Phaser® 6000/6010 Printer & WorkCentre 6015 MFP
Service Manual

Phaser® 6000/6010 Printer & WorkCentre 6015 MFP 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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A Reference

About this Service Manual

The Phaser 6000/6010 and WC 6015 MFP Service manual is the primary document used for repairing, maintaining, and troubleshooting the printers. Use this manual as your primary resource for understanding the operational characteristics of the printer and all available options. This manual describes specifications, theory, and the diagnosis and repair of problems occurring in the printer. Also included are detailed replacement procedures, parts lists, and wiring diagrams.

Manual Terms

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

Warning

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

Caution

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

Replacement Note

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

Note

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

Manual Organization

The Phaser 6000/6010 and WC 6015 MFP Service Manual contains these sections:

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

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

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

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

Chapter 4 - General Troubleshooting: Troubleshooting covers the operation of Service Diagnostics. In addition, this section includes troubleshooting methods for situations where error indicator is not available.

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

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

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

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

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

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

Reference: This section provides an illustration of the printer's menu structure, information on the CE Diag Tool, and a list of acronyms and abbreviations.

Symbols Marked on the Product
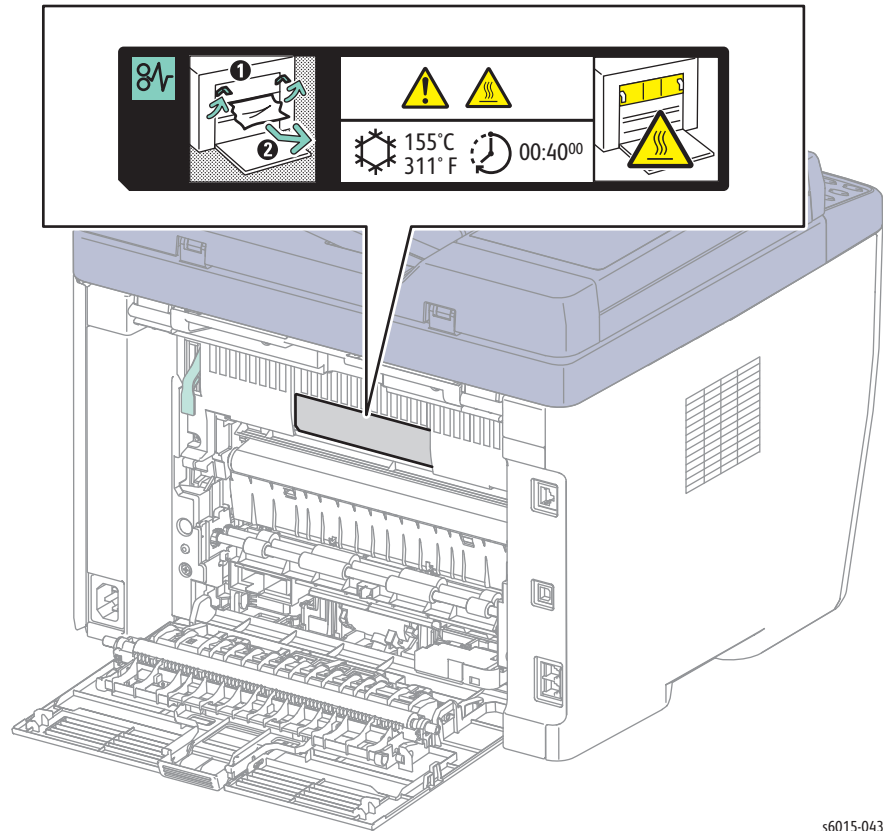
s6015-043

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

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

 It may take 40 minutes for the Fuser to cool down.

Product Terms

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

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

Power Safety Precautions

Power Source

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

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

Disconnecting Power

Warning

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

Disconnect the Power Cord in the following cases:

- if the power cord or plug is frayed or otherwise damaged,

- if any liquid or foreign material is spilled into the product,

- if the printer is exposed to any excess moisture,

- if the printer is dropped or damaged,

- if you suspect that the product needs servicing or repair,

- whenever you clean the product.

Electrostatic Discharge (ESD) Precautions

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

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

- Immediately before handling any semiconductor component assemblies, drain the electrostatic charge from your body. This can be accomplished by touching an earth ground source or by wearing a wrist strap device connected to an earth ground source. Wearing a wrist strap will also prevent accumulation of additional bodily static charges. Be sure to remove the wrist strap before applying power to the unit under test to avoid potential shock.

- After removing a static sensitive assembly from its anti-static bag, place it on a grounded conductive surface. If the anti-static bag is conductive, you may ground the bag and use it as a conductive surface.

- Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage some devices.

- Do not remove a replacement component or electrical sub-assembly from its protective package until you are ready to install it.

- Immediately before removing the protective material from the leads of a replacement device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

- Minimize body motions when handling unpacked replacement devices. Motion such as your clothes brushing together, or lifting a foot from a carpeted floor can generate enough static electricity to damage an electro-statically sensitive device.

- Handle ICs and Erasable Programmable Read-Only Memories (EPROM's) carefully to avoid bending pins.

- Pay attention to the direction of parts when mounting or inserting them on Circuit Boards.

Service Safety Summary

General Guidelines

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

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 Interlock

Make sure all covers are in place and the Interlock Switch is 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.

Battery

A Lithium battery is used on the Image Processor Board.

Warning

There is a danger of a new battery exploding if it is incorrectly installed. Replace the battery with the same or equivalent type. Dispose the battery according to the manufacture's instruction.

IP Board
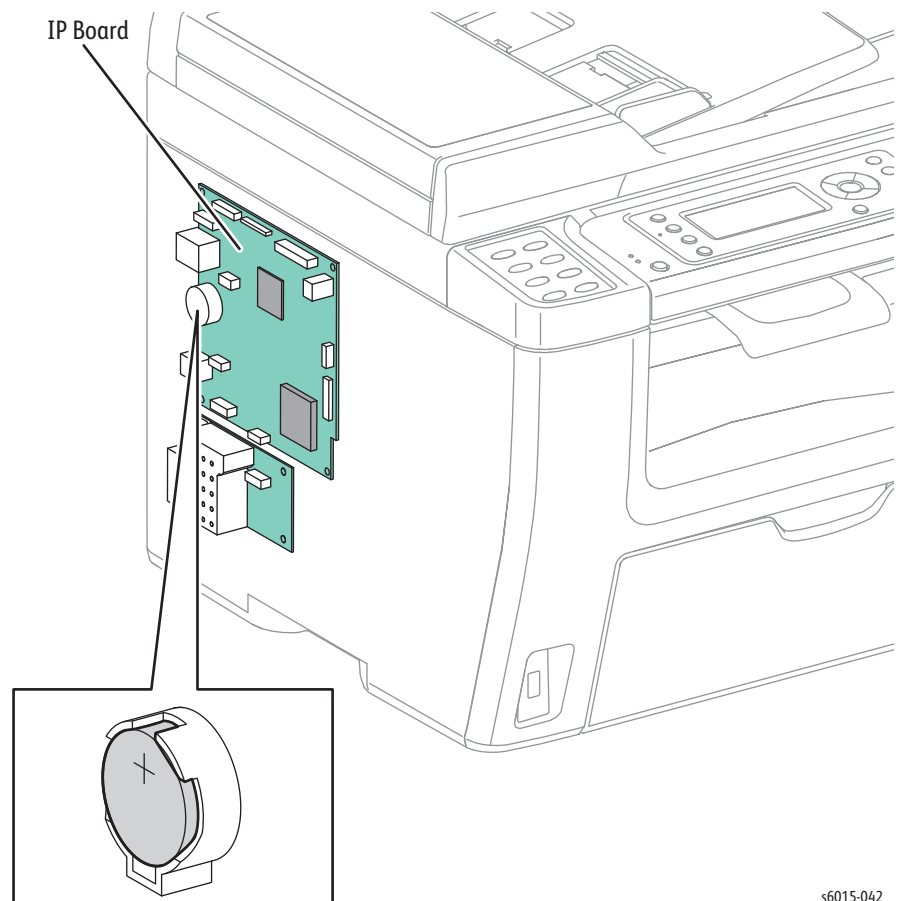
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Servicing Electrical Components

Before starting any service procedure, switch the printer power Off and unplug the power cord from the wall outlet. If you must service the printer with power applied, be aware of the potential for electrical shock.

Warning

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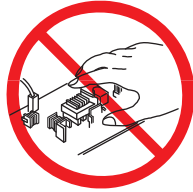
Servicing Mechanical Components

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

Warning

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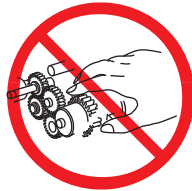
Servicing Fuser Components

Warning

This printer uses heat to fuse the image to the media. During operation, the Fuser is very hot. Allow at least 5 minutes for the Fuser to cool before you attempt to service the Fuser or adjacent components.

Regulatory

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

United States (FCC Regulations)

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

- Reorient or relocate the receiver (device being interfered with).

- Increase the separation between the printer and the receiver.

- Connect the equipment into an outlet on a circuit different from that which the receiver is connected.

- Consult the dealer or an experienced radio/television technician for help.

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

Canada (Regulations)

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

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

European Union

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

ϵ

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

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

March 9, 1999: Radio Equipment & Telecommunications Terminal Equipment Directive 1999/5/EC

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

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

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

General Information

In the chapter....

- Printer Overview
- Printer Configurations
- Parts of the Printer
- Consumables
- Specifications

Chapter 1

Printer Overview

The Xerox Phaser Phaser 6000/6010 and WC 6015 MFPs have a LED xerography color tandem print engine. These printers offers print speeds of 10-15 pages-per-minute (ppm), and resolutions up to 600 x 600 dots-per-inch (dpi).

The WorkCentre 6015 MFP is a multifunction printer (MFP) that combines a 600 dpi scanner with the color LED printer to provide print, copy, and scan functionality. In addition to USB2.0, the WorkCentre 6015NI Color MFP provides 10/100 Base-T, wireless capability, and Fax functionality.

Technical Support Information

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

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.

Printer Configurations

The following tables list the configurations of the Phaser 6000/6010 Printers and the WorkCentre 6015 MFPs.

Phaser 6000/6010 Printer Configurations

Features	Phaser 6000B	Phaser 6010N
Processor Speed	192 MHz	384 MHz
Memory	64 MB	128 MB
Print Speed (A4)	10 Color/12 BW	12 Color/15 BW
Resolution	1200 x 1200 dpi	1200 x 1200 dpi
USB 2.0 Support	Standard	Standard
Ethernet Interface 10/100 Base-TX	None	Standard
Manual Feed Slot	None	Standard
Main Paper Tray	Standard	Standard

WorkCentre 6015 MFP Configurations

Features	WorkCentre 6015B Color MFP	WorkCentre 6015N Color MFP	WorkCentre 6015NI Color MFP
Processor Speed	295 MHz	295 MHz	295 MHz
Memory	128MB	128 MB	128 MB
Print Speed (A4)	12 Color/15 BW	12 Color / 15 BW	12 Color / 15 BW
Resolution	1200 x 1200 dpi	1200 x 1200 dpi	1200 x 1200 dpi
USB 2.0 Support	Standard	Standard	Standard
Ethernet Interface 10/100 Base-TX	None	Standard	Standard
Wireless Interface	None	None	Standard
Fax	None	Standard	Standard
Automatic Document Feeder	None	Standard	Standard
Manual Feed Slot	Standard	Standard	Standard
Main Paper Tray	Standard	Standard	Standard

Parts of the Printer

Front and Side View

Phaser 6000/6010
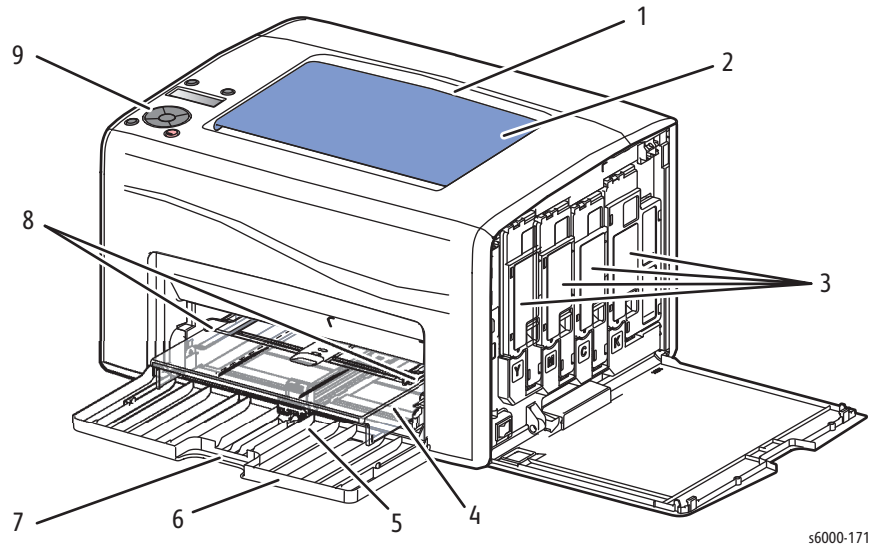
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Item	Description	Item	Description
1	Output Tray	6	Front Cover
2	Output Tray Extension	7	Front Cover Handle
3	Toner Cartridges	8	Bypass Tray Feeder Guides (6010N and WorkCentre 6015 MFP only)
4	Bypass Tray (6010N an WorkCentre 6015 MFP only)	9	Control Panel
5	Main Paper Tray		

WorkCentre 6015 MFP
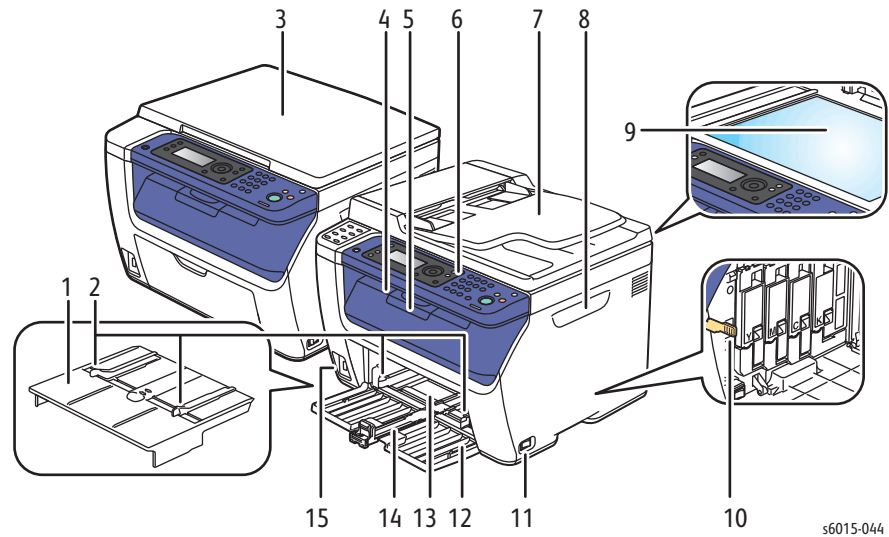
Item	Description	Item	Description
1	Bypass Tray	9	Document Glass
2	Feeder Guides	10	LED Cleaning Rod
3	Platen Cover	11	Power Switch
4	Output Tray	12	Front Cover
5	Output Tray Extension	13	Main Paper Tray
6	Control Panel	14	Main Tray Extension
7	ADF Input Tray	15	USB Connector
8	Toner Door Handle		

Rear View

Phaser 6000/6010 Printer
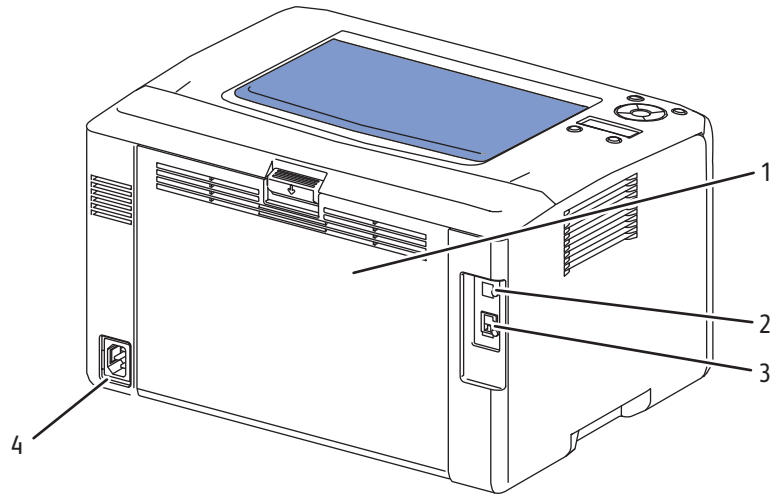
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Item	Description
1	Rear Door
2	USB Port
3	Network Port (6010N only)
4	Power Receptacle

WorkCentre 6015 MFP
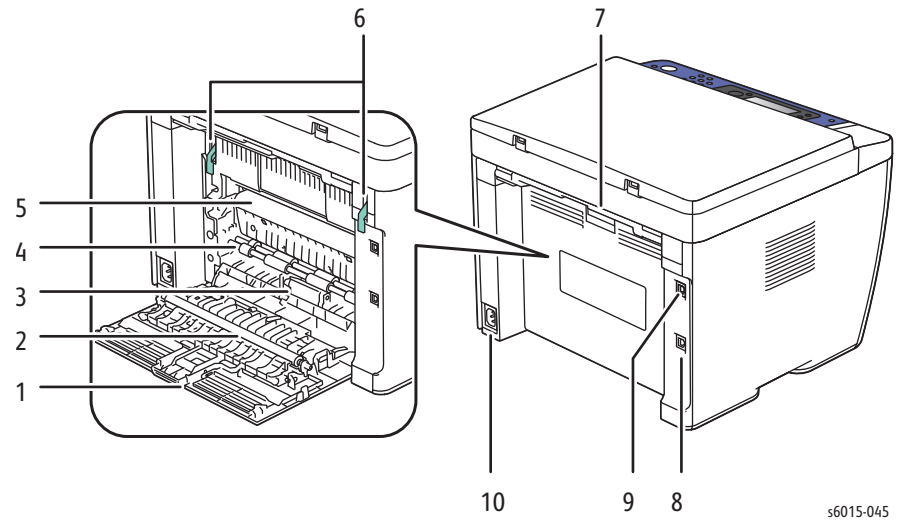
s6015-045

Item	Description	Item	Description
1	Rear Door	6	Fuser Levers
2	Transfer Roller	7	Rear Door Latch
3	Separator Pad Assembly	8	USB Port
4	Registration Pinch Roller	9	Ethernet Port (6015N/NI models only)
5	Transfer Belt	10	Power Receptacle

Control Panel

Phaser 6000B Control Panel

s6000-138
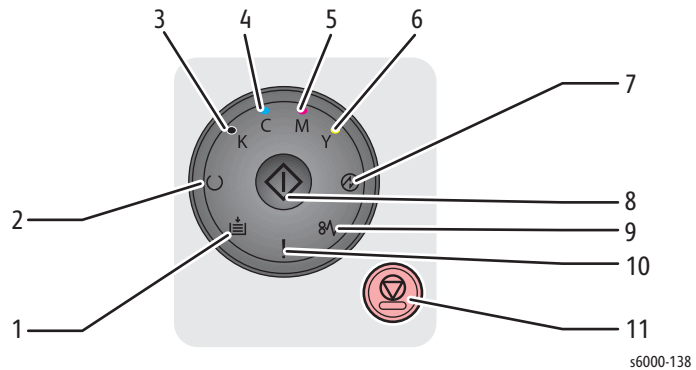
Item	Feature
1	Load Paper LED
2	Ready/Data LED
3	Black Toner LED
4	Cyan Toner LED
5	Magenta Toner LED
6	Yellow Toner LED
7	Power Saver LED
8	OK LED
9	Jam LED
10	Error LED
11	**Cancel** button

For more information on the 6000B Control Panel, see "Phaser 6000B Errors" on page 3-18.

Phaser 6010N Control Panel
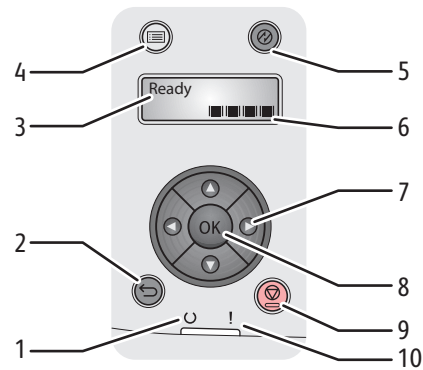
s6000-139

Item	Feature	Description
1	Online LED	Displays the online printer status.
2	**Back** Button	Move back to upper menu.
3	LCD	Indicates printer status, warnings, and error messages.
4	**Menu** Button	When pressed the top menu level is displayed on the LCD.
5	**Energy Saver** Button	When illuminated, indicates the printer is in Power Saver Mode 1. Press to change to Ready to Print from Energy Saver mode.
6	Toner Status	Indicates the amount of toner left in each Toner Cartridge.
7	**Arrow** Buttons	Use to navigate the menu.
8	**OK** Button	Enter current setting/confirm current selection.
9	**Cancel** Button	Cancels print job.
10	Error LED	When illuminated, indicates a printer error.

WorkCentre 6015B Color MFP Control Panel
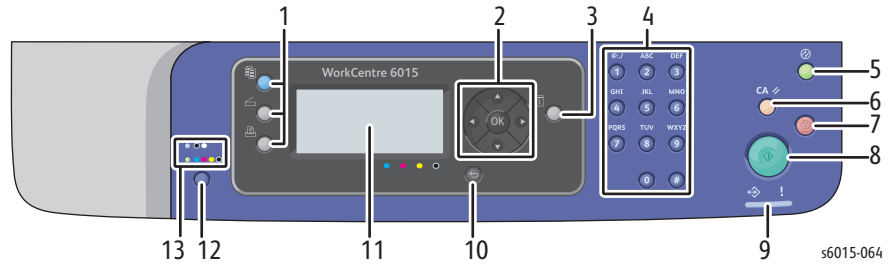
Item	Feature (number)	Description
1	**Copy** **Scan** **Print**	Move to the top of the Copy menu. Move to the top of the Scan menu. Move to the top of the Print menu.
2	**Navigation/Menu** select buttons (5)	Scroll up, down, forward, and back through the menus. Use the **OK** button to enter current setting/confirm current selection.
3	**System**	Switches the display to the System menus.
4	Alpha Numeric Keypad (11)	Input and delete numbers.
5	**Wake Up / Energy Saver** button	When illuminated, indicates the printer is in Power Saver Mode 1. Press to move to Ready to Print from Energy Saver mode.
6	**Clear All** button	When the user is making changes to a service (Copy, Scan, Print, or Fax), pressing the Clear All button restores the previous settings and returns the menu to the top level of the service.
7	**Stop** button	Stops the current job.
8	**Start** button	Starts the current job.
9	Data LED Error LED	Indicates the status of the printer – power and ready-to-print. When illuminated, indicates a printer error such as a paper jam.
10	**Back** button	Move back to previous screen.
11	LCD	Indicates printer status, warnings, and error messages.
12	**Color Mode** Button	Switch color mode (Color/B&W) for Copy and Scan.
13	B/W, Color indicator LEDs	Upper LED indicates Black and White mode. Lower LED indicates Color mode.

WorkCentre 6015N/NI Color MFP Control Panel
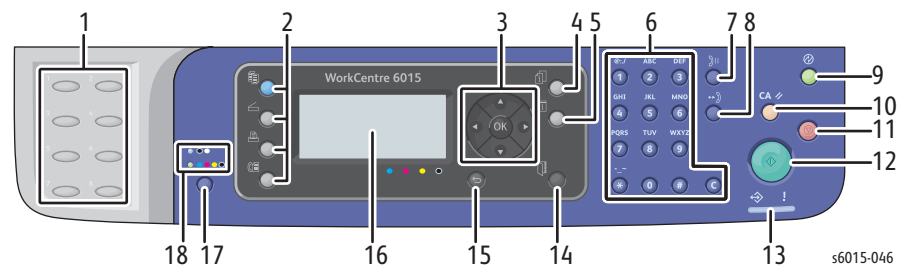
Item	Feature (number)	Description
1	Direct Address Keys(8)	Press to quickly dial Fax number s that are registered in the Phone Book. The first four entries are assigned to the keys.
2	■ **Copy** ■ **Scan** ■ **Print** ■ **Fax**	Use these buttons to move to the top of each menu.
3	**Navigation/Menu** select buttons (5)	Scroll up, down, forward, and back through the menus. Use the **OK** button to select a current setting/confirm current selection.
4	**Job Status** button	Press to check active job status.
5	**System** button	Switches the display to the System menus.
6	Alpha Numeric Keypad (13)	Input and delete letters and numbers.
7	**Redial/Pause** button	Press the button to recall the last Fax number used or to insert pauses in Fax numbers.
8	**Speed Dial** button	Press to access directories of group or individual Fax telephone numbers.
9	**Wake Up / Energy Saver** button	When illuminated, indicates the printer is in Power Saver Mode 1. Press to move to Ready to Print from Energy Saver mode.
10	**Clear All** button	When the user is making changes to a function (Copy, Scan, Print, or Fax), pressing the Clear All button restores the previous settings and returns the menu to the top level of that function.
11	**Stop** button	Stops the current job.
12	**Start** button	Starts the current job.
13	Data LED Error LED	Indicates the status of the printer – power and ready-to-print. When illuminated, indicates a printer error.
14	**Address Book** button	Move to **Address Book** menu for Fax and E-mail.
15	**Back** button	Move back to previous screen.

Item	Feature (number)	Description
16	LCD	Indicates printer status, warnings, and error messages.
17	**Color Mode** Button	Switch color mode (Color/B&W) for Copy and Scan.
18	Black and White/Color indicator LEDs	Upper LED indicates Black and White mode. Lower LED indicates Color mode.

Consumables

The Toner Cartridges are the only consumables. The Toner Cartridge CRUM (Customer Replaceable Unit Meter) records toner usage data.

Phaser 6000:

When a Toner Cartridge reaches the end of estimated cartridge life, the status is indicated by the Error LED on the Control Panel.

Phaser 6010 and WorkCentre 6015 MFP:

When a Toner Cartridge reaches the end of estimated cartridge life, the status is indicated on the LCD.

Toner Cartridge	Capacity	Approximate Print Life[a]
Black	Starter Capacity	500 pages
	Standard Capacity	2000 pages
Yellow, Magenta, and Cyan	Starter Capacity	500 pages
	Standard Capacity	1000 pages

a. Declared cartridge yield in accordance with ISO/IEC 19798 and ISO/IEC 24712

s6000-020

Toner Cartridges (C, M, Y, K)

s6015-063
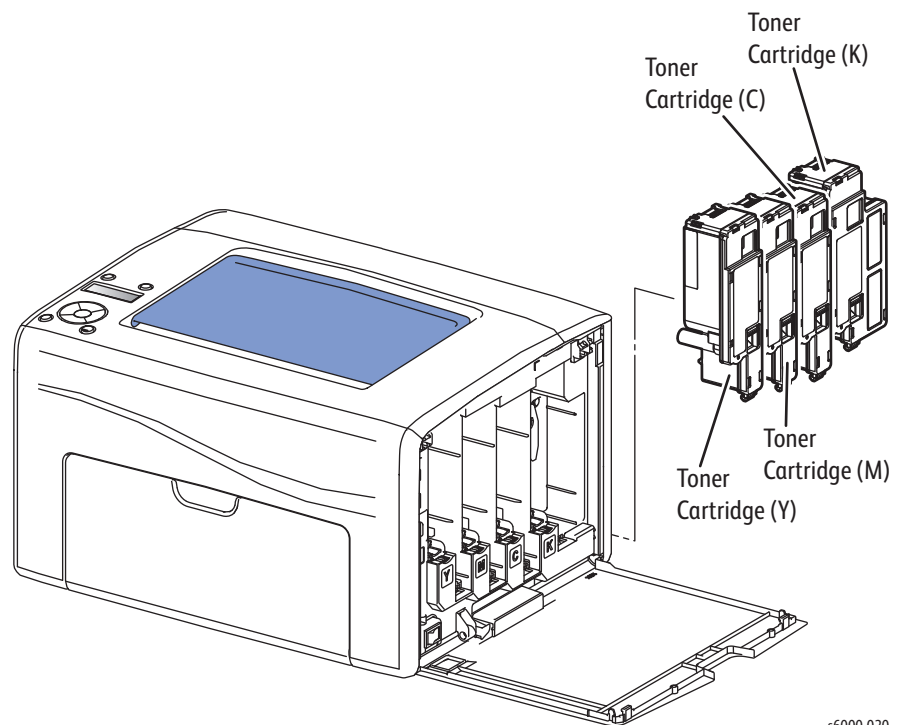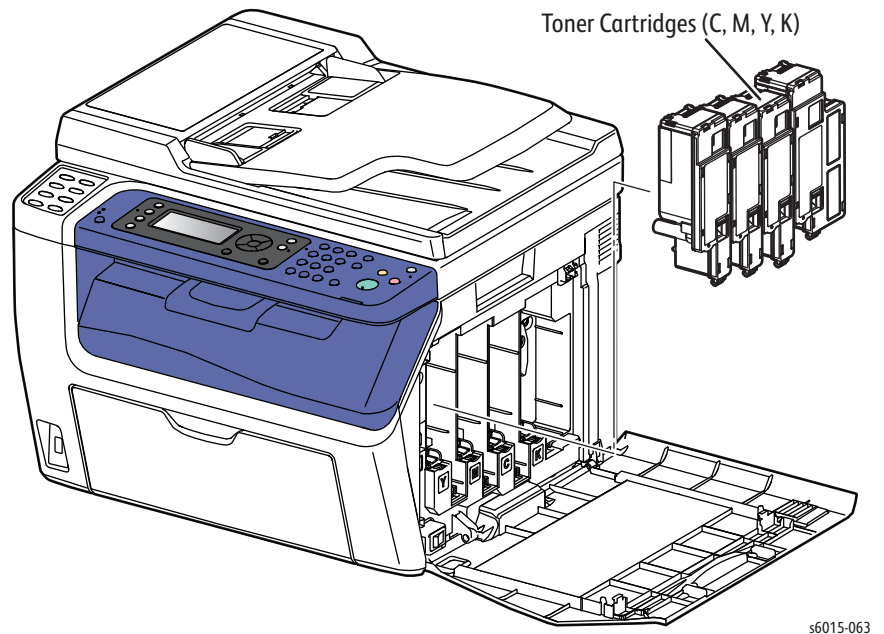
Specifications

Printer Specifications

Printer Specifications

Characteristic	Specifications
Printing Technology	LED xerography
Printer Life	5 years from the start of use, or 30 kPV or more in A4 SEF, or total number of platen scan and ADF scan reaches 40k or more.
Average Monthly Print Volume	6000B: 250 PV/month 6010N: 350 PV/month WorkCentre 6015 MFP: 350 to 450 PV/month
Maximum Monthly Duty Cycle	30,000 kPV/month
Monthly Scan Volume	350
Warm-Up Time	Less than 25 seconds
Power Saver Mode 1	The default setting is 60 minutes. Use the Printer Settings Utility to change the default setting from 5 to 60 minutes.
Power Saver Mode 2	The printer enters Power Saver Mode 2 after the specified time. The default setting is 1 minute, and can be set from 1 minute to 60 minutes.
Resolution	1200 x 1200 dpi
Main Paper Tray (150 Sheets)	Standard
Bypass Tray (15 Sheets)	Standard on Phaser 6010N and WorkCentre 6015 MFPs
Memory (Phaser 6000B)	64 MB
Memory (Phaser 6010N and WorkCentre 6015 MFPs)	128 MB
External Interfaces	
Phaser 6000B	
USB 2.0	■ Connector Type: One Type B ■ Protocol: Hi-speed USB 2.0 compatible
Phaser 6010N	
USB 2.0	■ Connector Type: One Type B ■ Protocol: Hi-speed USB 2.0 compatible
Ethernet	■ Connector Type: One RJ-45 connector ■ 10 BASE-T/100 BASE-TX compatible

Printer Specifications (Continued)

Characteristic	Specifications
WorkCentre 6015B Color MFP	
USB 2.0	■ Connector Type: One Type A, One Type B ■ Protocol: Hi-speed USB 2.0 compatible
WorkCentre 6015N Color MFP	
USB 2.0	■ Connector Type: One Type A, One Type B ■ Protocol: Hi-speed USB 2.0 compatible
Ethernet	■ Connector Type: One RJ-45 connector ■ 10 BASE-T/100 BASE-TX compatible
WorkCentre 6015NI Color MFP	
USB 2.0	■ Connector Type: One Type A, One Type B ■ Protocol: Hi-speed USB 2.0 compatible
Ethernet	■ Connector Type: One RJ-45 connector ■ 10 BASE-T/100 BASE-TX compatible
Wireless	■ Compliant Standard: IEEE802.11b/g ■ Security Protocol: WEP (64/128bits), WPA-PSK (TKIP, AES), WPA-2PSK (AES) ■ Certifications: Wi-Fi, WPA2.0 ■ Wi-Fi Protected Setup (WPS): Push Button Configuration (PBC), Personal Identification Number (PIN)
Operating System	
Phaser 6000/6010	
Mac	Mac OS X 10.5 or later
Windows	Windows 7 (32/64 bit), Windows XP (32/64 bit), Vista (32/64 bit), 2003 Server (32/64 bit), 2008 Server (32/64 bit)
Linux	Supported
WorkCentre 6015 MFPs	
Mac	Mac OS 10.4.11/10.5.8 or later, and 10.6.X (Power PC, Intel X86 Processors)
Windows	Windows 7 (32/64 bit), Windows XP (32/64 bit), Vista (32/64 bit), 2003 Server (32/64 bit), 2008 Server (32/64 bit), 2008R2 (64 bit)
Linux	Supported
Memory Specifications	**Memory**
Phaser 6000B	■ Main Memory: 64 MB ■ Flash ROM: 2 MB
Phaser 6010N	■ Main Memory: 128 MB ■ Flash ROM: 8 MB

Printer Specifications (Continued)

Characteristic	Specifications
WorkCentre 6015B Color MFP	■ Main Memory: 128 MB ■ Flash ROM: 16 MB
WorkCentre 6015N Color MFP WorkCentre 6015NI Color MFP	■ Main Memory: 128 MB ■ Flash ROM: 16 MB ■ Memory for Fax: 2 MB

Copy Specifications

Copy Specifications

Characteristic	Specifications
Auto Exposure	On/Off
Collate (max pages)	50 Color / Black and White pages max.
Color Balance	5 Levels (RGB)
Continuous Copy Speed of Multiple-sheet Document in ADF Mode (cpm)	2.5 Color / 12.8 Black and White cpm
Grey Balance	Supported
Image Rotation	The image can be rotated by 180° before printing.
Lighten/Darken	5 Levels
Margin Adjustment	Top/Bottom, Left/Right, and middle.
Multiple Up (N to 1)	Continuous 2, 4, 8, or 32 pages can be printed on one sheet of paper.
Number of Copies	1-99
Original Type	Text, Photo, Text/Photo
Poster	2x3, 3x3, 4x4
Sharpness	5 Levels
Auto Fit	On, Off
Cloning	On, Off
Watermarks	Documents can be printed with pre-registered watermarks.
Copy Mode	
Color (default)	The following modes are available ■ Text/Photo (default) ■ Photo ■ Text

Copy Specifications (Continued)

Characteristic	Specifications
Black and White	The following modes are available ■ Text/Photo (default) ■ Photo ■ Text

Image Quality		
Resolution	Platen	ADF
WorkCentre 6015B Color MFP	600 x 600	Not applicable
WorkCentre 6015N/NI Color MFP	600 x 600	600 x 300
Auto Exposure	Off, Normal, Higher (1, 2)	
Color Balance	4 colors, 3 densities, 5 levels (RGB)	
Color Saturation	3 levels	
Density Adjustment	5 levels	
Sharpness	5 levels	
Magnification		
Fixed	200 %, 141 %, 122 %, 100 %, 81 %, 70 %, 50 %	
Variable	25 % to 400 % in 1 % increments	

Scanning Specifications

Scanning Specifications

Characteristic	Specifications
Scan Mode	■ Platen Mode: Scan document using the document glass. ■ Constant Velocity Transport (CVT) Mode: Scan document via the ADF.
Local (USB) Scanning	
Scan Interface	TWAIN, WIA 2.0
Resolution	Up to 4800 dpi
Network Scanning	
Scan Interface	TWAIN, WIA 2.0
Color Mode	Color, Black & White
Original Type	Text, photo, mixed

Scanning Specifications (Continued)

Characteristic	Specifications
Lighten/Darken	5 levels
Sharpness	3 levels
Image Rotation	90, 180, 270 degrees
Auto Exposure	Off, Normal, Higher(1), Higher(2)
File Format	TIFF, JPEG, PDF
Resolution	■ TWAIN: 75 x 75 dpi up to 4800 x 4800 dpi ■ WIA: 75/100/150/200/300/400/600 dpi ■ Resolutions other than the following are achieved by driver's resolution conversion. 200 x 200 dpi 300 x 300 dpi 600 x 600 dpi 1200 x 1200 dpi
File Format	JPG, TIFF, PDF
Scan to "Desktop" via SMB	Up to 6 SMB servers
Scan to FTP	Up to 6 FTP servers
Scan to E-mail	Supported
E-mail Address Book	Up to 100 E-mail Addresses, and up to 10 E-mail Groups. Addresses are stored in device memory. Each E-mail Group may have up to 10 addresses associated with it.

Scan Performance	Document	Black and White	Color
USB Scan to PC (via Express Scan Manager)	Platen, 300 dpi, 24-bit color, letter	11 seconds	9 seconds
Network Scan to PC via SMB	Platen, 150 dpi, mixed, letter size	9 seconds	9 seconds
USB Scan to PC (Twain/WIA)	Platen, 300 dpi, 24-bit color letter	11 seconds	9 seconds

Maximum Scanning Area	
Document Glass	215.9 mm x 297 mm (8.5" x 11.7")
ADF	215.9 mm x 355.6 mm (8.5" x 14")

Scanning Halftone Level	
Output from the CCD has the following halftone levels.	B/W: 1 bit for Line art and 8 bit for grayscale. Color: 24 bit.

Scanning Specifications (Continued)

Characteristic	Specifications
Platen	
Document Setting Reference Position	Left rear corner as viewed from printer front.
Document Glass Size	220 mm x 300 mm (8.66 in. x 11.8 in) (Flat glass area)
ADF	
Resolution (Line Density in Fast Scan Direction)	1200 dots/25.4 mm (1200 dots/1 inch)
Document Thickness	60 g/m^2 to 105 g/m^2
Capacity	15 sheets (plain paper)

Fax Specifications (WorkCentre 6015N/NI Color MFP)

Fax Specifications

Characteristic	Specifications
Communication Mode	Priority 1: ITU-T Super G3 Priority 2: ITU-T G3 ECM Priority 3: ITU-T G3
Direct Fax	Supported
Facsimile Communication Network (FAX NET)	Not supported
Fax Send/Receive Buffer	2 MB
Supported Network	PSTN, PBX **NOTE** The printer can not be connected to an ISDN network.
Supported Protocols	■ V. 34 (Max.33.6 kbps) ■ V. 17 (14.4/12/9.6/7.2 kbps) ■ V. 29 (9.6/7.2 kbps) ■ V. 27ter (4.8/2.4 kbps)
Transfer	If the machine cannot print received FAX data because of printer trouble, or when the user specifies transfer of received data, received data is automatically sent to a pre-registered machine. Settings: OFF, Forward only, or Print & Forward.
Walk-up Fax	
Incoming Call Control	Telephone Mode, Auto Receive, iFax, Tel/Fax, Ans/Fax, DRPD
Color Fax	Not supported
Resolution	Standard, Fine, Super Fine, and Ultra Fine

Fax Specifications (Continued)

Characteristic	Specifications
Compression Method	B/W: 1bit, JBIG, MMR, MR, MH encoding Color: Not supported
DM Protection	Rejects junk Fax
Polling Receive	Auto, Manual
Auto Reduction Rec	On, Off, and Auto
Delayed Start	Up to 23 hours and 59 minutes
Broadcast Sending	Sequential only
Fax Cover Page	Supported
On Hook	Supported
Remote Receive	Supported
Fax Address Book	Supported
Lan Fax	
Driver	GDI Drivers
Resolution	Normal (200 x 100), Fine (200 x 200), Superfine (400 x 400)
Color	Not supported
Delayed Start	Up to 24 hours
Broadcast Sending	Up to 30 destinations
Zoom	Same as printer driver.
Auto RE (auto fit)	Same as printer driver.
Rotation	Same as printer driver.
N-up	Same as printer driver.
Watermark	Same as printer driver.
Phone Book	Up to 500 Speed Dial Numbers and up to 500 Group Dial. Local phone book stored on PC.
Secure Receive	Supported

Scanner

Scanning   Original

LED   CMOS Image Sensor

Digital signal

Black becomes 0, white 1 creating...

Original

← 111111
← 100001
← 101111

Image → Digital data

Control Circuit

Modem

DA Conversion (Modulation) → A/D Conversion Unit

NCU

Analog signal   Sending FAX

Telephone line

Control Circuit

Modem

NCU

AD conversion (demodulation) → A/D Conversion Unit

Receiving FAX

Digital signal

Printer

Printing   Print

s6015-033

Environmental Specifications

Environmental Specifications

Characteristic	Specifications
Temperature and Humidity	
Operating	10˚ to 32˚ C (50˚ to 90˚ F) at 15 % to 85 % RH
Storage (Packaged)	-20˚ to 0˚ C (-4˚ to 32˚ F) at 5 % to 15 % RH to 35 to 40˚ C (95˚ to 104˚ F) at 80 % to 90 % RH
Altitude	
Operating	0 to 3,100 meters (10,170 feet)
Storage (Packaged)	0 to 15,000 meters (49,212 feet)
Acoustic Noise Level	
Printing Phaser 6000B Phaser 6010N	Less than 50.0 dB Less than 52.0 dB
Standby	Less than 25.0 dB
Printing WorkCentre 6015B Color MFP	64.3 dB
WorkCentre 6015N Color MFP no ADF	63.5 dB
WorkCentre 6015NI Color MFP no ADF	63.5 dB
WorkCentre 6015N Color MFP ADF in use	65.0 dB
WorkCentre 6015NI Color MFP ADF in use	65.0 dB
Standby WorkCentre 6015 MFP all models	43.0 dB
Power Save Mode (all models)	Background level

Electrical Specifications

Electrical Specifications

Characteristic	Specifications
Inrush Current	
Phaser 6000/6010 Printer	Maximum of 120 A within 10 msec (half cycle) or less
WorkCentre 6015 MFP	Maximum of 100 A within 10 msec (half cycle) or less
Power Supply Voltage/Frequency	
Line Voltages[a]	110-127 VAC ± 10 % 220-240 VAC ±10 %
Max Current	110 V Engine: < 8 A 220 V Engine: < 5 A
Frequency Range	50/60 Hz ± 3 Hz
Power Consumption	
Continuous Color Printing ■ Phaser 6000B ■ Phaser 6010N ■ WorkCentre 6015 MFP (full option model)	285 W or less 340 W or less 310 W or less
Continuos Black and White ■ Phaser 6000B ■ Phaser 6010N ■ WorkCentre 6015 MFP (full option model)	285 W or less 340 W or less 350 W or less
Ready Mode ■ Phaser 6000B ■ Phaser 6010N ■ WorkCentre 6015 MFP (full option model)	65 W or less 69 W or less 65 W or less
Power Saver Mode 1 ■ Phaser 6000B ■ Phaser 6010N ■ WorkCentre 6015 MFP (full option model)	11 W or less 14 W or less 16 W or less
Power Saver Mode 2 ■ Phaser 6000B ■ Phaser 6010N ■ WorkCentre 6015 MFP (full option model)	5 W or less 7 W or less 7 W or less

a. See the Rating label on the machine for the correct voltage, frequency (hertz), and current for your machine.

Image Specifications

Note

Edge-to-edge printing is not available.

Image Area

Area Definition	Specifications
Usable Area (maximum paper size)	215.9 mm x 355.6 mm (8.5 inches x 14 inches)
Unprintable Area	4.1 mm from edge of all four sides
Printable Area	207.9 x 347.6 mm

Operating Modes

Operating Modes

Mode	Condition	Definition
Running Mode		The printer is in an operating status such as running or recording.
	Fusing	Kept at the operating temperature.
	Exposure system	Operating
	Recording system	Operating
	Cooling fan	The fan operates at high speed.
Ready Mode		The printer is in standby status, ready to run.
	Fusing	Kept at standby temperature.
	Exposure system	The system is at Pause.
	Recording system	The system is at Pause.
	Cooling fan	The fan operates at low speed.

Operating Modes (Continued)

Mode	Condition	Definition
Power Saver Mode 1		The printer enters Power Saver Mode 1 when it has not received print data for the specified time.
	Fusing	The system is at Pause.
	Exposure system	The system is at Pause.
	Recording system	The system is at Pause.
	Cooling fan	The system is at Pause.
Power Saver Mode 2		The printer enters Power Saver Mode 2 to reduce power consumption.
	Fusing	The system is at Pause.
	Exposure system	The system is at Pause.
	Recording system	The system is at Pause.
	Cooling fan	The system is at Pause.

Warm Up Time

The printer reaches the Ready state within 36 seconds after power on, transition from Low Power to Ready, and transition from Sleep to Ready.

First Print Output Time

First Print Output Time (FPOT) is defined as the time from when the engine receives a Start signal, until a single A4 sized page is printed and delivered to the output tray.

		FPOT (sec.)		
Printer	**Color Mode**	**Ready Mode**	**Power Saver Mode 2**	**After Power-on**
Phaser 6000B	Color	29 seconds or less	54 seconds or less	54 seconds or less
	Black and white	24 seconds or less	49 seconds or less	49 seconds or less
Phaser 6010N, WorkCentre 6015 MFPs	Color	27 seconds or less	52 seconds or less	52 seconds or less
	Black and white	22 seconds or less	47 seconds or less	47 seconds or less

First Copy Output Time (WorkCentre 6015 MFP)

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

- Printer is in the Ready state

- Document setting: Platen mode

- Magnification Ratio: 100 %

- Paper source: Feed from the standard paper tray

- Paper type: Standard paper

- Paper size: A4

- Mode: Standard mode (Factory default)

FCOT:

- Color: 37 seconds or less
- B/W: 24 seconds or less

Physical Dimensions and Clearances

Phaser 6000/6010 Printer Dimensions and Weight

29.5 cm (11.6 in.)

10 cm (3.9 in.)

30 cm (12.1 in.)

33 cm (13 in.)
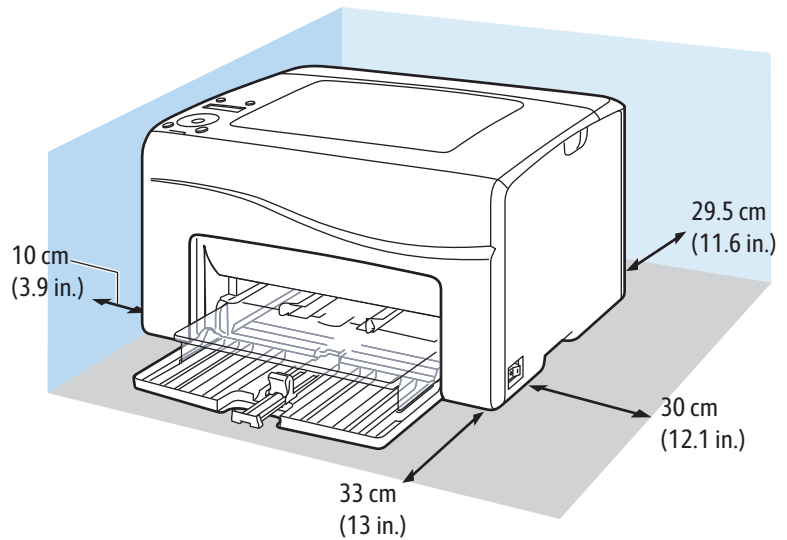
s6000-021

Print Engine	Specification
Height (Output Tray open)	294 mm (11.7 in.)
Width	394 mm (15.5 in.)
Depth (Main Paper Tray open)	429.5 mm (16.9 in.)
Weight	Net.: 10.7 kg (23.6 lb.)

WorkCentre 6015N/NI Color MFP Printer Dimensions and Weight

s6015-047
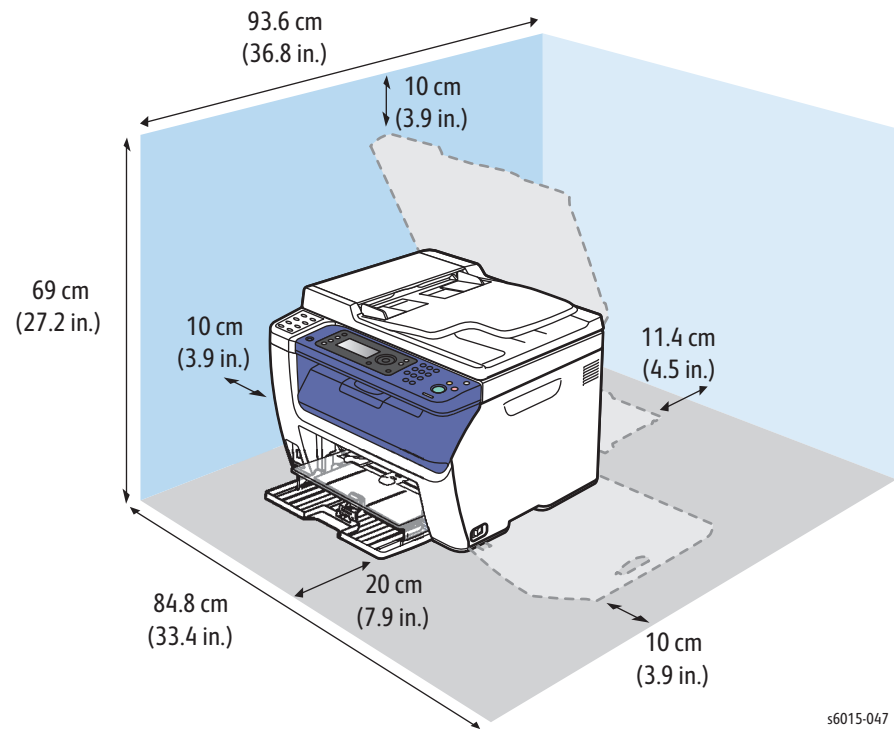
Print Engine	Specification
Height (Output Tray open)	338 mm (13.31 in.)
Width	410 mm (16.14 in.)
Depth (Main Paper Tray closed)	379 mm (14.92 in.)

Weight (Toner cartridges installed)
     WorkCentre 6015B Color MFP
     WorkCentre 6015N Color MFP
	
	14.95 kg (32.96 lb.) ± 5 %
	15.2 kg (33.51 lb.) ± 5 %

Mounting Surface Specifications

The printer must not be tipped or tilted more than 1 degree, front to back and left to right.

s6000-184
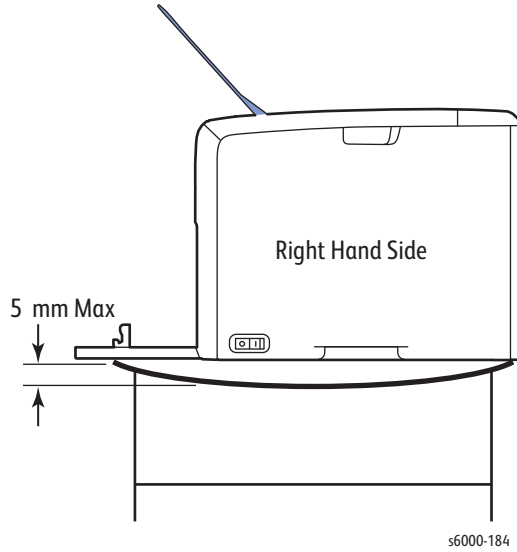
Failure to adhere to the specified mounting specification will void all guarantees of print-quality and/or performance.

s6015-048
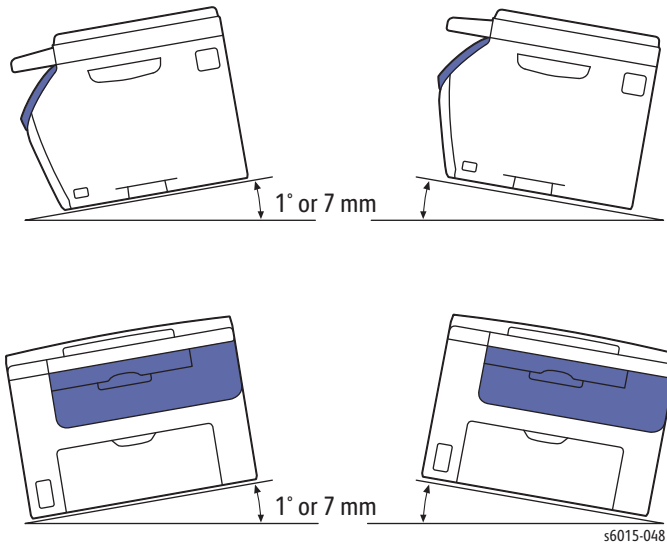
Media and Tray Specifications

Media recommended for use with this printer is known as standard paper. The feed performance, reliability, and print quality satisfy the specifications.

The following table lists supported media for the Phaser 6000/6010 and WC 6015 MFP printers.

Supported Media Sizes

Size	Main Paper Tray	Bypass Tray
A4 (210 x 297 mm (8.27 x 11.69 in.))	Y	Y
B5 (182 x 257 mm (7.17 x 10.12 in.))	Y	Y
A5 (148 x 210 mm (5.83 x 8.27 in.))	Y	Y
C5 (162 x 229 mm (6.38 x 9.02 in.))	Y	Y
Monarch (98 x 191 mm (3.875 x 7.5 in.))	Y	Y
Monarch LEF (191 x 98 mm (7.5 x 3.875 in.))	Y	Y
Envelope #10 (105 x 241 mm (4.125 x 9.5 in.))	Y	Y
DL (110 x 220 mm (4.33 x 8.66 in.))	Y	Y
DL LEF (220 x 110 mm (8.66 x 4.33 in.))	Y	Y
Letter (216 x 279 mm (8.5 x 11 in.))	Y	Y
Legal (216 x 356 mm (8.5 x 14 in.))	Y	Y
Folio (216 x 330 mm (8.5 x 13 in.))	Y	Y
Executive (184 x 267 mm (7.25 x 10.5 in.))	Y	Y
Custom	Y	Y
Width: 76.2 to 215.9 mm (3 to 8.5 in.) Length: 127 to 355.6 mm (5 to 14 in.) Maximum width of 220 mm for envelope (DL LEF) Minimum length of 98.4 mm for envelope (Monarch LEF)		

The following table lists supported media types.

