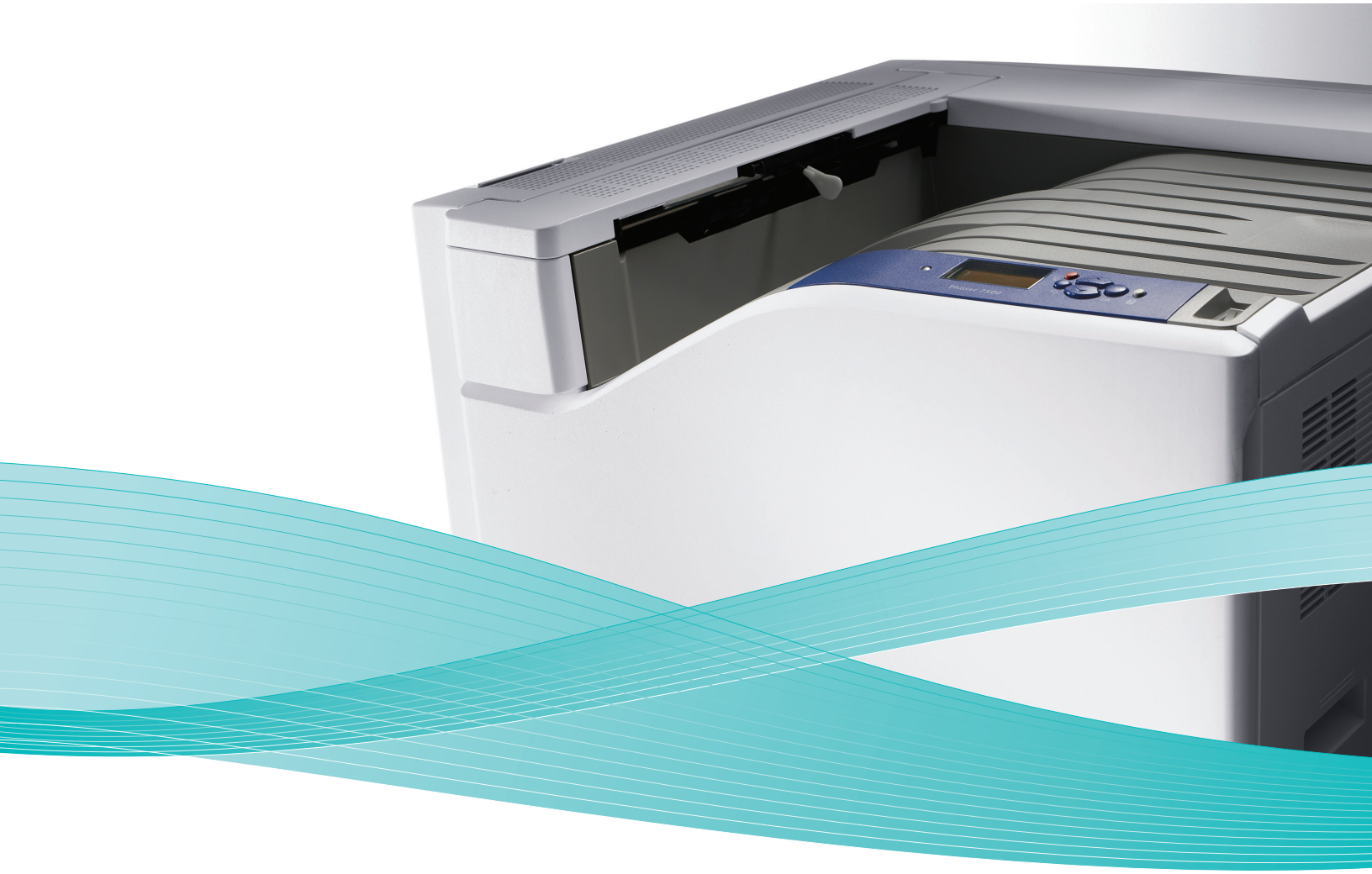
Phaser® 7500
Color Printer



Phaser® 7500
Service Manual

Xerox Internal-Use Only

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Phaser® 7500 Printer Service Manual

Warning

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

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Prepared By:

Xerox Corporation

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Service Terms

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.

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.

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.

Warning

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

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.

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Symbols Marked on the Product



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.

Danger, High Voltage



Fuser Temperature



Static Caution



Do not touch the item.



Do not burn the item.



Recycle the item.



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). Disconnect the power cord by pulling the plug from the outlet.

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 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 to the chassis or circuit board, and observe all 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 IC's 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).

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Service Safety Summary

General Guidelines

For qualified service personnel only: Refer also to the preceding "Power Safety Precautions" on page xxiii.

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.

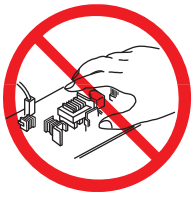
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Servicing Electrical Components

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.

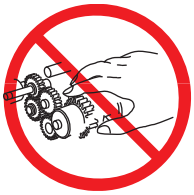


Servicing Mechanical Components

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 printer motor is running.



Servicing Fuser Components

Warning

This printer uses heat to fuse the toner image to paper. The Fuser is VERY HOT. Turn the printer power Off and wait at least 5 minutes for the Fuser to cool before attempting to service the Fuser or adjacent components.

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Warning

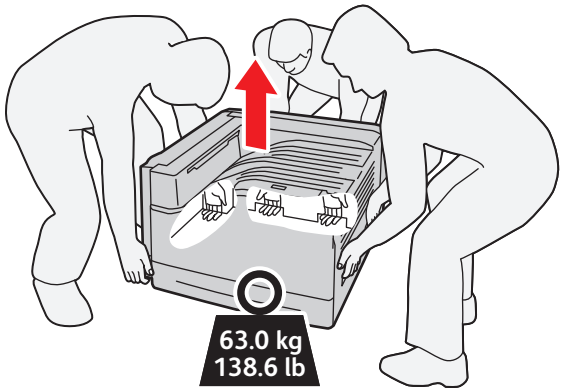
Parts of the printer are hot. Wait at least 30 minutes for the printer to cool before moving or packing the printer.

- Use the power switch to turn Off the printer, and unplug all cables and cords. Do not turn the printer Off by pulling the power cord or using a power-strip with an On/Off switch.

Warning

Back injury could result if you do not lift the printer properly.

- The printer is heavy and must be lifted by three people. Use safety lifting and handling techniques when moving the printer.



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When shipping the printer, repack the printer using the original packing material and boxes or a Xerox packaging kit. Instructions for repacking the printer are included in the kit. If you do not have all the original packaging, or are unable to repackage the printer, contact your local Xerox service representative.

Caution

Failure to repackage the printer properly for shipment can result in damage to the printer. Damage to the printer caused by improper packaging is not covered by the Xerox warranty, service agreement, or Total Satisfaction Guarantee.

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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 A 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 commercial environment. 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.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense.

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.
- 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 A 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

CE 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:

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

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

This printer, 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.

Ozone Release

During print operation, a small quantity of ozone is released. This amount is not large enough to harm anyone adversely. However, be sure the room where the printer is being used has adequate ventilation, especially if you are printing a high volume of materials, or if the printer is being used continuously over a long period.

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Manual Organization

The Phaser 7500 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 print engine and attached options. Also included are detailed replacement procedures, parts lists, and wiring diagrams.

The Phaser 7500 Service Manual contains these sections:

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

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

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

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

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

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

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

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

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

Section 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.

Section 10 - Plug/Jack and Wiring Diagrams: This section contains the plug/jack locations and the wiring diagrams for the printer.

Appendix A - Reference: This section provides an illustration of the printer's Control Panel menu structure, printer firmware update instructions, a list of printer error chain link codes, and a list of acronyms and abbreviations

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General Information

In this chapter...

- Printer Introduction and Overview
- Printer Configurations
- Parts of the Printer
- Printer Options
- Maintenance Items
- Consumables
- Specifications
- Physical Dimensions and Clearances
- Non-Genuine Mode
- Maintenance Function
- Information Pages

Chapter 1

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Printer Introduction and Overview

The Phaser 7500 uses LED print heads with an electrophotographic four-color (YMCK) tandem architecture and intermediate transfer printing process. The Phaser 7500 delivers color and mono print speed at 35/35-ppm, and resolutions up to 1200 x 1200 dots-per-inch (dpi). The printer supports Adobe PostScript 3 and PCL6, USB 2.0, and 10/100/1000 Base-TX Ethernet.

The Phaser 7500 provides a standard 500-Sheet Tray and a 100-Sheet Fold Down Tray. Tray 1 supports specialty paper, card stock, and envelopes. The standard paper input is 600 sheets and the maximum input with an optional Trays 3, 4, and 5 is 1600 sheets. The Output Tray holds 400 sheets facedown.

The printer options add memory, paper capacity, and functionality.

- Memory upgrades are available to increase the standard RAM from 512 MB up to 2.0 GB maximum.
- The Optional Sheet Feeders are available as options: 1 x 500-Sheet Feeder (not stackable) or 3 x 500-Sheet Feeder.

Technical Support Information

The Xerox Phaser 7500 Service Manual is the primary document used for repairing, maintaining, and troubleshooting the printer.

To ensure complete understanding of this product, participation in Xerox Phaser 7500 Service Training is strongly recommended. To service this product, Xerox 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.pl
- Service Partners: http://www.office.xerox.com/partners

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

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Printer Configurations

The Phaser 7500 is available in four configurations.

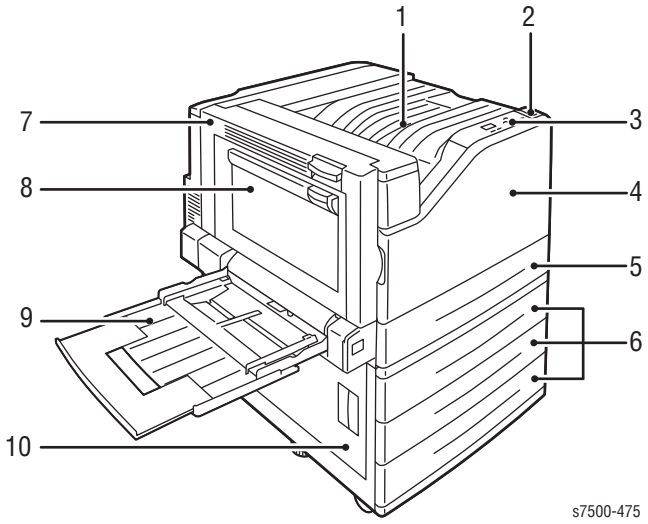
Features	Printer Configurations			
	7500 N	7500 DN	7500 DT	7500 DX
Processor and Clock Speed	1.0 GHz	1.0 GHz	1.0 GHz	1.0 GHz
Memory Configuration*	512 MB	512 MB	512 MB	512 MB
Print Speed (Color/Mono) (ppm)	35/35	35/35	35/35	35/35
Adobe PostScript 3 Fonts	Standard	Standard	Standard	Standard
PCL6 Fonts	Standard	Standard	Standard	Standard
Resident Fonts	■ PS: 139 ■ PCL: 81	■ PS: 139 ■ PCL: 81	■ PS: 139 ■ PCL: 81	■ PS: 139 ■ PCL: 81
USB 2.0 Hi-Speed Support	Standard	Standard	Standard	Standard
Ethernet Interface	10/100/1000 Base-TX		10/100/1000 Base-TX	
Tray 1 (MPT) (100 Sheet)	Standard	Standard	Standard	Standard
Tray 2 (500 Sheet)	Standard	Standard	Standard	Standard
Tray 3 500-Sheet Feeder	Optional	Optional	Standard	N/A
Tray 3/4/5 1500-Sheet Feeder	Optional	Optional	N/A	Standard
Duplex Unit	Optional	Standard	Standard	Standard
Printer Cart	Optional	Optional	Optional	N/A
Job Collation	Standard	Standard	Standard	Standard
Productivity Kit (Hard Disk Drive)	Optional	Optional	Optional	Standard
Wireless LAN	Optional	Optional	Optional	Optional
Printer Resolutions (dpi)				
■ Standard ■ Enhanced ■ Photo	■ 1200 x 600 x 1 ■ 1200 x 1200 x1 ■ 600 x 600 x 4		■ 1200 x 600 x 1 ■ 1200 x 1200 x1 ■ 600 x 600 x 4	

* All configurations have two memory slot supporting 512 MB/ 1 GB DDR2 DIMMs, to a maximum of 2.0 GB.

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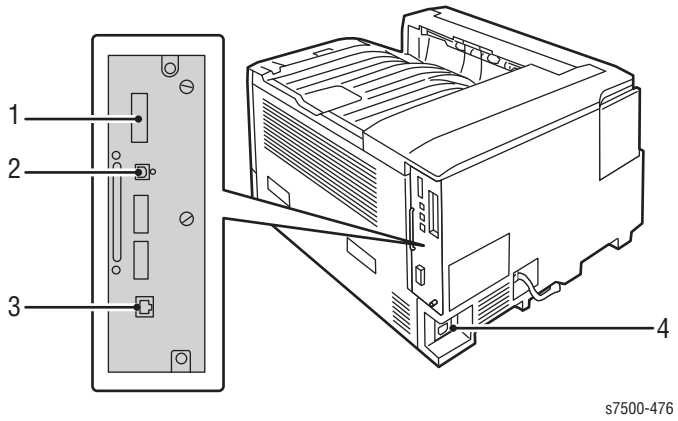
Parts of the Printer

Front, Left, and Top Views



1. Top Output Tray
2. Power Switch
3. Control Panel
4. Front Door
5. Tray 2
6. Tray 3, 4, 5 (Option)
7. Door A
8. Door B
9. Tray 1 (MPT)
10. Door C

Left and Rear Views



1. Configuration Card
2. USB Connection
3. Ethernet Connection
4. Power Cord Connection

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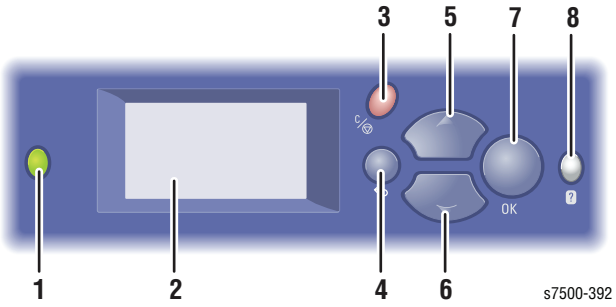
Control Panel Configurations

The Control Panel consists of one LED, a display window, and six buttons. These buttons are used to navigate the menu system, perform functions, and select modes of operation for the printer.

Control Panel Shortcuts

Function	Buttons Pressed at Power On
Enter Service Diagnostics	**BACK** + **HELP**
Skip execution of POST Diagnostics	OK
Print Service Diagnostics Menu	HELP

Control Panel Button Description



1.	Status Indicator LED	■ Green: Printer is ready to print. ■ Yellow: Warning condition, printer continues to print. ■ Red: Startup sequence or error condition. ■ Flashing: ■ Red: Error Condition ■ Green: Warming up
2.	Graphic Control Panel Display	Displays printer settings, status, and messages and menus.
3.	**Cancel** Button	Cancels the current print job.
4.	**Back** Button	Returns to the previous menu item.
5.	**Up** arrow	Scrolls upward through the menus.
6.	**Down** arrow button	Scrolls downward through the menus.
7.	**OK** Button	Accepts the selected settings.
8.	**Help(?)** Button	Displays a help message with information about the printer, such as Printer Status, Error Messages, and Maintenance Information.

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Printer Options

Phaser 7500 printer options include:

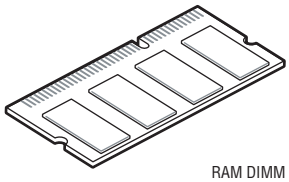
- Additional Memory (512 MB or 1 GB)
- Productivity Kit (Hard Disk Drive)
- Duplex Unit
- Optional 500-Sheet Feeder (Tray 3) or
- Optional 1500-Sheet Feeder (Trays 3, 4, and 5)

Additional Memory

The Phaser 7500 features 2 slots that accept a 512 MB or 1 GB of DDR2 DIMMs. Memory modules must meet the following characteristics:

- 200 Pin DDR2 DIMM (8 chip type)
- Unbuffered, Non-parity

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

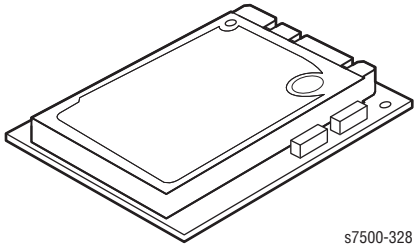


RAM DIMM

Productivity Kit (Hard Disk Drive)

The Phaser 7500 printer supports an optional internal Hard Disk Drive. The Hard Disk Drive has a minimum 80 GB capacity. Features include:

- Secure Print
- Proof Print
- Personal Print
- Personal or Shared Saved Print
- Disk Collation

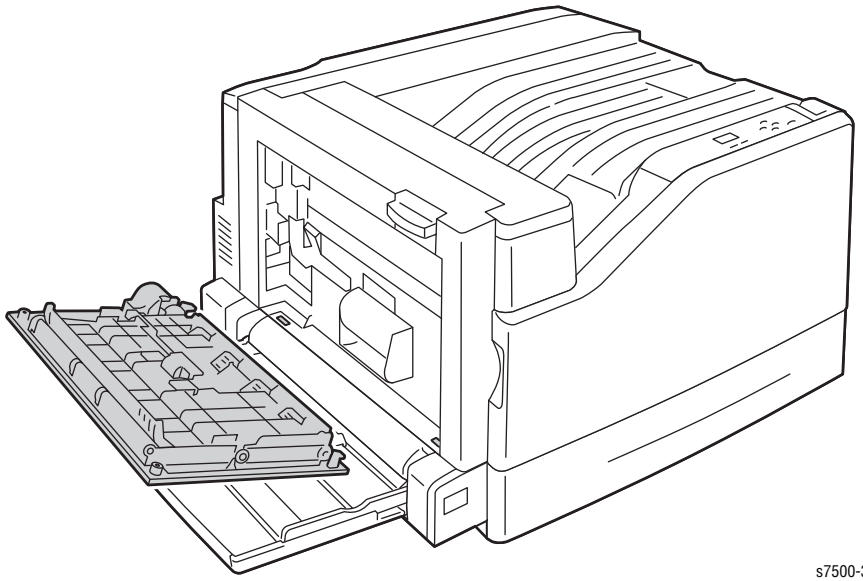


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Duplex Unit

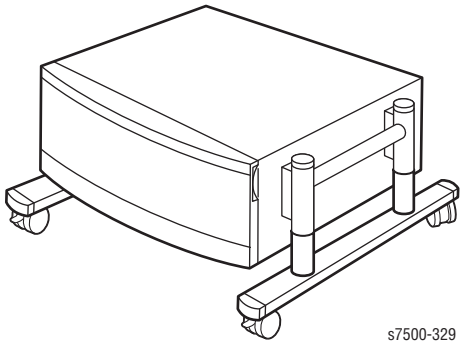
The Duplex Unit is an optional feature for the Phaser 7500 and is customer installable.



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Printer Stand

A Printer Stand is available as an option for the Phaser 7500 printer.

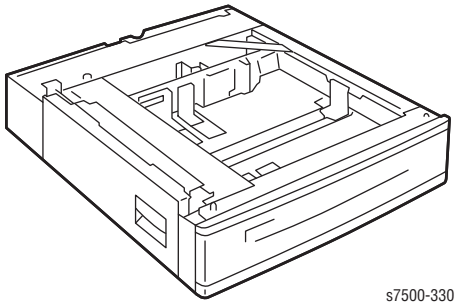


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Optional 500-Sheet Feeder (Tray 3)

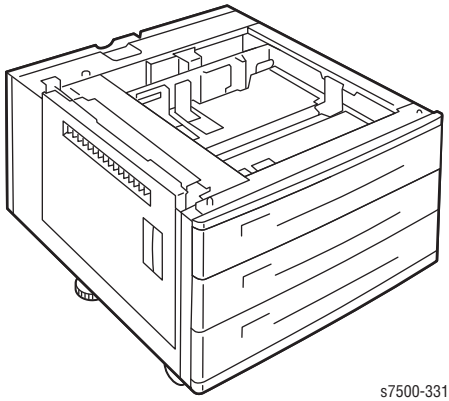
The Optional 500-Sheet Feeder increases the input capacity of the printer and can be attached to the printer underneath Tray 2. The Optional 500-Sheet Feeder is customer installable.



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Optional 1500-Sheet Feeder (Trays 3, 4, & 5)

The Optional 1500-Sheet Feeder increases the input capacity of the printer and can be attached to the printer underneath Tray 2. The Optional 1500-Sheet Feeder is customer installable.



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Wireless Network Adapter

The Wireless Network Adapter enables the printer to connect to a wireless network.

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Maintenance Items

A maintenance item is a printer part or assembly that has a limited life, and requires periodic replacement. Routine maintenance items are typically customer replaceable.

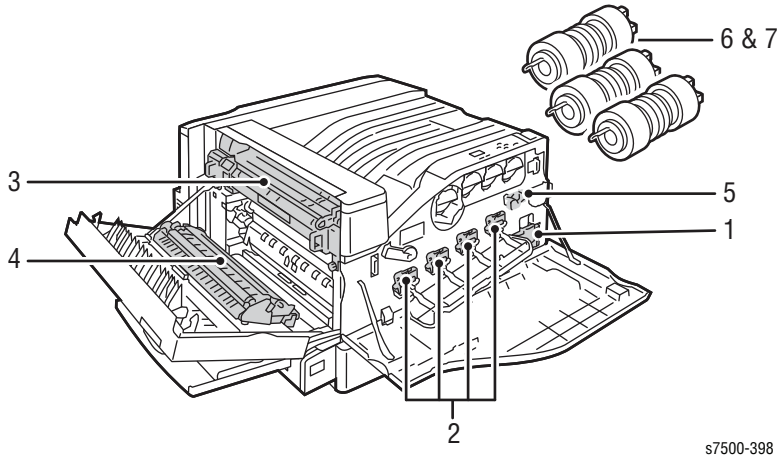
The following listed items have limited life and require periodic replacement.

Note

Print life is based on “typical” office printing and 5 % coverage per color on 24 lb. paper. The 1,500,000 life is not guaranteed and varies depending on usage habits.

Phaser 7500 Maintenance Items

Item	Description	Print Life
1	Waste Cartridge	20,000 pages
2	Imaging Units	CMYK: 80,000 pages
3	Fuser	100,000 pages
4	2nd Transfer Roller	200,000 pages
5	Belt Cleaner	100,000 pages
6	Tray 1 (MPT) Feed Roller Kit	100,000 pages
7	Tray 2-5 Feed Roller Kit	300,000 pages per tray



Consumables

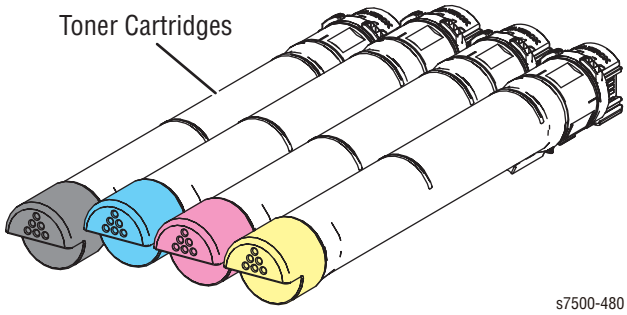
Consumable consist of 4 Toner Cartridges used in the printer.

Each Toner Cartridge has a CRUM (Customer Replaceable Unit Meter) to record new or used cartridge and usage information and identifies the type of Toner Cartridge (Standard or High capacity).

The CRUM contains a company ID, Region ID, and Xerox company name. A CRUM counts the amount of remaining toner. When toner empty is detected, Life End status will be sent to indicate toner empty.

Internal counters track Consumables and Maintenance Items life usage.

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



Toner Cartridge	Print Life
Standard Capacity	CMY: 9,600 pages
High Capacity	CMY: 17,800 pages K: 19,800 pages

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Specifications

Printer Specifications

Characteristic	Specifications	
Printing Technology	**Recording System**: Electrophotographic method that uses OPC Drum and Intermediate Transfer Belt	
	Charging System: Includes contact charge (BCR) and roll type cleaner	
	Development System: Dry type two-component magnet roller method that uses EA-HG toner, 5.8 microns in diameter (C, M, Y, K)	
	Exposure System: LED Print Head	
	Transfer System: Roller method using both primary and secondary transfers	
	Fusing System: Heat and pressure fusing with free belt nip method	
	Cleaning Method: ■ Imaging Unit: Cleaning Blade ■ IBT: Cleaning Blade	
Printer Life	1,500,000 pages	
Maximum Duty Cycle	Up to 150,000 pages/month*	
Recommended AMPV	Up to 17,000 pages/month	
Color Medium	Cyan, Magenta, Yellow, and Black Print Cartridges	
Print-Quality Mode (dpi)	■ Standard: 1200 x 600x 1 ■ Enhanced: 1200 x 1200 x 1 ■ Photo: 600 x 600 x 4	
Average Image Coverage	Color	5 % each CMY
	Mono	5 %
Average Job Size	5 pages	
Maximum Image Coverage	240 % for all C, M, Y, K combined	
First Page Output Time	As fast as 7 seconds	
Operating System	Windows	2000/ 2003 Server/ XP/ Vista
	Macintosh	OS 10.3 or higher, Intel Mac
	Linux	■ Solaris 8, 9, 10 ■ HPUX 11.0 and 11iv2 ■ AIX 5I v5.3 ■ Linux Fedora Cora 1 and 5 ■ Redhat Enterprise Linux 4 ■ Suse Linux 10.0 and 11.x

* Assumes a 30 day month of printing.

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Memory Specifications

Characteristic	Specifications	
Memory	Minimum	512 MB
	Maximum	2.0 GB
Supported RAM	Supports up to 2.0 GB of DDR2 DIMM with two slots for 512 MB/ 1 GB.	

Environment Specifications

Characteristic	Specifications	
Temperature		
Operating	10° to 32° C (50° to 90° F)	
Storage	-20° to 48° C (-4° to 118° F)	
Humidity (% RH)		
Operating	10 % to 85 % RH	
Optimum	25 % to 70 % RH	
Altitude		
Operating	0 to 2,500 meters (8,000 feet)	
Storage	0 to 6,092 meters (20,000 feet)	
Acoustic Noise	**Sound Power Level (Bels)**	**Sound Pressure (Decibels)**
Printing (L_{WAd})	6.8 B	51.0 dB
Standby (L_{WAd})	4.2 B	26.0 dB

Electrical Specifications

Characteristic	Specifications
Power Supply Voltage/ Frequency	
Line Voltage	110-127 VAC
	220-240 VAC
Frequency Range	50/60 Hz ± 3 Hz
Maximum Power Dissipation	1.25kVA @ 110 VAC (I/P Board power dissipation not included)

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Energy Consumption

115 VAC, 60 Hz Operation

Non-Printing Modes	Meas. Time (sec)	Max I (A)	Max P (W)	Watt-hours	BTUs	Watts/ hour
Power Off	180	0.09	0.1	0.1	0.0	0.2
Warm Up through Start Page	104	13.4	1462.6	16.46	56.2	569.8
Ready/ Standby Mode	3600	8.2	739.1	94.99	324.2	95.0
Power Saver/ Sleep Mode	3600	0.2	10.6	9.93	33.9	9.9
1st Page from Ready Mode	16	14.5	1579.9	2.79	9.5	627.8
Warm Up from Sleep	46	14.1	1389.9	11.4	38.9	892.2

Printing Modes	Meas. Time (sec)	Images Printed	Images/ Minute	Watt-hours	BTUs	BTUs/ Image	Watts/ hour
Printing Color Simplex	86	50	34.9	15.2	51.9	1.0	636.3
Printing Color Duplex	212	100	28.3	33.2	113.2	1.1	563.1
Printing Monochrome Simplex	86	50	34.9	16.0	54.6	1.1	670.2
Printing Monochrome Duplex	211	100	28.4	32.5	111.0	1.1	555.0

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230 VAC, 50 Hz Operation

Non-Printing Modes	Meas. Time (sec)	Max I (A)	Max P (W)	Watt-hours	BTUs	Watts/ hour
Power Off	301	0.09	0.5	0.03	0.1	0.4
Warm Up through Start Page	93	6.9	1513.6	15.46	52.8	598.5
Ready/ Standby Mode	3600	4.1	713.8	94.38	322.1	94.4
Power Saver/ Sleep Mode	3600	0.2	11.5	10.97	37.4	11.0
1st Page from Ready Mode	18	6.7	1299.7	3.27	11.2	654.0
Warm Up from Sleep	34	5.9	1315.0	8.44	28.8	893.6

Printing Modes	Meas. Time (sec)	Images Printed	Images/ Minute	Watt-hours	BTUs	BTUs/ Image	Watts/ hour
Printing Color Simplex	86	50	34.9	15.6	53.2	1.1	652.2
Printing Color Duplex	210	100	28.6	33.3	113.5	1.1	570.2
Printing Monochrome Simplex	85	50	35.3	15.1	51.7	1.0	641.2
Printing Monochrome Duplex	211	100	28.4	33.0	112.8	1.1	563.7

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Print Speed

	Printer Speed after FPOT (Color/Mono)			
Resolution	A4	A4 Duplex	A3	A3 Duplex
Standard - 1200 x 600 x 1	35/35	28/28	20/20	13/13
Enhanced - 1200 x 1200 x 1	35/35	28/28	20/20	13/13
Photo - 600 x 600 x 4	35/35	28/28	20/20	13/13
OHP - 1200 x 600 x 1	15/25	N/A	N/A	N/A
Thin Card Stock	25/25	18/18	12/12	9/9
Card Stock	15/15	11/11	8/8	5/5
Note: The above speeds are for Trays 2, 3, and 4. Tray 1 (MPT) and Tray 5 speeds can be slower.				

Paper Type

Media Size	Full Mono (175mm/s)		Full Color (175mm/s)		Mid (121mm/s)		Slow/ OHP (79mm/ s)
	Simp.	Auto Dup.	Simp.	Auto Dup.	Simp.	Auto Dup.	Simp.
Note: Tray 1 (MPT) Print Speeds are listed in parentheses. Feed Rates in ppm may be slower if the image-processing time is longer than required to meet these rates.							
A4 LEF, B5 LEF, A5 SEF, Letter LEF	35 (30)	28 (26)	35 (30)	28 (26)	25 (24)	18 (20)	15 (14)
A4 SEF, B5 SEF, Letter SEF	27 (24)	15 (15)	27 (24)	15 (15)	19 (19)	10 (11)	12 (12)
B4 SEF, Folio SEF, Legal SEF	23 (21)	14 (13)	23 (21)	14 (13)	16 (16)	9 (8)	10 (9.8)
A3 SEF, Tabloid SEF	20 (18)	13 (12)	20 (18)	13 (12)	14 (14)	9 (8)	8 (7.8)
SRA3 SEF, 12x18 SEF	16	11	16	11	12	8	(6.8)
Custom (banner)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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First Print Output Time

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

The following conditions are applied:

- The Controller does not keep the print engine waiting.
- The printer prints at Simplex mode.
- The printer is at Standby mode (ROS Motor Off, Fuser Ready).
- Paper is A4 size Long-Edge Feed (LEF).

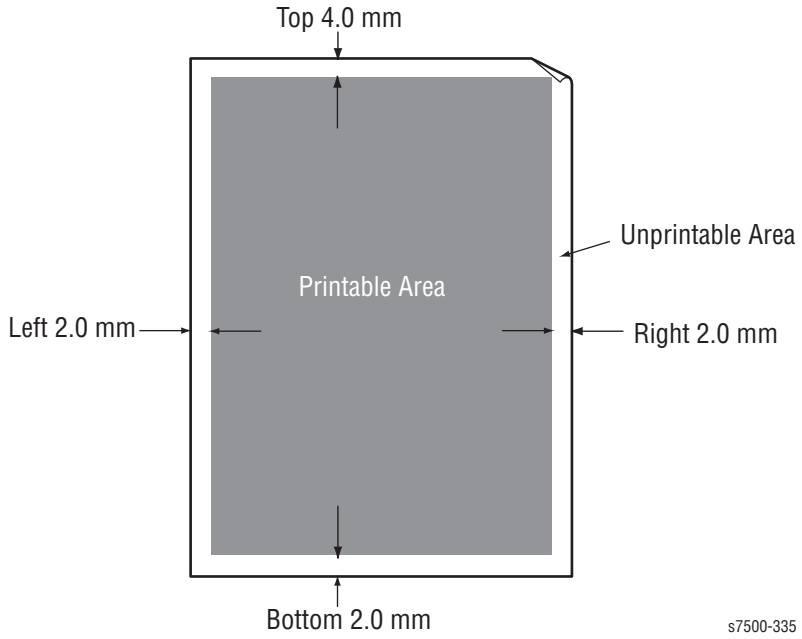
Condition	FPOT (sec.)
FPOT from E-Star	30 sec.
Mono FPOT from Ready	12 sec.
Color FPOT from Ready	12 sec.
Intra-job Mono and Color Switch	4.4 sec.

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Image Specifications

Guaranteed Printable Area

- Maximum Printable Area: 305 mm x 1192 mm
- Guaranteed Printable Area: 297 mm x 477 mm



Print-Quality Specification

Print-Quality Specification

Item	Test Pattern	Specification
Lead Registration	A45 Standard Digital Test Pattern (SDTP123600)	Tray 2~5: ± 1.5 mm Duplex Side 2: ± 1.9 mm Tray 1 (MPT): ± 2.2 mm
Side Registration	A45 Standard Digital Test Pattern (SDTP123600)	Tray 2~5: ± 2.0 mm Duplex Side 2: ± 2.4 mm Tray 1 (MPT): ± 3.0 mm
Lead Skew (200 mm)	A45 Standard Digital Test Pattern (SDTP123600)	Tray 2~5: ± 1.5 mm Duplex Side 2: ± 2.0 mm Tray 1 (MPT): ± 2.0 mm
Side Skew (400 mm)	A45 Standard Digital Test Pattern (SDTP123600)	Tray 2~5: ± 3.0 mm Duplex Side 2: ± 4.0 mm Tray 1 (MPT): ± 4.0 mm

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Paper and Tray Specifications

The following tables list the recommended Xerox paper for the Phaser 7500 printer. Print the Paper Tips Page from the printer for more details.

Supported Paper Size

Media Type	Size	Tray 1	Tray 2	Trays 3/4/5
Letter	8.5 x 11 in.	Yes	Yes	Yes
Legal	8.5 x 14 in.	Yes	Yes	Yes
Executive	7.25 x 10.5 in.	Yes	Yes	Yes
Statement	5.5 x 8.5 in.	Yes	Yes	Yes
A3	297 x 420 mm	Yes	Yes	Yes
A4	210 x 297 mm	Yes	Yes	Yes
A5	148 x 210 mm	Yes	Yes	Yes
B4 JIS	257 x 364 mm	Yes	Yes	Yes
B5 JIS	182 x 257 mm	Yes	Yes	Yes
B5 ISO	176 x 250 mm	Yes	Yes	Yes
US Folio	8.5 x 13 in.	Yes	Yes	Yes
Tabloid	11 x 17 in.	Yes	Yes	Yes
Tabloid Extra	12 x 18 in.	Yes	No	Yes
SRA3	320 x 450 mm	Yes	No	Yes
Custom	■ Width: 140 x 297 mm (5.5~11.7 in.) ■ Length: 182 x 432 mm (7.2~17.0 in.)	Yes	Yes	Yes
Banner	■ Short Edge: 100 x 305 mm (3.94 x 12.00 in.) ■ Long Edge: 140 x 1200 mm (5.5 x 47.2 in.)	Yes	No	No

Note: All trays support Custom sizes. Tray 1 supports a wider range of Custom size dimensions than trays 2 and 3.

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Supported Paper Types and Weights

Paper Type	Paper Weight	Tray 1	Tray 2	Trays 3/4/5
Plain Paper ■ Pre-Printed ■ Pre-Punched ■ Colored	67-90 g/m² (20-24 lb. Bond)	Yes	Yes	Yes
Heavy Plain Paper (Letter Head)	91-105 g/m² (25-28 lb. Bond)	Yes	Yes	Yes
Thin Card Stock	106-169 g/m² (50-60 lb. Cover)	Yes	Yes	Yes
Card Stock	170-220 g/m² (65-80 lb. Cover)	Yes	Yes	Yes
Thick Card Stock	221-256 g/m² (81-90 lb. Cover)	Yes	Yes	Yes
Extra Thick Card Stock	257-280 g/m² (100 lb. Cover)	Yes	No	No
Thin Glossy Paper	106-169 g/m² (50-60 lb. Cover)	Yes	Yes	Yes
Glossy Paper	170-220 g/m² (65-80 lb. Cover)	Yes	Yes	Yes
Thick Glossy Paper	221-256 g/m² (81-90 lb. Cover)	Yes	Yes	Yes
Transparency	Xerox Premium Transparency	Yes	Yes	No
Envelope	75-90 g/m² (20-25 lb. Bond)	Yes	No	No
Labels		Yes	No	No
Special	All	Yes	Yes	Yes
Banner	221-256 g/m² (81-90 lb. Cover)	Yes	No	No

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Supported Envelopes

Type	Dimension	Tray 1	Trays 2/3/4/5
#10 Commercial Envelope	4.12 x 9.5 in.	Yes	No
Monarch Envelope	3.87 x 7.5 in.	Yes	No
DL Envelope	110 x 220 mm	Yes	No
C5 Envelope	162 x 229 mm	Yes	No
C6 Envelope	114 x 162 mm	Yes	No
C4 Envelope	229 x 324 mm	Yes	No
Custom Envelope	Within range of min. ~ max standard media sizes	Yes	No
Note: Do not use envelopes with hot melt glue, windows, or metal clasps.			

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Physical Dimensions and Clearances

Printer Dimensions

Print Engine	7500 N	7500 DN	7500 DT	7500 DX
Width	25.2 in. (640.0 mm)	25.2 in. (640.0 mm)	25.2 in. (640.0 mm)	25.2 in. (640.0 mm)
Depth	26.2 in. (665.0 mm)	26.2 in. (665.0 mm)	26.2 in. (665.0 mm)	26.2 in. (665.0 mm)
Height	15.7 in. (399.0 mm)	15.7 in. (399.0 mm)	20.9 in. (532.0 mm)	30.3 in. (770.0 mm)
Weight	145.0 lb. (66.0 kg)	145.0 lb. (66.0 kg)	174.0 lb. (79.0 kg)	218.0 lb. (99.0 kg)

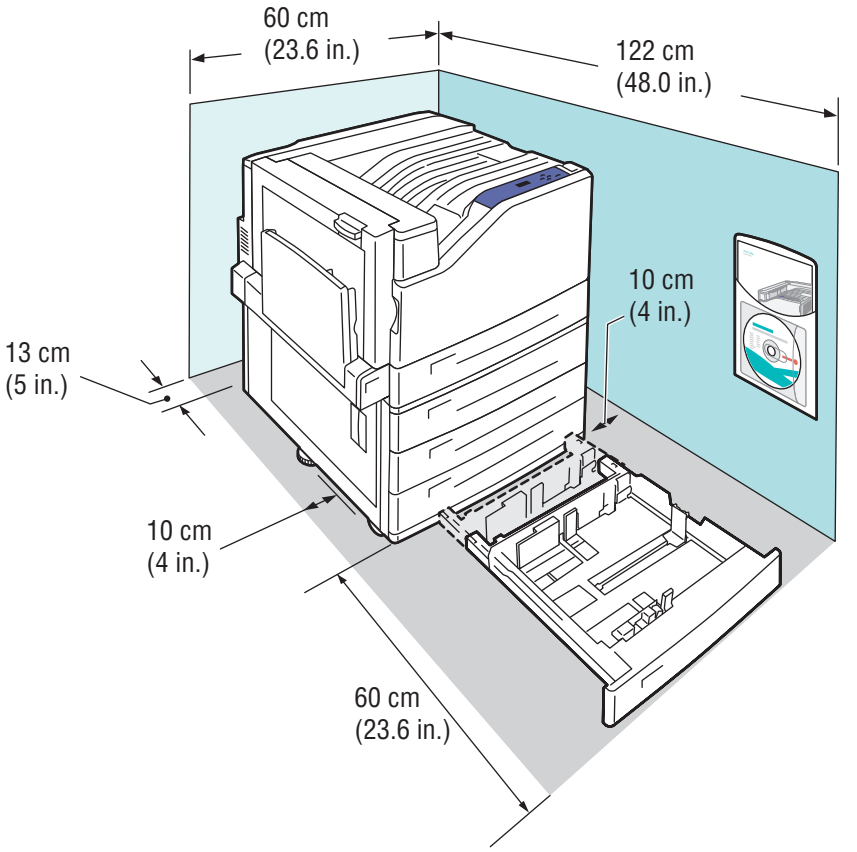
Options	
Optional 500-Sheet Feeder	
Width	22.0 in. (640.0 mm)
Depth	26.2 in. (665.0 mm)
Height	5.2 in. (133.0 mm)
Weight	29.0 lb. (13.0 kg)
Optional 1500-Sheet Feeder	
Width	22.0 in. (640.0 mm)
Depth	26.2 in. (665.0 mm)
Height	14.6 in. (371.0 mm)
Weight	73.0 lb. (33.0 kg)
Printer Stand	
Width	22.8 in. (578.0 mm)
Depth	20.8 in. (529.0 mm)
Height	12.6 in. (320.0 mm)
Weight	73.0 lb. (33.0 kg)

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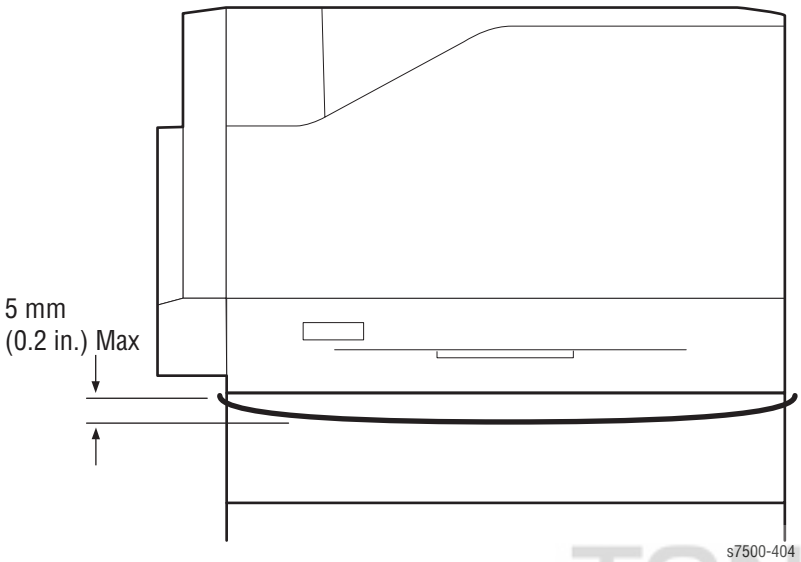
Clearance and Mounting Surface Specifications

These specifications apply to any printer used as a table-top printer, without a Lower Tray Assembly or Printer Stand.

1. In order to function properly, the printer must be placed on a flat surface with the following minimum clearances.

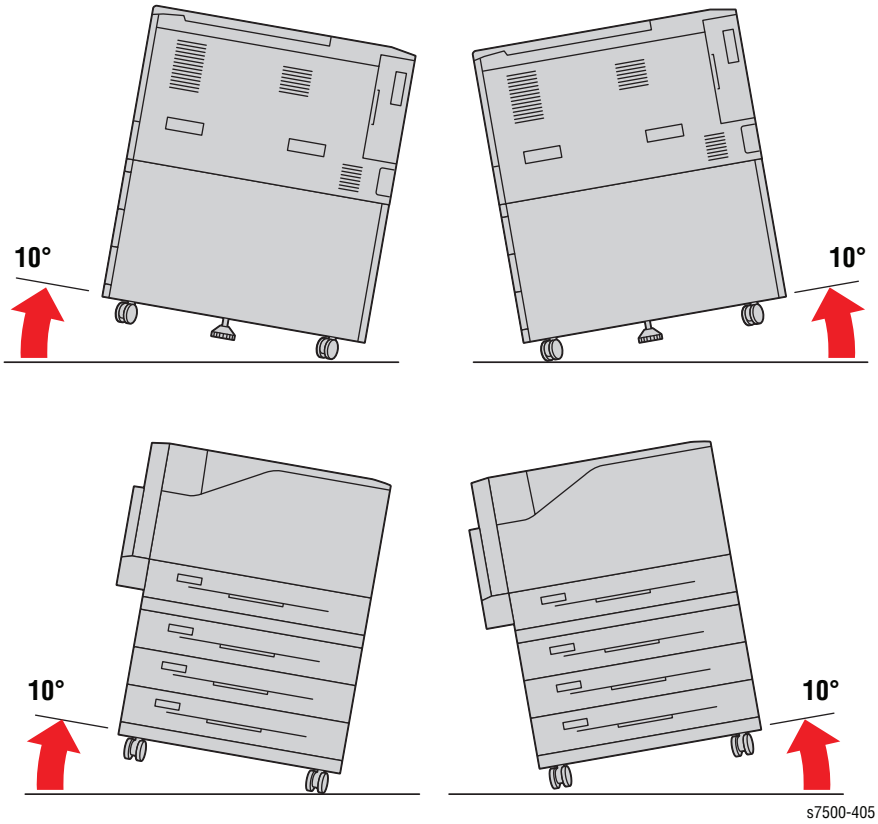


2. Mounting surface flatness must be within the specified range.



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3. The printer must not be tipped or tilted more than 10° angle.



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 direction.
- A smear or line of toner approximately 40 mm from the trailing edge of the print.

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Non-Genuine Mode

Toner Cartridge Control Panel Display

Toner Cartridge	Control Panel Display		Functionality
	Life Warning Error	End of Life Error	
Xerox	Replace Soon	Replace Toner Cartridge	Prints with full functionality.
Other OEM (non-Xerox printer manufacturer)			Printer displays error and will not print.
Non-Xerox Toner Cartridge Manufacturer	Do not use it	Replace Toner Cartridge	If the printer is configured as 3rd Party, two options are available at the Control Panel. Printer displays options “Use It” or “Do not use it.” The Toner Cartridge gage on the Control Panel will not function.

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Maintenance Function

Firmware Update

The Image Processor Board firmware can be updated by customers and service technicians using Windows PC or Macintosh with dedicated utilities. Firmware updates are available at www.xerox.com/office/P7500support.

Updated Firmware	Via Network (port 9100)
Image Processor Board	Available
MCU Board	Available

Note

Refer to "Firmware Update" on page 11-14 for detailed procedure.

Diagnostics

Two types of diagnostic functions are available:

1. Power On Self Test: The controller board is checked at every Power On. The CPU, ROM, and RAM are verified by the boot loader for integrity before the POST firmware can be loaded to verify the Controller Board, but other system components are not required for POST to run.
2. Service Diagnostics: Only qualified service personnel can perform manual diagnostics using the Service Mode in the Control Panel (refer to "General Troubleshooting" on page 4-1).

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Information Pages

The following Information Pages are available in the Phaser 7500 printer. The pages can be accessed through the Control Panel at various locations.

Menu Map

Control Panel -> **Information**

- Menu Map

Information Pages

Control Panel -> **Information** -> **Information Pages**

- Configuration Page
- Paper Tips Page
- Supplies Usage Page
- Connection Setup Page
- Moving Guide
- Startup Page
- Usage Profile
- PCL Font List
- PostScript Font List

Sample Pages

Control Panel -> **Information** -> **Sample Pages**

- Graphic Demonstration
- Office Demonstration
- CMYK Sampler Pages
- RGB Sampler Pages
- PANTONE Color Sampler Pages

Supplies Info

Control Panel -> **Information** -> **Supplies Info**

- Supplies Usage Page

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Troubleshooting

Paper Jams

Control Panel -> **Troubleshooting** -> **Paper Jams**

- Paper Tips Page

Print Quality Problems

Control Panel -> **Troubleshooting** -> **Print Quality Problems**

- Troubleshooting Print-Quality Page
- Color Test Pages
- Solid Fill Pages
- Repeating Defects Pages
- Cyan Step
- Magenta Step
- Yellow Step
- Black Step
- Limit Sample Pages
- Remove Print Smears
- Calibrate for Paper Pages
- Tutorial Page
- Color Reference Page
- Basic Color Balance
- Advanced Color Balance
- Calibrate Margins - Tray 1 (MPT
- Calibrate Margins - Tray 2
- Calibrate Margins - Tray 3
- Calibrate Margins - Tray 4
- Calibrate Margins - Tray 5

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Network Log Pages

Control Panel -> Troubleshooting -> Network Problems -> Network Log Pages

- TCP/IP Start Log
- TCP/IP Runtime Log
- Apple Talk Start Log
- Apple Talk Runtime Log

Service Tools

Control Panel -> Troubleshooting -> Service Tools

- Printer Status Page
- Service Usage Profile

Service Diagnostics

Service Diagnostic -> Troubleshooting -> Service Tools -> Up + Down buttons -> Hidden Service

- Service Diagnostics Menu Map

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Theory of Operation

In this chapter...

- Table of Contents
- Phaser 7500 Operational Overview
- Printing Process
- Print Data Flow
- Paper Feed
- Major Assemblies and Functions
- Drive Assembly
- Operating Mode
- Control

Chapter 2

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Phaser 7500 Operational Overview

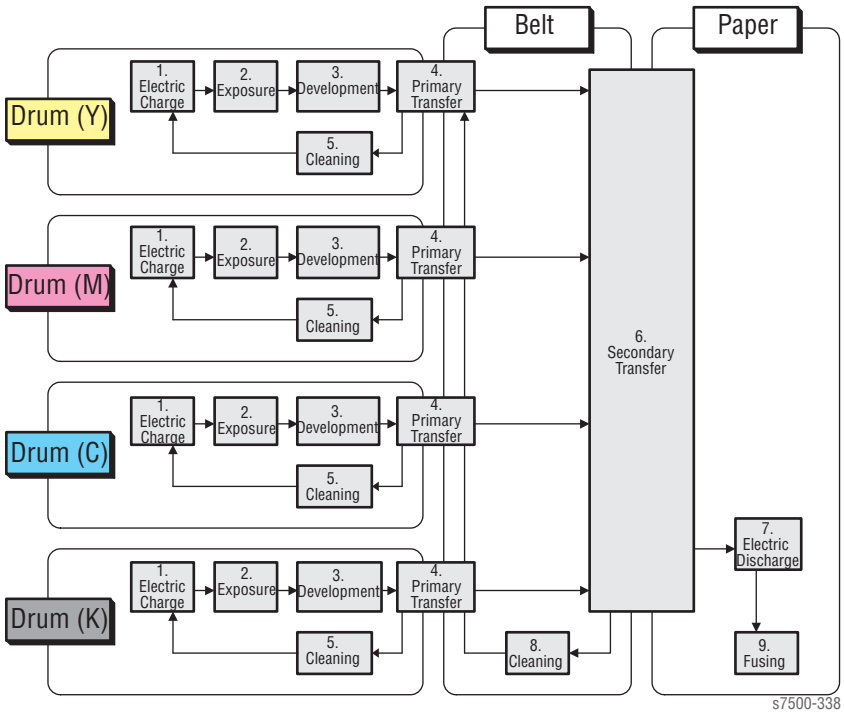
The Phaser 7500 is a LED Print Head Color printer that is based on the electrophotographic recording principle. It utilizes a tandem system where each of the colors - Yellow, Magenta, Cyan, and Black (Abbr: Y, M, C, K) has its own Drum and Developer. A toner image for each color is formed on the Drum and then transferred to the belt (Intermediate Transfer Unit). The toner image of the 4 colors are overlapped on the belt to form the full color print, which is then transferred and fused onto the paper.

System Overview

The Phaser 7500 consists of the Control Panel, Print Engine, Duplex Unit, and Optional Sheet Feeder.

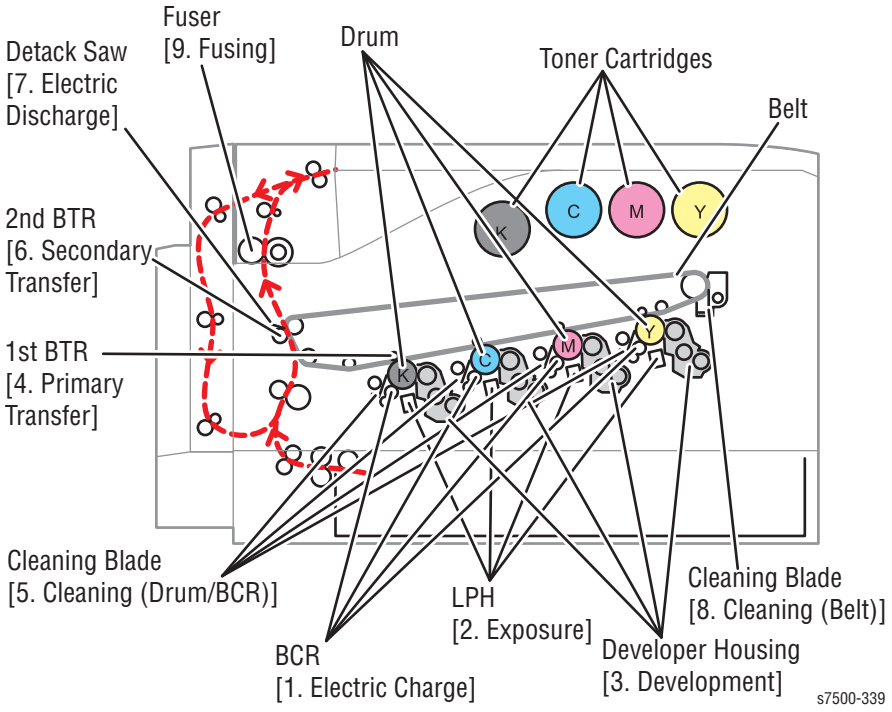
The print process of the printer consists of the following steps:

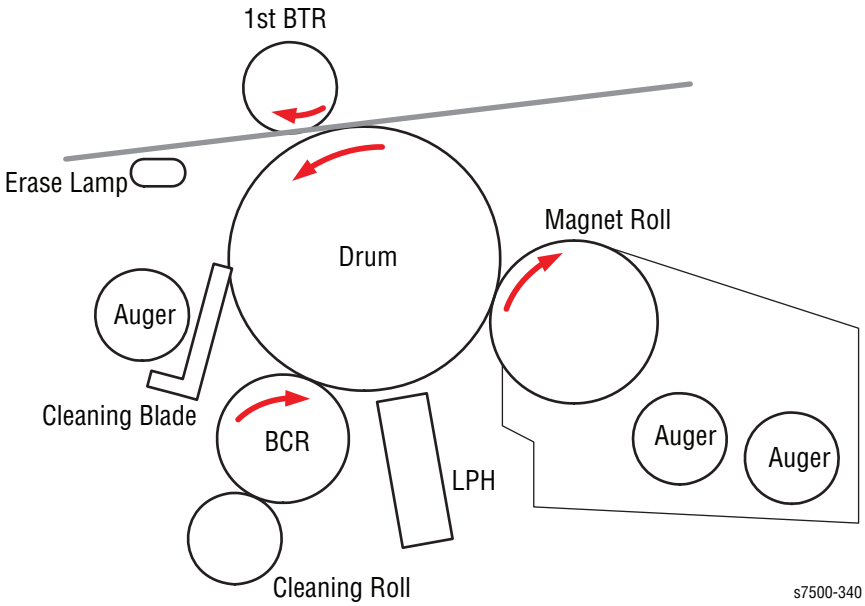
1. Electric Charge - Charges the Drum surface.
2. Exposure - Exposes the Drum surface with LED (Light Emitting Diode) to form the image.
3. Development - Develops the image section on the Drum surface with toner.
4. Primary Transfer - Transfers the toner image on each Drum to the belt.
5. Cleaning - Discharges each Drum and removes any remaining Toner on the Drums and Bias Charge Roller (BCR).
6. Secondary Transfer - Transfers the toner image on the belt to paper.
7. Electric Discharge - Discharges electric charge on the paper.
8. Cleaning - Removes any remaining Toner on the belt and 2nd Bias Transfer Roller (BTR).
9. Fusing - Fuses the toner on the paper with heat and pressure.



Printing Process

The diagrams below provide the print process for the Phaser 7500.



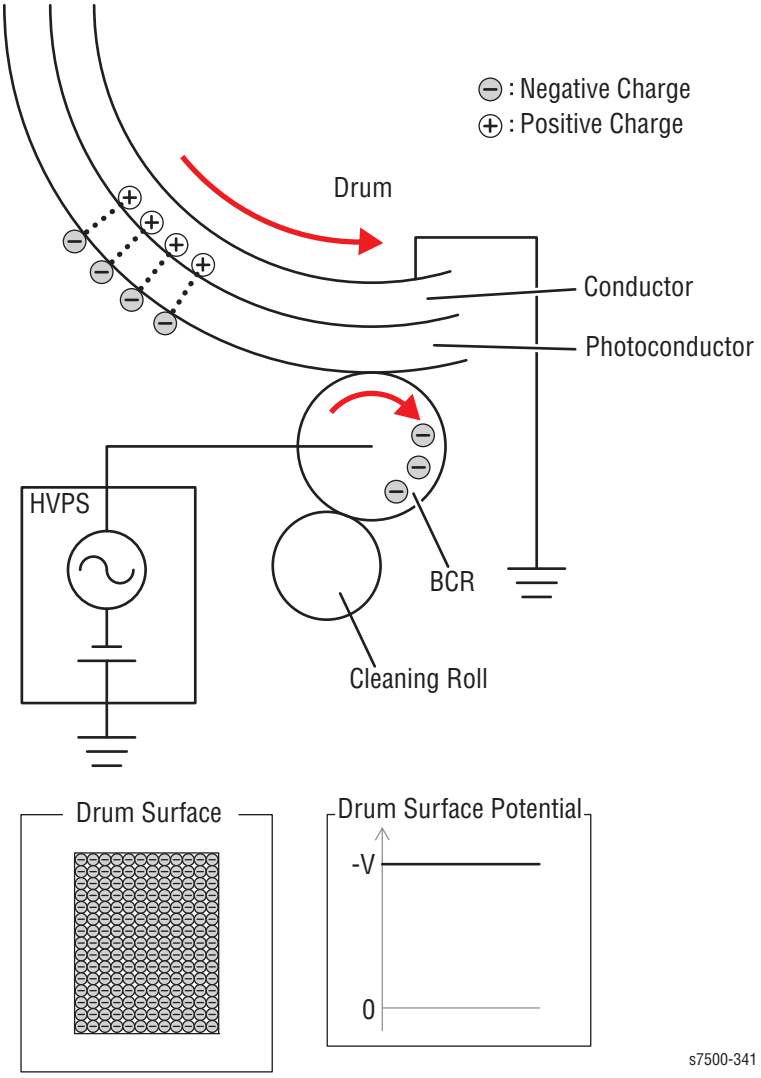


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Electric Charge

The BCR (Bias Charge Roll) evenly distributes a negative electric charge on the surface of the Drum that rotates at a fixed speed. This is performed in parallel for each color - Yellow, Magenta, Cyan, and Black.

- The BCR is always in contact with the Drum and it is driven by the Drum rotation. The BCR is a conductive roll that is energized by the negative DC component of the AC voltage from the HVPS and charges the Drum surface evenly with negative charge.
- The Drum surface is photoconductive (becomes a nonconductor when it is in a dark place and a conductor when exposed to light) and its inner side is composed of a conductor (aluminum cylinder).
- The Cleaning Roll cleans the BCR surface.

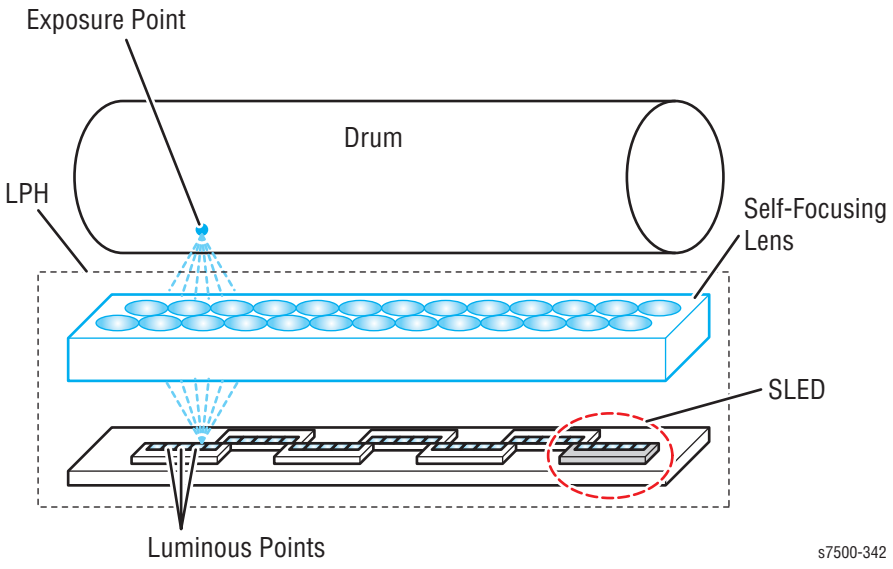


Exposure

The negatively charged Drum surface is exposed to the LED (Light Emitting Diode) to form an invisible electrostatic latent image on it. This is performed in parallel for each color - Yellow, Magenta, Cyan, and Black.

The Phaser 7500 uses the LPH (LED Print Head) for the Exposure process. The LPH is made up of numerous LEDs that are lined up in the Fast Scan Direction.

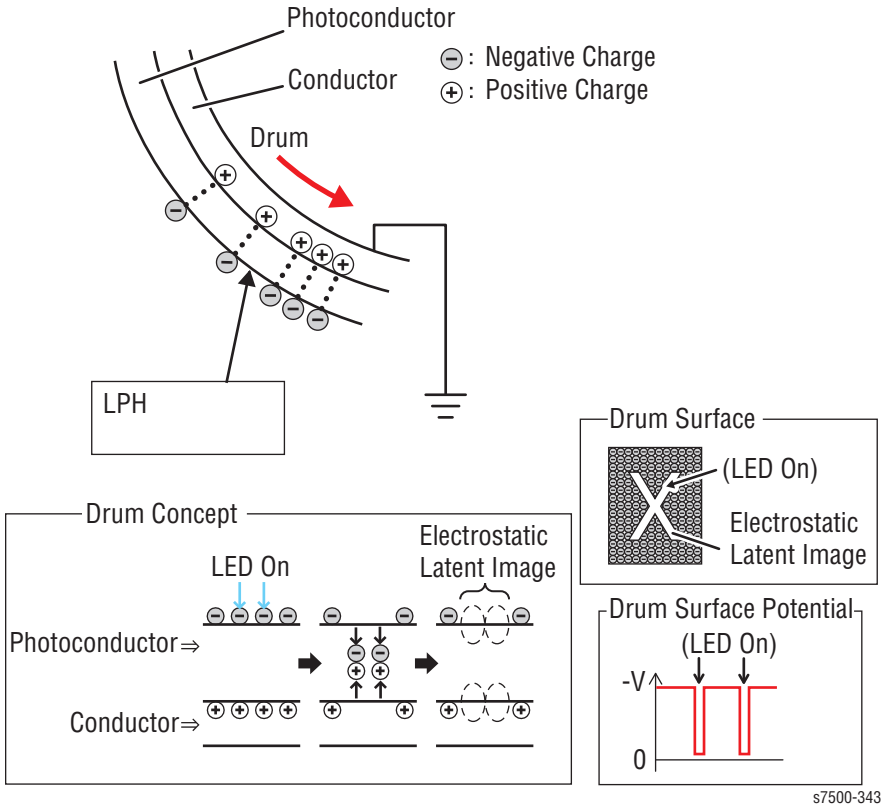
The LPH for the printer consists of 57 sheets of the newly developed SLED (Self-Scanning Light Emitting Device). Each sheet of SLED contains 256 dots of luminous points, which adds up to 14592 dots of luminous points on the 57 sheets that is capable of producing a high image quality of 1200 dpi in the Fast Scan direction.



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The LEDs are lit in one line units based on the print data (image data) that is sent from the printer controller.

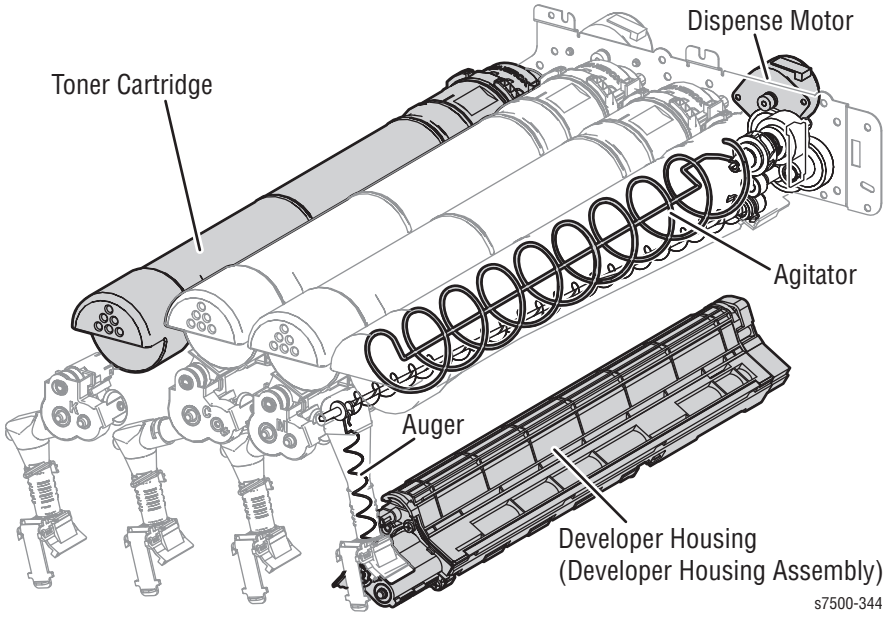
The lenses then focus the light onto the Drum surface. The LED is only lit for the parts where the one line is made up of pixels (small dots that form characters or images). When parts of the Drum surface are exposed, they become conductive and the negative charges flow towards the positive side to cancel out the positive charges, reducing the potential on the Drum surface. These sections with lowered surface potential form the electrostatic latent image.



Development

The electrically charged toners adhere to the electrostatic latent image on the Drum surface to form a visible image (a toner image that can be seen) on it. This is performed in parallel for each color - Yellow, Magenta, Cyan, and Black.

- The Toner in the Cartridge is transported into the Developer Housing Assembly by the Agitator and Auger that are driven by the Dispense Motor.



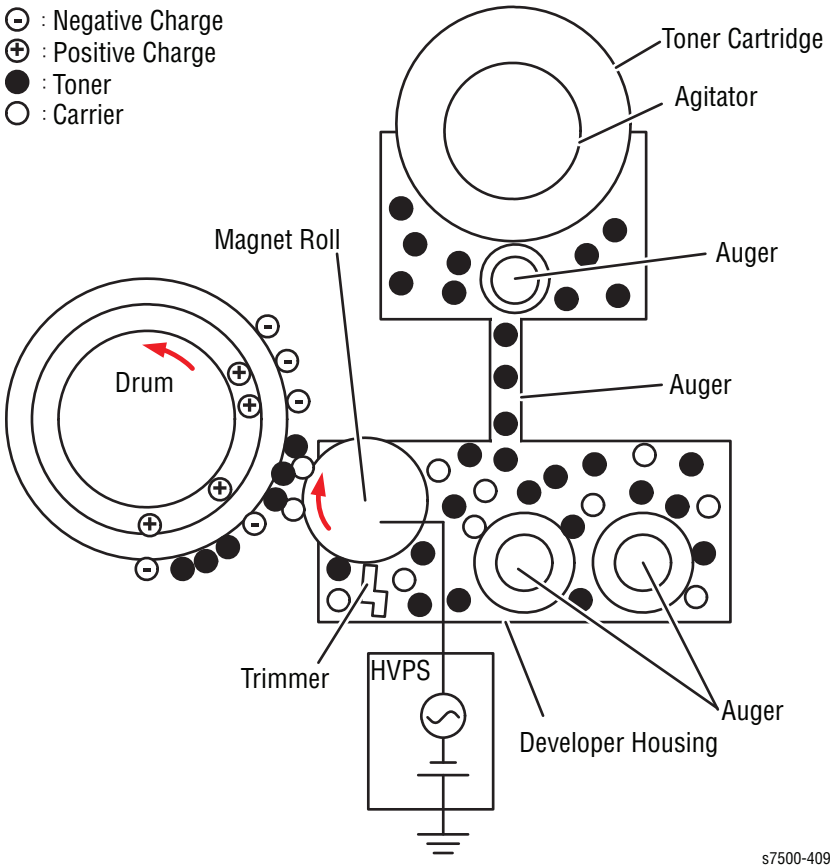
- The Toner and the Developing Beads (toner + carrier) in the Developer Housing Assembly is agitated by the Auger, and then supplied to the Magnet Roll that is located close to the Drum surface. Friction generated by the agitation charges the toner and the carrier (toner becomes negative and carrier becomes positive) and causes them to stick together by mutual electrical attraction. Since the carrier is a magnetic substance, it is attracted to the magnetized Magnet Roll and formed into an even layer by the Trimmer.
- The Magnet Roll surface is covered with thin semi-conductive sleeve. DB (Developing Bias) voltage is supplied from the HVPS to this semi-conductive sleeve. The DB voltage consists of overlapping AC voltage and negative DC voltage.

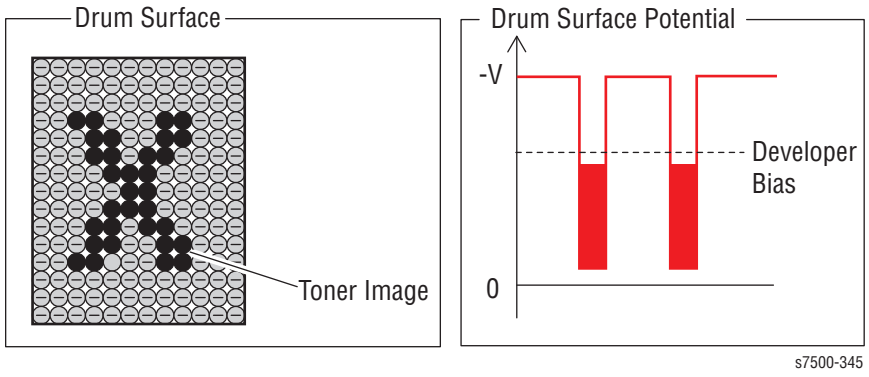
  The DC voltage is used to maintain the Magnet Roll at a constant negative potential compared to the Drum conductive layer. Therefore, sections of Drum surface where the negative charges have not been reduced will have lower potential than the Magnet Roll, while sections where the negative charges have been reduced will have higher potential than the Magnet Roll.

  The AC voltage is used vibrate the toner on the Magnet Roll surface so that it can be transferred more easily. Hence, the negatively charged toner is only attracted to the sections with reduced negative charges on the Drum surface (the electrostatic latent image) to form a toner image on the Drum. (Since the attraction of the positive charge on the Drum conductive layer is stronger than the repulsive force of the negative charge on the Drum surface, the toner still gets pulled to the Drum despite being affected by repulsive force of the

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negative charge.) As more toner adheres to the Drum, the negative charge of that section increases, causing the potential to drop and the attraction force that pulls the toner to weaken.

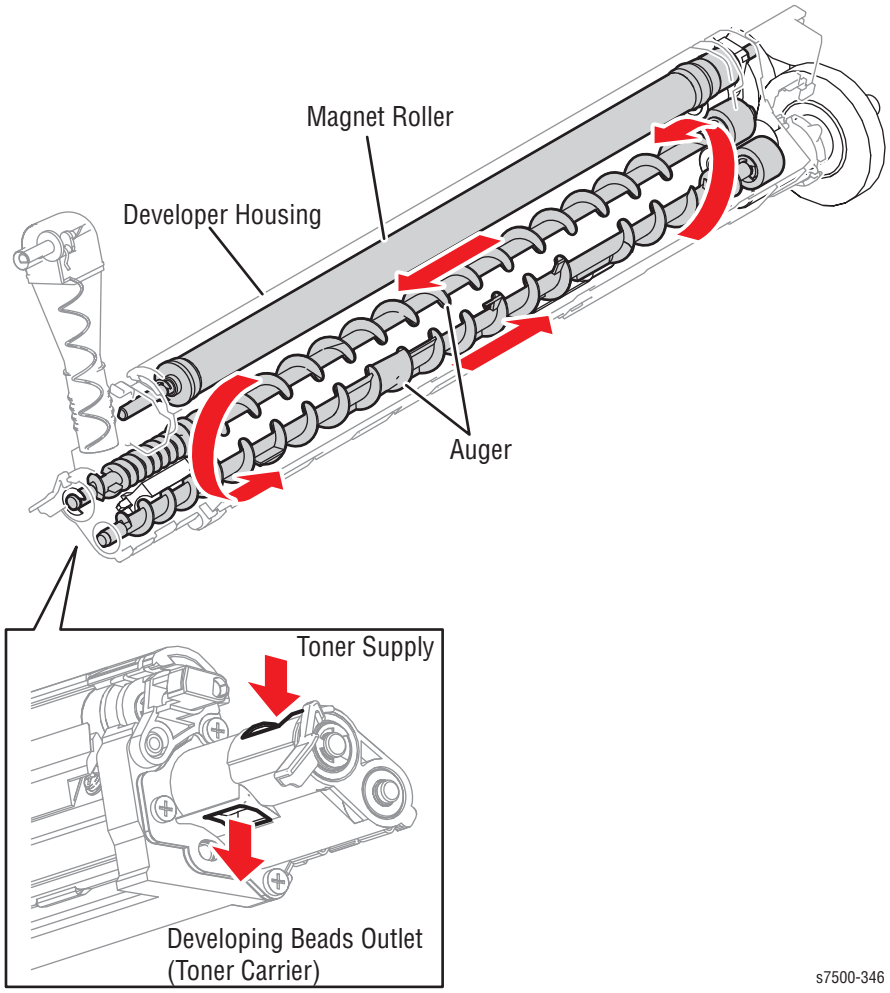




Print Process

The Phaser 7500 uses dry bi-component magnetic toner with the 2 components: toner and carrier.

Other than toner, a small amount of carrier is also present in the Toner Cartridge. To prevent the degradation of Developing Beads, the "Trickle Development Method" is used. This involves supplying the toner together with the carrier into the Developer Housing Assembly while at the same time removing the used Developing Beads from the Developer Housing Assembly.



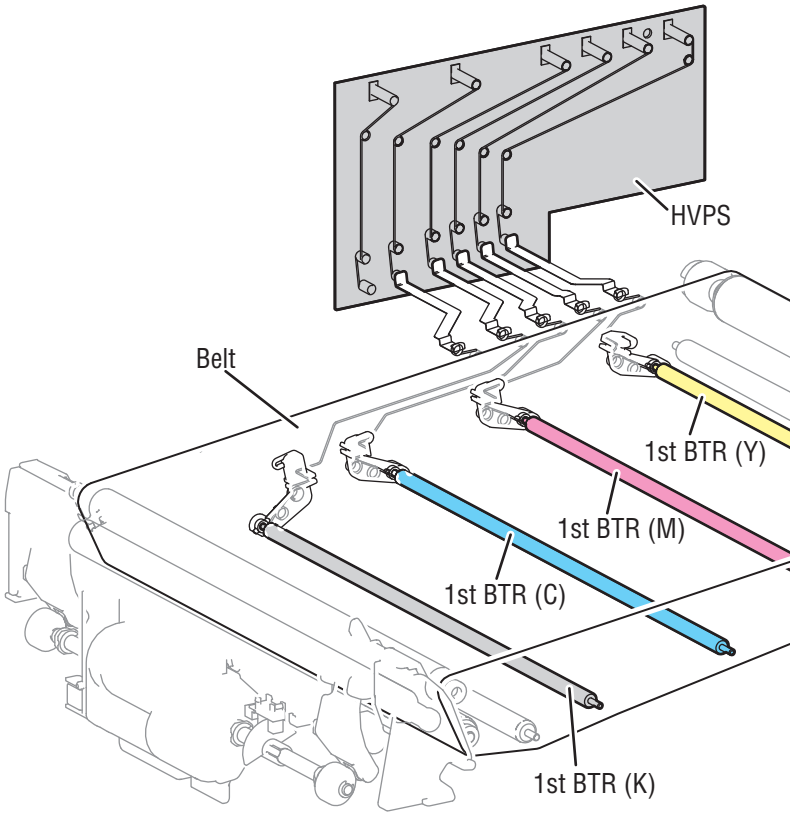
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Primary Transfer (Drum --> Belt)

The 1st BTR (First Bias Transfer Roll) is used to transfer the toner image on the Drum surface onto the belt. The toner images are transferred from the Drums onto the belt in the order of Y, M, C, K.

- The 1st BTR is a metal roll that is energized with positive DC voltage from the HVPS. The 1st BTR contacts the underside of the belt, where it generates a potential through the resistance of the belt, and transfers the positive charges to the underside of the belt.

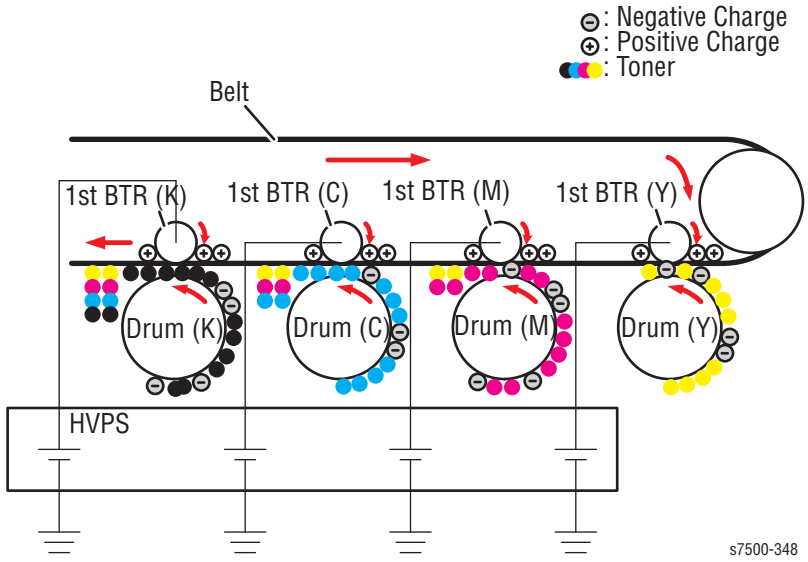
  The negatively charged toner image on the Drum surface is attracted to the positive charge on the underside of the belt and gets transferred from the Drum to the belt.



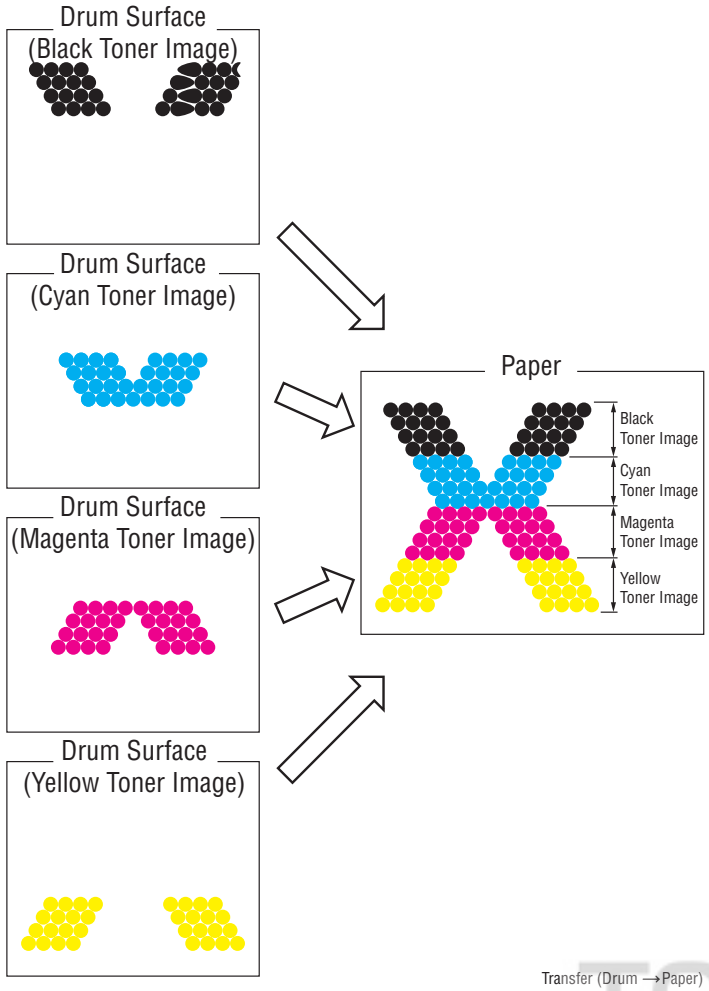
Print Process

The following diagrams contain the print process.

Primary Transfer Process



Complete Toner Image Formation

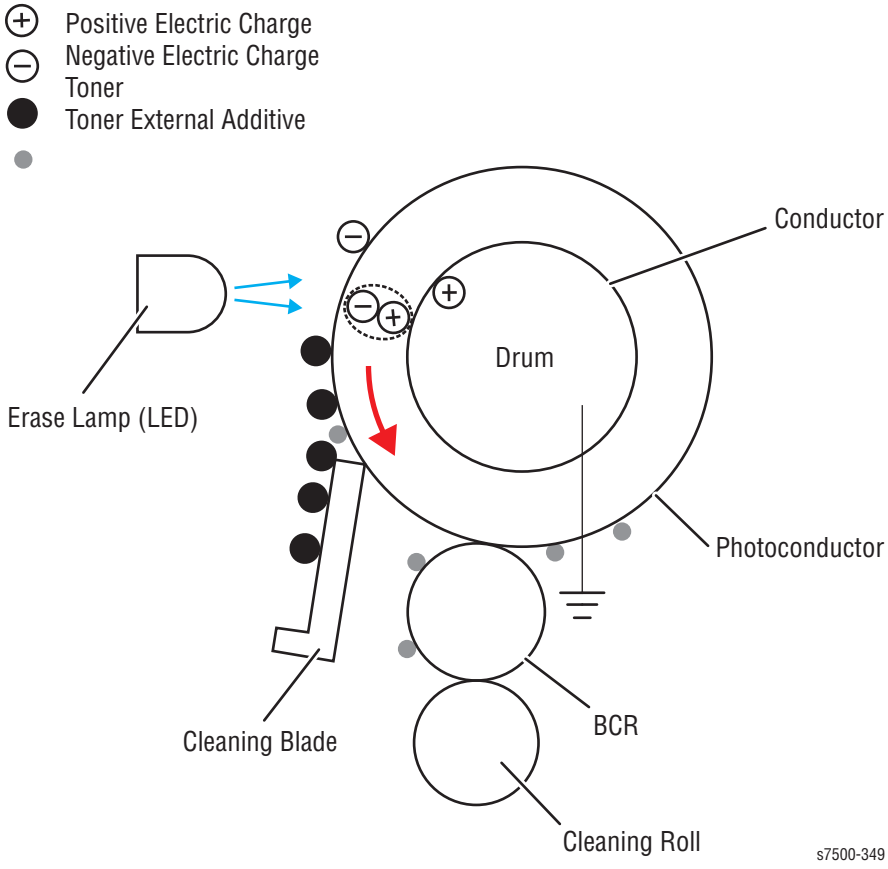


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Cleaning (Drum/ BCR)

Excess toner on the Drum surface and the BCR is removed, and the potential on the Drum surface is discharged.

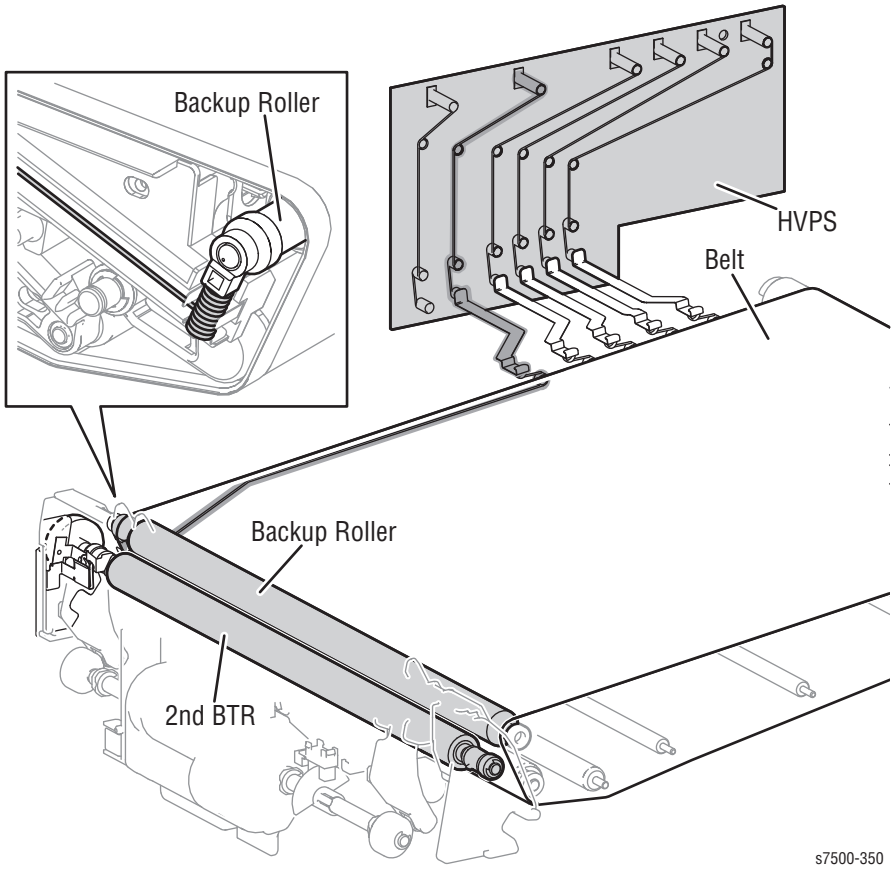
- **Discharging the Drum** - A Drum that has gone through the "Primary Transfer" process is discharged by exposure of light from the Erase Lamp.
- **Cleaning a Drum** - Toner that was not transferred to the belt during the "Primary Transfer" process remains on the Drum surface. Because this toner will interfere with the subsequent processes if allowed to remain on the Drum surface, the Cleaning Blade that is in contact with the Drum scrapes off the remaining toner, which is then transported by the Drum Waste Toner Collector into the Waste Toner Bottle.
- **Cleaning the BCR** - The Cleaning Roll, which is made from spongy material, contacts the BCR surface to remove the remaining External Additive (the whitish transparent powder on the toner surface) and returns it to the Drum. The External Additive that was returned to the Drum, along with any remaining toner on the Drum, will be scraped off and removed by the Cleaning Blade during the Drum Cleaning process.



Secondary Transfer (Belt --> Paper)

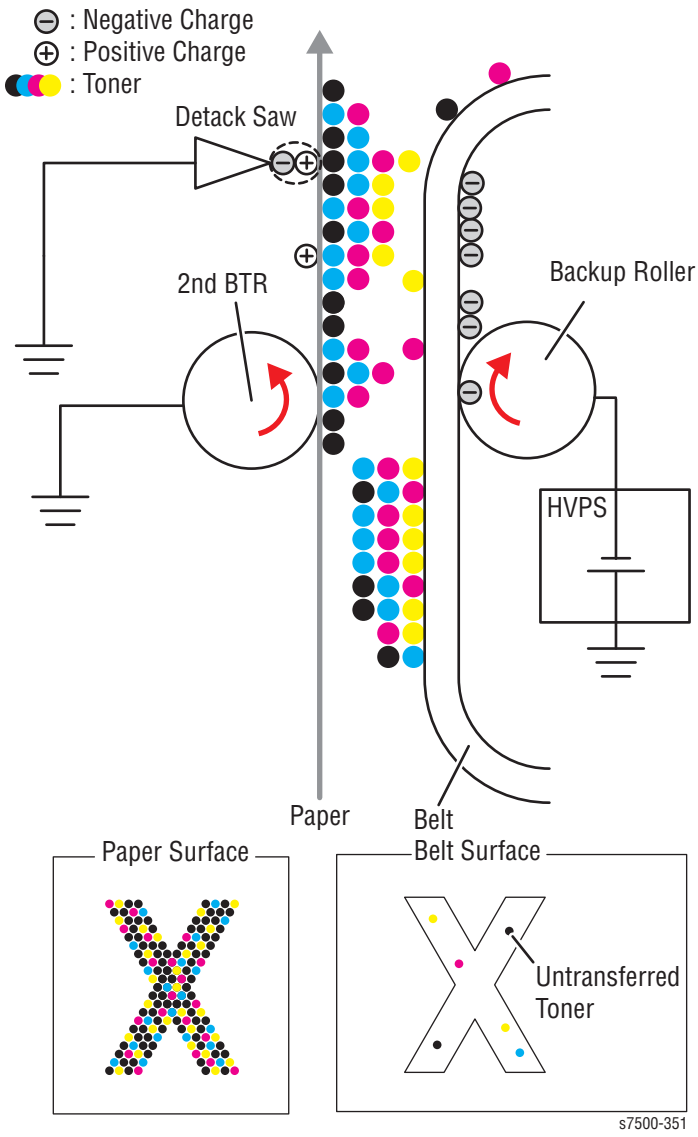
The complete toner image formed on the belt surface is transferred onto the paper by the 2nd BTR (Second Bias Transfer Roll: Secondary Transfer Roll).

- The 2nd BTR will contact the belt after the power is turned On. Because the L/H Cover opening/ closing strength is reduced, it is kept away from the belt during a jam, or when the power is turned Off.
- During the transfer to the paper, the 2nd BTR contacts the Backup Roll (the conductive roll at the inner side of the belt) through the belt to pinch the paper that is being transported between the belt and the 2nd BTR.
- The Backup Roll is charged with negative DC Voltage from the HVPS, forming a transfer field with the grounded 2nd BTR that transfers the completed toner image on the belt onto the paper.



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Secondary Transfer Process



Electric Discharge

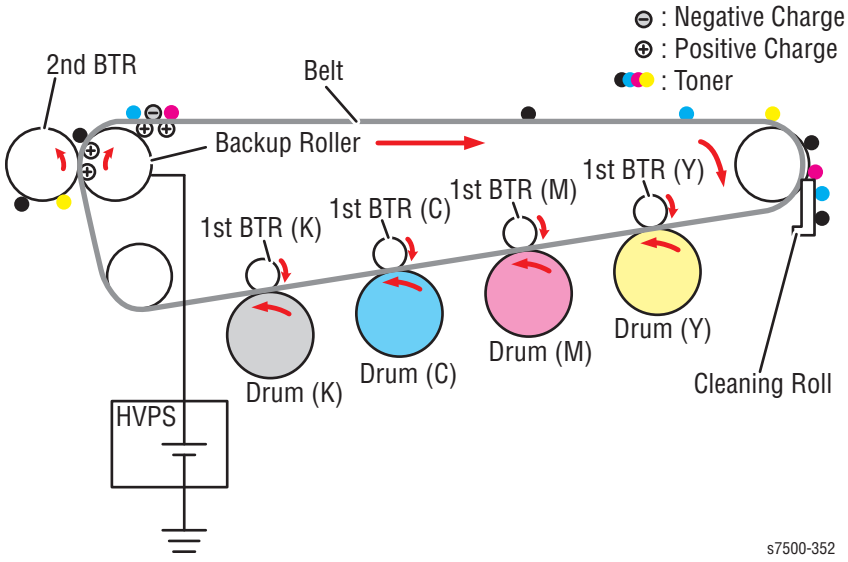
The charge on the paper is neutralized/removed by the Detack Saw (serrated metal plate) to peel off the paper from the belt.

- The Detack Saw is a serrated metal plate with an acute edge that is connected to the frame ground.
- The Detack Saw is close to the back of the paper. If the charge that was applied to the paper in the "Secondary Transfer" process gets discharged unevenly to the chutes and other metallic parts before the fusing, it will cause image distortion and toner dispersion. To prevent this, the positive charge that was applied to the paper is actively discharged by the Detack Saw so as to evenly neutralize/remove it.

Cleaning (Belt/ 2nd BTR)

The non-transferred toner on the belt and the unwanted toner that is stuck to the 2nd BTR are removed after the toner image has been transferred to the paper.

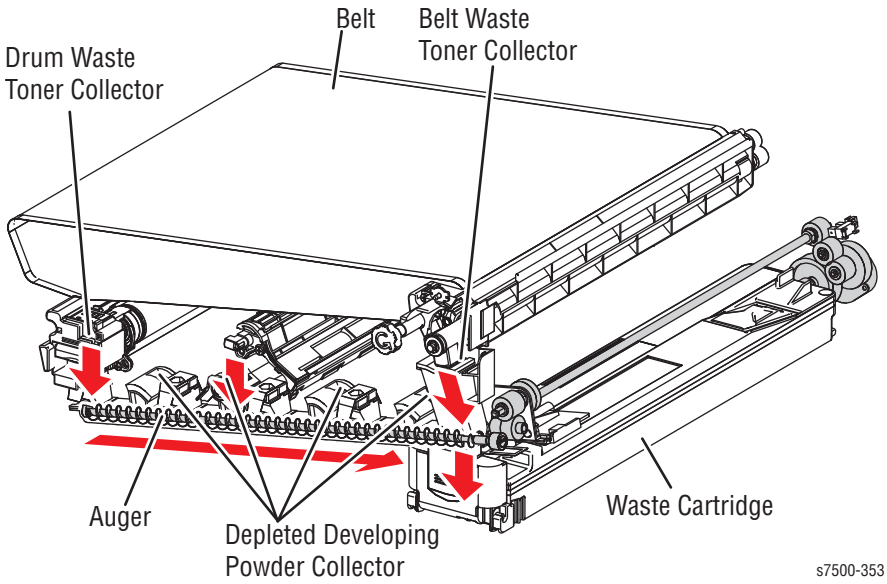
- **Cleaning the Belt** - Toner that was not transferred to the paper during the "Secondary Transfer" process remains on the belt surface. Because this toner will interfere with the subsequent processes if allowed to remain on the belt surface, the Cleaning Blade that is in contact with the belt scrapes off the remaining toner, which is then transported by the Belt Waste Toner Collector into the Waste Cartridge.
- **Cleaning the 2nd BTR** - Unwanted toner that adhered to the 2nd BTR during the "Secondary Transfer" process will dirty the back side of subsequent paper. To prevent this, positive DC Voltage from the HVPS is applied to the Backup Roll that faces the 2nd BTR to transfer the toner on the 2nd BTR back to the belt. The Cleaning Blade that is in contact with the belt then scrapes off the toner that was transferred back to the belt, which is then transported by the Belt Waste Toner Collector into the Waste Cartridge.



Waste Toner Collection

All the waste toner that is generated during the cleaning of the Drums and belts, as well as the depleted Developing Powder from the Developer Housing Assemblies are transported into the Waste Cartridge by the Auger.

Although only one Drum and Developer are shown in the illustration for simplification, each section has its own collector.

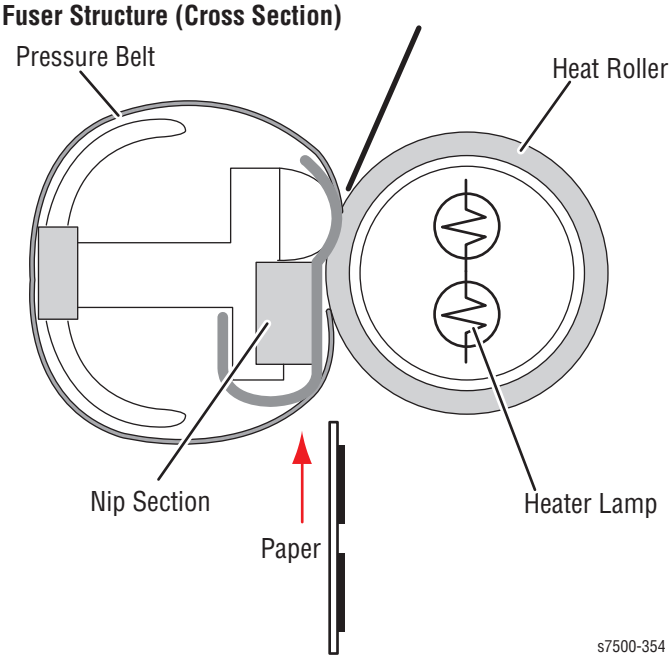


Fusing

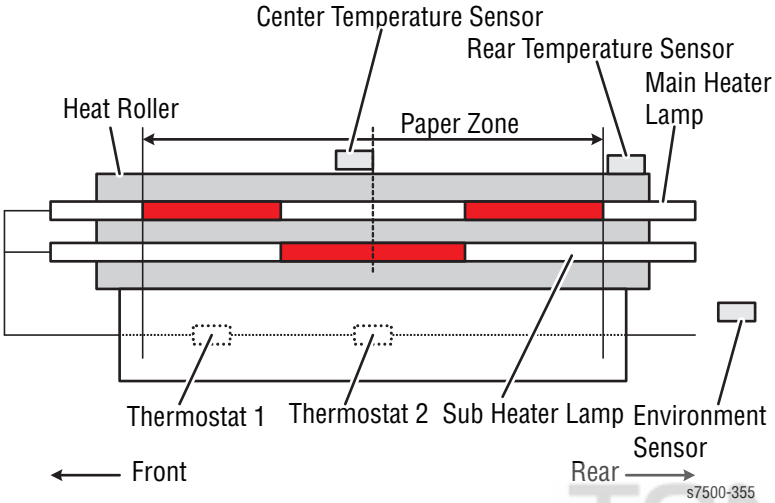
The toner image is fused to the paper by melting the toner on the paper and using pressure to compress it.

- The toner image that was transferred from the Drum can be spoiled even by just lightly touching it with a finger. The paper has to pass through the Fuser (Fusing Unit: Fuser Assembly) to fuse this toner image to it.
- The Fuser of the printer has a Pressure Belt instead of a Pressure Roll. The Heat Roll rotates, driving the Pressure Belt, which is driven by the friction. The pressure system in the belt nips the belt and Heat Roll.
- The Heat Roll is heated by the Heater Lamp to melt the toner, while the nip pressure between the Heat Roll and the Pressure Belt fuses the toner to the paper.

Fuser Structure (Cross Section)



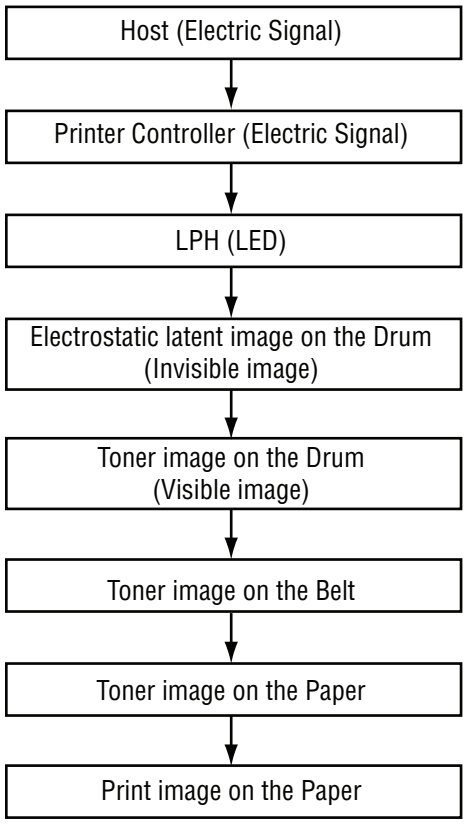
Fuser Structure (Side View)



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Print Data Flow

The print data (electric signals) from the Printer Controller goes through the flow as shown in the following diagram to become a print image.



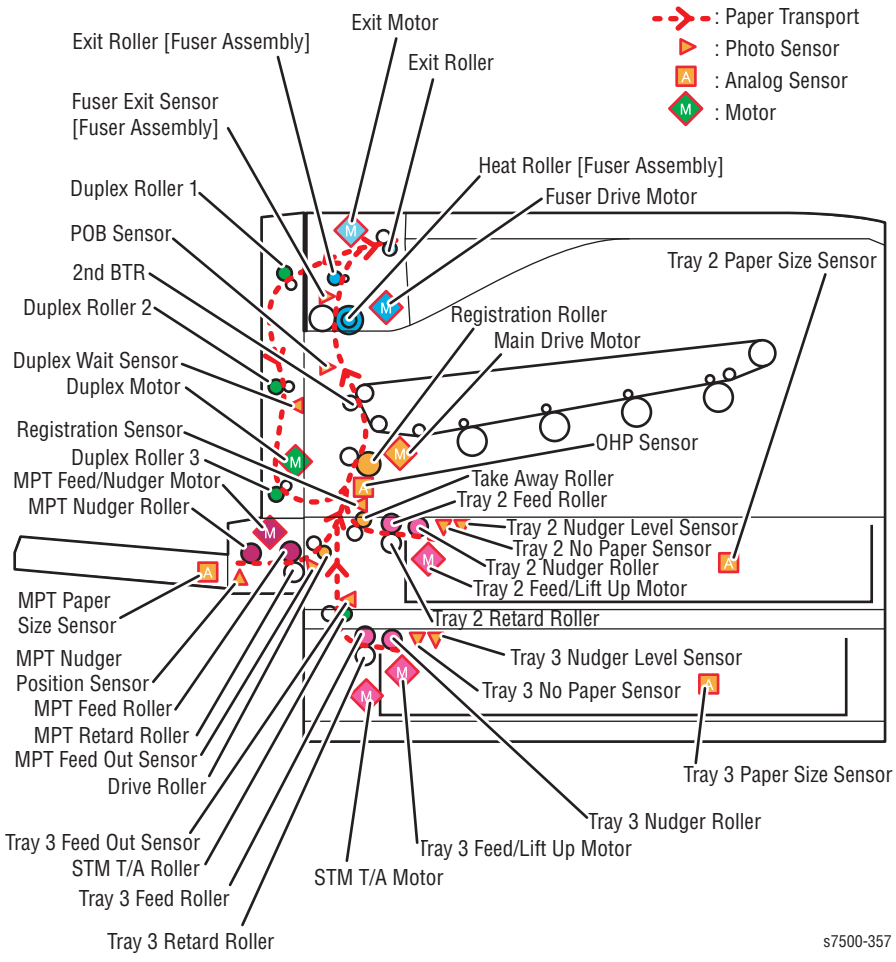
Paper Feed

This section explains the paper transport paths in the printer, as well as the flow of paper movement through each of the transport section.

Paper Feed Layout

Paper Transport (Single Tray Module (STM))

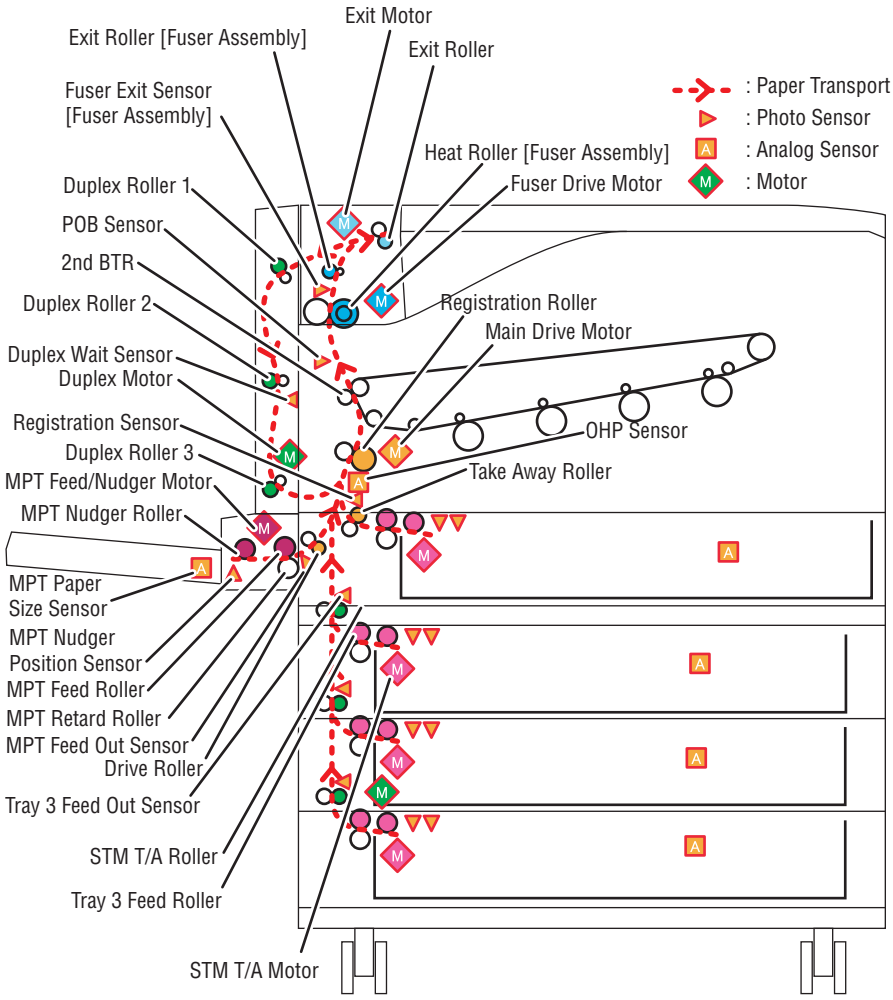
The following diagram contains the paper transport layout and the parts related to paper transportation in a printer with a Duplex Unit and Single Tray Module (STM) attached.



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Paper Transport (3 Tray Cabinet)

The following diagram contains the paper transport layout and the parts related to paper transportation in a printer with a Duplex Unit and 3 Tray Feeder attached.



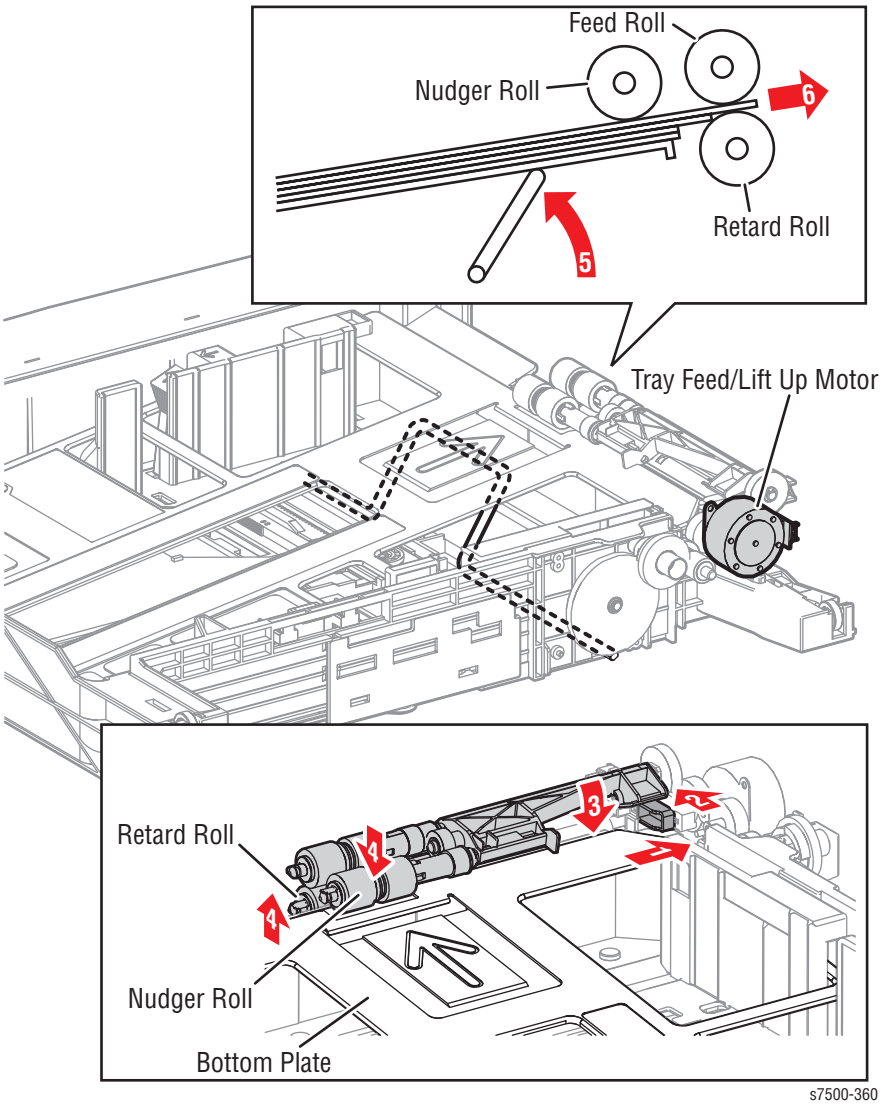
Paper Feed from the Paper Tray

Upon insertion of Paper Tray, the mechanisms (1), (2), and (3) raise the Bottom Plate to press it against the Feed Roll, while the Nudger Roll is lowered (4). At the same time, reverse rotation (CCW direction) of the Tray Feed/Lift Motor raises the Bottom Plate of the Paper Tray until the paper reaches the Feed Position (5).

As the paper feed from the Paper Tray is starting, forward rotation (CW direction) of the Tray Feed/Lift Motor rotates the Nudger Roll, Feed Roll, and Retard Roll. The paper is fed in between the Feed Roll and Retard Roll by the Nudger Roll and then transported towards the Takeaway Roll by the rotation of Feed Roll and Retard Roll.

The spring pressure and the Retard Roll press against the Feed Roll to perform the role that separates paper by using rotation resistance (6).

When there is paper overlap, the brake force of the Torque Limiter that is linked to the Retard Roll separates the top most paper from the rest and feeds it.



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Paper Feed from Tray 1 (MPT)

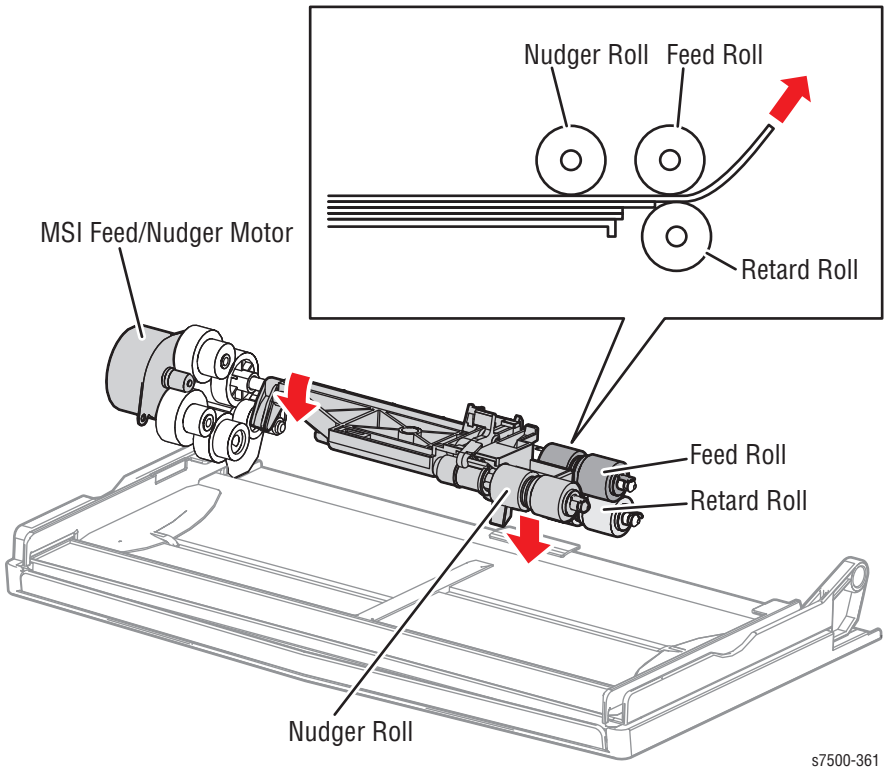
As the paper feed from the Tray 1 (MPT) is starting, forward rotation (CW direction) of the Tray 1 Feed/ Nudger Motor lowers the Nudger Roll to contact the paper.

Next, reverse rotation (CCW direction) of the Tray 1 Feed/ Nudger Motor rotates the Nudger Roll and Feed Roll.

The paper is fed in between the Feed Roll and Retard Roll by the Nudger Roll and then transported towards the Drive Roll by the rotation of Feed Roll and Retard Roll.

The spring pressure and the Retard Roll press against the Feed Roll to perform the role that separates paper by using rotation resistance.

When there is paper overlap, the brake force of the Torque Limiter that is linked to the Retard Roll separates the top most paper from the rest and feeds it.

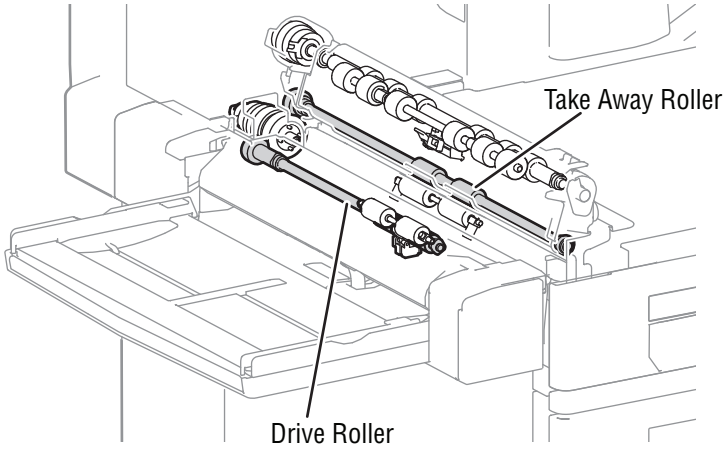


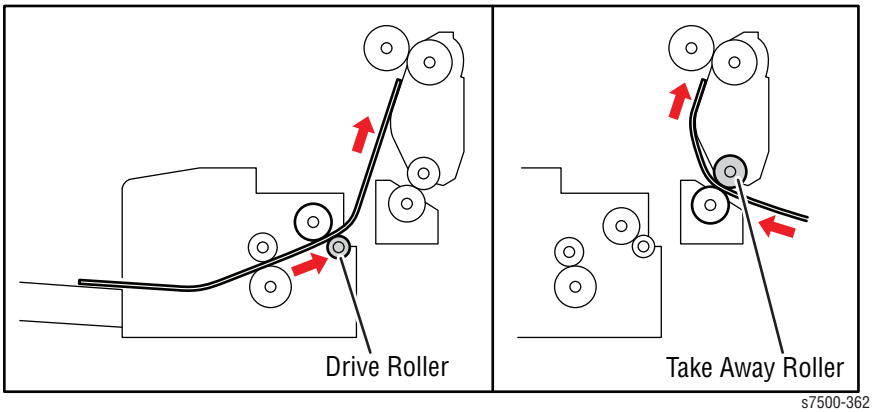
Paper Transport

Paper Transport up to the Registration Area

Paper that was fed from the Paper Tray is transported to the Registration section by the Takeaway Roll. The Takeaway Roll rotates from the drive that is provided by the Main Drive Motor through the Takeaway Clutch.

Paper fed from the Tray 1 (MPT) is transported to the Registration section by the Drive Roll. The Drive Roll rotates by the drive that is provided from the Main Drive Motor through the Takeaway Clutch.





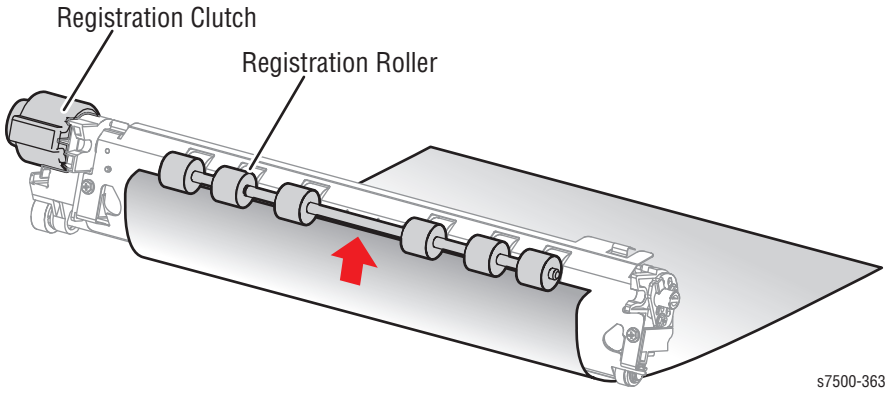
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Paper Lead Edge Adjustment

When paper is fed to the Transfer section, the paper lead edge is aligned using the buckle method in the Registration section.

The buckle method puts the paper that was fed and transported from the trays or the Tray 1 against the Regi Roll, and buckles the paper. By rotating the Regi Roll with the paper buckled, the paper can be transported with its lead edge aligned.



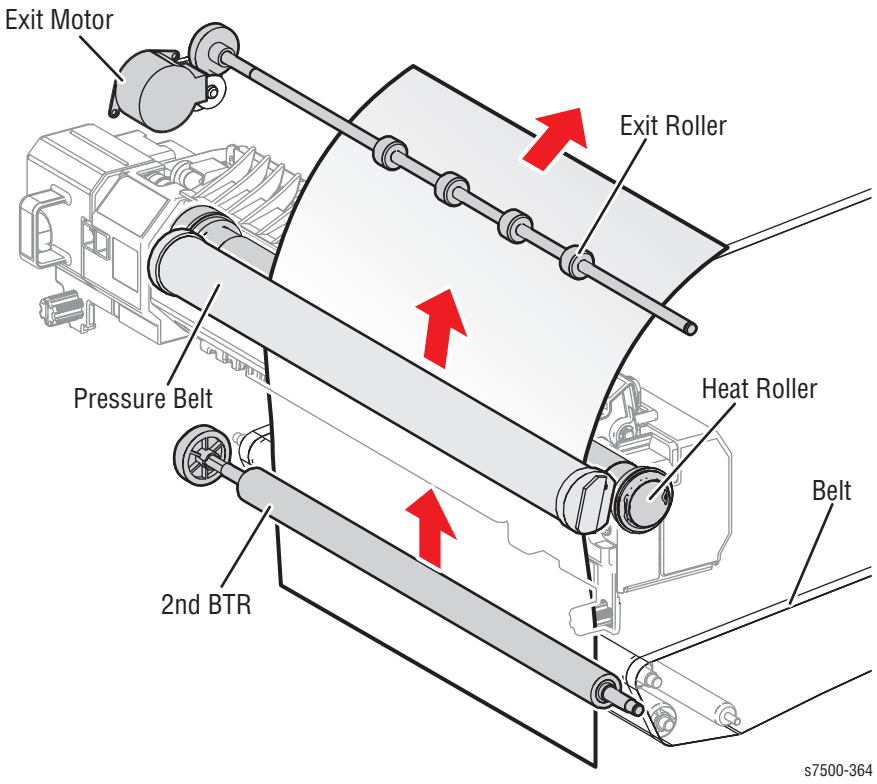
Paper Transport from the Registration Area

After the Lead Edge of the transported paper has been aligned in the Registration section, it will then be transported at the appropriate time by the Regi Roll to the Toner Transfer section.

The Regi Roll rotates from the drive that is provided by the Main Drive Motor through the Regi Clutch.

Transfer/ Fusing/ Paper Output

The belt (IBT Belt Unit) that rotates from the drive of the IBT Belt Drive Motor and the 2nd BTR transfers the latent image from the belt onto the paper as it passes through the Registration section. Next, the Heat Roll (Fuser Assembly) fuses the latent image on the paper and transports the paper towards the Paper Output section. At the Paper Output section, forward rotation (CW direction) of the Exit Motor rotates the Exit Roll in the paper output direction. The completion of paper output is detected by the Fuser Exit Sensor.



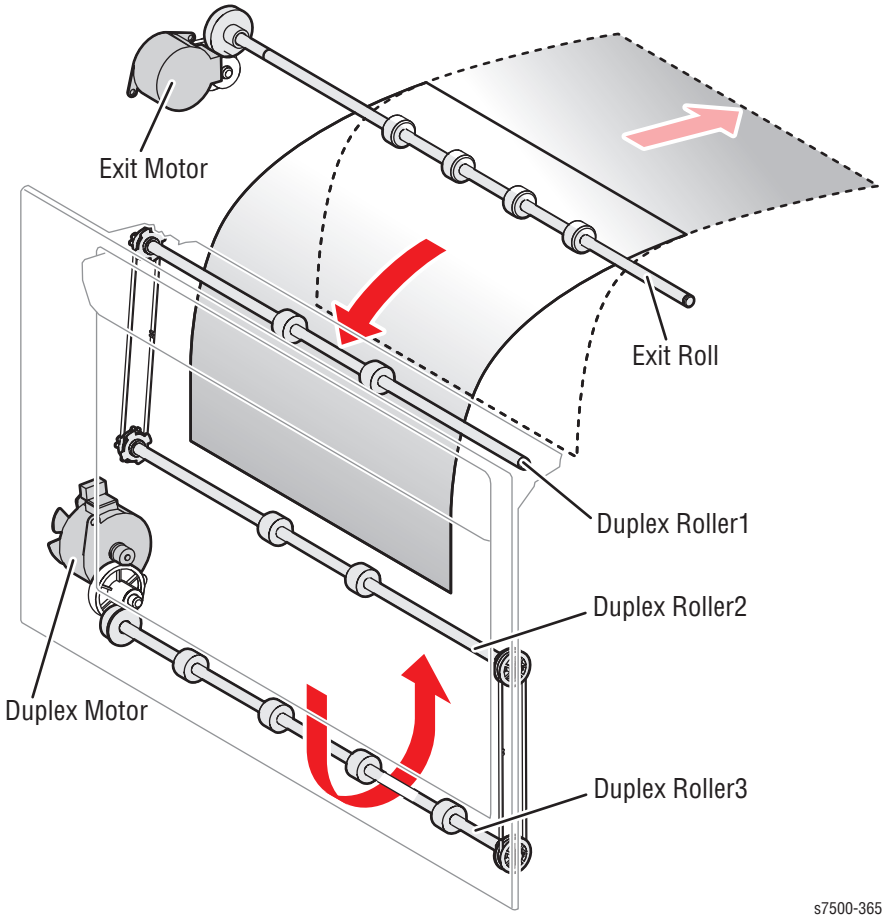
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2-Sided Feed

After the paper had passed through the Fuser Assembly and side 1 is completed, the rotation of the Exit Motor will change from forward rotation to reverse rotation (CCW direction) at the appropriate time.

This causes the Exit Motor to rotate in the duplex transport direction, which transports the paper through the top of the Duplex Chute Assembly, and into the Duplex Assembly.

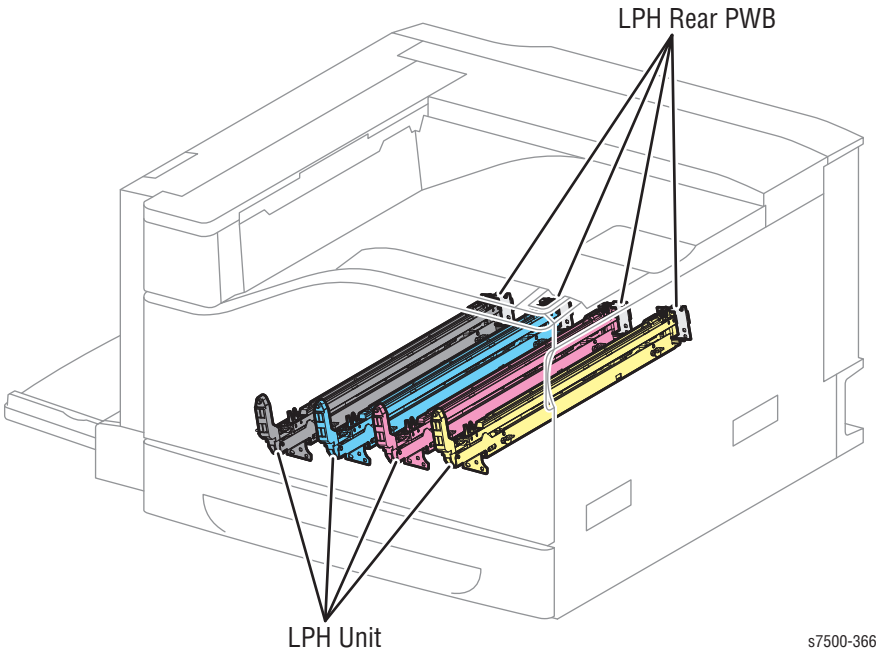
The Duplex Roller 1, Duplex Roller 2, and Duplex Roller 3 then are rotated from the drive of the Duplex Motor to transport the paper to the Registration position.



Major Assemblies and Functions

Exposure (LPH)

The following illustration contains the main functional parts of the printer.



LPH Unit (PL2.1.2)

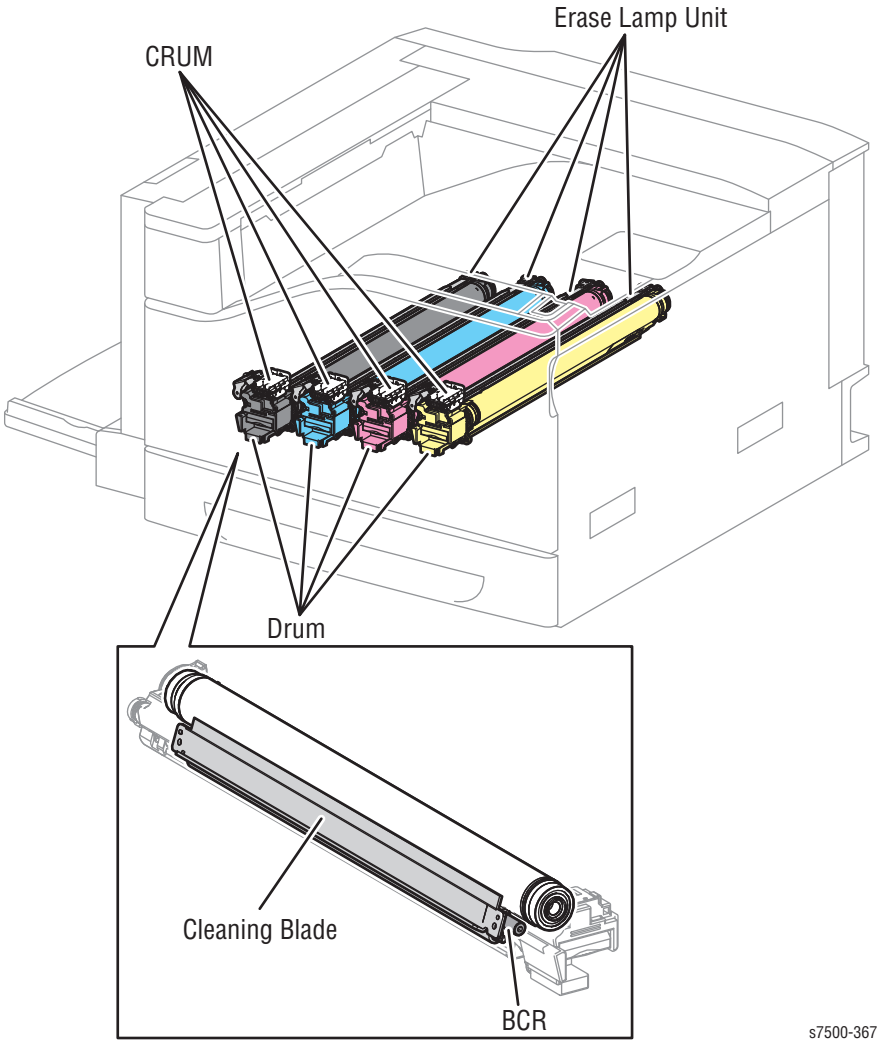
An exposure device that is used to form electrostatic latent images on the Drum surface. One is allocated to each color - Yellow, Magenta, Cyan, and Black.

LPH Rear PWB (PL2.2.5)

The LPH Rear PWB acts as a relay between the MCU PWB and the LPH Unit.

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Electric Charge (Drum)



Imaging Unit (PL8.1.4)

The Drum unit forms electrostatic latent images and toner images. One is for each color - Yellow, Magenta, Cyan, and Black.

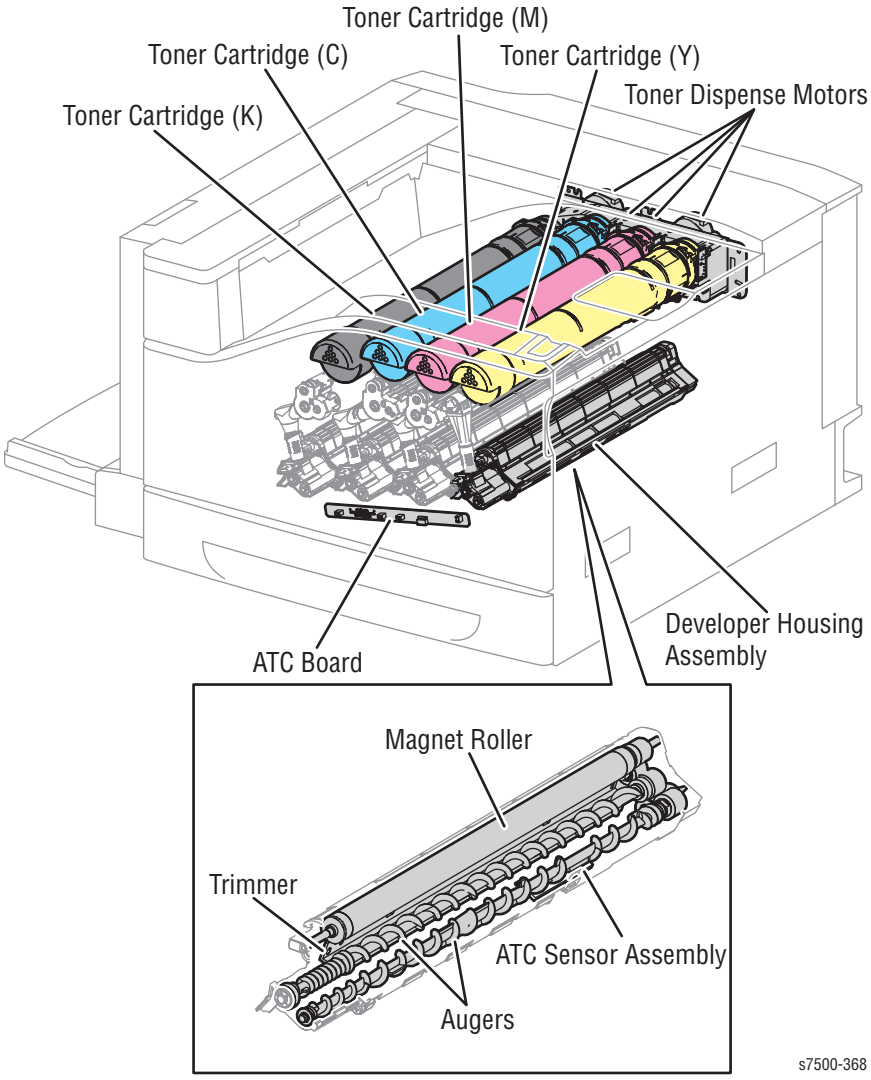
Other than the Drum itself, it is made up of the following main components.

- **BCR** - Charges the Drum.
- **Cleaning Blade** - Cleans any toner remaining on the Drum after the transfer of toner image onto the paper.
- **CRUM** - This is a non-volatile memory that stores the machine data.

Erase Lamp Unit (PL8.1.5)

The Erase Lamp Unit photoelectrically discharges the Drum surface after the toner image has been transferred onto the Transfer Belt. One is allocated to each color - Yellow, Magenta, Cyan, and Black.

Development (Developer)



Toner Cartridges (K/C/M/Y) (PL5.1.1 - 5.1.4)

The Toner Cartridge contains toner and a small amount of carrier. It also comes with a CRUM, which is a nonvolatile memory that stores the machine data.

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Toner Dispenser Motor (PL5.1.7)

The Toner Dispenser Motor drives the Agitator in the Toner Cartridge and the Auger in the Transport section to convey the toner from the Toner Cartridge to the Developer Housing Assembly. One is allocated to each color - Yellow, Magenta, Cyan, and Black.

Developer Housing Assembly (PL5.2.2)

The Developer Housing Assembly uses toner and carrier to develop images on the Drum. One is allocated to each color - Yellow, Magenta, Cyan, and Black.

The Developer Housing Assembly is made up of the following main components.

- **Magnet Roll** - Contacts the Drum and forms toner images on the Drum.
- **Auger** - Agitates toner.
- **Trimmer** - Evens out the layer of toner and carrier on the Magnet Roll.
- ATC Sensor Assembly (PL5.2.4)

ATC Sensor Assembly (PL5.2.4)

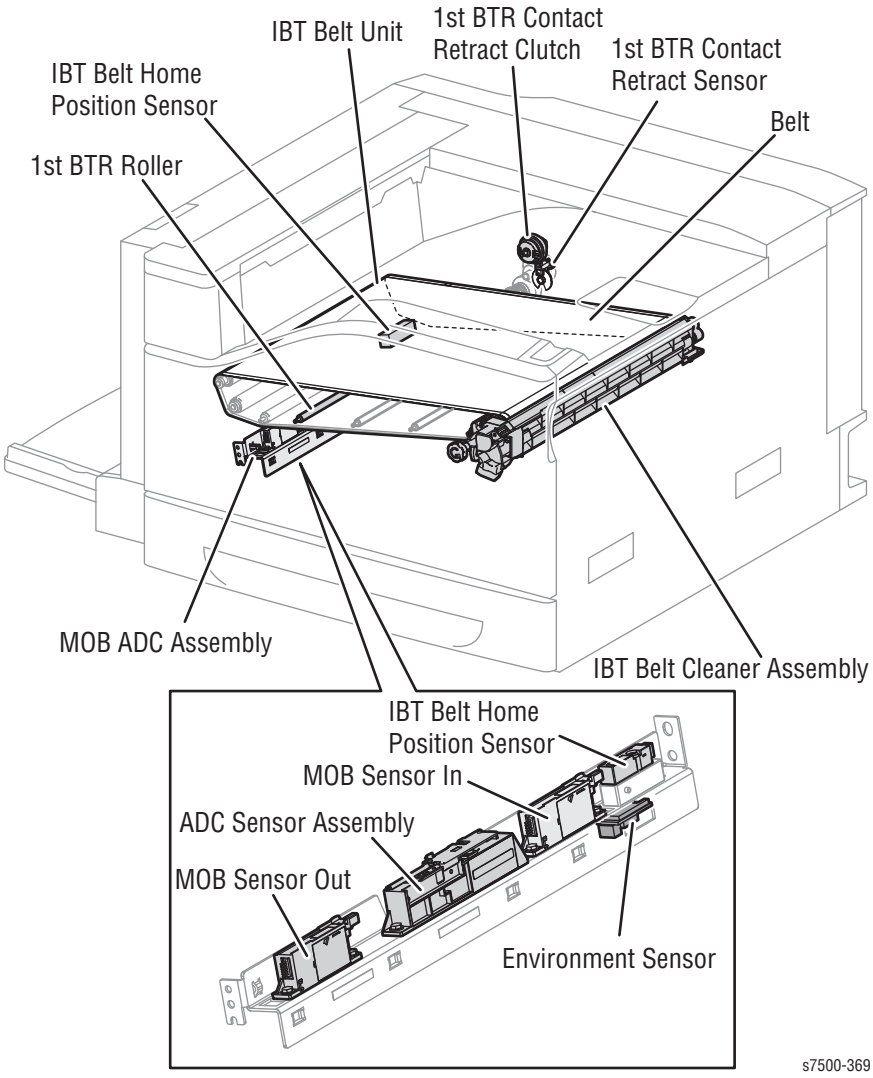
The ATC Sensor Assembly detects the amount of toner and carrier in the Developer (Developer Housing Assembly). It is part of the Developer Housing Assembly.

ATC PWB (PL5.2.18)

The ATC PWB acts as a relay between the MCU PWB and each ATC Sensor.

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Primary Transfer



1st BTR Retract Clutch (PL3.2.12)

The 1st BTR Retract Clutch transfers the drive of the Fuser Drive Motor Assembly to the 1st BTR Roll (Y), 1st BTR Roll (M), and 1st BTR Roll (C) that are part of the IBT Belt Unit.

1st BTR Contact Retract Sensor (PL3.2.17)

The 1st BTR Contact Retract Sensor detects the position of the 1st BTR Roll (Y), 1st BTR Roll (M), and 1st BTR Roll (C) (whether or not they are in contact with the belt).

Note

In contact with belt: Sensor blocked

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MOB ADC Assembly (PL18.1.4)

The MOB ADC Sensor is a Sensor Unit related to the Image Formation Control (Process Control, Color Registration Control).

The MOB ADC Assembly is made up of the following main components.

- **ADC Sensor Assembly** - Consists of the ADC Sensor and the Shutter Solenoid.
  - ADC Sensor - Detects the toner patch density on the belt before the secondary transfer.
  - Shutter Solenoid - Uncovers the belt detection section of the ADC Sensor during the detection of toner patch density on the belt and opens/closes the shutter.
- **Environment Sensor** - Detects the temperature and humidity in the machine.
- **IBT Belt Home Position Sensor** - Detects the reference position of the belt.
- **MOB Sensor In** - Detects the regi shift for each of the colors - Y, M, C, K by the Chevrons printed at the rear of the belt.
- **MOB Sensor Out** - Detects the regi shift for each of the colors - Y, M, C, K by scanning the Chevrons printed at the front of the belt.

IBT Belt Unit (PL6.1.10)

The Primary Transfer Unit transfers the toner image that was formed on the Drum surface for each color onto the belt.

The IBT Belt Unit is made up of the following main components.

- **1st BTR Roll (Y/M/C/K)** - During printing, these apply positive charge to the bottom side of the belt to transfer the toner image that was created on the Drum onto the belt.
- **Belt** - Overlays the toner images that were formed by each color and transfers it.
- **Backup Roll** - Contacts the 2nd BTR through the belt during the Secondary Transfer to transfer the toner image from the belt onto the paper.

IBT Belt Cleaner (PL6.1.7)

The IBT Belt Cleaner cleans any toner remaining on the Transfer Belt after the transfer of toner image onto the paper.

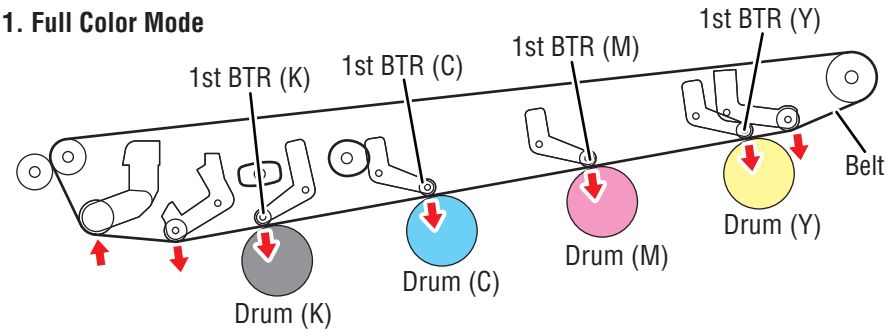
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1st BTR Contact/ Retract

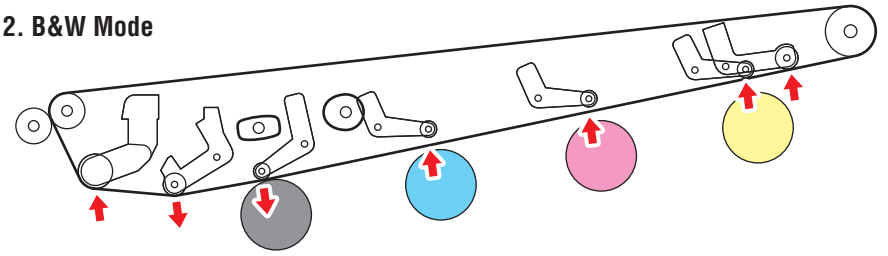
Depending on the mode, there are 3 positions for the 1st BTR as shown in the illustration.

1. In Full Color Mode, all four 1st BTRs will contact the Drum through the belt.
2. In Black & White Mode, only the 1st BTR (K) will contact the belt (Drum). The other three 1st BTRs (Y/M/C) will not contact the belt (Drum). The 1st BTR Contact Retract Clutch operation controls whether the 1st BTR (Y/M/C) is in Contact/Retract state with the belt (Drum).
3. When in the replacement position, all four 1st BTRs will not contact the belt (Drum). This position is attained by releasing the lever at the front of the IBT Belt Unit.

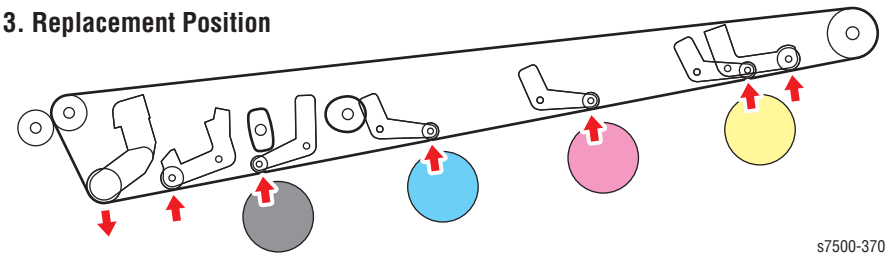
1. Full Color Mode



2. B&W Mode



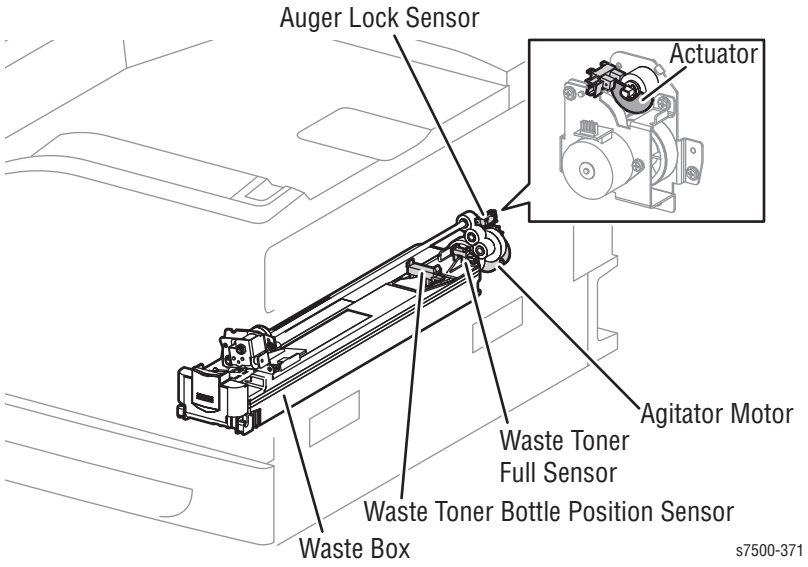
3. Replacement Position



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Toner Collection



Waste Toner Bottle Full Sensor (PL8.2.3)

The Waste Toner Bottle Full Sensor detects whether the Waste Cartridge is full. The top of the Waste Cartridge is transparent, and that portion acts as an Actuator which blocks light to the Sensor. As waste toner accumulates, the transparent actuator section will eventually become opaque due to the waste toner. Therefore, when the Sensor becomes blocked, a Full state is detected.

Waste Toner Bottle Position Sensor (PL8.2.4)

The Waste Toner Bottle Position Sensor detects whether the Waste Cartridge is installed.

Note

Toner Waste Cartridge exists: Sensor blocked

Agitator Motor (PL8.2.7)

The Agitator Motor drives the Auger and Agitator that transports waste toner.

Auger Lock Sensor (PL8.2.16)

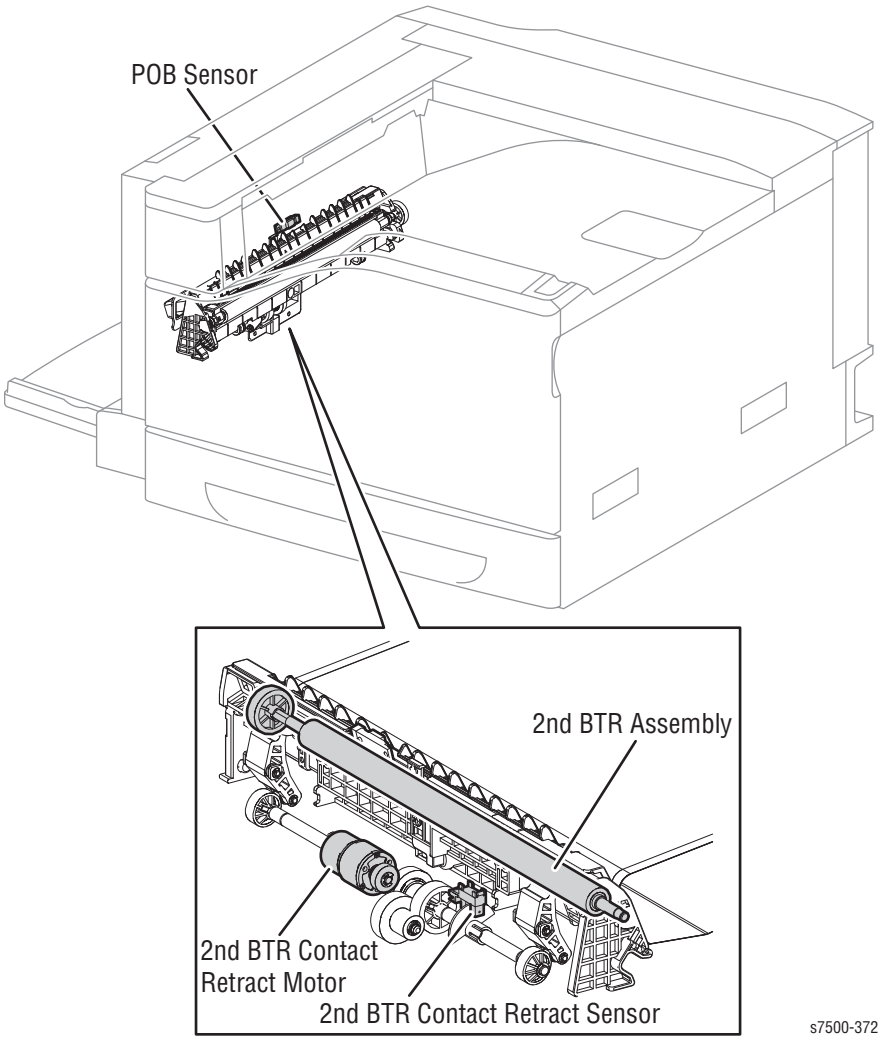
The Auger Lock Sensor detects a Stalled state of the Agitator Motor through the half-crescent Actuator that moves in tandem with the shaft driven by the Agitator Motor.

Waste Cartridge (PL8.2.19)

The Waste Cartridge collects waste toner.

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Secondary Transfer



2nd BTR Assembly (PL14.2.1)

The 2nd BTR Assembly contacts the paper on the backside of the paper and transfers the toner image that was formed on the belt onto the paper.

2nd BTR Contact Retract Sensor (PL14.4.7)

The 2nd BTR Contact Retract Sensor detects the position of the 2nd BTR (whether or not it is in contact with the belt).

Note

In contact with belt: Sensor blocked

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2nd BTR Contact Retract Motor (PL14.4.10)

The 2nd BTR Contact Retract Motor drives the shaft with the attached Cam that operates in tandem with the 2nd BTR. This motor operates when transferring the toner image from the belt onto the paper. By rotating the Cam, the 2nd BTR contacts the paper that is passing on the belt.

POB Sensor (PL14.4.16)

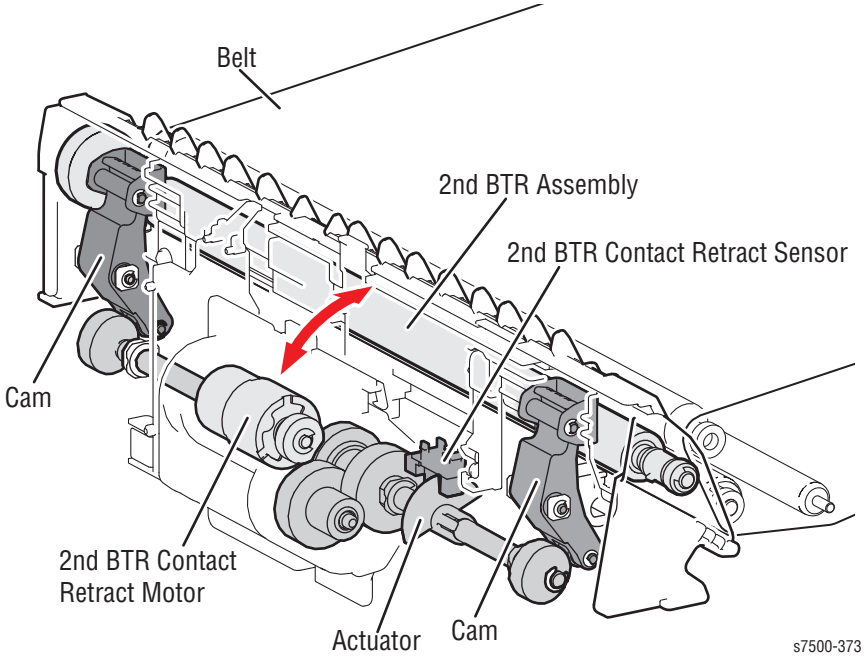
The POB Sensor detects the paper with transferred image that has passed the belt during the Secondary Transfer process.

Note

No paper: Sensor reflective

2nd BTR Contact/ Retract

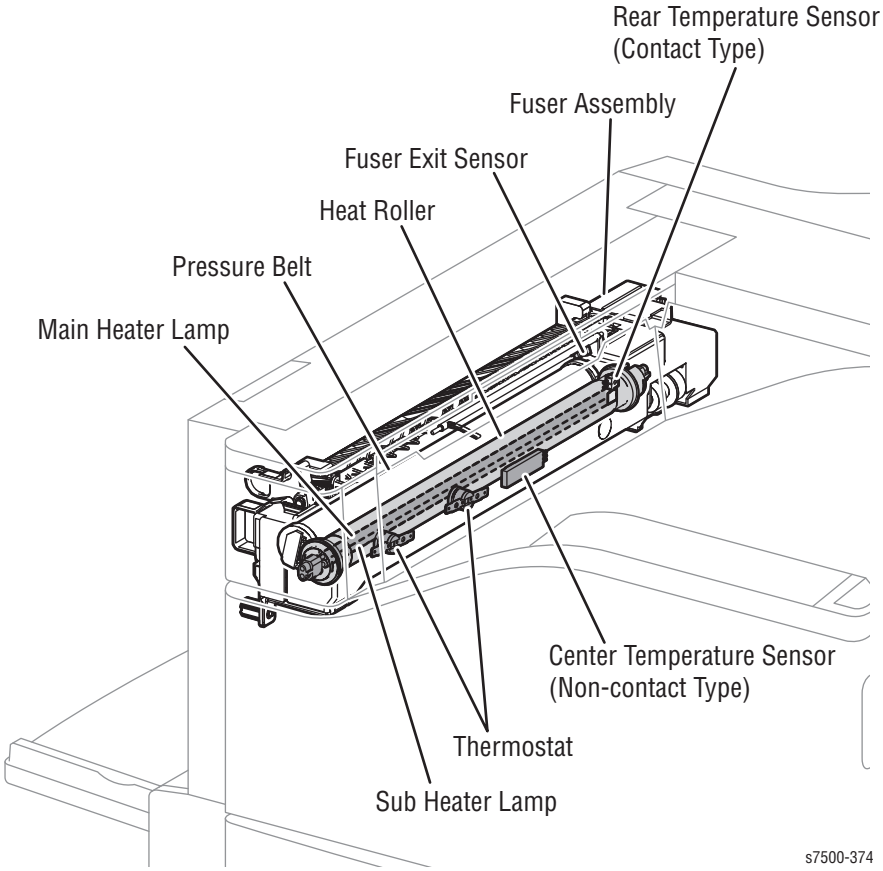
The following illustration shows the mechanical components of the 2nd BTR Contact/ Retract.



Fusing (Fuser)

The Fuser Assembly fuses the complete toner image that was transferred onto the paper, using heat and pressure.

Fuser Assembly (PL7.1.1)



The Fuser Assembly consists of the following main components.

- **Heat Roll** - A tube-covered hollow metal roll, which applies heat to the paper to fuse toner on it.
- **Pressure Belt** - A belt that contains a pressure system within it. This works in configuration with the Heat Roll to apply pressure to the paper to fuse toner on it.
- **Main Heater Lamp** - The Main Heater Lamps are located within the Heat Roll which are sealed by the heating coils that heat up the left and right ends of the Heat Roll.
- **Sub Heater Lamp** - The Sub Heater Lamps are located within the Heat Roll which are sealed by the heating coils that heat up the center part of the Heat Roll.

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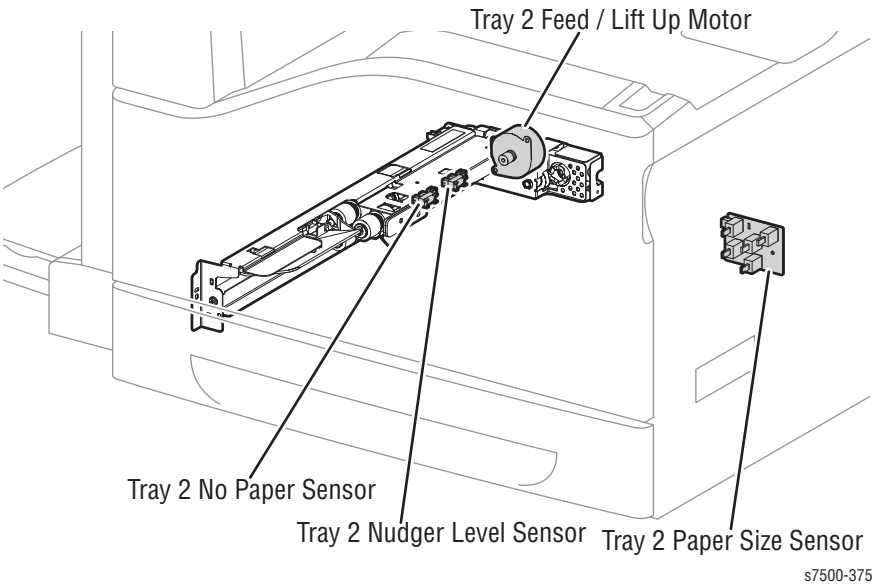
- **Center Temperature Sensor (non-contact type)** - The Thermistors are electric resistors that react to temperature changes; they are placed close to, but not in contact with the Heat Roll to detect the surface temperature of the Heat Roll. This controls the ON (conducting: light on)/OFF (light off) status of the Heater Lamp based on the detected temperature.
- **Rear Temp. Sensor (contact type)** - The Thermistors are electric resistors that react to temperature changes; they are placed in contact with the Heat Roll to detect the surface temperature of the Heat Roll. This is used to prevent the Heat Roll from reaching abnormally high temperature.
- **Thermostats (x2)** - The Thermostats are placed in series with the Heater Lamp power supply. If the Temperature Sensors (Thermistors) have failed to prevent overheating (primary), and the contact point has reached the specified temperature, the contact will open to prevent secondary overheating.
- **Fuser Exit Sensor** - Detects that paper has passed through the Fuser section.

Note

No paper: Sensor blocked

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Paper Feeder



Tray 2 Paper Size Sensor (PL9.1.6)

Setting the Paper Size in the Paper Tray by using the guides changes how the Actuators interact with the 5 buttons when the Paper Tray is inserted. The paper size in the Paper Tray is determined by the combination of On/Off states of these buttons.

Tray 2 Feed/ Lift Up Motor (PL9.4.3)

Tray 2 Feed/ Lift Up Motor drives the Feed Roll and Nudger Roll when in forward rotation (CW direction), and raises/ lowers the Bottom Plate of the Tray Assembly when in reverse rotation (CCW direction).

Tray 2 No Paper Sensor (PL9.4.6)

The Tray 2 No Paper Sensor detects whether paper exists inside the Paper Tray by changes in the Actuator.

Note

No paper: Sensor blocked

Tray 2 Nudger Level Sensor (PL9.4.6)

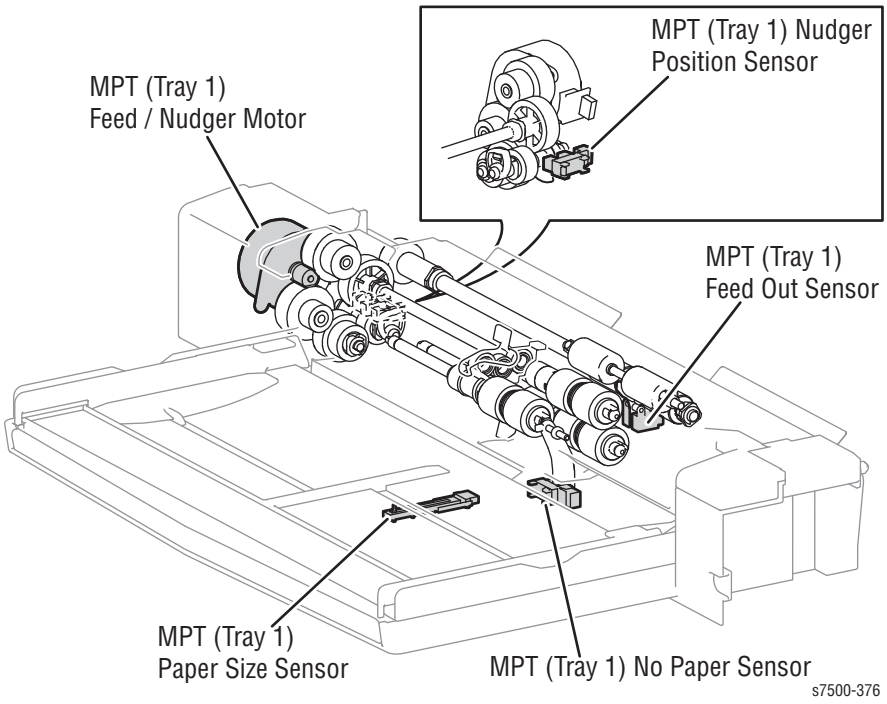
The Tray 2 Nudger Level Sensor detects whether the paper in the Paper Tray has reached the Feed Position by the rising of the Bottom Plate.

Note

Raised: Sensor blocked

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Tray 1 (MPT)



Tray 1 Size Sensor (PL13.5.4)

The Tray 1 Size Sensor detects the paper width by the position of the Tray 1 guides. As the position of the guide changes, the output voltage also changes due to the variable resistance.

The paper width is determined by the output voltage.

Tray 1 No Paper Sensor (PL13.4.17)

The Tray 1 No Paper Sensor detects whether paper exists in Tray 1 by changes in the Actuator.

Note

No paper: Sensor blocked

Tray 1 Feed/ Nudger Motor (PL13.2.18)

The Tray 1 Feed/ Nudger Motor raises/lowers the Nudger Roll when in forward rotation (CW direction), and drives the Feed Roll and the Nudger Roll when in reverse rotation (CCW direction).

Tray 1 Nudger Position Sensor (PL13.2.20)

Tray 1 Nudger Position Sensor detects the position of the Nudger Roll.

Note

Nudger Roll lowered: Sensor blocked

Tray 1 Feed Out Sensor (PL13.4.16)

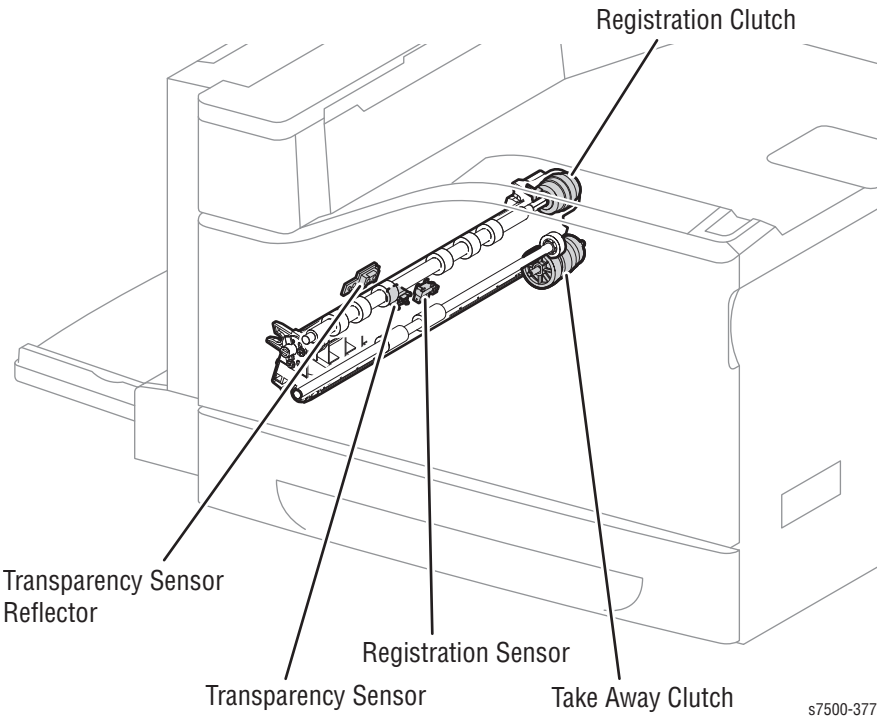
Tray 1 Feed Out Sensor detects whether paper was fed from Tray 1 by changes in the Actuator.

Note

No paper: Sensor blocked

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Registration



Takeaway Clutch (PL15.1.1)

The Takeaway Clutch transfers the drive of the Main Drive Motor to the Takeaway Roll.

Regi Clutch (PL15.2.4)

The Regi Clutch transfers the drive of the Main Drive Motor to the Regi Roll.

Regi Sensor (PL15.2.10)

The Regi Sensor detects whether the lead edge of the paper has reached the Registration section by changes in the Actuator.

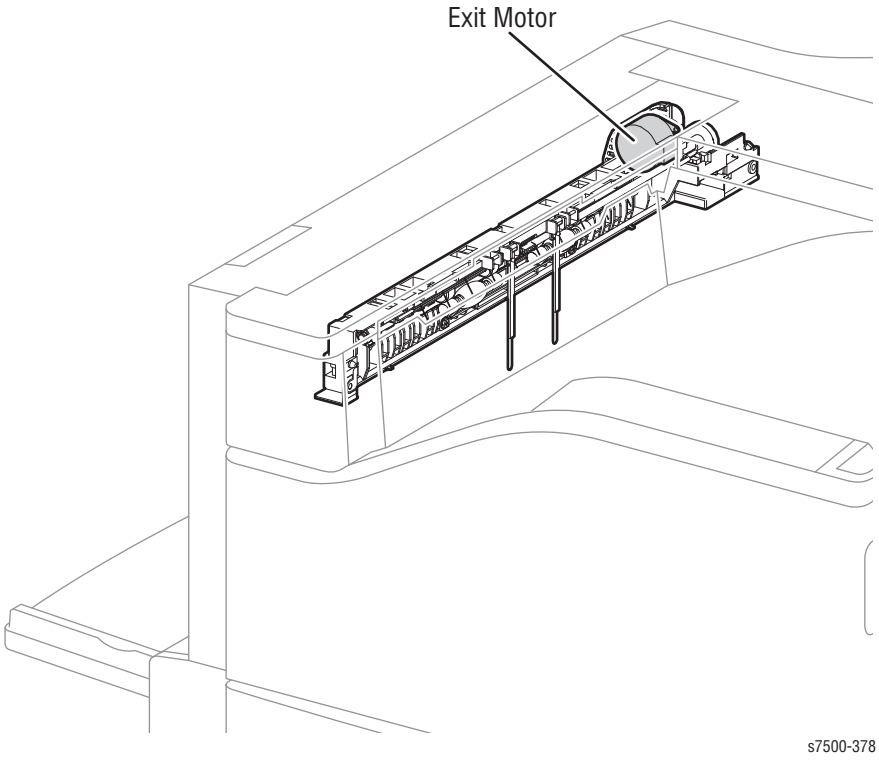
Note

No paper: Sensor blocked

Transparency Sensor (PL15.2.7)

The Transparency Sensor is a reflective sensor that works together with the Transparency Reflector (PL14.2.8). The Transparency Sensor Reflector is mounted on Door A. It detects the change in potential due to exposure to light as the media passes between the Transparency Reflector and the Transparency Sensor. The Transparency Sensor also assesses the type of media (whether it is a Transparency or not) by the output voltage.

Paper Output

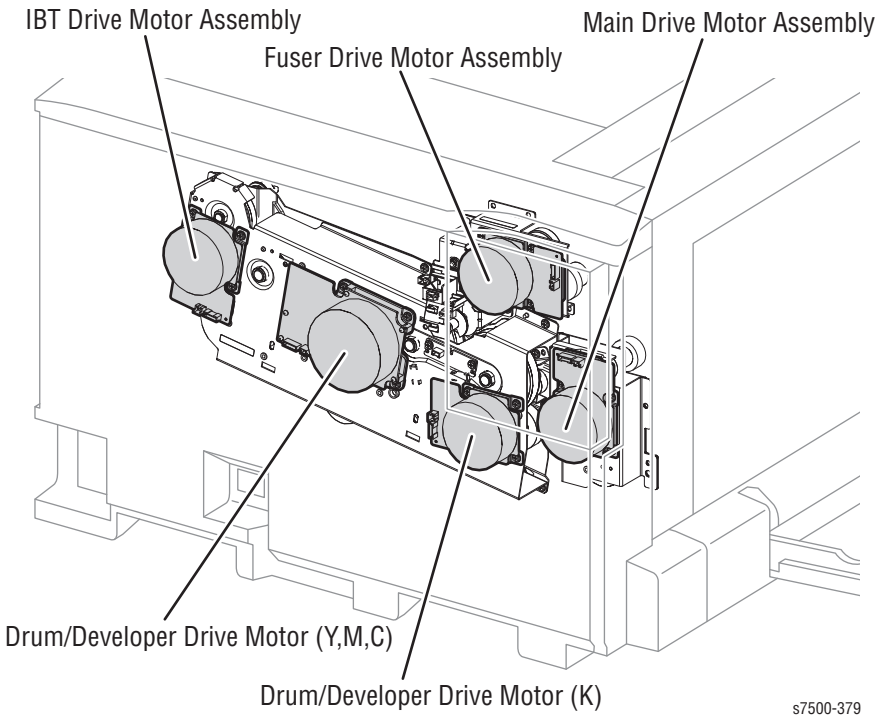


Exit Motor (PL17.1.15)

The Exit Motor drives the Exit Roll. Forward rotation (CW direction) of the motor rotates the Exit Roll in the paper output direction, while the reverse rotation (CCW direction) rotates the Exit Roll in the duplex transport direction.

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Driver



Main Drive Motor Assembly (PL3.2.3)

The Main Drive Motor drives the Tray 1 Feed Roll, Tray 1 Drive Roll, Takeaway Roll, Regi Roll, and 2nd BTR Assembly.

Drum/ Deve Drive Motor (K) (PL3.3.3)

The Drum/ Deve Drive Motor drives the Auger and Magnetic Roll that are part of the Drum (K) and Developer Housing Assembly (K).

Drum/ Deve Drive Motor (Y/M/C) (PL3.3.5)

The Drum/ Deve Drive Motor drives the Augers and Magnetic Rolls that are part of the Drum (Y), Drum (M), Drum (C) and Developer Housing Assembly (Y, M, C).

IBT Drive Motor Assembly (PL3.3.4)

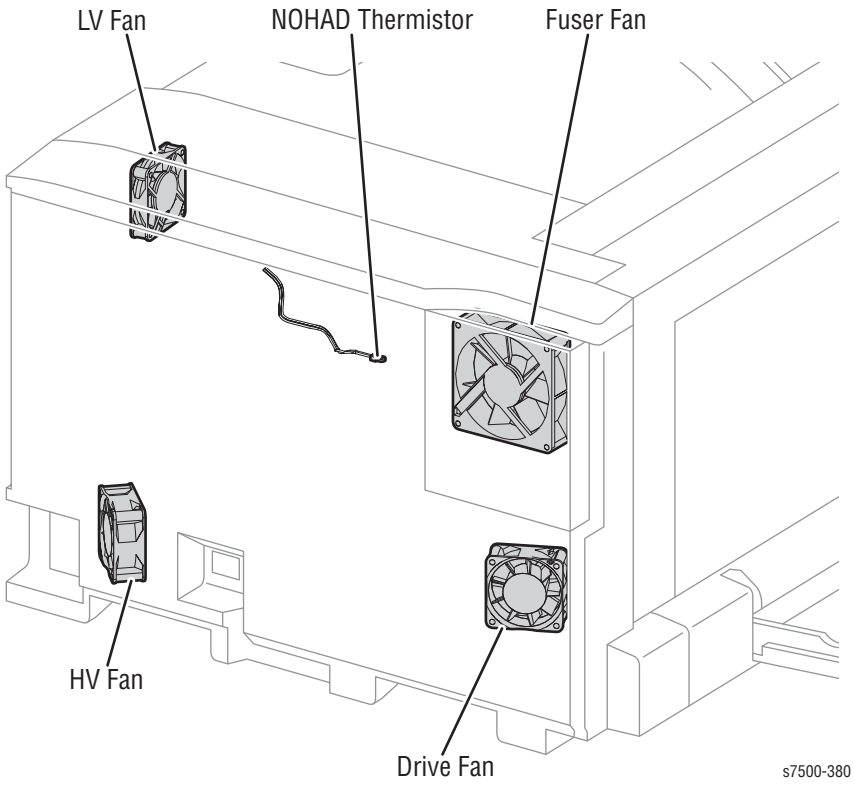
The IBT Drive Motor Assembly drives the belt section of the IBT Belt Unit.

Fuser Drive Motor Assembly (PL3.1.10)

The Fuser Drive Motor Drive Assembly drives the Heat Roll of the Fuser Assembly and the 1st BTR (Y/M/C/K) that are part of the IBT Belt Unit.

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Fan



Fuser Fan (PL4.1.7)

The Fuser Fan dissipates heat in the printer and cools down the Fuser Assembly section.

HV Fan (PL4.3.4)

The HV Fan dissipates heat in the printer and cools down the HVPS section.

LV Fan (PL18.1.13)

The LV Fan dissipates heat in the printer and cools down the LVPS section.

Drive Fan (PL18.3.17)

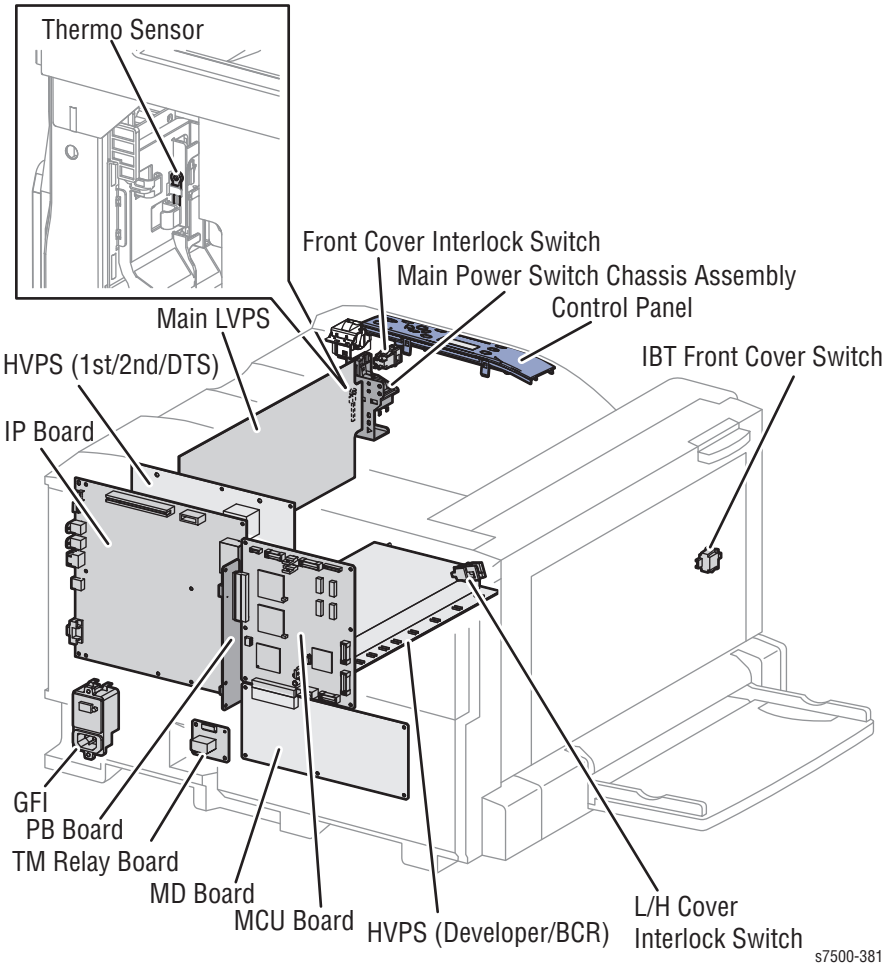
The Drive Fan dissipates heat in the printer and cools down the rear motor section.

NOHAD Thermistor Assembly (PL5.2.11)

The NOHAD Thermistor Assembly monitors the temperature within the printer.

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Electrical



MCU PWB (PL18.3.6)

The MCU PWB communicates with the Printer Controller and controls the components used in print operation. The MCU PWB also generates the +3.3VDC and +2.5VDC voltages that are used by the components from the +5VDC that is provided by the Main LVPS.

Motor Drive (MD) PWB (PL18.3.7)

The Motor Drive PWB transmits the signals from the MCU PWB to the parts that are involved with the print operation.

TM Relay PWB (PL18.3.11)

The TM Relay PWB acts as a relay between the Motor Drive PWB and the Tray Module PWB.

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Main LVPS (PL18.1.11)

The Main LVPS generates +24VDC and +5VDC voltages from the AC power source to supply the components that require the power.

HVPS (1st/ 2nd/ DTS) (PL6.2.9)

The HVPS supplies high voltage to the 1st BTR of each color in the IBT Belt Unit, as well as to the 2nd BTR and Detack Saw in the 2nd BTR Assembly.

HVPS (Deve/ BCR) (PL18.1.7)

The HVPS (Deve/ BCR) supplies high voltage to the BCR in the Imaging Units of each color, as well as to the Magnet Roll in the Developer Housing Assembly of each color.

Backplane (BP) PWB (PL18.3.2)

The Backplane PWB acts as a connection between the MCU PWB and the Image Processor Board.

Image Processor (ESS) PWB (PL35.1.3)

The Image Processor PWB is the Printer Controller. The I/P Board performs conversion of print data input from a network or USB port, and communicates with the computer.

Main Power Switch Chassis Assembly (PL18.1.1)

The Main Power Switch Chassis Assembly is the Main Switch that controls the power supply.

GFI (PL18.1.15)

The GFI consists of the AC power supply inlet and the breaker for preventing overvoltage.

Front Cover Interlock Switch (PL18.1.9)

The Front Cover Interlock Switch detects the Open/ Close state of Front Cover. Opening the Front Cover cuts off the DC power supply (+24 VDC) to the printer.

IBT Front Cover Switch (PL18.1.10)

The IBT Front Cover Switch detects the Open/ Close state of Front Cover.

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L/H Cover Interlock Switch (PL14.1.3)

The L/H Cover Interlock Switch detects the Open/ Close state of Left Hand Cover. Opening the Left Hand Cover cuts off the DC power supply (+24 VDC) to the printer.

Control Panel (PL19.2.13)

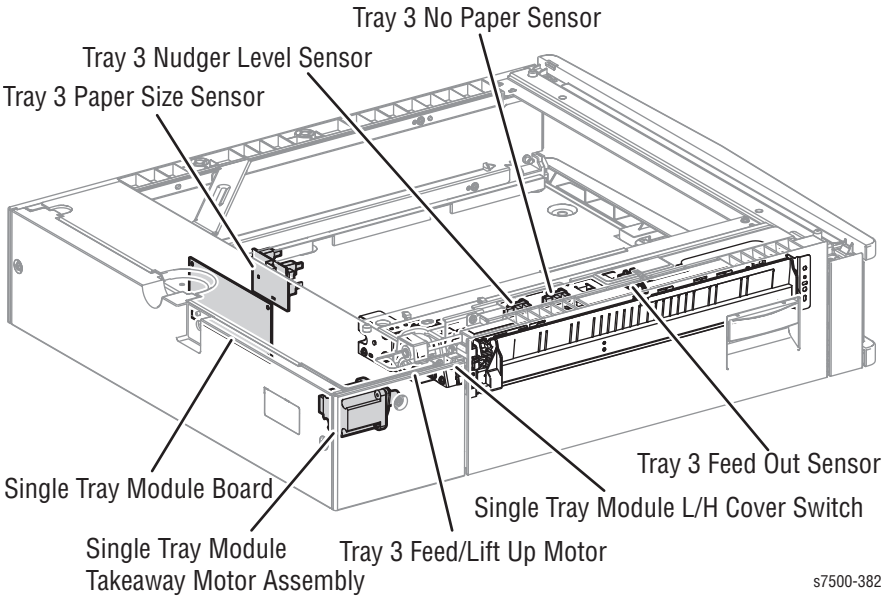
The Control Panel consists of the LCD, LED, and Switch. The LCD and LED indicate the printer status while the Switch is used to operate the printer.

Thermo Sensor (PL18.1.14)

If the louvre of the Right Cover is blocked by books, files, or wall, etc., the temperature of the LVPS element might rise abnormally and result in damage to the printer. To prevent that, the Thermo Sensor detects the temperature in the vicinity of the LVPS to shut down the printer.

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Single Tray Module (STM) (Optional)



Tray 3 Paper Size Sensor (PL11.1.14)

Setting the Paper Size in the Paper Tray by moving the guides will change how the Actuators interact with the 5 buttons when the Paper Tray is inserted. The paper size in the Paper Tray is determined by the combination of On/Off states of these buttons.

Tray 3 Feed/ Lift Up Motor (PL10.3.3)

The Tray 3 Feed/ Lift Up Motor drives the Feed Roll and Nudger Roll when in forward rotation (CW direction), and raises/ lowers the Bottom Plate of the Tray Assembly when in reverse rotation (CCW direction).

Tray 3 No Paper Sensor (PL10.3.6)

Tray 3 No Paper Sensor detects whether paper exists inside the Paper Tray by changes in the Actuator.

Note

No paper: Sensor blocked

Tray 3 Nudger Level Sensor (PL10.3.6)

The Tray 3 Nudger Level Sensor detects whether the paper in the Paper Tray has reached the Feed Position by the rising of the Bottom Plate.

Note

Raised: Sensor blocked

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STM T/A Motor Assembly (PL11.5.2)

The STM T/A Motor Assembly drives the SMT T/A Roll Assembly.

Tray 3 Feed Out Sensor (PL11.6.3)

Tray 3 Feed Out Sensor detects whether paper was fed from the Single Tray Module (STM).

Note

No paper: Sensor blocked

STM L/H Cover Switch (PL11.6.5)

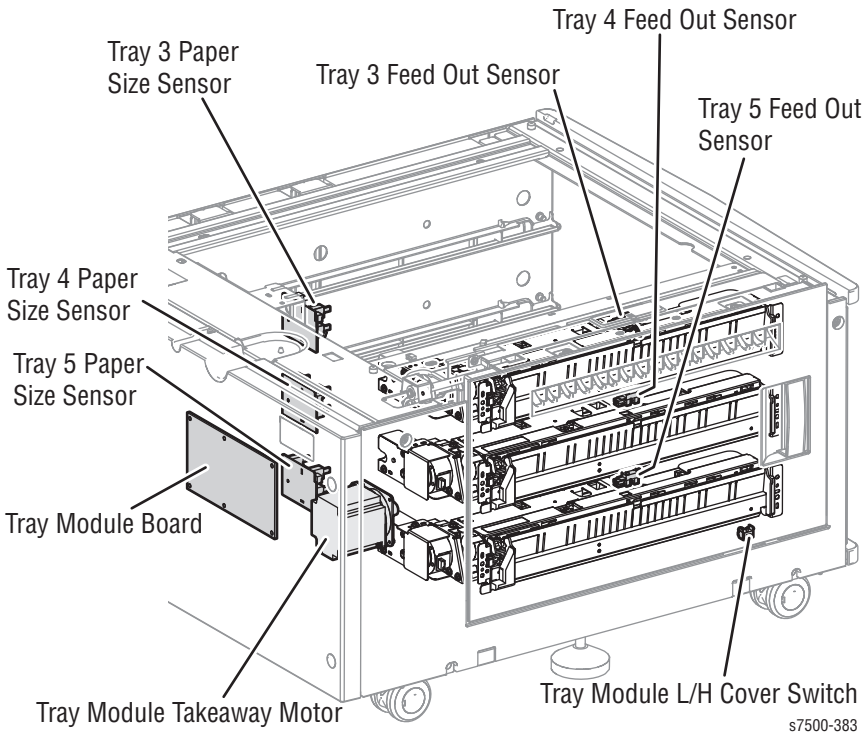
The STM L/H Cover Switch detects the open/close state of Left Hand Cover of the Single Tray Module (STM).

STM PWB (PL11.5.4)

The STM PWB controls all STM components.

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1500-Optional Sheet Feeder



Tray 3/ 4/ 5 Paper Size Sensor (PL10.1.8 - PL10.1.10)

Setting the Paper Size in the Paper Tray by using the guides will change how the Actuators interact with the 5 switches when the Paper Tray is inserted. The paper size in the Paper Tray is determined by the combination of On/Off states of these switches.

TM Takeaway Motor (PL10.9.5)

The TM Takeaway Motor drives the Tray 3/ 4/ 5 Roll Assembly.

Tray 3 Feed Out Sensor (PL10.11.11)

The Tray 3 Feed Out Sensor detects whether paper was fed from Tray 3.

Note

No paper: Sensor blocked

Tray 4 Feed Out Sensor (PL10.11.6)

The Tray 4 Feed Out Sensor detects whether paper was fed from Tray 4.

Note

No paper: Sensor blocked

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Tray 5 Feed Out Sensor (PL10.11.6)

Tray 5 Feed Out Sensor detects whether paper was fed from Tray 5.

Note

No paper: Sensor blocked

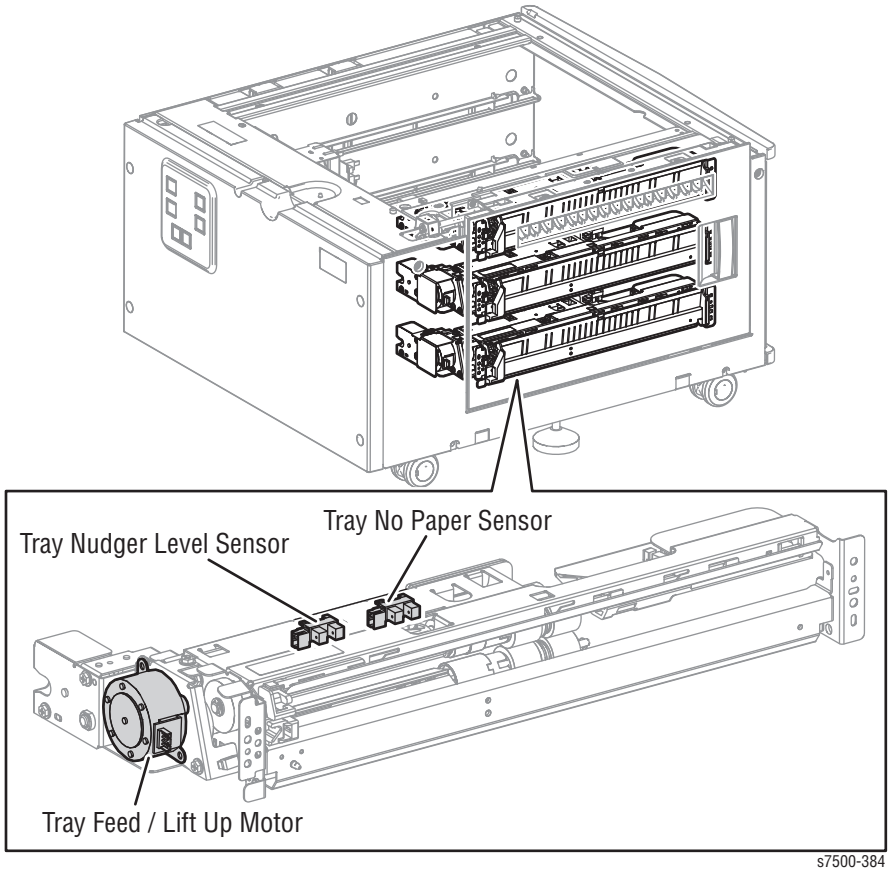
Tray Module L/H Cover Switch (PL10.11.2)

The Tray Module L/H Cover Switch detects the Open/ Close state of Left Hand Cover of the 3 Tray Cabinet.

Tray Module PWB (PL10.9.1)

The Tray Module PWB controls all 3 Tray Cabinet components.

Paper Feed Components



Tray 3/4/5 Feed/ Lift Up Motor (PL10.3.3)

The Tray 3/4/5 Feed/ Lift Up Motor drives the Feed Roll and Nudger Roll when in forward rotation (CW direction), and raises/ lowers the Bottom Plate of the Tray Assembly when in reverse rotation (CCW direction).

Tray 3/4/5 No Paper Sensor (PL10.3.6)

The Tray 3/4/5 No Paper Sensor detects whether paper exists inside the Paper Tray by changes in the Actuator.

Note

No paper: Sensor blocked

Tray 3/ 4/ 5 Nudger Level Sensor (PL10.3.6)

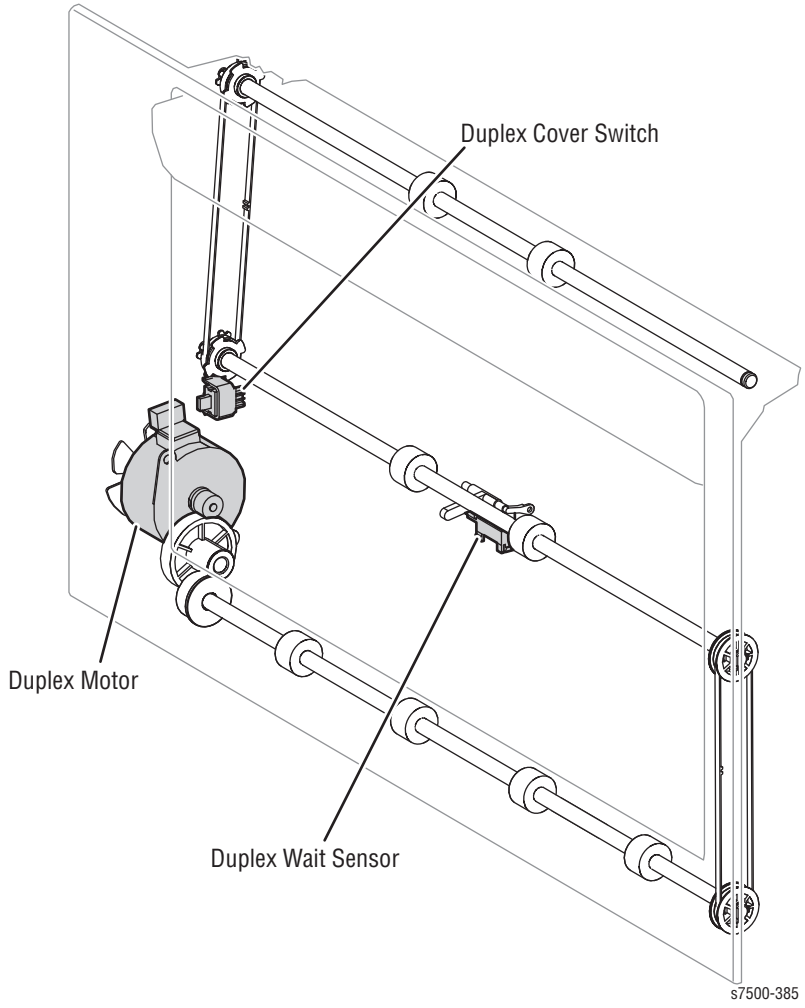
The 3/4/5 Nudger Level Sensor detects whether the paper in the Paper Tray has reached the Feed Position by the rising of the Bottom Plate.

Note

Raised: Sensor blocked

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Duplex Feed (Optional)



Duplex Motor (PL14.5.8)

The Duplex Motor drives the Duplex Roller 1, Duplex Roller 2, and Duplex Roller 3 and transports paper within the Duplex Assembly.

Duplex Wait Sensor (PL14.6.8)

The Duplex Wait Sensor detects whether the paper is being transported in the Duplex Assembly by changes in the Actuator.

Note

No paper: Sensor blocked

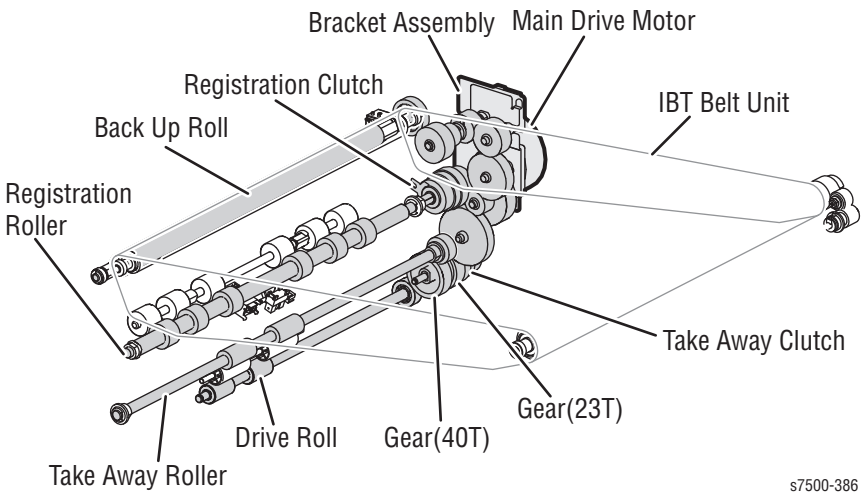
Duplex Cover Switch (PL14.6.25)

The Duplex Cover Switch detects the Open/ Close state of the Duplex Cover. Closing the Duplex Cover turns the Switch On.

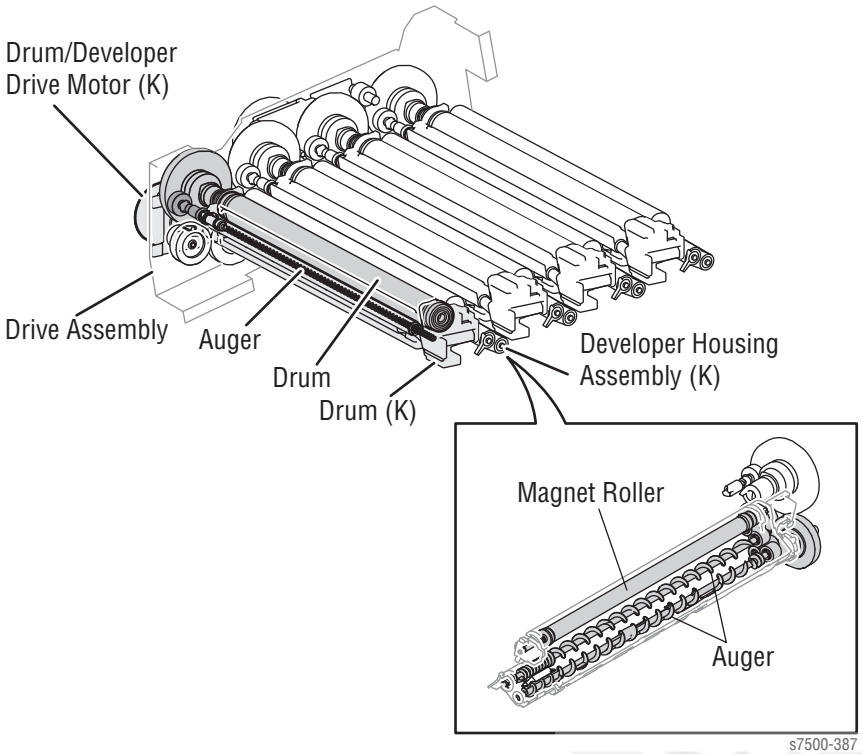
Drive Assembly

This section contains illustrations for the mechanical components of the Drive Assembly.

Main Drive Motor Assembly (PL3.2.3)

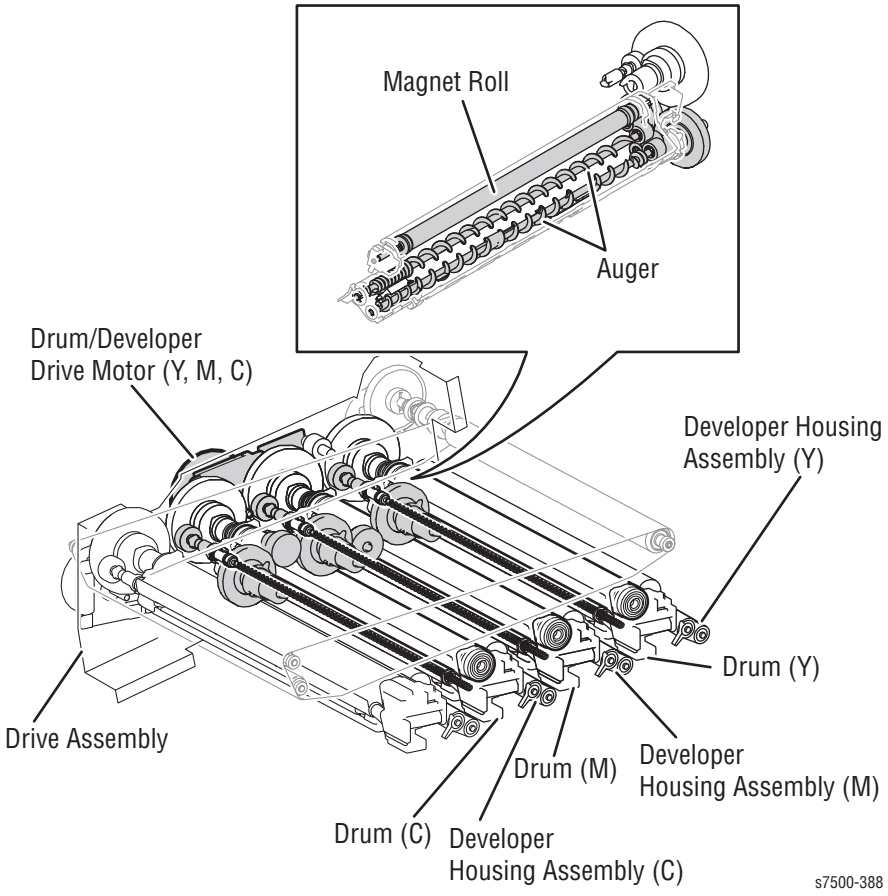


Drum/ Deve Drive Motor (K) (PL3.3.3)

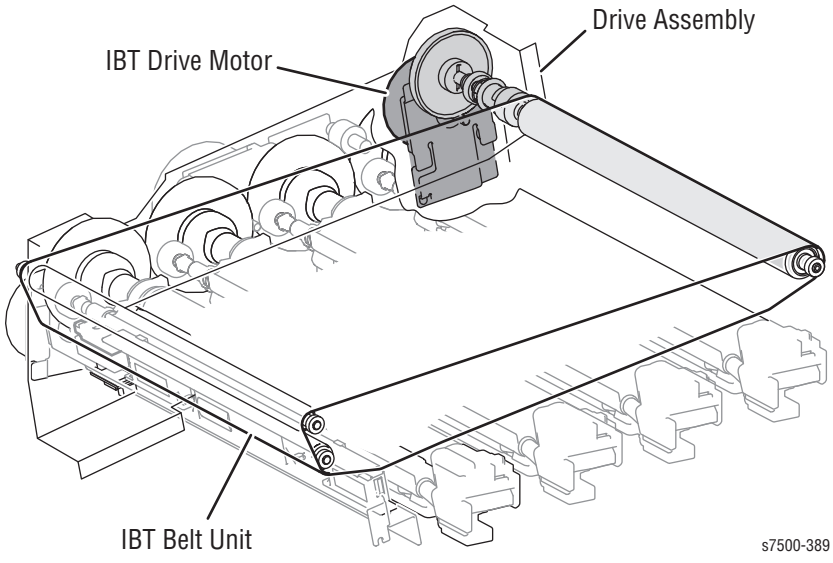


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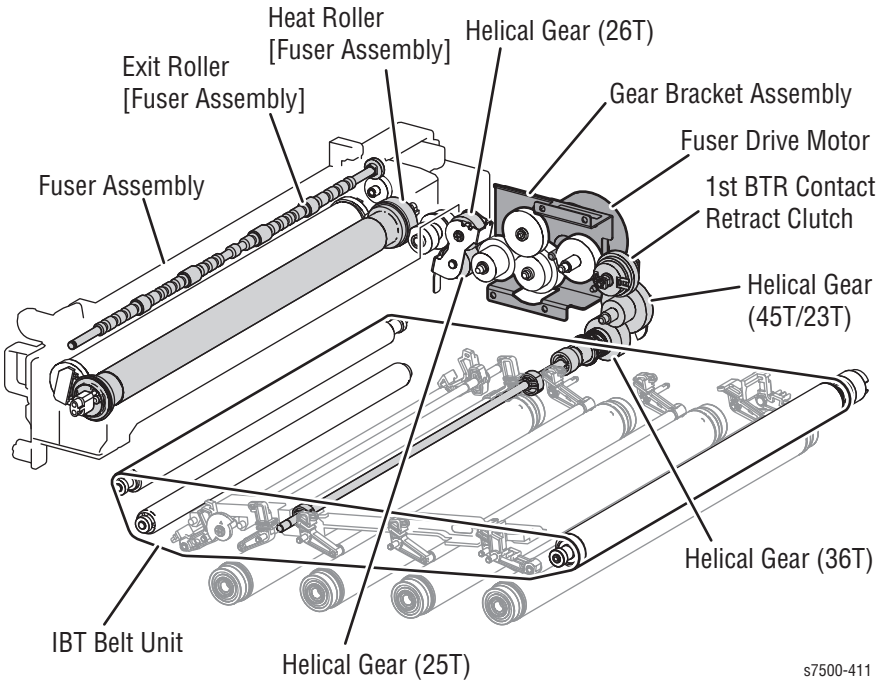
Drum/ Deve Drive Motor (Y/M/C) (PL3.3.5)



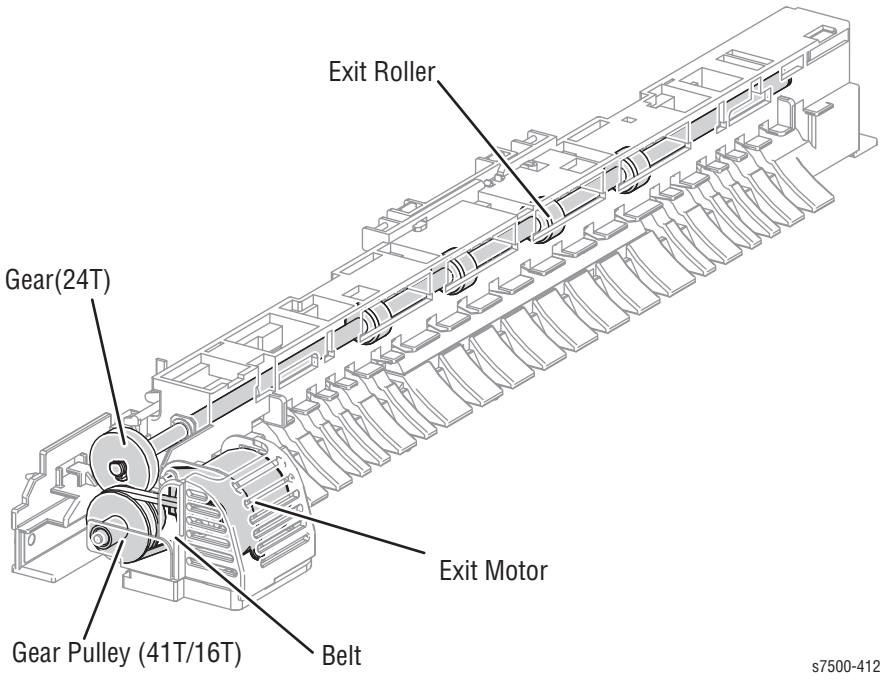
IBT Drive Motor Assembly (PL3.3.4)



Fuser Drive Motor Assembly (PL3.1.10)

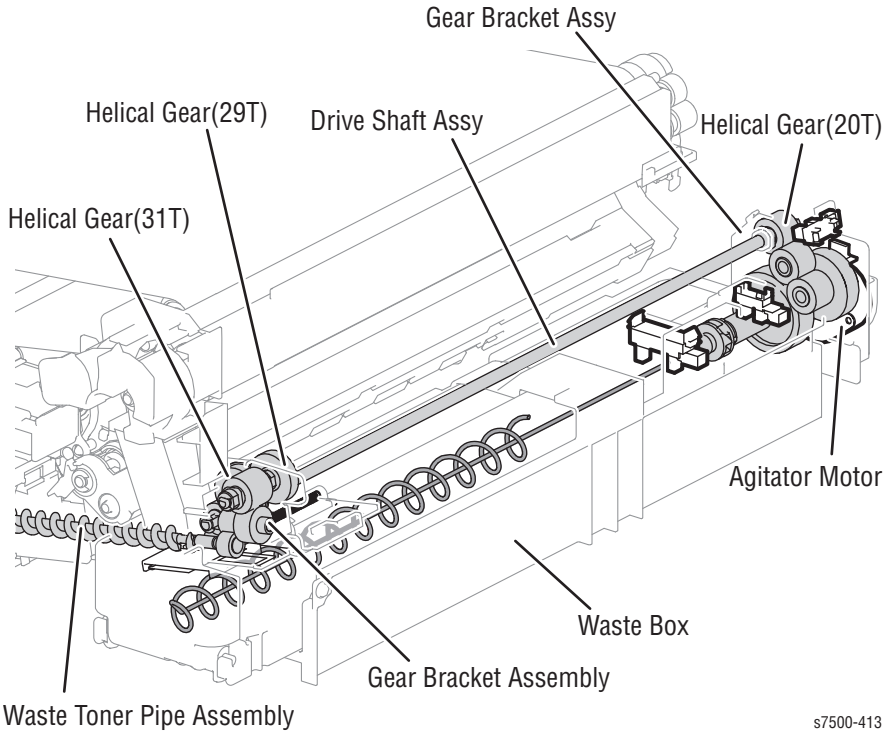


Exit Motor (PL17.1.15)

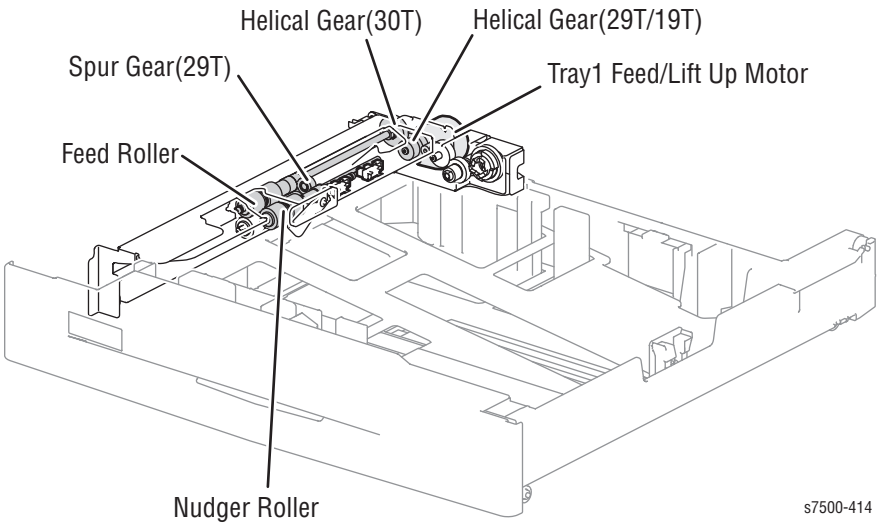


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Agitator Motor (PL8.2.7)



Tray Feed/ Lift Up Motor (PL9.4.3)



The drive channels for the Trays of Single Tray Module (STM) and 3 Tray Cabinet are the same. Individual components for the tray are listed below.

Single Tray Module (STM)

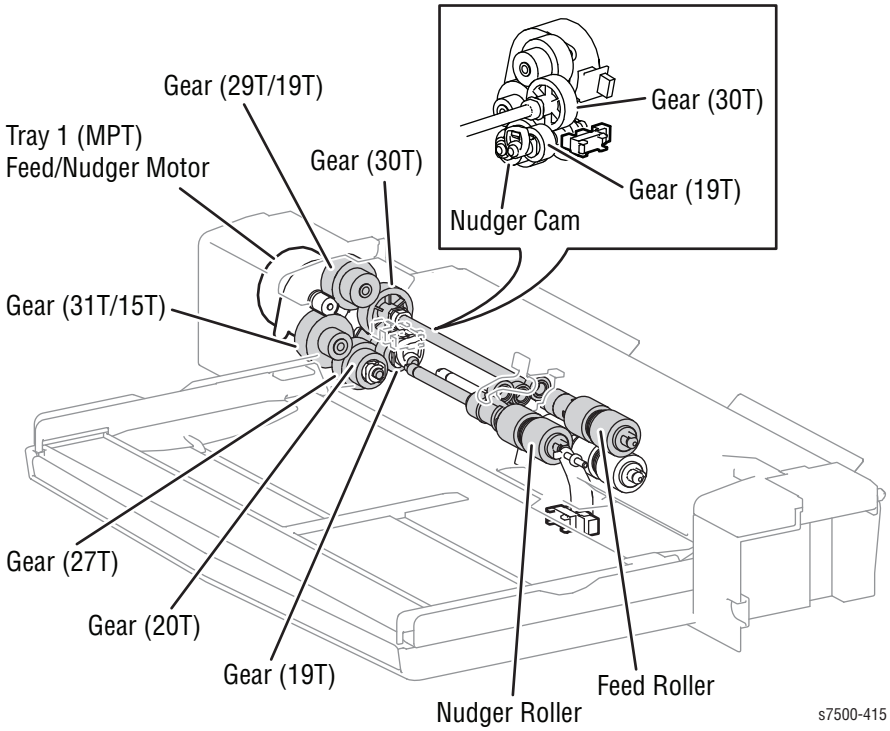
- Tray 3/4/5 Feed/ Lift Up Motor (PL10.3.3)
- Helical Gear (29T/19T) (PL10.3.18)
- Feed Roll (PL10.4.2)
- Nudger Roll (PL10.4.3)
- Helical Gear (30T) (PL10.4.11)
- Spur Gear (29T) (PL10.4.13)

Tray 3/ 4/ 5

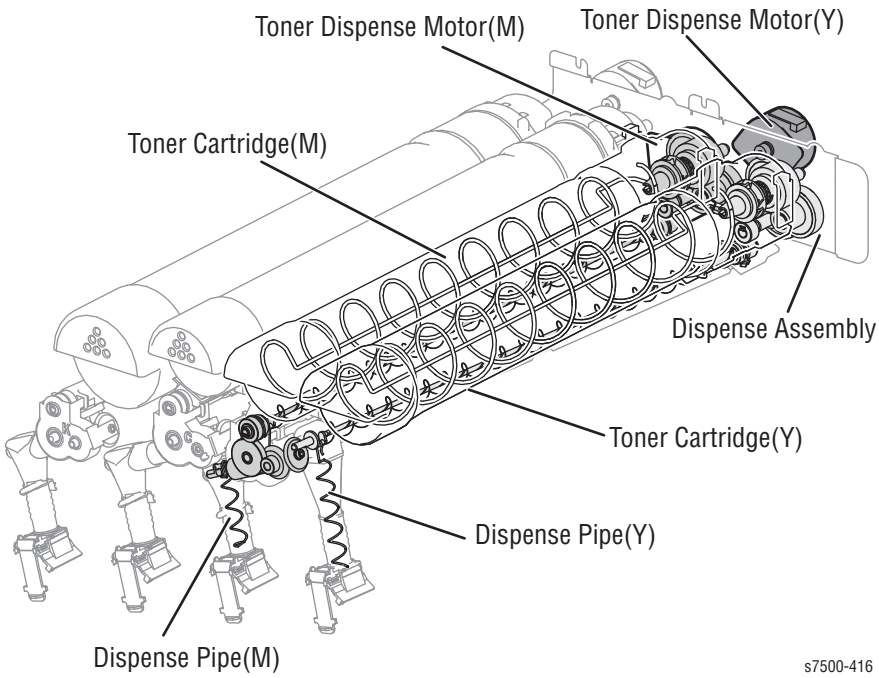
- Tray 3/4/5 Feed/ Lift Up Motor (PL10.3.3)
- Helical Gear (29T/19T) (PL10.3.18)
- Helical Gear (30T) (PL10.4.11)
- Feed Roll (PL10.4.2)
- Spur Gear (29T) (PL10.4.13)
- Nudger Roll (PL10.4.3)

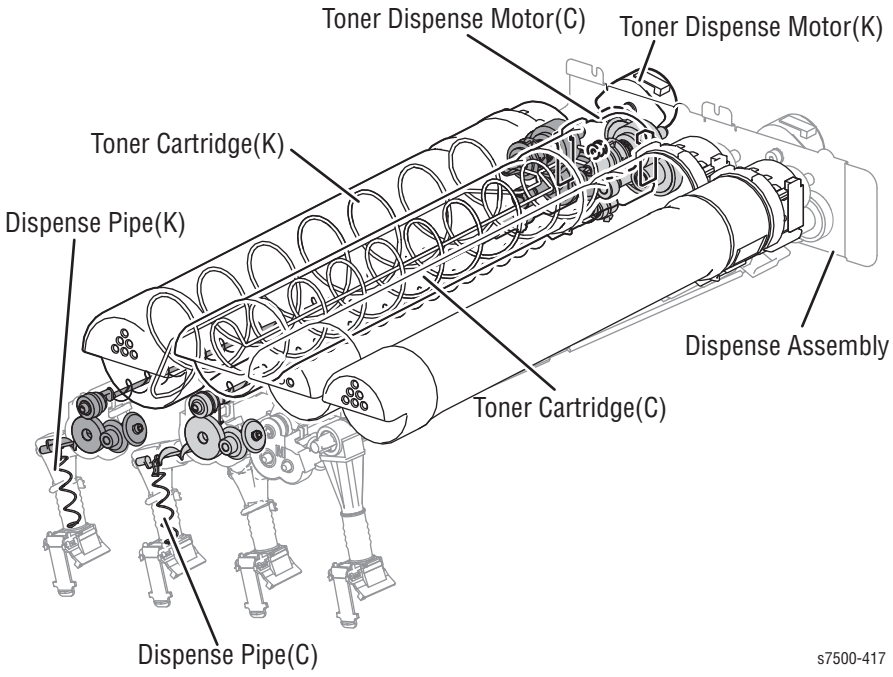
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Tray 1 Feed/ Nudger Motor (PL13.2.18)



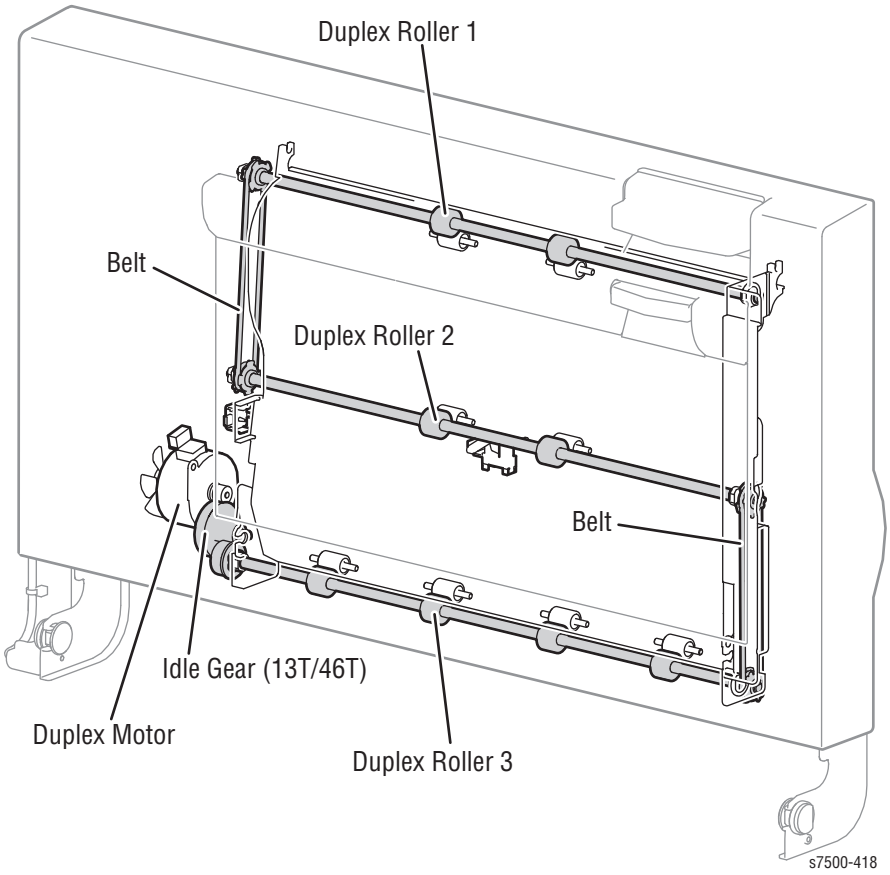
Toner Dispenser Motor (PL5.1.7)



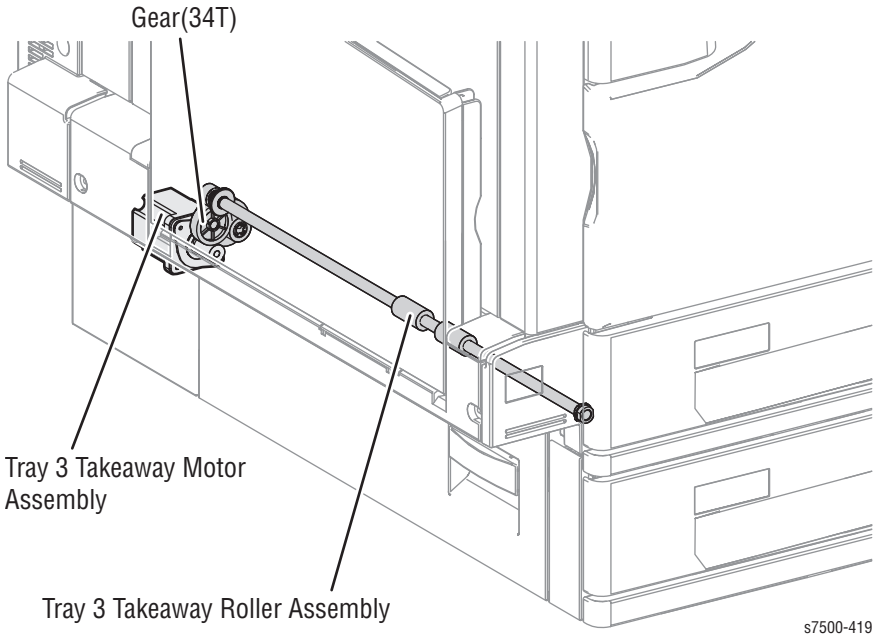


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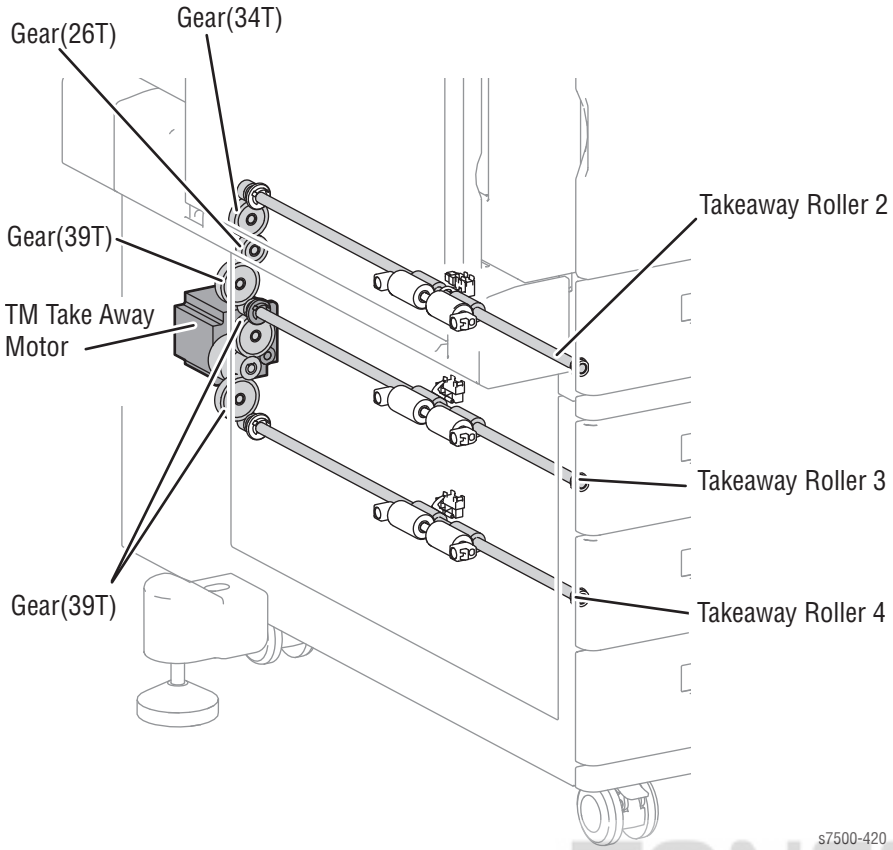
Duplex Motor (PL14.5.8)



STM T/A Motor Assembly (PL11.5.2)



TM Takeaway Motor (PL10.9.5)



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Operating Mode

Three operating modes are available in the Phaser 7500.

