■ Set OFF: Connect the off-hook circuit.
Single Tone Send	Single Tone Send ■ 0Hz, 400Hz, 462Hz, 1100Hz, 1300Hz, 1500Hz, 1650Hz, 1850Hz, 2100Hz, 500Hz, 600Hz, 900Hz, 1000Hz ■ Now Sending Signal ■ Complete	Checks the tone output for each single tone for tone dialing.
DTMF Send	DTMF Send	Unplug phone line before performing these tests to prevent a call connection.
DTMF Continuous	DTMF Continuous ■ DTMF: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, *, # ■ Now Sending Signal ■ Complete	This test checks the tone output for all touch tones for tone dialing.
DTMF Individually	DTMF Individually ■ 0000000000000000 ■ Now Sending Signal ■ Complete	This test checks the tone output for 16 key numbers on the LCD. Use to transmit the specified signal separately 3 seconds after off hook. After 16-digit signal is transmitted, the signal stops, but off hook status continues.
Dial Pulse Send	Dial Pulse Send	Unplug phone line before performing this test to prevent a call connection.
DP10 Individually	DP10 Individually ■ 0000000000 ■ Now Sending Signal ■ Complete	This test checks the 10PPS pulse output for one of the 10 key numbers set on the LCD. Use to transmit the specified signal separately 3 seconds after off hook. After 10-digit signal is transmitted, the signal stops, but off hook status continues.
DP20 Individually	DP20 Individually ■ 0000000000 ■ Now Sending Signal ■ Complete	This test checks the 20PPS pulse output for one of the 10 key numbers set on the LCD. Use to transmit the specified signal separately 3 seconds after off hook. After 10-digit signal is transmitted, the signal stops, but off hook status continues.

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Test	Control Panel Display	Test Description
Ring Back Tone	Ring Back Tone ■ Now Sending Signal	Checks the tone output signals for the ring back tone at 400Hz + 16Hz.
Data Send	Data Send ■ V.34 33600bps ■ V.34 31200bps ■ V.34 28800bps ■ V.34 26400bps ■ V.34 24000bps ■ V.34 21600bps ■ V.34 19200bps ■ V.34 16800bps ■ V.34 14400bps ■ V.34 12000bps ■ V.34 9600bps ■ V.34 7200bps ■ V.34 4800bps ■ V.34 2400bps ■ V.29 9600bps ■ V.29 7200bps ■ V.27ter 4800bps ■ V.27ter 2400bps ■ V.21 300 bps ■ V.17 14400bps ■ V.17 12000bps ■ V.17 9600bps ■ V.17 7200bps ■ Pattern All 0 ■ Pattern All 1 ■ Pattern 0101010101 ■ Pattern 0000100001 ■ Pattern 1111011110 ■ Now Sending Signal	Checks the modem output for each of the transmission rates in compliance with ITU-T recommendations. Data Sending Patterns: ■ All 0 ■ All 1 ■ 0101010101 ■ 0000100001 ■ 11101110
Line Voltage	Line Voltage ■ Value[1.0V]: 000 ■ Now Sampling	This test measures the telephone line voltage. Line voltage varies country to country. Typically 48V in the US.
Line Current	Line Current ■ Value[1.1mA]: 000 ■ Now Sampling	This test measures the telephone line amperage. The minimum current in the US is 20mA.
Information	Displays the scan count for platen and ADF scans.	
Scan Counter		
Scan Counter	FB:0x00000000 ADF:0x00000000	Displays the scan counter value. ■ FB: Platen (flatbed) scans. ■ ADF: ADF scans.
Scanner Maintenance		
White Balance	White Balance	Enables automatic calibration of the correction value for platen (FB) and ADF scanning.
Auto Adjust (FB)	Auto Adjust (FB) ■ Ready ■ Now Adjusting ■ Adjust OK or NG	Use to configure the White Balance by correcting C2 value for document glass with auto-adjustment.

Test	Control Panel Display	Test Description
Auto Adjust (ADF)	Auto Adjust (ADF) ■ Ready ■ Now Adjusting ■ Adjust OK or NG	Use to configure the White Balance by correcting C2 value for ADF with auto-adjustment.
Shading Parameter	■ Coeff FB ■ Coeff ADF [Hex]: 00 ■ Target[Hex]:*00	Displays the values stored for shading correction (R, G, B, and Grey) applied to platen, ADF, and target scans. Adjusts the white balance value read from the white reference plate. Caution: Changing these values affects image quality.
Registration Parameter	■ Regi FB Lead [Hex]: 00 ■ Regi FB Side [Hex]: 00 ■ Regi ADF Lead [Hex]: 00 ■ Regi ADF Side [Hex]: 00	Adjusts the side and lead registrations during document scanning. Caution: Changing this value affects image quality.
Auto Registration	■ Set ON ■ Set OFF ■ Complete	Sets whether or not to auto-adjust the registration.
Sensor Parameter	Feed Sensor V	Adjusts the Feed sensor output value.
Vertical Scan Magnification	■ Mag FB Color [Hex]: 00 ■ Mag FB Grey [Hex]: 00 ■ Mag ADF Color [Hex]: 00 ■ Mag ADF Grey [Hex]: 00	Adjusts the scaling in the sub-scanning direction. Caution: Changing this value affects image quality
Test Pattern	Pattern No. 0000	Select the test pattern, and set the parameter.The beginning "*" of the value suggests to complete setting.
	Pt No. Contents	Value
	07 Step Cycle	Value (Hex) *FFFF
	08 Step Cycle	Value (Hex) *FFFF
IIT I/O Check	Test Scanner sensors and motors.	
Home Position Sensor	Status: Off or On	Checks the function of the sensor.
Tray Sensor	Status: Off or On	Checks the function of the sensor.
Feed Sensor	Status: Off or On	Checks the function of the sensor.
ADF Cover Sensor	Status: Off or On	Checks the function of the sensor.
Lamp	See procedure	Checks lamp function.
Scanner Motor	See procedure	Runs the Scanner motor.
ADF Motor	See procedure	Runs the ADF motor.
Scan Counter Clear	Counter Clear ■ Ready ■ Processing ■ Complete	Resets the platen and ADF scan counters to zero.
Counter Clear (FB)	Counter Clear (FB) ■ Ready ■ Processing ■ Complete	Use to clear the platen counter.

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Test	Control Panel Display	Test Description
Counter Clear (ADF)	Counter Clear (ADF) ■ Ready ■ Processing ■ Complete	Use to clear the ADF counter.
Parameter	Parameter	These functions read and write parameters stored on the Image Processor Board. Run this to configure Scanner values manually.
Continue Illegal	■ Clear - delete data ■ Transmit - contents of memory.	Specifies how to handle the document data when the transmission queue overflows memory.
Thresh Memory RX (%)		Sets the percentage of memory reserved when data is received. When the remaining memory amount falls below this threshold, data reception is denied. Values range from 0 to 100. The smaller the value, the larger data storage capacity becomes.
Thresh Immediate (%)		Sets the remaining memory threshold that triggers immediate output. Immediate output refers to an automatic image output to accommodate incoming data that exceeds memory capacity. Values range from 0 to 99. The larger the value, the sooner the immediate output is initiated.
Thresh Memory TX (%)		Sets the percentage of memory reserved when data is sent. Values range from 0 to 100. The smaller the value, the greater the available memory for scanned documents.
Thresh GC (%)		Sets the remaining memory amount in the Flash file system for image data storage that triggers garbage collection.
Page Margin 1 (mm)		Sets the page margin that allows a larger-than-standard size document to be handled as a standard size document. The document is reduced to the standard size by the set value. Values range from 0 to 127. When the value is 10, the margin is 10 mm. Valid when the Discard Size setting in Fax Setting is “Off”

Test	Control Panel Display	Test Description
Page Margin 2 (mm)		Sets the page margin that allows a larger-than-standard size document to be handled as a standard size document. The document is reduced to the standard size, by the set value. Values range from 0 to 127. When the value is 10, the margin is 10 mm. Valid when the Discard Size setting in Fax Setting is “On”
Extel Hook Thresh		Sets the threshold of ON HOOK detection at the external telephone to one of Lower, Normal, and Higher.
Dis DP 20PPS		Sets whether or not to enable 20PPS dial pulse. When 20PPS is disabled in this menu, any 20PPS setting in other menu will be overridden with 10PPS.
CNG Detect (0.1s)		Sets the CNG detection duration for telephone-Fax switching. Values range from 0 to 255. When the value is 100, the detecting time is 10 sec.
Auto Answer (1.0s)		Sets the ring tone duration of the external telephone terminal for Fax-telephone switching. Values range from 0 to 255. When the value is 100, the duration is 100 sec.
Num Check (1.0s)		Sets the autodialing delay duration when different sets of document data bound for the same destination are placed consecutively in the transmission queue. This pause allows the receiving side to make time for processing. Values range from 1 to 255. When the value is 10, the pause is 10 sec.
Off Hook LCS Rate (%)		Sets the threshold of off hook detection at LCS. Values range from 1 to 100.
Dial tone TO (1.0s)		Sets the time out for detecting the dial tone. Values range from 0 to 255. When the value is 10, the dial tone detect duration is 10 sec.
On Hook Detect (20ms)		Sets the detecting duration for a valid on hook signal. Values range from 10 to 255. When the value is 10, the duration is 200 msec. Any on hook signal shorter than the set time is invalid.
Dis Dial tone		Sets whether or not to enable dial tone pattern detection.
Dial tone Min (10ms)		Sets the minimum limit of dial tone pattern detection duration.
Dial tone Max (10ms)		Sets the maximum limit of dial tone pattern detection duration.

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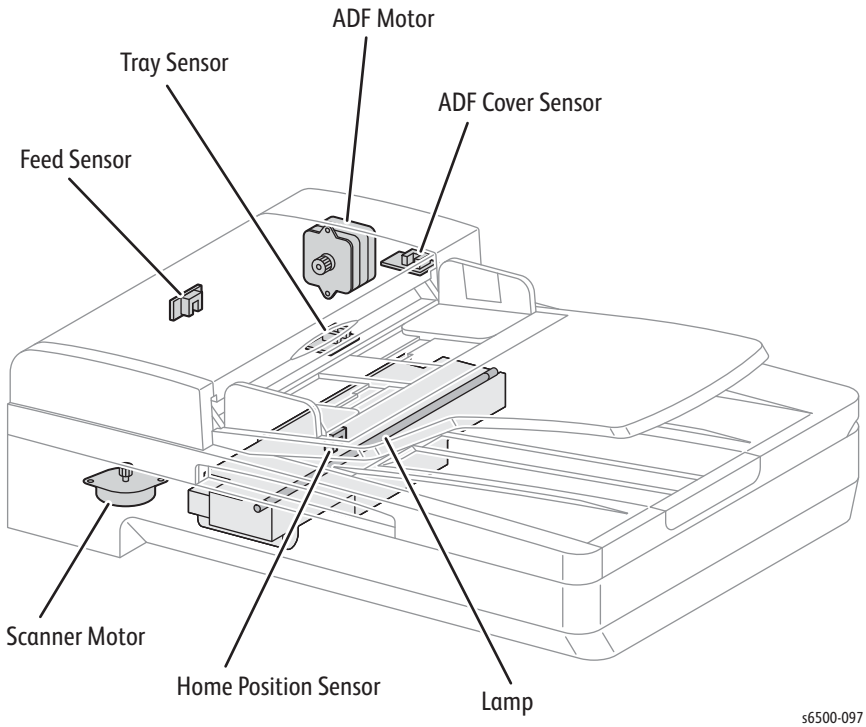
Test	Control Panel Display	Test Description
CNG Stop Select		Sets the conditions for stopping CNG transmission. Conditions: CED&V21: When CED and V.21 preamble are detected. CED: When CED is detected. V21: When V.21 preamble is detected.
G3M TX Cable EQU		Sets the cable amplitude equalizer value for transmission. These values are available: 0db Equal to a cable length of 0km. 4db Equal to a cable length of 1.9km 8db Equal to a cable length of 3.6km 12db Equal to a cable length of 7.2km
G3M RX Cable EQU		Sets the cable amplitude equalizer value for reception (applicable to V17, V29, and V27ter) These values are available: 0db Equal to a cable length of 0km. 4db Equal to a cable length of 1.9km 8db Equal to a cable length of 3.6km 12db Equal to a cable length of 7.2km
G3M V34 Bit Rate		Sets the signaling rate for the Super G3 (V34) mode. Values range from 2400bps to 33600bps in 14 steps. 2400/4800/7200/9600/12000/ 14400/16800/19200/21600/24000/ 26400/28800/31200/33600
Capability V34		Sets the communication capability of the Super G3 (V34) mode.
G3M TX Coding		Sets the data encoding method for transmission. When the encoding method set here is not supported by the receiving side, the receiving side's method is adopted. Available methods: are MH/MR/ MMR/JBIG
G3M RX Coding		Sets the data encoding method for reception. Available methods: are MH/MR/ MMR/JBIG
BackUp Data	**NOTE** The system data initialization does not initialize data on EEPROM (except dial types and country codes). The counter clear does not clear scan counter clearance on EEPROM; it only clears counters on SRAM.	
All Clear	All Clear ■ (displays a list of country)	■ Initializes system data. ■ Clears address data, etc. ■ Clears communication control data. ■ Clears history. ■ Clears counters. Information includes: ■ User's area ■ System area ■ Counters (in SRAM) Number of Scan Number of Fax sending Number of FlashROM erase

Test	Control Panel Display	Test Description
User Clear	User Clear ■ (displays a list of country)	■ Clears stored document data and address information. ■ Initializes system data.
System Clear	System Clear ■ (displays a list of country)	■ Clears stored document data, communication management data, and history. ■ Initializes system data.
User & System Clear	User & System Clear ■ (displays a list of country)	■ Clears stored document data, address information, communication management data, and history. ■ Initializes system data.
System Data Init	System Data Init ■ (provides a list of country)	■ Initializes system data in accordance with the country specified in Data1.
Document Clear	Document Clear ■ Ready ■ Processing ■ Complete	■ Clears all stored data including calling table, substitute queue.
Complete	Exits the Fax/Scanner Diag menu.	
Complete	Complete?	Exits the Service Diagnostic menu.

Scanner I/O Diagnostic Testing Procedures

Procedures for testing each IIT component using Service Diagnostics.



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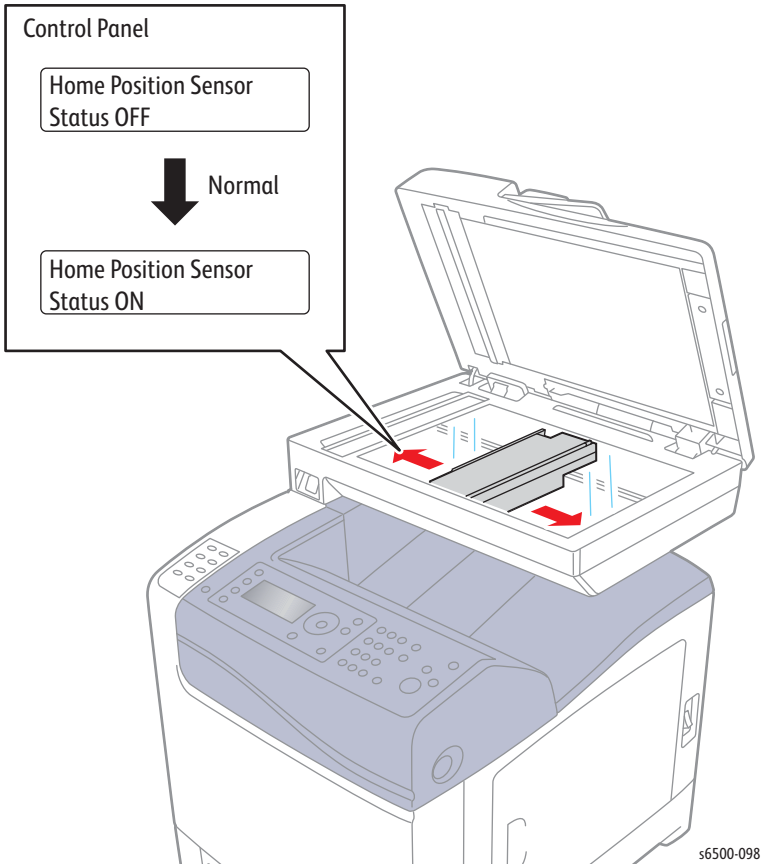
Home Position Sensor

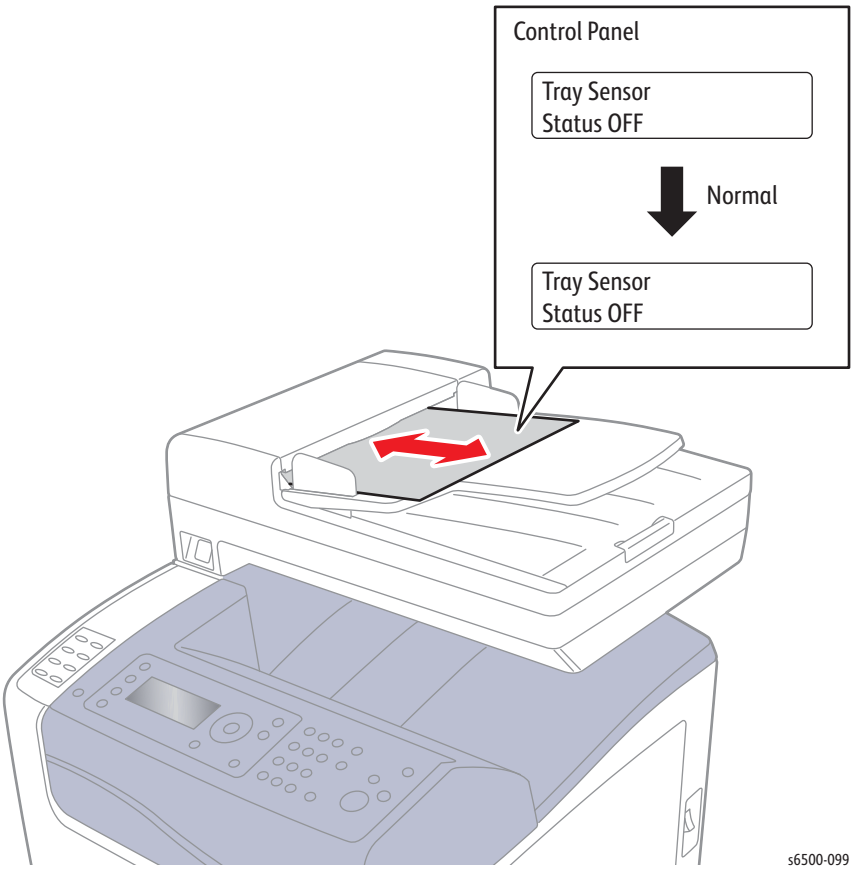
1. Enter Service Diagnostics (page 4-8).
2. Open the Platen Cover.
3. Move the carriage forward with the **FB Motor** test.
4. Perform the **Fax/Scanner Diag > Scanner Maintenance > IIT I/O Check >Home Position Sensor** test.
5. Check the ControL Panel display for Status OFF.
6. Press **Stop** to return one step higher menu.
7. Reverse the carriage with the **FB Motor** test.
8. Perform the **Fax/Scanner Diag > Scanner Maintenance > IIT I/O Check >Home Position Sensor** test again.
9. Check the ControL Panel display for Status ON.



10. Press the **Stop** button to stop the Home Position Sensor test.

ADF Tray Sensor

1. Enter Service Diagnostics (page 4-8).
2. Place a sheet of media in the ADF Tray.
3. Perform the **Fax/Scanner Diag > Scanner Maintenance > IIT I/O Check >Tray Sensor** test.
4. Check the Control panel display for Status ON.
5. Press **Stop** to return one step higher menu.
6. Remove the media from the ADF Tray.
7. Perform the **Fax/Scanner Diag > Scanner Maintenance > IIT I/O Check >Tray Sensor** test.
8. Check the sensor “Status OFF”



9. Press the **Stop** button to stop the ADF Tray Sensor test.

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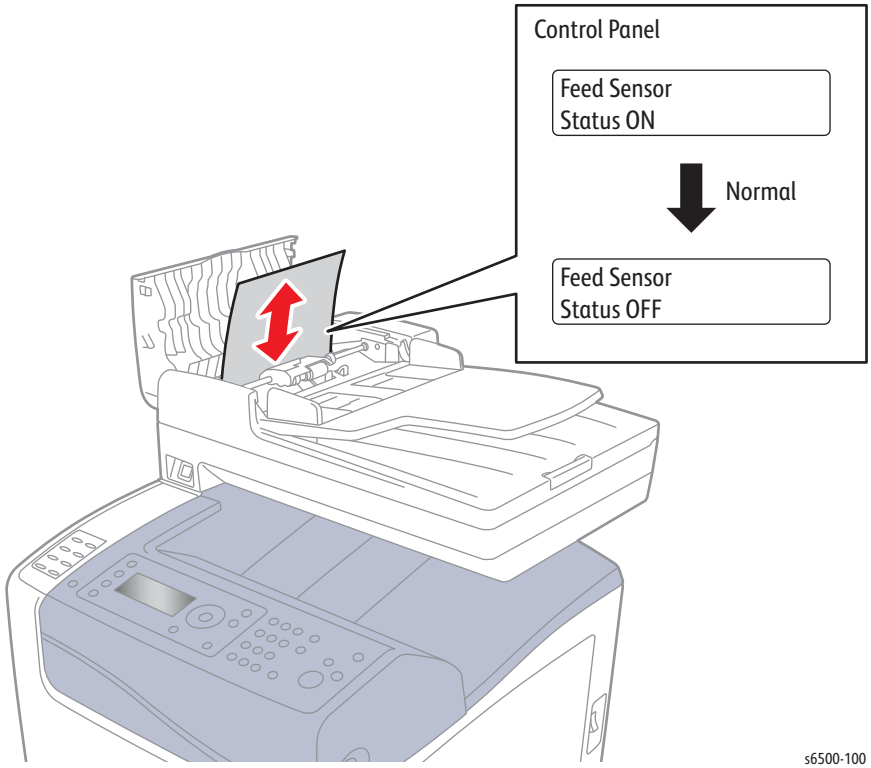
ADF Feed Sensor

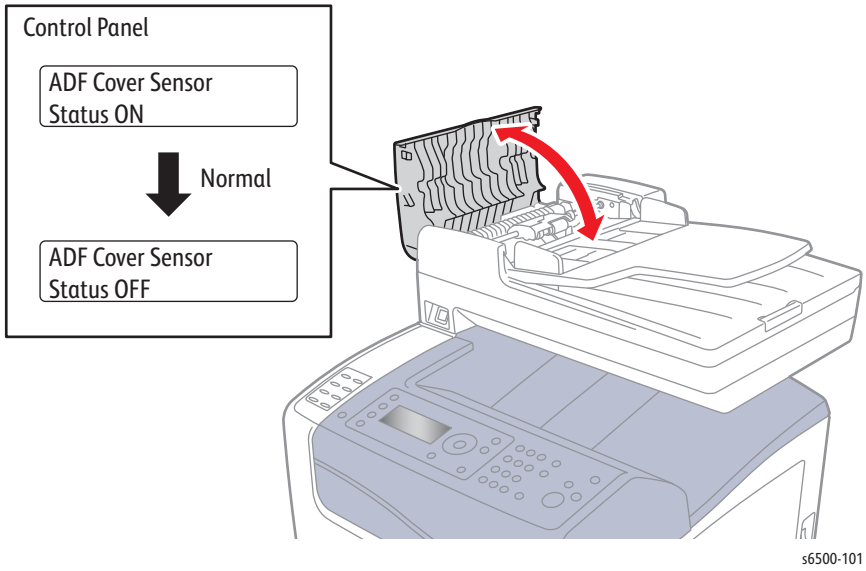
1. Enter Service Diagnostics (page 4-8).
2. Open the ADF Cover.
3. Place a sheet of media in the ADF Feeder.
4. Perform the **Fax/Scanner Diag > Scanner Maintenance > IIT I/O Check >Feed Sensor** test.
5. Check the Control panel display for Status ON.
6. Press **Stop** to return one step higher menu.
7. Remove the media from the ADF Tray.
8. Perform the **Fax/Scanner Diag > Scanner Maintenance > IIT I/O Check >Feed Sensor** test.
9. Check the Control panel display for Status OFF.



10. Press the **Stop** button to stop the ADF Feed Sensor test.

ADF Cover Sensor

1. Enter Service Diagnostics (page 4-8).
2. Open the ADF Cover.
3. Perform the **Fax/Scanner Diag > Scanner Maintenance > IIT I/O Check >ADF Cover Sensor** test.
4. Check the Control panel display for Status ON.
5. Press **Stop** to return one step higher menu.
6. Close the ADF cover.
7. Perform the **Fax/Scanner Diag > Scanner Maintenance > IIT I/O Check >ADF Cover Sensor** test.
8. Check the Control panel display for Status OFF.



9. Press the **Stop** button to stop the ADF Cover Sensor test.

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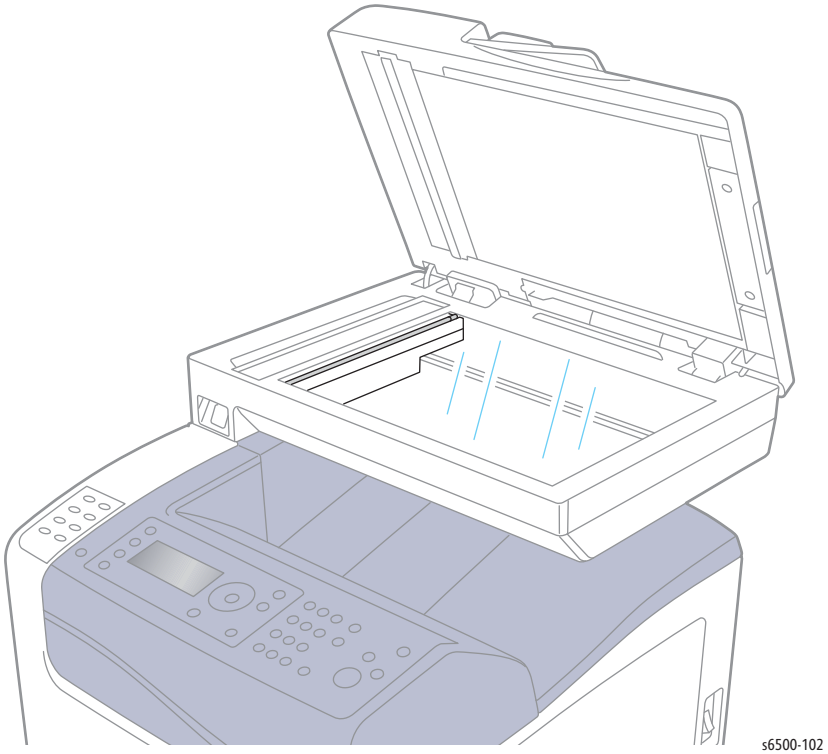
Scanner Lamp

1. Enter Service Diagnostics (page 4-8).
2. Open the Platen Cover.
3. Perform the **Fax/Scanner Diag > Scanner Maintenance > IIT I/O Check >Lamp** test.
4. Press the Arrow buttons to select **Set OFF**.
5. Press **OK** to run the test.
6. Check that the Lamp is Off.
7. Press **Stop** to return one step higher menu.
8. Repeat the Lamp test **Fax/Scanner Diag > Scanner Maintenance > IIT I/O Check >Lamp** test.
9. Press the Arrow buttons to select **Set ON**.
10. Check that the Lamp is ON.



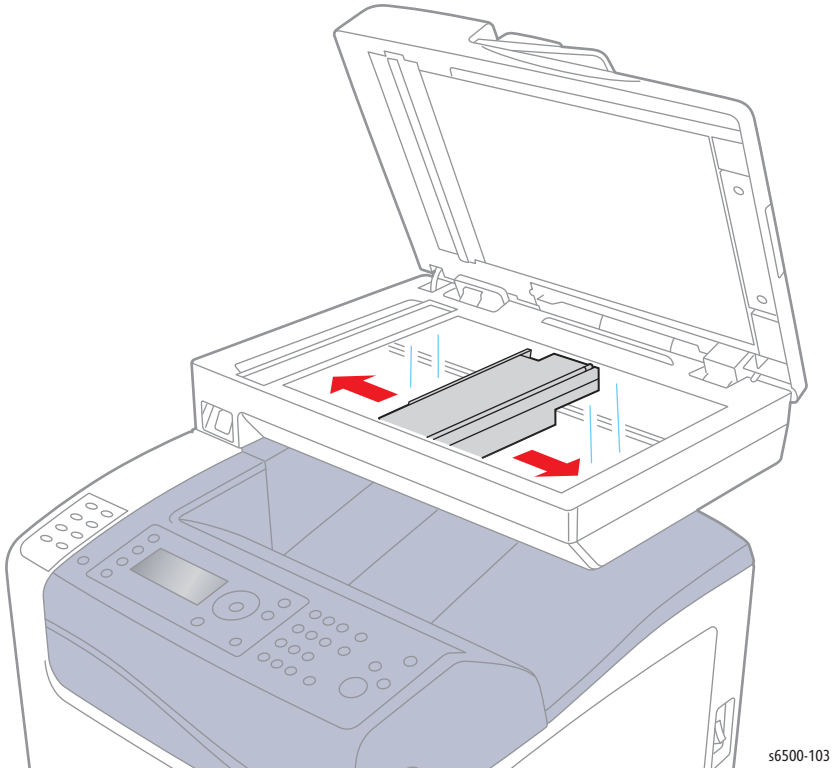
11. Press **Stop** to stop the test.

FB Motor Test

Note

The FB Motor automatically stops at the limit of travel in both directions.

1. Enter Service Diagnostics (page 4-8).
2. Open the Platen Cover.
3. Perform the **Fax/Scanner Diag > Scanner Maintenance > IIT I/O Check >FB Motor** test.
4. Press the Arrow buttons to select **Forward**.
5. Press **OK** to run the test.
6. Check that the carriage moves to the Right.
7. Press **Stop** to return one step higher menu.
8. Repeat the Lamp test **Fax/Scanner Diag > Scanner Maintenance > IIT I/O Check >FB Motor** test.
9. Press the Arrow buttons to select **Reverse**.
10. Check that the carriage move to the Left.



11. Press **Stop** to stop the test.

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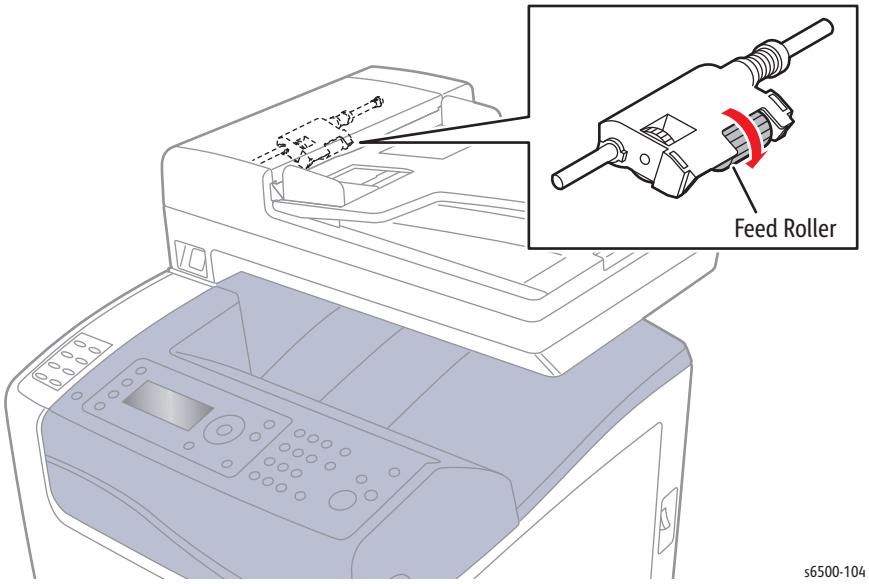
ADF Motor

Note

Close the ADF Cover before testing the ADF Motor.

1. Enter Service Diagnostics (page 4-8).
2. Perform the **Fax/Scanner Diag > Scanner Maintenance > IIT I/O Check >ADF Motor** test.
3. Press the Arrow buttons to select **Forward**.
4. Press **OK** to run the test.
5. Listen for motor operation.



6. Press **Stop** to stop the test.

Control Panel Troubleshooting

Printer Does Not Come to a "Ready" State

1. Reseat connectors on the Image Processor Board.
2. Refer to "DC Power Supply Troubleshooting" on page 4-68.
3. Replace the Control Panel (page 8-126).
4. Repair the Control Panel wiring harnesses.

Ready LED is On, Display is Blank

1. Remove and reseat connections to the Image Processor Board.
2. Replace the Control Panel (page 8-126).
3. Repair the Control Panel wiring harness.
4. Replace the Image Processor Board (page 8-120).

Control Panel has Failed

The Control Panel either fails to illuminate or the buttons fail to operate after the power switch is turned On.

Initial Actions

- Cycle printer power.
- If the problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Control Panel, PL1.2.3 ■ Control Panel Harness A, PL1.2.12 ■ Image Processor Board - SFP, PL8.1.7; MFP PL8.3.4 ■ LVPS, PL8.2.1 ■ Control Panel Harness B, PL9.1.12	■ "Map 1 - SFP Print Engine" on page 10-6 ■ "SFP System Control" on page 10-34 ■ "Map 6 - MFP Print Engine" on page 10-15 ■ "MFP System Control" on page 10-47

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check connections between the Image Processor Board and the Control Panel. Are P/J29, P/J2900, and P/J220 secure?	Go to step 2.	Secure the connections.

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Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
2	Check the Control Panel input voltages: On the Image Processor Board measure the voltages at the following test points. ■ J29-1<=> ground = +3.3V ■ J29-4 <=> ground = +5 V Are the voltages within specification?	Go to step 3.	Replace the IP Board (page 8-120) .
3	Check Control Panel Harness A and B harness for continuity. Disconnect: ■ J29 from the IP Board ■ P/J220 from the Control Panel Are the harnesses damaged?	Check the individual harnesses and repair the affected harness.	Go to step 4.
4	Replace the Control Panel (page 8-126). Does the error persist?	Replace the IP Board (page 8-120) .	Complete.

Inoperable Printer Troubleshooting

No response from printer when the main power is switched on.

AC Power Troubleshooting

Initial Actions

- Check the Power Cord.
- Reseat the Front Cover.

If the error persists, eliminate the possibility that an installed option is the cause of the problem by following these steps.

1. Power printer Off.
2. Remove all installed options (Optional Feeder, Duplex Unit, and Memory)
3. Power the printer On. If printer powers up normally, plug in the options one at a time until the defective option is isolated. If the printer remains inoperative, use the following procedure to locate the problem.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack References
■ LVPS, PL8.2.1 ■ Power Switch Harness, PL8.2.9 ■ Power Cord	■ “SFP LVPS” on page 10-26 ■ ■ “SFP System Control” on page 10-34

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the Power Cord. Is the Power Cord plugged into the printer and the AC outlet?	Go to step 2.	Replace or reconnect the power cord.
2	Check the voltage at the AC wall outlet. Is there approximately 110 or 220 VAC at the AC outlet?	Go to step 2.	Notify the customer.
3	Check for AC voltage to the LVPS. 1. Remove the Left Cover. 2. Power the Printer On. 3. Measure AC voltage at the P/J48. Is AC line voltage present P/J48?	Replace the LVPS (page 8-124.	Go to Step 4.
4	Check Power Switch Harness continuity. Disconnect the printer from the wall outlet. Turn the power switch On. Check for continuity between: ■ P/J483 <=> P/J48-1 ■ P/J484 <=>P/J48-3 Is the Power Switch conductive?	Check the Power Cord. If necessary, replace the cord.	Replace the Power Switch Harness (page 8-131.

DC Power Supply Troubleshooting

DC voltages are supplied by the LVPS. The LVPS includes protection circuitry that limits possible damage to printer components in the event of a short or transient event.

LVPS Overcurrent Protection Circuit

This circuit stops all outputs in the event of a short in any supplied voltage. (3.3, 5, or 24). The circuit is reset when the short is removed and the power cycled.

LVPS Overvoltage Protection Circuit

This circuit stops all outputs if the supply voltage exceeds the target voltage. The set point is 32 V or less for 24 V, 7 V or less for 5 V, or 4.4 V for 3.3 V.

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LVPS

Use this procedure to check the condition of the LVPS.

Initial Actions

- Cycle printer power.
- If the problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ LVPS, PL8.2.1 ■ MCU Board, PL8.2.13	■ "Map 3 - SFP IP Board, LVPS, and Drive" on page 10-8 ■ "SFP LVPS" on page 10-26

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the AC power supply (page 4-67). Does the problem persist?	Go to step 2.	Complete.
2	Turn the Power Switch Off. Is the Fuse on the LVPS open?	Replace the LVPS (page 8-124) .	Go to step 3.
3	1. Disconnect J501 and J502 from the LVPS. 2. Turn the Power Switch On. 3. Measure the DC voltages between these pins on the LVPS: ■ P501-1 <=> P501-2 = +5 V ■ P501-3 <=> P501-4 = +3.3 V ■ P502-1 <=> P502-2 = +24 V Are all of the voltages present?	Go to step 4.	Replace the LVPS (page 8-124) .
4	Turn the Power Switch Off. Check LVPS2 Harness continuity between: ■ P/J501 <=> P/J14 on the MCU Board ■ P/J502 <=> P/J15 on the MCU Board Is the harness damaged?	Repair the harness.	Replace the MCU Board (page 8-138)

+24 VDC Interlock Switch

The Interlock Switch disables +24 V to the electromechanical components when the Front Cover is open.

Initial Actions

- Check the switch actuator located on the Left front holder.
- Check for obstructions or debris blocking switch motion.
- Cycle printer power.
- If the problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ LVPS, PL8.2.1 ■ Interlock Harness, PL8.2.5	■ "SFP LVPS" on page 10-26

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the Interlock Harness for continuity. 1. Disconnect P/J44. 2. Check continuity between P/J44-1 <=> P/J44-3. Is the circuit continuous when the switch is closed?	Replace the LVPS (page 8-124.	Replace the Interlock Harness (page 8-125) .

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Image Processor Board

This procedure is used to isolate the Image Processor Board, or one of its on board options as the root cause of the failure.

Initial Actions

- Remove all installed options (Optional Feeder, Duplex Unit, and Memory)
- Cycle printer power.
- If the problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack References
■ Image Processor Board - SFP, PL8.1.7; MFP PL8.3.4 ■ IP Power Harness, PL9.1.10 ■ Options	■ "Map 3 - SFP IP Board, LVPS, and Drive" on page 10-8 ■ "SFP System Control" on page 10-34

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Print the Engine Test Print (page 4-47). Does the engine generate a test print?	Go to step 2.	Replace the MCU Board. (page 8-138)
2	Check option installation. **NOTE** If no optional memory is installed, go to step 3. 1. Switch the printer power Off. 2. Disconnect all cables (ethernet, phone, etc.) connected to the printer. 3. Remove optional memory from the Image Processor Board (if installed) 4. Switch the printer power On. Does the printer boot and Ready appear on the display?	Replace the Memory Card.	Go to Step 3.
3	Reseat all connections to the IP Board and restart the printer. Does the error persist?	Go to step 4.	Complete.
4	Check for +5 V and +3.3 V at P/J401. ■ J401-1 <=> J401-2 = +5 V ■ J401-3 <=> J401-4 = +3.3 V Are the voltages present?	Replace the IP Board. (page 8-120)	Go to step 5.
5	Check continuity of the IP Power Harness. Disconnect P/J401 from the IP Board and P/J40 from the LVPS. Is the harness damaged?	Repair the harness.	Replace the LVPS. (page 8-124)

Printer Continually Displays Warming Up

Warning

Allow the Fuser to cool before servicing the printer.

Initial Actions

- Reseat the Fuser.
- Cycle printer power.
- If the problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser, PL6.1.1 ■ Fuser Harness, PL6.1.2 ■ LVPS, PL8.2.1 ■ MCU Board, PL8.2.13 ■ LVPS2 Harness, PL9.1.3	■ "Map 1 - SFP Print Engine" on page 10-6 ■ "Map 4 - SFP MCU Board" on page 10-9 ■ "SFP Fuser" on page 10-33

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check these connections ■ MCU Board P/J17 and Fuser P/J171. ■ Fuser P/J171 and LVPS P/J47. ■ LVPS P/J501 and P/J502 and MCU Board P/J14 and P/J15 Are the connectors secure?	Go to step 2.	Reseat the connectors.
2	Check the Fuser harness continuity. 1. Remove the Fuser. 2. Disconnect J17 from the MCU Board and J47 from the LVPS. Is the harness damaged? **NOTE** P171 is attached to the frame.	Repair the harness.	Go to step 3.
3	Check the LVPS harness continuity. Disconnect J14 from the MCU Board and J501 from the LVPS. Is the harness damaged?	Repair the harness.	Go to step 4.
4	Replace the Fuser (page 8-10). Does the error persist? **NOTE** Reset the Fuser life counter after installation of a new Fuser (page 8-11).	Replace the MCU Board (page 8-138).	Complete

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Abnormal Noises

Abnormal Noise When Power is Turned On

Initial Actions

- Check for obstructions or debris in the media path.
- Cycle printer power.
- If the problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
Imaging Unit, PL4.1.21 Fuser, PL6.1.1 Transfer Belt, PL6.1.7 Sub Drive Assembly, PL7.1.1 Main Drive Assembly, PL7.1.2	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Test the Main Drive (page 4-29): **Service Mode > Engine Diag > Motor Test > Main Motor FULL2**. Is the noise still present?	Go to step 2.	Go to step 5.
2	Reseat the Imaging Unit. Test the Main Drive (page 4-29): **Service Mode > Engine Diag > Motor Test > Main Motor FULL2**. Is the noise still present?	Go to step 3.	Complete
3	Check for proper Transfer Belt installation. Test the Main Drive (page 4-29): **Service Mode > Engine Diag > Motor Test > Main Motor FULL2**. Is the noise still present?	Go to step 4.	Complete

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	Check for proper Main Drive Assembly installation. Test the Main Drive (page 4-29): **Service Mode** > **Engine Diag** > **Motor Test** > **Main Motor FULL2**. Is the noise still present?	Replace in order: Imaging Unit (page 8-7) Transfer Belt (page 8-112). Main Drive Assembly (page 8-114).	Complete
5	Test the Sub Drive (page 4-30): **Service Mode** > **Engine Diag** > **Motor Test** > **Sub Motor FULL2**. Is the noise still present?	Go to step 6.	Check operating environment and electrical grounding.
6	Reseat the Imaging Unit. Test the Sub Drive test (page 4-30): **Service Mode** > **Engine Diag** > **Motor Test** > **Sub Motor FULL2**. Is the noise still present?	Go to step 7.	Complete
7	Reseat the Fuser. Test the Sub Drive (page 4-30): **Service Mode** > **Engine Diag** > **Motor Test** > **Sub Motor FULL2**. Is the noise still present?	Go to step 8.	Complete
8	Reseat the Sub Drive Assembly. Test the Sub Drive (page 4-30): **Service Mode** > **Engine Diag** > **Motor Test** > **Sub Motor FULL2**. Is the noise still present?	Replace in order: Imaging Unit (page 8-7) Fuser (page 8-10) Sub Drive Assembly (page 8-113).	Complete

Abnormal Noise During Standby

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
Fan, PL8.1.1 LVPS, PL8.2.1	

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Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Test the Fan (page 4-32): **Service Mode > Engine Diag > Motor Test > Fan.** Is the noise coming from the Fan?	Replace the Fan. (page 8-119)	Replace the LVPS. (page 8-124)

Abnormal Noise During Printing

Initial Actions

- Check for obstructions or debris in the media path.
- Cycle printer power.
- If the problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
Separator Roller, PL2.1.5 Feed Roller Assembly, PL3.2.4 Registration Roller, PL3.2.9 Metal Registration Roller, PL3.2.10 Imaging Unit, PL4.1.21 Fuser, PL6.1.1 Transfer Belt, PL6.1.7 Sub Drive Assembly, PL7.1.1 Main Drive Assembly, PL7.1.2 Fan, PL8.1.1 Duplex Unit, PL11.1.1	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Is the noise present when paper is fed from the Tray?	Go to step 2.	Go to step 6.
2	Check the paper condition. Is the paper dry and approved?	Go to step 4.	Replace the paper, then go to step 3.
3	Is the noise present when paper is fed from the Tray?	Go to step 4.	Complete
4	Check the Separator Holder. 1. Remove the Tray. 2. Rotate the Separator Roller with your finger. Does the roller rotate smoothly?	Go to step 5.	Replace the Separator Holder (page 8-6).

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	Check the Feed Roller rotation 1. Remove the Tray. 2. Start the Main Drive test (page 4-29): **Service Mode > Engine Diag > Motor Test > Main Motor FULL2**, then while the motor is running, start the Tray Feed Solenoid test (page 4-34): **Service Mode > Engine Diag > Motor Test > Tray Feed Solenoid (Auto)**. Is the noise coming from this roller? **NOTE** After check is completed, cancel the Tray Feed Solenoid test first, then cancel the Main Motor FULL2 test.	Replace the Feed Roller (page 8-9).	Go to step 12.
6	Check the feed slot paper guides Were the guides correctly set, and was the paper correctly inserted?	Go to step 7.	Reset the guides, then go to step 7.
7	Check the paper condition Is the paper dry and approved paper?	Go to step 12.	Replace the paper, then go to step 8.
8	Check for noise when the paper is fed into the Manual Feed slot. Does the noise come from the printer?	Go to step 12	Go to step 9.
9	Check the Duplex Unit (if installed). Does the noise come from the Duplex Unit?	Go to step 10.	Go to step 12.
10	Reseat the Duplex Unit. Does the noise come from the Duplex Unit?	Replace the Duplex Unit (page 8-162).	Go to step 11.
11	Check the Duplex Motor. Run the Duplex Motor test (page 4-29): **Service Mode > Engine Diag > Motor Test > Duplex Motor.** Does the noise arise from the printer?	Replace the Duplex Unit (page 8-162).	Complete.
12	Test the Main Drive (page 4-29): **Service Mode > Engine Diag > Motor Test > Main Motor FULL2**. Does the noise arise from the printer?	Go to step 13.	Go to step 19.
13	Reseat the Imaging Unit. Test the Main Drive (page 4-29): **Service Mode > Engine Diag > Motor Test > Main Motor FULL2**. Is the noise still present?	Go to step 14.	Complete

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Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
14	Reseat the Transfer Belt connectors. Test the Main Drive test (page 4-29): **Service Mode** > **Engine Diag** > **Motor Test** > **Main Motor FULL2**. Is the noise still present?	Go to step 15.	Complete
15	Check for dirt or debris on the registration rollers?	Clean the rollers, then go to step 16.	Go to step 17.
16	Check for noise when printing Is the noise still present?	Go to step 14.	Complete
17	Check registration roller rotation. Start the Main Drive test (page 4-29): **Service Mode** > **Engine Diag** > **Motor Test** > **Main Motor FULL2**, and while the motor is running start the Regi Clutch test: **Service Mode** > **Engine Diag** > **Motor Test** > **Regi Clutch**. Is the noise coming from the roller(s)?	Replace the Feeder Assembly (page 8-72).	Go to step 18.
18	Reseat the Main Drive Assembly. Test the Main Drive (page 4-29): **Service Mode** > **Engine Diag** > **Motor Test** > **Main Motor FULL2**. Is the noise still present?	Replace in order: Imaging Unit (page 8-7) Transfer Belt (page 8-112) Main Drive Assembly (page 8-114) .	Complete
19	Test the Sub Drive (page 4-30): **Service Mode** > **Engine Diag** > **Motor Test** > **Sub Motor FULL2**. Is the noise still present?	Go to step 20.	Check printer installation.
20	Reseat the Imaging Unit. Test the Sub Drive (page 4-30): **Service Mode** > **Engine Diag** > **Motor Test** > **Sub Motor FULL2**. Is the noise still present?	Go to step 21.	Complete
21	Reseat the Fuser. Test the Sub Drive (page 4-30): **Service Mode** > **Engine Diag** > **Motor Test** > **Sub Motor FULL2**. Is the noise still present?	Go to step 22.	Complete

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
22	Reseat the Sub-Drive Assembly. Test the Sub Drive (page 4-30): **Service Mode > Engine Diag > Motor Test > Sub Motor FULL2**. Is the noise still present?	Replace in order: Imaging Unit (page 8-7) Fuser (page 8-10) Sub Drive Assembly (page 8-113) .	Complete

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Electrical Noise

There is a variable pitch sound coming from the printer. Electrical noise can be either noise in the electrical lines or static in electromagnetic communications.

Initial Actions

- Cycle printer power.
- If the problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
HVPS, PL4.1.19 Transfer Belt, PL6.1.7 Imaging Unit, PL4.1.21	"SFP HVPS" on page 10-31

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check for sources of external noise. 1. Are there other electrical appliances within 3 meters of the printer? 2. Turn the electrical appliances Off or relocate the printer at least 6 meters away from other electrical appliances. Does the noise persist?	Go to step 2.	Complete
2	Check the AC ground. Is AC power supply outlet wired and grounded appropriately?	Go to step 3.	Notify the customer.
3	Check the Transfer Belt HVPS connections. Are the four terminals on the Transfer Belt, and the four springs in the frame dirty and/or damaged?	Clean or replace the Transfer Belt (page 8-112) and contacts.	Go to step 4.
4	Check the Imaging Unit connection Are the five HVPS terminals on the Imaging Unit, and five springs in the frame dirty and/or damaged?	Clean or replace the Imaging Unit (page 8-7) and contacts.	Go to step 5.
5	Reseat the Imaging Unit. Does the noise persist?	Go to step 6.	Complete
6	Reseat the Transfer Belt. Does the noise persist?	Reseat the HVPS.	Complete

Operating System and Application Problems

Windows 2000, Windows XP, Windows Server Troubleshooting

For Window XP, select Classic Look or the Windows XP procedures will not match the following procedures. To select **Classic Look**, click **Start**, **Settings**, **Taskbar,** and **Start Menu**. Select the **Start Menu** tab, and then **Classic Start Menu**. Click **OK**.

This troubleshooting section assumes you have completed the following tasks.

- Loaded a Phaser printer PCL or PostScript printer driver.
- Printed and kept a current copy of the Configuration page.

Verify Settings

1. Verify the settings on the Configuration page.
   - **IP Address Source** is set to: DHCP, Control Panel, BOOTP, or Auto IP (depending on your network configuration).
   - **Current IP Address** is set correctly. (Note this address if it is assigned by Auto IP, DHCP, or BOOTP.)
   - **Subnet Mask** is set correctly (if used).
   - **Default Gateway** is set correctly (if used).
   - **LPR** is enabled. Verify that the LPR and AppSocket settings are set as desired.
   - **Interpreters**: Auto, PCL, or PostScript (depending on your driver).
2. Verify that the client is logged into the network and printing to the correct print queue. The user should also have access to the Phaser printer queue.

Verify Driver Installation

1. From the desktop, right-click **My Network Places**, and select **Properties**.
2. Right-click **Local Area Connection** and select **Properties**.
3. Click the **General** tab. View the list of installed network protocols to verify that TCP/IP is installed. (For more information, contact your network administrator.)
4. Click **Install** to install any components not listed, and then restart your computer.
5. From the **Start** menu, select **Start > Settings > Printers and Faxes**.
6. Right-click the printer icon, and select **Properties**.
7. Click the **Advanced** tab. Verify that the correct printer driver is installed.
8. Click the **Ports** tab. Verify that the IP Address in the **Print to the Following Ports** list is identical to the one on the Configuration page. You may need to click the **Configure Port** button to see the IP address. If necessary, re-select the TCP/IP number used for the printer.

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Macintosh Troubleshooting

The following procedures eliminates cabling, communication, and connection problems. Once you complete these steps, print a test page from your software application.

Use these steps **only** for Mac OS 10.3.9 through 10.5.

1. For **AppleTalk**, use the steps below. For **TCP/IP**, proceed to step 2.
   a. At Control Panel, check that **EtherTalk** is enabled. If it not, enable **EtherTalk**, and reset the printer.
   b. Print the Configuration page and verify that **EtherTalk** is enabled.
   c. From the Configuration page, verity the **Zone**. If you have multiple zones on your network, verify that your printer appears in the desired zone.
2. Open the **Network Utility** and click the Ping tab.
3. Enter the printer's IP address.
4. Click **Ping**. If you do not get a response, verify that your TCP/IP settings are correct for your printer and computer.

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Print-Quality Troubleshooting

In this chapter...

- Print-Quality Problems Overview
- Checklist Before Troubleshooting Print-Quality
- Print-Quality Troubleshooting
- Test Prints
- Image Specifications

Chapter 5

Print-Quality Problems Overview

Print-quality defects can be attributed to printer components, consumables, media, internal software, external software applications, and environmental conditions. To successfully troubleshoot print-quality problems, eliminate as many variables as possible. The first step is to generate prints using information pages embedded in the printer on laser paper from the approved media list. Refer to “Media and Tray Specifications” on page 1-28 for supported and specialty media that have been tested and approved for use in the Phaser 6500/WorkCentre 6505. Use paper from a fresh ream that is acclimated to room temperature and humidity.

If the print-quality defect remains after printing on approved media from an unopened ream of paper, then investigate applications and environmental conditions.

Determine the temperature and humidity under which the printer is operating. Compare this to the “Environmental Specifications” on page 1-22. Extreme temperature and humidity can adversely affect print quality.

When analyzing a print-quality defect, first determine if the defect occurs in all colors or only one color and if it is repeating or a random occurrence. Continuous defects in the process direction, such as voids and lines, are the most difficult to diagnose. Inspect the visible surfaces of all rollers for obvious defects. If no defects are found, replace the Imaging Unit, Laser Unit, Transfer Belt, and Fuser one at a time until the defect is eliminated.

Defects Associated with Specific Printer Components

Some print-quality problems are associated with specific assemblies. The xerographic component is listed with the associated print-quality defects. Refer to the specific print-quality troubleshooting procedure for detail information.

Laser Unit

- Light or Undertone Print
- Blank Print
- Black Print
- Vertical Blank Lines
- Horizontal Band, Voids, or Streaks
- Vertical Stripes
- Horizontal Stripes
- Partial Band
- Random Spots
- Repeating Bands, Lines, Marks, or Spots

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Transfer Belt

- Light or Undertone Print
- Horizontal Band, Voids, or Streaks
- Vertical Stripes
- Horizontal Stripes
- Partial Band
- Random Spots
- Repeating Bands, Lines, Marks, or Spots
- Background Contamination

Fuser

- Vertical Stripes
- Horizontal Stripes
- Repeating Bands, Lines, Marks, or Spots
- Unfused Image

Imaging Unit

- Light or Undertone Print
- Blank Print
- Black Print
- Vertical Blank Lines
- Horizontal Band, Voids, or Streaks
- Vertical Stripes
- Horizontal Stripes
- Partial Band
- Random Spots
- Repeating Bands, Lines, Marks, or Spots
- Background Contamination
- Unfused Image

Checklist Before Troubleshooting Print-Quality

Check Printer Condition

Toner

Low toner can cause print-quality problems, such as fading, streaking, White lines, or dropouts. Print a small document from different software applications to replicate the problem and check the amount of toner available. If the toner is low, replace the affected cartridges.

Cleaning

Paper, toner, and dust particles can accumulate inside the printer and cause print-quality problems such as smearing or specks. Clean the inside of the printer to reduce these problems. Refer to “Cleaning” on page 7-2.

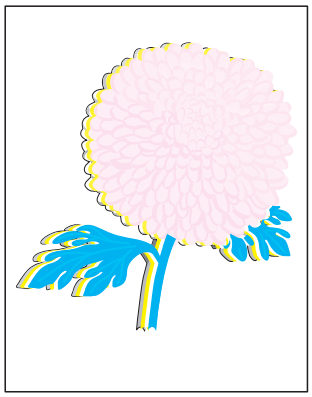
Symptom Checklist

Based on the observed defect, check the following items prior to performing troubleshooting. These actions may help resolve the problem without troubleshooting the printer.

Color is out of alignment.

This problem can occur after installing a new Black Toner Cartridge if the Imaging Unit has not been cleaned.

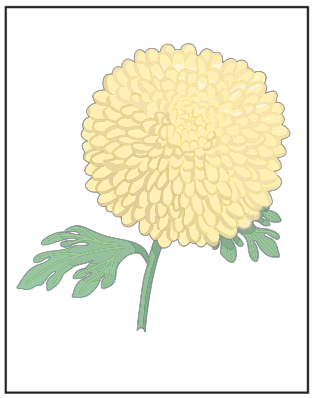
a. Clean inside the printer.
b. Clean the Laser Unit lenses using a Q-tip or a dry, lint-free cloth to wipe the lenses.
c. Check the Transfer Belt for damage.
d. Perform Color Registration Adjustment (page 6-4).



Color Registration

Print is too light.

a. The toner may be too low. Check the amount of toner and change the Toner Cartridges if necessary.
b. In the printer Printing Preferences menu, **Advanced** > **Details** > **Draft Mode**, verify **Off** is selected.
c. If you are printing on an uneven print surface, change the paper type settings in the Tray Settings menu.
d. Check that the correct media is being used.
e. The Imaging Unit needs to be replaced.



Light or Undertone Print

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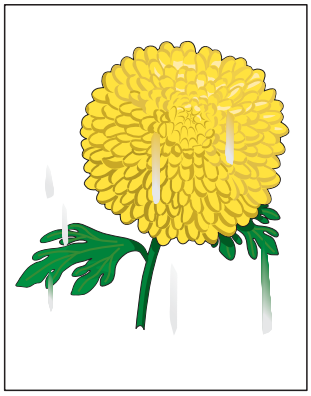
Toner smears or print comes off page.

a. If you are printing on an uneven print surface, change the Media Type settings in the Tray Settings menu.

b. Verify that the paper is within the printer specifications.

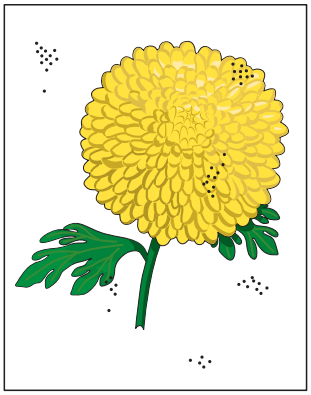


Smudges or Smears

Toner spots appear on the page and printing is blurred.

a. Check the Toner Cartridge(s) to make sure that it is installed correctly.

b. Change the Toner Cartridge(s).



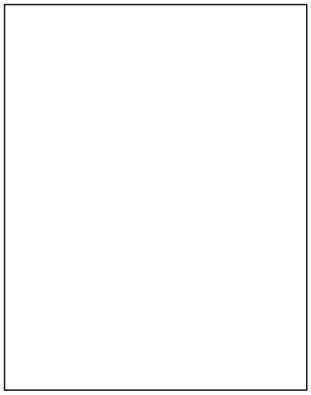
Random Spots

Entire page is white or one color is missing from image.

a. Ensure the packaging material is removed from the Toner Cartridge.

b. Check the Toner Cartridge to make sure that it is installed correctly.

c. The toner may be low. Change the Toner Cartridge.

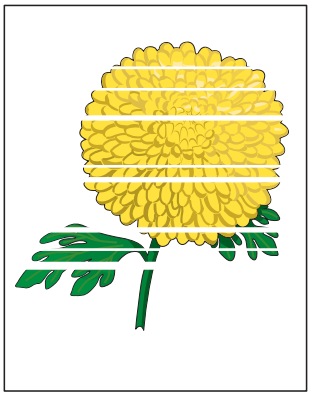


Blank Print

Streaks appear on the page.

a. The toner may be low. Change the Toner Cartridge(s).

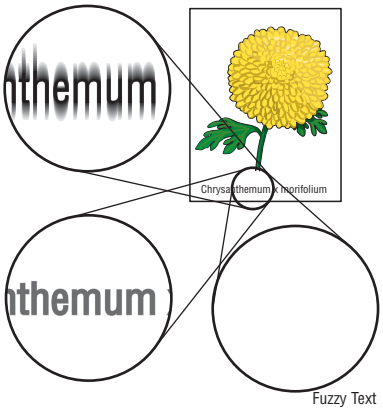
b. If you are using preprinted forms, make sure the toner can withstand the temperature of 0˚ C to 35˚ C.



Horizontal Band, Void, or Streaks

Characters have jagged or uneven edges.

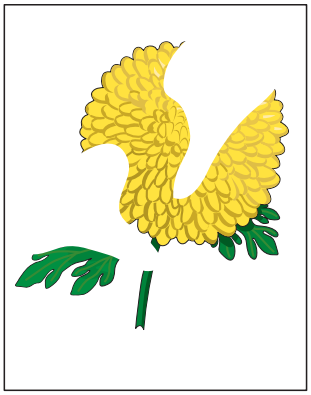
If you are using downloaded fonts, verify that the fonts are supported by the printer, the host computer, and the software application.



Fuzzy Text

Part or all the page prints in Cyan, Magenta, Yellow, or Black.

Check the Toner Cartridges to make sure they are installed correctly.



Partial Band

The job prints, but the top and side margins are incorrect.

a. Make sure the Paper Size setting in the Tray Settings is correct.
b. Make sure the margins are set correctly in the software application.

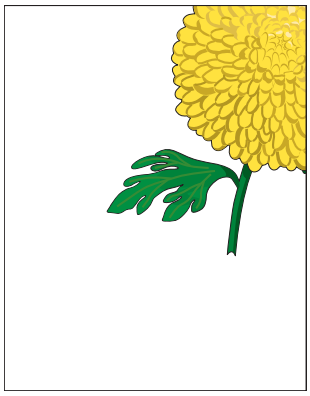


Image Not Centered

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Print-Quality Troubleshooting

Print-Quality Defect Definitions

The following table lists the print-quality defect corrective procedure, their definition, and the page where each procedure is provided.

Defect	Description	Go to
Light or Undertone Print	The image density is too light in all colors.	page 5-8
Blank Print	The entire image area is blank.	page 5-10
Black Print	The entire image area is Black.	page 5-13
Vertical Blank Lines	There are faded or completely non-printed lines along the page.	page 5-15
Horizontal Band, Voids, or Streaks	There are areas of the image that are extremely light or are missing entirely.	page 5-17
Vertical Stripes	There are Black lines along the page in the direction of the paper travel.	page 5-19
Horizontal Stripes	There are dark lines running parallel with the leading edge of the print.	page 5-21
Partial Band	Areas of the image are extremely light or missing.	page 5-23
Random Spots	Spots of toner are randomly scattered.	page 5-25
Repeating Bands, Lines, Marks, or Spots	Recurring lines, marks, or spots on the page.	page 5-27
Background Contamination	There is toner contamination on all or most of the page.	page 5-30
Skew	The image is not parallel with both sides of the paper.	page 5-32
Damaged Media	The paper is wrinkled, folded, or worn-out.	page 5-34
Unfused Image	The toner is not completely fused.	page 5-36
Color Registration	A printed Yellow or Black image is not overlapped on a Cyan or Magenta image correctly.	page 5-37

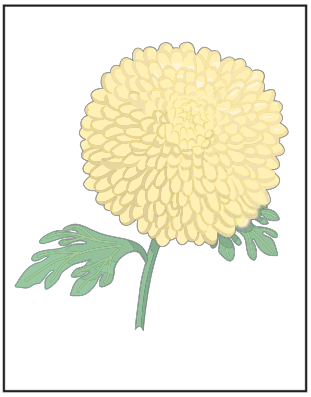
Light or Undertone Print

The overall image density is too light in all colors.

Initial Actions

- Check the Imaging Unit life counter.
- Set the print mode to Enhanced.
- Check for obstructions or debris in the beam path between the Laser and the Imaging Units.
- Check the media settings at the Control Panel.

Troubleshooting Reference Table

Applicable Parts	Example Print
Imaging Unit, PL4.1.21 Laser Unit, PL4.1.99 Dispense Assy, PL5.1.1 Toner Cartridge K, PL5.1.21 Toner Cartridge C, PL5.1.22 Toner Cartridge M, PL5.1.23 Toner Cartridge Y, PL5.1.24 Transfer Belt, PL6.1.7 IP Board, PL8.1.7 MCU Board, PL8.2.13	 Light or Undertone Print

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the toner type. Are the cartridges genuine Xerox?	Go to step 2.	Replace with Xerox toner.
2	Check the media condition. Is the media the recommended type?	Go to step 4.	Replace the media, then go to step 3.
3	Is the image printed correctly?	Complete	Go to step 4.
4	Check the print mode. Is the **Standard Mode** selected?	Select **Enhanced Mode**, then go to step 5.	Go to step 6.
5	Is the image printed correctly?	Complete	Go to step6.

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Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
6	Check the Imaging Unit for sealing tapes. Are sealing tapes present?	Remove the sealing tapes and check the media path for debris.	Go to step 7.
7	Print the Toner Pallet Check test print (page 5-48): **Service Mode > Test Print> Toner Pallet Check** Is one or more of the colors faint?	Go to step 8.	Check the original printing data.
8	Reseat and lock the Toner Cartridges. Is the image printed correctly?	Complete	Go to step 9.
9	Check the Transfer Belt high-voltage connections. Are the contacts on the Transfer Belt and springs damaged or dirty?	Clean or replace the Transfer Belt or spring(s), then go to step 9.	Go to step 10.
10	Check the Imaging Unit high-voltage connections. Are the contacts on the Imaging Unit, and springs damaged or dirty?	Clean or replace the Imaging Unit or spring(s), then go to step 10.	Go to step 11.
11	Reseat the Imaging Unit. Is the image printed correctly?	Complete	Go to step 12.
12	Check the Laser Unit windows. Are the laser windows clean?	Go to step 13.	Clean with soft cloth or cotton swab.
13	Check the laser beam path. Are there any obstructions between the Laser Unit and Imaging Unit?	Remove any obstructions.	Go to step 14.
14	Caution: Do not run the toner motor more than a few seconds. Test the Toner Motor for each color (page 4-31): **Engine Diag > Motor Test > CMYK Toner Motor**. Does the motor rotate?	Go to step 16.	Replace the Dispense Assy (page 8-98), then go to step 15.
15	Is the image printed correctly?	Complete	Replace the MCU Board (page 8-138).
16	Reseat all MCU Board connectors. Is the image printed correctly?	Complete	Go to step 17.
17	Reseat all IP Board connectors. Is the image printed correctly?	Complete	Go to step 18.
18	Open and close the Front Cover to reseat the Transfer Belt. Is the image printed correctly?	Complete	Go to step 19.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
19	Replace the Transfer Belt (page 8-112) Is the image printed correctly?	Complete	Go to step 20.
20	Replace the Imaging Unit. (page 8-7) Is the image printed correctly?	Complete	Go to step 21.
21	Replace the Dispense Assy (page 8-98). Is the image printed correctly?	Complete	Go to step 22.
22	Replace the Laser Unit. (page 8-86) Is the image printed correctly?	Complete	Replace the IP Board (page 8-120)

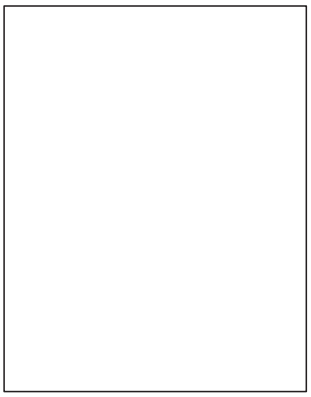
Blank Print

The entire image area is blank.

Initial Actions

- Check the media path.
- Run the Engine Test print (page 4-47) to help isolate the problem between the Image Processor Board and the MCU Board
- Check for obstructions or debris in the beam path between the Laser and the Imaging Units.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
Imaging Unit, PL4.1.21 Laser Unit, PL4.1.99 Dispense Assy, PL5.1.1 Toner Cartridge K, PL5.1.21 Toner Cartridge C, PL5.1.22 Toner Cartridge M, PL5.1.23 Toner Cartridge Y, PL5.1.24 Transfer Belt, PL6.1.7 Sub Drive Assembly, PL7.1.1 Main Drive Assembly, PL7.1.2 Feed Drive Assembly, PL7.1.4 IP Board, PL8.1.7 MCU Board, PL8.2.13	 Blank Print

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Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the toner type. Are the Toner Cartridges genuine Xerox?	Replace with Xerox toner, then go to step 2.	Go to step 3.
2	Is the image printed correctly?	Complete	Print an Engine Test print, if successful, replace the IP Board (page 8-120). If not, go to step 3.
3	Reseat and lock the Toner Cartridges. Is the image printed correctly?	Complete	Go to step 4.
4	Check the Transfer Belt high-voltage connections. Are the contacts on the Transfer Belt and springs damaged or dirty?	Clean or replace the Transfer Belt (page 8-112) or spring(s), then go to step 5.	Go to step 6.
5	Is the image printed correctly?	Complete	Go to step 6.
6	Check media condition. Is the media dry and recommended?	Go to step 8.	Replace the media, then go to step 7.
7	Is the image printed correctly?	Complete	Go to step 8.
8	Check the Toner Cartridge life. Are one or more of the Toner Cartridges near end of life?	Replace the Toner Cartridge(s) (page 8-12).	Go to step 9.
9	Inspect the Laser Unit windows. Are the windows clean?	Go to step 10.	Clean with soft cloth or cotton swab.
10	Inspect the laser beam path Are there any obstructions between the Laser Unit and Imaging Unit?	Remove the foreign substances.	Go to step 11.
11	Reseat the Imaging Unit. Is the image printed correctly?	Complete	Go to step 12.
12	Caution: Do not run the toner motor more than a few seconds. Test the Toner Motor for each color (page 4-31): **Engine Diag > Motor Test > CMYK Toner Motor**. Do the toner motors rotate?	Go to step 17.	Go to step 13.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
13	Check the connectors between the MCU Board and Toner Motor (Y/M/C/K) (Dispenser Motor Assy). Are P/J18, P/J19, P/J181, P/J182, P/J191 and P/J192 connected correctly?	Go to step 15.	Securely reconnect the connectors, then go to step 14.
14	Is the image printed correctly?	Complete	Go to step 15.
15	Check the Toner Motor Harness for continuity: 1. Disconnect J18 and J19 from the MCU Board. 2. Disconnect J181, J182, J191 and J192 from the Toner Motors. Is each cable of J18 <=> J181 and J182 continuous? Is each cable of J19 <=> J191 and J192 continuous?	Go to step 16.	Replace the Dispense Assy (page 8-98).
16	Check for power to Toner Motors (Y/M/C/K): 1. Disconnect J18 and J19 from the MCU Board. 2. Measure the voltage across P18-3, P18-8, P19-4 and P19-9 <= > ground on the MCU Board. Is the voltage about +24 VDC when the Interlock Switch is closed?	Replace the Dispense Assy (page 8-98).	Replace the MCU Board (page 8-138).
17	Check the connections between the Laser Unit and MCU Board. Are P/J40, P/J 41, P/J411 and P/J 412 connected correctly?	Go to step 19.	Reconnect the connector(s) P/J40, P/J41, P/J411 and/or P/J412 securely, then go to step 18.
18	Is the image printed correctly?	Complete	Go to step 19.
19	Reseat all MCU Board connectors. Is the image printed correctly?	Complete	Go to step 20.
20	Reseat all IP Board connectors. Is the image printed correctly?	Complete	Go to step 21.
21	Open and close the Front Cover to reseat the Transfer Belt. Is the image printed correctly?	Complete	Go to step 22.
22	Replace the Imaging Unit (page 8-7). Is the image printed correctly?	Complete	Go to step 23.
23	Replace the Transfer Belt (page 8-112) Is the image printed correctly?	Complete	Go to step 24.

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Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
24	Replace the Laser Unit. (page 8-86) Is the image printed correctly?	Complete	Replace the IP Board (page 8-120).

Black Print

The entire image is Black.

Initial Actions

- Check the media path.
- Ensure there are no debris on the transfer path.
- Print an Engine Test print (page 4-47).

Troubleshooting Reference Table

Applicable Parts	Example Print
Laser Unit Kit, PL4.1.99 HVPS, PL4.1.19 Imaging Unit, PL4.1.21 IP Board, PL8.1.7 MCU Board, PL8.2.13	 Black Print

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Print the Gradation ESS test print (page 5-47): **Test Print> Toner Gradation ESS** Is the image printed correctly?	Go to step 2.	Go to step 3.
2	Print an Engine Test print (page 4-47). Is the image printed correctly?	Replace the IP Board (page 8-120).	Go to step 3.
3	Reseat the Imaging Unit. Is the image printed correctly?	Complete	Go to step 4.
4	Reseat all MCU Board connectors. Is the image printed correctly?	Complete	Go to step 5.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
5	Reseat all IP Board connectors. Is the image printed correctly?	Complete	Go to step 6.
6	Reseat the Laser Unit. Is the image printed correctly?	Complete	Go to step 7.
7	Check the connections between the Laser Unit and MCU Board. Are P/J40, P/J 41, P/J411 and P/J 412 connected correctly?	Go to step 9.	Secure the connectors, then go to step 8.
8	Is the image printed correctly?	Complete	Go to step 9.
9	Replace the Imaging Unit (page 8-7). Is the image printed correctly?	Complete	Go to step 10.
10	Replace the IP Board (page 8-120). Is the image printed correctly?	Complete	Go to step 11.
11	Replace the Laser Unit (page 8-86). Is the image printed correctly?	Complete	Replace the MCU Board (page 8-138).
12	Does the error persist?	Replace the HVPS (page 8-136).	Complete

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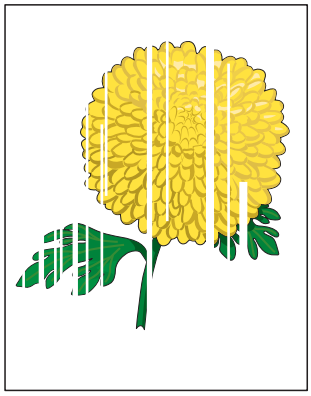
Vertical Blank Lines

There are faded or completely non-printed lines along the page in the direction of the paper travel from the leading edge to the trailing edge.

Initial Actions

- Check the area around the Laser Unit windows and openings in the Imaging Unit. Small obstructions, such as hair or fibers, can create streaks.
- Ensure there is no debris on the media path.

Troubleshooting Reference Table

Applicable Parts	Example Print
Imaging Unit, PL4.1.21 Laser Unit, PL4.1.99 Transfer Belt, PL6.1.7 IP Board, PL8.1.7 MCU Board, PL8.2.13	 Vertical Blank Lines

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check media condition Is the media dry and approved for use?	Go to step 3.	Replace with dry, approved media, then go to step 2.
2	Is the image printed correctly?	Complete	Go to step 3.
3	Inspect the media path between the Transfer Belt and Fuser. Is there any debris?	Remove any debris, then go to step 4.	Go to step 5.
4	Is the image printed correctly?	Complete	Go to step 5.
5	Inspect the Transfer Belt surface. Is there any damage to the transfer belt surface?	Replace the Transfer Belt (page 8-112).	Go to step 6.
6	Check the Transfer Belt high-voltage connections. Are the contacts on the Transfer Belt and springs damaged or dirty?	Clean or replace the Transfer Belt contacts or spring(s).	Go to step 7.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
7	Print an Engine Test print (page 4-47). Is the image printed correctly?	Replace the IP Board (page 8-120).	Go to step 8.
8	Inspect the laser beam path Are there any obstructions between the Laser Unit and Imaging Unit?	Remove the foreign substances.	Go to step 9.
9	Check the Imaging Unit high-voltage connections. Are the contacts on the Imaging Unit, and springs damaged or dirty?	Clean or replace the Imaging Unit contacts or spring(s).	Go to step 10.
10	Reseat the Imaging Unit. Is the image printed correctly?	Complete	Go to step 11.
11	Reseat the Fuser. Is the image printed correctly?	Complete	Go to step 12.
12	Reseat all MCU Board connectors. Is the image printed correctly?	Complete	Go to step 13.
13	Reseat all IP Board connectors. Is the image printed correctly?	Complete	Go to step 14.
14	Open and close the Front Cover to reseat the Transfer Belt. Is the image printed correctly?	Complete	Go to step 15.
15	Replace the Imaging Unit (page 8-7). Is the image printed correctly?	Complete	Go to step 16.
16	Replace the IP Board (page 8-120). Is the image printed correctly?	Complete	Go to step 17.
17	Check the connections between the Laser Unit and MCU Board. Are P/J40, P/J 41, P/J411 and P/J 412 connected correctly?	Go to step 19.	Reseat the connectors, then go to step 18.
18	Is the image printed correctly?	Complete	Go to step 19.
19	Replace the Laser Unit (page 8-86). Is the image printed correctly?	Complete	Replace the MCU Board (page 8-138).

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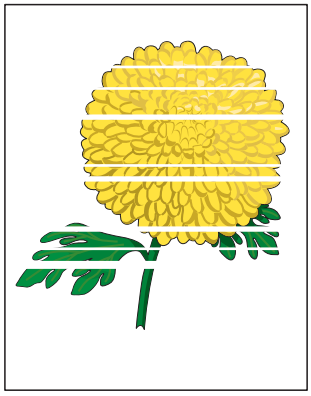
Horizontal Band, Voids, or Streaks

There are areas of the image that are extremely light or are missing entirely. These missing areas form wide bands which cover a wide area horizontally, perpendicular to the paper feed direction.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
HVPS, PL4.1.19 Imaging Unit, PL4.1.21 Laser Unit, PL4.1.99 Toner Cartridge K, PL5.1.21 Toner Cartridge C, PL5.1.22 Toner Cartridge M, PL5.1.23 Toner Cartridge Y, PL5.1.24 Transfer Belt, PL6.1.7 IP Board, PL8.1.7 MCU Board, PL8.2.13	 Horizontal Band, Void, or Streaks

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Print the Contamination Check test print (page 5-49): **Test Print > Contamination Chk** Compare any defects with the Pitch Chart (page 5-50). Do any of the horizontal bands match the chart?	Replace the corresponding parts	Go to step 2.
2	Check the paper condition Is the paper dry and approved for use?	Go to step 4.	Replace with dry, approved paper, then go to step 3.
3	Is the image printed correctly?	Complete	Go to step 4.
4	Inspect the transfer belt surface. Is there any damage to the belt?	Replace the Transfer Belt (page 8-112).	Go to step 5.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
5	Check the Transfer Belt high-voltage connections. Are the contacts on the Transfer Belt and springs damaged or dirty?	Clean or replace the Transfer Belt contacts or spring(s).	Go to step 6.
6	Print an Engine Test print (page 4-47). Is the image printed correctly?	Replace the IP Board (page 8-120).	Go to step 7.
7	Check the laser beam path Are there any obstructions between the Laser Unit and Imaging Unit?	Remove the obstructions.	Go to step 8.
8	Check the Imaging Unit high-voltage connections. Are the contacts on the Imaging Unit, and springs damaged or dirty?	Clean or replace the Imaging Unit contacts or spring(s).	Go to step 9.
9	Reseat the Imaging Unit. Is the image printed correctly?	Complete	Go to step 10.
10	Reseat the Fuser. Is the image printed correctly?	Complete	Go to step 11.
11	Reseat all MCU Board connectors. Is the image printed correctly?	Complete	Go to step 12.
12	Reseat all IP Board connectors. Is the image printed correctly?	Complete	Go to step 13.
13	Open and close the Front Cover to reseat the Transfer Belt. Is the image printed correctly?	Complete	Go to step 14.
14	Replace the Toner Cartridge(s) (page 8-12). Is the image printed correctly?	Complete	Go to step 15.
15	Replace the Imaging Unit (page 8-7). Is the image printed correctly?	Complete	Go to step 16.
16	Replace the IP Board (page 8-120). Is the image printed correctly?	Complete	Go to step 17.
17	Check the connections between the Laser Unit and MCU Board. Are P/J40, P/J 41, P/J411 and P/J 412 connected correctly?	Go to step 19.	Secure the connectors, then go to step 17.
18	Is the image printed correctly?	Complete	Go to step 19.
19	Replace the HVPS (page 8-136). Is the image printed correctly?	Complete	Go to step 20.
20	Replace the Laser Unit (page 8-86). Is the image printed correctly?	Complete	Replace the MCU Board (page 8-138).

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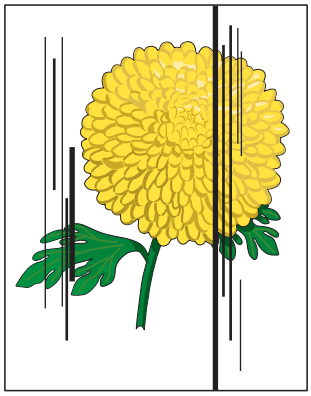
Vertical Stripes

There are Black lines along the page in the direction of the paper travel from the leading edge to the trailing edge.

Initial Actions

- Check the media path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
Imaging Unit, PL4.1.21 Laser Unit, PL4.1.99 Fuser, PL6.1.1 Transfer Belt, PL6.1.7 IP Board, PL8.1.7 MCU Board, PL8.2.13	 Vertical Stripes

Allow the Fuser to cool before starting the procedure.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Print an Engine Test print (page 4-47). Is the test print printed correctly?	Replace the IP Board (page 8-120).	Go to step 2.
2	Check the Transfer Belt high-voltage connections. Are the contacts on the Transfer Belt and springs damaged or dirty?	Clean or replace the Transfer Belt contacts or spring(s).	Go to step 3.
3	Check the Imaging Unit high-voltage connections. Are the contacts on the Imaging Unit, and springs damaged or dirty?	Clean and/or replace the Imaging Unit or spring(s).	Go to step 4.
4	Reseat the Imaging Unit. Does the error persist?	Complete	Go to step 5.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
5	Reseat the Fuser. Does the error persist?	Complete	Go to step 6.
6	Reseat all MCU Board connectors. Does the error persist?	Complete	Go to step 7.
7	Reseat all IP Board connectors. Does the error persist?	Complete	Go to step 8.
8	Open and close the Front Cover to reseat the Transfer Belt. Does the error persist?	Complete	Go to step 9.
9	Check the connections between the Laser Unit and MCU Board. Are P/J40, P/J 41, P/J411 and P/J 412 connected correctly?	Go to step 11.	Reconnect the connectors securely, then go to step 10.
10	Is the image printed correctly?	Complete	Go to step 11.
11	Replace the Imaging Unit (page 8-7). Does the error persist?	Complete	Go to step 12.
12	Replace the Fuser (page 8-10). Does the error persist?	Complete	Go to step 13.
13	Replace the IP Board (page 8-120). Does the error persist?	Complete	Go to step 14.
14	Replace the Laser Unit (page 8-86). Does the error persist?	Complete	Go to step 15.
15	Replace the MCU Board (page 8-138). Does the error persist?	Replace the HVPS (page 8-136).	Complete

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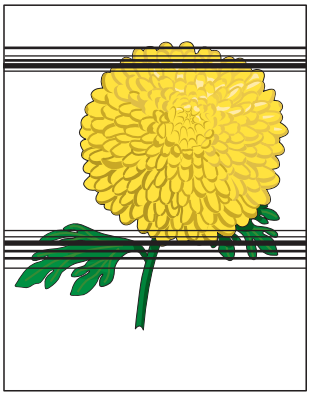
Horizontal Stripes

There are Black lines running parallel with the leading edge of the print, perpendicular to the direction of the paper travel.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Notes	Example Print
Imaging Unit, PL4.1.21 Laser Unit, PL4.1.99 Toner Cartridge K, PL5.1.21 Toner Cartridge C, PL5.1.22 Toner Cartridge M, PL5.1.23 Toner Cartridge Y, PL5.1.24 Fuser, PL6.1.1 Transfer Belt, PL6.1.7 IP Board, PL8.1.7 MCU Board, PL8.2.13	 Horizontal Stripes

Allow the Fuser to cool before servicing the printer.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Print the Contamination Check test print (page 5-49): **Test Print > Contamination Chk** Compare any horizontal bands with the Pitch Chart (page 5-50). Do any of the horizontal bands match the chart?	Replace the corresponding parts.	Go to step 2.
2	Check the Transfer Belt high-voltage connections. Are the contacts on the Transfer Belt and springs damaged or dirty?	Clean or replace the Transfer Belt contacts or spring(s).	Go to step 3.
3	Print an Engine Test print (page 4-47). Is the test print printed correctly?	Replace the IP Board (page 8-120).	Go to step 4.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
4	Inspect the media path. Is there toner contamination?	Clean the paper path (refer to "Cleaning" on page 7-2).	Go to step 5.
5	Check the Imaging Unit high-voltage connections. Are the contacts on the Imaging Unit, and springs damaged or dirty?	Clean and/or replace the Imaging Unit or spring(s).	Go to step 6.
6	Reseat the Imaging Unit. Is the image printed correctly?	Complete	Go to step 7.
7	Reseat the Fuser. Is the image printed correctly?	Complete	Go to step 8.
8	Check the Toner Cartridges Are any of the Toner Cartridges damaged?	Replace any damaged Toner Cartridges (page 8-12)	Go to step 9.
9	Reseat all MCU Board connectors. Is the image printed correctly?	Complete	Go to step 10.
10	Reseat all IP Board connectors. Is the image printed correctly?	Complete	Go to step 11.
11	Open and close the Front Cover to reseat the Transfer Belt. Is the image printed correctly?	Complete	Go to step 12.
12	Check the connections between the Laser Unit and MCU Board. Are P/J40, P/J 41, P/J411 and P/J 412 connected correctly?	Go to step 15.	Reconnect the connectors securely, then go to step 13.
13	Is the image printed correctly?	Complete	Go to step 14.
14	Replace the Imaging Unit (page 8-7). Is the image printed correctly?	Complete	Go to step 15.
15	Replace the Fuser (page 8-10). Does the error persist?	Complete	Go to step 16.
16	Replace the IP Board (page 8-120). Is the image printed correctly?	Complete	Go to step 17.
17	Replace the Laser Unit (page 8-86). Is the image printed correctly?	Complete	Replace the MCU Board (page 8-138).

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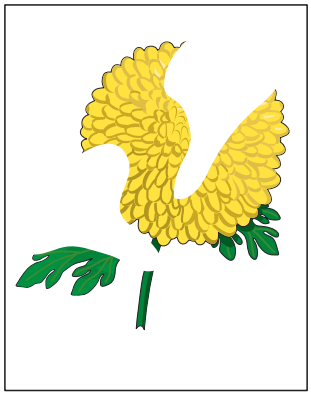
Partial Band

There are areas of the image that are extremely light or are missing in a limited area on the paper.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Notes	Example Print
Imaging Unit, PL4.1.21 Laser Unit, PL4.1.99 Transfer Belt, PL6.1.7 IP Board, PL8.1.7 MCU Board, PL8.2.13	 Partial Band

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Print the Contamination Check test print (page 5-49): **Test Print > Contamination Chk** Compare any blank areas with the Pitch Chart (page 5-50). Do any of the blank areas appear at regular intervals, and match the chart?	Replace the corresponding parts.	Go to step 2.
2	Check the media condition Is the media dry and approved for use?	Go to step 4.	Replace with dry, approved media, then go to step 3.
3	Is the image printed correctly?	Complete	Go to step 4.
4	Print an Engine Test print (page 4-47). Is the test print printed correctly?	Replace the IP Board (page 8-120).	Go to step 5.
5	Inspect the Transfer Belt surface. Is the transfer belt damaged?	Replace the Transfer Belt (page 8-112).	Go to step 6.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
6	Check the Transfer Belt high-voltage connections. Are the contacts on the Transfer Belt and springs damaged or dirty?	Clean or replace the Transfer Belt contacts or spring(s).	Go to step 7.
7	Check the Imaging Unit high-voltage connections. Are the contacts on the Imaging Unit, and springs damaged or dirty?	Clean and/or replace the Imaging Unit or spring(s).	Go to step 8.
8	Reseat the Imaging Unit. Is the image printed correctly?	Complete	Go to step 9.
9	Reseat and lock the Toner Cartridges. Is the image printed correctly?	Complete	Go to step 10.
10	Reseat all MCU Board connectors. Is the image printed correctly?	Complete	Go to step 11.
11	Reseat all IP Board connectors. Is the image printed correctly?	Complete	Go to step 12.
12	Open and close the Front Cover to reseat the Transfer Belt. Is the image printed correctly?	Complete	Go to step 13.
13	Reseat HVPS Board connections. Is the image printed correctly?	Complete	Go to step 14.
14	Check the connections between the Laser Unit and MCU Board. Are P/J40, P/J 41, P/J411 and P/J 412 connected correctly?	Go to step 16.	Reconnect the connectors securely, then go to step 15.
15	Is the image printed correctly?	Complete	Go to step 16.
16	Replace the Imaging Unit (page 8-7). Is the image printed correctly?	Complete	Go to step 17.
17	Replace the IP Board (page 8-120). Is the image printed correctly?	Complete	Go to step 18.
18	Replace the Laser Unit (page 8-86). Is the image printed correctly?	Complete	Replace the MCU Board (page 8-138).

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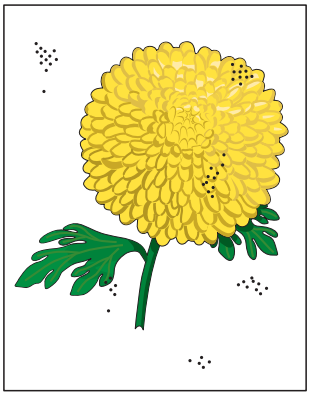
Random Spots

There are spots of toner randomly scattered across the page.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Notes	Example Print
Imaging Unit, PL4.1.21 Laser Unit, PL4.1.99 Transfer Belt, PL6.1.7 IP Board, PL8.1.7 MCU Board, PL8.2.13	 Random Spots

Allow the Fuser to cool before starting the procedure.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Inspect the paper transfer path. Is there any contamination on the paper transfer path?	Clean the paper path (refer to "Cleaning" on page 7-2), then go to step 2.	Go to step 3.
2	Is the image printed correctly?	Complete	Go to step 3.
3	Print the Contamination Check test print (page 5-49): **Test Print > Contamination Chk** Compare any blank areas with the Pitch Chart (page 5-50). Do any of the blank areas appear at regular intervals, and match the chart?	Replace the corresponding parts.	Go to step 4.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
4	Check the paper being used. Is it approved paper?	Go to step 6.	Load supported media, then go to step 5.
5	Is the image printed correctly?	Complete	Go to step 6.
6	Print an Engine Test print (page 4-47). Is the test print printed correctly?	Replace the IP Board (page 8-120).	Go to step 7.
7	Check the transfer belt surface. Is there any damage on the surface of the transfer belt?	Replace the Transfer Belt (page 8-112).	Go to step 8.
8	Check the Transfer Belt high-voltage connections. Are the contacts on the Transfer Belt and springs damaged or dirty?	Clean or replace the Transfer Belt contacts or spring(s).	Go to step 9.
9	Check the Imaging Unit high-voltage connections. Are the contacts on the Imaging Unit, and springs damaged or dirty?	Clean and/or replace the Imaging Unit or spring(s).	Go to step 10.
10	Reseat the Imaging Unit. Is the image printed correctly?	Complete	Go to step 11.
11	Reseat and lock the Toner Cartridges. Is the image printed correctly?	Complete	Go to step 12.
12	Reseat the Fuser. Is the image printed correctly?	Complete	Go to step 13.
13	Reseat all MCU Board connectors. Is the image printed correctly?	Complete	Go to step 14.
14	Reseat all IP Board connectors. Is the image printed correctly?	Complete	Go to step 15.
15	Open and close the Front Cover to reseat the Transfer Belt. Is the image printed correctly?	Complete	Go to step 16.
16	Check the connections between the Laser Unit and MCU Board. Are P/J40, P/J 41, P/J411 and P/J 412 connected correctly?	Go to step 18.	Reconnect the connectors securely, then go to step 17.
17	Is the image printed correctly?	Complete	Go to step 18.
18	Replace the Imaging Unit (page 8-7). Is the image printed correctly?	Complete	Go to step 19.
19	Replace the IP Board (page 8-120). Is the image printed correctly?	Complete	Go to step 20.

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Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
20	Replace the Laser Unit (page 8-86). Is the image printed correctly?	Complete	Replace the MCU Board (page 8-138).

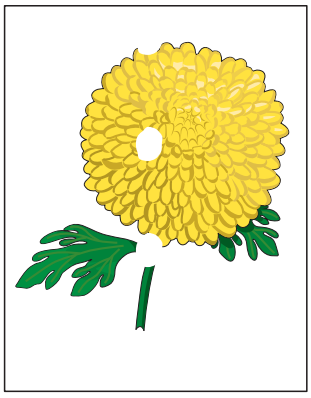
Repeating Bands, Lines, Marks, or Spots

There are recurring lines, marks, or spots on the page.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Notes	Example Print
Laser Unit, PL4.1.99 Toner Cartridge K, PL5.1.21 Toner Cartridge C, PL5.1.22 Toner Cartridge M, PL5.1.23 Toner Cartridge Y, PL5.1.24 Fuser, PL6.1.1 Transfer Belt, PL6.1.7	 Repeating Defects

Allow the Fuser to cool before starting the procedure.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check for spot's regular intervals. Do spots, lines, or marks that might appear on the page occur at regular intervals?	Refer to "Pitch Chart Test Print" on page 5-50.	Complete.

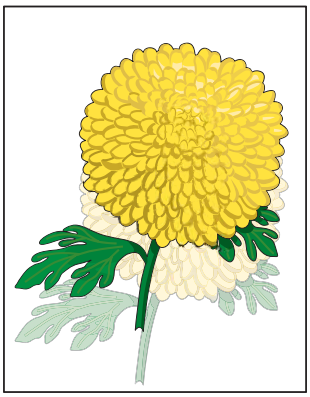
Residual Image or Ghosting

There are faint, ghostly images appearing on the page. The images may be either from a previous page or from the page currently being printed.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Notes	Example Print
Erase LED Assy, PL4.1.8 Imaging Unit, PL4.1.21 Fuser, PL6.1.1 Transfer Belt, PL6.1.7 IP Board, PL8.1.7 MCU Board, PL8.2.13	 Residual Image/Ghosting

Allow the Fuser to cool before starting the procedure.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Did the client print a large number of the same image?	Go to step 2.	Go to step 3.
2	Print the Contamination Check test prints (page 5-49): **Test Print > Contamination Chk** Is the image printed correctly?	Complete	Go to step 3.
3	Print an Engine Test print (page 4-47). Is the test print printed correctly?	Replace the IP Board (page 8-120).	Go to step 4.
4	Remove the Imaging Unit and defeat the safety interlock switch. Do the four erase LEDs light correctly?	Go to step 6.	Go to step 5.

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Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
5	Inspect the connections between the MCU Board and Erase LED Assy. Are P/J141 and P/J14 connected correctly?	Go to step 5.	Reconnect the connectors securely, then go to step 6.
6	Disconnect J14 from the Erase LED Assy and measure the voltage across P14-15 <=> ground on the MCU Board. Is +3.3 VDC present	Replace the Erase LED Assy (page 8-97).	Replace the MCU Board (page 8-138).
7	Check the Imaging Unit high-voltage connections. Are the contacts on the Imaging Unit, and springs damaged or dirty?	Clean and/or replace the Imaging Unit or spring(s), then go to step 8.	Go to step 9.
8	Reseat the Imaging Unit. Is the image printed correctly?	Complete	Go to step 9.
9	Check the Transfer Belt high-voltage connections. Are the contacts on the Transfer Belt and springs damaged or dirty?	Clean or replace the Transfer Belt contacts or spring(s).	Go to step 10.
10	Reseat all MCU Board connectors. Is the image printed correctly?	Complete	Go to step 11.
11	Reseat all IP Board connectors. Is the image printed correctly?	Complete	Go to step 12.
12	Open and close the Front Cover to reseat the Transfer Belt. Is the image printed correctly?	Complete	Go to step 13.
13	Replace the Imaging Unit (page 8-7). Is the image printed correctly?	Complete	Go to step 14.
14	Replace the Fuser (page 8-10). Is the image printed correctly?	Complete	Go to step 15.
15	Replace the MCU Board (page 8-138). Is the image printed correctly?	Complete	Replace the IP Board (page 8-120).

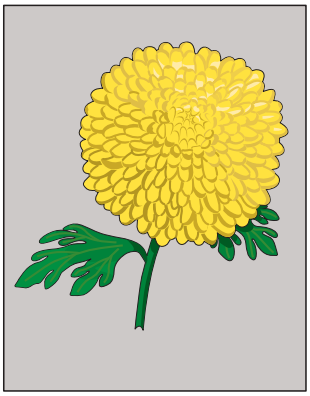
Background Contamination

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

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Notes	Example Print
Erase LED Assy, PL4.1.8 Imaging Unit, PL4.1.21 Transfer Belt, PL6.1.7 IP Board, PL8.1.7 MCU Board, PL8.2.13	 Background Contamination

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Inspect the media path. Are there obstructions in the media path?	Clean the media path (refer to "Cleaning" on page 7-2), then go to step 2.	Go to step 3.
2	Is the image printed correctly?	Complete	Go to step 3.
3	Print the Windows test page after printing the Demo page **Information Pages > Demo Page**, or printing **Test Print > Toner Pallet Check**). Is the image printed correctly?	Complete	Go to step 4.
4	Print an Engine Test print (page 4-47). Is the test print printed correctly?	Replace the IP Board (page 8-120).	Go to step 5.

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Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
5	Remove the Imaging Unit and defeat the safety interlock switch. Do the four erase LEDs light correctly?	Go to step 8.	Go to step 6.
6	Check the connections between the MCU Board and Erase LED Assy. Are P/J141 and P/J14 connected correctly?	Go to step 7.	Reconnect the connector(s) securely, then go to step 7.
7	Disconnect J14 from the Erase LED Assy and measure the voltage across P14-15 <=> ground on the MCU Board. Is +3.3 VDC present	Replace the Erase LED Assy (page 8-97).	Replace the MCU Board (page 8-138).
8	Check the Transfer Belt high-voltage connections. Are the contacts on the Transfer Belt and springs damaged or dirty?	Clean or replace the Transfer Belt contacts or spring(s).	Go to step 9.
9	Check the Imaging Unit high-voltage connections. Are the contacts on the Imaging Unit, and springs damaged or dirty?	Clean and/or replace the Imaging Unit or spring(s).	Go to step 10.
10	Reseat all IP Board connectors. Is the image printed correctly?	Complete	Go to step 11.
11	Reseat and lock the Toner Cartridges. Is the image printed correctly?	Complete	Go to step 12.
12	Check the connections between the Laser Unit and MCU Board. Are P/J40, P/J 41, P/J411 and P/J 412 connected correctly?	Go to step 14.	Reconnect the connectors securely, then go to step 13.
13	Is the image printed correctly?	Complete	Go to step 14.
14	Reseat all MCU Board connectors. Is the image printed correctly?	Complete	Go to step 15.
15	Reseat all IP Board connectors. Is the image printed correctly?	Complete	Go to step 16.
16	Open and close the Front Cover to reseat the Transfer Belt. Is the image printed correctly?	Complete	Go to step 17.
17	Replace the Imaging Unit (page 8-7). Is the image printed correctly?	Complete	Go to step 18.
18	Replace the IP Board (page 8-120). Is the image printed correctly?	Complete	Replace the MCU Board (page 8-138).

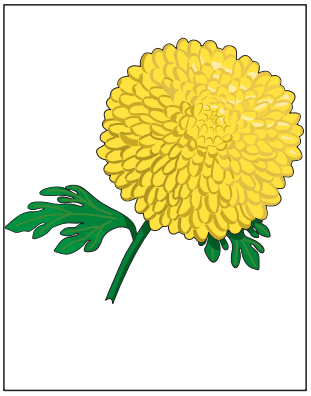
Skew

The printed image is not parallel with both sides of the paper.

Initial Actions

- Check the media path.
- Ensure there are no debris on the transfer path.
- If feeding through the Manual Feed slot, try feeding from Tray 1.

Troubleshooting Reference Table

Applicable Notes	Example Print
Separator Roller, PL2.1.5 Feed Roller Assembly, PL3.2.4 Registration Roller, PL3.2.9 Metal Registration Roller, PL3.2.10	 Skew 2

The Tray is recommended for paper feeding because paper fed via the Manual Feed slot is prone to skew depending on how the sheet is fed.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Inspect the media being used. Is it approved paper?	Go to step 3.	Load approved media, then go to step 2.
2	Is the image printed correctly?	Complete	Go to step 3.
3	Check media condition. Is the media dry and recommended?	Go to step 5.	Replace the media, then go to step 4.
4	Is the image printed correctly?	Complete	Go to step 5.
5	Open and close the Front Cover. Does the Front Cover latch close properly?	Complete	Replace the defective parts, then go to step 6.
6	Is the image printed correctly?	Complete	Go to step 7.

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Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
7	Reseat the Imaging Unit. Is the image printed correctly?	Complete	Go to step 8.
8	Open and close the Front Cover to reseat the Transfer Belt. Is the image printed correctly?	Complete	Go to step 9.
9	Is the skewed paper being fed from the Manual Feed slot?	Go to step 10.	Go to step 14.
10	Check the Manual Feed slot guides and reset the guides if needed. Is the image printed correctly?	Complete	Go to step 11.
11	Inspect the media path. Is there toner contamination in the media path?	Clean the paper path (refer to "Cleaning" on page 7-2), then go to step 12.	Go to step 13.
12	Is the image printed correctly?	Complete	Go to step 13.
13	Reseat the Tray. Is the image printed correctly?	Complete	Go to step 14.
14	Reload media in the Tray. Is the image printed correctly?	Complete	Go to step 15.
15	Reset the Tray side guides. Is the image printed correctly?	Complete	Go to step 16.
16	Reseat the Separator Roller. Is the image printed correctly?	Complete	Go to step 17.
17	Replace the Separator Roller (page 8-6). Is the image printed correctly?	Complete	Go to step 18.
18	Replace the Feed Roller (page 8-9). Is the image printed correctly?	Complete	Go to step 19.
19	**NOTE** During this check, defeat the Front Cover interlock switch. Test the Main Motor (page 4-29): **Engine Diag > Motor Test > Main Motor,** then select the Registration Clutch test (page 4-33): **Engine Diag > Motor Test > Regi Clutch**. Does the Registration Clutch and registration rollers operate?	Complete	Replace the Feeder Assembly page 8-72.

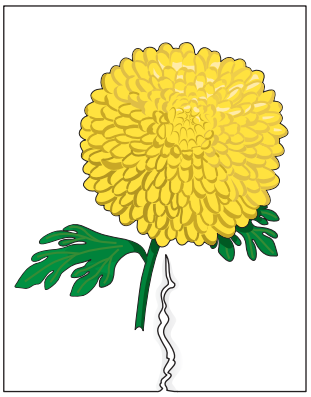
Damaged Media

Paper comes out from the printer wrinkled, folded, or worn-out.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.
- If feeding through the Manual Feed slot, try feeding from Tray 1.

Troubleshooting Reference Table

Applicable Notes	Example Print
Separator Roller, PL2.1.5 Feed Roller Assembly, PL3.2.4 Registration Roller, PL3.2.9 Metal Registration Roller, PL3.2.10	 Damaged Print Media

Allow the Fuser to cool before servicing the printer.

The Tray is recommended for paper feeding because paper fed via the Manual Feed slot is prone to skew depending on how the sheet is fed.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the paper condition Is the paper dry and approved for use?	Go to step 3.	Replace with dry, approved paper, then go to step 2.
2	Is the image printed correctly?	Complete	Go to step 3.
3	Open and close the Front Cover. Does the Front Cover latch close properly?	Complete	Replace any defective parts, then go to step 4.
4	Is the image printed correctly?	Complete	Go to step 5.
5	Reseat the Imaging Unit. Is the image printed correctly?	Complete	Go to step 6.

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Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
6	Reseat the Fuser. Is the image printed correctly?	Complete	Go to step 7.
7	Open and close the Front Cover to reseat the Transfer Belt. Is the image printed correctly?	Complete	Go to step 8.
8	Is the paper damaged when fed from the Manual Feed slot?	Go to step 9.	Go to step 12.
9	Check the setting of the Manual Feed slot side guides and reset the side guides if needed. Is the image printed correctly?	Complete	Go to step 10.
10	Inspect the media path. Is there any contamination?	Clean the media path, then go to step 11.	Go to step 12.
11	Is the image printed correctly?	Complete	Go to step 12.
12	Reseat the Paper Tray. Is the image printed correctly?	Complete	Go to step 13.
13	Reset the Paper Tray side guides. Is the image printed correctly?	Complete	Go to step 14.
14	Replace the media in the Paper Tray. Is the image printed correctly?	Complete	Go to step 15.
15	Inspect the media path. Is there any contamination?	Clean the media path, then go to step 16.	Go to step 17.
16	Is the image printed correctly?	Complete	Go to step 17.
17	Reseat the Separator Holder. Is the image printed correctly?	Complete	Go to step 18.
18	Replace the Separator Holder (page 8-6). Is the image printed correctly?	Complete	Go to step 19.
19	Replace the Feed Roller (page 8-9). Is the image printed correctly?	Complete	Go to step 20.
20	**NOTE** During this check, defeat the Front Cover interlock switch. Test the Main Motor (page 4-29): **Engine Diag > Motor Test > Main Motor,** then select the Registration Clutch test (page 4-33): **Engine Diag > Motor Test > Regi Clutch**. Does the Registration Clutch and registration rollers operate?	Complete	Replace the Feeder Assembly page 8-72.

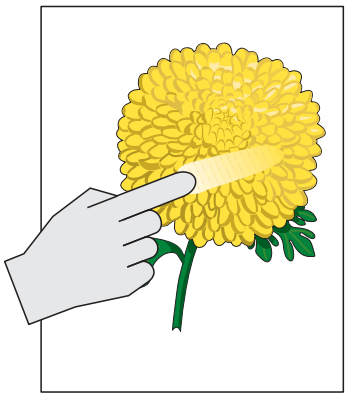
Unfused Image

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

Initial Actions

- Check the media path.
- Check the Fuser connection (P/J171).

Troubleshooting Reference Table

Applicable Notes	Example Print
Fuser, PL6.1.1 MCU Board, PL8.2.13	 Unfused Image

Allow the Fuser to cool before servicing the printer.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the media being used and its condition. Is the media dry and recommended?	Go to step 3.	Replace with dry, approved media, then go to step 2.
2	Is the image printed correctly?	Complete	Go to step 3.
3	Check the Toner type Is non-Xerox Toner in use?	Replace with Xerox toner, then go to step 4.	Go to step 5.
4	Is the image printed correctly?	Complete	Go to step 5.
5	Reseat the Fuser. Is the image printed correctly?	Complete	Go to step 6.
6	Replace the Fuser (page 8-10). Does the error persist?	Replace the MCU Board (page 8-138).	Complete

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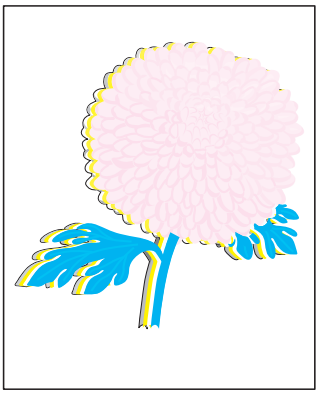
Color Registration

A printed Yellow or Black image is not overlapped on a Cyan or Magenta image correctly.

Initial Actions

- Check the paper transfer path.
- Ensure there is no debris on the transfer path.

Troubleshooting Reference Table

Applicable Notes	Example Print
Imaging Unit, PL4.1.21 Fuser, PL6.1.1 Transfer Belt, PL6.1.7 MCU Board, PL8.2.13	 Color Registration

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Cycle the printer power. Does the mis-registration (color shift) appear on the print?	Go to step 2.	Complete
2	Print a test page. Is the image printed correctly?	Check the printing data for errors.	Go to step 3.
3	Check the media. Is the media dry and recommended?	Go to step 5.	Replace media, then go to step 4.
4	Does the mis-registration (color shift) appear on the print?	Go to step 5.	Complete
5	Open and close the Front Cover. Does the Front Cover latch close properly?	Complete	Replace any defective parts, then go to step 6.
6	Open and close the Front Cover. Does the mis-registration (color shift) appear on the print?	Go to step 7.	Complete

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
7	Reseat the Imaging Unit. Does the mis-registration (color shift) appear on the print?	Go to step 8.	Complete
8	Open and close the Front Cover to confirm the Transfer Belt is undamaged and properly closed. Does the mis-registration (color shift) appear on the print?	Go to step 9.	Complete
9	Set the printer to adjust the color registration automatically: **Menus > Admin Menu > Maintenance Mode > Automatic Registration Adjust**. Does the mis-registration (color shift) appear on the print?	Go to step 10.	Complete
10	Adjust the color registration manually: **Menus > Admin Menu > Maintenance Mode > Adjust Color Registration**. Does the mis-registration (color shift) appear on the print?	Go to step 11.	Complete
11	Replace the Imaging Unit (page 8-7). Is the image printed correctly?	Go to step 12.	Complete
12	Replace the Transfer Belt (page 8-112). Does the mis-registration (color shift) appear on the print?	Replace the MCU Board (page 8-138).	Complete

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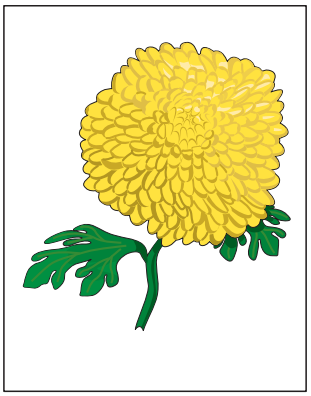
Wavy Lines

The printed image has wavy column line in the direction of the paper travel.

Initial Actions

- Check the ADF media path for dirt or debris.
- Check the ADF media transport components.

Troubleshooting Reference Table

Applicable Parts	Example Print
ADF Scanner Assembly, PL11.1.1	 Hunting

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Check the media condition. 2. Is the media the recommended type, loaded in the correct position, and meet specifications?	Go to step 2.	Replace the paper or use the document glass mode.
2	Is the ADF closed against the document glass completely?	Replace the IIT Sub-Assembly (page 8-195).	Close the ADF.

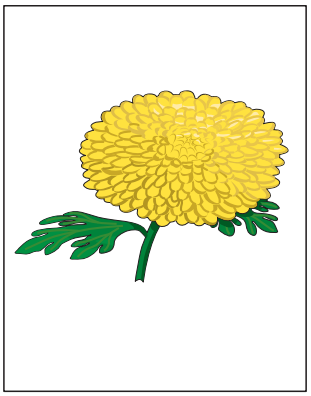
Incorrect Magnification

Incorrect magnification when copying with the ADF feeding.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
ADF Scanner Assembly, PL11.1.1	 Magnification Incorrect

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Check the paper condition. 2. Is the paper dry, recommended, loaded in the correct position, and meet the ADF specifications?	Go to step 2.	Replace the paper or use the platen mode.
2	Is the ADF closed against the document glass completely?	Go to step 3.	Close the ADF.
3	1. Perform Scanner Calibration procedure (“Scanner Parameter Setting” on page 6-11). 2. Does the error still occur?	Replace the IIT Sub-Assembly (page 8-195).	Complete.

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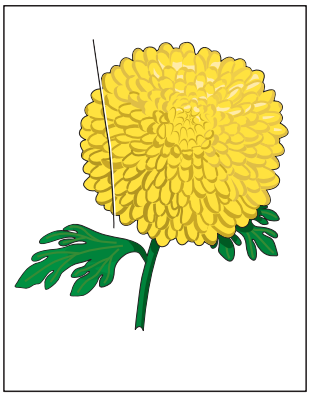
Lines or Streaks (from ADF)

There are lines or streaks on copies from the ADF.

Initial Actions

- Check the document glass.
- Ensure there are no debris on the document glass.

Troubleshooting Reference Table

Applicable Parts	Example Print
ADF Scanner Assembly, PL11.1.1	 Scratch on Glass

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Check the output document. 2. Are there lines or streaks on the document?	Replace the original document.	Go to step 2.
2	Are there debris on the document glass?	Clean the document glass using a lint-free cloth.	Go to step 3.
3	Does the image quality improve?	Complete.	Go to step 4.
4	Are there scratches on the document glass?	Replace the IIT Sub-Assembly (page 8-195).	Complete.

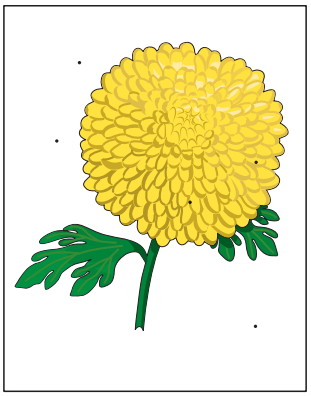
Spots from ADF

There are spots on copies from the ADF.

Initial Actions

- Check the document glass.
- Ensure there are no debris on the document glass.

Troubleshooting Reference Table

Applicable Parts	Example Print
ADF Scanner Assembly, PL11.1.1	 Spots on Glass

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Check the original document. 2. Are there spots on the original document?	Replace the original document.	Go to step 2.
2	1. Check for any debris on the document glass and the CVT window. 2. Are there any debris?	Remove the debris and clean the document glass using a lint-free cloth.	Go to step 3.
3	Does the image quality improve?	Complete.	Replace the IIT Sub-Assembly (page 8-195).

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Test Prints

A variety of test prints are available for troubleshooting print quality defects and to confirm proper printer operation. Test Prints can isolate printing problems to the MCU or Image Processor Board by using on board image data to isolate the two boards. Test prints are also useful for stimulating asynchronous (dynamic) events related to the print process, or as a test for media path and media related problems. Some other key features of test prints:

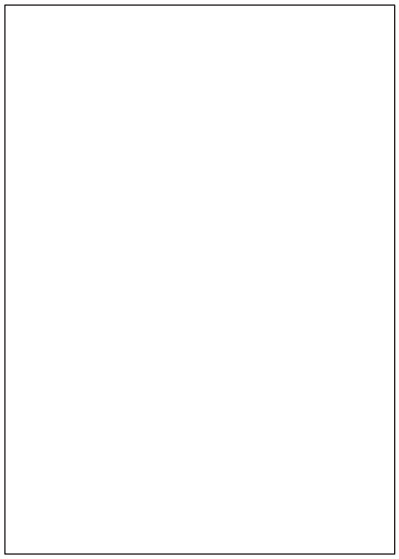
- Is the only diagnostic utility to exercise the entire print cycle.
- Isolated from the operating system (PostScript). Runs from firmware.
- Isolates the Image Processor Board from Engine Control Board.
- Captures static or dynamic events.
- Helps to isolate events that cause print artifacts or prevents printing.

Test prints are selected from the list of available test prints in the **Test Print** menu of diagnostics.

No Image IOT Test Print

This test print provides a sample blank page. This test is used to identify problems with the printer function, or clean media path components.

- **Fail:** Check the printer function.
- **Pass:** Check the network connection, cable, PC...etc.

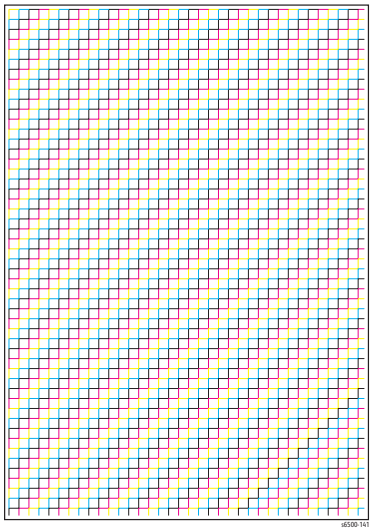


s6500-140

Pattern IOT Test Print

This Engine test print is used to identify problems with printer function or the Image Processor Board. The colors should be aligned vertically and horizontally. Compare the print with this example to determine the problem.

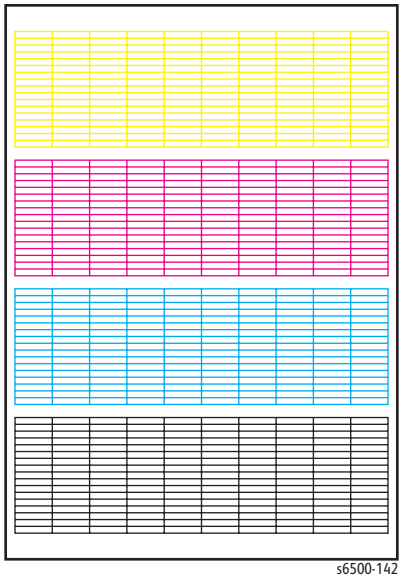
- **Fail:** Check the printer controller or the MCU Board.
- **Pass:** Check the Image Processor Board.



Grid 2 ESS Test Print

This test print provides a grid pattern sample. This page is used to identify problems with printer function. Compare the print with this example to determine the problem.

- **Fail:** Check the printer function and the Image Processor Board.
- **Pass:** Check the network connection, cable, PC...etc.



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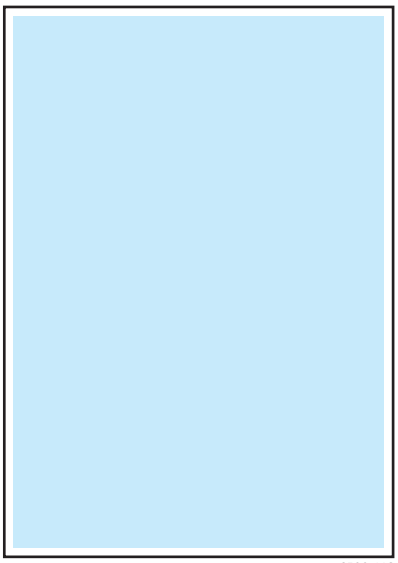
Cyan 20% ESS Test Print

This test print provides 20 % Cyan density on the whole page. This test is used to identify problems with Cyan toner or another color toner. Compare the print with this example to determine the problem.

- **Fail:** Check the Cyan Toner Cartridge.
- **Pass:** Check another Toner Cartridge.

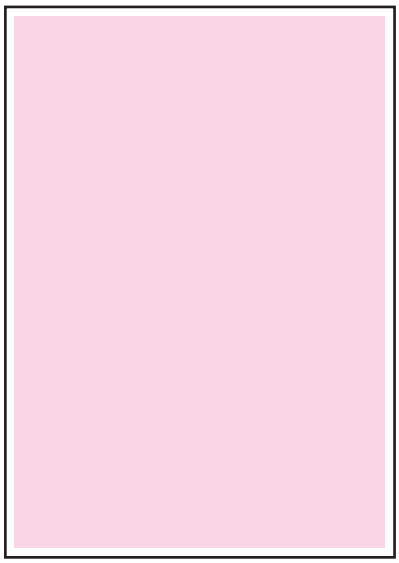


s6500-143

Magenta 20% ESS Test Print

This test print provides 20 % Magenta density on the whole page. This test is used to identify problems with Magenta toner or another color toner. Compare the print with this example to determine the problem.

- **Fail:** Check the Magenta Toner Cartridge.
- **Pass:** Check another Toner Cartridge.

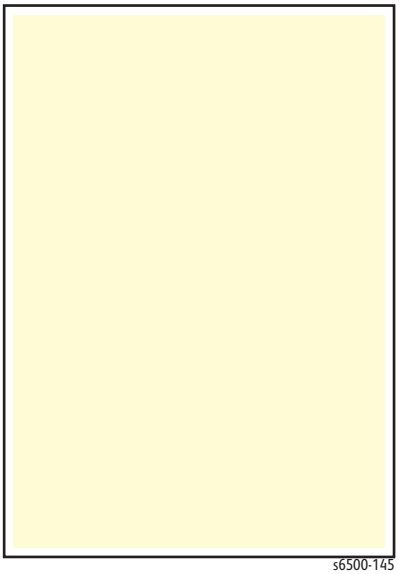


s6500-144

Yellow 20% ESS Test Print

This test print provides 20 % Yellow density on the whole page. This test is used to identify problems with Yellow toner or another color toner. Compare the print with this example to determine the problem.

- **Fail:** Check the Yellow Toner Cartridge.
- **Pass:** Check another Toner Cartridge.

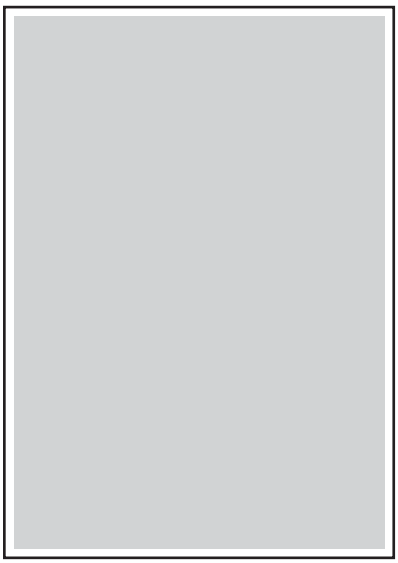


s6500-145

Black 20% ESS Test Print

This test print provides 20 % Black density on the whole page. This test is used to identify problems with Black toner or another color toner. Compare the print with this example to determine the problem.

- **Fail:** Check the Black Toner Cartridge.
- **Pass:** Check another Toner Cartridge.



s6500-146

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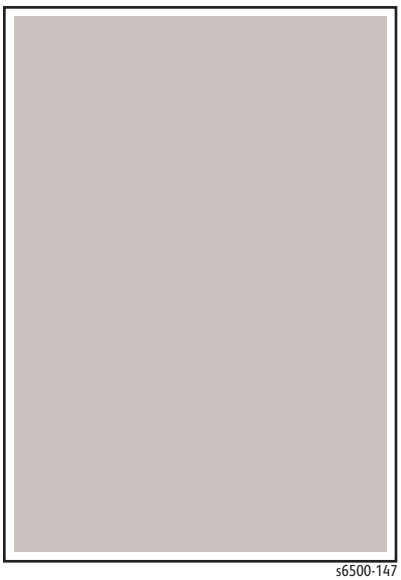
CMY 20% ESS Test Print

This test print provides 20 % density for combination of Cyan, Magenta, and Yellow on the whole page. This test is used to identify problems with balance of three color toners or another toner. Compare the print with this example to determine the problem.

- **Fail:** Check the Cyan, Magenta, or Yellow Toner Cartridge.
- **Pass:** Check the Black Toner Cartridge.



s6500-147

Gradation ESS Test Print

This test print provides 2 - 100 % density for Cyan, Magenta, Yellow, or Black on the whole page. This test is used to identify problems with the printer function or the Image Processor Board. Compare the print with this example to determine the problem.

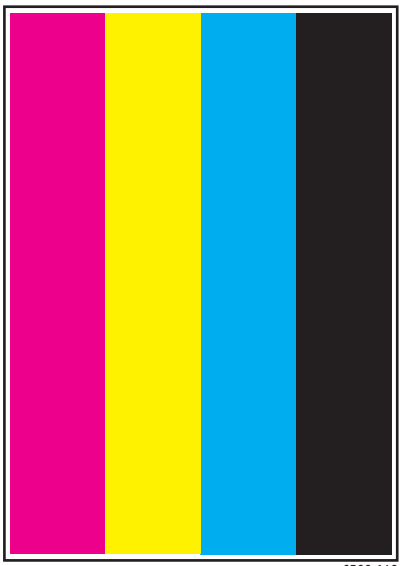
- **Fail:** Check the printer function.
- **Pass:** Check the Image Processor Board.

s6500-148

Toner Pallet Check Test Print

This test print provides 100 % density for Cyan, Magenta, Yellow, and Black on the whole page. This test is used to identify problems with the toner when printing pictures or photos. Compare the print with this example to determine the problem.

- **Fail:** Check the toner cartridge and delivery for the problem color.
- **Pass:** Check the print data.



s6500-149

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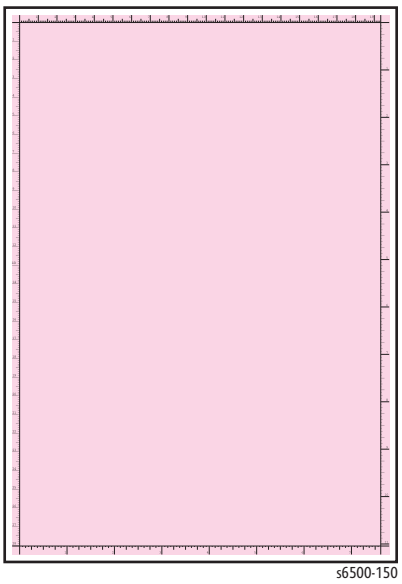
Contamination Check Test Prints

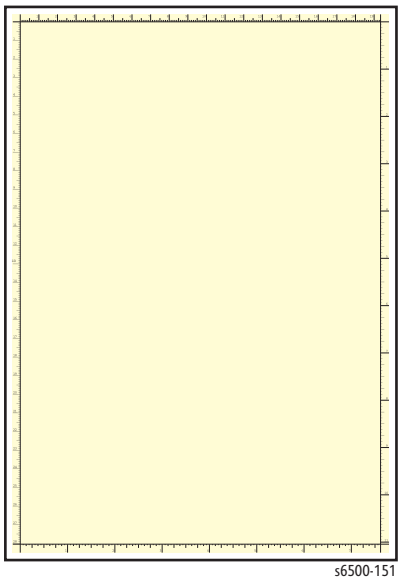
This check produces five pages that are useful for analyzing repeating defects such as lines or spots that occur at regular interval. By measuring the size of the interval it is possible to determine which printer component is causing the problem.

Pages 1 through 4: Vertical and horizontal scale patterns on a 20 % density background of one color; for evaluating regularity and intervals.

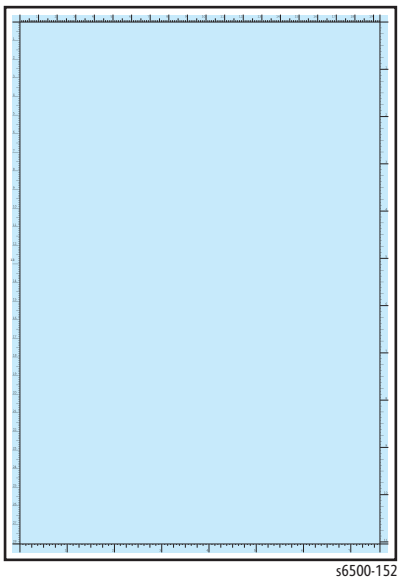
Page 5: A pitch chart that lists repeating defect intervals and their associated components.



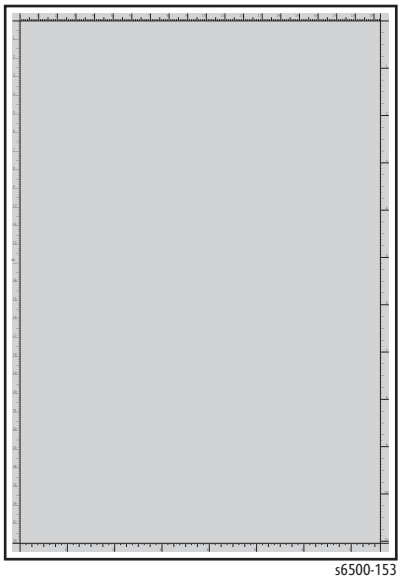
s6500-150



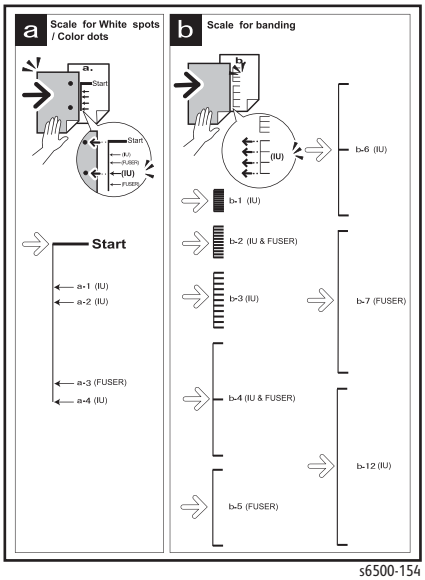
s6500-151



s6500-152



s6500-153

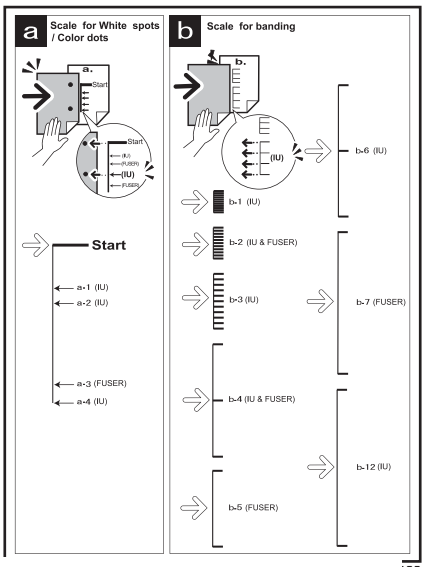


s6500-154

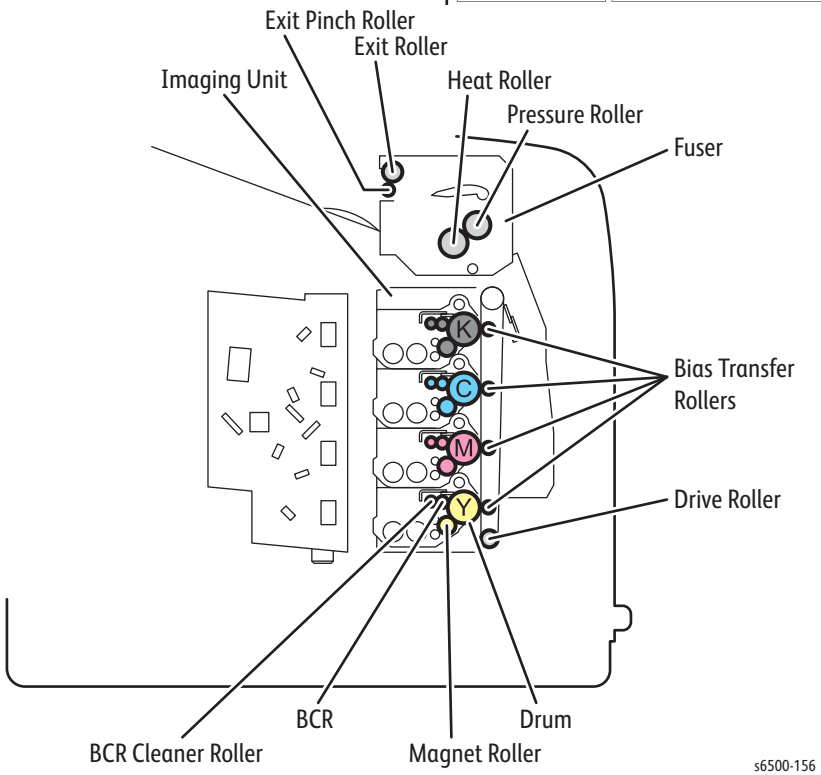
Pitch Chart Test Print

Horizontal lines and/or spots that occur periodically are usually caused by one of the printer's many rollers. However, the interval does not necessarily match the circumference of the roller. Compare the print defect intervals on the test print with the gauges on the Pitch Chart that can be printed from the Printer Diagnostics in Service Mode. The problem may be solved easily by the check.

To print the Pitch Chart, print the Contamination Check test prints: **Test Print > Contamination Check**.



155



s6500-156

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Image Specifications

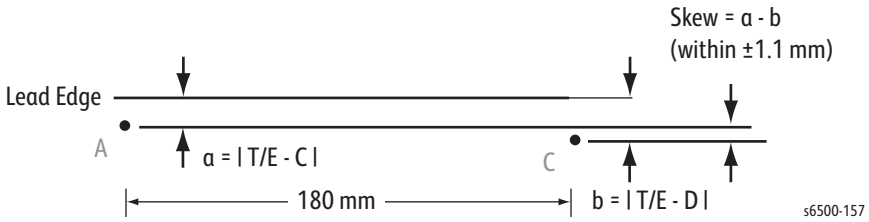
The following provide specifications for Skew, Parallelism, Linearity, Perpendicularity, Magnification Error, Registration, and Guaranteed Print Areas.

The printed image has 4 mm margins on all sides.

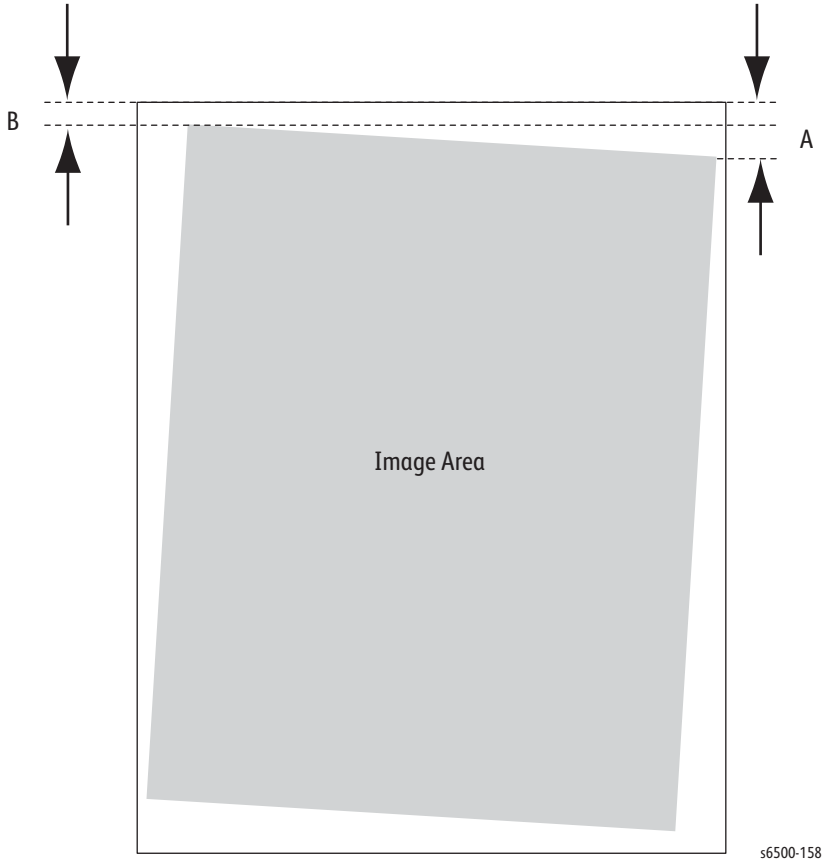
Characteristic	Specification
Maximum Print Area	210.9 mm (8.2 inches) x 351.6 mm (13.8 inches)
Guaranteed Print Area	207.9 mm (8.2 inches) x 347.6 mm (13.7 inches)
Skew	190 mm ± 1.2 mm
Perpendicularity	114.5 mm ± 0.8 mm
Parallelism	
Horizontal	180 mm ± 1.2 mm
Vertical	234 mm ± 1.2 mm
Linearity	
Horizontal	190 mm ± 0.5 mm
Vertical	234 mm ± 0.5 mm
Slant	269 mm ± 1.2 mm
Magnification Error	
Horizontal Simplex	234 mm ± 0.5 mm
Horizontal Duplex	234 mm ± 0.8 mm
Vertical Simplex	190 mm ± 0.5 mm
Vertical Duplex	190 mm ± 0.8 mm
Registration	
Leading Edge	10.0 mm ± 2.0 mm
Side Edge	8.5 mm ± 2.5 mm

Skew

- 180 mm ± 1.1 mm



To measure skew: Measure the margin of the paper at the leading edge of each corner, and then take the difference between them.