Supported Media Types

Media	Weight (g/m²)	Main Paper Tray	Bypass Tray
Plain	60 to 90	Y	Y
Plain Thick	91 to 105	Y	Y
Recycled	60 to 105	Y	Y
Label[a]	-	Y	Y
Covers Normal (lightweight card stock)	106 to 163	Y	Y
Coated Normal[a] (lightweight glossary card stock)	106 to 163	Y	Y

Supported Media Types (Continued)

Media	Weight (g/m^2)	Main Paper Tray	Bypass Tray
Envelope	-	Y	Y

a. Inkjet printer paper cannot be used.

Tray Capacities

Tray	Quantity
Main Paper Tray	150 sheets plain paper, or 16.2 mm or less in height
Bypass Tray	10 sheets plain paper, or 1 sheet for other paper
Output Tray	100 sheets plain paper, or 5 sheets for Label, Envelope, thick paper, or other paper
ADF	15 sheets plain paper, or paper stack height of 2.2 mm or less

ADF Specifications

Description	Specification
Capacity	15 sheets plain paper, or paper stack height of 2.2 mm or less
Paper Size	Min: Fast scan direction 148.0 mm (5.83") x Slow scan direction 210.0 mm (8.27") Max: Fast scan direction 215.9 mm (8.5") x Slow scan direction 355.6 mm (14")
Paper Weight	60 g/m^2 to 105 g/m^2
Feeding Order	Top to bottom feed

Theory of Operation

In this chapter...

- Print Process Overview
- Media Handling
- Major Printer Components
- Operation Modes / Consumables
- Control
- Main Drive Assembly

Chapter 2

Print Process Overview

The Phaser 6000/6010 and WC 6015 MFPs are LED-based full-color xerographic printers operating on a tandem printing system that has four color-specific drum/developer sets for Yellow, Magenta, Cyan, and Black (YMCK).

The four color-separated images of the original document are created with toner on the drums and then transferred in registration onto the transfer belt (IBT = Intermediate Belt Transfer) to reproduce a full color image. The completed toner image is transferred and fixed on the print medium, and then output as a print.

This section focuses on the printer's operational characteristics providing detailed descriptions of the media path, sensors, xerographic and major system assemblies.

Print Process

The print process consists of these steps:

1. **Xerographics**
   a. **Charging** – The drum surfaces are charged with electricity.
   b. **Exposure** – The drums are exposed to LEDs.
   c. **Development** – Image is developed with toner.
   d. **Primary Transfer** – The four color separation images on the drums are transferred onto the transfer belt.
   e. **Cleaning** – The drums are electrically neutralized and the toner remaining on the drums and BCRs (bias charge rollers) is removed.
   f. **Secondary Transfer** – The toner image on the transfer belt is transferred onto the media.
   g. **Neutralization** – Electric charge of the paper is eliminated.
   h. **Cleaning** – The toner remaining on the transfer belt and Transfer Roller is removed.
2. **Fusing** – The Fuser applies toner on to paper using heat and pressure.

s6000-022

Xerograhic Components
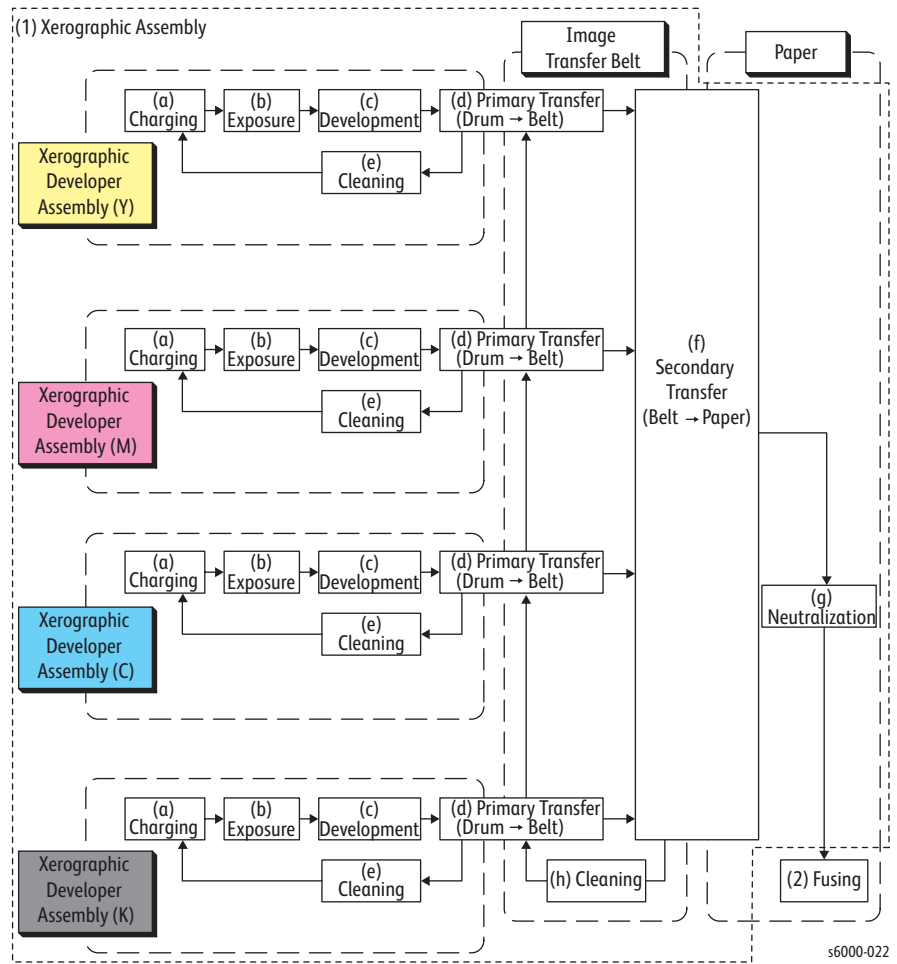
The location of the xerographic components and the media path are shown:

: LED Lights
: Paper Path

Transfer Belt

Fuser
[(9) Fusing]

Cleaning Blade
[(8) Cleaning]

Eliminator
[(7) Neutralization]

Transfer Roller
[(6) Secondary
Transfer]

Y   M   C   K

Belt

1st BTR
[(4) Primary transfer]

Drum

Cleaning Blade
[(5) Cleaning]

Magnet Roller
[(3) Development]

BCR
[(1) Charging]

LED Print Head
[(2) Exposure]

Cleaning Roll
[(5) Cleaning]

s6000-023
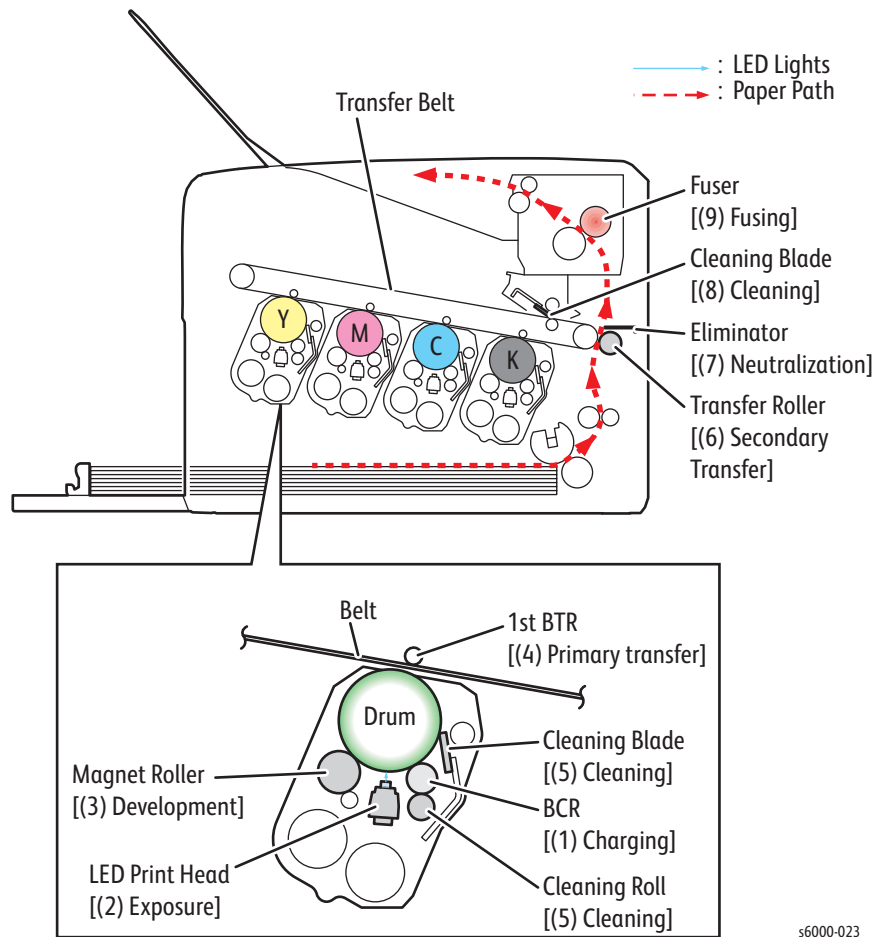
Charging

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

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

The drum surface is uniformly and negatively charged with DC bias voltage. The drum surface is a photoreceptor (an insulator in a dark area and a conductor when receiving light), and the drum inside is conductive.

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

s6000-024
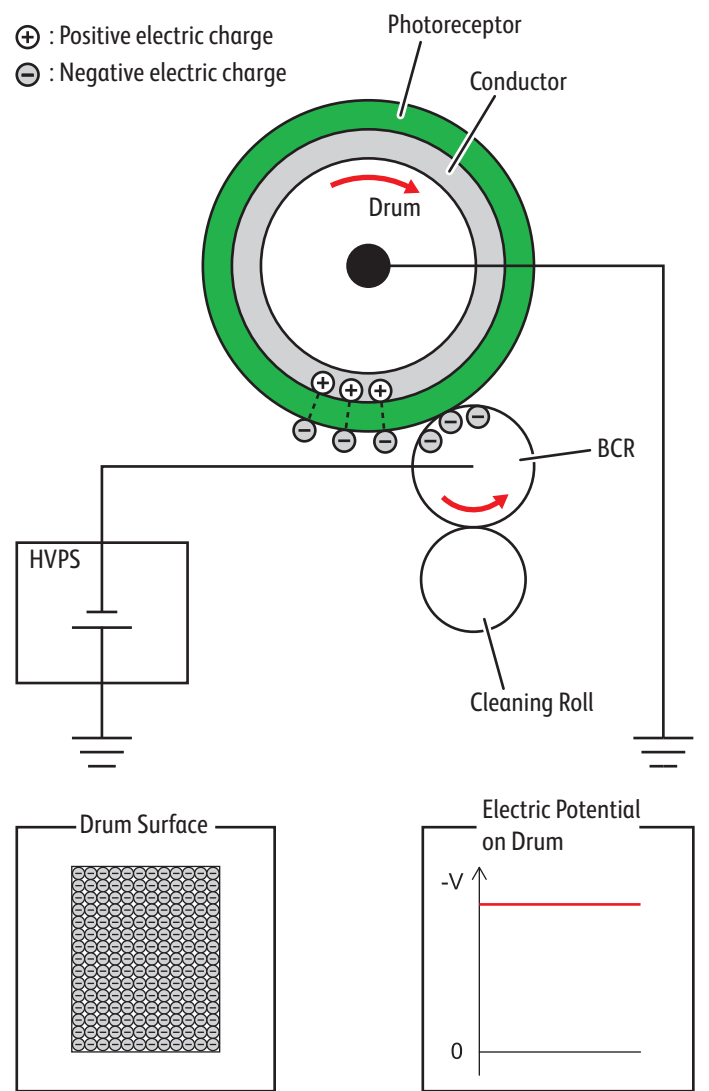
Exposure

The Exposure process forms an invisible electrostatic latent image on the negatively charged drum surface by illuminating it with the LEDs (Light Emitting Diodes). This process is performed in parallel for Yellow, Magenta, Cyan, and Black colors.

Note

The printers uses a LED Print Head (LPH) for exposure. The LPH is made up of numerous LEDs that are lined up in the fast scan direction.

The LPH has 57 SLEDs (Self-Scanning Light Emitting Diodes), and each SLED has 256 dots of luminous points. The result is 14592 luminous dots that are capable of producing a high quality image of 1200 dpi in the fast scan direction.
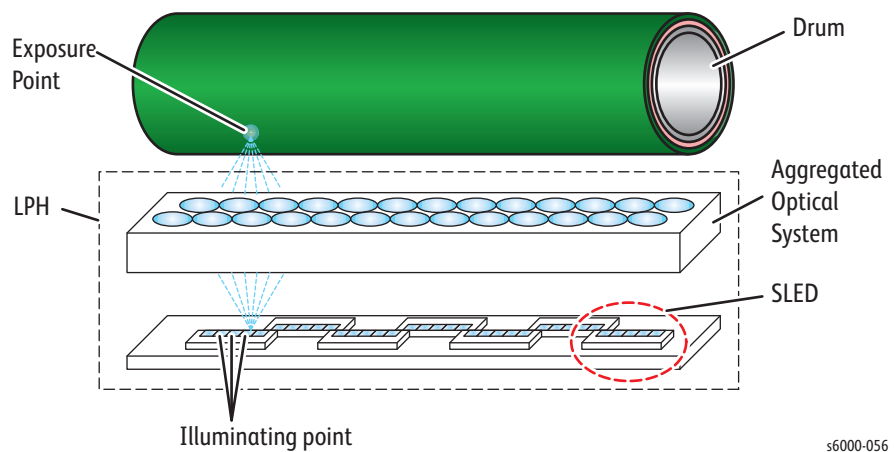
The LEDs are lit in one line units based on the print data (image data) that is sent from the printer controller.

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.

Photoreceptor

Conductor

⊕ : Positive Electric Charge

⊖ : Negative Electric Charge

Drum

LPH

Drum Surface

(LED Lights)

Electrostatic
Latent Image

Drum Concept

LED Lights

Electrostatic
Latent Image

⇒ Photoreceptor

⇒ Conductor

Potential On Drum Surface

(LED Lights)

-V

0
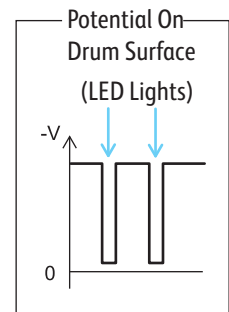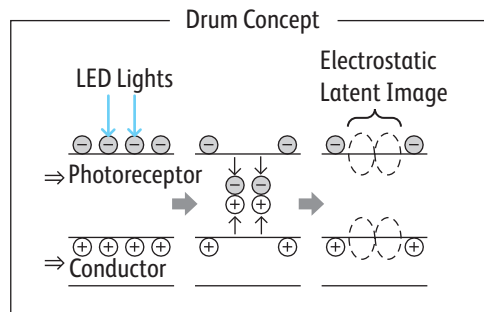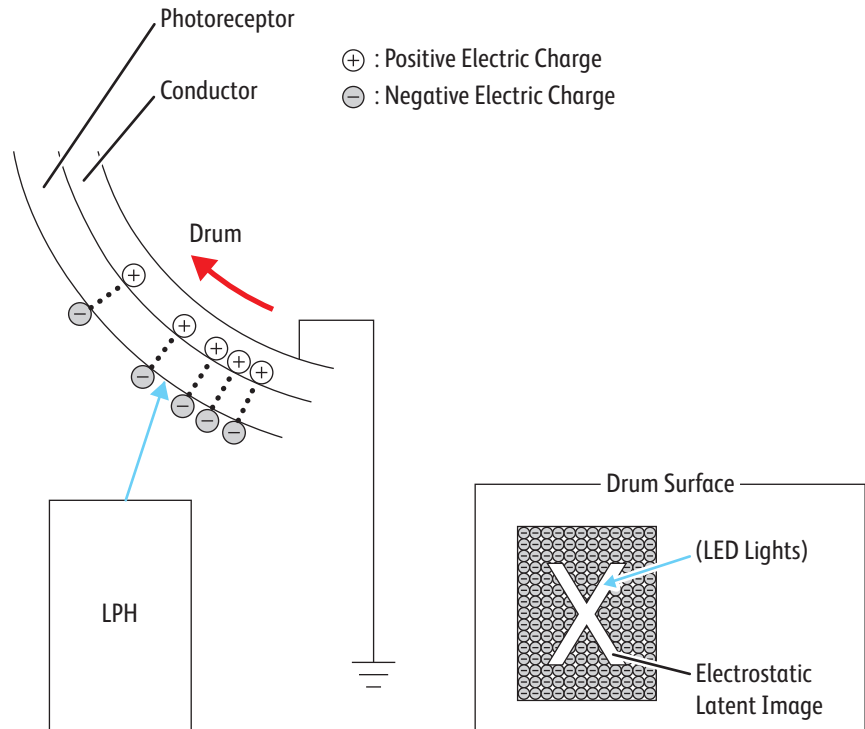
s6000-057

Development

The development process makes a visible image appear on the drum surface by electrically attracting toner particles to the electrostatic latent image. This process is performed in parallel for Yellow, Magenta, Cyan, and Black color independently.

Toner Supply

The toner in the Toner Cartridge is fed into the imaging unit by an auger. The auger is driven by the Toner Motor.

Toner Cartridge

Auger

Imaging Unit

Auger

Toner Motor
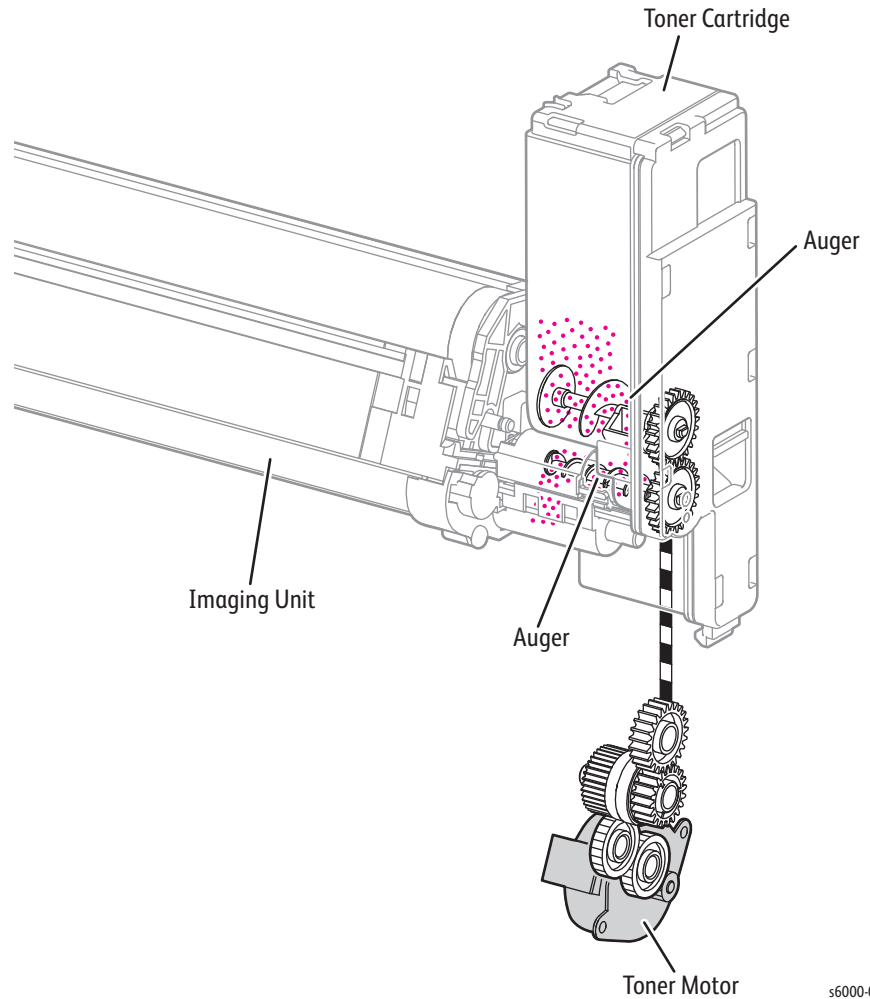
s6000-058

Development

In the developer section, incoming toner is mixed with the existing developer (toner/carrier mixture) by the auger, and then supplied to the magnet roller located near the drum surface. The toner and carrier are charged by friction due to agitation (toner in negative, carrier in positive), and they attract each other electrically. The carrier, due to its magnetic properties, is attracted to the magnet roller, and then uniformly leveled by the trimmer rod.

⊕ : Positive Electric Charge
⊖ : Negative Electric Charge
● : Toner
○ : Carrier

Toner Cartridge

Xerographic Developer Assembly

Drum

Magnet Roller

Trimmer Rod

HVPS

Auger   Auger   Auger

Drum Surface

Toner Image

Electric Potential On Drum

-V

Developing Bias

0
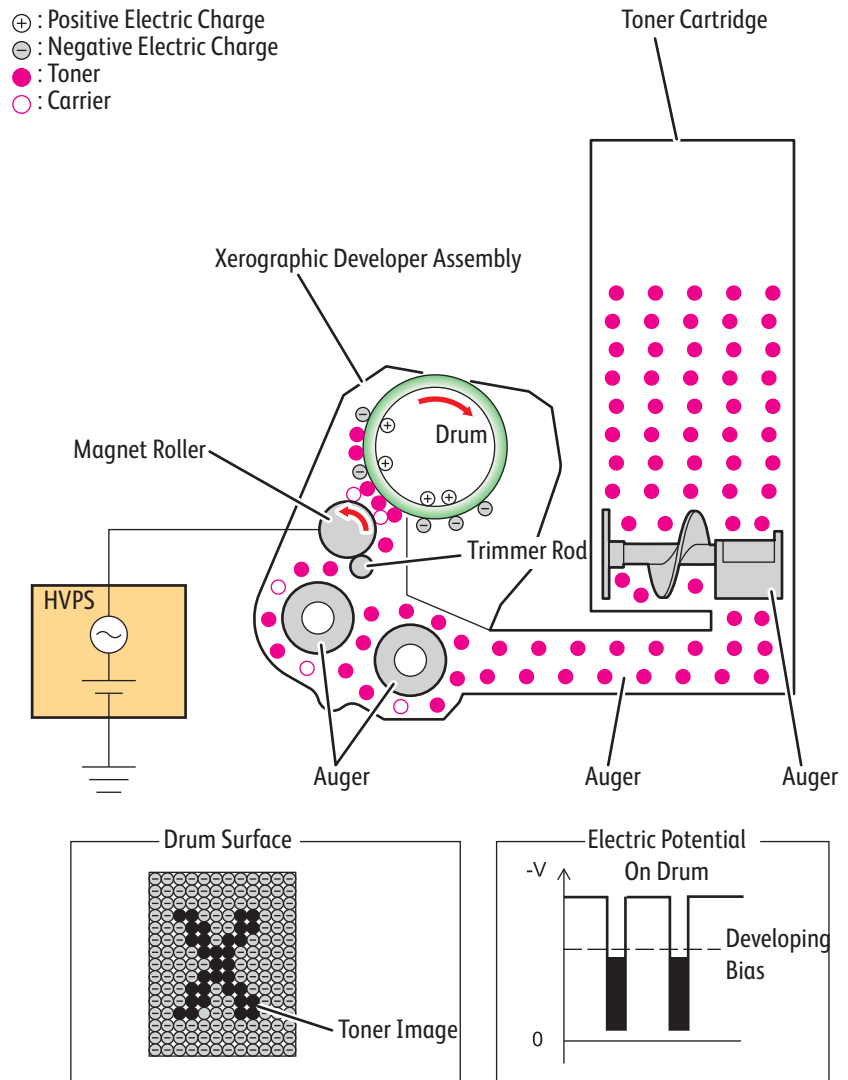
s6000-059

The magnet roller is covered by a thin semi-conductive sleeve all over the surface. The DB (Developing Bias) voltage is supplied to this semiconductor sleeve from the HVPS. The DB voltage is negative DC voltage combined with AC voltage. The DC voltage keeps the magnet roller at a constant negative voltage against the photoreceptor layer of the drum. Therefore, at the area where the negative electric charge on the drum surface does not decrease, the potential is lower than that of the magnet roller, while the potential is higher than that of the magnet roller at the area where the negative charge on the drum surface decreases. The AC voltage shakes the developer on the surface of the magnet roller so that the toner easily flies to the drum.

Only the portions of the drum surface where the negative charge has decreased below that of the magnet roller (electrostatic latent image) attract the toner to form an image on the drum.

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

Primary Transfer

In the primary transfer process, the toner images formed on the drums are transferred onto the transfer belt via the 1st BTR (first bias transfer roller). The four color separation images are transferred from the drums onto the transfer belt in the order of Y, M, C, and K.

The 1st BTR is a metal roller, to which the positive voltage from the HVPS is applied. The 1st BTR positively charges the backside of the transfer belt with the voltage generated by the contact resistance with the transfer belt.

The toner images on the drums are transferred to the transfer belt due to the attracting force generated between the negative polarity of the toner image and the positive polarity on the transfer belt.
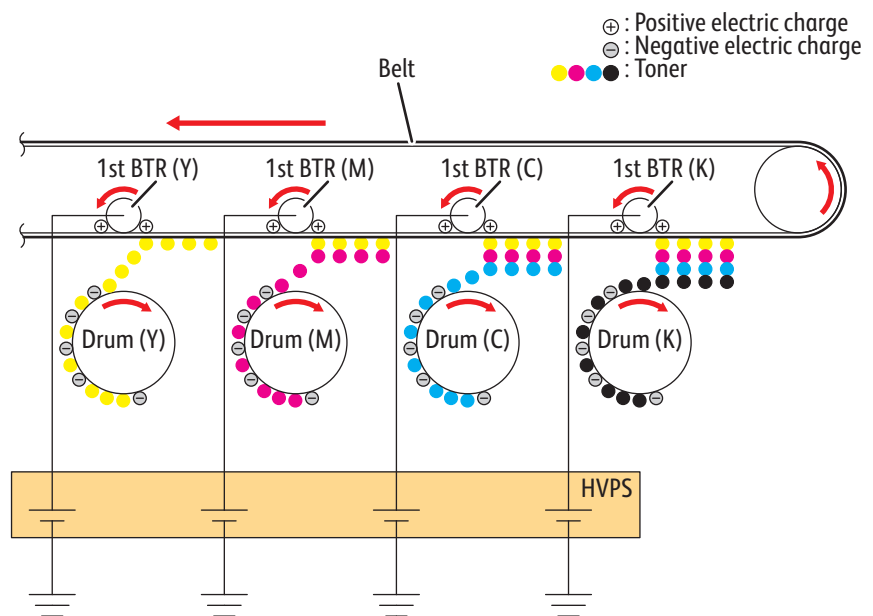
s6000-060

Drum Cleaning

During cleaning, excess toner and charge is removed from the drum and BCR.

- Drum cleaning

  The excess toner that was not transferred to the transfer belt in the "Primary Transfer" process remains on the drum surface. To prevent the excess toner from causing troubles in the subsequent processes, the toner is scraped off by the cleaning blade in contact with the drum surface, and then is collected into the waste toner bottle (see "Waste Toner Collection" on page 2-16).

- BCR cleaning

  The excess toner remaining on the BCR surface is wiped off by the cleaning roller made of spongy material, and then is collected into the waste toner bottle (see "Waste Toner Collection" on page 2-16).

: Toner

Drum

Cleaning Blade

BCR

Cleaning Roller
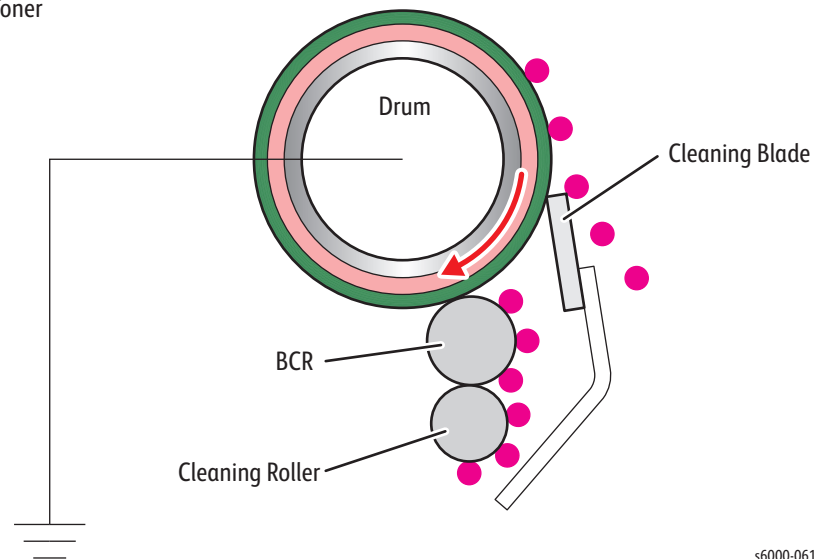
s6000-061

Secondary Transfer

In the secondary transfer process, the toner image completed on the surface of the transfer belt is transferred onto the print medium using the Transfer Roller. The print medium passes between the Transfer Roller and the transfer belt that runs in contact with the conductive roller (back up roller).

The toner image on the transfer belt moves onto the print medium due to the attracting force generated between the back up roller negatively charged by the HVPS and the Transfer Roller grounded and positively polarized.
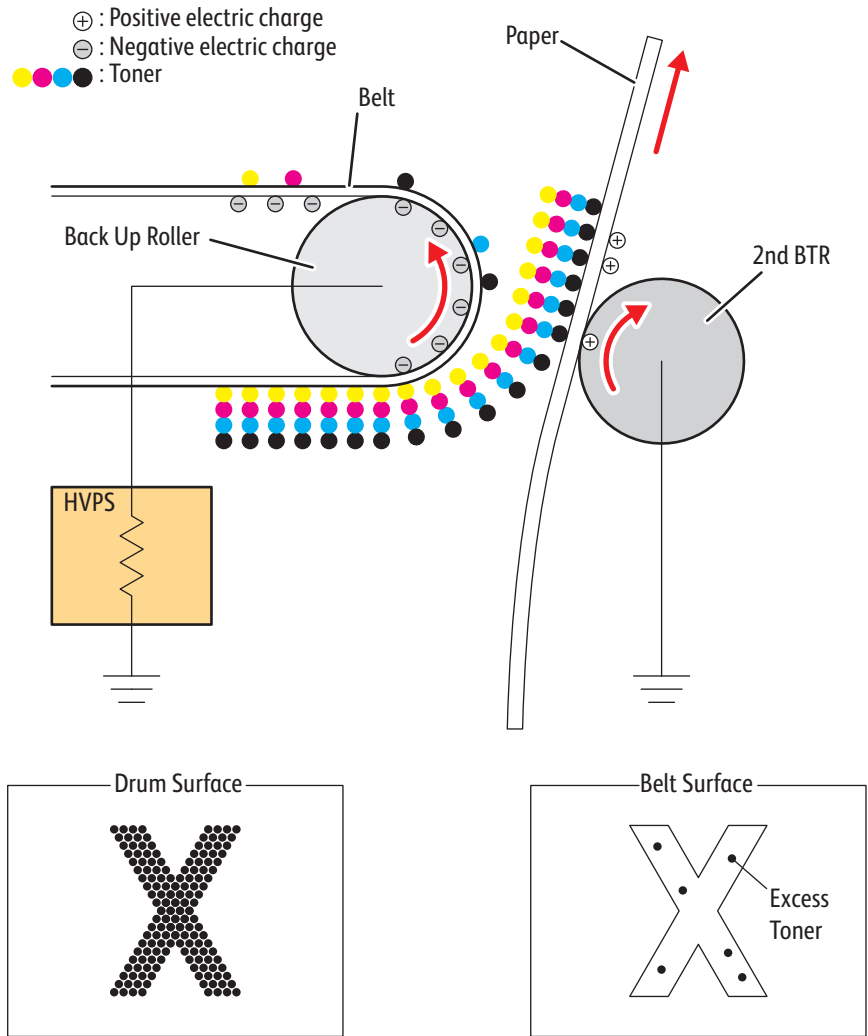
s6000-062

Neutralization

In the neutralization process, the charge on the paper is neutralized or eliminated by the eliminator. If the charge was not removed, the toner on the paper would spread over the surrounding metal surfaces.

The eliminator is a metal sheet that is held at the ground level. The eliminator is installed several millimeters away from the backside of the belt.

s6000-063
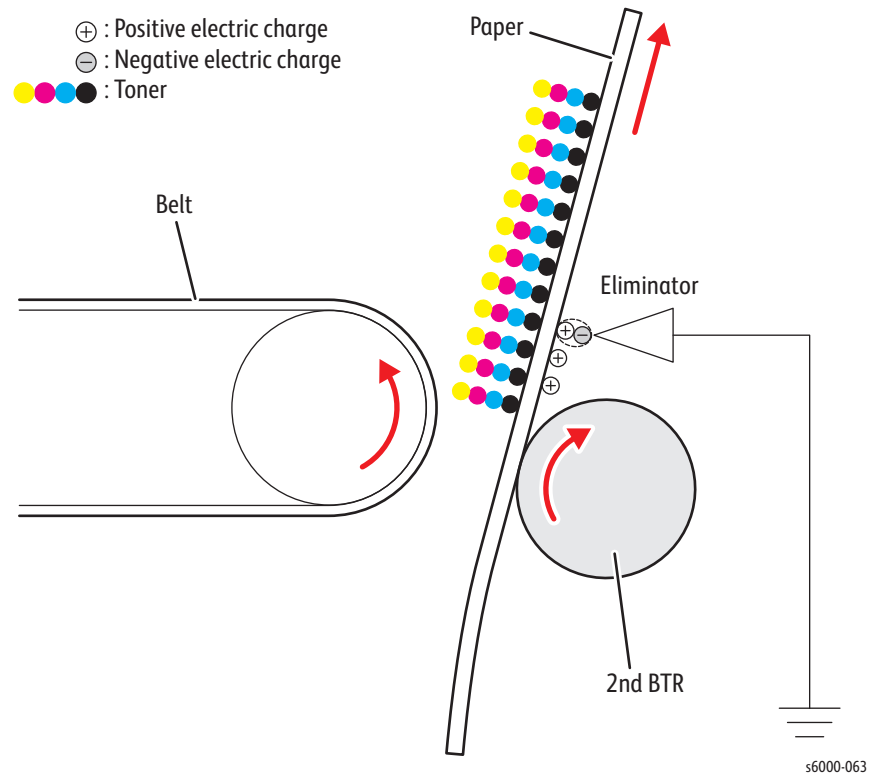
Belt Cleaning

In the cleaning process, the toner and charge remaining on the transfer belt and the toner remaining on the Transfer Roller are removed after the toner image is transferred onto the print medium.

- Belt cleaning

The excess toner that was not transferred to the sheet in the "Secondary Transfer" process remains on the Belt surface. To prevent the excess toner from causing troubles in the subsequent processes, the toner is scraped off by the cleaning blade in contact with the drum surface, and then is collected into the waste toner bottle in the Black Toner Cartridge (see "Waste Toner Collection" on page 2-16).

- Transfer Roller cleaning

The excess toner deposited on the Transfer Roller in the "Secondary Transfer" process soils the backsides of the subsequent sheets. To prevent this trouble, the excess toner on the Transfer Roller is transferred back onto the transfer belt using the attracting force generated by the back up roller which is positioned opposite to the Transfer Roller and is positively polarized by the DC voltage from the HVPS. The excess toner remaining on the transfer belt is scraped off by the cleaning blade that is in contact with the transfer belt, and then is collected into the waste toner bottle in the Black Toner Cartridge (see "Waste Toner Collection" on page 2-16).
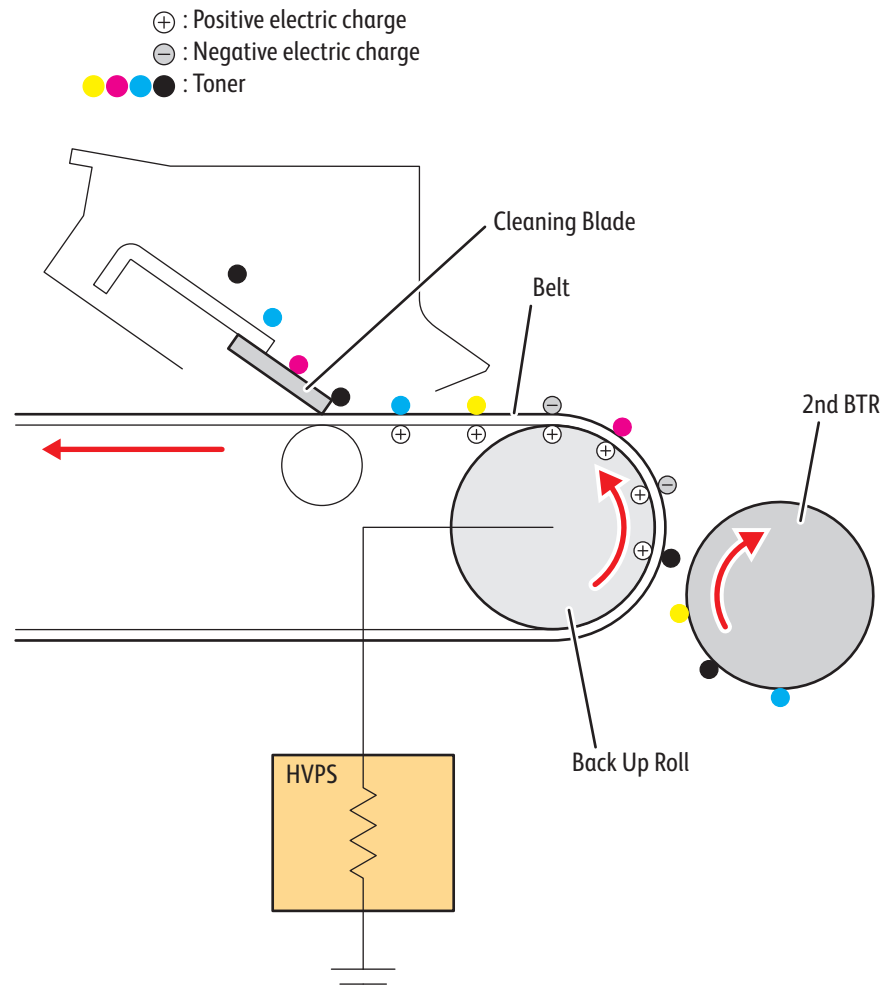
s6000-064

Fusing

In the fusing process, toner is fixed onto the print medium by heat and pressure.

- The toner particles are melted by the heat roller heated by the heat lamp, and fused onto the print medium by the pressure between the heat roller and the belt assembly.

- The belt assembly, friction-driven by the heat roller, nips the print media against the heat roller using the pressurizing mechanism it contains.

s6000-065
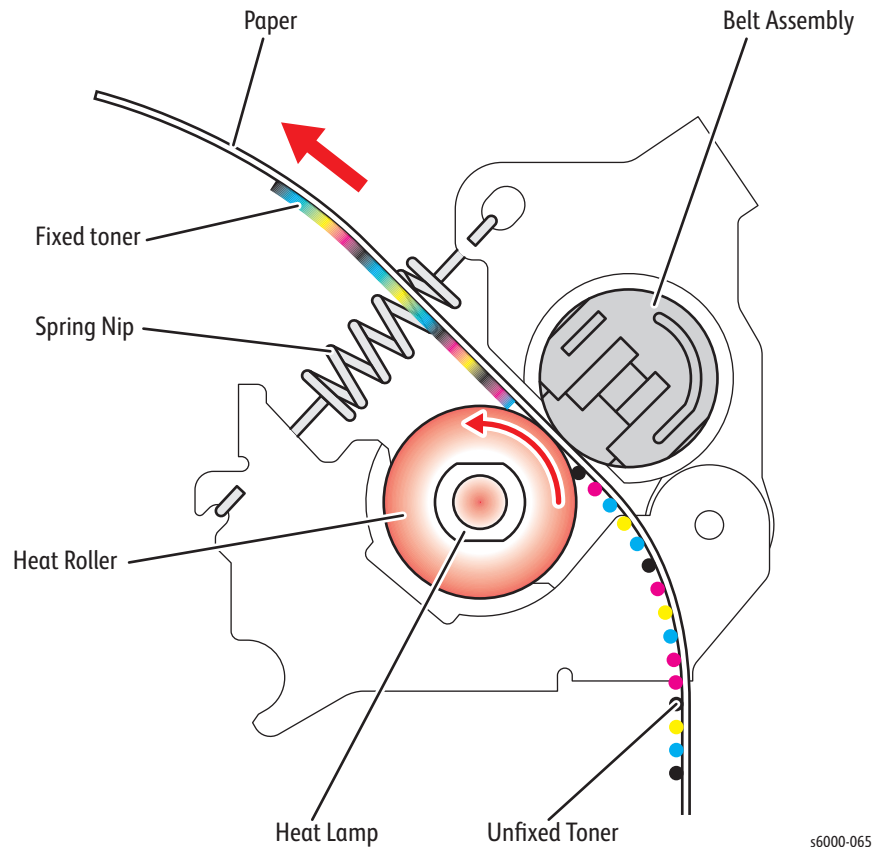
Waste Toner Collection

The waste toner collected in the cleaning process of each drum and the degraded developer ejected from each imaging unit are transported to the waste toner bottle in each Toner Cartridge via the auger in each imaging unit.
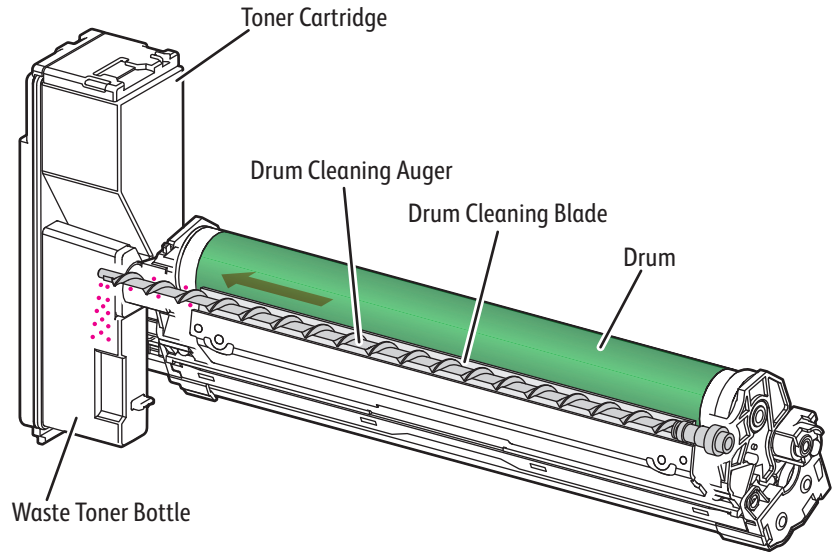
s6000-077

The waste toner collected in the cleaning process of the transfer belt is transported by auger to the Black imaging unit through the duct. The waste toner is then transported to the waste toner bottle in the Black Toner Cartridge via the auger in the Black imaging unit.
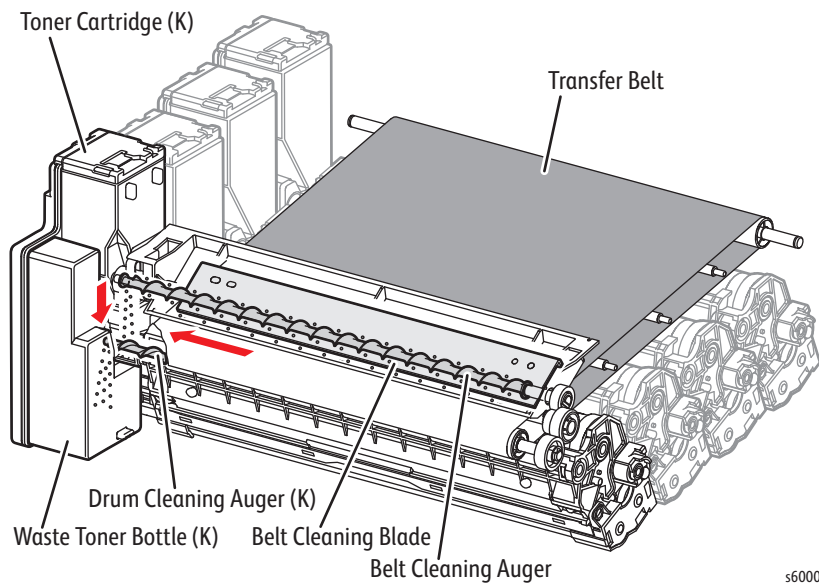
s6000-078

Media Handling

Media Path
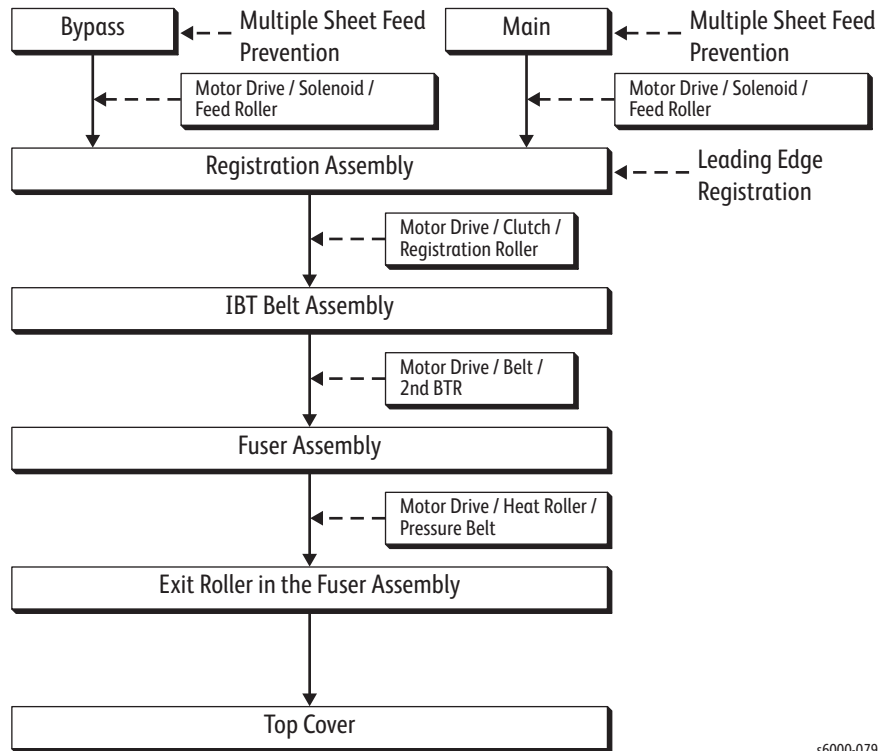
s6000-079

Media Path Components

: Paper Transfer
: Paper Sensors

Exit Sensor [Fuser Assy]

Exit Roll [Fuser Assy]

Heat Roll [Fuser Assy]

Pressure Belt [Fuser Assy]

Transfer Belt
[Belt Assy IBT]

Transfer Roller

Rubber
Registration
Roller
[Regi Assy]

Registration
Pinch Roller
[Regi Assy]

Registration Sensor
[Regi Assy]

Feed Roller

No Paper Sensor

Separator Roller
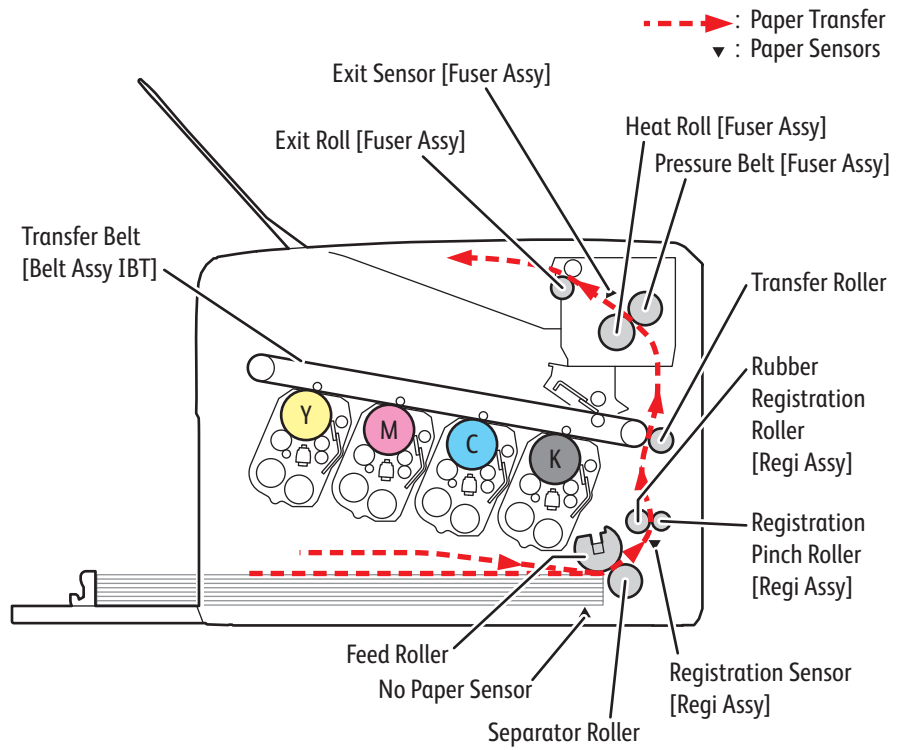
s6000-080

Feeding from the Main Paper Tray

When sheet feeding from the Main Paper Tray starts, the Feed Roller rotates, driven by the Main Drive Assembly and controlled by the Feed Solenoid, to feed the sheet to the position where it is nipped between the Feed Roller and the Separator Pad.

As the Feed Roller rotates, the Left Feed Roller Cam and Right Feed Roller Cam also rotate to lift the bottom plate via the Left Follower Arm and Right Follower Arm to the position for sheet feeding.
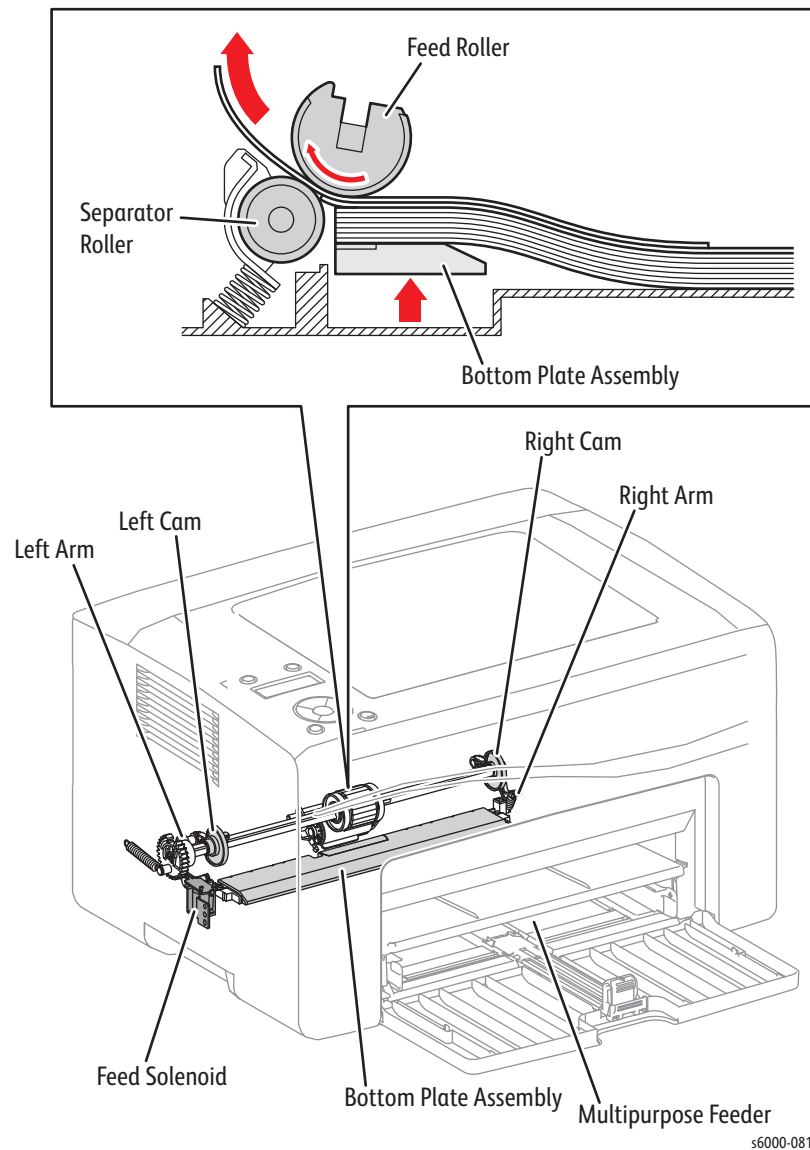
s6000-081

Multiple Sheet Feed Prevention

The sheets in the tray are occasionally stuck together along the edges. The stuck sheets cause a multiple sheet feed or a jam. The sheets are fed by the Feed Roller to a position between the Feed Roller and the Separator Pad. Normally, when only one sheet is fed, both the Feed Roller and Separator Pad rotate to allow the sheet to pass. However, when two sheets are fed concurrently, only the Feed Roller rotates and the Separator Pad is locked thereby allowing the upper sheet to separate from the lower sheet that is stopped by the friction with the Separator Pad at rest.

The Separator Pad is pushed toward the Feed Roller by spring pressure, and is controlled by the torque limiter (Friction Clutch) with which it is coupled.
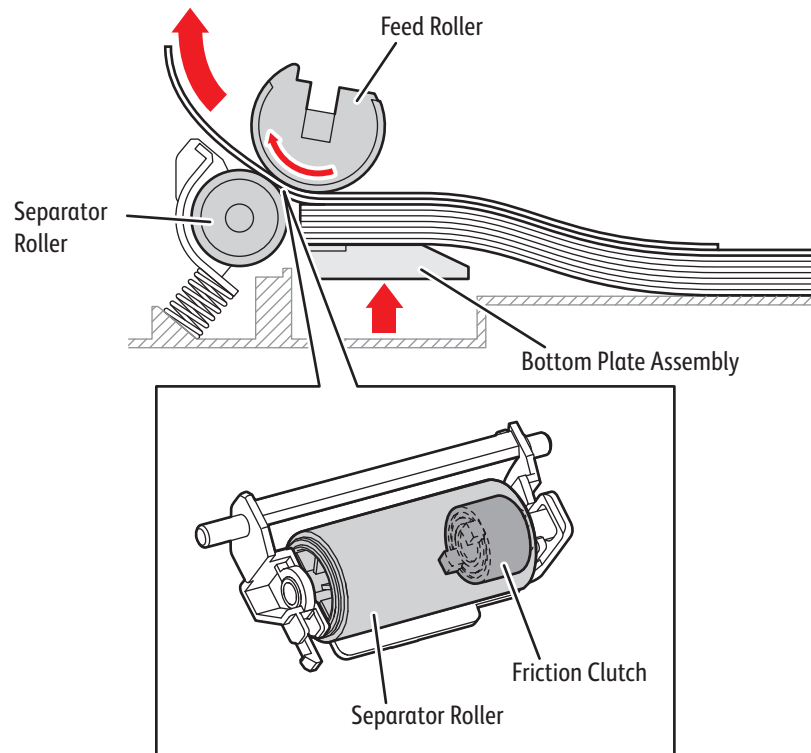
s6000-082

Feeding from the Bypass Tray

When feeding from the Bypass Tray starts, the Feed Roller rotates, driven by the Main Drive Assembly and controlled by the Feed Solenoid, to feed the sheet to the position where it is nipped between the Feed Roller and the Separator Pad.