Ready Mode

The Ready mode operates states such as running or recording, etc.

Item		Status
Image Processor	Image Processor Board	Full Power
UI	LCD	Normal display
	LED	On
IOT	Fusing system (Fuser Assembly)	Maintains the operating temperature
	Recording system (Transfer/ Developer)	In operation
	MCU PWB	Full power

Standby Mode

It is possible to enter the Standby mode within 25 seconds after power Off then On or from the Sleep Mode.

Item		Status
Image Processor	Image Processor Board	Full Power
UI	LCD	Normal display
	LED	On
IOT	Fusing system (Fuser Assembly)	Maintains the operating temperature
	Recording system (Transfer/ Developer)	Paused
	MCU PWB	Full power

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Energy Saver Mode (Deep Sleep)

To save power consumption, the printer enters Energy Saver mode when it has not received print data for a certain time after it has entered the Standby mode. The default waiting time before switching to Energy Saver mode is 1 minute. It can be set in increments of 1 minute in the range between 1 and 240 minutes from the Control Panel. The printer cannot be prohibited from entering this mode.

This is not guaranteed when a non-standard HDD etc. is installed as an option.

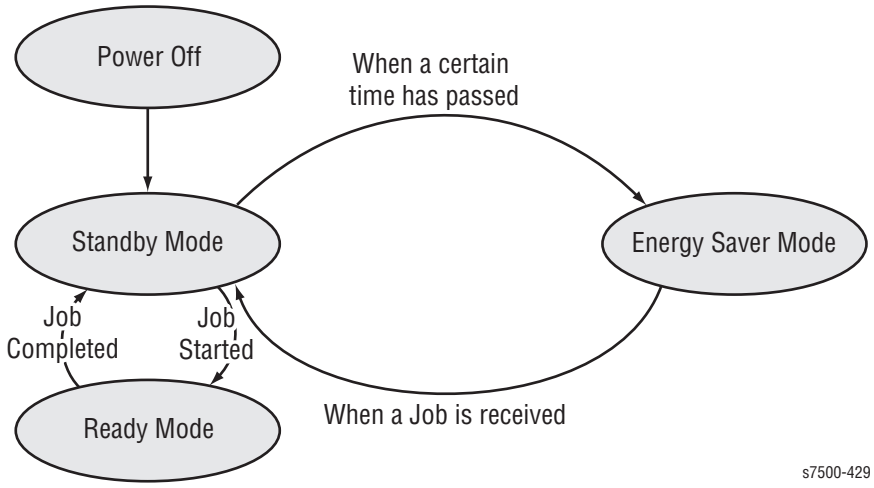
Item		Status
Image Processor	Image Processor Board	Sleep
UI	LCD	No display
	LED	On (Power Off)
IOT	Fusing system (Fuser Assembly)	Paused
	Recording system (Transfer/ Developer)	Paused
	MCU PWB	Paused

Recovery from Energy Saver Mode

The printer returns to Ready mode when a print job is received or the Energy Saver button on the Control Panel is pressed during Energy Saver mode.

Operating Mode Status Transition

The status transition among the operating modes is illustrated as in the illustration below.



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Control

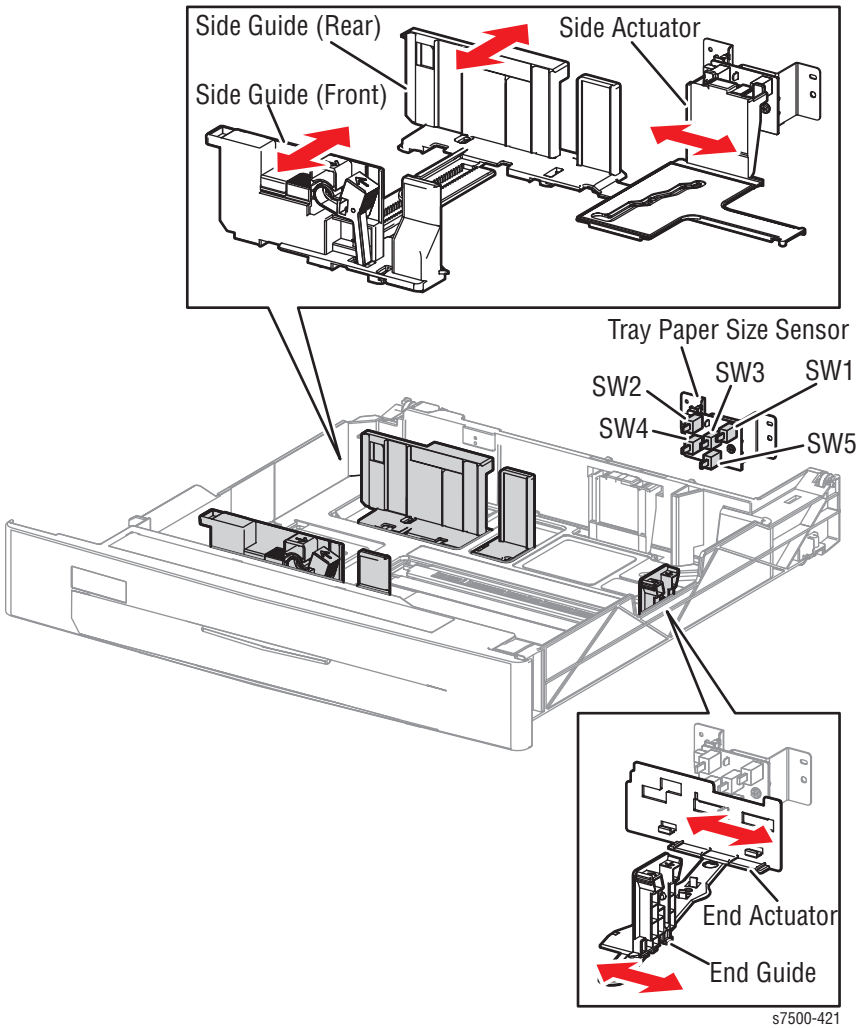
Paper Size Detection

Tray 2

Inserting the Paper Tray causes the Actuator to press on the Tray Paper Size Sensor Switches at the rear, and the paper size is detected.

Load paper into the Paper Tray and align the Side Guides and End Guide. The End Actuator and Side Actuator positions change as the guides are moved, which changes the combination in which the Tray Paper Size Sensor Switches are pressed. The paper size is determined by the combination of On/Off states of these Switches.

Optional Trays: Single Tray Module (STM) and Lower Tray Assembly also utilizes the same paper size detection mechanism.



Status of the Tray Paper Size Sensor Switches and Paper Size (Standard Tray)

Paper Size	SW1	SW2	SW3	SW4	SW5	AD Value
No Tray	OFF	OFF	OFF	OFF	OFF	922 - 989
A5 SEF/ 5.5" x 8.5" SEF	OFF	OFF	ON	OFF	OFF	797 - 857
B5 SEF	OFF	OFF	ON	ON	ON	735 - 796
8.5" x 13" SEF	OFF	ON	OFF	ON	OFF	610 - 671
A4 SEF	OFF	ON	ON	OFF	OFF	548 - 609
8.5" x 11" SEF	OFF	ON	ON	OFF	ON	
A4 LEF	ON	OFF	ON	OFF	OFF	304 - 365
A3 SEF	ON	OFF	ON	ON	OFF	244 - 303
B5 LEF/ 7.25" x 10.25" LEF	ON	ON	OFF	OFF	ON	184 - 243
8K SEF	ON	ON	OFF	ON	OFF	124 - 183
B4 SEF	ON	ON	OFF	ON	ON	
8.5" x 11" LEF	ON	ON	ON	OFF	OFF	64 - 123
16K LEF/ 7.25" x 10.5" LEF	ON	ON	ON	OFF	ON	
11" x 17" SEF	ON	ON	ON	ON	ON	0 - 63

Status of the Tray Paper Sensor Switches and Paper Size (Optional Tray Module)

Paper Size	SW1	SW2	SW3	SW4	SW5	AD Value
No Tray	OFF	OFF	OFF	OFF	OFF	237 - 247
A5 SEF/ 5.5" x 8.5" SEF	OFF	OFF	ON	OFF	OFF	199 - 214
B5 SEF	OFF	OFF	ON	ON	ON	184 - 198
8.5" x 13" SEF	OFF	ON	OFF	ON	OFF	153 - 167
8.5" x 14" SEF	OFF	ON	OFF	ON	ON	
A4 SEF	OFF	ON	ON	OFF	OFF	137 - 152
8.5" x 11" SEF	OFF	ON	ON	OFF	ON	
8" x 10" SEF	OFF	ON	ON	ON	ON	122 - 136
12.6" x 19.2" SEF/ 13" x 19" SEF*	ON	OFF	OFF	OFF	ON	107 - 121
SRA3 SEF/ 13" x 18" SEF/ 2" x 18" SEF*	ON	OFF	OFF	ON	ON	92 - 106
A4 LEF	ON	OFF	ON	OFF	OFF	77 - 91
A3 SEF	ON	OFF	ON	ON	OFF	61 - 76
B5 LEF/ 7.25" x 10.25" LEF	ON	ON	OFF	OFF	ON	46 - 60

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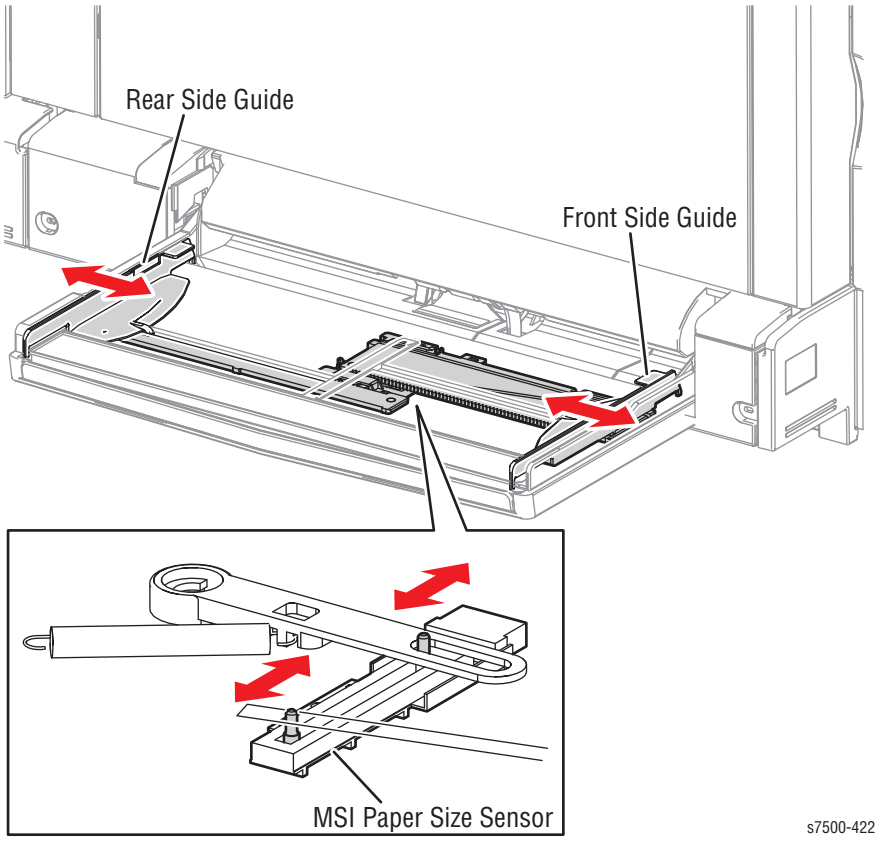
Status of the Tray Paper Sensor Switches and Paper Size (Optional Tray Module)

Paper Size	SW1	SW2	SW3	SW4	SW5	AD Value
8K SEF	ON	ON	OFF	ON	OFF	31 - 45
B4 SEF	ON	ON	OFF	ON	ON	
8.5" x 11" LEF	ON	ON	ON	OFF	OFF	16 - 30
16K LEF/ 7.25" x 10.5" LEF	ON	ON	ON	OFF	ON	
11" x 17" SEF	ON	ON	ON	ON	ON	0 - 15
* Only for Single Tray Module (STM)						

Tray 1 (MPT)

Load paper into Tray 1 and align the Front Side Guide and Rear Side Guide. As the guide positions change, the variable resistance of the Tray 1 Paper Size Sensor also changes, which changes the output voltage.

The paper width is detected by the value of the output voltage.



The relationship between the output voltage and the paper width is provided in the table below.

Tray 1 Paper Size Sensor Voltage and Paper Width

Paper Size	Voltage (V)	AD Value
Postcard SEF	2.676 - 2.732	825 - 852
5.5" x 8.5"	2.246 - 2.302	692 - 718
A5 SEF	2.156 - 2.212	664 - 690
B5 SEF	1.788 - 1.843	549 - 576
8" x 10" SEF	1.636 - 1.692	502 - 529
8.5" x 11" SEF (Letter) & x 13" & x 14"	1.503 - 1.559	461 - 488
A4 SEF	1.484 - 1.54	455 - 482
7.25" x 10.5" LEF	0.972 - 1.028	297 - 323
B5 LEF	0.975 - 1.031	298 - 324
B4 SEF	0.975 - 1.031	298 - 324
16K	0.867 - 0.922	264 - 291
8K	0.867 - 0.922	264 - 291
16K	0.834 - 0.890	254 - 281
8K	0.834 - 0.890	254 - 281
11" x 17" SEF	0.732 - 0.788	222 - 249
8.5" x 11" LEF (Letter)	0.732 - 0.788	222 - 249
A4 LEF	0.541 - 0.597	163 - 190
A3 SEF	0.541 - 0.597	163 - 190
12.6" x 19.2" SEF	0.415 - 0.470	124 - 150
13" x 19" (x 18")	0.308 - 0.364	91 - 118
SRA3	0.292 - 0.348	86 - 113
12" x 18"	0.574 - 0.630	173 - 200

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Process Control

The Process Control prevents changes to the image quality due to varying temperature and humidity in the printer, and Drum deterioration. Two process control include: Potential Control and Toner Supply Control.

Potential Control

The Potential Control of the printer sets the charge potential (DC voltage in the BCR), the DC component of the developing bias potential (DC voltage in the Developer) and the exposure potential (brightness of LED in the LPH).

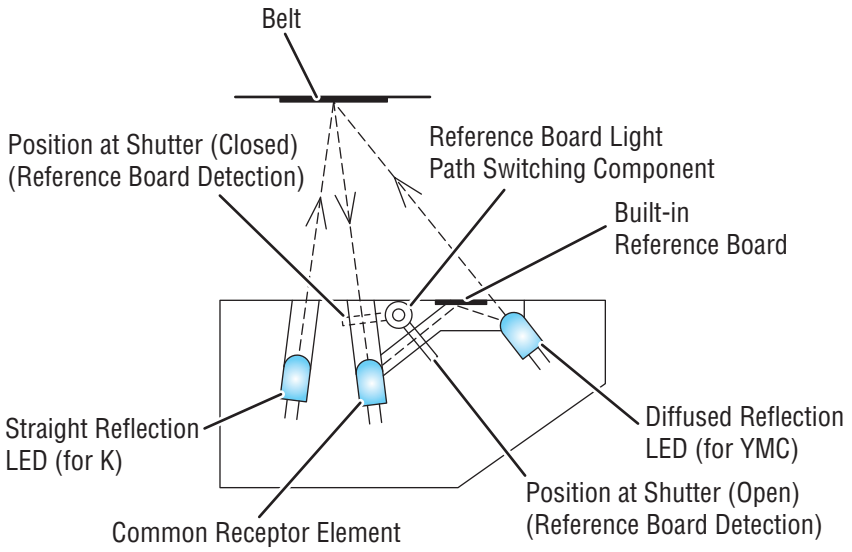
The charge potential (DC voltage in the BCR) and the developing bias potential are calculated based on the temperature and humidity in the printer, which are measured by the Environment Sensor.

The exposure potential is calculated based on the temperature and humidity in the printer, which are measured by the Environment Sensor, and the patch density on the belt, which is read by the ADC Sensor.

The patch is a small image for Process Control that is created on the belt.

ADC Sensor

Using two LEDs for Black and Color, the ADC Sensor reads the patch density of each of the two reflection paths, which have different light axis angles. The LED for Black uses a mirror reflection light path and the LED for Color uses a diffused reflection light path.



Toner Supply Control

The Toner Supply Control calculates the toner amount to be supplied based on the toner density in the Developer, which is detected by the Image Count Dispense Control (ICDC) Count and the ATC Sensor, in order to maintain the image density.

The toner supply amount is then calculated as the operating time of the Toner Dispense Motor. Based on the calculated value, just the right amount of toner is supplied to the Developer Housing Assembly.

Any one of the three modes shown in the table below can be selected by performing the appropriate settings.

Toner Supply Mode

Mode Name	Description
Timer Toner Supply Mode	A fixed amount of toner is supplied at regular intervals.
Procon Toner Supply Mode	The toner supply amount is calculated and supplied based on the ICDC count value + ATC Sensor output value.
ICDC Toner Supply Mode	The toner supply amount is calculated and supplied based on the ICDC count value.

Toner Supply Amount Calculation by ICDC (Image Count Dispense Control)

The ICDC calculates the toner supply amount based on the number of pixels per page that is counted by the LPH module.

In the ICDC Toner Supply Mode, only the toner supply amount calculated by the ICDC is used to perform Toner Supply Control.

Toner Supply Amount Calculation by ATC Sensor

As the Drum/Deve Drive Motor is operating, the ATC Sensor detects the toner density in the Developer Housing Assembly at regular intervals. At the same time, the toner supply amount is calculated.

ATC Sensor

The ATC Sensor detects changes in the magnetic permeability that varies according to the blend ratio of the carrier and toner, and converts the changes into electrical signals to detect the toner density.

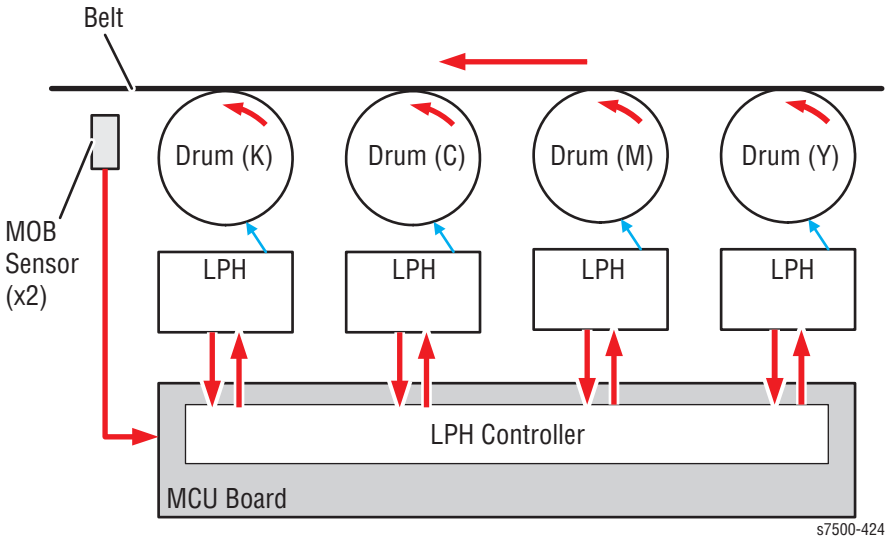
Low ATC Sensor output indicates high toner density, while high ATC Sensor output indicates low toner density.

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Color Registration Control

Overview

The Phaser 7500 is a Full Color Printer that uses the tandem system, where each color - Yellow, Magenta, Cyan, and Black has its own Drum and Developer Housing Assembly. Because each color forms an image on their own Drum, which are then overlayed to create one image, color shift may occur due to Drum misalignments, skewed installation positions, and etc. The function to correct this problem is the Color Registration Control or Regi Con.



Types of Color Registration Control

The Phaser 7500 provides the following types of control according to the operation timings.

Closed Loop Regi Con

When the power is turned On or if the printer internal temperature has changed since the last operation when the IOT is operating (when the Drums and belts are rotating), a patch for the Color Registration Control is created on the belt for the detection/correction of color shift.

The color shift is detected by the MOB Sensors (x2). A combination of rough adjustments and fine adjustments are performed according to the conditions.

Open Loop Regi Con

The color shift for each color is calculated and corrected based on the changes in the printer internal temperature at the heading of a page during the print job. This correction is performed in both lateral direction (fast scan direction) and process direction (slow scan direction).

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Regi Measuring Cycle (Diag)

The Color Registration is measured to determine the periodical shifts generated by the Drum and belt operations, which is one of the causes for color shift.

The patch for the Color Registration Control is measured to detect the amount of color shift. The difference between the average value and the maximum/minimum values of the relative color shift amount against Black in the fast scan and slow scan directions, which are detected by the MOB Sensors (x2), is calculated and becomes the measurement result. In addition, this measurement result is compared with the target value to perform OK/ NG judgment. The measurement and judgment results are displayed but corrections are not performed.

Registration Control Sensor Check Cycle (Diag)

The Registration Control Sensor Check Cycle checks the functions of the MOB Sensors (x2), which are used to measure the Color Shift.

This is a self diagnosis cycle for checking whether the detection systems are operating normally. A single color - Cyan in the patch for the Color Registration Control is measured to detect the amount of Color Shift. In addition, the detected shift amount result is compared with the target value to perform OK/NG judgment. The detected shift result amount at each sensor and judgment result are displayed but corrections are not performed.

Registration Control Setup Cycle (Diag)

The Registration Control Setup Cycle is the same control operation as the one performed in Closed Loop Regi Con, but performed in Diag Mode.

This process is to be performed during printer installation, parts replacement, and NVM initialization to correct the Color Registration to be within the pre-defined range.

Control Shift Detection/ Correction Process

This section describes an overview of the Color Shift Detection and Correction operations at the controls that use patches.

Patch Shape

The patch for the Color Registration Control comes in three "<" patterns - A, B, and C, which go approximately one round on the belt.

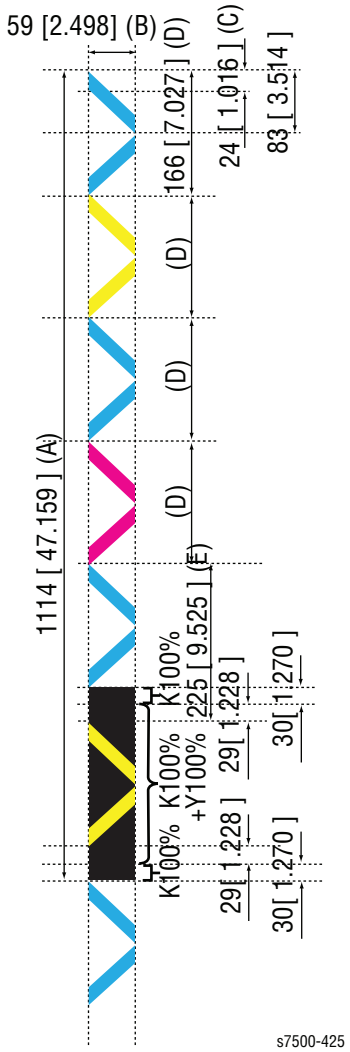
Each pattern is made up of 2 patterns that have the same shape at the front and the rear. The formation positions in the fast scan direction, as well as the positions relative to the center of the ideal image at the front and the rear are the same.

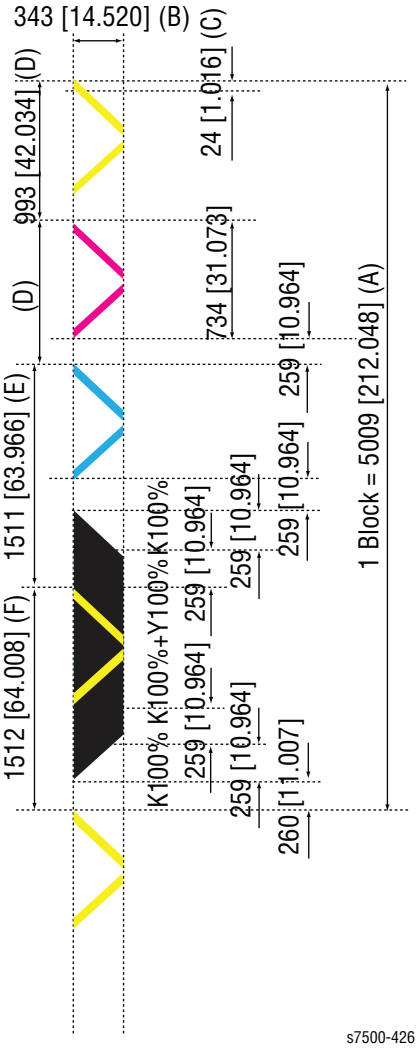
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Types of Patch

Types of Patch	Patch Overview	Registration Control that uses this patch
A	Forms one round on the belt for all colors (small "<" shape)	Closed Loop Regi Con (fine adjustment)
B	Forms one round on the belt for all colors (large "<" shape)	Closed Loop Regi Con (rough adjustment)
C	Forms one round on the belt for single color - Cyan (small "<" shape)	

A Patch / C Patch	B Patch



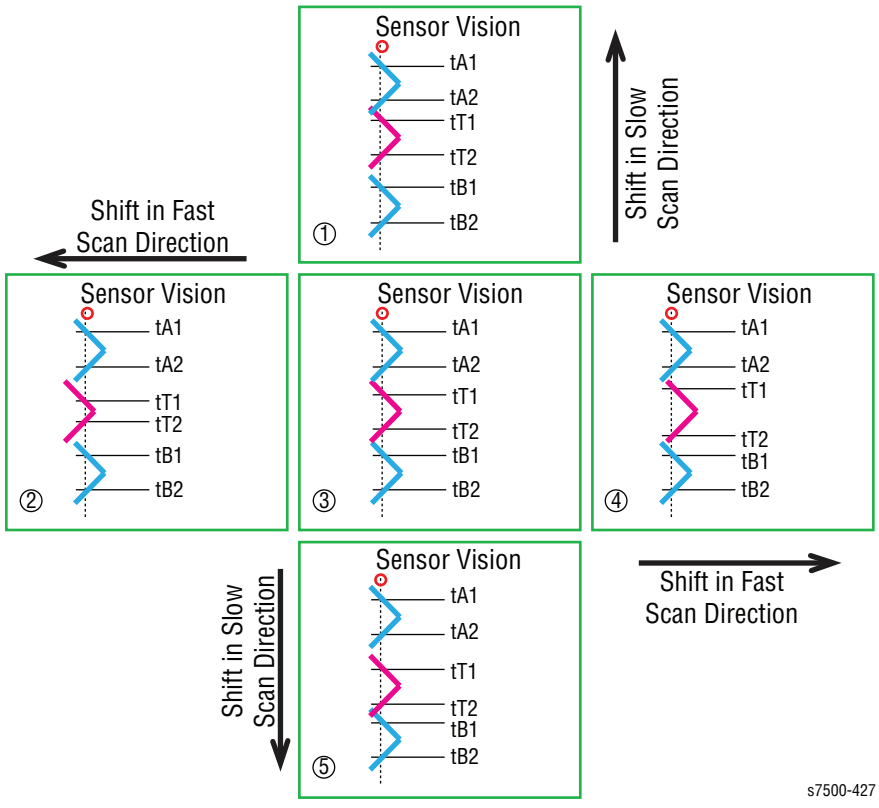


Color Shift Detection

The keys for the color detection are the configuration of the MOB Sensor light receptor and the shape ("<" shape) of the Regi Con patch image. This section describes the principle of "Color Shift Detection" by using the example of Color Shift between two colors.

- (3) provides the ideal patch alignment where the Color Shift is zero. At this time, the pulse output interval is tA1 to tA2 = tT1 to tT2 = tB1 to tB2 and tA2 to tT1 = tT2 to tB1.
- (2) and (4) provide the patch alignments where the Color Shift is only in the fast scan direction. The pulse output intervals are each different compared to (3), where the shift amount is 0.
- (1) and (5) provide the patch alignments where the Color Shift is only in the slow scan direction. The pulse output intervals are each different compared to (3), where the shift amount is 0.

Although the actual Color Shift occurs independently in both the fast scan and slow scan directions and hence is a combination of items as shown in the following illustration, the Color Shift between the two colors in the fast scan and slow scan directions can be detected by using the difference of the patch pass timing in the slow scan direction.



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Color Shift Correction

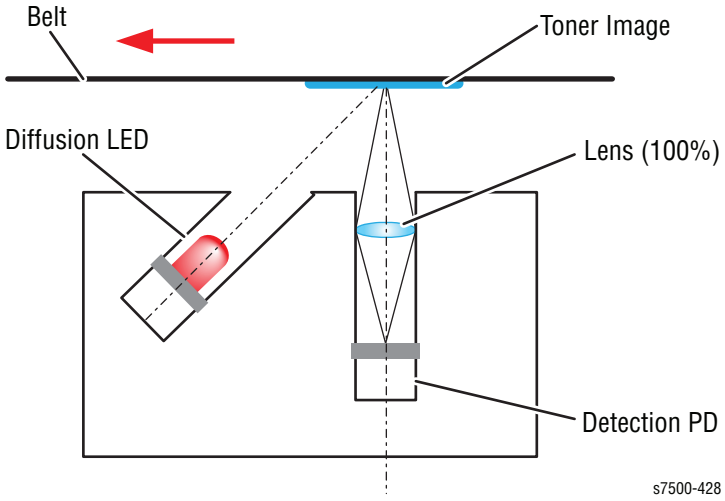
The detected Color Registration shift amount is computed and converted into the following corrective elements. The correction itself is performed by the LPH control.

- Intra engine difference image start occurrence
- Slow scan write position correction (Y fine)
- Slow scan write position correction (Y super fine)
- Slow scan skew/ bow/ LPH linearity correction
- Fast scan write position correction (X rough/X fine)

Mark On Belt Sensor

The Mark On Belt (MOB) Sensor detects marks on the belt.

- The MOB Sensor is a reflective sensor that projects the Regi Con (chevron) patch image that was formed on the opaque belt onto the Detection Unit, and then outputs a pulse when the center line of the patch is aligned with the center line of the Detection Unit.
- The above-mentioned Detection Unit consists of only one Photo Diode that is perpendicular to the belt surface and one LED for diffused light illumination.
- The Sensors (x2) are placed downstream of the last color engine, on the axis perpendicular to the slow scan direction (in other words, on the axis parallel to the fast scan direction) in order to detect the relative Color Shift between the Regi Con patches that were formed by the respective color engines.



Error Messages and Codes

In this chapter...

- Introduction
- Servicing Instructions
- Messages, Chain Link Codes, and Procedures
- Paper Size Detection
- General Troubleshooting
- Jam Errors
- System Errors

Chapter 3

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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 Chain Link code is covered in “General Troubleshooting” on page 4-1. Print quality problems are covered in “Print-Quality Troubleshooting” on page 5-1.

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 Chain Link codes display on the Control Panel
- Engine (fatal) and Jam Error logs display on the Control Panel or listed on the Error History Report

Accessing Fault History

1. From the Control Panel, select **Troubleshooting** and press the **OK** button.
2. Select **Service Tools** and press the **OK** button.
3. Select **Printer Status** page and press the **OK** button.
4. The **Printer Status** page is printed.
5. The **Fault Description** is included in the last part of the page.

Fault History

The Fault History report provides a list of error messages and codes relating to Jam errors and System (fatal) errors. The printer can retain up to 42 Jam errors and 42 System Fail errors.

Examples of Error message and Chain Link code:

- System Fail History
  - Chain Link: 018-310
- Paper Jam History
  - Paper Jam Type: IOT Remain Registration Jam

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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 Fault History.
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 Units and protect them from light.
5. Remove the Transfer Unit.
6. Inspect the printer interior and remove any debris 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 Print Cartridges appear obviously damaged, replace with new ones.

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

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

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Messages, Chain Link Codes, and Procedures

The error messages and chain link 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 Messages Abbreviations

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

Term	Definition
ADC	Automatic Density Control
ASIC	Application-Specific Integrated Circuit
BLK	Black
COMM	Communication
CRT	Cartridge
CRUM	Customer Replaceable Unit
ER/ERR	Error
ENV	Environment
FUNC	Function
MACaddress	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 Unit

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Error Message and Chain-Link Code Summary

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

- The Control Panel Message column shows the message as it appears on the printer's display when the error codes during normal operation.
- The Chain-Link column lists codes listed on the printer Error History Report and the Control Panel.
- The Go to Page column references the procedure related to the error.

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

Error Message and Chain Link Code Display

Chain Link	Control Panel Message	Go to Page
General Troubleshooting (page 3-20)		
116-324	116-324 Fail	3-20
016-782/ 016-784	016-782/ 016-784 Fail	3-21
N/A	HDD System Fail	3-23
N/A	NET/ USB System Fail	3-26
N/A	IOT System Fail	3-27
N/A	HDD Job Fail	3-27
N/A	General Sensor Failure	3-28
N/A	CentreWare Internet Services Failure	3-29
Jam Errors (page 3-31)		
071-105	Registration Sensor On Jam (Trays 2/3/4/5)	3-31
072-101	Tray 3 Misfeed	3-32
072-102	Feed Out Sensor On Jam (Tray 3/4)	3-35
072-900	Tray 2 Feed Out Sensor Static Jam	3-36
073-101	Tray 4 Misfeed	3-37
073-102	Feed Out Sensor 3 On Jam (Tray 4)	3-40
073-900	Tray 4 Feed Out Sensor Static Jam	3-41
074-101	Tray 5 Misfeed	3-42
074-900	Tray 5 Feed Out Sensor Static Jam	3-45
075-100	Tray 1 (MPT) Misfeed	3-46
075-103	Tray 1 Feed Out Sensor Off Jam	3-48
075-135	Regi Sensor On Jam (Tray 1)	3-50
077-101	Regi Sensor Off Jam	3-51
077-103	Exit Sensor 1 Off Jam	3-53

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Error Message and Chain Link Code Display (Continued)

Chain Link	Control Panel Message	Go to Page
077-106	Exit Sensor 1 On Jam	3-54
077-110	POB Sensor On Jam	3-56
077-123	Registration Sensor On Jam (Duplex Wait)	3-57
077-130	Registration Sensor On Jam (Duplex Direct)	3-58
077-131	Duplex Wait Sensor On Jam	3-59
077-900	Registration Sensor Static Jam	3-60
077-901	Exit Sensor 1 Static Jam	3-61
077-903	POB Sensor Static Jam	3-62
077-907	Duplex Wait Sensor Static Jam	3-63
System Errors (page 3-64)		
010-311	Heat Roll STS Disconnect Fail	3-64
010-319	Heat Roll In NC Sensor Differential Amp Fail	3-65
010-320	Heat Roll STS Over Temperature Fail	3-66
010-326	Fuser Hot Not Ready Return Time Fail	3-67
010-328	Warm Up Time Fail	3-68
010-329	Fuser Fuse Cut Fail	N/A
010-330	Fuser Motor Fail	3-69
010-332	Heat Roll NC Sensor Disconnection Fail	3-71
010-333	Heat Roll NC Sensor Over Temperature Fail	3-72
010-334	Heat Roll NC Sensor Broken Fail	3-73
010-335	Heat Roll NC Sensor Range Fail	3-74
010-337	Heat Roll Paper Winding Fail	3-75
010-338	Fuser On Time Fail	3-76
010-341	Illegal Fuser	3-77
010-398	Fuser Fan Fail	3-78
010-420	Fuser Assembly Near Life Warning	3-80
010-421	Fuser Assembly Life Over Warning	3-80
024-910	Tray 2/3/4/5 Size Mismatch	3-81
024-911	Tray 2/3/4/5 Size Mismatch	3-81
024-912	Tray 2/3/4/5 Size Mismatch	3-81
024-913	Tray 2/3/4/5 Size Mismatch	3-81
024-920	Face Down Tray 1 Paper Full	3-82
024-923	Operation Y Toner Empty	3-84
024-924	Operation M Toner Empty	3-84
024-925	Operation C Toner Empty	3-84

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Error Message and Chain Link Code Display (Continued)

Chain Link	Control Panel Message	Go to Page
024-933	Operation Y Drum End of Life	3-85
024-934	Paper Type Mismatch	3-86
024-940	Operation M Drum End of Life	3-87
024-941	Operation C Drum End of Life	3-88
024-946	Tray 2 Out of Place	3-89
024-947	Tray 3 Out of Place	3-89
024-948	Tray 4 Out of Place	3-89
024-949	Tray 5 Out of Place	3-89
024-950	Tray 2 Empty	3-90
024-951	Tray 3 Empty	3-90
024-952	Tray 4 Empty	3-90
024-953	Tray 5 Empty	3-90
024-954	Tray 1 Empty	3-91
024-958	SMH Size Mismatch	3-92
024-959	Tray 2 Size Mismatch	3-93
024-960	Tray 3 Size Mismatch	3-93
024-961	Tray 4 Size Mismatch	3-93
024-962	Tray 5 Size Mismatch	3-93
024-965	ATS/ APS No Paper (IOTsc Detect)	3-94
024-966	ATS/ APS No Destination Error	3-95
024-985	SMH Stop Check	3-96
041-310	IM Logic Fail	3-97
041-330	MCU PWB F7 Blows	3-98
041-331	MCU PWB F8 Blows	3-99
041-340	MCU NVM (EEPROM) Data Fail	3-100
041-341	MCU NVM (EEPROM) Access Fail	3-101
041-342	MCU NVM (EEPROM) Buffer Fail	3-102
041-344	Motor Drive PWB F1 Blows	3-103
041-345	Motor Drive PWB F2 Blows	3-104
041-346	Motor Drive PWB F3 Blows	3-105
041-347	Serial I/O Fail	3-106
041-348	Motor Drive PWB F4 Blows	3-107
041-349	Motor Drive PWB F5 Blows	N/A
041-350	Motor Drive PWB F6 Blows	3-108
042-320	Drum Y, M, C Motor Fail	3-109

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Error Message and Chain Link Code Display (Continued)

Chain Link	Control Panel Message	Go to Page
042-323	Drum K Motor Fail	3-111
042-324	IBT Motor Fail	3-113
042-325	Main Motor Fail	3-115
042-329	HV Fan Fail	3-117
042-334	IBT Fan Fail	3-118
042-336	Process 2 Fan Fail	3-120
042-337	NOHAD Logic Fail	3-122
042-338	LVPS Exhaust Fan Fail	3-123
042-343	Rear Bottom Fan Fail	3-124
042-400	Deodorant Filter Life End	N/A
042-604	NOHAD Temperature Sensor Fail	3-126
042-605	Drive Fan Fail	3-127
045-310	Image Ready NG	3-129
045-311	Controller Communication Fail	3-129
045-312	Drive Logic Fail	3-130
045-313	ENG_LOGIC_FAIL	3-131
045-321	MK_Panel_NG	3-132
045-322	MI_Pitch_NG	3-133
045-331	MK_MKIF_MSG_Reject	3-134
045-332	MK_MMIF_MSG_Reject	3-135
045-340	ENG_Emergency_Over_Wait	3-136
045-341	ENG_Emergency_No_Timer	3-137
045-342	ENG_Emergency_Enforced_Stop	3-138
045-350	MK_Emergency_Over_Wait	3-139
045-351	MK_Emergency_No_Timer	3-140
045-352	MK_Emergency_Enforced_Stop	3-141
047-320	All Destination Tray Broken	3-142
061-350	LPH Power On Fail Y	3-143
061-351	LPH Power Fail M	3-145
061-352	LPH Power Fail C	3-147
061-353	LPH Power Fail K	3-149
061-354	LPH Download Data Fail Y	3-151
061-355	LPH Download Data Fail M	3-153
061-356	LPH Download Data Fail C	3-155
061-357	LPH Download Data Fail K	3-157

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Error Message and Chain Link Code Display (Continued)

Chain Link	Control Panel Message	Go to Page
061-358	LPH Mismatch Fail Y	3-159
061-359	LPH Mismatch Fail M	3-159
061-360	LPH Mismatch Fail C	3-159
061-361	LPH Mismatch Fail K	3-159
061-362	LPH Read Fail Y	3-161
061-363	LPH Read Fail M	3-162
061-364	LPH Read Fail C	3-163
061-365	LPH Read Fail K	3-164
061-366	LPH Write Fail Y	3-165
061-367	LPH Write Fail M	3-167
061-368	LPH Write Fail C	3-169
061-369	LPH Write Fail K	3-171
061-370	LPH Act Fail Y	3-173
061-371	LPH Act Fail M	3-175
061-372	LPH Act Fail C	3-177
061-373	LPH Act Fail K	3-179
061-374	LPH Chip Fail Y	3-181
061-375	LPH Chip Fail M	3-182
061-376	LPH Chip Fail C	3-183
061-377	LPH Chip Fail K	3-184
061-378	LPH Ltrg Fail Y	N/A
061-379	LPH Ltrg Fail M	N/A
061-384	LPH Ltrg Fail C	N/A
061-385	LPH Ltrg Fail K	N/A
061-386	LPH PLL Lock Fail Y	3-185
061-387	LPH PLL Lock Fail M	3-186
061-388	LPH PLL Lock Fail C	3-187
061-389	LPH PLL Lock Fail K	3-188
061-390	LPH Latch Timing Fail Y	3-189
061-391	LPH Latch Timing Fail M	3-190
061-392	LPH Latch Timing Fail C	3-191
061-393	LPH Latch Timing Fail K	3-192
061-394	LPH FFC Connect Fail Y	3-189
061-395	LPH FFC Connect Fail M	3-190
061-396	LPH FFC Connect Fail C	3-191

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Error Message and Chain Link Code Display (Continued)

Chain Link	Control Panel Message	Go to Page
061-397	LPH FFC Connect Fail K	3-192
061-398	BITZ1 Initialize Fail	3-193
061-399	BITZ2 Initialize Fail	3-193
061-610	Bitz1 CONTIF Fail	3-194
061-611	Bitz2 CONTIF Fail	3-194
071-210	Tray 2 Lift Up Fail 3 Times in a Row	3-195
071-212	Tray 2 Paper Size Sensor Broken	3-197
071-940	Tray 2 Lift Up Fail	3-195
072-210	Tray 3 Lift Up Fail 3 Times in a Row	3-198
072-212	Tray 3 Paper Size Sensor Broken	3-201
072-940	Tray 3 Lift Up Fail	3-198
073-210	Tray 4 Lift Up Fail 3 Times in a Row	3-202
073-212	Tray 4 Paper Size Sensor Broken	3-204
073-940	Tray 4 Lift Up Fail	3-202
074-210	Tray 5 Lift Up Fail 3 Times in a Row	3-205
074-212	Tray 5 Paper Size Sensor Broken	3-207
074-940	Tray 5 Lift Up Fail	3-205
075-212	Tray 1 Nudger Up Down Fail	3-208
077-211	Tray Module Kind Mismatch	3-210
077-212	Tray Module Reset Fail	3-211
077-214	Tray Module Logic Fail	3-212
077-215	Tray Module Communication Fail	3-212
077-300	Front Cover Interlock Open	3-213
077-301	L/H Cover Interlock Open	3-214
077-305	Tray Module L/H Cover Open	3-215
077-307	Duplex Cover Open	3-216
077-314	P/H Module Logic Fail	3-217
077-320	All Feed Tray Broken	3-218
077-602	Transparency Sensor Fail	3-219
077-967	Paper Kind Mismatch (APS Job)	3-220
077-968	Paper Kind Mismatch, Job Continue	3-221
089-600	RC Sample Lateral Fail-A1	3-222
089-601	RC Sample Block Fail-A1-In	3-223
089-603	RC Sample Block Fail-A1-Out	3-223
089-604	RC Sample Block Fail-B-#1-In	3-224

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Error Message and Chain Link Code Display (Continued)

Chain Link	Control Panel Message	Go to Page
089-606	RC Sample Block Fail-B-#1-Out	3-226
089-607	RC Sample Block Fail-B-#2-In	3-228
089-609	RC Sample Block Fail-B-#2-Out	3-230
089-610	RC Sample Block Fail-B-#3-In	3-232
089-612	RC Sample Block Fail-B-#3-Out	3-234
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094-421	IBT CLN Unit End Warning	3-308
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Status Messages and Codes

Printer status codes that appear in the Service Usage Profile at line 237 and on the printer Status page are defined in the following table. CL indicates an existing chain-link. Refer to the "Messages, Chain Link Codes, and Procedures" on page 3-4 for additional information.

Message	Code	Message	Code
Front Door Open	150	Left Door A Open	151
Left Door B Open	152	Left Door C Open	153
Jam at Duplex B	CL	Jam at Duplex AB	CL
Jam at Door A	CL	Jam at %s	CL
Paper Size Jam at %s	CL	Paper Type Jam at %s	CL
Misfeed at Tray 1	CL	Insert Tray 2	160
Insert Tray 3	161	Insert Tray 4	162
Insert Tray 5	163	Tray 2 Missing	164
Tray 3 Missing	165	Tray 4 Missing	166
Tray 5 Missing	167	No Paper in MPT	168
No Paper in Tray 2	169	No Paper in Tray 3	170
No Paper in Tray 4	171	No Paper in Tray 5	172
Tray 2 Paper is Low	173	Tray 3 Paper is Low	174
Tray 4 Paper is Low	175	Tray 5 Paper is Low	176
Out of paper: Load %s with %s %s	200	Manual Feed %s %s	210
Wrong paper size: Load %s with %s %s	220	Paper not available: Load %s with %s %s	230
Paper not available: Load %s with %s %s	240	Output Tray Full	250
Cyan Toner Low	251	Magenta Toner Low	252
Yellow Toner Low	253	Black Toner Low	254
Fuser Near End of Life	255	Transfer Roller Near End of Life	256
Waste Cartridge Is Almost Full	257	Imaging Unit 1 Near End of Life	258
Imaging Unit 2 Near End of Life	259	Imaging Unit 3 Near End of Life	260
Imaging Unit 4 Near End of Life	261	Accumulator Belt Near EOL	262
Developer 1 Near EOL	263	Developer 2 Near EOL	264
Developer 3 Near EOL	265	Developer 4 Near EOL	266
Tray 1 Feed Rollers Past EOL	267	Tray 2 Feed Rollers Past EOL	268
Tray 3 Feed Rollers Past EOL	269	Tray 4 Feed Rollers Past EOL	270

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Message	Code	Message	Code
Tray 5 Feed Rollers Past EOL	271	Fuser PAST EOL	272
Transfer Roller PAST EOL	273	Imaging Unit 2 PAST EOL	274
Imaging Unit 1 PAST EOL	275	Imaging Unit 4 PAST EOL	276
Imaging Unit 3 PAST EOL	277	Magenta Toner Empty (RB)	278
Cyan Toner Empty (RB)	279	Cyan Toner Out	280
Yellow Toner Empty (RB)	281	Yellow Toner Out	282
Magenta Toner Out	283	NX Cyan Toner Out	284
Black Toner Out	285	NX Yellow Toner Out	286
NX Magenta Toner Out	287	Transfer Roller Expired	288
NX Black Toner Out	289	Fuser Expired	290
Waste Cartridge Full	291	Imaging Unit 2 Expired	292
Imaging Unit 1 Expired	293	Imaging Unit 4 Expired	294
Imaging Unit 3 Expired	295	Accumulator Belt Expired	296
Developer 1 Expired	297	Developer 2 Expired	298
Developer 3 Expired	299	Developer 4 Expired	300
Cyan Toner Missing	CL	Magenta Toner Missing	CL
Yellow Toner Missing	CL	Black Toner Missing	CL
Fuser Missing	305	Imaging Unit 1 Missing	CL
Imaging Unit 2 Missing	CL	Imaging Unit 3 Missing	CL
Imaging Unit 4 Missing	CL	Waste Cartridge Missing	310
Non-Xerox Cyan Toner Detected	311	Non-Xerox Magenta Toner Detected	312
Non-Xerox Yellow Toner Detected	313	Non-Xerox Black Toner Detected	314
Replace Non-Xerox Cyan Toner	315	Replace Non-Xerox Magenta Toner	316
Replace Non-Xerox Yellow Toner	317	Replace Non-Xerox Black Toner	318
Non-Xerox Cyan Toner In Use	319	Non-Xerox Magenta Toner In Use	320
Non-Xerox Yellow Toner In Use	321	Non-Xerox Black Toner In Use	322
Non-Phaser 7500 PHD 1	323	Non-Phaser 7500 PHD 2	324
Non-Phaser 7500 PHD 3	325	Non-Phaser 7500 PHD 4	326
Non-Phaser 7500 Cyan Toner	327	Non-Phaser 7500 Magenta Toner	328
Non-Phaser 7500 Yellow Toner	329	Non-Phaser 7500 Black Toner	330
Force Metered Toner	331	Replace Metered Cyan	332
Replace Metered Magenta	333	Replace Metered Yellow	334

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Message	Code	Message	Code
Replace Metered Black	335	Duplicate IP Address	336
Configuration Card Invalid	337	Configuration Card Missing	338
Motor Failure	CL	Fan Failure	CL
CRUM ASIC Comm Failure	CL	Accumulator Belt Assembly Failure	CL
Belt Home Too Long Failure	CL	Fuser Failure	CL
Waste Toner Auger Failure	CL	LED Failure	CL
Fuse Broken Failure	CL	Engine Failure	CL
Engine Logic Failure	CL	BITZ Initialize Failure	CL
ATC Failure	CL	Y Dispenser Motor Failure	CL
M Dispenser Motor Failure	CL	C Dispenser Motor Failure	CL
K Dispenser Motor Failure	CL	MPT Nudger Up Down Failure	CL
Tray Module Failure	CL	Tray 2 Failure	CL
Tray 3 Failure	CL	Tray 4 Failure	CL
Tray 5 Failure	CL	Hard Disk Failure	80

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Paper Size Detection

Tray 1 (MPT)

Paper width (size in fast scan direction) is sensed by the voltage corresponding to the Tray 1 (MPT) Paper Size Sensor resistance. Tray 1 (MPT) Paper Size Sensor resistance is determined by the position of the front and rear side guides. Some variation in values is normal within the specified range.

Paper Size Switch Output Values for Tray 1(MPT)

Paper Size	Voltage (V)	AD Value Range
Post Card	2.676 - 2.732	824.958 - 851.600
5.5" x 8.5" SEF	2.246 - 2.302	691.590 - 718.233
A5 SEF	2.156 - 2.212	663.708 - 690.350
B5 SEF	1.788 - 1.843	549.488 - 576.131
8" x 10" SEF	1.636 - 1.692	502.457 - 529.099
8.5" x 11" SEF (Letter) & x 13" & x 14"	1.503 - 1.559	461.304 - 487.947
A4 SEF	1.484 - 1.540	455.425 - 482.068
7.25" x 10.5" LEF	0.972 - 1.028	296.694 - 323.337
B5 LEF	0.975 - 1.031	297.534 - 324.176
B4 SEF		
16K LEF (Taiwan)	0.867 - 0.922	263.940 - 290.583
8K SEF (Taiwan)		
16K LEF (China)	0.834 - 0.890	253.862 - 280.504
8K SEF (China)		
11" x 17" SEF	0.732 - 0.788	222.284 - 248.926
8.5" x 11" LEF (Letter)		
A4 LEF	0.541 - 0.597	163.159 - 189.801
A3 SEF		
12.6" x 19.2" SEF	0.415 - 0.470	123.854 - 150.496
13" x 19" (x18")	0.308 - 0.364	90.932 - 117.574
SRA3	0.292 - 0.348	85.893 - 112.535

Note

Paper length (size in slow scan direction) is sensed by measuring how long paper takes to pass Registration Sensor.

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Tray 2

For Tray 2, media size is detected by the state of five paper size switches. Media size is sensed by the voltage corresponding to the combined resistance of SW1 through SW4 and the state of SW5 (On/Off). A failed or jammed switch effects the printer's ability to accurately detect media size or presence in the tray.

Included in the table are the expected values for voltage readings at J417-B4. Also listed are the range of A/D converter values. Any combination other than the ones listed result in an undetermined size.

Paper Size Switch Output Values Tray 2

Paper Size	SW1	SW2	SW3	SW4	SW5	Voltage at J417-B4	AD Value
No Tray	Off	Off	Off	Off	Off	3.08±0.066	922-989
A5 SEF 5.5" x 8.5" SEF (*1)	Off	Off	On	Off	Off	2.671±0.066	797-857
B5 SEF	Off	Off	On	On	On	2.468±0.066	735-796
8.5" x 13" SEF	Off	On	Off	On	Off	2.064±0.066	610-671
8.5" x 14" SEF	Off	On	Off	On	On		
A4 SEF	Off	On	On	Off	Off	1.864±0.066	548-609
8.5" x 11" SEF	Off	On	On	Off	On		
A4 LEF	On	Off	On	Off	Off	1.079±0.066	304-365
A3 SEF	On	Off	On	On	Off	0.881± 0.066	244-303
B5 LEF 7.25" x 10.5" LEF (*1)	On	On	Off	Off	On	0.691± 0.066	184-243
8K SEF (*2)	On	On	Off	On	Off	0.493±0.066	124-183
B4 SEF	On	On	Off	On	On		
8.5" x 11" LEF	On	On	On	Off	Off	0.300±0.066	64-123
16K LEF (*2)/ 7.25" x 10.5" LEF (*1)	On	On	On	Off	On		
11" x 17" SEF	On	On	On	On	On	0.106±0.066	0-63

* 1 Paper size is changed in diag.
* 2 System setting makes possible changing between GCO and TFX sizes

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Trays 3 through 5

For optional Trays 3 through 5, media size is detected by the state of five paper size switches located at the rear of the chassis. Media size is sensed by the voltage corresponding to the combined resistance of SW1 through SW4 and the state of SW5 (On/Off). A failed or jammed switch effects the printer's ability to accurately detect media size or presence in the tray.

Included in the table are the expected values for voltage readings at J548-14, J549-B11, and J549-B17 respectively. Also listed are the range of A/D converter values. Any combination other than the ones listed result in an undetermined size.

Paper Size Switch Output Values Trays 3 through 5

Paper Size	SW1	SW2	SW3	SW4	SW5	Voltage	AD Value
No Tray	Off	Off	Off	Off	Off	4.66±0.03	237-247
A5 SEF 5.5" x 8.5" SEF (*1)	Off	Off	On	Off	Off	4.01±0.03	199-214
B5 SEF	Off	Off	On	On	On	3.69±0.03	184-198
8.5" x 13" SEF	Off	On	Off	On	Off	3.07±0.03	153-167
8.5" x 14" SEF	Off	On	Off	On	On		
A4 SEF	Off	On	On	Off	Off	2.75±0.03	137-152
8.5" x 11" SEF	Off	On	On	Off	On		
8" x 10" SEF	Off	On	On	On	On	2.44±0.03	122-136
12.6" x 19.2" SEF/ 13" x 19" SEF (*1)	On	Off	Off	Off	On	2.15±0.03	107-121
SRA3 SEF/ 13" x 18" SEF/ 2" x 18" SEF (*1)	On	Off	Off	On	On	1.83±0.03	92-106
A4 LEF	On	Off	On	Off	Off	1.52±0.03	77-91
A3 SEF	On	Off	On	On	Off	1.21±0.03	61-76
B5 LEF 7.25" x 10.5" LEF (*1)	On	On	Off	Off	On	0.91±0.03	46-60
8K SEF (*2)	On	On	Off	On	Off	0.60±0.03	31-45
B4 SEF	On	On	Off	On	On		
8.5" x 11" LEF	On	On	On	Off	Off	0.30±0.03	16-30
16K LEF(*2)/ 7.25" x 10.5" LEF (*1)	On	On	On	Off	On		
11" x 17" SEF	On	On	On	On	On	0.00±0.03	0-15

* 1 Paper size is changed in diag.
* 2 System setting makes possible changing between GCO and TFX sizes

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General Troubleshooting

116-324 Fail

Problem Occurs at Power On

1. Check whether the error persists after returning from Energy Saver mode and take a note on the result, and then perform Steps 1 to 6 in "Common System Fail" on page 3-22. (No reports can be obtained during this failure.)
2. If the problem persists, prepare for the recovery operation since the system may be recovered by the procedures in "HDD System Fail" on page 3-23. Check with the customer whether important data is stored in the HDD.
3. If no important data is stored in the HDD, perform the "HDD System Fail" on page 3-23. If the problem persists, reinstall the removed HDD.
4. If important data is stored in the HDD, replace it with the HDD and turn the power Off then On. If the problem persists, reinstall the HDD and replace the Image Processor Board.

Problem Occurs other than Power On

1. Get the procedures for reproducing an error as follows, according to the operations performed where the error occurred.
   - The job type: Print.
   - The job settings from the Panel.
   - Whether HDD spool is enabled/disabled.
   - Collect other information as much as possible for reproducing the error.
2. Obtain the Function Setting List, Error History Report, Job History Report, and Shutdown Report.
3. Perform Steps 1 to 6 of "Common System Fail" on page 3-22. (Obtain both since both the reports and logs can be obtained.)

   Check if any log has been obtained at this point. If no logs have been obtained, obtain the logs during the error reproduction.

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016-782/ 016-784 Fail

Procedure

1. Check [Server Name/IP Address] with the Address List.
   - WinNT 4.0: If IP address is specified, SMB transfer to WinNT 4.0 becomes unavailable. Change [Server Name/IP Address] to a host name.
   - Win XP: SMB transfer is available even with IP Address.
2. Perform the following procedures to check for the failure where SMB transfer is unavailable via the Address List.
   a. Add this product machine to a domain.
   b. Set a local user and password in the PC storage server (or a domain client higher than WIN workstation).

      This local user and password = the user and password in the Address List.
   c. Grant the permission for the user that has been created in the scan data storage folder of the PC storage server (or the domain client higher than WIN2000) in Step (2) (for NTFS, FAT32 is not used). After that, share the folder and set the permission for sharing.
   d. The workgroup name in the SMB properties shown from the appropriate device internet service = the same as the domain (a) to be used as a domain name.

      If the procedure in (a) is inappropriate, the error 016-782 occurs. If the procedures in (b) and (c) are inappropriate, the error 016-784 occurs.
   e. If the problem persists after performing this procedure, perform the "Common System Fail" on page 3-22.

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Common System Fail

The following procedure describes the common procedure at System Fail or Sub System Fail, regardless of whether the power is turned On or during job processing.

Initial Actions

- Collect the detailed procedures below from the customer when a trouble occurred.
- What job was performed when the problem occurred?
- Check the job settings from the UI.
- Check whether HDD spool is enabled/disabled.
- Collect other information as much as possible to reproduce the error.

Procedure

1. If error was displayed during a service call, obtain Fault History.
2. Turn the power Off and On.

   If the problem persists after the power is turned Off then On, obtain the Back Channel file using the log tool. At this point, if the system starts by turning the power On.
3. Turn the power Off and On by using the breaker (unplug from and plug to the power outlet). If the problem persists after the power is turned Off then On, obtain the Fault History.
4. If the problem persists, check the installation status of the Image Processor Board and connector cables to install them properly, then perform the same operation where the error occurred.
5. If the problem persists, replace the Image Processor Board and perform the same operation where the error occurred.
6. If the system is not restored after the Image Processor Board has been replaced, reinstall the original Image Processor Board.

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HDD System Fail

Always read the following three basic notes regarding the HDD in this machine model before servicing.

1. HDD Data
2. HDD Initializing
3. HDD Formatting

After reading the basic notes, proceed with the service operations.

HDD Data

Description by HDD partition

Data to be stored in each partition of the Hard Disk

Partition No.	Volume	Capacity	Stored Data
1	ide0a	3GB	Font, Form/Logo, SMB Folder (Config. txt, driver)
2	ide0b	3GB	Temporary data for Electronic Sort Print
3	ide0c	4GB	Report, Private Charge Print, Secure Print, Sample Set, Delayed Print
4	ide0d	3GB	PDL, Mail Temporary (print data before decompose)
5	ide0e	---	Not used in this model
6	ide0f	---	Not used in this model
7	ide0g	---	Not used in this model
8	ide0h	2GB	Job Log (up to 10,000 items), Failure Log, Audit Log, Device Authentication Data (device, personal certificate, etc.)
9	ide0i	---	Not used in this model
10	ide0j	14GB	Log Image Storage Area of Image Log
16	Ide0p	2GB	Backup data of Download Firmware, Backup data of non-volatile data

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HDD Initialization

The HDD can be initialized in the Diag. mode and KO Tools, by special booting, and by turning the M/C Off then On.

Initialization means the logical formatting for changing a partition size. Initializing the HDD will delete all data in the HDD. Even if only one partition size is changed, the data in all partitions will be deleted.

HDD Initialization Method

Partition No.	Data Clear Method			
	Diag.	KO Tools	Special Booting	M/C Power Off/On
1	x	x	x	---
2	x	---	x	x
3	x	---	x	---
4	x	---	x	---
5	x	---	x	x
6	x	---	x	---
7	x	---	x	---
8	x	---	x	---

HDD Formatting

Forcedly re-formatting the HDD by special booting will forcedly return the partition status to the factory setting.

Formatting will delete all the data in the HDD.

HDD failures might be recovered by re-formatting.

Procedure

1. Disconnect and reconnect the HDD harness, check the installation of the HDD and install it securely. Perform Steps 1 to 7 of "Common System Fail" on page 3-22. If the problem persists, go to the next step.
2. If the problem persists, perform the forced initialization by special booting.
   - Startup by Force Spool Range (HDD) Initialization

   It is the operation to forcedly clear the HDD when the machine is started up.
   [Operation or Details]

   a. For printer machines, turning the power On while pressing the [Energy Saver] and **Down** buttons at the same time initializes the data stored in the HDD Partition No. 4.

   b. Initialization by special booting in step 2 targets only on the previously specified area in the HDD partition and does not affect the other areas. Here, perform the same operation where the error occurred.
3. If the problem persists, perform the forced formatting by special booting.
   - Starting the forced HDD formatting (this procedure should not be let known to the users)

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This operation forcedly restores the HDD to the partition status at factory settings.

a. HDD formatting is performed by turning the power On while pressing the **Energy Saver** button, **Up** button and **Down** button at the same time.

4. If the problem persists, replace the HDD and perform the same operation where the error occurred.
5. If the problem persists, replace the Image Processor Board (REP 35.1, page 8-220) and perform the same operation where the error occurred.
6. Return NVM that was set in Step 1 to "1".

If the system is not restored after the Image Processor Board has been replaced, reinstall the original Image Processor Board.

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NET/ USB System Fail

Procedure

1. Check if the Controller ROM is the latest version. If it is not the latest, upgrade the software.
2. Check the connection between the Image Processor Board and the Net to install them securely, then turn the power On.

   Check for faulty ports or Net connection. Check which of the following ports is faulty.

   - SNMP
   - NetWare
   - Salutation IO
   - SMB
   - Port 9100
   - USB
   - lpd
   - FTP Serv
   - MailO
   - IPP

   After checking, perform the same operation where the error occurred. If the problem persists, obtain the "info9 or xxx.tgz" log using the log tool.
3. If the problem persists, reinstall or replace the RAM DIMM and then turn the power On. Perform the same operation where the error occurred.
4. If the problem persists, replace the Image Processor Board (REP 35.1, page 8-220) since it may be faulty. Perform the same operation where the error occurred.
5. If the system is not restored after the Image Processor Board has been replaced, reinstall the original Image Processor Board.
6. Return the NVM that was set to "1".

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IOT System Fail

Procedure

1. Perform ESS Hardware Diagnostic.
2. Check the installation status of the Image Processor Board and MCU PWB connector cables to install them securely, then check that the installation status of the parts in the MCU PWB and ensure that they are securely installed. After that, perform the same operation where the error occurred.
3. If the problem still persists, perform“Common System Fail” on page 3-22. (Here, the Image Processor Board is not replaced.)
4. If the problem persists, replace the MCU PWB (REP 18.12, page 8-202).
5. If the problem persists after the above actions, replace the Image Processor Board (REP 35.1, page 8-220). (Replace the PWB in the order of IOT then the Image Processor Board.)
6. If the system is not restored after the Image Processor Board and MCU PWB have been replaced, reinstall the original Image Processor Board and MCU PWB.

HDD Job Fail

1. Perform the “HDD System Fail” on page 3-23.

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General Sensor Failure

Initial Actions

- Check the paper path for debris.
- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Perform the appropriate **Sensor** tests in Diagnostics. Does the Sensor operate properly?	Replace the PWB that the Sensor is connected to.	Go to step 2.
2	Check the connection of the relevant Sensor. Check the connection between the relevant Sensor and the MCU PWB. Is the connector properly connected?	Go to step 3.	Reconnect the wiring harness connector.
3	Check the harness conductivity Is the harness between the relevant Sensor and the MCU PWB conducting normally and not grounded?	Go to step 4.	Replace the wiring harness.
4	Check the voltage that is supplied to the relevant Sensor. Refer to "Plug/Jack and Wiring Diagrams" on page 10-1 to check the connection to the relevant parts and measure the voltage of the PWB Connector that the Sensor is connected to. Is a voltage being output?	Replace the Sensor.	Refer to "+5 VDC Power Troubleshooting" on page 4-15.

CentreWare Internet Services Failure

The following describes the situations and corrective actions when a failure occurs when "CentreWare Internet Services" is used.

CentreWare Internet Services Failure

Symptoms	Action
Unable to connect to CentreWare Internet Services.	Check that the machine is operating properly. Check that the machine is turned On.
Unable to connect to CentreWare Internet Services.	Check that "Internet Services" is activated. Print the "Configuration Report" for checking.
Unable to connect to CentreWare Internet Services.	Check that the Internet address has been entered properly. Check the Internet address again. When unable to connect, enter the IP Address and connect again.
Unable to connect to CentreWare Internet Services.	Check if a proxy server is used. Connection might not be possible depending on the Proxy Server. When proxy server is not used, set the Web browser to "Do not use proxy server" or set the used address to "Do not use proxy server".
The message "Wait for a while" is displayed and nothing else happens.	Wait for a while without doing anything. If the situation does not change, select the **Refresh** button. If the situation does not change even after selecting the **Refresh** button, check if the machine is operating properly.
The **Refresh** button is not functioning. Or, even if a menu in the left frame is selected, the right frame cannot be refreshed.	Check that the specified Web browser is used. Refer to "Communication (Port/Protocol) Setting Items in CentreWare Internet Services" in User Guide to check whether the Web browser being used is supported.
The screen display collapses.	Change the window size of the Web Browser.
The latest information is not displayed.	Select the **Refresh** button.
Selecting the **Apply** button does not reflect settings.	Check that the entered values are correct. If invalid values have been entered, they are automatically changed to values within the limit range.
Selecting the **Apply** button does not reflect settings.	Check that the machine is operating or has completed operation using the machine Control Panel. If **Auto Reset** function is set, the settings in CentreWare Internet Services will not be applied until the specified time has passed. Wait for a while.

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CentreWare Internet Services Failure (Continued)

Symptoms	Action
Selecting **Apply** button displays a message such as "Invalid or unrecognizable response was returned from the server" or [No data found] on the Web browser.	1. Check if the password is correct. The password confirmation entry does not match. Enter a correct password. 2. Restart the printer.
Jobs cannot be deleted.	Wait for a while and then select the **Refresh** button.

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Jam Errors

Registration Sensor On Jam (Trays 2/3/4/5)

The Regi Sensor does not turn On within the specified time after the Regi Clutch On after the Feed from the Tray has started.

Applicable Chain-Link Code

- **071-105**: Regi Sensor On Jam (Trays 2/3/4/5)

Initial Actions

- Check the paper path for debris.
- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Check the paper transportation failure due to debris/ burrs on the paper path.
2. Check the Tray 1 Feed Roll, Retard Roll, and Nudger Roll for contamination, wear, and rotation failure (when the jam has occurred during Feed from Tray 1).
3. Check each Takeaway Roll and Pinch Roll for contamination, wear, and rotation failure.
4. Check each Takeaway Roll Drive Gear for wear and damage.
5. Check the paper specification (refer to "Paper and Tray Specifications" on page 1-19).
6. Check the Regi Sensor for contamination, improper installation, and Actuator operation failure.
7. Perform the **Jam Sensor** test in Diagnostics.
8. The connection between the Regi Sensor J160 and the Motor Drive PWB J515 for open circuit, short circuit, and poor contact.
9. Perform the **Main Motor** test in Diagnostics.
10. Perform the **Paper Feed Motor** test in Diagnostics (when the jam has occurred during Feed from Tray 1).
11. Perform the **Takeaway Clutch** test in Diagnostics.
12. Perform the **TM Takeaway Motor** test in Diagnostics.
13. If no problems are found, replace the following parts in sequence:
    - Motor Drive PWB (REP 18.13, page 8-204)
    - MCU PWB (REP 18.12, page 8-202)

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Tray 3 Misfeed

The Tray 3 Feed Out Sensor does not turn On within the specified time after the Feed from Tray 3 has started.

Applicable Chain-Link Code

- **072-101**: Tray 3 Misfeed

Initial Actions

- Check the following connections for open circuits, short circuits, and poor contacts between the Motor Drive PWB J509 and the TM Relay PWB J801.
- When 3 Tray Module (3TM) is connected: Between the TM Relay PWB J800 and the Tray Module PWB J541.
- When STM is connected: Between the TM Relay PWB J800 and the Single Tray Module (STM) PWB J541.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Tray 3/4/5 Feed/ Lift Up Motor, PL10.3.3 ■ Tray Module PWB, PL10.9.1 ■ TM Takeaway Motor, PL10.9.5 ■ Tray 3 Feed Out Sensor, PL10.11.11 ■ STM PWB, PL11.5.4 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7 ■ TM Relay PWB, PL18.3.11	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Perform the **Paper Feed Motor** test in Diagnostics. Does the Motor operate properly?	Go to step 5.	Go to step 2.
2	When 3TM is connected: Is the voltage between the Tray Module PWB J541-10 (+) and the GND (-) +24VDC? When STM is connected: Is the voltage between the STM PWB J541-8 (+) and the GND (-) +24VDC?	Go to step 3.	Refer to "+24 VDC Power" on page 4-16.

Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
3	Turn Off the power, then measure the Tray 3 Feed/ Lift Up Motor wire wound resistance. Remove the Tray 3 Feed / Lift Up Motor, then measure the following resistances. ■ Between J221 pin-1 and J221 pin-2 ■ Between J221 pin-3 and J221 pin-4 Is the resistance approximately 4 Ohm for each?	Go to step 4.	Replace the Tray 3 Feed/ Lift Up Motor (REP 10.3, page 8-93).
4	When 3TM is connected: Check the connection between the Tray Module PWB J550 and the Tray 3 Feed/ Lift Up Motor J221 for open circuit, short circuit, and poor contact. When STM is connected: Check the connection between the STM PWB J550 and the Tray 3 Feed/ Lift Up Motor J221 for open circuit, short circuit, and poor contact. Is it conducting properly?	Replace the following parts in sequence: ■ Tray Module PWB (REP 10.9, page 8-97) ■ STM PWB (REP 11.10, page 8-120) ■ TM Relay PWB (REP 18.14, page 8-205) ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.
5	Perform the **TM Takeaway Motor** test in Diagnostics. Does the Motor perform properly?	Go to step 9.	Go to step 6.
6	Is the voltage between the TM Takeaway Motor J224-2/5 (+) and the GND (-) +24VDC?	Go to step 7.	Refer to "+24 VDC Power" on page 4-16.
7	Turn Off the power, then measure the TM Takeaway Motor wire wound resistance. Remove the TM Takeaway Motor, then measure the following resistances. ■ Between J224 pin-1 and J224 pin-2 ■ Between J224 pin-3 and J224 pin-2 ■ Between J224 pin-4 and J224 pin-5 ■ Between J224 pin-6 and J224 pin-5 Is the resistance approximately 0.85 Ohm for each?	Go to step 8.	Replace the TM Takeaway Motor (REP 10.11, page 8-99).

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
8	When 3TM is connected: Check the connection between the Tray Module PWB J551 and the TM Takeaway Motor J224 for open circuit, short circuit, and poor contact. When STM is connected Check the connection between the STM PWB J551 and the TM Takeaway Motor J224 for open circuit, short circuit, and poor contact. Is it conducting properly?	Replace the following parts in sequence: ■ Tray Module PWB (REP 10.9, page 8-97) ■ STM PWB (REP 11.10, page 8-120) ■ TM Relay PWB (page 8-205) ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.
9	Perform the **Tray Feed Sensors** test in Diagnostics. Move the Actuator manually to block/ clear the light path to the Tray 2 Feed Out Sensor. Does the display change between High/ Low?	Go to step 10.	Refer to "General Sensor Failure" on page 3-28.
10	Check the following: ■ Paper transportation failure due to debris/ burrs on the paper path. ■ The Feed Roll, Retard Roll, and Nudger Roll for contamination and damage. ■ The TM Takeaway Roll and Pinch Roll for contamination and damage. ■ The Feed Roll, Retard Roll, and Nudger Roll Drive Gears for wear and damage. ■ The Takeaway Roll Drive Gear for wear and damage. ■ Is paper used out of specification (refer to "Paper and Tray Specifications" on page 1-19)? Are they normal, without any transportation failure, rotation failure, and etc.?	Replace the following parts in sequence: ■ Tray Module PWB (REP 10.9, page 8-97) ■ STM PWB (REP 11.10, page 8-120) ■ TM Relay PWB (REP 18.14, page 8-205) ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have transportation failure, rotation failure, and etc.

Feed Out Sensor On Jam (Tray 3/4)

The Tray 3 Feed Out Sensor does not turn On within the specified time after the Feed from Tray 3 or Tray 4 has started.

Applicable Chain-Link Code

072-102: Feed Out Sensor On Jam (Tray 3/4)

Initial Actions

- Check the paper path for debris.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Tray Module, PL10.9.1 ■ TM Relay PWB, PL18.3.11 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Check the paper transportation failure due to debris/ burrs on the paper path.
2. Check the Tray Module (TM) Takeaway Roll and Pinch Roll for contamination, wear, and rotation failure.
3. Check the TM Takeaway Roll Drive Gear for wear and damage.
4. Is paper used out of specification (refer to "Paper and Tray Specifications" on page 1-19)?
5. Check the Tray 3 Feed Out Sensor for contamination, improper installation, and Actuator operation failure.
6. Perform the **Tray 3 Feed Out Sensor** test in Diagnostics.
7. Check the connection between the Tray 3 Feed Out Sensor J108 and the Tray Module PWB J549 for open circuit, short circuit, and poor contact.
8. Perform the **TM Takeaway Motor** test in Diagnostics.
9. Check the connection between the Tray Module PWB J541 and the TM Relay PWB J800 for open circuit, short circuit, and poor contact.
10. Check the connection between the TM Relay PWB J801 and the Motor Drive PWB J509 for open circuit, short circuit, and poor contact.
11. If no problems are found, replace the following parts in sequence:
    - Tray Module PWB (REP 10.9, page 8-97)
    - TM Relay PWB (REP 18.14, page 8-205)
    - Motor Drive PWB (REP 18.13, page 8-204)
    - MCU PWB (REP 18.12, page 8-202)

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Tray 2 Feed Out Sensor Static Jam

When the power was turned ON, the M/C was stopped (Cycle Down/ Shut Down), or when the interlocks were closed (all interlocks including options), the Tray 2 Feed Out Sensor detected paper.

Applicable Chain-Link Code

072-900: IOT Static Jam (at Tray 2 Feed Out Sensor)

Initial Actions

- Check the paper path for debris.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Tray Module, PL10.9.1 ■ TM Relay PWB, PL18.3.11 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Check the Tray 2 Feed Out Sensor for remaining paper, contamination, Actuator return failure, or improper installation.
2. Perform the **Tray Feed Sensors** test in Diagnostics.
3. When 3TM is connected, check the connection between the Tray 2 Feed Out Sensor J108-1 and the Tray Module PWB J549-A3 for short circuit.
4. When STM is connected, check the connection between the Tray 2 Feed Out Sensor J108-1 and the STM PWB J548-3 for short circuit.
5. Check the connection between the Motor Drive PWB J509-6 and the TM Relay PWB J801-10 for short circuit.
6. When 3TM is connected, check the connection between the TM Relay PWB J800-A6 and the Tray Module PWB J541-6 for short circuit.
7. When STM is connected, check the connection between the TM Relay PWB J800-A6 and the STM PWB J541-6 for short circuit.
8. If no problems are found, replace the following parts in sequence:
   - Tray Module PWB (REP 10.9, page 8-97)
   - TM Relay PWB (REP 18.14, page 8-205)
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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Tray 4 Misfeed

The Tray 4 Feed Out Sensor does not turn On within the specified time after the Feed from Tray 4 has started.

Applicable Chain-Link Code

- **073-101**: Tray 4 Misfeed

Initial Actions

- Check the following connections for open circuits, short circuits, and poor contacts between the Motor Drive PWB J509 and the TM Relay PWB J801.
  - When 3TM is connected: Between the TM Relay PWB J800 and the Tray Module PWB J541.
  - When STM is connected: Between the TM Relay PWB J800 and the STM PWB J541.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Tray 3/4/5 Feed/ Lift Up Motor, PL10.3.3 ■ Tray Module PWB, PL10.9.1 ■ TM Takeaway Motor, PL10.9.5 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7 ■ TM Relay PWB, PL18.3.11	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Perform the **Paper Feed Motors** test in Diagnostics. Does the Motor operate properly?	Go to step 5.	Go to step 2.
2	Is the voltage between the Tray Module PWB J541-10 (+) and the GND (-) +24VDC?	Go to step 3.	Refer to "+24 VDC Power" on page 4-16.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
3	Turn Off the power, then measure the Tray 4 Feed/ Lift Up Motor wire wound resistance. Remove the Tray 4 Feed/ Lift Up Motor, then measure the following resistances. ■ Between J222 pin-1 and J222 pin-2 ■ Between J222 pin-3 and J222 pin-4 Is the resistance approximately 4 Ohm for each?	Go to step 4.	Replace the Tray 4 Feed/ Lift Up Motor (REP 10.3, page 8-93).
4	Check the connection between the Tray Module PWB J550 and the Tray 4 Feed/ Lift Up Motor J222 for open circuit, short circuit, and poor contact. Is it conducting properly?	Replace the following parts in sequence: ■ Tray Module PWB (REP 10.9, page 8-97) ■ TM Relay PWB (REP 18.14, page 8-205) ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Reconnect the wiring harness connectors.
5	Perform the **TM Takeaway Motor** test in Diagnostics. Does the Motor operate properly?	Go to step 9.	Go to step 6.
6	Is the voltage between the TM Takeaway Motor J224-2/5 (+) and the GND (-) +24VDC?	Go to step 7.	Refer to "+24 VDC Power" on page 4-16.
7	Turn Off the power, then measure the TM Takeaway Motor wire wound resistance. Remove the TM Takeaway Motor, then measure the following resistances. ■ Between J224 pin-1 and J224 pin-2 ■ Between J224 pin-3 and J224 pin-2 ■ Between J224 pin-4 and J224 pin-5 ■ Between J224 pin-6 and J224 pin-5 Is the resistance approximately 0.85 Ohm for each?	Go to step 8.	Replace the TM Takeaway Motor (REP 10.11, page 8-99).

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
8	Check the connection between the Tray Module PWB J551 and the TM Takeaway Motor J224 for open circuit, short circuit, and poor contact. Is it conducting properly?	Replace the following parts in sequence: ■ Tray Module PWB (REP 10.9, page 8-97) ■ TM Relay PWB (REP 18.14, page 8-205) ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Reconnect the wiring harness connectors.
9	Perform the **Tray Feed Sensors** test in Diagnostics. Move the Actuator manually to block/ clear the light path to the Tray 3 Feed Out Sensor. Does the display change between High/ Low?	Go to step 10.	Refer to "General Sensor Failure" on page 3-28.
10	Check the following: ■ Paper transportation failure due to debris/ burrs on the paper path. ■ The Feed Roll, Retard Roll, and Nudger Roll for contamination and damage. ■ The TM Takeaway Roll and Pinch Roll for contamination and damage. ■ The Feed Roll, Retard Roll, and Nudger Roll Drive Gears for wear and damage. ■ The Takeaway Roll Drive Gear for wear and damage. ■ Is paper used out of specification? Are they normal, without any transportation failure, rotation failure, and etc.?	Replace the following parts in sequence: ■ Tray Module PWB (REP 10.9, page 8-97) ■ TM Relay PWB (REP 18.14, page 8-205) ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have transportation failure, rotation failure, and etc.

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Feed Out Sensor 3 On Jam (Tray 4)

The Tray 4 Feed Out Sensor does not turn On within the specified time after the Feed from Tray 4 has started.

Applicable Chain-Link Code

- **073-102**: Feed Out Sensor 4 On Jam (Tray 4 ~)

Initial Actions

- Check the paper path for debris.
- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Tray Module PWB, PL10.9.1 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7 ■ TM Relay PWB, PL18.3.11	

1. Check the paper transportation failure due to debris/ burrs on the paper path.
2. Check the TM Takeaway Roll and Pinch Roll for contamination, wear, and rotation failure.
3. Check the TM Takeaway Roll Drive Gear for wear and damage.
4. Check the paper specification (refer to "Paper and Tray Specifications" on page 1-19).
5. The Tray 4 Feed Out Sensor for contamination, improper installation, and Actuator operation failure.
6. Perform the **Tray Feed Sensors** test in Diagnostics.
7. Check the connection between the Tray 3 Feed Out Sensor J108 and the Tray Module PWB J549 for open circuit, short circuit, and poor contact.
8. Perform the **TM Takeaway Motor** test in Diagnostics.
9. Check the connection between the Tray Module PWB J541 and the TM Relay PWB J800 for open circuit, short circuit, and poor contact.
10. Check the connection between the TM Relay PWB J801 and the Motor Drive PWB J509 for open circuit, short circuit, and poor contact.
11. If no problems are found, replace the following parts in sequence:
    - Tray Module PWB (REP 10.9, page 8-97)
    - TM Relay PWB (REP 18.14, page 8-205)
    - Motor Drive PWB (REP 18.13, page 8-204)
    - MCU PWB (REP 18.12, page 8-202)

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Tray 4 Feed Out Sensor Static Jam

When the power was turned On, the M/C was stopped (Cycle Down/ Shut Down), or when the interlocks were closed (all interlocks including options), the Tray 4 Feed Out Sensor detected paper.

Applicable Chain-Link Code

- **073-900**: IOT Static Jam (at Tray3 Feed Out Sensor)

Initial Actions

- Check the paper path for debris.
- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Tray Module PWB, PL10.9.1 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7 ■ TM Relay PWB, PL18.3.11	

1. Check Tray 4 Feed Out Sensor for remaining paper, contamination, Actuator return failure, or improper installation.
2. Perform the **Tray Feed Sensors** test in Diagnostics.
3. The connection between the Tray 4 Feed Out Sensor J112-2 and the Tray Module PWB J548-11 for short circuit.
4. Check the connection between the Motor Drive PWB J509-7 and the TM Relay PWB J801-9 for short circuit.
5. Check the connection between the TM Relay PWB J800-A7 and the Tray Module PWB J541-7 for short circuit.
6. If no problems are found, replace the following parts in sequence:
   - Tray Module PWB (REP 10.9, page 8-97)
   - TM Relay PWB (REP 18.14, page 8-205)
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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Tray 5 Misfeed

The Tray 5 Feed Out Sensor does not turn On within the specified time after the Feed from Tray 5 has started.

Applicable Chain-Link Code

- **074-101**: Tray 5 Misfeed

Initial Actions

- Check the following connections for open circuits, short circuits, and poor contacts between the Motor Drive PWB J509 and the TM Relay PWB J801.
- When 3 TM is connected: Between the TM Relay PWB J800 and the Tray Module PWB J541.
- When STM is connected: Between the TM Relay PWB J800 and the STM PWB J541.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Tray 3/4/5 Feed/ Lift Up Motor, PL10.3.3 ■ Tray Module PWB, PL10.9.1 ■ TM Takeaway Motor, PL10.9.5 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7 ■ TM Relay PWB, PL18.3.11	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Perform the **Paper Feed Motors** test in Diagnostics. Does the Tray 5 Feed/ Lift Up Motor rotate?	Go to step 5.	Go to step 2.
2	Is the voltage between the Tray Module PWB J541-10 (+) and the GND (-) +24VDC?	Go to step 3.	Refer to "+24 VDC Power" on page 4-16.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
3	Turn Off the power, then measure the Tray 5 Feed/ Lift Up Motor wire wound resistance. Remove the Tray 5 Feed/ Lift Up Motor, then measure the following resistances. ■ Between J223 pin-1 and J223 pin-2 ■ Between J223 pin-3 and J223 pin-4 Is the resistance approximately 4 Ohm for each?	Go to step 4.	Replace the Tray 5 Feed/ Lift Up Motor (REP 10.3, page 8-93).
4	Check the connection between the Tray Module PWB J550 and the Tray 5 Feed/ Lift Up Motor J223 for open circuit, short circuit, and poor contact. Is it conducting properly?	Replace the following parts in sequence: ■ Tray Module PWB (REP 10.9, page 8-97) ■ TM Relay PWB (REP 18.14, page 8-205) ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.
5	Perform the **TM Takeaway Motor** test in Diagnostics. Does the Motor operate properly?	Go to step 9.	Go to step 6.
6	Is the voltage between the TM Takeaway Motor J224-2/5 (+) and the GND (-) +24VDC?	Go to step 7.	Refer to "+24 VDC Power" on page 4-16.
7	Turn Off the power, then measure the TM Takeaway Motor wire wound resistance. Remove the TM Takeaway Motor, then measure the following resistances. ■ Between J224 pin-1 and J224 pin-2 ■ Between J224 pin-3 and J224 pin-2 ■ Between J224 pin-4 and J224 pin-5 ■ Between J224 pin-6 and J224 pin-5 Is the resistance approximately 0.85 Ohm for each?	Go to step 8.	Replace the TM Takeaway Motor (REP 10.11, page 8-99).

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
8	Check the connection between the Tray Module PWB J551 and the TM Takeaway Motor J224 for open circuit, short circuit, and poor contact. Is it conducting properly?	Replace the following parts in sequence: ■ Tray Module PWB (REP 10.9, page 8-97) ■ TM Relay PWB (REP 18.14, page 8-205) ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.
9	Perform the **Tray Feed Sensors** test in Diagnostics. Move the Actuator manually to block/ clear the light path to the Tray 5 Feed Out Sensor. Does the display change between High/ Low?	Go to step 10.	Refer to "General Sensor Failure" on page 3-28.
10	Check the following: ■ Paper transportation failure due to debris/ burrs on the paper path. ■ The Feed Roll, Retard Roll, and Nudger Roll for contamination and damage. ■ The TM Takeaway Roll and Pinch Roll for contamination and damage. ■ The Feed Roll, Retard Roll, and Nudger Roll Drive Gears for wear and damage. ■ The Takeaway Roll Drive Gear for wear and damage. ■ Is paper used out of specification? Are they normal, without any transportation failure, rotation failure, and etc.?	Replace the following parts in sequence: ■ Tray Module PWB (REP 10.9, page 8-97) ■ TM Relay PWB (REP 18.14, page 8-205) ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have transportation failure, rotation failure, and etc.

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Tray 5 Feed Out Sensor Static Jam

When the power was turned On, the M/C was stopped (Cycle Down/ Shut Down), or when the interlocks were closed (all interlocks including options), the Tray 5 Feed Out Sensor detected paper.

Applicable Chain-Link Code

- **074-900**: IOT Static Jam (at Tray 4 Feed Out Sensor)

Initial Actions

- Check the paper path for debris.
- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Tray Module PWB, PL10.9.1 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7 ■ TM Relay PWB, PL18.3.11	

1. Check the Tray 5 Feed Out Sensor for remaining paper, contamination, Actuator return failure, or improper installation.
2. Perform the **Tray Feed Sensors** test in Diagnostics.
3. Check the connection between the Tray 5 Feed Out Sensor J116-2 and the Tray Module PWB J548-2 for short circuit.
4. Check the connection between the Motor Drive PWB J509-8 and the TM Relay PWB J801-8 for short circuit.
5. Check the connection between the TM Relay PWB J800-B7 and the Tray Module PWB J541-8 for short circuit.
6. If no problems are found, replace the following parts in sequence:
   - Tray Module PWB (REP 10.9, page 8-97)
   - TM Relay PWB (REP 18.14, page 8-205)
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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Tray 1 (MPT) Misfeed

The Tray 1 Feed Out Sensor does not turn On within the specified time after the Feed from Tray 1 has started.

Applicable Chain-Link Code

- **075-100**: MSI Misfeed

Initial Actions

- Check the paper path for debris.
- Clean the Pick and Feed Rollers. Replace the Rollers if worn.
- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Tray 1 Feed/ Nudger Motor, PL13.2.16 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Perform the **Paper Feed Motors** test in Diagnostics. Does the Tray 1 Feed/ Nudger Motor rotate?	Go to step 5.	Go to step 2.
2	Is the voltage between the Motor Drive PWB J520-1 (+) and the GND (-) +24VDC?	Go to step 3.	Refer to "+24 VDC Power" on page 4-16.
3	Turn Off the power, then measure the Tray 1 Feed/ Nudger Motor wire wound resistance. Remove the Tray 1 Feed/Nudger Motor, then measure the following resistances.	Go to step 4.	Replace the Tray 1 Feed/ Nudger Motor (REP 13.3, page 8-132).

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
4	Check the connection between the Motor Drive PWB J513 and Tray 1 Feed/ Nudger Motor J269 for open circuit, short circuit, and poor contact. Is it conducting properly?	Replace the following parts in sequence: ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.
5	Perform the **Tray Feed Sensors** test in Diagnostics. Activate the Actuator by using a sheet of paper, etc. to block/clear the light path to the Tray 1 Feed Out Sensor.	Go to step 6.	Refer to "General Sensor Failure" on page 3-28.
6	Check the following: ■ Paper transportation failure due to debris/burrs on the paper path. ■ The Front Chute Floating Snap for disengagement. ■ The Tray 1 Nudger Roll and Retard Spring for deformation and snags. ■ The Tray 1 Feed Roll and Nudger Roll for contamination, wear, and rotation failure. ■ The Tray 1 Feed Roll and Nudger Roll Drive Gears for wear and damage. ■ Is paper used out of specification? Are they normal, without any transportation failure rotation failure, and etc.?	Replace the following parts in sequence: ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have transportation failure, rotation failure, and etc.

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Tray 1 Feed Out Sensor Off Jam

The Tray 1 Feed Out Sensor does not turn Off within the specified time after the Regi Clutch On.

Applicable Chain-Link Code

- **075-103**: MSI Feed Out Sensor Off Jam

Initial Actions

- Check the paper path for debris.
- Clean the Pick and Feed Rollers. Replace the Rollers if worn.
- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Check the paper transportation failure due to debris/ burrs on the paper path.
2. Check the TM Takeaway Roll and Pinch Roll for contamination, wear, and rotation failure.
3. Check the Regi Roll and Pinch Roll for contamination, wear, and rotation failure.
4. Check the 2nd BTR for contamination, wear, and rotation failure.
5. Check the Tray 1 Takeaway Roll Drive Gear for wear and damage.
6. Check the Regi Roll Drive Gear for wear and damage.
7. Check the 2nd BTR Contact Retract Drive Gear for wear and damage.
8. Check the Fuser Drive Gear for wear and damage.
9. Is paper used out of specification (refer to "Paper and Tray Specifications" on page 1-19?
10. Check the Tray 1 Feed Out Sensor for contamination, improper installation, and Actuator operation failure.
11. Perform the **Tray Feed Sensors** test in Diagnostics.
12. Check the connection between the Tray 1 Feed Out Sensor J179 and the Motor Drive PWB J513 for open circuit, short circuit, and poor contact.
13. Perform the **Main Motor** test in Diagnostics.
14. Perform the **2nd BTR Contact Retract Motor** test in Diagnostics.
15. Perform the **Fuser Drive Motor** test in Diagnostics.
16. Perform the **Takeaway Clutch** test in Diagnostics.
17. Perform the **Registration Clutch** test in Diagnostics.

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18. If no problems are found, replace the following parts in sequence:
    - Motor Drive PWB (REP 18.13, page 8-204)
    - MCU PWB (REP 18.12, page 8-202)

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Regi Sensor On Jam (Tray 1)

The Regi Sensor does not turn On within the specified time after the Regi Clutch On after the Feed from Tray 1 has started.

Applicable Chain-Link Code

- **075-135**: Regi Sensor On Jam (MSI ~)

Initial Actions

- Check the paper path for debris.
- Clean the Pick and Feed Rollers. Replace the Rollers if worn.
- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Check the paper transportation failure due to debris/ burrs on the paper path.
2. Check the Tray 1 Takeaway Roll and Pinch Roll for contamination, wear, and rotation failure.
3. Check the MSI Takeaway Roll Drive Gear for wear and damage.
4. Is paper used out of specification (refer to "Paper and Tray Specifications" on page 1-19?
5. Check the Regi Sensor for contamination, improper installation, and Actuator operation failure.
6. Perform the **Jam Sensors** test in Diagnostics.
7. The connection between the Regi Sensor J160 and the Motor Drive PWB J515 for open circuit, short circuit, and poor contact.
8. Perform the **Main Motor** test in Diagnostics.
9. Perform the **Takeaway Clutch** test in Diagnostics.
10. If no problems are found, replace the following parts in sequence:
    - Motor Drive PWB (REP 18.13, page 8-204)
    - MCU PWB (REP 18.12, page 8-202)

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Regi Sensor Off Jam

The Regi Sensor does not turn Off within the specified time after the Regi Clutch On.

Applicable Chain-Link Code

- **077-101**: Regi Sensor Off Jam

Initial Actions

- Check the paper path for debris.
- Clean the Pick and Feed Rollers. Replace the Rollers if worn.
- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Check the paper transportation failure due to debris/ burrs on the paper path.
2. Each Takeaway Roll and Pinch Roll for contamination, wear, and rotation failure.
3. Check the Regi Roll and Pinch Roll for contamination, wear, and rotation failure.
4. Check the 2nd BTR for contamination, wear, and rotation failure.
5. Check each Exit Roll and Pinch Roll for contamination, wear, and rotation failure.
6. Check each Takeaway Roll Drive Gear for wear and damage.
7. Check the Regi Roll Drive Gear for wear and damage.
8. Check the 2nd BTR Contact Retract Drive Gear for wear and damage.
9. Check the Fuser Drive Gear for wear and damage.
10. Check each Exit Roll Drive Gear for wear and damage.
11. Is paper used out of specification (refer to "Paper and Tray Specifications" on page 1-19?
12. Check the Regi Sensor for contamination, improper installation, and Actuator operation failure.
13. Perform the **Jam Sensors** test in Diagnostics.
14. Check the connection between the Regi Sensor J160 and the Motor Drive PWB J515 for open circuit, short circuit, and poor contact.
15. Perform the **Main Motor** test in Diagnostics.
16. Perform the **2nd BTR Contact Retract Motor** test in Diagnostics.
17. Perform the **Fuser Drive Motor** test in Diagnostics.
18. Perform the **Takeaway Clutch** test in Diagnostics.
19. Perform the **Registration Clutch** test in Diagnostics.

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20. If no problems are found, replace the following parts in sequence:
    - Motor Drive PWB (REP 18.13, page 8-204)
    - MCU PWB (REP 18.12, page 8-202)

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Exit Sensor 1 Off Jam

The Fuser Exit Sensor does not turn On within the specified time after the Fuser Exit Sensor On.

Applicable Chain-Link Code

- **077-103**: Regi Sensor Off Jam

Initial Actions

- Check the paper path for debris.
- Clean the Pick and Feed Rollers. Replace the Rollers if worn.
- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser Assy, PL7.1.1 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Check the paper transportation failure due to debris/ burrs on the paper path.
2. Check the Fuser for wound up, stuck paper.
3. Check each Exit Roll and Pinch Roll for contamination, wear, and rotation failure.
4. Check each Exit Roll Drive Gear for wear and damage.
5. Is paper used out of specification (refer to "Paper and Tray Specifications" on page 1-19?
6. Check the Fuser Exit Sensor for contamination, improper installation, and Actuator operation failure.
7. Perform the **Fuser Exit Sensor** test in Diagnostics.
8. The connection between the Fuser Exit Sensor J192 and the MCU PWB J431 for open circuit, short circuit, and poor contact.
9. Perform the **Fuser Drive Motor** test in Diagnostics.
10. If no problems are found, replace the following parts in sequence:
    - Motor Drive PWB (REP 18.13, page 8-204)
    - MCU PWB (REP 18.12, page 8-202)

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Exit Sensor 1 On Jam

The Fuser Exit Sensor does not turn On within the specified time after the Regi Clutch On.

Applicable Chain-Link Code

- **077-106**: Exit Sensor 1 On Jam

Initial Actions

- Check the paper path for debris.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser Assy, PL7.1.1 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Check the paper transportation failure due to debris/ burrs on the paper path.
2. Check each Takeaway Roll and Pinch Roll for contamination, wear, and rotation failure.
3. Check the Regi Roll and Pinch Roll for contamination, wear, and rotation failure.
4. Check the 2nd BTR for contamination, wear, and rotation failure.
5. Check the Fuser for wound up, stuck paper.
6. Check each Takeaway Roll Drive Gear for wear and damage.
7. Check the Regi Roll Drive Gear for wear and damage.
8. Check the 2nd BTR Contact Retract Drive Gear for wear and damage.
9. Check the Fuser Drive Gear for wear and damage.
10. Is paper used out of specification (refer to "Paper and Tray Specifications" on page 1-19?
11. Check the Fuser Exit Sensor for contamination, improper installation, and Actuator operation failure.
12. Perform the **Fuser Exit Sensor** test in Diagnostics.
13. Check the connection between the Fuser Exit Sensor J192 and the MCU PWB J431 for open circuit, short circuit, and poor contact.
14. Perform the **Main Motor** test in Diagnostics.
15. Perform the **2nd BTR Contact Retract Motor** test in Diagnostics.
16. Perform the **Fuser Drive Motor** test in Diagnostics.
17. Perform the **Takeaway Clutch** test in Diagnostics.
18. Perform the **Registration Clutch** test in Diagnostics.

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19. If no problems are found, replace the following parts in sequence:
    - Motor Drive PWB (REP 18.13, page 8-204)
    - MCU PWB (REP 18.12, page 8-202)

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POB Sensor On Jam

The POB Sensor does not turn On within the specified time after the Regi Clutch On.

Applicable Chain-Link Code

- **077-110**: POB Sensor On Jam

Initial Actions

- Check the paper path for debris.
- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ POB Sensor, PL14.4.16 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Check the paper transportation failure due to debris/ burrs on the paper path.
2. Check each Takeaway Roll and Pinch Roll for contamination, wear, and rotation failure.
3. Check the Regi Roll and Pinch Roll for contamination, wear, and rotation failure.
4. Check the 2nd BTR for contamination, wear, and rotation failure.
5. Check the IBT Belt for wound up, stuck paper.
6. Check each Takeaway Roll Drive Gear for wear and damage.
7. Check the Regi Roll Drive Gear for wear and damage.
8. Check the 2nd BTR Contact Retract Drive Gear for wear and damage.
9. Is paper used out of specification (refer to "Paper and Tray Specifications" on page 1-19?
10. Check the POB Sensor for contamination and improper installation.
11. Perform the **Jam Sensors** test in Diagnostics.
12. The connection between the POB Sensor J180 and the Motor Drive PWB J524 for open circuit, short circuit, and poor contact.
13. Perform the **Main Motor** test in Diagnostics.
14. Perform the **2nd BTR Contact Retract Motor** test in Diagnostics.
15. Perform the **Takeaway Clutch** test in Diagnostics.
16. Perform the **Registration Clutch** test in Diagnostics.
17. If no problems are found, replace the following parts in sequence:
    - Motor Drive PWB (REP 18.13, page 8-204)
    - MCU PWB (REP 18.12, page 8-202)

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Registration Sensor On Jam (Duplex Wait)

The Regi Sensor does not turn On within the specified time after the Regi Clutch On after the Feed by Duplex Wait has started.

Applicable Chain-Link Code

- **077-123**: Regi Sensor On Jam (Duplex Wait ~)

Initial Actions

- Check the paper path for debris.
- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Duplex Assy, PL14.5.1 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Check the paper transportation failure due to debris/ burrs on the paper path.
2. Check each Duplex Roll and Pinch Roll for contamination, wear, and rotation failure.
3. Check each Duplex Roll Drive Gear for wear and damage.
4. Is paper used out of specification (refer to "Paper and Tray Specifications" on page 1-19?
5. Check the Regi Sensor for contamination, improper installation, and Actuator operation failure.
6. Perform the **Jam Sensors** test in Diagnostics.
7. Check the connection between the Regi Sensor J160 and the Motor Drive PWB J515 for open circuit, short circuit, and poor contact.
8. Perform the **Duplex Motor** test in Diagnostics.
9. If no problems are found, replace the following parts in sequence:
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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Registration Sensor On Jam (Duplex Direct)

The Regi Sensor does not turn On within the specified time after the Regi Clutch On after the Feed by Duplex Direct has started.

Applicable Chain-Link Code

- **077-130**: Regi Sensor On Jam (Duplex Direct ~)

Initial Actions

- Check the paper path for debris.
- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Duplex Assy, PL14.5.1 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Check the paper transportation failure due to debris/ burrs on the paper path.
2. Check each Duplex Roll and Pinch Roll for contamination, wear, and rotation failure.
3. Check each Duplex Roll Drive Gear for wear and damage.
4. Is paper used out of specification (refer to "Paper and Tray Specifications" on page 1-19?
5. Check the Regi Sensor for contamination, improper installation, and Actuator operation failure.
6. Perform the **Jam Sensors** test in Diagnostics.
7. Check the connection between the Regi Sensor J160 and the Motor Drive PWB J515 for open circuit, short circuit, and poor contact.
8. Perform the **Duplex Motor** test in Diagnostics.
9. If no problems are found, replace the following parts in sequence:
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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Duplex Wait Sensor On Jam

The Duplex Wait Sensor does not turn On within the specified time after the Exit Motor has started rotating in the Duplex intake direction.

Applicable Chain-Link Code

- **077-131**: Duplex Path Sensor On Jam

Initial Actions

- Check the paper path for debris.
- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Duplex Assy, PL14.5.1 ■ Exit Assy, PL17.1.1 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Check the paper transportation failure due to debris/ burrs on the paper path.
2. Check each Duplex Roll and Pinch Roll for contamination, wear, and rotation failure.
3. Check each Exit Roll and Pinch Roll for contamination, wear, and rotation failure.
4. Check each Duplex Roll Drive Gear for wear and damage.
5. Check each Exit Roll Drive Gear for wear and damage.
6. Is paper used out of specification (refer to "Paper and Tray Specifications" on page 1-19?
7. Check the Duplex Wait Sensor for contamination, improper installation, and Actuator operation failure.
8. Perform the **Jam Sensors** test in Diagnostics.
9. Check the connection between the Duplex Wait Sensor J175 and the Motor Drive PWB J524 for open circuit, short circuit, and poor contact.
10. Perform the **Duplex Motor** test in Diagnostics.
11. If no problems are found, replace the following parts in sequence:
    - Motor Drive PWB (REP 18.13, page 8-204)
    - MCU PWB (REP 18.12, page 8-202)

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Registration Sensor Static Jam

When the power was turned On, the M/C was stopped (Cycle Down/ Shut Down), or when the interlocks were closed (all interlocks including options), the Regi Sensor detected paper.

Applicable Chain-Link Code

- **077-900**: IOT Static Jam (at Regi Sensor)

Initial Actions

- Check the paper path for debris.
- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Registration Assy, PL15.1.8 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Check the Regi Sensor for remaining paper, contamination, Actuator return failure, or improper installation.
2. Perform the **Jam Sensors** test in Diagnostics.
3. Check the connection between the Regi Sensor J160 and the Motor Drive PWB J515 for short circuit.
4. If no problems are found, replace the following parts in sequence:
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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Exit Sensor 1 Static Jam

When the power was turned On, the M/C was stopped (Cycle Down/ Shut Down), or when the interlocks were closed (all interlocks including options), the Fuser Exit Sensor detected paper.

Applicable Chain-Link Code

- **077-901**: IOT Static Jam (at Exit Sensor 1)

Initial Actions

- Check the paper path for debris.
- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser Assy, PL7.1.1 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Check the Fuser Exit Sensor for remaining paper, contamination, Actuator return failure, or improper installation.
2. Perform the **Jam Sensors** test in Diagnostics.
3. Check the connection between the Fuser Exit Sensor J192 and the MCU PWB J431 for short circuit.
4. If no problems are found, replace the following parts in sequence:
   - Motor Drive PBW (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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POB Sensor Static Jam

When the power was turned On, the M/C was stopped (Cycle Down/ Shut Down), or when the interlocks were closed (all interlocks including options), the POB Sensor detected paper.

Applicable Chain-Link Code

- **077-903**: IOT Static Jam (at POB Sensor)

Initial Actions

- Check the paper path for debris.
- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Check the POB Sensor for remaining paper, contamination, or improper installation.
2. Perform the **Jam Sensors** test in Diagnostics.
3. Check the connection between the POB Sensor J180 and the Motor Drive PWB J524 for short circuit.
4. If no problems are found, replace the following parts in sequence:
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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Duplex Wait Sensor Static Jam

When the power was turned On, the M/C was stopped (Cycle Down/ Shut Down), or when the interlocks were closed (all interlocks including options), the Duplex Wait Sensor detected paper.

Applicable Chain-Link Code

- **077-907**: IOT Static Jam (at Duplex Path Sensor)

Initial Actions

- Check the paper path for debris.
- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Check the Duplex Wait Sensor for remaining paper, contamination, Actuator return failure, or improper installation.
2. Perform the **Jam Sensors** test in Diagnostics.
3. Check the connection between the Duplex Wait Sensor J175 and the Motor Drive PWB J524 for short circuit.
4. If no problems are found, replace the following parts in sequence:
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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System Errors

Heat Roll STS Disconnect Fail

The open circuit AD value of the Rear Control Thermistor was detected 3 times in a row.

Applicable Chain-Link Code

- **010-311**: Heat Roll STS Disconnection Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser Assy, PL7.1.1 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the resistance. Turn Off the power and remove the Fuser Assembly. Measure the resistance between DP600 pin-A6 and DP600 pin-A5. Is the resistance infinite?	Replace the Fuser Assembly (page 8-67).	Go to step 2.
2	Check the paper feed rolls Check the following connections for open circuits, short circuits, and poor contacts. ■ Between DJ600-A2 and J431-12 ■ Between DJ600-A3 and J431-11 Is it conducting properly?	Replace the MCU PWB (REP 18.12, page 8-202).	Repair the sections that have short circuits and poor contacts

Heat Roll In NC Sensor Differential Amp Fail

The temperature monitor AD value of the Center Control Temperature Sensor was detected to be abnormal 10 times in a row.

Note

To clear this Fail, clear the history in NVM and then turn the power Off and On (**Clear Tech Rep Faults**).

Applicable Chain-Link Code

- **010-319**: Heat Roll NC Sensor Differential Amp Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser Assy, PL7.1.1 ■ MCU PWB, PL18.3.6	

Note

To clear this Fail, clear the history in NVM and then turn the power Off and On.

1. Clear the history at the NVM then turn the power Off and On.
2. Check the Fuser Assembly for improper installation.
3. Check the The Drawer Connector between the Fuser Assembly and the Main Unit (DP/DJ600) for broken/ bent pins, debris, burns, and etc.
4. Check the connection between the Fuser Assembly DJ600 and the MCU PWB J431 for open circuit, short circuit, and poor contact.
5. If no problems are found, replace the following parts in sequence:
   - Fuser Assembly (REP 7.1, page 8-67)
   - MCU PWB (REP 18.12, page 8-202)

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Heat Roll STS Over Temperature Fail

The AD value of the Rear Control Thermistor was detected to be higher than the defined value 3 times in a row.

Note

To clear this error, perform **Clear Tech Rep Faults** in Diagnostics and then turn the power Off and On.

Applicable Chain-Link Code

- **010-320**: Heat Roll STS Disconnection Fail

Initial Actions

- Check whether debris or paper is wound around the Heat Roll.
- Check that the MCU PWB connector J414 and the Main LVPS J530 are connected correctly.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser Assy, PL7.1.1 ■ Main LVPS, PL18.1.11 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the resistance. Turn Off the power, disconnect J4 and J31 on the Main LVPS. Is the resistance between Main LVPS P4-3 and P31-1, 2 infinite?	Replace the following parts in sequence: ■ Fuser Assembly (REP 7.1, page 8-67) ■ MCU PWB (REP 18.12, page 8-202)	Replace the Main LVPS (REP 18.7, page 8-194).

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Fuser Hot Not Ready Return Time Fail

The time taken to recover from High Temperature Not Ready state has exceeded the specified time.

Applicable Chain-Link Code

- **010-326**: Fuser Hot Not Ready Return Time Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser Assy, PL7.1.1 ■ Main LVPS, PL18.1.11 ■ MCU PWB, PL18.3.6	

1. Check the Fuser Assembly for improper installation.
2. Check the Drawer Connector between the Fuser Assembly and the Main Unit (DP/DJ600) for broken/bent pins, debris, burns, and etc.
3. Check the connection between the Fuser Assembly DJ600 and the MCU PWB J431 for open circuit, short circuit, and poor contact.
4. Check the connection between the Fuser Assembly J600 and the Main LVPS J31 for open circuit, short circuit, and poor contact.
5. Check the connection between the MCU PWB J414 and the Main LVPS J530 for open circuit, short circuit, and poor contact.
6. If no problems are found, replace the following parts in sequence:
   - Fuser Assembly (REP 7.1, page 8-67)
   - Main LVPS (REP 18.7, page 8-194)
   - MCU PWB (REP 18.12, page 8-202)

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Warm Up Time Fail

When transitioning from the Wait state, the specified Temperature is not reached within the specified time.

Note

This error may occur when the temperature in the installation environment is low (10˚C or lower).

Applicable Chain-Link Code

- **010-328**: Fuser Hot Not Ready Return Time Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser Assy, PL7.1.1 ■ Main LVPS, PL18.1.11 ■ MCU PWB, PL18.3.6	

1. Check the Fuser Assembly for improper installation.
2. Check the Drawer Connector between the Fuser Assembly and the Main Unit (DP/DJ600) for broken/bent pins, debris, burns, and etc.
3. Check the connection between the Fuser Assembly DJ600 and the MCU PWB J431 for open circuit, short circuit, and poor contact.
4. Check the connection between the Fuser Assembly J600 and the Main LVPS J31 for open circuit, short circuit, and poor contact.
5. Check the connection between the MCU PWB J414 and the Main LVPS J530 for open circuit, short circuit, and poor contact.
6. If no problems are found, replace the following parts in sequence:
   - Fuser Assembly (REP 7.1, page 8-67)
   - Main LVPS (REP 18.7, page 8-194)
   - MCU PWB (REP 18.12, page 8-202)

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Fuser Motor Fail

The Fuser Drive Motor rotation failure was detected.

Applicable Chain-Link Code

- **010-330**: Fuser Motor Fail

Initial Actions

- Check that the Fuser Assembly is installed properly.
- With the Fuser in nipped state, rotate the Roller manually to check for loading.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser Drive Motor Assy, PL3.1.10 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Perform the **Fuser Drive Motor** test in Diagnostics. Does the Fuser Drive Motor rotate?	Go to step 5.	Go to step 2.
2	Check the voltage. Is the voltage between the Fuser Drive Motor J242-1 (+) and J242-2 (-) +24VCD?	Go to step 3.	Refer to "+24 VDC Power" on page 4-16.
3	Check the voltage. Is the voltage between the Fuser Drive Motor J243-1 (+) and J243-2 (-) +5VCD?	Go to step 4.	Refer to "+5 VDC Power Troubleshooting" on page 4-15.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
4	Check the wiring harness. Check the connection between the Motor Drive PWB J504 and the Fuser Drive Motor J243 for open circuit, short circuit, and poor contact. Is it conducting properly?	Replace the following parts in sequence: ■ Fuser Drive Motor (REP 3.3, page 8-28) ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.
5	Perform the **BTR 1/2 Contact & Retract** test in Diagnostics. Does the Fuser Drive Motor rotate?	Go to step 6.	Check the 1st BTR Contact/ Retract Gear for blockage and damage.
6	Check the connection between the Fuser Drive Motor J243-8 and the Motor Drive PWB J504-1 for open circuit, short circuit, and poor contact. Is it conducting properly?	Replace the following parts in sequence: ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.

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Heat Roll NC Sensor Disconnection Fail

When the temperature monitor value of the Rear Control Thermistor is higher than 20˚C, or when the open circuit AD value of the Rear Control Thermistor is higher then 900, as well as when the compensation AD value or the detection AD value of the Center Control Temperature Sensor is higher than 1020 10 or more times in a row. (use the obtained compensation/ detection AD value instead of the temperature monitor value (average of 4 times)

Applicable Chain-Link Code

- **010-332**: Heat Roll NC Sensor Disconnection Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser Assy, PL7.1.1 ■ MCU PWB, PL18.3.6	

1. Check the Fuser Assembly for improper installation.
2. Check the Drawer Connector between the Fuser Assembly and the Main Unit (DP/DJ600) for broken/ bent pins, debris, burns, and etc.
3. Check the connection between the Fuser Assembly DJ600 and the MCU PWB J431 for open circuit, short circuit, and poor contact.
4. If no problems are found, replace the following parts in sequence:
   - Fuser Assembly (REP 7.1, page 8-67)
   - MCU PWB (REP 18.12, page 8-202)

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Heat Roll NC Sensor Over Temperature Fail

The temperature at the Center Control Temp. Sensor was detected to be higher than the defined value 10 or more times in a row.

Note

To clear this error, perform **Clear Tech Rep Faults** in Diagnostics and then turn the power Off and On.

Applicable Chain-Link Code

- **010-333**: Heat Roll NC Sensor Over Temperature Fail

Initial Actions

- Check whether debris or paper is wound around the Heat Roll.
- Check that the MCU PWB connector J414 and the Main LVPS J530 are connected correctly.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser Assy, PL7.1.1 ■ Main LVPS, PL18.1.11 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the resistance. Turn Off the power, disconnect J4 and J31 on the Main LVPS. Is the resistance between Main LVPS P4-3 and P31-1, 2 infinite?	Replace the following parts in sequence: ■ Fuser Assembly (REP 7.1, page 8-67) ■ MCU PWB (REP 18.12, page 8-202)	Replace the Main LVPS (REP 18.7, page 8-194).

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Heat Roll NC Sensor Broken Fail

When the value of (Center Control Temp. Sensor temperature - Rear Control Thermistor temperature) is higher than 90 (NVM)˚C 10 or more times in a row.

When the value of (Rear Control Thermistor temperature - Center Control Temperature Sensor temperature) is higher than 70 (NVM)˚C 10 or more times in a row.

Applicable Chain-Link Code

- **010-334**: Heat Roll NC Sensor Broken Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser Assy, PL7.1.1 ■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Check the Fuser Assembly for improper installation.
3. Check the Drawer Connector between the Fuser Assembly and the Main Unit (DP/DJ600) for broken/ bent pins, debris, burns, and etc.
4. Check the connection between the Fuser Assembly DJ600 and the MCU PWB J431 for open circuit, short circuit, and poor contact.
5. If no problems are found, replace the following parts in sequence:
   - Fuser Assembly (REP 7.1, page 8-67)
   - MCU PWB (REP 18.12, page 8-202)

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Heat Roll NC Sensor Range Fail

When the compensation output AD value of the Center Control Temperature Sensor was detected to be less than 130 10 or more times in a row.

When the detection output AD value of the Center Control Temperature Sensor was detected to be less than 150 10 or more times in a row.

Applicable Chain-Link Code

- **010-335**: Heat Roll NC Sensor Range Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser Assy, PL7.1.1 ■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Check the Fuser Assembly for improper installation.
3. Check the Drawer Connector between the Fuser Assembly and the Main Unit (DP/DJ600) for broken/ bent pins, debris, burns, and etc.
4. Check the connection between the Fuser Assembly DJ600 and the MCU PWB J431 for open circuit, short circuit, and poor contact.
5. If no problems are found, replace the following parts in sequence:
   - Fuser Assembly (REP 7.1, page 8-67)
   - MCU PWB (REP 18.12, page 8-202)

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Heat Roll Paper Winding Fail

From the monitor value of the Rear Control Thermistor and Center Control Temperature Sensor, it was detected that paper is wound around the Heat Roll.

Note

To clear this error, perform **Clear Tech Rep Faults** in Diagnostics and then turn the power Off and On.

Applicable Chain-Link Code

- **010-337**: Heat Roll Paper Winding Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser Assy, PL7.1.1	

1. Remove the jammed paper.
2. Perform **Clear Tech Rep Faults** in Diagnostics then turn the power Off and On.
3. Is paper used out of specification (refer to "Paper and Tray Specifications" on page 1-19).
4. If no problems are found, replace the Fuser Assembly (REP 7.1, page 8-67).

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Fuser On Time Fail

The Main Lamp or Sub Lamp has been On continuously for longer than the setting time (NVM).

Applicable Chain-Link Code

- **010-338**: Fuser On Time Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser Assy, PL7.1.1 ■ Main LVPS, PL18.1.11 ■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Check the following:
   - The Fuser Assembly for improper installation.
   - The Drawer Connector between the Fuser Assembly and the Main Unit (DP/DJ600) for broken/ bent pins, debris, burns, and etc.
   - The connection between the Fuser Assembly DJ600 and the MCU PWB J431 for open circuit, short circuit, and poor contact broken/ bent pins, debris, burns, and etc.
   - The connection between the Fuser Assembly J600 and the Main LVPS J31 for open circuit, short circuit, and poor contact.
   - The connection between the MCU PWB J414 and the Main LVPS J530 for open circuit, short circuit, and poor contact.
3. If no problems are found, replace the following parts in sequence:
   - Fuser Assembly (REP 7.1, page 8-67)
   - Main LVPS (REP 18.7, page 8-194)
   - MCU PWB (REP 18.12, page 8-202)

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Illegal Fuser

An invalid fuser (from a different printer or a different voltage rating) has been installed.

Applicable Chain-Link Code

- **010-341**: Illegal Fuser

Initial Actions

- Replace the Fuser (REP 7.1, page 8-67).
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser Assy, PL7.1.1 ■ Main LVPS, PL18.1.11 ■ MCU PWB, PL18.3.6	

1. Check the following:
   - The Fuser Assembly for improper installation.
   - The Drawer Connector between the Fuser Assembly and the Main Unit (DP/DJ600) for broken/ bent pins, debris, burns, and etc.
   - The connection between the Fuser Assembly DJ600 and the MCU PWB J431 for open circuit, short circuit, and poor contact broken/ bent pins, debris, burns, and etc.
   - The connection between the Fuser Assembly J600 and the Main LVPS J31 for open circuit, short circuit, and poor contact.
   - The connection between the MCU PWB J414 and the Main LVPS J530 for open circuit, short circuit, and poor contact.
2. If no problems are found, replace the following parts in sequence:
   - Main LVPS (REP 18.7, page 8-194)
   - MCU PWB (REP 18.12, page 8-202)

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Fuser Fan Fail

The Fuser Fan error was detected.

Applicable Chain-Link Code

- **010-398**: Fuser Fan Fail

Initial Actions

- Rotate the Fuser Fan manually to check for binding.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser Drive Motor, PL3.1.11 ■ Fuser Fan, PL4.1.7 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the motor drive. Perform the **Fuser Drive Motor** test in Diagnostics. Has 041-344 Motor Drive PWB F1 Blows occurred?	Check whether the F1 on the Motor Drive PWB is open.	Go to step 2.
2	Perform the **Fan Motors** test in Diagnostics. Is the Fuser Fan rotating?	Go to step 4.	Go to step 3.
3	Check the wiring harness. Check the connection between the Fuser Fan J230 and the Motor Drive PWB J517 for open circuit, short circuit, and poor contact. Is it conducting properly?	Replace the following parts in sequence: ■ Fuser Fan (REP 4.1, page 8-38) ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.

Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
4	Check the wiring harness. Check the connection between the Fuser Fan J230-2 and the Motor Drive PWB J517-3 for open circuit, short circuit, and poor contact. Is it conducting properly?	Replace the following parts in sequence: ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.

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Fuser Assembly Near Life Warning/ Fuser Assembly Life Over Warning

The Fuser Assembly is near the end of its life span.
The Fuser Assembly has reached the end of its life span.

Applicable Chain-Link Codes

- **010-420**: Fuser Assembly Near Life Warning
- **010-421**: Fuser Assembly Life Over Warning

Initial Actions

- Check the Fuser life.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser Assy, PL7.1.1 ■ MCU PWB, PL18.3.6	

1. Replace the Fuser Assembly (REP 7.1, page 8-67).
2. If the problem persists, replace the MCU PWB (REP 18.12, page 8-202).

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Tray 2/3/4/5 Size Mismatch

When the paper length in Slow Scan direction is measured in the paper feed path, the detected size is different from the size detected by the Tray.

Applicable Chain-Link Codes

- **024-910**: Paper Size Mismatch
- **024-911**: Paper Size Mismatch
- **024-912**: Paper Size Mismatch
- **024-913**: Paper Size Mismatch

Initial Actions

- Inspect the tray to ensure that it is free of obstructions, is loaded with supported paper, and the Guides are adjusted correctly.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References

1. Load the correct paper in the tray.
2. For Tray 2, set the size accordingly form the Control Panel.
3. If the problem persists, check the Tray Sensor Switches in Diagnostics for the applicable Tray to verify the correct switches are being designated for the corresponding tray guide setting. Refer to the Switch Output Value (Tray 2 - page 3-18, and Trays 3 through 5 - page 3-19).
4. If the problem still persists, perform the "IOT System Fail" on page 3-27.

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Face Down Tray 1 Paper Full

Tray 1 Paper Full error has occurred.

Applicable Chain-Link Code

- **024-920**: Face Down Tray 1 Paper Full

Initial Actions

- Inspect the tray to ensure that it is free of obstructions, is loaded with supported paper, and the Guides are adjusted correctly.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Full Stack Sensor, PL17.1.19 ■ Wire Harness (Full Stack), PL17.1.20 ■ Full Stack Actuator, PL17.1.24 ■ Full Stack, PL17.1.26 ■ Wire Harness (Main LH), (PL18.4.2) ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Full Stack Sensor in Diagnostics. Does the Sensor change state in Diagnostics?	Replace the following parts in sequence: ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Go to step 2.
2	Check the Full Stack Sensor/ Full Stack Actuator for damage or binding condition.	Replace the problem parts.	Go to step 3.
3	Reseat the connectors to the Full Stack Sensor P/J4173, P/J5112, P/J525. Is the problem resolved?	Troubleshooting complete.	Go to step 4.

Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
4	Check the wiring for continuity or grounded condition P/J4173, P/J5112, P/J525. Is the wiring correct?	Replace the following parts in sequence: ■ Full Stack Sensor (PL17.19) ■ Motor Drive PWB (REP 18.13, page 8-204)	Replace the Wire Harness Full Stack Sensor P/J5112 <=> P/J525 or Wire Harness (Main LH).

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Operation (Y/M/C) Toner Empty

Printing cannot be continued was detected during color printing because Y toner has run out. Or, color printing was specified when printing cannot be continued because (Y/M/C) toner has run out.

Applicable Chain-Link Codes

- **024-923**: Y Toner Cartridge Empty
- **024-924**: M Toner Cartridge Empty
- **024-925**: C Toner Cartridge Empty

Initial Actions

- Check the Toner Cartridge life.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Toner Cartridge, PL5.1.1-5.1.4	

1. Replace the appropriate Toner Cartridge (REP 1.1, page 8-9).
2. If the problem persists, refer to "General Sensor Failure" on page 3-28 to check the sensor.
3. If the problem still persists, perform the following:
   - "Common System Fail" on page 3-22
   - "IOT System Fail" on page 3-27

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Operation Y Drum End of Life

During color printing, it was detected that printing cannot be continued because of Yellow Imaging Unit Life End. Or, color printing was specified when printing cannot be continued because of Yellow Imaging Unit Life End.

Applicable Chain-Link Code

- **024-933**: Drum Cartridge Y Life End

Initial Actions

- Check the Imaging Unit life.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Imaging Unit, PL8.1.4	

1. Replace the Imaging Unit (Y) (REP 1.2, page 8-10).
2. If the problem still persists, perform the "IOT System Fail" on page 3-27.

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Paper Type Mismatch

Paper type designated on the UI does not match the paper type detected by the Transparency Sensor.

Applicable Chain-Link Code

- **024-934**: Paper Type Mismatch

Initial Actions

- Inspect the tray to ensure that it is free of obstructions, is loaded with supported paper, and the Guides are adjusted correctly.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References

1. Load the specified transparencies.
2. Perform the **OHP Sensor** test in Diagnostics.
3. If the problem still persists, perform the following "Common System Fail" on page 3-22.

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Operation M Drum End of Life

During color printing, it was detected that printing cannot be continued because of Magenta Imaging Unit Life End. Or, color printing was specified when printing cannot be continued because of Magenta Imaging Unit Life End.

Applicable Chain-Link Code

- **024-940**: Drum Cartridge M Life End

Initial Actions

- Check the Imaging Unit life.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Imaging Unit, PL8.1.4	

1. Replace the Imaging Unit (M) (REP 1.2, page 8-10).
2. If the problem still persists, perform the "IOT System Fail" on page 3-27.

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Operation C Drum End of Life

During color printing, it was detected that printing cannot be continued because of Cyan Imaging Unit Life End. Or, color printing was specified when printing cannot be continued because of Cyan Imaging Unit Life End.

Applicable Chain-Link Code

- **024-941**: Drum Cartridge C Life End

Initial Actions

- Check the Imaging Unit life.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Imaging Unit, PL8.1.4	

1. Replace the Imaging Unit (C) (REP 1.2, page 8-10).
2. If the problem still persists, perform the "IOT System Fail" on page 3-27.

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Tray 2/3/4/5 Out of Place

The system detected that Tray 2/3/4/5 was not installed.

Applicable Chain-Link Codes

- **024-946**: Tray 2 out of place
- **024-947**: Tray 3 out of place
- **024-948**: Tray 4 out of place
- **024-949**: Tray 5 out of place

Initial Actions

- Inspect the tray to ensure that it is free of obstructions, is loaded with supported paper, and the Guides are adjusted correctly.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References

1. Reseat the tray.
2. For Tray 2, set the size accordingly form the Control Panel.
3. If the problem persists, check the Tray Sensor Switches in Diagnostics for the applicable Tray to verify the correct switches are being designated for the corresponding tray guide setting. Refer to the Switch Output Value ("Tray 2" on page 3-18, and "Trays 3 through 5" on page 3-19).
4. If the problem still persists, perform the "IOT System Fail" on page 3-27.

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Tray 2/3/4/5 Empty

The system detected that Tray 2/3/4/5 has no paper.

Applicable Chain-Link Codes

- **024-950**: Tray 2 empty
- **024-951**: Tray 3 empty
- **024-952**: Tray 4 empty
- **024-953**: Tray 5 empty

Initial Actions

- Inspect the tray to ensure that it is free of obstructions and is loaded with supported paper.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
	■ "Tray Module Wiring Diagrams" on page 10-54

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Perform the No Paper Sensor test in Diagnostics for the appropriate tray. These Sensors should be "Low" with paper loaded and the Tray has lifted and "High" with no paper. Does the Sensor change value?	Replace the MCU PWB (REP 18.12, page 8-202).	Repair the Sensor or wiring harness. Refer to the Tray Module Wiring Diagrams.

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Tray 1 Empty

The system detected that Tray 1 has no paper.

Applicable Chain-Link Code

- **024-954**: Tray SMH Empty

Initial Actions

- Inspect the tray to ensure that it is free of obstructions, is loaded with supported paper, and the Guides are adjusted correctly.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
	■ "Tray 1 (MPT)" on page 10-52

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Perform the No Paper Sensor test in Diagnostics for the appropriate tray. These Sensors should be "Low" with paper loaded and the Tray has lifted and "High" with no paper. Does the Sensor change value?	Replace the MCU PWB (REP 18.12, page 8-202).	Repair the Sensor or wiring harness. Refer to the Tray 1 (MPT) wiring diagram.

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SMH Size Mismatch

The paper size in Tray 1 and the paper size specified for printing are different.

Applicable Chain-Link Code

- **024-958**: SMH Size mismatch

Initial Actions

- Inspect the tray to ensure that it is free of obstructions, is loaded with supported paper, and the Guides are adjusted correctly.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
	■ "Tray 1 (MPT)" on page 10-52

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Is the A/D Value Range correct for the size of paper loaded? Does the Sensor change value?	Replace the MCU PWB (REP 18.12, page 8-202).	Troubleshoot and repair the Sensor or wiring harness. Refer to the Tray 1 (MPT) wiring diagram.

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Tray 2/3/4/5 Size Mismatch

The paper size in Tray 2/3/4/5 and the paper size specified for printing are different.

Applicable Chain-Link Codes

- **024-959**: Tray 2 Paper Size Error
- **024-960**: Tray 3 Paper Size Error
- **024-961**: Tray 4 Paper Size Error
- **024-962**: Tray 5 Paper Size Error

Initial Actions

- Inspect the tray to ensure that it is free of obstructions, is loaded with supported paper, and the Guides are adjusted correctly.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
	■ "Tray Module Wiring Diagrams" on page 10-54

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Perform the No Paper Sensor test in Diagnostics for the appropriate tray. These Sensors should be "Low" with paper loaded and the Tray has lifted and "High" with no paper. Does the Sensor change value?	Replace the MCU PWB (REP 18.12, page 8-202).	Repair the Sensor or wiring harness. Refer to the Tray Module Wiring Diagrams.

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ATS/ APS No Paper (IOTsc Detect)

The paper specified for printing is not loaded in the Tray.

Applicable Chain-Link Code

- **024-965**: ATS/APS No Paper, APS/ATS NG (No Paper)

Initial Actions

- Inspect the tray to ensure that it is free of obstructions, is loaded with supported paper, and the Guides are adjusted correctly.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References

1. Add paper into the appropriate tray.
2. If the problem persists, refer to the "General Sensor Failure" on page 3-28 to check the sensor.
3. If the problem still persists, perform the "Common System Fail" on page 3-22.

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ATS/ APS No Destination Error

The paper specified for printing cannot be detected.

Applicable Chain-Link Code

- **024-966**: ATS/APS No Destination Error, APS/ATS NG (Other Than No Paper)

Initial Actions

- Inspect the tray to ensure that it is free of obstructions, is loaded with supported paper, and the Guides are adjusted correctly.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References

1. Change the settings or replace the tray.
2. If the problem persists, refer to the "General Sensor Failure" on page 3-28 to check the sensor.
3. If the problem still persists, perform the "Common System Fail" on page 3-22.

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SMH Stop Check

Tray 1 stopped running due to an obstruction.

Applicable Chain-Link Code

- **024-985**: SMH Stop check

Initial Actions

- Inspect the tray to ensure that it is free of obstructions, is loaded with supported paper, and the Guides are adjusted correctly.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References

1. Check the paper size/paper orientation/paper type settings and press **Paper Tray Setup**.
2. If the problem still persists, perform the "Common System Fail" on page 3-22.

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IM Logic Fail

The IM software control error was detected.

Applicable Chain-Link Code

- **041-310**: IM Logic Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Initialize the IOT NVM (includes writing back the adjustment NVM). If the problem persists, replace the MCU PWB (REP 18.12, page 8-202).

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MCU PWB F7 Blows

Fuse 7 on the MCU PWB has opened.

Note

Remove the cause of Fuse failure before replacing the MCU PWB.

Applicable Chain-Link Code

- **041-330**: PWBA MCU F7 Fuse Break Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ 1st BTR Contact Retract Clutch, PL3.2.12 ■ HV Fan, PL4.3.4 ■ Takeaway Clutch, PL15.1.1 ■ MCU PWB, PL18.3.6 ■ Drive Fan, PL18.3.17 ■ Fuse	

1. Check the following parts circuits for over current and overvoltage, grounded wires, and then replace the faulty parts or repair the circuits, and replace the Fuse.
   - Drive Fan (REP 18.15, page 8-206)
   - HV Fan (REP 4.3, page 8-40)
   - 1st BTR Contact Retract Clutch
   - Takeaway Clutch (REP 15, 1, page 8-172)
2. Replace the MCU PWB (REP 18.12, page 8-202).

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MCU PWB F8 Blows

Fuse 8 on the MCU PWB has broken.

Note

Remove the cause of Fuse failure before replacing the MCU PWB.

Applicable Chain-Link Code

- **041-331**: PWBA MCU F8 Fuse Break Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MOB ADC Assy, PL18.1.4 ■ MCU PWB, PL18.3.6 ■ Fuse	

1. Check the following parts circuits for overcurrent and overvoltage, grounded wires, and then replace the faulty parts or repair the circuits, and replace the Fuse.
   - MOB ADC Assembly (REP 18.3, page 8-189)
2. Replace the MCU PWB (REP 18.12, page 8-202).

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MCU NVM (EEPROM) Data Fail

NVM (EEPROM) data error (The specific values are not in their specified addresses).

Applicable Chain-Link Code

- **041-340**: MCU NVM (EEPROM) Data Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ EEPROM, PL18.3.5 ■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Install the correct version of the IOT firmware.
3. If the problem persists, replace the following parts in sequence:
   - EEPROM
   - MCU PWB (REP 18.12, page 8-202)

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MCU NVM (EEPROM) Access Fail

NVM (EEPROM) access error (The read values are different from those that were written, or there is I2C communication error).

Applicable Chain-Link Code

- **041-341**: MCU NVM (EEPROM) Access Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ EEPROM, PL18.3.5 ■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Check whether there is poor connection between the EEPROM and the MCU PWB.
3. If no problems are found, replace the following parts in sequence:
   - EEPROM
   - MCU PWB (REP 18.12, page 8-202)

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MCU NVM (EEPROM) Buffer Fail

NVM (EEPROM) buffer fail (The write buffer has overflowed).

Applicable Chain-Link Code

- **041-342**: MCU Nvm (EEPROM) Buffer Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ EEPROM, PL 18.3.5 ■ MCU PWB, PL 18.3.6	

1. Turn the power Off and On.
2. Check whether there is poor connection between the EEPROM and the MCU PWB.
3. If no problems are found, replace the following parts in sequence:
   - EEPROM
   - MCU PWB (REP 18.12, page 8-202)

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Motor Drive PWB F1 Blows

Fuse 1 on the Motor Drive PWB has blown.

Note

Remove the cause of Fuse failure before replacing the Motor Drive PWB.

Applicable Chain-Link Code

- **041-344**: PWBA Motor Drive F1 Fuse Break Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser Fan, PL4.1.7 ■ Regi Clutch, PL15.2.4 ■ Fuse	

1. Check the following parts circuits for overcurrent and overvoltage, grounded wires, and then replace the faulty parts or repair the circuits, and replace the Fuse.
   - Regi Clutch (REP 15.3, page 8-175)
   - Fuser Fan (REP 4.1, page 8-38)

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Motor Drive PWB F2 Blows

Fuse 2 on the Motor Drive PWB has blown.

Note

Remove the cause of Fuse failure before replacing the Motor Drive PWB.

Applicable Chain-Link Code

- **041-345**: PWBA Motor Drive F2 Fuse Break Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Exit Motor, PL17.1.15 ■ LV Fan, PL18.1.13 ■ Fuse	

1. Check the following parts circuits for overcurrent and overvoltage, grounded wires, and then replace the faulty parts or repair the circuits, and replace the Fuse.
   - Exit Motor (REP 17.3, page 8-181)
   - LV Fan (REP 18.8, page 8-195)

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Motor Drive PWB F3 Blows

Fuse 3 on the Motor Drive PWB has blown.

Note

Remove the cause of Fuse failure before replacing the Motor Drive PWB.

Applicable Chain-Link Code

- **041-346**: PWBA Motor Drive F3 Fuse Break Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (Y, M, C, K), PL2.1.2 ■ LPH Rear PWB (Y, M, C, K), PL2.2.5 ■ Fuse ■ Motor Drive PWB, PL18.3.7	

1. Check the following parts circuits for overcurrent and overvoltage, grounded wires, and then replace the faulty parts or repair the circuits, and replace the Fuse.
   - LPH Unit (Y, M, C, K) (REP 2.1, page 8-18)
   - LPH Rear PWB (REP 2.4, page 8-22)
2. Replace the Motor Drive PWB (REP 18.13, page 8-204).

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Serial I/O Fail

The Serial I/O control clock is not input into the Motor Drive PWB.

Applicable Chain-Link Code

- **041-347**: Serial I/O Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Turn the power Off and On.
2. Check whether there is poor connection of the connectors between the Motor Drive PWB and the MCU PWB.
3. If no problems are found, replace the following parts in sequence:
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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Motor Drive PWB F4 Blows

Fuse 4 on the Motor Drive PWB has blown.

Note

Remove the cause of Fuse failure before replacing the Motor Drive PWB.

Applicable Chain-Link Code

- **041-348**: PWBA Motor Drive F4 Fuse Break Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LH Cover Interlock Switch Fan, PL14.1.3 ■ Motor Drive PWB, PL18.3.7	

1. Check the following parts/ circuits for overcurrent and overvoltage, grounded wiring, and then replace the faulty parts or repair the circuits, and replace the Motor Drive PWB (REP 18.13, page 8-204).
   - LH Cover Interlock Switch (REP 14.1, page 8-146)

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Motor Drive PWB F6 Blows

Fuse 6 on the Motor Drive PWB has blown.

Note

Remove the cause of Fuse failure before replacing the Motor Drive PWB.

Applicable Chain-Link Code

- **041-350**: PWBA Motor Drive F6 Fuse Break Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Drum Developer Motor (K), PL3.3.3 ■ IBT Motor, PL3.3.4 ■ Drum Developer Motor (Y/M/C), PL3.3.5 ■ Motor Drive PWB, PL18.3.7	

1. Check the following part / circuits for overcurrent and overvoltage, grounded wiring, and then replace the faulty parts or repair the circuits, and replace the Motor Drive PWB (page 8-204).
   - K Drum Developer Motor (REP 3.9, page 8-35)
   - Y, M, C Drum Developer Motor (REP 3.11, page 8-37)
   - IBT Motor (REP 3.10, page 8-36)
   - Motor Drive PWB (REP 18.13, page 8-204)

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Drum Y, M, C Motor Fail

The Drum/Deve Drive Motor (Y, M, C) rotation failure was detected.

Applicable Chain-Link Code

- **042-320**: Drum YMC Motor Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Drum/ Deve Drive Motor (Y/M/C), PL3.3.5 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Open the Front Cover and remove the Imaging Units (Y, M, C) and the Developer (Y, M, C). Close the Front Cover. Perform the **Developer Motors** test in Diagnostics. Does the Drum/ Deve Drive Motor (Y, M, C) rotate?	Go to step 5.	Go to step 2.
2	Turn Off the power and remove the M/C Rear Cover. Turn On the power. Is the voltage between the Motor Drive PWB J508-3 (+) and the GND (-) +24VDC?	Go to step 3.	Refer to "+24 VDC Power" on page 4-16.
3	Is the voltage between the Motor Drive PWB J506-16 (+) and the GND (-) +5VDC?	Go to step 4.	Refer to "+5 VDC Power Troubleshooting " on page 4-15.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
4	Check the connections between the Motor Drive PWB J508 and the Drum/ Deve Drive Motor (Y, M, C) J246, as well as between the Motor Drive PWB J506 and the Drum/ Deve Drive Motor (Y, M, C) J247 for open circuits, short circuits, and poor contacts. Are they conducting properly?	Replace the following parts in sequence: ■ Drum/Deve Drive Motor (Y, M, C) (REP 3.11, page 8-37) ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.
5	Install the Drum (Y, M, C) and the Developer (Y, M, C) and close the Front Cover. Perform the **Developer Motors** test in Diagnostics. Does the Drum/ Deve Drive Motor (Y, M, C) rotate?	Go to step 6.	Check the Imaging Unit (Y, M, C) and the Developer (Y, M, C) for loading.
6	Check the connection between the Drum/ Deve Drive Motor (Y, M, C) J247-8 and the Motor Drive PWB J506-9 for open circuit, short circuit, and poor contact. Is it conducting properly?	Replace the following parts in sequence: ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.

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Drum K Motor Fail

The Drum/Deve Drive Motor (K) rotation failure was detected.

Applicable Chain-Link Code

- **042-323**: Drum K Motor Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Drum/ Deve Drive Motor (K), PL3.3.3 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Open the Front Cover and remove the Imaging Unit (K) and the Developer (K). Close the Front Cover. Perform the **Developer Motors** test in Diagnostics. Does the Drum/ Deve Drive Motor (K) rotate?	Go to step 5.	Go to step 2.
2	Turn Off the power and remove the M/C Rear Cover. Turn On the power. Is the voltage between the Motor Drive PWB J508-1 (+) and the GND (-) +24VDC?	Go to step 3.	Refer to "+24 VDC Power" on page 4-16.
3	Is the voltage between the Motor Drive PWB J506-8 (+) and the GND (-) +5VDC?	Go to step 4.	Refer to "+5 VDC Power Troubleshooting " on page 4-15.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
4	Check the connections between the Motor Drive PWB J508 and the Drum/ Deve Drive Motor (K) J240, as well as between the Motor Drive PWB J506 and the Drum/ Deve Drive Motor (K) J241 for open circuits, short circuits, and poor contacts. Are they conducting properly?	Replace the following parts in sequence: ■ Drum/Deve Drive Motor (K) (REP 3.9, page 8-35) ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.
5	Install the Imaging Unit (K) and the Developer (K) and close the Front Cover. Perform the **Developer Motors** test in Diagnostics. Does the Drum/ Deve Drive Motor (K) rotate?	Go to step 6.	Check the Imaging Unit (K) and the Developer (K) for loading.
6	Check the connection between the Drum/Deve Drive Motor (K) J241-8 and the Motor Drive PWB J506-1 for open circuit, short circuit, and poor contact. Is it conducting properly?	Replace the following parts in sequence: ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.

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IBT Motor Fail

The IBT Drive Motor rotation failure was detected.

Applicable Chain-Link Code

- **042-324**: IBT Motor Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ IBT Drive Motor Assy, PL3.3.4 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Turn Off the power and remove the IBT Unit. Cheat the L/H Cover Interlock Switch and turn On the power. Perform the **IBT Belt Motor** test in Diagnostics. Does the IBT Drive Motor rotate?	Go to step 5.	Go to step 2.
2	Turn Off the power and remove the M/C Rear Cover. Turn On the power. Is the voltage between the Motor Drive PWB J508-5 (+) and the GND (-) +24VDC?	Go to step 3.	Refer to "+24 VDC Power" on page 4-16.
3	Is the voltage between the Motor Drive PWB J507-8 (+) and the GND (-) +5VDC?	Go to step 4.	Refer to "+5 VDC Power Troubleshooting" on page 4-15.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
4	Check the connections between the Motor Drive PWB J508 and the IBT Drive Motor J248, as well as between the Motor Drive PWB J507 and the IBT Drive Motor J249 for open circuits, short circuits, and poor contacts. Are they conducting properly?	Replace the following parts in sequence: ■ IBT Drive Motor Assembly (REP 3.10, page 8-36) ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.
5	Remove the cheat. Install the IBT Unit and close the L/H Cover. Perform the **IBT Belt Motor** test in Diagnostics. Does the IBT Drive Motor rotate?	Go to step 6.	Check the IBT Drive for loading. Also, check the IBT for loading due to blockage in the IBT Waste Toner Collection Auger.
6	Check the connection between the IBT Drive Motor J249-8 and the Motor Drive PWB J507-1 for open circuit, short circuit, and poor contact.	Replace the following parts in sequence: ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.

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Main Motor Fail

The Main Drive Motor rotation failure was detected.

Applicable Chain-Link Code

- **042-325**: Main Motor Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Main Drive Motor Assy, PL3.2.3 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Turn Off the power and remove the IBT Unit. Cheat the L/H Cover Interlock Switch and turn On the power. Perform the **Main Motor** test in Diagnostics. Does the Main Drive Motor rotate?	Go to step 5.	Go to step 2.
2	Turn Off the power and remove the M/C Rear Cover. Turn On the power. Is the voltage between the Motor Drive PWB J505-3 (+) and the GND (-) +24VDC?	Go to step 3.	Refer to "+24 VDC Power" on page 4-16.
3	Is the voltage between the Motor Drive PWB J504-16 (+) and the GND (-) +5VDC?	Go to step 4.	Refer to "+5 VDC Power Troubleshooting" on page 4-15.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
4	Check the connections between the Motor Drive PWB J505 and the Main Drive Motor J244, as well as between the Motor Drive PWB J504 and the Main Drive Motor J245 for open circuits, short circuits, and poor contacts.	Replace the following parts in sequence: ■ Main Drive Motor Assembly (REP 3.5, page 8-30) ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.
5	Remove the cheat. Install the IBT Unit and close the Left Hand Cover. Perform the **Main Motor** test in Diagnostics. Does the Main Drive Motor rotate?	Go to step 6.	Check the 2nd BTR for loading and the Drive Gear for rotation failure and damage.
6	Perform the **Main Motor** test in Diagnostics. Perform the **Takeaway Clutch** test in Diagnostics. Does the Main Drive Motor rotate?	Go to step 7.	Check the Tray 1 Takeaway Roll for loading and the Drive Gear for rotation failure and damage.
7	Perform the **Main Motor** test in Diagnostics. Perform the **Registration Clutch** test in Diagnostics. Does the Main Drive Motor rotate?	Go to step 8.	Check the Regi Roll for loading and the Drive Gear for rotation failure and damage.
8	Check the connection between the Main Drive Motor J245-8 and the Motor Drive PWB J504-9 for open circuit, short circuit, and poor contact.	Replace the following parts in sequence: ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.

HV Fan Fail

The HV Fan error was detected.

Applicable Chain-Link Code

- **042-329**: HV Fan Fail

Initial Actions

- Rotate the HV Fan manually to check for loading.
- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ HV Fan Assy, PL4.3.1 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Fault History. Has error 041-330 MCU PWB F7 Blows occurred?	Check whether the F7 on the MCU PWB has opened.	Go to step 2.
2	Turn Off the power. Disconnect and reconnect P/ J235. Turn On the power. Perform the **Fan Motors** test in Diagnostics. Is the HV Fan rotating?	Go to step 4.	Go to step 3.
3	Check the connection between the HV Fan J235 and the MCU PWB J417 for open circuit, short circuit, and poor contact. Is it conducting properly?	Replace the following parts in sequence: ■ HV Fan (REP 4.3, page 8-40) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.
4	Check the connection between the HV Fan J235-2 and the MCU PWB J417-A12 for open circuit, short circuit, and poor contact. Is it conducting properly?	Replace the MCU PWB (REP 18.12, page 8-202).	Repair the sections that have short circuits and poor contacts.

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IBT Fan Fail

The IBT Fan error was detected.

Applicable Chain-Link Code

- **042-334**: IBT Fan Fail

Initial Actions

- Rotate the Fan manually to check for binding.
- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ IBT Fan Assy, PL4.2.8 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Fault History. Has error 041-330 MCU PWB F7 Blows occurred? Is F7 on the MCU PWB open? **Note:** The condition that caused F7 to open must be corrected before replacing the MCU PWB.	Go to step 5.	Go to step 2.
2	Perform the **IBT Fan Motors** test in Diagnostics. Are both IBT Fans 1 and 2 rotating?	Go to step 5.	Go to step 3.
3	Turn Off the power. Reseat P/ J 619 and P 416. Turn On the power. Repeat the **IBT Fan Motors** test in Diagnostics. Are both IBT Fans 1 and 2 now rotating?	Go to step 4.	Go to step 5.
4	Does the error appear now when making a print?	Go to step 5.	Troubleshooting complete.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
5	Check the connection between the IBT Fans J 619 and the MCU PWB J 416 for open circuit, short circuit, grounded condition and poor contact. Is it conducting properly?	Replace the following parts in sequence: ■ IBT Fan 1, IBT Fan 2 (PL 4.2.8) ■ MCU PWB (REP 18.12, page 8-202)	Repair or replace the sections that have short circuits and poor contacts.

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Process 2 Fan Fail

The Process 2 Fan error was detected.

Applicable Chain-Link Code

- **042-336**: Process 2 Fan Fail

Initial Actions

- Rotate the Fan manually to check for binding.
- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Process 2 Fan Assy, PL4.2.13 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Fault History. Has error 041-330 MCU PWB F7 Blows occurred? Is F7 on the MCU PWB open? **Note:** The condition that caused F7 to open must be corrected before replacing the MCU PWB.	Go to step 5.	Go to step 2.
2	Perform the **Process 2 Fan Motor** test in Diagnostics. Is the Process 2 fan rotating?	Go to step 5.	Go to step 3.
3	Turn Off the power. Reseat P/ J 238 and P 416. Turn On the power. Repeat the **Process 2 Fan Motor** test in Diagnostics. Is the Process 2 Fan now rotating?	Go to step 4.	Go to step 5.
4	Does the error appear now when making a print?	Go to step 5.	Troubleshooting complete.

Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
5	Check the connection between the IBT Fans J 238 and the MCU PWB J 416 for open circuit, short circuit, grounded condition and poor contact. Is it conducting properly?	Replace the following parts in sequence: ■ Process 2 Fan (REP 18.3, page 8-189, steps 1-4) ■ MCU PWB (REP 18.12, page 8-202)	Repair or replace the sections that have short circuits and poor contacts.

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NOHAD Logic Fail

A fatal error was detected in Noise Ozone Heat Altitude Dust (NOHAD) control.

Applicable Chain-Link Code

- **042-337**: NOHAD Logic Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Replace the MCU PWB (REP 18.12, page 8-202).

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LVPS Exhaust Fan Fail

The LVPS Exhaust Fan error was detected.

Applicable Chain-Link Code

- **042-338**: LVPS Fan Fail

Initial Actions

- Rotate the Fan manually to check for binding.
- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LVPS Fan Assy, PL18.1.13 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Perform the **LVPS Fan Motor** test in Diagnostics. Is the LVPS fan rotating?	Go to step 3.	Go to step 2.
2	Turn Off the power. Reseat P550. Turn On the power. Repeat the **LVPS Fan Motor** test in Diagnostics. Is the LVPS Fan now rotating?	Go to step 3.	Go to step 4.
3	Does the error appear now when making a print?	Go to step 4.	Troubleshooting complete.
4	Check the connection between the LVPS Fan and P 550 on the LVPS for open circuit, short circuit, grounded condition or poor contact. Is it conducting properly?	Replace the following parts in sequence: ■ LVPS Fan (REP 18.8, page 8-195) ■ MCU PWB (REP 18.12, page 8-202)	Repair or replace the sections that have short circuits and poor contacts.

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Rear Bottom Fan Fail

The Rear Bottom Fan error was detected.

Applicable Chain-Link Code

- **042-343**: Rear Bottom Fan Fail

Initial Actions

- Rotate the Fan manually to check for binding.
- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Rear Bottom Fan Assy, PL4.3.8 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Fault History. Has error 041-330 MCU PWB F7 Blown occurred? Is F7 on the MCU PWB open? **Note:** The condition that caused F7 to open must be corrected before replacing the MCU PWB.	Go to step 5.	Go to step 2.
2	Perform the **Rear Bottom Fan Motor** test in Diagnostics. Is the Rear Bottom fan rotating?	Go to step 5.	Go to step 3.
3	Turn Off the power. Reseat P/ J 234 and P 417. Turn On the power. Repeat the **Rear Bottom Fan Motor** test in Diagnostics. Is the Rear Bottom fan now rotating?	Go to step 4.	Go to step 5.
4	Does the error appear now when making a print?	Go to step 5.	Troubleshooting complete.

Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
5	Check the connection between the Rear Bottom Fan J 234 and the MCU PWB J 417 for open circuit, short circuit, grounded condition and poor contact. Is it conducting properly?	Replace the following parts in sequence: ■ Rear Bottom Fan (PL4.3.8) ■ MCU PWB (REP 18.12, page 8-202)	Repair or replace the sections that have short circuits and poor contacts.

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NOHAD Temperature Sensor Fail

The NOHAD Thermistor error was detected.

Applicable Chain-Link Code

- **042-604**: NOHAD Temperature Sensor Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ NOHAD Thermistor Assy, PL5.2.11 ■ MCU PWB, PL18.3.6	

1. Check the connection between the NOHAD Thermistor P130 and the MCU PWB J414 for open circuit, short circuit, and poor contact. Also check whether there is poor connection or debris at the detection section of the NOHAD Thermistor.
2. If no problems are found, replace the following parts in sequence:
   - NOHAD Thermistor Assembly (PL5.2.11)
   - MCU PWB (REP 18.12, page 8-202)

Drive Fan Fail

The Drive Fan error was detected.

Applicable Chain-Link Code

- **042-605**: Drive Fan Fail

Initial Actions

- Rotate the HV Fan manually to check for loading.
- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU PWB, PL18.3.6 ■ Drive Fan, PL18.3.17	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Fault History. Has error 041-330 MCU PWB F7 Blows occurred?	Go to step 5.	Go to step 2.
2	Check the Fan rotation Turn Off the power. Disconnect and reconnect P/J231. Turn On the power. Perform the **Fan Motors** test in Diagnostics. Is the Drive Fan rotating?	Go to step 4.	Go to step 3.
3	Check the connection between the Drive Fan J231 and the MCU PWB J417 for open circuit, short circuit, and poor contact. Is it conducting properly?	Replace the following parts in sequence: ■ Drive Fan (REP 18.15, page 8-206) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.
4	Check the connection between the Drive Fan J231-2 and the MCU PWB J417-A3 for open circuit, short circuit, and poor contact. Is it conducting properly?	Replace the MCU PWB (REP 18.12, page 8-202).	Repair the sections that have short circuits and poor contacts.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
5	Check whether the F7 on the MCU PWB has melted down. Is it normal and has not melted down?	Troubleshooting complete.	Repair the section that has melted.

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Image Ready NG/ Controller Communication Fail

The Controller image preparation failure was detected.
Communication error between ESS PWB and MCU PWB was detected.

Applicable Chain-Link Codes

- **045-310**: Image Ready NG
- **045-311**: Controller Comm Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ BP PWB, PL18.3.2 ■ MCU PWB, PL18.3.6 ■ ESS PWB, PL35.1.1	

1. Turn the power Off and On.
2. Check whether there is poor connection and debris at the following connectors.
   - Between BP PWB J460 and MCU PWB P451
   - Between BP PWB J335 and ESS PWB P335
3. If no problems are found, replace the following parts in sequence:
   - BP PWB (REP 18.11, page 8-200)
   - MCU PWB (REP 18.12, page 8-202)
   - I/P PWB (REP 35.1, page 8-220)

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Drive Logic Fail

A fatal error was detected in Drive control.

Applicable Chain-Link Code

- **045-312**: Drive Logic Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Install the correct version of the IOT firmware.
3. Restore NVRAM. If the problem persists, replace the MCU PWB (REP 18.12, page 8-202).

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ENG_LOGIC_FAIL

Engine internal mismatch (control logic mismatch).

Applicable Chain-Link Code

- **045-313**: Drive Logic Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Restore NVRAM. If the problem persists, replace the MCU PWB (REP 18.12, page 8-202).

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MK_Panel_NG

Communication error between IM and MK (when receiving Pitch Check, the corresponding Panel Build is not received).

Applicable Chain-Link Code

- **045-321**: MK_Panel_NG

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Restore NVRAM. If the problem persists, replace the MCU PWB (REP 18.12, page 8-202).

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MI_Pitch_NG

Communication error between IM and MK (when receiving Pitch Notify, the corresponding Pitch Check is not received).

Applicable Chain-Link Code

- **045-322**: MK_Pitch_NG

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Restore NVRAM. If the problem persists, replace the MCU PWB (REP 18.12, page 8-202).

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MK_MKIF_MSG_Reject

Communication error between IM and MK (the received message was rejected).

Applicable Chain-Link Code

- **045-331**: MK_MKIF_MSG_Reject

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Restore NVRAM. If the problem persists, replace the MCU PWB (REP 18.12, page 8-202).

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MK_MMIF_MSG_Reject

Communication error between MM and Sub Module (the received message was rejected).

Applicable Chain-Link Code

- **045-332**: MK_MMIF_MSG_Reject

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Restore NVRAM. If the problem persists, replace the MCU PWB (REP 18.12, page 8-202).

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ENG_Emergency_Over_Wait

Engine internal mismatch (panel creation is obstructed continuously over the predetermined time).

Applicable Chain-Link Code

- **045-340**: ENG_Emergency_Over_Wait

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Restore NVRAM. If the problem persists, replace the MCU PWB (REP 18.12, page 8-202).

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ENG_Emergency_No_Timer

Engine internal mismatch (Call Back Timer has ran out and can't be controlled).

Applicable Chain-Link Code

- **045-341**: ENG_Emergency_No_Timer

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Restore NVRAM. If the problem persists, replace the MCU PWB (REP 18.12, page 8-202).

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ENG_Emergency_Enforced_Stop

Engine internal mismatch (the engine has performed a forced stop process).

Applicable Chain-Link Code

- **045-342**: ENG_Emergency_Enforced_Stop

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Restore NVRAM. If the problem persists, replace the MCU PWB (REP 18.12, page 8-202).

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MK_Emergency_Over_Wait

MK internal mismatch (panel creation is obstructed continuously over the predetermined time).

Applicable Chain-Link Code

- **045-350**: MK_Emergency_Over_Wait

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Restore NVRAM. If the problem persists, replace the MCU PWB (REP 18.12, page 8-202).

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MK_Emergency_No_Timer

MK internal mismatch (Call Back Timer has ran out and cannot be controlled).

Applicable Chain-Link Code

- **045-351**: MK_Emergency_No_Timer

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Restore NVRAM. If the problem persists, replace the MCU PWB (REP 18.12, page 8-202).

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MK_Emergency_Enforced_Stop

MK internal mismatch (the MM has performed a forced stop process).

Applicable Chain-Link Code

- **045-352**: MK_Emergency_Enforced_Stop

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Restore NVRAM. If the problem persists, replace the MCU PWB (REP 18.12, page 8-202).

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All Destination Tray Broken

All Trays connected to the IOT have become unusable.

Applicable Chain-Link Code

- **047-320**: All Destination Tray Broken

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References

1. Check the Fault History. Go to the troubleshooting procedure of the affected Output Tray.

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LPH Power On Fail Y

Fuse open circuit detection error during the LPH batch download complete verification, or power system error.

When the LPH Power On Fail occurs in the LPH of every color (Y, M, C, K), it is a Fuse open circuit detection error. When the LPH Power On Fail occurs in the LPH of 1 color, it is a power system error because there is a high chance that the error lies with the power supply connector.

Note

If this error occurs, it is possible that the process have not been performed correctly because of other LPH Fail. If other LPH Fail had occurred, solving that other LPH Fail has a higher priority.

Applicable Chain-Link Code

- **061-350**: LPH Power On Fail Y

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (Y), PL2.1.2 ■ LPH Cable Assy, PL2.2.1 ■ LPH Rear PWB (Y), PL2.2.5 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Fault History. Have multiple errors occurred?	Go to step 3.	Go to step 2.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
2	Check the following: ■ The connection between the Motor Drive PWB J518 and the LPH Rear PWB (Y) J553 for open circuit, short circuit, and poor contact. ■ The connection between the LPH H PWB (Y) J565 and the LPH (Y) J573 for open circuit, short circuit, and poor contact (connection within the LPH Unit). ■ The Flat Cable between the MCU PWB J557 and the LPH Rear PWB (Y) J561 for open circuit, short circuit, and poor contact (especially for short circuit between MCU PWB J557 pins-28/27 and LPH Rear PWB (Y) J561 pins-1/2). ■ The Flat Cable between the LPH H PWB (Y) J569 and the LPH (Y) J577 for open circuit, short circuit, and poor contact (connection within the LPH Unit). ■ The connector (P/J581) between the LPH Rear PWB (Y) and the LPH H PWB (Y) for damage and debris. ■ The LPH Unit (Y) for improper installation. Are they normal, without any short circuits, poor contacts, and etc.?	Replace the following parts in sequence: ■ LPH Unit (Y) (REP 2.1, page 8-18) ■ LPH Cable Assembly ■ LPH Rear PWB (REP 2.4, page 8-22) ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.
3	Check the connection of the Motor Drive PWB J518 connector. Is the Motor Drive PWB J518 connector properly connected?	Replace the following parts in sequence: ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Connect the Motor Drive PWB J518 connector properly.

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LPH Power Fail M

Fuse open circuit detection error during the LPH batch download complete verification, or power system error.

When the LPH Power On Fail occurs in the LPH of every color (Y, M, C, K), it is a Fuse open circuit detection error. When the LPH Power On Fail occurs in the LPH of 1 color, it is a power system error because there is a high chance that the error lies with the power supply connector.

Note

If this error occurs, it is possible that the process have not been performed correctly because of other LPH Fail. If other LPH Fail had occurred, solving that other LPH Fail has a higher priority.

Applicable Chain-Link Code

- **061-351**: LPH Power On Fail M

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (M), PL2.1.2 ■ LPH Cable Assy, PL2.2.1 ■ LPH Rear PWB (M), PL2.2.5 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Fault History. Have multiple errors occurred?	Go to step 3.	Go to step 2.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
2	Check the following: ■ The connection between the Motor Drive PWB J518 and the LPH Rear PWB (M) J552 for open circuit, short circuit, and poor contact. ■ The connection between the LPH H PWB (M) J564 and the LPH (M) J572 for open circuit, short circuit, and poor contact (connection within the LPH Unit). ■ The Flat Cable between the MCU PWB J556 and the LPH Rear PWB (M) J560 for open circuit, short circuit, and poor contact (especially for short circuit between MCU PWB J556 pins-28/27 and LPH Rear PWB (M) J560 pins-1/2). ■ The Flat Cable between the LPH H PWB (M) J568 and the LPH (M) J576 for open circuit, short circuit, and poor contact (connection within the LPH Unit). ■ The connector (P/J580) between the LPH Rear PWB (M) and the LPH H PWB (M) for damage and debris. ■ The LPH Unit (M) for improper installation. Are they normal, without any short circuits, poor contacts, and etc.?	Replace the following parts in sequence: ■ LPH Unit (M) (REP 2.1, page 8-18) ■ LPH Cable Assembly ■ LPH Rear PWB (REP 2.4, page 8-22) ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.
3	Check the connection of the Motor Drive PWB J518 connector. Is the Motor Drive PWB J518 connector properly connected?	Replace the following parts in sequence: ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Connect the Motor Drive PWB J518 connector properly.

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LPH Power Fail C

Fuse open circuit detection error during the LPH batch download complete verification, or power system error.

When the LPH Power On Fail occurs in the LPH of every color (Y, M, C, K), it is a Fuse open circuit detection error. When the LPH Power On Fail occurs in the LPH of 1 color, it is a power system error because there is a high chance that the error lies with the power supply connector.

Note

If this error occurs, it is possible that the process have not been performed correctly because of other LPH Fail. If other LPH Fail had occurred, solving that other LPH Fail has a higher priority.

Applicable Chain-Link Code

- **061-352**: LPH Power On Fail C

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (C), PL2.1.2 ■ LPH Cable Assy, PL2.2.1 ■ LPH Rear PWB (C), PL2.2.5 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Fault History. Have multiple errors occurred?	Go to step 3.	Go to step 2.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
2	Check the following: ■ The connection between the Motor Drive PWB J518 and the LPH Rear PWB (C) J551 for open circuit, short circuit, and poor contact. ■ The connection between the LPH H PWB (C) J563and the LPH (C) J571 for open circuit, short circuit, and poor contact (connection within the LPH Unit). ■ The Flat Cable between the MCU PWB J555 and the LPH Rear PWB (C) J559 for open circuit, short circuit, and poor contact (especially for short circuit between MCU PWB J555 pins-28/27 and LPH Rear PWB (C) J559 pins-1/2). ■ The Flat Cable between the LPH H PWB (C) J567 and the LPH (C) J575 for open circuit, short circuit, and poor contact (connection within the LPH Unit). ■ The connector (P/J579) between the LPH Rear PWB (C) and the LPH H PWB (C) for damage and debris. ■ The LPH Unit (C) for improper installation. Are they normal, without any short circuits, poor contacts, and etc.?	Replace the following parts in sequence: ■ LPH Unit (C) (REP 2.1, page 8-18) ■ LPH Cable Assembly ■ LPH Rear PWB (REP 2.4, page 8-22) ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.
3	Check the connection of the Motor Drive PWB J518 connector. Is the Motor Drive PWB J518 connector properly connected?	Replace the following parts in sequence: ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Connect the Motor Drive PWB J518 connector properly.

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LPH Power Fail K

Fuse open circuit detection error during the LPH batch download complete verification, or power system error.

When the LPH Power On Fail occurs in the LPH of every color (Y, M, C, K), it is a Fuse open circuit detection error. When the LPH Power On Fail occurs in the LPH of 1 color, it is a power system error because there is a high chance that the error lies with the power supply connector.

Note

If this error occurs, it is possible that the process have not been performed correctly because of other LPH Fail. If other LPH Fail had occurred, solving that other LPH Fail has a higher priority.

Applicable Chain-Link Code

- **061-353**: LPH Power On Fail K

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (K), PL2.1.2 ■ LPH Cable Assy, PL2.2.1 ■ LPH Rear PWB (K), PL2.2.5 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Fault History. Have multiple errors occurred?	Go to step 3.	Go to step 2.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
2	Check the following: ■ The connection between the Motor Drive PWB J518 and the LPH Rear PWB (K) J550 for open circuit, short circuit, and poor contact. ■ The connection between the LPH H PWB (K) J562 and the LPH (K) J570 for open circuit, short circuit, and poor contact (connection within the LPH Unit). ■ The Flat Cable between the MCU PWB J554 and the LPH Rear PWB (K) J558 for open circuit, short circuit, and poor contact (especially for short circuit between MCU PWB J554 pins-28/27 and LPH Rear PWB (K) J558 pins-1/2). ■ The Flat Cable between the LPH H PWB (K) J566 and the LPH (K) J574 for open circuit, short circuit, and poor contact (connection within the LPH Unit). ■ The connector (P/J578) between the LPH Rear PWB (K) and the LPH H PWB (K) for damage and debris. ■ The LPH Unit (K) for improper installation. Are they normal, without any short circuits, poor contacts, and etc.?	Replace the following parts in sequence: ■ LPH Unit (K) (REP 2.1, page 8-18) ■ LPH Cable Assembly ■ LPH Rear PWB (REP 2.4, page 8-22) ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.
3	Check the connection of the Motor Drive PWB J518 connector. Is the Motor Drive PWB J518 connector properly connected?	Replace the following parts in sequence: ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Connect the Motor Drive PWB J518 connector properly.

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LPH Download Data Fail Y

DELSOL register data error during the LPH batch download complete verification, download error, or connector error. When the DELSOL register value is incorrect, it is a register data error. When the download process has failed, it is a download error. It may also be a connector error because the batch download check control does not cause Act error or Write error to occur.

Note

If this error occurs, it is possible that the process have not been performed correctly because of other LPH Fail. If other LPH Fail had occurred, solving that other LPH Fail has a higher priority.

Applicable Chain-Link Code

- **061-354**: LPH Download Data Fail Y

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (Y), PL2.1.2 ■ LPH Cable Assy, PL2.2.1 ■ LPH Rear PWB (Y), PL2.2.5 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Fault History. Have multiple errors occurred?	Replace the MCU PWB (REP 18.12, page 8-202).	Go to step 2.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
2	Check the following: ■ The Flat Cable between the MCU PWB J557 and the LPH Rear PWB (Y) J561 for open circuit, short circuit, and poor contact. ■ The Flat Cable between the LPH H PWB (Y) J569 and the LPH (Y) J577 for open circuit, short circuit, and poor contact (connection within the LPH Unit). ■ The connector (P/J581) between the LPH Rear PWB (Y) and the LPH H PWB (Y) for damage and debris. ■ The LPH Unit (Y) for improper installation. ■ Perform the **LED EEPROM** test in Diagnostics. Are they normal, without any short circuits, poor contacts, and etc.?	Replace the following parts in sequence: ■ LPH Unit (Y) (REP 2.1, page 8-18) ■ LPH Cable Assembly ■ LPH Rear PWB (REP 2.4, page 8-22) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.

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LPH Download Data Fail M

DELSOL register data error during the LPH batch download complete verification, download error, or connector error. When the DELSOL register value is incorrect, it is a register data error. When the download process has failed, it is a download error. It may also be a connector error because the batch download check control does not cause Act error or Write error to occur.

Note

If this error occurs, it is possible that the process have not been performed correctly because of other LPH Fail. If other LPH Fail had occurred, solving that other LPH Fail has a higher priority.

Applicable Chain-Link Code

- **061-355**: LPH Download Data Fail M

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (M), PL2.1.2 ■ LPH Cable Assy, PL2.2.1 ■ LPH Rear PWB (M), PL2.2.5 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Fault History. Have multiple errors occurred?	Replace the MCU PWB (REP 18.12, page 8-202).	Go to step 2.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
2	Check the following: ■ The Flat Cable between the MCU PWB J556 and the LPH Rear PWB (M) J560 for open circuit, short circuit, and poor contact. ■ The Flat Cable between the LPH H PWB (M) J568 and the LPH (M) J576 for open circuit, short circuit, and poor contact (connection within the LPH Unit). ■ The connector (P/J580) between the LPH Rear PWB (M) and the LPH H PWB (M) for damage and debris. ■ The LPH Unit (M) for improper installation. ■ Perform the **LED EEPROM** test in Diagnostics. Are they normal, without any short circuits, poor contacts, and etc.?	Replace the following parts in sequence: ■ LPH Unit (M) (REP 2.1, page 8-18) ■ LPH Cable Assembly ■ LPH Rear PWB (REP 2.4, page 8-22) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.

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LPH Download Data Fail C

DELSOL register data error during the LPH batch download complete verification, download error, or connector error. When the DELSOL register value is incorrect, it is a register data error. When the download process has failed, it is a download error. It may also be a connector error because the batch download check control does not cause Act error or Write error to occur.

Note

If this error occurs, it is possible that the process have not been performed correctly because of other LPH Fail. If other LPH Fail had occurred, solving that other LPH Fail has a higher priority.

Applicable Chain-Link Code

- **061-356**: LPH Download Data Fail C

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (C), PL2.1.2 ■ LPH Cable Assy, PL2.2.1 ■ LPH Rear PWB (C), PL2.2.5 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Fault History. Have multiple errors occurred?	Replace the MCU PWB (REP 18.12, page 8-202).	Go to step 2.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
2	Check the following: ■ The Flat Cable between the MCU PWB J555 and the LPH Rear PWB (C) J559 for open circuit, short circuit, and poor contact. ■ The Flat Cable between the LPH H PWB (C) J567 and the LPH (C) J575 for open circuit, short circuit, and poor contact (connection within the LPH Unit). ■ The connector (P/J579) between the LPH Rear PWB (C) and the LPH H PWB (C) for damage and debris. ■ The LPH Unit (C) for improper installation. ■ Perform the **LED EEPROM** test in Diagnostics. Are they normal, without any short circuits, poor contacts, and etc.?	Replace the following parts in sequence: ■ LPH Unit (C) (REP 2.1, page 8-18) ■ LPH Cable Assembly ■ LPH Rear PWB (REP 2.4, page 8-22) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.

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LPH Download Data Fail K

DELSOL register data error during the LPH batch download complete verification, download error, or connector error. When the DELSOL register value is incorrect, it is a register data error. When the download process has failed, it is a download error. It may also be a connector error because the batch download check control does not cause Act error or Write error to occur.

Note

If this error occurs, it is possible that the process have not been performed correctly because of other LPH Fail. If other LPH Fail had occurred, solving that other LPH Fail has a higher priority.

Applicable Chain-Link Code

- **061-357**: LPH Download Data Fail K

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (K), PL2.1.2 ■ LPH Cable Assy, PL2.2.1 ■ LPH Rear PWB (K), PL2.2.5 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Fault History. Have multiple errors occurred?	Replace the MCU PWB (REP 18.12, page 8-202).	Go to step 2.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
2	Perform the following steps: ■ Check the Flat Cable between the MCU PWB J554 and the LPH Rear PWB (K) J558 for open circuit, short circuit, and poor contact. ■ Check the Flat Cable between the LPH H PWB (K) J566 and the LPH (K) J574 for open circuit, short circuit, and poor contact (connection within the LPH Unit). ■ Check the connector (P/J578) between the LPH Rear PWB (K) and the LPH H PWB (K) for damage and debris. ■ Check the LPH Unit (K) for improper installation. ■ Perform the **LED EEPROM** test in Diagnostics. Are they normal, without any short circuits, poor contacts, and etc.?	Replace the following parts in sequence: ■ LPH Unit (K) (REP 2.1, page 8-18) ■ LPH Cable Assembly ■ LPH Rear PWB (REP 2.4, page 8-22) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.

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LPH Mismatch Fail (Y/M/C/K)

The model number of the installed LPH does not match.

Note

If this error occurs, it is possible that the process have not been performed correctly because of other LPH Fail. If other LPH Fail had occurred, solving that other LPH Fail has a higher priority.

Applicable Chain-Link Codes

- **061-358**: LPH Mismatch Fail Y
- **061-359**: LPH Mismatch Fail M
- **061-360**: LPH Mismatch Fail C
- **061-361**: LPH Mismatch Fail K

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (Y, M, C, K), PL2.1.2 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Fault History. Have multiple errors occurred?	Replace the MCU PWB (REP 18.12, page 8-202).	Go to step 2.
2	Perform the **LED EEPROM** test in Diagnostics. Is it normal, without any corruption?	Replace the LPH Unit (Y) (REP 2.1, page 8-18).	Initialize the NVM.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
3	Perform the **LED EEPROM** test in Diagnostics. Is it normal, without any corruption?	Replace the following parts in sequence: ■ LPH Unit (Y, M, C, K) (REP 2.1, page 8-18) ■ MCU PWB (REP 18.12, page 8-202)	Initialize the NVM.

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LPH Read Fail Y

Communication error between MCU and LPH (data read error from LPH).

Note

If this error occurs, it is possible that the process have not been performed correctly because of other LPH Fail. If other LPH Fail had occurred, solving that other LPH Fail has a higher priority.

Applicable Chain-Link Code

- **061-362**: LPH Read Fail Y

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (Y), PL2.1.2 ■ LPH Cable Assy, PL2.2.1 ■ LPH Rear PWB (Y), PL2.2.5 ■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Check the following:
   - The Flat Cable between the MCU PWB J557 and the LPH Rear PWB (Y) J561 for open circuit, short circuit, and poor contact.
   - The Flat Cable between the LPH H PWB (Y) J569 and the LPH (Y) J577 for open circuit, short circuit, and poor contact (connection within the LPH Unit).
   - The connector (P/J581) between the LPH Rear PWB (Y) and the LPH H PWB (Y) for damage and debris.
   - The LPH Unit (Y) for improper installation.
   - The Drum/ Deve Drive Motor (Y, M, C) for improper installation (affected by the noises caused by improper installation).
3. If no problems are found, replace the following parts in sequence:
   - LPH Unit (Y) (REP 2.1, page 8-18)
   - LPH Cable Assembly
   - LPH Rear PWB (REP 2.4, page 8-22)
   - MCU PWB (REP 18.12, page 8-202)

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LPH Read Fail M

Communication error between MCU and LPH (data read error from LPH).

Note

If this error occurs, it is possible that the process have not been performed correctly because of other LPH Fail. If other LPH Fail had occurred, solving that other LPH Fail has a higher priority.

Applicable Chain-Link Code

- **061-363**: LPH Read Fail M

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (M), PL2.1.2 ■ LPH Cable Assy, PL2.2.1 ■ LPH Rear PWB (M), PL2.2.5 ■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Check the following:
   - The Flat Cable between the MCU PWB J556 and the LPH Rear PWB (M) J560 for open circuit, short circuit, and poor contact.
   - The Flat Cable between the LPH H PWB (M) J568 and the LPH (M) J576 for open circuit, short circuit, and poor contact (connection within the LPH Unit).
   - The connector (P/J580) between the LPH Rear PWB (M) and the LPH H PWB (M) for damage and debris.
   - The LPH Unit (M) for improper installation.
   - The Drum/ Deve Drive Motor (Y, M, C) for improper installation (affected by the noises caused by improper installation).
3. If no problems are found, replace the following parts in sequence:
   - LPH Unit (M) (REP 2.1, page 8-18)
   - LPH Cable Assembly
   - LPH Rear PWB (REP 2.4, page 8-22)
   - MCU PWB (REP 18.12, page 8-202)

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LPH Read Fail C

Communication error between MCU and LPH (data read error from LPH).

Note

If this error occurs, it is possible that the process have not been performed correctly because of other LPH Fail. If other LPH Fail had occurred, solving that other LPH Fail has a higher priority.

Applicable Chain-Link Code

- **061-364**: LPH Read Fail C

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (C), PL2.1.2 ■ LPH Cable Assy, PL2.2.1 ■ LPH Rear PWB (C), PL2.2.5 ■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Check the following:
   - The Flat Cable between the MCU PWB J555 and the LPH Rear PWB (C) J559 for open circuit, short circuit, and poor contact.
   - The Flat Cable between the LPH H PWB (C) J567 and the LPH (C) J575 for open circuit, short circuit, and poor contact (connection within the LPH Unit).
   - The connector (P/J579) between the LPH Rear PWB (C) and the LPH H PWB (C) for damage and debris.
   - The LPH Unit (C) for improper installation.
   - The Drum/ Deve Drive Motor (Y, M, C) for improper installation (affected by the noises caused by improper installation).
3. If no problems are found, replace the following parts in sequence:
   - LPH Unit (C) (REP 2.1, page 8-18)
   - LPH Cable Assembly
   - LPH Rear PWB (REP 2.4, page 8-22)
   - MCU PWB (REP 18.12, page 8-202)

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LPH Read Fail K

Communication error between the MCU and LPH (data read error from LPH).

Note

If this error occurs, it is possible that the process have not been performed correctly because of other LPH Fail. If other LPH Fail had occurred, solving that other LPH Fail has a higher priority.

Applicable Chain-Link Code

- **061-365**: LPH Read Fail K

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (K), PL2.1.2 ■ LPH Cable Assy, PL2.2.1 ■ LPH Rear PWB (K), PL2.2.5 ■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Check the following:
   - The Flat Cable between the MCU PWB J554 and the LPH Rear PWB (K) J558 for open circuit, short circuit, and poor contact.
   - The Flat Cable between the LPH H PWB (K) J566 and the LPH (K) J574 for open circuit, short circuit, and poor contact (connection within the LPH Unit).
   - The connector (P/J578) between the LPH Rear PWB (K) and the LPH H PWB (K) for damage and debris.
   - The LPH Unit (K) for improper installation.
   - The Drum/Deve Drive Motor (Y, M, C) for improper installation (affected by the noises caused by improper installation).
3. If no problems are found, replace the following parts in sequence:
   - LPH Unit (K) (REP 2.1, page 8-18)
   - LPH Cable Assembly
   - LPH Rear PWB (REP 2.4, page 8-22)
   - MCU PWB (REP 18.12, page 8-202)

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LPH Write Fail Y

Communication error between MCU and LPH (data write error to LPH).

Note

If this error occurs, it is possible that the process have not been performed correctly because of other LPH Fail. If other LPH Fail had occurred, solving that other LPH Fail has a higher priority.

Applicable Chain-Link Code

- **061-366**: LPH Write Fail Y

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (Y), PL2.1.2 ■ LPH Cable Assy, PL2.2.1 ■ LPH Rear PWB (Y), PL2.2.5 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Perform the **NVRAM Read/ Write** test in Diagnostics. Is the value 0?	Go to step 3.	Go to step 2.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
2	Check the following: ■ The Flat Cable between the MCU PWB J557 and the LPH Rear PWB (Y) J561 for open circuit, short circuit, and poor contact. ■ The Flat Cable between the LPH H PWB (Y) J569 and the LPH (Y) J577 for open circuit, short circuit, and poor contact (connection within the LPH Unit). ■ The connector (P/J581) between the LPH Rear PWB (Y) and the LPH H PWB (Y) for damage and debris. ■ The LPH Unit (Y) for improper installation. ■ The Drum/ Deve Drive Motor (Y, M, C) for improper installation (affected by the noises caused by improper installation). ■ The NVM value for corruption. Are they normal, without any short circuit, poor contact, or corruption?	Replace the following parts in sequence: ■ LPH Unit (Y) (REP 2.1, page 8-18) ■ LPH Cable Assembly ■ LPH Rear PWB (REP 2.4, page 8-22) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts, or initialize the NVM.
3	Check the following: ■ The connection between the Motor Drive PWB J518 and the LPH Rear PWB (Y) J553 for open circuit, short circuit, and poor contact. ■ The connection between the LPH H PWB (Y) J565 and the LPH (Y) J573 for open circuit, short circuit, and poor contact (connection within the LPH Unit). ■ The connector (P/J581) between the LPH Rear PWB (Y) and the LPH H PWB (Y) for damage and debris. ■ The LPH Unit (Y) for improper installation. Are they normal, without any short circuit, poor contact, and debris?	Replace the following parts in sequence: ■ LPH Unit (Y) (REP 2.1, page 8-18) ■ LPH Cable Assembly ■ LPH Rear PWB (REP 2.4, page 8-22) ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts or, remove the debris.

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LPH Write Fail M

Communication error between MCU and LPH (data write error to LPH).

Note

If this error occurs, it is possible that the process have not been performed correctly because of other LPH Fail. If other LPH Fail had occurred, solving that other LPH Fail has a higher priority.

Applicable Chain-Link Code

- **061-367**: LPH Write Fail M

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (M), PL2.1.2 ■ LPH Cable Assy, PL2.2.1 ■ LPH Rear PWB (M), PL2.2.5 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Perform the **NVRAM Read/ Write** test in Diagnostics. Is the value 0?	Go to step 3.	Go to step 2.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
2	Check the following: ■ The Flat Cable between the MCU PWB J556 and the LPH Rear PWB (M) J560 for open circuit, short circuit, and poor contact. ■ The Flat Cable between the LPH H PWB (M) J568 and the LPH (M) J576 for open circuit, short circuit, and poor contact (connection within the LPH Unit). ■ The connector (P/J580) between the LPH Rear PWB (M) and the LPH H PWB (M) for damage and debris. ■ The LPH Unit (M) for improper installation. ■ The Drum/ Deve Drive Motor (Y, M, C) for improper installation (affected by the noises caused by improper installation). ■ The NVM value for corruption. Are they normal, without any short circuit, poor contact, or corruption?	Replace the following parts in sequence: ■ LPH Unit (M) (REP 2.1, page 8-18) ■ LPH Cable Assembly ■ LPH Rear PWB (REP 2.4, page 8-22) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts, or initialize the NVM.
3	Check the following: ■ The connection between the Motor Drive PWB J518 and the LPH Rear PWB (M) J552 for open circuit, short circuit, and poor contact. ■ The connection between the LPH H PWB (M) J564 and the LPH (M) J572 for open circuit, short circuit, and poor contact (connection within the LPH Unit). ■ The connector (P/J580) between the LPH Rear PWB (M) and the LPH H PWB (M) for damage and debris. ■ The LPH Unit (M) for improper installation. Are they normal, without any short circuit, poor contact, and debris?	Replace the following parts in sequence: ■ LPH Unit (M) (REP 2.1, page 8-18) ■ LPH Cable Assembly ■ LPH Rear PWB (REP 2.4, page 8-22) ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts or, remove the debris.

LPH Write Fail C

Communication error between MCU and LPH (data write error to LPH).

Note

If this error occurs, it is possible that the process have not been performed correctly because of other LPH Fail. If other LPH Fail had occurred, solving that other LPH Fail has a higher priority.

Applicable Chain-Link Code

- **061-368**: LPH Write Fail C

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (C), PL2.1.2 ■ LPH Cable Assy, PL2.2.1 ■ LPH Rear PWB (C). PL2.2.5 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Perform the **NVRAM Read/ Write** test in Diagnostics. Is the value 0?	Go to step 3.	Go to step 2.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
2	Check the following: ■ The Flat Cable between the MCU PWB J555 and the LPH Rear PWB (C) J559 for open circuit, short circuit, and poor contact. ■ The Flat Cable between the LPH H PWB (C) J567 and the LPH (C) J575 for open circuit, short circuit, and poor contact (connection within the LPH Unit). ■ The connector (P/J579) between the LPH Rear PWB (C) and the LPH H PWB (C) for damage and debris. ■ The LPH Unit (C) for improper installation. ■ The Drum/ Deve Drive Motor (Y, M, C) for improper installation (affected by the noises caused by improper installation). ■ The NVM value for corruption. Are they normal, without any short circuit, poor contact, or corruption?	Replace the following parts in sequence: ■ LPH Unit (C) (REP 2.1, page 8-18) ■ LPH Cable Assembly ■ LPH Rear PWB (REP 2.4, page 8-22) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts, or initialize the NVM.
3	Check the following: ■ The connection between the Motor Drive PWB J518 and the LPH Rear PWB (C) J551 for open circuit, short circuit, and poor contact. ■ The connection between the LPH H PWB (C) J563 and the LPH (C) J571 for open circuit, short circuit, and poor contact (connection within the LPH Unit). ■ The connector (P/J579) between the LPH Rear PWB (C) and the LPH H PWB (C) for damage and debris. ■ The LPH Unit (C) for improper installation. Are they normal, without any short circuit, poor contact, and debris?	Replace the following parts in sequence: ■ LPH Unit (C) (REP 2.1, page 8-18) ■ LPH Cable Assembly ■ LPH Rear PWB (REP 2.4, page 8-22) ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts or, remove the debris.

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LPH Write Fail K

Communication error between MCU and LPH (data write error to LPH).

Note

If this error occurs, it is possible that the process have not been performed correctly because of other LPH Fail. If other LPH Fail had occurred, solving that other LPH Fail has a higher priority.

Applicable Chain-Link Code

- **061-369**: LPH Write Fail K

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (K), PL2.1.2 ■ LPH Cable Assy, PL2.2.1 ■ LPH Rear PWB (K). PL2.2.5 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Perform the **NVRAM Read/ Write** test in Diagnostics. Is the value 0?	Go to step 3.	Go to step 2.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
2	Check the following: ■ The Flat Cable between the MCU PWB J554 and the LPH Rear PWB (K) J558 for open circuit, short circuit, and poor contact. ■ The Flat Cable between the LPH H PWB (K) J566 and the LPH (K) J574 for open circuit, short circuit, and poor contact (connection within the LPH Unit). ■ The connector (P/J578) between the LPH Rear PWB (K) and the LPH H PWB (K) for damage and debris. ■ The LPH Unit (K) for improper installation. ■ The Drum/ Deve Drive Motor (Y, M, C) for improper installation (affected by the noises caused by improper installation). ■ The NVM value for corruption. Are they normal, without any short circuit, poor contact, or corruption?	Replace the following parts in sequence: ■ LPH Unit (K) (REP 2.1, page 8-18) ■ LPH Cable Assembly ■ LPH Rear PWB (REP 2.4, page 8-22) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts, or initialize the NVM.
3	Check the following: ■ The connection between the Motor Drive PWB J518 and the LPH Rear PWB (K) J550 for open circuit, short circuit, and poor contact. ■ The connection between the LPH H PWB (K) J562 and the LPH (K) J570 for open circuit, short circuit, and poor contact (connection within the LPH Unit). ■ The connector (P/J578) between the LPH Rear PWB (K) and the LPH H PWB (K) for damage and debris. ■ The LPH Unit (K) for improper installation. Are they normal, without any short circuit, poor contact, and debris?	Replace the following parts in sequence: ■ LPH Unit (K) (REP 2.1, page 8-18) ■ LPH Cable Assembly ■ LPH Rear PWB (REP 2.4, page 8-22) ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts or, remove the debris.

LPH Act Fail Y

Communication error between MCU and LPH (error in the communication IC or cable).

Applicable Chain-Link Code

- **061-370**: LPH Act Fail Y

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (Y), PL2.1.2 ■ LPH Cable Assy, PL2.2.1 ■ LPH Rear PWB (Y). PL2.2.5 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the timing at when this error occurs. Does this error occur right after the power is turned On?	Go to step 2.	If the error occurs when the Imaging Unit is rotating, it is very likely due to the noise caused by high voltage leak. Check the Imaging Unit (Y, M, C, K) for improper installation.
2	Check the Fault History. Have multiple errors occurred?	Replace the MCU PWB (REP 18.12, page 8-202).	Go to step 3.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
3	Check the following: ■ The Flat Cable between the MCU PWB J556 and the LPH Rear PWB (M) J560 for open circuit, short circuit, and poor contact. ■ The Flat Cable between the LPH H PWB (M) J568 and the LPH (M) J576 for open circuit, short circuit, and poor contact (connection within the LPH Unit). ■ The connector (P/J580) between the LPH Rear PWB (M) and the LPH H PWB (M) for damage and debris. ■ The LPH Unit (M) for improper installation. ■ The Drum/ Deve Drive Motor (Y, M, C) for improper installation (affected by the noises caused by improper installation). Are they normal, without any short circuit, poor contact, and debris?	Replace the following parts in sequence: ■ LPH Unit (Y) (REP 2.1, page 8-18) ■ LPH Cable Assembly ■ LPH Rear PWB (REP 2.4, page 8-22) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts or, remove the debris.

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LPH Act Fail M

Communication error between MCU and LPH (error in the communication IC or cable).

Applicable Chain-Link Code

- **061-371**: LPH Act Fail M

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (M), PL2.1.2 ■ LPH Cable Assy, PL2.2.1 ■ LPH Rear PWB (M). PL2.2.5 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the timing at when this error occurs. Does this error occur right after the power is turned On?	Go to step 2.	If the error occurs when the Imaging Unit is rotating, it is very likely due to the noise caused by high voltage leak. Check the Imaging Unit (Y, M, C, K) for improper installation.
2	Check the Fault History. Have multiple errors occurred?	Replace the MCU PWB (REP 18.12, page 8-202).	Go to step 3.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
3	Check the following: ■ The Flat Cable between the MCU PWB J556 and the LPH Rear PWB (M) J560 for open circuit, short circuit, and poor contact. ■ The Flat Cable between the LPH H PWB (M) J568 and the LPH (M) J576 for open circuit, short circuit, and poor contact (connection within the LPH Unit). ■ The connector (P/J580) between the LPH Rear PWB (M) and the LPH H PWB (M) for damage and debris. ■ The LPH Unit (M) for improper installation. ■ The Drum/ Deve Drive Motor (Y, M, C) for improper installation (affected by the noises caused by improper installation). Are they normal, without any short circuit, poor contact, and debris?	Replace the following parts in sequence: ■ LPH Unit (M) (REP 2.1, page 8-18) ■ LPH Cable Assembly ■ LPH Rear PWB (REP 2.4, page 8-22) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts or, remove the debris.

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LPH Act Fail C

Communication error between MCU and LPH (error in the communication IC or cable).

Applicable Chain-Link Code

- **061-372**: LPH Act Fail C

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (C), PL2.1.2 ■ LPH Cable Assy, PL2.2.1 ■ LPH Rear PWB (C). PL2.2.5 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the timing at when this error occurs. Does this error occur right after the power is turned On?	Go to step 2.	If the error occurs when the Imaging Unit is rotating, it is very likely due to the noise caused by high voltage leak. Check the Imaging Unit (Y, M, C, K) for improper installation.
2	Check the Fault History. Have multiple errors occurred?	Replace the MCU PWB (REP 18.12, page 8-202).	Go to step 3.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
3	Check the following: ■ The Flat Cable between the MCU PWB J555 and the LPH Rear PWB (C) J559 for open circuit, short circuit, and poor contact. ■ The Flat Cable between the LPH H PWB (C) J567and the LPH (C) J575 for open circuit, short circuit, and poor contact (connection within the LPH Unit). ■ The connector (P/J579) between the LPH Rear PWB (C) and the LPH H PWB (C) for damage and debris. ■ The LPH Unit (C) for improper installation. ■ The Drum/ Deve Drive Motor (Y, M, C) for improper installation (affected by the noises caused by improper installation). Are they normal, without any short circuit, poor contact, and debris?	Replace the following parts in sequence: ■ LPH Unit (C) (REP 2.1, page 8-18) ■ LPH Cable Assembly ■ LPH Rear PWB (REP 2.4, page 8-22) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts or, remove the debris.

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LPH Act Fail K

Communication error between MCU and LPH (error in the communication IC or cable).

Applicable Chain-Link Code

- **061-373**: LPH Act Fail K

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (K), PL2.1.2 ■ LPH Cable Assy, PL2.2.1 ■ LPH Rear PWB (K). PL2.2.5 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the timing at when this error occurs. Does this error occur right after the power is turned On?	Go to step 2.	If the error occurs when the Imaging Unit is rotating, it is very likely due to the noise caused by high voltage leak. Check the Imaging Unit (Y, M, C, K) for improper installation.
2	Check the Fault History. Have multiple errors occurred?	Replace the MCU PWB (REP 18.12, page 8-202).	Go to step 3.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
3	Check the following: ■ The Flat Cable between the MCU PWB J554 and the LPH Rear PWB (K) J558 for open circuit, short circuit, and poor contact. ■ The Flat Cable between the LPH H PWB (K) J566and the LPH (K) J574 for open circuit, short circuit, and poor contact (connection within the LPH Unit). ■ The connector (P/J578) between the LPH Rear PWB (K) and the LPH H PWB (K) for damage and debris. ■ The LPH Unit (K) for improper installation. ■ The Drum/ Deve Drive Motor (Y, M, C) for improper installation (affected by the noises caused by improper installation). Are they normal, without any short circuit, poor contact, and debris?	Replace the following parts in sequence: ■ LPH Unit (K) (REP 2.1, page 8-18) ■ LPH Cable Assembly ■ LPH Rear PWB (REP 2.4, page 8-22) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts or, remove the debris.

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LPH Chip Fail Y

Open circuit detected in LPH (open circuit between DELSOL and SLED).

Applicable Chain-Link Code

- **061-374**: LPH Chip Fail Y

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (Y), PL2.1.2	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Fault History. Check whether any error related to connection failure of the Flat Cable between the MCU PWB J557 and the LPH Rear PWB (Y) J561 has occurred. Has any Chain No. 061 Fail (other than LPH Chip Fail) occurred?	Go to the Chain No. 061 Fail (other than LPH Chip Fail) troubleshooting.	Replace the LPH Unit (Y) (REP 2.1, page 8-18).

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LPH Chip Fail M

Open circuit detected in LPH (open circuit between DELSOL and SLED).

Applicable Chain-Link Code

- **061-375**: LPH Chip Fail M

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (M), PL2.1.2	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Fault History. Check whether any error related to connection failure of the Flat Cable between the MCU PWB J556 and the LPH Rear PWB (Y) J560 has occurred. Has any Chain No. 061 Fail (other than LPH Chip Fail) occurred?	Go to the Chain No. 061 Fail (other than LPH Chip Fail) troubleshooting.	Replace the LPH Unit (M) (REP 2.1, page 8-18).

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LPH Chip Fail C

Open circuit detected in LPH (open circuit between DELSOL and SLED).

Applicable Chain-Link Code

- **061-376**: LPH Chip Fail C

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (C), PL2.1.2	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Fault History. Check whether any error related to connection failure of the Flat Cable between the MCU PWB J555 and the LPH Rear PWB (Y) J559 has occurred. Has any Chain No. 061 Fail (other than LPH Chip Fail) occurred?	Go to the Chain No. 061 Fail (other than LPH Chip Fail) troubleshooting.	Replace the LPH Unit (C) (REP 2.1, page 8-18).

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LPH Chip Fail K

Open circuit detected in LPH (open circuit between DELSOL and SLED).

Applicable Chain-Link Code

- **061-377**: LPH Chip Fail K

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (K), PL2.1.2	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Fault History. Check whether any error related to connection failure of the Flat Cable between the MCU PWB J554 and the LPH Rear PWB (Y) J558 has occurred. Has any Chain No. 061 Fail (other than LPH Chip Fail) occurred?	Go to the Chain No. 061 Fail (other than LPH Chip Fail) troubleshooting.	Replace the LPH Unit (K) (REP 2.1, page 8-18).

LPH PLL Lock Fail Y

LPH PLL lock mechanism failure.

Applicable Chain-Link Codes

- **061-386**: LPH PLL Lock Fail Y

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (Y), PL2.1.2 ■ LPH Cable Assy, PL2.2.1 ■ LPH Rear PWB (Y), PL2.2.5 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Fault History. Check whether 061-354 LPH Download Fail Y has occurred. Has error 061-354 occurred?	Go to "LPH Download Data Fail Y" on page 3-151 (error code 061-354).	Replace the following parts in sequence: ■ LPH Unit (Y) (REP 2.1, page 8-18) ■ LPH Cable Assembly ■ LPH Rear PWB (Y) (REP 2.4, page 8-22) ■ MCU PWB (REP 18.12, page 8-202)

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LPH PLL Lock Fail M

LPH PLL lock mechanism failure.

Applicable Chain-Link Code

- **061-387**: LPH PLL Lock Fail M

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (M), PL2.1.2 ■ LPH Cable Assy, PL2.2.1 ■ LPH Rear PWB (M), PL2.2.5 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Fault History. Check whether 061-355 LPH Download Fail Y has occurred. Has error 061-355 occurred?	Go to "LPH Download Data Fail M" on page 3-153 (error code 061-355).	Replace the following parts in sequence: ■ LPH Unit (M) (REP 2.1, page 8-18) ■ LPH Cable Assembly ■ LPH Rear PWB (M) (REP 2.4, page 8-22) ■ MCU PWB (REP 18.12, page 8-202)

LPH PLL Lock Fail C

LPH PLL lock mechanism failure.

Applicable Chain-Link Code

- **061-388**: LPH PLL Lock Fail C

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (C), PL2.1.2 ■ LPH Cable Assy, PL2.2.1 ■ LPH Rear PWB (C), PL2.2.5 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Fault History. Check whether 061-356 LPH Download Fail Y has occurred. Has error 061-356 occurred?	Go to "LPH Download Data Fail C" on page 3-155 (error code 061-356).	Replace the following parts in sequence: ■ LPH Unit (C) (REP 2.1, page 8-18) ■ LPH Cable Assembly ■ LPH Rear PWB (C) (REP 2.4, page 8-22) ■ MCU PWB (REP 18.12, page 8-202)

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LPH PLL Lock Fail K

LPH PLL lock mechanism failure.

Applicable Chain-Link Codes

- **061-389**: LPH PLL Lock Fail K

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (K), PL2.1.2 ■ LPH Cable Assy, PL2.2.1 ■ LPH Rear PWB (K), PL2.2.5 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Fault History. Check whether 061-357 LPH Download Fail Y has occurred. Has error 061-357 occurred?	Go to "LPH Download Data Fail K" on page 3-157 (error code 061-357).	Replace the following parts in sequence: ■ LPH Unit (K) (REP 2.1, page 8-18) ■ LPH Cable Assembly ■ LPH Rear PWB (K) (REP 2.4, page 8-22) ■ MCU PWB (REP 18.12, page 8-202)

LPH Latch Timing Fail Y/ LPH FFC Connect Fail Y

LPH latch timing correction error.

The FFC connector is detected to have poor contact during LPH latch timing control.

Note

Because this error is detected for each color at every cycle-up, perform at least four jobs after turning the power Off and On.

Applicable Chain-Link Codes

- **061-390**: LPH FFC Connect Posi Fail Y
- **061-394**: LPH FFC Connect Nega Fail Y

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (Y), PL2.1.2 ■ LPH Cable Assy, PL2.2.1 ■ LPH Rear PWB (Y), PL2.2.5 ■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Check the following:
   - The Flat Cable between the MCU PWB J557 and the LPH Rear PWB (Y) J561 for open circuit, short circuit, and poor contact.
   - The Flat Cable between the LPH H PWB (Y) J569 and the LPH (Y) J577 for open circuit, short circuit, and poor contact (connection within the LPH Unit).
   - The connector (P/J581) between the LPH Rear PWB (Y) and the LPH H PWB (Y) for damage and debris.
   - The LPH Unit (Y) for improper installation.
3. If no problems are found, replace the following parts in sequence:
   - LPH Unit (Y) (REP 2.1, page 8-18)
   - LPH Cable Assembly
   - LPH Rear PWB (Y) (REP 2.4, page 8-22)
   - MCU PWB (REP 18.12, page 8-202)

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LPH Latch Timing Fail M/ LPH FFC Connect Fail M

LPH latch timing correction error.

The FFC connector is detected to have poor contact during LPH latch timing control.

Note

Because this error is detected for each color at every cycle-up, perform at least four jobs after turning the power Off and On.

Applicable Chain-Link Codes

- **061-391**: LPH FFC Connect Posi Fail M
- **061-395**: LPH FFC Connect Nega Fail M

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (M), PL2.1.2 ■ LPH Cable Assy, PL2.2.1 ■ LPH Rear PWB (M), PL2.2.5 ■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Check the following:
   - The Flat Cable between the MCU PWB J556 and the LPH Rear PWB (M) J560 for open circuit, short circuit, and poor contact.
   - The Flat Cable between the LPH H PWB (M) J568 and the LPH (M) J576 for open circuit, short circuit, and poor contact (connection within the LPH Unit).
   - The connector (P/J580) between the LPH Rear PWB (M) and the LPH H PWB (M) for damage and debris.
   - The LPH Unit (M) for improper installation.
3. If no problems are found, replace the following parts in sequence:
   - LPH Unit (M) (REP 2.1, page 8-18)
   - LPH Cable Assembly
   - LPH Rear PWB (M) (REP 2.4, page 8-22)
   - MCU PWB (REP 18.12, page 8-202)

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LPH Latch Timing Fail C/ LPH FFC Connect Fail C

LPH latch timing correction error.

The FFC connector is detected to have poor contact during LPH latch timing control.

Note

Because this error is detected for each color at every cycle-up, perform at least four jobs after turning the power Off and On.

Applicable Chain-Link Codes

- **061-392**: LPH FFC Connect Posi Fail C
- **061-396**: LPH FFC Connect Nega Fail C

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (C), PL2.1.2 ■ LPH Cable Assy, PL2.2.1 ■ LPH Rear PWB (C), PL2.2.5 ■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Check the following:
   - The Flat Cable between the MCU PWB J555 and the LPH Rear PWB (C) J559 for open circuit, short circuit, and poor contact.
   - The Flat Cable between the LPH H PWB (C) J567 and the LPH (C) J575 for open circuit, short circuit, and poor contact (connection within the LPH Unit).
   - The connector (P/J579) between the LPH Rear PWB (C) and the LPH H PWB (C) for damage and debris.
   - The LPH Unit (C) for improper installation.
3. If no problems are found, replace the following parts in sequence:
   - LPH Unit (C) (REP 2.1, page 8-18)
   - LPH Cable Assembly
   - LPH Rear PWB (C) (REP 2.4, page 8-22)
   - MCU PWB (REP 18.12, page 8-202)

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LPH Latch Timing Fail K/ LPH FFC Connect Fail K

LPH latch timing correction error.

The FFC connector is detected to have poor contact during LPH latch timing control.

Note

Because this error is detected for each color at every cycle-up, perform at least four jobs after turning the power Off and On.

Applicable Chain-Link Codes

- **061-393**: LPH FFC Connect Posi Fail K
- **061-397**: LPH FFC Connect Nega Fail K

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (K), PL2.1.2 ■ LPH Cable Assy, PL2.2.1 ■ LPH Rear PWB (K), PL2.2.5 ■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Check the following:
   - The Flat Cable between the MCU PWB J554 and the LPH Rear PWB (K) J558 for open circuit, short circuit, and poor contact.
   - The Flat Cable between the LPH H PWB (K) J566 and the LPH (K) J574 for open circuit, short circuit, and poor contact (connection within the LPH Unit).
   - The connector (P/J578) between the LPH Rear PWB (K) and the LPH H PWB (K) for damage and debris.
   - The LPH Unit (K) for improper installation.
3. If no problems are found, replace the following parts in sequence:
   - LPH Unit (K) (REP 2.1, page 8-18)
   - LPH Cable Assembly
   - LPH Rear PWB (K) REP 2.4, (page 8-22)
   - MCU PWB (REP 18.12, page 8-202)

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BITZ1 Initialize Fail/ BITZ2 Initialize Fail

The Bitz1/ Bitz2 initialization error was detected. This is an error where the CPU is unable to access the memory and the register of the ASIC BITZ (image processing chip for YM) that is installed on the MCU PWB.

Applicable Chain-Link Codes

- **061-398**: BITZ1 Initialize Fail
- **061-399**: BITZ2 Initialize Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Replace the MCU PWB (REP 18.12, page 8-202).

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Bitz1 CONTIF Fail/ Bitz2 CONTIF Fail

An irregularity was detected in the Valid signal for Y or M color. The Valid signal, which is sent from the Controller to indicate the valid range of the fast scan, does not turn On at the given timing or turns On at an unscheduled timing.

An irregularity was detected in the Valid signal for C or K color. The Valid signal, which is sent from the Controller to indicate the valid range of the fast scan, does not turn On at the given timing or turns On at an unscheduled timing.

Applicable Chain-Link Codes

- **061-610**: Bitz1 CONTIF Fail
- **061-611**: Bitz2 CONTIF Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ BP PWB, PL18.3.2 ■ MCU PWB, PL18.3.6 ■ I/P Board, PL35.1.1	

1. Turn the power Off and On.
2. Check whether there is poor connection or debris at the following connectors.
   - Between BP PWB J460 and MCU PWB P451
   - Between BP PWB J335 and ESS PWB P335
3. If no problems are found, replace the following parts in sequence:
   - BP PWB (REP 18.11, page 8-200)
   - MCU PWB (REP 18.12, page 8-202)
   - I/P PWB (REP 35.1, page 8-220)

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Tray 2 Lift Up Fail

Tray 2 Lift Up Fail error has occurred.

Applicable Chain-Link Codes

- **071-210**: # 2 Lift Up Fail 3 times in a Row
- **071-940**: # 2 Lift Up Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Tray 2 Feed/ Lift Up Motor, PL9.4.3 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Remove Tray 2. Perform the **Paper Feed Motors** test in Diagnostics. Does the Tray 2 Feed/ Lift Up Motor rotate?	Go to step 5.	Go to step 2.
2	Is the voltage between the Motor Drive PWB J520-9 (+) and the GND (-) +24VDC?	Go to step 3.	Go to "+24 VDC Power" on page 4-16 for troubleshooting procedure.
3	Turn Off the power, then measure the Tray 2 Feed/ Lift Up Motor wire resistance. Remove the Tray 2 Feed/ Lift Up Motor, then measure the following resistances. ■ Between J268 pin-1 and J268 pin-2 ■ Between J268 pin-3 and J268 pin-4 Is the resistance approximately 4 Ohm for each?	Go to step 4.	Replace the Tray 2 Feed/ Lift Up Motor (REP 9.10, page 8-85).

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
4	Check the connection between the Motor Drive PWB J513 and the Tray 2 Feed/ Lift Up Motor J268 for open circuit, short circuit, and poor contact. Is it conducting properly?	Replace the following parts in sequence: ■ Motor Drive PWB (REP 18.10, page 8-197) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.
5	Perform the **Tray 2 Sensors** test in Diagnostics. Use a sheet of paper, etc. to block/ clear the light path to the Tray 2 Nudger Level Sensor. Does the display [071-102] change between High/ Low?	Go to step 6.	Refer to "General Sensor Failure" on page 3-28 to check the Tray 1 Nudger Level Sensor.
6	Check the Tray Lift Up Gear for damage or the Tray Lift Up mechanism for mechanical load. Is it normal, without damage or loading?	Replace the following parts in sequence: ■ Motor Drive PWB (REP 18.10, page 8-197) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have damage or loading.

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Tray 2 Paper Size Sensor Broken

Abnormal output AD value from Tray 2 Size Sensor was detected.

Applicable Chain-Link Code

- **071-212**: Tray 2 Sensor Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU PWB, PL18.3.6	

1. Perform the following task:
   - Check the bottom of the Tray for broken link and damage.
   - Check the Actuator at the rear of the Tray for operation failure.
   - Perform the **Tray 2 Sensors** test in Diagnostics (PL 9.1.6).
   - Check the connection between the Tray 2 Paper Size Sensor J174 and the MCU PWB J417 for open circuit, short circuit, and poor contact.
2. If no problems are found, replace the MCU PWB (REP 18.12, page 8-202).

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Tray 3 Lift Up Fail

Tray 3 Lift Up Fail error has occurred.

Applicable Chain-Link Codes

- **072-210**: #3 Lift Up Fail 3 times in a Row
- **072-940**: #3 Lift Up Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Tray 3/4/5 Feed/Lift Up Motor, PL10.3.3 ■ Tray Module PWB, PL10.9.1 ■ STM PWB, PL11.5.4 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7 ■ TM Relay PWB, PL18.3.11	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Remove Tray 3. Perform the **Paper Feed Motors** test in Diagnostics. Does the Tray 3 Feed/ Lift Up Motor rotate?	Go to step 5.	Go to step 2.
2	**When 3TM is connected**: Is the voltage between the Tray Module PWB J541-10 (+) and the GND (-) +24VDC? **When STM is connected**: Is the voltage between the STM PWB J541-8 (+) and the GND (-) +24VDC?	Go to step 3.	Go to "+24 VDC Power" on page 4-16 for troubleshooting procedure.

Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
3	Turn Off the power, then measure the Tray 3 Feed/ Lift Up Motor wire resistance. Remove the Tray 3 Feed/ Lift Up Motor, then measure the following resistances. ■ Between J221 pin-1 and J221 pin-2 ■ Between J221 pin-3 and J221 pin-4 Is the resistance approximately 4 Ohm for each?	Go to step 4.	Replace the Tray 3 Feed/ Lift Up Motor (REP 10.3, page 8-93).
4	**When 3TM is connected**: Check the connection between the Tray Module PWB J550 and the Tray 3 Feed/ Lift Up Motor J221 for open circuit, short circuit, and poor contact. **When STM is connected**: Check the connection between the STM PWB J550 and the Tray 3 Feed/Lift Up Motor J221 for open circuit, short circuit, and poor contact. Is it conducting properly?	Replace the following parts in sequence: **When 3TM is connected**: ■ Tray Module PWB (REP 10.9, page 8-97) **When STM is connected**: ■ STM PWB (REP 11.10, page 8-120) ■ TM Relay PWB (REP 18.14, page 8-205) ■ Motor Drive PWB (REP 18.10, page 8-197) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.
5	Perform the **Tray 3 Sensors** test in Diagnostics. Use a sheet of paper, etc. to block/ clear the light path to the Tray 3 Nudger Level Sensor. Does the display change between High/ Low?	Go to step 6.	Go to "General Sensor Failure" on page 3-28 to check the Tray 2 Nudger Level Sensor.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
6	Check the Tray Lift Up Gear for damage or the Tray Lift Up mechanism for mechanical load. Is it normal, without damage or loading?	Replace the following parts in sequence: **When 3TM is connected**: Tray Module PWB (REP 10.9, page 8-97) **When STM is connected**: ■ STM PWB (REP 11.10, page 8-120) ■ TM Relay PWB (REP 18.14, page 8-205) ■ Motor Drive PWB (REP 18.10, page 8-197) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have damage or loading.

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Tray 3 Paper Size Sensor Broken

Abnormal output AD value from Tray 3 Size Sensor was detected.

Applicable Chain-Link Code

- **072-212**: Tray 3 Sensor Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Tray Module PWB, PL10.9.1 ■ STM PWB, PL11.5.4 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7 ■ TM Relay PWB, PL18.3.11	

1. Perform the following steps:
   - Check the bottom of the Tray for broken link and damage.
   - Check the Actuator at the rear of the Tray for operation failure.
   - Perform the **Tray 3 Sensors** test in Diagnostics.
   - When 3TM is connected, check the connection between the Tray 3 Paper Size Sensor J101 and the Tray Module PWB J549 for open circuit, short circuit, and poor contact.
   - When STM is connected, the connection between the Tray 3 Paper Size Sensor J101 and the STM PWB J548 for open circuit, short circuit, and poor contact.
2. If no problems are found, replace the following parts in sequence:
   - When 3TM is connected: Tray Module PWB (REP 10.9, page 8-97)
   - When STM is connected: STM PWB (REP 11.10, page 8-120)
   - TM Relay PWB (REP 18.14, page 8-205)
   - Motor Drive PWB (REP 18.10, page 8-197)
   - MCU PWB (REP 18.12, page 8-202)

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Tray 4 Lift Up Fail

Tray 4 Lift Up error has occurred.