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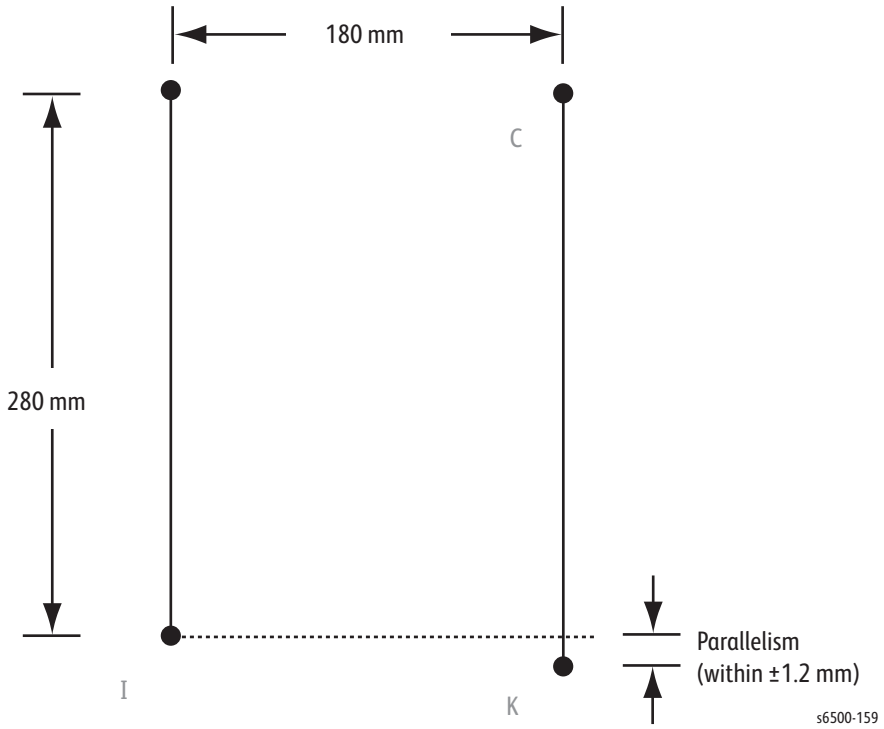
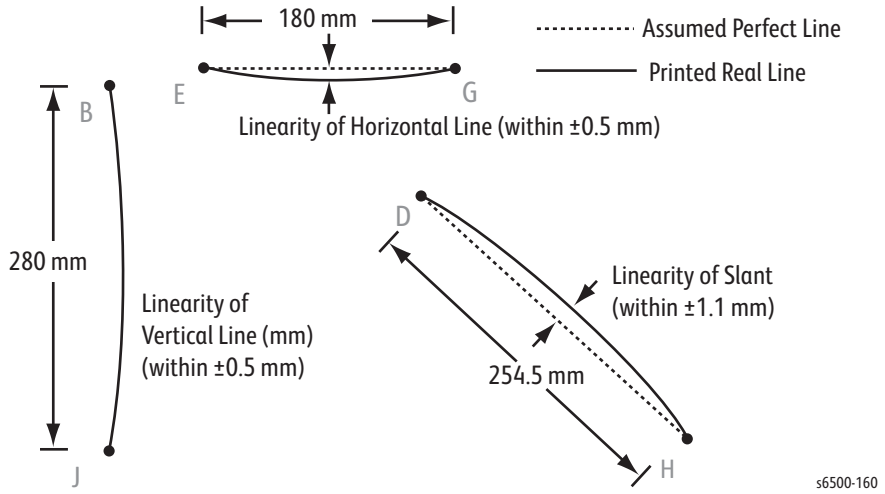
Parallelism

- Horizontal: 180 mm ± 1.2 mm
- Vertical: 280 mm ± 1.2 mm



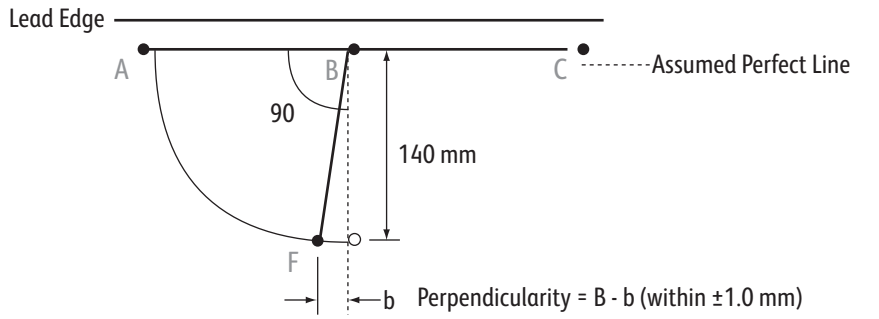
Linearity

- Horizontal: 190 mm ± 0.5 mm
- Vertical: 234 mm ± 0.5 mm
- Slant: 269 mm ± 1.2 mm



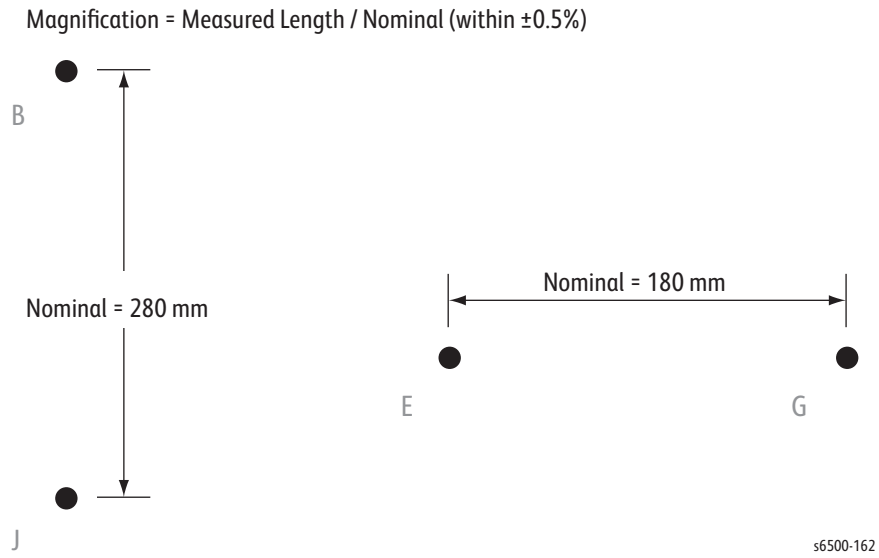
Perpendicularity

- 114.5 mm ± 0.8 mm



Magnification Error

- Horizontal Simplex: 190 mm ± 0.5 %
- Horizontal Duplex:190 mm ± 0.8 %
- Vertical Simplex: 234 mm ± 0.5 %
- Vertical Duplex: 234 mm ± 0.8 %



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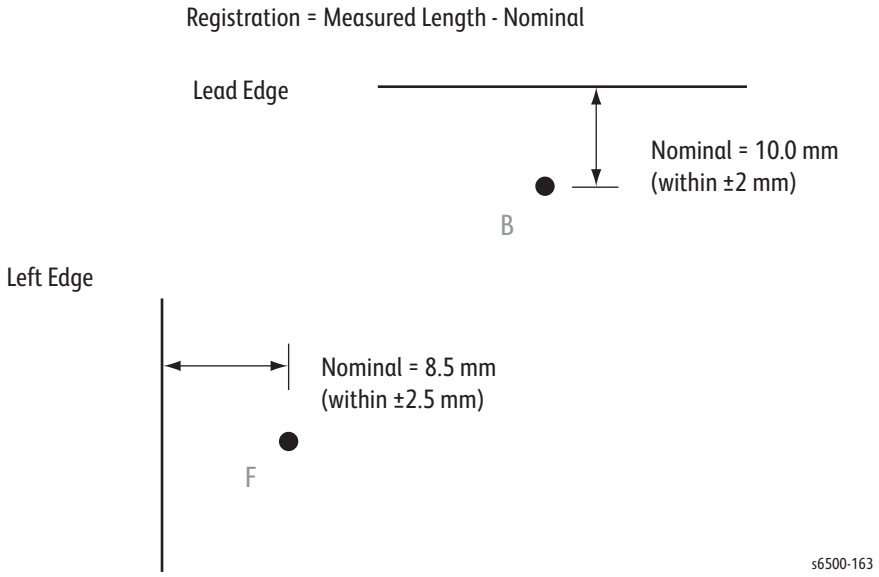
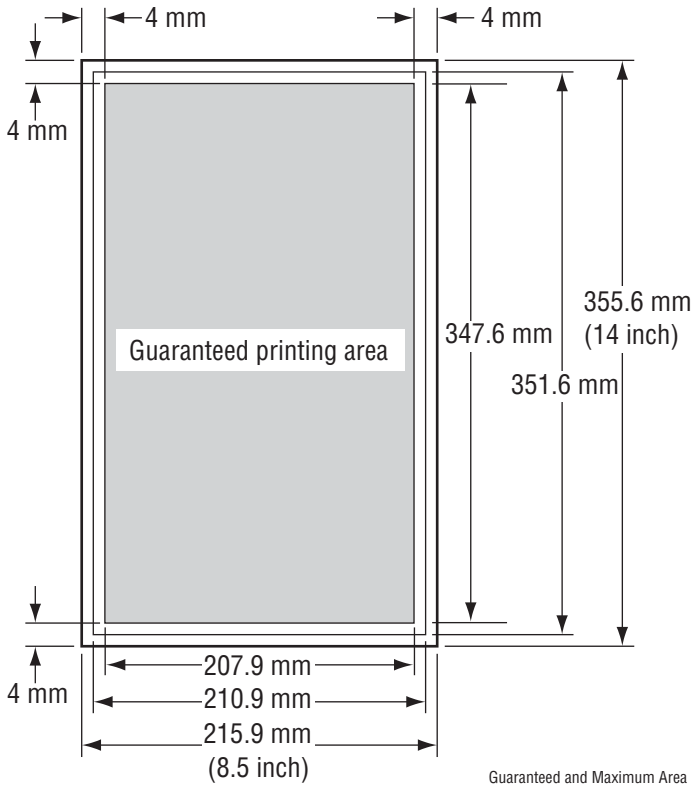
Registration

- Leading Edge: 10.0 mm ± 2.0 mm
- Side Edge: 8.5 mm ± 2.5 mm



Guaranteed Print Areas

- Maximum Print Area: 211.8 mm x 351.5 mm



Guaranteed and Maximum Area

Print the parameter list using the Print function of Parameter Menu in Service Diagnostics before changing the registration values.

Printer Diag Parameter Settings

Item	Range	Description
Slow Scan K to P (Shifts 0.17mm/1count)	-128 to 127	Sets the registration in the paper feeding direction
Slow Scan 600 M,Y,C (Shifts 0.042mm/1count)		
Fast Scan K to M,Y or C (Shifts 0.042mm/1count)	-128 to 127	Sets the registration in the scanning direction. Color registration adjustment Calculation of adjustment is shown below. (example Yellow) (Value of Fast Scan K to Y + Value of Fast Scan 2 K to Y)/4
Fast Scan M-Feed, Tray (Shifts 0.17mm/1count)	-30 to 30	
Fast Scan 2 K to M,Y or C (Shifts 0.01mm/1count)	-1 to 2	
Life Counter	-	Reads the life and print counts.

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Adjustments and Calibrations

In this chapter...

- Adjustments
- Calibrations
- Parameter Setting
- Scanner Parameter Setting

Chapter 6

Adjustments

Color Registration

The Color Registration adjustment procedure allows the user to change or correct the alignment of the four color images to meet specifications and/or user's requirements.

Adjusting laser power from the default value impacts other print-quality parameters, such as background, halftone/fine line production, Fuser fix, and toner consumption. This adjustment should not be performed without first discussing with the customer the potential impact on overall print quality.

Enabling/Disabling Automatic Color Registration

This procedure provides instructions for how to enable or disable the Automatic Color Registration after a new Imaging Unit is installed.

- If the function is set to On, the printer calibrates color alignment every time it detects a new Imaging Unit.
- If the function is set to Off, calibration will not occur. This saves toner.

To enable or disable the Automatic Color Registration:

1. From the Control Panel, press Menu.
2. Press the Up or Down arrow to find **Admin Men**u. Press OK.
3. Press the Up or Down arrow to find **Maintenance Mode**. Press OK.
4. Press the Up or Down arrow find **Adjust Regi**. Press OK.
5. Press the Up or Down arrow to turn automatic color registration On or Off.

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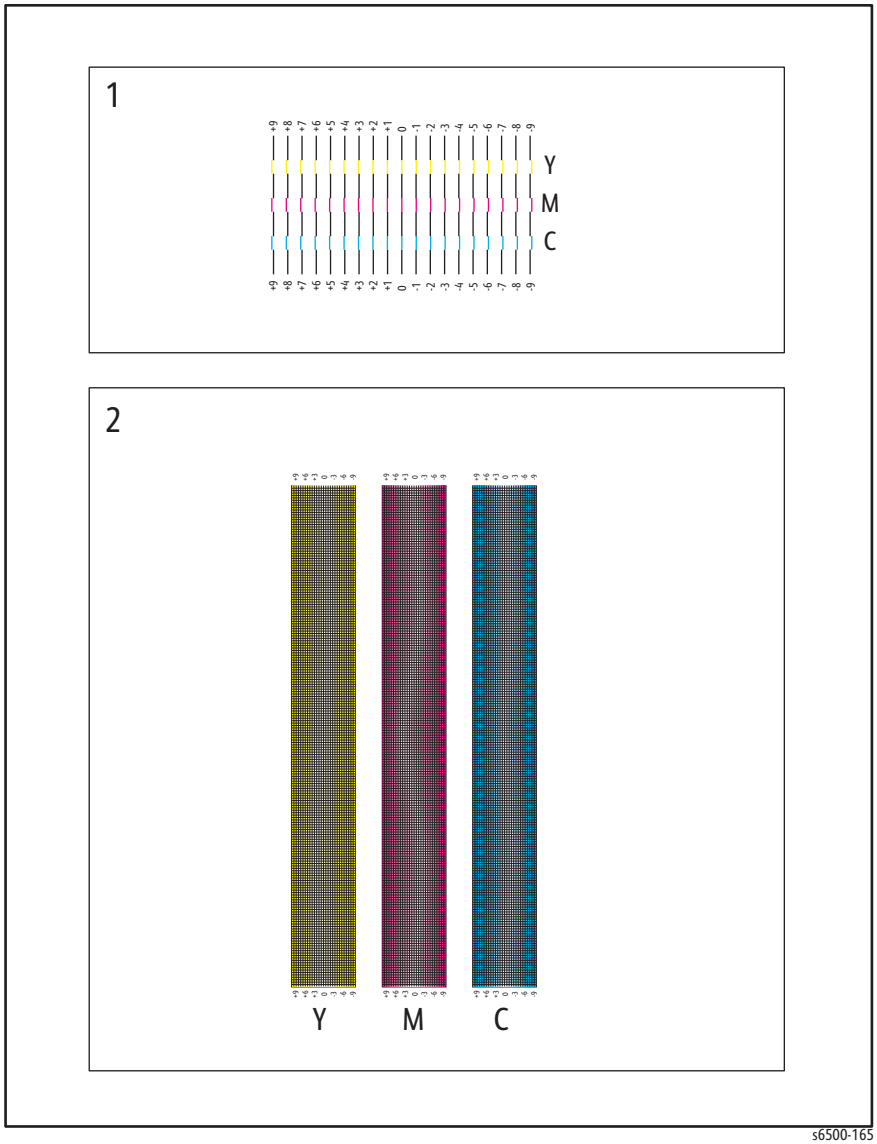
Printing the Color Registration Correction Chart

Before performing the Color Registration adjustment procedure, print the Color Registration Correction Chart for reference.

1. From the Control Panel, press the **Menu** button.



1. Press the **Up** or **Down Arrow** to find **Admin Menu**. Press **OK**.
2. Press the **Up** or **Down Arrow** to find **Maintenance Mode**. Press **OK**.
3. Press the **Up** or **Down Arrow** find **Adjust Color Regi**. Press **OK**.
4. Press the **Up** or **Down Arrow** to find **Color Regi Chart**. Press **OK**. The Color Registration Chart prints. When finished, **Ready** appears.

After printing the Color Registration Correction Chart, do not power Off the printer until the Main Drive motor has stopped running.

Adjusting Color Registration

Color Registration can be automatically or manually adjusted.

Determining the Values

From the lines to the right of the Y (Yellow), M (Magenta), and C (Cyan) pattern, find the values of the straightest lines.

When “0” is the value nearest the straightest line, you do not need to adjust the color registration. When the value is not “0,” refer to “Manual Color Registration Adjustment” on page 6-4.

Auto Adjustment

1. On the Control Panel, press **Menu**.
2. Press the **Up** or **Down** arrow to find **Admin Menu**. Press **OK**.
3. Press the **Up** or **Down** arrow to find **Maintenance Mode**. Press **OK**.
4. Press the **Up** or **Down** arrow find **Adjust Color Regi**. Press **OK**.
5. The **Auto Adjust** menu is displayed. Press **OK**.
6. **Are you sure?** message is displayed. Press **OK** to start the Auto Adjustment procedure.
7. The printer starts the auto Color Registration process.
8. When the auto Color Registration is completed, **Ready** is displayed.

Manual Color Registration Adjustment

Color registration can be adjusted manually by a user or automatically by the printer. Color registration should be adjusted any time the printer is moved. The color registration can be fine tuned by performing a manual adjustment.

An automatic color registration adjustment is performed every time a new Imaging Unit is installed.

Horizontal Registration

Section 1 of the Color Registration Correction Chart displays a series of lines. Some lines are straight, with both the colored and Black segments aligned, while other lines are jagged, with the colored segments offset to the right or left. A value is listed next to each line. When the value is **0**, the color registration needs no adjustment.

To determine correction values for Horizontal Registration, choose the straightest line. If the value listed next to the straight line is anything other than **0**, follow the procedure below to enter values.

The densest colors of the grid can also be used to find the straightest lines. The colors printed at the highest density are those next to the straight lines.

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To enter values:

1. On the Control Panel, press **Menu**.
2. Press the **Up** or **Down** arrow to find **Admin Menu**. Press **OK**.
3. Press the **Up** or **Down** arrow to find **Maintenance Mode**. Press **OK**.
4. Press the **Up** or **Down** arrow to find **Adjust Color Regi**. Press **OK**.
5. Press the **Up** or **Down** arrow to find **Enter Number**. Press **OK**.
6. Press the **Up** or **Down** arrow to find **Fast Scan**. Press **OK**.
7. Use the **Up** or **Down** arrow to enter the values and the **Right** arrow to move from Y to M to C.
8. Repeat step 2 to continue adjusting the color registration.
9. Press the **OK** twice to print the Color Registration Correction Chart with the new values. The color registration adjustment is complete when the straightest Y, M, and C lines are next to the **0** line.

> If **0** is not displayed next to the straightest lines, determine the values and adjust again.

Vertical Registration

Section 2 of the Color Registration Correction Chart displays three columns of color. In the center of each column is a wavy white column. This column of white needs to be centered as much as possible at **0**.

To determine correction values for use in Vertical Registration adjustment, choose the value from each column that is best centered on the wavy white column.

To enter the correction values:

1. On the Control Panel, press **Menu**.
2. Press the **Up** or **Down** arrow to find **Admin Menu**. Press **OK**.
3. Press the **Up** or **Down** arrow to find **Maintenance Mode**. Press **OK**.
4. Press the **Up** or **Down** arrow to find **Adjust Color Regi**. Press **OK**.
5. Press the **Up** or **Down** arrow to find **Enter Number**. Press **OK**.
6. Press the **Up** or **Down** arrow to find **Slow Scan**. Press **OK**.
7. Use the **Up** or **Down** arrow to enter the values and the **Right** arrow to move from Y to M to C.
8. Repeat step 7 to continue adjusting the color registration.
9. Press the **OK** twice to print the Color Registration Correction Chart with the new values. The color registration adjustment is complete when the columns of white are centered, as much as possible, on **0**.

Resetting the Fuser

Fuser reset is required when a new Fuser is installed. This function sets the life counter to "0."

1. From the Control Panel, press the **System button**.
2. Press the **Up** or **Down Arrow** to find **Admin Menu**. Press **OK**.
3. Press the **Up** or **Down Arrow** to find **Maintenance Mode**. Press **OK**.
4. Press the **Up** or **Down Arrow** to find **Reset Fuser**. Press **OK**.
5. "**Are you sure?**" message is displayed. Press **OK** to start the process.
6. **Initializing...** --> **Initialized** messages are displayed. The **Maintenance Mode - Reset Fuser** menu is displayed when the process is completed.

Calibrations

Initializing Print Meter

This process initializes the Print Meter.

1. On the Control Panel, press **Menu**.
2. Press the **Up** or **Down** arrow to find **Admin Menu**. Press the **OK** button.
3. Press the **Up** or **Down** arrow to find **Maintenance Mode**. Press **OK**.
4. Press the **Up** or **Down** arrow to find **Init PrintMeter**. Press **OK**.
5. **Are you sure?** message is displayed. Press **OK** to start the process.
6. **Initialized** message is displayed. The **Maintenance Mode - Init PrintMeter** menu is displayed when the process is completed.

Initializing NVM (NVRAM)

This process initializes the settings stored in the NVRAM except for the network settings. The NVRAM is a non-volatile memory that stores the printer settings even after the power is turned Off. After executing this function and restarting the printer, all the menu parameters are reset to their default values.

1. On the Control Panel, press **Menu**.
2. Press the **Up** or **Down** arrow to find **Admin Menu**. Press **OK**.
3. Press the **Up** or **Down** arrow to find **Maintenance Mode**. Press **OK**.
4. Press the **Up** or **Down** arrow to find **Initialize NVM**. Press **OK**.
5. **Are you sure?** message is displayed. Press **OK** to start the process.
6. **Initializing...** --> **Initialized** messages are displayed.
7. The **Maintenance Mode - Initialize NVM** menu appears when the process is completed.
8. Turn the printer power Off and back On.

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Parameter Setting

This function in Service Diagnostics does three things:

- Reads/writes the parameter values that control registration adjustment
- Reads life counter values stored in the printer
- Prints a report of all parameter settings and life counter values

Phaser 6500DN MCU Parameters Serial No. 000000000

Registration Adjust	Slow Scan Paper from Black	: 0
Registration Adjust	Slow Scan,600dpi,Magenta from Black	: 2
Registration Adjust	Slow Scan,600dpi,Yellow from Black	: 1
Registration Adjust	Slow Scan,600dpi,Cyan from Black	: -3
Registration Adjust	Fast Scan Magenta from Black	: -11
Registration Adjust	Fast Scan Yellow from Black	: -5
Registration Adjust	Fast Scan Cyan from Black	: -3
Registration Adjust	Fast Scan Paper from Black:Manual Feed	: 0
Registration Adjust	Fast Scan Paper from Black:Tray1	: 0
Registration Adjust	Fast Scan Paper from Black:Duplex	: 0
Registration Adjust	Fast Scan 2 Magenta from Black	: 1
Registration Adjust	Fast Scan 2 Yellow from Black	: -1
Registration Adjust	Fast Scan 2 Cyan from Black	: 0
Life Counters	Y Toner Dispense Time	: 33202
Life Counters	M Toner Dispense Time	: 33802
Life Counters	C Toner Dispense Time	: 33602
Life Counters	K Toner Dispense Time	: 48166
Life Counters	Fuser Sheets	: 20
Life Counters	Printer Sheets	: 430
Life Counters	DTB Waste toner count	: 1459
Life Counters	Y Toner Waste toner count	: 617
Life Counters	M Toner Waste toner count	: 628
Life Counters	C Toner Waste toner count	: 624
Life Counters	K Toner Waste toner count	: 895
Life Counters	IU Y Dispense Time	: 18402
Life Counters	IU M Dispense Time	: 19002
Life Counters	IU C Dispense Time	: 18802
Life Counters	IU K Dispense Time	: 33282
Life Counters	IU Xero Round Time	: 9137
Life Counters	IU Deve K Sheets	: 586
Life Counters	Manual Feed Sheets	: 0
Life Counters	Tray 1 Sheets	: 430
Life Counters	Duplex Sheets	: 171
Life Counters	Custom In	: 0
Life Counters	Custom Out	: 0

Registration Adjustment

To access the Parameter list:

1. Turn the printer power Off (if the printer is On).
2. Simultaneously press the **Up** and **Down** arrows and turn On the printer.
3. **SFP:** The **Service Mode** menu is displayed.
   MFP: Select **Service Mode** and press **OK**.
4. Press the **Up** or **Down** arrow to find **Parameter**. Press **OK**.
5. Select the appropriate item to change (i.e., **Slow Scan KtoP**). Press **OK**.
6. Enter the appropriate range using the **Up** or **Down** arrow. Press **OK**.
7. The new value "**#** *" is displayed.

   "*" = data has been saved

8. Press **Cancel** to return to the **Parameter** menu.

Print the parameter list from **Parameter** > **Print** before changing the registration value. The parameter list contains the parameter and life counter values currently stored in the engine.

The default values are different for each printer.

Registration Values

Parameter	Function	Default	Range
Slow Scan K to P (shifts 0.17 mm/1 count)	Black registration adjustment	—	-128 to 127
Slow Scan 600 M, Y, C (shifts 0.042 mm/1 count)	Color registration adjustment (600dpi)	—	--128 to 127
Fast Scan K to M, Y, or C (shifts 0.042 mm/1 count)	Color registration adjustment Calculation of adjustment is shown below (exp. Yellow) (Value of Fast Scan Reg K to Y + Value of Fast Scan Reg2 K to Y)/4	—	-128 to 127
Fast Scan 2 K to M, C, or Y (shifts 0.01 mm/1 count)		—	-1 to 2
Fast Scan M-Feed, Tray1, Tray 2, Duplex (shifts 0.17 mm/1 count)	Black registration adjustment at side 1 print	—	-30 to 30

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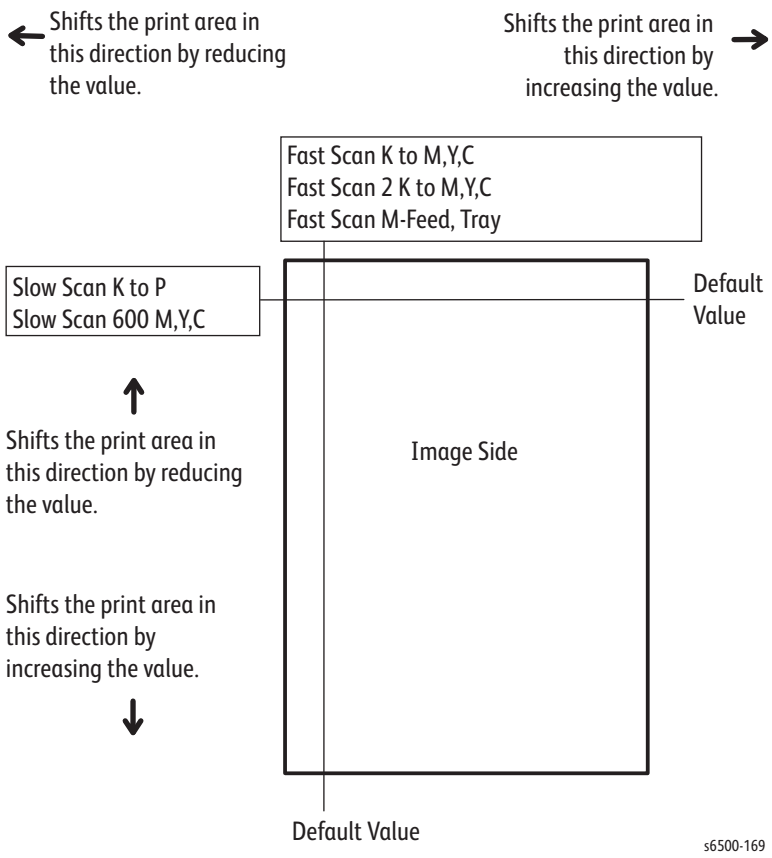

Life Counter Values

The life counter tracks the usage of several printer components. All but one of the "Life" selections in the Parameter list read and display stored counter values for those components. The one exception is the **Life DTB Waste** selection, which allows you to either read or initialize the value. Use the **Initialize** selection to reset the life counter for the Transfer Unit should it require replacement.

This table lists each counter and a value considered to be near end of life.

The life counter values reported when checking these parameters are not expressed in units that can be compared to end-of-life values listed in the product specifications. Use CWIS to find the life remaining for engine components.

Life Counter Values

Counter Name	Counter Value[a]
Life Y Toner (Dispense Time)	---
Life M Toner (Dispense Time)	---
Life C Toner (Dispense Time)	---
Life K Toner (Dispense Time)	---
Life Fuser Sheet	100000
Life Printer Sheet	---
Life DTB (Transfer Belt) Waste (Toner cleaning count)	200000
Life Y Waste Toner (Waste Toner cleaning count)	18000
Life M Waste Toner (Waste Toner cleaning count)	18000
Life C Waste Toner (Waste Toner cleaning count)	18000
Life K Waste Toner (Waste Toner cleaning count)	18000
Life IU Y Time (Dispense Time)	300000
Life IU M Time (Dispense Time)	300000
Life IU C Time (Dispense Time)	300000
Life IU K Time (Dispense Time)	300000
Life IU Xero (Round Time)	---
Life IU Deve K (Sheet)	---
Life Manual Feed	---
Life Tray Sheet	---

a. The life counter values reported when checking these parameters are not expressed in units that can be compared to end-of-life values listed in the product specifications. Use CWIS to find the life remaining for engine components.

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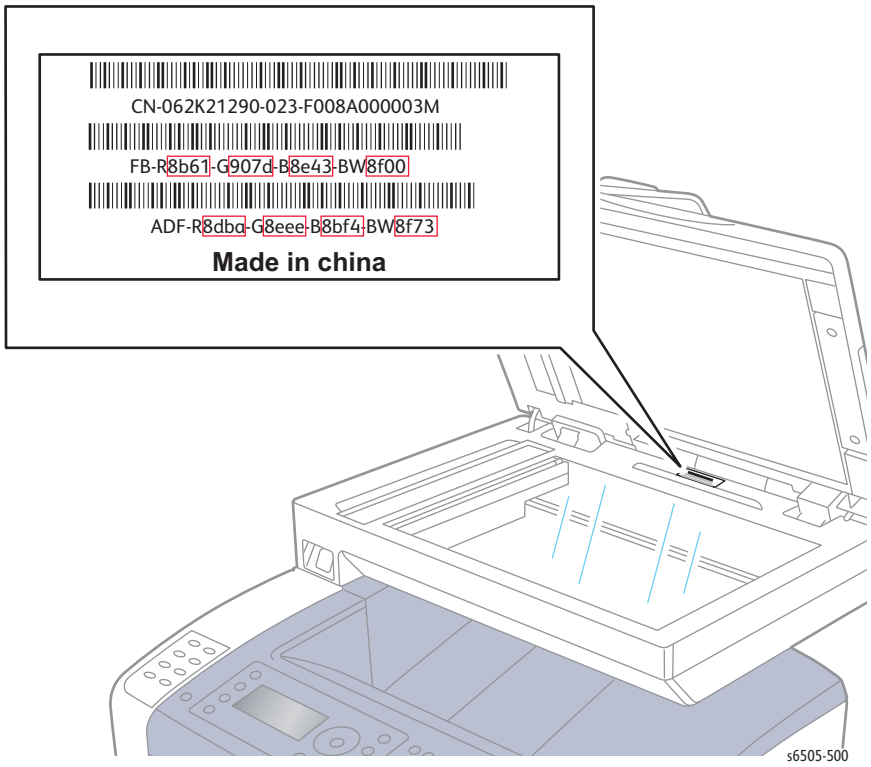
Scanner Parameter Setting

Perform this procedure following replacement of the Scanner Assembly, or when instructed to do so in a troubleshooting or repair procedure.

1. Lift the Scanner cover and locate the parameter label at the rear of the platen. Note the location and format of the parameter values on the label. The FB and ADF lines have parameter values for R, G, B, and BW. In this illustration, the parameter values are enclosed in red boxes.



2. Simultaneously press the **Up** and **Down** keys while powering on the MFP to enter Service Mode.
3. Select **Fax/Scanner Diag** and press **OK**.
4. Scroll to **Scanner Maintenance** and press **OK**.
5. Scroll to **Shading Parameter** and press **OK**.
6. Select **Coeff FB RED** and press **OK**.
7. Enter the "R" parameter from the FB line and press **OK** to set.
8. Confirm that an asterisk (*) appears, then press **Back**.
9. Press the **Down** key to select the next parameter and enter the appropriate value from the label.

Note

Use the BW parameter value for the GRAY entries.

10. After all the **Coeff FB** and **Coeff ADF** values are entered, use the **Back** button to return to **Scanner Maintenance**.
11. Scroll down to **Complete** and press **OK** at each prompt until you exit Service Mode.

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Cleaning and Maintenance

In this chapter...

- Service Maintenance Procedure
- Cleaning
- Maintenance
- Moving the Printer

Chapter 7

Service Maintenance Procedure

Perform the following procedures whenever you check, service, or repair a printer. 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, Average Monthly Print Volume (AMPV), type of media printed on, and operating environment are factors in determining how critical cleaning the machine is and how often it is necessary. Record the number of sheets printed.

Recommended Tools

- Toner vacuum cleaner
- Clean water
- Clean, dry, lint-free cloth
- Black light-protective bag

Cleaning

Perform the following general cleaning steps as indicated by the printer's operating environment.

Caution

Never apply alcohol or other chemicals to any parts of the printer. Never use a damp cloth to clean up toner. If you remove the Imaging Unit, place it in a light-protective bag or otherwise protect it as exposure to light can quickly degrade performance and result in early failure.

1. Record number of sheets printed.
2. Print several sheets of paper to check for problems or defects.
3. Turn the printer power Off and disconnect the power cord.
4. Remove the Imaging Unit, Fuser, Toner Cartridges, Left and Right Side Covers, and Rear Cover before cleaning.
5. Clean the Fan.
6. Ensure that all cover vents are clean and free of obstructions.
7. Remove any debris or foreign objects from the Fuser, Transfer Belt, Imaging Unit, and inside of the printer.
8. Remove and clean the paper trays.
9. Clean all rubber rollers with a lint-free cloth slightly dampened with cold water.

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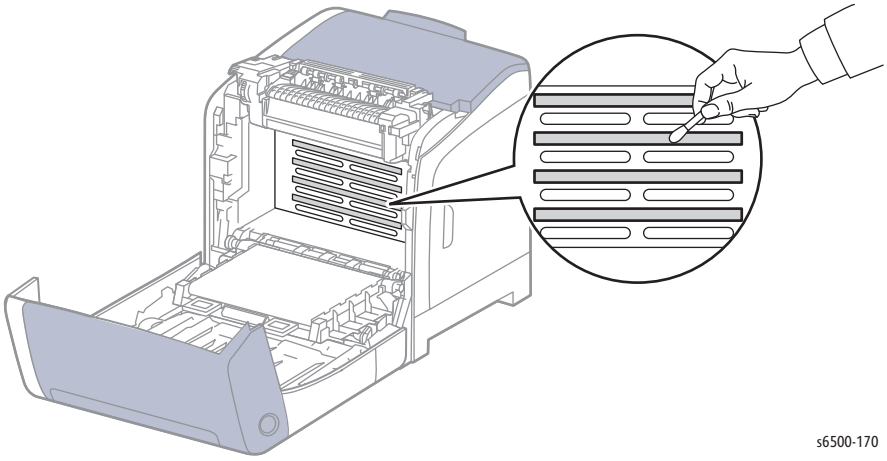
Cleaning the Laser Lens

Caution

Cover the Imaging Unit to avoid light exposure.

1. Remove Tray 1.
2. Open the Front Cover.
3. Lower the Transfer Belt.
4. Remove the Imaging Unit (page 8-7).
5. Using a clean, dry, lint-free cloth or swab, clean all debris from the laser lens.



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Maintenance

Perform these routine maintenance procedures during the course of servicing the printer.

- Clean the Feed Rollers, Exit Rollers, and Guides; replace if necessary.
- Remove and clean the paper trays.
- Print a Configuration and Error History pages, diagnose, and repair any problems as indicated.
- Check the printer engine and image processor firmware fans; if necessary, clean (dust or vacuum) these areas.
- Check cleanliness of the interior and exterior, including fans; if necessary clean (dust or vacuum) these areas.
- Review proper printer operation using a customer file, if possible. Check with the customer regarding any special applications they may be running.
- Review with the customer all work that was performed and discuss proper printer care.

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Moving the Printer

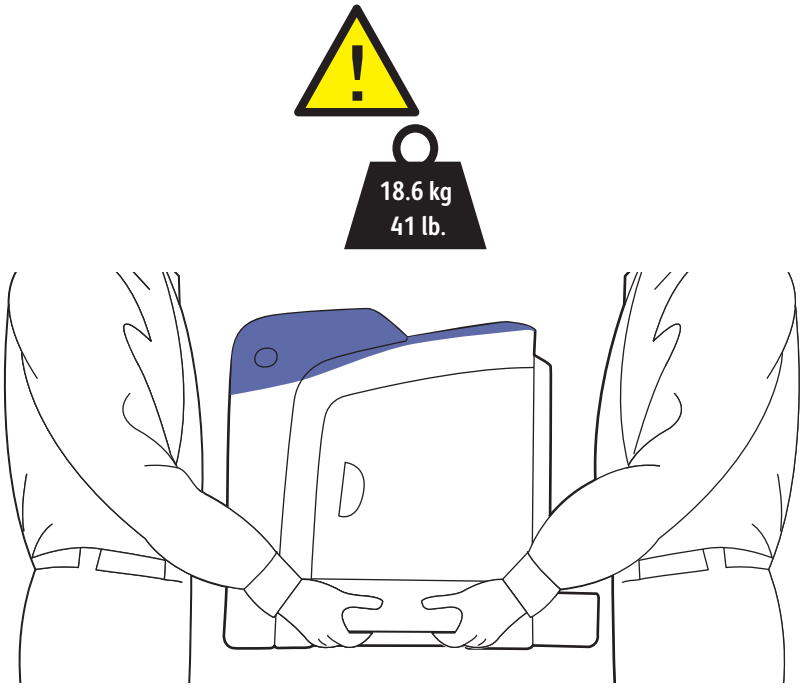
The Phaser 6500, with Tray 1 and consumables installed weighs 18.6 kg (41 lb.). Configured with the Duplex Unit and Optional Feeder, the printer weighs 24.2 kg (53.24 lb.).

The WorkCentre 6505, with Tray 1 and consumables installed weighs 28.8 kg (63.5 lb.). Configured with the Duplex Unit and Optional Feeder, the printer weighs 34.5 kg (76.0 lb.)

Warning

Remove the Optional Feeder before moving the printer. The Optional Feeder is secured with 2 thumbscrews located in the Tray cavity. See "Optional Feeder" on page 167.

To avoid injury, use two people to lift the printer.



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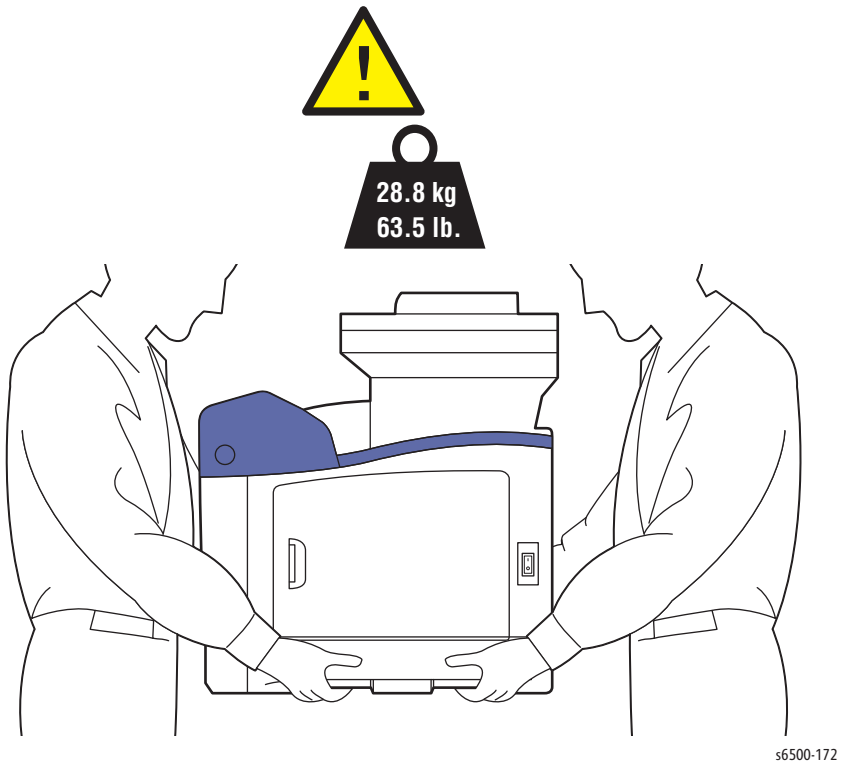

Caution

When moving the printer over long distances, remove the Toner Cartridges to prevent toner from spilling.

Before moving the printer, do the following:

1. Turn the printer Off and disconnect all cables.
2. Allow the printer to cool about 40 minutes.
3. Remove media from the output tray and return the Tray Extension to its non-extended position.
4. Remove Tray 1 and set it aside.
5. If the printer includes the Optional Feeder, remove it.

When moving the printer:

- Use two people to lift and move the printer.
- When lifting the printer, grasp the areas as shown in the illustration.
- Do not tilt the printer more than 10 degrees to the front or back, or left or right. Tilting the printer more than 10 degrees may cause toner spillage.

Caution

Failure to properly repackage the printer for shipment can result in damage not covered by the warranty, Service Agreement, or Total Satisfaction Guarantee.

After moving the printer:

1. Reinstall any parts you removed. If you removed the Optional Feeder, put the printer back on top of it.
2. Reconnect the printer to the cables and power cord.
3. Plug in and turn On the printer.
4. Adjust the color registration before using the printer.

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Service Parts Disassembly

In this chapter...

- Overview
- Maintenance Items and Consumables
- SFP Covers
- MFP Covers
- Feeder
- MFP Chassis
- Paper Feeder
- Xerographics
- Drive
- SFP Electrical
- MFP Electrical
- Duplex Unit
- Optional Feeder
- IIT Procedures

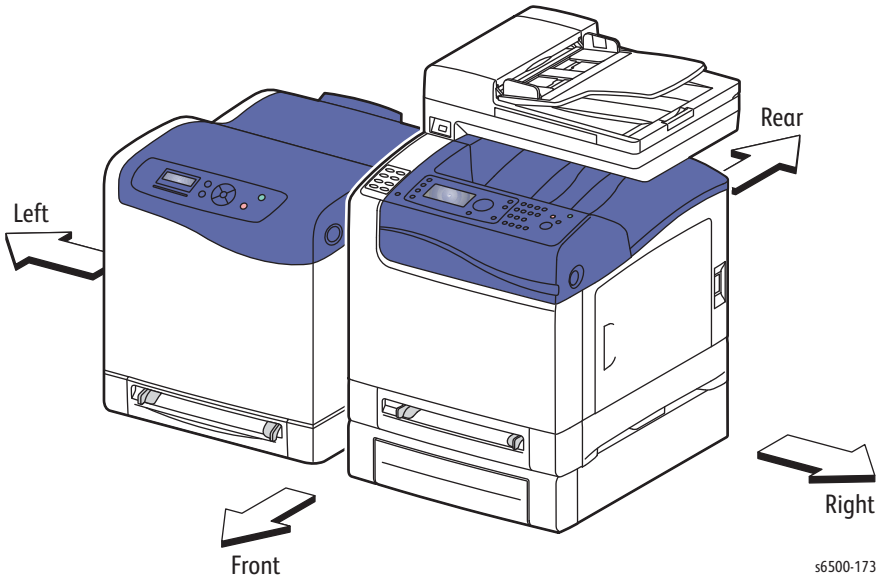
Chapter 8

Overview

This section contains the removal procedures for field-replaceable parts listed in the Parts List. In most cases, the replacement procedure is simply the reverse of the removal procedure. In some instances, additional steps are necessary and are provided for replacement of the parts. For specific assemblies and parts, refer to Chapter 9.

Standard Orientation of the Printer

When needed, the orientation of the printer is called out in the procedure as an aid for locating the printer parts. The following figure identifies the Front, Rear, Left, and Right sides of the printer.



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Preparation

Before you begin any procedure:

Warning

Unplug the power cord from the wall outlet.

Warning

Allow the Fuser to cool before using the procedure.

Caution

Remove and cover the Imaging Unit to avoid light exposure.

Caution

Many parts are secured by plastic tabs. Do not over flex or force these parts. Do not over torque screws threaded into plastic.

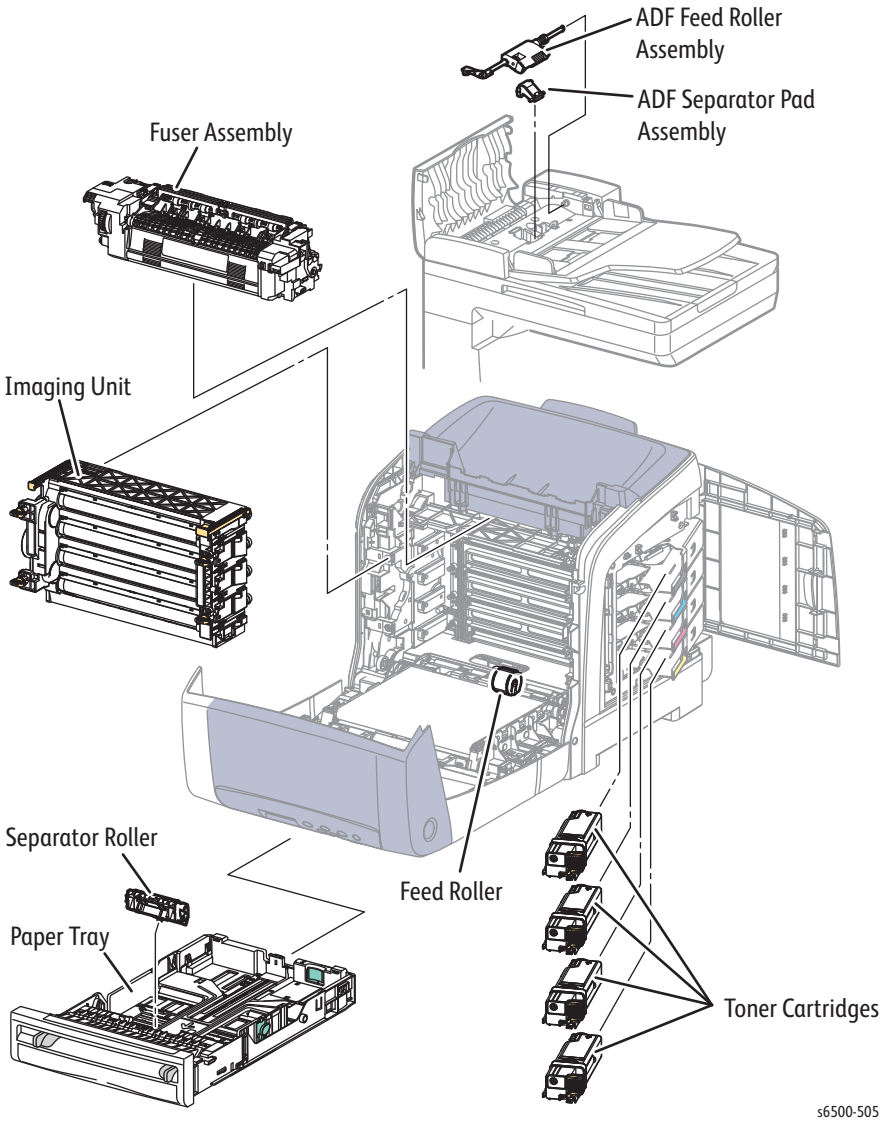
Note

Names of parts that appear in the removal procedures may not match the names that appear in the Parts List. For example, a part called Paper Tray in a removal procedure may appear on the Parts List as Cassette, Assy.

While performing removal procedures, ignore any prerequisite procedures for parts already removed.

1. Wear an Electrostatic Discharge wrist strap.
2. If the printer is operational, use the Printer Diagnostics routine “Save NVM to ESS” on page 4-15 to transfer the contents of the MCU NVRAM to the IP Board.
3. Turn Off power and disconnect the power cord from the wall outlet.
4. Disconnect all cables from the printer.
5. Remove these items:
   a. Paper Tray
   b. Imaging Unit (page 8-7).
   c. Fuser (page 8-10).
   d. Toner Cartridges (page 8-12).

The disassembly procedures include steps for the removal of these parts.



Notations in the Disassembly Text

- The notation “(item X)” points to a numbered callout in the illustration corresponding to the disassembly procedure being performed.
- The notation “PL*X.X.X*” indicates the component is listed in the Parts List.
- Arrows in an illustration show direction of movement when removing or replacing a component.
- The notation “(tap, plastic, 10 mm)” or “(metal, 6 mm)” refer to the type of screw being removed.

Replacement Note

Provides information specific to the replacement of parts or assemblies.

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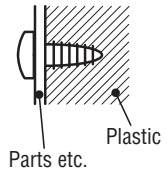
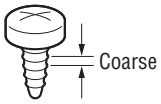
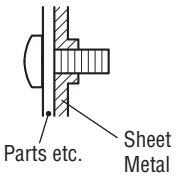
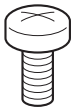
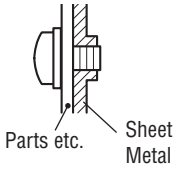
Fastener Types

The following table lists the types of Posi-Drive screws used to assemble the printer. The procedures provide dimensions for screws being removed.

Posi-Drive Screw Types Used in this Product

Type	Application	Shape	Characteristics
Self-tapping, plastic			1. Silver colored. 2. Screw thread is coarse compared to metal screw. 3. Screw tip is thin.
Sheet Metal, silver			1. Silver colored. 2. Diameter is uniform.
Sheet Metal, silver with lock washer			1. Silver colored. 2. Includes a toothed washer. 3. Diameter is uniform. 4. Used for grounding terminals.

Caution

Use care when installing self-tapping screws in plastic. To properly start the screw in plastic, turn the screw counter-clockwise in the hole until you feel the screw engage the threads, then tighten as usual. Improperly aligning or over tightening the screw can result in damage to previously tapped threads

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

Maintenance Items and Consumables

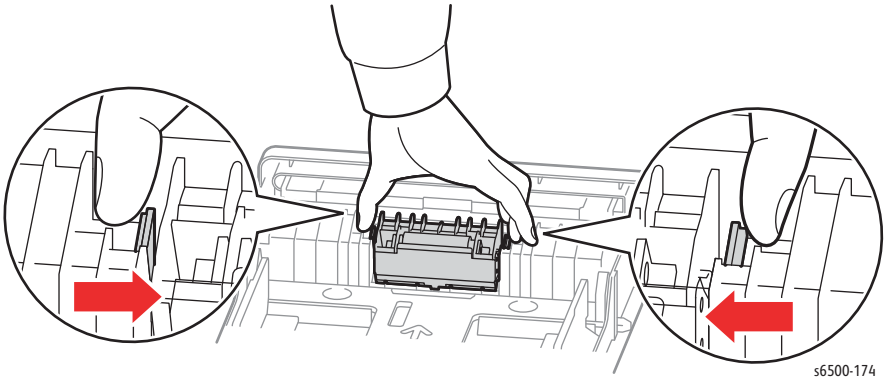
Maintenance items common to the SFP and MFP include the Separator Holder in the Paper Tray, Imaging Unit, and Fuser. Consumables consist of the four Toner Cartridges.

Maintenance items unique to the MFP include the ADF Feed Roll Assembly and ADF Separator Pad.

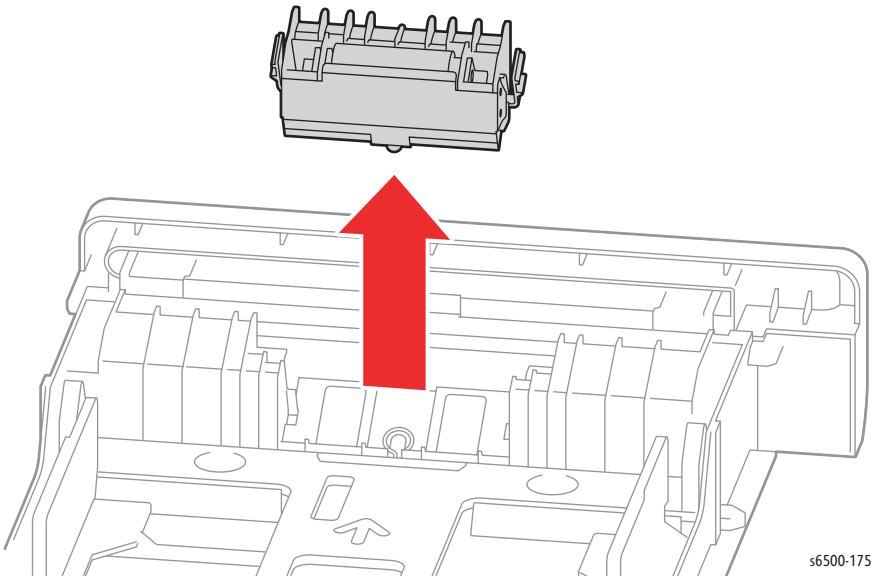
Separator Holder

PL2.1.5 (Holder Assy Separator)

1. Hold the tray and pinch the left and right hooks of the Separator Holder. Swing the Separator Holder to release the two hooks.



2. Pull the Separator Holder up to remove it from the Tray.



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Imaging Unit

PL4.1.21 (Imaging Unit)

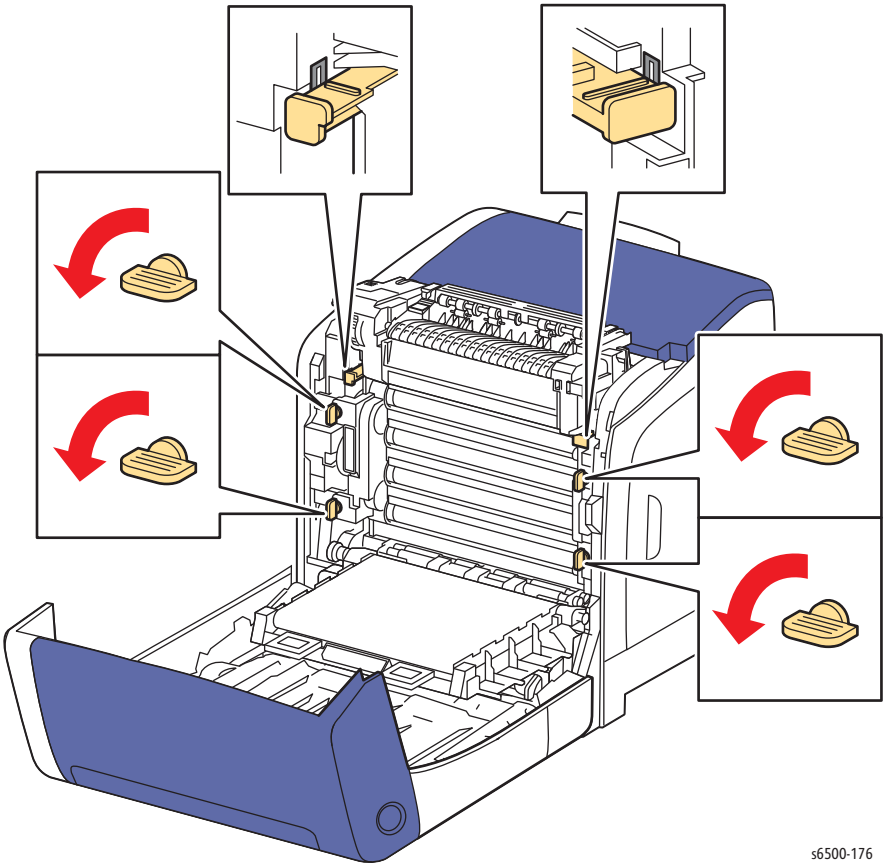
Caution

Cover the Imaging Unit to avoid light exposure.

Note

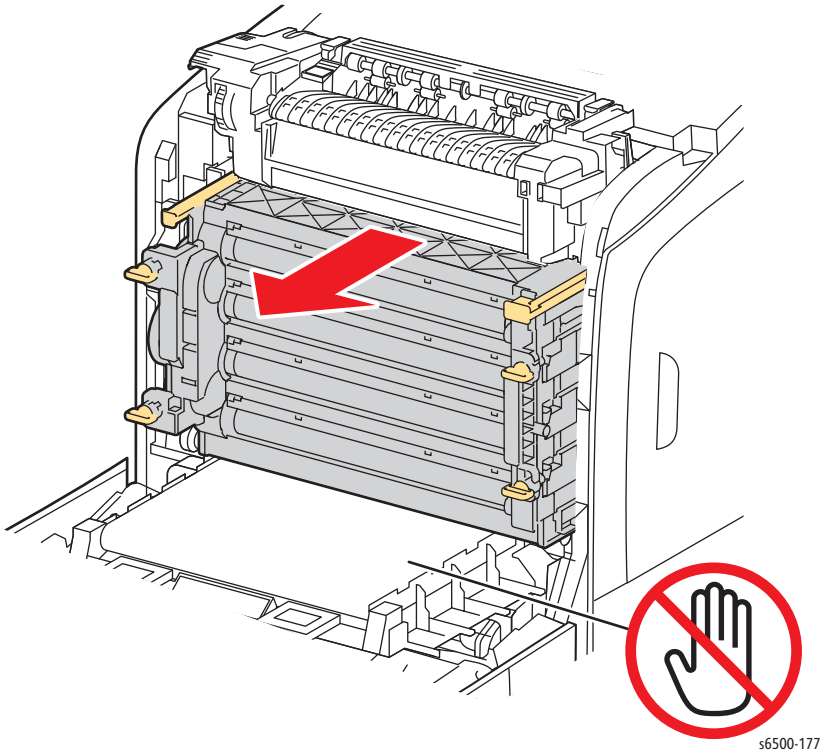
The illustrations for this procedure show the SFP, but removing the MFP Imaging Unit is performed in exactly the same manner.

1. Remove Tray 1.
2. Open the Front Cover.
3. Lower the Transfer Belt.
4. Place a sheet of paper over the Transfer Belt to protect the belt.
5. Rotate the four securing locks 90˚ counter-clockwise.



s6500-176

6. Grasp the left and right handles and pull the Imaging Unit straight forward until it is clear, then lift as shown. Take care to not touch the drums or scratch the Transfer Belt.



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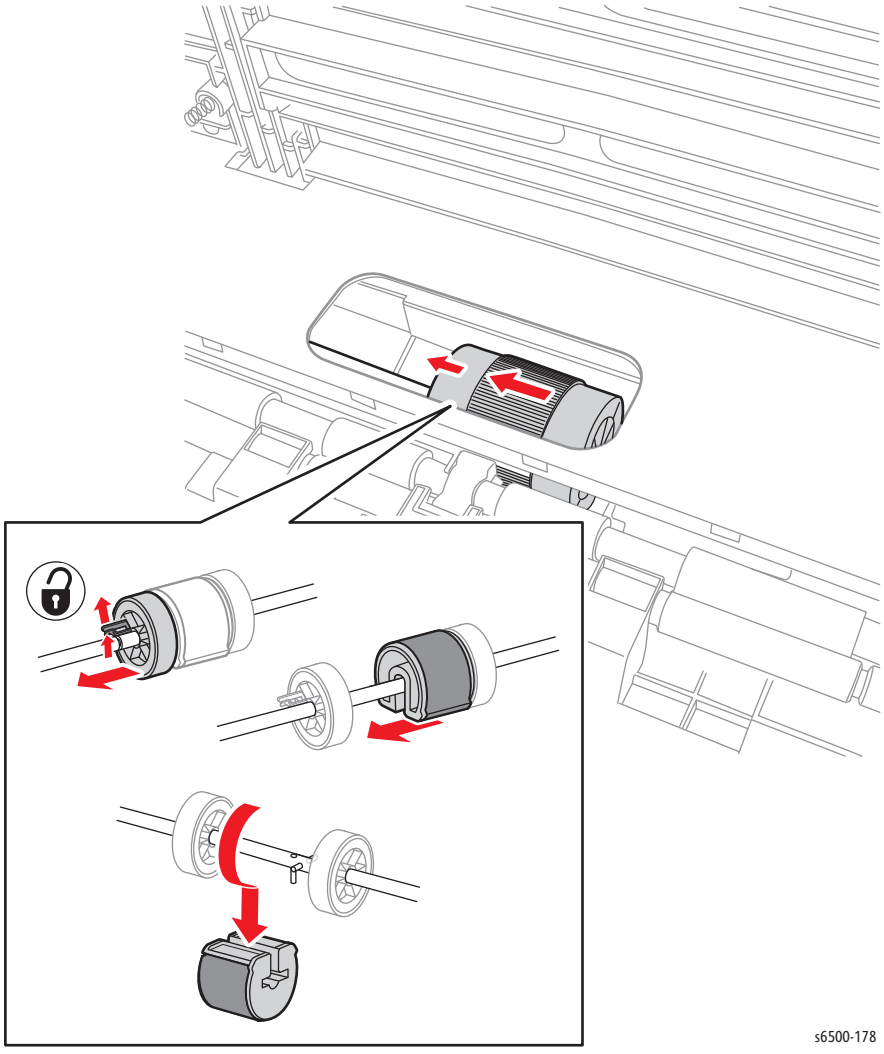
Feed Roller

PL3.2.4 (Roll Assy Feed)

1. Remove Tray 1.
2. Open the Front Cover.
3. Lower the Transfer Belt.
4. Remove the Imaging Unit (page 8-7)
5. Reach in through the opening in the bottom of the Imaging Unit cavity and release the hook on the left side of the roller. Move the roller core to the left side.
6. Move the Feed Roller to the left, so that the grooves in the Feed Roller are clear of the pins on the feed shaft.
7. Rotate the Feed Roller 180° on the feed shaft and allow the Feed Roller to drop off the shaft.



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Replacement Note

Because there are grooves in only one side of the Feed Roller, it fits over the pins on the feed shaft in only one direction. Note the location of the grooves when installing the Feed Roller on the shaft.

Fuser

PL6.1.1 (Fuser 110V or Fuser 220V)

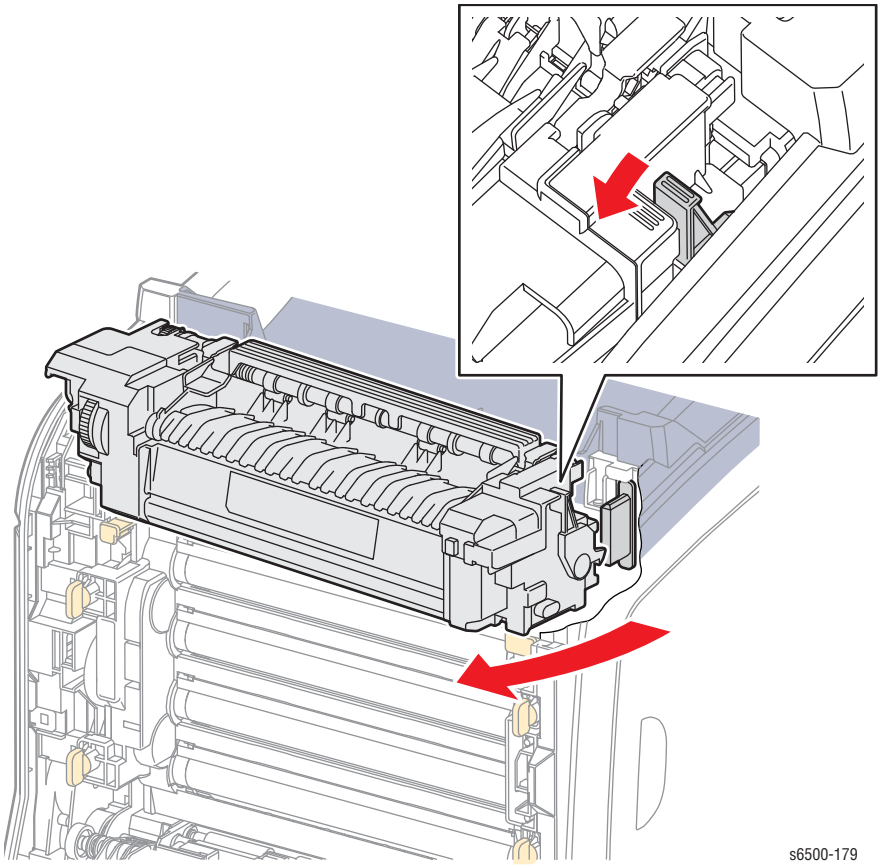
Warning

Allow the Fuser to cool before using this procedure.

Note

Although the illustrations for this procedure show the SFP, the details for removing the Fuser are the same for the MFP.

1. Open the Front Cover.
2. Lower the Transfer Belt.
3. Pull the lever to release the lock.
4. Swing the right side of the Fuser toward you with the lever released to unplug the Fuser connector



5. Lift the Fuser up, then to the right to remove it.

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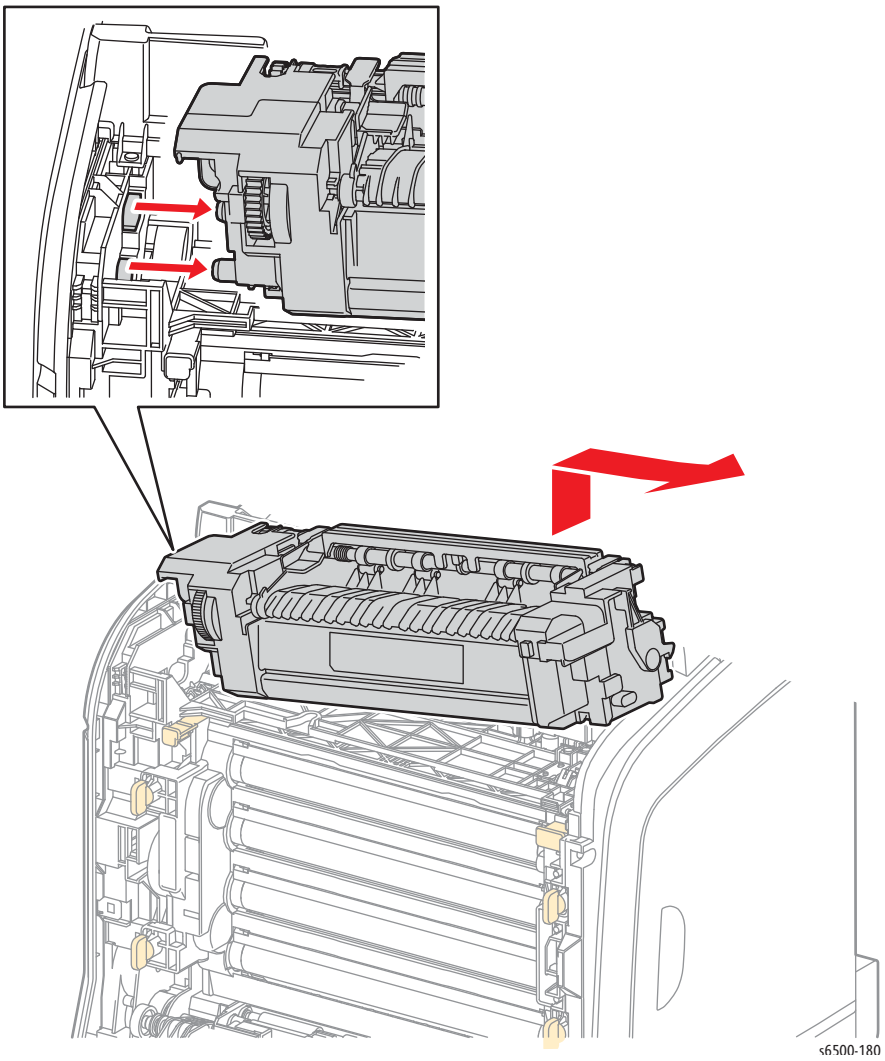


Replacement Note

If a new Fuser is installed:

6. Reset the Fuser counter.
   a. Power on the printer and allow it to reach **Ready**.
   b. Press the **Menu** button (SFP) or **System menu** button (MFP).
   c. Select **Admin Menu > Maintenance (Mode) > Reset Fuser.**
   d. Click **OK**, then **OK** again at the **Are you sure?** prompt.
7. If the Fuser being replaced is at end of life, it is highly recommended that the Feed Roller and Separator Holder also be replaced.

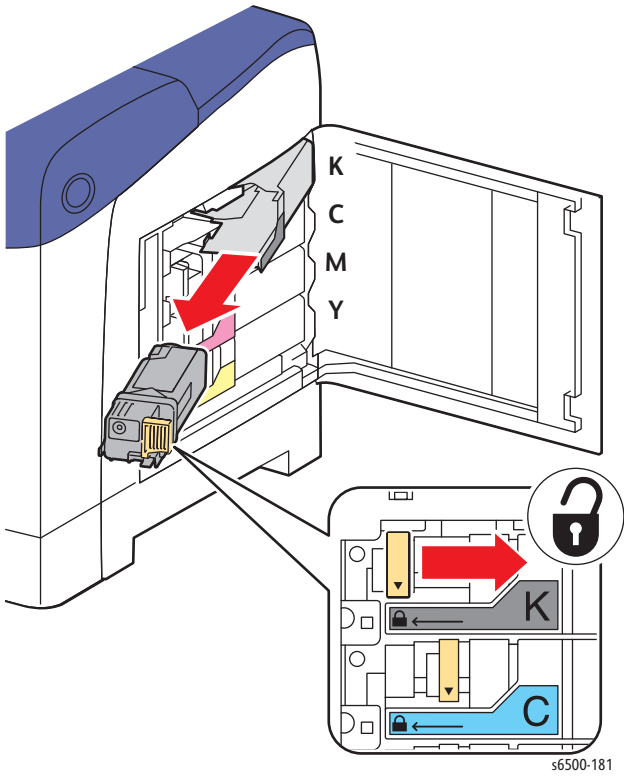
Toner Cartridges

PL5.1.21~24

Note

Although the illustrations for this procedure show the SFP, the details for removing the Toner Cartridges are the same for the MFP.

1. Open the Toner Door.
2. Push the Toner Cartridge handle toward the rear to release the lock.
3. Swing open the Toner Cartridge Holder and remove the cartridge as shown.



Replacement Note

When replacing the toner cartridge, be sure to push the handle all the way forward to lock the toner cartridge in place.

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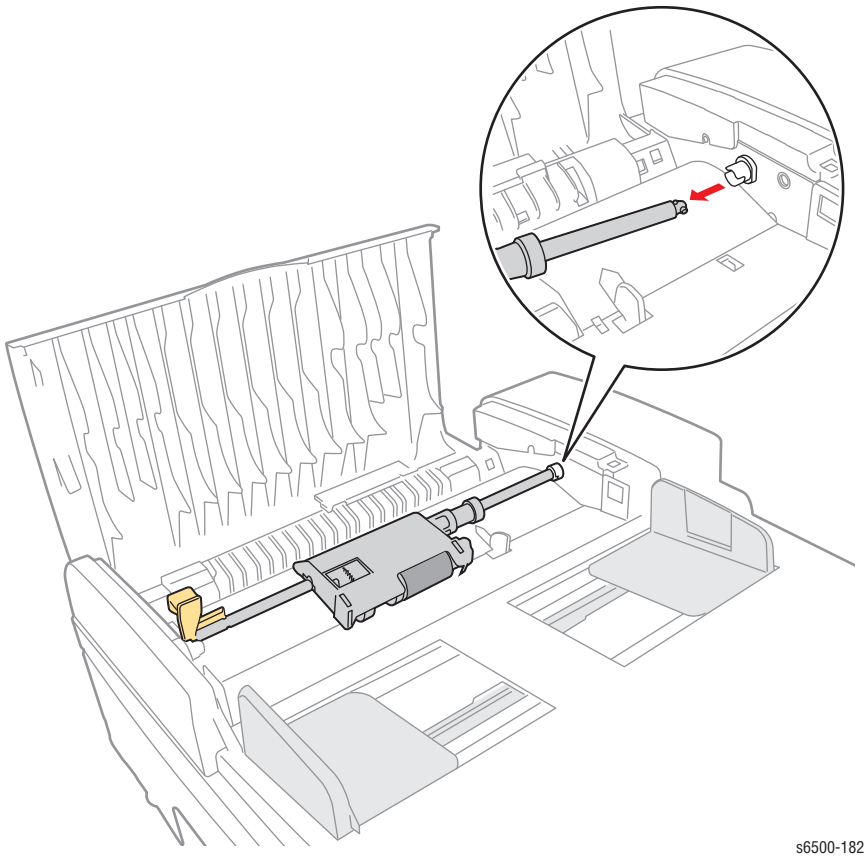
ADF Feed Roll Assembly

MFP PL 10.1.98 (ADF Feed Roll & Separator Roll Kit)

1. Open the ADF Top Cover.
2. Raise the release lever 90 degrees.
3. Lift the Roll Assembly by the lever and remove the back end of the shaft from the ADF.



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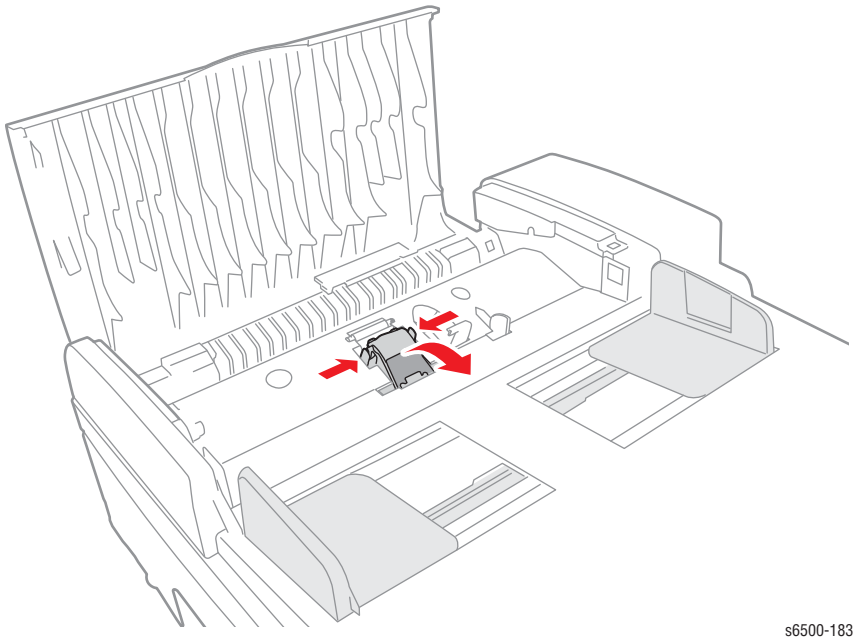
ADF Separator Pad

MFP PL 10.1.98 (ADF Feed Roll & Separator Roll Kit)

1. Open the ADF Jam Cover.
2. Remove the ADF Feed Roll Assembly (page 8-13).
3. Squeeze the tabs inward to release the ADF Separator Pad from the chassis.



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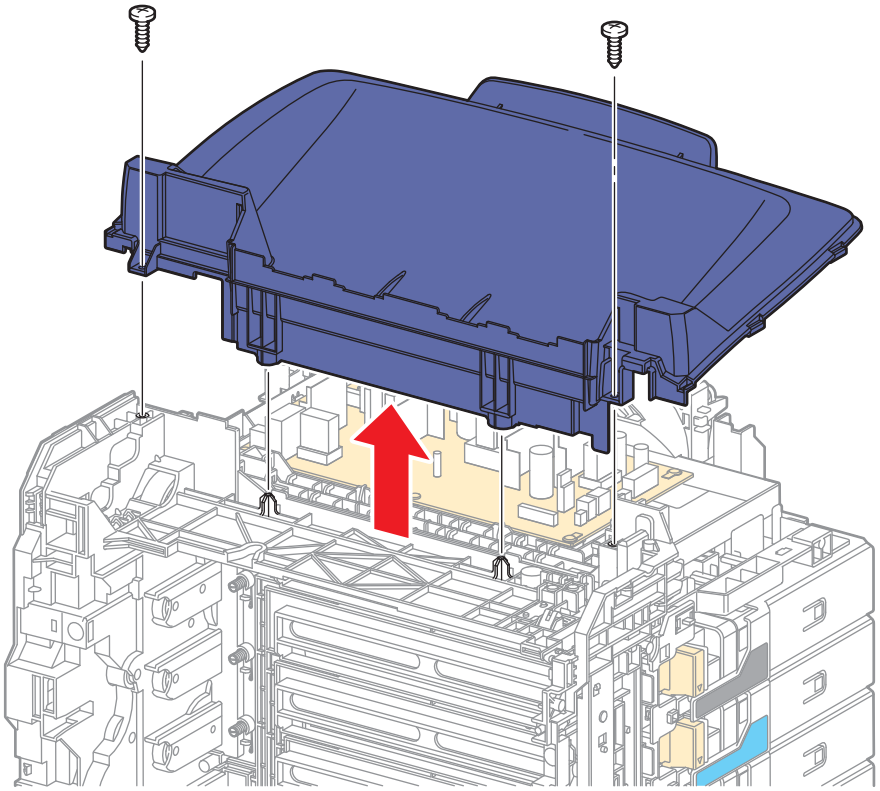
SFP Covers

SFP Top Cover

SFP PL1.1.1 (Cover Assy Top)

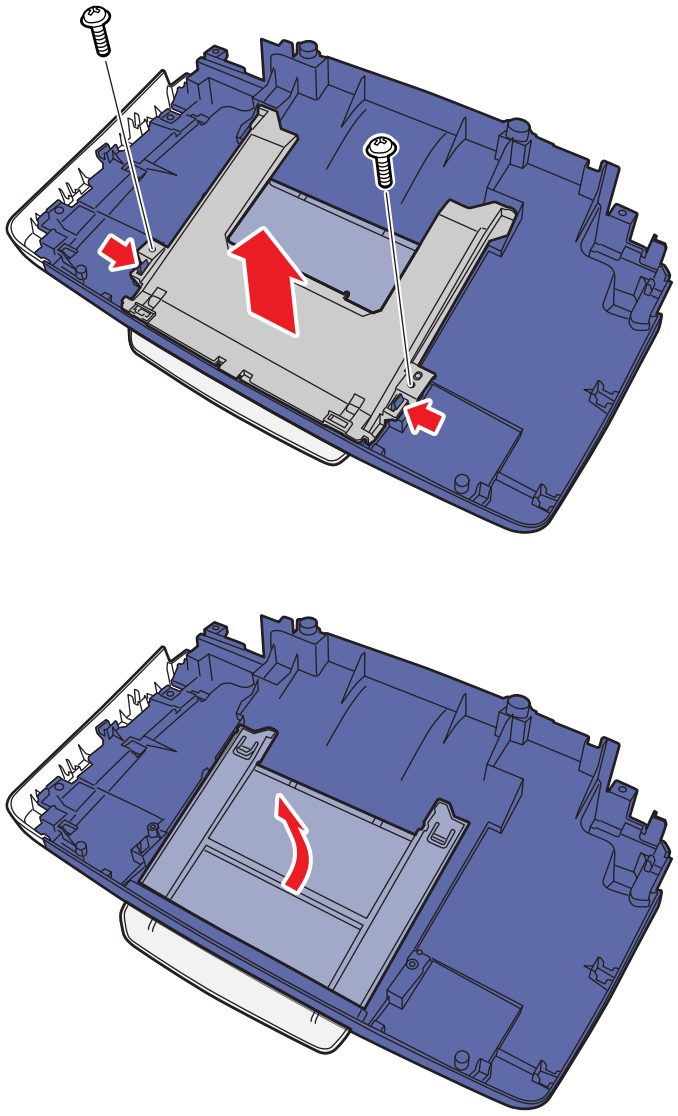
1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the two screws (silver, tap, 8mm) that secure the Top Cover to the chassis.
4. Lift the front of the Top Cover to release the cover from the 2 bosses and remove.



SFP Output Tray Extension

SFP PL1.1.2 (Tray Ext)

1. Perform the service preparation steps on page 8-3.
2. Remove the Top Cover (page 8-15).
3. Remove the two screws that attach the Guide Tray to the Top Cover.
4. Release the two latches and lift the Guide Tray away from the Top Cover.
5. Slide the Tray Extension out of the slot in the Top Cover.



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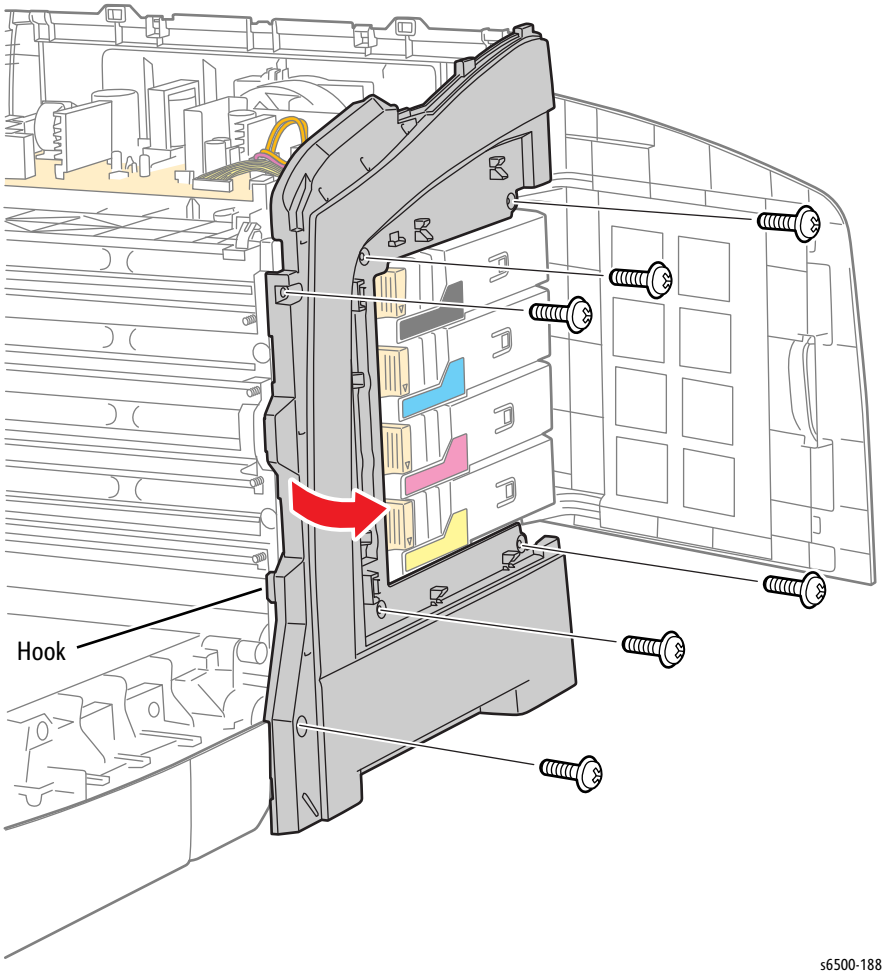
SFP Right Side Cover

PL1.1.6 (Cover Side R)

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Top Cover (page 8-15).
4. Open the Toner Door.
5. Remove the 6 screws (silver, tap, 8mm) that secure the cover to the chassis.
6. Release the hook at the front of the cover.
7. Swing the cover front out to release the three hooks on the Rear Cover, and remove the Left Side Cover.

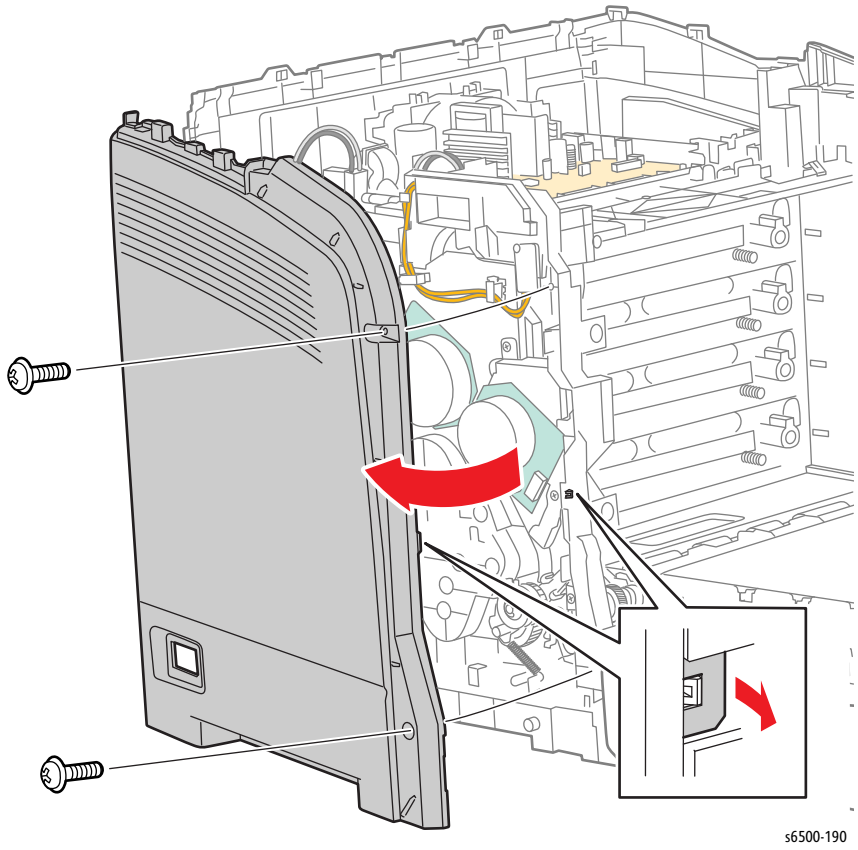


s6500-188

SFP Left Side Cover

PL 1.1.19 (Cover Side L)

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Top Cover (page 8-15).
4. Remove the two screws (silver, tap, 8mm).
5. Release the hook at the front of the Left Side Cover.
6. Swing the front edge out to release three hooks on the Rear Cover, and remove the Left Side Cover from the chassis.



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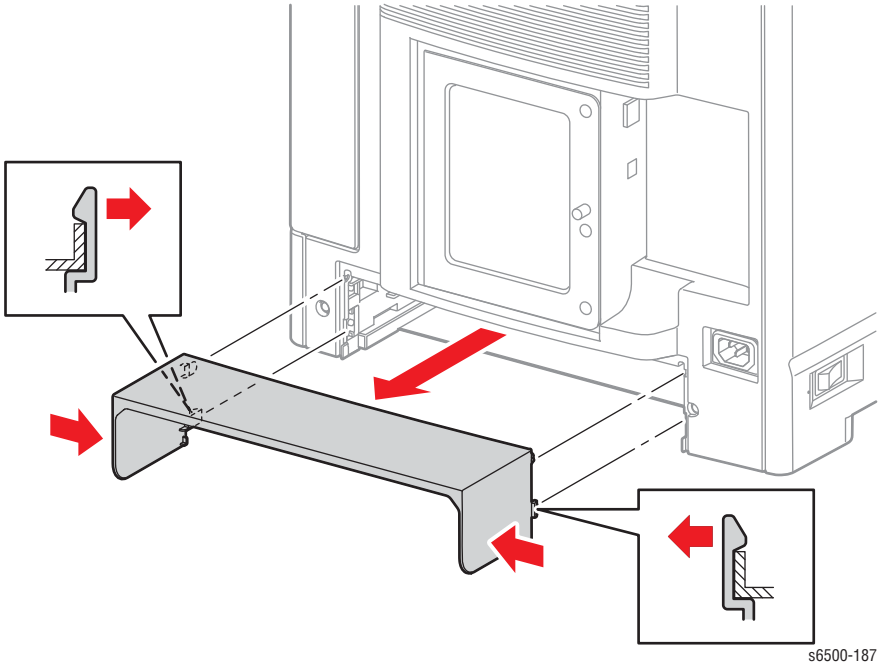
SFP Rear Tray Cover

SFP PL1.1.5 (Cover CST)

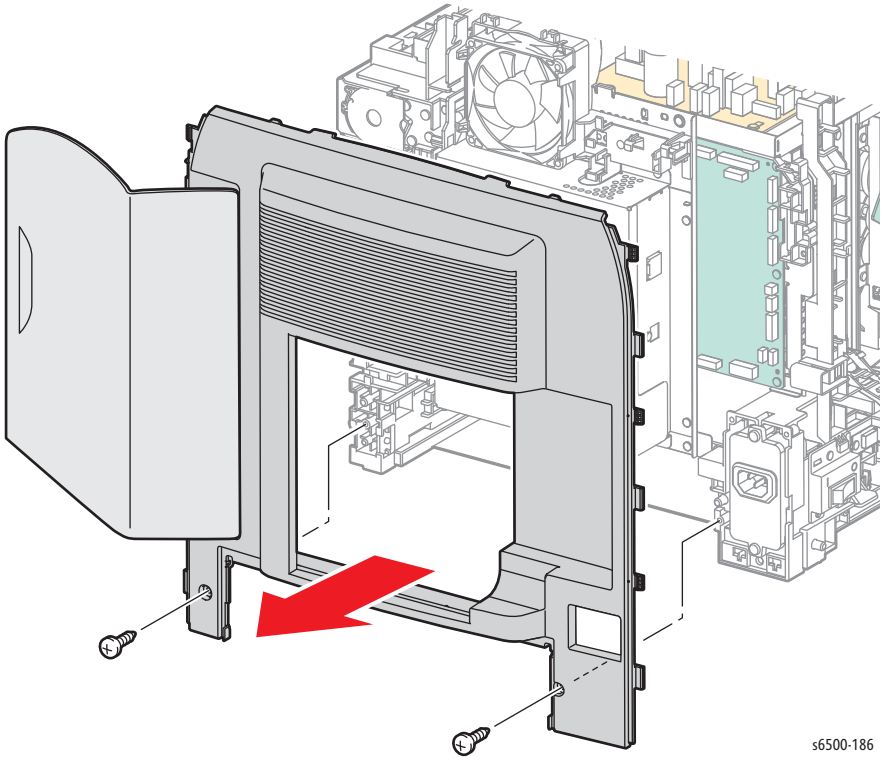
1. Remove Tray 1.
2. Press the sides of the Rear Tray Cover to release the 2 hooks from the chassis.



SFP Rear Cover

SFP PL1.1.3 (Cover Rear)

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Right Side Cover (page 8-17).
4. Remove the Left Side Cover (page 8-18).
5. Remove the Rear Tray Cover (page 8-19).
6. Remove two screws (silver, tap, 8mm) that secure the Rear Cover.
7. Remove the Rear Cover.



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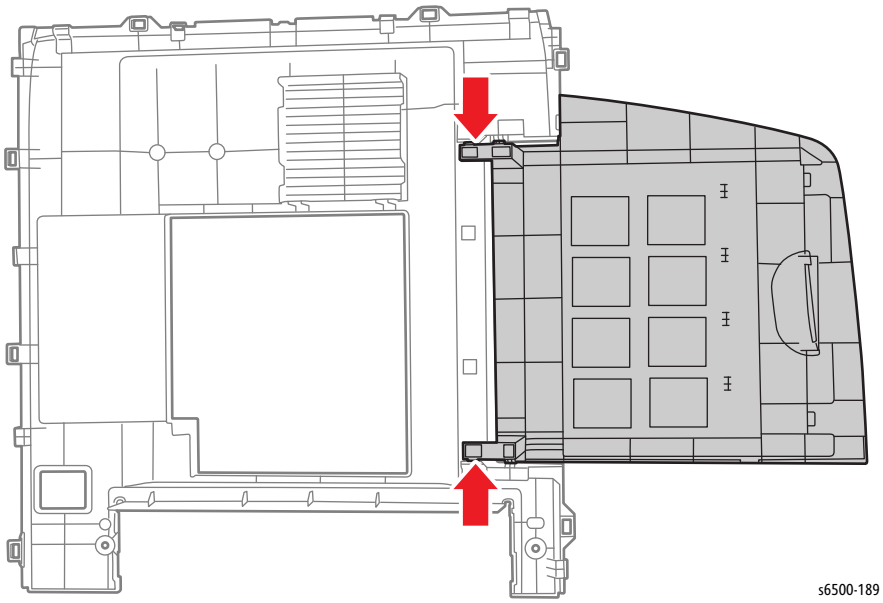
SFP Toner Door

SFP PL1.1.7 (Cover Assy Window TNR)

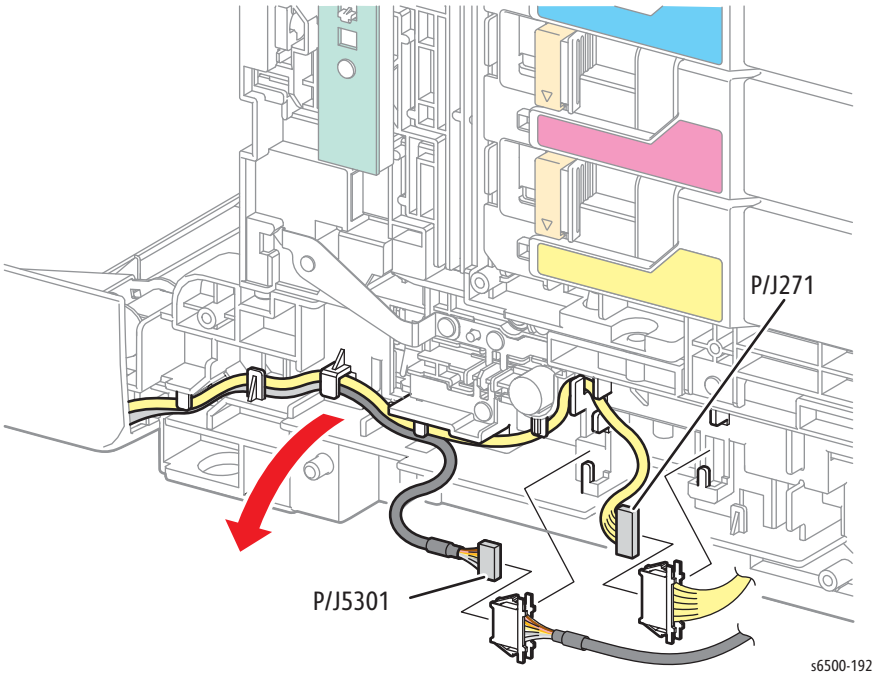
1. Perform the service preparation steps on page 8-3.
2. Remove the Right Side Cover (page 8-17).
3. Open the Toner Door.
4. Release the bosses on the upper and lower hinge arms from the pivot holes in the Rear Cover.



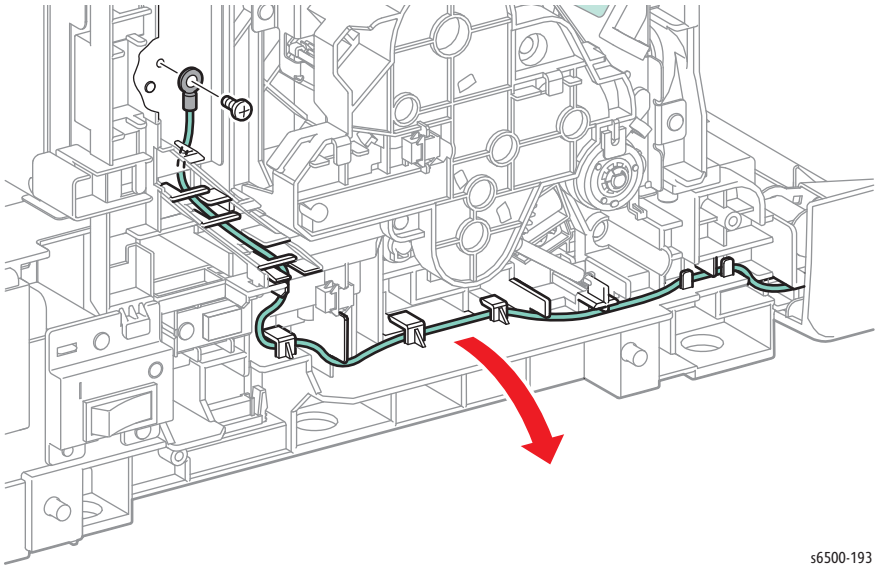
SFP Front Cover

SFP PL1.2.1 (Cover Assy Front)

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Toner Door (page 8-21).
4. Remove the SFP Right Side Cover (page 8-17).
5. Remove the Left Side Cover (page 8-18).
6. Disconnect P/J5301 leaving the relay connector on the Front Cover side
7. Disconnect P/J271 (Duplex model only) leaving the relay connector on the printer side.
8. Release the harnesses from the guides.



9. Remove the screw that secures the ground harness to the chassis.



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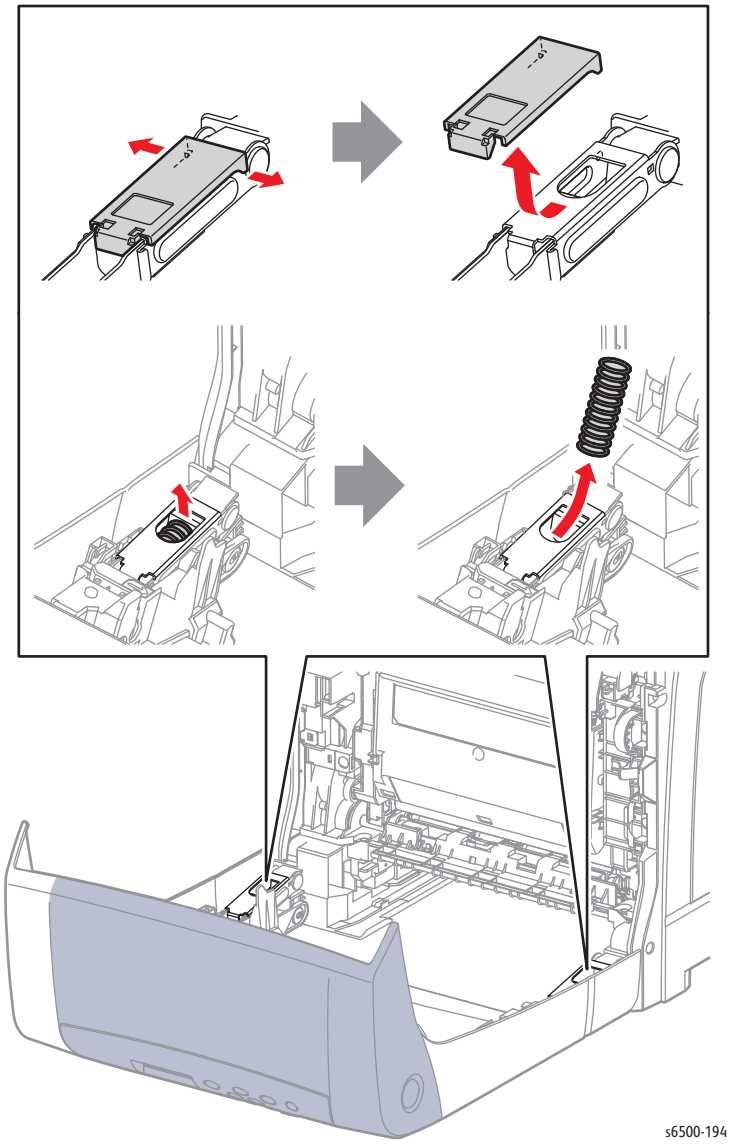
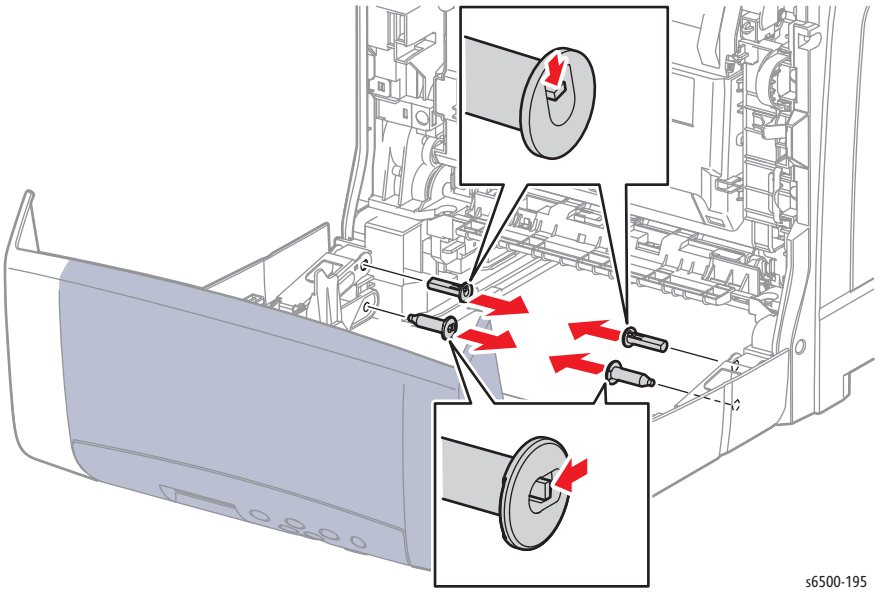
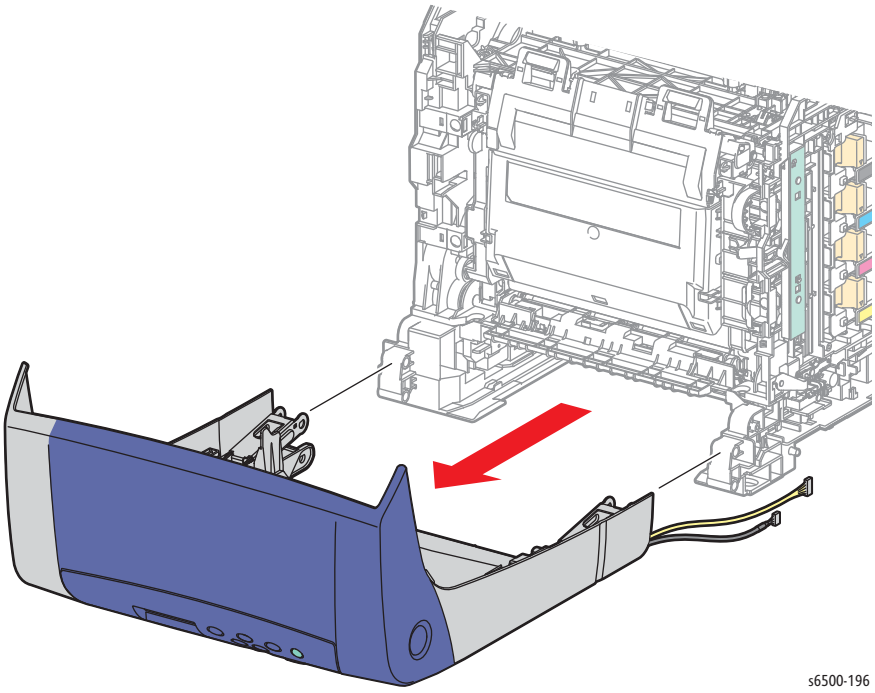
10. Remove the link covers.
    a. Release the two hooks that secure the cover to the link.
    b. Slide the link cover forward and remove.
11. Lift the Front Cover to expose the end of the spring in the link.
12. Remove the springs from the links.



13. Release the 4 pivot shaft hooks and Remove two pivot shafts from the Front Cover links and 2 pivot shafts from the Front Cover.



14. Pull the Front Cover forward to remove.



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SFP Right Front Holder

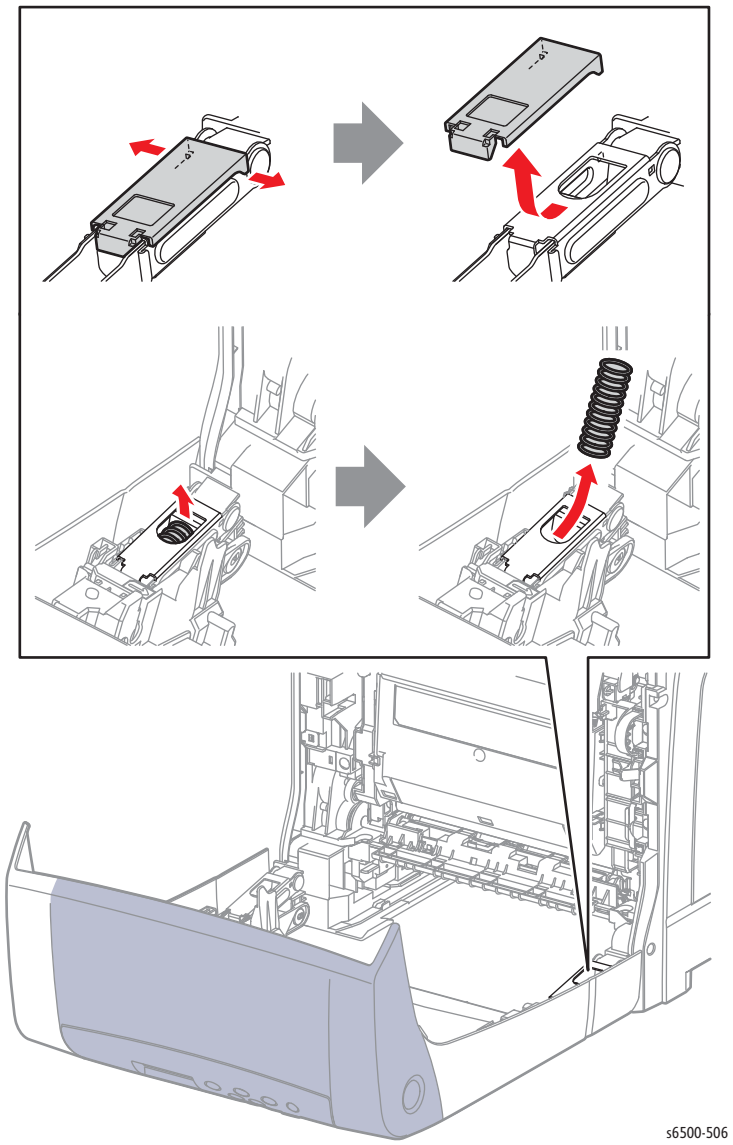
SFP PL1.2.28 (Holder Assy Front R)

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Duplex Unit if installed (page 8-162).

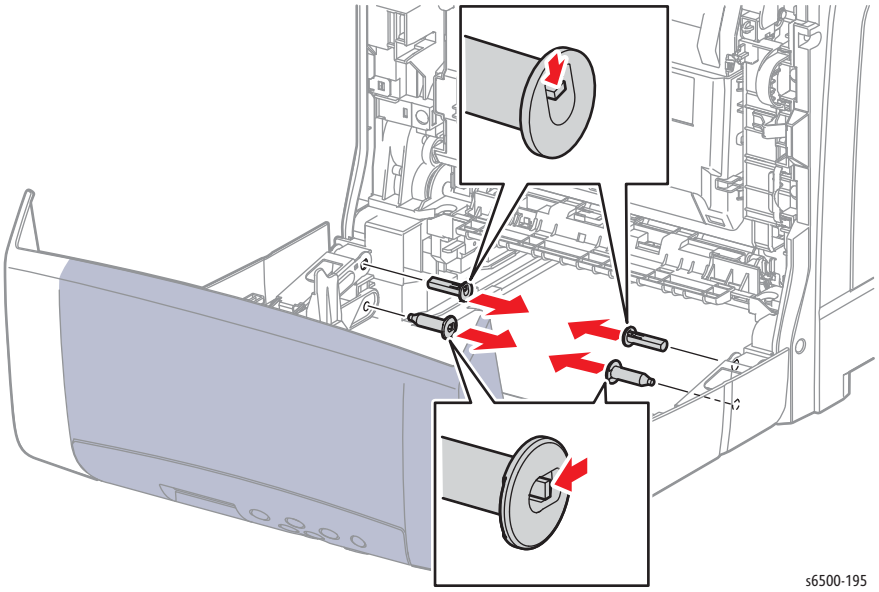
Note

For the next two steps, refer to the Front Cover removal procedure (page 8-22).

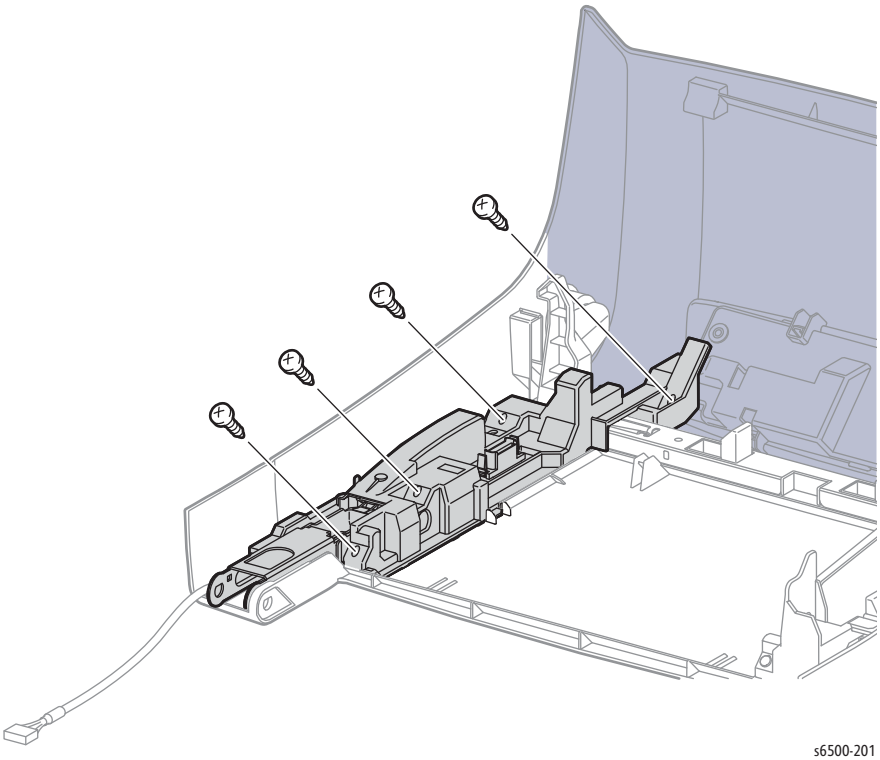
4. Remove the right link cover and spring.



5. Release the hook that secures the Link Pivot Shaft and remove it.



6. Remove four screws that secure the right front holder to the Front Cover;



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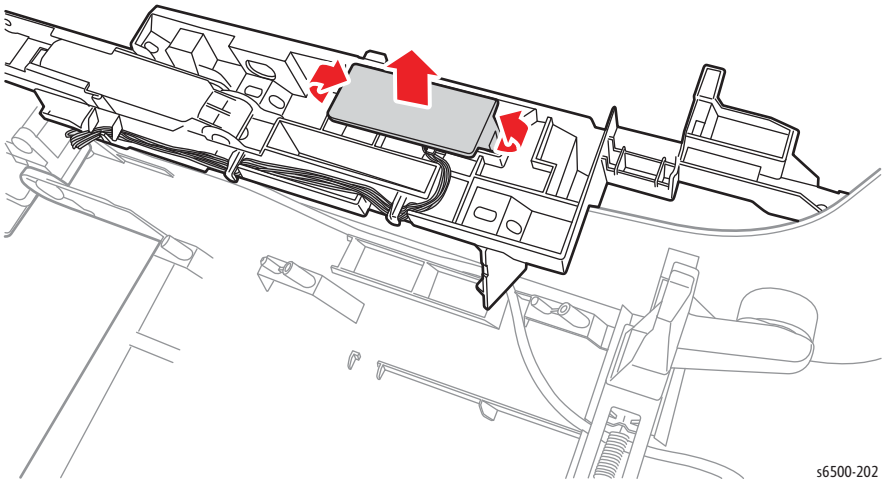
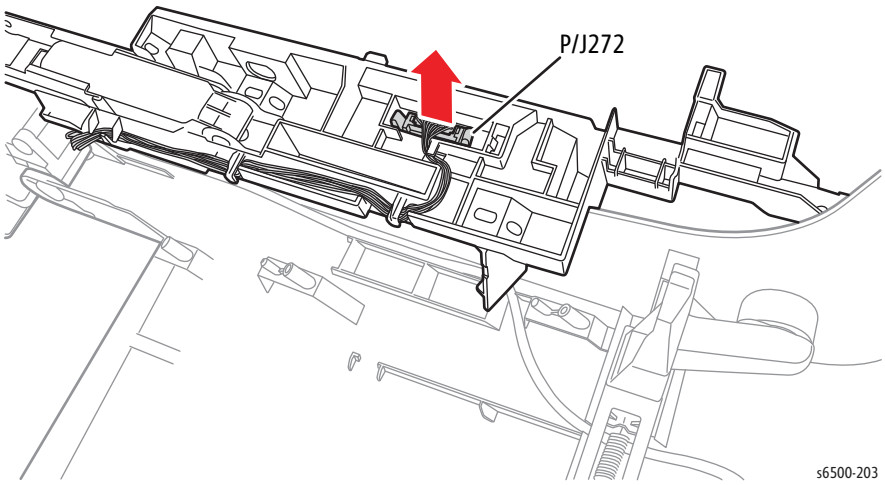
7. Turn the holder over and release 2 hooks that secure the drawer cover to the holder.



8. Disconnect the Duplex Harness (P/J272) from the connector and remove the harness from the holder guides.



SFP Left Front Holder

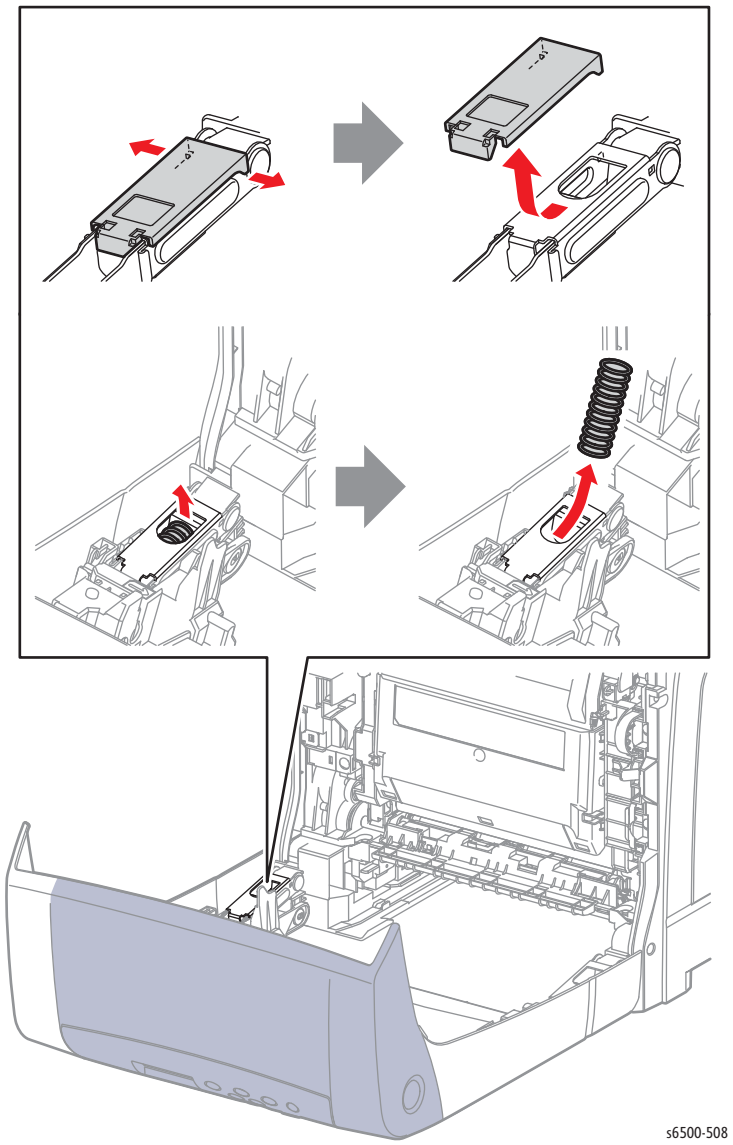
SFP PL 1.2.29 (Holder Assy Front L)

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Duplex Unit (page 8-162).

Note

For the next two steps, refer to the Front Cover removal procedure (page 8-22).

4. Remove the left link cover and spring.



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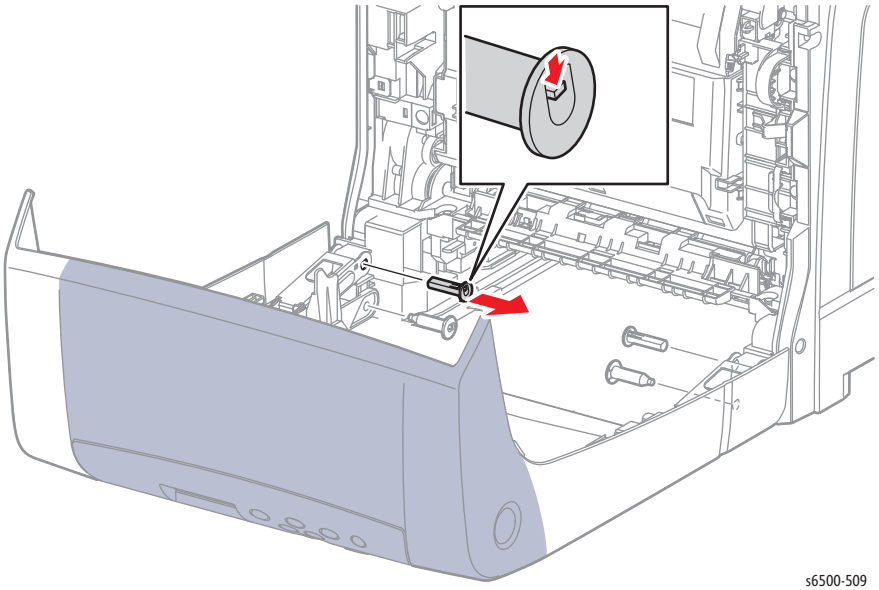
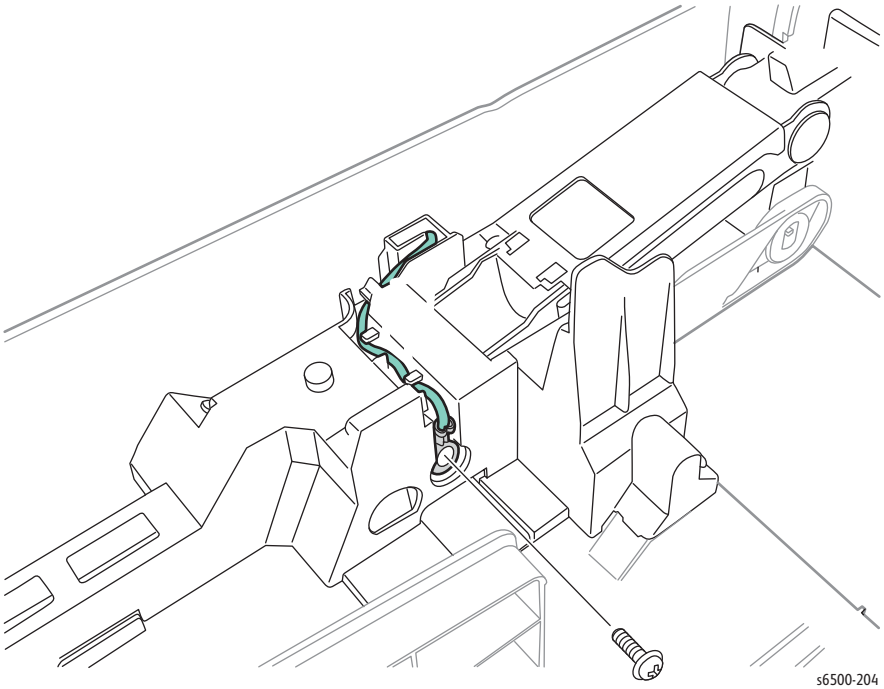
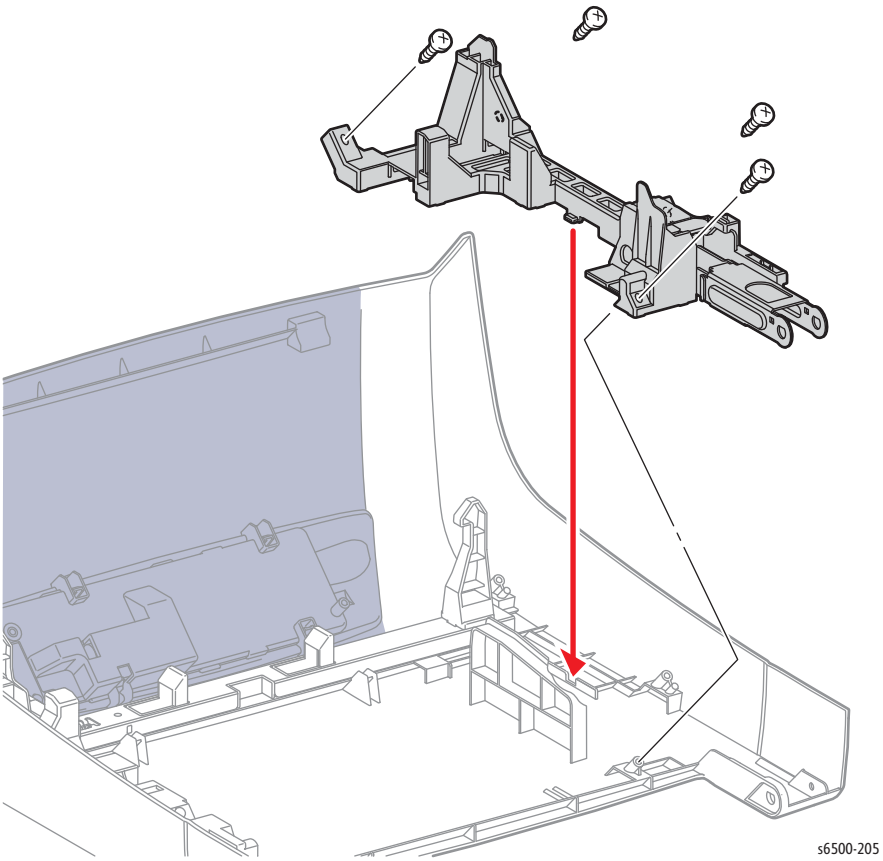
5. Remove the Link Pivot Shaft.



6. Remove the screw that secures the ground harness to the holder.



7. Remove four screws that secure the Left front holder to the Front Cover;



8. Release the ground harness from the holder guides to remove the holder.

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Upper Link Pivot Shaft Kit

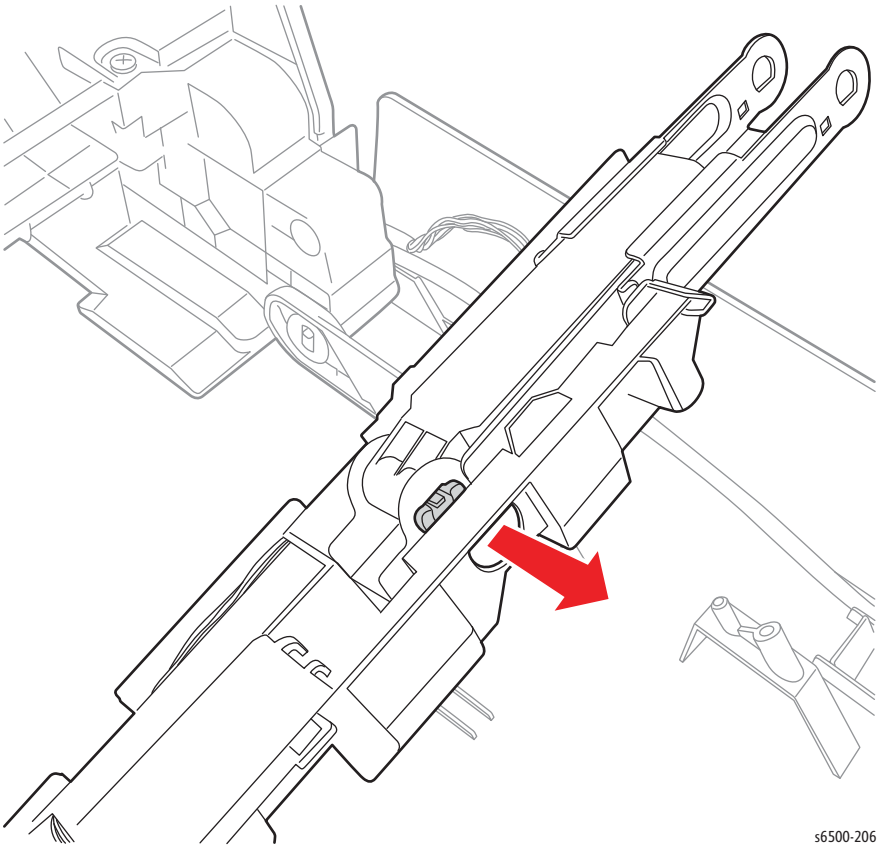
PL1.2.96 (Kit Shaft Link Front [Upper])

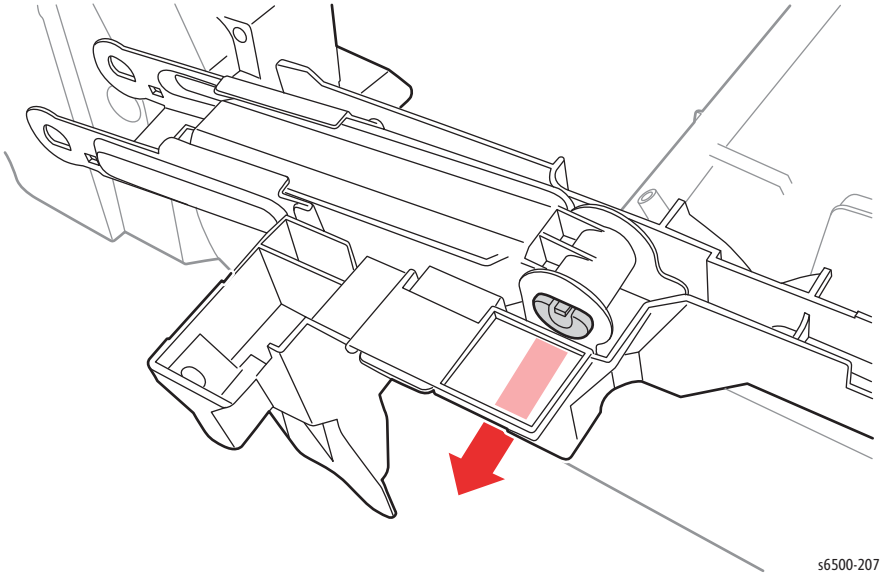
1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Duplex Unit (page 8-162).
4. Remove the Right front holder (page 8-25)
5. Remove the Left front holder (page 8-28).

Note

Left upper link pivot replacement is possible without disconnecting the Duplex Harness (P/J272) from the Left front holder.

6. Release the hook that secures each pivot shaft in the link and remove the pivot shaft.

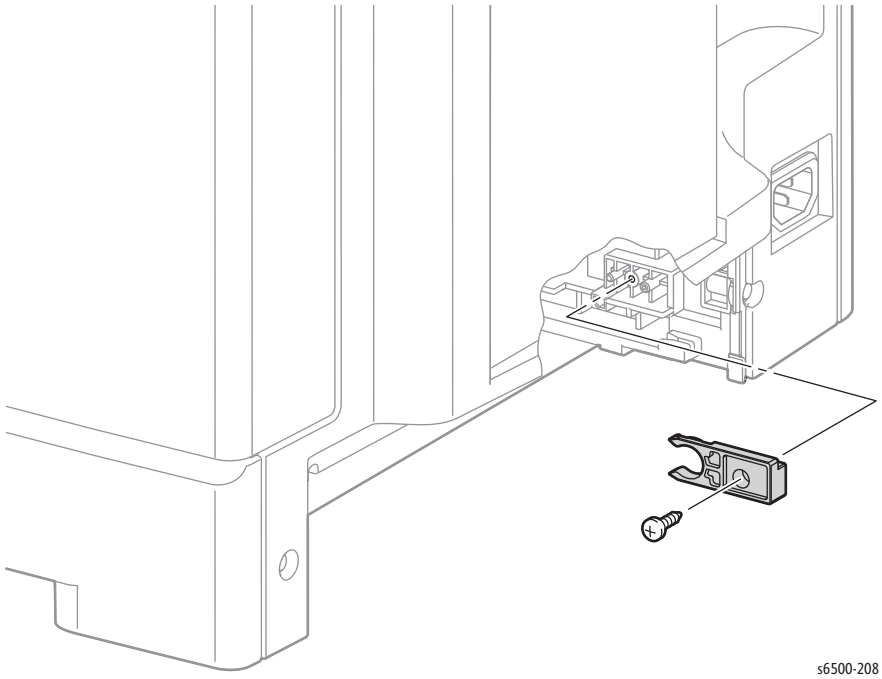




SFP Cassette Stopper

PL3.1.10 (Stopper CST)

1. Remove Tray 1.
2. Remove the Tray Rear Cover (page 8-19).
3. Remove the screw that secures the Cassette Stopper to the chassis.



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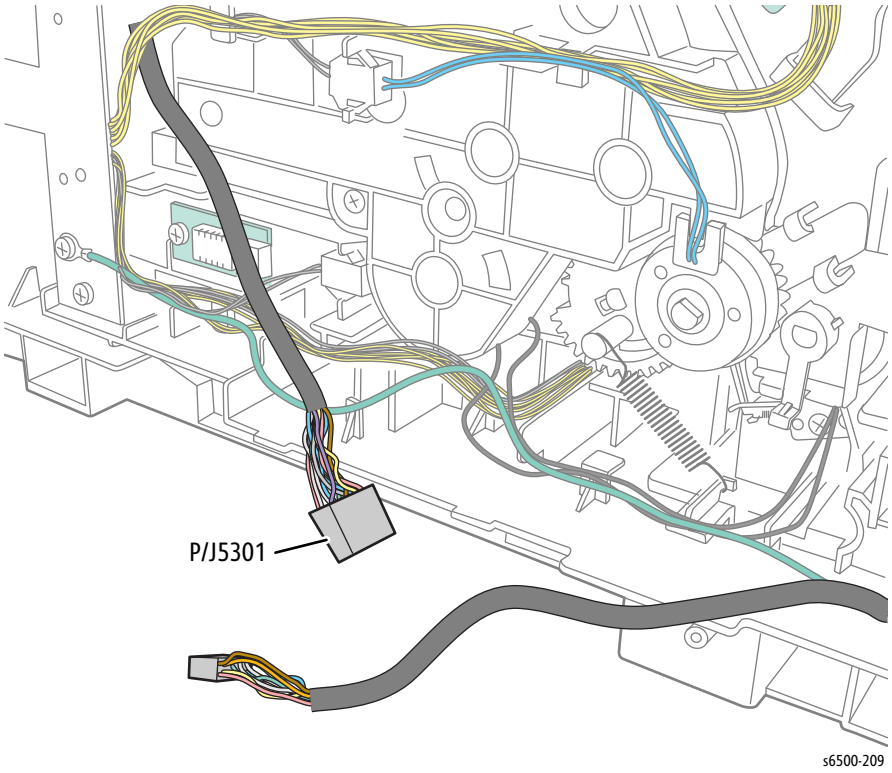
MFP Covers

MFP Front Cover

MFP PL1.2.1 (Cover Assy Front)

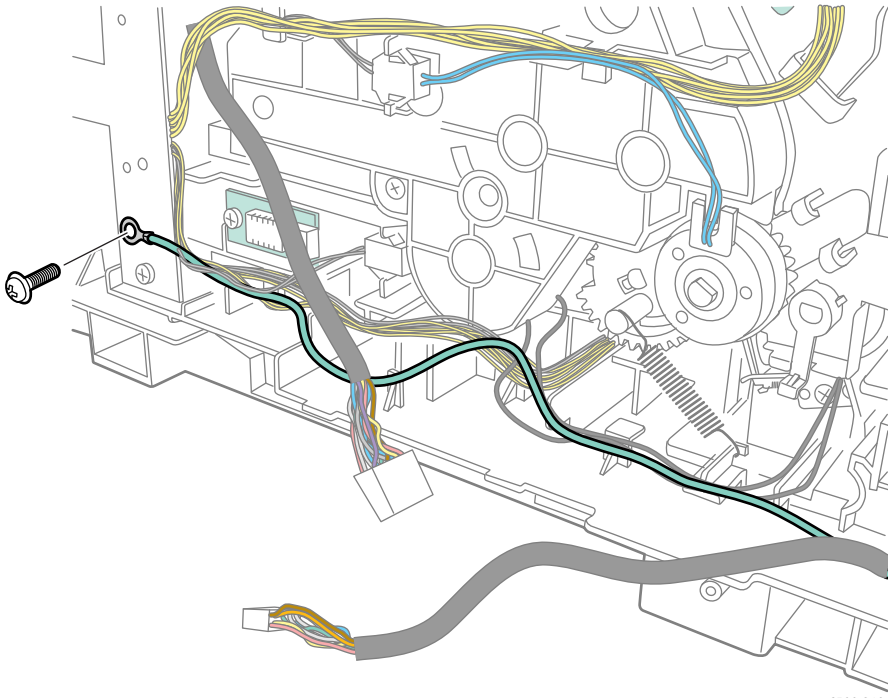
1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Left Side Cover (page 8-37).
4. Remove the Right Side Cover (page 8-40).
5. Release the Front Cover Harness from the rib on the left side, and disconnect P/J5301. Leave the relay connector with the chassis.
6. Release the Front Cover Harness from the chassis cable hooks.



Note

Steps 6, 7, and 8 apply only to duplexing models.

7. Remove the screw (silver, 6mm) that attaches the grounding terminal of the Duplex Grounding Harness Assy; release the Harness Assy from the hooks of the printer.



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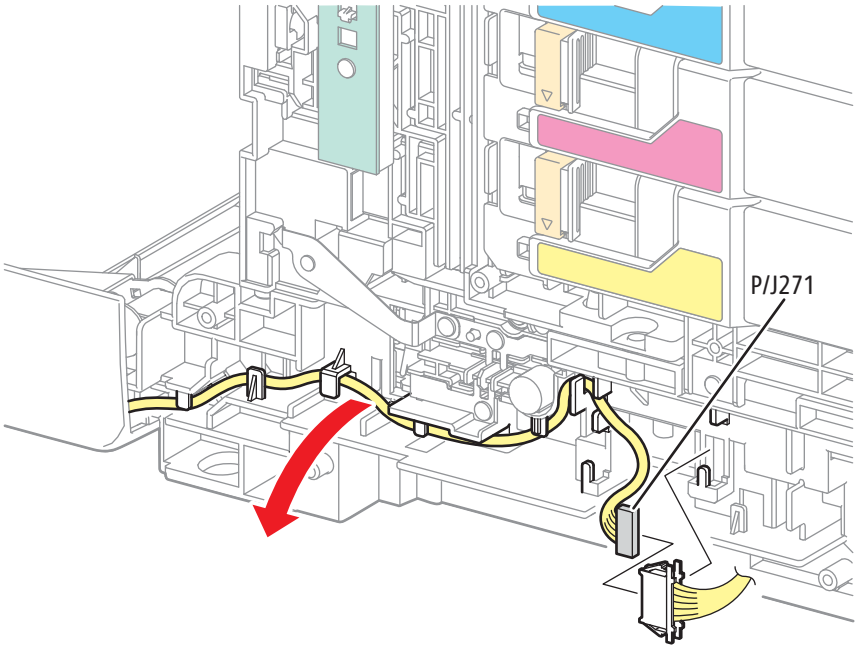
8. Release the relay connector from the rib of the printer; disengage the connector (P/J271) of the MFP Duplex Harness Assy.
9. Release the MFP Duplex Harness Assy. from the hooks of the printer.



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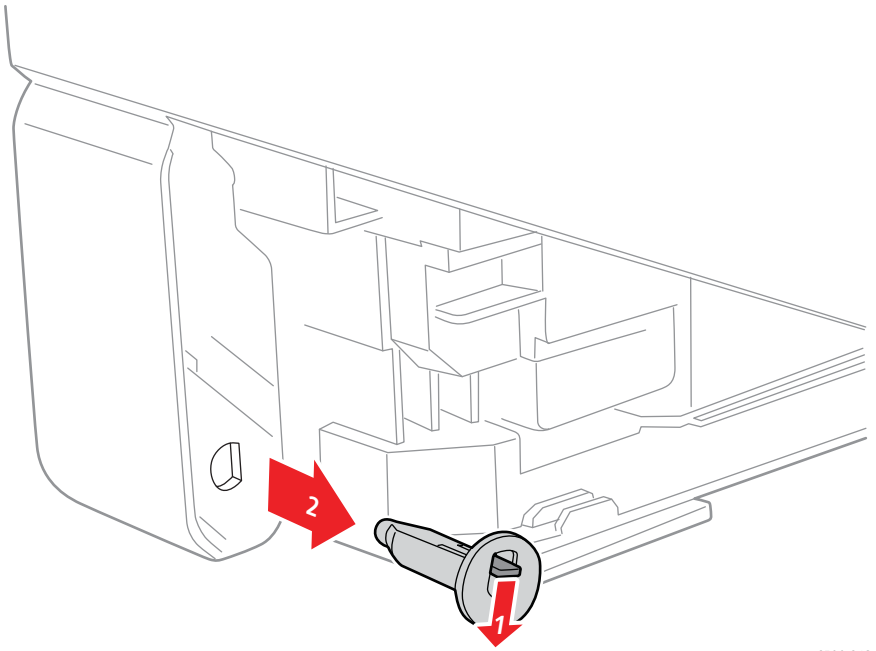
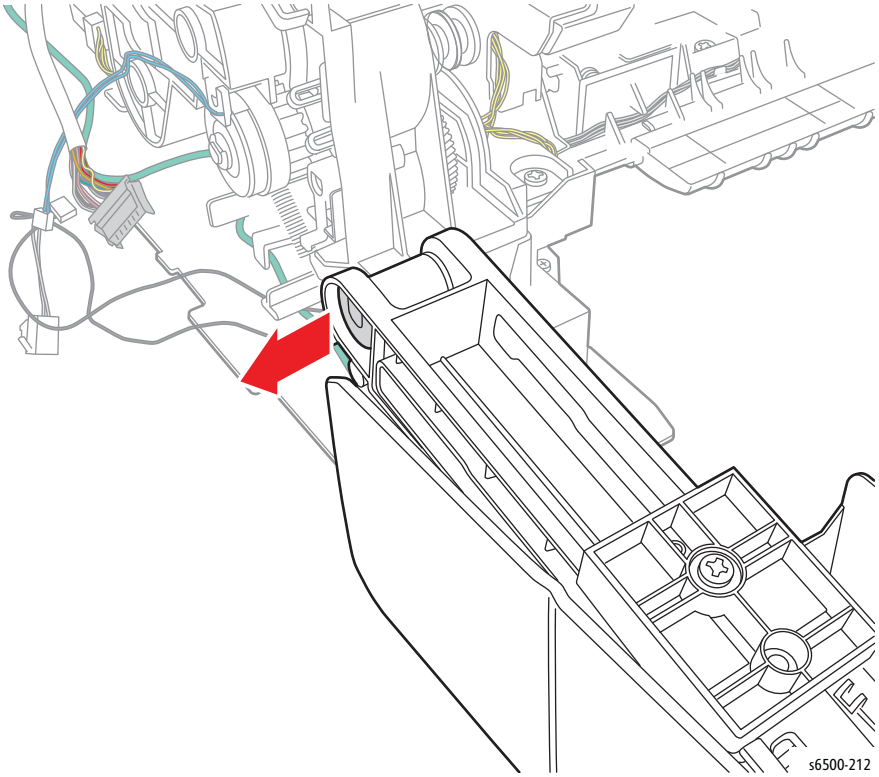
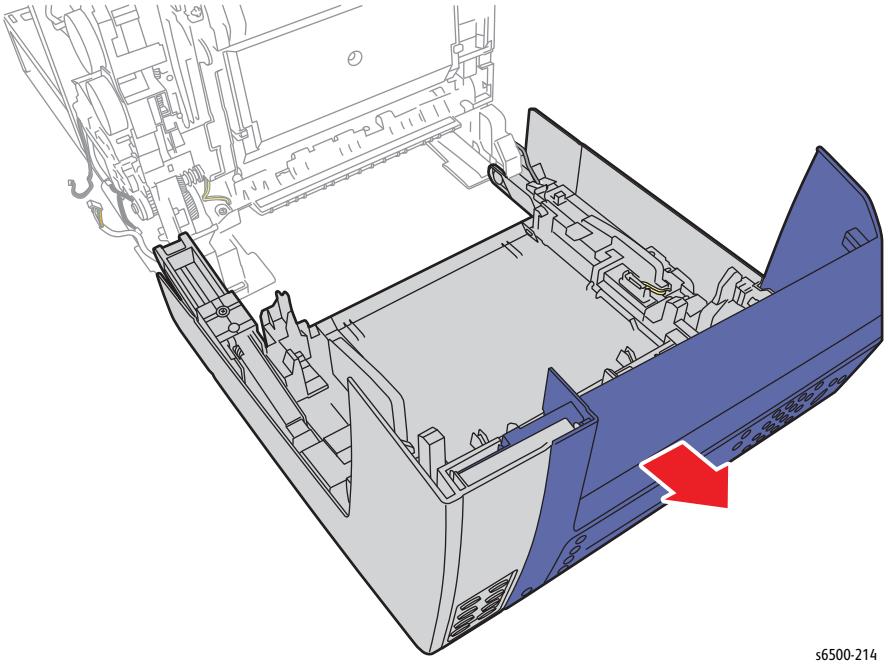
10. Release the Pivot Shaft hook on the Left and Right Pivot Shafts, and pull the pivot shafts out of the Front Cover.



11. Release the Pivot Shaft hook and pull out the Pivot Shaft that attaches the MFP Front Link Assy.



12. Lift the Front Cover Assy up slightly to remove the it from the printer.



s6500-214

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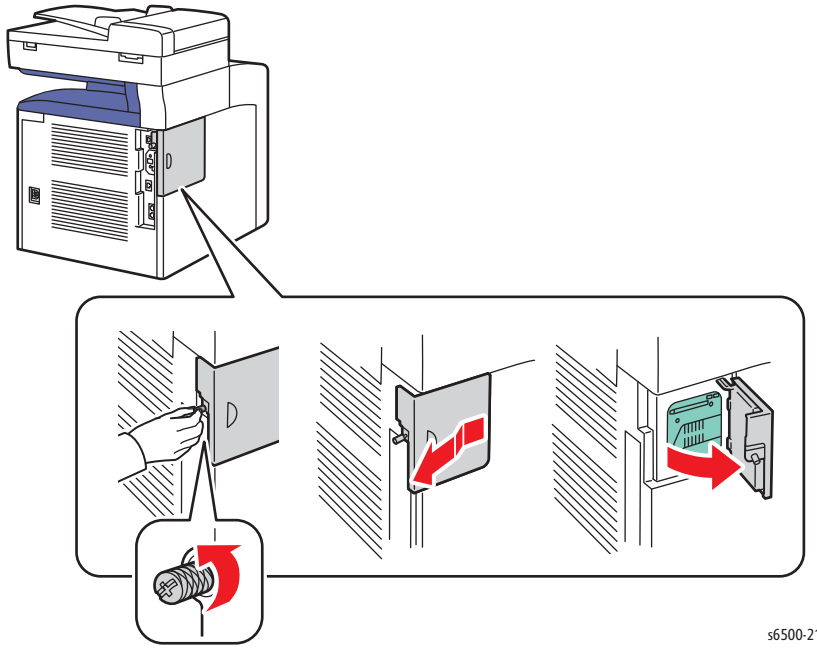
MFP Left Side Cover

MFP PL 1.1.13 (Cover Assy Side L)

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Loosen the knurled screw that secures the IP Board Cover. Gently pull the cover back and swing the cover open.