The paper path from the Main Paper Tray and the paper path from the Bypass Tray are the same. The sheets loaded in the Bypass Tray are positioned nearer to the Feed Roller, and are given the higher priority in feeding if both the Main Paper Tray and the Bypass Tray are loaded.
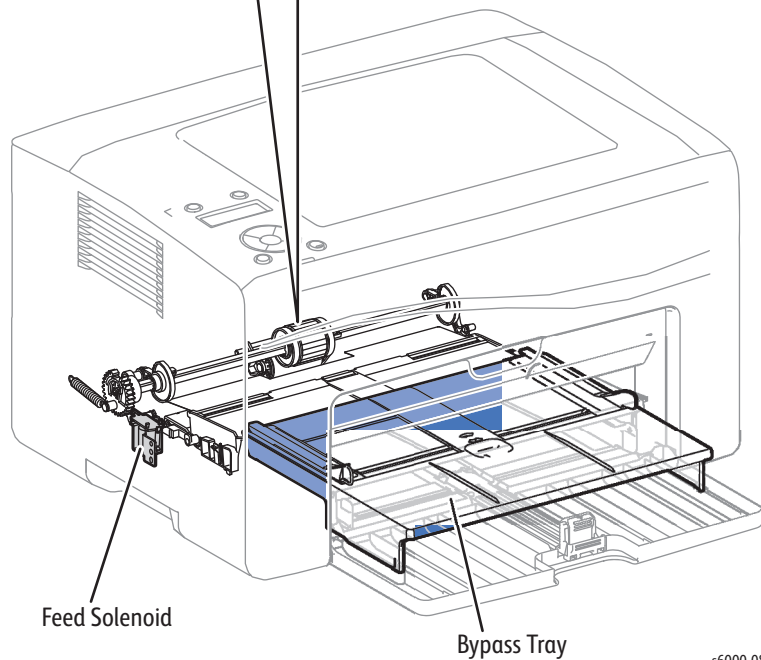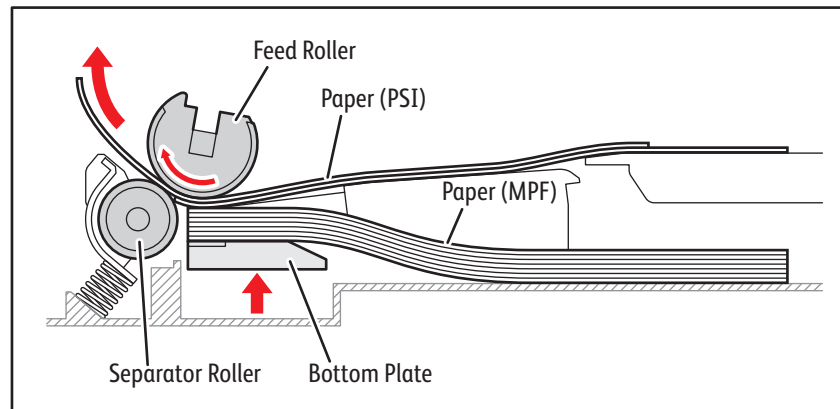
s6000-083

Feeding in Registration Section

The sheet fed out of the Tray is forwarded to the registration section, driven by the Main Drive Assembly and controlled by the Registration Clutch.

When the sheet reaches the registration section, its lead-edge position is adjusted (see "Lead-edge Registration" on page 2-23), and then the sheet is forwarded to the toner transfer section (Transfer Roller).
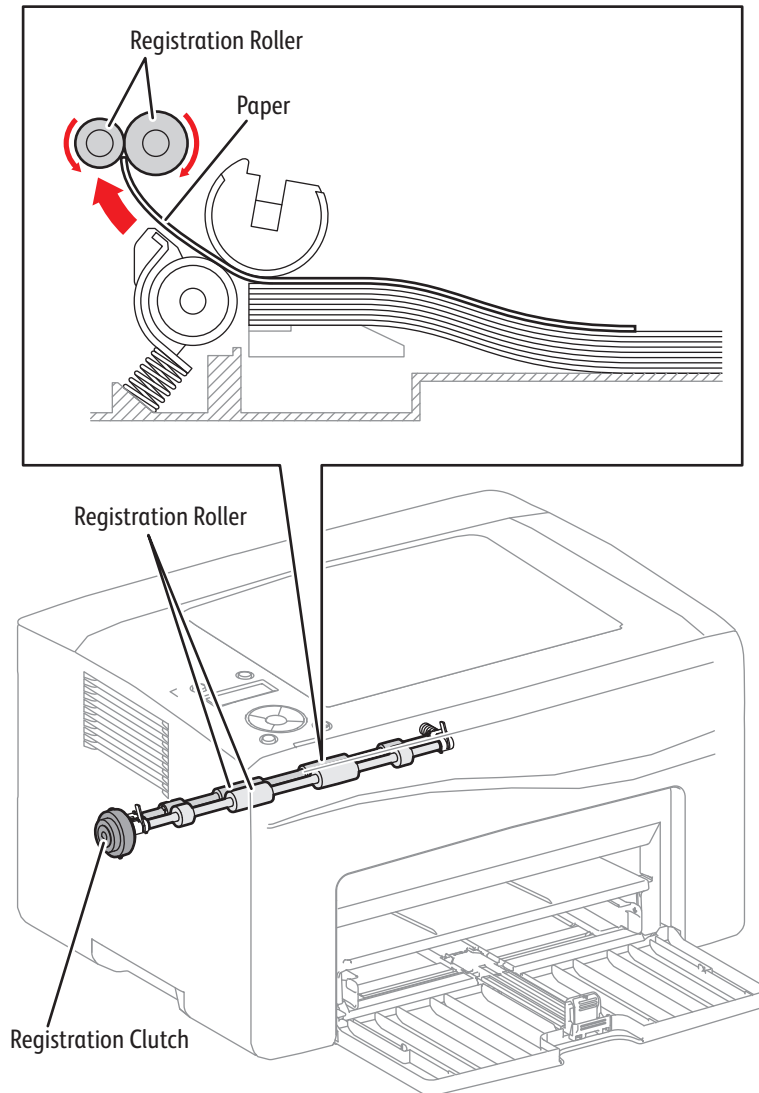
s6000-084

Lead-edge Registration

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

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

By thrusting the edge of the sheet fed out of the Main Paper Tray or Bypass Tray against the Registration Roller that is locked, the lead edge position of the sheet is corrected.

Before the Registration Rollers are energized, the paper is advanced from the tray to the rollers. This process aligns the leading edge as shown in the following illustration.

By pushing the edge of the sheet against the Registration Roller that is not turning, the lead edge of the sheet is registered.
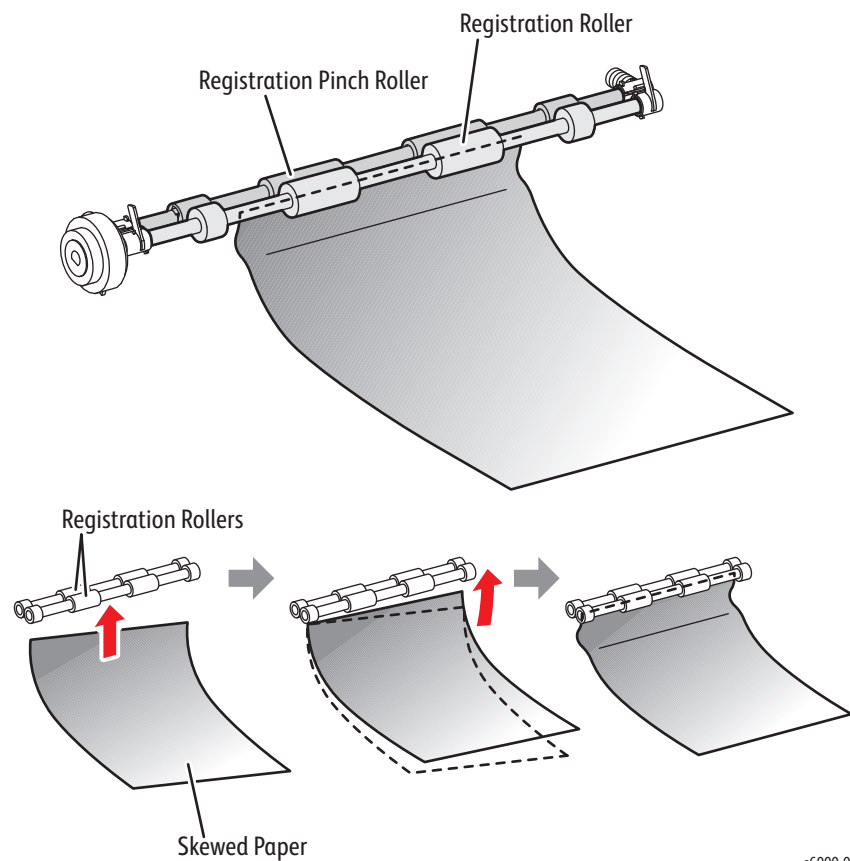
s6000-085

Transfer/Fusing/Exit

When the sheet passes the registration section it then passes through the toner transfer position. There it is nipped between the transfer belt and the Transfer Roller that are driven by the Main Drive Assembly. The toner image on the transfer belt is transferred onto the sheet. As the sheet is forwarded to the exit section, the toner image is fused onto the sheet surface by the heat roller that is driven by the Main Drive Assembly.

At the exit section, the sheet is ejected by the Fuser's exit roller. The exit roller is driven by the Main Drive Assembly.

s6000-086
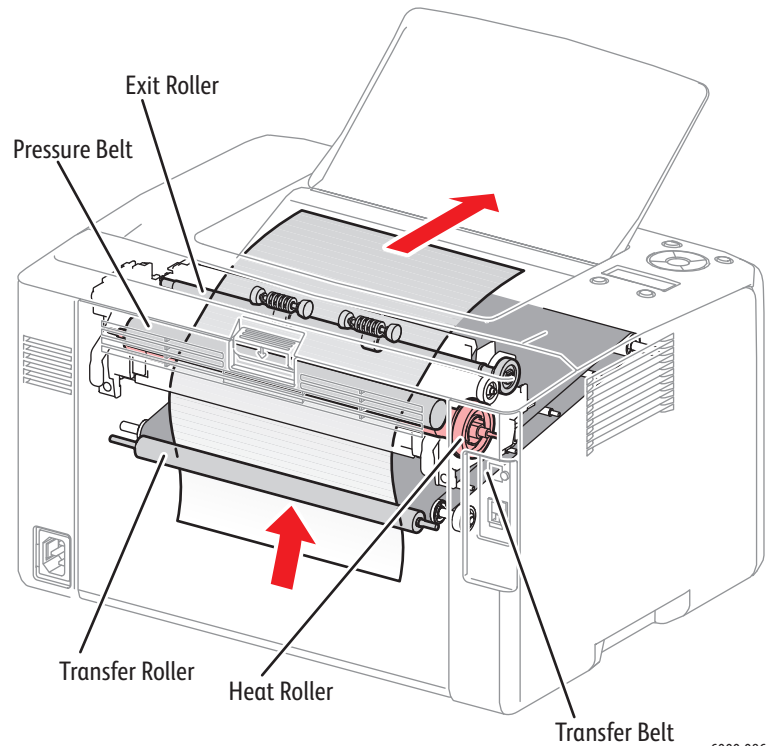
Major Printer Components

In this section, major functional components of the printer are described with illustrations.

These components are classified into the following functional blocks.

- Sensors

- Main Paper Tray

- Registration Assembly

- Process Control Sensors

- LED Print Head

- Toner Cartridge

- Xerographic Assembly

- Fuser & Exit

- Drive Assemblies

- Electrical

- Scanner

- Automatic Document Feeder (ADF)

Sensors

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

Phaser 6000/6010 Sensors

CRUM Sensors (K, C, M, Y)
Exit Sensor
Interlock Switch (Cover Open Sensor)
Registration Sensor
No Paper Sensor
K Mode Sensor

s6000-140

WorkCentre 6015 MFP Sensors

Exit Sensor
CRUM K
CRUM C
CRUM M
CRUM Y
Interlock Switch
Registration Sensor
No Paper Sensor
K Mode Sensor

s6015-033
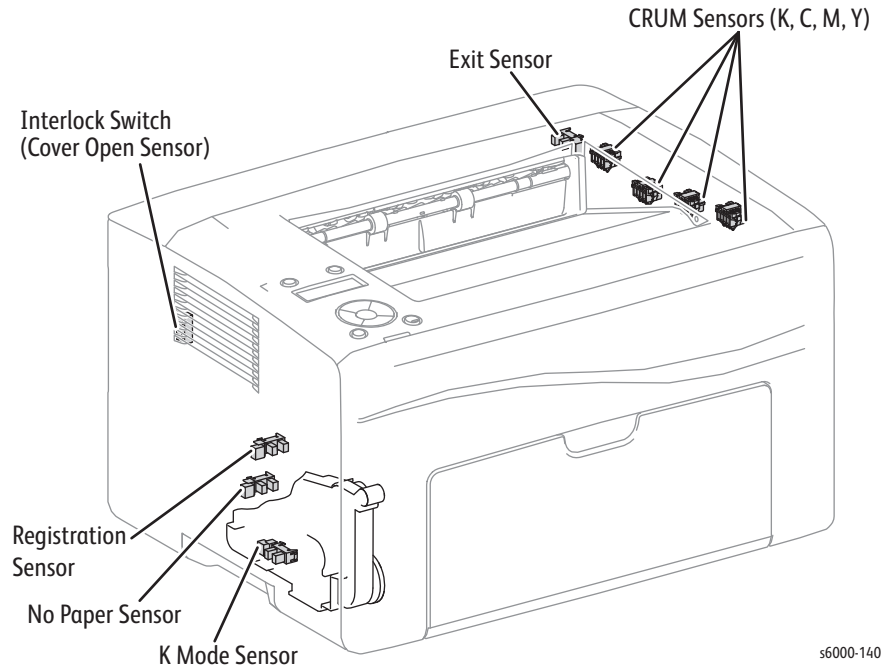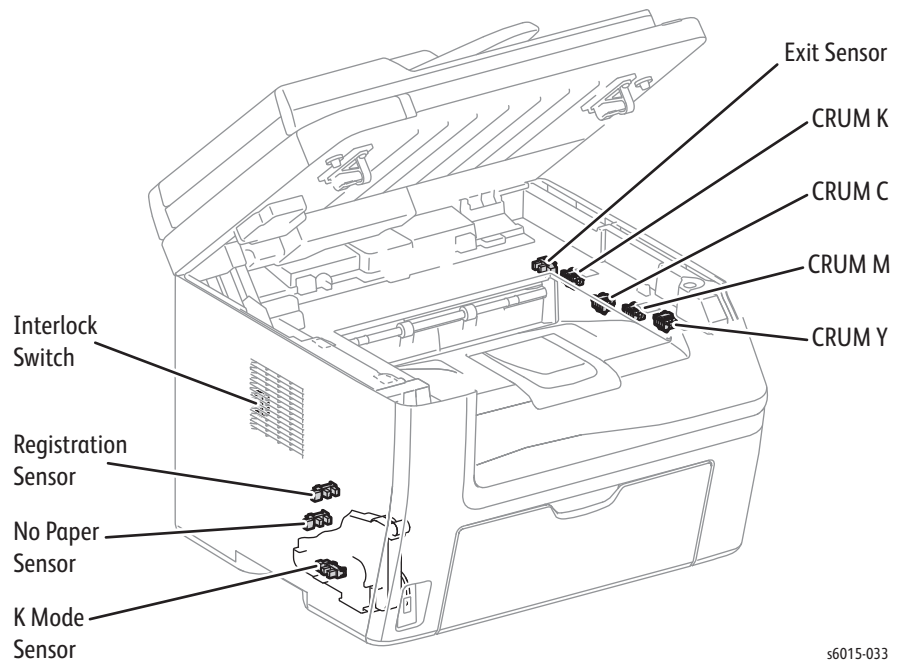
Main Paper Tray

Major Functions

- Side Guides

  The side guides align the print media stack in the width direction by moving perpendicularly to the paper feeding direction.

- Tray Extension

  The Tray Extension aligns the print media stack in the length direction and determines the paper size by moving in the paper feeding direction.

- Separator Pad

  The Separator Pad and the Feed Roller nip the print medium to prevent multiple sheet feed.

- Bottom Plate

  When sheets are fed, the bottom plate rises to the position where sheets can be fed (see "Feeding from the Main Paper Tray" on page 2-19).

Bottom Plate Separator Holder Right Side Guide

Left Side Guide Tray Extension s6000-087
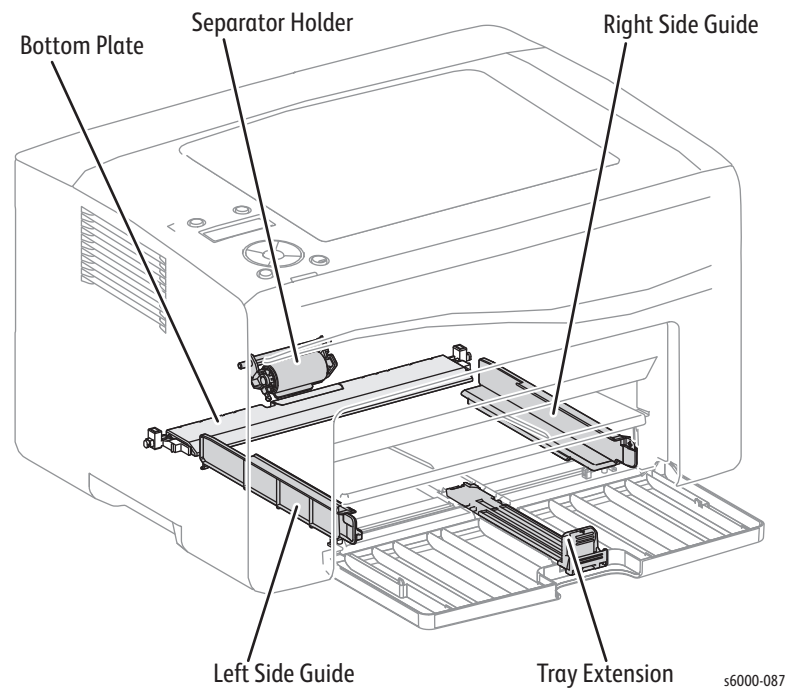
Paper Feeder

Major Functions

Feed Roller

Feed Solenoid

No Paper Sensor
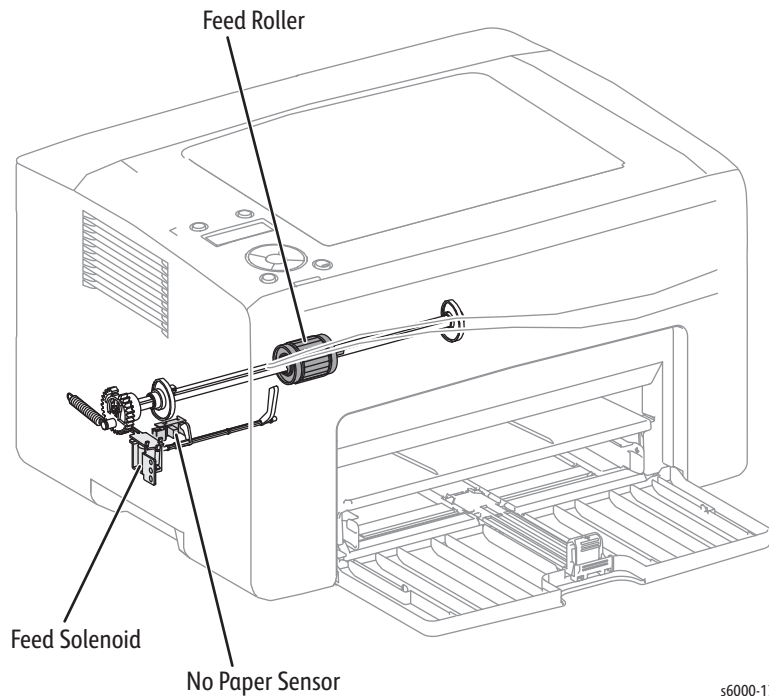
s6000-174

- Feed Solenoid

  Transmits the torque from the Main Drive Assembly to the Feed Roller. See "Main Drive Assembly" on page 2-68.

- Feed Roller

  When the Feed Solenoid operates, the Feed Roller starts rotating to feed the print medium. See "Main Drive Assembly" on page 2-68.

- No Paper Sensor (6010N and WorkCentre 6015 MFP Only)

  Detects the presence/absence of sheets in the Main Paper Tray or Bypass Tray based on the change of the actuator position. (No sheets: Sensor beam is received.)
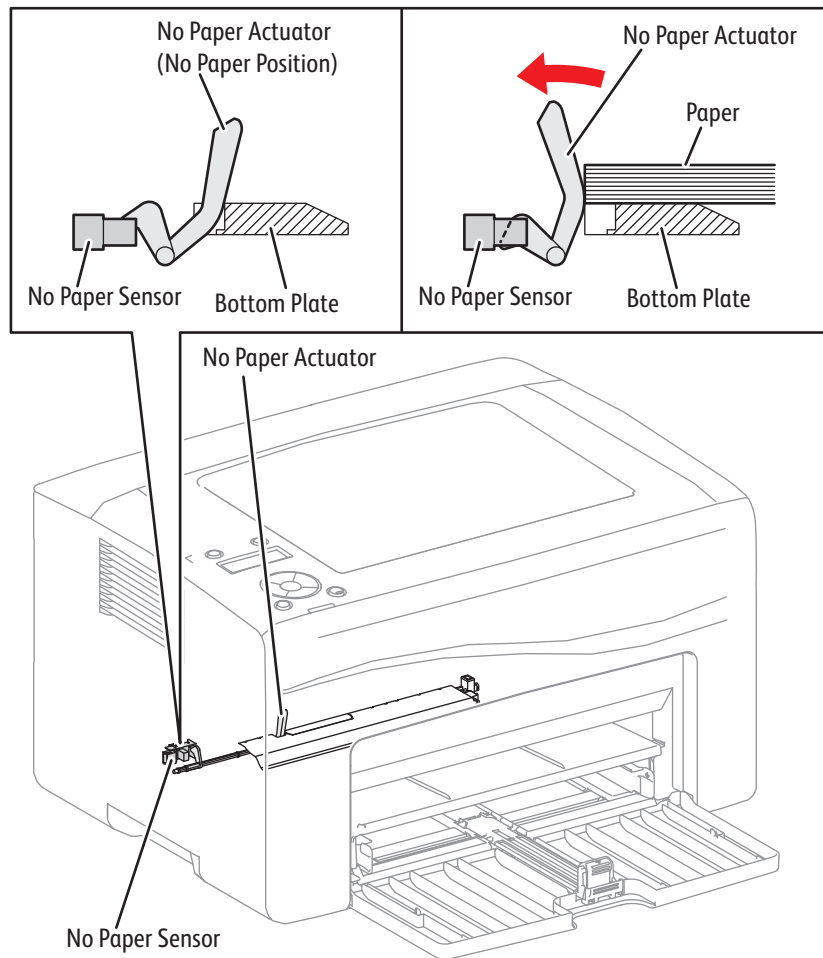
s6000-173

Registration Assembly

Major Functions

- Registration Sensor

  The Registration Sensor detects that the leading edge of the print medium has reached the registration section. No paper: sensor beam is blocked.

Registration Actuator (No Paper Position)   Registration Actuator   Paper

Registration Sensor   Registration Sensor

Registration Sensor

Registration Actuator
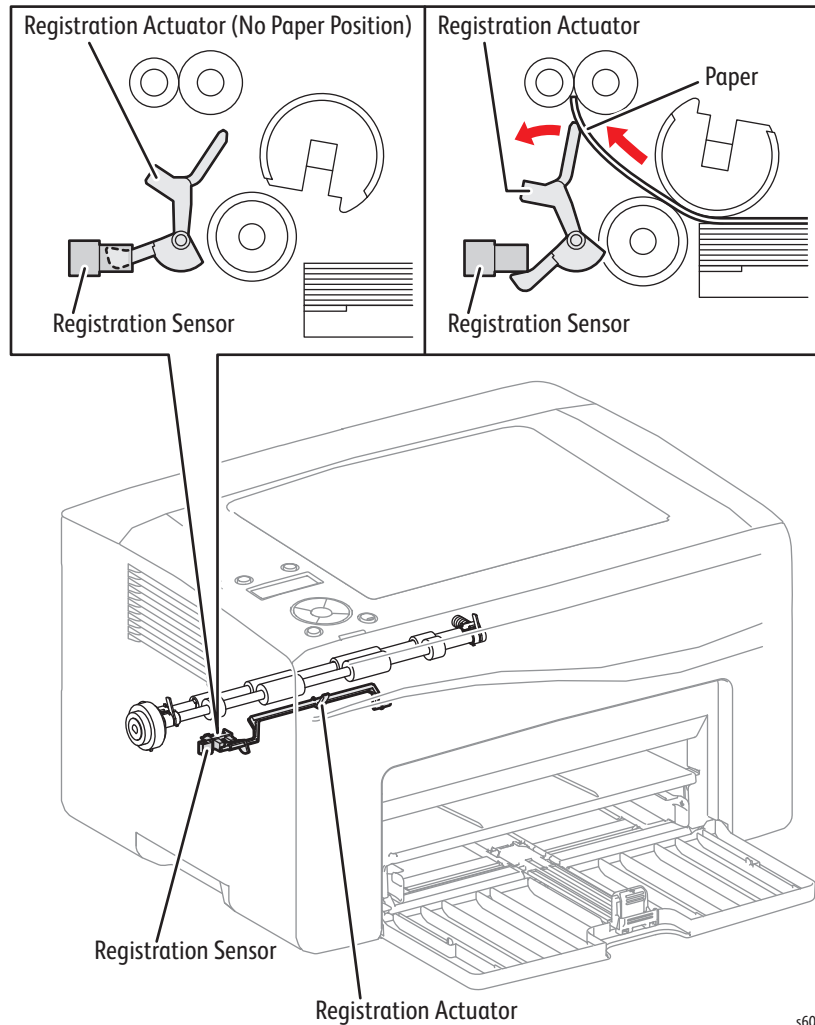
s6000-088

- Registration Clutch

  The Registration Clutch transmits the driving torque from the Main Drive Assembly to the Registration Roller to feed the sheet from the Main Paper Tray, or Bypass Tray, to the Fuser. See "Main Drive Assembly" on page 2-68.

To place the toner image at an appropriate position on the sheet, the timing of feeding from the Registration Assembly is adjusted by the duration for which the Registration Clutch operates.

Registration Pinch Roller

Registration Roller

Registration Clutch

Registration Sensor
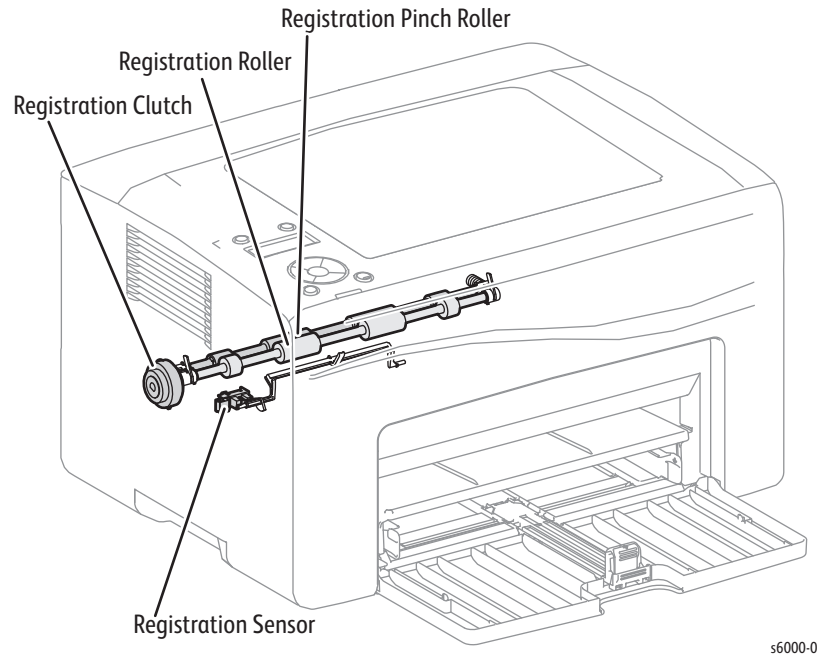
s6000-089

Process Control Sensors

Major Functions

- ADC Sensor

  Measures the density of the toner patches on the belt at the Window position before the secondary transfer, and converts it to a voltage value. This voltage value is used for toner density control.

- MOB (Mark On Belt sensor) Sensor

  Detects misregistration among the YMCK colors based on the marks created on the rear side of the Belt.

Transfer Belt

ADC Sensor

MOB Sensor
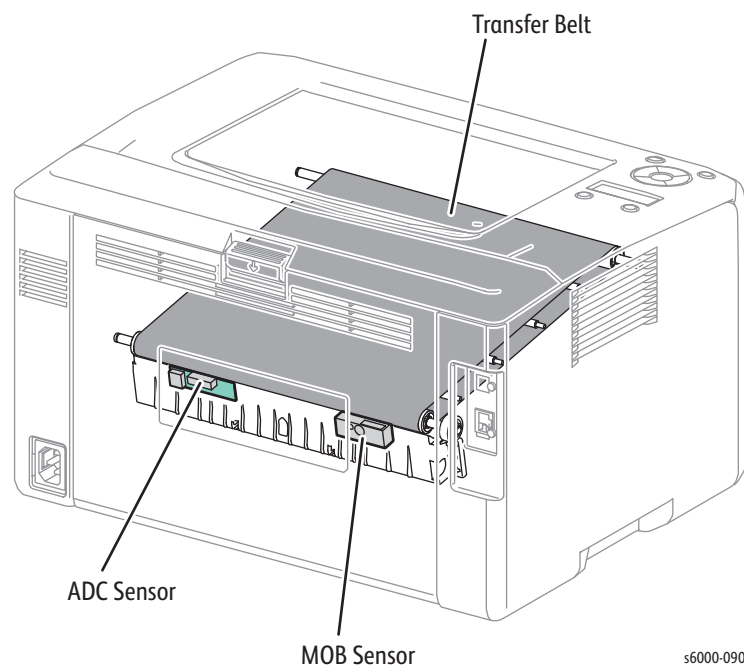
s6000-090

LED Print Head

Major Functions

- LED Print Head (LPH)

    An exposure device for creating an electrostatic latent image on the drum surface. One unit is provided for each of Yellow, Magenta, Cyan, and Black.

- LED Board

    A circuit board that distributes signals from the LED Driver Board to the LPH.

LPH Assembly (K)
LPH Assembly (C)
LPH Assembly (M)
LPH Assembly (Y)

Bottom View

ASIC PWB
LPH Assembly
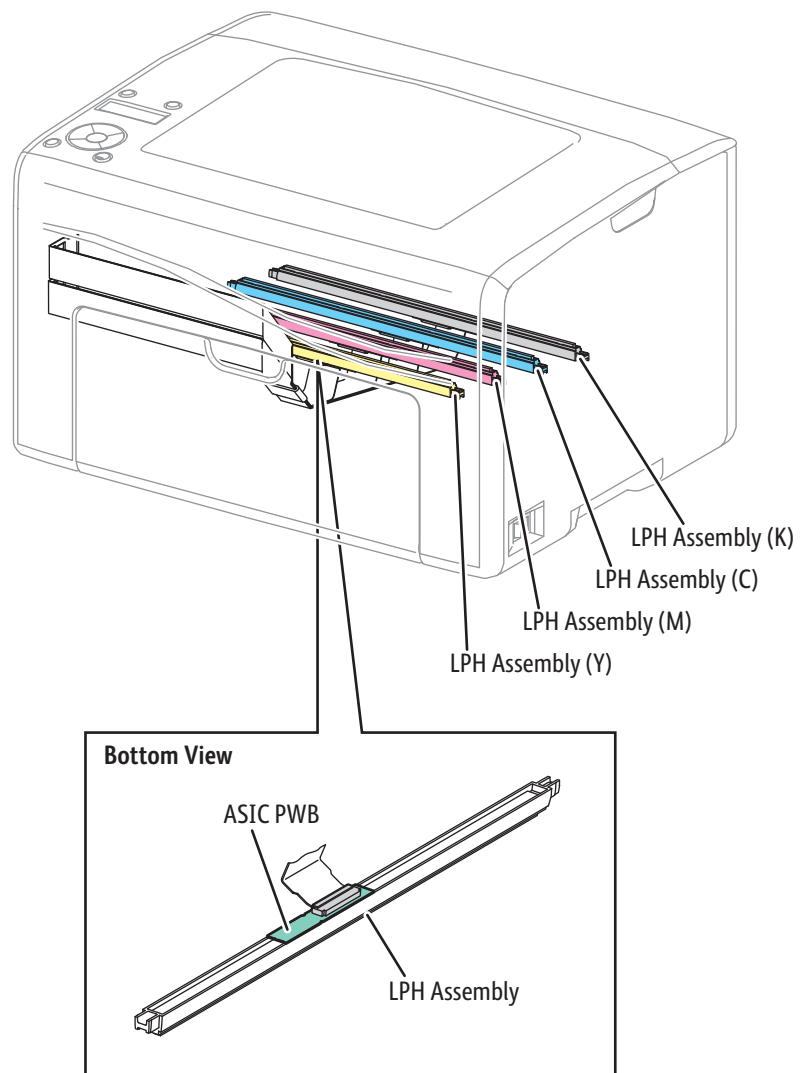
s6000-091

Toner Cartridge

Major Functions

- Toner Cartridge

  Contains toner and a small amount of carrier. The Black toner cartridge contains the waste toner bottle for storing waste toner.

- CRUM Connector

  The CRUM stores, reads, and writes printer-specific information regarding the CRU (Customer-Replaceable Unit).

- Toner Motor

  Supplies toner from the Toner Cartridge to the xerographics assembly by driving the Toner Cartridge auger. The toner dispense assembly contains a motor for driving the augers for Yellow and Magenta, and a motor for driving the augers for Cyan and Black.

Connector CRUMs (Y, M, C, K)

Dispense Motor (Y/M) Dispense Motor (C/K) Toner Cartridges (Y, M, C, K)
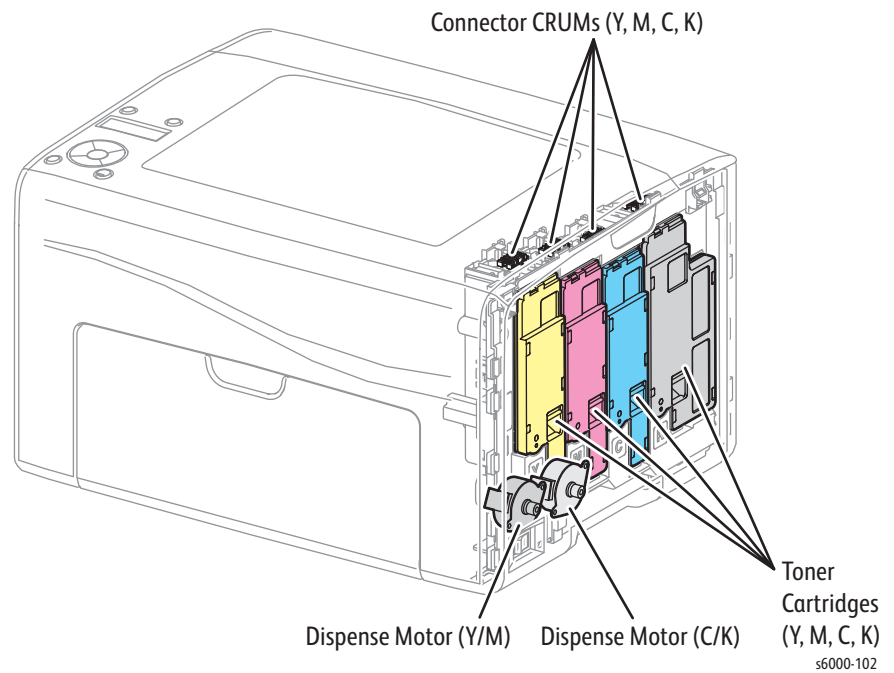
s6000-102

Xerographic Assembly

The xerograhic assembly contains the developers and transfer belt.

Major Functions

Developer (M) Developer (C) Developer (K) Developer (Y)

Developer Part Magnet Roller Trimmer Rod Front Auger

Xerographic Part Drum Front Cleaning Auger Cleaning Blade BCR Cleaning Roller
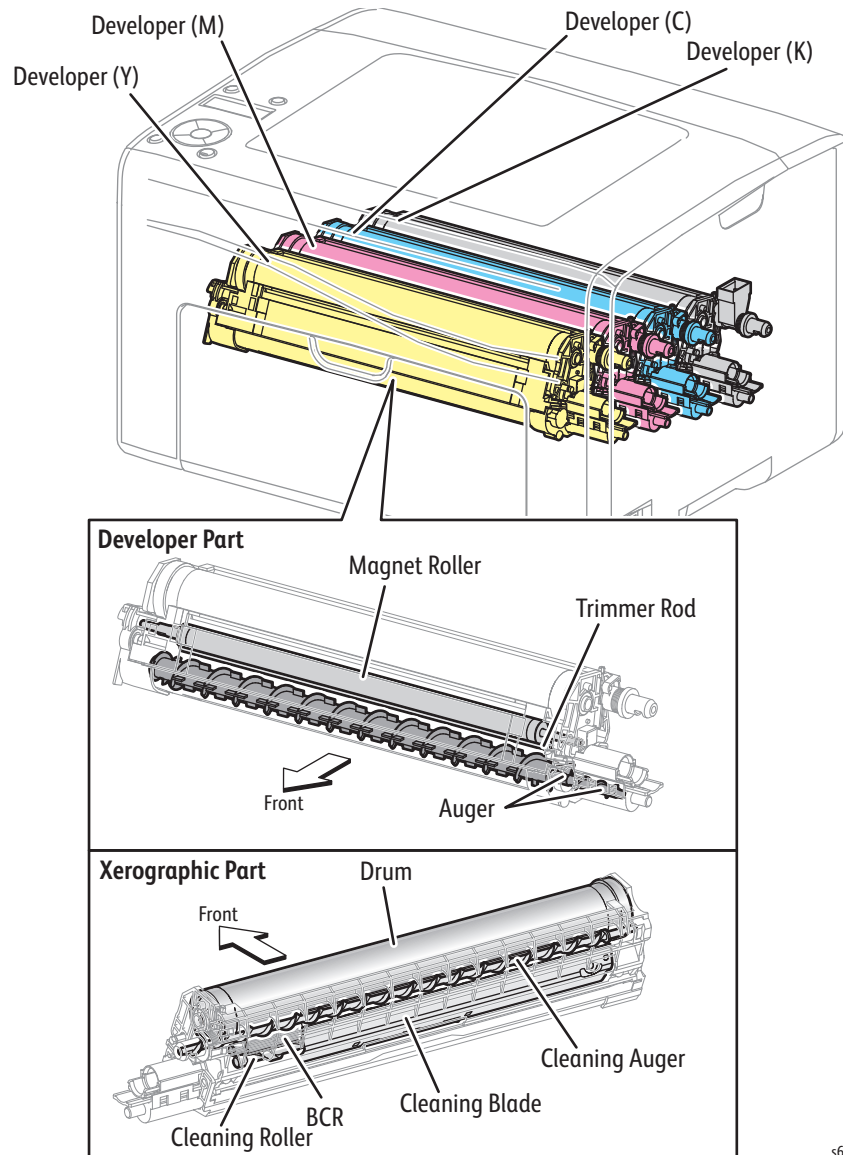
s6000-103

- Drum

  The drums are exposed to LED light to create latent images for each of Yellow, Magenta, Cyan, and Black.

- Bias Charge Roller (BCR)

  Charges the drum electrically.

- Cleaning Roller

  Removes the toner remaining on the BCR.

- Cleaning Blade

  Removes the toner remaining on the drum after the toner image is transferred to the print medium.

- Magnet Roller

  The magnet roller contacts the drum to form the toner image on the drum surface.

- Auger

  The auger agitates the toner particles.

- Trimmer

  The trimmer uniformly levels the toner/carrier particles deposited on the surface of the magnet roller.

Transfer Belt

s6000-104
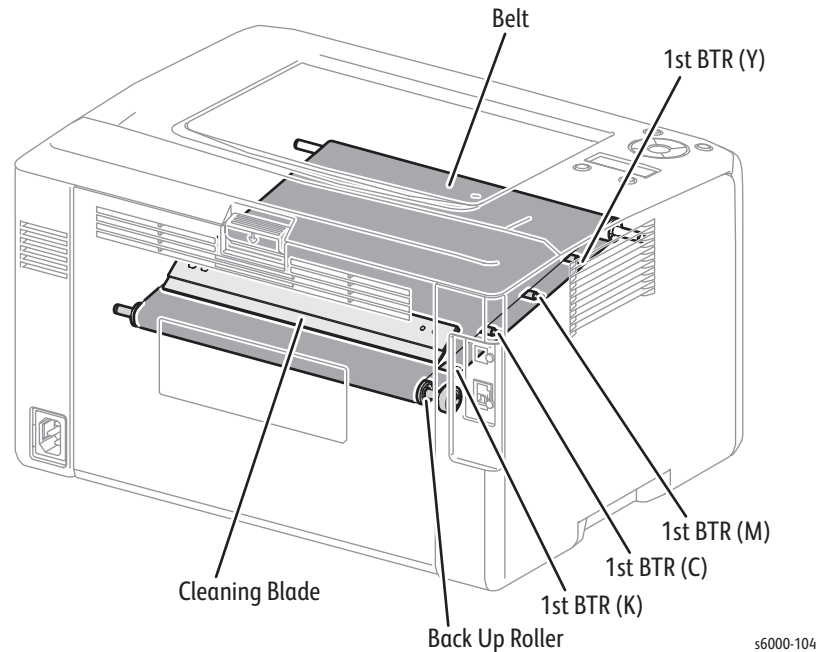
Major Functions

- 1st BTR Roller (Y/M/C/K)

  Attracts the toner image on the drum to the transfer belt by positively charging the transfer belt from the backside.

- Transfer Belt

  Receives the four color-separated toner images from each drum in registration with one another.

- Back Up Roller

  Helps the toner particles migrate onto the transfer belt by retaining the belt at a position where it nearly contacts the print media during the second transfer process. See "Secondary Transfer" on page 2-12.

- Cleaning Blade

  Scrapes off the excess toner remaining on the transfer belt.

Fuser & Exit
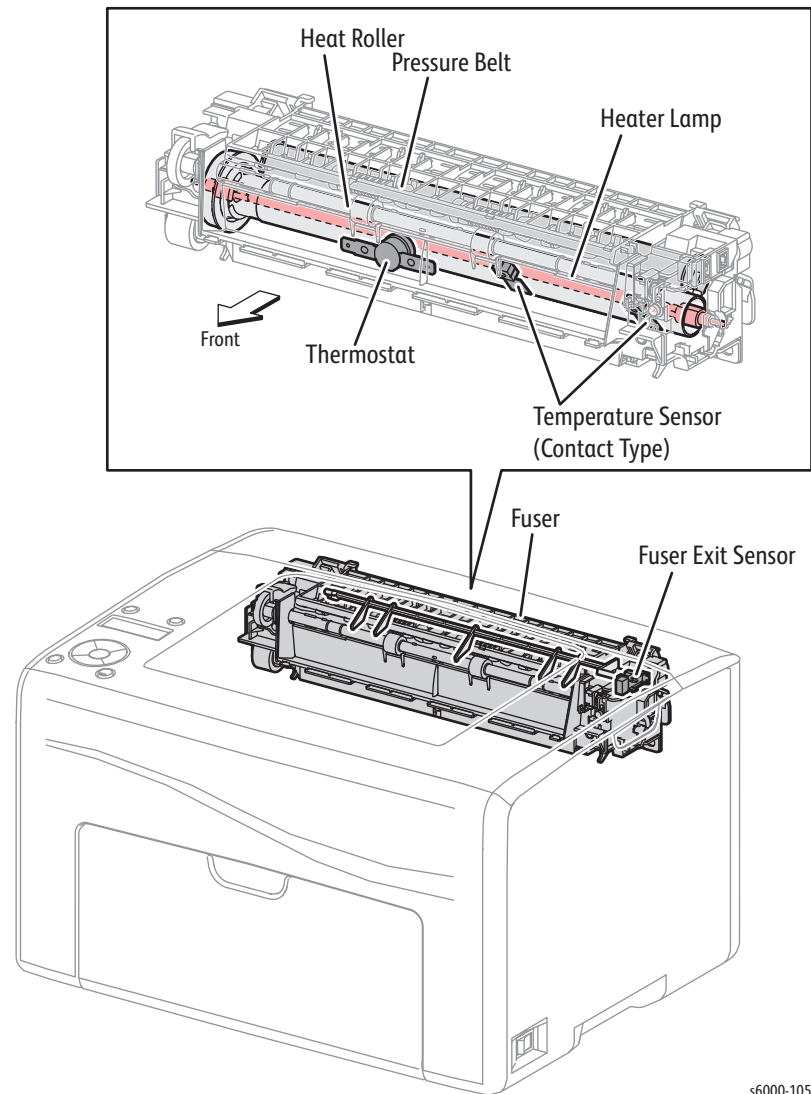
s6000-105

Major Functions

The Fuser fixes the toner image onto the sheet by heat and pressure and guides the sheet into and out of the fixing position.

- Heat Roller

  A metal roller that transfers heat to the sheet to fuse the toner particles onto the sheet surface.

- Pressure Belt

  A combination of a belt and a pressurizing system for pressing the sheet against the heat roller.

- Heater Lamp

  A heating-coil-enclosed lamp located inside the heat roller to heat its entire length.

- Temperature Sensor (contact type)

  A thermistor (temperature-responsive resistance) positioned in contact with the heat roller to detect its surface temperature and regulate heat lamp operation.

- Thermostat

  A component connected in series with the power supply for the heat lamp. Prevents the overheating of the heat roller by releasing the contacts when the contact section has reached a certain temperature due to a overheating failure.

- Fuser Exit Sensor

  Detects whether the fused print has passed through the Fuser based on the change of the actuator position. (Sheet passed: Sensor beam received.)

Drive Assemblies

Main Drive   MU Drive Assembly

Drive Gear Assembly   Switching Sensor   Switching Solenoid

Developer Drive Assembly

s6000-106
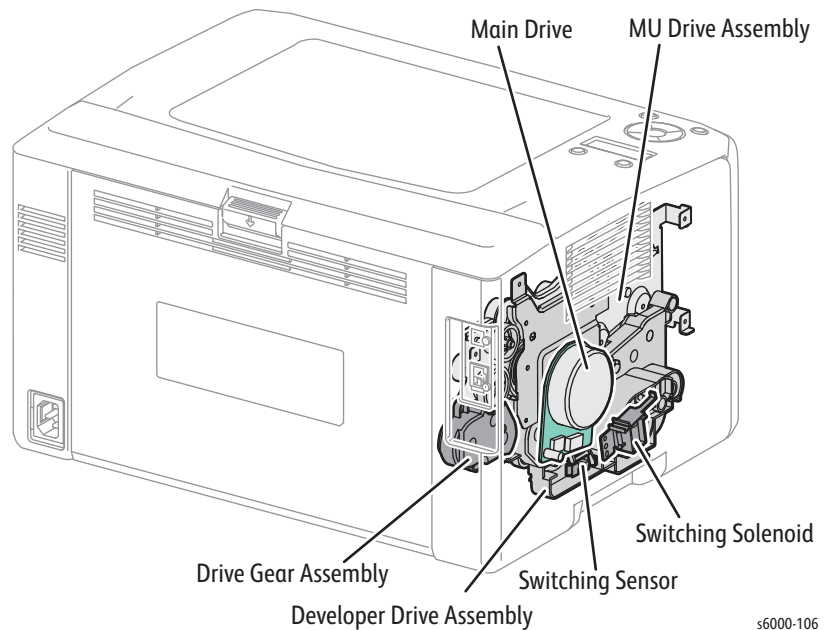
Major Functions

- Main Drive Assembly

  A motor for driving components such as MU Drive Assembly, Feed Drive Assembly, and the Fuser.

- Developer Drive Assembly

  An assembly to relay torque from the Main Drive Assembly to the MU Drive Assembly.

  Contains the Switching Solenoid and the Switching Sensor.

  - Switching Sensor
    Detects whether the printer is running in the full color mode or the B/W mode based on the position of the actuator. (Full Color mode: Sensor beam is received)

  - Switching Solenoid
    Switches between the full color mode and the B/W mode by disconnecting the imaging units for Yellow, Magenta, and Cyan from the torque from the Main Drive Assembly in the B/W mode. See "Full Color Mode and B/W Mode" on page 2-40.

- Feed Drive Assembly

  An assembly that rotates the Paper Feed and Registration Roller by the torque from the Main Drive Assembly.

- MU Drive Assembly

  An assembly that rotates the transfer belt, drums (YMCK), and the augers and magnet rolls in the Developer Drive Assembly by the torque from the Main Drive Assembly.

Full Color Mode and B/W Mode

The Full Color mode uses the four colors of Y, M, C, and K. The B/W mode uses K only.

To deactivate the components for Y, M, and C during B/W operation, the torque transmission route is changed between the Full Color and B/W modes.

- Operation in Full Color mode

  In the Full Color mode, the magnet rollers for YMCK rotate to form a full-color visible toner image. The magnet rollers are driven by torque from the Main Drive Assembly.
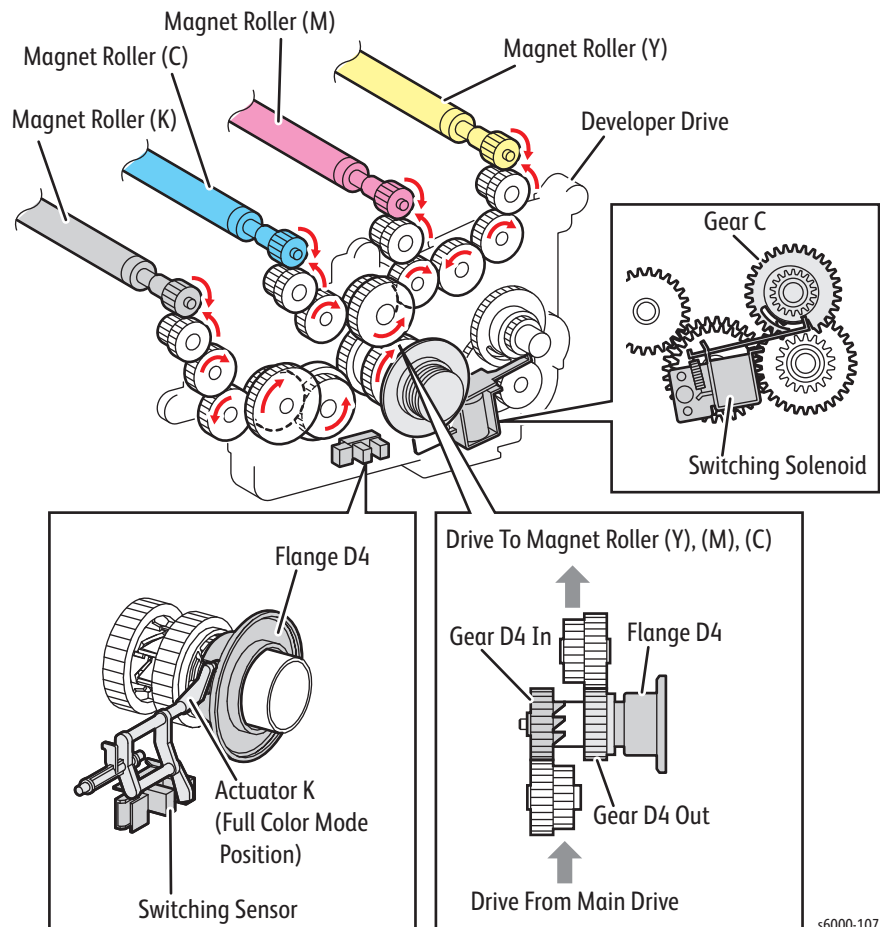
s6000-107

- Operation in B/W mode

  In B/W mode, the Switching Solenoid in the Developer Drive Assembly disconnects the magnet rollers for YMC from the torque from the Drive Assembly. This allows only the K magnet roller to rotate to form a visible toner image in Black.

[Black And White Mode]
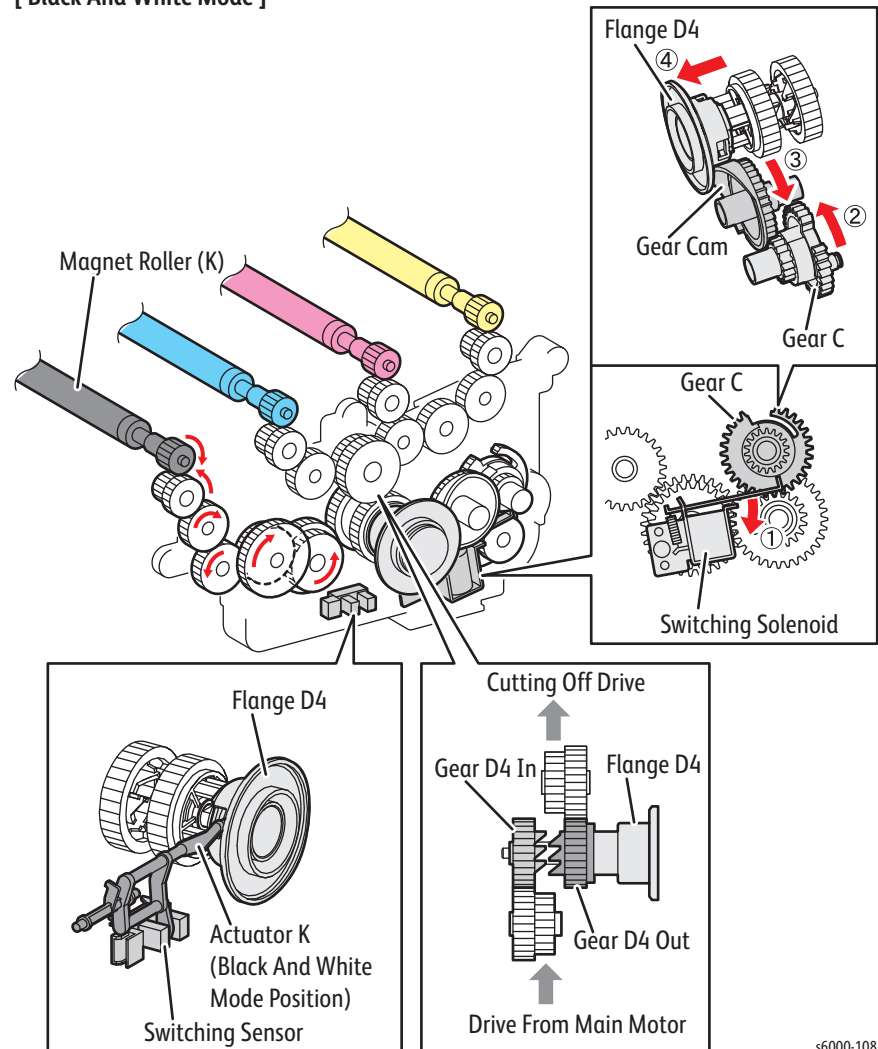
s6000-108

Electrical

Major Functions

- Fan

    Exhausts heat out of the printer.