Applicable Chain-Link Codes

- **073-210**: #4 Lift Up Fail 3 Times in a Row
- **073-940**: #4 Lift Up Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Tray 3/4/5 Feed/Lift Up Motor, PL10.3.3 ■ Tray Module PWB, PL10.9.1 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7 ■ TM Relay PWB, PL18.3.11	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Remove Tray 4. Perform the **Paper Feed Motors** test in Diagnostics. Does the Tray 4 Feed/ Lift Up Motor rotate?	Go to step 5.	Go to step 2.
2	Is the voltage between the Tray Module PWB J541-10 (+) and the GND (-) +24VDC?	Go to step 3.	Go to "+24 VDC Power" on page 4-16 for troubleshooting procedure.

Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
3	Turn Off the power, then measure the Tray 4 Feed/ Lift Up Motor wire resistance. Remove the Tray 4 Feed/ Lift Up Motor, then measure the following resistances. ■ Between J222 pin-1 and J222 pin-2 ■ Between J222 pin-3 and J222 pin-4 Is the resistance approximately 4 Ohm for each?	Go to step 4.	Replace the Tray 4 Feed/ Lift Up Motor (REP 10.3, page 8-93).
4	Check the connection between the Tray Module PWB J550 and the Tray 4 Feed/Lift Up Motor J222 for open circuit, short circuit, and poor contact. Is it conducting properly?	Replace the following parts in sequence: ■ Tray Module PWB (REP 10.9, page 8-97) ■ TM Relay PWB (REP 18.14, page 8-205) ■ Motor Drive PWB (REP 18.10, page 8-197) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.
5	Perform the **Tray 4 Sensors** test in Diagnostics. Use a sheet of paper, etc. to block/ clear the light path to the Tray 4 Nudger Level Sensor. Does the display change between High/ Low?	Go to step 6.	Go to "General Sensor Failure" on page 3-28 to check the Tray 2 Nudger Level Sensor.
6	Check the Tray Lift Up Gear for damage or the Tray Lift Up mechanism for mechanical load. Is it normal, without damage or loading?	Replace the following parts in sequence: ■ Tray Module PWB (REP 10.9, page 8-97) ■ TM Relay PWB (REP 18.14, page 8-205) ■ Motor Drive PWB (REP 18.10, page 8-197) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have damage or loading.

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Tray 4 Paper Size Sensor Broken

Abnormal output AD value from Tray 4 Size Sensor was detected.

Applicable Chain-Link Code

- **073-212**: Tray 4 Sensor Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Tray Module PWB, PL10.9.1 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7 ■ TM Relay PWB, PL18.3.11	

1. Perform the following steps:
   - Check the bottom of the Tray for broken link and damage.
   - Check the Actuator at the rear of the Tray for operation failure.
   - Perform the **Tray 4 Sensors** test in Diagnostics.
   - Check the connection between the Tray 4 Paper Size Sensor J102 and the Tray Module PWB J549 for open circuit, short circuit, and poor contact.
2. If no problems are found, replace the following parts in sequence:
   - Tray Module PWB (REP 10.9, page 8-97)
   - TM Relay PWB (REP 18.14, page 8-205)
   - Motor Drive PWB (REP 18.10, page 8-197)
   - MCU PWB (REP 18.12, page 8-202)

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Tray 5 Lift Up Fail

Tray 5 Lift Up error has occurred.

Applicable Chain-Link Codes

- **074-210**: #5 Lift Up Fail 3 Times in a Row
- **074-940**: #5 Lift Up Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Tray 3/4/5 Feed/Lift Up Motor, PL10.3.3 ■ Tray Module PWB, PL10.9.1 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7 ■ TM Relay PWB, PL18.3.11	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Remove Tray 5. Perform the **Paper Feed Motors** test in Diagnostics. Does the Tray 5 Feed/ Lift Up Motor rotate?	Go to step 5.	Go to step 2.
2	Is the voltage between the Tray Module PWB J541-10 (+) and the GND (-) +24VDC?	Go to step 3.	Go to "+24 VDC Power" on page 4-16 for troubleshooting procedure.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
3	Turn Off the power, then measure the Tray 5 Feed/ Lift Up Motor wire resistance. Remove the Tray 5 Feed/ Lift Up Motor, then measure the following resistances. ■ Between J223 pin-1 and J223 pin-2 ■ Between J223 pin-3 and J223 pin-4 Is the resistance approximately 4 Ohm for each?	Go to step 4.	Replace the Tray 5 Feed/ Lift Up Motor (REP 10.3, page 8-93).
4	Check the connection between the Tray Module PWB J550 and the Tray 5 Feed/ Lift Up Motor J223 for open circuit, short circuit, and poor contact. Is it conducting properly?	Replace the following parts in sequence: ■ Tray Module PWB (REP 10.9, page 8-97) ■ TM Relay PWB (REP 18.14, page 8-205) ■ Motor Drive PWB (REP 18.10, page 8-197) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.
5	Perform the **Tray 5 Sensors** test in Diagnostics. Use a sheet of paper, etc. to block/ clear the light path to the Tray 5 Nudger Level Sensor. Does the display change between High/ Low?	Go to step 6.	Go to "General Sensor Failure" on page 3-28 to check the Tray 2 Nudger Level Sensor.
6	Check the Tray Lift Up Gear for damage or the Tray Lift Up mechanism for mechanical load. Is it normal, without damage or loading?	Replace the following parts in sequence: ■ Tray Module PWB (REP 10.9, page 8-97) ■ TM Relay PWB (REP 18.14, page 8-205) ■ Motor Drive PWB (REP 18.10, page 8-197) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have damage or loading.

Tray 5 Paper Size Sensor Broken

Abnormal output AD value from Tray 5 Size Sensor was detected.

Applicable Chain-Link Code

- **074-212**: Tray 5 Sensor Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Tray Module PWB, PL10.9.1 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7 ■ TM Relay PWB, PL18.3.11	

1. Perform the following steps:
   - Check the bottom of the Tray for broken link and damage.
   - Check the Actuator at the rear of the Tray for operation failure.
   - Perform the **Tray 5 Sensors** test in Diagnostics.
   - Check the connection between the Tray 5 Paper Size Sensor J103 and the Tray Module PWB J549 for open circuit, short circuit, and poor contact.
2. If no problems are found, replace the following parts in sequence:
   - Tray Module PWB (REP 10.9, page 8-97)
   - TM Relay PWB (REP 18.14, page 8-205)
   - Motor Drive PWB (REP 18.10, page 8-197)
   - MCU PWB (REP 18.12, page 8-202)

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Tray 1 Nudger Up Down Fail

The Tray 1 Nudger Position Sensor does not change within the specified time after the Tray 1 Nudger Up or Down operation has started.

Applicable Chain-Link Code

- **075-212**: MSI Nudger up down Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7 ■ MPT Feed/ Nudger Motor, PL13.2.18	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Perform the **Paper Feed Motors** test in Diagnostics. Does the Tray 1 Feed/ Nudger Motor rotate?	Go to step 5.	Go to step 2.
2	Is the voltage between the Motor Drive PWB J520-1 (+) and the GND (-) +24VDC?	Go to step 3.	Go to "+24 VDC Power" on page 4-16 for troubleshooting procedure.
3	Turn Off the power, then measure the Tray 1 Feed/ Nudger Motor wire wound resistance. Remove the Tray 1 Feed/ Nudger Motor, then measure the following resistances. ■ Between J269 pin-1 and J269 pin-2 ■ Between J269 pin-3 and J269 pin-4 Is the resistance approximately 4 Ohm for each?	Go to step 4.	Replace the Tray 1 Feed/ Nudger Motor (REP 13.3, page 8-132).

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
4	Check the connection between the Motor Drive PWB J513 and Tray 1 Feed/ Nudger Motor J269 for open circuit, short circuit, and poor contact. Is it conducting properly?	Replace the following parts in sequence: ■ Motor Drive PWB (REP 18.10, page 8-197) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.
5	Perform the **Tray 1 (MPT) Sensors** test in Diagnostics. Move the Shielding Board to block/ clear the light path to the Tray 1 Nudger Position Sensor. Does the display of change between High/ Low?	Go to step 6.	Go to "General Sensor Failure" on page 3-28 to check the Tray 1 Nudger Position Sensor.
6	Check the Tray 1 Nudger Roll Up/ Down mechanism for mechanical loading, the springs for deformation or snags. Are they normal, without loading, deformation, or snags?	Replace the following parts in sequence: ■ Motor Drive PWB (REP 18.10, page 8-197) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have loading, deformation, or snags.

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Tray Module Kind Mismatch

I/F mismatch between the IOT and the Tray Module was detected.

Applicable Chain-Link Code

- **077-211**: Tray Module Kind Mis-match (Incorrect Tray Module from another product)

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Tray Module PWB, PL10.9.1 ■ STM PWB, PL11.5.4 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7 ■ STM Relay PWB, PL18.3.11	

1. Check the DIP Switch setting on the 3TM or STM module.
   - On the 3TM, all DIP switches should be On.
   - On the STM, only switch 2 should be On.
2. Check the following connections for open circuits, short circuits, and poor contacts.
   - Between the Motor Drive PWB J509 and the TM Relay PWB J801
   - When 3TM is connected: Between the TM Relay PWB J800 and the Tray Module PWB J541
   - When STM is connected: Between the TM Relay PWB J800 and the STM PWB J541
3. If no problems are found, replace the following parts in sequence:
   - When 3TM is connected: Tray Module PWB (REP 10.9, page 8-97)
   - When STM is connected: STM PWB (REP 11.10, page 8-120)
   - STM Relay PWB (REP 18.14, page 8-205)
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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Tray Module Reset Fail

The Tray Module reset was detected.

Applicable Chain-Link Code

- **077-212**: Tray Module Reset Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Tray Module PWB, PL10.9.1 ■ STM PWB, PL11.5.4 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7 ■ STM Relay PWB, PL18.3.11	

1. Turn the power Off and On.
2. Check the following connections for open circuits, short circuits, and poor contacts.
   - Between the Motor Drive PWB J509 and the TM Relay PWB J801
   - **When 3TM is connected**: Between the TM Relay PWB J800 and the Tray Module PWB J541
   - **When STM is connected**: Between the TM Relay PWB J800 and the STM PWB J541
3. Check voltage of the following:
   - **When 3TM is connected**: the voltage between the Tray Module PWB J541-12 (+) and the GND(-) is +5VDC while the voltage between the Tray Module PWB J541-10 (+) and the GND(-) is +24VDC
   - **When STM is connected**: the voltage between the Tray Module PWB J541-10 (+) and the GND(-) is +5VDC while the voltage between the STM PWB J541-8 (+) and the GND(-) is +24VDC
4. If no problems are found, replace the following parts in sequence:
   - When 3TM is connected: Tray Module PWB (REP 10.9, page 8-97)
   - When STM is connected: STM PWB (REP 11.10, page 8-120)
   - STM Relay PWB (REP 18.14, page 8-205)
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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Tray Module Logic Fail/ Tray Module Communication Fail

I/F mismatch between the IOT and the Tray Module was detected.
Communication error between Tray Module PWB and MCU PWB was detected.

Applicable Chain-Link Codes

- **077-214**: Tray Module Logic Fail
- **077-215**: Tray Module Comm Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Tray Module PWB, PL10.9.1 ■ STM PWB, PL11.5.4 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7 ■ STM Relay PWB, PL18.3.11	

1. Turn the power Off and On.
2. Check the following connections for open circuits, short circuits, and poor contacts.
   - Between the Motor Drive PWB J509 and the TM Relay PWB J801
   - When 3TM is connected: Between the TM Relay PWB J800 and the Tray Module PWB J541
   - When STM is connected: Between the TM Relay PWB J800 and the STM PWB J541
3. If no problems are found, replace the following parts in sequence:
   - When 3TM is connected: Tray Module PWB (REP 10.9, page 8-97)
   - When STM is connected: STM PWB (REP 11.10, page 8-120)
   - STM Relay PWB (REP 18.14, page 8-205)
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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Front Cover Interlock Open

The Front Cover is open.

Applicable Chain-Link Code

- **077-300**: Front Cover Open

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Perform the following steps:
   - Check the Front Cover for damage or mismatch.
   - Perform the **Interlocks** test in Diagnostics.
   - Check the connection between the Front Cover Interlock Switch J101 and the Motor Drive PWB J519 for open circuit, short circuit, and poor contact.
2. If no problems are found, replace the following parts in sequence:
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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L/H Cover Interlock Open

The L/H Cover is open.

Applicable Chain-Link Code

- **077-301**: Left Hand Cover Open

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Perform the following steps:
   - Check the L/H Cover Unit for damage or mismatch.
   - Perform the **Interlocks** test in Diagnostics.
   - Check the connection between the L/H Cover Interlock Switch J100 and the Motor Drive PWB J521 for open circuit, short circuit, and poor contact.
2. If no problems are found, replace the following parts in sequence:
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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Tray Module L/H Cover Open

The Tray Module L/H Cover is open.

Applicable Chain-Link Code

- **077-305**: TM Left Hand Cover Open

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Tray Module PWB, PL10.9.1 ■ STM PWB, PL11.5.4	

1. Turn the power Off and On.
2. Perform the following steps:
   - Check the Tray Module L/H Cover for damage or mismatch.
   - Perform the **Switches** test in Diagnostics.
   - When 3TM is connected: Check the connection between the Tray Module L/H Cover Switch J104 and the Tray Module PWB J549 for open circuit, short circuit, and poor contact.
   - When STM is connected: Check the connection between the Tray Module L/H Cover Switch J104 and the STM PWB J548 for open circuit, short circuit, and poor contact.
3. If no problems are found, replace the following parts in sequence:
   - When 3TM is connected: Tray Module PWB (REP 10.9, page 8-97)
   - When STM is connected: STM PWB (REP 11.10, page 8-120)

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Duplex Cover Open

The Duplex Cover Open was detected.

Applicable Chain-Link Code

- **077-307**: Duplex Cover Open

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Perform the following steps:
   - Check the Duplex Cover for damage or mismatch.
   - Perform the **Switches** test in Diagnostics.
   - Check the connection between the Duplex Cover Switch J176 and the Motor Drive PWB J524 for open circuit, short circuit, and poor contact.
2. If no problems are found, replace the following parts in sequence:
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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P/H Module Logic Fail

A fatal error was detected in the Tray Module.

Applicable Chain-Link Code

- **077-314**: P/H Module Logic Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Tray Module PWB, PL10.9.1 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7 ■ TM Relay PWB, PL18.3.11	

1. Turn the power Off and On.
2. Check the connections between the Motor Drive PWB J509 and the TM Relay PWB J801, as well as between the TM Relay PWB J800 and the Tray Module PWB J541 for open circuits, short circuits, and poor contacts.
3. If no problems are found, replace the following parts in sequence:
   - Tray Module PWB (REP 10.9, page 8-97)
   - TM Relay PWB (REP 18.14, page 8-205)
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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All Feed Tray Broken

All the Feed Trays that are connected to the IOT were detected to have malfunctioned.

Applicable Chain-Link Code

- **077-320**: All Feed Tray Broken

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References

1. Check the Fault History for error.
2. Go to the affected paper tray troubleshooting procedure.

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Transparency Sensor Fail

An abnormal value was detected from the Transparency Sensor.

Applicable Chain-Link Code

- **077-602**: OHP Sensor Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Perform the following steps:
   - Check the Transparency Sensor and Reflective Prism for contamination and improper installation.
   - Is the transparency used out of specification (refer to "Paper and Tray Specifications" on page 1-19)?
   - Perform the **OHP Sensor** test in Diagnostics.
   - Check the connection between the Transparency Sensor J161 and the Motor Drive PWB J515 for open circuit, short circuit, and poor contact.
2. If no problems are found, replace the following parts in sequence:
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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Paper Kind Mismatch (APS Job)

The specified paper type and the loaded paper type are different.

Applicable Chain-Link Code

- **077-967**: Paper kind mismatch (APS job)

Initial Actions

- Inspect the tray to ensure that it is free of obstructions, is loaded with supported paper, and the Guides are adjusted correctly.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References

1. Load the specified paper type or perform the Resume Print operation (check operation) by user intervention.
2. If the problem still persists, perform the "Common System Fail" on page 3-22.

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Paper Kind Mismatch, Job Continue

The specified paper type and the loaded paper type are different.

Applicable Chain-Link Code

- **077-968**: Paper kind mismatch, job continue

Initial Actions

- Inspect the tray to ensure that it is free of obstructions, is loaded with supported paper, and the Guides are adjusted correctly.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References

1. After loading the specified paper type by user intervention, perform the Resume Print operation (check operation).
2. If the problem still persists, perform the "Common System Fail" on page 3-22.

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RC Sample Lateral Fail-A1

There is an error with the Cyan fast scan position that is used as a reference during A1 (fine adjustment pattern) and C patch detection.

Applicable Chain-Link Code

- **089-600**: RC Sample Lateral Fail-A1

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ IBT Belt Unit, PL6.1.10	

Note

When multiple failures with Chain No. 089 occur, take action according to the priority order.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the installation status of the IBT Belt Unit. Is the IBT Belt Unit installed properly?	Replace the Belt Unit (REP 6.2, page 8-58).	Install the IBT Belt Unit properly.

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RC Sample Block Fail-A1-In/ RC Sample Block Fail-A1-Out

During the A1 (fine adjustment pattern) and C patch detection, the patch at the MOB Sensor In side did not satisfy the defined number of valid sample blocks.

During the A1 (fine adjustment pattern) and C patch detection, the patch at the MOB Sensor Out side did not satisfy the defined number of valid sample blocks.

Applicable Chain-Link Codes

- **089-601**: RC Sample Block Fail-A1-IN
- **089-603**: RC Sample Block Fail-A1-OUT

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MOB ADC Assy, PL18.1.4	

Note

When multiple failures with Chain No. 089 occur, take action according to the priority order.

1. Check the detection section of the MOB Sensor for contamination, the connectors for disconnection, and the connections for open circuit, short circuit, and poor contact.
2. If no problems are found, replace the MOB ADC Assembly (REP 18.3, page 8-189).

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RC Sample Block Fail-B-#1-In

During the B (rough adjustment pattern) patch detection, the #1 (Yellow) patch at the MOB Sensor In side did not satisfy the defined number of valid sample blocks.

Applicable Chain-Link Code

- **089-604**: RC Sample Block Fail-B-#1-IN

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Developer (Y), PL5.2.9 ■ IBT Belt Unit, PL6.1.10 ■ Imaging Unit (Y), PL8.1.4 ■ MOB ADC Assy, PL18.1.4 ■ MCU PWB, PL18.3.6	

Note

When multiple failures with Chain No. 089 occur, take action according to the priority order.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the density of Yellow color. Is the density of Yellow color normal?	Go to step 2.	Adjust to correct the density of Yellow color.
2	Check the connection between the MOB Sensor In J150 and the MCU PWB J415 for connector disconnection, open circuit, short circuit, and poor contact. Is the connection normal?	Go to step 3.	Connect the MOB Sensor In J150 to the MCU PWB J415 properly.
3	Check the Yellow color Magnet Roll for contamination, scratches, or distortion. Is the Magnet Roll normal?	Go to step 4.	Replace the Developer (Y) (PL5.2.9).
4	Check the IBT Belt for contamination, scratches, or distortion. Is the IBT Belt normal?	Go to step 5.	Replace the IBT Belt Unit (REP 6.2, page 8-58).

Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
5	Check the Yellow Imaging Unit for contamination, scratches, or distortion. Is the Imaging Unit normal?	Go to step 6.	Replace the Yellow Imaging Unit (REP 1.2, page 8-10).
6	Replace the MOB ADC Assembly (REP 18.3, page 8-189). Is the problem repaired?	Troubleshooting complete.	Replace the MCU PWB (REP 18.12, page 8-202).

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RC Sample Block Fail-B-#1-Out

During the B (rough adjustment pattern) patch detection, the #1 (Yellow) patch at the MOB Sensor Out side did not satisfy the defined number of valid sample blocks.

Applicable Chain-Link Code

- **089-606**: RC Sample Block Fail-B-#1-OUT

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Developer (Y), PL5.2.9 ■ IBT Belt Unit, PL6.1.10 ■ Imaging Unit (Y), PL8.1.4 ■ MOB ADC Assy, PL18.1.4 ■ MCU PWB, PL18.3.6	

Note

When multiple failures with Chain No. 089 occur, take action according to the priority order.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the density of Yellow color. Is the density of Yellow color normal?	Go to step 2.	Adjust to correct the density of Yellow color.
2	Check the connection between the MOB Sensor Out J151 and the MCU PWB J415 for connector disconnection, open circuit, short circuit, and poor contact. Is the connection normal?	Go to step 3.	Connect the MOB Sensor Out J151 to the MCU PWB J415 properly.
3	Check the Yellow color Magnet Roll for contamination, scratches, or distortion. Is the Magnet Roll normal?	Go to step 4.	Replace the Developer (Y) (PL5.2.9).

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
4	Check the IBT Belt for contamination, scratches, or distortion. Is the IBT Belt normal?	Go to step 5.	Replace the IBT Belt Unit (REP 6.2, page 8-58).
5	Check the Yellow Imaging Unit for contamination, scratches, or distortion. Is the Imaging Unit normal?	Go to step 6.	Replace the Yellow Imaging Unit (REP 1.2, page 8-10).
6	Replace the MOB ADC Assembly (REP 18.3, page 8-189). Is the problem repaired?	Troubleshooting complete.	Replace the MCU PWB (REP 18.12, page 8-202).

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RC Sample Block Fail-B-#2-In

During the B (rough adjustment pattern) patch detection, the #2 (Magenta) patch at the MOB Sensor In side did not satisfy the defined number of valid sample blocks.

Applicable Chain-Link Code

- **089-607**: RC Sample Block Fail-B-#2-IN

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Developer (M), PL5.2.8 ■ IBT Belt Unit, PL6.1.10 ■ Imaging Unit (M), PL8.1.4 ■ MOB ADC Assy, PL18.1.4 ■ MCU PWB, PL18.3.6	

Note

When multiple failures with Chain No. 089 occur, take action according to the priority order.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the density of Magenta color. Is the density of Magenta color normal?	Go to step 2.	Adjust to correct the density of Magenta color.
2	Check the connection between the MOB Sensor In J150 and the MCU PWB J415 for connector disconnection, open circuit, short circuit, and poor contact. Is the connection normal?	Go to step 3.	Connect the MOB Sensor In J150 to the MCU PWB J415 properly.
3	Check the Magenta color Magnet Roll for contamination, scratches, or distortion. Is the Magnet Roll normal?	Go to step 4.	Replace the Developer (M) (PL 5.2.8).

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
4	Check the IBT Belt for contamination, scratches, or distortion. Is the IBT Belt normal?	Go to step 5.	Replace the IBT Belt Unit (REP 6.2, page 8-58).
5	Check the Magenta Imaging Unit for contamination, scratches, or distortion. Is the Imaging Unit normal?	Go to step 6.	Replace the Magenta Imaging Unit (REP 1.2, page 8-10).
6	Replace the MOB ADC Assembly (REP 18.3, page 8-189). Is the problem repaired?	Troubleshooting complete.	Replace the MCU PWB (REP 18.12, page 8-202).

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RC Sample Block Fail-B-#2-Out

During the B (rough adjustment pattern) patch detection, the #2 (Magenta) patch at the MOB Sensor Out side did not satisfy the defined number of valid sample blocks.

Applicable Chain-Link Code

- **089-609**: RC Sample Block Fail-B-#2-OUT

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Developer (M), PL5.2.8 ■ IBT Belt Unit, PL6.1.10 ■ Imaging Unit (M), PL8.1.4 ■ MOB ADC Assy, PL18.1.4 ■ MCU PWB, PL18.3.6	

Note

When multiple failures with Chain No. 089 occur, take action according to the priority order.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the density of Magenta color. Is the density of Magenta color normal?	Go to step 2.	Adjust to correct the density of Magenta color.
2	Check the connection between the MOB Sensor Out J151 and the MCU PWB J415 for connector disconnection, open circuit, short circuit, and poor contact. Is the connection normal?	Go to step 3.	Connect the MOB Sensor Out J151 to the MCU PWB J415 properly.
3	Check the Magenta color Magnet Roll for contamination, scratches, or distortion. Is the Magnet Roll normal?	Go to step 4.	Replace the Developer (M) (PL5.2.8).

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
4	Check the IBT Belt for contamination, scratches, or distortion. Is the IBT Belt normal?	Go to step 5.	Replace the IBT Belt Unit (REP 6.2, page 8-58).
5	Check the Magenta Imaging Unit for contamination, scratches, or distortion. Is the Imaging Unit normal?	Go to step 6.	Replace the Magenta Imaging Unit (REP 1.2, page 8-10).
6	Replace the MOB ADC Assembly (REP 18.3, page 8-189). Is the problem repaired?	Troubleshooting complete.	Replace the MCU PWB (REP 18.12, page 8-202).

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RC Sample Block Fail-B-#3-In

During the B (rough adjustment pattern) patch detection, the #3 (Cyan) patch at the MOB Sensor In side did not satisfy the defined number of valid sample blocks.

Applicable Chain-Link Code

- **089-610**: RC Sample Block Fail-B-#3-IN

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Developer (C), PL5.2.7 ■ IBT Belt Unit, PL6.1.10 ■ Imaging Unit (M), PL8.1.4 ■ MOB ADC Assy, PL18.1.4 ■ MCU PWB, PL18.3.6	

Note

When multiple failures with Chain No. 089 occur, take action according to the priority order.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the density of Cyan color. Is the density of Cyan color normal?	Go to step 2.	Adjust to correct the density of Cyan color.
2	Check the connection between the MOB Sensor In J150 and the MCU PWB J415 for connector disconnection, open circuit, short circuit, and poor contact. Is the connection normal?	Go to step 3.	Connect the MOB Sensor In J150 to the MCU PWB J415 properly.
3	Check the Cyan color Magnet Roll for contamination, scratches, or distortion. Is the Magnet Roll normal?	Go to step 4.	Replace the Developer (C) (PL5.2.7).
4	Check the IBT Belt for contamination, scratches, or distortion. Is the IBT Belt normal?	Go to step 5.	Replace the IBT Belt Unit (REP 6.2, page 8-58).

Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
5	Check the Cyan Imaging Unit for contamination, scratches, or distortion. Is the Imaging Unit normal?	Go to step 6.	Replace the Cyan Imaging Unit (REP 1.2, page 8-10).
6	Replace the MOB ADC Assembly (REP 18.3, page 8-189). Is the problem repaired?	Troubleshooting complete.	Replace the MCU PWB (REP 18.12, page 8-202).

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RC Sample Block Fail-B-#3-Out

During the B (rough adjustment pattern) patch detection, the #3 (Cyan) patch at the MOB Sensor Out side did not satisfy the defined number of valid sample blocks.

Applicable Chain-Link Code

- **089-612**: RC Sample Block Fail-B-#3-OUT

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Developer (C), PL5.2.7 ■ IBT Belt Unit, PL6.1.10 ■ Imaging Unit (M), PL8.1.4 ■ MOB ADC Assy, PL18.1.4 ■ MCU PWB, PL18.3.6	

Note

When multiple failures with Chain No. 089 occur, take action according to the priority order.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the density of Cyan color. Is the density of Cyan color normal?	Go to step 2.	Adjust to correct the density of Cyan color.
2	Check the connection between the MOB Sensor Out J151 and the MCU PWB J415 for connector disconnection, open circuit, short circuit, and poor contact. Is the connection normal?	Go to step 3.	Connect the MOB Sensor Out J151 to the MCU PWB J415 properly.
3	Check the Cyan color Magnet Roll for contamination, scratches, or distortion. Is the Magnet Roll normal?	Go to step 4.	Replace the Developer (C) (PL5.2.7).
4	Check the IBT Belt for contamination, scratches, or distortion. Is the IBT Belt normal?	Go to step 5.	Replace the IBT Belt Unit (REP 6.2, page 8-58).

Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
5	Check the Cyan Imaging Unit for contamination, scratches, or distortion. Is the Imaging Unit normal?	Go to step 6.	Replace the Cyan Imaging Unit (REP 1.2, page 8-10).
6	Replace the MOB ADC Assembly (REP 18.3, page 8-189). Is the problem repaired?	Troubleshooting complete.	Replace the MCU PWB (REP 18.12, page 8-202).

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RC Sample Block Fail-B-#4-In

During the B (rough adjustment pattern) patch detection, the #4 (Black) patch at the MOB Sensor In side did not satisfy the defined number of valid sample blocks.

Applicable Chain-Link Code

- **089-613**: RC Sample Block Fail-B-#4-IN

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Developer (K), PL5.2.6 ■ IBT Belt Unit, PL6.1.10 ■ Imaging Unit (M), PL8.1.4 ■ MOB ADC Assy, PL18.1.4 ■ MCU PWB, PL18.3.6	

Note

When multiple failures with Chain No. 089 occur, take action according to the priority order.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the density of Black. Is the density of Black normal?	Go to step 2.	Adjust to correct the density of Black.
2	Check the connection between the MOB Sensor In J150 and the MCU PWB J415 for connector disconnection, open circuit, short circuit, and poor contact. Is the connection normal?	Go to step 3.	Connect the MOB Sensor In J150 to the MCU PWB J415 properly.
3	Check the Black Magnet Roll for contamination, scratches, or distortion. Is the Magnet Roll normal?	Go to step 4.	Replace the Developer (K) (PL5.2.7).
4	Check the IBT Belt for contamination, scratches, or distortion. Is the IBT Belt normal?	Go to step 5.	Replace the IBT Belt Unit (REP 6.2, page 8-58).

Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
5	Check the Black Imaging Unit for contamination, scratches, or distortion. Is the Imaging Unit normal?	Go to step 6.	Replace the Black Imaging Unit (REP 1.2, page 8-10).
6	Replace the MOB ADC Assembly (REP 18.3, page 8-189). Is the problem repaired?	Troubleshooting complete.	Replace the MCU PWB (REP 18.12, page 8-202).

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RC Sample Block Fail-B-#4-Out

During the B (rough adjustment pattern) patch detection, the #4 (Black) patch at the MOB Sensor Out side did not satisfy the defined number of valid sample blocks.

Applicable Chain-Link Code

- **089-615**: RC Sample Block Fail-B-#4-OUT

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Developer (K), PL5.2.6 ■ IBT Belt Unit, PL6.1.10 ■ Imaging Unit (M), PL8.1.4 ■ MOB ADC Assy, PL18.1.4 ■ MCU PWB, PL18.3.6	

Note

When multiple failures with Chain No. 089 occur, take action according to the priority order.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the density of Black. Is the density of Black normal?	Go to step 2.	Adjust to correct the density of Black.
2	Check the connection between the MOB Sensor Out J151 and the MCU PWB J415 for connector disconnection, open circuit, short circuit, and poor contact. Is the connection normal?	Go to step 3.	Connect the MOB Sensor Out J151 to the MCU PWB J415 properly.
3	Check the Black Magnet Roll for contamination, scratches, or distortion. Is the Magnet Roll normal?	Go to step 4.	Replace the Developer (K) (PL5.2.7).
4	Check the IBT Belt for contamination, scratches, or distortion. Is the IBT Belt normal?	Go to step 5.	Replace the IBT Belt Unit (REP 6.2, page 8-58).

Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
5	Check the Black Imaging Unit for contamination, scratches, or distortion. Is the Imaging Unit normal?	Go to step 6.	Replace the Black Imaging Unit (REP 1.2, page 8-10).
6	Replace the MOB ADC Assembly (REP 18.3, page 8-189). Is the problem repaired?	Troubleshooting complete.	Replace the MCU PWB (REP 18.12, page 8-202).

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RC Data Over Flow Fail

The correction setting value of calculation result has exceeded the settable range.

Applicable Chain-Link Code

- **089-616**: RC Data Over Flow Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (Y, M, C, K), PL2.1.2	

Note

When multiple failures with Chain No. 089 occur, take action according to the priority order.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Raise/lower the LPH (Y, M, C, K) 2 to 3 times to check the LPH lift up/down mechanism. Is the problem repaired?	Troubleshooting complete.	Replace the LPH Unit (REP 2.1, page 8-18).

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RC Data Over Range Fail

The result from adding the offset value to the correction value has exceeded the settable range.

Applicable Chain-Link Code

- **089-617**: RC Data Over Range Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (Y, M, C, K), PL2.1.2	

Note

When multiple failures with Chain No. 089 occur, take action according to the priority order.

1. Perform **NVRAM Read/Write** test in Diagnostics.
2. Check that the value is "0". (Because this error occurs only when the NVM write data is incorrect or the NVM is corrupted, if the setting value is not "0", reset it to "0".)

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RC Data Linearity Fail

The result from adding the skew/bow correction value to the linearity correction value has exceeded the settable range.

Applicable Chain-Link Code

- **089-622**: RC Data Linearity Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Rear Holder Assy, PL2.1.1 ■ LPH Unit (Y, M, C, K), PL2.1.2 ■ Imaging Unit (Y, M, C, K), PL8.1.4 ■ MCU PWB, PL18.3.6	

Note

When multiple failures with Chain No. 089 occur, take action according to the priority order.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check that the value stored in LPH EEPROM is correct. Has the Chain No. 061 Fail occurred?	Go to the appropriate troubleshooting procedure.	Go to step 2.
2	Check the Imaging Unit (Y, M, C, K) for improper installation Is everything normal?	Replace the following parts in sequence: ■ Imaging Unit (Y, M, C, K) (REP 1.2, page 8-10) ■ LPH Unit (Y, M, C, K) (REP 2.1, page 8-18) ■ Rear Holder Assembly (PL 2.1.1)	Go to step 3.

Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
3	Replace the LPH Unit (Y, M, C, K) (REP 2.1, page 8-18). Is the problem repaired?	Troubleshooting complete.	Replace the MCU PWB (REP 18.12, page 8-202).

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Auger Broken

Waste Toner blockage from the recovery path until inside the Waste Toner Bottle was detected by the rotation failure of Agitator Motor. (The Agitator Motor is not rotating.)

Applicable Chain-Link Code

- **091-310**: Auger Broken

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Agitator Motor, PL8.2.7 ■ Waste Cartridge, PL8.2.19 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the status of waste toner in the Waste Box. Is there enough space in the Waste Cartridge for more waste toner?	Go to step 2.	Replace the Waste Cartridge (REP 1.3, page 8-12).
2	Turn OFF the power, remove the M/C Rear Cover, and open the PWB Chassis Unit. Turn On the power. Perform the **Agitator Motor** test in Diagnostics. Does the Agitator Motor rotate?	Go to step 5.	Go to step 3.
3	Check the Agitator Motor for gear blockage, and the waste toner collection path (from each Drum to the Waste Cartridge) for debris or toner blockage. Is it normal, without any debris or toner blockage?	Go to step 4.	Remove the debris and toner blockage.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
4	Check the connection between the Motor Drive PWB J523 and the Agitator Motor J215 for open circuit, short circuit, and poor contact. Is it normal, without any short circuit, poor contact, and debris?	Replace the following parts in sequence: ■ Agitator Motor (REP 8.8, page 8-77) ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202)	Repair the sections that have short circuits and poor contacts.
5	Perform the **Auger Lock Sensor** test in Diagnostics. Move the Shielding Board of the Auger Lock Sensor manually to block/clear the light path to the Auger Lock Sensor. Does the display change between High/ Low?	Go to step 6.	Refer to "General Sensor Failure" on page 3-28.
6	Check the waste toner collection path (from each Drum to the Waste Box) for debris or toner blockage, and the opening/closing of the shutter.	Replace the MCU PWB (REP 18.12, page 8-202).	Remove the debris and toner blockage.

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CRU ASIC Communication Fail

Communication error between CPU of the MCU PWB and ASIC was detected.

Applicable Chain-Link Code

- **091-313**: CRUM ASIC Comm Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Replace the MCU PWB (REP 18.12, page 8-202).

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Waste Toner Bottle Near Full

The Waste Toner Bottle Full Sensor detected Near Full state.

Applicable Chain-Link Code

- **091-400**: Waste Toner Bottle Near Full

Initial Actions

- Check the Waste Cartridge life.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Waste Toner Bottle Full Sensor, PL8.2.3 ■ Waste Cartridge, PL8.2.19 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Replace the Waste Cartridge as required (REP 1.3, page 8-12). Does that fix the problem?	Troubleshooting complete.	Go to step 2.
2	Perform the **Toner Waste Cartridge Sensors** test in Diagnostics. Use a sheet of paper, etc. to block/ clear the light path to the Waste Toner Bottle Position Sensor. Does the display change between High/ Low?	Replace the MCU PWB (REP 18.12, page 8-202).	Go to "General Sensor Failure" on page 3-28 to check the Waste Toner Bottle Position Sensor.

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Drum Cartridge (K/Y/M/C) Near Life

It was detected that the replacement timing for Imaging Unit (K/Y/M/C) is closer than Pre Near.

Applicable Chain-Link Codes

- **091-401**: Drum Cartridge K Near Life
- **091-411**: Drum Cartridge Y Near Life
- **091-421**: Drum Cartridge M Near Life
- **091-431**: Drum Cartridge C Near Life

Initial Actions

- Check the Imaging Unit life.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Imaging Unit (K/Y/M/C), PL8.1.4	

1. Replace the Imaging Unit (K/Y/M/C) as required (REP 1.2, page 8-10).

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Drum Cartridge (K/Y/M/C) Life Over

The Imaging Unit (K/Y/M/C) has reached the end of its life span.

Applicable Chain-Link Codes

- **091-402**: Drum Cartridge K Life Over
- **091-480**: Drum Cartridge Y Life Over
- **091-481**: Drum Cartridge M Life Over
- **091-482**: Drum Cartridge C Life Over

Initial Actions

- Check the Imaging Unit life.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Imaging Unit (K/Y/M/C), PL8.1.4	

1. Replace the Imaging Unit (K/Y/M/C) (REP 1.2, page 8-10).

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Waste Toner Bottle Not In Position

The Waste Toner Bottle is not in the proper position.

Applicable Chain-Link Code

- **091-910**: Waste Bottle Not Position

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Bottle Guide Assy, PL8.2.1 ■ Waste Cartridge, PL8.2.19 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check that the Bottle Assembly Guide at the Waste Cartridge and printer side does not have any deformation or debris, and that it is installed properly. Is the Waste Cartridge installed properly?	Go to step 2.	Install the Waste Cartridge properly (REP 1.3, page 8-12).
2	Perform the **Toner Waste Cartridge Sensors** test in Diagnostics. Use a sheet of paper, etc. to block/ clear the light path to the Waste Toner Bottle Position Sensor. Does the display change between High/ Low?	Replace the MCU PWB (REP 18.12, page 8-202).	Go to "General Sensor Failure" on page 3-28 to check the Waste Toner Bottle Position Sensor.

Waste Toner Bottle Full

After the Waste Toner Full Sensor has turned On, the pixel count exceeded the defined value.

Applicable Chain-Link Code

- **091-911**: Waste Bottle Full

Initial Actions

- Check the Waste Toner Cartridge life.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Waste Toner Bottle Full Sensor, PL8.2.3 ■ Waste Cartridge, PL8.2.19 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Replace the Waste Cartridge (REP 1.3, page 8-12). If the problem persists, check the Waste Toner Bottle Full Sensor. Perform the **Toner Waste Cartridge Sensors** test in Diagnostics. Use a sheet of paper, etc. to block/ clear the light path to the Waste Toner Bottle Full Sensor. Does the display change between High/ Low?	Replace the MCU PWB (REP 18.12, page 8-202).	Go to "General Sensor Failure" on page 3-28 to check the Waste Toner Bottle Position Sensor.

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Drum Cartridge K Life End

Drum (K) has reached the end of its life span.

Applicable Chain-Link Code

- **091-913**: Drum Cartridge K Life End

Initial Actions

- Check the Imagine Unit life.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Imaging Unit (K), PL8.1.4	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Replace the Imaging Unit (K) (REP 1.2, page 8-10).		

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Drum CRUM K Communication Fail

Communication failure with Drum (K) was detected.

Applicable Chain-Link Code

- **091-914**: Drum CRUM K Communication Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Drum CRUM Coupler Assy (K), PL8.1.3 ■ Imaging Unit (K), PL8.1.4 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Turn the power Off and On.
2. Check the following:
   - The connection between the Motor Drive PWB J526 and the Drum CRUM Coupler Assembly (K) P115 for open circuit, short circuit, and poor contact.
   - The connection terminals between the Drum (K) CRUM PWB and the Drum CRUM Coupler Assembly (K) CRUM for damage and debris.
   - The Drum (K) CRUM PWB for contamination or disengagement.
   - The Drum (K) for improper installation.
3. If no problems are found, replace the following parts in sequence:
   - Imaging Unit (K) (REP 1.2, page 8-10)
   - Drum CRUM Coupler Assembly (K) (PL8.1.3)
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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Drum CRUM (K/Y/M/C) Data Broken

The system detected that the data written to the Drum (K/Y/M/C) and the data read from the Drum (K/Y/M/C) do not match.

Applicable Chain-Link Codes

- **091-915**: Drum CRUM K Data Broken
- **091-940**: Drum CRUM Y Data Broken
- **091-941**: Drum CRUM M Data Broken
- **091-942**: Drum CRUM C Data Broken

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Imaging Unit, PL8.1.4	

1. Remove and reinstall the Imaging Unit (K/Y/M/C) as indicated. If problems are found, replace the Imaging Unit (K/Y/M/C) (REP 1.2, page 8-10).

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Drum CRUM (K/Y/M/C) Data Mismatch

Incorrect authentication area data was detected in Drum (K/Y/M/C).

Applicable Chain-Link Codes

- **091-916**: Drum CRUM K Data Mismatch
- **091-943**: Drum CRUM Y Data Mismatch
- **091-944**: Drum CRUM M Data Mismatch
- **091-945**: Drum CRUM C Data Mismatch

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Imaging Unit, PL8.1.4	

1. Remove and reinstall the Imaging Unit (K/Y/M/C) as indicated. If problems are found, replace the Imaging Unit (K/Y/M/C) (REP 1.2, page 8-10).

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Drum CRUM Y Communication Fail

Communication failure with Drum (Y) was detected.

Applicable Chain-Link Code

- **091-917**: Drum CRUM Y Communication Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Drum CRUM Coupler Assy (Y), PL8.1.3 ■ Imaging Unit, PL8.1.4 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Turn the power Off and On.
2. Check the following:
   - The connection between the Motor Drive PWB J526 and the Drum CRUM Coupler Assembly (Y) P112 for open circuit, short circuit, and poor contact.
   - The connection terminals between the Drum (Y) CRUM PWB and the Drum CRUM Coupler Assembly (Y) CRUM for damage and debris.
   - The Drum (Y) CRUM PWB for contamination or disengagement.
   - The Imaging Unit (Y) for improper installation.
3. If no problems are found, replace the following parts in sequence:
   - Imaging Unit (Y) (REP 1.2, page 8-10)
   - Drum CRUM Coupler Assembly (Y) (PL8.1.3)
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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Drum CRUM M Communication Fail

Communication failure with Drum (M) was detected.

Applicable Chain-Link Code

- **091-918**: Drum CRUM M Communication Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Drum CRUM Coupler Assy (M), PL8.1.3 ■ Imaging Unit, PL8.1.4 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Turn the power Off and On.
2. Check the following:
   - The connection between the Motor Drive PWB J526 and the Drum CRUM Coupler Assembly (M) P113 for open circuit, short circuit, and poor contact.
   - The connection terminals between the Drum (M) CRUM PWB and the Drum CRUM Coupler Assembly (M) CRUM for damage and debris.
   - The Drum (M) CRUM PWB for contamination or disengagement.
   - The Imaging Unit (M) for improper installation.
3. If no problems are found, replace the following parts in sequence:
   - Imaging Unit (M) (REP 1.2, page 8-10)
   - Drum CRUM Coupler Assembly (M) (PL8.1.3)
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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Drum CRUM C Communication Fail

Communication failure with Drum (C) was detected.

Applicable Chain-Link Code

- **091-919**: Drum CRUM C Communication Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Drum CRUM Coupler Assy (C), PL8.1.3 ■ Imaging Unit, PL8.1.4 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Turn the power Off and On.
2. Check the following:
   - The connection between the Motor Drive PWB J526 and the Drum CRUM Coupler Assembly (C) P114 for open circuit, short circuit, and poor contact.
   - The connection terminals between the Drum (C) CRUM PWB and the Drum CRUM Coupler Assembly (C) CRUM for damage and debris.
   - The Drum (C) CRUM PWB for contamination or disengagement.
   - The Imaging Unit (C) for improper installation.
3. If no problems are found, replace the following parts in sequence:
   - Imaging Unit (C) (REP 1.2, page 8-10)
   - Drum CRUM Coupler Assembly (C) (PL8.1.3)
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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Drum CRUM K Not In Position

The Drum K CRUM is not in the proper position. (Loose CRUM)

Applicable Chain-Link Code

- **091-921**: Drum CRUM K Not In Position

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Drum CRUM Coupler Assy (K), PL8.1.3 ■ Imaging Unit, PL8.1.4 ■ MCU PWB, PL 18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Remove and reinstall the Imaging Unit (K) (REP 1.2, page 8-10).
2. Polish the connection terminals between the Drum (K) CRUM PWB and the Drum CRUM Coupler Assembly (K) CRUM with dry cloth. (When cleaning, do not use drum cleaner, etc.)
3. Check the following:
   - The connection between the Motor Drive PWB J526 and the Drum CRUM Coupler Assembly (K) P115 for open circuit, short circuit, and poor contact.
   - The connection terminals between the Drum (K) CRUM PWB and the Drum CRUM Coupler Assembly (K) CRUM for damage and debris.
   - The Imaging Unit (K) for improper installation.
4. If no problems are found, replace the following parts in sequence:
   - Imaging Unit (K) (REP 1.2, page 8-10)
   - Drum CRUM Coupler Assembly (K) (PL8.1.3)
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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Drum CRUM Y Not In Position

The Drum Y CRUM is not in the proper position. (Loose CRUM)

Applicable Chain-Link Code

- **091-927**: Drum CRUM Y Not In Position

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Drum CRUM Coupler Assy (Y), PL8.1.3 ■ Imaging Unit, PL8.1.4 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Remove and reinstall the Imaging Unit (Y) (REP 1.2, page 8-10).
2. Polish the connection terminals between the Drum (Y) CRUM PWB and the Drum CRUM Coupler Assembly (Y) CRUM with dry cloth. (When cleaning, do not use drum cleaner, etc.)
3. Check the following:
   - The connection between the Motor Drive PWB J526 and the Drum CRUM Coupler Assembly (Y) P112 for open circuit, short circuit, and poor contact.
   - The connection terminals between the Drum (Y) CRUM PWB and the Drum CRUM Coupler Assembly (Y) CRUM for damage and debris.
   - The Imaging Unit (Y) for improper installation.
4. If no problems are found, replace the following parts in sequence:
   - Imaging Unit (Y) (REP 1.2, page 8-10)
   - Drum CRUM Coupler Assembly (Y) (PL8.1.3)
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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Drum CRUM M Not In Position

The Drum M CRUM is not in the proper position. (Loose CRUM)

Applicable Chain-Link Code

- **091-928**: Drum CRUM M Not In Position

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Drum CRUM Coupler Assy (M), PL8.1.3 ■ Imaging Unit, PL8.1.4 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Remove and reinstall the Imaging Unit (M) (REP 1.2, page 8-10).
2. Polish the connection terminals between the Drum (M) CRUM PWB and the Drum CRUM Coupler Assembly (M) CRUM with dry cloth. (When cleaning, do not use drum cleaner, etc.)
3. Check the following:
   - The connection between the Motor Drive PWB J526 and the Drum CRUM Coupler Assembly (M) P113 for open circuit, short circuit, and poor contact.
   - The connection terminals between the Drum (M) CRUM PWB and the Drum CRUM Coupler Assembly (M) CRUM for damage and debris.
   - The Imaging Unit (M) for improper installation.
4. If no problems are found, replace the following parts in sequence:
   - Imaging Unit (M) (REP 1.2, page 8-10)
   - Drum CRUM Coupler Assembly (M) (PL8.1.3)
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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Drum CRUM C Not In Position

The Drum C CRUM is not in the proper position. (Loose CRUM)

Applicable Chain-Link Code

- **091-929**: Drum CRUM C Not In Position

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Drum CRUM Coupler Assy (C), PL8.1.3 ■ Imaging Unit, PL8.1.4 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Remove and reinstall the Imaging Unit (C) (REP 1.2, page 8-10).
2. Polish the connection terminals between the Drum (M) CRUM PWB and the Drum CRUM Coupler Assembly (C) CRUM with dry cloth. (When cleaning, do not use drum cleaner, etc.)
3. Check the following:
   - The connection between the Motor Drive PWB J526 and the Drum CRUM Coupler Assembly (C) P114 for open circuit, short circuit, and poor contact.
   - The connection terminals between the Drum (C) CRUM PWB and the Drum CRUM Coupler Assembly (C) CRUM for damage and debris.
   - The Imaging Unit (C) for improper installation.
4. If no problems are found, replace the following parts in sequence:
   - Imaging Unit (C) (REP 1.2, page 8-10)
   - Drum CRUM Coupler Assembly (C) (PL8.1.3)
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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ATC Fail (Y)

The frequency at which the ATC Average Fail (Y) or the ATC Amplitude Fail (Y) has been occurring has exceeded the threshold value.

Note

Although this Fail can be cleared by turning the power Off and On and it will be possible to output a few sheets of printouts, when this Fail has occurred a certain number of times, it will no longer be clearable by turning the power Off and On. Perform **Clear Tech Rep Faults** in Diagnostics. If the machine does not return to normal status, this error will occur again during the operation.

Applicable Chain-Link Code

- **092-312**: ATC Fail [Y]

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ ATC PWB, PL5.2.18 ■ Developer Kit (K/C/M/Y), PL5.2.20-23 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Perform the following steps:
   - Check the connection between the ATC Sensor (Y) and the ATC PWB J124 for open circuit, short circuit, and poor contact.
   - Check the connection between the ATC PWB J633 and the Motor Drive PWB J522 for open circuit, short circuit, and poor contact.
   - Perform the **Dispenser Motors** test in Diagnostics.
   - Perform the **Developer Motors** test in Diagnostics.
   - Check the path from Toner Cartridge (Y) to Developer (Y) for toner blockage.
   - Check the Developer (Y) for internal toner blockage.
   - Check the Toner Cartridge (Y) for internal toner blockage.
2. If no problems are found, replace the following parts in sequence:
   - Developer and Beads. Set new values in Diagnostics.
   - ATC PWB (REP 5.6, page 8-52)
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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ATC Fail (M)

The frequency at which the ATC Average Fail (M) or the ATC Amplitude Fail (M) has been occurring has exceeded the threshold value.

Note

Although this Fail can be cleared by turning the power Off and On and it will be possible to output a few sheets of printouts, when this Fail has occurred a certain number of times, it will no longer be clearable by turning the power Off and On. Perform **Clear Tech Rep Faults** in Diagnostics. If the machine does not return to normal status, this error will occur again during the operation.

Applicable Chain-Link Code

- **092-313**: ATC Fail [M]

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ ATC PWB, PL5.2.18 ■ Developer Kit (K/C/M/Y), PL5.2.20-23 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Perform the following steps:
   - Check the connection between the ATC Sensor (M) and the ATC PWB J125 for open circuit, short circuit, and poor contact.
   - Check the connection between the ATC PWB J633 and the Motor Drive PWB J522 for open circuit, short circuit, and poor contact.
   - Perform the **Dispenser Motors** test in Diagnostics.
   - Perform the **Developer Motors** test in Diagnostics.
   - Check the path from Toner Cartridge (M) to Developer (M) for toner blockage.
   - Check the Developer (M) for internal toner blockage
   - Check the Toner Cartridge (M) for internal toner blockage
2. If no problems are found, replace the following parts in sequence:
   - Developer and Beads. Set new values in Diagnostics.
   - ATC PWB (REP 5.6, page 8-52)
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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ATC Fail (C)

The frequency at which the ATC Average Fail (C) or the ATC Amplitude Fail (C) has been occurring has exceeded the threshold value.

Note

Although this Fail can be cleared by turning the power Off and On and it will be possible to output a few sheets of printouts, when this Fail has occurred a certain number of times, it will no longer be clearable by turning the power Off and On. Perform **Clear Tech Rep Faults** in Diagnostics. If the machine does not return to normal status, this error will occur again during the operation.

Applicable Chain-Link Code

- **092-314**: ATC Fail [C]

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ ATC PWB, PL5.2.18 ■ Developer Kit (K/C/M/Y), PL5.2.20-23 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Perform the following steps:
   - Check the connection between the ATC Sensor (C) and the ATC PWB J126 for open circuit, short circuit, and poor contact.
   - The connection between the ATC PWB J633 and the Motor Drive PWB J522 for open circuit, short circuit, and poor contact.
   - Perform the **Dispenser Motors** test in Diagnostics.
   - Perform the **Developer Motors** test in Diagnostics.
   - Check the path from Toner Cartridge (C) to Developer (C) for toner blockage.
   - Check the Developer (C) for internal toner blockage.
   - Check the Toner Cartridge (C) for internal toner blockage.
2. If no problems are found, replace the following parts in sequence:
   - Developer and Beads. Set new values in Diagnostics.
   - ATC PWB (REP 5.6, page 8-52)
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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ATC Fail (K)

The frequency at which the ATC Average Fail (K) or the ATC Amplitude Fail (K) has been occurring has exceeded the threshold value.

Note

Although this Fail can be cleared by turning the power Off and On and it will be possible to output a few sheets of printouts, when this Fail has occurred a certain number of times, it will no longer be clearable by turning the power Off and On. Perform **Clear Tech Rep Faults** in Diagnostics. If the machine does not return to normal status, this error will occur again during the operation.

Applicable Chain-Link Code

- **092-315**: ATC Fail [K]

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ ATC PWB, PL5.2.18 ■ Developer Kit (K/C/M/Y), PL5.2.20-23 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Perform the following steps:
   - Check the connection between the ATC Sensor (K) and the ATC PWB J127 for open circuit, short circuit, and poor contact.
   - Check the connection between the ATC PWB J633 and the Motor Drive PWB J522 for open circuit, short circuit, and poor contact.
   - Perform the **Dispenser Motors** test in Diagnostics.
   - Perform the **Developer Motors** test in Diagnostics.
   - Check the path from Toner Cartridge (K) to Developer (K) for toner blockage.
   - Check the Developer (K) for internal toner blockage.
   - Check the Toner Cartridge (K) for internal toner blockage.
2. If no problems are found, replace the following parts in sequence:
   - Developer and Beads. Set new values in Diagnostics.
   - ATC PWB (REP 5.6, page 8-52)
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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ADC Shutter Open Fail/ ADC Shutter Close Fail

The ADC Sensor shutters is open (cannot be closed).
The ADC Sensor shutters is closed (cannot be opened).

Applicable Chain-Link Codes

- **092-649**: ADC Shutter Open_Fail
- **092-650**: ADC Shutter Close_Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MOB ADC Assy, PL18.1.4 ■ MCU PWB, PL18.3.6	

1. Check the connection between the ADC Sensor (MOB ADC Assembly) J153 and the MCU PWB J415 for open circuit, short circuit, and poor contact.
2. Check whether there is opening/ closing failure due to debris/ burrs, etc. at the shutter section of the ADC Sensor.
3. If no problems are found, replace the following parts in sequence:
   - MOB ADC Assembly (REP 18.3, page 8-189)
   - MCU PWB (REP 18.12, page 8-202)

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ADC Sensor Fail

The ADC Sensor read value of the density reference patch is abnormal.

Applicable Chain-Link Code

- **092-651**: ADC Sensor Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ IBT Belt Unit, PL6.1.10 ■ MOB ADC Assy, PL18.1.4 ■ MCU PWB, PL18.3.6	

1. Check the connection between the ADC Sensor (MOB ADC Assembly) J153 and the MCU PWB J415 for open circuit, short circuit, and poor contact.
2. Check whether there is poor connection or debris at the detection section of the ADC Sensor.
3. If no problems are found, replace the following parts in sequence:
   - MOB ADC Assembly (REP 18.3, page 8-189)
   - IBT Belt Unit (REP 6.2, page 8-58)
   - MCU PWB (REP 18.12, page 8-202)

ATC Amplitude Fail (Y)/ ATC Average Fail (Y)

The difference between the maximum and minimum values in the ATC Sensor (Y) measurement set is lower than the threshold value.

The average measured value of ATC Sensor (Y) is out of the appropriate range.

Applicable Chain-Link Codes

- **092-657**: ATC Amplitude Fail [Y]
- **092-665**: ATC Average Fail [Y]

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ ATC PWB, PL5.2.18 ■ Developer Kit (K/C/M/Y), PL5.2.20-23 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Perform the following steps:
   - Check the connection between the ATC Sensor (Y) and the ATC PWB J124 for open circuit, short circuit, and poor contact.
   - Check connection between the ATC PWB J633 and the Motor Drive PWB J522 for open circuit, short circuit, and poor contact.
   - Perform the **Dispenser Motors** test in Diagnostics.
   - Perform the **Developer Motors** test in Diagnostics.
   - Check the path from Toner Cartridge (Y) to Developer (Y) for toner blockage.
   - Check the Developer (Y) for internal toner blockage.
   - Check the Toner Cartridge (Y) for internal toner blockage.
2. If no problems are found, replace the following parts in sequence:
   - Developer Kit (Y) (PL5.2.23)
   - ATC PWB (REP 5.6, page 8-52)
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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ATC Amplitude Fail (M)/ ATC Average Fail (M)

The difference between the maximum and minimum values in the ATC Sensor (M) measurement set is lower than the threshold value.

The average measured value of ATC Sensor (M) is out of the appropriate range.

Applicable Chain-Link Codes

- **092-658**: ATC Amplitude Fail [M]
- **092-666**: ATC Average Fail [M]

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ ATC PWB, PL5.2.18 ■ Developer Kit (K/C/M/Y), PL5.2.20-23 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Perform the following steps:
   - Check the connection between the ATC Sensor (M) and the ATC PWB J125 for open circuit, short circuit, and poor contact.
   - Check connection between the ATC PWB J633 and the Motor Drive PWB J522 for open circuit, short circuit, and poor contact.
   - Perform the **Dispenser Motors** test in Diagnostics.
   - Perform the **Developer Motors** test in Diagnostics.
   - Check the path from Toner Cartridge (M) to Developer (M) for toner blockage.
   - Check the Developer (M) for internal toner blockage.
   - Check the Toner Cartridge (M) for internal toner blockage.
2. If no problems are found, replace the following parts in sequence:
   - Developer Kit (M) (PL5.2.22)
   - ATC PWB (REP 5.6, page 8-52)
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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ATC Amplitude Fail (C)/ ATC Average Fail (C)

The difference between the maximum and minimum values in the ATC Sensor (C) measurement set is lower than the threshold value.

The average measured value of ATC Sensor (C) is out of the appropriate range.

Applicable Chain-Link Codes

- **092-659**: ATC Amplitude Fail [C]
- **092-667**: ATC Average Fail [C]

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ ATC PWB, PL5.2.18 ■ Developer Kit (K/C/M/Y), PL5.2.20-23 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Perform the following steps:
   - Check the connection between the ATC Sensor (C) and the ATC PWB J126 for open circuit, short circuit, and poor contact.
   - Check connection between the ATC PWB J633 and the Motor Drive PWB J522 for open circuit, short circuit, and poor contact.
   - Perform the **Dispenser Motors** test in Diagnostics.
   - Perform the **Developer Motors** test in Diagnostics.
   - Check the path from Toner Cartridge (C) to Developer (C) for toner blockage.
   - Check the Developer (C) for internal toner blockage.
   - Check the Toner Cartridge (C) for internal toner blockage.
2. If no problems are found, replace the following parts in sequence:
   - Developer Kit (C) (PL5.2.21)
   - ATC PWB (REP 5.6, page 8-52)
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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ATC Amplitude Fail (K)/ ATC Average Fail (K)

The difference between the maximum and minimum values in the ATC Sensor (K) measurement set is lower than the threshold value.

The average measured value of ATC Sensor (K) is out of the appropriate range.

Applicable Chain-Link Codes

- **092-660**: ATC Amplitude Fail [K]
- **092-668**: ATC Average Fail [K]

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ ATC PWB, PL5.2.18 ■ Developer Kit (K/C/M/Y), PL5.2.20-23 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Perform the following steps:
   - Check the connection between the ATC Sensor (K) and the ATC PWB J127 for open circuit, short circuit, and poor contact.
   - Check connection between the ATC PWB J633 and the Motor Drive PWB J522 for open circuit, short circuit, and poor contact.
   - Perform the **Dispenser Motors** test in Diagnostics.
   - Perform the **Developer Motors** test in Diagnostics.
   - Check the path from Toner Cartridge (K) to Developer (K) for toner blockage.
   - Check the Developer (K) for internal toner blockage.
   - Check the Toner Cartridge (K) for internal toner blockage.
2. If no problems are found, replace the following parts in sequence:
   - Developer Kit (K) (PL5.2.20)
   - ATC PWB (REP 5.6, page 8-52)
   - Motor Drive PWB (REP 18.13, page 8-204)
   - MCU PWB (REP 18.12, page 8-202)

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Temperature Sensor Fail/ Humidity Sensor Fail

The Environment Temperature Sensor has malfunctioned.
The Environment Humidity Sensor has malfunctioned.

Applicable Chain-Link Codes

- **092-661**: Temperature Sensor Fail
- **092-662**: Humidity Sensor Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MOB ADC Assy, PL18.1.4 ■ MCU PWB, PL18.3.6	

1. Check the connection between the Environment Sensor (MOB ADC Assembly) J154 and the MCU PWB J415 for open circuit, short circuit, and poor contact. Also check whether there is poor connection or debris at the detection section of the Environment Sensor.
2. If no problems are found, replace the following parts in sequence:
   - MOB ADC Assembly (REP 18.3, page 8-189)
   - MCU PWB (REP 18.12, page 8-202)

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ADC Patch Fail (Y)

The ADC patch of Y color is abnormally light.

Applicable Chain-Link Code

- **092-670**: ADC Patch Fail [Y]

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (Y), PL 2.1.2 ■ HVPS (1st/2nd/DTS), PL6.2.9 ■ Imaging Unit (Y), PL8.1.4 ■ HVPS (Deve/BCR), PL18.1.7 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Fault History. Perform the **ATC Sensor** test in Diagnostics. Has error 092-651 or 092-312 occurred?	Go to the appropriate troubleshooting procedure.	Go to step 2.
2	Check the following: ■ The Imaging Unit (Y) for contamination ■ The LPH (Y) for contamination ■ The 1st BTR (Y) for contamination ■ The IBT Belt for contamination ■ The connection and board springs between the HVPS (Deve/BCR) and the Magnet Roll (Y) for open circuit, short circuit, and poor contact ■ The connection and board springs between the HVPS (1st/2nd/DTS) and the 1st BTR (Y) for open circuit, short circuit, and poor contact Are they conducting properly?	Replace the following parts in sequence: ■ Imaging Unit (Y) (REP 1.2, page 8-10) ■ LPH Unit (Y) (REP 2.1, page 8-18) ■ HVPS (Deve/BCR) (REP 18.4, page 8-191) ■ HVPS (1st/2nd/DTS) (REP 6.4, page 8-65) ■ MCU PWB (REP 18.12, page 8-202).	Repair the sections that have short circuits and poor contacts.

ADC Patch Fail (M)

The ADC patch of M color is abnormally light.

Applicable Chain-Link Code

- **092-671**: ADC Patch Fail [M]

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (M), PL2.1.2 ■ HVPS (1st/2nd/DTS), PL6.2.9 ■ Imaging Unit (M), PL8.1.4 ■ HVPS (Deve/BCR), PL18.1.7 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Fault History. Perform the **ATC Sensor** test in Diagnostics. Has error 092-651 or 092-313 occurred?	Go to the appropriate troubleshooting procedure.	Go to step 2.
2	Check the following: ■ The Imaging Unit (M) for contamination ■ The LPH (M) for contamination ■ The 1st BTR (M) for contamination ■ The IBT Belt for contamination ■ The connection and board springs between the HVPS (Deve/BCR) and the Magnet Roll (M) for open circuit, short circuit, and poor contact ■ The connection and board springs between the HVPS (1st/2nd/DTS) and the 1st BTR (M) for open circuit, short circuit, and poor contact Are they conducting properly?	Replace the following parts in sequence: ■ Imaging Unit (M) (REP 1.2, page 8-10) ■ LPH Unit (M) (REP 2.1, page 8-18) ■ HVPS (Deve/BCR) (REP 18.4, page 8-191) ■ HVPS (1st/2nd/DTS) (REP 6.4, page 8-65) ■ MCU PWB (REP 18.12, page 8-202).	Repair the sections that have short circuits and poor contacts.

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ADC Patch Fail (C)

The ADC patch of C color is abnormally light.

Applicable Chain-Link Code

- **092-672**: ADC Patch Fail [C]

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (C), PL2.1.2 ■ HVPS (1st/2nd/DTS), PL6.2.9 ■ Imaging Unit (C), PL8.1.4 ■ HVPS (Deve/BCR), PL18.1.7 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Fault History. Perform the **ATC Sensor** test in Diagnostics. Has error 092-651 or 092-314 occurred?	Go to the appropriate troubleshooting procedure.	Go to step 2.
2	Check the following: ■ The Imaging Unit (C) for contamination ■ The LPH (C) for contamination ■ The 1st BTR (C) for contamination ■ The IBT Belt for contamination ■ The connection and board springs between the HVPS (Deve/BCR) and the Magnet Roll (C) for open circuit, short circuit, and poor contact ■ The connection and board springs between the HVPS (1st/2nd/DTS) and the 1st BTR (C) for open circuit, short circuit, and poor contact Are they conducting properly?	Replace the following parts in sequence: ■ Imaging Unit (C) (REP 1.2, page 8-10) ■ LPH Unit (C) (REP 2.1, page 8-18) ■ HVPS (Deve/BCR) (REP 18.4, page 8-191) ■ HVPS (1st/2nd/DTS) (REP 6.4, page 8-65) ■ MCU PWB (REP 18.12, page 8-202).	Repair the sections that have short circuits and poor contacts.

ADC Patch Fail (K)

The ADC patch of K color is abnormally light.

Applicable Chain-Link Code

- **092-673**: ADC Patch Fail [K]

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (K), PL2.1.2 ■ HVPS (1st/2nd/DTS), PL6.2.9 ■ Imaging Unit (K), PL8.1.4 ■ HVPS (Deve/BCR), PL18.1.7 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Fault History. Perform the **ATC Sensor** test in Diagnostics. Has error 092-651 or 092-315 occurred?	Go to the appropriate troubleshooting procedure.	Go to step 2.
2	Check the following: ■ The Imaging Unit (K) for contamination ■ The LPH (K) for contamination ■ The 1st BTR (K) for contamination ■ The IBT Belt for contamination ■ The connection and board springs between the HVPS (Deve/BCR) and the Magnet Roll (K) for open circuit, short circuit, and poor contact ■ The connection and board springs between the HVPS (1st/2nd/DTS) and the 1st BTR (K) for open circuit, short circuit, and poor contact Are they conducting properly?	Replace the following parts in sequence: ■ Imaging Unit (K) (REP 1.2, page 8-10) ■ LPH Unit (K) (REP 2.1, page 8-18) ■ HVPS (Deve/BCR) (REP 18.4, page 8-191) ■ HVPS (1st/2nd/DTS) (REP 6.4, page 8-65) ■ MCU PWB (REP 18.12, page 8-202).	Repair the sections that have short circuits and poor contacts.

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ADC Mini Setup Fail (Y)

The difference in densities among the ADC patches of Y color is abnormal.

Applicable Chain-Link Code

- **092-675**: ADC_MiniSetup_Fail [Y]

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (Y), PL2.1.2 ■ HVPS (1st/2nd/DTS), PL6.2.9 ■ Imaging Unit (Y), PL8.1.4 ■ HVPS (Deve/BCR), PL18.1.7 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Fault History. Perform the **ATC Sensor** test in Diagnostics. Has error 092-651 or 092-312 occurred?	Go to the appropriate troubleshooting procedure.	Go to step 2.
2	Check the following: ■ The Imaging Unit (Y) for contamination ■ The LPH (Y) for contamination ■ The 1st BTR (Y) for contamination ■ The IBT Belt for contamination ■ The connection and board springs between the HVPS (Deve/BCR) and the Magnet Roll (Y) for open circuit, short circuit, and poor contact ■ The connection and board springs between the HVPS (1st/2nd/DTS) and the 1st BTR (Y) for open circuit, short circuit, and poor contact Are they conducting properly?	Replace the following parts in sequence: ■ Imaging Unit (Y) (REP 1.2, page 8-10) ■ LPH Unit (Y) (REP 2.1, page 8-18) ■ HVPS (Deve/BCR) (REP 18.4, page 8-191) ■ HVPS (1st/2nd/DTS) (REP 6.4, page 8-65) ■ MCU PWB (REP 18.12, page 8-202).	Repair the sections that have short circuits and poor contacts.

ADC Mini Setup Fail (M)

The difference in densities among the ADC patches of M color is abnormal.

Applicable Chain-Link Code

- **092-676**: ADC_MiniSetup_Fail [M]

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (M), PL2.1.2 ■ HVPS (1st/2nd/DTS), PL6.2.9 ■ Imaging Unit (M), PL8.1.4 ■ HVPS (Deve/BCR), PL18.1.7 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Fault History. Perform the **ATC Sensor** test in Diagnostics. Has error 092-651 or 092-313 occurred?	Go to the appropriate troubleshooting procedure.	Go to step 2.
2	Check the following: ■ The Imaging Unit (M) for contamination ■ The LPH (M) for contamination ■ The 1st BTR (M) for contamination ■ The IBT Belt for contamination ■ The connection and board springs between the HVPS (Deve/BCR) and the Magnet Roll (M) for open circuit, short circuit, and poor contact ■ The connection and board springs between the HVPS (1st/2nd/DTS) and the 1st BTR (M) for open circuit, short circuit, and poor contact Are they conducting properly?	Replace the following parts in sequence: ■ Imaging Unit (M) (REP 1.2, page 8-10) ■ LPH Unit (M) (REP 2.1, page 8-18) ■ HVPS (Deve/BCR) (REP 18.4, page 8-191) ■ HVPS (1st/2nd/DTS) (REP 6.4, page 8-65) ■ MCU PWB (REP 18.12, page 8-202).	Repair the sections that have short circuits and poor contacts.

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ADC Mini Setup Fail (C)

The difference in densities among the ADC patches of C color is abnormal.

Applicable Chain-Link Code

- **092-677**: ADC_MiniSetup_Fail [C]

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (C), PL2.1.2 ■ HVPS (1st/2nd/DTS), PL6.2.9 ■ Imaging Unit (C), PL8.1.4 ■ HVPS (Deve/BCR), PL18.1.7 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Fault History. Perform the **ATC Sensor** test in Diagnostics. Has error 092-651 or 092-314 occurred?	Go to the appropriate troubleshooting procedure.	Go to step 2.
2	Check the following: ■ The Imaging Unit (C) for contamination ■ The LPH (C) for contamination ■ The 1st BTR (C) for contamination ■ The IBT Belt for contamination ■ The connection and board springs between the HVPS (Deve/BCR) and the Magnet Roll (C) for open circuit, short circuit, and poor contact ■ The connection and board springs between the HVPS (1st/2nd/DTS) and the 1st BTR (C) for open circuit, short circuit, and poor contact Are they conducting properly?	Replace the following parts in sequence: ■ Imaging Unit (C) (REP 1.2, page 8-10) ■ LPH Unit (C) (REP 2.1, page 8-18) ■ HVPS (Deve/BCR) (REP 18.4, page 8-191) ■ HVPS (1st/2nd/DTS) (REP 6.4, page 8-65) ■ MCU PWB (REP 18.12, page 8-202).	Repair the sections that have short circuits and poor contacts.

ADC Mini Setup Fail (K)

The difference in densities among the ADC patches of K color is abnormal.

Applicable Chain-Link Code

- **092-678**: ADC_MiniSetup_Fail [K]

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ LPH Unit (K), PL2.1.2 ■ HVPS (1st/2nd/DTS), PL6.2.9 ■ Imaging Unit (K), PL8.1.4 ■ HVPS (Deve/BCR), PL18.1.7 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the Fault History. Perform the **ATC Sensor** test in Diagnostics. Has error 092-651 or 092-315 occurred?	Go to the appropriate troubleshooting procedure.	Go to step 2.
2	Check the following: ■ The Imaging Unit (K) for contamination ■ The LPH (K) for contamination ■ The 1st BTR (K) for contamination ■ The IBT Belt for contamination ■ The connection and board springs between the HVPS (Deve/BCR) and the Magnet Roll (K) for open circuit, short circuit, and poor contact ■ The connection and board springs between the HVPS (1st/2nd/DTS) and the 1st BTR (K) for open circuit, short circuit, and poor contact Are they conducting properly?	Replace the following parts in sequence: ■ Imaging Unit (K) (REP 1.2, page 8-10) ■ LPH Unit (K) (REP 2.1, page 8-18) ■ HVPS (Deve/BCR) (REP 18.4, page 8-191) ■ HVPS (1st/2nd/DTS) (REP 6.4, page 8-65) ■ MCU PWB (REP 18.12, page 8-202).	Repair the sections that have short circuits and poor contacts.

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Y Disp Motor Fail

The Yellow Toner Cartridge empty was detected empty regardless of low usage of toner from Yellow Toner Cartridge.

Applicable Chain-Link Code

- **093-314**: Y Disp Motor Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Toner Cartridge (Y), PL5.1.4 ■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Examine the toner feed system for clumped toner.
3. Replace the Toner Cartridge (Y) (REP 1.1, page 8-9).
4. Perform the **Dispenser Motors** test in Diagnostics.
5. Check the drive transmission path in the Dispense Assembly. If no problems are found, replace the MCU PWB (REP 18.12, page 8-202).

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M Disp Motor Fail

The Magenta Toner Cartridge empty was detected empty regardless of low usage of toner from Magenta Toner Cartridge.

Applicable Chain-Link Code

- **093-315**: M Disp Motor Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Toner Cartridge (M), PL5.1.3 ■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Examine the toner feed system for clumped toner.
3. Replace the Toner Cartridge (M) (REP 1.1, page 8-9).
4. Perform the **Dispenser Motors** test in Diagnostics.
5. Check the drive transmission path in the Dispense Assembly. If no problems are found, replace the MCU PWB (REP 18.12, page 8-202).

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C Disp Motor Fail

The Cyan Toner Cartridge empty was detected empty regardless of low usage of toner from Cyan Toner Cartridge.

Applicable Chain-Link Code

- **093-316**: C Disp Motor Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Toner Cartridge (C), PL5.1.2 ■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Examine the toner feed system for clumped toner.
3. Replace the Toner Cartridge (C) (REP 1.1, page 8-9).
4. Perform the **Dispenser Motors** test in Diagnostics.
5. Check the drive transmission path in the Dispense Assembly. If no problems are found, replace the MCU PWB (REP 18.12, page 8-202).

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K Disp Motor Fail

The Black Toner Cartridge empty was detected empty regardless of low usage of toner from Black Toner Cartridge.

Applicable Chain-Link Code

- **093-317**: K Disp Motor Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Toner Cartridge (K), PL5.1.1 ■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Examine the toner feed system for clumped toner.
3. Replace the Toner Cartridge (K) (REP 1.1, page 8-9).
4. Perform the **Dispenser Motors** test in Diagnostics.
5. Check the drive transmission path in the Dispense Assembly. If no problems are found, replace the MCU PWB (REP 18.12, page 8-202).

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Toner Cartridge (K/Y/M/C) Near Empty

The (K/Y/M/C) Toner Cartridge is in Near Empty state.

Applicable Chain-Link Codes

- **093-400**: Y Toner Cartridge Near Empty
- **093-423**: M Toner Cartridge Near Empty
- **093-424**: C Toner Cartridge Near Empty
- **093-425**: K Toner Cartridge Near Empty

Initial Actions

- Check the Toner Cartridge life.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Toner Cartridge (K/Y/M/C), PL5.1.1-5.1.4	

1. Replace the Toner Cartridge (K/Y/M/C) (REP 1.1, page 8-9).

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K Toner Cartridge Empty

The Toner Dispense Motor (K) rotation time has reached the defined value and Toner Empty was detected.

Applicable Chain-Link Code

- **093-912**: K Toner Cartridge Empty

Initial Actions

- Check the Toner Cartridge life.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Toner Cartridge (K), PL5.1.1	

1. Replace the Toner Cartridge (K) (REP 1.1, page 8-9).

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Toner K CRUM Not In Position

The Toner CRUM (K) is not in the proper position.

Applicable Chain-Link Code

- **093-916**: Toner K CRUM Not In Position

Initial Actions

- Check the Toner Cartridge life.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Toner Cartridge (K), PL5.1.1 ■ Toner CRUM Coupler Assy (K), PL5.1.8 ■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Check the connection between the MCU PWB J411 and the Toner CRUM Coupler Assembly (K) J123 for open circuit, short circuit, and poor contact. Also, remove and reinstall the Toner Cartridge (K) and check for improper installation.
3. If no problems are found, replace the following parts in sequence:
   - Toner Cartridge (K) (REP 1.1, page 8-9)
   - Toner CRUM Coupler Assembly (K) (PL5.1.8)
   - MCU PWB (REP 18.12, page 8-202)

Toner K CRUM Communication Fail

Communication failure with Toner CRUM (K) was detected.

Applicable Chain-Link Code

- **093-924**: Toner K CRUM Comm Fail

Initial Actions

- Check the Toner Cartridge life.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Toner Cartridge (K), PL5.1.1 ■ Toner CRUM Coupler Assy (K), PL5.1.8 ■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Check the connection between the MCU PWB J411 and the Toner CRUM Coupler Assembly (K) J123 for open circuit, short circuit, and poor contact. Also, remove and reinstall the Toner Cartridge (K) and check for improper installation.
3. If no problems are found, replace the following parts in sequence:
   - Toner Cartridge (K) (REP 1.1, page 8-9)
   - Toner CRUM Coupler Assembly (K) (PL5.1.8)
   - MCU PWB (REP 18.12, page 8-202)

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Toner K CRUM Data Broken Fail/ Toner K CRUM Data Mismatch Fail

The system detected that the data written to the Toner CRUM (K) and the data read from the Toner CRUM (K) do not match.

Incorrect authentication area data was detected in Toner CRUM (K).

Applicable Chain-Link Codes

- **093-925**: Toner K CRUM Data Broken Fail
- **093-926**: Toner K CRUM Data Mismatch Fail

Initial Actions

- Check the Toner Cartridge life.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Toner Cartridge (K), PL5.1.1	

1. Remove and reinstall the Toner Cartridge (K) and check for improper installation (REP 1.1, page 8-9).
2. If no problems are found, replace the Toner Cartridge (K) (REP 1.1, page 8-9).

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Toner M CRUM Communication Fail

Communication failure with Toner CRUM (M) was detected.

Applicable Chain-Link Code

- **093-941**: Toner M CRUM Comm Fail

Initial Actions

- Check the Toner Cartridge life.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Toner Cartridge (M), PL5.1.3 ■ Toner CRUM Coupler Assy (M), PL5.1.8 ■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Check the connection between the MCU PWB J411 and the Toner CRUM Coupler Assembly (M) J121 for open circuit, short circuit, and poor contact. Also, remove and reinstall the Toner Cartridge (M) and check for improper installation.
3. If no problems are found, replace the following parts in sequence:
   - Toner Cartridge (M) (REP 1.1, page 8-9)
   - Toner CRUM Coupler Assembly (M) (PL5.1.8)
   - MCU PWB (REP 18.12, page 8-202)

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Toner C CRUM Communication Fail

Communication failure with Toner CRUM (C) was detected.

Applicable Chain-Link Code

- **093-942**: Toner C CRUM Comm Fail

Initial Actions

- Check the Toner Cartridge life.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Toner Cartridge (C), PL5.1.2 ■ Toner CRUM Coupler Assy (C), PL5.1.8 ■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Check the connection between the MCU PWB J411 and the Toner CRUM Coupler Assembly (C) J122 for open circuit, short circuit, and poor contact. Also, remove and reinstall the Toner Cartridge (C) and check for improper installation.
3. If no problems are found, replace the following parts in sequence:
   - Toner Cartridge (C) (REP 1.1, page 8-9)
   - Toner CRUM Coupler Assembly (C) (PL5.1.8)
   - MCU PWB (REP 18.12, page 8-202)

Toner Y CRUM Communication Fail

Communication failure with Toner CRUM (C) was detected.

Applicable Chain-Link Code

- **093-943**: Toner Y CRUM Comm Fail

Initial Actions

- Check the Toner Cartridge life.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Toner Cartridge (Y), PL5.1.4 ■ Toner CRUM Coupler Assy (Y), PL5.1.8 ■ MCU PWB, PL18.3.6	

1. Turn the power Off and On.
2. Check the connection between the MCU PWB J411 and the Toner CRUM Coupler Assembly (Y) J120 for open circuit, short circuit, and poor contact. Also, remove and reinstall the Toner Cartridge (Y) and check for improper installation.
3. If no problems are found, replace the following parts in sequence:
   - Toner Cartridge (Y) (REP 1.1, page 8-9)
   - Toner CRUM Coupler Assembly (Y) (PL5.1.8)
   - MCU PWB (REP 18.12, page 8-202)

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Toner Y CRUM Data Broken Fail/ Toner Y CRUM Data Mismatch Fail

The system detected that the data written to the Toner CRUM (Y) and the data read from the Toner CRUM (Y) do not match.

Incorrect authentication area data was detected in Toner CRUM (Y).

Applicable Chain-Link Codes

- **093-950**: Toner Y CRUM Data Broken Fail
- **093-960**: Toner Y CRUM Data Mismatch Fail

Initial Actions

- Check the Toner Cartridge life.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Toner Cartridge (Y), PL5.1.4	

1. Remove and reinstall the Toner Cartridge (Y) and check for improper installation (REP 1.1, page 8-9).
2. If no problems are found, replace the Toner Cartridge (Y) (REP 1.1, page 8-9).

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Toner M CRUM Data Broken Fail/ Toner M CRUM Data Mismatch Fail

The system detected that the data written to the Toner CRUM (M) and the data read from the Toner CRUM (M) do not match.

Incorrect authentication area data was detected in Toner CRUM (M).

Applicable Chain-Link Codes

- **093-951**: Toner M CRUM Data Broken Fail
- **093-961**: Toner M CRUM Data Mismatch Fail

Initial Actions

- Check the Toner Cartridge life.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Toner Cartridge (M), PL5.1.3	

1. Remove and reinstall the Toner Cartridge (M) and check for improper installation (REP 1.1, page 8-9).
2. If no problems are found, replace the Toner Cartridge (M) (REP 1.1, page 8-9).

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Toner C CRUM Data Broken Fail/ Toner C CRUM Data Mismatch Fail

The system detected that the data written to the Toner CRUM (C) and the data read from the Toner CRUM (C) do not match.

Incorrect authentication area data was detected in Toner CRUM (C).

Applicable Chain-Link Codes

- **093-952**: Toner C CRUM Data Broken Fail
- **093-962**: Toner C CRUM Data Mismatch Fail

Initial Actions

- Check the Toner Cartridge life.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Toner Cartridge (C), PL5.1.2	

1. Remove and reinstall the Toner Cartridge (C) and check for improper installation (REP 1.1, page 8-9).
2. If no problems are found, replace the Toner Cartridge (C) (REP 1.1, page 8-9).

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Toner Y CRUM Not In Position

The Toner CRUM (Y) is not in the proper position.

Applicable Chain-Link Code

- **093-970**: Toner Y CRUM Not In Position

Initial Actions

- Check the Toner Cartridge life.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Toner Cartridge (Y), PL5.1.4 ■ Toner CRUM Coupler Assy (Y), PL5.1.8 ■ MCU PWB, PL18.3.6	

1. Remove and reinstall the Toner Cartridge (Y) (REP 1.1, page 8-9).
2. Clean the connection terminals between the Toner Cartridge (Y) CRUM PWB and the Toner CRUM Coupler Assembly (Y) CRUM with dry cloth. (When cleaning, do not use drum cleaner, etc.)
3. Check the following:
   - The connection between the MCU PWB J411 and the Toner CRUM Coupler Assembly (Y) J120 for open circuit, short circuit, and poor contact.
   - The connection terminals between the Toner Cartridge (Y) CRUM PWB and the Toner CRUM Coupler Assembly (Y) CRUM for damage and debris.
   - The Toner Cartridge (Y) for improper installation.
4. If no problems are found, replace the following parts in sequence:
   - Toner Cartridge (Y) (REP 1.1, page 8-9)
   - Toner CRUM Coupler Assembly (Y) (PL5.1.8)
   - MCU PWB (REP 18.12, page 8-202)

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Toner M CRUM Not In Position

The Toner CRUM (M) is not in the proper position.

Applicable Chain-Link Code

- **093-971**: Toner M CRUM Not In Position

Initial Actions

- Check the Toner Cartridge life.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Toner Cartridge (M), PL5.1.3 ■ Toner CRUM Coupler Assy (M), PL5.1.8 ■ MCU PWB, PL18.3.6	

1. Remove and reinstall the Toner Cartridge (M) (REP 1.1, page 8-9).
2. Clean the connection terminals between the Toner Cartridge (M) CRUM PWB and the Toner CRUM Coupler Assembly (M) CRUM with dry cloth. (When cleaning, do not use drum cleaner, etc.)
3. Check the following:
   - The connection between the MCU PWB J411 and the Toner CRUM Coupler Assembly (M) J121 for open circuit, short circuit, and poor contact.
   - The connection terminals between the Toner Cartridge (M) CRUM PWB and the Toner CRUM Coupler Assembly (M) CRUM for damage and debris.
   - The Toner Cartridge (M) for improper installation.
4. If no problems are found, replace the following parts in sequence:
   - Toner Cartridge (M) (REP 1.1, page 8-9)
   - Toner CRUM Coupler Assembly (M) (PL5.1.8)
   - MCU PWB (REP 18.12, page 8-202)

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Toner C CRUM Not In Position

The Toner CRUM (C) is not in the proper position.

Applicable Chain-Link Code

- **093-972**: Toner C CRUM Not In Position

Initial Actions

- Check the Toner Cartridge life.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ Toner Cartridge (C), PL5.1.2 ■ Toner CRUM Coupler Assy (C), PL5.1.8 ■ MCU PWB, PL18.3.6	

1. Remove and reinstall the Toner Cartridge (C) (REP 1.1, page 8-9).
2. Clean the connection terminals between the Toner Cartridge (C) CRUM PWB and the Toner CRUM Coupler Assembly (C) CRUM with dry cloth. (When cleaning, do not use drum cleaner, etc.)
3. Check the following:
   - The connection between the MCU PWB J411 and the Toner CRUM Coupler Assembly (C) J122 for open circuit, short circuit, and poor contact.
   - The connection terminals between the Toner Cartridge (C) CRUM PWB and the Toner CRUM Coupler Assembly (C) CRUM for damage and debris.
   - The Toner Cartridge (C) for improper installation.
4. If no problems are found, replace the following parts in sequence:
   - Toner Cartridge (C) (REP 1.1, page 8-9)
   - Toner CRUM Coupler Assembly (C) (PL5.1.8)
   - MCU PWB (REP 18.12, page 8-202)

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IBT Front Cover Open

The Front Cover Open was detected by the IBT Front Cover Switch.

Applicable Chain-Link Code

- **094-300**: IBT Front Cover

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU PWB, PL18.3.6	

1. Perform the following steps:
   - Check the Front Cover for damage or mismatch.
   - Perform the **Switches** test in Diagnostics.
   - Check the connection between the IBT Front Cover Switch J272 and the MCU PWB J416 for open circuit, short circuit, and poor contact.
2. If no problems are found, replace the MCU PWB (REP 18.12, page 8-202).

1st BTR Contact/ Retract Fail

After the 1st BTR Contact/ Retract operation has started, it does not complete within the specified time.

Applicable Chain-Link Code

- **094-320**: 1st BTR Contact/Retract Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ 1st BTR Contact Retract Clutch, PL3.2.12 ■ 1st BTR Contact Retract Sensor, PL3.2.17 ■ MCU PWB, PL18.3.6	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Perform the **BTR Retract Sensors** test in Diagnostics. Remove the 1st BTR Contact Retract Sensor Bracket and use a sheet of paper, etc. to block/ clear the light path to the 1st BTR Contact Retract Sensor. Does the display change between High/ Low?	Go to step 2.	Go to "General Sensor Failure" on page 3-28 to troubleshooting the 1st BTR Contact Retract Sensor.
2	Install the 1st BTR Contact Retract Sensor Bracket. Perform the **BTR Retract Sensors** test in Diagnostics. Does it contact/ retract?	Replace the MCU PWB (REP 18.12, page 8-202).	Go to step 3.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
3	Remove the IBT and check the following: ■ The IBT Belt Unit for mechanical loading and damage ■ The 1st BTR Contact Retract Gear for wear, damage, or operation failure ■ The 1st BTR Contact Retract Clutch for improper installation ■ The 1st BTR Contact Retract Sensor for improper installation ■ The connection between the 1st BTR Contact Retract Clutch J250 and the MCU PWB J417 for open circuit, short circuit, and poor contact Are they normal, without any short circuit, poor contact, or improper installation?	Replace the 1st BTR Contact Retract Clutch (PL3.2.12).	Repair the short circuits, poor contacts, or improper installations.

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2nd BTR Contact/ Retract Fail

After the 2nd BTR Contact/ Retract operation has started, it does not complete within the specified time.

Applicable Chain-Link Code

- **094-323**: 2nd BTR Contact/Retract Fail

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ 2nd BTR Contact Retract Sensor, PL14.4.7 ■ 2nd BTR Contact Retract Motor, PL14.4.10 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Perform the **BTR Retract Sensors** test in Diagnostics. Move the Shielding Board of the 2nd BTR Contact Retract Sensor manually to block/ clear the light path to the 2nd BTR Contact Retract Sensor. Does the display change between High/ Low?	Go to step 2.	Go to "General Sensor Failure" on page 3-28 to troubleshooting the 1st BTR Contact Retract Sensor.
2	Perform the **BTR Retract Sensors** test in Diagnostics. Does it contact/ retract?	Replace the following parts in sequence: ■ Motor Drive PWB (REP 18.13, page 8-204) ■ MCU PWB (REP 18.12, page 8-202).	Go to step 3.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
3	Remove the IBT and check the following: ■ The 2nd BTR Contact Retract Gear for wear, damage, or rotation failure ■ The 2nd BTR Contact Retract Motor for improper installation ■ The 2nd BTR Contact Retract Sensor for improper installation ■ The connection between the 2nd BTR Contact Retract Motor J280 and the Motor Drive PWB J524 for open circuit, short circuit, and poor contact Are they normal, without any short circuit, poor contact, or improper installation?	Replace the 2nd BTR Contact Retract Motor (REP 14.10, page 8-158).	Repair the short circuits, poor contacts, or improper installations.

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Belt Home Fail Too Long

One of two conditions can cause this error:

1. The engine senses that the IBT Belt Drive Motor is not turning.
2. Or, the MOB Sensor does not see RegiCon chevrons on the IBT Belt.

Note

Although this Fail can be cleared up to 2 times by turning the power Off and On, when this failure occurs for the 3rd time, a "tech rep fault" will be generated and the error can no longer be cleared by turning the power Off and On even if the reason for failure has already been corrected. Perform **Clear Tech Rep Faults** in Diagnostics. If the machine is not repaired back to normal status, this fail will occur again during the operation.

Applicable Chain-Link Code

- **094-324**: Belt Home Fail Too Long

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ IBT Belt Unit, PL6.1.10 ■ MOB ADC Assy, PL18.1.4 ■ MCU PWB, PL18.3.6 ■ Motor Drive PWB, PL18.3.7	

1. Perform the following steps:
   - Check the IBT Belt Unit for mechanical loading and damage.
   - Perform the **IBT Belt Motor** test in Diagnostics.
   - If the belt is turning, perform a stall test while the printer is initializing and see if the RegiCon chevrons are printing on the belt. If the chevrons are printing and the IBT belt is moving. Examine the MOB Sensor for obstructions.
   - If the IBT Belt does not turn when the **IBT Belt Motor** test is performed in diagnostics, remove the IBT Belt Assembly and run the **IBT Belt Motor** test again in diagnostics. If the Motor does not turn, replace the following parts in sequence:
     - IBT Drive Motor Assembly (REP 3.10, page 8-36)
     - Motor Drive PWB (REP 18.13, page 8-204)
   - If the IBT Belt Motor runs when the **IBT Belt Motor** test is performed in diagnostics with the IBT Belt Assembly removed, diagnose and repair condition causing the belt assembly to bind.

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- Test the MOB shutter open/closed in diagnostics. If the shutter open/closed test fails, replace the MOB Sensor Assembly (REP 18.3, page 8-189).

Note

A temporary repair to allow the customer to use the printer if a MOB Sensor is not available and the shutter is not functioning correctly, is to remove the shutter from the MOB Assembly until a replacement assembly can be installed.

2. If no problems are found, replace the following parts in sequence:
   - IBT Belt Unit (REP 6.2, page 8-62)
   - MCU PWB (REP 18.12, page 8-202)

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IBT Unit Near End Warning/ IBT Unit End Warning

The IBT Belt Unit needs to be replaced soon.
The IBT Belt Unit must be replaced.

Applicable Chain-Link Codes

- **094-417**: IBT Unit Near End Warning
- **094-420**: IBT Unit End Warning

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ IBT Belt Unit, PL6.1.10	

1. Replace the IBT Belt Unit (REP 6.2, page 8-58).

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IBT CLN Unit Near End Warning/ IBT CLN Unit End Warning

The IBT Cleaner needs to be replaced soon.
The IBT Belt Unit must be replaced.

Applicable Chain-Link Codes

- **094-418**: IBT CLN Unit Near End Warning
- **094-421**: IBT CLN Unit End Warning

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ IBT Belt Cleaner Assy, PL6.1.4	

1. Replace the IBT Belt Cleaner Assembly (REP 6.1, page 8-57).

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2nd BTR Unit Near End Warning/ 2nd BTR Unit End Warning

The 2nd BTR needs to be replaced soon.
The 2nd BTR must be replaced.

Applicable Chain-Link Codes

- **094-419**: 2nd BTR Unit Near End Warning
- **094-422**: 2nd BTR Unit End Warning

Initial Actions

- Power cycle the printer.
- If the problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
■ 2nd BTR Assy, PL 14.2.1	

1. Replace the 2nd BTR Assembly (REP 14.2, page 8-147).

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General Troubleshooting

In this chapter...

- Introduction
- General Troubleshooting Checklist
- System Startup
- Power On Self Test (POST)
- Service Diagnostics
- Control Panel Troubleshooting
- AC Power Troubleshooting
- Power Supply Troubleshooting
- RAM Errors
- Intermittent Problems
- Network Diagnostics
- Media Jams and the Paper Path
- USB Port Testing
- Operating System and Application Problems

Chapter 4

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Introduction

This chapter covers the general startup, PostScript, and power supply operations of the printer to aid in troubleshooting problems not associated with an error code or Control Panel error message.

For troubleshooting problems associated with an error code or Control Panel error message, refer to the individual Status Indicator RAPs.

Troubleshooting procedures isolates a problem to a specific component or subassembly, in some cases including the wiring harness.

Service Diagnostics are to be executed by a certified service technician only through the Service Diagnostics Menu: **Printer Menu** -> **Troubleshooting** -> **Service Tools** -> **Printer Status Page** -> hold the **Up** and **Down** buttons simultaneously -> **Run Service Diagnostics** -> **OK**.

General Troubleshooting Checklist

Before starting to troubleshoot, always check these items.

1. Check the supply voltage. Is the printer plugged directly into the wall outlet? Is the wall outlet voltage within printer specifications?
2. Check the Power Cord connection and condition.
3. Check the installation environment. Is the installation in an area that exposes the printer to temperatures, humidity, direct sunlight, or dust that exceed specifications?
4. Is the printer installed on a stable, level surface?
5. Check the condition of the media. Is the media in good condition, within media specifications, and loaded correctly?
6. Check the printer's condition. Are there accumulations of dust at the air vents? Check the life counts of the CRU components.

Fault Isolation

Test prints can isolate printing problems to the MCU Board or Image Processor Board by eliminating image data transfer between the two. Test prints print directly from ROM bypassing the Image Processor Board. This allows examination of Engine Control Board function in isolation.

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.

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If the printer successfully prints the test print, replace the Image Processor Board. If the printer fails to print a test print, troubleshoot the print engine starting with the "AC Power Troubleshooting" on page 4-13.

System Startup

Listed here is a typical startup routine from a cold start. The printer requires approximately 45 seconds to complete this sequence.

1. When the power switch is turned On, the 'Health' LED on the Image Processor Board turns on immediately.
2. System RAM is tested. If an error is detected, RAM ERROR displays and one or both of the Control Panel and Health LEDs alternately blink at 1/2 second intervals.
3. The Boot Loader then loads and runs POST diagnostics.
4. POST turns off the Health LED.
5. POST checks the Control Panel.
6. POST checks the keypad buffer. If a shortcut has been selected, the printer displays Processing Input and the shortcut executes. If a random button is pushed, or there is an indication of a button press, Processing Input displays and POST continues. If no buttons have been pushed, POST continues execution.
7. The display is reset (addressable area turns "Gray").
8. The Control Panel LED cycles: Green, Yellow, Red, and then Off.
9. The display backlight turns on (high intensity), with nominal contrast display.
10. The display area is turned on, dark black for 1 second.
11. The display is cleared.
12. The display backlight turns on with nominal intensity.
13. The POST Vn.nn message displays, and tests are quickly executed.
14. For Hard Faults, the display indicates the last test run and "CALL SERVICE".
15. After the POST tests have successfully finished, the Xerox 'splash screen' displays on the Control Panel and PostScript begins initialization.
16. The Control Panel LED turns Green and the display reads Warming up - Please wait.
17. The Control Panel LED turns Green and the display reads Ready to Print.

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Power On Self Test (POST)

POST diagnostics provide a quick means of isolating a defective subsystem associated with the Image Processor Board and SDRAM. There are two kinds of POST faults: soft and hard. A soft fault is any fault that allows the operating system to initialize. Soft faults do not stop printer operation and are reported on the Startup page after the system is running. A hard fault prevents the operating system from initializing stopping further printer operation. Hard faults are indicated with blinking LEDs and the failed test appearing on the display.

The following tests execute when the printer is powered on after the Boot Loader runs, and before the operating system is loaded and initialized. Bypass POST by pressing the **OK** button at power on until the splash screen displays.

POST Test Descriptions

Test No.	Test Name	Fault Code (Hard, Soft)	Description
1	DDR2 SDRAM	H: 1 (Special)	Boot loader tests this. DDR2 type RAM
14	Real Time Clock	S: 14 (POST_DEV_RTC)	Test performed.
3	I/O ASIC	H: 3	No test performed.
4	Memory	H: 4	No test performed.
5	Configuration Chip	N/A	No test performed. This is redundant and of no additional value. Postscript is perfectly capable of alerting the user to a Configuration Chip issue. If Postscript reports a problem with the Configuration Chip, examine the socket for damage, reseat the Configuration Chip and power cycle the printer.
10	EEPROM	H: 10	Test performed.
11	Ethernet	H: 11 (POST_DEV_ETH)	Test performed.
12	CPU Interrupts	H: 12	Test performed.
13	USB	S: 13 (POST_DEV_USB)	No test performed. Limited value. The ability to perform I/O is what matters to an end-user. This test never did any I/O check. In customer mode, simply print via USB.
14	Real Time Clock	S: 14 (POST_DEV_RTC)	
15	RAM DIMM	S: 15 (POST_DEV_DIMM)	No test performed. No added value.

POST Test Descriptions (Continued)

Test No.	Test Name	Fault Code (Hard, Soft)	Description
16	Min RAM Limits	H: 16	Checks if sufficient RAM installed.
17	Max RAM Limits	S: 17 (POST_DEV_DIMM)	Test performed.
20	IDE Disk	S: 20 (POST_DEV_IDEOPT)	No test performed.
24	CPU Fan	H: 24	No test performed. Passive heatsink.
25	Cage Fan	H: 25	No test performed.
14	Real Time Clock		Test performed.

POST Soft Fault Messages

When POST detects a soft error, the printer continues the startup process. Before the printer reaches Ready state, the Startup page is printed with soft errors appearing in a red box. The box contains all soft faults encountered, with the upper left corner of the box in the center of the Startup page, and extending to the right margin, similar to the one shown here.

Hardware Failure:
<device>:
General Failure

These messages are substituted for <device>:

- Ethernet
- Real-Time Clock
- Max RAM Limit

For ethernet, and real-time clock errors, replace the Image Processor Board. For memory errors, see "RAM Errors" on page 4-17.

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POST Hard Fault Messages

POST indicates a hard fault by displaying a message on the Control Panel and blinking the fault code on the Health and Control Panel LEDs. There are long and short blinks. A long blink is worth 5 and a short blink is worth 1. As an example, a blink pattern flashed as long, long, short, short, represents fault code 5+5=10, indicating a failure in the EEPROM test. Along with the blinking LEDs, the failed test also displays as:

Power On Self Test Error
10:EEPROM
CALL SERVICE SUPPORT

The exception to this reporting scheme is a RAM test error. The Boot Loader executes a RAM test prior to loading POST. If the Boot Loader encounters a RAM error, POST does not load.

Hard Error LED Blink Patterns and Messages

LED Blink Pattern	Control Panel Message	Action
5+5	10: EEPROM	1. Switch Off printer power. 2. Remove and re-install the NVRAM EEPROM. 3. Switch On printer power. 4. If the error message persists, replace NVRAM, and then the Image Processor Board.
5+5+1+1	12: CPU INTERRUPTS	Replace Image Processor Board.
5+5+5+1	16: Min RAM	Add additional memory.

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Service Diagnostics

Service Diagnostics provides tests for most electro-mechanical components in the printer. Service Diagnostics also contains test prints, printer status and some NVRAM access. If confronted with an error that requires more than a cursory investigation to clear or when directed by a troubleshooting procedure, use Service Diagnostics to exercise selected sub-assemblies of parts in the vicinity of the reported error. Tests are controlled from the Control Panel and are described in detail in the Appendix ("Reference" on page 11-1).

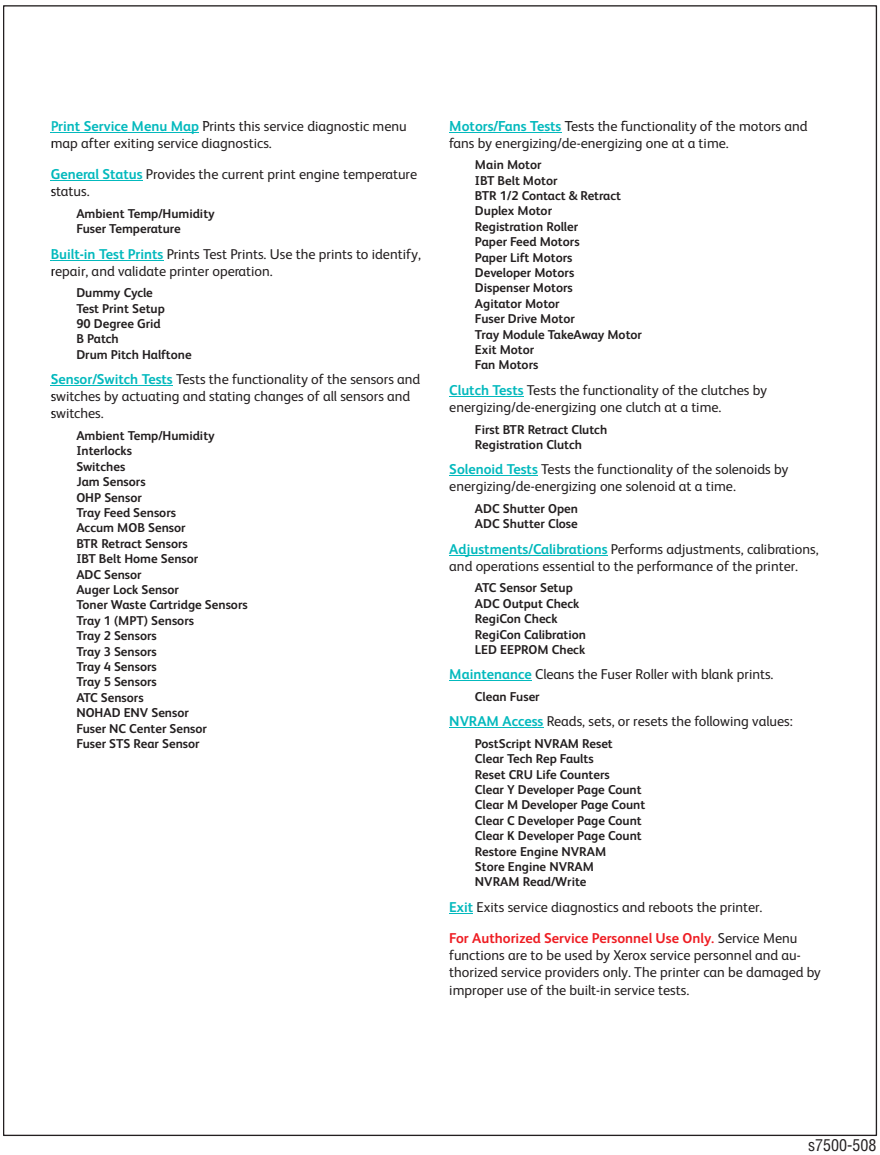
The Service Diagnostics Main menu offers these options listed in the following table.

Service Diagnostics Main Menu

Menu Item	Test Target
Print Service Menu Map	Prints the Service Diagnostics menu map.
General Status	Query information about the status, versions, and counts.
Built-in Test Prints	Isolate problems with Xerographics and paper handling.
Sensor/Switch Test	Tests sensor status and operation.
Motors/Fan Tests	These tests exercise each motor or fan.
Clutch Tests	Tests clutch function.
Solenoid Tests	Tests solenoid function.
Adjustments/ Calibrations	Clean the IDT rollers in the Imaging Unit.
Maintenance	Clean the Fuser rollers using chase pages.
Exit	Exits Service Diagnostics and reboots the printer.

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Service Diagnostics Menu



s7500-508

Using Service Diagnostics

Warning

While in diagnostics mode, the printer will not power Off using the Power Switch. To properly power Off the printer, exit diagnostics, and after reboot, set the Power Switch to the Off position.

The printer's operating system monitors sensors located throughout the print engine and attached options. Sensor signals are used to monitor media handling and mechanical activity along the entire media path. As a sheet travels along the paper path, sensors change state temporarily to indicate the sheet's presence. If the pattern of sensor state changes differs from the expected timing for a particular media size and path, the sensor where the timing difference occurs identifies the error to report.

However, having the error message information doesn't necessarily pinpoint the problem. Sensor signals locate where, but often cannot identify why. Motors, belts, gears, solenoids, and numerous other parts are involved in media transport. The Service Diagnostics' suite of tests and utilities are the best tools available to pinpoint the root cause behind the reported error.

Entering Service Diagnostics by Rebooting the Printer

1. Turn the Printer power **Off**.
2. Hold down the **Back** button and **Help** buttons simultaneously and turn the Printer back **On**.
3. Continue to hold the buttons until the following message is displayed on the Control Panel: **Service Diagnostics V#.##, Initializing...**, and then release the buttons.
4. The Control Panel displays the Service Diagnostics Menu.
   a. You can print a Service Diagnostics Menu Map by highlighting **Print Service Menu Map** and pressing **OK**.
   b. The printer will run through POST and return to **Ready**.
   c. You will need to re-enter the Service Diagnostics menu.

Entering the Service Menu without Rebooting the Printer

1. Scroll to the **Troubleshooting** -> **Service Tools** -> **Printer Status Page** menu.
2. Hold down the **Up** and **Down** buttons simultaneously.

Note

You can print a Service Diagnostics Menu by highlighting **Service Diagnostics Menu Map** and pressing **OK**.

3. Scroll down the menu to select **Run Service Diagnostics** and press **OK**.
4. The Control Panel displays the Service Diagnostics Menu.

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Service Diagnostics Controls

Button Functions in Service Diagnostics

Button	Function
Cancel	Cancel the current test, print job, or Informational display.
Back	Returns to the prior higher level menu structure, if available. If Help text is displayed, pressing Back restores the current menu item and remove the Help text.
Help	Displays help information such as: Printer Status, Warning Message, Walk-up Features, printer Information, Paper Tray Setup, Printer Setup, and Troubleshooting.
Up	Scrolls up one menu within a menu list.
Down	Scrolls down one menu within a menu list.
OK	Accepts the selected setting. Executes the current test item.

Control Panel Shortcuts

The following information are Control Panel button sequences that provide shortcuts to specific commands when pressed while turning On the printer's power.

Mode	Buttons Pressed at Power On
Skip POST Diagnostics	OK
Print Service Diagnostics Menu Map	Help (?)
Reset PostScript NVRAM	Back + OK
Password Bypass	Up Arrow + Down Arrow
Enter Service Diagnostics	Back + Help (?)

Note

The best method of exiting Service Diagnostics is to cycle printer power. This insures all printer components are reset. Also, an occasional paper jam is normal on the first print if clutch or solenoid tests were run.

Hidden Service Menu

The Hidden Service menu includes a list of functions providing direct access to Service Diagnostics, the test prints, the Service Diagnostics menu map, and the Enable Metered Toner routine. Access the Hidden Service menu as follows:

1. Highlight **Troubleshooting** -> **Service Tools**.
2. With the cursor at the top of the Service Tools menu, press the **Cancel** or **Up Arrow** button and press the **Down Arrow** button.

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Control Panel Troubleshooting

Follow the steps below in order depending on the symptom. Test the printer after each step to see if the problem has been resolved.

Control Panel is functional, but the printer does not come to a “Ready” state

1. Disconnect the printer from the network or USB.
2. Power Off the printer.
3. Remove and reseat the Image Processor Board (REP 35.1, page 8-220).
4. Reseat the configuration Card (REP 1.5, page 8-15).
5. Feel the Ffuser to see if it is warm, if not, try replacing the Fuser (REP 7.1, page 8-67).
6. Refer to “Power Supply Troubleshooting” on page 4-15.

Control Panel LED is On, Control Panel Display is Blank

Will the printer print a job that is sent to it? If yes, start at step #2.

1. Remove and reseat the Image Processor Board (REP 35.1, page 8-220).
2. Check to see if the wiring harness has been disconnected from the Control Panel. If the connection is OK, replace the Control Panel (REP 19.2, page 8-211).
3. Replace the Control Panel wiring harness.
4. Replace the Image Processor Board (REP 35.1, page 8-220).
5. Refer to “Power Supply Troubleshooting” on page 4-15.
6. A LVPS Fan failure can also cause the printer to not enable +24 vdc. This can appear to be a failure of the LVPS. Verify that the Fan turns on when the printer is turned on.

Printer Hangs with the Xerox Logo Displayed, or reboots

1. Verify that the printer is plugged directly into a wall outlet and that the circuit is capable of meeting the power specifications for the printer (voltage within the specified range and less than a 10 % drop in voltage when printing). The printer will not perform reliably when plugged into a surge protector, power strip or an un-interruptible power supply.
2. Power off the printer, disconnect the network or USB cable and then power the printer back on. If the printer comes to Ready, print an internal page from the printer information menu. Then make a print from a laptop connected directly to the printer; if both of these are successful, the problem is a network issue and normal network troubleshooting procedures should be used. If the printer does not come to Ready, try pressing the **Cancel** button to clear any jobs from the queue that could be causing the printer to hang. The **Cancel** button may have to be pressed multiple times to clear out all jobs. Then try to print internal pages and from a laptop again.
3. Run "Network Diagnostics" from the Troubleshooting menu: **Troubleshooting -> Service Tools -> Network Troubleshooting**. Correct any issues identified in the test results.
4. Reset NVRAM: **Troubleshooting -> Service Tools -> Reset NVRAM**.

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5. Remove and reseat the Configuration Card (REP 1.5, page 8-15).
6. Remove and reseat the Image Processor Board (REP 35.1, page 8-220).
7. Try printing one of the prints from Diagnostics.
8. Replace individually, in order of priority:
   - Configuration Card (REP 1.5, page 8-15).
   - Image Processor Board EEPROM (PL35.1.12) (REP 35.1, page 8-220)
   - Image Processor Board (REP 35.1, page 8-220)
9. Corrupt NVRAM on the Engine Control Board (MCU) can cause the printer to continually reboot. As a last step, try replacing the Engine Control Board (REP 18.12, page 8-202).

AC Power Troubleshooting

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ GFI, PL18.1.15 ■ Power Cord, PL18.1.23 ■ Main LVPS, PL18.1.11 ■ Main Power Switch kit, PL18.1.24	■ "Map 5 - Back Plane, GFI, TM Relay, Fuser Fan" on page 10-21

Troubleshooting Procedure Table

Step	Action and Questions	Yes	No
1	Does the GFI Breaker trip?	Go to step 3.	Go to step 2.
2	Reset the GFI Breaker. Does the Breaker trip again?	Check AC for a short circuit.	Troubleshooting complete.
3	Is line voltage available at GFI Breaker terminals 1 and 2?	Go to step 6.	Go to step 4.
4	Disconnect the Power Cord. Is line voltage available at the wall outlet?	Go to step 5.	Advise the customer.
5	Check the Power Cord. Is the Power Cord undamaged?	Replace the GFI (REP 18.9, page 8-196).	Replace the Power Cord.
6	Unplug the Power Cord and disconnect J1 on the Main LVPS. Check these connections. ■ GFI Breaker J10 <=> Main LVPS J1-1 ■ GFI Breaker J11 <=> Main LVPS J1-3 Are the circuits secure?	Go to step 7.	Repair the wiring.
7	Turn the power On. Is the voltage between the Main LVPS J4-1 and J4-3 110V/220V?	Check the AC circuit to each component.	Go to step 8.
8	Is the voltage between the Main Power Switch P57 110V/220V?	Repair connections in these circuits: ■ Power Switch P57 <=> Main LVPS J4-1 ■ Power Switch P61 <=> Main LVPS J4-3	Go to step 9.

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Troubleshooting Procedure Table (Continued)

9	Is the voltage between the Main Power Switch P60 and P58 110V/ 220V?	Replace the Power Switch Kit (PL18.1.24).	Go to step 10.
10	Unplug the Power Cord and disconnect J4 on the Main LVPS. Check these connections. ■ Power Switch P60 <=> Main LVPS J4-4 ■ Power Switch P58 <=> Main LVPS J4-6 Are they normal, without any open circuit, poor contact, and etc.?	Replace the Main LVPS (page 8-194).	Repair the open circuit and poor contact.

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Power Supply Troubleshooting

+5 VDC Power Troubleshooting

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Main LVPS, PL18.1.11	■ "Map 9 - Main LVPS, Waste Toner Bottle" on page 10-25

Troubleshooting Procedure Table

Step	Action and Questions	Yes	No
1	Turn On the power. Is the voltage between the Main LVPS J510-1 (+) and the GND (-) +5VDC?	Go to step 4.	Go to step 2.
2	Is the voltage between the Main LVPS J4-1 and J4-3 line voltage?	Go to step 3.	Go to "AC Power Troubleshooting" on page 4-13.
3	Turn the power Off and disconnect the Main LVPS J501 and J510. Turn On the printer 15 seconds later. Is the voltage between the Main LVPS J510-1 (+) and the GND (-) +5VDC?	Check the +5VDC circuit for a short circuit to ground.	Replace the Main LVPS (REP 18.7, page 8-194).
4	Is the voltage between the Main LVPS J510-2 (+) and the GND (-) +5VDC?	Check the wire to the relevant component for an open circuit and poor continuity.	Replace the Main LVPS (REP 18.7, page 8-194).

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+24 VDC Power

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Main LVPS, PL 18.1.11	■ "Map 9 - Main LVPS, Waste Toner Bottle" on page 10-25

Troubleshooting Procedure Table

Step	Action and Questions	Yes	No
1	Turn On the power. Is the voltage between the Main LVPS J501-5 (+) and the GND (-) +24 VDC?	Go to step 4.	Go to step 2.
2	Is the voltage between the Main LVPS J4-1 and J4-3 line voltage?	Go to step 3.	Go to the "AC Power Troubleshooting" on page 4-13.
3	Turn the power Off and disconnect the Main LVPS J501 and J510. Turn On the printer 15 seconds later. Is the voltage between the Main LVPS J501-5 (+) and the GND (-) +24 VDC?	Check the +24VDC circuit for a short circuit to ground.	Replace the Main LVPS (REP 18.7, page 8-194).
4	Is the voltage between the Main LVPS J510-3 (+) and the GND (-) +24 VDC?	Check the wire to the relevant component for an open circuit and poor contact.	Replace the Main LVPS (REP 18.7, page 8-194).

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RAM Errors

Image Processor Board RAM memory has failed or is not installed. A minimum of 512 MB of RAM must be installed for proper printer operation. The printer supports DDR2, 200-pin DIMMs. The printer accepts modules of 512 MB or 1 GB in combinations up to 2 GB.

Error on the Startup page:

- Min RAM Limit

Error on the Control Panel:

- Power On Self Test Error 16: Minimum RAM Limit

Initial Actions:

Check that the RAM devices are making positive contact with their connectors.

1. Power Off the printer.
2. Remove and re-install the memory after verifying it meets the Xerox specifications. See “Memory Specifications” on page 1-13. If the problem persists, use the following procedure to correct it.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack References
■ Image Processor Board, PL35.1.4 ■ Memory, PL35.1.8	

Troubleshooting Procedure Table

Step	Action and Questions	Yes	No
1	Is 16: Min RAM Limit displayed on the Control Panel?	Go to step 3.	Go to step 2.
2	Print a Startup page. Does the Startup page identify a failed memory DIMM?	Replace the DIMM (REP 1.4, page 8-13). Go to to step 7.	Go to step 3.
3	Are there two DIMMs installed?	Go to step 4.	Go to step 6.
4	Cycle system power. Is a memory fault message displayed?	Go to step 6.	Go to step 5.

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Troubleshooting Procedure Table (Continued)

Step	Action and Questions	Yes	No
5	Power Off the printer and remove the first DIMM. Install the second DIMM and power On the printer. Is a memory fault message displayed?	Go to step 6.	Go to step 7.
6	Power Off the printer and move the suspected defective DIMM to the other memory socket. Power On the printer. Does the DIMM fail in the new location?	Replace the DIMM (REP 1.4, page 8-13). Go to step 7.	Replace the I/P Board (REP 35.1, page 8-220).
7	Install all of the DIMMs and power On the printer. Is a memory fault message displayed?	Replace the I/P Board (REP 35.1, page 8-220).	Troubleshooting complete.

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Intermittent Problems

This is not an exact procedure, but a set of recommended actions that use the resources of the service manual to help locate the cause of an intermittent problem.

1. Check the error logs. Recent service actions may provide information about the problem. For example, a component that was recently replaced to correct another problem may cause the new intermittent problem.
2. Run the printer in a mode that exercises the suspect function. The printer may fail more frequently or may fail completely under these conditions. Look for signs of failure or abnormal operation. An intermittent problem is usually associated with a fault code, a jam code, or some other observable symptom.
3. Using the troubleshooting procedure associated with the symptom of the intermittent problem, examine all applicable parts. Look for:
   - contamination, such as a feed roller that has a build up of dirt or toner
   - wear, such as gear teeth that are rounded or have excessive backlash
   - HFSI, even if they are not near or have not exceeded life values
   - chafing wires, especially against moving components
   - misaligned, misadjusted, or incorrectly installed components
   - slow or slipping clutches; slow or binding solenoids
   - damaged components
   - excessive heat, or symptoms of excessive heat, such as the discoloration of a component
   - loose cables or wires
   - packing materials not removed
4. Using the troubleshooting procedure associated with symptoms of the intermittent problem, perform all adjustments related to the applicable parts listed in the troubleshooting table. Verify adjustments can be made, there is an adequate range of adjustment, and the adjustment is set at or near the nominal value. Any abnormality observed may indicate the cause of the problem. For example, a component is adjusted to the nominal value, but it is at the limit of the adjustment range. This is not normal and may indicate of the cause of the problem.
5. Using Service Diagnostics, operate all applicable parts listed in the troubleshooting table associated with the intermittent problem. Observe the components for any symptoms of abnormal operation, such as a hesitation, or an unusual sound.
6. Check that the AC and DC power are within specification (refer to “Electrical Specifications” on page 1-13).
7. Get technical advice or assistance when it is appropriate. This will depend upon the situation and the established local procedures.
8. Examine the defective parts associated with the failing function. Refer to the parts list and wiring diagrams to determine part interactions.
9. Perform any adjustments available for the related parts. As with the applicable parts, adjustments should fall within normal tolerances.
10. Operate all of the components that are not in the RAP, but are associated with the function that is failing with in Diagnostics, refer to the BSDs. Observe the components for any symptoms of abnormal operation, such as a hesitation, or an unusual sound.

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11. Replace any components or consumables that are known to be a frequent cause of the problem. When doing this, consider the cost and time required. If the suspected item is inexpensive, can be installed quickly, and has a high probability of resolving the problem, then it is reasonable to replace it.
12. Leave an accurate and detailed record of your actions in the service log. Describe what you have observed, what actions you took, and the recommended next steps.

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Network Diagnostics

Network Diagnostics Overview

This test routine is intended to be used to provide an automated method to check the network configuration of the printer. When the test is initiated through the Control Panel, it will be able to provide an error indicator with suggested resolution for the user.

Diagnostic Status Returned

- Function status - OK (0) if no error is found
- Integer error code - 0 (success - no error), #1 (internal error), #2 thru n [as defined in the Error Codes Returned table] (errors found)
- Pointer to a character string corresponding to the error code returned.

Error Code	External Error String
0	None
1	Internal error. Please provide Network Log pages output to Customer Support (**Troubleshooting** -> **Network Problems** -> **Network Log Pages** -> **TCP/IP Runtime Log**).
2	No network link. Are the LEDs blinking at the printer's network cable connector? Is the network cable plugged into the printer and a known working network port? Try swapping the network cable. If no success, Reset NVRAM and retest.
3	Reset NVRAM, wait 1 minute and retest.
4, 5, 6, 7	Not used
8	This network connection appears to be too busy, suggest separating the printer via a network switch.
9	There may be too many cascaded network hubs or Ethernet speed may be set to the wrong mode. Use the Control Panel to switch Ethernet speed full/half duplex and retest. (**Printer Setup** -> **Connection Setup** -> **Network Setup** -> **Ethernet speed**)
10	TCP/IP is disabled. Use the Control Panel to enable TCP/IP. (**Printer Setup** - > **Connection Setup** -> **Network Setup** -> **TCP/IP Setup** -> **TCP/IP On**)
11	No IP address. (If DHCP enabled, no server responded yet. so wait 1 minute for AutoIP and retest. If DHCP disabled, no server will respond and the address needs to be entered manually or reset NVRAM and reboot the printer.)

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Error Code	External Error String
12	The IP address has not configured properly. Reboot the printer and retest. If the problem persists, reset NVRAM, reboot the printer, and retest.
13	The default gateway is not appropriate for the printer's network. (If DHCP is enabled, inform the network administrator of misconfiguration or use the Control Panel to reset the gateway. From the Control Panel, **Printer Setup** -> **Connection Setup** -> **Network Setup** -> **TCP/IP Setup** -> **TCP/IP Gateway**).
14*	Request the network administrator to check the default gateway.
15	The default gateway is improperly added. Reboot and retest. If the problem persists, reset NVRAM and reboot.
16*	None of the configured DNS name servers respond. (Correct the DNS servers or the DHCP server configuration or remove the DNS server configuration.)
17*	One of the configured DNS name servers does not respond. This is only a warning, but the misconfiguration will prevent the diagnostic test from completing. Remove the offending DNS name server and retest, (or ask the network administrator to correct the DNS name server or the DHCP server configuration).
18	There is no DNS resolution available for the printer's DNS host name or IP address. Ask the network administrator to correct the DNS server (or enable DDNS and ask NA to configure the DHCP server to do DDNS).
19*	None of the configured WINS servers respond. (Correct the WINS servers or the DHCP server configuration or remove the WINS server configuration.)
20*	One of the configured WINS servers does not respond. This is only a warning, but the misconfiguration will prevent the diagnostic test from completing. Remove the offending WINS server and retest (or ask the network administrator to correct the WINS server or the DHCP server configuration).
21	Verify the SMTP server is correct from your network administrator. If you defined it using a DNS host name, the name is un-resolvable by the DNS server; if using an IP address, it may be invalid.
22*	Your SMTP server does not respond. Ask the network administrator to verify that it is responding.
23	The default gateway needs to be defined or the DNS name servers must be on the same network as the printer. From the Control Panel, **Printer Setup** -> **Connection Setup** -> **Network Setup** -> **TCP/IP Setup** -> **TCP/IP Gateway**, (or ask the network administrator to correct the DHCP server configuration).
24	The default gateway needs to be defined or the WINS servers must be on the same network as the printer. From the Control Panel, **Printer Setup** -> **Connection Setup** -> **Network Setup** -> **TCP/IP Setup** -> **TCP/IP Gateway** (or ask the network administrator to correct the DHCP server configuration).

Error Code	External Error String
25	The default gateway needs to be defined or the SMTP server must be on the same network as the printer. From the Control Panel, **Printer Setup** -> **Connection Setup** -> **Network Setup** -> **TCP/IP Setup** -> **TCP/IP Gateway** (or ask the network administrator to correct the DHCP server configuration).
26	No packets being accepted. (**Troubleshooting** -> **Network Problems**-> **Network Log Pages** -> **TCP/IP Runtime Log**)
27	Possible bad Ethernet cable.
28	Resource problem: no receive buffers available.
29	Internal error.
30	Internal error. Unable to authorize port with Authentication Server.
31	Unable to authorize port with Authentication Server. Check that appropriate EAP methods are enabled, certificates are valid, or User-name/Password is valid.
32	No EAP methods are enabled.
33	No client certificate found.
34	No private key found.
35	No root certificate found.
36	No username defined.
37	No password defined.
38, 39	Internal error. No certificates found.

* Denotes warnings which are returned by the API, but are reported in the event log and Console.

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Unable to Print

The printer is unable to communicate with the host computer. Some possible causes include:

- The printer is connected to a different network then the host computer.
- Network failure between the printer and host computer.
- The printer was turned Off after print instructions were sent from the host computer, or a print instruction was issued while the printer is Off.
- Print instructions are issued from multiple host computers at the same time.
- Print files cannot be spooled due to insufficient host computer disk capacity.

Some steps to resolve basic networking problems:

1. Check with the network administrator that a router or gateway exists between the host computer and printer.
2. Request the network administrator check for any network failures.
3. Cycle system power and send new print instructions from the host computer.
4. Open [My Computer] and right-click the disk in which the system is installed (e.g. Drive C). Select [Properties] from the displayed menu to check the free disk space. Have the customer free sufficient space on the host to spool print files.

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Media Jams and the Paper Path

Media-Based Problems

1. Check that the correct type of media is being used; for the correct media types and weights, see "Paper and Tray Specifications" on page 1-19. 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 media for bent, torn, or folded corners.
4. Check the media path for obstructions or debris.
5. Ensure that the correct media type is set in the Control Panel.
6. Ensure the Pick and Feed Rollers are clean and not excessively worn.
7. Try printing from a different tray to ensure problem is not tray specific.
8. Try printing on a different media. Not all media that fall within specifications will feed reliably.
9. Ensure that the paper guides are set correctly.
10. Ensure that the media is a supported type for the tray. See "Paper and Tray Specifications" on page 1-19 for the correct media types, sizes and weights for each tray.
11. Load a fresh ream of paper in the tray.

Multiple-Sheet Pick

1. Ensure that the media is in good condition and is listed on the Recommended Media List as supported; quality office printer paper works best.
2. Ensure 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 Retard Roller for damage.
6. Try printing from a different tray to verify if problem is tray specific.
7. Clean the Feed Rollers with a clean, dry, lint-free wipe.
8. Replace the Feed Rollers.
9. Replace the Tray.

Mis-Pick

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

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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 Tray 1 (MPT) is overfilled.)
5. Check the paper path for scraps of paper or other debris.
6. Verify the Feed Rollers are installed correctly.
7. Clean the Feed Rollers with a clean, dry, lint-free wipe.
8. Troubleshoot the pick assembly.

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 page at various points in the media path to determine where the media becomes damaged.
2. Try using the next heaviest type of paper.
3. Feed paper through the printer from each tray. 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 for a problem in registration area of the media path.
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.

Testing different manufacturer's envelopes demonstrated that some brands of #10 Commercial envelopes exhibit less wrinkling when loaded face down with the flap oriented to the right side of Tray 1 (MPT) not the left as indicated on the tray label.

1. Check the media path for obstructions or debris.
2. Check that the paper guides are set correctly.
3. Check that the Tray 1 (MPT) has not been over filled.
4. 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 on the Paper Tips page 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 using the Printer Status Page.
5. Ensure that the loaded media matches the Control Panel settings.
6. Are the margins on the page greater than 5 mm?
7. Check the Fuser area for debris.
8. Visually inspect the Fuser baffle for burrs.
9. Perform the **Fuser Drive Motor** test in Service Diagnostics.

Exit Jams

1. Ensure the paper is in good condition and is the correct type for the printer. See "Paper and Tray Specifications" on page 1-19 for the correct media types, sizes and weights for each tray.
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, use a lighter weight paper.
6. If visible, check and clean the paper path of all debris or scraps of paper.
7. Does the Exit Roller turn? Perform the **Duplex Motor** test in Service Diagnostics. For information on Service Diagnostics, see "Service Diagnostics" on page 4-7.
8. Refer to "Duplex Wait Sensor Static Jam" on page 3-63 for troubleshooting duplex jams if the Duplex Motor test fails.

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Paper Size Detection

Tray 1 (MPT)

Paper width (size in fast scan direction) is sensed by the voltage corresponding to the Tray 1 (MPT) Paper Size Sensor resistance. Tray 1 (MPT) Paper Size Sensor resistance is determined by the position of the front and rear side guides. Some variation in values is normal within the specified range.

Paper Size Switch Output Values for Tray 1(MPT)

Paper Size	Voltage(V)	AD Value Range
Post Card	2.676 - 2.732	824.958 - 851.600
5.5" x 8.5" SEF	2.246 - 2.302	691.590 - 718.233
A5 SEF	2.156 - 2.212	663.708 - 690.350
B5 SEF	1.788 - 1.843	549.488 - 576.131
8" x 10" SEF	1.636 - 1.692	502.457 - 529.099
8.5" x 11" SEF (Letter) & x 13" & x 14"	1.503 - 1.559	461.304 - 487.947
A4 SEF	1.484 - 1.540	455.425 - 482.068
7.25" x 10.5" LEF	0.972 - 1.028	296.694 - 323.337
B5 LEF	0.975 - 1.031	297.534 - 324.176
B4 SEF		
16K LEF (Taiwan)	0.867 - 0.922	263.940 - 290.583
8K SEF (Taiwan)		
16K LEF (China)	0.834 - 0.890	253.862 - 280.504
8K SEF (China)		
11" x 17" SEF	0.732 - 0.788	222.284 - 248.926
8.5" x 11" LEF (Letter)		
A4 LEF	0.541 - 0.597	163.159 - 189.801
A3 SEF		
12.6" x 19.2" SEF	0.415 - 0.470	123.854 - 150.496
13" x 19" (x18")	0.308 - 0.364	90.932 - 117.574
SRA3	0.292 - 0.348	85.893 - 112.535

Note

Paper length (size in slow scan direction) is sensed by measuring how long paper takes to pass Registration Sensor.

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Tray 2

For Tray 2, media size is detected by the state of five paper size switches. Media size is sensed by the voltage corresponding to the combined resistance of SW1 through SW4 and the state of SW5 (On/Off). A failed or jammed switch effects the printer's ability to accurately detect media size or presence in the tray.

Included in the table are the expected values for voltage readings at J417-B4. Also listed are the range of A/D converter values. Any combination other than the ones listed result in an undetermined size.

Paper Size Switch Output Values Tray 2

Paper Size	SW1	SW2	SW3	SW4	SW5	Voltage at J417-B4	AD Value
No Tray	Off	Off	Off	Off	Off	3.08±0.066	922-989
A5 SEF 5.5" x 8.5" SEF (*1)	Off	Off	On	Off	Off	2.671±0.066	797-857
B5 SEF	Off	Off	On	On	On	2.468±0.066	735-796
8.5" x 13" SEF	Off	On	Off	On	Off	2.064±0.066	610-671
8.5" x 14" SEF	Off	On	Off	On	On		
A4 SEF	Off	On	On	Off	Off	1.864±0.066	548-609
8.5" x 11" SEF	Off	On	On	Off	On		
A4 LEF	On	Off	On	Off	Off	1.079±0.066	304-365
A3 SEF	On	Off	On	On	Off	0.881± 0.066	244-303
B5 LEF 7.25" x 10.5" LEF (*1)	On	On	Off	Off	On	0.691± 0.066	184-243
8K SEF (*2)	On	On	Off	On	Off	0.493±0.066	124-183
B4 SEF	On	On	Off	On	On		
8.5" x 11" LEF	On	On	On	Off	Off	0.300±0.066	64-123
16K LEF (*2)/ 7.25" x 10.5" LEF (*1)	On	On	On	Off	On		
11" x 17" SEF	On	On	On	On	On	0.106±0.066	0-63

*1 Paper size is changed in diag.
*2 System setting makes possible changing between GCO and TFX sizes

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Trays 3 through 5

For optional Trays 3 through 5, media size is detected by the state of five paper size switches located at the rear of the chassis. Media size is sensed by the voltage corresponding to the combined resistance of SW1 through SW4 and the state of SW5 (On/Off). A failed or jammed switch effects the printer's ability to accurately detect media size or presence in the tray.

Included in the table are the expected values for voltage readings at J548-14, J549-B11, and J549-B17 respectively. Also listed are the range of A/D converter values. Any combination other than the ones listed result in an undetermined size.

Paper Size Switch Output Values Trays 3 through 5

Paper Size	SW1	SW2	SW3	SW4	SW5	Voltage	AD Value
No Tray	Off	Off	Off	Off	Off	4.66±0.03	237-247
A5 SEF 5.5" x 8.5" SEF (*1)	Off	Off	On	Off	Off	4.01±0.03	199-214
B5 SEF	Off	Off	On	On	On	3.69±0.03	184-198
8.5" x 13" SEF	Off	On	Off	On	Off	3.07±0.03	153-167
8.5" x 14" SEF	Off	On	Off	On	On		
A4 SEF	Off	On	On	Off	Off	2.75±0.03	137-152
8.5" x 11" SEF	Off	On	On	Off	On		
8" x 10" SEF	Off	On	On	On	On	2.44±0.03	122-136
12.6" x 19.2" SEF/ 13" x 19" SEF (*1)	On	Off	Off	Off	On	2.15±0.03	107-121
SRA3 SEF/ 13" x 18" SEF/ 2" x 18" SEF (*1)	On	Off	Off	On	On	1.83±0.03	92-106
A4 LEF	On	Off	On	Off	Off	1.52±0.03	77-91
A3 SEF	On	Off	On	On	Off	1.21±0.03	61-76
B5 LEF 7.25" x 10.5" LEF(*1)	On	On	Off	Off	On	0.91±0.03	46-60
8K SEF (*2)	On	On	Off	On	Off	0.60±0.03	31-45
B4 SEF	On	On	Off	On	On		
8.5" x 11" LEF	On	On	On	Off	Off	0.30±0.03	16-30
16K LEF (*2)/ 7.25" x 10.5" LEF (*1)	On	On	On	Off	On		
11" x 17" SEF	On	On	On	On	On	0.00±0.03	0-15

*1 Paper size is changed in diag.
*2 System setting makes possible changing between GCO and TFX sizes

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USB Port Testing

In situations where USB communications fail, test the printer's USB Port directly using a USB cable and a second, known good, USB Port. A successful test using this procedure eliminates the printer's USB Port as the root cause.

Initial Actions:

- Check that the driver software is properly installed on the host.
- Make sure the USB cable is connected at both ends and is serviceable.
- Print a Configuration page and verify that USB 2.0 is enabled in the printer's NVRAM.
- Reboot the printer.
- If the problem persists, follow the procedure below.

Note

The testing procedure was developed for Windows XP. If a different operating system is in use, adapt the steps as necessary.

1. Verify that the printer is Ready.
2. Insert the Installer and Utilities CD-ROM into the computer.
3. If the installer autoruns, exit the installer window.
4. Connect a USB cable between the printer and computer's USB Ports. The computer automatically detects the new hardware and assigns a driver.

   Note

   If the driver is not installed on the computer, locate the driver files on the CD-ROM. Once the files are located, the computer installs the driver and automatically configures it to match the printer's feature set.

5. Open the **Printers and Faxes** window on the computer by clicking **Start**, **Settings**, and then **Printers and Faxes**.
6. Locate the correct entry for the printer being tested and display its properties from the **File** menu pull-down.
7. Open the **General** tab and click the **Print Test Page** button to generate the test print. If the test page prints, the USB port is functioning normally.

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Operating System and Application Problems

Windows 2000, Windows XP, Windows Server Troubleshooting

1. To select **Classic Look**, click **Start**, select **Control Panel**, and select **Taskbar** and **Start** Menu.
2. Select the **Start Menu** tab and then **Classic Start Menu**.
3. 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.
   a. **Get Address** is set to: DHCP, Panel, DHCP/Autonet, BOOTP, and RARP (depending on your network configuration).
   b. **Current IP Address** is set correctly. (Note this address if it is assigned by Auto IP, DHCP, or BOOTP.)
   c. **Subnet Mask** is set correctly (if used).
   d. **Default Gateway** is set correctly (if used).
   e. **LPR** is enabled. Verify that the LPR and Port 9100 (AppSocket) settings are set as desired.
2. Verify that the client is logged on to 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.
9. Try to ping the printer.
10. Access the CentreWare IS.

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Macintosh Troubleshooting (Mac OS 10.3 and Higher)

The following procedures eliminates cabling, communication, and connection problems. Once you complete these steps, print a test page from your software application.

Note

If the job prints, no further troubleshooting is necessary. If there are print-quality problems, refer to the User Guide at www.xerox.com/office/7500support.

Macintosh Troubleshooting OS 10.3 Step-by-Step

Perform these steps **only** for Mac OS 10.3 and higher.

1. Open the Network Utility and click the Ping tab.
2. Enter the printer's IP address.
3. Click Ping. If you do not get a response, verify that your TCP/IP settings are correct for your printer and computer.

Note

See also: www.xerox.com/office/7500support

UNIX/ Linux

This section includes:

- Quick Install Steps
- Additional Resources

Your printer supports connection to a variety of UNIX platforms through the Parallel and Network interface. The workstations currently supported by CentreWare for UNIX/ Linux to a network-connected printer are:

- Sun Solaris
- IBM AIX
- Hewlett-Packard HP-UX
- Linux (i386) tested on SUSE 10.0, RedHat 9, Fedora Core1

The following procedures enable you to connect your printer using any of the supported versions of UNIX or Linux listed above.

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Quick Install Steps

Perform the following procedures to set up the printer and install the appropriate drivers.

From the Printer

To set up the printer:

1. Verify that both TCP/IP protocol and the proper connector are enabled.
2. On the Control Panel, select one of these IP address options:
   - Allow the printer to set up a DHCP address
   - Enter the IP address manually
3. Print the Configuration page and keep it for reference.

From Your Computer

To install the CentreWare for Unix driver:

1. Go to www.xerox.com/office/7500drivers.
2. Select your printer, the platform your are running (**UNIX**), and file type (**Drivers**).
3. Click **Go to Downloads**.
4. From the list of provided files, download the **PrinterPackageXPXX** and the appropriate CentreWare printer driver for your platform <OS>XPXX 4.xx.x.tar.
   a. As root untar the Driver and Printer package, this will create two subdirectories. Cd to <O/S>InstallPackage and type ./setup to install the driver.
   b. CD to the PrinterPackagexpxx and type ./setup to install the printer specific data files.
   c. Type xpadmin to open the admin tool for creating print queues. Select the printer from the list of discovered printers you want to print to. Click on the printer icon at the top left of the screen to add a print queue.
5. Print a test page and verify the print quality of the printed page.

Note

If print-quality problem exists, or your job did not print, refer to the User Guide at www.xerox.com/office/7500support.

Additional Resources

For users that want to use the CUPS driver instead of CentreWare for Unix, access the Xerox web site for the latest CUPS ppd package at www.xerox.com/office/7500drivers. To download printer drivers:

1. Find your printer. Click the **Drivers & Downloads** link. Select the platform you are running (UNIX), and the files you would like to download (Drivers).
2. Click the **Go** button.
3. Click the **CUPSPrinterPackage**.
4. Untar the printer package and select the ppd for the printer you want to install.
5. Copy the file to /usr/share/cups/model/Xerox. (This is the directory for SUSE10.1. The directory may not be in the same location on other Linux versions).

6. Open the printer manager supplied for the Linux release and follow the instructions for adding a print queue.

Note

The print daemon may need restarting for the print manager to see the new PPD added to the CUPS ppd directory.

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Print-Quality Troubleshooting

In this chapter...

- Print-Quality Problems Overview
- Print-Quality Troubleshooting Pages
- Test Prints
- Initial Actions Before Troubleshooting
- Print-Quality Specifications
- Print-Quality Troubleshooting

Chapter 5

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Print-Quality Problems Overview

Print-quality defects can be attributed to printer components, consumables, paper, 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 Recommended Media List (RML). Refer to "Paper and Tray Specifications" on page 1-19 for supported and specialty paper that have been tested and approved for use in the Phaser 7500. Use paper from a fresh ream that is acclimated to room temperature and humidity.

If the print-quality defect is still present when printing on approved paper from an unopened ream of paper, then investigate software applications and environmental conditions.

Print the Configuration page to determine the temperature and humidity under which the printer is operating. Compare this to the "Environment Specifications" on page 1-13. Extreme temperature and humidity can adversely affect the xerographic and fusing characteristics of the printer.

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 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 defect. If no defects are found, replace the Toner Cartridge, Imaging Unit, Fuser Assembly, Transfer Roller, Transfer Belt, and Laser Unit one at a time until the defect is eliminated.

Defects Associated with Specific Printer Components

Some print-quality problems can be associated with specific assemblies; the most common problems and the associated assemblies are listed in this section. Refer to the specific print-quality troubleshooting procedure for detail information.

Toner Cartridge

- IQ-17 Toner Image Detection Color Stripes

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LED Print Head

- IQ-1 1mm Stripes
- IQ-2 Image Shift in Process Direction
- IQ-3 White Stripes
- IQ-4 SLED Transfer Cycle Stripes
- IQ-5 In/ Out Density Difference
- IQ-6 Video Data/ Crosstalk
- IQ-7 Image Shift in Process
- IQ-8 Edge-less Image (No Margins)
- IQ-9 Contamination Stripes
- IQ-10 Chip/ Half Chip Blanks
- IQ-11 SLED Transfer Failure

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Print-Quality Troubleshooting Pages

Various Print-Quality Troubleshooting pages are available to assist the user in diagnosing print-quality problems.

- Troubleshooting Print-Quality Page
- Color Test Pages
- Solid Fill Pages
- Repeating Defects Pages
- Cyan Step
- Magenta Step
- Yellow Step
- Black Step
- Limit Sample Pages
- Remove Print Smears
- Calibrate for Paper Pages
- Tutorial Page
- Color Reference Page
- Basic Color Balance
- Advanced Color Balance
- Calibrate Margins - Tray 1 (MPT)
- Calibrate Margins - Tray 2
- Calibrate Margins - Tray 3
- Calibrate Margins - Tray 4
- Calibrate Margins - Tray 5

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Test Prints

Control Panel Test Prints

A variety of test prints are available from the Control Panel's Troubleshooting menu to aid in determining the quality output from the printer and to assist in troubleshooting the problems.

The Control Panel Test Prints include:

- Troubleshooting Print Quality Page
- Color Test Pages
- Solid Fill Pages
- Repeating Defects Page
- Cyan Step
- Magenta Step
- Yellow Step
- Black Step
- Limit Sample Pages
- Remove Print Smears
- Calibrate for Paper Pages
- Calibrate Colors
- Calibrate Margins Pages

Accessing the Control Panel Test Prints

1. From the Control Panel, select **Troubleshooting**, then press the **OK** button.
2. Select **Print Quality Problems**, then press the **OK** button.
3. Select the appropriate test print, then press the **OK** button.

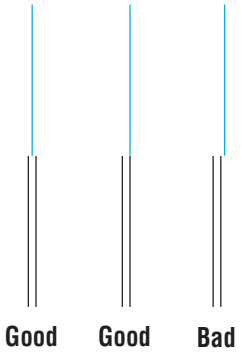
Troubleshooting Print Quality Page

The Troubleshooting Print Quality Page contains instructions for how to correct print-quality problems.

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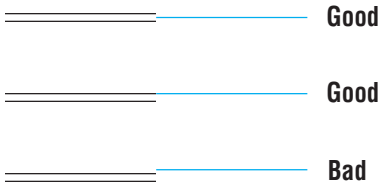
Analyzing the Test Pattern

1. **Color Registration (Horizontal)**: The colored lines should match as shown as the illustration below.



Analyzing Test Pattern 1

2. **Color Registration (Vertical)**: The colored lines should match as shown as the illustration below.



Analyzing Test Pattern 2

3. **Uniform RGB**: The secondary color squares should be uniformly colored with no mottling.
4. **Density**: The color squares should have even density from top to bottom.

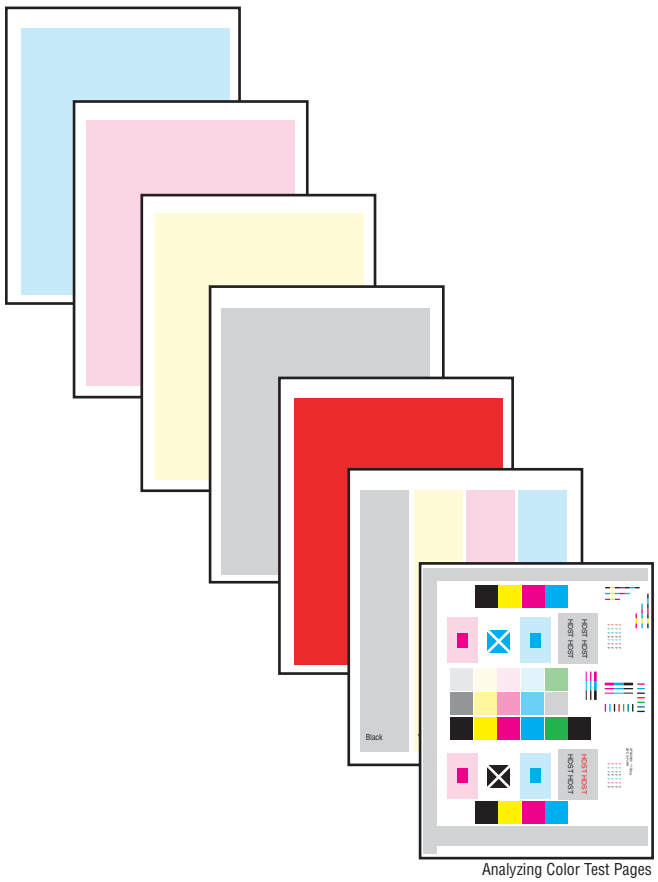
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Color Test Pages

The Color Test Pages consist of 7 pages, 25 % fill in CMYK, 100 % solid fill red, and the PS Pattern page.

Things to look for:

- Repeating defects or banding
- Missing Color(s)
- Streaks
- Voids



Analyzing Color Test Pages

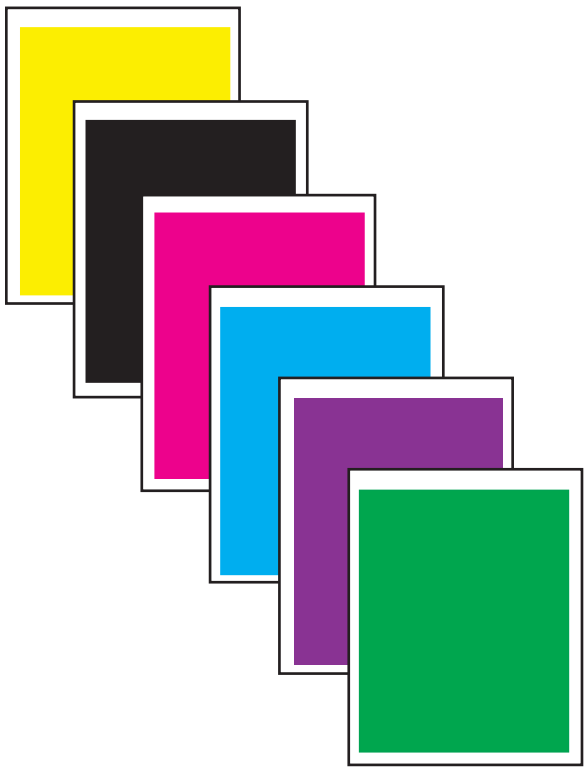
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Solid Fill Pages

The Solid Fill Pages consist of 80 % solid fill on individual pages of CMYK for primary colors and RGB for secondary.

Things to look for:

- Wrinkling
- Creases
- Roller marks
- Scratches

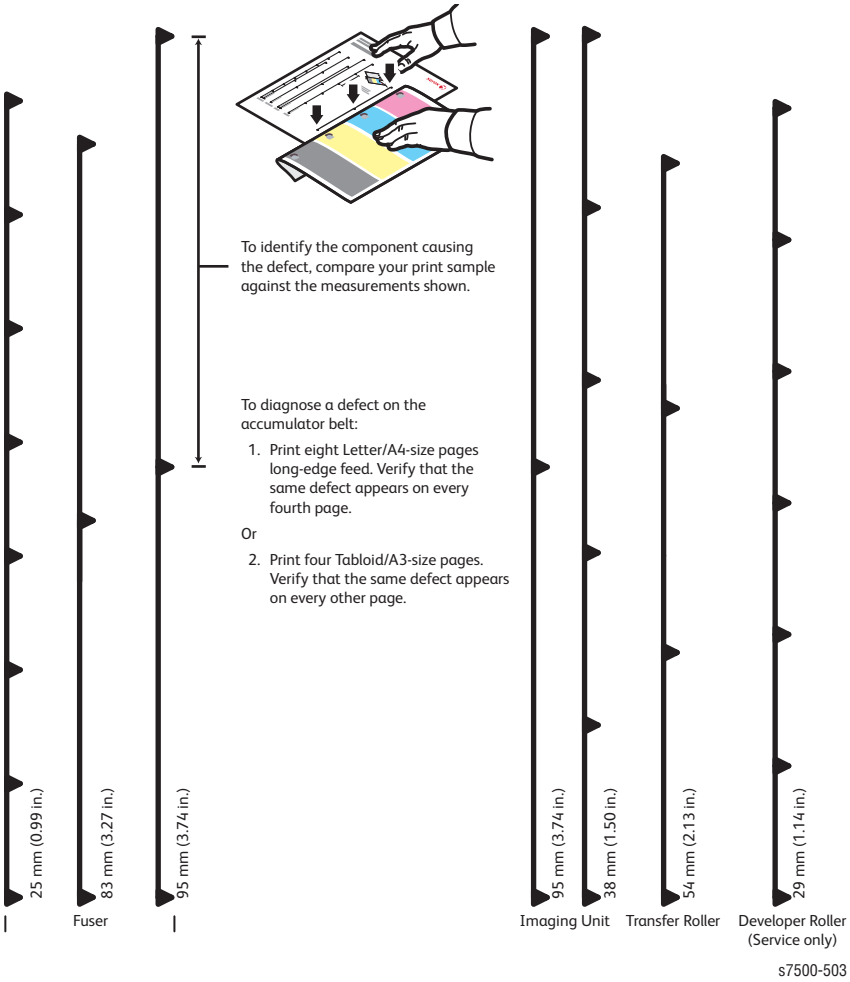


Solid Fill Pages

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Repeating Defects Page

The Repeating Defects Page provides a measurement tool that allows you to match the spacing between repeated marks on the printed pages with the component that would cause such spacing to occur. Instructions for using the Repeating Defects Page are printed on the page.



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Cyan Step

The Cyan Step page contains cyan in graduated fills of decreasing density. Things to look for:

- Repeating defects or banding
- Inconsistent variations in density
- Streaks
- Voids

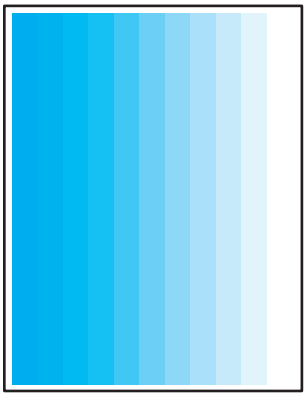
Each color should be consistent across the page with no voids.

No separation or misconvergence where each bar meets its neighbor. Each bar is separated by a thin black line.

Look for thin white lines that would indicate a dirty LED lens or a scratched Imaging Unit.

Look for dark lines that would indicate a dirty or damaged Imaging Unit.

Look for complete fusing. Cold or hot offset fusing could indicate the incorrect paper weight has been selected.



Cyan Step

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Magenta Step

The Magenta Step page contains magenta in graduated fills of decreasing density. Things to look for:

- Repeating defects or banding
- Inconsistent variations in density
- Streaks
- Voids

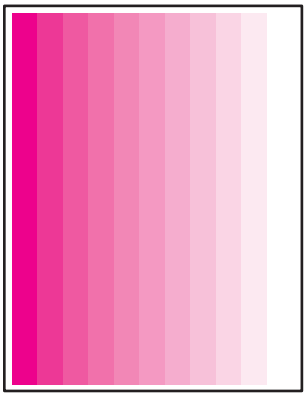
Each color should be consistent across the page with no voids.

No separation or misconvergence where each bar meets its neighbor. Each bar is separated by a thin black line.

Look for thin white lines that would indicate a dirty LED lens or a scratched Imaging Unit.

Look for dark lines that would indicate a dirty or damaged Imaging Unit.

Look for complete fusing. Cold or hot offset fusing could indicate the incorrect paper weight has been selected.



Magenta Step

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Yellow Step

The Yellow Step page contains yellow in graduated fills of decreasing density. Things to look for:

- Repeating defects or banding
- Inconsistent variations in density
- Streaks
- Voids

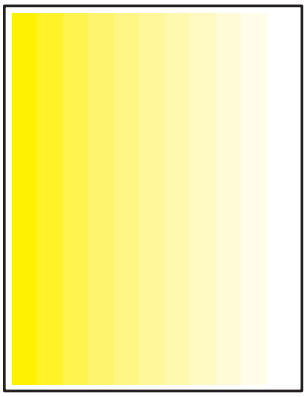
Each color should be consistent across the page with no voids.

No separation or misconvergence where each bar meets its neighbor. Each bar is separated by a thin black line.

Look for thin white lines that would indicate a dirty LED lens or a scratched Imaging Unit.

Look for dark lines that would indicate a dirty or damaged Imaging Unit.

Look for complete fusing. Cold or hot offset fusing could indicate the incorrect paper weight has been selected.



Yellow Step

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Black Step

The Black Step page contains black in graduated fills of decreasing density. Things to look for:

- Repeating defects or banding
- Inconsistent variations in density
- Streaks
- Voids

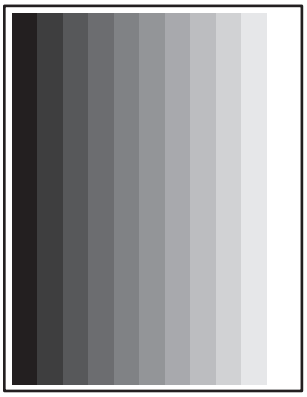
Each color should be consistent across the page with no voids.

No separation or misconvergence where each bar meets its neighbor. Each bar is separated by a thin black line.

Look for thin white lines that would indicate a dirty LED lens or a scratched Imaging Unit.

Look for dark lines that would indicate a dirty or damaged Imaging Unit.

Look for complete fusing. Cold or hot offset fusing could indicate the incorrect paper weight has been selected.

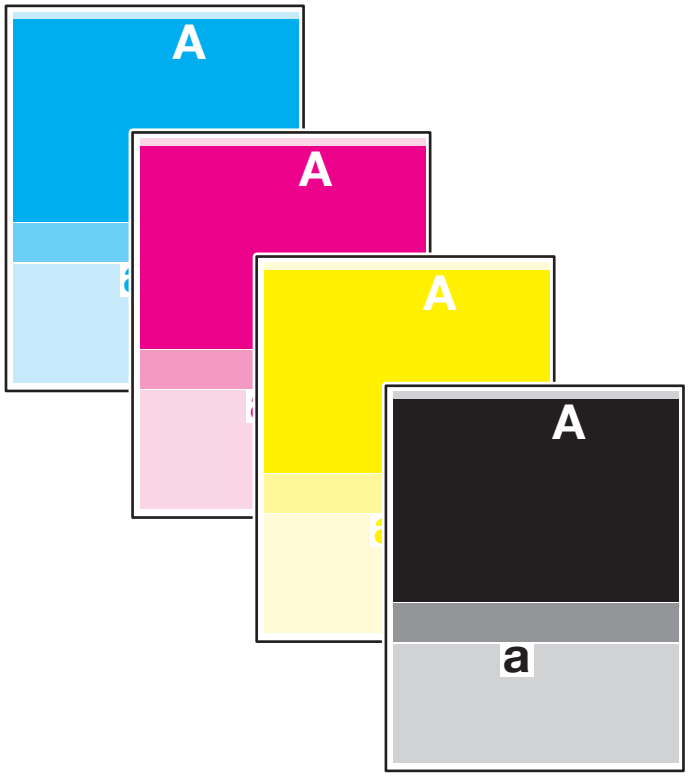


Black Step

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Limit Sample Pages

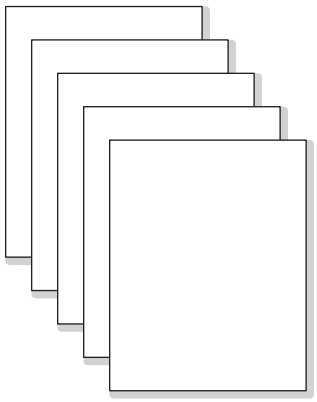
The Limit Sample Pages is used for comparing the color with manufacturer limit samples. The printer prints four pages.



Limit Sample Pages

Remove Print Smears

Remove Print Smears feature causes the printer to cycle blank paper through the printing path, continue selecting this function until the paper comes out clean. The printer prints 5 blank pages.



Multiple Blank Prints

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Service Diagnostics Test Prints

The Service Diagnostics Test Prints include:

- Dummy Cycle
- Paper Path Options
- 90 Degree Grid
- B Patch
- Drum Pitch Halftone

If the Engine Test Prints are rendered correctly and other test prints are defective, the problem is not on the MCU PWB.

Accessing the Service Diagnostics Test Prints

1. From the Control Panel, select **Troubleshooting**, then press the **OK** button.
2. Select **Service Tools**, then press the **OK** button.
3. Select **Printer Status Page**, hold the **Up** and **Down** buttons simultaneously.
4. Select **Run Service Diagnostics**, then press the **OK** button.
5. Select **Built-in Test Prints**, then press the **OK** button.
6. Select the appropriate test print, then press the **OK** button.

Dummy Cycle

The Dummy Cycle cycles through the printing process with no paper.

Test Print Setup

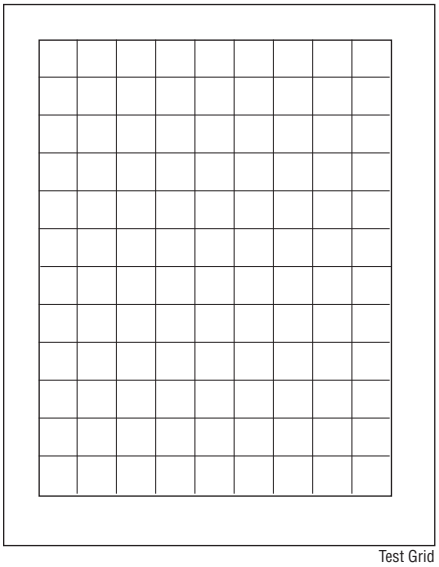
The Test Print Setup allows user to set up the source tray for the printer.

1. From the Control Panel, select **Troubleshooting**, then press the **OK** button.
2. Select **Service Tools**, then press the **OK** button.
3. Select **Printer Status Page**, hold the **Up** and **Down** buttons simultaneously.
4. Select **Run Service Diagnostics**, then press the **OK** button.
5. Select **Built-in Test Prints**, then press the **OK** button.
6. Select **Test Print Setup**, then press the **OK** button.
7. Select the Source Tray.
8. Select the number of sheets.
9. Select **Simplex/Duplex**.
10. Change the media type.

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90 Degree Grid

The 90 Degree Grid prints a square grid over the complete sheet of paper. The square should be uniform and the vertical and horizontal lines should be straight and of uniform thickness, if not, the problem should be diagnosed and corrected. All colors should align within < 125 µm.



Test Grid

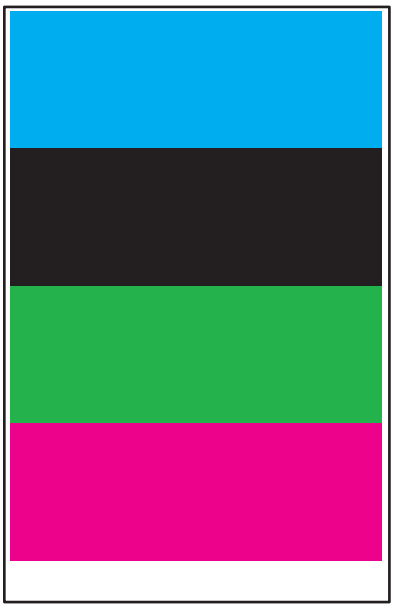
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B Patch/ Drum Pitch Halftones

The B Patch/ Drum Pitch Halftones prints CKGM bands on a B sized page.

Note

This does not scale down for A sized pages. K is solid fill, CM & G are random On/Off pixels.



BPatch

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Initial Actions Before Troubleshooting

Checking the 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. Use the CentreWare Internet Services (IS) to check the supplies status. To access the CentreWare IS:

1. Open your web browser.
2. In the Address field, enter the printer's IP address.
3. Click the **Consumables** button.
4. The **Consumables** page is displayed.

If the toner is low, you can extend the Toner Cartridge life by removing the Toner Cartridge (REP 1.1, page 8-9) from the printer, and gently shaking the Toner Cartridge from side-to-side.

Cleaning

Paper, toner, and dust particles can accumulate inside the printer and cause print-quality problems such as Smearing or Toner Specks. Clean the inside of the printer to prevent these problems.

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Print-Quality Specifications

The Print-Quality specifications are provided as follows.

Environmental Condition

- Temperature: 10° C - 32° C (50° F - 89.6° F)
- Humidity: 10 % RH - 85 % RH (85 % RH at 28° C) (82.4° F)

Note

Defects may occur due to condensation after around 30 minutes if the printer is turned On in a critical environment such as 85 % at 10° C (50° F).

Quality Paper

The print-quality is best when quality paper is fed from the tray. The print quality is evaluated on the maximum size of each centerline media.

- Color Print Quality: Xerox-brand X-Pression paper
- Black and White Quality: Xerox-brand 4200 paper

Paper Condition

Paper should be fresh and stored in the operating environment for 12 hours before use for printing.

Printer Condition

The specified print quality is guaranteed with the printer in specified normal environmental condition.

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Print-Quality Troubleshooting

Repeating Defect Measurement

When horizontal lines and/or spot occur periodically, it is possibly caused by a particular roller. Measure the trouble interval on the test print, and check the relation to the Roller in the table. The interval does not necessary match circumference of the Roller.

Horizontal Line and Spot Trouble Measurement

Maintenance Item	Distance Between Defects	Replacement	Part List Number
Fuser	25 mm (0.99 in.) 83 mm (3.27 in.) 95 mm (3.74 in.)	Fuser	PL7.1.1 (page 9-37)
Imaging Unit	95 mm (3.74 in.) 38 mm (1.50 in.)	Imaging Unit	PL8.1.4 (page 9-38)
Transfer Roller	54 mm (2.13 in.)	Transfer Roller	PL14.2.1 (page 9-86)
Developer Roller	29 mm (1.14 in.)	Developer Housing Assembly	PL5.2.2 (page 9-28)

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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	Definition	Page
IQ-1 1mm Stripes	At 50 % and 30 % densities, the lines in the process direction of a single color have reversed black and white.	5-25
IQ-2 Image Shift in Process Direction	The image is shifted in the process direction.	5-26
IQ-3 White Stripes	White stripes appear in the process direction for all densities of a single color.	5-27
IQ-4 SLED Transfer Cycle Stripes	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.	5-28
IQ-5 In/ Out Density Difference	The densities between the IN and OUT (front and rear) sides are different.	5-29
IQ-6 Video Data/ Crosstalk	An image with different color overlaps another.	5-31
IQ-7 Image Shift in Process	The image lands on the blank area and gets dragged in the FS direction.	5-32
IQ-8 Edge-less Image (No Margins)	An image is printed on the edges.	5-34
IQ-9 Contamination Stripes	There are blank areas. Their size is proportional to the size of contaminants.	5-35
IQ-10 Chip/ Half Chip Blanks	Blank areas in sizes of 2.7mm or 5.4mm in a single color.	5-36
IQ-11 SLED Transfer Failure	Stripes and blank areas (stripes) in an individual color appear repeatedly in sizes of 2.7 mm. They appear by half chip units.	5-37
IQ-12 Tapes Not Peeled	The highlight portions are too obvious. The whole paper seems to be filled with stripes.	5-39
IQ-13 Charging Roll Pitch White Stripes - 1	If the BCR is deformed at the BCR and Photoreceptor NIP sections, the trace may appear as thin white stripes in the FS direction on the highlight portion at the Charging Roll Pitch.	5-40
IQ-14 Charging Roll Pitch White Stripes - 2	If the substances contained in the CLN-Roll get stuck to the BCR at the BCR and CLN-Roll NIP sections, the resistance on the BCR gets reduced and may cause the appearance of white stripes in the FS direction.	5-41

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Defect	Definition	Page
IQ-15 Photoreceptor Pitch Color Stripes	Vibrations during the Drum CRU transportation may cause scrapes and friction in the BCR and the Photoreceptor, resulting in leftover electrostatic memory on the Photoreceptor that generates thin white streaks in the FS direction on the highlight portion at the Photoreceptor Pitch.	5-42
IQ-16 Background on Glossy Media	Compared to Plain Paper, background is more visible on Glossy media.	5-44
IQ-17 Toner Image Detection Color Stripes	At Pre Near or Near Empty state, if a customer had removed the Cartridge and knocked on it to collect the toner towards the exit in attempt to use the very last bit of toner, it may cause color stripe deterioration.	5-45
IQ-18 Toner Droplet Contamination	A contamination consisting of random spatters of toner in sizes of a few millimeters.	5-46
IQ-19 Smear on Heavyweight	When the lead edge of paper reaches the Secondary Transfer, it immediately increases the Secondary Transfer section load and causes the IBT Drive Roll speed to change (decrease in speed).	5-47
IQ-20 Rough Black	On paper that is not flat or has poor hue, the toner may not have been transferred properly due to the irregular paper surface, creating a rough transferred image.	5-49
IQ-21 Moist Paper Transfer Failure	The resistance is lowered because the paper is moist.	5-50
IQ-22 Toner Contamination at Lead/ Trail Edge	Lead Edge: Paper lead edge contacts the Belt when it is transported from REGI to Transfer. Tail Edge: The tail edge of Paper that loops between the Transfer-Fusing sections, at the release of the Secondary Transfer NIP, moves opposite to the feed direction and contacts the BTR surface, or bounds up and contacts the Belt.	5-51
IQ-23 Side 2 Transfer Failure	Paper that has had its Side 1 fused has a reduced percentage of moisture content, which increases its electric resistance. Since the resistance in the Secondary Transfer section also increases by lower humidity or over time, the required electrical field may not be attained, especially in the early mornings (low humidity environment).	5-52
IQ-24 Trail Edge Transfer Failure	The paper tail edge, after the Secondary Transfer NIP has been released, bounded up due to the fusing stroke effect and re-transfers to the Intermediate Transfer Belt.	5-53

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Defect	Definition	Page
IQ-25 MWS (Side 2) (Micro White Spots)	When the resistance in the Secondary Transfer section is high, e.g. in the early mornings (low humidity environment), the transfer latitude between multi color and mono color is narrow and the setting voltage favors multi color.	5-54
IQ-26 Color Stripes	Presence of paper dust in between the Intermediate Transfer Belt and the CLN Blade causes poor cleaning.	5-55
IQ-27 Transfer Blank Areas (Partially Moist Paper)	Ripples in partially moist paper becomes wrinkles in the Transfer section, causing blank areas to appear.	5-56
IQ-28 Nip Marks	When using transparencies, slight lines may appear at the Fuser Heat Roll Pitch.	5-57
IQ-29 Wetting	Distorted image may appear at one side or both sides of the paper tail edge when printing halftone fill.	5-58
IQ-30 Condensation	If condensation occurs in the printer, an image with water marking may be printed.	5-59

Note

Do not replace xxxxx without consideration in the troubleshooting procedures means that other parts of the system as a whole should be considered before replacing the noted parts. The other parts of the system could include the Image Processor Board, Memory modules, a customer's network or software applications being used by the customer. A troubleshooting approach to test and identify components in isolation of each other should be attempted before replacing the parts listed under "applicable parts".

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IQ-1 1mm Stripes

At 50 % and 30 % densities, the lines in the process direction of a single color have reversed black & white. The width is approximately 1mm.

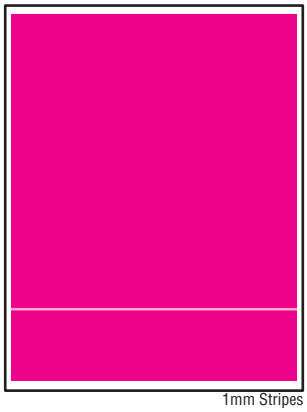
Cause

- Parts failure or contamination on the SLA surface.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference

Applicable Parts	Example Print
■ LED Print Head, PL2.1.2	 1mm Stripes

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
Note: This must be separated from Deve trimmer jam. Do not replace the LED Print Head without examining the Developer.			
1	Clean the SLA surface. Does the error still occur?	Replace the LED Print Head (REP 2.1, page 8-18).	Troubleshooting complete.

Notes:

- 50 % and 30 % half tones can be printed by using Step Prints in Troubleshooting menu.
- Because the phenomenon is similar to IQ-26, refer to IQ-26 (page 5-55) as well.

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IQ-2 Image Shift in Process Direction

The image is shifted in the process direction.

Cause

- The LPH EEPROM data is corrupt.

Initial Actions

- Check the paper transfer path.
- Verify the paper used is supported by the printer.

Troubleshooting Reference

Applicable Parts	Example Print
■ LED Print Head, P2.1.2	

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Verify that the problem does not occur on the Diagnostic Test Print. Does the error still occur?	Replace the LED Print Head (REP 2.1, page 8-18).	Troubleshooting complete.

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IQ-3 White Stripes

White stripes appear in the process direction for all densities of a single color.

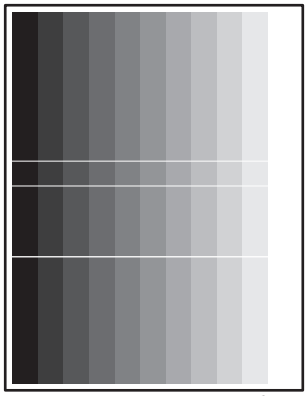
Cause

- Contamination on the SLA surface.
- Scratches on the LED Print Head Self Focusing Lens surface.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference

Applicable Parts	Example Print
■ LED Print Head, PL2.1.2 ■ Cleaning Rod	 White Stripes

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Clean the SLA surface. Does the error still occur?	Check the Cleaning Rod to ensure it's working.	Replace the LED Print Head (REP 2.1, page 8-18).

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IQ-4 SLED Transfer Cycle Stripes

Cyclical matte stripes or black stripes appear in the process direction. The pitch changes depending on the process speed.

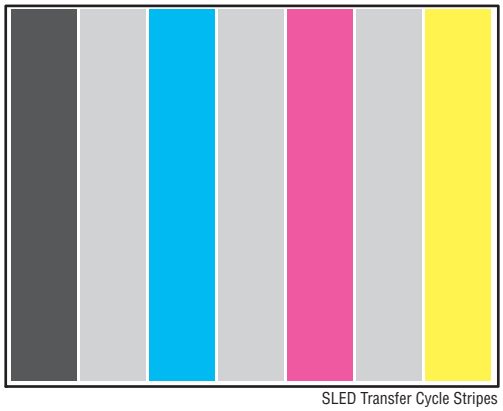
Cause

- Poor connection of Flat Cable between the MCU and the LPH.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference

Applicable Parts	Example Print
■ LED Print Head, PL2.1.2 ■ FFC Cable, PL2.2.1 ■ MCU PWB, PL18.3.6	 SLED Transfer Cycle Stripes

Note

Do not replace the LED Print Head without consideration.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Verify that the problem does not occur in Step Pattern prints. Does error occur?	Replace the LED Print Head (REP 2.1, page 8-18). Go to step 2.	Check for connection mistake and scratches/ damages on the FFC Cable. Go to step 2.
2	Does the error still occur?	Replace the MCU PWB (REP 18.12, page 8-202).	Replace the FFC Cable.

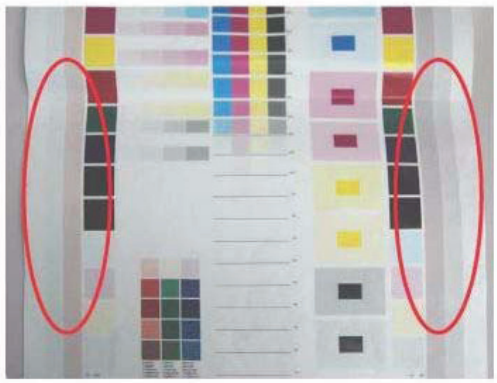
IQ-5 In/ Out Density Difference

The densities between the IN and OUT (front and rear) sides are different.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference

Applicable Parts	Example Print
■ LED Print Head, PL2.1.2 ■ Imaging Unit, PL8.1.4	 Out Density Diff

Cause (1st)

- The LED Print Head Z direction positioning pin is not in contact with the Photoreceptor.
- Failure in the retract mechanism.
- The positioning plate cannot fit in.
- The LED Print Head positioning pin is bent.
- The tip of the pin is contaminated.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Replace the Imaging Unit (REP 1.2, page 8-10). Does the error still occur?	Replace the LED Print Head (REP 2.1, page 8-18).	Troubleshooting complete.

Note

As the retract mechanism for the LED Print Head also acts as the retract mechanism for the Deve, it may also cause Deve positioning failure.

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Cause (2nd)

- The LED Print Head round-tip pin is not in contact with the Imaging Unit ball bearing.
- The gap between the Photoreceptor and the Developer is different at In and Out.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check whether the Imaging Unit In/Out direction positioning is set correctly. Does the error still occur?	Go to step 2.	Troubleshooting complete.
2	Check for any debris such as bits of paper between the LED Print Head and the Imaging Unit. Does the error still occur?	Go to step 3.	Troubleshooting complete.
3	Remove the Imaging Unit to check if any debris are stuck to the ball bearing surface (In/Out).	Go to step 4.	Troubleshooting complete.
4	Check if any debris are stuck to the tip of the LED Print Head round-tip pin (Out). Does the error still occur?	Remove the LED Print Head Unit to check if any debris are stuck to the tip of the LED Print Head round-tip pin (In/Out).	Troubleshooting complete.

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IQ-6 Video Data/ Crosstalk

An image with different color overlaps another shown below as faint magenta image overlapping yellow.

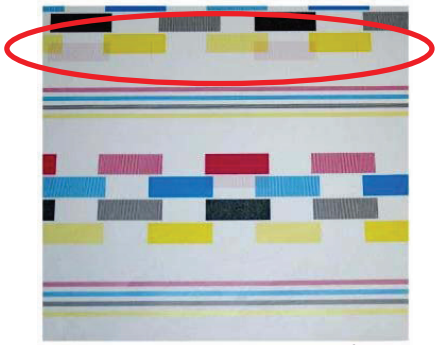
Cause

- Poor connection of Flat Cable between the MCU and the LED Print Head.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference

Applicable Parts	Example Print
■ LED Print Head, PL2.1.2 ■ LPH Cable, PL2.2.1 ■ MCU PWB, PL18.3.6	 Video Data Crosstalk

Note

If this problem does not occur in Engine Test Prints. Therefore, do not replace the LPH without consideration.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Verify that the problem does not occur on the Engine Test Prints from within Diagnostics. Does the error still occur?	Replace the LED Print Head (REP 2.1, page 8-18). Go to step 2.	Check connection of Cables and check the LPH Cable for scratches and damages. Go to step 2.
2	Does the error still occur?	Replace the MCU PWB (REP 18.12, page 8-202).	Replace the LPH Cable.

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IQ-7 Image Shift in Process

The image lands on the blank area and gets dragged in the process.

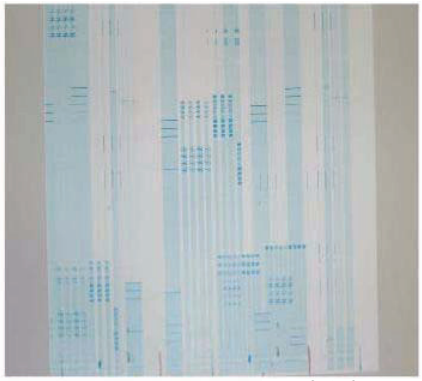
Cause

- Poor connection of Flat Cable between the MCU and the LED Print Head.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference

Applicable Parts	Example Print
■ LED Print Head, PL2.1.2 ■ MCU PWB, PL18.3.6	 Image Shift FS Direction

Note

This problem does not occur in the Engine Test Prints from Diagnostics. Therefore, do not replace the LED Print Head without consideration.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Verify that the problem does not occur on the Engine Test Prints from Diagnostics. Does the error still occur?	Replace the LED Print Head (REP 2.1, page 8-18). Go to step 2.	Check the connection between the MCU PWB and the LED Print Head. Reconnect the wiring harness connectors. Go to step 2.

Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
2	Does the error still occur?	Replace the MCU PWB (REP 18.12, page 8-202).	Troubleshooting complete.

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IQ-8 Edge-less Image (No Margins)

An image is printed on the edges, usually only a single color.

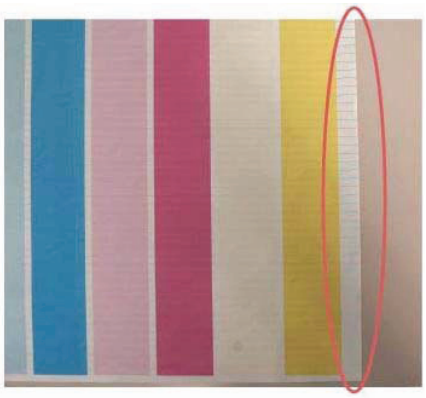
Cause

- Poor connection of Flat Cable between the MCU and the LED Print Head.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference

Applicable Parts	Example Print
■ LED Print Head, PL2.1.2 ■ Flat Cable, PL2.2.1 ■ MCU PWB, PL18.3.6	 Edgeless Image

Note

If this problem does not occur in Engine Test Prints from Diagnostics. Therefore, do not replace the LPH without consideration.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Verify that the problem does not occur on the Engine Test Prints from within Diagnostics. Does the error still occur?	Replace the LED Print Head (REP 2.1, page 8-18). Go to step 2.	Check connection of Cables and check the FFC Cable for scratches and damages. Go to step 2.
2	Does the error still occur?	Replace the MCU PWB (REP 18.12, page 8-202).	Replace the FFC Cable.

IQ-9 Contamination Stripes

There are blank areas. Their size is proportional to the size of contaminants.

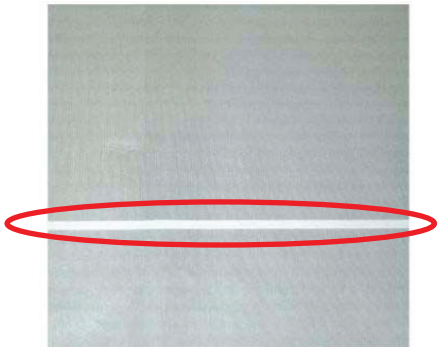
Cause

- Contamination exists on the Chip (inside the LED Print Head).

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference

Applicable Parts	Example Print
■ LED Print Head, PL2.1.2	 Contamination Stripes

Note

Be careful because this phenomenon is very similar to that of the Deve trimmer jam.

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Clean the SLA surface. Does the error still occur?	Replace the LED Print Head (REP 2.1, page 8-18).	Troubleshooting complete.

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IQ-10 Chip/ Half Chip Blanks

Blank areas in sizes of 2.7 mm or 5.4 mm in a single color.

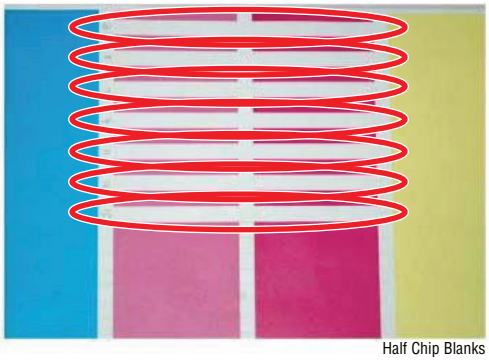
Cause

- Poor contact within the LPH.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference

Applicable Parts	Example Print
■ LED Print Head, PL2.1.2	 Half Chip Blanks

Troubleshooting Procedure

Step	Actions and Questions
1	Replace the LED Print Head (REP 2.1, page 8-18) of the corresponding color.

IQ-11 SLED Transfer Failure

Stripes and blank areas (stripes) in an individual color appear repeatedly in sizes of 2.7 mm. They appear by half chip units.

Cause

- + 5 vdc failure. LED Chip failure.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference

Applicable Parts	Example Print
■ LED Print Head, PL2.1.2 ■ LVPS, PL18.1.7 ■ Motor Drive PWB, PL18.3.7	 SLED Transfer Failure

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the power source. Is 5V output from the Motor Drive PWB? ■ Pin 518 A4 for Yellow ■ Pin 518 A8 for Magenta ■ Pin 518 B5 for Cyan ■ Pin 518 B1 for Black	Go to step 2.	Go to step 3.
2	Check the continuity of the cable between the Motor Drive MCU and LED Print Head of the effected color. Is the continuity between the Motor Drive PWB and the LED Print Head normal?	Replace the LED Print Head (REP 2.1, page 8-18).	Replace the cable.

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Troubleshooting Procedure (Continued)

Step	Actions and Questions	Yes	No
3	Is +5 VDC present at P/J 401 pin 5?	Replace the Motor Drive PWB (REP 18.13, page 8-204).	Replace the LVPS (REP 18.7, page 8-194).

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IQ-12 Tapes Not Peeled

The highlight portions are too obvious. The whole paper seems to be filled with stripes.

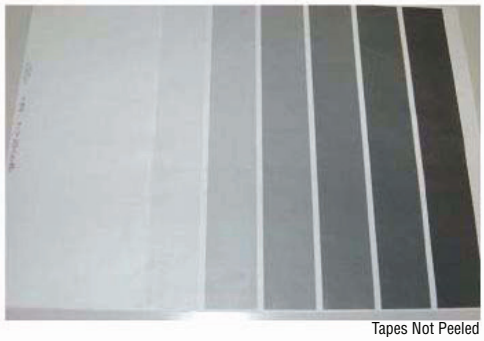
Cause

- The SLA surface protective tape is not peeled off.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference

Applicable Parts	Example Print
	 Tapes Not Peeled

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Inspect the LED Print Head and check whether any protective tape remains on the SLA. Is there tape remaining on the SLA?	Remove the tape.	Troubleshooting complete.

Note:
Do not forget to check for and peel off any tape when replacing the LED Print Head (spare part).

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IQ-13 Charging Roll Pitch White Stripes - 1

If the BCR is deformed at the BCR and Photoreceptor NIP sections, the trace may appear as thin white stripes in the FS direction on the highlight portion at the Charging Roll Pitch.

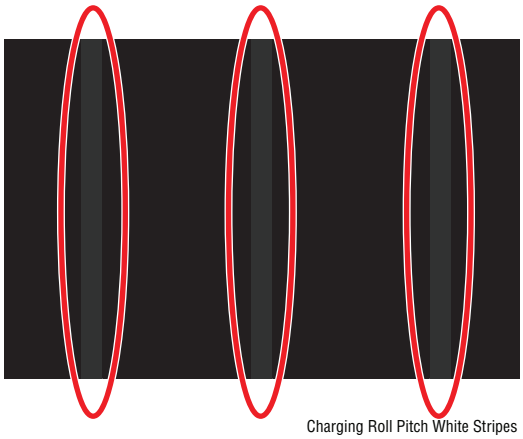
Cause

- This problem may occur with New Imaging Unit that has been stored for a long time.
- It also occurs when the MC has rested in a high temperature environment for a long time. (Halftone image)

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference

Applicable Parts	Example Print
	 Charging Roll Pitch White Stripes

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	On a halftone image, check that lines with 38 mm pitch appear in the FS direction. Are there lines with 38 mm appear in the FS direction?	Make approximately 10 to 30 printouts.	Troubleshooting complete.

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IQ-14 Charging Roll Pitch White Stripes - 2

If the substances contained in the CLN-Roll get stuck to the BCR at the BCR and CLN-Roll NIP sections, the resistance on the BCR gets reduced and may cause the appearance of white stripes in the FS direction.

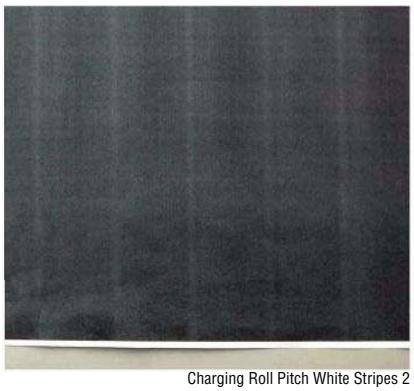
Cause

- This may occur when the MC has been resting for a long time or in the early mornings. (Halftone image).

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference

Applicable Parts	Example Print
	 Charging Roll Pitch White Stripes 2

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	On a halftone image, check that lines with 38 mm pitch appear in the FS direction. Are there lines with 38 mm appear in the FS direction?	Make approximately 10 to 30 printouts. This disappears over time.	Troubleshooting complete.

Note:
If the fault lies with the Y, M, or C Drum, print full-color images. If it is with the K Drum, print either full-color or black & white images.

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IQ-15 Photoreceptor Pitch Color Stripes

Vibrations during the Imaging Unit CRU transportation may cause scrapes and friction in the BCR and the Photoreceptor, resulting in leftover electrostatic memory on the Photoreceptor that generates thin white streaks in the FS direction on the highlight portion at the Photoreceptor Pitch.

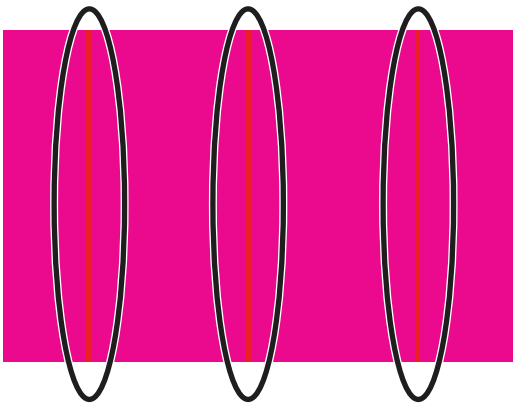
Cause

This problem may occur right after the replacement of Imaging CRU (occurs at Halftone image quality).

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference

Applicable Parts	Example Print
	 Photoreceptor Pitch Color Stripes

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	On a halftone image, check that lines with 94 mm pitch appear in the FS direction. Are there lines with 94 mm appear in the FS direction?	Make approximately 10 to 30 printouts. ■ If the fault lies with the Y, M, or C Drum, print full-color images. ■ If it is with the K Drum, print either full-color or black & white images.	Troubleshooting complete.

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IQ-16 Background on Glossy Media

Compared to Plain Paper, background is more visible on Glossy media.

Cause

- Paper types with better transfer ability (uncoated) and better toner absorption ability will have less background.

Initial Actions

- Print on media from the RML.
- Check the paper transfer path then perform **Calibrate for Paper**.
- Ensure there are no debris in the transfer path.

Troubleshooting Reference

Applicable Parts	Example Print

Troubleshooting Procedure

Step	Actions and Questions
1	Verify that the background level is acceptable on plain paper listed in the RML, usually Xerox Color Xpressions.
2	If a measurement is required, a sample print will need to be compared against a factory sample.

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IQ-17 Toner Image Detection Color Stripes

At Near Empty state, if a customer had removed the Cartridge and knocked on it to collect the toner towards the exit in attempt to use the very last bit of toner, it may cause color stripe deterioration.

This can also be caused by a toner cartridge that is exposed to a temperature exceeding 127° F (53° C) for a short period of time.

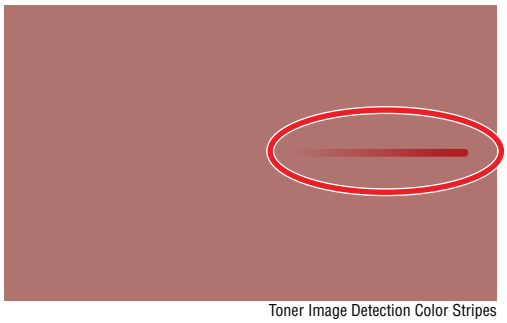
Cause

- This error occurs when soft block shaped (clumped) toner is being supplied to the Developer. The lines are more visible when printing high density images.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference

Applicable Parts	Example Print
■ Toner Cartridge, PL5.1.1-4	 Toner Image Detection Color Stripes

Troubleshooting Procedure

Step	Actions and Questions
1	Use a new Toner Cartridge and check whether the problem disappears by itself. The problem should disappear by itself after running enough Solid Fill prints to purge the toner supply system.

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IQ-18 Toner Droplet Contamination

A contamination consisting of random spatters of toner in sizes of a few millimeters.

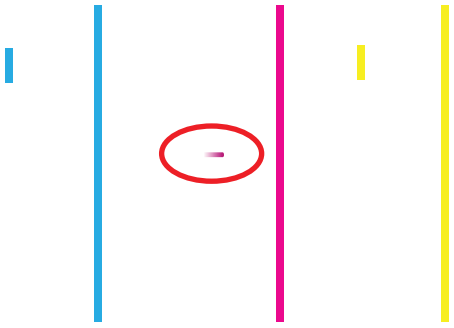
Cause

- Printing a document with relatively higher-density image (5 % or more) after continuously printing low-density (extremely low toner consumption) images thousands of times. This problem is more likely to occur for K and M colors.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference

Applicable Parts	Example Print
	 Toner Droplet Contamination

Troubleshooting Procedure

Step	Actions and Questions
1	Clean the Upper Cover and Trimmer Cover of the Developer Housing.

IQ-19 Smear on Heavyweight

When the lead edge of paper reaches the Secondary Transfer, it increases the Secondary Transfer section load and can cause the IBT Drive Roll speed to change (decrease in speed). This change in speed changes the difference in relative speed between the Photoreceptor and the IBT Belt surface in the K-color Primary Transfer section, hence creating a smear (distorted image).

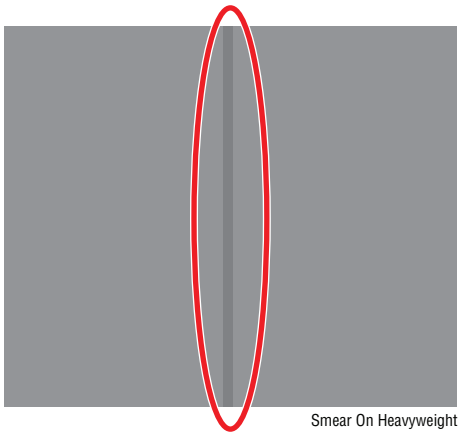
Cause

- This occurs in the black & white mode for Heavyweight Paper.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.
- Change to Full Color mode (Optimize for Speed vs. Optimize for Economy)

Troubleshooting Reference

Applicable Parts	Example Print
	 Smear On Heavyweight

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Troubleshooting Procedure

Step	Actions and Questions
1	Check that a 1 mm wide line in SS direction appears at the position 130 mm away from the paper lead edge. Change mode from Optimize for Economy to Optimize for Speed.

Note:
This can be easily checked by printing a black halftone image that evenly covers the whole sheet in black & white mode.

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IQ-20 Rough Black

On paper that is not flat or has poor hue, the toner may not have been transferred properly due to the irregular paper surface, creating a rough transferred image.

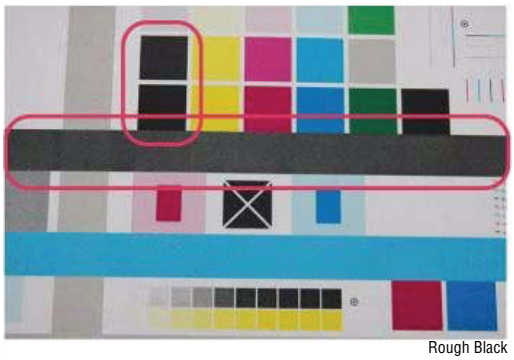
Cause

- This occurs in modes other than Transparencies.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference

Applicable Parts	Example Print
	 Rough Black

Troubleshooting Procedure

Step	Actions and Questions
1	Change the Secondary Transfer voltage setting up or down (**Calibrate for Paper**), then compare the hue to the paper with defective image.
2	Use media from the Recommended Media List (RML).

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IQ-21 Moist Paper Transfer Failure

The resistance is lowered because the paper is moist. The K color contains carbon that causes it to have larger dielectric loss, and hence it requires a different electrical field from the other colors. There is no latitude because the difference in required electrical field between multi color and K color is larger than the difference between paper resistance and toner resistance.

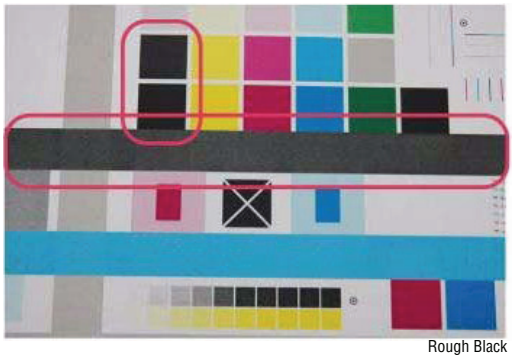
Cause

- This occurs when the paper that has been kept in a high humidity environment (moist paper) is fed.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference

Applicable Parts	Example Print
	 Rough Black

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Print using freshly unpacked paper of the same type as the defective paper, then compare the roughness and blank areas for K color and single color. Does the error still occur?	Install a dehumidifier.	Troubleshooting complete.

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IQ-22 Toner Contamination at Lead/ Trail Edge

Lead Edge: Paper lead edge contacts the Belt when it is transported from REGI to Transfer.

Trail Edge: The trail edge of paper that loops between the Transfer Fusing sections, at the release of the Secondary Transfer NIP, moves opposite to the feed direction and contacts the BTR surface, or bounds up and contacts the Belt.

Cause

- Toner contamination suddenly appears on the 2nd BTR or Belt (background).

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference

Applicable Parts	Example Print
	 Toner Contamination at Lead/Trail Edge

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Run 1-sided print to check on which side (transfer side or side 2) does the contamination exists.	Increase the margin.	Troubleshooting complete.

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IQ-23 Side 2 Transfer Failure

Paper that has had its Side 1 fused has a reduced percentage of moisture content, which increases its electric resistance. Since the resistance in the Secondary Transfer section also increases by lower humidity or over time, the required electrical field may not be able to be attained, especially in the early mornings (low humidity environment).

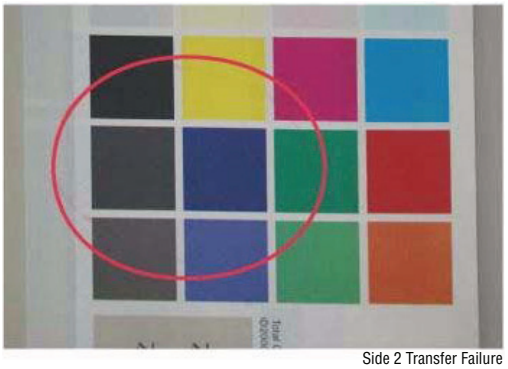
Cause

- Occurs on Side 2 in a low temperature and low humidity environment.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference

Applicable Parts	Example Print
	 Side 2 Transfer Failure

Troubleshooting Procedure

Step	Actions and Questions
1	Verify that the hue on Side 2 becomes lighter when printing a high density image in a low temperature and low humidity environment.
2	Change the Secondary Transfer voltage setting Up or Down by performing **Calibrate for Paper**.

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IQ-24 Trail Edge Transfer Failure

The paper trail edge, after the Secondary Transfer NIP has been released, bounded up due to the fusing stroke effect and re-transfers to the Intermediate Transfer Belt.

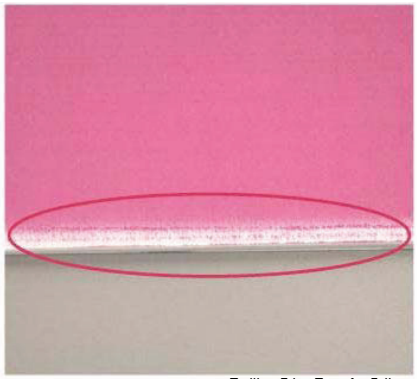
Cause

- This problem can occur in any environment.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference

Applicable Parts	Example Print
	 Trailing Edge Transfer Failure

Troubleshooting Procedure

Step	Actions and Questions
1	Rough image or blank area (in SS direction) occurs for images within 10 mm (including margins) from the paper trail edge.
2	Increase the trail edge margin on the print.

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IQ-25 MWS (Side 2) (Micro White Spots)

When the resistance in the Secondary Transfer section is high, e.g. in the early mornings (low humidity environment), the transfer latitude between multi color and mono color is narrow and the setting voltage favors multi color. In other words, the voltage is a little high for mono color, and this causes the Transfer NIP discharge phenomenon that creates the white spots.

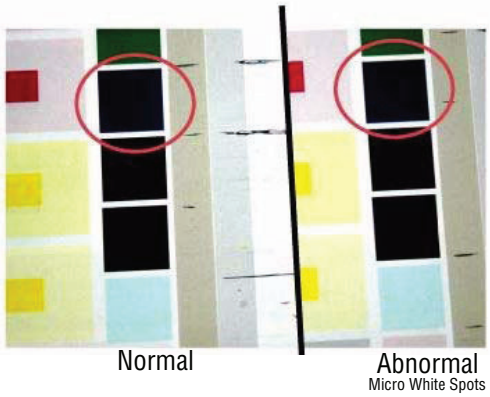
Cause

- Occurs on Side 2 in a low humidity environment.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference

Applicable Parts	Example Print
	 Normal Abnormal Micro White Spots

Troubleshooting Procedure

Step	Actions and Questions
1	Verify that the micro white spots appear on Side 2 in a low humidity environment.
2	Perform **Calibrate for Paper** procedure.

IQ-26 Color Stripes

Presence of paper dust in between the Intermediate Transfer Belt and the CLN Blade causes poor cleaning.

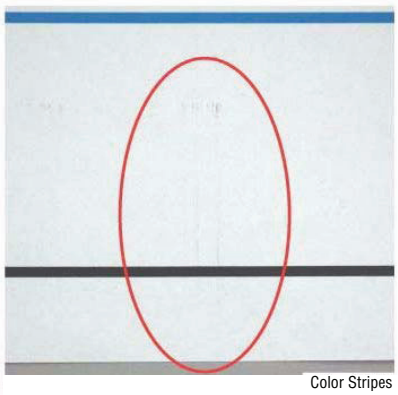
Cause

- This occurs when a paper that is prone to flaking is used.
- This is likely to occur at high humidity.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference

Applicable Parts	Example Print
■ IBT Belt Cleaner Assy, PL6.1.4	 Color Stripes

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Remove the IBT Belt Cleaner Assembly (page 8-57) to check if debris exist at the tip of the Blade.	Clean the blade.	Replace the IBT Belt Cleaner Assembly (REP 6.1, page 8-57).

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IQ-27 Transfer Blank Areas (Partially Moist Paper)

Ripples in partially moist paper becomes wrinkles in the Transfer section, causing blank areas to appear.

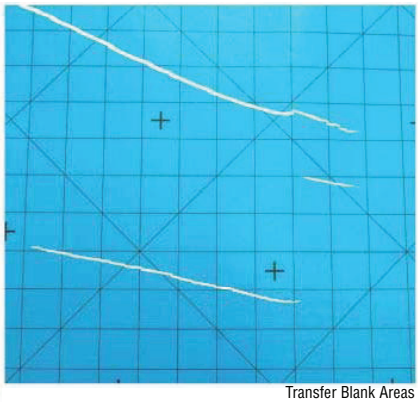
Cause

- This occurs with paper that has uneven moisture content.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference

Applicable Parts	Example Print
■ Fuser Assy, PL7.1.1	 Transfer Blank Areas

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Replace the paper with freshly unpacked paper from the RML. Does the problem go away?	Troubleshooting complete.	Replace the Fuser Assembly (REP 7.1, page 8-67).

IQ-28 Nip Marks

When using transparencies, slight lines may appear at the Fuser Heat Roll Pitch.

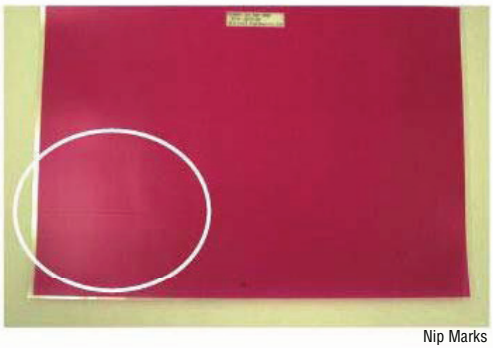
Cause

- This occurs when the first thing that is printed on a printer that has been left idle for a few days without heating up is a Transparency.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference

Applicable Parts	Example Print
■ Fuser Assy, PL7.1.1	 Nip Marks

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check if the pitch of the streaks is 83 to 84 mm on the Heat Roll Pitch. Does the problem go away after a few prints?	Troubleshooting complete.	Replace the Fuser Assembly (REP 7.1, page 8-67).

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IQ-29 Wetting

Distorted image may appear at one side or both sides of the paper tail edge when printing halftone fill.

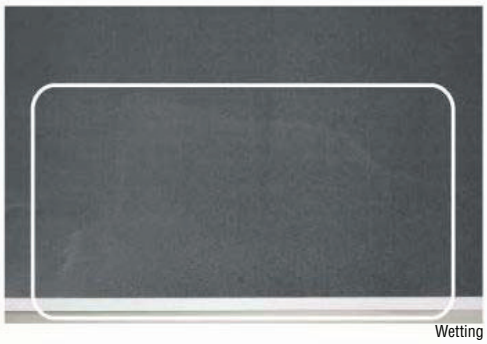
Cause

- This minor problem may occur with uniform images, such as halftone fill. It is more likely to occur in the early mornings, in a high temperature and high humidity environment, or when moist paper is used.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference

Applicable Parts	Example Print
	 Wetting

Troubleshooting Procedure

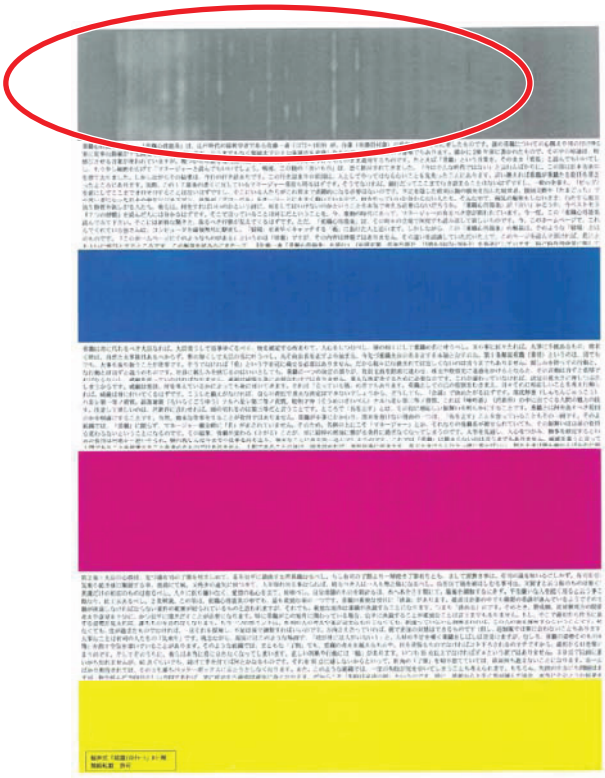
Step	Actions and Questions
1	Compare with the image sample.
2	Try to bring temperature and humidity within optimal range.

Note:
Ask the customer to use fresh paper whenever possible.

IQ-30 Condensation

If condensation occurs in the printer, an image with water marking may be printed.

Troubleshooting Reference

Applicable Parts	Example Print
	 IQ30

Troubleshooting Procedure

Step	Actions and Questions
1	Do not turn the printer Off during high humidity conditions. Leave the printer power On and set the Sleep mode to lower power consumption when the printer is not being used.

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Adjustments and Calibrations

In this chapter...

- Adjustments
- Calibrations

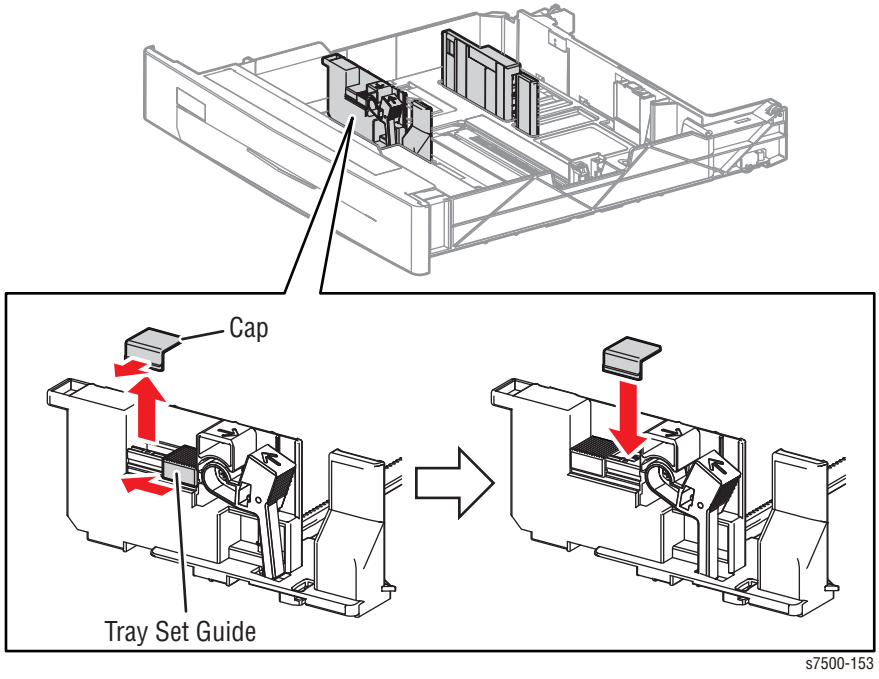
Chapter 6

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Adjustments

Paper Guide Position Setting

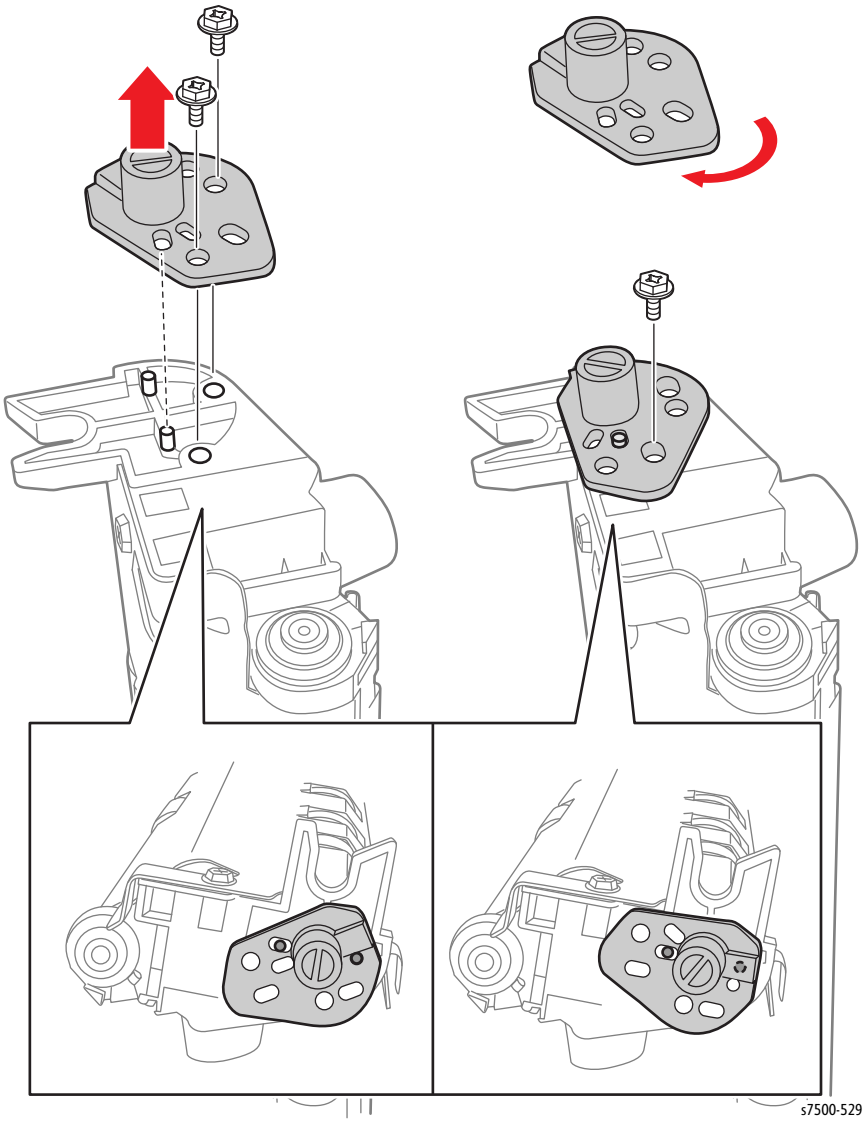
1. To ease the operation, move the Side Guides towards the center.
2. Release and remove the Cap hook at the left side and slide the Slide Lock Block (at the right) to the left.
3. Install the Cap to the right side
4. Check that the Side Guide can be set at any position (for non-standard paper).
5. **3TM only**: Paste the Tray No. Label that corresponds to the Tray number.
6. Install the Tray Assembly to the printer.



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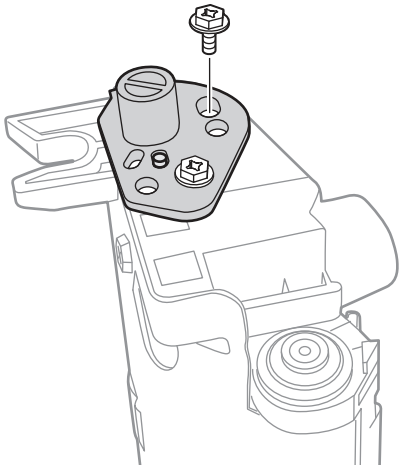
Skew Adjustment

1. Remove the Registration Transport Assembly (REP 15.2, page 8-174).
2. Remove the 2 screws that secure the Skew Adjusting Block to the Registration Assembly (PL15.2.14).
3. Remove the Skew Adjusting Block.
4. Turn the Skew Adjusting Block a small amount clockwise and reinstall it on the Registration Assembly. Verify that it moves up and down a small amount.
5. Re-install the screws removed in step 2 through the elongated slots in the Skew Adjusting Block into their original holes in the Registration Assembly.



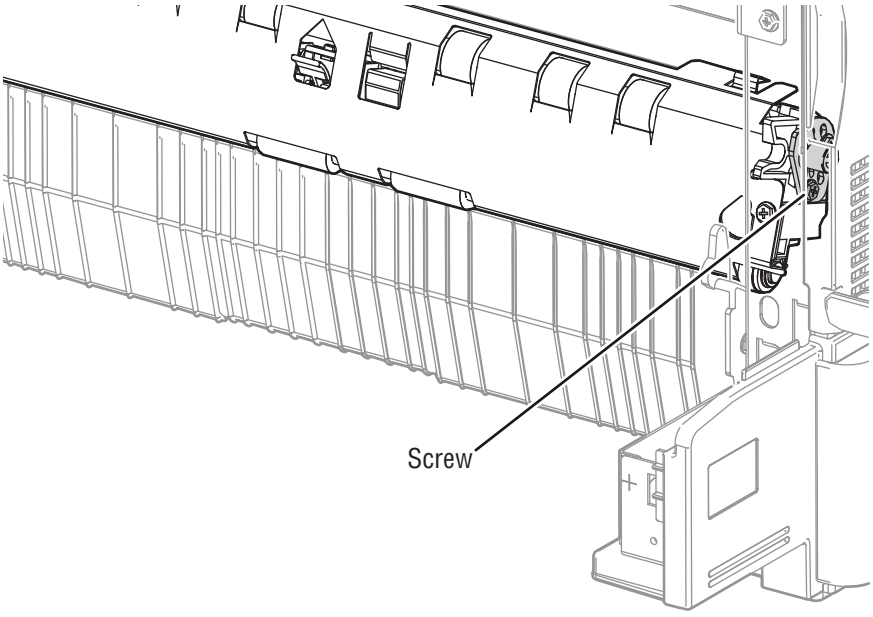
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6. Center the Skew Adjusting Block in its range of travel and tighten the bottom screw. Leave the top screw just loose enough so as to not impede the up and down movement of the block.



s7500-530

7. Re-install the Registration Assembly in the printer.
8. Make test prints on the printer.
9. Loosen the bottom screw holding the Skew Adjusting Block and move the front end of the Registration Assembly up or down a small amount at a time to correct skew. Tighten the bottom screw and make test prints to determine the effects of each incremental adjustment. Continue making the adjustment until skew is acceptable.
   a. Moving the Registration Assembly up in the front will move the image counter clockwise on the paper.
   b. Moving the Registration Assembly down in the front will move the image clockwise on the paper.
   c. The range of adjustment is approximately +/- 0.25 % of the process length of the media.



s7500-531

10. Remove the Registration Transport Assembly and tighten the top screw, then reinstall the Registration Assembly.

Calibrations

Note

Some of the Service Diagnostics tests may not run multiple times. Be sure to exit Service Diagnostics and re-enter Service Diagnostics to continue performing the tests. If the printer locks up, re-set the GFI.