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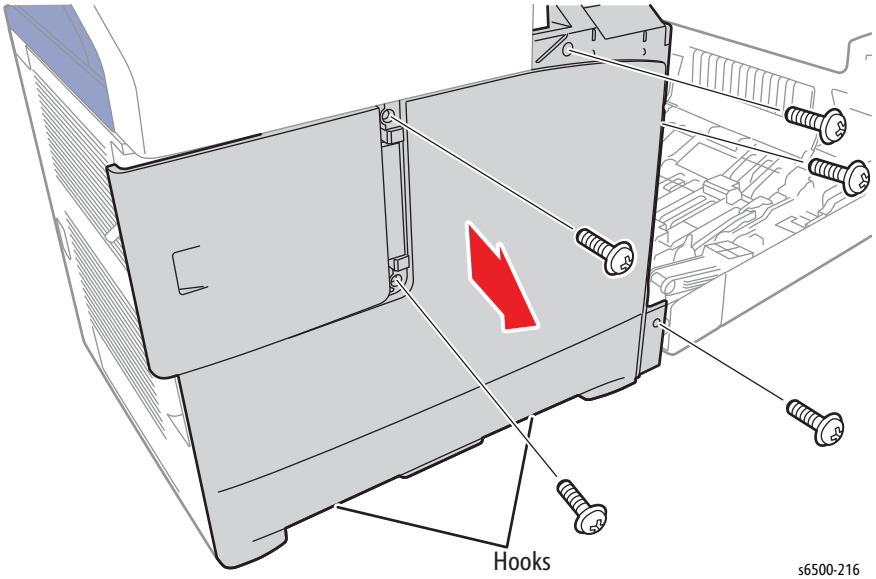
4. Remove the two screws (silver, M4, 6mm) and the three screws (silver, tap, 8mm) that secure the Left Side Cover.



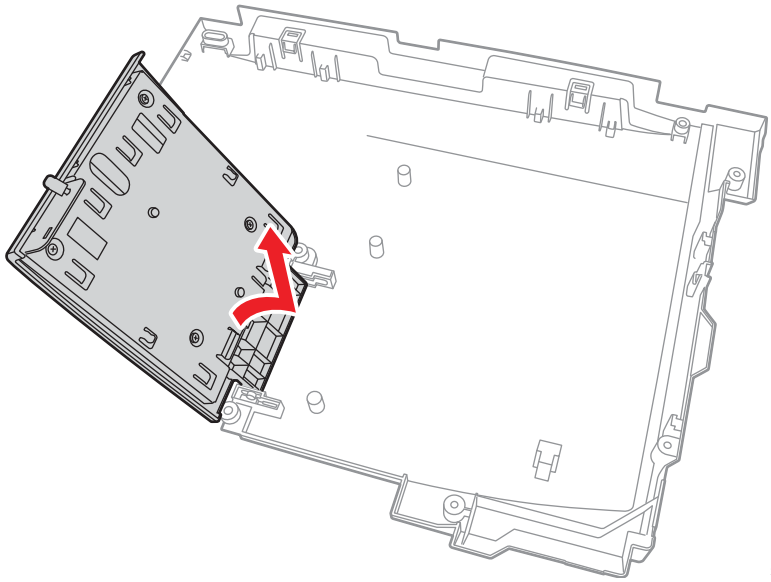
s6500-216

5. Release the 3 hooks (one on the front, two at the bottom), then shift the Left Side Cover toward the front to remove it from the printer.

MFP IP Board Cover

MFP PL1.1.9 (Cover Assy ESS)

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Left Side Cover (page 8-37).
4. Release the boss of the IP Board Cover from the hole of the Left Side Cover; remove the IP Board Cover from the Left Side Cover.



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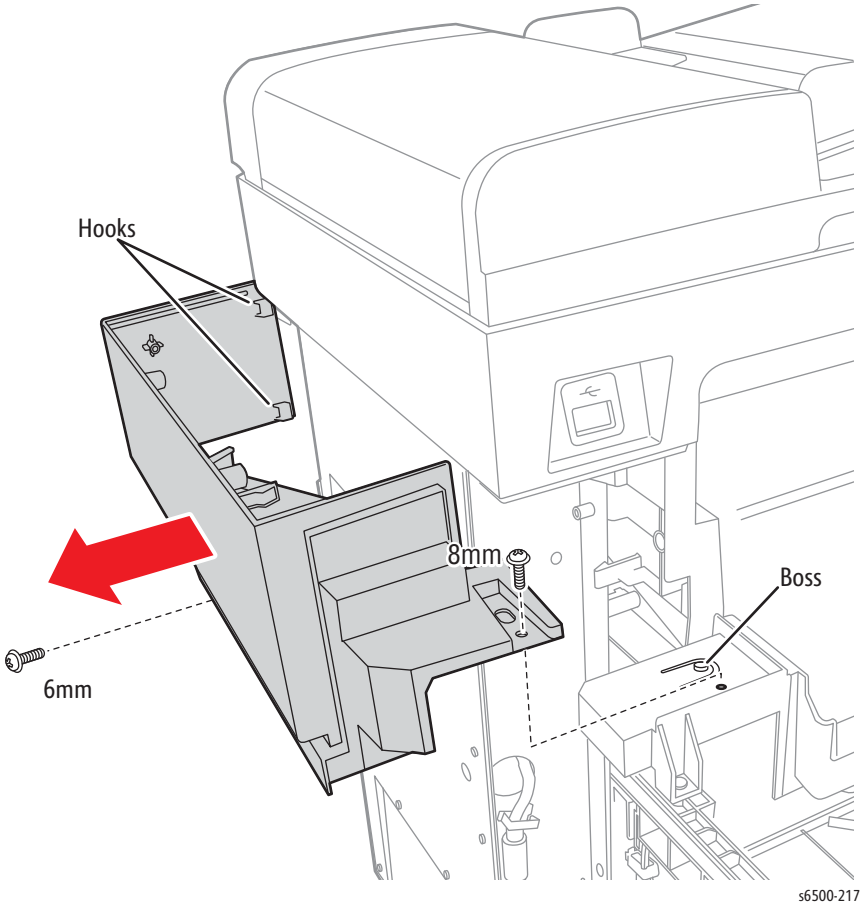
Outer Pole Cover

MFP PL 1.1.1 (Cover Pole Outer)

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Left Side Cover (page 8-18).
4. Remove the two screws (silver, 6mm, and silver, tap, 8mm) that secure the Outer Pole Cover.



5. Use a screwdriver to push the boss of the Top Cover (PL10.1.4) and release the front of the Outer Pole Cover.
6. Release the 2 hooks that secure the Outer Pole Cover at the back to remove the cover.

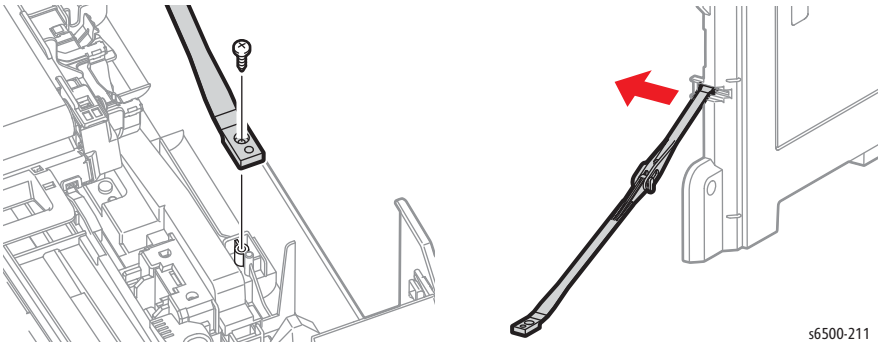
Replacement Note

Engage the 2 hooks on the back side of the Outer Pole Cover first.

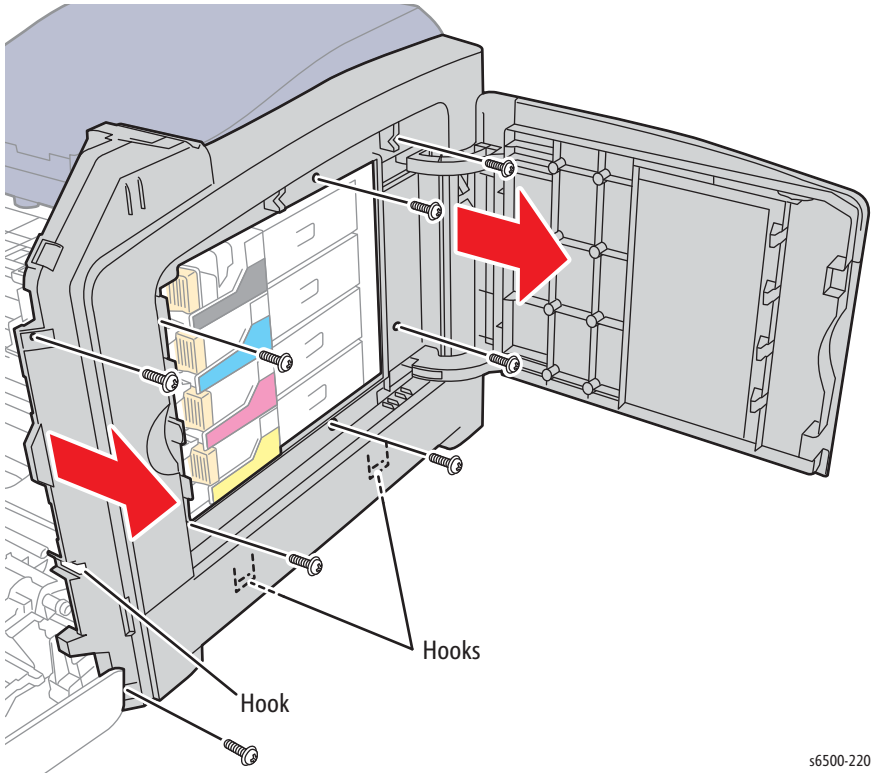
MFP Right Side Cover

MFP PL1.1.6 (Cover Side R)

1. Perform the service preparation steps on page 8-3.
2. Remove the screw (sliver, tap, 8mm) to detach the retainer strap from the Front Cover Assembly.



3. Open the Toner Door.
4. Remove the 8 screws (silver, tap, 8mm) that secure the cover to the chassis.



5. Release one hook at the front, then two hooks near the bottom to remove the cover.

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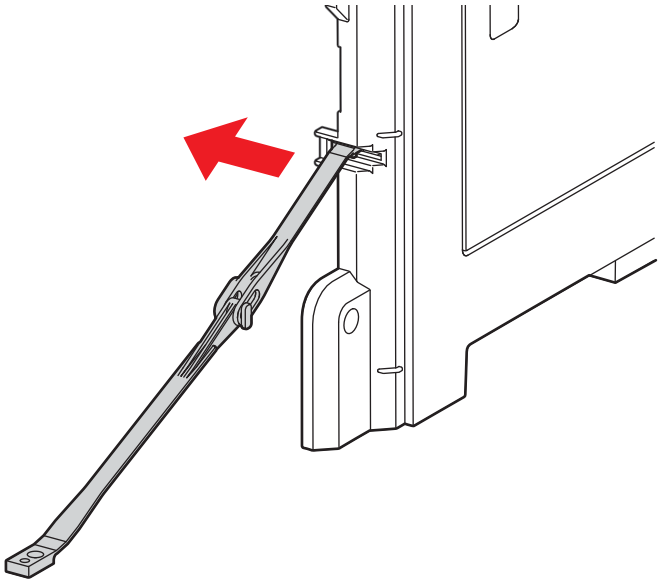
MFP Front Door Retainer Strap Assembly

MFP PL 1.2.30 (Strap Assy)

1. Perform the service preparation steps on page 8-3.
2. Remove the MFP Right Side Cover (page 8-40).
3. Shift the Retainer Strap Assembly to the left as shown, and swivel up to release the hook of the Retainer Strap Assembly from the cover.



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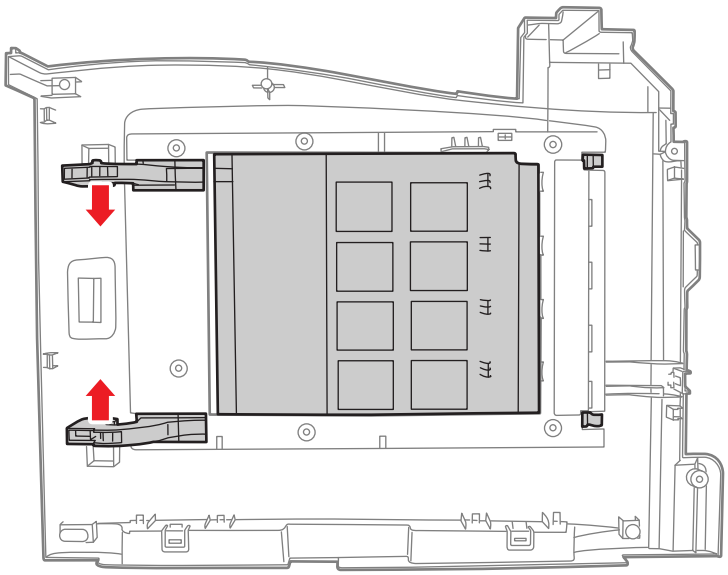
MFP Toner Door

MFP PL1.1.7 (Cover Window Tnr)

1. Perform the service preparation steps on page 8-3.
2. Remove the MFP Right Side Cover (page 8-40).
3. Carefully flex the hinge pieces in the directions shown to release the bosses that secure the upper and lower hinges to the Right Side Cover.
4. Remove the Toner Door from the Right Side Cover.



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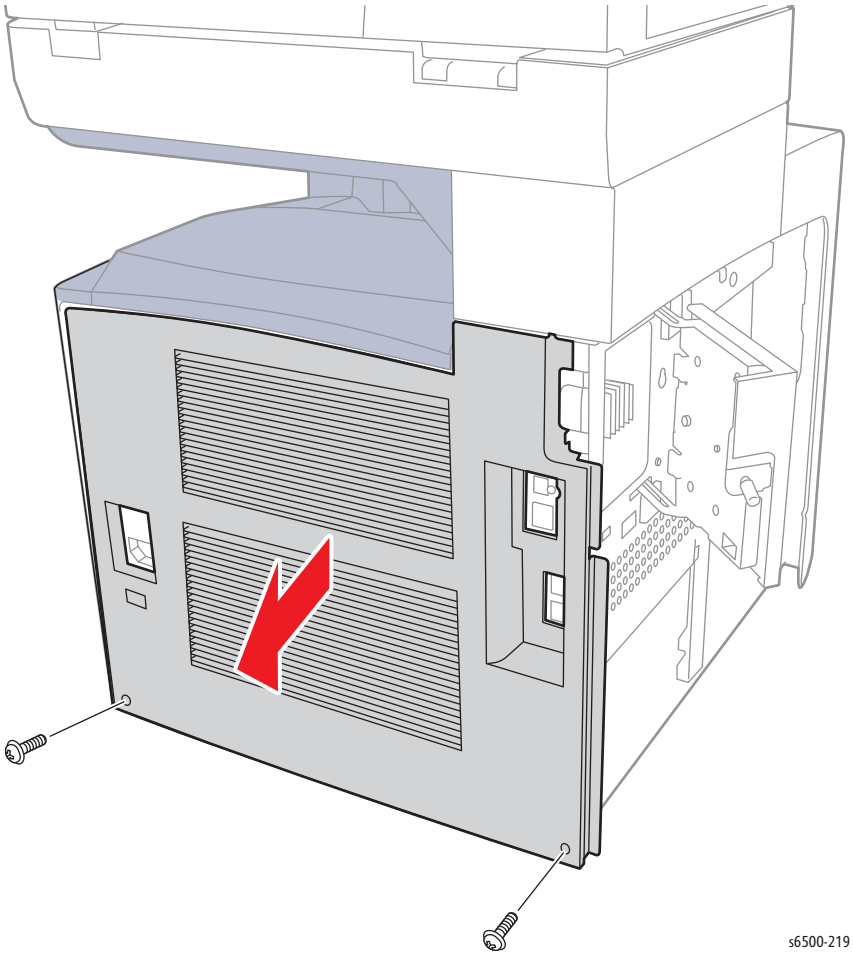
MFP Rear Cover

MFP PL1.1.5 (Cover Rear)

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Left Side Cover (page 8-37).
4. Remove the Right Side Cover (page 8-40)
5. Remove the two screws (silver, tap, 8mm) that secure the Rear Cover, and remove the cover from the MFP.

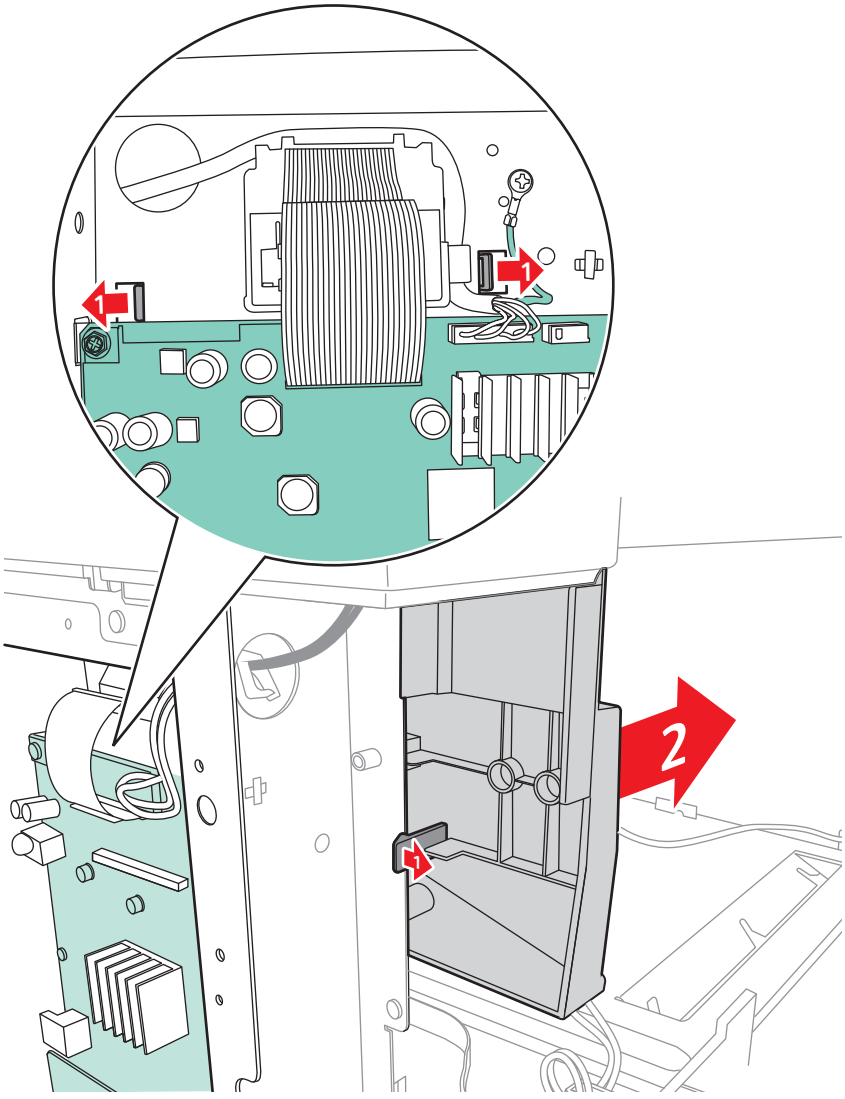


s6500-219

Inner Pole Cover

MFP PL1.1.3 (Cover Pole Inner)

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Left Side Cover (page 8-18).
4. Remove the Outer Pole Cover (page 8-39).
5. Remove the MFP IP Board Shield (page 8-142).
6. Release the four hooks that secure the Inner Pole Cover to the chassis.



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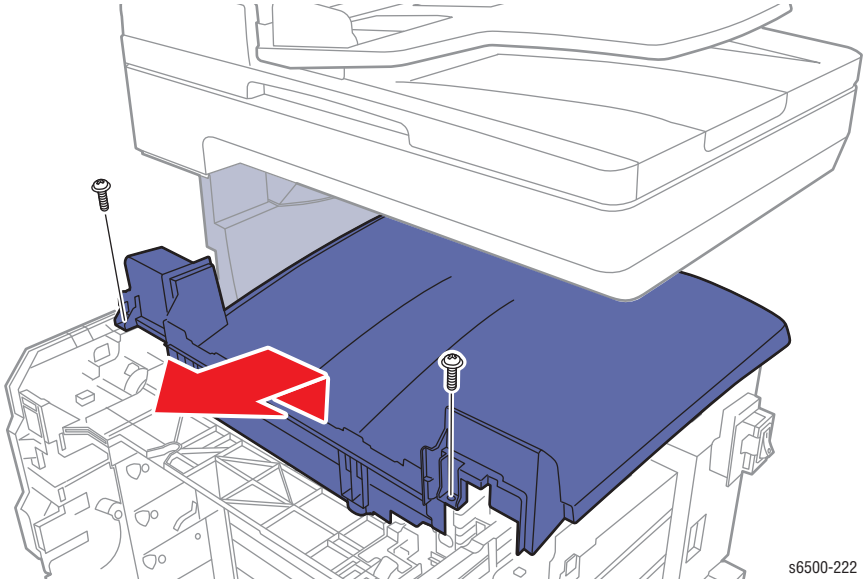
MFP Top Cover

MFP PL1.1.4 (Cover Top)

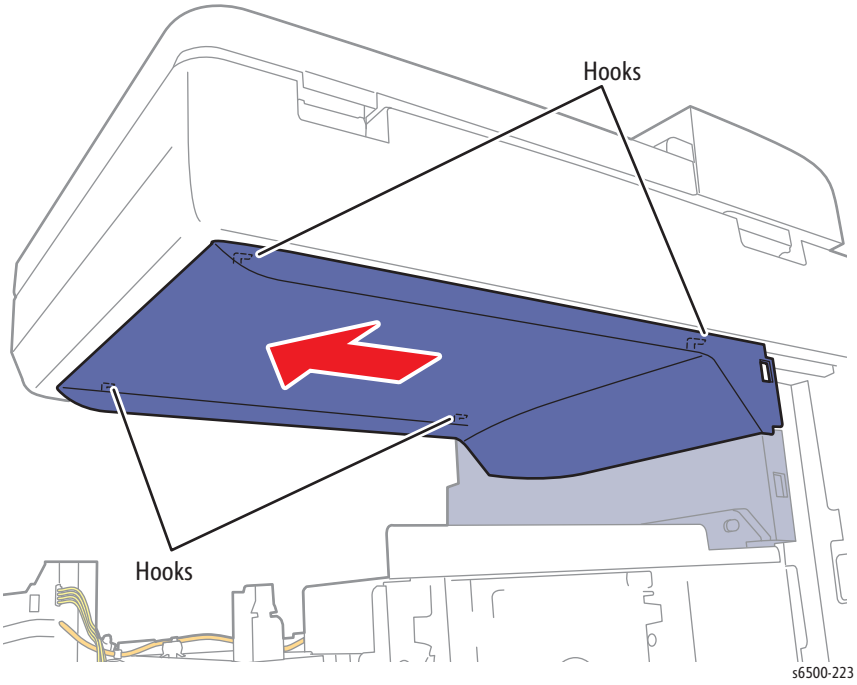
1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Left Side Cover (page 8-37).
4. Remove the Outer Pole Cover (page 8-39).
5. Remove the Right Side Cover (page 8-40).
6. Remove the Rear Cover (page 8-43).
7. Remove the Inner Pole Cover (page 8-44)
8. Remove the two screws (silver, tap, 8mm) that secure the Top Cover to the chassis.
9. Lift the front of the Top Cover to release the cover from the 2 bosses and remove.



Lower Scanner Cover

MFP PL1.1.2 (Cover Scanner Lower)

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Left Side Cover (page 8-18).
4. Remove the Outer Pole Cover (page 8-39).
5. Remove the MFP IP Board Shield (page 8-142).
6. Remove the Inner Pole Cover (page 8-44).
7. Shift the cover to the right to release the four hooks and remove the cover.



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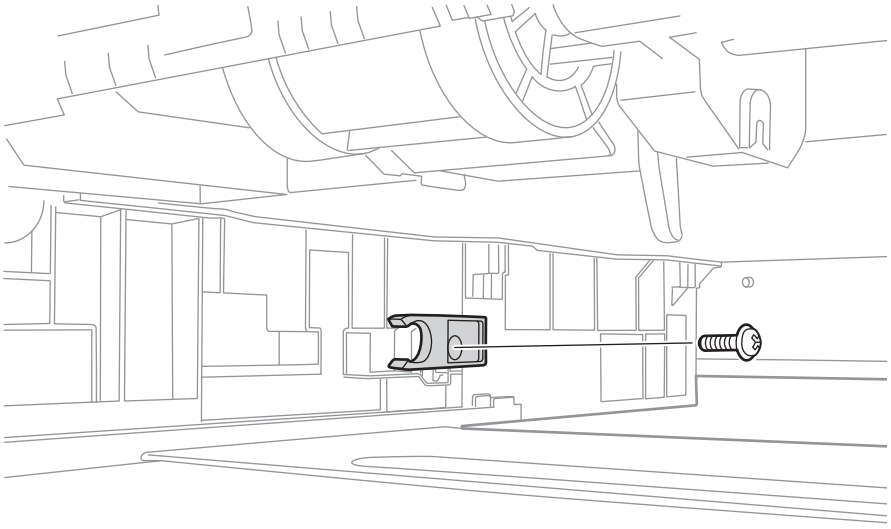
MFP Cassette Stopper

PL3.1.10 (Stopper CST)

1. Remove Tray 1.
2. Reach in from the front through the tray opening. Remove the screw that secures the Cassette Stopper to the chassis.



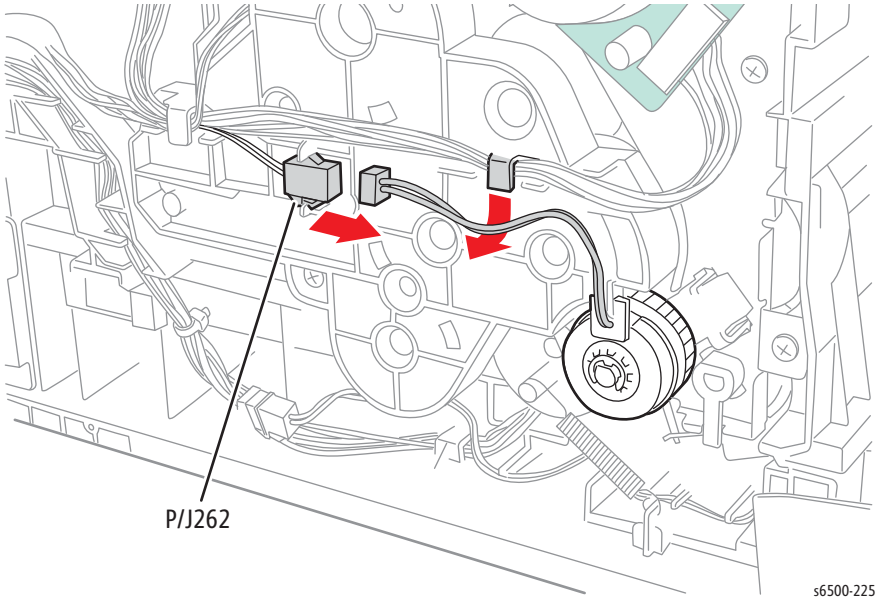
s6500-224

Feeder

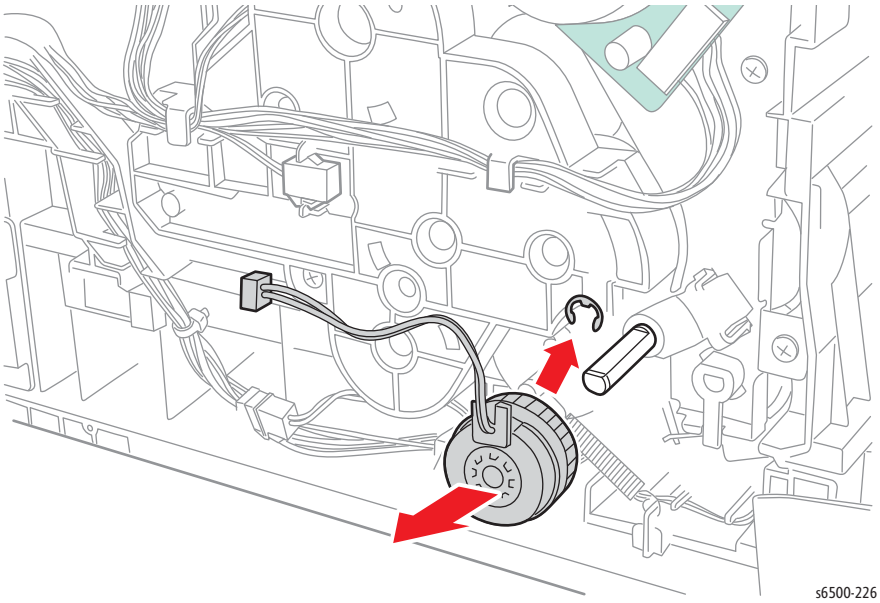
Drive Clutch and Regi Bearing Kit

PL3.1.97 (Kit Clutch Assy Drv)

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Left Side Cover (SFP, page 8-18; MFP, page 8-37).
4. Release the Drive Clutch harness from the cable restraint on the Feed Drive Assembly.
5. Disconnect the Drive Clutch connector, P/J262. Allow the relay connector to remain with the printer side of the harness.



6. Remove the E-ring that secures the Drive Clutch on the shaft, using a miniature screwdriver, and remove the Drive Clutch.



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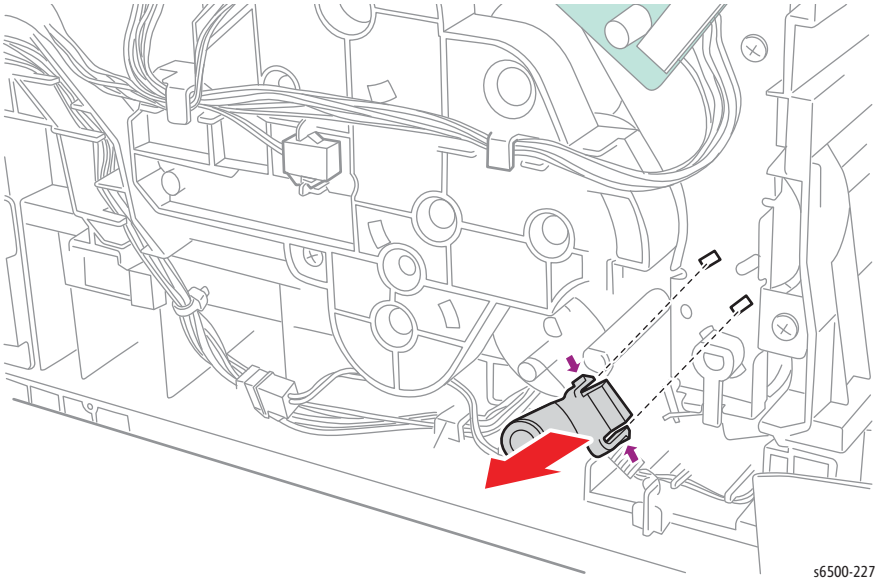
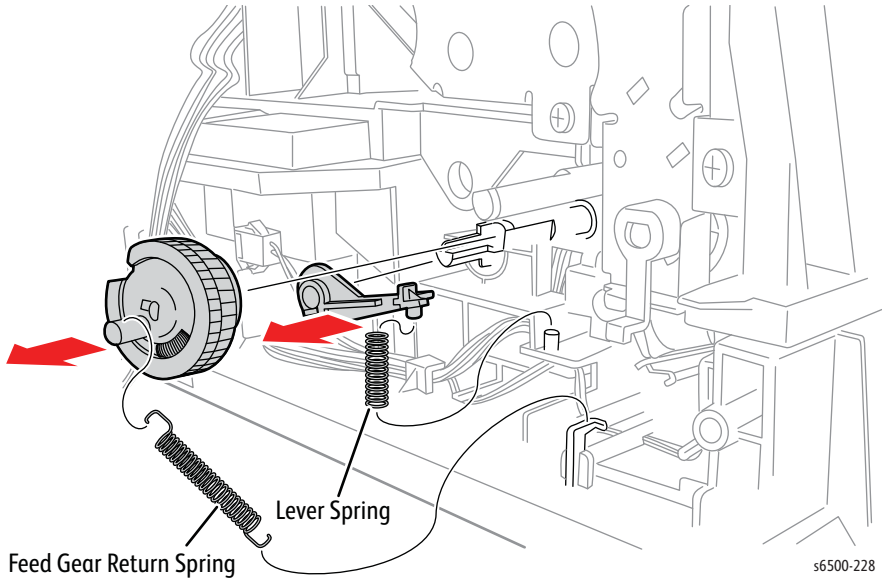
7. Squeeze the two hooks of the Registration Bearing to release them, and remove the Registration Bearing from the shaft.



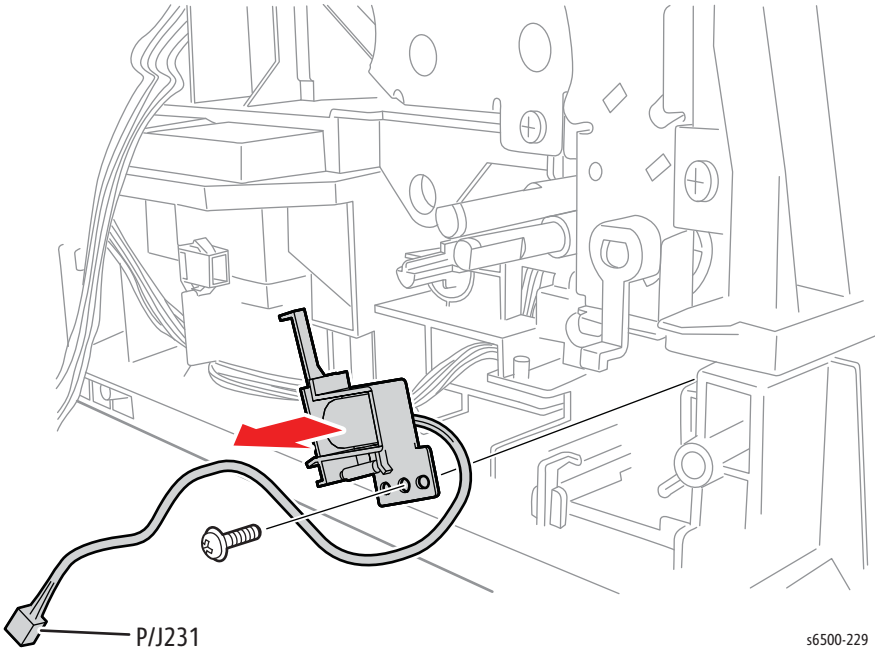
Feed Solenoid

PL3.1.99 (Kit Solenoid Feed)

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Left Side Cover (SFP, page 8-18; MFP, page 8-37).
4. Remove the Drive Clutch and Bearing Kit (page 8-48).
5. Remove the Feed Drive Assembly (page 8-117).
6. Release the Feed Gear Return Spring from the chassis. Leave the spring connected to the arm on the Feed Gear.
7. Push down on the Feed Lever and release the Feed Gear retainer hook to slide the Feed Gear off the shaft.



8. Release the Feed Solenoid harness from the cable restraints on the frame.
9. Disconnect P/J231. Allow the relay connector to remain with the printer side of the harness.
10. Remove the screw (silver, tap, 8mm) that secures the Feed Solenoid to the chassis to remove the solenoid.



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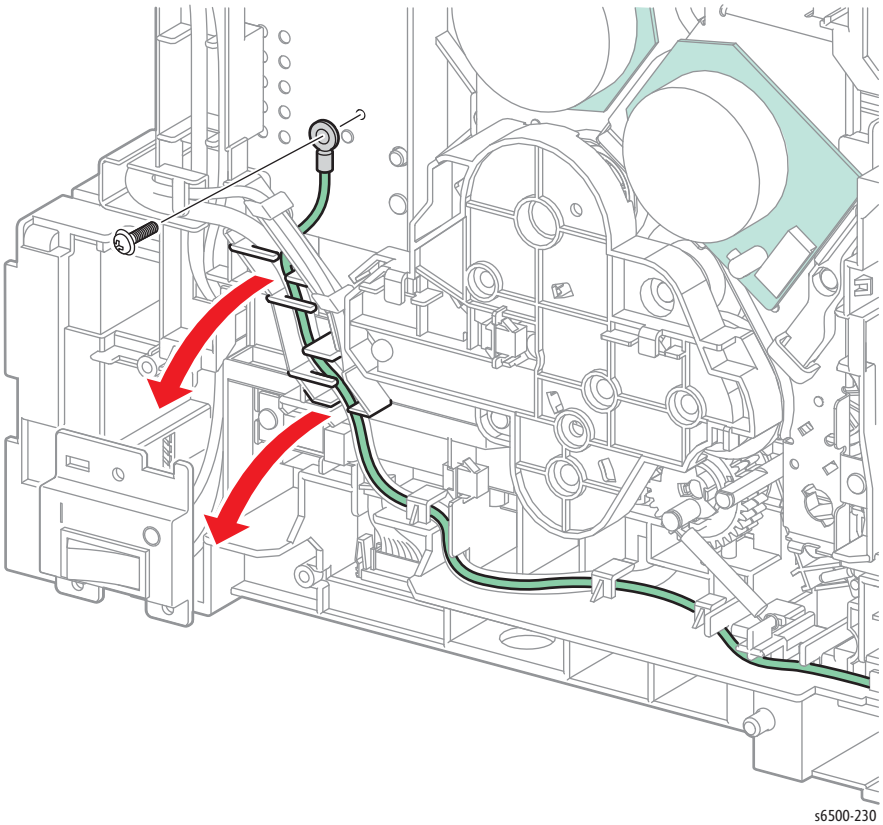
SFP Upper Frame Assembly

While this procedure is not directly related to a specific part, upper frame removal is necessary for servicing the HVPS or components of the Feeder Assembly. As few parts as possible are removed to separate the assemblies.

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Top Cover (page 8-15).
4. Remove the Right Side Cover (page 8-17).
5. Remove the Left Side Cover (page 8-18).
6. Remove the Rear Tray Cover (page 8-19).
7. Remove the Rear Cover (page 8-20).
8. Raise the Transfer Belt and latch in the upright position.
9. Remove the Drive Clutch and Bearing Kit (page 8-48).
10. Remove the Fan (page 8-119).
11. Remove the IP Board Cage (page 8-140).
12. Remove the Transfer Belt (page 8-112).
13. Remove the screw (silver, 6mm) that secures the Front Cover ground harness to the printer. Do not remove the wire from the guides.



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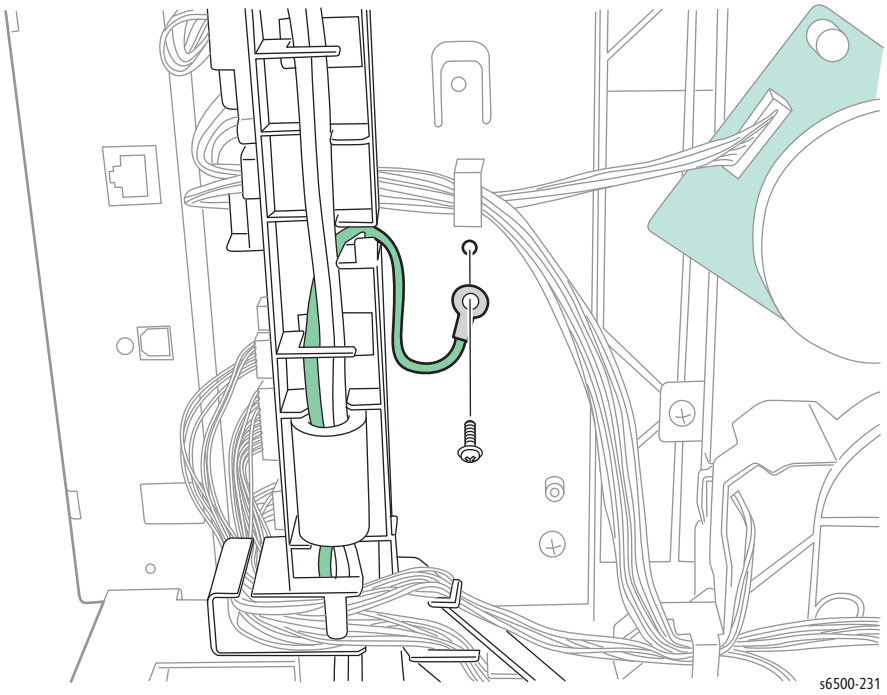
14. Remove the screw (silver, with washer, 6mm) that secures the earth ground harness to the chassis.



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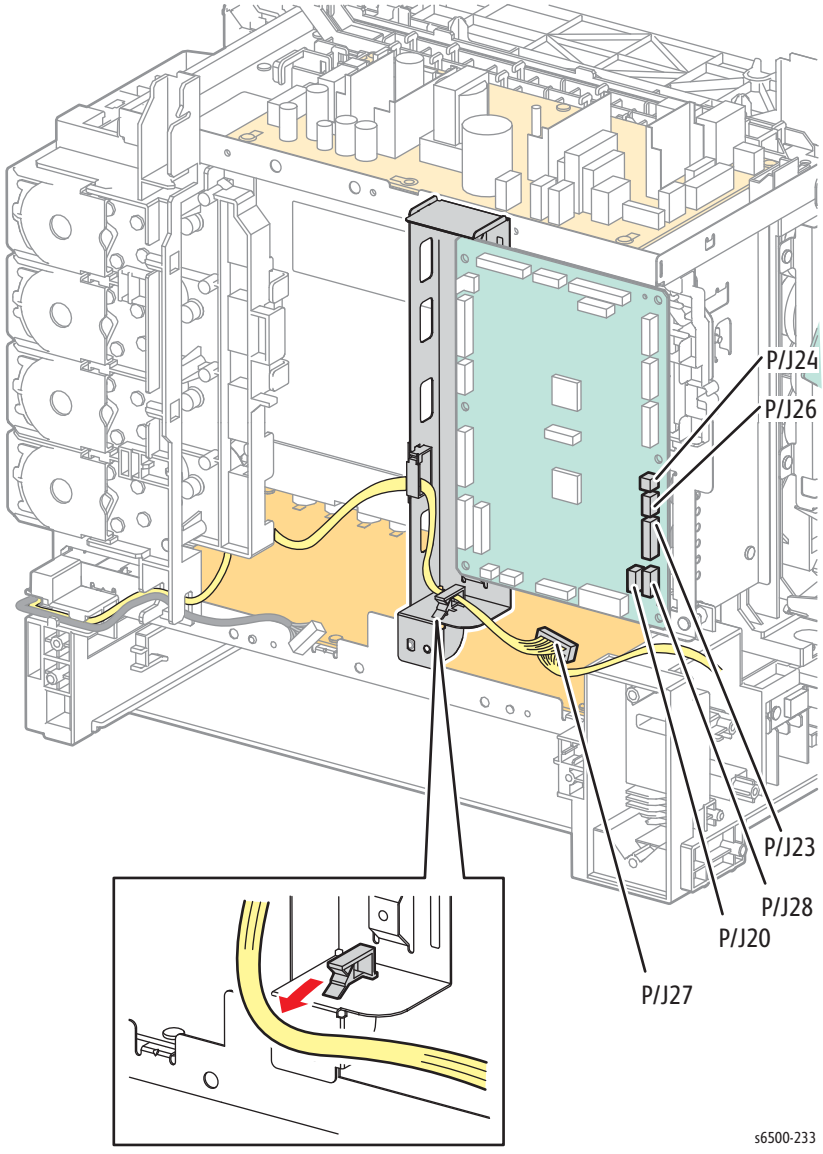
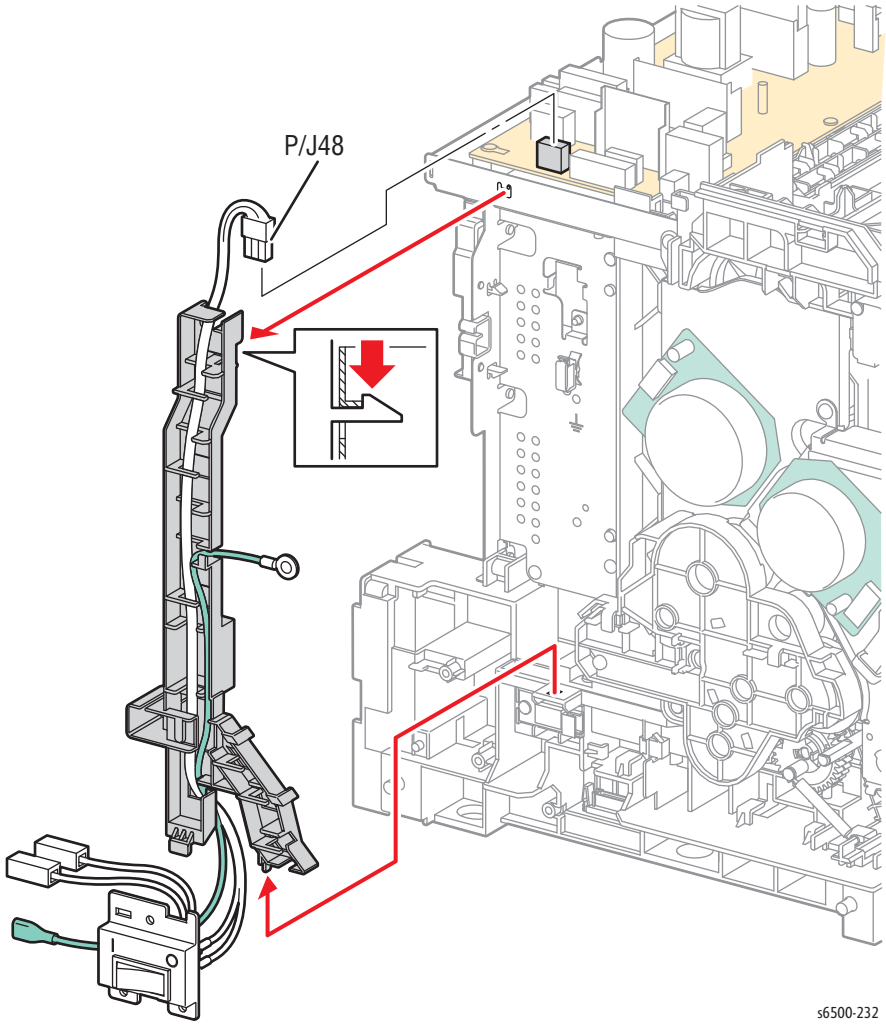
15. Disconnect P/J27 from the MCU Board.
16. Release the Duplexer part of the option harness from the clamp and the edge saddle on the right MCU Bracket.
17. Release the option harness and the Control Panel harness B from the hooks of the Dispense Assembly.



18. Disconnect P/J20, P/J23, and P/J28 from the MCU Board, but do not release the wires from the AC Harness Guide.
19. Disconnect P/J24 and P/J26 from the MCU Board, and release the wires from the hooks and the harness guide channels.
20. Disconnect P/J16 from the bottom of the MCU Board.

21. Disconnect the Power Switch Harness from the LVPS (P/J48), then release the hook that secures the AC harness guide to the chassis; allow the guide to lay to the side.



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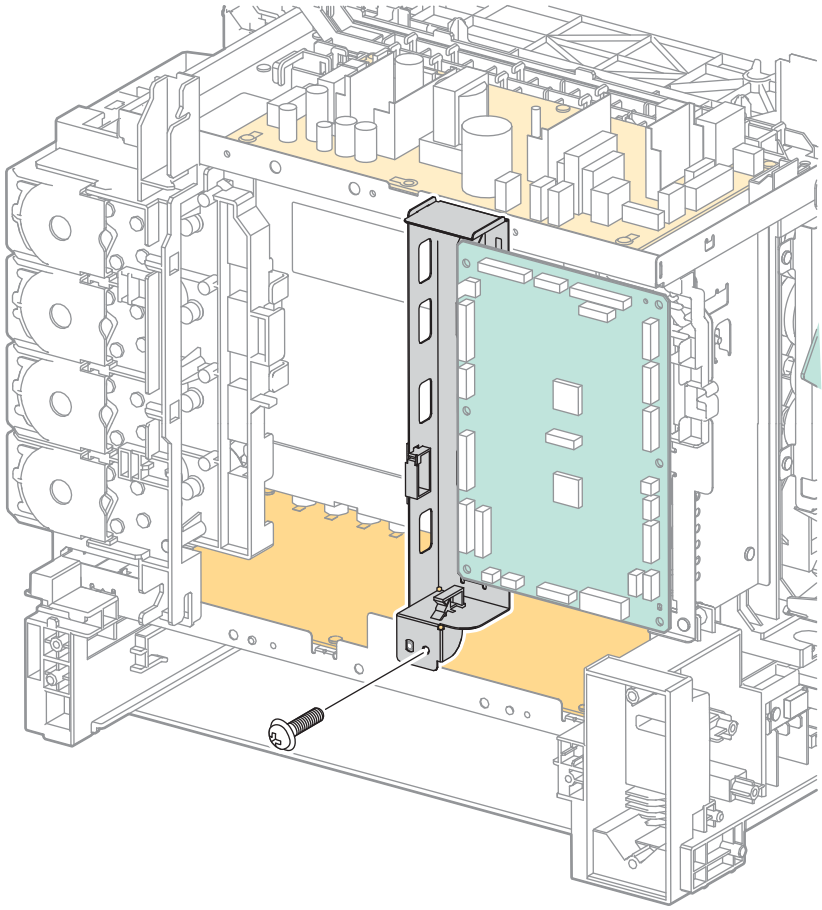
22. Remove the lower screw (silver, 6mm) that secures the Right MCU Board bracket to the chassis.



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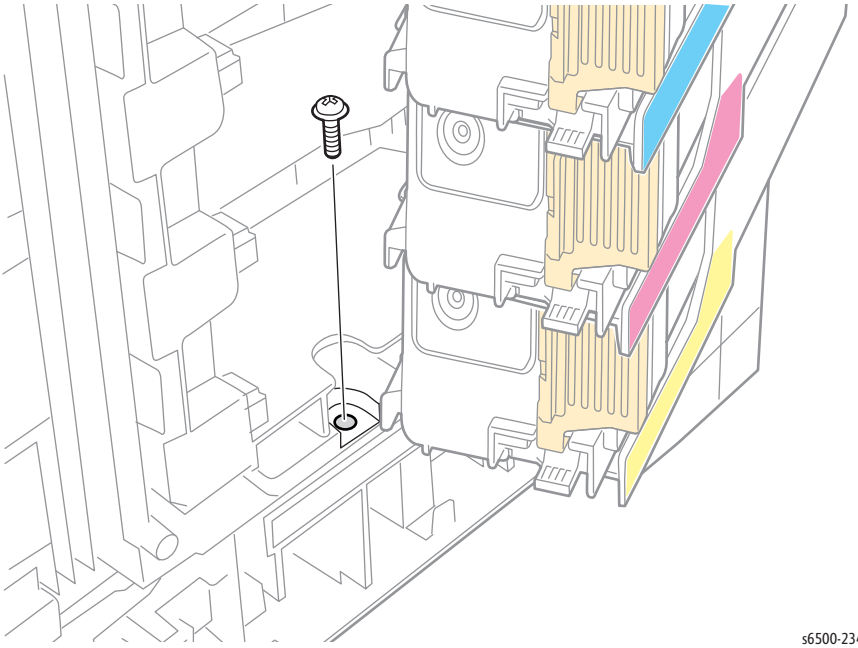
23. Open the Toner Cartridge Holders and Remove the screw (silver, tap, 8mm).



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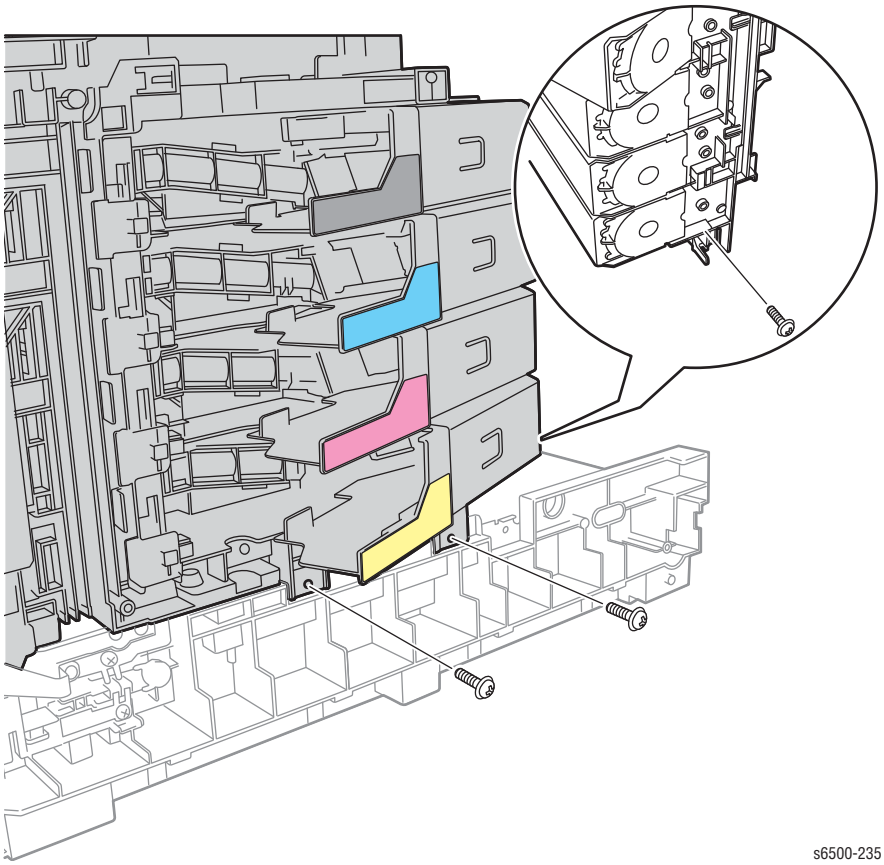
24. Remove two screws (silver, tap, 8mm) that secure the bottom and one screw (silver, M4, 6mm) that secures the rear of the Dispense Assembly.



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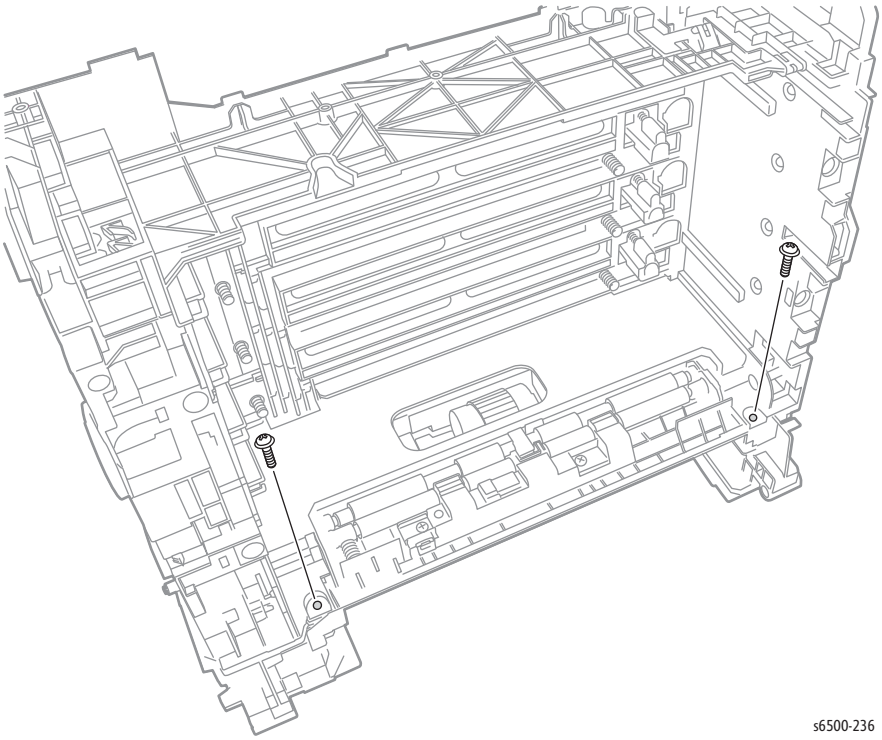
25. Remove two screws (silver, tap, 8mm) that secure the front of the frame.



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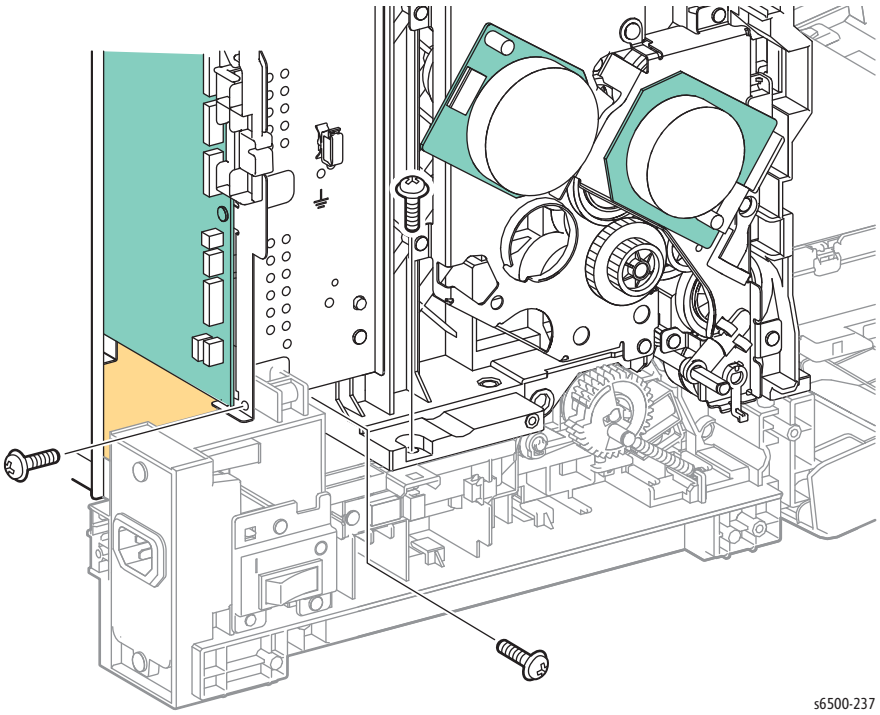
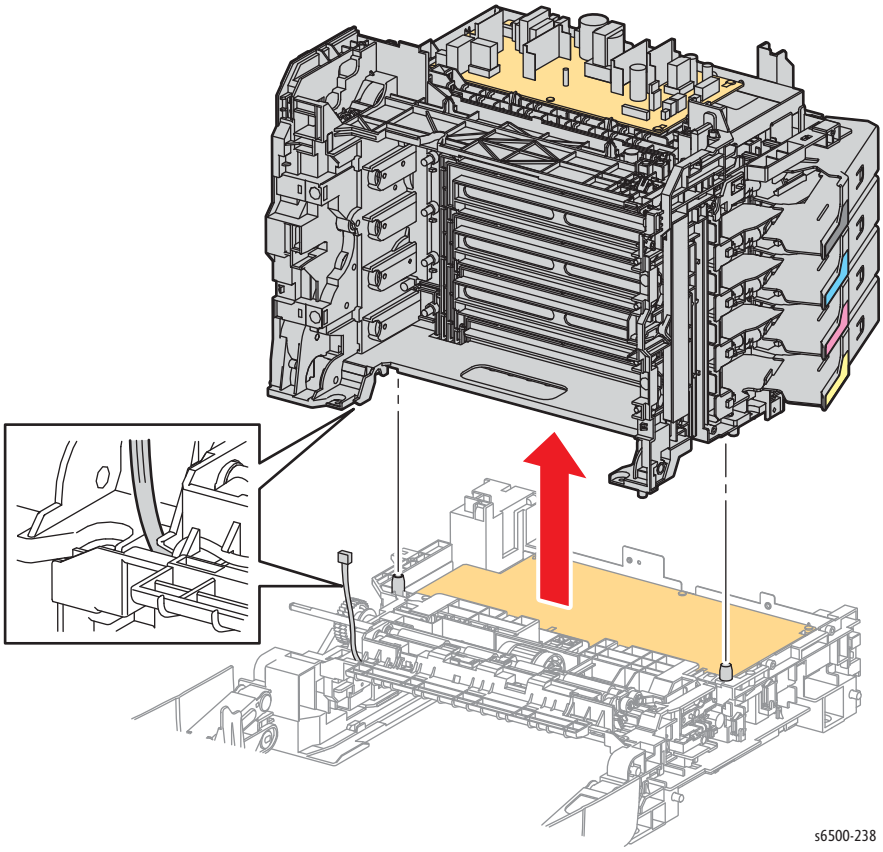
26. Remove three screws (silver, tap, 8mm) that secure the left side of the upper frame.



Note

Do not damage the springs located on the bottom of the upper frame.

27. Lift the upper frame from the chassis.



Replacement Note

Removal of the Laser Unit from the upper frame simplifies the task of lacing the harnesses around the Dispense Assembly. Route the Transfer Belt harness through the groove in the upper frame.

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MFP Chassis

MFP Top Plate Assembly

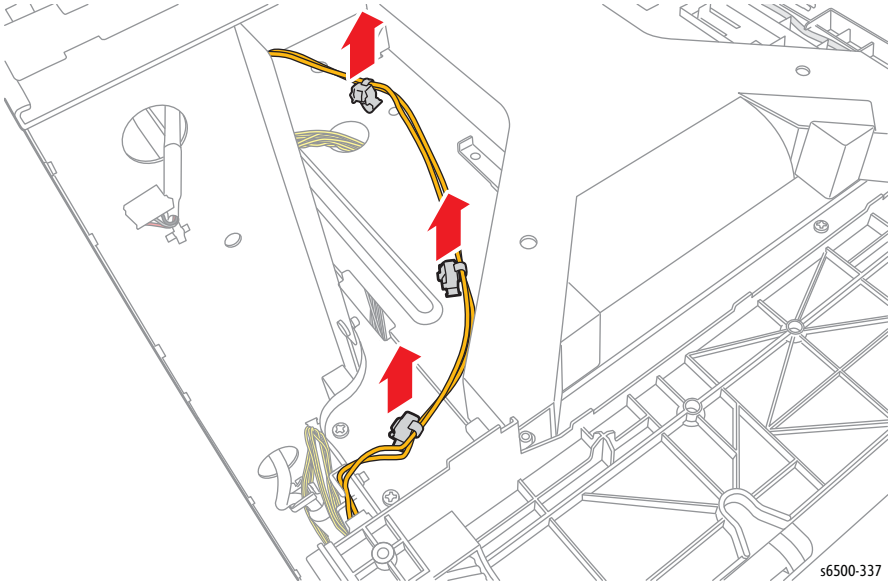
MFP PL 8.2.2 (Plate Assy Top)

1. Perform the service preparation steps on page 8-3.

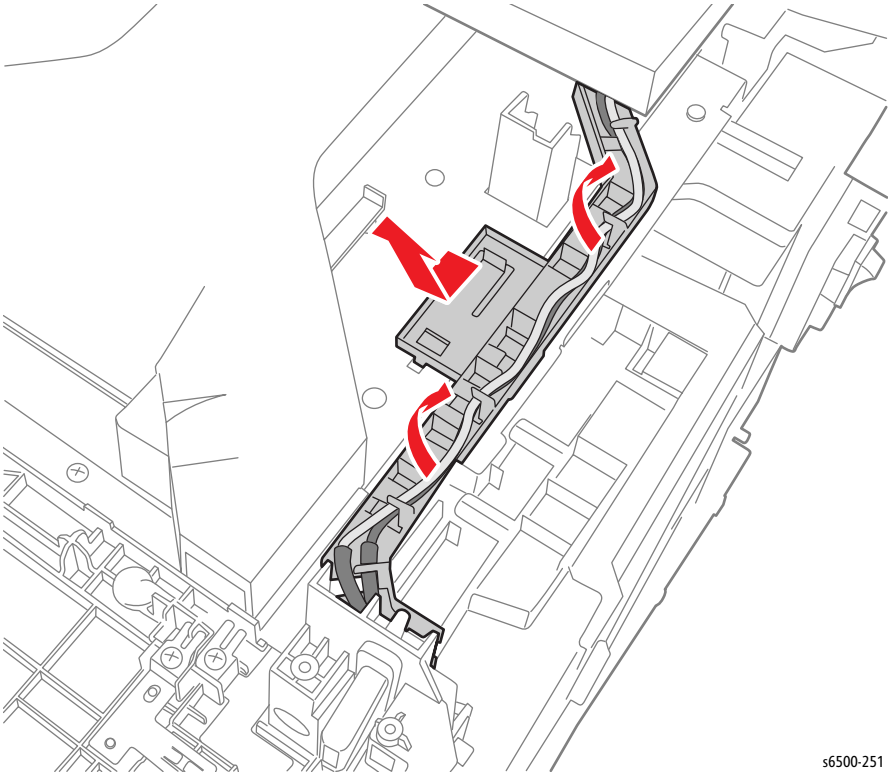
Note

Removal of the IIT Sub-assembly is not necessary if you have a “stubby” screwdriver for removing the screws from the Top Plate in step 10.

2. Remove the IIT Sub-assembly. (page 8-195)
3. Remove the MFP Rear Cover (page 8-43).
4. Remove the MFP Top Cover (page 8-45).
5. Remove the MFP LVPS Card Cage (page 8-64).
6. Release 3 harness clamps that secure the Interlock harness to the Top Plate Assembly.



7. Release the Fuser Harness Assembly (PL6.1.2) from the MFP Fuser Harness Guide (PL8.2.1).
8. Release the boss of the MFP Fuser Harness Guide, then slide the MFP Fuser Harness Guide forward and lift to remove it from the printer.



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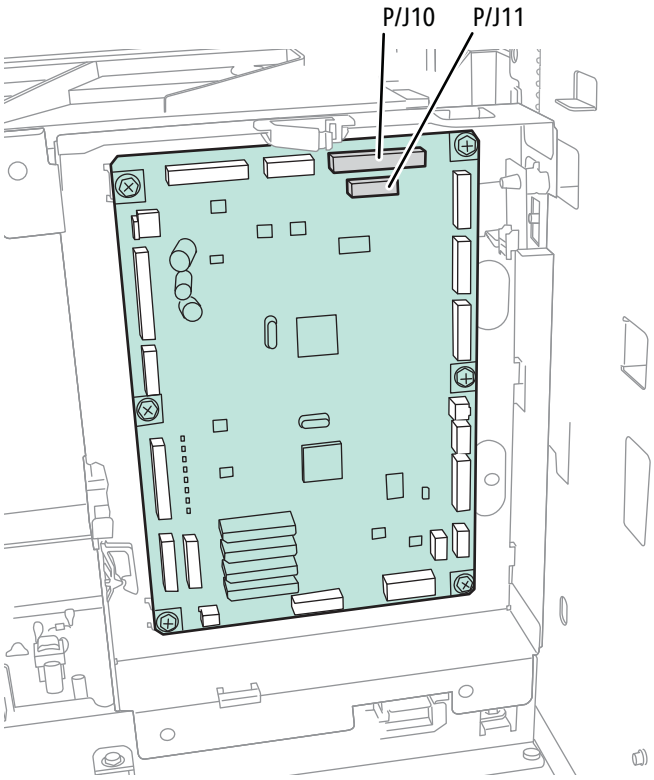
9. Disconnect P/J10 and P/J11 on the MCU Board, then pull the connectors through the hole in the Top Plate Assembly.



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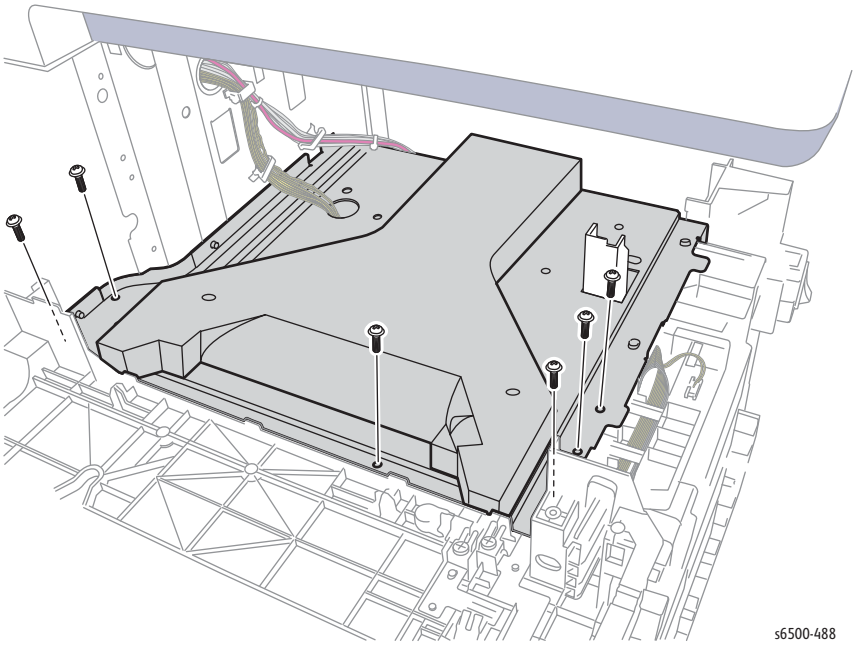
10. Remove six screws (silver, tap, 8mm) on the upper side of the Top Plate Assembly.



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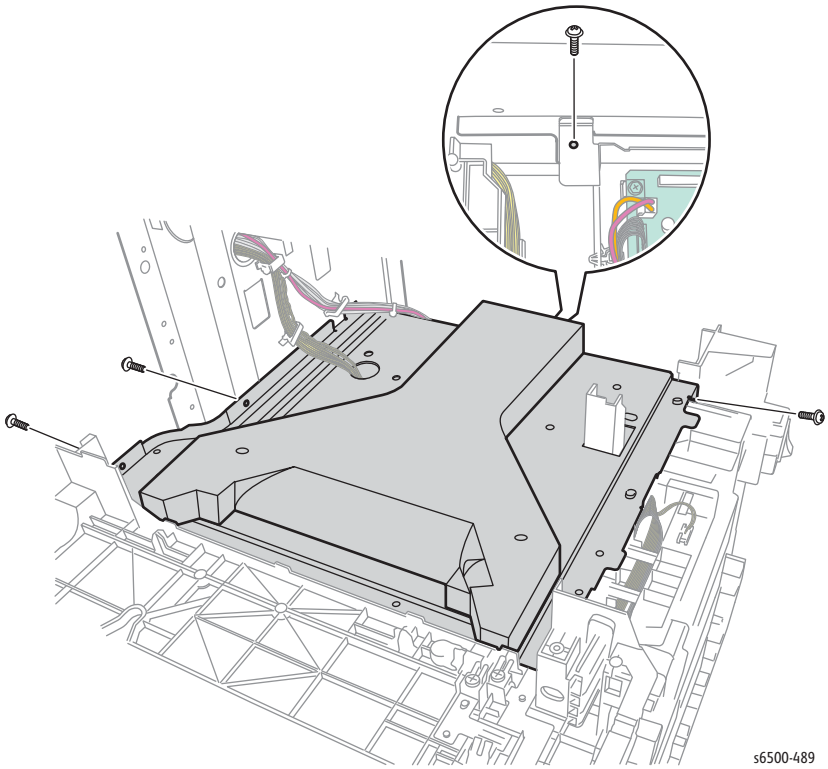
11. Remove the screw (silver, tap, 8mm) that secures the right edge of the Top Plate Assembly at the back.
12. Remove two screws (silver, M4, 6mm) that secure the left edge of the Top Plate Assembly at the front.
13. Remove the screw (silver, M4, 6mm) that secures the Top Plate Assembly near the MCU Board and remove the Top Plate Assembly.



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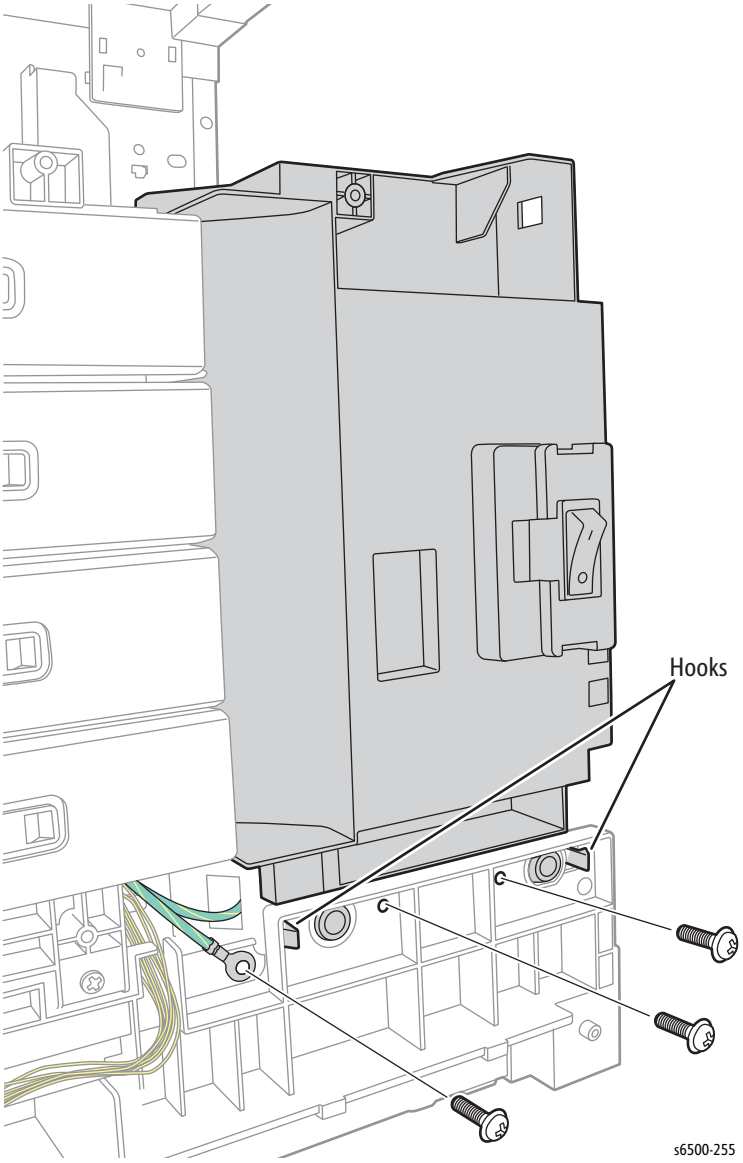
MFP Inlet Chassis

MFP PL 8.4.11 (Chassis Inlet)

1. Perform the service preparation steps on page 8-3.
2. Remove the IIT Sub-assembly. (page 8-195)
3. Remove the Top Plate Assembly (page 8-59).
4. Remove two screws (silver, tap, 8mm) that secure the Inlet Chassis to the printer, and remove the one screw (silver, with washer, 6mm) that attaches the grounding terminal of the Inlet Switch Assy (PL8.3.7) to the printer.
5. Release the 2 hooks that secure the Inlet Chassis to the frame, and remove the Inlet Chassis together with the Inlet Switch Assembly.

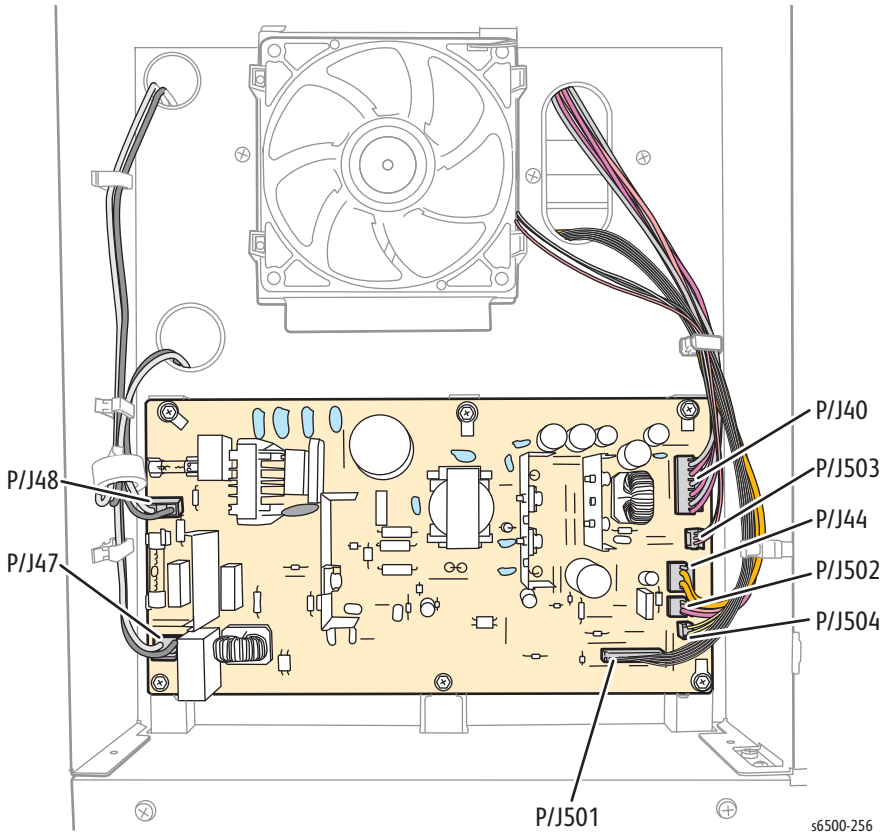


MFP LVPS Card Cage

MFP PL8.2.13 (Chassis LVPS)

This procedure removes the entire LVPS enclosure including the Fan. Although it is not associated with any one part, it is a prerequisite for other procedures.

1. Perform the service preparation steps on page 8-3.
2. Open the MFP Front Cover.
3. Remove the MFP Left Side Cover (page 8-37).
4. Remove the MFP IP Board Cover (page 8-38)
5. Remove the Outer Pole Cover (page 8-39).
6. Remove the MFP Right Side Cover (page 8-40).
7. Remove Inner Pole Cover (page 8-44)
8. Remove the MFP Rear Cover (page 8-43).
9. Remove the MFP Top Cover (page 8-45).
10. Disconnect all connectors on the LVPS and release the harnesses from the two clamps on the card cage.



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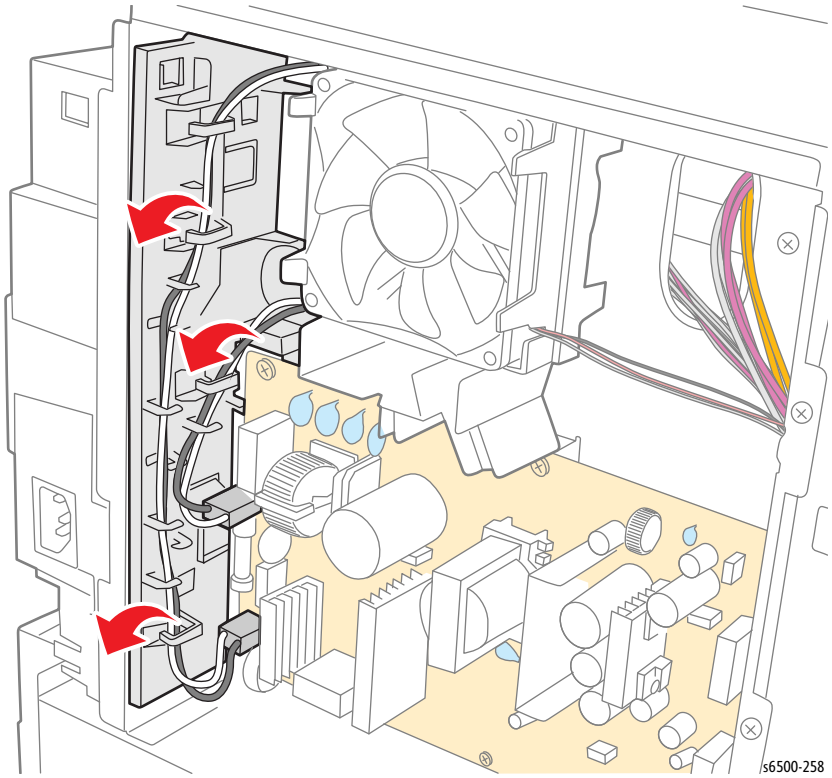
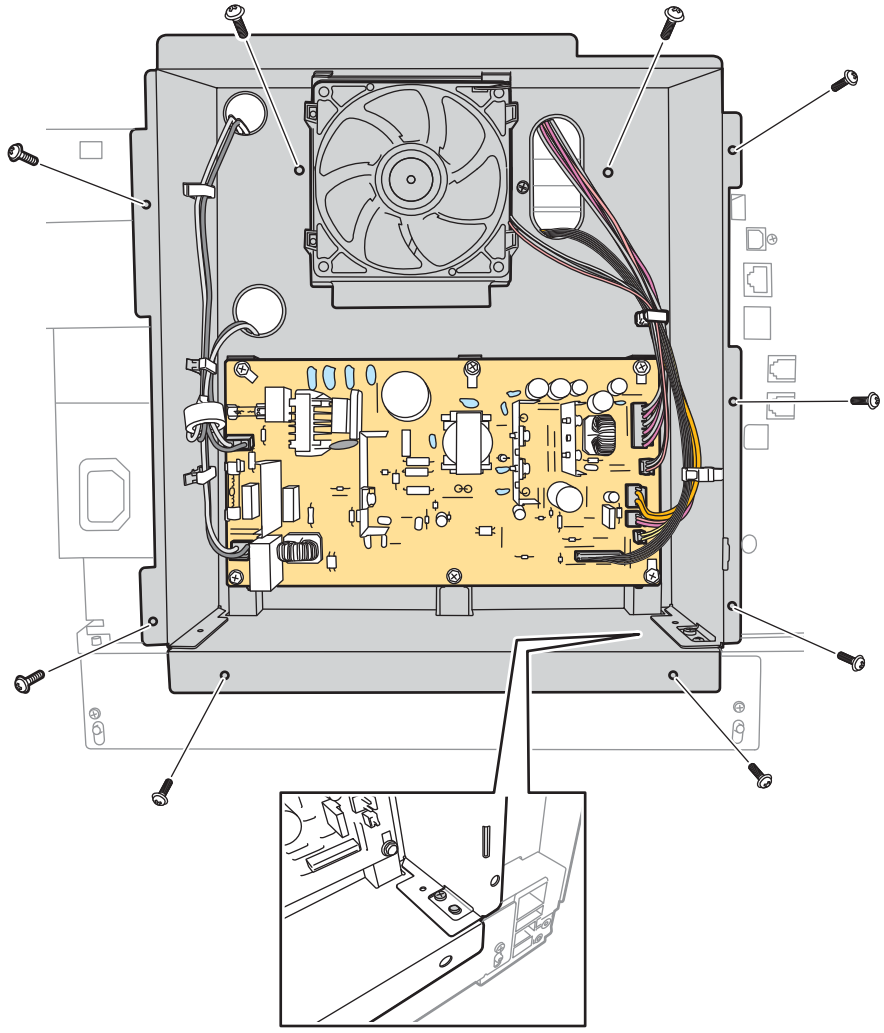
11. Release the Fuser and AC Switch harnesses from the LVPS Harness Guide.



12. Remove the seven screws (silver, M4, 6mm) and the 2 screws (silver, tap, 8mm) that secure the LVPS card cage to the chassis



s6500-257

13. Lift the card cage slightly and pull it from the chassis while feeding the cables through the holes provided.

Replacement Note

Lift the card cage over the screw located at the lower right corner of the chassis.

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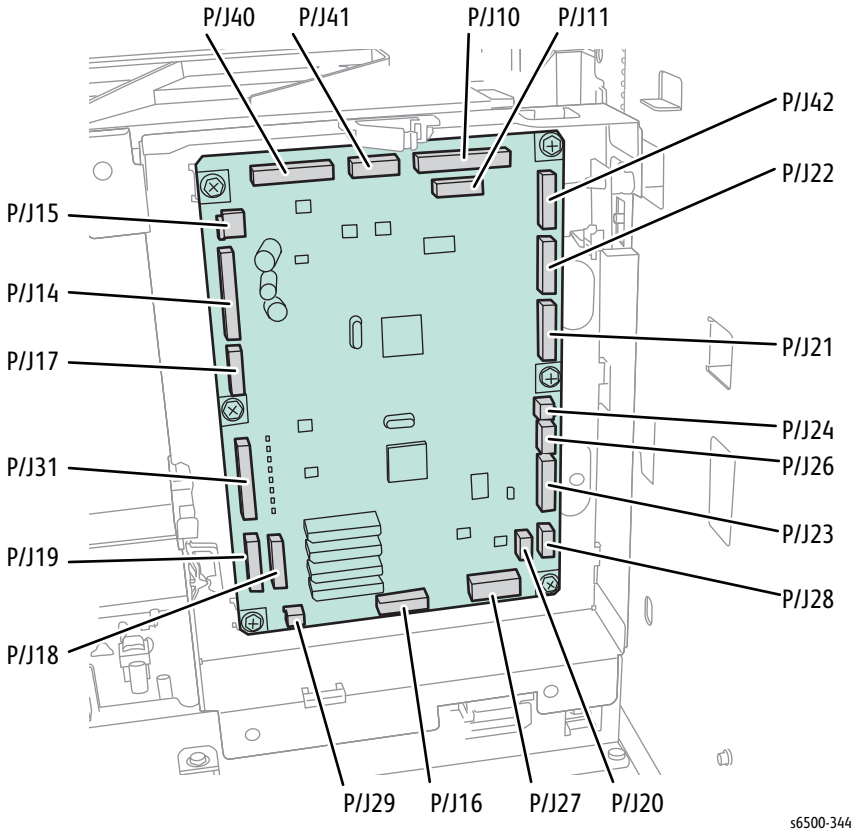
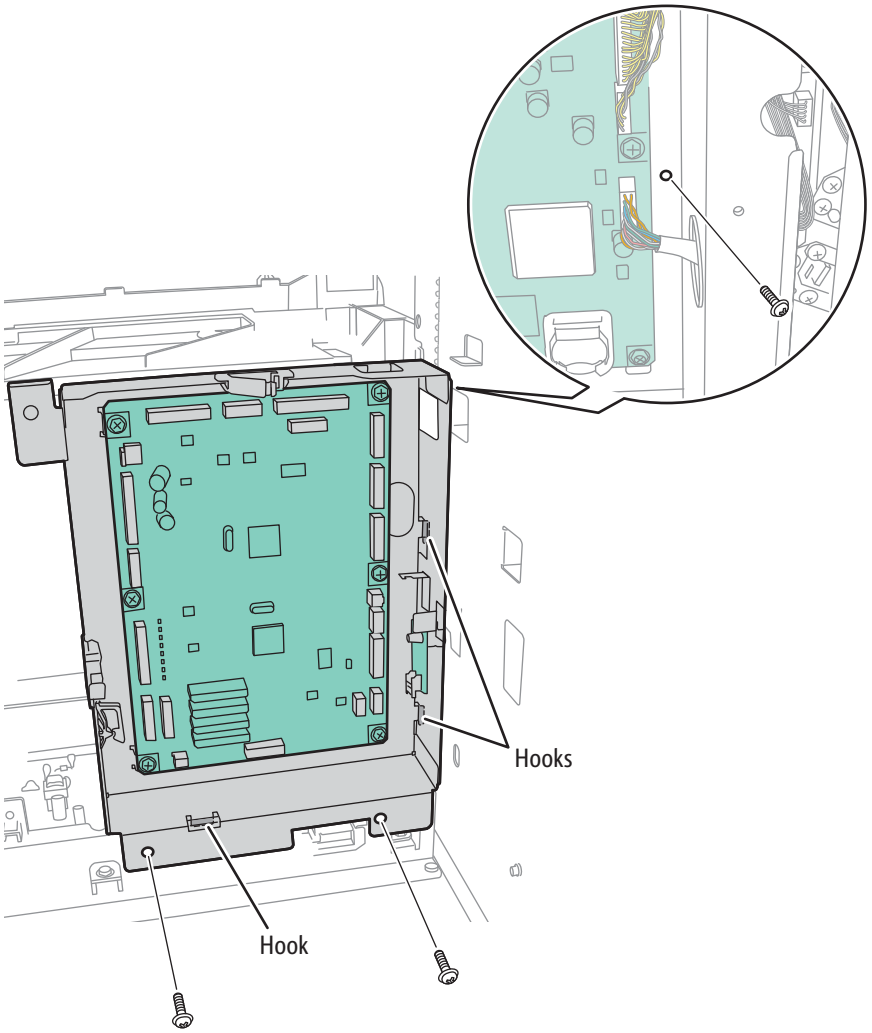
MFP Upper Frame Assembly

While this major procedure is not connected to a specific part or parts list, it is a necessary pre-requisite for removing the HVPS or components of the Feeder Assembly. As few parts as possible are removed from the upper assembly that will allow the assemblies to separate.

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the MFP Left Side Cover (page 8-37).
4. Remove the Outer Pole Cover (page 8-39).
5. Remove the MFP Right Side Cover (page 8-40).
6. Remove Inner Pole Cover (page 8-44)
7. Remove the MFP Rear Cover (page 8-43).
8. Remove the MFP Top Cover (page 8-45).
9. Remove the Lower Scanner Cover (page 8-46).
10. Remove the LVPS Card Cage (page 8-64).
11. Remove the IIT Sub-assembly. (page 8-195)
12. Remove the Top Plate Assembly (page 8-59).
13. Remove the Inlet Chassis (page 8-63).
14. Remove the Drive Clutch and Bearing Kit (page 8-48).
15. Remove the Feed Drive Assy. (page 8-117)
16. Remove the Transfer Belt (page 8-112).
17. Unplug all connections to the MCU and EEPROM boards, then release the harnesses from the clamps and guides on the MCU chassis.



18. Remove the 3 screws that attach the MCU chassis to the frame.



19. Lift the MCU chassis to release the 3 hooks, and remove the MCU chassis containing the MCU and EEPROM Boards.

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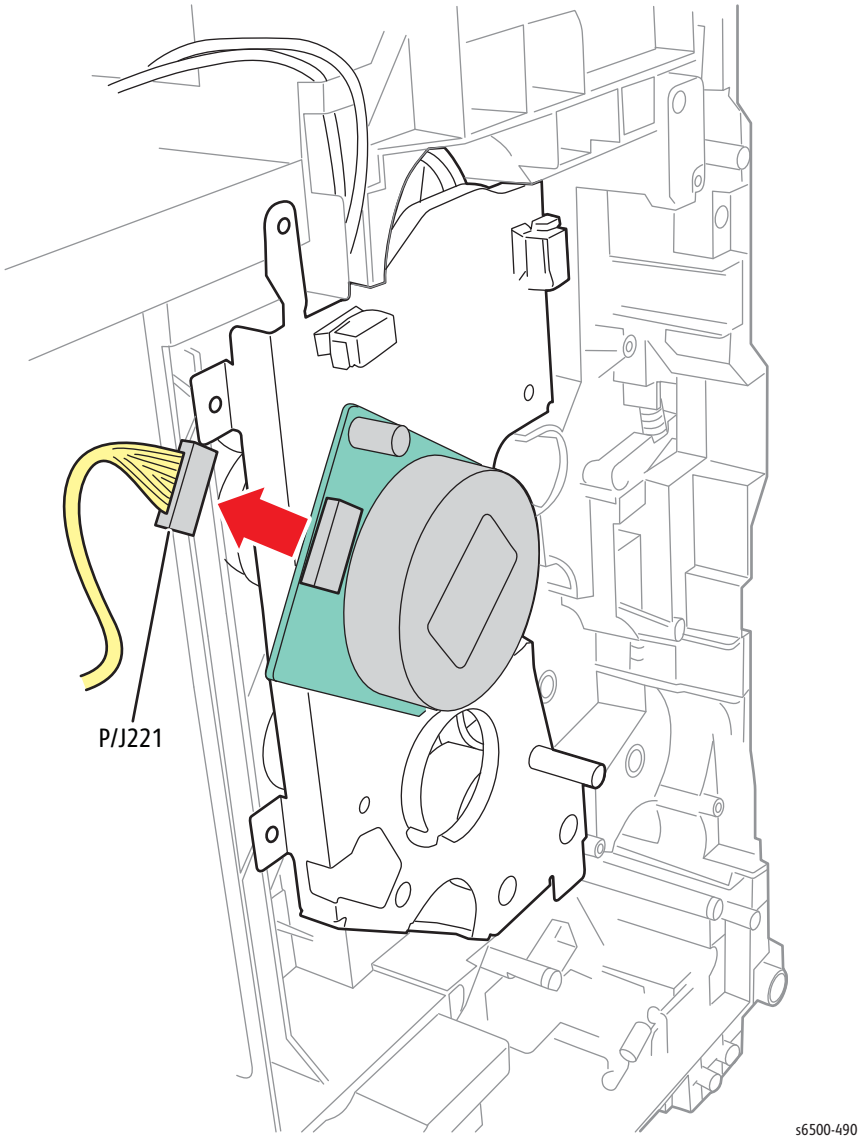
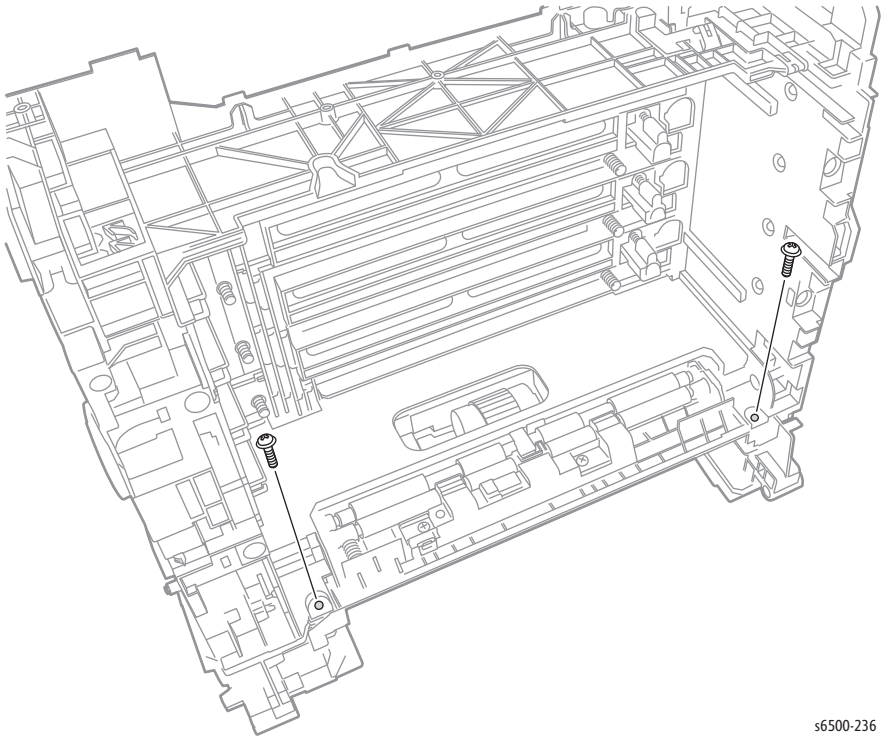
20. Disconnect P/J221 from the Sub-Drive Assembly.

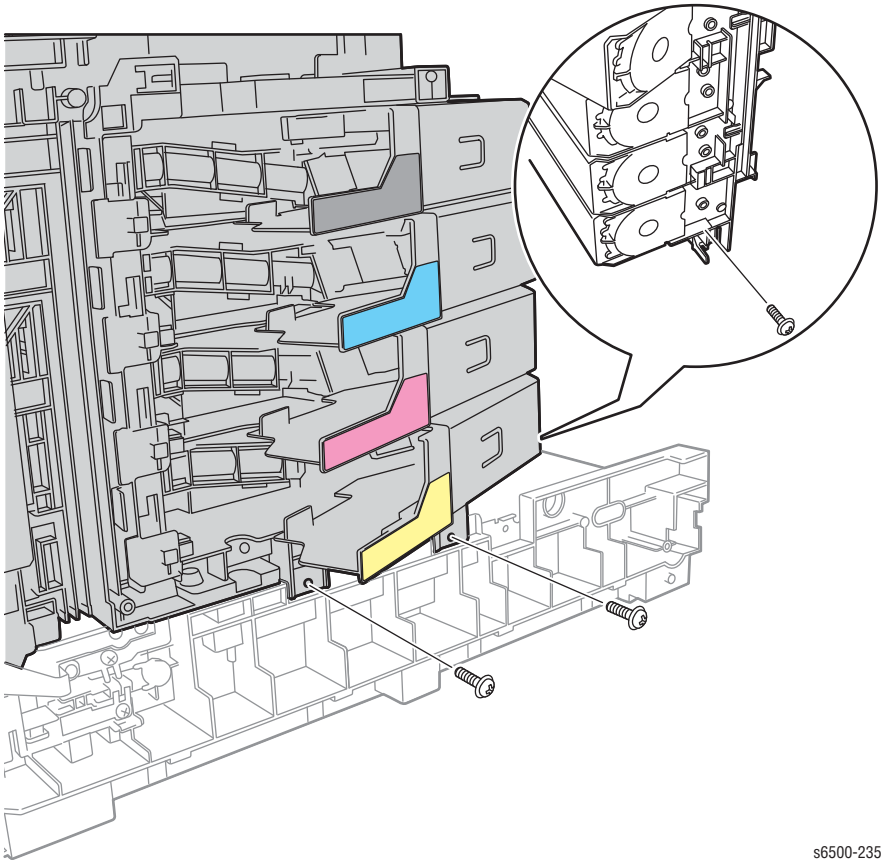


21. Remove two screws (silver, tap, 8mm) that secure the front of the frame.



s6500-236

22. Remove two screws (silver, tap, 8mm) that secure the bottom and 1 screw (silver, M4, 6mm) that secures the rear of the Dispense Assembly.



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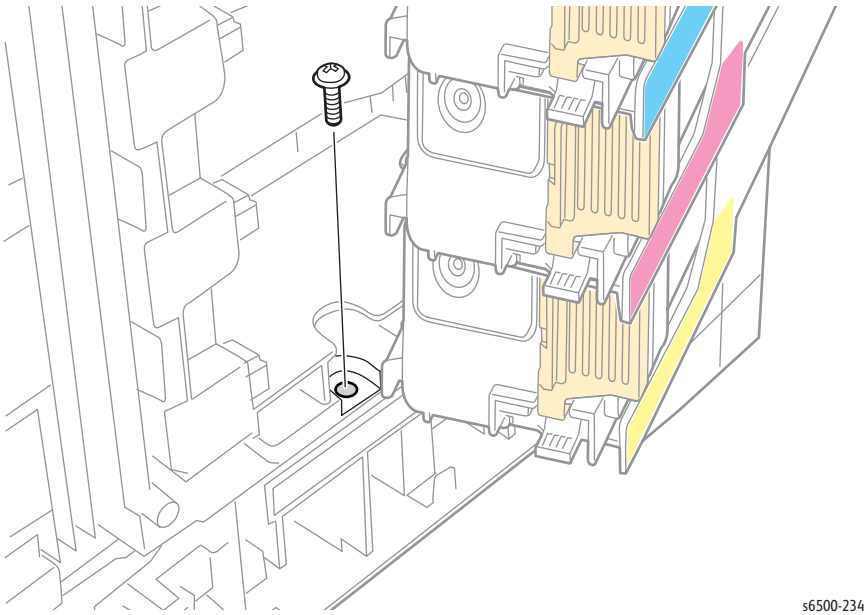
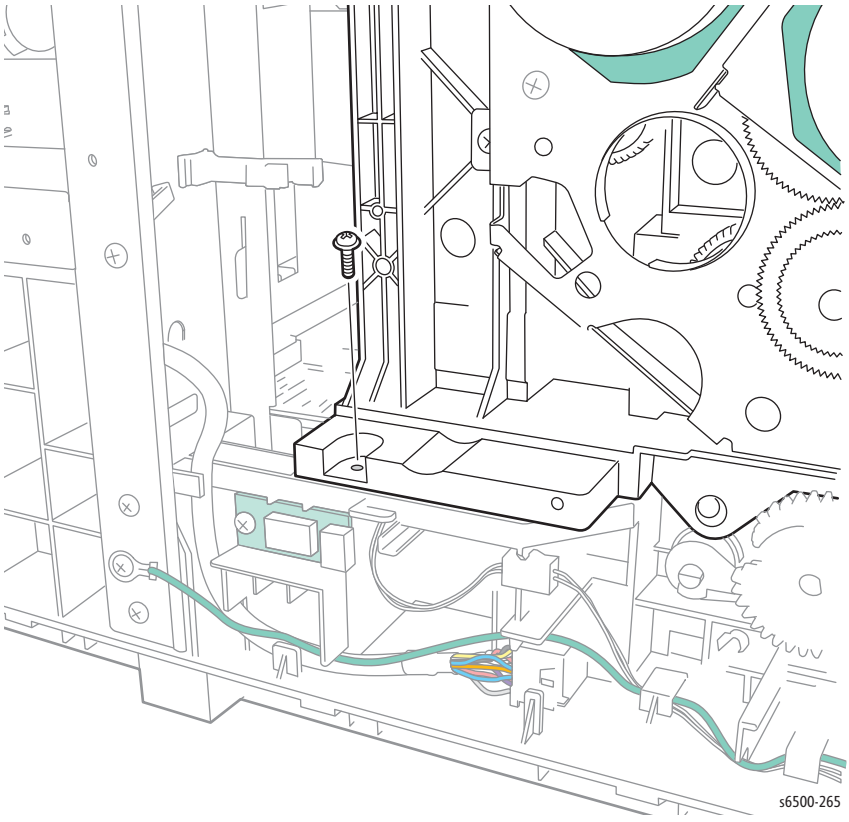
23. Open the Toner Cartridge Holders and remove the screw (silver, tap, 8mm) that secures the right side of the frame.



24. Remove the screw (silver, tap, 8mm) that secures the left side of the upper frame.



25. Lift the upper frame from the chassis.

Replacement Note

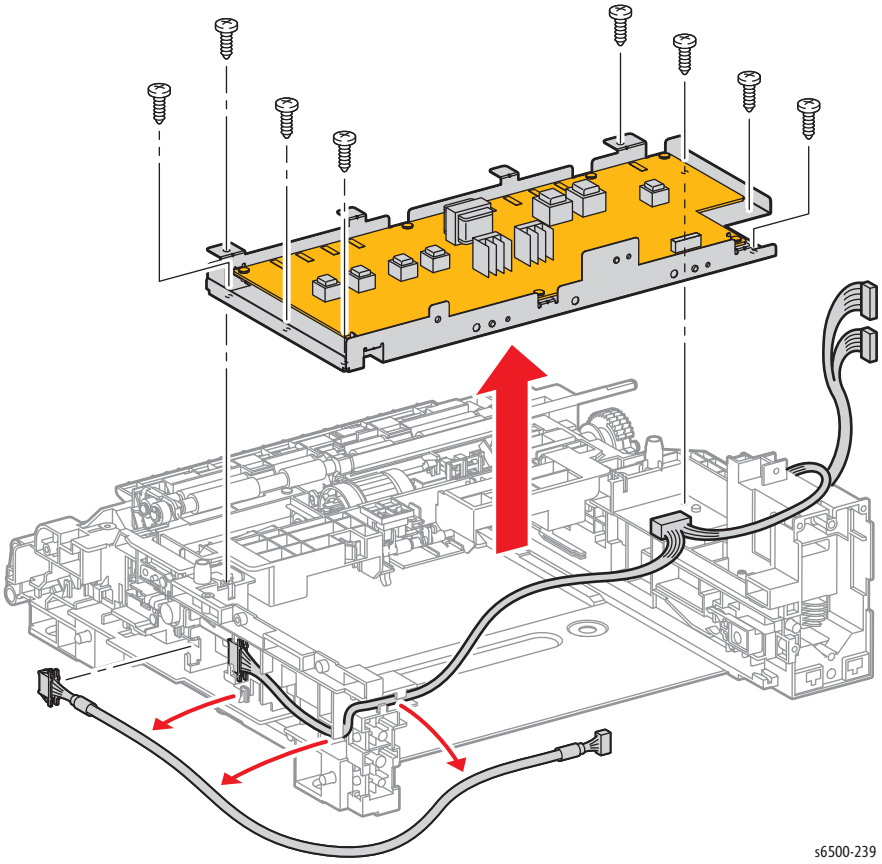
To simplify the task of lacing the harnesses around the Dispense Assembly during reassembly, remove the Laser Unit from the Upper Frame Assembly (page 8-92).

Paper Feeder

SFP Feeder Assembly

PL3.1.98 (SFP Feeder Assy)

1. Remove the Upper Frame Assembly (page 8-51).
2. Remove the Front Cover (page 8-22).
3. Release the Control Panel Harness B from the guides in the Feeder Assembly.
4. Remove the HVPS Frame (page 8-137).



Replacement Note

Align 4 holes in the HVPS Frame with 4 bosses on the Feeder Assembly before replacing the HVPS and 8 screws.

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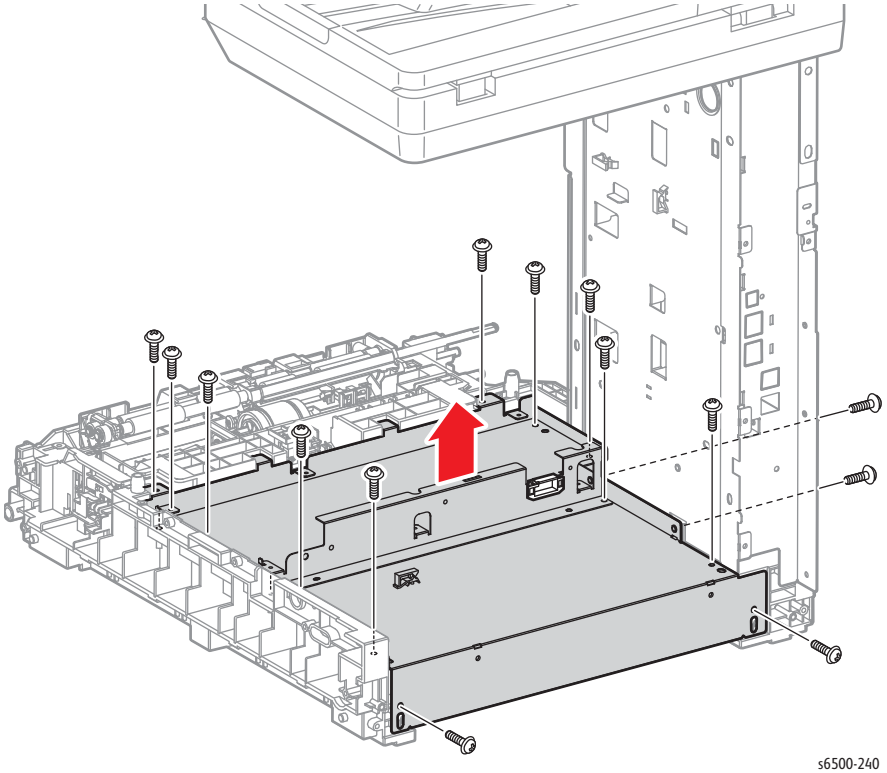
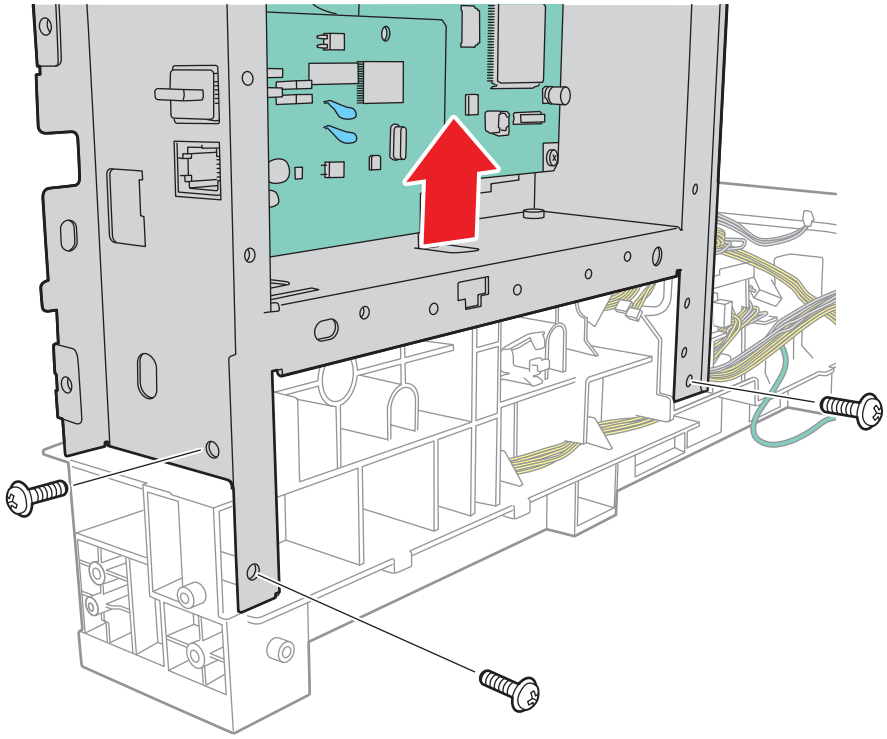
MFP Feeder Assembly

PL3.1.98 (MFP Feeder Assy)

1. Remove the MFP Upper Frame Assembly (page 8-67).
2. Remove the MFP HVPS (page 8-154).
3. Remove the 14 screws that secure the HVPS chassis to the Feeder Assembly.



4. Remove three screws that secure the scanner pole to the Feeder Assembly, then lift the pole from the Feeder Assembly.



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Note

When replacing the Feeder Assembly, transfer all components mounted on the old assembly to the new assembly.

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Registration Roller

PL3.2.9 (Roll Assy Regi)

Note

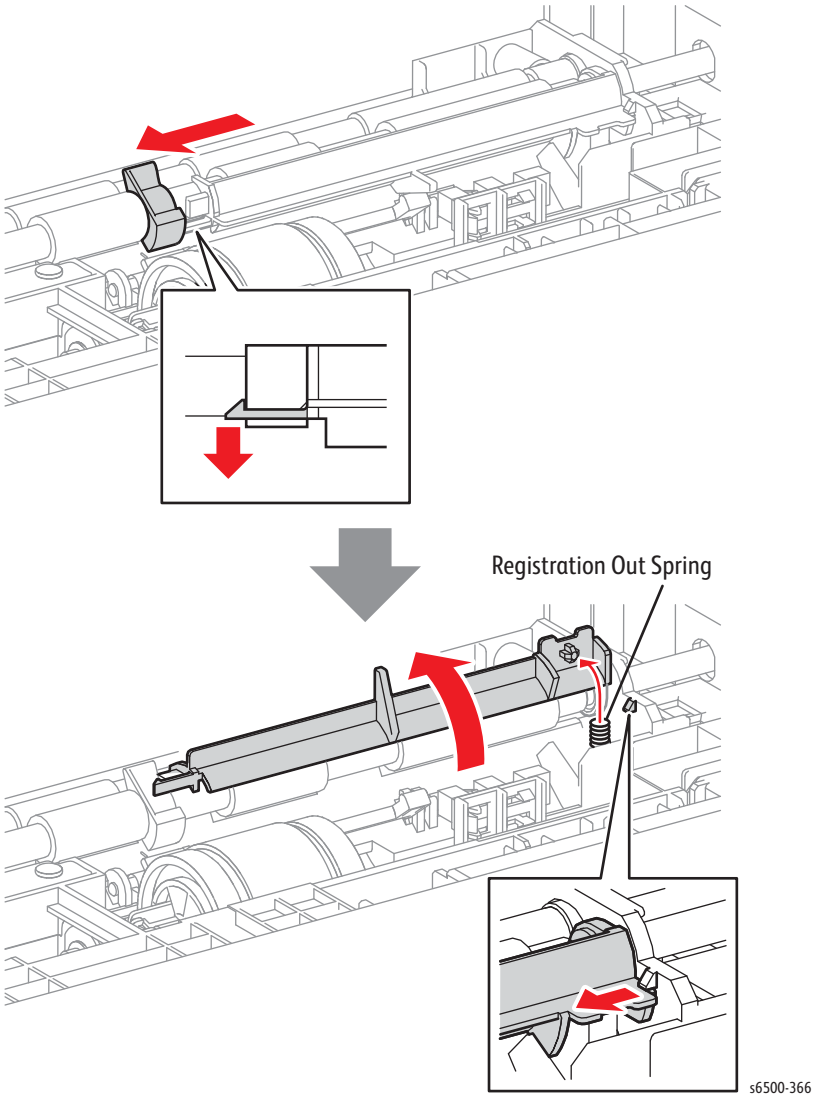
This procedure applies to both the SFP and MFP.

1. Remove the Upper Frame Assembly (SFP page 8-51; MFP page 8-67).

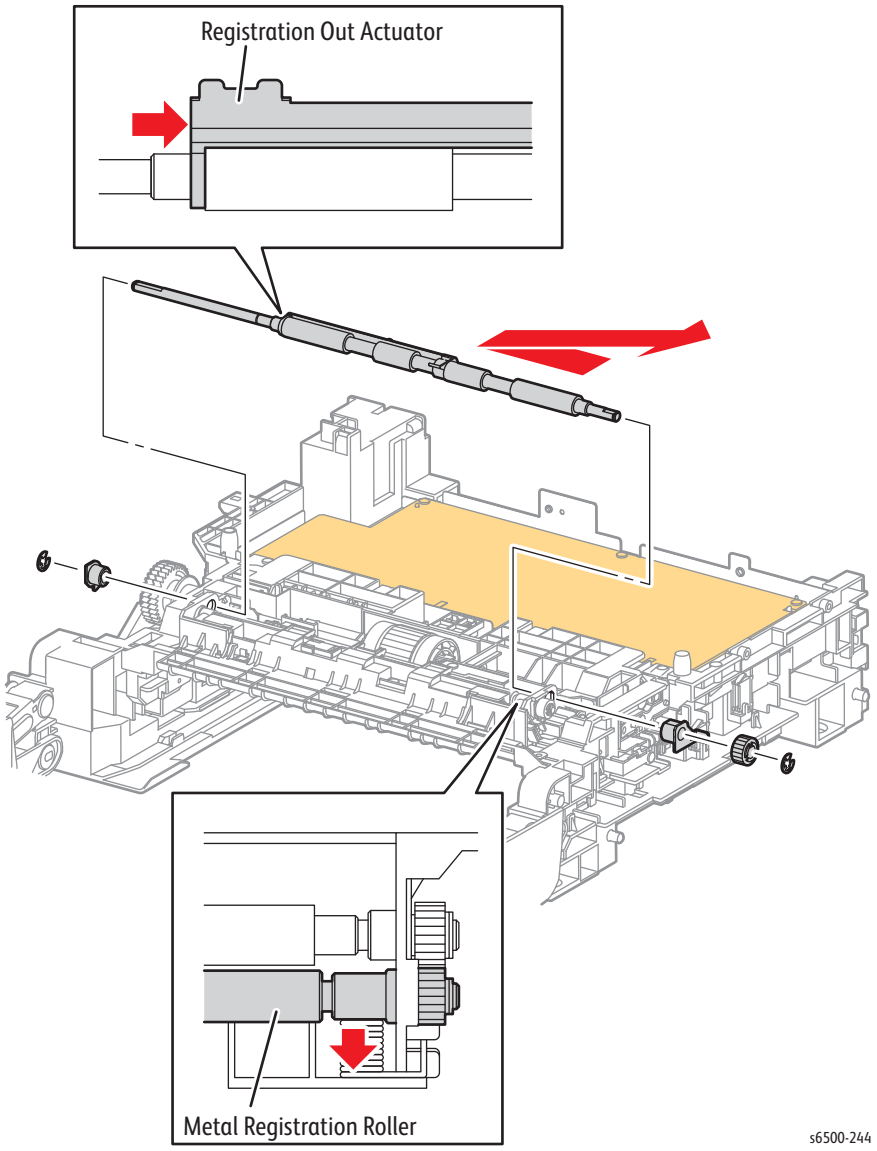
Note

The Registration Out Actuator is tensioned by a small spring located under the actuator.

2. Release the hook on the Registration Out Actuator that attaches it to the Registration Roller Actuator; shift the Registration Roller Actuator to the right.
3. Release the Registration Out Actuator from the hook on the Upper Feeder Chute, then rotate the Registration Out Actuator in the direction shown.



4. Remove the E-rings at both ends of the Registration Roller; use a miniature screwdriver.
5. Push the metal registration roller toward the front to take the pressure off the Registration Roller, and remove the Registration Gear and bearings from the shaft.
6. Shift the Registration Roller left to release the shaft from the Feeder Assembly, then to the right to remove Registration Roller (with actuators) from the Feeder Assembly.



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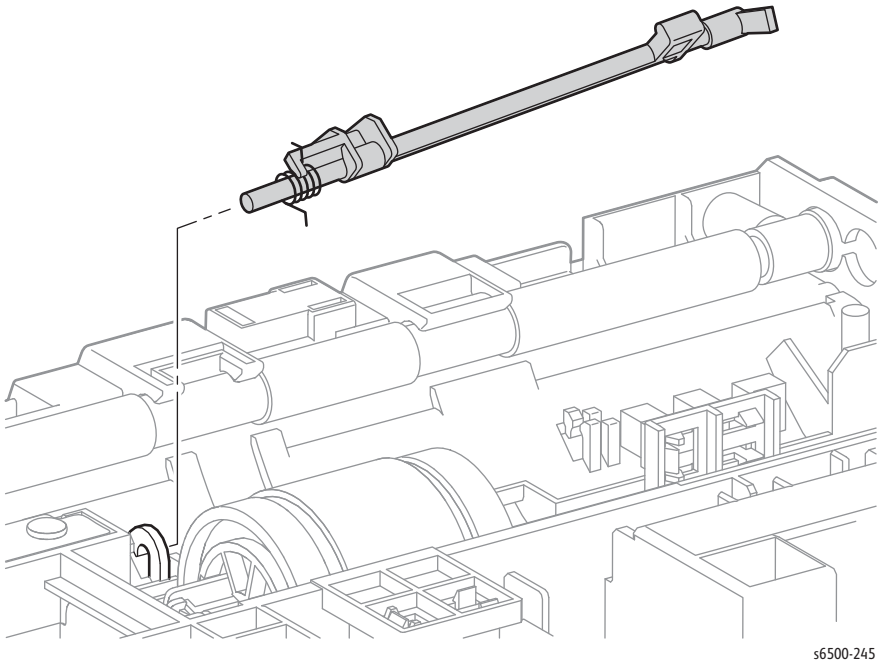
Registration Input Actuator

PL3.2.11 (Actuator Regi In)

Note

This procedure applies to both the SFP and MFP.

1. Remove the Upper Frame Assembly (SFP page 8-51; MFP page 8-67).
2. Remove the Registration Roller (page 8-75).
3. Release the left side of the Registration Input Actuator from the hook on the Upper Feeder Chute.



4. Remove the actuator and spring by removing the right end of the shaft from the hole of the Upper Feeder Chute.
5. Remove the spring from the Registration Input Actuator.

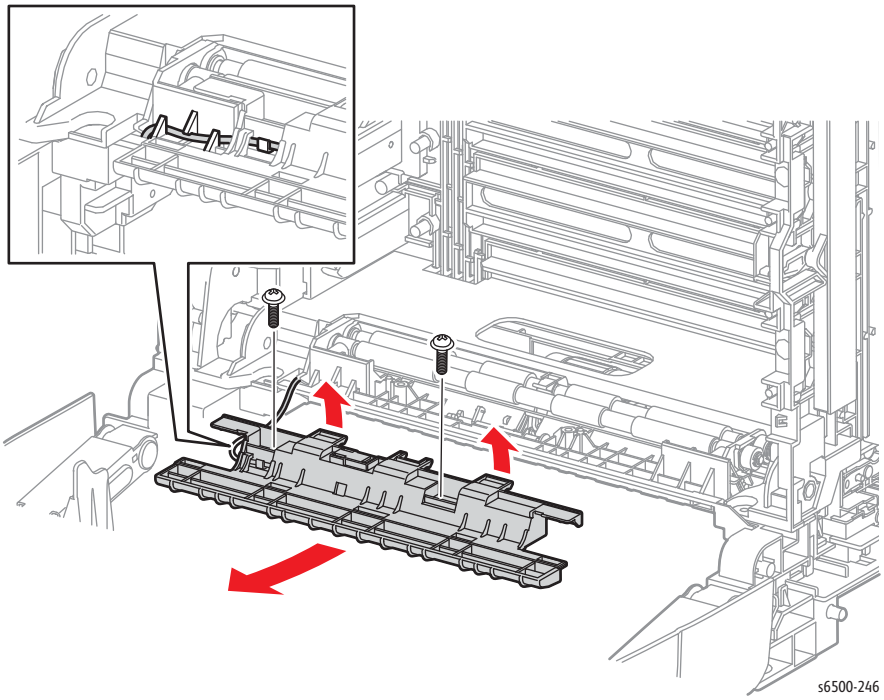
Replacement Note

Install the spring on the actuator before replacing the actuator in the feeder.

Manual Feed No Paper Sensor

PL3.2.13 (Sensor Photo)

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Lower the Transfer Belt.
4. Remove two screws (silver, tap, 8mm) that secure the bracket.
5. Lift the bracket to release 2 bosses that align the bracket in the chute.



6. Raise and latch the Transfer Belt and remove the bracket.
7. Release 3 hooks that secure the sensor to the bracket. Release the harness wires from the restraint on the bracket and set the bracket aside.
8. Unplug the sensor from the harness connector (P/J233).

Replacement Note

When installing a new sensor:

1. Plug the sensor into the harness connector.
2. Install the sensor into the bracket. Tip: insert the end hook first, then snap the side hooks in place.
3. Route the harness wires into the restraint in the bracket.
4. Set the bracket in place and secure it with the two screws.

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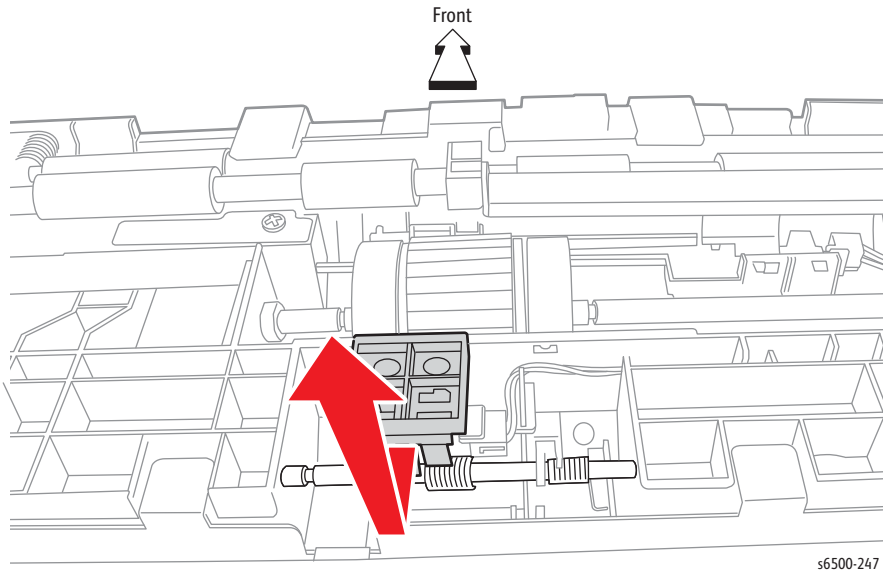
Tray 1 No Paper Sensor

PL3.2.13 (Sensor Photo)

1. Remove the Upper Frame Assembly (SFP page 8-51; MFP page 8-67).
2. Release the three hooks that secure the Tray No Paper Sensor to the Feeder.
3. Rotate the actuator flag out of the way and remove the sensor.



4. Disconnect P/J234 from the sensor.

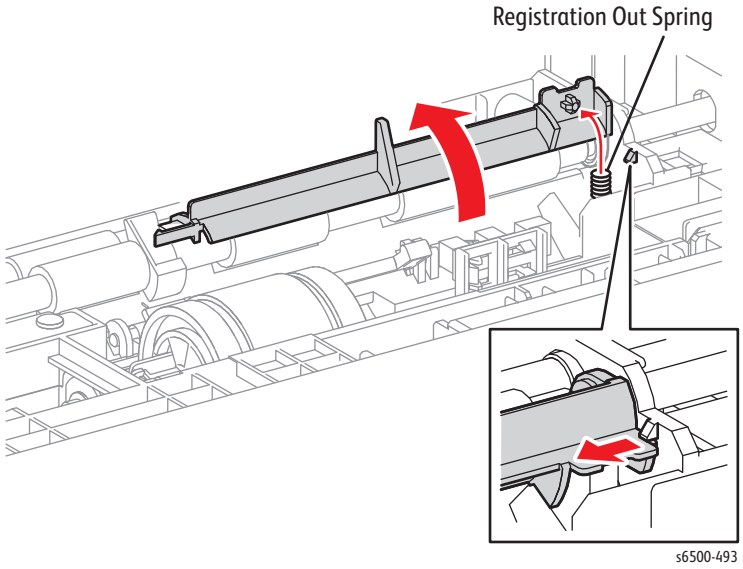
Registration Sensor

PL3.2.13 (Sensor Photo)

Caution

The Registration Out Actuator is spring-loaded by a small spring located under the actuator.

1. Remove the Upper Frame Assembly (SFP page 8-51; MFP page 8-67).
2. Release the hook on the Registration Out Actuator that attaches it to the Registration Roller Actuator; shift the Registration Roller Actuator to the right.
3. Release the Registration Out Actuator from the hook on the Upper Feeder Chute, then rotate the Registration Out Actuator up.



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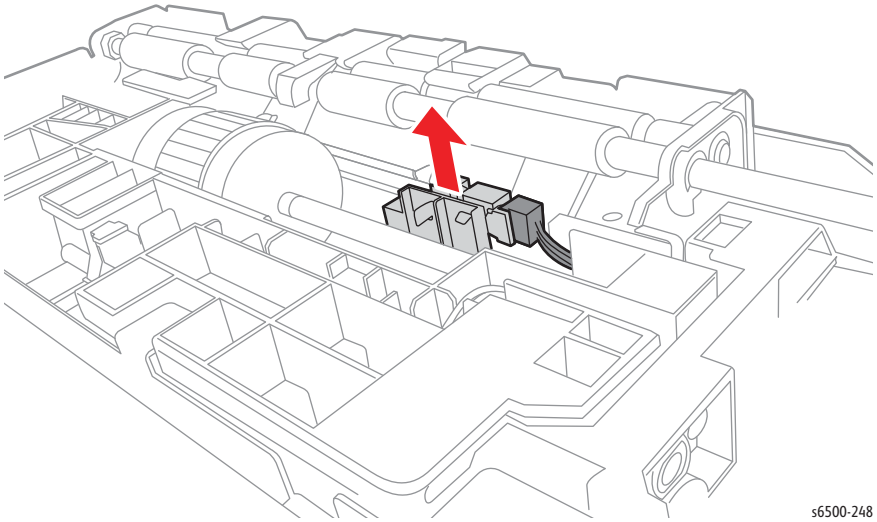
4. Release 3 hooks that secure the Registration Sensor to the Feeder Assembly and remove the sensor.

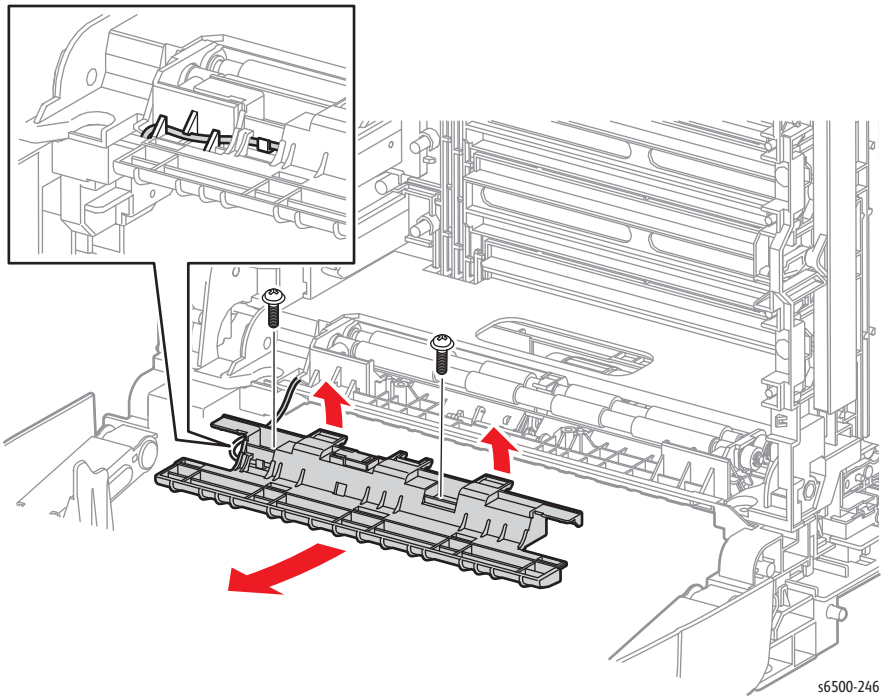


5. Disconnect P/J232 from the Registration Sensor.

Manual Feed Sensor Actuator

PL3.2.14 (Actuator SSI)

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Raise and latch the Transfer Belt if necessary.
4. Remove two screws (silver, tap, 8mm) that secure the bracket.
5. Lift the bracket to release 2 bosses that align the bracket in the chute.



6. Raise and latch the Transfer Belt, then remove the bracket.

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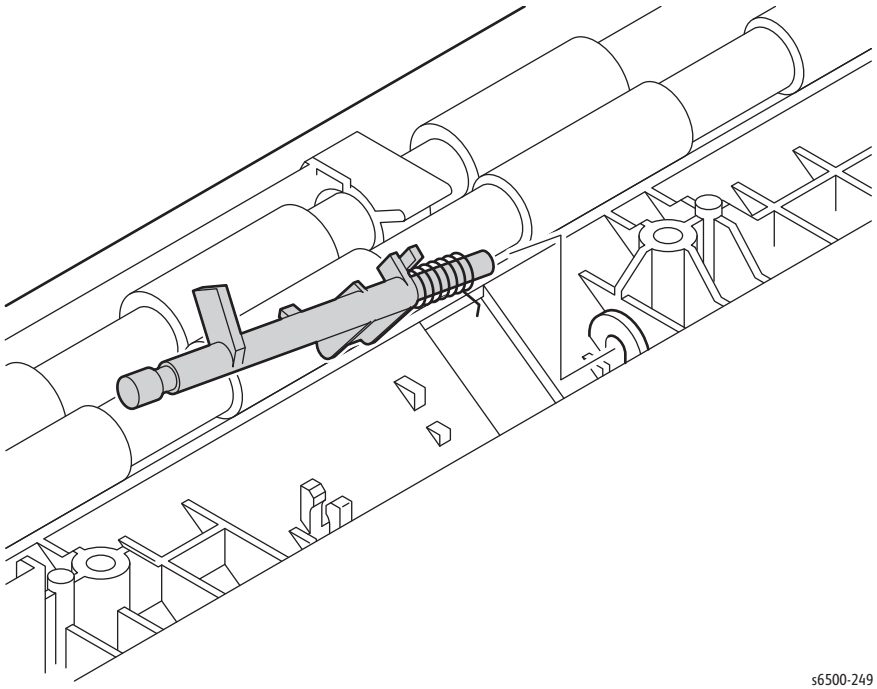
7. Remove the actuator and spring by removing the right end of the shaft from the hole in the chute.



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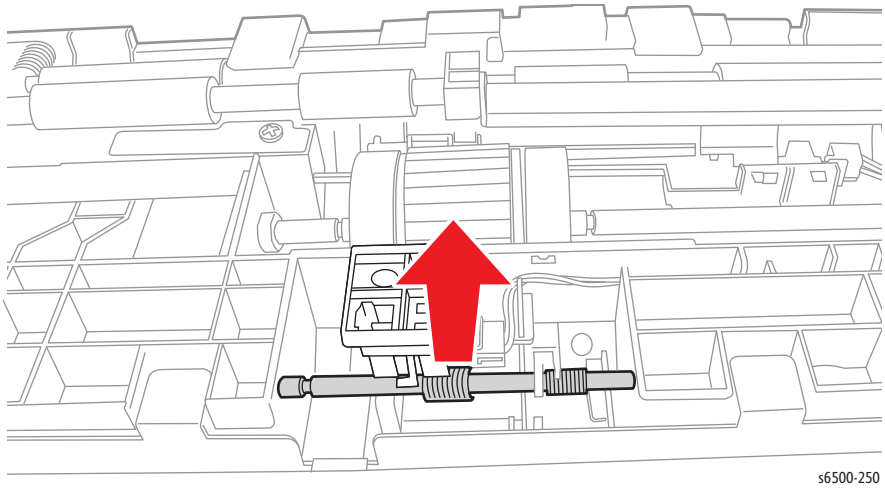
Replacement Note

Note the orientation of the spring on the actuator.

Tray 1 No Paper Sensor Actuator

PL3.2.32 (Actuator Assy No Paper)

1. Remove the Upper Frame Assembly (SFP page 8-51; MFP page 8-67).
2. Remove the Tray 1 No Paper Sensor (page 8-79).
3. Release the right end of the actuator shaft from the hole in the Upper Feeder Chute using a miniature screwdriver.



4. Remove the actuator and spring from the hole in the left side of the Upper Feeder Chute.
5. Remove the spring from the actuator.

Lower Chute Assembly

PL3.2.27 (Chute Assy Low)

The Lower Chute Assembly is not a spared part, but must be removed in order to gain access to the Tray 1 Registration Input Actuator and the Manual Feed Sensor Actuator for troubleshooting purposes.

It is not necessary to power down the printer. In fact, it is necessary to leave the printer powered up in some of the troubleshooting procedures to allow voltage measurements.

1. SFP only: Remove the Rear Tray Cover.
2. Remove the Paper Tray.
3. Tilt the front of the printer up sufficiently access the Lower Chute Assembly.
4. At either end of the Lower Chute Assembly, pry the tab with the boss to release the boss from the Feeder Assembly.
5. Swing the end of the assembly down, then shift the assembly to the left or right (depending on the end you released) to free the other end, and remove the assembly from the printer.

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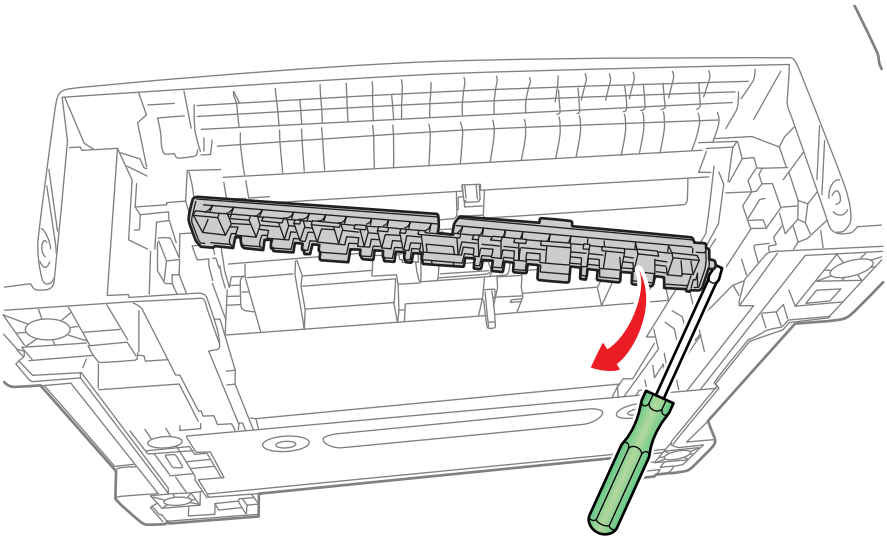

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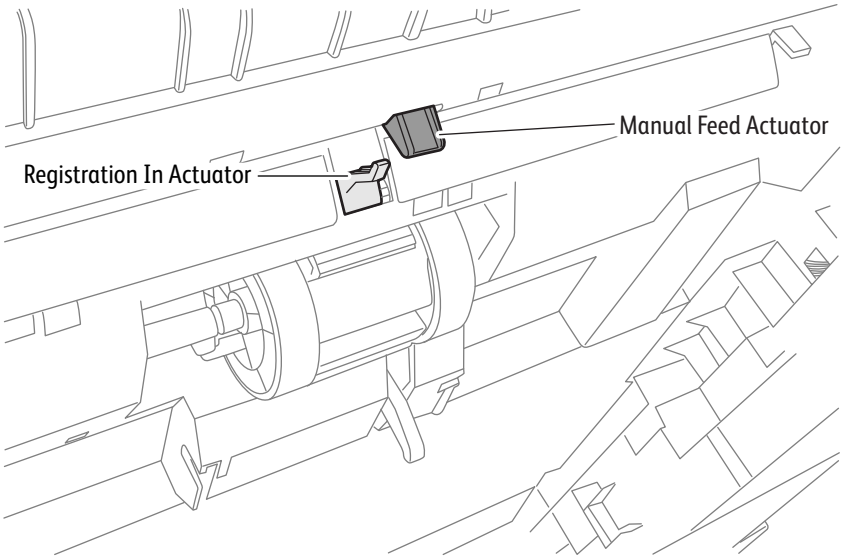
The actuators for Registration In (the light gray one) and Manual Feed (the larger black one) are now easily accessible.



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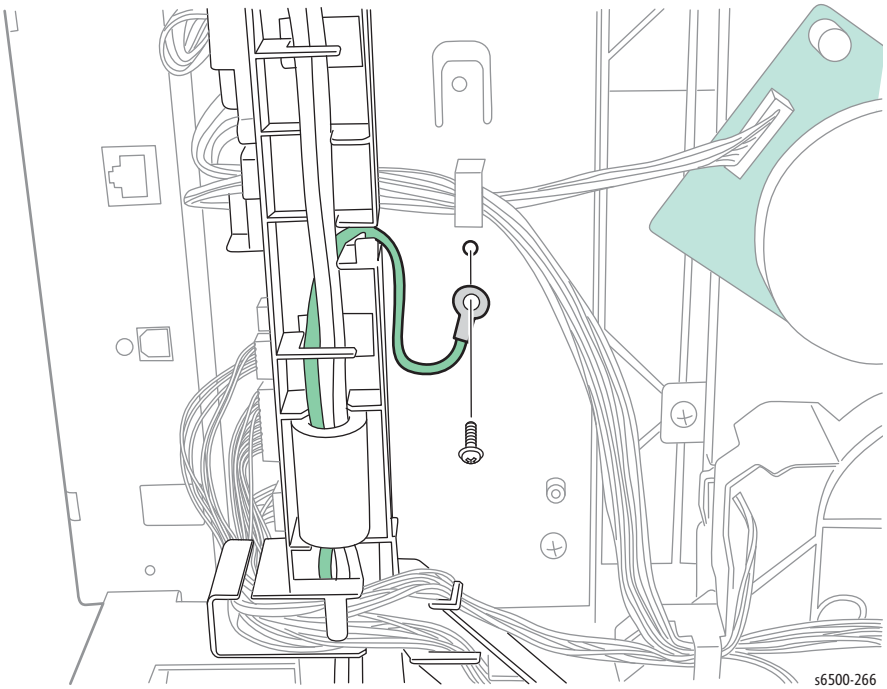
Xerographics

SFP Laser Unit

PL 4.1.99 (Kit ROS Assy)

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Top Cover (page 8-15).
4. Remove the Right Side Cover (page 8-17).
5. Remove the Left Side Cover (page 8-18).
6. Remove the Rear Tray Cover (page 8-19).
7. Remove the Rear Cover (page 8-20).
8. Raise the Transfer Belt and latch in the upright position.
9. Remove the IP Board Card Cage (page 8-140).
10. Remove the LVPS (page 8-124).
11. Remove the MCU Board (page 8-138).
12. Remove the screw (silver, with washer, 6mm) that secures the ground harness to the chassis.