Front
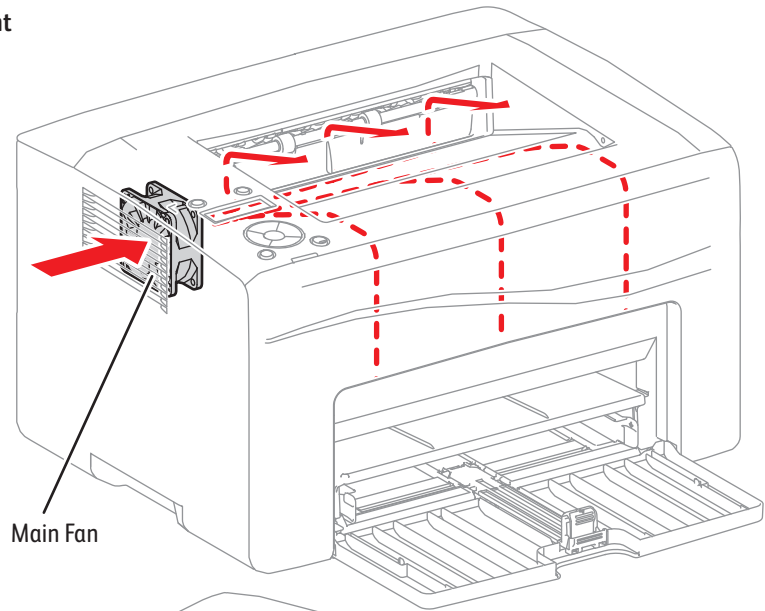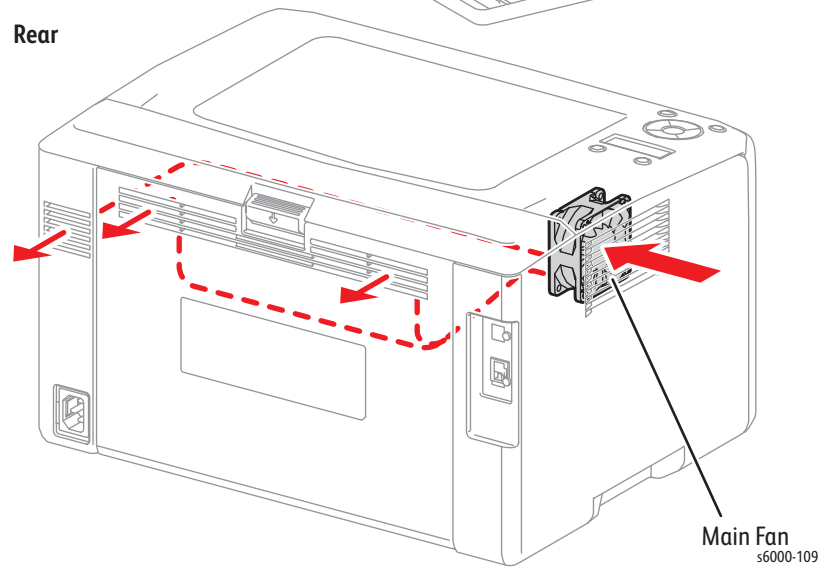
Rear

Main Fan

Main Fan
s6000-109
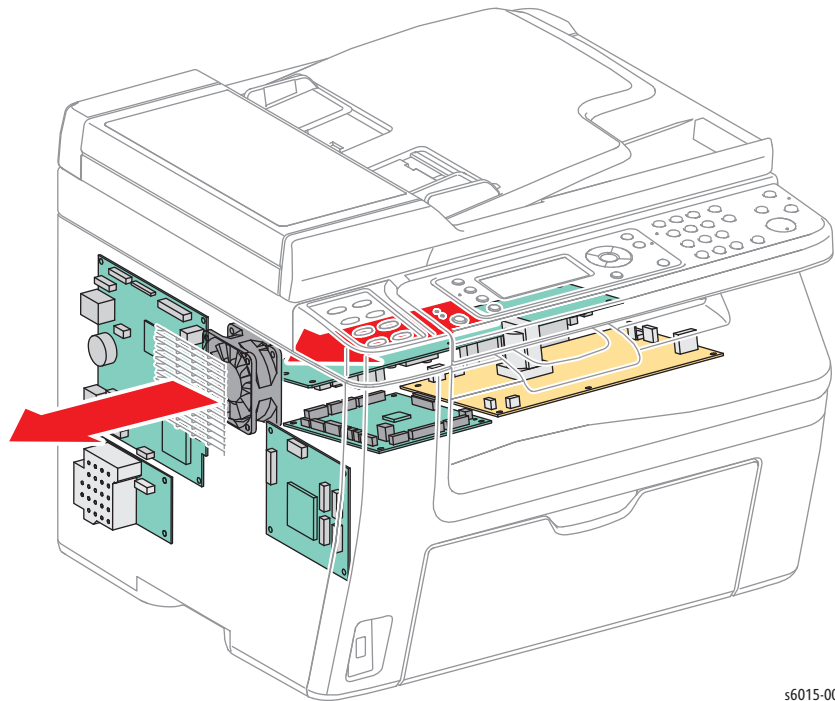
s6015-002

- Switches

    - Power Switch
      Turns on/off the AC power to the printer.

    - Rear Interlock Switch
      Detects Rear Door position. Interrupts DC power to the printer (+24VDC) when the Rear Door is opened.

- LVPS

  Supplies the AC power from the power supply to the heater section of the Fuser and generates stable low DC voltage to be used by the logic circuits and other components.

- HVPS

  Supplies high voltage to the BCRs and the magnet rollers for each color.

- MCU Board

  Controls the print operation based on communication with the print controller and on the information from the sensors or switches.

- IP Board

  The Image Processor Board is the print controller. The IP Board converts print data received at the USB or Ethernet port to image data suitable for the LED Driver Board.

- LED Driver Board

  The LED Driver Board generates image signals for the LPHs.

- Control Panel
  Allows the user to view the printer status or execute operations via the LCD, LED, and buttons.
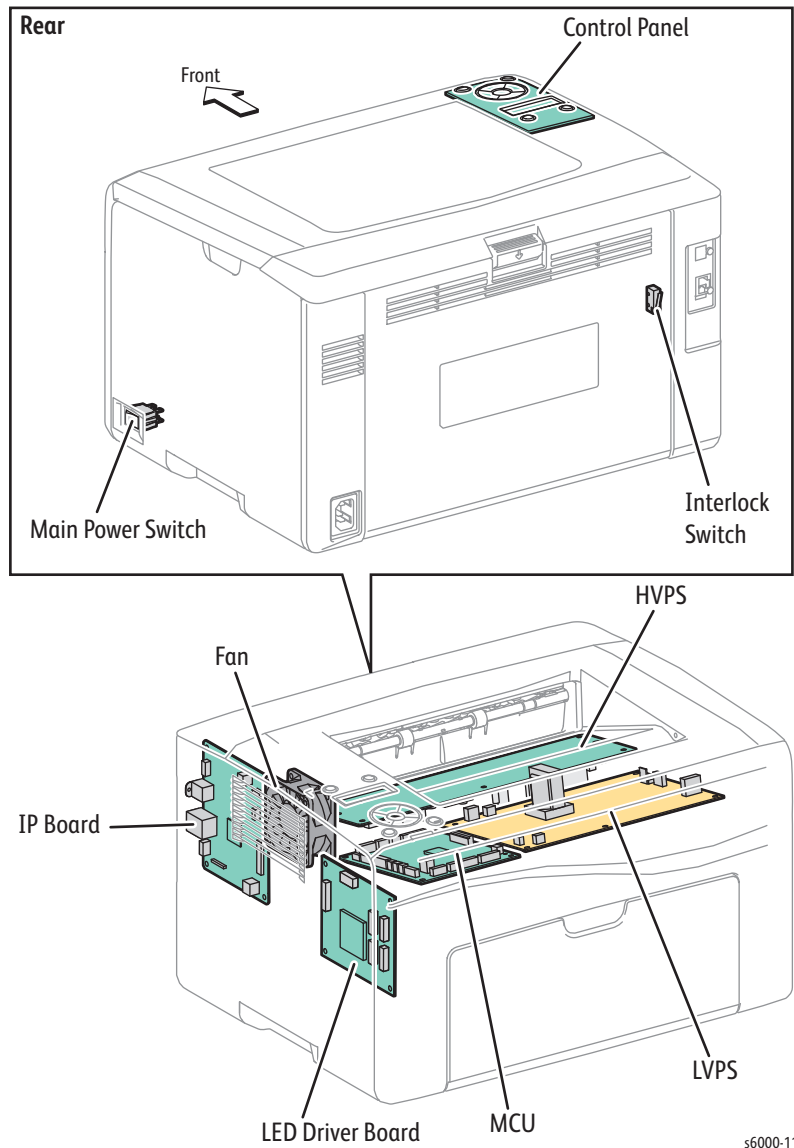
s6000-110

Data Flow

The print data (electric signal) from the printer controller flows as shown in the following illustration before it is turned into a print.

```
┌ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ┐
│              Host (Electric Signal)                     │
└ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ┘
                          │
                          ▼
┌─────────────────────────────────────────────────────────┐
│     Electronic Sub-System Control Board (Electrical Signal)│
└─────────────────────────────────────────────────────────┘
                          │
                          ▼
┌─────────────────────────────────────────────────────────┐
│           Machine Control Unit (Electric Signal)          │
└─────────────────────────────────────────────────────────┘
                          │
                          ▼
┌─────────────────────────────────────────────────────────┐
│                     LPH (LEDs)                            │
└─────────────────────────────────────────────────────────┘
                          │
                          ▼
┌─────────────────────────────────────────────────────────┐
│      Electrostatic Latent on Drum (Invisible Image)       │
└─────────────────────────────────────────────────────────┘
                          │
                          ▼
┌─────────────────────────────────────────────────────────┐
│                  Toner Image on Drum                      │
└─────────────────────────────────────────────────────────┘
                          │
                          ▼
┌─────────────────────────────────────────────────────────┐
│                  Toner Image on Belt                      │
└─────────────────────────────────────────────────────────┘
                          │
                          ▼
┌─────────────────────────────────────────────────────────┐
│                  Toner Image on Paper                     │
└─────────────────────────────────────────────────────────┘
                          │
                          ▼
┌─────────────────────────────────────────────────────────┐
│                  Print Image on Paper                     │
└─────────────────────────────────────────────────────────┘
```
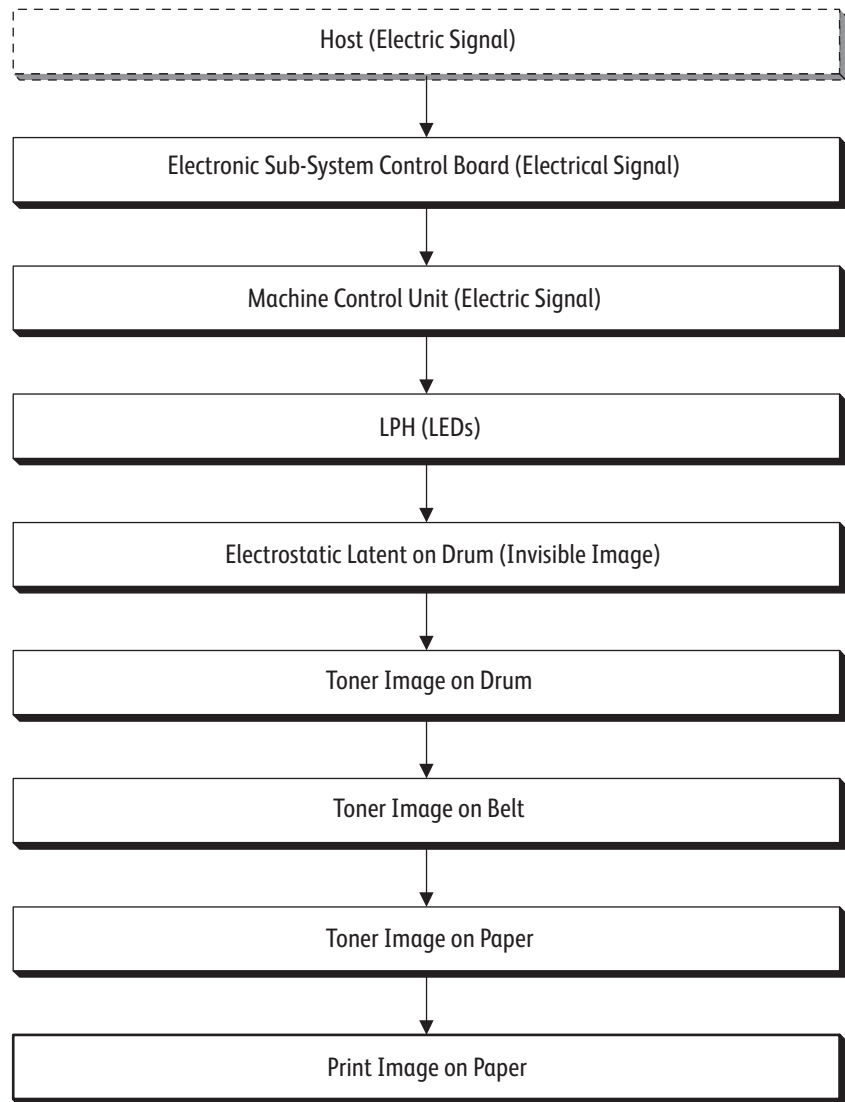
s6000-111

Scanner

The Scanner Assembly consists of the Image Input Terminal (IIT), and in the WorkCentre 6015N/NI Color MFP models, an Automatic Document Feeder (ADF).

Document scanning is performed by the carriage assembly in the IIT. The carriage assembly consists of a CMOS image sensor for converting image to data, a LED array for illuminating the original, and a rod scope for converting the original image to a full-size image.
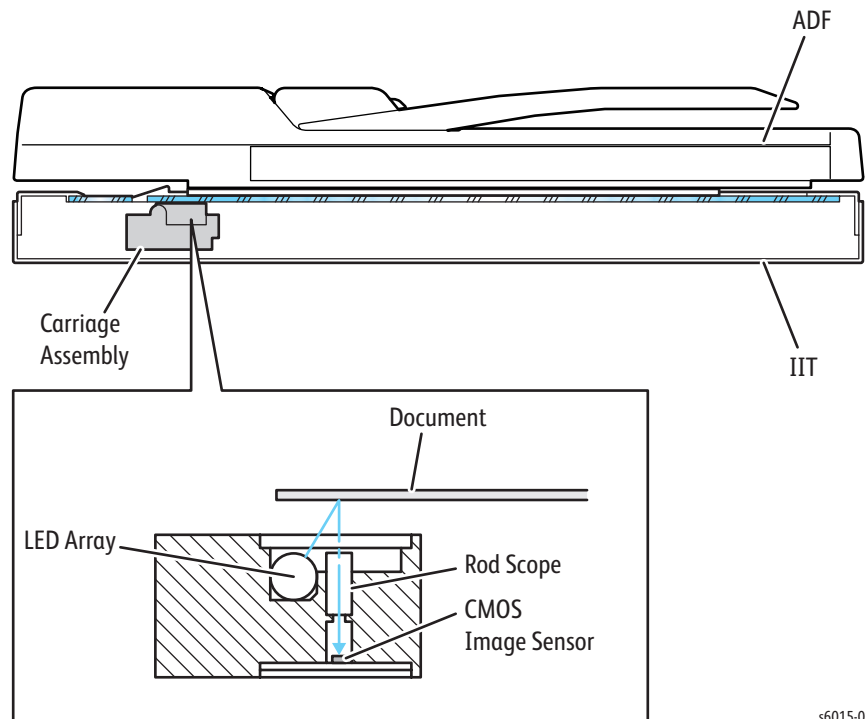
s6015-018

Data Flow

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

```
                    ┌─────────────────────────────────────┐
                    │             Document                │
                    └─────────────────────────────────────┘
                                     ┊
                                     ▼
                    ┌─────────────────────────────────────┐
                    │   CCD Image Sensor (Scanner Assembly)│
                    └─────────────────────────────────────┘
  Scanner
  ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ┊ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─
  Engine                             ▼
                    ┌─────────────────────────────────────┐
                    │          Controller (IP Board)      │
                    └─────────────────────────────────────┘
                                     │
                                     ▼
                    ┌─────────────────────────────────────┐
                    │             LPH (LED)               │
                    └─────────────────────────────────────┘
                                     ┊
                                     ▼
                    ┌─────────────────────────────────────┐
                    │             Drum (CRU)              │
                    └─────────────────────────────────────┘
```
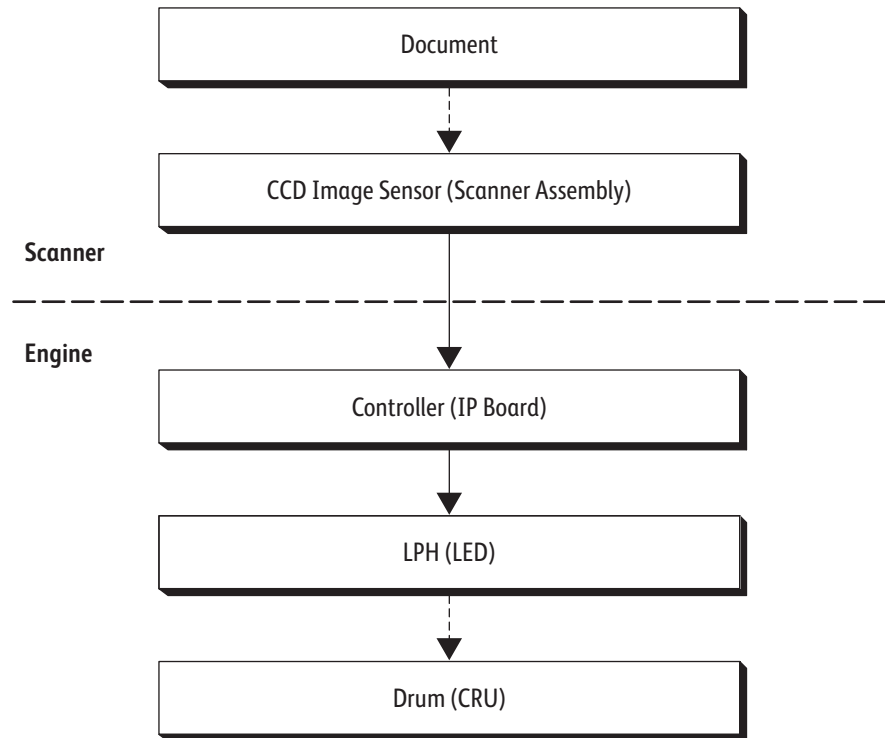
s6015-035

Major Functional Components of the Image Input Terminal (IIT)

Carriage Assembly

Scanner Home Position Sensor

Carriage Motor

IP Board

Fax Board

Scanner Board

Control Panel Assembly

USB Board
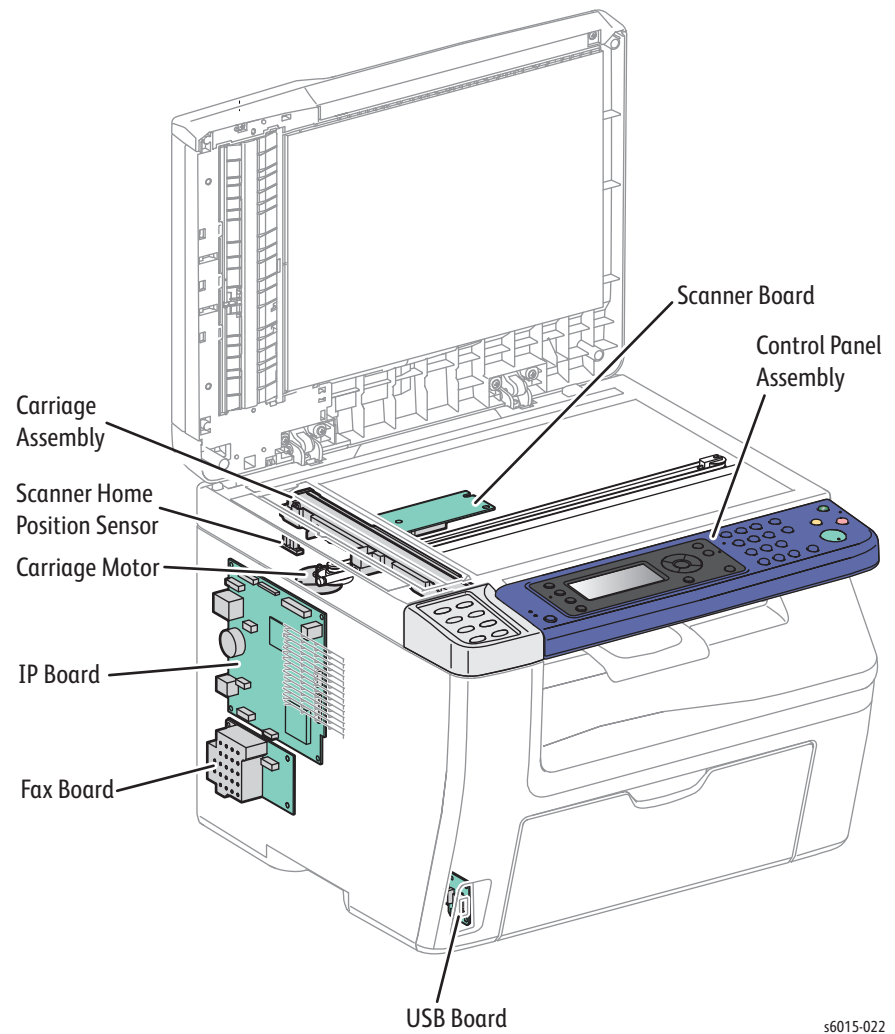
s6015-022

- WorkCentre 6015 MFP IP Board

  The IP Board is the print controller of the printer. The IP Board connected to the MCU Board controls the entire system (diagnostic, interface, image processing, etc.).
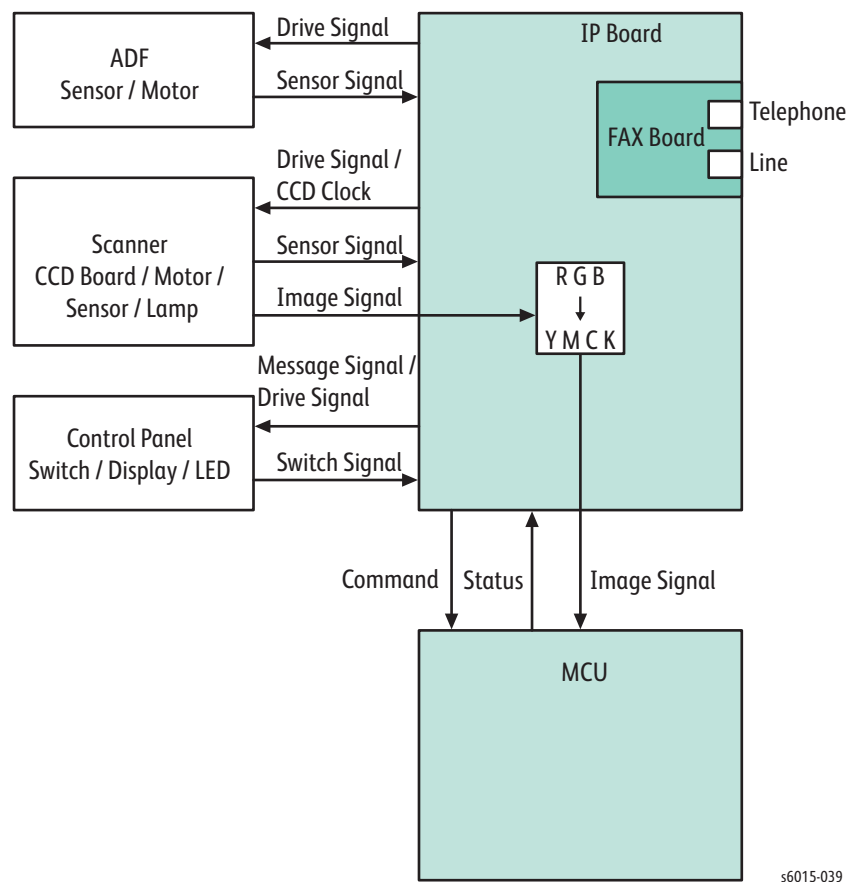
- Fax Board

  The Fax Board controls the Fax interface.

- Scanner Board

  The Scanner board controls the IIT interface.

- Control Panel

  Allows the user to view the printer status or execute operations with the LCD, LED, and buttons.

- USB Front Board

  The USB Front Board is used to connect USB memory devices for scanning to USB memory and printing from USB memory. This connector complies with USB2.0 (Hi-Speed).

Scanning Control

A CMOS image sensor is used to read image data from the document. To ensure stabilized image reading, the CMOS image sensor output is adjusted. Adjustment includes Automatic Gain Control (AGC) and Automatic Offset Control (AOC).

Reference data for adjustment is collected and used to perform compensation on the read image data. Compensation includes shading compensation, white variation compensation, and black variation compensation.

Reference data is obtained by reading image data from a white reference plate via the CMOS image sensor.

AOC (Auto Offset Control)

AOC is performed by turning off the exposure lamp after AGC. This state is read by the CMOS image sensor as the black reference value. The order of AGC and AOC adjustment depends on the model.

AGC (Auto Gain Control): White Level Variation Adjustment

During AGC, the carriage assembly is moved to the position of the white reference plate, and the exposure lamp is illuminated. The light reflected from the white reference plate is read by the CMOS image sensor as the white reference value.

Shading Compensation

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

Scanning at the Document Glass

While the carriage assembly in the IIT moves, the LED array illuminates the document, allowing the reflected image to be read by the CMOS image sensor through the rod scope. The speed at which the carriage assembly moves is dependant on what the copy magnification is set at.
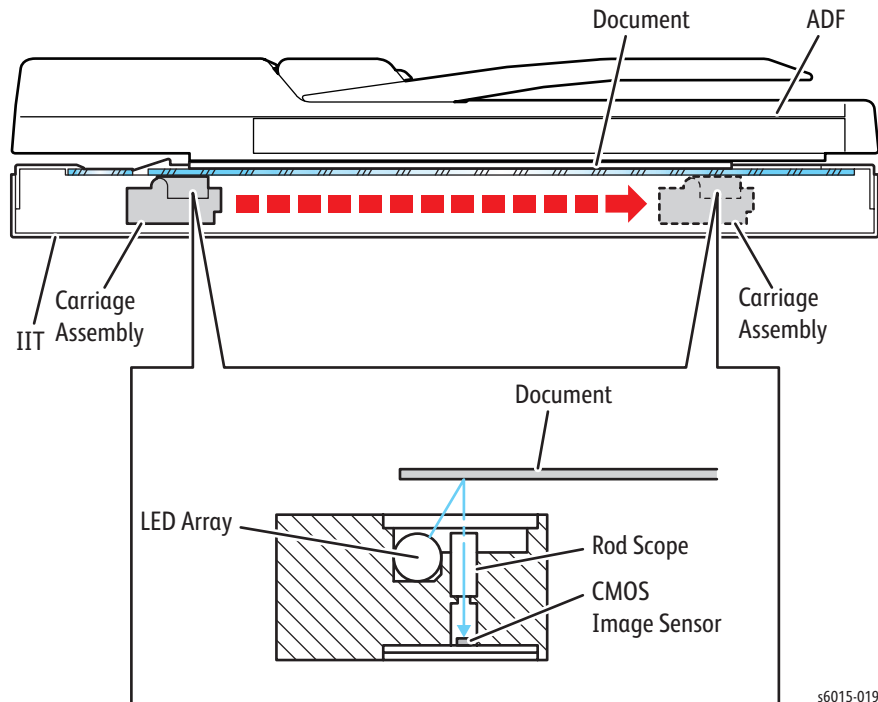
Automatic Document Feeder (ADF)

Scanning From the Auto Document Feeder

When the ADF is used, scanning is performed by moving the original with the CMOS image sensor fixed at one position. This is called Constant Velocity Transport (CVT). Scanning is controlled by changing the feed speed of the ADF motor according to the copy magnification. When the media passes the scanner home position, the images on the media are exposed by scanning with the LED array of the scanhead. The reflected image is read by the CMOS image sensor through the rod scope.
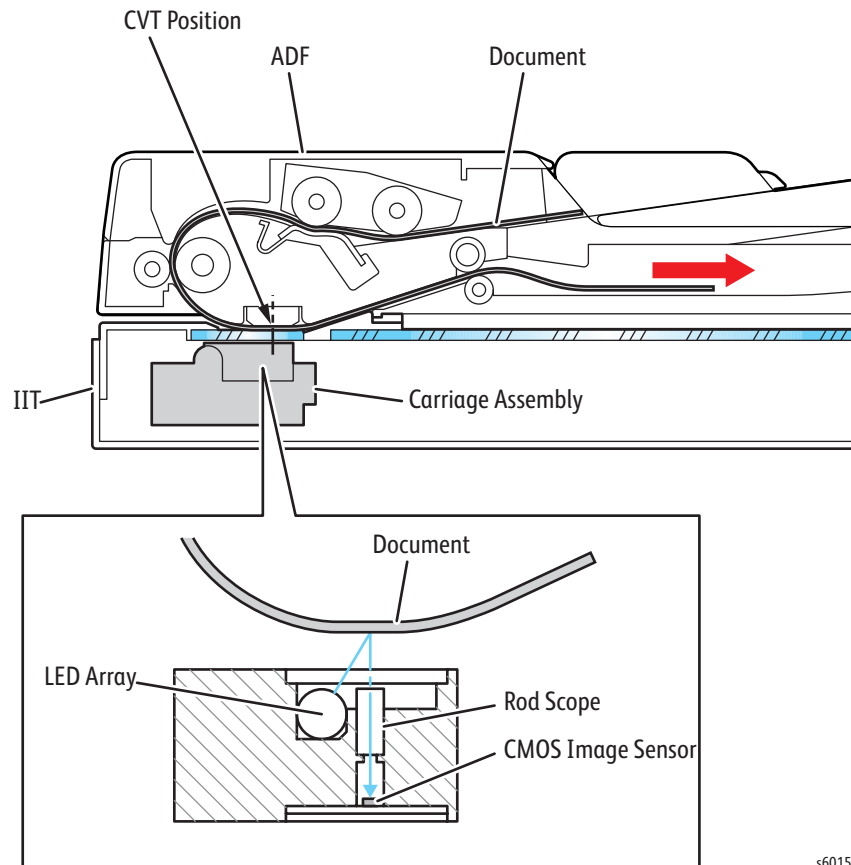
s6015-020

ADF Components

The WorkCentre 6015N Color MFP and WorkCentre 6015NI Color MFP are configured with an ADF.
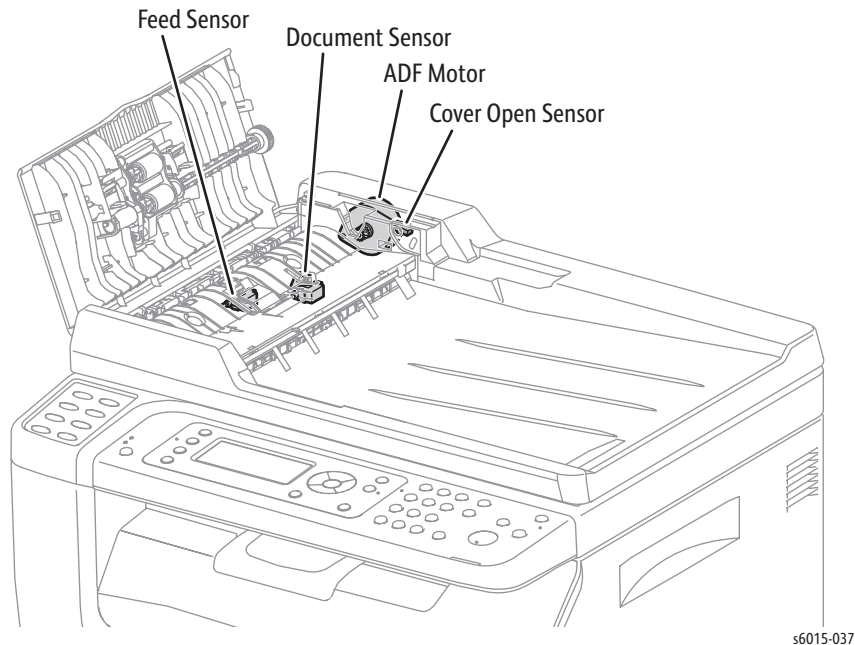
s6015-037

- Document Sensor

  A sensor that detects the presence or absence of a document on the ADF Document Tray.

- Cover Open Sensor

  A sensor that detects whether or not the ADF Top Cover is open.

- Feed Sensor

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

- ADF Motor

  The ADF motor rotates the nudger roller, feed roller, takeaway roller, registration roller, and exit roller.

- Document Stopper

  When the document is loaded in the ADF, the sheet cannot go any further because the document stopper is locked by the document stopper follower that is hooked onto the ADF Top Cover.

  When the ADF starts feeding, the upstream end of the pickup assembly rotates downward (refer to the following illustration). The stopper on the pickup assembly lowers the document stopper follower, allowing the document stopper follower to be released from the ADF Top Cover. This also allows the lead edge of the sheet traveling in the feeding direction to go forward by displacing the document stopper upward. When the sheet

completes feeding, the pickup assembly returns to its original position, hooking the document stopper follower onto the ADF Top Cover to lock the document stopper again.
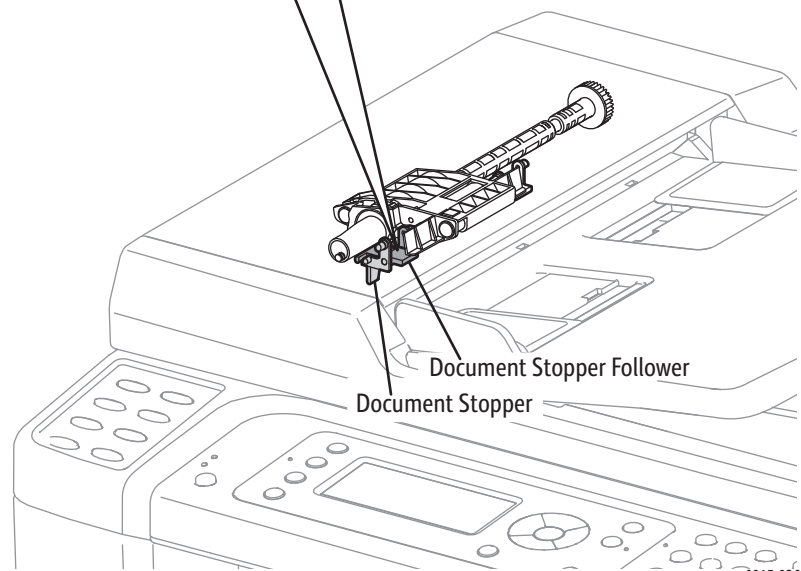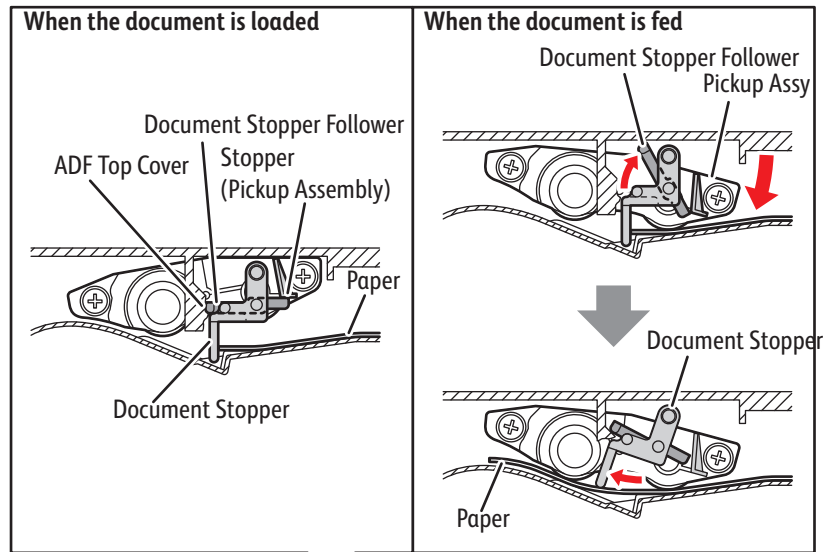
s6015-036

- Pinch Roller Assembly

  The pinch roller assembly is normally pressed against the direction of the takeaway roller by spring pressure.

  Documents are fed between the pinch rollers and the takeaway roller to the CVT window by rotation of the takeaway roller.

If a jam occurs between the pinch roller assembly and the takeaway roller, it is hard to retrieve documents due to the high spring pressure of the pinch roller assembly. In order to retrieve jammed documents, open the ADF Cover to release the spring pressure. This results in enough clearance between the pinch rollers and the takeaway roller to release the paper.

ADF Top Cover Closed
ADF Top Cover
Link
Pinch Roller
Takeaway Roller
Spring

ADF Top Cover Open
ADF Top Cover
Link
Pinch Roller
Takeaway Roller
Spring

Pinch Roller Assembly
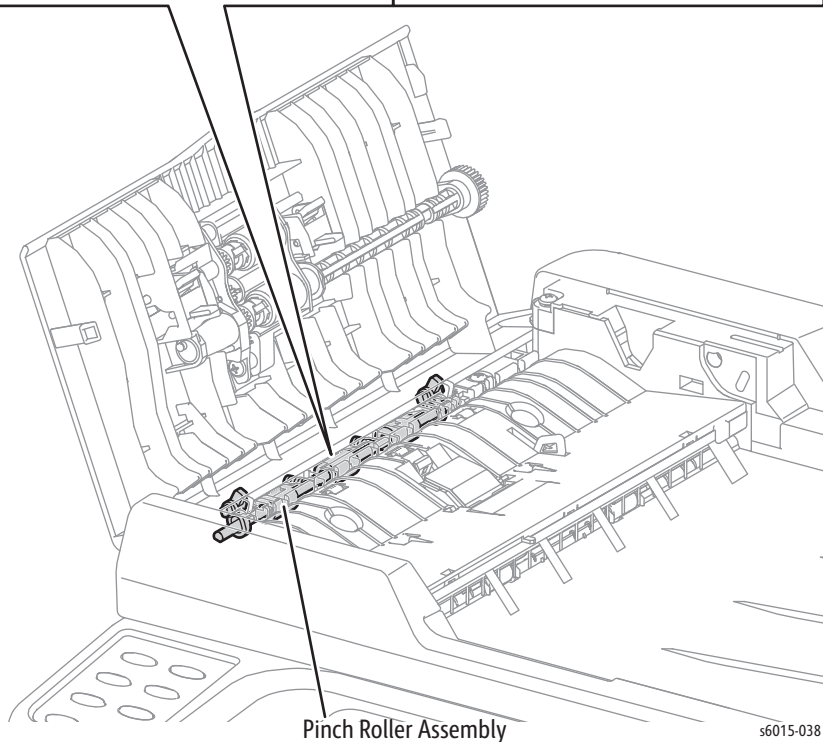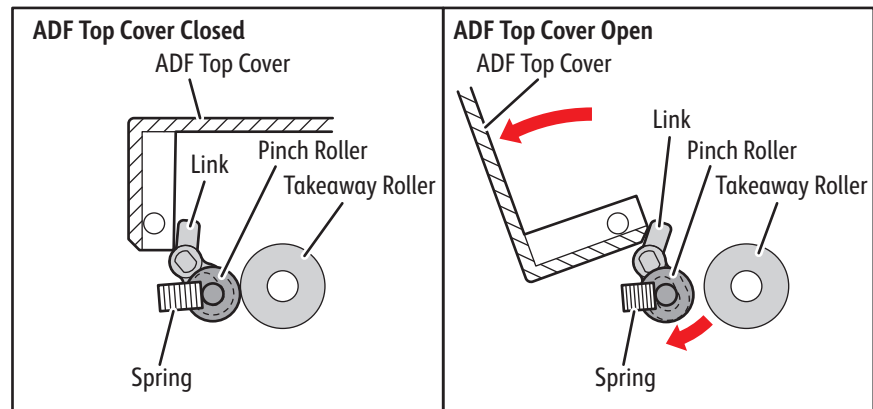
s6015-038

ADF Paper Path

Media in the document tray is conveyed through the feed roller and takeaway roller. The sheet is nipped between the feed roller and the ADF Separator Pad while feeding into the ADF.

Inside the ADF, the sheet is fed by the takeaway roller, rotating by torque from the ADF motor. When the sheet reaches the Scanner Home Position in the carriage assembly, it is scanned.

When the scan completes, the sheet is ejected to the output tray of the ADF by the exit roller. The exit roller is driven by torque from the ADF Motor.
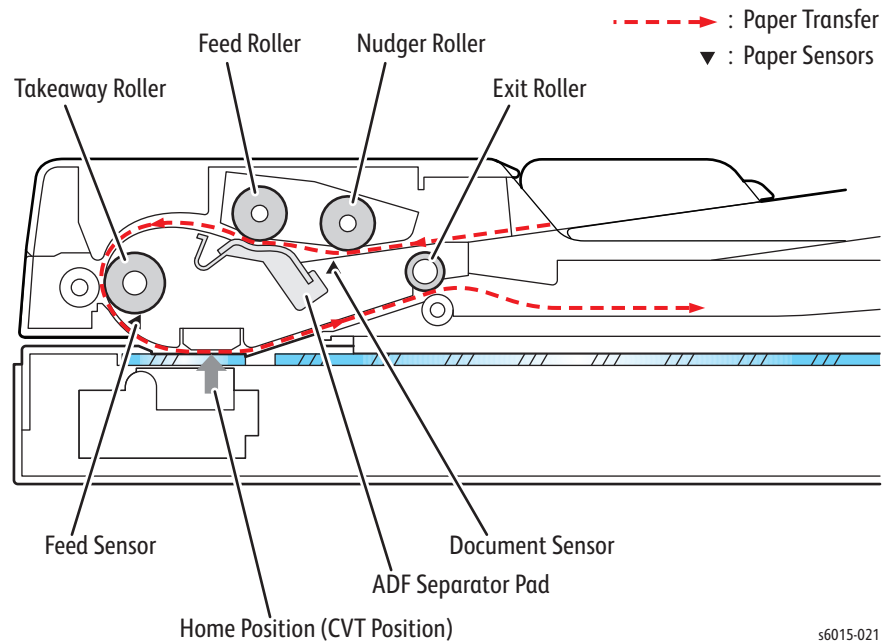
s6015-021

ADF Drive

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

[Name of moving parts]

```
                        ADF Motor
                            |
                  Feed Gear Deceleration
                   |                |
                   |             Idler Gear
                   |                |
                   |             Idler Gear
                   |                |
                   |        Pickup Gear Deceleration
                   |             |            |
                   |      Exit Gear Deceleration
                   |             |            |
         Takeaway Roller Gear  Exit Roller Gear   Shaft Gear
                   |             |                |
         [ Takeaway Roller ]  [ Exit Roller ]  [ Feed Roller ]
                                                 |
                                          Pickup Roller Gear
                                                 |
                                          Pickup Idle Gear
                                                 |
                                          Pickup Idle Gear
                                                 |
                                          Pickup Idle Gear
                                                 |
                                          Pickup Roller Gear
                                                 |
                                          [ Nudger Roller ]
                                          ADF Top Cover Assembly
```

s6015-040

[Name of moving parts]

⬛⬜⬛⬜⬛⬜⬛⬜⬛⬜ : Indicates the engagement of gears.

Gear Shaft

[Feed Roller]

Pickup Roller Gear

Pickup Idle Gear

[Nudger Roller]

ADF Motor

Pickup Roller Gear
Feed Gear
Deceleration

Takeaway Roller Gear

Pickup Gear
Deceleration

[Takeaway Roller]

Idler Gear

Exit Gear
Deceleration

Idler Gear

Exit Roller Gear

[Exit Roller]

Front

s6015-041

Fax

Fax Overview

A Fax (abbreviation of facsimile) is a device that sends and receives image data using either an analog or a digital telephone line. The following describes the analog line system.

The three basic units of a Fax are the Scanner (for reading the image), the Control Circuit, and the Printer.
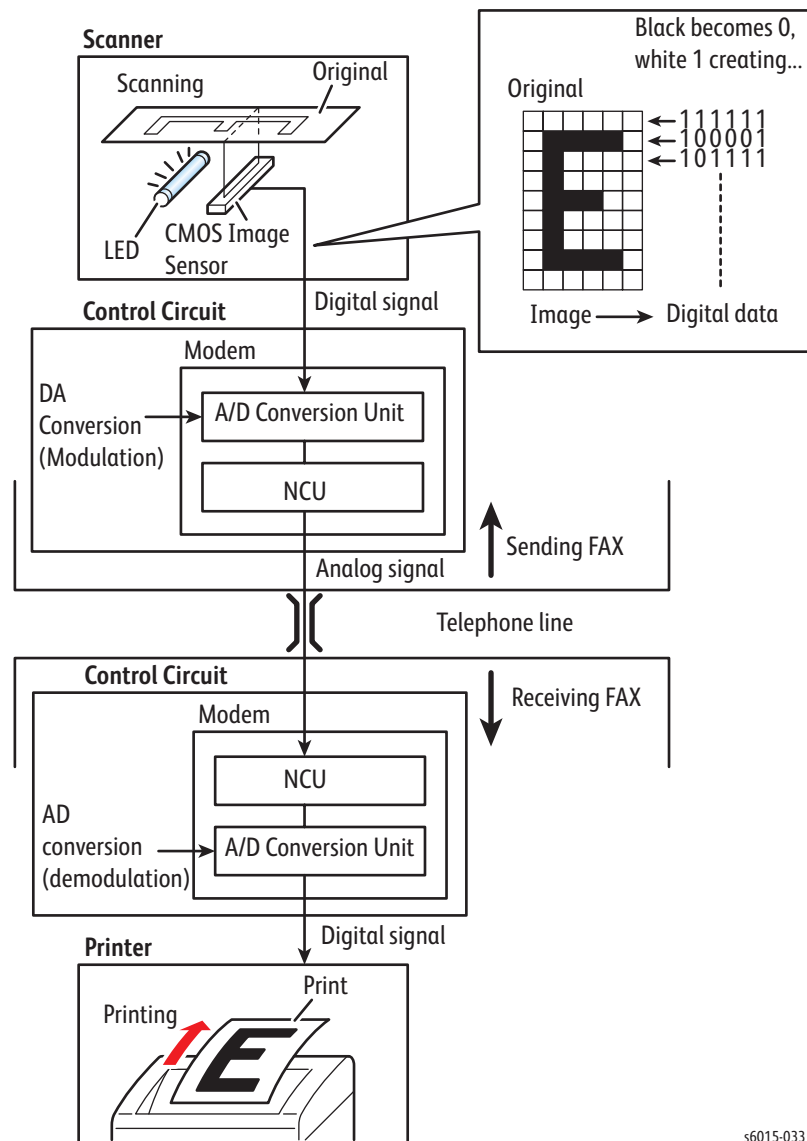
s6015-033

Scanner

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

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

Control Circuit

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

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

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

Printer

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

Fax Standards (ITU-T Recommendations)

International FAX standards (ITU-T recommendations) include G1 to G4. G1 to G3 use analog telephone networks. G4 uses a digital telephone network (ISDN). G3 is the standard currently in greatest use. FAXes conforming to Super G3, a recently added standard, are equipped with a fast 33.6kps modem and reduce transmission times to about half those of G3 FAXes.

Standard & Year Issued	Minimum Transmission Time for Single-Page A4 Document	Maximum Resolution	Maximum Transmission Speed	Features
Group 1 (G1) 1968	Approx. 6 min.	100 x 100 dpi	(Analog)	Analog transmission. No band compression.
Group 2 (G2) 1976	Approx. 3 min.	100 x 100 dpi	(Analog)	Analog transmission. Band compression technology adopted.
Group 3 (G3) 1980	Approx. 1 min.	200 x 200 dpi	14.4 kbps (Super G3: 33.6 kbps)	Connection to analog line using Fax modem. Image data in digital format. Data compression. Most common standard in use.
Group 4 (G4) 1988	Approx. 3 sec.	400 x 400 dpi	64 kbps (using ISDN)	Digital transmission. Supported by various digital transmission services. Halftone supported.

Operation Modes / Consumables

Operation Modes

The printer can be operated in the following four modes:

- Printing Mode

  The printer is printing.

- Ready Mode

  The printer is ready for printing.

- Power Saver Mode 1

  The printer is under power saving.

  When a predetermined time elapses in the Ready Mode, the device goes into Power Saver Mode 1 to reduce standby power consumption.

- Power Saver Mode 2

  The printer is under power saving.

  When a predetermined time elapses in the Power Saver Mode 1, the device goes into Power Saver Mode 2 to reduce standby power consumption.

Replacement Timing of Consumables Parts

Consumables Parts

Listed below are the consumable parts for this printer.

	Product Name	Life span (approximate)[a]
Consumables	Toner Cartridge (K) (Starter capacity)	500 pages
	Toner Cartridge (YMC) (Starter capacity)	500 pages
	Toner Cartridge (K) (Standard capacity)	500 pages
	Toner Cartridge (YMC) (Standard capacity)	500 pages

a. The page counts are for reference only.
   The actual page count may vary greatly depending on conditions such as print settings, document contents, or power-on/off frequency.

Replacement Timing of Consumables

When a consumable part is about to reach its replacement period, one of the following messages appears on the Control Panel:

Model	LED Indicator/Message	Meaning	Detection device
6000B	The Ready/Data LED (Orange) illuminates and the corresponding Toner LED (Orange) illuminates and slowly blinks.	The Toner Cartridge (Y, M, C, or K) is near its replacement period. Have ready a new Toner Cartridge (Y, M, C, or K). You can print approximately another 100 pages in K, and 75 in Y, M, and C.	The Toner CRUM detects the replacement period from the remaining toner amount.
6010N WorkCentre 6015 MFP	CMYK Low Replace Soon		
6000B	The Error LED (Orange) illuminates and the corresponding Toner LED (Orange) illuminates.	The Toner Cartridge (Y, M, C, or K) has reached its replacement period. The printer stops operating. Immediately replace the Toner Cartridge (Y, M, C, or K) with a new one.	
6010N WorkCentre 6015 MFP	Replace Cart. 093-93X Replace Y/M/C/K	The Toner Cartridge (Y, M, C, or K) has reached its replacement period. The printer stops operating. Immediately replace the Toner Cartridge (Y, M, C, or K) with a new one.	

Control

Process Control

The parameters related to image formation must be corrected to stabilize printing. The control of the entire printing process including the parameter correction control is called process control.

The process control is performed by the following two methods after every 30 cumulative prints upon termination of a print run or during a continuous run:

- Potential Control

- Toner Density Control

To supplement these two controls, the following controls are provided:

- High Area Coverage Mode

- Admix Mode

Potential Control

To stabilize the print image density, the drum charging voltage, the developing DC voltage, and the LED light amount of the LPH are adjusted according to the ever-changing developing capability of each color developer. The adjusted drum charging voltage, the developing DC voltage, and the LED light amount of the LPH are fed back to keep the print image density constant.

The outline of control is as follows:

1. The temperature and humidity sensor detects the temperature and humidity.
2. The patches of respective colors (Yellow, Magenta, Cyan, and Black) for the potential control are generated and transferred onto the Belt.
3. The ADC Sensor (density sensor) detects the density of the patches on the belt.
4. The drum charging voltage, the developing DC voltage, and the LED light amount of the LPH are adjusted for each color according to the detected patch density.

Toner Density Control

The toner density must be kept constant to stabilize the print image quality. The control system for this purpose is called toner density control.

1. ICDC (Image Count Dispense Control)

   The quantity of the toner to be consumed in the developing process is calculated in terms of toner-dispensing time based on the quantity of the video signals that have been input to the LPH. The amount of the toner to be fed to the developer section is controlled by turning on the Toner Motor for the calculated toner-dispensing time.

2. ADC (Auto Density Control)

   The patches of respective colors (Yellow, Magenta, Cyan, and Black) for the toner density control are generated under the specified potential condition, and then transferred onto the transfer belt. The ADC Sensor measures the densities of these patches and compares them with the reference value. If the toner density is lower than the reference value, the toner dispense quantity is increased at the next printing. If the toner density is higher than the reference value, the toner dispense quantity is reduced at the next printing. The toner dispense quantity is calculated in terms of the toner-dispensing time on a color-by-color basis.

High Area Coverage Mode

A continuous printing of a high area coverage data that exceeds the extra toner dispense capability causes the toner density in the developer to be lowered.

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

Admix Mode

This mode executes extra toner dispensation to prevent the toner density from being lowered whenever the value of the toner density control patch measured by the ADC Sensor falls far below the reference value. If the toner density level cannot be recovered even after this operation, it is determined that the toner has run out.

ADC Sensor Adjustment

The ADC Sensor is a reflection type sensor that irradiates the light from its LED onto the target and detects the reflected light at its photoreceptor and outputs electric signals responsive to the amount of detected light. To ensure an accurate patch density measurement, the surfaces of the ADC Sensor is cleaned to remove soil due to toner, etc., and the light quantity adjustment is made so that the reflected light quantity satisfies the predetermined value when the patch for potential control and toner density control are created.

Color Registration Control

The printer uses a tandem system where the drums and developers are arranged respectively for Yellow, Magenta, Cyan, and Black colors. Since the four color-separated images are overlaid onto the print medium, a color shift may occur. The color registration control calculates how much the registration is shifted, and adjusts the LPH write timing.