ATC Sensor Setup

ATC Sensor Setup allows a technician to perform the ATC Sensor sensitivity adjustment for each color.

Input the barcode number that comes with each ATC Sensor, which indicates the sensitivity characteristics, to calculate the "ATC Average Sensitivity Adjustment Coefficient" and "ATC Average Sensitivity Adjustment Offset", which are the sensitivity adjustment values for adjusting the ATC Sensor output. Set the values in the NVM and display them on the LCD screen.

When the Developer has been replaced, perform this process.

Procedure

1. Enter Service Diagnostics (page 4-9).
2. Scroll down the menu and select **Adjustments/ Calibrations**. Press the **OK** button.
3. Select **ATC Sensor Setup** and press the **OK** button.
4. Note the current values for the tag numbers on the Control Panel display. The values should correspond to the tag numbers of the Developers currently installed.
5. Select the color of the Developer you replaced.
6. Enter the tag number. Use the **Back** and **Help** buttons to select which digit you want to change. Use the **Up** and **Down** buttons to modify the digit.
7. Press **OK** to enter the data in the Engine NVRAM.
8. Press any button to abort the process.

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ADC Output Check

The ADC Output Check allows the users to test the Automatic Density Correction sensor and compare a target value in logic to the value seen by the individual sensors.

Note

Data cannot be adjusted within this function. This is an information only.

Procedure

1. Enter Service Diagnostics (page 4-9).
2. Scroll down the menu and select **Adjustments/ Calibrations**. Press **OK**.
3. Select **ADC Output Check** and press **OK**.
4. The printer starts processing with a **Reading ADC Data...** message appears.
5. Review the results to ensure there are no failures.
6. Press any key to see more data.

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RegiCon Check

The RegiCon Check allows the user to check whether the detectors are operating normally by checking the function of the Registration Control Sensor (MOB Sensor [MOB ADC Assembly]).

The RegiCon Check measures the amounts of regi shift in the lateral/process directions and then displays those amounts together with the results.

Caution

The functions of the menus described here have great effect on the print quality and operation of the machine. In addition, they include the adjustment functions used at shipment. DO NOT change the settings unless specified otherwise in this manual.

Procedure

1. Enter Service Diagnostics (page 4-9).
2. Scroll down the menu and select **Adjustments/ Calibrations**. Press **OK**.
3. Select **RegiCon Check** and press **OK**.
4. The printer starts processing with a **Starting Measurement**... **Reading data**... message appears.
5. When the process is complete, the **RegiCon Check** result is displayed.
   - Result is OK/ NG

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RegiCon Calibration

The RegiCon Calibration allows the users to adjust the RegiCon value.

Caution

The functions of the menus described here have great effect on the print quality and operation of the machine. In addition, they include the adjustment functions used at shipment, so do not change the settings unless specified otherwise in this manual.

Procedure

1. Enter Service Diagnostics (page 4-9).
2. Scroll down the menu and select **Adjustments/ Calibrations**. Press **OK**.
3. Select **RegiCon Calibration** and press **OK**.
4. The printer starts processing with a **Starting Calibration**... message appears.
5. When the process is complete, the **Calibration Results** screen is displayed.

Note

There is no result display on the screen.

LED EEPROM Check

The LED EEPROM tests the EEPROM in the Light Emitting Diode (LED) Print Heads.

Procedure

1. Enter Service Diagnostics (page 4-9).
2. Scroll down the menu and select **Adjustments/Calibrations**. Press **OK**.
3. Select **LED EEPROM Check** and press **OK**.
4. The printer starts processing with a **Starting Test**... message appears.
5. When the process is complete, the LED EEPROM Check result screen is displayed.
   - Y result is Pass/ Fail
   - M result is Pass/ Fail
   - C result is Pass/ Fail
   - K result is Pass/ Fail

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Cleaning and Maintenance

In this chapter...

- Service Maintenance Procedure
- Cleaning
- Maintenance

Chapter 7

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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 paper 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 (P/N 006-7971-00)

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Cleaning

Perform the following general cleaning steps as indicated by the printer's operating environment.

Caution

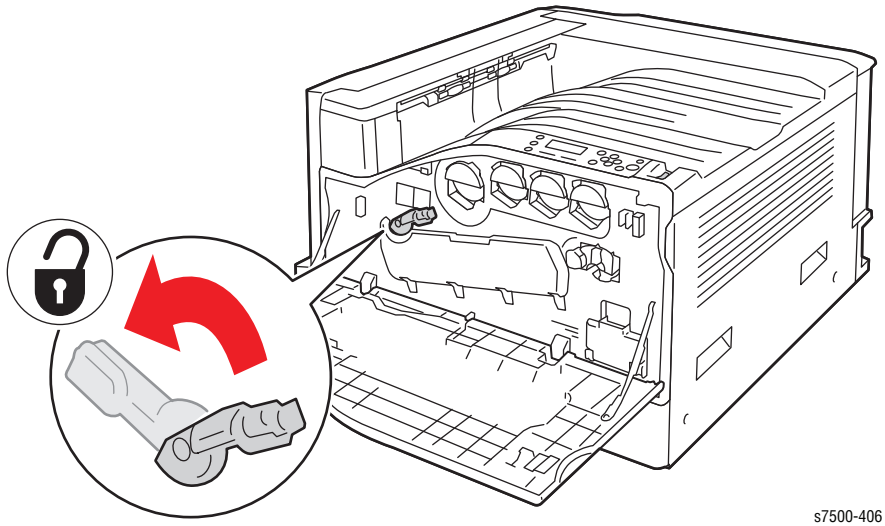
Never apply alcohol or other chemicals to any parts of the printer. Never use a damp cloth to clean up toner. If you remove the Toner Cartridges, place them in a light-protective bag or otherwise protect them as exposure to light can quickly degrade performance and result in early failure.

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 following components before cleaning.
   - Toner Cartridges (REP 1.1, page 8-9)
   - Imaging Units (REP 1.2, page 8-10)
   - Waste Cartridge (REP 1.3, page 8-12)
   - Transfer Belt (IBT Belt Unit) (REP 6.2, page 8-58)
   - Fuser Assembly (REP 7.1, page 8-67)
   - Duplex Assembly (REP 14.12, page 8-161), if installed
   - Tray 1 (REP 13.2, page 8-131)
5. Clean the Fans to remove excess dust.
6. Ensure that all cover vents are clean and free of obstructions.
7. Remove any debris from the Fuser, Imaging Units, Toner Cartridges, Duplex 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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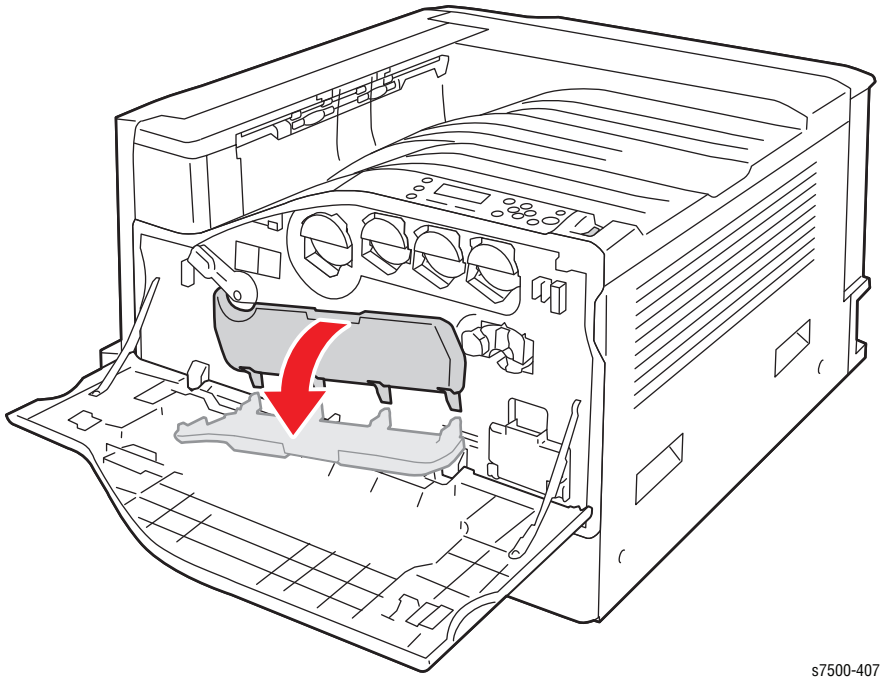
Cleaning the LED Assembly Window

1. Open the Front Door.
2. Rotate the lever on the front left side to unlock it.



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3. Open the Imaging Unit cover.



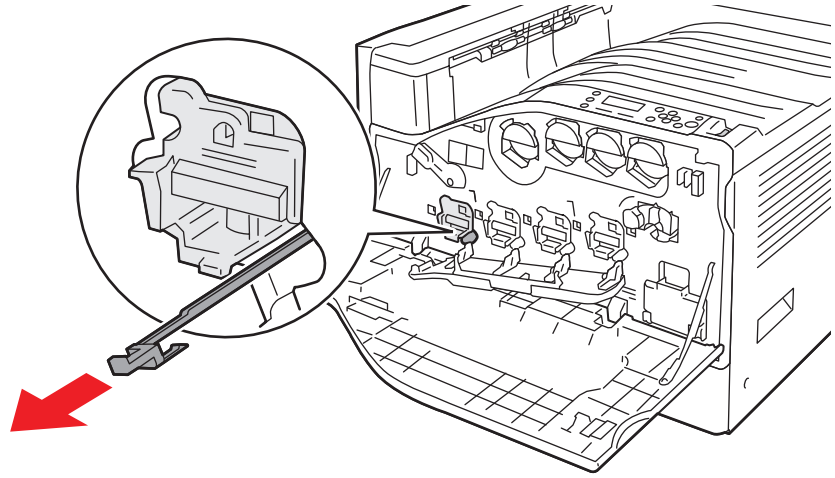
s7500-407

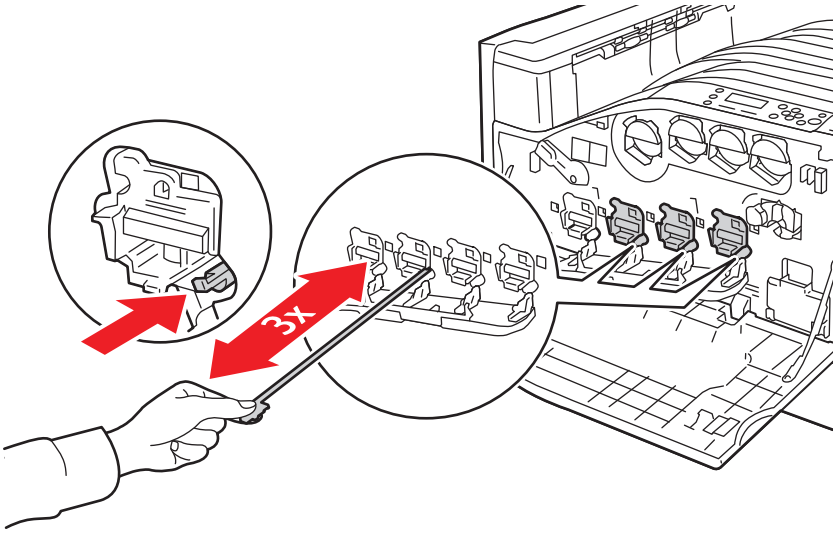
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Note

Be sure to pull the cleaning rod out as far as it can come out. Also push the cleaning rod in as far as it will go. Do not use excessive force when pulling the cleaning rod.

4. Pull the Cleaning Rod from the lower right corner of the Imaging Unit slot.
5. Continue to pull the Cleaning Rod until it stops, and move it all the way in and out two to three times to clean the LED Scanner.
6. Repeat this step for all four Image Units.





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7. Close the Imaging Unit Cover.

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Cleaning the Fuser

The Clean Fuser cleans the Fuser Roller using blank prints.

Procedure

1. Enter Service Diagnostics (page 4-9).
2. Scroll down the menu and select **Maintenance**. Press **OK**.
3. Select **Clean Fuser** and press **OK**.
4. The printer starts processing with a **Initializing...Startup** message appears and three blank pages are printed.

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Maintenance

RIP (Repair, Inspect, and Prevent) Procedure

Perform these routine maintenance procedures during the course of servicing the printer.

- Clean the Feed Rollers, Transfer Rollers, and Paper 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 using.
- Review with the customer all work that was performed and discuss proper printer care.

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Service Parts Disassembly

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Overview

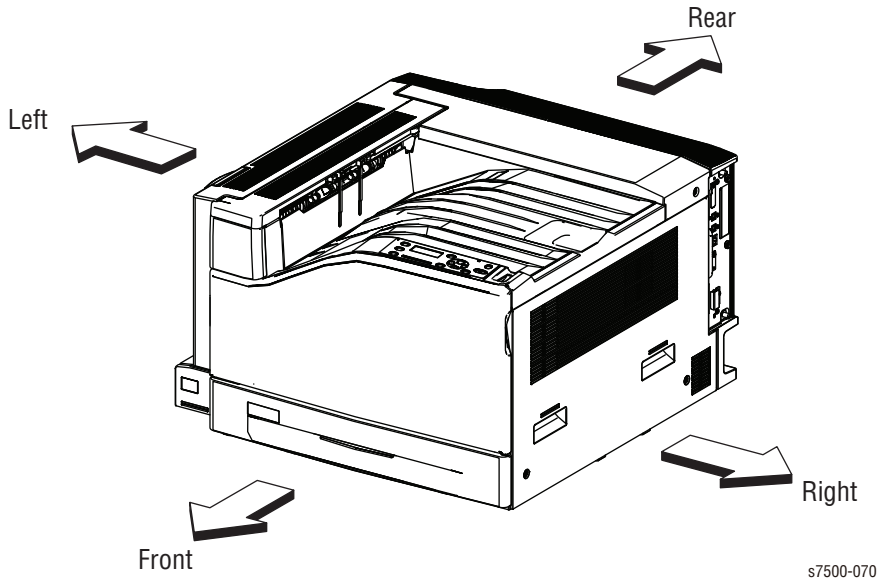
This section contains the removal procedures for field-replaceable parts of the printer listed in the Parts List. In most cases, the replacement procedure is simply the reverse of the removal procedure. In some instances, additional steps are necessary and are provided for replacement of the parts. For specific assemblies and parts, refer to the "Parts List" on page 9-1".

Note

Always use the correct type and size screw (page 8-8). Using the wrong screw can damage tapped holes. Do not use excessive force to remove or install either a screw or a printer part.

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.



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 that this component is listed in the Parts List.
- Bold 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.

Note

Provides information specific to the replacement of parts or assemblies.

Preparation

Before you begin any removal and replacement procedure:

1. If replacing a circuit board, wear an Electrostatic Discharge wrist strap to help prevent damaging to the sensitive electronics of the printer circuit boards.
2. Turn the printer power Off and disconnect the power cord from the wall outlet.
3. Disconnect all computer interface cables from the printer.
4. Remove Tray 2.
5. Open the Front Door.

Note

Names of parts that appear in the removal and replacement procedures may not match the names that appear in the Parts List. For example, a part called the Registration Chute Assembly in a removal procedure may appear on the Parts List as Assembly, Registration Chute. When working on a removal procedure, ignore any prerequisite procedure for parts already removed.

Caution

Many parts are secured by plastic tabs. Do not over flex or force these parts. Do not over torque the screws threaded into plastic parts.

Warning

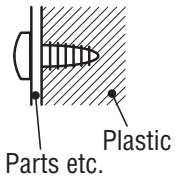
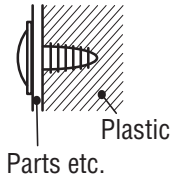
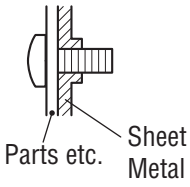
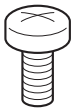
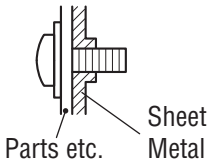
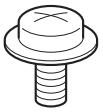
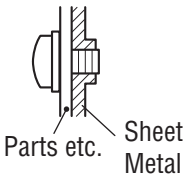
Unplug the AC power cord from the wall outlet before removing any printer part.

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Fastener Types

The following table lists the primary types of Posi-Drive screws used to assemble the printer. The procedures provide dimensional specifications for screws being removed.

Posi-Drive Screw Types used in the Printer

Type	Application	Shape	Characteristics
Self-tapping, plastic			1. Silver colored. 2. Screw thread is coarse compared to metal screw. 3. Screw tip is thin.
Self-tapping, plastic, with flange			1. Black colored. 2. Screw thread is coarse compared to metal screw. 3. Screw has a flange. 4. Screw tip is thin.
Sheet Metal, silver			1. Silver colored. 2. Diameter is uniform.
Sheet Metal, with flange			1. Silver colored. 2. Screw has a flange. 3. 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. Failure to properly align or over tighten 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.

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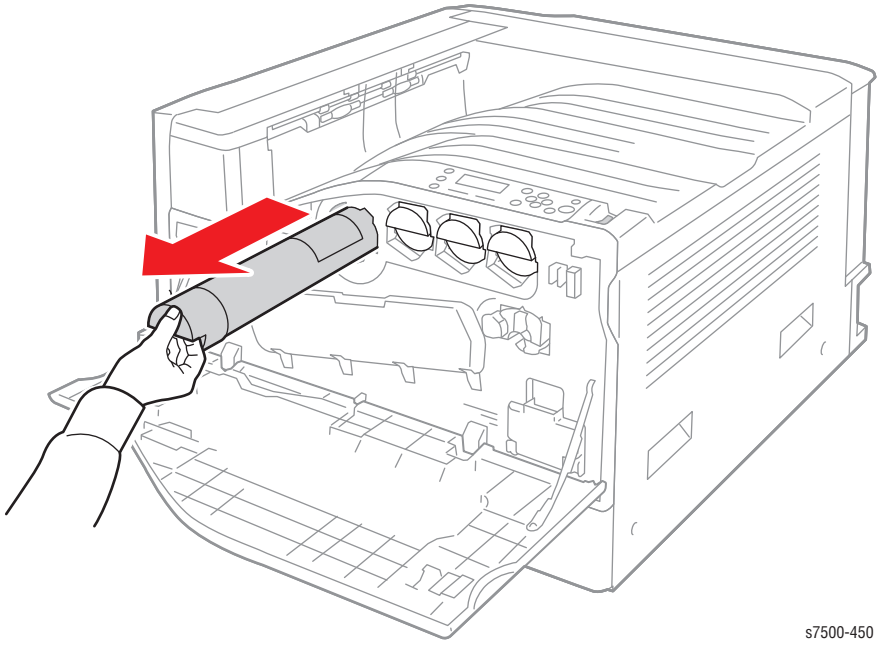
Maintenance Items and Consumables

Maintenance and Consumable items include the Toner Cartridges, Imaging Units, Waste Cartridge, Fuser Assembly, Transfer Roller, Transfer Belt, and Feed Rollers.

REP 1.1 Toner Cartridge (Y/M/C/K)

PL5.1.1 - PL5.1.4

1. Open the Front Door.
2. Pull the Toner Cartridge toward you to remove it.



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REP 1.2 Imaging Unit (Drum) (Y/M/C/K)

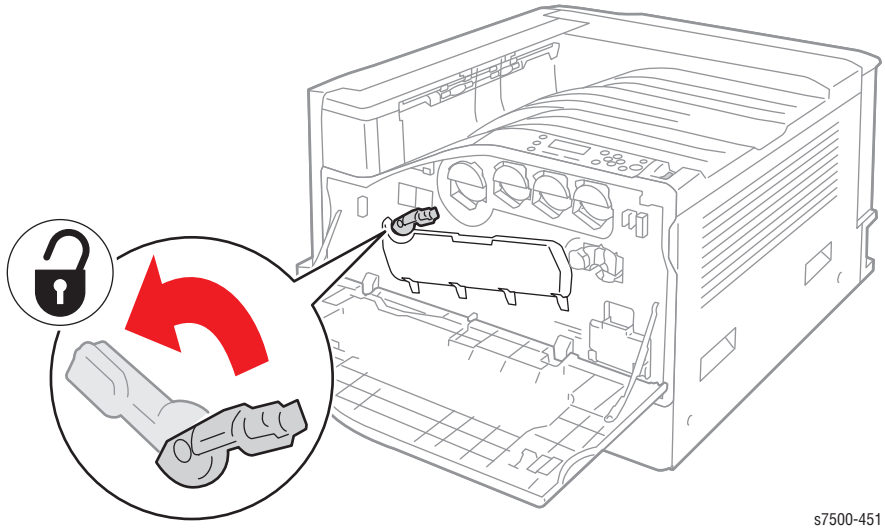
PL8.1.4

Caution

Do not expose the Imaging Unit to light for more than 5 minutes. Cover the Imaging Unit to avoid damage.

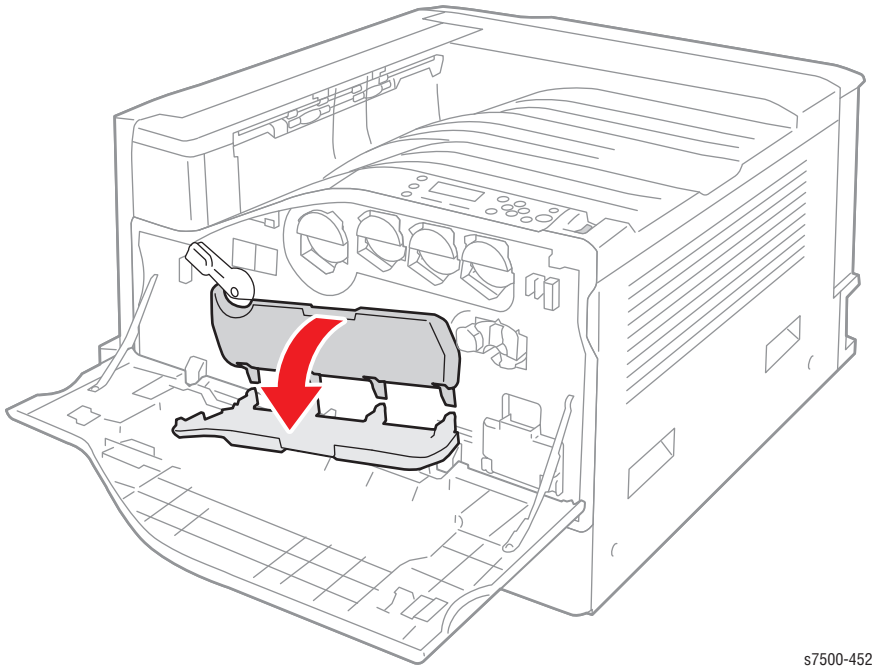
Do not touch the surface of the Imaging Unit.

1. Open the Front Door.
2. Turn the Imaging Unit Cover latch clock-wise to unlock the Imaging Unit Cover.



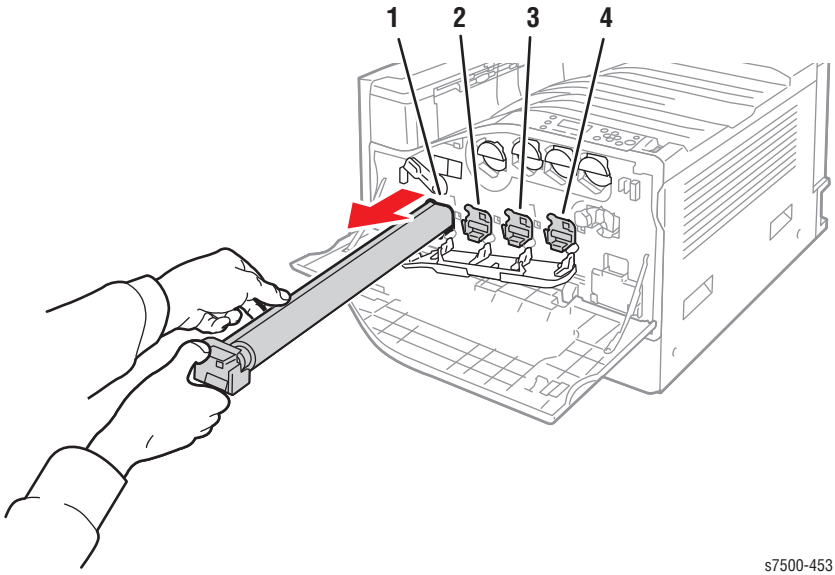
s7500-451

3. Open the Imaging Unit Cover.



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4. Pull the Imaging Unit out toward the front of the printer and remove the Imaging Unit.



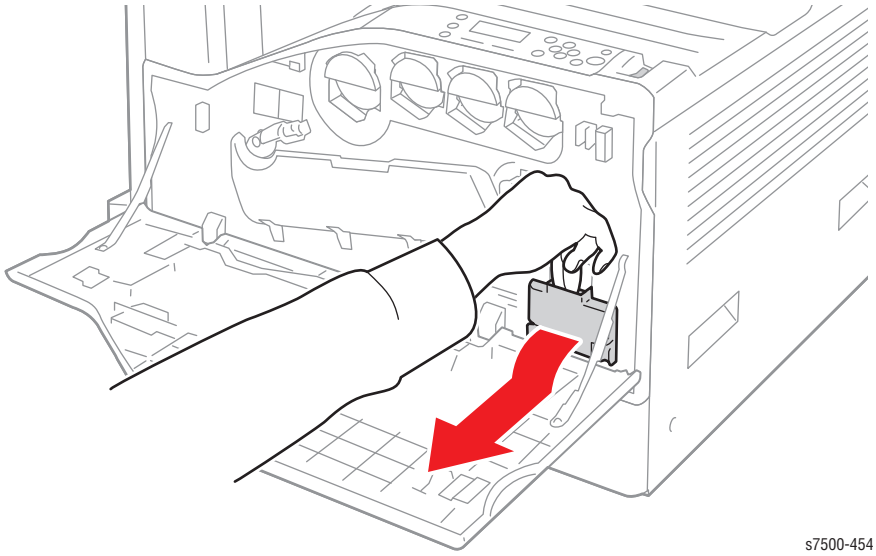
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REP 1.3 Waste Cartridge

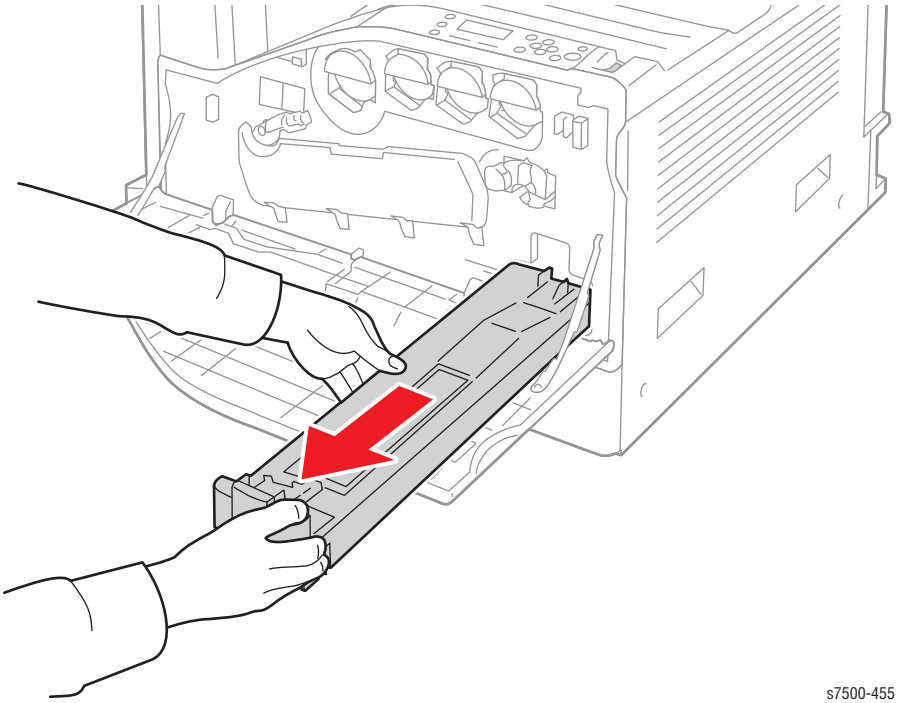
PL8.2.19

1. Open the Front Door.
2. Pull the Waste Cartridge latch toward you to unlock the Waste Cartridge.



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3. Slide the Waste Cartridge out from the printer.



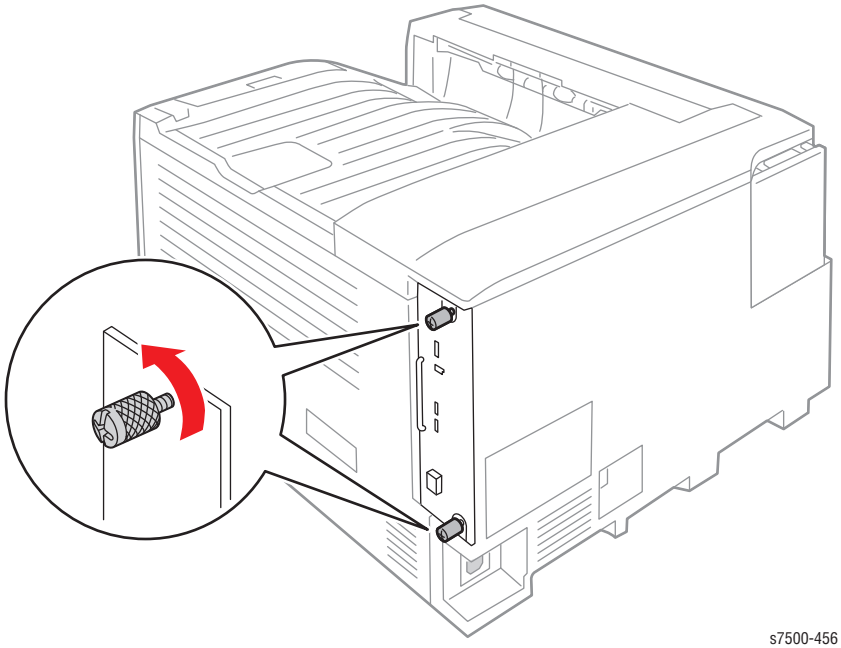
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REP 1.4 Memory Card

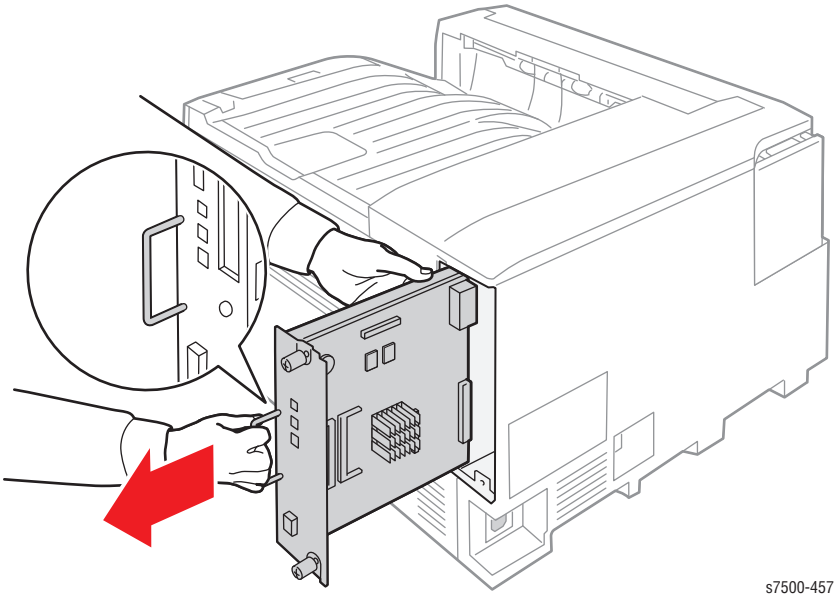
PL35.1.8

1. Loosen 2 screws that secure the Image Processor (I/P) Board.



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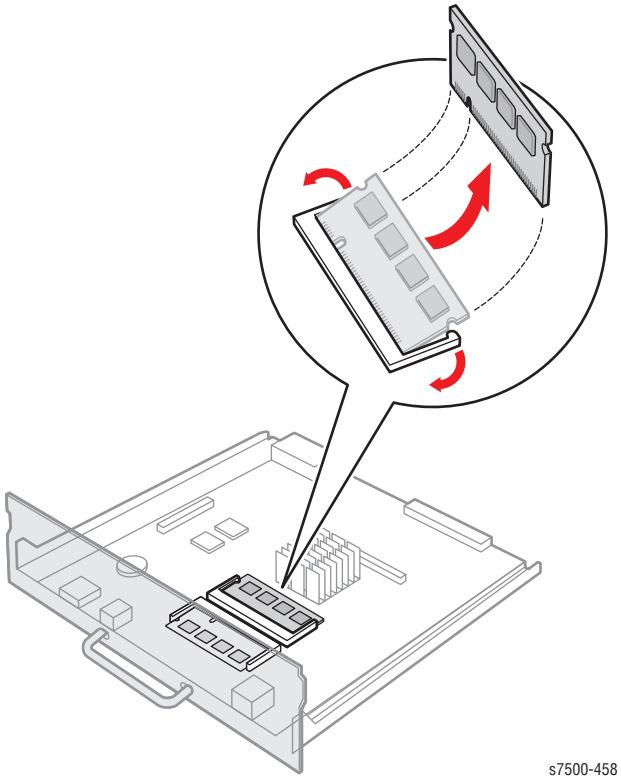
2. Pull the I/P Board out from the printer.



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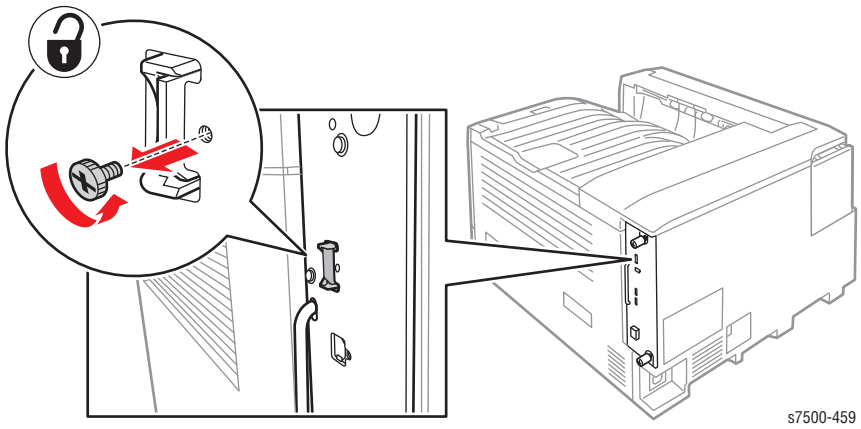
3. Release the 2 clips that secure the memory card and slide it out from the I/P Board.



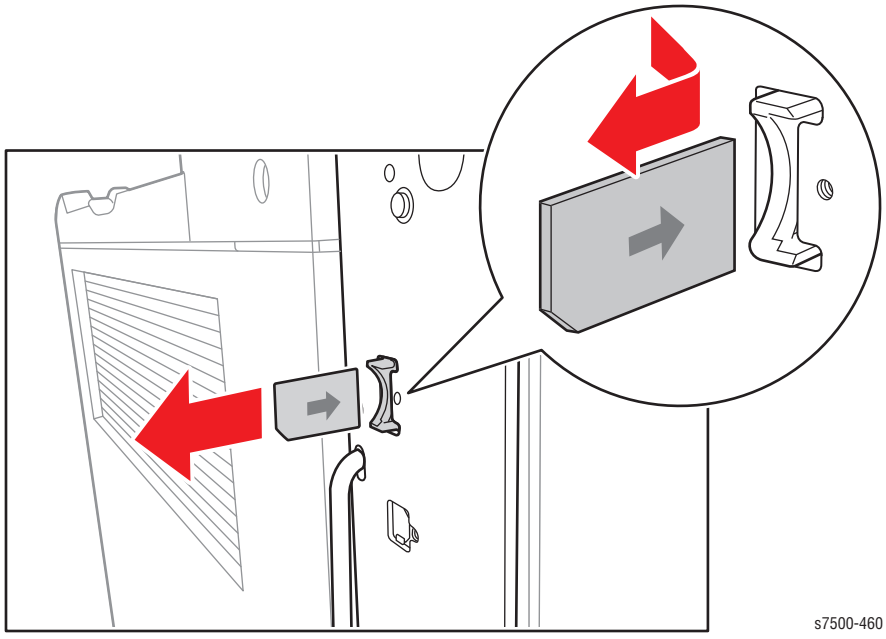
REP 1.5 Configuration Chip

PL35.1.11

1. Remove 1 screw that secures the Configuration Card holder.



2. Push the Configuration Card toward the rear of the printer and pull it out from the I/P Board.

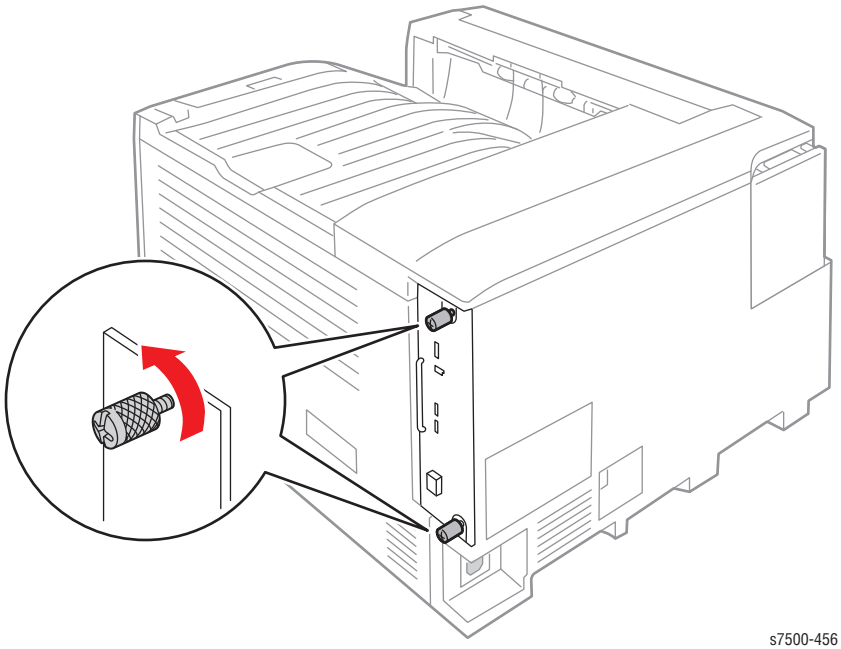


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REP 1.6 Productivity Kit (Hard Drive)

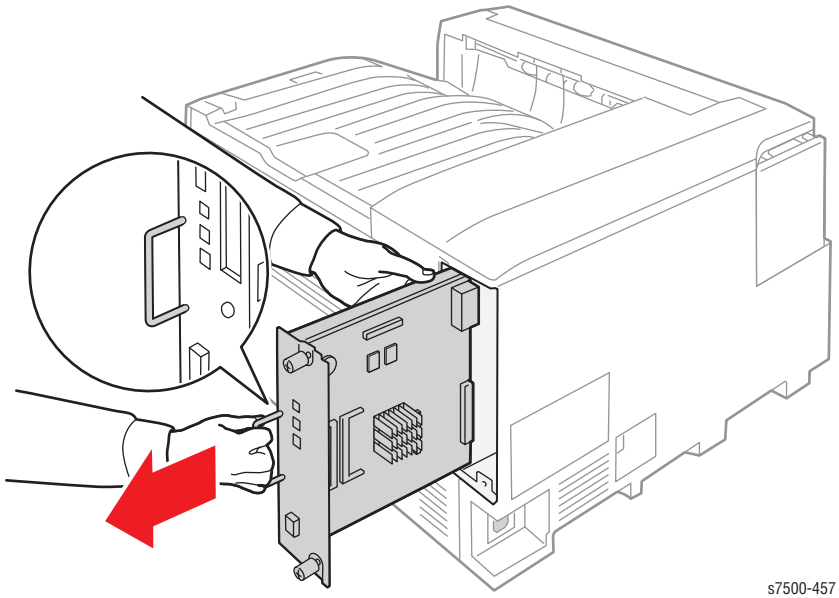
PL35.1.9

1. Loosen 2 screws that secure the Image Process (I/P) Board.



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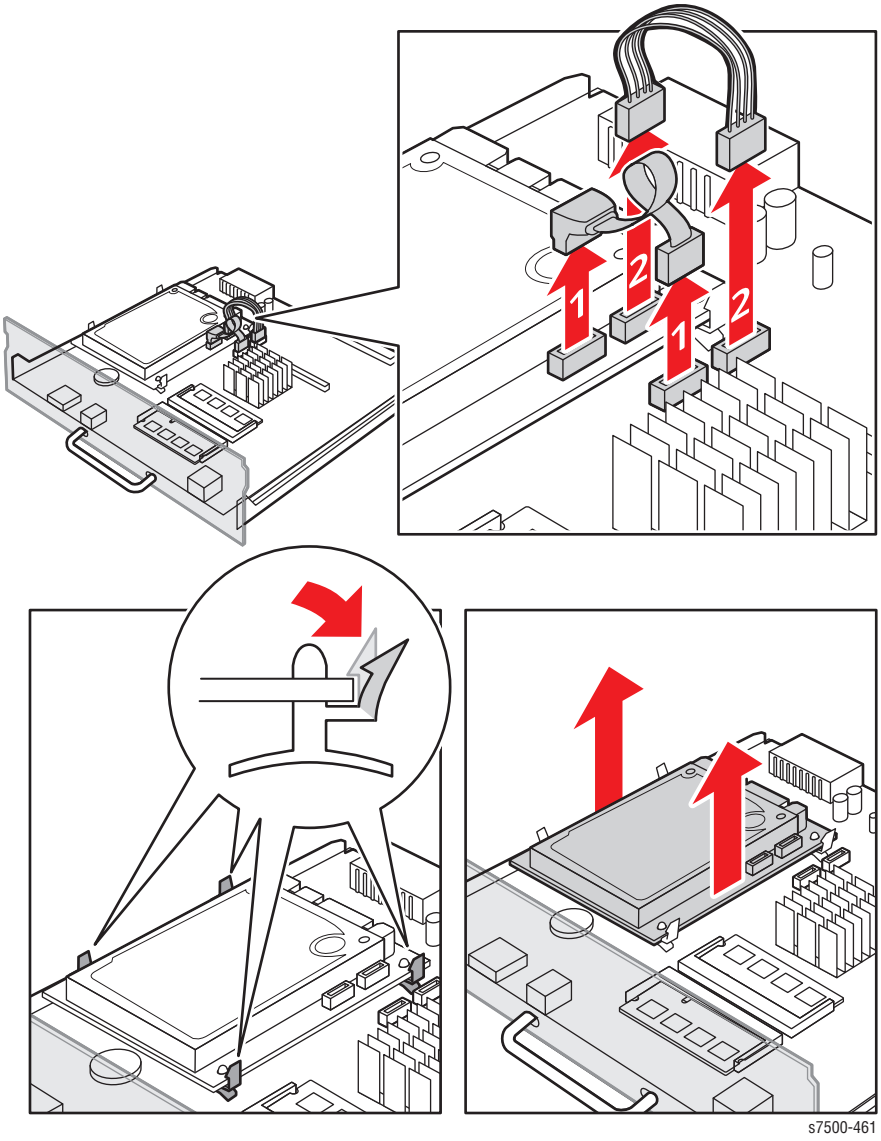
2. Pull the I/P Board out from the printer.



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3. Disconnect the wiring harness connectors.
4. Release the 4 clips that secure the Hard Disk Drive.
5. Lift the Hard Disk Drive straight up.



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LED Print Head

REP 2.1 LED Print Head (LPH) Unit (Y/M/C/K)

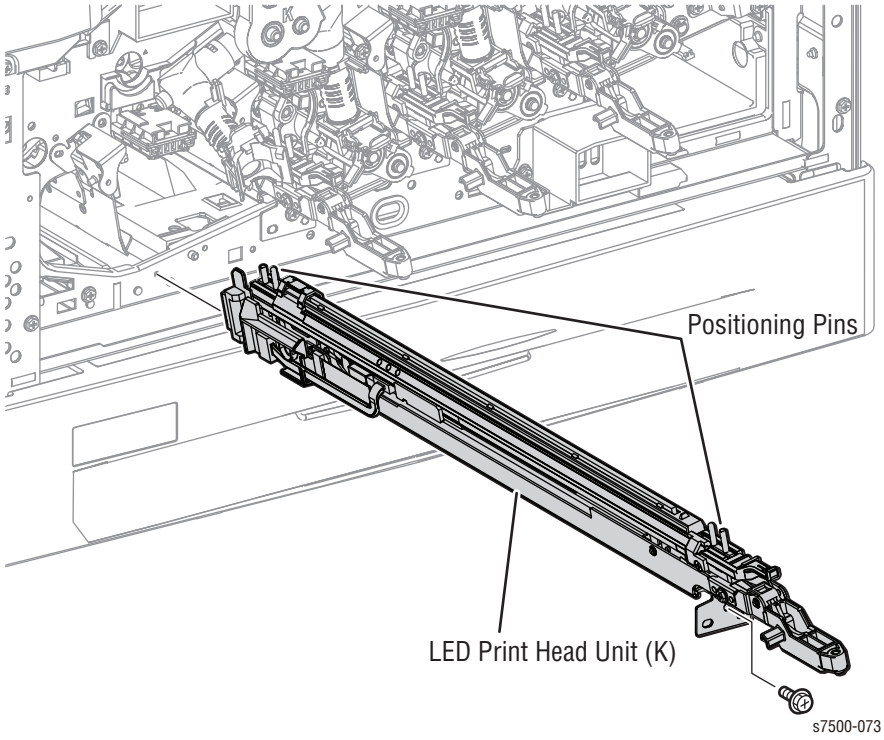
PL2.1.2

1. Remove the Waste Cartridge (REP 1.3, page 8-12).
2. Remove the Front Cover Assembly and the Inner Cover Assembly (REP 19.1, page 8-207).
3. Remove the ATC Sensor Board (REP 5.6, page 8-52).
4. Remove the Waste Toner Pipe Assembly (REP 8.6, page 8-75).
5. Remove the Deve Plate Assembly (REP 5.4, page 8-49).
6. Remove the Developer Housing Assembly (K) (REP 5.5, page 8-50).

Note

Do not apply force to the LPH positioning pin.

7. Remove the screw (silver, 6mm) that secures the LPH Unit (K).
8. Pull and raise the LPH Unit (K) to remove it.

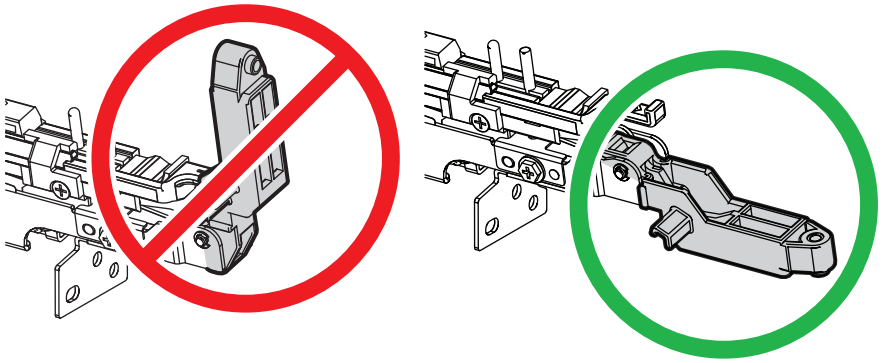


Replacement Note

When installing the LPH Unit, insert the lever horizontally.

If the lever is not horizontal when inserted, it may not be able to go all the way in or even end up being inserted wrongly.

When replacing the LPH Unit, make sure to remove the protective cover (tape) before installing.



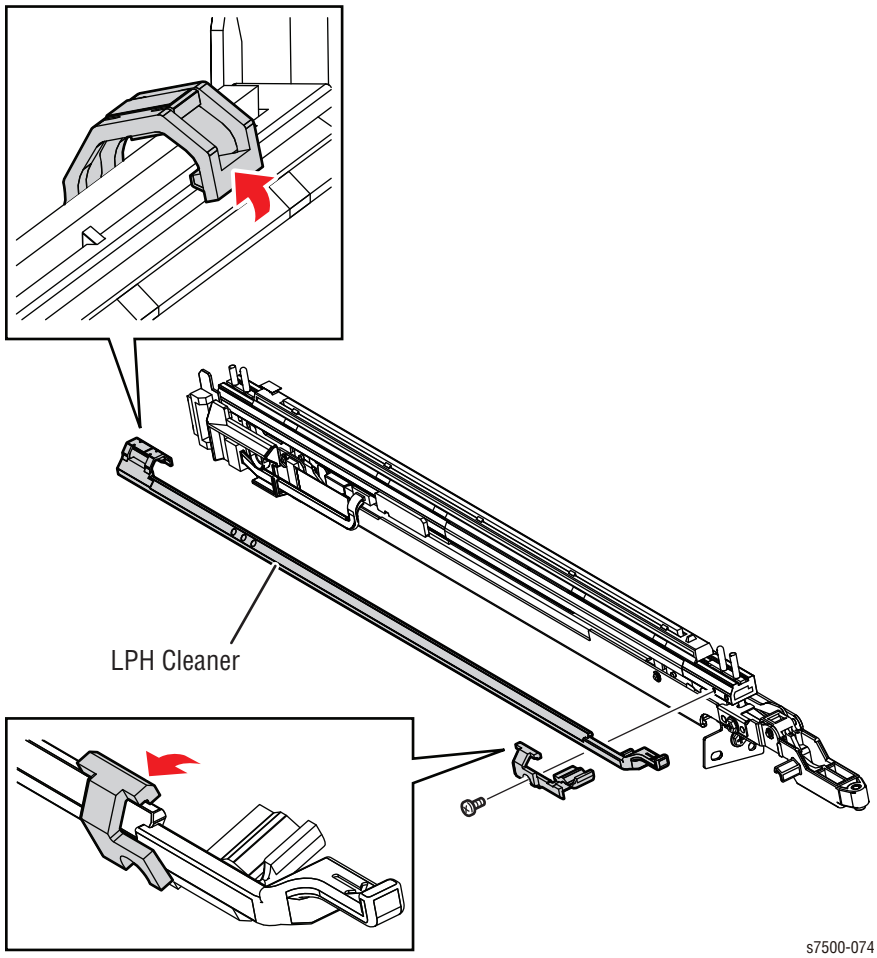
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REP 2.2 LPH Cleaner

PL2.1.4

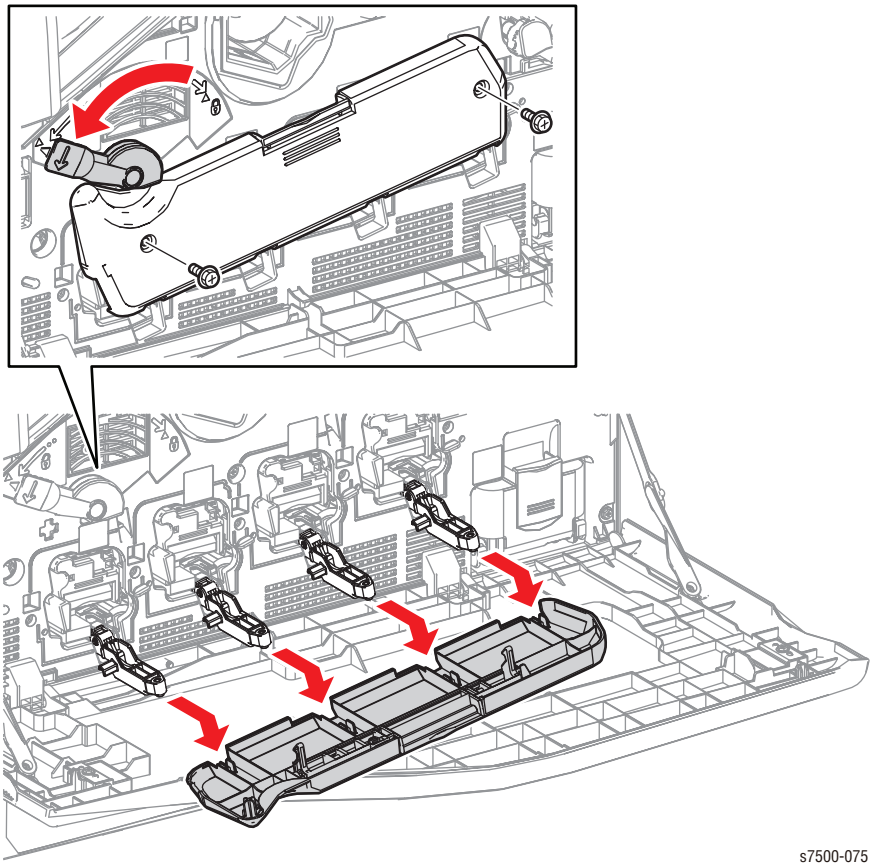
1. Remove the LPH Unit (C/M/Y/K) (REP 2.1, page 8-18).
2. Remove 1 screw (silver, 6mm) that secures the LPH Cleaner Guide to the LPH Unit.
3. Release the LPH Cleaner tab that is hooked onto the inner side of the LPH Unit and remove the LPH Cleaner.
4. Release the Guide tab that is hooked onto the LPH Cleaner and remove the LPH Cleaner.



REP 2.3 Imaging Unit Cover

PL2.1.6

1. Open the Front Door.
2. Turn the Tension Lever to the left.
3. Remove 2 screws (silver, 8mm) that secure the Imaging Unit Cover.
4. Open the Imaging Unit Cover to the first detent and pull it towards the front to remove.



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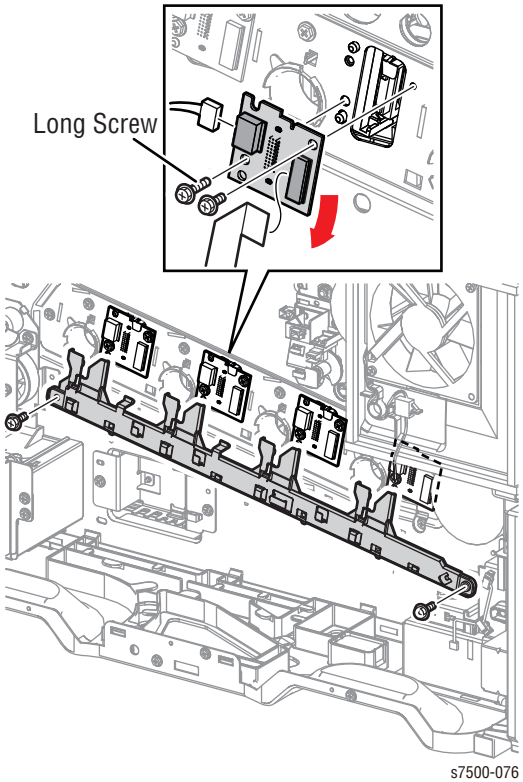
REP 2.4 LPH Rear PWB

PL2.2.5

Caution

Do not expose the Imaging Unit to light for more than 5 minutes. Cover the Imaging Unit to avoid damage. Do not touch the surface of the Imaging Unit.

1. Remove the Imaging Unit (C/M/Y/K) (REP 1.2, page 8-10).
2. Remove the Top Rear Cover and the Rear Cover (REP 19.6, page 8-217).
3. Remove the Right Cover (REP 19.8, page 8-219)
4. Remove the PWB Chassis Unit (REP 18.10, page 8-197).
5. Remove the HVPS (1st/2nd/DTS) (REP 6.4, page 8-65).
6. Remove the Drum/ Deve Drive Assembly (REP 3.8, page 8-33).
7. Remove 2 screws (silver, 8mm) that secure the Harness Guide and release the Harness Guide by sliding it upwards.
8. Disconnect the wiring harness connector that is connected to the LPH Rear PWB.
9. Slightly pull out the LPH Unit (refer to REP 2.1, page 8-18). Do not remove the LPH.
10. Lift the latch on the flat cable and release the cable.
11. Remove 2 screws (silver, 6mm/14mm) that secure the LPH Rear PWB and pull down the LPH Rear PWB to remove it.



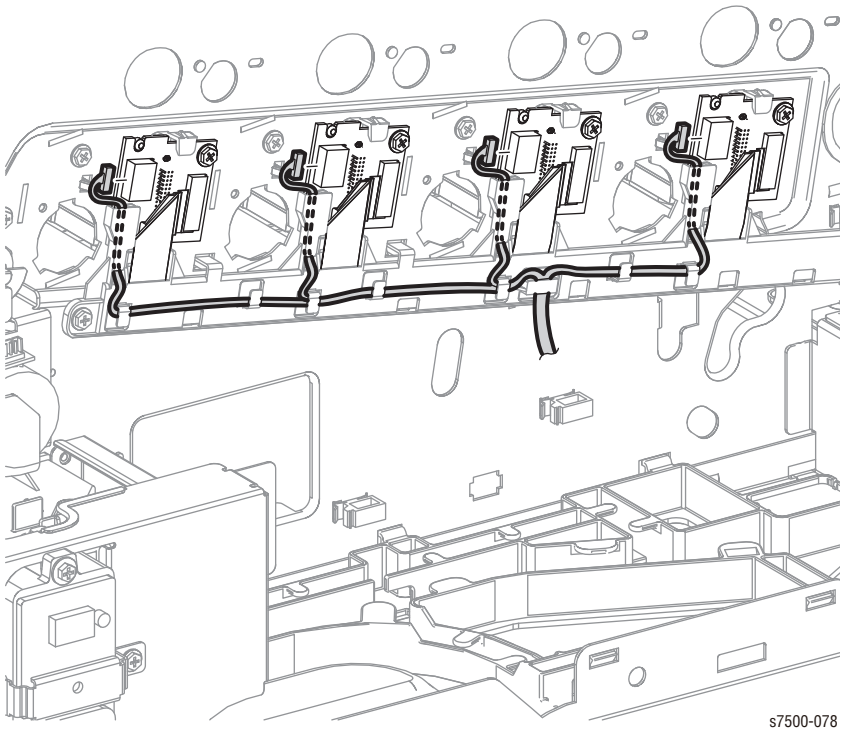
Replacement Note

Be sure the Black plastic latch is always pulled forward in order to sit the PWB in place. Be sure to push the LPH back in place.

REP 2.5 LPH Cable Assembly

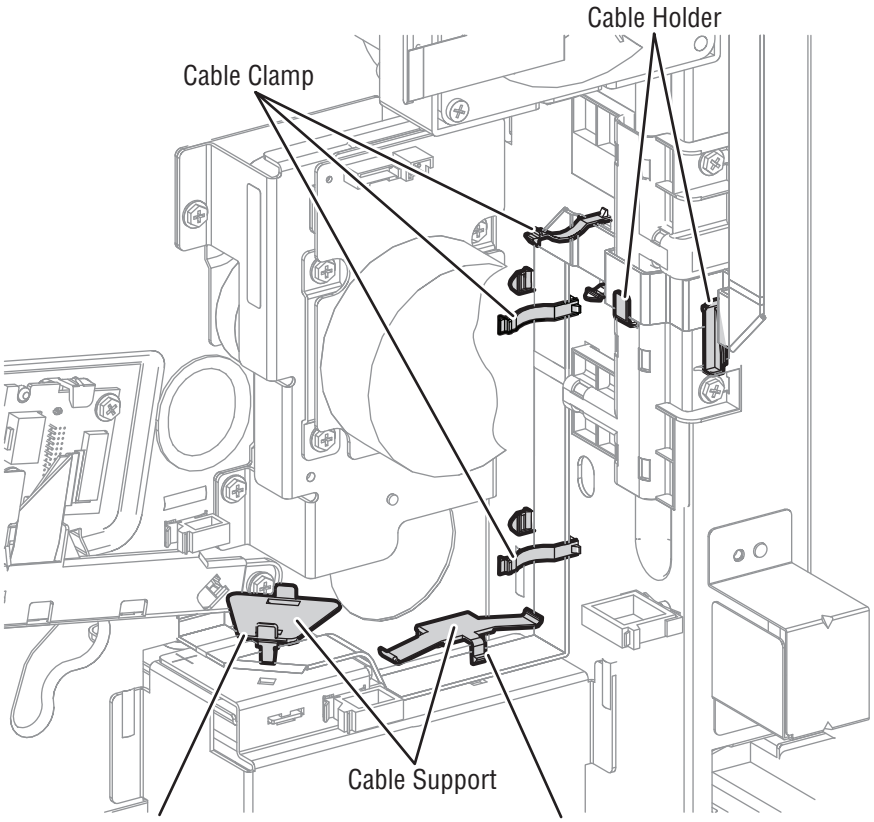
PL2.2.1

1. Remove the Drum/ Deve Drive Assembly (REP 3.8, page 8-33).
2. Remove the Takeaway Clutch (REP 15.1, page 8-172).
3. Disconnect the 4 wiring harness connectors that are connected to the LPH Rear PWB.
4. Remove the 4 wiring harnesses from the Cable Holders of the LPH Cable Assembly.

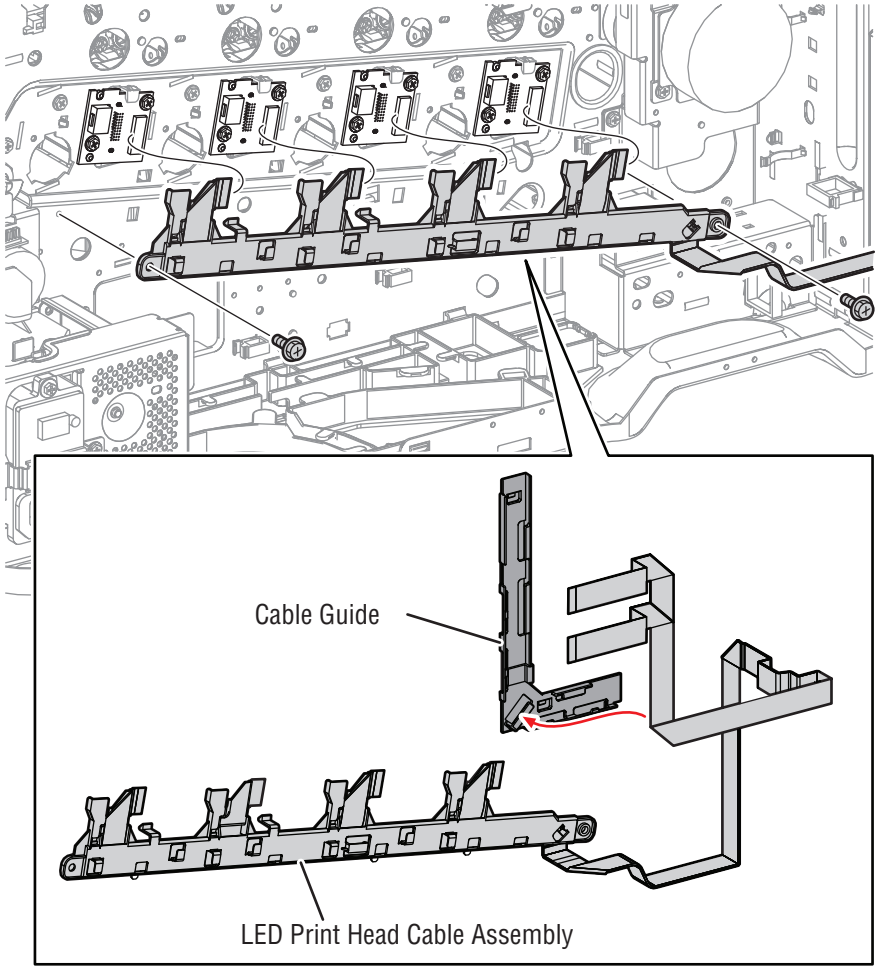


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5. Disconnect the connector to the rear connector of the Registration Clutch.
6. Release the 2 Cable Holders that secure the LPH Cable Assembly to the Frame.
7. Release the 3 clamps that secure the LPH Cable Assembly to the Frame.
8. Remove the LPH Cable Assembly from the Cable Holders.
9. Release the latches on the Cable Supports and remove the Cable Supports.



10. Disconnect the cables from the 4 connectors that connect the LPH Cable Assembly.
11. Remove 2 screws (silver, 6mm) that secure the Cable Holder of the LPH Cable Assembly and remove the LPH Cable Assembly.
12. Remove the Cable Guide from the LPH Cable Assembly.



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Drive

REP 3.1 Fuser Input Bracket Assembly

PL3.1.1

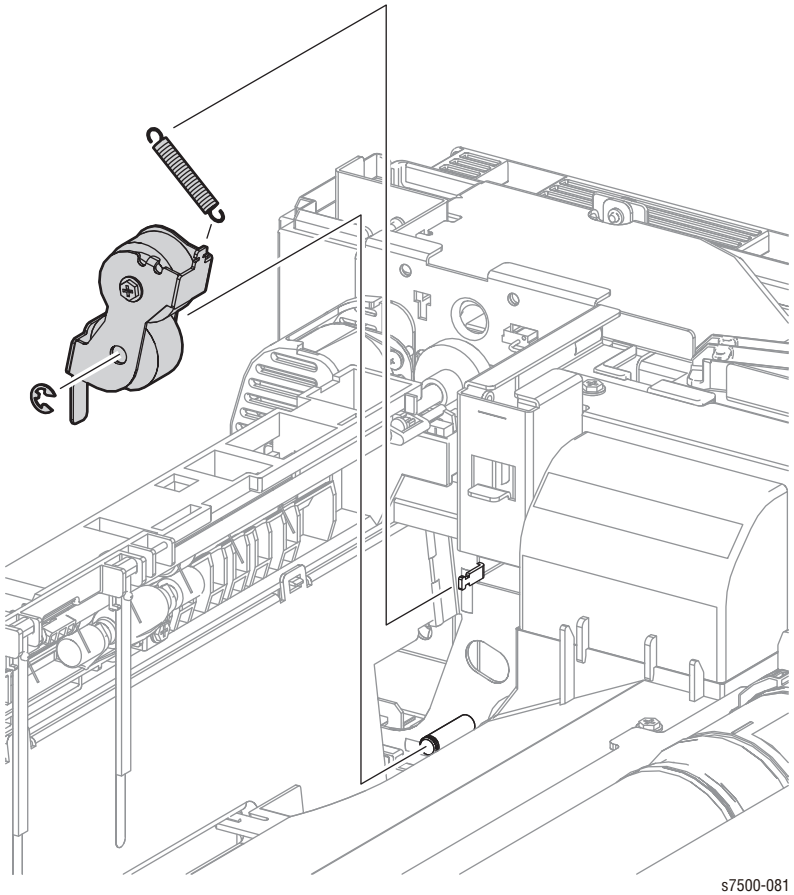
Warning

The Fuser may be hot. Turn the printer power Off and allow adequate time for the Fuser to cool before removing the Fuser.

1. Remove the Fuser Assembly (REP 7.1, page 8-67).
2. Remove the Top Cover (REP 19.2, page 8-211).
3. Remove the Spring from the Fuser Input Bracket Assembly.
4. Remove the E-ring that secures the Fuser Input Bracket Assembly and remove the Fuser Input Bracket Assembly.
5. Slide the Fuser Input Bracket Assembly out.

Note

Be careful not to drop the gear.



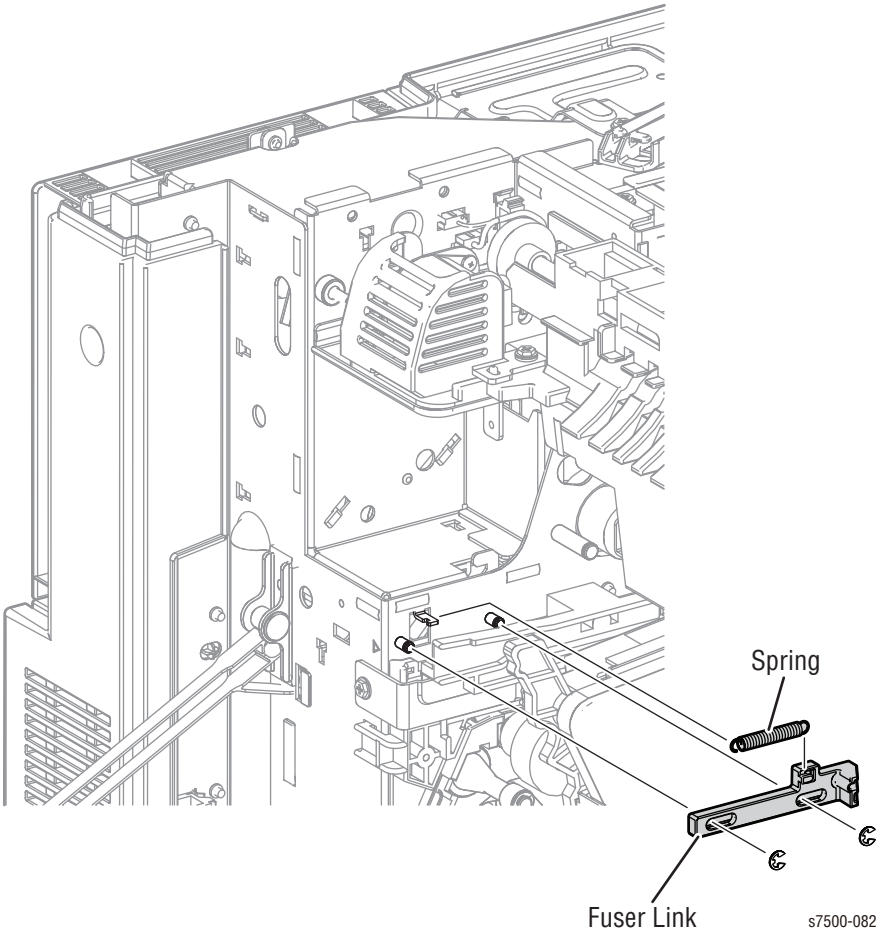
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REP 3.2 Fuser Link/ Spring

PL3.1.7/ PL3.1.8

1. Partially remove the Fuser Input Bracket Assembly and slide it 1/4 inch toward the front of the printer (refer to REP 3.1, page 8-26).
2. Remove the Spring from the Fuser Link.
3. Remove the 2 E-rings that secure the Fuser Link and remove the Fuser Link.
4. Rotate the Fuser Link 90° counter-clock wise and remove the Fuser Link.

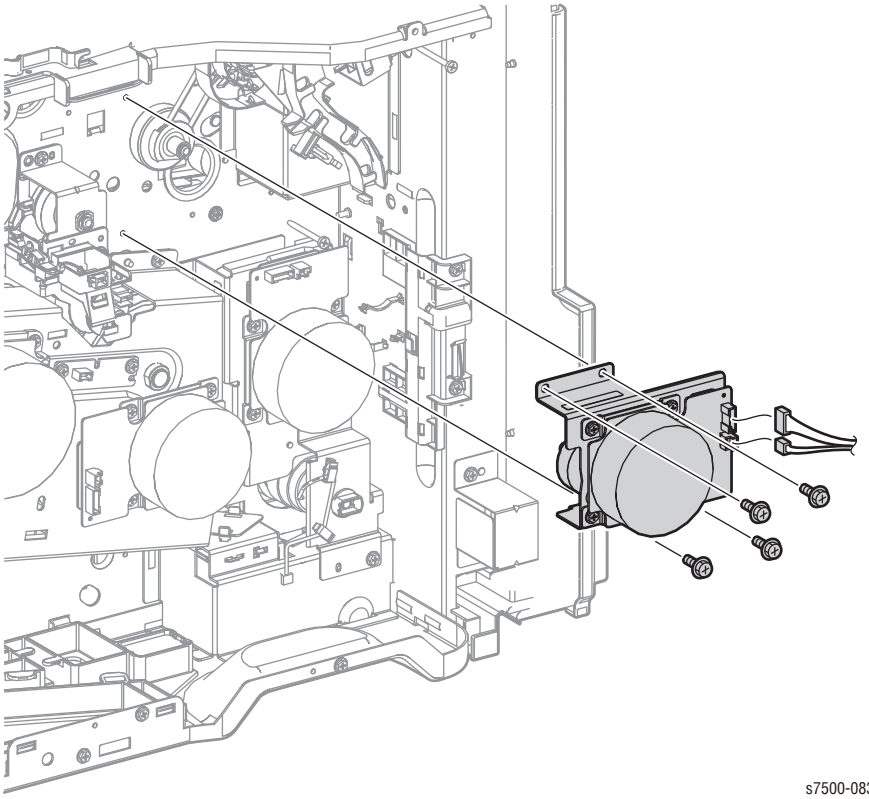


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REP 3.3 Fuser & IBT Drive Motor Assembly

PL3.1.10

1. Remove the Top Rear Cover and the Rear Cover (REP 19.6, page 8-217).
2. Remove the Right Cover (REP 19.8, page 8-219).
3. Remove the PWB Chassis Unit (REP 18.10, page 8-197).
4. Remove the Duct Rear/ Fuser Fan Duct/ Fuser Rear Duct (REP 4.2, page 8-39).
5. Disconnect the 2 wiring harness connectors that are connected to the Fuser Drive Motor Assembly.
6. Remove 4 screws (silver, 6mm) that secure the Fuser Drive Motor Assembly and remove the Fuser Drive Motor Assembly.

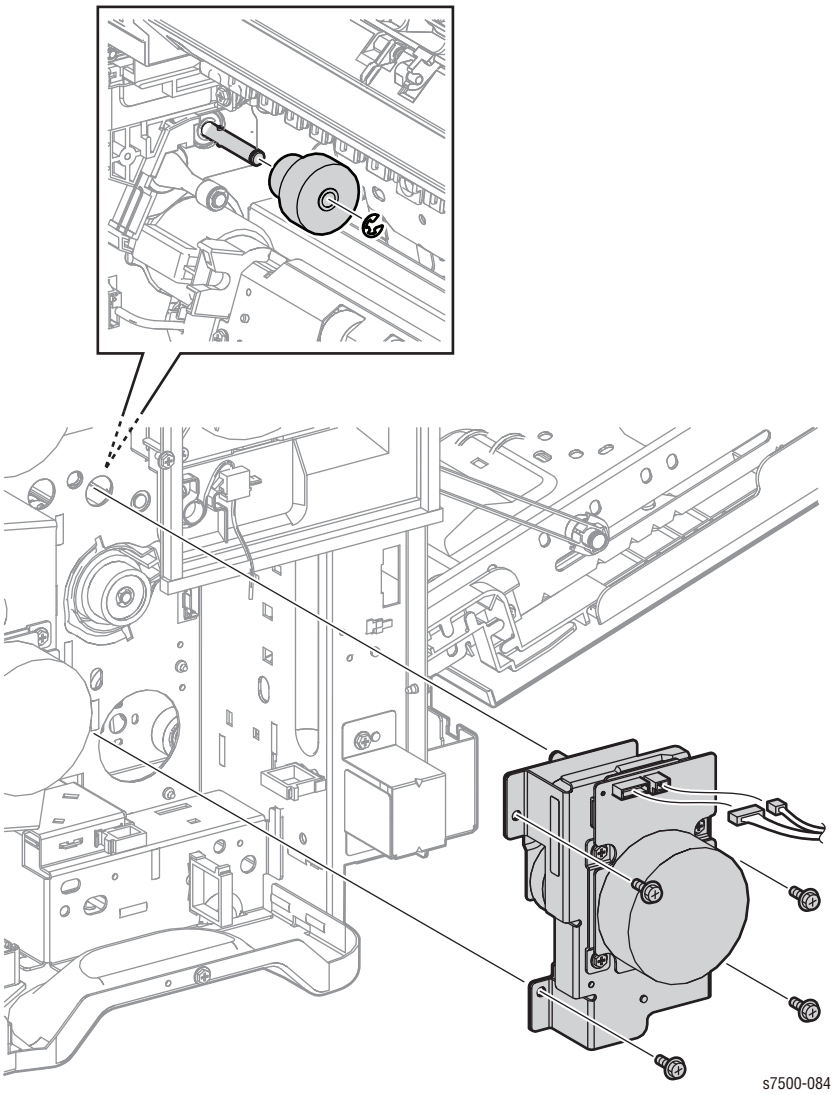


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REP 3.4 Main Drive Assembly

PL3.2.1

1. Remove the Top Rear Cover and the Rear Cover (REP 19.6, page 8-217).
2. Remove the Right Cover (REP 19.8, page 8-219).
3. Remove the PWB Chassis Unit (REP 18.10, page 8-197).
4. Remove the IBT Belt Unit (REP 6.2, page 8-58).
5. Remove the Takeaway Clutch (REP 15.1, page 8-172).
6. Disconnect the 2 wiring harness connectors that are connected to the Main Drive Assembly.
7. Remove the E-ring that secures the Gear and remove the Gear.
8. Remove 4 screws (silver, 8mm) that secure the Main Drive Assembly to the printer and remove the Main Drive Assembly.

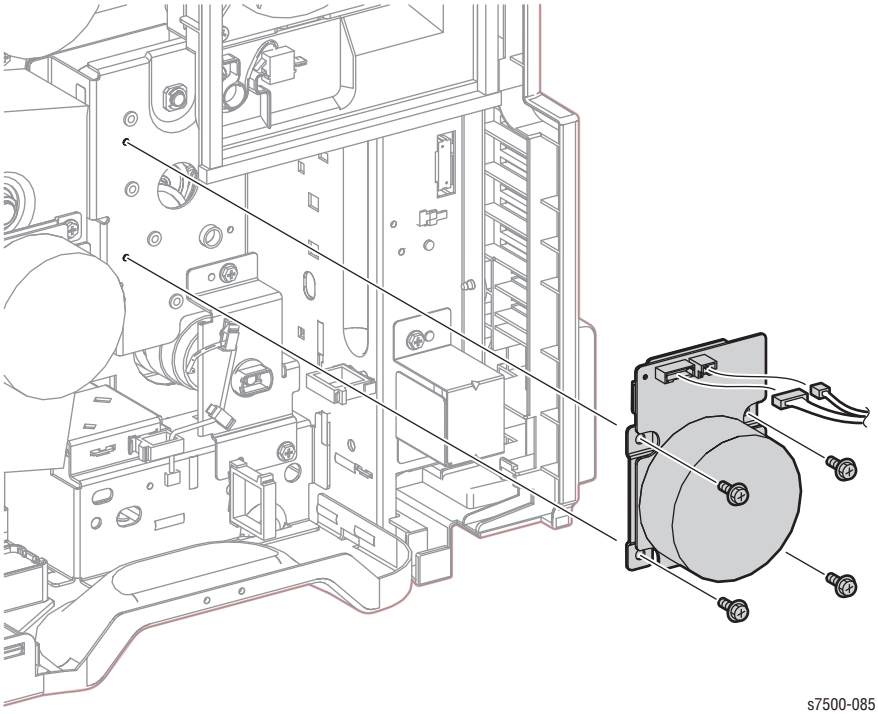


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REP 3.5 Main Drive Motor Assembly

PL3.2.3

1. Remove the PWB Chassis Unit (REP 18.10, page 8-197).
2. Disconnect the 2 wiring harness connectors that are connected to the Main Drive Motor Assembly.
3. Remove 4 screws (silver, 6mm) that secure the Main Drive Motor Assembly and remove the Main Drive Motor Assembly.

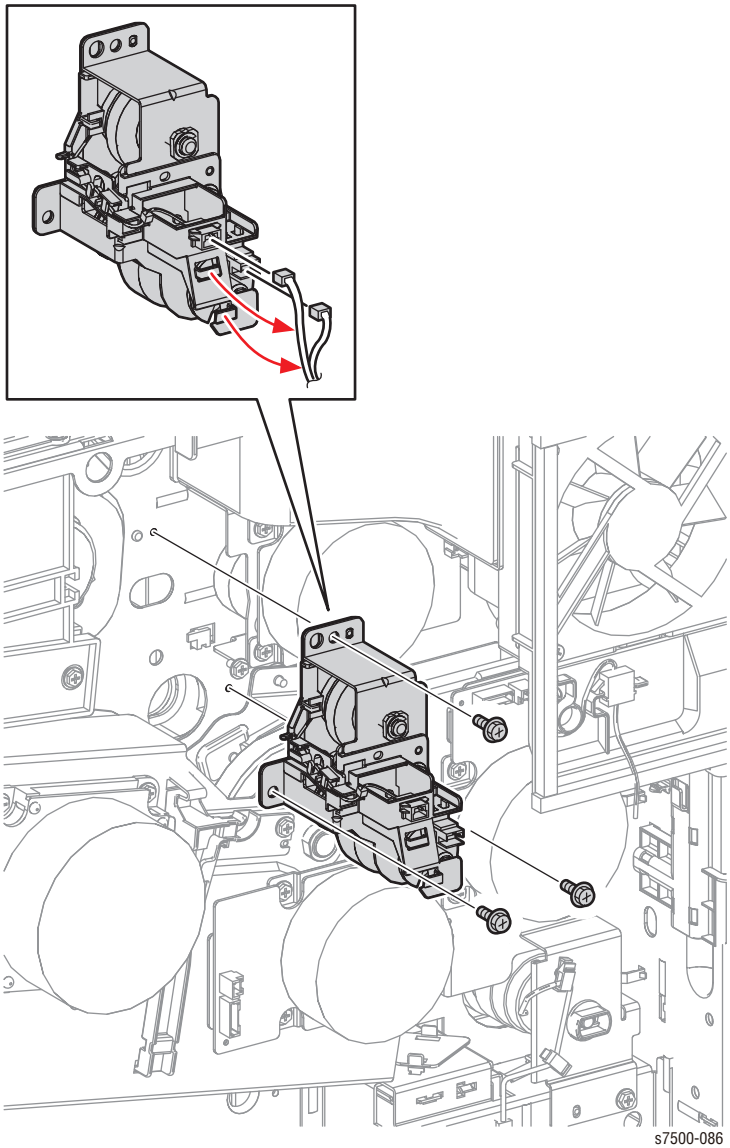


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REP 3.6 Retract Drive Assembly

PL3.2.4

1. Remove the Right Cover (REP 19.8, page 8-219).
2. Remove the PWB Chassis Unit (REP 18.10, page 8-197).
3. Disconnect the 2 wiring harness connectors that are connected to the Retract Drive Assembly and release the harness from the Harness Guide.
4. Remove 3 screws (silver, 6mm) that secure the Retract Drive Assembly and remove the Retract Drive Assembly.



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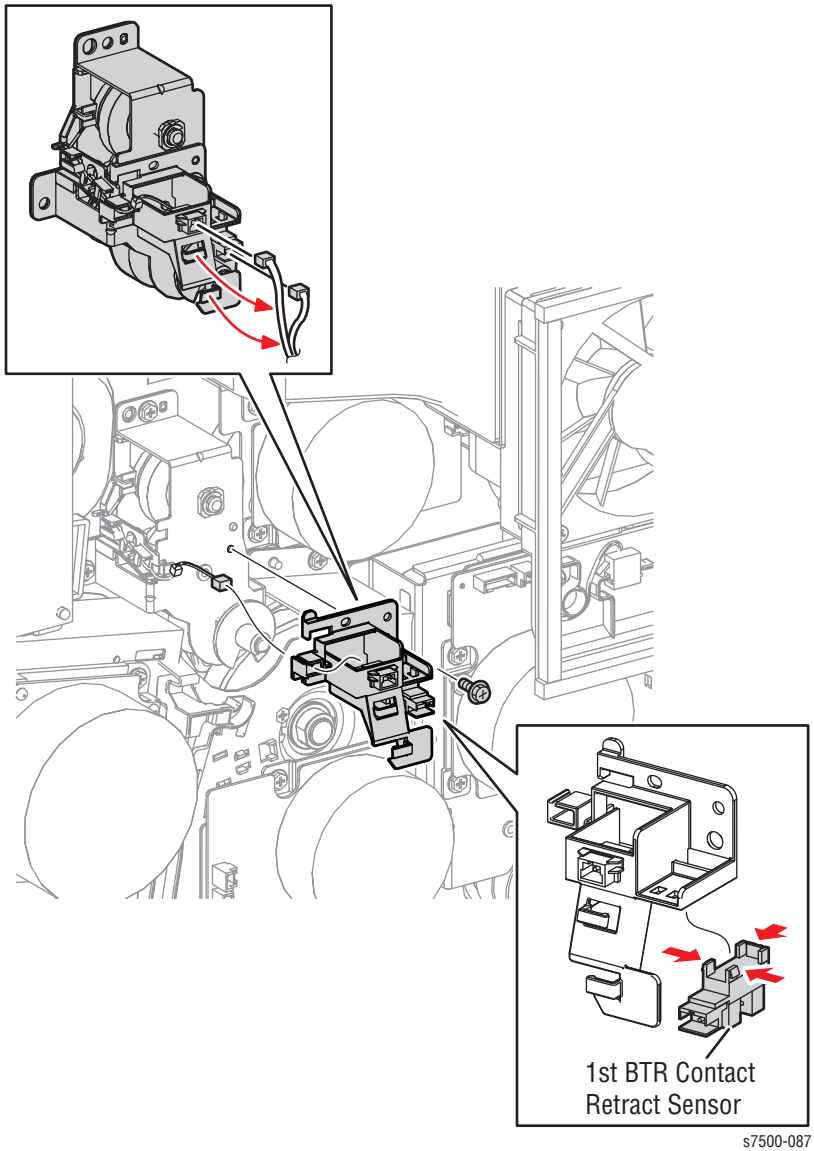
REP 3.7 1st BTR Contact Retract Sensor

PL3.2.17

1. Remove the PWB Chassis Unit (REP 18.10, page 8-197).
2. Disconnect the 2 wiring harness connectors that are connected to the Retract Drive Assembly and release the harness from the Harness Guide.
3. Remove 1 screw (silver, 6mm) that secures the Harness Holder and remove the Harness Holder.
4. Release the hooks that secure the 1st BTR Contact Retract Sensor and remove the 1st BTR Contact Retract Sensor from the Harness Holder.

Note

It is not necessary to remove the PWB Chassis. It is required to remove the Fan/ Duct to access the Sensor.

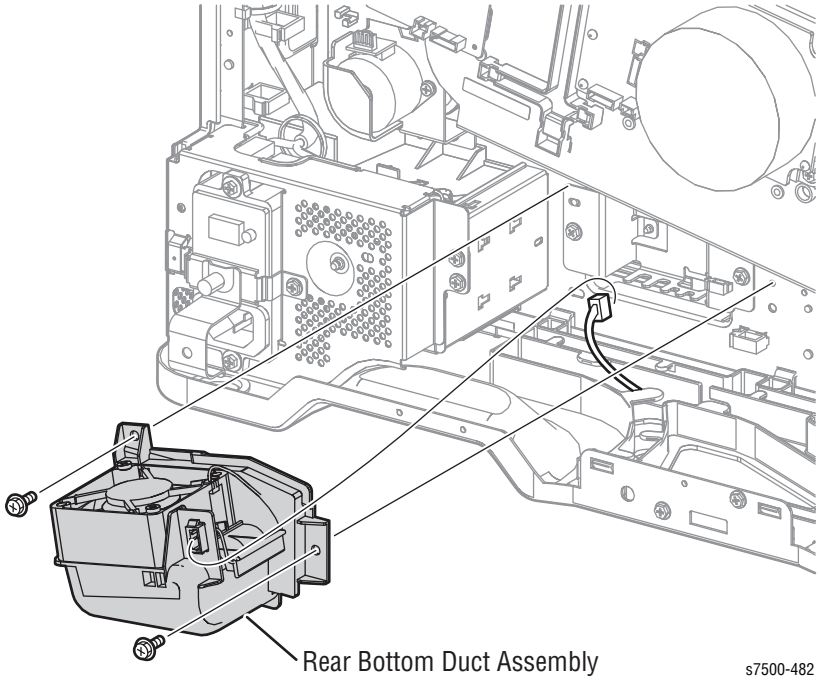


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REP 3.8 Drum/ Deve Drive Assembly

PL3.3.1

1. Remove the PWB Chassis Unit (REP 18.10, page 8-197).
2. Remove the HVPS (1st/ 2nd/ DTS) (REP 6.4, page 8-65).
3. Disconnect the 4 wiring harness connectors on the Drum/ Deve Drive Assembly that are connected to the Harness Holder, which is installed on the right (when seen from the rear), and release the hook to remove the Harness Holder.
4. Disconnect the 4 wiring harness connectors on the Drum/ Deve Drive Assembly that are connected to the Harness Holder, which is installed on the right (when seen from the front), release the harness from the Retract Drive Assembly Harness Guide, and release the hook to remove the Harness Holder.
5. Remove 2 screws that secure the Bottom Fan Assembly (PL4.3.6)
6. Disconnect the wiring harness connector and remove the Fan.

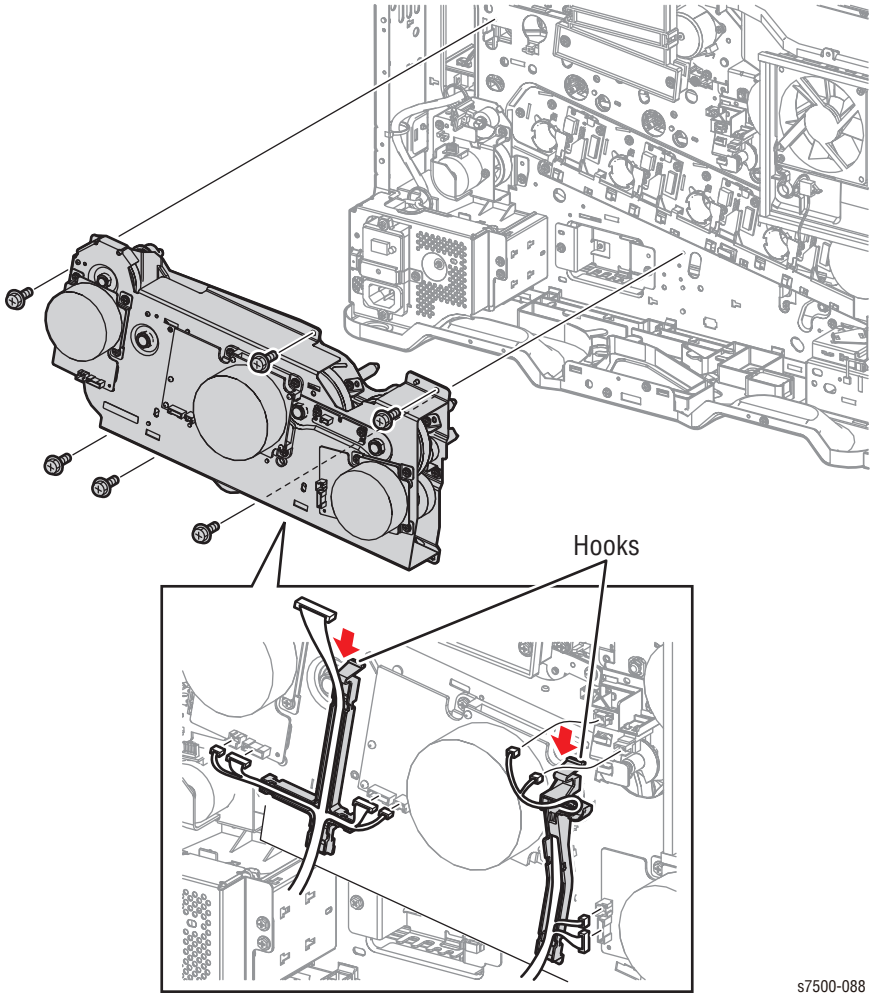


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7. Remove 6 screws (silver, 6mm) that secure the Drum/ Deve Drive Assembly and remove the Drum/ Deve Drive Assembly.

Note

When placing the Drum/ Deve Drive Assembly on the floor, place it with its Motor section facing downwards.



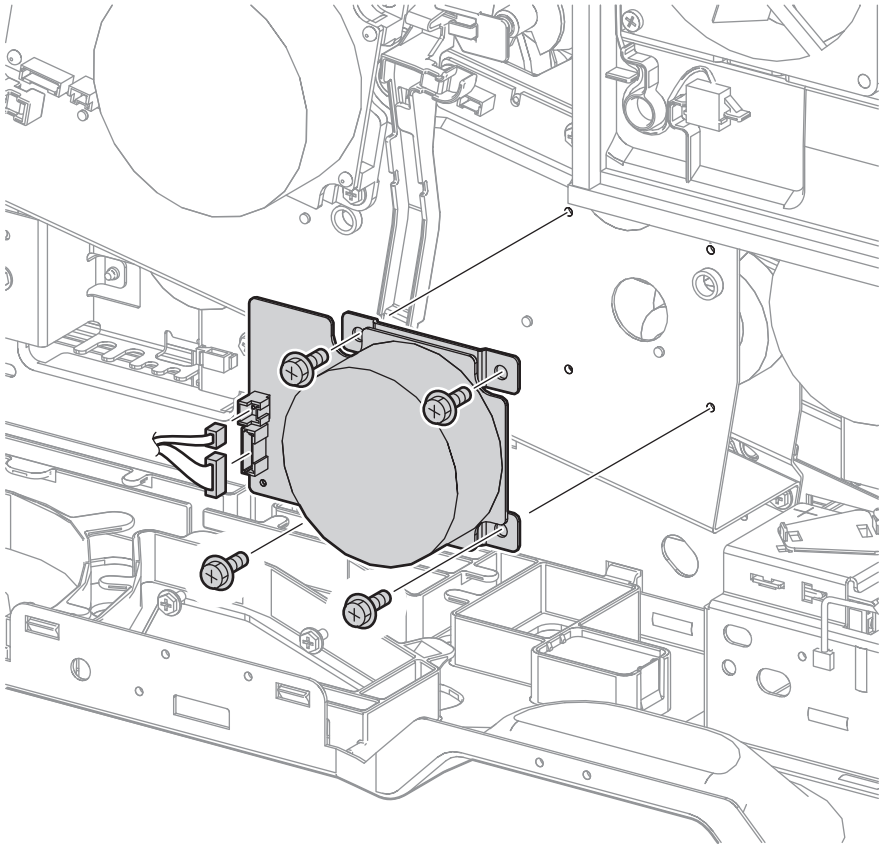
Replacement Note

Be sure to align the Alignment Pin with the hole on the Drum/ Deve Drive Assembly to seat the Drive Assembly in the correct position.

REP 3.9 Drum/ Deve Drive Motor

PL3.3.3

1. Remove the PWB Chassis Unit (REP 18.10, page 8-197).
2. Disconnect the 2 wiring harness connectors that are connected to the Drum/ Deve Drive Motor (K).
3. Remove 4 screws (silver, 6mm) that secure the Drum/ Deve Drive Motor (K) and remove the Drum/ Deve Drive Motor (K).



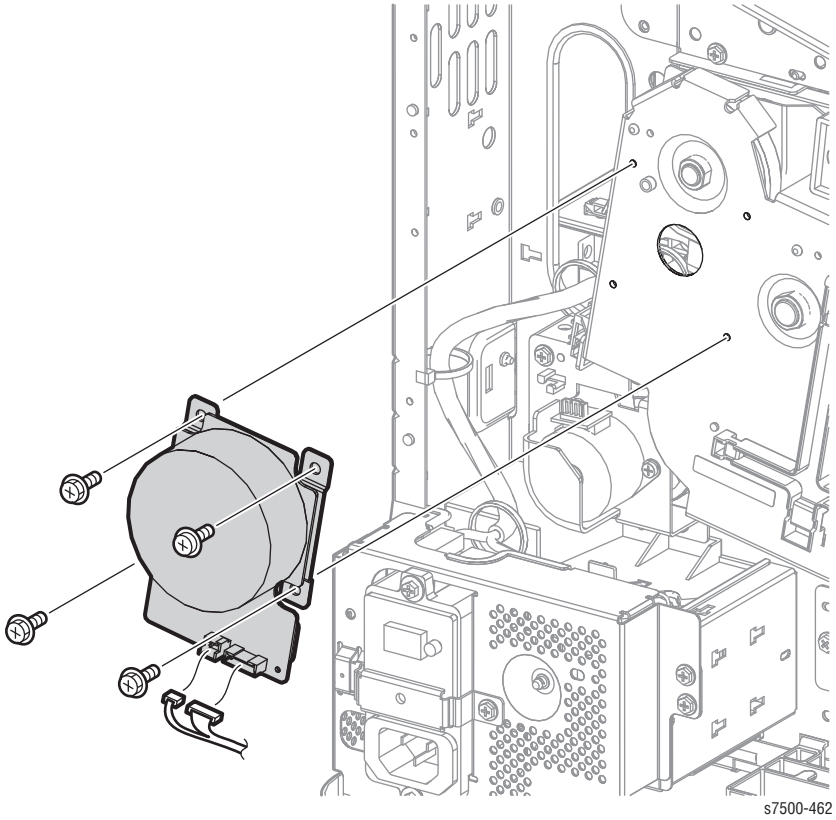
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REP 3.10 IBT Drive Motor Assembly

PL3.3.4

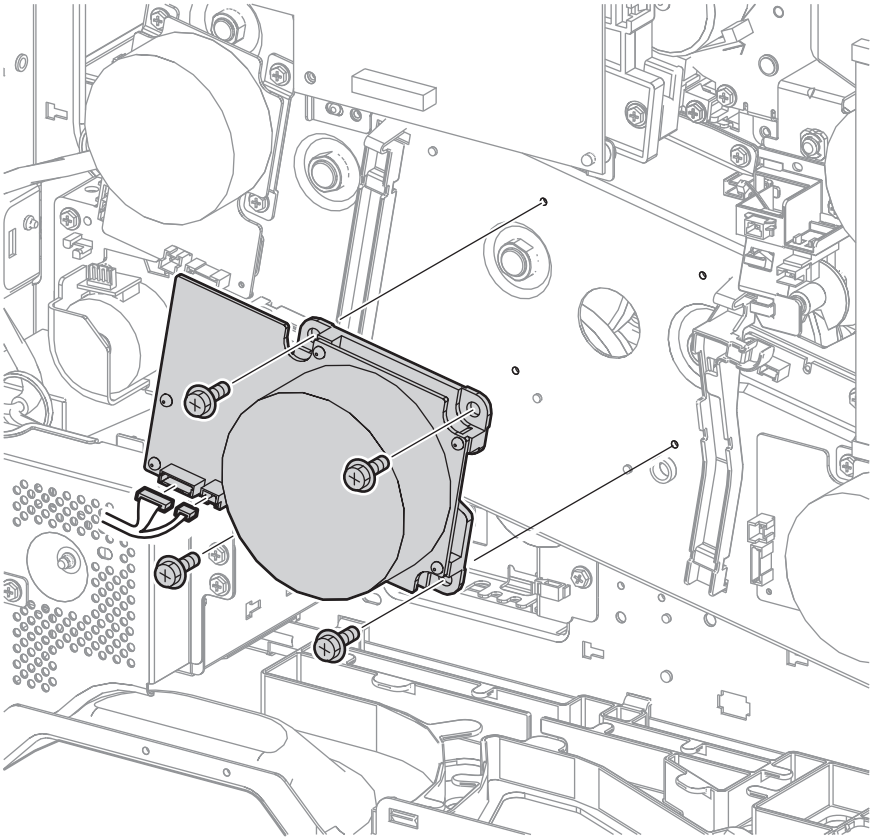
1. Remove the PWB Chassis Unit (REP 18.10, page 8-197).
2. Disconnect the 2 wiring harness connectors that are connected to the IBT Drive Motor Assembly.
3. Remove 4 screws (silver, 6mm) that secure the IBT Drive Motor Assembly and remove the IBT Drive Motor Assembly.



REP 3.11 Drum/ Deve Drive Motor (Y, M, C)

PL3.3.5

1. Remove the PWB Chassis Unit (REP 18.10, page 8-197).
2. Disconnect the 2 wiring harness connectors that are connected to the Drum/ Deve Drive Motor (Y/M/C).
3. Remove 4 screws (silver, 6mm) that secure the Drum/ Deve Drive Motor (Y/M/C) and remove the Drum/ Deve Drive Motor (Y/M/C).



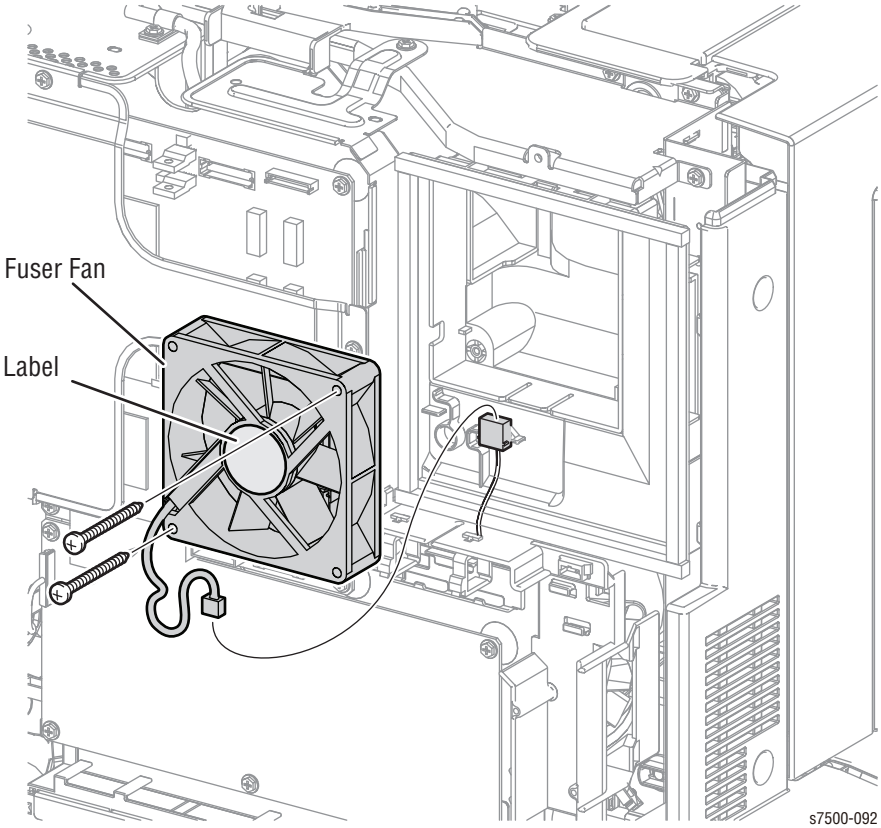
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REP 4.1 Fuser Fan

PL4.1.7

1. Remove the Top Rear Cover and the Rear Cover (REP 19.6, page 8-217).
2. Disconnect the wiring harness connector that is connected from the Fuser Fan, and remove it from the Harness Guide.
3. Remove 2 screws (silver, Tapped, 32mm) that secure the Fuser Fan to the Duct and remove the Fuser Fan.



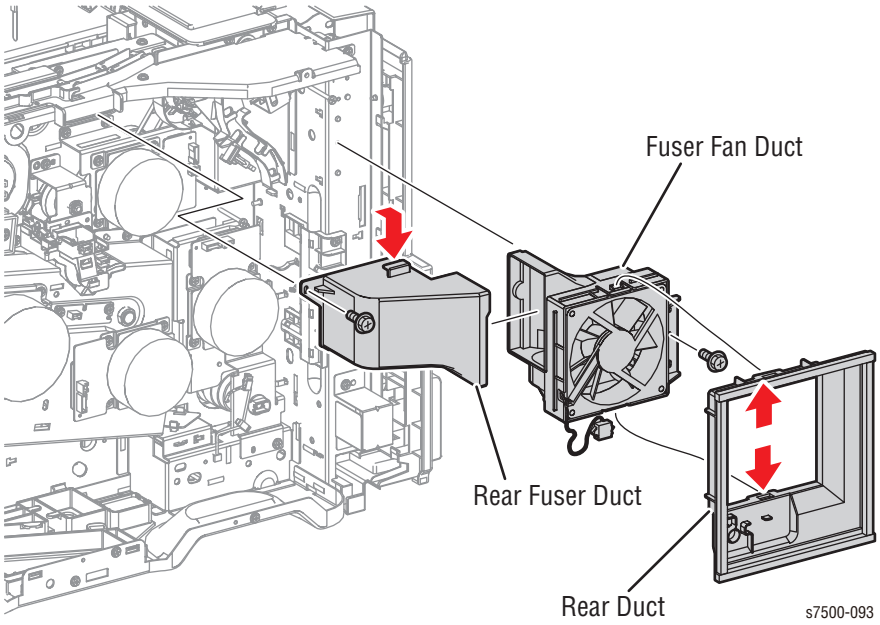
Replacement Note

Be sure the labeled side of the Fan faces the rear of the printer.

REP 4.2 Rear Duct/ Fuser Fan Duct/ Rear Fuser Duct

PL4.1.4/ PL4.1.5/ PL4.1.8

1. Remove the Top Rear Cover and the Rear Cover (REP 19.6, page 8-217).
2. Remove the Right Cover (REP 19.8, page 8-219).
3. Remove the PWB Chassis Unit (REP 18.10, page 8-197).
4. Release the 2 hooks that secure the Duct Rear and remove the Duct Rear.
   - Release the top latch first in order to release the bottom latch.
5. Remove 1 screw (silver, 6mm) that secures the Fuser Fan Duct and remove the Fuser Fan Duct.
6. Remove 1 screw (silver, 6mm) that secures the Rear Fuser Duct, release the hook that is attached to the Rear Upper Frame and remove the Rear Fuser Duct.

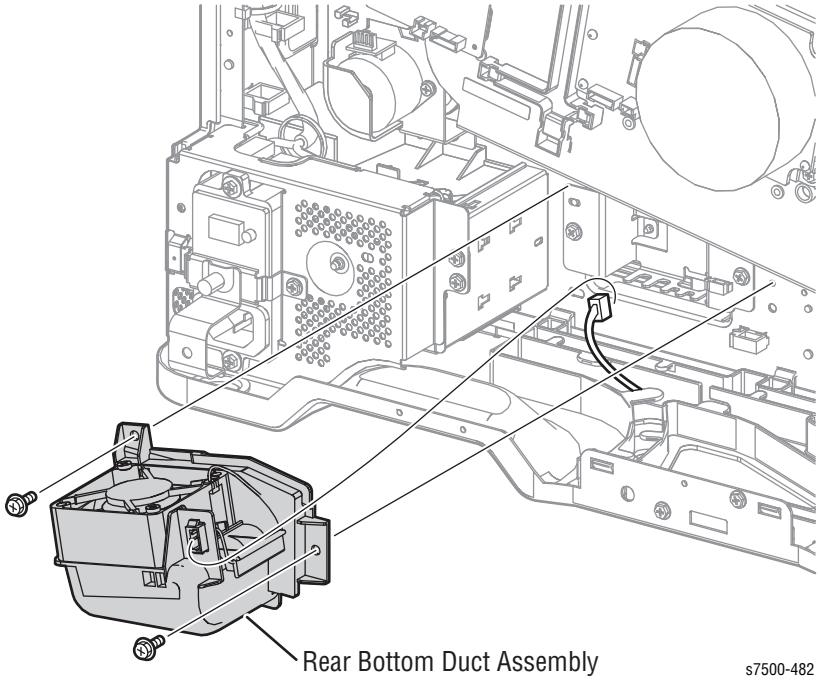


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REP 4.3 HV Fan

PL4.3.1

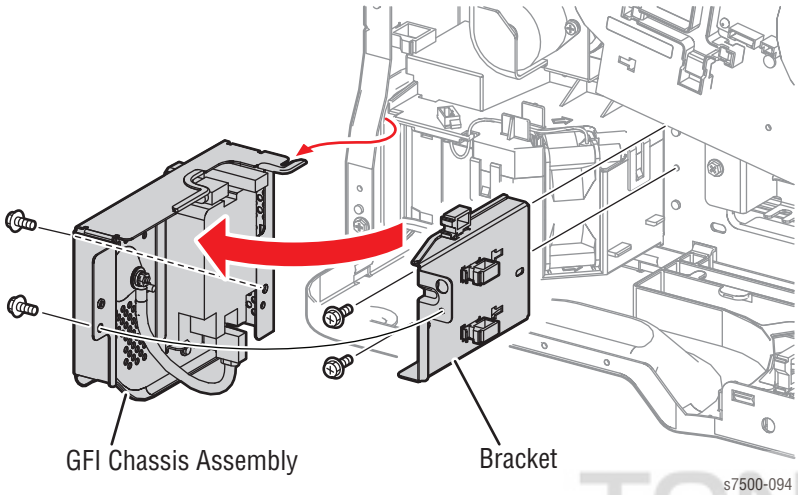
1. Remove the PWB Chassis Unit (REP 18.10, page 8-197).
2. Remove 2 screws that secure the Bottom Fan Assembly (PL4.3.6).
3. Disconnect the wiring harness connector and remove the Fan.



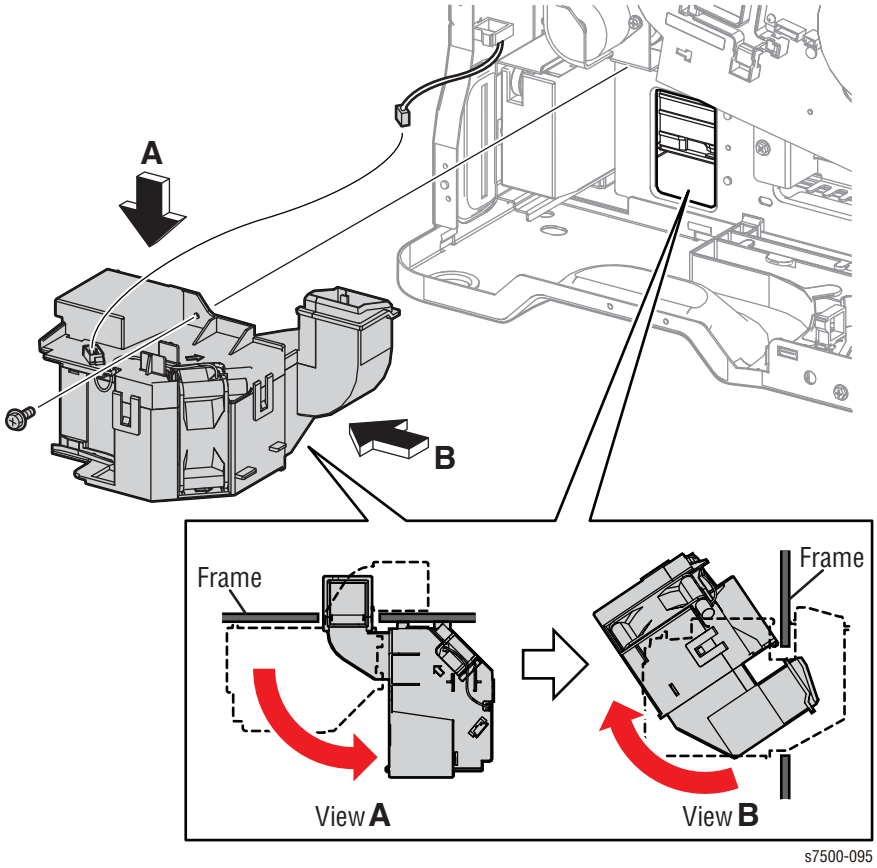
Note

Because the GFI Chassis is to be removed with the harness still connected, do not apply excessive force when performing the next step.

4. Remove 2 screws (silver, 6mm) that secure the GFI Chassis and remove the GFI Chassis.
5. Remove 2 screws (silver, 6mm) that secure the Bracket, release the harness from the 3 clamps, and remove the Bracket.
6. Disconnect the wiring harness connector that is connected to the Duct Assembly.

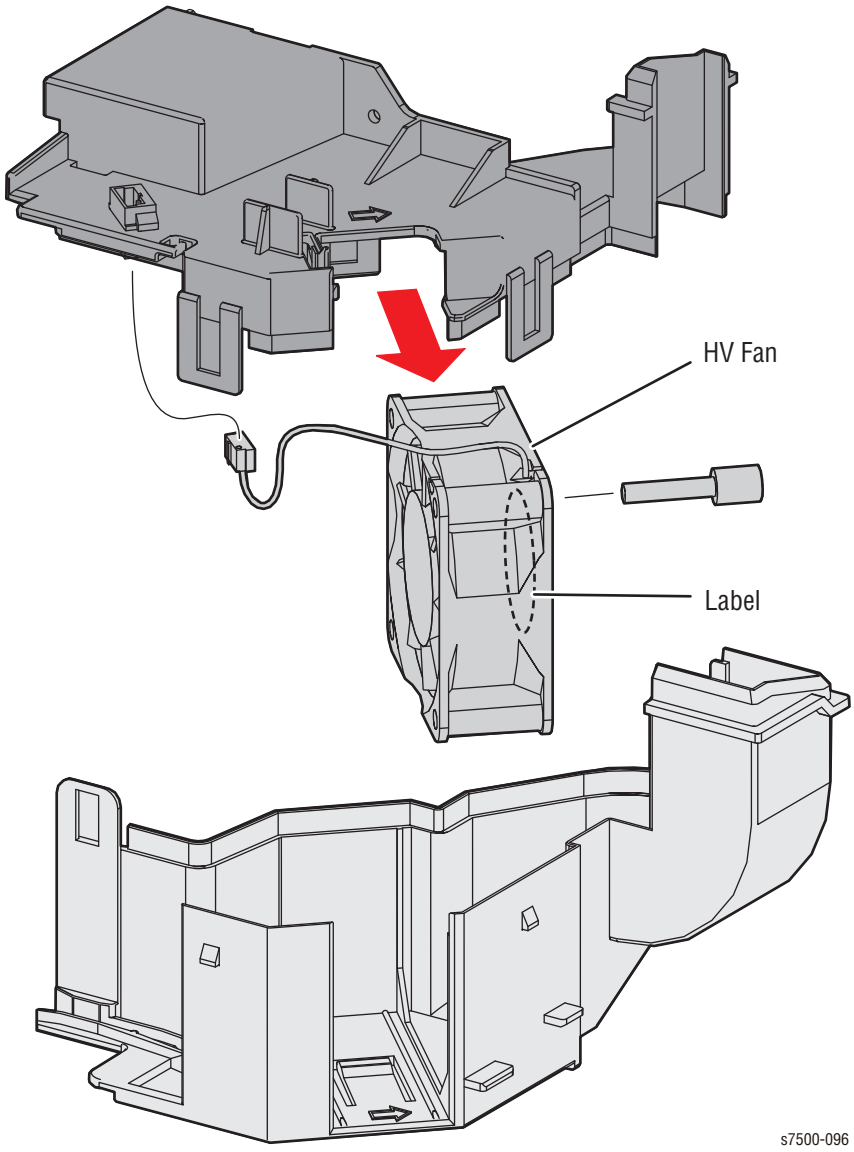


7. Remove 1 screw (silver, 6mm) that secures the Duct Assembly.
8. Turn the Duct Assembly 90˚ sideways while pulling it gently towards you and pull out the Duct Assembly outlet from the Frame hole, then turn the Duct Assembly upwards and remove the Duct Assembly.



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9. Disconnect the wiring harness connector that is connected from the HV Fan.
10. Release the latch, and slide the HV Fan from the Duct Assembly and remove the HV Fan.



Replacement Note

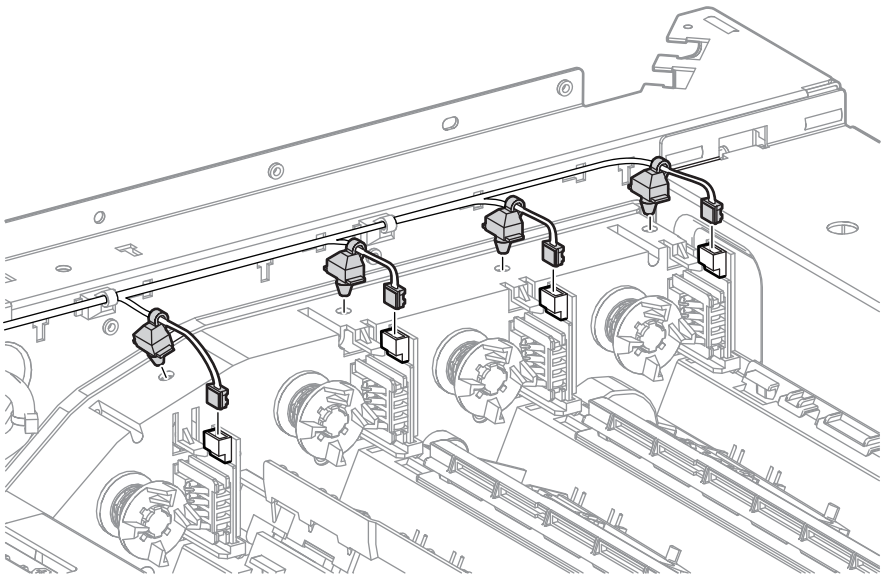
Be sure Tray 2 is slightly pulled out, if it has not been removed, in order to sit the HV Fan Duct in place.

Development

REP 5.1 Toner Dispenser Motor Assembly

PL5.1.5

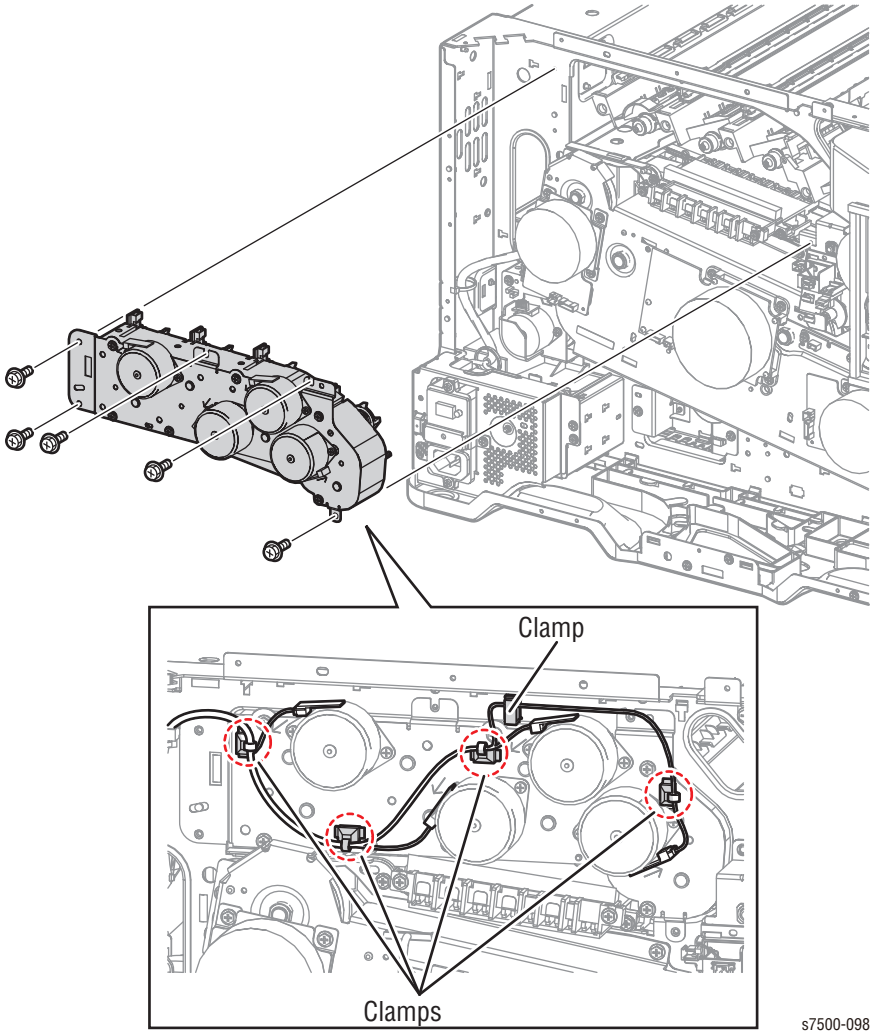
1. Remove the Top Cover Assembly (REP 19.2, page 8-211).
2. Remove the Right Cover (REP 19.8, page 8-219).
3. Remove the PWB Chassis Unit (REP 18.10, page 8-197).
4. Remove the HVPS (1st/ 2nd/ DTS). (REP 6.4, page 8-65).
5. Remove the Conductor Housing Assembly (REP 6.3, page 8-64).
6. Squeeze and release the 4 clamps and disconnect the 4 wiring harness connectors.



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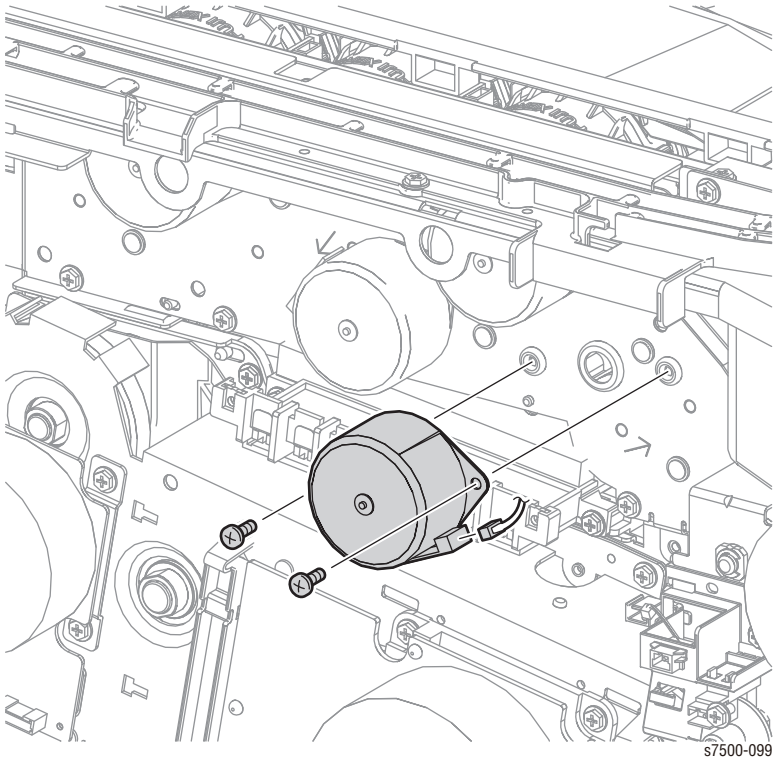
7. Remove the wiring harness from the clamp on the Toner Dispense Motor Assembly.
8. Disconnect the 4 wiring harness connectors that are connected to the Toner Dispense Motors.
9. Remove 5 screws (silver, 6mm) that secure the Toner Dispense Motor Assembly to the printer and remove the Toner Dispense Motor Assembly.



REP 5.2 Toner Dispenser Motor (C/M/Y/K)

PL5.1.7

1. Remove the PWB Chassis Unit (REP 18.10, page 8-197).
2. Remove the HVPS (1st/2nd/DTS) (REP 6.4, page 8-65).
3. Remove the Conductor Housing Assembly (REP 6.3, page 8-64).
4. Disconnect the wiring harness connector connecting to the Toner Dispense Motor (C/M/Y/K).
5. Remove 2 screws (silver, 6mm) that secure the Toner Dispense Motor (C/M/Y/K) and remove the Toner Dispense Motor (C/M/Y/K).

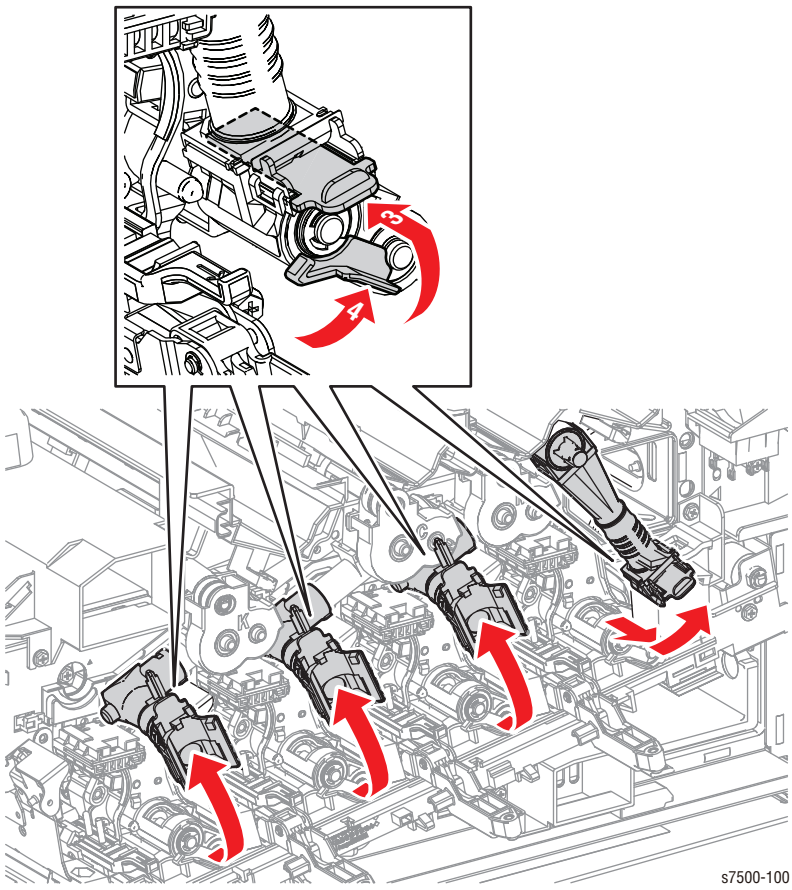


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REP 5.3 Dispenser Pipe Assembly (C/M/Y)/ Dispenser Pipe Assembly (K)

PL5.1.9/ PL5.1.16

1. Remove the Top Cover Assembly (REP 19.2, page 8-211).
2. Remove the Deve Plate Assembly (REP 5.4, page 8-49).
3. Raise the shutter by 90˚ and push it in, then close the shutters (4).
4. Turn the Lever counterclockwise and close the shutters (4).



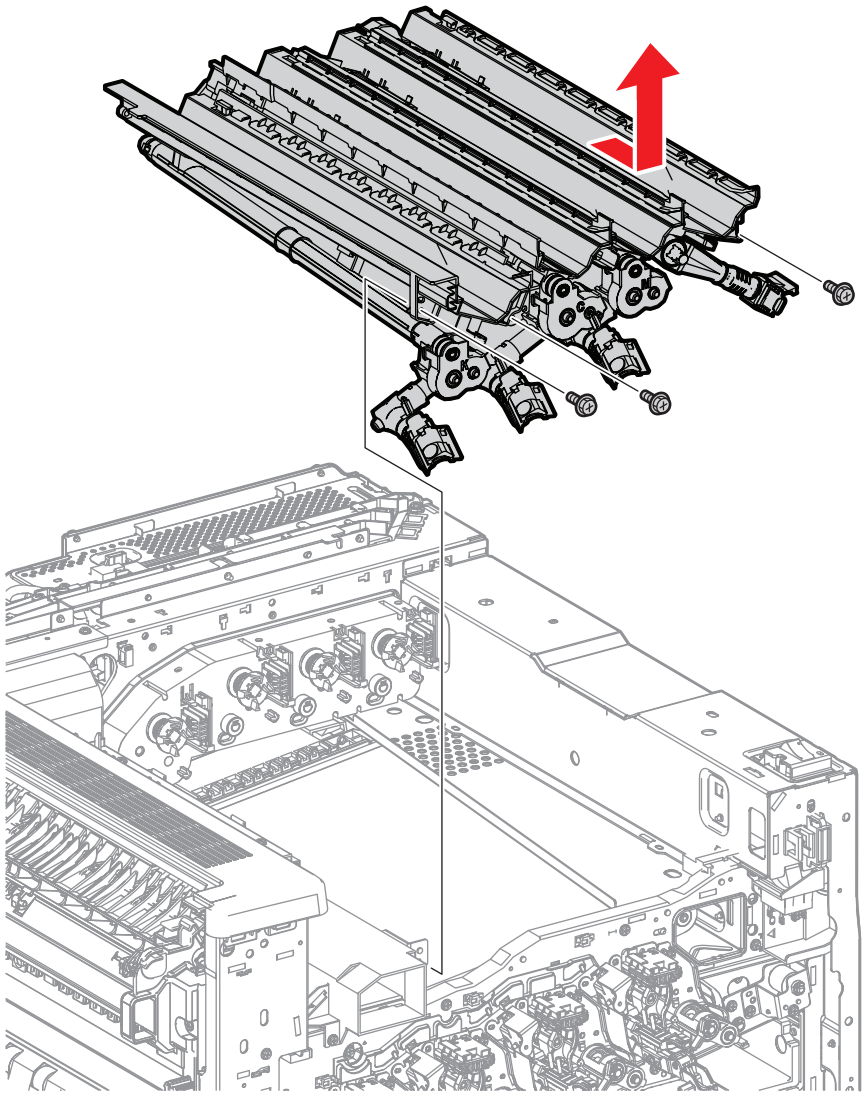
Service Tip:

Pull the Dispenser out approximately 4” and place the Dispenser on a sheet of B sized paper.

5. Pull the joint section between the Developer Housing Assembly (C/M/K) and the Dispenser Pipe (C/M/K) towards you and raise it up.

   For Y Dispenser Pipe - rotate CCW approximately 30˚.

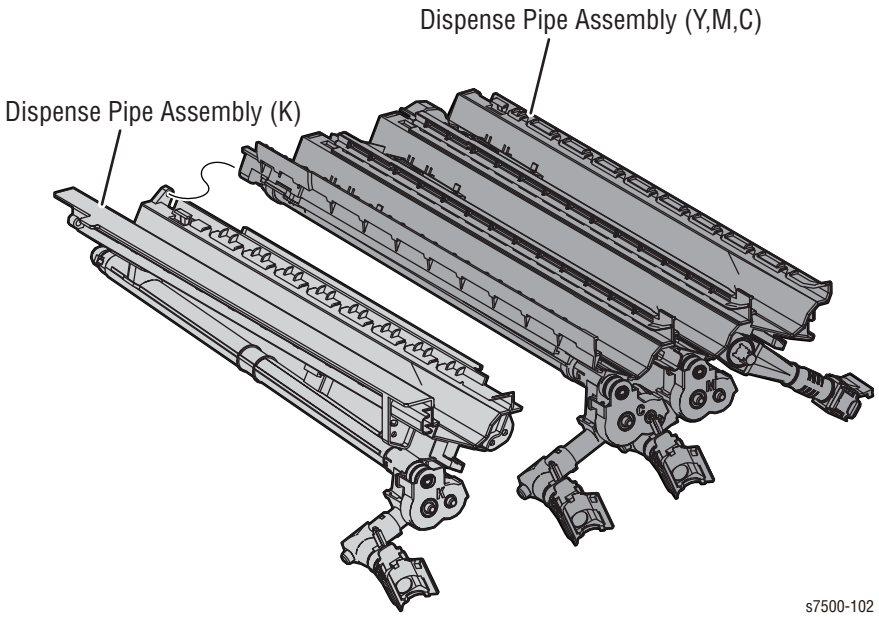
6. Remove 3 screws (silver, 6mm) that secure the Dispenser Pipe Assembly (C/M/Y/K) and remove the Dispenser Pipe Assembly (C/M/Y/K).



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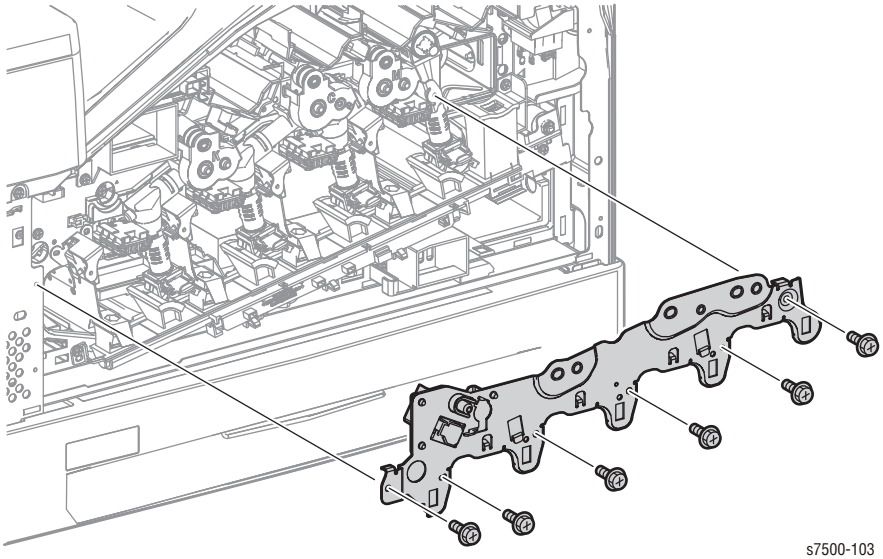
7. Separate Dispenser Pipe Assembly (C/M/Y) from Dispenser Pipe Assembly (K).



REP 5.4 Deve Plate Assembly

PL5.2.1

1. Remove the Front Cover Assembly and the Inner Cover Assembly (REP 19.1, page 8-207).
2. Remove 6 screws (silver, 6mm) that secure the Deve Plate Assembly and remove the Deve Plate Assembly.



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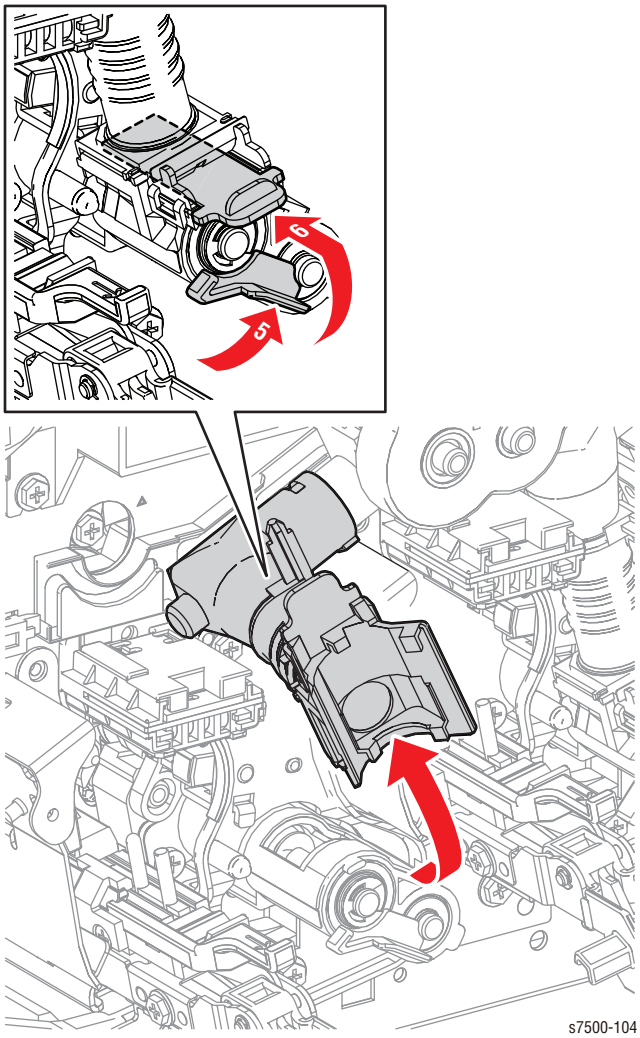
REP 5.5 Developer Housing Assembly (C/M/Y/K)

PL5.2.2

Caution

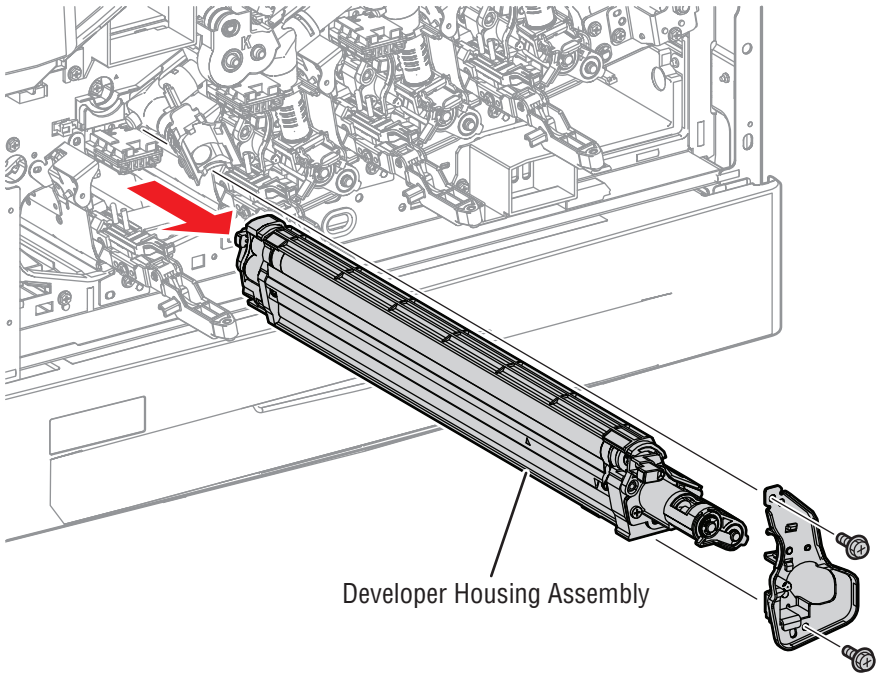
When removing the Developer Housing Assembly, be careful not to contaminate the Developer Housing Assembly.

1. Remove the Front Cover Assembly and the Inner Cover Assembly (REP 19.1, page 8-207).
2. Remove the ATC Sensor Board (REP 5.6, page 8-52).
3. Remove the Waste Toner Pipe Assembly (REP 8.6, page 8-75).
4. Remove the Deve Plate Assembly (REP 5.4, page 8-49).
5. Raise the shutter by 90˚ and push it in, then close the shutter (if not closed)
6. Turn the Lever counterclockwise and close the shutter.
7. Pull the joint section between the Dispenser Pipe Assembly (K) and the Developer Housing Assembly (C/M/Y/K) towards you and raise it up.



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8. Remove 2 screws (silver, 6mm) that secure the Bracket and remove the Developing Housing Bracket.
9. Pull out the Developer Housing Assembly (C/M/Y/K) towards you to remove.



Replacement Note

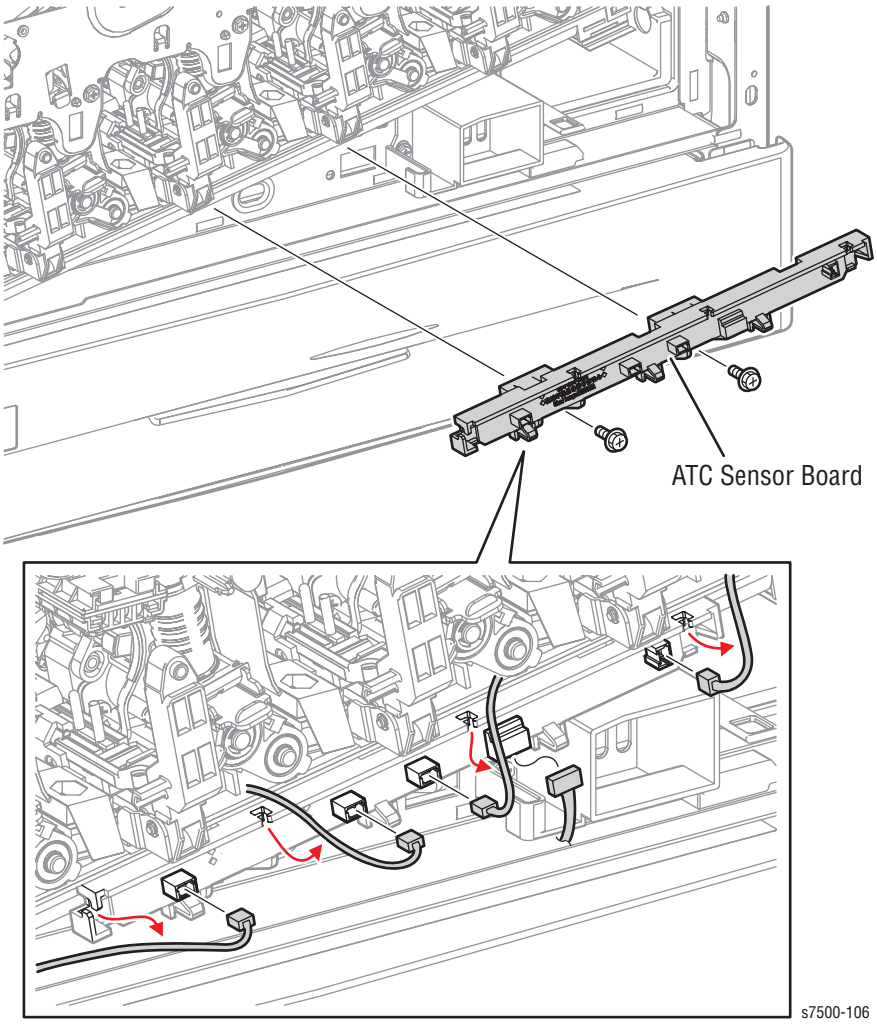
Be sure the LED Print Head Lever is raised when installing the Developing Housing Assembly.

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REP 5.6 ATC Sensor PWB

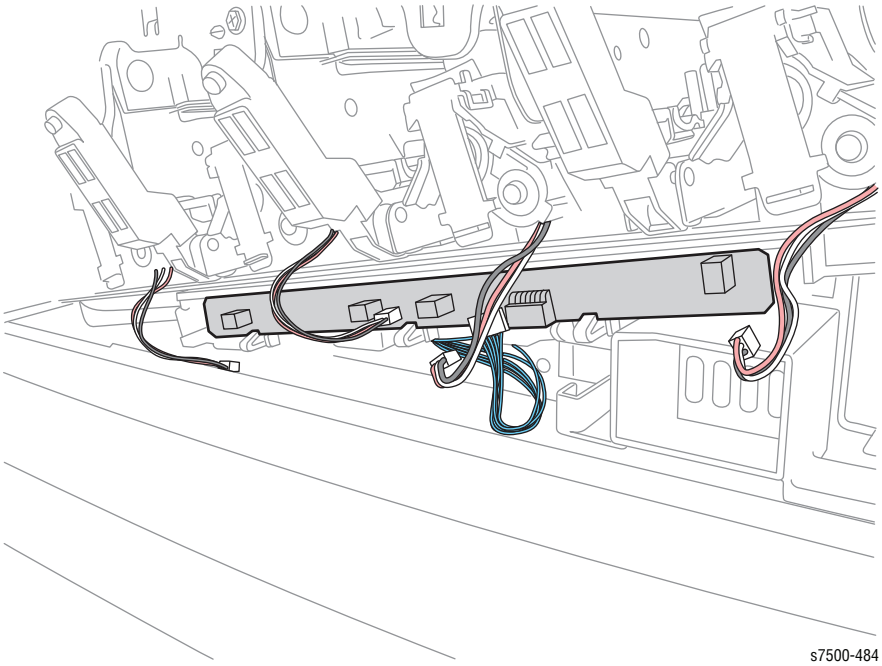
PL5.2.18

1. Remove the Front Cover Assembly and Inner Cover Assembly (REP 19.1, page 8-207).
2. Disconnect the 5 wiring harness connectors that are connected to the ATC Sensor PWB and release the harness from the Harness Guide.
3. Remove the wires from the guide.
4. Remove 2 screws (silver, 6mm) that secure the ATC Sensor PWB and remove the ATC Sensor PWB.



Replacement Note

Ensure the ATC Sensor PWB is in the correct orientation.



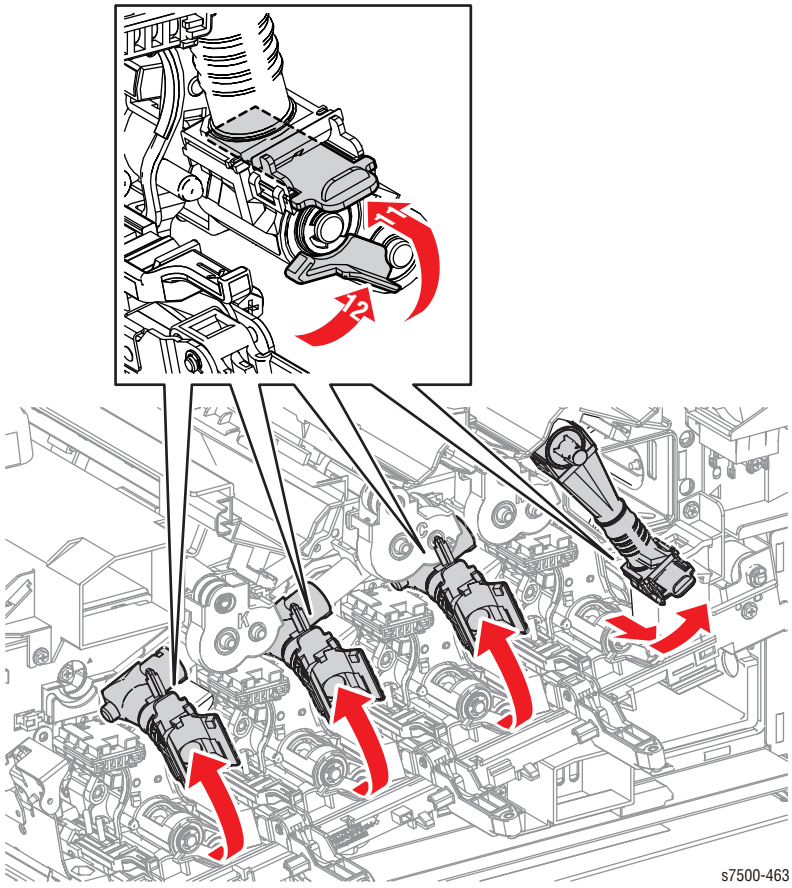
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REP 5.7 Dispenser Pipe (Y/M/C/K)

PL5.1.18

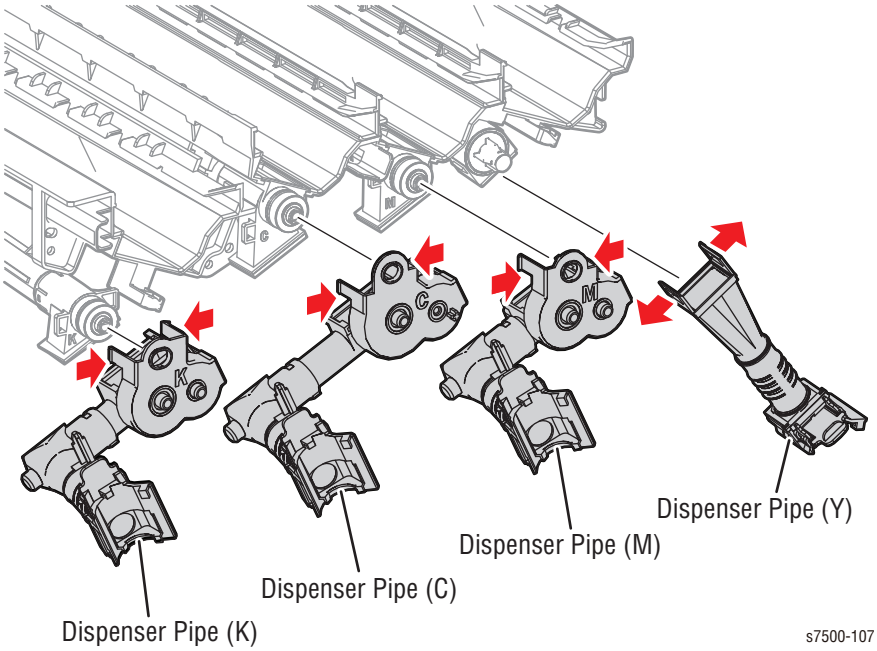
1. Remove the Front Cover Assembly and the Inner Cover Assembly (REP 19.1, page 8-207).
2. Remove the Deve Plate Assembly (REP 5.4, page 8-49).
3. Raise the shutter by 90˚ and push it in, then close the shutter.
4. Turn the Lever counterclockwise and close the shutter.
5. Pull the joint section between the Developer Housing Assembly (Y/M/C/K) and the Dispenser Pipe (Y/M/C/K) towards you and raise it up.



6. Release the hooks of the Dispenser Pipe (Y/M/C/K) and remove the Dispenser Pipe (Y/M/C/K).

Note

The Yellow Dispenser Pipe has a longer wire hanging down into the tube.



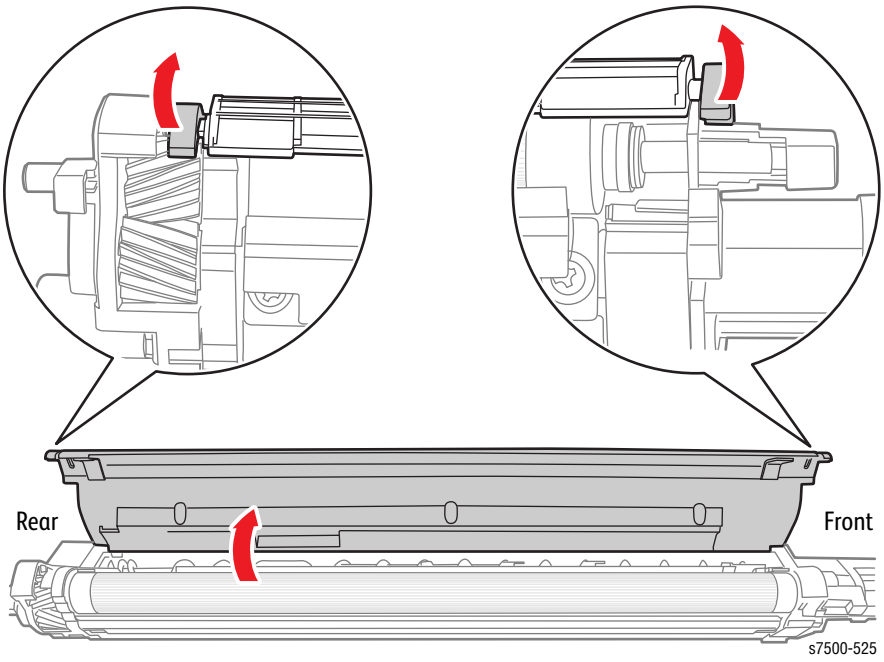
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REP 5.8 Developer Beads

Caution

When removing the Developer Housing Assembly, be careful not to contaminate the Developer Housing Assembly.

1. Remove the Developer Housing Assembly (REP 5.5, page 8-50).
2. Release the Front and Rear Latches of the Developer Cover.
3. Remove the Upper Cover.



4. Installing the Developer Beads into the Developer.
   a. Place the Developer Assembly on a drop cloth or a few sheets of paper to catch any spills.
   b. Agitate the package of the developer mix and then cut it open.
   c. While keeping the Developer Housing Assembly level, carefully pour the entire contents of the developer mix package as evenly as possible over the two augers. Do Not let the developer mix accumulate heavily on the magnetic roller.
   d. Re-install the Upper Cover by inserting the four tabs on the Cover into the corresponding slots of the Developer Housing and then press directly on the latches until each latches in place. Press firmly until you hear a positive 'snap' sound for each tab indicating the tab is latched.
5. Tear off the loose half of the ATC Sensor perforated tag. Leave the other half of the ATC Sensor Label on the Developer Housing. Peel off the protective backing and adhere the label to the Plate (PL8.1.7), above the corresponding Developer.
6. Install the Developer and perform the ATC Sensor Setup in Diagnostics. Enter the value from the tag removed from the replacement Developer. Follow the procedure "ATC Sensor Setup" on page 6-5 (Calibrations in Chapter 6).

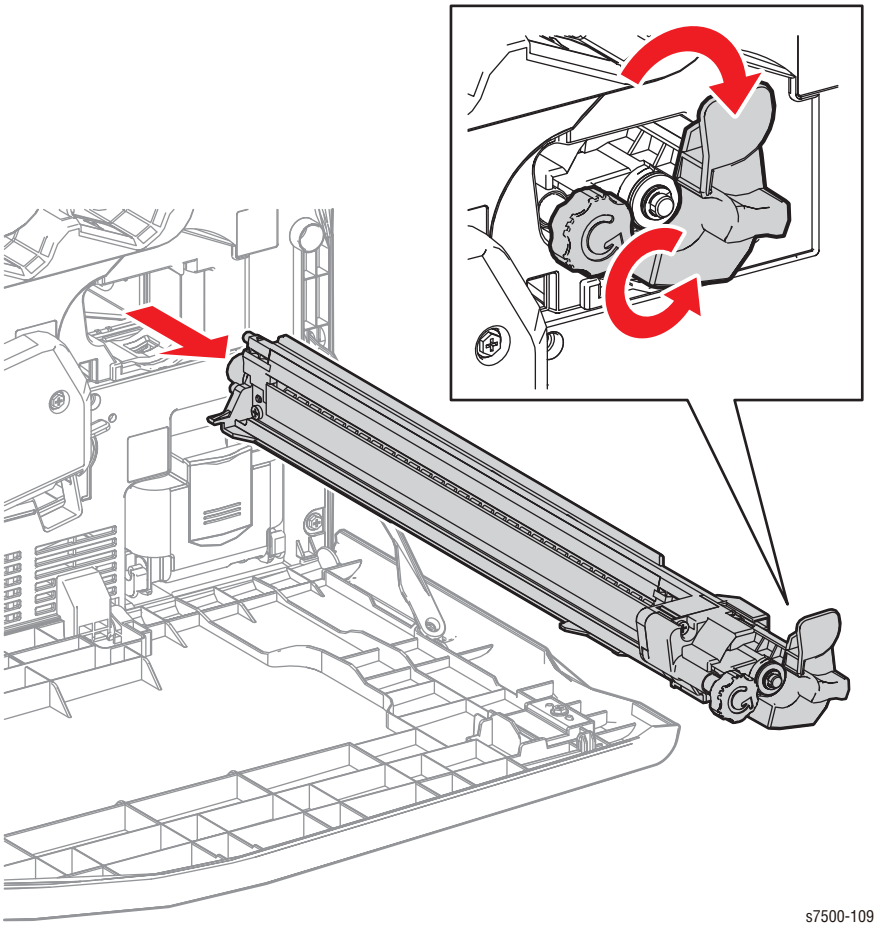
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Transfer

REP 6.1 IBT Belt Cleaner Assembly

PL6.1.4

1. Turn the Lever of the IBT Belt Cleaner Assembly clockwise.
2. Turn the Knob counterclock-wise until it is free.
3. Pull the IBT Belt Cleaner Assembly towards you and remove it.



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Note

When reinstalling the IBT Belt Cleaner Assembly, turn the knob clockwise until it stops.

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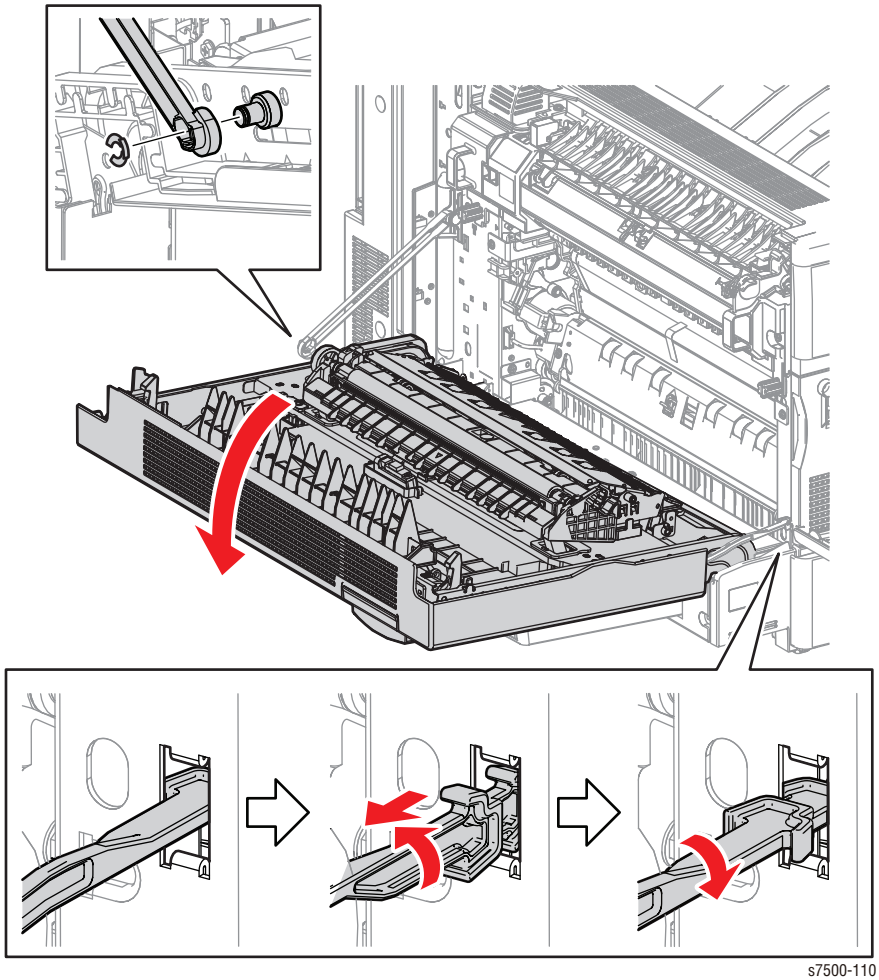
REP 6.2 IBT Belt Unit/ Front Lock Bracket/ Rear Lock Bracket/ Tension Lever

PL6.1.1/ PL6.1.2/ PL6.1.3/ PL6.1.10

Caution

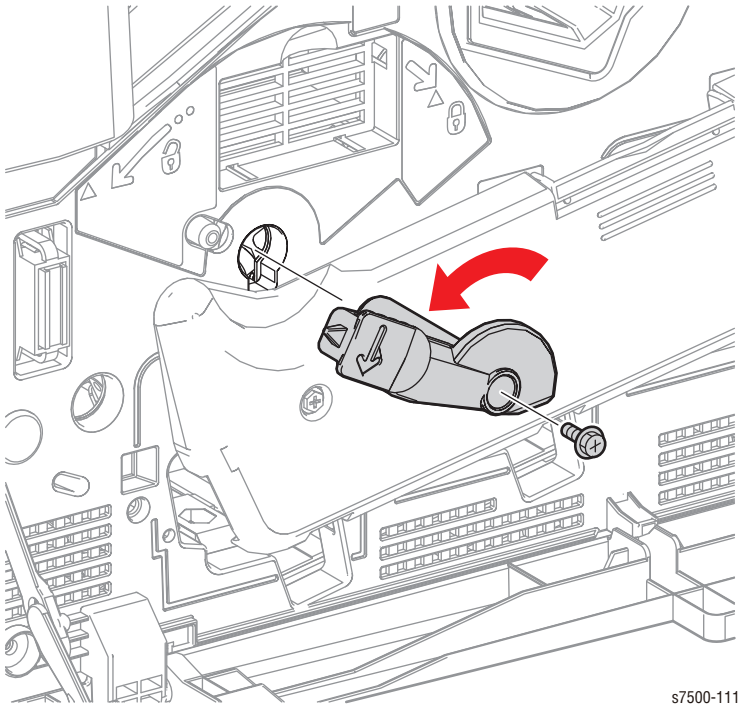
Do not expose the Imaging Unit to light for more than 5 minutes. Cover the Imaging Unit to avoid damage. Do not touch the surface of the Imaging Unit. Do not touch the IBT Belt surface.

1. Remove the Imaging Unit (Y/M/C/K) (REP 1.2, page 8-10).
2. Remove the IBT Belt Cleaner Assembly (REP 6.1, page 8-57).
3. Remove the KL Clip that secures the Rear Strap at the rear, and remove the Rear Strap from the L/H Cover Assembly.
4. Use a needle-nose plier to turn the Left Hand Door Support strap at the front counterclockwise by 90˚ and pull it towards you. Turn it back at the inner stopper position, then incline the L/H Cover Assembly horizontally until it stops.



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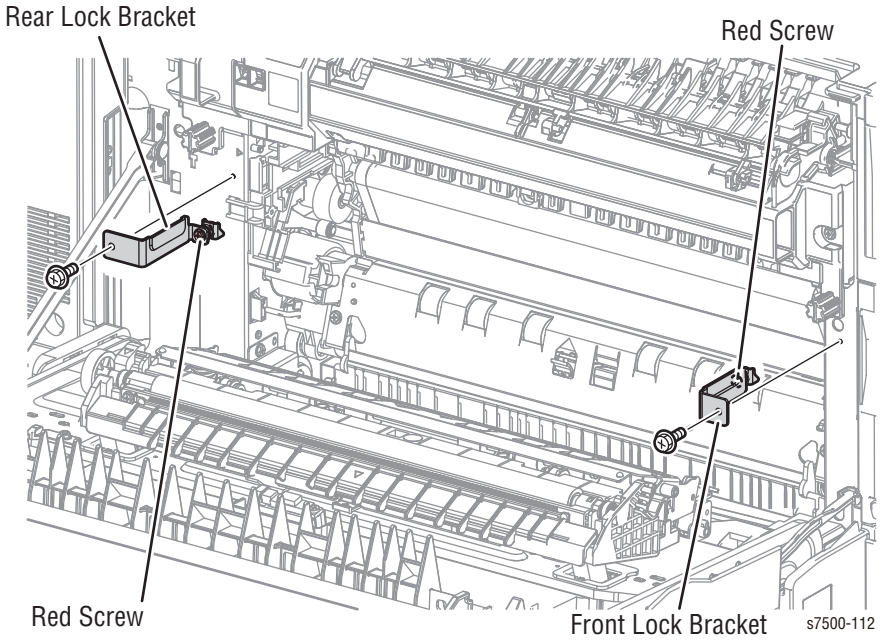
5. Turn the Tension Lever counterclockwise.
6. Remove 1 screw (silver, 8mm) that secures the Tension Lever and remove the Tension Lever.



Caution

Do not remove the red screws.

7. Remove 1 screw (silver, 8mm) that secures the Front Lock Bracket and remove the Front Lock Bracket.
8. Remove 1 screw (silver, 8mm) that secures the Rear Lock Bracket and remove the Rear Lock Bracket.



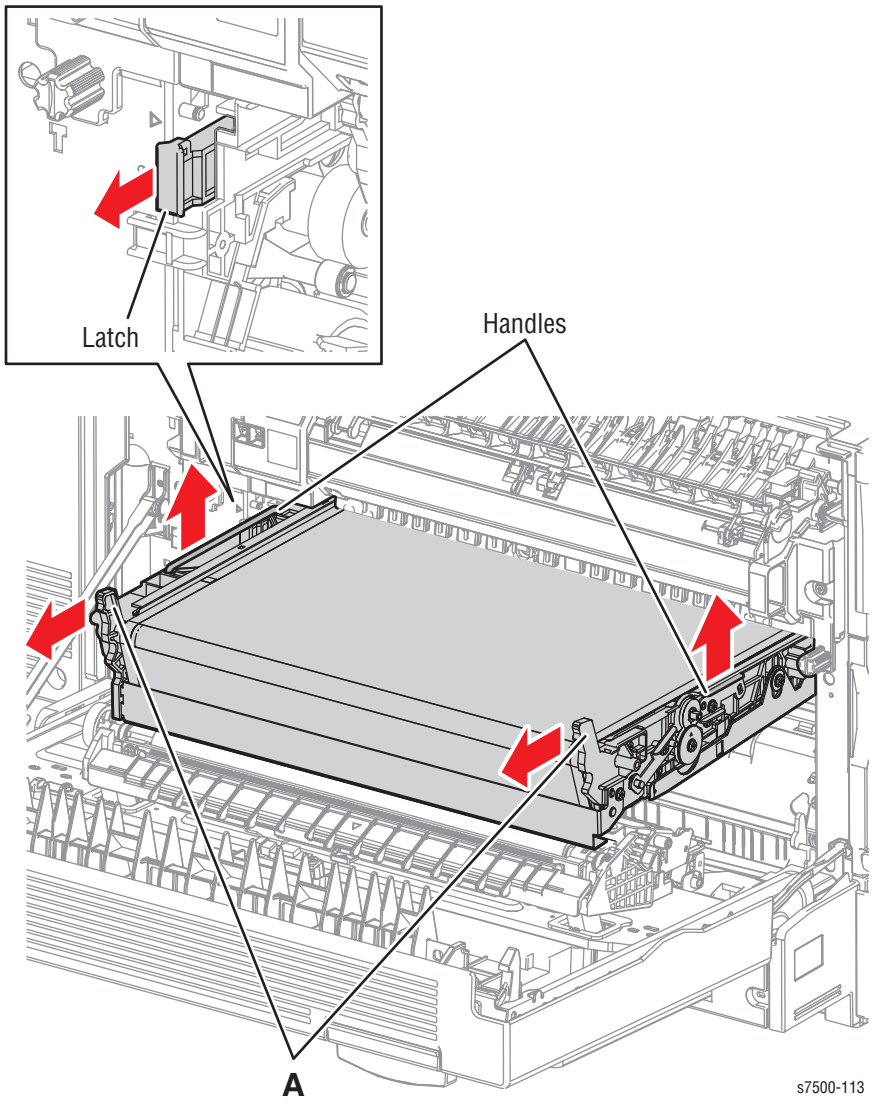
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9. Pull the Stopper Lever Latch.

Caution

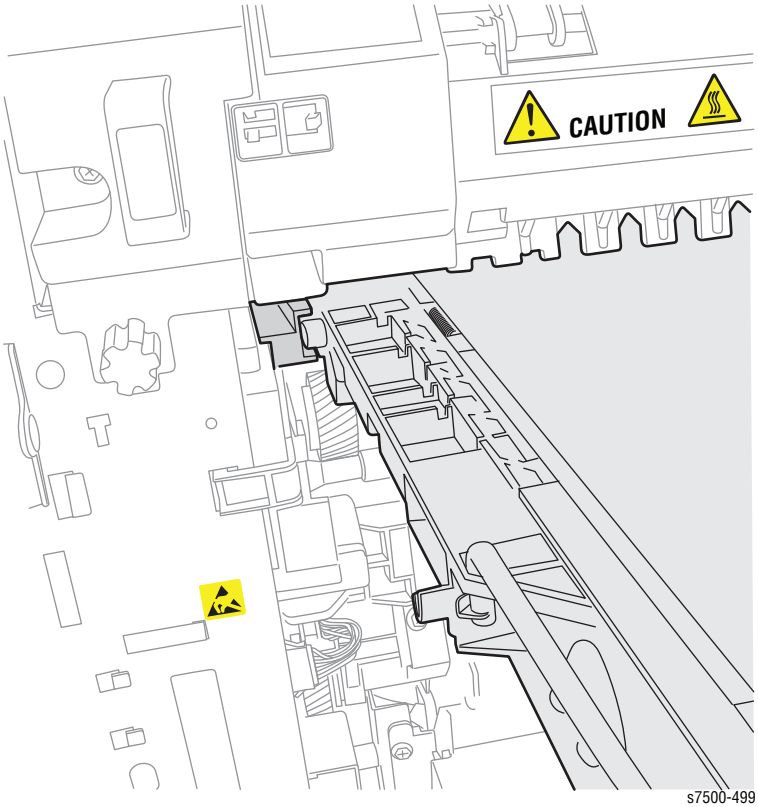
Do not move the IBT Belt Unit out too far to prevent from dropping the IBT Belt Unit.

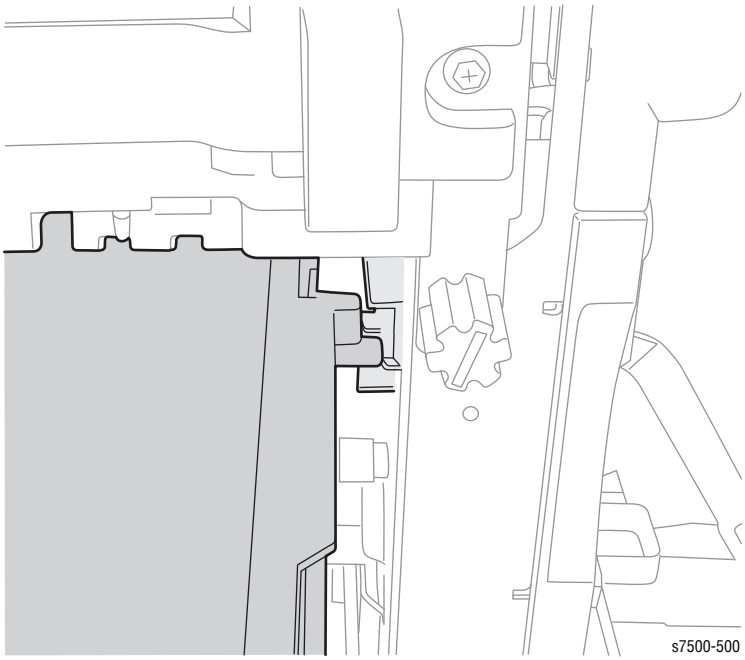
10. Release the latch.
11. Pull out the IBT Belt Unit by holding onto the indicated section (A) until the Handle at the front/rear become accessible.
12. Lift the IBT Belt Unit upward using the Handles at the front/rear and slide the IBT Belt Unit toward you to remove it.



Replacement Note

Be sure the Rear and Front Lock Brackets face in the correct position.





Note

When replacing the IBT Belt Unit, be sure to remove the Belt tension.

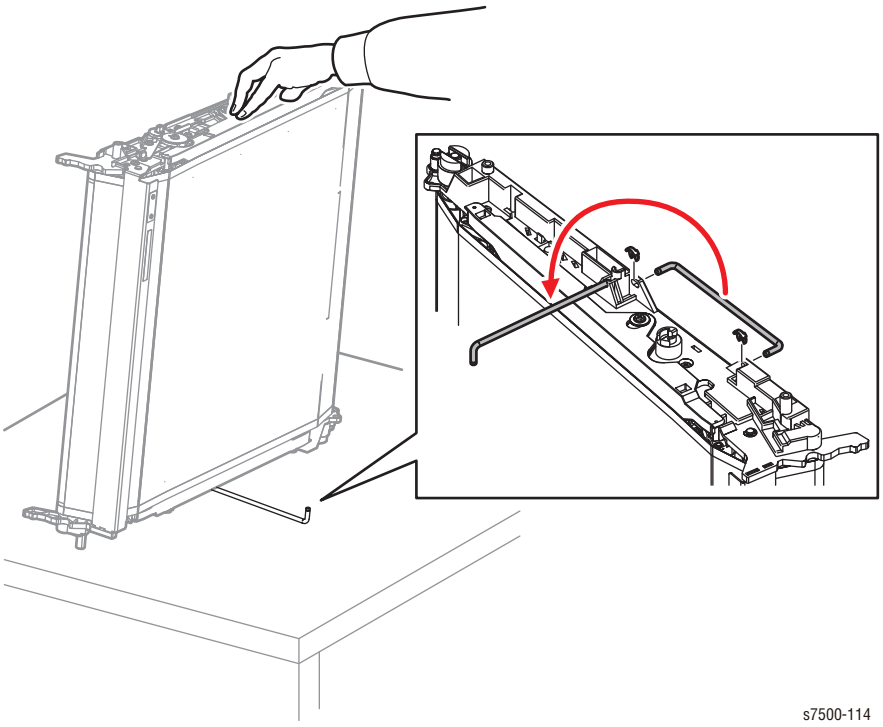
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REP 6.2.5 IBT Belt

Caution

Be sure to hold the IBT Belt Assembly while removing and installing the Handle to prevent the IBT Belt Assembly from falling and breaking the IBT frame.

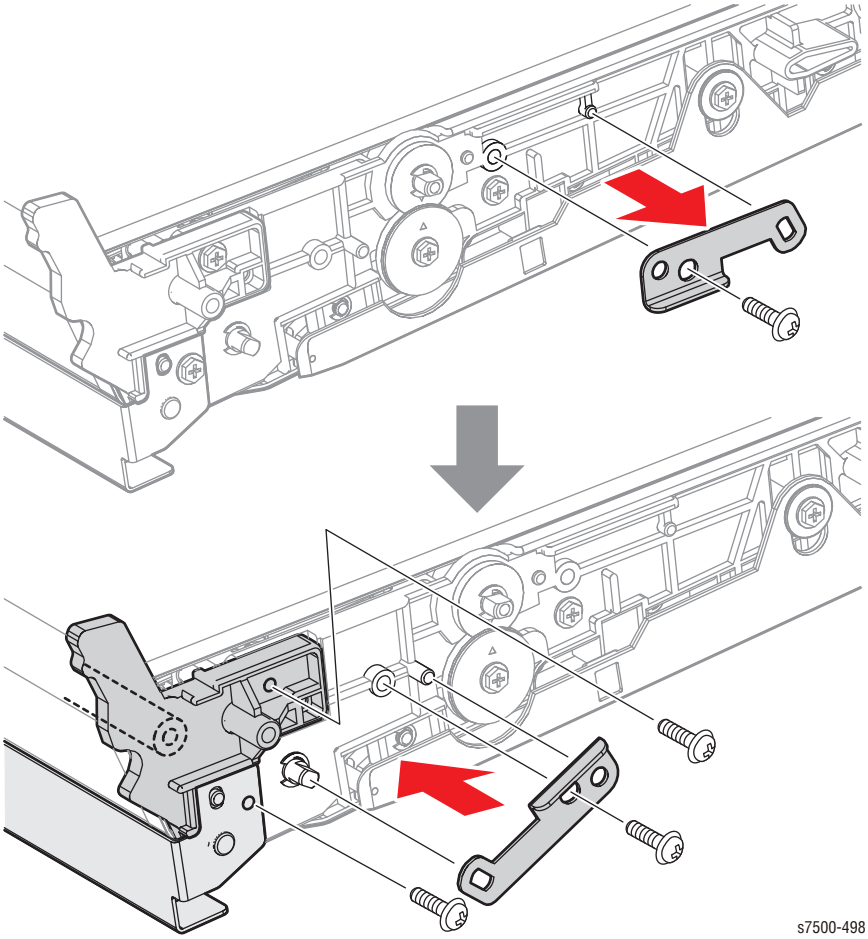
1. Remove the KL Clips (x2) from the Handle at the rear of the IBT Belt Unit and remove the Handle.
2. Install the removed Handle in the position shown in the illustration, and place the IBT Belt Unit upright with the Handle at the bottom.



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3. Remove 1 screw (silver, Tapped, 8mm) that secures the Lock Tension Plate to the IBT Belt Unit and remove the Lock Tension Plate.
4. Install the Lock Tension Plate at the given position on the IBT Belt Unit by reusing the screw that was removed in the previous step.



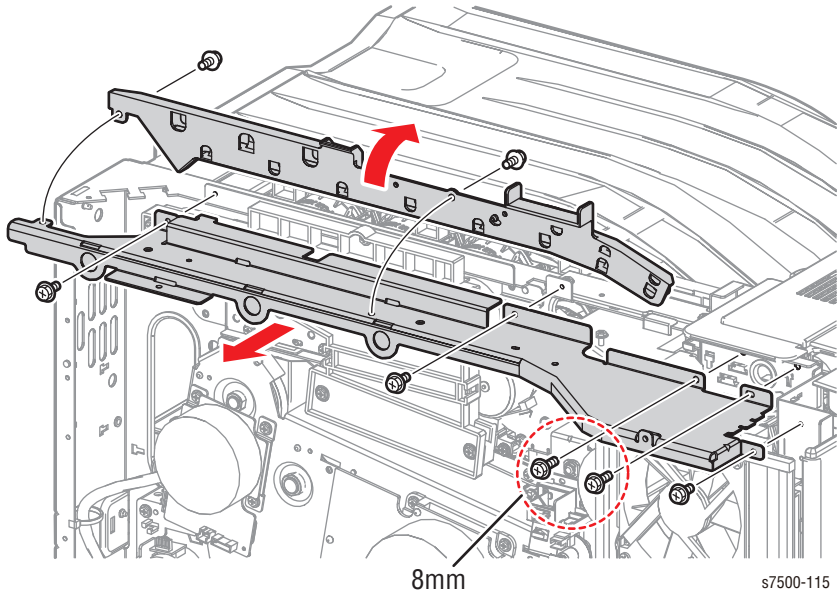
5. Remove the Inlet Chute (PL6.3.2)
6. Remove 1 screw that secures the BUR Front Frame (PL6.3.3).
7. Remove the BUR Front Frame.
8. Remove the Backup Roller Assembly (PL6.3.4).
9. Remove the IBT Belt (PL6.3.6).
10. Install the new IBT Belt on the assembly. Make sure the reflective patch (PL6.3.7) is positioned on the rear of the assembly.
11. Follow steps 8 to 1 in reverse order.

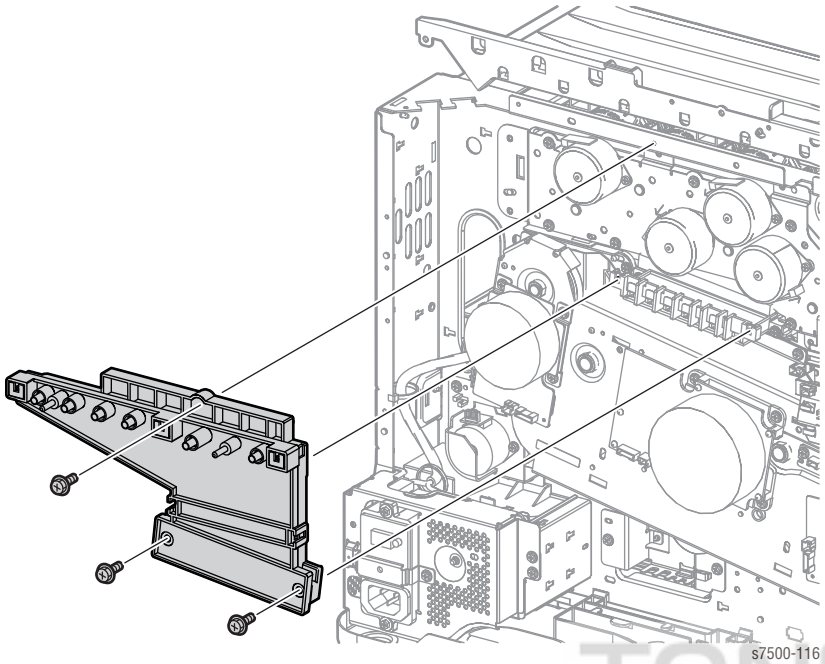
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REP 6.3 Conductor Housing Assembly

PL6.2.8

1. Remove the Top Rear Cover and the Rear Cover (REP 19.6, page 8-217).
2. Remove the Right Cover (REP 19.8, page 8-219).
3. Remove the PWB Chassis Unit (REP 18.10, page 8-197).
4. Remove the HVPS (1st/ 2nd/ DTS) (REP 6.4, page 8-65).
5. Remove 2 screws (silver, 6mm) that secure the Harness Holder and rotate the Harness Holder.
6. Remove 5 screws (silver, 6mm), and 2 screws (silver, 8mm) that secure the Rear Upper Frame and remove the Rear Upper Frame.
7. Remove 3 screws (silver, 6mm) that secure the Conductor Housing Assembly and remove the Conductor Housing Assembly.





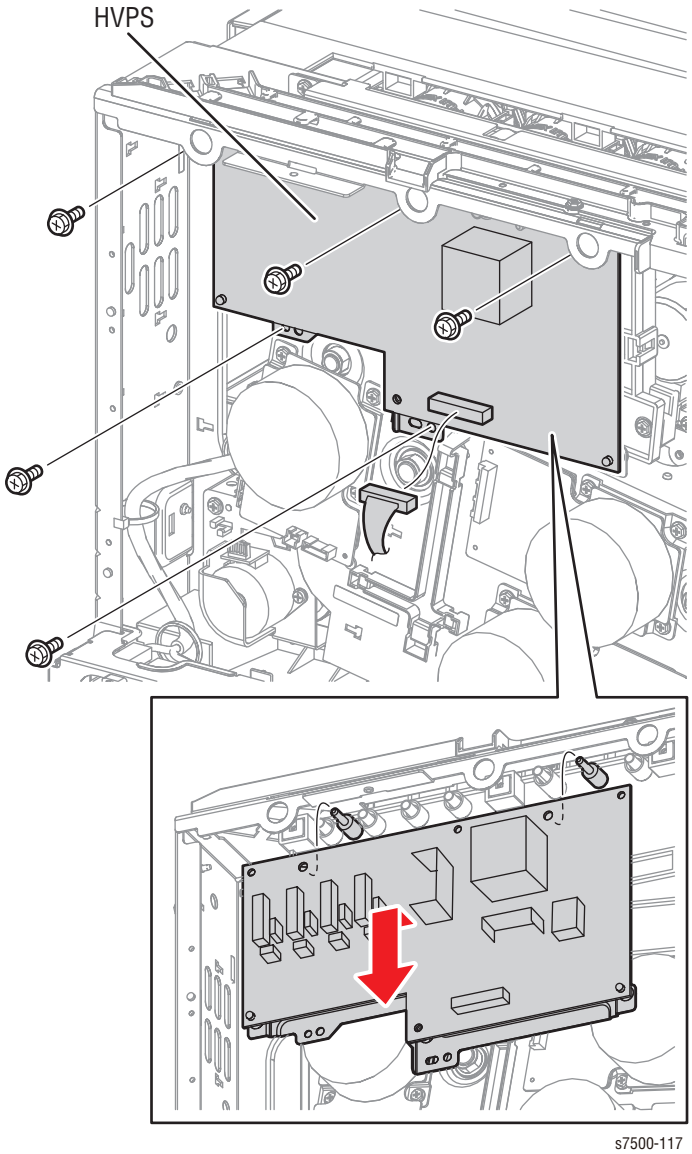
REP 6.4 HVPS (1st/ 2nd/ DTS)

PL6.2.9

Caution

PWB's can be damaged by an electrostatic discharge. Observe all ESD procedures to avoid component damage.

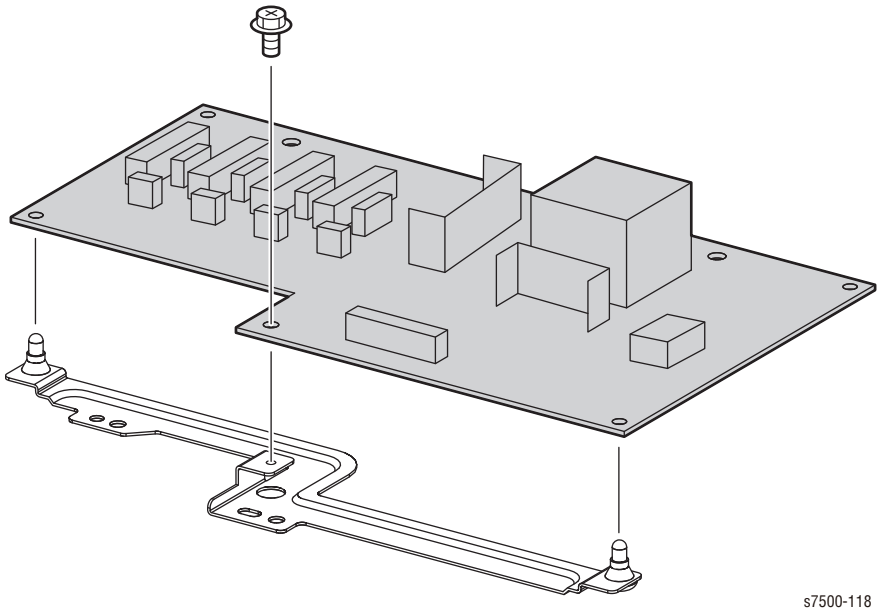
1. Remove the PWB Chassis Unit (REP 18.10, page 8-197).
2. Disconnect the wiring harness connector that is connected to the HVPS (1st/ 2nd/ DTS).
3. Remove 5 screws (silver, 8mm) that secure the HVPS (1st/ 2nd/ DTS) to the printer.
4. Lower the right side of the HVPS (1st/ 2nd/ DTS) to release it from the spring that is attached to the conductor, and slip off the HVPS (1st/ 2nd/DTS) holes from the conductor shafts to remove the HVPS (1st/ 2nd/DTS).



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5. Remove 1 screw (silver, 8mm) that secures the Bracket, and slide off the PWB 2 supports from the holes to remove the HVPS (1st/ 2nd/ DTS).



Fuser

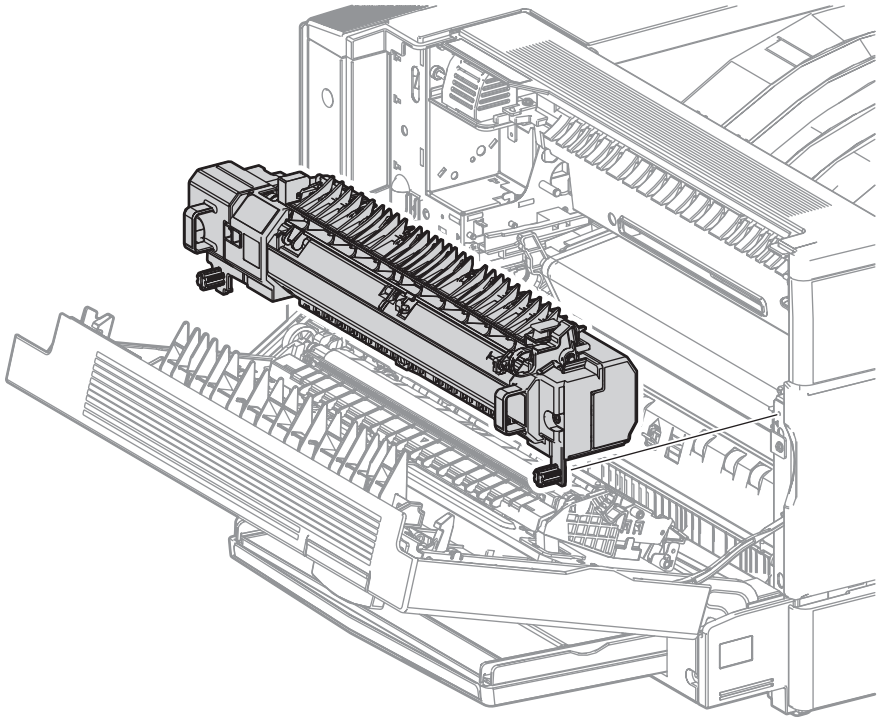
REP 7.1 Fuser Assembly

PL7.1.1

Warning

The Fuser may be hot. Turn the printer power Off and allow at least 5 minutes for the Fuser to cool before removing the Fuser.

1. Open the Left Hand Cover Assembly (Door A).
2. Loosen 2 screws that secure the Fuser Assembly to the printer and remove the Fuser Assembly.



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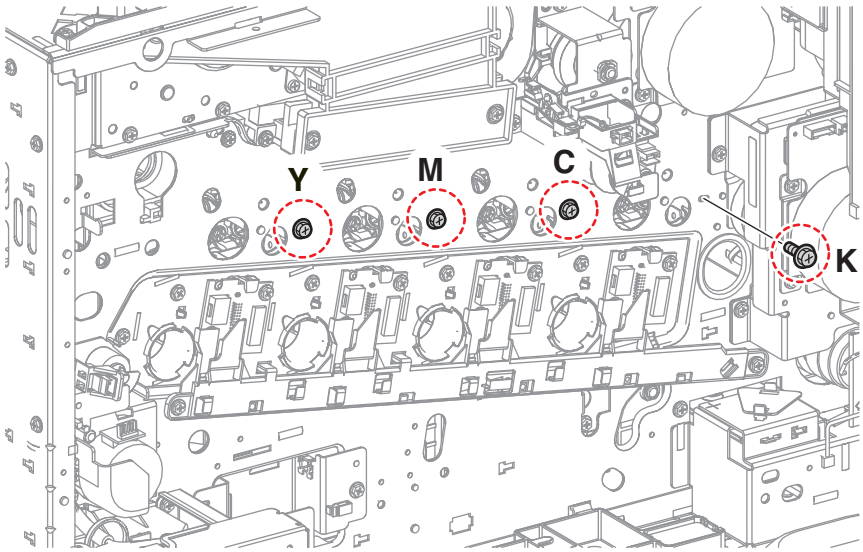
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Xerographic

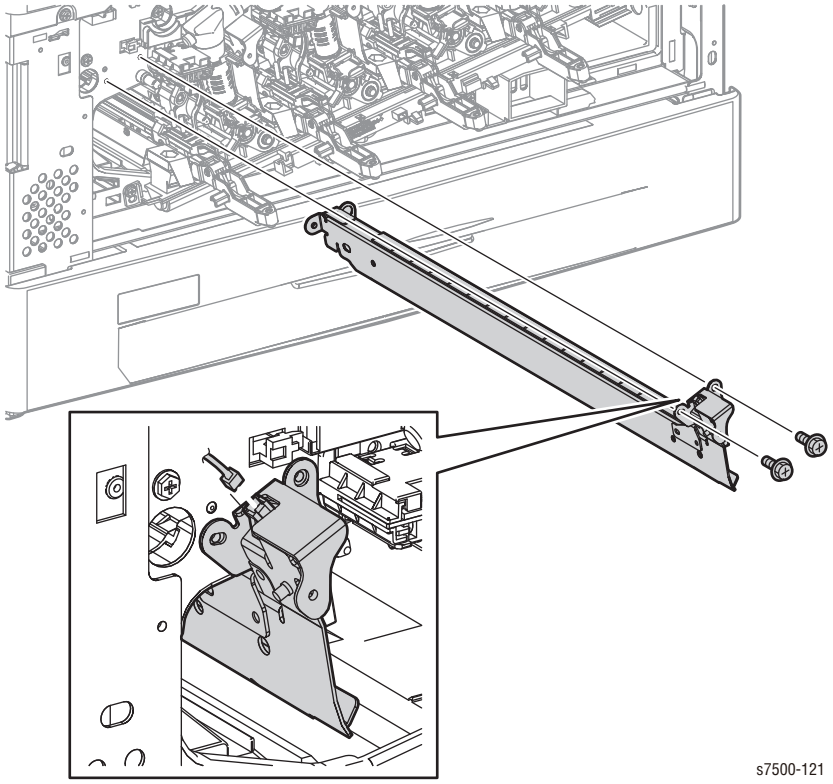
REP 8.1 Erase Lamp Unit (K)

PL8.1.5

1. Remove the Drum/ Deve Drive Assembly (REP 3.8, page 8-33).
2. Remove the IBT Belt Unit (REP 6.2, page 8-62).
3. Remove the Deve Plate Assembly (REP 5.4, page 8-49).
4. Remove the MOB ADC Assembly (REP 18.3, page 8-189).
5. From the rear of the printer, remove 1 screw (silver, 8mm) that secures the Erase Lamp Unit (K).

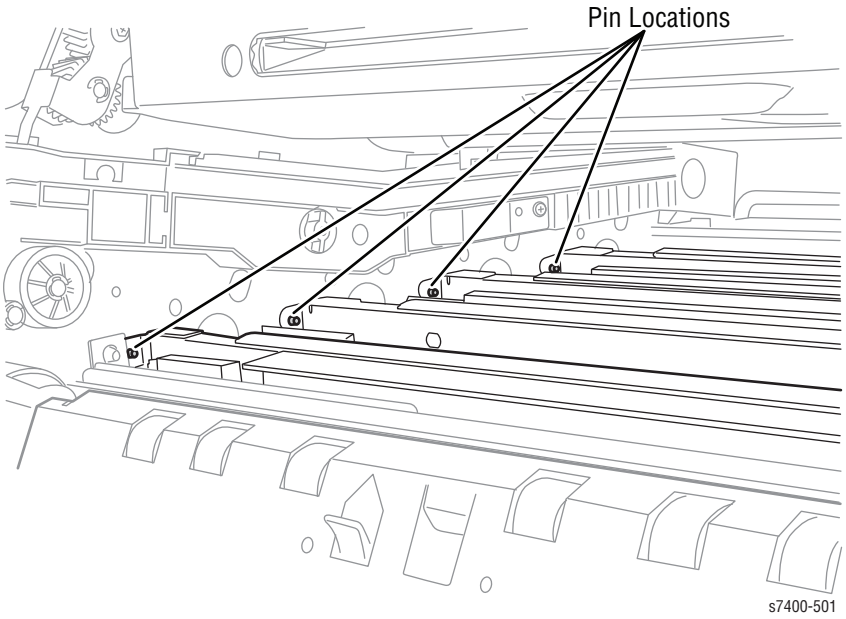


6. Disconnect the wiring harness connector that are connected to the Erase Lamp Unit (K).
7. Remove 2 screws (silver, 6mm) that secure the Erase Lamp Unit (K) and remove the Erase Lamp Unit (K).



Replacement Note

Be sure to align the rear of the Erase Lamp Unit with the pin. Slightly move the Erase Lamp Unit left and right to sit the pin unit in place.

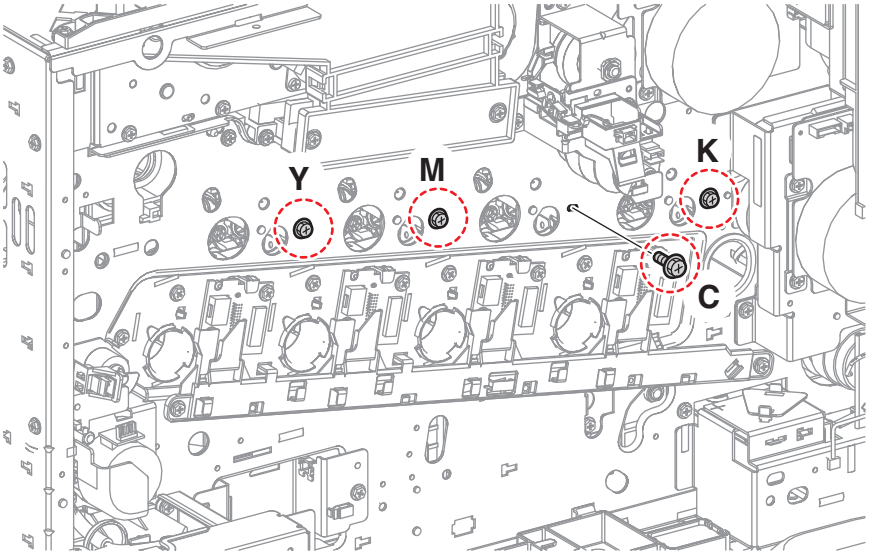


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REP 8.2 Erase Lamp Unit (Y/M/C)

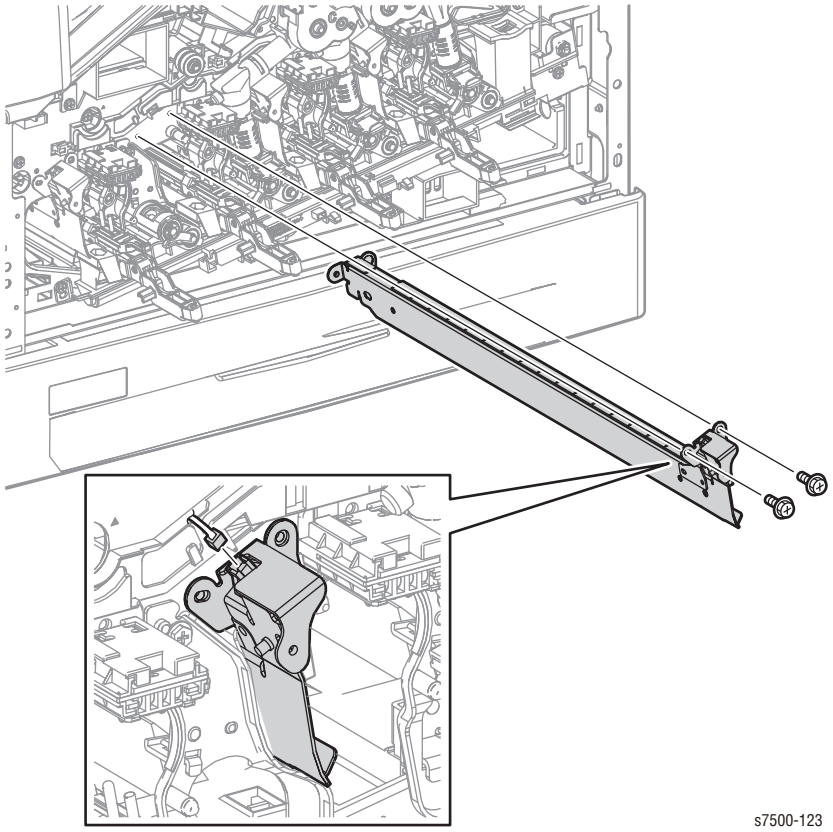
PL8.1.5

1. Remove the Drum/Deve Drive Assembly (REP 3.8, page 8-33).
2. Remove the IBT Belt Unit (REP 6.2, page 8-58).
3. Remove the Deve Plate Assembly (REP 5.4, page 8-49).
4. Remove the Dispenser Pipe (Y/M/C) (REP 5.7, page 8-54).
5. Remove the Developer Housing Assembly (Y/M/C) (REP 5.5, page 8-50).
6. From the rear of the printer, remove 1 screw (silver, 8mm) that secures the Erase Lamp Unit (Y/M/C).



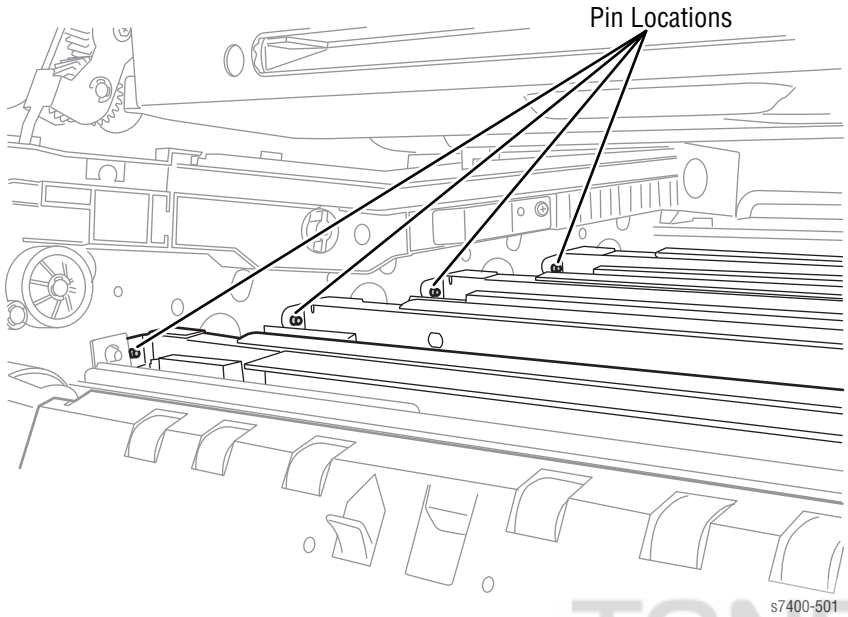
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7. Disconnect the wiring harness connector that is connected to the Erase Lamp Unit (Y/M/C).
8. Remove 2 screws (silver, 6mm) that secure the Erase Lamp Unit (Y/M/C) and remove the Erase Lamp Unit (Y/M/C).



Replacement Note

Be sure to align the rear of the Erase Lamp Unit with the pin. Slightly move the Erase Lamp Unit left and right to sit the pin unit in place.

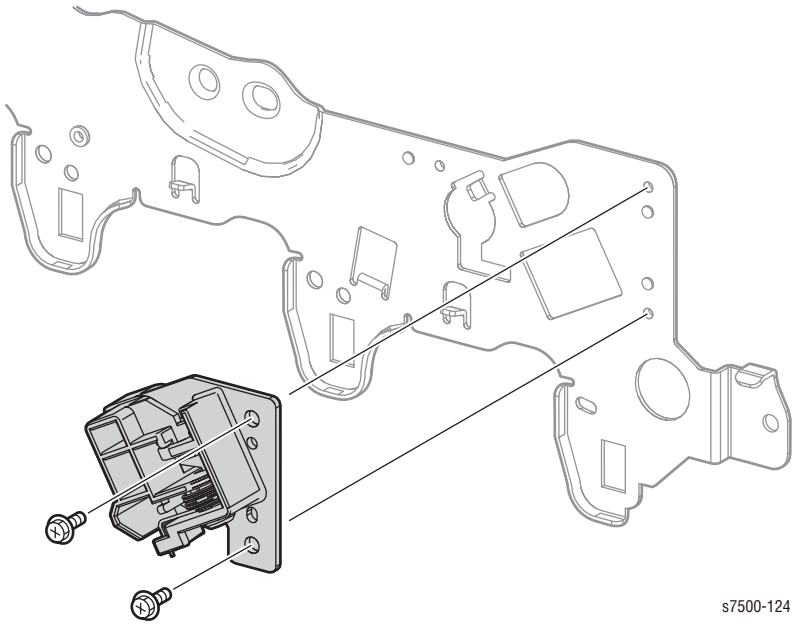


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REP 8.3 Handle Lock Lever

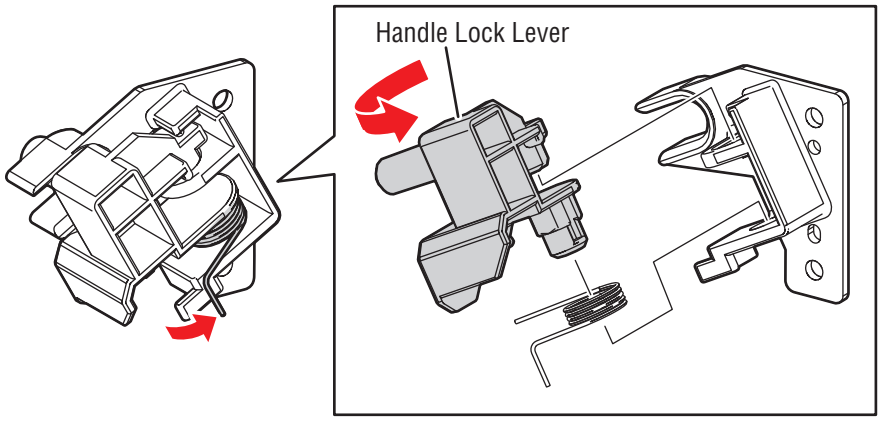
PL8.1.11

1. Remove the Front Cover Assembly and the Inner Cover Assembly (REP 19.1, page 8-207).
2. Remove the Deve Plate Assembly (REP 5.4, page 8-49).
3. Remove 2 screws (silver, 6mm) that secure the Bracket (PL 8.1.12) and remove the Bracket.



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4. Unhook the spring that is attached to the Bracket.
5. Turn the Handle Lock Lever by 90˚, move it upwards and remove the Handle Lock Lever.



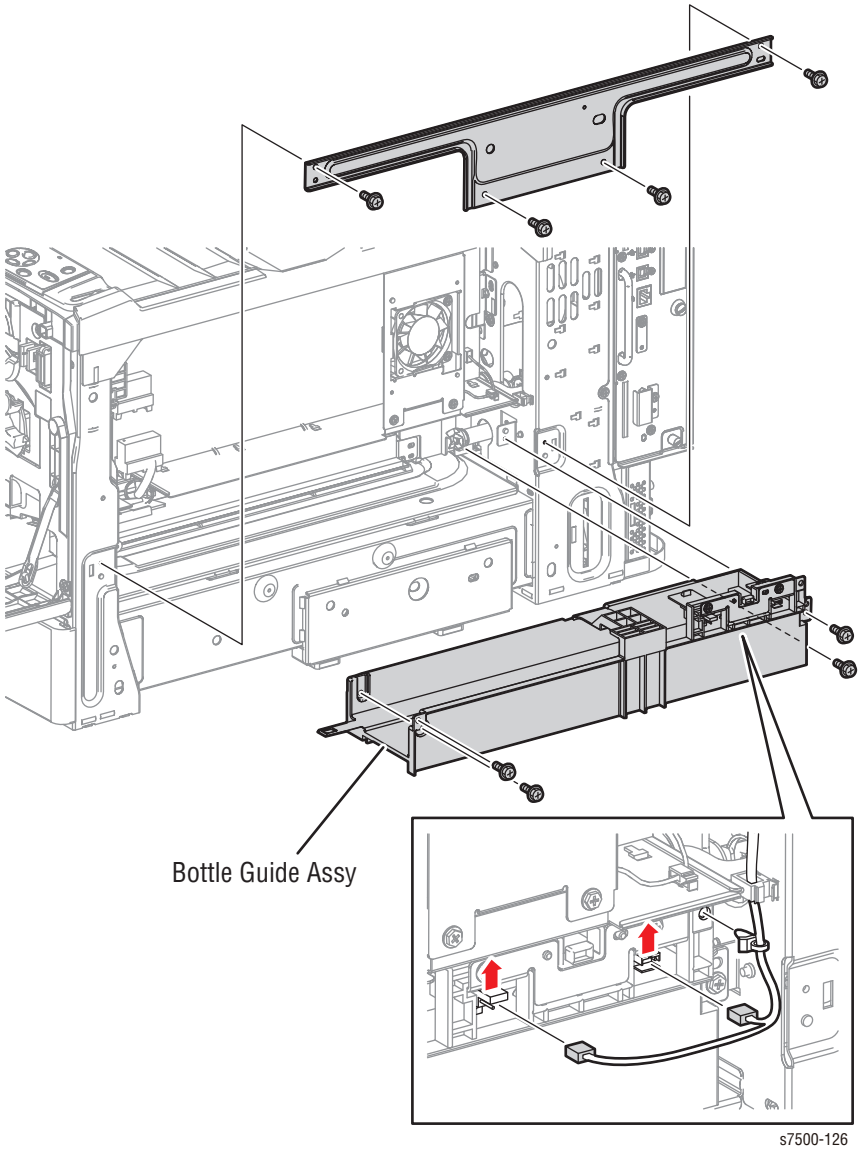
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REP 8.4 Bottle Guide Assembly

PL8.2.1

1. Remove the Waste Cartridge (REP 1.3, page 8-12).
2. Remove the Right Cover (REP 19.8, page 8-219).
3. Remove 4 screws (silver, 6mm) that secure the T-shaped Frame to the printer and remove the T-shaped Frame.
4. Disconnect the wiring harness connectors that are connected to the 2 sensors and remove the cable.
5. Release the wiring harness Clamp from the Bottle Guide Assembly.
6. Remove 4 screws (silver, 6mm) that secure the Bottle Guide Assembly to the printer and remove the Bottle Guide Assembly.

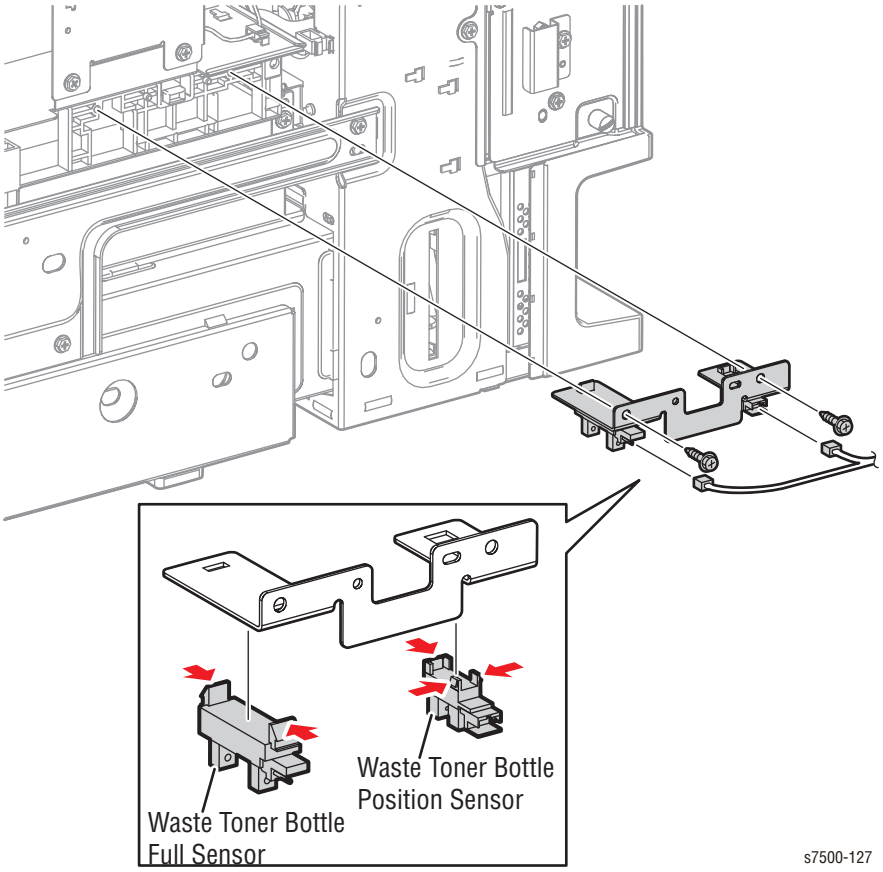


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REP 8.5 Waste Toner Bottle Full Sensor/ Waste Toner Bottle Position Sensor

PL8.2.3/ PL8.2.4

1. Remove the Waste Cartridge (REP 1.3, page 8-12).
2. Remove the Right Cover (REP 19.8, page 8-219).
3. Disconnect the wiring harness connectors that are connected to the 2 sensors.
4. Remove 2 screws (silver, Tapped, 8mm) that secure the Sensor Bracket Assembly and remove the Sensor Bracket Assembly.
5. Release the hooks that secure the sensors and remove the sensors.



REP 8.6 Waste Toner Pipe Assembly

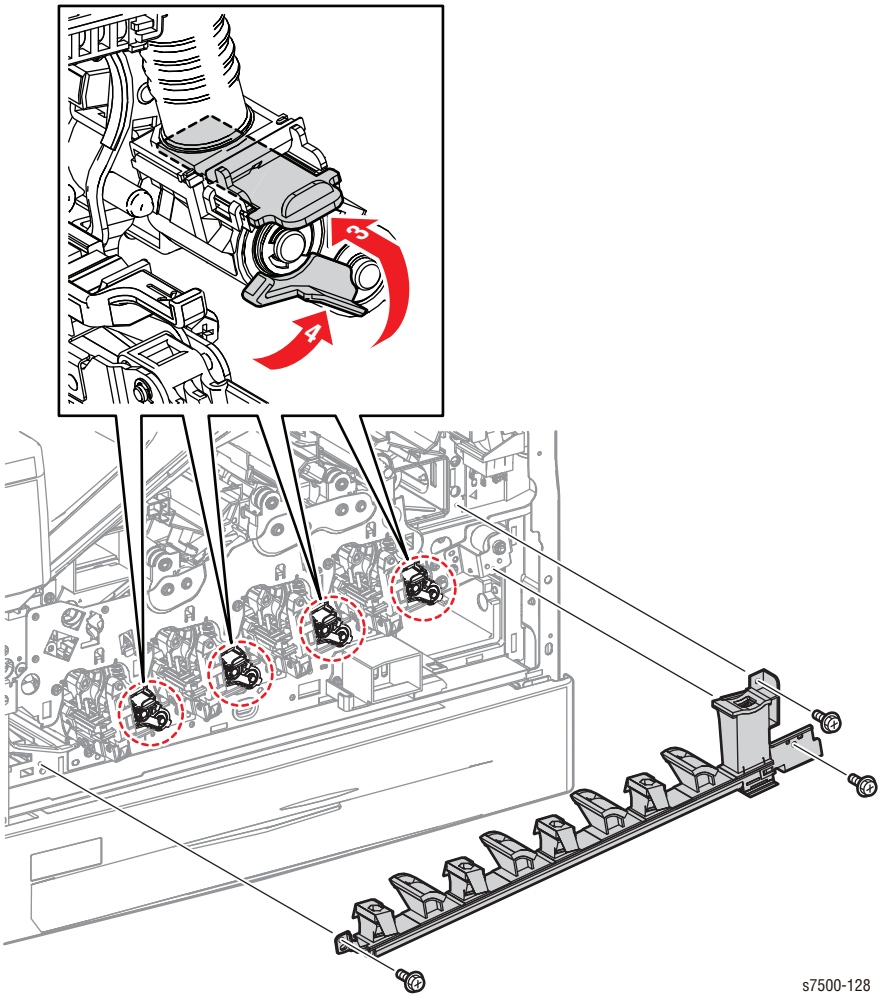
PL8.2.5

1. Remove the Front Cover Assembly and the Inner Cover Assembly (REP 19.1, page 8-207).
2. Remove the ATC Sensor PWB (REP 5.6, page 8-52).
3. Lift the shutters (4) by 90° and push them in, then close the shutters.
4. Turn the Lever counterclockwise and close the shutter.

Caution

The Waste Toner Pipe Assembly is fragile. Be careful when installing the L.H screw.

5. Remove 3 screws (silver, 6mm) that secure the Waste Toner Pipe Assembly and remove the Waste Toner Pipe Assembly.

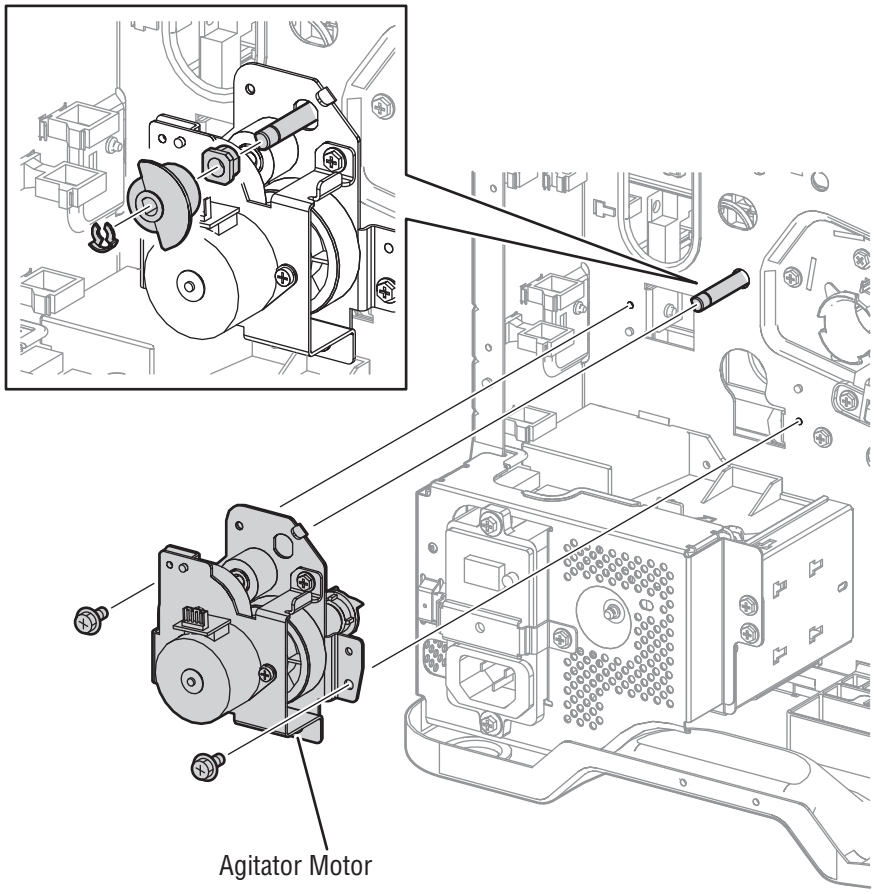


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REP 8.7 Agitator Motor Assembly

PL8.2.6

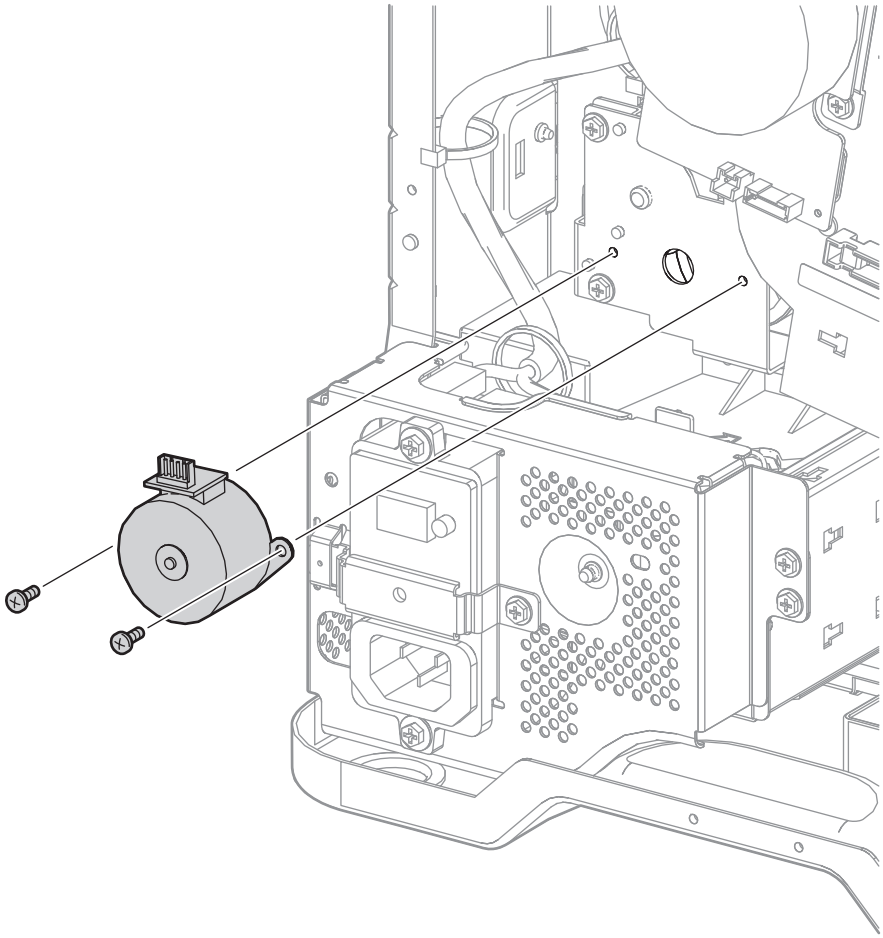
1. Remove the Drum/Deve Drive Assembly (REP 3.8, page 8-33).
2. Remove the Sensor Bracket Assembly (REP 8.11, page 8-80).
3. Remove the KL Clip that secures the Gear and remove the Gear.
4. Remove the Sleeve Bearing.
5. Open the Clamp and remove the white and black wires going to the GF1.
6. Remove 2 screws (silver, 6mm) that secure the Agitator Motor Assembly and remove the Agitator Motor Assembly.