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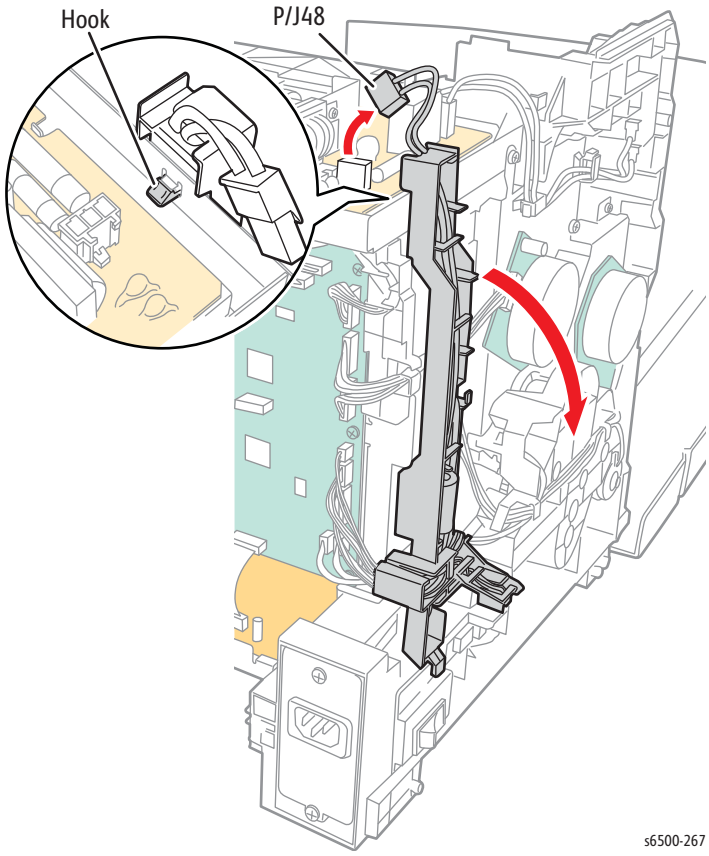
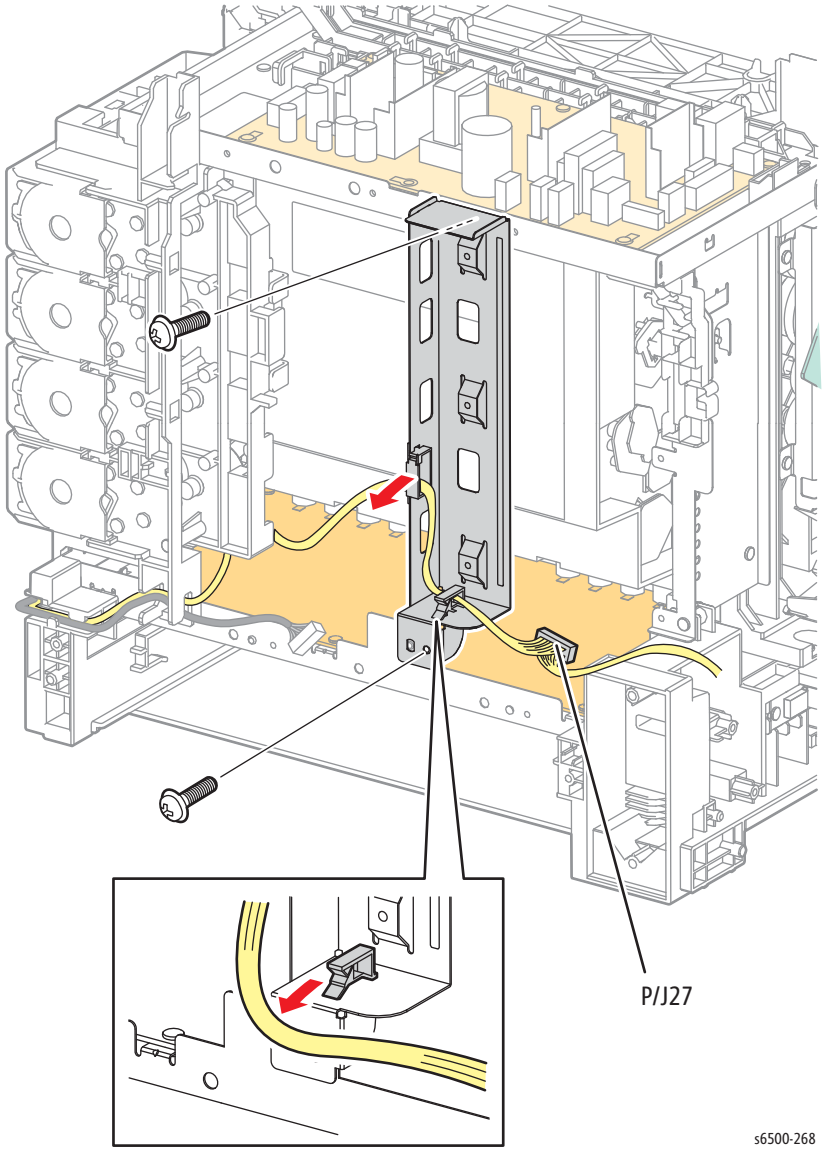
13. Disconnect the Power Switch Harness from the LVPS (P/J48), then release the hook that secures the AC harness guide to the chassis.



14. Release the Option Assembly Harness from the clamp and the edge saddle on the Right MCU Board bracket.
15. Remove two screws (silver, 6mm) that secure the Right MCU Board bracket to the chassis and remove the bracket



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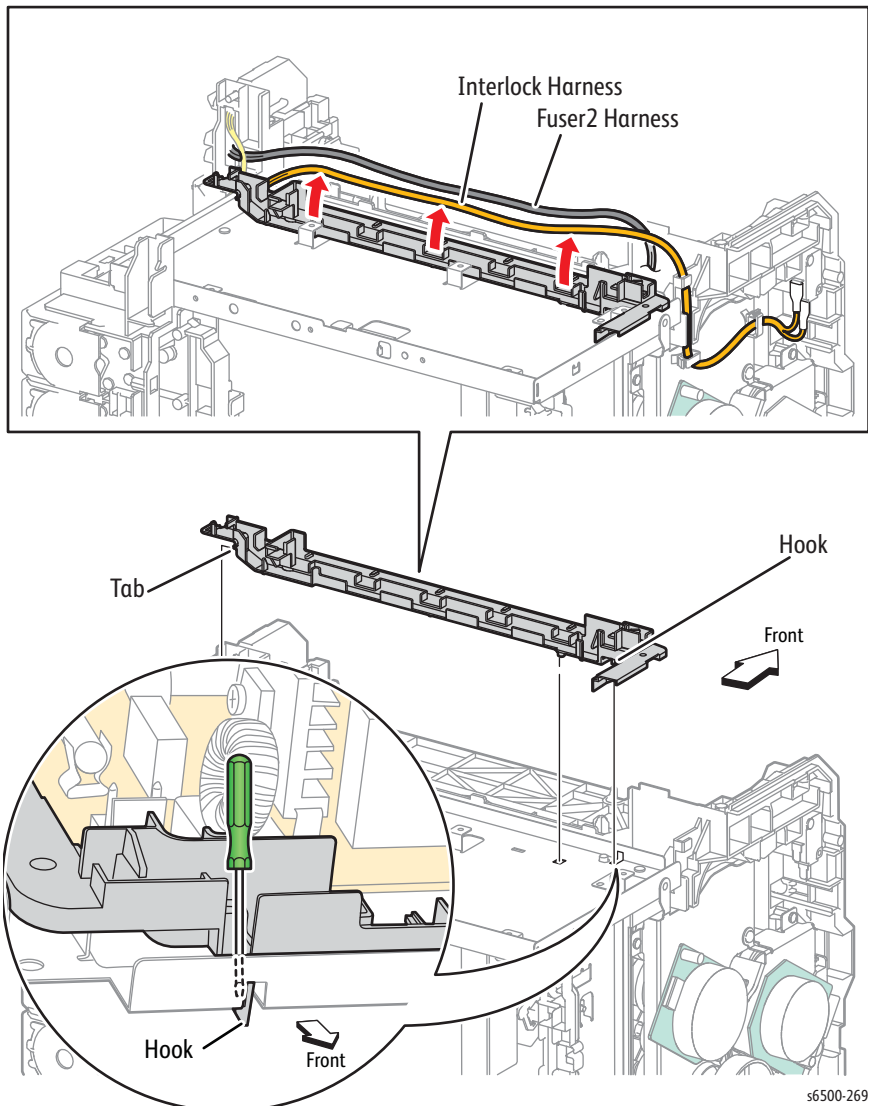
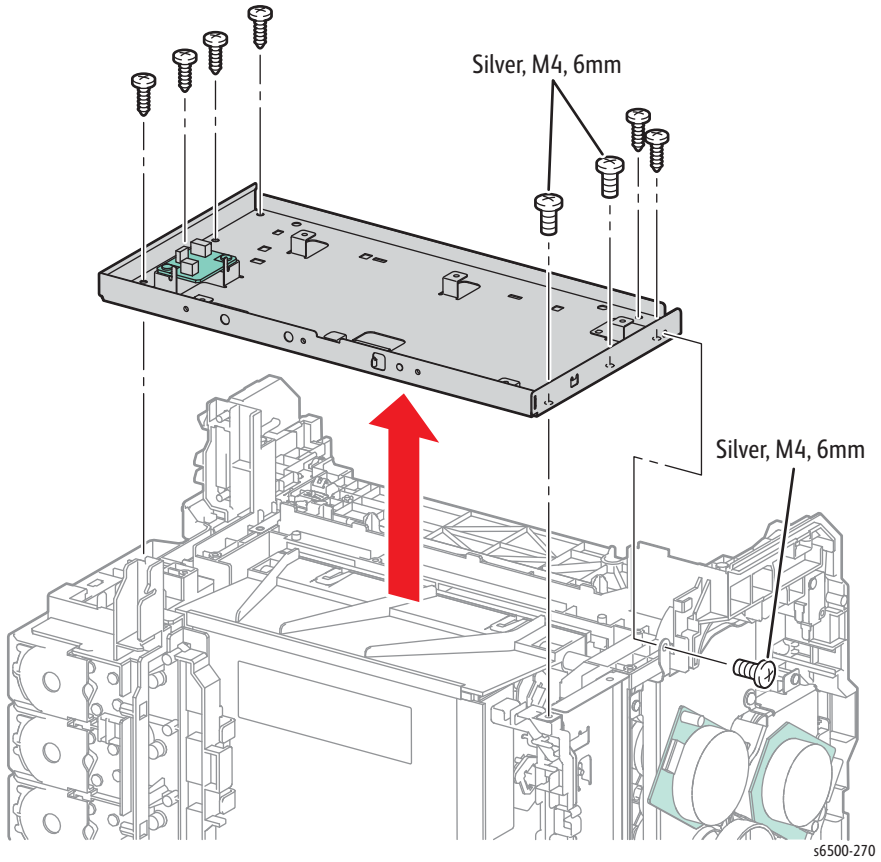
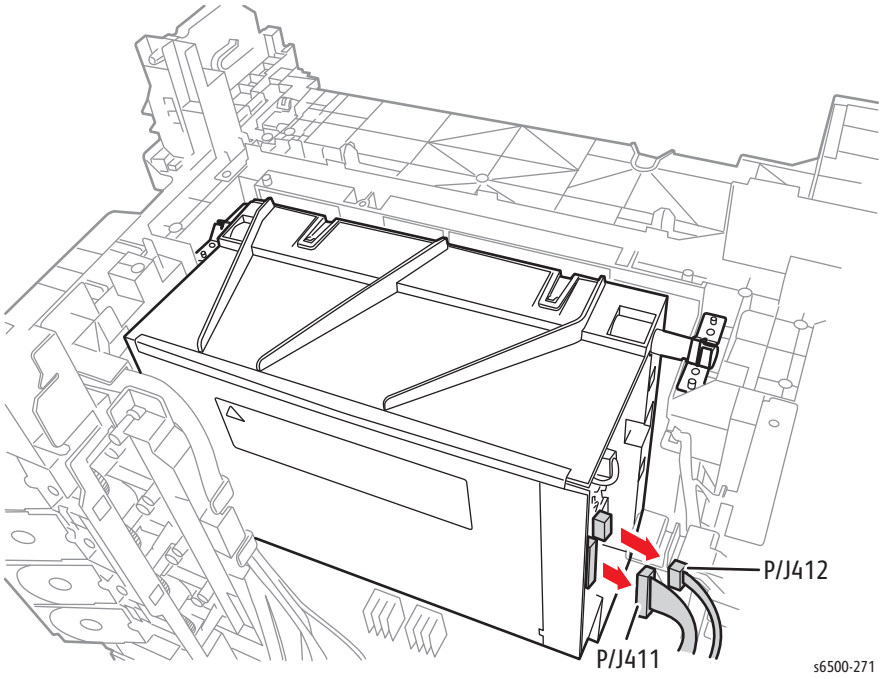
16. Remove the Fuser and Interlock Switch harnesses from the guide.
17. Release the latch to remove the guide from the LVPS Frame.



18. Remove three screws (silver, M4, 6mm) and 6 screws (silver, tap, 8mm) that secure the LVPS Frame to the chassis.



19. Disconnect the 2 Laser Unit harnesses from the Laser Unit (P/J411 and P/J412).



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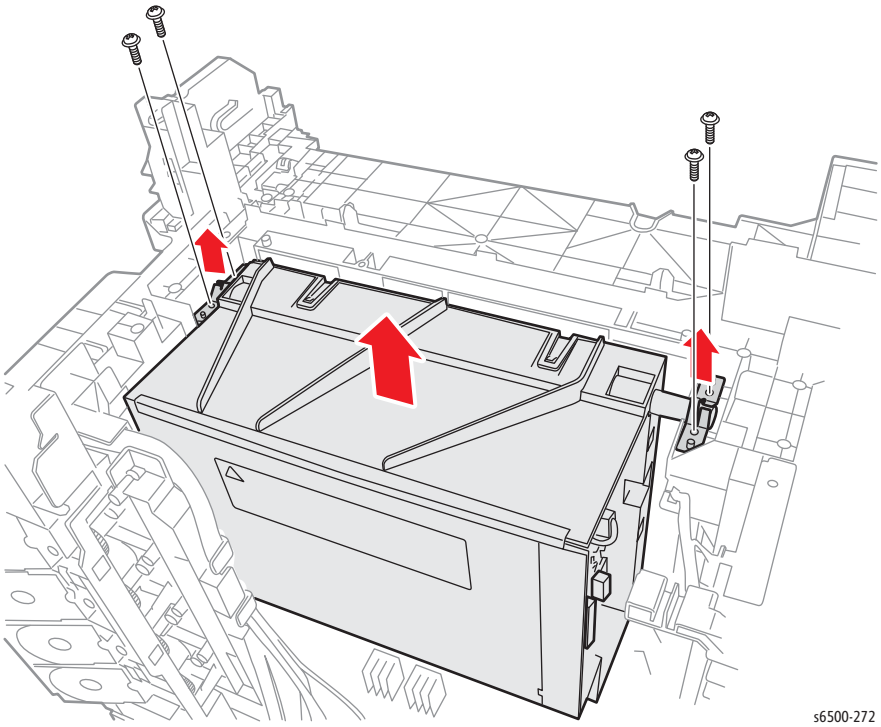
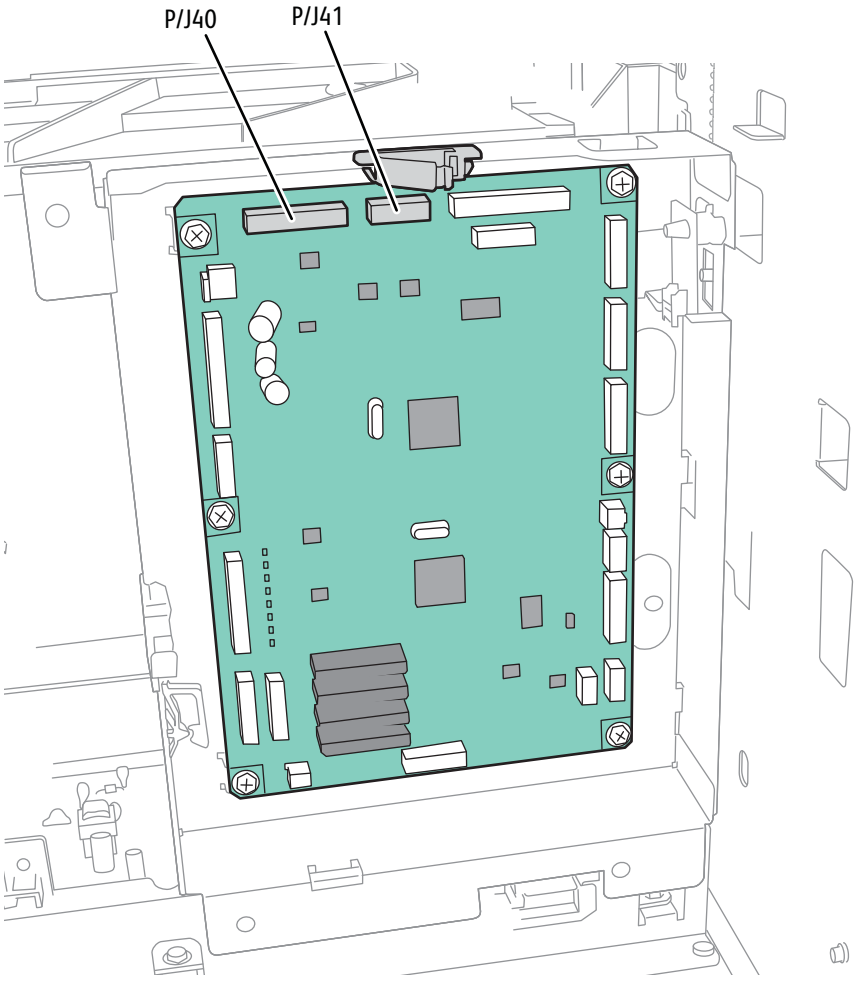
20. Remove four screws (silver, tap, 8mm) that secure the Left and Right springs, then lift the Laser Unit from the chassis.



MFP Laser Unit

PL 4.1.99 (Kit ROS Assy)

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Left Side Cover (page 8-37).
4. Remove the Outer Pole Cover (page 8-39).
5. Remove the Right Side Cover (page 8-40).
6. Remove the Rear Cover (page 8-43).
7. Remove the IP Board Shield (page 8-142).
8. Remove the Inner Pole Cover (page 8-44).
9. Remove the Lower Scanner Cover (page 8-46).
10. Remove the Top Cover (page 8-45).
11. Remove the LVPS Card Cage (page 8-64).
12. Remove the Top Plate Assembly (page 8-59).
13. Disconnect P/J40 and P/J41 from the MCU Board and release the harnesses from the edge saddle.



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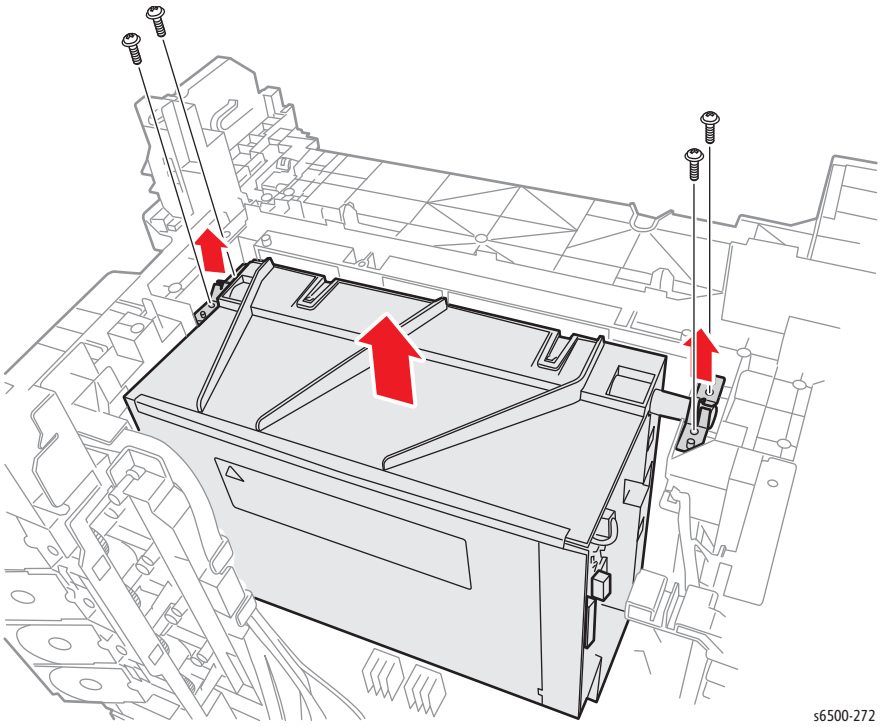
14. Remove four screws (silver, tap 8mm) that secure the left and right Springs and remove the Springs.



15. Lift the Laser Unit from the chassis.

Note

Perform the following step only if you are replacing the existing Laser Unit with a new one. Harnesses are not included with the replacement part.

16. Disconnect the 2 Laser Unit harnesses from the Laser Unit (P/J411 and P/J412).

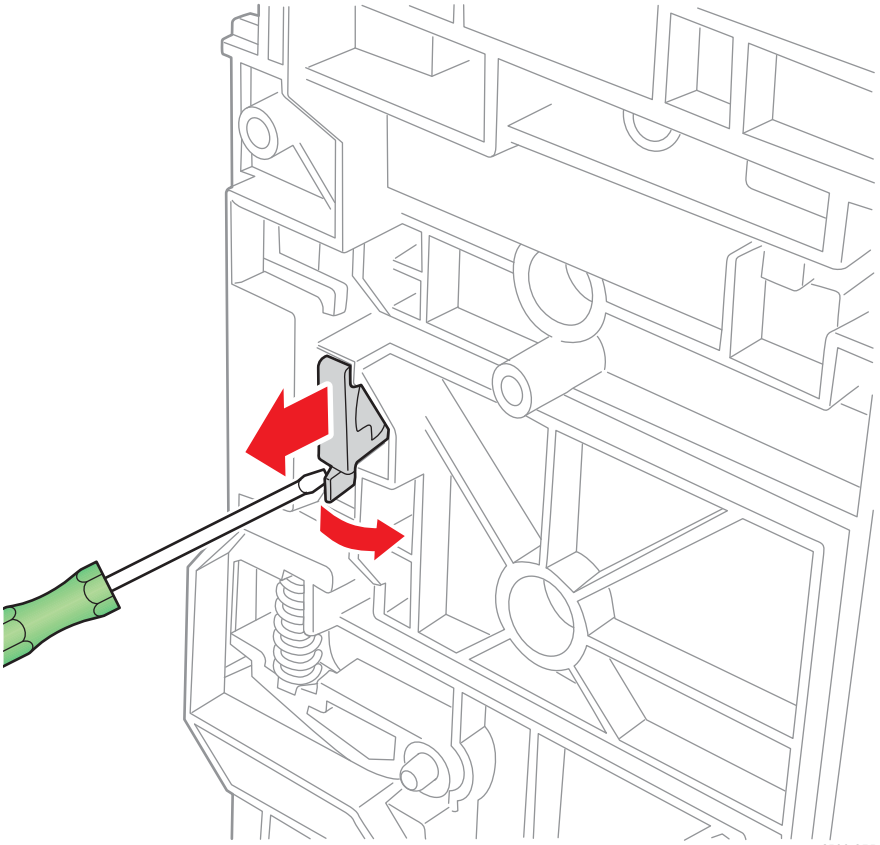
Right Imaging Unit Restraint Block

PL4.1.97 (Kit Block PHD Right)

Note

The following procedure applies to both the upper and lower Right Imaging Unit Restraint Blocks.

1. Perform the service preparation steps on page 8-3.
2. Remove the Left Side Cover (SFP, page 8-18; MFP, page 8-37).
3. Remove the Rear Cover (SFP, page 8-20; MFP, page 8-43).
4. Remove the Right Side Cover (SFP, page 8-17; MFP, page 8-40).
5. Remove the Erase LED Assembly (page 8-97).
6. Use a miniature screwdriver to release the hook on the Imaging Unit Restraint Block.
7. Remove the Imaging Unit Restraint Block.



8. Remove the Imaging Unit Spring.
9. Rotate the Imaging Unit Lever slightly and remove it.

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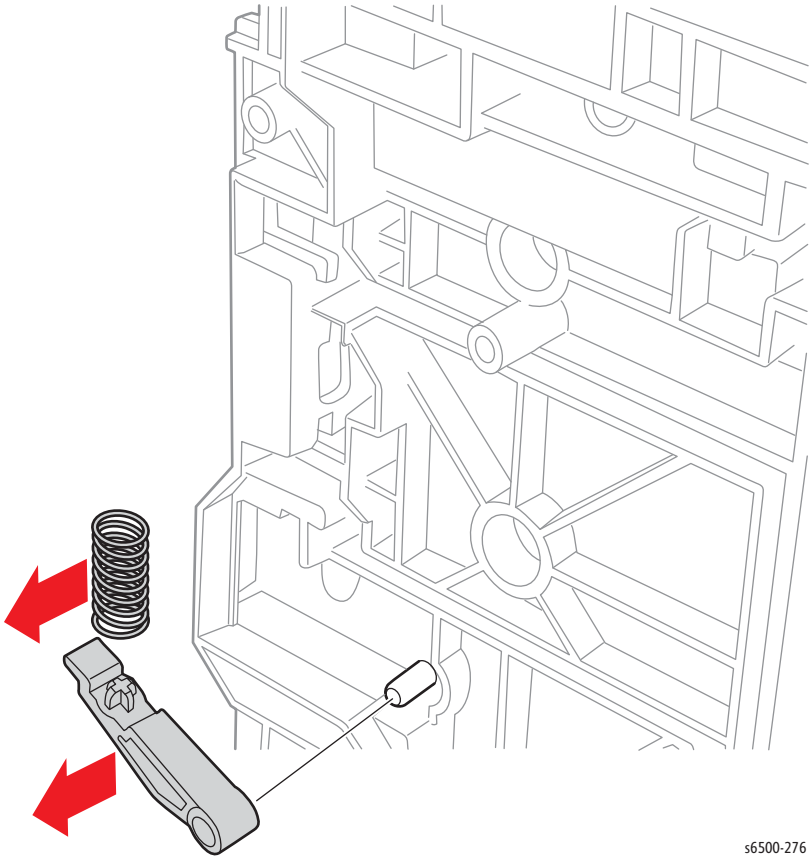
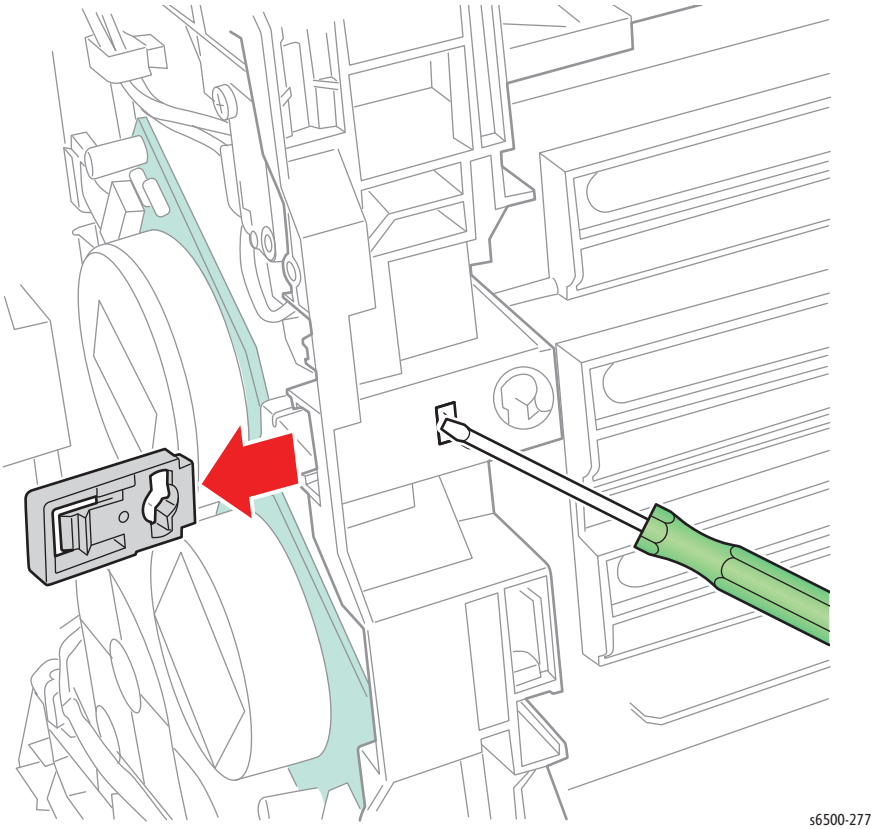


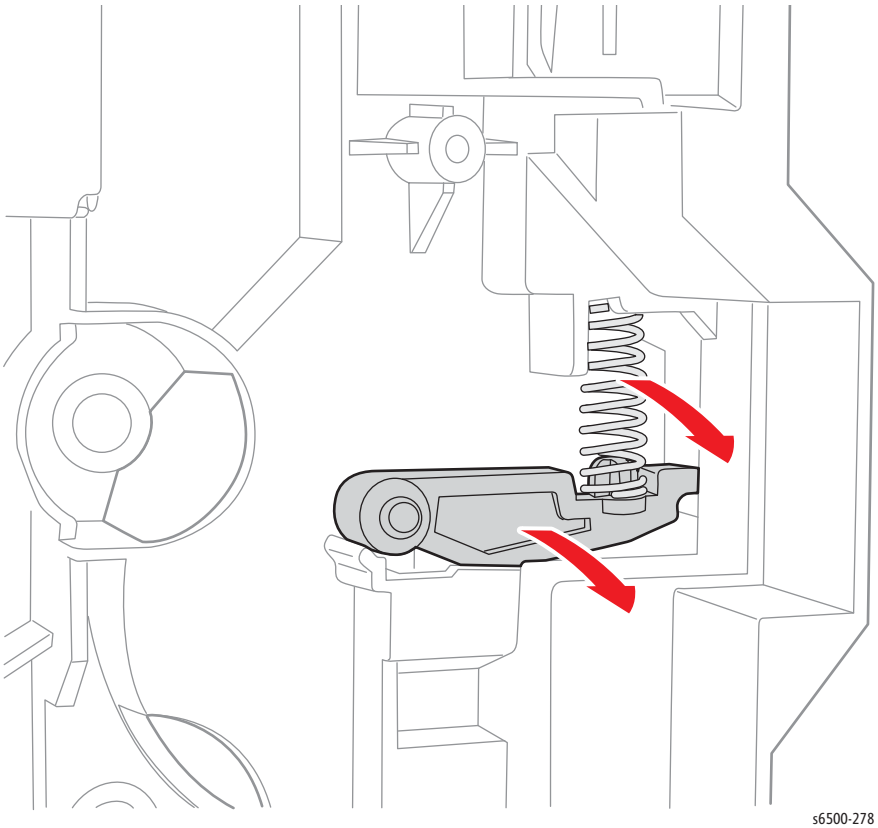
Left Imaging Unit Restraint Block

PL 4.1.98 (Kit Block PHD Left)

1. Perform the service preparation steps on page 8-3.
2. Remove the Left Side Cover (SFP, page 8-18; MFP, page 8-37).
3. Remove the Main Drive Assembly (page 8-114).
4. Use a miniature screwdriver to release the hook on the Imaging Unit Restraint Block. These are stiff and require a stronger force to release



5. Remove the Imaging Unit Restraint Block.
6. Remove the Imaging Unit Spring.
7. Rotate the Imaging Unit Lever slightly and remove it.



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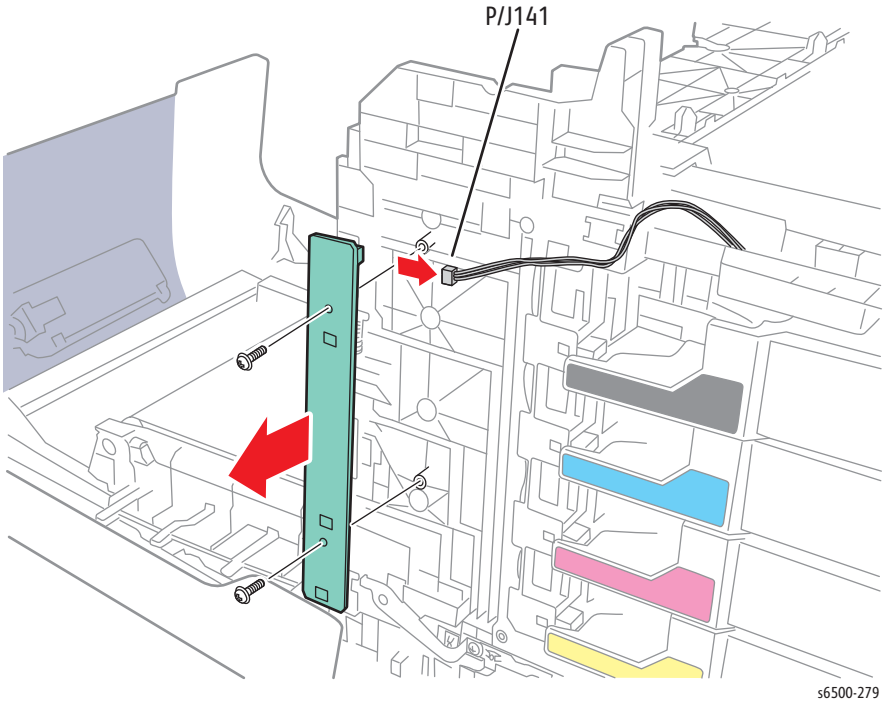
Erase LED Assembly

PL4.1.8 (LED Assy Erase)

Note

Although the illustrations for this procedure show the SFP, the details for removing the Erase LED Assembly are the same for the MFP.

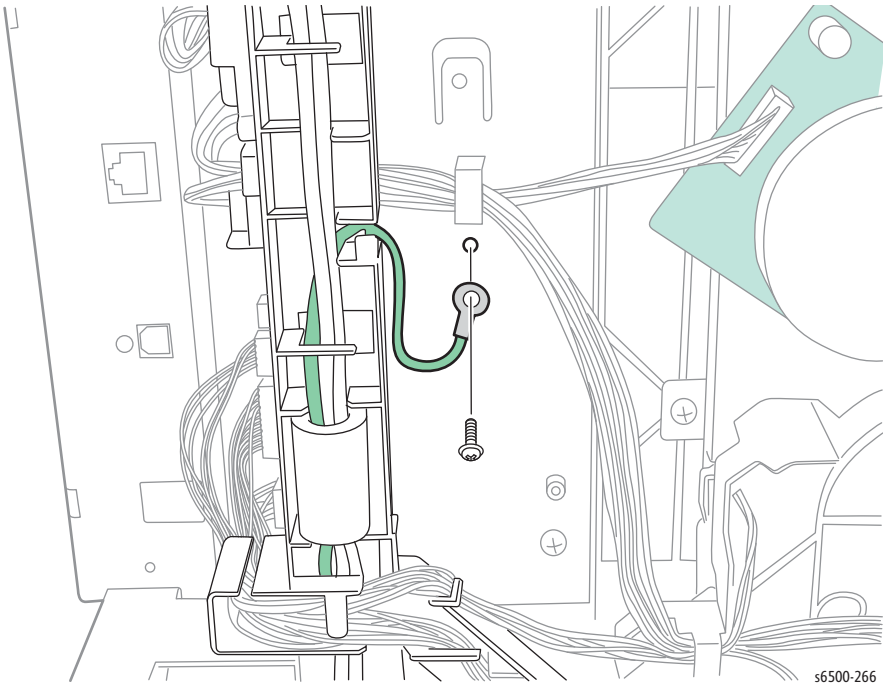
1. Perform the service preparation steps on page 8-3.
2. Remove the Right Side Cover (SFP, page 8-17; MFP, page 8-40).
3. Remove the two screws (silver, tap, 8mm) that secure the Erase LED Assembly to the chassis.
4. Disconnect P/J141 to remove the Erase LED Assembly.



SFP Dispenser Assembly

PL5.1.1 (Dispenser Assy)

1. Perform the service preparation steps on page 8-3.
2. Remove the Top Cover (page 8-15).
3. Remove the Right Side Cover (page 8-17).
4. Remove the Left Side Cover (page 8-18).
5. Remove the Rear Cover (page 8-20).
6. Raise the Transfer Belt and latch in the upright position.
7. Remove four Toner Cartridge Holders (page 8-107).
8. Remove the IP Board Card Cage (page 8-140).
9. Remove the MCU Board (page 8-138).
10. Remove the screw (silver, with washer, 6mm) that secures the ground harness to the chassis.



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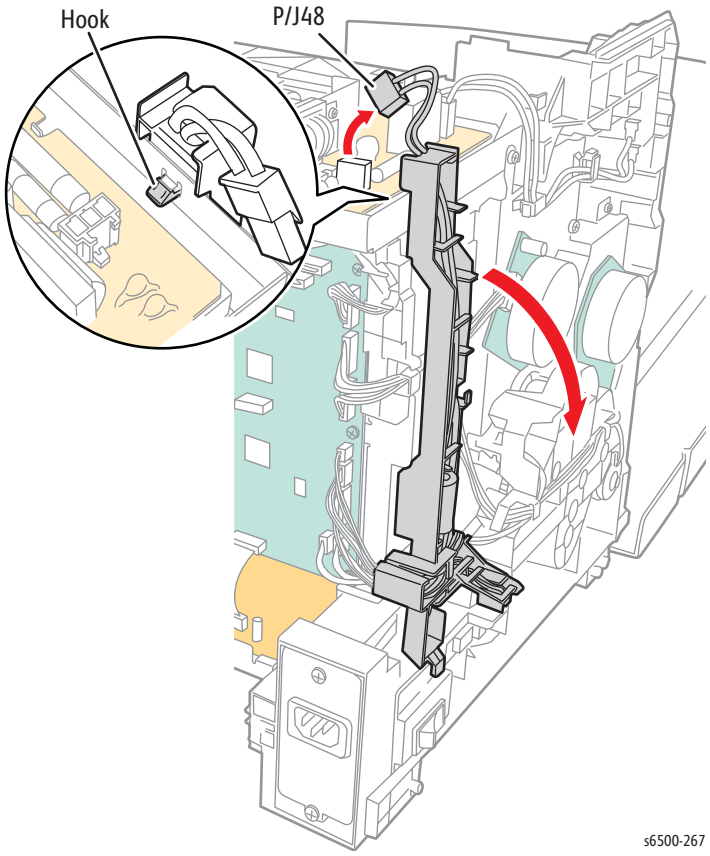
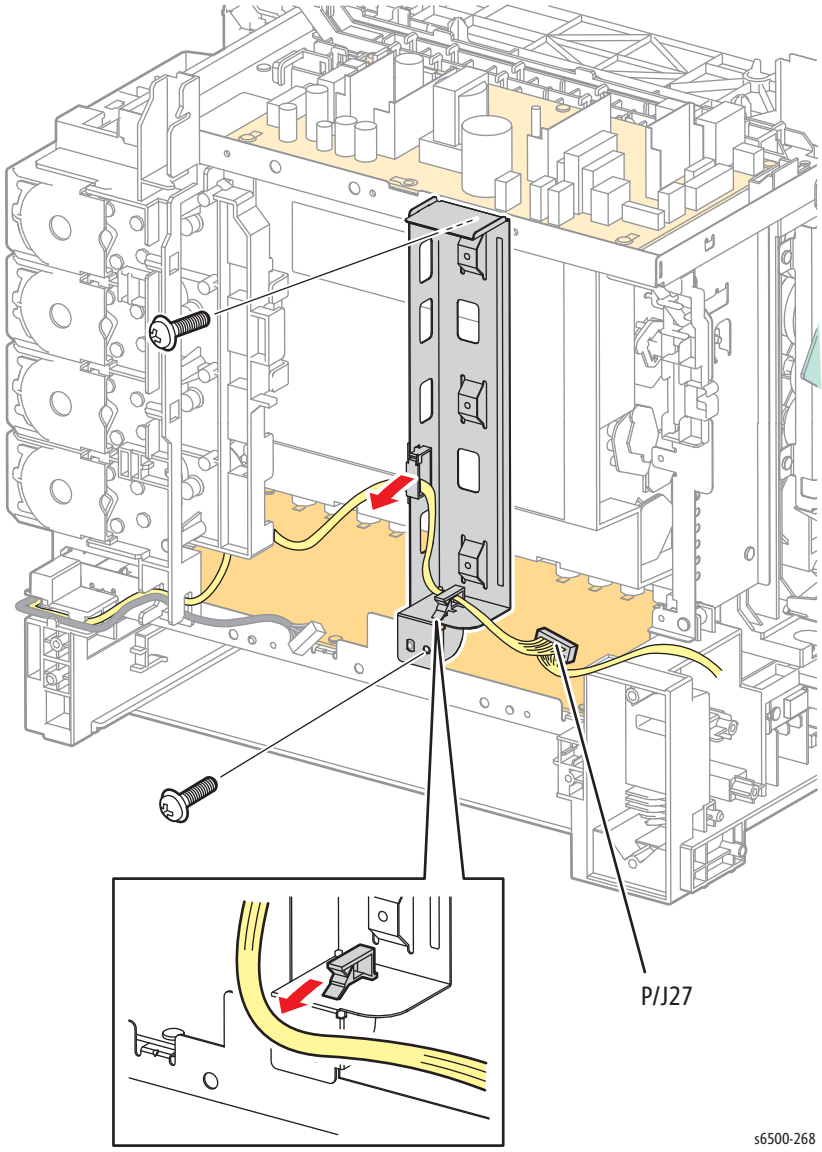
11. Disconnect the Power Switch Harness from the LVPS (P/J48), the release the hook that secures the AC harness guide to the chassis.



12. Release the Option Assembly Harness from the clamp and the edge saddle on the Right MCU Board bracket.
13. Remove two screws (silver, 6mm) that secure the Right MCU Board bracket to the chassis and remove the bracket



14. Remove the LVPS (page 8-124).

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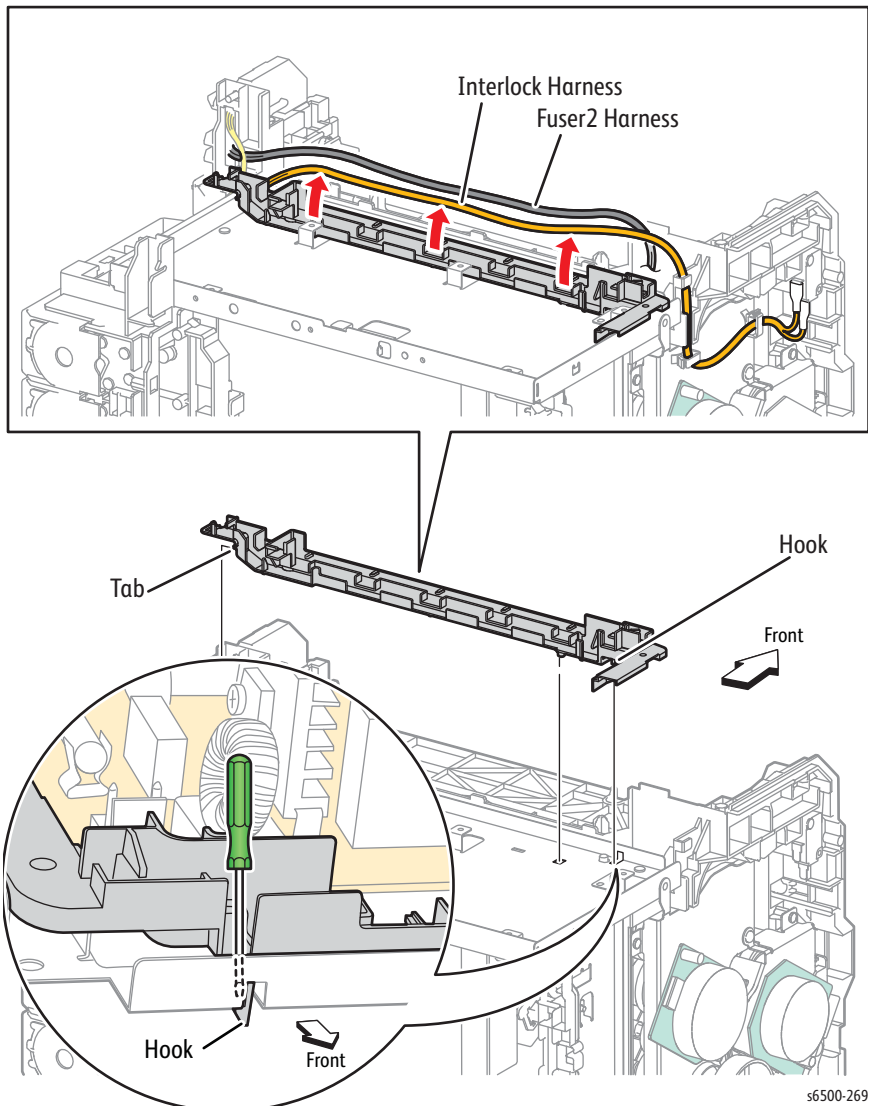
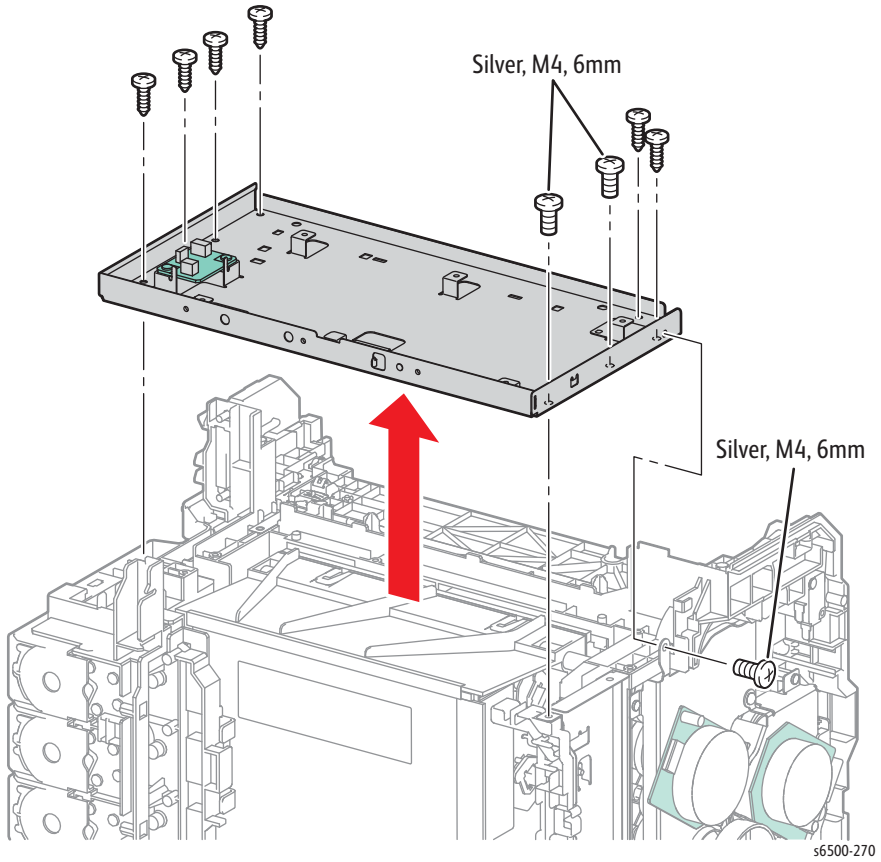
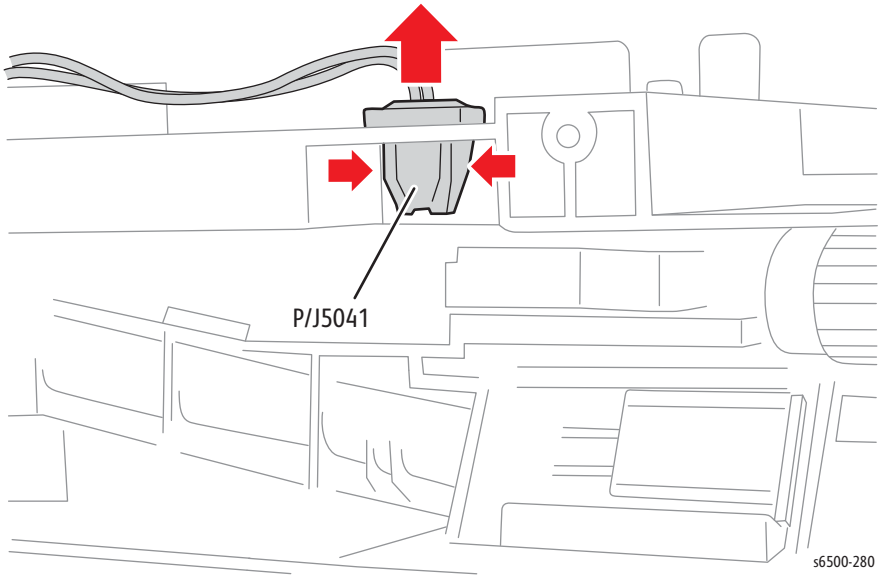
15. Remove the Fuser and Interlock Switch harnesses from the guide.
16. Release the 4 hooks to remove the guide from the LVPS Frame.



17. Remove three screws (silver, M4, 6mm) and 6 screws (silver, tap, 8mm) that secure the LVPS Frame to the chassis.



18. Release the hook of the connector of the MCU HAN Harness using a pliers, and then remove it from the Dispenser Assembly.



19. Remove all harnesses from the Dispenser Assembly guides.

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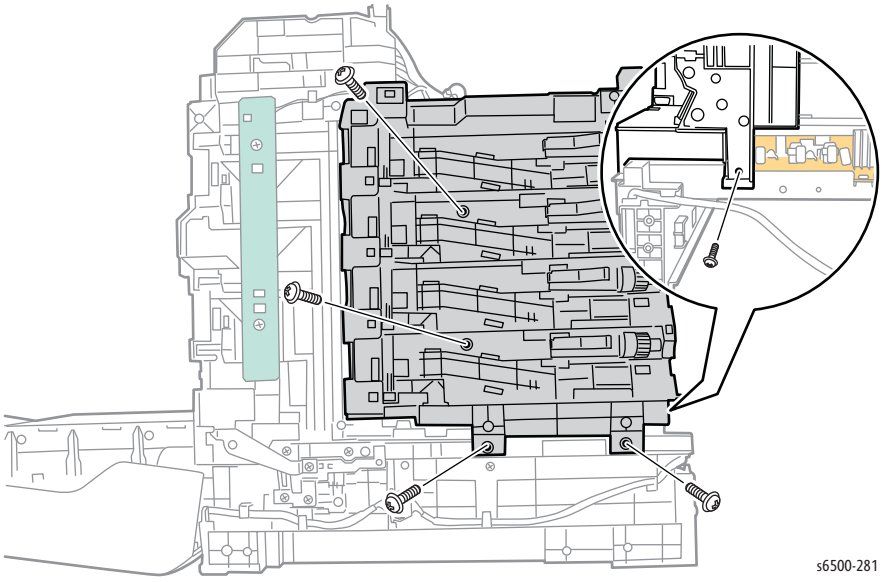
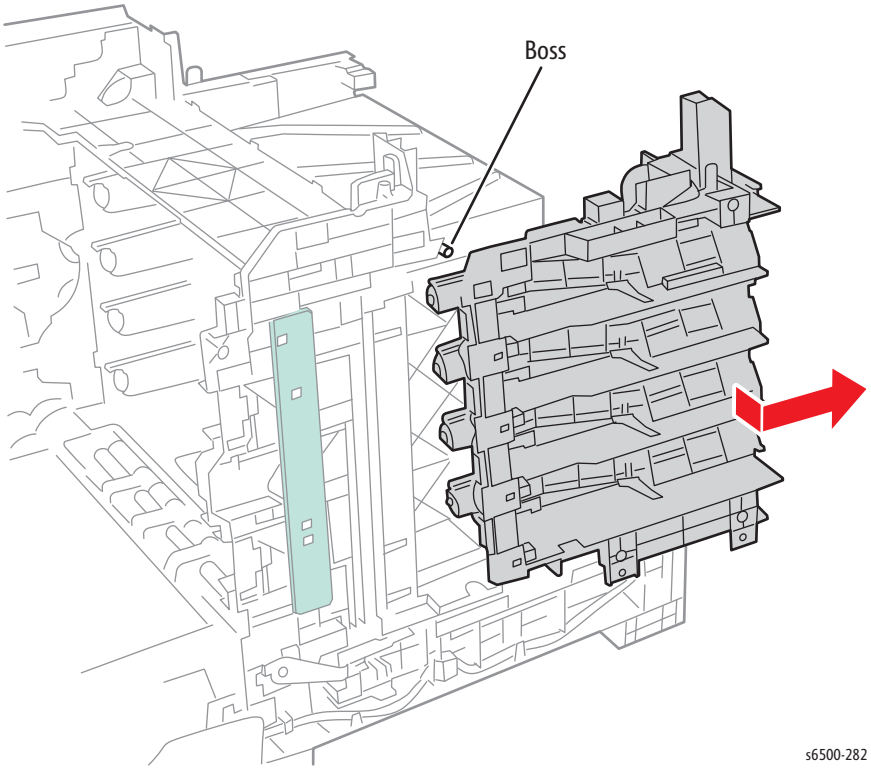
20. Remove the four screws (silver, tap, 8mm) that secure the Dispenser Assembly to the chassis.
21. Remove the screw (silver, 6mm) that secures the rear side of the Dispenser Assembly to the chassis.



22. Disengage the Dispenser Assembly from the boss on the chassis, and move the Dispenser Assembly out and rearward to remove it.



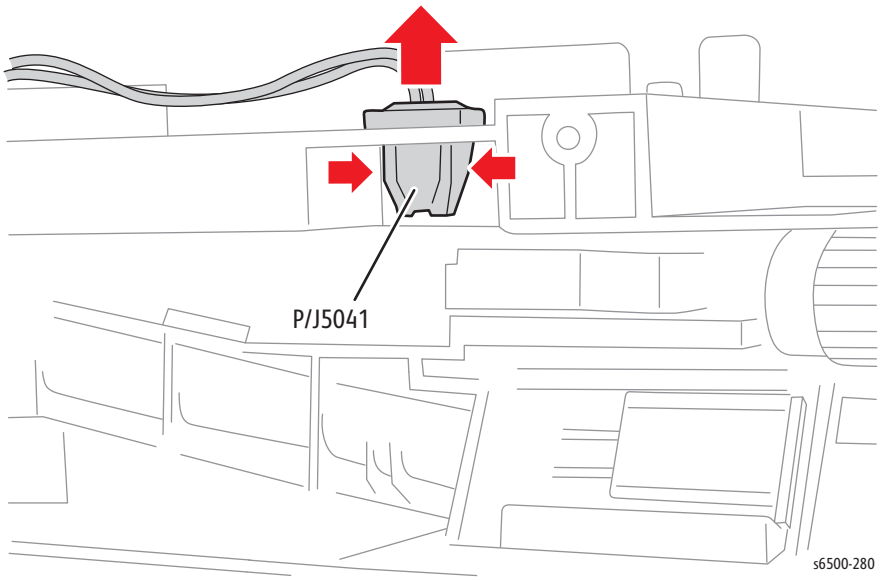
Replacement Note

Align the boss on the chassis with the hole in the Dispenser Assembly before tightening the screws.

MFP Dispenser Assembly

PL5.1.1 (Dispenser Assy)

1. Perform the service preparation steps on page 8-3.
2. Remove the Left Side Cover (page 8-37).
3. Remove the Outer Pole Cover (page 8-39).
4. Remove the IP Board Shield (page 8-142).
5. Remove the Right Side Cover (page 8-40).
6. Remove the Rear Cover (page 8-43).
7. Remove the Inner Pole Cover (page 8-44).
8. Remove the Lower Scanner Cover (page 8-46).
9. Remove the Top Cover (page 8-45).
10. Remove the LVPS Card Cage (page 8-64).
11. Remove the IIT Subassembly (page 8-195).
12. Remove the Top Plate Assembly (page 8-59).
13. Remove the MFP Inlet Chassis (page 8-63).
14. Remove the Toner Cartridge Holders (page 8-107).
15. Release the hook of the connector of the MCU HAN Harness using a pliers, and remove it from the Dispenser Assembly.



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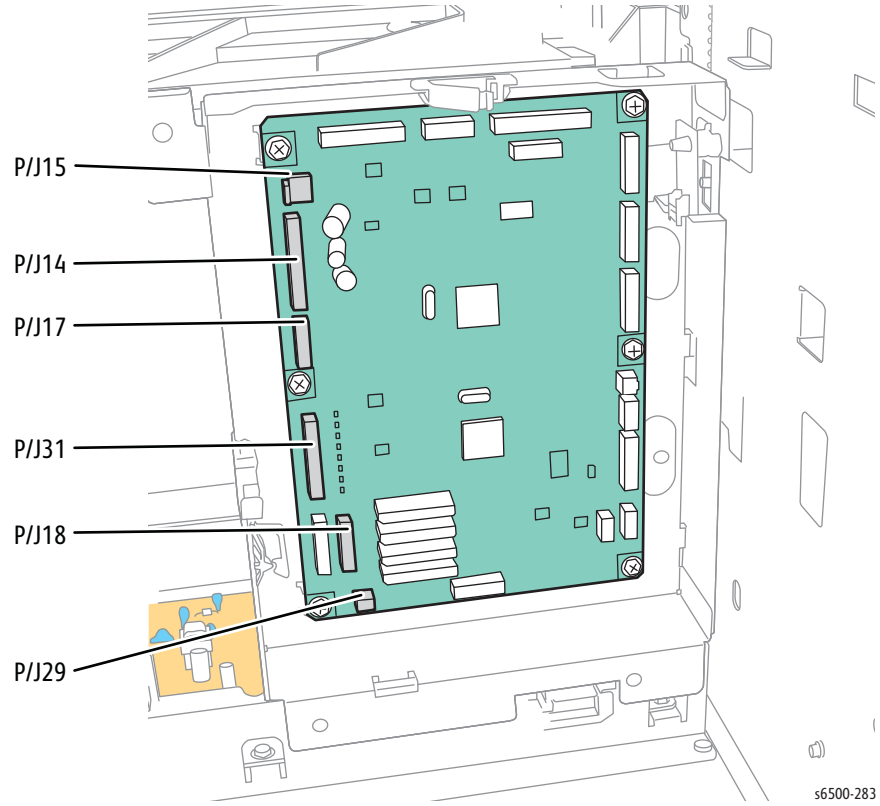
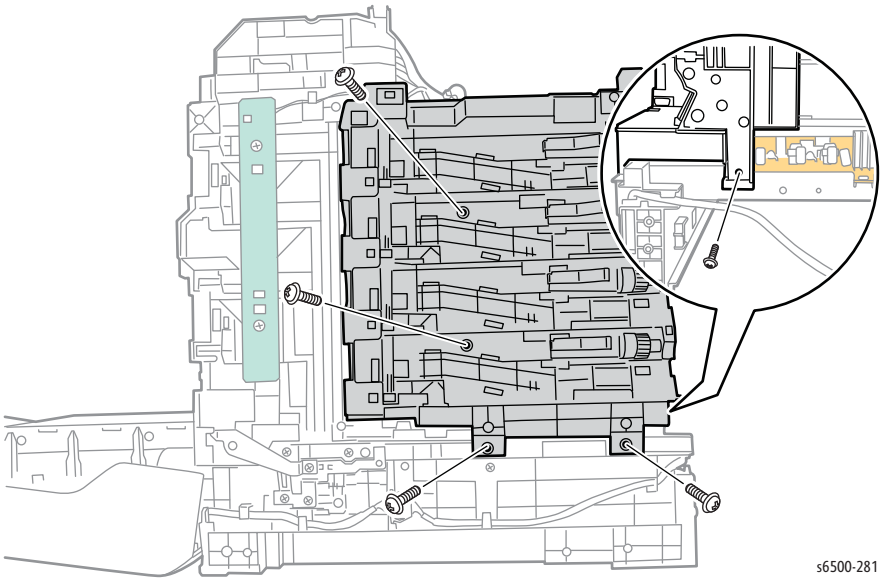
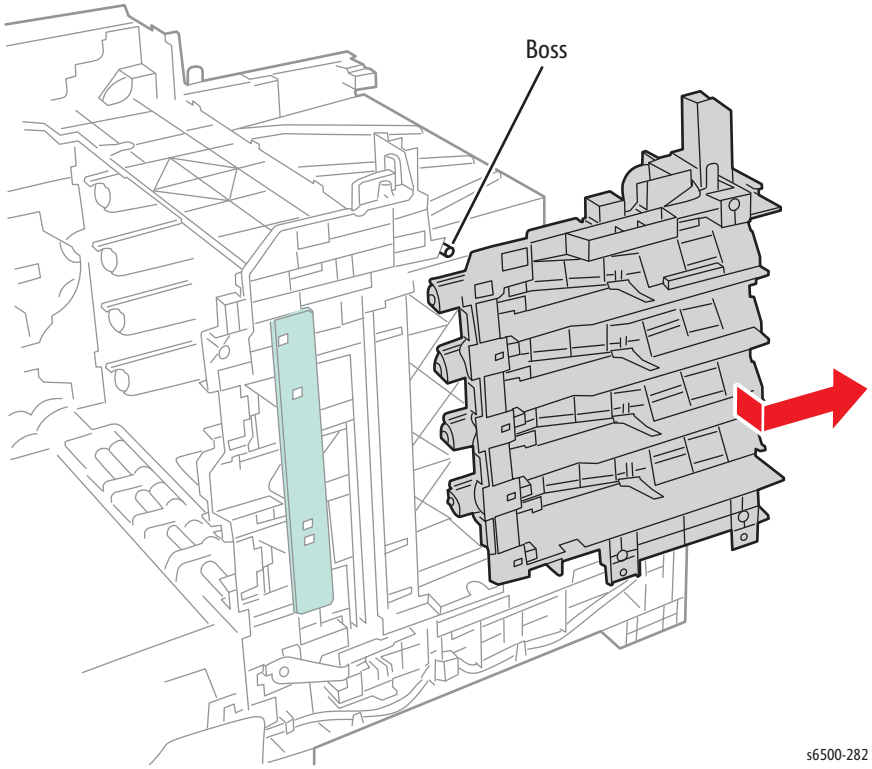
16. Disconnect 7 connectors (P/J14, 15, 17, 18, 19, 29, 31) on the MCU Board.



17. Release all harnesses from the top and bottom guides on the Dispenser Assembly.
18. Remove four screws (silver, tap, 8mm) that secure the Dispense Assembly to the chassis.
19. Remove the screw (silver, M4, 6mm) at the rear side of the Dispense Assembly.



20. Release the Dispense Assembly from the boss on the frame, then move the Dispense Assembly toward the rear to remove it.



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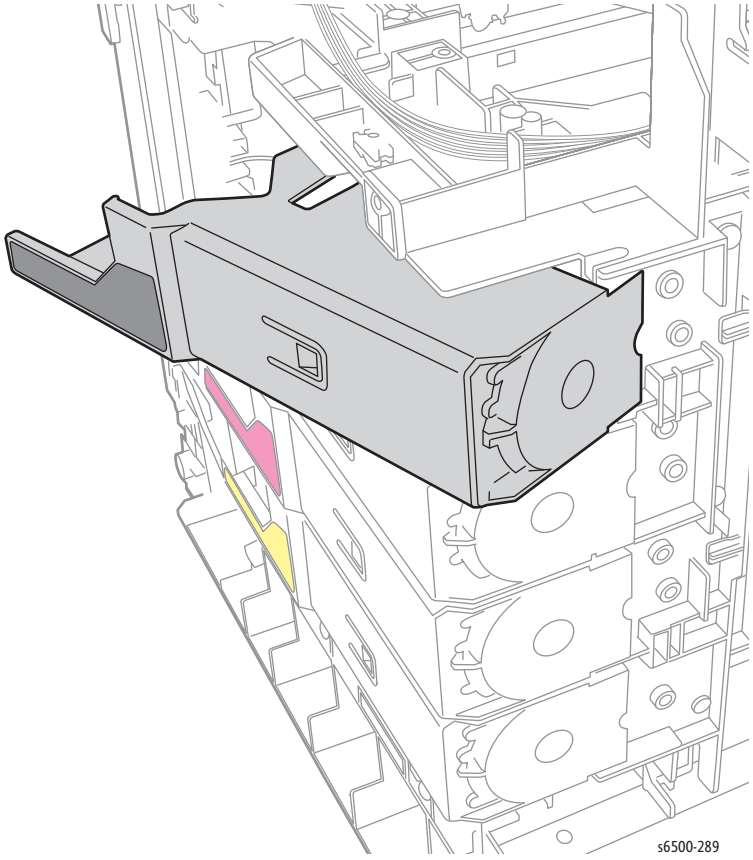
Toner Cartridge Holders

PL 5.1.17~20 (Kit Holder Assy TCRU [K, C, M, Y])

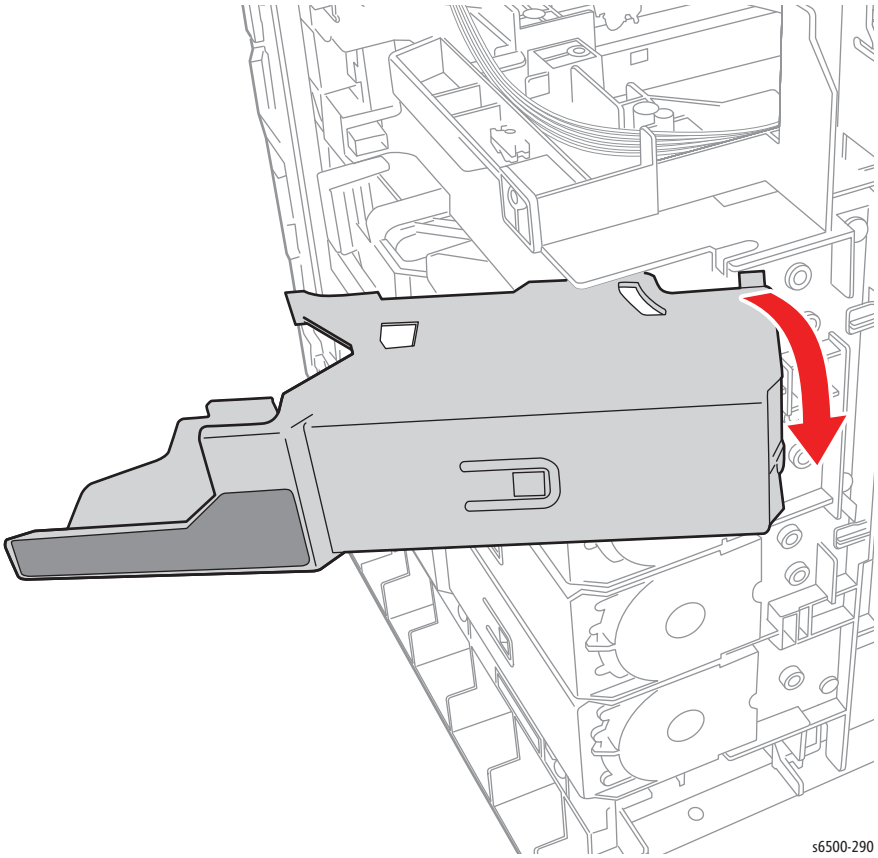
Note

The following procedure applies to all four Toner Cartridge Holders. They must be removed sequentially in order, starting with K (black).

1. Remove Tray 1.
2. Remove the Toner Cartridges (page 8-12).
3. Open the Front Cover.
4. **SFP Only:** Remove the following parts:
   a. Top Cover (page 8-15).
   b. Right Side Cover (page 8-17).
   c. Left Side Cover (page 8-18).
   d. Rear Tray Cover (page 8-19).
   e. Rear Cover (page 8-20).
5. **MFP Only:** Remove the following parts:
   a. Left Side Cover (page 8-37).
   b. Outer Pole Cover (page 8-39).
   c. Right Side Cover (page 8-40)
   d. Rear Cover (page 8-43).
6. Squeeze the center of the Toner Cartridge Holder to release the Toner Cartridge Holder from the boss on the Dispenser Frame. Open the Toner Cartridge Holder by 90 degrees.



7. Press the boss part of the Toner Cartridge Holder, remove the Toner Cartridge Holder.



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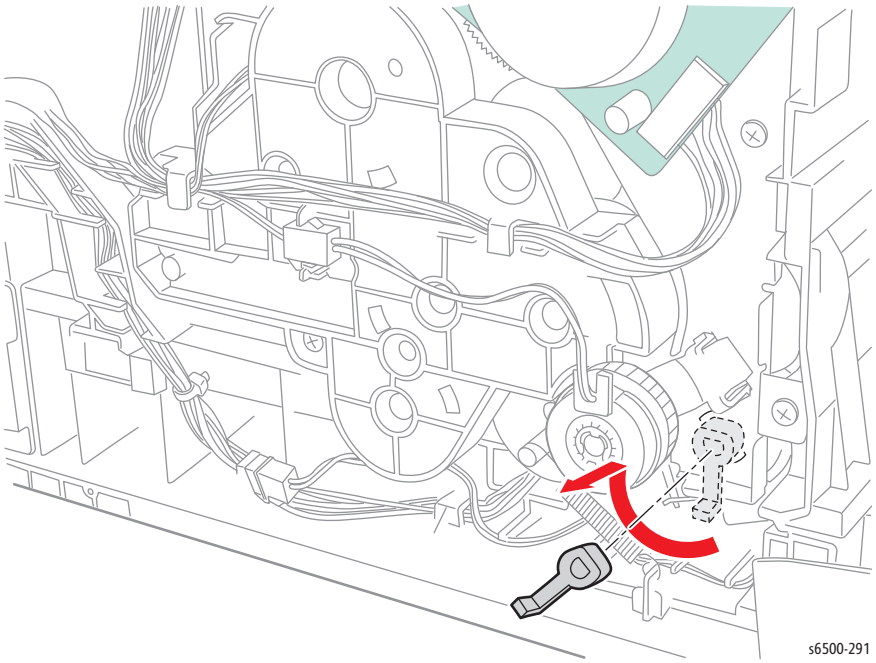
Transfer Belt Pivot Kit

PL 6.1.99 (Kit Pivot)

This procedure removes the left and right Transfer Belt pivot shafts.

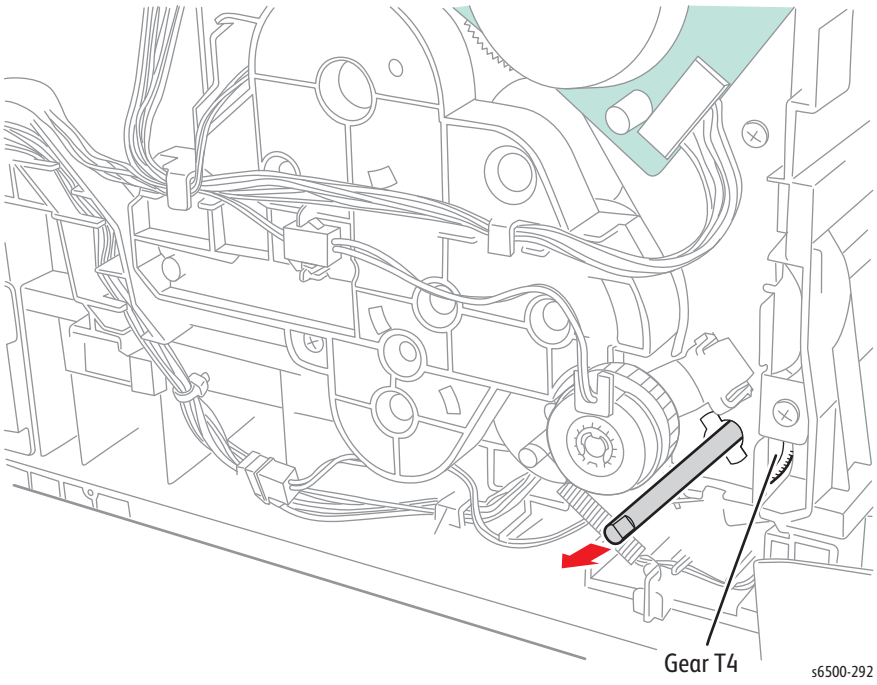
1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Right Side Cover (SFP, page 8-17; MFP, page 8-40).
4. Remove the Left Side Cover (SFP, page 8-18; MFP, page 8-37).
5. Rotate the Pivot Stopper so that its tabs align with the notches of the Main Drive Assembly.
6. Remove the Pivot Stopper.



Note

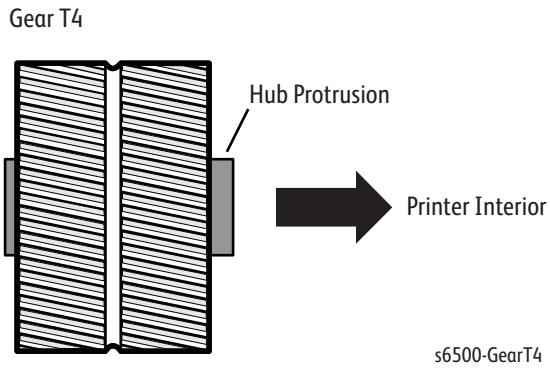
When performing the next step, be ready to catch Gear T4 when you remove the pivot shaft.

7. Pull out the Left Transfer Pivot shaft, and remove the Gear T4.



Replacement Note

When re-installing Gear T4, make sure the longer hub protrusion faces the printer interior.



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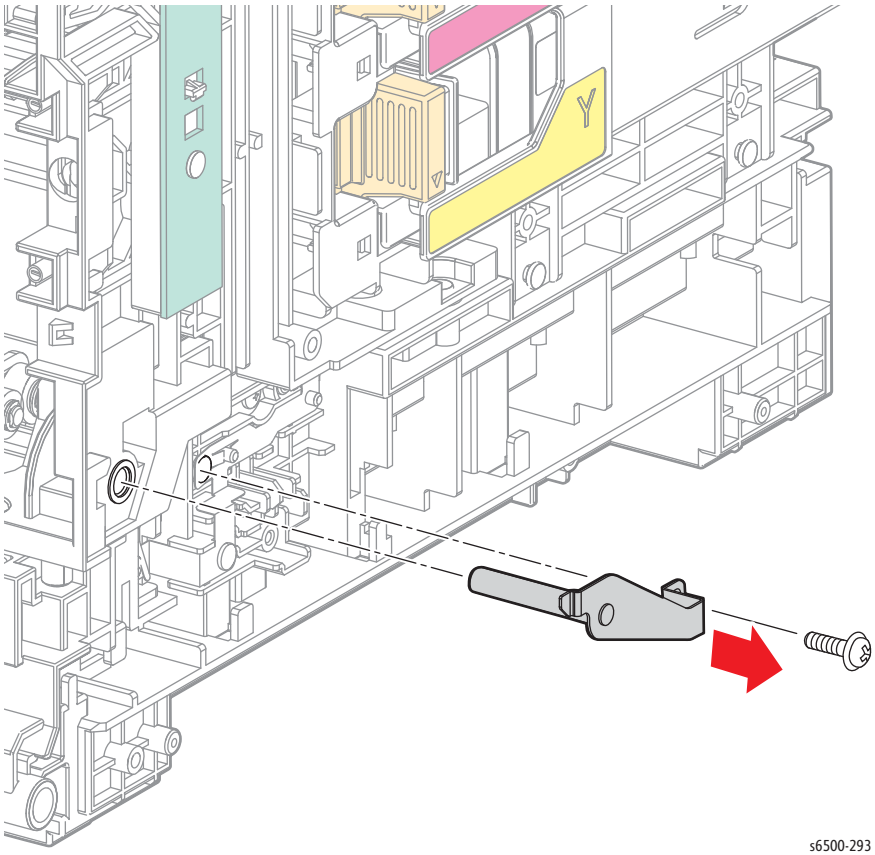
8. Remove the screw (silver, tap, 8mm) that attaches the Right Side Pivot Shaft to the printer.

Note

When performing the next step, keep the Transfer Belt slightly lifted to ease Pivot Shaft removal. If you are performing this procedure as part of the Transfer Belt removal, the only step remaining after removing the Right Pivot Shaft is to lift the Transfer Belt out of the printer.

9. Pull the Pivot Shaft out of the printer.



Replacement Note

Use care when reinserting the pivot shaft to avoid damaging the grounding contact in the Transfer Belt pivot.

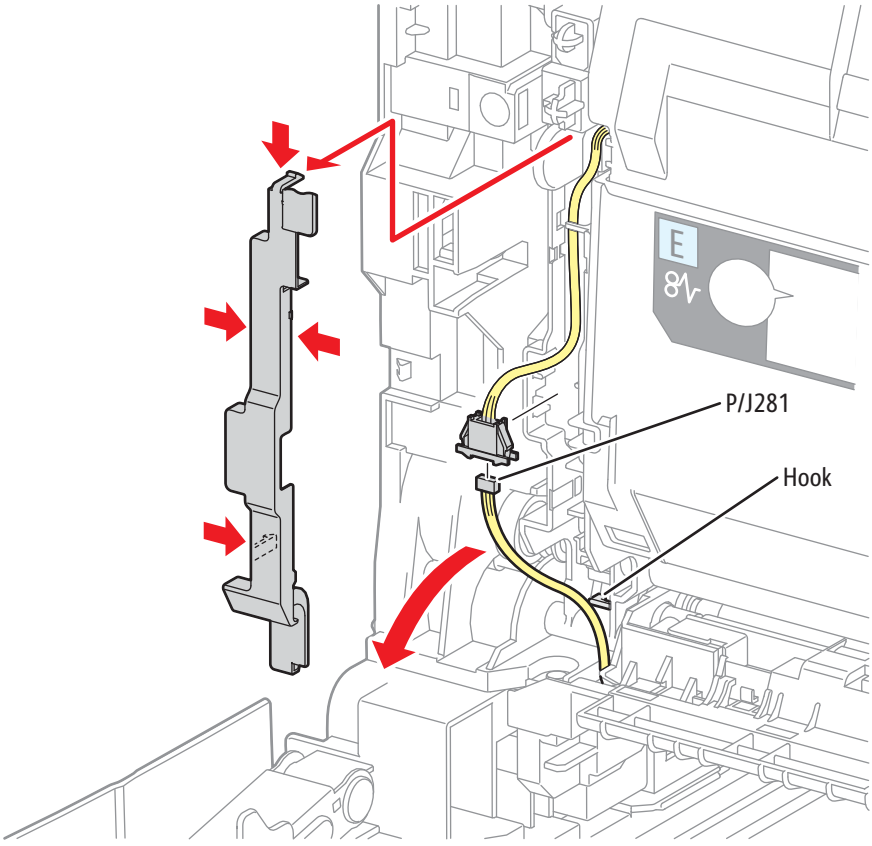
Transfer Belt

PL 6.1.7 (Transfer Belt)

Caution

Do not scratch the Transfer Belt surface.

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Right Side Cover (SFP page 8-17; MFP page 8-40).
4. Remove the Left Side Cover (SFP page 8-18; MFP page 8-37).
5. Use a miniature screwdriver to release the four harness cover hooks, then remove the cover.
6. Release the harness from the Transfer Belt, then unplug the Transfer Belt connector (P/J281).



Note

Leave the relay connector on the Transfer Belt harness side.

7. Release the printer side of the harness from the hook on the Transfer Belt.
8. Remove the Transfer Belt Pivot Kit (page 8-109).
9. Remove the Transfer Belt assembly from the printer.

Replacement Note

Reset the Transfer Belt life counter after installing a new Transfer Belt.

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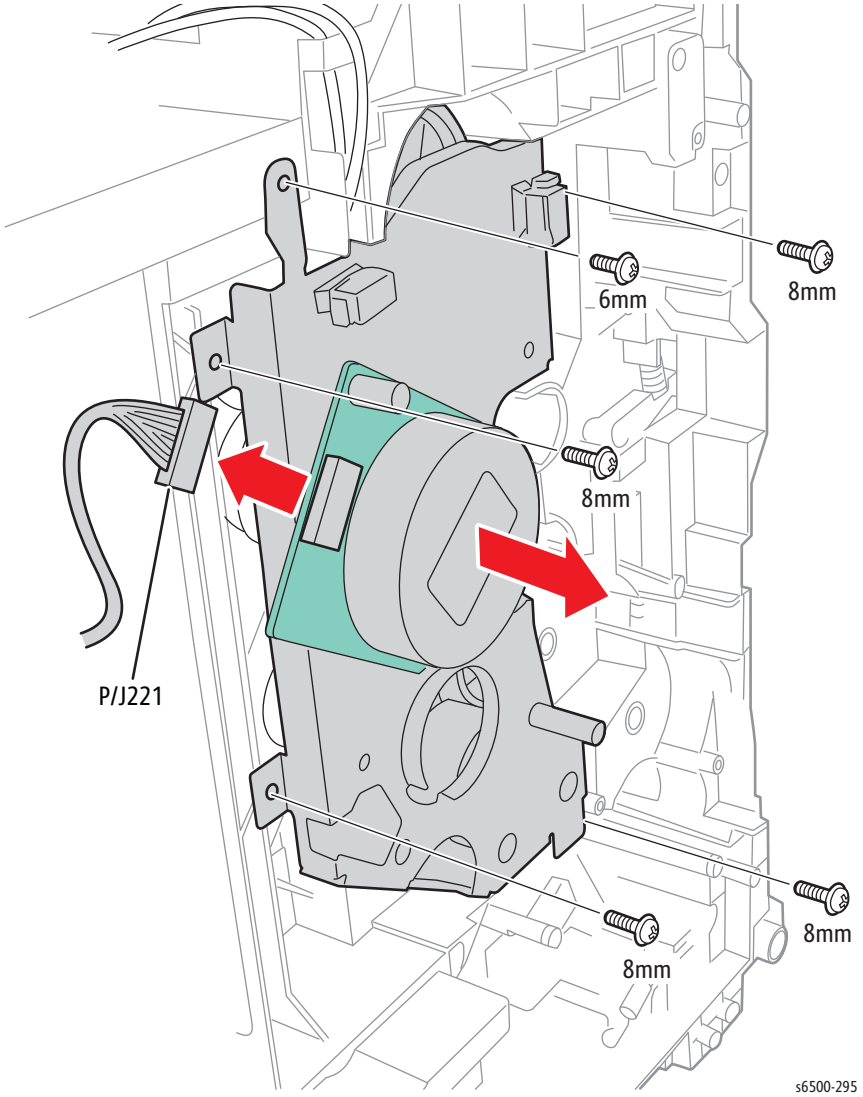
Drive

Sub-Drive Assembly

PL 7.1.1 (Drive Assy Sub)

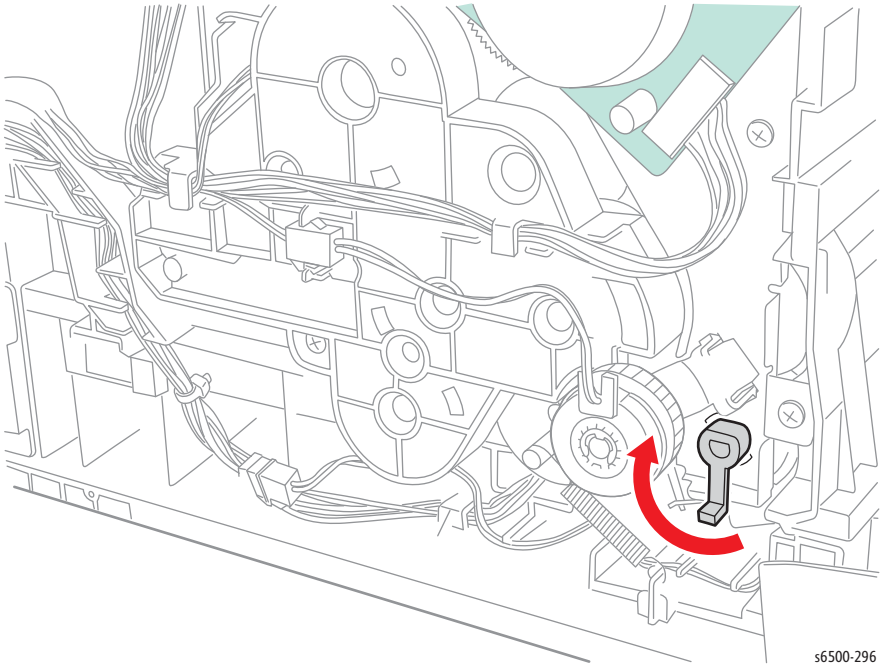
1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Left Side Cover (SFP, page 8-18; MFP, page 8-37).
4. Remove the Drive Clutch and Bearing Kit (page 8-48).
5. Remove the Feed Drive Assembly (page 8-117).
6. Remove the Main Drive Assembly (page 8-114).
7. Remove Gear P2 (page 8-116).
8. Release the Interlock Harness from the clamps.
9. Disconnect P/J221 from the Sub-Drive Assembly.
10. Remove the screws (one silver, M4, 6mm; four silver, tap, 8mm) that secure the Sub-Drive Assembly to remove the drive.



Main Drive Assembly

PL 7.1.2 (Drive Assy Main)

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Left Side Cover (page 8-18; MFP - page 8-37).
4. Remove the Drive Clutch and Bearing Kit (page 8-48).
5. Remove the Feed Drive Assembly (page 8-117).
6. Remove Gear P2 (page 8-116).
7. Rotate the Stopper Pivot(PL6.1.3) counter clockwise to align the tabs with openings in the Main Drive Assembly and remove the stopper.



8. Remove the screws (one silver, M4, 6mm; five silver, tap, 8mm) that secure the Main Drive Assembly to remove the drive.

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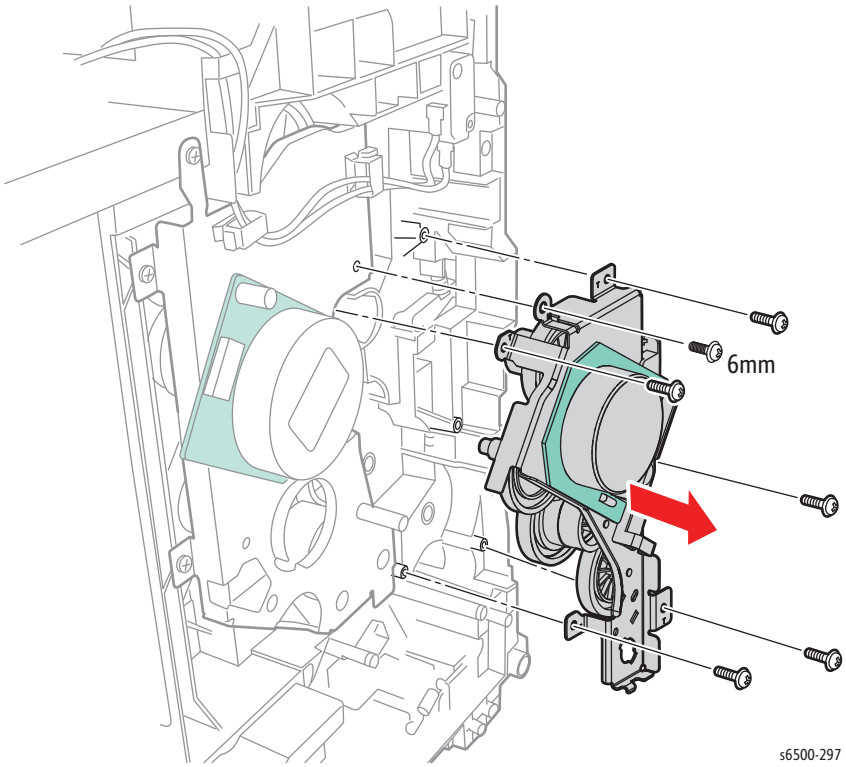


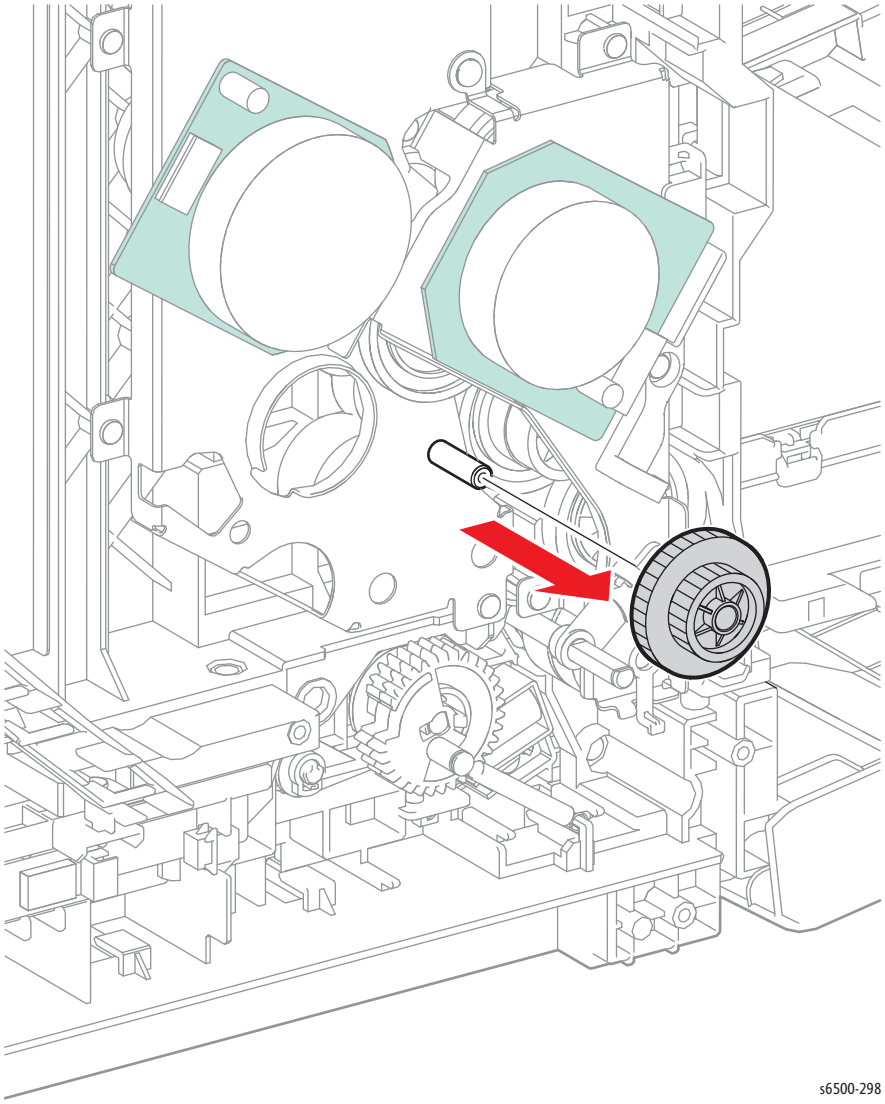
Replacement Note

Secure the wiring harness connecting the sub motor through the back of the hook on the Main Drive Assembly

Gear P2

PL 7.1.3 (Gear P2)

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Left Side Cover (page 8-18).
4. Remove the Drive Clutch and Bearing Kit (page 8-48).
5. Remove, but do not disconnect the Feed Drive Assembly (page 8-117).
6. Remove Gear P2 from the shaft of the Sub-Drive Assembly.



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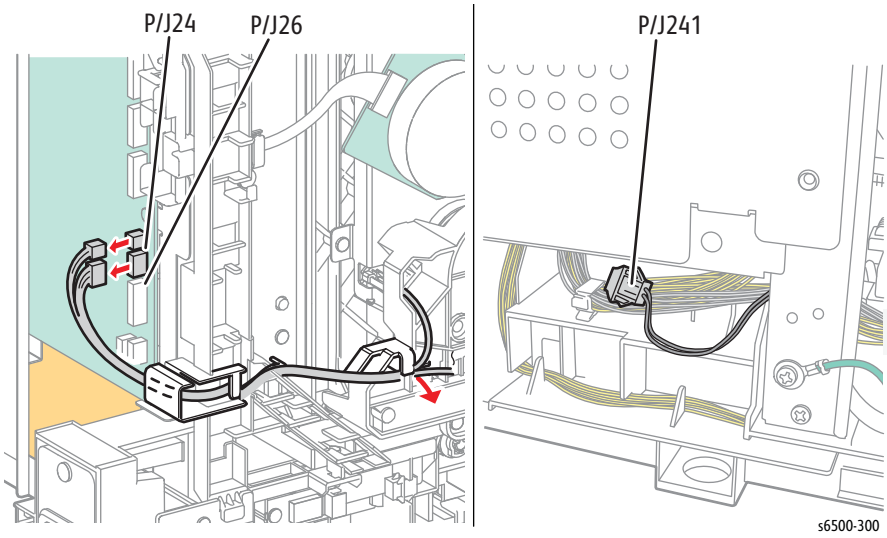
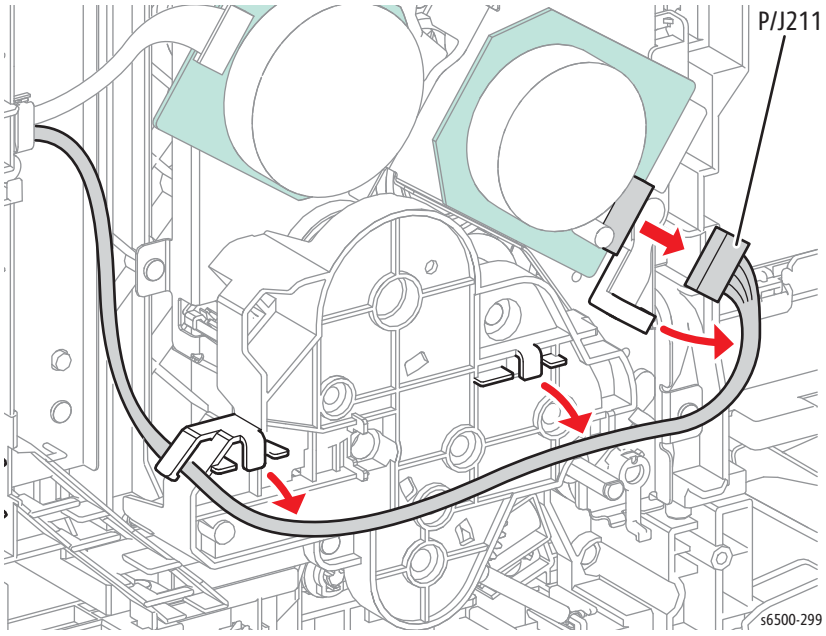
Feed Drive Assembly

PL7.1.4 (Drive Assy PH)

1. Open the Front Cover.
2. Remove the Left Side Cover (page 8-18).
3. Remove the Drive Clutch and Bearing Kit (page 8-48).
4. **SFP Only:** Disconnect P/J24 and P/J26 from the MCU Board and release the harnesses from the AC harness guide.
5. **MFP Only:** Unplug P/J241 of the Feed Drive Assembly.



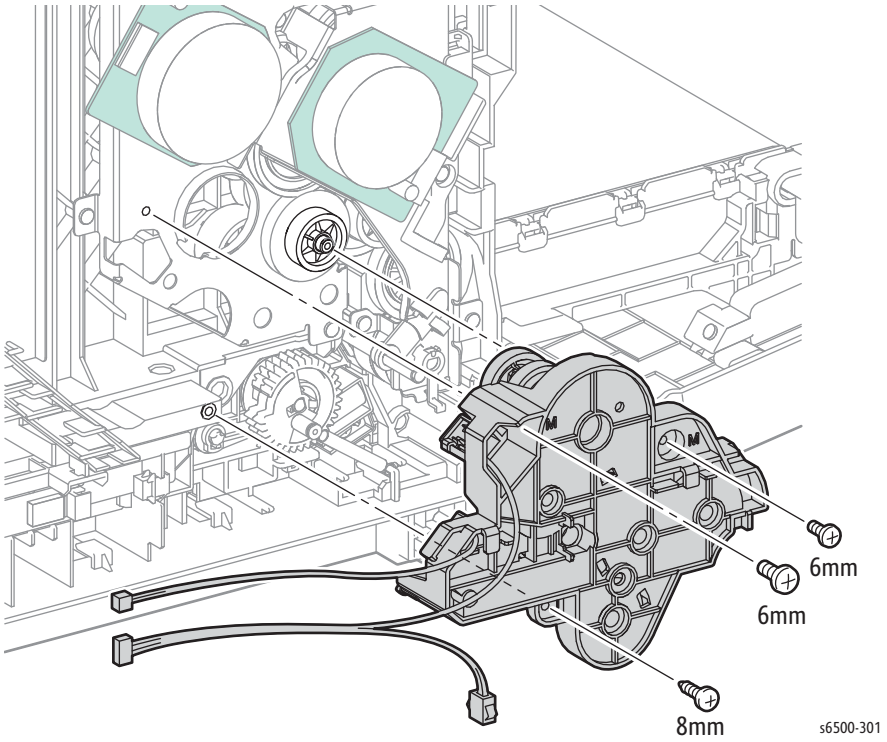
6. Disconnect P/J211 of the Main Drive Assembly and release all the harnesses from the hooks on the Feed Drive Assembly.



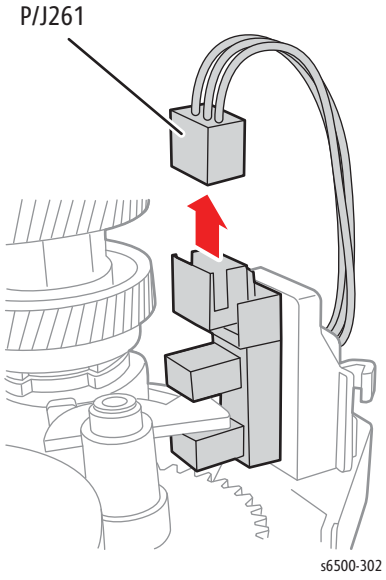
Note

Make sure the coupling gear remains on the shaft of the Feed Drive Assembly.

7. Release the harnesses from the locking clamp and pull the harness out from the hole in the chassis.
8. Remove three screws (one silver, M4, 6mm; one silver, M3, 6mm; one silver, tap, 8mm) that attach the Feed Drive Assembly to the printer.



9. **MFP Only:** Unplug P/J261 from the Color Mode Sensor on the Feed Drive Assembly, and release the harness from the hook on the Feed Drive Assembly.



Replacement Note

The screw holes in the assembly are marked with “M” and “T” to indicate where machine (M) or tapping (T) screws are used.

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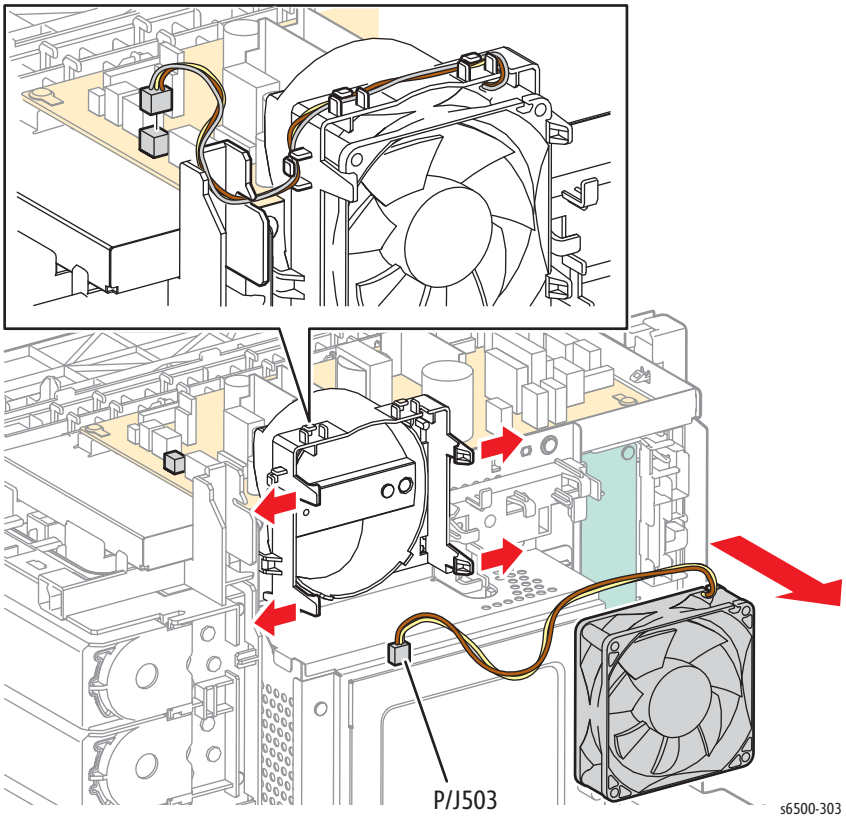
SFP Electrical

SFP Fan

SFP PL8.1.1 (Fan)

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Top Cover (page 8-15).
4. Remove the Right Side Cover (page 8-17).
5. Remove the Left Side Cover (page 8-18).
6. Remove the Rear Tray Cover (page 8-19).
7. Remove the Rear Cover (page 8-20).
8. Disconnect P/J503 from the LVPS Board and release the Fan harness from the guides on the fan duct.
9. Release 4 hooks that secure the Fan in the fan duct.



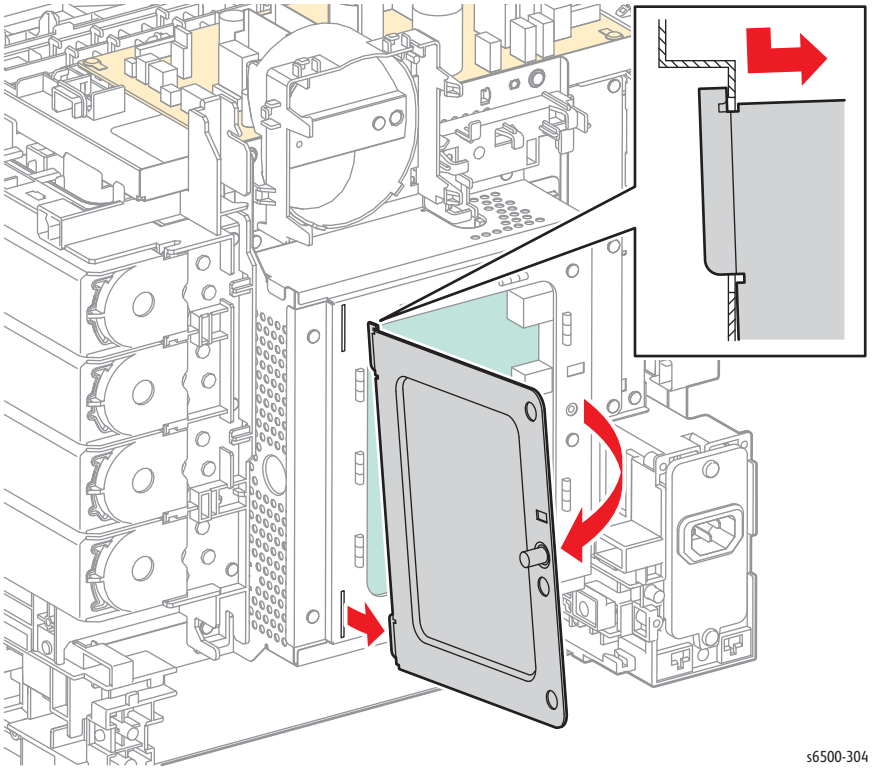
Replacement Note

Install the Fan to direct airflow into the printer. The Fan has arrows that indicate the direction of airflow through the Fan.

SFP Image Processor Board

PL8.1.7 (PWBA ESS)

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Top Cover (page 8-15).
4. Remove the Right Side Cover (page 8-17).
5. Remove the Left Side Cover (page 8-18).
6. Remove the Rear Tray Cover (page 8-19).
7. Remove the Rear Cover (page 8-20).
8. Remove the Fan (page 8-119).
9. Loosen the knurled thumbscrew and open the cage cover.
10. Lift the cage cover slightly and swing it outward to release the lower tab from the IP Board Shield slit. Slide the cover down to release the upper tab and pull straight out to remove the cage cover from the printer.



11. Remove 11 screws (silver, metal, 6mm) that secure the IP Board Shield to the chassis and remove the IP Board Shield.

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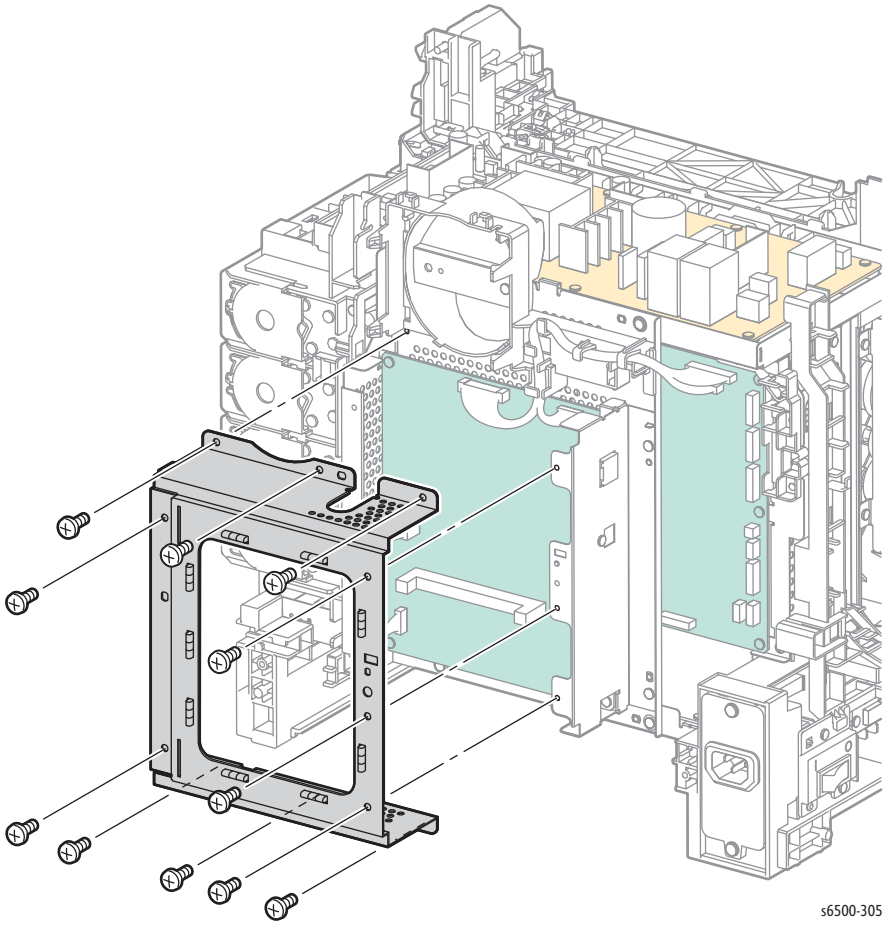
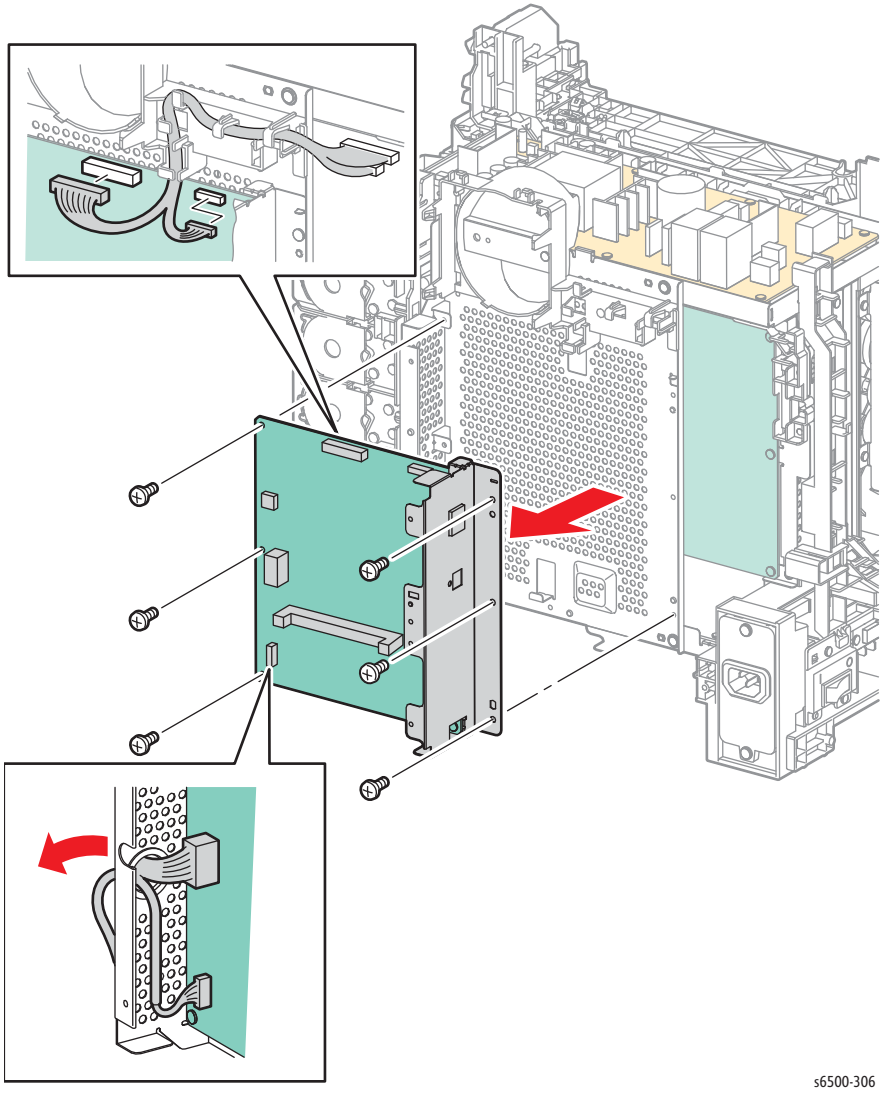

s6500-305

12. Disconnect all connections to the IP Board and release the harnesses from the IP Board cage.
13. Remove six screws (silver, metal, 6mm) that secure the IP Board and rear panel to the chassis.



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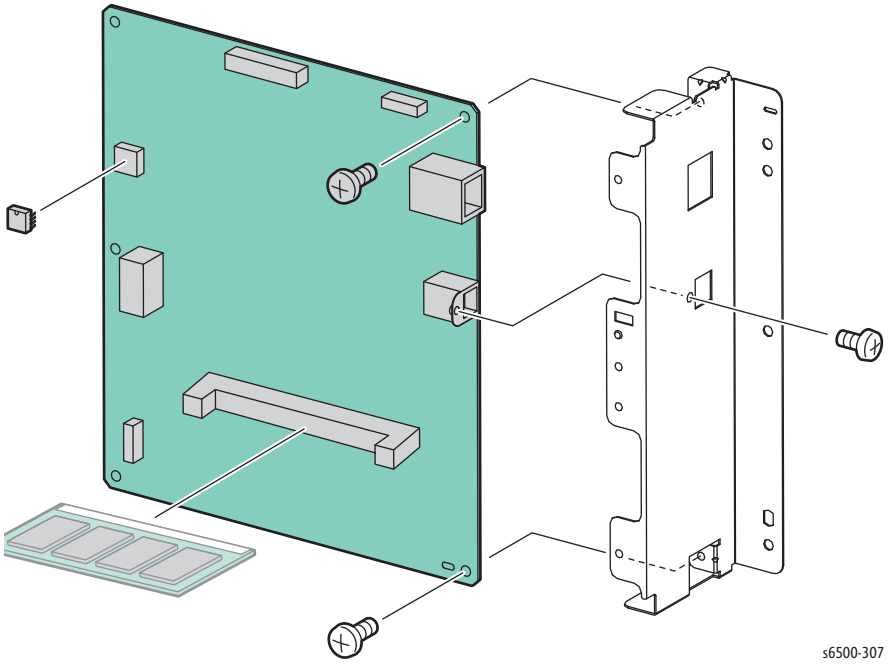
14. Remove the screw (silver, 4mm) that secures the USB connector on the Image Processor Board to the I/O Plate.
15. Remove two screws (silver, 6mm) that secure the IP Board to the rear panel and separate the two pieces.



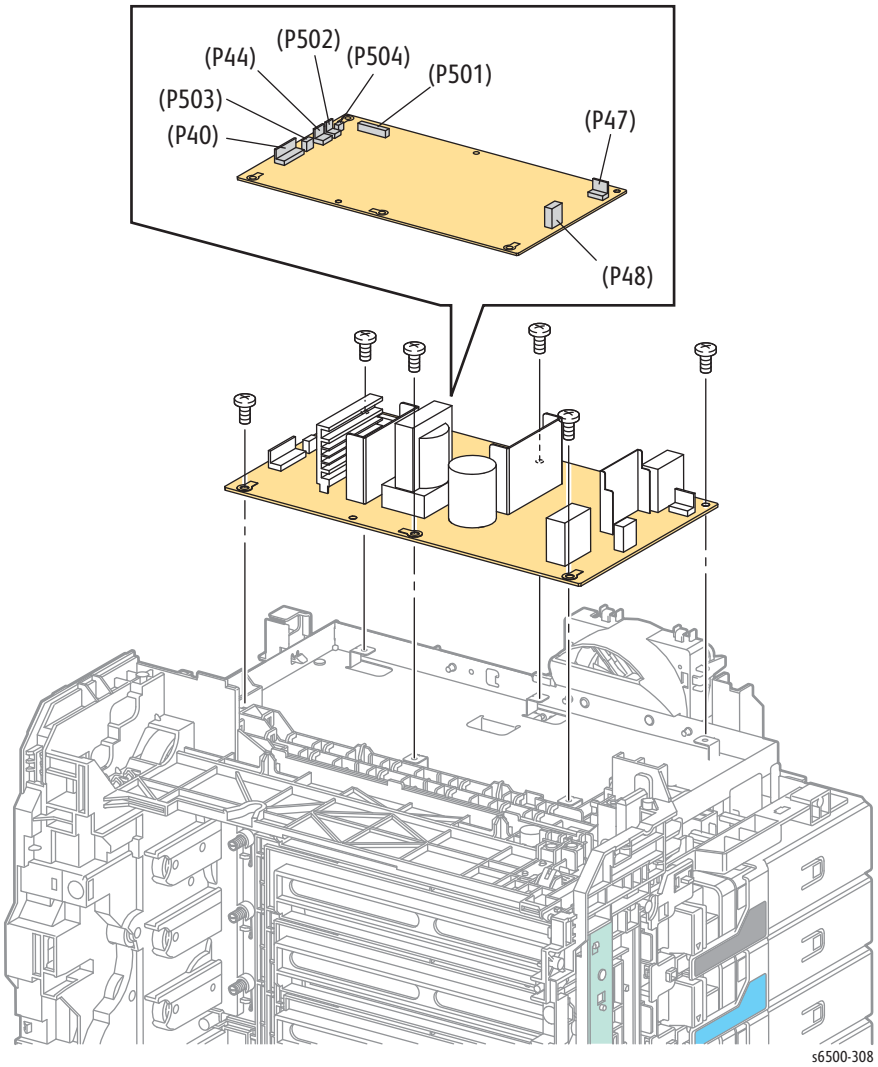
Replacement Note

When installing a new IP Board, move the NVRAM and, if installed, the Memory Card from the old IP Board to the new IP Board. Note NVRAM chip orientation in the socket when removing and replacing the device

SFP LVPS

SFP PL8.2.1 (PWBA LVPS 110V & PWBA LVPS 200V)

1. Turn Off power and disconnect the power cord from the wall outlet.
2. Open the Front Cover.
3. Remove the Top Cover (page 8-15).
4. Disconnect all connections from the LVPS.
5. Remove the 6 screws (silver, metal, 6mm) that secure the LVPS to the frame and remove the LVPS from the printer.



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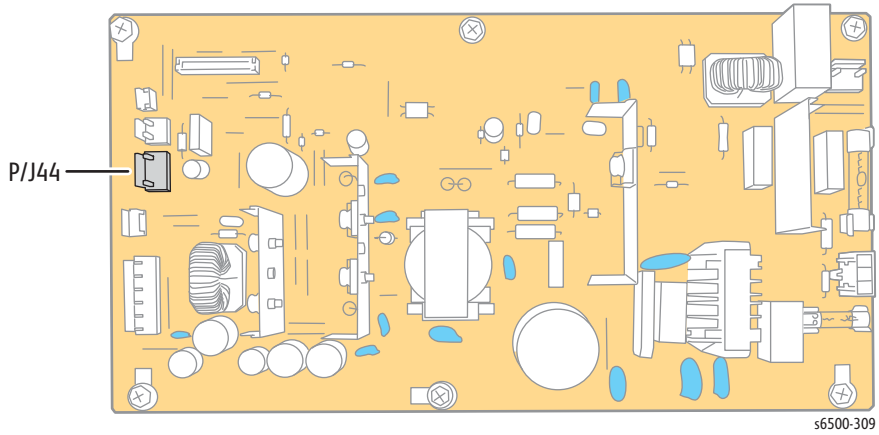
SFP Interlock Harness

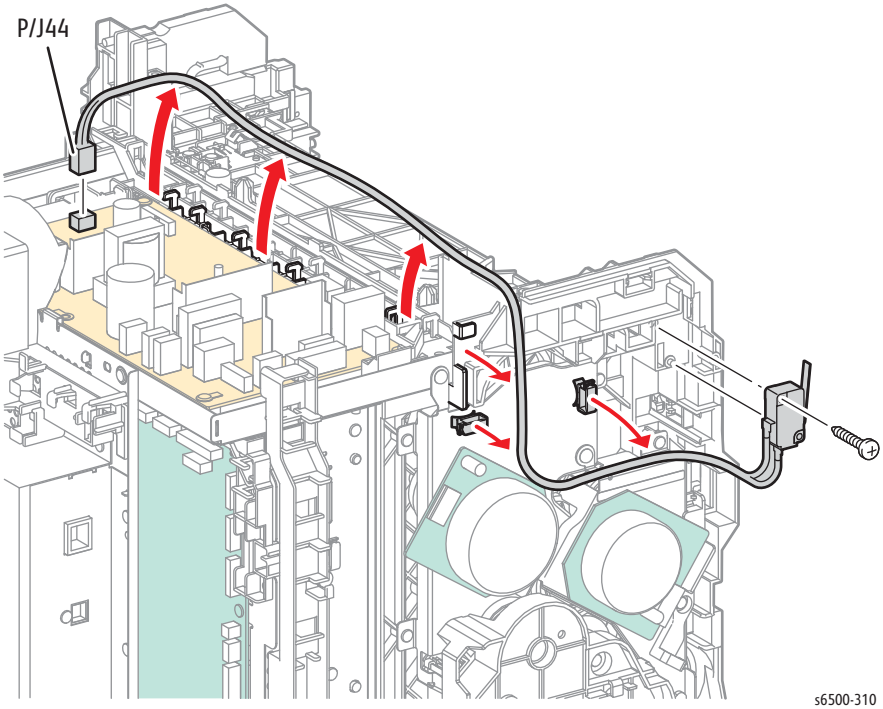
SFP PL8.2.5 (Harn Assy Interlock [SW-J44])

1. Perform the service preparation steps on page 8-3.
2. Remove the Top Cover (page 8-15).
3. Remove the Left Side Cover (page 8-18).
4. Disconnect P/J44 on the LVPS, and release the harness from the clamp.



s6500-309

5. Release the harness from the Fuser Harness Guide and two clamps on the chassis.
6. Remove the screw (sliver, tap, 6mm) that attaches the Interlock Harness microswitch to the chassis.

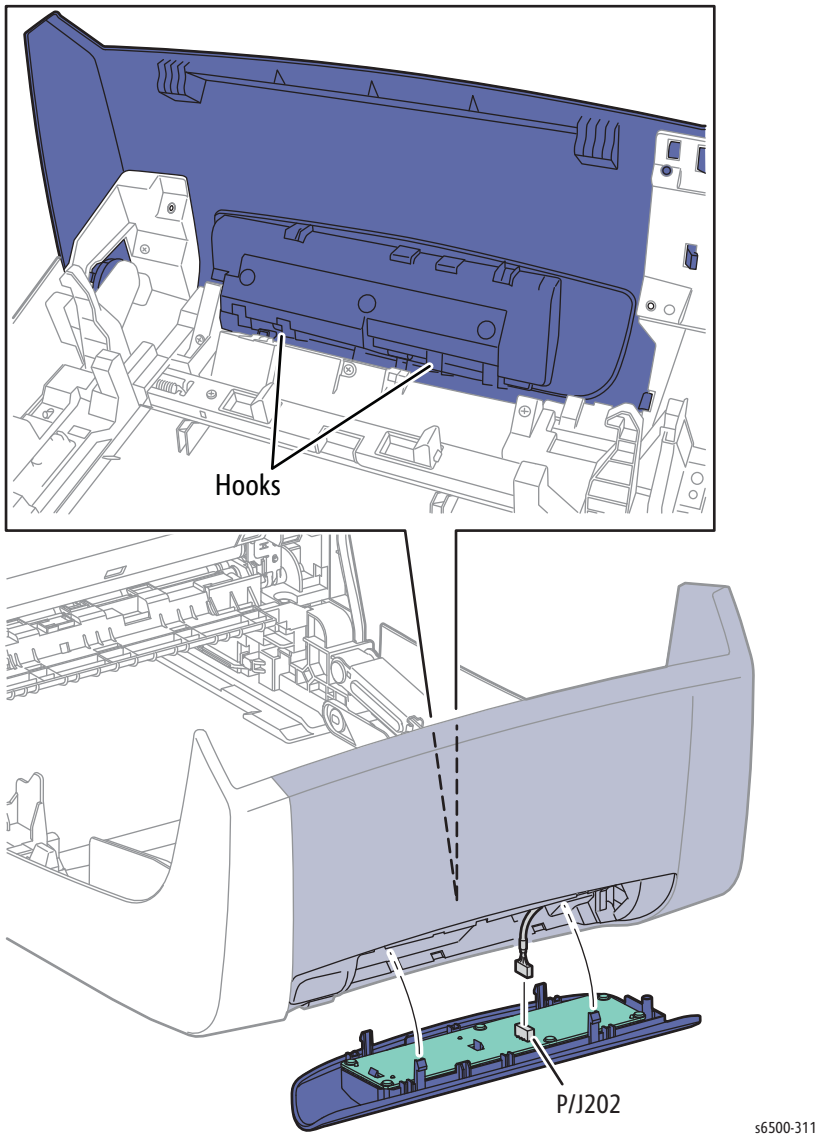


s6500-310

SFP Control Panel

SFP PL1.2.3 (Console Assy Panel)

1. Turn Off power and disconnect the power cord from the wall outlet.
2. Open the Front Cover.
3. Remove Duplex Unit if installed (page 8-162).
4. Release two hooks that secure the Control Panel to the Front Cover.
5. Disconnect P/J202 to release the Control Panel from the Front Cover.



Replacement Note

Make sure the wire harness is seated in the slot through the stiffener rib in the Front Cover. If the harness is not properly seated in the slot, it could be pinched by the Control Panel.

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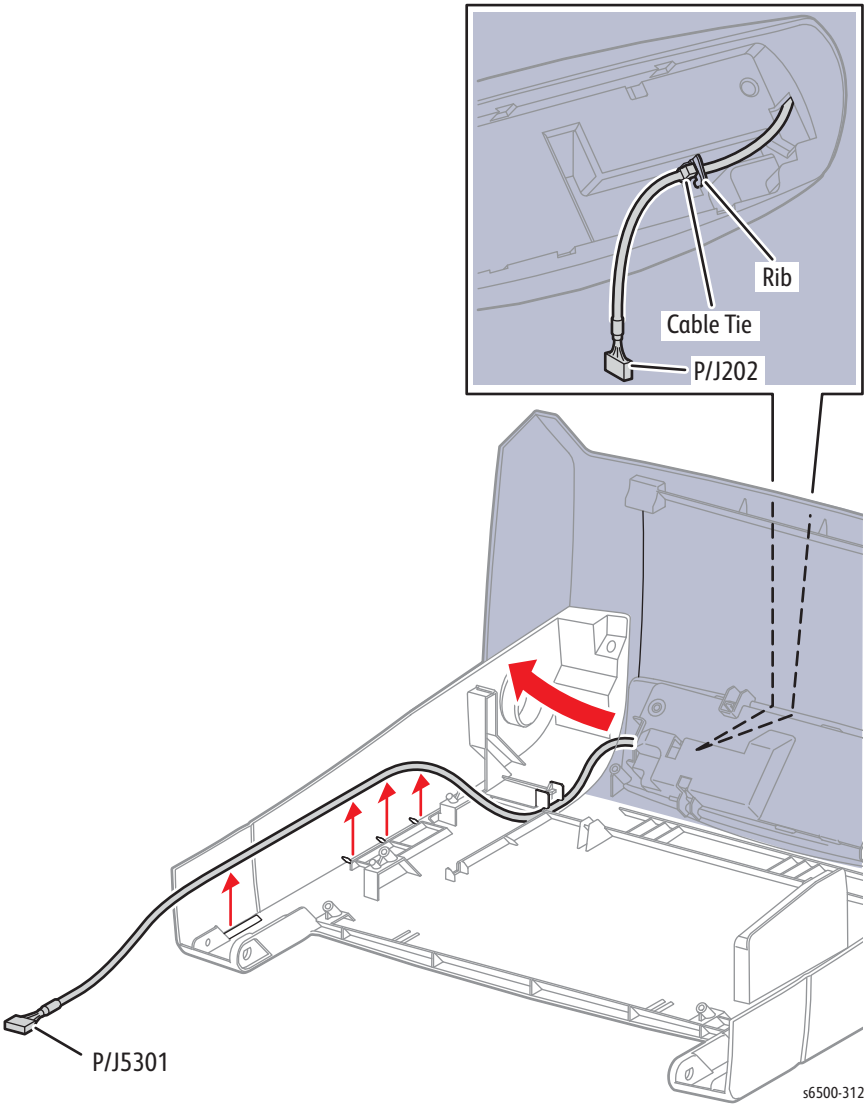
SFP Control Panel Harness A

SFP PL1.2.12 (Harness Assy A [J202-J5301])

1. Turn Off power and disconnect the power cord from the wall outlet.
2. Open the Front Cover.
3. Remove Duplex Unit if installed (page 8-162).
4. Remove the Control Panel (page 8-126).
5. Disconnect P/J202 and release the harness from the Control Panel.
6. Remove the Right front holder (page 8-25).

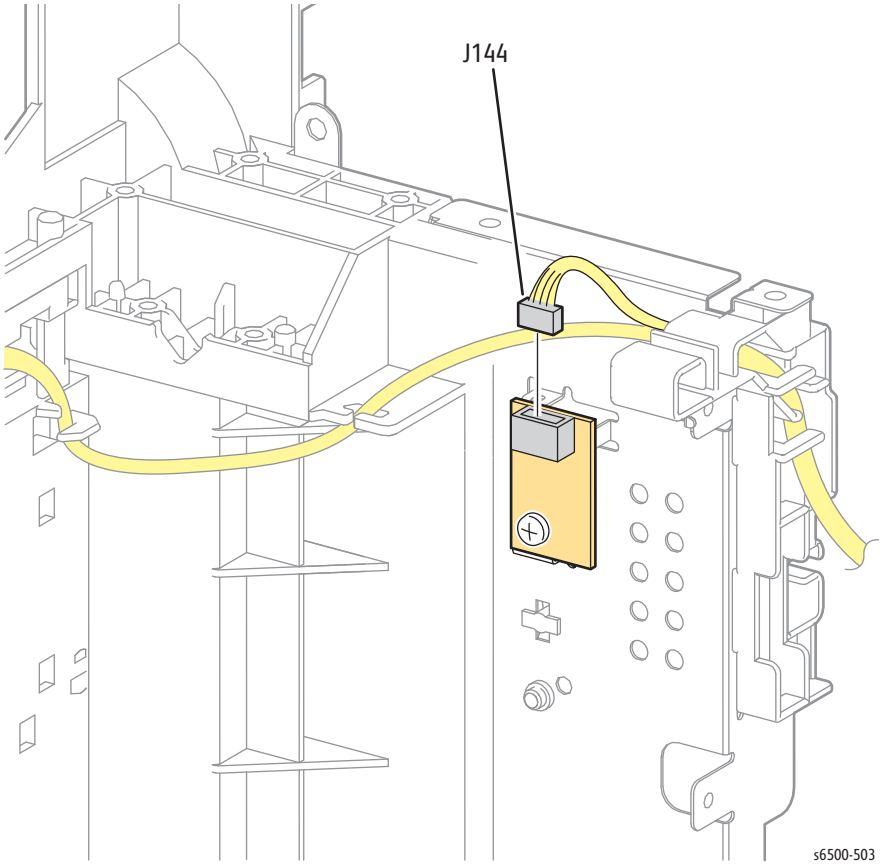


7. Remove the Right Side Cover (page 8-17).
8. Disconnect P/J2900 to remove the harness.

SFP PHD XPRO Harness

PL 9.1.11 Harness Assy PHD XPRO

1. Perform the service preparation steps on page 8-3.
2. Remove the Laser Unit (page 8-86).
3. Unplug J144 from the EEPROM Board).



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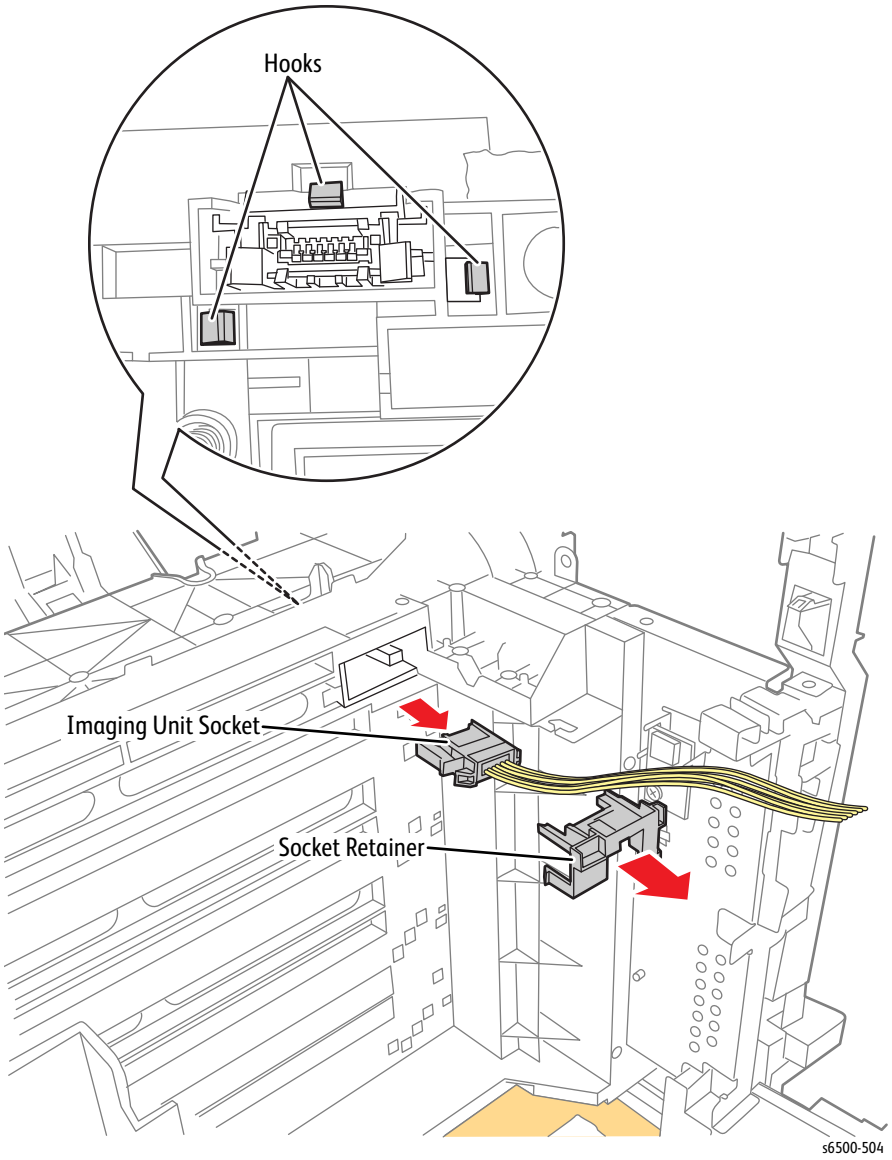
4. From the front of the chassis, release the right, top, and left hooks on the Imaging Unit socket retainer, then remove the retainer from the rear of the chassis.



5. Lift the Imaging Unit socket to the top of the opening, and from the rear, pull the socket from the chassis opening.

Replacement Note

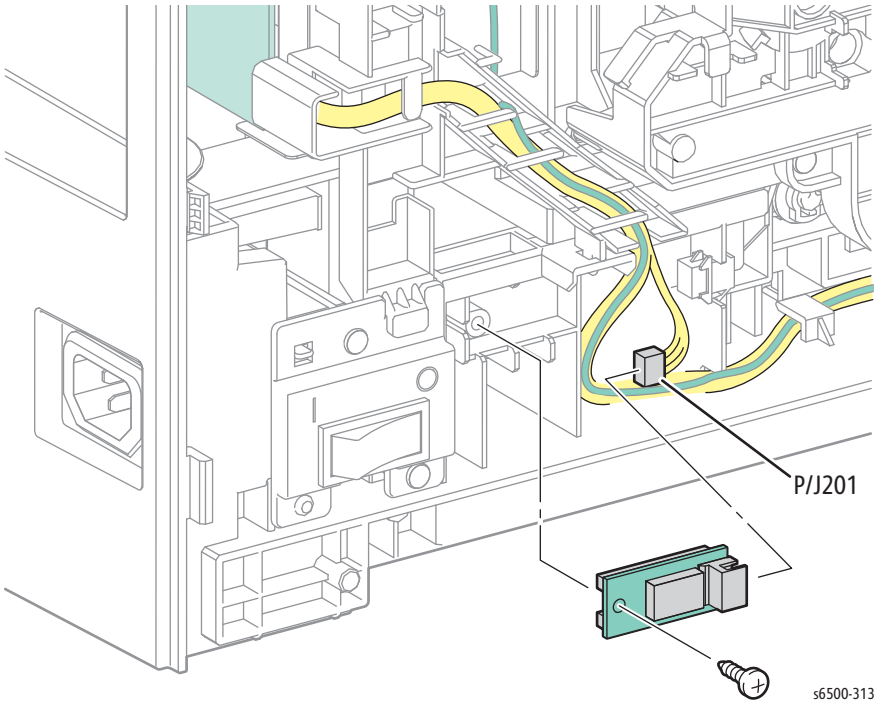
When installing the Imaging Unit socket:

6. Insert the socket into the chassis opening, making sure the square notches on the sides of the socket are seated over the posts in the opening.
7. Insert the socket retainer. Make sure all the latches engage and the rear of the retainer is flush with the chassis.

SFP Humidity Sensor

SFP PL8.2.7 (Sensor HUM)

1. Turn Off power and disconnect the power cord from the wall outlet.
2. Open the Front Cover.
3. Remove the Top Cover (page 8-15).
4. Remove the Left Side Cover (page 8-18).
5. Remove the screw (silver, tap, 8mm) that secures the Humidity Sensor to the chassis.
6. Unplug the connector (P/J201) and remove the sensor.



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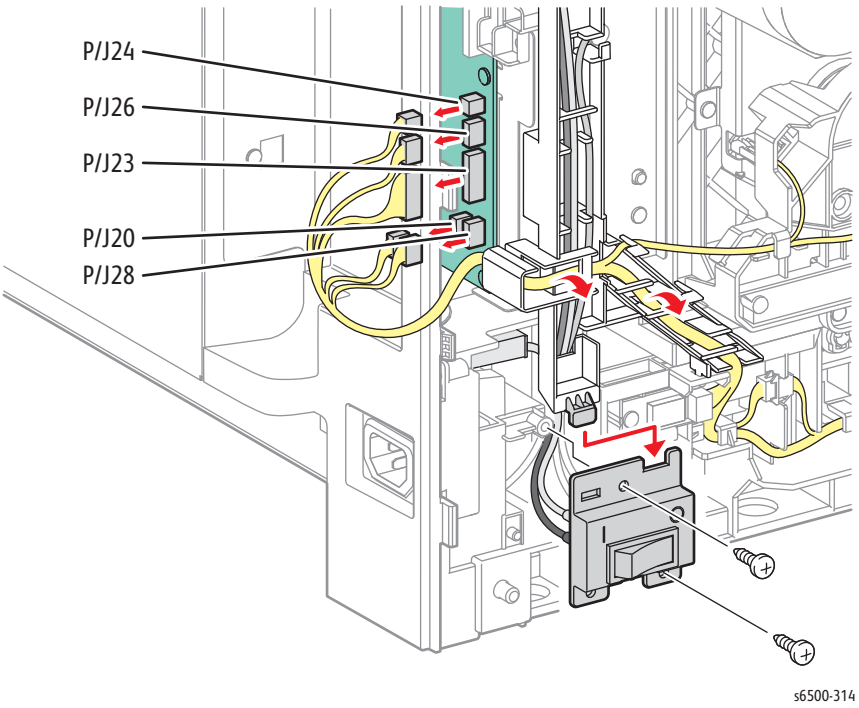
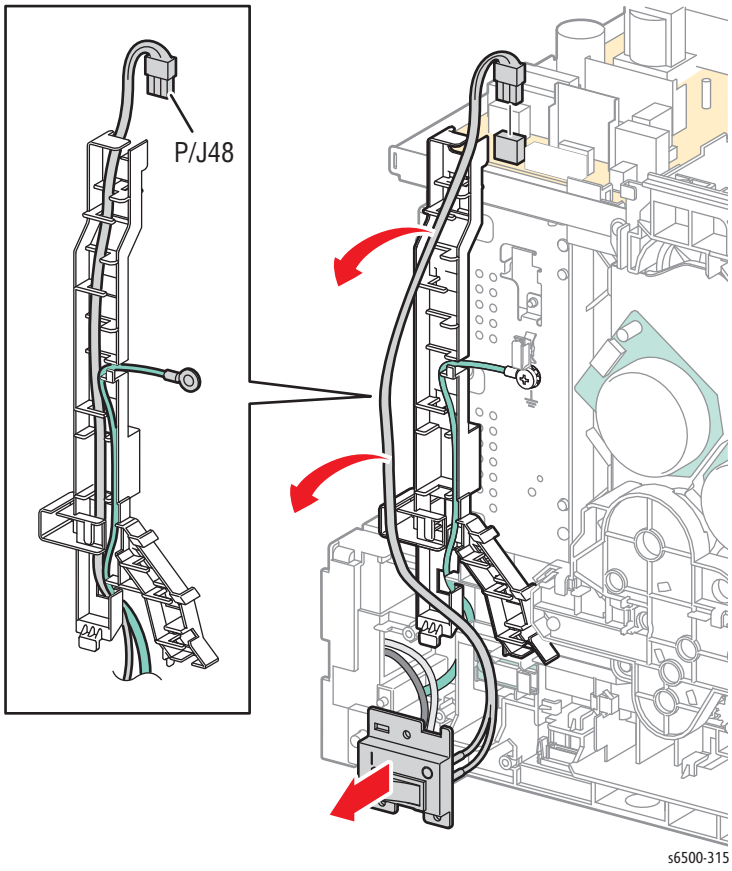
SFP AC Power Inlet and Power Switch Harness

SFP PL8.2.9 (Harn Assy SW Power [SW-J48, Jr82, J483], 100 & 200)

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Top Cover (page 8-15).
4. Remove the Right Side Cover (page 8-17).
5. Remove the Left Side Cover (page 8-18).
6. Remove the Rear Tray Cover (page 8-19).
7. Remove the Rear Cover (page 8-20).
8. Disconnect P/J20, 23, 24, 26, and 28 on the MCU Board and release the harness from the AC Harness Guide.
9. Remove two screws (silver, tap, 8 mm) that secure the power switch bracket, and release the bracket with switch from the hook on the chassis.