The lateral registration control adjusts all of the four colors in lateral directions.

The color registration control is executed during a process control based on the change in the internal temperature and the print count.

The control is outlined below:

1. With no toner on the transfer belt, the output value of the ADC Sensor is measured to determine the threshold value.

2. The patch for color registration control is generated on the transfer belt. This patch is composed of four cycles of a color pattern, each containing 10 mm wide color bars starting with a Black trigger line followed by K, C, K, M, K, and Y (in this order).

Color Registration Control
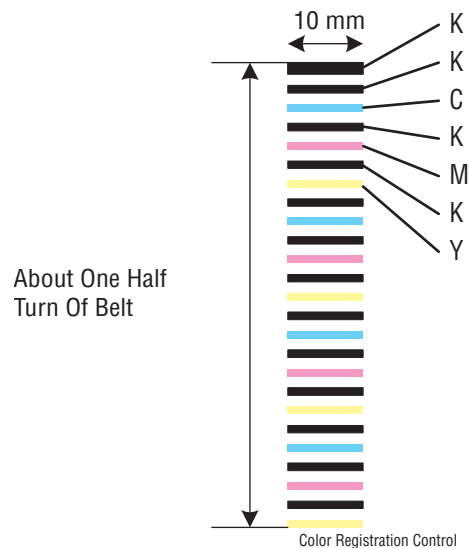
3. The density of the patch is measured by the ADC Sensor.

4. The shift correction amount is calculated from the threshold value determined in 1) and the patch density measured in 3).

5. The LPH write timing is changed according to the shift correction amount.

Fuser Control

Fuser Temperature Control

To control the Fuser temperature, the target temperature is set, and then the heat lamp is turned on/off so that the surface temperature of the heat roller satisfies the target value.

The surface temperature of the heat roller is detected by a thermistor. When the temperature detected is higher than the target value, the heat lamp is turned Off. When the temperature is below the target value, the heat lamp is turned On.

However, the sensor may detect a temperature lower than the actual value when an error occurs during the temperature detection. To prevent the heat lamp from overheating, the heat lamp is turned off unless warm-up is completed within the specified time.

The target temperature varies depending on the printer status such as warm-up, printing, or process control, and is calibrated according to the interior temperature detected by the environmental sensor, the temperature difference between the middle and the ends of the heat roller, the printing mode, and the input power supply voltage.

Cooling Down

As the printing continues, the temperature of the heat roller becomes nonuniform between the area that contacts the sheet and the area that does not. When this happens the paper feeding is suspended for a certain duration to compensate for the temperature non uniformity of the heat roller. This is called "Cooling Down".

When the temperature of the heat roller end is high, cooling down is performed to lower the temperature to the target value.

Sensor Warm-up

The thermistor loses its measuring accuracy when the temperature of the sensor itself is -5°C or below. Therefore, the sensor is warmed up to 0°C when its temperature is -5°C or below. This is called "Sensor Warm-up".

Main Drive Assembly

Paper Feed Drive Flow

The torque of the Main Drive Assembly is transmitted through the route shown in the following illustration.

s6000-125

Paper Feed Drive Components

[Name Of Moving Parts]

▭▬▭▬▭ : Indicates The Engagement Of Gears

Exit Gear
Exit Idler Gear
Fuser

[Exit Roller]

[Heat Roller]

Heat Roller Idler Gear

Motor Drive

Gear F4
Gear F3

Heat Roller Gear

Gear PF2

Gear PH3

Gear PH5

Gear PF1

Gear PH4

PH Drive

Main Motor

Gear PH6

Registration Clutch

Feed Gear

[Registration Roller]

Front

MPT Feed Solenoid

[Feed Roller]

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Full Color Mode Development Drive Flow

[**Name Of Moving Parts**]

Motor Drive

Main Motor

Gear D1

Gear D2

Gear D3C

Gear D4 In → Gear DK1

Gear D4 Out

Gear DK2

Gear D5

Idler Gear D2

Idler Gear D1

Idler Gear D2

Idler Gear D2

Idler Gear D1

Idler Gear D2

Developer Drive

Gear D6 (Y) Gear D6 (M) Gear D6 (C) Gear D6 (K)

MU Drive

Magnet Gear (Y)	Magnet Gear (M)	Magnet Gear (C)	Magnet Gear (K)
[Magnet Roller (Y)]	**[Magnet Roller (M)]**	**[Magnet Roller (C)]**	**[Magnet Roller (K)]**
Magnet Idler Gear (Y)	Magnet Idler Gear (M)	Magnet Idler Gear (C)	Magnet Idler Gear (K)
Auger Gear (Y)	Auger Gear (M)	Auger Gear (C)	Auger Gear (K)
[Supply Auger (Y)]	**[Supply Auger (M)]**	**[Supply Auger (C)]**	**[Supply Auger (K)]**
Admix Auger Gear (Y)	Admix Auger Gear (M)	Admix Auger Gear (C)	Admix Auger Gear (K)
[Admix Auger (Y)]	**[Admix Auger (M)]**	**[Admix Auger (C)]**	**[Admix Auger (K)]**
Xerographic Developer (Y)	Xerographic Developer (M)	Xerographic Developer (C)	Xerographic Developer (K)

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Full Color Mode Development Drive Components

Xerographic Developer (Y)

Xerographic Developer (M)

Xerographic Developer (C)

Xerographic Developer (K)

[Name Of Moving Parts]

: Indicates The Engagement Of Gears

[Auger Supply]

[Magnet Roll]

Magnet Gear

Magnet Idler Gear

[Auger Admix]

Magnet Gear (Y)

Magnet Gear (M)

Magnet Gear (C)

Magnet Gear (K)

Auger Gear

Admix Auger Gear

Gear D6 (Y)

Front

Motor Drive

Main Motor

Gear D6 (M)

Gear D6 (C)

MU Drive

Gear Idler D2

Gear D5

Developer Drive

Gear Idler D2

Gear Idler D1

Gear Idler D2

Gear D6 (K)

Gear D1

Idler Gear D2

Gear D5

Gear D4 In

Flange D4

Gear Idler D1

Gear D4 In

Gear DK1

Gear Idler D1

Gear D2

Gear D3C

Gear D4 Out

Gear D3C

Switching Solenoid

Gear DK2

s6000-128

B/W Mode Development Drive Flow

[Name Of Moving Parts]

Motor Drive
Main Motor

Gear D1

Gear D2

Gear D3C

Gear D4 In → Gear DK1

Gear DK2

Gear D4 Out ← Gear C ← Switching Solenoid

Cam Gear

Idler Gear D1

Flange D4

Idler Gear D2

Developer Drive

Gear D6 (K)

MU Drive

Magnet Gear (K)

[Magnet Roll (K)]

Magnet Idler Gear (K)

Auger Gear (K)

[Auger Supply (K)]

Admix Auger Gear (K)

[Auger Admix (K)]
Xerographic Developer (K)

s6000-129

B/W Mode Development Drive Components

s6000-130

Drum, Belt Drive, and Excess Toner Collecting Drive Flow

[Name Of Moving Parts]

Motor Drive

Main Motor

Gear X1

Gear X2 | Gear X2

Idler Gear X | Idler Gear X

Gear X2 | Gear X2

MU Drive

[Drum (Y)]

Xerographic
Cleaning
Auger Gear (Y)

**[Xerographic
Cleaning Auger (Y)]**
Xerographic
Developer (Y)

[Drum (M)]

Xerographic
Cleaning
Auger Gear (M)

**[Xerographic
Cleaning Auger (M)]**
Xerographic
Developer (M)

[Drum (C)]

Xerographic
Cleaning
Auger Gear (C)

**[Xerographic
Cleaning Auger (C)]**
Xerographic
Developer (C)

[Drum (K)]

Xerographic
Cleaning
Auger Gear (K)

**[Xerographic
Cleaning Auger (K)]**
Xerographic
Developer (K)

Gear T1

Gear DRV | Auger Gear

[Belt] | **[Belt Cleaning Auger]**

Belt

s6000-131

Drum, Belt Drive, and Excess Toner Collecting Drive Components

[Name Of Moving Parts]

▬▬▬ : Indicates The Engagement Of Gears

[Belt]

[Belt Cleaning Auger]

Auger Gear
Gear T1

DRV Gear

Motor Drive

Gear X1

Gear Idler X
Gear X2

Gear X2

MU Drive

Gear X2
Gear Idler X

Gear X2

Front

Xerographic
Developer (Y)

Xerographic
Developer (M)

Xerographic
Developer (C)

Xerographic
Developer (K)

[Drum]

Xerographic
Cleaning Auger Gear

[Xerographic Cleaning Auger]

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Toner Dispenser (Y, M, C, K) Drive Flow

The torque of the Toner Dispenser drives the auger in the Toner Cartridge.

Toner Dispenser Y and K Drive Flow

s6500-133

Toner Dispenser Y and K Drive Components

[Name Of Moving Parts]

▪▬▪▬▪▭ : Indicates The Engagement Of Gears

Toner Cartridge (K)

Toner Cartridge (C)

Toner Cartridge (M)

Toner Cartridge (Y)

[Auger Dispense Tn (K)]

[Auger Ctrg (K)]

Auger Gear (K)

[Cartridge Auger (Y)]

Auger Gear (Y)

[Dispense Auger TN (Y)]

Auger Gear (K)

Idler Gear 23 (K)

Oneway Clutch (C)

Oneway Clutch (M)

Idler Gear 23 (Y)

Auger Gear (Y)

Oneway Clutch (K)

Oneway Clutch (Y)

Idler Gear 34

Idler Gear 34

Dispense Motor (C), (K)

Front

Idler Gear 34

Dispense Motor (Y), (M)

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Toner Dispenser M and C Drive Flow

[Name Of Moving Parts]

Dispenser

Dispense Motor (Y), (M)	Dispense Motor (C), (K)

Idler Gear 34   Idler Gear 34   Idler Gear 34

Idler Gear 34   Idler Gear 34

Idler Gear 34

Idler Gear 34

Oneway Clutch (Y)   Oneway Clutch (M)   Oneway Clutch (C)   Oneway Clutch (K)

Idler Gear 23 (M)   Idler Gear 23 (C)

Auger Gear (M)   Auger Gear (C)

[Dispense Auger (M)]   **[Dispense Auger (C)]**

Auger Gear (M)   Auger Gear (C)

[Cartridge Auger (M)]   **[Cartridge Auger (C)]**
Toner Cartridge (M)   Toner Cartridge (C)

s6000-135

Toner Dispenser M and C Drive Components

[Name Of Moving Parts]

■—■—■—□ : Indicates The Engagement Of Gears

Toner Cartridge (K)

Toner Cartridge (Y)

Toner Cartridge (M)

Toner Cartridge (C)

Auger Gear (M)

[Dispense Auger (C)]

[Cartridge Auger (M)]

[Cartridge Auger (C)]

Auger Gear (C)

[Dispense Auger (M)]

Auger Gear (M)

Auger Gear (C)

Oneway Clutch (C)

Idler Gear 23 (C)

Idler Gear 23 (M)

Oneway Clutch (K)

Oneway Clutch (Y)

Oneway Clutch (M)

Idler Gear 34

Dispense Motor (C), (K)

Front

Idler Gear 34

Dispense Motor (Y), (M)

Idler Gear 34

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Error Messages and Codes

In this chapter...

Chapter

3

Introduction

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

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

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

- Error messages and codes displayed on the Control Panel

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

Printing the Error History Report

Printing the Error History Report at the WorkCentre 6015 MFP Control Panel

1. At the Control Panel, press the **System button**.
2. Use the **Down Arrow** button to scroll to **Information Pages**, and press **OK**.

   The Error History Report is printed.

Printing the Error History Report at the Phaser 6010N Control Panel

1. At the Control Panel, press the **Menu button**.
2. At Report List, press **OK**.
3. Press the **Up** or **Down Arrow** button to scroll to **Error History**. Press **OK**.

   The Error History Report is printed.

Printing the Error History Report at the Phaser 6000B Control Panel

1. At the Control Panel, press and hold the **OK button**.

   The Printer Settings, Device Settings, and Error History Report are printed.

Note

If the Error History Report will not print due to printer failure, see "Phaser 6000B Errors" on page 3-18.

Printing the Error History Report with the Printer Settings Utility

1. From the Start Menu, select **Programs > Xerox Office Printing >Phaser 6000B/6010N > Printer Settings Utility**.
2. On the **Printer Settings Report** tab, select **Information Pages**.
3. Press the **Error History** button.

   The Error History Report is printed.

Error History Report

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

The Error History page contains two types of history information.

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

- Paper Jam History contains:
  Item No., Total Print Count, Chain-Link code, and Paper Jam information.

Servicing Instructions

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

Step 1: Identify the Problem

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

Step 2: Inspect and Clean the Printer

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

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

Messages, Codes, and Procedures

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

Error Messages Abbreviations

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

Term	Definition
ADC	Automatic Density Control
ASIC	Application-Specific Integrated Circuit
BLK	Black
COMM	Communication
CRT	Cartridge
CRUM	Customer Replaceable Unit Memory
ER/ERR	Error
ENV	Environment
FUNC	Function
MACaddress	Media Access Control Address
MCU	Machine Control Unit
NVM	Non-Volatile Memory. Used instead of NVRAM.
NVRAM	Non-Volatile Random Access Memory
PDL	Page Description Language
RAM	Random Access Memory
REG	Registration
ROM	Read Only Memory
TRAN	Transfer Belt

Phaser 6010N and WorkCentre 6015 MFP Errors

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

- The Error Code column lists the code associated with the error.

- The Error Message LCD column shows the message as it appears on the LCD when the error occurs during normal operation.

- The Error Description column describes the error.

- The Go to column links to the troubleshooting procedure related to the error.

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

Error Message Summary

Error Code	Error Message LCD	Error Description	Go to
005-121	Paper Jam 005-121 Open ADF Cover and Clear Jam	<ADF Jam> An ADF Jam occurred.	3-24
005-301	Cover Open 005-301 Remove paper then Close ADF Cover	<ADF Cover Open> The ADF Cover is open.	3-25
007-340	007-340 Printer Restart Printer	<Motor Failure> Main Motor failure is detected.	3-26
009-360 to 009-363	009-36X Replace Toner Cartridge Now	The indicated toner cartridge needs to be replaced.	3-100
010-397	010-397 Code:xxxxxxxx Restart Printer	<Fuser Failure> The operation error of Fuser (Temperature anomaly error etc.) is detected.	3-27
016-315	016-315 System Restart Printer	<IP On Board RAM R/W Check Fail> An error occurred during the on-board RAM read/write check at the time of initialization.	3-28
016-317	016-317 Restart Printer Contact Support IfMessageReturns	<IP ROM Check (Main) Fail> Checksum error occurred in the main program ROM.	3-28
016-372	016-372 System Restart Printer Contact Support If Message Returns	<Fax Memory Allocation Error> Fax memory allocation error is detected.	3-30
016-500	Erase Flash Err Restart Printer	Erase Flash Error	3-31
016-501	Write Flash Error 016-501 System Contact Support If Message Returns	<Download Write Error> Flash memory write error occurred.	3-31

Error Message Summary (Continued)

Error Code	Error Message LCD	Error Description	Go to
016-502	Write Flash Error 016-502 System Contact Support If Message Returns	\<Download Error> When downloading, error is detected.	3-31
016-503 016-504 016-506 016-507	SMTP Error 016-50X Scan Job Failure Press OK	An E-mail Error has occurred.	3-32
016-718	Memory Full 016-718 Printer Job too Large Press OK	\<Memory Over flow> The current printing job process cannot be continued because the memory capacity is exceeded.	3-38
016-719	Decode Error 016-719 Printer Job Failure Press OK	\<Decode error> Decode error is detected.	3-39
016-720	PDL Request 016-720 Printer Data Violation Press OK	\<PDL Error> The print data cannot be processed by PDL.	3-40
016-737	Format Error Press OK Button	\<Download Format Error> The format is invalid.	3-35
016-741	Protection Error Press OK Button	\<Download Protect Error> The Protect is invalid.Download was attempted under the condition where it is prohibited.	3-35
016-742	Invalid ID Press OK Button	\<Download ID Error> An error occurred because an invalid firmware is installed.	3-35
016-743	Range Chk Error Press OK Button	\<Download Range Error> The address of the write destination is invalid.	3-35
016-744	Format Error 016-744 System Invalid Data Press OK	\<Download Format Error> Invalid code to be downloaded.	3-35
016-745	Format Error 016-745 System Invalid Data Press OK	\<Download Format Error> Invalid code to be downloaded.	3-35
016-749	PJL Request 016-749 Printer Data Violation Press OK	\<PJL Request Error> The print data cannot be processed by PJL.	3-37
016-764	Connect Fail 016-764 Scan Job Failure Press OK	\<Connect Error> Can not connect to mail server for sending mail.	3-40

Error Message Summary (Continued)

Error Code	Error Message LCD	Error Description	Go to
016-766	SMTP Error 016-766 Scan Job Failure Press OK	<SMTP> Can not transfer completely.	3-40
016-767	Address Error 016-767 Scan Job Failure Press OK	<E-mail Address Error> Recipient address is invalid.	3-40
016-791	USB Memory was removed. 016-791 System Job Failure Press OK	<USB Memory Removal Error> USB memory is removed while memory reading job is being executed.	3-41
016-795	File Format Error 016-795 Printer Job Failure Press OK	<File Format Error> An unsupported file was selected at USB Memory Print.	3-41
016-797	File Read Error 016-797 Printer Job Failure Press OK	<File Read Error> The contents of the USB memory cannot be read correctly.	3-41
016-799	Invalid Job Press OK Button	<Job Environment Violation> Detects violation data for the print condition. The print data specifies paper type/size not available for the printer.	3-42
016-920	Wireless Error 016-920 System Setup Fail Press OK	<Wireless Setting Error Time-out Error> The time-out was done to the connection with Register.	3-43
016-930 016-931	USB Host Error 016-930 System Unsupported Device Remove from USB Port	<USB Host Error> Detect installation of un-supported device.	3-44
016-981	Collate Full 016-981 Printer Job too Large Press OK	<Collate Full> Exceeds the memory capacity.	3-44
016-985	Mail Size Limits 016-985 Scan Job Failure Press OK	<Mail Size Error> Mail Size Limits Error	3-45
017-970	Memory Full 017-970 Scan Job Failure Press OK	<Out of Memory> Out of Memory.	3-45
017-980	Report error 017-980 System Job Failure Press OK	<Report File Open/Close Error> Report job fails to open/close report file.	3-46

Error Message Summary (Continued)

Error Code	Error Message LCD	Error Description	Go to
017-981	Report error 017-981 System Job Failure Press OK	<Report File Error> Fax Report job fails to report file.	3-46
017-988	PCScan Time Out 017-988 Scan Job Failure Press OK	<PC Scan Time Out> Time out at Scan-To-Application start.	3-45
017-990	<No message is displayed, but it is listed in the error log.>	Calibration of Scanner Failed	3-48
018-338	018-338 System Restart Printer Contact Support If Message Returns	<Wireless Error> The error is detected when checking the Wireless circuitry.	3-47
024-340	024-340 Code:xxxxxxxx Restart Printer	<Firmware Error> MCU firmware error detected.	3-49
024-360	024-360 System Restart Printer Contact Support If Message Returns	<MCU Firmware DownLoad Error> MCU firmware download error detected.	3-50
024-371	024-371 System Restart Printer Contact Support If Message Return	<MCU-ESS Communication Fail> Communication fail between MCU and ESS.	3-51
024-958	Paper Size Mismatch 024-958 Printer Load Paper then Press OK AAAAA (or BBBBB)	<Paper Size Mismatch> The size of paper in the MPF (or PSI) does not match the specified print size. 　　XXXXXX: Paper Size 　　YYYYYY: Paper Type	3-52
024-963	No Suitable Paper 024-963 Printer Load Paper then Press OK	<No Suitable Paper> MFP (or PSI) has run out of paper, or the size (or type) of paper in the MFP (or PSI) does not match the specified print size (or type). 　　XXXXXX: Paper Size 　　YYYYYY: Paper Type	3-53
026-720	USB Memory Full 026-720 Scan Job Failure Press OK	<USB Memory Full> Unable to write files to the USB memory because it is full.	3-54
026-721	File Write Error 026-721 Scan Job Failure Press OK	<USB Memory Write Error> Failed to write data to the USB memory.	3-54

Error Message Summary (Continued)

Error Code	Error Message LCD	Error Description	Go to
026-722	Write Protect 026-722 Scan Job Failure Press OK	<Write Protect error> The USB memory is write-protected.	3-55
026-723	File Path Limit 026-723 Scan Job Failure Press OK	<File Path Limit> Cannot access the target file in the USB memory because the path is too long.	3-55
026-750 026-751 026-752	Communication Fail 026-75X Scan Job Failure Press OK	Scan Communication Failure	3-56
027-446	% s Duplicate IPv6	<IPv6 duplicate> Duplicate IPv6 addresses detected upon startup.	3-57
027-452	% s Duplicate IPv4	<IPv4 duplicate> Duplicate IPv4 addresses detected upon startup.	3-58
031-521	SMB Error 031-521 Scan Login Error Press OK	<SMB Login Error> SMB login error is detected.	3-59
031-526	SMB Error 031-536 Scan Name Resolve Error Press OK	<SMB Name Resolve Error> SMB domain name resolve error is detected.	3-59
031-529	SMB Error 031-529 Scan Login Failed Press OK	<SMB Login Failed> Invalid password is detected.	3-60
031-530	SMB Error 031-530 Scan SMB Path Error Press OK	<SMB Path Error> SMB working path error is detected.	3-59
031-533	031-533 Scan File Make Error Press OK	<SMB File Make Error> Can not create file name well.	3-59
031-534	SMB Error 031-534 Scan Folder Make Error Press OK	<SMB Folder Make Error> Can't make directory in SMB repository.	3-59
031-535	SMB Error 031-535 Scan Delete File Error Press OK	<SMB Delete File Error> SMB delete file error is detected.	3-59
031-536	SMB Error 031-536 Scan Delete Folder Error Press OK	<SMB Delete Folder Error> SMB delete file error is detected.	3-59

Error Message Summary (Continued)

Error Code	Error Message LCD	Error Description	Go to
031-537	SMB Error 031-537 Scan Disk Full Error Press OK	<SMB Disk Full Error> SMB server storage full.	3-59
031-555	SMB Error 031-555 Scan Login Failed Press OK	<SMB Connect Error> Detects SMB link is broken.	3-60
031-556	SMB Error 031-556 Scan Write Error Press OK	<SMB Write Error> Data can not be written onto SMB.	3-59
031-557	SMB Error 031-557 Scan File Duplication Press OK	<SMB File Duplication Error> File duplication error is detected.	3-59
031-558	SMB Error 031-558 Scan Connect Error Press OK	<SMB Connect Error> BIOS error is detected.	3-59
031-571	FTP Error 031-571 Scan Login Failed Press OK	<FTP Connect Error> FTP link error is detected.	3-61
031-574	FTP Error 031-574 Scan Name Resolve Error Press OK	<FTP Name Resolve Error> FTP domain name resolve error is detected.	3-62
031-575	FTP Error 031-575 Scan Server Address Error Press OK	<FTP Server Address Error> FTP host name resolve error is detected.	3-62
031-576	FTP Error 031-576 Scan Server Not Found Press OK	<FTP Server Not Found> Can not open FTP server for accessing.	3-62
031-578	FTP Error 031-578 Scan Login Failed Press OK	<FTP Connect Error> FTP link error is detected.	3-61
031-579	FTP Error 031-579 Scan FTP Path Error Press OK	<FTP Path Error> FTP path error is detected.	3-62
031-582	FTP Error 031-582 Scan File Make Error Press OK	<FTP File Make Error> Can not create file name well.	3-62

Error Message Summary (Continued)

Error Code	Error Message LCD	Error Description	Go to
031-584	FTP Error 031-584 Scan Connect Error Press OK	<FTP Connect Error> Can't make directory.	3-63
031-585	FTP Error 031-585 Scan DEL Command Error Press OK	<FTP Delete Command Error> FTP delete command error is detected.	3-63
031-587	FTP Error 031-587 Scan RMD Command Error Press OK	<FTP RMD Command Error> FTP RMD command error is detected.	3-63
031-588	FTP Error 031-588 Scan Write Error Press OK	<FTP Write Error> Data can not be written onto FTP.	3-63
031-589	FTP Error 031-589 Scan Disk Full Error Press OK	<FTP Disk Full Error> FTP storage full.	3-63
031-594	FTP Error 031-594 Scan TYPE Command Error Press OK	<FTP Type Command Error> FTP type command error is detected.	3-63
031-598	FTP Error 031-598 Scan APPE Command Error Press OK	<FTP APPEND Command Error> FTP APPEND command error is detected.	3-63
033-503	Memory Full 033-503 Fax Job Failure Press OK	<Memory Full> Memory Full at Reception.	3-64
033-513	Memory Full 033-513 Fax Job Failure Press OK	<Communication Error> Communication Interrupted due to Memory Full.	3-64
033-517	Password Error 033-517 Fax Job Failure Press OK	<D-Fax Password Error> The password for D-Fax does not match the password for Fax/Scanner Lock.	3-65
033-518	Country is not Set 033-518 Fax Job Failure Press OK	<Fax Country is not set correctly.> The Country setting value is not set correctly.	3-65
033-519	Function is Disabled. 033-519 Fax Job Failure Press OK	<FAX Function is not set correctly> The FAX Function setting is not set correctly.	3-65

Error Message Summary (Continued)

Error Code	Error Message LCD	Error Description	Go to
033-787	Memory Full 033-787 Fax Job Failure Press OK	<Calling Table Full> The Calling Table is full.	3-66
033-788	Memory Full 033-788 Fax Job Failure Press OK	<Memory Full> Exceeds the memory capacity.	3-64
034-700	Busy 034-700 Fax Job Failure Press OK	<FAX Busy> FAX called number is busy.	3-67
034-701	No Dial Tone 034-701 Fax Job Failure Press OK	<No Dial Tone> No dial tone on the phone line.	3-67
034-702 to 034-711	Communication Fail 034-7xx Fax Job Failure Press OK	Communication Errors	3-68
034-750 to 034-768	Communication Fail 034-7xx Fax Job Failure Press OK	RX Communication Errors	3-69
041-340	041-340 Code:xxxxxxxx Restart Printer	<NVRAM Error> The operation error of NVM (read/write check error etc.) is detected.	3-70
042-325	Motor Error Restart Printer	Motor Error	3-71
042-358	042-358 Printer Restart Printer Contact Support If Message Returns	<Fan Motor Failure> MCU detects an error upon receiving error signal from the Fan Motor.	3-72
042-372	Deve Mode Error Restart Printer	<Deve Mode Change Failure> Deve Mode Change failure is detected.	3-73
061-370	061-370 Printer Code:xxxxxxxx Restart Printer	<LPH Failure> LPH failure is detected.	3-75
062-321	062-321 System Restart Printer	<Carriage Motor Error> Carriage Motor error is detected.	3-76
062-322	<No message, only appears in error log>	Scanner drive calibration failed.	3-77
062-360	062-360 System Restart Printer	<Image Processing Error> Image Processor error is detected.	3-110

Error Message Summary (Continued)

Error Code	Error Message LCD	Error Description	Go to
062-790	Confirm 062-790 Deleted by Limit Press	<Copy Limit> Unable to continue due to copy limitation.	3-78
075-100	Paper Jam 075-100 Printer Jam at Feed	<Misfeed Jam> The Registration Sensor is not turned ON within the specified time.	3-80
075-921	075-921 Printer Insert Output to Tray Press OK to Continue Printing	< Insert Output to Tray> The sheet on which to print an odd-numbered page has not been loaded in the Main Paper Tray (or Bypass Tray) when manual duplex printing is performed.	3-79
077-100	Paper Jam 077-100 Printer Jam at Exit	<Paper Remain at Regi (MFP/PSI)> Paper remain was detected at the Registration section (or Main Paper Tray/Bypass Tray section) of the printer.	3-83
077-104	Paper Jam 077-104 Printer Jam at Exit	<Regi Jam> The paper does not pass through the Registration Sensor within the specified time.	3-84
077-106	Paper Jam 077-106 Printer Jam at Exit	<Regi Jam> The paper does not reach the Registration Sensor within the specified time.	3-86
077-108	Paper Jam 077-108 Printer Jam at Exit	<Exit Jam> The paper passed through the Exit Sensor earlier than the specified time.	3-89
077-109	Paper Jam 077-109 Printer Jam at Exit	<Exit Jam> The paper does not pass through the Exit Sensor within the specified time.	3-89
077-304	Close Rear Cover 077-304 Printer Rear Cover is Open	<Rear Cover Open> The Rear Cover is open.	3-90
077-900	Paper Jam Remain at Exit 077-900 Printer Open Rear Cover Remove Paper	<Paper Remain at Exit> Paper remain was detected at the Exit section of the Printer.	3-92
077-901	Paper Jam Remain at Reg 077-901 Printer Open Rear Cover Remove Paper	<Paper Remain at Regi> Paper remain was detected at the registration section of the Printer.	3-93
091-402	091-402 Printer Contact Support If Message Returns	<Xero Near Life> The Printer (Xerographic) is approaching the replacement time.	3-94

Error Message Summary (Continued)

Error Code	Error Message LCD	Error Description	Go to
092-310	Check CTD Unit 092-310	<CTD Sensor Contamination> The CTD (ADC) Sensor has reached the Cleaning time.	3-95
092-651	092-651 Code:xxxxxxxx Restart Printer	<CTD (ADC) sensor error> CTD (ADC) sensor error is detected.	3-96
092-661	092-661 Code:xxxxxxxx Restart Printer	<Environment Sensor Error> The Environment (Temperature/Humidity) sensor detected the temperature anomaly.	3-97
092-910	Check CTD Unit 092-910	<CTD Sensor Contamination> The CTD (ADC) Sensor needs to be cleaned.	3-95
093-423 to 093-426	Ready to Print 093-42X Printer X Cartridge is Close to Life	<Toner Cartridge (X) Near Life> The Toner Cartridge (X) is approaching the replacement time. When all the toner cartridges are simultaneously approaching the replacement time, a warning is indicated in the following order: 1)Black 2)Cyan 3)Magenta 4)Yellow	3-98
093-919 to 093-922	Low Density 093-9YY Printer Check X Cartridge Now	<X Toner Low Density> Low density of indicated toner is detected.	3-99
093-926	CRUM ID 093-926 Reseat Black Cartridge	<K CRUM ID Error> An unsupported Toner Cartridge (K) is detected.	3-102
093-930 to 093-933	Replace Cart. 093-93X Printer Replace X Cartridge	<Toner Cartridge (X) Life Over> The indicated Toner Cartridge needs to be replaced. When all the toner cartridges have simultaneously reached the replacement time, a warning is indicated in the following order: 1)Yellow 2)Magenta 3)Cyan 4)Black	3-100
093-950 to 093-952. and 093-925	Cartridge Error (Y,M, C, or K) Cartridge	X Toner Comm Fail	3-101
093-960 to 092-062	CRUM ID 093-92X Reseat X Cartridge	<(Y, M, or C) CRUM ID Error> An unsupported Toner Cartridge is detected.	3-102

Error Message Summary (Continued)

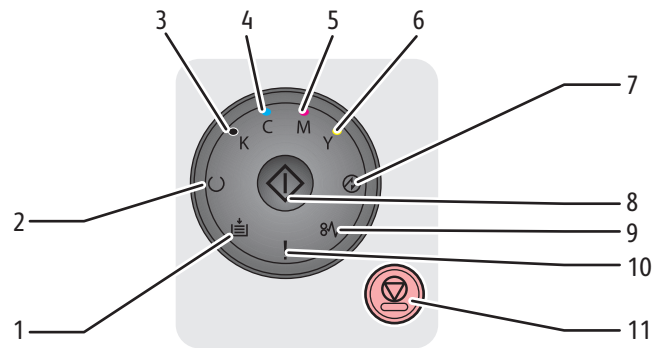| Error Code	Error Message LCD	Error Description	Go to
093-970 to 093-973	Insert Print Cart. 093-97X Printer Insert X Cartridge	<Toner Cartridge (X) Detached> The indicated Toner Cartridge is not installed in the printer. If no toner cartridge has been installed in the printer, a warning is indicated in the following order: 1)Yellow 2)Magenta 3)Cyan 4)Black	3-102
093-974	Insert Print Cart 093-974 Printer Insert Toner Cartridge	Insert Print Cartridge	3-104
116-210	116-210 System Restart Printer Contact Support If Message Returns	<System USB Port Error> System USB port error is detected.	3-109
116-314	116-314 System Restart Printer Contact Support If Message Returns	<ESS Network MAC Address Checksum Error> Checksum error occurred in the Network MAC address.	3-105
116-315	116-335 System Restart Printer Contact Support If Message Returns	RAM Error	3-31
116-317	Controller Error Restart Printer	Controller Error	3-31
116-323	116-323 System Restart Printer Contact Support If Message Returns	<Checksum error (Fax)> Checksum error for Fax parameter is detected.	3-29
116-324	Controller Error Restart Printer	Controller Error	3-31
116-325	116-325 System Restart Printer Contact Support If Message Return	<Checksum error (Other)> Checksum error for Other parameter is detected.	3-33
116-326	116-326 System Restart Printer Contact Support If Message Returns	<Checksum error (Scan)> Checksum error for Scanner parameter is detected.	3-31
116-335	116-335 System Restart Printer Contact Support If Message Returns	<Checksum error (Network)> Checksum error for Network parameter is detected.	3-34
116-343	ASIC Error Restart Printer	ASIC Error	3-31

Error Message Summary (Continued)

Error Code	Error Message LCD	Error Description	Go to
116-350	Network Error Restart Printer Error 116-350 Restart Printer	Network Error	3-105
116-351	Network Error Restart Printer Error 116-351 Restart Printer	Network Error	3-105
116-352	Network Error Restart Printer Error 116-352 Restart Printer	Network Error	3-105
116-355	116-355 System Restart Printer Contact Support If Message Returns	<ESS Network Fatal Error> An error occurred during the on-board network check.	3-108
116-395	116-395 System Restart Printer Contact Support If Message Returns	<System USB port error> System USB port error is detected.	3-109
117-331 117-332 117-333 117-334 117-340 117-342 117-343 117-344 117-346 117-348 117-349 117-350 117-351 117-366	117-xxx System Restart Printer Contact Support If Message Return	<ESS-related error> Image Processor related error occurred.	3-110
124-333	124-333 Printer Restart Printer	<ASIC Failure> ASIC failure is detected.	3-107
134-211	134-211 System Restart Printer Contact Support If Message Returns	<Fax Card Modem Error> MODEM error occurred.	3-106
191-310	191-310 Restart Printer Contact Support IfMessageReturns	<XERO Life Over> The Printer (Xerographics unit) has reached the replacement time.	3-111
193-700	Ready to Print 193-700 Printer Non-Xerox Toner Installed	<Custom Toner Mode> The printer is in custom toner mode.	3-111

Phaser 6000B Errors

Phaser 6000B Control Panel Indicators

s6000-138

Item	Feature	Description
1	Load Paper	■ Indicates non-paper notifications such as download, startup diagnostics, or other non-paper notifications. ■ Flashing indicates a Paper Size Mismatch in the printer, paper is jammed in the paper tray, or the printer is out of paper.
2	Ready/Data	■ Green indicates the printer is ready. ■ Green with **OK** flashing indicates that the printer is waiting for the user to press **OK** after inserting paper for side 2 printing (manual duplex). ■ Flashing green indicates the printer is busy or is waiting for you to take an expected action. ■ Flashing green when the Power Saver light is also flashing indicates the printer is canceling the print job.
3	Black Toner	■ Indicates that the Black toner is low. ■ Flashing indicates the toner is empty or toner warning. ■ Flashing means non-Xerox toner is installed.
4	Cyan Toner	■ Indicates that the Cyan toner is low. ■ Flashing indicates the toner is empty or toner warning. ■ Flashing means non-Xerox toner is installed.
5	Magenta Toner	■ Indicates that the Magenta toner is low. ■ Flashing indicates the toner is empty or toner warning. ■ Flashing means non-Xerox toner is installed.
6	Yellow Toner	■ Indicates that the Yellow toner is low. ■ Flashing indicates the toner is empty or toner warning. ■ Flashing means non-Xerox toner is installed.

Item	Feature	Description
7	Power Saver	■ Indicates the printer is in the Low Power or Power Saver Mode 2. ■ Flashing at the same time the Ready light is flashing indicates the printer is canceling the print job.
8	OK	■ Prompts the user to press the **OK** button to resume printing after an interruption. ■ Press **OK** to print side 2 of a manual 2-sided print job after paper is reloaded. ■ Press and hold **OK** to print Printer Settings report, Panel Settings report, and Error History report.
9	Jam	Flashing indicates a paper jam in the printer.
10	Error	■ Indicates an error that needs your attention. ■ When flashing, the printer has a critical error that can only be corrected by restarting the printer or by calling for service. ■ When illuminated and a CMYK Toner is illuminated, the toner should be reset. ■ When illuminated and a CMYK Toner is flashing, the toner should be replaced.
11	Cancel	When pressed, the current job is cancelled.

Phaser 6000B Extended Errors

The following errors are initially indicated by illuminating the Error LED only. To identify which error is occurring, press and hold the **OK** button for more than 3 seconds to see an additional error pattern. The extended error pattern displays for 3 seconds, and then the Error LED is illuminated again. Press the **OK** button as many times as necessary to identify the problem.

There are 3 cases where only the Error LED is illuminated but there is no extended error codes.

- 077-304: Rear Door Open

- 091-402: Xero Life Warning

- 092-910: ADC Sensor Dustiness Pre-warning

Use the following table to identify the extended error.

Note

A "-" in the table indicates that the LED is Off after the error occurs.

Indicator										Status Code	Go to page
1	2	3	4	5	6	7	8	9	10		
Load Paper	Ready/ Data	K Toner	C Toner	M Toner	Y Toner	Energy Saver	OK	Jam	Error		
Orange	-	Orange	-	-	-	Green	-	-	Orange	016-718	3-38
Orange	-	-	Orange	-	-	Green	-	-	Orange	016-720	3-40
Orange	-	-	-	Orange	-	Green	-	-	Orange	016-799	3-42
Orange	-	-	-	-	Orange	Green	-	-	Orange	092-310	3-95

Phaser 6000B Errors

Note

Print the Error History Report (page 3-2).

Use the following table to interpret error indicators on the Control Panel of the Phaser 6000B.

Note

A "+" in this table indicates that the LED will remain in whatever state it was in prior to the error occurring. A "-" indicates that the LED is off after the error occurs.

Indicator										Status Code	Go to page
1	2	3	4	5	6	7	8	9	10		
Load Paper	Ready/ Data	K Toner	C Toner	M Toner	Y Toner	Energy Saver	OK	Jam	Error		
-	-	-	-	-	-	-	-	-	Blinking Orange	010-397	3-27
Orange	-	-	Orange	Orange	-	-	-	-	Orange	016-500	3-31
Orange	-	-	Orange	Orange	Orange	-	-	-	Orange	016-501	3-31
Orange	-	-	Orange	Orange	Orange	-	-	-	Orange	016-502	3-31
-	-	-	-	-	-	-	-	-	Orange	016-718	3-38
-	-	-	-	-	-	-	-	-	Orange	016-720	3-40
Orange	-	-	Orange	-	-	-	-	-	Orange	016-737	3-35
Orange	-	-	Orange	-	-	-	-	-	Orange	016-741	3-35
Orange	-	-	Orange	-	-	-	-	-	Orange	016-742	3-35
Orange	-	-	Orange	-	-	-	-	-	Orange	016-743	3-35

Indicator										Status Code	Go to page
1	2	3	4	5	6	7	8	9	10		
Load Paper	Ready/ Data	K Toner	C Toner	M Toner	Y Toner	Energy Saver	OK	Jam	Error		
Orange	-	-	Orange	-	-	-	-	-	Orange	016-744	3-35
Orange	-	-	Orange	-	-	-	-	-	Orange	016-745	3-35
-	-	-	-	-	-	-	-	-	Blinking Orange	024-340	3-49
Orange	-	Orange	Orange	Orange	Orange	-	-	-	Orange	024-360	3-50
-	-	-	-	-	-	-	-	-	Blinking Orange	024-371	3-51
Blinking Orange	-	-	-	-	-	-	Blinking Green	-	Orange	024-958	3-52
Blinking Orange	-	-	-	-	-	-	Blinking Green	-	Orange	024-963	3-53
-	-	-	-	-	-	-	-	-	Blinking Orange	041-340	3-70
-	-	-	-	-	-	-	-	-	Blinking Orange	042-325	3-71
-	-	-	-	-	-	-	-	-	Blinking Orange	042-358	3-72
-	-	-	-	-	-	-	-	-	Blinking Orange	042-372	3-73
-	-	-	-	-	-	-	-	-	Blinking Orange	061-370	3-75
-	Green	-	-	-	-	-	Blinking Green	-	-	075-921	3-79
-	+	-	-	-	-	+	-	Blinking Orange	Orange	077-100	3-83
-	+	-	-	-	-	+	-	Blinking Orange	Orange	077-104	3-84
-	+	-	-	-	-	+	-	Blinking Orange	Orange	077-106	3-86
-	+	-	-	-	-	+	-	Blinking Orange	Orange	077-108	3-89
-	+	-	-	-	-	+	-	Blinking Orange	Orange	077-109	3-92
-	+	-	-	-	-	+	-	-	Orange	077-304	3-90
-	+	-	-	-	-	+	-	Blinking Orange	Orange	077-900	3-93
-	+	-	-	-	-	+	-	Blinking Orange	Orange	077-901	3-93
+	+	+	+	+	+	+	+	+	Orange	091-402	3-94

Indicator										Status Code	Go to page
1	2	3	4	5	6	7	8	9	10		
Load Paper	Ready/ Data	K Toner	C Toner	M Toner	Y Toner	Energy Saver	OK	Jam	Error		
-	-	-	-	-	-	-	-	-	Orange	092-310	3-95
-	-	-	-	-	-	-	-	-	Blinking Orange	092-651	3-96
-	-	-	-	-	-	-	-	-	Blinking Orange	092-661	3-97
+	+	+	+	+	+	+	+	+	Orange	092-910	3-95
+	+	+	+	+	Orange	+	+	+	+	093-423	3-98
+	+	+	+	Orange	+	+	+	+	+	093-424	3-98
+	+	+	Orange	+	+	+	+	+	+	093-425	3-98
+	+	Orange	+	+	+	+	+	+	+	093-426	3-98
-	-	-	-	-	Blinking Orange	-	-	-	Orange	093-919	3-99
-	-	-	-	Blinking Orange	-	-	-	-	Orange	093-920	3-99
-	-	-	Blinking Orange	-	-	-	-	-	Orange	093-921	3-99
-	-	Blinking Orange	-	-	-	-	-	-	Orange	093-922	3-99
-	-	Orange	-	-	-	-	-	-	Orange	093-925	3-101
-	-	Blinking Orange	-	-	-	-	-	-	-	093-926	3-102
+	+	+	+	+	Blinking Orange	+	+	+	Orange	093-930	3-100
+	+	+	+	Blinking Orange	+	+	+	+	Orange	093-931	3-100
+	+	+	Blinking Orange	+	+	+	+	+	Orange	093-932	3-100
-	-	Blinking Orange	-	-	-	-	-	-	Orange	093-933	3-100
-	-	-	-	-	Orange	-	-	-	Orange	093-950	3-101
-	-	-	-	Orange	-	-	-	-	Orange	093-951	3-101
-	-	-	Orange	-	-	-	-	-	Orange	093-952	3-101
-	-	-	-	-	Blinking Orange	-	-	-	-	093-960	3-102
-	-	-	-	Blinking Orange	-	-	-	-	-	093-961	3-102
-	-	-	Blinking Orange	-	-	-	-	-	-	093-962	3-102

Indicator										Status Code	Go to page
1	2	3	4	5	6	7	8	9	10		
Load Paper	Ready/ Data	K Toner	C Toner	M Toner	Y Toner	Energy Saver	OK	Jam	Error		
-	-	-	-	-	Orange	-	-	-	Orange	093-970	3-102
-	-	-	-	Orange	-	-	-	-	Orange	093-971	3-102
-	-	-	Orange	-	-	-	-	-	Orange	093-972	3-102
-	-	Orange	-	-	-	-	-	-	Orange	093-973	3-102
-	-	-	-	-	-	-	-	-	Blinking Orange	116-315	3-31
-	-	-	-	-	-	-	-	-	Blinking Orange	116-317	3-31
-	-	-	-	-	-	-	-	-	Blinking Orange	116-324	3-31
-	-	-	-	-	-	-	-	-	Blinking Orange	116-326	3-31
-	-	-	-	-	-	-	-	-	Blinking Orange	116-343	3-31
-	-	-	-	-	-	-	-	-	Blinking Orange	124-333	3-107
-	-	-	-	-	-	-	-	-	Blinking Orange	191-310	3-111
+	+	Orange	Orange	Orange	Orange	+	+	+	+	193-700	3-111

Error Code Troubleshooting

ADF Jam

There is a jam at the ADF.

Applicable Error

- 005-121: ADF Jam

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ ADF Assembly, PL8.1.1 ■ ADF Cover, PL8.1.3 ■ ADF Separator Pad, PL8.1.4	■ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ■ "WorkCentre 6015 MFP Scanner" on page 10-33

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Is the ADF closed against the document glass completely?	Go to step 2.	Close the ADF completely and go to step 2.
2	Does the error persist?	Go to step 3.	Complete.
3	Reseat P/J1, P/J6, and P/J16 on the IP Board. Does the error persist?	Go to step 4.	Complete.
4	Does the ADF feed the document?	Go to step 5.	Go to step 7.
5	Open the ADF Cover and check the document path. Is there foreign substance on the document path?	Remove the foreign substance. Go to step 6.	Go to step 7.
6	Does the error persist?	Go to step 7.	Complete.
7	Clean the ADF feed rollers. Do the feed rollers rotate smoothly?	Go to step 8.	Replace the ADF (page 8-37).

Troubleshooting Procedure Table (Continued)

Step	Actions and Questions	Yes	No
8	Replace the IP Board (page 8-114). Does the error persist?	Replace the ADF Cover (page 8-39) and ADF Separator Pad (page 8-40).	Complete.

ADF Cover Open

The ADF cover is open.

Applicable Error

- 005-301: ADF Cover Open

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ ADF Assembly, PL8.1.1	■ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ■ "WorkCentre 6015 MFP Scanner" on page 10-33

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Is the ADF Cover completely closed?	Go to step 3.	Close the ADF cover and go to step 2.
2	Does the error persist?	Go to step 3.	Complete.
3	Is the ADF Cover damaged?	Replace the ADF Cover (page 8-39). Go to step 4.	Go to step 5.
4	Does the error persist?	Go to step 5.	Complete.
5	Reseat P/J1, P/J6, and P/J16 on the IP Board. Does the error persist?	Go to step 6.	Complete.

Troubleshooting Procedure Table (Continued)

Step	Actions and Questions	Yes	No
6	Replace the ADF (page 8-37). Does the error persist?	Replace the IP Board (page 8-114).	Complete.

Main Motor Failure

Applicable Error

- 007-340: Fuser Error

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Main Drive Assembly, PL6.1.2 ■ Harness Assembly Main MOT, PL 6.1.7 ■ MCU Board, PL7.2.2	■ "Map 3 - Phaser 6000/6010" on page 10-9 ■ "Phaser 6000/6010 Fuser" on page 10-17 ■ "Map 3 - WorkCentre 6015 MFP" on page 10-23 ■ "WorkCentre 6015 MFP Fuser" on page 10-31

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check these connections ■ MCU Board P/J16 ■ Main Drive Assembly P/J160 Are the connectors secure?	Go to step 3.	Secure the connectors and then go to step 2.
2	Does the error persist?	Go to step 3.	Complete.
3	Check the Main Drive Assembly for rotation. For the 6000B, see "Digital Output Test Procedures" on page A-16, or for the 6015 MFPs, see "WorkCentre 6015 MFP Motor Test Procedures" on page 4-50. Does the Main Drive Assembly function normally?	Replace the MCU Board (page 8-121).	Go to step 4.

Troubleshooting Procedure Table (Continued)

Step	Actions and Questions	Yes	No
4	Check the Main Drive Assembly for proper installation. Is the Main Drive Assembly installed correctly?	Go to step 6.	Reseat the Main Drive Assembly, and go to step 5.
5	Does the error persist?	Go to step 6.	Complete.
6	Checking the Harness Assembly Main MOT for continuity. Disconnect P/J16 from the MCU Board, and P/J160 from the Main Drive Assembly. Is each cable of P/J16 <=> P/J160 continuous?	Go to step 7.	Repair the harness.
7	Disconnect the P/J16 on the MCU Board. Are the voltages across ground to P/J6-2pin/P/J6-4 pin on the MCU Board approximately +24 VDC when the Interlock Switch is pushed?	Replace the Main Drive Assembly.	Replace the MCU Board.

Fuser Error

The Fuser has failed.

Warning

Allow the Fuser to cool before servicing the printer.

Applicable Error

- 010-397: Fuser Error

Initial Actions

- Reseat the Fuser.
- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser, PL5.1.1 ■ MCU Board, PL7.2.2	■ "Map 3 - Phaser 6000/6010" on page 10-9 ■ "Phaser 6000/6010 Fuser" on page 10-17 ■ "Map 3 - WorkCentre 6015 MFP" on page 10-23 ■ "WorkCentre 6015 MFP Fuser" on page 10-31

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat the Fuser and cycle system power. Does the error persist?	Go to step 2.	Complete.
2	Check these connections ■ MCU Board P/J26 and P/J18. ■ LVPS P/J201. Are the connectors secure?	Go to step 3.	Secure the connectors.
3	Check the Fuser harness. 1. Remove the Fuser. 2. Disconnect P/J26 and P/J18 from the MCU Board and P/J201 from the LVPS. Is the harness damaged?	Repair the harness.	Go to step 4.
4	Replace the Fuser (page 8-80). Does the error persist?	Replace the MCU Board (page 8-121).	Complete.

IP Memory Check Fail

A memory error occurred.

Applicable Error

- 016-315: IP RAM R/W Check Fail
- 016-317: IP ROM Check Fail

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ MCU Board, PL7.2.2 ■ LED Driver Board, PL7.1.5	■ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ■ "Map 3 - WorkCentre 6015 MFP" on page 10-23

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat all connectors on the IP Board and the MCU Board. Does the error persist?	Go to step 2.	Complete.
2	Replace the LED Driver Board. Does the error persist?	Go to step 3.	Complete.
3	Replace the IP Board (page 8-114). Does the error persist?	Replace the MCU Board (page 8-121).	Complete.

Fax Checksum Error

Checksum error for Fax parameter is detected.

Applicable Error

- 016-323: Fax Checksum Error

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
▪ IP Board, PL7.1.9 ▪ MCU Board, PL7.2.2	▪ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ▪ "Map 3 - WorkCentre 6015 MFP" on page 10-23

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat all connectors on the IP Board and the MCU Board. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist when the power is turned on?	Replace the MCU Board (page 8-121).	Complete.

DRAM Memory Allocation Error

DRAM memory allocation error is detected.

Applicable Error

- 016-372: DRAM Memory Allocation Error

Initial Actions

- Cycle printer power.

- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ MCU Board, PL7.2.2	■ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ■ "Map 3 - WorkCentre 6015 MFP" on page 10-23

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat all connectors on the IP Board and the MCU Board. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist when the power is turned on?	Replace the MCU Board (page 8-121).	Complete.

Firmware Errors

The firmware download to the printer failed.

Applicable Error

- 016-500: Erase Flash Error
- 016-501: Write Flash Error
- 016-502: Verify Flash Error
- 116-315: RAM Error
- 116-317: Controller Error
- 116-324: Controller Error
- 116-326: NVRAM Error
- 116-343: ASIC Error

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ MCU Board, PL7.2.2 ■ LED Driver Board, PL7.1.5	■ "Phaser 6000/6010 Image Processor Board" on page 10-18 ■ "Map 2 - Phaser 6000/6010" on page 10-8 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32 ■ "Map 2 - WorkCentre 6015 MFP" on page 10-22

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat all connectors on the IP Board and the MCU Board. Does the error persist?	Go to step 2.	Complete.
2	Replace the LED Driver Board (page 8-107). Does the error persist when the power is turned on?	Go to step 3.	Complete.
3	Replace the IP Board (page 8-114). Does the error persist when the power is turned on?	Replace the MCU Board (page 8-121).	Complete.

E-mail Error

An e-mail error is detected.

Applicable Error

- 016-503: SMTP Error
- 016-504: POP Error
- 016-506: SMTP Login Error
- 016-507: SMTP Error

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ MCU Board, PL7.2.2	■ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ■ "Map 3 - WorkCentre 6015 MFP" on page 10-23

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat all connectors on the IP Board and the MCU Board. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist when the power is turned on?	Replace the MCU Board (page 8-121).	Complete.

Checksum Error

Checksum error for Fax parameter is detected.

Applicable Error

- 116-325: Controller Error

Initial Actions

- Cycle printer power.

- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ MCU Board, PL7.2.2	■ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ■ "Map 3 - WorkCentre 6015 MFP" on page 10-23 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat all connectors on the IP Board and the MCU Board. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist when the power is turned on?	Replace the MCU Board (page 8-121).	Complete.

NVRAM Checksum Error

Checksum is not right when NVRAM initialized.

Applicable Error

- 116-335: Checksum Error

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9/7.1.16 ■ MCU Board, PL7.2.2	■ "Phaser 6000/6010 Image Processor Board" on page 10-18 ■ "Map 2 - Phaser 6000/6010" on page 10-8 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32 ■ "Map 2 - WorkCentre 6015 MFP" on page 10-22

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat all connectors on the IP Board and the MCU Board. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist?	Replace the MCU Board (page 8-121), and then go to step 3.	Complete.
3	Does the error persist?	Contact your designated field support for assistance.	Complete.

Download Errors

The system firmware file is corrupt or communications to the printer failed.

Applicable Error

- 016-737: Download ID Error
- 016-741: Download Range Error
- 016-742: Download Header Error
- 016-743: Download Checksum Error
- 016-744: Download Format Error
- 016-745: Download Protect Error

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9/7.1.16 ■ MCU Board, PL7.2.2	■ "Phaser 6000/6010 Image Processor Board" on page 10-18 ■ "Map 2 - Phaser 6000/6010" on page 10-8 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32 ■ "Map 2 - WorkCentre 6015 MFP" on page 10-22

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat all connectors on the IP Board and the MCU Board. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist?	Replace the MCU Board (page 8-121), and then go to step 3.	Complete.
3	Does the error persist?	Contact your designated field support for assistance.	Complete.