REP 8.8 Agitator Motor

PL8.2.7

1. Remove the PWB Chassis Unit (REP 18.10, page 8-197).
2. Remove the Sensor Bracket Assembly (REP 8.11, page 8-80).
3. Remove 2 screws (silver, 6mm) that secure the Agitator Motor and remove the Agitator Motor.



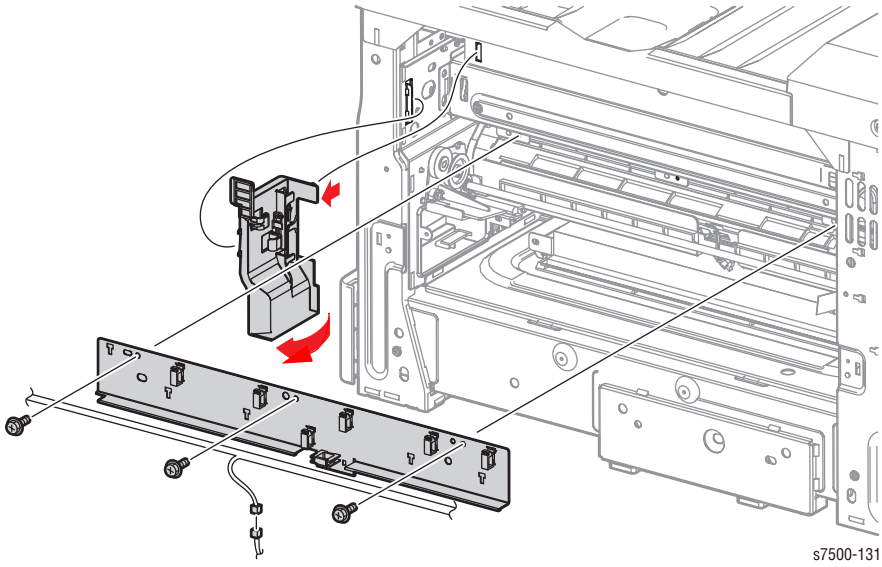
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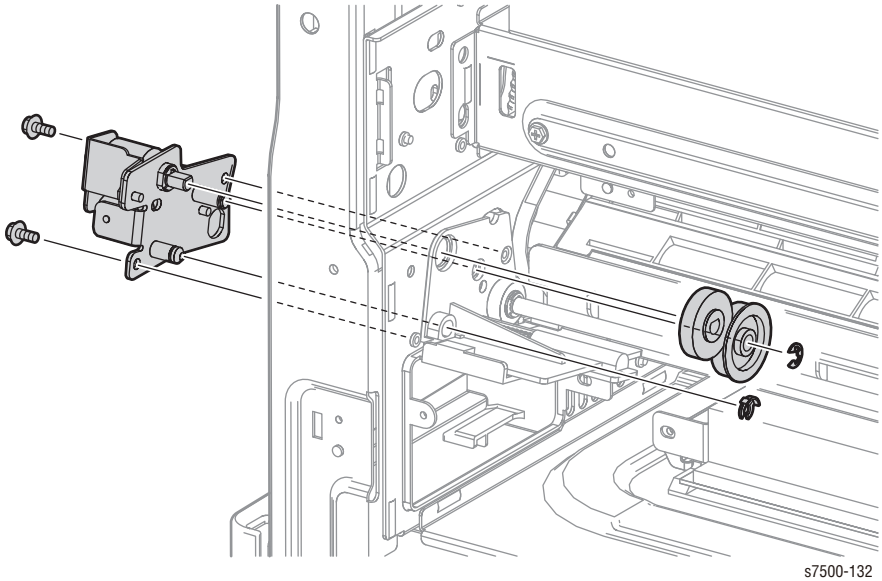
REP 8.9 Gear Bracket Assembly

PL8.2.9

1. Remove the ATC Sensor PWB (REP 5.6, page 8-52).
2. Remove the Waste Toner Pipe Assembly (REP 8.6, page 8-75).
3. Remove the Main LVPS (REP 18.7, page 8-194).
4. Release the one tab hook of the Harness Holder and rotate the Holder clockwise to remove it.



5. Remove 2 screws (silver, 6mm) that secure the Gear Bracket Assembly.
6. Remove the KL Clip at the rear of the Gear Bracket Assembly and the E- Clip that secures the Gear.
7. Pull the Gear Bracket Assembly towards the front to remove it and remove the 2 Gears from the rear.



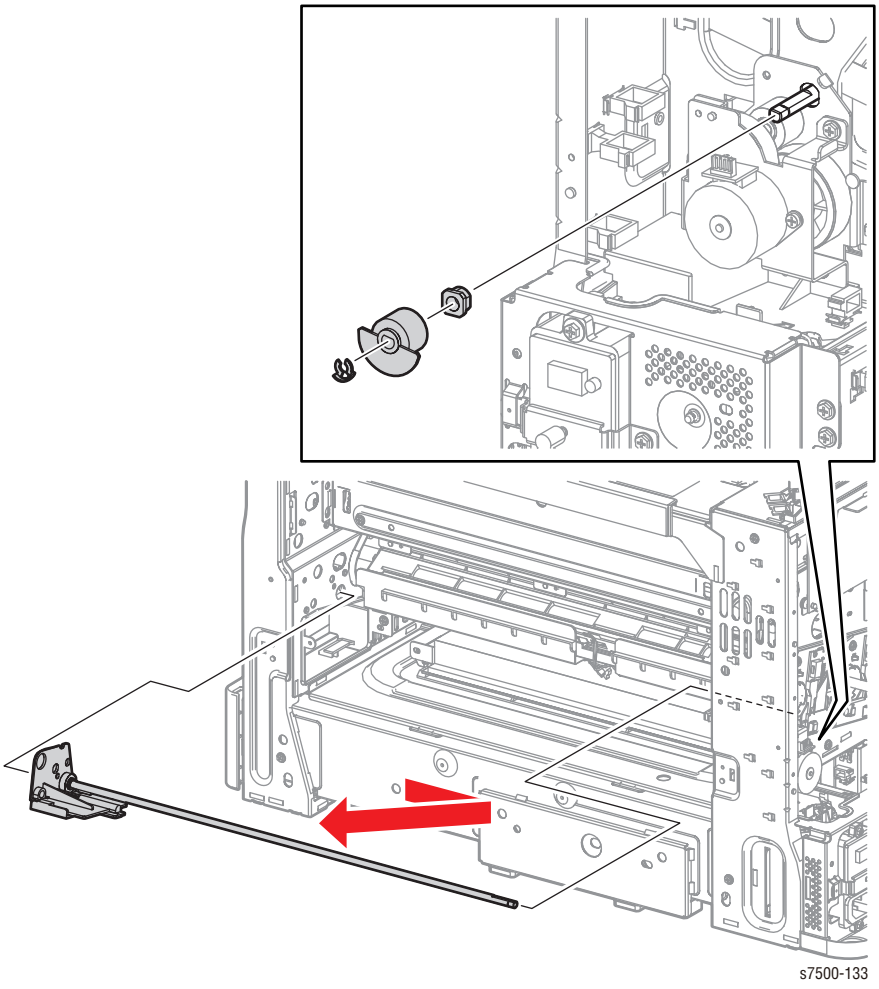
Replacement Note

The HVPS cable is positioned behind the shaft.

REP 8.10 Drive Shaft Assembly

PL8.2.12

1. Remove the Gear Bracket Assembly (REP 8.9, page 8-78).
2. Remove the KL Clip that secures the Gear and remove the Gear.
3. Remove the Sleeve Bearing.
4. Shift the Drive Shaft Assembly to the rear temporarily, and remove the Drive Shaft Assembly from the front.



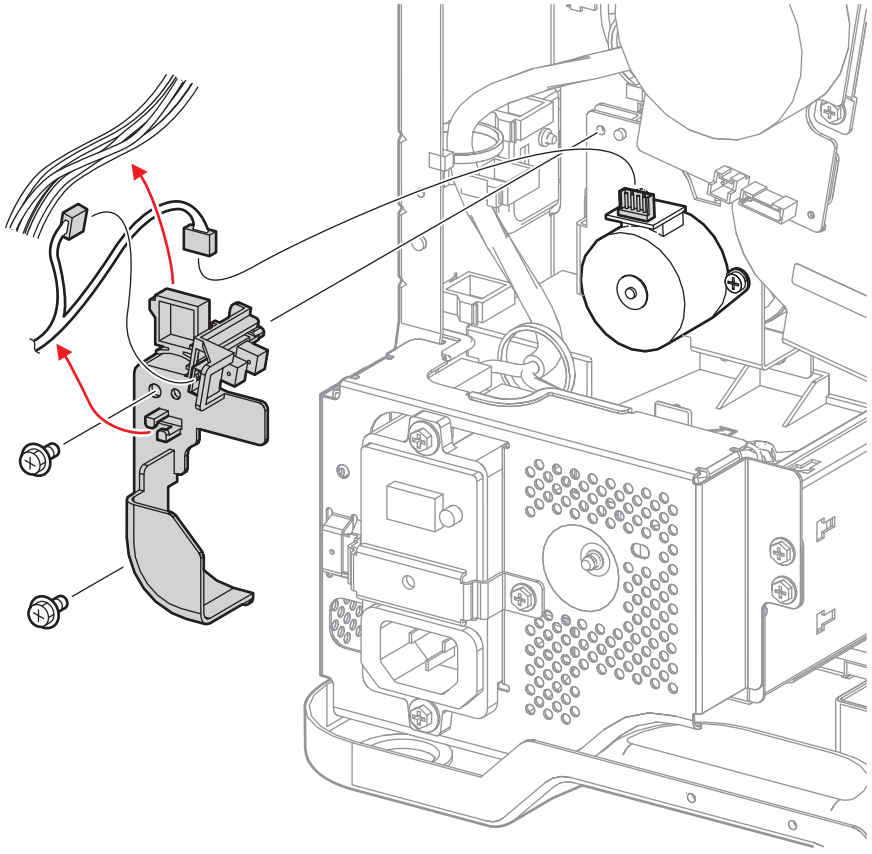
s7500-133

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REP 8.11 Sensor Bracket Assembly

PL8.2.14

1. Remove the PWB Chassis Unit (REP 18.10, page 8-197).
2. Disconnect the 2 wiring harness connectors that are connected to the Sensor Bracket Assembly and the Agitator Motor Assembly.
3. Remove the wiring harness from the Sensor Bracket Assembly.
4. Remove 2 screws (silver, 6mm) that secure the Sensor Bracket Assembly and remove the Sensor Bracket Assembly.

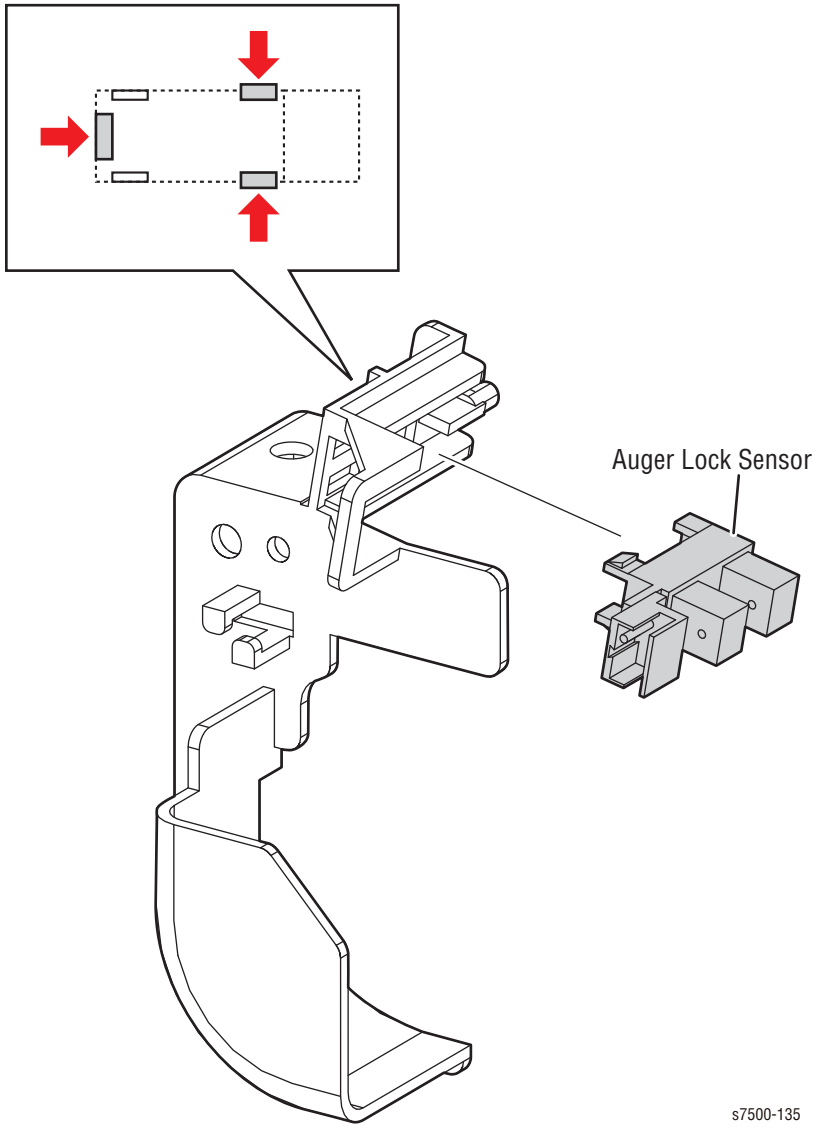


s7500-134

REP 8.12 Auger Lock Sensor

PL8.2.16

1. Remove the Top Rear Cover and the Rear Cover (REP 19.6, page 8-217).
2. Remove the PWB Chassis Unit (REP 18.10, page 8-197).
3. Remove the Sensor Bracket Assembly (REP 8.11, page 8-80).
4. Release the hooks that secure the Auger Lock Sensor and remove the Auger Lock Sensor.



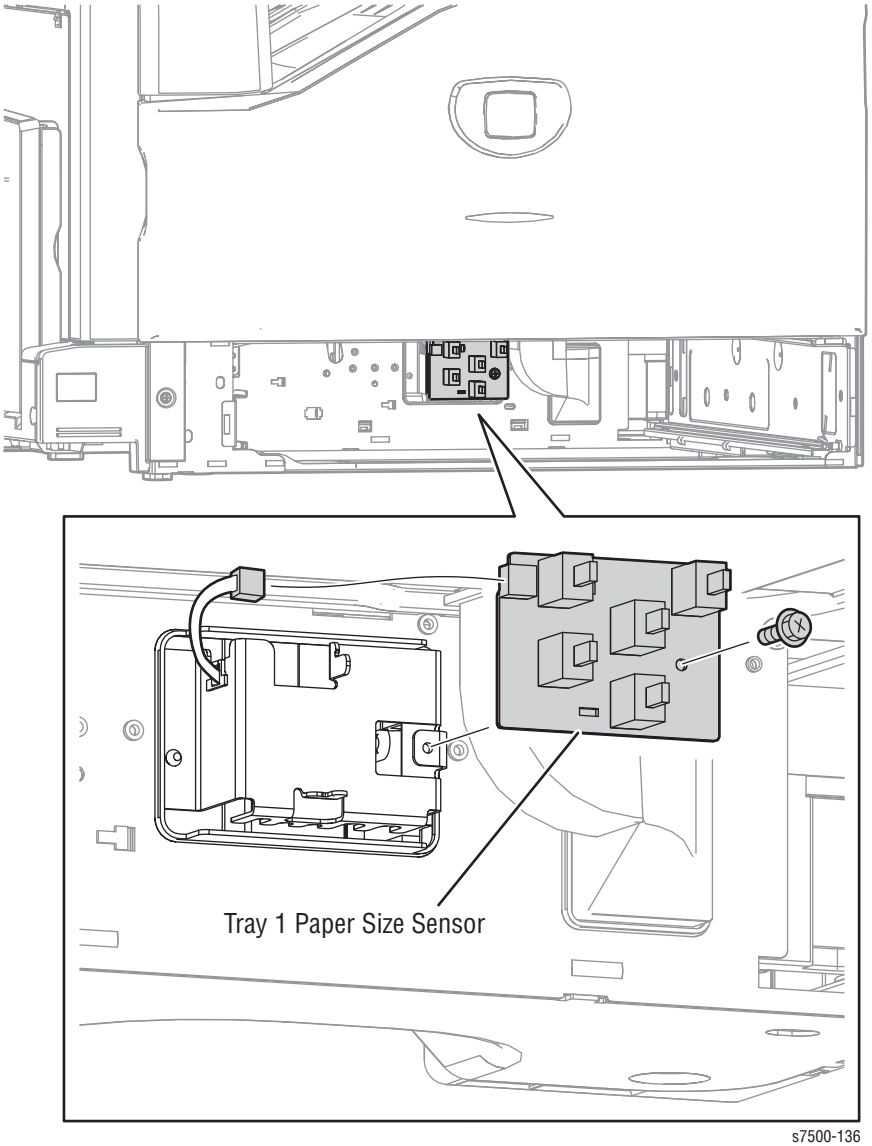
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Tray 2 Feeder/ Tray 2

REP 9.1 Tray 2 Paper Size Sensor

PL9.1.6

1. Remove the Tray Assembly.
2. Disconnect the wiring harness connector P/J101 that is connected to the Tray 2 Paper Size Sensor.
3. Remove 1 screw (silver, 8mm) that secures the Tray 2 Paper Size Sensor to the printer.
4. Remove the Tray 2 Paper Size Sensor from the hook at the installation section.



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REP 9.9 Tray 2 Feeder Assembly/ Chute Assembly

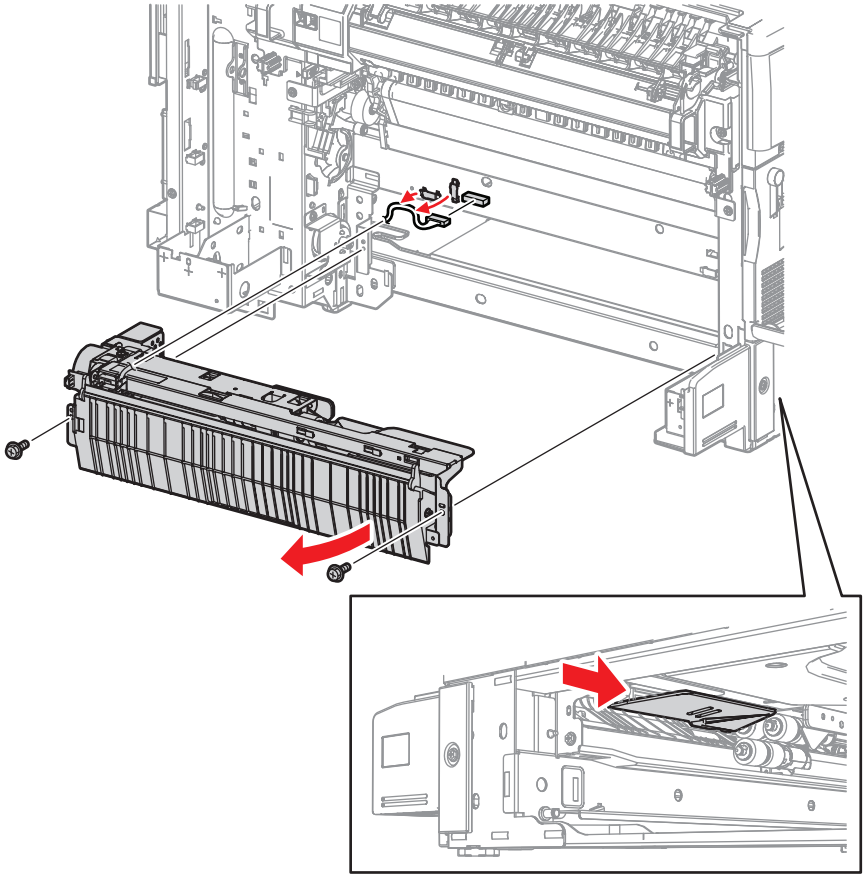
PL9.3.1/ PL9.3.2

1. Remove the Regi Transport Assembly (REP 15.2, page 8-174).

Note

In the following step, if the Chute cannot be moved towards the rear, do not force it to move because that is already the correct position.

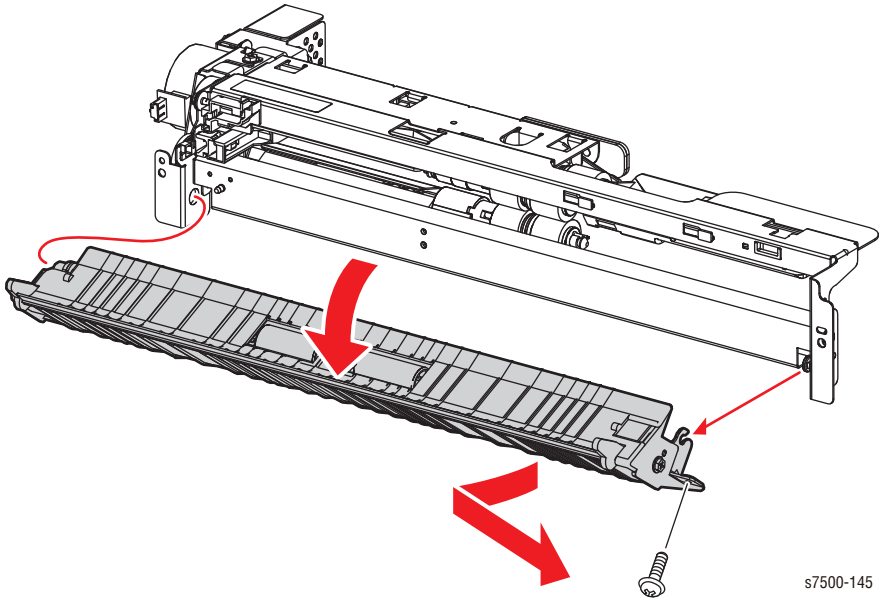
2. Pull the tray out a few inches.
3. Slide the inner upper (when seen from the Tray Assembly insertion opening) Chute towards the rear until it stops.
4. Release the 2 clamps that secure the harness that is connected to the Tray 2 Feeder Assembly and disconnect the wiring harness connectors.
5. Remove the 2 screws (silver, 8mm) that secure the Tray 1 Feeder Assembly to the printer.



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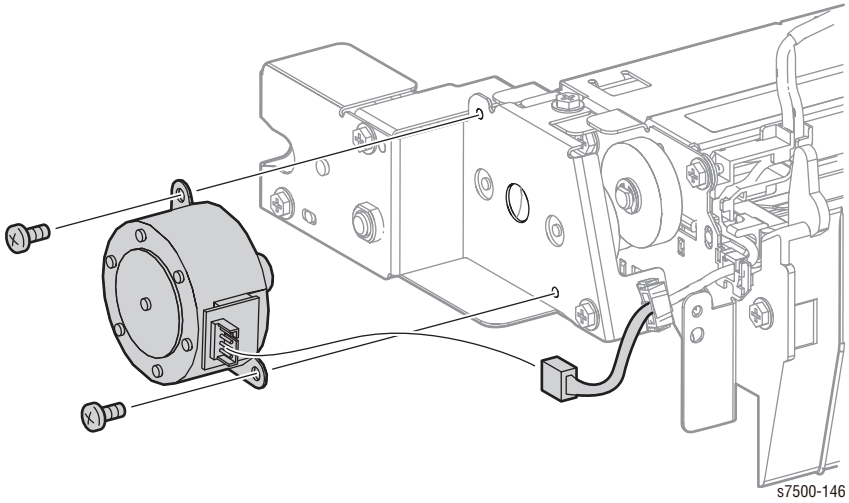
6. Pull out the front side of the Tray 2 Feeder Assembly towards you to remove the Tray 2 Feeder Assembly from the printer.
7. Loosen 1 screw (silver, 8mm) that secures the Chute Assembly and remove the Chute Assembly from the Tray 1 Feeder Assembly.



REP 9.10 Tray 2 Feed/ Lift Up Motor

PL9.4.3

1. Remove the Feeder Assembly (REP 9.9, page 8-83).
2. Disconnect the wiring harness connector that is connected to the Tray 2 Feed/ Lift Up Motor.
3. Remove 2 screws (silver, 6mm) that secure the Tray 2 Feed/ Lift Up Motor to the Feeder Assembly and remove the Tray 2 Feed/ Lift Up Motor.

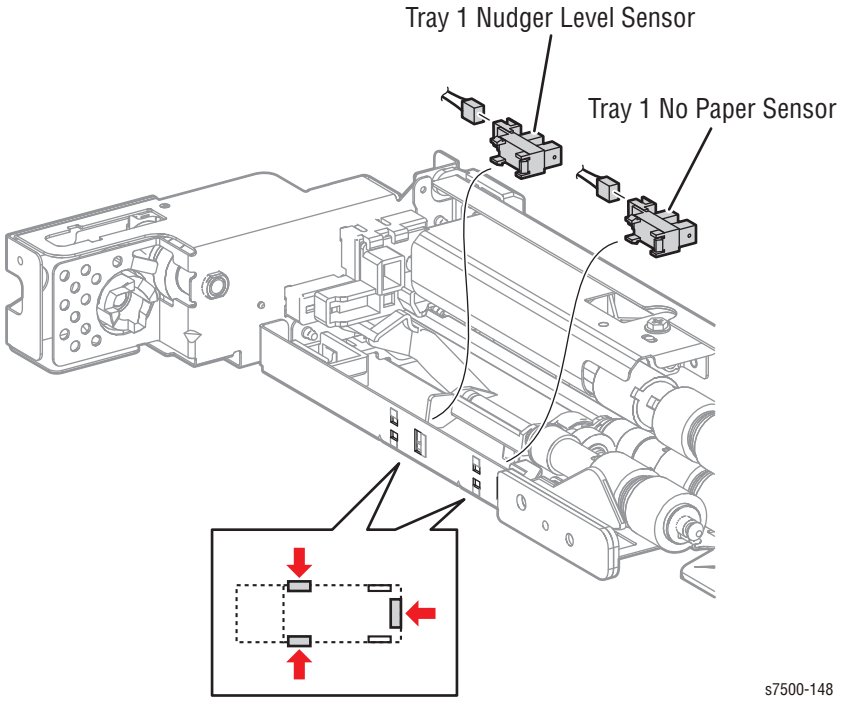


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REP 9.12 Tray Nudger Level Sensor/ Tray 2 No Paper Sensor

PL9.4.6

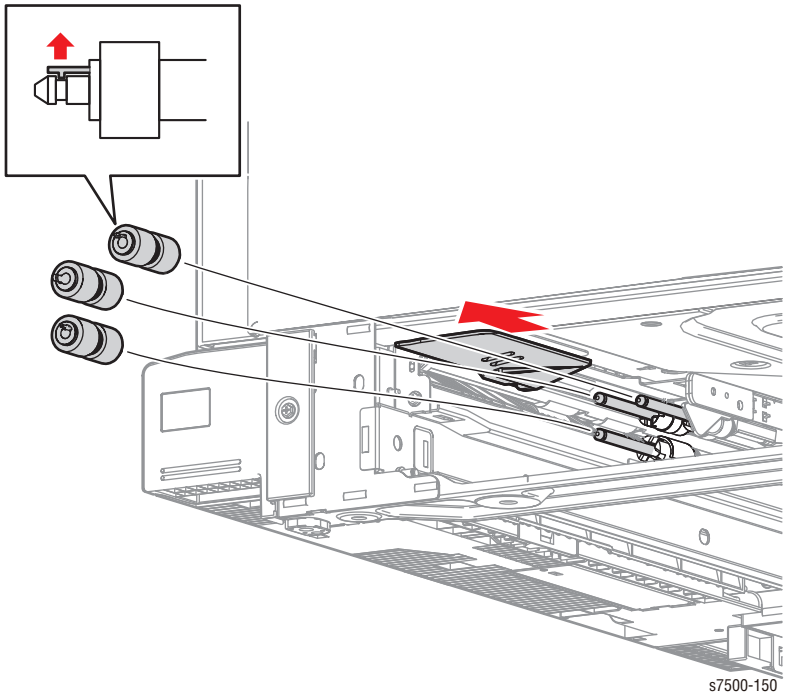
1. Remove the Tray 2 Feeder Assembly (REP 9.9, page 8-83).
2. Release the 3 hooks that secure the Tray 1 Nudger Level Sensor to the Tray 2 Feeder Assembly and remove the Tray 1 Nudger Level Sensor.
3. Disconnect the wiring harness connector P/J107 that is connected to the Tray 2 Nudger Level Sensor.
4. Release the 3 hooks that secure the Tray 2 No Paper Sensor to the Tray 2 Feeder Assembly and remove the Tray 2 No Paper Sensor.
5. Disconnect the wiring harness connector P/J106 that is connected to the Tray 2 No Paper Sensor.



REP 9.14 Feed Roll/ Retard Roll/ Nudger Roll

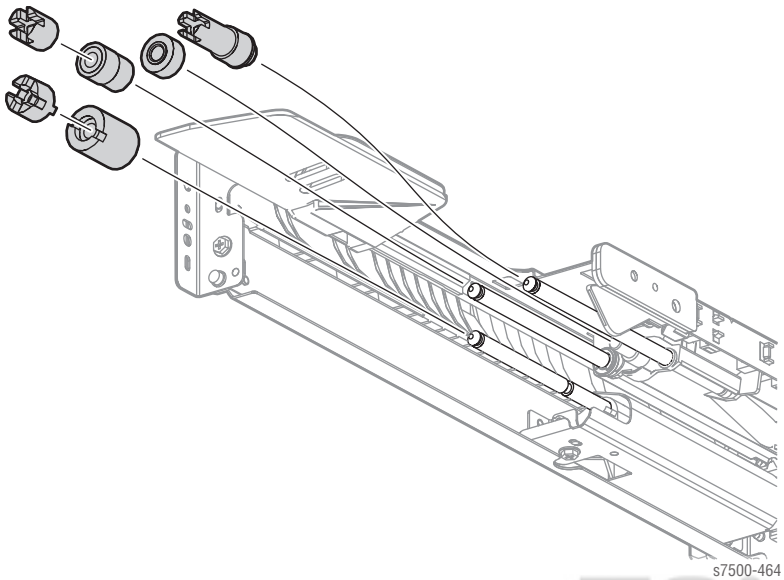
PL9.5.2/ PL9.5.3/ PL9.5.4

1. Remove the Tray Assembly.
2. Slide the inner upper Chute (looking from the Tray Assembly insertion opening) towards you until it stops.
3. Release the hook of the Feed Roll/Retard Roll/ Nudger Roll, pull out the Roll from the Shaft and remove it.



Replacement Note

If you find it difficult to reassemble the parts at the base of each Roll, remove the Tray 1 Feeder Assembly to perform the reassembly (REP 9.9, page 8-83).

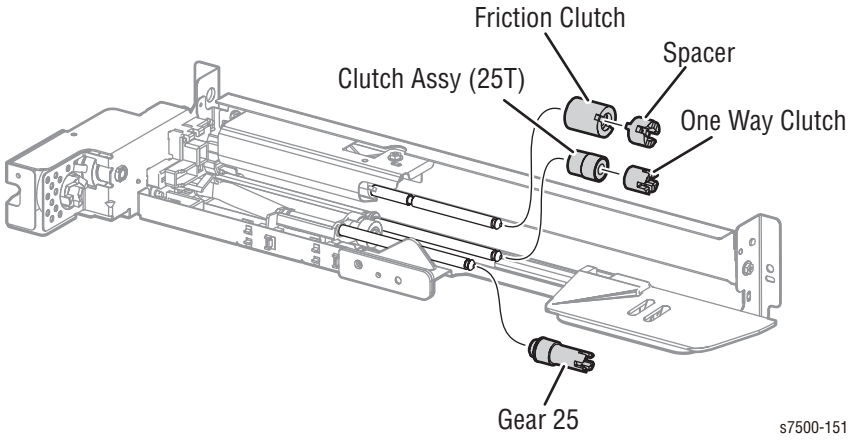


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REP 9.15 Clutch Assy. (25T)/ One-way Clutch/ Friction Clutch

PL9.5.14/ PL9.5.15/ PL9.5.19

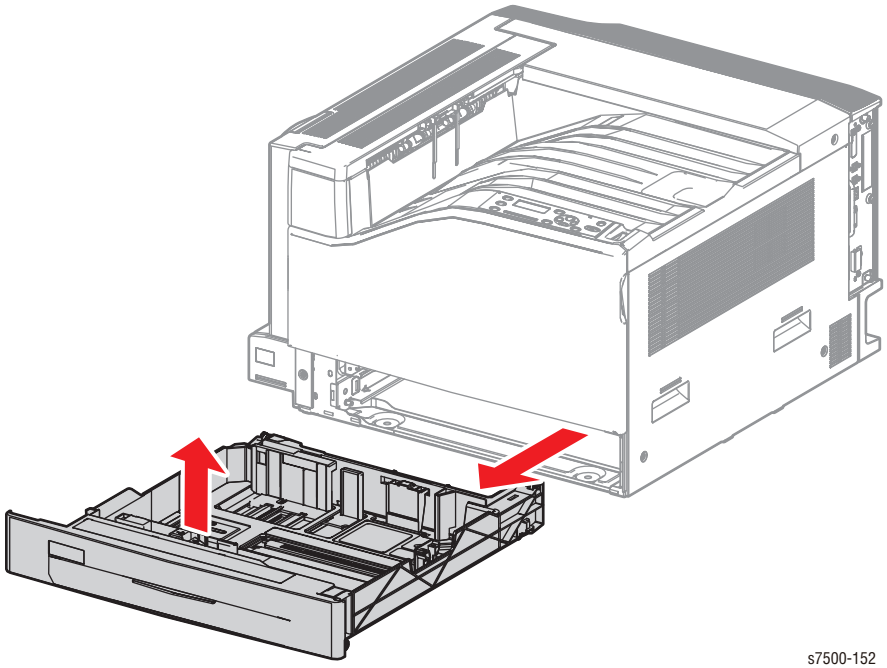
1. Remove the Tray 1 Feeder Assembly (REP 9.9, page 8-83).
2. Remove the Feed Roll/Retard Roll/ Nudger Roll (REP 9.14, page 8-87).
3. Pull off each Clutch to remove it.



REP 9.16 Tray Assembly

PL9.1.5/ PL10.1.4/ PL11.1.3

1. Pull out the Tray Assembly until it can go no further, then raise it slightly to remove it.



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Replacement Note

When replacing the Tray Assembly, be sure to set the Guide positions.

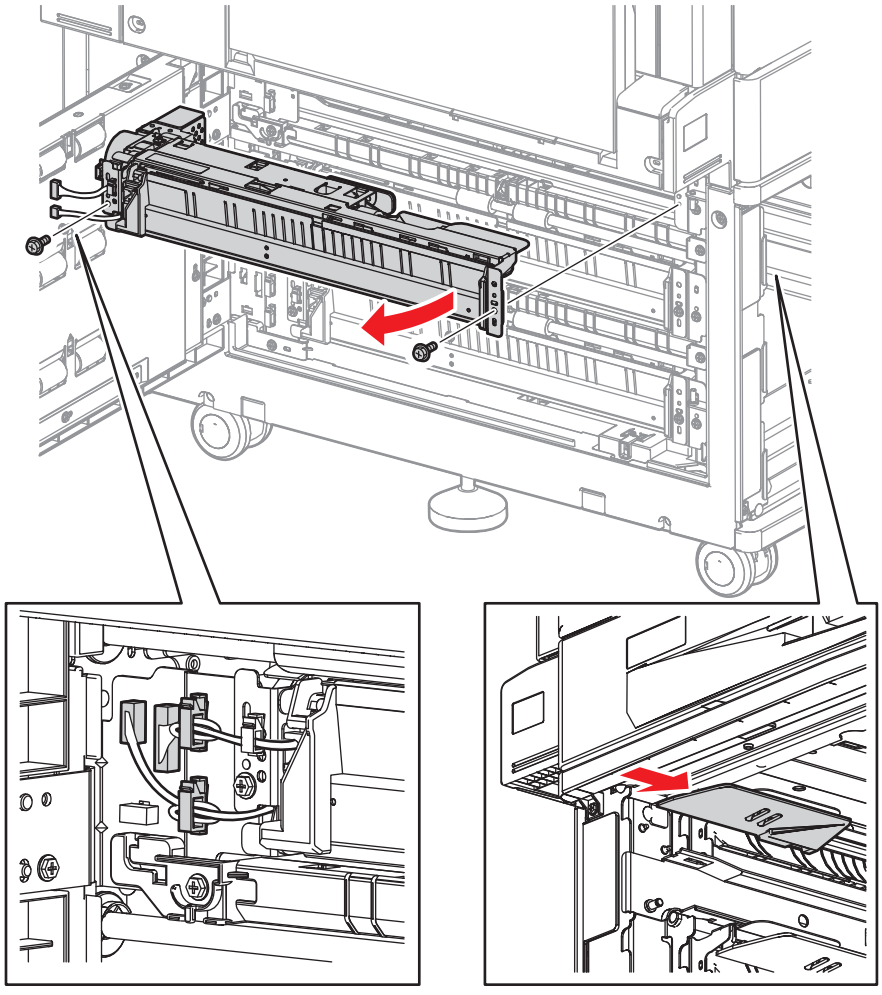
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1500-Sheet Feeder (Option)

REP 10.1 Tray 3/4/5 Feeder Assembly/ Feed Out Chute

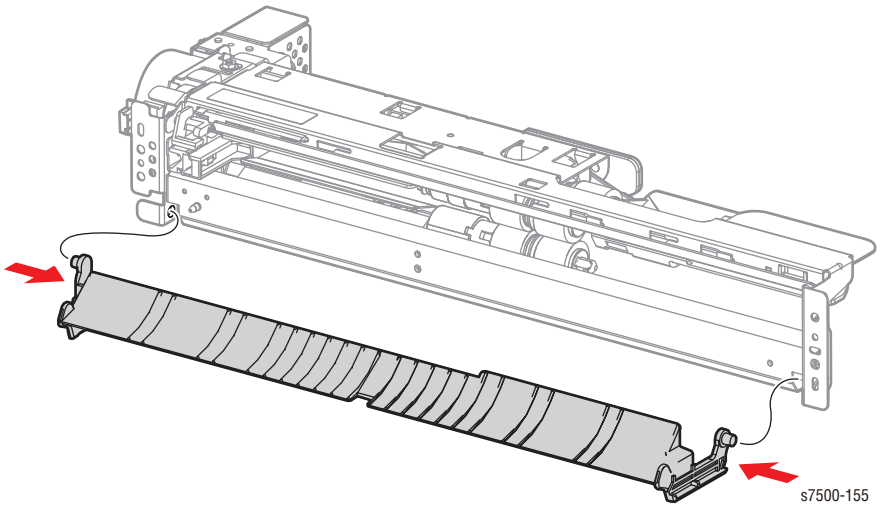
PL10.1.1/ PL10.1.2/ PL10.1.3

1. Remove the Tray Assembly from the Tray Module (3T).
2. Slide the inner upper (when seen from the Tray Assembly insertion opening) Chute towards the rear until it stops.
3. Release the clamp that secures the wiring harness that is connected to the Feeder Assembly and disconnect the wiring harness connectors (P/J661, P/J669).
4. Remove 2 screws (silver, 8mm) that secure the Feeder Assembly to the Tray Module (3T).
5. Pull out the front side of the Feeder Assembly towards you to remove the Feeder Assembly from the Tray Module (3T).



s7500-154

6. While pressing the right and left Arms on the Feed Out Chute, remove the boss from the installation hole to remove the Feed Out Chute.

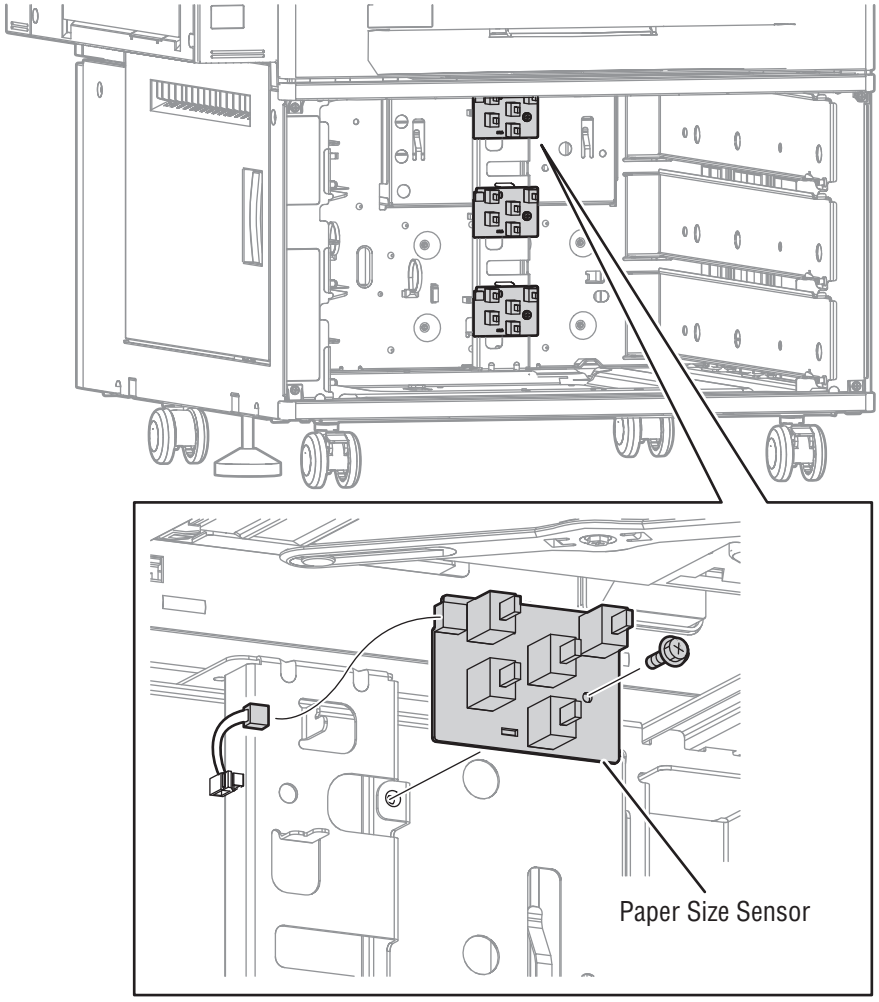


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REP 10.2 Tray 3/4/5 Paper Size Sensor

PL10.1.8/ PL10.1.9/ PL10.1.10

1. Remove the Tray Assembly from the Tray Module (3T).
2. Disconnect the wiring harness connector P/J101 that is connected to the Paper Size Sensor.
3. Remove 1 screw (silver, 8mm) that secures the Paper Size Sensor to the Tray Module (3T).
4. Remove the Paper Size Sensor from the hooks at the installation section.



s7500-156

REP 10.3 Tray 3/4/5 Feed/ Lift Up Motor

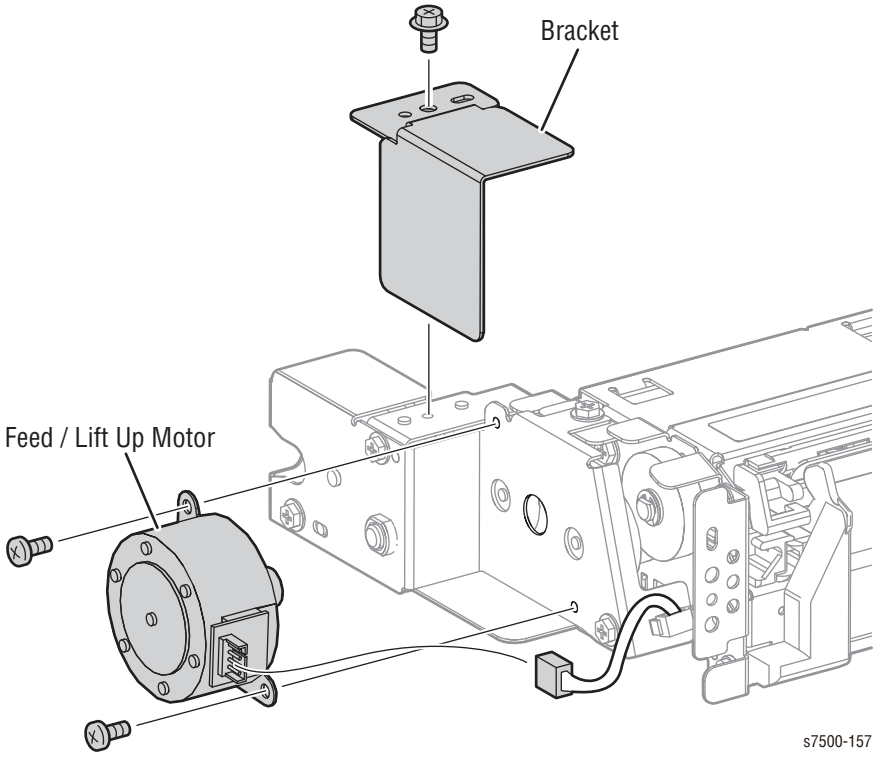
PL10.3.3

1. Remove the Tray Assembly from the Tray Module (3T).
2. Remove the Feeder Assembly (REP 10.1, page 8-90).

Note

The following steps are only applicable for the middle and lower Feeder Assemblies.

3. Remove 1 screw (silver, 8mm) that secures the Bracket and remove the Bracket.
4. Disconnect the wiring harness connector P/J221 that is connected to the Feed/ Lift Up Motor.
5. Remove 2 screws (silver, 6mm) that secure the Feed/ Lift Up Motor to the Feeder Assembly and remove the Feed/ Lift Up Motor.

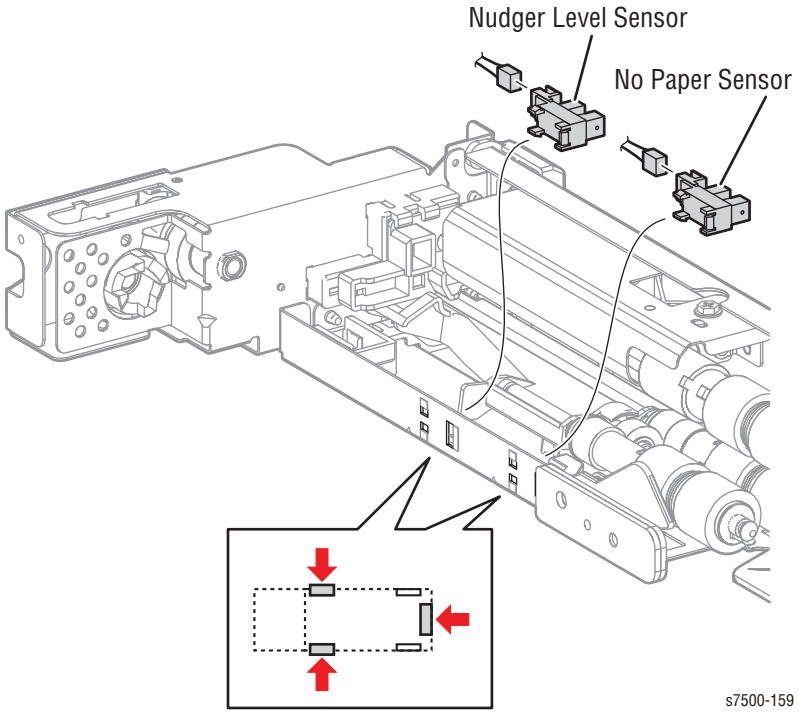


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REP 10.5 Tray 3/4/5 Nudger Level Sensor/ Tray 3/4/5 No Paper Sensor

PL10.3.6

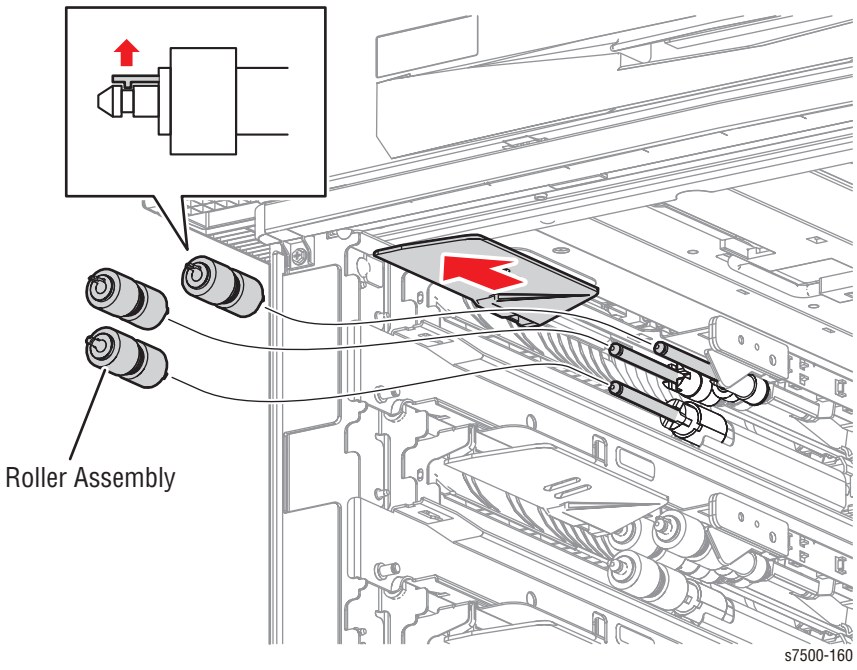
1. Remove the Tray Assembly from the 1500-Sheet Feeder.
2. Remove the Feeder Assembly (REP 10.1, page 8-90).
3. Release the 3 hooks that secure the Nudger Level Sensor to the Feeder Assembly and remove the Nudger Level Sensor.
4. Disconnect the wiring harness connector P/J107 that is connected to the Nudger Level Sensor.
5. Release the 3 hooks that secure the No Paper Sensor to the Feeder Assembly and remove the No Paper Sensor.
6. Disconnect the wiring harness connector P/J106 that is connected to the No Paper Sensor.



REP 10.7 Feed Roll/ Retard Roll/ Nudger Roll

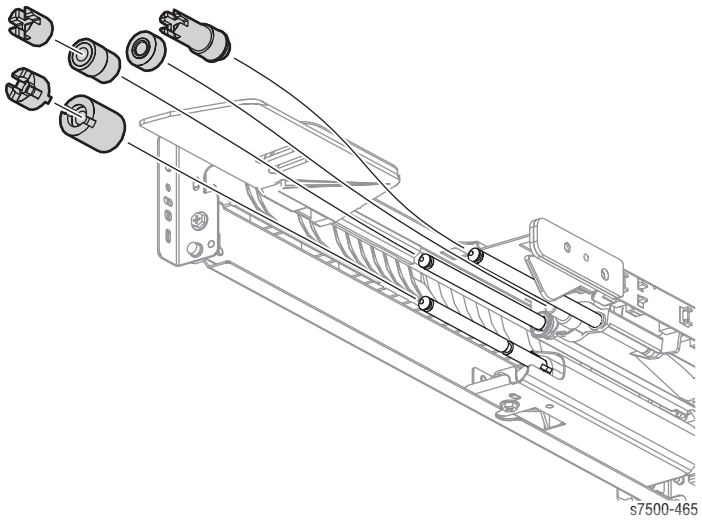
PL10.4.2/ PL10.4.3/ PL10.4.4

1. Remove the Tray Assembly from the 1500-Sheet Feeder.
2. Slide the inner upper (when seen from the Tray Assembly insertion opening) Chute towards you until it stops.
3. Release the hook of the Feed Roll/ Retard Roll/ Nudger Roll, pull out the Roll from the Shaft and remove it.



Replacement Note

Be sure to reassemble the Rollers as in the illustration. If you find it difficult to reassemble the parts at the base of each Roll, remove the Feeder Assembly to perform the reassembly (refer to REP 10.1, page 8-90).

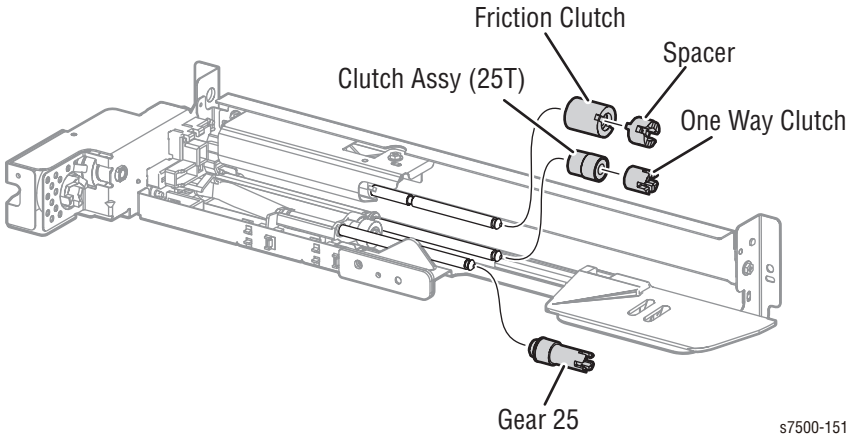


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REP 10.8 Clutch Assy. (25T)/ One-Way Clutch/ Friction Clutch

PL10.4.14/ PL10.4.15/ PL10.4.19

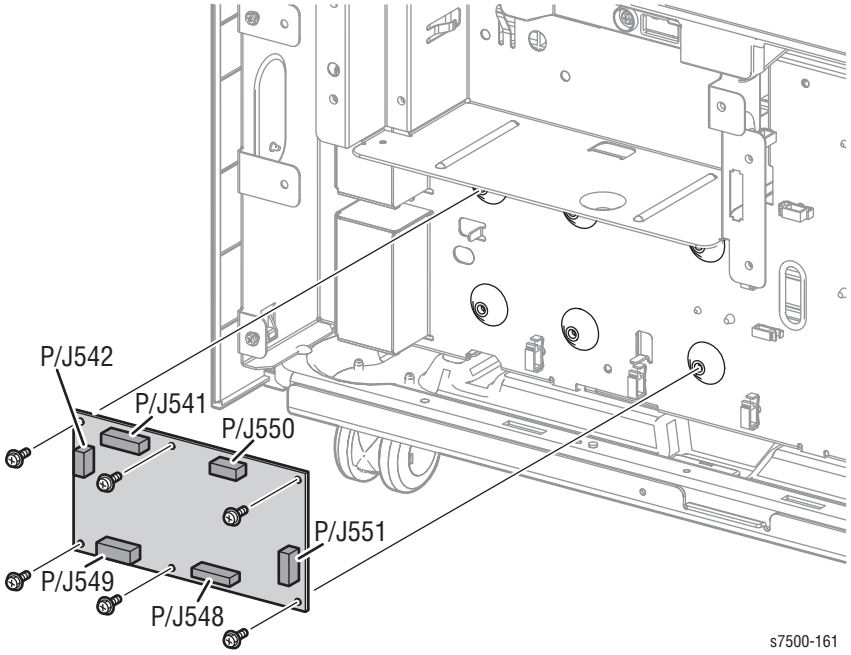
1. Remove the Tray Assembly from the 1500-Sheet Feeder.
2. Remove the Feeder Assembly (REP 10.1, page 8-90).
3. Remove the Feed Roll/ Retard Roll/ Nudger Roll (REP 10.7, page 8-95).
4. Pull off each Clutch to remove it.



REP 10.9 Tray Module PWB

PL10.9.1

1. Remove the Rear Cover Assembly (REP 10.19, page 8-107).
2. Disconnect the 4 wiring harness connectors (P/J541, P/J548, P/J550, and P/J551) that are connected to the Tray Module PWB.
3. Remove 6 screws (silver, 8mm) that secure the Tray Module PWB to the Tray Module (3T) and remove the Tray Module PWB.

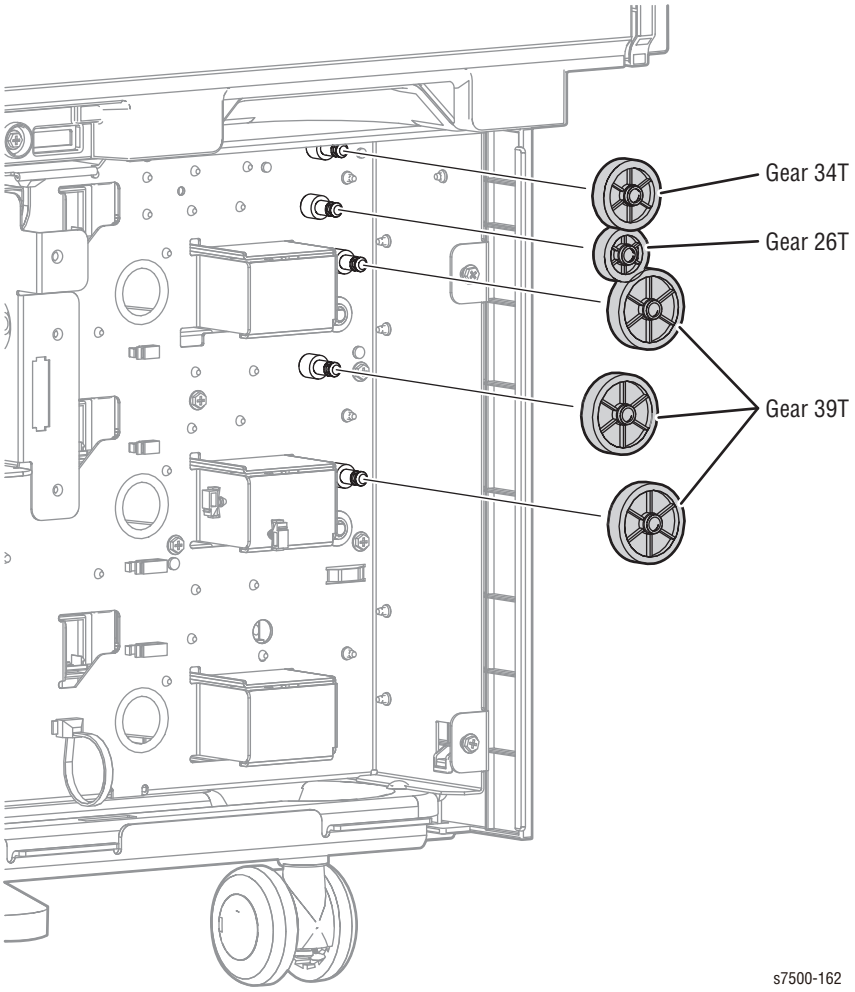


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REP 10.10 Gear (34T)/ Gear (26T)/ Gear (39T)

PL10.9.2/ PL10.9.3/ PL10.9.4

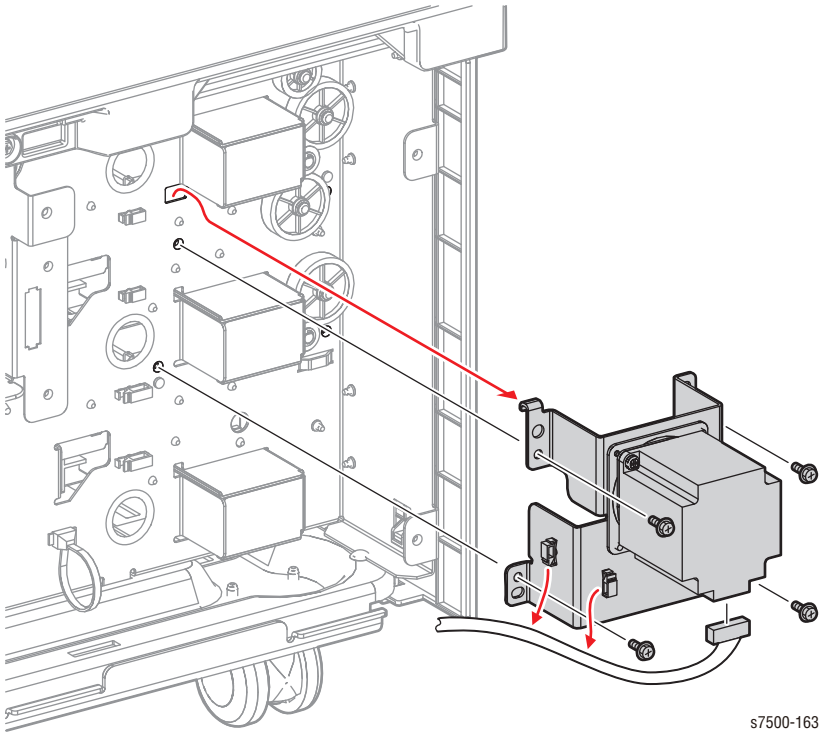
1. Remove the Rear Cover Assembly (REP 10.19, page 8-107).
2. Remove the TM Takeaway Motor (REP 10.11, page 8-99).
3. Slide the Gears out to remove.



REP 10.11 TM Takeaway Motor

PL10.9.5

1. Remove the Rear Cover Assembly (REP 10.19, page 8-107).
2. Disconnect the wiring harness connector P/J226 that is connected to the TM Takeaway Motor and release the harness from the clamps.
3. Remove 4 screws (silver, 8mm) that secure the TM Takeaway Motor to the Tray Module (3T).
4. Release the hook of the TM Takeaway Motor from the square hole of the Tray Module (3T) and remove the TM Takeaway Motor.

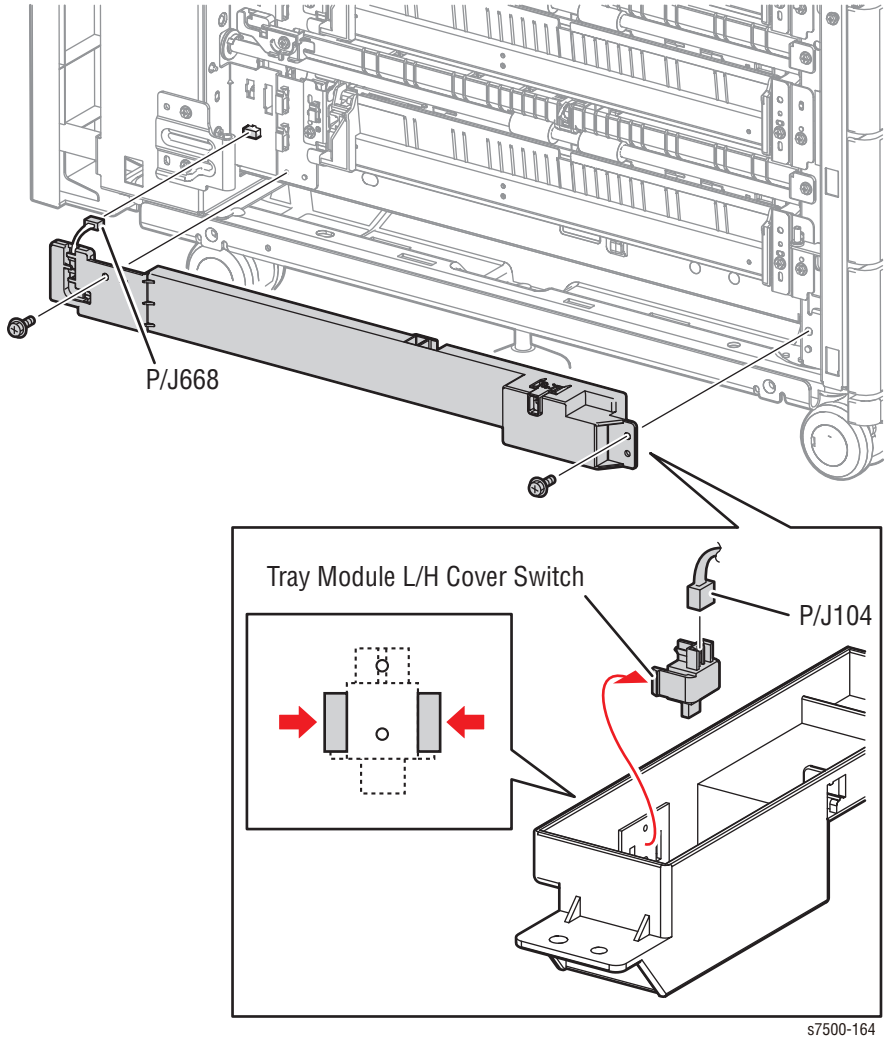


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REP 10.12 Tray Module L/H Cover Switch

PL10.11.2

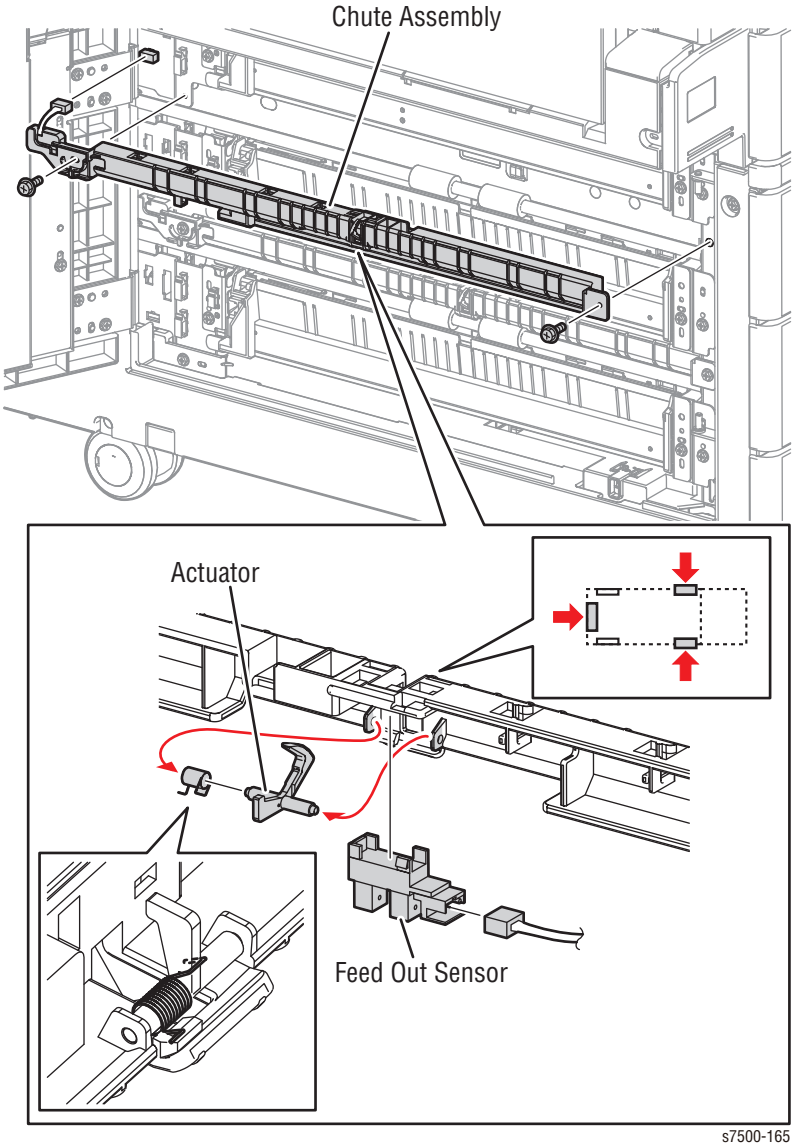
1. Remove the Left Cover (REP 10.21, page 8-109).
2. Disconnect the wiring harness connector P/J668 that connects the Cover to the Tray Module (3T).
3. Remove 2 screws (silver, 8mm) that secure the Cover to the Tray Module (3T) and remove the Cover.
4. Disconnect the wiring harness connector P/J104 that is connected to the Tray Module L/H Cover Switch.
5. Release the 2 hooks that secure the Tray Module L/H Cover Switch to the Cover and remove the Tray Module L/H Cover Switch.



REP 10.13 Chute Assembly/ Tray 4/5 Feed Out Sensor

PL10.11.4/ PL10.11.6

1. Disconnect the wiring harness connector P/J672 that connects the Chute Assembly to the Tray Module (3T).
2. Remove 2 screws (silver, 8mm) that secure the Chute Assembly to the Tray Module (3T) and remove the Chute Assembly.
3. Disconnect the wiring harness connector P/J112 that is connected to the Feed Out Sensor.
4. Release the 3 hooks that secure the Feed Out Sensor to the Chute Assembly and remove the Feed Out Sensor.
5. Unhook the spring that is attached to the Chute Assembly.
6. Open the 2 installation sections that secure the Actuator to the Chute and remove the Actuator.
7. Remove the Spring from the Actuator.

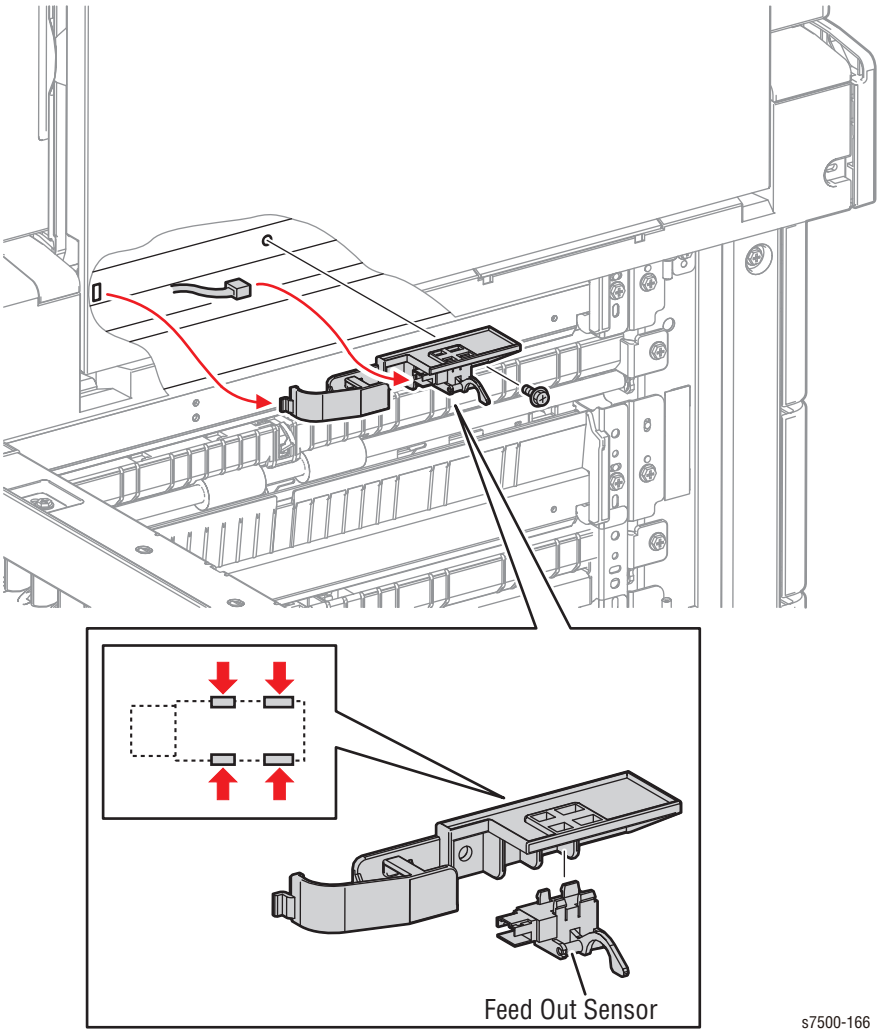


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REP 10.14 Tray 3 Feed Out Sensor

PL10.11.11

1. Remove the T/A Roll 4/5 (REP 10.15, page 8-103).
2. Disconnect the wiring harness connector P/J108 that is connected to the Feed Out Sensor.
3. Remove 1 screw (silver, 8mm) that secures the Sensor Guide to the Tray Module (3T) and remove the Sensor Guide.
4. Release the 4 hooks that secure the Feed Out Sensor to the Sensor Guide and remove the Feed Out Sensor.



REP 10.15 T/A Roll 4/5/ T/A Roll 3

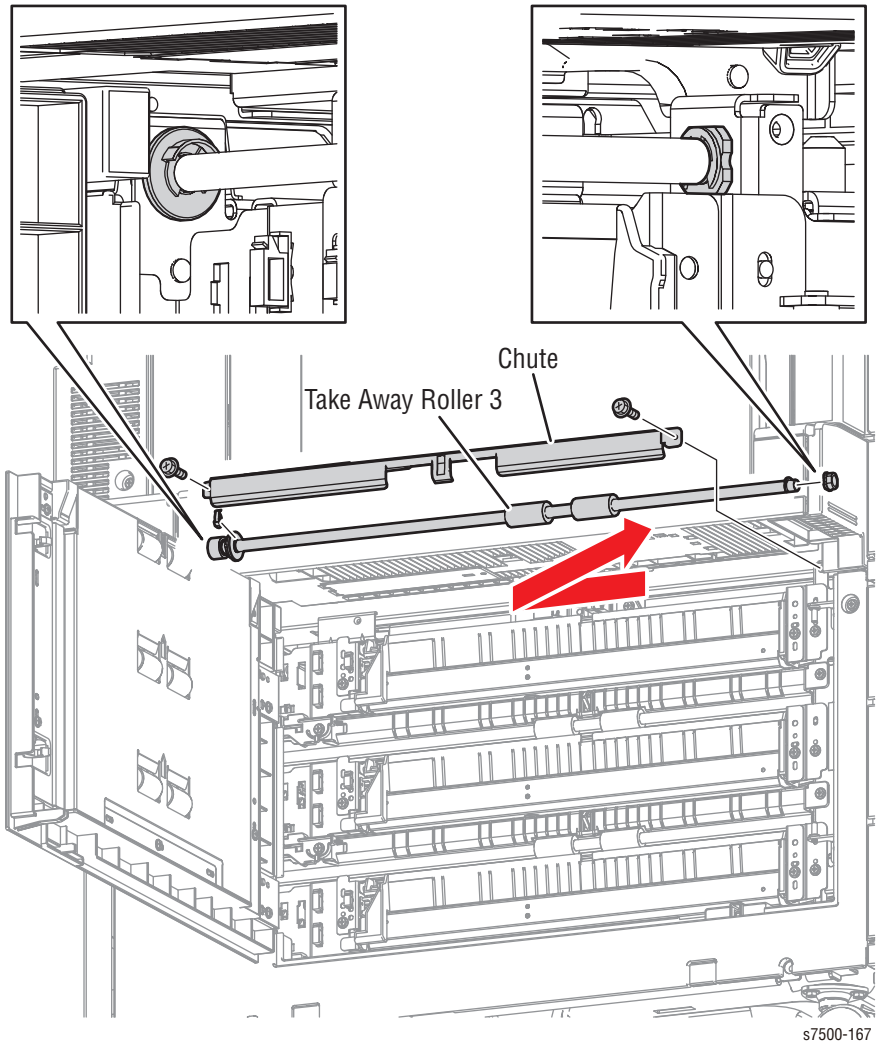
PL10.11.13/ PL10.11.16

1. Remove 2 screws (silver, 8mm) that secure the Chute to the Tray Module (3T) and remove the Chute.
2. Remove the KL Clip that secures the T/A Roll to the Tray Module (3T).

Note

Be careful not to drop the Sleeve Bearing when performing the following step.

3. Slide the T/A Roll to the rear to remove the front Sleeve Bearing from the hole, and then tilt the front side of the T/A Roll towards you to remove the T/A Roll.

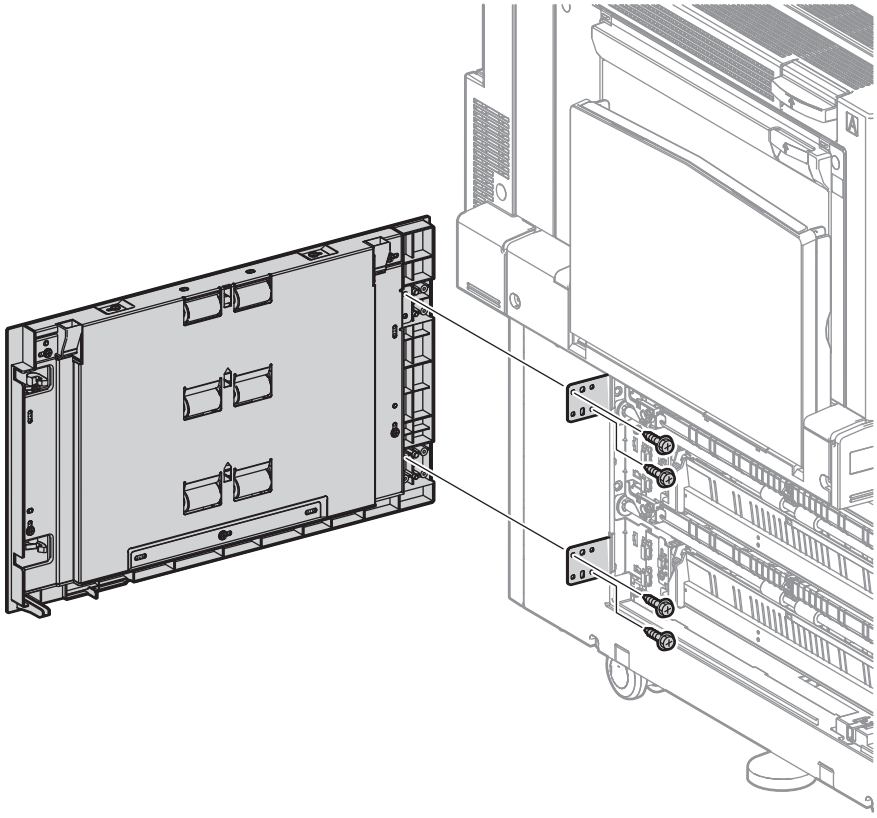


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REP 10.16 Left Hand Cover Assembly

PL10.12.1

1. Open the Left Hand Cover Assembly.
2. Remove 4 screws (silver, Tapped, 8mm) that secure the Left Hand Cover Assembly to the Bracket Assembly (x2 locations) and remove the Left Hand Cover Assembly.



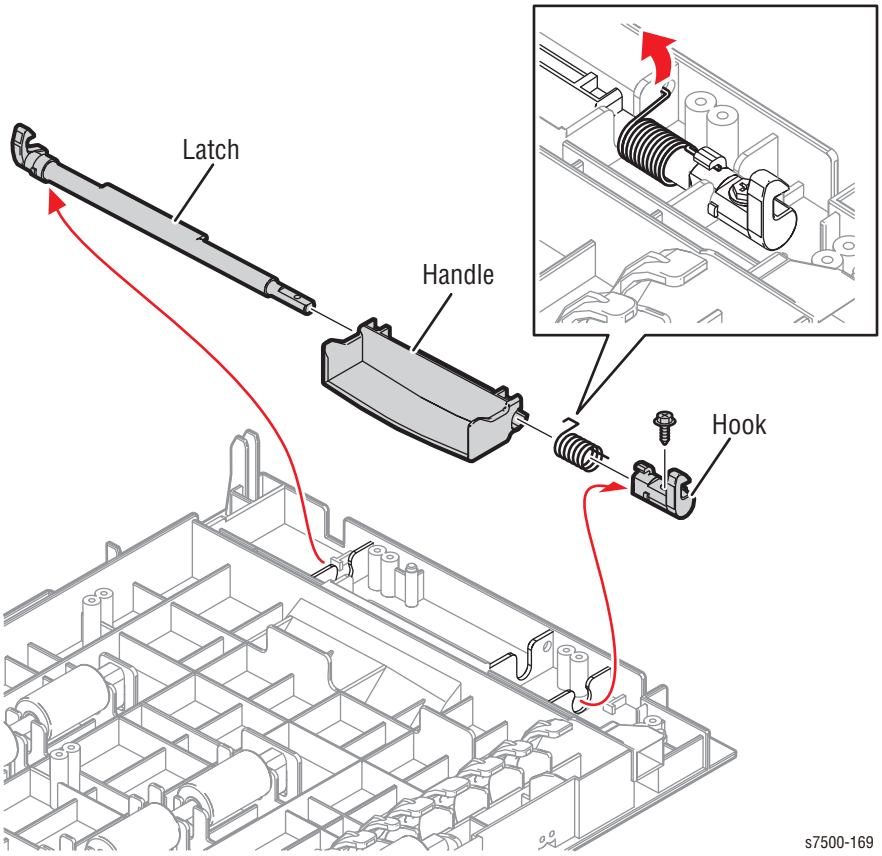
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REP 10.17 Hook/ Latch/ Handle

PL10.12.2/ PL10.12.3/ PL10.12.11

1. Remove the Left Hand Cover Assembly (REP 10.16, page 8-104).
2. Release the spring.
3. Remove 1 screw (silver, Tapped, 8mm) that secures the hook and remove the hook while pulling on the latch.
4. Pull off the latch from the handle to remove it.

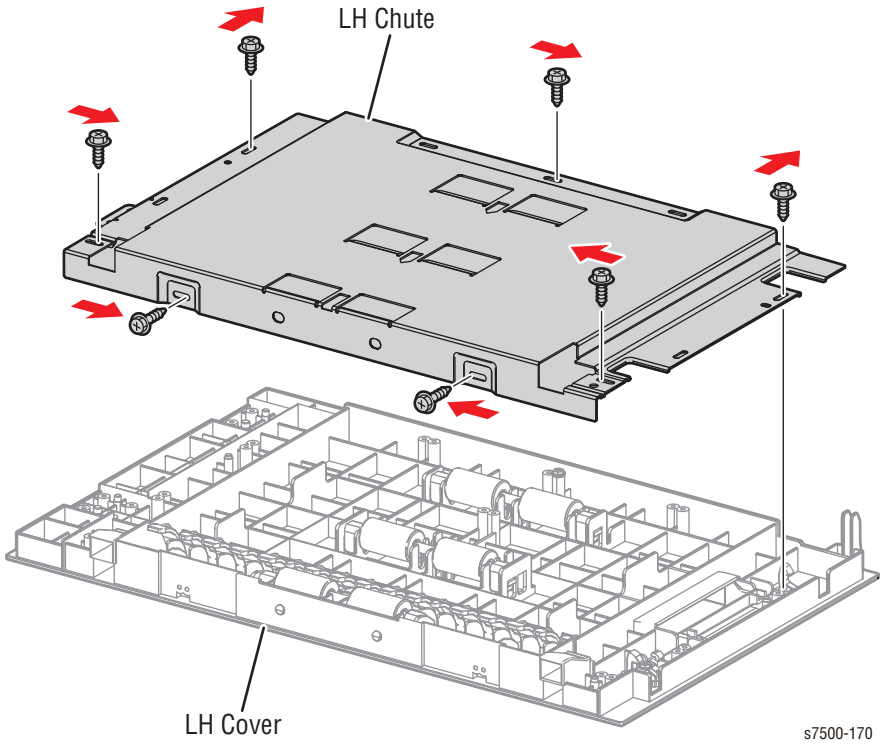


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REP 10.18 Left Hand Cover

PL10.12.10

1. Remove the Left Hand Cover Assembly (REP 10.16, page 8-104).
2. Remove 7 screws (silver, Tapped, 8mm) that secure the Left Hand Chute and remove the Left Hand Chute from the Left Hand Cover.



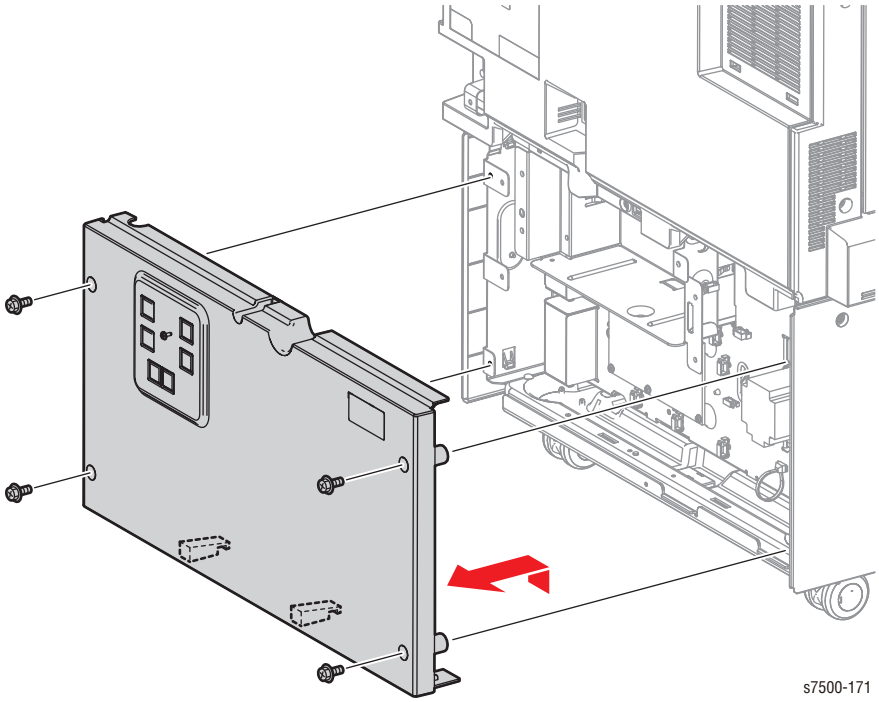
Replacement Note

Be sure to install the 7 screws in the correct places.

REP 10.19 Rear Cover Assembly

PL10.13.11

1. Remove 5 screws (silver, 8mm) that secure the Rear Cover Assembly to the Tray Module (3T).
2. Lift the Rear Cover Assembly and remove it from the Tray Module (3T).

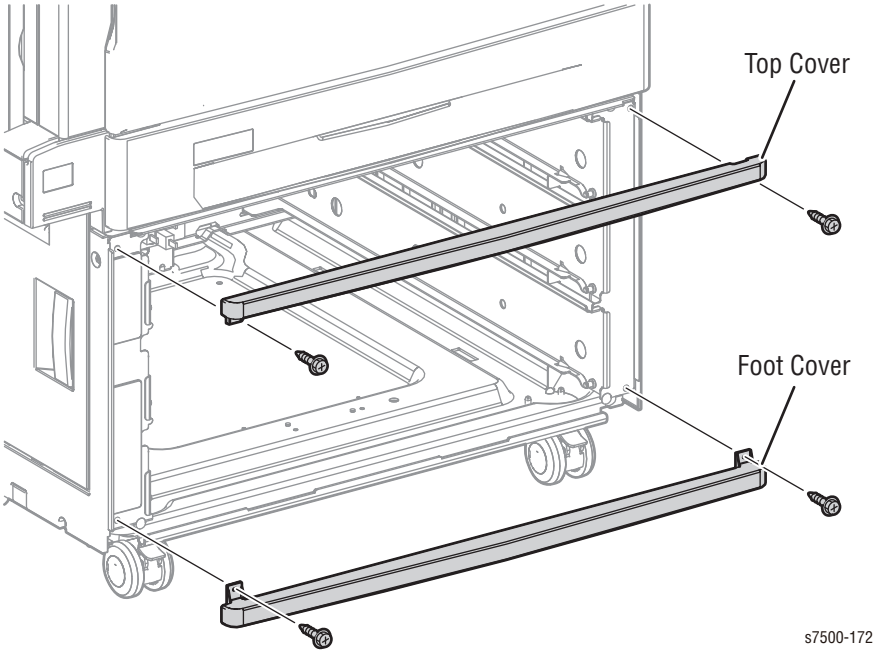


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REP 10.20 Top Cover/ Foot Cover

PL10.13.2/ PL10.13.3

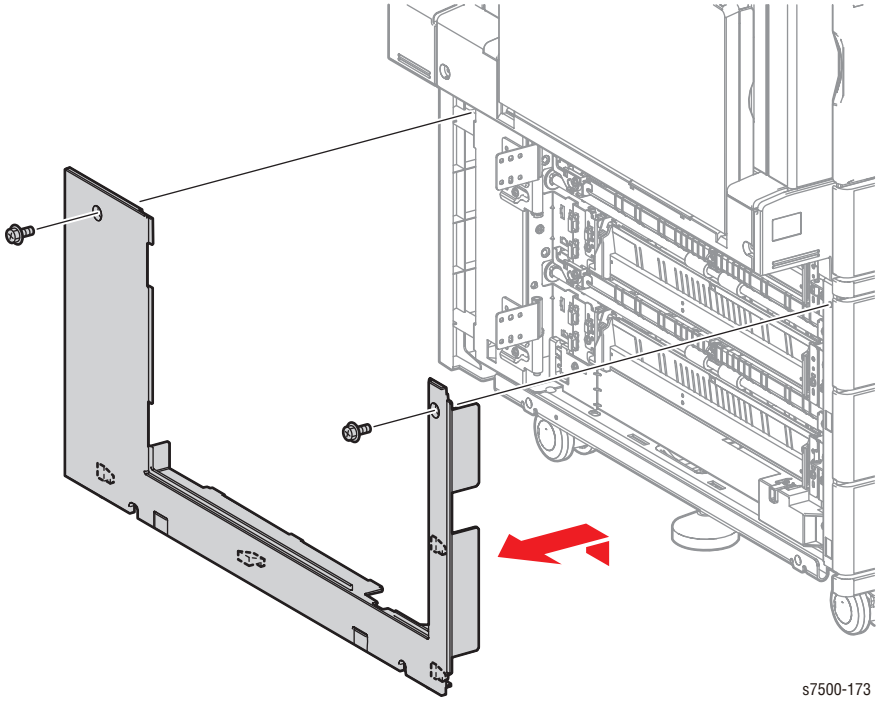
1. Remove the Tray Assembly from the Tray Module (3T).
2. Remove 2 screws (silver, Tapped, 8mm) that secure the Top Cover to the Tray Module (3T).
3. Remove the Top Cover from the Tray Module (3T).
4. Remove 2 screws (silver, Tapped, 8mm) that secure the Foot Cover to the Tray Module (3T).
5. Remove the Foot Cover from the Tray Module (3T).



REP 10.21 Left Cover

PL10.13.4

1. Remove the Left Hand Cover Assembly (REP 10.16, page 8-104).
2. Remove 2 screws (silver, 8mm) that secure the Left Cover to the Tray Module (3T).
3. Release the 4 hooks of the Left Cover and remove it from the Tray Module (3T).



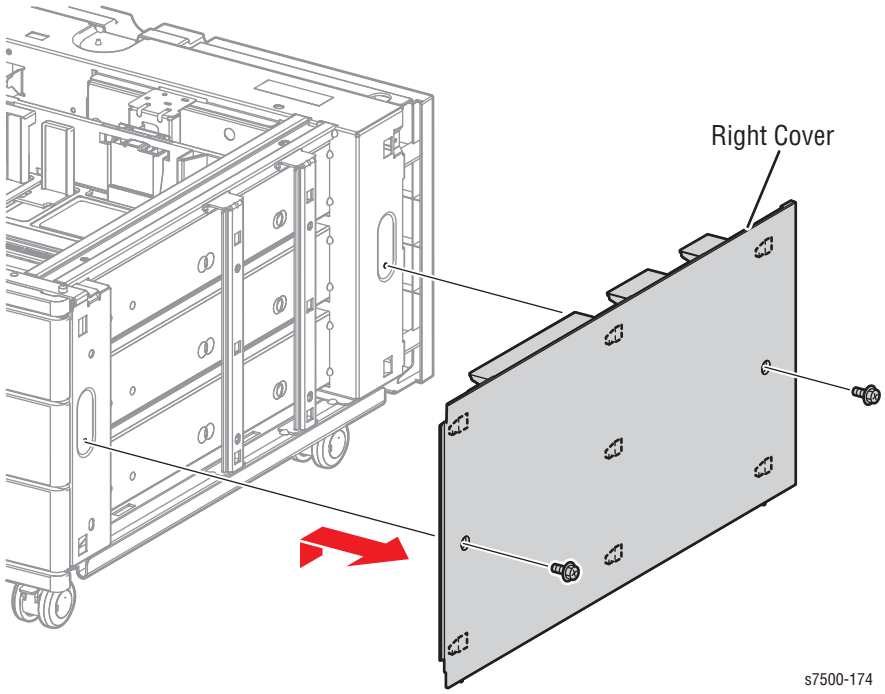
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REP 10.22 Right Cover

PL10.13.5

1. Remove the Tray Module (3T) (REP 10.23, page 8-111).
2. Remove 2 crews (silver, 8mm) that secure the Right Cover to the Tray Module (3T).
3. Release the 7 hooks of the Right Cover and remove it from the Tray Module (3T).



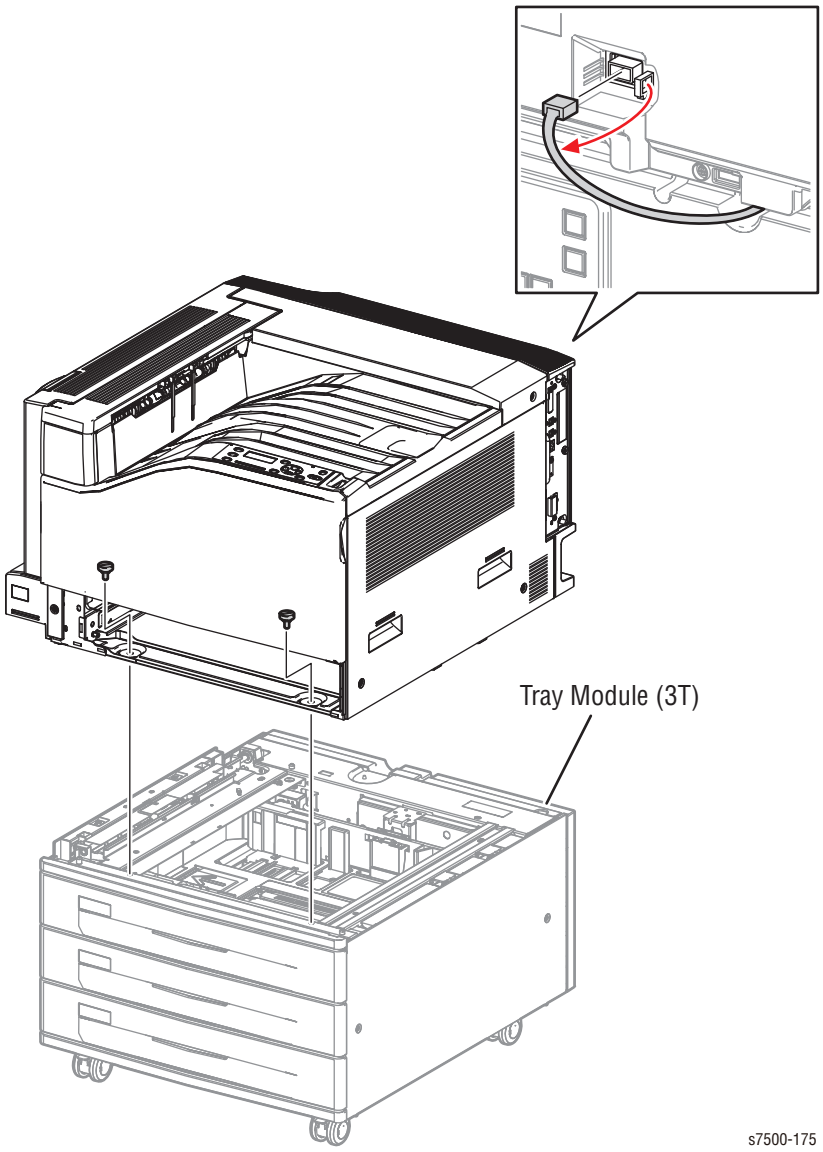
REP 10.23 Tray Module (3T) (1500-Sheet Feeder)

PL10.1.20

Warning

The printer is heavy and must be lifted by three people. Use safety lifting and handling techniques when moving the printer (refer to “Moving the Printer” on page xxvii).

1. Remove the Tray Assembly from the printer.
2. Release the clamp and remove the harness.
3. Disconnect the wiring harness connector that connects the Tray Module (3T) to the printer.
4. Remove the 2 Docking screws at the front that connect the Tray Module (3T) to the printer, lift up the printer and remove the Tray Module (3T).



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500-Sheet Feeder (Option)

REP 11.1 Tray 3 Feeder Assembly STM/ Feed Out Chute

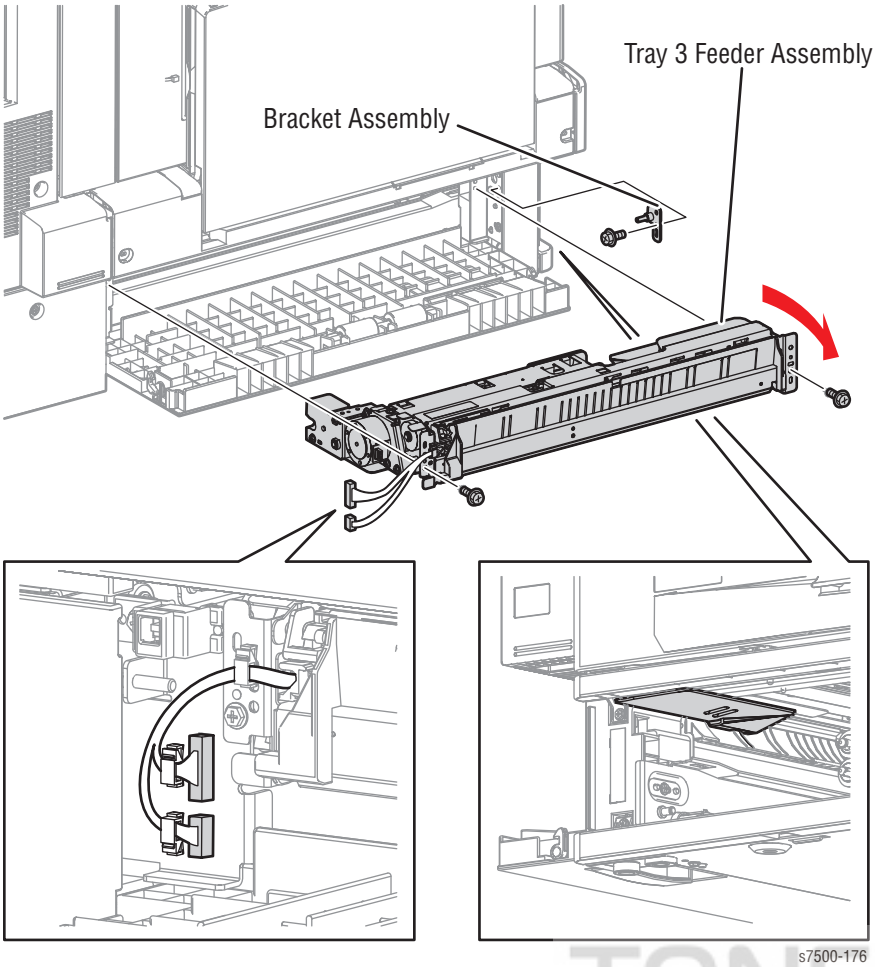
PL11.1.4/ PL11.1.5

1. Remove the Tray Assembly from the Tray Module (1T).

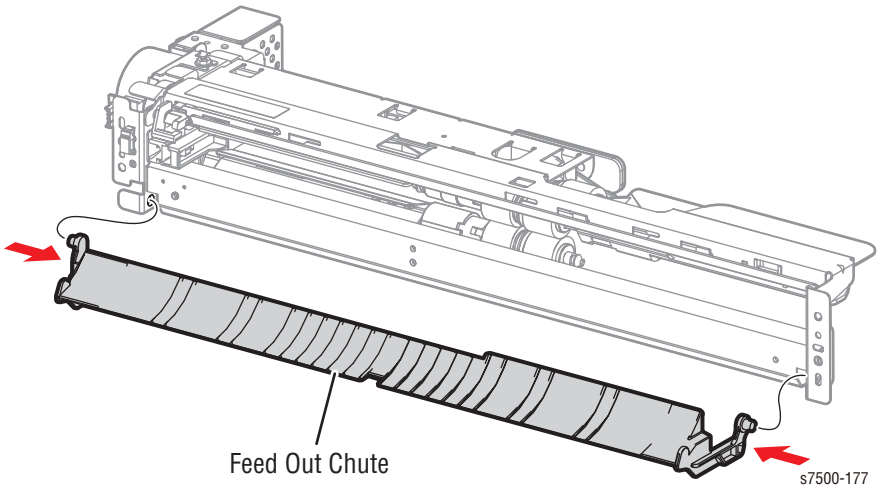
Note

In the following step, if the Chute cannot be moved towards the rear, DO NOT force it to move because that is already the correct position.

2. Slide the inner upper (looking from the Tray Assembly insertion opening) Chute towards the rear until it stops.
3. Remove 1 screw (silver, 8mm) that secures the Bracket Assembly and remove the Bracket Assembly.
4. Release the clamps that secure the wiring harness that is connected to the Tray 3 Feeder Assembly-STM and disconnect the wiring harness connectors (P/J661, P/J669).
5. Remove 3 screws (silver, 8mm) that secure the Tray 3 Feeder Assembly-STM to the Tray Module (1T).
6. Pull out the front side of the Tray 3 Feeder Assembly-STM towards you to remove the Tray 3 Feeder Assembly-STM from the Tray Module (1T).



7. Loosen 1 screw (silver, 8mm) that secures the Feed Out Chute and remove the Feed Out Chute from the Tray 3 Feeder Assembly-STM.

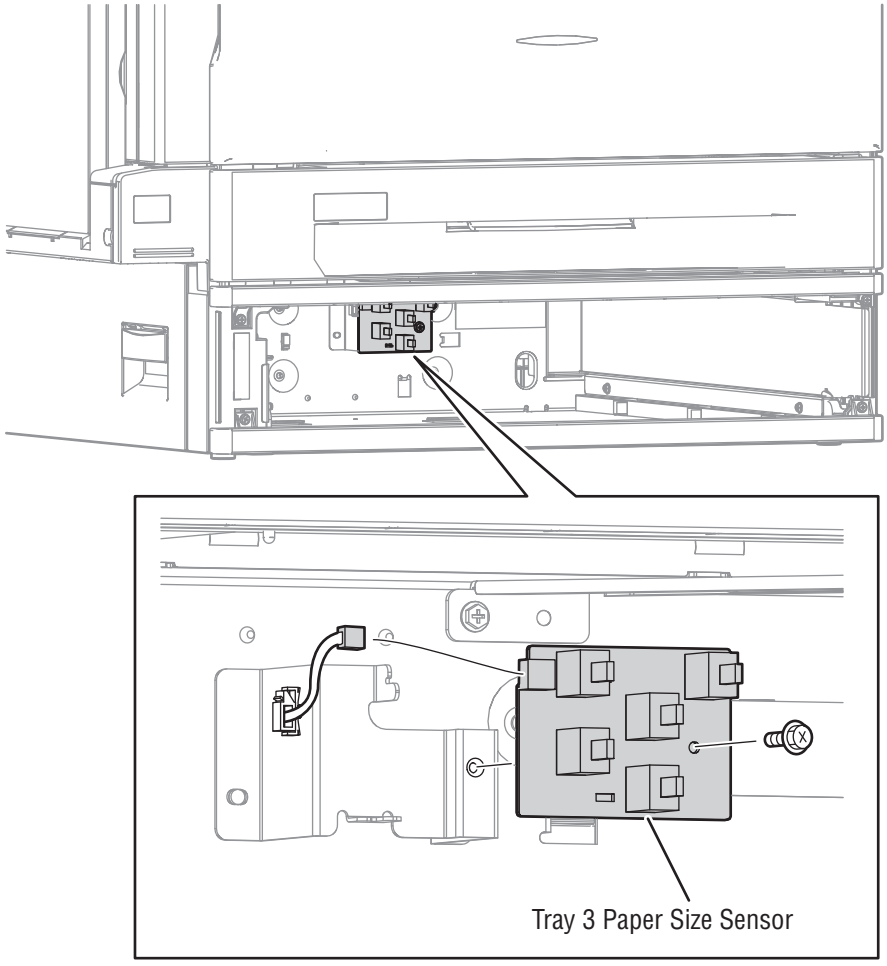


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REP 11.2 Tray 3 Paper Size Sensor

PL11.1.14

1. Remove the Tray Assembly from the Tray Module (1T).
2. Disconnect the wiring harness connector P/J101 that is connected to the Tray 3 Paper Size Sensor.
3. Remove 1 screw (silver, 8mm) that secures the Tray 3 Paper Size Sensor to the Tray Module (1T).
4. Remove the Tray 3 Paper Size Sensor from the hooks at the installation area.

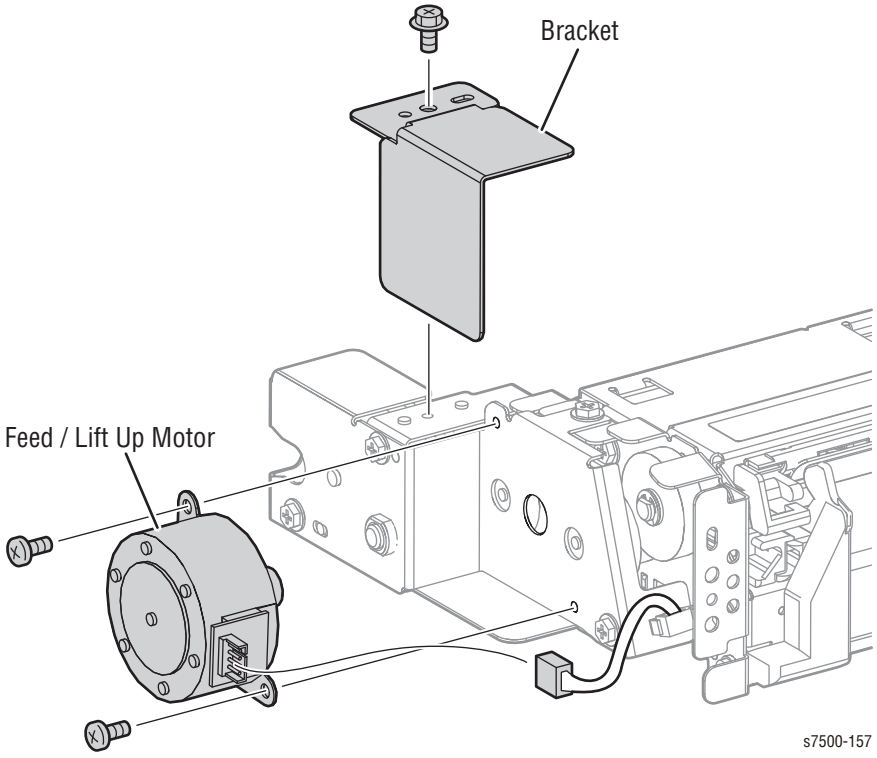


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REP 11.3 Tray 3 Feed/ Lift Up Motor

PL10.3.3

1. Remove the Tray 3 Feeder Assembly-STM (REP 11.1, page 8-112).
2. Disconnect the wiring harness connector P/J221 that is connected to the Feed/ Lift Up Motor.
3. Remove 2 screws (silver, 6mm) that secure the Feed/ Lift Up Motor to the Tray 3 Feeder Assembly-STM and remove the Feed/ Lift Up Motor.

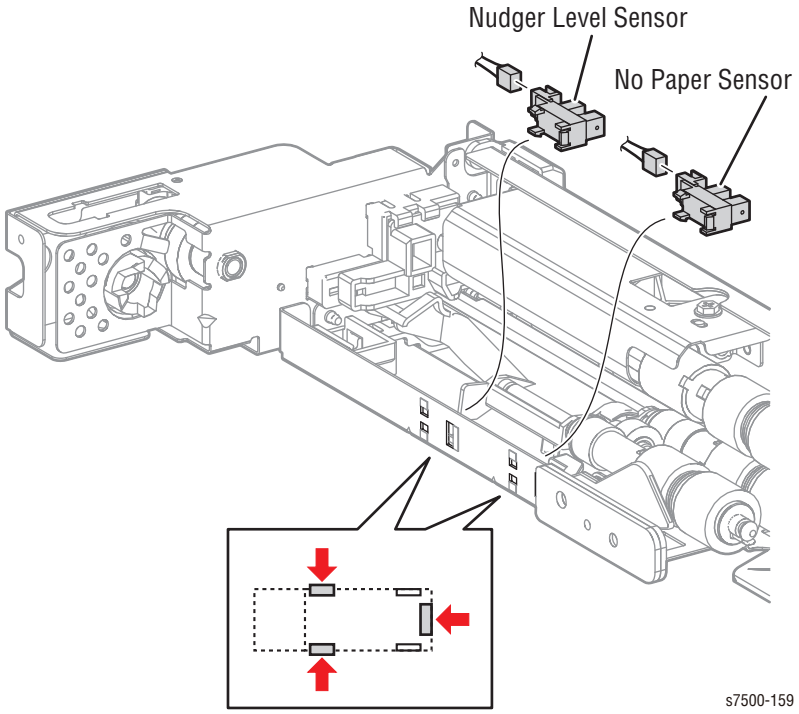


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REP 11.5 Tray 3 Nudger Level Sensor/ Tray 3 No Paper Sensor

PL10.3.6

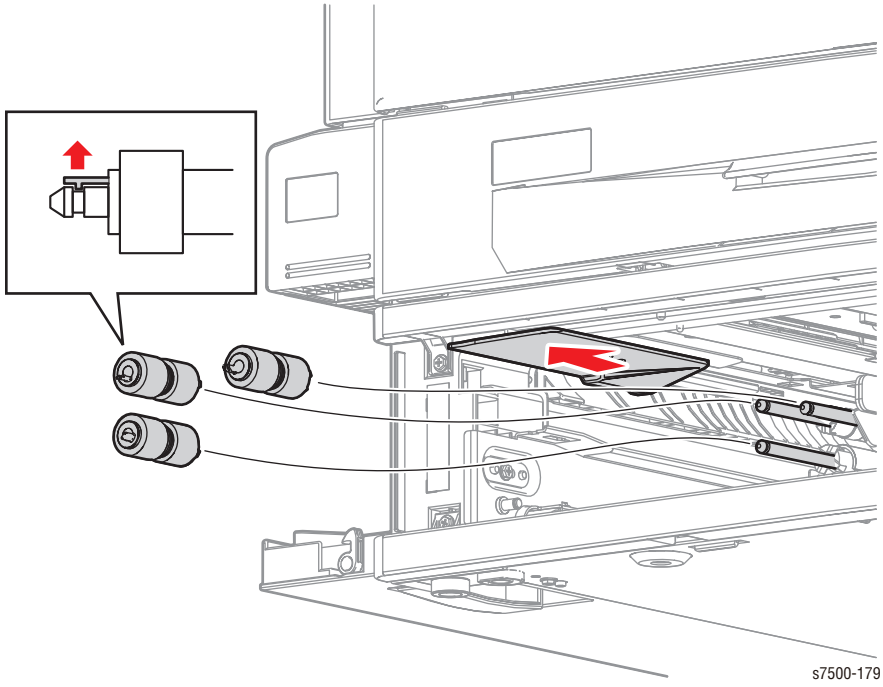
1. Remove the Tray Assembly from the Tray Module (1T).
2. Remove the Tray 3 Feeder Assembly-STM (REP 11.1, page 8-112).
3. Release the 3 hooks that secure the Nudger Level Sensor to the Tray 3 Feeder Assembly-STM and remove the Nudger Level Sensor.
4. Disconnect the wiring harness connector P/J107 that is connected to the Nudger Level Sensor.
5. Release the 3 hooks that secure the No Paper Sensor to the Tray 3 Feeder Assembly-STM and remove the No Paper Sensor.
6. Disconnect the wiring harness connector P/J106 that is connected to the No Paper Sensor.



REP 11.7 Feed Roll/ Retard Roll/ Nudger Roll

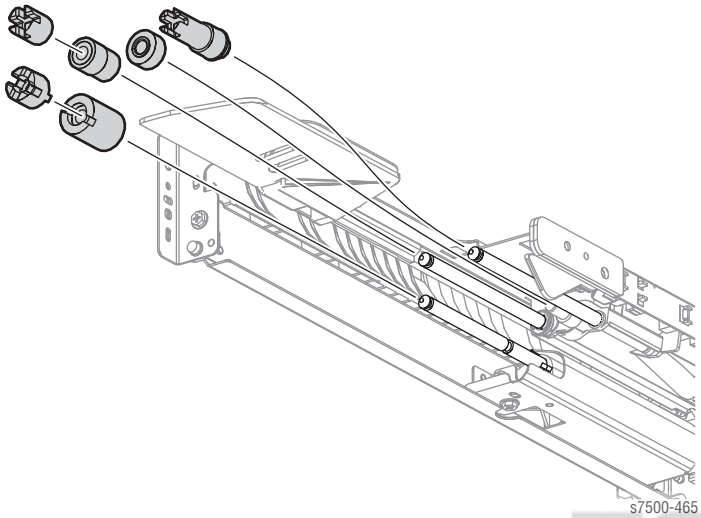
PL10.4.2/ PL10.4.3/ PL10.4.4

1. Remove the Tray Assembly from the Tray Module (1T).
2. Slide the inner upper (looking from the Tray Assembly insertion opening) Chute towards you until it stops.
3. Release the hook of the Feed Roll/ Retard Roll/ Nudger Roll, pull out the Roll from the Shaft and remove it.



Replacement Note

Be sure to reassemble the Rollers as in the illustration. If you find it difficult to reassemble the parts at the base of each Roll, remove the Feeder Assembly to perform the reassembly (REP 11.1, page 8-112).

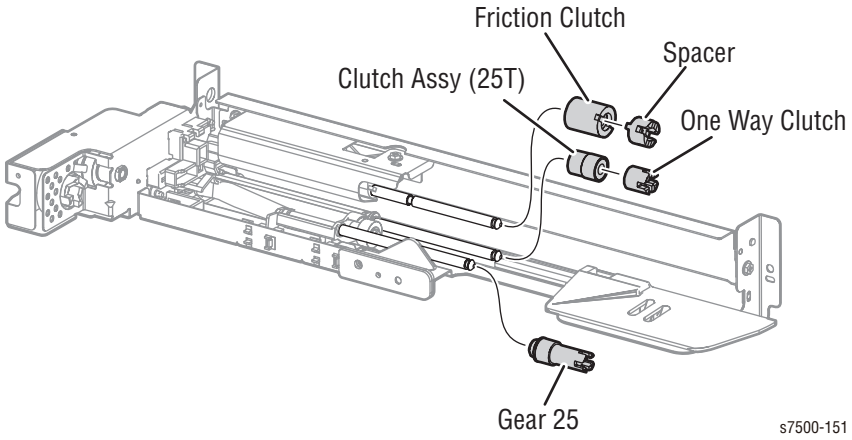


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REP 11.8 Clutch Assy. (28T)/ One-Way Clutch/ Friction Clutch

PL10.4.14. PL10.4.15/ PL10.4.19

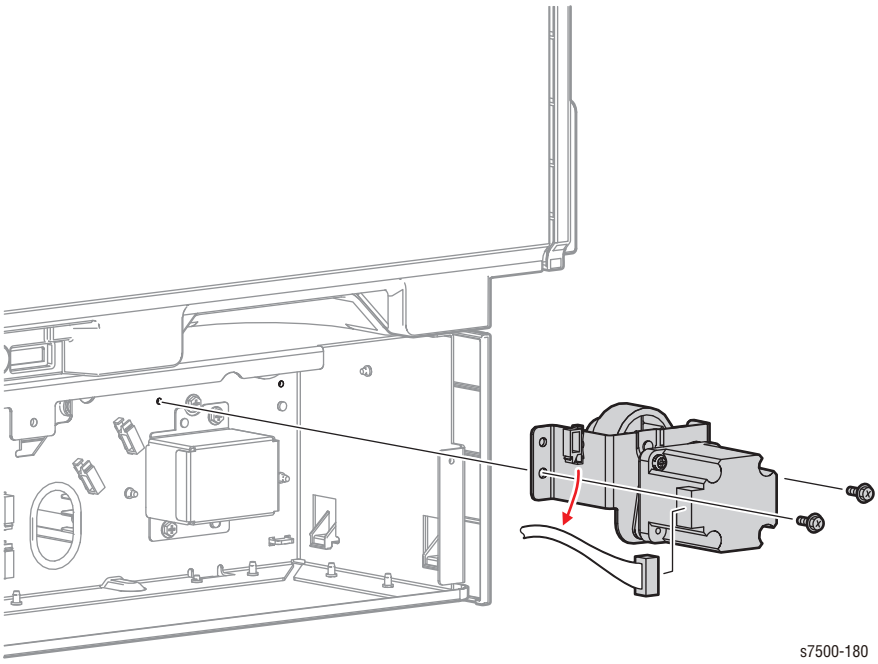
1. Remove the Tray Assembly from the Tray Module (1T).
2. Remove the Feed/ Retard/ Nudger Rollers (REP 11.7, page 8-117).
3. Pull off each Clutch to remove it.



REP 11.9 STM T/A Motor Assembly

PL11.5.2

1. Remove the Rear Cover-STM (REP 11.17, page 8-127).
2. Disconnect the wiring harness connector P/J224 that is connected to the STM T/A Motor Assembly and release the harness from the clamp.
3. Remove 2 screws (silver, 8mm) that secure the STM T/A Motor Assembly to the Tray Module (1T).
4. Release the shaft of the STM T/A Motor Assembly from the hole of the Tray Module (1T) and remove the STM T/A Motor Assembly.

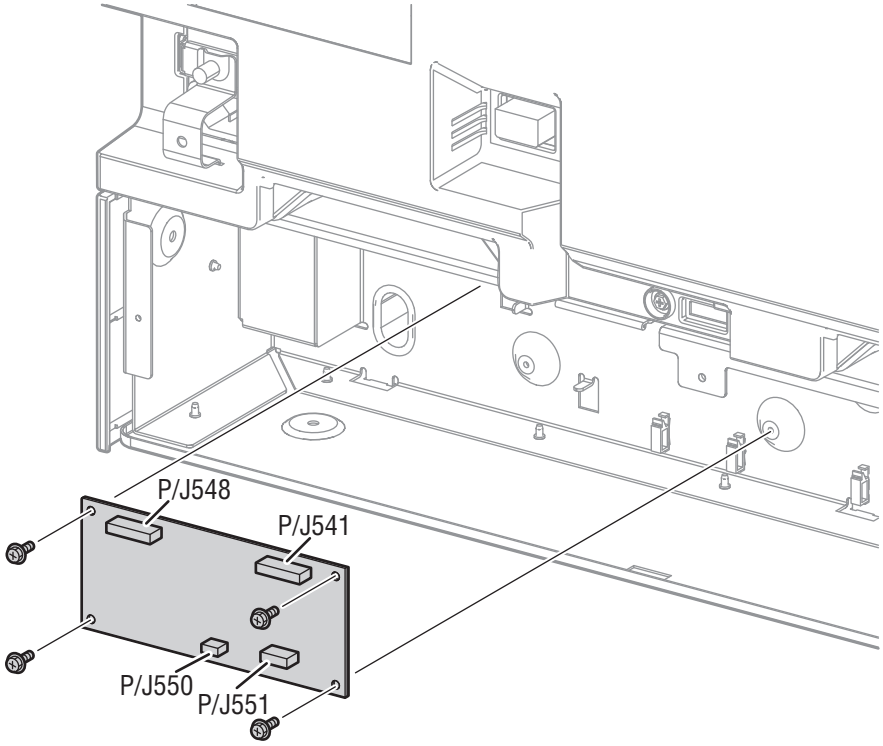


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REP 11.10 500-Sheet Feeder PWB

PL11.5.4

1. Remove the Rear Cover-STM (REP 11.17, page 8-127).
2. Disconnect the 4 wiring harness connectors (P/J541, P/J548, P/J550, and P/J551) that are connected to the STM PWB.
3. Remove 4 screws (silver, 8mm) that secure the STM PWB to the Tray Module (1T) and remove the STM PWB.

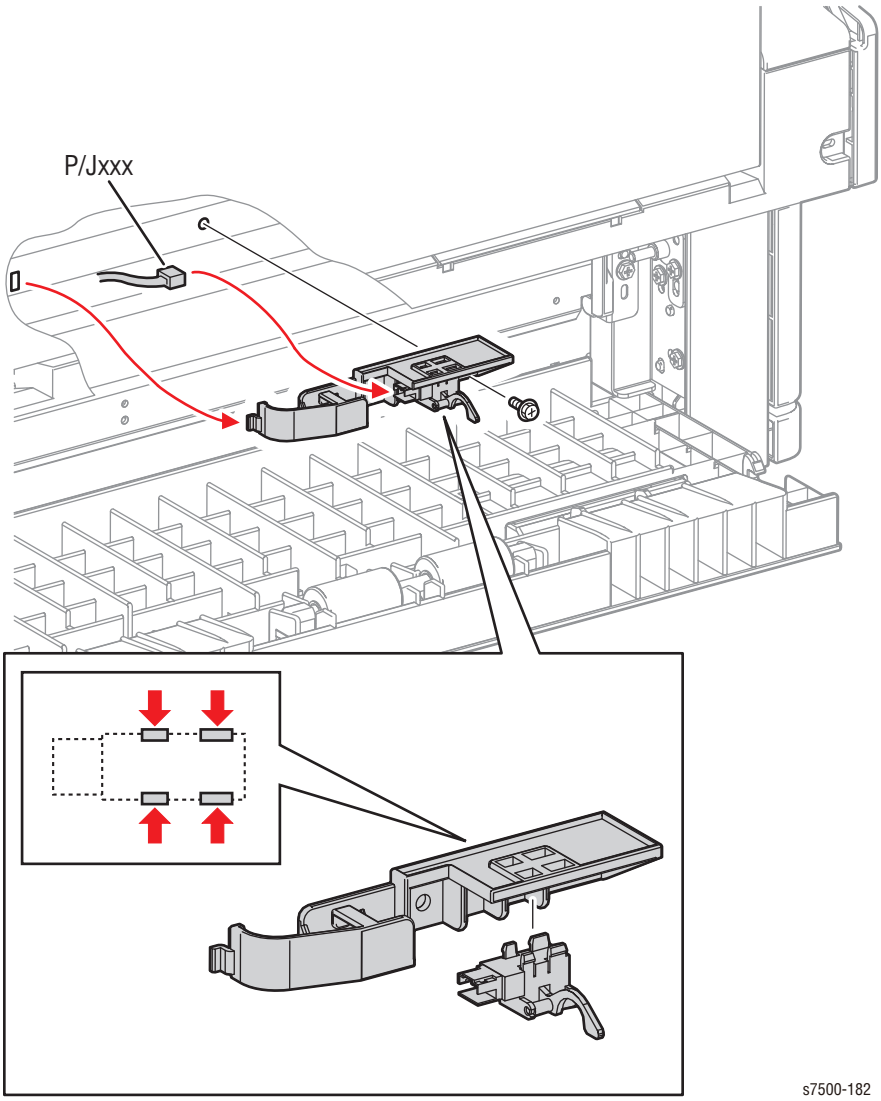


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REP 11.11 Tray 3 Feed Out Sensor

PL11.6.3

1. Remove the STM Take-away Roll Assembly (REP 11.14, page 8-124).
2. Disconnect the wiring harness connector P/J108 that is connected to the Tray 3 Feed Out Sensor.
3. Remove 1 screw (silver, 8mm) that secures the Sensor Guide to the Tray Module (1T) and remove the Sensor Guide.
4. Release the 4 hooks that secure the Tray 3 Feed Out Sensor to the Sensor Guide and remove the Tray 3 Feed Out Sensor.

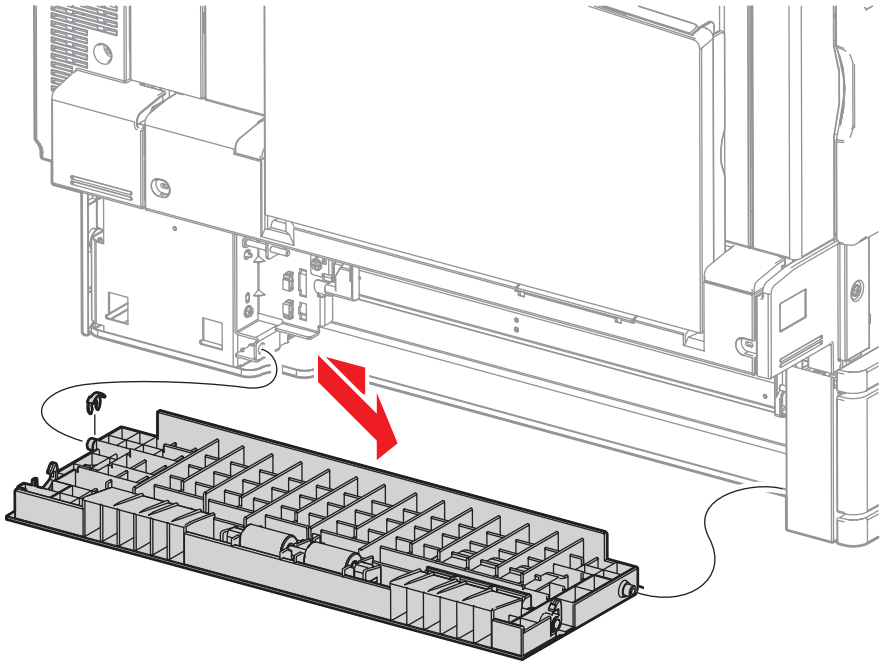


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REP 11.12 L/H Cover Assembly-STM

PL11.6.6

1. Remove the Left Cover-STM (REP 11.16, page 8-126).
2. Open the L/H Cover Assembly-STM and remove the KL Clip.
3. Slide the L/H Cover Assembly-STM to the rear to release the front boss, then release the rear boss to remove the L/H Cover Assembly-STM.



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REP 11.13 Handle/ Latch/ Hook

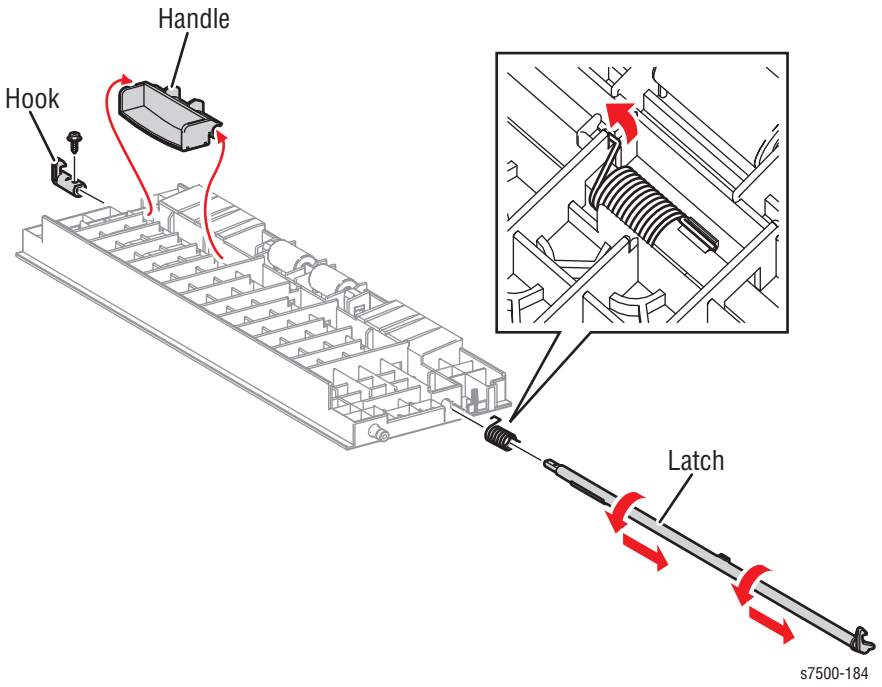
PL11.6.9/ PL11.6.10/ PL11.6.11

1. Remove the Left Cover-STM (REP 11.16, page 8-126).
2. Remove the L/H Cover Assembly-STM (REP 11.12, page 8-122).
3. Unhook the spring from the rib of the L/H Cover-STM.
4. Remove 1 screw (silver, Tapped, 8mm) that secures the hook and remove the hook.

Note

When pulling out the latch in the following step, you may meet some resistance at several locations. When that happens, slide the latch sideways until it stops and rotate it. Once the resistance is gone, slide it further. Repeat this procedure until it is completely removed.

5. Pull the latch sideways and remove the handle and the spring. Pull the latch all the way until it is removed.



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REP 11.14 STM T/A Roll Assembly

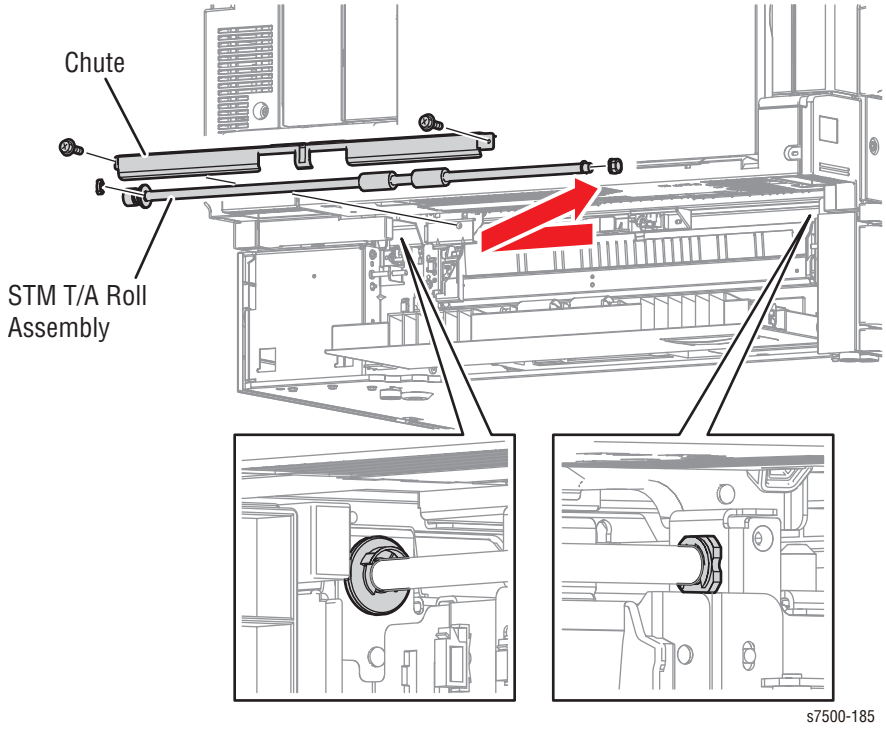
PL11.6.16

1. Remove 2 screws (silver, 8mm) that secure the Chute to the Tray Module (1T) and remove the Chute.
2. Remove the KL Clip that secures the STM T/A Roll Assembly to the Tray Module (1T).

Note

When performing the following step, be careful not to drop the Sleeve Bearing.

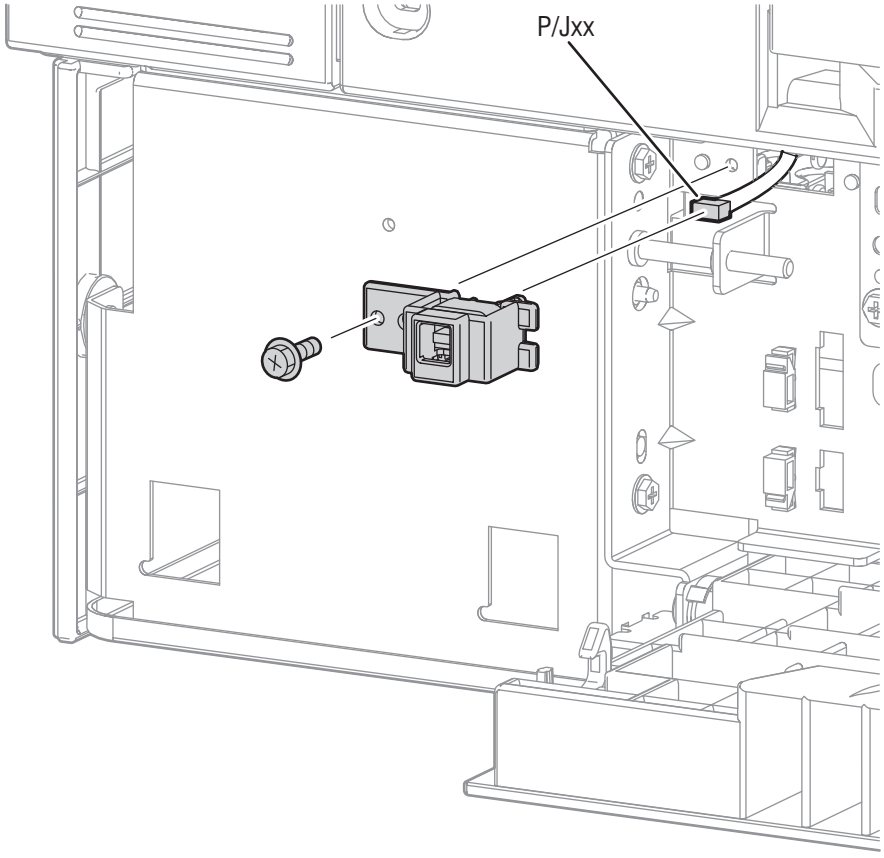
3. Slide the STM T/A Roll Assembly to the rear to remove the front Sleeve Bearing from the hole, and then tilt the front side of the STM T/A Roll Assembly towards you to remove the STM T/A Roll Assembly.



REP 11.15 STM L/H Cover Interlock Switch

PL11.6.5

1. Remove the Left Cover-STM (REP 11.16, page 8-126).
2. Remove 1 screw (silver, 8mm) that secures the Bracket (PL 11.6.18) to the Tray Module (1T).
3. Disconnect the wiring harness connector P/J104 that is connected to the STM L/H Cover Interlock Switch and remove the Bracket.



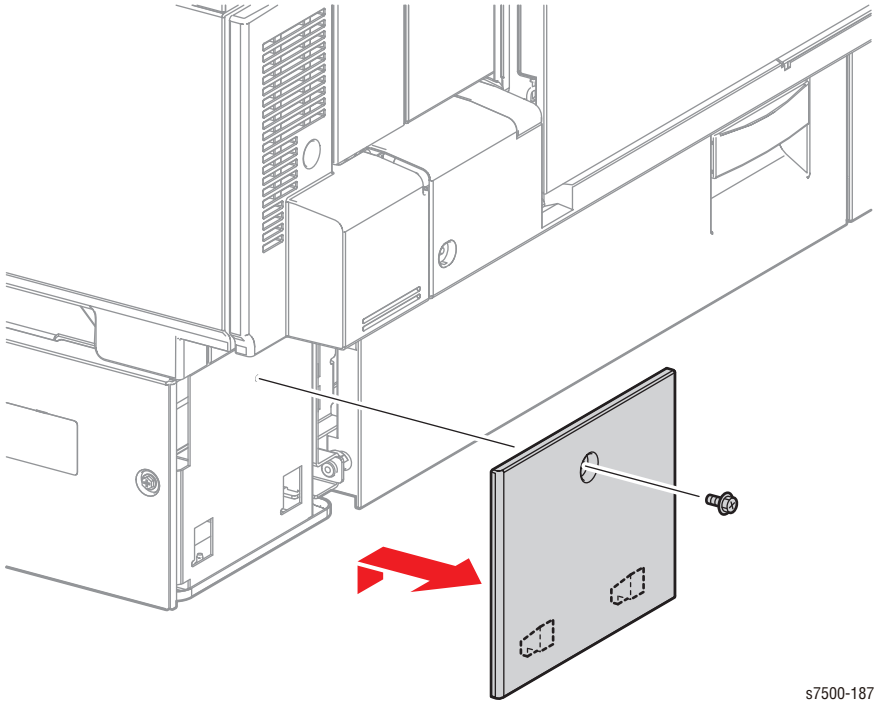
s7500-186

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REP 11.16 Left Cover-STM

PL11.7.1

1. Remove 1 screw (silver, 8mm) that secures the Left Cover-STM to the Tray Module (1T).
2. Lift the Left Cover to release the 2 hooks of the Left Cover-STM and remove it from the Tray Module (1T).



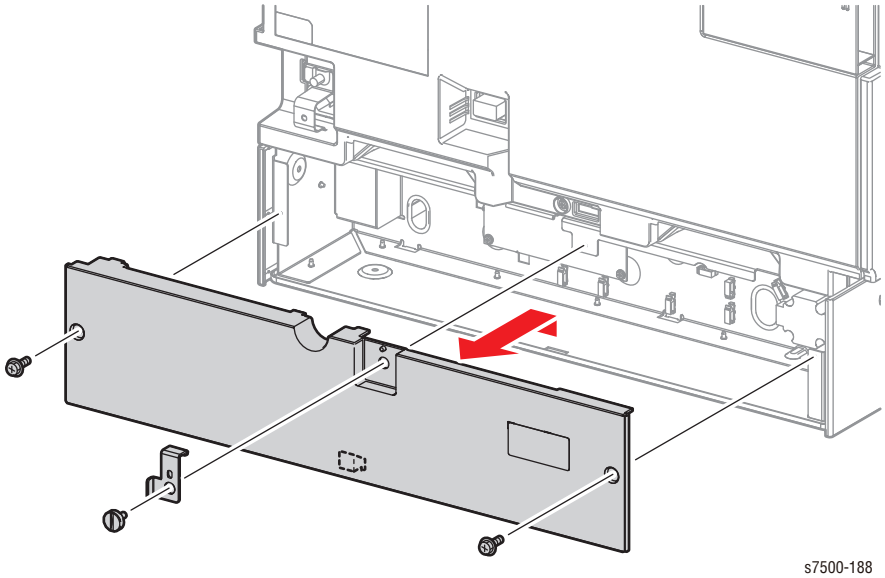
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REP 11.17 Rear Cover-STM

PL11.7.2

1. Remove the Docking Screw that secures the Docking Bracket and remove the Docking Bracket.
2. Remove 2 screws (silver, 8mm) that secure the Rear Cover-STM to the Tray Module (1T).
3. Lift the Rear Cover to release the hook of the Rear Cover-STM and remove it from the Tray Module (1T).

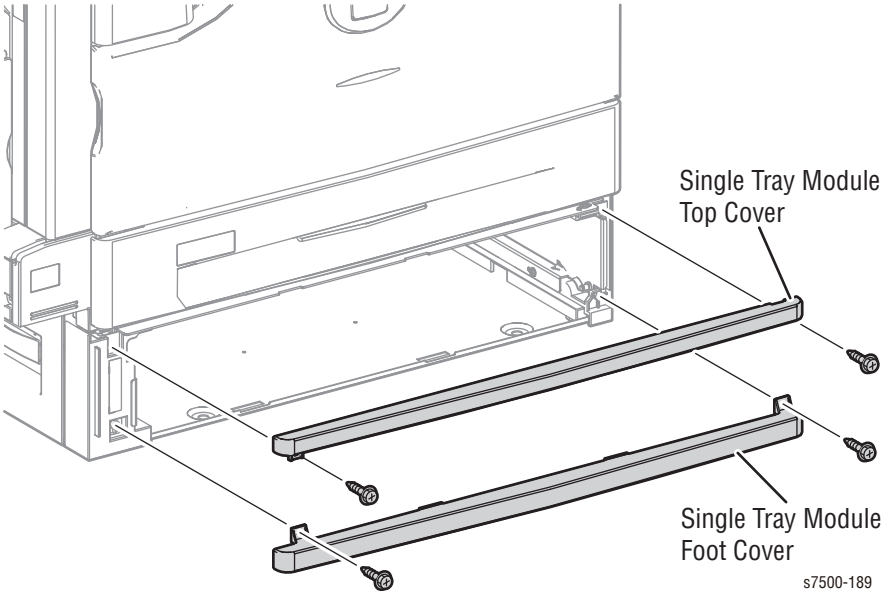


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REP 11.18 Top Cover-STM/ Front Cover-STM

PL11.7.3/ PL11.7.4

1. Remove the Tray Assembly from the Tray Module (1T).
2. Remove 2 screws (silver, Tapped, 8mm) that secure the Top Cover-STM to the Tray Module (1T).
3. Remove the Top Cover-STM from the Tray Module (1T).
4. Remove 2 screws (silver, Tapped, 8mm) that secure the Foot Cover-STM to the Tray Module (1T).
5. Remove the Foot Cover-STM from the Tray Module (1T).



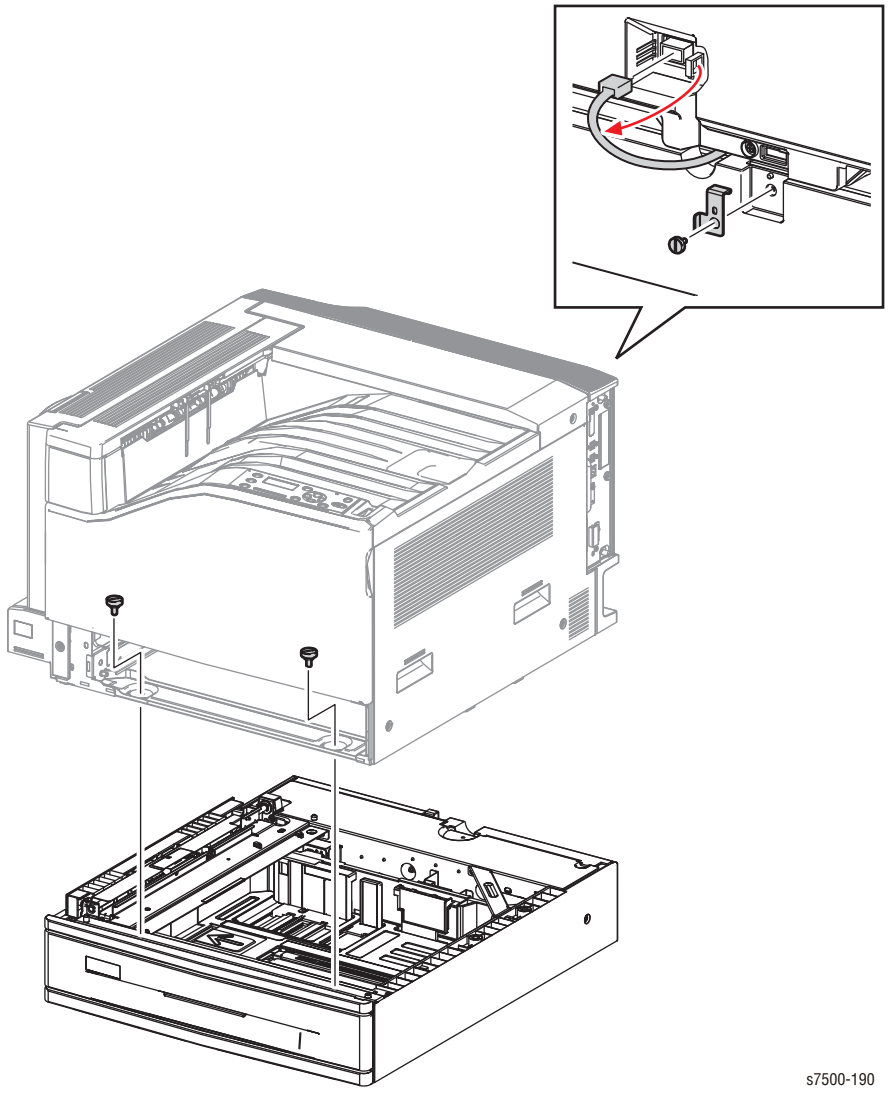
REP 11.19 Tray Module (1T) (500-Sheet Feeder)

PL11.1.4

Warning

The printer is heavy and must be lifted by three people. Use safety lifting and handling techniques when moving the printer (refer to "Moving the Printer" on page xxvii).

1. Remove the Tray Assembly from the printer.
2. Release the clamp and remove the harness.
3. Disconnect the wiring harness connector that connects the Tray Module (1T) to the printer.
4. Remove the Docking Screw of the Docking Bracket at the rear that connect the Tray Module (1T) to the printer.
5. Remove 2 Docking Screws at the front that connect the Tray Module (1T) to the printer, lift up the printer and remove the Tray Module (1T).



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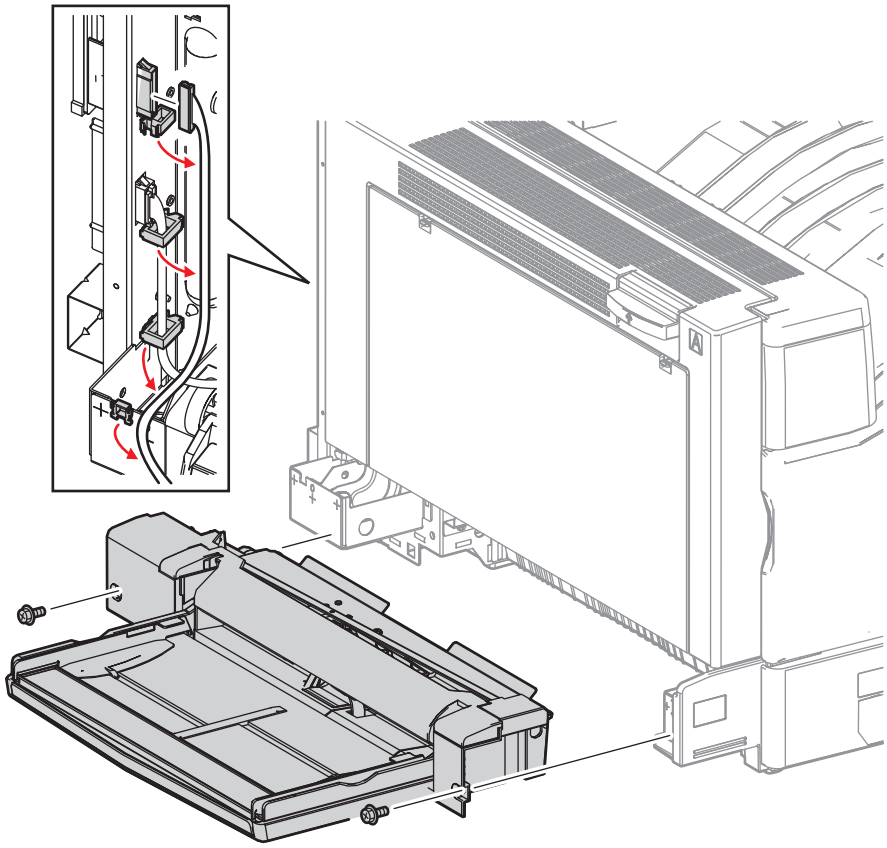
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Tray 1 (MPT)

REP 13.1 Tray 1 Feeder Assembly

PL13.1.1

1. Remove the Top Rear Cover and the Rear Cover (REP 19.6, page 8-217).
2. Remove the Left Rear Cover (REP 19.4, page 8-215).
3. Open the Left Hand Cover Assembly.
4. Remove the wiring harness that is connected to the Tray 1 Feeder Assembly from the 4 clamps.
5. Disconnect the wiring harness connector that is connected to the Tray 1 Feeder Assembly.
6. Close the Left Hand Cover Assembly (Door A).
7. Remove 2 screws (silver, 8mm) that secure the Tray 1 Feeder Assembly to the printer and remove the Tray 1 Feeder Assembly.



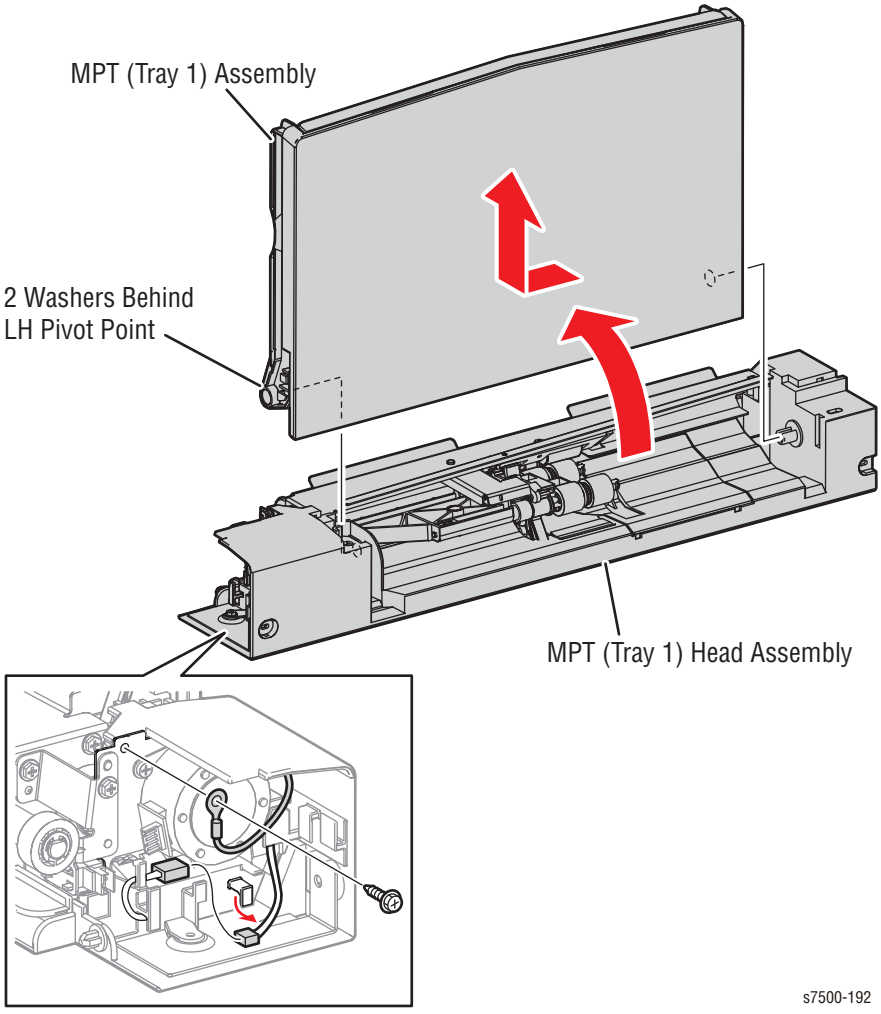
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REP 13.2 Tray 1 Head Assembly/ Tray 1 Assembly

PL13.1.2/ PL13.1.3

1. Remove the Top Rear Cover and the Rear Cover (REP 19.6, page 8-217).
2. Remove the Left Rear Cover (REP 19.4, page 8-215).
3. Remove the Tray 1 Feeder Assembly (REP 13.1, page 8-130).
4. Remove the Tray 1 Top Cover (REP 13.5, page 8-134).
5. Remove 1 screw (silver, Tapped, 8mm) that secures the Ground Wire and disconnect the Ground Wire.
6. Disconnect the wiring harness connector that is connected from the Tray 1 Assembly, and pass the harness and the Ground Wire through the hole.
7. Raise the Tray 1 Assembly by 90˚, slide it towards the rear, remove the installation holes from the 2 bosses, and remove the Tray 1 Assembly.

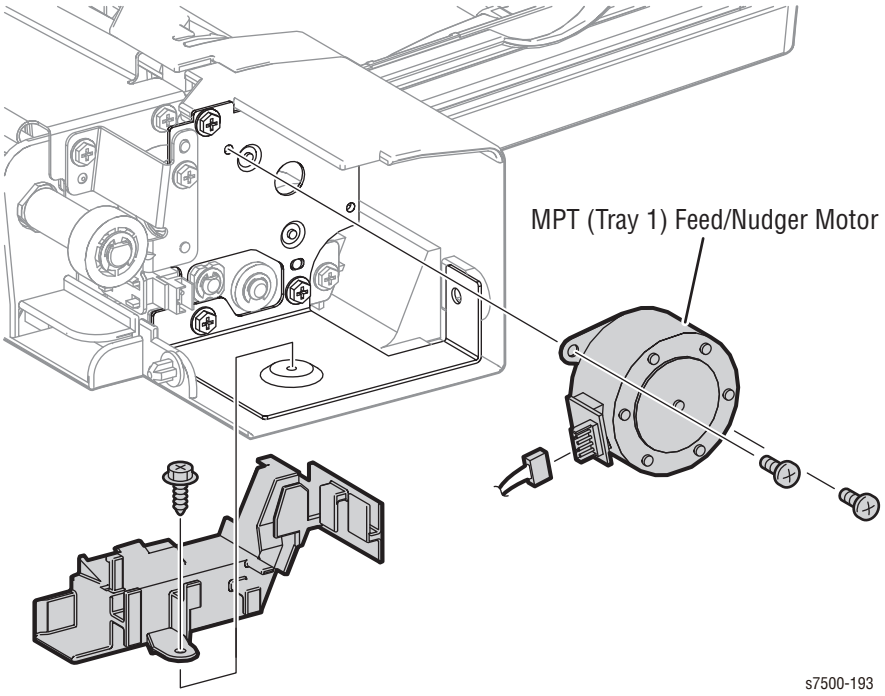


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REP 13.3 Tray 1 Feed/ Nudger Motor

PL13.2.18

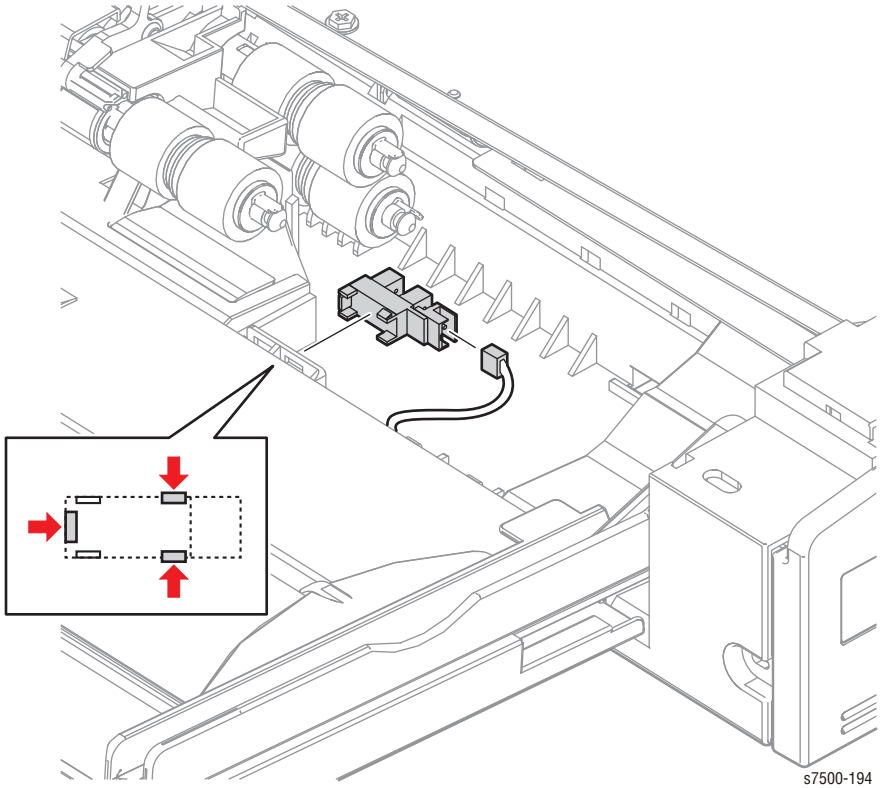
1. Remove the Tray 1 Feeder Assembly (REP 13.1, page 8-130).
2. Remove 1 screw (silver, Tapped, 8mm) that secures the Harness Holder and slide the Harness Holder towards you to remove it.
3. Disconnect the wiring harness connector that is connected to the Tray 1 Feed/ Nudger Motor.
4. Remove 2 screws (silver, 6mm) that secure the Tray 1 Feed/ Nudger Motor and remove the Tray 1 Feed/ Nudger Motor.



REP 13.4 Tray 1 No Paper Sensor

PL13.4.17

1. Remove the Tray 1 Top Cover (REP 13.5, page 8-134).
2. Insert your finger tip into the square hole to remove the Chute (see REP 13.6, page 8-135, step #2).
3. Disconnect the wiring harness connector that is connected to the Tray 1 No Paper Sensor.
4. Release the 3 hooks that secure the Tray 1 No Paper Sensor and remove the Tray 1 No Paper Sensor.

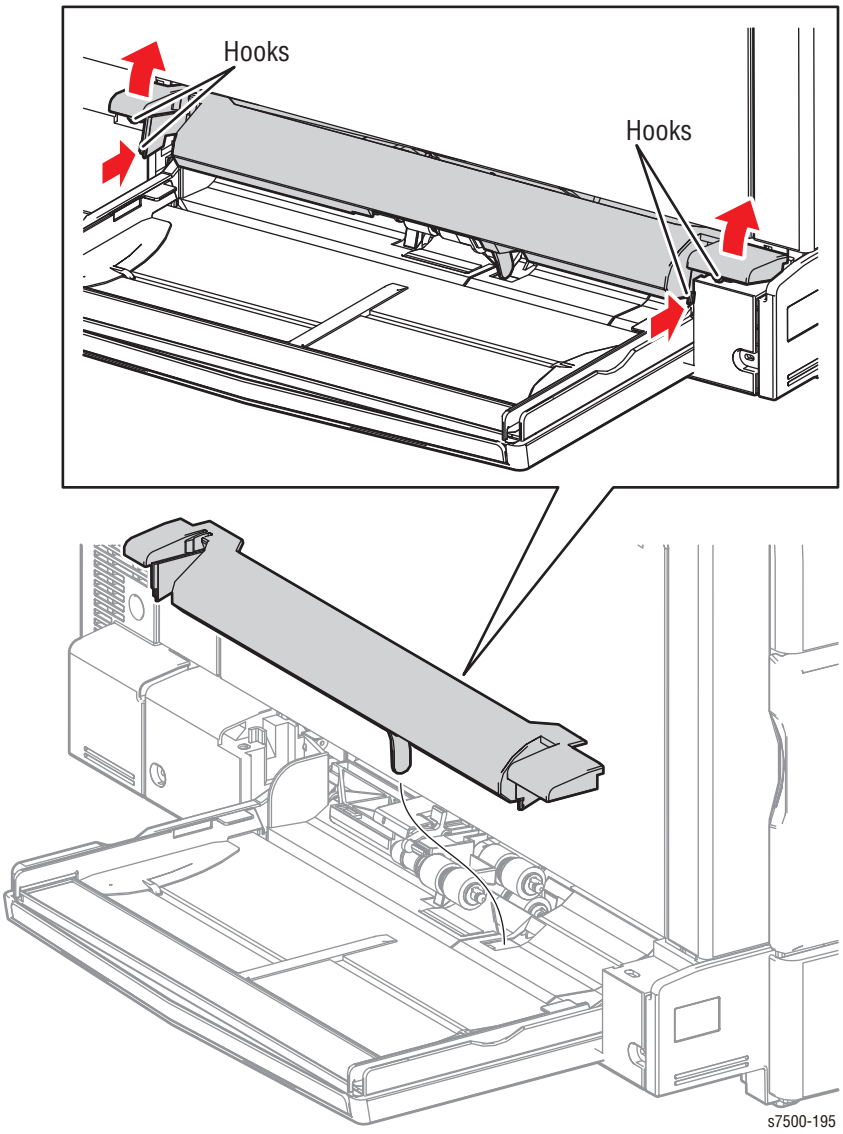


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REP 13.5 Tray 1 Top Cover

PL13.2.21

1. Insert a Flat Head Screwdriver through the gap between the edges of the Top Cover (arrow locations in the illustration) to release the hook, and move the Top Cover towards you and upwards to remove.



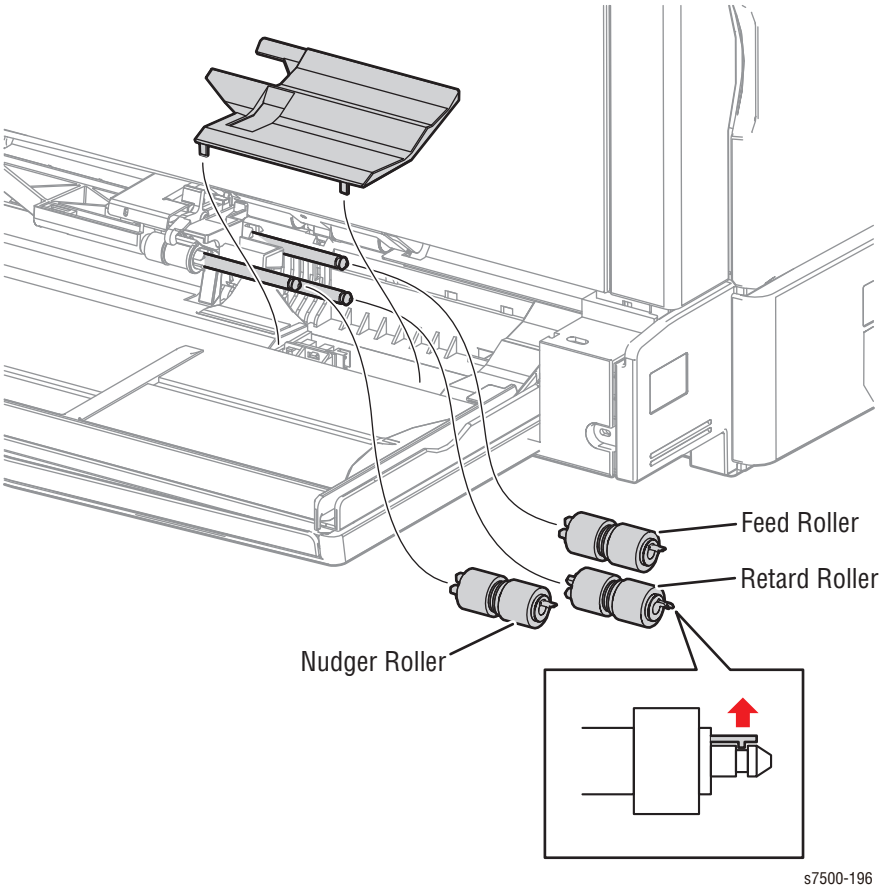
Replacement Note

Be sure to install the Tray 1 Top Cover with the Actuator inserted into the hole.

REP 13.6 Feed Roll/ Retard Roll/ Nudger Roll

PL13.3.17/ PL13.4.7

1. Remove the Top Cover (REP 13.5, page 8-134).
2. Insert your finger tip into the square hole to remove the Chute.
3. Release the hook of the Feed Roll/ Retard Roll/ Nudger Roll, pull out the Roll from the Shaft and remove it.

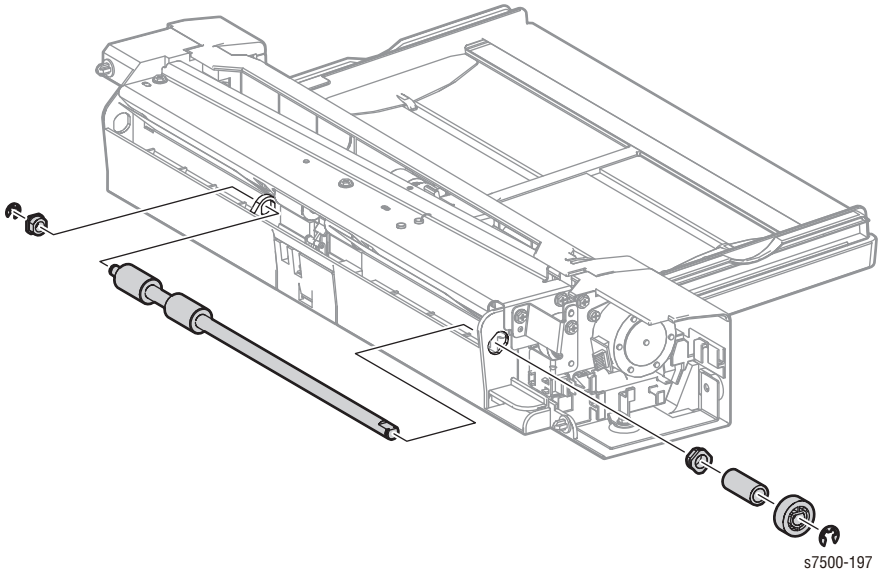


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REP 13.7 Drive Roll Assembly

PL13.4.10

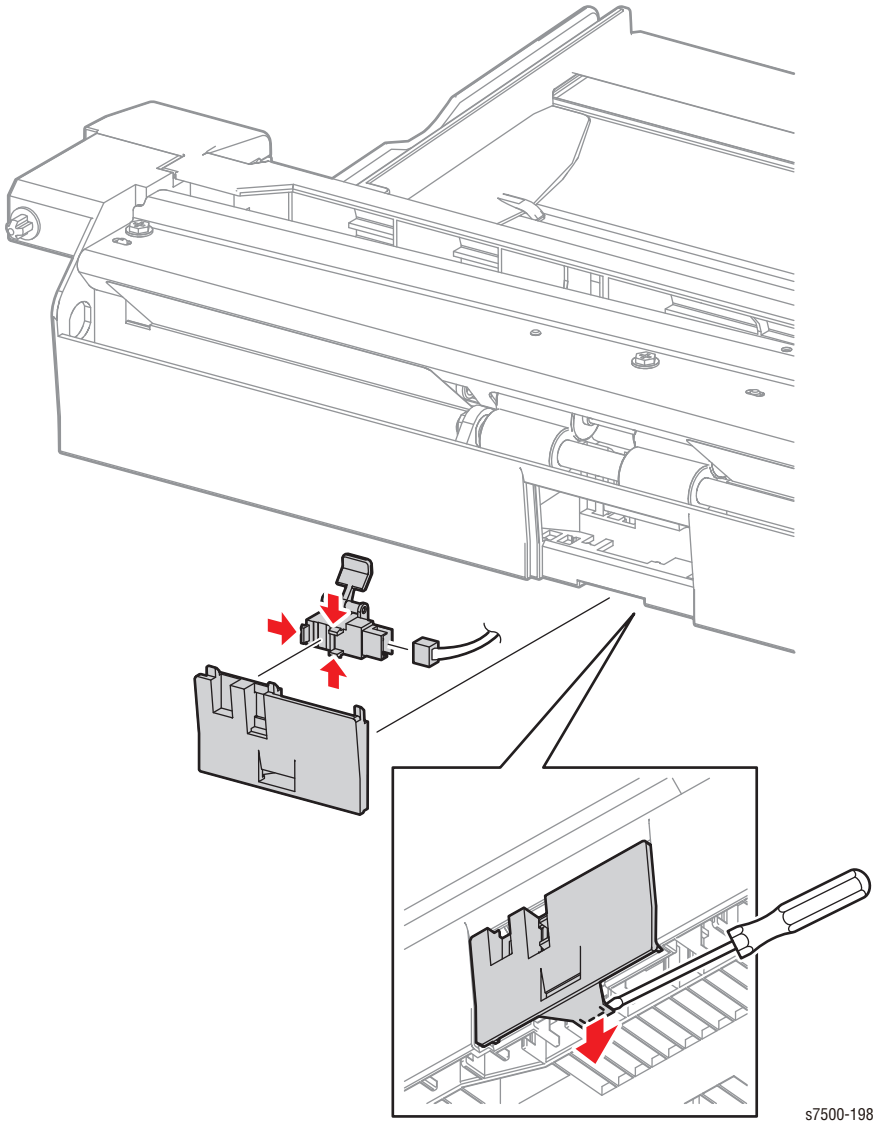
1. Remove the Tray 1 Feeder Assembly (REP 13.1, page 8-130).
2. Remove the E-ring that secures the Gear.
3. Remove the Gear/ Collar/ Sleeve Bearing from the tip of the Drive Roll Assembly shaft.
4. Remove the E-ring that secures the Sleeve Bearing from the other tip of the Drive Roll Assembly shaft and remove the Sleeve Bearing.
5. Shift the Drive Roll Assembly to the rear temporarily, and remove the Drive Roll Assembly.



REP 13.8 Tray 1 Feed Out Sensor

PL13.4.16

1. Remove the Tray 1 Feeder Assembly (REP 13.1, page 8-130).
2. Use a flat tip screwdriver to release the hook of the Sensor Plate that is located under the Tray 1 Feeder Assembly, and remove the Sensor Plate.
3. Disconnect the wiring harness connector that is connected to the Tray 1 Feed Out Sensor.
4. Release the 3 hooks that secure the Tray 1 Feed Out Sensor and remove the Tray 1 Feed Out Sensor.

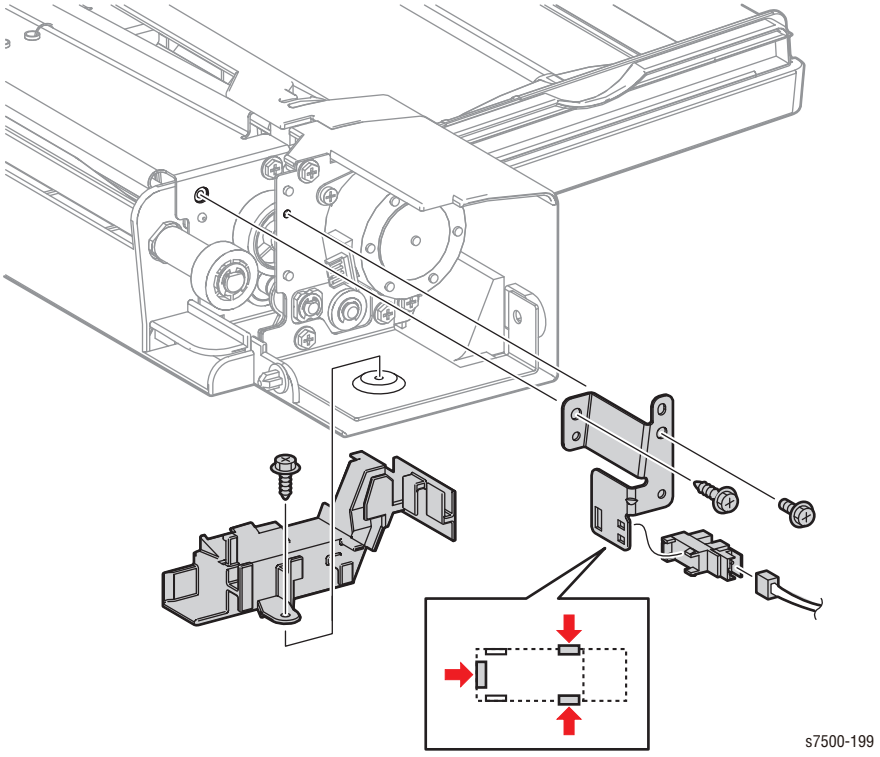


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REP 13.9 Tray 1 Nudger Position Sensor

PL13.2.20

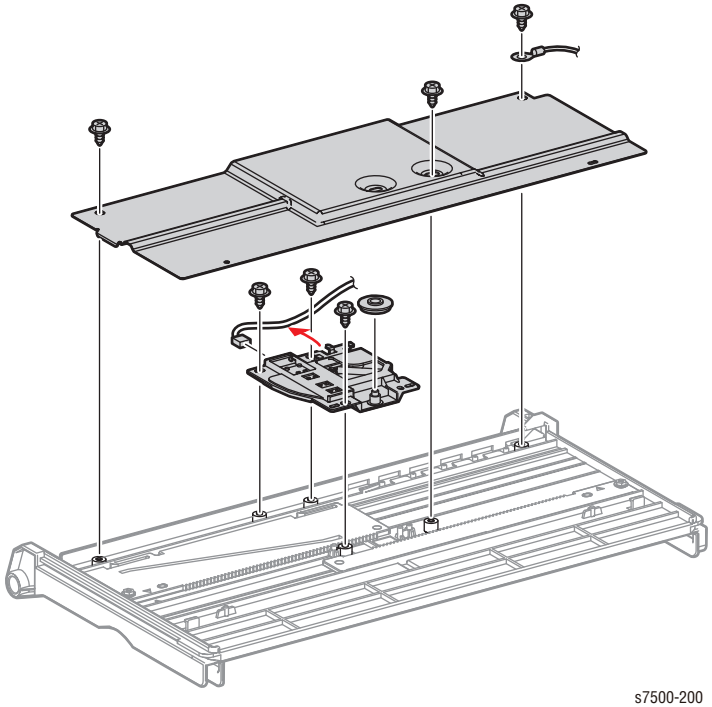
1. Remove the Tray 1 Feeder Assembly (REP 13.1, page 8-130).
2. Remove 1 screw (silver, Plastic Tapped, 8mm) that secures the Harness Holder and slide the Harness Holder towards you to remove it.
3. Remove 1 screw (silver, Plastic Tapped, 8mm), and 1 screw (silver, 6mm) that secure the Sensor Bracket Assembly and remove the Sensor Bracket Assembly. You may have to rotate the gear to move the flag out of the sensor.
4. Disconnect the wiring harness connector that is connected to the Tray 1 Nudger Position Sensor.
5. Release the 3 hooks that secure the Tray 1 Nudger Position Sensor and remove the Tray 1 Nudger Position Sensor.



REP 13.10 Tray 1 Paper Size Sensor

PL13.5.4

1. Remove the Extension Tray (L1) together with the Extension Tray (L2) (REP 13.11, page 8-141).
2. Remove 3 screws (silver, Tapped, 5mm) that secure the Plate, together with the Ground Wire.
3. Raise the right side of the Plate and remove it from the 3 hooks at the front.
4. Remove the Pinion Gear.
5. Remove 3 screws (silver, Plastic Tapped, 5mm) that secure the Tray 1 Paper Size Sensor, and remove the Tray 1 Paper Size Sensor.
6. Release the wiring harness from the Harness Guide and disconnect the wiring harness connector that is connected to the Tray 1 Paper Size Sensor.



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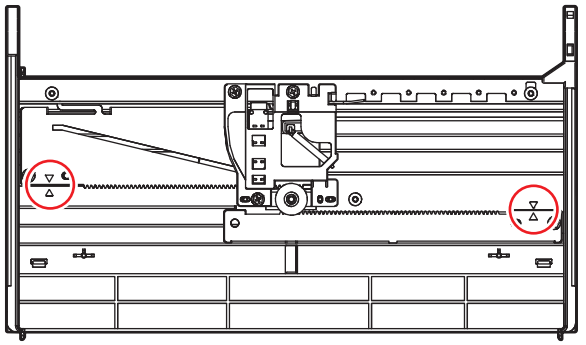
Replacement Note

When installing the Pinion Gear, align the triangular marks of the Front/ Rear Rack to the triangular marks on the Frame.

Push the Front and Rear Guide towards the center about 1/4 inch, enough to clear the metal tab on the Plate.

Make sure the black tip of the variable resistor is in the slanted slot.

Note



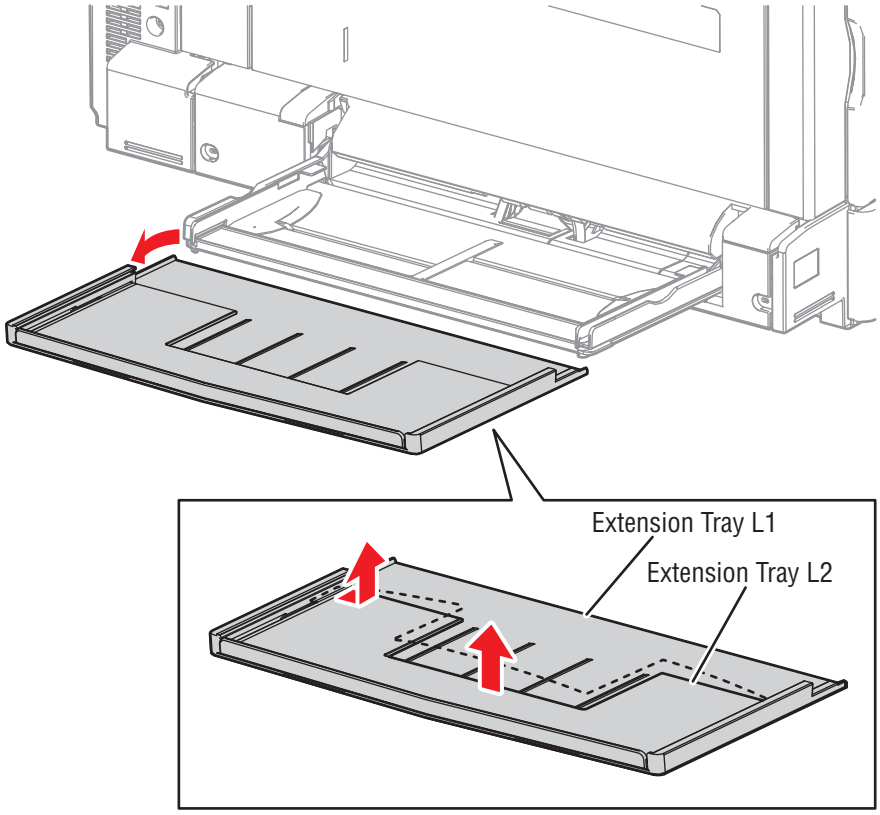
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REP 13.11 Extension Tray (L1)/ Extension Tray (L2)

PL13.5.11/ PL13.5.12

1. Open the Tray 1 Assembly.
2. Pull out the Extension Tray (L1) until it can go no further, remove the Rail at one side followed by the Rail at the other side, and remove the Extension Tray (L1).
3. Bend the center section of the Extension Tray (L2), remove the Rail at the rear followed by the Rail at the other side, and remove the Extension Tray (L2).



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REP 13.12 Upper Frame Assembly

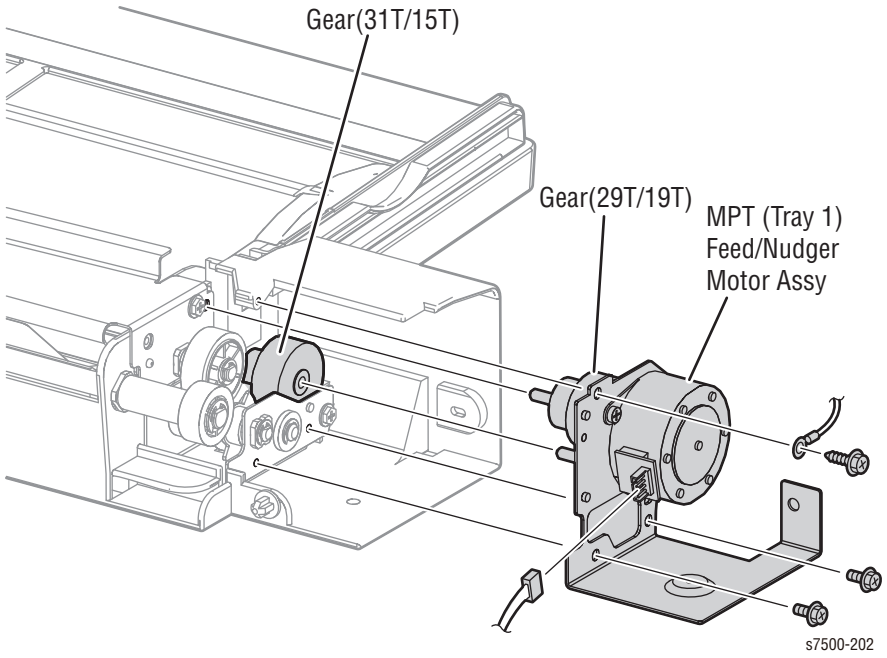
PL13.2.1

1. Remove the Tray 1 Feeder Assembly (REP 13.1, page 8-130).
2. Remove the Tray 1 Nudger Position Sensor (REP 13.9, page 8-138).
3. Disconnect the wiring harness connector that is connected to the Tray 1 Feed/ Nudger Motor.

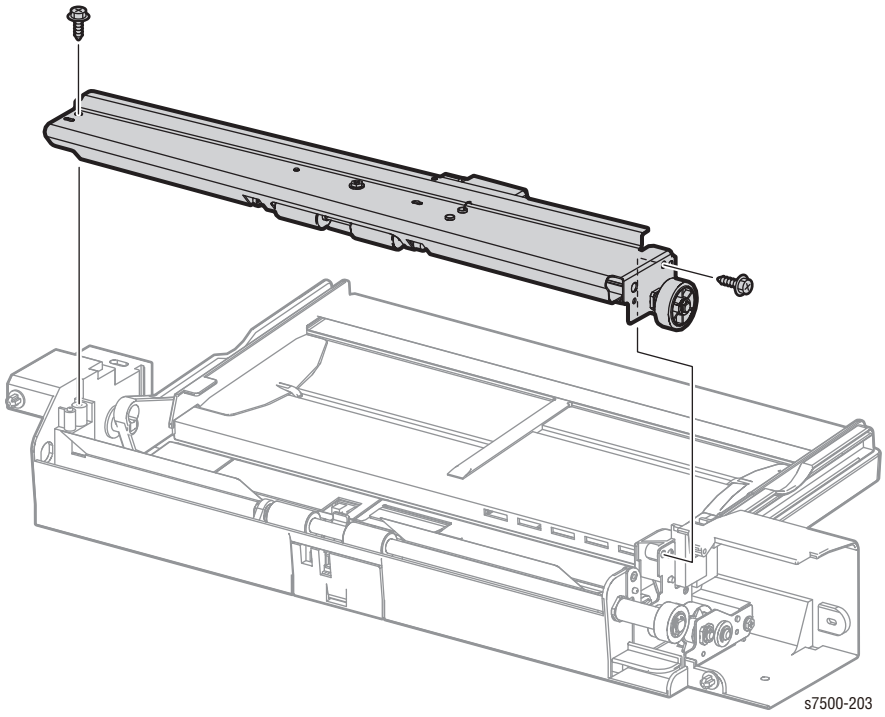
Note

When removing the Tray 1 Feed/ Nudger Motor Assembly in the following step, be careful not to drop the Gear (29T/19T) and Gear (31T/15T) may drop.

4. Remove 3 screws (silver, 6mm, and Silver, Plastic Tapped, 8mm) that secure the Tray 1 Feed/ Nudger Motor Assembly to the Tray 1 Feeder Assembly together with the Ground Wire, and remove the Tray 1 Feed/ Nudger Motor Assembly.
5. Remove the Gear (29T/19T) and Gear (31T/15T).

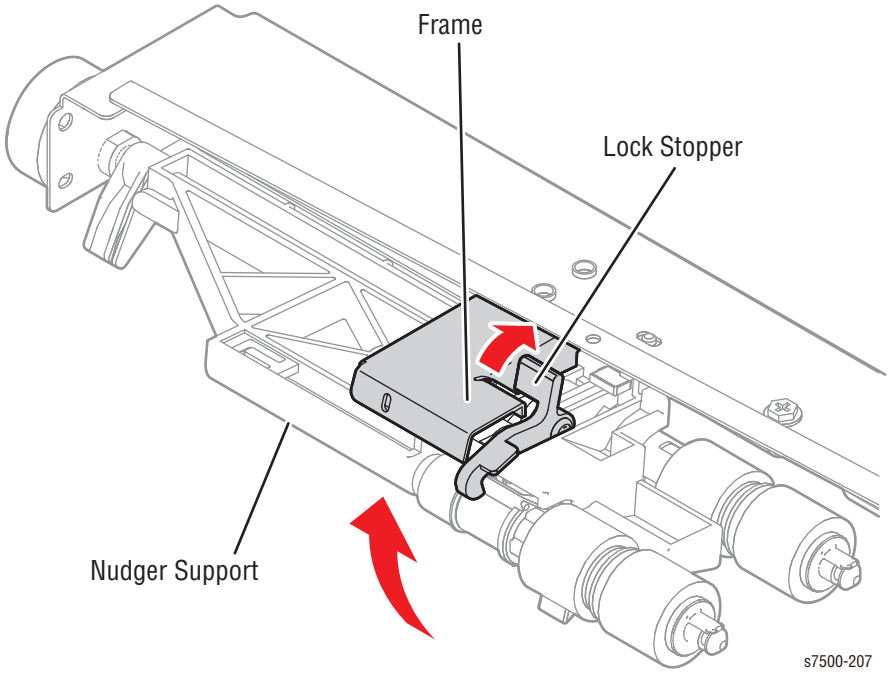


6. Remove 2 screws (silver, Tapped, 8mm) that secure the Upper Frame Assembly to the Tray 1 Feeder Assembly and remove the Upper Frame Assembly.



Replacement Note

When installing the Upper Frame Assembly to the Tray 1 Feeder Assembly, raise the Nudger Support such that the portion of the Lock Stopper is positioned at the inner side of the Frame.

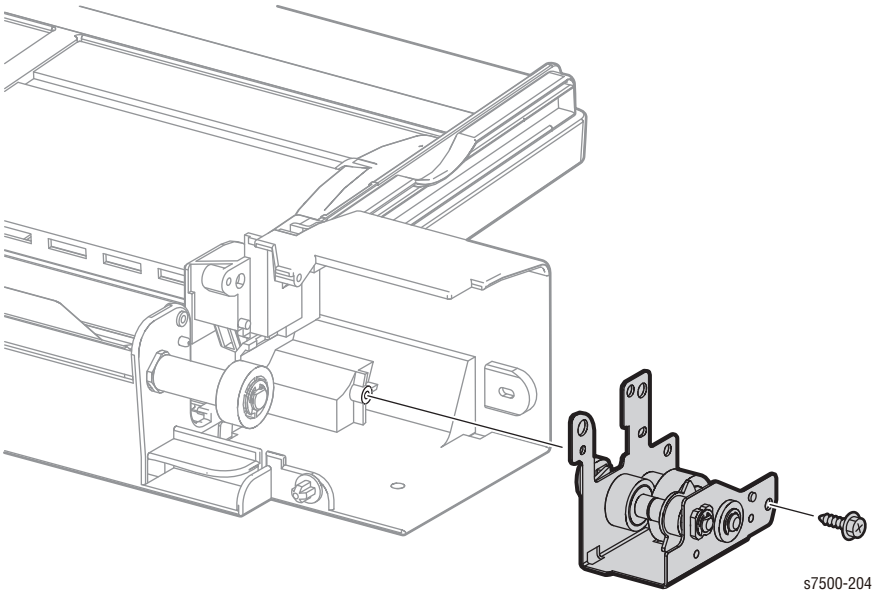


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REP 13.13 Drive Bracket Assembly

PL13.2.3

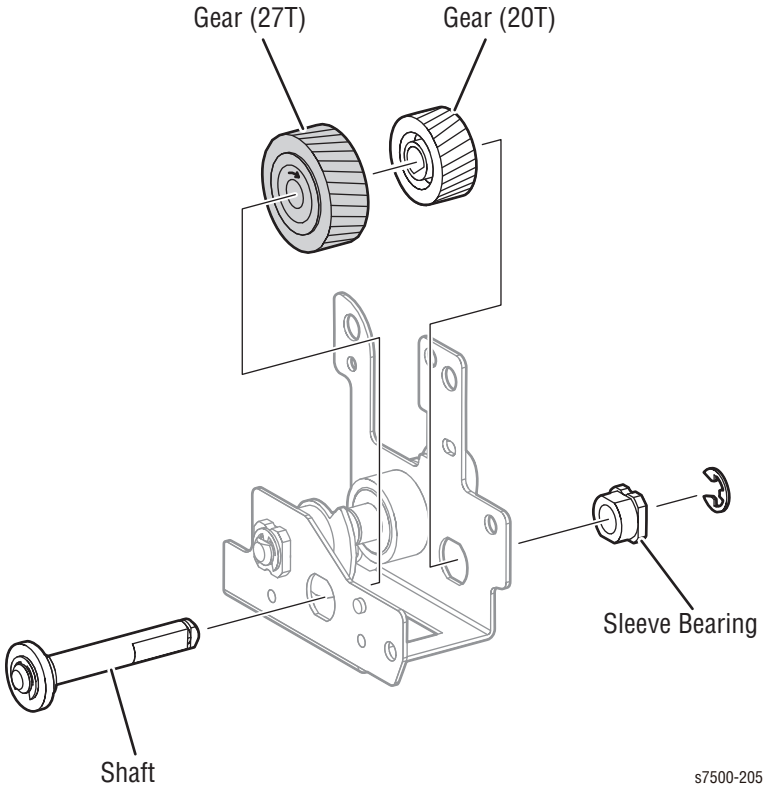
1. Remove the Upper Frame Assembly (REP 13.12, page 8-142).
2. Remove 1 screw (silver, Tapped, 8mm) that secures the Drive Bracket Assembly to the Tray 1 Feeder Assembly and remove the Drive Bracket Assembly.



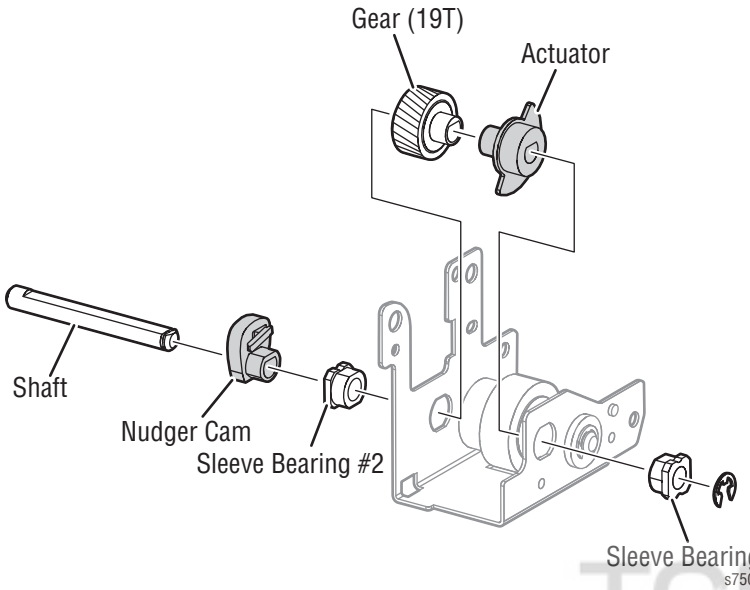
REP 13.14 Gear (27T)/ Nudger Cam/ Actuator

PL13.2.4/ PL13.2.5/ PL13.2.6

1. Remove the Drive Bracket Assembly (REP 13.13, page 8-144).
2. Remove the E-ring and remove the Sleeve Bearing.
3. Pull out the shaft and remove Gear (20T) and Gear (27T).



4. Remove the E-ring and remove the Sleeve Bearing #1.
5. Pull out the shaft and remove the Actuator and Gear (19T).
6. Pull out and remove Sleeve Bearing #2 and the Nudger Cam from the shaft.

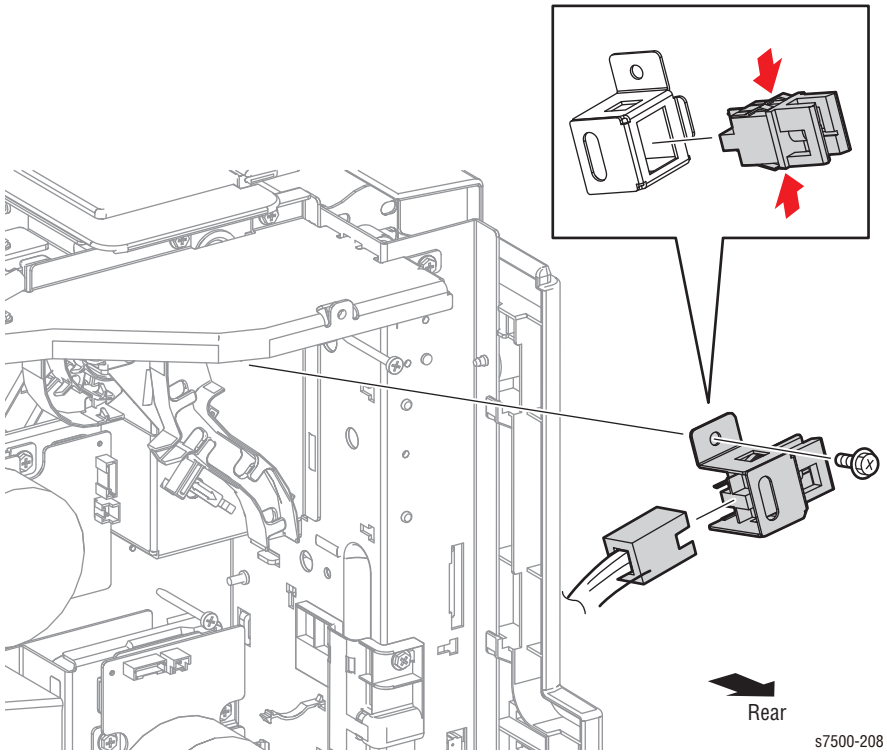


L/H Cover

REP 14.1 Left Hand Cover Interlock Switch

PL14.1.3

1. Remove the Top Rear Cover and the Rear Cover (REP 19.6, page 8-217).
2. Remove the Duct Rear/ Fuser Fan (REP 4.2, page 8-39).
3. Remove 1 screw (silver, 6mm) that secures the Bracket and remove the Bracket.
4. Disconnect the wiring harness connector that is connected to the Left hand Cover Interlock Switch.
5. Release the hooks that secure the L/H Cover Interlock Switch and remove the Left Hand Cover Interlock Switch.



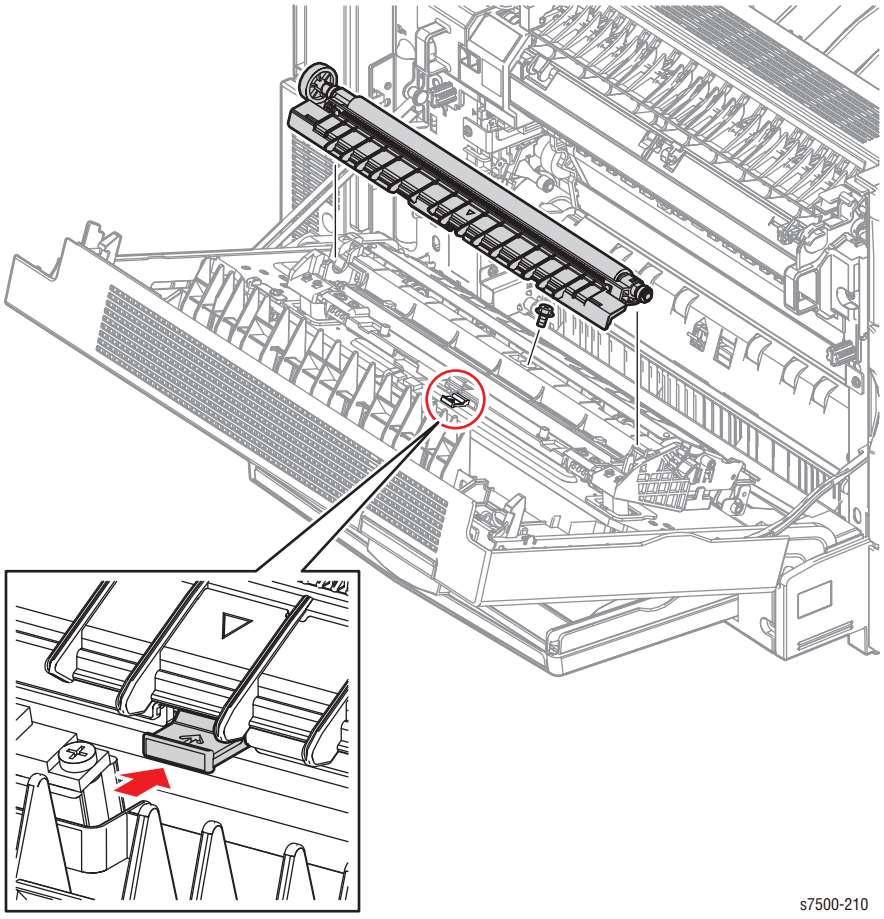
REP 14.2 2nd BTR Assembly

PL14.2.1

Caution

Do not touch the Roll surface of the 2nd BTR Assembly.

1. Open the Left Hand Cover Assembly.
2. Remove 1 screw (silver, 8mm) that secures the Lever to the Left Hand Cover Assembly.
3. Press the Lever in the direction of the arrow to remove the 2nd BTR Assembly.



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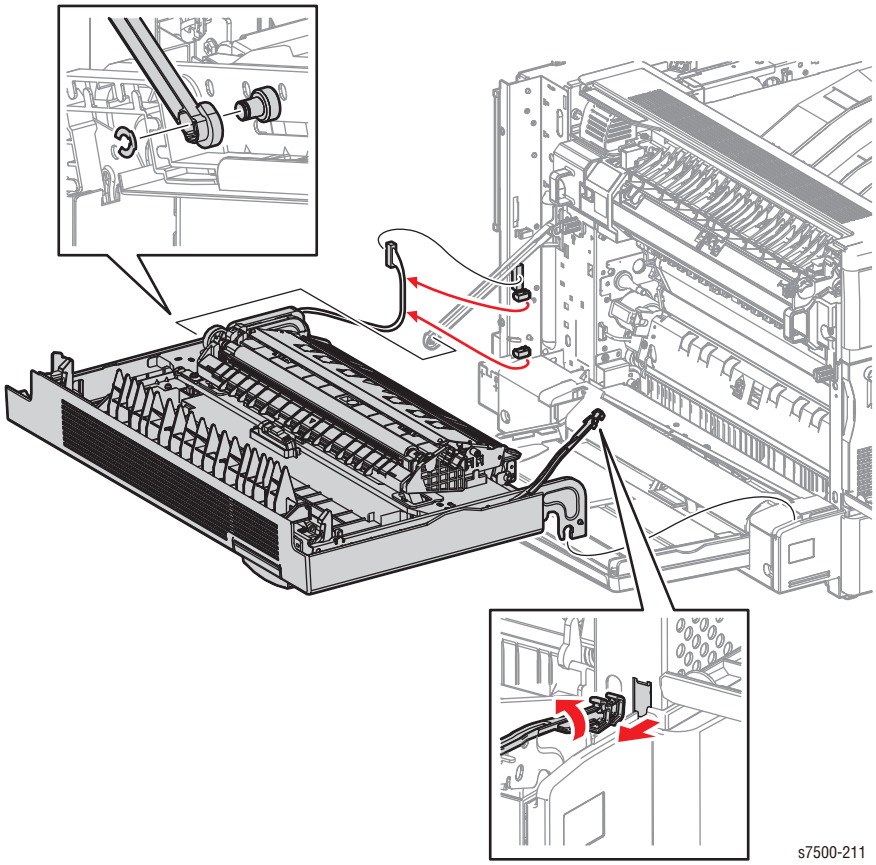
REP 14.3 L/H Cover Assembly

PL14.2.2

Caution

Do not touch the Roll surface of the 2nd BTR Assembly.

1. Remove the Top Rear Cover and the Rear Cover (REP 19.6, page 8-217).
2. Remove the Left Rear Cover (REP 19.4, page 8-215).
3. Remove the wiring harness that is connected to the Left Hand Cover Assembly from the 2 clamps that secure it.
4. Disconnect the wiring harness connector that is connected to the Left Hand Cover Assembly.
5. Remove the KL Clip that secures the Rear Support at the rear, and remove the Rear Support from the Left Hand Cover Assembly.
6. Turn the Front Support at the front counterclockwise by 90° and remove the Front Support from the hole of the Frame.
7. Lift up the Left Hand Cover Assembly while keeping it horizontal and remove it from the printer.



REP 14.4 Pinch Chute Assembly

PL14.2.3

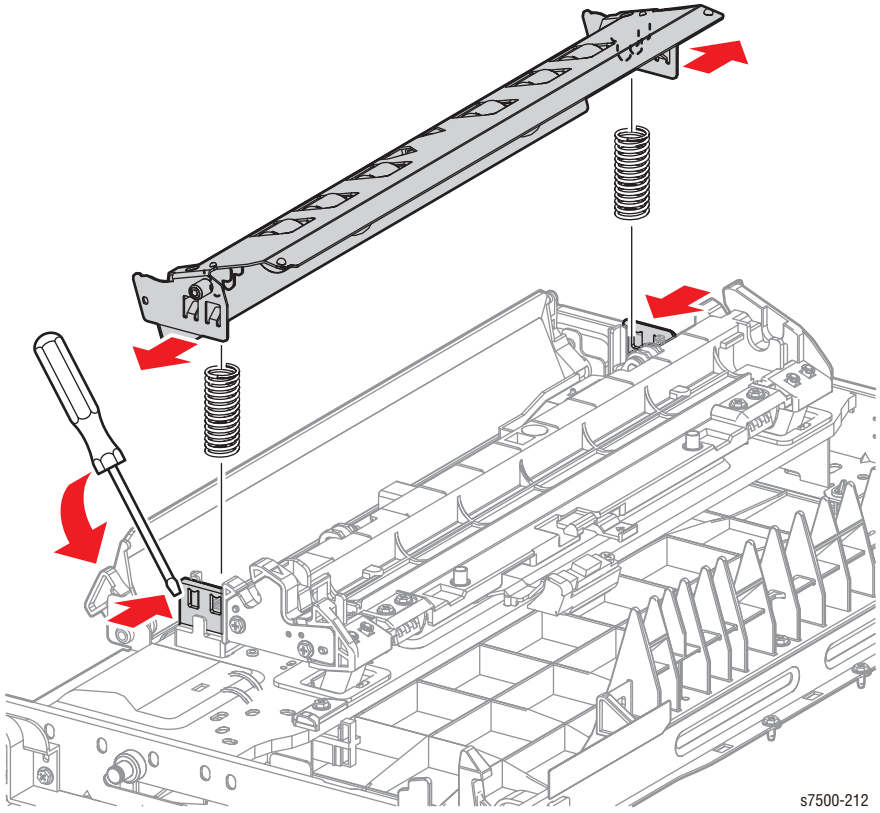
Caution

Do not touch the Roll surface of the 2nd BTR Assembly.

Note

When removing the Pinch Chute Assembly, be careful not to drop the spring.

1. Push the Chute Assembly down (towards the Cover).
2. Use a flat tip screwdriver to press the right and left holders inwards to release the hooks of the Pinch Chute Assembly, and remove the Pinch Chute Assembly.



Replacement Note

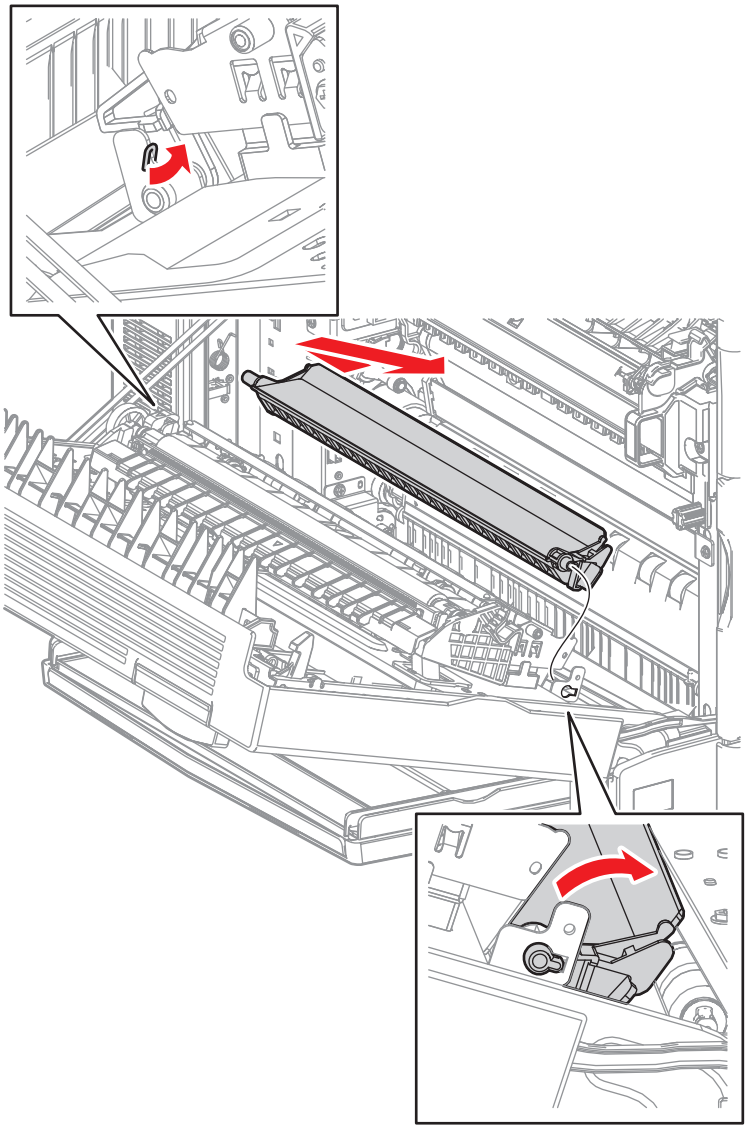
When installing the Pinch Chute Assembly, make sure that the springs are attached at the appropriate position.

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REP 14.5 Duplex Chute Assembly

PL14.3.5

1. Unhook the spring at the rear of the Duplex Chute Assembly.
2. Unscrew 1 screw (silver, 8 mm) at the front of the Duplex Chute Assembly.
3. Rotate the Duplex Chute Assembly, align the boss at its front to the notch, and remove the Duplex Chute Assembly.



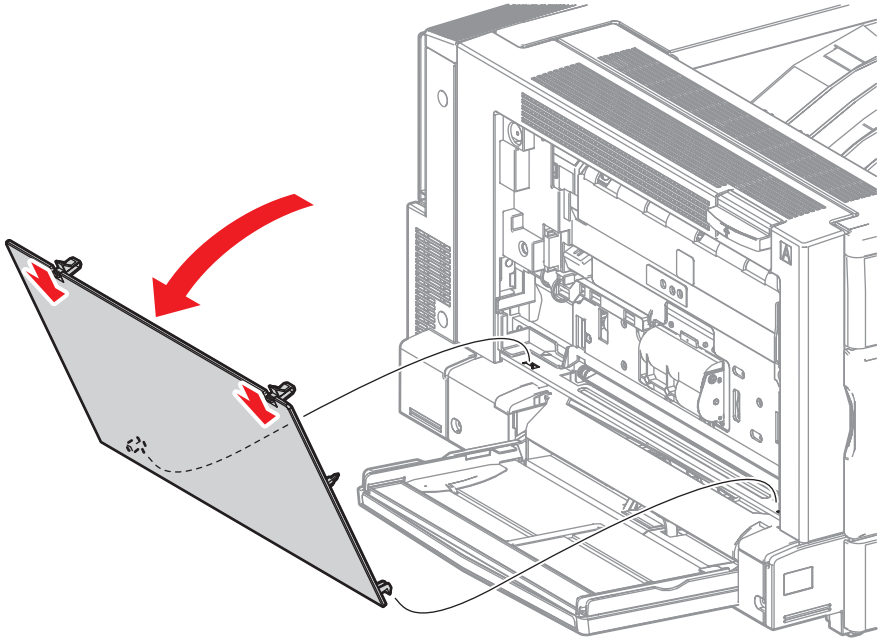
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REP 14.6 L/H Blind Cover

PL14.2.13

1. Release the upper 2 hooks on the Left Hand Blind Cover to open it towards you, and pull out the lower 2 hooks from the holes of the Left Hand Cover Assembly to remove the Left Hand Blind Cover.



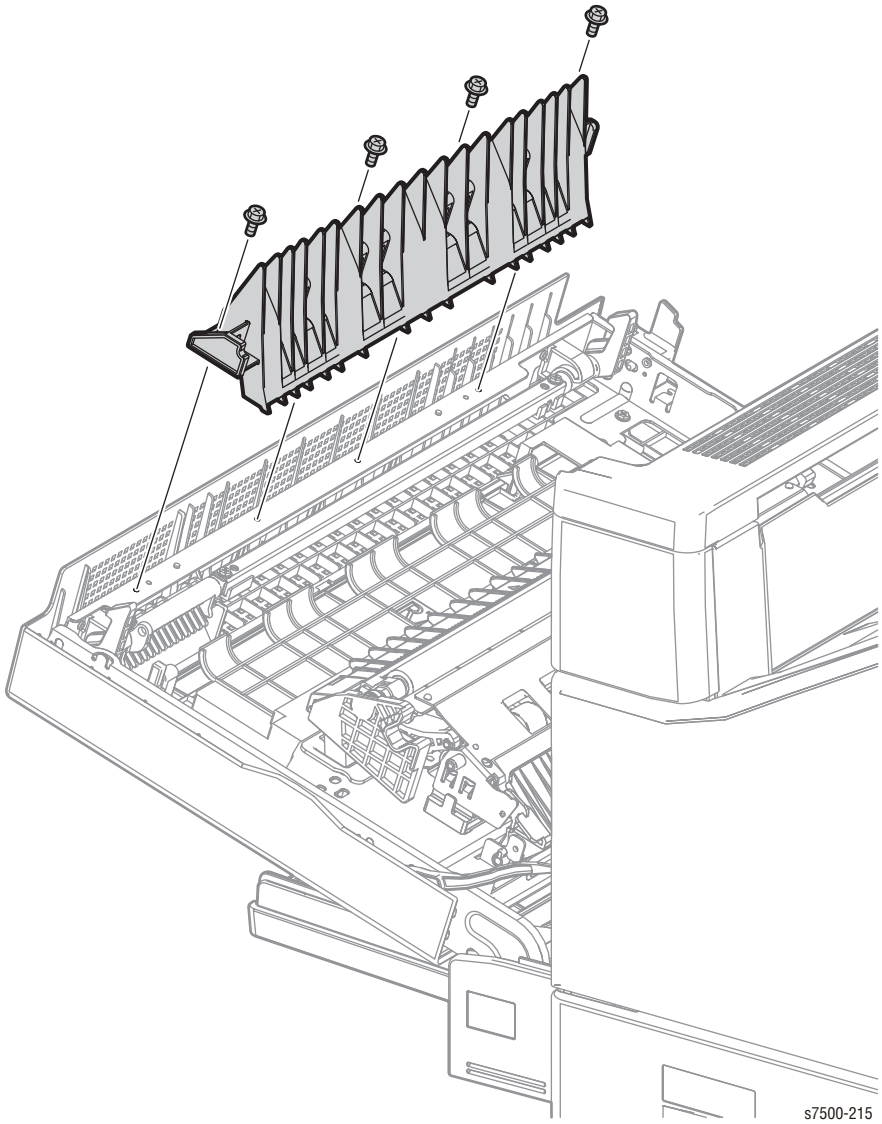
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REP 14.7 Upper Chute

PL14.3.15

1. Open the Left Hand Cover Assembly.
2. Remove 4 screws (silver, 8mm) that secure the Upper Chute and remove the Upper Chute.



REP 14.8 Retract Shaft Assembly

PL14.4.4

Caution

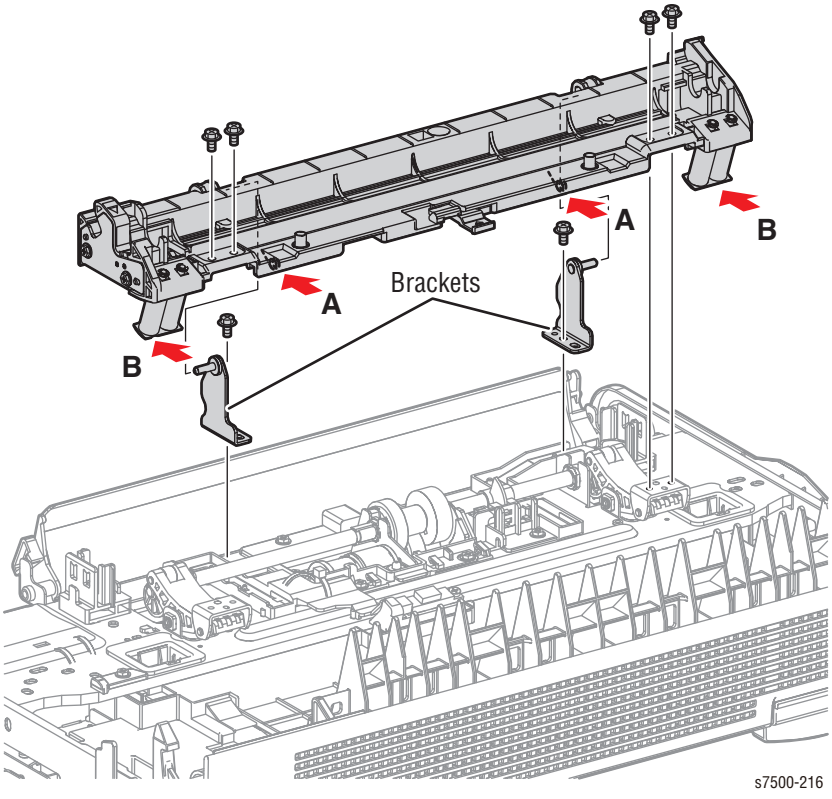
Do not touch the Roll surface of the 2nd BTR Assembly.