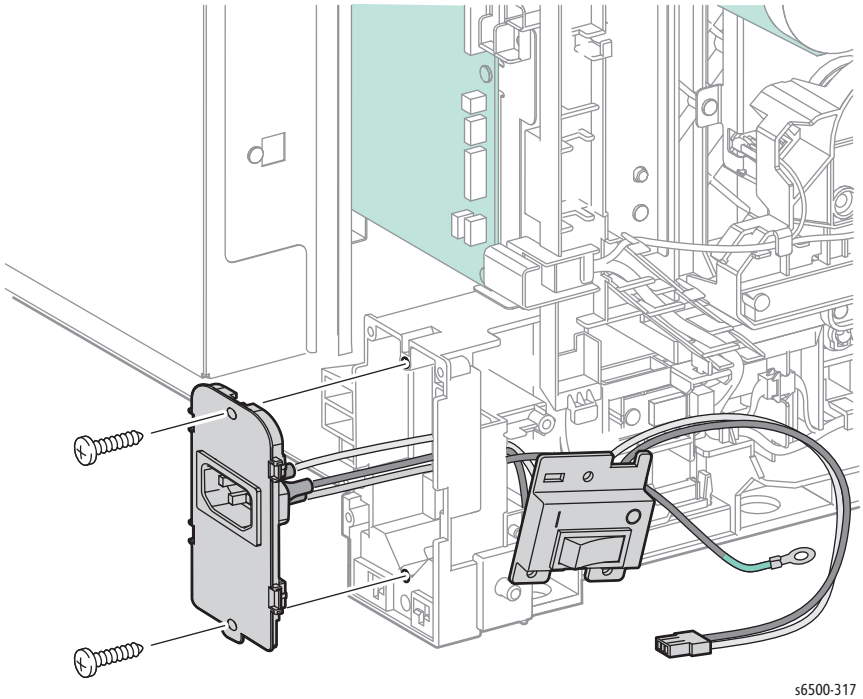


10. Disconnect P/J48 from the LVPS.
11. Remove the screw (silver, with washer, 6mm) that attaches the grounding terminal to the frame.
12. Release the Power Switch Harness from the AC harness guide.



s6500-315

13. Remove the two screws (silver, tap, 12mm) that secure the Inlet Cover to the printer frame.



s6500-317

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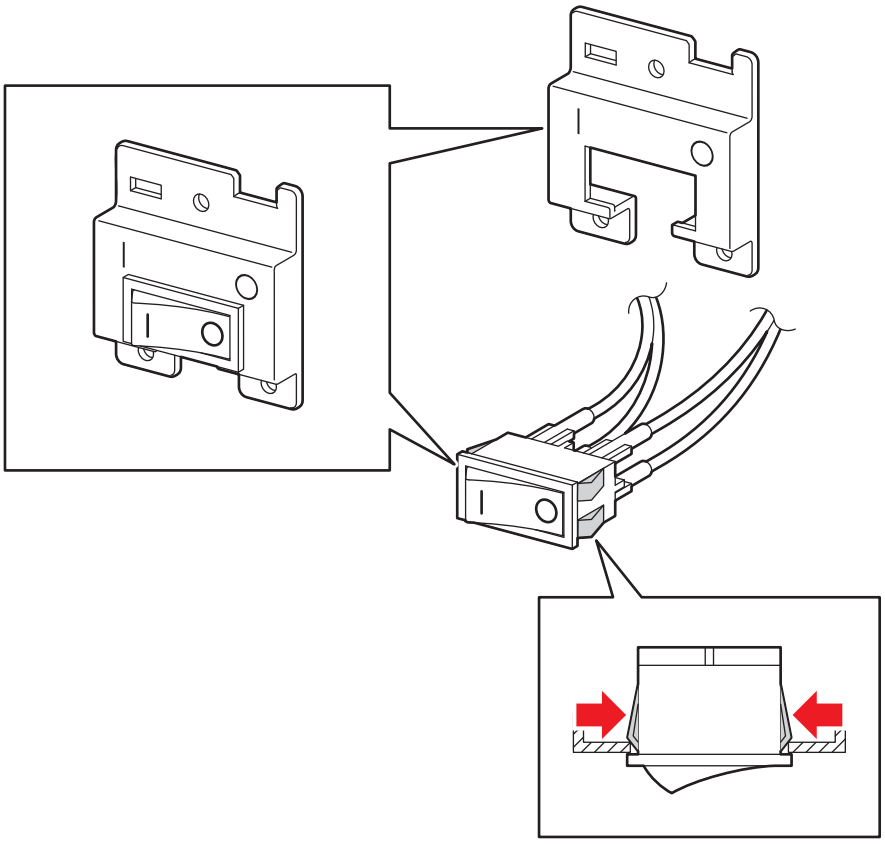
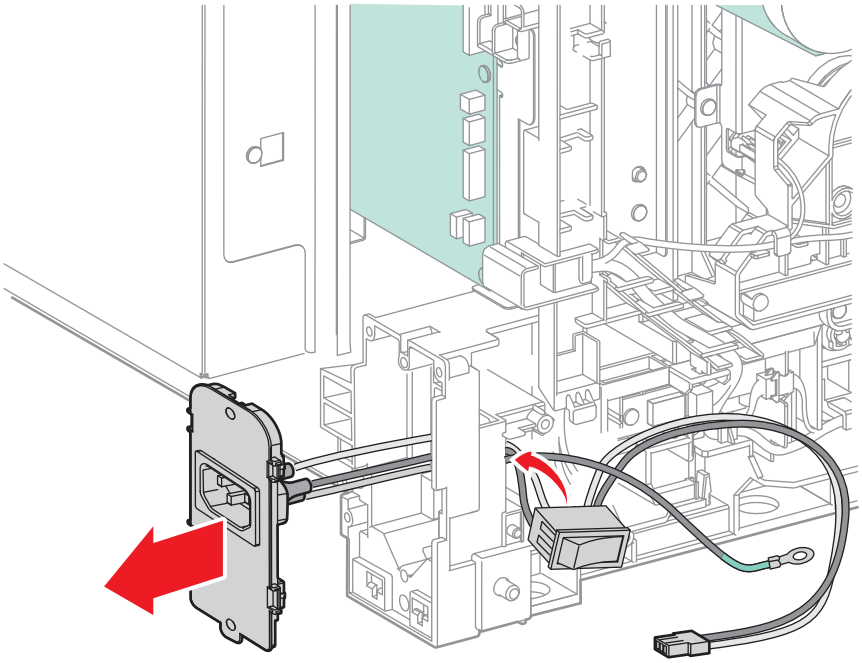
14. Squeeze the hooks on the power switch to release the switch from the bracket.



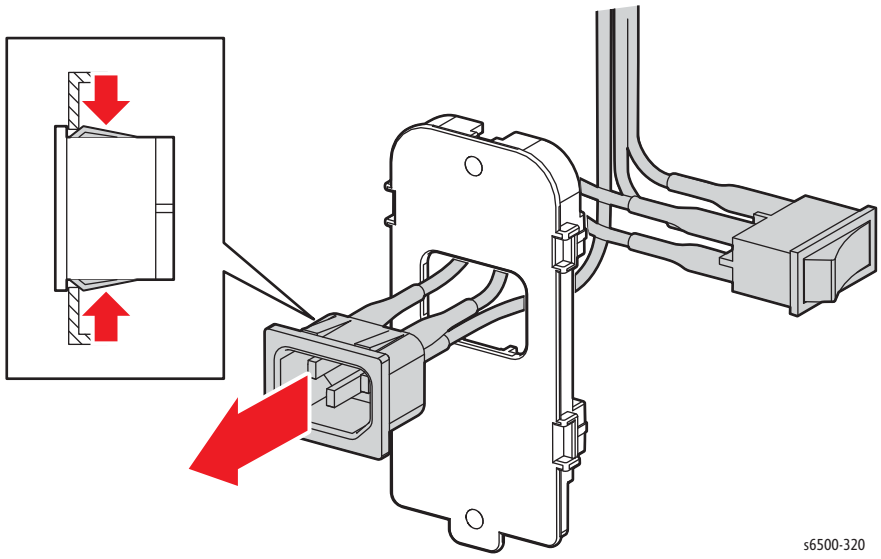
s6500-318

15. Remove the Inlet Cover from the printer, pull the harness and power switch out through the hole in the frame, and remove the Inlet Switch Assembly from the printer.



s6500-319

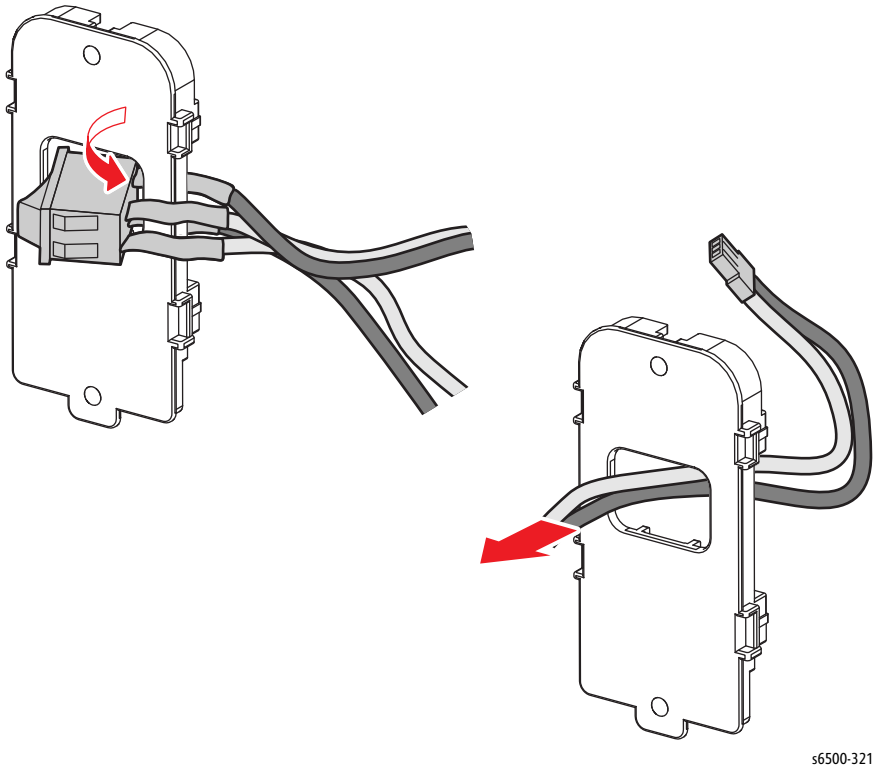
16. Squeeze the hooks on the AC Inlet to release it from the Inlet Cover.



17. Pull the harness, power switch, and connector (J48) out through the hole in the Inlet Cover.

Note

Pull the ground wire out of the hole first to ease fitting the switch through the hole.



Replacement Note

Make sure that the “I” and “O” symbols on the bracket and switch are aligned before installing the switch in the bracket.

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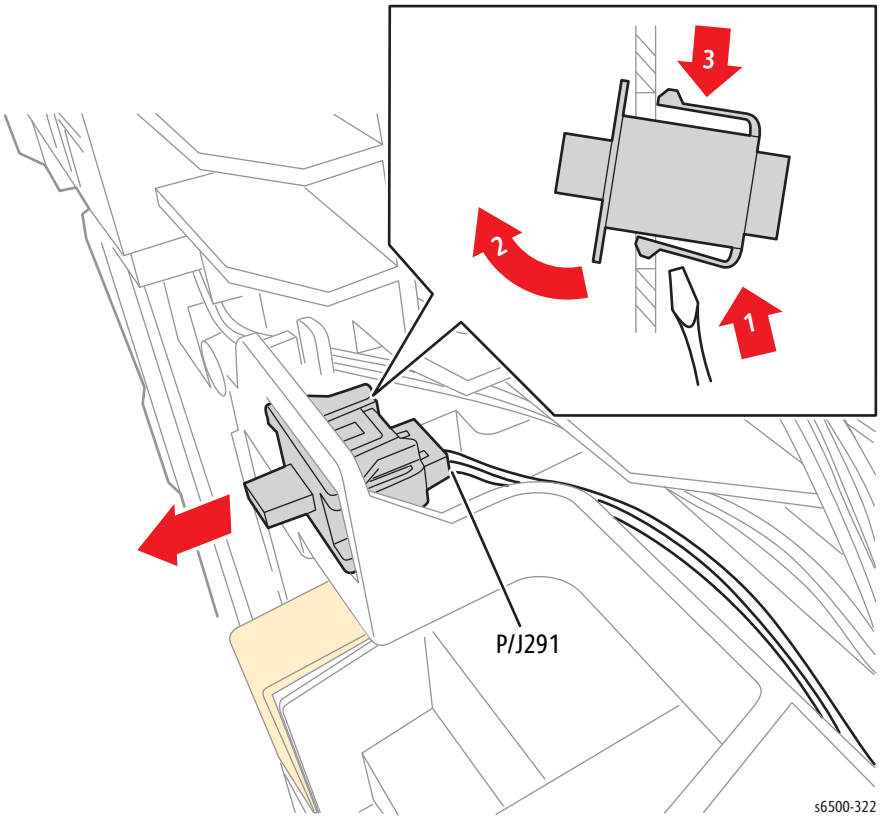
SFP Toner Door Switch

PL5.1.9 (Switch)

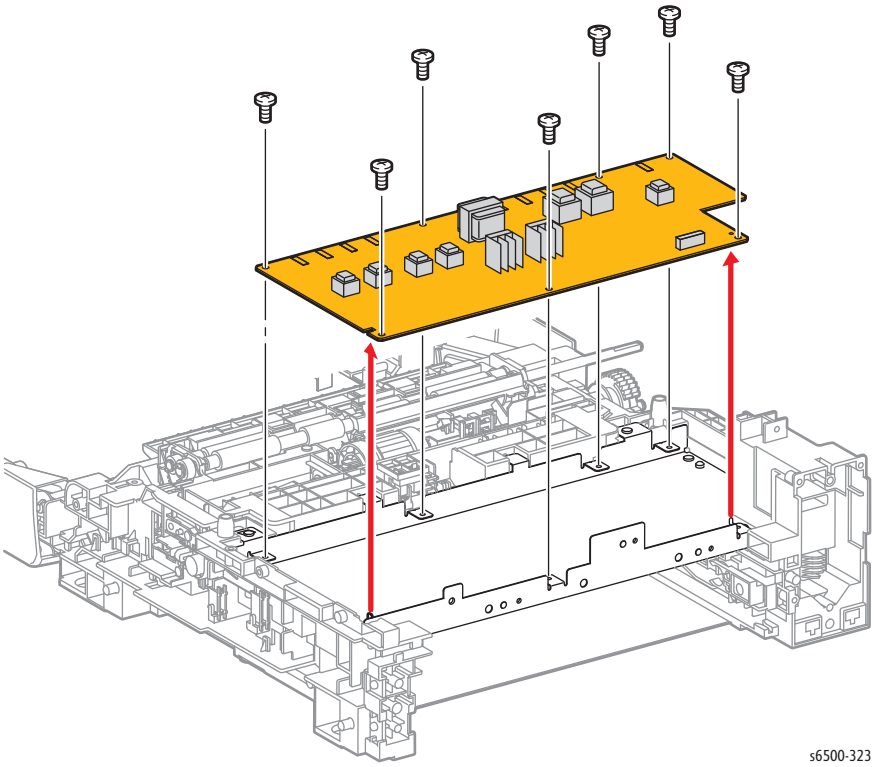
1. Turn Off power and disconnect the power cord from the wall outlet.
2. Open the Front Cover.
3. Remove the Top Cover (page 8-15).
4. Remove the Right Side Cover (page 8-17).
5. Remove the Toner Door (page 8-21).
6. Using a miniature screwdriver, release the hooks that latch the switch in the frame and remove the switch.
7. Unplug the switch from the harness connector (P/J291).



SFP HVPS

PL4.1.19 (PWBA HVPS)

1. Remove the SFP Upper Frame Assembly (page 8-51).
2. Remove the 7 screws (silver, 6mm) that secure HVPS to the HVPS Frame.



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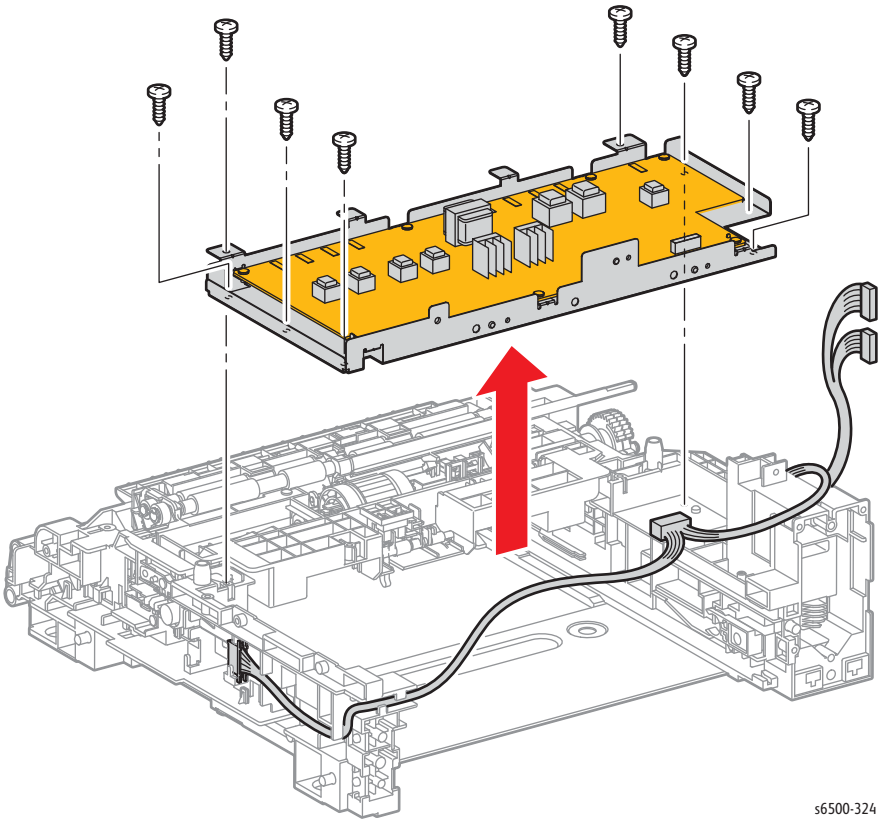
SFP HVPS Frame

SFP PL4.1.20 (Frame HVPS [SFP Only])

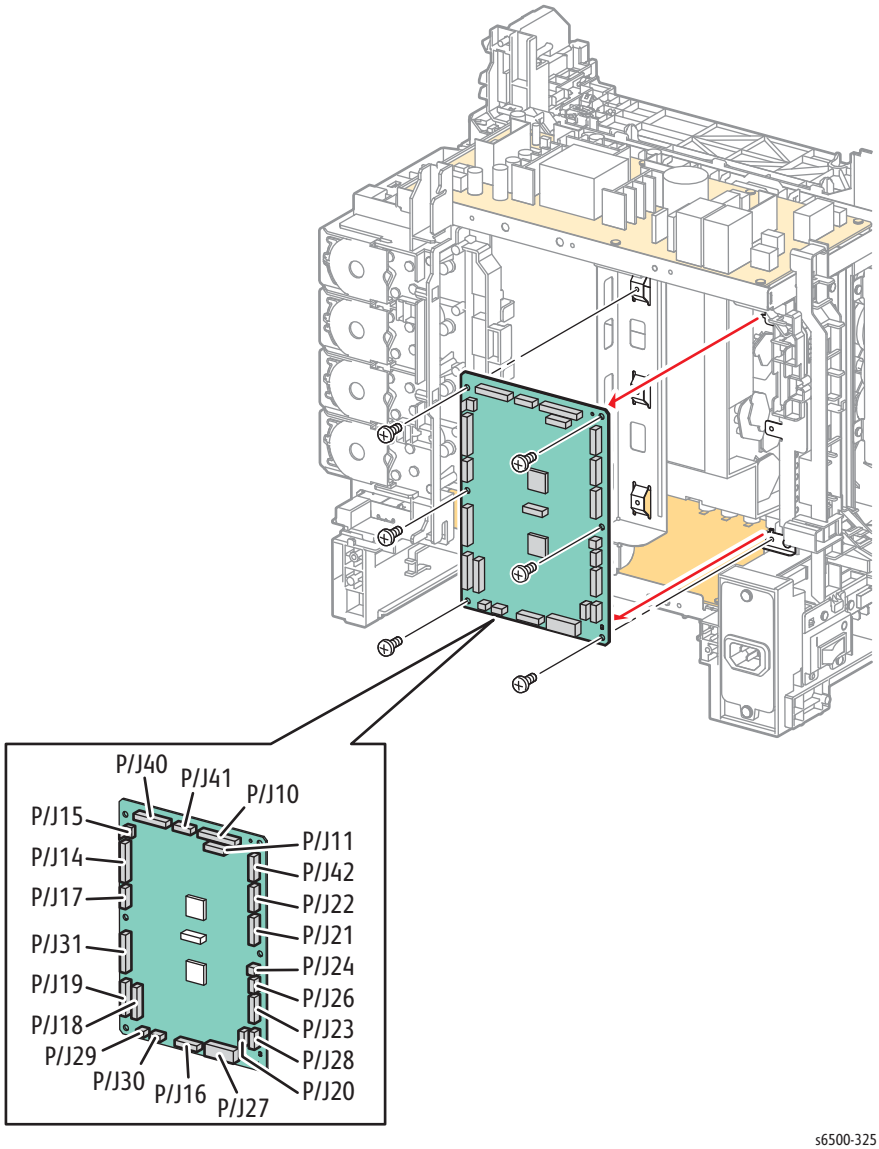
1. Remove the SFP Upper Frame Assembly (page 8-51).
2. Remove eight screws (silver, 6mm) that secure the HVPS Frame to the Feeder.



SFP MCU Board

SFP PL8.2.13 (PWBA MCU)

1. Use the Service Diagnostics routine “Save NVM to ESS” on page 4-15 to transfer the contents of the MCU NVRAM to the IP Board.
2. Exit Service Diagnostics and turn Off the printer.
3. Disconnect the Power Cord from the wall outlet.
4. Remove the Top Cover (page 8-15).
5. Remove the Right Side Cover (page 8-17).
6. Remove the Left Side Cover (page 8-18).
7. Remove the Rear Tray Cover (page 8-19).
8. Remove the Rear Cover (page 8-20).
9. Remove the IP Board Cage (page 8-140).
10. Unplug all connectors from the MCU Board.
11. Remove six screws (silver, 6mm) that secure the MCU Board to the chassis to remove the board.



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SFP EEPROM Board

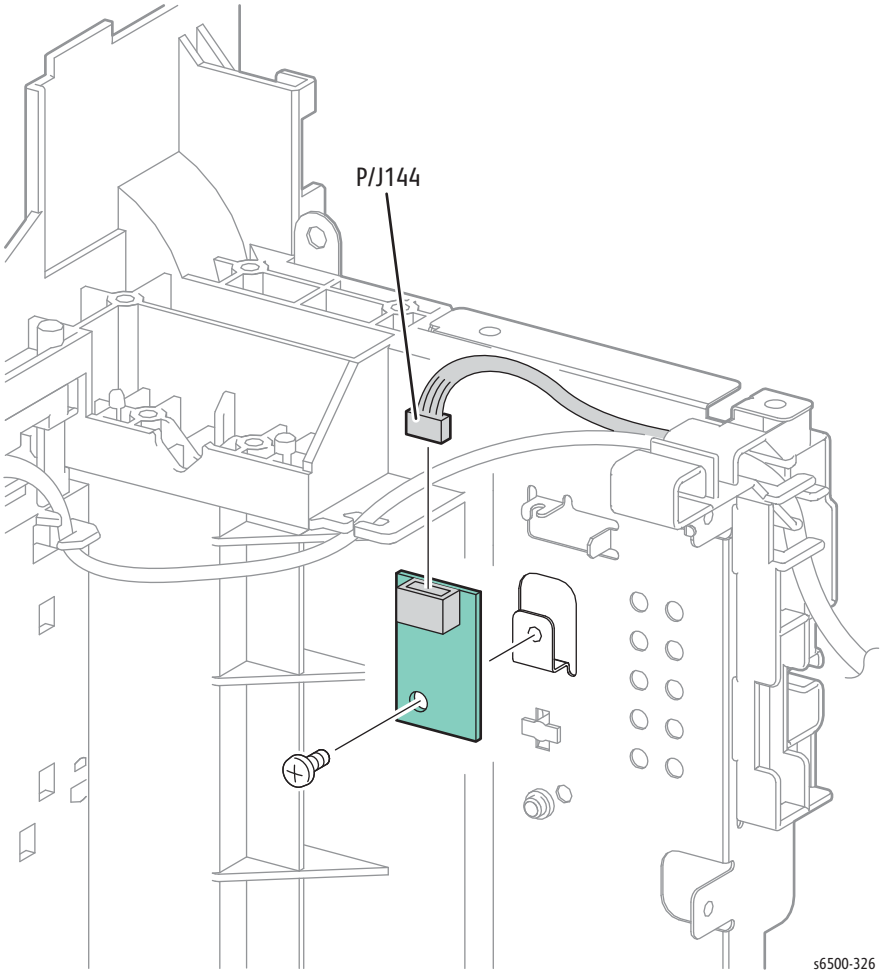
SFP PL8.2.16 (PWBA EEPROM [XPRO])

1. Remove Tray 1.
2. Open the Front Cover.
3. Remove the Rear Tray Cover (page 8-19).
4. Remove the Left Side Cover (page 8-18).
5. Remove the Rear Cover (page 8-20).
6. Remove the IP Board Cage (page 8-140).
7. Remove the MCU Board (page 8-138).

Note

If a short Phillips-head screwdriver is unavailable to perform the following step, remove the Laser Unit (page 8-86) to provide access.

8. Using a short Phillips-head screwdriver, remove the screw (silver, 6mm) that secures the EEPROM Board to the chassis.
9. Disconnect P/J144 to remove the EEPROM Board.



SFP IP Board Cage

This procedure removes the entire IP Board cage including the fan duct. Although it is not associated with any one part, it simplifies other procedures.

Note

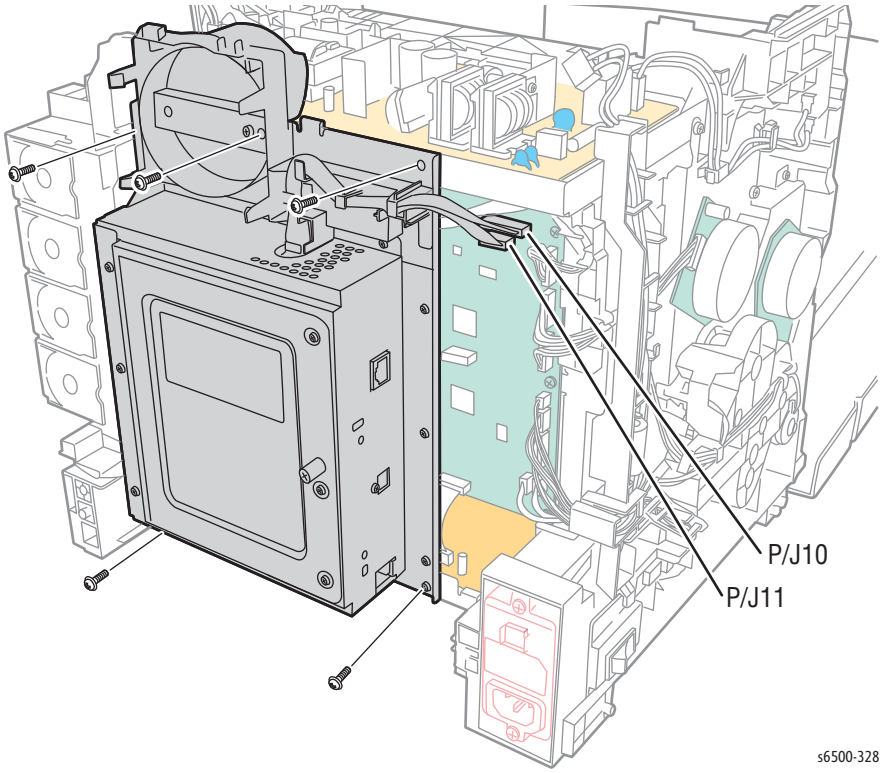
The “circled” screws in this procedure have a circle scribed in the chassis around their locations.

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Top Cover (page 8-15).
4. Remove the Right Side Cover (page 8-17).
5. Remove the Left Side Cover (page 8-18).
6. Remove the Rear Cover (page 8-20).
7. Remove the Fan (page 8-119).
8. Remove two circled screws at the bottom of the IP Board Cage.
9. Unplug the cables at P10 and P11 on the MCU Board.
10. Open the cage cover and disconnect P401 and P29 from the IP Board. Pull the harnesses through the hole in the side of the cage.
11. Remove three circled screws at the top of the IP Board Cage (one screw is behind the Fan).

Note

Loosening or removing the screw that holds the Fan Duct to the IP Board cage can ease removal. Complete removal of the Fan Duct is unnecessary.

12. Swing the cage out from the bottom and lift up enough to free the hook at the top.



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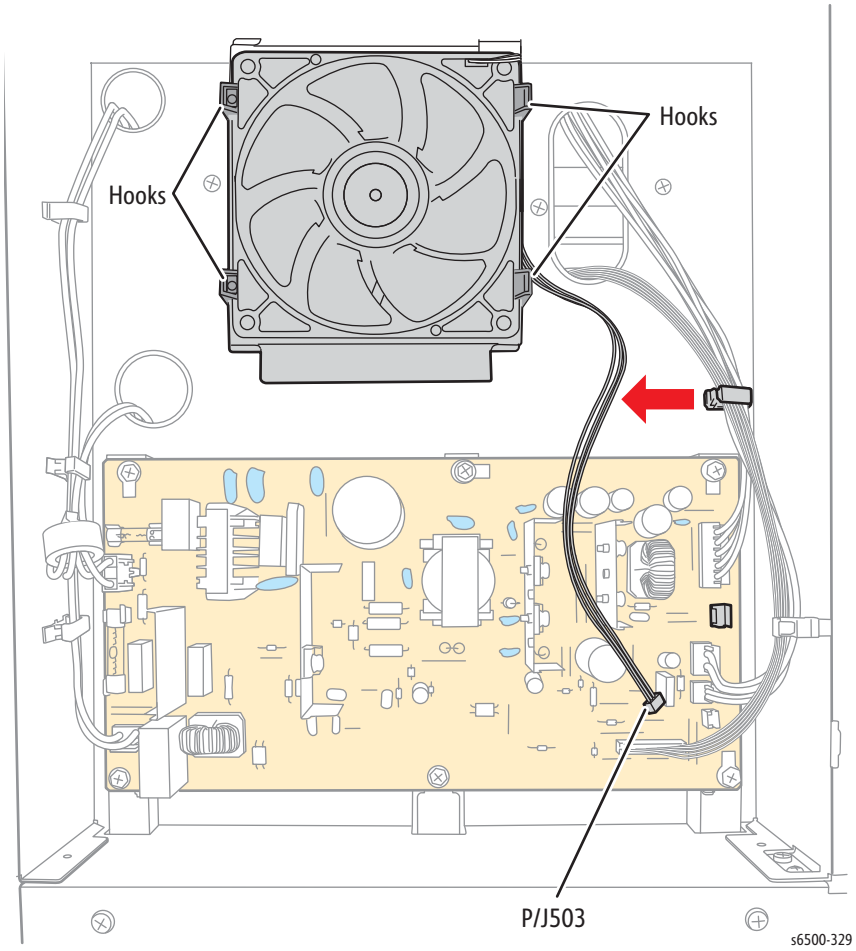
MFP Electrical

MFP Fan

MFP PL8.2.8 (Fan)

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Left Side Cover (page 8-37).
4. Remove the Right Side Cover (page 8-40)
5. Remove the Rear Cover (page 8-43).
6. Disconnect P/J503 from the LVPS and release the Fan harness from the clamp

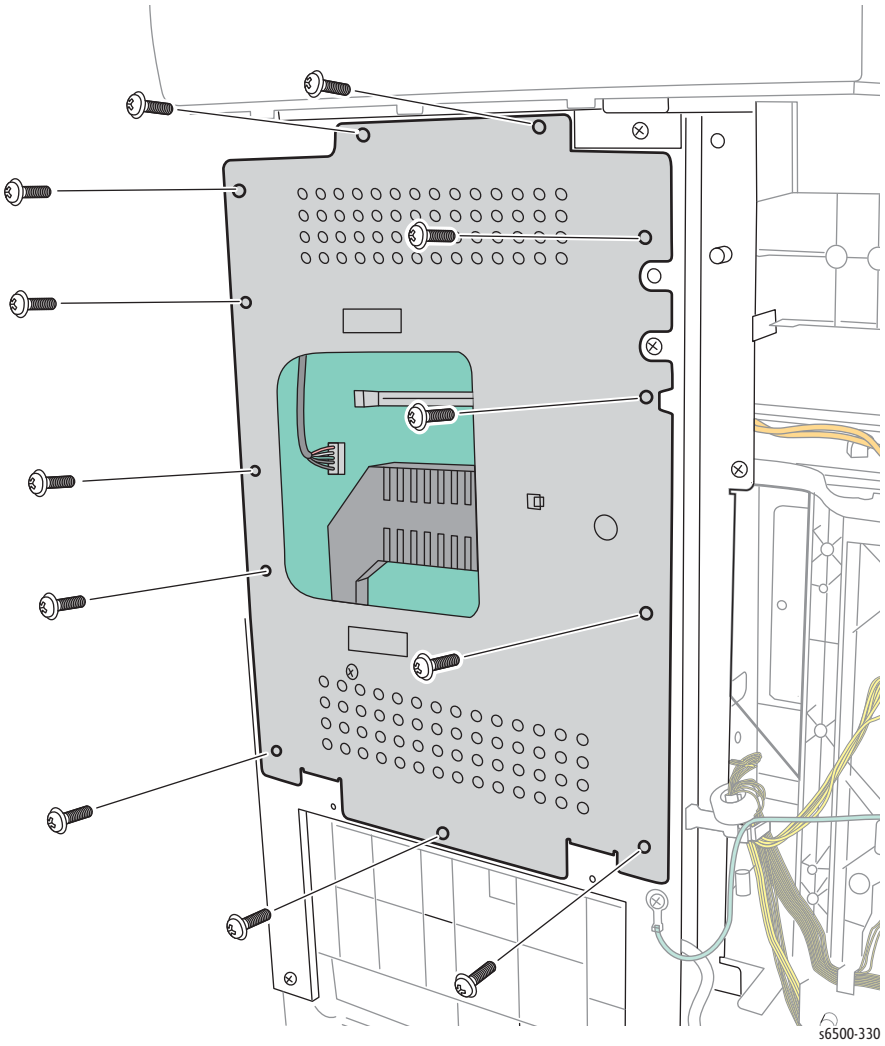


7. Release the 4 hooks of the fan duct to remove the FAN from the chassis.

MFP IP Board Shield

MFP PL 8.1.7 (Shield Assy ESS AIO)

1. Perform the service preparation steps on page 8-3.
2. Open the MFP Front Cover.
3. Remove the MFP Left Side Cover (page 8-37).
4. Remove the MFP Outer Pole Cover (page 8-39).
5. Remove the 12 screws that secure the IP Board Shield to the chassis.



6. Lift the shield to release the 2 tabs at the bottom and remove the shield.

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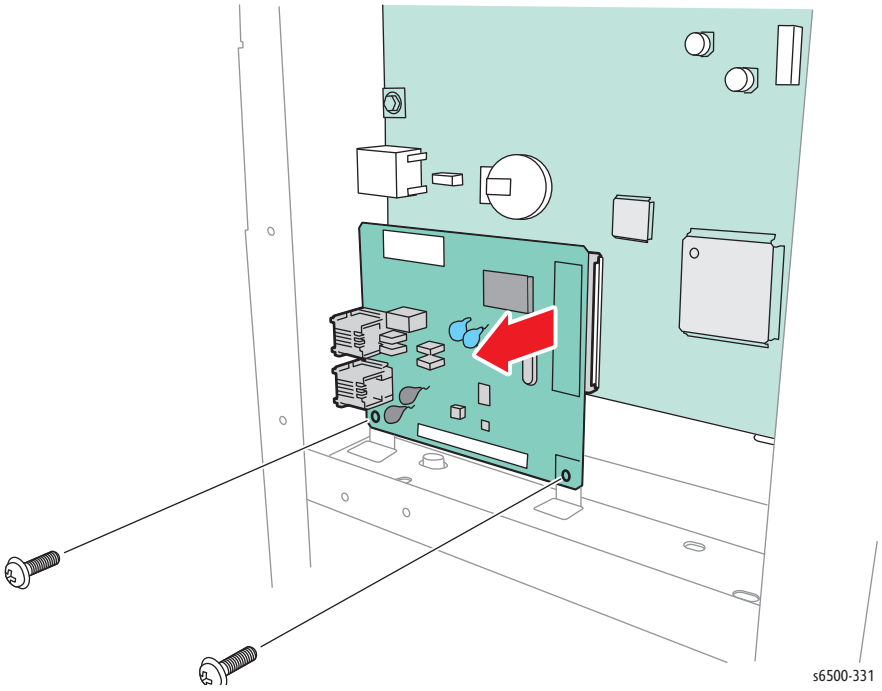
MFP Fax Board

MFP PL8.1.5 (PWBA Fax)

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Left Side Cover (page 8-18).
4. Remove the Outer Pole Cover (page 8-39).
5. Remove the Rear Cover (page 8-20).
6. Remove the IP Board Shield (page 8-142).
7. Remove two screws (silver, 6mm) that secure the board to the chassis.

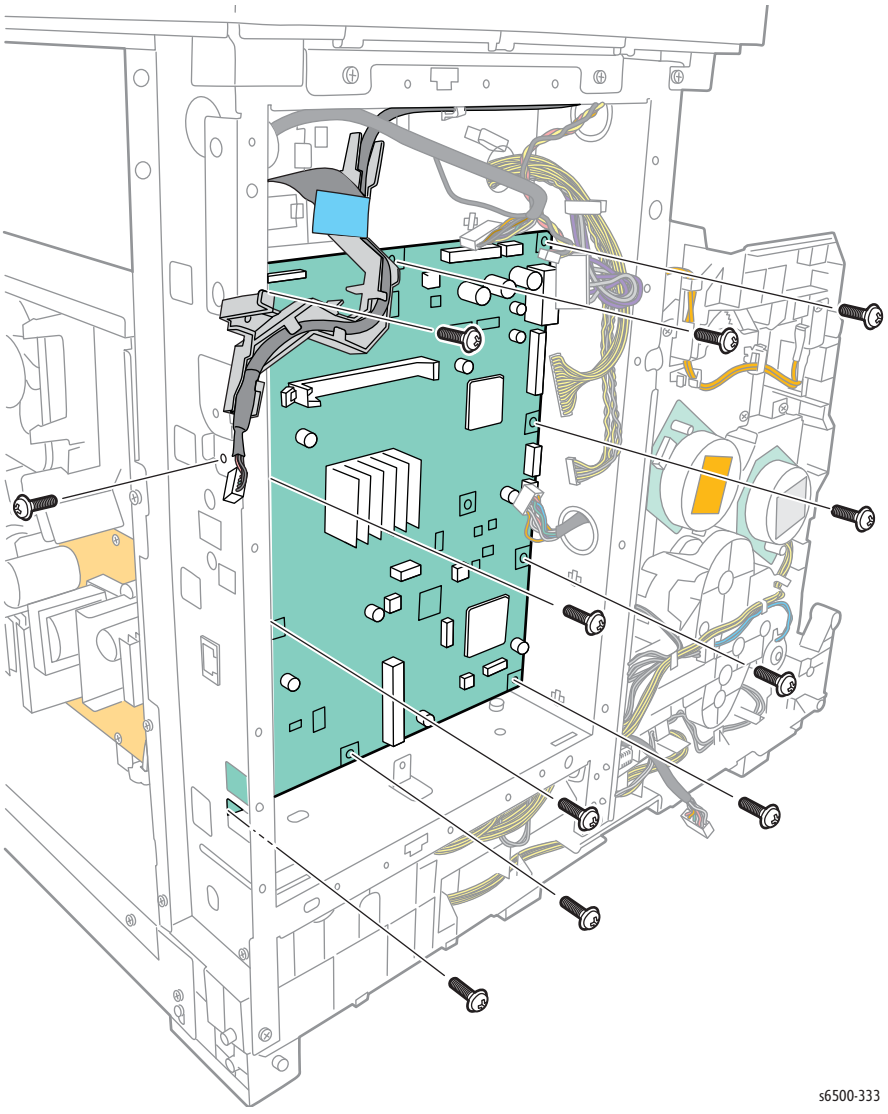


8. Release the board from the connector on the Image Processor Board.

MFP Image Processor Board

MFP PL8.1.2 (PWBA ESS AIO)

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Left Side Cover (page 8-37).
4. Remove the Outer Pole Cover (page 8-39).
5. Remove the Rear Cover (page 8-43).
6. Remove the IP Board Shield (page 8-142).
7. Remove the Fax Board (page 8-143).
8. Unplug all connectors from the Image Processor Board.
9. Release the hook of the USB Harness Guide (PL8.4.5), remove the guide from the printer.
10. Remove the ten screws (silver, 6mm) that attach the Image Processor Board to the chassis.
11. At the rear of the printer, remove the screw (silver, 4mm) that secures the USB connector to the Card Cage and remove the board.



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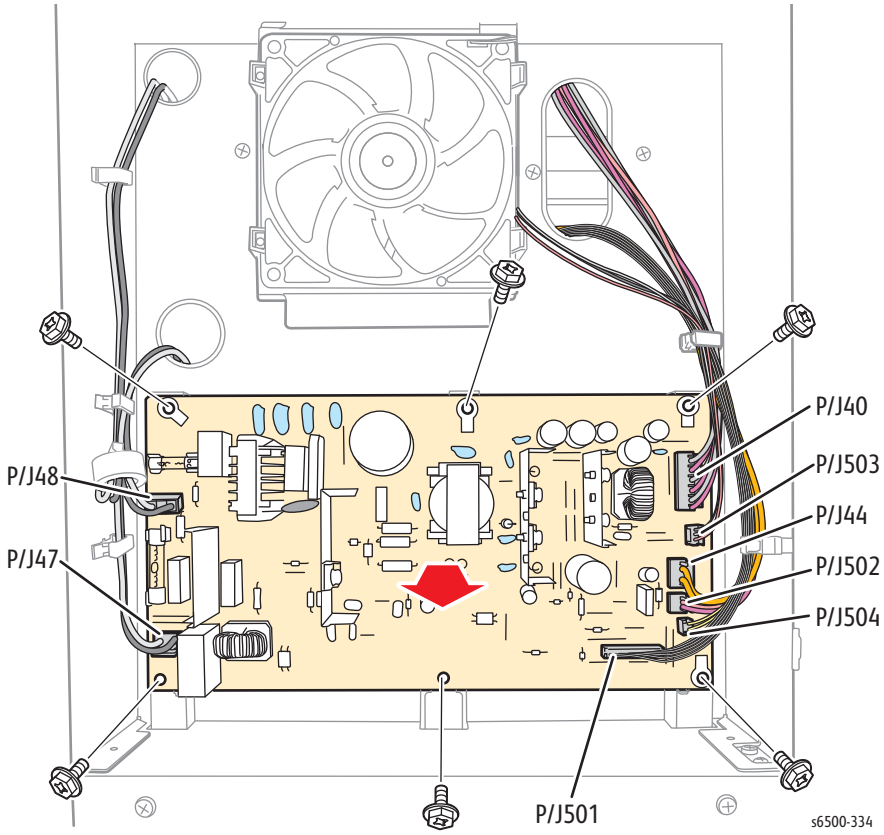
MFP LVPS

MFP PL8.2.12 (PWBA LVPS [110V & 220V])

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Left Side Cover (page 8-37).
4. Remove the Rear Cover (page 8-43).
5. Disconnect all connections from the LVPS.

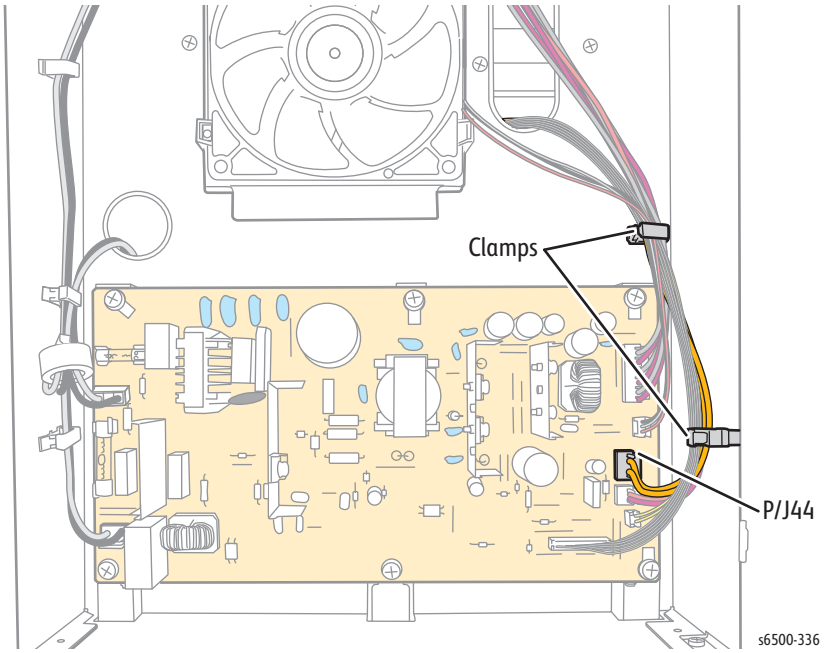


6. Remove the 6 screws (silver, with flange, 6mm).

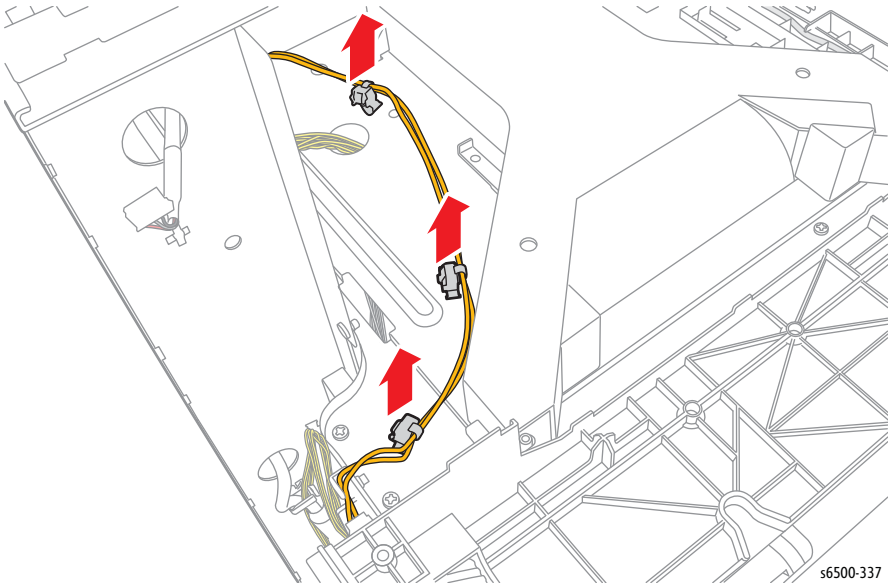
MFP Interlock Harness

MFP PL8.1.1 (Harness Assy Interlock AIO [SW-J44])

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Left Side Cover (page 8-37).
4. Remove the Outer Pole Cover (page 8-39).
5. Remove the Rear Cover (page 8-43).
6. Remove the Right Side Cover (page 8-40).
7. Remove the Top Cover (page 8-45).
8. Disconnect P/J44 on the LVPS, and release the harness from the two clamps.



9. Remove the 3 clamps on the Top Plate Assembly that secure the harness, then pull the harness through the hole.



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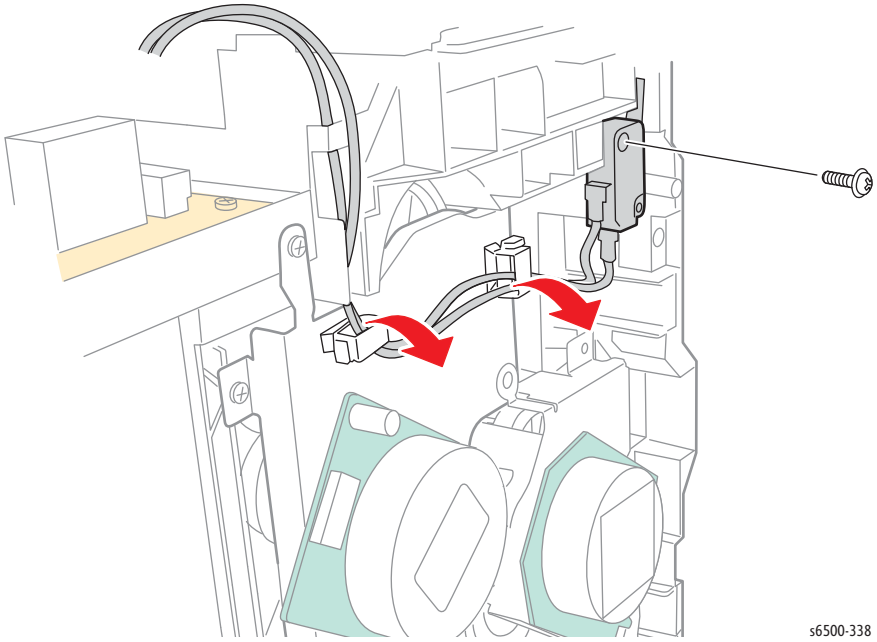
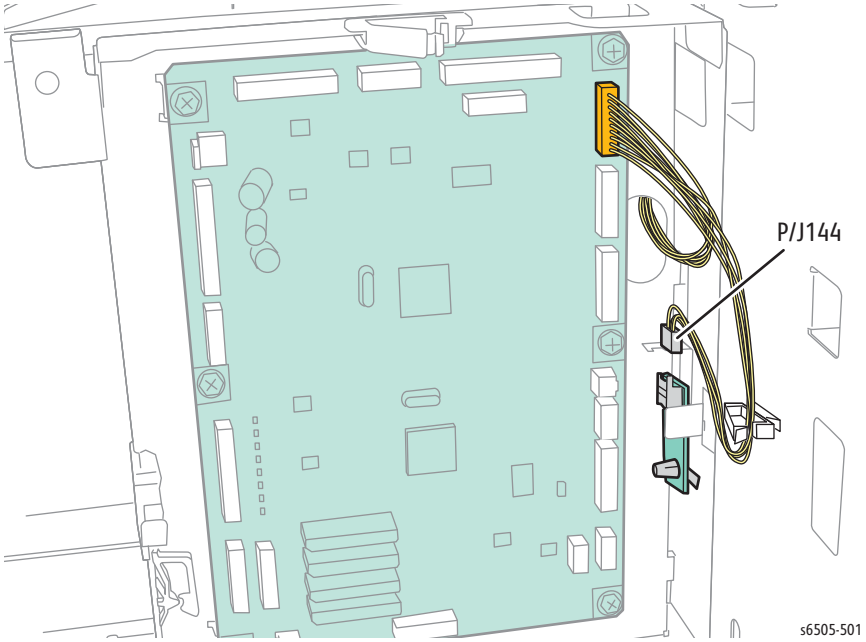
10. Release the harness from the 2 clamps on the chassis.
11. Remove the screw (sliver, tap, 6mm) that attaches the Interlock Harness to remove the harness.



MFP PHD XPRO Harness

PL 9.1.11 Harness Assy PHD XPRO

1. Perform the service preparation steps on page 8-3.
2. Remove the Laser Unit (page 8-92).
3. Unplug J144 from the EEPROM Board).



4. From the front of the printer, release the right, top, and left latches on the Imaging Unit socket retainer, then remove the retainer from the rear of the chassis.

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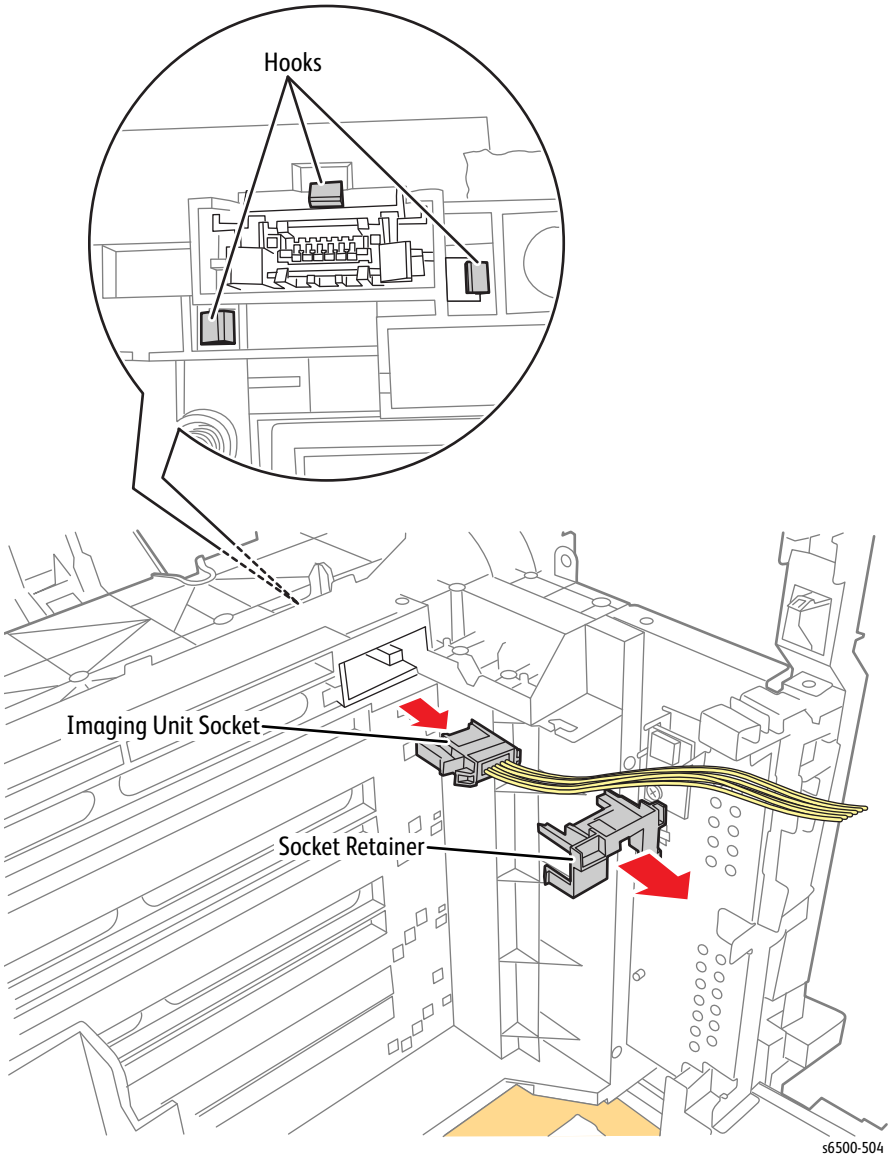


5. Lift the Imaging Unit socket to the top of the opening, and from the rear, pull the socket from the chassis opening.

Replacement Note

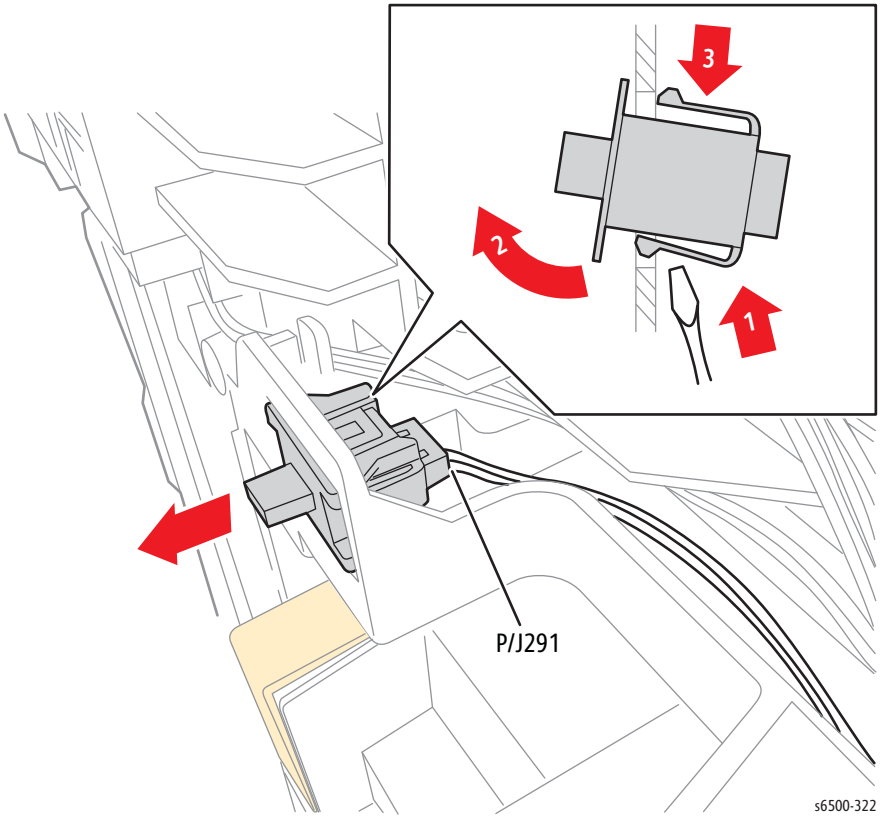
When installing the Imaging Unit socket:

6. Insert the socket into the chassis opening, making sure the square notches on the sides of the socket are seated over the posts in the opening.
7. Insert the socket retainer. Make sure all the latches engage and the rear of the retainer is flush with the chassis.

MFP Toner Door Switch

PL5.1.9 (Switch)

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Left Side Cover (page 8-37).
4. Remove the Outer Pole Cover (page 8-39).
5. Remove the Rear Cover (page 8-43).
6. Remove the Right Side Cover (page 8-40).
7. Remove the Top Cover (page 8-45).
8. Using a miniature screwdriver, release the hooks that latch the switch in the frame and remove the switch from the printer.
9. Unplug the switch from the harness connector (P/J291).



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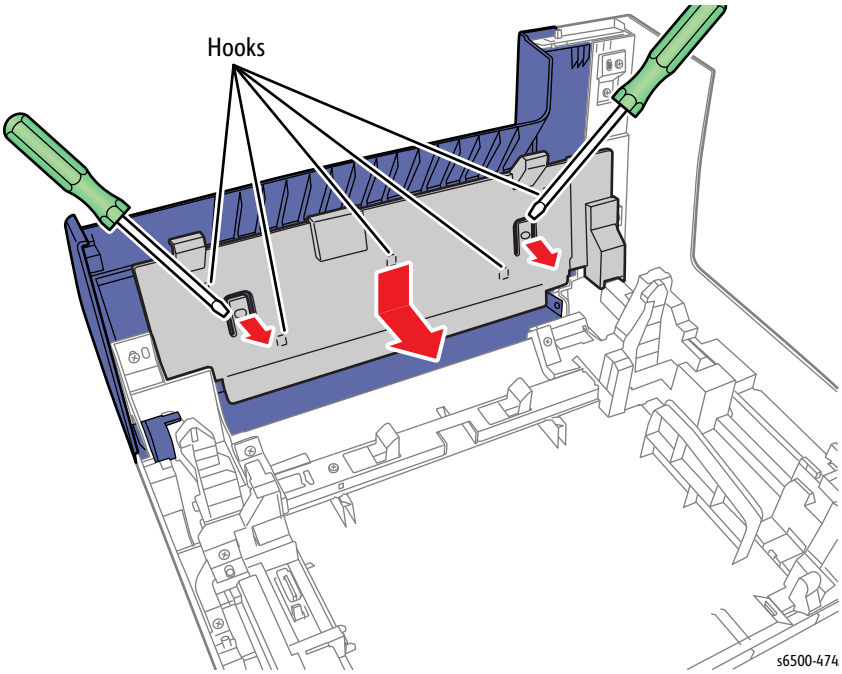
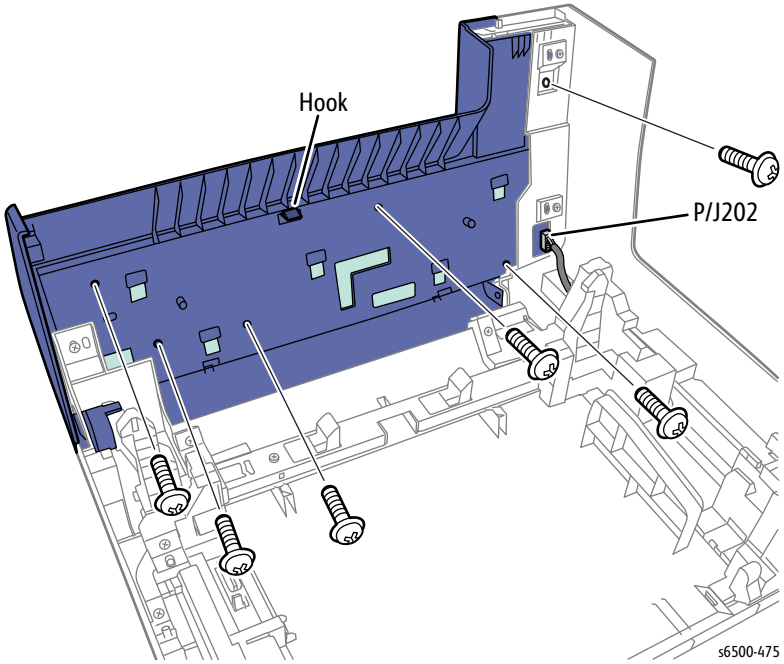
MFP Control Panel

MFP PL1.2.3 (Console Assy Panel)

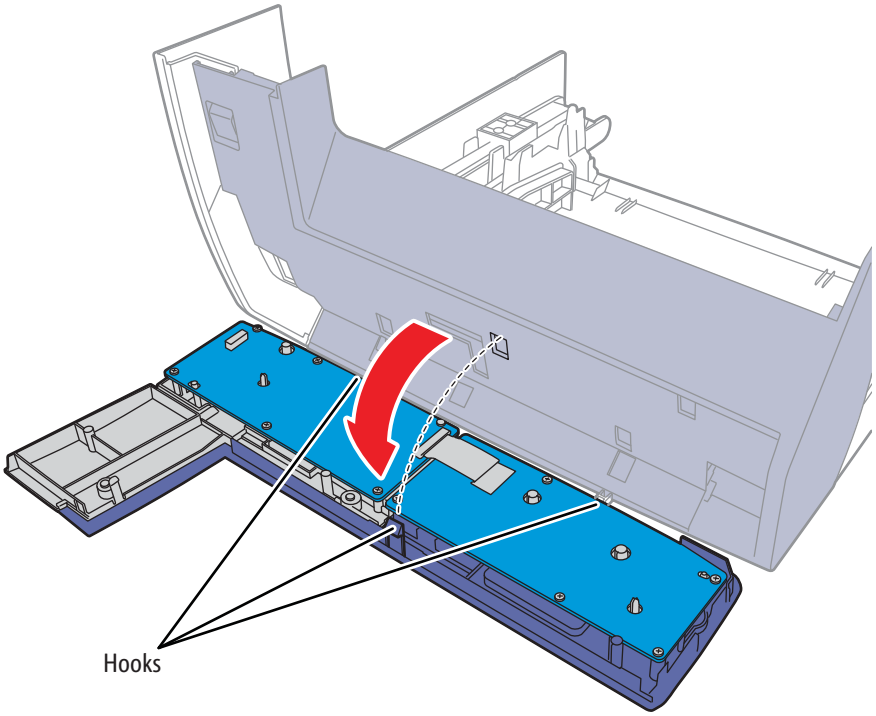
1. Turn Off power and disconnect the power cord from the wall outlet.
2. Open the Front Cover.
3. Remove the Duplex Unit if installed.
4. Release the two bosses on the Inner Front Cover using a small screwdriver.
5. Allow the Inner Front Cover to drop to release the five hooks, then remove the cover.



6. Disconnect P/J202, and remove the six screws (silver, tap, 8mm), that secure the Control Panel to the Front Cover.



7. Release the center hook and allow the Control Panel Assembly to swing down. Then disengage the remaining two hooks and remove the Control Panel Assembly from the Front Cover.



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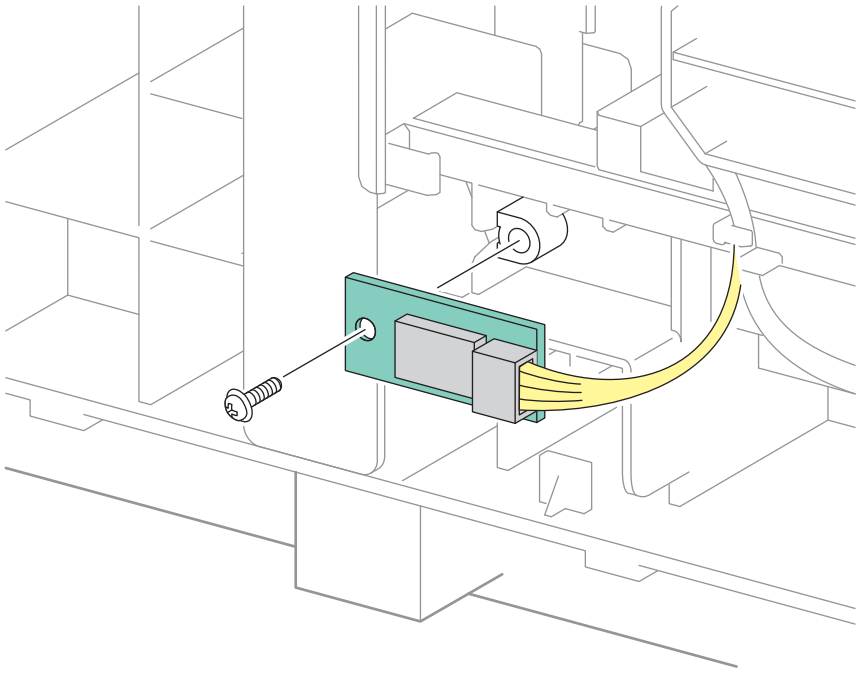
MFP Humidity Sensor

MFP PL8.1.10 (Sensor HUM)

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the Left Side Cover (page 8-18).
4. Remove the screw (silver, tap, 8mm) that secures the Humidity Sensor to the chassis.
5. Unplug the connector (P/J201) and remove the sensor.



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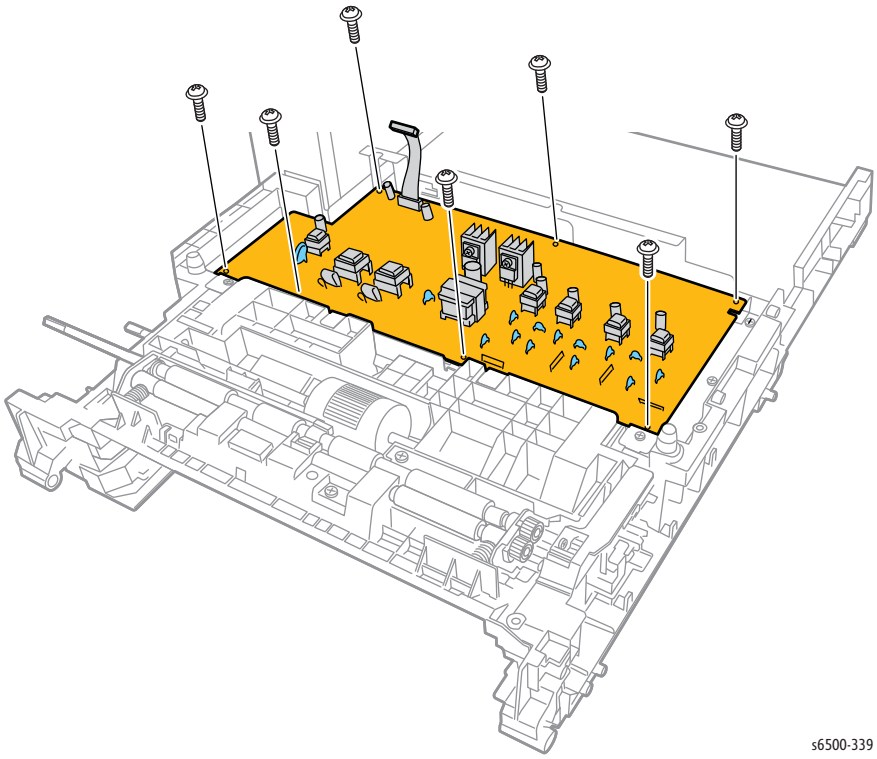
MFP HVPS

PL4.1.19 (PWBA HVPS)

1. Remove the Upper Frame Assembly (page 8-67).
2. Open the Edging Saddle and release the HVPS harness.
3. Remove seven screws (silver, with flange, 6mm) that secure the HVPS to remove the HVPS.



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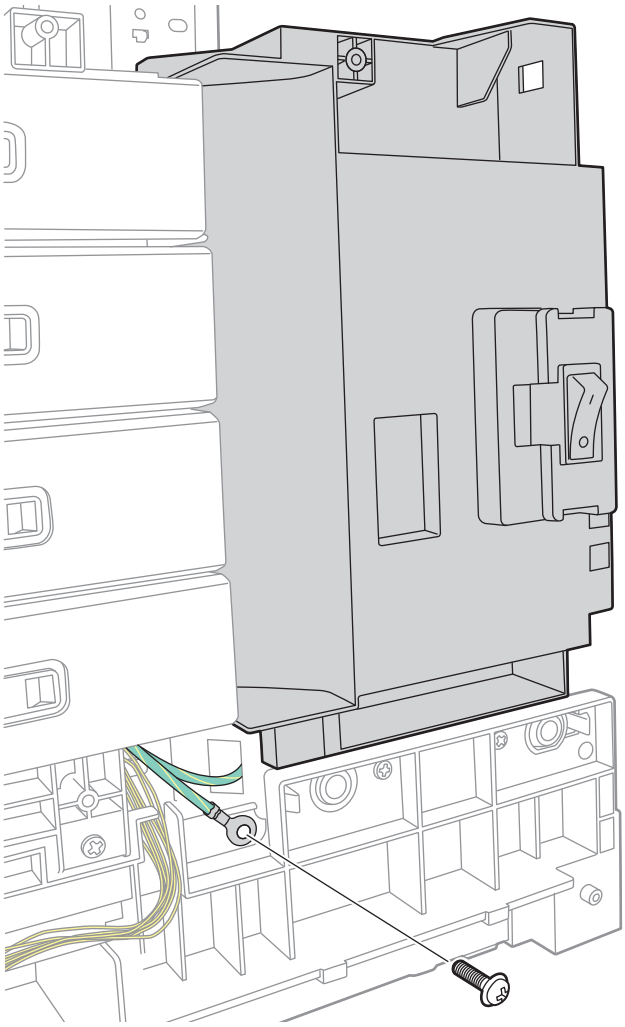
MFP AC Power Inlet and Power Switch Harness

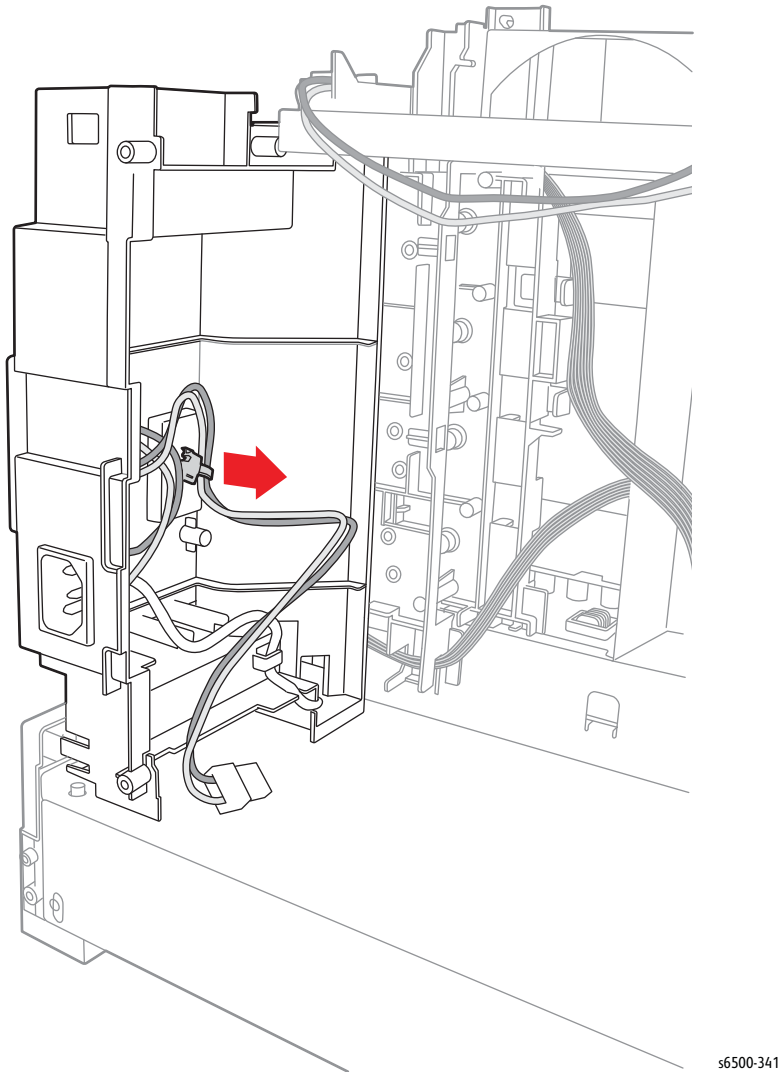
MFP PL8.3.7 (Switch Assy Inlet MG AIO [110V & 220V])

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the MFP Left Side Cover (page 8-37).
4. Remove the Outer Pole Cover (page 8-39).
5. Remove the MFP Right Side Cover (page 8-40).
6. Remove the MFP Rear Cover (page 8-43).
7. Remove the MFP Top Cover (page 8-45).
8. Remove the LVPS Card Cage (page 8-64).
9. Remove the screw (silver, with washer, 6mm) that attaches the grounding terminal to the frame.



s6500-340

10. Release the clamp that secures the Power Switch Harness to the Inlet Chassis.



11. Squeeze the hooks on the power switch to release it from the Inlet Chassis.
12. Tilt the switch to push it through the hole into the Inlet Chassis.
13. Squeeze the hooks on the AC Inlet to release it from the Inlet Chassis.

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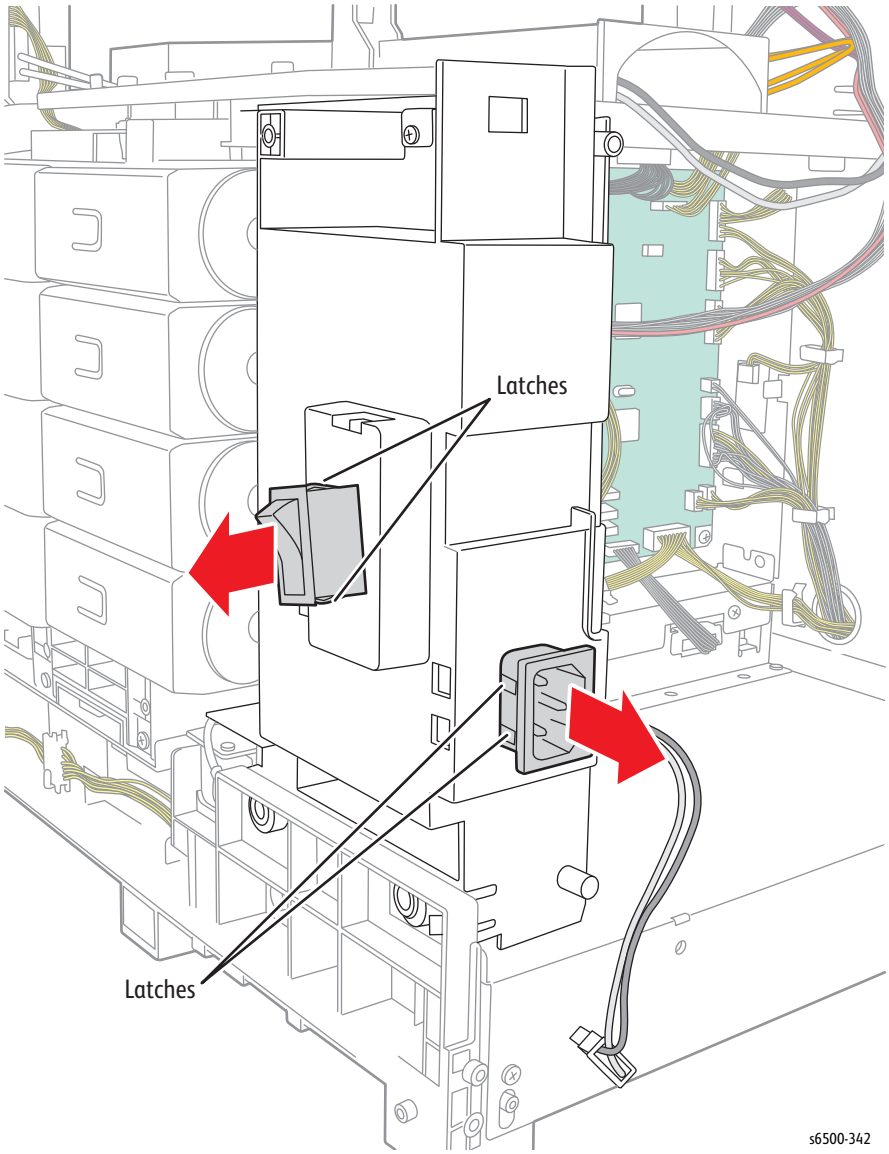
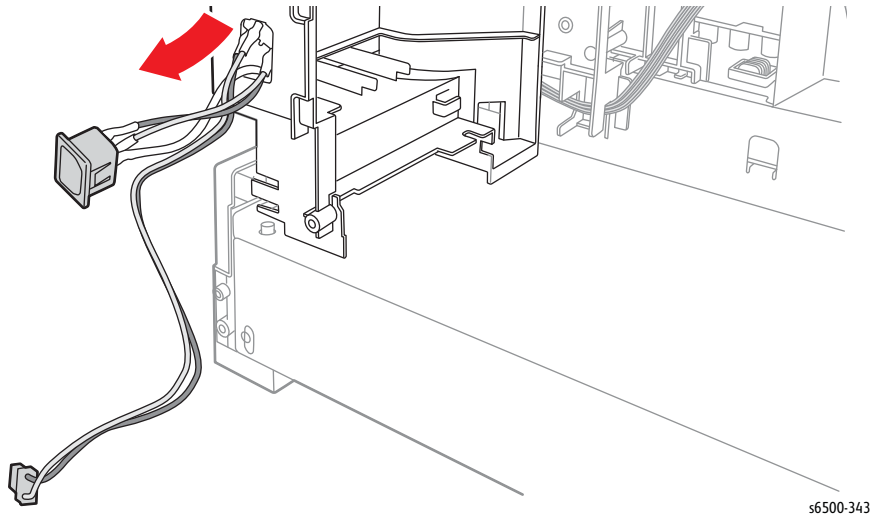


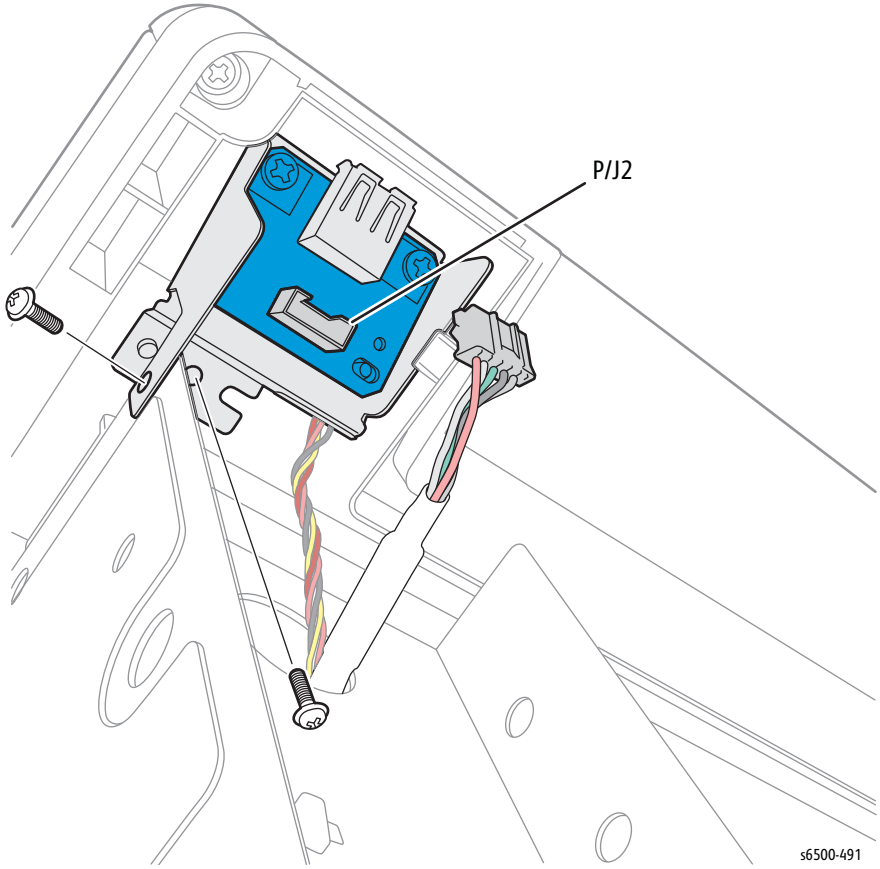
14. Pull the harness, power switch, and connector (J48) out through the hole in the Inlet Chassis.



Front USB Assembly

PL10.1.95 (Kit PWB Assy Front USB)

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the MFP Left Side Cover (page 8-37).
4. Remove the Outer Pole Cover (page 8-39).
5. Remove the IP Board Shield (page 8-142).
6. Unplug connector P/J2 on the Front USB Assembly.



7. Remove the screws (one silver, 6mm; one silver, tap, 8mm) that attach the USB Bracket Assembly (PL10.1.14) to the printer, and remove the USB Bracket Assembly.

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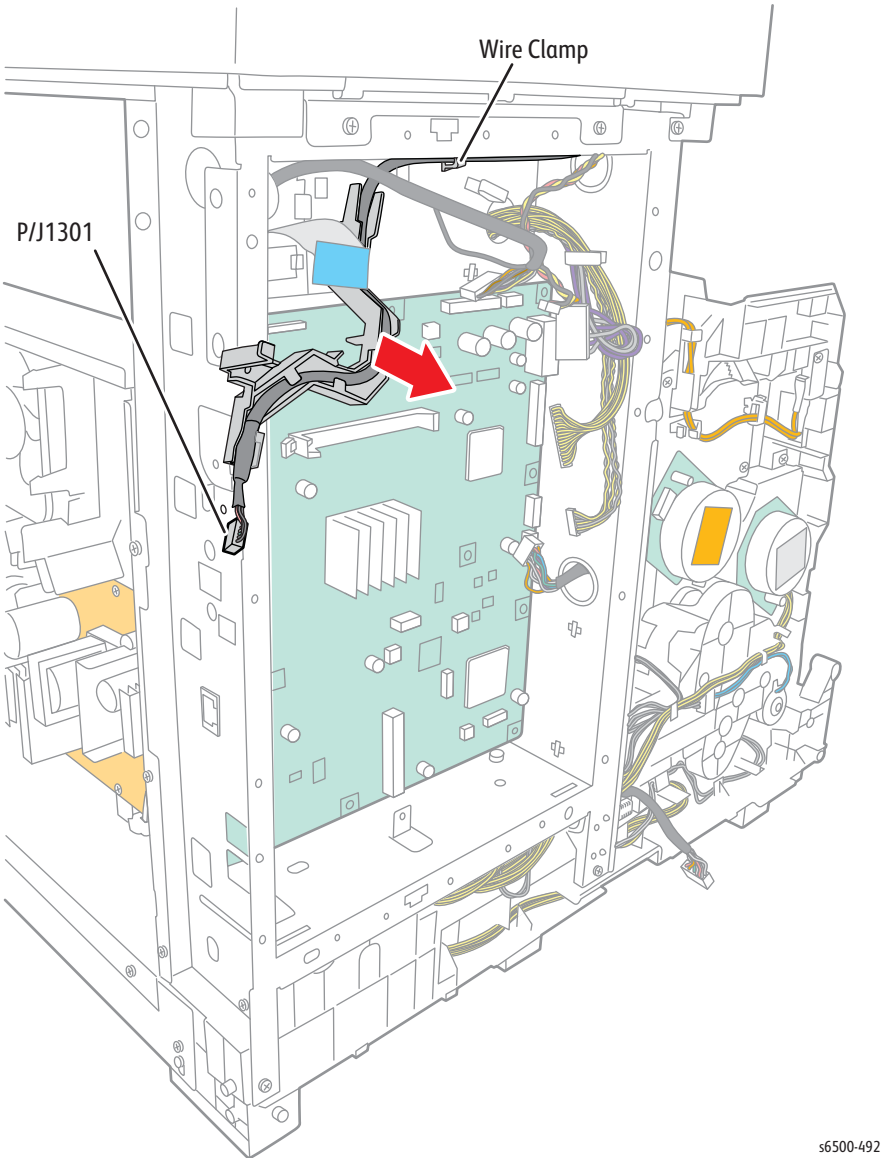
8. Unplug the Front USB Harness (PL10.1.13) at P/J1301 on the IP Board; then release the Front USB Harness from the USB Harness Guide (MFP PL8.4.5) and from the clamp.

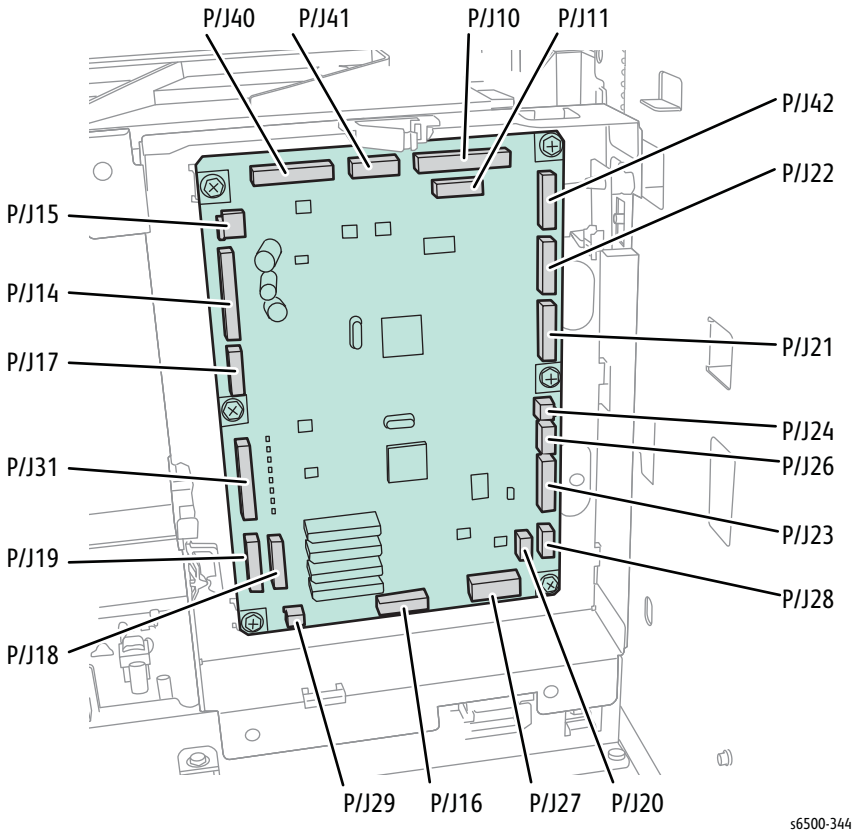


9. Pull the Front USB Harness out through the hole in the frame to remove the harness from the printer.

MFP MCU Board

MFP PL 8.3.6 (PWBA MCU)

1. Use the Service Diagnostics routine “Save NVM to ESS” on page 4-15 to transfer the contents of the MCU NVRAM to the IP Board.
2. Exit Service Diagnostics and turn Off the printer.
3. Disconnect the Power Cord from the wall outlet.
4. Open the Front Cover.
5. Remove the Left Side Cover (page 8-37).
6. Remove the Outer Pole Cover (page 8-39).
7. Remove the MFP Right Side Cover (page 8-40).
8. Remove the Rear Cover (page 8-43).
9. Remove the Top Cover (page 8-45).
10. Remove the LVPS Card Cage (page 8-64).
11. Unplug all connectors from the MCU Board.



12. Remove the 6 screws (silver, with flange, 6mm) that secure the MCU Board to the chassis and remove the board.

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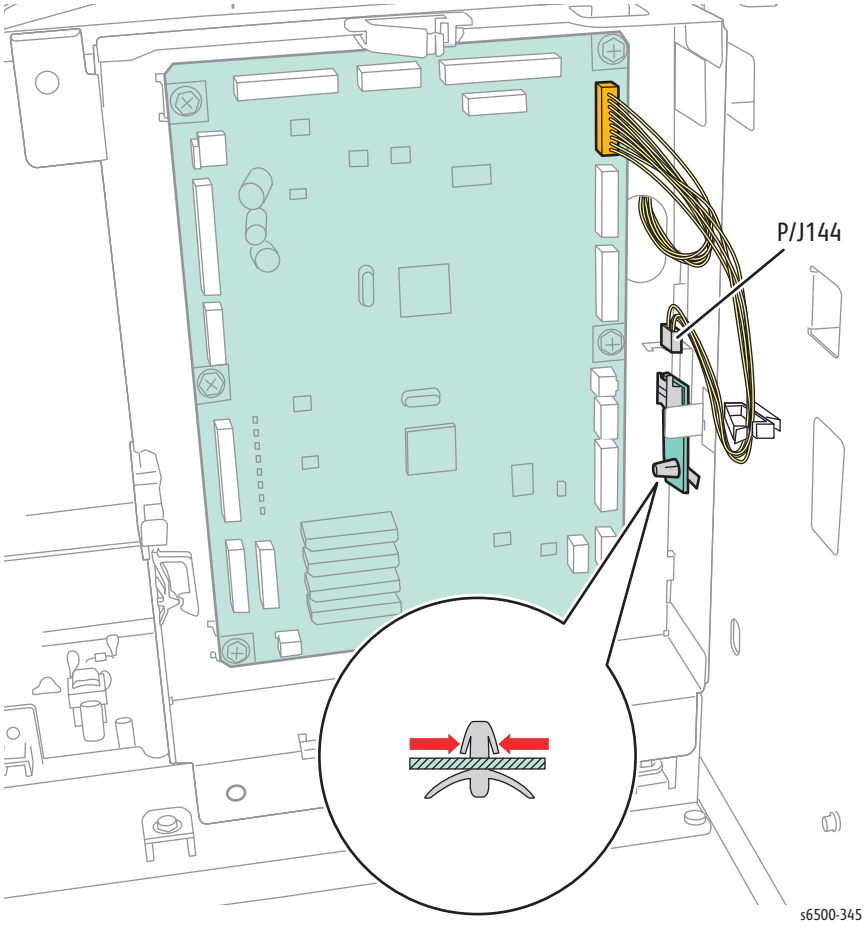
MFP EEPROM Board

MFP PL8.3.4 (PWBA EEPROM [XPRO])

1. Remove the LVPS Card Cage (page 8-64).
2. Disconnect P/J144 from the EEPROM Board.
3. Squeeze the latches on the board mount, then release the hooks holding the EEPROM Board to the frame.



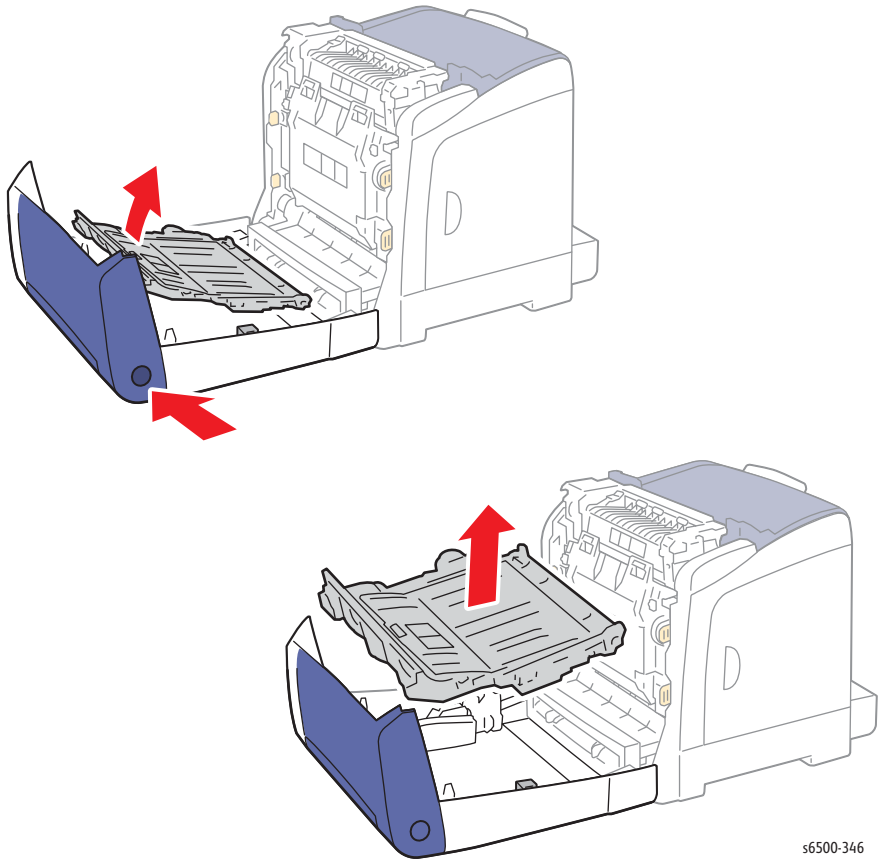
Duplex Unit

PL11.1.1 (Feed Assy Dup)

Note

Although the illustrations for this procedure show the SFP, the details for removing the Duplex Unit are the same for the MFP.

1. Turn off power.
2. Open the Front Cover.
3. Press the Front Cover release button to release the Duplex Unit from the Front Cover.
4. Lift the Duplex Unit straight up out of the Front Cover.



Replacement Note

Align the arrows on the Left holder and Duplex Unit, then press the Duplex Unit into position.

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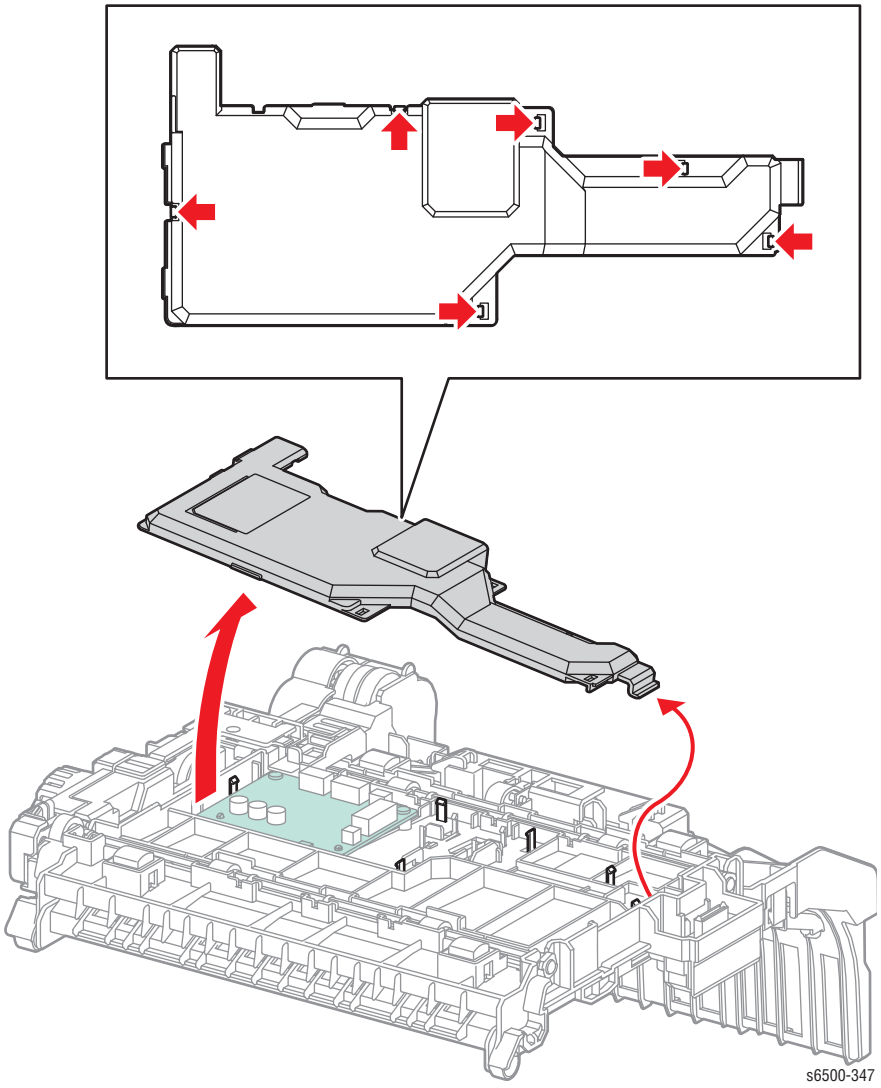
Duplex Harness

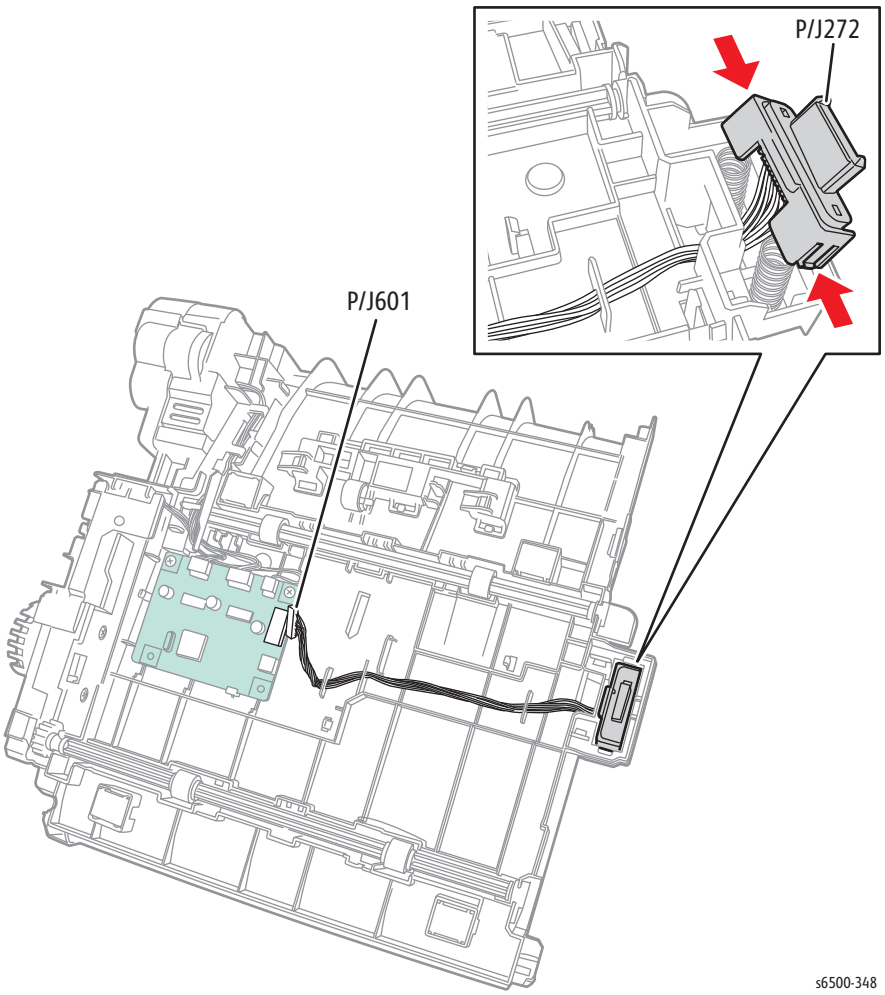
PL11.1.14 (Harness Assy Dup)

1. Open the Front Cover.
2. Remove the Duplex Unit (page 8-162).
3. Release the six hooks that secure the Duplex Board Cover.



4. Disconnect P/J601 from the Duplex Board and remove the Duplex Harness from the guides.

5. Release 2 hooks that secure the duplex connector to the Duplex Unit.
6. Release 2 hooks that secure the Duplex harness to the duplex connector to remove the harness.



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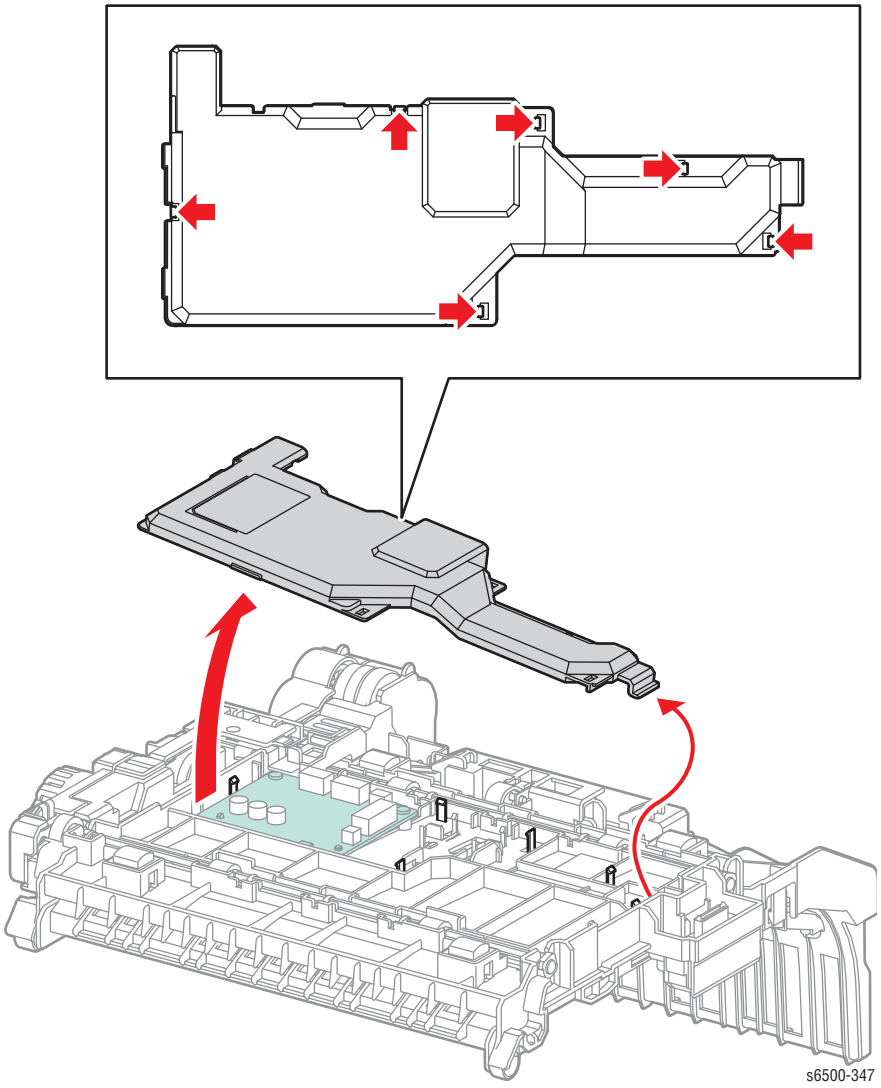
Duplex Board

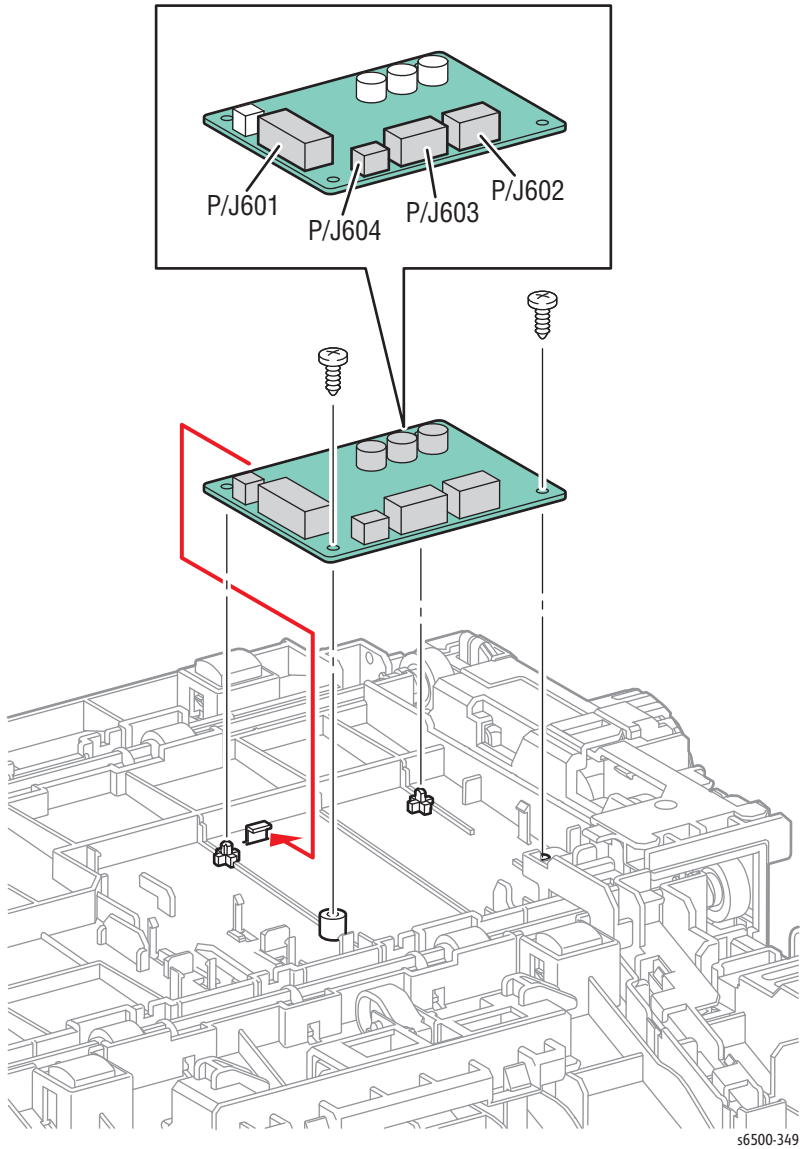
PL11.1.16

1. Open the Front Cover.
2. Remove the Duplex Unit (page 8-162).
3. Release the 6 hooks that secure the Duplex Board Cover.



4. Unplug all connections to the Duplex Board.

5. Remove two screws (silver, tap, 8mm) that secure the board to the Duplex Unit.



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Optional Feeder

Note

Remove the protective cap from the Optional Feeder connector before installation.

Note

To service Optional Feeder components, remove the feeder.

Note

Although the illustrations for this procedure show the SFP, the details for removing the Optional Feeder are the same for the MFP.

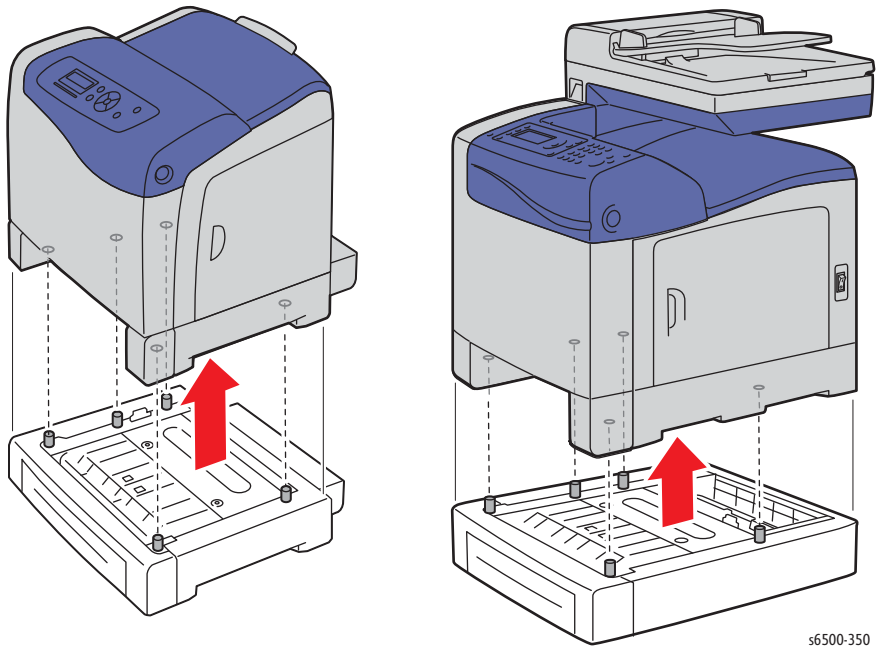
PL12.1.1

1. Turn off power and disconnect the power cord from the wall outlet.
2. Remove Tray 1.
3. Remove two thumbscrews that secure the Optional Feeder to the printer.

   Warning

   Use two persons when lifting the printer to avoid possible injury.

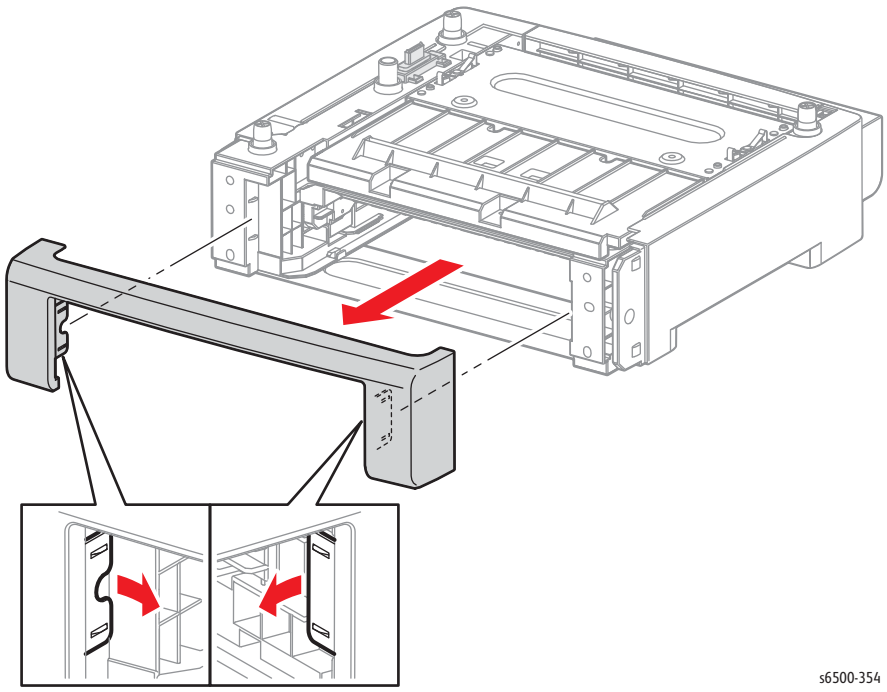
4. Lift the printer off the Optional Feeder.



Option Front Cover

PL12.1.8

1. Remove the Optional Feeder (page 8-167).
2. Remove the Tray.
3. Release four hooks that secure the front cover.



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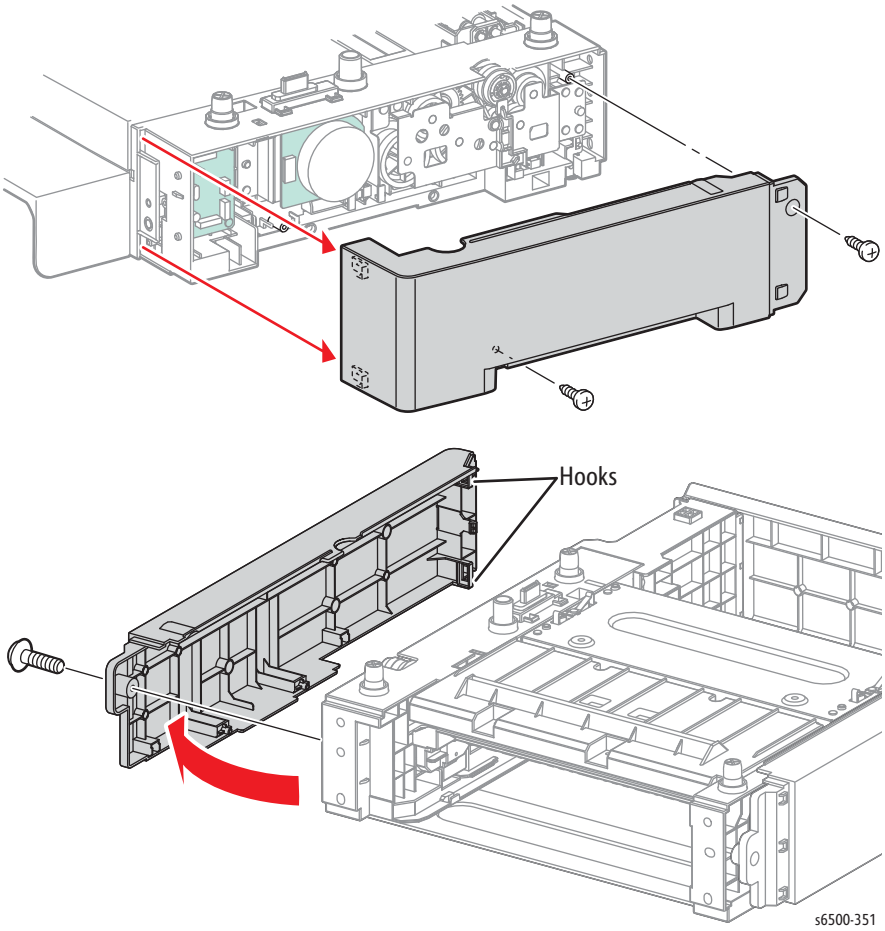
Option Left Side Cover

PL12.1.4

1. Remove the Optional Feeder (page 8-167).
2. Remove the Tray.
3. Remove the Front Cover (page 8-168).
4. **SFP only:** Remove two screws that secure(s) the Left Side Cover and remove the cover.
   MFP only: Remove the screw (silver, tap, 8mm) that secure(s) the Left Side Cover, then swing out the front to release the two hooks at the rear.



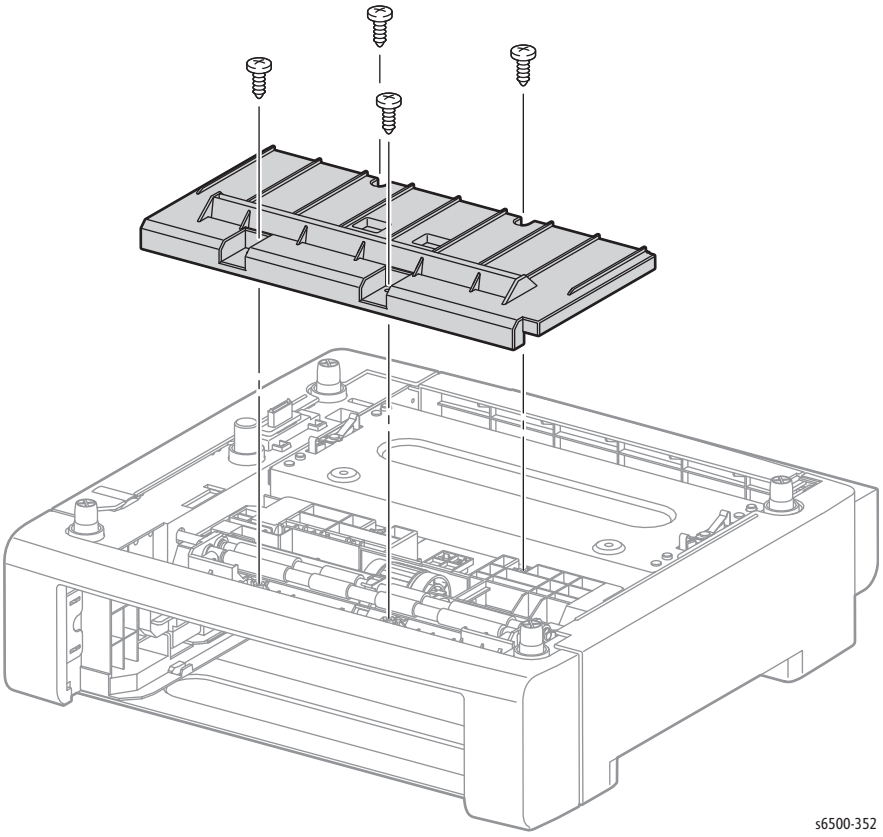
Option Chute Cover

Note

Although the illustrations for this procedure show the SFP Optional Feeder, the details for removing the Chute Cover are the same for the MFP Optional Feeder.

PL12.1.5

1. Remove the Optional Feeder (page 8-167).
2. Remove the Tray.
3. Remove four screws that secure the Chute Cover.



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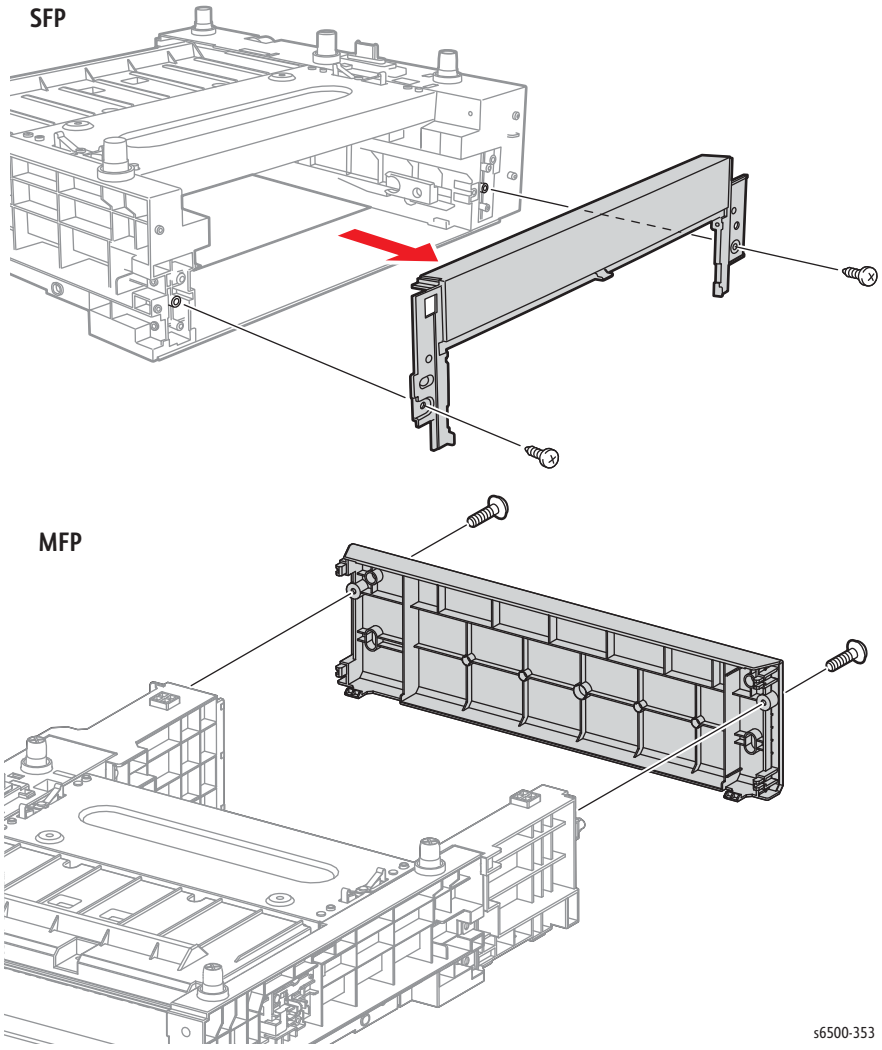
Option Rear Cover

PL12.1.6

1. Remove the Optional Feeder (page 8-167).
2. Remove the Tray.
3. Remove the Front Cover (page 8-168).
4. **SFP only:** Remove the rear tray cover.
5. Remove the Left Side Cover (page 8-169).
6. Remove the Right Side Cover (page 8-172).
7. Remove two screws that secure the Rear cover to the feeder.

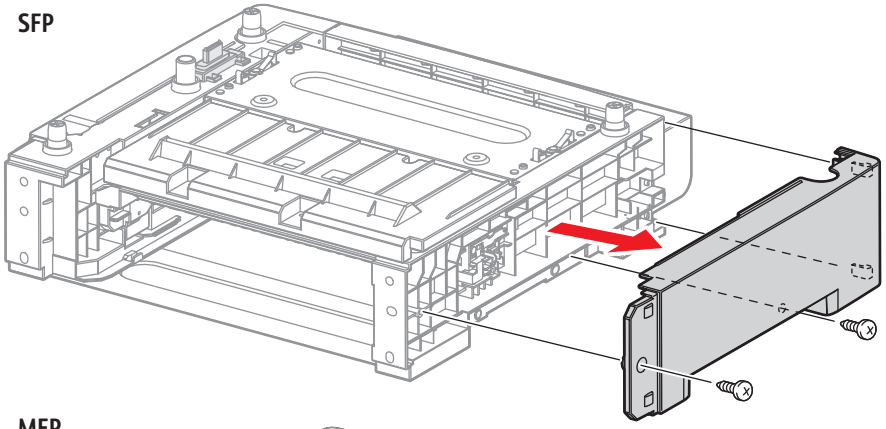


Option Right Side Cover

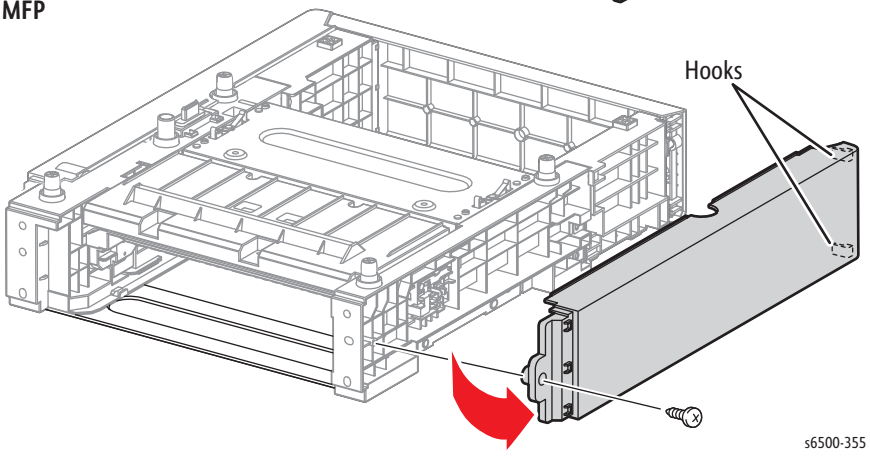
PL12.1.7

1. Remove the Optional Feeder (page 8-167).
2. Remove the Front Cover (page 8-168).
3. **SFP only:** Remove the rear tray cover.
4. **SFP only:** Remove two screws that secure(s) the Right Side Cover and remove the cover.
   MFP only: Remove the screw (silver, tap, 8mm) that secure(s) the Right Side Cover, then swing out the front to release the two hooks at the rear.

SFP



MFP



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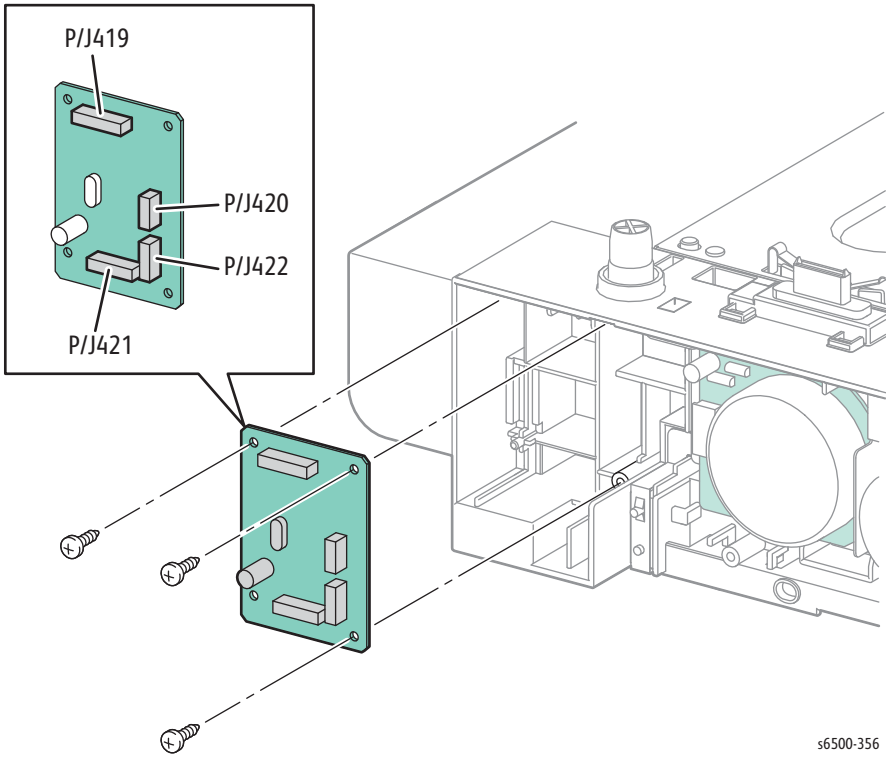
Optional Feeder Board

PL12.2.1

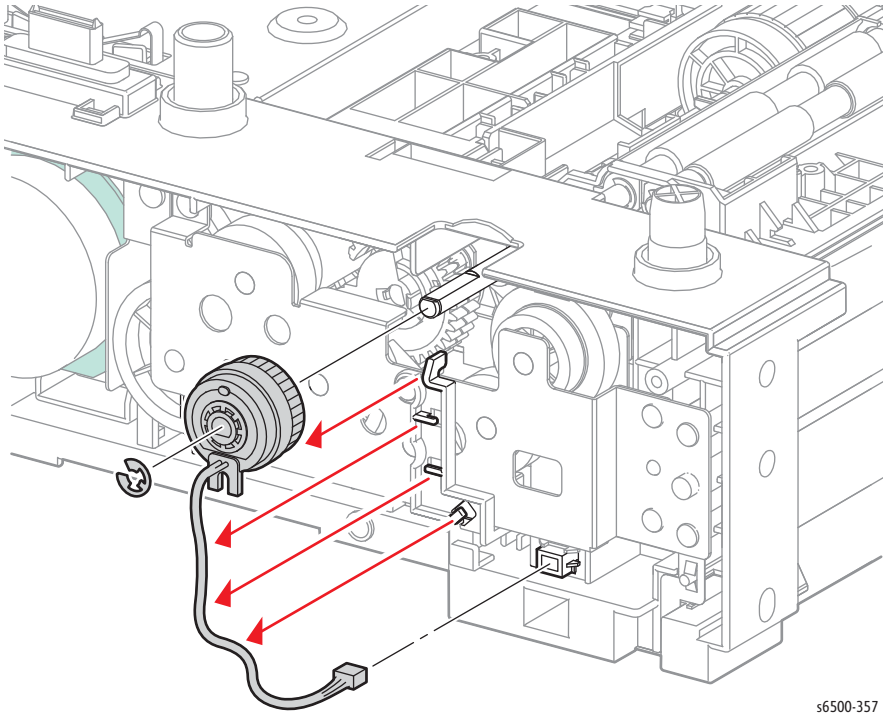
1. Remove the Optional Feeder (page 8-167).
2. Remove the Front Cover (page 8-168).
3. Remove the Rear Tray Cover.
4. Remove the Left Side Cover (page 8-169).
5. Disconnect all connections to the Feeder Board.
6. Remove three screws (silver, plastic, 8mm) that secure the Feeder Board to the feeder.



Option Drive Clutch and Bearing

PL12.2.6

1. Remove the Optional Feeder (page 8-167).
2. Remove the Front Cover (page 8-168).
3. Remove the Left Side Cover (page 8-169).
4. Disconnect P/J4201 and release the clutch harness from the guide.
5. Remove the E-ring that secures the clutch to the shaft and remove the clutch.



6. Remove the Feed Gear Kit (page 8-178).
7. Remove the Registration Roller Bearing (page 8-181) to replace the bearing.

Replacement Note

After replacement, check that the gears rotate, the clutch is properly installed over the stopper, the clutch harness is laced into the guide, and P/J4201 is connected.

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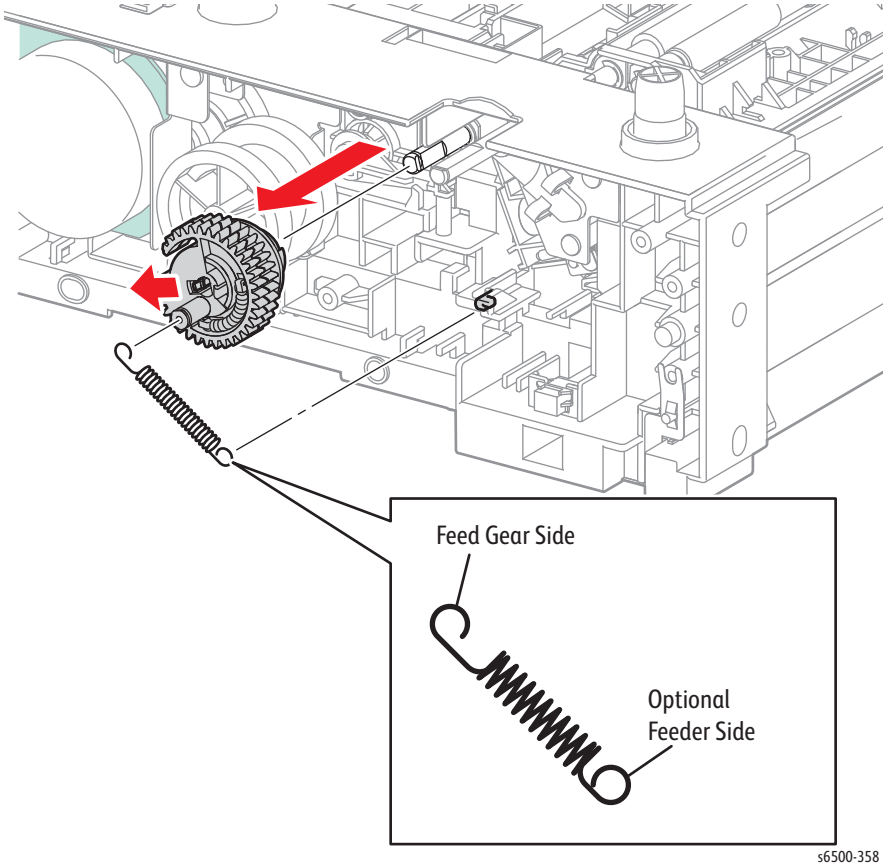
Option Feed Gear Assembly

12.2.10

1. Remove the Optional Feeder (page 8-167).
2. Remove the Front Cover (page 8-168).
3. Remove the Left Side Cover (page 8-169).
4. Remove the Drive Clutch (page 8-174).
5. Remove the Feed Gear Kit (page 8-178).
6. Remove the feed spring out from the feed gear.
7. Release the hook that secures the feed gear to the feed shaft and slide it off the shaft as far as it will go (only a few mm).
8. Use a miniature screwdriver to press the feed lever down then slide the feed gear off the feed shaft completely.



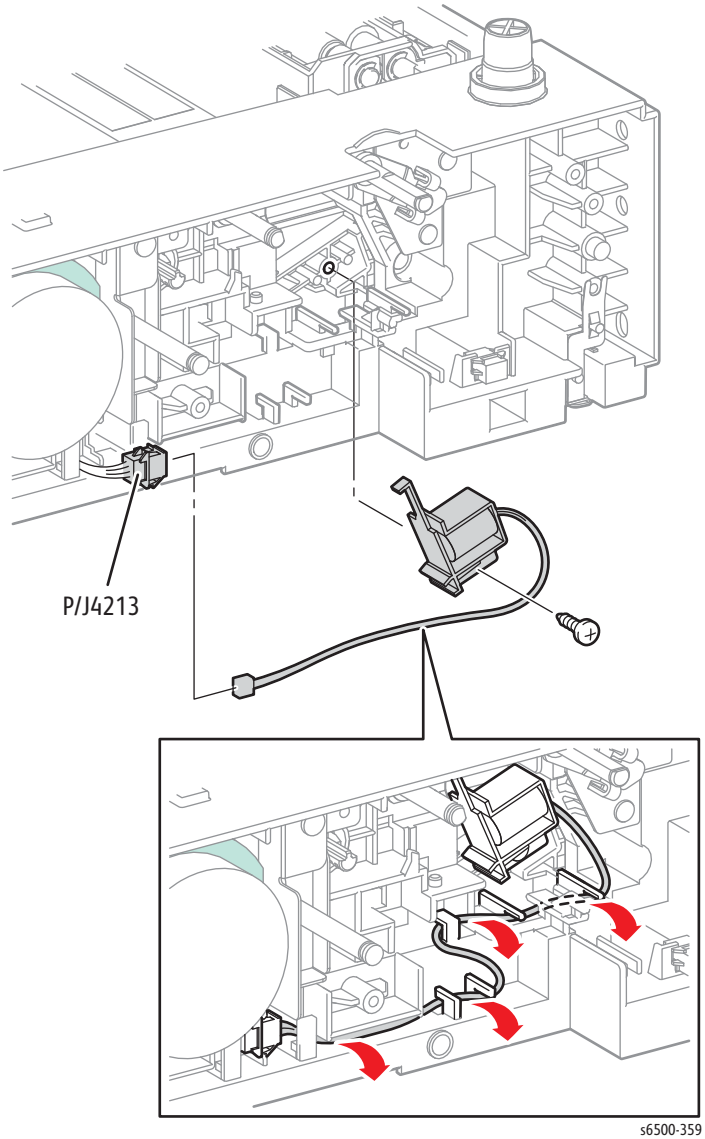
Replacement Note

Move the feed lever and Feed Solenoid away from the shaft to allow clearance to install the feed gear.

Option Feed Solenoid Kit

PL3.1.99

1. Remove the Optional Feeder (page 8-167).
2. Remove the Front Cover (page 8-168).
3. Remove the Left Side Cover (page 8-169).
4. Remove the Drive Clutch (page 8-174).
5. Remove the Feed Gear Kit (page 8-178).
6. Remove the Feed Gear Assembly and spring (page 8-175).
7. Disconnect P/J4213 from the Option Harness.
8. Remove the screw (silver, tap, 8mm) that secures the solenoid and remove the solenoid.



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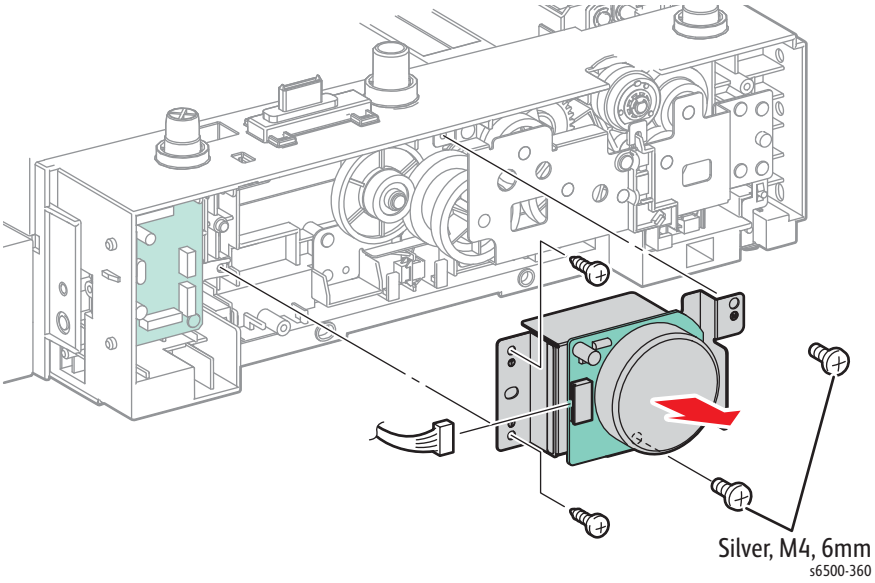
Option Feed Motor Kit

PL12.2.98 (Kit Assy Motor Opt)

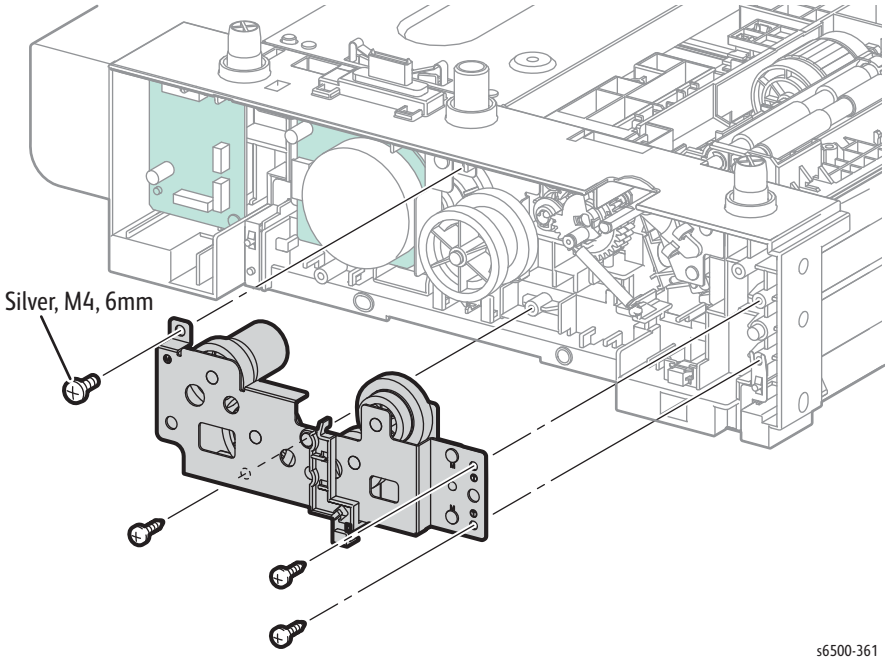
1. Remove the Optional Feeder (page 8-167).
2. Remove the Front Cover (page 8-168).
3. Remove the Left Side Cover (page 8-169).
4. Disconnect CN1 from the Feed Motor.
5. Remove two (silver, metal, 6mm) and two (silver, plastic, 8mm) screws that secure the Feed Motor to the feeder.



Option Feed Gear Kit

PL12.2.99

1. Remove the Optional Feeder (page 8-167).
2. Remove the Front Cover (page 8-168).
3. Remove the Left Side Cover (page 8-169).
4. Disconnect P/J4201 and release the clutch harness from the guide.
5. Remove the four screws (one silver, metal, 6mm; three silver, plastic, 8mm) that secure the Feed Gear Kit.



Replacement Note

After replacement, check that the gears rotate, the clutch is properly installed over the stopper, the clutch harness is laced into the guide, and P/J4201 is connected.