Download Error

Applicable Error

- 016-737: Download ID Error
- 016-741: Download Range Error
- 016-742: Download Header Error
- 016-743: Download Checksum Error
- 016-744: Download Format Error
- 016-745: Download Protect Error

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9/7.1.16 ■ MCU Board, PL7.2.2	■ "Phaser 6000/6010 Image Processor Board" on page 10-18 ■ "Map 2 - Phaser 6000/6010" on page 10-8 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32 ■ "Map 2 - WorkCentre 6015 MFP" on page 10-22

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat all connectors on the IP Board and the MCU Board. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist?	Replace the MCU Board (page 8-121).	Complete.

PJL Request Error

Applicable Error

- 016-749: PJL Request Error

Initial Actions

- Cycle printer power.

- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9/7.1.16 ■ MCU Board, PL7.2.2	■ "Phaser 6000/6010 Image Processor Board" on page 10-18 ■ "Map 2 - Phaser 6000/6010" on page 10-8 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32 ■ "Map 2 - WorkCentre 6015 MFP" on page 10-22

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat all connectors on the IP Board and the MCU Board. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist?	Replace the MCU Board (page 8-121).	Complete.

Memory Overflow

The print job size exceeded memory.

Applicable Error

- 016-718: Memory Overflow

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9/PL7.1.16 ■ MCU Board, PL7.2.2	■ "Phaser 6000/6010 Image Processor Board" on page 10-18 ■ "Map 2 - Phaser 6000/6010" on page 10-8 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32 ■ "Map 2 - WorkCentre 6015 MFP" on page 10-22

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the memory. Print the Configuration Page to determine the amount of memory installed. Is the print job too large?	Divide the print job to fit installed memory.	Go to step 2.
2	Reseat all connections on the IP Board. Does the error persist?	Go to step 3.	Complete.
3	Replace the IP Board (page 8-114). Does the error persist?	Go to step 4.	Complete.
4	Replace the MCU Board (page 8-121).	Complete.	

Decode Error

A decode error is detected.

Applicable Error

- 016-719: Decode Error

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ MCU Board, PL7.2.2	■ "Phaser 6000/6010 Image Processor Board" on page 10-18 ■ "Map 2 - Phaser 6000/6010" on page 10-8 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32 ■ "Map 2 - WorkCentre 6015 MFP" on page 10-22

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat all connectors on the IP Board and the MCU Board. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist when the power is turned on?	Replace the MCU Board (page 8-121).	Complete.

PDL Error

The 016-720 error is caused because there is something in the image that cannot be resolved by the driver.

E-mail Errors

An e-mail error is detected.

Applicable Error

- 016-764: Connect Error
- 016-766: SMTP Error
- 016-767: E-mail Address Error

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ MCU Board, PL7.2.2	■ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ■ "Map 3 - WorkCentre 6015 MFP" on page 10-23 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat all connectors on the IP Board and the MCU Board. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist when the power is turned on?	Replace the MCU Board (page 8-121).	Complete.

USB Memory Removal Error

USB memory is removed while memory reading job is being executed.

Applicable Error

- 016-791: USB Memory Removal Error
- 016-795: File Format Error
- 016-797: File Read Error

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9/PL7.1.16 ■ MCU Board, PL7.2.2	■ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ■ "Map 3 - WorkCentre 6015 MFP" on page 10-23 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat all connections on the IP Board and MCU Board. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist?	Go to step 3.	Complete.
3	Replace the MCU Board (page 8-121).	Complete.	

Invalid Job

Invalid print job settings.

Applicable Error

- 016-799: Invalid Job

Initial Actions

- Cycle printer power.

- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9/PL7.1.16 ■ MCU Board, PL7.2.2	■ "Phaser 6000/6010 Image Processor Board" on page 10-18 ■ "Map 2 - Phaser 6000/6010" on page 10-8 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32 ■ "Map 2 - WorkCentre 6015 MFP" on page 10-22

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat all connections on the IP Board and MCU Board. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist?	Go to step 3.	Complete.
3	Replace the MCU Board (page 8-121).	Complete.	

Wireless Error

Applicable Error

- 016-920: Wireless Error

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
▪ IP Board, PL7.1.9B ▪ MCU Board, PL7.2.2	▪ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ▪ "WorkCentre 6015 MFP Image Processor Board" on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat all connections on the IP Board and MCU Board. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist?	Go to step 3.	Complete.
3	Replace the MCU Board (page 8-121).	Complete.	

Collate Full

The print job is too large.

Applicable Errors

- 016-981: Collate Full

Initial Actions

- Break the print job into 2 or more jobs.
- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
▪ IP Board, PL7.1.9 ▪ MCU Board, PL7.2.2	▪ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ▪ "WorkCentre 6015 MFP Image Processor Board" on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat all connectors on the IP Board and the MCU Board. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist when the power is turned on?	Replace the MCU Board (page 8-121).	Complete.

USB Host Error

An unsupported USB memory device was attached to the USB port.

Applicable Error

- 016-930: USB Host Full
- 016-931: USB Host Error

Initial Actions

Unplug the unsupported device.

Mail Size Limits Error, PCScan Time Out, Memory Full

Applicable Errors

- 016-985: Mail Size Limits Error
- 017-970: PCScan Time Out
- 017-988: Memory Full

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ MCU Board, PL7.2.2	■ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat all connectors on the IP Board and the MCU Board. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist when the power is turned on?	Replace the MCU Board (page 8-121).	Complete.

Report File Open/Close Error

Applicable Errors

- 017-980: Report File Open/Close Error
- 017-981: Report File Error

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
▪ IP Board, PL7.1.9 ▪ MCU Board, PL7.2.2	▪ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ▪ "WorkCentre 6015 MFP Image Processor Board" on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat all connectors on the IP Board and the MCU Board. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist when the power is turned on?	Replace the MCU Board (page 8-121).	Complete.

Wireless Error

A wireless error is detected.

Applicable Errors

- 018-338: Wireless Error

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9B ■ Wireless Harness, PL1.1.31 ■ Wireless Board Bracket, PL1.1.30	■ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the connections between the IP Board and the Wireless Board. Are P/J6601 and P/J6501 properly connected?	Go to step 2.	Reconnect the connections, then go to step 2.
2	Does the error persist?	Go to step 3.	Complete.
3	Disconnect P/J6601 on the IP Board, and P/J6501 on the Wireless Board. Is each cable of the Wireless Harness continuous?	Go to step 4.	Replace the Wireless Harness.
4	Replace the Wi-Fi Board. Does the error persist when the power is turned on?	Replace the IP Board (page 8-114).	Complete.

Scanner Calibration Failure

Calibration of the Scanner failed.

Applicable Error

- 017-990: Scanner Calibration Failure

Initial Actions

- Cycle printer power.

- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ MCU Board, PL7.2.2 ■ Scanner, PL8.1.1	■ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ■ "WorkCentre 6015 MFP Scanner" on page 10-33

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat all connectors on the IP Board and the MCU Board. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist?	Replace the MCU Board (page 8-121), then go to step 3.	Complete.
3	Does the error persist?	Replace the Scanner (page 8-35).	Complete.

Firmware Error 024-340

A firmware error has occurred.

Applicable Error

- 024-340: Firmware Error

Initial Actions

- Cycle printer power.

- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
▪ MCU Board, PL7.2.2	▪ "Phaser 6000/6010 System Wiring" on page 10-10 ▪ "WorkCentre 6015 MFP System Wiring" on page 10-24

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Replace the MCU Board (page 8-121). Does the error persist?	Perform the Electrical Noise check (page 4-66).	Complete.

Download Error

MCU firmware download failure.

Applicable Error

- 024-360: Download Mode

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU Board, PL7.2.2	■ "Phaser 6000/6010 System Wiring" on page 10-10 ■ "WorkCentre 6015 MFP System Wiring" on page 10-24

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat all connections on the IP Board and MCU Board. Does the error persist?	Go to step 2.	Complete.
2	Replace the MCU Board (page 8-121). Does the error persist?	Perform the Electrical Noise check (page 4-66).	Contact your designated field support for assistance.

MCU Comm Error

Communication has failed between the MCU and IP Boards.

Applicable Error

- 024-371: MCU Comm Error

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9/7.1.16 ■ MCU Board, PL7.2.2	■ "Phaser 6000/6010 Image Processor Board" on page 10-18 ■ "Map 2 - Phaser 6000/6010" on page 10-8 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32 ■ "Map 2 - WorkCentre 6015 MFP" on page 10-22

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat the connectors on the IP and MCU Boards then cycle system power. Does the error persist?	Go to step 2.	Complete.
2	Check the Image Processor Harness continuity. Disconnect the IP Board P/J8 and the MCU Board P/J22. Is the harness damaged?	Replace the harness (page 8-126).	Go to step 3.
3	Replace the IP Board (page 8-114). Does the error persist?	Replace the MCU Board (page 8-121).	Complete.

Paper Size Mismatch

The size of paper in the Main Paper Tray, or Bypass Tray, does not match the specified print size.

Applicable Error

- 024-958: Paper Size Match

Initial Actions

- Check that the correct paper is in the paper tray. Change the paper if necessary.
- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Registration Sensor, PL2.3.5 ■ Harness Assembly RKN SNS, PL2.2.25 ■ MCU Board, PL7.2.2	■ "Map 3 - Phaser 6000/6010" on page 10-9 ■ "Phaser 6000/6010 Feeder" on page 10-12 ■ "Map 3 - WorkCentre 6015 MFP" on page 10-23 ■ "WorkCentre 6015 MFP Feeder" on page 10-26

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check connectors P/J12 and P/J120 between the MCU Board and the Registration Sensor. Are the connections secure?	Go to step 2.	Securely reconnect the connectors, then go to step 2.
2	Does the error persist?	Go to step 3.	Complete.
3	Disconnect the MCU Board P/J12 and the Registration Sensor P/J120. Check the Harness Assembly RKN SNS for continuity. Is the harness damaged?	Repair the harness.	Go to step 4.
4	Disconnect the MCU Board P/J12. Is the voltage across ground and J12-1 +3.3 VDC?	Replace the Registration Sensor (page 8-65).	Replace the MCU Board (page 8-121).

No Suitable Paper

The Main Paper Tray, or Bypass Tray, has run out of paper, or the size (or type) of paper does not match the specified print size (or type).

Applicable Error

- 024-963: No Suitable Paper

Initial Actions

- Check that the correct paper is in the paper tray. Change, or load, the paper if necessary.
- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Registration Sensor, PL2.3.5 ■ Harness Assembly RKN SNS, PL2.2.25 ■ MCU Board, PL7.2.2	■ "Map 3 - Phaser 6000/6010" on page 10-9 ■ "Phaser 6000/6010 Feeder" on page 10-12 ■ "Map 3 - WorkCentre 6015 MFP" on page 10-23 ■ "WorkCentre 6015 MFP Feeder" on page 10-26

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check P/J12 on the MCU Board and P/J120 on the Registration Sensor. Are the connections secure?	Go to step 2.	Securely reconnect the connectors, then go to step 2.
2	Does the error persist?	Go to step 3.	Complete.
3	Disconnect the MCU Board P/J12 and the Registration Sensor P/J120. Check the Harness Assembly RKN SNS for continuity. Is the harness damaged?	Repair the harness.	Go to step 4.
4	Replace the IP Board (page 8-114). Does the error persist?	Go to step 5.	Complete.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
5	Disconnect the MCU Board P/J12. Is the voltage across ground and J12-1 +3.3VDC?	Replace the Registration Sensor (page 8-65).	Replace the MCU Board (page 8-121).

USB Memory Full/USB Memory Write Error

A memory full error or USB memory write error occurred during a scan job.

Applicable Error

- 026-720: USB Memory Full

- 026-721: USB Memory Write Error

Initial Actions

- Check that the USB Cable connected to the printer and the PC is securely connected.

- Cycle printer power.

- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ MCU Board, PL7.2.2	■ "Phaser 6000/6010 Image Processor Board" on page 10-18 ■ "Map 2 - Phaser 6000/6010" on page 10-8 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32 ■ "Map 2 - WorkCentre 6015 MFP" on page 10-22

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the connectors on the IP Board. Are the connections secure?	Go to step 3.	Securely reconnect the connectors, then go to step 2.
2	Does the error persist?	Go to step 3.	Complete.
3	Replace the IP Board (page 8-114). Does the error persist?	Go to step 4.	Complete.
4	Replace the MCU Board (page 8-121).	Complete.	

USB Memory Write Protect Error / File Path Limit Error

A communication error occurred during a scan job.

Applicable Error

- 026-722: USB Memory Write Error

- 026-723: File Path Limit Error

Initial Actions

- Check that the USB Cable connected to the printer and the PC is securely connected.

- Cycle printer power.

- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ MCU Board, PL7.2.2	■ "Phaser 6000/6010 Image Processor Board" on page 10-18 ■ "Map 2 - Phaser 6000/6010" on page 10-8 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32 ■ "Map 2 - WorkCentre 6015 MFP" on page 10-22

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the connectors on the IP Board. Are the connections secure?	Go to step 3.	Securely reconnect the connectors, then go to step 2.
2	Does the error persist?	Go to step 3.	Complete.
3	Replace the IP Board (page 8-114). Does the error persist?	Go to step 4.	Complete.
4	Replace the MCU Board (page 8-121).	Complete.	

Scan Communication Fail

A communication error occurred during a scan job.

Applicable Error

- 026-750: Scan Communication Fail
- 026-751: Scan Communication Fail
- 026-752: Scan Communication Fail

Initial Actions

- Check that the USB Cable connected to the printer and the PC is securely connected.
- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ MCU Board, PL7.2.2	■ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the connectors on the IP Board. Are the connections secure?	Go to step 3.	Securely reconnect the connectors, then go to step 2.
2	Does the error persist?	Go to step 3.	Complete.
3	Replace the IP Board (page 8-114). Does the error persist?	Go to step 4.	Complete.
4	Replace the MCU Board (page 8-121).	Complete.	

IPv6 Duplicate

Duplicate IPv6 addresses detected upon startup.

Applicable Error

- 027-446: IPv6 Duplicate

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ MCU Board, PL7.2.2	■ "Phaser 6000/6010 Image Processor Board" on page 10-18 ■ "Map 2 - Phaser 6000/6010" on page 10-8 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32 ■ "Map 2 - WorkCentre 6015 MFP" on page 10-22

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat the connectors on the IP and MCU Boards then cycle system power. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist when the power is turned off and on?	Replace the MCU Board.	Complete.

IPv4 Duplicate

Duplicate IPv4 addresses detected upon startup.

Applicable Error

- 027-452: IPv4 Duplicate

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	At the printer's Control Panel, press the **Menu** key. Using the **Up Arrow**, **Down Arrow**, and **OK** keys, navigate to **Admin Menu > Network Settings >TCP/IP > IPv4 > Get Address**. Is **Get Address** set to **Panel**?	The printer is trying to use an address that is being used by another device on the network. Change the printer's address.	Another device is trying to use the printer's address. Find the other device and resolve the problem by changing the other device's address.

SMB Error

A SMB error is detected.

Applicable Error

- 031-521: SMB Login Error
- 031-526: SMB Name Resolve Error
- 031-530: SMB Path Error
- 031-533: SMB File Make Error
- 031-534: SMB Folder Make Error
- 031-535: SMB Delete File Error
- 031-536: SMB Delete Folder Error
- 031-537: SMB Disk Full Error
- 031-556: SMB Write Error
- 031-557: SMB File Duplication Error
- 031-558: SMB Connect Error

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ MCU Board, PL7.2.2	■ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat the connectors on the IP and MCU Boards then cycle system power. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist?	Replace the MCU Board (page 8-121).	Complete.

SMB Connection Error

A SMB connection error occurred.

Applicable Error

- 031-529: SMB Login Failed

- 031-555: SMB Connect Error

Initial Actions

- Cycle printer power.

- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ MCU Board, PL7.2.2	■ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat the connectors on the IP and MCU Boards then cycle system power. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist?	Replace the MCU Board (page 8-121).	Complete.

FTP Connection Error

A FTP connection error occurred.

Applicable Error

- 031-571: FTP Connect Error
- 031-578: FTP Login Error

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ MCU Board, PL7.2.2	■ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat the connectors on the IP and MCU Boards then cycle system power. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist?	Replace the MCU Board (page 8-121).	Complete.

FTP Error

A FTP link error is detected.

Applicable Error

- 031-574: FTP Name Resolve Error
- 031-575: Scan Server Address Error
- 031-576: FTP Server Not Found
- 031-578: Scan Login Failed
- 031-579: Scan FTP Path Error
- 031-582: Scan File Make Error

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ MCU Board, PL7.2.2	■ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat the connectors on the IP and MCU Boards then cycle system power. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist?	Replace the MCU Board (page 8-121).	Complete.

FTP Error

A FTP error is detected.

Applicable Error

- 031-584: Scan Connect Error
- 031-585: Scan DEL Command Error
- 031-587: Scan RMD Command Error
- 031-588: Scan Write Error
- 031-589: Scan Disk Full Error
- 031-594: Scan Type Command Error
- 031-598: Scan APPE Command Error

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ MCU Board, PL7.2.2	■ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat the connectors on the IP and MCU Boards then cycle system power. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist?	Replace the MCU Board (page 8-121).	Complete.

Memory Error

Applicable Error

- 033-503: Out of Memory
- 033-513: Memory Full
- 033-788: Communication Error

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ MCU Board, PL7.2.2	■ "Map 2 - Phaser 6000/6010" on page 10-8 ■ "Phaser 6000/6010 Image Processor Board" on page 10-18 ■ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat the connectors on the IP and MCU Boards then cycle system power. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist?	Replace the MCU Board (page 8-121).	Complete.

Fax Errors

Applicable Error

- 033-517: Password Error
- 033-518: Country is not Set
- 033-519: Fax Function is not set correctly

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ MCU Board, PL7.2.2	■ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat the connectors on the IP and MCU Boards then cycle system power. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist?	Replace the MCU Board (page 8-121).	Complete.

Memory Full Fax Job Failure

The Calling Table is full.

Applicable Error

- 033-787: Memory Full

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ MCU Board, PL7.2.2	■ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat the connectors on the IP and MCU Boards then cycle system power. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist?	Replace the MCU Board (page 8-121).	Complete.

Fax Busy / No Dial Tone

The number called is busy.

Applicable Error

- 034-700: Fax Busy

- 034-701: No Dial Tone

Initial Actions

- Cycle printer power.

- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
▪ IP Board, PL7.1.9 ▪ MCU Board, PL7.2.2	▪ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ▪ "WorkCentre 6015 MFP Image Processor Board" on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat the connectors on the IP and MCU Boards then cycle system power. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist?	Replace the MCU Board (page 8-121).	Complete.

Communication Error

Applicable Error

- 034-702: Communication Error (No answer error is detected)
- 034-703: Communication Error (Can't make directory)
- 034-704: Communication Error (FTP delete command error is detected)
- 034-705: Communication Error (TX communication error is detected)
- 034-707: Communication Error (FTP RMD command error is detected)
- 034-708: Communication Error (Data can not be written onto FTP)
- 034-709: Communication Error (FTP storage full)
- 034- 710: Communication Error (FTP type command error is detected)
- 034-711: Communication Error (FTP APPEND command error is detected)

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ MCU Board, PL7.2.2	■ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat the connectors on the IP and MCU Boards then cycle system power. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist?	Replace the MCU Board (page 8-121).	Complete.

RX Communication Errors

Applicable Error

- 034-750 to 034-768: Communication Error (RX communication error is detected)

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ MCU Board, PL7.2.2	■ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat the connectors on the IP and MCU Boards then cycle system power. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114 Does the error persist?	Replace the MCU Board (page 8-121).	Complete.

NVRAM Error

Applicable Error

- 041-340: NVRAM Error

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU Board, PL7.2.2	■ "Map 3 - Phaser 6000/6010" on page 10-9 ■ "Phaser 6000/6010 System Wiring" on page 10-10 ■ "Map 3 - WorkCentre 6015 MFP" on page 10-23 ■ "WorkCentre 6015 MFP System Wiring" on page 10-24

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Perform the Electrical Noise test (page 4-66). Does the error persist?	Go to step 2.	Complete.
2	Replace the MCU Board (page 8-121). Does the error persist when the power is turned on?	Contact your designated field support for assistance.	Complete.

Motor Error

The Main Drive Assembly has failed.

Applicable Error

- 042-325: Motor Error

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Main Drive Assembly, PL6.1.2 ■ Main Motor Harness, PL6.1.7 ■ MCU Board, PL7.2.2	■ "Map 3 - Phaser 6000/6010" on page 10-9 ■ "Phaser 6000/6010 LVPS" on page 10-11 ■ "Phaser 6000/6010 Drive" on page 10-13 ■ "Map 3 - WorkCentre 6015 MFP" on page 10-23 ■ "WorkCentre 6015 MFP LVPS" on page 10-25 ■ "WorkCentre 6015 MFP Drive" on page 10-27

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the connections between the MCU Board P/J16 and the Main Drive Assembly P/J160. Are the connections secure?	Go to step 3.	Reconnect the connectors, then go to step 2.
2	Does the error persist?	Go to step 3.	Complete.
3	Is the Main Drive Assembly installed correctly?	Go to step 4.	Reseat the Main Drive Assembly, then go to step 5.
4	Does the error persist when the power is turned off and on?	Go to step 5.	Complete.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
5	Check the Main Drive harness continuity. Disconnect P/J16 from the MCU Board and P/J160 from the Main Drive Assembly to check continuity. Is the harness damaged?	Repair the harness.	Go to step 6.
6	Check the power to the Main Drive Assembly. Disconnect connector P/J16 on the MCU Board. Are the voltages across ground at P/J16-2 and P/J16-4 approximately +24 VDC when the Interlock Switch is closed?	Replace the Main Drive Assembly (page 8-82).	Replace the MCU Board (page 8-121).

Fan Motor Failure

Fan motor failure.

Applicable Error

- 042-358: Fan motor failure

Initial Actions

- Cycle printer power.

- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ LVPS, PL 7.2.1 ■ Fan, PL 7.1.2 ■ MCU Board, PL7.2.2	■ "Map 2 - Phaser 6000/6010" on page 10-8 ■ "Phaser 6000/6010 Fuser" on page 10-17 ■ "Map 3 - WorkCentre 6015 MFP" on page 10-23 ■ "WorkCentre 6015 MFP Fuser" on page 10-31

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the connections between the FAN and LVPS. Is P/J205 on the LVPS securely connected?	Go to step 2.	Reconnect connector P/J205, then go to step 2.
2	Does the error persist?	Go to step 3.	Complete.
3	Disconnect P/J205 on the LVPS. Is the voltage across ground at P/J205-1 approximately +24 VDC when the Interlock Switch is pushed?	Go to step 4.	Replace the LVPS.
4	For the 6010N: Test the Fan (see "Using Phaser 6010N and WorkCentre 6015 MFP Service Diagnostics" on page 4-10). For the 6000: Test the Fan with the CE Diags Tool (see page A-16). Does the Fan function normally?	Complete.	Replace the MCU Board (page 8-121).

Deve Mode Change Failure

Applicable Error

- 042-372: Deve Mode Change Failure

Initial Actions

- Cycle printer power.

- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Feed Solenoid, PL6.1.10 ■ Switching Sensor ■ Harness Assembly RKN SNS PL2.2.25/26 ■ Developer Drive Assembly, PL6.1.6 ■ MCU Board, PL7.2.2	■ "Map 3 - Phaser 6000/6010" on page 10-9 ■ "Phaser 6000/6010 Feeder" on page 10-12 ■ "Map 3 - WorkCentre 6015 MFP" on page 10-23 ■ "WorkCentre 6015 MFP Feeder" on page 10-26

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the P/J10 connector on the MCU Board. Is P/J10 connected correctly?	Go to step 2.	Reseat the connector. Go to step 2.
2	Does the error persist when the power is turned on?	Go to step 3.	Complete.
3	Test the Feed Solenoid. Enter diagnostic mode and select **Engine Diag > Motor Test > K Mode Solenoid** (see "Using Phaser 6010N and WorkCentre 6015 MFP Service Diagnostics" on page 4-10). You can also use the CE Diag Tool to perform this test (page A-16). Does the Feed Solenoid function normally?	Go to step 4.	Replace the Feed Solenoid (page 8-98).
4	Check the connections between the MCU Board P/J12 and the Feed Sensor P/J122. Are the connections secure?	Go to step 5.	Reseat the connector. Go to step 5.
5	Does the error persist when the power is turned on?	Go to step 6.	Complete.
6	Disconnect the MCU Board P/J21 and the Registration Sensor P/J120. Check the Harness Assembly RKN SNS for continuity. Is the harness damaged?	Repair the harness.	Go to step 7.
7	Disconnect P/J12 on the MCU Board. Is the voltage across ground to P/J12-7 approximately +3.3 VDC?	Replace the Developer Drive Assembly.	Replace the MCU Board (page 8-121).

LPH Failure

Applicable Error

- 061-370: LPH Failure

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ LED Driver Board, PL7.1.5	■ "Phaser 6000/6010 Xerographics" on page 10-14

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the connectors at the LED Driver Board P/J2, 3, 4, and 5 and xerographics assembly P/J6, 7, 8, and 9. Are the connectors securely connected?	Go to step 2.	Reconnect the connectors.
2	Does the error persist when the power is turned on?	Go to step 3.	Complete.
3	Print the test pattern ASIC. Put the printer in diagnostic mode and select **Test Print > Test Pattern ASIC**. You can also print the test pattern from the CE Diag Tool. See "Digital Output Test Procedures" on page A-16. Is the image printed correctly?	Replace the IP Board (page 8-114).	Replace the LED Driver Board (page 8-107).

Carriage Motor Error

Applicable Error

- 062-321: Carriage Motor Error

Initial Actions

- Cycle printer power.

- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ MCU Board, PL7.2.2	■ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat the connectors on the IP and MCU Boards then cycle system power. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist?	Replace the MCU Board (page 8-121).	Complete.

Scanner Motor Error

Applicable Error

- 062-322: Scanner Motor Error

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ MCU Board, PL7.2.2 ■ Scanner, PL8.1.1	■ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat the connectors on the IP and MCU Boards then cycle system power. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist?	Replace the MCU Board (page 8-121), then go to step 3.	Complete.
3	Does the error persist?	Replace the Scanner (page 8-35).	Complete.

Copy Limit

Unable to continue due to copy limitation.

Applicable Error

- 062-790: Copy Limit

Initial Actions

- Cycle printer power.

- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
▪ IP Board, PL7.1.9 ▪ MCU Board, PL7.2.2	▪ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ▪ "WorkCentre 6015 MFP Image Processor Board" on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat the connectors on the IP and MCU Boards then cycle system power. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist?	Replace the MCU Board (page 8-121).	Complete.

Waiting for Continue Key to be Pressed After Reloading Paper

The printer is in manual duplex mode waiting for user interaction.

Applicable Error

- 075-921: Waiting for **OK** key to be pressed after reloading paper.

Initial Actions

- Remove the paper from the Output Tray, put it back in to the paper tray, and press **OK**.

- Cycle printer power.

- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ MCU Board, PL7.2.2	■ "Map 2 - Phaser 6000/6010" on page 10-8 ■ "Phaser 6000/6010 Image Processor Board" on page 10-18 ■ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat the connectors on the IP and MCU Boards then cycle system power. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist?	Replace the MCU Board (page 8-121).	Complete.

Misfeed Jam

Paper jam was detected at the Main Paper Tray/Bypass Tray section of the printer.

Applicable Error

- 075-100: Misfeed Jam

Initial Actions

- Check the media path for obstructions or debris.
- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Feed Roller, PL22.4 ■ Feed Solenoid, PL6.1.10 ■ Registration Sensor, PL2.3.5 ■ Main Drive Assembly, PL6.1.2 ■ Registration Clutch, PL2.3.7 ■ Harness Assembly RKN SNS, PL2.2.25 ■ Harness Assembly Dispense MOT, PL6.1.7 ■ MCU Board, PL7.2.2	■ "Map 3 - Phaser 6000/6010" on page 10-9 ■ "Phaser 6000/6010 Feeder" on page 10-12 ■ "Phaser 6000/6010 Drive" on page 10-13 ■ "Map 3 - WorkCentre 6015 MFP" on page 10-23 ■ "WorkCentre 6015 MFP Feeder" on page 10-26 ■ "WorkCentre 6015 MFP Drive" on page 10-27

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Are the Feed Roller and Separator Pad installed correctly? Does the Feed Roller rotate smoothly without causing fouling?	Go to step 2.	Replace the relevant part.
2	Check the connections between the MCU Board P/J12 and Registration Sensor P/J20. Are the connections secure?	Go to step 3.	Go to step 4.
3	Does the error persist?	Go to step 4.	Complete.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
4	Enter diagnostic mode and run the **Regi Sensor** test (see page 4-11). You can also use CE Diag Tool to perform this test (see page A-9). Lift the Main Paper Tray Chute (PL3.3.3), does the number on the display change each time the Main Paper Tray Chute is lifted?	Go to step 6.	Go to step 5.
5	Disconnect the MCU Board P/J21 and the Registration Sensor P/J120. Check the Harness Assembly RKN SNS for continuity. Is the harness damaged?	Go to step 6.	Repair the harness.
6	Disconnect the MCU Board P/J12. Is the voltage across ground and P/J12-1 +3.3VDC?	Replace the Registration Sensor (page 8-65).	Replace the MCU Board (page 8-121).
7	Check the connections at MCU Board P/J16 and at the Main Drive Assembly P/J60. Are the connections secure?	Go to step 9.	Reconnect the connectors and then go to step 8.
8	Does the error persist?	Go to step 9.	Complete.
9	Enter diagnostic mode and run **Main Motor on Full** (see page 4-11). You can also use the CE Diag Tool to run this test (see page A-16). Does the Main Drive Assembly function correctly?	Go to step 14.	Go to step 10.
10	Is the Main Drive Assembly installed correctly?	Go to step 12.	Reseat the Main Drive Assembly, then go to step 11.
11	Does the error persist?	Go to step 12.	Complete.
12	Disconnect P/J16 from the MCU Board and P/J160 from the Main Drive Assembly. Check the continuity of the cable. Is the cable damaged?	Repair the cable.	Go to step 13.
13	Disconnect the MCU Board P/J16 and check that the voltages across ground at P/J16-2 and P/J16-4 are +24 VDC. Are the voltages correct?	Replace the Main Drive Assembly (page 8-82).	Replace the MCU Board (page 8-121).
14	Check the connector of P/J19 on the MCU Board. Is the connection secure?	Go to step 16.	Reconnect the connector, then go to step 15.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
15	Does the error still occur when printing?	Go to step 16.	Complete.
16	Enter diagnostic mode and run the **Feed SOLENOID** test. You can also use the CE Diag Tool to run this test (see page A-16). Does the Feed Solenoid function correctly?	Go to step 17.	Replace the Feed Solenoid (page 8-98).
17	Check the connection at MCU Board P/J25. Is the connection secure?	Go to step 19.	Reconnect the connector and then go to step 18.
18	Does the error still occur when printing?	Go to step 19.	Complete.
19	Enter diagnostic mode and select **Engine Diag > Motor Test > Regi Clutch**. You can also use the CE Diag Tool to run this test (see page A-16). Does the Registration Clutch function correctly?	Replace the MCU Board (page 8-121).	Replace the Registration Clutch (page 8-66).

Paper Remain at Regi

Paper stuck in the registration section (or Main Paper Tray or Bypass Tray section) of the Printer was detected.

Applicable Error

- 077-100: Paper Remain at Regi

Initial Actions

- Check the media path for obstructions or debris.
- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Registration Sensor, PL2.3.5 ■ Harness Assembly RKN SNS, PL2.2.25/26 ■ MCU Board, PL7.2.2	■ "Map 3 - Phaser 6000/6010" on page 10-9 ■ "Phaser 6000/6010 Feeder" on page 10-12 ■ "Phaser 6000/6010 Drive" on page 10-13 ■ "Map 3 - WorkCentre 6015 MFP" on page 10-23 ■ "WorkCentre 6015 MFP Feeder" on page 10-26 ■ "WorkCentre 6015 MFP Drive" on page 10-27

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check connectors P/J12 and P/J120 between the MCU Board and the Registration Sensor. Are the connectors secure?	Go to step 3.	Reconnect the connectors, then go to step 2.
2	Does the error persist?	Go to step 3.	Complete.
3	Disconnect the MCU Board P/J21 and the Registration Sensor P/J120. Check the Harness Assembly RKN SNS for continuity. Is the harness damaged?	Go to step 4.	Repair the harness.
4	Disconnect the MCU Board P/J12. Is the voltage across ground and P/J12-1 +3.3VDC?	Replace the Registration Sensor (page 8-65).	Replace the MCU Board (page 8-121).

Reg Off Jam

The paper does not pass through the Registration Sensor within the specified time.

Applicable Error

- 077-104: Reg Off Jam

Initial Actions

- Check the media path for obstructions or debris.
- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Registration Sensor, PL2.3.5 ■ Registration Clutch, PL2.3.7 ■ Harness Assembly RKN SNS, PL2.2.25/26 ■ Main Drive Assembly, PL6.1.2 ■ Harness Assembly Dispense MOT, PL6.1.7 ■ MCU Board, PL7.2.2	■ "Map 3 - Phaser 6000/6010" on page 10-9 ■ "Phaser 6000/6010 Feeder" on page 10-12 ■ "Phaser 6000/6010 Drive" on page 10-13 ■ "Map 3 - WorkCentre 6015 MFP" on page 10-23 ■ "WorkCentre 6015 MFP Feeder" on page 10-26 ■ "WorkCentre 6015 MFP Drive" on page 10-27

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the installation and operation of the Registration Roller and the Registration Pinch Roller Assembly. Are the Registration Roller and the Registration Pinch Roller Assembly installed properly?	Go to step 2.	Replace the relevant part, then go to step 2.
2	Check connectors P/J12 and P/J120 between the MCU Board and the Registration Sensor. Are the connectors secure?	Go to step 3.	Reconnect the connectors, then go to step 3.
3	Does the error still occur when printing?	Go to step 4.	Complete.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
4	Enter diagnostic mode and run the **Regi Sensor** test (see page 4-11). You can also use the CE Diag Tool to run this test (see page A-9). Lift the Main Paper Tray Chute (PL3.3.3), does the number on the display increase by 1 each time the Main Paper Tray Chute is lifted?	Replace the MCU Board (page 8-121).	Go to step 5.
5	Disconnect the MCU Board P/J21 and the Registration Sensor P/J120. Check the Harness Assembly RKN SNS for continuity. Is the harness damaged?	Go to step 6.	Repair the harness.
6	Check that the voltage across ground on the MCU Board P/J12-1 is +3.3 VDC. Is the voltage correct?	Replace the Registration Sensor (page 8-65).	Replace the MCU Board (page 8-121).
7	Check connectors P/J16 and P/J160 between the MCU Board and the Main Drive Assembly. Are the connectors secure?	Go to step 9.	Reconnect the connectors, then go to step 8.
8	Does the error persist when printing?	Go to step 9.	Complete.
9	Enter diagnostic mode and run the **Main Motor** test (see page 4-11). You can also use the CE Diag Tool to run this test. (see page A-16). Does the Main Drive Assembly function normally?	Go to step 14.	Go to step 10.
10	Check the Main Drive Assembly for proper installation. Is the Main Drive Assembly installed correctly?	Go to step 12.	Reseat the Main Drive Assembly, then go to step 11.
11	Does the error still occur when printing?	Go to step 12.	Complete.
12	Disconnect P/J16 from the MCU Board and P/J160 from the Main Drive Assembly. Check the continuity of the cable. Is the cable damaged?	Repair the cable.	Go to step 13.
13	Check the MCU Board P/J25 for proper connection. Is P/J25 securely connected?	Go to step 15.	Reconnect the connector, then go to step 14.
14	Does the error persist?	Go to step 15.	Complete.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
15	Disconnect P/J16 on the MCU Board. Are the voltages across ground at P/J16-2 and P/J16-4 approximately +24 VDC when the Interlock Switch is pushed?	Replace the Main Drive Assembly (page 8-82), then go to step 16.	Replace the MCU Board (page 8-121), then go to step 16.
16	Does the error persist when printing?	Go to step 17.	Complete.
17	Enter diagnostic mode and run the **Regi Clutch** test. You can also use the CE Diag Tool to run this test (see page A-16). Does the Registration Clutch function correctly?	Replace the MCU Board (page 8-121).	Replace the Registration Clutch (page 8-66).

Exit On Jam

The paper does not reach the Exit Sensor within the specified time.

Applicable Error

- 077-106: Exit On Jam

Initial Actions

- Check the media path for obstructions or debris.

- Cycle printer power.

- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Registration Sensor, PL2.3.5 ■ Registration Clutch, PL2.3.7 ■ Harness Assembly RKN SNS, PL2.2.25/26 ■ Main Drive Assembly, PL6.1.2 ■ Harness Assembly Main MOT, PL6.1.7 ■ MCU Board, PL7.2.2	■ "Map 3 - Phaser 6000/6010" on page 10-9 ■ "Phaser 6000/6010 Feeder" on page 10-12 ■ "Phaser 6000/6010 Drive" on page 10-13 ■ "Map 3 - WorkCentre 6015 MFP" on page 10-23 ■ "WorkCentre 6015 MFP Feeder" on page 10-26 ■ "WorkCentre 6015 MFP Drive" on page 10-27

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the installation and operation of the Registration Roller and the Registration Pinch Roller Assembly. Are the Registration Roller and the Registration Pinch Roller Assembly installed properly?	Go to step 2.	Reinstall/replace the relevant part, then go to step 2.
2	Check connectors P/J12 and P/J120 between the MCU Board and the Registration Sensor. Are the connectors secure?	Go to step 4.	Reconnect the connectors, then go to step 3.
3	Does the error still occur when printing?	Go to step 4.	Complete.
4	Enter diagnostic mode and run the **Regi Sensor** test (see page 4-11). You can also use the CE Diag Tool to run this test (see page A-9). Lift the Main Paper Tray Chute (PL3.3.3), does the number on the display increase by 1 each time the Main Paper Tray Chute is lifted?	Replace the MCU Board (page 8-121).	Go to step 5.
5	Disconnect the MCU Board P/J12 and the Registration Sensor P/J120. Check the Harness Assembly RKN SNS for continuity. Is the harness damaged?	Go to step 6.	Repair the harness.
6	Check that the voltage across ground on the MCU Board P/J12-1 is +3.3 VDC. Is the voltage correct?	Replace the Registration Sensor (page 8-65). Go to step 7.	Replace the MCU Board (page 8-121). Go to step 7.
7	Does the error persist when printing?	Go to step 8.	Complete.
8	Check connectors P/J16 and P/J160 between the MCU Board and the Main Drive Assembly. Are the connectors secure?	Go to step 9.	Reconnect the connectors, then go to step 9.
9	Does the error persist when printing?	Go to step 10.	Complete.
10	Enter diagnostic mode and run the **Main Motor** test (see page 4-11). You can also use the CE Diag Tool to run this test (see page A-16). Does the Main Drive Assembly function normally?	Go to step 15.	Go to step 11.
11	Check the Main Drive Assembly for proper installation. Is the Main Drive Assembly installed correctly?	Go to step 12.	Reseat the Main Drive Assembly, then go to step 12.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
12	Does the error still occur when printing?	Go to step 13.	Complete.
13	Disconnect P/J16 from the MCU Board and P/J160 from the Main Drive Assembly. Check the continuity of the cable. Is the cable damaged?	Repair the cable.	Go to step 14.
14	Check the MCU Board P/J25 for proper connection. Is P/J25 securely connected?	Go to step 15.	Reconnect the connector, then go to step 15.
15	Does the error persist when printing?	Go to step 16.	Complete.
16	Check the power to the Main Drive Assembly. Disconnect P/J16 on the MCU Board. Are the voltages across ground at P/J16-2 and P/J16-4 approximately +24 VDC when the Interlock Switch is engaged?	Replace the Main Drive Assembly (page 8-82), and then go to step 17.	Replace the MCU Board (page 8-121), and then go to step 17.
17	Does the error persist when printing?	Go to step 18.	Complete.
18	Enter diagnostic mode and run the **Regi Clutch** test. You can also use the CE Diag Tool to run this test (see page A-16). Does the Registration Clutch function correctly?	Replace the MCU Board (page 8-121).	Replace the Registration Clutch (page 8-66).

Exit Off Jam/Exit Off Early Jam

The paper passed through the Exit Sensor earlier than the specified time, or did not pass through the Exit Sensor within the specified time.

Applicable Error

- 077-108: Exit Off Jam

- 077-109: Exit Off Early Jam

Initial Actions

- Check the media path for obstructions or debris.

- Cycle printer power.

- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser, PL5.1.1 ■ MCU Board, PL7.2.2	■ "Map 3 - Phaser 6000/6010" on page 10-9 ■ "Phaser 6000/6010 Fuser" on page 10-17 ■ "Map 3 - WorkCentre 6015 MFP" on page 10-23 ■ "WorkCentre 6015 MFP Fuser" on page 10-31

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check P/J18 on the MCU Board. Is P/J18 connected securely.	Go to step 3.	Reconnect P/J18, then go to step 2.
2	Does the error persist?	Go to step 3.	Complete.
3	Replace the Fuser (page 8-80). Warning: Allow the fuser to cool before replacement. Does the error persist?	Replace the MCU Board (page 8-121).	Complete.

Rear Cover Open

A Rear Cover Open error was detected.

Applicable Error

- 077-304: Rear Cover Open

Initial Actions

- Open and close the Rear Door.
- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Rear Door, PL1.1.6 ■ Interlock Switch, PL1.1.12 ■ LVPS, PL7.2.1 ■ MCU Board, PL7.2.2	■ "Map 3 - Phaser 6000/6010" on page 10-9 ■ "Phaser 6000/6010 LVPS" on page 10-11 ■ "Map 3 - WorkCentre 6015 MFP" on page 10-23 ■ "WorkCentre 6015 MFP LVPS" on page 10-25

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Visually inspect the Rear Door for damage. Is the Rear Door damaged?	Replace the Rear Door (for Phaser 6000/6010, or page 8-24 for WorkCentre 6015 MFP).	Go step 2.
2	Enter diagnostic mode and run the **Cover Open Sensor** test (see page 4-11). Does the number on the display increase by 1 each time the door is opened?.	Go to step 4.	Go to step 3.
3	Replace the Interlock Switch (page 8-17 for Phaser 6000/6010, or page 8-26 for WorkCentre 6015 MFP)? Does the error persist?	Go to step 4.	Complete.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
4	Replace the LVPS (page 8-119). Does the error still occur when printing?	Replace the MCU Board (page 8-121).	Complete.

Exit Jam

Paper remaining at the Exit section of the Printer was detected.

Applicable Error

- 077-900: Exit Jam

Initial Actions

- Check the media path for obstructions or debris.
- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Fuser, PL5.1.1 ■ MCU Board, PL7.2.2	■ "Map 3 - Phaser 6000/6010" on page 10-9 ■ "Phaser 6000/6010 Fuser" on page 10-17 ■ "Map 3 - WorkCentre 6015 MFP" on page 10-23 ■ "WorkCentre 6015 MFP Fuser" on page 10-31

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check connector P/J18 on the MCU Board. Is the connection secure?	Go to step 3.	Secure the connector, then go to step 2.
2	Does the error persist?	Go to step 3.	Complete.
3	Enter diagnostic mode and run the **Exit Sensor** test (see page 4-23). You can also use the CE Diag Tool to run this test (see page A-8). Does the number on the display change each time the actuator of the Exit Sensor is operated?	Go to step 4.	Replace the Fuser and go to step 4.
4	Does the error persist?	Replace the MCU Board (page 8-121).	Complete.

Registration Jam

Paper remaining at the registration section of the printer was detected.

Applicable Error

- 077-901: Remain Registration Jam

Initial Actions

- Check the media path for obstructions or debris.
- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Registration Sensor, PL2.3.5 ■ Harness Assembly RKN SNS, PL2.2.25 ■ MCU Board, PL7.2.2	■ "Map 2 - Phaser 6000/6010" on page 10-8 ■ "Phaser 6000/6010 Feeder" on page 10-12 ■ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ■ "WorkCentre 6015 MFP Feeder" on page 10-26

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check connectors P/J12 on the MCU Board and P/J120 on the Registration Sensor. Are the connections secure?	Go to step 3.	Secure the connectors, then go to step 2.
2	Does the error persist?	Go to step 3.	Complete.
3	Enter diagnostic mode and run the Regi Sensor test (see page 4-24). You can also use the CE Diag Tool to run this test (see page A-16). Lift the Main Paper Tray Chute (PL3.3.3). Does the Regi Sensor test pass?	Replace the MCU Board (page 8-121) then go to step 4.	Go to step 5.
4	Does the error persist?	Go to step 5.	Complete.
5	Disconnect the MCU Board P/J12. Is the voltage across ground and J12-1 +3.3VDC?	Replace the Registration Sensor (page 8-65).	Replace the MCU Board (page 8-121).

XERO Near Life

The xerographics assembly is approaching end of life.

Applicable Error

- 091-402: XERO Near Life

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU Board, PL7.2.2	■ "Map 3 - Phaser 6000/6010" on page 10-9 ■ "Phaser 6000/6010 Xerographics" on page 10-14 ■ "Map 3 - WorkCentre 6015 MFP" on page 10-23 ■ "WorkCentre 6015 MFP Xerographics" on page 10-28

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Turn the printer off and then on. Does the error persist?	Replace the MCU Board (page 8-121).	Complete.
2	Does the error persist?	Contact your designated field support for assistance.	Complete.

Check Unit ADC Sensor

This message indicates that the ADC Sensor needs cleaning.

Applicable Errors

- 092-310: ADC Sensor Dustiness Pre Warning
- 092-910: ADC Sensor Dustiness

Initial Actions

- Cycle printer power.
- Clean the ADC Sensor (page 7-7).
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU Board, PL7.2.2	■ "Map 3 - Phaser 6000/6010" on page 10-9 ■ "Phaser 6000/6010 Developer" on page 10-16 ■ "Map 3 - WorkCentre 6015 MFP" on page 10-23 ■ "WorkCentre 6015 MFP Developer" on page 10-30

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Disconnect P/J14 on the MCU Board. Is the voltage across ground at P/J14-1 and P/J14-9 on the MCU Board +5 VDC?	Go to step 2.	Replace the MCU Board (page 8-121), then go to step 2.
2	Does the error persist?	Contact your designated field support for assistance.	Complete.

ADC Sensor Error

An ADC Sensor error is detected.

Applicable Error

- 092-651: ADC Sensor Error

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU Board, PL7.2.2	■ "WorkCentre 6015 MFP Xerographics" on page 10-28 ■ "Phaser 6000/6010 Xerographics" on page 10-14

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Clean the ADC sensor (page 7-7). Does the error persist when the power is turned on?	Go to step 2.	Complete.
2	Disconnect the harness at MCU Board P/J14 and at xerographics assembly P/J140, and check the harness for continuity. Is the harness continuous?	Go to step 3.	Repair the harness.
3	Replace the MCU Board (page 8-121). Does the error persist when the power is turned on?	Contact your designated field support for assistance.	Complete.

ENV Sensor Error

An error occurred while reading the Humidity Sensor.

Applicable Error

- 092-661: Env Sensor Error

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU Board, PL7.2.2	■ "Map 3 - Phaser 6000/6010" on page 10-9 ■ "Phaser 6000/6010 Fuser" on page 10-17 ■ "Map 3 - WorkCentre 6015 MFP" on page 10-23 ■ "WorkCentre 6015 MFP Fuser" on page 10-31

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Replace the MCU Board (page 8-121). Does the error persist when the power is turned off and on?	Contact your designated field support for assistance.	Complete.

X CRU Near Life

A Low Toner Cartridge (C, M, Y, or K) state was detected.

Applicable Error

- 093-423: Y CRU Near Life

- 093-424: M CRU Near Life

- 093-425: C CRU Near Life

- 093-426: X CRU Near Life

Initial Actions

- Replace the indicated Toner Cartridge.

- Cycle printer power.

- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Harn assy dckr, PL4.1.2 ■ MCU Board, PL7.2.2	■ "Map 3 - Phaser 6000/6010" on page 10-9 ■ "Phaser 6000/6010 Developer" on page 10-16 ■ "Map 3 - WorkCentre 6015 MFP" on page 10-23 ■ "WorkCentre 6015 MFP Developer" on page 10-30

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat the Toner Cartridge. Does the error persist?	Go to step 2.	Complete.
2	Check P/J13 on the MCU Board. Is the connector secure?	Go to step 4.	Reconnect P/J13, then go to step 3.
3	Does the error persist?	Go to step 4.	Complete.
4	Replace the MCU Board (page 8-121). Does the error persist?	Contact your designated field support for assistance.	Complete.

X Toner Low Density

The printer detects low density of toner in the indicated Toner Cartridge.

Applicable Error

- 093-919: X Toner Low Density
- 093-920: X Toner Low Density
- 093-921: X Toner Low Density
- 093-922: X Toner Low Density

Initial Actions

- Cycle printer power.
- Replace the indicated Toner Cartridge.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU Board, PL7.2.2	■ "Map 3 - Phaser 6000/6010" on page 10-9 ■ "Phaser 6000/6010 LVPS" on page 10-11 ■ "Phaser 6000/6010 Drive" on page 10-13 ■ "Map 3 - WorkCentre 6015 MFP" on page 10-23 ■ "WorkCentre 6015 MFP LVPS" on page 10-25 ■ "WorkCentre 6015 MFP Drive" on page 10-27

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Clean the ADC sensor (page 7-7). Does the error persist?	Go to step 2.	Complete.
2	Check that MCU Board P/J14 is securely connected? Is the connection secure?	Go to step 3.	Reconnect P/J14, then go to step 3.
3	Does the error persist?	Replace the MCU Board (page 8-121).	Contact your designated field support for assistance.

X CRU Life Over

The indicated Toner Cartridge has reached end of life.

Applicable Error

- 009-360 to 009-363: Replace Toner Cartridge Now
- 093-930 to 093-933: X CRU Life Over

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
▪ Harn assy dckr, PL4.1.2 ▪ MCU Board, PL7.2.2	▪ "Map 3 - Phaser 6000/6010" on page 10-9 ▪ "Phaser 6000/6010 Developer" on page 10-16 ▪ "Map 3 - WorkCentre 6015 MFP" on page 10-23 ▪ "WorkCentre 6015 MFP Developer" on page 10-30

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat the appropriate Toner Cartridge. Does the error persist?	Go to step 2.	Complete.
2	Does the error persist when the power is turned off and on?	Go to step 3.	Complete.
3	Check P/J13 on the MCU Board. Is the connection secure?	Go to step 5.	Reconnect P/J13, then go to step 4.
4	Does the error persist?	Go to step 5.	Complete.
5	Disconnect P/J13 on the MCU Board, and inspect the harness. Is the harness damaged?	Repair the harness, then go to step 6.	Go to step 7.
6	Does the error persist?	Go to step 7.	Complete.
7	Replace the Toner Cartridge (C, M, Y, or K). Does the error persist?	Replace the MCU Board (page 8-121), then go to step 4.	Contact your designated field support for assistance.

X Toner Comm Fail

Toner CRUM (CMYK) communication error is detected.

Applicable Error

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

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Harn assy dckr, PL4.1.2 ■ MCU Board, PL7.2.2	■ "Map 3 - Phaser 6000/6010" on page 10-9 ■ "Phaser 6000/6010 Developer" on page 10-16 ■ "Map 3 - WorkCentre 6015 MFP" on page 10-23 ■ "WorkCentre 6015 MFP Developer" on page 10-30

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat the Toner Cartridge. Does the error persist?	Go to step 2.	Complete.
2	Check the connection at MCU Board P/J13. Is the connection secure?	Go to step 3.	Reconnect P/J13, then go to step 3.
3	Does the error persist?	Go to step 4.	Complete.
4	Disconnect P/J13 on the MCU Board and unlace the harness. Inspect the harness for damage. Is the harness damaged?	Repair the harness, then go to step 5.	Go to step 6.
5	Does the error persist?	Go to step 6.	Complete.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
6	Replace the Toner Cartridge (C, M, Y, or K). Does the error persist?	Replace the MCU Board (page 8-121), then go to step 7.	Complete.
7	Does the error persist?	Contact your designated field support for assistance.	Complete.

CRUM ID Error, X CRU Detached

An unsupported Toner Cartridge (C, M, Y, or K) is detected, or a No Toner Cartridge Installed state was detected.

Applicable Error

- 093-926: CRUM ID Error
- 093-960: CRUM ID Error
- 093-961: CRUM ID Error
- 093-962: CRUM ID Error
- 093-970: X CRU Detached
- 093-971: X CRU Detached
- 093-972: X CRU Detached
- 093-973: X CRU Detached

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU Board, PL7.2.2 ■ Harness Assembly DCKR, PL4.1.2	■ "Map 3 - Phaser 6000/6010" on page 10-9 ■ "Phaser 6000/6010 Developer" on page 10-16 ■ "Map 3 - WorkCentre 6015 MFP" on page 10-23 ■ "WorkCentre 6015 MFP Developer" on page 10-30

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check that the Toner Cartridges installed in the printer are Xerox cartridges. Are the Toner Cartridges installed in the printer Xerox Toner Cartridges?	Go to step 2.	Complete.
2	Disconnect P/J13 on the MCU Board and unlace the harness. Inspect the harness for damage. Is the harness damaged?	Repair the harness, then go to step 3.	Go to step 3.
3	Does the error persist?	Replace the MCU Board (page 8-121), then go to step 4.	Complete.
4	Disconnect P/J13 on the PWBA MCU. Is the voltage across ground to P/J13-3 on the MCU Board approximately +3.3 VDC?	Repair the Harness Assembly DCKR.	Go to step 5.
5	Replace the Toner Cartridge (C, M, Y, or K). Does the error persist?	Replace the MCU Board (page 8-121).	Complete.

Insert Print Cartridge

An unsupported Toner Cartridge (C, M, Y, or K) is detected, or a No Toner Cartridge Installed state was detected.

Applicable Error

- 093-974

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU Board, PL7.2.2 ■ Harn assy dckr, PL4.1.2	■ "Map 3 - Phaser 6000/6010" on page 10-9 ■ "Phaser 6000/6010 Developer" on page 10-16 ■ "Map 3 - WorkCentre 6015 MFP" on page 10-23 ■ "WorkCentre 6015 MFP Developer" on page 10-30

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Open the Toner Door and check that the Toner Cartridges have been fully installed. Does the error persist?	Go to step 2.	Complete.
2	Reseat the Toner Cartridges. Does the error persist?	Go to step 3.	Complete.
3	Disconnect P/J13 on the MCU Board and unlace the harness. Inspect the harness for damage. Is the harness damaged?	Repair the harness, then go to step 4.	Go to step 4.
4	Does the error persist?	Replace the MCU Board (page 8-121).	Contact your designated field support for assistance.