1. Remove the 2nd BTR Assembly (REP 14.2, page 8-147).

Note

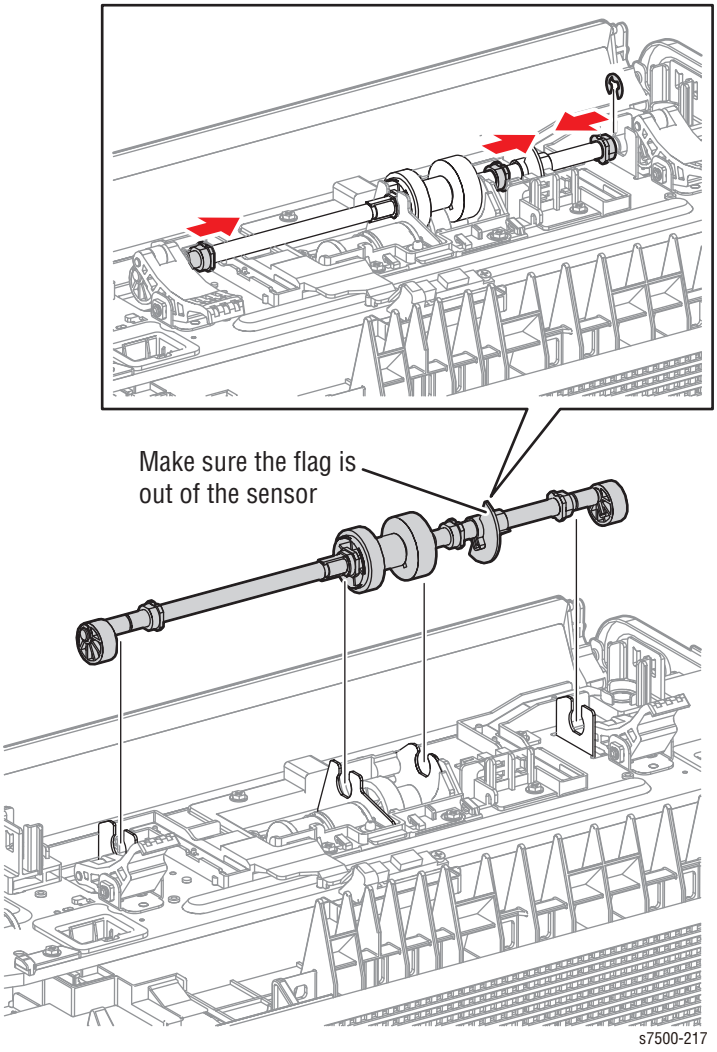
When removing the screws in the following step, be careful not to loose the spring.

2. Remove 4 screws (silver, 4mm) that secure the 2nd BTR Housing Assembly to the 2nd Link Assembly.
3. Remove 2 screws (silver, 6mm) that secure the Front Bracket to the Left Hand Cover Assembly and remove the 2 Brackets together with the 2nd BTR Housing Assembly.
4. Remove the Rear Bracket.



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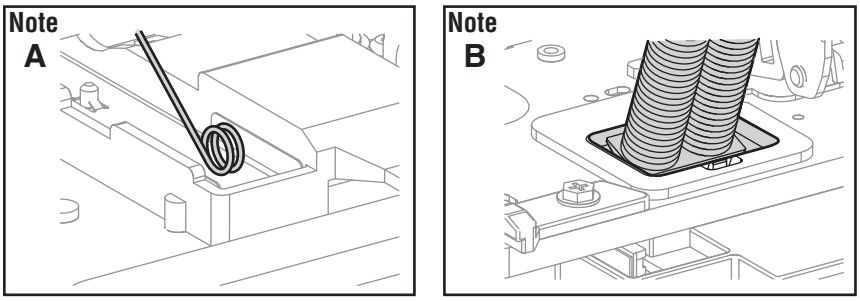
5. Remove the Front E-rings that secure the Retract Shaft Assembly.
6. Shift the 3 Sleeve Bearings to remove the Retract Shaft Assembly.



Replacement Note

When installing the Retract Shaft Assembly, take note of the following.

- Install it such that the 2 Cams are pressing on the Arm as tightly as possible.
- If the Cams were not installed as specified above, the Left Hand Cover Assembly may get locked when closed and cannot be opened any more. In such cases, it is possible to recover by turn On the power, wait until the printer comes to ready, and then turn Off the power.
- When installing the 2nd BTR Housing Assembly, make sure that each spring is attached at the appropriate position.



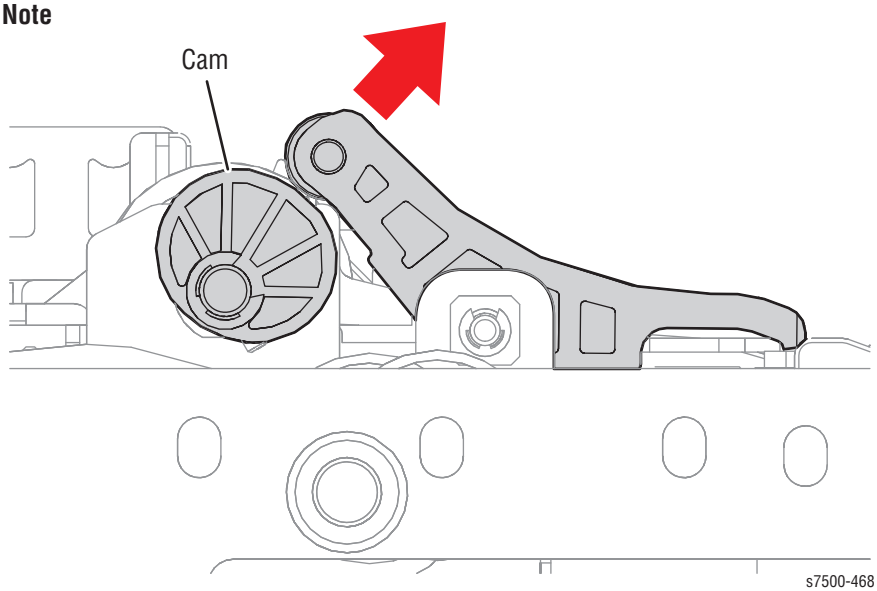
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Replacement Note

2nd BTR Housing Assembly

Rotate the CAM to the lowest position in order to secure the screws on the 2nd BTR Housing Assembly.

Note



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REP 14.9 2nd BTR Contact Retract Sensor

PL14.4.7

Caution

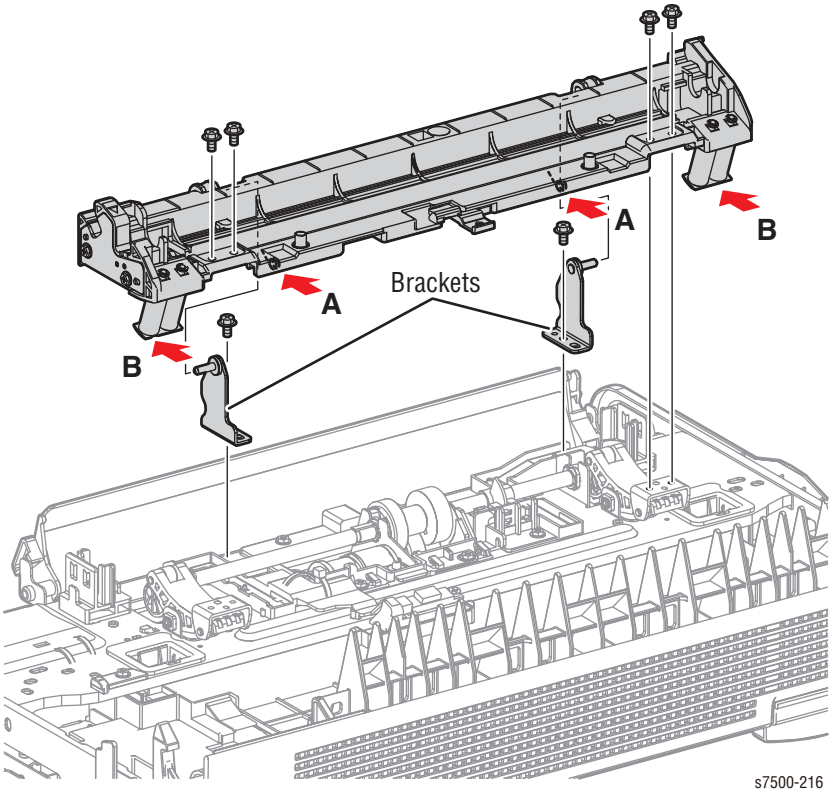
Do not touch the Roll surface of the 2nd BTR Assembly.

1. Remove the 2nd BTR Assembly (REP 14.2, page 8-147).

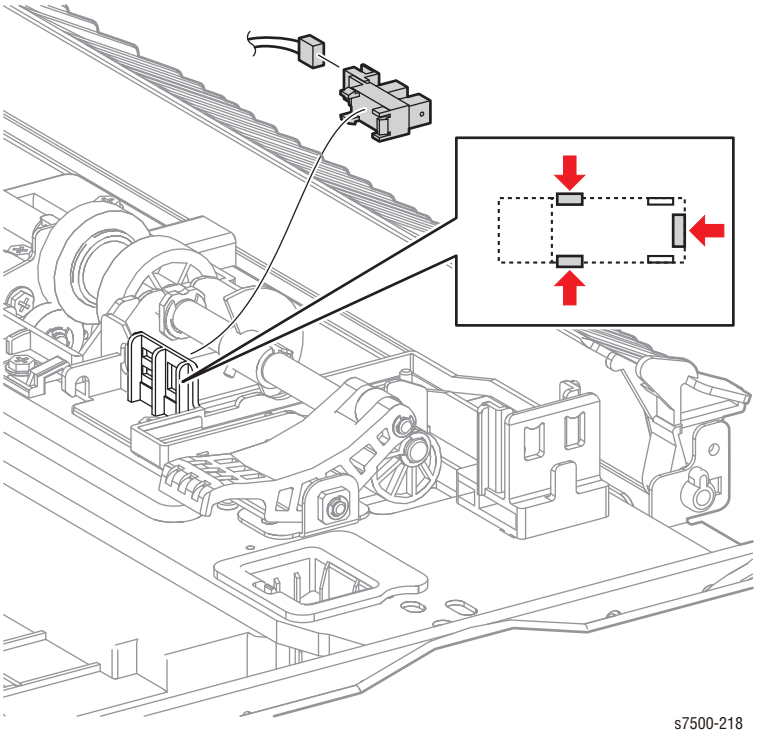
Note

When removing the screws in the following step, be careful not to loose the spring.

2. Remove 4 screws (silver, 4mm) that secure the 2nd BTR Housing Assembly to the Left Hand Cover Assembly.
3. Remove 2 screws (silver, 6mm) that secure the 2 Brackets to the Left Hand Cover Assembly and remove the 2 Brackets together with the 2nd BTR Housing Assembly.



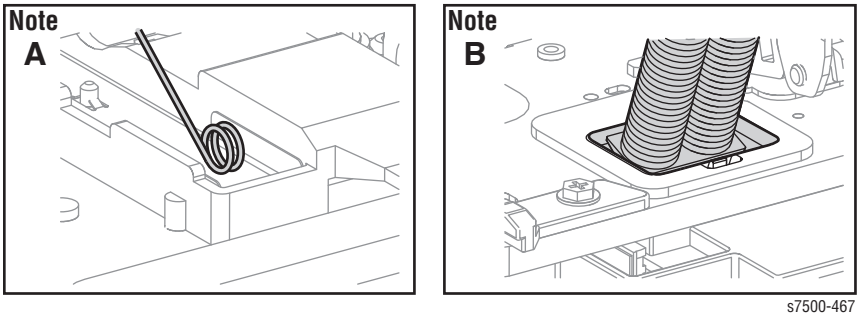
4. Disconnect the wiring harness connector that is connected to the 2nd BTR Contact Retract Sensor.
5. Release the 3 hooks that secure the 2nd BTR Contact Retract Sensor and remove the 2nd BTR Contact Retract Sensor.



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Replacement Note

When installing the 2nd BTR Housing Assembly, make sure that each spring is attached at the appropriate position.



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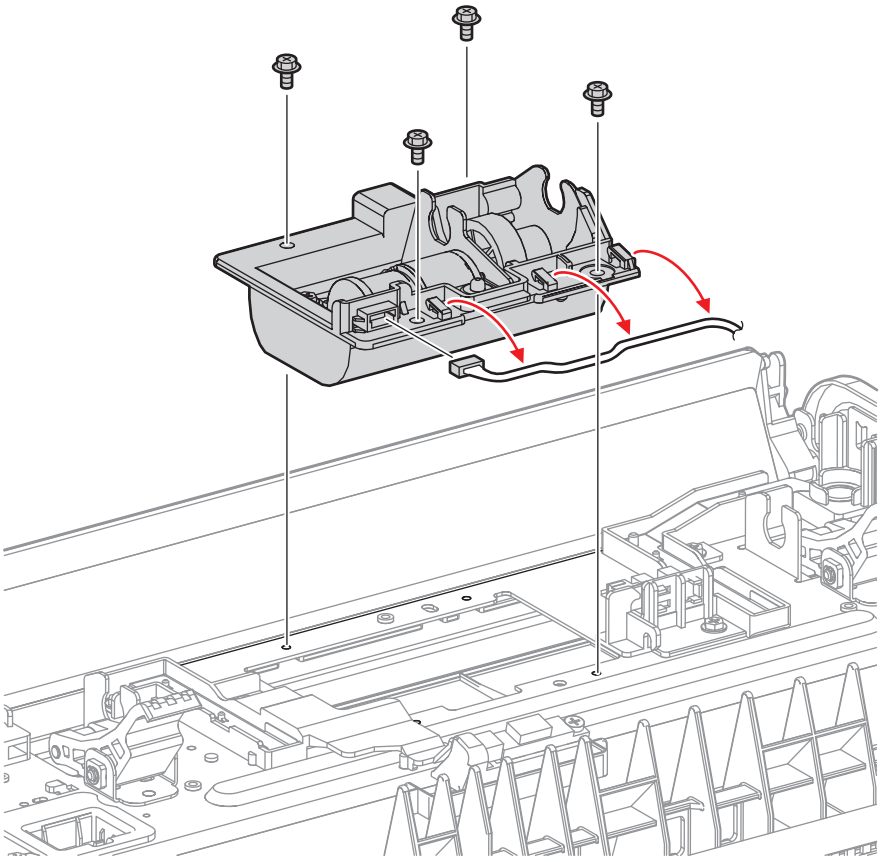
REP 14.10 2nd BTR Contact Retract Motor Assy./ 2nd BTR Contact Retract Motor

PL14.4.8/ PL14.4.10

Caution

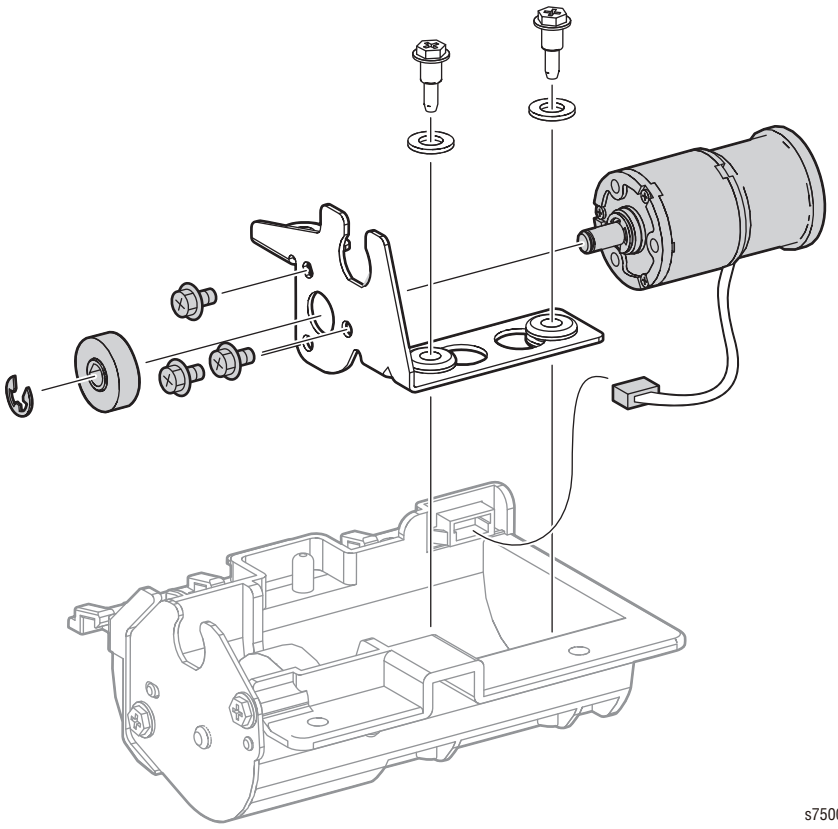
Do not touch the Roll surface of the 2nd BTR Assembly.

1. Remove the Retract Shaft Assembly (REP 14.8, page 8-153).
2. Remove the wiring harness from the Harness Guide.
3. Remove 4 screws (silver, 6mm) that secure the 2nd BTR Contact Retract Motor Assembly to the Left Hand Cover Assembly and remove the 2nd BTR Contact Retract Motor Assembly.



s7500-219

4. Disconnect the wiring harness connector that is connected to the 2nd BTR Contact Retract Motor Assembly.
5. Disconnect the wiring harness connector that connects the 2nd BTR Contact Retract Motor to the relay connector.
6. Remove 2 screws and 2 washers that secure the Motor Housing Assembly and remove the Motor Housing Assembly.
7. Remove the E-ring and remove the Gear (19).
8. Remove 2 screws (silver, 4mm) that secure the 2nd BTR Contact Retract Motor to the Motor Housing Assembly and remove the 2nd BTR Contact Retract Motor.



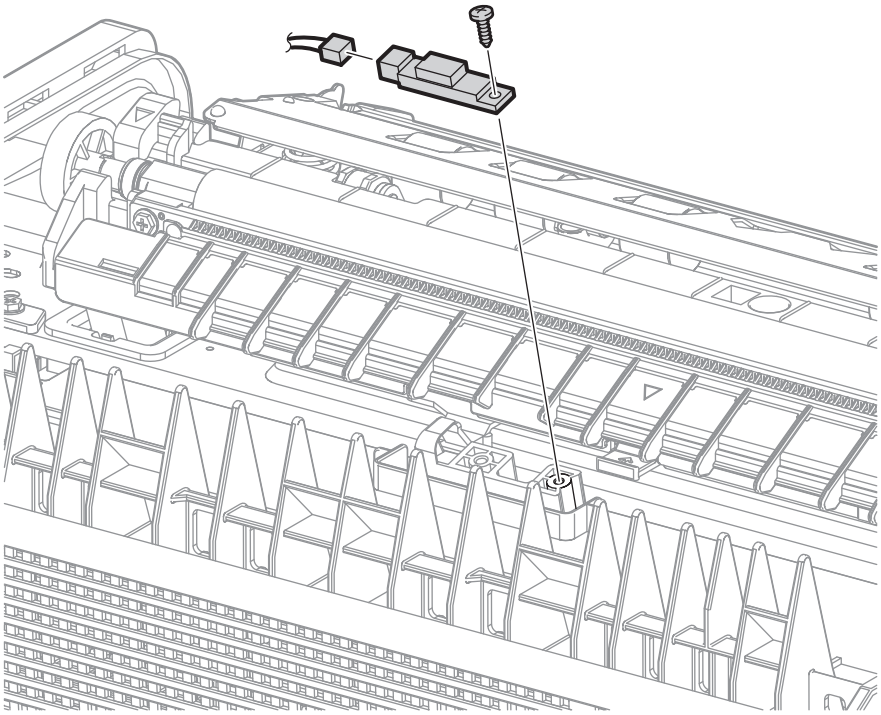
s7500-220

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REP 14.11 POB Sensor

PL14.4.16

1. Open the Left Hand Cover Assembly.
2. Remove 1 screw (silver, Tapped, 8mm) that secures the POB Sensor and remove the POB Sensor.
3. Disconnect the wiring harness connector that is connected to the POB Sensor.



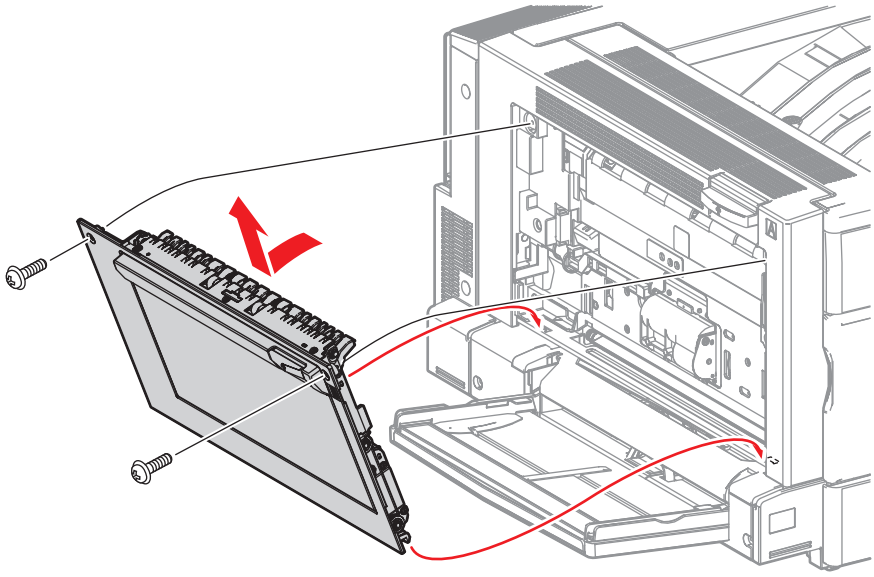
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REP 14.12 Duplex Assembly

PL14.1.5

1. Loosen the 2 screws that secure the Duplex Assembly to the printer.
2. Tilt the Duplex Assembly towards you, lift it up and release the 2 hooks to remove it from the printer.



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REP 14.13 Duplex Lever/ Latch Cover

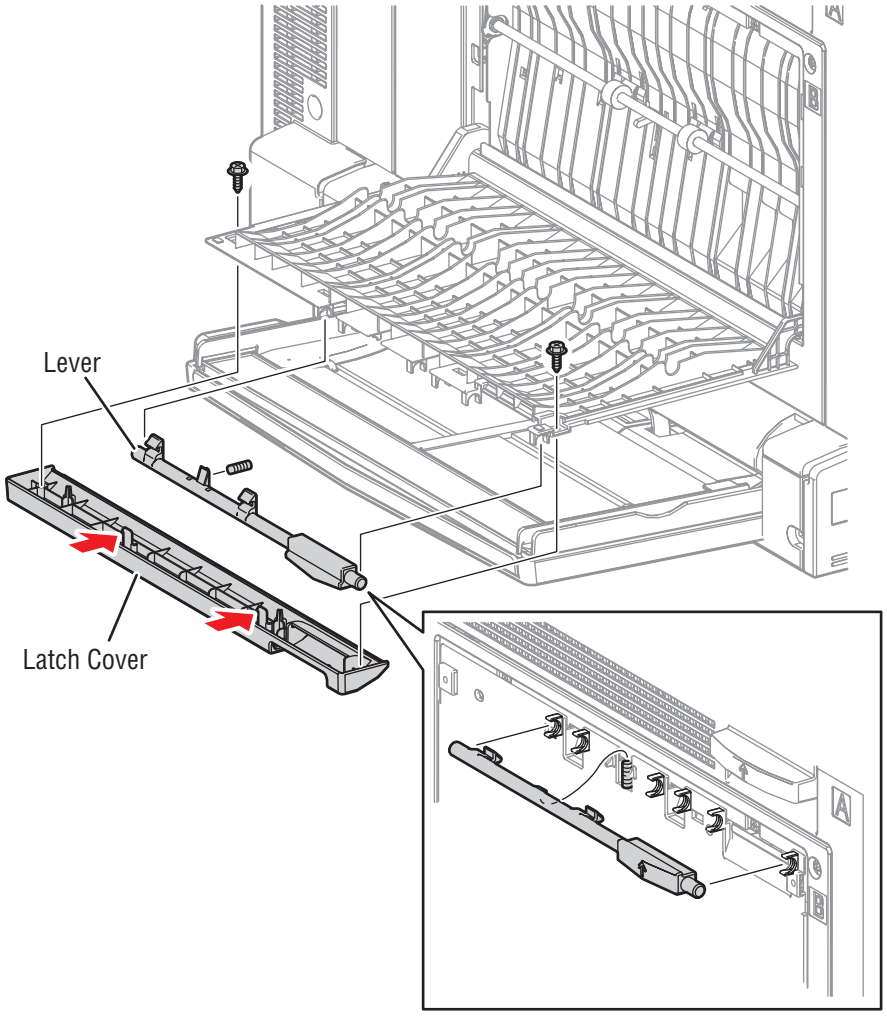
PL14.5.4/ PL14.5.6

1. Open the Duplex Cover.
2. Remove 2 screws (silver, 8mm) that secure the Latch Cover.

Note

When removing the Lever in the following step, be careful not to drop the spring.

3. Release the 2 hooks that secure the Latch Cover and remove the Latch Cover together with the Lever and the spring.

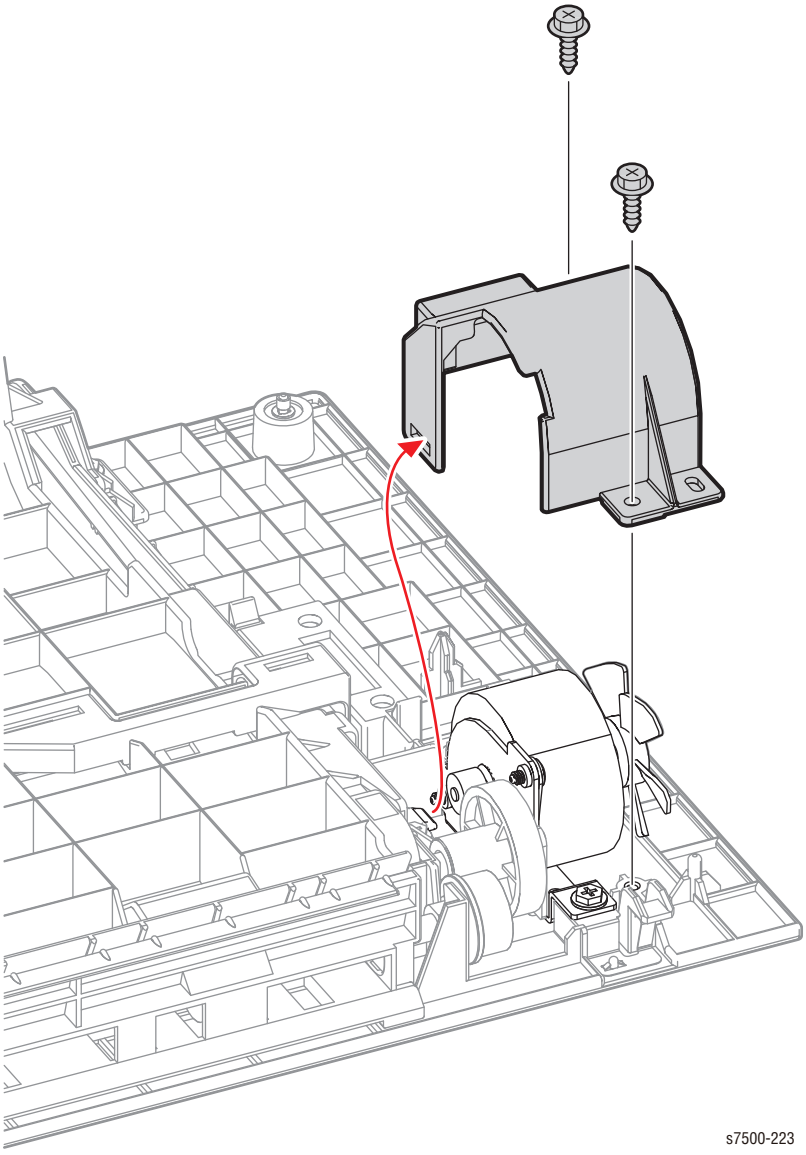


s7500-222

REP 14.14 Duplex Motor/ Fan/ Gear Assembly

PL14.5.8/ PL14.5.9/ PL14.6.22

1. Remove the Duplex Assembly (REP 14.12, page 8-161).
2. Remove 2 screws (silver, Tapped, 8mm) that secure the Motor Cover to the printer.
3. Release the Motor Cover from the protrusion of the Inner Chute Assembly and remove the Motor Cover.



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4. Disconnect the wiring harness connector that is connected to the Duplex Motor.

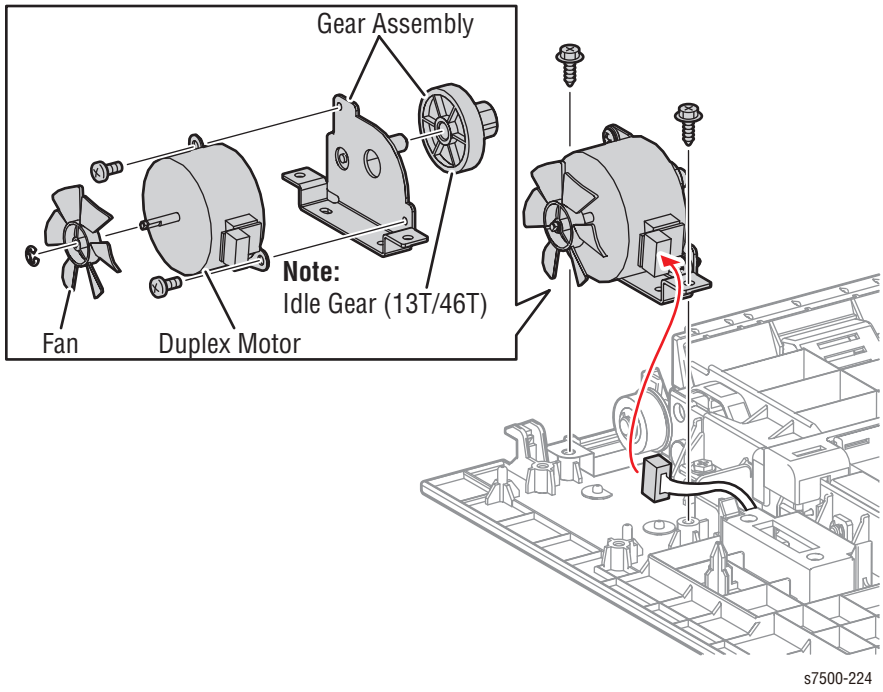
Note

If only the Duplex Motor or only the Fan is replaced, step 5 can be omitted.

Note

Note that the Idle Gear (13T/46T) will drop in the following step 5.

5. Remove 2 screws (silver, Tapped, 8mm) that secure the Gear Assembly to the Duplex Assembly and remove the Gear Assembly together with the Duplex Motor.
6. Remove the E-ring that secures the Fan to the Duplex Motor and remove the Fan.
7. Remove 2 screws (silver, 6mm) that secure the Duplex Motor to the Gear Assembly.
8. Remove the Duplex Motor from the Gear Assembly.

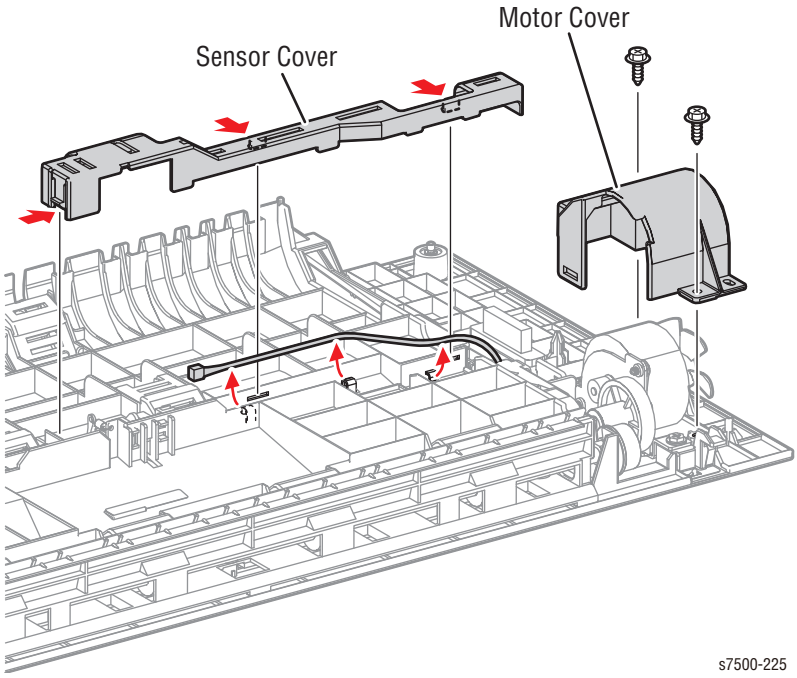


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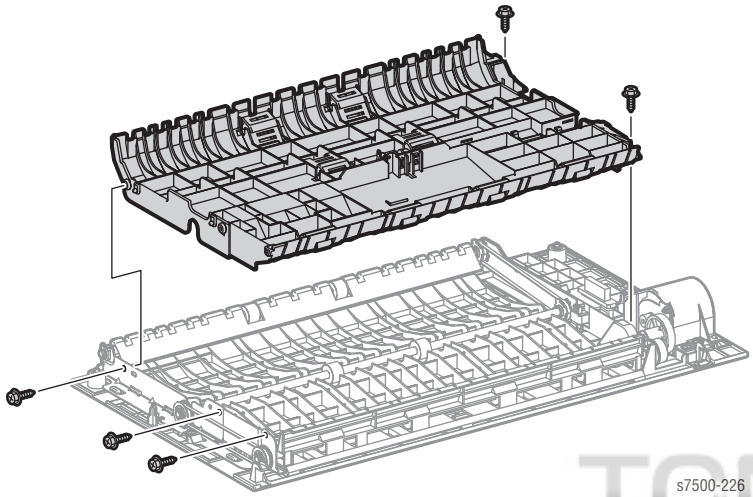
REP 14.15 Inner Chute Assembly

PL14.5.19

1. Remove the Duplex Assembly (REP 14.12, page 8-161).
2. Release the 3 hooks that secure the Sensor Cover to the Duplex Assembly and remove the Sensor Cover.
3. Disconnect the wiring harness connector that is connected to the Duplex Wait Sensor.
4. Release the wiring harness from the 3 hooks on the Inner Chute Assembly and move it towards the Duplex Motor side.
5. Remove 2 screws (silver, Tapped, 8mm) that secure the Motor Cover to the printer.
6. Release the Motor Cover from the protrusion of the Inner Chute Assembly and remove the Motor Cover.



7. Remove 5 screws (silver, Tapped, 8mm) that secure the Inner Chute Assembly to the Duplex Assembly.
8. Remove the Inner Chute Assembly from the Duplex Assembly.

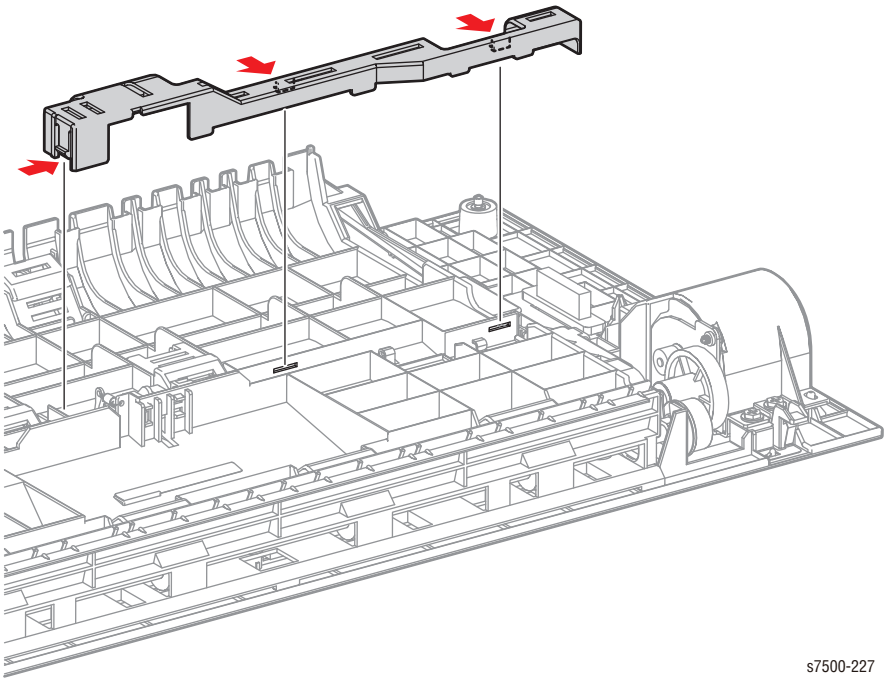


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REP 14.16 Duplex Wait Sensor/ Actuator/ Spring

PL14.6.8, PL14.6.9, PL14.6.10

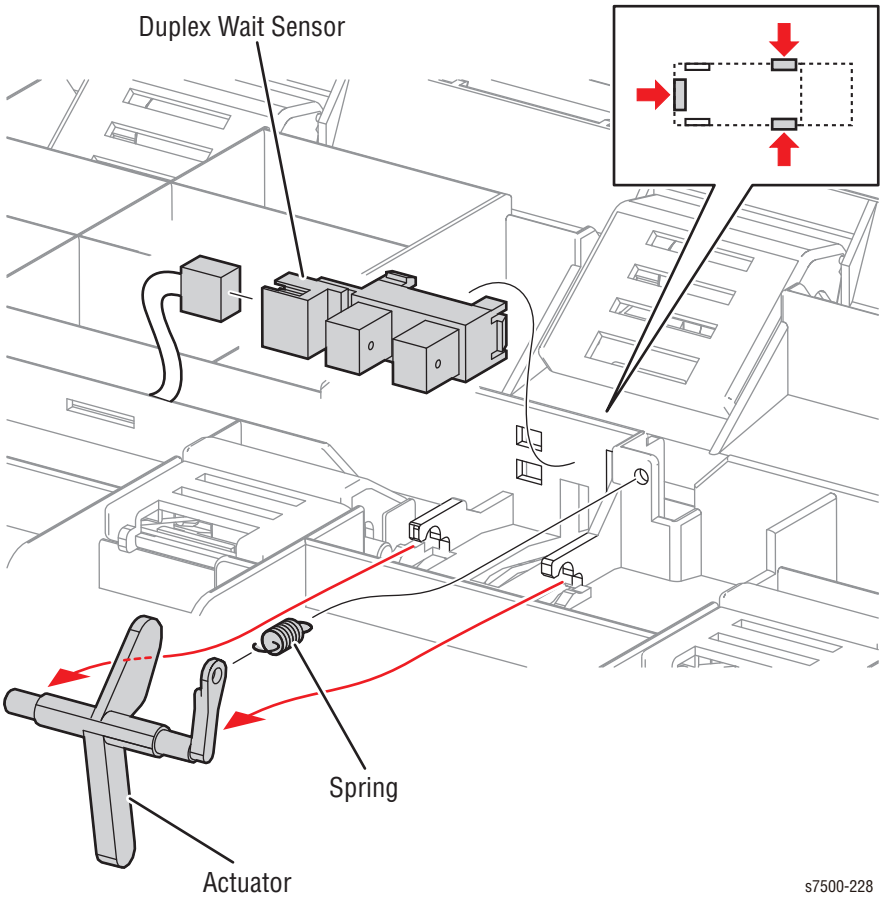
1. Remove the Duplex Assembly (REP 14.12, page 8-161).
2. Release the 3 hooks that secure the Sensor Cover to the Duplex Assembly and remove the Sensor Cover.
3. Pull out the Actuator Shaft from the 2 U-shaped grooves and remove the Actuator.
4. Remove the Spring from the Actuator.



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5. Release the 3 hooks that secure the Duplex Wait Sensor and remove the Duplex Wait Sensor.
6. Disconnect the wiring harness connector that is connected to the Duplex Wait Sensor and remove the Duplex Wait Sensor.

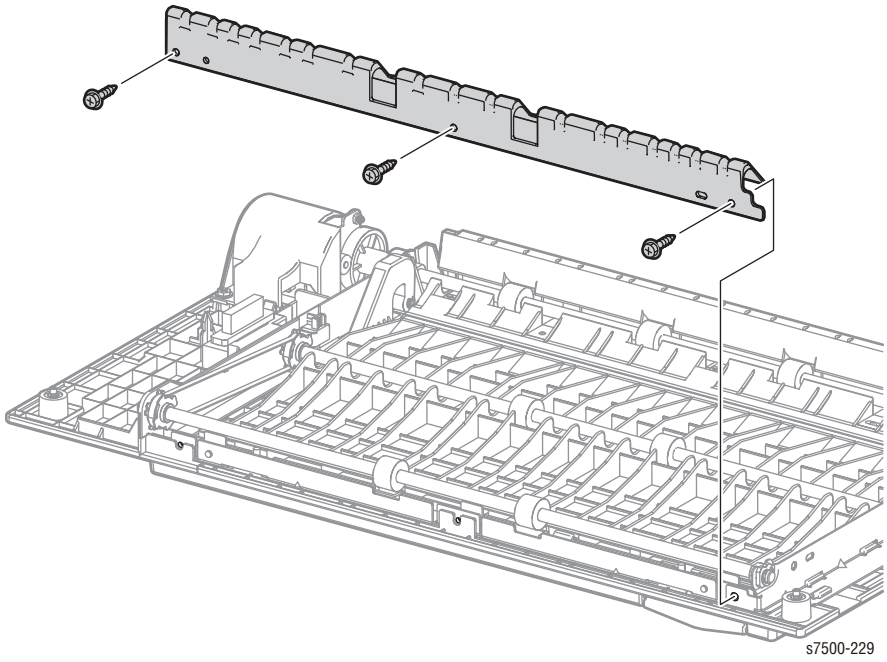


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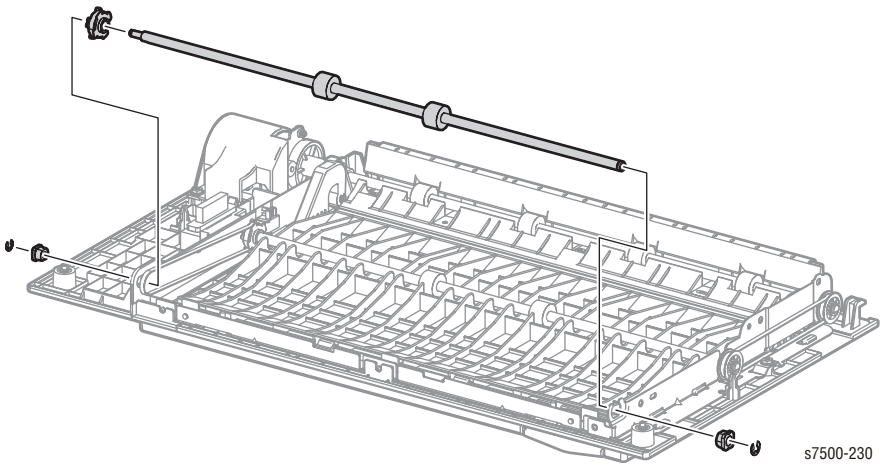
REP 14.17 Duplex Roller 1

PL14.6.12

1. Remove the Duplex Assembly (REP 14.12, page 8-161).
2. Remove 3 screws (silver, Tapped, 8mm) that secure the Upper Chute to the Duplex Assembly and remove the Upper Chute.



3. Remove the E-ring that secures the Sleeve Bearing at the rear belt and remove the Sleeve Bearing.
4. Remove the E-ring that secures the other Sleeve Bearing and remove the Sleeve Bearing.
5. While removing the belt from the pulley, remove the Duplex Roller 1 from the Duplex Assembly.
6. Remove the pulley from the Duplex Roller 1.



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REP 14.18 Duplex Roller 2

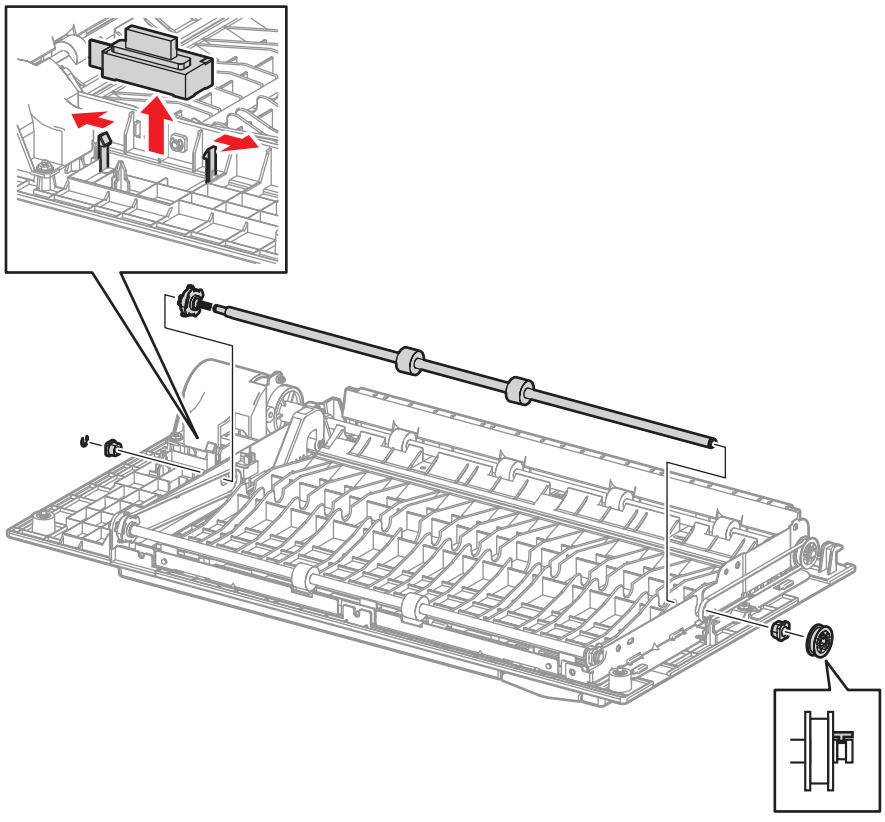
PL14.6.13

1. Remove the Duplex Assembly (REP 14.12, page 8-161).
2. Remove the Inner Chute Assembly (REP 14.15, page 8-165).

Note

Do not apply excessive force when performing the following step, because the holder is to be removed with the Harness Holder still connected.

3. Release the 2 hooks that secure the Duplex Assembly and remove the Harness Holder.
4. Remove the E-ring that secures the Sleeve Bearing at the rear belt and remove the Sleeve Bearing.
5. Release the hook of the pulley and remove it.
6. Remove the Sleeve Bearing.
7. While removing the rear belt from the pulley, remove the Duplex Roller 2 from the Duplex Assembly.
8. Remove the pulley from the Duplex Roller 2.



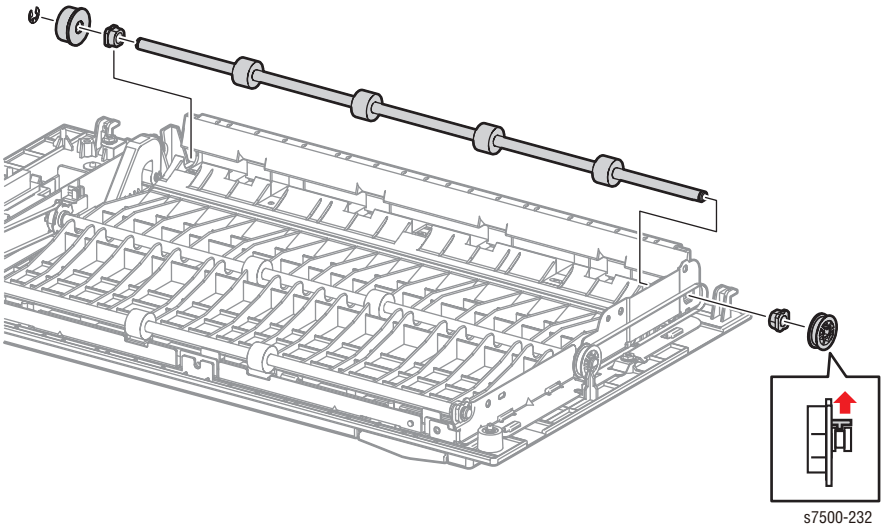
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REP 14.19 Duplex Roller 3

PL14.6.14

1. Remove the Duplex Assembly (REP 14.12, page 8-161).
2. Remove the Inner Chute Assembly (REP 14.15, page 8-165).
3. Remove the Duplex Motor (REP 14.14, page 8-163, steps 2 to 5).
4. Release the hook of the pulley and remove it.
5. Remove the E-ring that secures the Sleeve Bearing and remove the Sleeve Bearing.
6. Slide the Duplex Roller 3 sideways, remove the parts that secure the Sleeve Bearing, and remove the Duplex Roller 3.
7. Remove the Gear Assembly from the Duplex Roller 3.
8. Remove the Sleeve Bearing from the Duplex Roller 3.

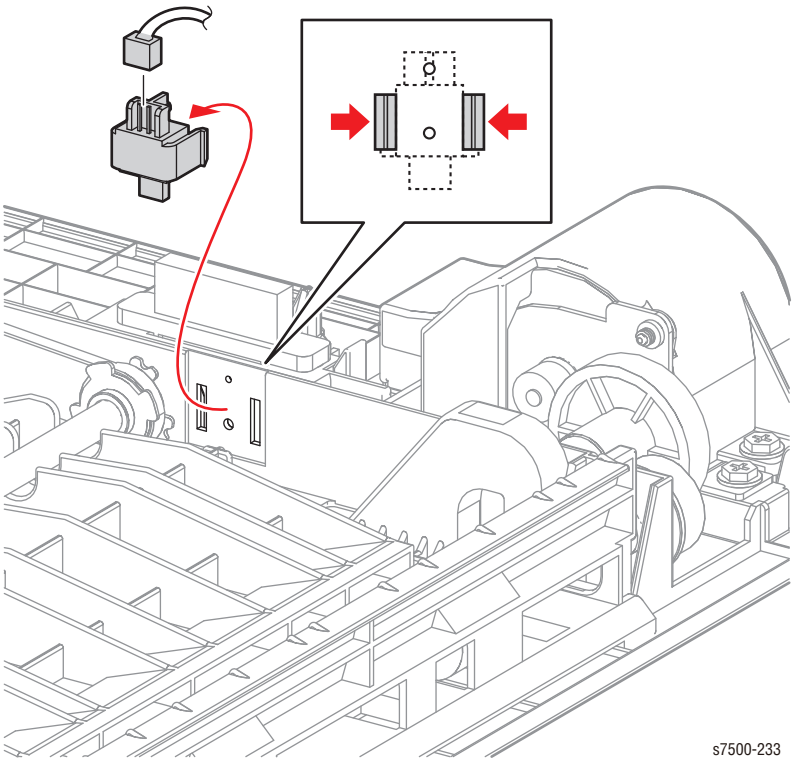


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REP 14.20 Duplex Cover Switch

PL14.6.25

1. Remove the Duplex Assembly (REP 14.12, page 8-161).
2. Remove the Inner Chute Assembly (REP 14.15, page 8-165).
3. Disconnect the wiring harness connector that is connected to the Duplex Cover Switch.
4. Release the 2 hooks that secure the Duplex Cover Switch to the Duplex Assembly and remove the Duplex Cover Switch.



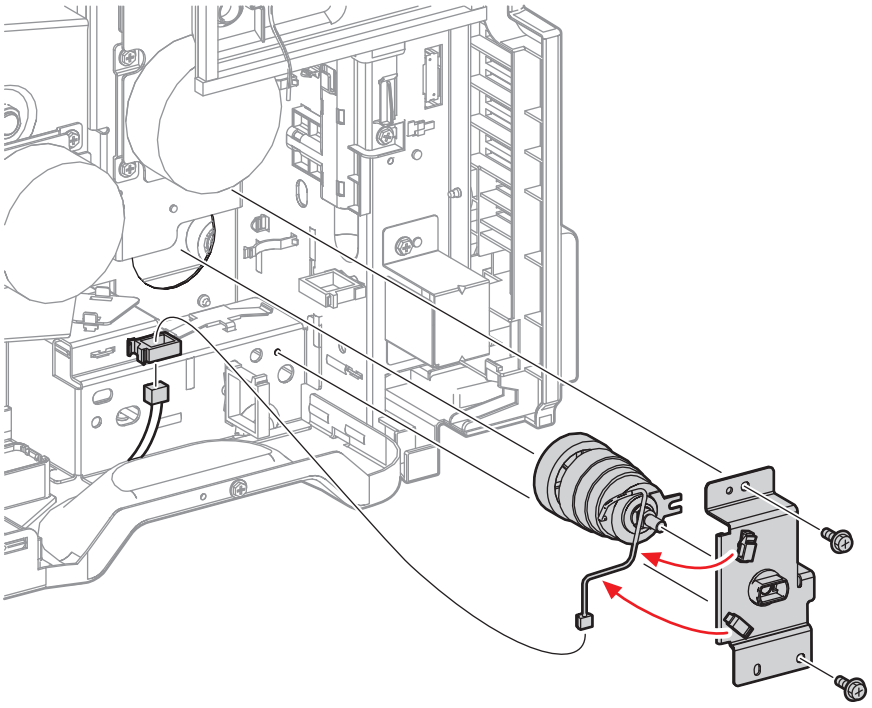
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Registration

REP 15.1 Takeaway Clutch

PL15.1.1

1. Remove the PWB Chassis Unit (REP 18.10, page 8-197).
2. Release the wiring harness from the 2 clamps on the Bracket of the Takeaway Clutch and the clamp of the printer and disconnect the wiring harness connector.
3. Remove 2 screws (silver, 8 mm) that secure the Bracket and remove the Bracket together with the Takeaway Clutch.

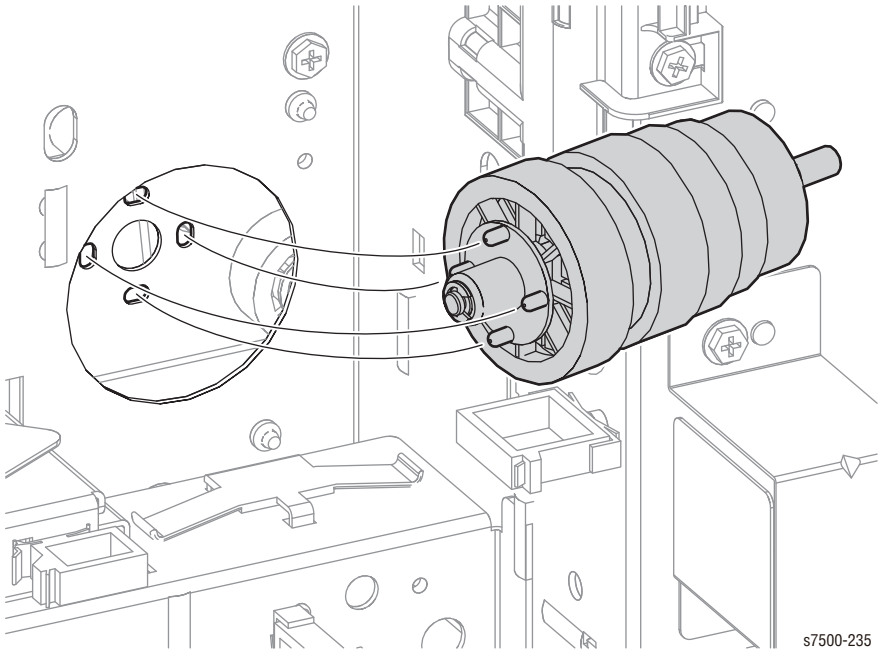


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Replacement Note

When installing the Takeaway Clutch, be sure to align and insert the 4 protrusions of the Takeaway Clutch into the 4 holes on the printer and the pin goes through the Clutch fork.

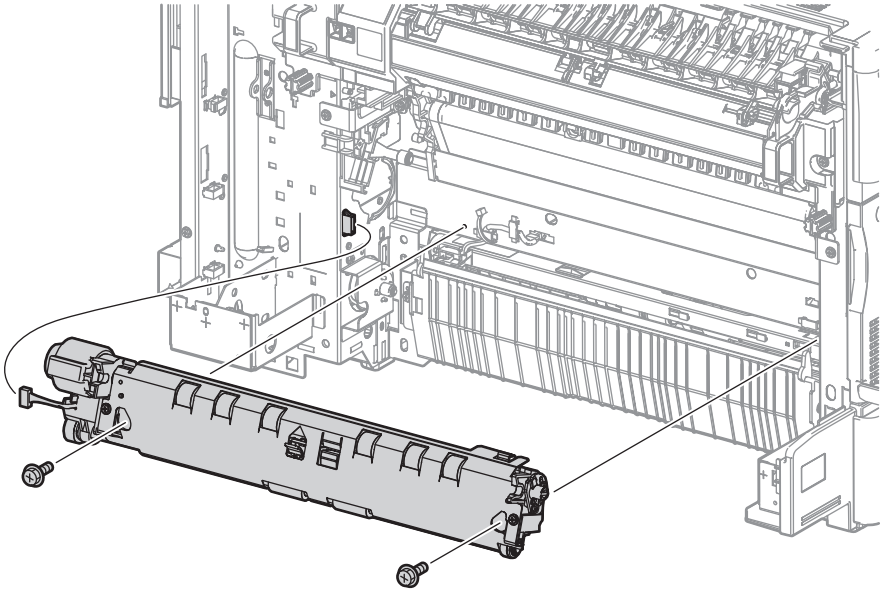


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REP 15.2 Registration Transport Assembly

PL15.1.8

1. Remove the Top Rear Cover and the Rear Cover (REP 19.6, page 8-217).
2. Remove the Left Rear Cover (REP 19.4, page 8-215).
3. Remove the Tray 1 Feeder Assembly (REP 13.1, page 8-130).
4. Remove the Left Hand Cover Assembly (REP 14.3, page 8-148).
5. Disconnect the wiring harness connector on the harness that is connected to the Regi Transport Assembly.
6. Remove 2 screws deeply recessed (silver, 8mm) that secure the Regi Transport Assembly to the printer.
7. Remove the Regi Transport Assembly from the printer.

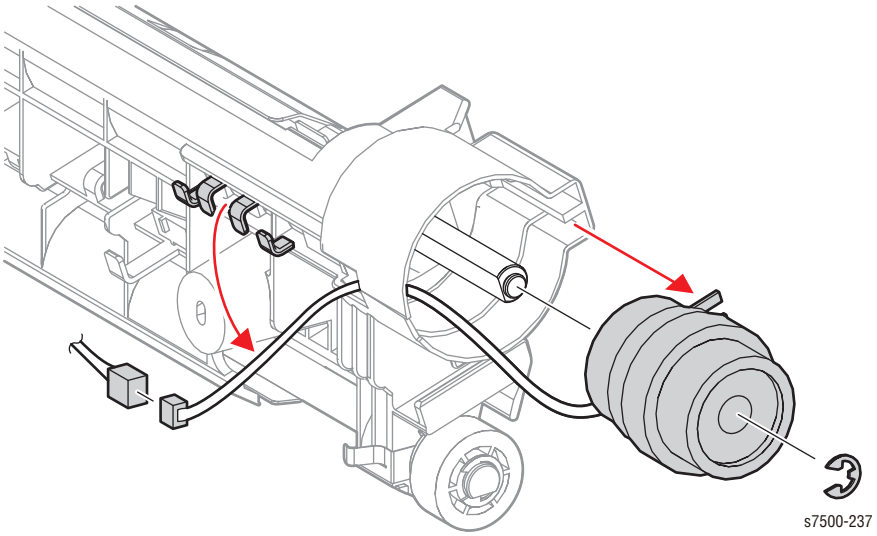


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REP 15.3 Regi Clutch

PL15.2.4

1. Remove the Regi Transport Assembly (REP 15.2, page 8-174).
2. Disconnect the wiring harness connector on the harness that is connected to the Regi Clutch, and remove the harness from the Harness Guide.
3. Remove the E-ring that secures the Regi Clutch and remove the Regi Clutch.

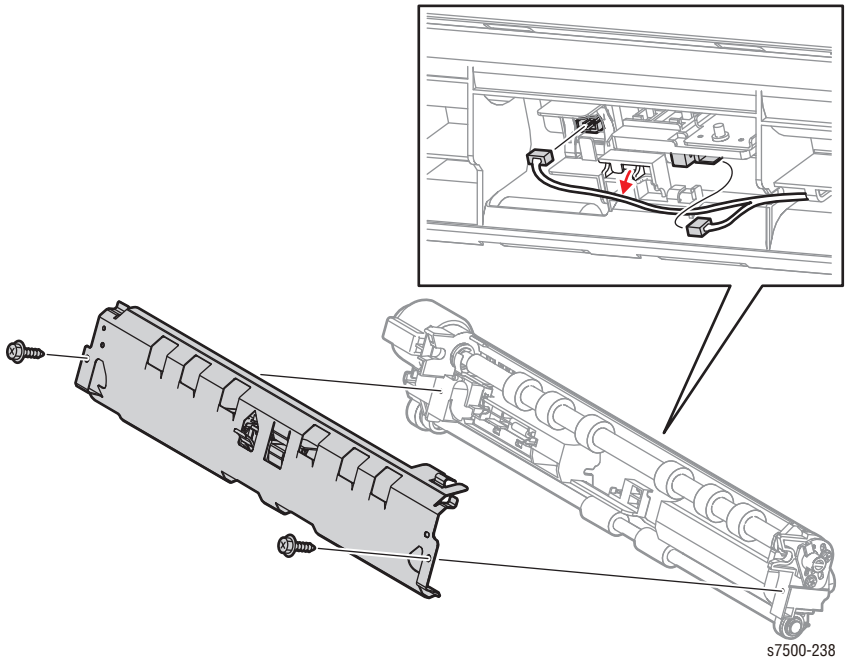


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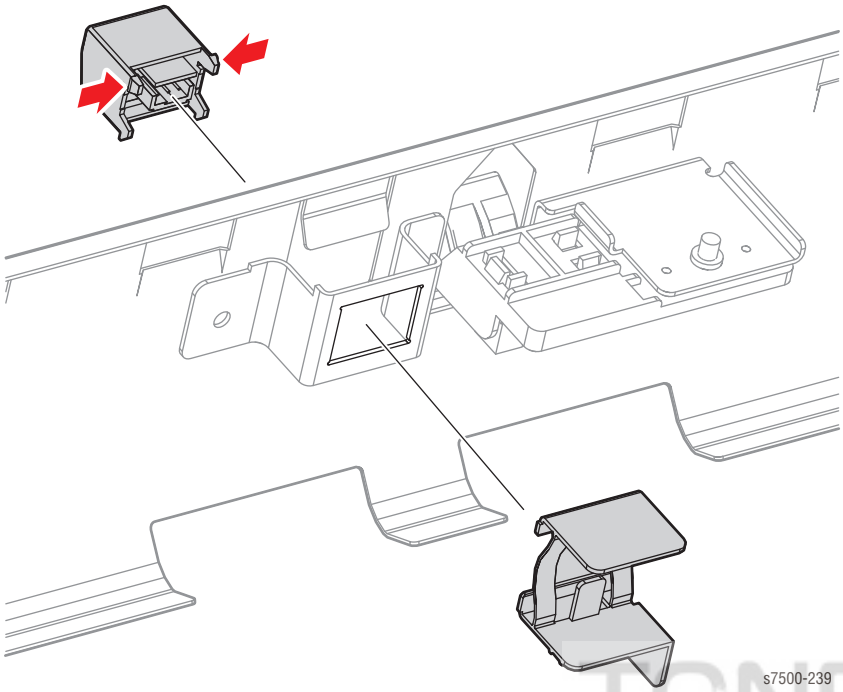
REP 15.4 Transparency Sensor

PL15.2.7

1. Remove the Regi Transport Assembly (REP 15.2, page 8-174).
2. Disconnect the wiring harness connectors that are connected to the 2 sensors and remove the harness from the Harness Guide.
3. Remove 2 screws (silver, Tapped, 8mm) that secure the Inlet Chute Assembly and remove the Inlet Chute Assembly.



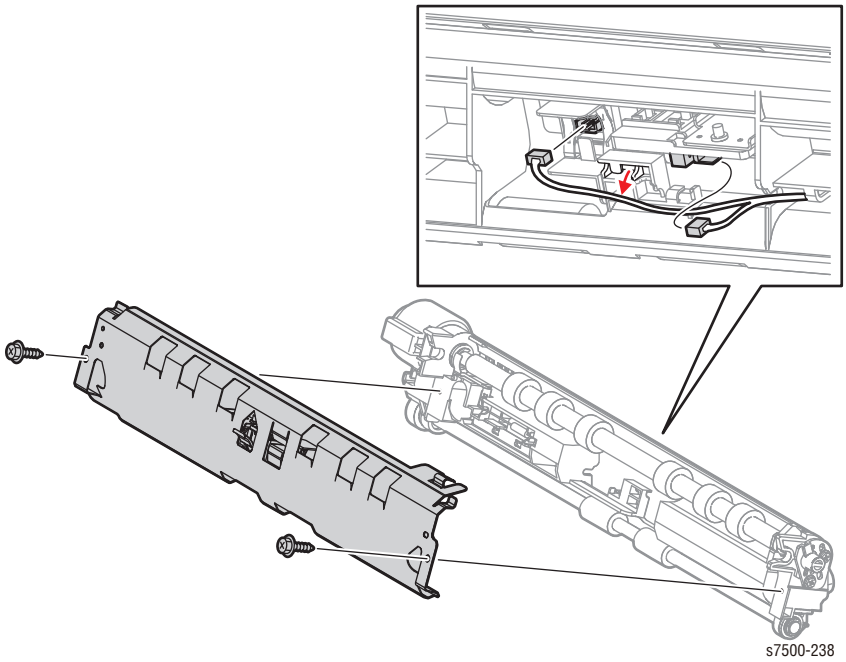
4. Remove the Sensor Holder.
5. Release the 4 hooks that secure the Transparency Sensor and remove the Transparency Sensor.



REP 15.5 Regi Sensor/ Actuator/ Spring

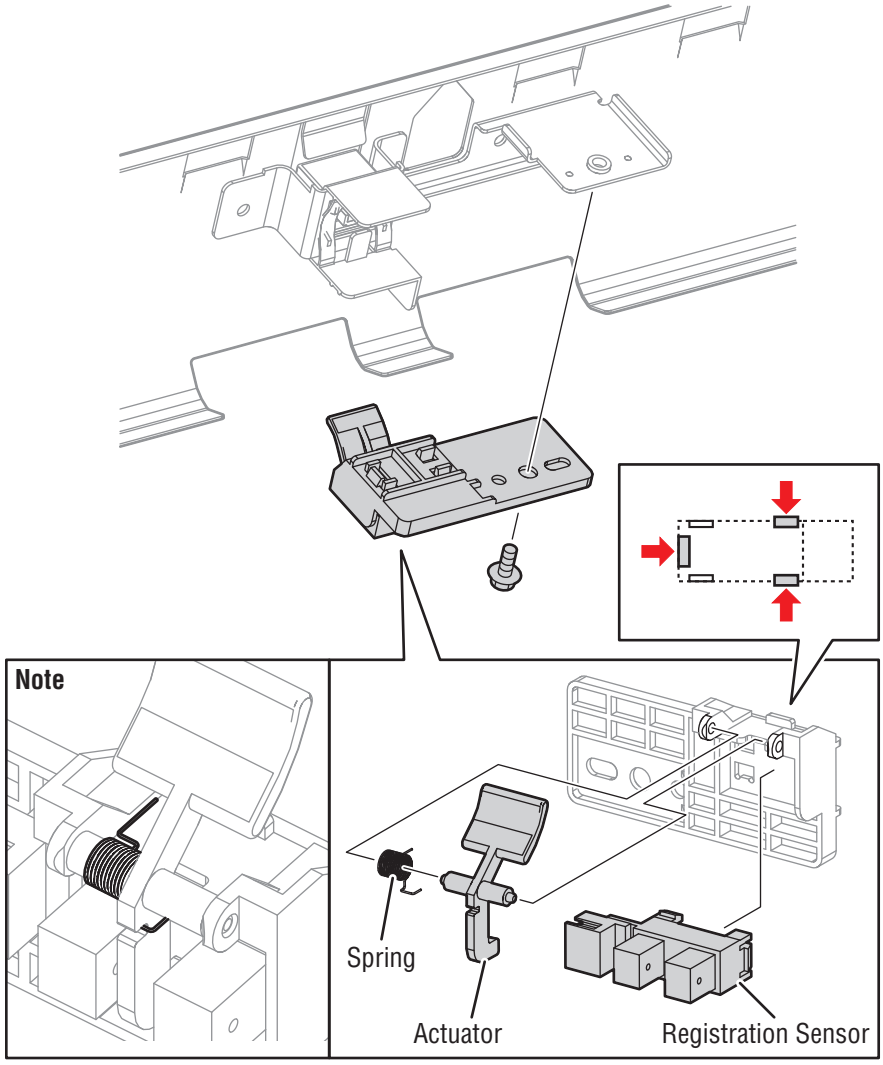
PL15.2.10/ PL15.2.11/ PL15.2.12

1. Remove the Regi Transport Assembly (REP 15.2, page 8-174).
2. Disconnect the wiring harness connectors that are connected to the 2 sensors and remove the harness from the Harness Guide.
3. Remove 2 screws (silver, Tapped, 8mm) that secure the Inlet Chute Assembly and remove the Inlet Chute Assembly.



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4. Remove 1 screw (silver, 6mm) that secures the Sensor Holder and remove the Sensor Holder.
5. Open the 2 installation sections that support the Actuator Shaft and remove the Actuator.
6. Remove the Spring from the Actuator.
7. Release the 3 hooks that secure the Regi Sensor and remove the Regi Sensor.

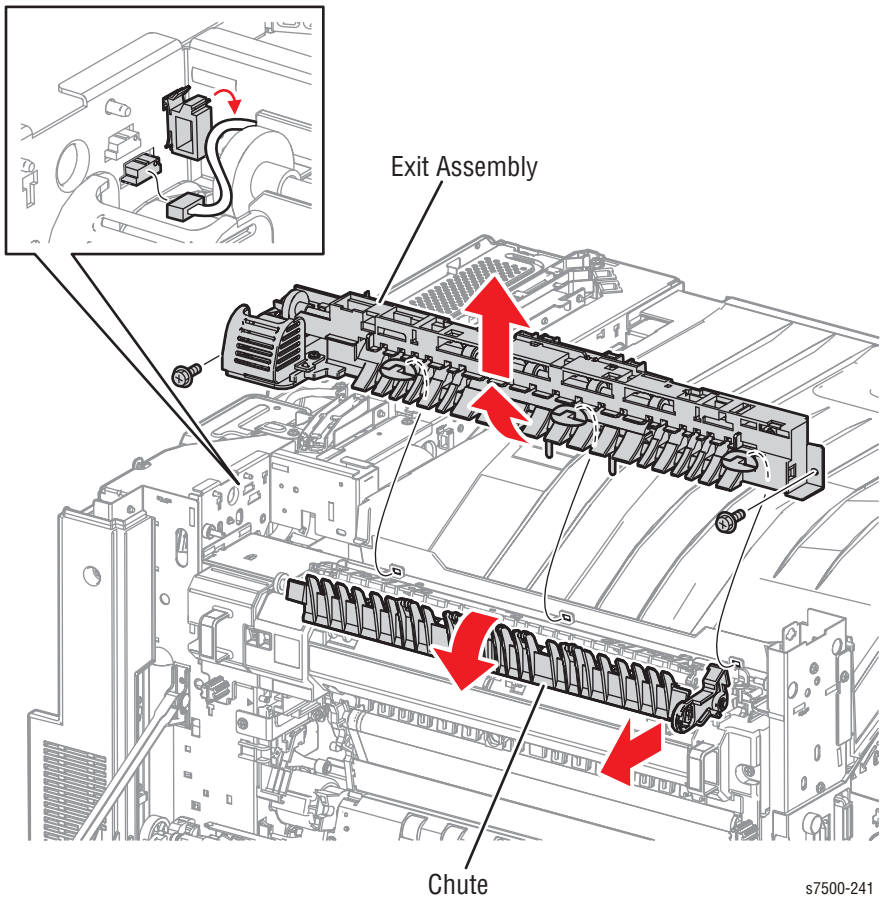


Exit

REP 17.1 Exit Assembly

PL17.1.1

1. Remove the Exit Cover (REP 19.5, page 8-216).
2. Open the Chute on the Fuser.
3. Release the wiring harness that is connected to the Exit Assembly from the clamp and disconnect the wiring harness connector.
4. Remove 2 screws (silver, 8mm) that secure the Exit Assembly to the printer.
5. Raise the left side of the Exit Assembly, release the 3 tabs, and remove the Exit Assembly.

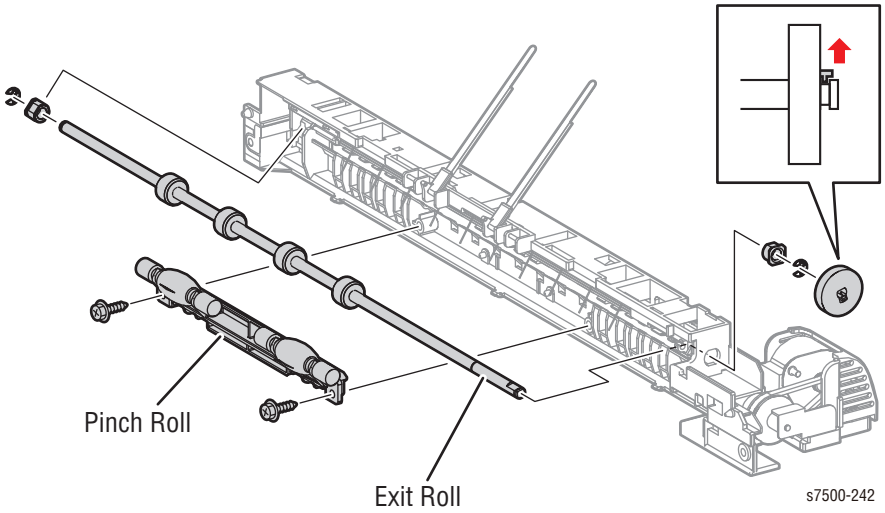


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REP 17.2 Exit Roll

PL17.1.3

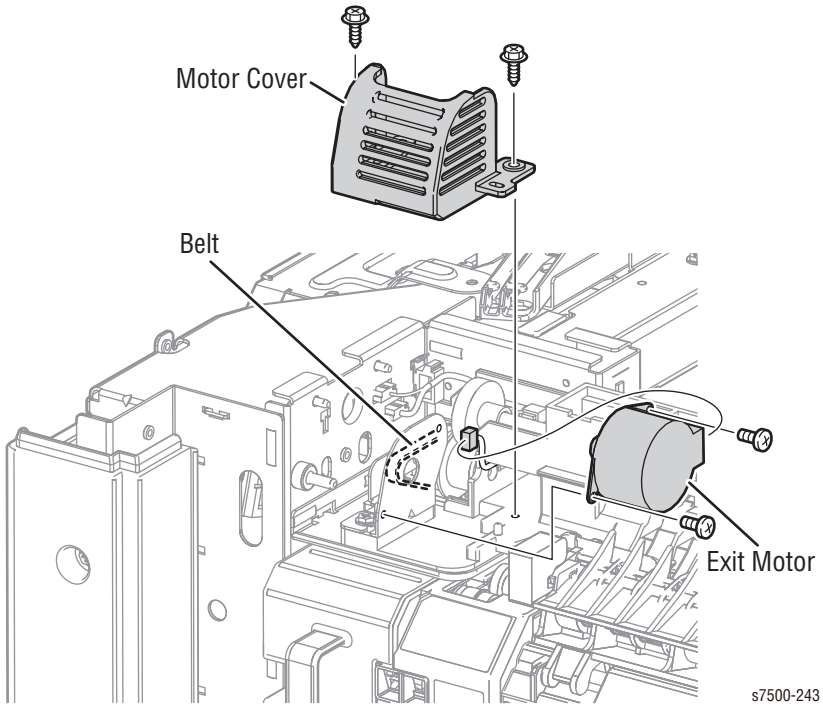
1. Remove the Exit Assembly (REP 17.1, page 8-179).
2. Remove 2 screws (silver, Tapped, 10mm) that secure the Pinch Roll to the Exit Assembly and remove the Pinch Roll.
3. Remove the E-ring at the rear, release the hook, and remove the Gear (24T).
4. Remove the bearing at the rear.
5. Remove the Ground Bearing at the front from the installation section, then remove it together with the Exit Roll.
6. Remove the E-ring at the front, then remove the Ground Bearing from the Exit Roll.



REP 17.3 Exit Motor

PL17.1.15

1. Remove the Exit Cover (REP 19.5, page 8-216).
2. Remove 2 screws (silver, Tapped, 10mm) that secure the Motor Cover and remove the Motor Cover.
3. Remove 2 screws (silver, 8mm) that secure the Exit Motor and release the belt to remove the Exit Motor.
4. Disconnect the wiring harness connector that is connected to the Exit Motor.

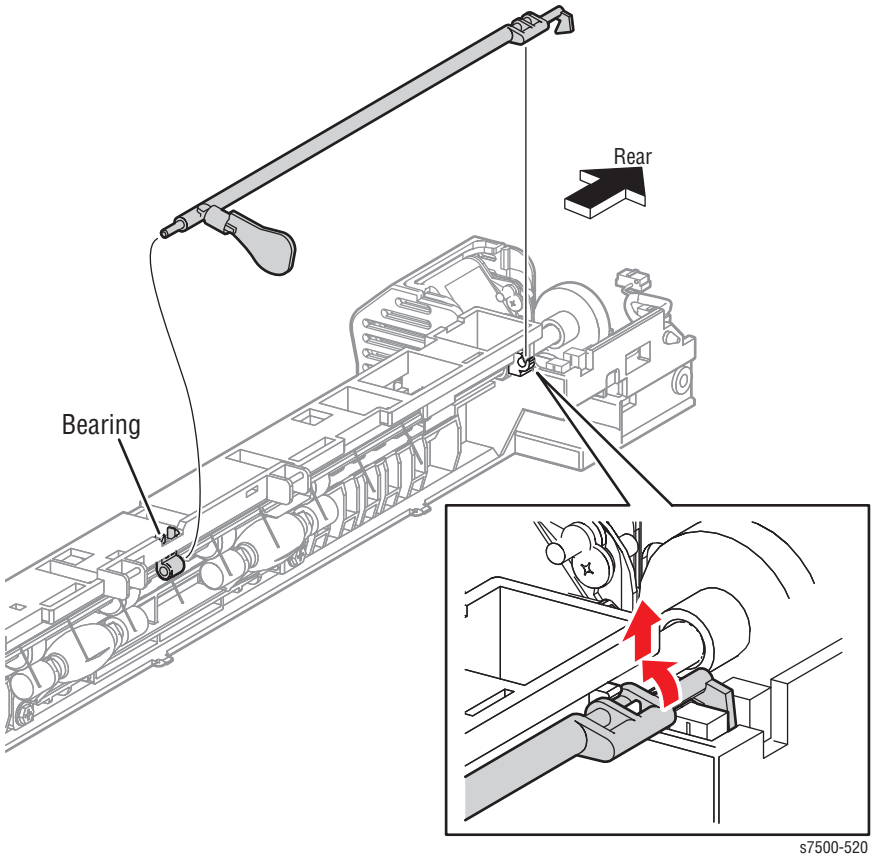


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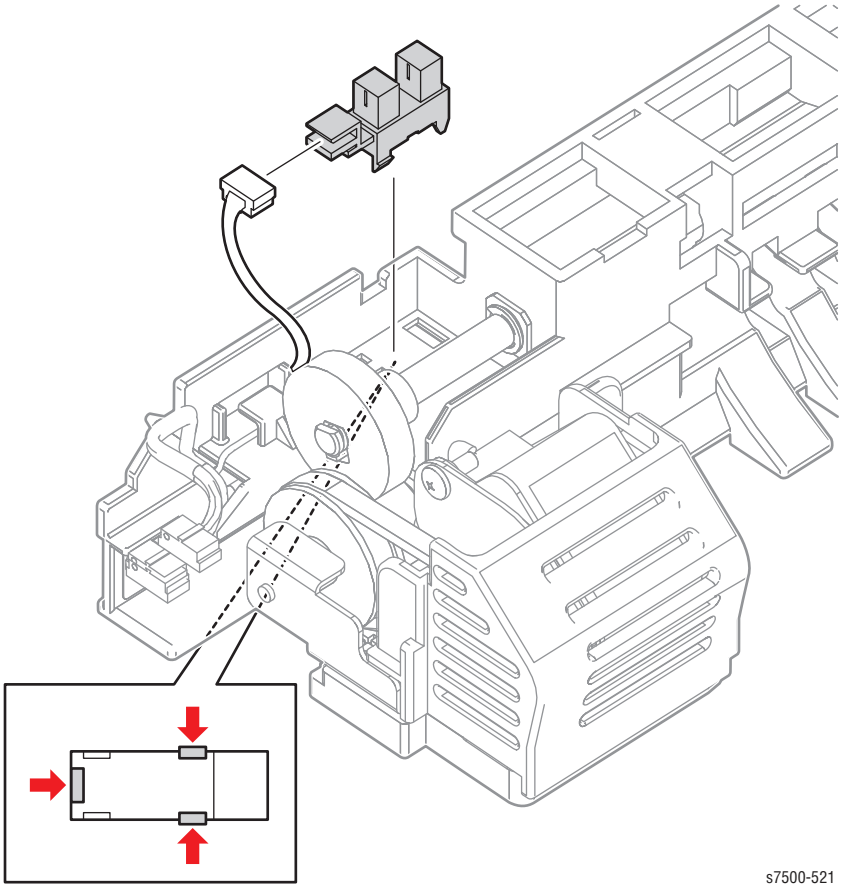
REP 17.4 Full Stack Sensor/ Full Stack Sensor

PL 17.1.19/ PL17.1.26

1. Remove the Exit Cover (REP 19.5, page 8-216).
2. Rotate the Full Stack Actuator Assembly while lifting the rear of the assembly out of the printer. Push the assembly towards the rear to remove the assembly from the bearing.



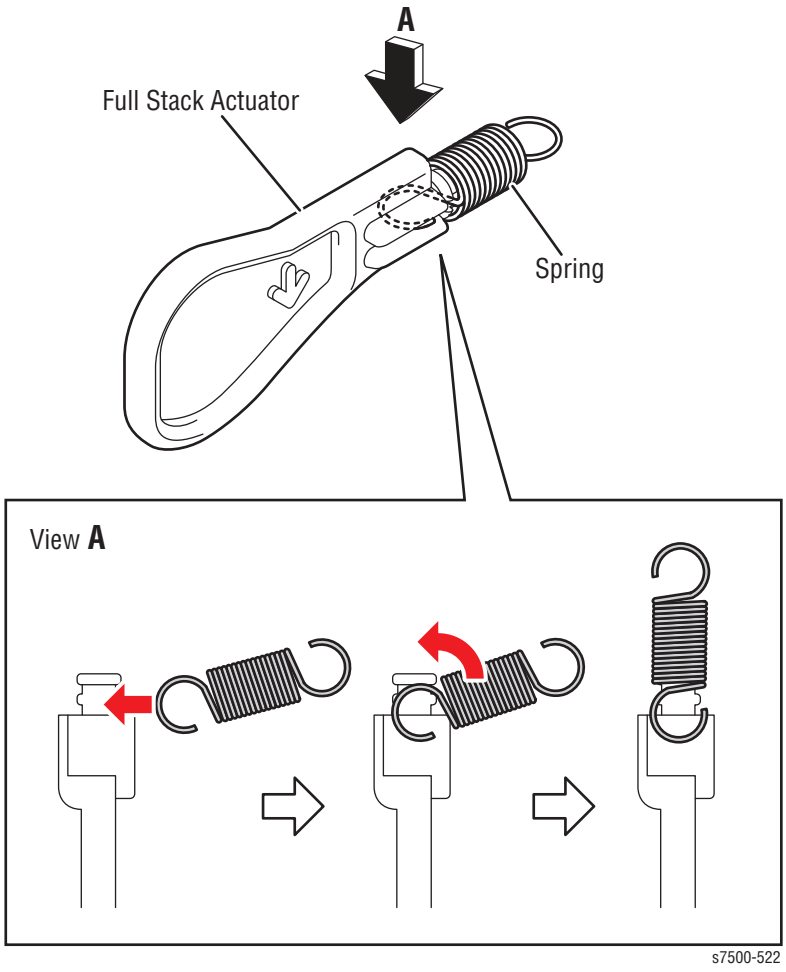
3. Unplug the wiring harness connector.
4. Release the three tabs that secures the Sensor and remove the Full Stack Sensor.



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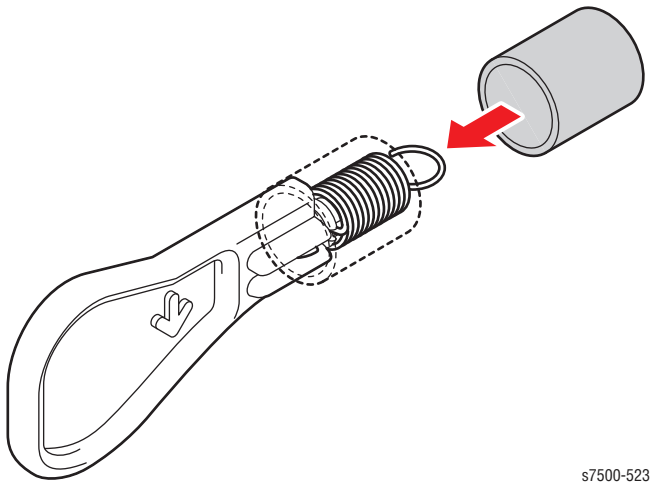
Replacement Note

1. Make sure the Spring is installed with the large area of the Actuator is positioned downward towards the tray.



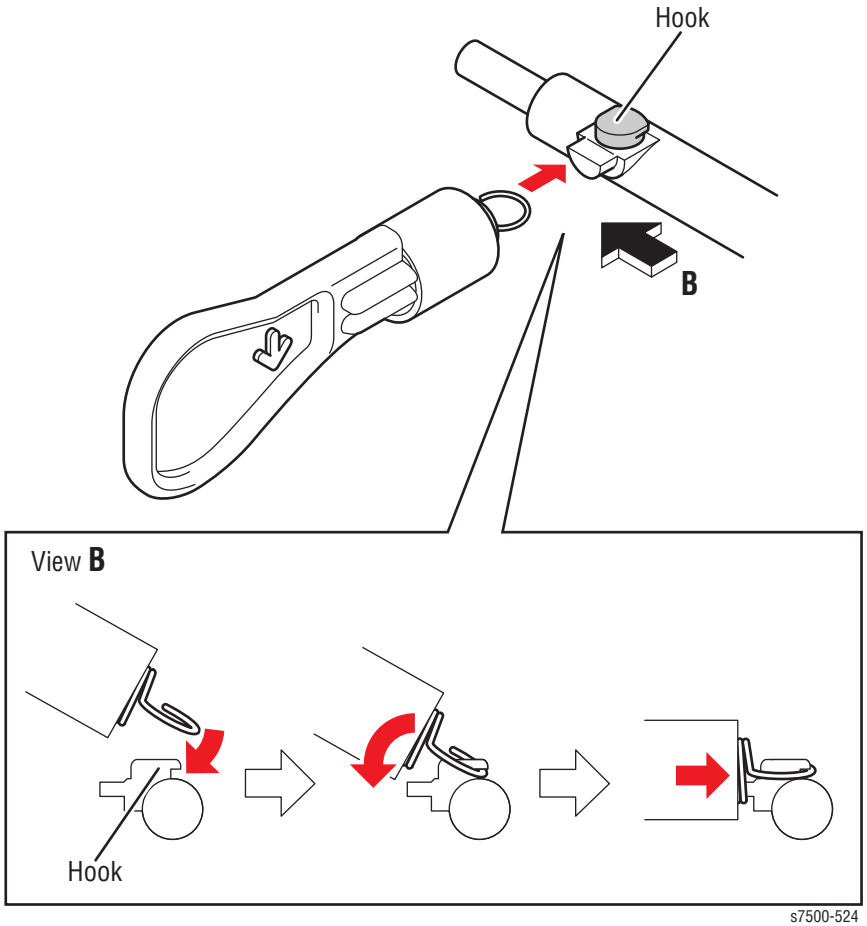
s7500-522

2. Make sure the Pipe ACT Spring is installed over the Spring.



s7500-523

3. Hook the Spring on to the Full Stack Shaft.



s7500-524

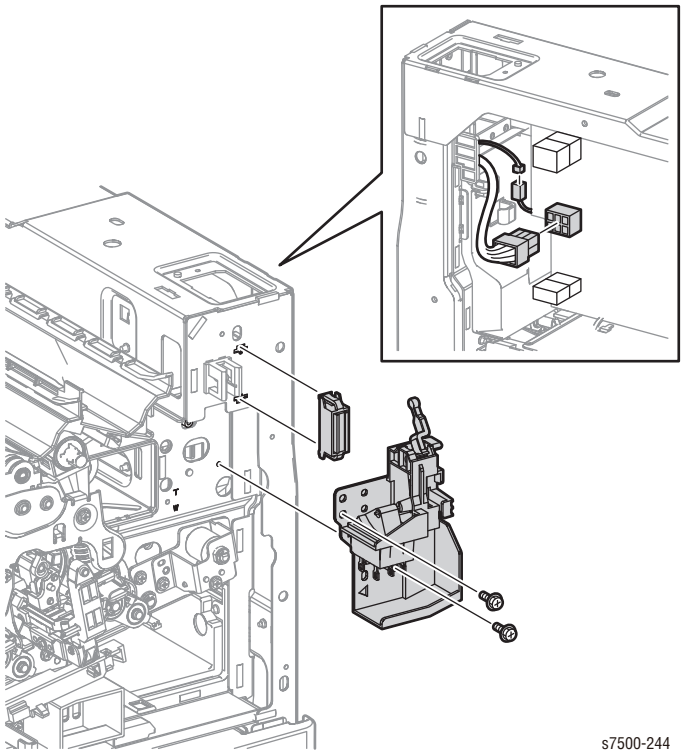
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Electrical

REP 18.1 Main Power Switch Chassis Assembly

PL18.1.1

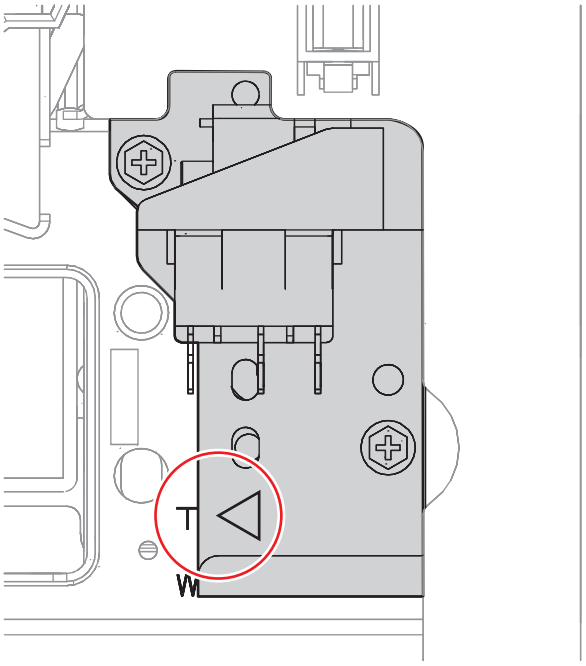
1. Remove the Top Cover Assembly (REP 19.2, page 8-211).
2. Remove the Right Cover. (REP 19.8, page 8-219).
3. Disconnect the 2 wiring harness connectors that are connected to the Main Power Switch Chassis Assembly.
4. Remove ATC Sensor PWB (REP 5.6, page 8-52).
5. Remove the Waste Toner Pipe Assembly (REP 8.6, page 8-75).
6. Remove 2 screws (silver, 6mm) that secure the Main Power Switch Chassis Assembly and remove the Main Power Switch Chassis Assembly.



Replacement Note

When installing the Main Power Switch Chassis Assembly, align the triangular mark of the Main Power Switch Chassis Assembly to the "T" mark on the Frame.

Note



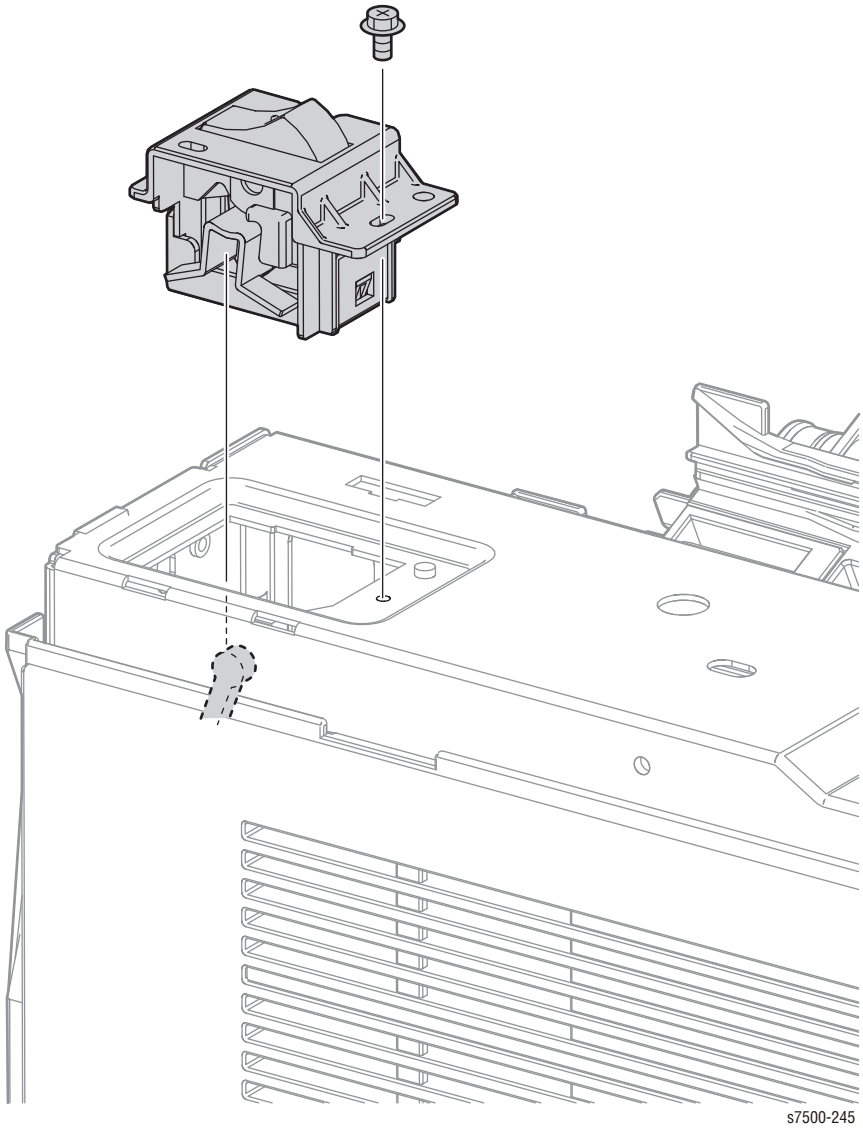
s7500-469

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REP 18.2 Cam Chassis Assembly

PL18.1.3

1. Remove the Top Cover Assembly (REP 19.2, page 8-211).
2. Remove 1 screw (silver, 6mm) that secures the Cam Chassis Assembly and remove the Cam Chassis Assembly.



Replacement Note

Be sure to insert the Cam Chassis Assembly fully into the groove when installing the it.

REP 18.3 MOB ADC Assembly

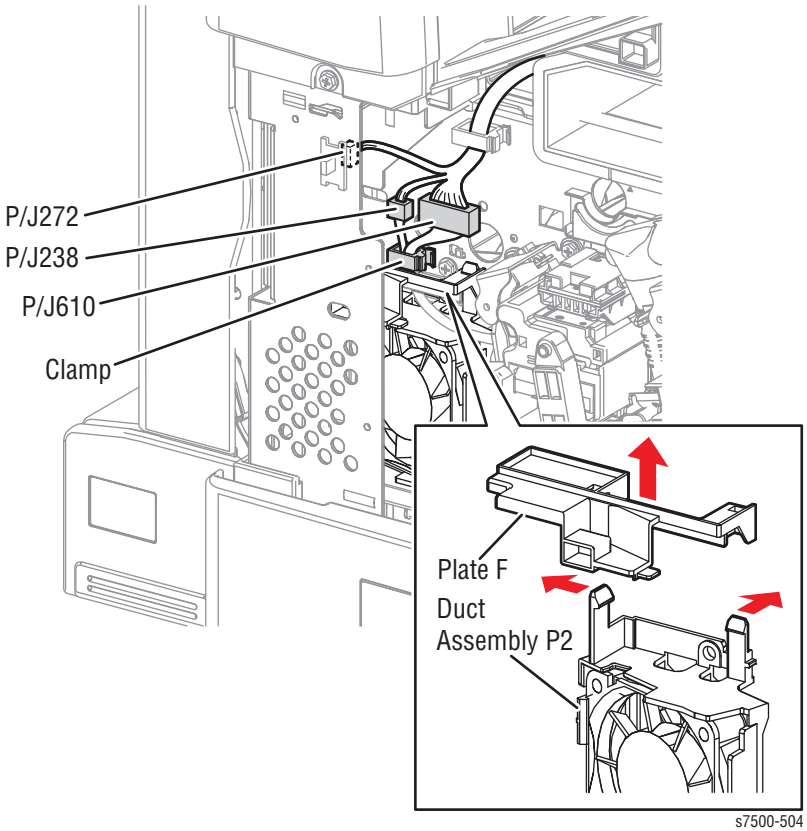
PL18.1.4

Caution

Do not expose the Imaging Unit to light for more than 5 minutes. Cover the Imaging Unit to avoid damage.

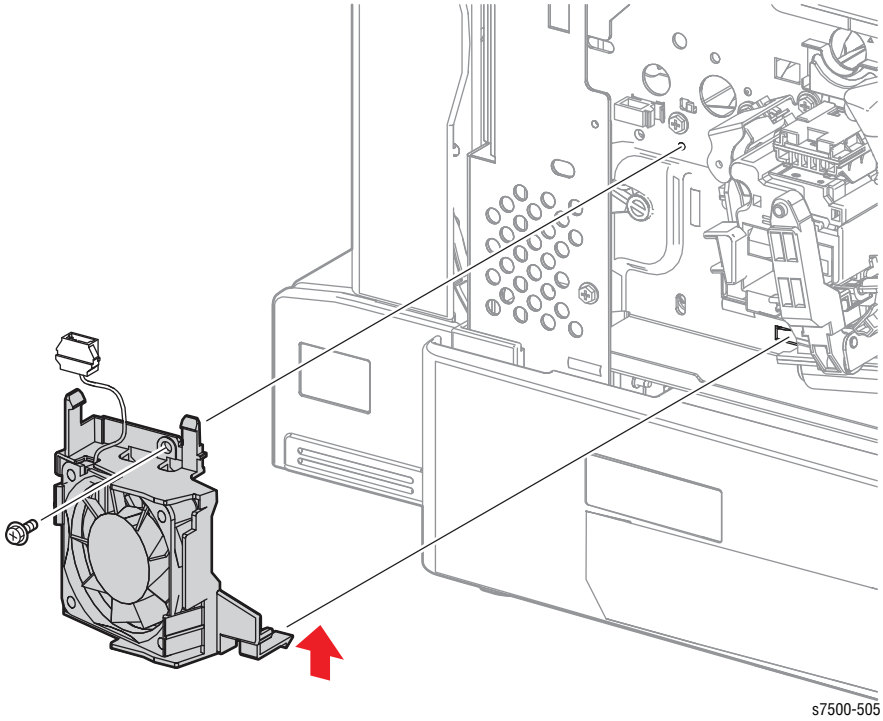
Do not touch the surface of the Imaging Unit.

1. Remove the Deve Plate Assembly (REP 5.4, page 8-49).
2. Disconnect the wiring harness connectors P/J238, P/J272, and P/J610.
3. Release the wiring harness from the clip.

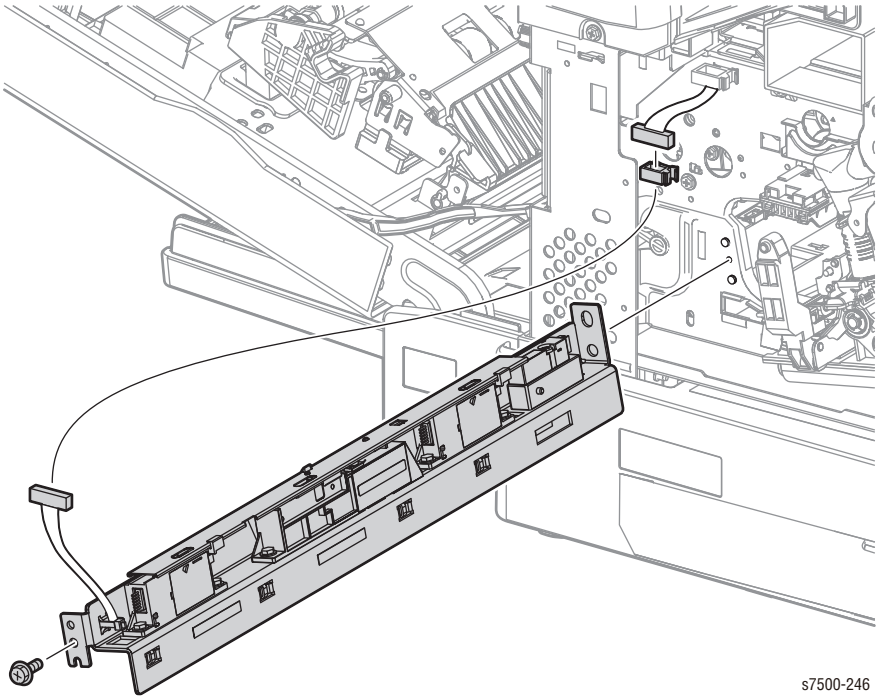


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4. Remove 1 screw that secures the Process 2 Fan (PL4.2.13) and remove the Process 2 Fan.



5. Release the wiring harness that is connected to the MOB ADC Assembly from the clamp and disconnect the wiring harness connector.
6. Remove 1 screw (silver, 6mm) that secures the MOB ADC Assembly to the printer.
7. Pull off the MOB ADC Assembly from the printer to remove it.



REP 18.4 HVPS (Deve/ BCR)

PL18.1.7

Caution

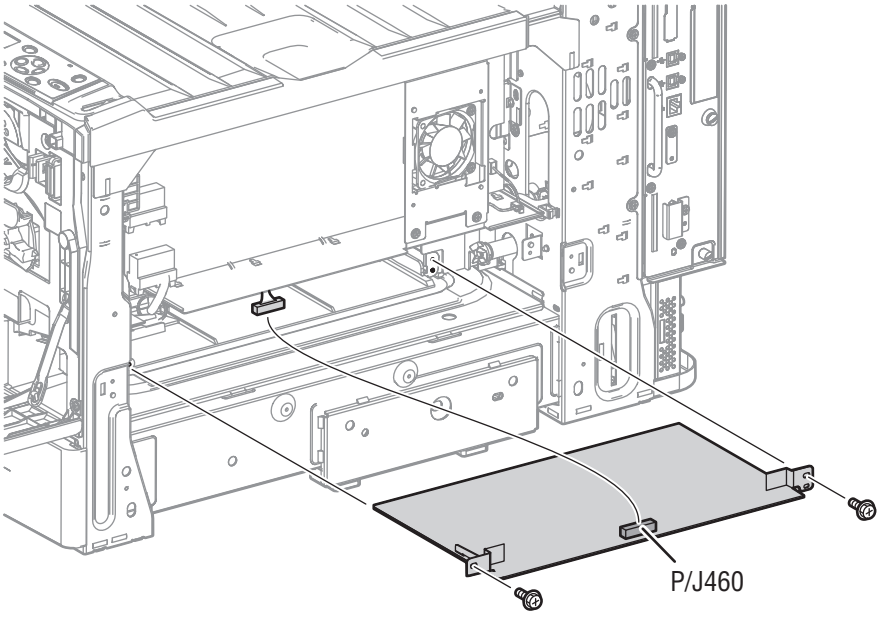
PWB's can be damaged by an electrostatic discharge. Observe all ESD procedures to avoid component damage.

1. Remove the Waste Cartridge (REP 1.3, page 8-12).
2. Remove the Right Cover (REP 19.8, page 8-219).
3. Remove the Bottle Guide Assembly (REP 8.4, page 8-73).
4. Disconnect the wiring harness connector that is connected to the HVPS (Deve/ BCR).
5. Remove 2 screws (silver, 6mm) that secure the HVPS (Deve/ BCR) to the printer.

Caution

Be careful not to bend the PWB when removing the PWB to prevent damaging the PWB.

6. Hold onto the Bracket tabs of the HVPS (Deve/ BCR) and pull it out towards you to remove the HVPS (Deve/ BCR).



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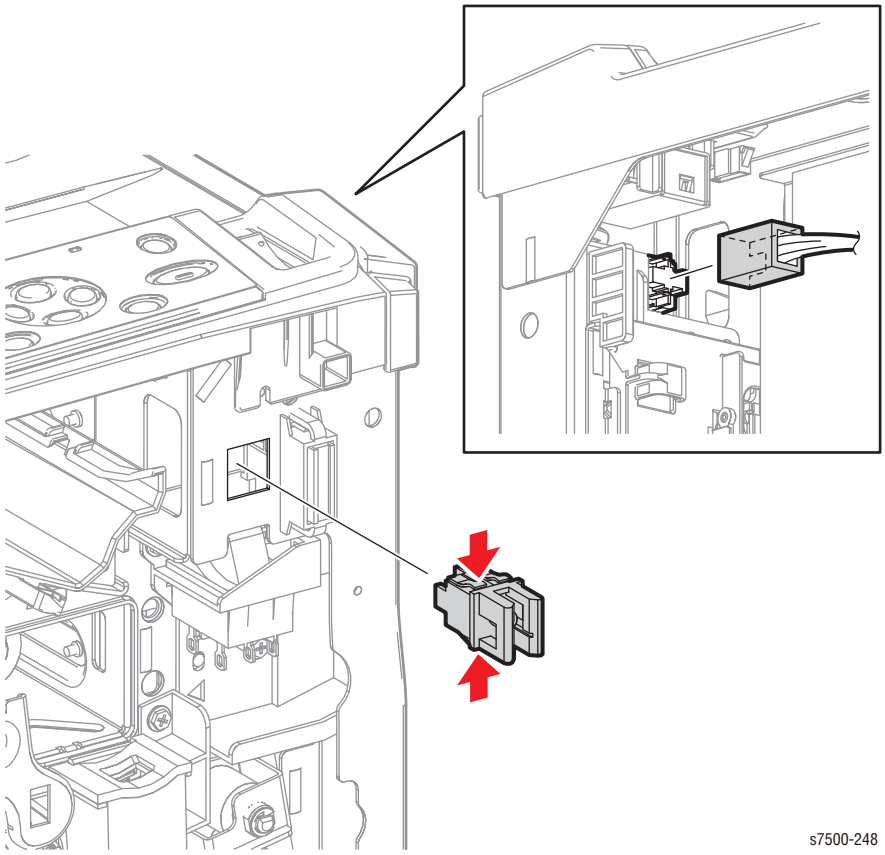
REP 18.5 Front Cover Interlock Switch

PL18.1.9

Caution

Do not expose the Imaging Unit to light for more than 5 minutes. Cover the Imaging Unit to avoid damage. Do not touch the surface of the Imaging Unit.

1. Remove the Front Cover Assembly and the Inner Cover Assembly (REP 19.1, page 8-207).
2. Remove the Right Cover (REP 19.8, page 8-219).
3. Disconnect the wiring harness connector that is connected to the Front Cover Interlock Switch.
4. Release the hooks that secure the Front Cover Interlock Switch and remove the Front Cover Interlock Switch.

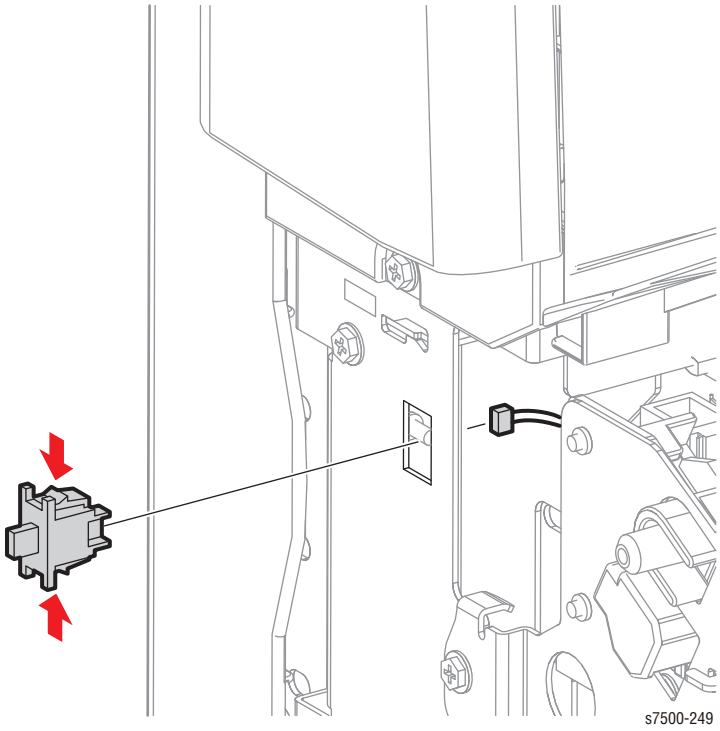


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REP 18.6 IBT Front Cover Switch

PL18.1.10

1. Remove the Front Cover Assembly and the Inner Cover Assembly (REP 19.1, page 8-207).
2. Disconnect the wiring harness connector that is connected to the IBT Front Cover Switch.
3. Release the hooks that secure the IBT Front Cover Switch and remove the IBT Front Cover Switch.



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REP 18.7 Main LVPS

PL18.1.11

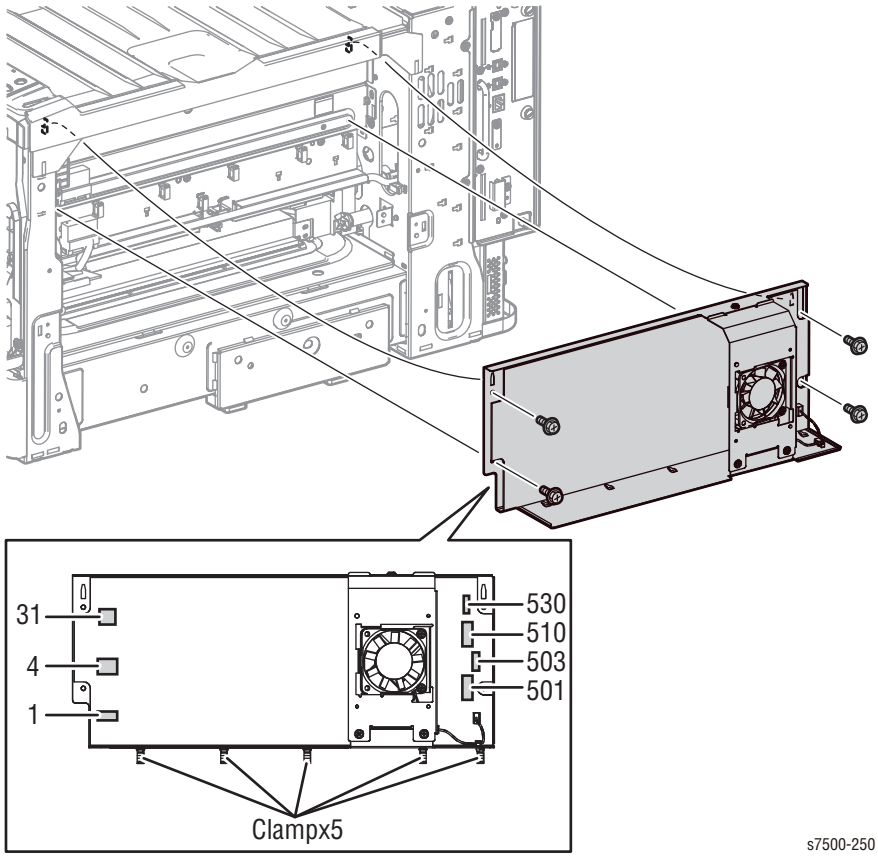
Warning

To prevent electric shock, turn Off the power and unplug the power plug from the electrical outlet.

Caution

PWB's can be damaged by an electrostatic discharge. Observe all ESD procedures to avoid component damage.

1. Remove the Waste Cartridge (REP 1.3, page 8-12).
2. Remove the Right Cover (REP 19.8, page 8-219).
3. Remove the Bottle Guide Assembly (REP 8.4, page 8-73).
4. Disconnect all wiring harness connectors that are connected to the Main LVPS.
5. Remove the wiring harness from the 5 clamps under the Main LVPS.
6. Remove 4 screws (silver, 6mm) that secure the Main LVPS to the printer and remove the Main LVPS.



Replacement Note

Be sure to align the 2 hooks on the printer frame with the hole on the LVPS Frame when installing the Main LVPS.

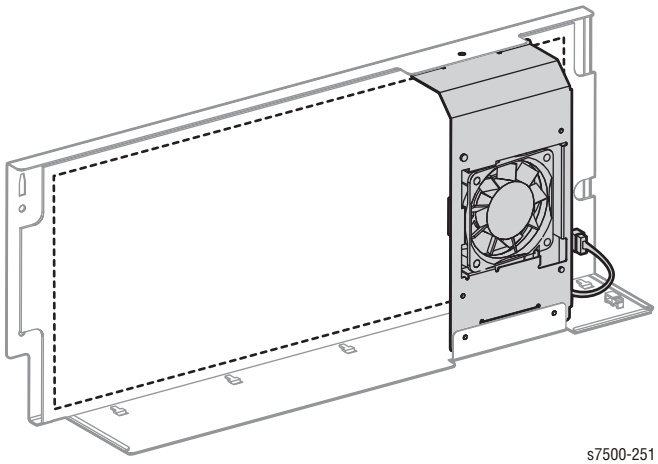
REP 18.8 LV Fan

PL18.1.13

Caution

PWB's can be damaged by an electrostatic discharge. Observe all ESD procedures to avoid component damage.

1. Disconnect the wiring harness connector that is connected to the LV Fan.
2. Remove 2 screw (silver, 6mm) that secure the LV Fan to the LV Fan Bracket and remove the LV Fan.



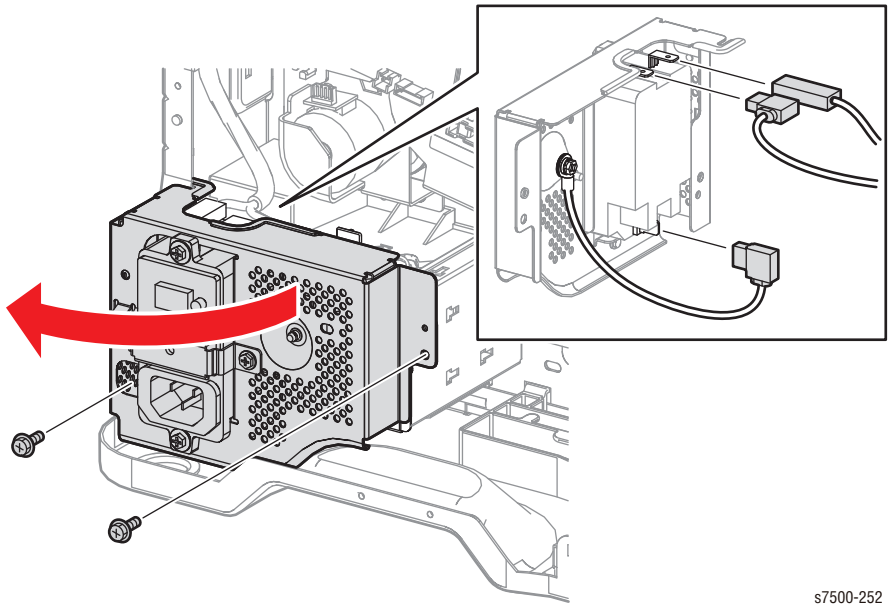
s7500-251

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REP 18.9 GFI

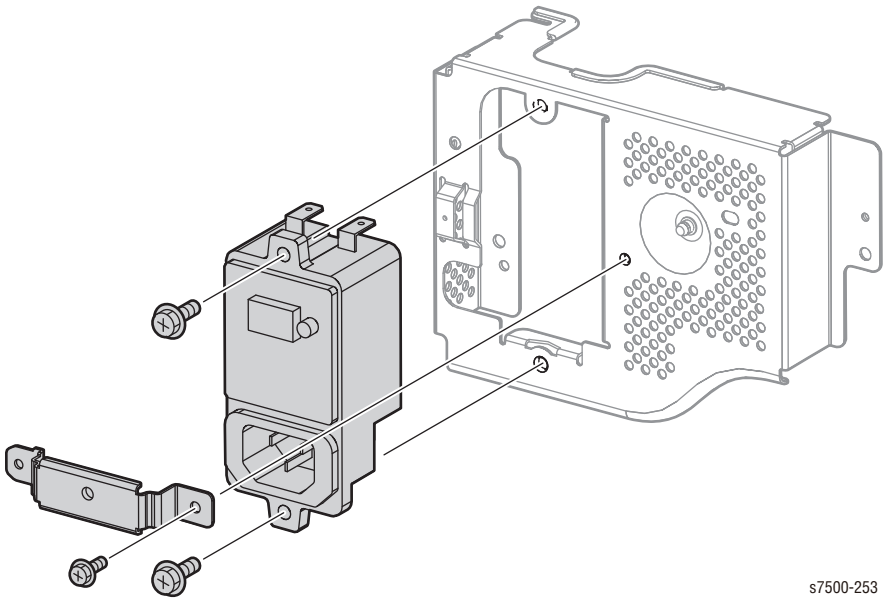
PL18.1.15

1. Remove the PWB Chassis Unit (REP 18.10, page 8-197).
2. Remove 2 screws (silver, 6mm) that secure the GFI Chassis and open the GFI Chassis.
3. Disconnect the 3 wiring harness connectors from the GFI.



s7500-252

4. Remove 1 screw (silver, 6mm) that secures the Bracket and remove the Bracket.
5. Remove 2 screws (silver, M4 x 8mm) that secure the GFI and remove the GFI.



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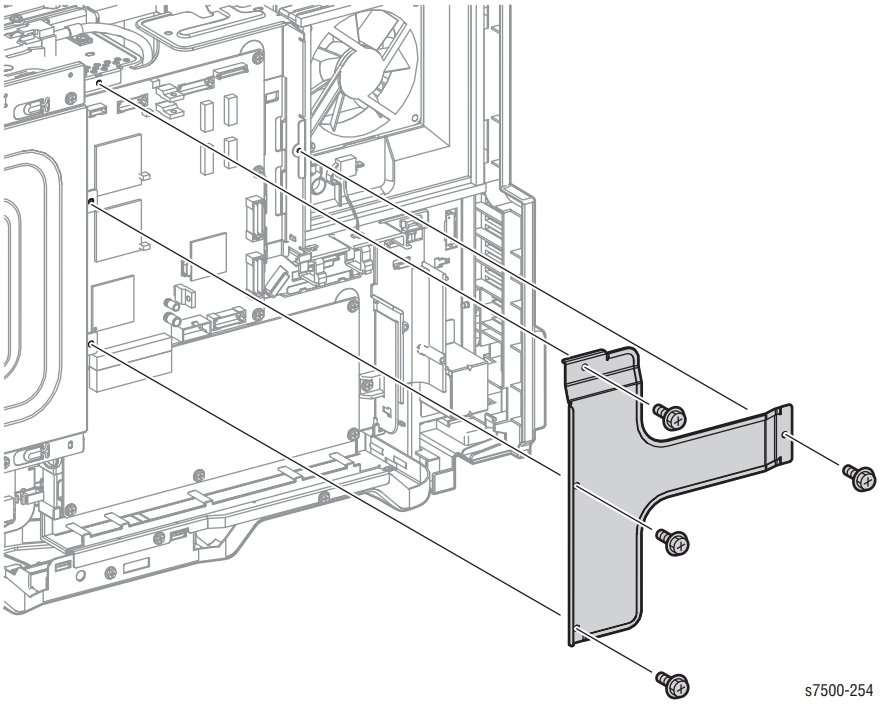
REP 18.10 PWB Chassis Unit

PL18.2.7

Caution

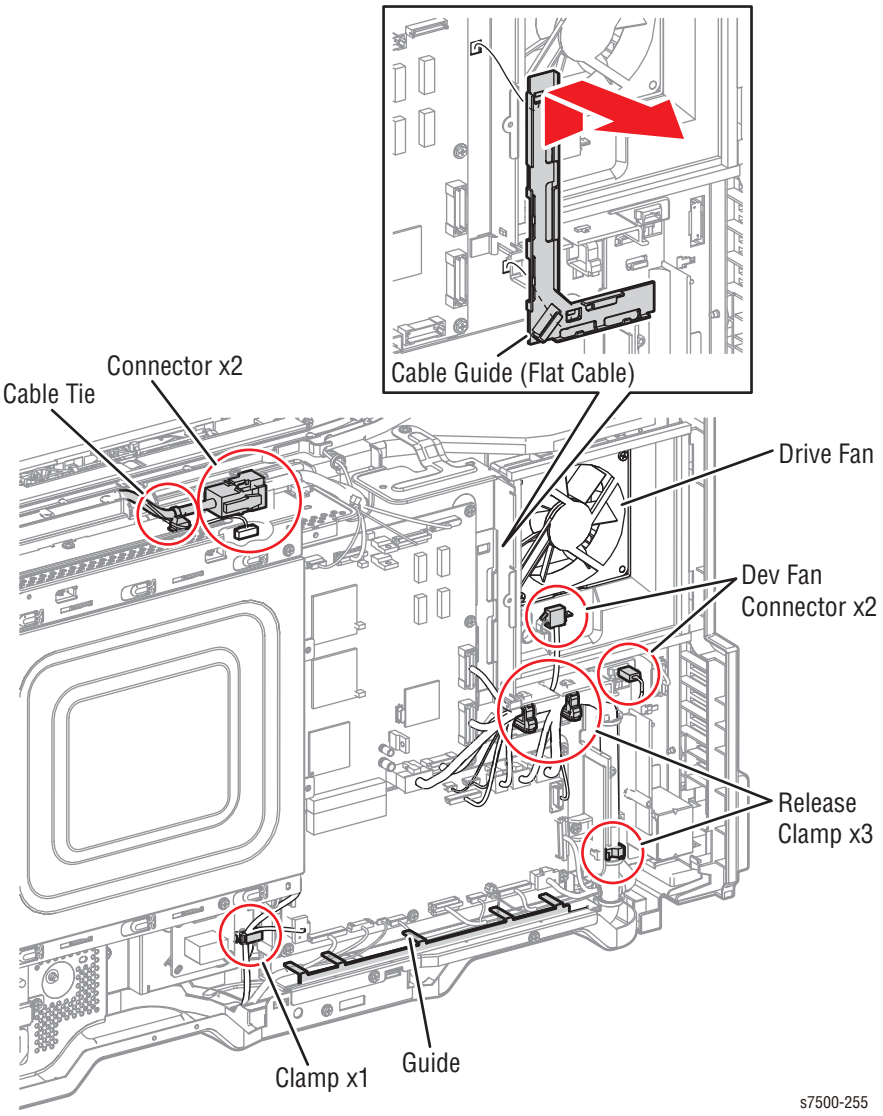
PWB's can be damaged by an electrostatic discharge. Observe all ESD procedures to avoid component damage.

1. Remove the Top Rear Cover and the Rear Cover (REP 19.6, page 8-217).
2. Remove the Right Cover (REP 19.8, page 8-219).
3. Remove 4 screws (silver, 6mm) that secure the MCU PWB Cover and remove the MCU PWB Cover.



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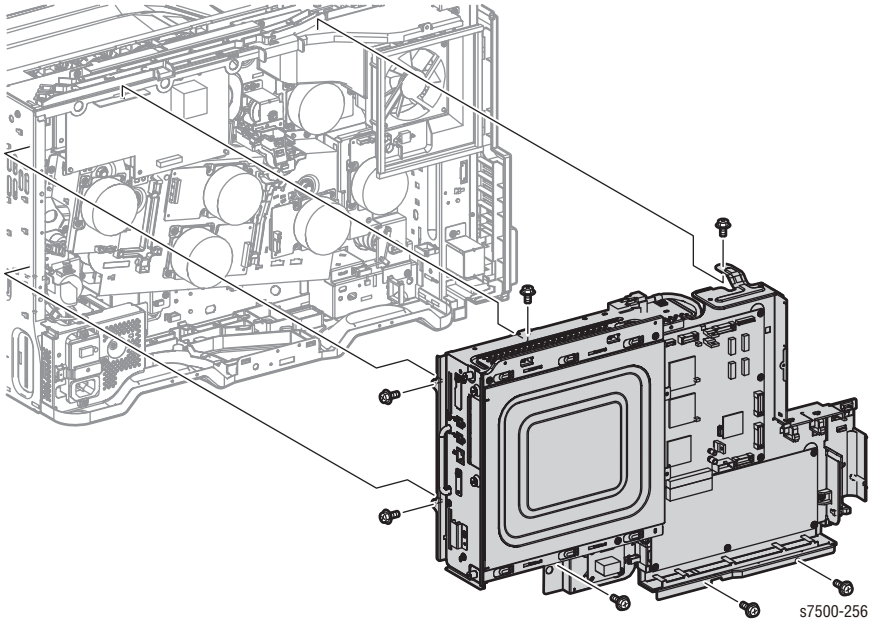
4. Disconnect all the wiring harness connectors that connect the MCU PWB to the Motor Drive PWB.
5. Disconnect the 2 wiring harness connectors at the top of the PWB Chassis Unit, squeeze and release the cable tie.
6. Disconnect the 2 wiring harness connectors at the bottom of the Drive Fan.
7. Release the wiring harness from the clamps (4) and the Harness Guide that are attached to the PWB Chassis Unit.
8. Lift the clamp and remove the Flat Cable of the PWB Chassis Unit, and lift and pull the Harness Guide together that it is attached to.



Caution

Be careful not to damage the released wiring harness when removing the PWB Chassis.

9. Remove 4 connectors on the top of the MCU PWB P416, P411, P415, and P431.
10. Remove 7 screws (silver, 6mm) that secure the PWB Chassis Unit to the printer.
11. Fold a piece of paper multiple times and place it under the wires from the Motor Drive PWB.
12. The chassis unit can now be rotated approximately 90 degree to gain access to the components on the rear of the printer.



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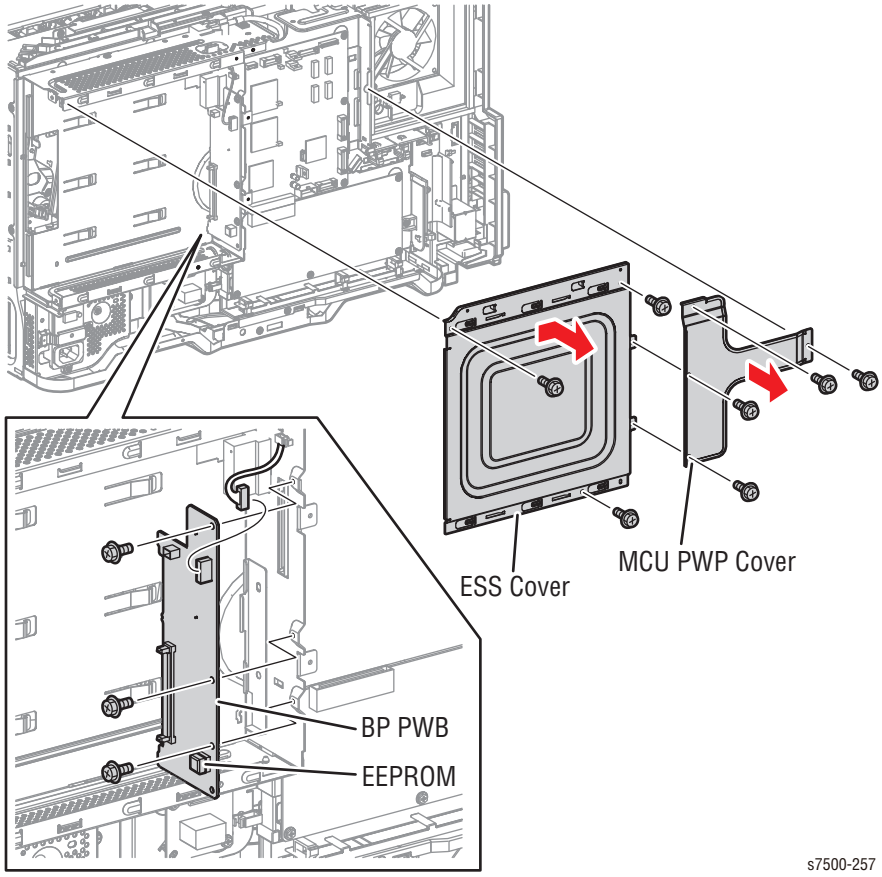
REP 18.11 Backplane (BP) PWB (Interface PWB)

PL18.3.2

Caution

PWB's can be damaged by an electrostatic discharge. Observe all ESD procedures to avoid component damage.

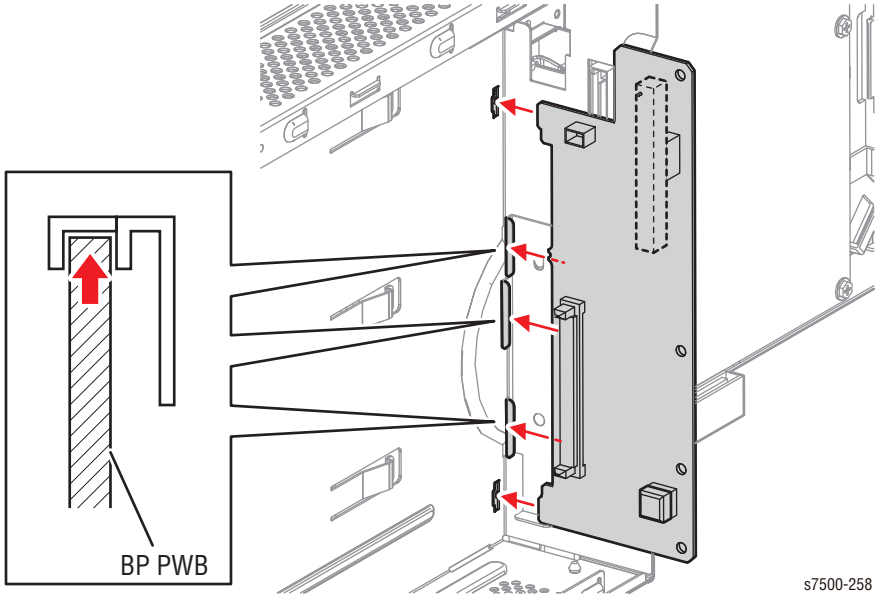
1. Remove the Top Rear Cover and the Rear Cover (REP 19.6, page 8-217).
2. Remove the Image Processor Board (REP 21.1, page 8-220).
3. Remove 4 screws (silver, 6mm) that secure the MCU PWB Cover and remove the MCU PWB Cover.
4. Remove 3 screws (silver, 6mm) that secure the ESS Cover and remove the ESS Cover.
5. Disconnect the wiring harness connector that is connected to the Backplane PWB.
6. Remove 3 screws (silver, 6mm) that secure the Backplane PWB, disconnect the wiring harness connector that is connected to the MCU PWB, and remove the Backplane PWB.



Replacement Note

When replacing the Backplane PWB, be sure to remove the EEPROM from the old PWB and install it to the new PWB.

When installing the Backplane PWB, align and insert the 2 protrusions of the Backplane PWB into the square holes on the Frame, and make sure that the PWB is fully inserted into the gap of the guide section.



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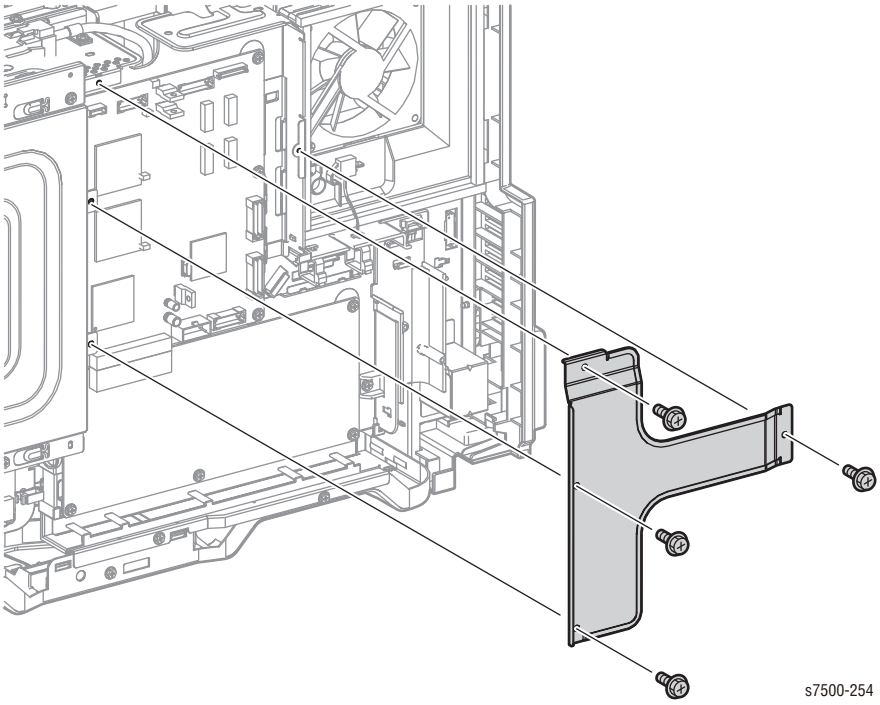
REP 18.12 MCU PWB

PL18.3.6

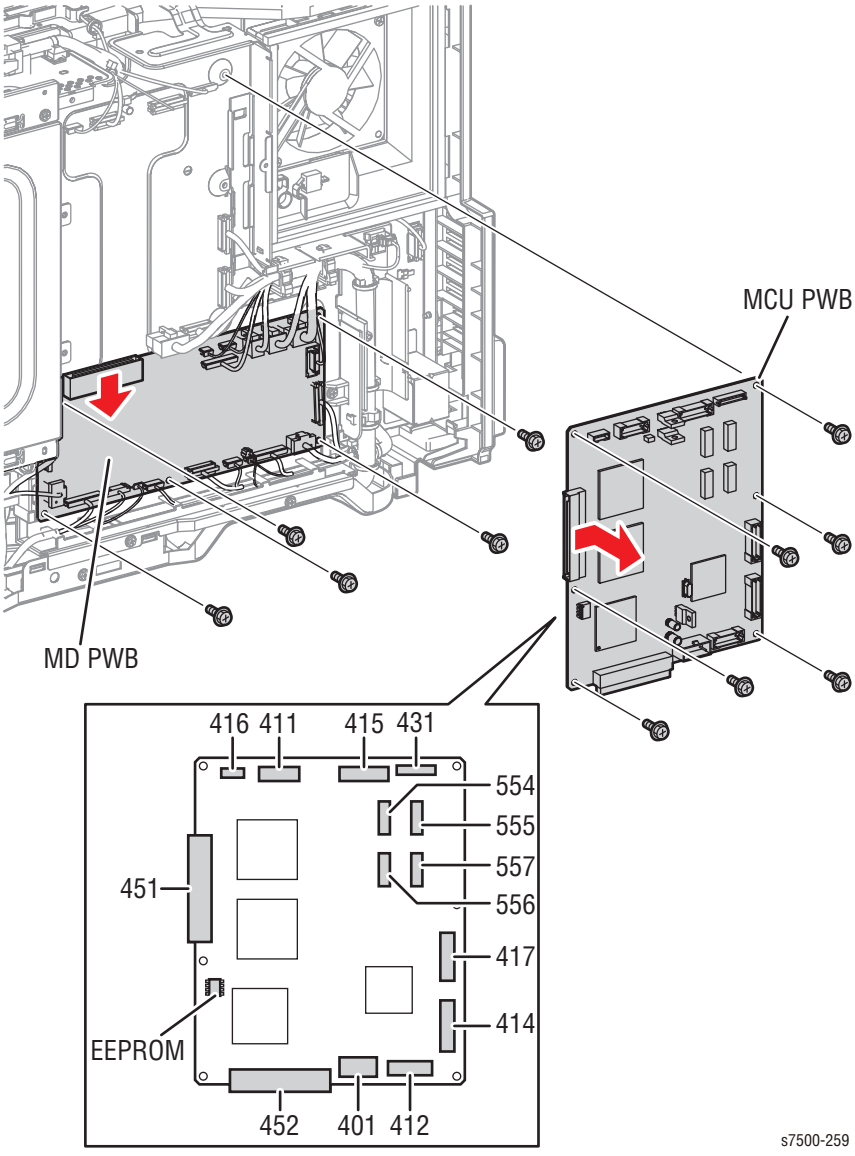
Caution

PWB's can be damaged by an electrostatic discharge. Observe all ESD procedures to avoid component damage.

1. Remove the Top Rear Cover and the Rear Cover (REP 19.6, page 8-217).
2. Remove 4 screws (silver, 6mm) that secure the MCU PWB Cover and remove the MCU PWB Cover.



3. Remove 5 screws (silver, 6mm) that secure the Motor Drive PWB to the PWB Chassis Unit.
4. Lower the Motor Drive PWB and disconnect the wiring harness connector that is connected to the MCU PWB.
5. Disconnect all connectors that are connected to the MCU PWB.
6. Remove 6 screws (silver, 6mm) that secure the MCU PWB to the PWB Chassis Unit.
7. Shift the MCU PWB to the left, disconnect the wiring harness connector that is connected to the BP PWB, and remove the MCU PWB.
8. Remove the EEPROM for transferring to the new PWB.



Replacement Note

Be sure to update firmware after installing the MCU PWB.

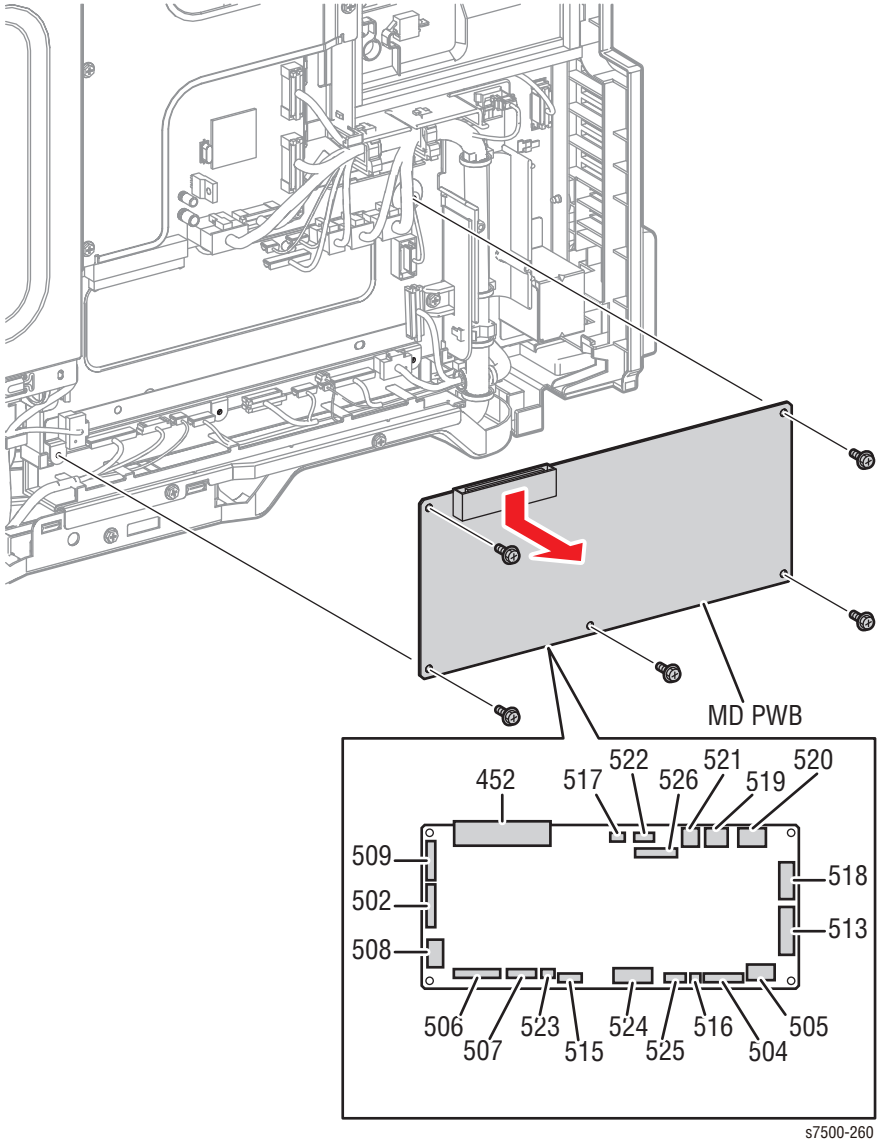
REP 18.13 Motor Drive (MD) PWB

PL18.3.7

Caution

PWB's can be damaged by an electrostatic discharge. Observe all ESD procedures to avoid component damage.

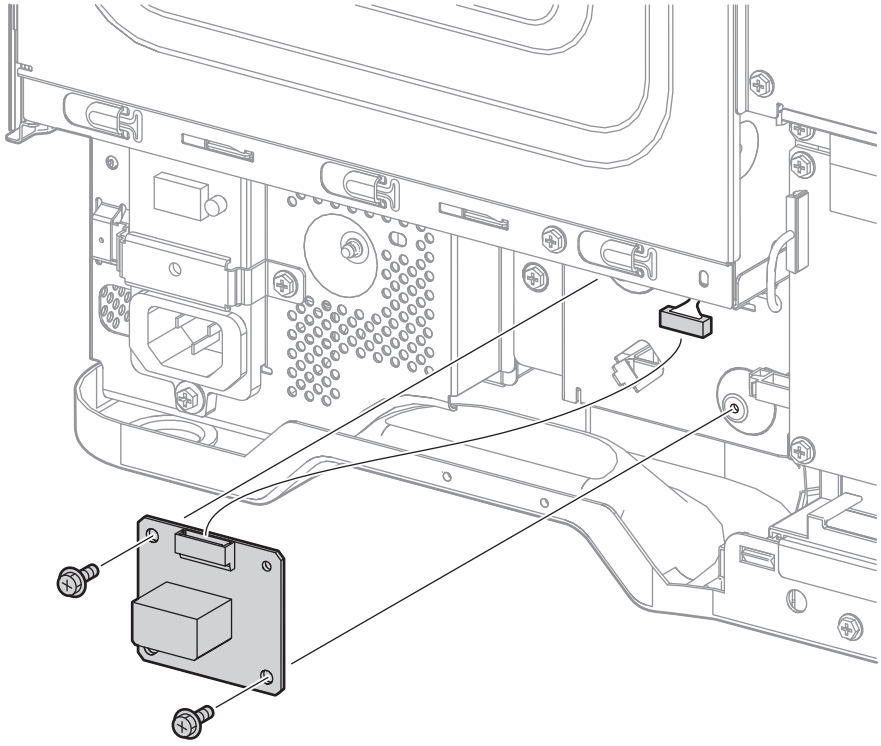
1. Remove the Top Rear Cover and the Rear Cover (REP 19.6, page 8-217).
2. Disconnect all the wiring harness connectors that are connected to the Motor Drive PWB.
3. Remove 5 screws (silver, 6mm) that secure the Motor Drive PWB to the PWB Chassis Unit.
4. Lower the Motor Drive PWB, disconnect the wiring harness connector that is connected to the MCU PWB, and remove the Motor Drive PWB.



REP 18.14 TM Relay PWB

PL18.3.11

1. Remove the Top Rear Cover and the Rear Cover (REP 19.6, page 8-217).
2. Disconnect the wiring harness connector that is connected to the TM Relay PWB.
3. Remove 2 screws (silver, 6mm) that secure the TM Relay PWB to the PWB Chassis Unit and remove the TM Relay PWB.



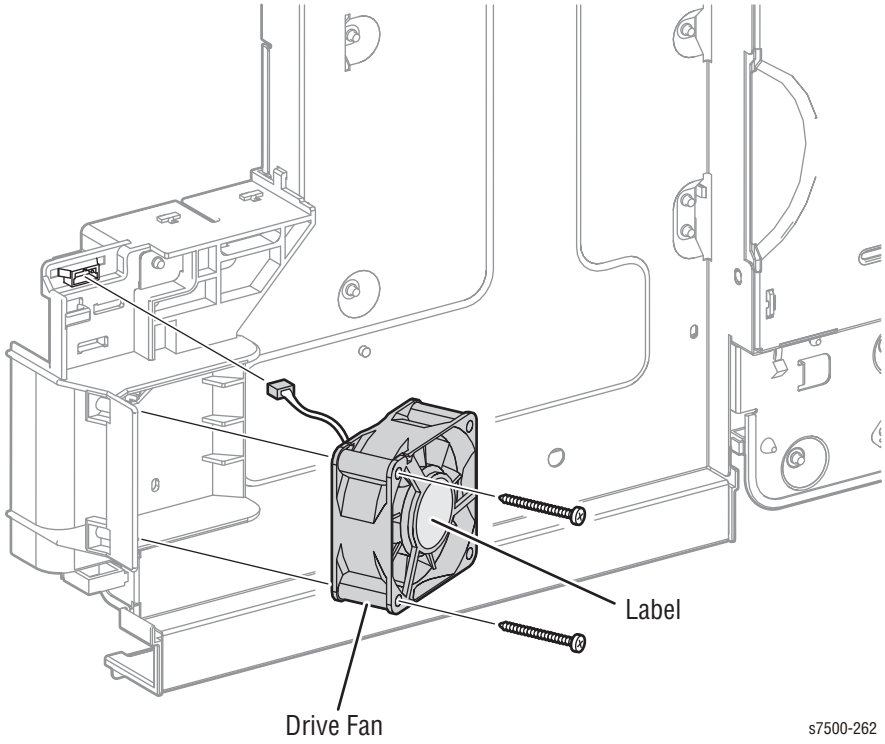
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REP 18.15 Drive Fan

PL18.3.17

1. Remove the Top Rear Cover and the Rear Cover (REP 19.6, page 8-217).
2. Remove the Right Cover (REP 19.8, page 8-219).
3. Remove the PWB Chassis Unit (REP 18.10, page 8-197).
4. Disconnect the wiring harness connector that connects the Drive Fan to the relay connector.
5. Remove 2 screws (silver, 32mm) that secure the Drive Fan and remove the Drive Fan.



Cover

REP 19.1 Front Cover Assembly/ Inner Cover Assembly

PL19.1.10/ PL19.1.13

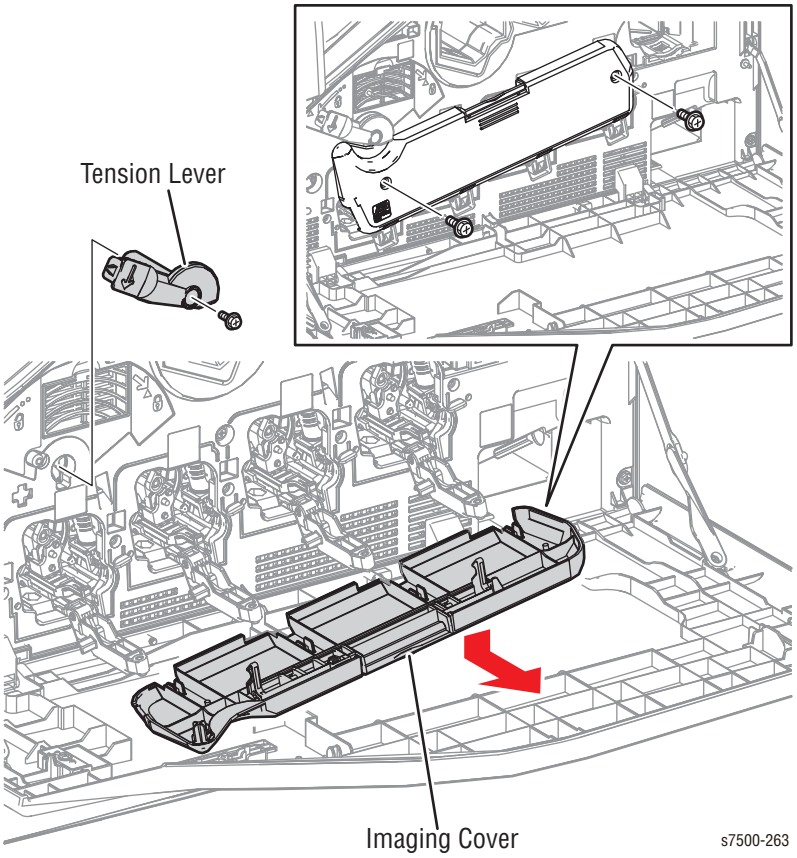
Caution

Do not expose the Imaging Unit to light for more than 5 minutes. Cover the Imaging Unit to avoid damage. Do not touch the surface of the Imaging Unit.

Note

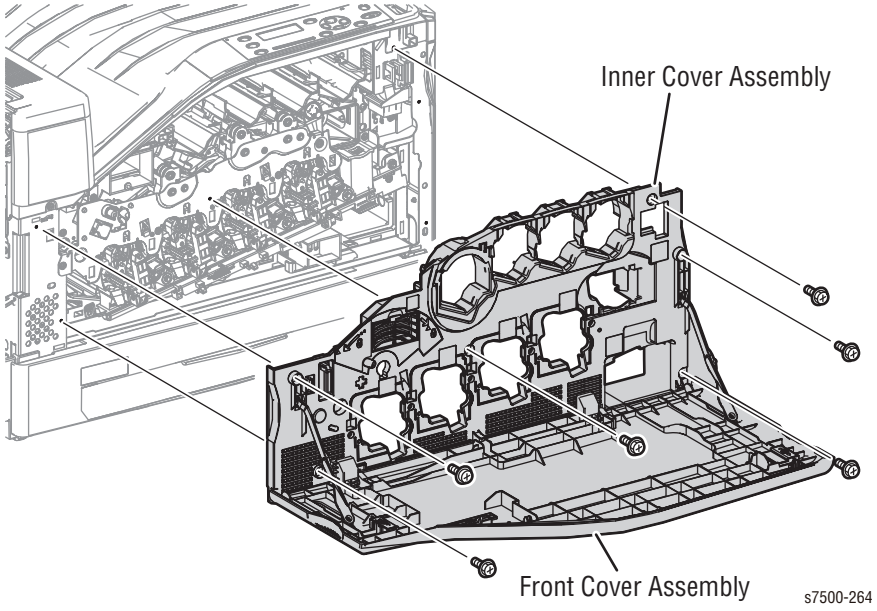
When removing the Deve or Dispenser inside the printer, remove the Front Cover Assembly and the Inner Cover Assembly at the same time.

1. Remove the Imaging Unit (Y/M/C/K) (REP 1.2, page 8-10).
2. Remove the Toner Cartridge (Y/M/C/K) (REP 1.1, page 8-9).
3. Remove the Waste Cartridge (REP 1.3, page 8-12).
4. Remove the IBT Belt Cleaner Assembly (REP 6.1, page 8-57).
5. Remove 2 screws (silver, 8mm) that secure the Imaging Unit Cover.
6. Open the Imaging Unit Cover, part way to first detent, and pull it towards you to remove it.
7. Remove 1 screw deeply recessed (silver, 8mm) that secures the Tension Lever and remove the Tension Lever.



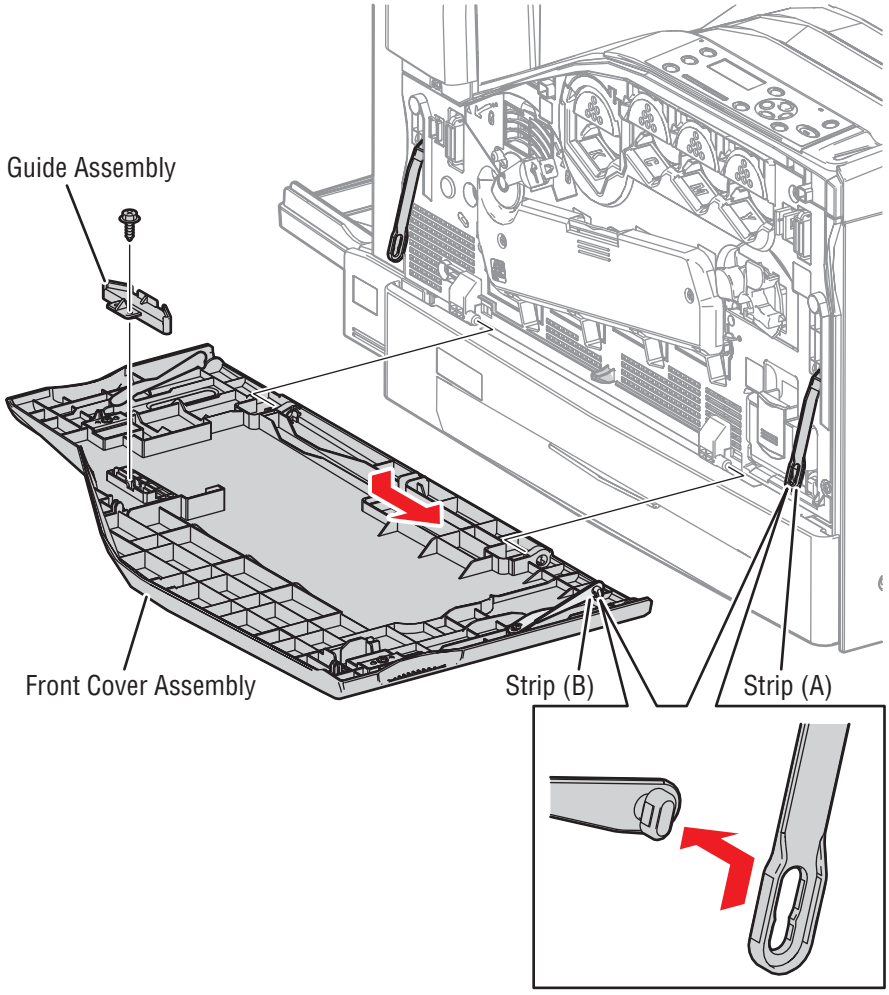
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8. Open the Left Hand Cover Assembly (Door A).
9. Remove 6 screws (silver, 8mm) that secure the Inner Cover Assembly to the printer.
10. Remove the Front Cover Assembly and the Inner Cover Assembly at the same time.



Front Cover Assembly

1. Open the Front Cover Assembly by 45˚.
2. Shift Strip (B), which is inserted in the long hole of Strip (A) at the right and left, upwards and separate them.
3. Bend the center of the Front Cover Assembly downwards to release it from the bump of the Inner Cover Assembly, and then slide the Front Cover Assembly to the right to remove it.
4. Remove 1 screw (silver, Tapped, 8mm) that secures the Guide Assembly (PL 19.1.14) to the Front Cover Assembly and remove the Guide Assembly.



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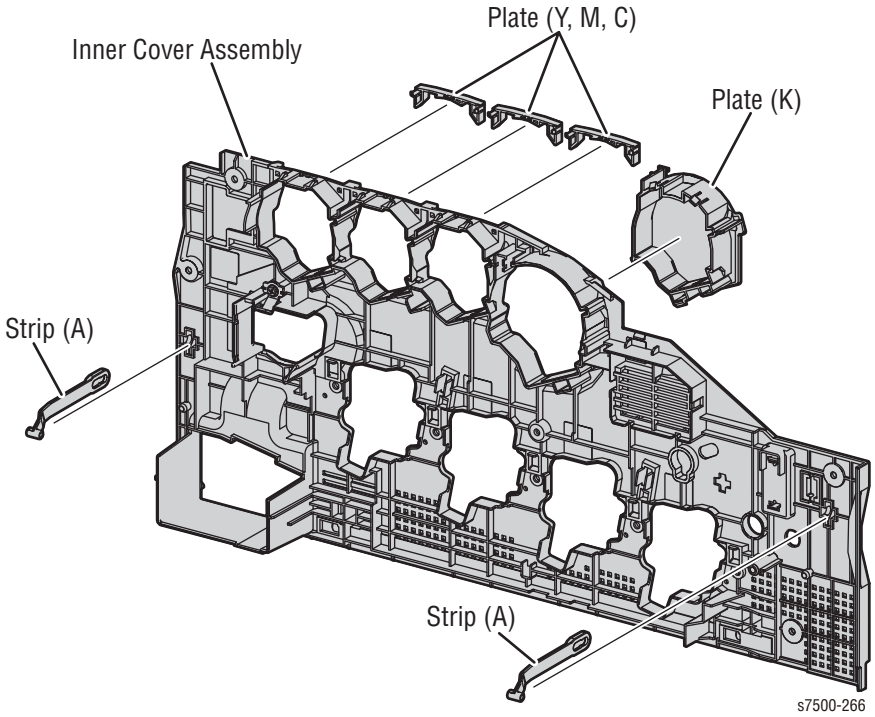
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Inner Cover Assembly

Caution

Do not expose the Imaging Unit to light for more than 5 minutes. Cover the Imaging Unit to avoid damage. Do not touch the surface of the Imaging Unit.

1. Remove the Imaging Unit (Y/M/C/K) (REP 1.2, page 8-10).
2. Remove the Toner Cartridge (Y/M/C/K) (REP 1.1, page 8-9).
3. Remove the Waste Cartridge (REP 1.3, page 8-12).
4. Remove the IBT Belt Cleaner Assembly (REP 6.1, page 8-57).
5. Remove the Front Cover Assembly and the Inner Cover Assembly at the same time.
6. Remove the Front Cover Assembly.
7. Remove Strip (A) from the Inner Cover Assembly.
8. Remove the Plate (Y/M/C/K) from the Inner Cover Assembly.



REP 19.2 Top Cover Assembly/ Control Panel

PL19.2.1/ PL19.2.13

Caution

Do not expose the Imaging Unit to light for more than 5 minutes. Cover the Imaging Unit to avoid damage. Do not touch the surface of the Imaging Unit.

1. Remove the Imaging Unit (Y/M/C/K) (REP 1.2, page 8-10).
2. Remove the Toner Cartridge (Y/M/C/K) (REP 1.1, page 8-9).
3. Remove the Waste Cartridge (REP 1.3, page 8-12).
4. Remove the IBT Belt Cleaner Assembly (REP 6.1, page 8-57).
5. Remove the Front Cover Assembly and the Inner Cover Assembly (REP 19.1, page 8-207).
6. Remove the Top Rear Cover and the Rear Cover (REP 19.6, page 8-217).
7. Remove the Front Left Cover (REP 19.7, page 8-218).
8. Remove the Exit Cover (REP 19.5, page 8-216).
9. Rotate the Paper Weight upwards.

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10. Remove 1 screw (silver, 8mm) that secures the Top Cover Assembly to the printer.

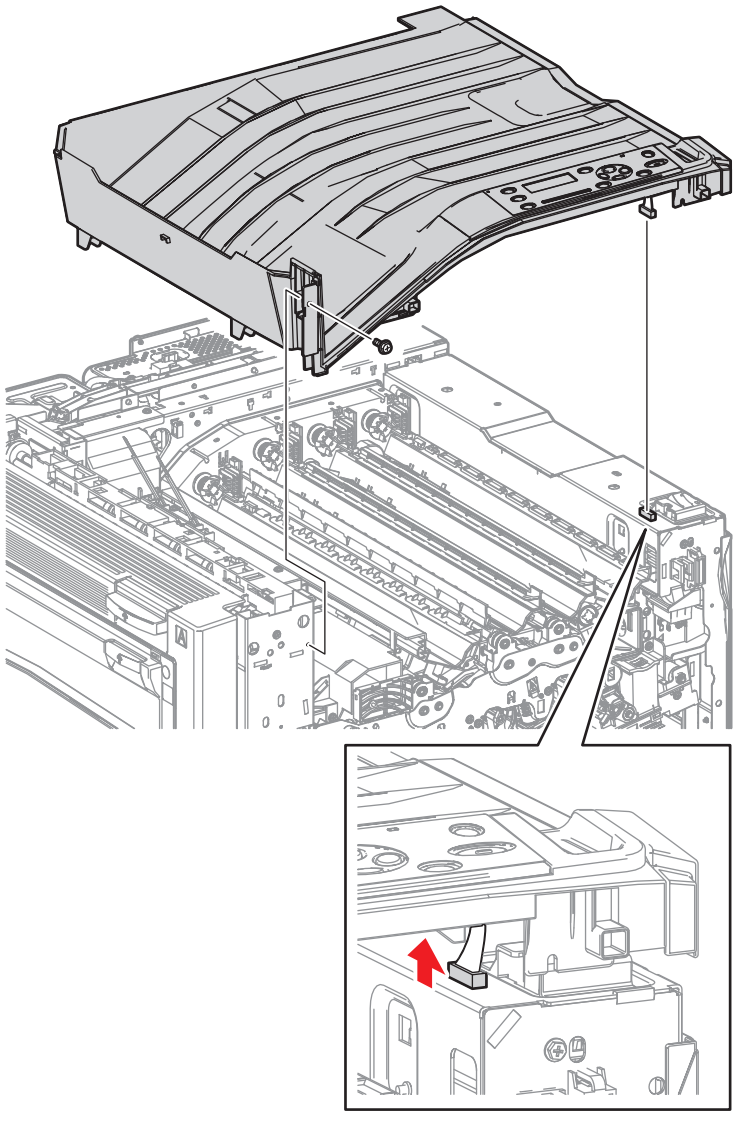
Caution

Do not lift the Top Cover too abruptly, because the wiring harness of the Control Panel is still connected, when removing the Control Panel in the following steps.

Note

Check the connector beside the Main Switch by slightly lifting up the right side of the Top Cover Assembly.

11. Lift up the right side of the Top Cover Assembly to disconnect the Control Panel connector, release the 2 hooks in the rear and 1 hook on the left side, and remove the Top Cover Assembly.



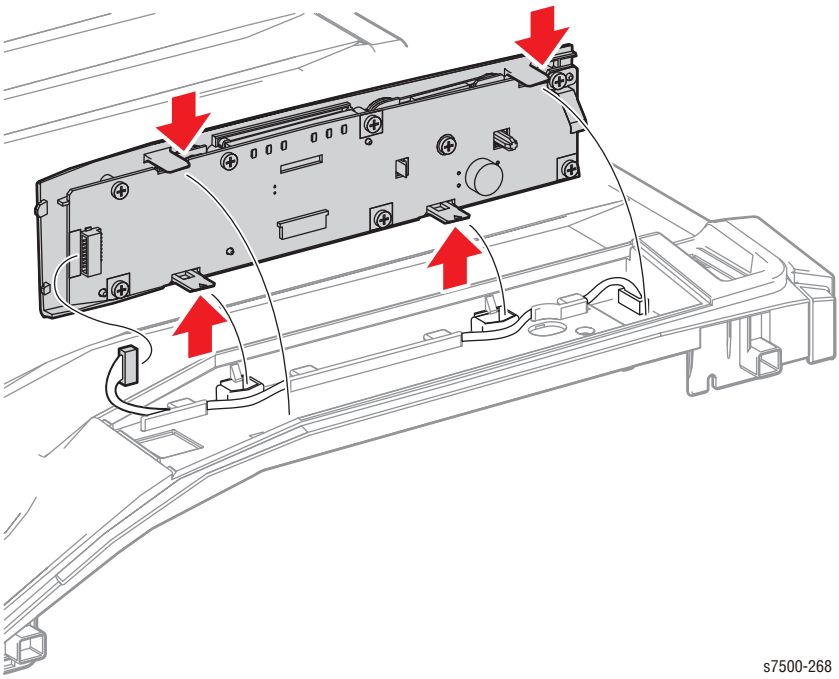
s7500-267

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Note

In the following step, check the connector beside the Main Switch by slightly lifting up the right side of the Top Cover Assembly.

12. Release the 4 hooks that secure the Control Panel.
13. Disconnect the wiring harness connector that is connected to the bottom of the Control Panel and remove the Control Panel.

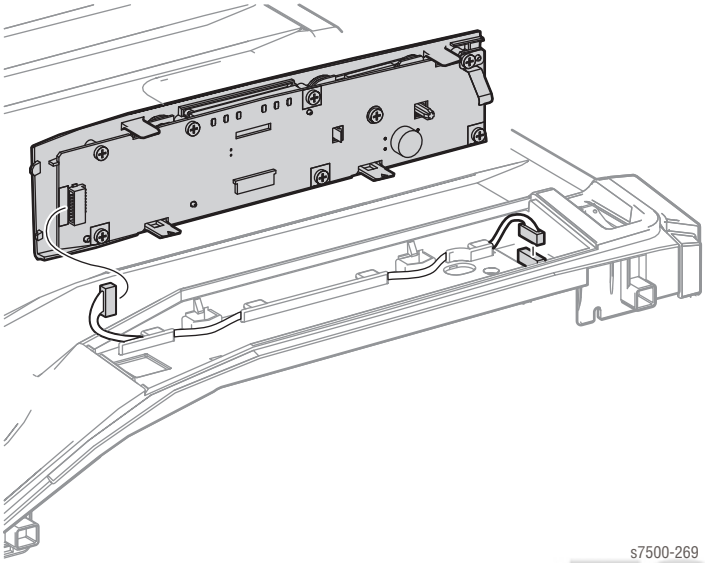


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Replacement Note

Be careful not to pinch the Paper Weight when installing the Top Cover Assembly.

Be sure to connect the 2 wiring harness connectors securely prior to installing the Control Panel.



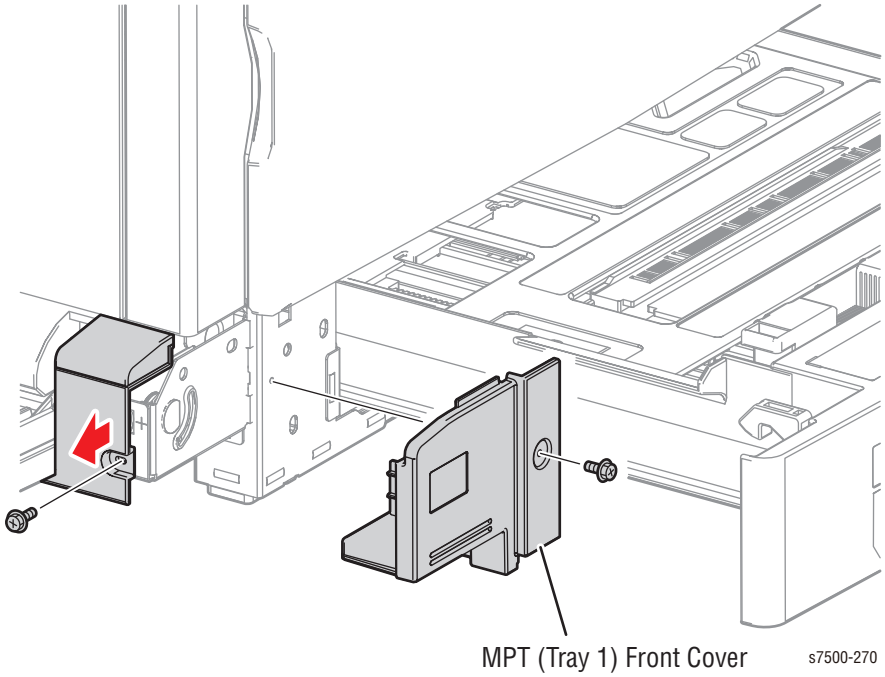
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REP 19.3 Tray 1 (MPT) Front Cover

PL19.2.20

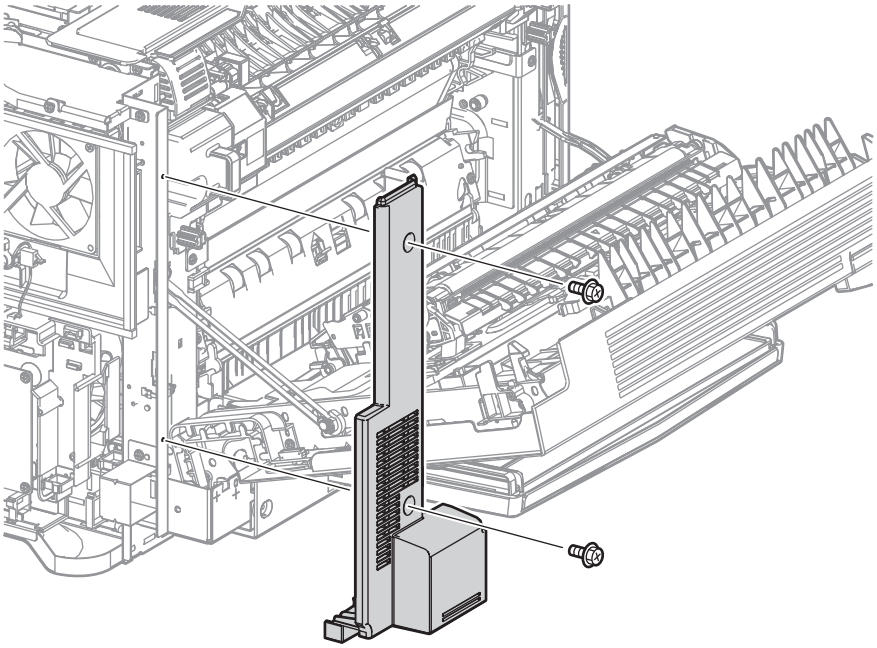
1. Pull out Tray 1.
2. Remove 1 screw (silver, 8mm) at the front of the Tray 1 Feeder Assembly.
3. Remove 1 screw (silver, 8mm) that secures the Tray 1 Front Cover.
4. Slightly open the front side of the Tray 1 Feeder Assembly towards you and remove the Tray 1 Front Cover.



REP 19.4 Left Rear Cover

PL19.2.21

1. Open the Left Hand Cover Assembly (Door A).
2. Remove the Top Rear Cover and the Rear Cover (REP 19.6, page 8-217).
3. Remove 2 screws (silver, 8mm) that secure the Left Rear Cover to the printer.
4. Release the 3 hooks on the inner side of the Left Rear Cover and remove the Left Rear Cover.



s7500-271

Replacement Note

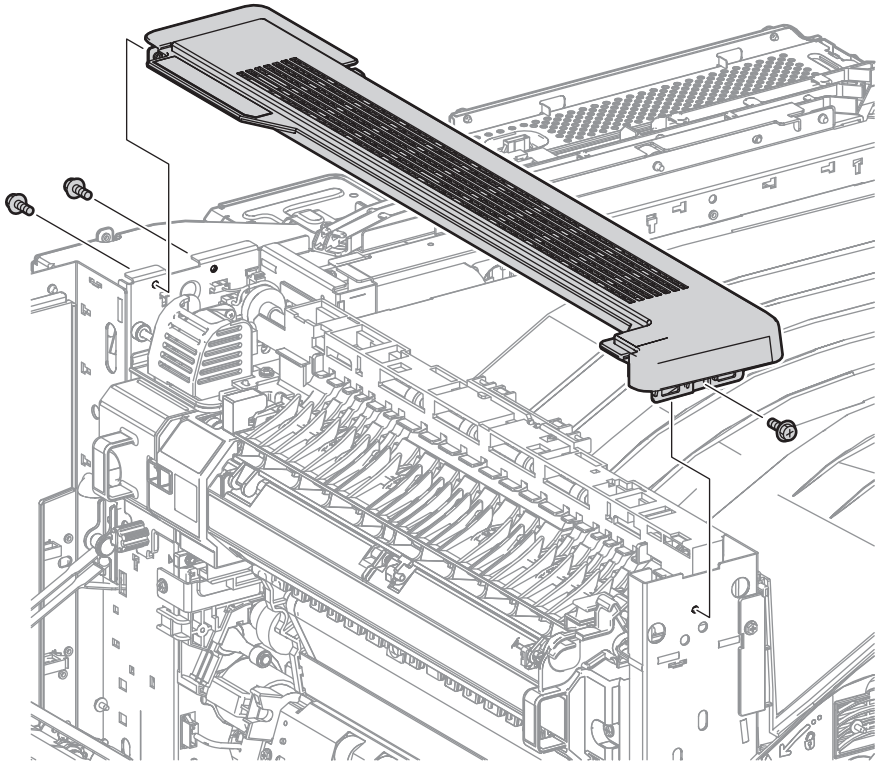
Be careful not to pinch the wiring harness of the Tray 1 Feeder Assembly when installing the Left Rear Cover.

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REP 19.5 Exit Cover

PL19.2.5

1. Remove the Top Rear Cover and the Rear Cover (REP 19.6, page 8-217).
2. Remove the Front Left Cover (REP 19.7, page 8-218).
3. Open the Left Hand Cover Assembly (Door A).
4. Remove the 3 screws (silver, 8mm) that secure the Exit Cover to the printer.
5. Remove the Exit Cover.

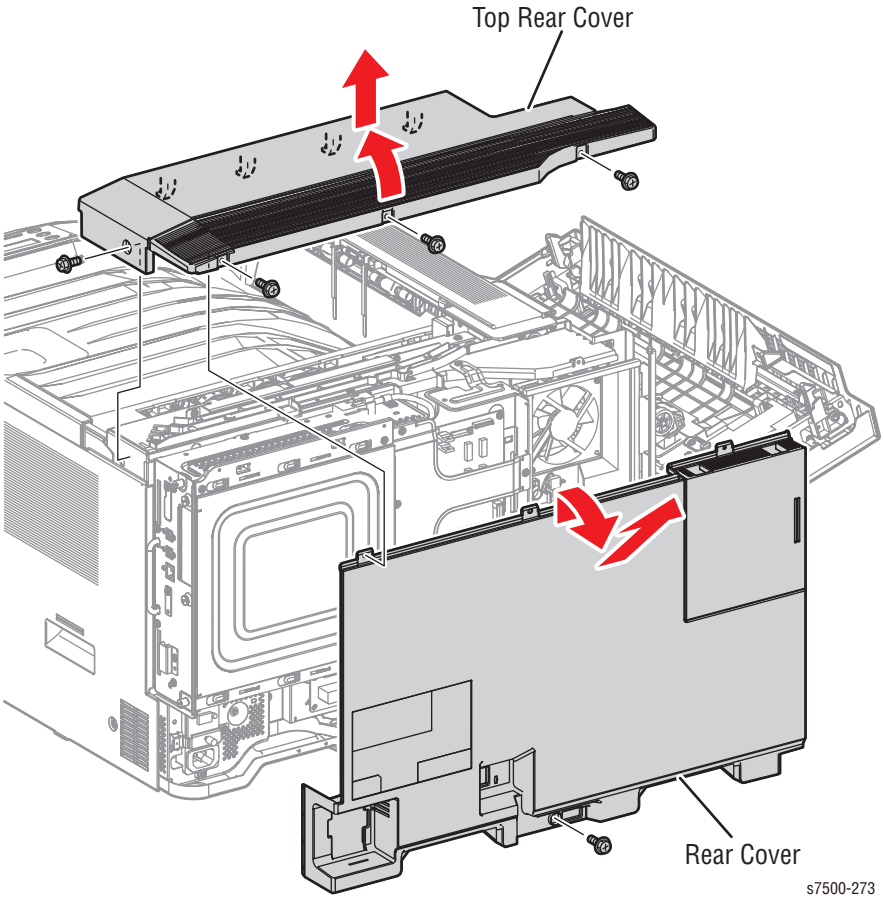


s7500-272

REP 19.6 Top Rear Cover/ Rear Cover

PL19.2.6/ PL19.2.9

1. Open the Left Hand Cover Assembly (Door A).
2. Remove 4 screws (silver, 8mm) that secure the Top Rear Cover to the printer.
3. Lift up the rear side of the Top Rear Cover, release the hooks (x4) at the front, and remove the Top Rear Cover.
4. Remove 1 screw (silver, 8mm) that secures the Rear Cover to the printer.
5. While gently lifting up the Rear Cover, open the top part, release the 2 hooks at the bottom left/right of the Rear Cover, and remove the Rear Cover.

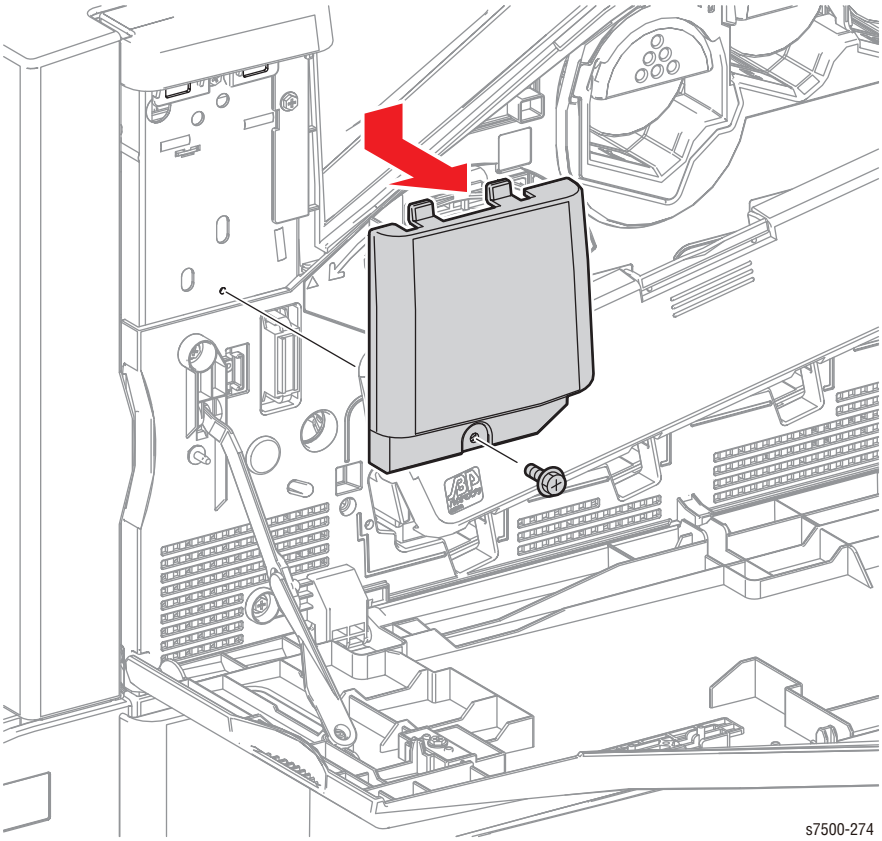


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REP 19.7 Front Left Cover

PL19.2.7

1. Open the Front Door.
2. Remove 1 screw (silver, 8mm) that secures the Front Left Cover.
3. Release the 2 hooks of the Front Left Cover and remove the Front Left Cover.



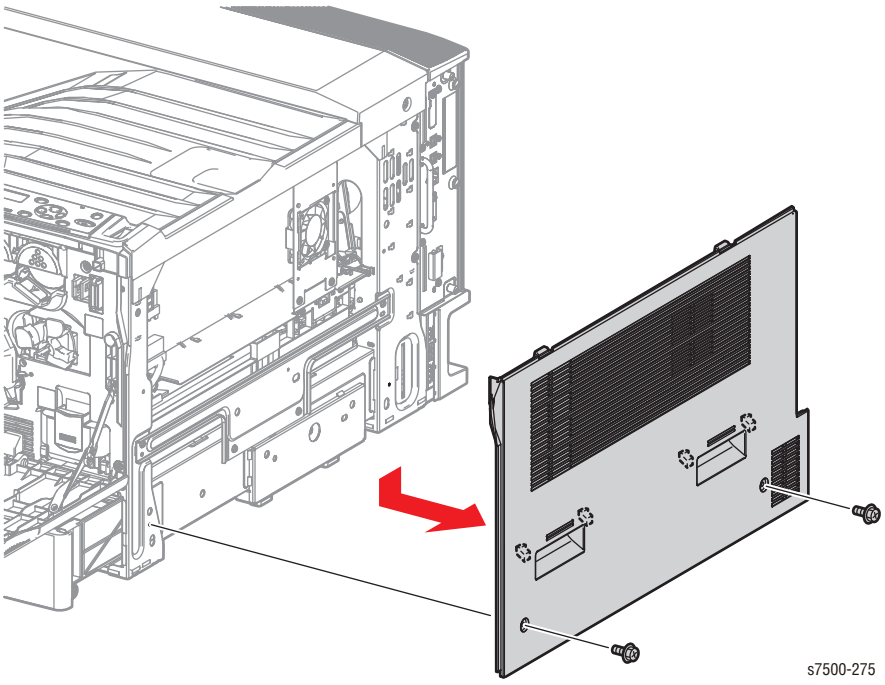
REP 19.8 Right Cover

PL19.2.8

Warning

Do not touch the aluminum heat sink and any AC voltage components.

1. Pull out the Tray Assembly slightly.
2. Open the Front Door.
3. Remove 2 screws (silver, 8mm) that secure the Right Cover.
4. Release the 6 hooks of the Right Cover and remove the Right Cover.



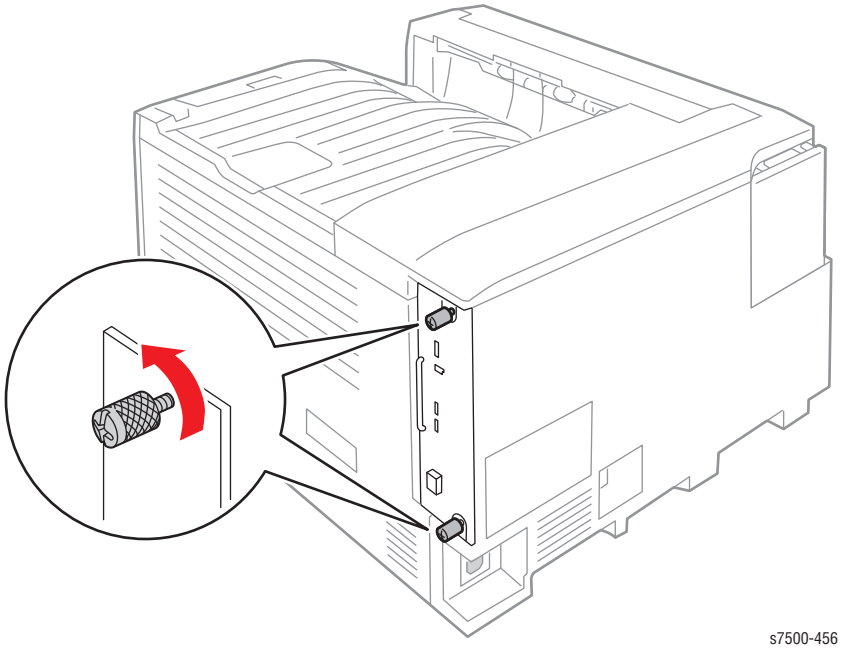
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ESS (Controller)

REP 35.1 Image Processor Board (ESS PWB)

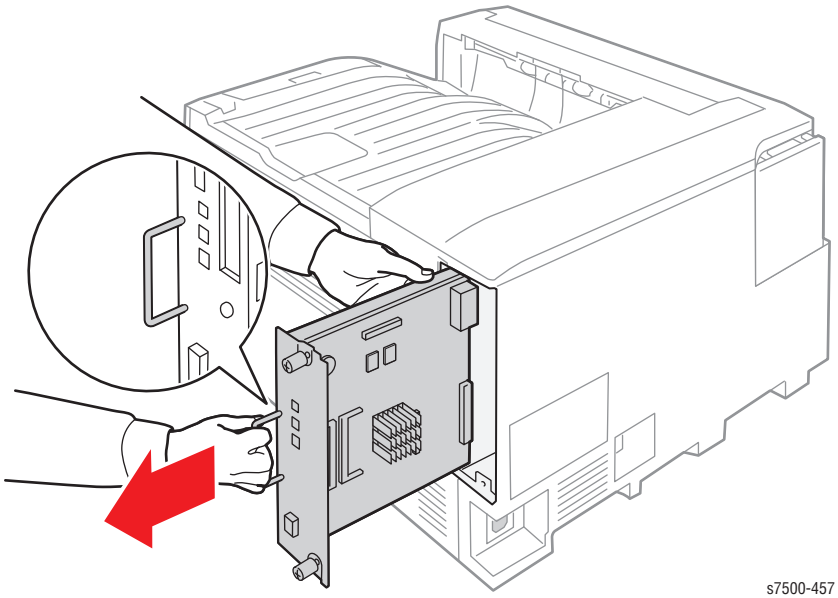
PL35.1.1

1. Loosen 2 screws that secure the Image Processor Board to the PWB Chassis Unit.



s7500-456

2. Pull out the Image Processor (I/P) Board to remove it.



s7500-457

Replacement Note

After replacing the I/P Board, update the firmware to the latest version.

Parts List

In this chapter...

- Serial Number Format
- Using the Parts List
- General Overview
- LPH
- Drive
- NOHAD
- Development
- Transfer
- Fuser
- Xerographic
- Tray 2 - Tray Module (3T) (Option)
- Tray 3/4/5 - Tray Module (3T) (Option)
- Tray Module (1T) (Option)
- Tray 1 (MPT)
- L/H Cover
- Registration
- Exit
- Electrical
- Cover
- ESS
- Xerox Supplies and Accessories

Chapter 9

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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 nine-digit serial number has the following format:

- **PPPRSSSSS**
- **PPP =** Three digit alphanumeric product code
- **R =** Single digit numeric revision digit, 0~9. To be rolled when a major product change occurs and initiated with a change request.

Product	Product Code
7500, 110V Engine	RXD
7500V, 220V Engine	RXE

Note

Not all of the serial number will be used. This is a buffer in case additional units are built by Fuji Xerox for each model of printer during pre-production.

Production Units (MP Build)

PPP1SSSSS

SSSSS = Five digit numeric serial number based on the following table:

Product	Starting Serial Number	Ending Serial Number
7500_N, 110V Engine	10001	30000
7500_DN, 110V Engine	30001	90000
7500_YDN, 110V Engine (GSA)	90001	99999
7500V_N, 220V Engine	10001	35000
7500V_DN, 220V Engine	35001	99999

The serial numbers are only reset to the starting serial number when the ending serial number is reached. At that time the revision digit will be rolled. Serial numbers below 10001 are reserved for XOG Final Integration Center (FIC) sites if reserialization is needed.

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Examples

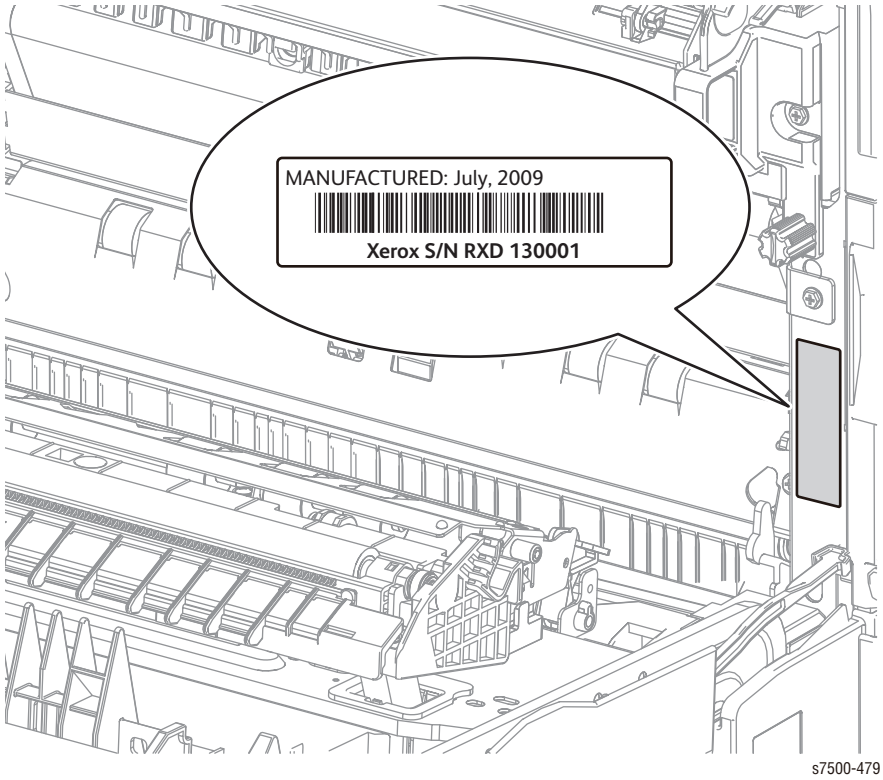
RDX243072: Xerox Serial Number
RDX: Product Code for the 110V Phaser 7500
2 = Revision Level
43072 = Serial Number for Phaser 7500

RXE299999: next printer Serial Number **RXE335001**
RDX: Product Code for the 220V Phaser 7500
Revision Level = 2 next revision level 3
Serial Number for 7500V_DN = 99999 next Serial Number 35001

The serial number labels can be found at two locations of the printer.

Label Placement and Layout Example

The Barcode label is applied inside the Left Door on the right side of the frame.



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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 (NS) next to a part indicates that particular part is not spared, but contained in a kit or major assembly.
- 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.