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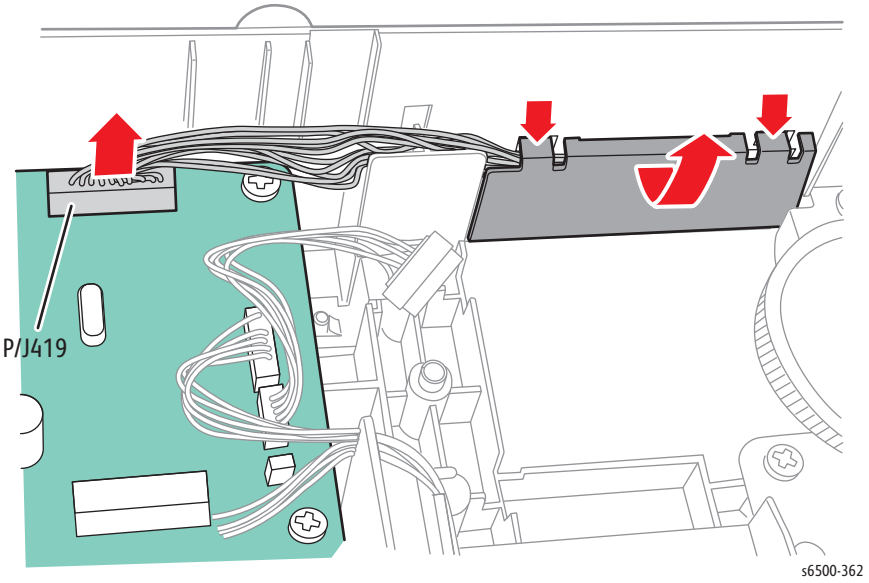
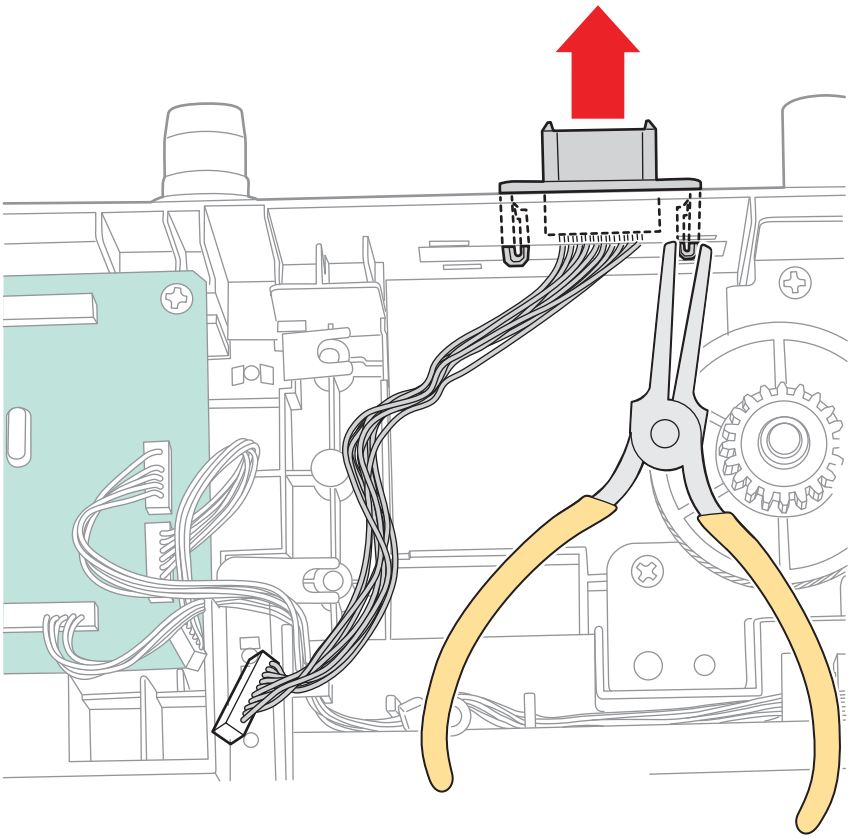
Optional Feeder Harness

PL12.3.23 Harn Assy Tray (J273-J419)

1. Remove the Optional Feeder (page 8-167).
2. Remove the front cover (page 8-168).
3. Remove the left side cover (page 8-169).
4. Remove the Feed Motor (page 8-177).
5. Disconnect P/J419 on the Feeder Board.
6. Release 4 hooks that secure the drawer harness cover and remove the cover.



7. Release 2 hooks that secure the option connector and remove the harness.



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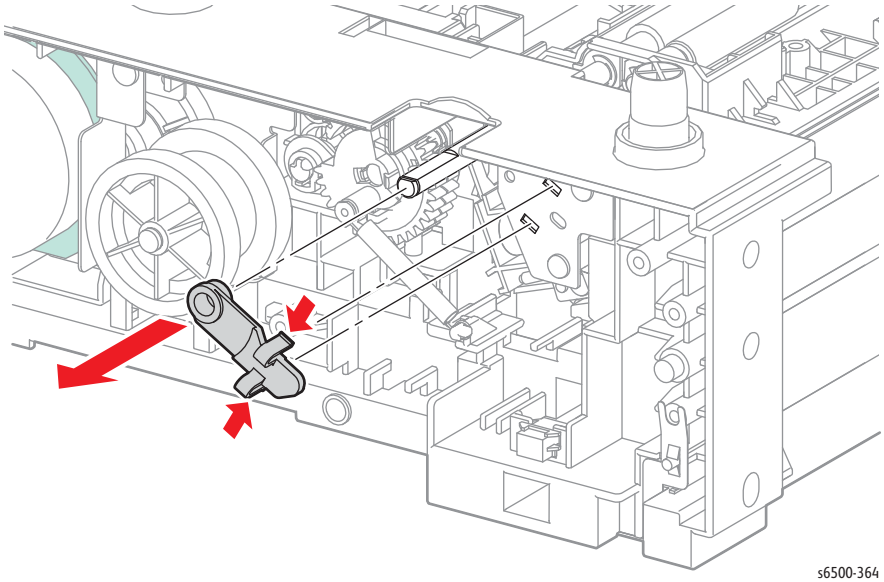
Option Registration Roller Bearing

PL12.3.16

1. Remove the Optional Feeder (page 8-167).
2. Remove the front cover (page 8-168).
3. Remove the left side cover (page 8-169).
4. Remove the Drive Clutch (page 8-174).
5. Remove the Feed Gear Kit (page 8-178).
6. Release 2 hooks that secure the bearing and remove the bearing from the registration roller shaft.



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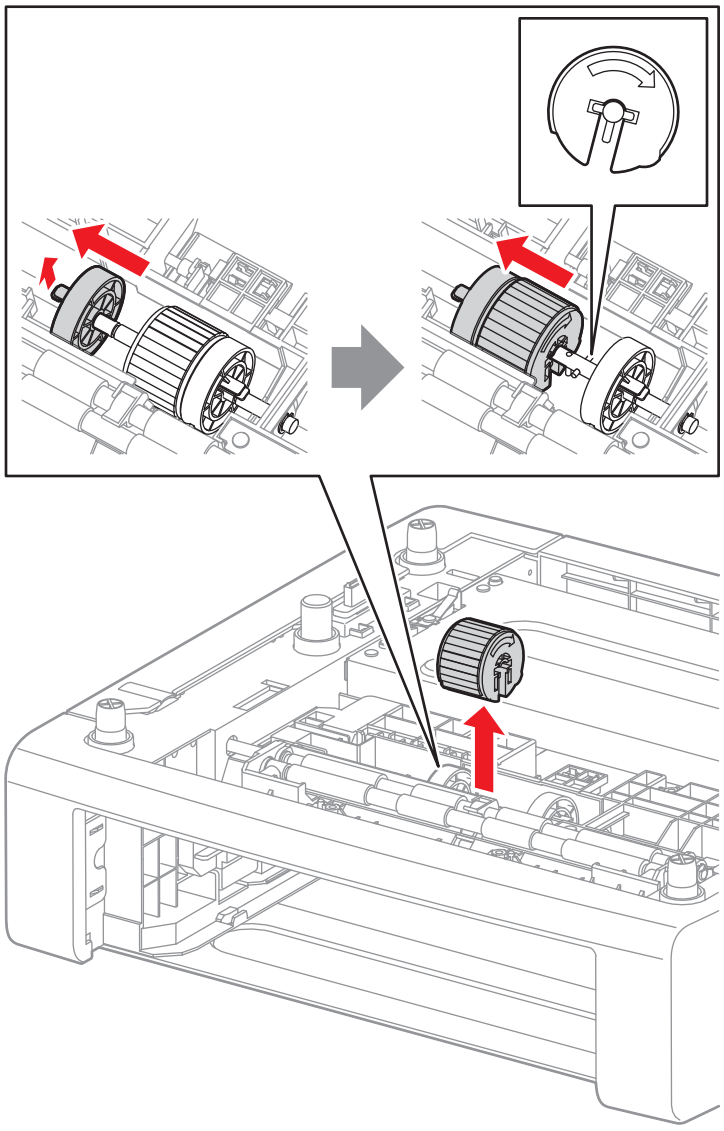
Option Feed Roller

PL12.4.4

1. Remove the Optional Feeder (page 8-167).
2. Remove the Chute Cover (page 8-170).
3. Release the hook on the left side of the roller. Move the roller core to the left side.
4. Move the Feed Roller to the left, so that the grooves in the Feed Roller are clear of the pins on the feed shaft.
5. Rotate the Feed Roller 180° on the feed shaft and allow the Feed Roller to drop off the shaft.



Replacement Note

The Feed Roller fits over the pins on the feed shaft in only one direction. Note the location of the Feed Roller grooves when installing the roller on the shaft.

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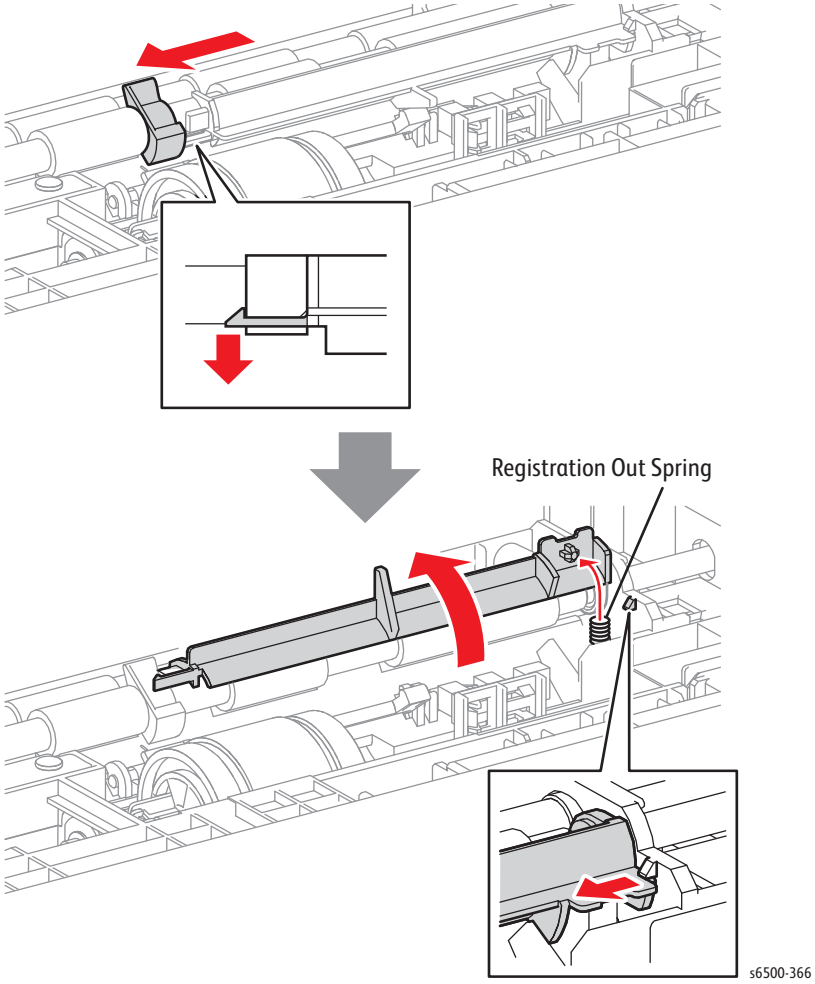
Option Registration Roller

PL12.4.9

Note

To simplify removal of feeder components, rotate the feeder to the rear side.

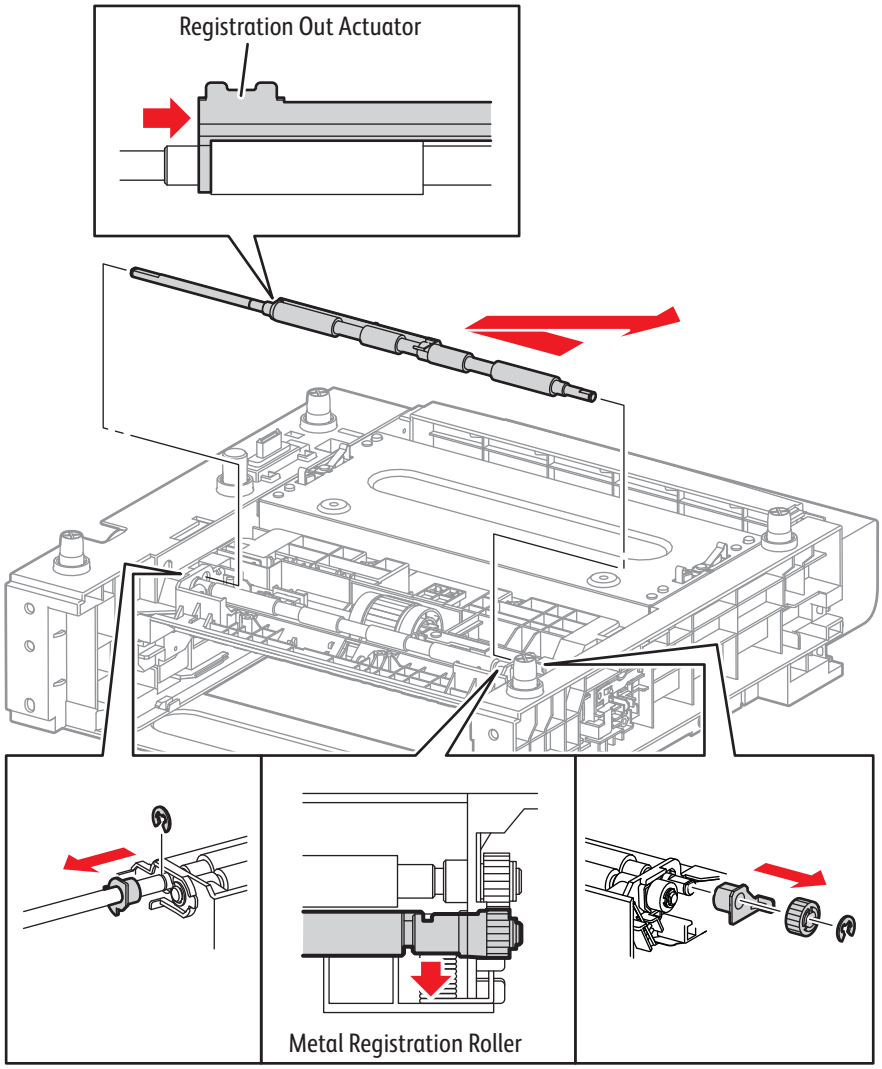
1. Remove the Optional Feeder (page 8-167).
2. Remove the Front Cover (page 8-168).
3. Remove the Left Side Cover (page 8-169).
4. Remove the Chute Cover (page 8-170).
5. Remove the Drive Clutch (page 8-174).
6. Remove the Feed Gear Kit (page 8-178).
7. Remove the Registration Roller Bearing (page 8-181).
8. Release the hook that secures the Registration Out Actuator and move the actuator to the right side of the roller.
9. Release the hook that secures the actuator to the Upper Feeder Chute and rotate the actuator up.



Note

When removing the gear and bearings from the Registration Roller it may be helpful to push the metal registration roller towards the front of the Optional Feeder.

10. Remove two E-rings that retain a bearing at one end and gear at the other end of the registration roller.
11. Shift the roller left to release the right end from the frame and remove the roller from the feeder.



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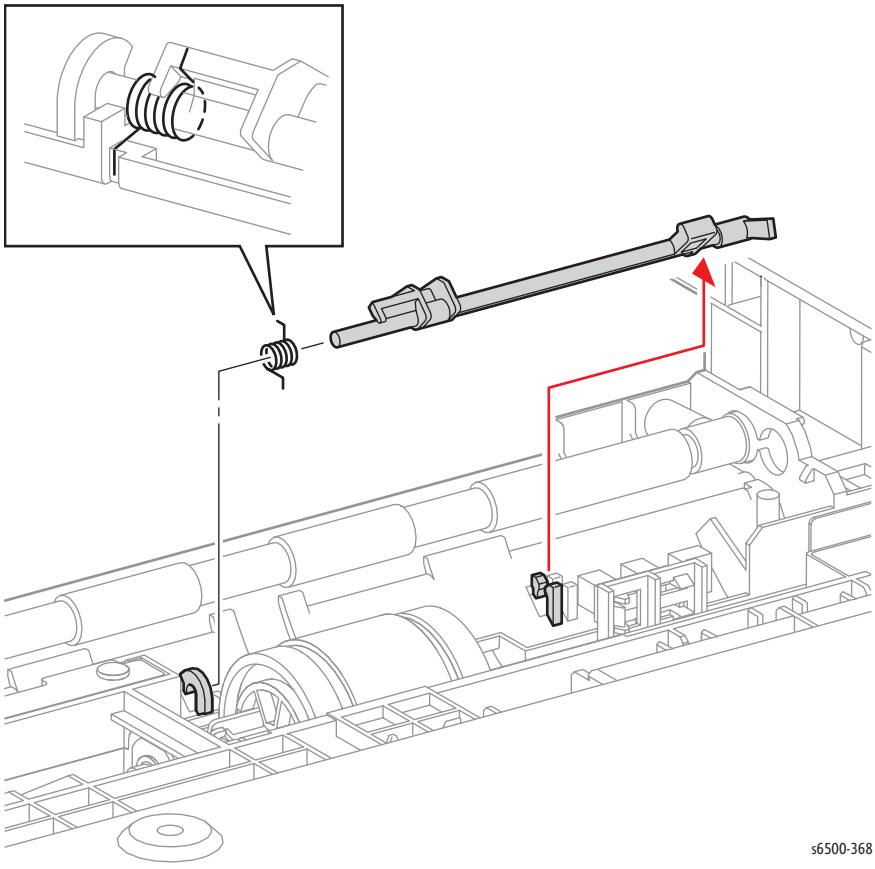
Option Registration Input Actuator

PL12.4.11

Note

To simplify removal of feeder components, rotate the feeder to the rear side.

1. Remove the Optional Feeder (page 8-167).
2. Remove the Front Cover (page 8-168).
3. Remove the Left Side Cover (page 8-169).
4. Remove the Chute Cover (page 8-170).
5. Remove the Drive Clutch (page 8-174).
6. Remove the Feed Gear Kit (page 8-178).
7. Remove the Registration Roller Bearing (page 8-181).
8. Remove the Registration Roller (page 8-183).
9. Release the left end of the actuator from the chute.
10. Remove the actuator and spring from the feeder.



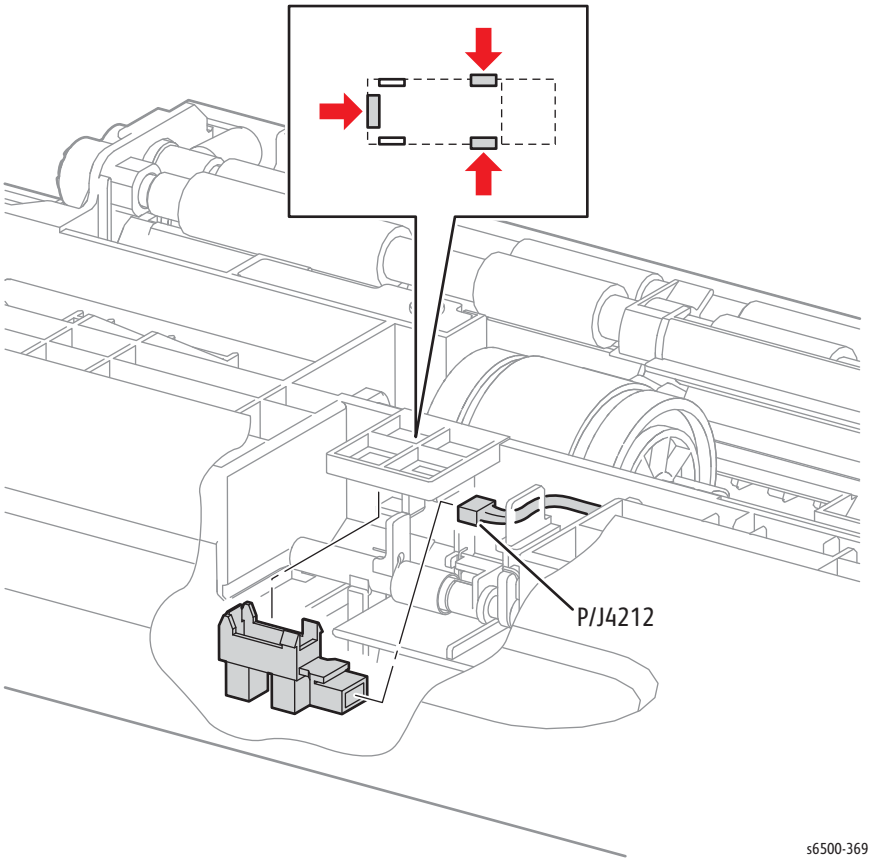
Option No Paper Sensor

PL12.4.13

Note

To simplify removal of feeder components, rotate the feeder to the rear side.

1. Remove the Optional Feeder (page 8-167).
2. Remove the Chute Cover (page 8-170).
3. Release three hooks that secure the sensor to the feeder.
4. Disconnect P/J4212 and remove the sensor.



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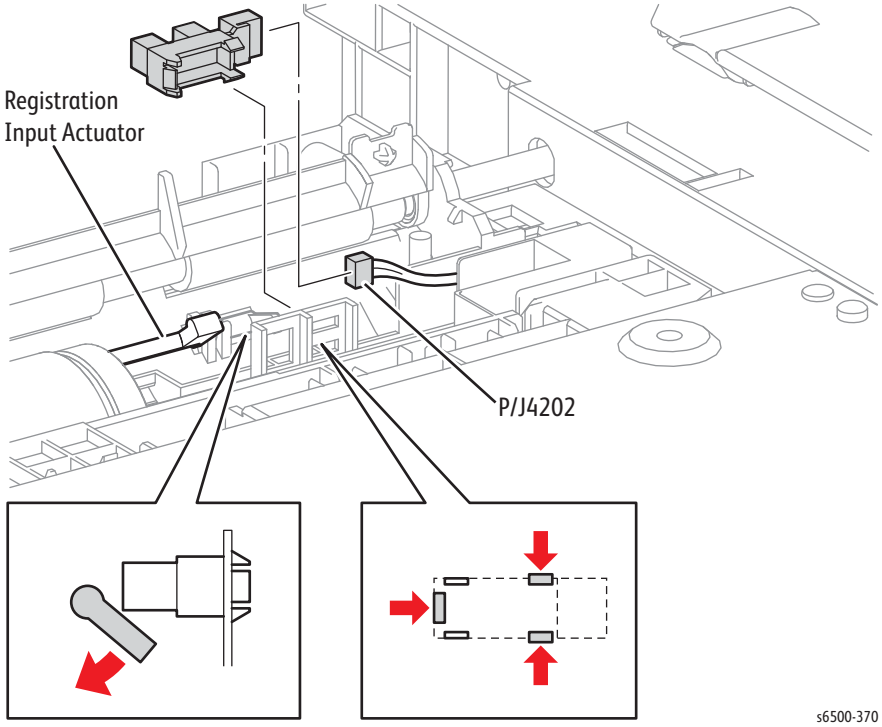
Option Paper Path Sensor

PL12.4.13

Note

To simplify removal of feeder components, rotate the feeder to the rear side.

1. Remove the Optional Feeder (page 8-167).
2. Remove the Chute Cover (page 8-170).
3. Release the hook that secures the registration out actuator and move the actuator to the right side of the roller.
4. Release the hook that secures the registration out actuator to the chute and rotate the actuator up to access the sensor.



5. Release three hooks that secure the sensor to the feeder.
6. Disconnect P/J4202 to remove the sensor.

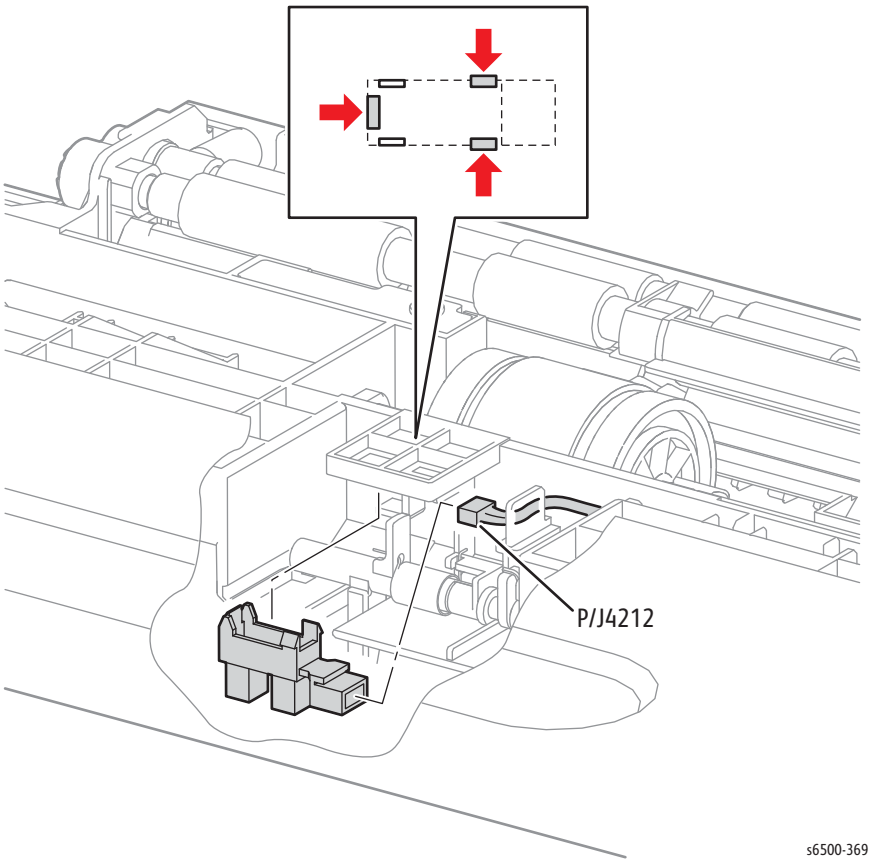
Option No Paper Sensor Actuator

PL12.4.32

Note

To simplify removal of feeder components, rotate the feeder to the rear side.

1. Remove the Optional Feeder (page 8-167).
2. Remove the Chute Cover (page 8-170).
3. Release three hooks that secure the No Paper Sensor to the feeder.



4. Release the right end of the actuator shaft from the frame and remove the actuator and spring.

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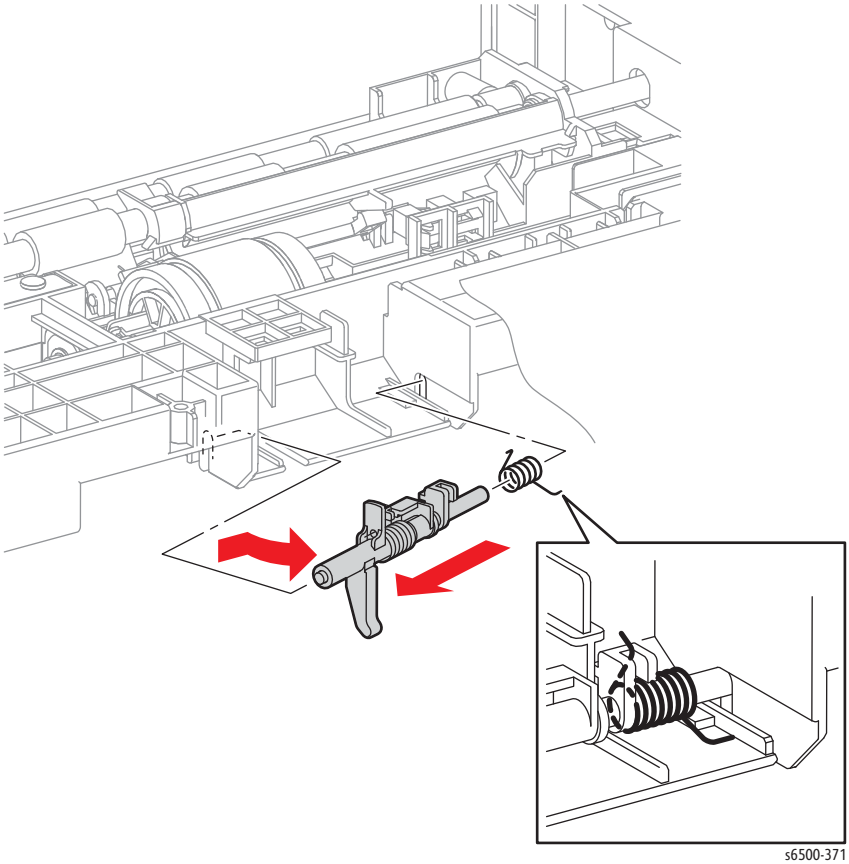


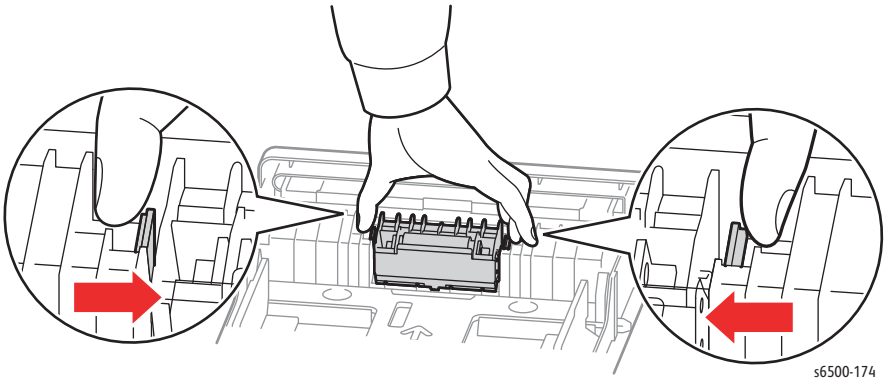
Replacement Note

Install the spring on the actuator and in the feeder before replacing the actuator.

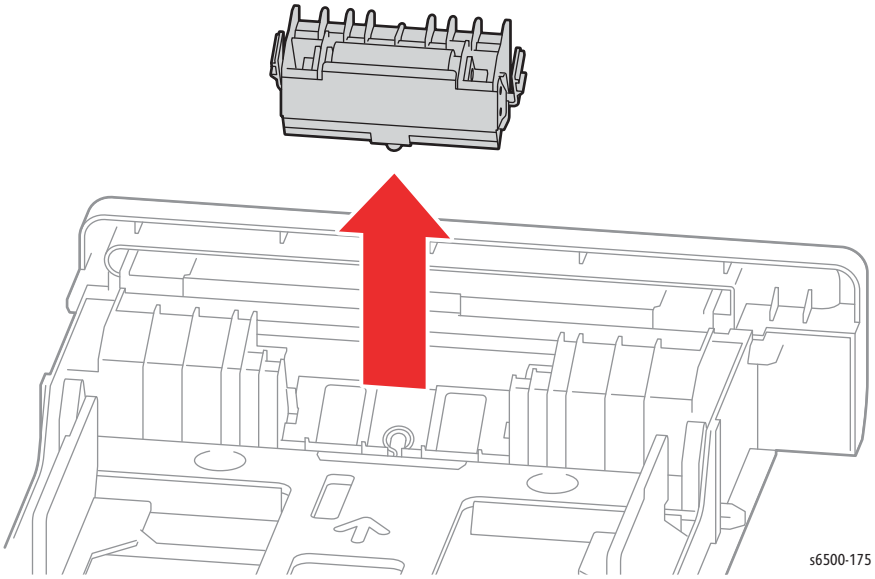
Option Separator Holder

PL12.5.5

1. Hold the tray and pinch the left and right hooks of the Separator Holder. Swing the Separator Holder to release the two hooks.



2. Pull the Separator Holder up to remove it from the Tray.



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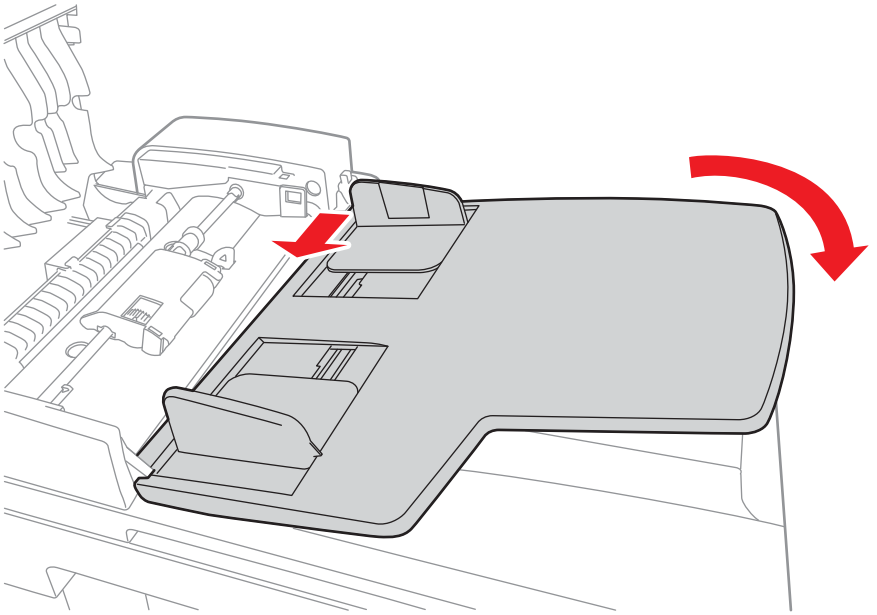
IIT Procedures

ADF Input Tray

PL 10.10.11

1. Open the ADF Jam Cover.
2. Release the tray hinges from the bosses in the ADF cover.



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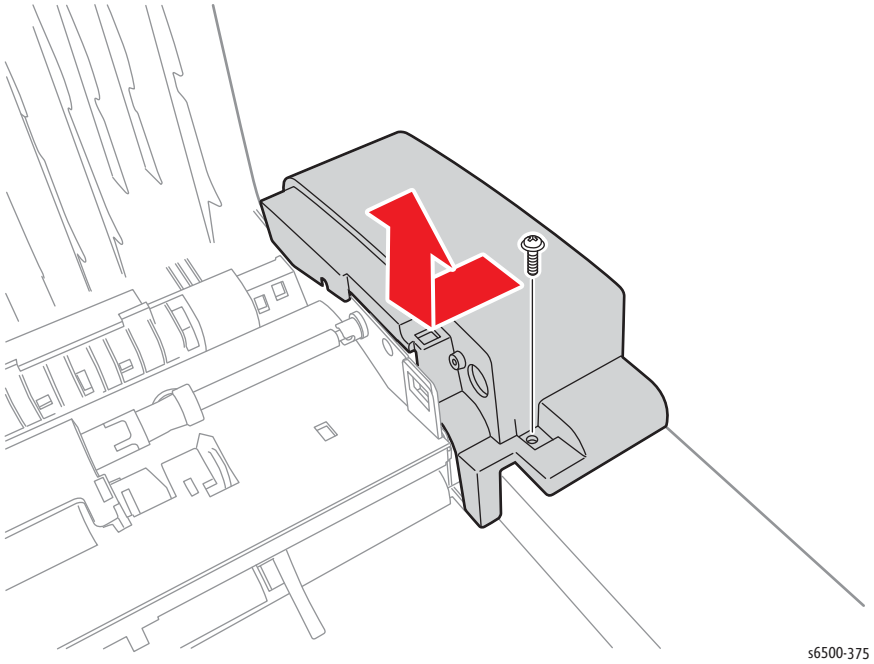
ADF Assembly

PL 10.10.1

1. Turn Off power and disconnect the power cord from the wall outlet.
2. Remove the ADF Input Tray (page 8-191).
3. Remove the screw (silver, tap, 8mm) that secures the Rear ADF Cover.
4. Slightly raise the right side of the Rear ADF Cover, then move the cover to the left until 2 hooks release.



5. Remove the screw (silver, 4mm) that secures the ADF Harness grounding terminal.

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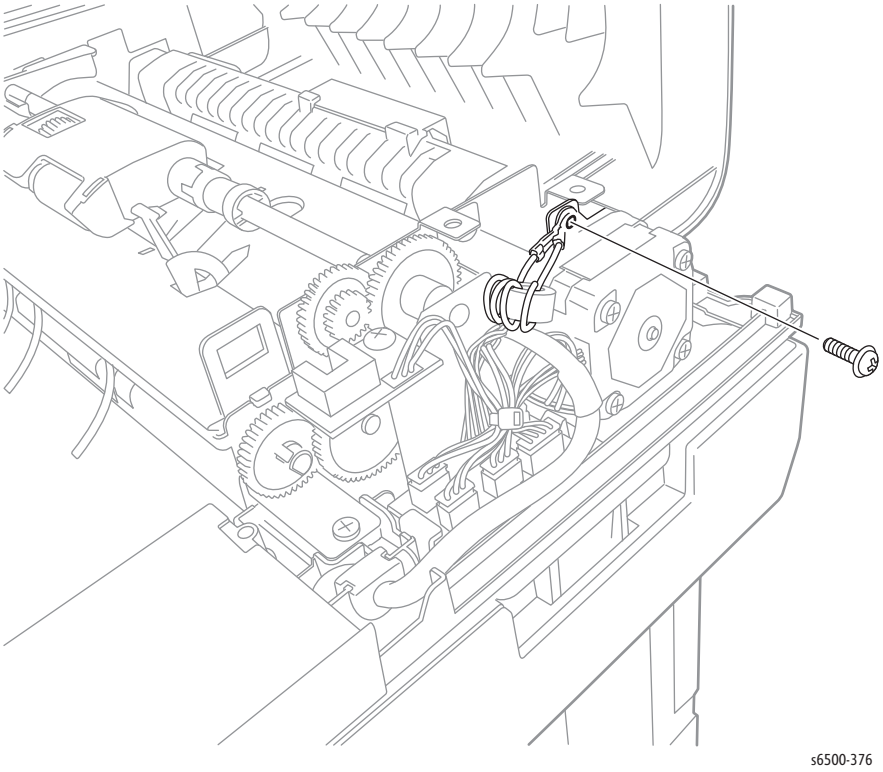
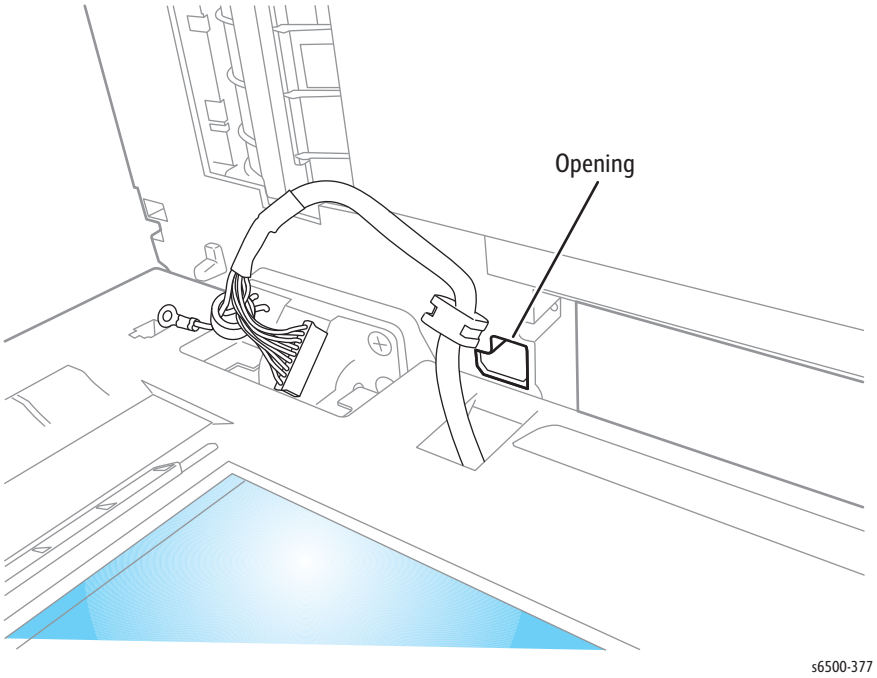
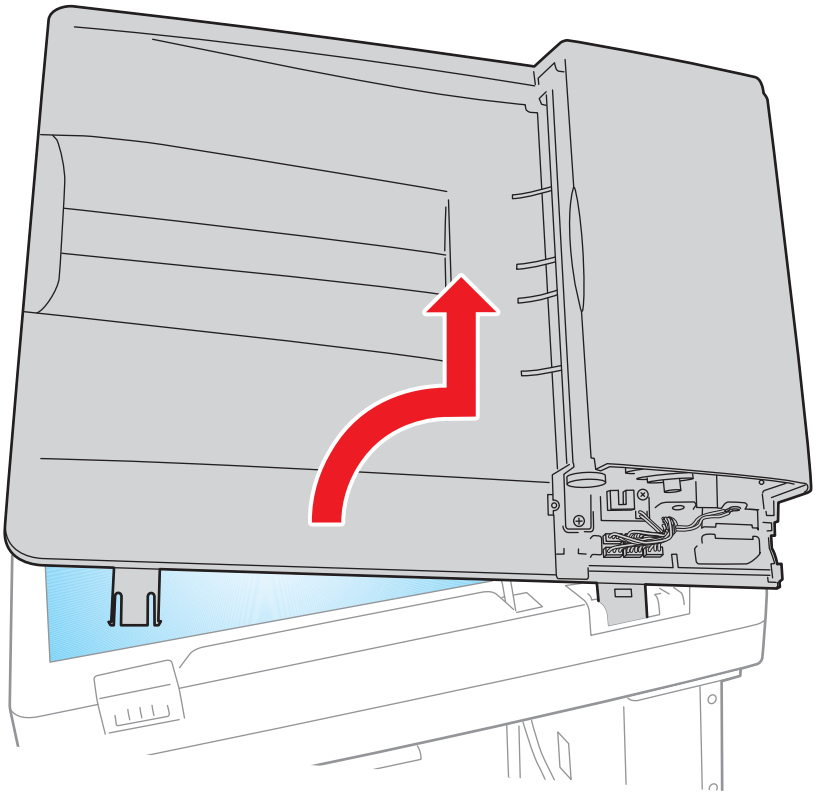


6. Disconnect P/J ADF1 and release the rubber strain relief from the frame.



7. Feed the harness through the hole in the ADF.
8. Release the hook of the Right Counter Balance using a miniature screwdriver, then remove the Right Counter Balance from the IIT Sub-Assembly.



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9. Tilt the ADF Assembly to the right, and release the tab of the Left Counter Balance.
10. Lift the ADF Assembly and remove the ADF Harness from the hole of the ADF Assembly to remove the ADF Assembly from the IIT Sub-Assembly.

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IIT Sub-Assembly

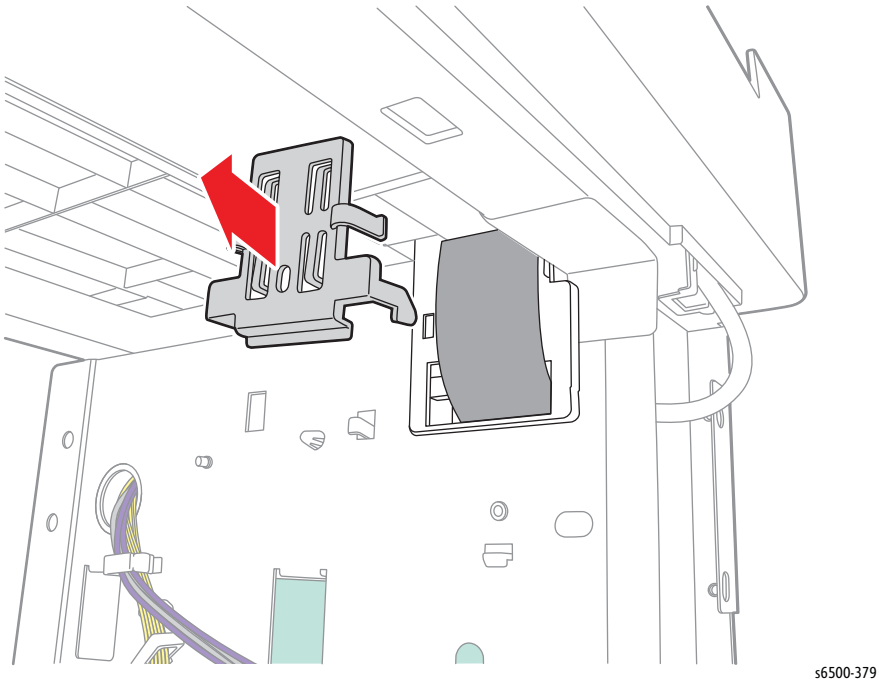
PL 10.9.2

Caution

The Ferrite Core (PL 10.9.4) strung on the IIT Sub-Assembly ribbon cable is extremely fragile.

1. Perform the service preparation steps on page 8-3.
2. Open the Front Cover.
3. Remove the MFP Left Side Cover (page 8-37).
4. Remove the Outer Pole Cover (page 8-39).
5. Remove the IP Board Shield (page 8-142).
6. Remove the MFP Right Side Cover (page 8-40).
7. Remove the Inner Pole Cover (page 8-44).
8. Remove the Lower Scanner Cover (page 8-46).
9. Remove the Front USB Assembly. (page 8-158)
10. Remove the ADF Input Tray (page 8-191).
11. Remove the ADF Assembly (page 8-192).

12. Release two hooks that secure the FFC Cover to the chassis and remove the cover.



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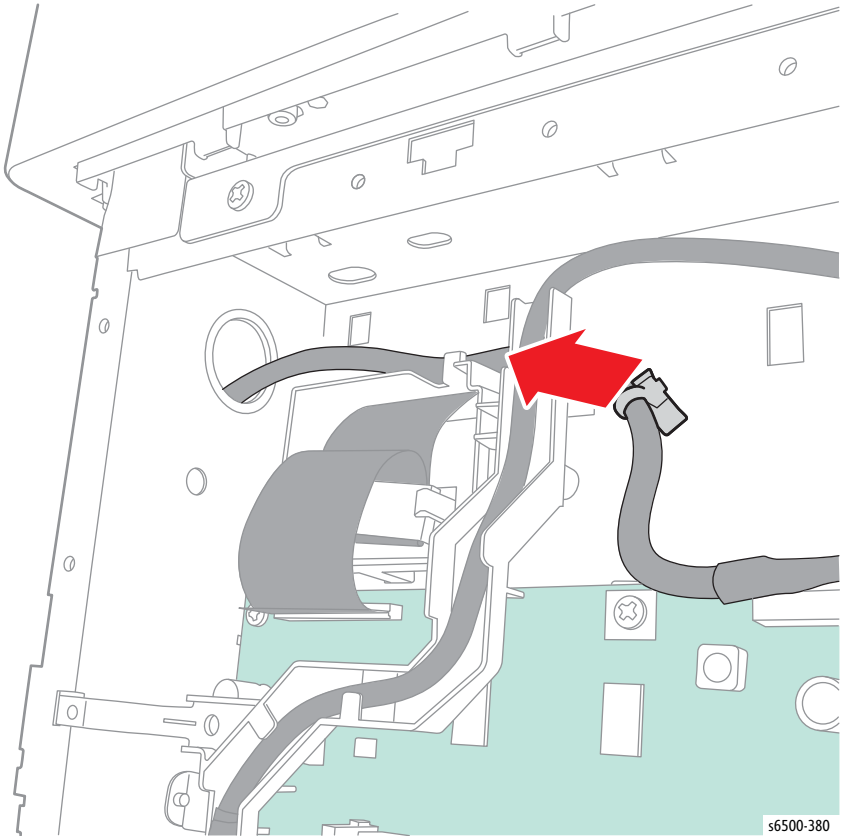
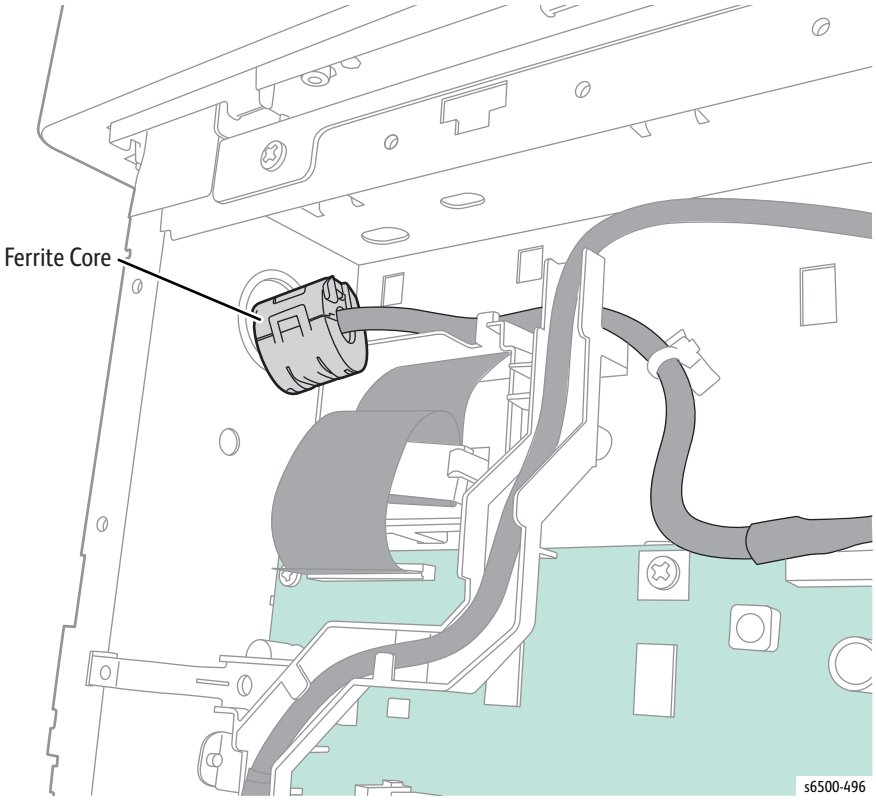
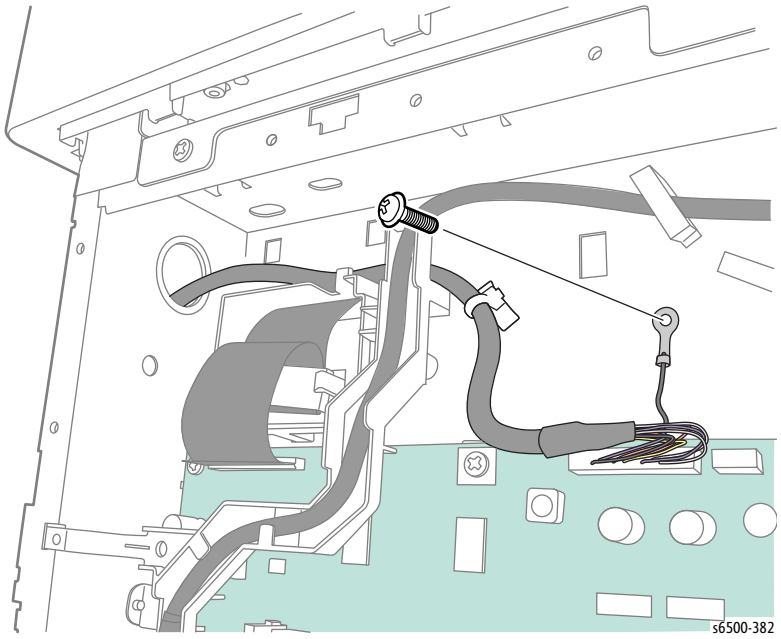
13. Remove the clamp that secures the ADF Assembly harness to the chassis.



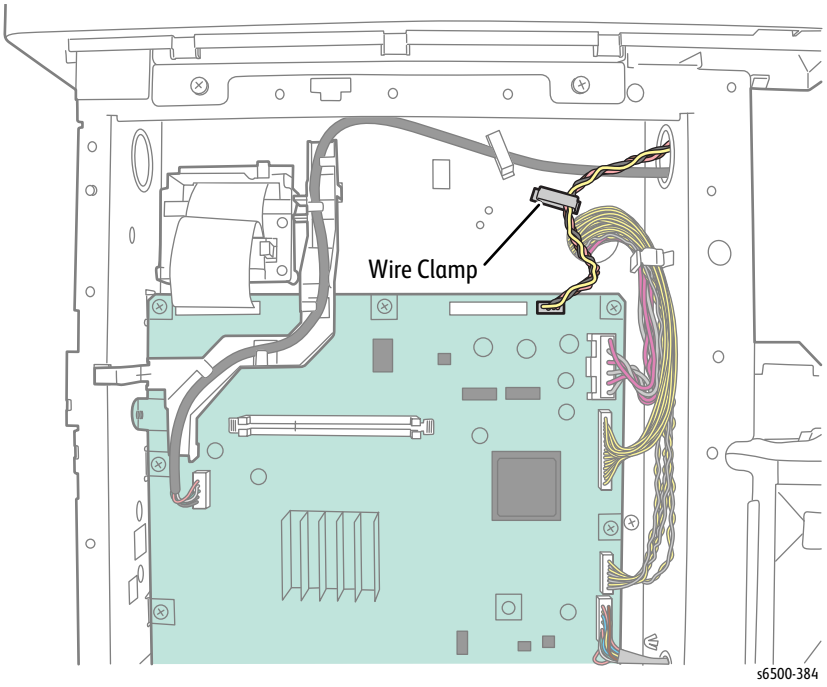
14. Remove the ferrite core from the ADF Assembly harness.



15. Remove the screw (silver, 6mm) that secures the ADF Assembly ground wire.



16. Disconnect P/J1002 from the Image Processor Board and release the IIT Sub-Assembly harness from the clamp. Pull the harness through the hole.



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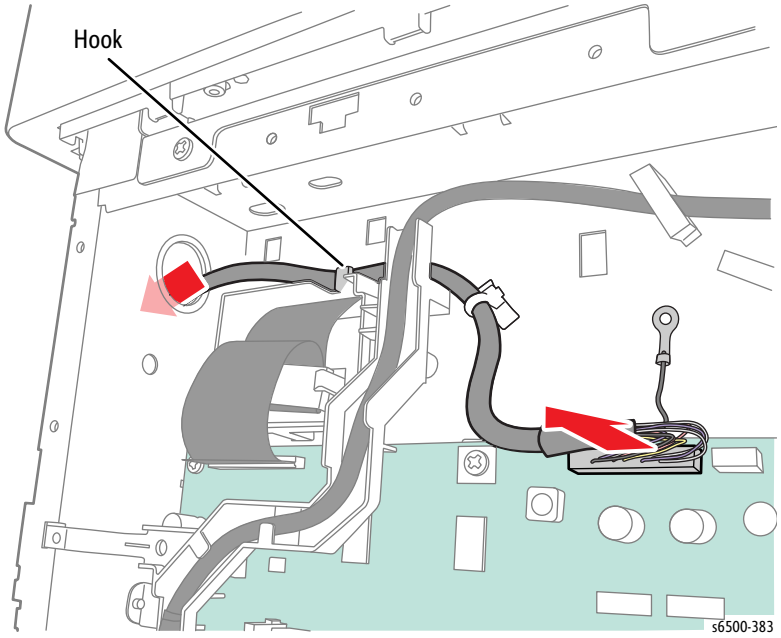
17. Disconnect P/J1003 on the Image Processor Board and pull it through the hole in the chassis.

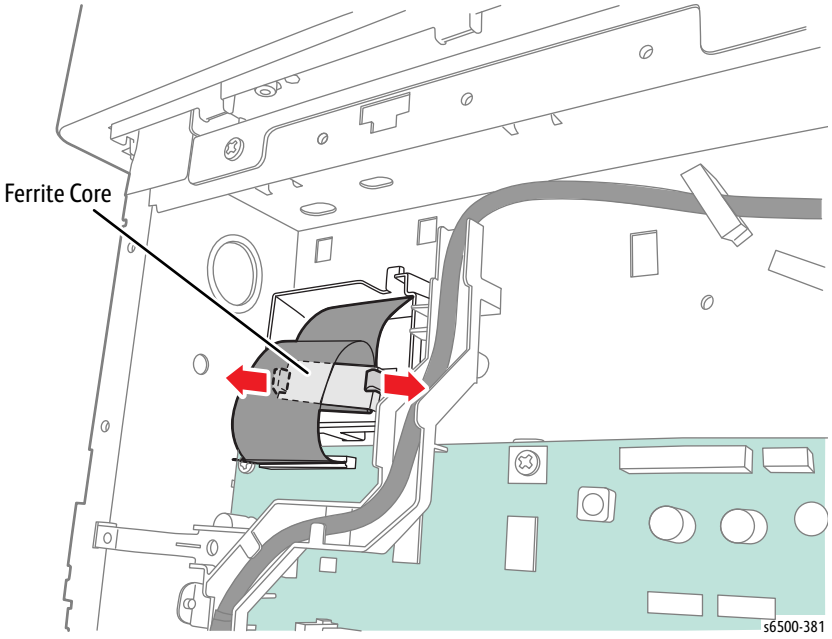


18. Disconnect the ribbon cable from P/J1001 on the Image Processor Board.

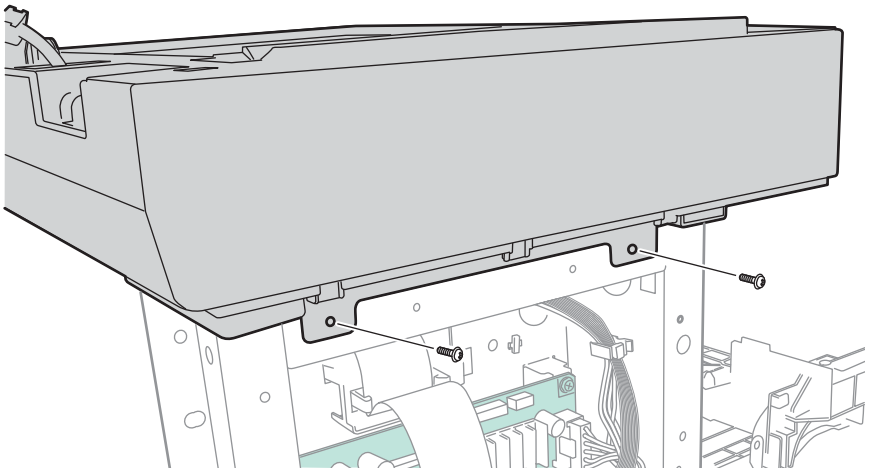
Caution

The Ferrite Core is extremely fragile. Use care when removing the core from the ribbon cable.

19. Release 2 hooks of the FFC Holder, then remove the Ferrite Core from the ribbon cable.



20. Remove two screws (silver, 6mm) that secure the IIT Sub-Assembly to the chassis. Shift the IIT Sub-Assembly to left to release the holes of the assembly from the four studs to remove the IIT from the chassis.



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Replacement Note

When replacing the IIT Sub-Assembly on the chassis, take care not to pinch the harnesses, particularly the ADF Assembly harness.

When replacing the IIT Sub-Assembly with new part, be sure to perform the procedure “Scanner Parameter Setting” on page 6-11.

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Parts Lists

In this chapter...

- Serial Number Format
- Using the Parts List
- Parts Lists
- Xerox Supplies and Accessories
- Service Kits

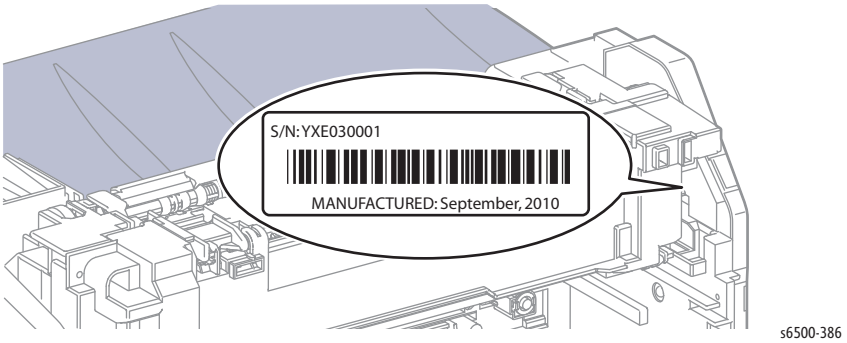
Chapter 9

Serial Number Format

Changes to Xerox products are made to accommodate improved components as they become available. It is important when ordering parts to include the following information:

- Component's part number
- Product type or model number
- Serial Number of the printer

The serial number is found on a label located on the right-side frame near the Fuser. To view the Serial Number you must open the Front Cover, lower the Transfer Belt, and swing out the right end of the Fuser.



The nine-digit serial number uses the format **PPPRSSSSS or MMMSSSSSSc**.

- **PPP** = Three digit alphanumeric product code
- MMM = Three digit numeric manufacturing location code

Product Code	Mfg. Location Code	Product
YXE	—	6500_N, 110V Engine
YRB	—	6505_N, 110V Engine
YTB	—	6505_DN, Duplex, 110V Engine
YXG	316	6500V_N, 220V Engine
YRX	316	6505V_N, 220V Engine

- **R** = Single digit numeric revision digit, 0-3. To be rolled when the ending serial number is reached or when a major product change occurs.
- **SSSSS(S)** = Five or six digit numeric serial number based on the following table. The serial numbers are reset only when the ending number is reached or when the revision number is rolled.
- c = Check digit (correct number from check digit algorithm)

Product	Starting Serial Number	Ending Serial Number
6500_N, 110V Engine	10001	99999
6505_N, 110V Engine	10001	99999
6505_DN, Duplex, 110V Engine	10001	99999
6500V_N, 220V Engine	000601	100500
6505V_N, 220V Engine	360101	460000

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Examples

Here are two examples of the serial number formats as used on the Phaser 6500 and WorkCentre 6505 printers.

Example 1

YXE013072: Xerox Serial Number

VUX: Product Code for the Phaser 6500, 110V printer

0 = Revision Level

13072 = Serial Number for Phaser 6500 N

Example 2

3163612274: Xerox Serial Number

316: Manufacturing Code for 220V Engine

361227: Serial Number for WorkCentre 6505 N MFP

4: Check digit

Using the Parts List

- **ID No.:** The callout number from the exploded part diagram.
- **Name/Description:** The name of the part to be ordered and the number of parts supplied per order.
- **Part Number:** The material part number used to order that specific part.
- Parts identified throughout this manual are referenced **PL#.#.#**; For example, PL3.1.10 means the part is item 10 of Parts List 3.1.
- A Black triangle preceding a number followed by a parenthetical statement in an illustrated parts list means the item is a parent assembly, made up of the individual parts called out in parentheses.
- 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.
- An asterisk (*) following a part name indicates the page contains a note about this part.
- 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 ordering by support. Parts not showing part numbers are available on the parent assembly.

Abbreviations

Abbreviation	Meaning
C	C-ring
E	E-ring
KL	K-clip
S	Screw

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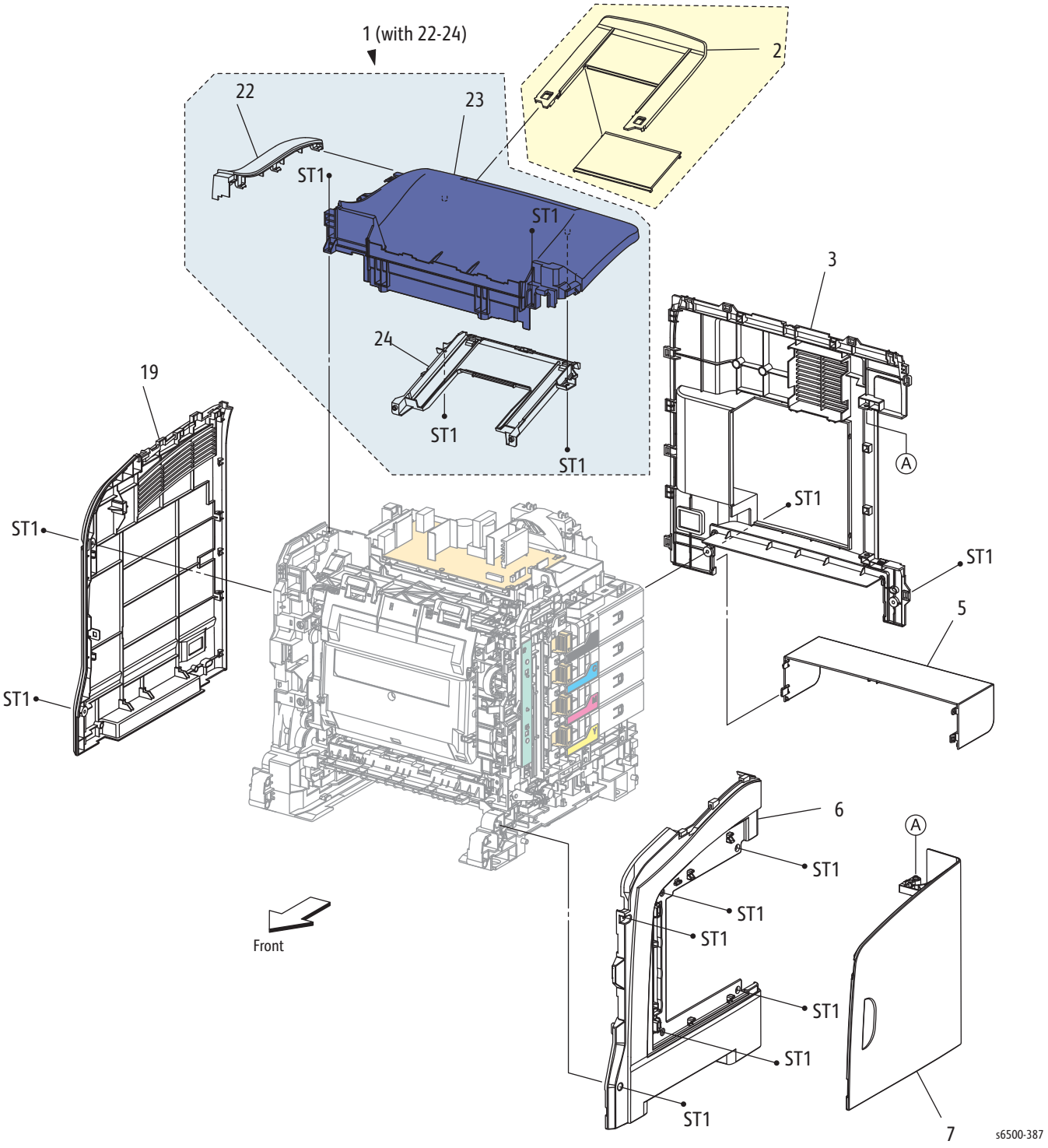
Parts Lists

SFP Parts List 1.1 Covers (1/2)



SFP Parts List 1.1 Covers (1/2)

Item	Description	Part Number
1	Cover Assy Top (With 22-24)	848K52942
2	Tray Ext (Output Tray Extension)	050K66881
3	Cover Rear	848E61690
4	—	
5	Cover CST (Rear Tray Cover)	848E38130
6	Cover Side R	848E61650
7	Cover Assy Window TNR (Toner Door)	848K53091
8	—	
9	—	
10	—	
11	—	
12	—	
13	—	
14	—	
15	—	
16	—	
17	—	
18	—	
19	Cover Side L	848E61660
20	—	
21	—	
22	Cover Top Sub	
23	Cover Top Main	
24	Guide Tray	
25	—	

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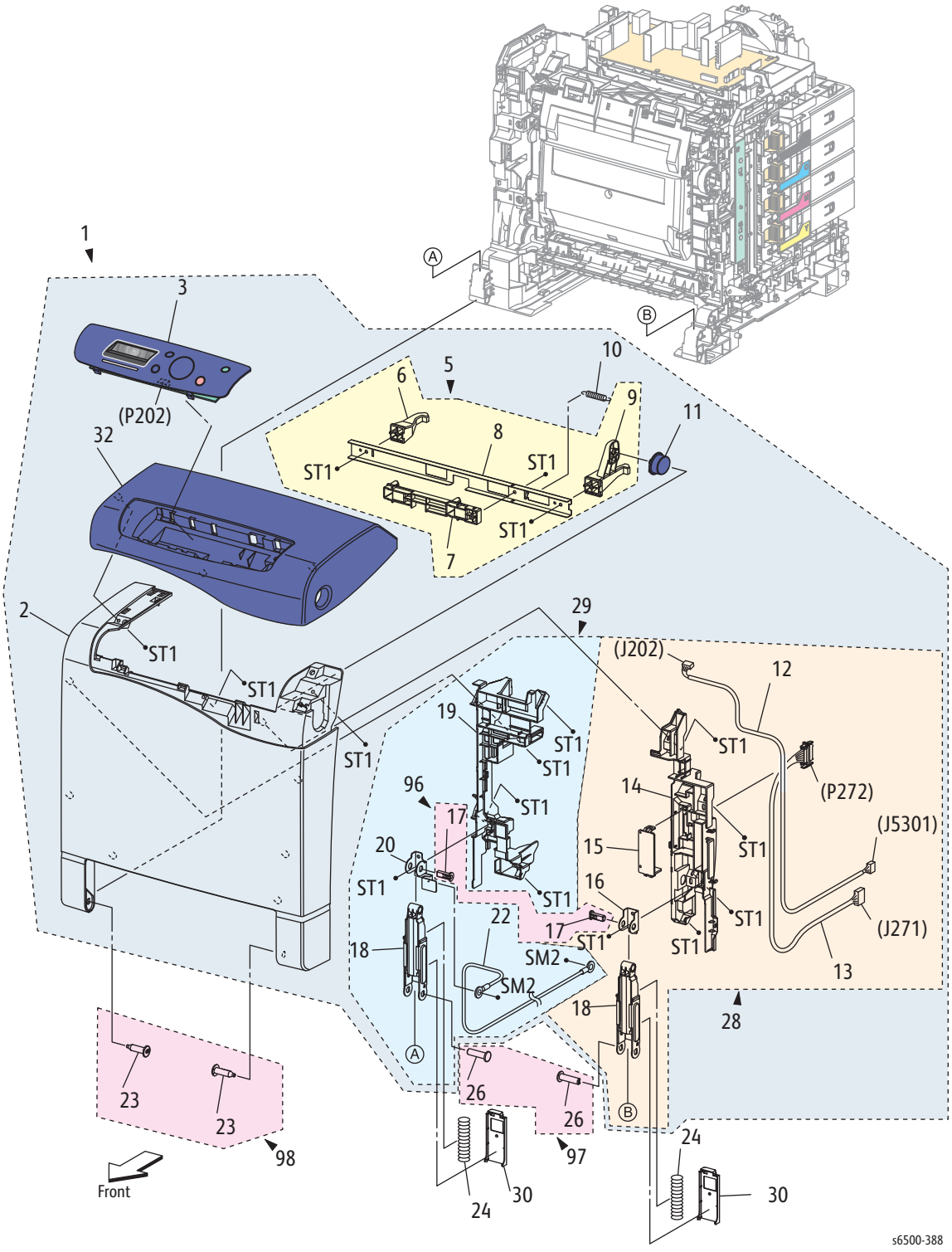
SFP Parts List 1.2 Covers (2/2)



SFP Parts List 1.2 Covers (2/2)

Item	Description	Part Number
1	Cover Assy Front (with 2,3,5,10,11,28,29,32)	848K53921
2	Cover Front Lower	
3	Console Assy Panel (Control Panel)	848K53033
4	—	
5	Latch Assy Front (with 6-9)	
6	Latch Front L	
7	Latch Front Dup	
8	Plate Latch	
9	Latch Front R	
10	Spring Latch Front	
11	Button Latch Front	
12	Harness Assy A (J202-J5301) (Control Panel Harness)	962K73100
13	Harn Assy Dup Relay (J271-P272)	962K73400
14	Holder Front R	
15	Cover Drawer	
16	Bracket Holder R	
17	Shaft Link Front	
18	Link Assy Front	
19	Holder Front L	
20	Bracket Holder L	
21	—	
22	Harn Assy Gnd	
23	Shaft Pivot	
24	Spring Link Front	
25	—	
26	Shaft Link Front Fdr	
27	—	
28	Holder Assy Front R (with 13-18)	
29	Holder Assy Front L (with 17-20, 22)	
30	Cover Link Front	
31	—	
32	Cover Front Upper	
96	Kit Shaft Link Front (with 17 x 2 pcs) (Upper)	604K53040
97	Kit Shaft Link Front FDR (with 26 x 2 pcs) (Lower)	604K53050
98	Kit Shaft Pivot (with 23 x 2 pcs) (Front Cover)	675K54051

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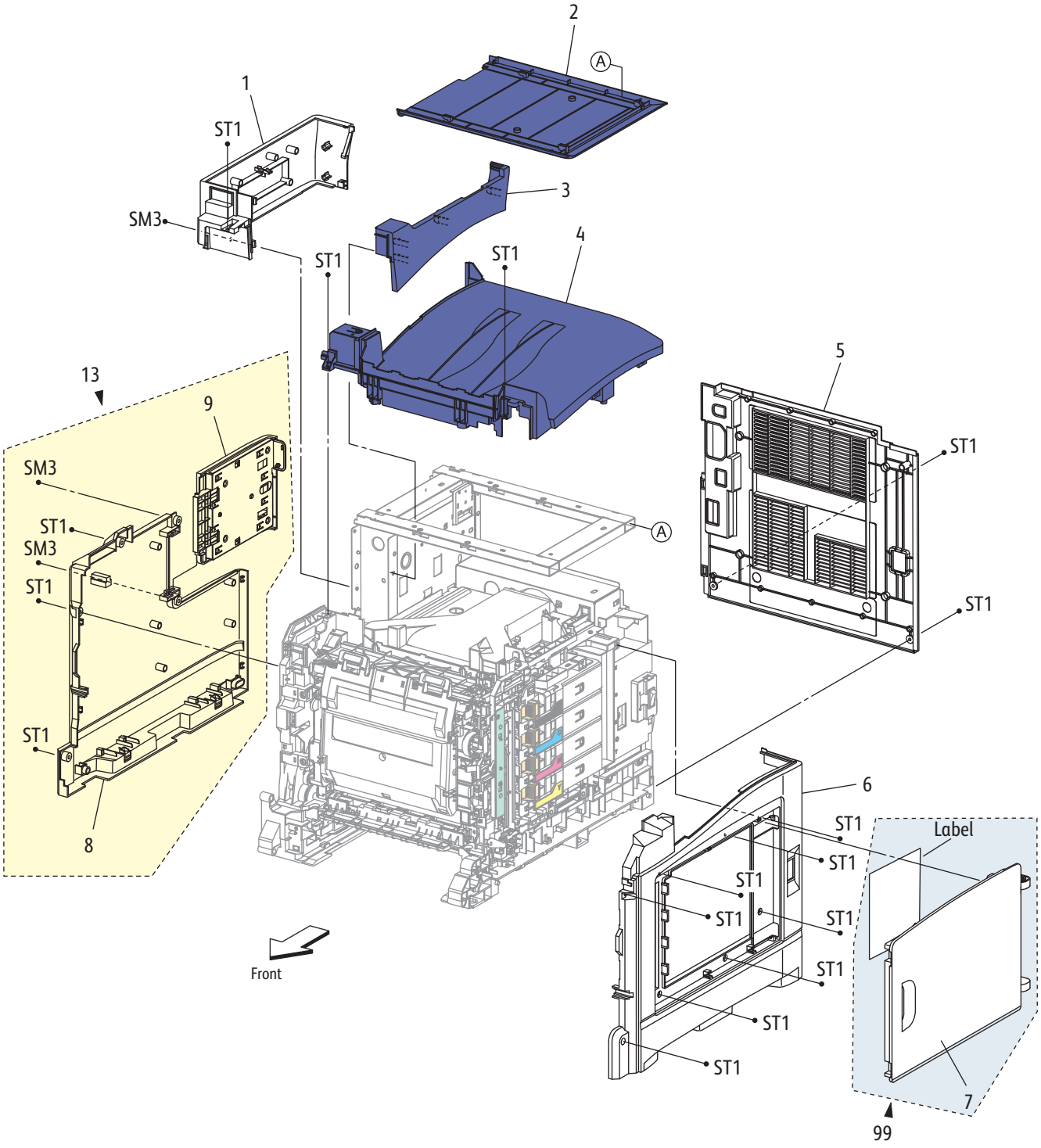
MFP Parts List 1.1 Covers (1/2)



MFP Parts List 1.1 Covers (1/2)

Item	Description	Part Number
1	Cover Pole Outer	848E61421
2	Cover Scanner Lower	848E60080
3	Cover Pole Inner	848E61462
4	Cover Top	848E61452
5	Cover Rear	848E61040
6	Cover Side R	848E61432
7	Cover Window Tnr	
8	Cover Side L	
9	Cover Assy ESS	
10	—	
11	—	
12	—	
13	Cover Assy Side L (with 8, 9)	848K50521
99	Kit, Cover,-Window Tnr AIO (Toner Door with label)	604K64501

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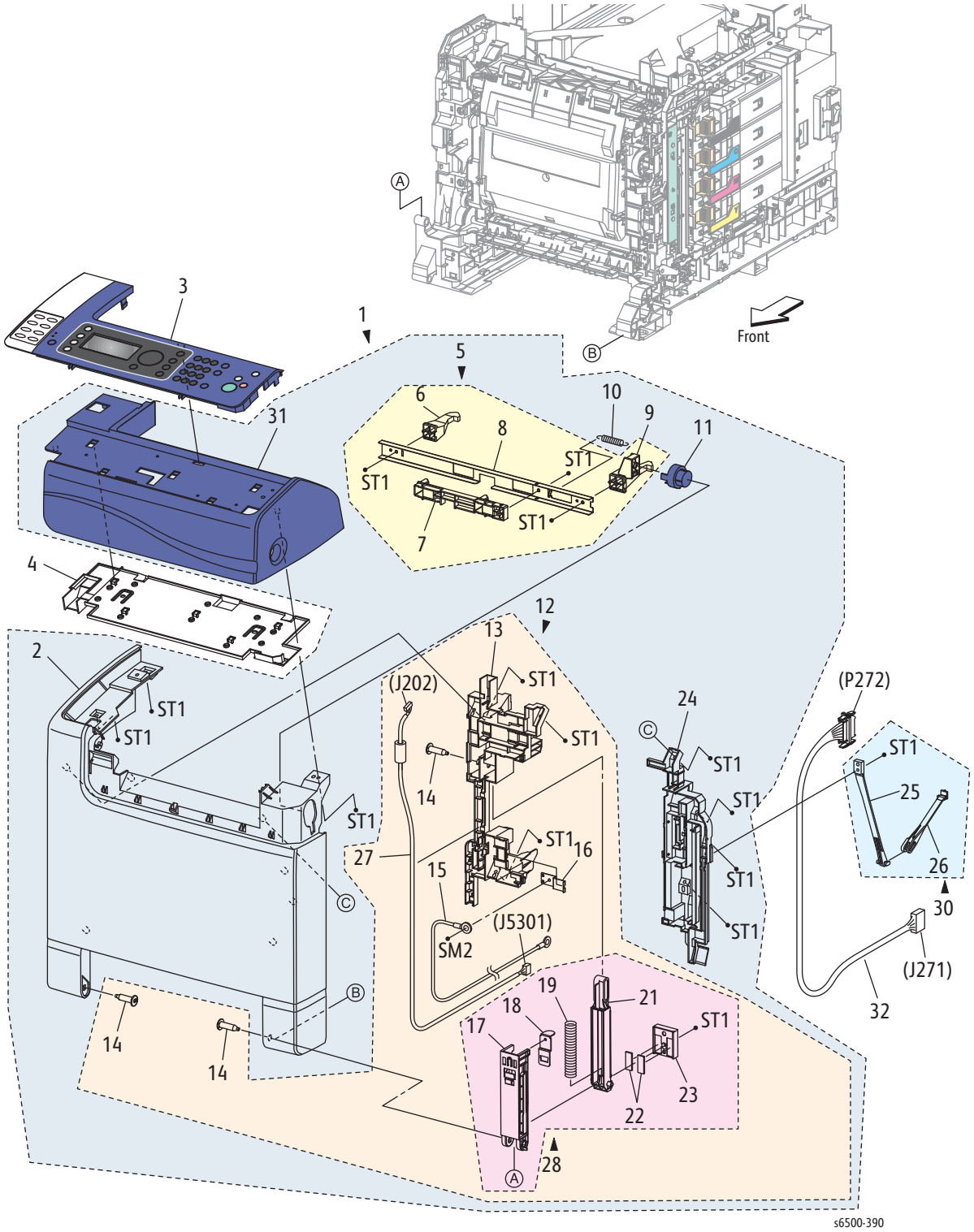
MFP Parts List 1.2 Covers (2/2)



MFP Parts List 1.2 Covers (2/2)

Item	Description	Part Number
1	Cover Assy Front (with 2, 5, 10-12, 24,29)	848K51394
2	Cover Front Lower	
3	Console Assy Panel (Control Panel)	848K46336
4	Cover Inner Front	
5	Latch Assy Front (with 6-9)	
6	Latch Front L	
7	Latch Front Dup	
8	Plate Latch	
9	Latch Front R	
10	Spring Latch Front	
11	Button Latch Front	
12	Holder Assy Front L (with 13-16, 27, 28)	
13	Holder Front L	
14	Shaft Pivot	
15	Harness Assy Dup Gnd	
16	Plate Earth	
17	Holder Link Lower	
18	Plate Link	
19	Spring Link	
20	—	
21	Holder Link Upper	
22	Pad L	
23	Holder Slider	
24	Holder Front R	
25	Strap B	
26	Strap A	
27	Harness A-OP-OPP (J202-P5301)	962K73540
28	Link Assy Front AIO (with 17-19,21-23)	
29	—	
30	Strap Assy (with 25,26)	801K45121
31	Cover Front Upper)	
32	Harn Assy Dup Relay (J271-P272)	
99	Kit Shaft (14x2pcs)	675K54051

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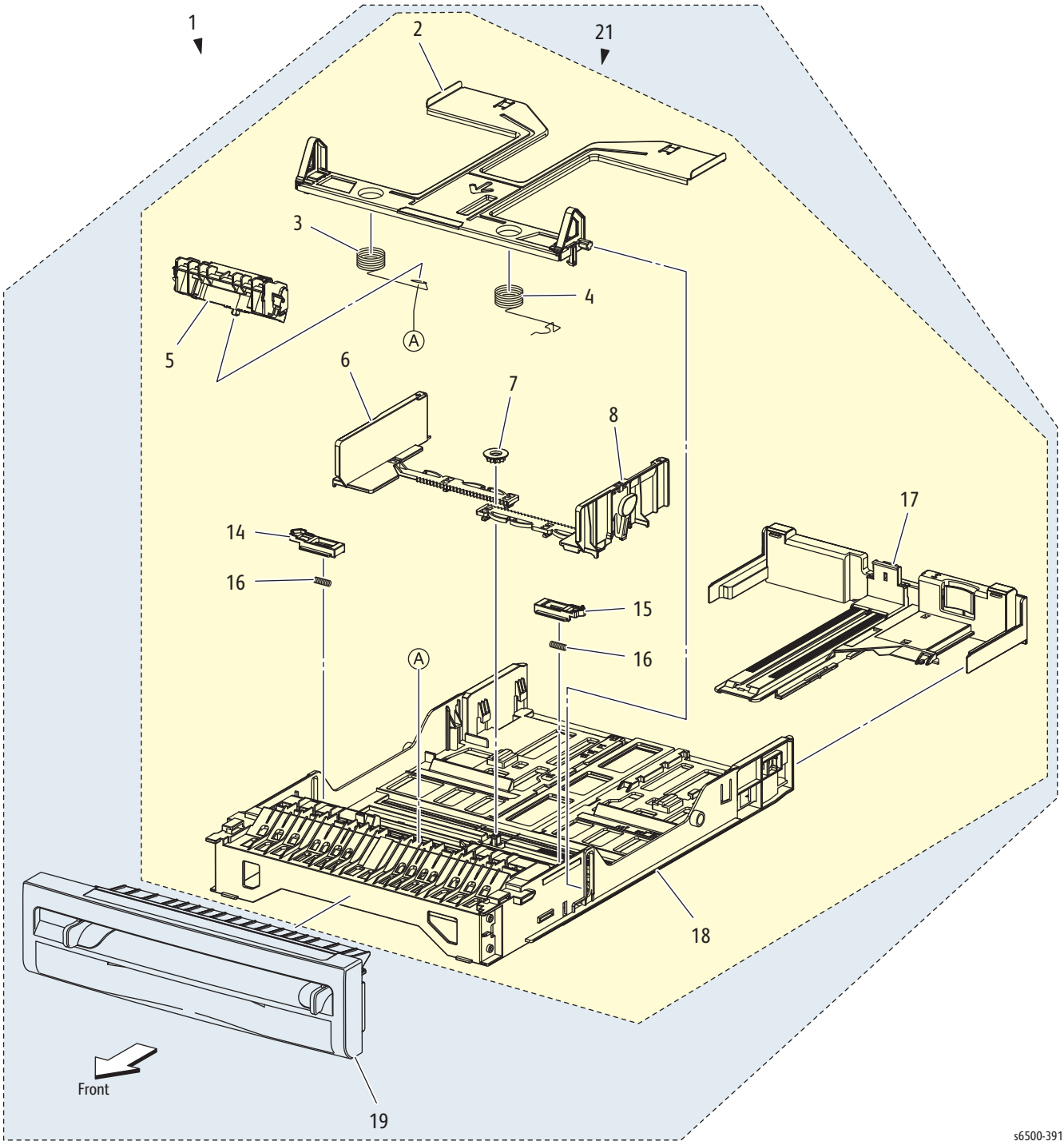
Parts List 2.1 Tray 1



Parts List 2.1 Tray 1

Item	Description	Part Number
1	Cassette Assy 250 (With 19, 21)	050K64160
2	Plate Assy Bottom	
3	Spring N/f L	
4	Spring N/f R	
5	Holder Assy Separator	675K81221
6	Guide Side L	
7	Gear Pinion	
8	Guide Side Assy R	
9	—	
10	—	
11	—	
12	—	
13	—	
14	Latch Bottom L	
15	Latch Bottom R	
16	Spring Latch B	
17	Tray Assy Extension	
18	Housing Cst 250	
19	Handle Assy Cst	
20	—	
21	Tray Assy Cst 250 (With 2-8,14-18)	

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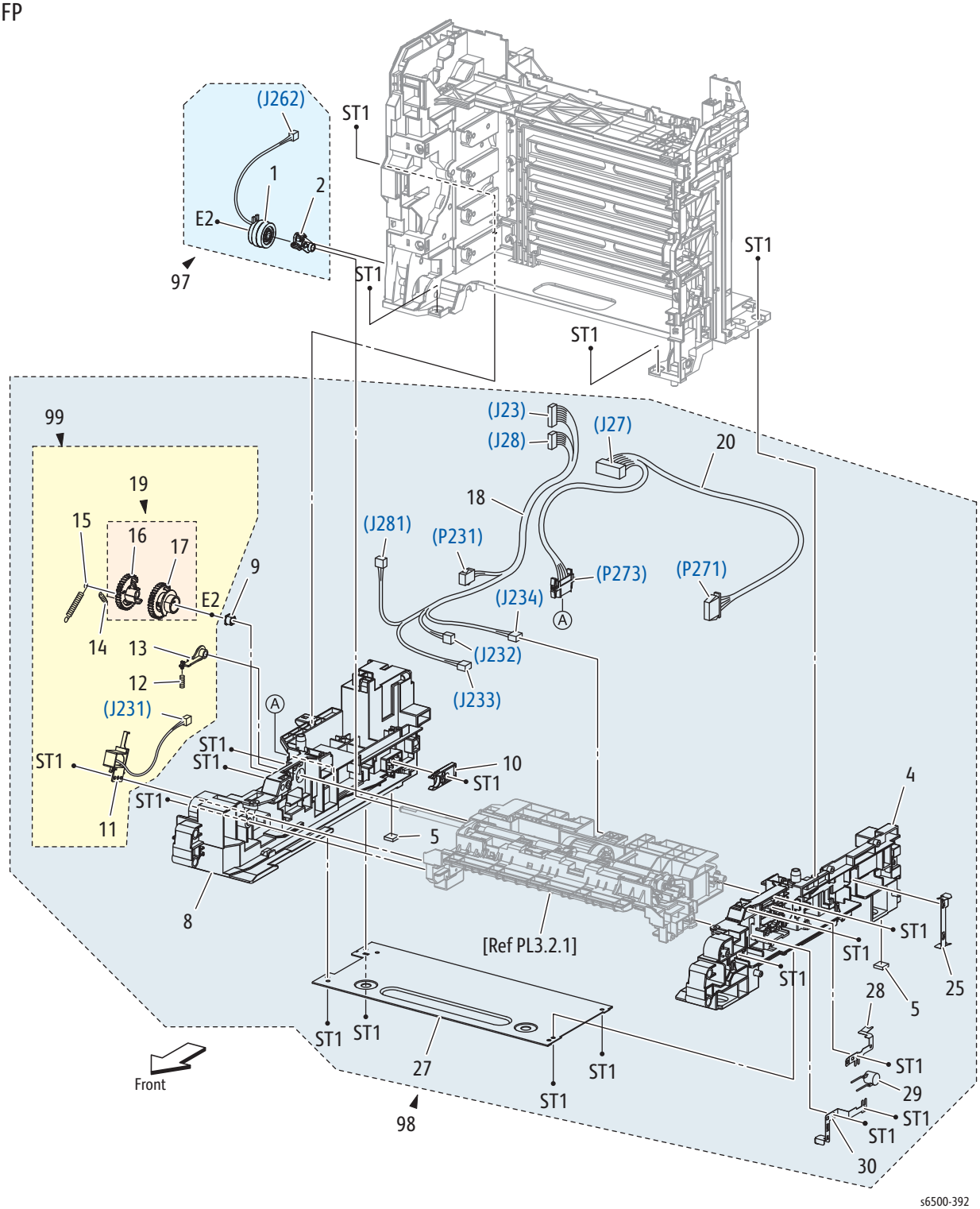
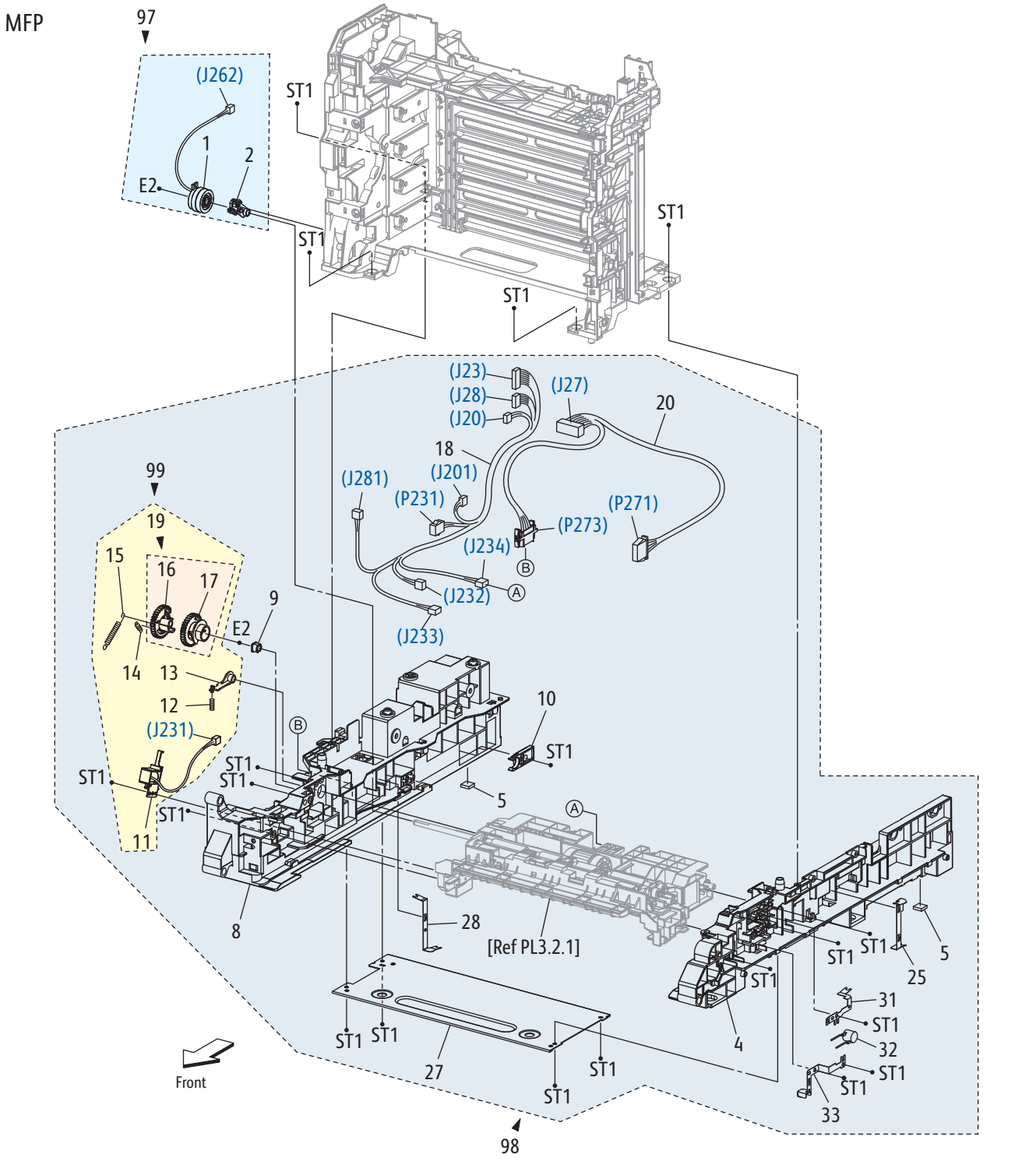
Parts List 3.1 Feeder (1/2)

SFP





Parts List 3.1 Feeder (1/2)

Item	Description	Part Number
1	Clutch Assy Drv	
2	Bearing Regi	
3	—	

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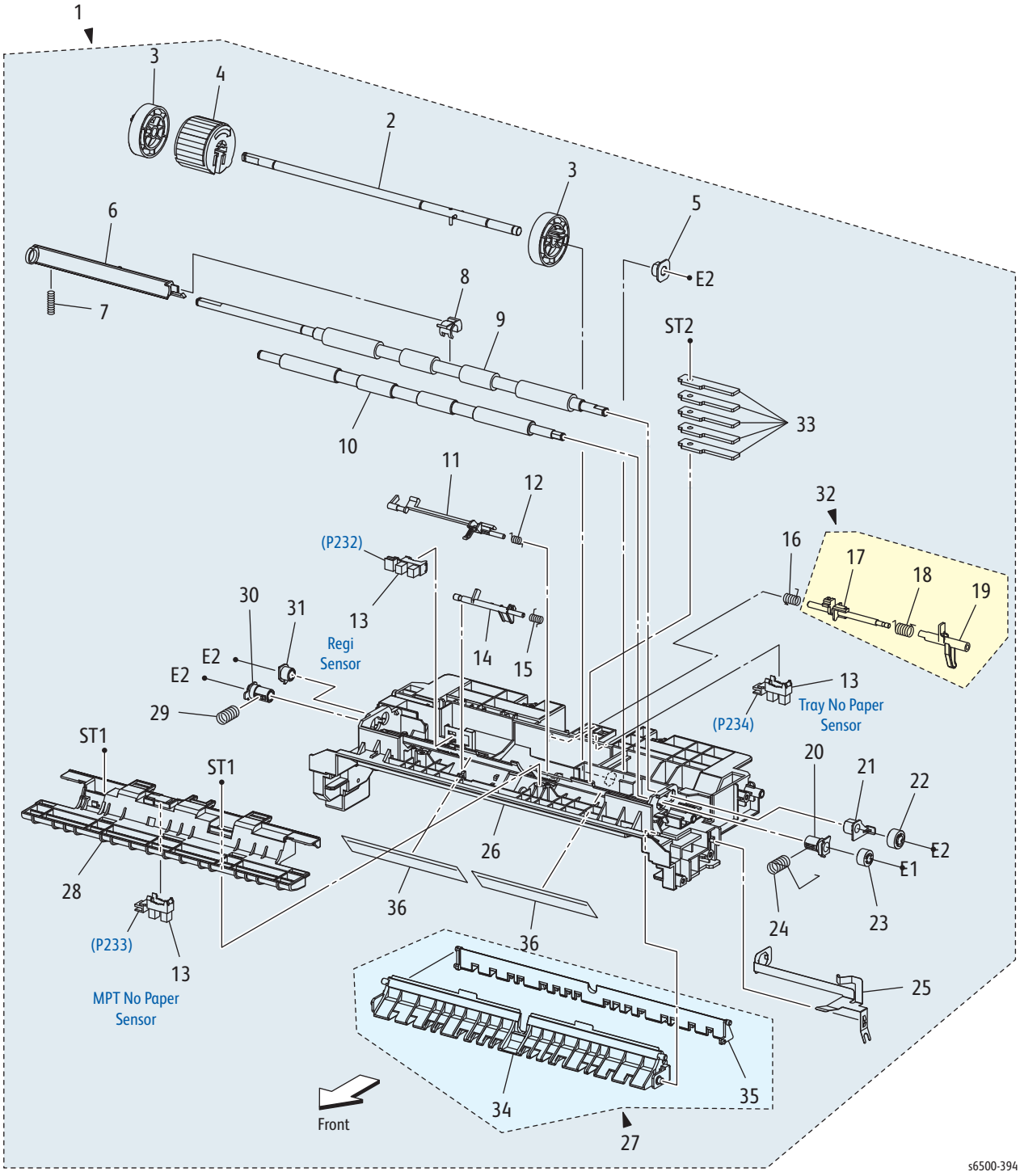
Parts List 3.1 Feeder (1/2) (continued)

Item	Description	Part Number
4	Chassis FDR R	
5	Foot	
6	—	
7	—	
8	Chassis FDR L	
9	Bearing	
10	Stopper CST	003E73341
11	Solenoid Feed MSI (Manual Feed Solenoid)	
12	Spring Lever	
13	Lever Feed	
14	Spring Feed In	
15	Spring Feed Out	
16	Gear Feed Out	
17	Gear Feed In	
18	**SFP** Harn Assy L Side (J23,J28-P231,J232,J233,J234, J281) **MFP** Harn Assy L Side (J20, J23,J28-J201, P231, J232, J233,J234, J281)	962K57541 962K87380
19	Gear Assy Feed (With 16,17)	
20	SFP Harn Assy Option Dup (J27-P273, P271) **MFP** Harness Assy Dup (J27-P273, P271)	962K68772 962K87590
21	—	
22	—	
23	—	
24	—	
25	Plate Earth Fdr R	
26	—	
27	Plate Tie	
28	Plate Earth Fdr L (**MFP only**)	
29	—	
30	—	
31	Plate Earth Fdr (**SFP only**)	
32	Arrester Ene112D-10A	
33	Plate Earth CST	
97	Kit Clutch Assy Drv (with 1, 2)	675K54231
98	**SFP** Feeder Assy (with 4,5, 8-15, 18-20, 25, 27, 31-33, PL3.2.1, PL8.2.7, PL9.1.6) **MFP** Feeder Assy (with 4,5, 8-15, 18-20, 25, 27, 28, 31-33, PL3.2.1, PL8.1.10)	059K72250 059K72260
99	Kit Solenoid Feed (with 11-15, 19)	604K51880

Parts List 3.2 Feeder (2/2)



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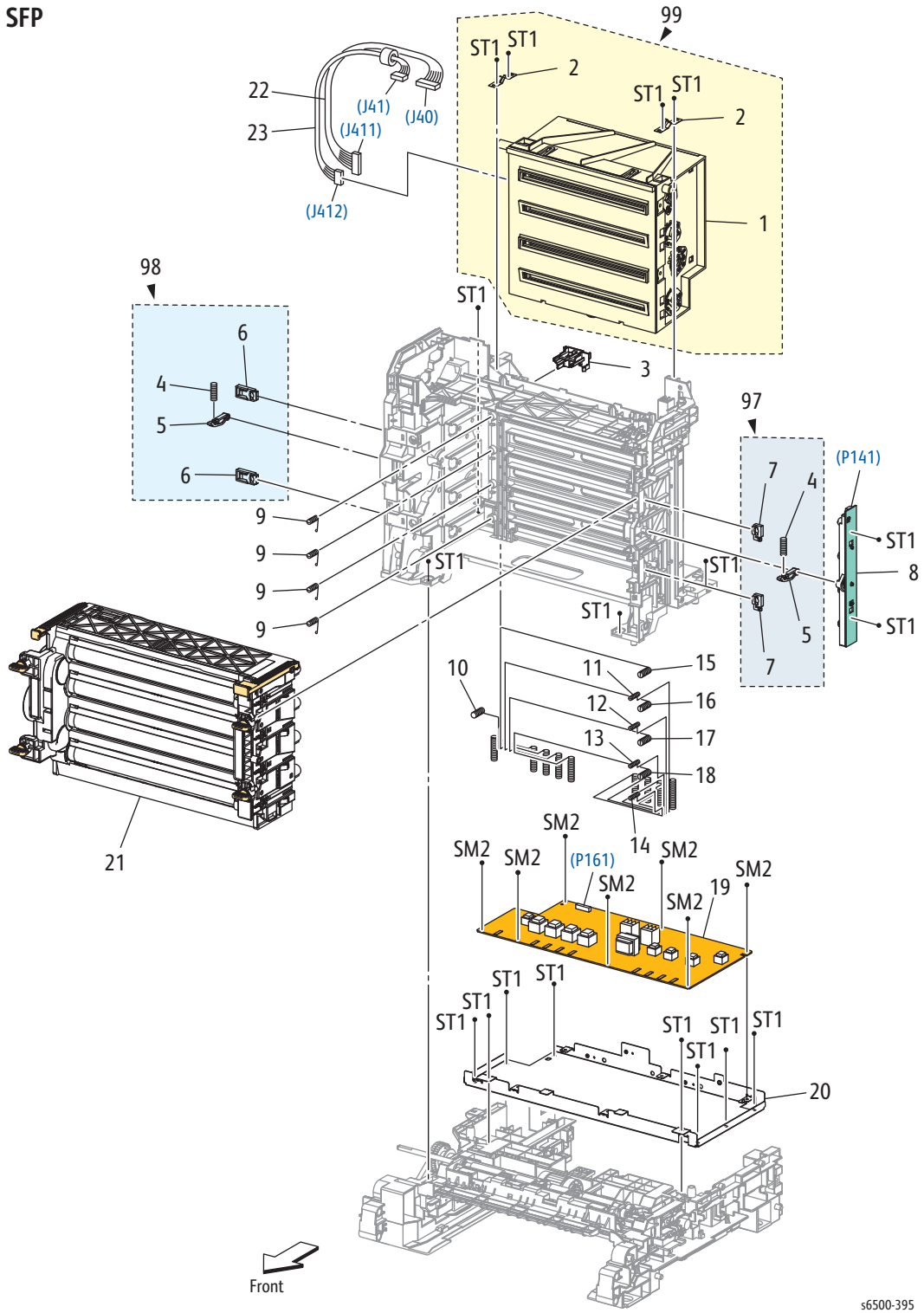
Parts List 3.2 Feeder (2/2)

Item	Description	Part Number
1	Chute Assy FDR Regi (With 2-16,20-33, 36)	
2	Shaft Assy Feed	
3	Roll Core MSI	
4	Roll Assy Feed	059K60140
5	Bearing Earth	
6	Actuator Regi Out	
7	Spring Regi Out	
8	Actuator Regi Roll	
9	Roll Assy Regi	
10	Roll Regi Metal	
11	Actuator Regi In (Registration Input Actuator)	120E30270
12	Spring Act Regi	
13	Sensor Photo	930W00113
14	Actuator SSI	120E27850
15	Spring Act SSI	
16	Spring Stp	
17	Stopper Act	
18	Spring Act Np	
19	Actuator No Paper	
20	Bearing M Earth	
21	Bearing Earth Regi	
22	Gear Regi R	
23	Gear Regi M	
24	Spring Regi R M	
25	Plate Earth Regi	
26	Chute Up (Upper Feeder Chute)	
27	Chute Assy Low (With 34,35) (Lower Chute Assembly)	
28	Bracket Sns	
29	Spring Regi L M	
30	Bearing M	
31	Bearing R	
32	Actuator Assy No Paper (With 17-19)	120K92294
33	Plate Weight	
34	Chute Assy Low SSI	
35	Chute Low CST	
36	Film Chute Up	

Parts List 4.1 Xerographics

SFP



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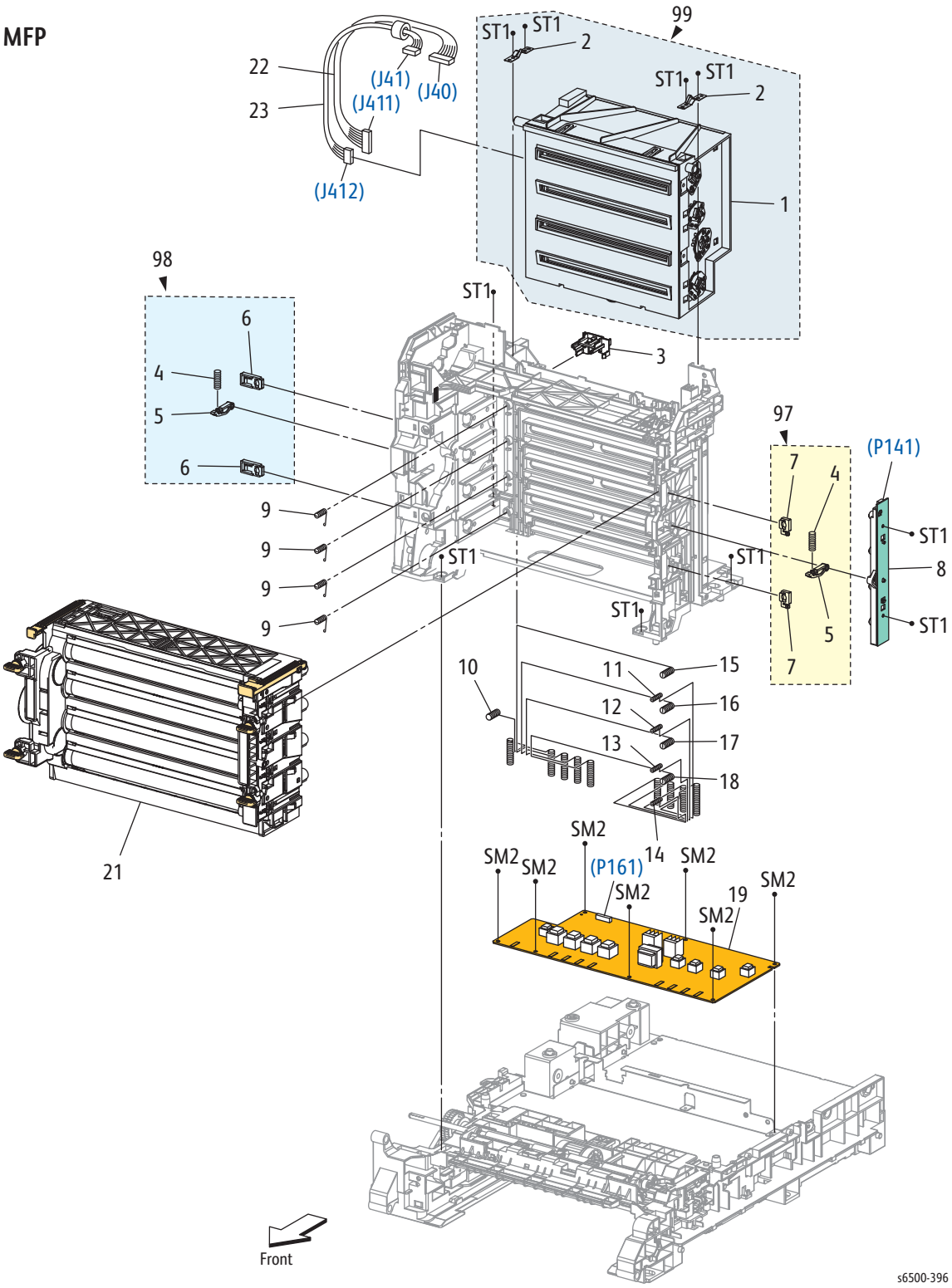
MFP


99
ST1
2
1
22
23
(J41)
(J411)
(J40)
(J412)
98
6
4
5
9
3
97
7
(P141)
8
10
11
12
13
14
15
16
17
18
21
SM2
(P161)
19
Front
s6500-396

Parts List 4.1 Xerographics

Item	Description	Part Number
1	ROS Assy (Laser Unit)	
2	Spring ROS	
3	Holder CRUM	
4	Spring PHD	
5	Lever PHD	
6	Block Stopper PHD D	
7	Block Stopper PHD AD	
8	LED Assy Erase	122K94041
9	Spring Tracking	
10	Spring CF	
11	Spring TR4	
12	Spring TR3	
13	Spring TR2	
14	Spring TR1	
15	Spring D4	
16	Spring D3	
17	Spring D2	
18	Spring D1	
19	PWBA HVPS	105K24390
20	Frame HVPS (**SFP only)**	801E01504
21	Imaging Unit	676K05360
22	Harn Assy ROS RE (J40-J411)	
23	Harn Assy ROS Video (J41-J412)	
97	Kit Block PHD Right (with 4, 5, 7 x 2 pcs)	675K54241
98	Kit Block PHD Left (with 4, 5, 6 x 2 pcs)	675K54251
99	Kit ROS Assy (with 1, 2 x 2 pcs) (Laser Unit)	604K64550

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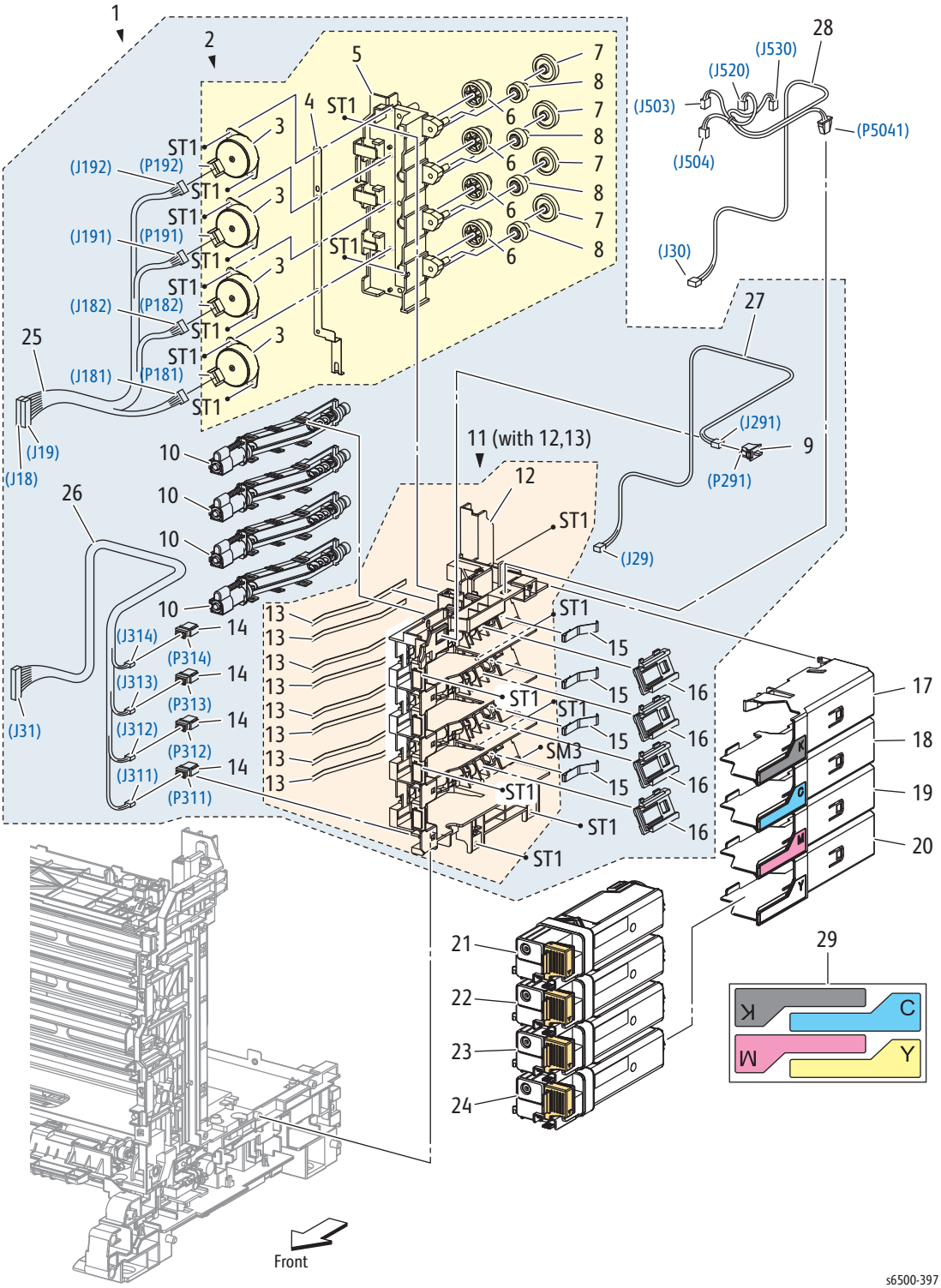
Parts List 5.1 Toner Dispense



Parts List 5.1 Toner Dispense

Item	Description	Part Number
1	Dispenser Assy (with 2, 9~11,14~16, 25~27)	094K92290
2	Frame Assy Mot (with 3~8)	
3	Motor Assy Disp	
4	Conductor Motor	
5	Frame Motor	
6	Gear Idler	
7	Gear Idler Aug	
8	Gear Idler Agi	
9	Switch	110E10200
10	Housing Assy Auger	
11	Frame Assy Disp (with 12, 13)	
12	Frame Disp	
13	Seal Disp Aug	
14	Connector CRUM	
15	Spring Disp	
16	Joint Assy Disp	
17	Kit Holder Assy TCRU K (with 29)	604K64510
18	Kit Holder Assy TCRU C (with 29)	604K64520
19	Kit Holder Assy TCRU M (with 29)	604K64530
20	Kit Holder Assy TCRU Y (with 29)	604K64540
21a 21b	Hi-Cap Black Toner Cartridge NA/XE 3K Hi-Cap Black Toner Cartridge DMO 3K	106R01597 106R01604
22a 22b 22c 22d	Standard Cyan Toner Cartridge NA/XE 1K Standard Cyan Toner Cartridge DMO 1K Hi-Cap Cyan Toner Cartridge NA/XE 2.5K Hi-Cap Cyan Toner Cartridge DMO 2.5K	106R01591 106R01598 106R01594 106R01601
23a 23b 23c 23d	Standard Magenta Toner Cartridge NA/XE 1K Standard Magenta Toner Cartridge DMO 1K Hi-Cap Magenta Toner Cartridge NA/XE 2.5K Hi-Cap Magenta Toner Cartridge DMO 2.5K	106R01592 106R01599 106R01595 106R01602
24a 24b 24c 2dd	Standard Yellow Toner Cartridge NA/XE 1K Standard Yellow Toner Cartridge DMO 1K Hi-Cap Yellow Toner Cartridge NA/XE 2.5K Hi-Cap Yellow Toner Cartridge DMO 2.5K	106R01593 106R01600 106R01596 106R01603
25	Harn Assy TNR MOT (J18, J19-J181, J182, J191, J192)	
26	Harn Assy Toner CRUM (J31-J311, J312, J313, J314)	
27	Harn Assy Side SW (J29-J291) (Toner Door Sw. Harn.)	
28	Harn Assy MCU HAN (J503, J504, J530-J30, J520, P5041)	
29	Label Holder (included with 17, 18, 19, and 20)	

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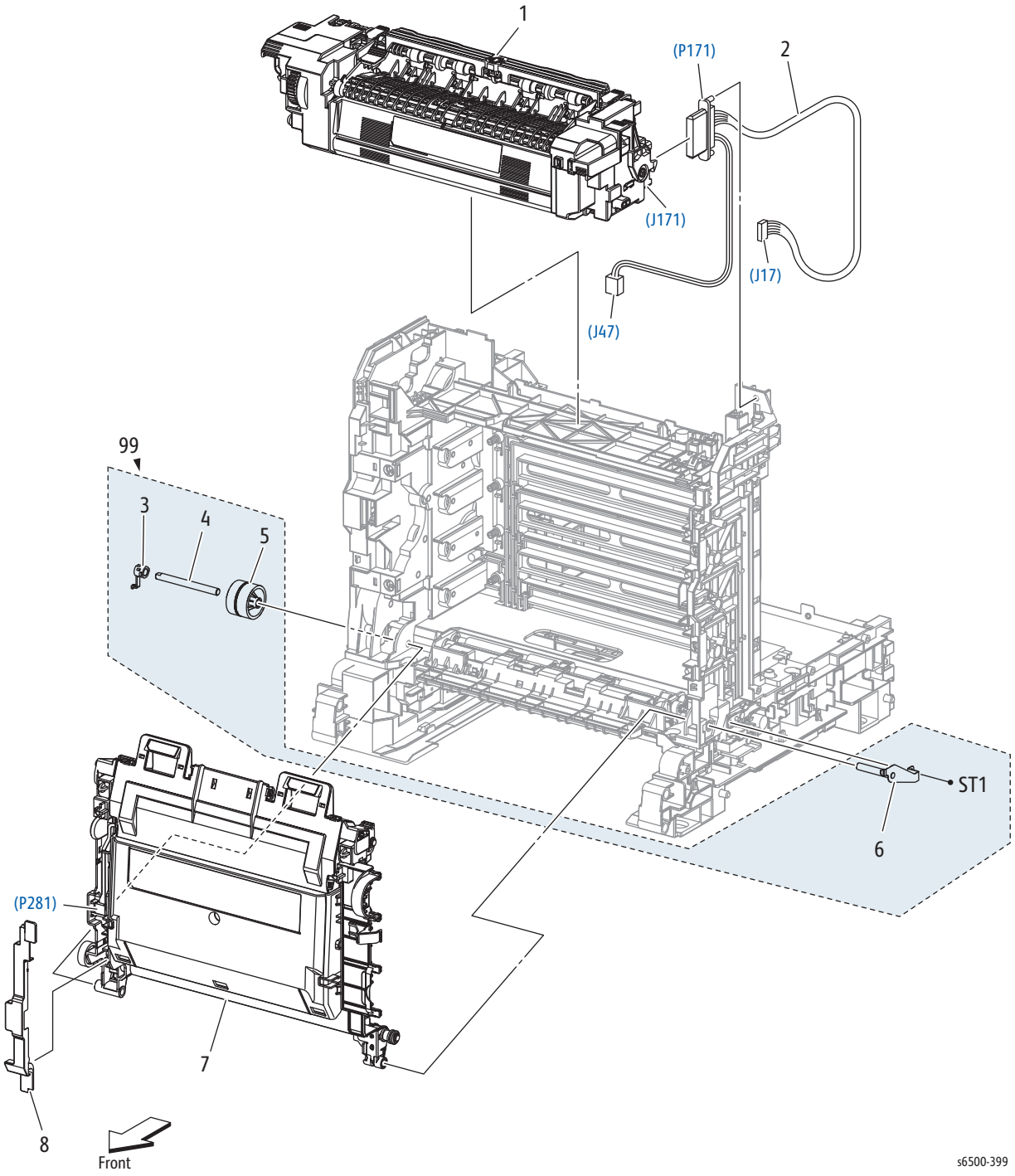
Parts List 6.1 Transfer & Fuser



Parts List 6.1 Transfer & Fuser

Item	Description	Part Number
1A 1B	Fuser 110V Fuser 220V	604K64582 604K64592
2	Harn Assy Fuser (J17, J47-P171)	
3	Stopper Pivot	
4	Pivot Trans L	
5	Gear T4	
6	Shaft Assy Pivot	
7	Transfer Belt	848K52580
8	Cover Harness 2	
99	Kit Pivot (with 3-6)	675K54121

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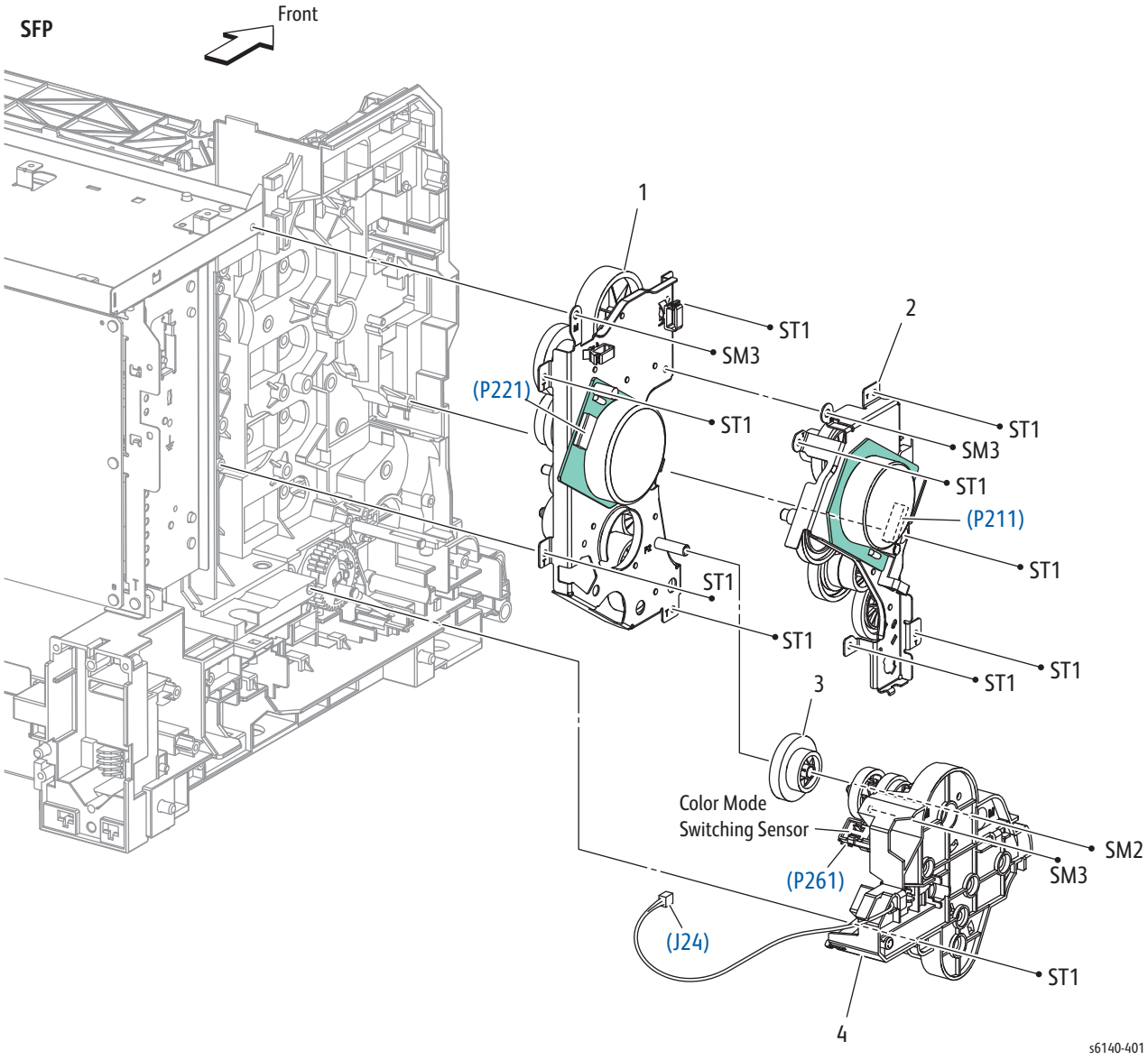
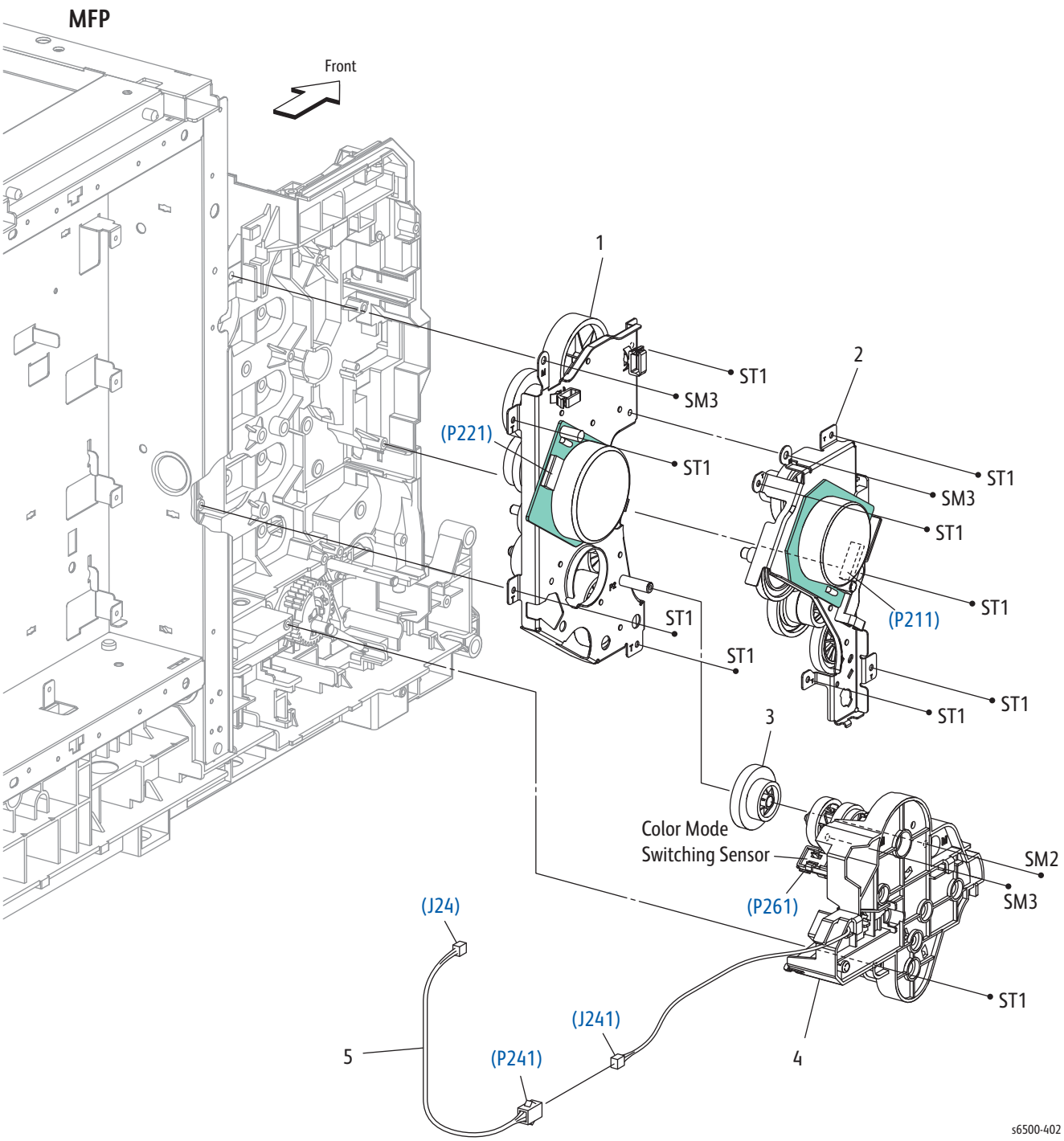
Parts List 7.1 Drive





MFP Parts List 7.1 Drive

Item	Name/Description	Part Number
1	Drive Assy Sub (Sub Drive Assembly)	007K17400
2	Drive Assy Main (Main Drive Assembly)	007K17390
3	Gear P2	807E15100
4	Drive Assy PH (Feed Drive Assembly)	007K94706
5	Harness Assy KSOL MG AIO (J24-P241) (**MFP only)**	

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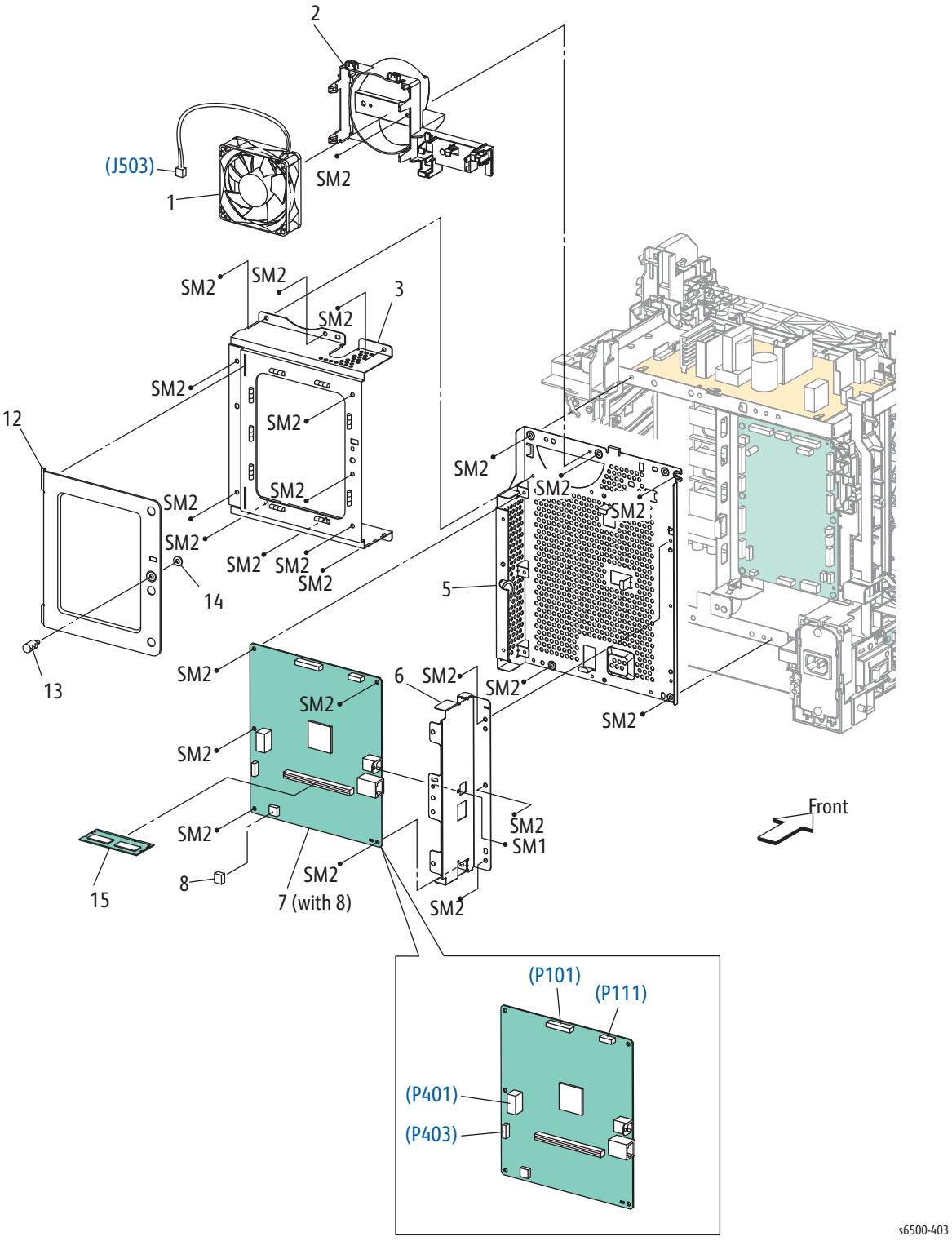
SFP Parts List 8.1 Electrical (1/2)



SFP Parts List 8.1 Electrical (1/2)

Item	Description	Part Number
1	Fan	127E86270
2	Duct Fan	
3	Shield Assy ESS	
4	—	
5	Frame ESS	
6	Plate IF	
7	PWBA ESS (with 8) (IP Board)	960K56232
8	NVM ROM	
9	—	
10	—	
11	—	
12	Plate ESS	
13	Screw Knurling	
14	Washer	
15	Memory Card (512 MB)	237E25990
16	—	
17	—	
18	—	
19	—	

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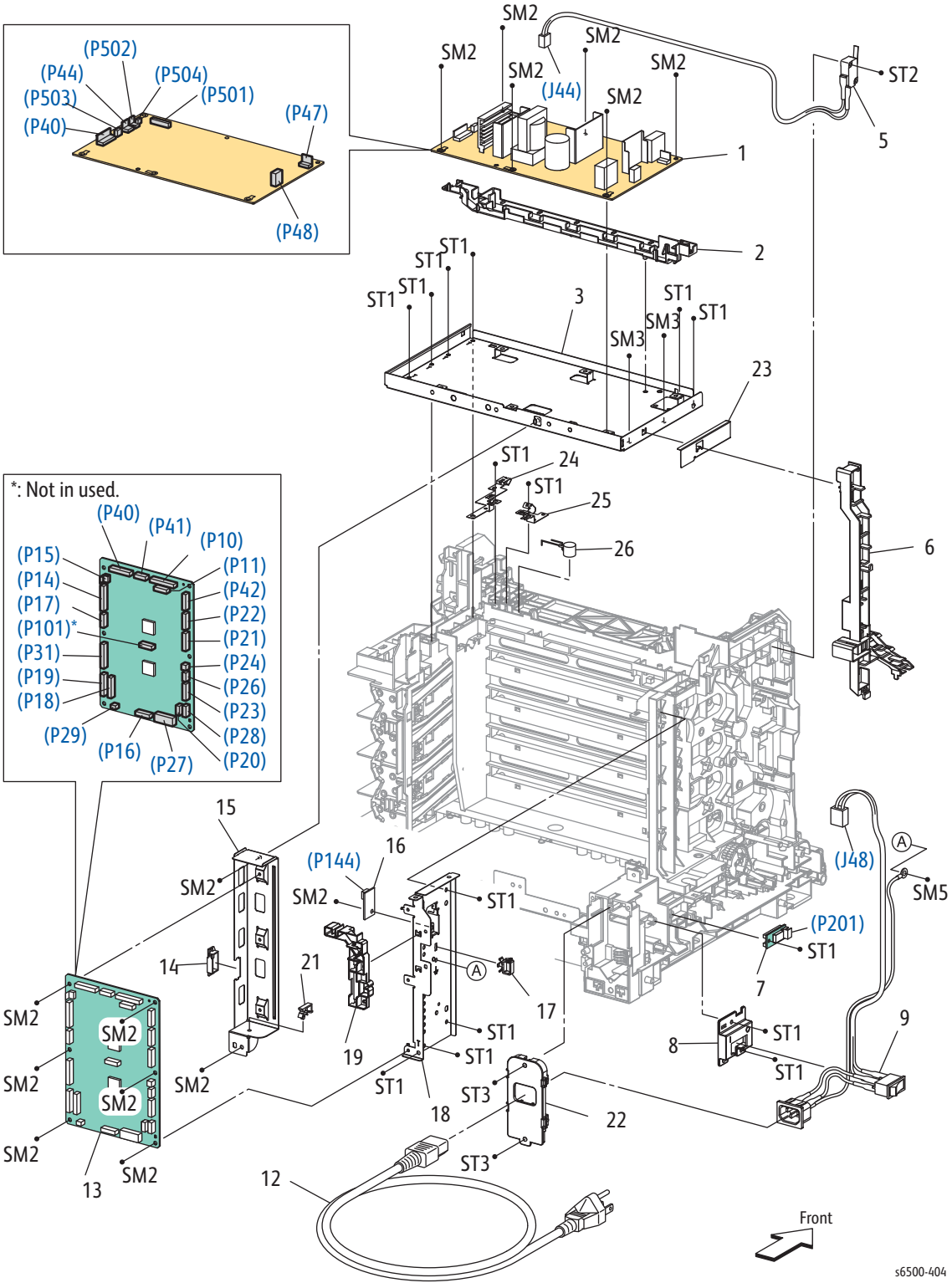
SFP Parts List 8.2 Electrical (2/2)



SFP Parts List 8.2 Electrical (2/2)

Item	Description	Part Number
1a 1b	PWBA LVPS 110V PWBA LVPS 200V	105K24430 105K24440
2	Guide Harness FSR	
3	Frame Assy LVPS	
4	—	
5	Harn Assy Interlock (SW-J44)	962K68760
6	Guide Harness AC	
7	Sensor HUM	130E93460
8	Bracket SW	
9a 9b	Harn Assy SW Power (SW-J48, J482, J483) 110V Harn Assy SW Power (SW-J48, J482, J483) 200V	110K16480 110K16490
10	—	
11	—	
12	Power Cord	
13	PWBA MCU (MCU Board)	960K56363
14	Edging Saddle	
15	Bracket MCU R	
16	PWBA EEPROM (XPRO) (EEPROM Board)	960K32640
17	Clamp	
18	Bracket MCU L	
19	Guide Harness MCU	
20	—	
21	Clamp MST-10V0	
22	Cover Inlet	
23	Guide Harness Film	
24	Plate Earth Drum	
25	Plate Earth FSR	
26	Arrester ENE112D-10A	

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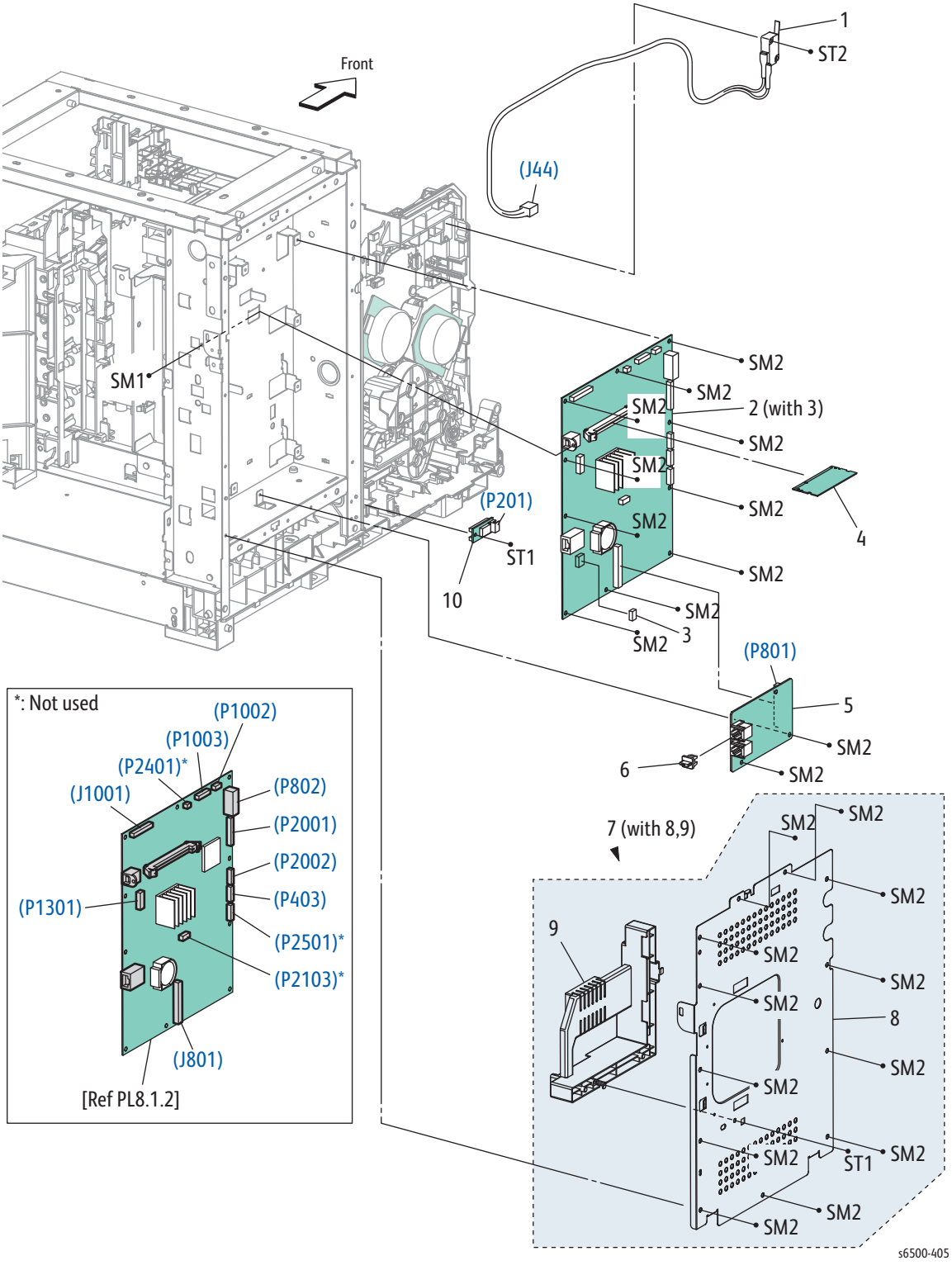
MFP Parts List 8.1 Electrical & Frame (1/4)