ESS Error

Fatal on board network error.

Applicable Error

- 116-314: MAC Address Error
- 116-350: Network Error
- 116-351: Network Error
- 116-352: Network Error

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ MCU Board, PL7.2.2	■ "Map 2 - Phaser 6000/6010" on page 10-8 ■ "Phaser 6000/6010 Image Processor Board" on page 10-18 ■ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat the connectors on the IP and MCU Boards then cycle system power. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist?	Replace the MCU Board (page 8-121).	Complete.

Fax Board Modem Error

A Fax Board error is detected.

Applicable Error

- 134-211

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ Fax Board, PL7.1.22 ■ Fax Harness. PL7.1.22 ■ MCU Board, PL7.2.2	■ "Map 2 - Phaser 6000/6010" on page 10-8 ■ "Phaser 6000/6010 Image Processor Board" on page 10-18 ■ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Disconnect the Fax Harness at P/J2 on the IP Board and the corresponding P/J on the Fax Board. Check the Fax Harness for continuity. Is the cable continuos?	Go to step 3.	Replace the Fax Harness, then go to step 2.
2	Does the error persist?	Go to step 3.	Complete.
3	Replace the IP Board. Does the error persist?	Replace the MCU Board (page 8-121).	Complete.

ASIC Failure

ASIC Failure.

Applicable Error

- 124-333: ASIC Failure

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ LED Driver Board, PL7.1.5 ■ LED/MCU Cable, PL7.1.6 ■ MCU Board, PL7.2.2	■ "Map 3 - Phaser 6000/6010" on page 10-9 ■ "Phaser 6000/6010 Xerographics" on page 10-14 ■ "Phaser 6000/6010 Image Processor Board" on page 10-18 ■ "Map 3 - WorkCentre 6015 MFP" on page 10-23 ■ "WorkCentre 6015 MFP Xerographics" on page 10-28 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check connectors P/J23 and P/J1 on the MCU Board and LED Driver Board. Are the connections secure?	Go to step 3.	Reconnect the connectors P/J23 and P/J1, and then go to step 2.
2	Does the error persist?	Go to step 3.	Complete.
3	Disconnect the MCU Board P/J23 and the LED Driver Board P/J1, and check the LED/MCU Cable continuity. Is the cable damaged?	Replace the LED/MCU Cable (page 8-111).	Go to step 4.
4	Replace the LED Driver Board (page 8-107). Does the error persist?	Replace the MCU Board (page 8-121).	Complete.

On Board Network Fatal Error

Fatal on board network error.

Applicable Error

- 116-355: On Board Network Fatal Error

Initial Actions

- Cycle printer power.
- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ MCU Board, PL7.2.2	■ "Map 2 - Phaser 6000/6010" on page 10-8 ■ "Phaser 6000/6010 Image Processor Board" on page 10-18 ■ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat the connectors on the IP and MCU Boards then cycle system power. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist?	Replace the MCU Board (page 8-121).	Complete.

System USB Port Error

System USB port error is detected.

Applicable Error

- 116-210: System USB Port Error

- 116-395: On Board Network Fatal Error

Initial Actions

- Cycle printer power.

- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ MCU Board, PL7.2.2	■ "Map 2 - Phaser 6000/6010" on page 10-8 ■ "Phaser 6000/6010 Image Processor Board" on page 10-18 ■ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat the connectors on the IP and MCU Boards then turn the printer back on. Does the error persist?	Go to step 2.	Complete.
2	Replace the IP Board (page 8-114). Does the error persist?	Replace the MCU Board (page 8-121).	Complete.

System Restart

An internal IP Board error occurred.

Applicable Errors

062-360: System Restart	117-344: System Restart
117-331: System Restart	117-346: System Restart
117-332: System Restart	117-348: System Restart
117-333: System Restart	117-349: System Restart
117-334: System Restart	117-350: System Restart
117-340: System Restart	117-351: System Restart
117-342: System Restart	117-366: System Restart
117-343: System Restart	

Initial Actions

- Cycle printer power.

- If the problem persists, use the following procedure.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
▪ IP Board, PL7.1.9	▪ "Map 2 - Phaser 6000/6010" on page 10-8 ▪ "Phaser 6000/6010 Image Processor Board" on page 10-18 ▪ "Map 2 - WorkCentre 6015 MFP" on page 10-22 ▪ "WorkCentre 6015 MFP Image Processor Board" on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the connectors on the IP Board. Are the connections secure?	Go to step 3.	Securely reconnect the connectors, then go to step 2.
2	Does the error persist?	Go to step 3.	Complete.
3	Replace the IP Board (page 8-114). Does the error persist?		Complete.

XERO Life Over

The xerographics assembly is at end of life.

Applicable Error

- 191-310: Xero Life Over

Initial Actions

- Cycle printer power.
- If the problem persists, the printer is at the end of life and should be replaced.

Custom Toner Mode

The printer is in custom toner mode.

Applicable Error

- 193-700: Custom Toner Mode

Initial Actions

- Cycle printer power.
- If the problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ IP Board, PL7.1.9 ■ MCU Board, PL7.2.2	■ "Phaser 6000/6010 Xerographics" on page 10-14 ■ "Phaser 6000/6010 Image Processor Board" on page 10-18 ■ "WorkCentre 6015 MFP Xerographics" on page 10-28 ■ "WorkCentre 6015 MFP Image Processor Board" on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Loosen the screws on the IP Board, then retighten the screws to reseat the board. Check that all the connectors on the IP Board are secure. Does the problem persist?	Go to step 2.	Complete.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
2	Replace the IP Board (page 8-114). Does the error persist?	Replace the MCU Board (page 8-121).	Complete.

Troubleshooting

In this chapter...

Chapter 4

Introduction

This chapter covers Service Diagnostics, and troubleshooting procedures not associated with an error code or Control Panel error message. For troubleshooting problems associated with an error message, refer to "Error Messages and Codes" on page 3-1. Print-quality problems are covered in "Print-Quality Troubleshooting" on page 5-11.

Troubleshooting Overview

To increase the efficiency of troubleshooting, ensure that preliminary checks are made to confirm the trouble status before proceeding.

The following illustration shows the flow of troubleshooting.

s6000-137
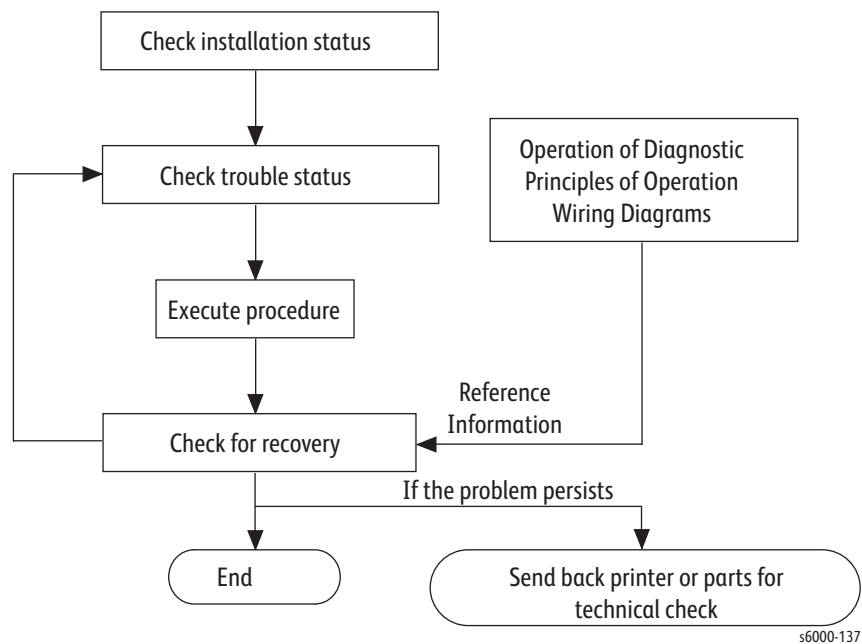
Initial Actions

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

1. Turn Off the printer, wait 10 seconds, then turn On the printer. This often solves problems related to power transients, ESD, and software errors.

2. If a message appears on the Control Panel, see "Messages, Codes, and Procedures" on page 3-5 for specific procedures related to error messages.

3. Check the power cord. Is the power cord plugged into the printer and a properly grounded electrical outlet? Is the power cord damaged?

4. Check the electrical outlet. Is the outlet turned off by a switch or breaker?

5. Does other electrical equipment plugged into the outlet operate?

Display Problems

If the Control Panel displays only diamonds or is blank:

1. Turn Off the printer, wait 10 seconds, then turn On the printer.
2. When tests complete, **Ready to Print** should appear on the display.

If the problem persists see "Power Supply Troubleshooting" on page 4-67, and "DC Power Troubleshooting" on page 4-68.

Printing Problems

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

Note

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

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

1. Check that the printer is in a "Ready" state before sending a print job. The Phaser 6000B Ready LED is illuminated, and the Phaser 6010N/WorkCentre 6015 MFP displays "Ready".
2. Check the loaded media.
3. Check the print driver.
4. Check the printer connections to Ethernet or USB.
5. Verify that the correct print media size is selected.
6. If using a print spooler, verify that the spooler has not stalled.
7. Check the printer's interface configuration. Determine the host interface you are using. Print the Configuration Page to verify that the current settings are correct.

Copy Problems

If document loaded in the ADF cannot be copied, check and try the following.

1. Ensure that the ADF cover is firmly closed.

Scanning Problems

Problem	Check/Explanation
Scanner does not work.	1. Ensure that you place the document to be scanned face down from the document feeder glass, or face up in the ADF. 2. There may not be enough available memory to hold the document you want to scan. Try the Prescan function to see if that works. Try lowering the scan resolution rate. 3. Check that the USB cable is connected properly. 4. Ensure that the USB cable is not defective. Switch the cable with a known good cable. If necessary, replace the cable. 5. Check that the scanner is configured correctly. Check the application you want to use to make certain that the scanner job is being sent to the correct port.
Printer scans very slowly.	1. Graphics are scanned more slowly than text when using the Scan to E-mail or Scan to Network feature. 2. Communication speed becomes slow in scan mode because of the large amount of memory required to analyze and reproduce the scanned image. 3. Scanning images at a high resolution takes more time than scanning at a low resolution.
Document misfeeds or multiple misfeeds occur in the Automatic Document Feeder (ADF).	1. Check whether the ADF roller assembly is installed properly. 2. Ensure the document's paper type meets the specifications for the printer. 3. Check whether the document is properly loaded in the ADF. 4. Ensure that the document guides are adjusted properly. 5. Ensure that the number of document sheets do not exceed the maximum capacity of the ADF. 6. Ensure that the document is not curled. 7. Fan the document well before loading it in the ADF.
Vertical stripes appear on the output when scanned using the ADF.	Clean the document glass.

Problem	Check/Explanation
Smear appears at the same location on the output when scanned using the document glass.	Clean the document glass.
Images are skewed.	Ensure that the document is loaded straight in the ADF or on the document glass.
Diagonal lines appear jagged when scanned using the ADF.	If the document uses thick media, try scanning it from the document glass.
One of the following messages appears on your computer screen: ■ Device can't be set to the H/W mode you want. ■ Port is being used by another program. ■ Port is Disabled. ■ Scanner is busy receiving or printing data. When the current job is completed, try again. ■ Invalid handle. ■ Scanning has failed.	1. There may be a copying or printing job in progress. When the current job is complete, try the job again. 2. The selected port is currently being used. Restart your computer and try again. 3. The printer's cable may be improperly connected or the power may be off. 4. The scanner driver is not installed or an operating environment is not set up properly. 5. Ensure that the port is properly connected and the power is turned on. Then restart your computer. 6. Check if the USB cable is properly connected.
Printer does not properly transfer scan data to a specified destination via the Scan to E-mail or Scan to Network feature	1. Check the following settings under **Address Book > Server Address**: ■ Server Address ■ Server Path ■ Share Name ■ Login Name ■ Login Password ■ Scan to E-mail 2. Check the following setting under **Address Book > E-Mail Address**: ■ Address

Fax Problems

Problem	Check/Explanation
Some of the words on an incoming fax are stretched.	The fax machine sending the fax had a temporary document jam. Have the fax resent.
Lines appear on sent documents.	Check the platen glass for marks and clean it.
The printer dials a number, but the connection with another fax machine fails.	The other fax machine may be turned off, out of paper, or cannot answer incoming calls. Speak with the other machine operator and ask her/him to sort out the problem.
Documents are not stored in memory.	There may not be enough memory to store the document. If the display shows a Memory Full message, delete any documents no longer needed from the memory and then restore the document, or wait for the job in progress (e.g., a fax transmission or reception) to complete.
No dial tone sounds.	1. Check that the phone line is connected properly. 2. Check that the phone socket in the wall is working by plugging in another phone.
Numbers stored in the memory do not dial correctly.	Ensure that the numbers are stored in the memory correctly. (Print a Phone Book list.)
Document does not feed into the printer.	1. Ensure that the document is not wrinkled and you are putting it in correctly. Check that the document is of the right size, not too thick or thin. 2. Ensure that the ADF cover is firmly closed.
Faxes are not received automatically.	1. The FAX mode should be selected. 2. Ensure that there is paper in the paper tray. 3. Check to see if the display shows Memory Full.
Printer does not send faxes	1. Ensure that the document is loaded in the ADF or on the document feeder glass. 2. Sending should show up on the display. 3. Check the other fax machine you are sending to, to see if it can receive your fax.
Incoming fax has blank spaces or is received in poor quality.	1. A noisy phone line can cause line errors. 2. Check your printer by making a copy. 3. The toner cartridge may be empty. Replace the toner cartridge. 4. The fax machine sending you the fax may be faulty.

Problem	Check/Explanation
Blank areas appear at the bottom of each page or on other pages, with a small strip of text at the top.	You may have chosen the wrong paper settings in the user option setting.
Printer will not send or receive faxes.	Ensure that the country code is set correctly by pressing the **System** button and then select **Admin Menu > Fax Settings > Country**.
Error often occurs during a fax transmission or reception.	Reduce the modem speed by pressing the **System** button and then select A**dmin Menu > Fax Settings > Modem Speed**.

Media-Based Problems

1. Check that the correct type of media is being used; for the correct media types and weights, refer to"Media and Tray Specifications" on page 1-31. The customer should be using a quality laser printer paper. The printer may have trouble picking glossy or overly smooth paper.
2. Inspect the paper for bent, torn, or folded corners.
3. Check the media path for obstructions or debris.
4. Ensure that the correct media type is set at the Control Panel.
5. Ensure that the media guides are set correctly.
6. Ensure that the media is a supported type for the tray.
7. Load a fresh ream of paper in the tray.

Multiple-Sheet Pick

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

Mis-Pick

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

Skewed Image

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

Damaged Prints

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

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

Wrinkled Envelopes

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

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

Fuser Jams

1. Check that the Fuser is properly seated, locked, and operates normally.
2. Ensure that the paper is in good condition and is listed as supported media. Try loading new media from a fresh ream.
3. Ensure that only supported transparency film is being used.
4. Check that the printer is operating within its environmental specifications by printing the Information page.
5. Ensure that the loaded media matches the Control Panel settings.
6. Are the margins on the page greater than 4.1 mm?
7. Check the Fuser area for debris.
8. Visually inspect the Fuser for burrs.

Exit Jams

1. Check that the correct type of media is being used; refer to "Media and Tray Specifications" on page 1-31.

2. Ensure the printer is within its operating environmental specifications.

3. If media is showing excessive curl when exiting, try turning the media over, loading new media from a fresh ream, or a different type of media.

4. Ensure that the loaded media matches the Control Panel settings.

5. Is the jam caused by a heavy, stiff paper being used for two-sided printing? In such cases, a lighter grade of paper should be used.

6. If debris is visible, clean the printer with a clean, dry, lint-free wipe.

7. Turn the printer off and then back on. The exit roller in the Fuser should turn for a few seconds.

Using Phaser 6010N and WorkCentre 6015 MFP Service Diagnostics

The Phaser 6010N and WorkCentre 6015 MFP printers have built-in diagnostics to test electromechanical components, display printer status, and provides some NVRAM access. Use these tests to diagnose problems and isolate which component needs replacement.

If confronted with an error that requires more than a cursory investigation to clear, or when directed by a troubleshooting procedure, use the diagnostic tests to exercise selected sub-assemblies or parts in the vicinity of the reported error. Diagnostic tests are controlled from the Control Panel and are described in detail in "WorkCentre 6015 MFP Service Diagnostics" on page 4-32, or "Phaser 6010N Service Diagnostics" on page 4-12.

The CE Diag Tool provides Service Diagnostics tests, and can be used with both the Phaser 6000B and the Phaser 6010N. See "Using the CE Diags Tool Software" on page A-4.

Using Service Diagnostics

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

Use the arrow buttons to scroll through the menus and highlight the desired test. The **OK** button runs the test. Press **Stop** to stop the test. To switch between test groups, exit the current diagnostics mode and return to the Service Mode menu.

Control Panel button functions while in Service Diagnostics:

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

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

Entering Service Diagnostics Mode

For Phaser 6010N:

1. Turn the printer Off.
2. Press and hold the **Up** and **Down** arrows simultaneously and turn the printer On.
3. Release the buttons when **Service Mode** and **Password** appear on the display.
4. Press the **Down Arrow** twice, then press **OK**.
5. **Service Mode** and **ESS Diag** appear on the display to indicate when diagnostics are active.

For WorkCentre 6015 MFP:

1. Turn the printer Off.
2. Press and hold the **Up** and **Down Arrow** simultaneously and turn the printer On.
3. Release the buttons when **CE Mode Please wait** appears on the display.
4. The diagnostics are ready when the display reads:
   CE Mode
   Printer
   Fax/Scanner
   MFG Settings

Exiting Service Diagnostics Mode

For Phaser 6010N:

1. Scroll to **Exit Mode**, press **OK**.
2. Press **OK** when
   Exit Mode
   Complete Exit
   is displayed.
3. Press **OK** when
   Complete Exit
   Exit?
   is displayed.

For WorkCentre 6015 MFP:

1. Scroll to **Fax/Scanner > Complete > Exit Fax/Scanner Diag**, and press **OK**.
2. Press **OK** when **Complete Exit?** is displayed.

Phaser 6010N Service Diagnostics

Service Diagnostics Menu Map

ESS Diag
- All Test
- CodeROM Test
- EEPROM Test
- DRAM Test
- MAC+PHY Test
- ASIC Test
- PANEL Test
- Engine Test

Engine Diag
- Sensor Test
- Motor Test
- NVM Settings ▸
  - Edit NVM
  - SaveNVM to ESS
  - LoadNVM from ESS

Print Info
- Info Page
- Print Settings

Installation
- Serial No.
- Tone Correction
- Pixel Counter
- Configuration
- Meter Type
- Print Counter
- CopyCounter MtoB
- CopyCounter BtoM
- Clear All NVM
- Clear JobHistory

Test Print
- TestPatASIC[IOT]
- TestPatLPHY[IOT]
- TestPatLPHM[IOT]
- TestPatLPHC[IOT]
- TestPatLPHK[IOT]
- Grid2
- TonerPalletCheck
- ContaminationChk
- MQ

Accept the menu selection — OK

Scroll up ▲

Go up one level

Scroll down ▼

Parameter
- Regi ▸
- Life ▸
- Print

Exit Mode
- Complete Exit

Regi:
- X Margin Yellow
- X Margin Magenta
- X Margin Cyan
- X Margin Black
- Y Margin Yellow
- Y Margin Magenta
- Y Margin Cyan
- Y Margin Black
- Skew Yellow
- Skew Magenta
- Skew Cyan
- Skew Black
- Bow Yellow
- Bow Magenta
- Bow Cyan
- Bow Black
- Lead Offset
- Side Offset

Life:
- M/C Total PV
- M/C FC PV
- DEVE Roundtime K
- DEVERoundtimeYMC
- XERO Roundtime
- M/C DispTime Y
- M/C DispTime M
- M/C DispTime C
- M/C DispTime K
- M/C Pixel Y
- M/C Pixel M
- M/C Pixel C
- M/C Pixel K
- M/C ColorEmptyBW
- M/C Custom Start
- M/C Custom End
- Waste Toner Y
- Waste Toner M
- Waste Toner C
- Waste Toner K
- Toner PV Y
- Toner PV M
- Toner PV C
- Toner PV K
- Toner DispTime Y
- Toner DispTime M
- Toner DispTime C
- Toner DispTime K
- Toner TDCC Y
- Toner TDCC M
- Toner TDCC C
- Toner TDCC K
- Toner Pixel Y
- Toner Pixel M
- Toner Pixel C
- Toner Pixel K

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Phaser 6010N Diagnostic Test Descriptions

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

Caution

Do not turn the printer Off during ESS Diag testing.

Test	LCD (Phaser 6010N)	Test Description
ESS Diag	Tests core print engine components.	
All Test	■ Start ■ Processing ■ Check OK or *<Failed Test>* Error	This test runs all ESS Diag tests except MAC/PHY and Panel tests. Test returns Check OK or failed test name.
CodeROM Test	■ Start ■ Processing ■ Check OK or NG	Calculates the ROM checksum and compares it with the stored value. Run this test when a 016-317 error occurs.
EEPROM Test	■ Start ■ Processing ■ Check OK or NG	This test checks the diagnostic portion of the EEPROM. Run this test when the 116-326 error occurs.
DRAM Test	■ Start ■ Processing ■ Check OK or NG	This test performs read/write/verify of the DRAM. Run this test when the 116-315 error occurs.
MAC+PHY Test	■ Start ■ Processing ■ Check OK or NG	Run this test when 116-314, 116-350, 116-351, 116-352, and 116-355 errors occur.
ASIC Test	■ Start ■ Check OK or ASIC Error	ASIC Register check. Run this test when 116-343 error occurs.
PANEL Test	■ Start	This test checks the Control Panel buttons. Button function is indicated on the display and LEDs.
	Button	**Display**
	■ **Up**	Up
	■ **Down**	Down
	■ **Left**	Left
	■ **Right**	Right
	■ **OK**	Set
	■ **Menu**	Menu
	■ **Cancel**	Cancel job
	■ **Back**	Back
	■ **Energy Saver**	Power save
Engine Test	■ Start ■ Check OK or Engine Error	Print engine communication test. Run this test when the 024-371 error occurs.

Test	LCD (Phaser 6010N)	Test Description
Engine Diag	Tests for print engine components.	
Sensor Test	At the start, L - 0 is displayed. L changes to H and back to L while the counter increments when a sensor is turned On from Off.	These tests check whether the sensors operate normally. The Sensor Test is performed for all the components. Press the **OK** button to run the selected test. Press **Cancel** to exit the test. The display returns to the Service Mode menu.

NOTE During the Sensor Test, no other diagnostic functions can be performed. The printer only accepts DI components and exit commands.

Component tests:

Test	Component
Fan Alarm	Fan
No Paper Sensor	No Paper Sensor
K Mode Sensor	Color Mode Sensor
Exit Sensor	Exit Sensor
Regi Sensor	Registration Sensor
Interlock Switch	Interlock Switch
CRUM Y Sensor	Yellow CRUM Sensor
CRUM M Sensor	Magenta CRUM Sensor
CRUM C Sensor	Cyan CRUM Sensor
CRUM K Sensor	Black CRUM Sensor

Test		Test Description
Motor Test		These tests check operation of the electromechanical components. Press the **OK** button to run the selected test. Press **Cancel** to exit the test. The display returns to the Service Mode menu.

NOTE During the Motor Tests, no other diagnostic functions can be performed. The printer only accepts component and exit commands.

Component tests:

Test	Component
Main Motor (FULL) Main Motor (HALF) Main Motor (SLOW)	Main Drive Assembly
	Caution: When checking the Main Motor, stop the test within 10 seconds. Executing this test for 10 seconds or longer may cause damage to the printer.
Fan Motor (High) Fan Motor (LOW)	Fan Motor
	Caution: When checking the Fan Motor, stop the test within 10 seconds. Executing this test for 10 seconds or longer may cause damage to the printer.
Regi Clutch	Drive Clutch
Feed SOLENOID	Feed Solenoid
K Mode SOLENOID	Developer Drive Assembly

Test	LCD (Phaser 6010N)	Test Description
Motor Test (continued)	Yellow Toner Motor Magenta Toner Motor Cyan Toner Motor Black Toner Motor	Toner Motors **Caution:** When checking the toner motors, stop the test within 3 seconds. Executing this test for 3 seconds or longer may cause damage to the printer.
	DBAC ON DBDC ON TR1+ ON TR2+ ON TR2- ON CR ON MOB LED ON ADC LED ON 24V ON HV CLK ON	**NOTE** The use of DBAC ON, DBDC ON, TR1+ ON, TR2+ ON, TR2- ON, CR ON, MOB LED ON, ADC LED ON, 24V ON, HV CLK ON is prohibited to avoid shock hazards since they are high-voltage outputs.
NVM Settings	Edits, saves, loads, and prints NVM information.	
Edit NVM	■ Ad0000=00000000* ■ Please wait	Displays current NVM values. Use this function to edit NVM information. **Caution:** Change NVM values only when directed to do so by a troubleshooting procedure.
Save NVM to ESS	Save NVM ■ Save NVM MCU -> ESS OK? ■ Saved ■ Please wait	Saves the MCU Board NVM to the IP Board temporarily when the MCU needs to be replaced.
LoadNVM from ESS	Load NVM ■ Save NVM ESS -> MCU OK? ■ Saved ■ Please wait	Loads the internal data saved via NVM Settings - SaveNVM to ESS to the new MCU Board
Print Info	Provides printer configuration and settings information.	
Info Page	■ Ready ■ Processing	Prints version information. The Configuration Page contains: ■ Engine ROM Revision No. ■ MCU NVM Revision No.

Test	LCD (Phaser 6010N)	Test Description
Print Settings	■ Ready ■ Processing	Prints the configured settings. ■ Serial No. ■ Tone Correction On/Off ■ Counter Type ■ Full Color Print Count ■ Color 1 Print Count ■ Color 2 Print Count ■ B/W Print Count ■ Total Print Count ■ Full Color Backup Count ■ Color 1 Backup Count ■ Color 2 Backup Count ■ B/W Backup Count ■ Total Backup Count ■ Full Color Error Count ■ Color 1 Error Count ■ Color 2 Error Count ■ B/W Error Count

Installation	Provides printer installation information.	
Serial No.	■ YXLxxxxxx ■ YXMxxxxxx ■ YXNxxxxxx ■ YXRxxxxxx	Displays the 6 digit Serial Number. This value is read only.
Tone Correction	■ ON ■ OFF	Specifies whether or not tone correction is performed.
Pixel Counter	■ Y: nn.n ■ C: nn.n ■ M: nn.n ■ K: nn.n	Pixel count values of colors Y/M/C/K. (Read only.)
Configuration	■ Dip Switch 0 ■ Dip Switch 1 ■ Dip Switch 2 ■ Dip Switch 3	Displays the dip switch setting. (Read only.)
Meter Type	■ Type 1 ■ Type 2 ■ Type 3 ■ Type 4	Displays the meter type. (Read only.)
Print Counter	■ Full Color Print ■ Color 1 Print ■ Color 2 Print ■ B/W Print ■ Total Print ■ Full Color Backup ■ Color 1 Backup ■ Color 2 Backup ■ B/W Backup ■ Total Backup ■ Full Color Error ■ Color 1 Error ■ Color 2 Error ■ B/W Error	Displays the respective counter values in the master NVM and backup NVM. (Read only)

Test	LCD (Phaser 6010N)	Test Description
Copy Counter MtoB	■ OK? ■ Processing ■ Copied	Copies the values from Master NVM to Backup NVM on the IP Board. ■ Device-specific information called "Personal info" in the first 128 Byte ■ PV counter master ■ Printer counter master
Copy Counter BtoM	■ OK? ■ Processing ■ Copied	Copies the values from Backup NVM to Master NVM on the IP Board. ■ Device-specific information called "Personal info" in the first 128 Bytes ■ PV counter backup ■ Printer counter backup
Clear All NVM	■ OK? ■ Processing ■ Initialized	Clears all NVM.
Clear Job History	■ OK? ■ Processing ■ Initialized	Deletes job history data from NVM.
Test Print	Test prints for troubleshooting the printer.	
The available test prints are found in the Test Print menu. For a description of these test pages, see "Test Prints" on page 5-38.		
Parameter	Reads/writes the parameter values, errors, and life counter values stored in the printer. **NOTE** Print the parameter list using the Print function found in the Parameter Menu before changing the value of the registration.	
Regi	Value	
X Margin Y, M, C, K	■ -137 to 137	Adjusts registration in the feed direction.
Y Margin Y, M, C, K	■ -3780 to 3780	Adjusts registration in the scan direction.
Skew Y, M, C, K	■ -630 to 630	Adjusts the skew so that the image is parallel with both sides of the paper.
See the following illustration for additional explanation.		

Test	LCD (Phaser 6010N)	Test Description

← Shifts the print area in this direction by reducing the value.

Shifts the print area in this direction by increasing the value. →

X Margin Y, M, C, K

Y Margin Y, M, C, K

Default Value

↑

Shifts the print area in this direction by reducing the value.

Image Side

Shifts the print area in this direction by increasing the value.

↓

Default Value
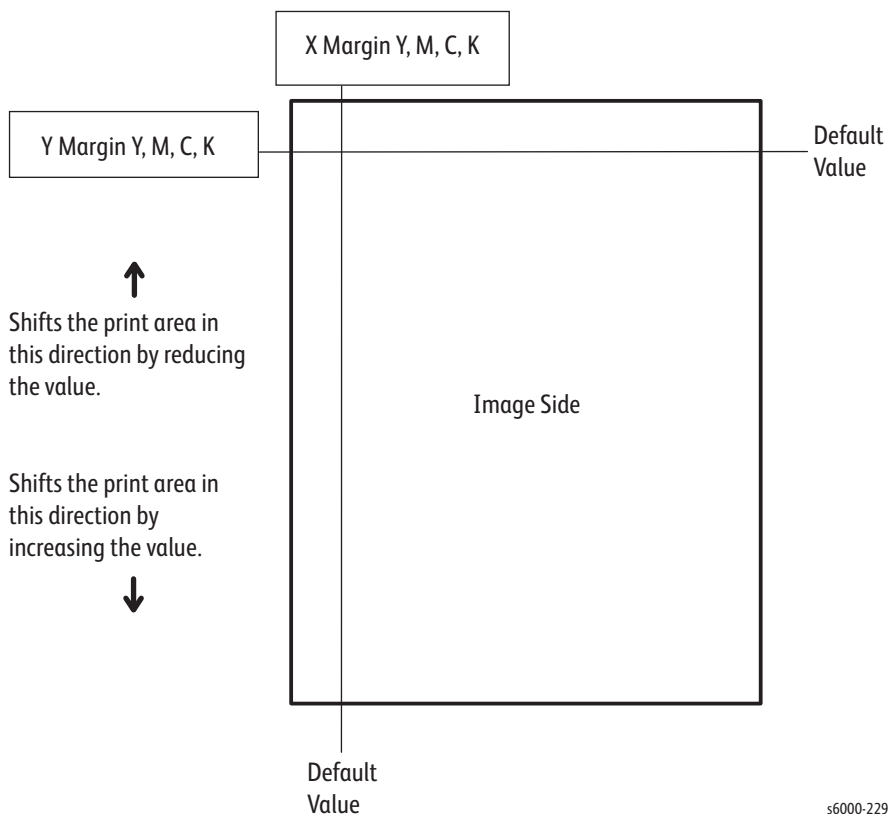
s6000-229

Life	
Counter Name	Value These counter values are reference only. Do not use as the official value.
M/C Total PU	30000
M/C FC PV	-
DEVE Roundtime K	-
DEVE Roundtime YMC	-
XERO Roundtime	-
M/C DispTime Y	-

Test	LCD (Phaser 6010N)	Test Description
M/C DispTime M	-	
M/C DispTime C	-	
M/C DispTime K	-	
M/C Pixel Y	-	
M/C Pixel M	-	
M/C Pixel C	-	
LM/C Pixel K	-	
M/C ColorEmptyBW	-	
M/C Custom Start	-	
M/C Custom End	-	
Waste Toner Y	-	
Waste Toner M	-	
Waste Toner C	-	
Waste Toner K	-	
Toner PV Y	Std.: 700/High:14000	
Toner PV M	Std.: 700/High:14000	
Toner PV C	Std.: 700/High:14000	
Toner PV K	Std.: 700/High:14000	
Toner DispTime Y	-	
Toner DispTime M	-	
Toner DispTime C	-	
Toner DispTime K	-	
Toner TDCC Y	-	
Toner TDCC M	-	
Toner TDCC C	-	
Toner TDCC K	-	
Toner Pixel Y	-	
Toner Pixel M	-	
Toner Pixel C	-	
Toner Pixel K	-	

Phaser 6010N Sensor Test Procedures

Procedures for testing each IOT sensor using Service Diagnostics.

- No Paper Sensor

- K Mode Sensor

- Exit Sensor

- Registration Sensor

- Interlock Switch (Cover Open Sensor)

- Y, M, C, K CRUM

CRUM Sensors (K, C, M, Y)

Exit Sensor

Interlock Switch
(Cover Open Sensor)

Registration
Sensor

No Paper Sensor

K Mode Sensor
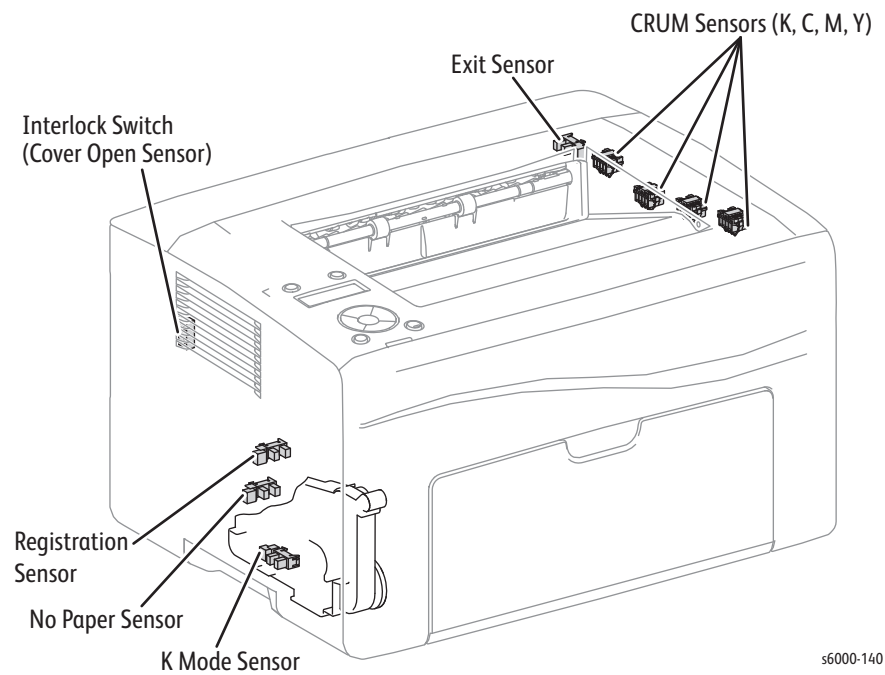
s6000-140

Note

Pressing the **Cancel** button stops the sensor tests. Press the **Menu** button to get back to the Engine Diag menu.

No Paper Sensor

1. Enter Service Diagnostics (page 4-11).
2. Run the No Paper test: **Engine Diag** > **Sensor Test** > **No Paper Sensor**.
3. Insert a sheet into the tray to check whether the sensor functions properly.
4. Confirm the number shown on the display increases each time the sheet is inserted.
5. Press the **Cancel** button to stop the test.
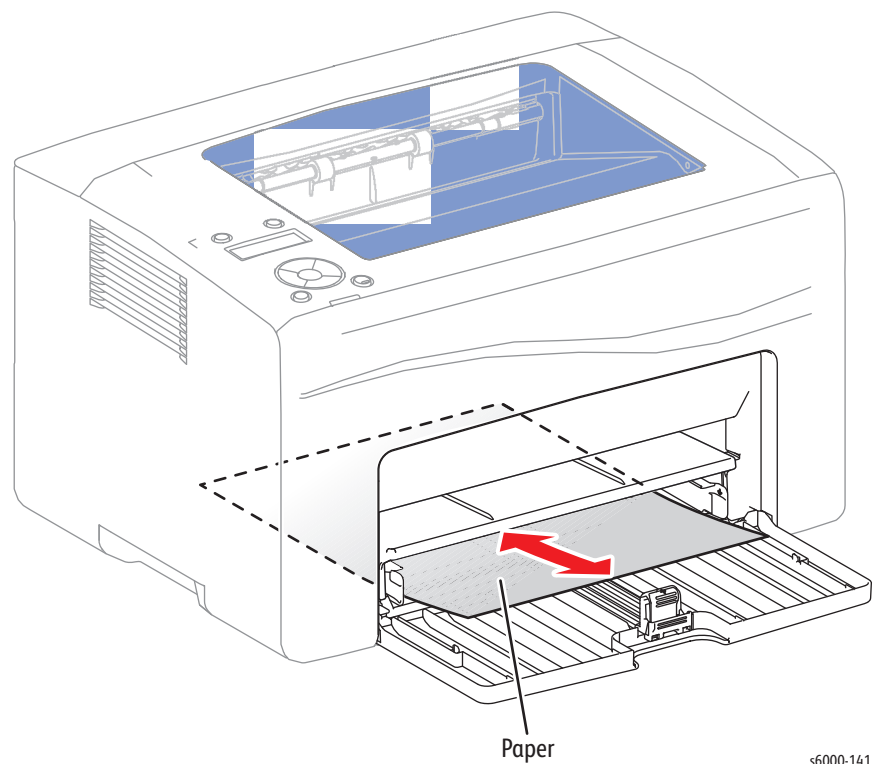
Paper

s6000-141

Color Mode Sensor

1. Remove the Left Side Cover and main paper tray harness guide.
2. Enter Service Diagnostics (page 4-11).
3. Run the K Mode test: **Engine Diag > Sensor Test > K Mode Sensor**.
4. Operate the actuator to check sensor function.
5. Confirm the number shown on the display increases every time the actuator is operated.
6. Press the **Cancel** button to stop the test.
7. Replace the main paper tray harness guide and Left Side Cover.

Actuator

K Mode Switching Sensor
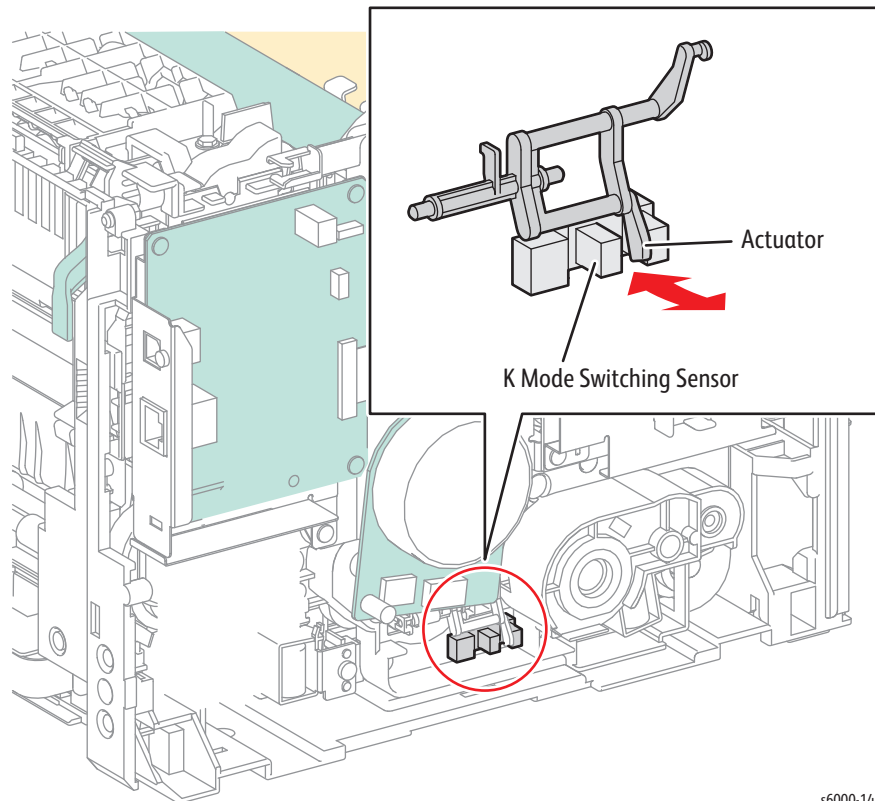
s6000-142

Exit Sensor

1. Enter Service Diagnostics (page 4-11).
2. Run the Exit Sensor test: **Engine Diag > Sensor Test > Exit Sensor**.
3. Operate the actuator to check sensor function.
4. Confirm the number shown on the display increases every time the actuator is operated.
5. Press the **Cancel** button to stop the test.
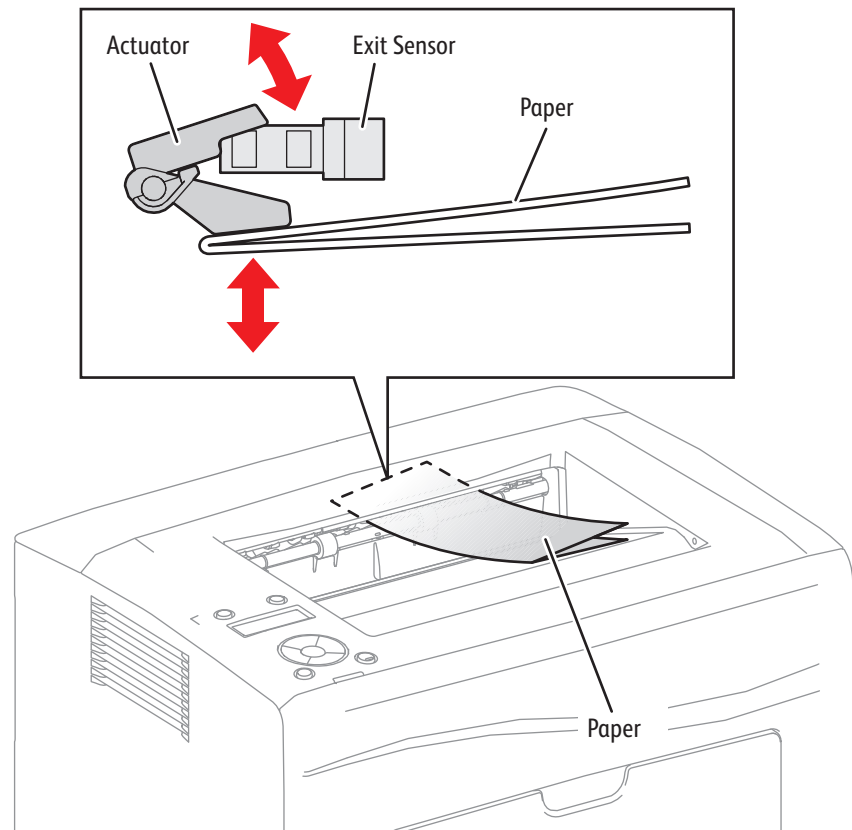
s6000-143

Registration Sensor

1. Enter Service Diagnostics (page 4-11).
2. Open the Rear Door.
3. Run the Registration Sensor test: **Engine Diag > Sensor Test > Regi Sensor**.
4. Operate the actuator to check sensor function.
5. Confirm the number shown on the display increases every time the actuator is operated.
6. Press the **Cancel** button to stop the test.
7. Close the Rear Door.
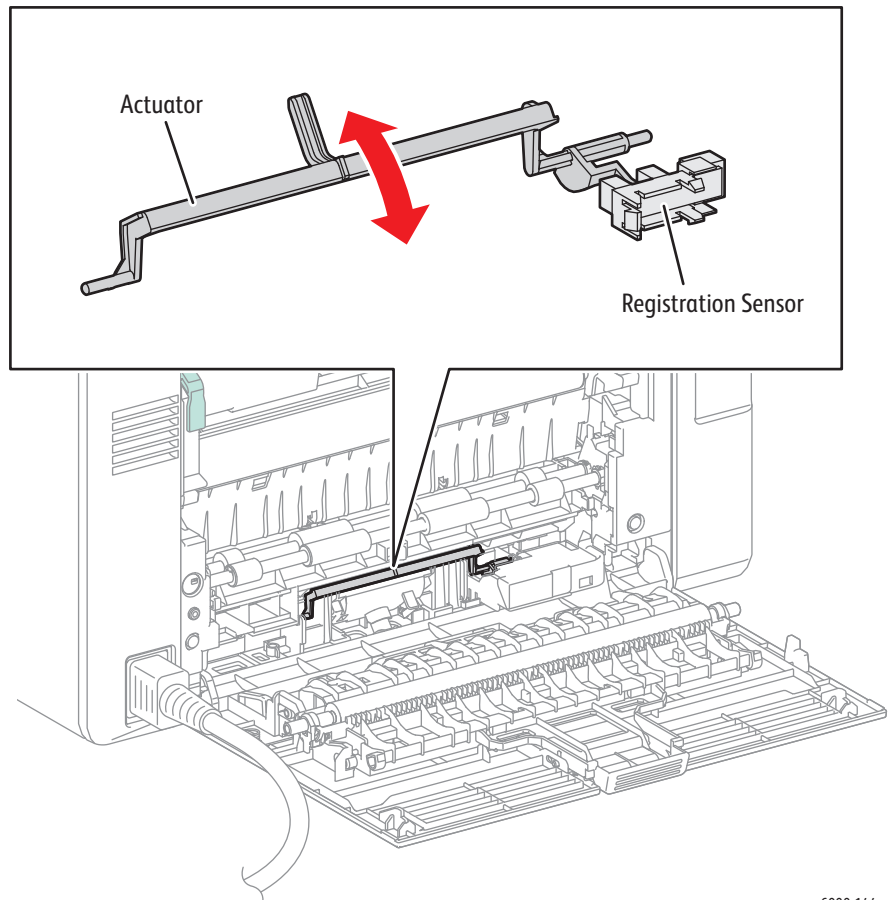
s6000-144

Rear Cover Interlock

1. Enter Service Diagnostics (page 4-11).

2. Run the Interlock Switch test: **Engine Diag > Sensor Test > Cover Open Sensor**.

3. Open and close the Rear Door to actuate the switch.

4. Confirm the number shown on the display increases every time the actuator is operated.

5. Press the **Cancel** button to stop the test.

6. Close the Rear Door.
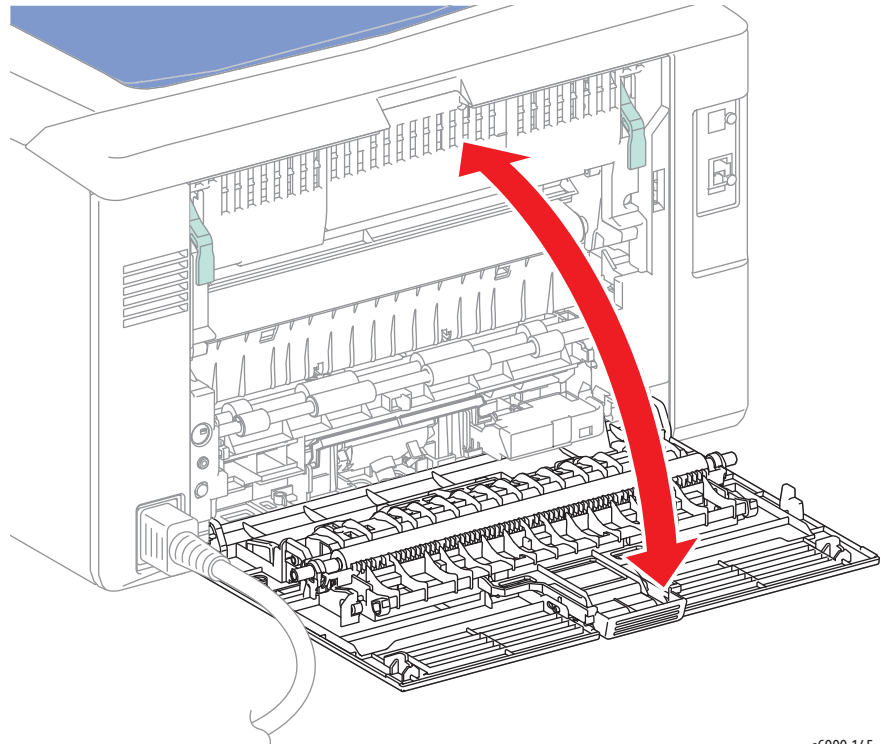
s6000-145

Phaser 6010N Motor Test Procedures

These tests check whether the Digital Output (DO) components (Motor, Clutch and Solenoid) operate. When the interlock is opened during a Motor Test the component stops.

When a paper jam or PQ problem occurs, or an error message or code is displayed, these tests help to pinpoint the faulty part. Before executing the test, examine the details of the jam, PQ problem, or error, and isolate the faulty parts. The following tests are available:

- Main Motor (Full, Half, Slow)
- Fan Motor (High, Low)
- Registration Clutch
- Feed Solenoid
- K Mode Solenoid
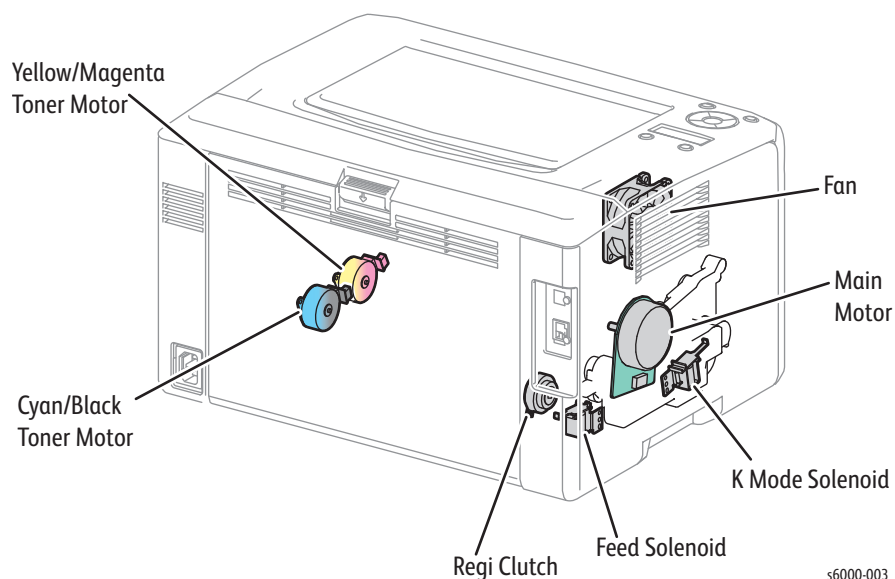
s6000-003

Main Motor

1. Enter Service Diagnostics (page 4-11).
2. Run the Main Motor (Full) test: **Engine Diag > Motor Test > Main Motor Full**.

   ### Caution

   When checking the motor, stop the test within 10 seconds. Executing a motor check for 10 seconds or longer may cause damage to the printer.

   To stop the motor check, press the **Cancel** button (or click the **Stop** button if performing the test from the CE Diag Tool).

3. Check that the Exit Roller rotates.
4. Press the **Cancel** button to stop the test.

Exit Roller
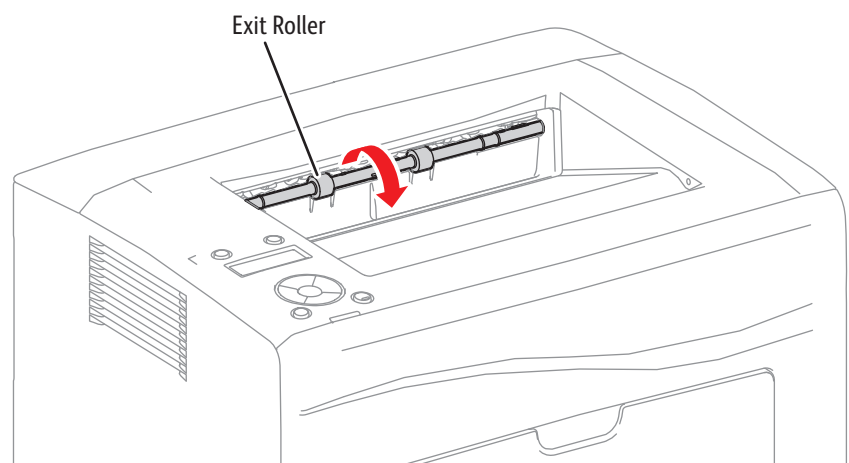
s6000-147

Fan

1. Enter Service Diagnostics (page 4-11).
2. Run the Fan (High) test: **Engine Diag** > **Motor Test** > **Fan High.**

   Caution
   > When checking the Fan, stop the test within 10 seconds. Executing the Fan test for 10 seconds or longer may cause damage to the Fan.

3. Check Fan rotation.
4. Press the **Cancel** button to stop the test.
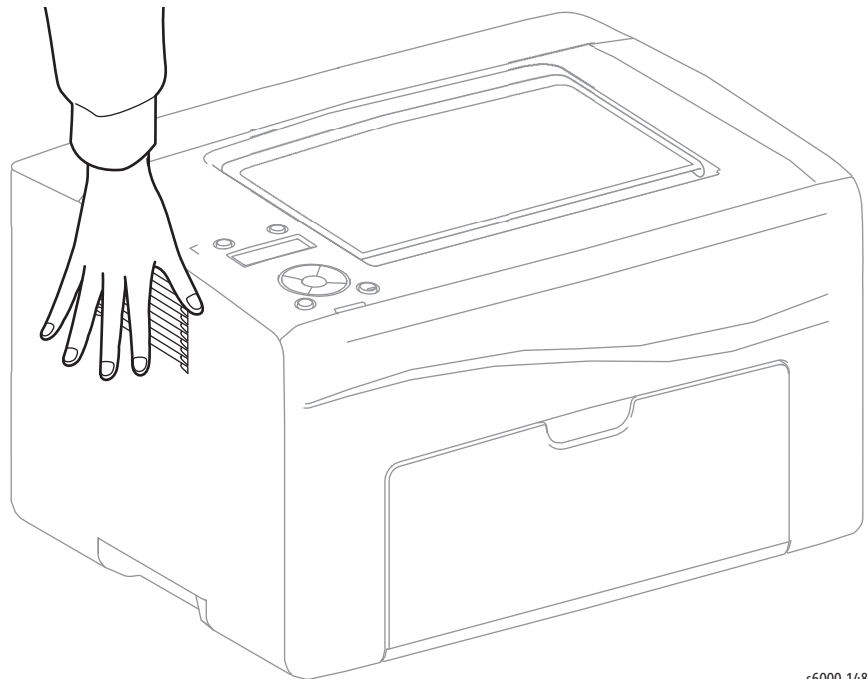
s6000-148

Registration Clutch

The Registration Roller rotates when the Main Motor (FULL) and the Regi Clutch tests are executed simultaneously.