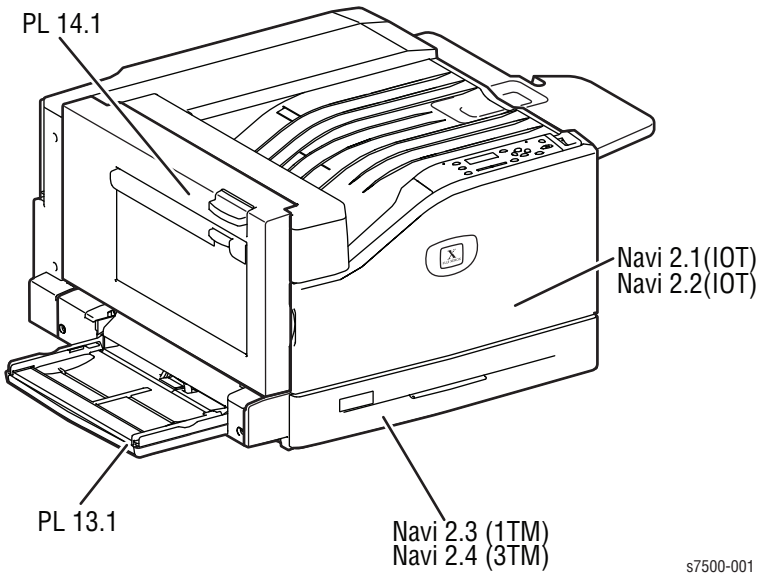
Abbreviations

Abbreviation	Meaning
C	C-ring
E	E-ring
KL	K-clip
S	Screw

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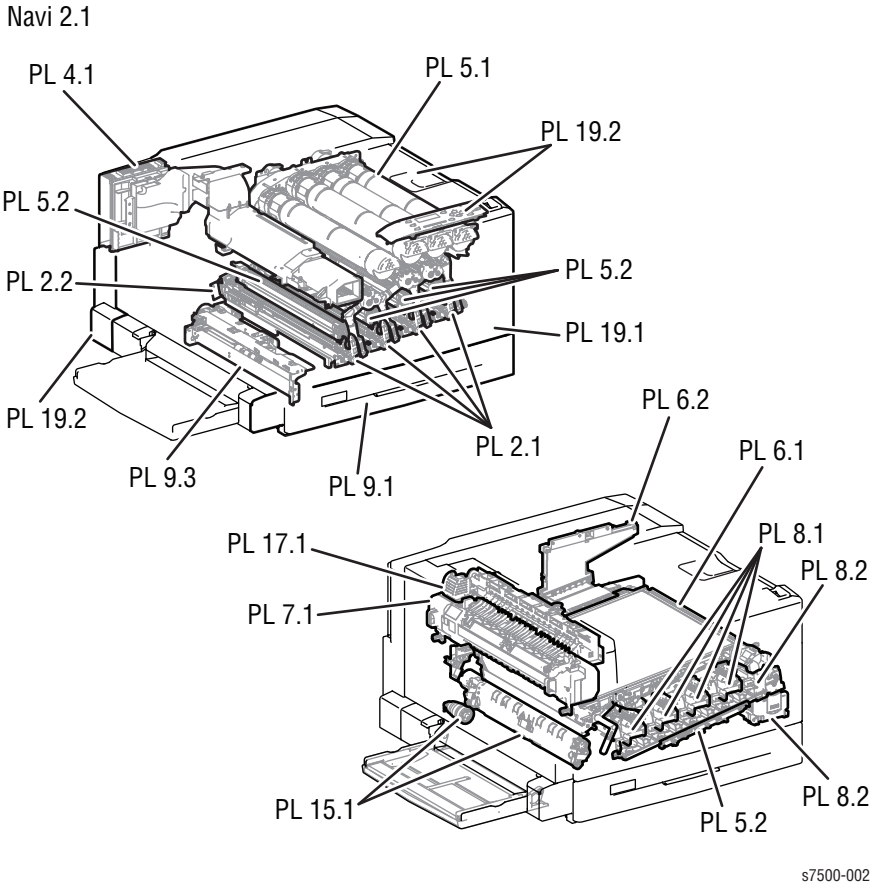
General Overview

Parts List 1.1 Parts Overview (1 of 5)



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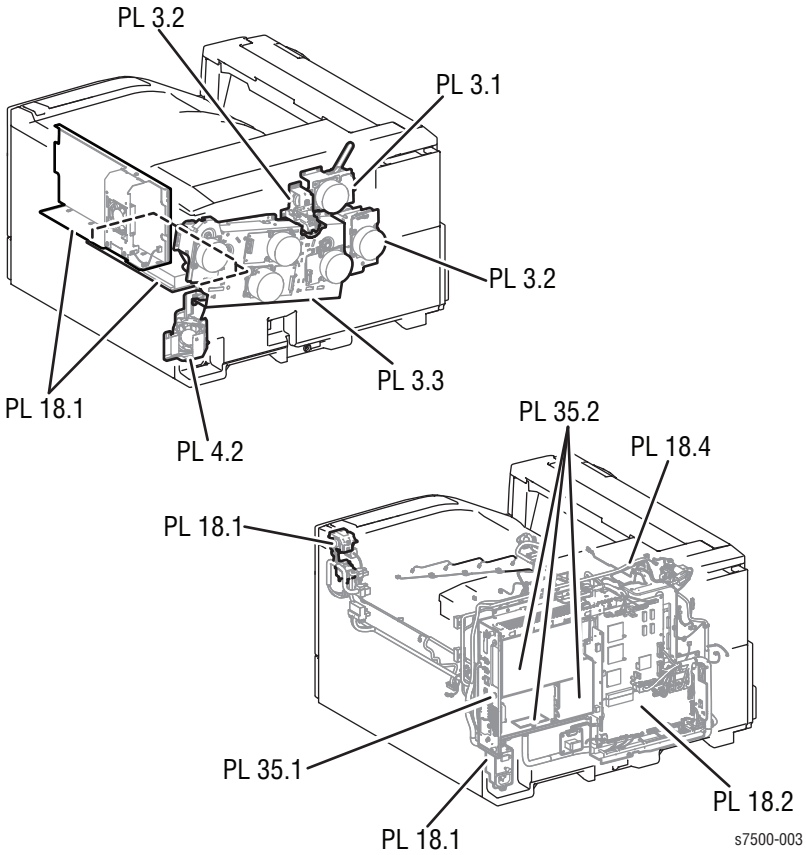
Parts List 1.2 Parts Overview (2 of 5)



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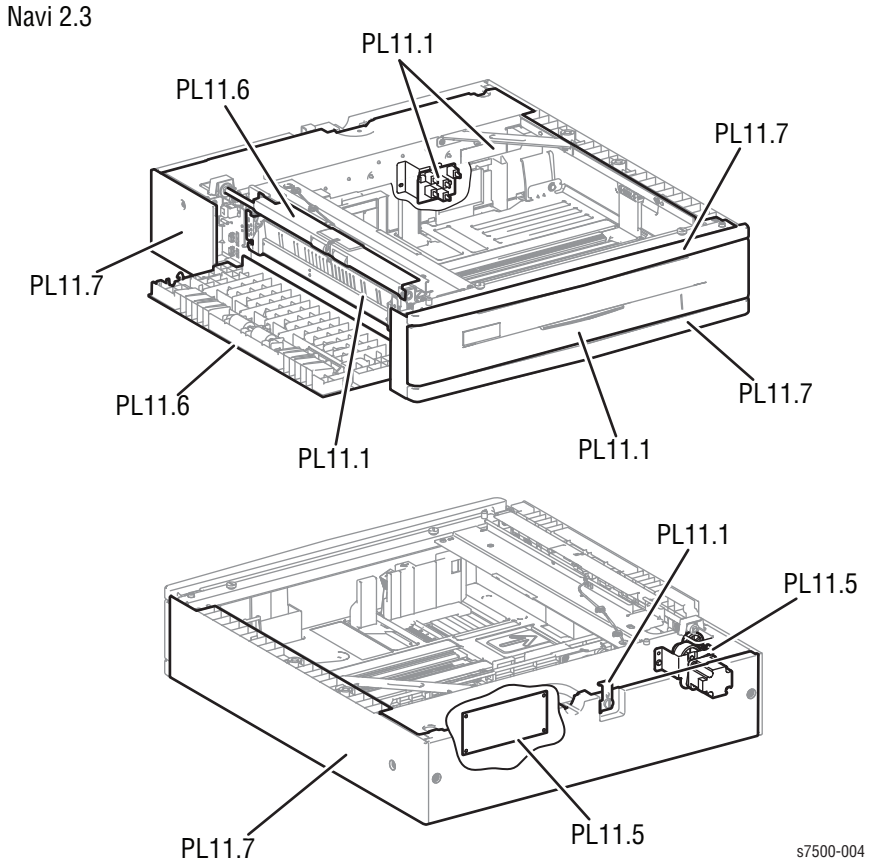
Parts List 1.3 Parts Overview (3 of 5)

Navi 2.2

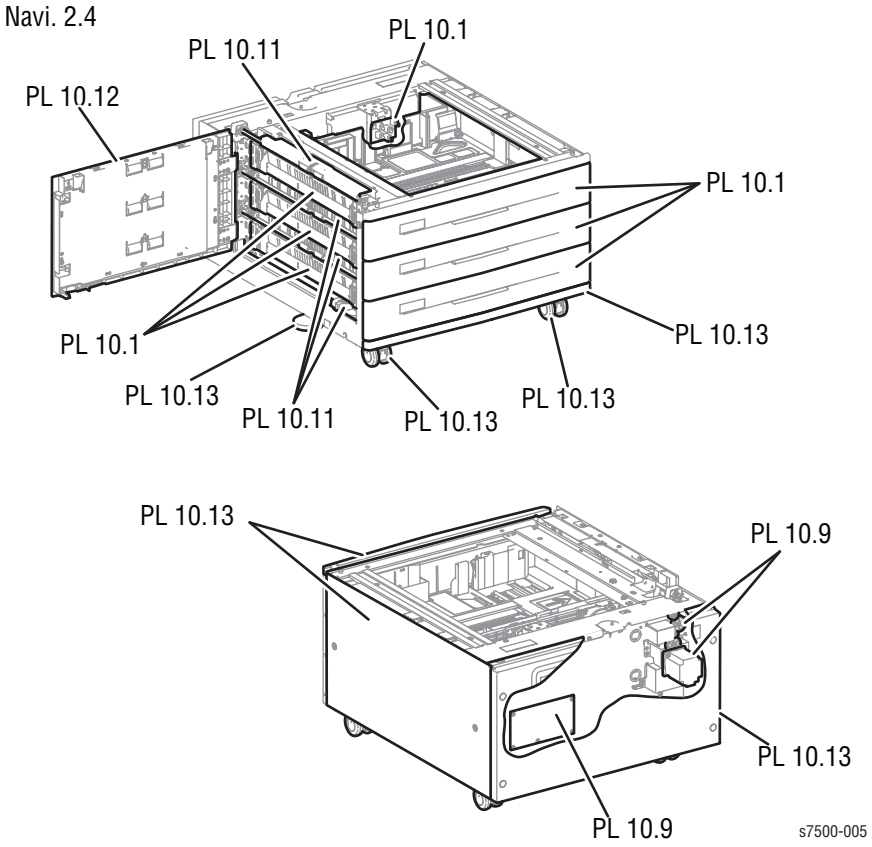


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Parts List 1.4 Parts Overview (4 of 5)



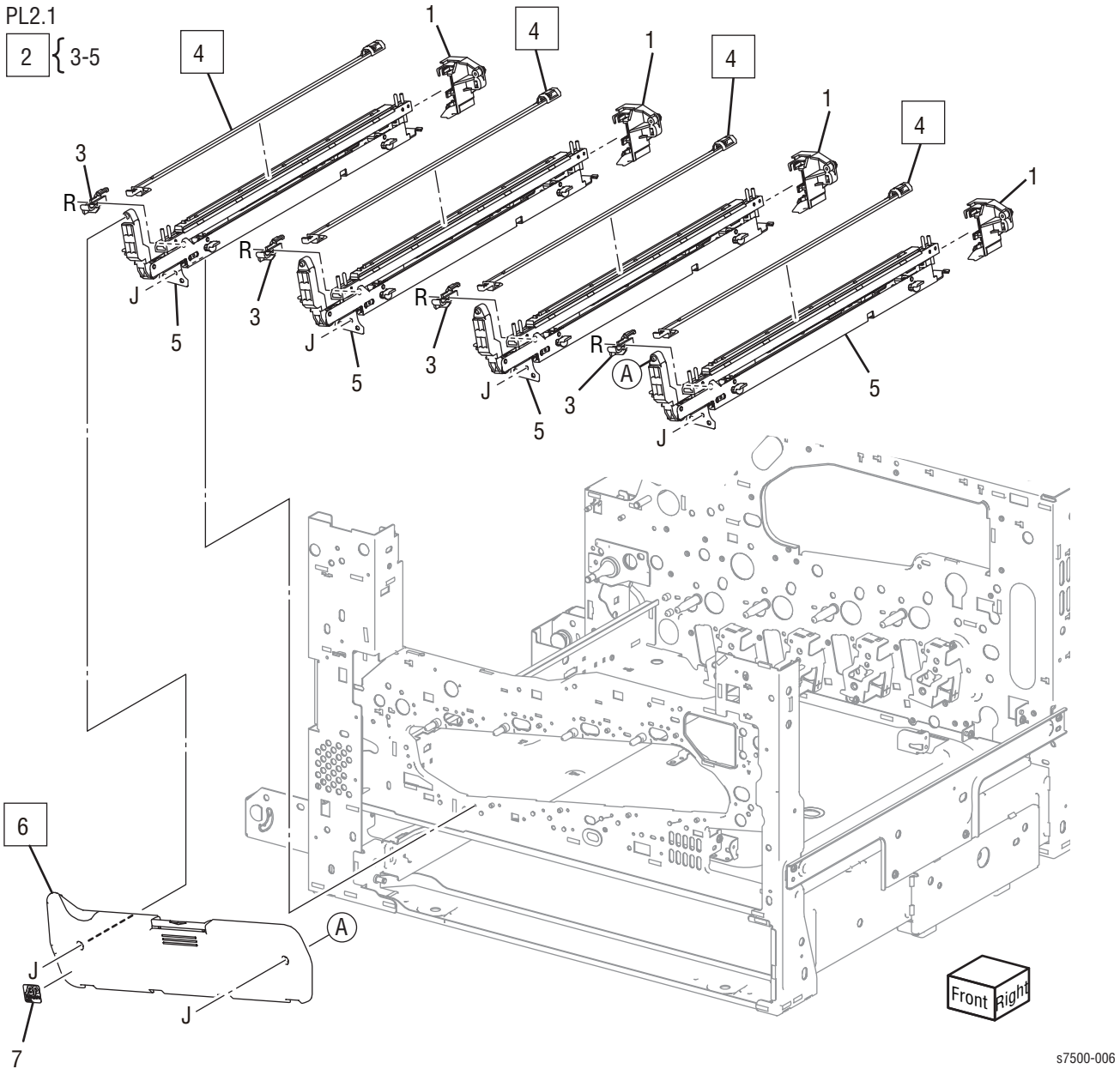
Parts List 1.5 Parts Overview (5 of 5)



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LPH

Parts List 2.1 LPH (1 of 2)



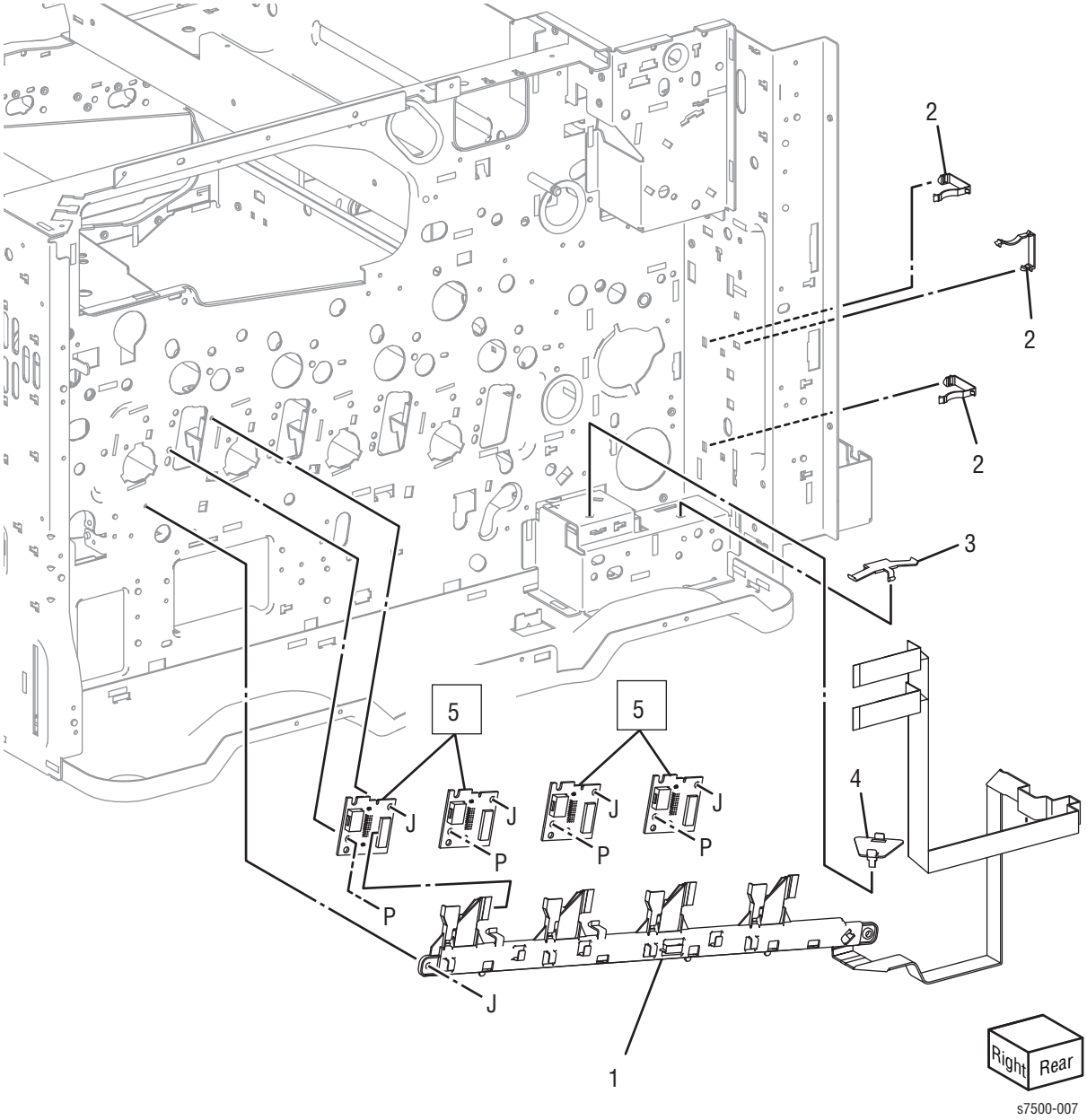
Parts List 2.1 LPH (1 of 2)

Item	Description	Part Number
1	Rear Holder Assembly	019K09281
2	LPH Unit (items 3-5) (REP 2.1, page 8-18)	130K72653
3	Guide	
4	LPH Cleaner (REP 2.2, page 8-20)	042K93520
5	LPH Assembly	
6	Imaging Unit (Drum) Cover (REP 2.3, page 8-21)	011K98621
7	Label	

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Parts List 2.2 LPH (2 of 2)

PL2.2



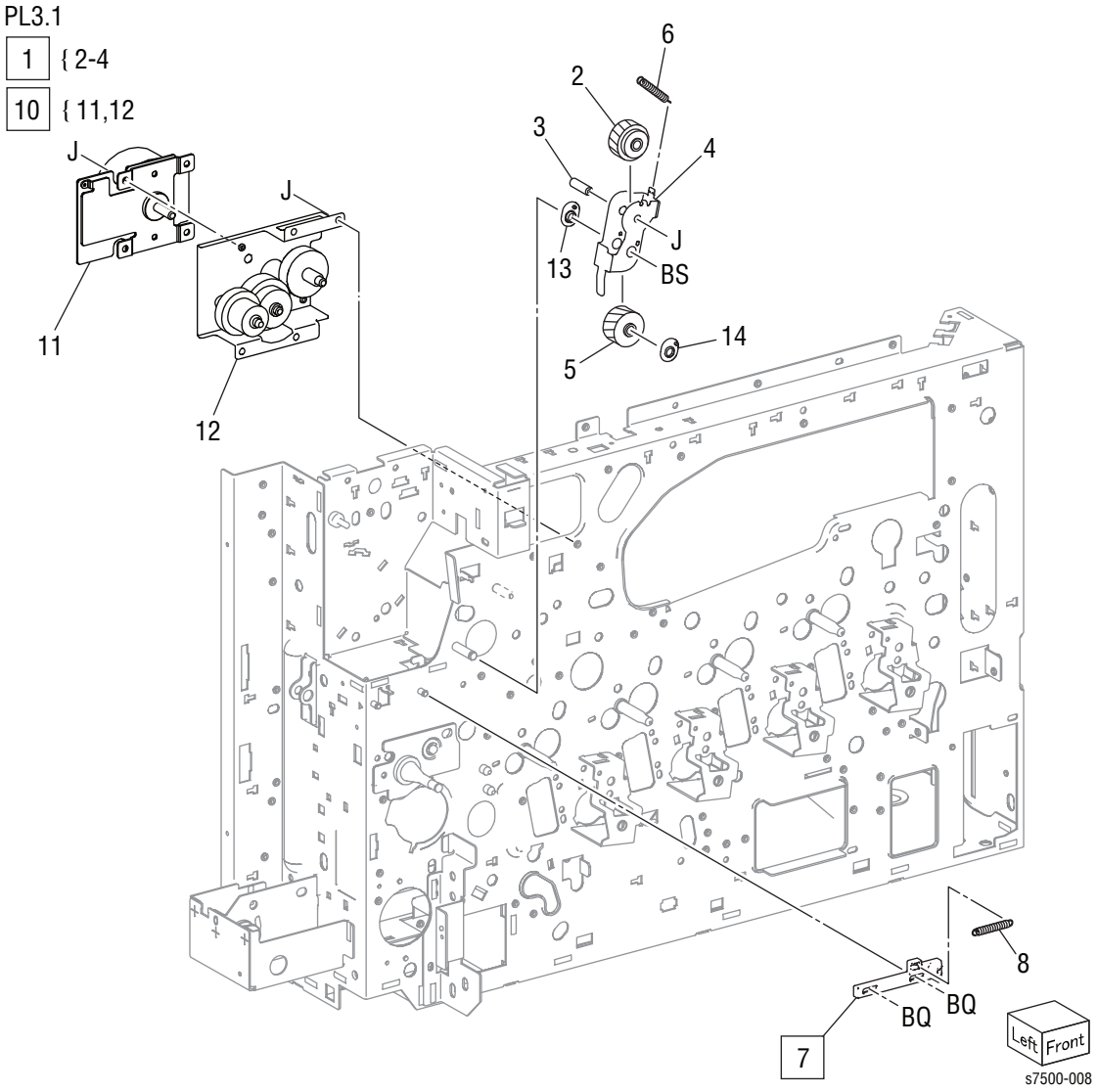
Parts List 2.2 LPH (2 of 2)

Item	Description	Part Number
1	LPH Harness Assembly	962K60144
2	Cable Holder	
3	Cable Holder	
4	Cable Holder	
5	LPH Rear PWB (REP 2.4, page 8-22)	960K36951

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Drive

Parts List 3.1 Drive (1 of 3)

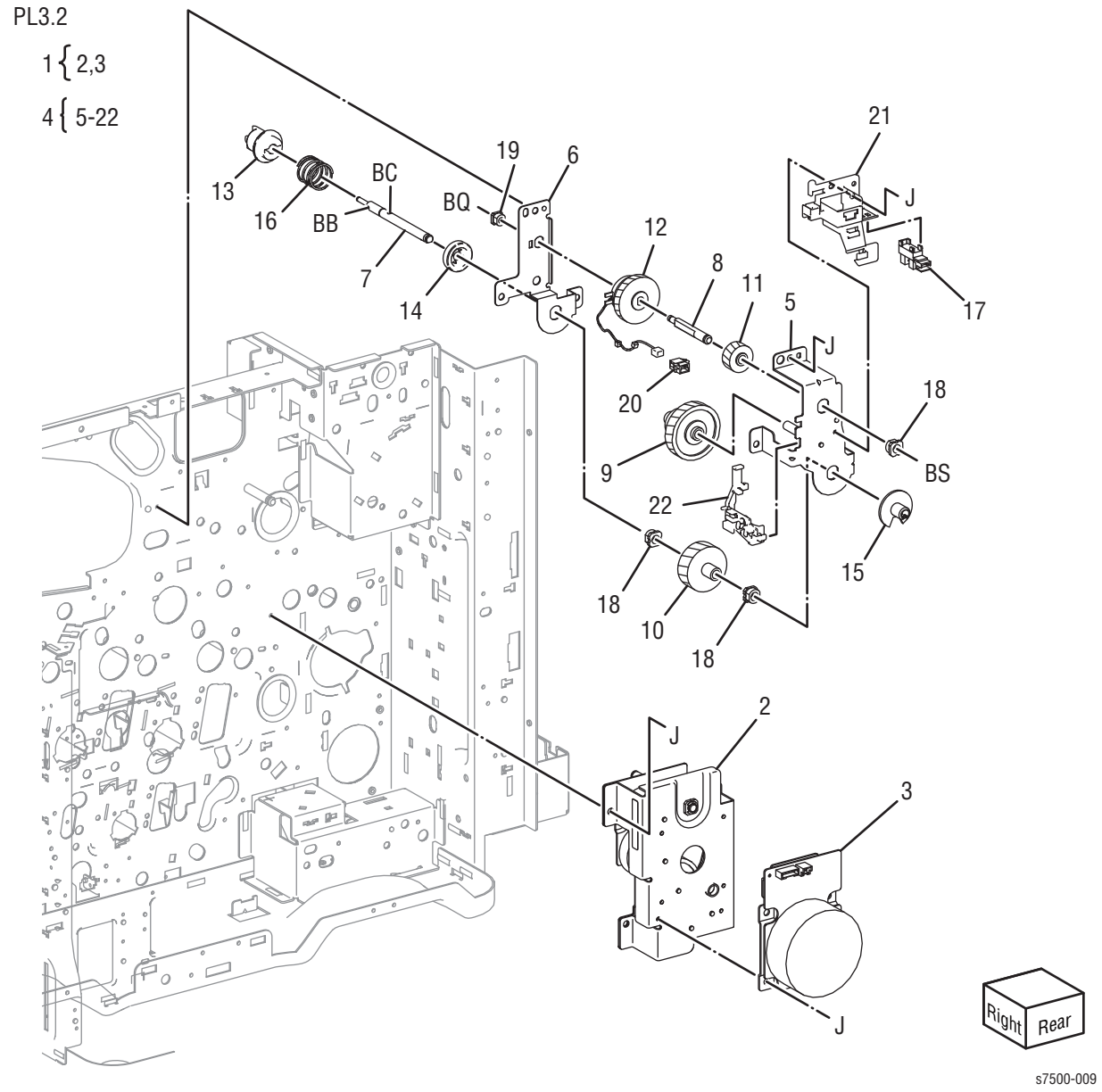


Parts List 3.1 Drive (1 of 3)

Item	Description	Part Number
1	Fuser Input Bracket Assembly (items 2-5) (REP 3.1, page 8-26)	068K64901
2	Helical Gear (26T)	
3	Fuser Shaft	
4	Fuser Input Bracket	
5	Helical Gear (25T)	
6	Spring - Fuser	809E74960
7	Link - Fuser (REP 3.2, page 8-27)	012E15930
8	Spring - Link	809E74950
9	-----	
10	Fuser Drive Motor Assembly (items 11, 12) (REP 3.3, page 8-28)	007K98080
11	Fuser Drive Motor	
12	Gear Bracket Assembly	
13	Bearing	
14	Bearing	

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Parts List 3.2 Drive (2 of 3)

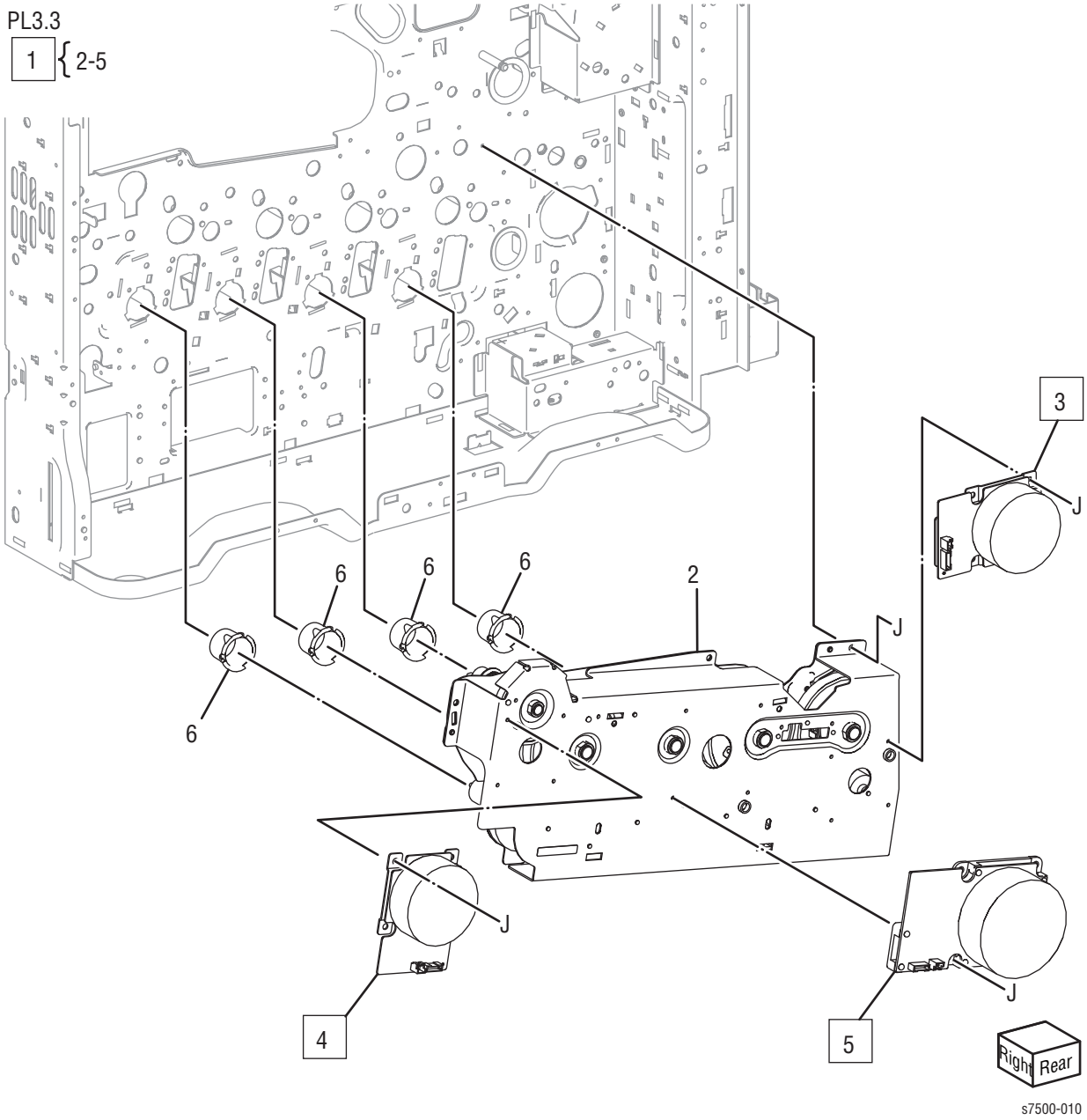


Parts List 3.2 Drive (2 of 3)

Item	Description	Part Number
1	Main Drive Assembly (items 2, 3) (REP 3.4, page 8-29)	007K98071
2	Bracket Assembly	
3	Main Drive Motor Assembly (REP 3.5, page 8-30)	
4	Retract Drive Assembly (items 5-22) (REP 3.6, page 8-31)	007K98090
5	Retract Bracket Assembly	
6	Retract Lower Bracket	
7	Retract Shaft	
8	Clutch Shaft	
9	Helical Gear (45T/23T)	
10	Helical Gear (36T)	
11	Helical Gear (21T)	
12	1st BTR Contact Retract Clutch Assembly	121K40850
13	Coupling	
14	Retainer	
15	Cam Wheel	
16	Spring	
17	1st BTR Contact Retract Sensor (REP 3.7, page 8-32)	930W00111
18	Sleeve Bearing	
19	Sleeve Bearing	
20	Connector	
21	Harness Holder	
22	Harness Holder	

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Parts List 3.3 Drive (3 of 3)



Parts List 3.3 Drive (3 of 3)

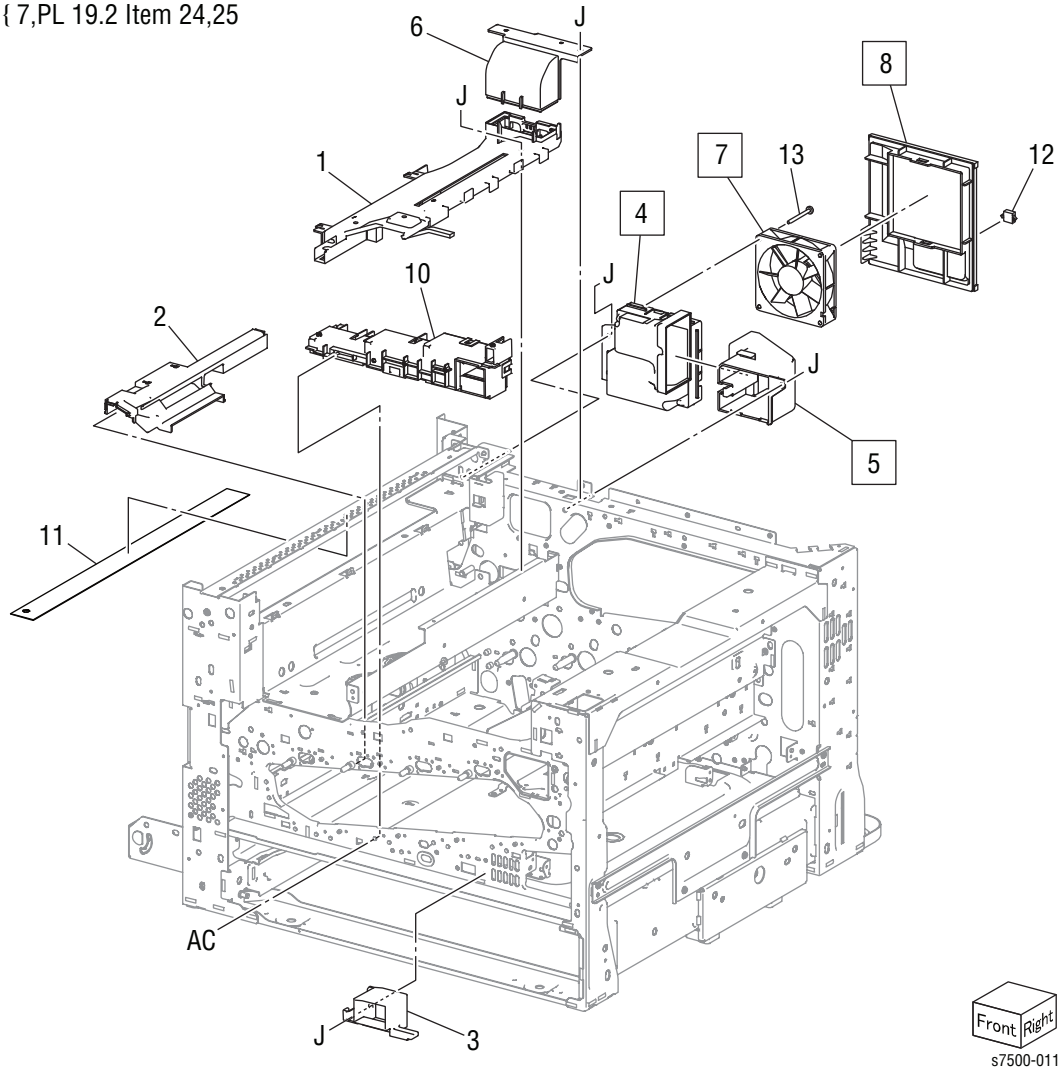
Item	Description	Part Number
1	Drum/ Deve Drive Assembly (items 2-5) (REP 3.8, page 8-33)	007K98064
2	Drive Assembly	
3	Drum/ Deve Drive Motor (K) (REP 3.9, page 8-35) (included in item 1)	
4	IBT Drive Motor Assembly (REP 3.10, page 8-36) (included in item 1)	
5	Drum/ Deve Drive Motor (Y, M, C) (REP 3.11, page 8-37) (included in item 1)	
6	Guard Gear	055E56040

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NOHAD

Parts List 4.1 NOHAD (1 of 3)

PL4.1
14 { 7,PL 19.2 Item 24,25

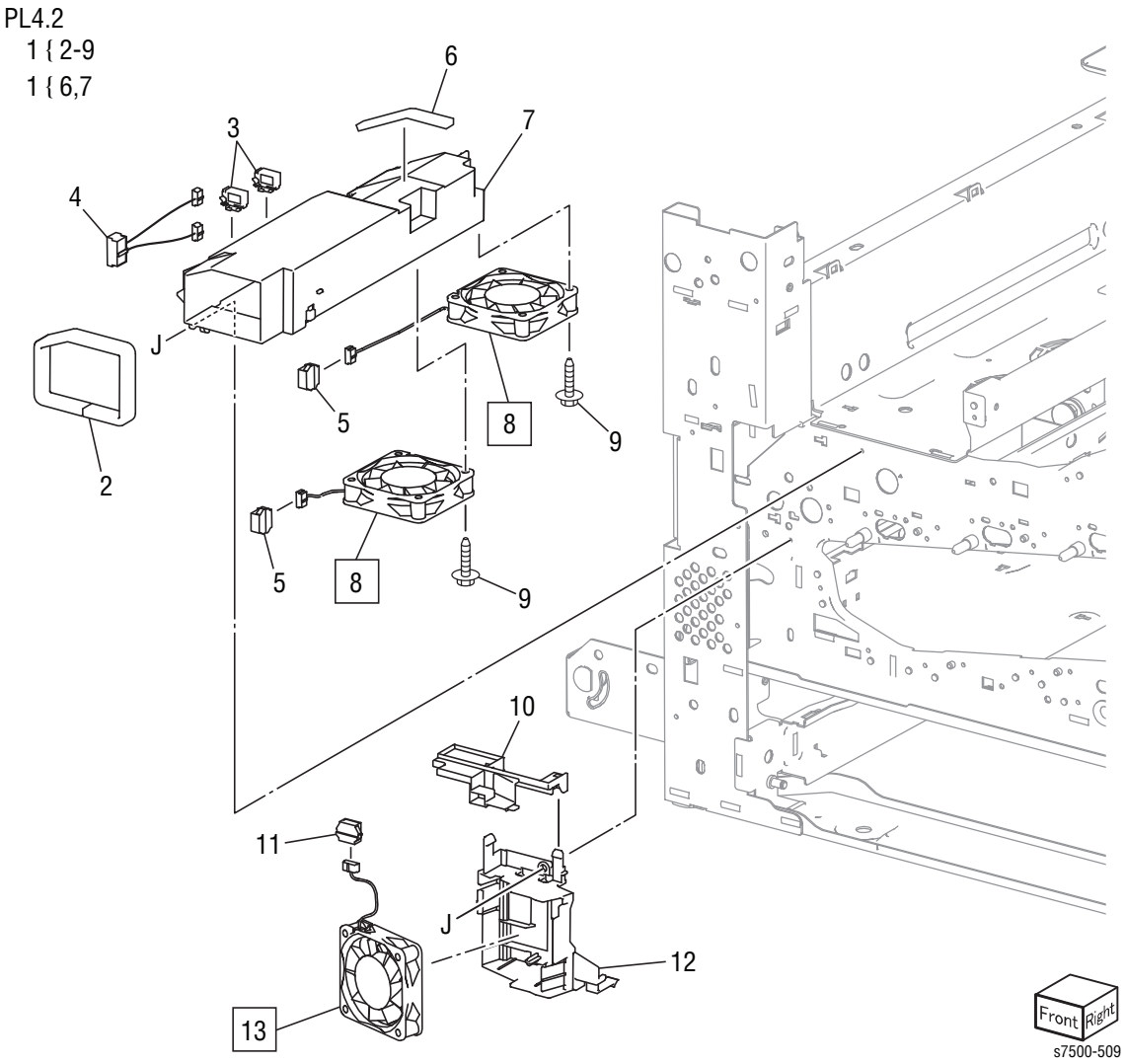


Parts List 4.1 NOHAD (1 of 3)

Item	Description	Part Number
1	Center Duct Assembly	
2	Front Bottom Duct	
3	P1 Front Duct	
4	Fuser Fan Duct (REP 4.2, page 8-39)	054E33892
5	Fuser Rear Duct (REP 4.2, page 8-39)	054E33880
6	Fuser Front Duct	054E33871
7	Fuser Fan (REP 4.1, page 8-38)	127K53050
8	Rear Duct (REP 4.2, page 8-39)	054K35121
9	-----	
10	Front Duct Assembly	
11	Eliminator	
12	Connector	
13	Screw	
14	Filter Kit (item 7, PL 19.2 - items 24, 25, page 9-111)	604K49431

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Parts List 4.2 NOHAD (2 of 3)

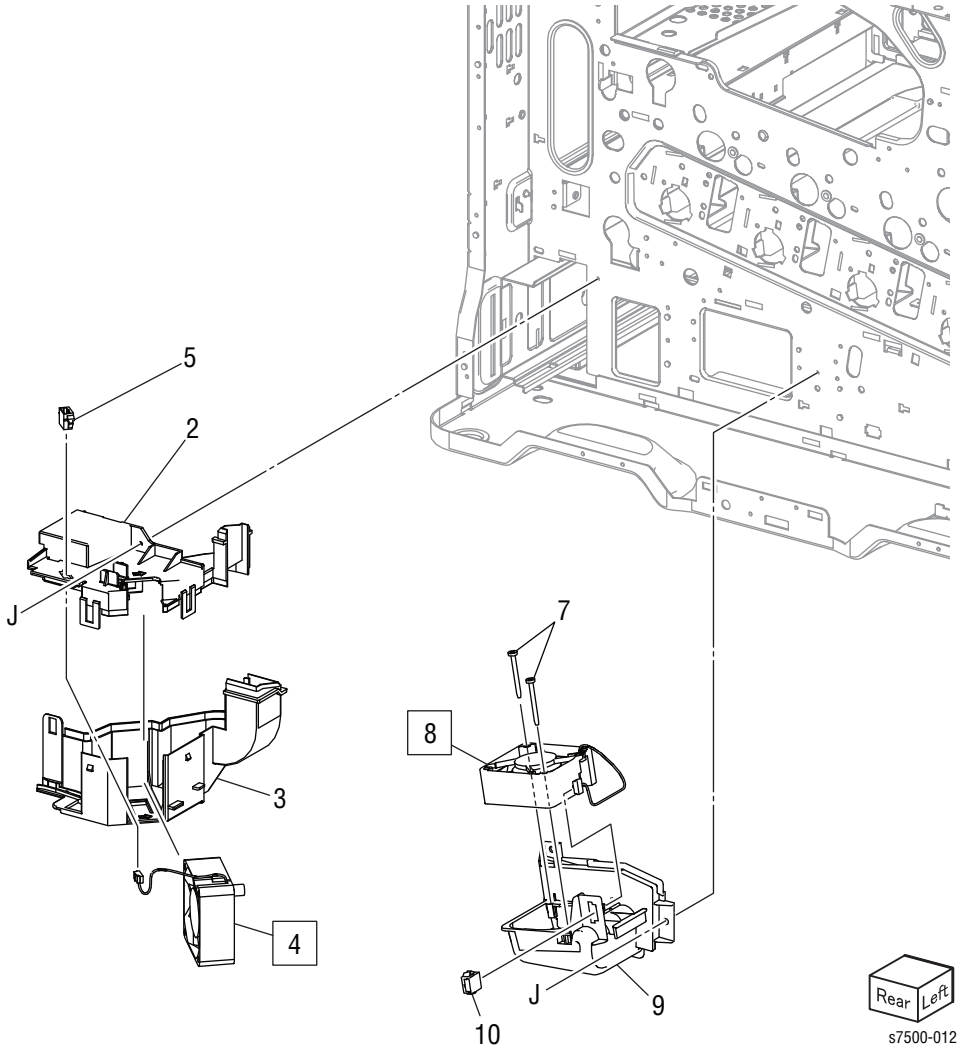


Parts List 4.2 NOHAD (2 of 3)

Item	Description	Part Number
1	IBT Duct Assembly (items 2-9)	
2	Seal	
3	Clamp	
4	Wire Harness	
5	Connector	
6	Seal	
7	IBT Duct	
8	IBT Fan 1/2	927W00314
9	Screw	
10	Plate F	
11	Connector	
12	Duct P2	
13	P2 Fan	927W00214

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Parts List 4.3 NOHAD (3 of 3)



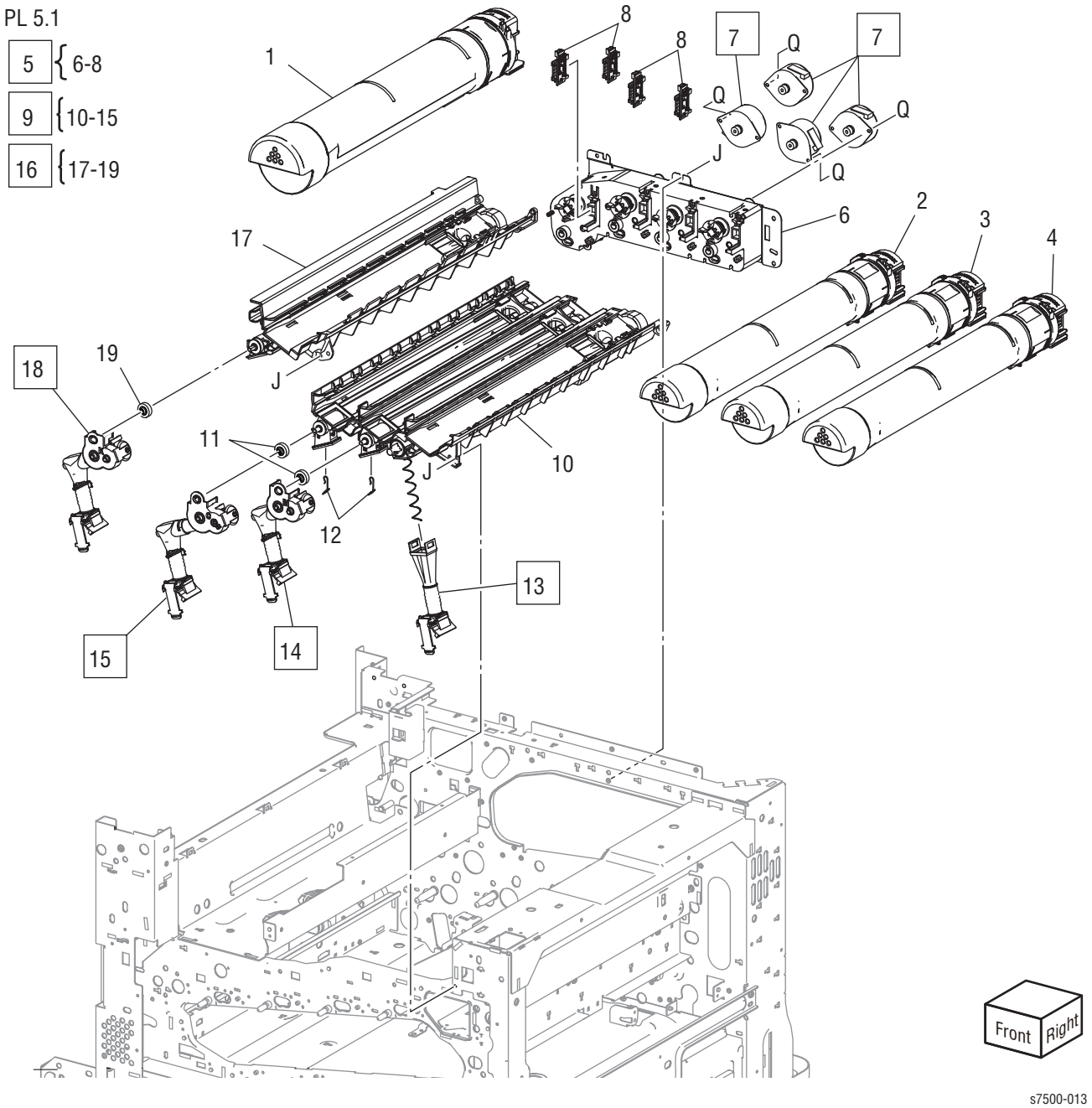
Parts List 4.3 NOHAD (3 of 3)

Item	Description	Part Number
1	HV Fan Assembly (items 2-5) (REP 4.3, page 8-40)	054K34550
2	Upper Duct	
3	Lower Duct	
4	HV Fan	
5	Connector	
6	Bottom Fan Assembly (items 7-10)	054K 36220
7	Screw	
8	Bottom Fan	
9	Bottom Duct	
10	Connector	

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Development

Parts List 5.1 Development (1 of 2)

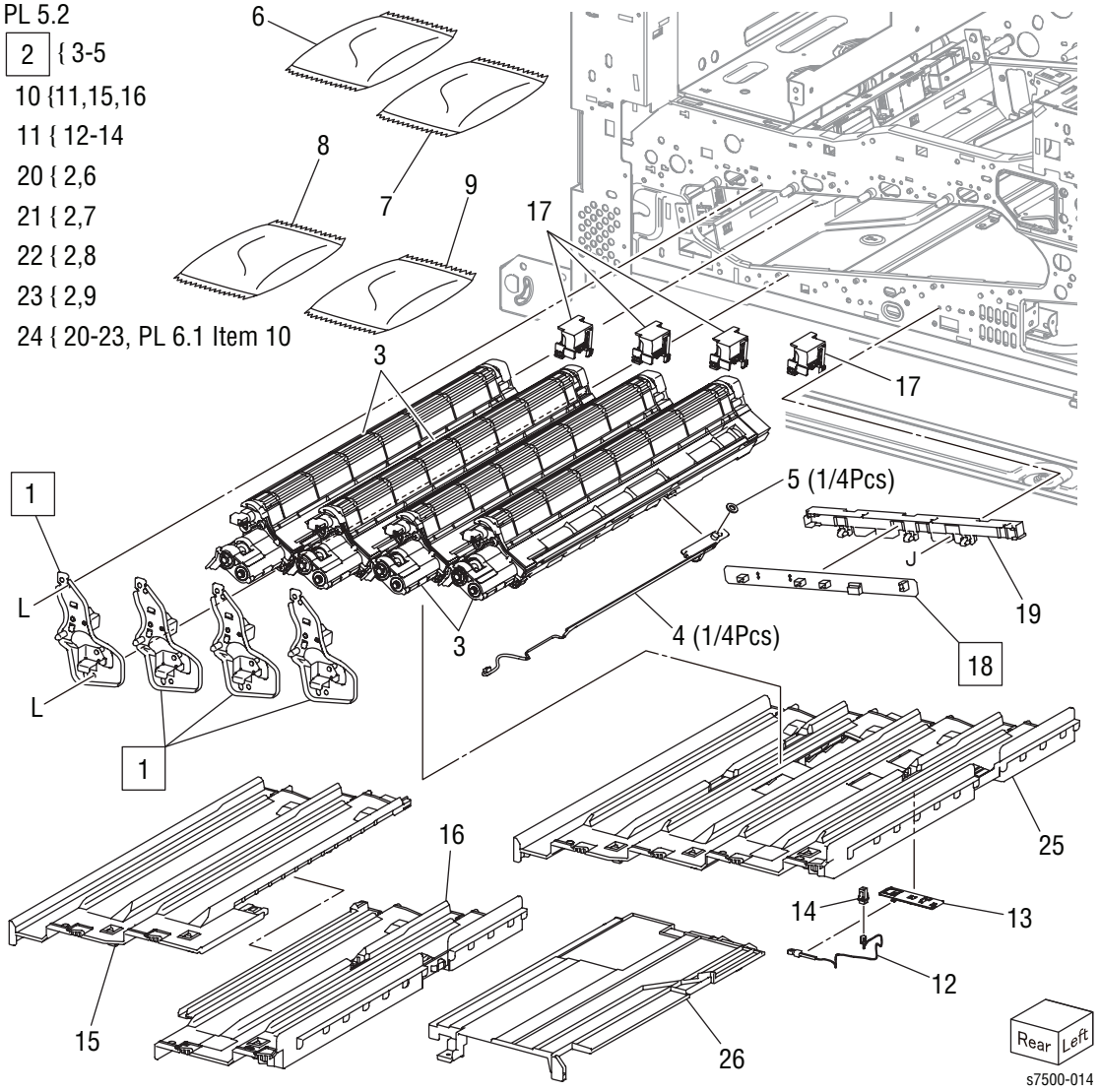


Parts List 5.1 Development (1 of 2)

Item	Description	Part Number
1	Toner Cartridge (K)	Refer to "Xerox Supplies and Accessories" on page 9-114
2	Toner Cartridge (C)	
3	Toner Cartridge (M)	
4	Toner Cartridge (Y)	
5	Toner Dispense Motor Assembly (items 6-8) (REP 5.1, page 8-43)	127K57131
6	Dispense Assembly	
7	Toner Dispense Motor (K, C, M, Y) (REP 5.2, page 8-45)	
8	Toner CRUM Coupler Assembly (K, C, M, Y)	
9	Dispenser Pipe Assembly (Y, M, C) (items 10-15) (REP 5.3, page 8-46)	094K92391
10	Guide Assembly (Y, M, C)	
11	Auger Gear (Y, M, C)	
12	Spring	
13	Dispenser Pipe (Y) (REP 5.7, page 8-54)	052K96800
14	Dispenser Pipe (M) (REP 5.7, page 8-54)	052K96810
15	Dispenser Pipe (C) (REP 5.7, page 8-54)	052K96820
16	Dispenser Pipe Assembly (K) (items 17-19) (REP 5.3, page 8-46)	094K92600
17	Guide Assembly (K)	
18	Dispenser Pipe (K) (REP 5.7, page 8-54)	
19	Auger Gear (K)	

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Parts List 5.2 Development (2 of 2)



Parts List 5.2 Development (2 of 2)

Item	Description	Part Number
1	Deve Plate Assembly (REP 5.4, page 8-49)	015K77960
2	Developer Housing Assembly (K, C, M, Y) (items 3-5) (REP 5.5, page 8-50)	
3	Housing Assembly (included with items 20-23)	
4	ATC Sensor Assembly (K, C, M, Y) (included with items 20-23)	
5	Seal (P/O item 2)	
6	Developer (K)	See item 20
7	Developer (C)	See item 21
8	Developer (M)	See item 22
9	Developer (Y)	See item 23
10	Base Plate Assembly (items 11, 15, 16)	815K02610
11	NOHAD Thermistor Assembly (items 12-14)	130K71990
12	Thermo Sensor	
13	Bracket	
14	Connector	
15	Plate (CK)	
16	Plate (YM)	
17	Plunger Assembly	010K91700
18	ATC PWB (REP 5.6, page 8-52)	960K36700
19	Bracket	
20	Developer Unit Kit (K) (items 2, 6)	604K48823
21	Developer Unit Kit (C) (items 2, 7)	604K48853
22	Developer Unit Kit (M) (items 2, 8)	604K48843
23	Developer Unit Kit (Y) (items 2, 9)	604K48833
24	Maintenance Kit - 480K (items 20-23, PL 6.1 - item 10, page 9-31)	604K47510
25	Plate	
26	HV Cover	

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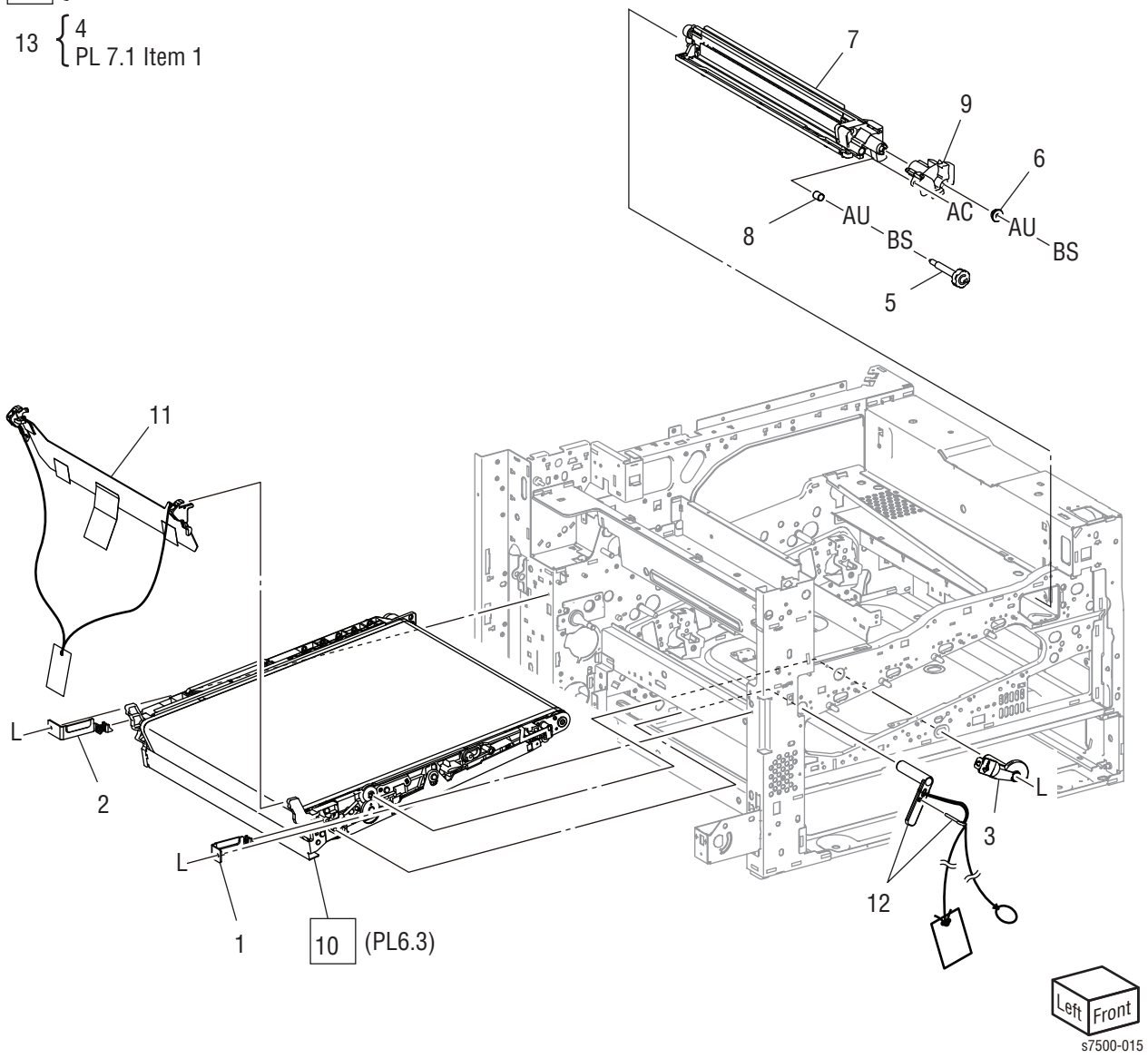
Transfer

Parts List 6.1 Transfer (1 of 2)

PL 6.1

4 { 5-9

13 { 4
PL 7.1 Item 1



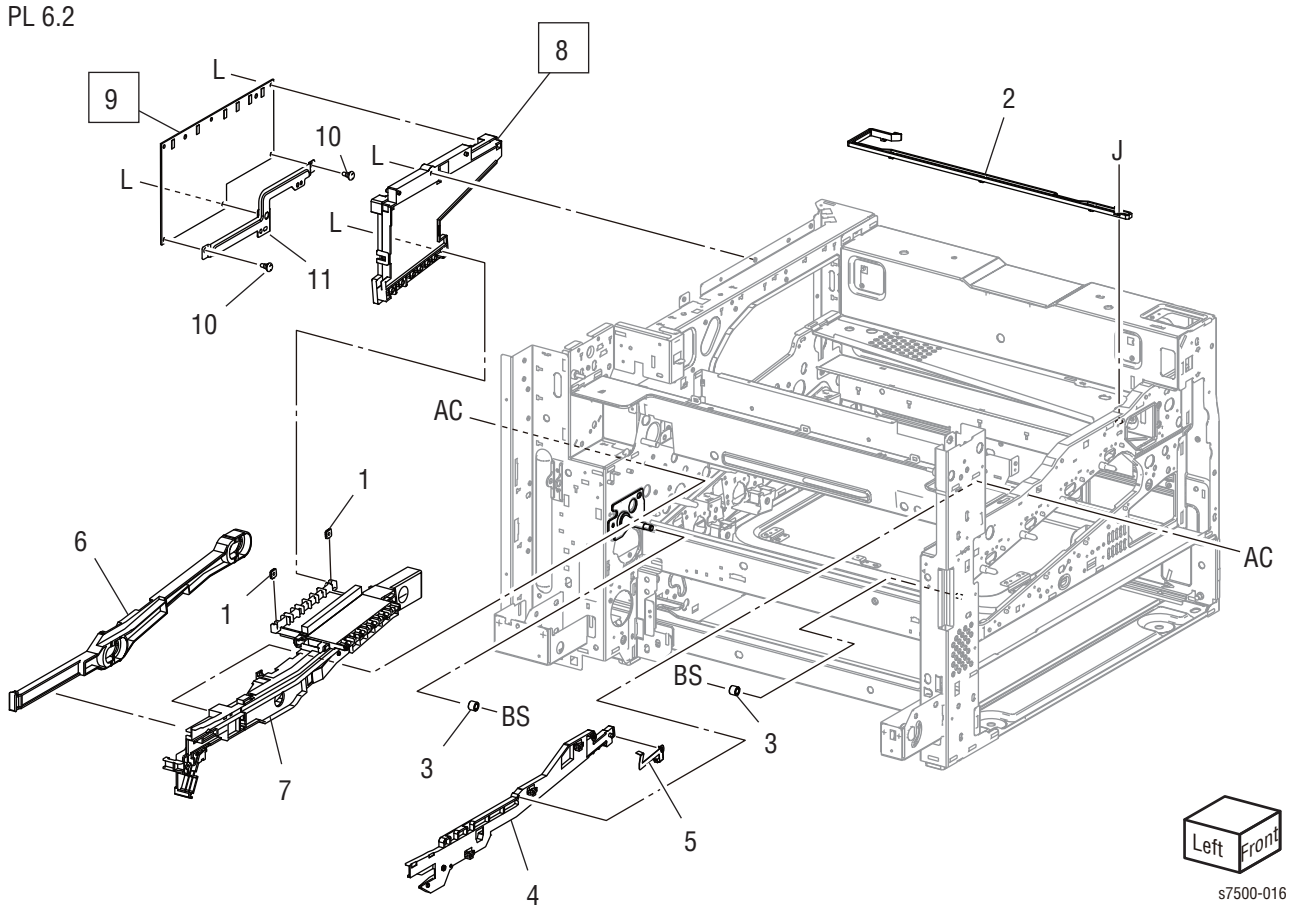
Parts List 6.1 Transfer (1 of 2)

Item	Description	Part Number
1	Front Lock Bracket	068K53690
2	Rear Lock Bracket	068K53680
3	Tension Lever	003E78891
4	IBT Belt Cleaner Assembly (items 5-9) (REP 6.1, page 8-57)	042K93562
	IBT Belt Cleaner Assembly (items 5-9) (REP 6.1, page 8-57) (Dell 7130)	604K56800
5	Knob	
6	Bearing	
7	IBT Belt Cleaner	
8	Spring	
9	Shutter	
10	IBT Belt Unit (PL 6.3, page 9-34) (REP 6.2, page 8-58)	604K49185
11	Packaging Assembly (Cushion)	
12	Packaging Assembly (IBT)	
13	Maintenance Kit - 110V (item 4, PL 7.1 - item 1, page 9-37)	115R00061
	Maintenance Kit - 220V (item 4, PL 7.1 - item 1, page 9-37)	115R00062

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Parts List 6.2 Transfer (2 of 2)

PL 6.2

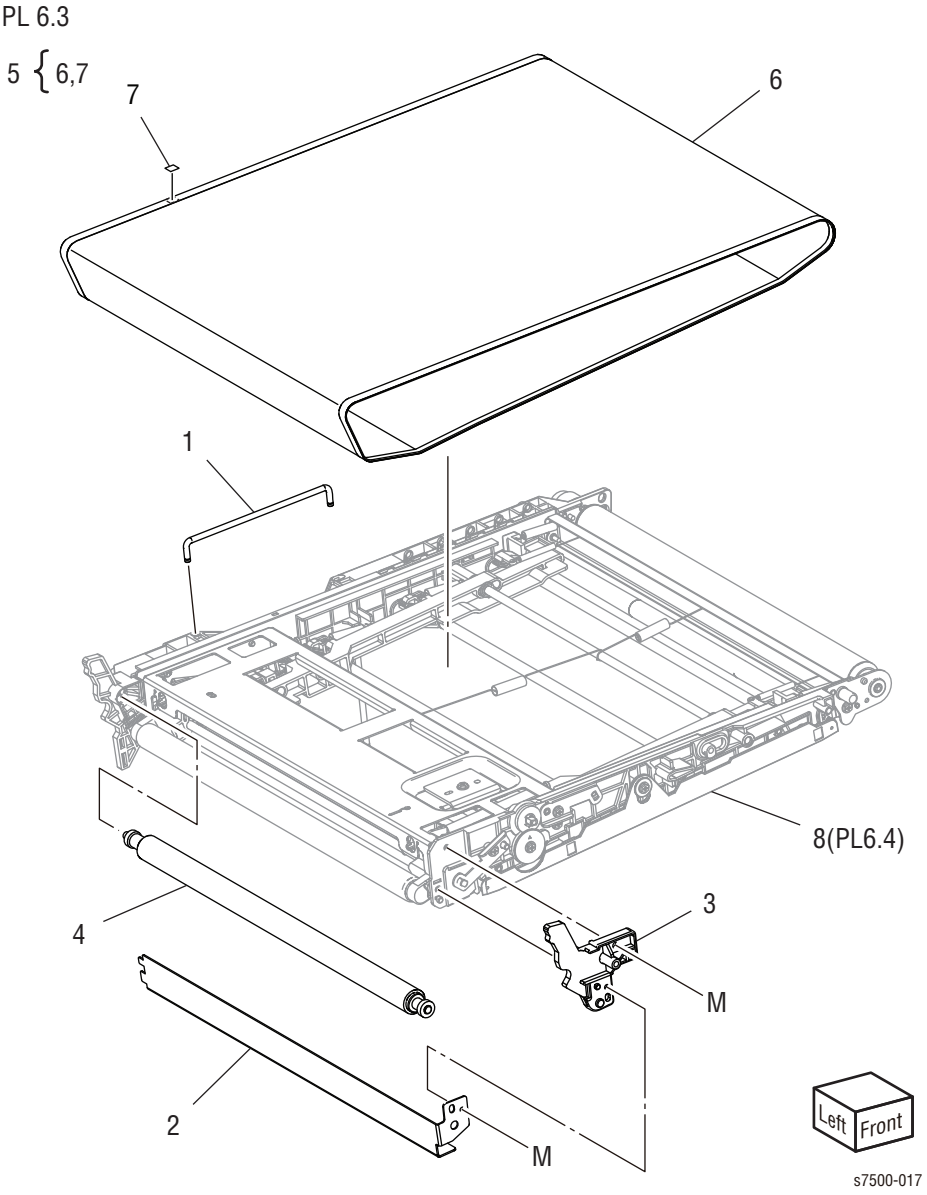


Parts List 6.2 Transfer (2 of 2)

Item	Description	Part Number
1	Plate Nut	
2	IBT Cleaner Guide	032E27411
3	Metal Bearing	
4	IBT Front Guide	032E27610
5	Conductor	
6	Actuator	120E29340
7	IBT Rear Guide	032K05310
8	Conductor Housing Assembly (REP 6.3, page 8-64)	848K13960
9	HVPS (1ST/2ND/DTS) (REP 6.4, page 8-65)	105E17530
10	PWB Support	
11	Bracket	

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Parts List 6.3 IBT Belt Unit (1 of 2)



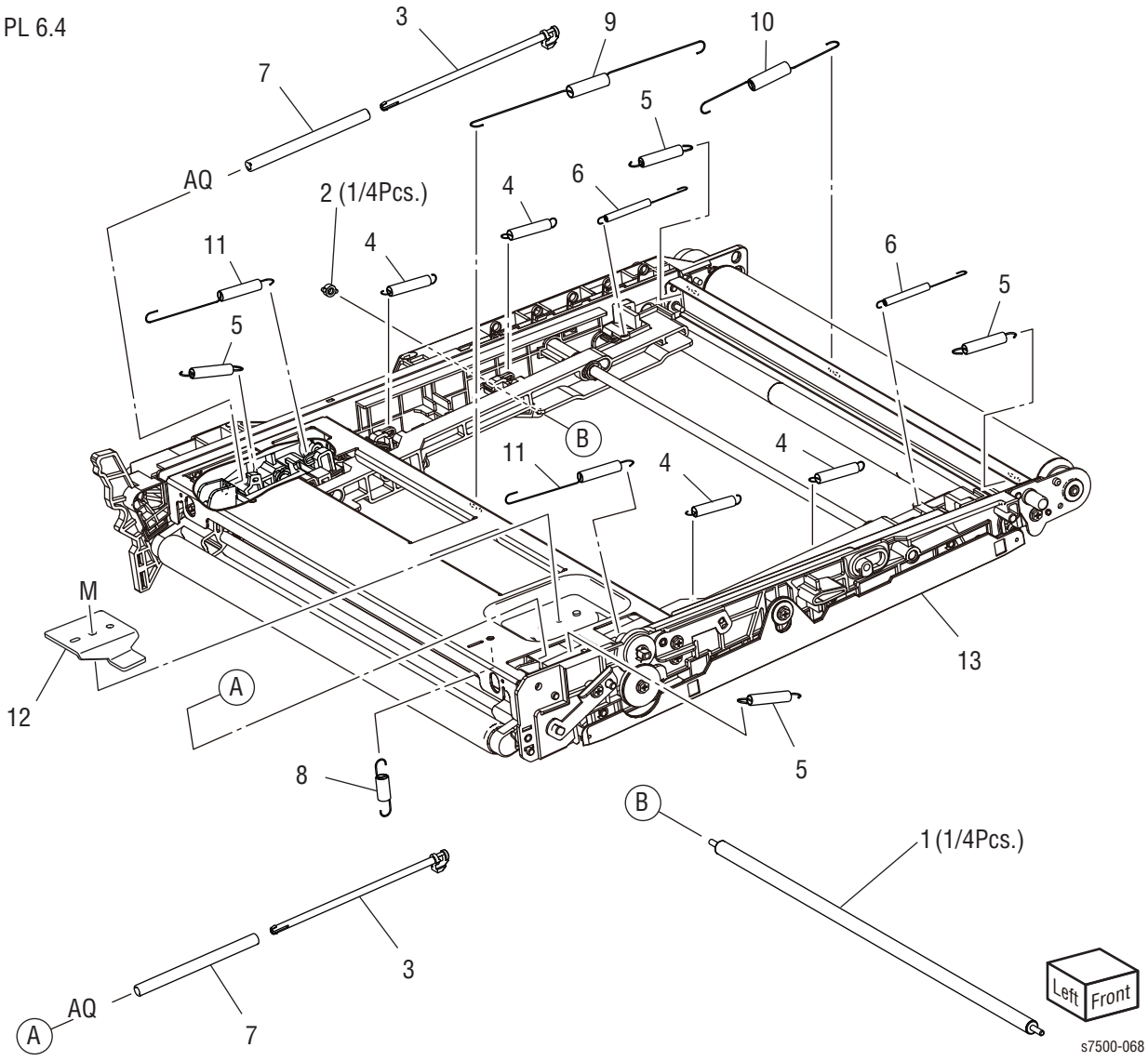
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Parts List 6.3 IBT Belt Unit (1 of 2)

Item	Description	Part Number
1	Handle	
2	Inlet Chute	
3	BUR Front Frame	
4	Roll Assembly	
5	IBT Belt Assembly (items 6, 7)	064K92661
6	IBT Belt	
7	TR0 Seal	
8	IBT Belt Assembly (PL 6.4, page 9-36)	

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Parts List 6.4 IBT Belt Unit (2 of 2)



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Parts List 6.4 IBT Belt Unit (2 of 2)

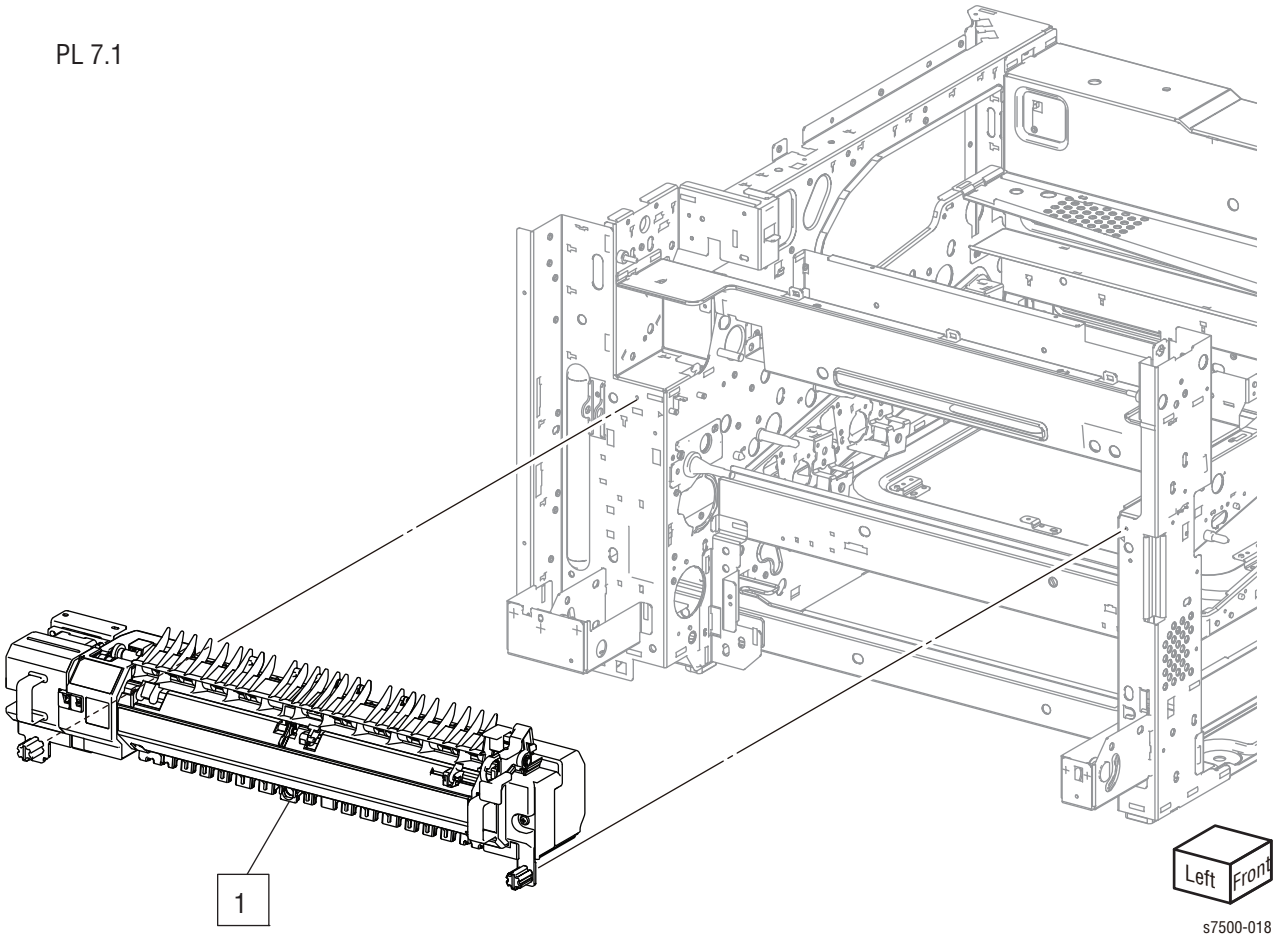
Item	Description	Part Number
1	1st BTR Roll	
2	1st BTR Conductor	
3	Tension Spring Shaft	
4	Spring	
5	Spring	
6	Spring	
7	Spring	
8	Spring	
9	Spring	
10	Spring	
11	Spring	
12	Spring Adjust	
13	IBT Belt Assembly	

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Fuser

Parts List 7.1 Fuser

PL 7.1



Parts List 7.1 Fuser

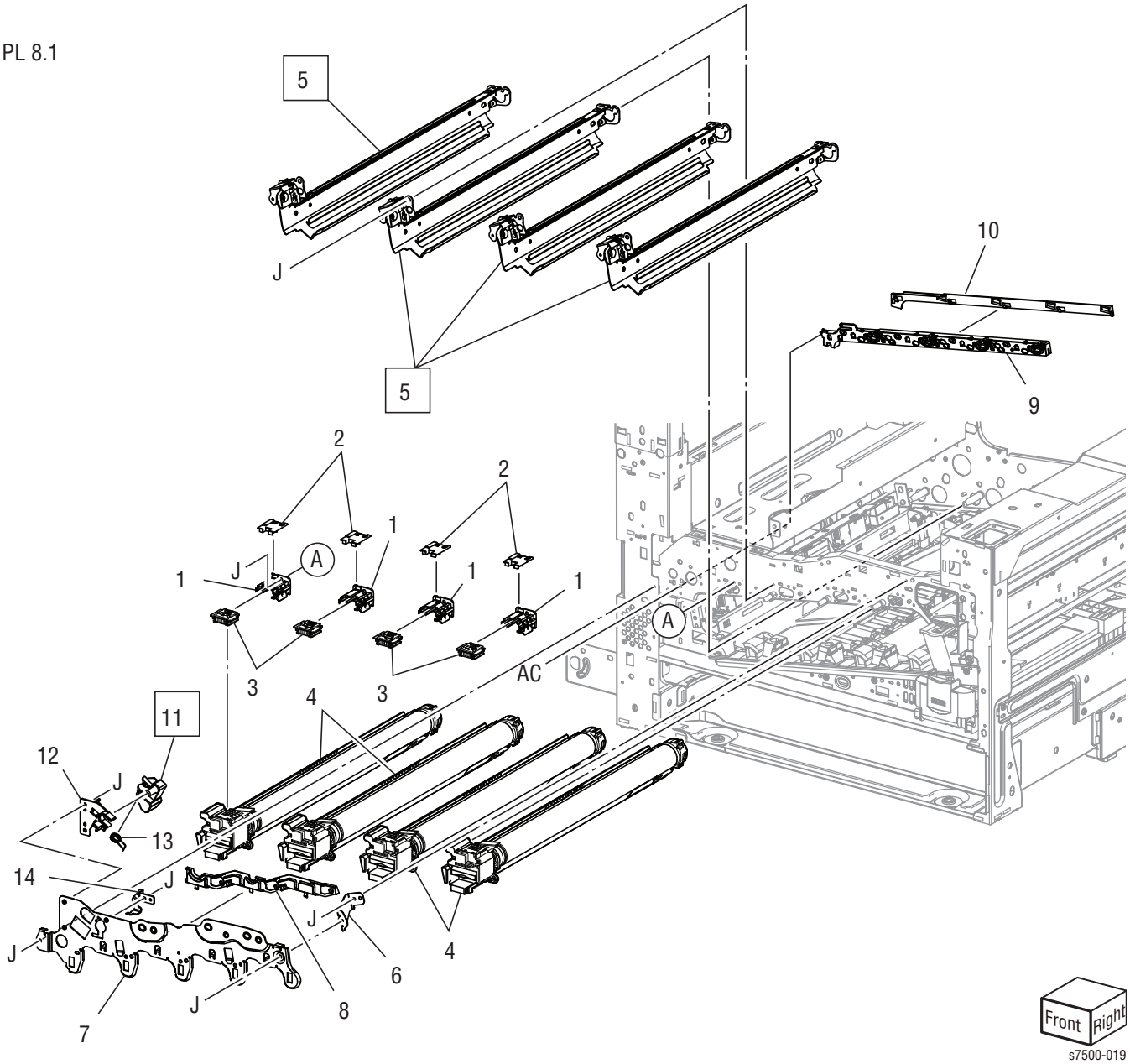
Item	Description	Part Number
1	Fuser Assembly - 110V (REP 7.1) and Belt Cleaner Assembly (REP 7.1, page 8-67)	115R00061
	Fuser Assembly - 110V (REP 7.1) and Belt Cleaner Assembly (REP 7.1, page 8-67) (Dell 7130)	126E02830
	Fuser Assembly - 220V (REP 7.1) and Belt Cleaner Assembly (REP 7.1, page 8-67)	115R00062
	Fuser Assembly - 220V (REP 7.1) and Belt Cleaner Assembly (REP 7.1, page 8-67) (Dell 7130)	126E02840

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Xerographic

Parts List 8.1 Xerographic (1 of 2)

PL 8.1

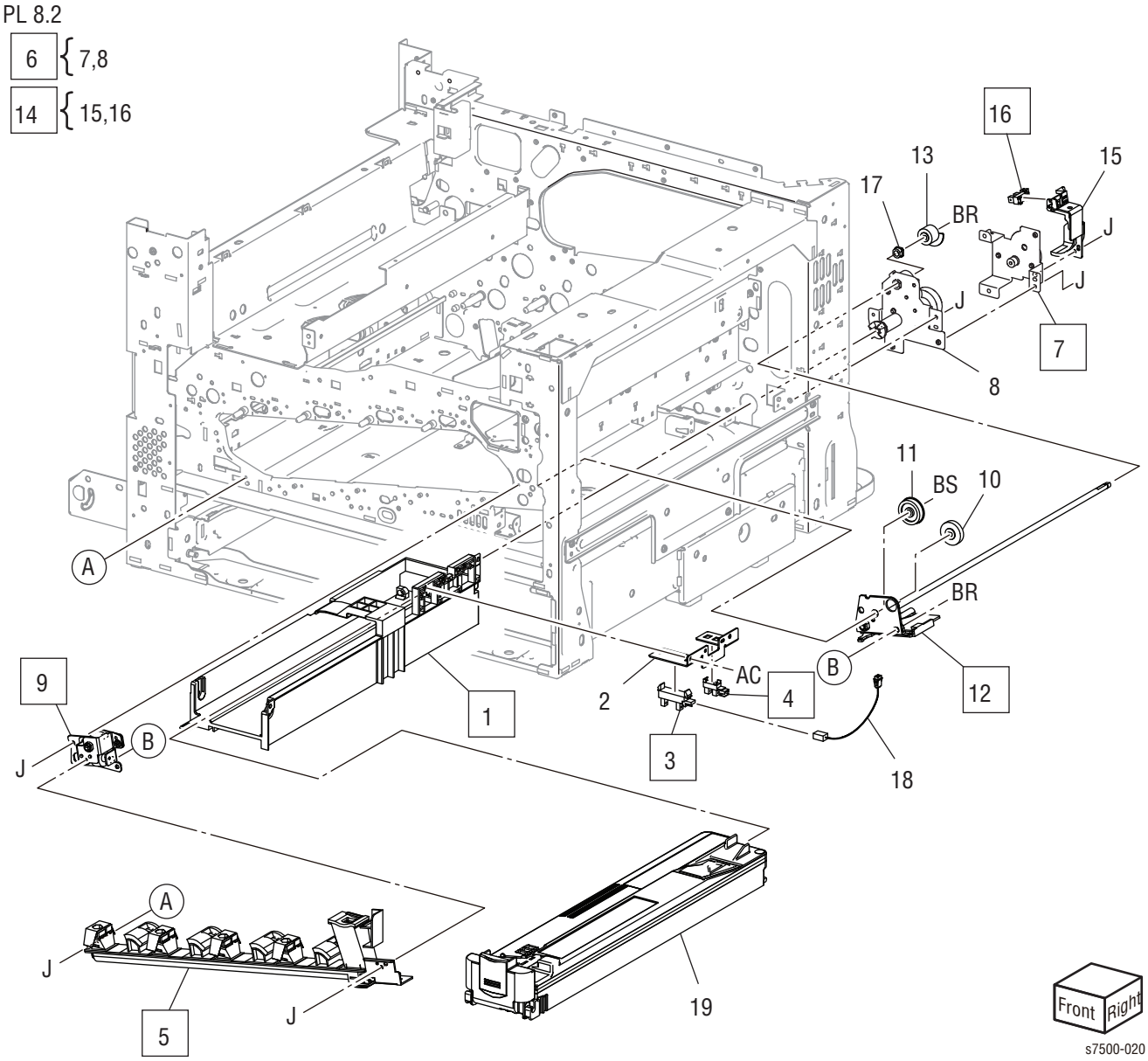


Parts List 8.1 Xerographic (1 of 2)

Item	Description	Part Number
1	Holder CRUM	
2	Cover CRUM	
3	Drum CRUM Coupler Assembly (K, C, M, Y)	
4	Imaging Unit (Drum) (C, M, Y, K) (REP 1.2, page 8-10)	108R00861
	Imaging Unit (Drum) (C, M, Y, K) (Dell 7130)	077E00050
5	Erase Lamp Unit (K) (REP 8.1, page 8-68)	032K04701
	Erase Lamp Unit (Y, M, C) (REP 8.2, page 8-70)	032K04701
6	Bracket	
7	Plate	
8	Harness Holder	
9	Harness Holder	
10	Cover	
11	Handle Lock Lever (REP 8.3, page 8-72)	011E20901
12	Bracket	
13	Spring	
14	Spring	
99	Kit CRUM (includes items 1-3)	675K82360

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Parts List 8.2 Xerographic (2 of 2)



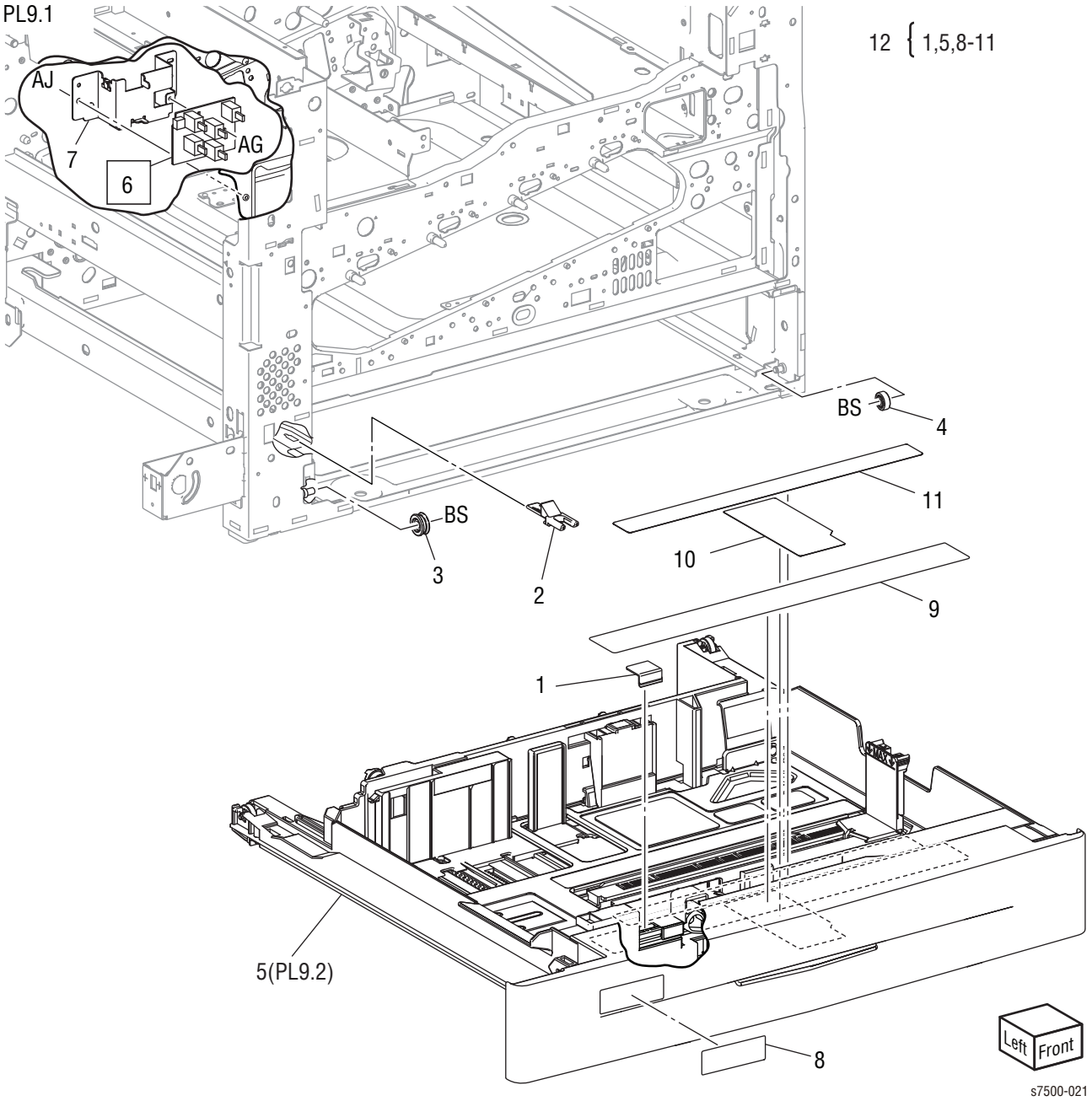
Parts List 8.2 Xerographic (2 of 2)

Item	Description	Part Number
1	Bottle Guide Assembly (REP 8.4, page 8-73)	
2	Sensor Bracket	
3	Waste Toner Bottle Full Sensor (REP 8.5, page 8-74)	
4	Waste Toner Bottle Position Sensor (REP 8.5, page 8-74)	
5	Waste Toner Pipe Assembly (REP 8.6, page 8-75)	052K97012
6	Agitator Motor Assembly (items 7, 8) (REP 8.7, page 8-76)	068K59500
7	Agitator Motor (REP 8.8, page 8-77)	
8	Gear Bracket Assembly	
9	Gear Bracket Assembly (REP 8.9, page 8-78)	
10	Helical Gear (29T)	
11	Helical Gear (31T)	
12	Drive Shaft Assembly (REP 8.10, page 8-79)	
13	Helical Gear (20T)	
14	Sensor Bracket Assembly (items 15, 16) (REP 8.11, page 8-80)	068K58211
15	Harness Holder	
16	Auger Lock Sensor (REP 8.12, page 8-81)	
17	Sleeve Bearing	413W11660
18	Wire Harness (Toner Full)	
19	Waste Cartridge (REP 1.3, page 8-12)	108R00865
	Waste Cartridge (REP 1.3, page 8-12) (Dell 7130)	077E00060
99	Kit Pipe Drive (includes items 9-13)	675K82370

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Tray 2 - Tray Module (3T) (Option)

Parts List 9.1 Tray 2 Feeder/ Tray 2

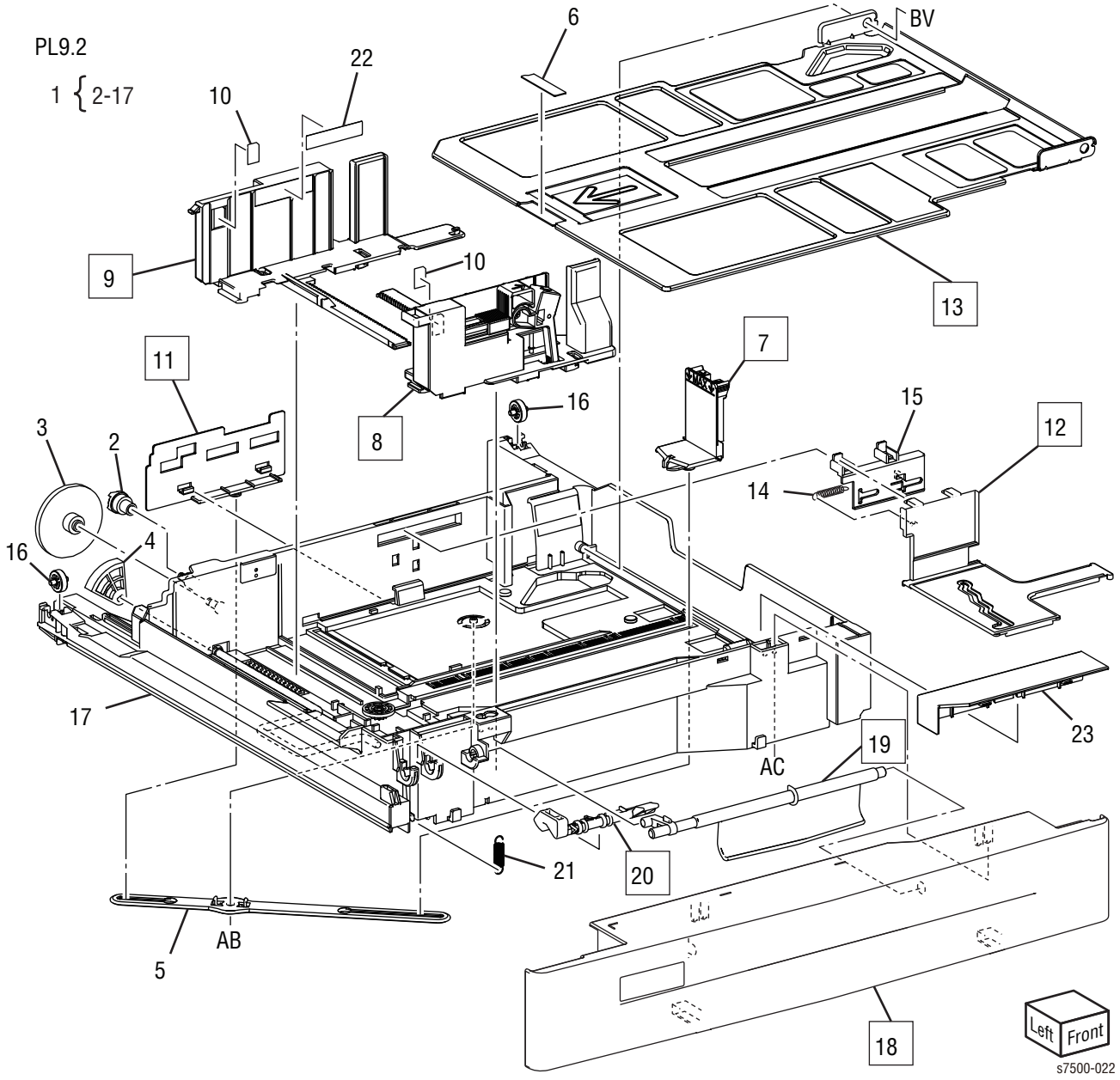


Parts List 9.1 Tray 2 Feeder/ Tray 2

Item	Description	Part Number
1	Slide Lock Block	
2	Stopper	
3	Roller	
4	Roller	
5	Tray 2 Assembly (PL 9.2, page 9-45) (included in item 12)	
6	Tray 2 Paper Size Sensor (REP 9.1, page 8-82)	110K12100
7	Switch Bracket	
8	No 2 Tray Label	
9	Label (Instruction)	
10	Side Size Label	
11	End Size Label	
12	Tray 2 Kit (items 1, 5, 8-11)	675K82281
	Tray 2 Kit (items 1, 5, 8-11) (Dell 7130)	675K86560

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Parts List 9.2 Tray 2

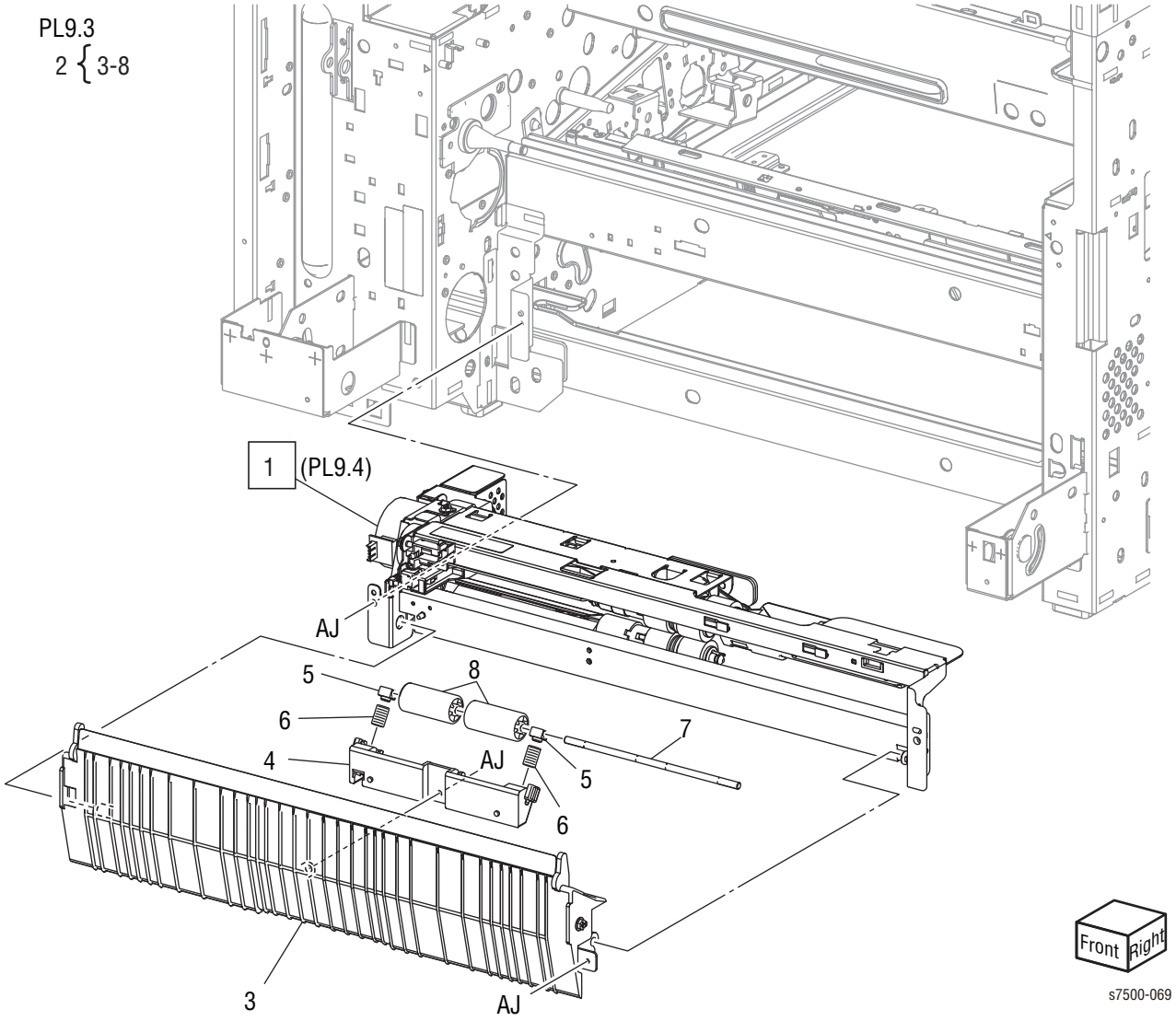


Parts List 9.2 Tray 2

Item	Description	Part Number
1	Tray 2 Assembly (items 2-17) (included in PL 9.1, item 12, page 9-43)	
2	Gear (13T)	
3	Gear (13T/60T)	
4	Gear (60T)	
5	Link	
6	Bottom Pad	
7	End Guide	
8	Side Guide (Front)	
9	Side Guide (Rear)	
10	Pad	
11	End Actuator	
12	Side Actuator	
13	Bottom Plate	
14	Spring	
15	Side Actuator	
16	Roll	
17	Tray	
18	Front Cover	
19	Lever	
20	Latch	
21	Spring	
22	Label (Max)	
23	Rail Cover	

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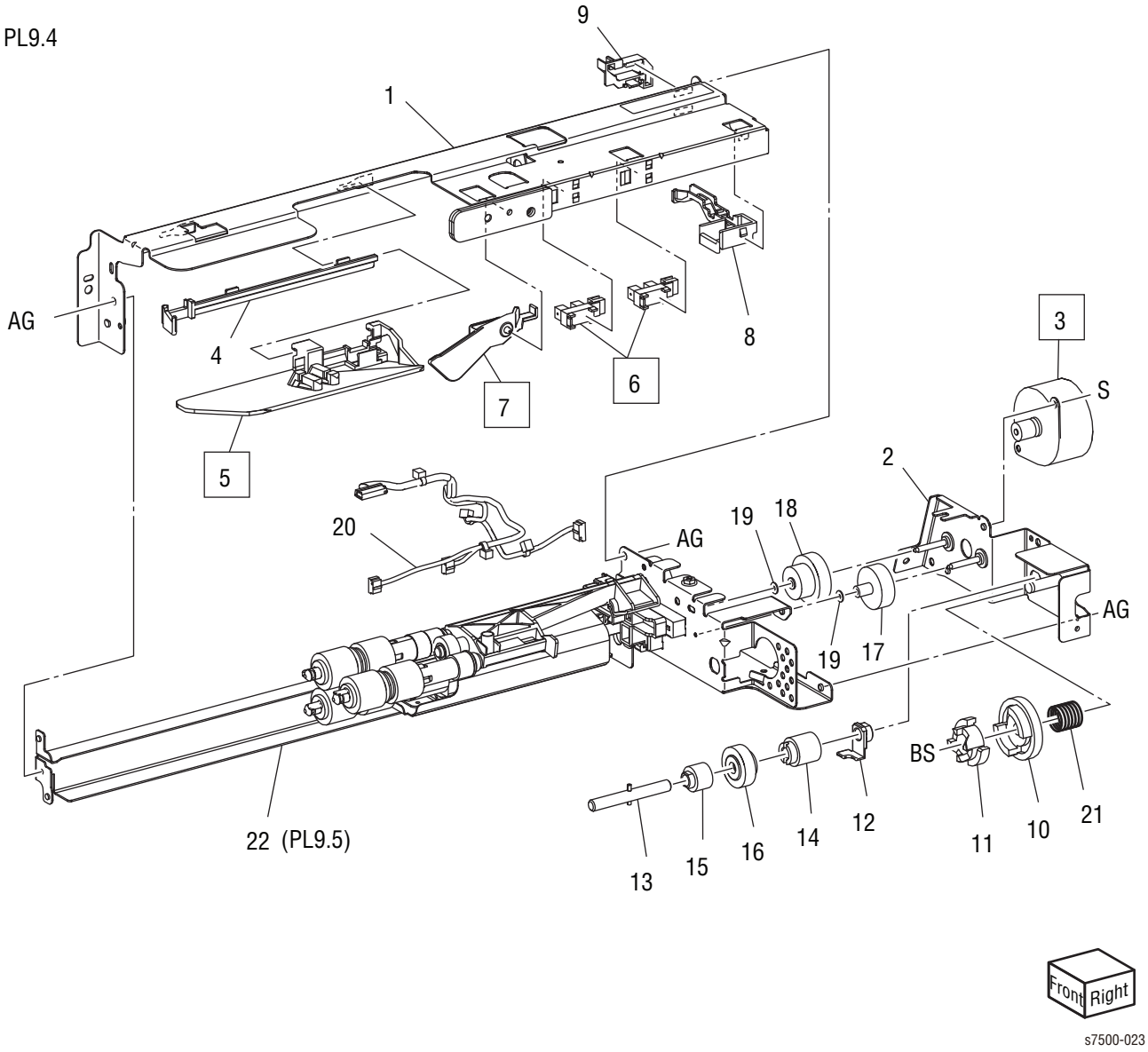
Parts List 9.3 Tray 2 Feeder



Parts List 9.3 Tray 2 Feeder

Item	Description	Part Number
1	Tray 2 Feeder Assembly (PL 9.4) (REP 9.9, page 8-83)	059K55044
2	Chute Feeder Assembly (items 3-8)	054K35142
3	Chute	
4	Pinch Guide	
5	Spacer	
6	Spring	
7	Pinch Shaft	
8	Pinch Roll	

Parts List 9.4 Tray 2 Feeder Assembly (1 of 2)



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Parts List 9.4 Tray 2 Feeder Assembly (1 of 2)

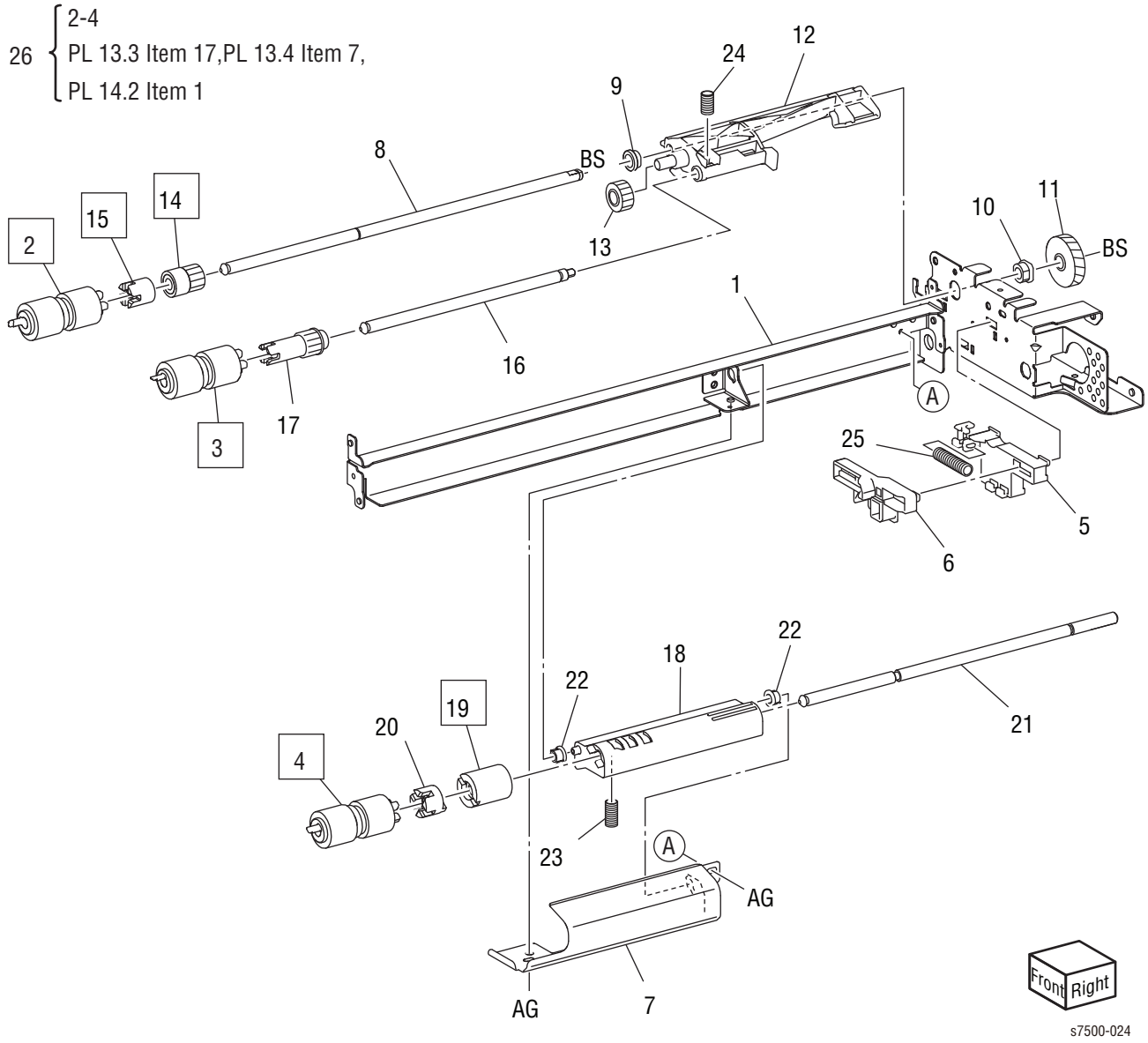
Item	Description	Part Number
1	Upper Frame Assembly (P/O PL 9.3.1, page 9-46)	
2	Drive Bracket Assembly	
3	Tray 2 Feed/ Lift Up Motor (REP 9.10, page 8-85)	
4	Rail	
5	Chute	
6	Tray 2 Nudger Level Sensor (REP 9.12, page 8-86)	930W00111
	Tray 2 No Paper Sensor (REP 9.12, page 8-86)	930W00111
7	Actuator	
8	Upper Harness Holder	
9	Rear Harness Holder	
10	Gear (31T)	
11	Spacer	
12	Bearing	
13	Drive Shaft	
14	Gear (13T)	
15	Oneway Clutch	
16	Oneway Gear (Alternate)	
17	Helical Gear (25T)	
18	Helical Gear (29T/19T)	
19	Washer	
20	Wire Harness (Feeder)	
21	Spring	
22	Roll Assembly (PL 9.5, page 9-50)	

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Parts List 9.5 Tray 2 Feeder Assembly (2 of 2)

PL9.5

26 { 2-4
PL 13.3 Item 17,PL 13.4 Item 7,
PL 14.2 Item 1



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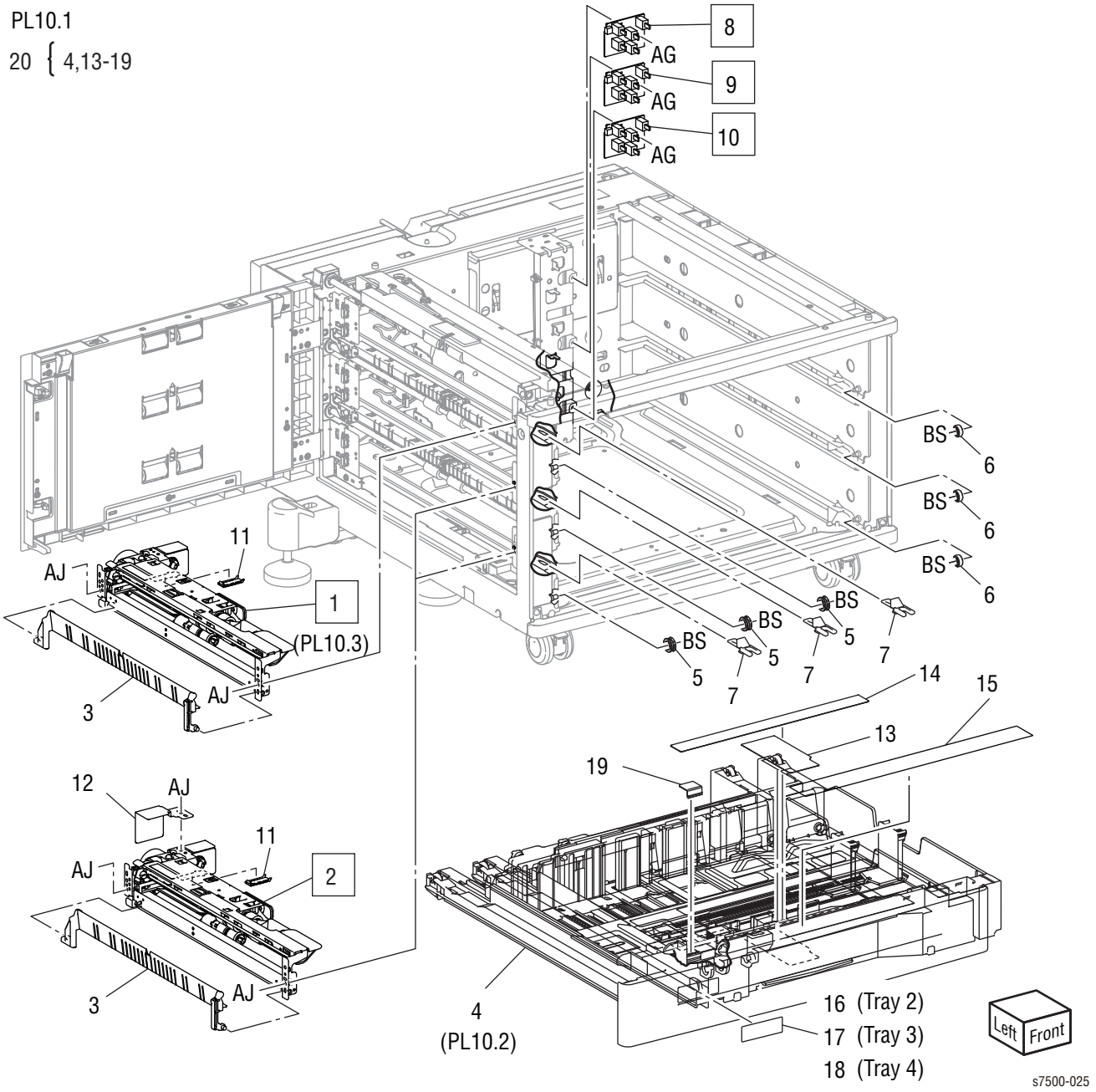
Parts List 9.5 Tray 2 Feeder Assembly (2 of 2)

Item	Description	Part Number
1	Frame Assembly	
2	Feed Roller Kit with Instructions (items 2-4) (REP 9.14, page 8-87)	675K82240
	Feed Roller Kit with Instructions (items 2-4) (REP 9.14, page 8-87) (Dell 7130)	675K86570
3	Nudger Roll (REP 9.14, page 8-87)	
4	Retard Roll (REP 9.14, page 8-87)	
5	Holder	
6	Lever	
7	Feed In Chute	
8	Feed Shaft	
9	Bearing (6)	
10	Sleeve Bearing	
11	Helical Gear (30T)	
12	Nudger Support	
13	Spur Gear (29T)	
14	Clutch Assembly (25T) (REP 9.15, page 8-88)	
15	Oneway Clutch (REP 9.15, page 8-88)	
16	Nudger Shaft	
17	Gear (25T)	
18	Retard Support	
19	Friction Clutch (REP 9.15, page 8-88)	
20	Spacer	
21	Retard Shaft	
22	Retard Bearing	
23	Spring	
24	Spring	
25	Spring	

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Tray 3/4/5 - Tray Module (3T) (Option)

Parts List 10.1 Tray Module (3T)



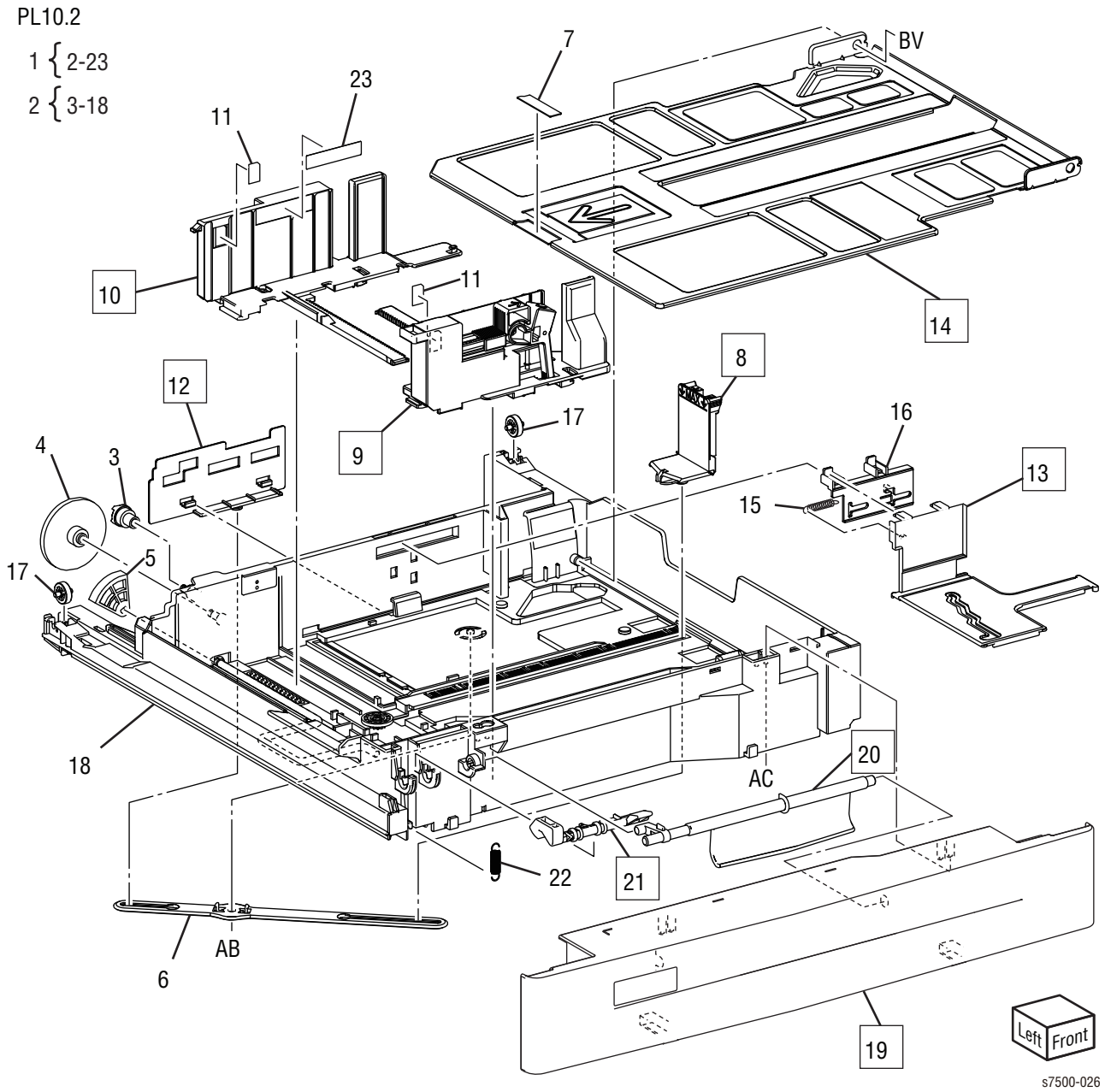
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Parts List 10.1 Tray Module (3T)

Item	Description	Part Number
1	Tray 3 Feeder Assembly (PL 10.3, page 9-56) (REP 10.1, page 8-90)	059K55532
2	Tray 4 Feeder Assembly (PL 10.3, page 9-56) (REP 10.1, page 8-90)	059K55532
	Tray 5 Feeder Assembly (PL 10.3, page 9-56) (REP 10.1, page 8-90)	059K55532
3	Feed Out Chute	054E36441
4	Tray 3/4/5 Assembly (PL 10.2, page 9-54)	See item 20
5	Roller	
6	Roller	
7	Stopper	003E75430
8	Tray 3 Paper Size Sensor (REP 10.2, page 8-92)	110K12100
9	Tray 4 Paper Size Sensor (REP 10.2, page 8-92)	110K12100
10	Tray 5 Paper Size Sensor (REP 10.2, page 8-92)	110K12100
11	Sensor Cover	
12	Bracket	
13	Side Size Label	
14	End Size Label	
15	Label (Instruction)	
16	Tray 3 Label	
17	Tray 4 Label	
18	Tray 5 Label	
19	Slide Lock Block	
20	Tray Assy 3TM Kit (items 4, 13-19)	604K52880
	Tray Assy 3TM Kit (items 4, 13-19) (Dell 7130)	604K56720
99	Three Tray Module Option Complete	050K68700
	Three Tray Module Option Complete (Dell 7130)	059K76390

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Parts List 10.2 Tray 3/4/5



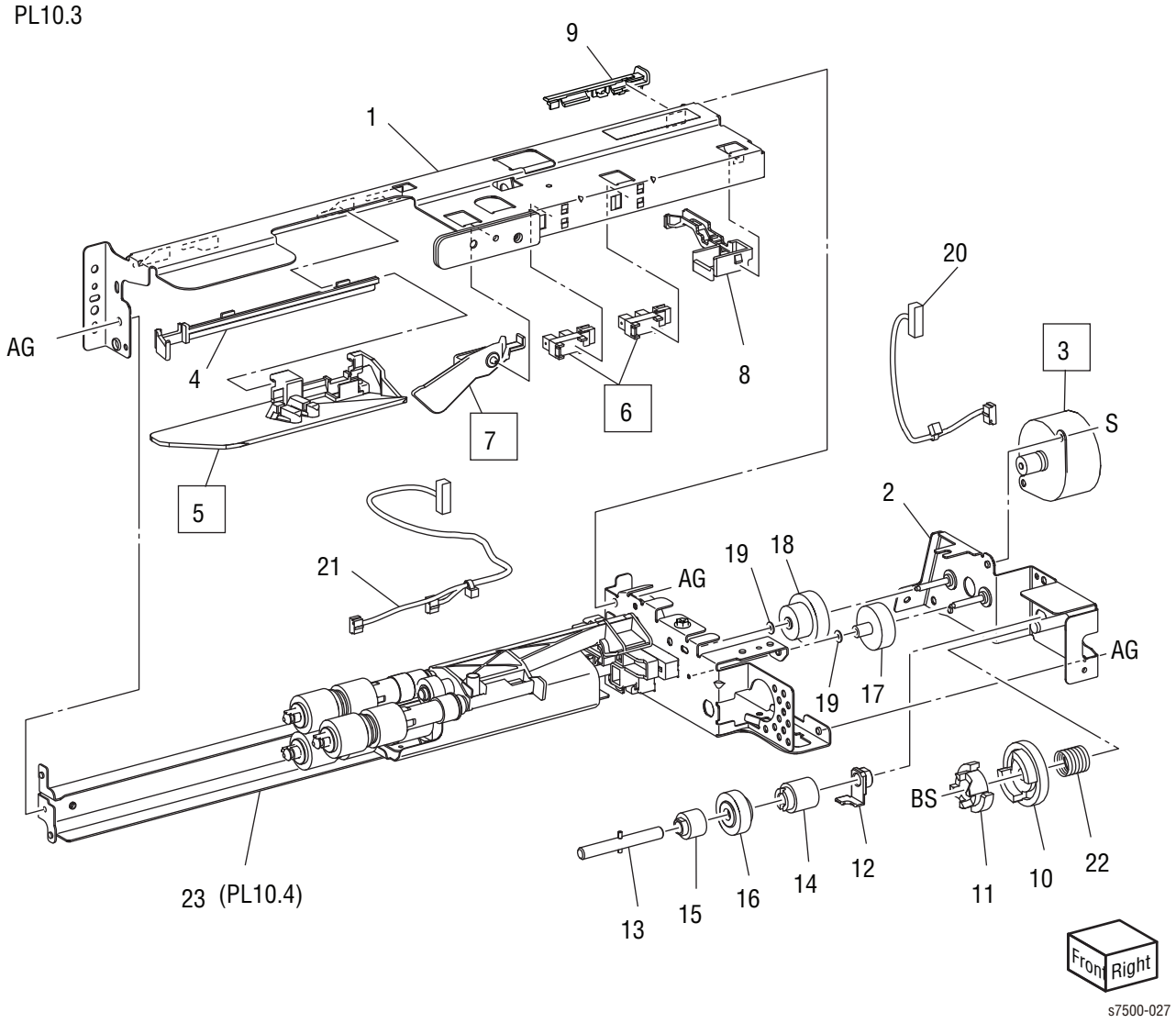
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Parts List 10.2 Tray 3/4/5

Item	Description	Part Number
1	Tray 3/4/5 Assembly (items 2-23)	See PL10.1, item 20 (page 9-52)
2	Tray Assembly (items 3-18)	
3	Gear (13T)	
4	Gear (13T/60T)	
5	Gear (60T)	
6	Link	
7	Bottom Pad	
8	End Guide	
9	Side Guide (Front)	
10	Side Guide (Rear)	
11	Pad	
12	End Actuator	
13	Side Actuator	
14	Bottom Plate	
15	Spring	
16	Side Actuator	
17	Roll	
18	Tray	
19	Front Cover	
20	Lever	
21	Latch	
22	Spring	
23	Label (Max)	

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Parts List 10.3 Tray 3/4/5 Feeder Assembly (1 of 2)



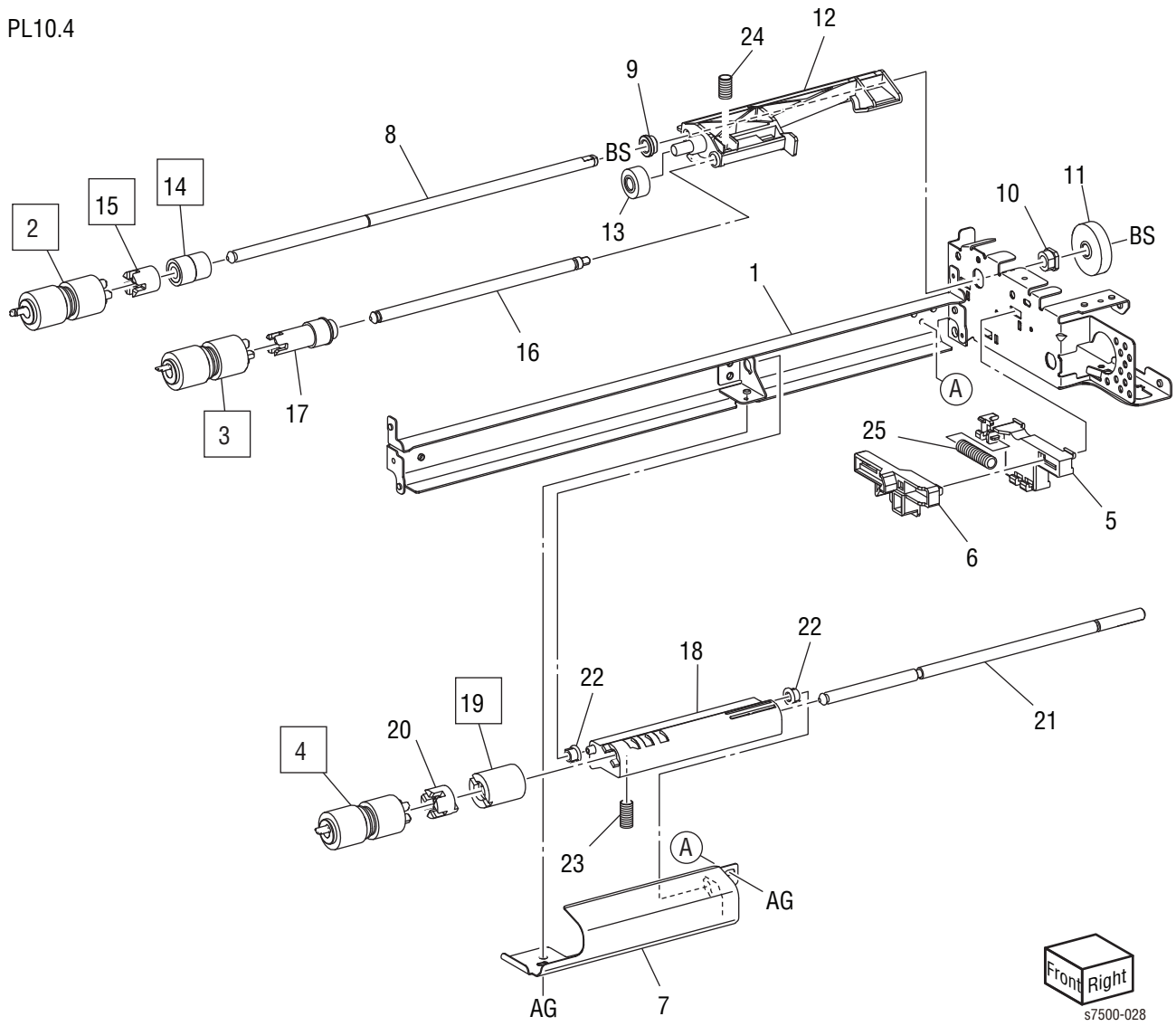
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Parts List 10.3 Tray 3/4/5 Feeder Assembly (1 of 2)

Item	Description	Part Number
1	Upper Frame Assembly	
2	Drive Bracket Assembly	
3	Tray 3/4/5 Feed/ Lift Up Motor (REP 10.3, page 8-93)	
4	Rail	
5	Chute	
6	Tray 3/4/5 Nudger Level Sensor (REP 10.5, page 8-94)	930W00111
	Tray 3/4/5 No Paper Sensor (REP 10.5, page 8-95)	930W00111
7	Actuator	
8	Upper Harness Holder	
9	Rear Harness Holder	
10	Gear (31T)	
11	Spacer	
12	Bearing	
13	Drive Shaft	
14	Gear (13T)	
15	One way Clutch	
16	One Way Gear (Alternate)	
17	Helical Gear (25T)	
18	Helical Gear (29T/19T)	
19	Washer	
20	Harness Assembly (Motor1)	
21	Harness Assembly (Sensor1)	
22	Spring	
23	Roller Assembly (PL 10.4, page 9-58)	

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Parts List 10.4 Tray 3/4/5 Feeder Assembly (2 of 2)



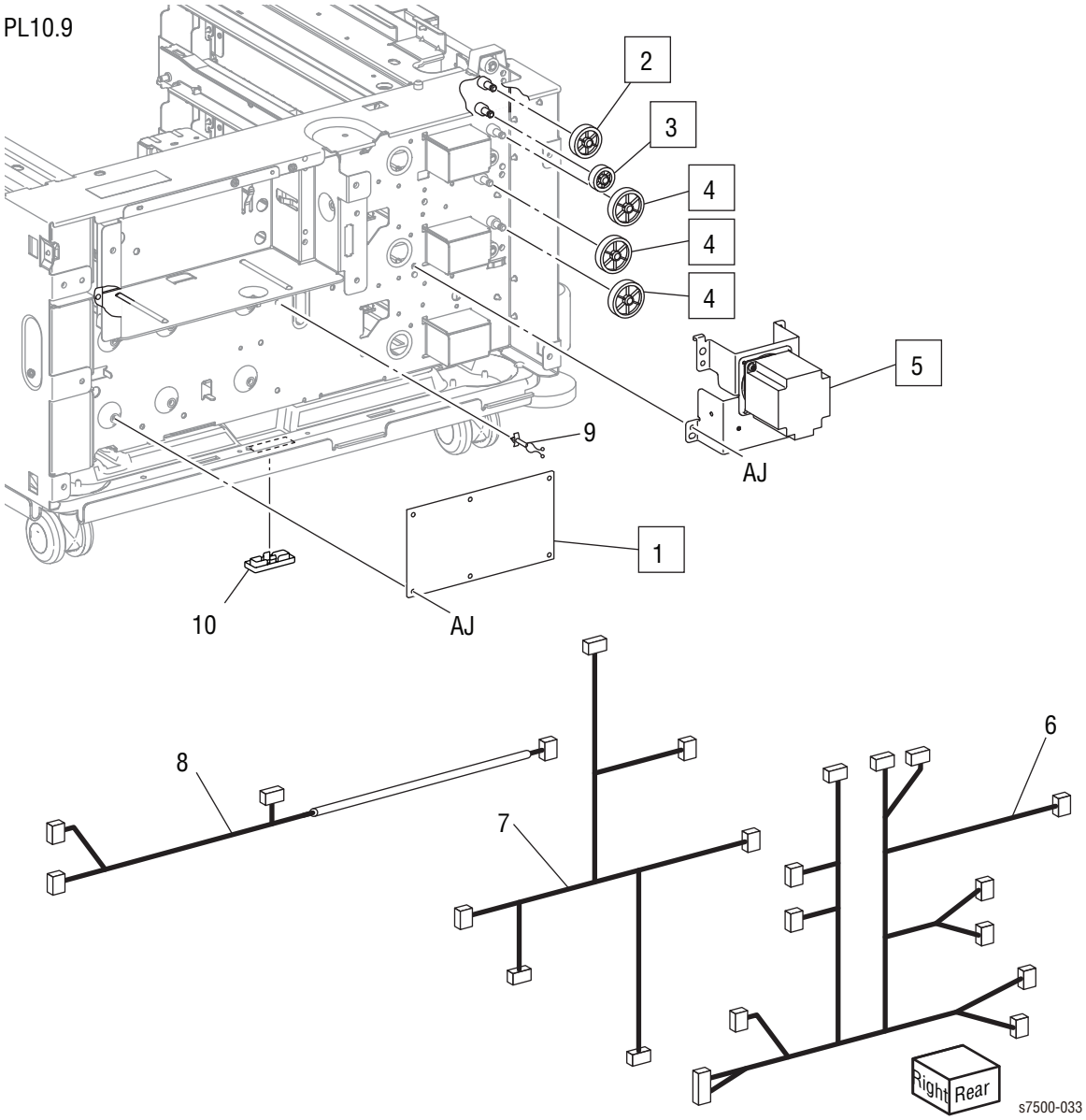
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Parts List 10.4 Tray 3/4/5 Feeder Assembly (2 of 2)

Item	Description	
1	Frame Assembly	
2	Feed Roller Kit with Instructions (items 2-4) (REP 10.7, page 8-95)	675K82240
3	Nudger Roll (REP 10.7, page 8-95)	
4	Retard Roll (REP 10.7, page 8-95)	
5	Holder	
6	Lever	
7	Feed In Chute	
8	Feed Shaft	
9	Bearing (6)	
10	Sleeve Bearing	
11	Helical Gear (30T)	
12	Nudger Support	
13	Spur Gear (29T)	
14	Clutch Assembly (25T) (Alternate) (REP 10.8, page 8-96)	
	Clutch Assembly (25T) (Alternate) (REP 10.8, page 8-96)	
15	One way Clutch (REP 10.8, page 8-96)	
16	Nudger Shaft	
17	Gear (25T)	
18	Retard Support	
19	Friction Clutch (REP 10.8, page 8-96)	
20	Spacer	
21	Retard Shaft	
22	Retard Bearing	
23	Spring	
24	Spring	
25	Spring	

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Parts List 10.9 Electrical



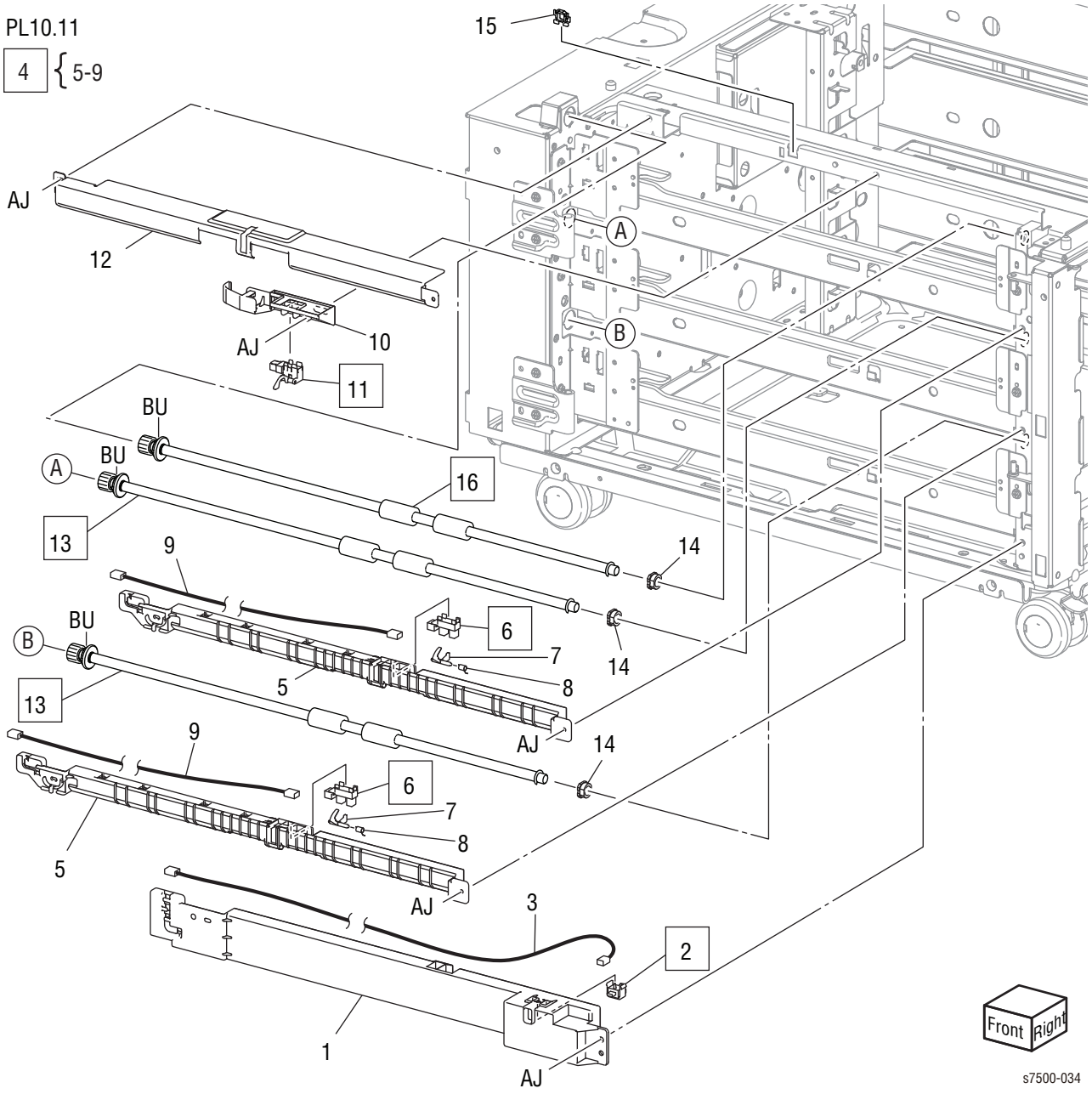
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Parts List 10.9 Electrical

Item	Description	Part Number
1	Tray Module PWB (REP 10.9, page 8-97)	960K43172
2	Gear (34T) (REP 10.10, page 8-98)	
3	Gear (26T) (REP 10.10, page 8-98)	
4	Gear (39T) (REP 10.10, page 8-98)	
5	TM Takeaway Motor (REP 10.11, page 8-99)	127K52641
6	Harness Assembly (Sensor 2)	
7	Harness Assembly (Motor 2)	
8	Harness Assembly (I/F)	
9	Wire Clip	
10	Cap	
98	Gear Kit (items 2, 3, 4 and 3 of item 4)	604K53000
99	Harness Kit (items 6, 7, 8)	604K53010

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Parts List 10.11 Roller



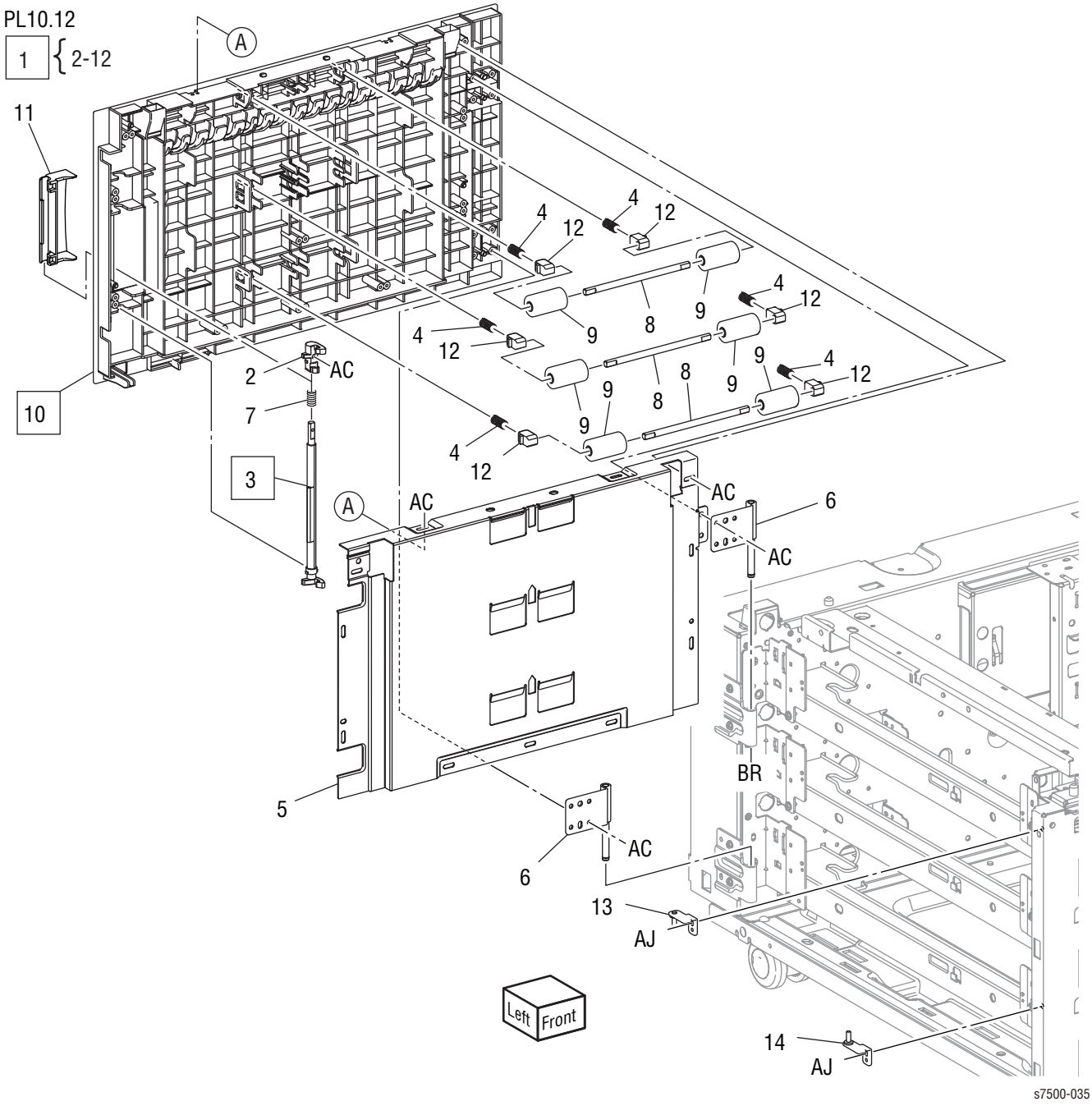
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Parts List 10.11 Roller

Item	Description	Part Number
1	Cover	
2	Tray Module L/H Cover Switch (REP 10.12, page 8-100)	110E12220
3	Harness Assembly Interlock (TM SW)	962K59480
4	Chute Assembly (items 5-9) (REP 10.13, page 8-101)	054K34143
5	Chute	
6	Tray 4 Feed Out Sensor (REP 10.13, page 8-101)	930W00111
	Tray 5 Feed Out Sensor (REP 10.13, page 8-101)	930W00111
7	Actuator	
8	Spring	
9	Wire Harness (FO)	
10	Sensor Guide	
11	Tray 3 Feed Out Sensor (REP 10.14, page 8-102)	130K64121
12	Chute	
13	T/A Roll 4/5 (REP 10.15, page 8-103)	059K54382
14	Sleeve Bearing	
15	Clamp	
16	T/A Roll 3 (REP 10.15, page 8-103)	059K54382

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Parts List 10.12 L/H Cover Assembly



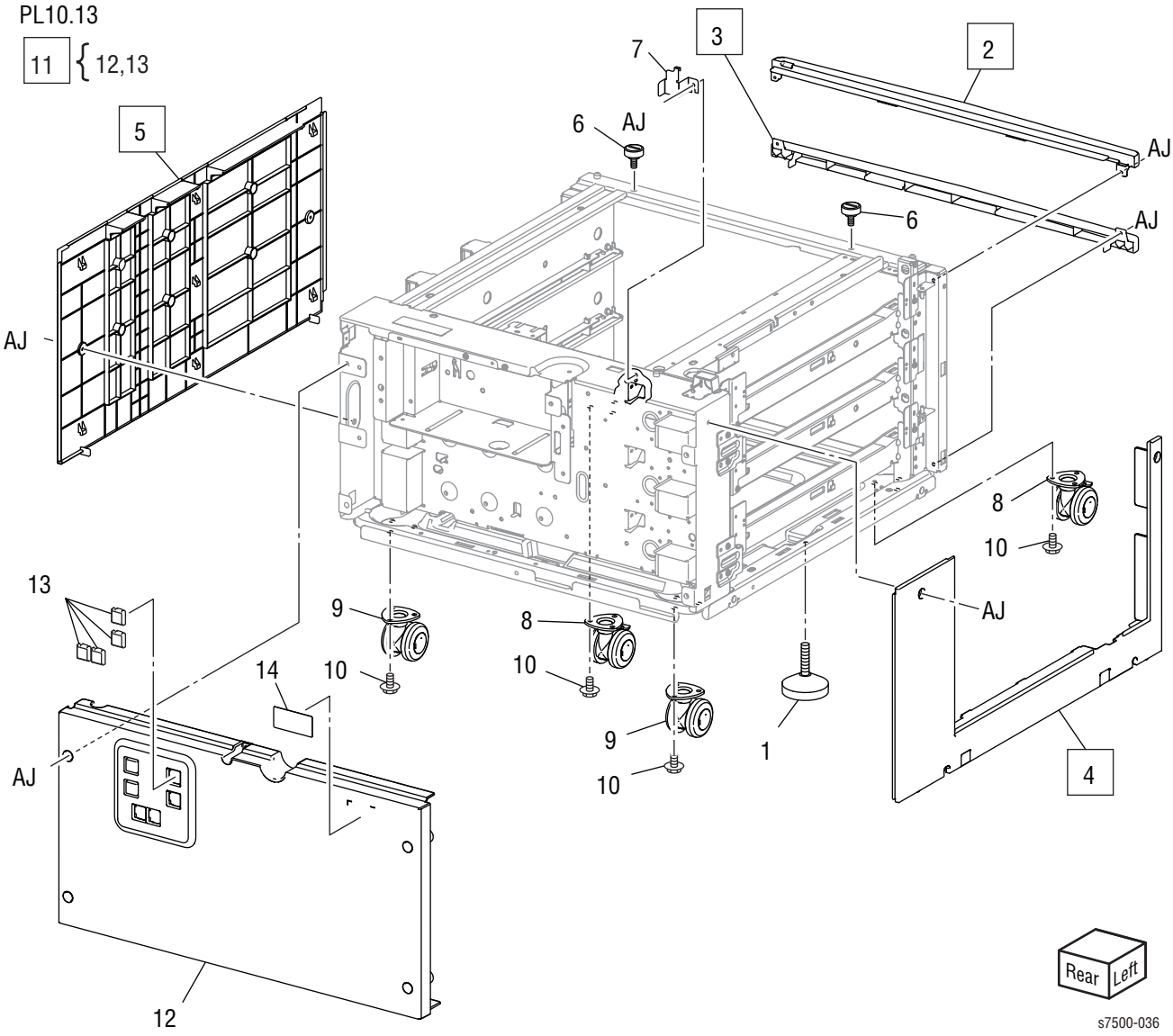
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Parts List 10.12 L/H Cover Assembly

Item	Description	Part Number
1	L/H Cover Assembly (items 2-12) (REP 10.16, page 8-104)	848K04310
2	Hook	
3	Latch (REP 10.17, page 8-105)	
4	Pinch Spring	
5	L/H Chute	
6	Bracket Assembly	
7	Spring	
8	Pinch Shaft	
9	Pinch Roll	
10	L/H Cover (REP 10.18, page 8-106)	
11	Handle	
12	Pinch Bearing	
13	Bracket Assembly KTH U	068K55701
14	Bracket Assembly LTH L	068K55711

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Parts List 10.13 Cover



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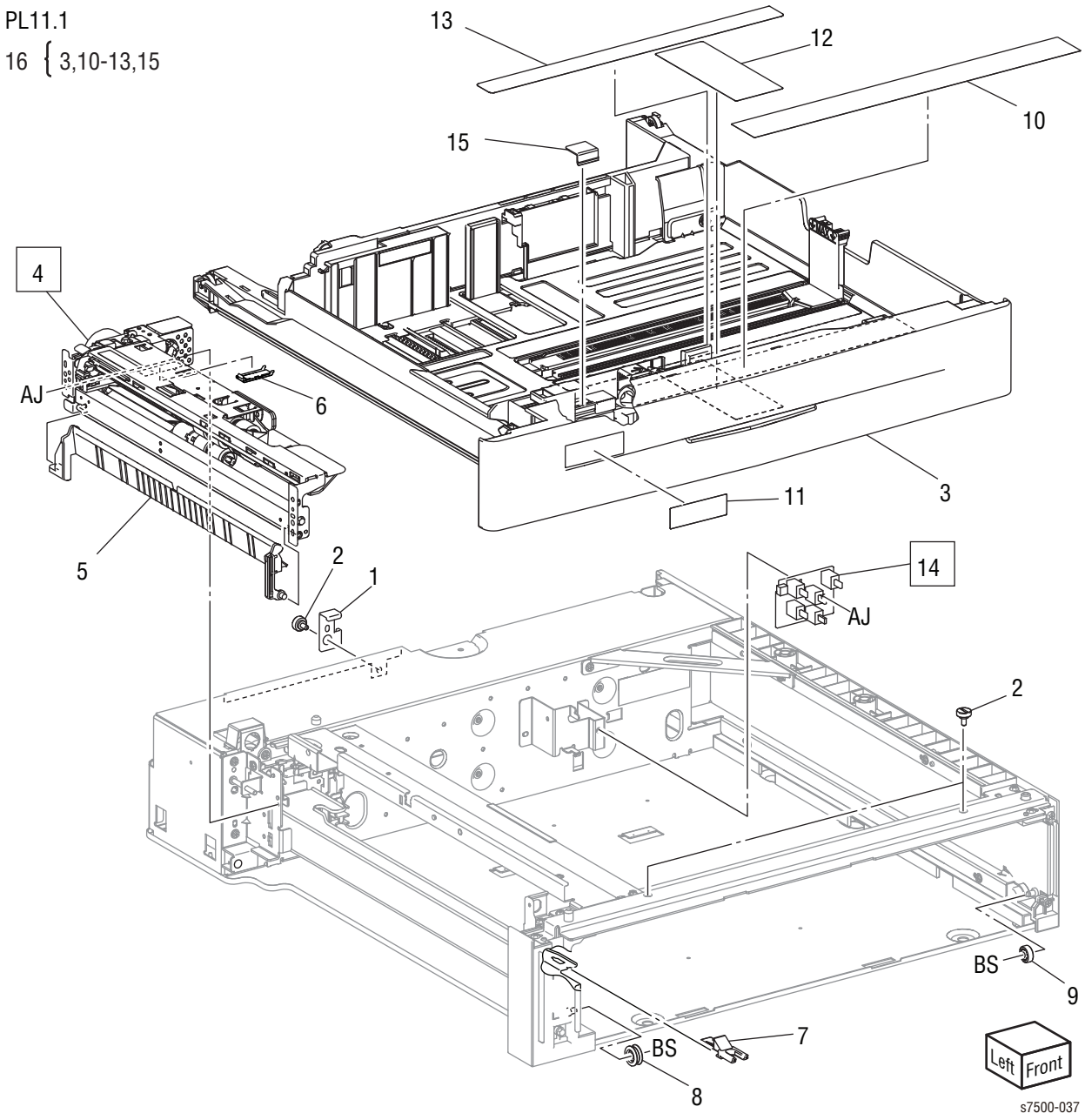
Parts List 10.13 Cover

Item	Description	Part Number
1	Adjuster Foot Assembly	017K94590
2	Top Cover (REP 10.20, page 8-108)	848E12720
3	Foot Cover (REP 10.20, page 8-108)	848E12730
4	Left Cover (REP 10.21, page 8-109)	848E12691
5	Right Cover (REP 10.22, page 8-110)	848E12702
6	Docking Screw	826E31691
7	Joint Bracket	
8	Caster Assembly (S)	
9	Caster Assembly	
10	Screw	
11	Rear Cover Assembly (items 12, 13) (REP 10.19, page 8-107)	848K11191
12	Rear Cover	
13	Blind Cover	
14	Label	

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Tray Module (1T) (Option)

Parts List 11.1 Tray Module (1T)



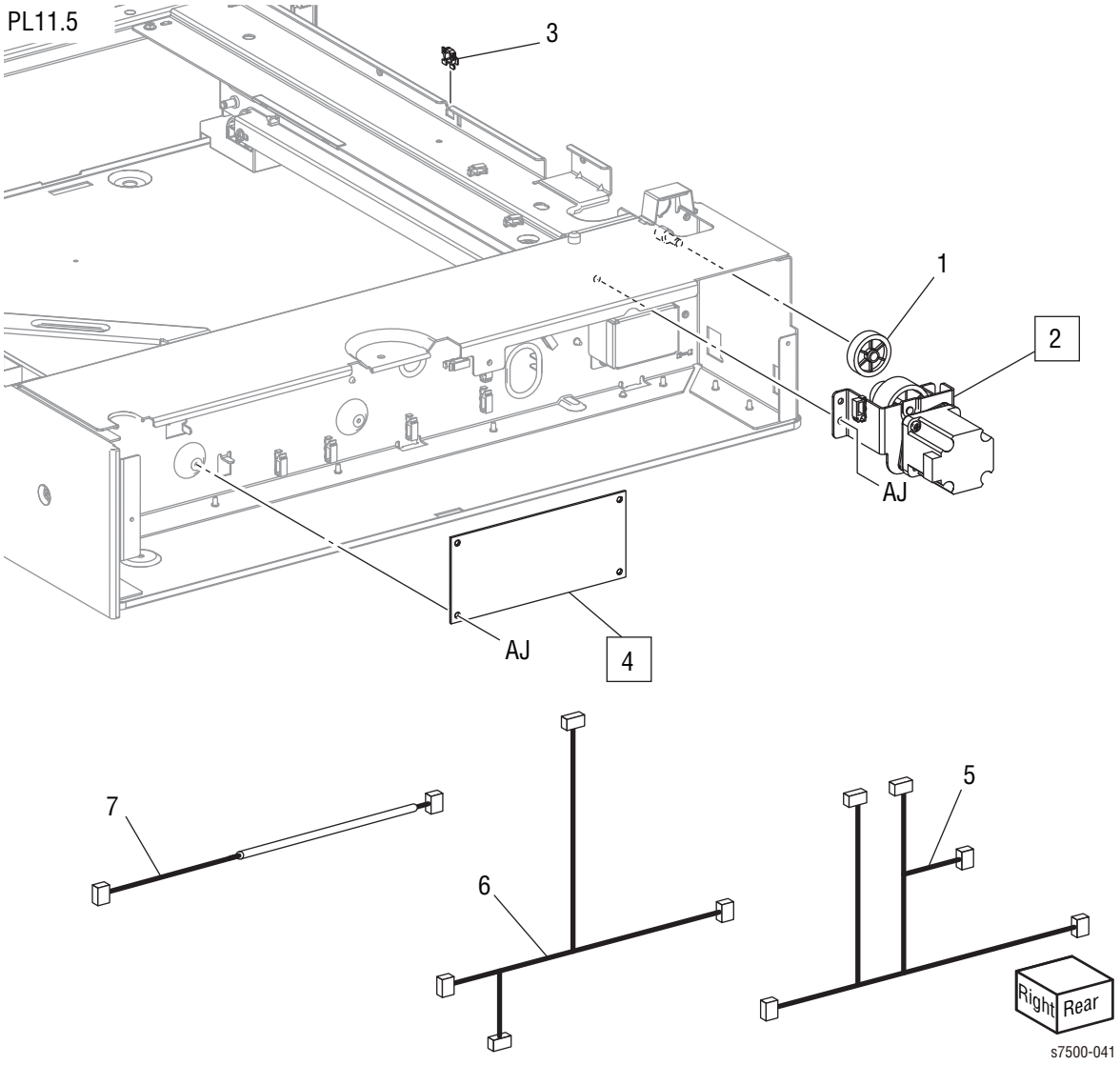
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Parts List 11.1 Tray Module (1T)

Item	Description	Part Number
1	Docking Bracket	868E06290
2	Docking Screw	
3	Tray 3 Assembly-STM	See item 16
4	Tray 3 Feeder Assembly-STM (REP 11.1, page 8-112)	059K55532
5	Feed Out Chute	
6	Sensor Cover	
7	Stopper	
8	Roller	
9	Roller	
10	Label (Instruction)	
11	Tray 3 Label	
12	Side Size Label	
13	End Size Label	
14	Tray 3 Paper Size Sensor	110K12100
15	Slide Lock Block	
16	Tray 3 Kit-STM (items 3, 10-13, 15)	604K52880
99	One Tray Module Option Complete	050K68710
	One Tray Module Option Complete (Dell 7130)	059K76380

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Parts List 11.5 Electrical

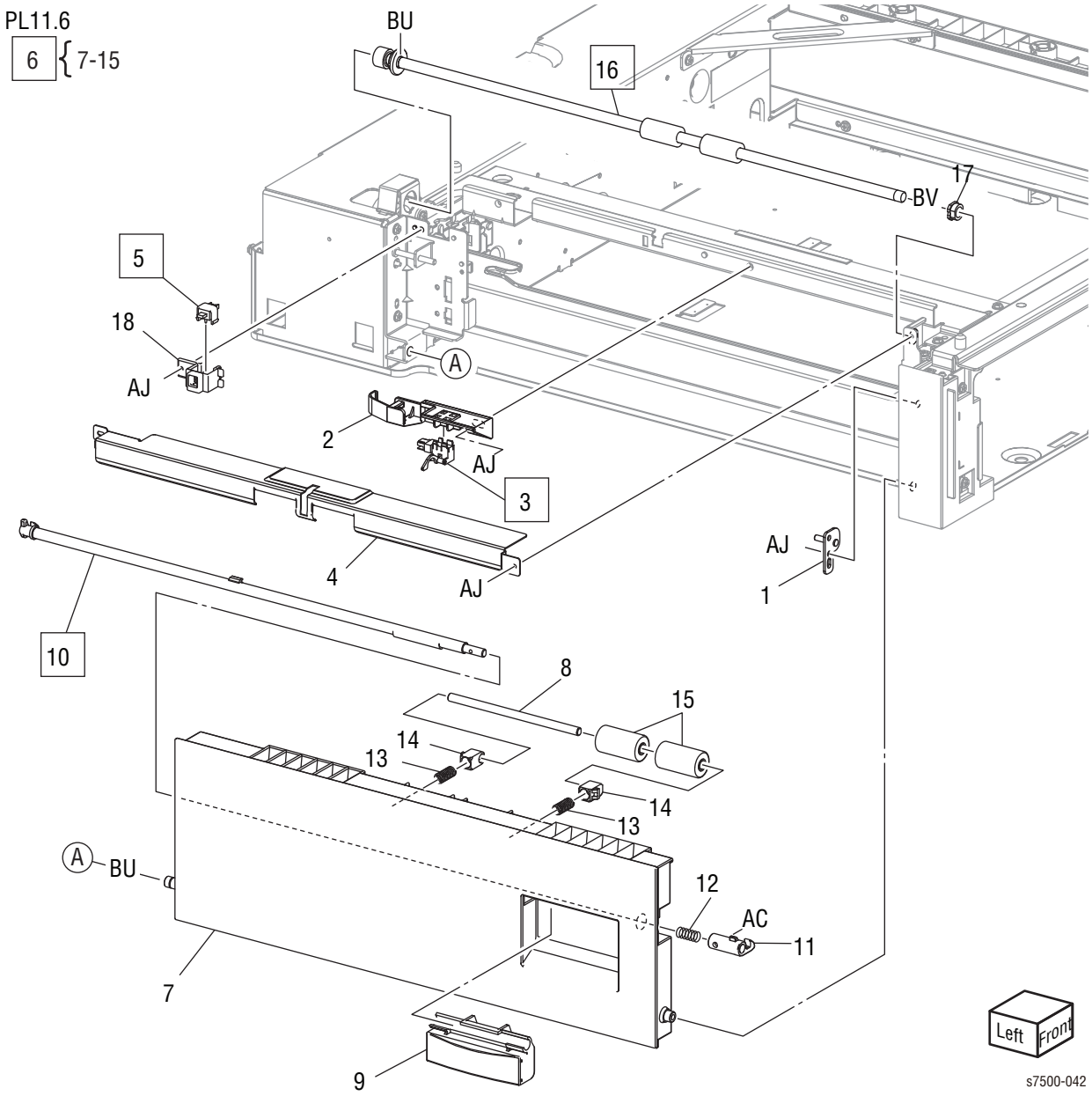


Parts List 11.5 Electrical

Item	Description	Part Number
1	Gear (34T)	
2	STM T/A Motor Assembly (REP 11.9, page 8-97)	127K52891
3	Clamp	
4	STM PWB (REP 11.10, page 8-98)	960K32325
5	Harness Assembly (Sensor2-STM)	
6	Harness Assembly (Motor2-STM)	
7	Harness Assembly (I/F-STM)	
99	Harness Kit (items 5, 6, 7)	604K53020

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Parts List 11.6 L/H Cover Assembly, Roller

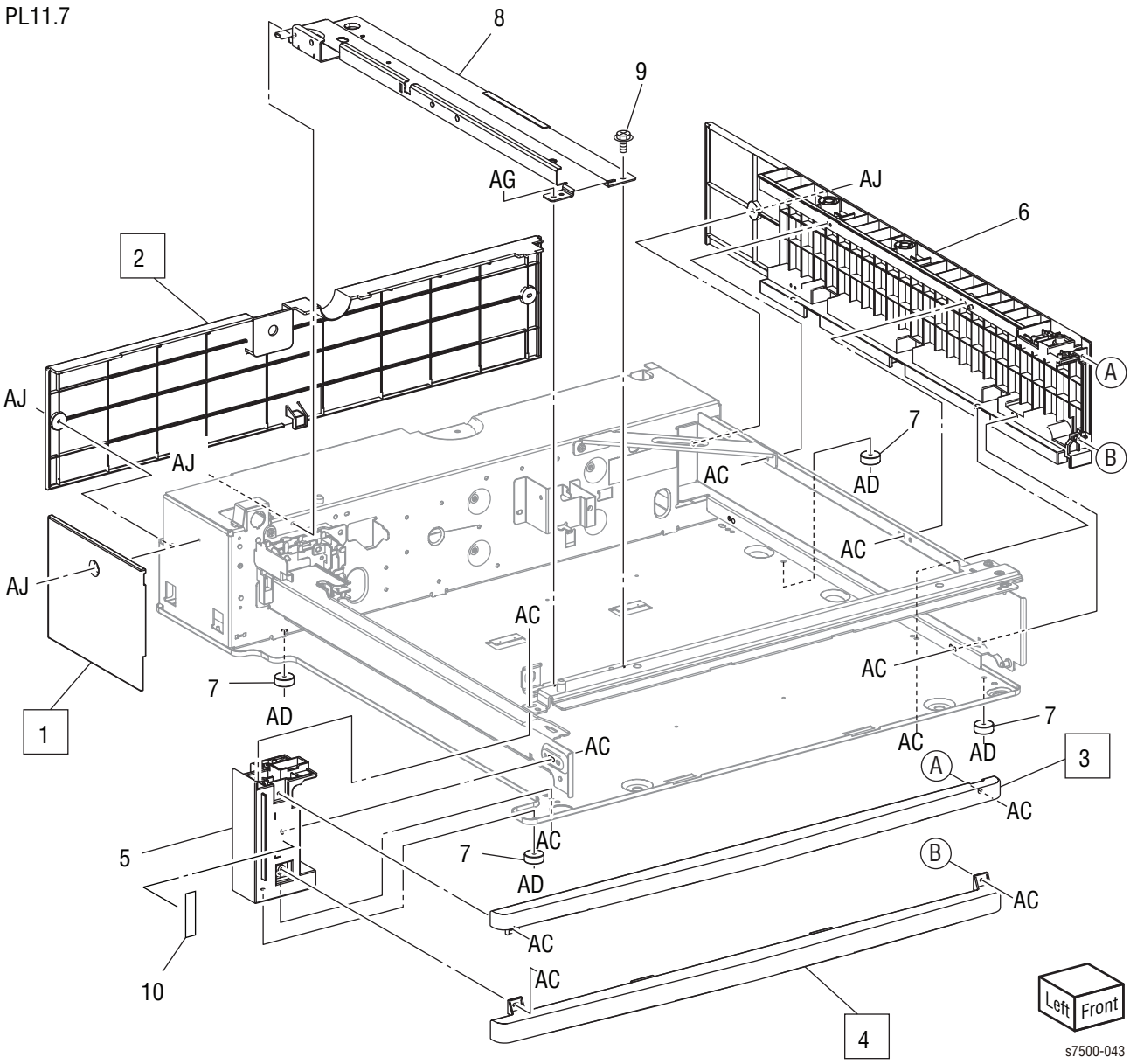


Parts List 11.6 L/H Cover Assembly, Roller

Item	Description	Part Number
1	Bracket Assembly	
2	Sensor Guide	
3	Tray 3 Feed Out Sensor (REP 11.11, page 8-121)	130K64121
4	Chute	
5	STM L/H Cover Assembly Interlock Switch (REP 11.15, page 8-125)	848K07080
6	L/H Cover Assembly-STM (items 7-15) (REP 11.12, page 8-122)	848K07102
7	L/H Cover-STM	
8	Shaft Pinch	
9	Handle	
10	Latch (REP 11.13, page 8-123)	
11	Hook	
12	Spring	
13	Pinch Spring	
14	Pinch Bearing	
15	Pinch Roll	
16	STM T/A Roll Assembly (REP 11.14, page 8-124)	
17	Sleeve Bearing	
18	Bracket	

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Parts List 11.7 Cover



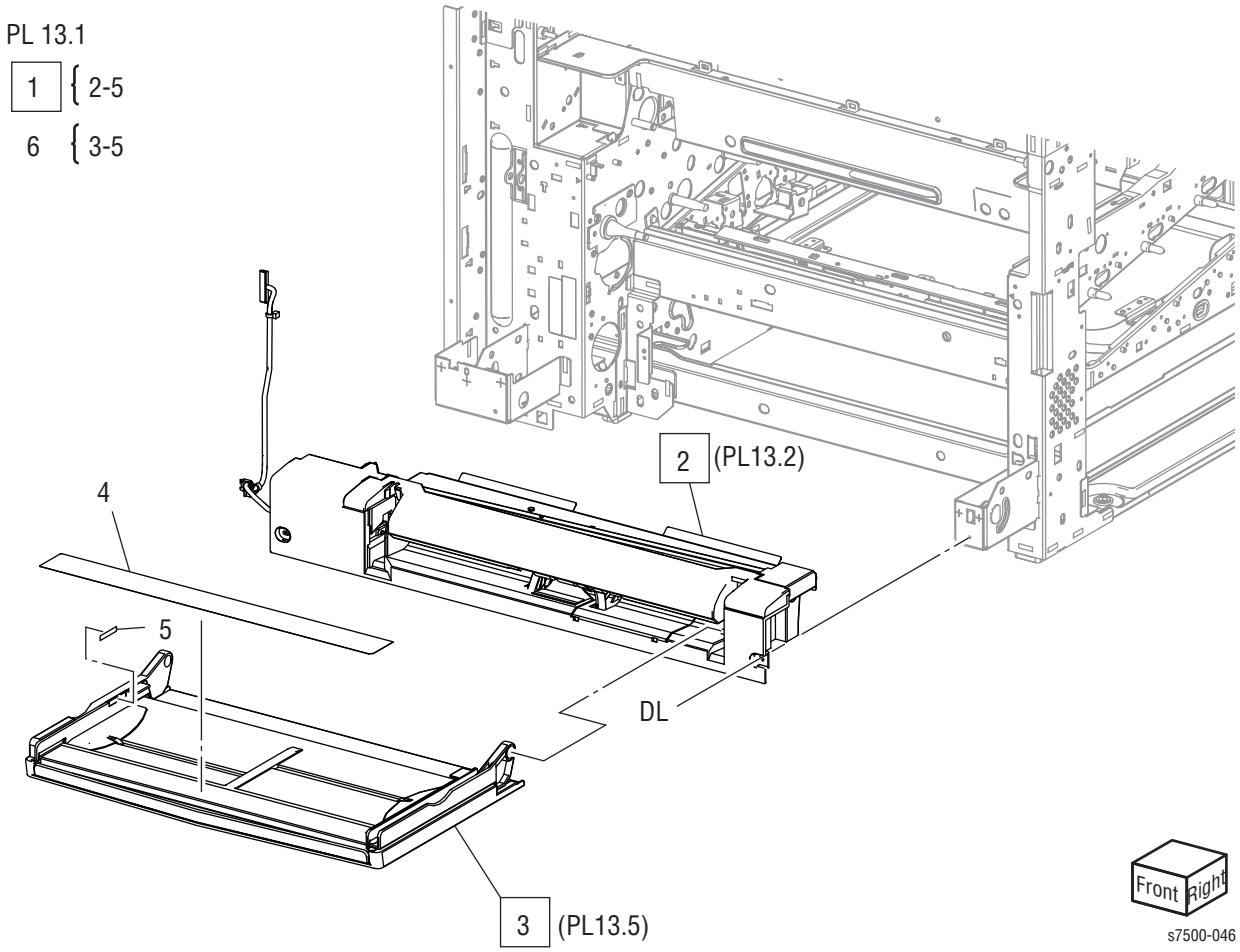
Parts List 11.7 Cover

Item	Description	Part Number
1	Left Cover-STM (REP 11.16, page 8-126)	848E14520
2	Rear Cover-STM (REP 11.17, page 8-127)	848E14540
3	Top Cover-STM (REP 11.18, page 8-128)	848E14560
4	Foot Cover-STM (REP 11.18, page 8-128)	848E14580
5	Frame L/H	
6	Guide R/H	
7	Foot	017E96920
8	Left Top Frame	
9	Screw	
10	Label	

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Tray 1 (MPT)

Parts List 13.1 Tray 1 (MPT) (1 of 5)

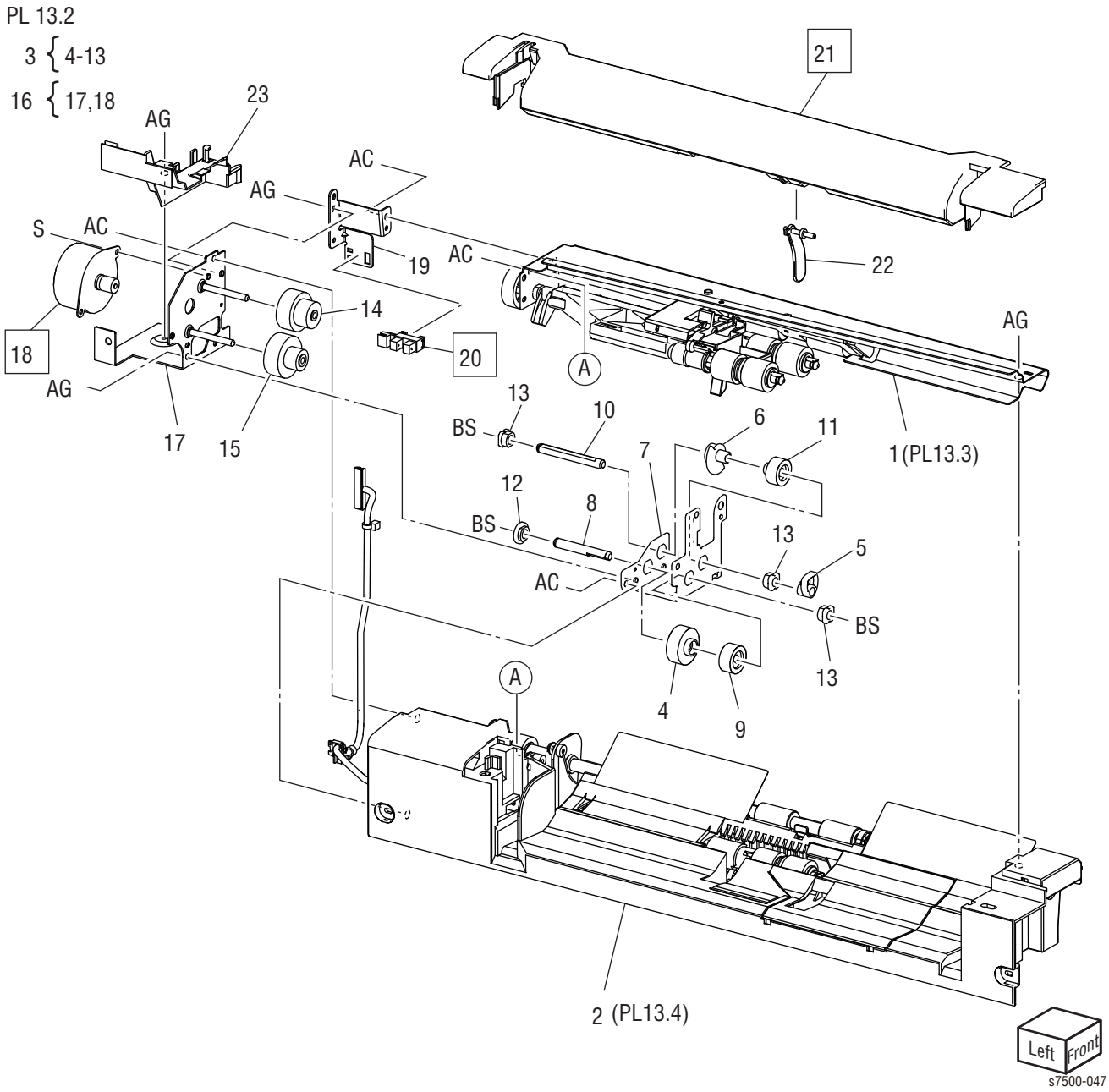


Parts List 13.1 Tray 1 (MPT) (1 of 5)

Item	Description	Part Number
1	MPT Feeder Assembly (items 2-5) (REP 13.1, page 8-130)	059K65910
	MPT Feeder Assembly (item 2-5) (REP 13.1, page 8-130) (Dell 7130)	059K67150
2	MPT Head Assembly (PL 13.2) (REP 13.2, page 8-131)	
3	MPT Tray Assembly (PL 13.5) (REP 13.2, page 8-131)	
4	Label (Instruction)	
5	Label (Max)	
6	MPT Tray Kit (items 3-5)	

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Parts List 13.2 Tray 1 (MPT) (2 of 5)

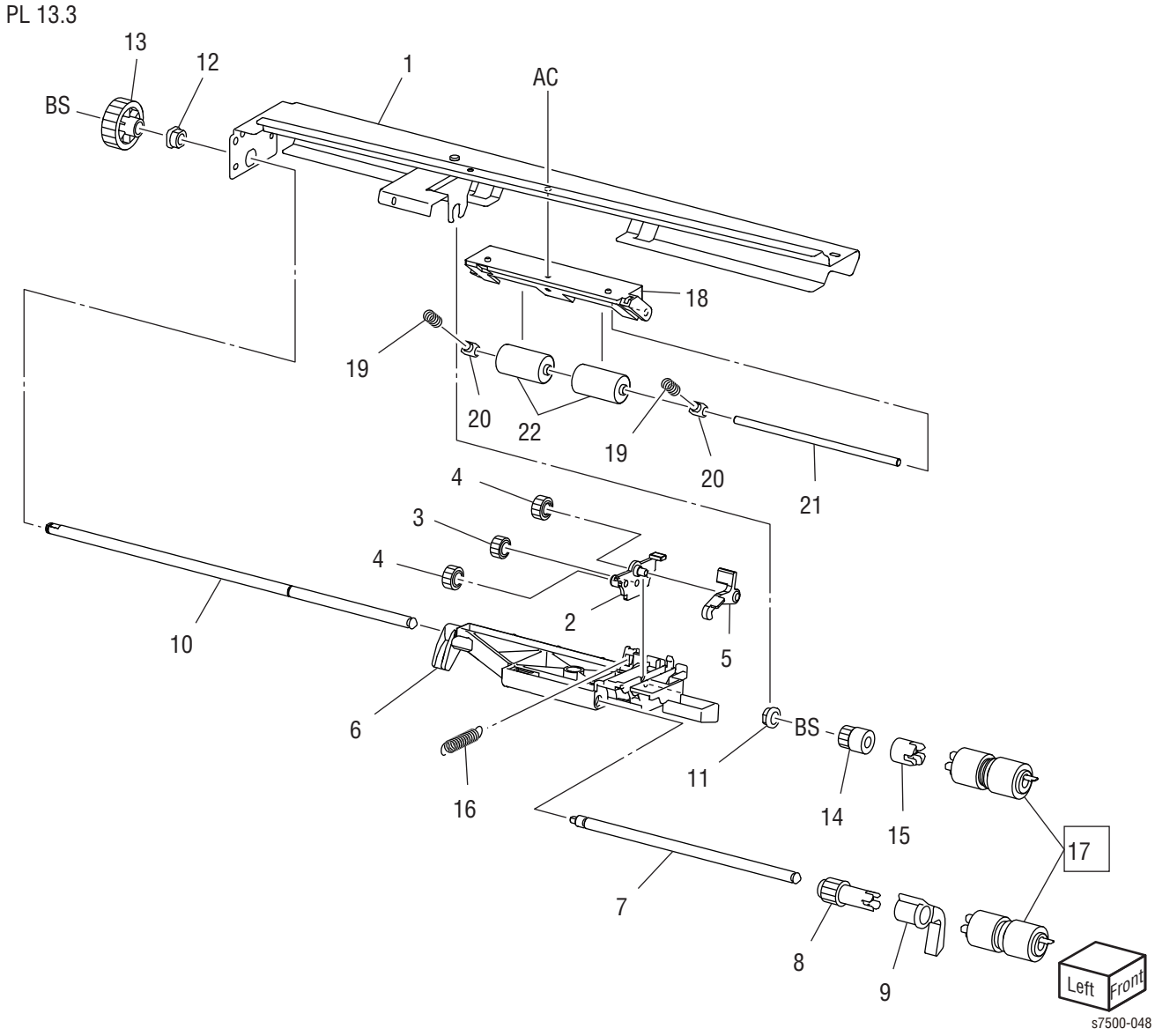


Parts List 13.2 Tray 1 (MPT) (2 of 5)

Item	Description	Part Number
1	Upper Frame Assembly (PL 13.3, page 9-79)	
2	Lower Frame Assembly (PL 13.4, page 9-81)	
3	Drive Bracket Assembly (items 4-13)	
4	Gear (27T)	
5	Nudger Cam	
6	Actuator	
7	Bracket	
8	Shaft	
9	Gear (20T)	
10	Shaft	
11	Gear (19T)	
12	Bearing	
13	Sleeve Bearing	
14	Gear (29T/19T)	
15	Gear (31T/15T)	
16	MPT Feed/ Nudger Motor (items 17, 18)	
17	Bracket	
18	MPT Feed/ Nudger Motor (REP 13.3, page 8-132)	
19	Sensor Bracket	
20	MPT Nudger Position Sensor (REP 13.9, page 8-138)	930W00111
21	Top Cover (REP 13.5, page 8-134)	
22	Actuator No Paper	120E29441
23	Harness Holder	

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Parts List 13.3 Tray 1 (MPT) (3 of 5)



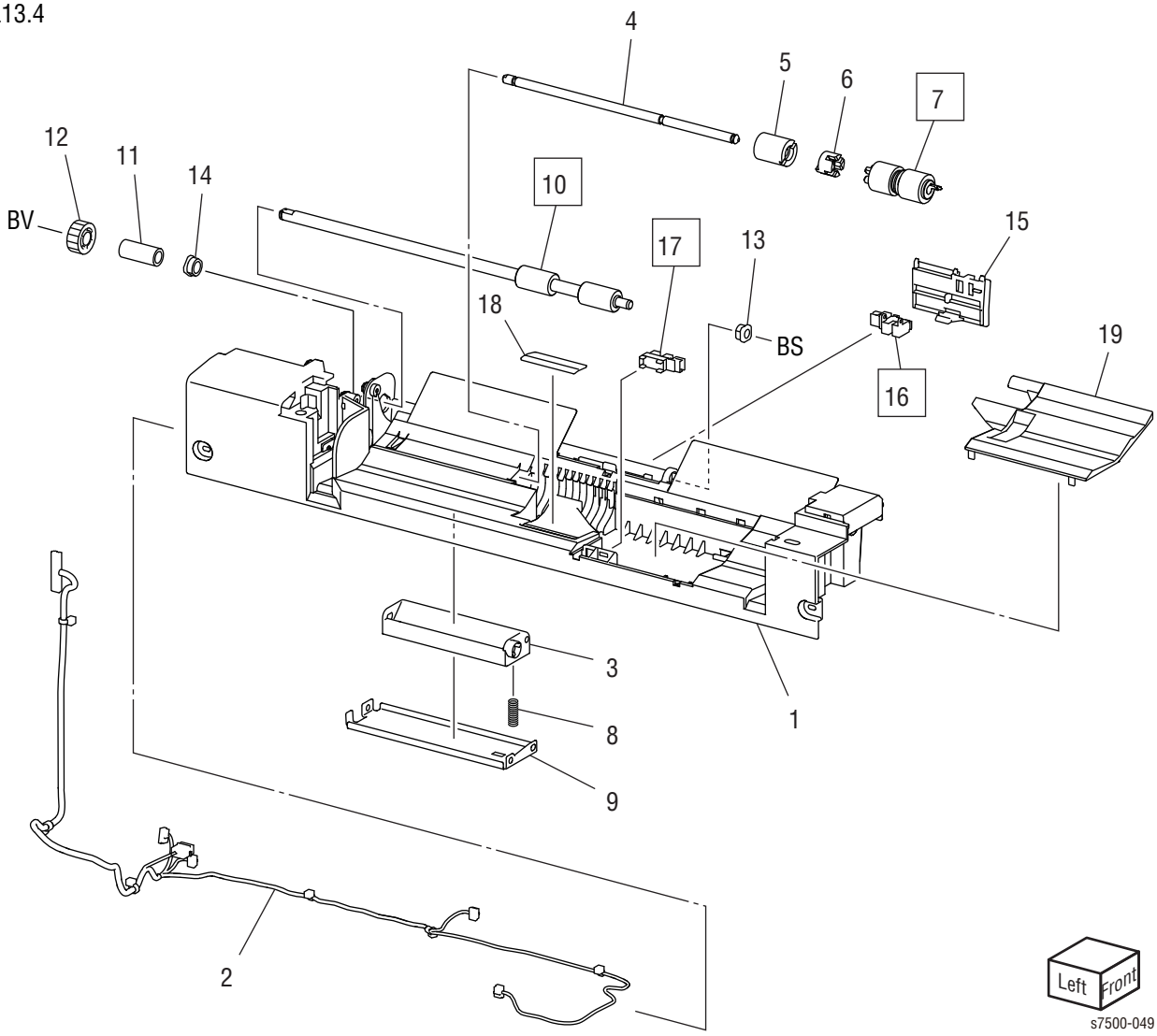
Parts List 13.3 Tray 1 (MPT) (3 of 5)

Item	Description	Part Number
1	Pinch Chute Assembly	
2	Support Gear	
3	Gear (21T)	
4	Gear (23T)	
5	Lock Stopper	
6	Nudger Support	
7	Nudger Shaft	
8	Gear (25T)	
9	Stopper	
10	Feed Shaft	
11	Bearing	
12	Sleeve Bearing	
13	Gear (30T)	
14	Oneway Clutch (22T)	
15	Oneway Clutch	
16	Spring	
17	Feed Roll (REP 13.6, page 8-135) (P/O Feed Roller Kit)	675K82240
	Nudger Roll (REP 13.6, page 8-135)	
18	Guide	
19	Pinch Spring	
20	Spacer	
21	Shaft	
22	Pinch Roll	

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Parts List 13.4 Tray 1 (MPT) (4 of 5)

PL13.4

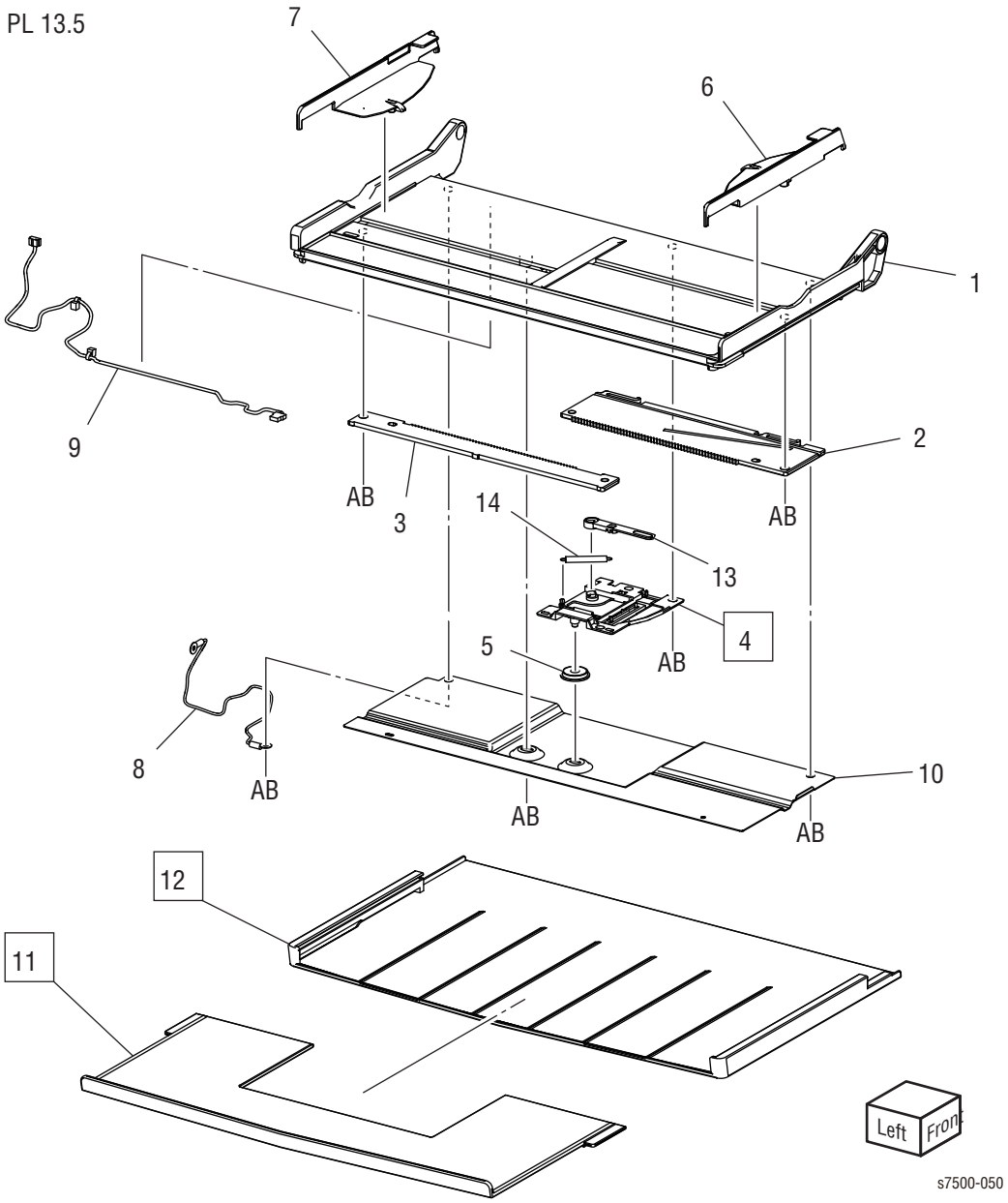


Parts List 13.4 Tray 1 (MPT) (4 of 5)

Item	Description	Part Number
1	MPT Lower Frame	
2	Wire Harness (MPT)	
3	Retard Support	
4	Shaft	
5	Friction Clutch	
6	Spacer	
7	Retard Roll (REP 13.6, page 8-135) (P/O Feed Roller Kit)	675K82240
8	Retard Spring	
9	Plate	
10	Drive Roll Assembly (REP 13.7, page 8-136)	
11	Collar	
12	Gear (23T)	
13	Sleeve Bearing	
14	Sleeve Bearing	
15	Sensor Plate	
16	MPT Feed Out Sensor (REP 13.8, page 8-137)	130K72110
17	MPT No Paper Sensor (REP 13.4, page 8-133)	930W00111
18	Bottom Pad	
19	Front Chute	

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Parts List 13.5 Tray 1 (MPT) (5 of 5)



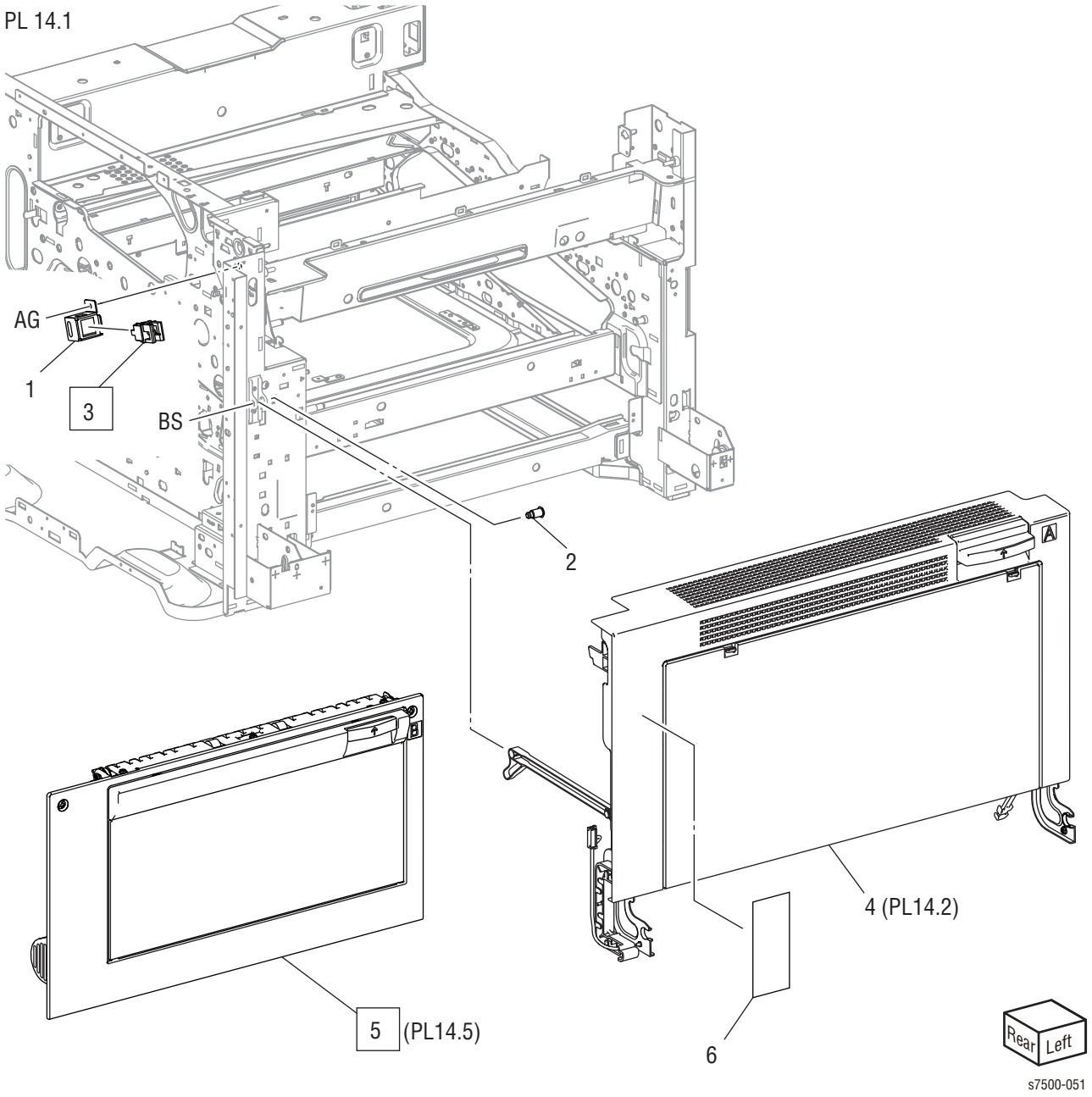
Parts List 13.5 Tray 1 (MPT) (5 of 5)

Item	Description	Part Number
1	MPT Tray	
2	Front Rack	
3	Rear Rack	
4	MPT Paper Size Sensor (REP 13.10)	
5	Pinion Gear	
6	Front Side Guide	
7	Rear Side Guide	
8	Wire Harness (MPT FG)	
9	Wire Harness (MPT Tray)	
10	Plate	
11	Extension Tray (L1) (REP 13.11)	
12	Extension Tray (L2) (REP 13.11)	
13	Sensor Link	
14	Sensor Spring	

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L/H Cover

Parts List 14.1 L/H Cover (1 of 2)



Parts List 14.1 L/H Cover (1 of 2)

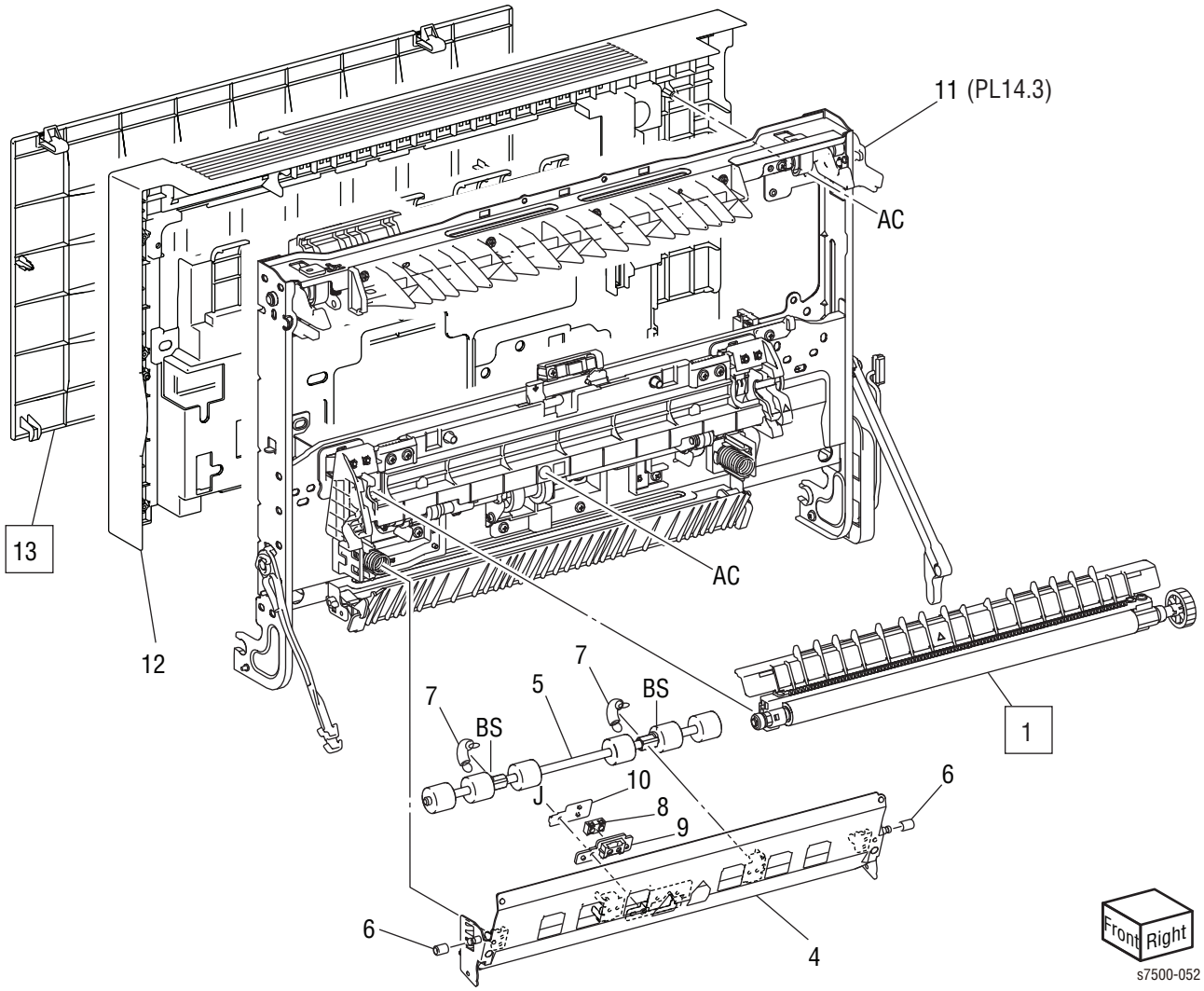
Item	Description	Part Number
1	Bracket	849E97100
2	Shaft	806E21420
3	L/H Cover Interlock Switch (REP 14.1, page 8-146)	110E11980
4	L/H Cover Unit (PL 14.2, page 9-87)	848K26801
5	Transport Duplex Assembly (Option) (PL 14.5, page 9-93) (REP 14.12, page 8-161)	059K65530
	Transport Duplex Assembly (Option) (PL 14.5, page 9-93) (REP 14.12, page 8-161) (Dell 7130)	675K88110
6	Label	

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Parts List 14.2 L/H Cover (2 of 2)

PL14.2

3 { 4-10

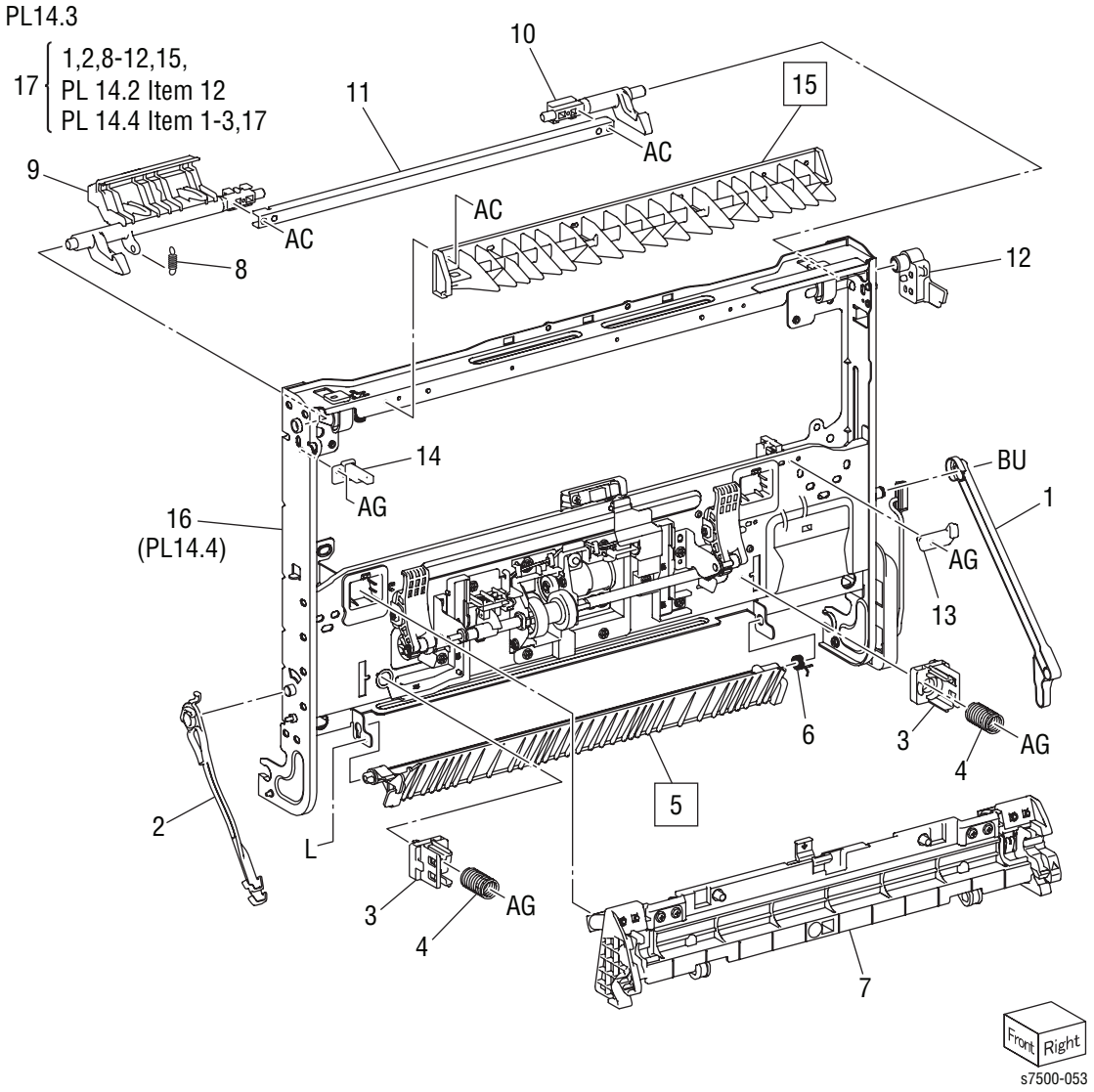


Parts List 14.2 L/H Cover (2 of 2)

Item	Description	Part Number
1	2nd BTR Assembly (REP 14.2, page 8-147)	059K53654
	2nd BTR Assembly (REP 14.2, page 8-147) (Dell 7130)	675K87740
2	L/H Cover Assembly (items 3-13) (REP 14.3, page 8-148)	848K26801
3	Pinch Chute Assembly (items 4-10) (REP 14.4, page 8-149)	054K35151
4	Pinch Chute Assembly	
5	Pinch Roller Assembly	
6	Pulley	
7	Spring	
8	Transparency Reflector	
9	Holder	
10	Cap	
11	L/H Cover Assembly (PL 14.3, page 9-89)	
12	L/H Cover	
13	L/H Blind Cover (REP 14.6, page 8-151)	

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Parts List 14.3 L/H Cover Assembly (1 of 2)

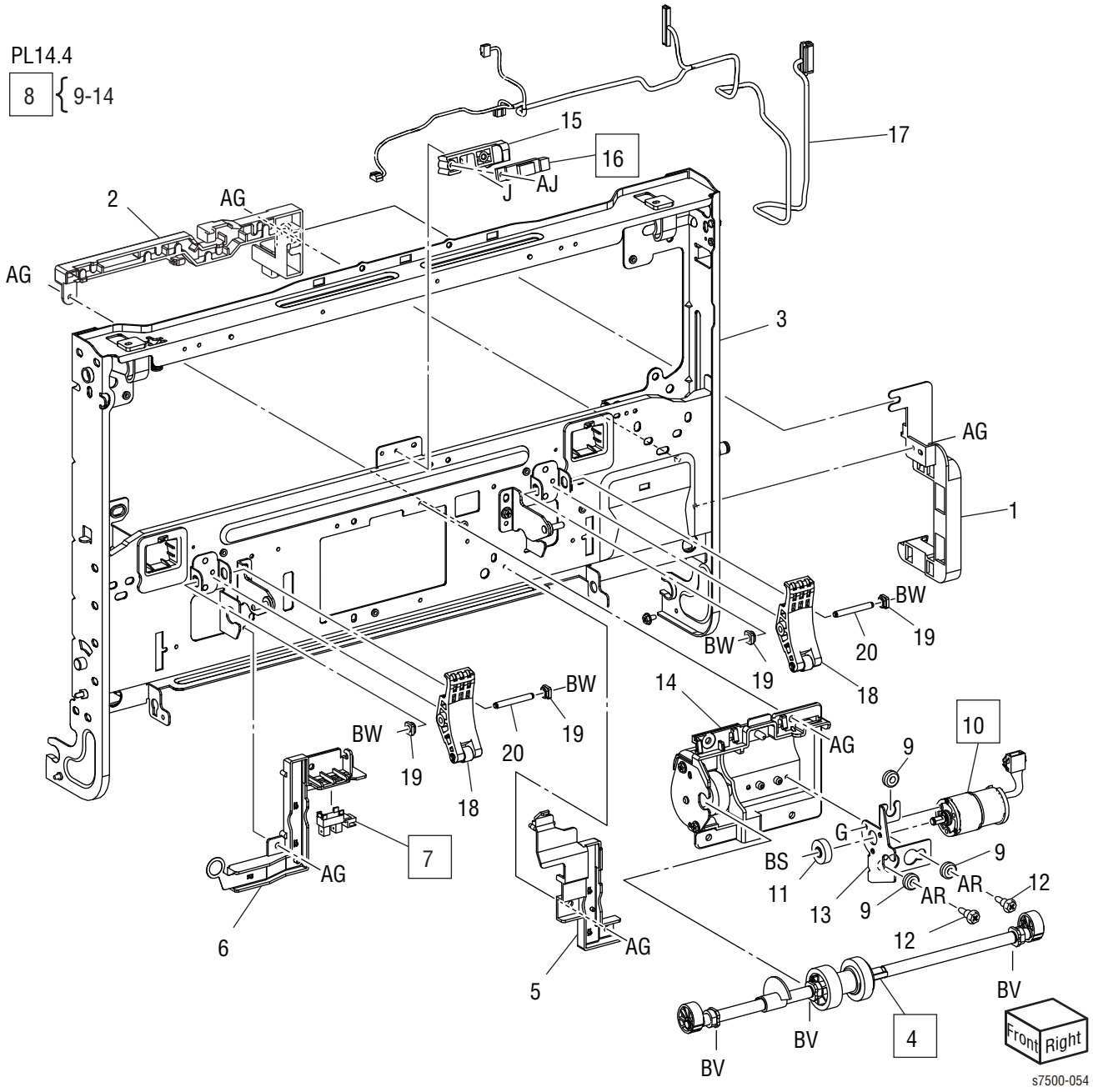


Parts List 14.3 L/H Cover Assembly (1 of 2)

Item	Description	Part Number
1	Rear Support LH Cover	849E97370
2	Front Support LH Cover	868E05450
3	Chute Support	
4	Spring	
5	Duplex Chute Assembly (REP 14.5, page 8-150)	
6	Spring	
7	2nd BTR Housing Assembly	
8	Spring	
9	Front Latch Lever	
10	Rear Latch Lever	
11	Latch Plate	
12	Actuator	
13	Fuser Link	
14	Block	
15	Upper Chute (REP 14.7)	054E33712
16	2nd Contact Retract Assembly (PL 14.4)	
17	L/H Frame Assembly (items 1, 2, 8-12, 15, PL 14.2 - item 12 page 9-87, PL 14.4 - items 1-3 page 9-91, 17)	

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Parts List 14.4 L/H Cover Assembly (2 of 2)

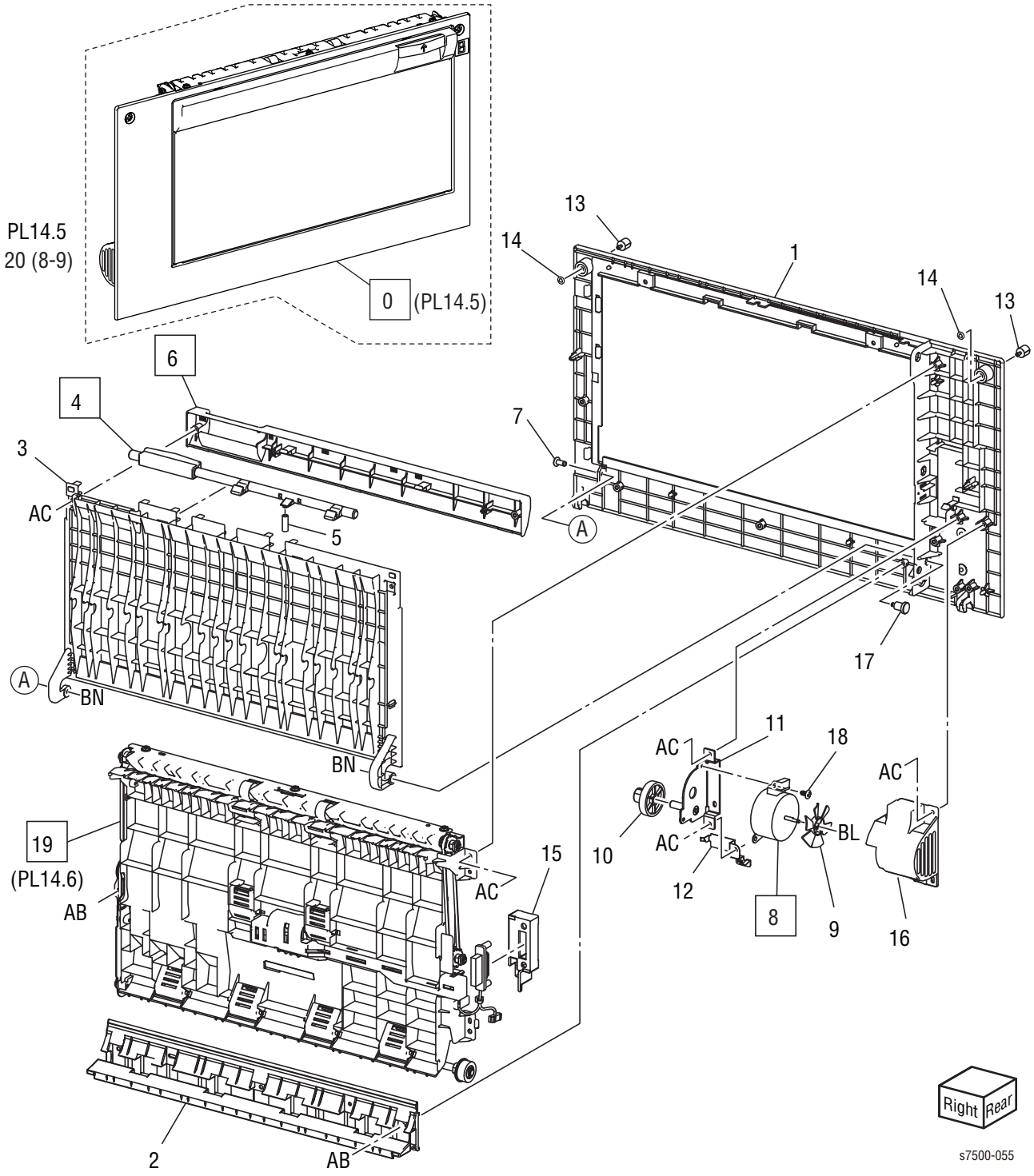


Parts List 14.4 L/H Cover Assembly (2 of 2)

Item	Description	Part Number
1	Harness Holder	
2	Harness Holder	
3	Frame Assembly	
4	Retract Shaft Assembly (REP 14.8, page 8-153)	
5	Conductor Assembly	
6	Conductor Assembly	
7	2nd BTR Contact Retract Sensor (REP 14.9, page 8-156)	930W00111
8	2nd BTR Contact Retract Motor Assembly (items 9-14) (REP 14.10, page 8-158)	127K52251
9	Damper	
10	2nd BTR Contact Retract Motor (REP 14.10, page 8-158)	
11	Gear (19T)	
12	Shoulder Screw	
13	Bracket	
14	Motor Housing Assembly	
15	Sensor Holder	
16	POB Sensor (REP 14.11, page 8-160)	130K87770
17	Wire Harness (LH Cover)	
18	2nd Link Assembly	
19	Sleeve Bearing	
20	Shaft	

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Parts List 14.5 Duplex Assembly (Option) (1 of 2)

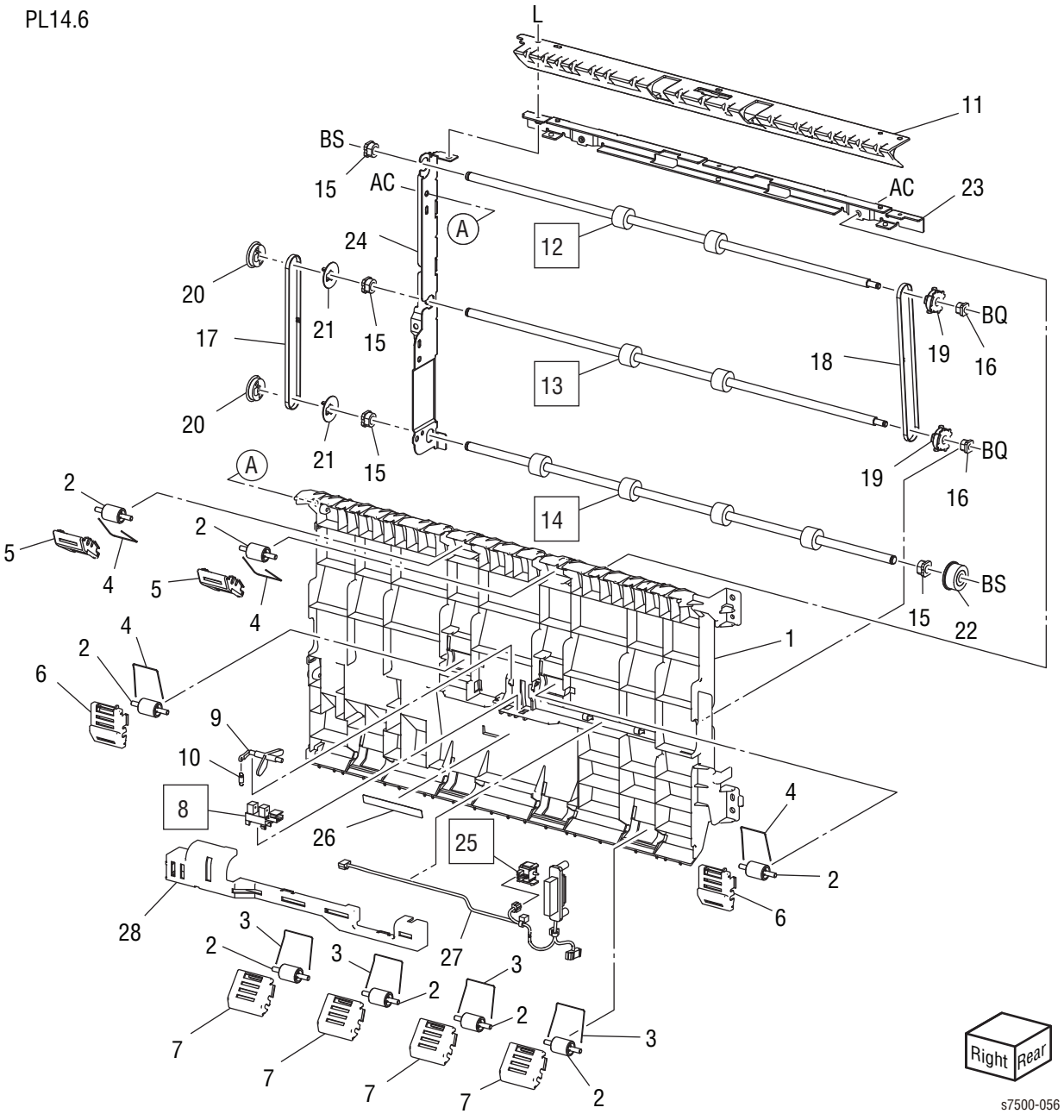


Parts List 14.5 Duplex Assembly (Option) (1 of 2)

Item	Description	Part Number
0	Transport Duplex Assembly (Option) (REP 14.12, page 8-161)	059K65530
	Transport Duplex Assembly (Option) (REP 14.12, page 8-161) (Dell 7130)	675K88110
1	Outer Chute	
2	Lower Chute	
3	Duplex Cover	
4	Lever (REP 14.13, page 8-162)	
5	Spring	
6	Latch Cover (REP 14.13, page 8-162)	
7	Pin (Front)	
8	Duplex Motor (REP 14.14, page 8-163)	
9	Fan	
10	Idle Gear (13T/ 46T)	
11	Bracket Assembly	
12	Ground Plate	
13	Screw	
14	Stopper	
15	Harness Holder	
16	Motor Cover	
17	Pin (Rear)	
18	Screw (Round)	
19	Inner Chute Assembly (PL 14.6, page 8-166) (REP 14.15, page 8-165)	
20	Duplex Motor Kit (items 8, 9)	

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Parts List 14.6 Duplex Assembly (Option) (2 of 2)



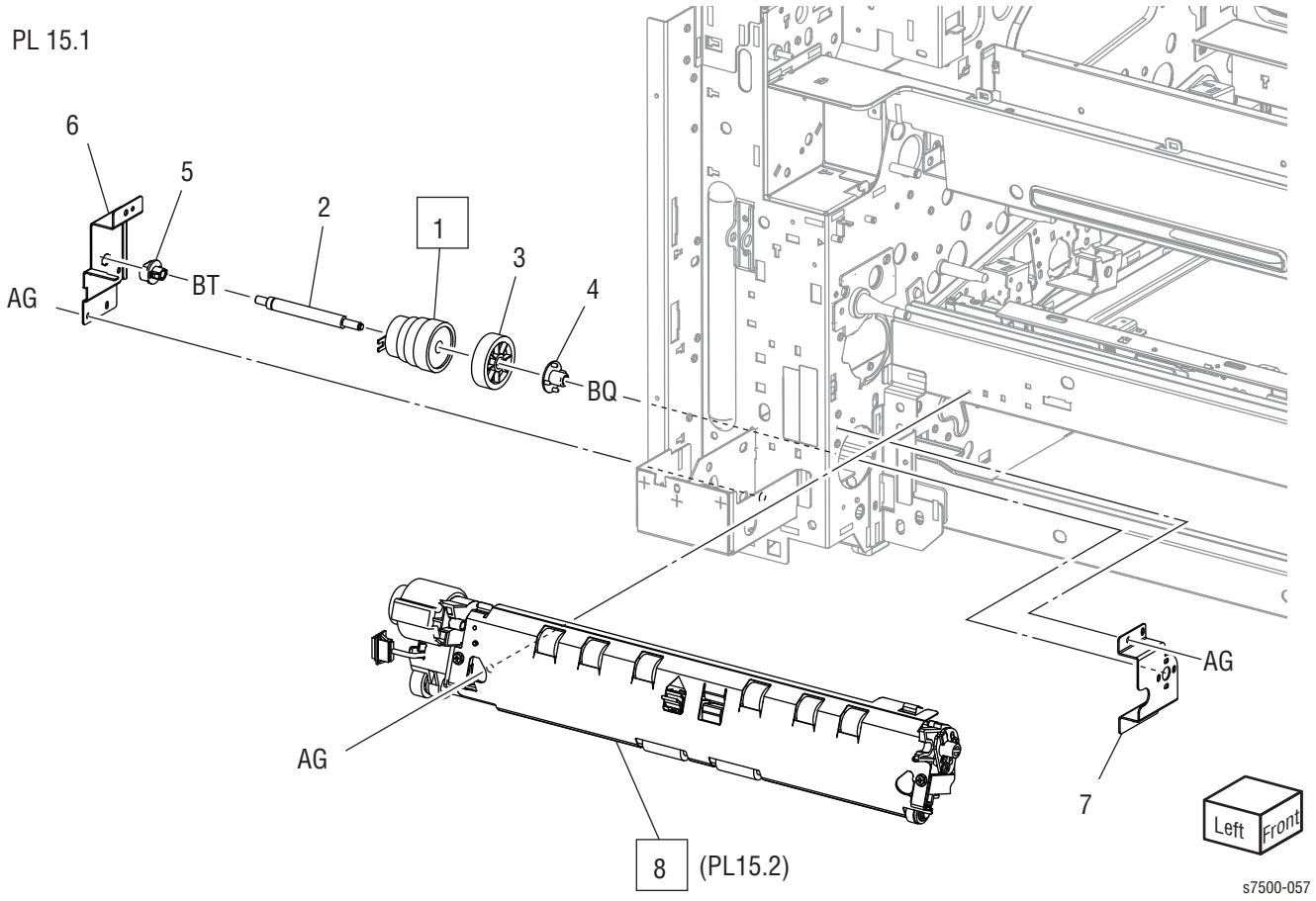
Parts List 14.6 Duplex Assembly (Option) (2 of 2)

Item	Description	Part Number
1	Inner Chute	
2	Pinch Roller	
3	Pinch Spring 1	
4	Pinch Spring 2	
5	Pinch Holder A	
6	Pinch Holder B	
7	Pinch Holder C	
8	Duplex Wait Sensor (REP 14.16, page 8-166)	
9	Actuator	
10	Spring	
11	Upper Chute	
12	Duplex Roller 1 (REP 14.17, page 8-168)	
13	Duplex Roller 2 (REP 14.18, page 8-169)	
14	Duplex Roller 3 (REP 14.19, page 8-170)	
15	Sleeve Bearing	
16	Sleeve Bearing	
17	Belt	
18	Belt	
19	Pulley	
20	Pulley	
21	Flange	
22	Gear Assembly	
23	Tie Plate	
24	Front Frame	
25	Duplex Cover Switch (REP 14.20, page 8-171)	
26	Label	
27	Wire Harness (Dup)	
28	Sensor Cover	

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Registration

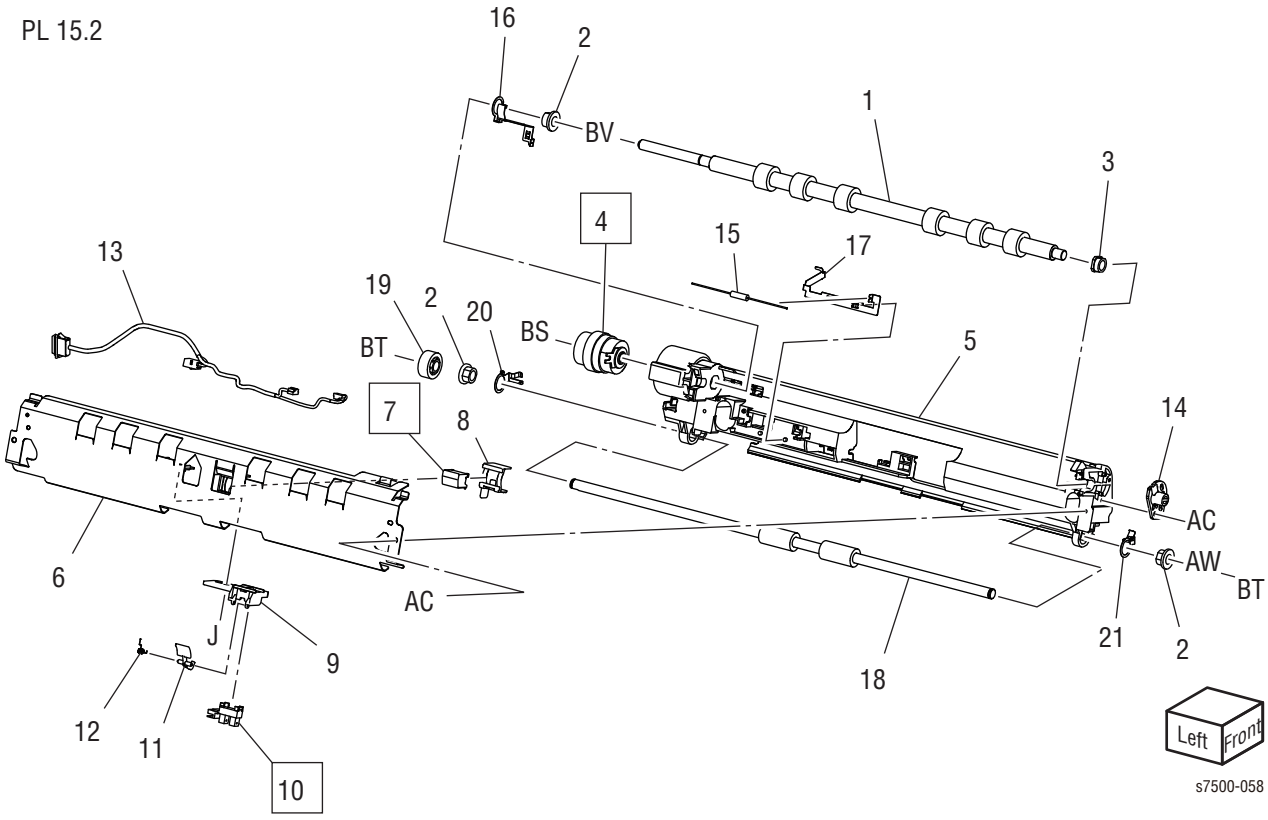
Parts List 15.1 Registration (1 of 2)



Parts List 15.1 Registration (1 of 2)

Item	Description	Part Number
1	Takeaway Clutch (REP 15.1, page 8-172)	121K41241
2	Shaft TA	806E21440
3	Gear (40T)	807E20050
4	Bearing	013E33420
5	Bearing TA	013E33460
6	Bracket	
7	Bracket	
8	Regi Transport Assembly (PL 15.2, page 9-98) (REP 15.2, page 8-174)	059K55542

Parts List 15.2 Registration (2 of 2)



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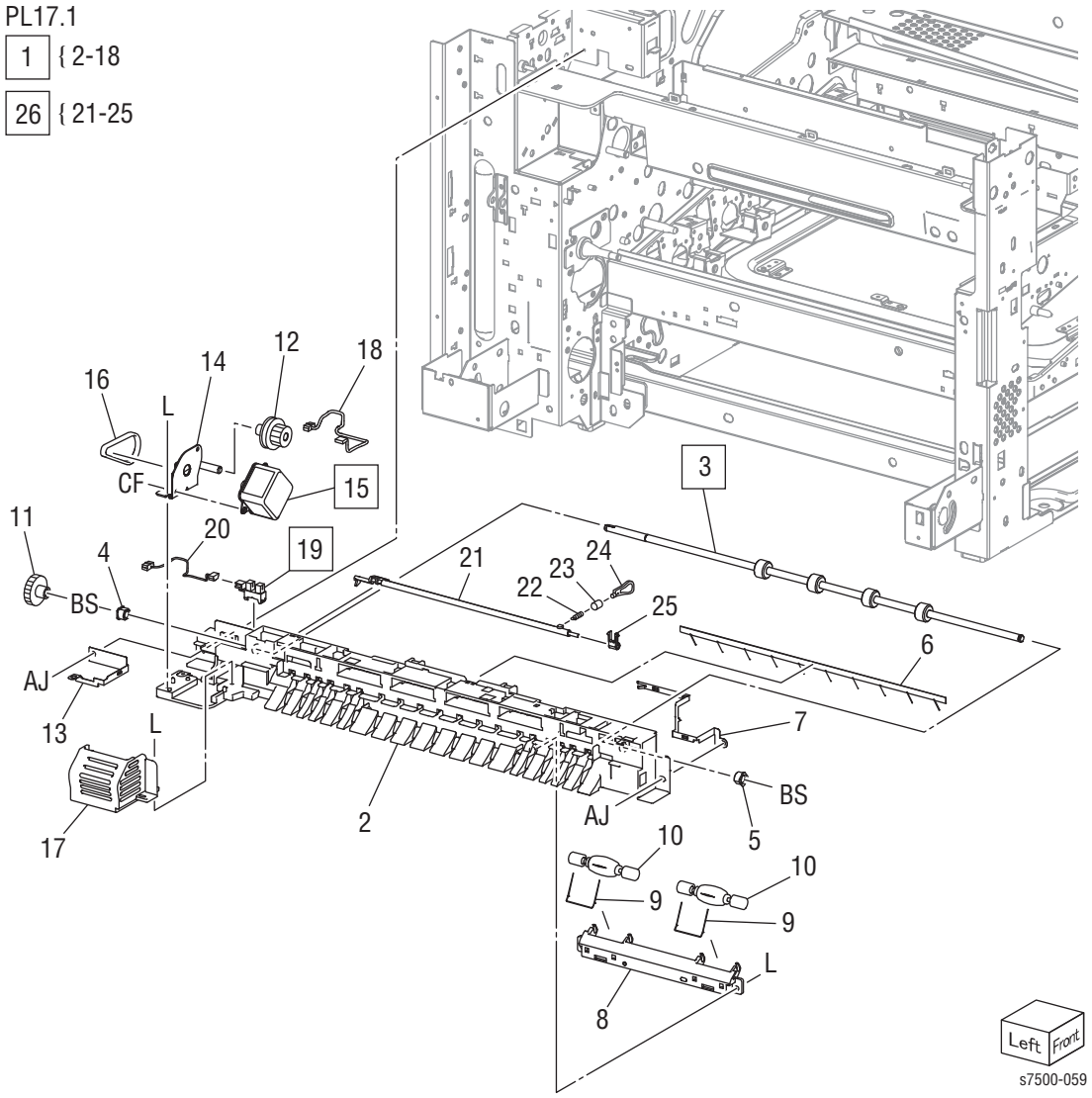
Parts List 15.2 Registration (2 of 2)

Item	Description	Part Number
1	Regi Roll	
2	Bearing	
3	Sleeve Bearing	
4	Regi Clutch (REP 15.3, page 8-175)	
5	Regi Chute	
6	Inlet Chute Assembly	
7	Transparency Sensor (REP 15.4, page 8-176)	
8	Cap	
9	Sensor Holder	
10	Regi Sensor (REP 15.5, page 8-177)	930W00111
11	Actuator	
12	Spring	
13	Wire Harness (Reg)	
14	Skew Adjust Block	
15	Inlet Resistor	
16	Conductor (In)	
17	Conductor (Out)	
18	Takeaway Roll	
19	Gear (23T)	
20	Conductor	
21	Conductor	

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Exit

Parts List 17.1 Exit



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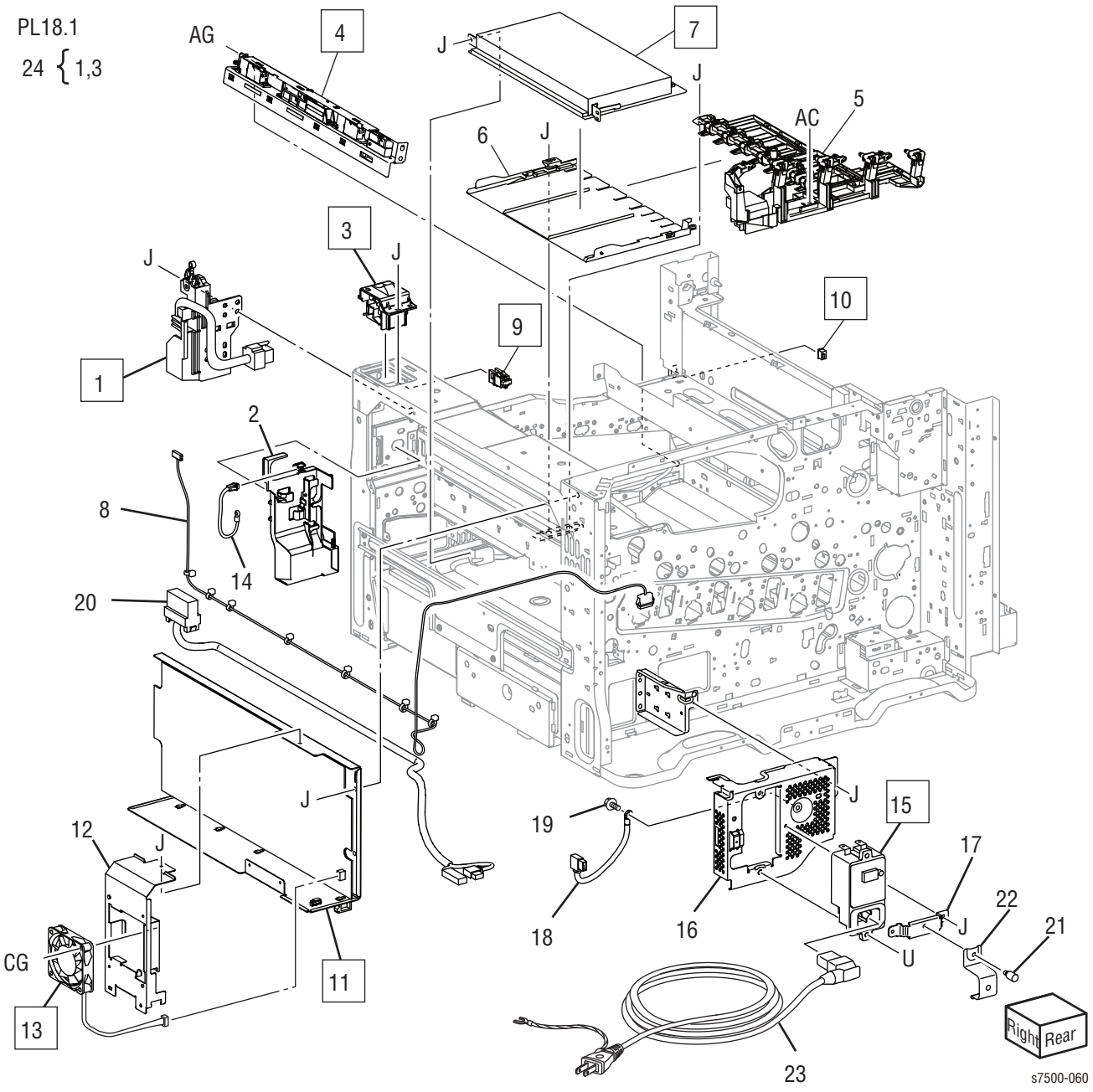
Parts List 17.1 Exit

Item	Description	Part Number
1	Exit Assembly (items 2-17) (REP 17.1, page 8-179)	059K62332
2	Low Chute	
3	Exit Roll (REP 17.2, page 8-180)	
4	Bearing	
5	Ground Bearing	
6	Eliminator	
7	Ground Plate	
8	Exit Chute	
9	Pinch Spring	
10	Pinch Roll	
11	Gear (24T)	
12	Gear Pulley (41T/ 16T)	
13	Ground Plate	
14	Bracket Assembly	
15	Exit Motor (REP 17.3, page 8-181)	
16	Belt	
17	Motor Cover	
18	Wire Harness (Motor)	
19	Full Stack Sensor	930W00111
20	Wire Harness (Full Stack)	
21	Full Stack Shaft	
22	Spring	
23	Pipe	
24	Full Stack Actuator	
25	Bearing	
26	Full Stack Sensor Kit	675K82730

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Electrical

Parts List 18.1 Electrical (1 of 2)

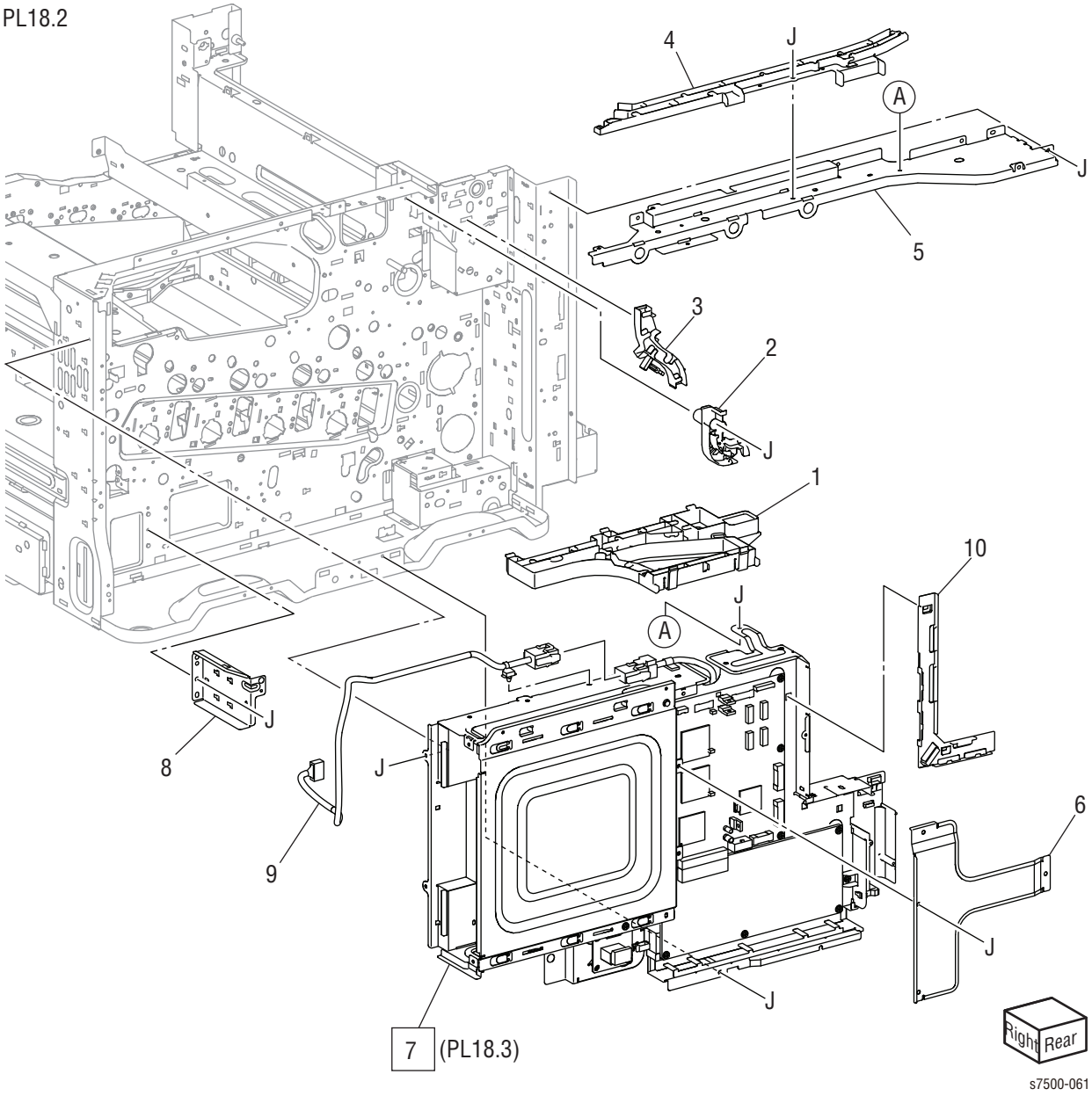


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Parts List 18.1 Electrical (1 of 2)

Item	Description	Part Number
1	Main Power Switch Chassis Assembly (REP 18.1, page 8-186)	See item 24
2	Main Switch Harness Guide	
3	Cam Chassis Assembly (REP 18.2, page 8-188)	
4	MOB ADC Assembly (REP 18.3, page 8-189)	130K71470
5	HVPS Housing Assembly	848K13850
6	HVPS Guide	032E27481
7	HVPS (DEVE/ BCR) (REP 18.4, page 8-191)	105E17521
8	Wire Harness Assembly (UI)	962K60382
9	Front Cover Interlock Switch (Push CS3A-B2CA) (REP 18.5, page 8-192)	110E12981
10	IBT Front Cover Switch (REP 18.6, page 8-193)	
11	Main LVPS (100-127V) (REP 18.7, page 8-194)	105K23374
	Main LVPS (220-240V) (REP 18.7, page 8-194)	105K23382
12	Bracket	
13	LV Fan (REP 18.8, page 8-195)	127K56990
14	Thermo Sensor	130K88740
15	GFI (REP 18.9, page 8-196)	908W01201
16	GFI Chassis	
17	Bracket	
18	Wire Harness Assembly	962K60620
19	Screw	
20	Wire Harness (AC Main) (110V)	962K69350
21	Knurling Screw	
22	Stopper	
23	Power Cord	Refer to "Xerox Supplies and Accessories" on page 9-114
24	Main Power Switch Kit (items 1,3)	604K49660

Parts List 18.2 Electrical (2 of 2)



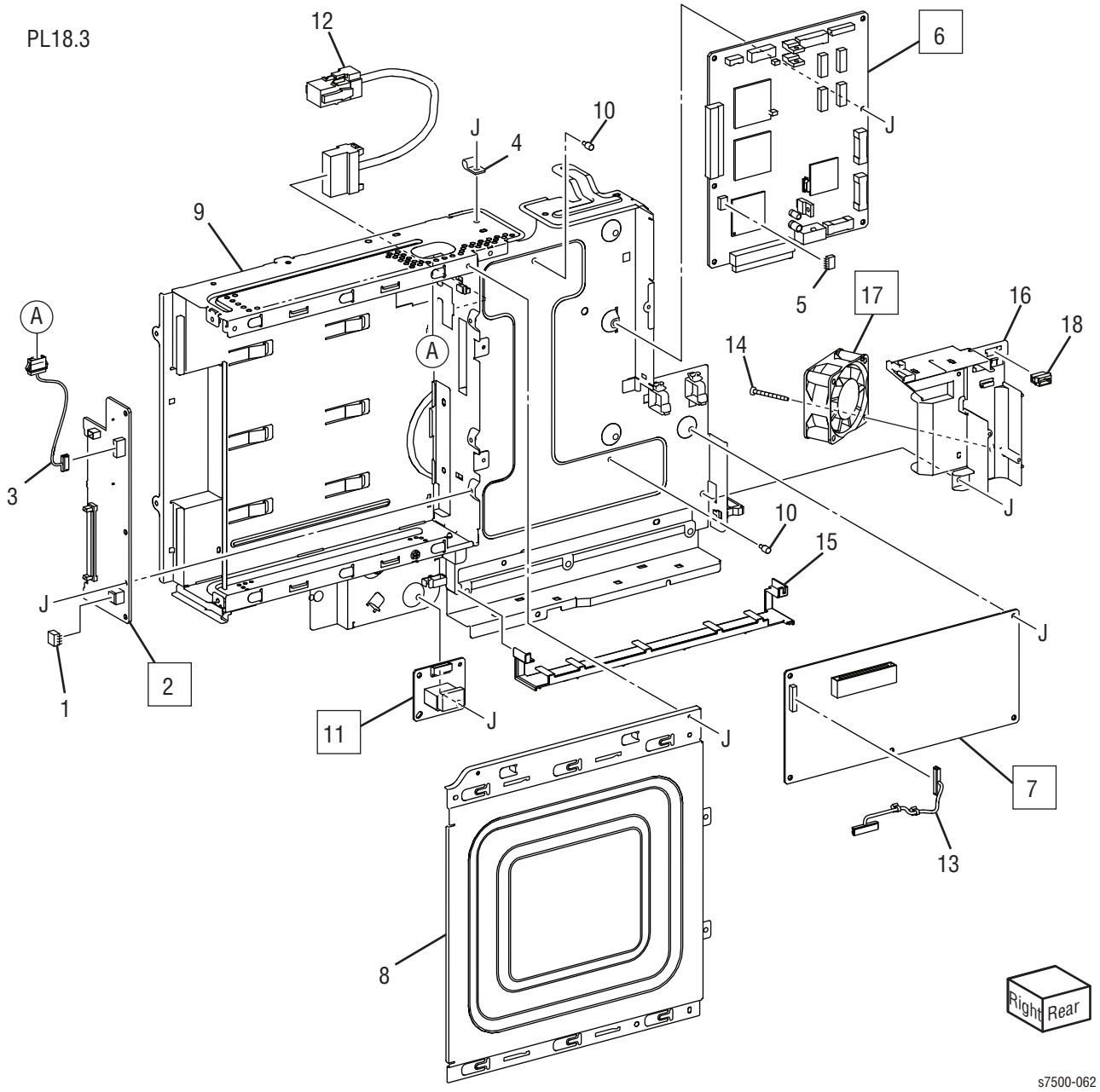
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Parts List 18.2 Electrical (2 of 2)

Item	Description	Part Number
1	Harness Holder	
2	Harness Holder	
3	Harness Holder	
4	Harness Holder	
5	Upper ESS Bracket	
6	MCU PWB Cover	
7	PWB Chassis Unit (PL 18.3, page 9-106) (REP 18.10, page 8-197)	
8	Bracket	
9	Wire Harness (ESS1)	962K60361
10	Cable Guide	

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Parts List 18.3 PWB Chassis Unit



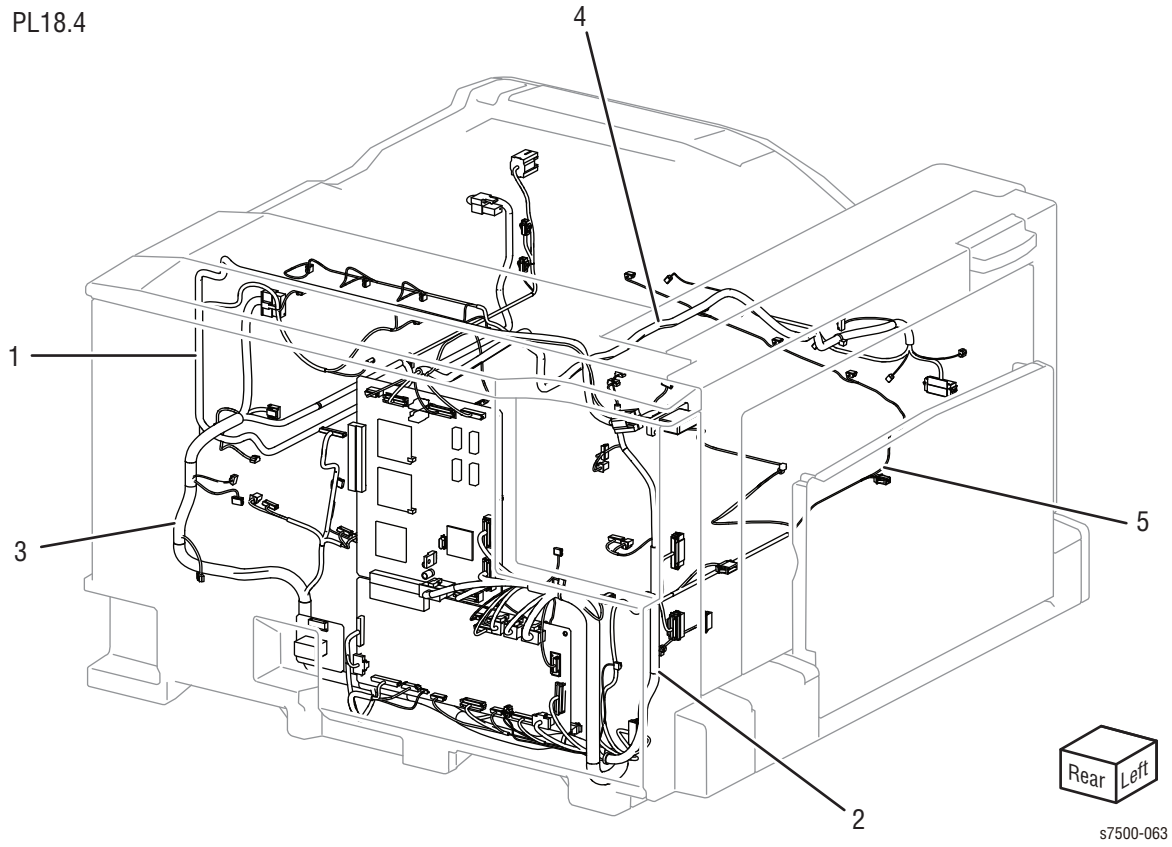
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Parts List 18.3 PWB Chassis Unit

Item	Description	Part Number
1	EEPROM	
2	Backplane PWB (REP 18.11, page 8-200)	960K47810
3	Wire Harness BP-UI	962K60890
4	Clamp	
5	EEPROM (for MCU)	
6	MCU PWB (REP 18.12, page 8-202)	960K50520
	MCU PWB (REP 18.12, page 8-202) (Dell 7130)	960K51270
7	Motor Drive PWB (REP 18.13, page 8-204)	960K32651
8	ESS Cover	
9	Chassis Assembly	
10	PWB Spacer	
11	TM Relay PWB (REP 18.14, page 8-205)	960K35401
12	Wire Harness Assembly (ESS2)	962K60720
13	Wire Harness Assembly OP Tray	962K60370
14	Screw	
15	Guide	
16	Fan Bracket	
17	Drive Fan (REP 18.15, page 8-206)	127K53040
18	Connector	

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Parts List 18.4 Wire Harness



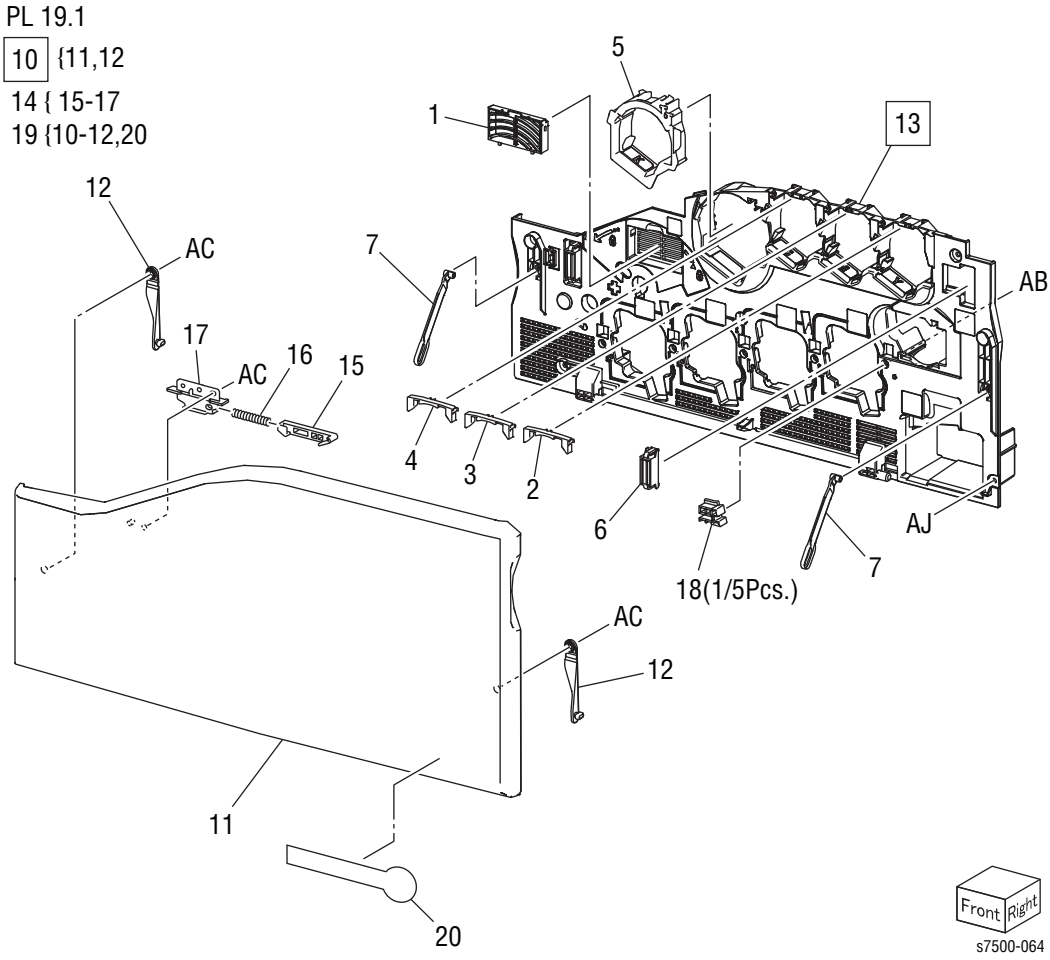
Parts List 18.4 Wire Harness

Item	Description	Part Number
1	Wire Harness Assembly (110V) (Drawer)	962K73870
	Wire Harness Assembly (220V) (Drawer)	962K67742
2	Wire Harness Assembly (Main LH)	962K71720
3	Wire Harness Assembly (Main RH) (110V)	962K71700
4	Wire Harness Assembly (Main Top)	962K71710
5	Wire Harness Assembly (Main Front)	962K60332

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Cover

Parts List 19.1 Cover (Front)

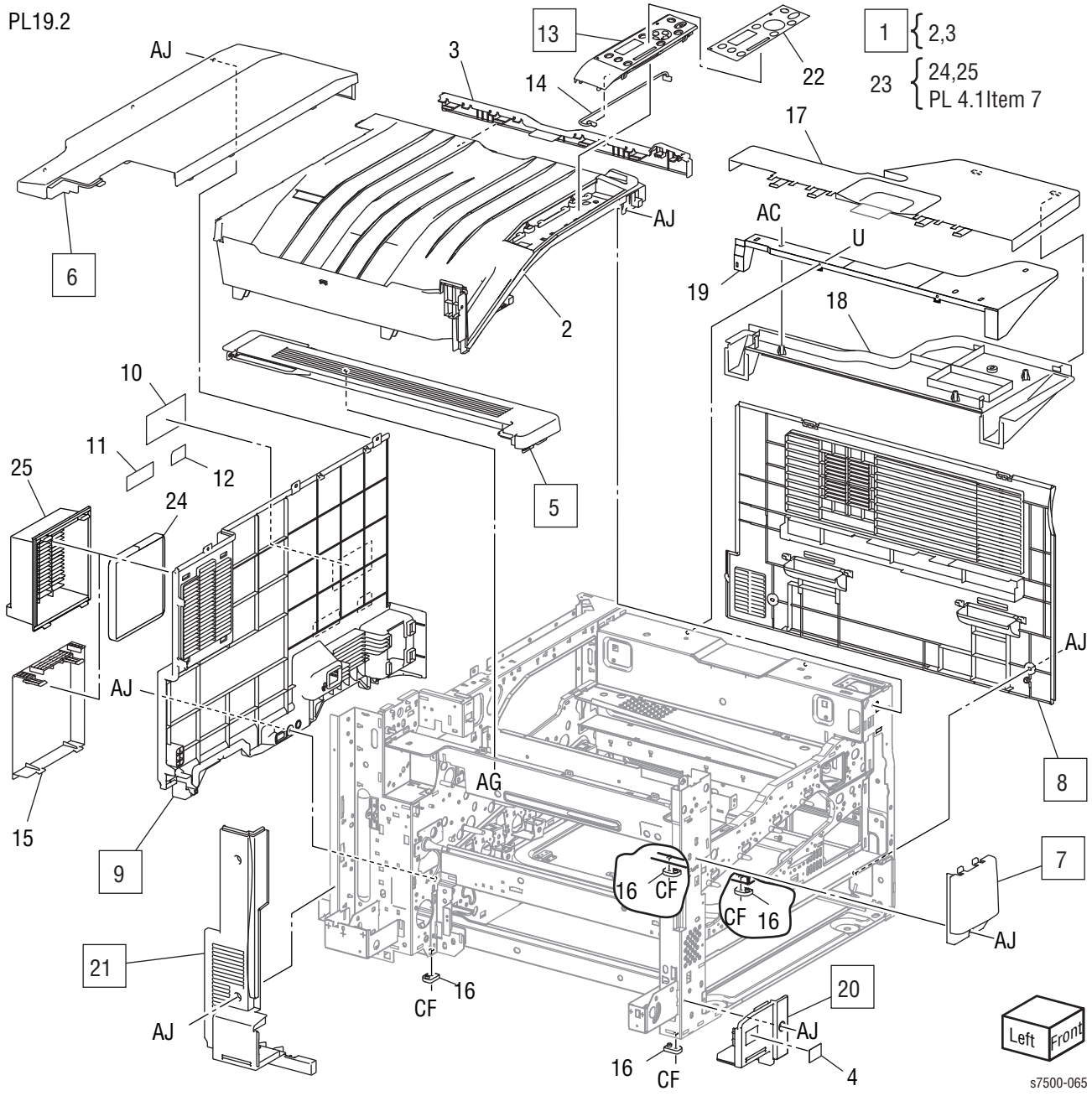


Parts List 19.1 Cover (Front)

Item	Description	Part Number
1	Filter Cover, IBT	848E18320
2	Plate (Y)	815E43211
3	Plate (M)	815E43221
4	Plate (C)	815E43231
5	Plate (K)	848K14912
6	Magnet Catch	
7	Strip (A)	
8	-----	
9	-----	
10	Front Cover Assembly (items 11,12) (REP 19.1, page 8-207)	See item 19
	Front Cover Assembly (items 11,12) (REP 19.1, page 8-207) (Dell 7130)	604K56730
11	Front Cover	
12	Strip (B)	
13	Inner Cover Assembly (REP 19.1, page 8-207)	848K27921
14	Guide Assembly (items 15-17)	
15	Guide	
16	Spring-COMP	809E80970
17	Bracket	
18	Block-Key IOT	014E63041
19	Front Cover Unit (items 10-12, 20)	604K55830
20	Logo Plate	
99	Plate Kit - CMYK (items 1-5) (Dell 7130)	604K57470

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Parts List 19.2 Cover/ Control Panel



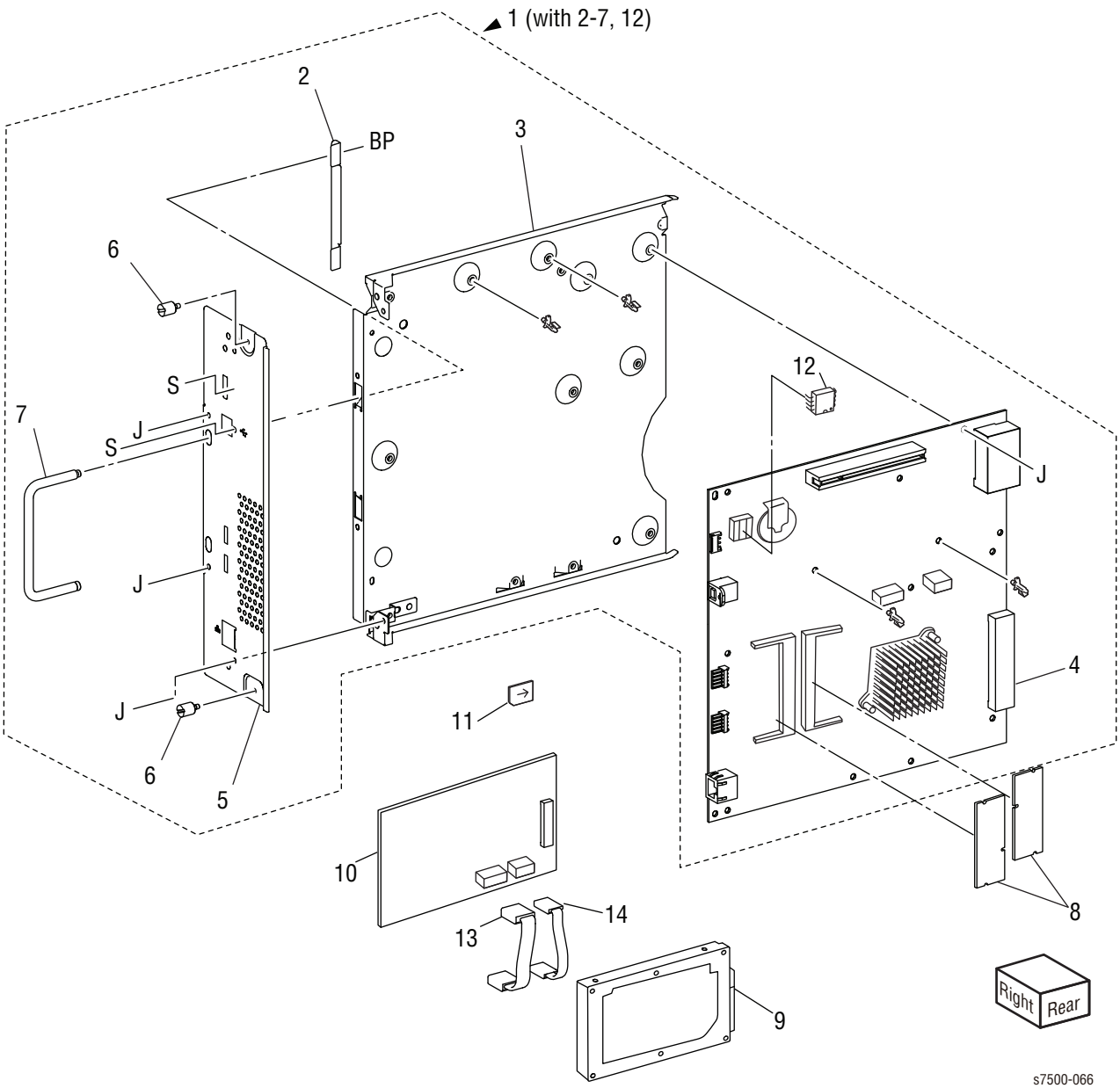
Parts List 19.2 Cover/ Control Panel

Item	Description	Part Number
1	Top Cover Assembly (items 2, 3) (REP 19.2, page 8-211)	848K03124
	Top Cover Assembly (items 2, 3) (REP 19.2, page 8-211) (Dell 7130)	848K16233
2	Top Cover	
3	Top Right Cover	
4	Number Label	
5	Exit Cover Assembly (REP 19.5, page 8-216)	848K26921
6	Top Rear Cover (REP 19.6, page 8-217)	848E21691
7	Front Left Cover (REP 19.7, page 8-218)	848E21730
8	Right Cover (REP 19.8, page 8-219)	848E21711
9	Rear Cover (REP 19.6, page 8-217)	848E21722
10	Data Plate	
11	Ground Label	
12	GFI Label	
13	Console Panel (REP 19.2, page 8-211)	848E51510
	Console Panel (REP 19.2, page 8-211) (Dell 7130)	848E57520
14	Console Harness Assembly	962K60661
15	Fan Guard	055E56421
16	Foot	
17	Upper Table (Option)	
18	Lower Table (Option)	
19	Table Plate (Option)	
20	MPT Front Cover (REP 19.3, page 8-214)	848E21212
21	Left Rear Cover (REP 19.4, page 8-215)	848E21750
22	Label	
23	Filter Kit (items 24, 25, PL 4.1 - item 7, page 9-21)	
24	Filter	053K92980
25	Filter Case	

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ESS

Parts List 35.1 ESS



Parts List 35.1 ESS

Item	Description	Part Number
1	Control Unit (items 2-7, 12)	960K58360
2	Handle Plate	
3	Control Chassis Assembly	
4	ESS PWB (Image Processor Board) (REP 35.1, page 8-220)	960K58360
	ESS PWB (Image Processor Board) (REP 35.1, page 8-220) (Dell 7130)	960K59311
5	Front Panel	
6	Screw	
7	Handle	
8	512 MB SODIMM RAM	237E25310
	512 MB SODIMM RAM (Dell 7130)	133K27870
	1GB Memory SODIMM RAM (Dell 7130)	237E25600
9	Internal Hard Drive Kit (items 9-13)	604K60890
	Internal Hard Drive Kit (items 9-13) (Dell 7130)	650K32420
10	HD Interface Board	
11	Configuration Chip, Network	237E25320
	Configuration Chip, Network (Dell 7130)	237E25580
12	I/P Board EEPROM	237E25330
13	Wire Harness	
14	Wire Harness	

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Xerox Supplies and Accessories

Consumables and Routine Maintenance Items

Parts List Reference	Description	Part Number
PL5.1.1	Toner Cartridge (K), High Capacity (19,800 pages)	106R01439
	Toner Cartridge (K), High Capacity (DMO) (19,800 pages)	106R01446
	Toner Cartridge (K), High Capacity (19,800 pages) (Dell 7130)	077E00040
	Toner Cartridge (K), Metered	106R01450
PL5.1.2	Toner Cartridge (C), High Capacity (17,800 pages)	106R01436
	Toner Cartridge (C), Standard Capacity (9,600 pages)	106R01433
	Toner Cartridge (C), Standard Capacity (DMO) (9,600 pages)	106R01440
	Toner Cartridge (C), High Capacity (DMO) (17,800 pages)	106R01443
	Toner Cartridge (C), Standard Capacity (9,600 pages) (Dell 7130)	077E00010
	Toner Cartridge (C), Metered	106R01447
PL5.1.3	Toner Cartridge (M), High Capacity (17,800 pages)	106R01437
	Toner Cartridge (M), Standard Capacity (9,600 pages)	106R01434
	Toner Cartridge (M), Standard Capacity (DMO) (9,600 pages)	106R01441
	Toner Cartridge (M), High Capacity (DMO) (17,800 pages)	106R01444
	Toner Cartridge (M), Standard Capacity (9,600 pages) (Dell 7130)	077E00020
	Toner Cartridge (M), Metered	106R01448

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Consumables and Routine Maintenance Items (Continued)

Parts List Reference	Description	Part Number
PL5.1.4	Toner Cartridge (Y), High Capacity (17,800 pages)	106R01438
	Toner Cartridge (Y), Standard Capacity (9,600 pages)	106R01435
	Toner Cartridge (Y), Standard Capacity (DMO) (9,600 pages)	106R01442
	Toner Cartridge (Y), High Capacity (DMO) (17,800 pages)	106R01445
	Toner Cartridge (Y), Standard Capacity (9,600 pages) (Dell 7130)	077E00030
	Toner Cartridge (Y), Metered	106R01449
PL6.1.10	IBT Belt Unit (Transfer Belt) (480,000 pages)	604K49185
PL7.1.1	Fuser Unit - 110V (100,000 pages)	115R00061
	Fuser Unit - 110V (100,000 pages) (Dell 7130)	126E02830
	Fuser Unit - 220V (100,000 pages)	115R00062
	Fuser Unit - 220V (100,000 pages) (Dell 7130)	126E02840
PL8.1.4	Imaging Unit (Drum) (C, M, Y, K) (80,000 pages)	108R00861
	Imaging Unit (Drum) (C, M, Y, K) (80,000 pages) (Dell 7130)	077E00050
PL8.2.19	Waste Cartridge (20,000 pages)	108R00865
	Waste Cartridge (20,000 pages) (Dell 7130)	077E00060
PL 9.5.2	Tray 2 Feed Roller Kit (300,000 pages)	675K82240
PL14.2.1	2nd BTR Assembly (200,000 pages)	059K53654
	2nd BTR Assembly (Dell 7130)	675K87740
PL10.4.2	Tray 3-5 Feed Roller Kit (300,000 pages)	675K82240
PL13.3.17	MPT Feed Roller Kit (100,000 pages)	675K82240

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Options

Parts List Reference	Description	Part Number
PL10.1.99	Three Tray Module Option Complete	050K68700
PL10.1.99	Three Tray Module Option Complete (Dell 7130)	059K76390
PL11.1.99	One Tray Module Option Complete	050K68710
PL11.1.99	One Tray Module Option Complete (Dell 7130)	059K76380
PL14.1.5 PL14.5.0	Transport Duplex Assembly (Duplex Unit)	059K65530
	Transport Duplex Assembly (Duplex Unit) (Dell 7130)	675K88110
PL35.1..8	512 MB SODIMM RAM	237E25310
	512 MB SODIMM RAM (Dell 7130)	133K27870
	1GB Memory SODIMM RAM (Dell 7130)	237E25600
PL35.1.9	Internal Hard Drive Kit	604K60890
	Internal Hard Drive Kit (Dell 7130)	650K32420
PL35.1.11	Config Chip, Network	237E25320
	Configuration Chip, Network (Dell 7130)	237E25580
N/A	Printer Stand	097S03873
	Printer Stand (Dell 7130)	078E00340

Power Cords

Description	Part Number
Power Cord, North America (NEMA 5-15), 120 V	117K31400
Power Cord, Cable Assy, EUR, 220 V	152S06413
Power Cord, Cable Assy, UK, 220 V	152S06414
Power Cord, Denmark, 220V	152S06415
Power Cord, Switzerland, 220V	152S06416
Power Cord, 220 V	117E16210
Power Cord, 250 V/10A Europe	152S05108

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Service Kits

Service Kits are developed to provide an easy means to obtain spare parts normally associated with larger assemblies. A number of Service Kits have been developed for the Phaser 7500. The following tables list the contents for each kit.