MFP Parts List 8.1 Electrical & Frame (1/4)

Item	Description	Part Number
1	Harn Assy Interlock AIO (SW-J44)	962K65360
2	PWBA ESS AIO (with 3) (MFP IP Board)	960K51502
3	NVM ROM	
4	Memory Card (Option)	237E25990
5	PWBA Fax	960K53600
6	Cap Plug Rubber	
7	Shield Assy ESS AIO (with 8,9)	
8	Shield ESS AIO	
9	Cover Inner	
10	Sensor HUM (Humidity Sensor)	130E93460
11	—	
12	—	

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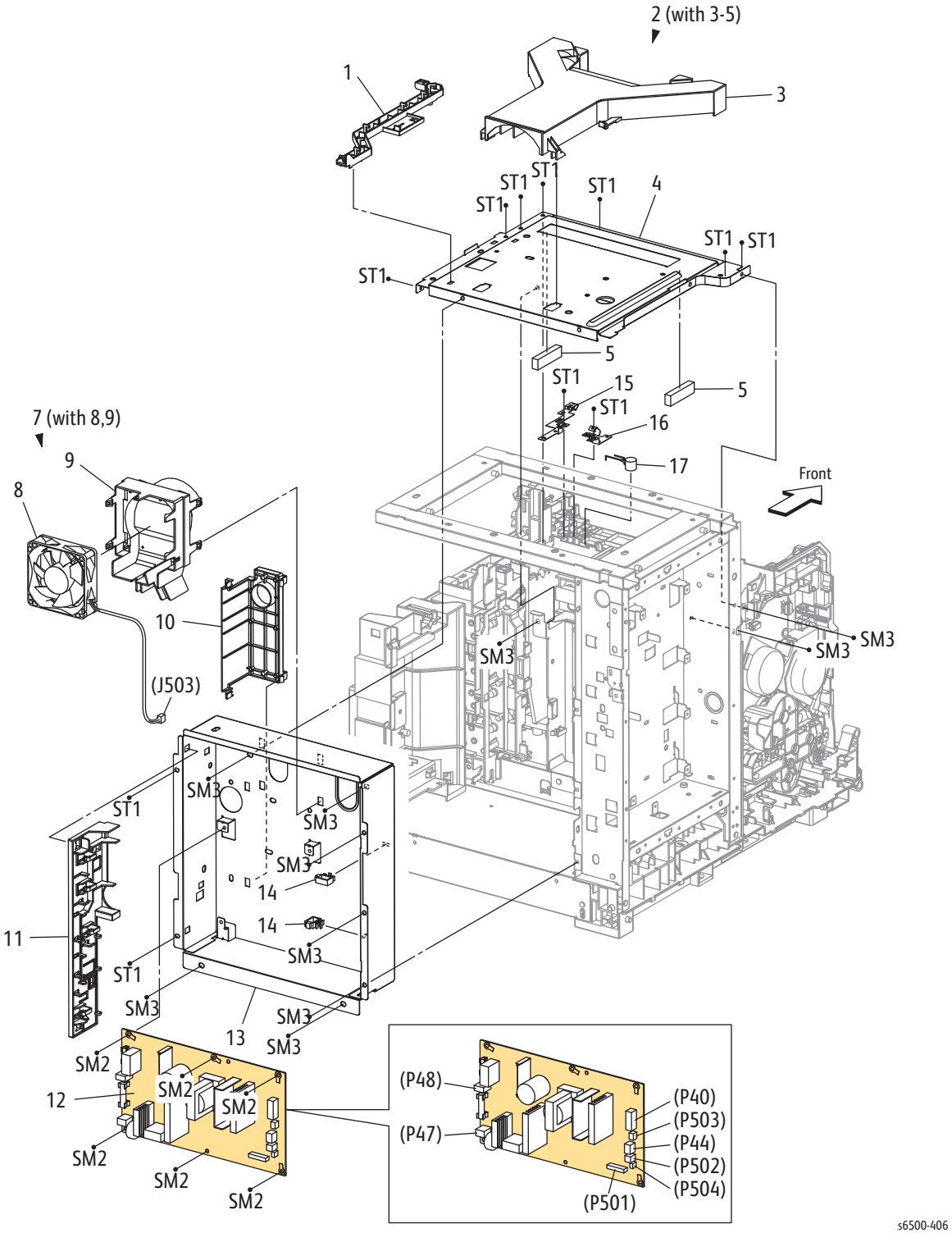
MFP Parts List 8.2 Electrical & Frame (2/4)



MFP Parts List 8.2 Electrical & Frame (2/4)

Item	Description	Part Number
1	Guide Harness FSR AIO (Fuser Harness Guide)	
2	Plate Assy Top (with 3-5)	
3	Duct Plate	
4	Plate Assy Duct	
5	Seal Plate	
6	—	
7	Duct Fan Assy AIO (with 8,9)	
8	Fan	127E85360
9	Duct Fan AIO	
10	Shield Harness LVPS	
11	Guide Harness LVPS	
12a 12b	PWBA LVPS 110V PWBA LVPS 220V	105K24430 105K24440
13	Chassis LVPS	
14	Clamp RLWT-2V0	
15	Plate Earth Drum	
16	Plate Earth FSR	
17	Arrester ENE112D-10A	

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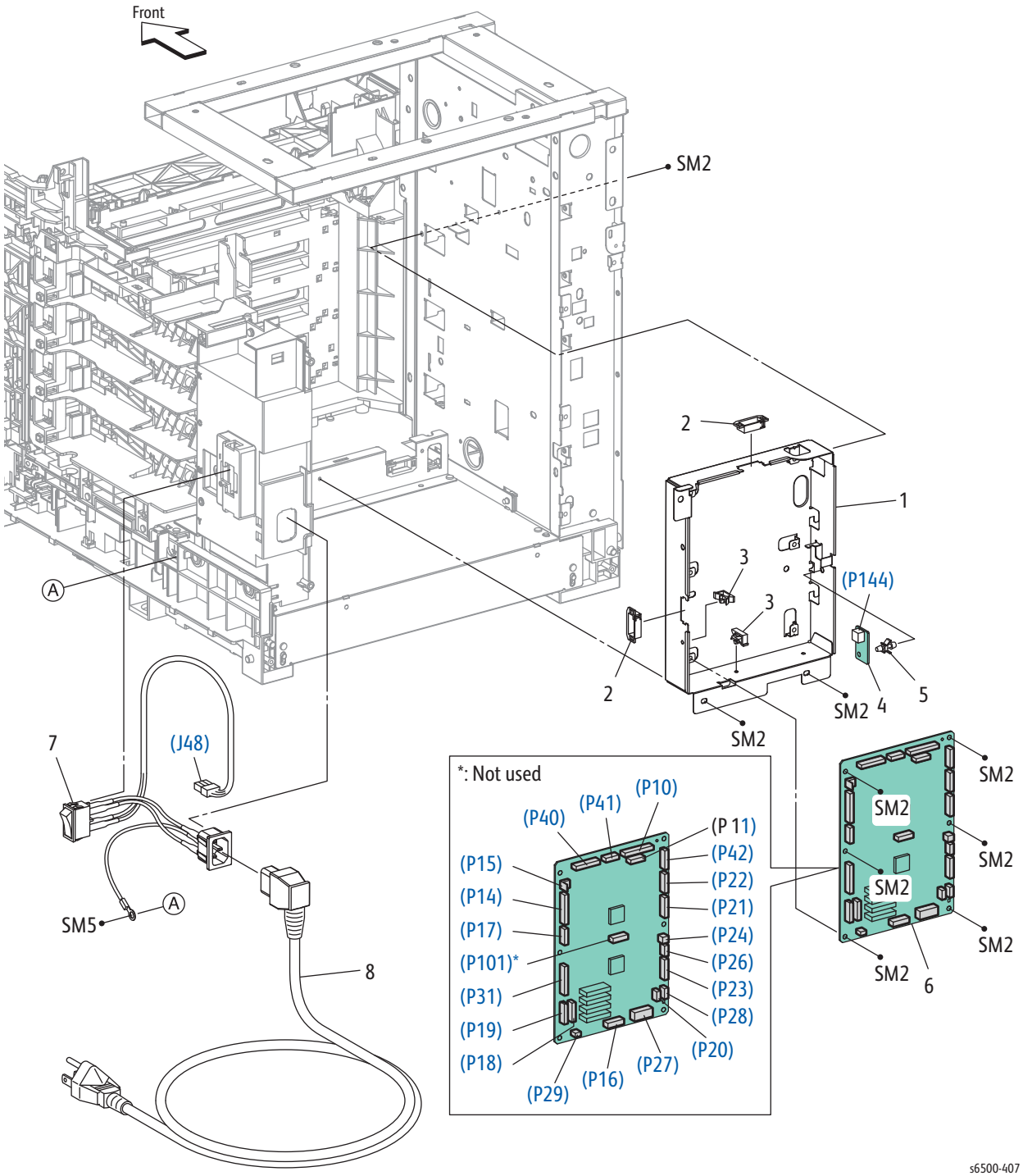
MFP PL8.3 Electrical & Frame (3/4)



MFP Parts List 8.3 Electrical & Frame (3/4)

Item	Description	Part Number
1	Chassis MCU	
2	Edge Saddle	
3	Clamp MST-10V0	
4	PWBA EEPROM (XPRO) (EEPROM Board)	960K32640
5	Support PWB	
6	PWBA MCU	960K56363
7a 7b	Switch Assy Inlet MG AIO (AC Inlet Switch, J48) 110V Switch Assy Inlet MG AIO (AC Inlet Switch, J48) 220V	110K16500 110K16510
8	Power Cord	

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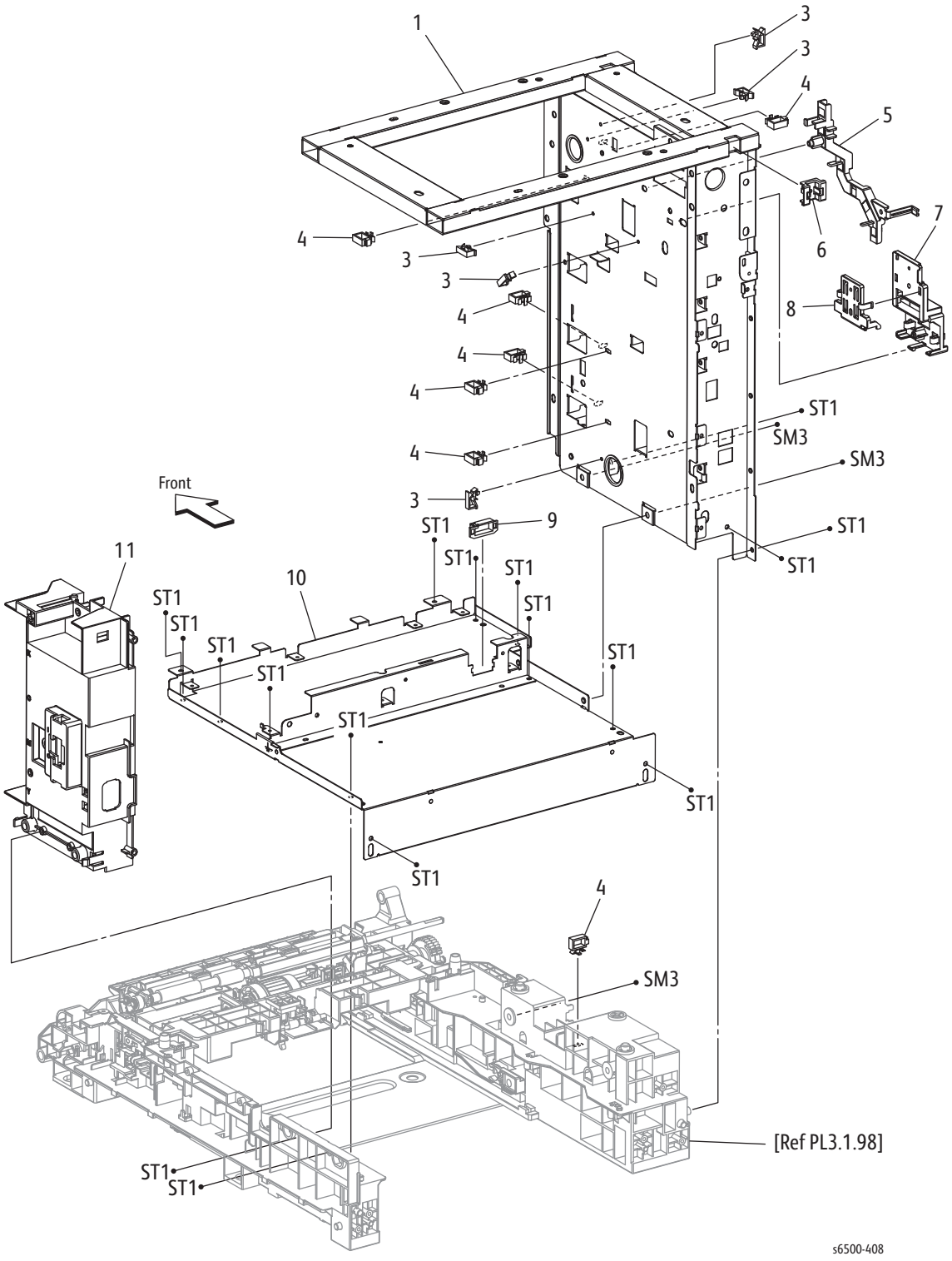
MFP PL8.4 Electrical & Frame (4/4)



MFP PL8.4 Electrical & Frame (4/4)

Item	Description	Part Number
1	Frame Assy AIO	
2	—	
3	Clamp MST-10V0	
4	Clamp RLWT-2V0	
5	Guide Harness USB	
6	Bushing Edge	
7	Holder FFC	
8	Cover FFC	
9	Edge Saddle	
10	Chassis Assy HVPS	
11	Chassis Inlet	

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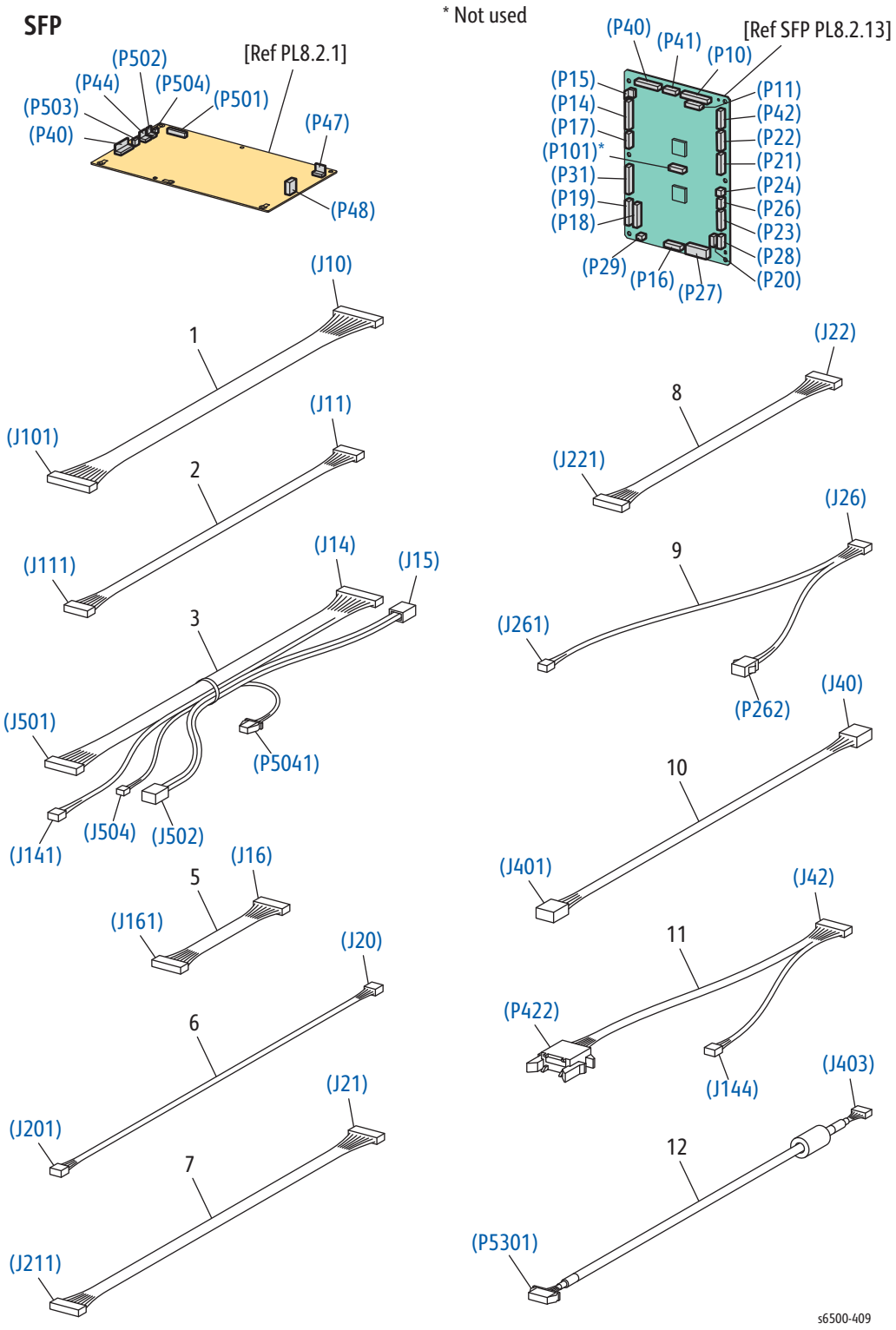
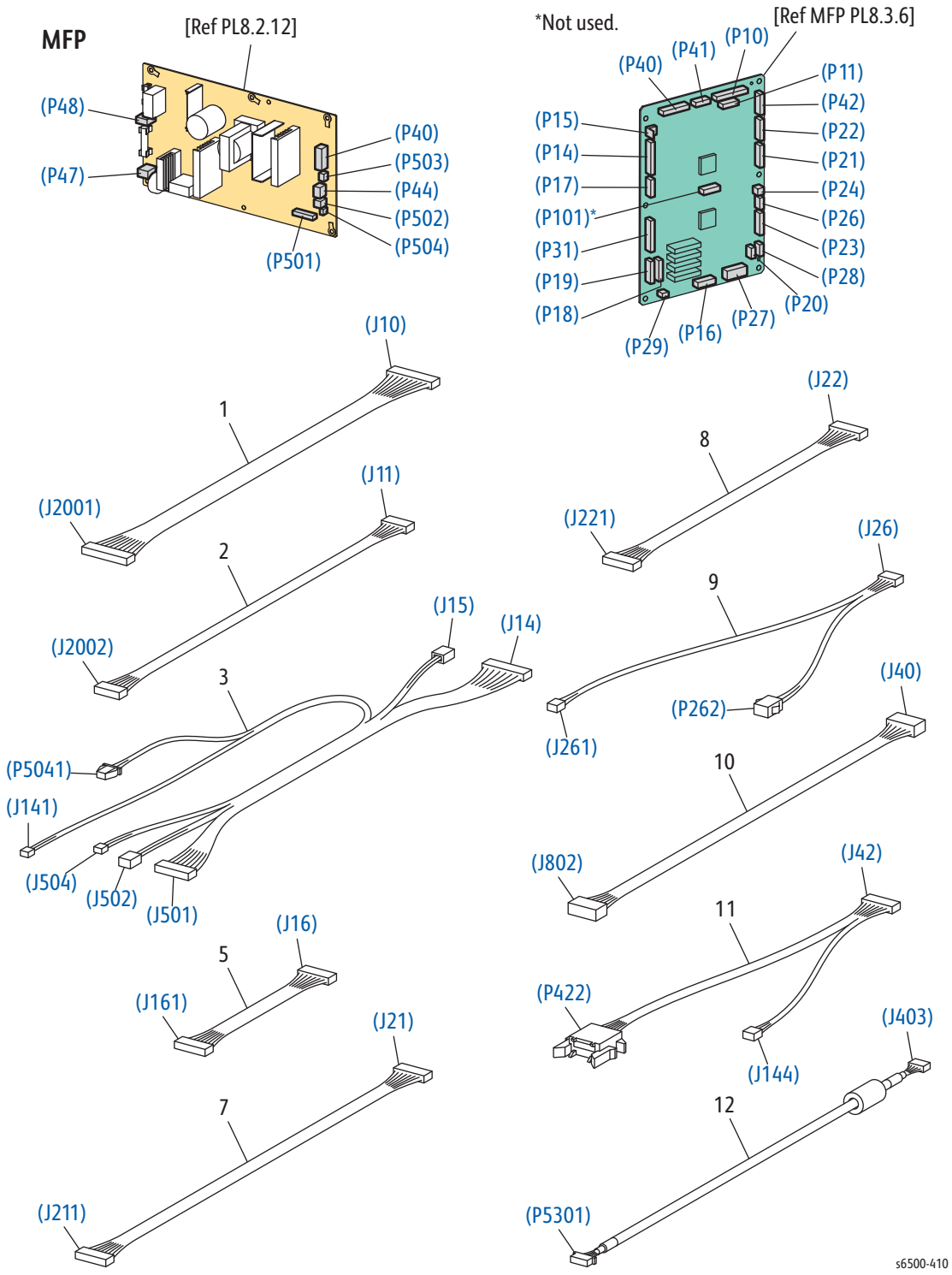
Parts List 9.1 Harnesses





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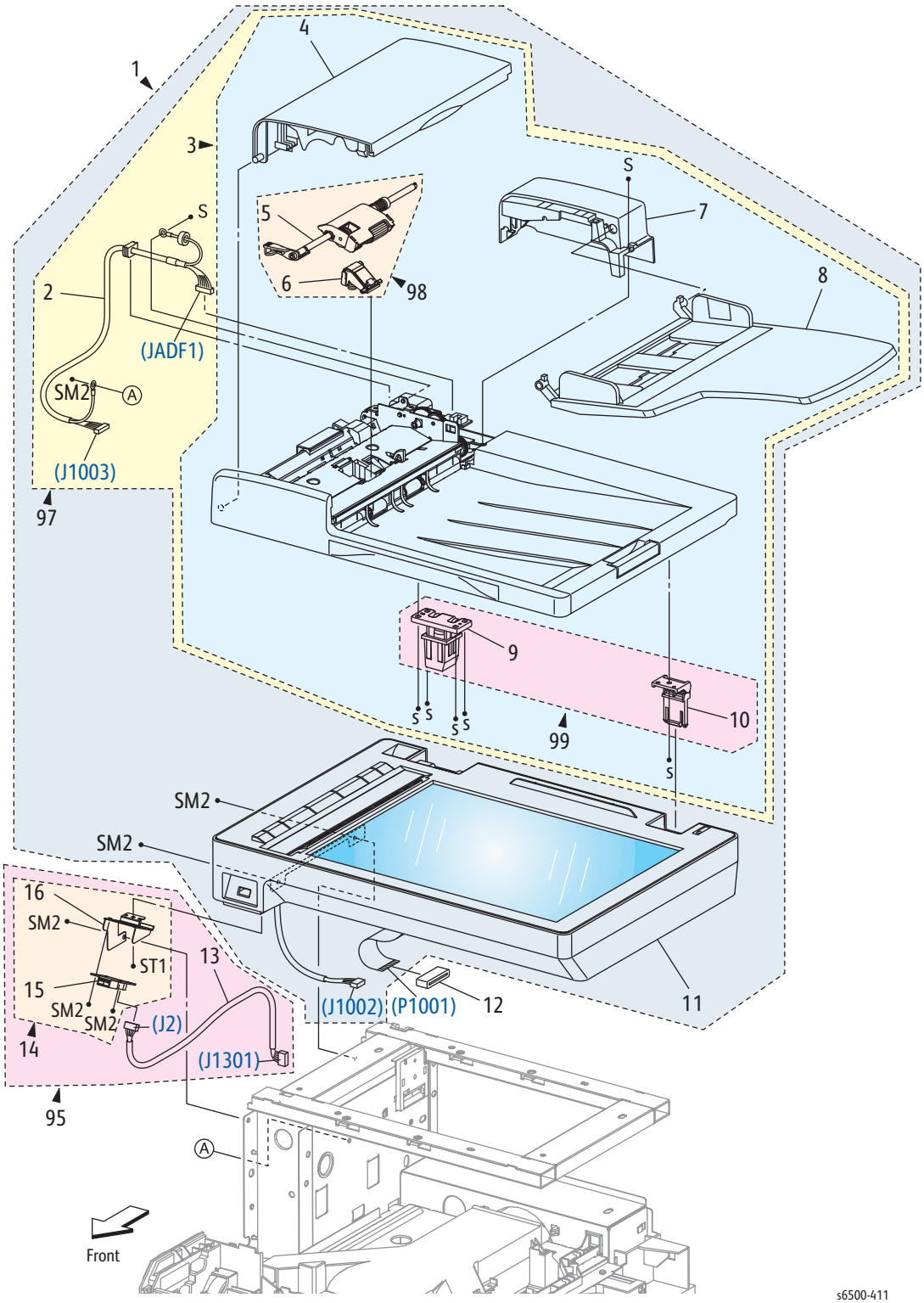
Parts List 9.1 Harness

Item	Description	Part Number
1	**SFP** Harness Assy ESS (J10-J101) **MFP** Harness Assy ESS (J10-J2001)	
2	**SFP** Harness Assy ESS Video (J11-J111) **MFP** Harness Assy ESS Video (J11-J2002)	
3	**SFP** Harness Assy LVPS2 (J14, J15-J141, J501, J502) **MFP** Harness Assy LVPS Main (J14, J15, P5041-J141, J501, J502, J504)	
4	—	
5	Harness Assy HVPS (J16-J161)	
6	Harness Assy Humidity (J20-J201) (**SFP only**)	
7	Harness Assy Main Motor (J21-J211)	
8	Harness Assy Sub Motor (J22-J221)	
9	Harness Assy KSNR Regcl (J26-J261,P262)	
10	**SFP** Harness Assy ESS Power (J40-J401) **MFP** Harness Assy ESS Power (J40-J802)	
11	Harness Assy PHD XPRO (J42-J144,P422)	962K52000
12	**SFP** Harness Assy B (J29-P5301) **MFP** Harness Assy A-OP-ESS (J403-P5301)	
13	—	

PL10.1 Scanner Assembly



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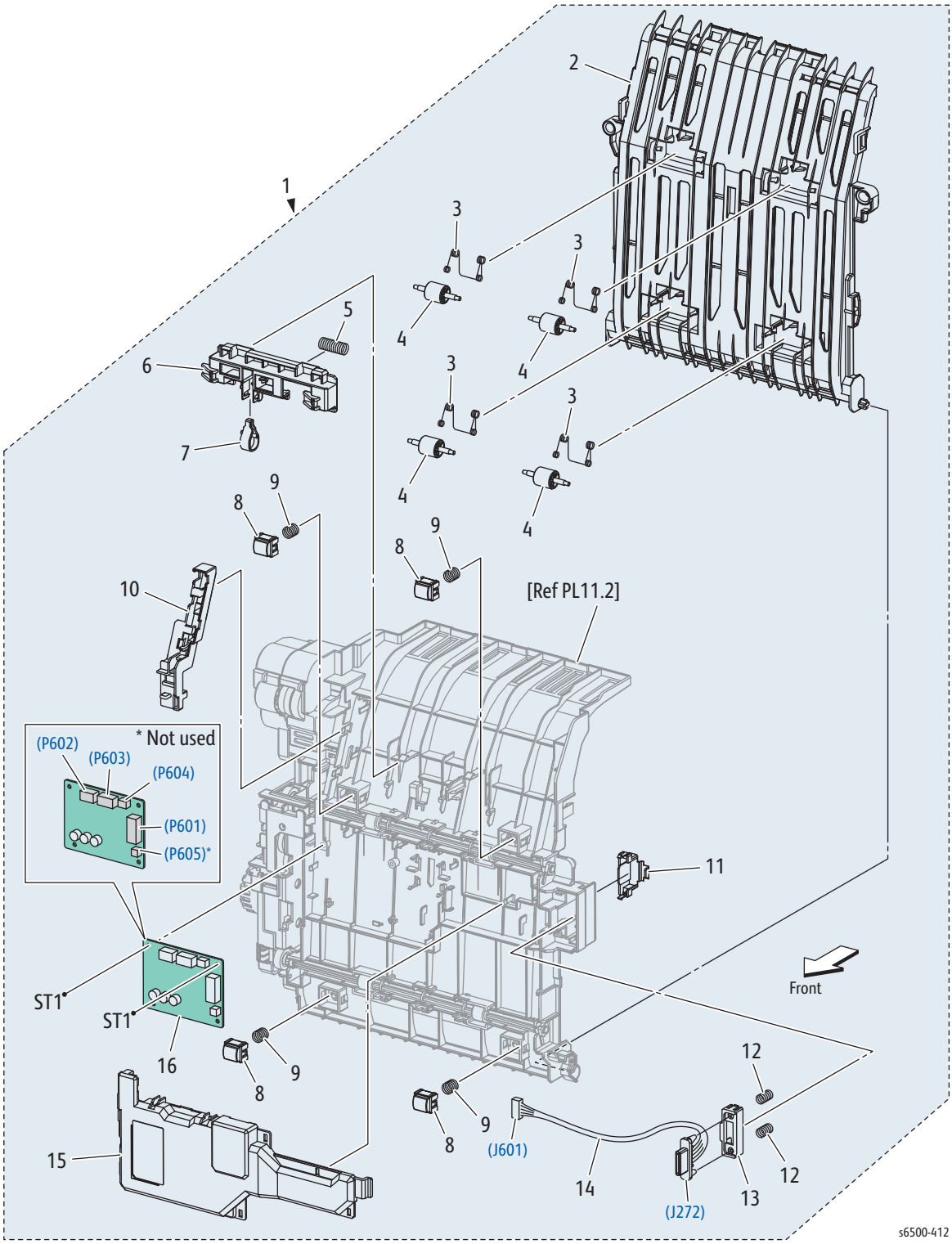
PL10.1 Scanner Assy

Item	Description	Part Number
1	Scanner Assy (with 2,3,11)	
2	Harn Assy ADF (J1003-JADF1)	
3	ADF Assy (with 4-10)	
4	Cover Top ADF	
5	Roll Assy Feed	
6	Pad Assy Separator	
7	Cover Assy Rear ADF	
8	Tray Assy	050K63721
9	Counter Balance L	
10	Counter Balance R	
11	IIT Assy Sub (IIT Subassembly)	604K66320
12	Core Ferr FFC	121E22020
13	Harness Assy Front USB (J2-J1301)	
14	Bracket Assy USB (with 15,16)	
15	PWB Assy Front USB	
16	Bracket Front USB	
95	Kit PWB Assy Front USB (with 13,14)	675K99680
96	—	
97	Kit ADF Assy (with 2,3)	675K99690
98	ADF Feed Roll & Separator Roll Kit (with 5-6, Instruction)	604K52222
99	Kit Counter Balance (with 9,10)	604K49540

Parts List 11.1 Duplex Unit



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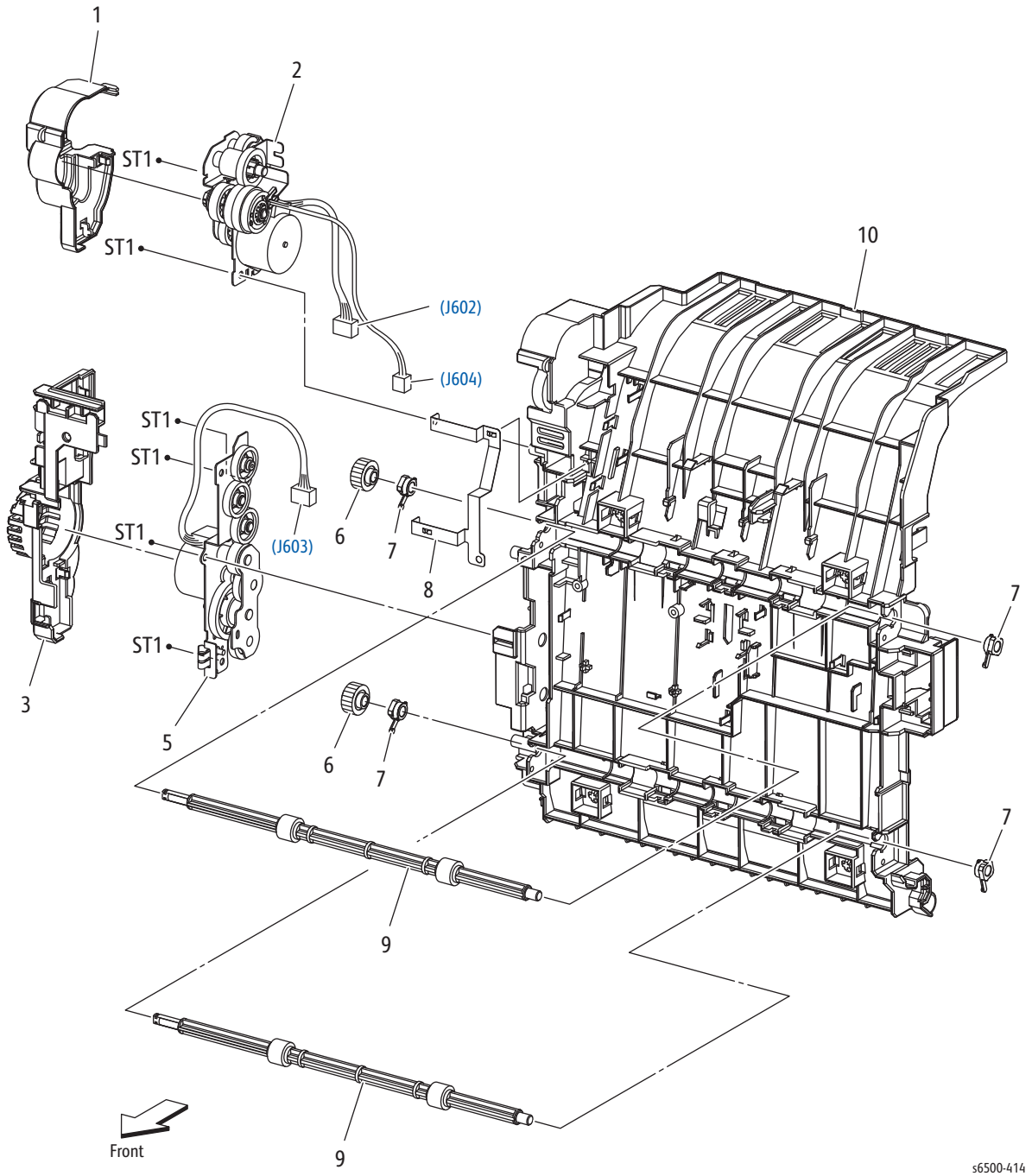
Parts List 11.1 Duplex Unit (1/2)

Item	Description	Part Number
1	Feeder Assy Dup (With 2-16, PL11.2)	059K65450
2	Chute Dup In	
3	Spring Pinch Dup	
4	Roll Pinch Dup	
5	Spring Latch Dup	
6	Latch Dup	
7	Follower Latch Dup (**SFP only**)	
8	Holder Chute Dup	
9	Spring Chute Dup	
10	Holder Harness Dup	
11	Cover Connect Dup (**SFP only**)	
12	Spring Connect Dup (**SFP only**)	
13	Holder Connect Dup (**SFP only**)	
14	Harness Assy Dup (J272-J601)	962K68790
15	Cover PWBA Dup	
16	PWBA Dup	960K43081

Parts List 11.2 Duplex Unit (2/2)



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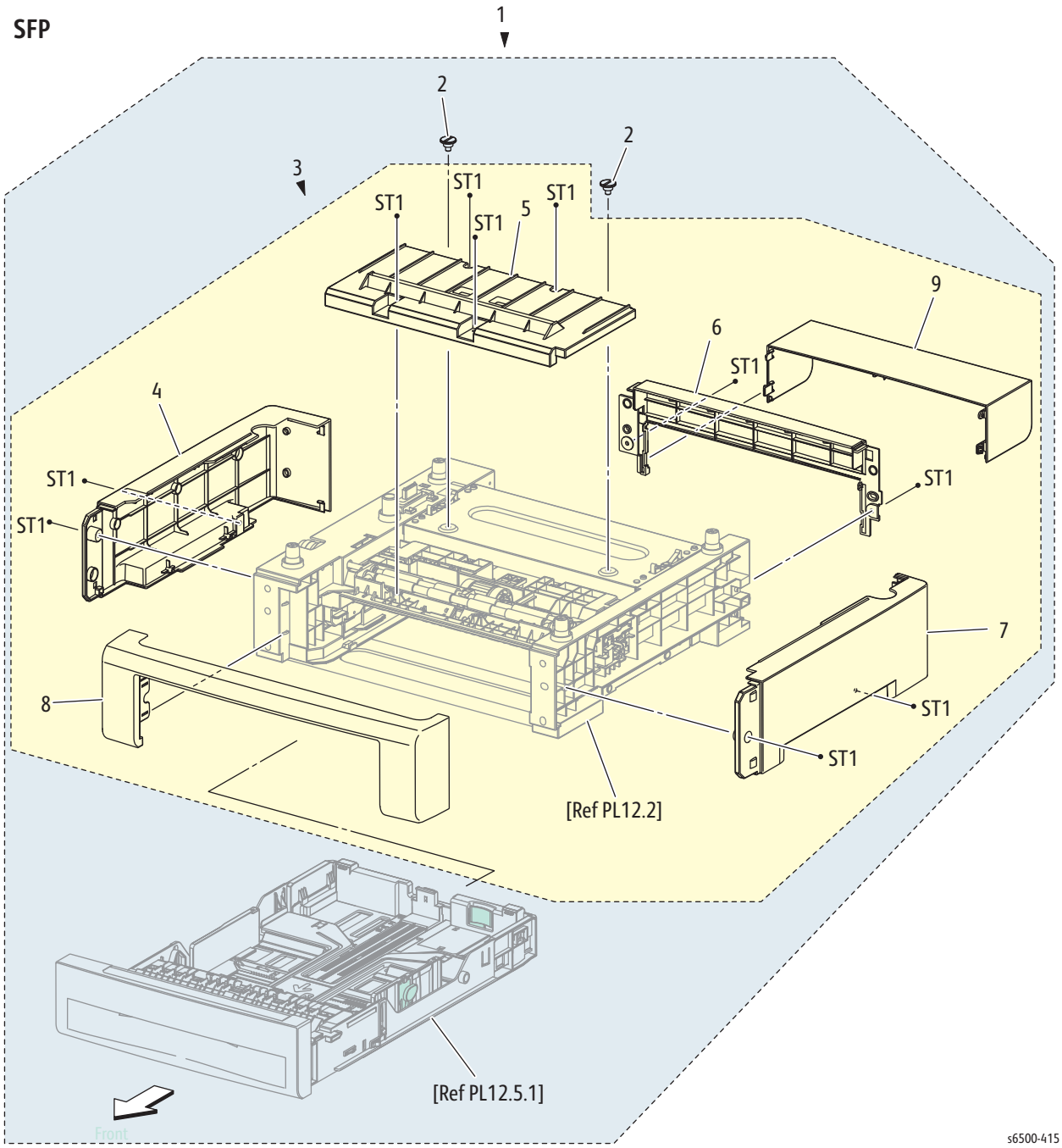
Parts List 11.2 Duplex Unit (2/2)

Item	Description	Part Number
1	Cover Drive Exit	
2	Drive Assy Exit	
3	Cover Drive Dup	
4	—	
5	Drive Assy Dup	
6	Gear Roll Dup	
7	Bearing Dup	
8	Plate Earth PWBA	
9	Roller Assy Dup	
10	Chute Dup Frame	

Parts List 12.1 Optional Feeder (1/5)



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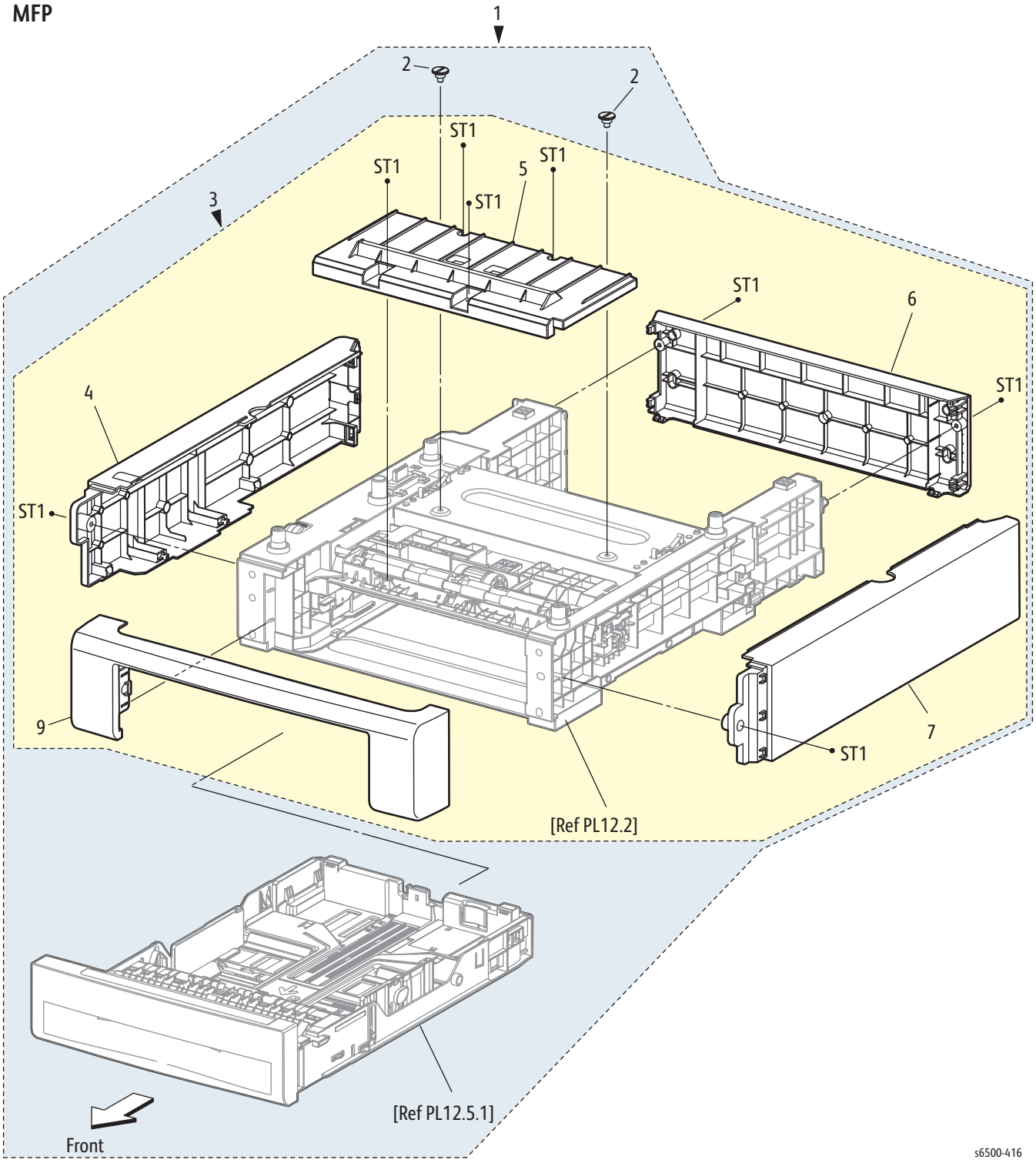
MFP


1
2
2
ST1
ST1
ST1
ST1
5
3
ST1
6
4
ST1
ST1
9
7
ST1
[Ref PL12.2]
[Ref PL12.5.1]
Front
s6500-416

Parts List 12.1 Optional Feeder (1/5)

Item	Description	Part Number
1	**SFP** 250 Option Feeder (With 2,3, PL12.5.1) **MFP** 250 Option Feeder (With 2,3, PL12.5.1)	675K81131 675K96300
2	Screw Joint	
3	Feeder Assy Opt (With 4-9, PL12.2-12.4)	
4	Cover Side L Opt	
5	Cover Chute	
6	Cover Rear Opt	
7	Cover Side R Opt	
8	Cover Front Opt	
9	Cover CST	

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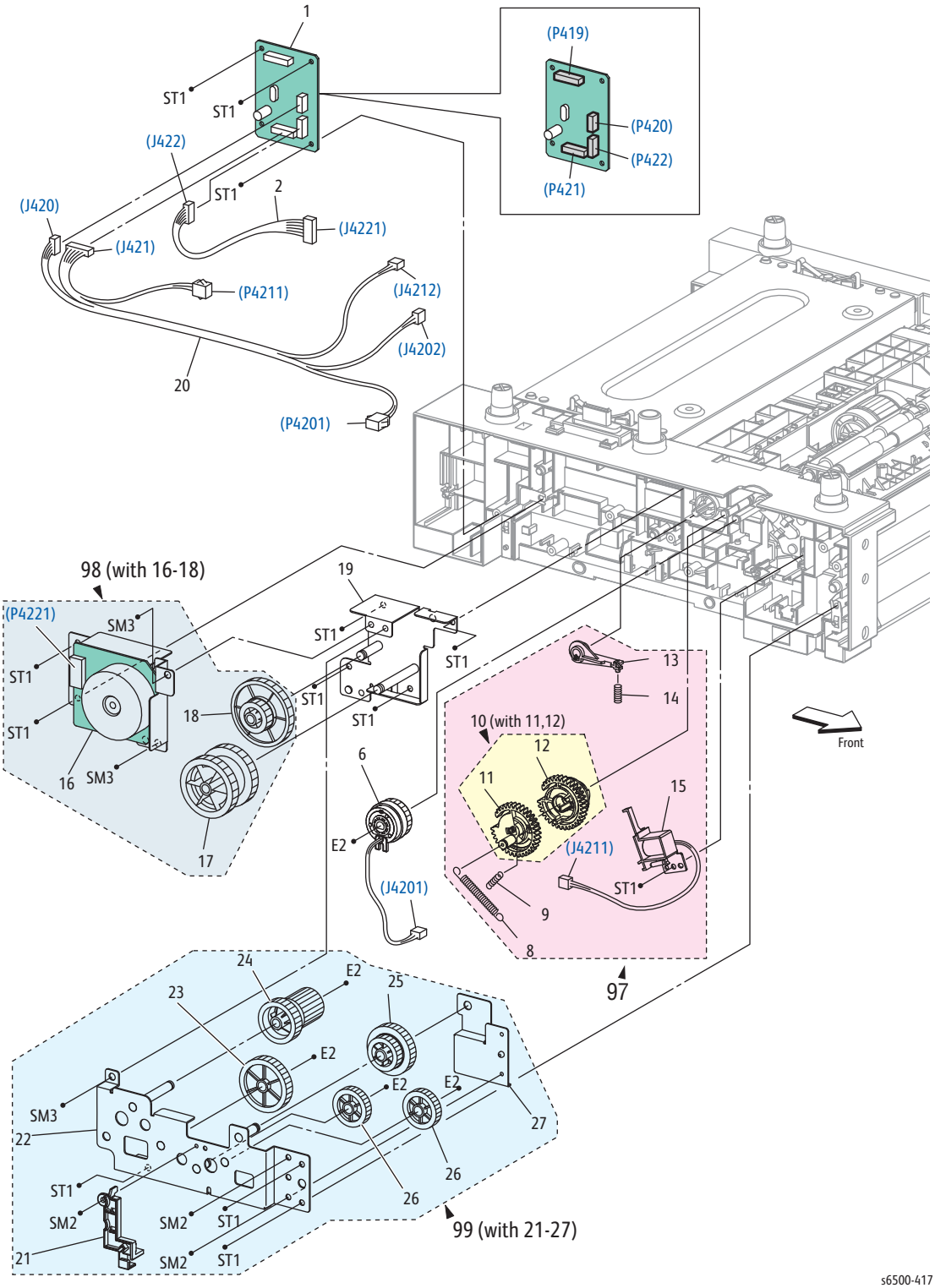
Parts List 12.2 Optional Feeder (2/5)



Parts List 12.2 Optional Feeder (2/5)

Item	Description	Part Number
1	**SFP** PWBA Feed (Optional Feeder Board) **MFP** PWBA Feed (Optional Feeder Board)	960K43091 960K54130
2	Harn Assy Tray Mot (J422-J211)	
3	—	
4	—	
5	—	
6	Clutch Assy Drv (with PL12.3.16) (Same as PL3.1.97)	675K54231
7	—	
8	Spring Feed Out (Same as PL3.1.15)	
9	Spring Feed In (Same as PL3.1.14)	
10	Gear Assy Feed (With 11,12) (Same as PL3.1.19)	
11	Gear Feed Out (Same as PL3.1.16)	
12	Gear Feed In (Same as PL3.1.17)	
13	Lever Feed (Same as PL3.1.13)	
14	Spring Lever (Same as PL3.1.12)	
15	Solenoid Feed MSI (Same as PL3.1.11)	
16	Motor Assy Sub	
17	Gear Idle 40z	
18	Gear Idle 86-20z	
19	Plate Assy Idler 1	
20	Harn Assy Tray Comp (J420, J421-P4201. J4202, J4212, P4213)	
21	Cover Harness CL	
22	Plate Assy Idler 2	
23	Gear Idle 36z	
24	Gear Idle 28-20z	
25	Gear Idle 22-33z	
26	Gear Idle 25z	
27	Plate Support	
97	Kit Solenoid Feed (with 8-10, 13-15)	604K51880
98	Kit Assy Motor Opt (with 16-18) (Feed Motor Kit)	604K52890
99	Kit Assy Feeder Gear (with 21-25, 26 x 2pcs, 27)	604K51900

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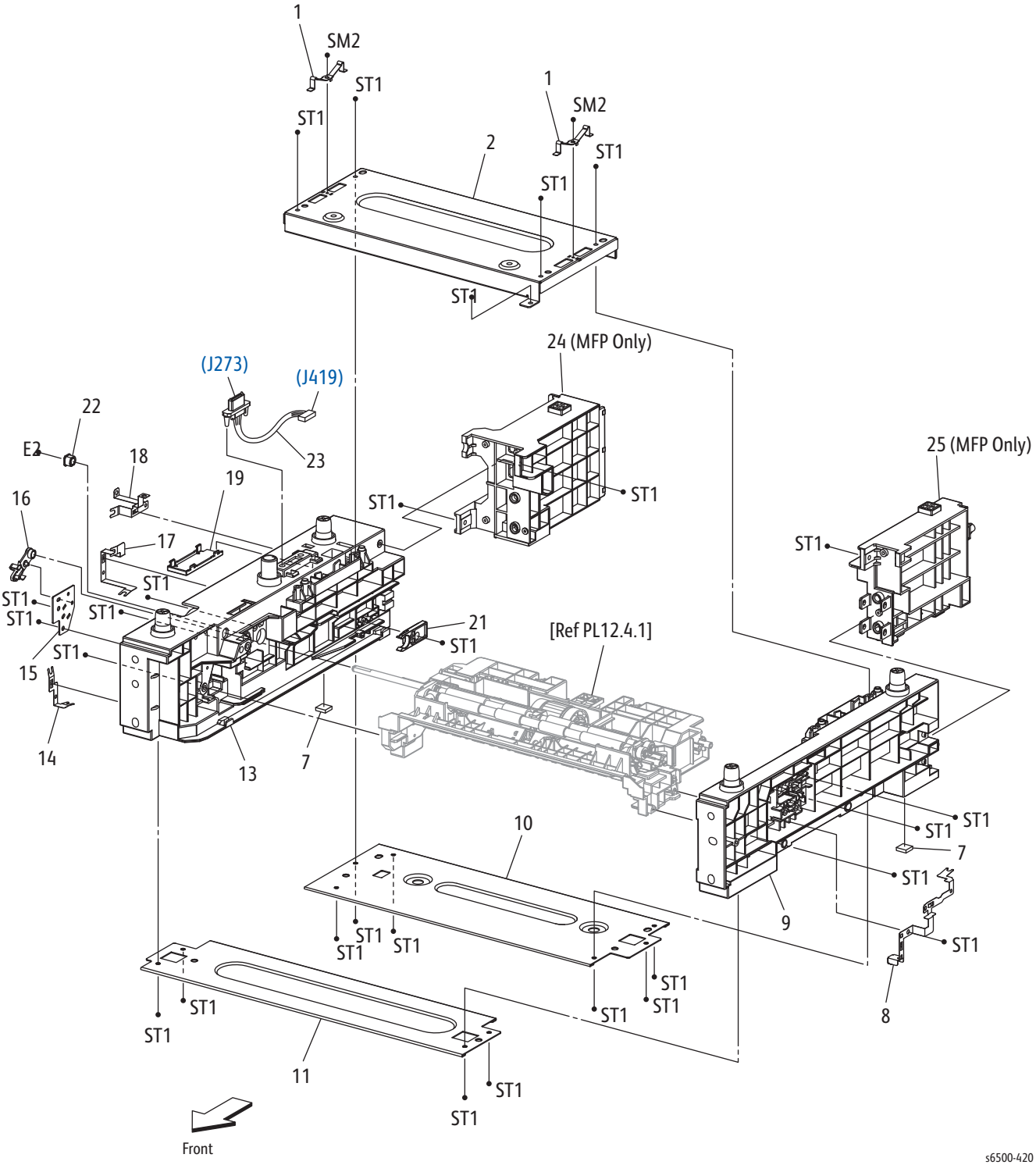
Parts List 12.3 Optional Feeder (3/5)



Parts List 12.3 Optional Feeder (3/5)

Item	Description	Part Number
1	Spring Earth Opt	
2	Plate Rear Top	
3	—	
4	—	
5	—	
6	—	
7	Foot (Same as PL3.1.5)	
8	Plate Earth Ph	
9	Chassis FDR R Opt	
10	Plate Rear Bottom	
11	Plate Front Bottom	
12	—	
13	Chassis FDR L Opt	
14	Plate Earth Front Bottom	
15	Bracket Sup Regi	
16	Bearing Regi (with PL12.2.6) (Same as PL3.1.97)	675K54231
17	Plate Earth Rear Bottom	
18	Plate Earth Rear Top	
19	Cover Harness Drawer	
20	—	
21	Stopper CST (Same as PL3.1.10)	003E73341
22	Bearing	
23	Harn Assy Tray (J273-J419)	962K68800
24	Bracket Chassis FDR L (**MFP only**)	
25	Bracket Chassis FDR R (**MFP only**)	

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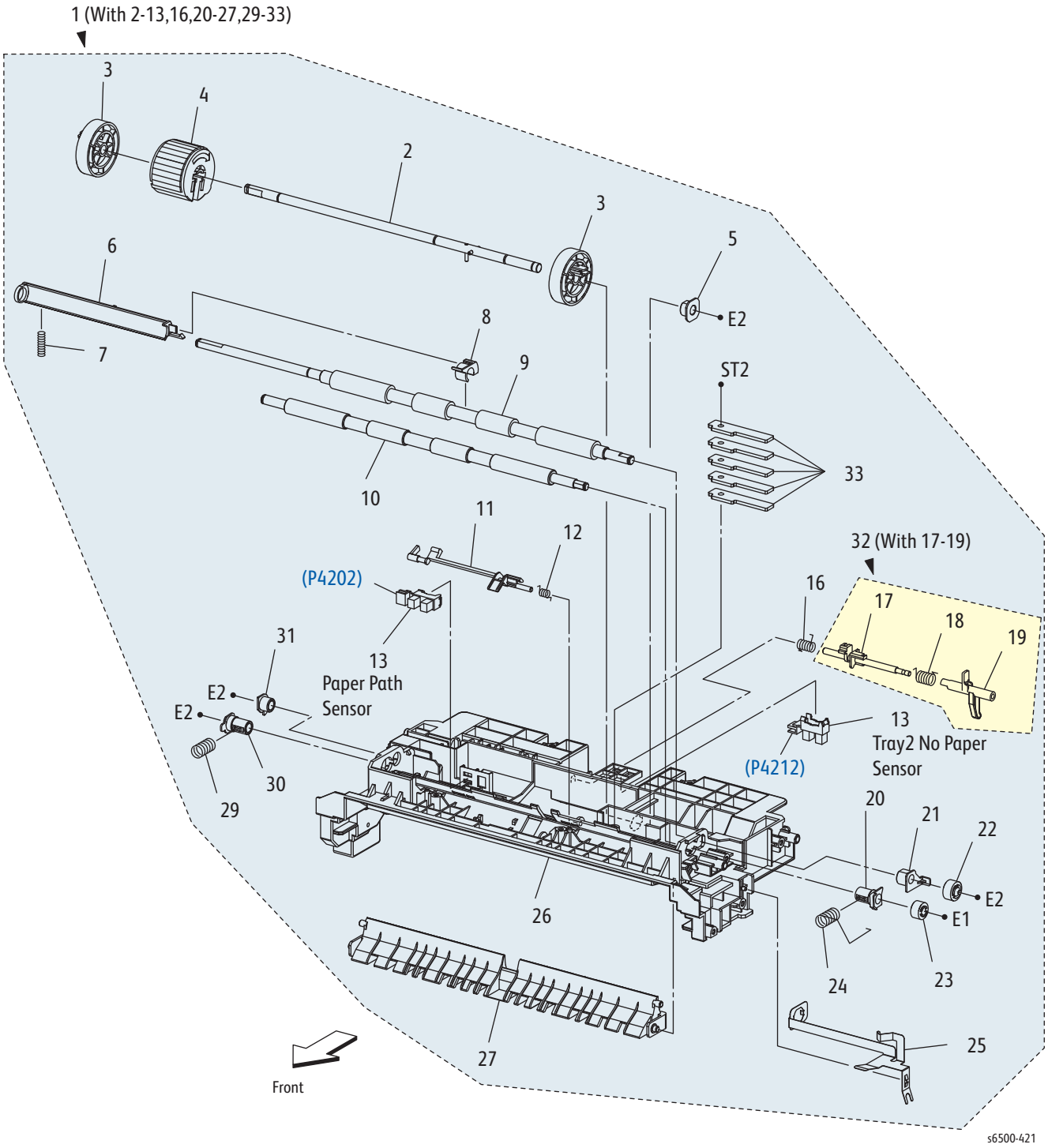
Parts List 12.4 Optional Feeder (4/5)



Parts List 12.4 Optional Feeder (4/5)

Item	Description	Part Number
1	Chute Assy Turn (With 2-13, 16, 20-27, 29-33)	
2	Shaft Assy Feed	
3	Roll Core MSI	
4	Roll Assy Feed	059K60140
5	Bearing Earth	
6	Actuator Regi Out	
7	Spring Regi Out	
8	Actuator Regi Roll	
9	Roll Assy Regi	
10	Roll Regi Metal	
11	Actuator Regi In (Option Registration Input Actuator)	120E27820
12	Spring Act Regi	
13	Sensor Photo	930W00113
14	—	
15	—	
16	Spring Stp	
17	Stopper Act	
18	Spring Act NP	
19	Actuator No Paper	
20	Bearing M Earth	
21	Bearing Earth Regi	
22	Gear Regi R	
23	Gear Regi M	
24	Spring Regi R M	
25	Plate Earth Regi	
26	Chute Up	
27	Chute Low	
28	—	
29	Spring Regi L M	
30	Bearing M	
31	Bearing R	
32	Actuator Assy No Paper (With 17-19)	120K92294
33	Plate Weight	

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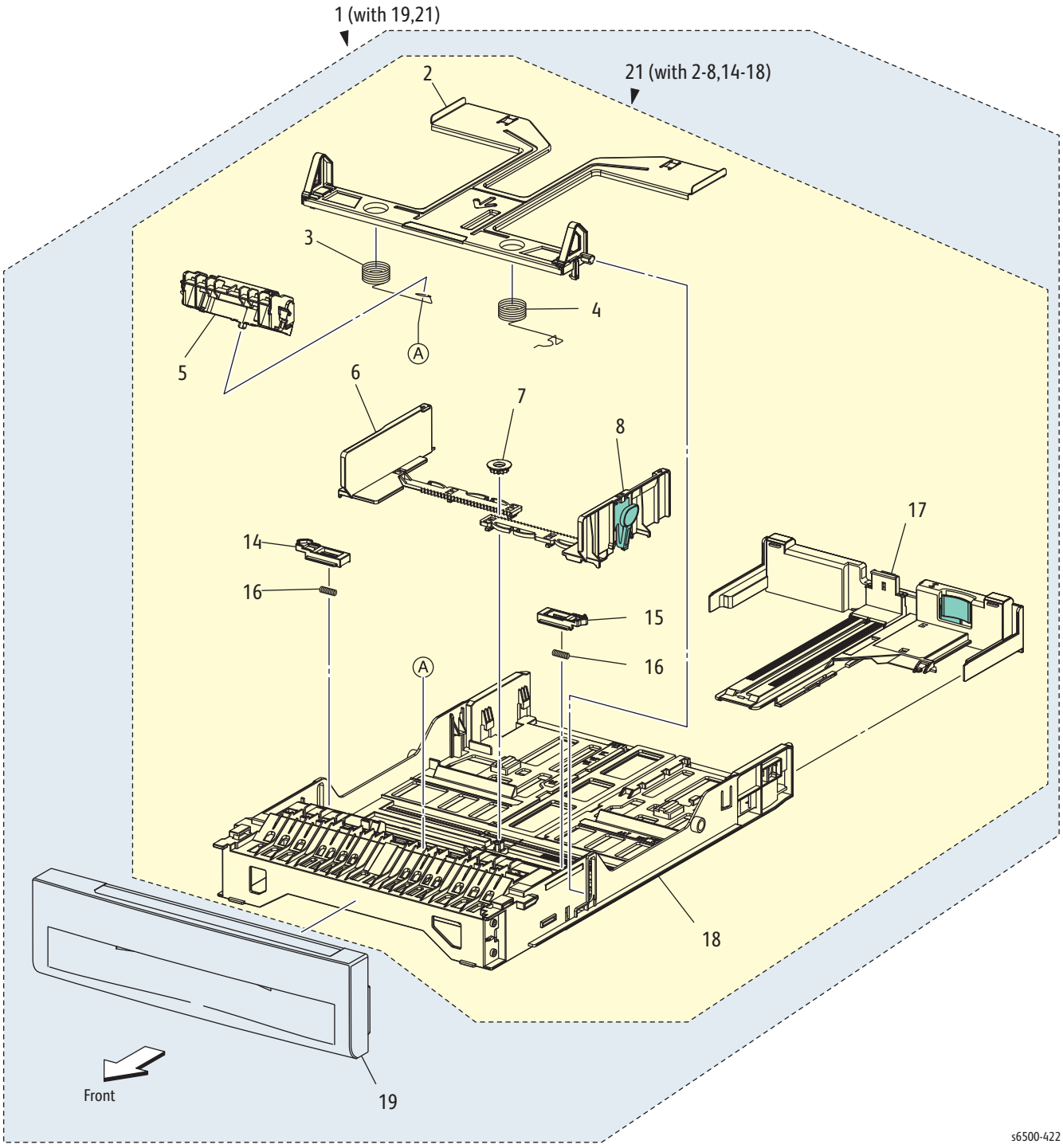
Parts List 12.5 Optional Feeder (5/5)



Parts List 12.5 Optional Feeder (5/5)

Item	Description	Part Number
1	Cassette Assy 250 Opt (With 19,21)	050K64180
2	Plate Assy Bottom	
3	Spring N/F L	
4	Spring N/F R	
5	Holder Assy Separator	675K81221
6	Guide Side L	
7	Gear Pinion	
8	Guide Side Assy R	
9	—	
10	—	
11	—	
12	—	
13	—	
14	Latch Bottom L	
15	Latch Bottom R	
16	Spring Latch B	
17	Tray Assy Extension	
18	Housing CST 250	
19	Handle Assy CST 250 Opt	
20	—	
21	Tray Assy CST 250 (With 2-8, 14-18)	

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Xerox Supplies and Accessories

Consumables and Maintenance Items

Toner

Capacity	Toner Cartridge **Description**	**Part Number**
Standard, 1K	Cyan, NA/XE Cyan, DMO	106R01591 106R01598
	Magenta, NA/XE Magenta, DMO	106R01592 106R01599
	Yellow, NA/XE Yellow, DMO	106R01593 106R01600
High, 2.5K	Cyan, NA/XE Cyan, DMO	106R01594 106R01601
	Magenta, NA/XE Magenta, DMO	106R01595 106R01602
	Yellow, NA/XE Yellow, DMO	106R01596 106R01603
High, 3K	Black, NA/XE Black, DMO	106R01597 106R01604

Customer-replaceable Service Items

Description	**Part Number**
Fuser 110V Fuser 220V	604K64582 604K64592
Imaging Unit	676K05360
Feed Roller	059K60140
Separator Holder	675K81221
ADF Feed Roller & Separator Kit (MFP Only)	604K52222

Service Kits

Service Kits provide spare parts normally associated with larger assemblies.

Hardware Kit

Hardware Kit

Description	Part Number
Hardware Kit	604K34030
Screw, Bind Head Del (1)	
Screw, 8 mm Plastic (1)	
Screw, Tap Bind Head (1)	
Screw, M3x6 B (1)	
Screw, DT3x8 B (1)	
E-Ring, 3 mm (1)	
E-Ring, 4 mm (1)	

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Wiring

In this chapter...

- SFP Plug/Jack Designations
- SFP Plug/Jack Locator Maps
- MFP Plug/Jack Designations
- MFP Plug/Jack Locator Maps
- Wiring Diagrams
- SFP Wiring Diagrams
- MFP Wiring Diagrams

Chapter 10

SFP Plug/Jack Designations

This section contains the plug/jack designators, locator diagrams, and wiring diagrams for the Phaser 6500 printer. The Plug/Jack Locator diagrams show the P/J locations within the printer. Use these illustrations to locate connections called out in the troubleshooting procedures presented in Sections 3, 4, and 5.

1. Locate the P/J connector designator in the first column of the table.
2. With this information, go to the map listed in the second column.
3. Use the coordinates to locate the connection indicated on the map by its P/J designation number.
4. The Remarks column provides a brief description of each connection.

SFP Print Engine Plug/Jack Designators

SFP Print Engine Plug/Jack Designators

P/J	Map	Coordinates	Remarks
10	4	I-156	Connects MCU Board and IP Board Harness Assy
11	4	I-156	Connects MCU Board and IP Board Video Harness Assy
14	4	H-157	Connects MCU Board and LVPS Main Harness
15	4	H-156	Connects MCU Board and LVPS Main Harness
16	4	I-158	Connects MCU Board and HVPS Harness
17	4	H-157	Connects MCU Board and Fuser Harness
18	4	H-158	Connects MCU Board and Toner Motor Harness Assy
19	4	H-158	Connects MCU Board and Toner Motor Harness Assy
20	4	J-158	Connects MCU Board and Humidity Harness Assy
21	4	J-157	Connects MCU Board and Main Motor Harness Assy
22	4	J-157	Connects MCU Board and Sub Motor Harness Assy
23	4	J-158	Connects MCU Board and Left Side Harness
24	4	J-158	Connects MCU Board and Feed Drive (Color Mode Switching Solenoid)
26	4	J-158	Connects MCU Board and K-sensor/ Regi Clutch Harness Assy
27	4	I-158	Connects MCU Board and Option Harness
28	4	J-158	Connects MCU Board and Left Side Harness
29	3	C-141	Connects IP Board and Harness Assy B
29	4	H-158	Connects MCU Board and Harness Assy SIDE SW
30	4	I-158	Connects MCU Board and Harness Assy MCU HAN
31	4	H-157	Connects MCU Board and Harness Assy TONER CRUM
40	3	D-133	Connects LVPS and IP Board Power Harness Assy
40	4	I-156	Connects MCU Board and Harness Assy ROS RE
41	4	I-156	Connects MCU Board and Harness Assy ROS Video

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SFP Print Engine Plug/Jack Designators (continued)

P/J	Map	Coordinates	Remarks
42	4	J-157	Connects MCU Board and Harness Assy PHD XPRO
44	3	D-133	Connects LVPS and Interlock Switch
47	3	G-133	Connects LVPS and Fuser Harness Assy
48	3	G-133	Connects LVPS and Inlet Switch Assy
101	3	D-139	Connects IP Board and IP Board Harness Assy
101	4	I-157	Not Connected (Debug only)
111	3	E-139	Connects IP Board and IP Board Video Harness Assy
141	1	H-107	Connects Erase LED Assy and Main LVPS Harness
144	4	G-151	Connects EEPROM Board and Harness Assy PHD XPRO
161	4	F-153	Connects HVPS and HVPS Harness
171	1	H-107	Connects Fuser and Fuser Harness
181	4	C-152	Connects Y Toner Motor and Toner Motor Harness
182	4	C-151	Connects M Toner Motor and Toner Motor Harness
191	4	C-151	Connects C Toner Motor and Toner Motor Harness
192	4	C-150	Connects K Toner Motor and Toner Motor Harness
201	3	H-141	Connects Humidity Sensor and Humidity Harness
202	3	F-106	Connects Control Panel and Harness Assy A
211	3	I-139	Connects Main Motor and Main Motor Harness
221	3	H-139	Connects Sub Motor and Sub Motor Harness Assy
231	2	C-125	Connects Feed Solenoid and Left Side Harness
232	2	F-125	Connects Registration Sensor and Left Side Harness
233	2	G-125	Connects Manual Feed No Paper Sensor and Left Side Harness
234	2	F-124	Connects Tray No Paper Sensor and Left Side Harness
261	3	H-140	Connects Color Mode Switching Sensor and K-sensor/ Regi Clutch Harness Assy
262	3	I-140	Connects Drive Clutch and K-sensor/Regi Clutch Harness Assy
271	1	I-110	Connects Dup Relay Harness and Option Harness
272	1	F-109	Connects Dup Relay Harness Assy and Duplex Module (Duplex Harness Assy)
273	3	H-142	Connects Option Harness and Option Feeder (Tray Harness Assy)
281	1	C-108	Connects Transfer Belt (Harness Assy CTD SNR2) and Left Side Harness
291	1	H-107	Connects Dispenser Assy (Side Door Switch) and Harness Assy SIDE SW
311	1	H-110	Connects Dispenser Assy (Connector CRUM Y) and Harness Assy Toner CRUM

SFP Print Engine Plug/Jack Designators (continued)

P/J	Map	Coordinates	Remarks
312	1	H-109	Connects Dispenser Assy (Connector CRUM M) and Harness Assy Toner CRUM
313	1	H-108	Connects Dispenser Assy (Connector CRUM C) and Harness Assy Toner CRUM
314	1	H-108	Connects Dispenser Assy (Connector CRUM K) and Harness Assy Toner CRUM
401	3	C-140	Connects IP Board and IP Board Power Harness Assy
411	2	D-122	Connects Laser Unit and Harness Assy ROS RE
412	2	D-123	Connects Laser Unit and Harness Assy ROS Video
422	4	G-150	Connects Laser Unit EEPROM and Harness Assy PHD XPRO
501	3	E-133	Connects LVPS and Main LVPS Harness
502	3	D-133	Connects LVPS and Main LVPS Harness
503	3	D-133	Connects LVPS and Fan
504	3	D-133	Connects LVPS and Main LVPS Harness
2811	1	D-107	Connects ADC Sensor and Harness Assy CTD SNR2 (Transfer Belt)
5041	1	I-107	Not Connected (Used in production process only)
5301	1	H-111	Connects Control Panel Harness A and Control Panel Harness B

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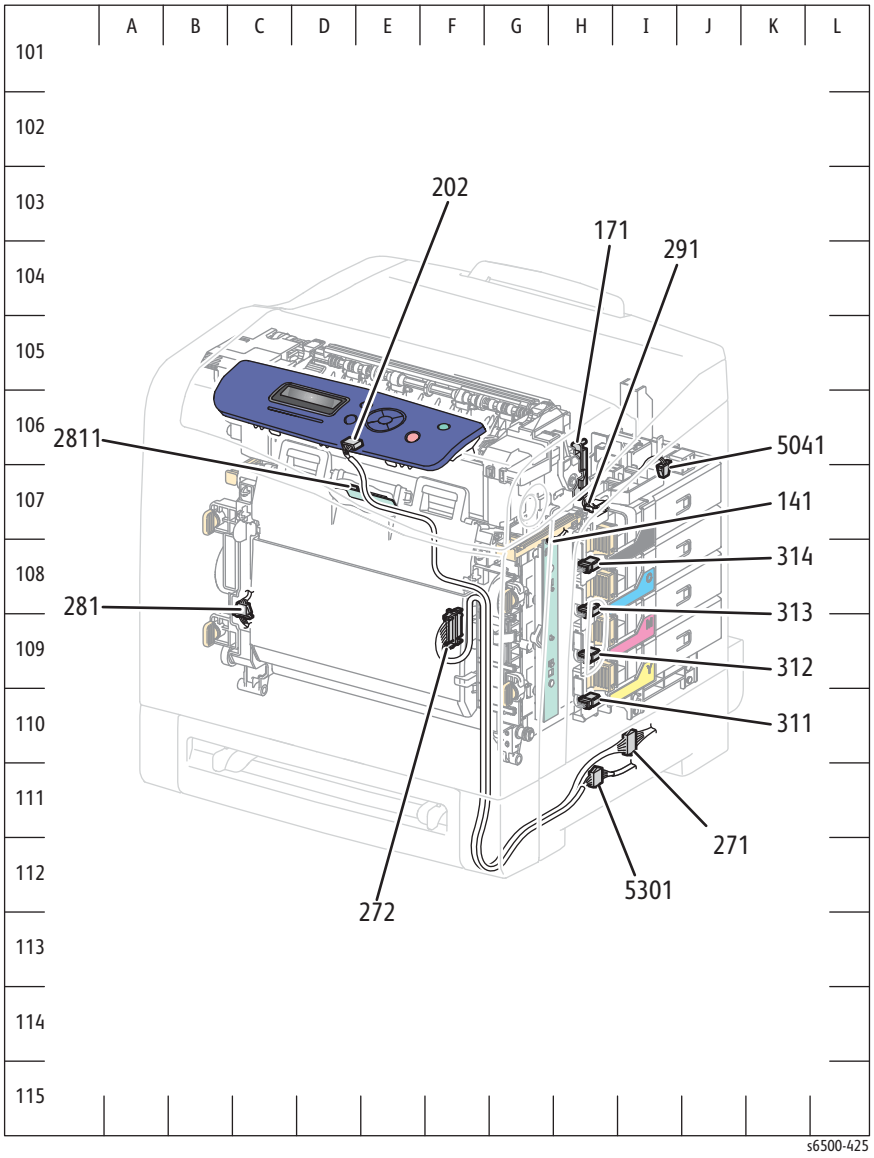
SFP Optional Feeder Plug/Jack Designators

P/J	Map	Coordinates	Remarks
273	5	D-184	Connects Option Feeder (Tray Harness) and Printer
419	5	C-179	Connects Feeder Board and Tray Harness
420	5	D-179	Connects Feeder Board and Tray Comp Harness
421	5	C-180	Connects Feeder Board and Tray Comp Harness
422	5	D-180	Connects Feeder Board and Tray Motor Harness
4201	5	H-181	Connects Turn Clutch and Tray Comp Harness
4202	5	D-185	Connects Paper Path Sensor and Tray Comp Harness
4211	5	F-180	Connects Feed Solenoid and Tray Comp Harness
4212	5	F-185	Connects No Paper Sensor and Tray Comp Harness
4221	5	E-179	Connects Sub Motor (Option Feeder Motor) and Tray Motor Harness

SFP Plug/Jack Locator Maps

Map 1 - SFP Print Engine



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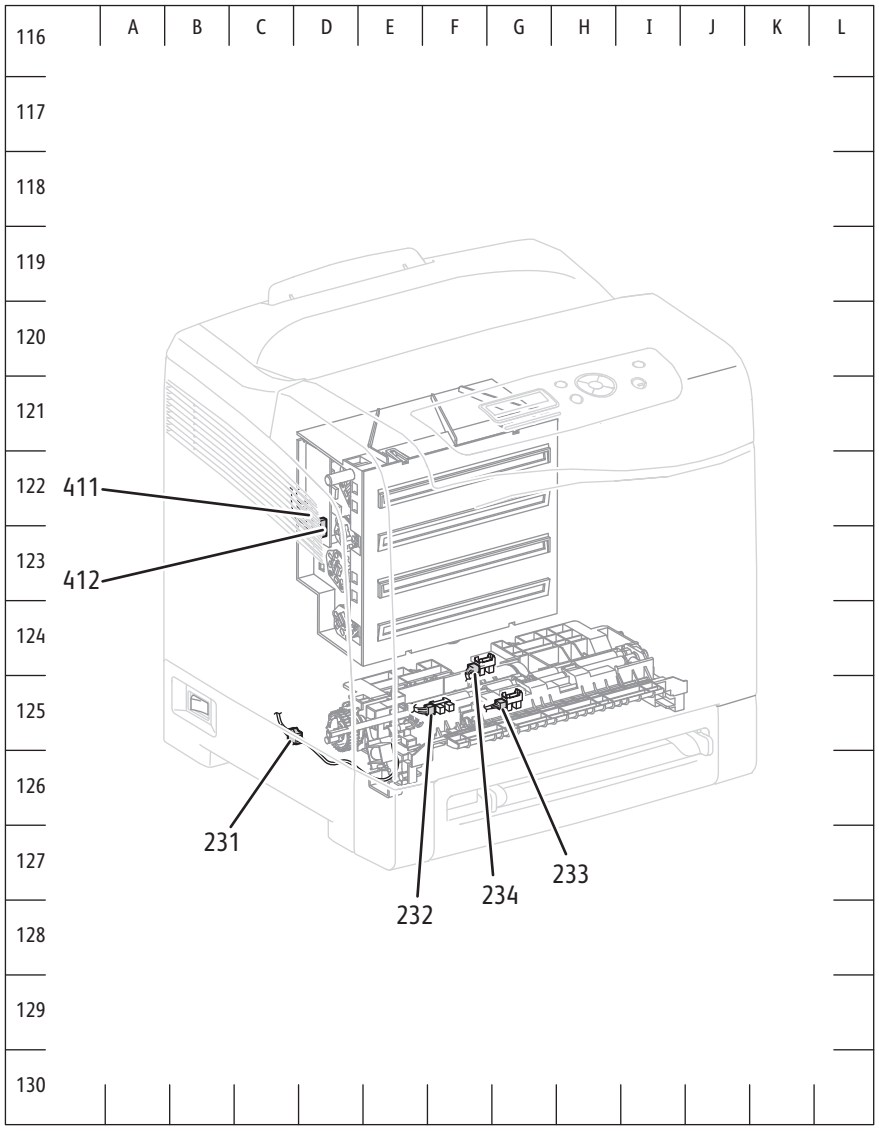
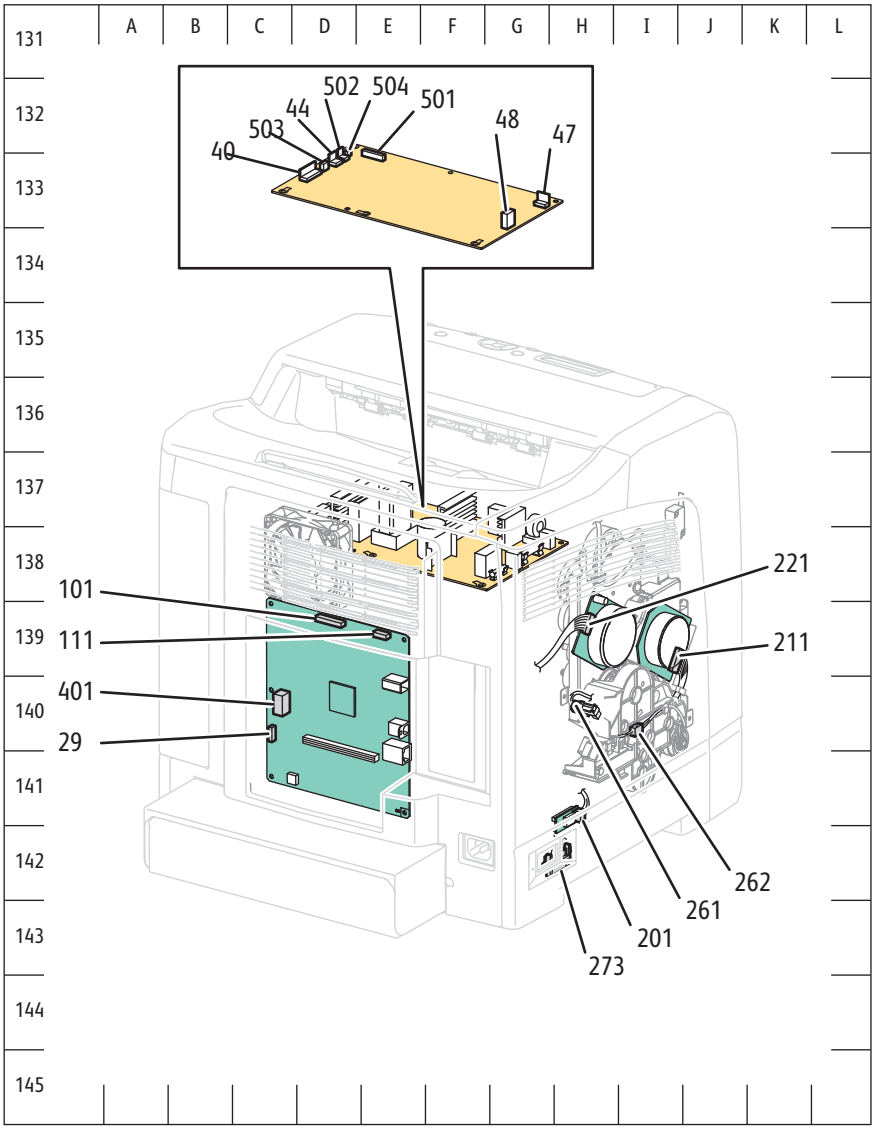
Map 2 - SFP Laser Unit and Feeder



s6500-426

Map 3 - SFP IP Board, LVPS, and Drive



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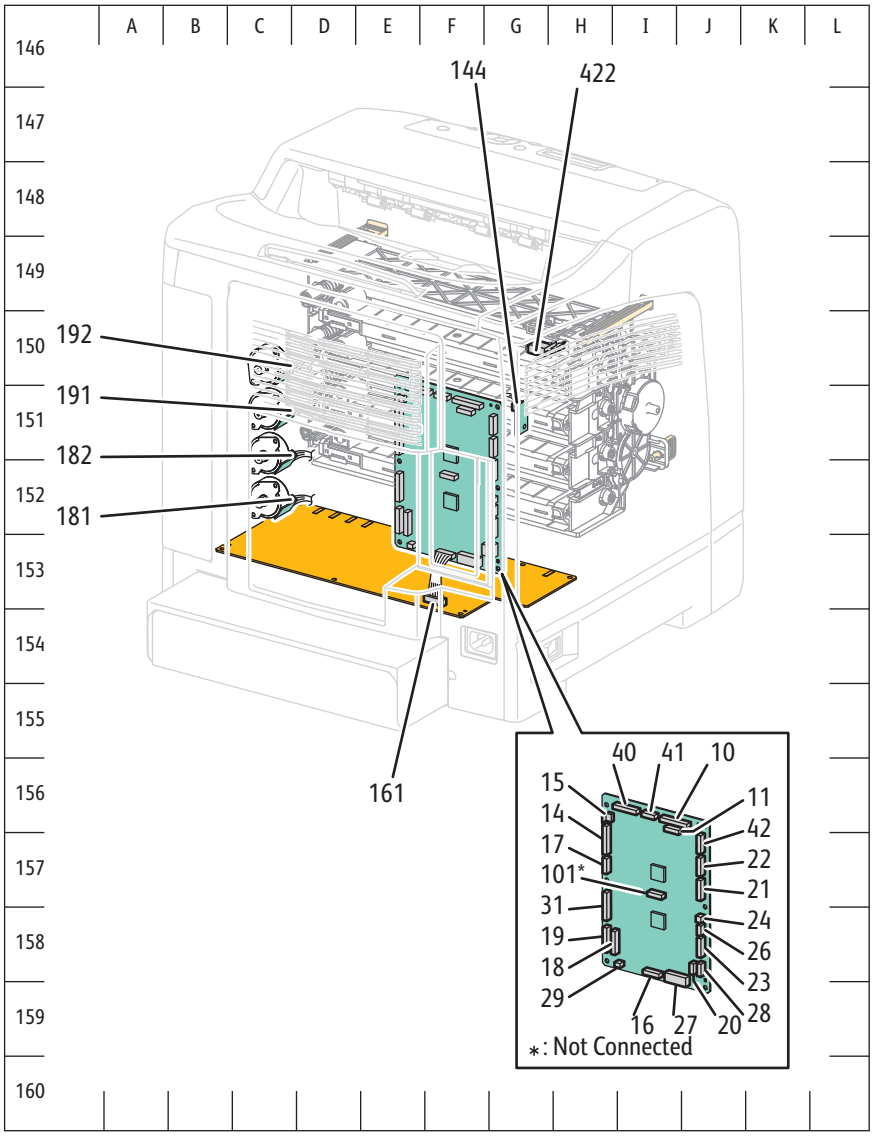
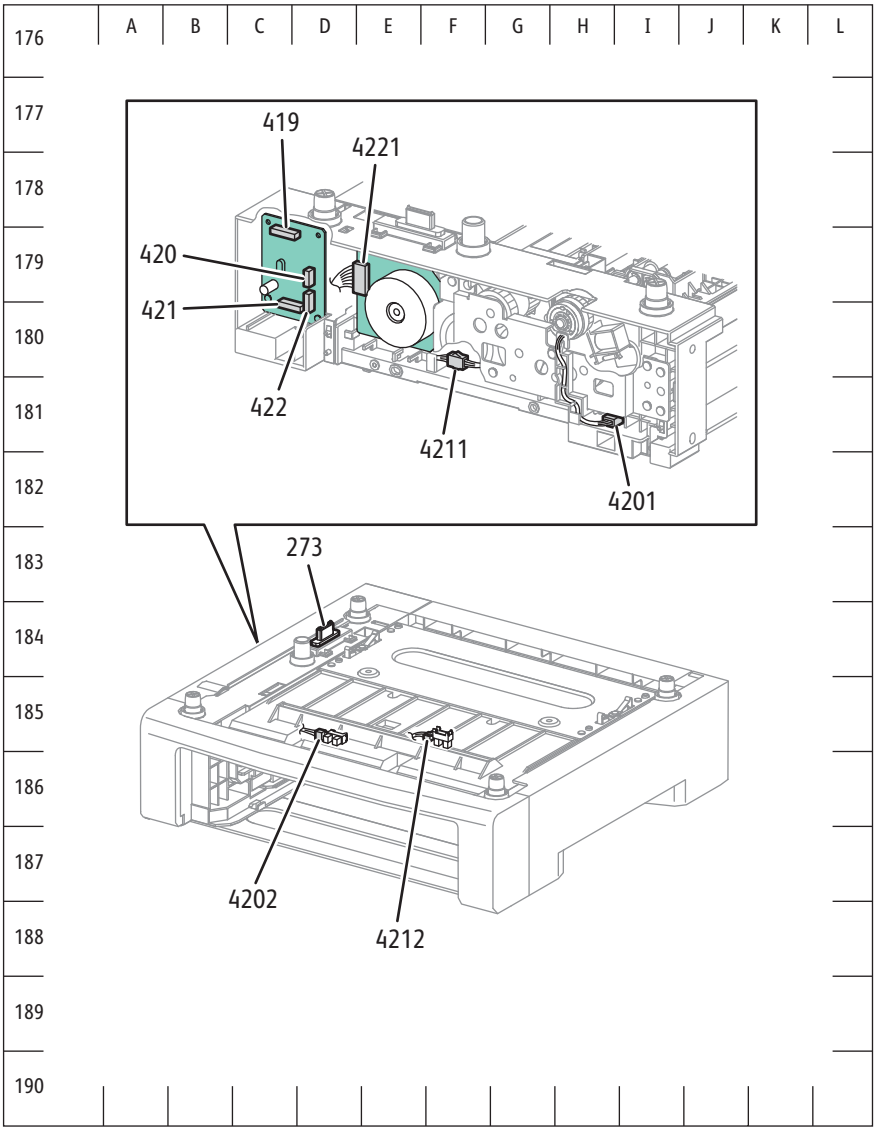
Map 4 - SFP MCU Board



Map 5 - SFP Optional Feeder



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MFP Plug/Jack Designations

MFP Print Engine P/J Designators

MFP Print Engine Plug/Jack Designators

P/J	Map	Coordinates	Remarks
2	7	D-121	Connects Front USB Assy and Front USB Harness Assy
10	9	I-156	Connects MCU Board and IP Board Harness Assy
11	9	I-156	Connects MCU Board and IP Board Video Harness Assy
14	9	H-157	Connects MCU Board and LVPS Main Harness Assy
15	9	H-156	Connects MCU Board and LVPS Main Harness Assy
16	9	I-158	Connects MCU Board and HVPS Harness Assy
17	9	H-157	Connects MCU Board and Fuser Harness Assy
18	9	H-158	Connects MCU Board and Toner Motor Harness Assy
19	9	H-158	Connects MCU Board and Toner Motor Harness Assy
20	9	J-158	Connects MCU Board and Left Side Harness Assy
21	9	J-157	Connects MCU Board and Main Motor Harness Assy
22	9	J-157	Connects MCU Board and Sub Motor Harness Assy
23	9	J-158	Connects MCU Board and Left Side Harness Assy
24	9	J-158	Connects MCU Board and K-Solenoid Harness Assy
26	9	J-158	Connects MCU Board and K-Sensor Harness Assy
27	9	I-158	Connects MCU Board and Option Harness
28	9	J-158	Connects MCU Board and Left Side Harness Assy
29	9	I-158	Connects MCU Board and Toner Door Switch Harness
31	9	H-157	Connects MCU Board and Toner CRUM Harness Assy
40	8	D-143	Connects LVPS and IP Board Power Harness
40	9	I-156	Connects MCU Board and Laser Unit RE Harness
41	9	I-156	Connects MCU Board and Laser Unit Video Harness
42	9	J-157	Connects MCU Board and PHD XPRO Harness Assy
44	8	D-143	Connects LVPS and Interlock Switch
47	8	B-143	Connects LVPS and Fuser Harness Assy
48	8	B-142	Connects LVPS and Inlet Switch Assy
101	9	I-157	Not Connect (Debug only)
141	6	G-108	Connects Erase LED Assy and LVPS Main Harness Assy
144	9	F-152	Connects EEPROM Board and PHD XPRO Harness Assy
161	9	F-153	Connects HVPS and HVPS Harness Assy

MFP Print Engine Plug/Jack Designators (continued)

P/J	Map	Coordinates	Remarks
171	6	G-108	Connects Fuser Assy and Fuser Harness Assy
181	9	D-152	Connects Toner Dispenser Assy (Motor Assy Disp Y) and Toner Motor Harness Assy
182	9	D-152	Connects Toner Dispenser Assy (Motor Assy Disp M) and Toner Motor Harness Assy
191	9	D-151	Connects Toner Dispenser Assy (Motor Assy Disp C) and Toner Motor Harness Assy
192	9	D-150	Connects Toner Dispenser Assy (Motor Assy Disp K) and Toner Motor Harness Assy
201	8	H-139	Connects Feeder Assy (Humidity Sensor) and Left Side Harness Assy
202	7	E-123	Connects Control Panel and Harness Assy A-OP-OPP
211	8	I-137	Connects Main Drive Assy (Main Motor) and Main Motor Harness Assy
221	8	H-137	Connects Sub Drive Assy (Sub Motor) and Sub Motor Harness Assy
231	7	D-126	Connects Feeder Assy (Feed Solenoid) and Left Side Harness Assy
232	7	F-126	Connects Feeder Assy (Regi Sensor) and Left Side Harness Assy
233	7	G-126	Connects Feeder Assy (Manual Feed No Paper Sensor) and Left Side Harness Assy
234	7	G-125	Connects Feeder Assy (Tray No Paper Sensor) and Left Side Harness Assy
241	8	G-139	Connects Feed Drive Assy (Color Mode Switching solenoid) and K-Solenoid Harness
261	8	H-138	Connects Feed Drive Assy (Color Mode Switching Sensor) and K-Sensor Harness
262	8	I-138	Connects Drive Clutch and K-sensor/Regi Clutch Harness Assy
271	6	H-111	Connects Dup Relay Harness and Option Harness
272	6	F-110	Connects Dup Relay Harness Assy and Duplex Module (Duplex Harness Assy)
273	8	H-140	Connects Option Harness and Option Feeder (Tray Harness Assy)
281	6	C-109	Connects Transfer Assy (ADC Sensor via Harness Assy CTD SNR2) and Left Side Harness Assy
291	6	G-108	Connects Toner Dispenser Assy (Toner Door Switch) and Toner Door Switch Harness
311	6	G-110	Connects Toner Dispenser Assy (Connector CRUM Y) and Toner CRUM Harness Assy

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MFP Print Engine Plug/Jack Designators (continued)

P/J	Map	Coordinates	Remarks
312	6	G-110	Connects Toner Dispenser Assy (Connector CRUM M) and Toner CRUM Harness Assy
313	6	G-109	Connects Toner Dispenser Assy (Connector CRUM C) and Toner CRUM Harness Assy
314	6	G-109	Connects Toner Dispenser Assy (Connector CRUM K) and Toner CRUM Harness Assy
403	8	G-137	Connects IP Board and Harness Assy A-OP-ESS
411	7	D-123	Connects ROS ASSY and Laser Unit RE Harness
412	7	E-124	Connects ROS ASSY and Laser Unit Video Harness
422	9	H-150	Connects PHD ASSY (Eeprom PHD) and PHD XPRO Harness Assy
501	8	D-143	Connects LVPS and LVPS Main Harness Assy
502	8	D-143	Connects LVPS and LVPS Main Harness Assy
503	8	D-143	Connects LVPS and Fan
504	8	D-143	Connects LVPS and LVPS Main Harness Assy
801	8	F-139	Connects IP Board and Fax Board
802	8	G-136	Connects IP Board and IP Board Power Harness
1001	8	F-136	Connects IP Board and Scanner Assy (CCD Board)
1002	8	G-136	Connects IP Board and Scanner Assy (Scanner Motor)
1003	8	G-136	Connects IP Board and Scanner Assy (ADF Assy)
1301	8	F-137	Connects IP Board and Front USB Harness Assy
2001	8	G-136	Connects IP Board and IP Board Harness Assy
2002	8	G-137	Connects IP Board and IP Board Video Harness Assy
2103	8	G-138	Not Connect
2401	8	F-136	Not Connect
2501	8	G-137	Not Connect
2811	6	D-108	Connects ADC Sensor and Harness Assy CTD SNR2 (Transfer Assy)
5041	6	H-108	Not Connect (Used in production process only)
5301	7	D-126	Connects Harness A-OP-OPP and Harness Assy A-OP-ESS

MFP Optional Feeder Plug/Jack Designators

P/J	Map	Coordinates	Remarks
273	10	C-184	Connects Option Feeder (Tray Harness) and Printer
419	10	D-179	Connects Feeder Board and Tray Harness
420	10	D-179	Connects Feeder Board and Tray Comp Harness
421	10	D-180	Connects Feeder Board and Tray Comp Harness
422	10	D-180	Connects Feeder Board and Tray Motor Harness
4201	10	I-181	Connects Turn Clutch and Tray Comp Harness
4202	10	C-1186	Connects Paper Path Sensor and Tray Comp Harness
4211	10	G-180	Connects Feed Solenoid and Tray Comp Harness
4212	10	E-186	Connects No Paper Sensor and Tray Comp Harness
4221	10	E-179	Connects Sub Motor (Option Feeder Motor) and Tray Motor Harness

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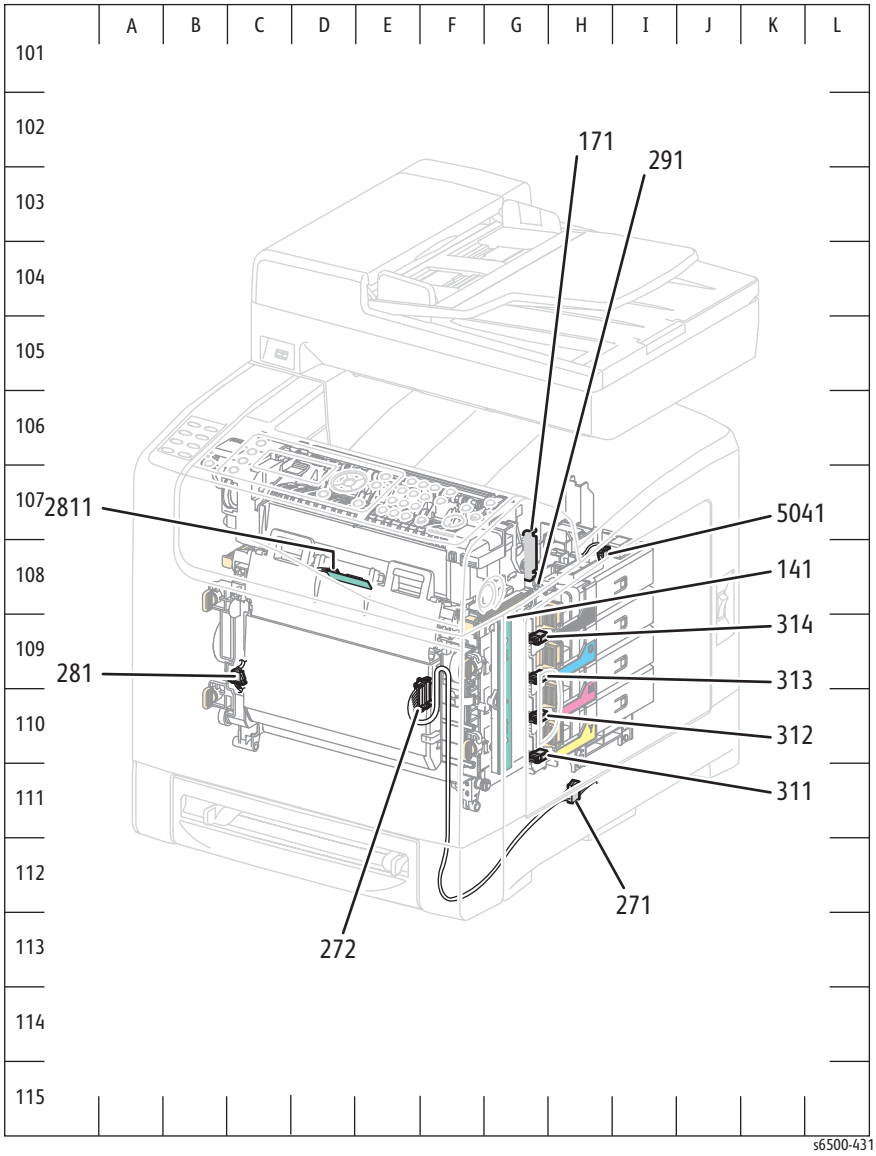
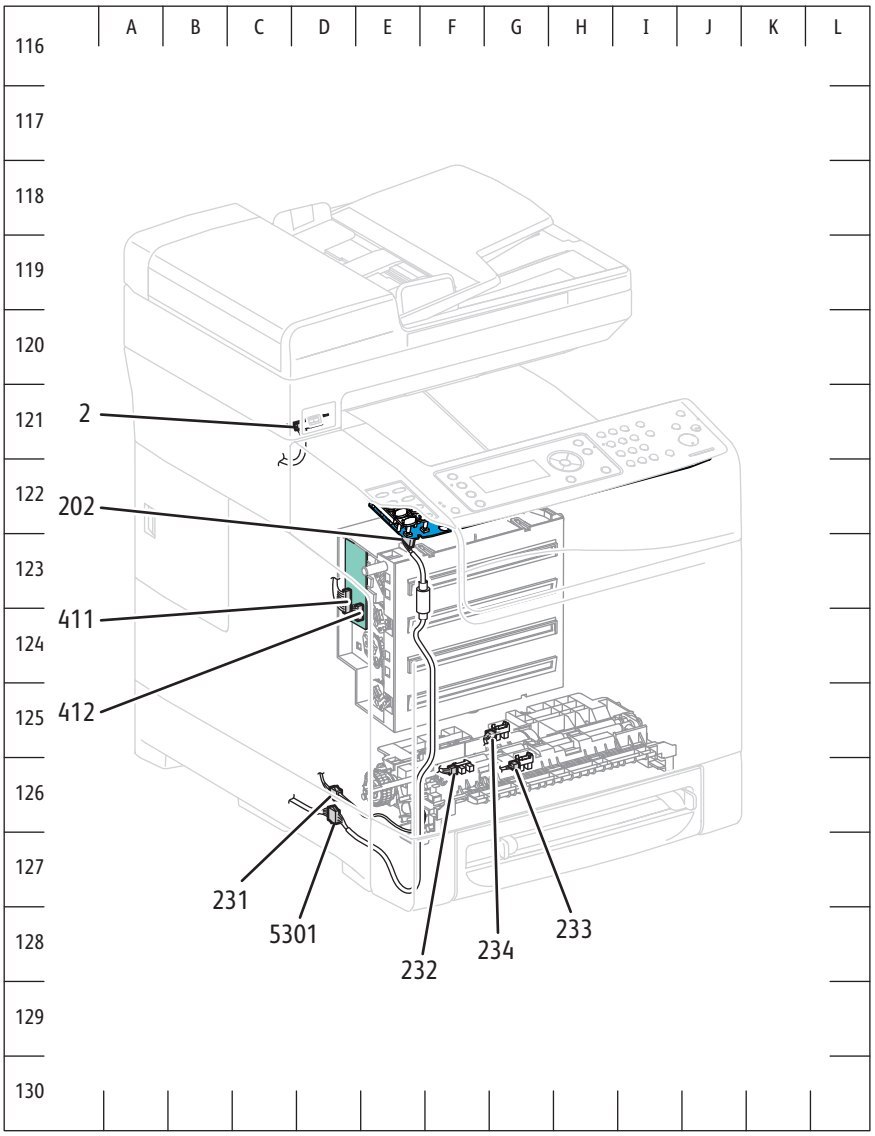
MFP Plug/Jack Locator Maps

Map 6 - MFP Print Engine



Map 7 - MFP Laser Unit and Feeder



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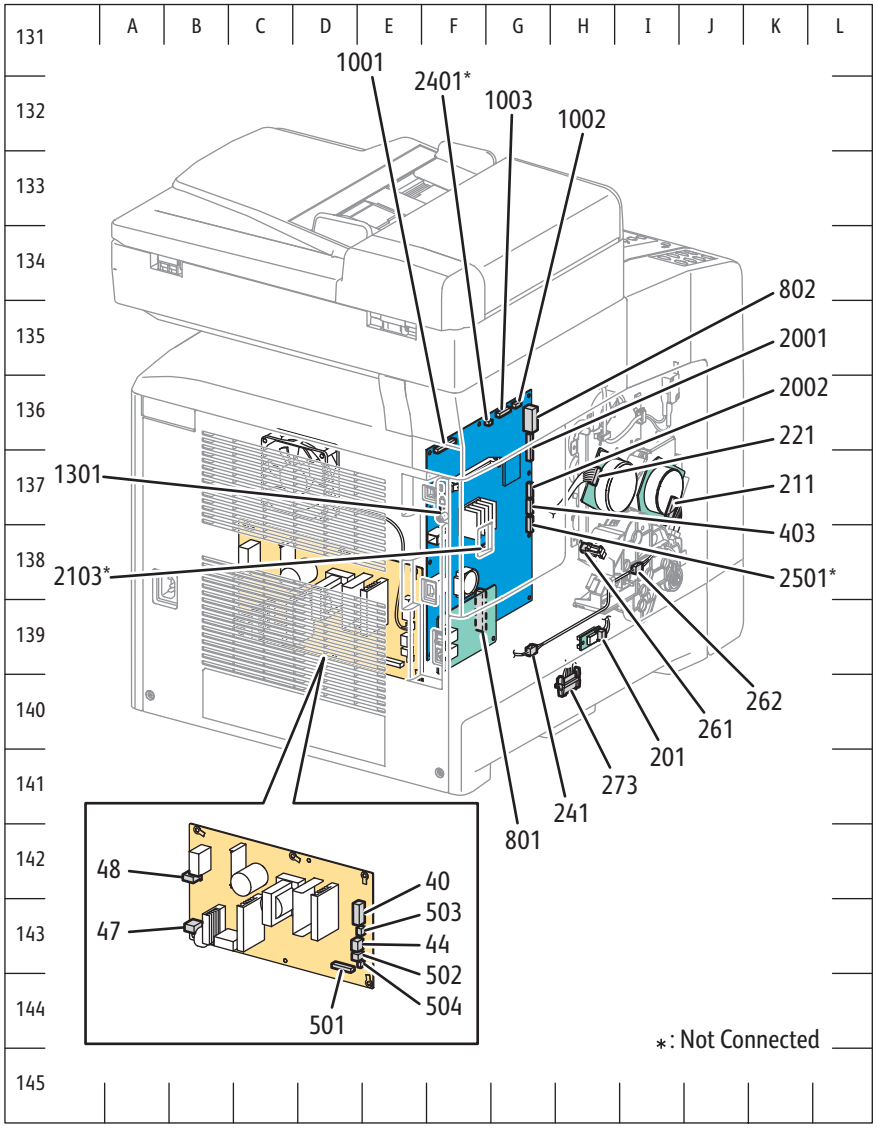
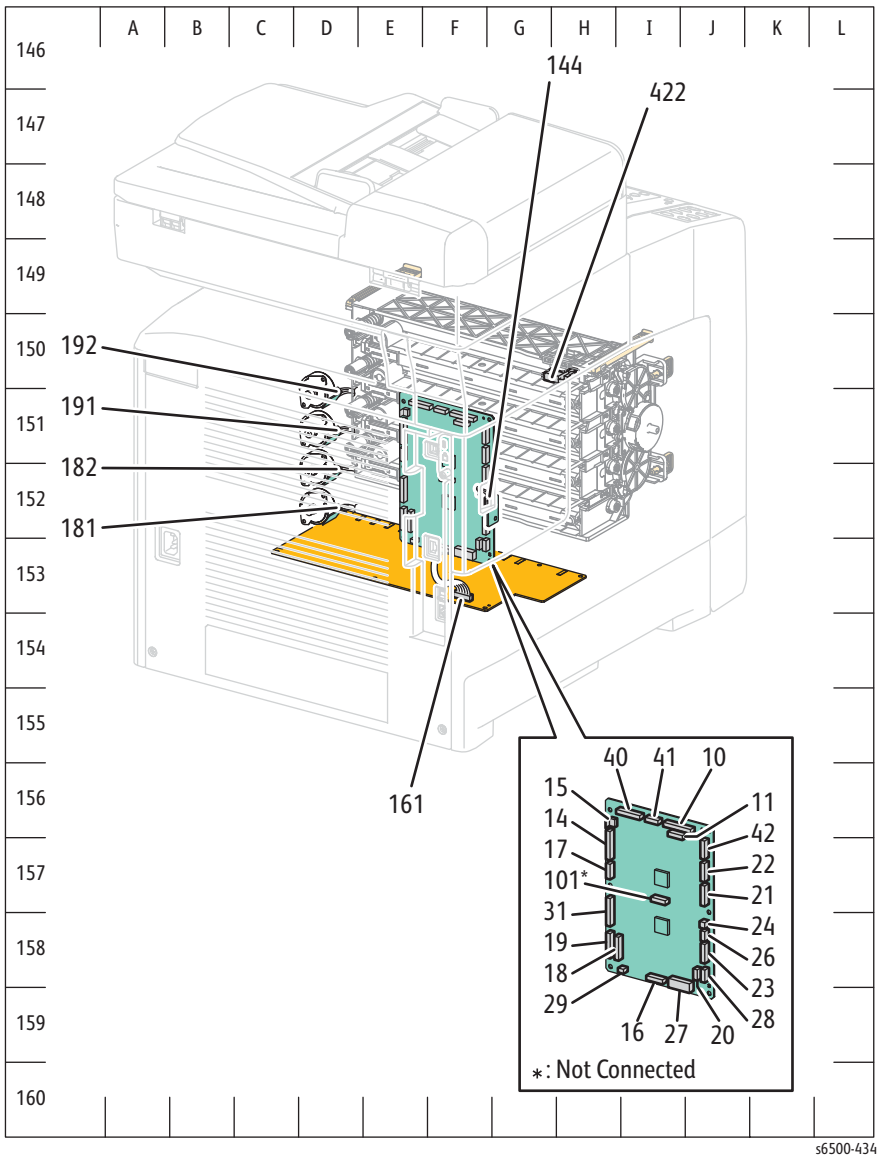
Map 8 - MFP LVPS, IP Board, and Drive



s6500-433

Map 9 - MFP MCU Board and HVPS



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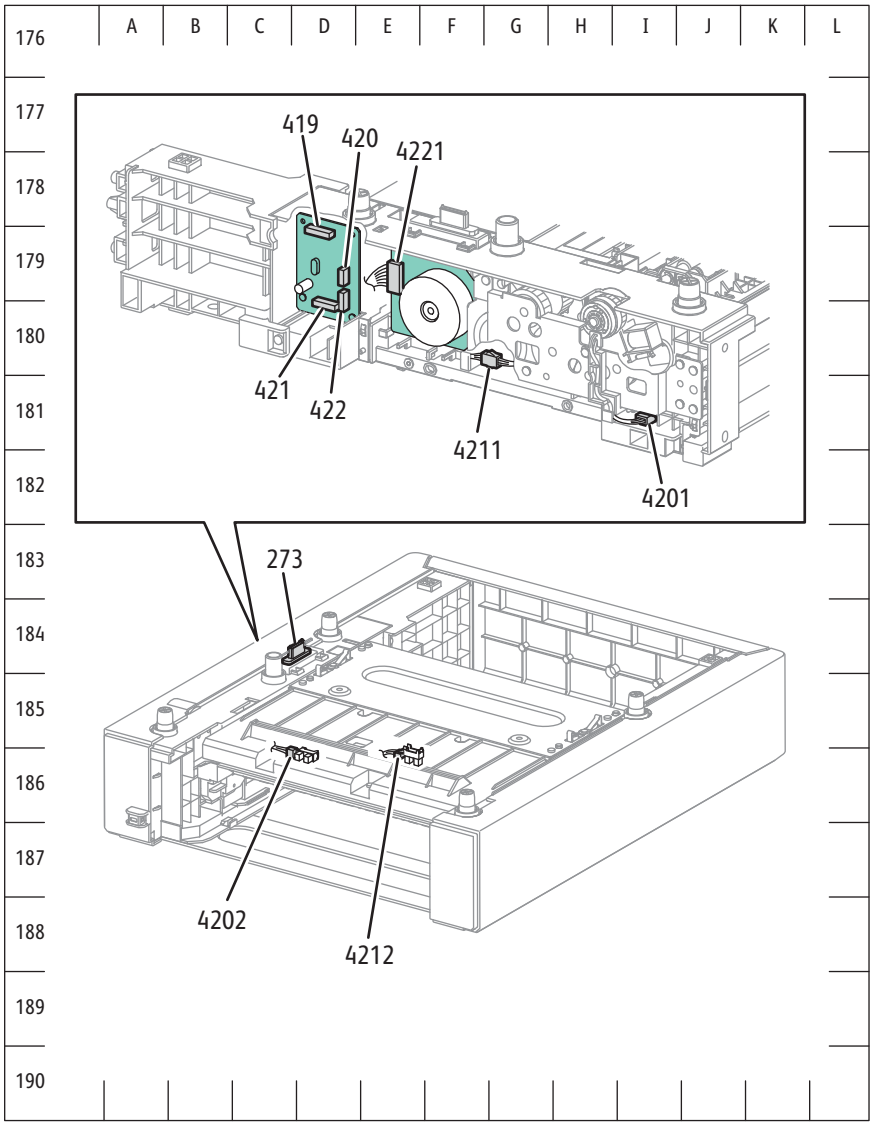
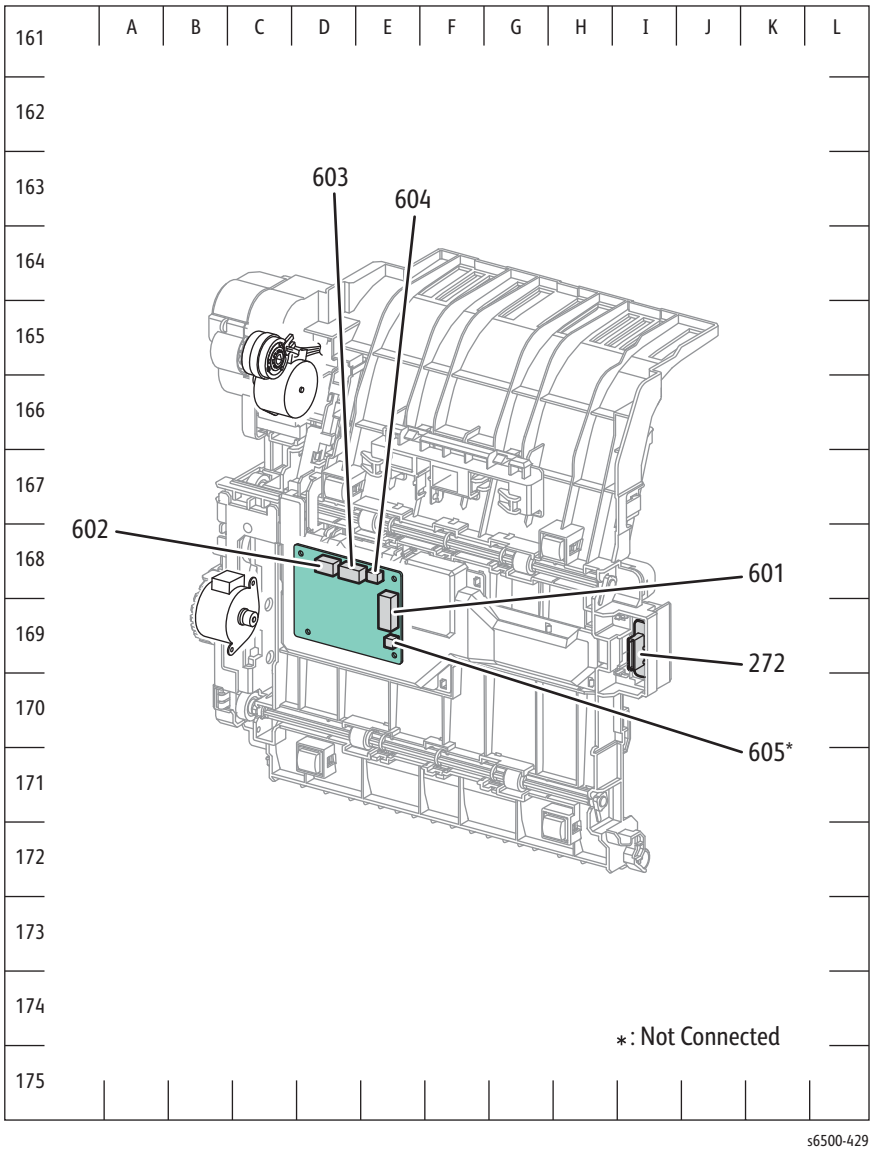
Map 10 - MFP Optional Feeder



Duplex Unit Plug/Jack Designators & Locator Map

P/J	Map	Coordinates	Remarks
272	11	I-169	Connects Duplex Unit (Harness Assy Dup) and Option Harness
601	11	E-169	Connects Duplex Board and Harness Assy DUP
602	11	D-168	Connects Duplex Board and Exit Motor
603	11	D-168	Connects Duplex Board and Duplex Motor
604	11	E-168	Connects Duplex Board and Duplex Clutch
605	11	E-169	Not Connected

Map 11 - Duplex Unit



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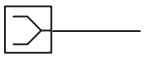
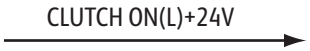
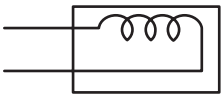
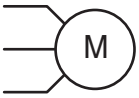
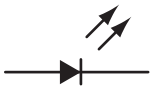
Wiring Diagrams

Notations Used in the Wiring Diagrams

The following table lists the symbols used in the wiring diagrams.

Symbol	Description
s6500-438	Denotes a Plug.
 s6500-439	Denotes a Jack.
P/Jxx YY s6500-440	Denotes Pin yy and Jack yy of the connector Pxx and Jxx.
JPxxx s6500-44	Denotes a Jumper Point (JPxxx/xxx). Each end of the Jumper connection has a numeric designation.
Fuser PL X.Y.Z s6500-442	Denotes the parts. PL X.Y.Z implies the item “Z” of plate (PL) “X.Y” in Parts List.
Heater s6500-443	Denotes functional parts attached with functional parts name.
Control s6500-444	Denotes the control and its outline in the Board.

Symbol	Description
s6500-445	Denotes a connection between parts with harness or wires, attached with signal name/ contents.
 s6500-446	Denotes the function, and logic value of the signal to operate the function (Low: L, High: H). The given voltage is for signal in high status. The arrow indicates the direction of signal.
s6500-447	Denotes the function, and logic value of the signal when the function operated (Low: L, High: H). The given voltage is for signal in high status. The arrow indicates the direction of signal.
s6500-448	Denotes a connection between wires.
 s6500-449	Denotes a Clutch or Solenoid.
 s6500-450	Denotes a Motor.
s6500-451	Denotes a Photo Sensor.
 s6500-452	Denotes an LED.
s6500-453	Denotes a Safety Interlock Switch.
s6500-454	Denotes an On-Off Switch (single-pole, single-throw switch).

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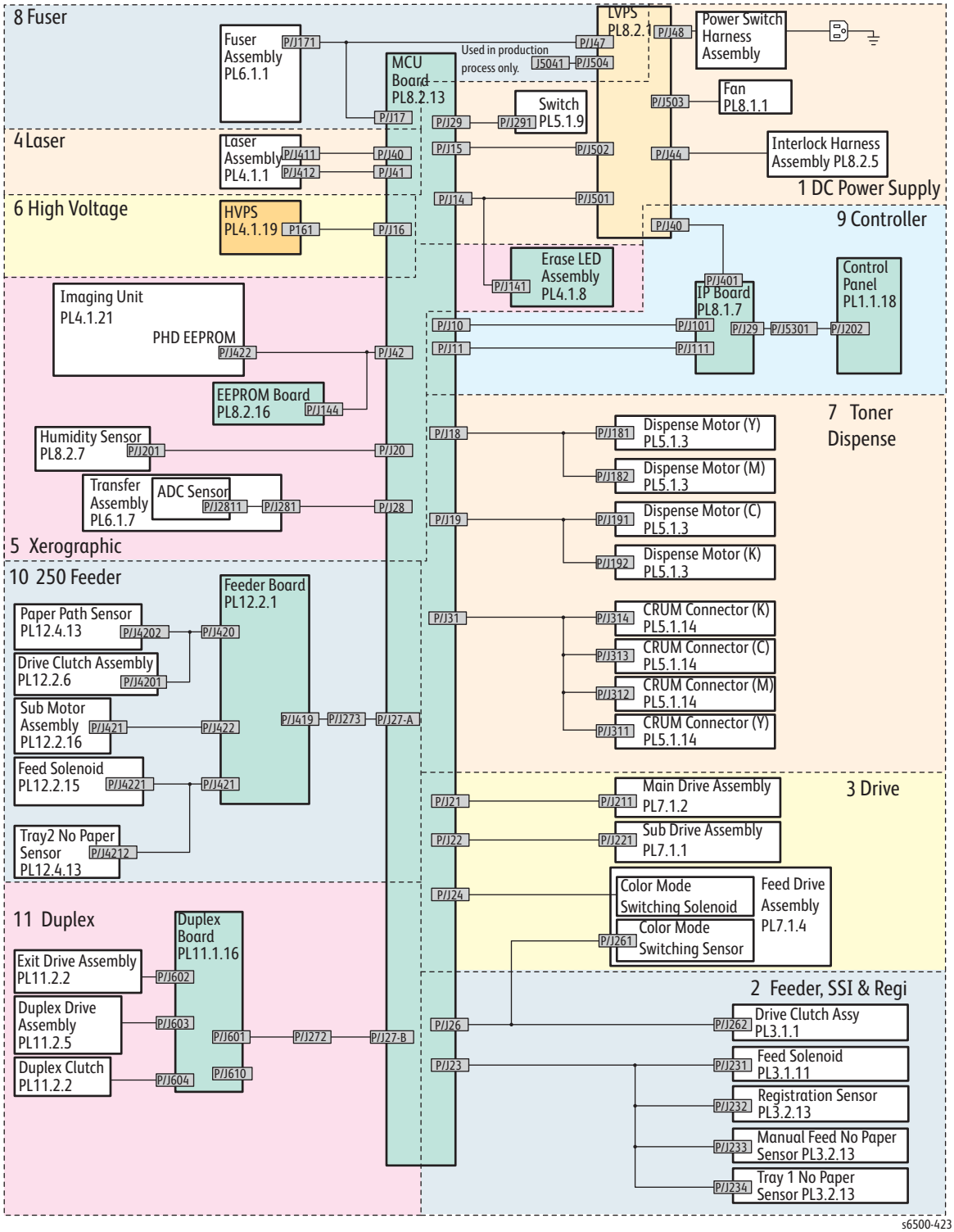
Symbol	Description
s6500-455	Denotes an On-Off Switch (Temperature - normally close).
s6500-456	Denotes an NPN Photo-transistor.
I/L +24 VDC	Denotes DC voltage when the Interlock Switch in MCU Board turns On.
+5 VDC +3.3 VDC	Denotes DC voltage.
SG	Denotes signal ground.
AG	Denotes analog ground.
RTN	Denotes return.

SFP Wiring Diagrams

SFP System Connections



s6500-423

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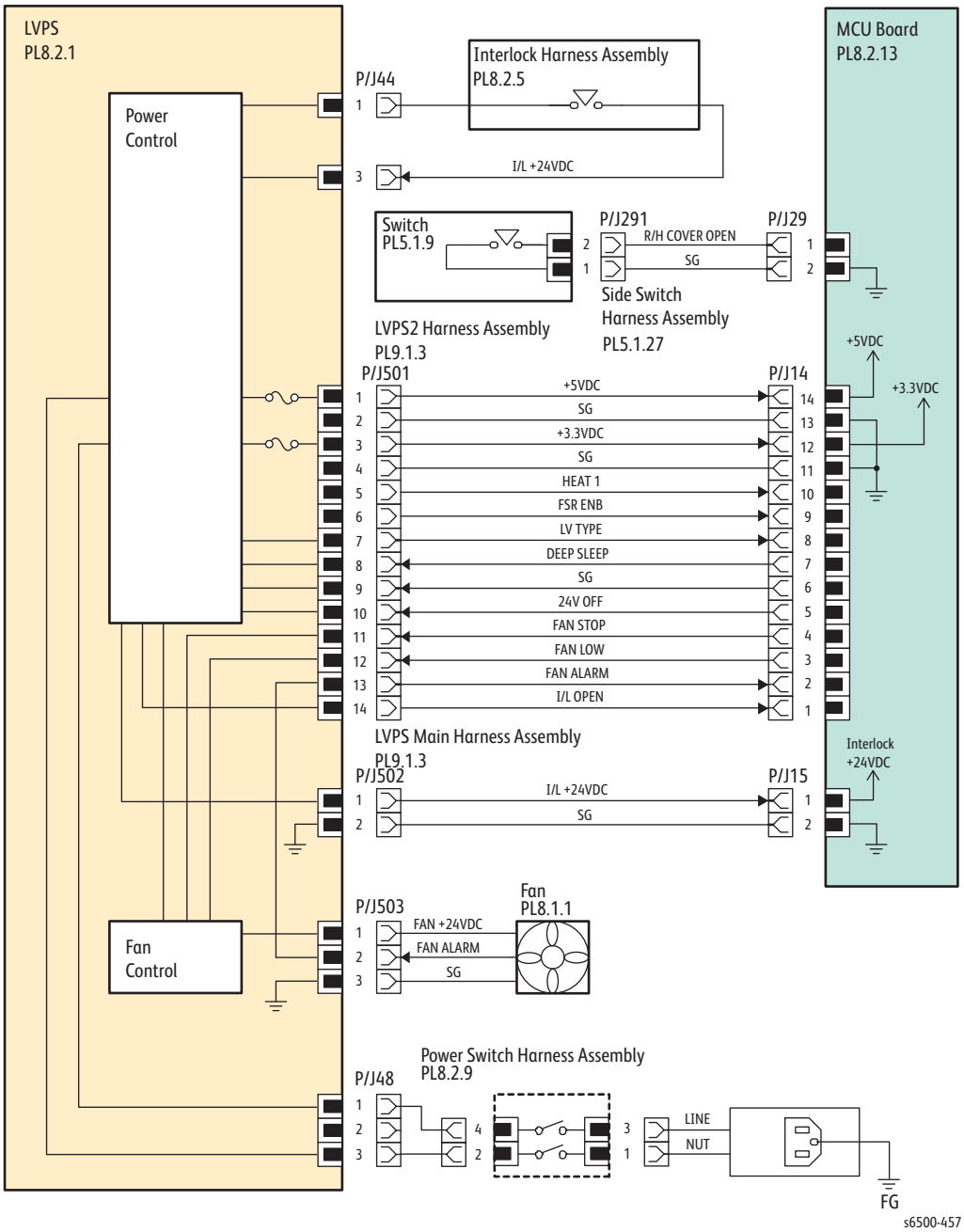
SFP Wiring Diagram Descriptions

The connections illustrated on each of the wiring diagrams are listed below.