Kits and Miscellaneous

Kits

Parts List Reference	Description	Part Number
PL19.1.99	Plate Kit - CMYK (Dell 7130)	604K57470
N/A	Re-packaging Kit	695K28360
N/A	Hardware Kit	604K00821
N/A	World Kit	650K30620
	World Kit, 110V (Dell 7130)	650K31970
	World Kit, 220V (Dell 7130)	650K31980

Miscellaneous

Parts List Reference	Description	Part Number
N/A	E-Ring	354W13278
N/A	Black Light Protective Bag	006-7971-00

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Plug/Jack and Wiring Diagrams

In this chapter...

- Plug/Jack Diagrams and Designators
- Plug/Jack Locators
- Notations Used in the Wiring Diagrams
- General Wiring Diagrams
- Print Engine Wiring Diagrams
- Duplex Unit Wiring Diagram
- Tray Module Wiring Diagrams

Chapter 10

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Plug/Jack Diagrams and Designators

This chapter contains the Plug/Jack Designators, Locators, and wiring diagrams for the print engine and all options.

The Plug/Jack Locator diagrams show the P/J locations within the printer, Optional 550-Sheet Feeder, Duplex Unit, Fax, Copier, and Scanner. Use these illustrations to locate P/J connectors called out in the Troubleshooting procedures presented in Sections 3, 4, and 5.

The Plug/Jack locators consist of the P/J Designator Tables and the P/J Locator Diagrams.

- The P/J column lists the Plug/Jack numbers in numerical order.
- The Map column provides the map number of the specific areas (i.e., Electrical, Laser Unit...etc.)
- The Coordinates column lists the diagram coordinates for the location of the connector.
- The Remarks column provides a brief description of each connection.

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 with its P/J designation number.

Print Engine Plug/Jack Designators

Print Engine Plug/Jack Designators

P/J	Map	Coordinates	Remarks
1	9	B-182	Connection between the Main LVPS (PL18.1.11) and the Wire Harness (AC Main) (PL18.1.20)
2	5	B-144	Connection between the GFI (PL18.1.15) and the Wire Harness (FG) (PL18.1.18)
4	9	B-182	Connection between the Main LVPS (PL18.1.11) and the Main Power Switch Chassis Assy (PL18.1.1)
10	5	B-142	Connection between the GFI (PL18.1.15) and the Wire Harness (AC Main) (PL18.1.20)
11	5	C-142	Connection between the GFI (PL18.1.15) and the Wire Harness (AC Main) (PL18.1.20)
31	9	B-181	Connection between the Main LVPS (PL18.1.11) and the Wire Harness (Drawer) (PL18.4.1)
56	1	I-113	Internal connection of the Main Power Switch Chassis Assy (PL18.1.1)
57	1	J-113	Internal connection of the Main Power Switch Chassis Assy (PL18.1.1)
58	1	J-113	Internal connection of the Main Power Switch Chassis Assy (PL18.1.1)

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Print Engine Plug/Jack Designators (Continued)

P/J	Map	Coordinates	Remarks
59	1	H-113	Internal connection of the Main Power Switch Chassis Assy (PL18.1.1)
60	1	I-113	Internal connection of the Main Power Switch Chassis Assy (PL18.1.1)
61	1	I-113	Internal connection of the Main Power Switch Chassis Assy (PL18.1.1)
100	5	J-136	Connection between the L/H Cover Interlock Switch (PL14.1.3) and the Wire Harness (Main LH) (PL18.4.2)
101	1	I-106	Connection between the Front Cover Interlock Switch (PL18.1.9) and the Wire Harness (Main RH) (PL18.4.3)
107	3	C-110	Ethernet connection
110	9	F-184	Connection between the Waste Toner Bottle Full Sensor (PL8.2.3) and the Wire Harness (Toner Full) (PL8.2.18)
111	9	G-184	Connection between the Waste Toner Bottle Position Sensor (PL8.2.4) and the Wire Harness (Main RH) (PL18.4.3)
112	1	H-106	Connection between the Drum CRUM Coupler Assy (Y) (PL8.1.3) and the Wire Harness (Main Front) (PL18.4.5)
113	1	G-106	Connection between the Drum CRUM Coupler Assy (M) (PL8.1.3) and the Wire Harness (Main Front) (PL18.4.5)
114	1	E-106	Connection between the Drum CRUM Coupler Assy (C) (PL8.1.3) and the Wire Harness (Main Front) (PL18.4.5)
115	1	D-106	Connection between the Drum CRUM Coupler Assy (K) (PL8.1.3) and the Wire Harness (Main Front) (PL18.4.5)
120	8	D-164	Connection between the Toner CRUM [Toner Cartridge (Y)] (PL5.1.4) and the Wire Harness (Main Top) (PL18.4.4)
121	8	E-165	Connection between the Toner CRUM [Toner Cartridge (M)] (PL5.1.3) and the Wire Harness (Main Top) (PL18.4.4)
122	8	F-165	Connection between the Toner CRUM [Toner Cartridge (C)] (PL5.1.2) and the Wire Harness (Main Top) (PL18.4.4)
123	8	G-165	Connection between the Toner CRUM [Toner Cartridge (K)] (PL5.1.1) and the Wire Harness (Main Top) (PL18.4.4)
124	1	H-108	Connection between the ATC Sensor Assy (Y) (PL5.2.4) and the ATC PWB (PL5.2.18)

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Print Engine Plug/Jack Designators (Continued)

P/J	Map	Coordinates	Remarks
125	1	G-108	Connection between the ATC Sensor Assy (M) (PL5.2.4) and the ATC PWB (PL5.2.18)
126	1	F-108	Connection between the ATC Sensor Assy (C) (PL5.2.4) and the ATC PWB (PL5.2.18)
127	1	E-108	Connection between the ATC Sensor Assy (K) (PL5.2.4) and the ATC PWB (PL5.2.18)
130	9	F-183	Connection between the NOHAD Thermistor Assy (PL5.2.11) and the Wire Harness (Main RH) (PL18.4.3)
144	7	G-153	Connection between the 1st BTR Contact Retract Sensor (PL3.2.17) and the Wire Harness (Main RH) (PL18.4.3)
150	1	D-112	Internal connection of the MOB ADC Assy (PL18.1.4) (MOB Sensor In)
151	1	A-114	Internal connection of the MOB ADC Assy (PL18.1.4) (MOB Sensor Out)
153	1	B-113	Internal connection of the MOB ADC Assy (PL18.1.4) (ADC Sensor Assy)
154	1	E-112	Internal connection of the MOB ADC Assy (PL18.1.4) (Environment Sensor)
160	11	H-213	Connection between the Regi Sensor (PL15.2.10) and the Wire Harness (Reg) (PL15.2.13)
161	11	I-213	Connection between the Transparency Sensor (PL15.2.7) and the Wire Harness (Reg) (PL15.2.13)
172	10	G-203	Connection between the MPT No Paper Sensor (PL13.4.17) and the Wire Harness (MSI) (PL13.4.2)
173	10	F-203	Connection between the MPT Paper Size Sensor (PL13.5.4) and the Wire Harness (MSI Tray) (PL13.5.9)
174	8	F-169	Connection between the Tray 1 Paper Size Sensor (PL9.1.6) and the Wire Harness (Main RH) (PL18.4.3)
177	10	F-195	Connection between the Tray 1 Nudger Level Sensor (PL9.4.6) and the Wire Harness (Feeder) (PL9.4.20)
178	10	G-195	Connection between the Tray 1 No Paper Sensor (PL9.4.6) and the Wire Harness (Feeder) (PL9.4.20)
179	10	G-202	Connection between the MPT Feed Out Sensor (PL13.4.16) and the Wire Harness (MSI) (PL13.4.2)
180	11	E-214	Connection between the POB Sensor (PL14.4.16) and the Wire Harness (LH Cover) (PL14.4.17)

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Print Engine Plug/Jack Designators (Continued)

P/J	Map	Coordinates	Remarks
181	11	G-214	Connection between the 2nd BTR Contact Retract Sensor (PL14.4.7) and the Wire Harness (LH Cover) (PL14.4.17)
182	1	E-112	Internal connection of the MOB ADC Assy (PL18.1.4) (IBT Belt Home Position Sensor)
183	10	C-201	Connection between the MPT Nudger Position Sensor (PL13.2.20) and the Wire Harness (MSI) (PL13.4.2)
190	N/A	N/A	Internal connection of the Fuser Assembly (PL7.1.1) NC Sensor
191	N/A	N/A	Internal connection of the Fuser Assembly (PL7.1.1) STS Sensor
192	12	H-215	Internal connection of the Fuser Assy (PL7.1.1) (Fuser Exit Sensor)
201	3	D-108	Memory slot
202	3	E-108	Memory slot
206	3	C-107	USB connection
210	1	G-106	Connection between the Erase Lamp Unit (Y) (PL8.1.5) and the Wire Harness (Main Top) (PL18.4.4)
211	1	F-106	Connection between the Erase Lamp Unit (M) (PL8.1.5) and the Wire Harness (Main Top) (PL18.4.4)
212	1	E-106	Connection between the Erase Lamp Unit (C) (PL8.1.5) and the Wire Harness (Main Top) (PL18.4.4)
213	1	D-106	Connection between the Erase Lamp Unit (K) (PL8.1.5) and the Wire Harness (Main Top) (PL18.4.4)
215	7	C-153	Connection between the Agitator Motor (PL8.2.7) and the Wire Harness (Main RH) (PL18.4.3)
220	8	D-165	Connection between the Toner Dispense Motor (Y) (PL5.1.7) and the Wire Harness (Main RH) (PL18.4.3)
221	8	E-166	Connection between the Toner Dispense Motor (M) (PL5.1.7) and the Wire Harness (Main RH) (PL18.4.3)
222	8	F-165	Connection between the Toner Dispense Motor (C) (PL5.1.7) and the Wire Harness (Main RH) (PL18.4.3)
223	8	G-166	Connection between the Toner Dispense Motor (K) (PL5.1.7) and the Wire Harness (Main RH) (PL18.4.3)
230	5	H-138	Connection between the Fuser Fan (PL4.1.7) and the Wire Harness (Main LH) (PL18.4.2)

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Print Engine Plug/Jack Designators (Continued)

P/J	Map	Coordinates	Remarks
231	5	I-139	Connection between the Drive Fan (PL18.3.17) and the Wire Harness (Main RH) (PL18.4.3)
234	N/A	N/A	Connection between the Bottom Fan and the Wire Harness (Main RH) (PL18.4.3)
235	7	B-154	Connection between the HV Fan (PL4.2.4) and the Wire Harness (Main RH) (PL18.4.3)
238	N/A	N/A	Connection between the P2 Fan and MCU Board
240	7	G-154	Connection between the Drum/Deve Drive Motor (K) (PL3.3.3) and the Wire Harness (Main RH) (PL18.4.3)
241	7	G-155	Connection between the Drum/Deve Drive Motor (K) (PL3.3.3) and the Wire Harness (Main RH) (PL18.4.3)
242	7	I-153	Connection between the Fuser Drive Motor (PL3.1.11) and the Wire Harness (Main LH) (PL18.4.2)
243	7	I-152	Connection between the Fuser Drive Motor (PL3.1.11) and the Wire Harness (Main LH) (PL18.4.2)
244	7	I-154	Connection between the Main Drive Motor Assy (PL3.2.3) and the Wire Harness (Main LH) (PL18.4.2)
245	7	I-154	Connection between the Main Drive Motor Assy (PL3.2.3) and the Wire Harness (Main LH) (PL18.4.2)
246	7	E-153	Connection between the Drum/Deve Drive Motor (Y, M, C) (PL3.3.5) and the Wire Harness (Main RH) (PL18.4.3)
247	7	E-153	Connection between the Drum/Deve Drive Motor (Y, M, C) (PL3.3.5) and the Wire Harness (Main RH) (PL18.4.3)
248	7	C-153	Connection between the IBT Drive Motor (PL3.3.4) and the Wire Harness (Main RH) (PL18.4.3)
249	7	C-153	Connection between the IBT Drive Motor (PL3.3.4) and the Wire Harness (Main RH) (PL18.4.3)
250	7	G-153	Connection between the 1st BTR Contact Retract Clutch (PL3.2.12) and the Wire Harness (Main RH) (PL18.4.3)
260	11	F-212	Connection between the Regi Clutch (PL15.2.4) and the Wire Harness (Reg) (PL15.2.13)
261	7	I-156	Connection between the Takeaway Clutch (PL15.1.1) and the Wire Harness (Main RH) (PL18.4.3)

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Print Engine Plug/Jack Designators (Continued)

P/J	Map	Coordinates	Remarks
268	10	D-195	Connection between the Tray 1 Feed/Lift Up Motor (PL9.4.3) and the Wire Harness (Feeder) (PL9.4.20)
269	10	C-201	Connection between the MPT Feed/Nudger Motor (PL13.2.18) and the Wire Harness (MSI) (PL13.4.2)
272	1	B-106	Connection between the Front Cover Interlock Switch (PL18.1.9) and the Wire Harness (Main Top) (PL18.4.4)
273	7	C-153	Connection between the Auger Lock Sensor (PL8.2.16) and the Wire Harness (Main RH) (PL18.4.3)
280	11	E-214	Connection between the 2nd BTR Contact Retract Motor (PL14.4.10) and the Wire Harness (LH Cover) (PL14.4.17)
300	5	E-136	Connection between the ESS PWB (PL35.1.3) and the Wire Harness (ESS2) (PL18.3.12)
306	4	F-104	Connection between the BP PWB (PL18.3.2) and the Wire Harness (BP) (PL18.3.3)
306	5	D-136	Connection between the BP PWB (PL18.3.2) and the Wire Harness (BP) (PL18.3.3)
335	4	E-108	Connection betweeen the Back Plane PWB and the Image Processor Board.
335	5	E-138	Connection between the Image Processor Board (PL35.1.3) and the Back Plane PWB (PL18.3.2)
401	2	I-120	Connection between the MCU PWB (PL18.3.6) and the Wire Harness (Main RH) (PL18.4.3)
401	6	A-109	Connection between the Control Panel and the Wire Harness to the Back Plane PWB.
411	2	H-116	Connection between the MCU PWB (PL18.3.6) and the Wire Harness (Main Top) (PL18.4.4)
412	2	J-120	Connection between the MCU PWB (PL18.3.6) and the Wire Harness (Main RH) (PL18.4.3)
414	2	J-120	Connection between the MCU PWB (PL18.3.6) and the Wire Harness (Main RH) (PL18.4.3)
415	2	I-116	Connection between the MCU PWB (PL18.3.6) and the Wire Harness (Main Top) (PL18.4.4)
416	2	G-116	Connection between the MCU PWB (PL18.3.6) and the Wire Harness (Main Top) (PL18.4.4)
417	2	J-119	Connection between the MCU PWB (PL18.3.6) and the Wire Harness (Main RH) (PL18.4.3)
431	2	J-116	Connection between the MCU PWB (PL18.3.6) and the Wire Harness (Drawer) (PL18.4.1)
451	2	G-118	Connection between the MCU PWB (PL18.3.6) and the BP PWB (PL18.3.2)

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Print Engine Plug/Jack Designators (Continued)

P/J	Map	Coordinates	Remarks
451	5	E-137	Connection between the MCU PWB (PL18.3.6) and the BP PWB (PL18.3.2)
452	2	B-127	Connection between the MD PWB (PL18.3.7) and the MCU PWB (PL18.3.6)
460	4	F-104	Connection between the Back Plane PWB and the MCU PWB.
460	7	E-152	Connection between the HVPS (1st/2nd/DTC) (PL6.2.9) and the Wire Harness (Main RH) (PL18.4.3)
461	9	E-184	Connection between the HVPS (Deve/BCR) (PL18.1.7) and the Wire Harness (Main RH) (PL18.4.3)
501	9	G-183	Connection between the Main LVPS (PL18.1.11) and the Wire Harness (ESS1) (PL18.2.9)
502	2	A-128	Connection between the MD PWB (PL18.3.7) and the Wire Harness (Main RH) (PL18.4.3)
503	9	G-183	Connection between the Main LVPS (PL18.1.11) and the Wire Harness (Main RH) (PL18.4.3)
504	2	F-129	Connection between the Motor Drive PWB (PL18.3.7) and the Wire Harness (Main LH) (PL18.4.2)
505	2	F-129	Connection between the Motor Drive PWB (PL18.3.7) and the Wire Harness (Main LH) (PL18.4.2)
506	2	B-129	Connection between the Motor Drive PWB (PL18.3.7) and the Wire Harness (Main RH) (PL18.4.3)
507	2	B-129	Connection between the Motor Drive PWB (PL18.3.7) and the Wire Harness (Main RH) (PL18.4.3)
508	2	A-129	Connection between the Motor Drive PWB (PL18.3.7) and the Wire Harness (Main RH) (PL18.4.3)
509	2	A-127	Connection between the Motor Drive PWB (PL18.3.7) and the Wire Harness (Tray) (PL18.3.13)
510	9	G-182	Connection between the Main LVPS (PL18.1.11) and the Wire Harness (Main RH) (PL18.4.3)
513	2	F-128	Connection between the Motor Drive PWB (PL18.3.7) and the Wire Harness (Main LH) (PL18.4.2)
515	2	C-129	Connection between the Motor Drive PWB (PL18.3.7) and the Wire Harness (Main LH) (PL18.4.2)

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Print Engine Plug/Jack Designators (Continued)

P/J	Map	Coordinates	Remarks
516	2	E-129	Connection between the Motor Drive PWB (PL18.3.7) and the Wire Harness (Main RH) (PL18.4.3)
517	2	D-127	Connection between the Motor Drive PWB (PL18.3.7) and the Wire Harness (Main LH) (PL18.4.2)
518	2	F-128	Connection between the Motor Drive PWB (PL18.3.7) and the Wire Harness (Main RH) (PL18.4.3)
519	2	E-127	Connection between the Motor Drive PWB (PL18.3.7) and the Wire Harness (Main RH) (PL18.4.3)
520	2	F-127	Connection between the Motor Drive PWB (PL18.3.7) and the Wire Harness (Main RH) to the LVPS (PL18.4.3)
521	2	E-127	Connection between the Motor Drive PWB (PL18.3.7) and the Wire Harness (Main LH) (PL18.4.2)
522	2	D-127	Connection between the Motor Drive PWB (PL18.3.7) and the Wire Harness (Main Front) (PL18.4.5)
523	2	C-129	Connection between the Motor Drive PWB (PL18.3.7) and the Wire Harness (Main RH) (PL18.4.3)
524	2	D-129	Connection between the Motor Drive PWB (PL18.3.7) and the Wire Harness (Main LH) (PL18.4.2)
525	2	E-129	Connection between the Motor Drive PWB (PL18.3.7) and the Wire Harness (Main LH) (PL18.4.2)
526	2	E-127	Connection between the Motor Drive PWB (PL18.3.7) and the Wire Harness (Main Front) (PL18.4.5)
530	9	G-182	Connection between the Main LVPS (PL18.1.11) and the Wire Harness (Main RH) (PL18.4.3)
550	8	H-169	Connection between the LPH Rear PWB (K) (PL2.2.5) and the Wire Harness (Main RH) (PL18.4.3)
550	9	G-183	Connection between the Main LVPS (PL18.1.11) and the LV Fan (PL18.1.13)
551	8	G-168	Connection between the LPH Rear PWB (C) (PL2.2.5) and the Wire Harness (Main RH) (PL18.4.3)
552	8	F-168	Connection between the LPH Rear PWB (M) (PL2.2.5) and the Wire Harness (Main RH) (PL18.4.3)

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Print Engine Plug/Jack Designators (Continued)

P/J	Map	Coordinates	Remarks
553	8	E-167	Connection between the LPH Rear PWB (Y) (PL2.2.5) and the Wire Harness (Main RH) (PL18.4.3)
554	2	I-117	Connection between the MCU PWB (PL18.3.6) and the LPH Cable Assy (PL2.2.1)
555	2	J-117	Connection between the MCU PWB (PL18.3.6) and the LPH Cable Assy (PL2.2.1)
556	2	I-118	Connection between the MCU PWB (PL18.3.6) and the LPH Cable Assy (PL2.2.1)
557	2	J-118	Connection between the MCU PWB (PL18.3.6) and the LPH Cable Assy (PL2.2.1)
558	8	E-168	Connection between the LPH Rear PWB (Y) (PL2.2.5) and the LPH Cable Assy (PL2.2.1)
559	8	F-168	Connection between the LPH Rear PWB (M) (PL2.2.5) and the LPH Cable Assy (PL2.2.1)
560	8	G-168	Connection between the LPH Rear PWB (C) (PL2.2.5) and the LPH Cable Assy (PL2.2.1)
561	8	I-169	Connection between the LPH Rear PWB (K) (PL2.2.5) and the LPH Cable Assy (PL2.2.1)
600	12	I-230	Connection between the Fuser Assy (PL7.1.1) and the Wire Harness (Drawer) (PL18.4.1)
610	1	C-106	Connection between the MOB ADC Assy (PL18.1.4) and the Wire Harness (Main Top) (PL18.4.4)
611	10	F-195	Connection between the Wire Harness (Tray 2 Feeder) (PL9.4.20) and the Wire Harness (Main Front) (PL18.4.5)
612	11	C-211	Connection between the Wire Harness (LH Cover) (PL14.4.17) and the Wire Harness (Main LH) (PL18.4.2)
614	9	H-184	Connection between the Wire Harness (Toner Bottle Full) (PL8.2.18) and the Wire Harness (Main RH) (PL18.4.3)
615	1	J-107	Connection between the Wire Harness (Main RH) (PL18.4.3) and the Main Power Switch Chassis Assy (PL18.1.1)
616	10	B-200	Connection between the Wire Harness (MPT) (PL13.4.2) and the Wire Harness (Main LH) (PL18.4.2)
617	10	B-201	Connection between the Wire Harness (MSI Tray) (PL13.5.9) and the Wire Harness (MPT) (PL13.4.2)
619	5	J-141	Connection between the IBT 1 & IBT 2 Fans and the MCU
632	11	E-212	Connection between the Wire Harness (Reg) (PL15.2.13) and the Wire Harness (Main LH) (PL18.4.2)

Print Engine Plug/Jack Designators (Continued)

P/J	Map	Coordinates	Remarks
633	1	G-108	Connection between the ATC PWB (PL5.2.18) and the Wire Harness (Main Front) (PL18.4.5)
700	1	I-105	Connection between the Console Harness (PL19.2.14) and the Wire Harness (UI) (PL18.1.8)
701	1	F-104	Connection between the Control Panel (PL19.2.13) and the Console Harness (PL19.2.14)
701	6	F-109	Connection between the Control Panel and UI.
702	3	I-107	Connection between the Image Processor Board and Back Plane PWB.
800	5	D-139	Connection between the TM Relay PWB (PL18.3.11) and the Tray Module (Option)
801	5	D-139	Connection between the TM Relay PWB (PL18.3.11) and the Wire Harness (Tray) (PL18.3.13)
3001	5	E-135	Connection between the Wire Harness (ESS2) (PL18.3.12) and the Wire Harness (ESS1) (PL18.2.9)
5111	12	C-223	Connection between the Exit Motor (PL17.1.15) and the Wire Harness (Main LH) (PL18.4.2)
5112	N/A	N/A	Connection between the Exit Sensor Full Sensor and the Wire Harness (Main LH) (PL18.4.2)
5161	9	A-181	Connection between the Thermo Sensor (PL18.1.14) and the Wire Harness (Main RH) (PL18.4.3)
7003	5	D-135	Connection between the Wire Harness (BP) (PL18.3.3) and the Wire Harness (UI) (PL18.1.8)

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Duplex Unit Plug/Jack Designators

Duplex Unit Plug/Jack Designators

P/J	Map	Coordinates	Remarks
175	13	F-308	Connection between the Duplex Wait Sensor (PL14.6.8) and the Wire Harness (Dup) (PL14.6.27)
176	13	H-307	Connection between the Duplex Cover Switch (PL14.6.25) and the Wire Harness (Dup) (PL14.6.27)
275	13	I-307	Connection between the Duplex Motor (PL14.5.8) and the Wire Harness (Dup) (PL14.6.27)
4601	13	I-306	Connection between the Wire Harness (Dup) (PL14.6.27) and the IOT
U303	3	C-105	Configuration Card connection

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Single Tray Module (STM) (Optional) Plug/Jack Designators

Single Tray Module (STM) Plug/Jack Designators

P/J	Map	Coordinates	Remarks
101	14	D-324	Connection between the Tray 3 Paper Size Sensor (PL11.1.14) and the Harness Assy (Sensor2-STM) (PL11.5.5)
104	14	F-325	Connection between the STM L/H Cover Switch (PL11.6.5) and the Harness Assy (Sensor2-STM) (PL11.5.5)
106	14	G-324	Connection between the Tray 3 No Paper Sensor and the Harness Assy (Sensor1-STM)
107	14	G-324	Connection between the Tray 3 Nudger Level Sensor and the Harness Assy (Sensor1-STM)
108	14	H-324	Connection between the Tray 2 Feed Out Sensor (PL11.6.3) and the Harness Assy (Sensor2-STM) (PL11.5.5)
221	14	E-325	Connection between the Tray 2 Feed/Lift Up Motor and the Harness Assy (Motor1-STM)
224	14	D-325	Connection between the STM T/A Motor Assy (PL11.5.2) and the Harness Assy (Motor2-STM) (PL11.5.6)
541	14	C-319	Connection between the STM PWB (PL11.5.4) and the Harness Assy (IF-STM) (PL11.5.7)
548	14	A-319	Connection between the STM PWB (PL11.5.4) and the Harness Assy (Sensor2-STM) (PL11.5.5)
550	14	B-320	Connection between the STM PWB (PL11.5.4) and the Harness Assy (Motor2-STM) (PL11.5.6)
551	14	C-320	Connection between the STM PWB (PL11.5.4) and the Harness Assy (Motor2-STM) (PL11.5.6)
661	14	F-325	Connection between the Harness Assy (Motor1-STM) and the Harness Assy (Motor2-STM) (PL11.5.6)
669	14	F-325	Connection between the Harness Assy (Sensor1-STM) and the Harness Assy (Sensor2-STM) (PL11.5.5)

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3 Tray Unit (Optional) Plug/Jack Designators

3 Tray Unit Plug/Jack Designators

P/J	Map	Coordinates	Remarks
101	15	D-334	Connection between the Tray 2 Paper Size Sensor (PL10.1.8) and the Harness Assy (Sensor2) (PL10.9.6)
102	15	D-335	Connection between the Tray 3 Paper Size Sensor (PL10.1.9) and the Harness Assy (Sensor2) (PL10.9.6)
103	15	D-336	Connection between the Tray 4 Paper Size Sensor (PL10.1.10) and the Harness Assy (Sensor2) (PL10.9.6)
104	15	J-337	Connection between the Tray Module L/H Cover Switch (PL10.11.2) and the Wire Harness (TM SW) (PL10.11.3)
106	15	G-334	Connection between the Tray 2 No Paper Sensor (PL10.3.6) and the Harness Assy (Sensor1) (PL10.3.21)
107	15	F-334	Connection between the Tray 2 Nudger Level Sensor (PL10.3.6) and the Harness Assy (Sensor1) (PL10.3.21)
108	15	H-334	Connection between the Tray 2 Feed Out Sensor (PL10.11.11) and the Harness Assy (Sensor2) (PL10.9.6)
110	15	G-335	Connection between the Tray 3 No Paper Sensor (PL10.5.6) and the Harness Assy (Sensor1) (PL10.5.21)
111	15	F-335	Connection between the Tray 3 Nudger Level Sensor (PL10.5.6) and the Harness Assy (Sensor1) (PL10.5.21)
112	15	H-335	Connection between the Tray 3 Feed Out Sensor (PL10.11.6) and the Harness Assy (FO) (PL10.11.9)
114	15	G-336	Connection between the Tray 4 No Paper Sensor (PL10.7.6) and the Harness Assy (Sensor1) (PL10.7.21)
115	15	F-336	Connection between the Tray 4 Nudger Level Sensor (PL10.7.6) and the Harness Assy (Sensor1) (PL10.7.21)
116	15	H-336	Connection between the Tray 4 Feed Out Sensor (PL10.11.6) and the Harness Assy (FO) (PL10.11.9)
221	15	H-341	Connection between the Tray 2 Feed/Lift Up Motor (PL10.3.3) and the Harness Assy (Motor1) (PL10.3.20)
222	15	H-342	Connection between the Tray 3 Feed/Lift Up Motor (PL10.5.3) and the Harness Assy (Motor1) (PL10.5.20)

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3 Tray Unit Plug/Jack Designators (Continued)

P/J	Map	Coordinates	Remarks
223	15	H-344	Connection between the Tray 4 Feed/Lift Up Motor (PL10.7.3) and the Harness Assy (Motor1) (PL10.7.20)
224	15	D-337	Connection between the TM Takeaway Motor (PL10.9.5) and the Harness Assy (Motor2) (PL10.9.7)
541	15	A-341	Connection between the Tray Module PWB (PL10.9.1) and the Harness Assy (I/F) (PL10.9.8)
548	15	B-343	Connection between the Tray Module PWB (PL10.9.1) and the Harness Assy (Sensor2) (PL10.9.6)
549	15	A-342	Connection between the Tray Module PWB (PL10.9.1) and the Harness Assy (Sensor2) (PL10.9.6)
550	15	B-341	Connection between the Tray Module PWB (PL10.9.1) and the Harness Assy (Motor2) (PL10.9.7)
551	15	C-342	Connection between the Tray Module PWB (PL10.9.1) and the Harness Assy (Motor2) (PL10.9.7)
661	15	I-341	Connection between the Harness Assy (Motor1) (PL10.3.20) and the Harness Assy (Motor2) (PL10.9.7)
662	15	I-342	Connection between the Harness Assy (Motor1) (PL10.5.20) and the Harness Assy (Motor2) (PL10.9.7)
663	15	I-344	Connection between the Harness Assy (Motor1) (PL10.7.20) and the Harness Assy (Motor2) (PL10.9.7)
668	15	I-344	Connection between the Wire Harness (TM SW) (PL10.11.3) and the Harness Assy (Sensor2) (PL10.9.6)
669	15	I-341	Connection between the Harness Assy (Sensor1) (PL10.3.21) and the Harness Assy (Sensor2) (PL10.9.6)
671	15	I-342	Connection between the Harness Assy (Sensor1) (PL10.5.21) and the Harness Assy (Sensor2) (PL10.9.6)
672	15	I-341	Connection between the Harness Assy (FO) (PL10.11.9) and the Harness Assy (Sensor2) (PL10.9.6)
673	15	I-344	Connection between the Harness Assy (Sensor1) (PL10.7.21) and the Harness Assy (Sensor2) (PL10.9.6)
674	15	I-343	Connection between the Harness Assy (FO) (PL10.11.9) and the Harness Assy (Sensor2) (PL10.9.6)

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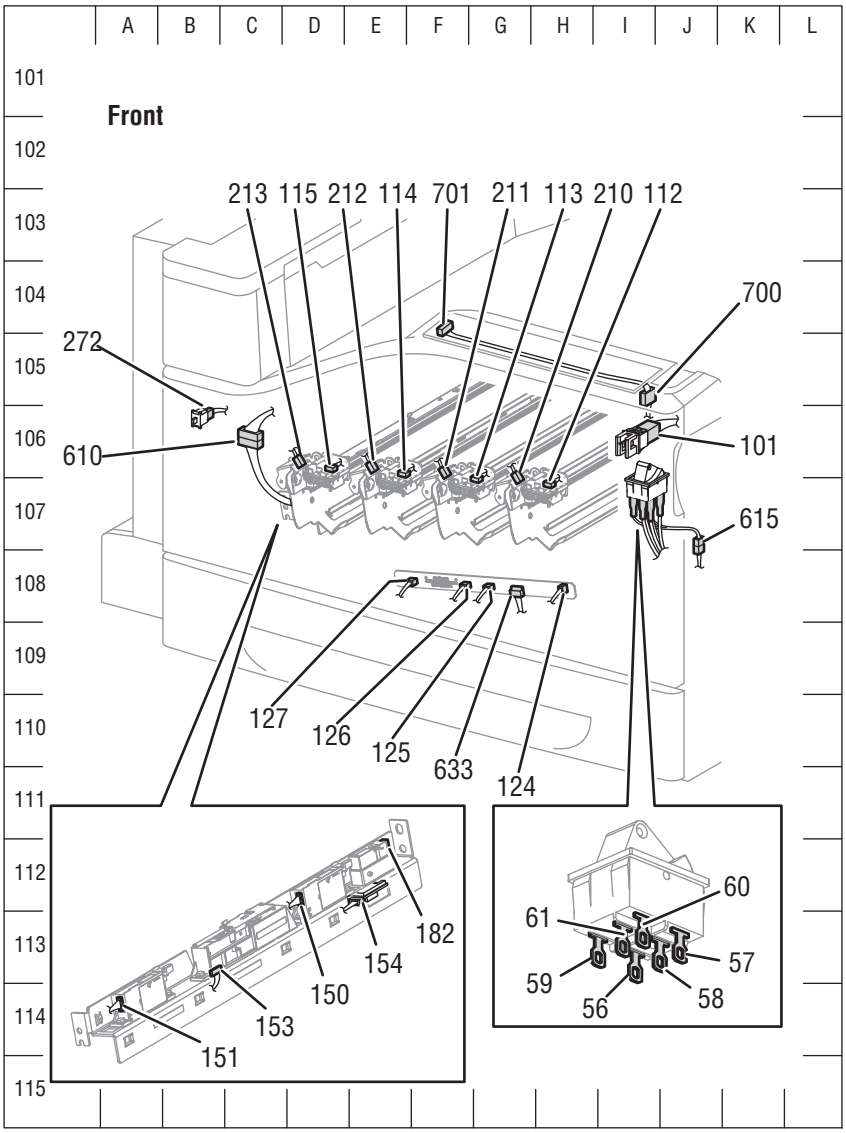
Plug/Jack Locators

Maps 1 through 15 indicate the location of key connections within the printer, Duplex Unit, and Lower Feeder Unit. Connections are referenced by their P/J designation.

1. Map 1 - ATC Sensor, Drum, CRUM, Main Power Switch, MOB ADC Assy (page 10-17)
2. Map 2 - Motor Drive (MD, MCU (page 10-18)
3. Map 3 - Image Processor Board (page 10-19)
4. Map 4 - Back Plane (page 10-20)
5. Map 5 - Back Plane, GFI, TM Relay, Fuser Fan (page 10-21)
6. Map 6 - Control Panel (page 10-22)
7. Map 7 - Clutches, Fan , HVPS (1st/2nd/DTC), Motors, Sensors (page 10-23)
8. Map 8 - LPH Rear PWBs, Toner CRUMs, Toner Dispenser Motors (page 10-24)
9. Map 9 - Main LVPS, Waste Toner Bottle (page 10-25)
10. Map 10 - Motors, Sensors (page 10-26)
11. Map 11 - Clutch, Motor, Sensors (page 10-27)
12. Map 12 - Fuser (page 10-28)
13. Map 13 - Duplex Unit (page 10-29)
14. Map 14 - Single Tray Moduel (STM) (page 10-30)
15. Map 15 - 1500-Sheet Feeder (page 10-31)

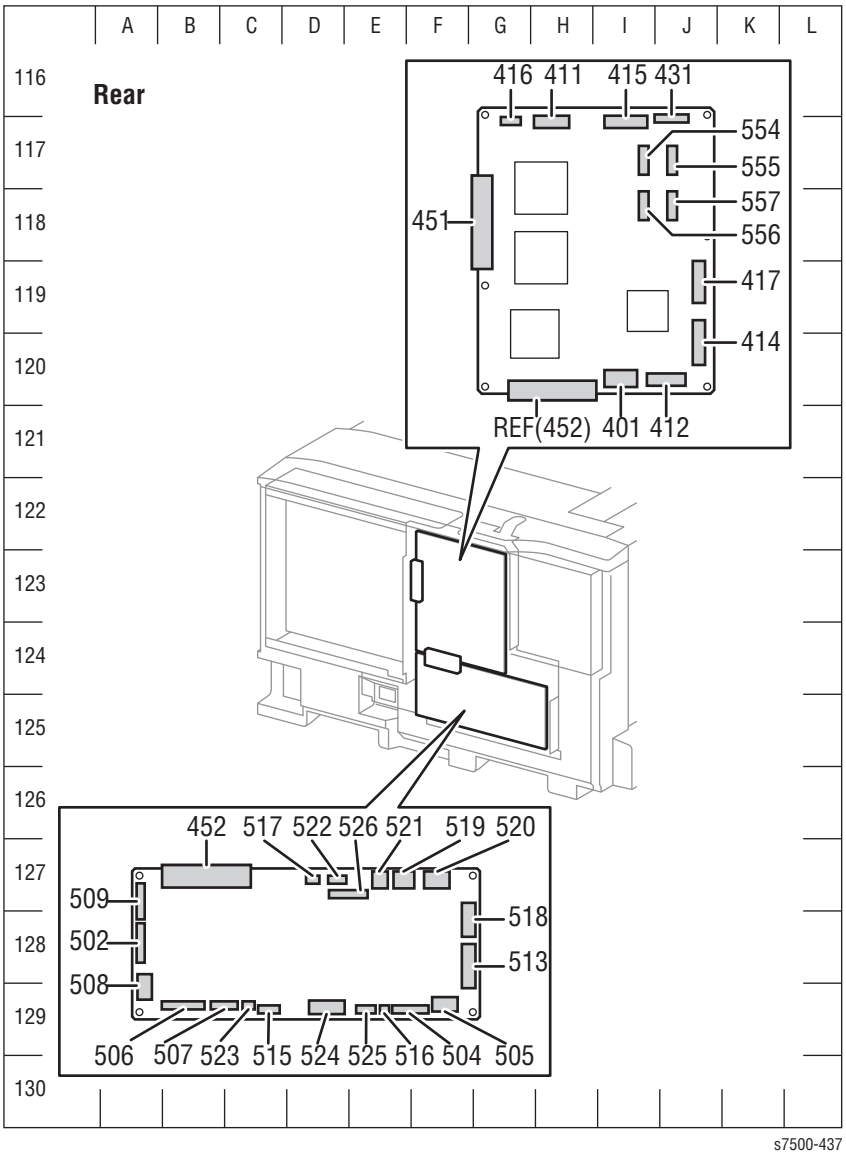
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Map 1 - ATC Sensor, Drum CRUM, Main Power Switch, MOB ADC Assy.

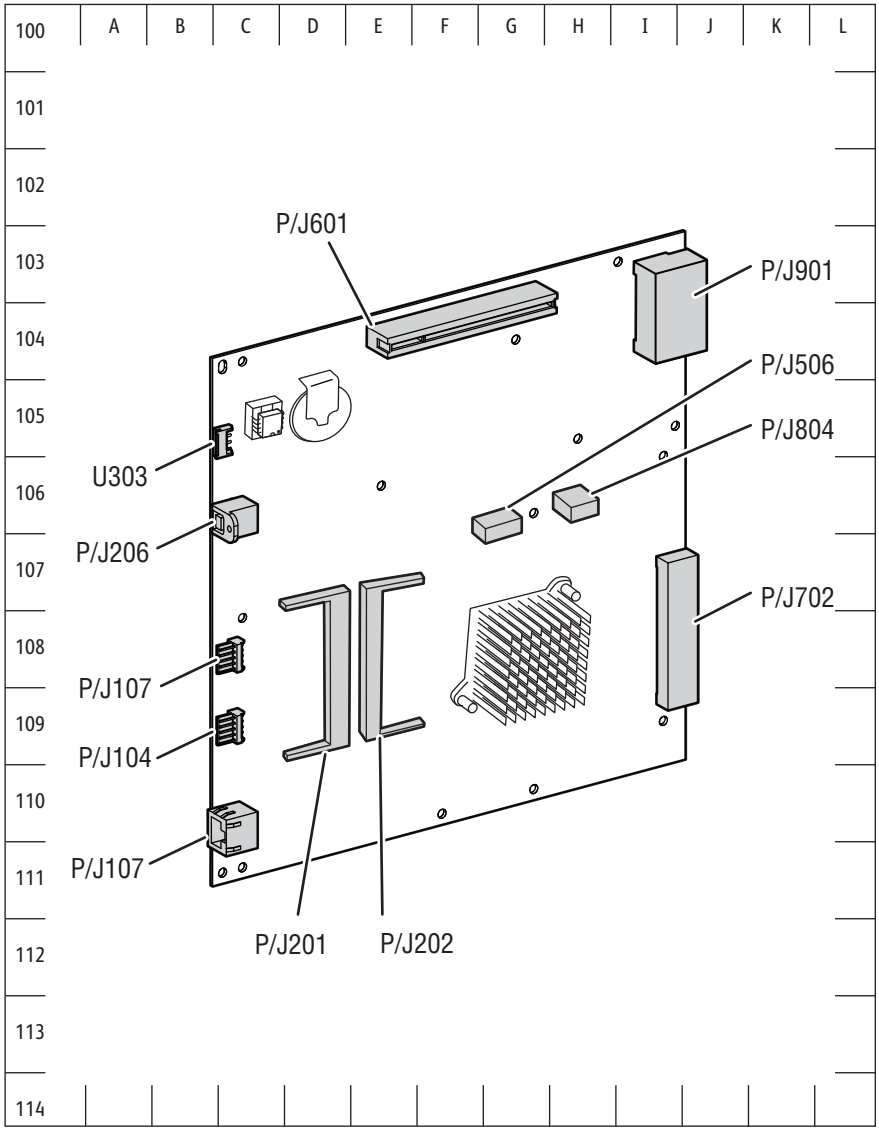


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Map 2 - Motor Drive (MD), MCU



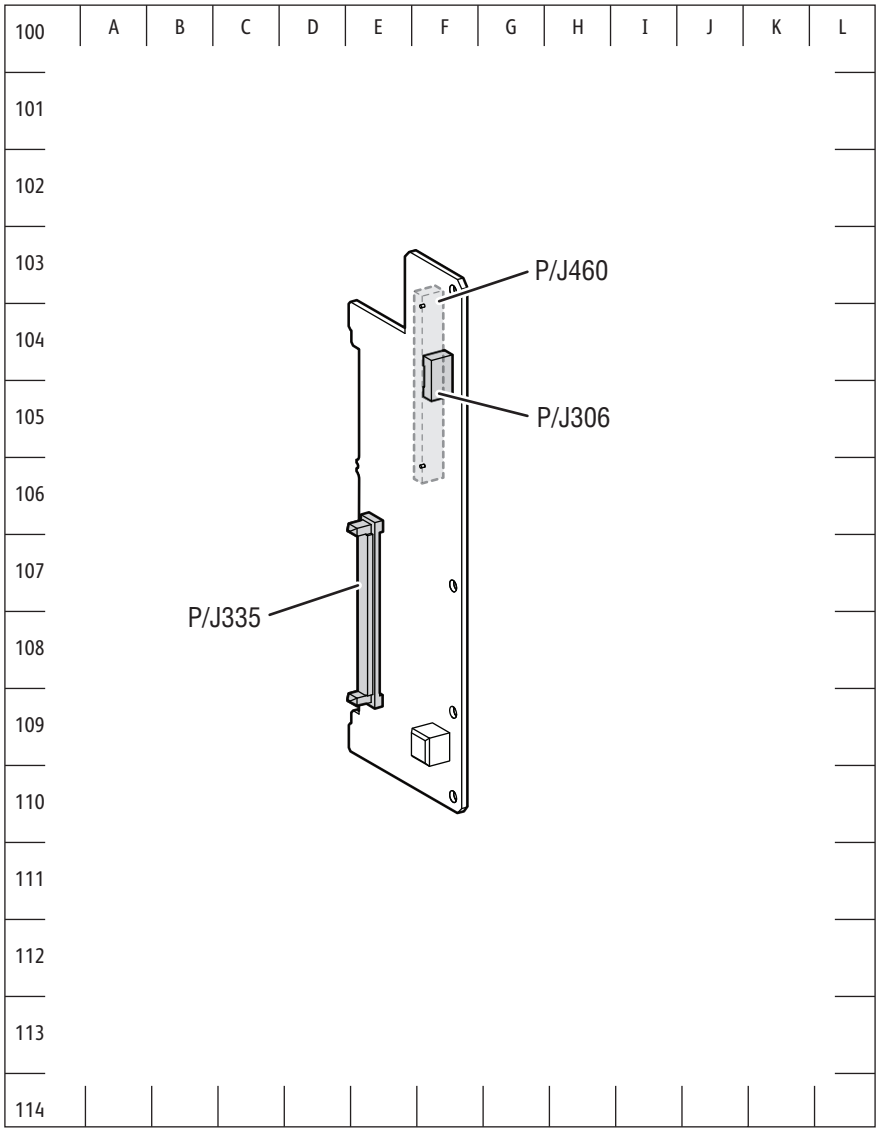
Map 3 - Image Processor Board



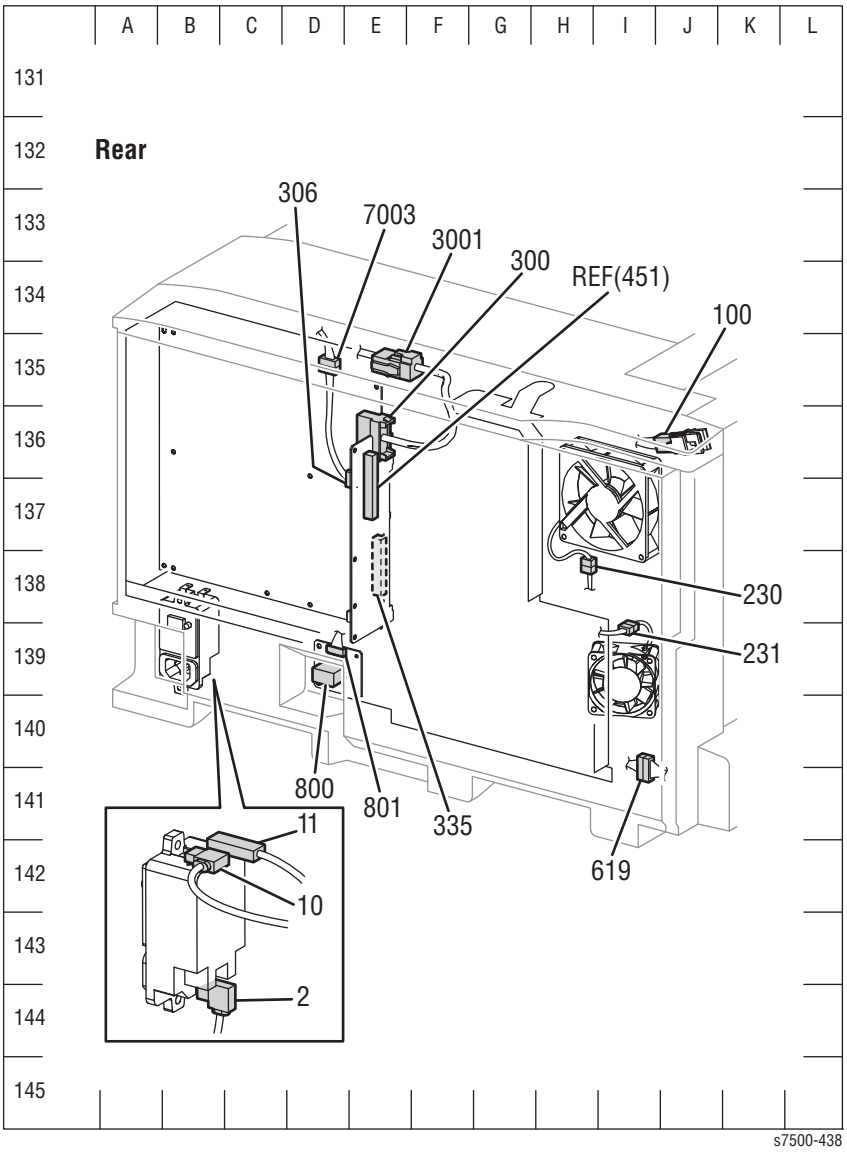
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Map 4 - Back Plane



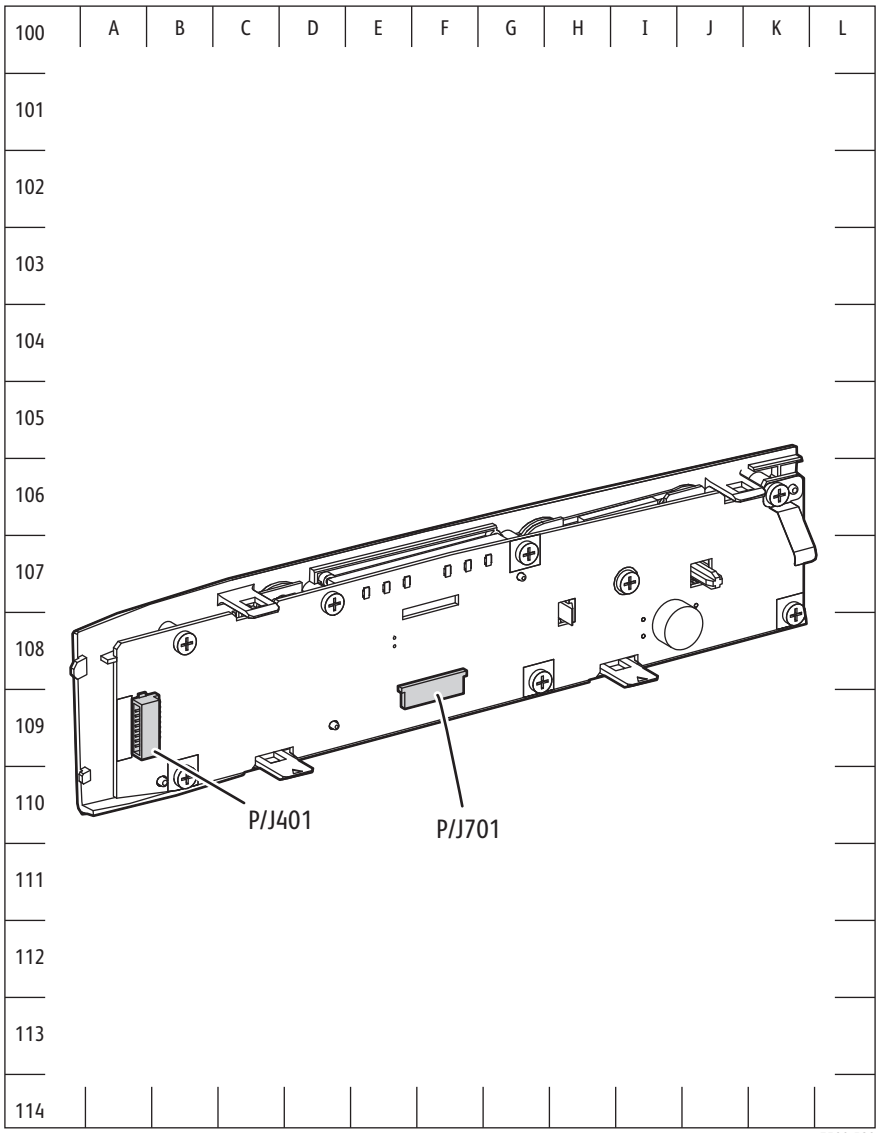
Map 5 - Back Plane, GFI, TM Relay, Fuser Fan



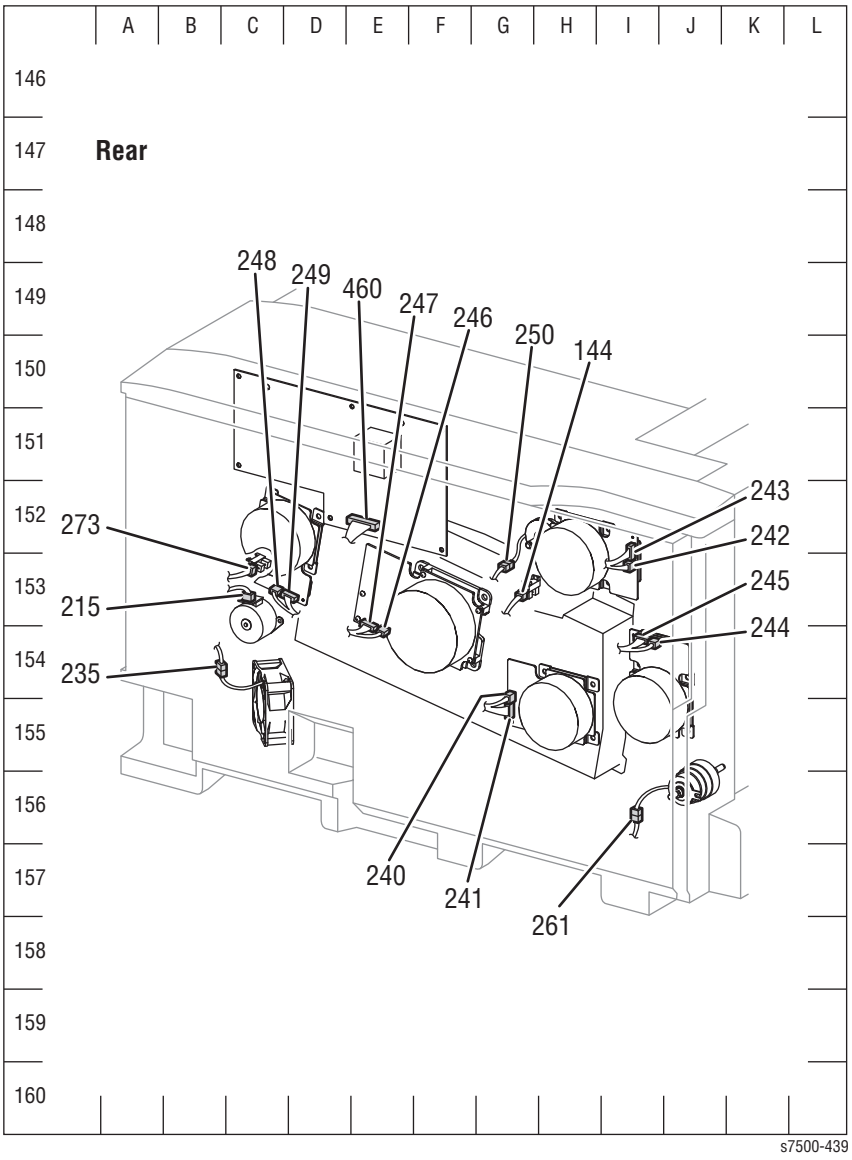
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Map 6 - Control Panel

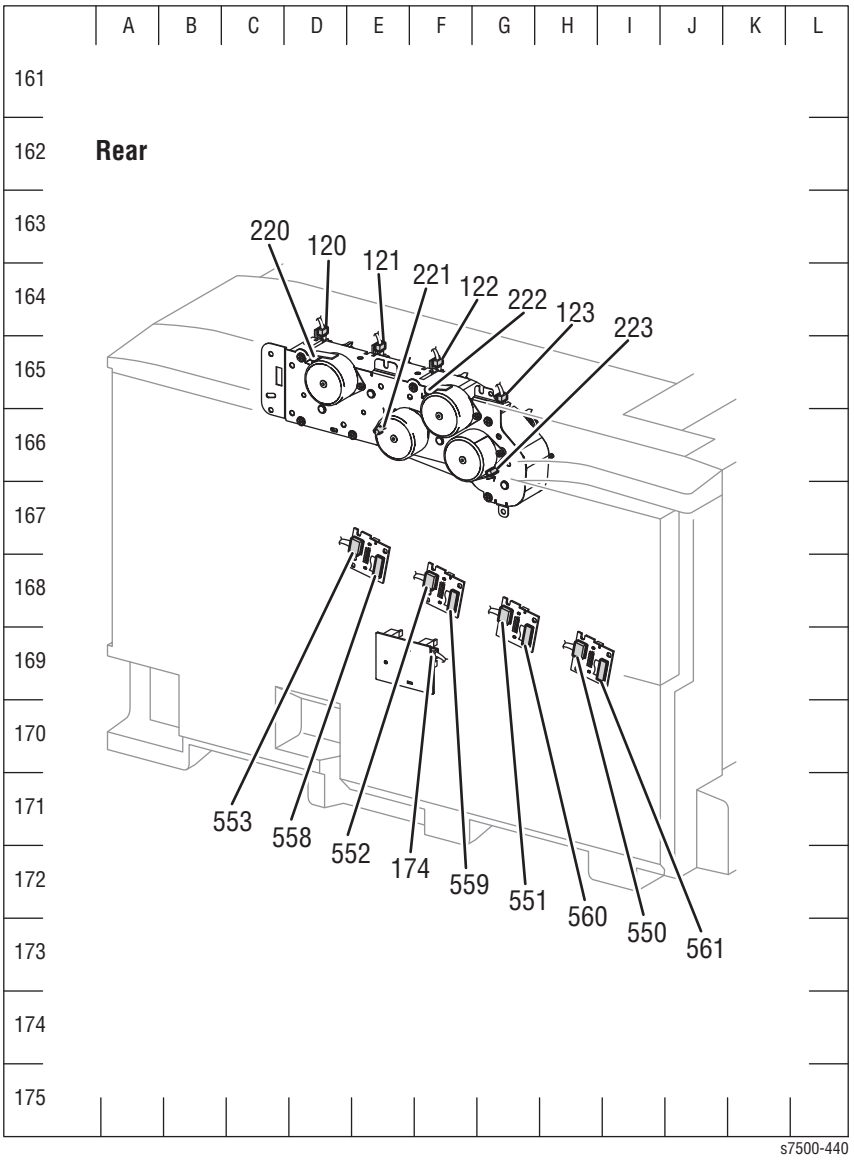


Map 7 - Clutches, Fan, HVPS (1st/2nd/DTC), Motors, Sensors

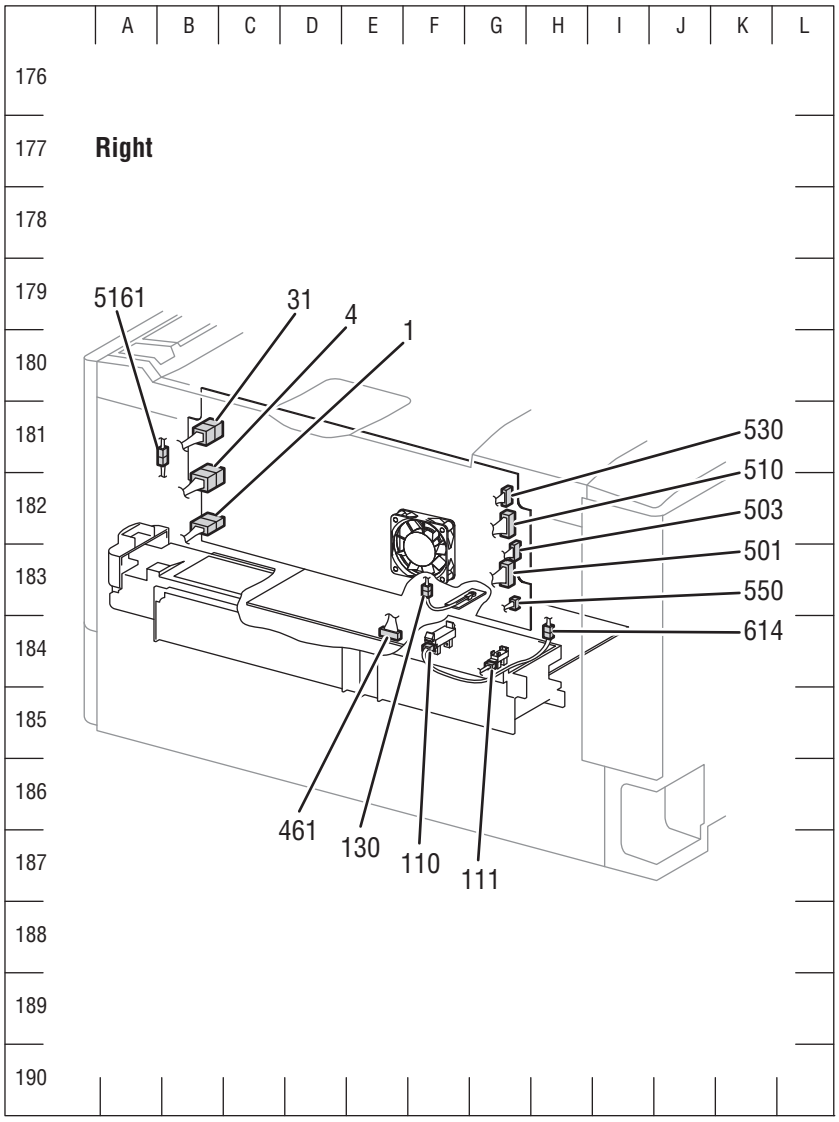


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Map 8 - LPH Rear PWBs, Toner CRUMs, Toner Dispenser Motors

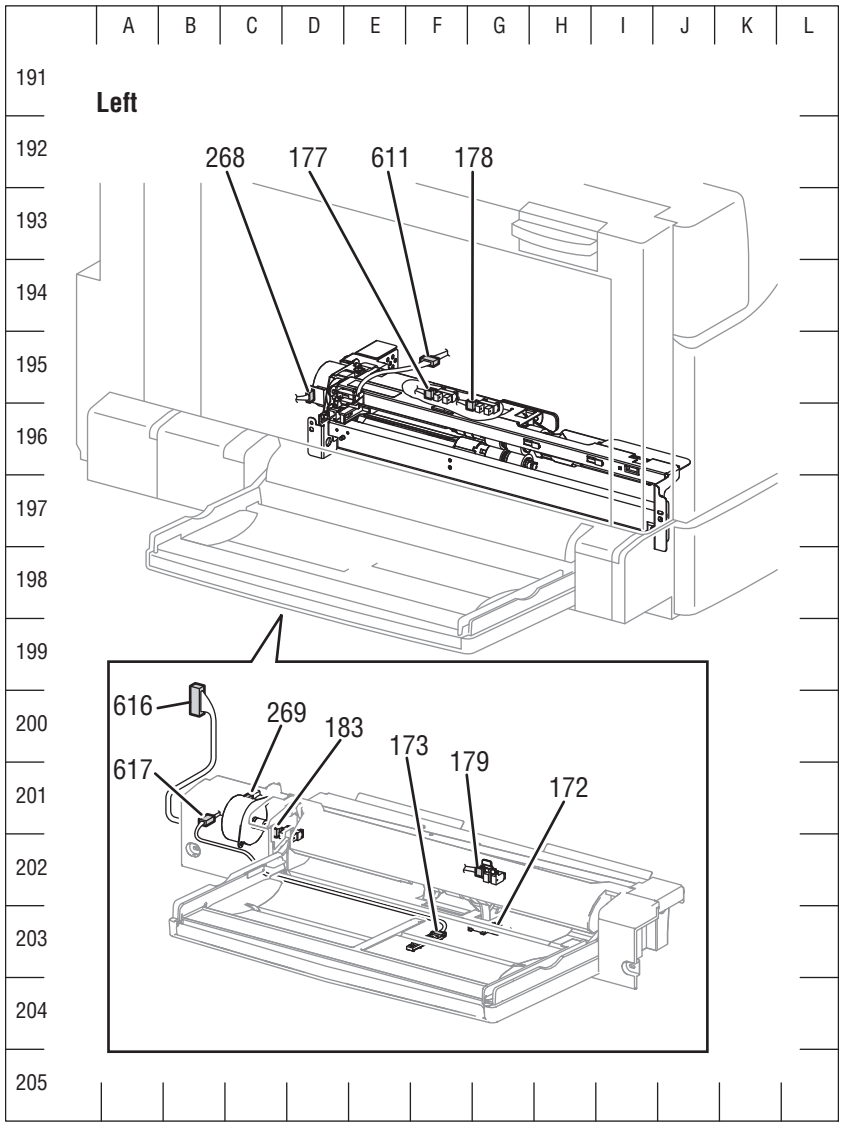


Map 9 - Main LVPS, Waste Toner Bottle



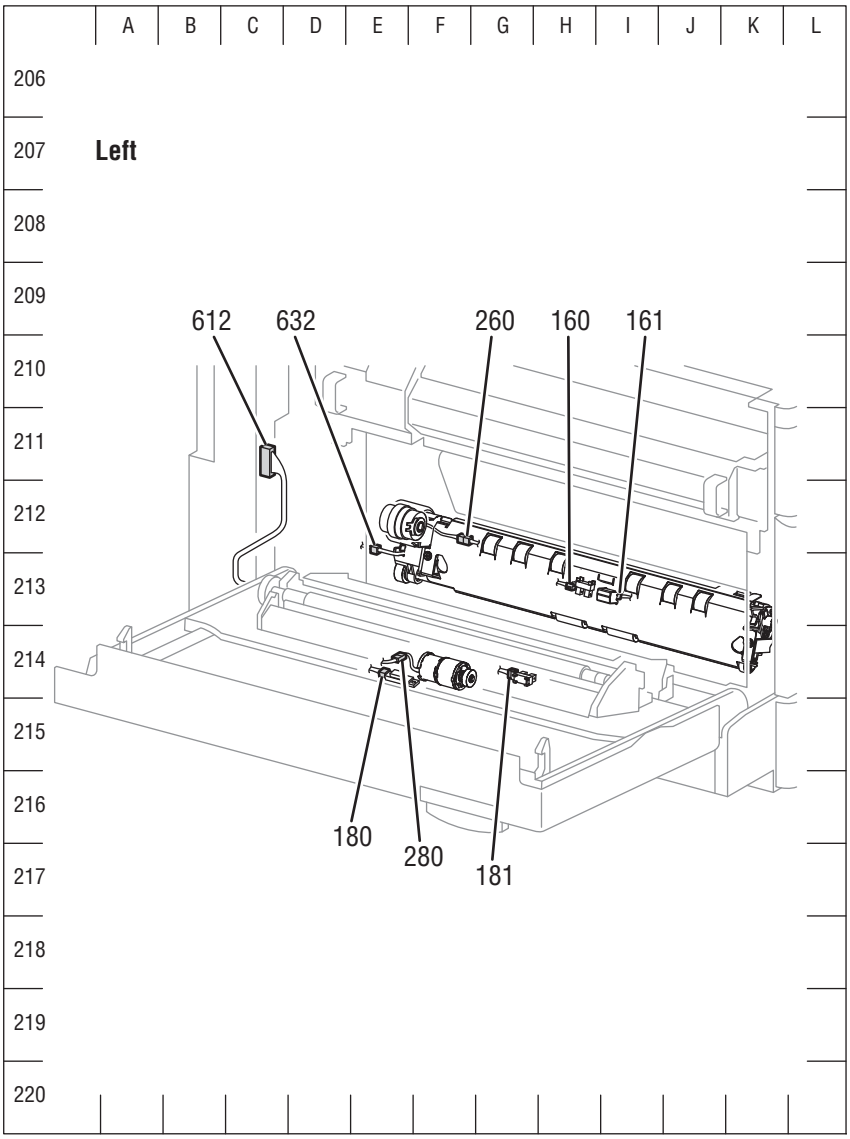
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Map 10 - Motors, Sensors



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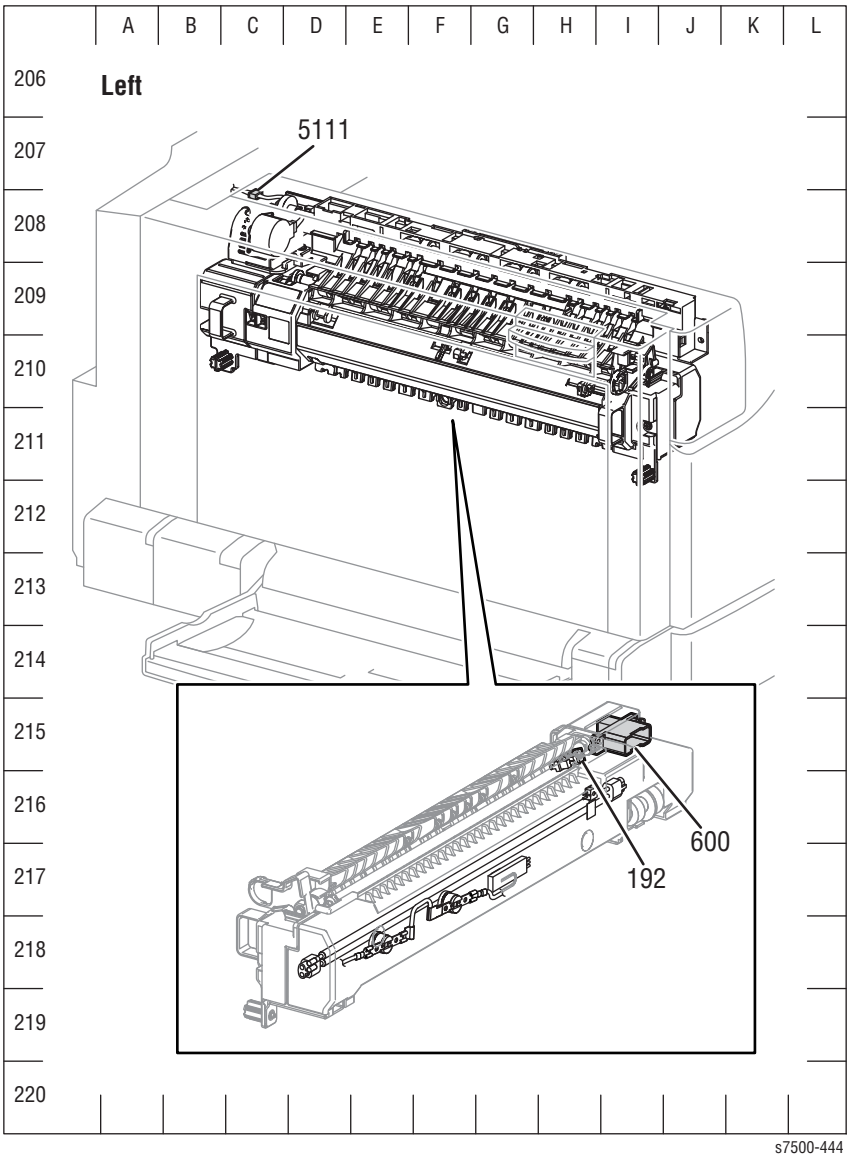
Map 11 - Clutch, Motor, Sensors



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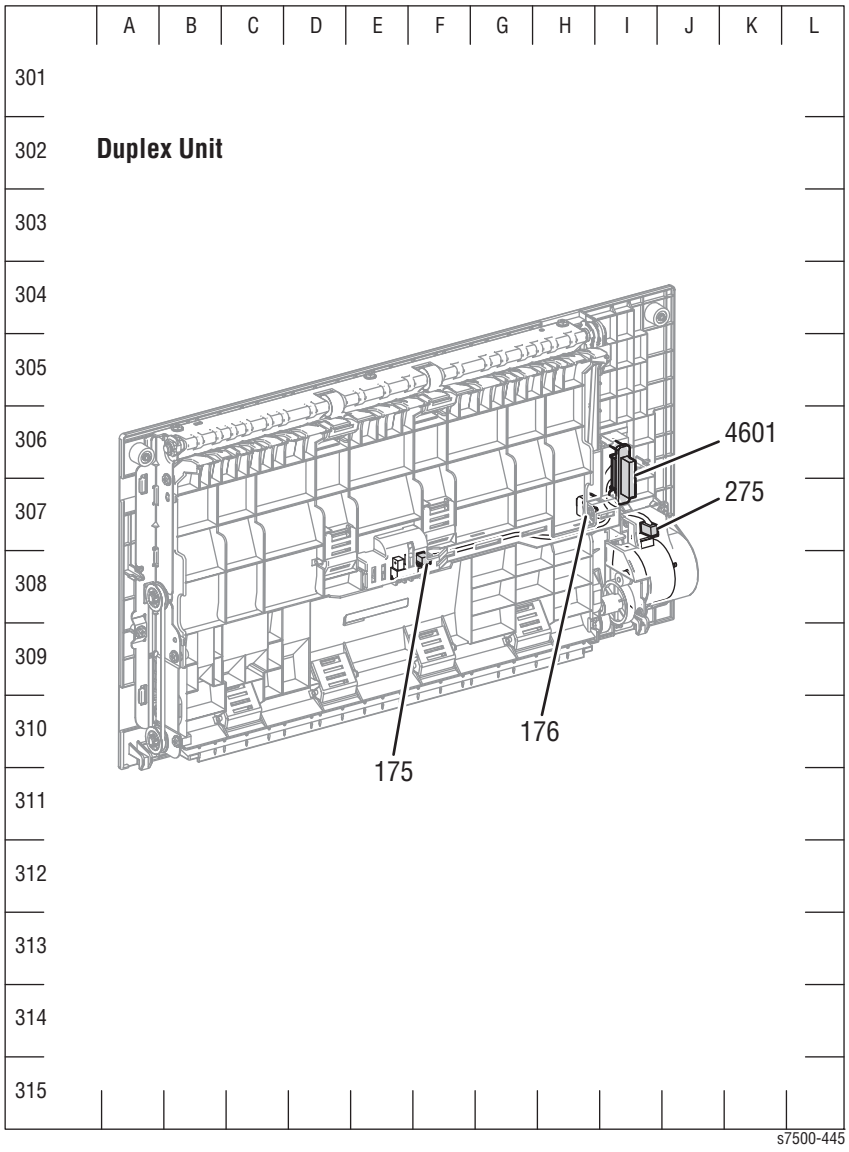
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Map 12 - Fuser



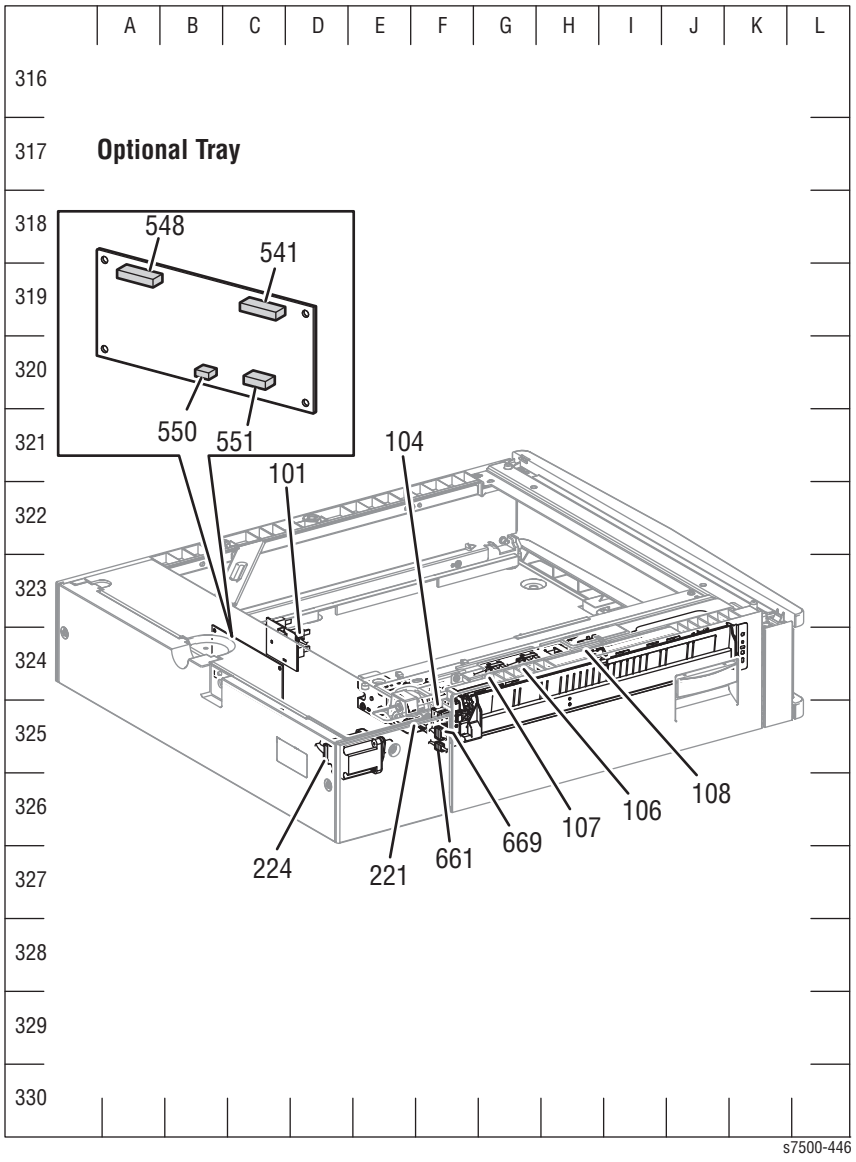
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Map 13 - Duplex Unit



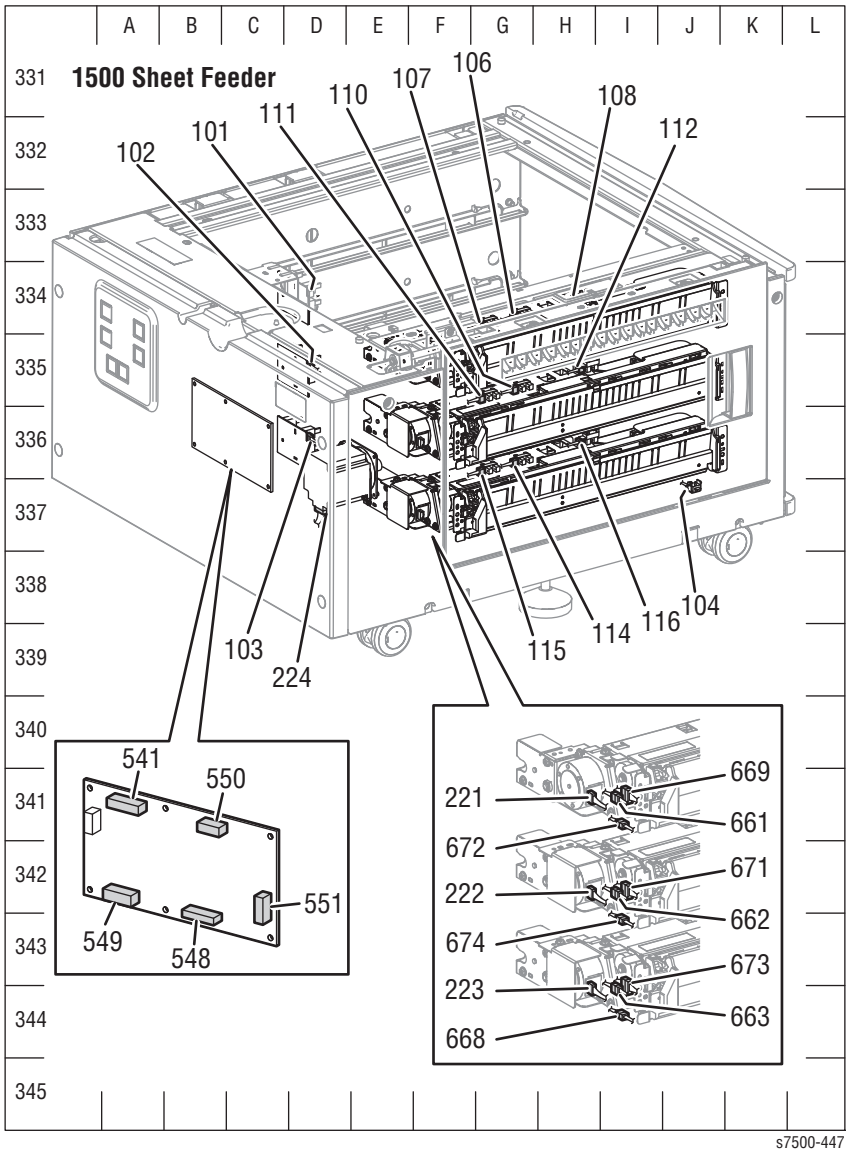
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Map 14 - Single Tray Module (STM)



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Map 15 - 1500-Sheet Feeder

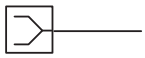
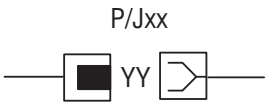


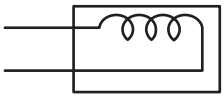
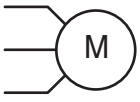
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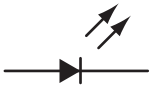
Notations Used in the Wiring Diagrams

The following table lists the symbols used in the wiring diagrams.

Symbol	Description
 Plug	Denotes a Plug.
 Jack	Denotes a Jack.
 Plug and Jack	Denotes Pin yy and Jack yy of the connector Pxx and Jxx.
 Jumper	Denotes a Jumper Point (JPxxx/xxx). Each end of the Jumper connection has a numeric designation.
 Subassembly 1	Denotes the parts. PL X.Y.Z implies the item “Z” of plate (PL) “X.Y” in Parts List.
 Subassembly 2	Denotes functional parts attached with functional parts name.

Symbol	Description
 Subassembly 3	Denotes the control and its outline in the Board.
 Connection Wire	Denotes a connection between parts with harness or wires, attached with signal name/ contents.
 Function Logic 1	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.
 Function Logic 2	Denotes the function, and logic value of the signal when the function is operated (Low: L, High: H). The given voltage is for signal in high status. The arrow indicates the direction of signal.
 Connection of Wires	Denotes a connection between wires.
 Solenoid/Clutch	Denotes a Clutch or Solenoid.
 Motor	Denotes a Motor.

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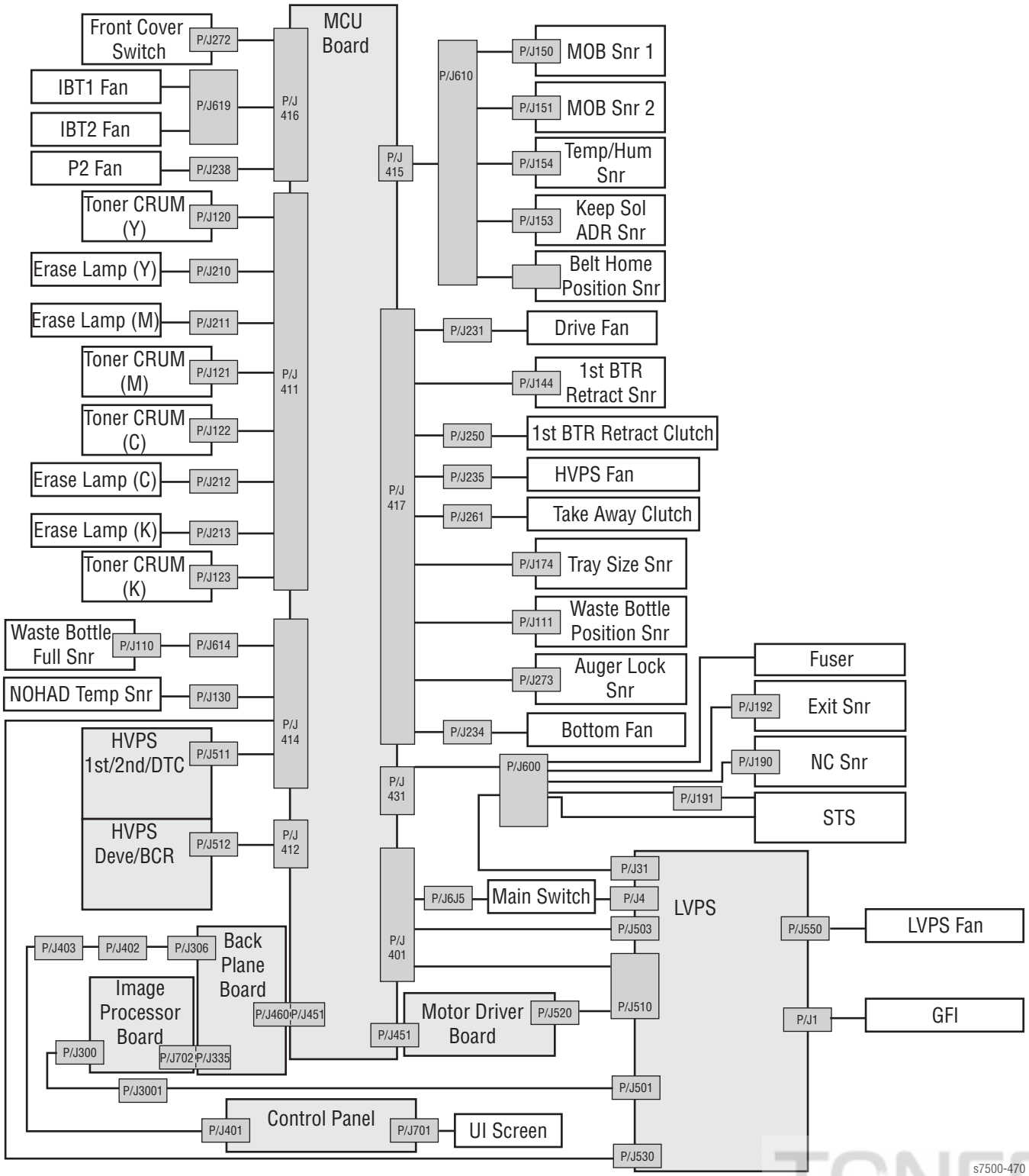
Symbol	Description
 Optic Sensor	Denotes a Photo Sensor.
 LED	Denotes an LED.
 Safety Interlock Switch	Denotes a Safety Interlock Switch.
 On Off Switch	Denotes an On-Off Switch (single-pole, single-throw switch).
 Temperature Switch	Denotes an On-Off Switch (Temperature - normally close).
 NPN Phototransistor	Denotes an NPN Photo-transistor.
 Interconnection	Represents an interconnection between parts using wiring harness or wire.
 Interconnection, Differing	Represents an interconnection which differs according to the specifications.

Symbol	Description
 Interconnection, Conductive Part	Represents an interconnection between parts using a conductive part such as a Plate Spring.
I/L +24 VDC	Denotes DC voltage when the Interlock Switch in the MCU Board turns On.
+5 VDC +3.3 VDC	Denotes DC voltage.
SG	Denotes signal ground.
AG	Denotes analog ground.
RTN	Denotes return.

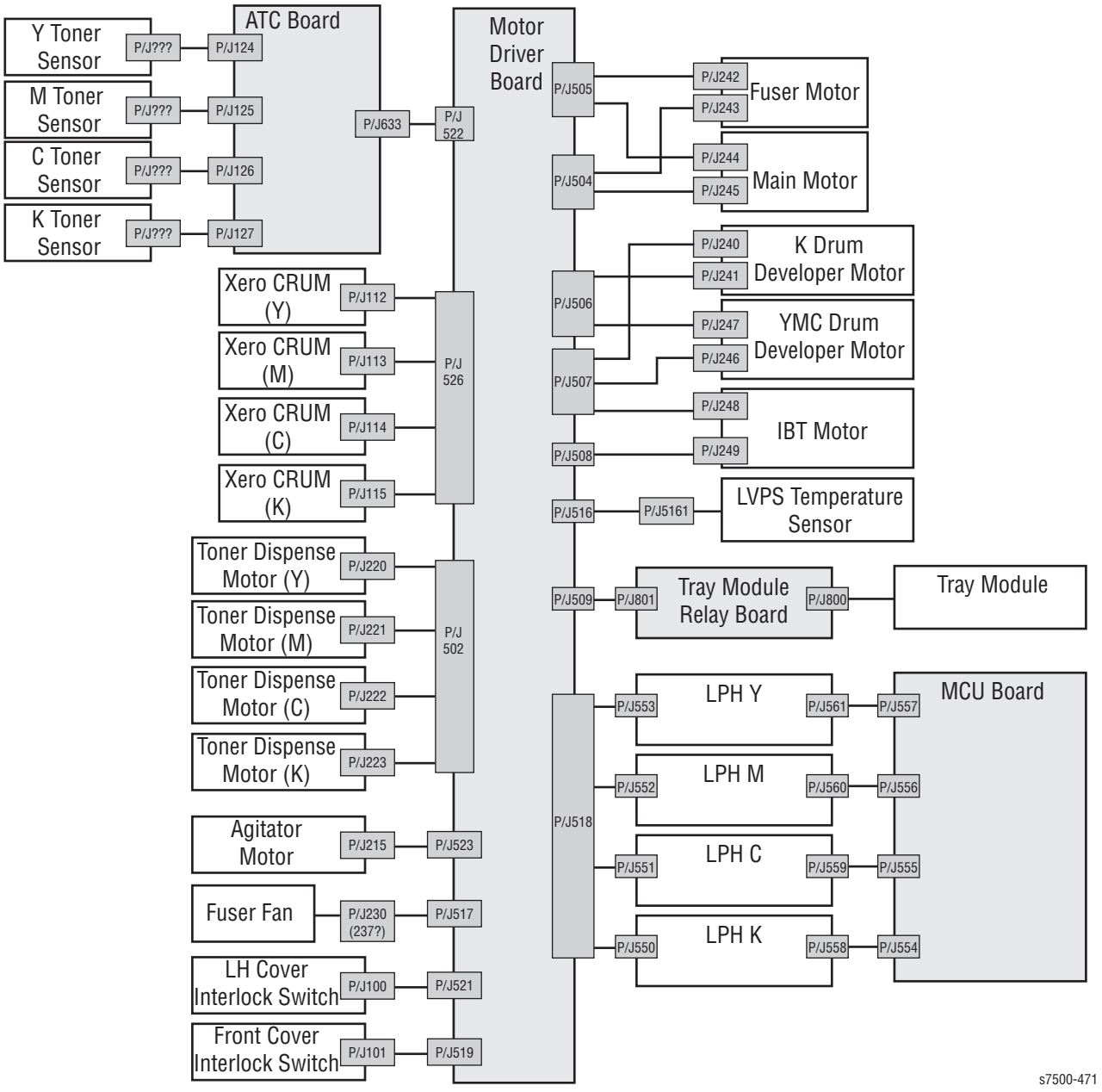
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General Wiring Diagrams

General Wiring Diagram (1 of 3)

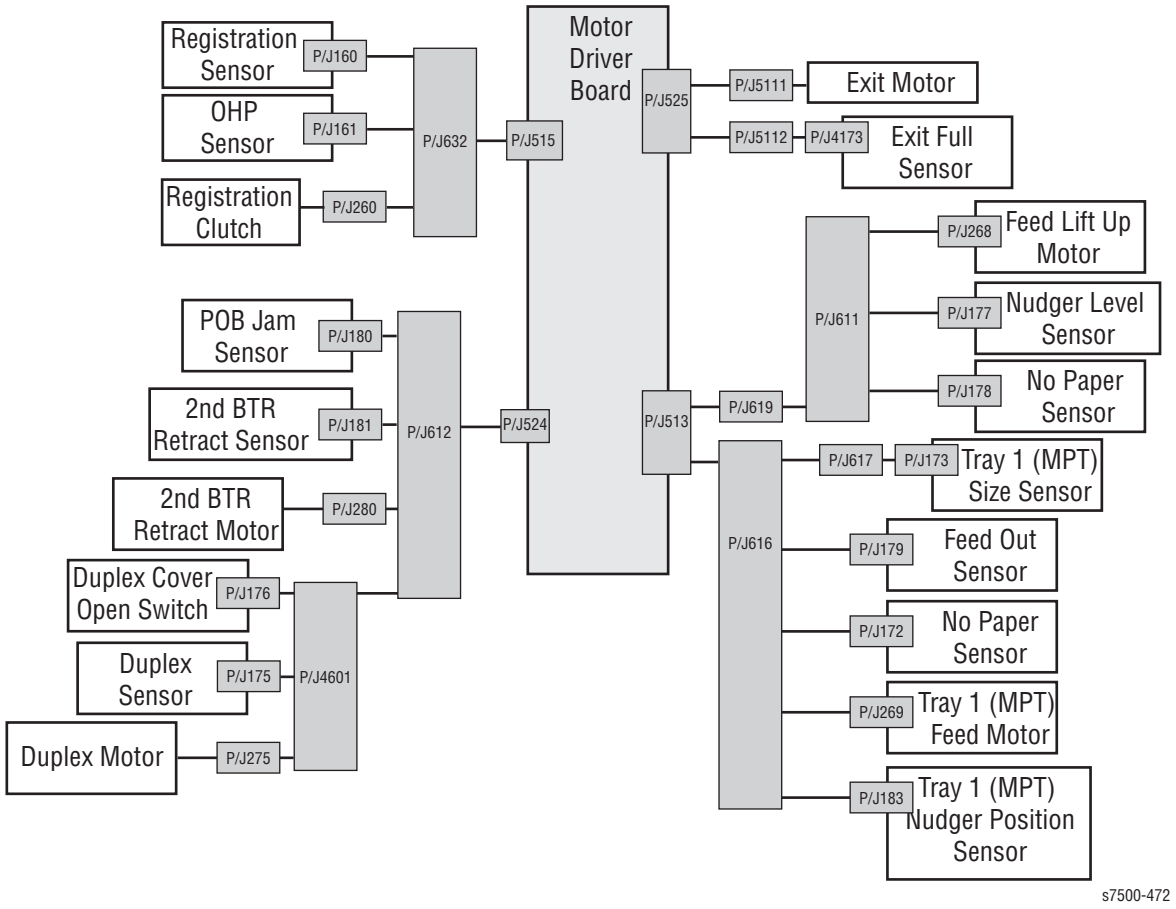


General Wiring Diagram (2 of 3)



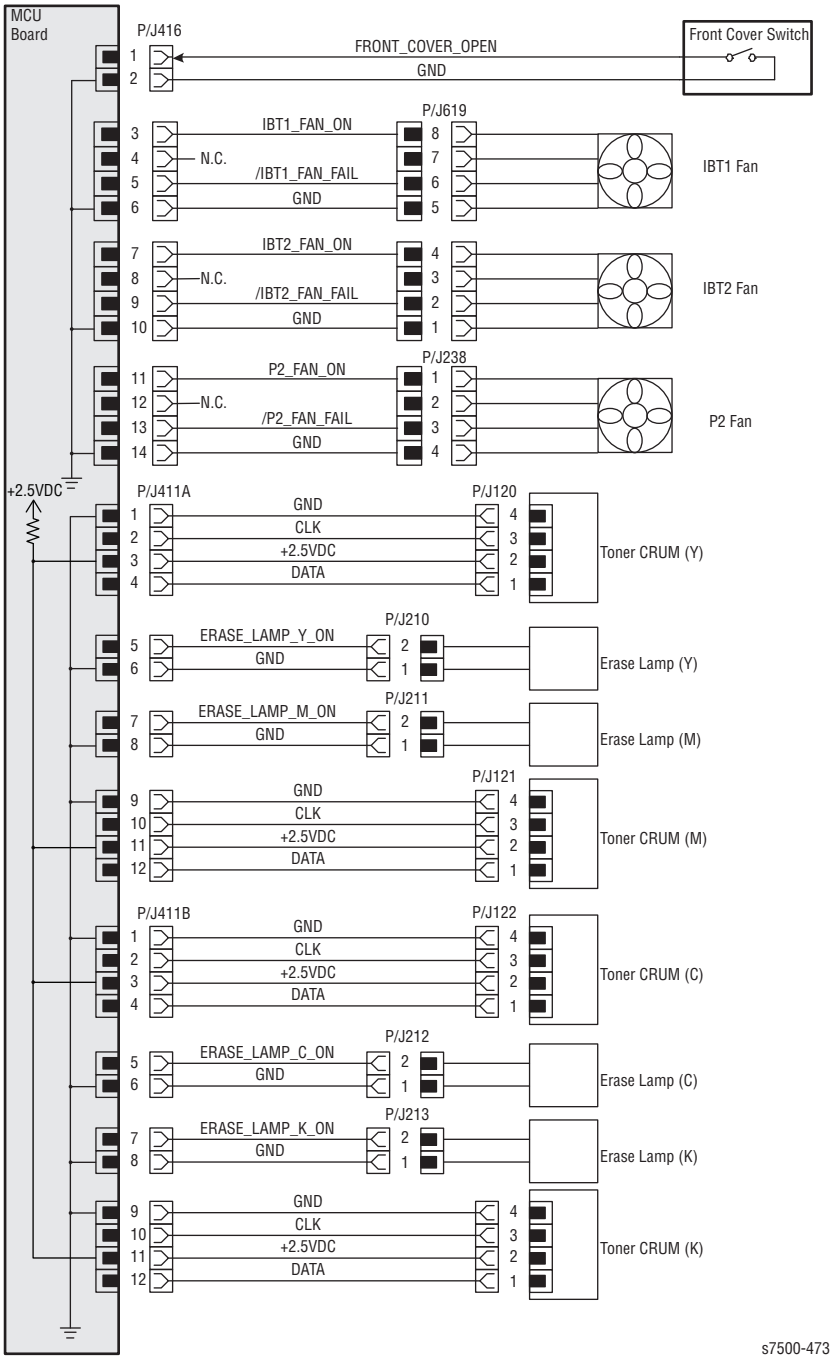
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General Wiring Diagram (3 of 3)



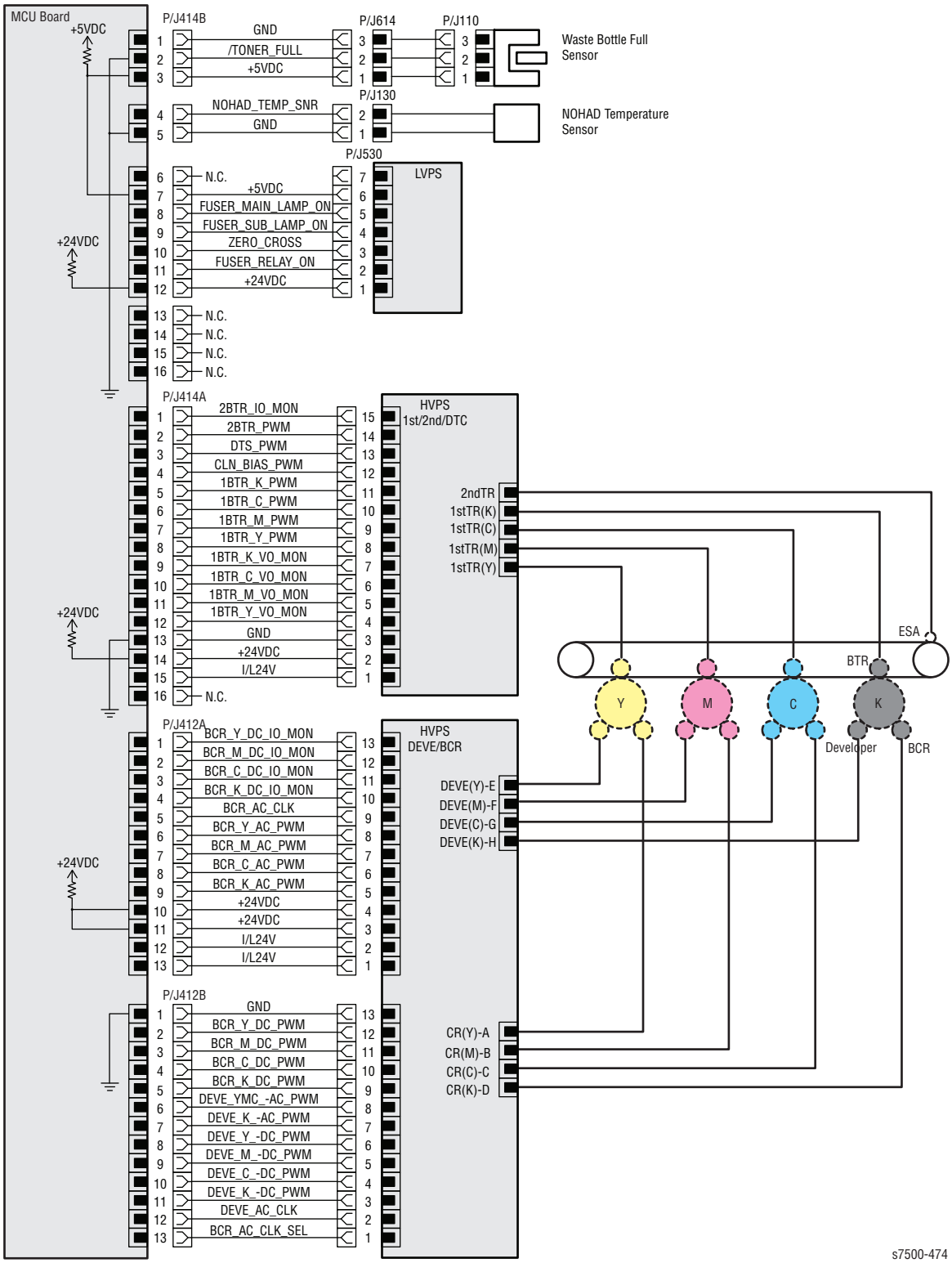
Print Engine Wiring Diagrams

Print Engine - Erase Lamps, Toner CRUMs, Fans

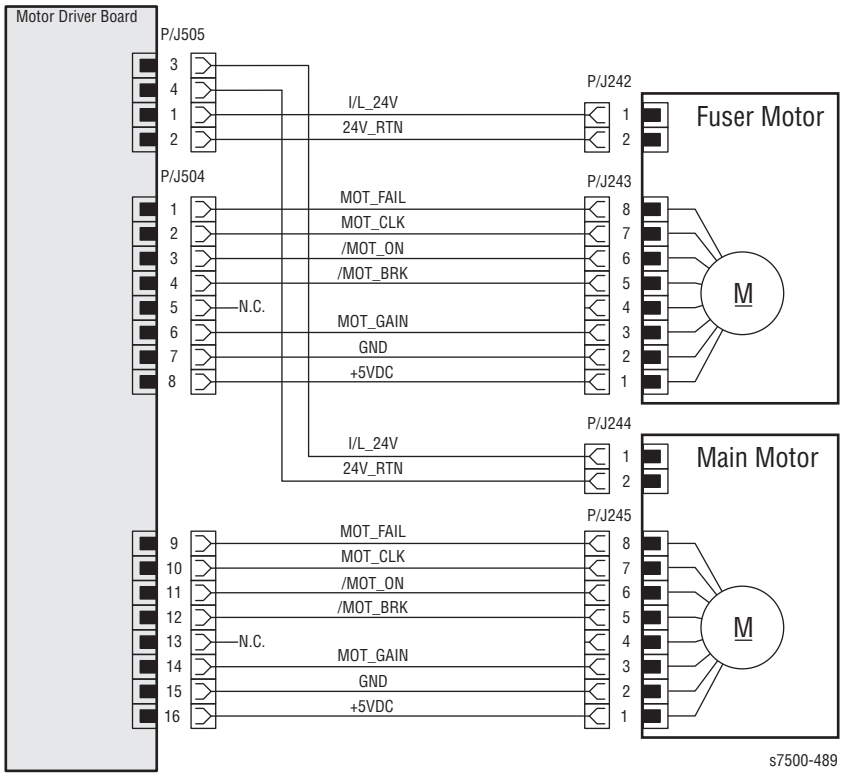


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Print Engine - HVPS, LVPS, NOHAD Temperature Sensor

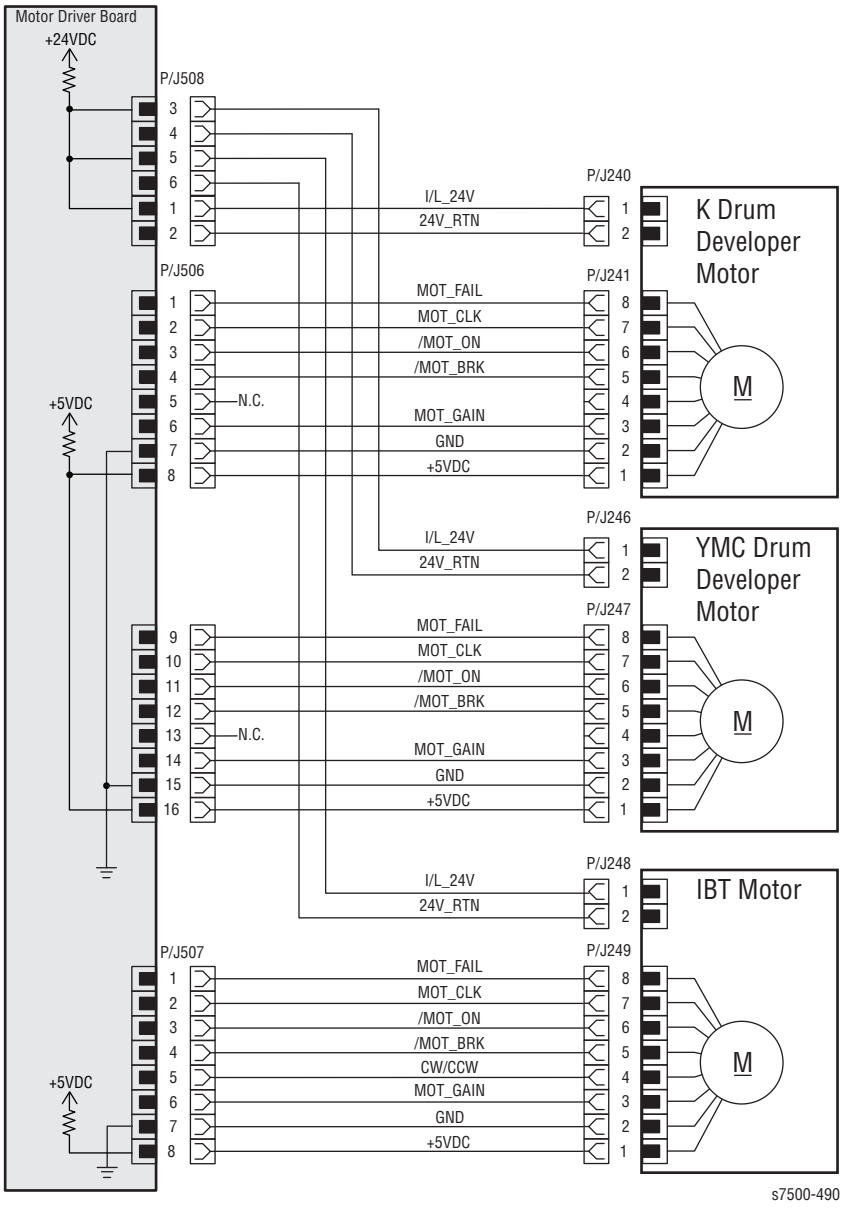


Print Engine - Fuser Motor, Main Motor

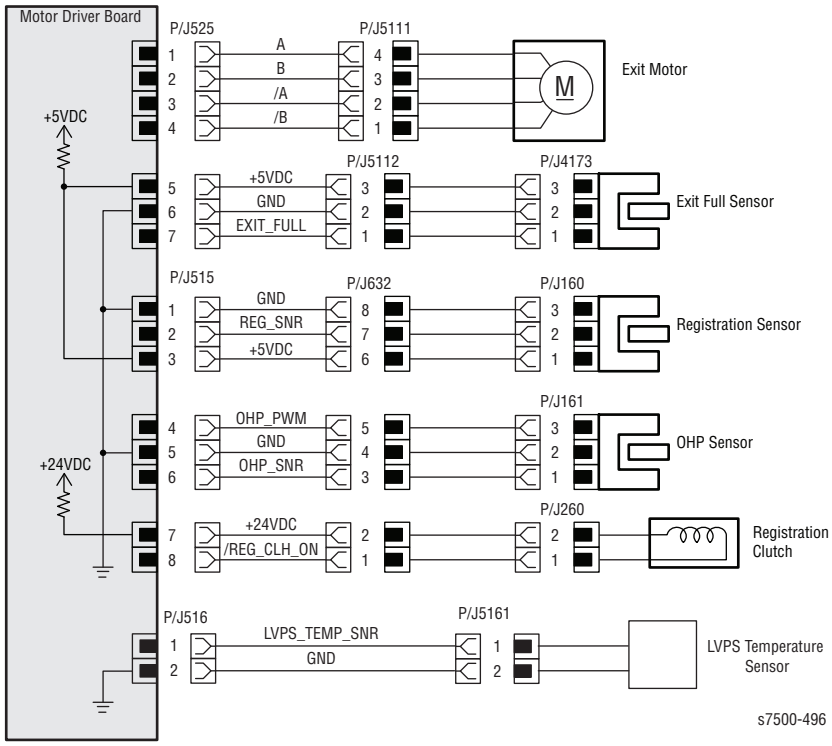


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Print Engine - Developer Motors, IBT Motor

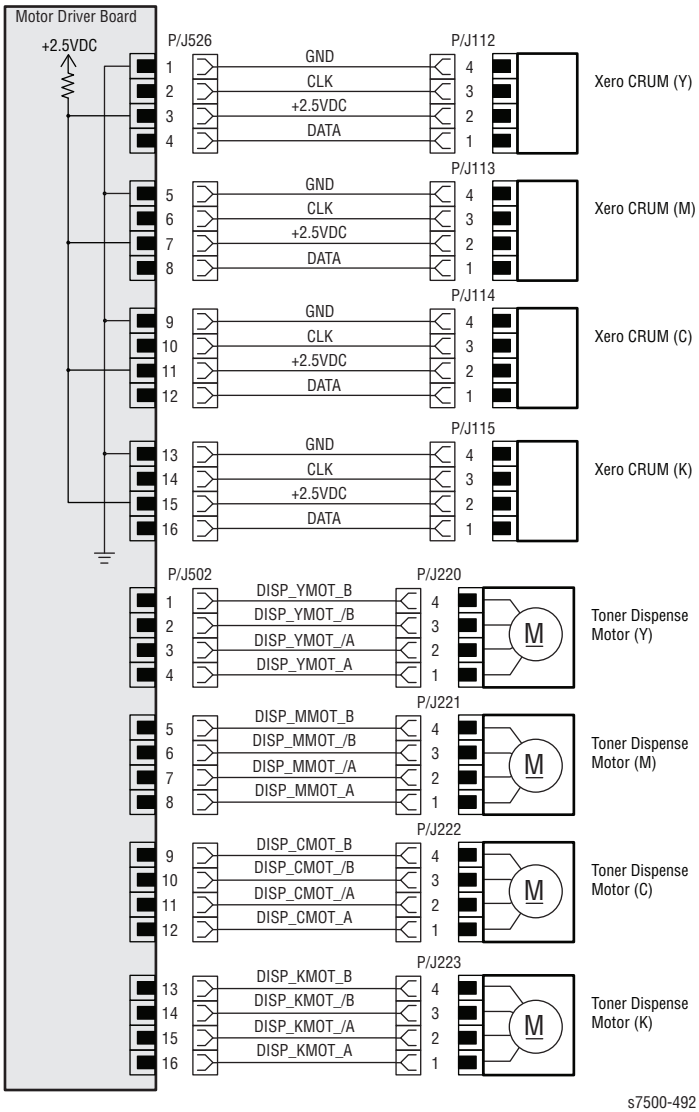


Print Engine - Exit Motor, Registration Clutch, Sensors

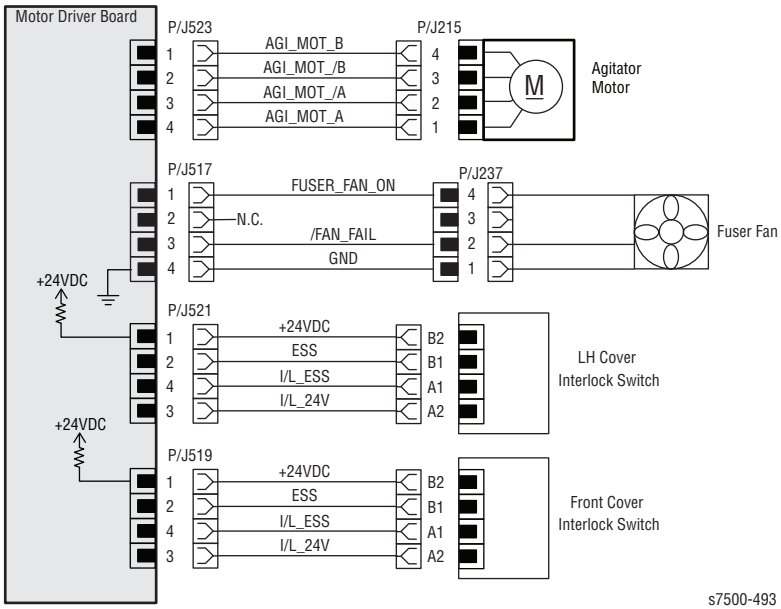


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Print Engine - CRUMs, Toner Dispenser Motors

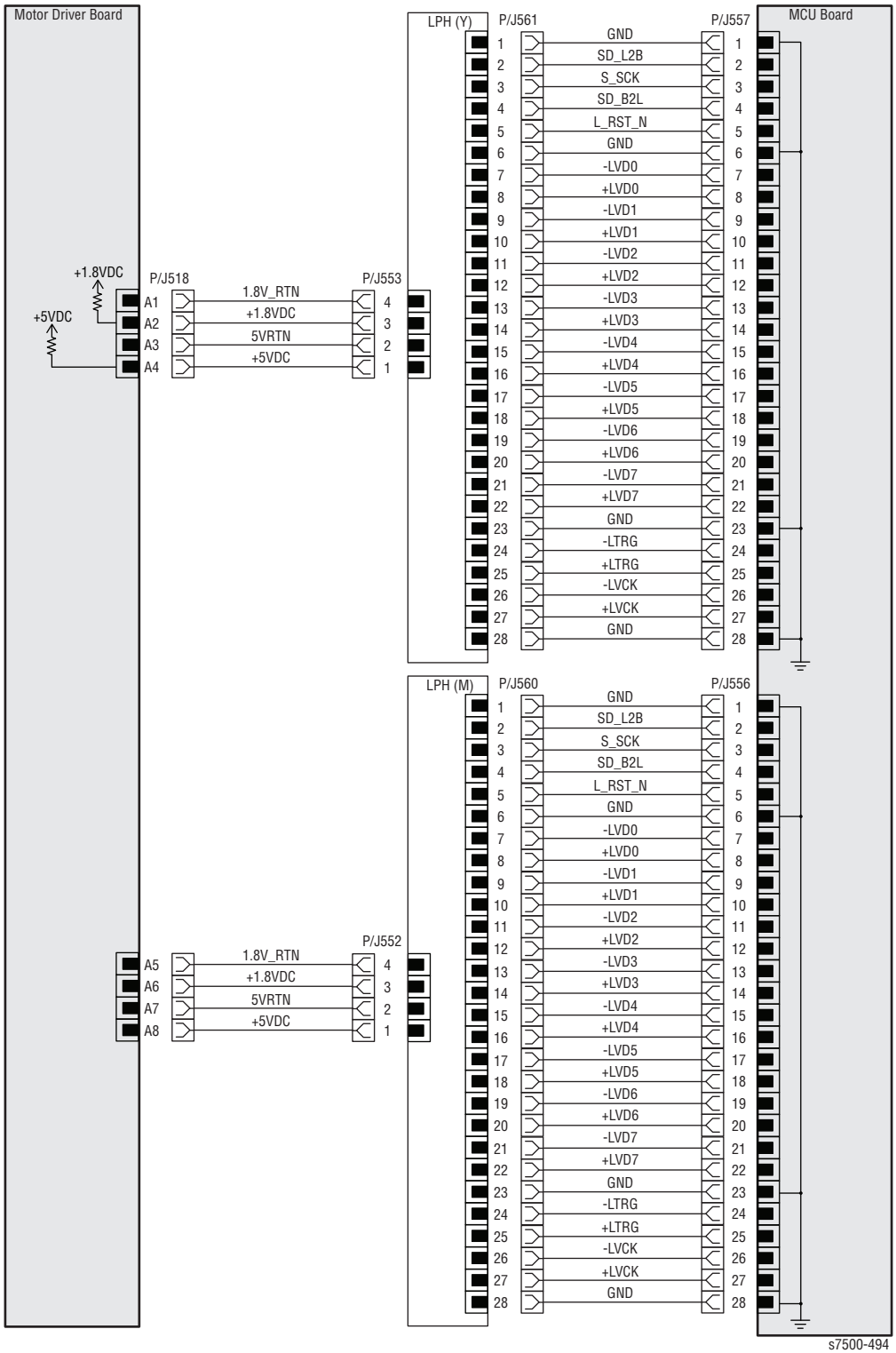


Print Engine - Interlock Switches, Agitator Motor, Fuser Fan

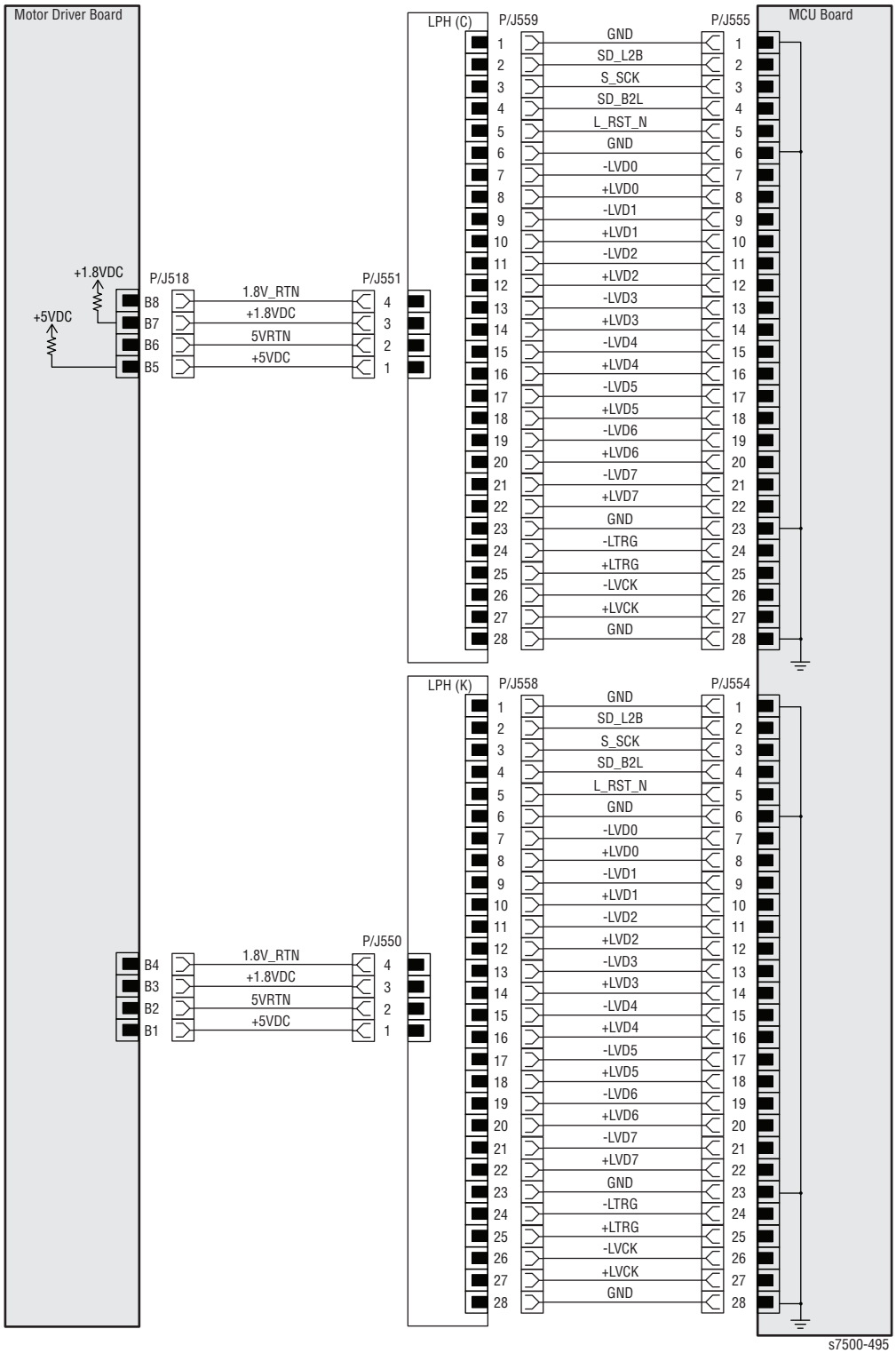


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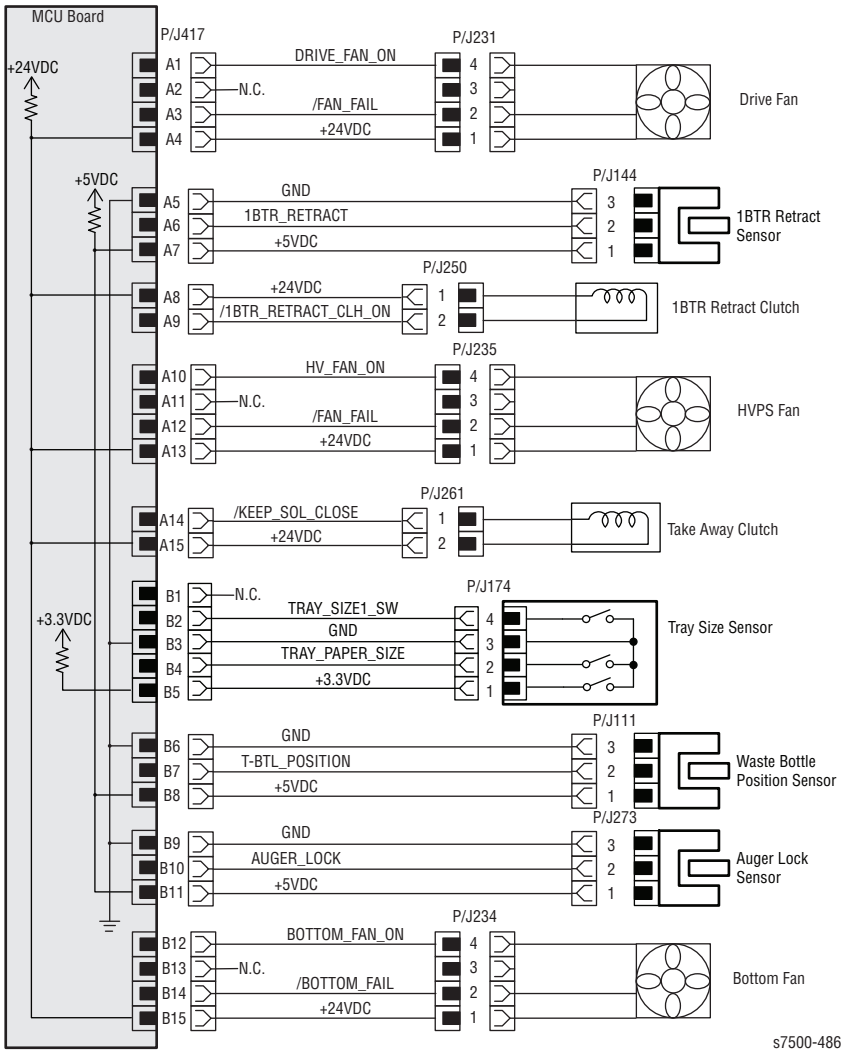
Print Engine - MCU Board, Motor Driver Board, LPH



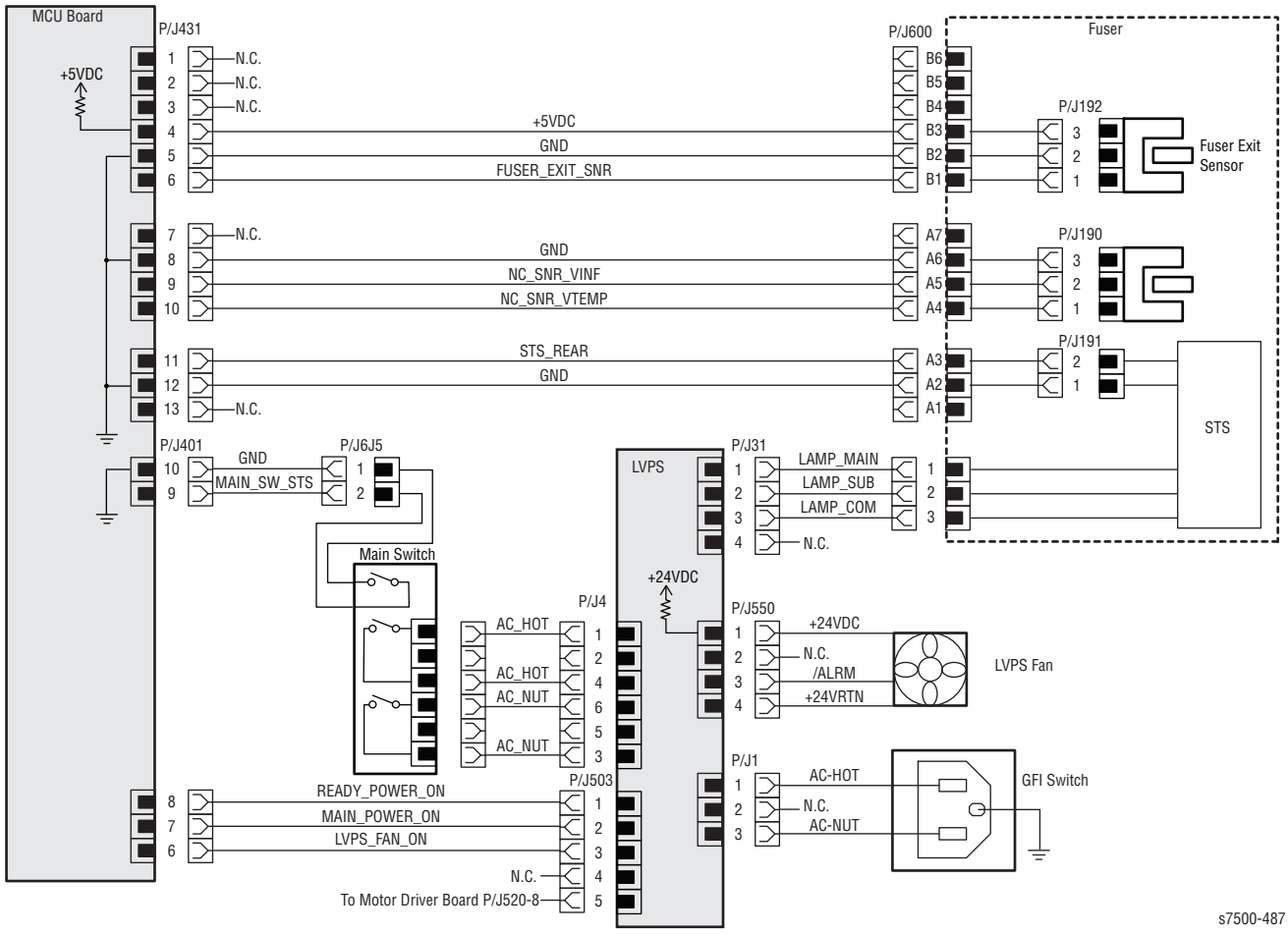
Print Engine - MCU Board, Motor Driver Board, LPH



Print Engine - Fans, Clutches, Sensors, 1st BTR Retract

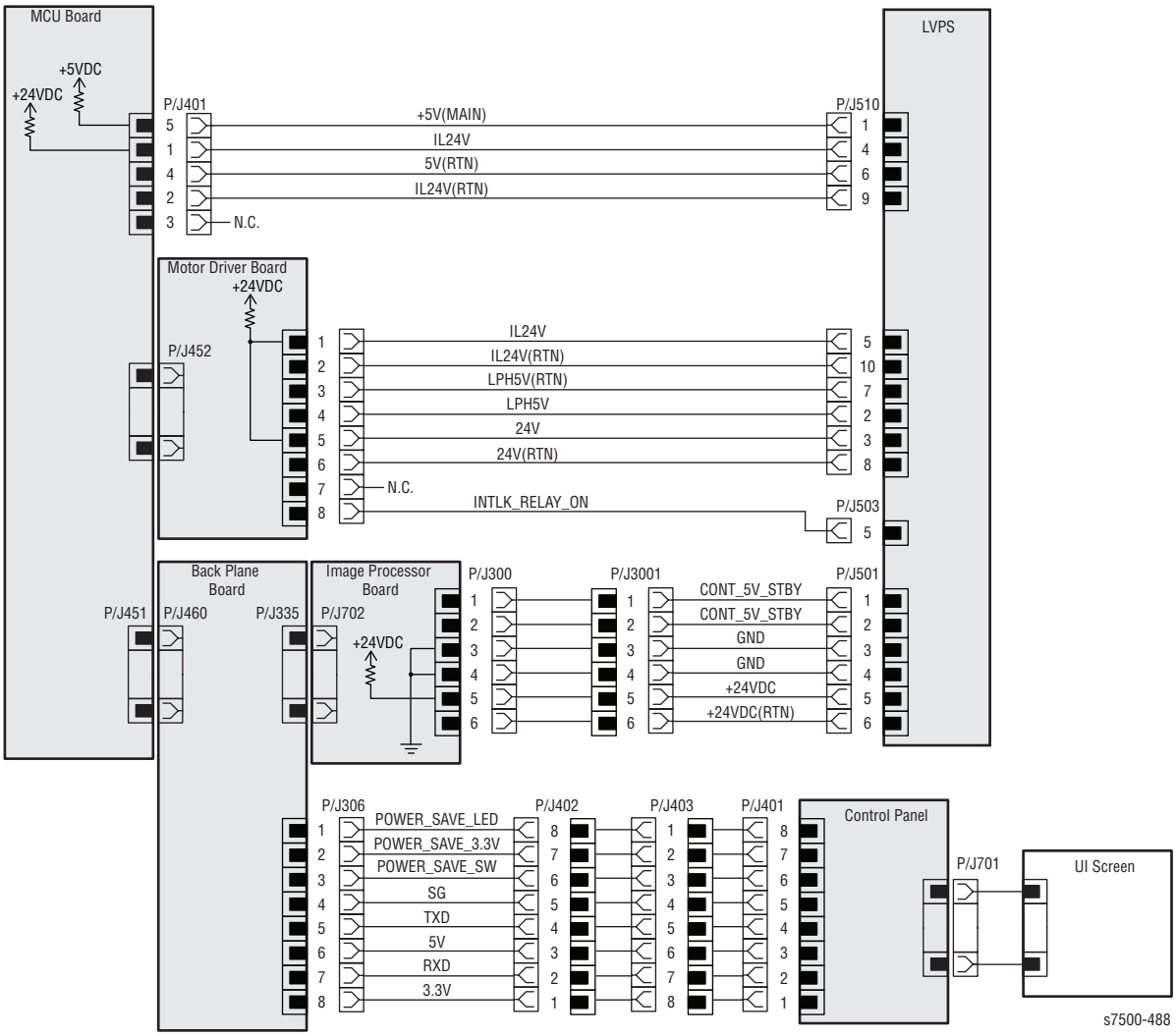


Print Engine - Fuser, LVPS Fan, GFI Switch

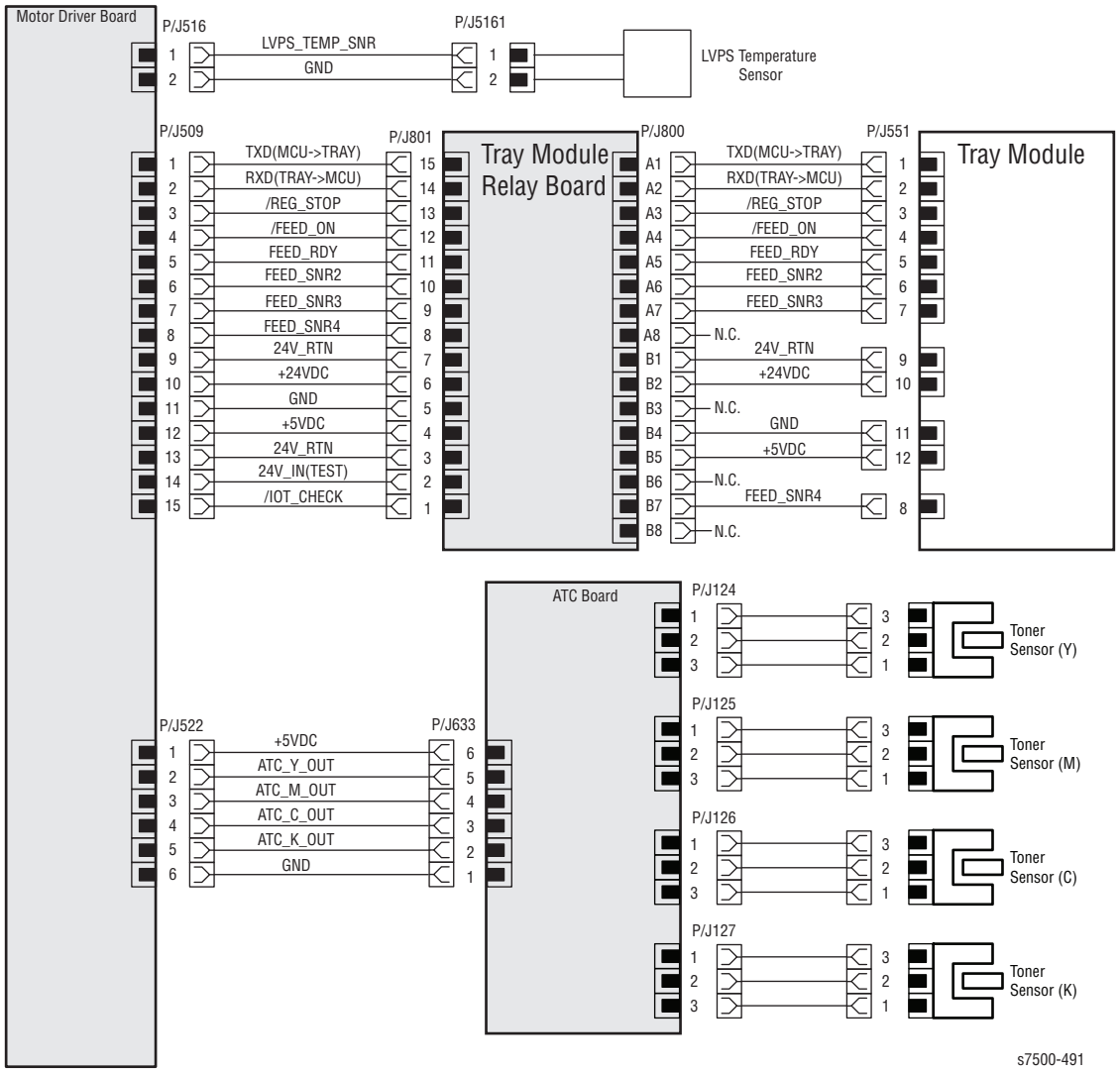


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Print Engine - LVPS and Control Panel

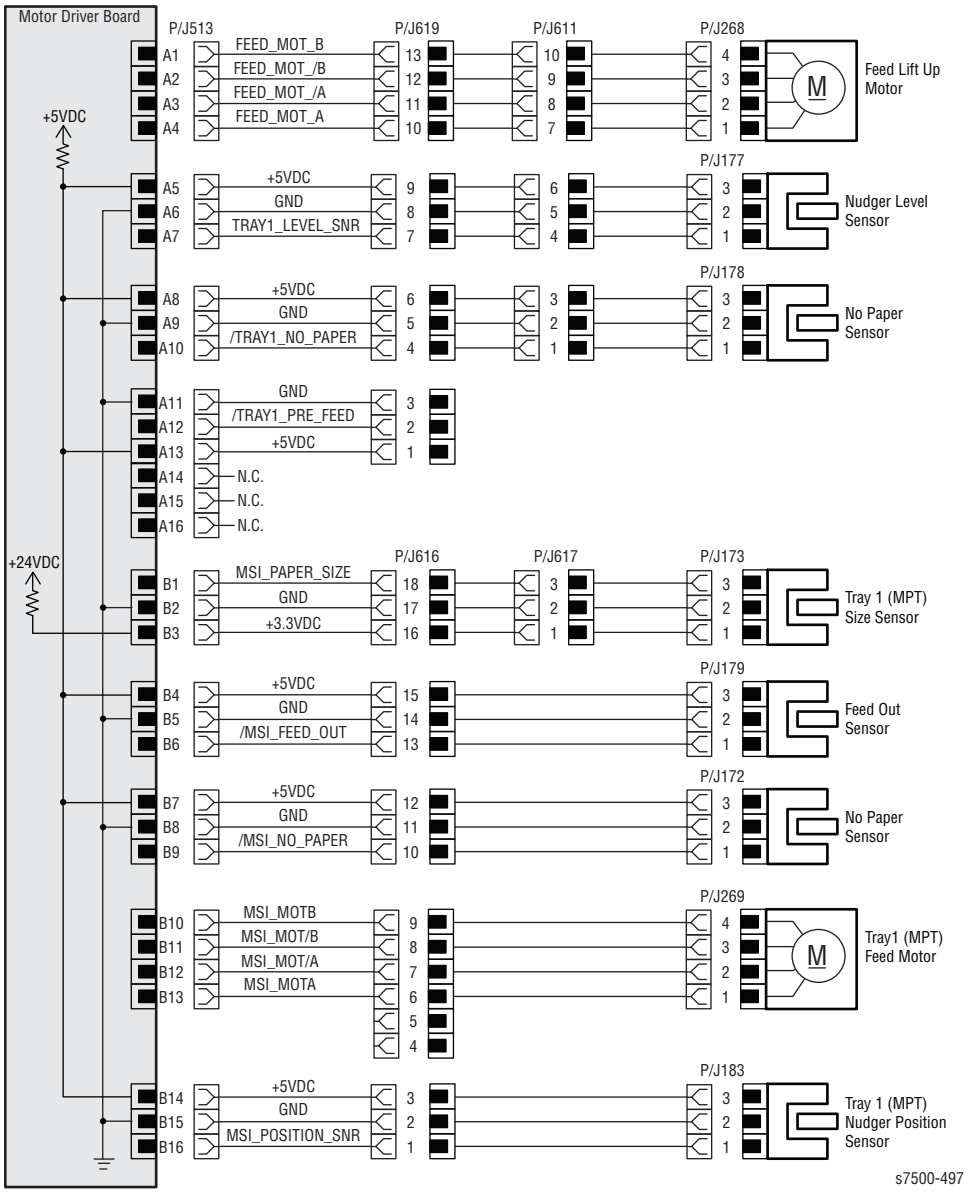


Print Engine - Toner Sensors, LVPS Temperature Sensor

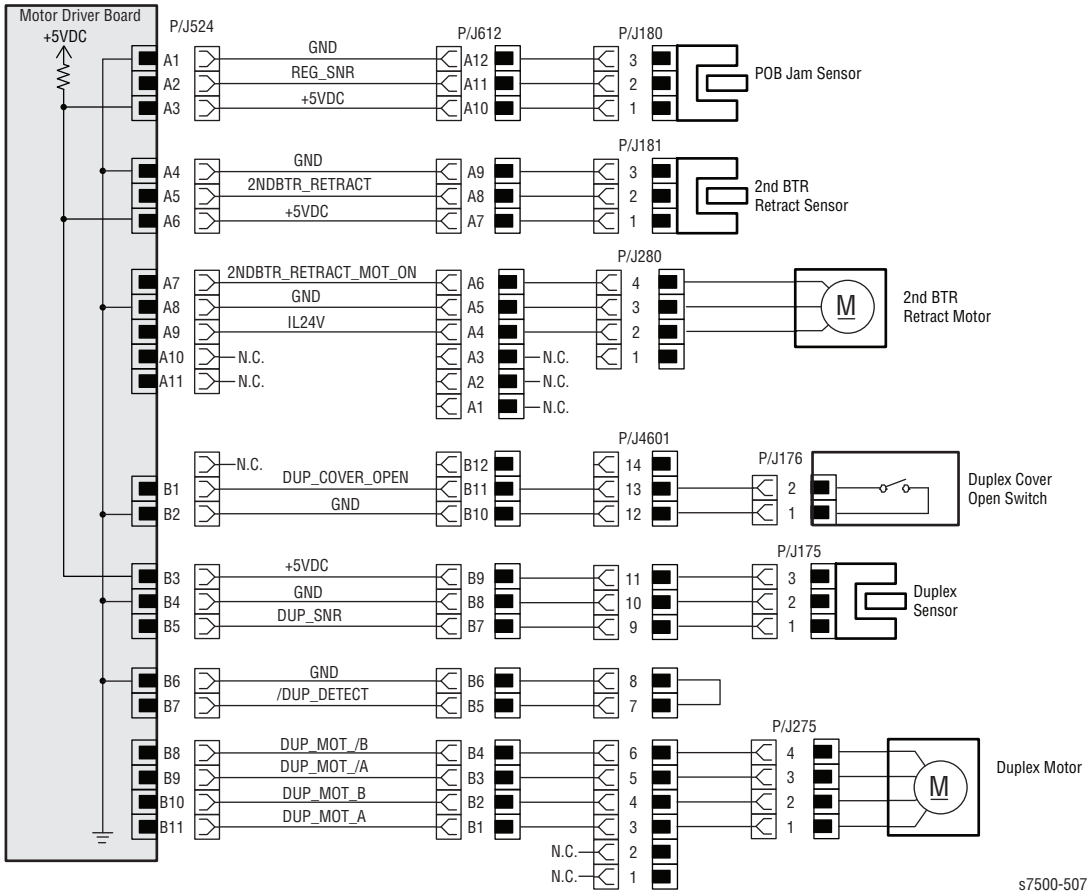


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Tray 1 (MPT)


Motor Driver Board
P/J513
P/J619
P/J611
P/J268
A1
A2
A3
A4
FEED_MOT_B
FEED_MOT_/B
FEED_MOT_/A
FEED_MOT_A
13
12
11
10
10
9
8
7
4
3
2
1
M
Feed Lift Up Motor
+5VDC
P/J177
A5
A6
A7
+5VDC
GND
TRAY1_LEVEL_SNR
9
8
7
6
5
4
3
2
1
Nudger Level Sensor
P/J178
A8
A9
A10
+5VDC
GND
/TRAY1_NO_PAPER
6
5
4
3
2
1
No Paper Sensor
A11
A12
A13
A14
A15
A16
GND
/TRAY1_PRE_FEED
+5VDC
N.C.
N.C.
N.C.
3
2
1
+24VDC
P/J616
P/J617
P/J173
B1
B2
B3
MSI_PAPER_SIZE
GND
+3.3VDC
18
17
16
3
2
1
3
2
1
Tray 1 (MPT) Size Sensor
P/J179
B4
B5
B6
+5VDC
GND
/MSI_FEED_OUT
15
14
13
3
2
1
Feed Out Sensor
P/J172
B7
B8
B9
+5VDC
GND
/MSI_NO_PAPER
12
11
10
3
2
1
No Paper Sensor
P/J269
B10
B11
B12
B13
MSI_MOTB
MSI_MOT/B
MSI_MOT/A
MSI_MOTA
9
8
7
6
5
4
4
3
2
1
M
Tray1 (MPT) Feed Motor
P/J183
B14
B15
B16
+5VDC
GND
MSI_POSITION_SNR
3
2
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3
2
1
Tray 1 (MPT) Nudger Position Sensor
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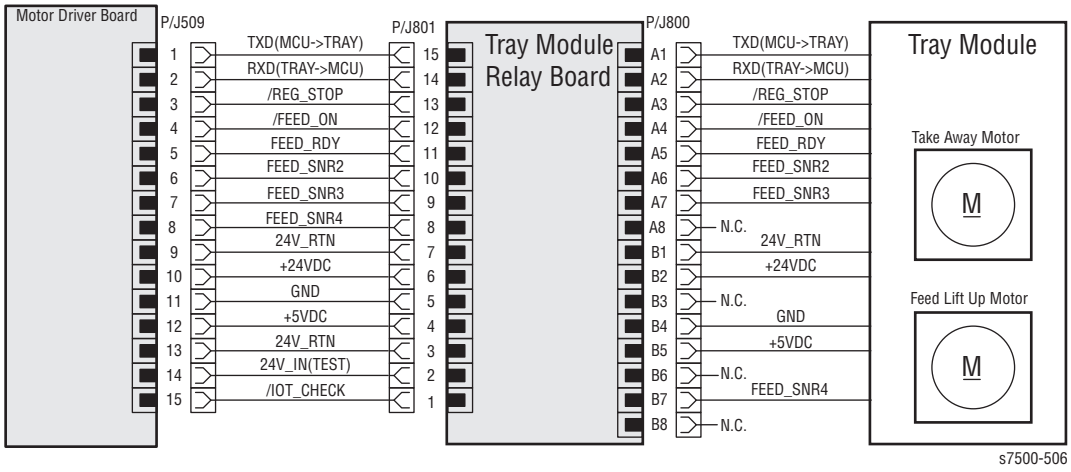
Duplex Unit Wiring Diagram



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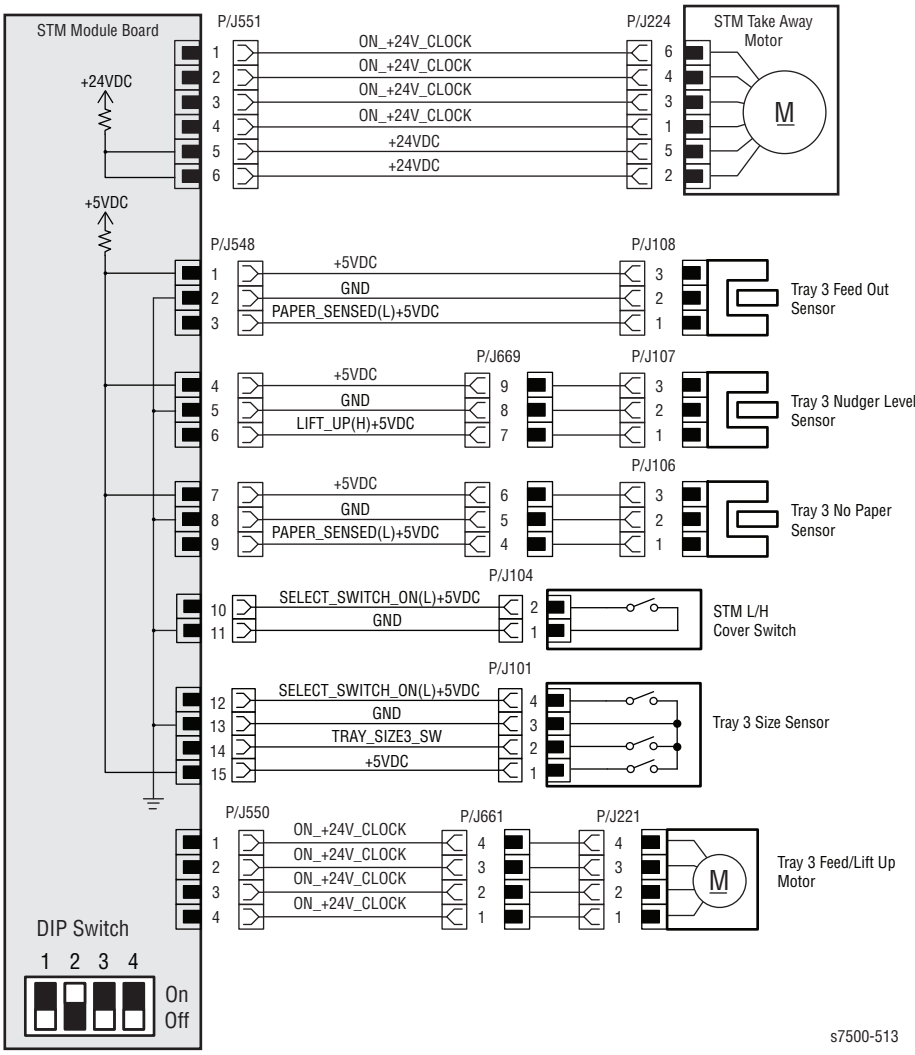
Tray Module Wiring Diagrams

Tray Module (TM) - Relay Board, Feed Lift Motor, Takeaway Motor



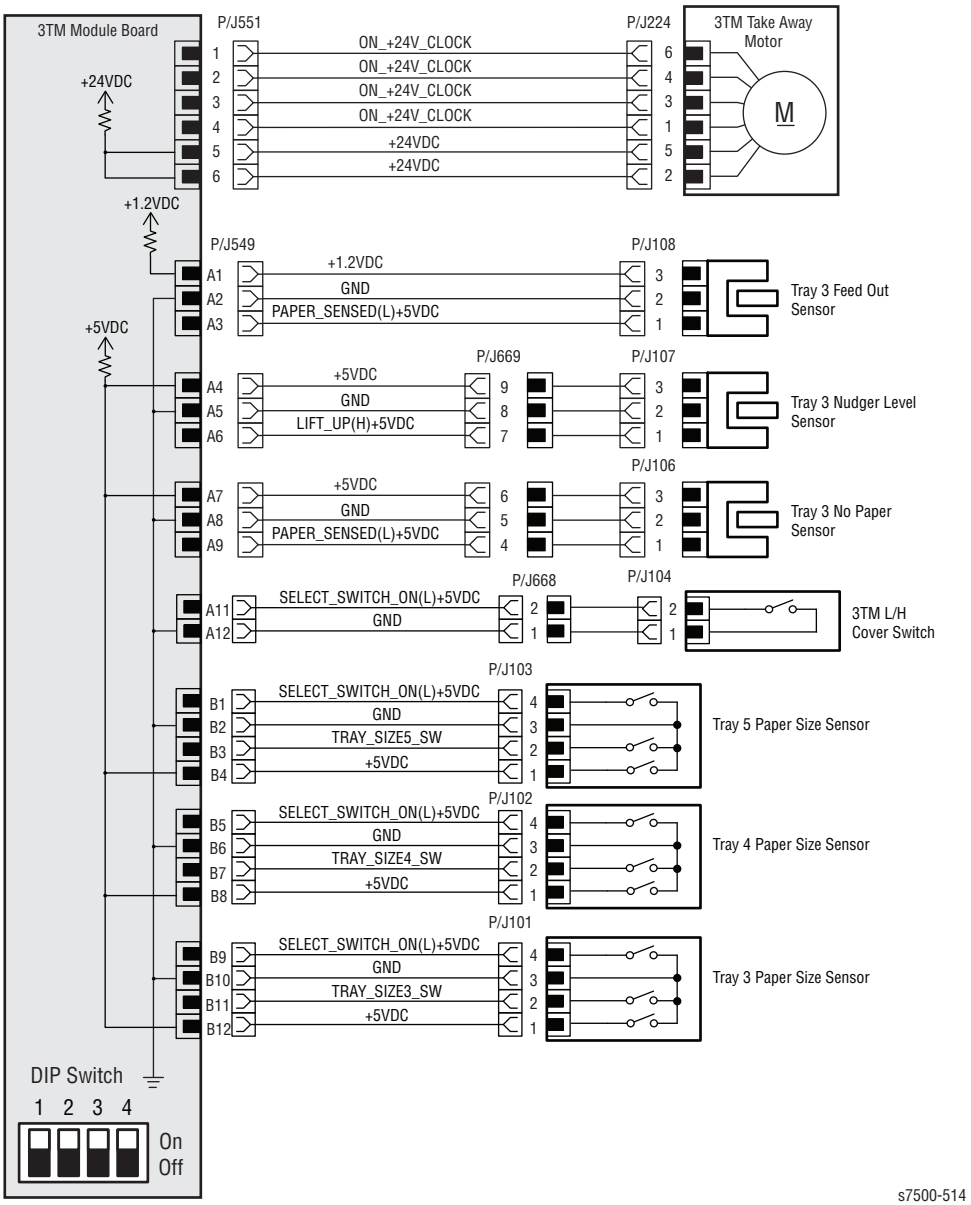
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Single Tray Module (STM) - Sensors, Feed/ Lift Motor, Cover Switch

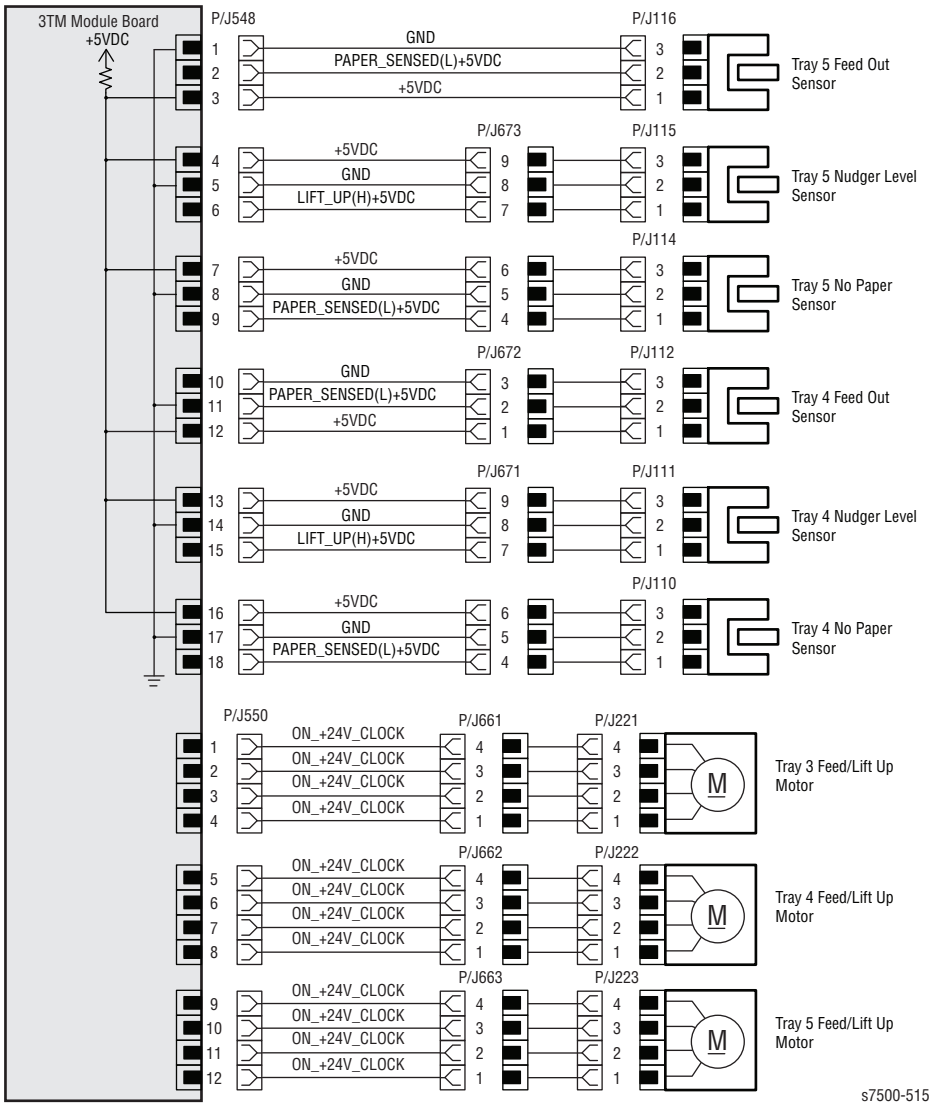


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3 Tray Module (3TM) - Takeaway Motor, Sensors, Cover Switch



3 Tray Module (3TM) - Sensors, Motors



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Reference

Contents...

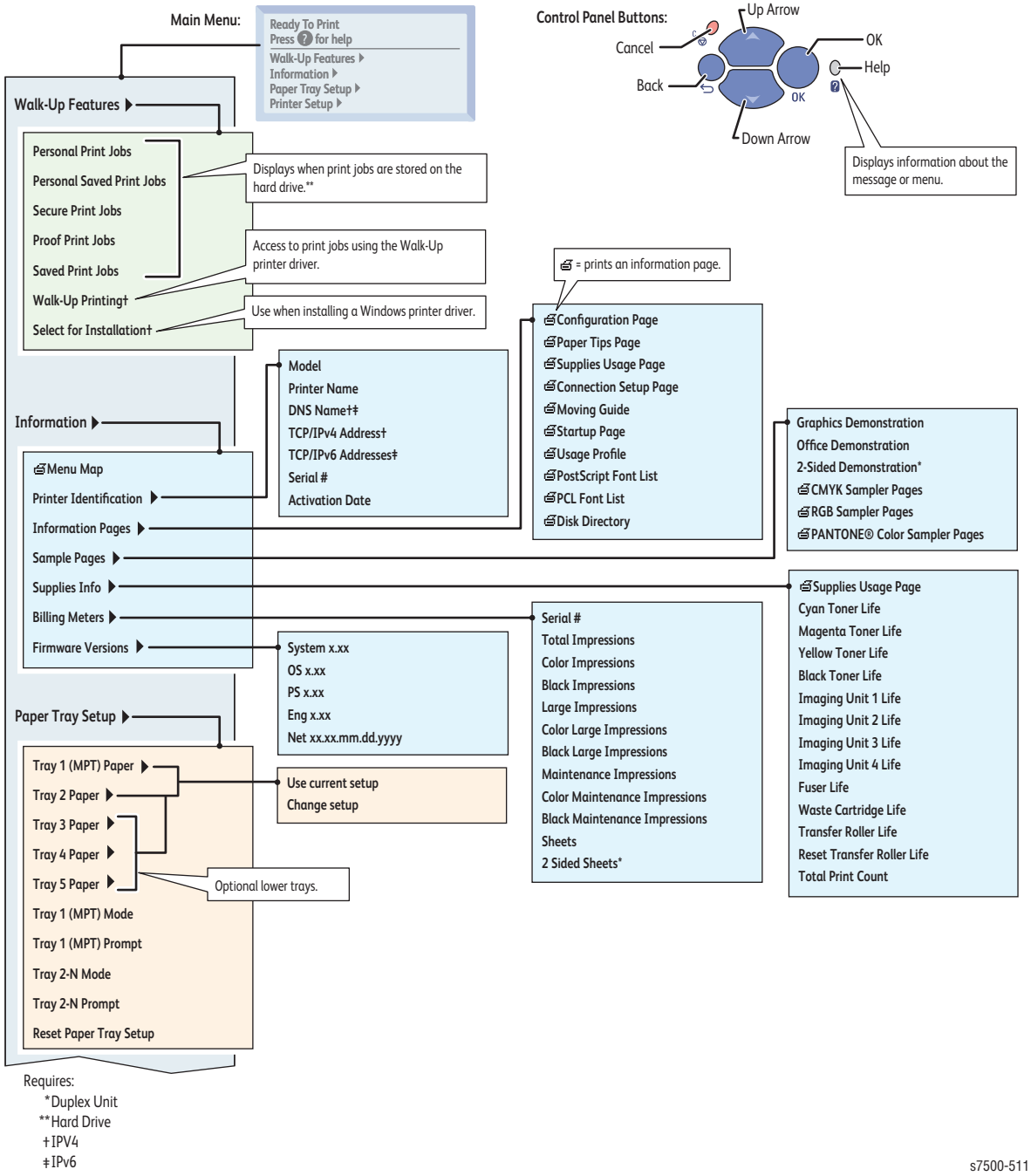
- Phaser 7500 Menu Map
- Service Diagnostics Menu Map
- Service Diagnostic Tests and Utilities
- Firmware Update
- Obtaining Serial Back Channel Traces
- Acronyms and Abbreviations

Appendix

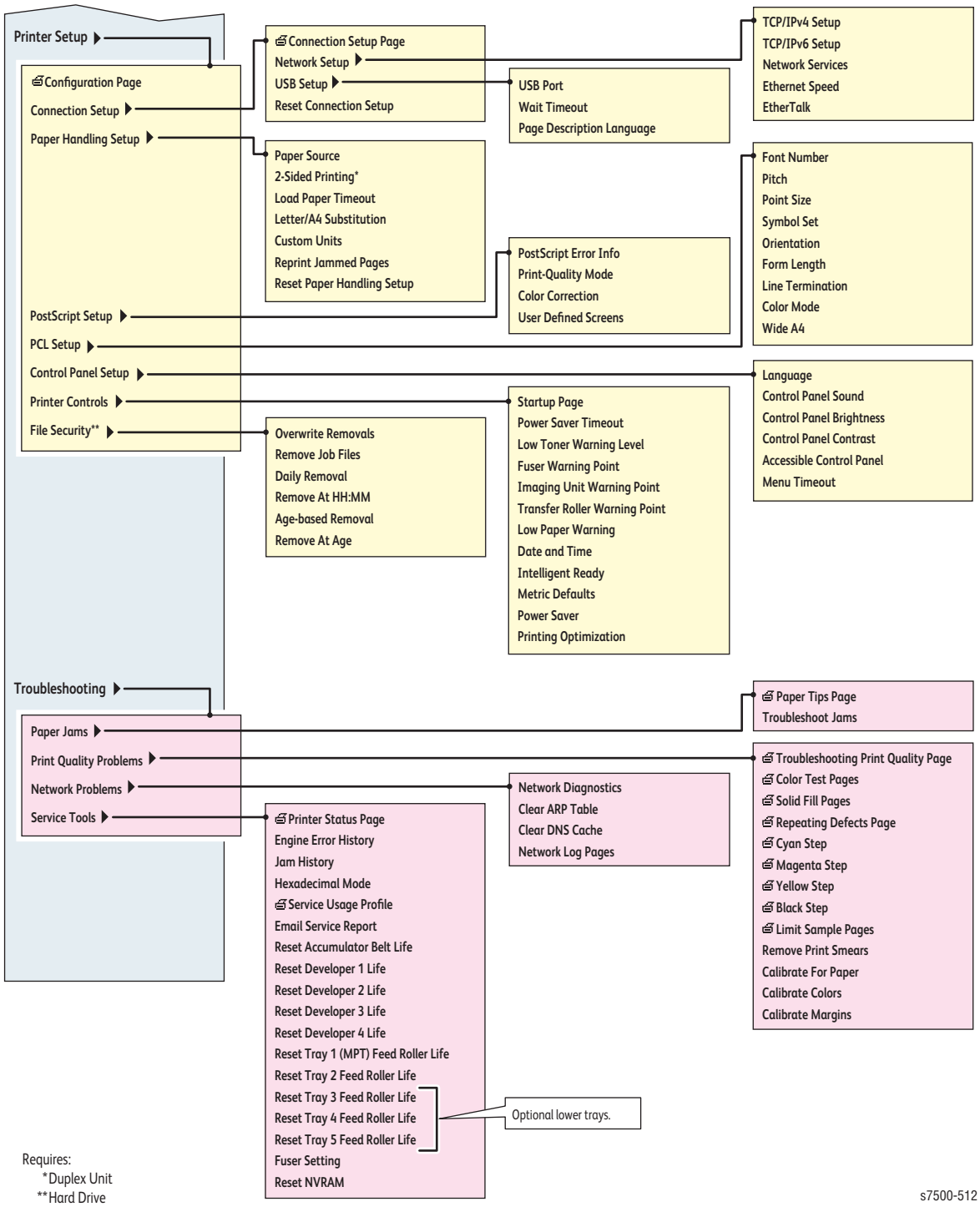
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Phaser 7500 Menu Map

Menu Map (page 1)



Menu Map (page 2)



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Service Diagnostics Menu Map

Print Service Menu Map Prints this service diagnostic menu map after exiting service diagnostics.

General Status Provides the current print engine temperature status.

- **Ambient Temp/Humidity**
- **Fuser Temperature**

Built-in Test Prints Prints Test Prints. Use the prints to identify, repair, and validate printer operation.

- **Dummy Cycle**
- **Test Print Setup**
- **90 Degree Grid**
- **B Patch**
- **Drum Pitch Halftone**

Sensor/Switch Tests Tests the functionality of the sensors and switches by actuating and stating changes of all sensors and switches.

- **Ambient Temp/Humidity**
- **Interlocks**
- **Switches**
- **Jam Sensors**
- **OHP Sensor**
- **Tray Feed Sensors**
- **Accum MOB Sensor**
- **BTR Retract Sensors**
- **IBT Belt Home Sensor**
- **ADC Sensor**
- **Auger Lock Sensor**
- **Toner Waste Cartridge Sensors**
- **Tray 1 (MPT) Sensors**
- **Tray 2 Sensors**
- **Tray 3 Sensors**
- **Tray 4 Sensors**
- **Tray 5 Sensors**
- **ATC Sensors**
- **NOHAD ENV Sensor**
- **Fuser NC Center Sensor**
- **Fuser STS Rear Sensor**

Motors/Fans Tests Tests the functionality of the motors and fans by energizing/de-energizing one at a time.

- **Main Motor**
- **IBT Belt Motor**
- **BTR 1/2 Contact & Retract**
- **Duplex Motor**
- **Registration Roller**
- **Paper Feed Motors**
- **Paper Lift Motors**
- **Developer Motors**
- **Dispenser Motors**
- **Agitator Motor**
- **Fuser Drive Motor**
- **Tray Module TakeAway Motor**
- **Exit Motor**
- **Fan Motors**

Clutch Tests Tests the functionality of the clutches by energizing/de-energizing one clutch at a time.

- **First BTR Retract Clutch**
- **Registration Clutch**

Solenoid Tests Tests the functionality of the solenoids by energizing/de-energizing one solenoid at a time.

- **ADC Shutter Open**
- **ADC Shutter Close**

Adjustments/Calibrations Performs adjustments, calibrations, and operations essential to the performance of the printer.

- **ATC Sensor Setup**
- **ADC Output Check**
- **RegiCon Check**
- **RegiCon Calibration**
- **LED EEPROM Check**

Maintenance Cleans the Fuser Roller with blank prints.

- **Clean Fuser**

NVRAM Access Reads, sets, or resets the following values:

- **PostScript NVRAM Reset**
- **Clear Tech Rep Faults**
- **Reset CRU Life Counters**
- **Clear Y Developer Page Count**
- **Clear M Developer Page Count**
- **Clear C Developer Page Count**
- **Clear K Developer Page Count**
- **Restore Engine NVRAM**
- **Store Engine NVRAM**
- **NVRAM Read/Write**

Exit Exits service diagnostics and reboots the printer.

For Authorized Service Personnel Use Only. Service Menu functions are to be used by Xerox service personnel and authorized service providers only. The printer can be damaged by improper use of the built-in service tests.

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Service Diagnostic Tests and Utilities

Warning

While in diagnostics mode, the printer will not power Off using the Power Switch. To properly power Off the printer, exit diagnostics, and after reboot, set the Power Switch to the Off position.

Service Diagnostics Tests and Utilities

Test	Control Panel Display and Test Definition	
Print Service Menu Map - Prints the Service Diagnostics menu then exits diagnostic mode.		
General Status - Provides the following print engine status:		
Ambient Temperature/ Humidity	Ambient Temperature: ## °C Ambient Humidity: ## %	Displays the current Temperature and Humidity for the printer.
Fuser Temperature	Fuser Temp is: <*value*>	Displays the current Fuser temperature.
Built-in Test Prints - Prints test prints stored in the Engine Control Board.		
Dummy Cycle	Dummy Cycle	Select this after printing a test print and before selecting a different test print to print. Also, select this after printing a test print and before running a component test. The process is to print whatever test print is desired, allow the IOT to cycle down, run the dummy cycle, allow the IOT to cycle down, then select another test print or component test

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Service Diagnostics Tests and Utilities (Continued)

Test	Control Panel Display and Test Definition	
Test Print Setup	Test prints can display these messages: Initializing Startup Imaging Delivering Done Fuser warming up Source tray is <*value*> Select new source tray? Y | N Tray <*value*> Press Up/Down to change value Select OK to accept changes Current number sheets is <*value*> Select new # sheets? Y | N (100 max) Sheets: <*value*> <UP or DOWN to change> <INFO to shift digits> <Select OK to accept changes Simplex/Duplex is {Simplex | Duplex} Change Duplex setting? Y | N Simplex/Duplex: Simplex Duplex <Press Back or Cancel to abort> <Select OK to accept changes>	Select this to choose the desired test print parameters. ■ The default is Tray 2, 1 sheet, simplex, plain paper. ■ Tray 1 is restricted to A size long edge feed. ■ Trays 2 - 5 can print auto-detected sizes, short or long edge feed.
90 Degree Grid	Initializing Startup Imaging Delivering Done	For trouble identification. 1-dot wide grid pattern with 512-dot pitch. Print one print: Yellow/Magenta/Cyan/Black. This print displays the four primary color lines in a grid pattern.
B Patch	Initializing Startup Imaging Delivering Done **NOTE** Select B-sized media to view complete print.	For judgment of whether the laser window glass cleaning is required or not: 20 % halftone on the whole area. All four primaries are present on the page. The print should appear grey.
Drum Pitch Halftone	Initializing Startup Imaging Delivering Done **NOTE** Select B-sized media to view complete print.	For judgment of whether the laser window glass cleaning is required or not: 100 % fill on the whole area. Prints 6 pages of 100 % solid fill for: Yellow, Magenta, Cyan, Black, Red, and Green.

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Service Diagnostics Tests and Utilities (Continued)

Test	Control Panel Display and Test Definition	
Sensor/Switch Tests - Tests the functionality of the sensors and switches.		
Ambient Temperature/ Humidity	Ambient Temp is: <*value*> deg. C Ambient Hum is: <*value*> %	Displays the current Temperature and Humidity for the printer. A value of -20 represents a failed sensor.
Interlocks	Front Door is H I L Left Door A is H I L	Interlock is either High or Low
Switches	Front Door (IBT) is H I L Left Door B is H I L Left Door C is H I L	Switch is either High or Low
Jam Sensors	Tray 3 is OK I Jam Tray 4 is OK I Jam Tray 5 is OK I Jam Registration is OK I Jam POB is OK I Jam Duplex is OK I Jam Fuser Exit is OK I Jam Stack Full is OK I Jam	Sensor status OK or Jam.
OHP Sensor	OHP Sensor is <*value*>	Displays the actual A/D converter values measured by the engine. Nominal values are OHP ~345, Paper ~1023.
Tray Feed Sensors	Feed Out # {1 I 3 I 4 I 5} is High I Low	State of selected Feed Out Sensor
Accum MOB Sensor	Starting measurement… Reading data… Result is <*value*> Press BACK/CANCEL to exit	Value ranges {0-500}
BTR Retract Sensors	First BTR Retract is H I L Second BTR Retract is H I L	State of the selected Bias Transfer Roller retract Sensor.
IBT Belt Home Sensor	IBT Home Sensor is H I L	State of selected sensor
ADC Sensor	ADC Sensor is H I L	State of selected sensor
Auger Lock Sensor	Auger Lock Sensor is H I L	State of selected sensor
Toner Waste Cartridge Sensors	Waste Position Sensor is H I L Waste Full Sensor is H I L	State of the selected Toner Waste Sensor.
Tray 1 (MPT) Sensors	Size Sensor is <*value*> No Paper is H I L Nudge Position is H I L	Normal range for value is 86 - 852
Tray 2 Sensors	Size Sensor is <*value*> No Paper is H I L Nudge Position is H I L Size SW5 is H I L	Normal range for value is 0 - 989. Size SW repeats 5 times to display each switch.

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Service Diagnostics Tests and Utilities (Continued)

Test	Control Panel Display and Test Definition	
Tray 3 Sensors	Size Sensor is <*value*> No Paper is H I L Nudge Position is H I L Feed Out is H I L Size SW5 is H I L	Normal range for value is 0 - 247. Size SW repeats 5 times to display each switch.
Tray 4 Sensors	Size Sensor is <*value*> No Paper is H I L Nudge Position is H I L Feed Out is H I L Size SW5 is H I L	Normal range for value is 0 - 247. Size SW repeats 5 times to display each switch.
Tray 5 Sensors	Size Sensor is <*value*> No Paper is H I L Nudge Position is H I L Feed Out is H I L Size SW5 is H I L	Normal range for value is 0 - 247. Size SW repeats 5 times to display each switch.
ATC Sensors	ATC Y Sensor is <*value*> ATC M Sensor is <*value*> ATC C Sensor is <*value*> ATC K Sensor is <*value*>	Normal ranges of values for YMCK ATC sensors is 100 - 1000.
NOHAD ENV Sensor	NOHAD Sensor is nn.n deg.C (<*value*>)	Normal temperature range is -24 to 107 deg C. Value in parenthesis is the corresponding A/D value. Normal range is 869 - 50. -30.0 indicates a failed sensor.
Fuser NC Center Sensors	Fuser Inf is <*value*> Fuser Comp is <*value*> Fuser Diff is <*value*> Fuser Temp is <*value*>	Normal is 1019 (low) to 150 (high) Normal is 1019 (low) to 130 (high) Normal is -32 (low) to 1024 (high) Translated value implies degrees C This test reads the A/D values for the selected Fuser component. The values are not translated to deg C.
Fuser STS Rear Sensor	Fuser Rear is <*value*>	This test reads the A/D value of the rear temperature sensor. Normal is 1018 (low) to 1024 (high).
Motors/Fans Tests - Tests the motors and fans one at a time.		
Main Motor	Main Motor is Off I On Turn Motor On I Off All Motors Off	Audible verification of motor function.
IBT Belt Motor	IBT Belt Motor Off I On	Audible verification of motor function.
BTR 1/2 Contact Retract	BTR 1 Contact BTR 1 Retract BTR 2 Contact BTR 2 Retract	Audible verification of motor function. First and second Bias Transfer Roller retraction.
Duplex Motor	Duplex Motor On I Off	Audible verification of motor function.

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Service Diagnostics Tests and Utilities (Continued)

Test	Control Panel Display and Test Definition	
Registration Roller	Registration Roller On | Off	Audible verification of motor function.
Paper Feed Motors	Tray Feed 1 Motor Tray Feed 2 Motor Tray Feed 3 Motor Tray Feed 4 Motor Tray Feed 5 Motor	Audible verification of motor function.
Paper Lift Motors	Tray Lift 1 Motor Tray Lift 2 Motor Tray Lift 3 Motor Tray Lift 4 Motor Tray Lift 5 Motor	Audible verification of motor functionality.
Developer Motors	Developer Motor CMY Developer Motor K	Audible verification of motor function. Developer rotation stops after 5 seconds.
Dispenser Motors	Dispenser Motor K Dispenser Motor C Dispenser Motor M Dispenser Motor Y	Audible verification of motor functionality. Caution Do not run the Dispense Motors for longer than a few seconds. Do not run this test repeatedly on any one motor.
Agitator Motor	Agitator Motor is Off | On	Audible verification of motor function.
Fuser Drive Motor	Fuser Drive Motor is Off | On	Audible verification of motor function.
Tray Module Takeaway Motor	Tray Takeaway Motor Off | On	Audible verification of motor function.
Exit Motor	Exit Motor Off | On	Audible verification of motor function.
Fan Motors	Fuser Fan Drive Fan Bottom Rear Fan IBT Fan HV Fan	Audible verification of motor functionality. Check for airflow.
Clutch Tests - Tests the functionality of the clutches.		
First BTR Retract Clutch	1st BTR Retract is Off | On	Clicking indicates clutch function.
Registration Clutch	Registration is Off | On	Clicking indicates clutch function.
Solenoid Tests - Tests the functionality of the solenoids.		
ADC Shutter	ADC Shutter is Open | Closed	Clicking indicates clutch function.

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Service Diagnostics Tests and Utilities (Continued)

Test	Control Panel Display and Test Definition	
Adjustments/Calibrations - Adjustments, calibrations, and operations essential to printer performance.		
ATC Sensor Setup	Choose color: YellowlMagentalCyanl Black Please enter barcode number: <*value*> Calibrating…Please wait Yellow I Magenta I Cyan I Black: ATC Coeff is <*value*> ATC Setup Offset is <*value*> ATC Average Output is <*value*> ATC Target is <*value*> Barcode is <*value*> PASSED I FAILED	Enter developer Barcode by color and recalibrate ATC sensor. Use Up/Down to make selection. Value restricted to 2 digits. Use Back to select digit and Up/Down to change value. Use OK to accept value entered
ADC Output Check	Yellow I Magenta I Cyan I Black} Exit I Select color Yellow I Magenta I Cyan I Black: Temperature is <*value*> Humidity is <*value*> ATC Ave/Amp Fail: 0xXX : 0xXX ADC Fail: 0xXX : 0xXX	Verification of ADC failures in IOT (OFF) or in Process Control (ON). Use Up/Down to make selection.
RegiCon Check	Starting measurement… Reading data… Result is <*value*>, <*value*> Press BACK/CANCEL to exit	Run RegiCon measurement only - Pass/Fail.
RegiCon Calibration	Starting Calibration… Calibration Results	RegiCon control setup cycle. After completion, run RegiCon Check to verify results.
LED EEPROM Check	Starting Test… Y result is Pass/Fail M result is Pass/Fail C result is Pass/Fail K result is Pass/Fail Press BACK/CANCEL to Exit	LED print head EEPROM self test procedure. A zero value indicates test OK. A non-zero value indicates an error.
Maintenance - Clean the Fuser Rollers.		
Clean Fuser	Startup Imaging Delivering Done	Runs three chase sheets through the media path to clean the Fuser rollers.
NVRAM Access - This menu lets you read, set or reset the following values.		
Clear Tech Rep Faults	Writing… Reading… Tech Rep Fault Reset PASSED I FAILED	Clears counters in the IOT. These counters include NOHAD, Fuser, Fuser paper winding, ATC Sensor fails, IBT belt home too long. To complete the clear, exit diagnostics to reboot the printer into either diagnostic or customer modes.

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Service Diagnostics Tests and Utilities (Continued)

Test	Control Panel Display and Test Definition	
Reset CRU Life Counters	Accum. Belt = <*value*> 2nd BTR = <*value*> Belt Cleaning Assy = <*value*> Fuser = <*value*>	This resets high frequency service counters to zero.These counters include the accumulator belt, 2nd BTR, belt cleaning assembly, Fuser, LPH, and Trays 1 - 5.
Clear {Y | M | C | K} Developer Page Count	Reading developer page counters… Counts = <*value*>, <*value*> Reset Counters? Yes | No Clearing life counters… Counts = <*value*>, <*value*>	Clears the HFSI count for the YMCK developers. Select developer color, then reset. The first value is the developer housing count. The second value is the developer count. Both counts are reset to zero.
Restore Engine NVRAM	Reading controller NVRAM Writing to engine NVRAM Engine Parameters Restored **Possible errors:** Perform Store Engine NVRAM first Cannot read controller NVRAM Reboot, Not In Standby State Cannot send ATC tag values Cannot send serial number Life parameters not confirmed	Save ATC tag values and serial number to NVRAM on the installed Engine Board. The currently installed board is a replacement. Run this routine after a new engine board has been installed to restore NVRAM. Run Store Engine NVRAM before removing the defective board. Perform Store Engine NVRAM first appears when no IOT data has been stored to the controller NVRAM. The engine data stored in the controller NVRAM could not be read. Reboot into diagnostics and try again. An error occurred when writing values to the IOT NVRAM. Reboot into diagnostics and try again. A read-back of the data from the engine did not match what was sent. Reboot into service diagnostics and try again.

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Service Diagnostics Tests and Utilities (Continued)

Test	Control Panel Display and Test Definition	
Store Engine NVRAM	Reading engine parameters… Writing to NVRAM… **Possible errors:**	Saves IOT ATC tag values and serial number to NVRAM. Run Store Engine NVRAM before removing the defective board.
	Do restore first	IOT data is saved in NVRAM. If this data was obtained from the defective board, turn Off power, install the replacement board, reboot into diagnostics, and run Restore Engine NVRAM.
	Otherwise…Initialize NVRAM content? Press **OK** to initialize Erasing diagnostics NVRAM area Erase confirmed	If it is unknown whether the data in NVRAM is the data from the defective board, this message provides the opportunity to erase the old ATC tag and serial number data in NVRAM. Current data is read from the installed board and saved to NVRAM.
	Cannot erase NVRAM	Attempt to erase NVRAM failed. Reboot into diagnostics and try again

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Service Diagnostics Tests and Utilities (Continued)

Test	Control Panel Display and Test Definition	
NVRAM Read/Write	C:750 - L:555 Current Value Use BACK to choose digit Use UP/DOWN to change value Use SELECT to read Chain/Link C:<*value*>-L:<*value*> <*value*>Byte Value <*value*> Edit Value? Y/N If No, or when value written to IOT. Use BACK to quit If Yes: Edit Value: nnn Use BACK to select digit Selects the value digit to be modified. Use UP/DOWN to adjust value Adjusts the digit's value from 0 - 9. Use SELECT to write this value ccc-lll data=<*value*> WRITE this data? Y/N If Yes, Use BACK to change choice Use OK to WRITE data to IOT NVRAM Data=0x<*value*> written Use CANCEL to abort Use CANCEL to quit	NVRAM Read/Write access routine. Permits reading/writing the value of user-specified chain-links. Current, maximum, or minimum values may be specified. Read/write access is available only if read or write operations are permitted for the specified chain-link. Caution Do not arbitrarily modify chain-link values in NVRAM. NVRAM corruption is possible. Chain 750, link 555, and Current Value are the default selections. Enter the chain, link and value. Repeated pressing of Back cycles through the digits of the link, the chain, and the desired value Current | Minimum | Maximum, respectively. Use Up/Down to adjust the value of the chain and link values. If reading is permitted, Select displays related chain-link information. (Byte Value) is 1 | 2 | 4, <*value*> = Current | Minimum | Maximum value in NVRAM. The Edit Value prompt permits the entry of an alternate value. If Y is selected, a prompt appears requesting the revised value for the current chain-link. Value ranges differ dependent on the chain-link. ccc = chain value ll = link value <*value*> is chain-link dependent
Exit - Exits Service Diagnostics and reboots the printer.		

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Firmware Update

Update Firmware via the WebUI (CWIS)

The WebUI method allows the user to perform the firmware update process using CWIS menu.

Note

Be sure to download the appropriate firmware file from the Xerox support web site.

1. Ensure the printer is connected to the computer with a network connection.
2. Verify that you have downloaded the ***.ps** file.
3. Open a web browser.
4. Enter the printer's IP address.
5. The CentreWare IS window is displayed.
6. Click the **Print** button.
7. On the left side, click **File Download**.
8. Click the **Browse** button and locate the "***.ps**" file on your computer.
9. Select the "***.ps**" file and click **Open**.
10. Click the **Blue** button to start the firmware update process.
11. A status window is displayed and a Caution page is printed.
12. The amber LED on the printer's Control Panel blinks as the printer starts the firmware update process.
13. On the Control Panel, **Writing .ps file - % complete** is displayed.
14. The printer reboots after the firmware updated is completed.
15. Click **OK** to close the status window.

File Downloader Utility

Note

Be sure to download the appropriate firmware file from the Xerox support web site.

1. Go to Xerox support web site to download the File Downloader Utility.
   http://www.xerox.com/office/7500support
2. Install the File Downloader application.
3. Follow the on-screen instructions to upgrade the printer firmware.

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Obtaining Serial Back Channel Traces

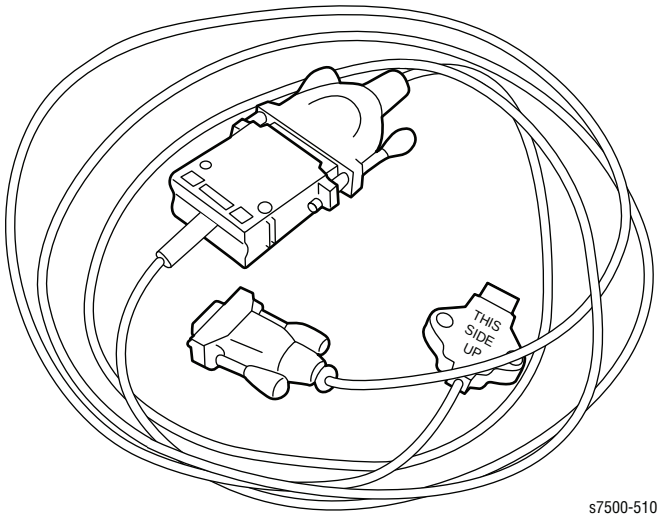
In some cases the printer may exhibit unusual behavior that is difficult to troubleshoot. In such cases, if feasible, it can be useful to obtain a back channel trace from the printer's Serial Debug Port. The back channel trace, lists step-by-step what the printer is doing up to the point that an error occurs and may show error conditions that would not normally appear on the control panel. The trace may offer clues to help troubleshoot the problem.

Required Equipment:

- Computer with a serial port
- Serial Cable, part number: 600T80375
- Level Adaptor, part number: 600T80374
- 3.5 inch IDE Hard Drive Jumper or similar

To obtain a trace:

1. Connect the Serial Cable and Level Adaptor, then connect the Serial Cable to your PC.
2. Turn off the printer.
3. Connect the Level Adaptor with adapter's THIS SIDE UP label facing upwards to the Serial Debug Port located on the printer's Rear Panel.



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4. Start up a terminal program such as in Window's HyperTerminal (usually located in **Programs** -> **Accessories** -> **Communications** -> **HyperTerminal**). Verify the serial port settings are correct. Serial port settings are COM1, 19.2 kbaud, 8 bits, no parity, 1 stop bit, and hardware control.
5. Set the printer to Service Mode by configuring by connecting pins 3 & 4 to either pin 1 or 6.

Note

Service Mode inhibits automatic Startup page printing. Also, the Mode Select Port jumpers must remain in place to display the printer's operating system console.

Enable data capture by selecting "Capture Text" under the Transfer menu.

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6. Turn On the printer.
7. The bootup sequence trace should appear in the terminal window. Examine the trace to troubleshoot the problem. Save the trace as a file, if necessary.
8. After the printer comes to ready, send a print job and continue to monitor the back channel for any error conditions related to printing.
9. When the capture is complete, stop the data capture by selecting "Stop" under the Transfer menu. Copy and paste the capture into a program that retains the original time formatting in the LH column.

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Acronyms and Abbreviations

Acronym	Description
3TM	Three Tray Module
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
AOC	Auto Offset Control, Automatic Offset Control
ASSY	Assembly
ATM	Adobe Type Manager
ATVC	Auto Transfer Voltage Control
BCR	Bias Charge Roller
BP	Backplane
BSD	Block Schematic Diagram
BTM	Bottom
BTR	Bias Transfer Roller
CAM	Cam Shaft
CCD	Charged Coupled Device (Photoelectric Converter)
CCPM	Color Pages Per Minute
CCW	Counterclock-Wise
CD	Circuit Diagram
CD	Compact Disc
CLT	Clutch
CMYK	Toner colors for the printer: Y=yellow, C=cyan, M=magenta, K=black
CRD	(PostScript) Color Rendering Dictionary
CRU	Customer Replaceable Unit
CRUM	Customer Replaceable Unit Meter/Memory
CST	Cassette
CVT	Constant Velocity Transport
CW	Clockwise

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Acronym	Description
CWIS	CentreWare Internet Services
dB	Decibel
DC	Direct Current is type of power for printer components. Machine converts AC power from power source to DC power.
DCN	Disconnect
DDNS	Dynamic Domain Name System
DDR2 DIMM	Double Data Rate Dual In-Line Memory Module
DEV	Developer
DHCP	Dynamic Host Configuration Protocol
DMP	Damper
DPI	Dot Per Inch
DRV	Drive
DUP	Duplex (2-sided printing)
EA-HG	Emulsion Aggregate High Glass
EC	European Community
ECM	Error Correction Mode
EEC	European Economic Community
EEPROM	Electronically Erasable Programmable Read-Only Memory
EOM	End of Message
EOP	End of Procedure
ESA	Electrostatic Attachment
ESD	Electrostatic Discharge. A transfer of charge between bodies at different electrostactic potential.
ESS	Printer Controller
FCC	Federal Communications Commission
FDR	Feeder
FE	Field Engineer
FFC	FFC Cable
FIC	Final Integration Center
FIFO	First In First Out
FPOT	First Print Output Time
FR/FRNT	Front
FRU	Field Replaceable Unit
GB	Giga Byte
GND	Ground
HARN	Harness

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Acronym	Description
HCF	High-Capacity Feeder
HDD	Hard Disk Drive
HFSI	High Frequency Service Item
HGEA	High-Grade Emulsion Aggregation (Toner)
HSG	Housing
HUM	Humidity
HVPS	High-Voltage Power Supply
Hz	Hertz (cycles per second)
HW	Hardware
IBT	Intermediate Belt Transfer
IC	Integrated Circuit
ICDC	Image Count Dispense Control
IDT	Intermediate Drum Transfer
IEC	International Electrotechnical Commission
I/F	Interface
IOT	Image Output Terminal - the ROS/Xerox/paper handling/fusing portion of the printer
IP	Image Processor
IPM	Impression Per Minutes
IPP	Internet Present Provider
IPX	Internetwork Packet Exchange
IQ	Image Quality
KB	Kilo Byte
LAN	Local Area Network
LCD	Liquid Crystal Display
LD	Laser Diode
LED	Light Emitting Diode
LEF	Long-Edge Feed
L/H	Left Hand
LPH	LED Print Head
LTR	Letter Size Paper (8.5 x 11 inches)
LVPS	Low-Voltage Power Supply
MAC	Paper Access Control
MB	Mega Byte
MCF	Message Confirmation
MCU	Machine Control Unit (Engine Control Board)
MD	Motor Drive

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Acronym	Description
MHz	Mega Hertz
MIB	Management Information Base
MM	Millimeters
MOB	Marks On Belt
MOT	Motor
MPS	Multi-Page Signal
MPT	Multi-Purpose Tray
NCS	Non-Contact Sensor
NCU	Network Control Unit
NOHAD	Noise Ozone Heat Altitude Dust
NPP	No Paper
NSF	Non-Standard Facilities
NSS	Non-Standard Set-up
NVM	Non-Volatile Memory
NVRAM	Non-Volatile Random Access Memory
OEM	Original Equipment Manufacturer
OHP	Overhead Print (Transparency)
OPC	Organic Photo Conductor
OPT	Optional
OS	Operating System
PB	Push Button
PBX	Private Branch Exchange
PC	Personal Computer
PC	Photo Conductor
PCB	Printed Circuit Board
PCDC	Pixel Count Dispense Control
PCL	Printer Command Language
PDL	Page Description Language
PH	Paper Handling
PHY	Physical Layer
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

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Acronym	Description
PPR	Partial Page Request
PPS	Pages
PPS	Pulses Per Second
PU	Print Unit
PV	Print Volume Management
PWB	Printed Wiring Board
PWBA	Printed Wiring Board Assembly
RAM	Random Access Memory
RegiCon	Registration Control
RET	Retard
RGB	Three primary colors of light - Red Green Blue
RH	Relative Humidity
RLS	Release
RMS	Root Mean Square Voltage
ROM	Read-Only Memory
RTD	Retard
SA	Systems Administrator
SDTP	Standard Digital Test Pattern
SEF	Short-Edge Feed
SLED	New LED Print Head
SLP	Service Location Protocol
SNMP	Simple Network Management Protocol
SNR	Sensor
SOC	Service Order Code
SOL	Solenoid
STM	Single Tray Module
STS	Soft Touch Sensor
SW	Software
T/A	Take-Away
TDC	Toner Density Control
TM	Tray Module
TNR	Toner
TRNS	Transport
UI	User Interface
USB	Universal Serial Bus

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Numerics

1500-Optional Sheet Feeder
- Harness Kit
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