Wiring Diagram	Description
LVPS	Connections between LVPS and MCU Board.
	Connections of AC Power Switch to LVPS.
	Connections between Interlock Harn Assy with LVPS.
	Connection of Toner Door Switch to MCU Board.
Media Feed	Connections of Feed Solenoid with MCU Board.
	Connections of Registration Sensor with MCU Board.
	Connections of Manual Feed (SSF) No Paper Sensor with MCU Board.
	Connections of Tray 2 No Paper Sensor with MCU Board.
	Connections of Drive Clutch with MCU Board.
Main Drive	Connections of Feeder Drive with MCU Board.
	Connections of Main Drive with MCU Board.
	Connections of Sub-Drive with MCU Board.
Laser Unit	Connections of Laser Unit with MCU Board.
Xerographics	Connections of EEPROM Board with MCU Board.
	Connections of Imaging Unit (PHD) with MCU Board.
	Connections of Hum/Temp Sensor with MCU Board.
	Connections of Erase LEDs and MCU Board.
	Connections of Transfer Belt with MCU Board.
HVPS	Connections of HVPS with MCU Board.
Toner Dispense	Connections of Dispenser Motor (Y) with MCU Board.
	Connections of Dispenser Motor (M) with MCU Board.
	Connections of Dispenser Motor (C) with MCU Board.
	Connections of Dispenser Motor (K) with MCU Board.
	Connections of CRUM Connector (Y) with MCU Board.
	Connections of CRUM Connector (M) with MCU Board.
	Connections of CRUM Connector (C) with MCU Board.
	Connections of CRUM Connector (K) with MCU Board.
Fuser	Connections of Fuser with MCU Board.
	Connections of Fuser with LVPS.
	Connections of MCU Board with LVPS.
System Control	Connections of Image Processor Board with MCU Board.
	Connections of Control Panel with Image Processor Board.
	Connections of LVPS with Image Processor Board
Option Feeder	Connections of Optional Feeder Tray 2
Duplex Unit	Connections of Duplex Unit with MCU Board

SFP LVPS



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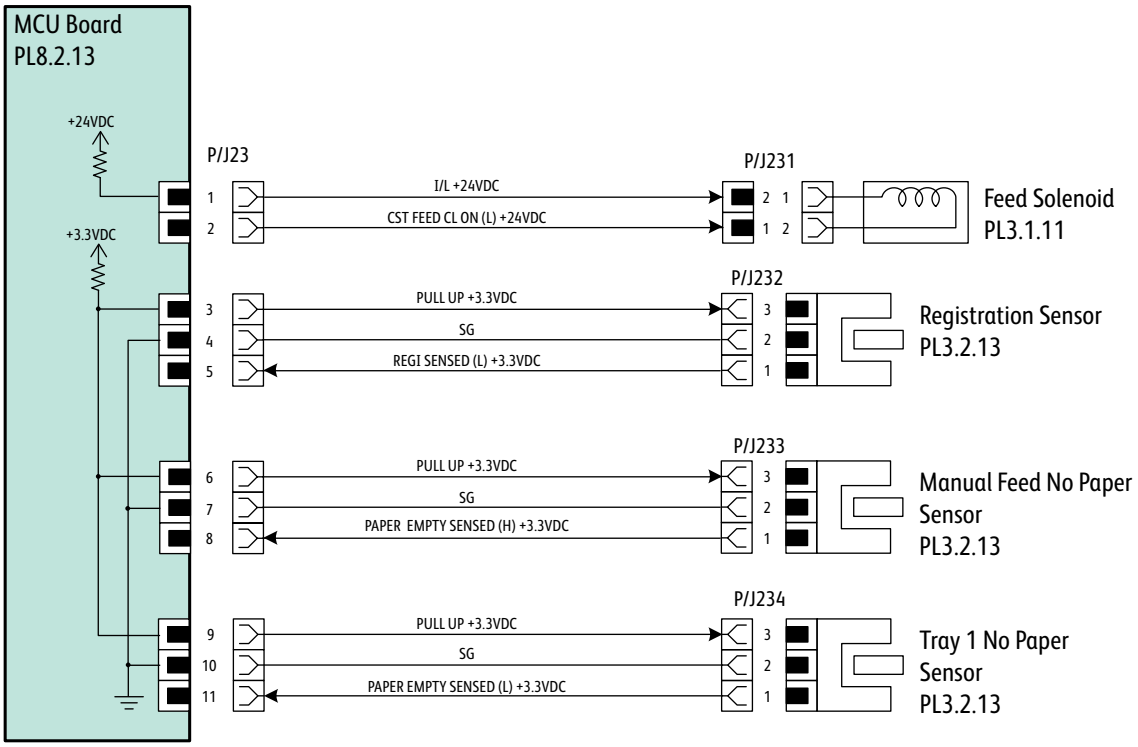
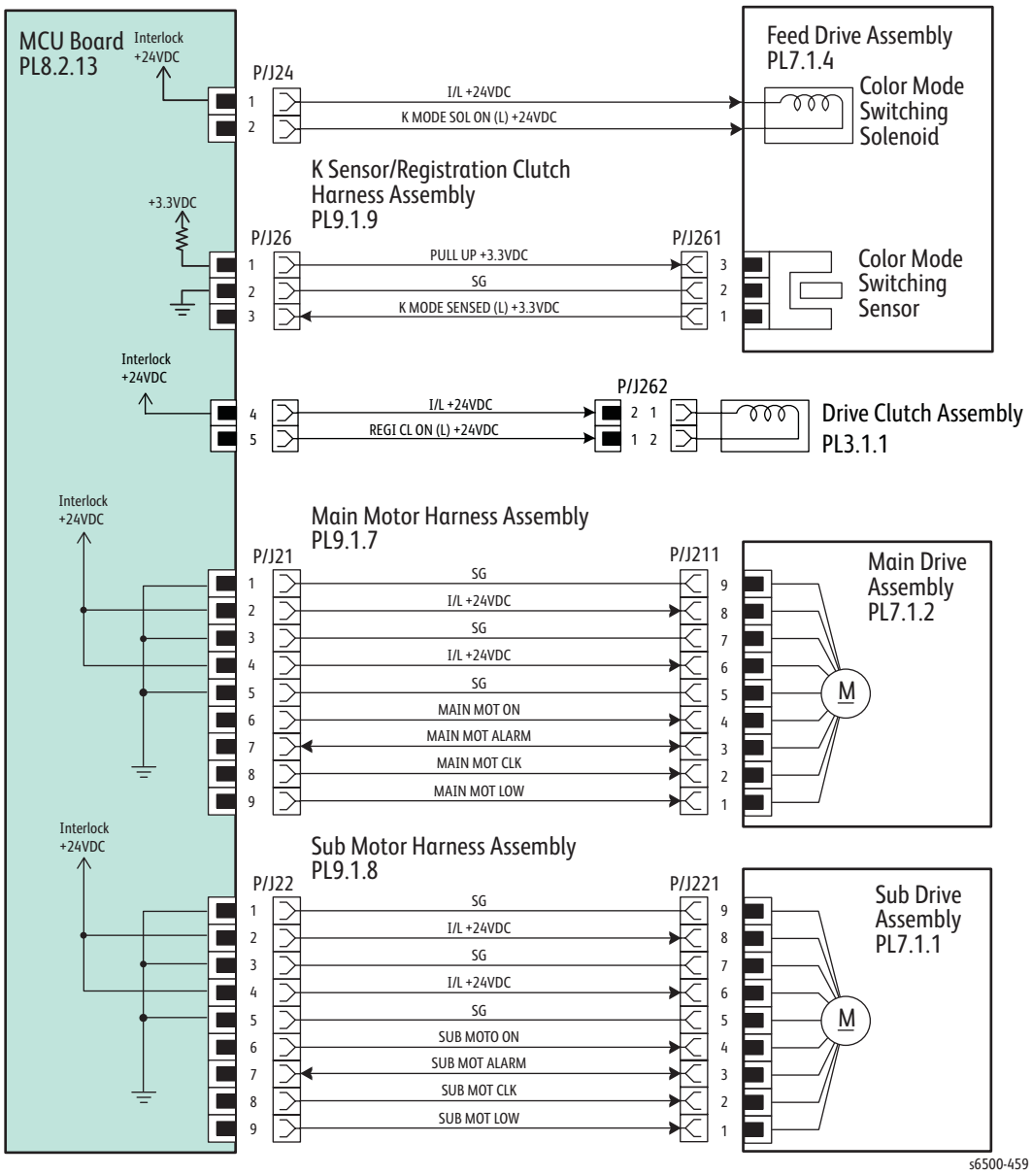
SFP Media Feed



s6500-458

SFP Main Drive



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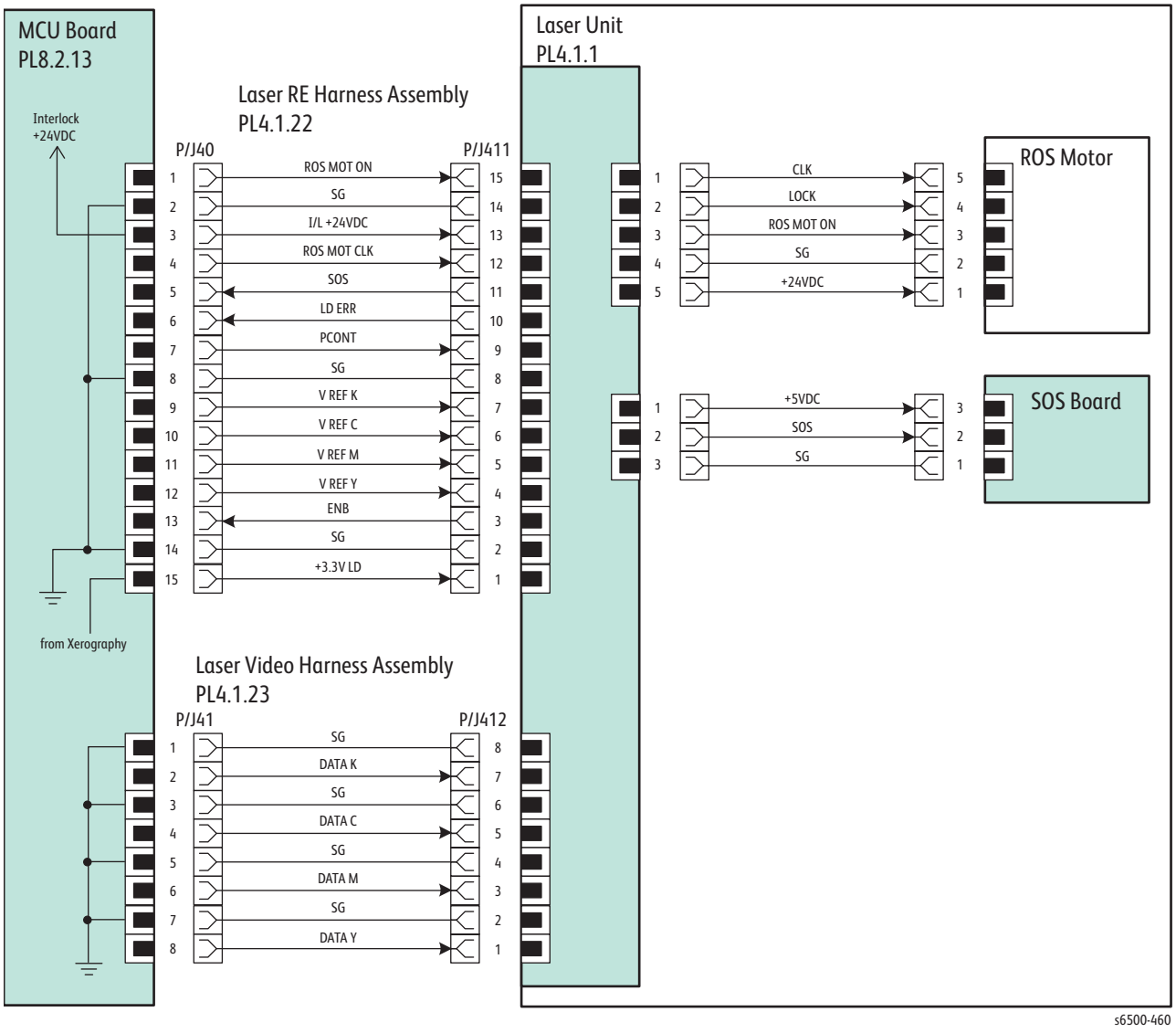
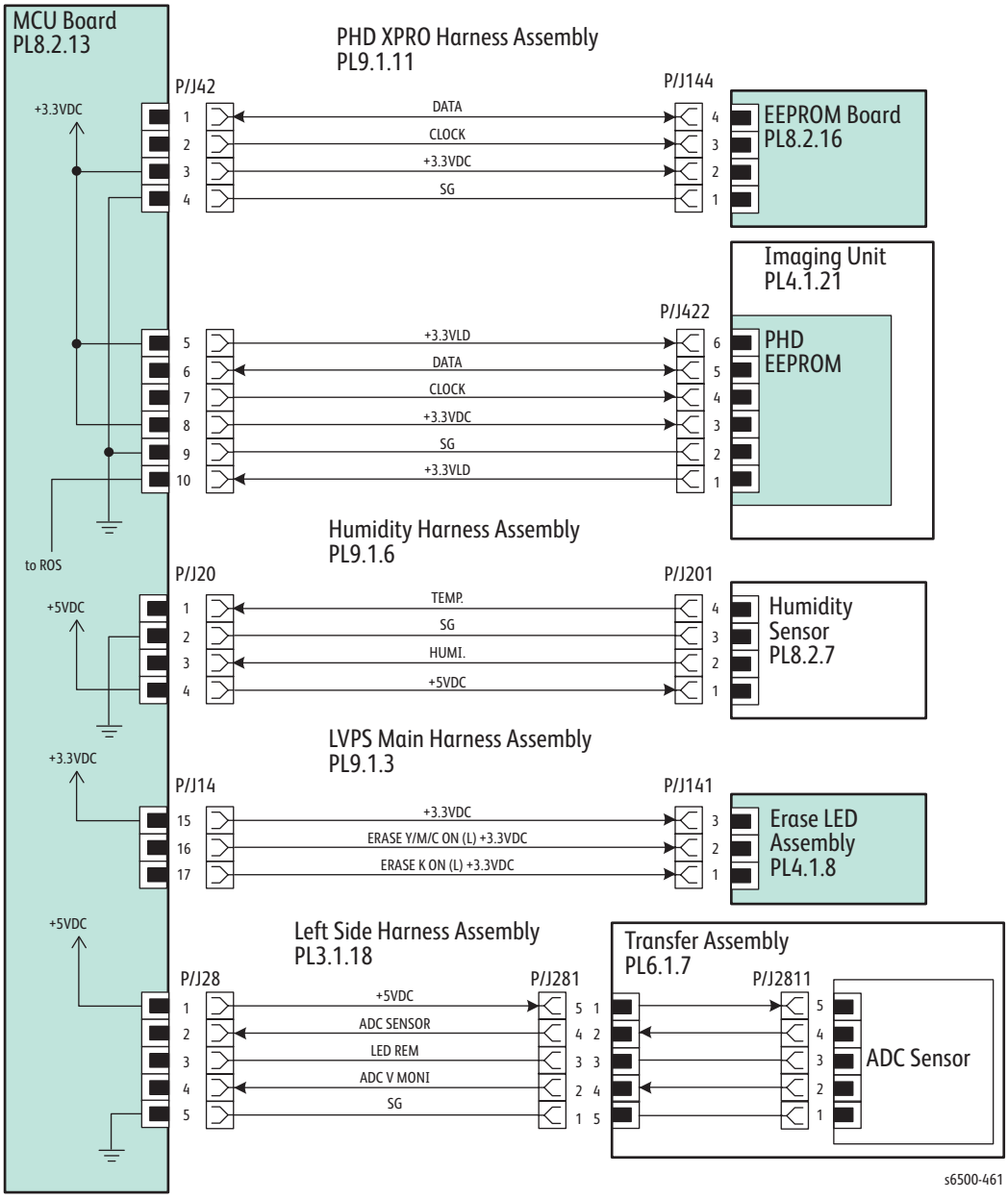
SFP Laser Unit



SFP Xerographics



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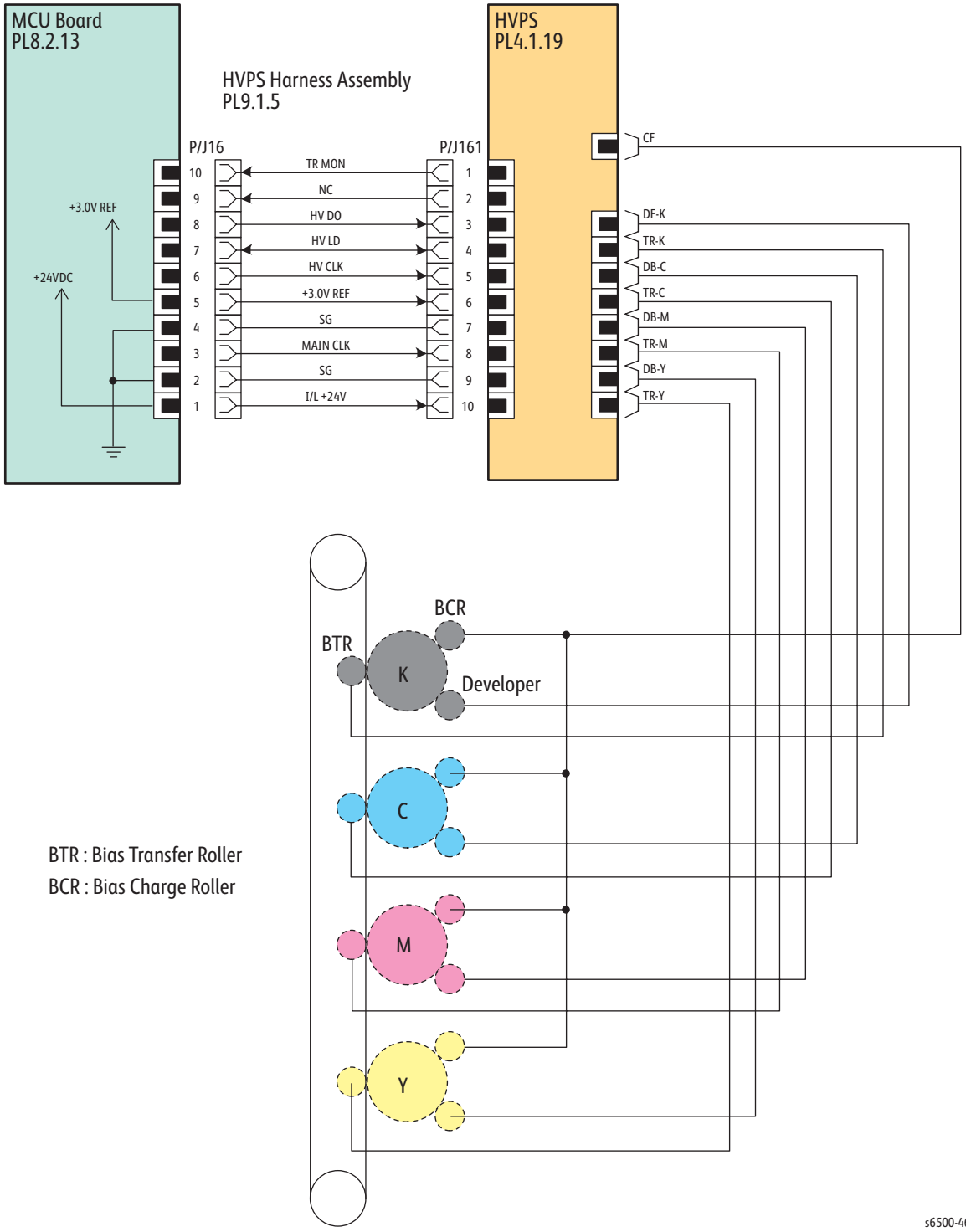
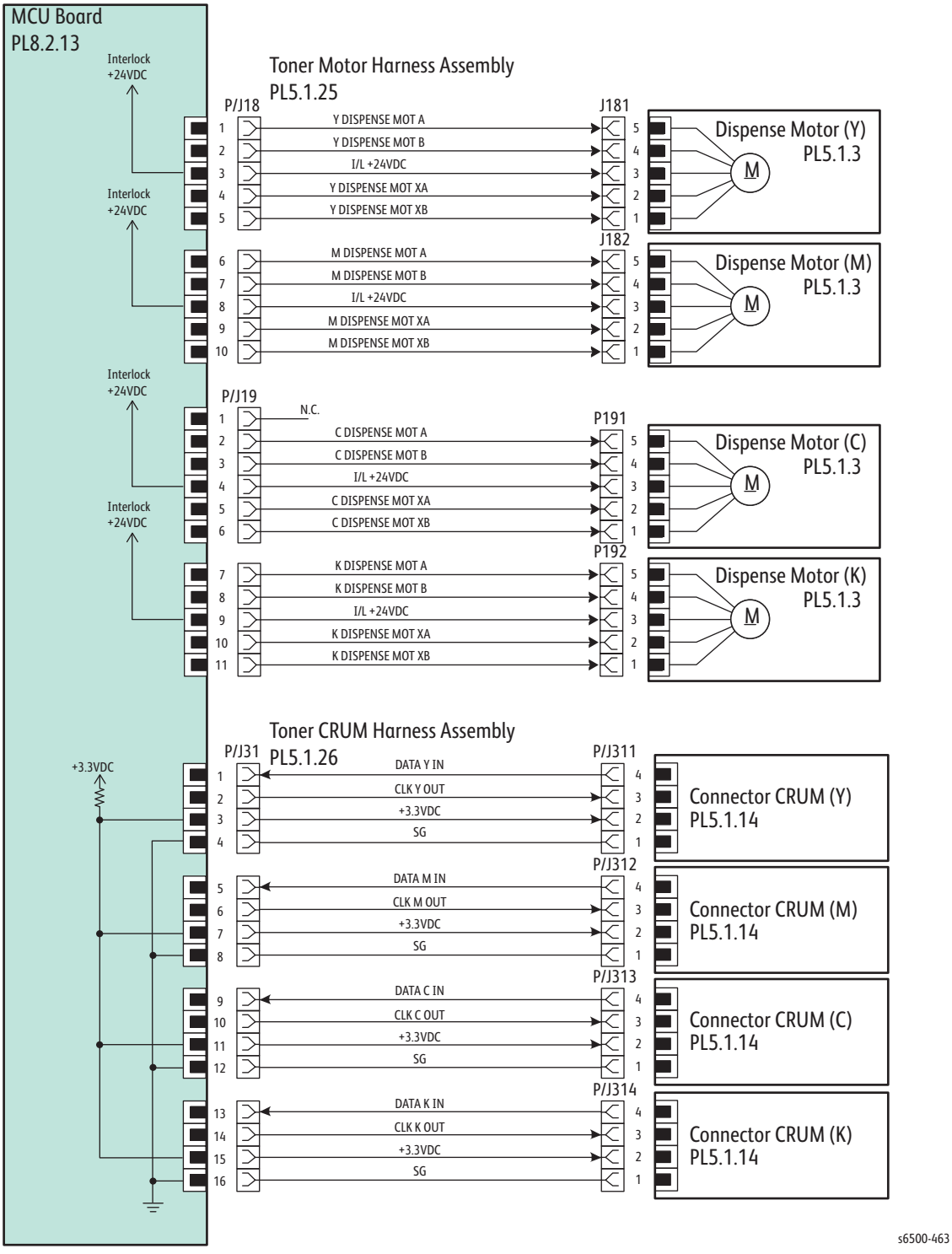
SFP HVPS


MCU Board
PL8.2.13
HVPS Harness Assembly
PL9.1.5
HVPS
PL4.1.19
P/J16
P/J161
+3.0V REF
+24VDC
TR MON
NC
HV DO
HV LD
HV CLK
+3.0V REF
SG
MAIN CLK
SG
I/L +24V
CF
DF-K
TR-K
DB-C
TR-C
DB-M
TR-M
DB-Y
TR-Y
BCR
BTR
K
Developer
C
M
Y
BTR : Bias Transfer Roller
BCR : Bias Charge Roller
s6500-46

SFP Toner Dispenser



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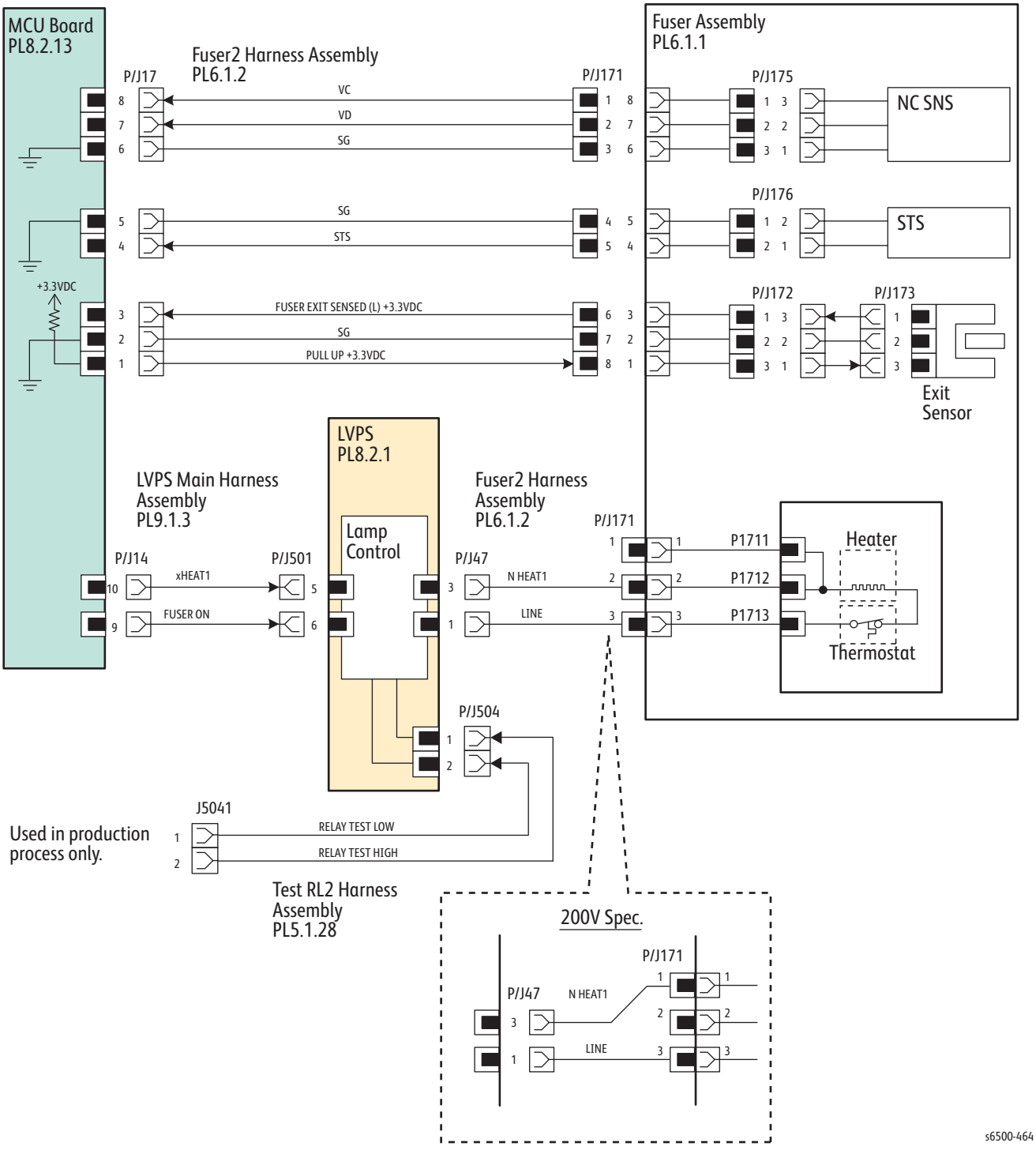
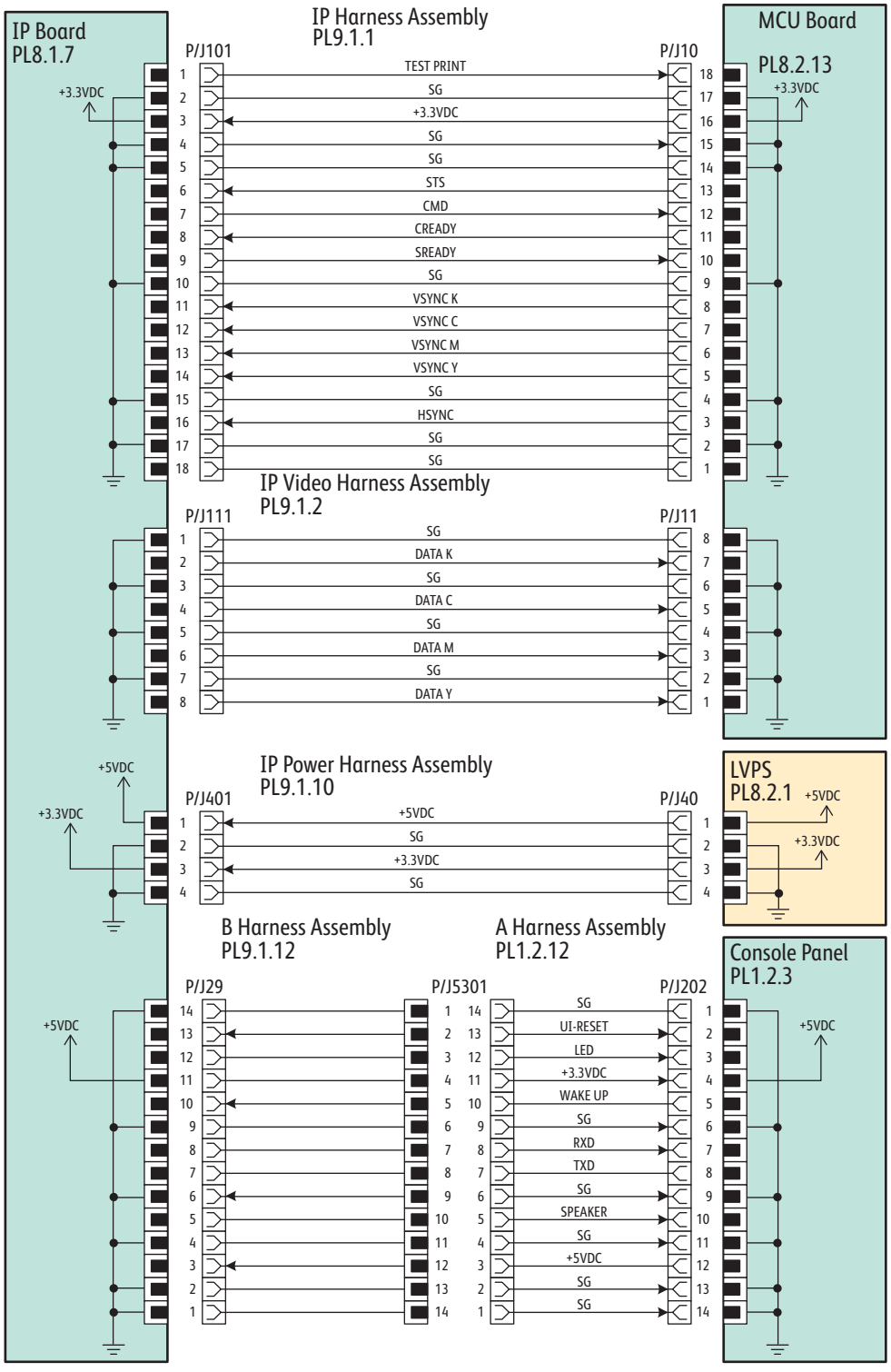
SFP Fuser


MCU Board
PL8.2.13
Fuser2 Harness Assembly
PL6.1.2
P/J17
P/J171
VC
VD
SG
SG
STS
+3.3VDC
FUSER EXIT SENSED (L) +3.3VDC
SG
PULL UP +3.3VDC
Fuser Assembly
PL6.1.1
P/J175
NC SNS
P/J176
STS
P/J172
P/J173
Exit
Sensor
LVPS
PL8.2.1
LVPS Main Harness
Assembly
PL9.1.3
Lamp
Control
P/J14
P/J501
xHEAT1
FUSER ON
Fuser2 Harness
Assembly
PL6.1.2
P/J47
P/J171
N HEAT1
LINE
P1711
P1712
P1713
Heater
Thermostat
P/J504
J5041
Used in production
process only.
RELAY TEST LOW
RELAY TEST HIGH
Test RL2 Harness
Assembly
PL5.1.28
200V Spec.
P/J171
P/J47
N HEAT1
LINE
s6500-464

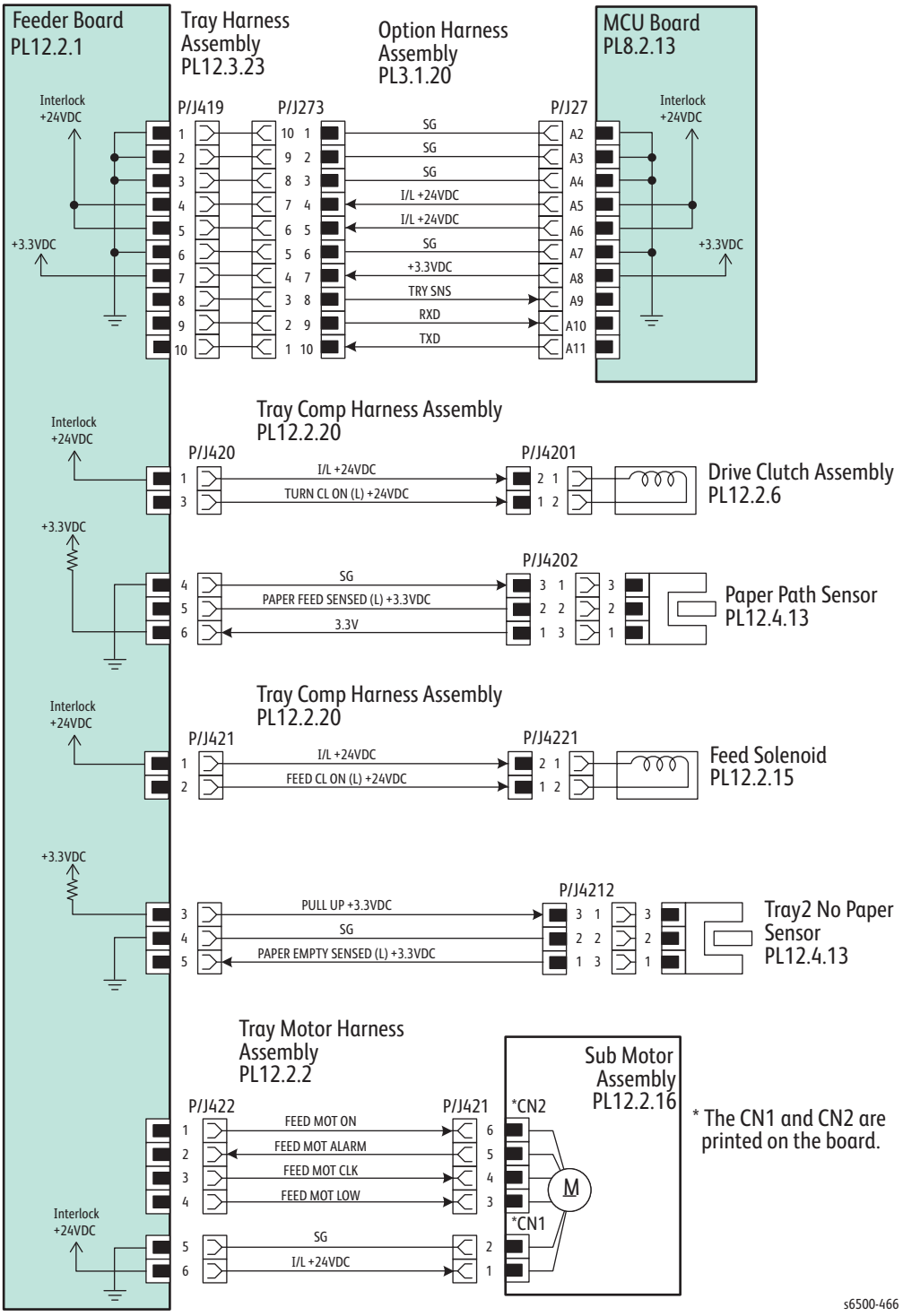
SFP System Control



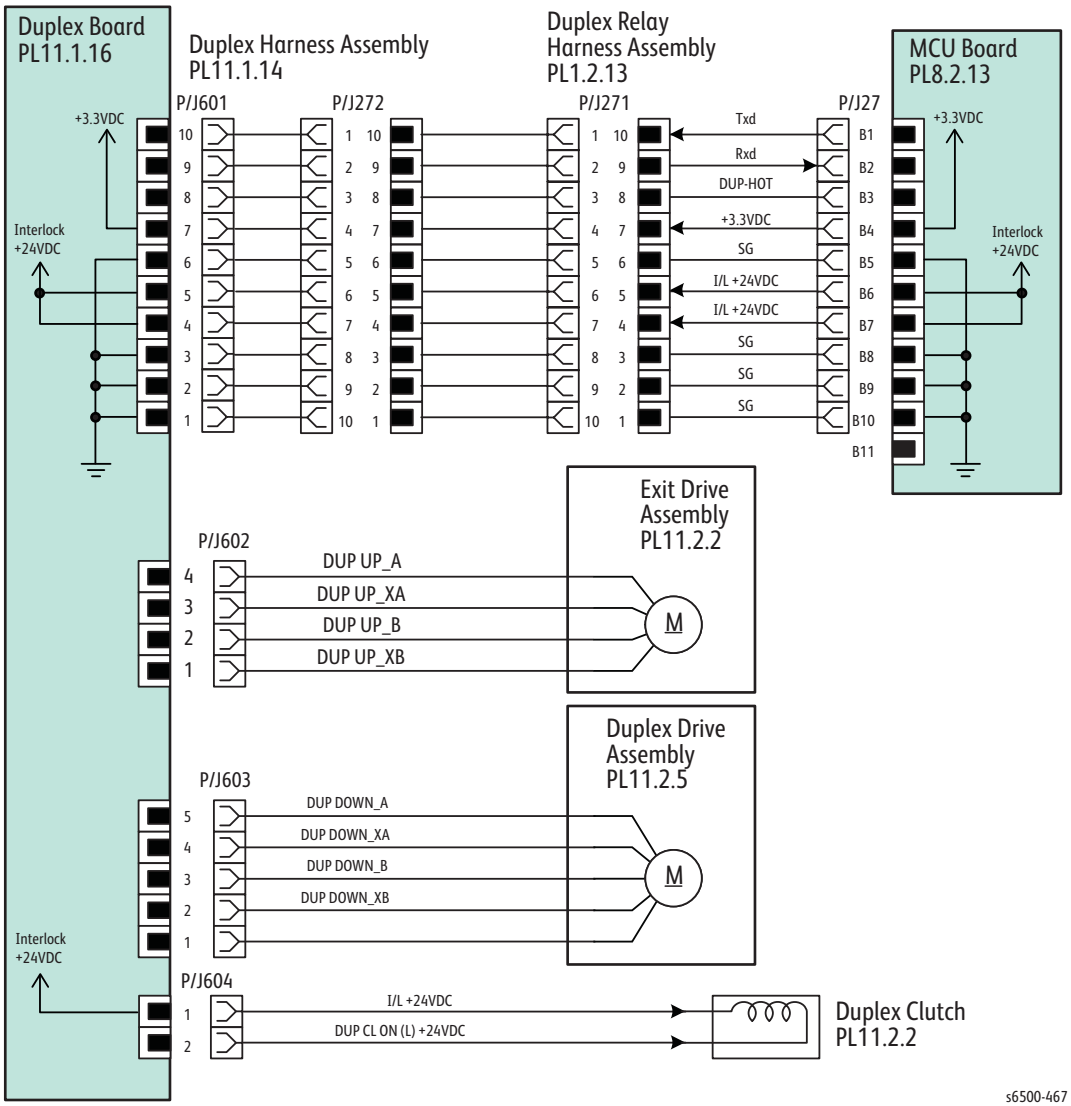
s6500-465

http://www.manuals4you.com

SFP Option Feeder



SFP Duplex Unit



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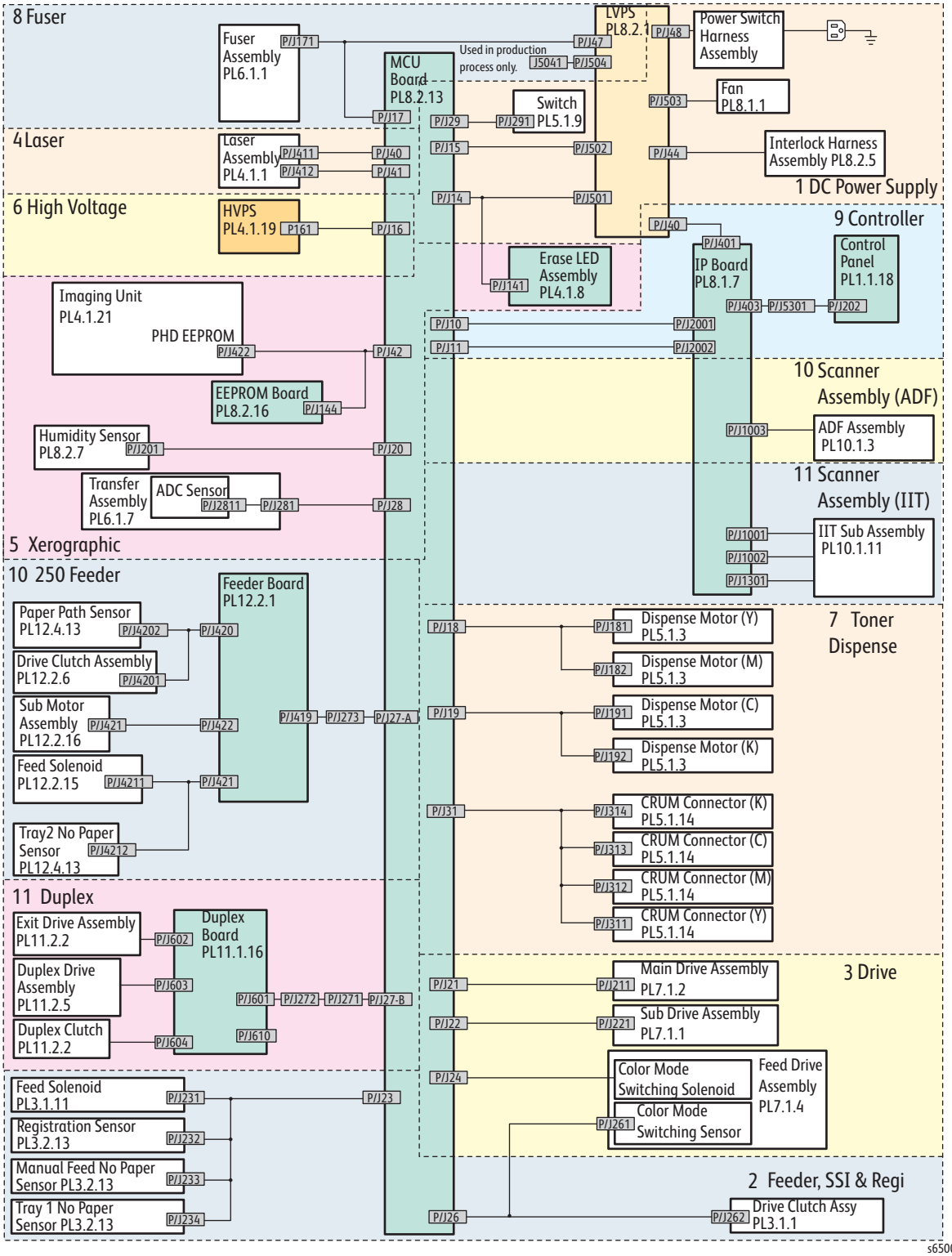
MFP Wiring Diagrams

MFP System Connections



s6500-424

MFP Wiring Diagram Descriptions

The connections illustrated on each of the wiring diagrams are listed below.

Wiring Diagram	Description
LVPS	Connections between LVPS and MCU Board.
	Connections of AC Power Switch to LVPS.
	Connections between Interlock Harn Assy with LVPS.
	Connection of Toner Door Switch to MCU Board.
Media Feed	Connections of Feed Solenoid with MCU Board.
	Connections of Registration Sensor with MCU Board.
	Connections of Manual Feed (SSF) No Paper Sensor with MCU Board.
	Connections of Tray 2 No Paper Sensor with MCU Board.
	Connections of Drive Clutch with MCU Board.
Main Drive	Connections of Feeder Drive with MCU Board.
	Connections of Main Drive with MCU Board.
	Connections of Sub-Drive with MCU Board.
Laser Unit	Connections of Laser Unit with MCU Board.
Xerographics	Connections of EEPROM Board with MCU Board.
	Connections of Imaging Unit (PHD) with MCU Board.
	Connections of Hum/Temp Sensor with MCU Board.
	Connections of Erase LEDs and MCU Board.
	Connections of Transfer Belt with MCU Board.
HVPS	Connections of HVPS with MCU Board.
Toner Dispense	Connections of Dispenser Motor (Y) with MCU Board.
	Connections of Dispenser Motor (M) with MCU Board.
	Connections of Dispenser Motor (C) with MCU Board.
	Connections of Dispenser Motor (K) with MCU Board.
	Connections of CRUM Connector (Y) with MCU Board.
	Connections of CRUM Connector (M) with MCU Board.
	Connections of CRUM Connector (C) with MCU Board.
	Connections of CRUM Connector (K) with MCU Board.
Fuser	Connections of Fuser with MCU Board.
	Connections of Fuser with LVPS.
	Connections of MCU Board with LVPS.
System Control	Connections of Image Processor Board with MCU Board.
	Connections of Control Panel with Image Processor Board.
	Connections of LVPS with Image Processor Board.
ADF	Connections of Image Processor Board with Scanner ADF Assy.
Scanner	Connections of Image Processor Board with Scanner IIT Assy.
	Connections of Image Processor Board with Front USB Assy
Option Feeder	Connections of Optional Feeder Tray 2.
Duplex Unit	Connections of Duplex Unit with MCU Board.

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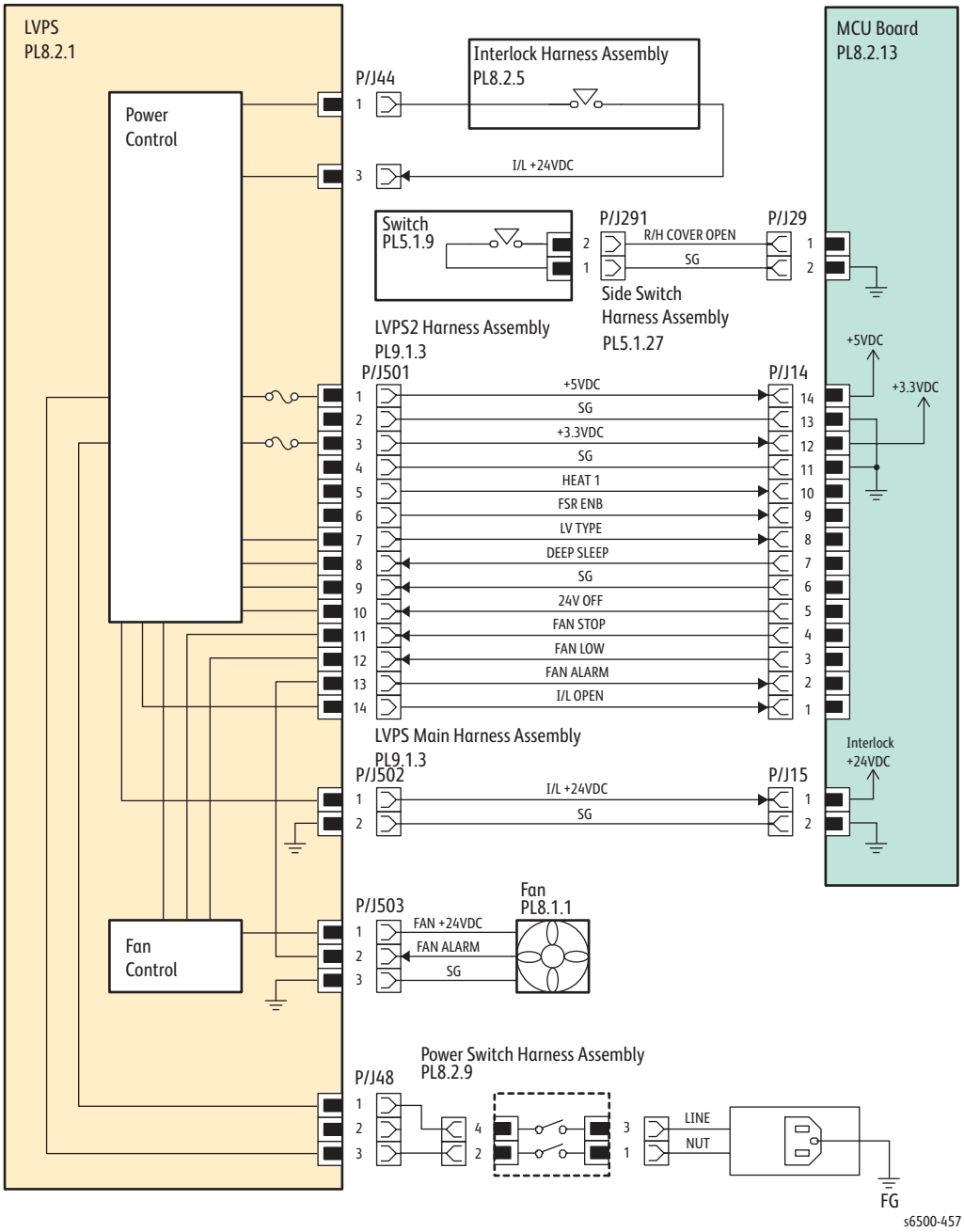
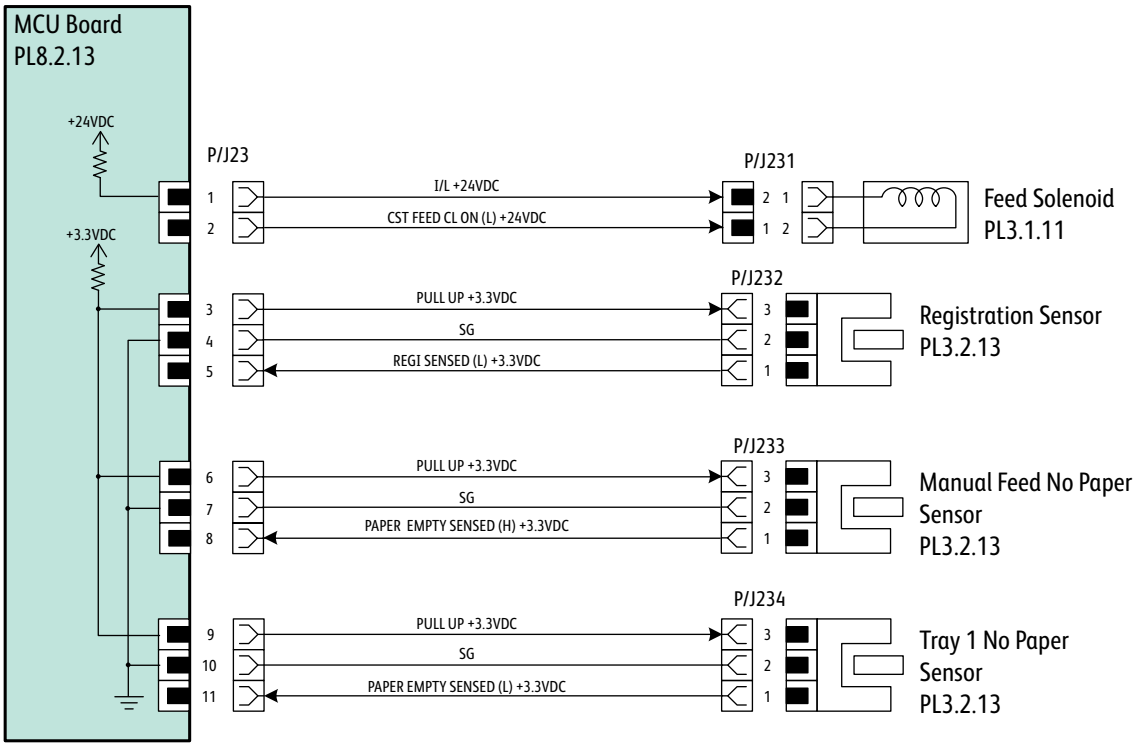
MFP LVPS


LVPS
PL8.2.1
Power
Control
Fan
Control
MCU Board
PL8.2.13
P/J44
Interlock Harness Assembly
PL8.2.5
I/L +24VDC
Switch
PL5.1.9
P/J291
P/J29
R/H COVER OPEN
SG
Side Switch
Harness Assembly
PL5.1.27
LVPS2 Harness Assembly
PL9.1.3
P/J501
P/J14
+5VDC
SG
+3.3VDC
SG
HEAT 1
FSR ENB
LV TYPE
DEEP SLEEP
SG
24V OFF
FAN STOP
FAN LOW
FAN ALARM
I/L OPEN
LVPS Main Harness Assembly
PL9.1.3
P/J502
P/J15
I/L +24VDC
SG
Interlock
+24VDC
P/J503
Fan
PL8.1.1
FAN +24VDC
FAN ALARM
SG
Power Switch Harness Assembly
PL8.2.9
P/J48
LINE
NUT
FG
s6500-457

MFP Media Feed



s6500-458

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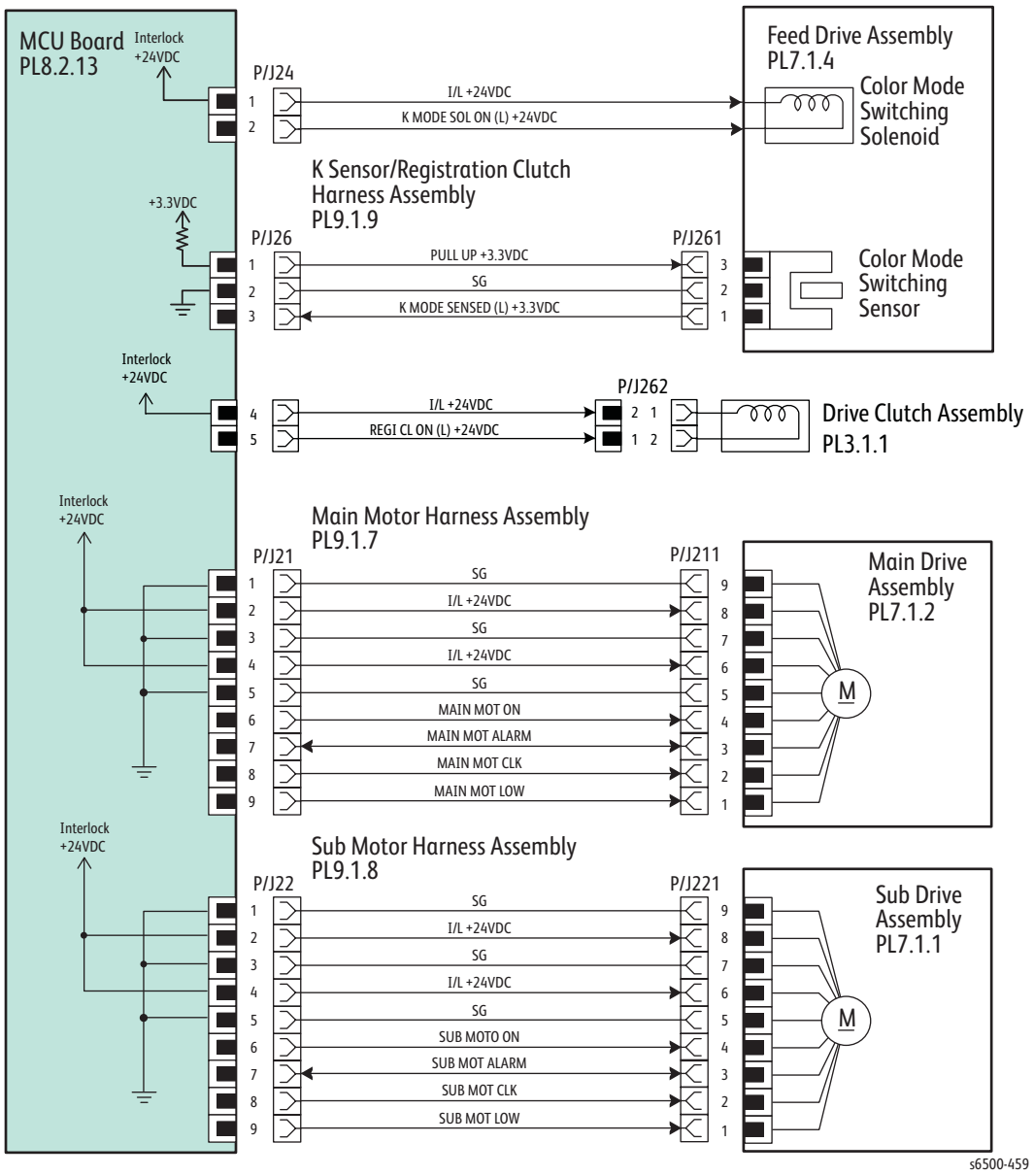
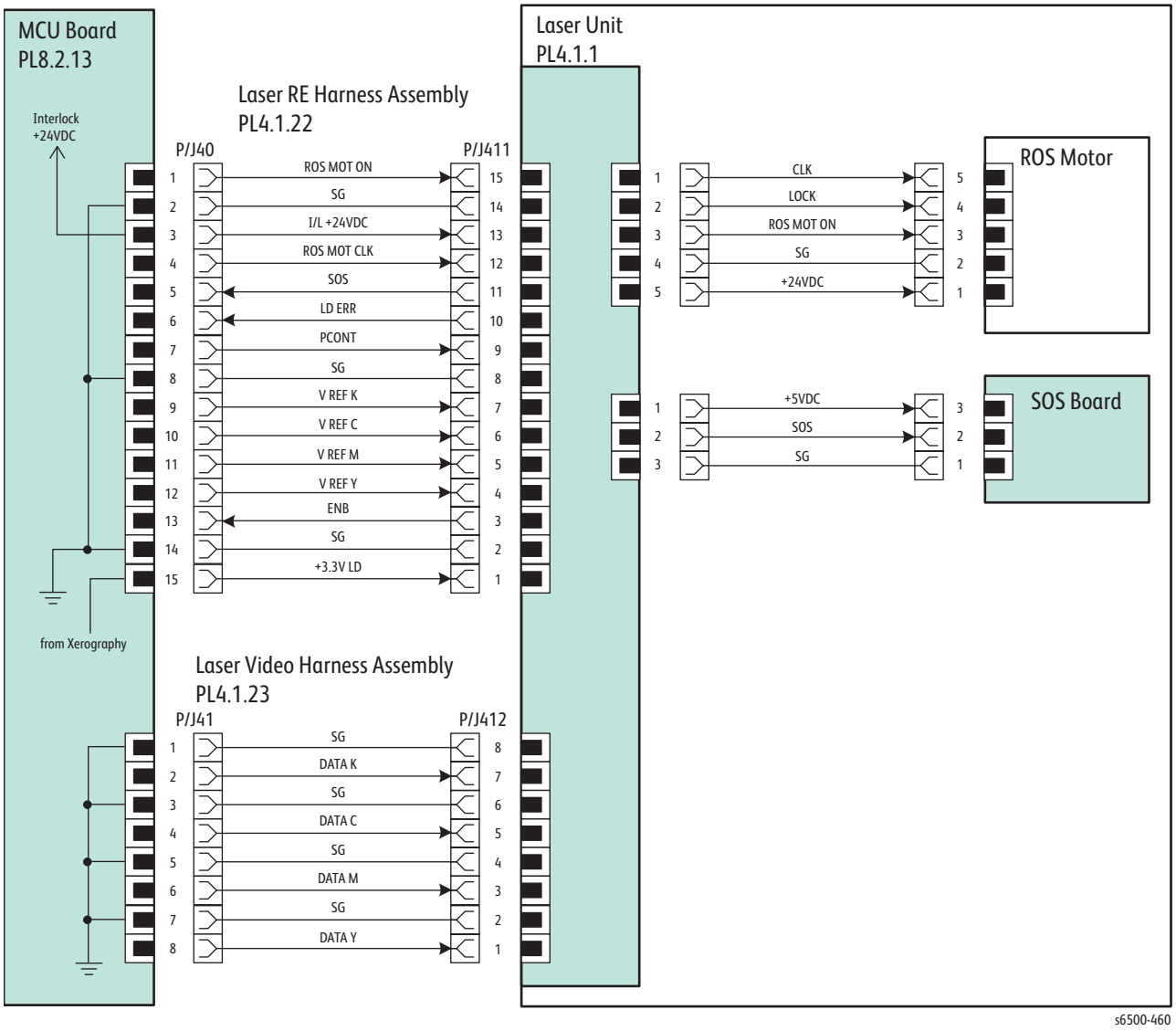
MFP Main Drive



s6500-459

MFP Laser Unit



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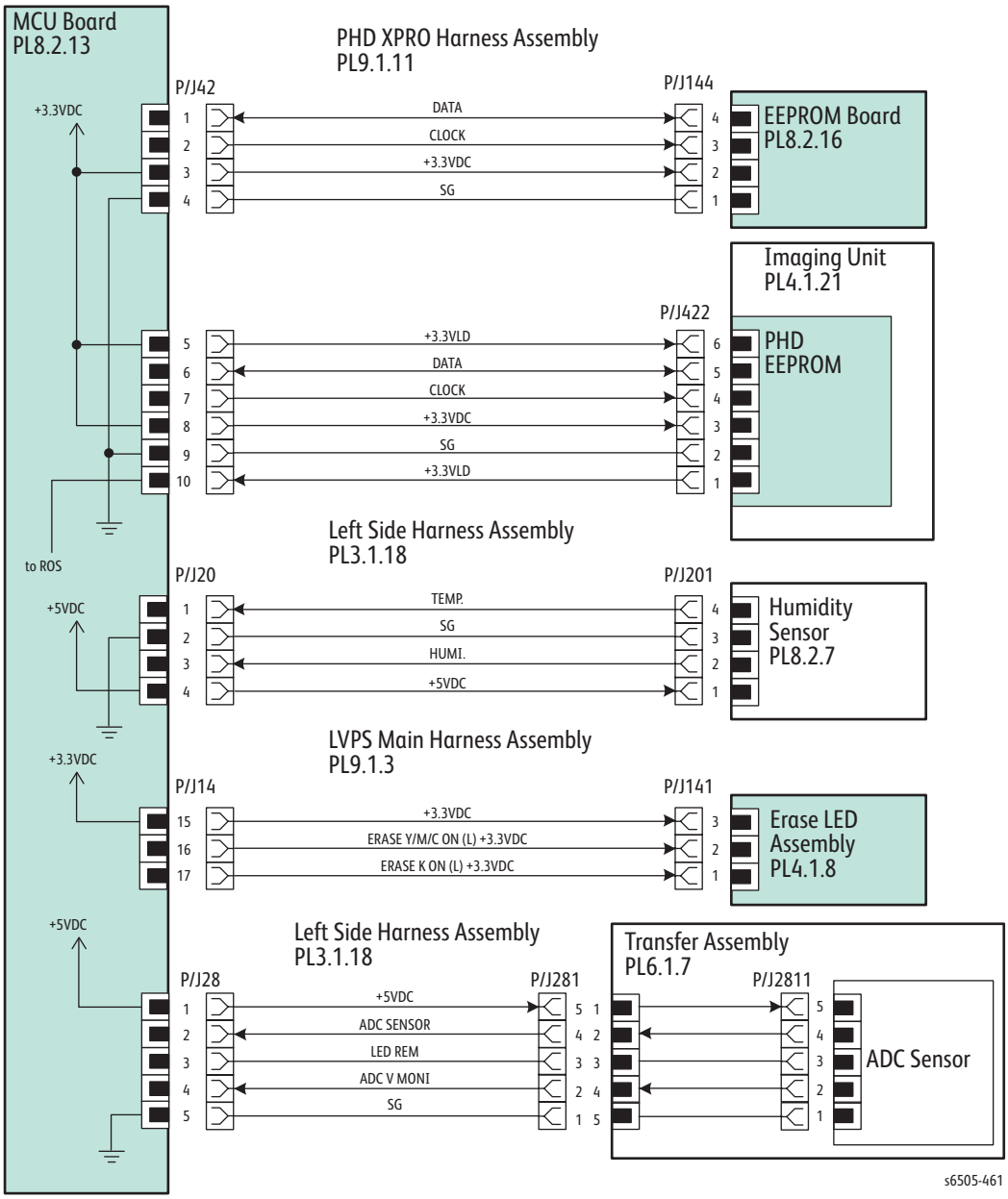
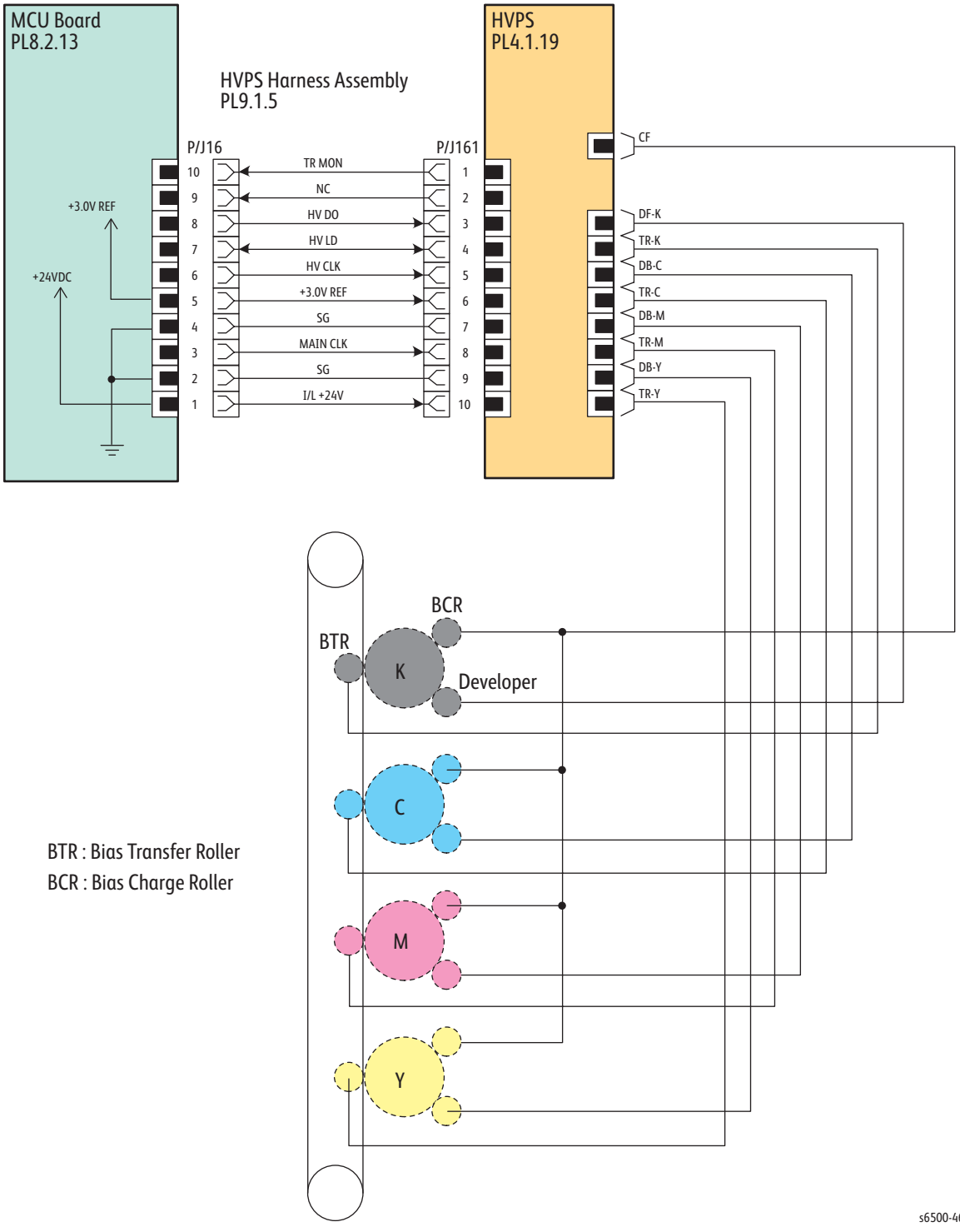
MFP Xerographics



MFP HVPS



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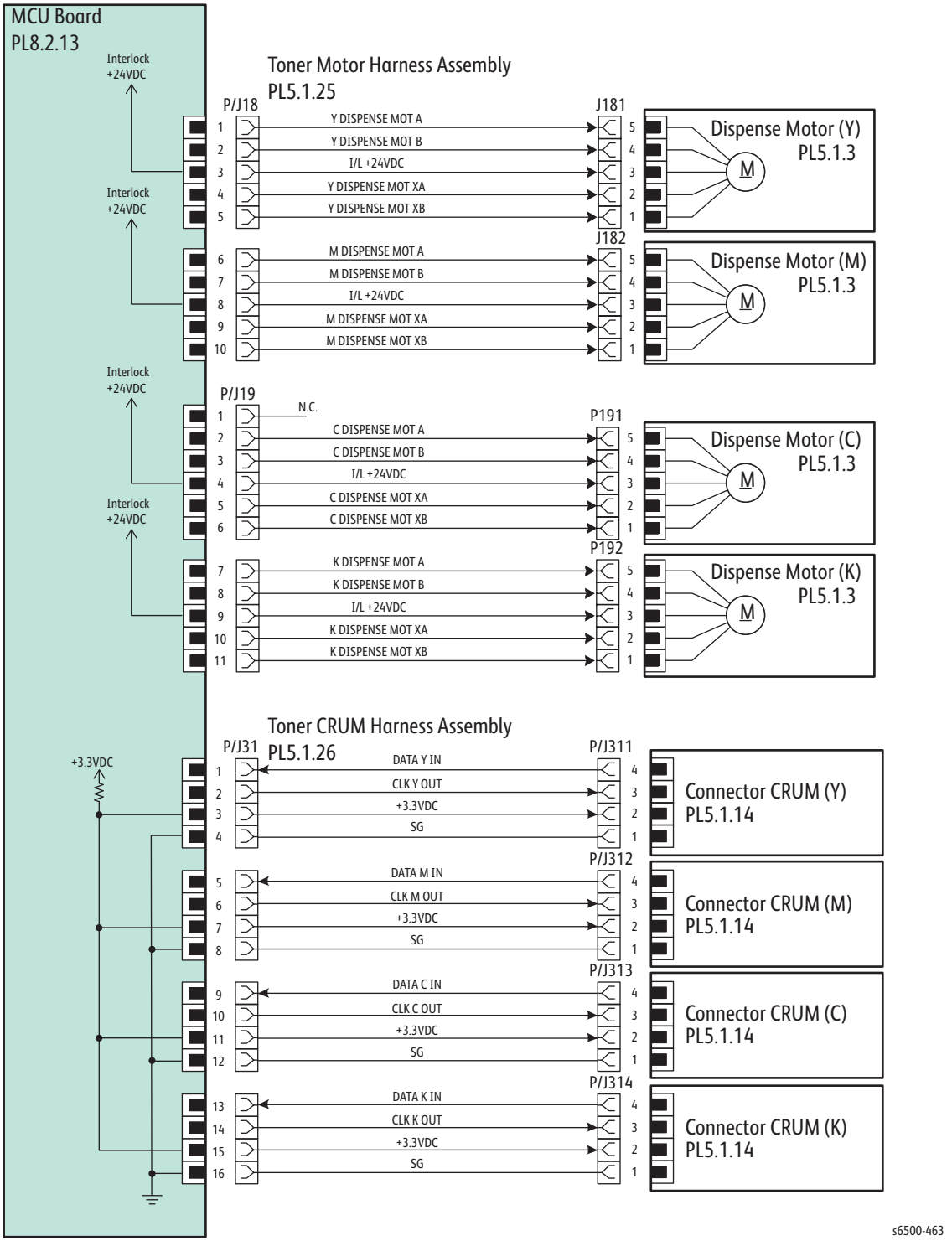
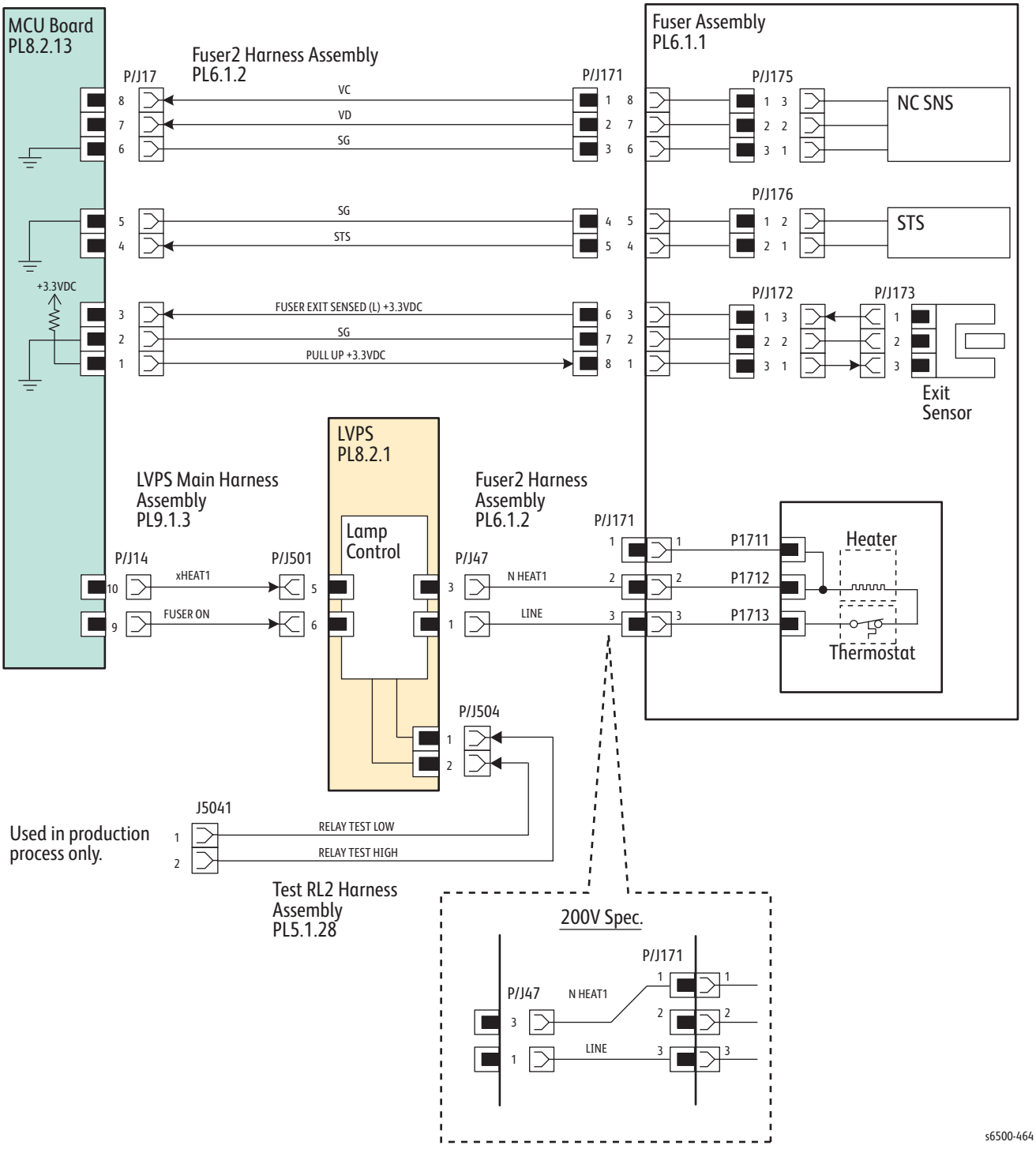
MFP Toner Dispenser



s6500-463

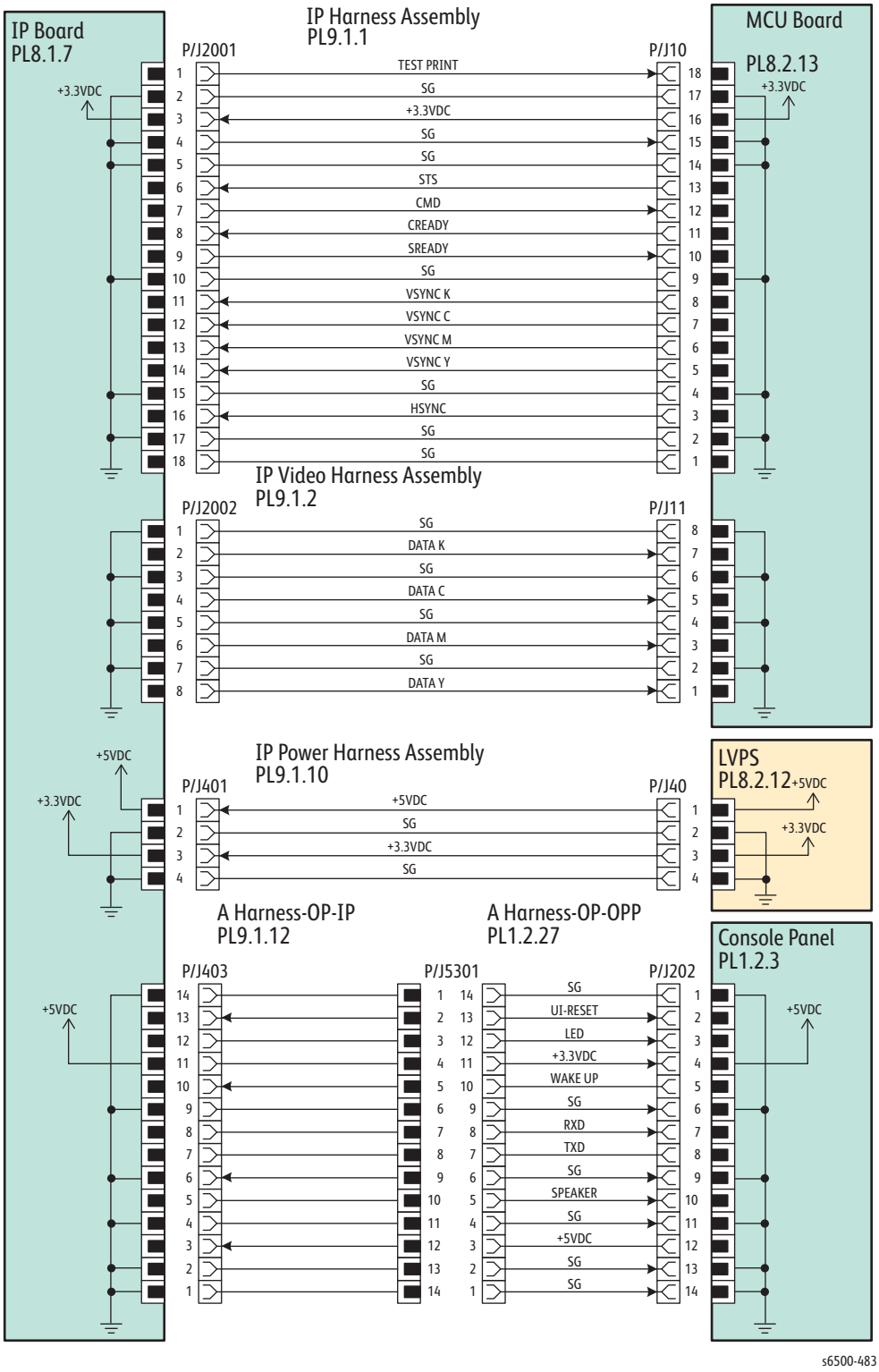
MFP Fuser



s6500-464

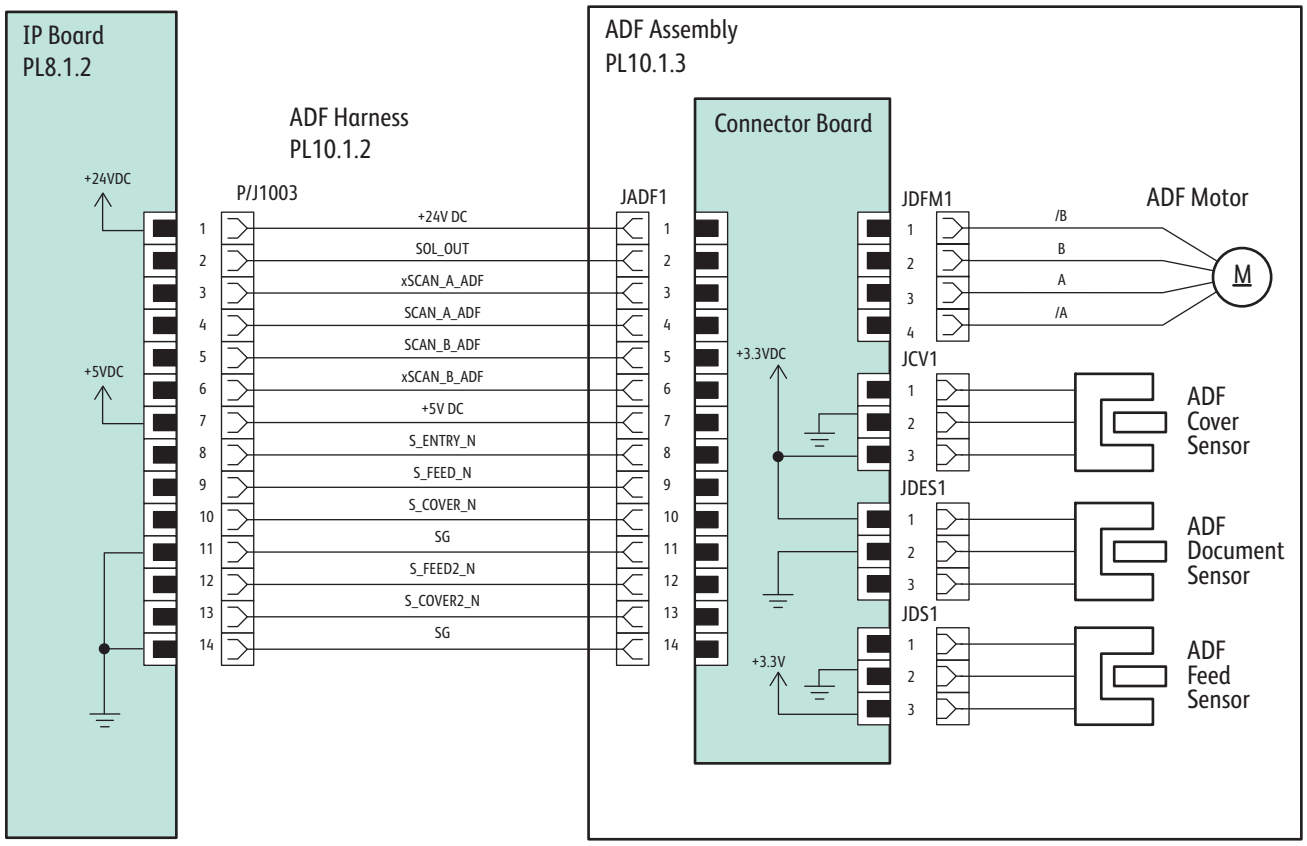
http://www.manuals4you.com

MFP System Control



s6500-483

ADF



s6500-487

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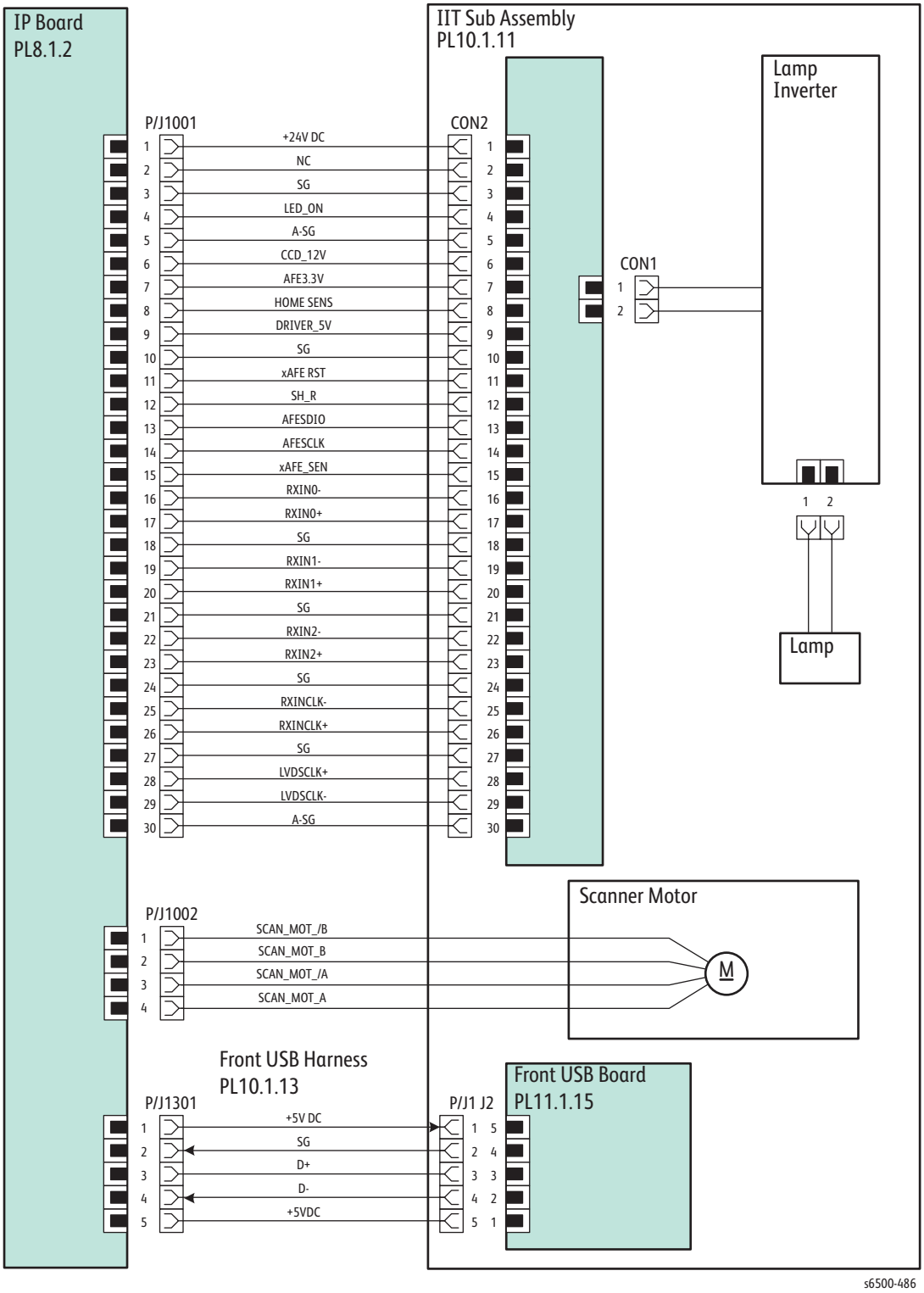
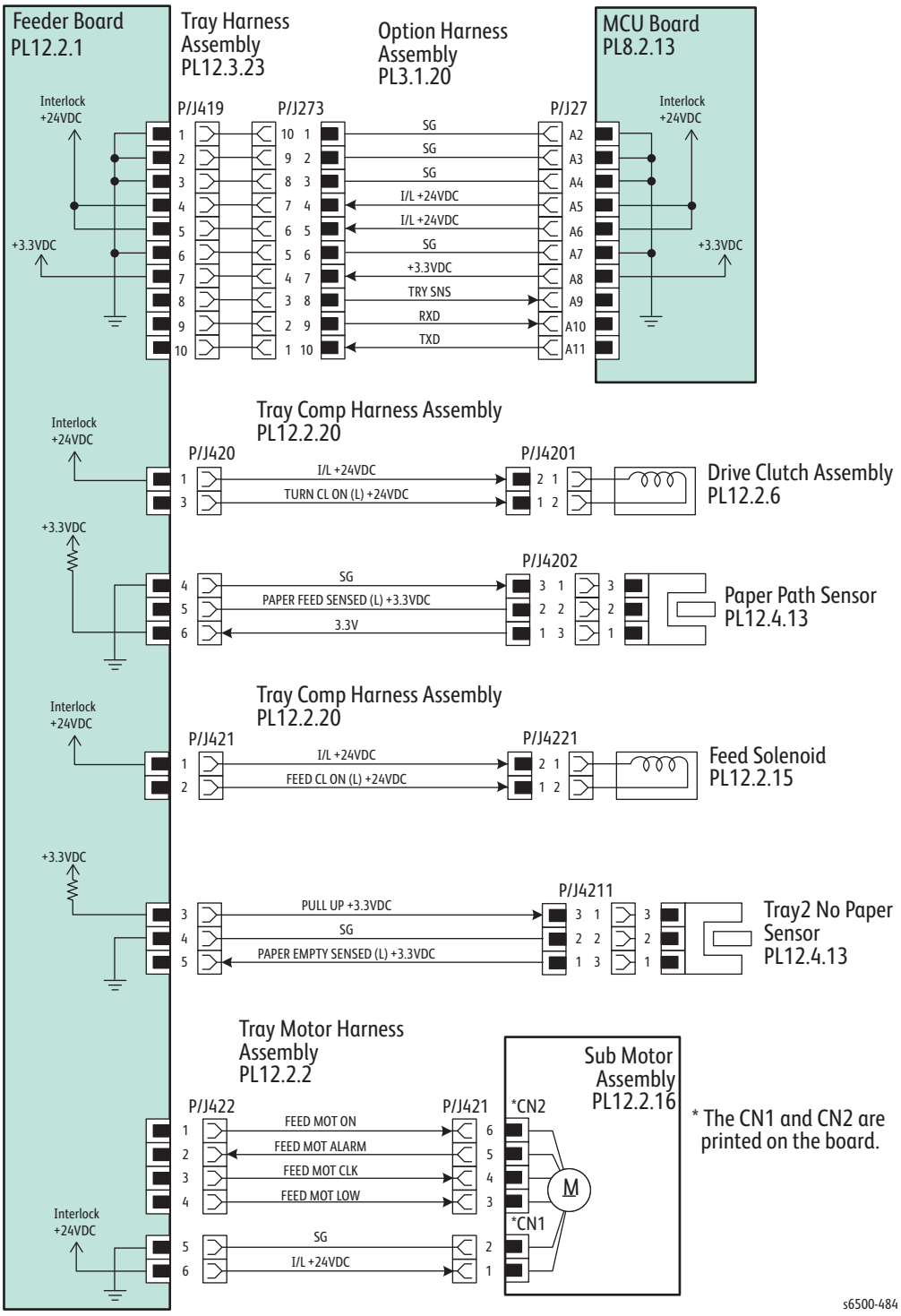
Scanner - IIT Sub-Assembly

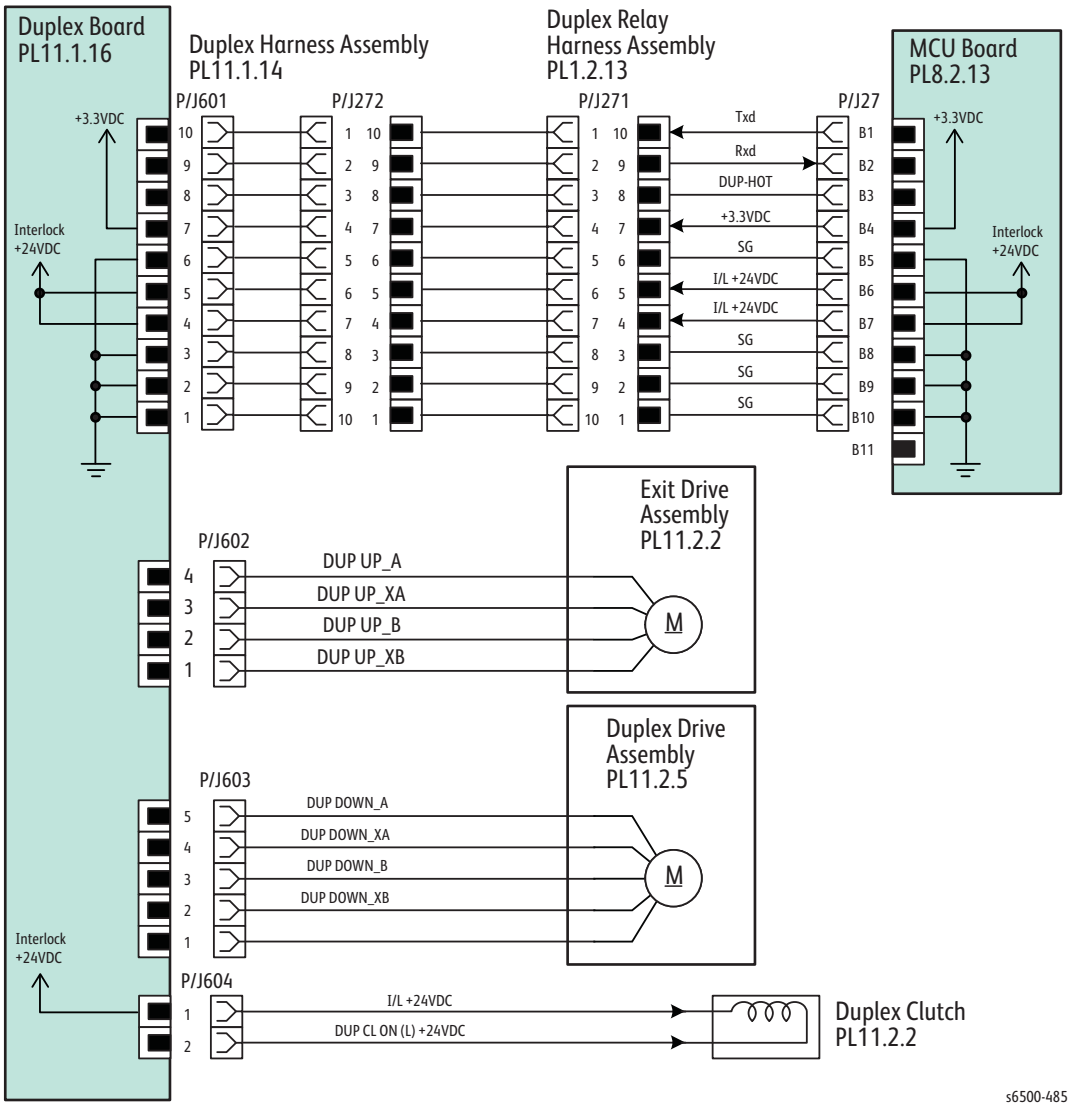


MFP Option Feeder



http://www.manuals4you.com

MFP Duplex Unit



http://www.manuals4you.com

Reference

In this chapter...

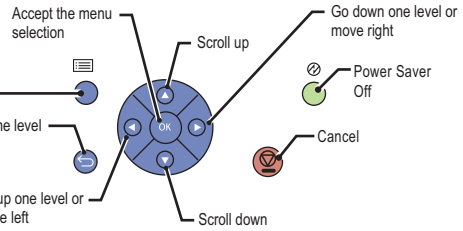
- Phaser 6500 Menu Map
- WorkCentre 6505 Menu Map
- Embedded Pages
- Media Guidelines
- Firmware Update
- Acronyms and Abbreviations

Appendix A

Phaser 6500 Menu Map

Xerox® Phaser® 6500
Color Laser Printer

Menus



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Français, Italiano, Deutsch, Español, Português, Nederlands, Svenska, Dansk, Česky, Polski, Magyar, Türkçe, Русский

Information Pages
- Menu Map
- Configuration
- PCL Fonts List
- PCL Macro List
- PS Fonts List
- PDF Fonts List
- Job History
- Error History
- Print Meter
- Demo Page

Billing Meters
- Total Impression
- Color Impression
- Black Impression

Admin Menu
- PCL Settings ▶
  - Paper Tray
  - Paper Size
  - Orientation
  - 2-Sided**
  - Font
  - Symbol Set
  - Font Size
  - Font Pitch
  - Form Line
  - Quantity
  - Image Enhance
  - Hex Dump
  - Draft Mode
  - Line Termination
  - Default Color
- PDF Settings ▶
  - Quantity
  - 2-Sided Print
  - Print Mode
  - Password
  - Collated
  - Paper Size
  - Layout
  - Default Color
- PS Settings ▶
  - PS Error Report
  - PS Job Time-Out
  - Paper Select Mode
  - Default Color
- Network Setup ▶
  - Ethernet
  - TCP/IP ▶
    - IP Mode
    - IPv4
  - Protocol ▶
    - LPR
    - Port 9100
    - FTP
    - IPP
    - SMB TCP/IP
    - SMB NetBEUI
    - WSD
    - SNMP
    - Email Alerts
    - CentreWare IS
    - Bonjour (mDNS)
    - Telnet****
  - Host Access List
  - Reset Defaults
  - Adobe Protocol
- USB Setup ▶
  - Port Status
  - Adobe Protocol
- System Setup ▶
  - PowerSaver Time
  - AUTO Reset
  - Fault Time-out
  - Time-Out
  - Clock Settings
  - Audio Tones
  - mm/inch
  - Default Size
  - Auto Log Print
  - Print ID
  - Print Text
  - Size Mismatch
  - Startup Page
  - Letter H Dup Mode**
  - Low Toner Msg
  - Power On Wizard
- Maintenance Mode ▶
  - F/W Version
  - Automatic Registration Adjust
  - Adjust Color Registration
  - Clear Developer
  - Toner Refresh
  - IU Refresh
  - ⬇
  - Reset Fuser
- Secure Settings ▶
  - Panel Lock
  - Login Error†

Tray Settings
- Tray 1 ▶
  - Paper Size
  - Paper Type
  - Display Popup
- Tray 2***▶
  - Paper Size
  - Paper Type
  - Display Popup

⬇ = Additional items not shown

Requires:
* Optional Memory
** Duplex Unit
*** 250-Sheet Feeder
**** Self-signed certificate created
† Available when enabled

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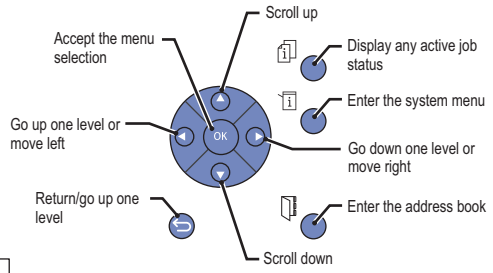
WorkCentre 6505 Menu Map

Xerox® WorkCentre® 6505
Color Laser Multifunction Printer

Menu Map

Note: See the *User Guide* for complete menu details.



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Español
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Svenska
Dansk
Česky
Polski
Magyar
Türkçe
Русский

Print a hard copy of information stored in the printer.

Set or change printer administration settings. Can be password protected.

System

Information Pages
- Menu Map
- Configuration
- PCL Fonts List
- PCLMacro List
- PS Fonts List
- PDF Fonts List
- Job History
- Error History
- Printer Meter
- Demo Page
- Protocol Monitor
- Fax Address Book
- Email Address Book
- Server Address
- Fax Activity
- Fax Pending

Billing Meters
- Total Impression
- Color Impression
- Black Impression

Check the record of jobs printed.

Admin Menu
- Fax Address Book...
- PCL Settings...
- PDF Settings...
- PostScript Settings...
- Network Setup...
- Fax Settings...
- USB Setup...
- System Setup...
- Maintenance...
- Secure Settings...

Ethernet
TCP/IP
Protocol
Host Access List
Initialize NVM
Adobe Protocol

Ans Select
Auto Answer Fax
Auto Ans.Tel/FAX
Auto Ans. Ans/FAX
Ring Tone Volume
Junk Fax Filter
Fax Cover Page
DRPD Pattern
2-Sided Print
Discard Size
ECM
Modem Speed
Country
Fax Activity

Defaults Settings
- Copy Defaults...
- Scan Defaults..
- Fax Defaults...
- Print from USB Defaults...

Set task defaults.

Tray Settings
- Tray...

Power Saver Time
Alert Tone
RAM Disk*
Size Mismatch
Start Up Page

F/W Version
Automatic Registration Adjust
Adjust Color Registration
Clean Developer
Toner Refresh
Imaging Unit Refresh
Reset Fuser

Paper Size
Paper Type
Display Popup

Panel Language
- English
- Français
- Italiano
- Deutsch
- Español
- Dansk
- Nederlands
- Português
- Svenska
- Русский
- Magyar
- Česky
- Polski
- Türkçe

* Requires Optional Memory
▼ = Additional items not shown

Page 1 of 1

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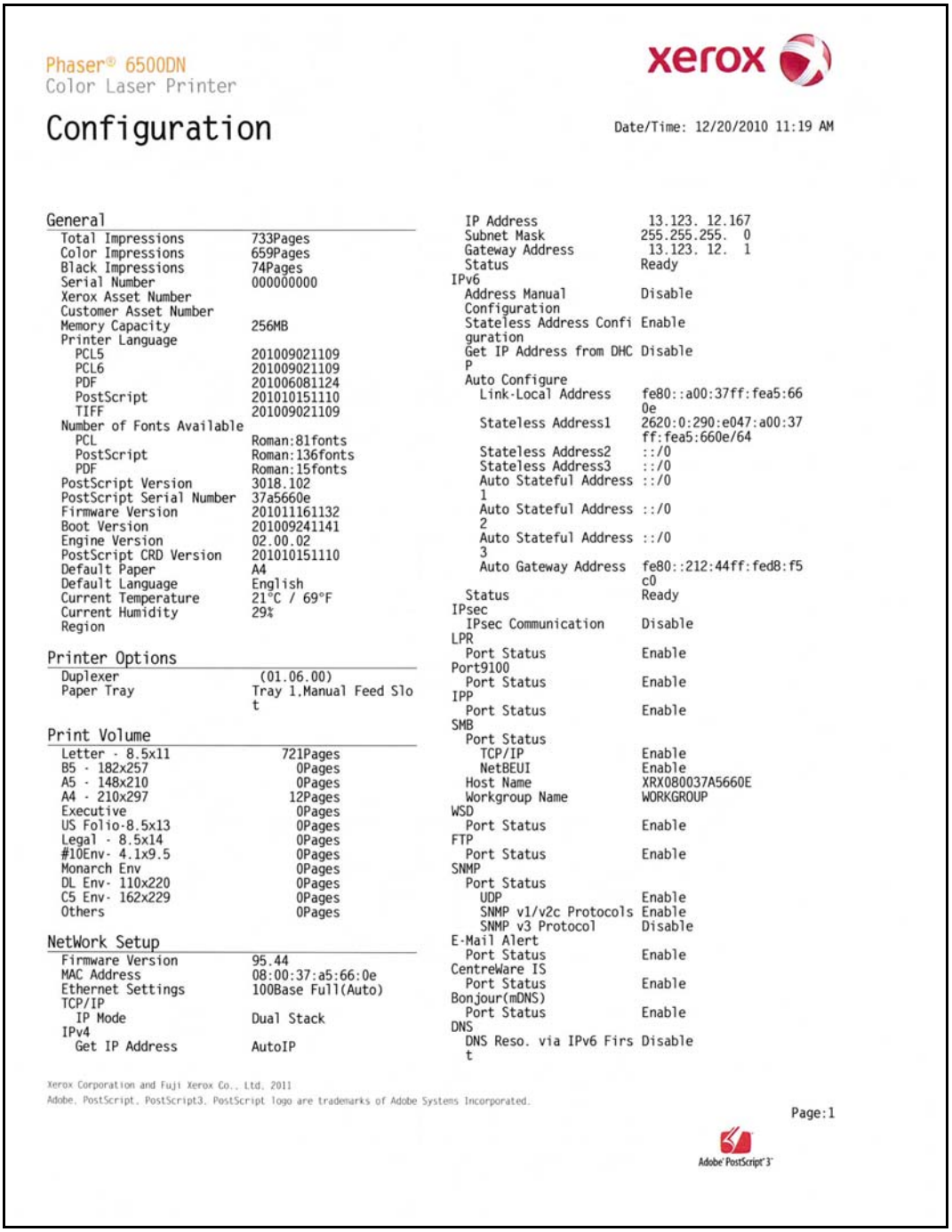
s6505-481

Embedded Pages

This is a sampling of the pages that the printer generates from the **Information Pages** menu on the Control Panel.

Configuration

Configuration is a two or more page report of printer settings and parameters.



Phaser® 6500DN
Color Laser Printer

xerox

Configuration

Date/Time: 12/20/2010 11:19 AM

General

Total Impressions	733Pages
Color Impressions	659Pages
Black Impressions	74Pages
Serial Number	000000000
Xerox Asset Number	
Customer Asset Number	
Memory Capacity	256MB
Printer Language	
PCL5	201009021109
PCL6	201009021109
PDF	201006081124
PostScript	201010151110
TIFF	201009021109
Number of Fonts Available	
PCL	Roman:81fonts
PostScript	Roman:136fonts
PDF	Roman:15fonts
PostScript Version	3018.102
PostScript Serial Number	37a5660e
Firmware Version	201011161132
Boot Version	201009241141
Engine Version	02.00.02
PostScript CRD Version	201010151110
Default Paper	A4
Default Language	English
Current Temperature	21°C / 69°F
Current Humidity	29%
Region	

Printer Options

Duplexer	(01.06.00)
Paper Tray	Tray 1,Manual Feed Slot

Print Volume

Letter - 8.5x11	721Pages
B5 - 182x257	0Pages
A5 - 148x210	0Pages
A4 - 210x297	12Pages
Executive	0Pages
US Folio-8.5x13	0Pages
Legal - 8.5x14	0Pages
#10Env- 4.1x9.5	0Pages
Monarch Env	0Pages
DL Env- 110x220	0Pages
C5 Env- 162x229	0Pages
Others	0Pages

NetWork Setup

Firmware Version	95.44
MAC Address	08:00:37:a5:66:0e
Ethernet Settings	100Base Full(Auto)
TCP/IP	
IP Mode	Dual Stack
IPv4	
Get IP Address	AutoIP
IP Address	13.123. 12.167
Subnet Mask	255.255.255. 0
Gateway Address	13.123. 12. 1
Status	Ready
IPv6	
Address Manual Configuration	Disable
Stateless Address Configuration	Enable
Get IP Address from DHCP	Disable
Auto Configure	
Link-Local Address	fe80::a00:37ff:fea5:660e
Stateless Address1	2620:0:290:e047:a00:37ff:fea5:660e/64
Stateless Address2	::/0
Stateless Address3	::/0
Auto Stateful Address 1	::/0
Auto Stateful Address 2	::/0
Auto Stateful Address 3	::/0
Auto Gateway Address	fe80::212:44ff:fed8:f5c0
Status	Ready
IPsec	
IPsec Communication	Disable
LPR	
Port Status	Enable
Port9100	
Port Status	Enable
IPP	
Port Status	Enable
SMB	
Port Status	
TCP/IP	Enable
NetBEUI	Enable
Host Name	XRX080037A5660E
Workgroup Name	WORKGROUP
WSD	
Port Status	Enable
FTP	
Port Status	Enable
SNMP	
Port Status	
UDP	Enable
SNMP v1/v2c Protocols	Enable
SNMP v3 Protocol	Disable
E-Mail Alert	
Port Status	Enable
CentreWare IS	
Port Status	Enable
Bonjour(mDNS)	
Port Status	Enable
DNS	
DNS Reso. via IPv6 First	Disable

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Page:1

Adobe PostScript 3

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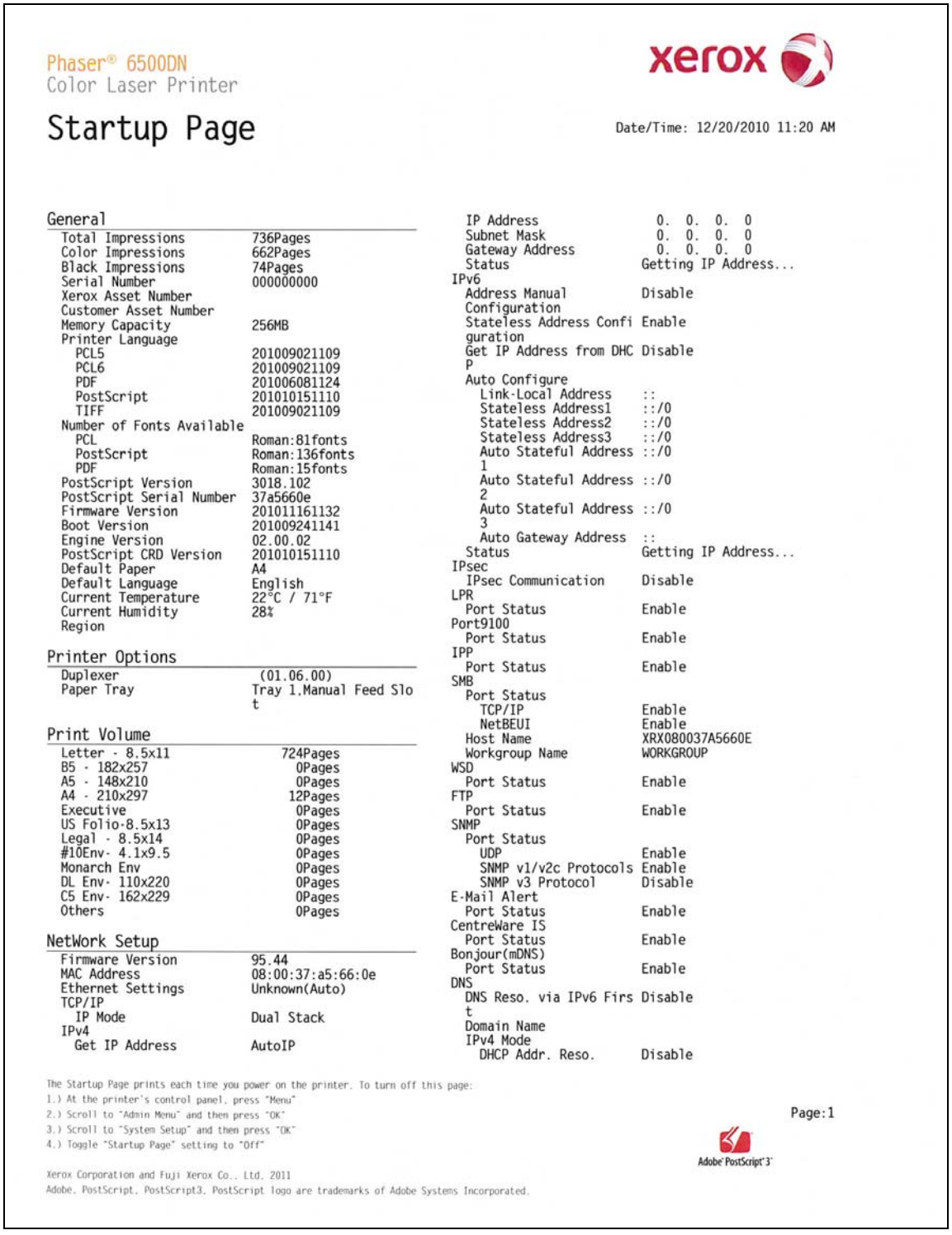
Startup

This page reports an abbreviated configuration listing each time the printer is powered up. The user can disable this feature from the Control Panel.



Phaser® 6500DN
Color Laser Printer

xerox

Startup Page

Date/Time: 12/20/2010 11:20 AM

General

Total Impressions	736Pages
Color Impressions	662Pages
Black Impressions	74Pages
Serial Number	000000000
Xerox Asset Number	
Customer Asset Number	
Memory Capacity	256MB
Printer Language	
PCL5	201009021109
PCL6	201009021109
PDF	201006081124
PostScript	201010151110
TIFF	201009021109
Number of Fonts Available	
PCL	Roman:81fonts
PostScript	Roman:136fonts
PDF	Roman:15fonts
PostScript Version	3018.102
PostScript Serial Number	37a5660e
Firmware Version	201011161132
Boot Version	201009241141
Engine Version	02.00.02
PostScript CRD Version	201010151110
Default Paper	A4
Default Language	English
Current Temperature	22°C / 71°F
Current Humidity	28%
Region	

Printer Options

Duplexer	(01.06.00)
Paper Tray	Tray 1,Manual Feed Slot

Print Volume

Letter - 8.5x11	724Pages
B5 - 182x257	0Pages
A5 - 148x210	0Pages
A4 - 210x297	12Pages
Executive	0Pages
US Folio-8.5x13	0Pages
Legal - 8.5x14	0Pages
#10Env- 4.1x9.5	0Pages
Monarch Env	0Pages
DL Env- 110x220	0Pages
C5 Env- 162x229	0Pages
Others	0Pages

NetWork Setup

Firmware Version	95.44
MAC Address	08:00:37:a5:66:0e
Ethernet Settings	Unknown(Auto)
TCP/IP	
IP Mode	Dual Stack
IPv4	
Get IP Address	AutoIP
IP Address	0. 0. 0. 0
Subnet Mask	0. 0. 0. 0
Gateway Address	0. 0. 0. 0
Status	Getting IP Address...
IPv6	
Address Manual Configuration	Disable
Stateless Address Configuration	Enable
Get IP Address from DHCP	Disable
Auto Configure	
Link-Local Address	::
Stateless Address1	::/0
Stateless Address2	::/0
Stateless Address3	::/0
Auto Stateful Address 1	::/0
Auto Stateful Address 2	::/0
Auto Stateful Address 3	::/0
Auto Gateway Address	::
Status	Getting IP Address...
IPsec	
IPsec Communication	Disable
LPR	
Port Status	Enable
Port9100	
Port Status	Enable
IPP	
Port Status	Enable
SMB	
Port Status	
TCP/IP	Enable
NetBEUI	Enable
Host Name	XRX080037A5660E
Workgroup Name	WORKGROUP
WSD	
Port Status	Enable
FTP	
Port Status	Enable
SNMP	
Port Status	
UDP	Enable
SNMP v1/v2c Protocols	Enable
SNMP v3 Protocol	Disable
E-Mail Alert	
Port Status	Enable
CentreWare IS	
Port Status	Enable
Bonjour(mDNS)	
Port Status	Enable
DNS	
DNS Reso. via IPv6 First	Disable
Domain Name	
IPv4 Mode	
DHCP Addr. Reso.	Disable

The Startup Page prints each time you power on the printer. To turn off this page:
1.) At the printer's control panel, press "Menu"
2.) Scroll to "Admin Menu" and then press "OK"
3.) Scroll to "System Setup" and then press "OK"
4.) Toggle "Startup Page" setting to "Off"

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Adobe PostScript 3

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Job History Report

This report lists pertinent information about each job sent to the printer; it can be several pages in length.

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Phaser® 6500DN
Color Laser Printer

Job History Report

Date/Time: 12/20/2010 11:21 AM

Date	Time	JobType	InputPort	Host/UserName	Document Name	OutputColor	Paper Size	Pages	Sheets	Result
12/10/2010	12:57:22 PM	Print	Port9100	50F6A41/ust42415	Microsoft Office Outlook - Memo	Color	Letter	6	3	Completed
12/10/2010	01:13:18 PM	Print	Port9100	2YMDYC1/usx16145	http://www.docushare.xe...	Color Black	Letter Letter	5 1	5 1	Completed
12/10/2010	02:19:16 PM	Print	Port9100	2YMDYC1/usx16145	p6500_user_guide_en-us_1_8_10.p	Color Black	Letter Letter	1 2	1 2	Completed
12/13/2010	12:49:43 PM	Report	Others		DemoPage	Color	Letter	2	2	Completed
12/15/2010	12:56:57 PM	Print	Port9100	2YMDYC1/usx16145	Microsoft Office Outlook - Memo	Color	Letter	1	1	Completed
12/15/2010	12:57:20 PM	Print	Port9100	2YMDYC1/usx16145	Microsoft Office Outlook - Memo	Color	Letter	1	1	Completed
12/16/2010	11:14:54 AM	Print	Port9100	2YMDYC1/usx16145	03_error_codes.fm	Color Black	Letter Letter	1 1	1 0	Completed
12/16/2010	11:15:11 AM	Print	Port9100	2YMDYC1/usx16145	03_error_codes.fm	Color Black	Letter Letter	1 1	1 0	Completed
12/16/2010	11:15:34 AM	Print	Port9100	2YMDYC1/usx16145	03_error_codes.fm	Color	Letter	2	1	Completed
12/16/2010	11:16:06 AM	Print	Port9100	2YMDYC1/usx16145	03_error_codes.fm	Color	Letter	1	1	Completed
12/16/2010	11:16:41 AM	Print	Port9100	2YMDYC1/usx16145	03_error_codes.fm	Color Black	Letter Letter	1 1	1 0	Completed
12/16/2010	11:17:24 AM	Print	Port9100	2YMDYC1/usx16145	03_error_codes.fm	Color Black	Letter Letter	1 1	1 0	Completed
12/16/2010	11:19:24 AM	Print	Port9100	2YMDYC1/usx16145	04_gen_troubleshooting.fm	Color	Letter	2	1	Completed
12/16/2010	11:19:48 AM	Print	Port9100	2YMDYC1/usx16145	04_gen_troubleshooting.fm	Color	Letter	1	1	Completed

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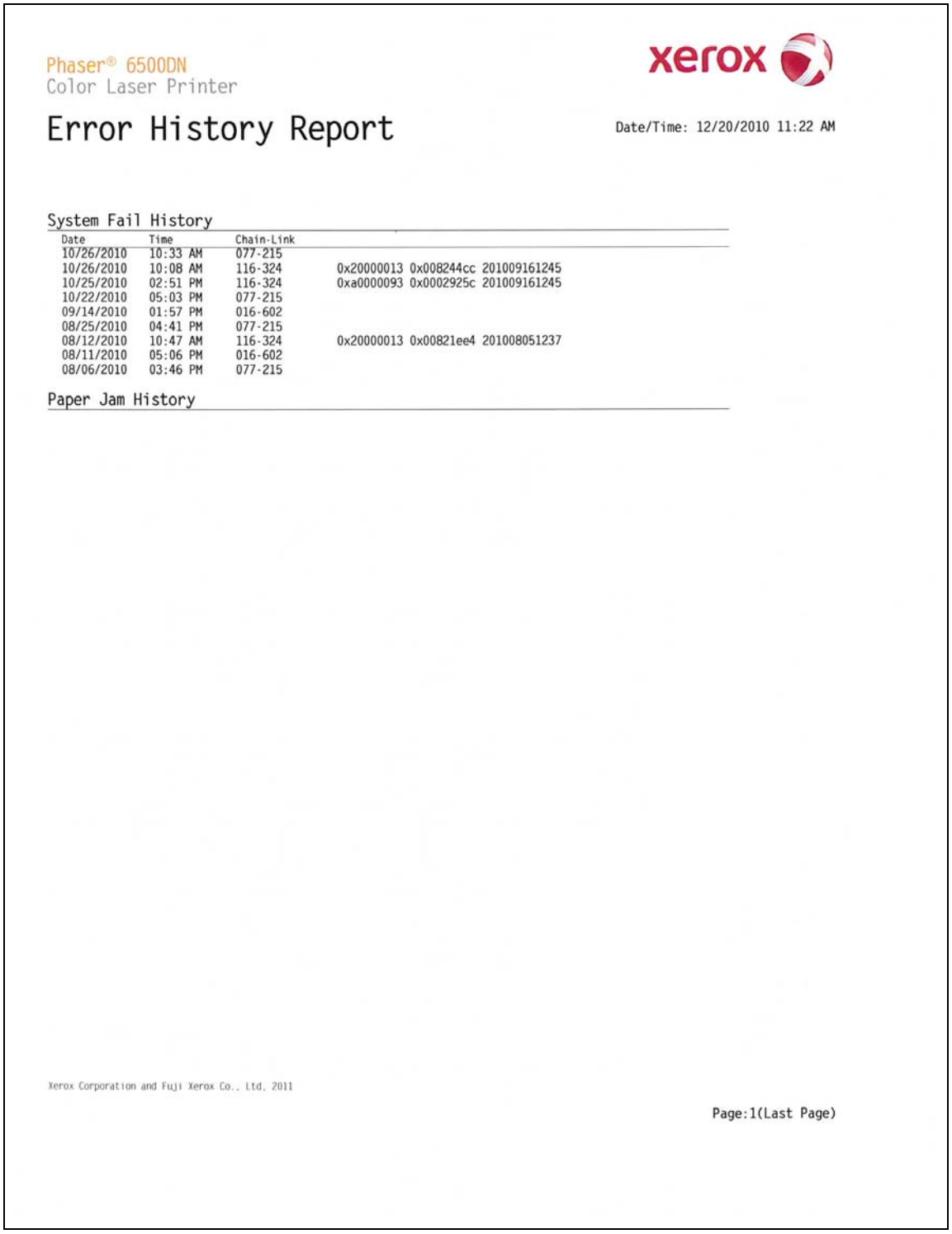
Error History Report

This report lists all the printer's system failures and jams.



Phaser® 6500DN
Color Laser Printer

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Error History Report

Date/Time: 12/20/2010 11:22 AM

System Fail History

Date	Time	Chain-Link	
10/26/2010	10:33 AM	077-215	
10/26/2010	10:08 AM	116-324	0x20000013 0x008244cc 201009161245
10/25/2010	02:51 PM	116-324	0xa0000093 0x0002925c 201009161245
10/22/2010	05:03 PM	077-215	
09/14/2010	01:57 PM	016-602	
08/25/2010	04:41 PM	077-215	
08/12/2010	10:47 AM	116-324	0x20000013 0x00821ee4 201008051237
08/11/2010	05:06 PM	016-602	
08/06/2010	03:46 PM	077-215	

Paper Jam History

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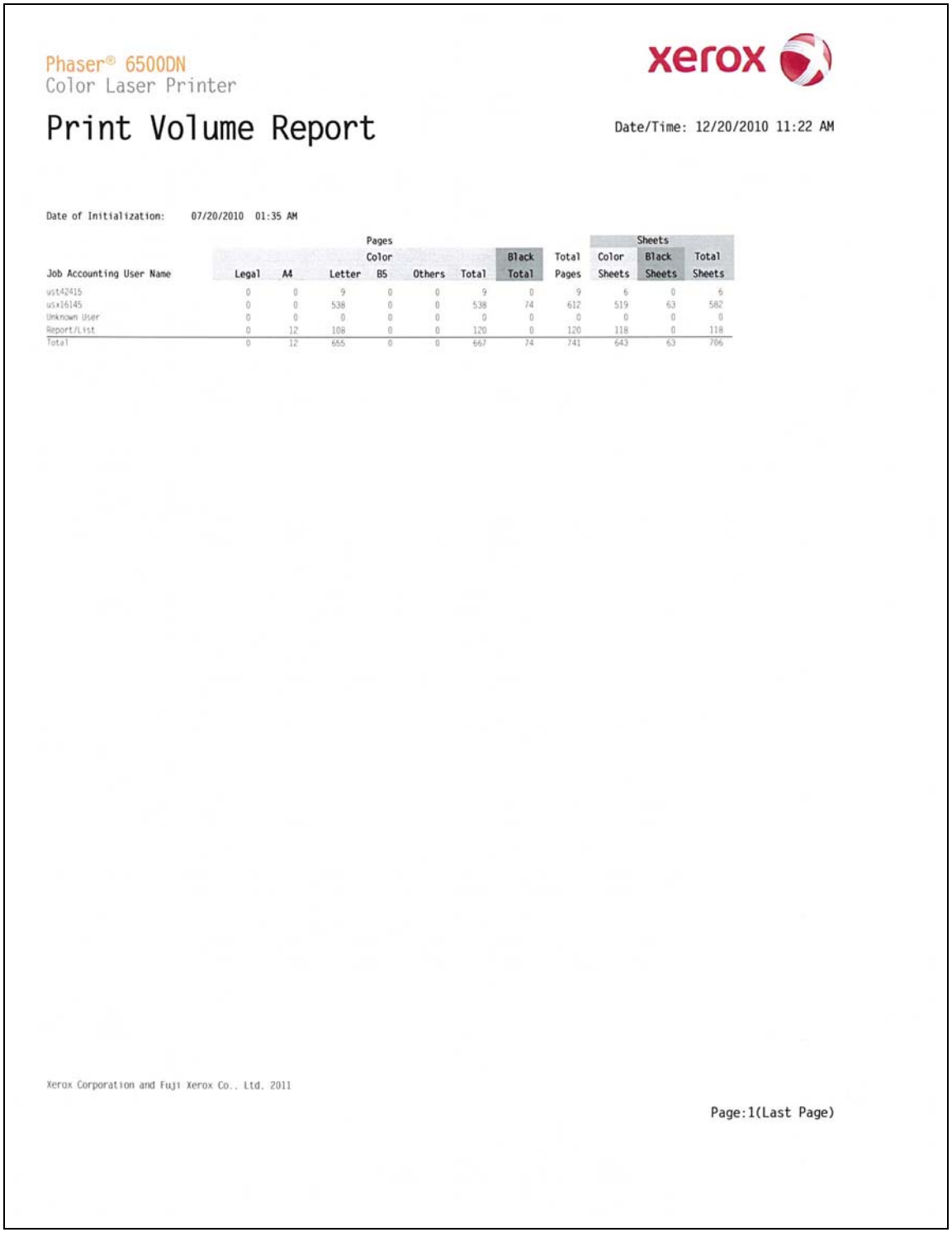
Print Volume Report

This report, called **Print(er) Meter** in the menu, provides usage information about each user.



Phaser® 6500DN
Color Laser Printer

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Print Volume Report

Date/Time: 12/20/2010 11:22 AM

Date of Initialization: 07/20/2010 01:35 AM

	Pages								Sheets		
				Color			Black	Total	Color	Black	Total
Job Accounting User Name	Legal	A4	Letter	B5	Others	Total	Total	Pages	Sheets	Sheets	Sheets
ust42415	0	0	9	0	0	9	0	9	6	0	6
usx16145	0	0	538	0	0	538	74	612	519	63	582
Unknown User	0	0	0	0	0	0	0	0	0	0	0
Report/List	0	12	108	0	0	120	0	120	118	0	118
Total	0	12	655	0	0	667	74	741	643	63	706

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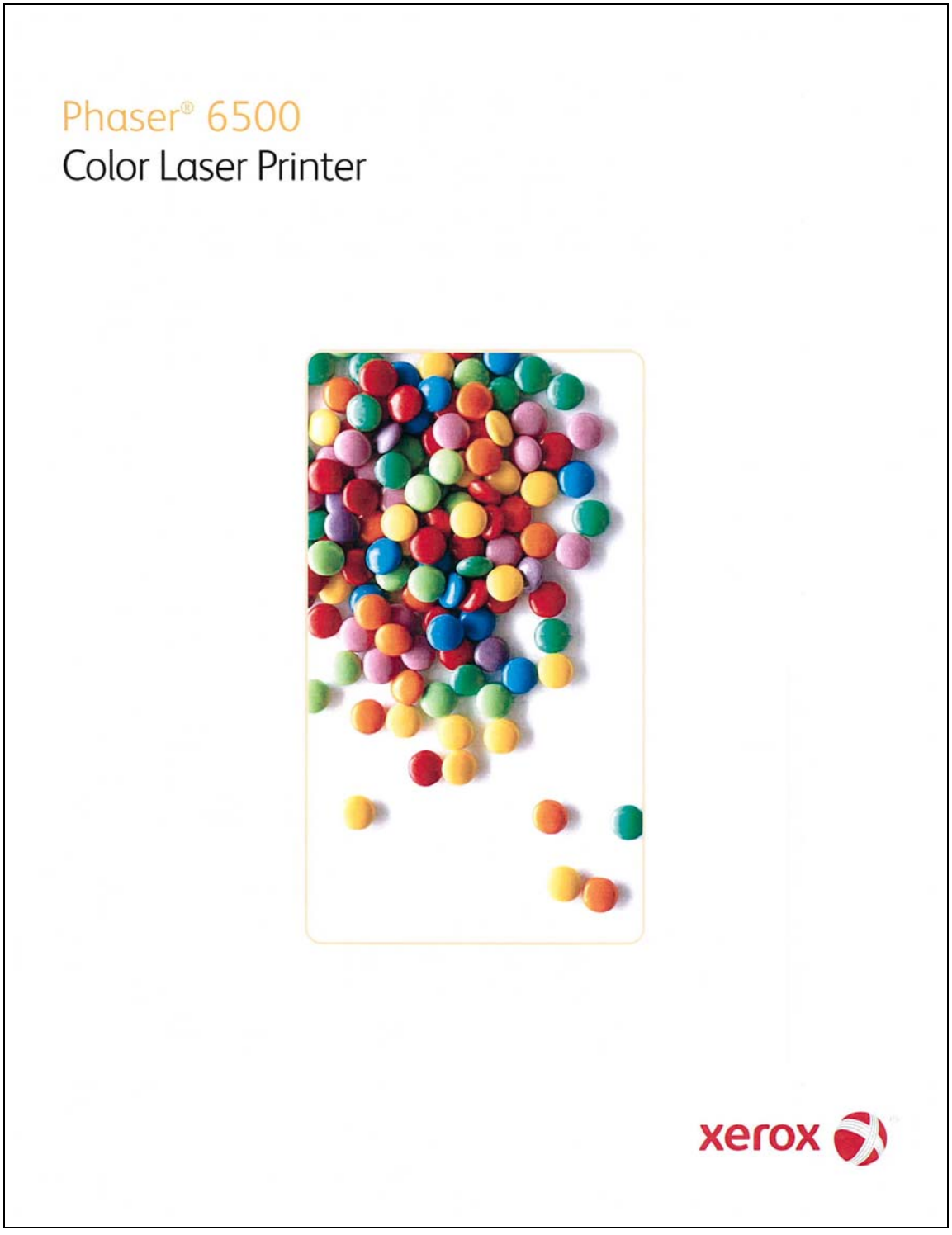
Demo Pages

As these examples show, the Demo Page is a graphic demonstration of the printer's color performance. It is actually a two-sided page with the graphic on one side and text on the other.

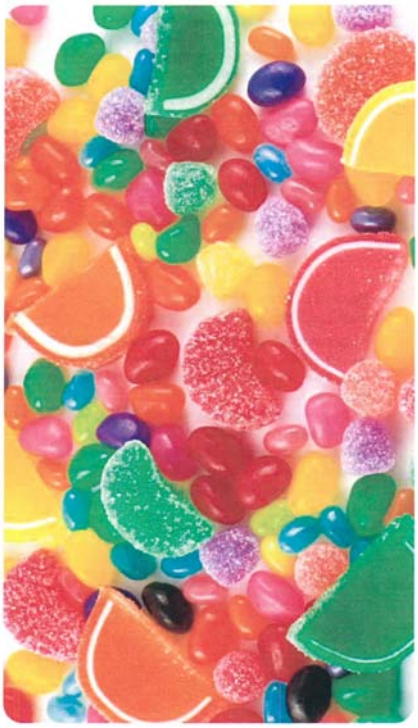
Phaser 6500 Demo Page



WorkCentre 6505 Demo Page

WorkCentre® 6505

Color Laser Multifunction Printer



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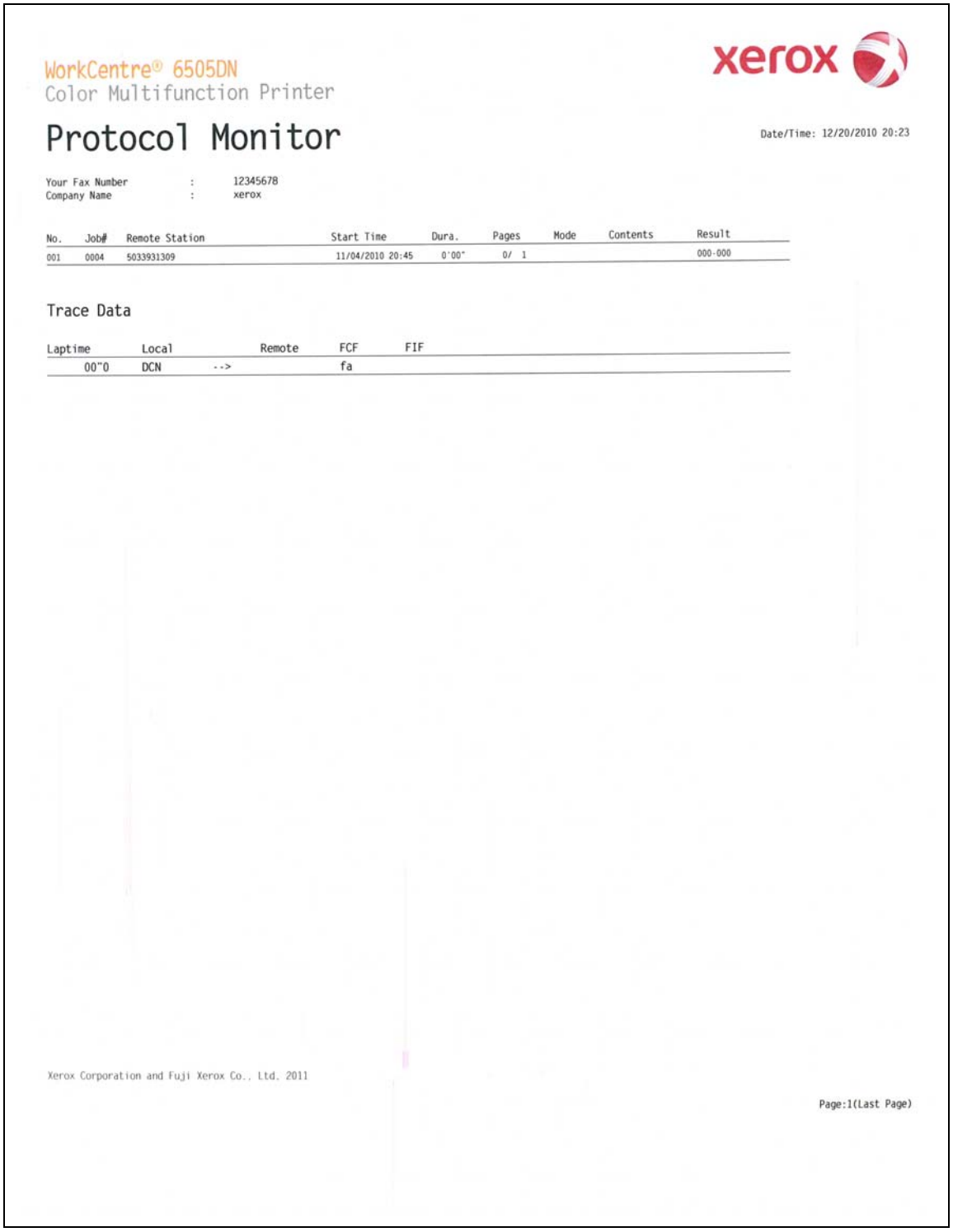
Protocol Monitor

This report lists the fax jobs generated from the Phaser 6505 MFP.



WorkCentre® 6505DN
Color Multifunction Printer

Protocol Monitor

Date/Time: 12/20/2010 20:23

Your Fax Number : 12345678
Company Name : xerox

No.	Job#	Remote Station	Start Time	Dura.	Pages	Mode	Contents	Result
001	0004	5033931309	11/04/2010 20:45	0'00"	0/ 1			000-000

Trace Data

Laptime	Local		Remote	FCF	FIF
00"0	DCN	-->		fa	

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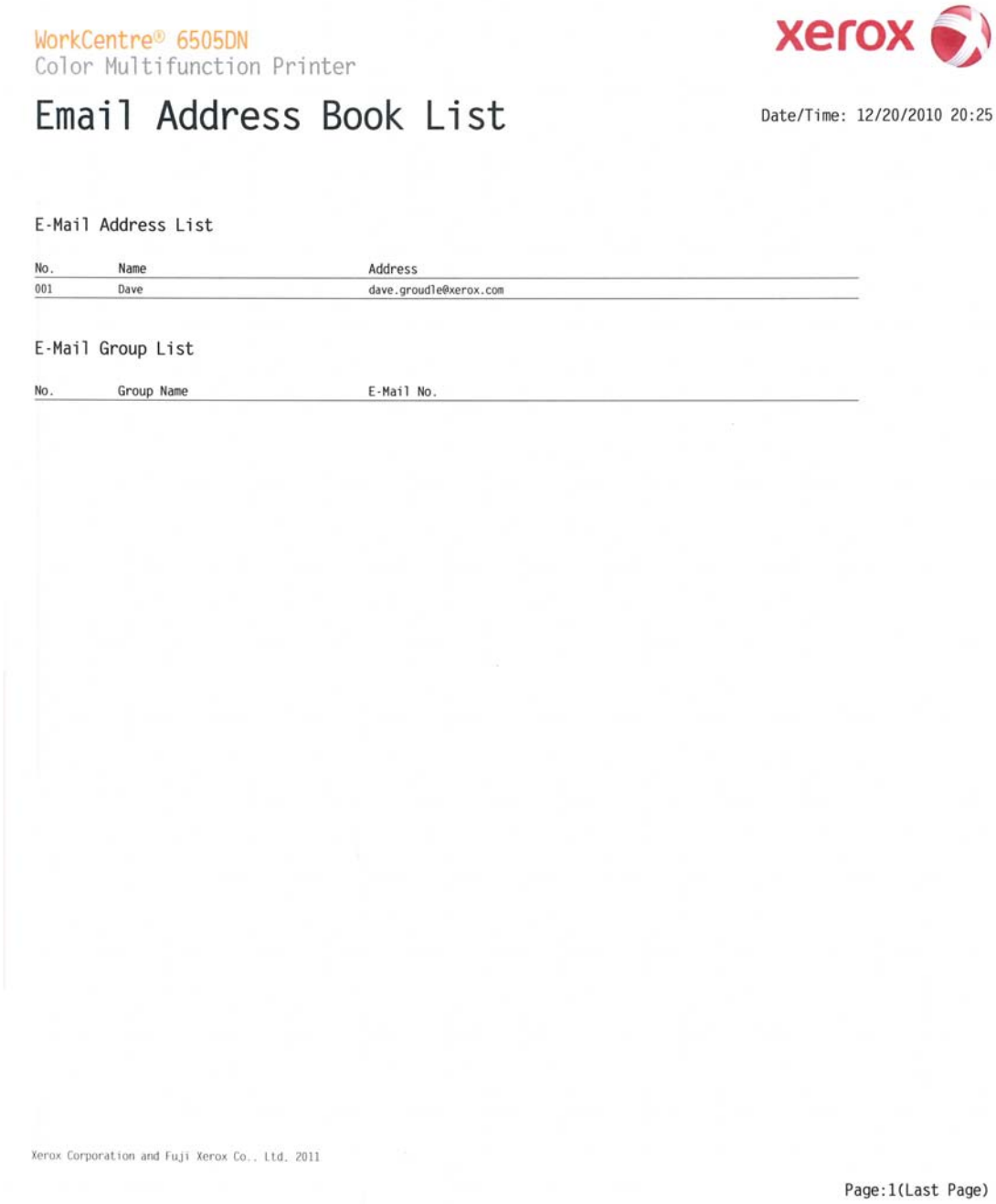
Email Address Book List

This is a list of the email addresses stored in the MFP's address book. You can print out a similar list for the Fax Address Book.



WorkCentre® 6505DN
Color Multifunction Printer

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Email Address Book List

Date/Time: 12/20/2010 20:25

E-Mail Address List

No.	Name	Address
001	Dave	dave.groudle@xerox.com

E-Mail Group List

No.	Group Name	E-Mail No.

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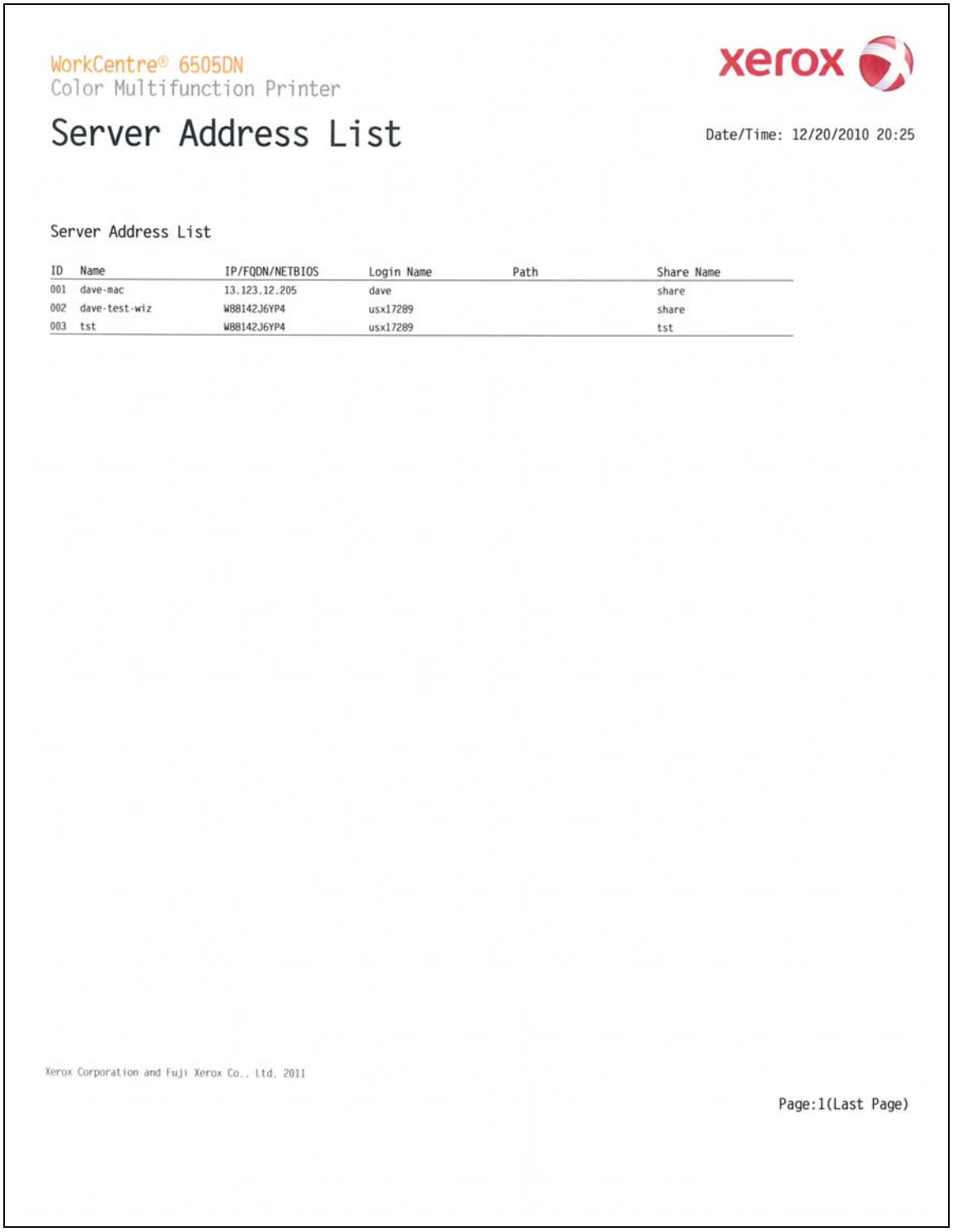
Server Address List

This list reports the locations that the user can select when scanning to computer.



WorkCentre® 6505DN
Color Multifunction Printer

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Server Address List

Date/Time: 12/20/2010 20:25

Server Address List

ID	Name	IP/FQDN/NETBIOS	Login Name	Path	Share Name
001	dave-mac	13.123.12.205	dave		share
002	dave-test-wiz	W88142J6YP4	usx17289		share
003	tst	W88142J6YP4	usx17289		tst

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Media Guidelines

Print media is paper, transparencies, labels, envelopes, coated paper and several other types. The printer prints on a variety of print media. Selecting the appropriate print media for the printer helps avoid printing problems. This section describes how to select, store, and load print media.

For the best results in color, a 75 g/m2 (20 lb.) xerographic, grain long paper is recommended. For the best results in Black and White, use 90 g/m2 (24 lb.) xerographic, grain long paper.

When loading paper, identify the recommended print side on the paper package, and load the paper accordingly.

Paper Characteristics

The following paper characteristics affect print quality and printer reliability. Use these guidelines when evaluating the customer's paper stock.

Weight

The trays automatically feed paper weights from 60 to 216 g/m2 (16 to 57.6 lb. bond) grain long. Paper lighter than 60 g/m2 (16 lb.) might not feed properly, and could cause paper jams. For best performance, use 75 g/m2 (20 lb. bond) grain long paper.

Curl

Curl is the tendency of media to curve at its edges. Excessive curl can cause feeding problems. Curl usually occurs after the paper passes through the printer, where it is exposed to high temperatures. Storing paper unwrapped in humid conditions, even in the paper tray, can contribute to curling prior to printing and cause feeding problems.

Smoothness

The degree of surface smoothness directly affects print quality. If the paper is too rough, the toner does not fuse to the paper properly, resulting in poor print quality. If the paper is too smooth, it can cause feeding problems. Smoothness between 150 and 250 Sheffield points produces the best print quality.

Moisture Content

The amount of moisture in the paper affects both print quality and the ability of the printer to feed the paper properly. Paper should remain in its original packaging until loaded. This limits the exposure of the paper to moisture changes that can degrade its performance.

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Grain Direction

Grain refers to the alignment of paper fibers in a sheet of paper. Grain is either grain long, running the length of the paper, or grain short, running the width of the paper. For 60 to 135 g/m2 (16 to 36 lb. bond) paper, grain long fibers are recommended. For papers heavier than 135 g/m2 (36 lb. bond), grain short is preferred.

Fiber Content

Most high-quality xerographic paper is made from 100 % chemically pulped wood. Paper containing fibers such as cotton possess characteristics that can result in degraded paper handling.

Recommended Paper

To ensure the best print quality and feed reliability, use 75 g/m2 (20 lb.) xerographic paper. Business papers designed for general business use also provide acceptable print quality.

The laser printing process heats paper to temperatures of 225˚C (437˚F) for Magnetic Ink Character Recognition (MICR) applications, and 205˚C (401˚F) for non-MICR applications. Paper must be able to withstand these temperatures without discoloring, bleeding, or releasing hazardous emissions. Check with the customer to determine whether the paper is acceptable for laser printers.

Unacceptable Paper

The following paper types are not recommended:

- Chemically treated papers used to make copies without carbon paper, also known as carbonless papers, carbonless copy paper (CCP), or no carbon required (NCR) paper
- Preprinted papers with chemicals affected by Fuser temperatures
- Preprinted forms that require registration (the print location on the page) greater than ±0.09 in., such as optical character recognition (OCR) forms. In some cases, the application can adjust registration to successfully print on these forms.
- Coated papers (erasable bond), synthetic papers, thermal papers
- Rough-edged, rough or heavily textured surface papers or curled papers
- Recycled papers containing more than 25 % post-consumer waste that do not meet DIN 19 309
- Multiple-part forms or documents
- Perforated or pre-cut label paper

Firmware Update

Boot Firmware Update

Do not reboot or turn Off the printer during the update process. The printer automatically reboots when the process is complete.

Boot Code updates are restricted to USB only.

1. Download and unzip the applicable files from the Xerox support web site.
2. Turn Off the printer.
3. Connect the USB cable from the host to the printer.
4. Press **Up**, **Down** arrow, and **Menu** simultaneously, and turn On the printer. Wait until FW Update - Password appears, then release the keys.
5. Enter the password by pressing the **Down** arrow 2 times, then press **OK**.
6. When F/W Download DL Mode USB appears, press **OK**.
7. Very briefly, two firmware version numbers appear, then the DownLoad Mode Send F/W Data prompt is displayed.
8. Open the Boot directory. Double-click the Xeroxfwup.exe file. The boot firmware file (boot_*.prn) should also be located in the Boot directory.

   Xeroxfwup.exe does not have a security certificate attached to it, so a security warning may pop up - this is normal, click **Run**.

9. When the Xeroxfwup window appears, click the USB radio button, and press **Next**. The printer serial number should appear in the Xeroxfwup window.
10. Click the check box in front of the serial number and press **Next**. Boot firmware downloads require approximately one minute. After the firmware has downloaded, the printer reboots. If the Startup page is enabled, the Configuration pages print.

    Xeroxfwup continues to display the progress bar for some time after the download has completed. When the progress bar completes, click **Next**, then **Finish** on the next screen. The update process is complete.
11. If the Startup page is disabled, print a Configuration page to verify the Boot firmware version.

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Main Firmware Update

Do not reboot or turn Off the printer during the update process. The printer automatically reboots when the process is complete.

1. Download and unzip the applicable files from the Xerox support web site.
2. Ensure the appropriate downloading cable (Ethernet or USB) is connected.
3. Reboot the printer.
4. Open the Main directory. Double-click the Xeroxfwup.exe file. The main firmware file (_*.prn) should also be located in the Main directory.

   Xeroxfwup.exe does not have a security certificate attached to it, so a security warning may pop up - this is normal, click **Run**.

5. The xeroxfwup window with connection options is displayed. Select the appropriate downloading option (Network or USB). Click **Next**.
6. The xeroxfwup window is displayed.
   a. For Network connection:
   - If your printer IP address is available, click the appropriate check box, then click **Next**.
   - If the printer IP address is not listed, click the Add button. Enter the printer IP address. Click **OK**. Click the check box with the correct IP address. Click **Next**.
   - On the printer Control Panel, messages are displayed from Receiving data Port 9100 --> Writing... Port 9100 as the printer starts updating the firmware.

   b. For USB connection:
   - The Xeroxfwup window with the serial number is displayed. Click the check box, then click **Next**.
   - On the printer Control Panel, messages are displayed from Receiving data USB --> Writing... USB as the printer updates the firmware.
7. Main firmware downloads require approximately 3 minutes. After the firmware has downloaded, the printer reboots. If the Startup page is enabled, the Configuration pages print.

   Xeroxfwup continues to display the progress bar for some time after the download has completed. When the progress bar completes, click **Next**, then **Finish** on the next screen. The update process is complete.
8. If the Startup page is disabled, print a Configuration page to verify the firmware version.

Acronyms and Abbreviations

Acronym	Description
A3	Paper size 297 millimeters (11.69 inches) x 420 millimeters (16.54 inches).
A4	Paper size 210 millimeters (8.27 inches) x 297 millimeters (11.69 inches).
A5	Paper size 148 millimeters (5.82 inches) x 210 millimeters (2.10 inches).
AC	Alternating Current is type of current available at power source for the printer.
ADC	Automatic Density Control
AMPV	Average Monthly Print Volume
APC	Auto Power Control
ASSY	Assembly
ATM	Adobe Type Manager
BCR	Bias Charge Roller
BOOTP	Boot Parameter Protocol
BTR	Bias Transfer Roller
CCD	Charge Coupled Device (Photoelectric Converter)
CCW	Counter-Clock Wise
CMYK	Toner colors for the printer: Y=Yellow, C=Cyan, M=Magenta, K=Black
CRU	Customer Replaceable Unit
CRUM	Customer Replaceable Unit Monitor
CST	Cassette
dB	Decibel
DC	Direct Current
DDNS	Dynamic Domain Name System
DDR2 DIMM	Double Data Rate Dual In-Line Memory Module
DEV	Developer
DHCP	Dynamic Host Configuration Protocol
DPI	Dots Per Inch
DRV	Drive
DUP	Duplex
Duplex	2-sided printing
EA	Emulsion Aggregation (Toner)
EEPROM	Electrically Erasable Programmable Read-Only Memory

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Acronym	Description
ESD	Electrostatic Discharge. A transfer of charge between bodies at different electrostactic potential.
ESS	Image process controller
FCC	Federal Communications Commission
FDR	Feeder
FPOT	First Print Output Time
FRU	Field Replaceable Unit
GB	Giga Byte
GDI	Graphics Device Interface
GND	Ground
HARN	Harness
HCF	High-Capacity Feeder
HDD	Hard Disk Drive
HUM	Humidity
HV	High Voltage
HVPS	High-Voltage Power Supply
Hz	Hertz (cycles per second)
IDT	Intermediate Drum Transfer
IEC	International Electrotechnical Commission
I/F	Interface
IIT	Image Input Terminal - ADF, Scanner
IOT	Image Output Terminal - the printer
IP	Image Processor
KB	Kilo Byte
LAN	Local Area Network
LCD	Liquid Crystal Display
LD	Laser Diode
LED	Light Emitting Diode
LEF	Long-Edge Feed
LPD	Line Printer Daemon
LPR	Line Printer Remote
LTR	Letter Size Paper (8.5 x 11 inches)
LVPS	Low-Voltage Power Supply
MB	Mega Byte
MCU	Machine Control Unit (Engine Control Board)
MHz	Mega Hertz
MIB	Management Information Base

Acronym	Description
MM	Millimeters
MOT	Motor
MPT	Multi-Purpose Tray
NCS	Non-Contact Sensor
NVM	Non-Volatile Memory
NVRAM	Non-Volatile Random Access Memory
OHP	Overhead Paper (Transparency)
OPT	Optional
OS	Operating System
PCB	Printed Circuit Board
PCL	Printer Command Language
PDL	Page Description Language
P/J	Plug Jack (electrical connections)
PJL	Printer Job Language
PL	Parts List
POP3	Post Office Protocol version 3
PPD	PostScript Printer Description
PPM	Pages Per Minute
PWBA	Printed Wiring Board Assembly
RAM	Random Access Memory
RH	Relative Humidity
RMS	Root Mean Square Voltage
ROM	Read-Only Memory
ROS	Raster Output Scanner - Laser Unit
SEF	Short-Edge Feed
SMB	Server Message Block
SNMP	Simple Network Management Protocol
SNR	Sensor
SOL	Solenoid
SOS	Start of Scan
SSF (or SSI)	Single-Sheet Feed or Input. SSF is used in error messages and SSI is used in parts references to indicate the Manual Feed slot.
TDC	Toner Density Control
TNR	Toner
UI	User Interface
USB	Universal Serial Bus
WINS	Wireless Integrated Network Sensor

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