1. Enter Service Diagnostics (page 4-11).
2. Open the Rear Door.
3. Close the Rear Door Interlock Switch.
4. Run the Main Motor Full and Registration Clutch tests: scroll to **Engine Diag > Motor Test > Main Motor Full** and press **OK**, then scroll down to **Regi Clutch** and press **OK**.
5. Check that the Registration Roller rotates.
6. Press the **Cancel** button to stop the Regi Clutch test.
7. Use the **Down Arrow** to scroll to the motor test and press **Cancel** to stop the motor test.
8. Open the Rear Door Interlock Switch.
9. Close the Rear Door.

Registration Roller
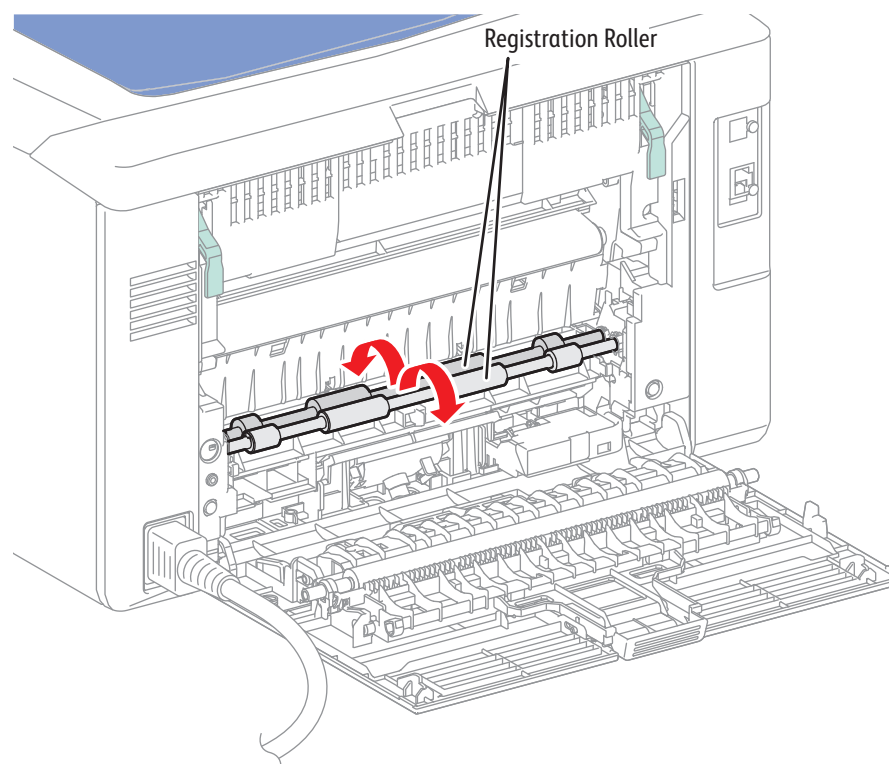
s6000-149

Feed Solenoid

The Feed Roller rotates when the Main Motor (FULL) and the Feed Solenoid tests are executed simultaneously.

1. Enter Service Diagnostics (page 4-11).
2. Remove the Bypass Tray.
3. Run the Main Motor Full and Feed Solenoid tests: go to **Engine Diag > Motor Test > Main Motor Ful**l and press **OK**, then scroll down to **Feed Solenoid** and press **OK**.
4. Check that the Feed Roller rotates.
5. Press the **Cancel** button to stop the Feed Solenoid test.
6. Use the **Down Arrow** to scroll to the motor test, and press **Cancel** to stop the motor test.
7. Replace the Bypass Tray.

Feed Roller
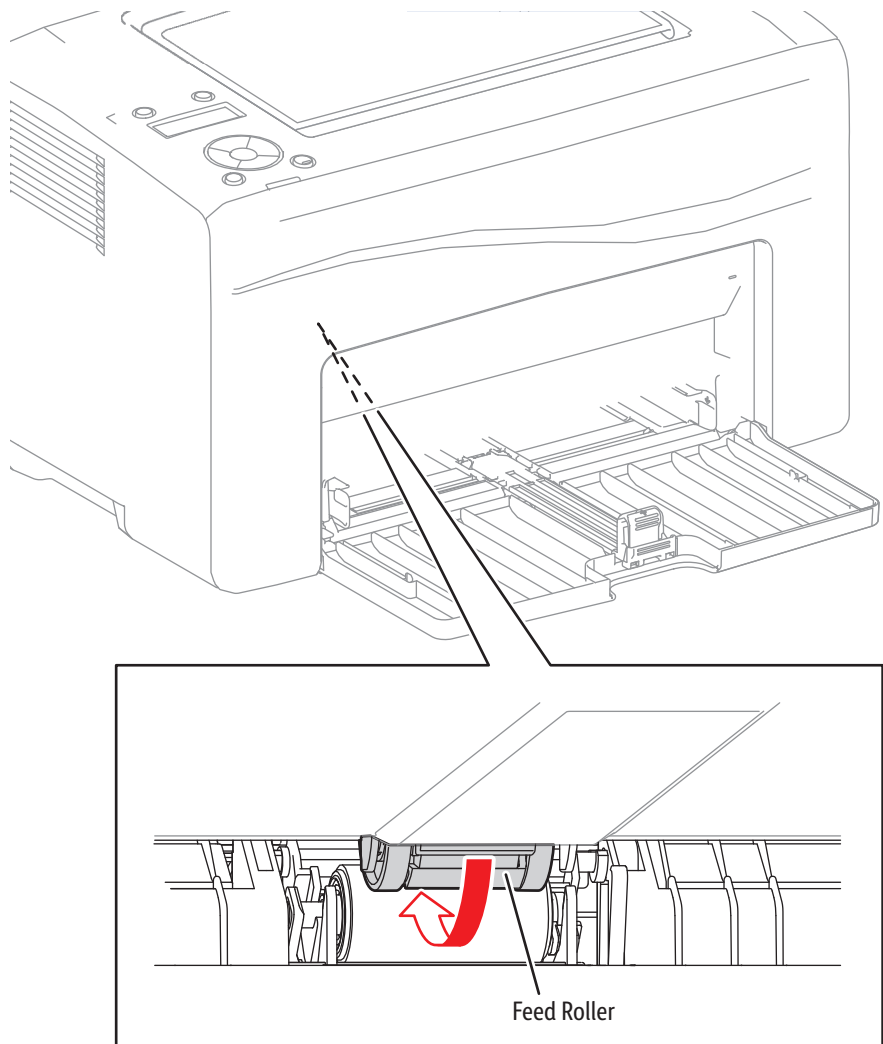
s6000-150

K Mode Solenoid

1. Remove the Left Side Cover and main paper tray harness guide.
2. Enter Service Diagnostics (page 4-11).
3. Run the Color Mode Solenoid test: **Engine Diag > Motor Test > K Mode Solenoid**.
4. Check Color Mode Solenoid movement.
5. Press the **Cancel** button to stop the solenoid test.
6. Replace the harness guide and Left Side Cover.

K Mode Solenoid

s6000-151

WorkCentre 6015 MFP Service Diagnostics

WorkCentre 6015 MFP Service Diagnostics Menu Map

Printer Diagnostics

- IOT Diag ▶
- Print Info ▶
- Test Print ▶
- Regi ▶
- Parameter ▶
- Complete

Digital Input / Digital Output

Digital Input / Digital Output

TestPatASIC[IOT]
TestPatLPHY[IOT]
TestPatLPHM[IOT]
TestPatLPHC[IOT]
TestPatLPHK[IOT]

Life ▶
Print

M/C Total PV
M/C FC PV
DEVE Roundtime K
DEVERoundtimeYMC
XERO Roundtime
M/C DispTime Y
M/C DispTime M
M/C DispTime C
M/C DispTime K
M/C Pixel Y
M/C Pixel M
M/C Pixel C
M/C Pixel K
M/C ColorEmptyBW
M/C Custom Start
M/C Custom End
Waste Toner Y
Waste Toner M
Waste Toner C
Waste Toner K
Toner PV Y
Toner PV M
Toner PV C
Toner PV K
Toner DispTime Y
Toner DispTime M
Toner DispTime C
Toner DispTime K
Toner TDCC Y
Toner TDCC M
Toner TDCC C
Toner TDCC K
Toner Pixel Y
Toner Pixel M
Toner Pixel C

X Margin Yellow
X Margin Magenta
X Margin Cyan
X Margin Black
Y Margin Yellow
Y Margin Magenta
Y Margin Cyan
Y Margin Black
Skew Yellow
Skew Magenta
Skew Cyan
Skew Black
Bow Yellow
Bow Magenta
Bow Cyan
Bow Black
Lead Offset
Side Offset

s6015-083

                   Phaser 6000/6010 and WC 6015 MFP

Fax/Scanner Diagnostics

- Information ▶
- Scanner Maintenance ▶
- Parameter ▶
- Complete

Scan Counter

White Balance ▶
Shading Parameter ▶
Registration Param. ▶
Auto Registration
Vertical Scan Mag. ▶

Auto Adjust (FB)
Auto Adjust (ADF)

Regi FB Lead
Regi FB Side
Regi ADF Lead
Regi ADF Side

Mag FB COLOR
Mag FB GRAY
Mag ADF COLOR
Mag ADF GRAY

Coeff FB RED
Coeff FB GREEN
Coeff FB BLUE
Coeff FB GRAY
Coeff ADF RED
Coeff ADF GREEN
Coeff ADF BLUE
Coeff ADF GRAY
Target RED
Target GREEN
Target BLUE
Target GRAY

Fax Parameter ▶

Continue Illegal
Thresh Memory RX (%)
Thresh Immediate (%)
Thresh Memory TX (%)
Thresh GC (%)
Page Margin 1 (mm)
Page Margin 2 (mm)
Page MAX RX (64KB)
Dis DP 20 PPS
CNG Detect (0.1s)
Auto Answer (1.0s)
Num Check (1.0s)
OnHook LCS Rate (%)
Dialtone TO (1.0s)
OnHook Detect (20ms)
Dis Dialtone
Dialtone Min (10ms)
Dialtone Max (10ms)
CNG Stop Select
G3M TX Cable EQU
G3M RX Cable EQU
G3M V34 Bit Rate
Capability V34
G3M TX Coding
G3M RX Coding

s6015-084

WorkCentre 6015 MFP Diagnostic Test Descriptions

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

Caution

Do not turn the printer Off during ESS Diag testing.

| Test	Control Panel (WorkCentre 6015 MFP)	Test Description
ESS Diag		
FlashROM Test	■ CHECK OK ■ CodeROM ERROR	The checksum of the code area of ROM is calculated, and compared to the valid checksum value stored in the corresponding chip beforehand.
DRAM Test	■ CHECK OK ■ DRAM ERROR Addr:0xCCCCCCCC 0xAA -> OxBB	This test performs read/write/verify of the DRAM.
MAC+PHY Test	■ Start ■ Processing ■ Check OK or NG	PHY internal loopback test. To create a loopback plug, cross pin 1 (TX+) and pin 3 (RX+) together, and cross pin 2 (TX-) and pin 6 (RX-) together. You need the following equipment to create the loopback: ■ A 6-inch long CAT5 cable ■ An RJ-45 connector ■ A crimping tool

Pin 1 TX+ to 3 Rx+

Pin 2 TX- to 6 Rx-

s6015-087

Test	Control Panel (WorkCentre 6015 MFP)	Test Description
IOT Test	■ CHECK OK ■ IOT ERROR	This test checks communication with the printer.

Test	Control Panel (WorkCentre 6015 MFP)	Test Description

Light Flash R/W Test	■ CHECK OK
	■ FLASH ERROR
	  Addr:0xcccccccc
	  0xAA > 0xBB
		This randomly tests the 8 MB of Flash Memory in 2MB sections. The memory to be tested is backed up before the test, and restored after the test is over. 0x55 and 0xAA is the test data pattern.
		
		Caution: If the power goes out while this test is running, the restore data will be lost. Only use this test if the printer is connected to a UPS.

USB Test 1	■ USB HOST 1
	  CHECK OK
	■ USB HOST 1
	  CHECK ERROR
		This test checks communication with a USB device.

USB Test 2	■ USB HOST 2
	  CHECK OK
	■ USB HOST 2
	  CHECK ERROR
		This test checks whether Wi-Fi dongle enumeration passes.

OP Panel Test	H-Bar V-Bar Checker Black White	The OP Panel Test includes LCD, LED, and Key test.
Fax Card Test	■ CHECK OK ■ FAX CARD ERROR	This test checks communication with the Fax Board.
Lamp Test	■ Lamp-On ■ Lamp-Off	This test checks the lamp on the scanner carriage.
Scanner Test 1	■ Carriage Motor-On ■ Carriage Motor-Off	This test checks the motor system for scanner carriage movement.
Scanner Test 2	■ ADF Motor -On ■ ADF Motor -Off	This test checks the motor system for the ADF document handling.
All Test	■ Start ■ Processing ■ Check OK or *<Failed Test>* Error	This test runs all ESS Diag tests except OP Panel, USB Host test, Lamp test, and the Scanner test.
IOT Diag	Tests for print engine components.	
Sensor Test	At the start of this test, L - 0 is displayed. When a sensor is turned On from Off, L changes to H and back to L while the counter increments.	These tests check whether the sensors operate normally. Press the **OK** button to run the selected test. Press **Stop** to exit the test. The display returns to the Service Mode menu. NOTE During the Sensor Test, no other diagnostic functions can be performed. The printer only accepts DI components and exit commands.

Component Tests

Test (Code)	Component
Fan Alarm (DI-0)	Fan
No Paper Sensor (DI-2)	No Paper Sensor
K Mode Sensor (DI-3)	Color Mode Sensor
Exit Sensor (DI-4)	Exit Sensor
Regi Sensor (DI-5)	Registration Sensor
Interlock Switch (DI-7)	Interlock Switch
CRUM Y Sensor (DI-8)	Yellow CRUM Sensor

Test	Control Panel (WorkCentre 6015 MFP)	Test Description
	CRUM M Sensor (DI-9)	Magenta CRUM Sensor
	CRUM C Sensor (DI-a)	Cyan CRUM Sensor
	CRUM K Sensor (DI-b)	Black CRUM Sensor
Motor Test	These tests check operation of the electromechanical components. Press the **OK** button to run the selected test. Press **Stop** to exit the test. The display returns to the Service Mode menu. NOTE During the Motor Tests, no other diagnostic functions can be performed. The printer only accepts component and exit commands.	

Component Tests

Test: Code	Component
Main Motor (FULL): D0-0 Main Motor (HALF): D0-1 Main Motor (SLOW): D0-2	Main Drive Assembly
	Caution: When checking the Main Motor, stop the test within 10 seconds. Executing this test for 10 seconds or longer may cause damage to the printer.
Fan Motor (FULL): D0-4 Fan Motor (HALF): D0-5	Fan Motor
	Caution: When checking the Fan Motor, stop the test within 10 seconds. Executing this test for more than 10 seconds may cause damage to the printer.
Regi Clutch: D0-7	Drive Clutch
Feed SOLENOID: D0-9	Feed Solenoid
K Mode SOLENOID: D0-b	Developer Drive Assembly
Yellow Toner Motor: D0-10 Magenta Toner Motor: D0-12 Cyan Toner Motor: D0-14 Black Toner Motor: D0-16	Toner Motors
	Caution: When checking the toner motors, stop the test within 3 seconds. Executing this test for more than 3 seconds may cause damage to the printer.
DBAC ON DBDC ON TR1+ ON TR2+ ON TR2- ON CR ON MOB LED ON ADC LED ON 24V ON HV CLK ON	NOTE The use of DBAC ON, DBDC ON, TR1+ ON, TR2+ ON, TR2- ON, CR ON, MOB LED ON, ADC LED ON, 24V ON, HV CLK ON is prohibited to avoid shock hazards since they are high-voltage outputs.

Test	Control Panel	Test Description
NVM Settings	Edits, saves, loads, and prints NVM information.	
Edit NVM	■ Ad0000=00000000* ■ Please wait	Displays current NVM values. Use this function to edit NVM information.
		Caution: Change NVM values only when directed to do so by a troubleshooting procedure.
Save NVM to ESS	Save NVM ■ Save NVM MCU -> ESS OK? ■ Saved ■ Please wait	Saves the MCU Board NVM to the IP Board temporarily when the MCU needs to be replaced.

Test	Control Panel (WorkCentre 6015 MFP)	Test Description
Print Info	Provides printer configuration and settings information.	
Config Page	■ Ready ■ Processing	Prints version information. The Configuration Page contains: ■ Optional Products Status ■ Engine ROM Revision No. ■ MCU NVM Revision No.
Print Settings	■ Ready ■ Processing	Prints the configured settings. ■ Serial No. ■ Tone Correction On/Off ■ Counter Type ■ Full Color Print Count ■ Color 1 Print Count ■ Color 2 Print Count ■ B/W Print Count ■ Total Print Count ■ Full Color Backup Count ■ Color 1 Backup Count ■ Color 2 Backup Count ■ B/W Backup Count ■ Total Backup Count ■ Full Color Error Count ■ Color 1 Error Count ■ Color 2 Error Count ■ B/W Error Count
Installation Set	Provides printer installation information.	
Serial No.	■ YXLxxxxxx ■ YXMxxxxxx ■ YXNxxxxxx ■ YXRxxxxxx	Displays the 6 digit Serial Number.
Pixel Counter	■ Y: nn.n ■ M: nn.n ■ C: nn.n ■ K: nn.n	Pixel count values of colors Y/M/C/K. (Read only.)
Print Counter	■ Full Color Print ■ Color 1 Print ■ Color 2 Print ■ B/W Print ■ Total Print ■ Full Color Backup ■ Color 1 Backup ■ Color 2 Backup ■ B/W Backup ■ Total Backup ■ Full Color Error ■ Color 1 Error ■ Color 2 Error ■ B/W Error	Displays the respective counter values in the master NVM and backup NVM. (Read only.)
Clear All NVM	■ OK? ■ Processing ■ Initialized	Clears all NVM.
Clear Job History	■ OK? ■ Processing ■ Initialized	Deletes job history data from NVM.

Test	Control Panel (WorkCentre 6015 MFP)	Test Description
Test Print		
	■ TestPatASIC[IOT] ■ TestPatLPHY[IOT] ■ TestPatLPHM[IOT] ■ TestPatLPHC[IOT] ■ TestPatLPHK[IOT]	Prints the selected test print. For information on the test prints, see "WorkCentre 6015 MFP Test Prints" on page 5-38.
Parameter	Reads/writes the parameter values, errors, and life counter values stored in the printer. **NOTE** Print the parameter list using the Print function found in the Parameter Menu before changing the registration values.	
Regi	Value	
X Margin Y, M, C, K	■ -137 to 137	Adjusts registration in the feed direction.
Y Margin Y, M, C, K	■ -3780 to 3780	Adjusts registration in the scan direction.
Skew Y, M, C, K	■ -630 to 630	Adjusts the skew so that the image is parallel with both sides of the paper.

See the following illustration for additional explanation.

← Shifts the print area in this direction by reducing the value.

Shifts the print area in this direction by increasing the value. →

X Margin Y, M, C, K

Y Margin Y, M, C, K

Default Value

↑
Shifts the print area in this direction by reducing the value.

Shifts the print area in this direction by increasing the value.
↓

Image Side

Default Value

s6000-229
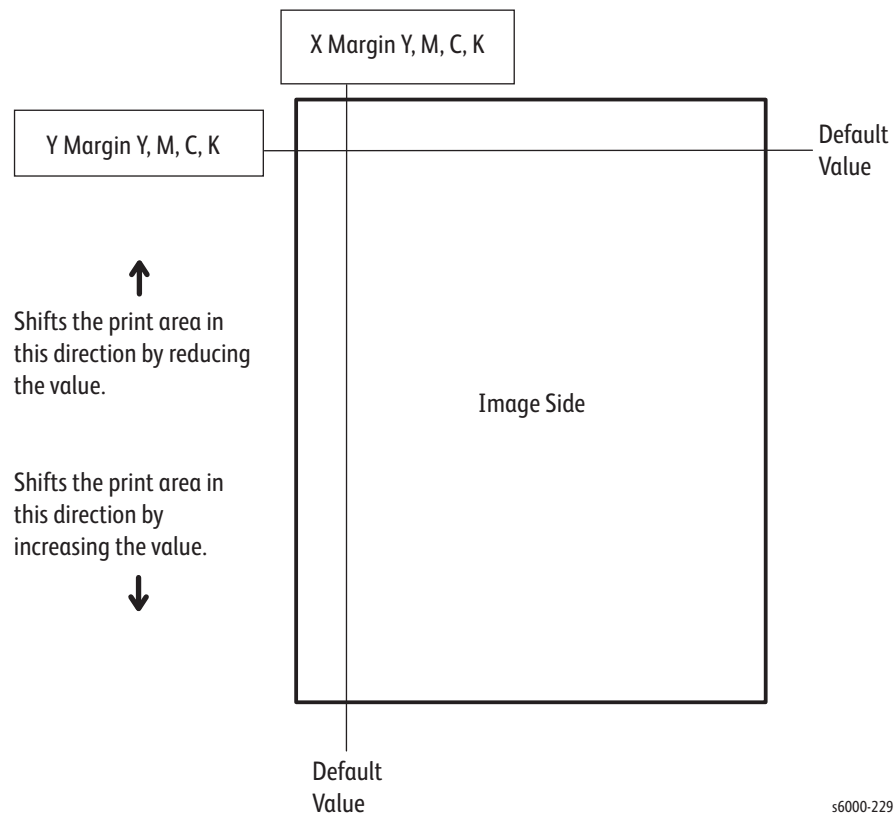
Life		
Counter Name	Value These counter values are for reference only. Do not use as the official value.	
M/C Total PV	30000	
M/C FC PV	-	

Test	Control Panel (WorkCentre 6015 MFP)	Test Description
DEVE Roundtime K	-	
DEVE Roundtime YMC	-	
XERO Roundtime	-	
M/C DispTime Y	-	
M/C DispTime M	-	
M/C DispTime C	-	
M/C DispTime K	-	
M/C Pixel Y	-	
M/C Pixel M	-	
M/C Pixel C	-	
LM/C Pixel K	-	
M/C ColorEmptyBW	-	
M/C Custom Start	-	
M/C Custom End	-	
Waste Toner Y	-	
Waste Toner M	-	
Waste Toner C	-	
Waste Toner K	-	
Toner PV Y	Std.: 700/High:14000	
Toner PV M	Std.: 700/High:14000	
Toner PV C	Std.: 700/High:14000	
Toner PV K	Std.: 700/High:14000	
Toner DispTime Y	-	
Toner DispTime M	-	
Toner DispTime C	-	
Toner DispTime K	-	
Toner TDCC Y	-	
Toner TDCC M	-	
Toner TDCC C	-	
Toner TDCC K	-	
Toner Pixel Y	-	
Toner Pixel M	-	
Toner Pixel C	-	
Toner Pixel K	-	
Print	Selecting this menu item prints the parameter values and life counter values stored in the IOT.	

WorkCentre 6015 MFP Print Engine Test Procedures

Entering Print Engine Diagnostics

1. Turn the printer Off.
2. Press and hold the **Up** and **Down Arrow** simultaneously and turn the printer On.
3. Release the buttons when **CE Mode Please wait** appears on the display.
4. Press **OK** at **Printer**.
5. Press **OK** at **ESS Diag**.

FlashROM Test

This test calculates the checksum of the code area of ROM, and compares it with the valid checksum value stored in the corresponding chip beforehand.

DRAM Test

This test performs read/write/verify of the DRAM. Run this test when the 116-315 error occurs.

MAC+PHY Test

PHY internal loopback test. Run this test when 116-314, 116-350, 116-351, 116-352, and 116-355 errors occur.

To create a loopback plug, cross pin 1 (TX+) and pin 3 (RX+) together, and cross pin 2 (TX-) and pin 6 (RX-) together. You need the following equipment to create the loopback:

- 6 inch CAT5 cable
- RJ-45 connector
- Crimping tool

Pin 1 TX+ to 3 Rx+

Pin 2 TX- to 6 Rx-

s6015-099
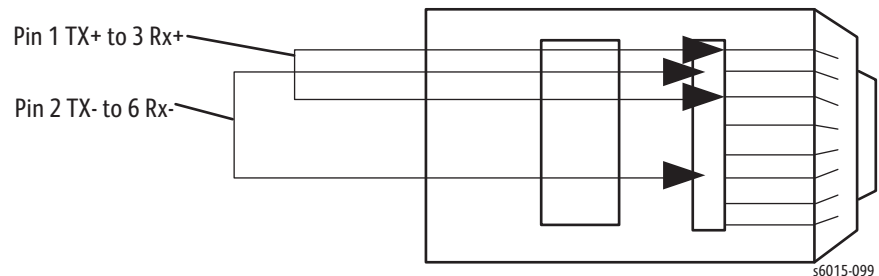
IOT Test

This test checks communication with the IOT. Then it reads the status register of the IOT to check whether commands can be exchanged with the IOT.

Light Flash R/W Test

This test randomly checks the 8 MB of Flash Memory in 2 MB sections. The memory to be tested is backed up before the test, and restored after the test is over. 0x55 and 0xAA is the test data pattern.

USB Test 1

Tests communication between the USB Host port and the device to which it is connected.

USB Test 2

This test checks whether Wi-Fi dongle enumeration passes.

OP Panel Test

This test starts with an LCD test. The following test patterns are displayed.

Horizontal bar

s6015-088

Vertical bar
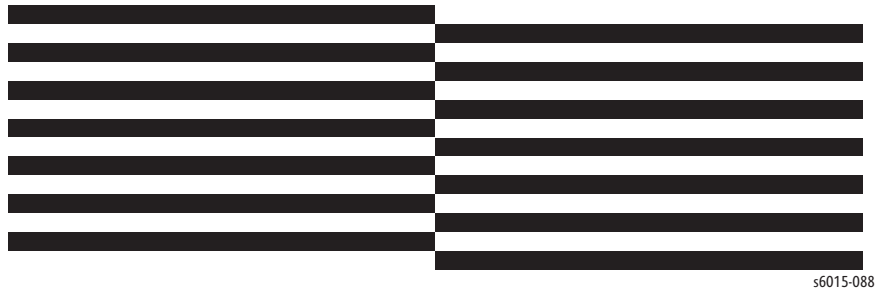
s6015-089
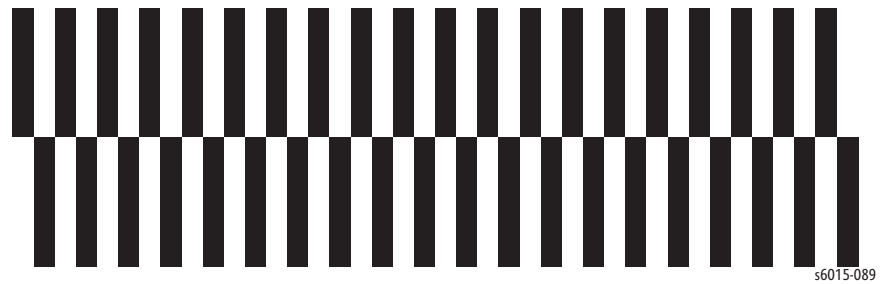
Checker pattern
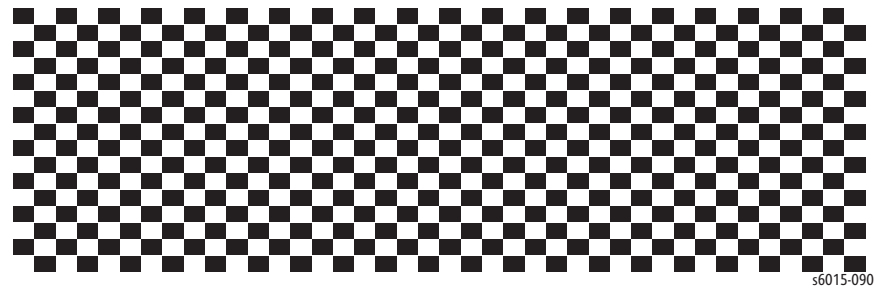
s6015-090

Black display

s6015-091

White display
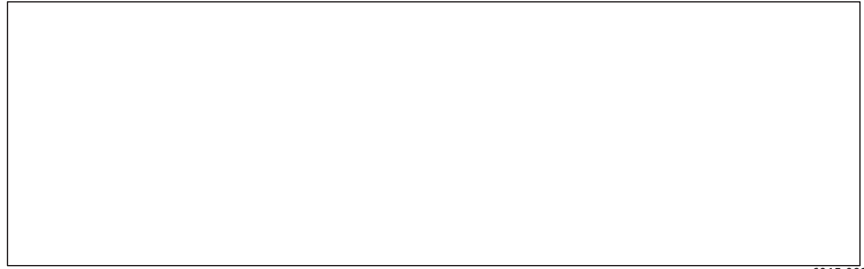
s6015-092

The pattern display is followed by a LED check. The LED check begins with the B/W LED illuminated and works across the Control Panel illuminating LEDs in the following order:

B/W, Color, Copy, Scan, Print, Fax, Job Status, System, Data, Error, and Energy Saver.

The LED check is followed by a button test. Check that the LCD displays the button name as each button is pressed. The test ends when every button has been pressed.

Fax Card Test

This test checks communication with the FAX card, and then reads registers of the FAX card to check whether commands can be exchanged with it.

Lamp Test

This test checks the lamp on the scanner carriage. The lamp illuminates red, green, blue, and white to check the lamp control circuit on the IP Board.

The lamp is turned off when the test finishes, and the message **Check OK** is displayed on the Control Panel.

Scanner Test 1

This test checks the scanner motor system for carriage movement. Then the scanner carriage is moved between the home position and the maximum image area. The test finishes after the carriage arrives at the home position. Press and hold the **Stop** button to end the test.

Scanner Test 2

This test checks the motor system for ADF document handling. Place paper in the ADF before running this test. The test finishes after the original comes out on the exit tray.

All Test

This test checks all of the ESS diagnostic items except OP Panel Test, USB Host Test, Lamp Test, and Scanner Test.

If an error occurs during testing, the LCD displays the test failure item. When you have eliminated the error, continue this test until the test runs successfully.

WorkCentre 6015 MFP Sensor Test Procedures

The following Digital Input procedures test each print engine sensor using Service Diagnostics. When a paper jam occurs, or an error message or code is displayed, execute these tests to isolate the problem.

- No Paper Sensor

- K Mode Sensor

- Exit Sensor

- Registration Sensor

- Interlock Switch (Cover Open Sensor)

- Y, M, C, K CRUM
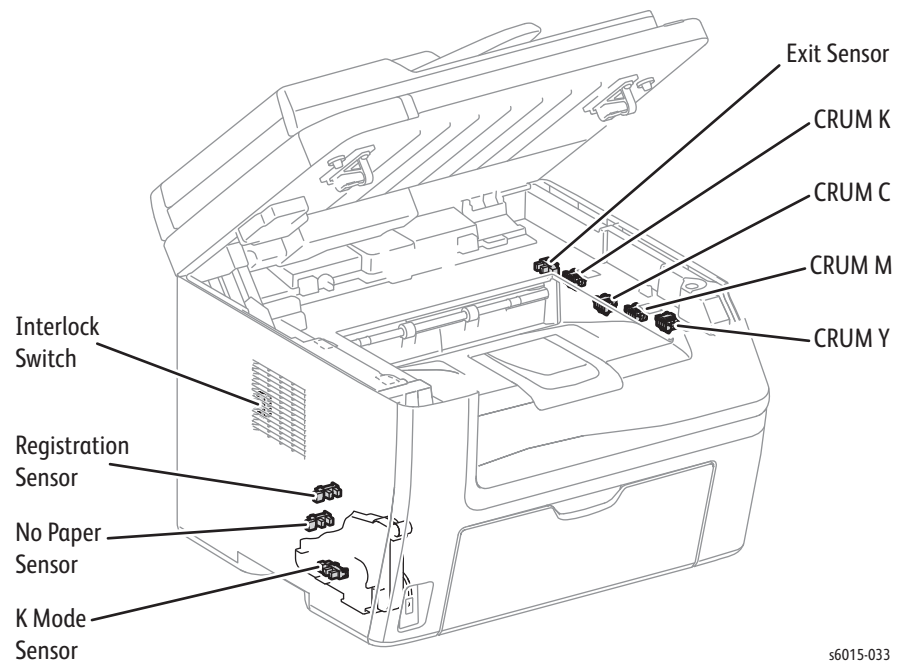
s6015-033

Note

Pressing the **Cancel** button stops the sensor tests. Press the **Back** button to go back to the **Engine Diag** menu.

During the sensor tests, other diagnostic functions can not be performed simultaneously. The printer only accepts operations for the DI components and exit of the sensor tests.

Parameters for the Digital Input tests are as shown in the following table.

Code	Component
DI-0	Fan Alarm ((internal signal)
DI-2	No Paper Sensor
DI-3	K Mode Sensor
DI-4	Exit Sensor

Code	Component
DI-5	Regi Sensor
DI-7	Interlock Switch
DI-8	CRUM Y
DI-9	CRUM M
DI-a	CRUM C
DI-b	CRUM K

No Paper Sensor

1. Enter Service Diagnostics (page 4-11).
2. Use the **Up** and **Down Arrow** buttons to select **Printer > IOT Diag > DI-2.** The LCD will display DI-2 H 0.
3. Insert a sheet into the tray to check whether the sensor functions properly.
4. Confirm the number shown on the display increases each time the sheet is inserted.
5. Press the **Stop** button to stop the test.
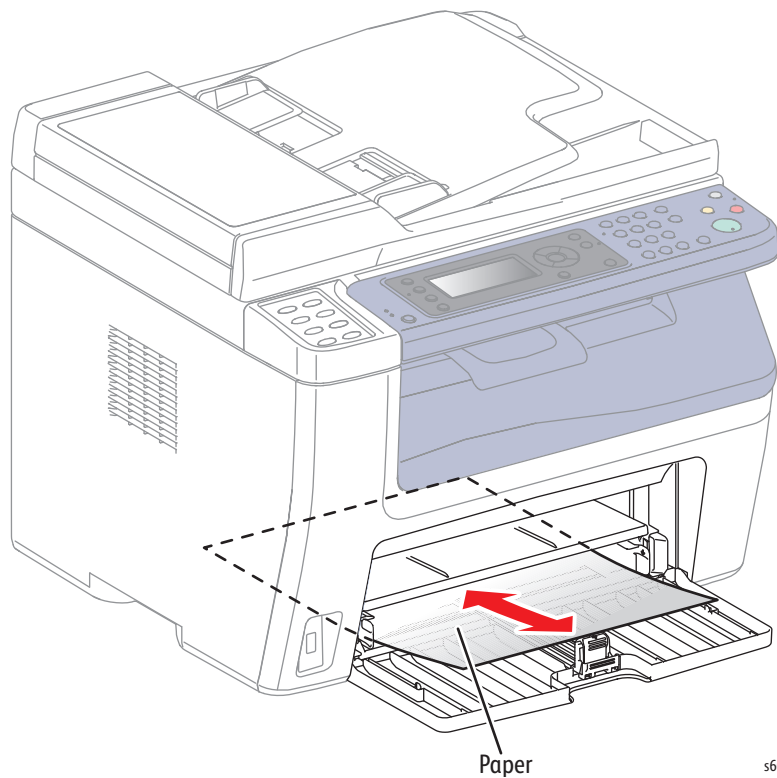
Paper   s6015-075

Color Mode Sensor

1. Remove the Left Side Cover and main paper tray harness guide.
2. Enter Service Diagnostics (page 4-11).
3. Use the **Up** and **Down Arrow** buttons to select **Printer > IOT Diag > DI-3**.
4. Operate the actuator to check sensor function.
5. Confirm the number shown on the display increases every time the actuator is operated.
6. Press the **Stop** button to stop the test.
7. Replace the main paper tray harness guide and Left Side Cover.

Actuator

K Mode Switching Sensor
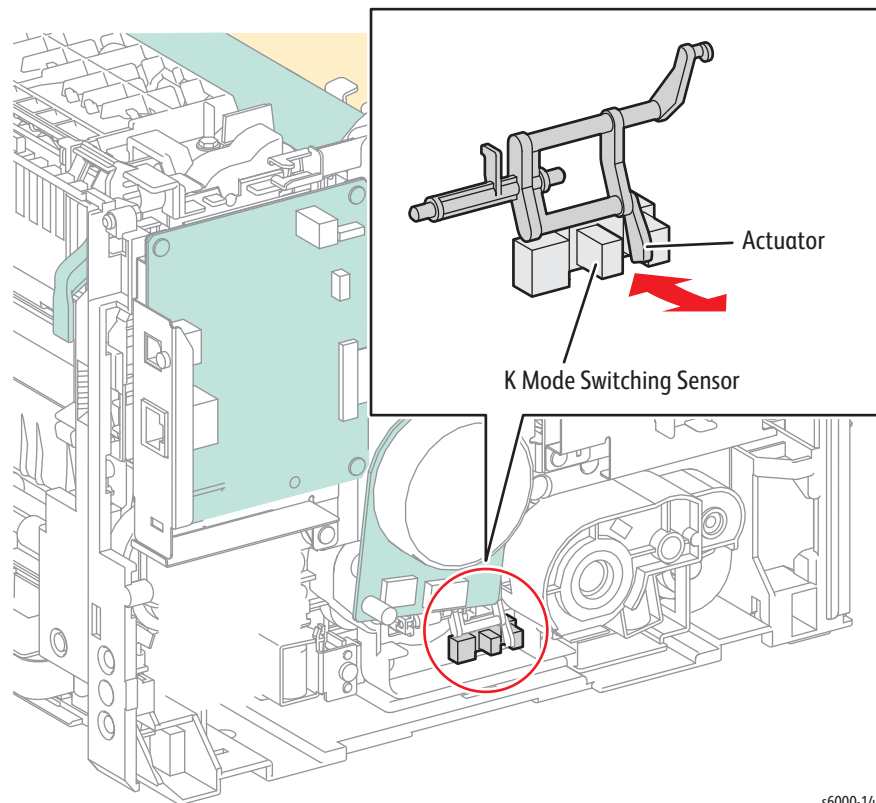
s6000-142

Exit Sensor

1. Enter Service Diagnostics (page 4-11).
2. Use the **Up** and **Down Arrow** buttons to select **Printer > IOT Diag > DI-4**.
3. Operate the actuator to check sensor function.
4. Confirm the number shown on the display increases every time the actuator is operated.
5. Press the **Stop** button to stop the test.
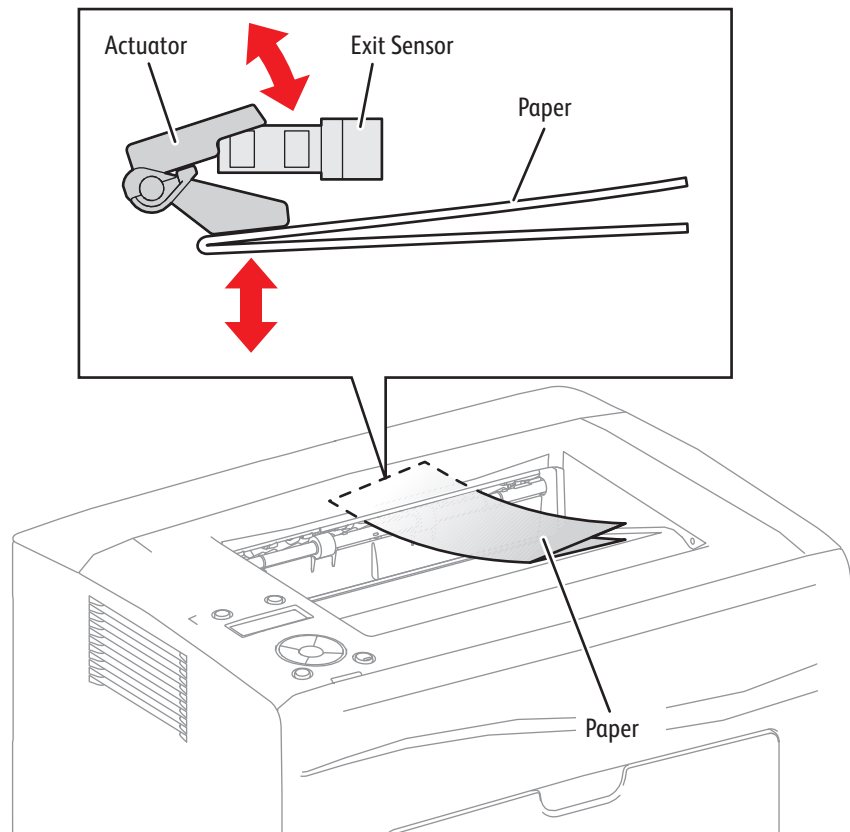
s6000-143

Registration Sensor

1. Enter Service Diagnostics (page 4-11).
2. Open the Rear Door.
3. Use the **Up** and **Down Arrow** buttons to select **Printer > IOT Diag > DI-5**.
4. Operate the actuator to check sensor function.
5. Confirm the number shown on the display increases every time the actuator is operated.
6. Press the **Stop** button to stop the test.
7. Close the Rear Door.

Actuator

Registration Sensor
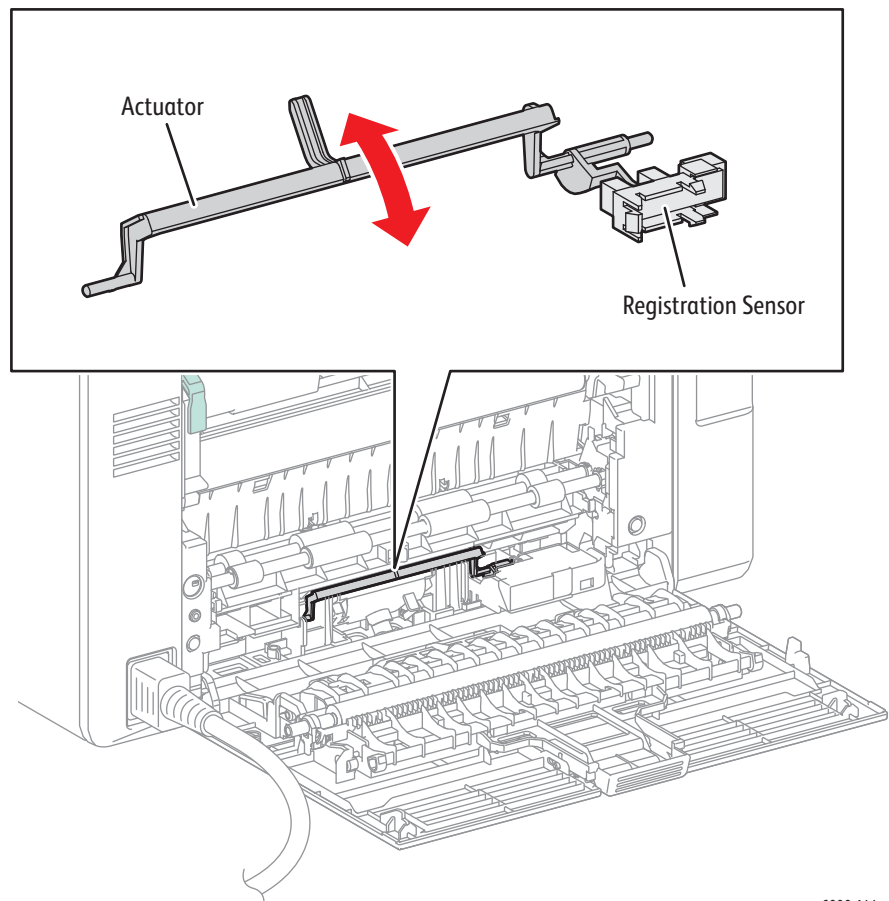
s6000-144

Rear Cover Interlock

1. Enter Service Diagnostics (page 4-11).

2. Use the **Up** and **Down Arrow** buttons to select **Printer > IOT Diag > Digital Input > DI-7**.

3. Open and close the Rear Door to actuate the switch.

4. Confirm the number shown on the display increases every time the actuator is operated.

5. Press the **Stop** button to stop the test.

6. Close the Rear Door.
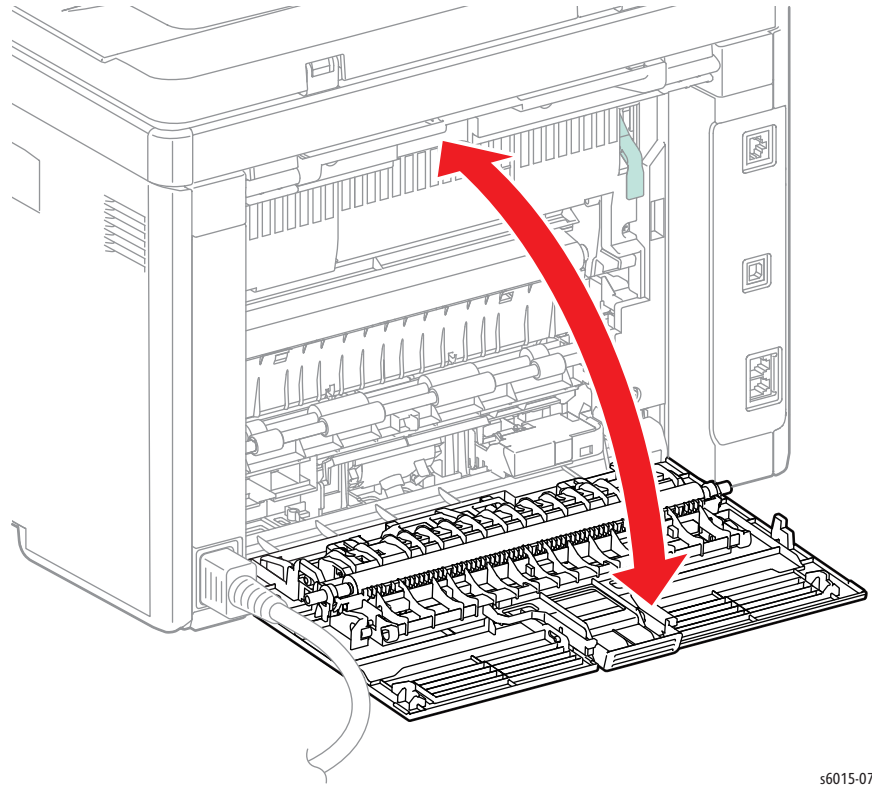
s6015-076

CRUM Y/M/C/K

1. Enter Service Diagnostics (page 4-11).

2. Open the Toner Door.

3. Use the **Up** and **Down Arrow** buttons to select **Printer > IOT Diag > DI-**X, where X is the code for the CRUM to test.

   - CRUM Y: DI-8

   - CRUM M: DI-9

   - CRUM C: DI-a

   - CRUM K: DI-b

4. Check whether the sensor functions properly by removing and replacing the toner cartridge under test.

5. Confirm the number shown on the display increases each time the toner cartridge is removed.

6. Press the **Stop** button to stop the test.

WorkCentre 6015 MFP Motor Test Procedures

These tests check whether the Digital Output (DO) components (motors, clutch, and solenoids) operate. When the interlock switch is opened during a Motor Test, the component stops.

When a paper jam or PQ problem occurs, or an error message or code is displayed, these tests help to pinpoint the faulty part. Before executing the test, examine the details of the jam, print quality problem, or error, and isolate the faulty parts. These tests are available:

- Main Motor (Full, Half, Slow)
- Fan Motor (High, Low)
- Registration Clutch
- Feed Solenoid
- K Mode Solenoid
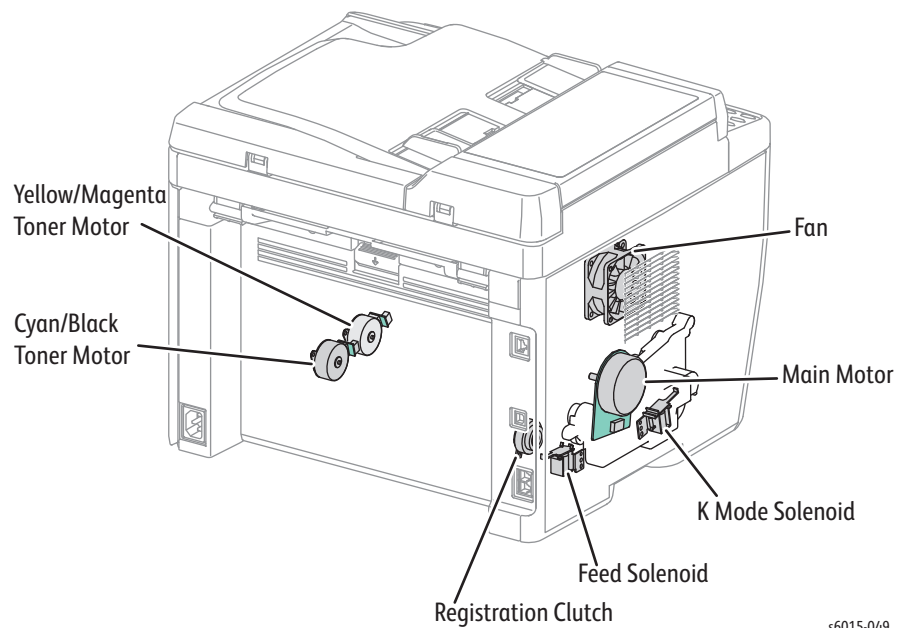
s6015-049

Code	Component
DO-0	Main Motor (Full Rotation)
DO-1	Main Motor (Half Rotation)
DO-2	Main Motor (Slow Rotation)
DO-4	Fan Motor (Full Rotation)
DO-5	Fan Motor (Half Rotation)
DO-7	Regi Clutch
DO-9	Feed Solenoid
DO-b	K Mode Solenoid
DO-10	Yellow Toner Motor

Code	Component
DO-12	Magenta Toner Motor
DO-14	Cyan Toner Motor
DO-16	Black Toner Motor

Main Motor

1. Enter Service Diagnostics (page 4-11).
2. Use the **Up** and **Down Arrow** buttons to select **Printer > IOT Diag > Digital Output > DO-0**.

   ### Caution

   When checking the motor, stop the test within 10 seconds. Executing a motor check for 10 seconds or longer may cause damage to the printer.

   To stop the motor check, press the **Stop** button (or click the **Stop** button if performing the test from the CE Diag Tool).

3. Check that the Exit Roller rotates.
4. Press the **Stop** button to stop the test.

Exit Roller
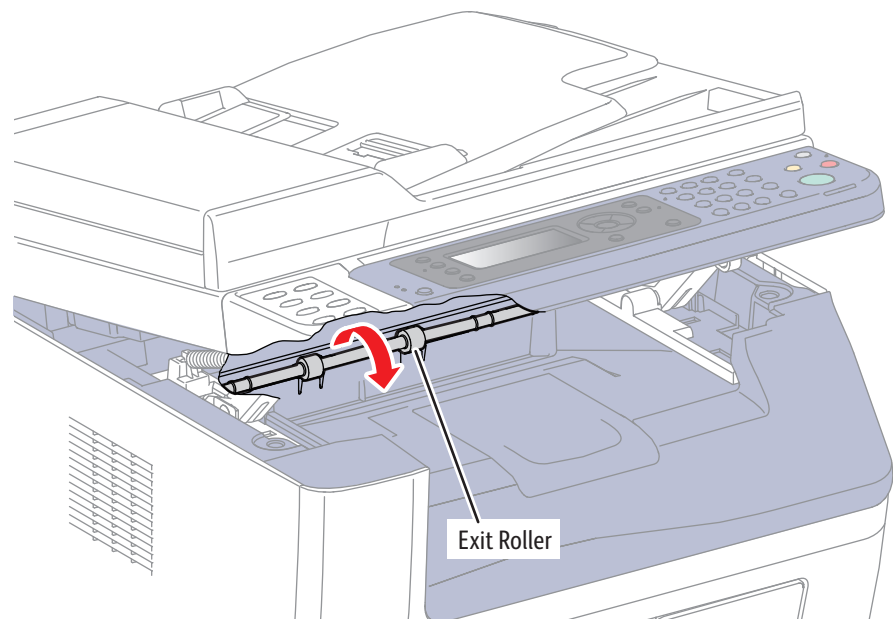
s6015-077

Fan

1. Enter Service Diagnostics (page 4-11).

2. Use the **Up** and **Down Arrow** buttons to select **Printer > IOT Diag > Digital Output > DO-4**.

   Caution

   When checking the Fan, stop the test within 10 seconds. Executing the Fan test for 10 seconds or longer may cause damage to the Fan.

3. Check Fan rotation.

4. Press the **Stop** button to stop the test.
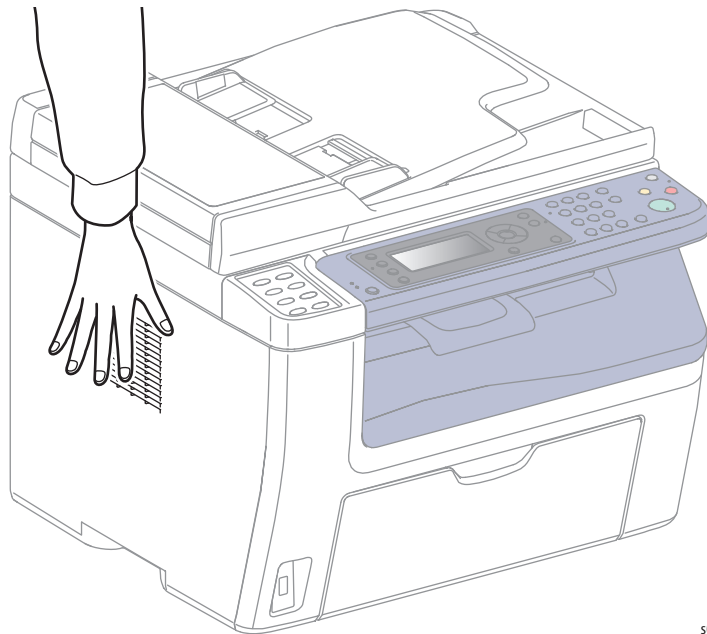
s6015-078

Registration Clutch

The Registration Roller rotates when the Main Motor (FULL) and the Regi Clutch tests are executed simultaneously.

1. Enter Service Diagnostics (page 4-11).
2. Open the Rear Door.
3. Close the Rear Door Interlock Switch.
4. Run the Main Motor Full and Registration Clutch tests: start the Main Motor Full test, **Printer > IOT Diag > Digital Output > DO-0**, and then scroll down to **DO-7** and press **OK**.
5. Check that the Registration Roller rotates.
6. Press the **Cancel** button to stop the Registration Clutch test.
7. Use the **Down Arrow** to scroll to the motor test and press **Cancel** to stop the motor test.
8. Open the Rear Door Interlock Switch.
9. Close the Rear Door.

Registration Rollers
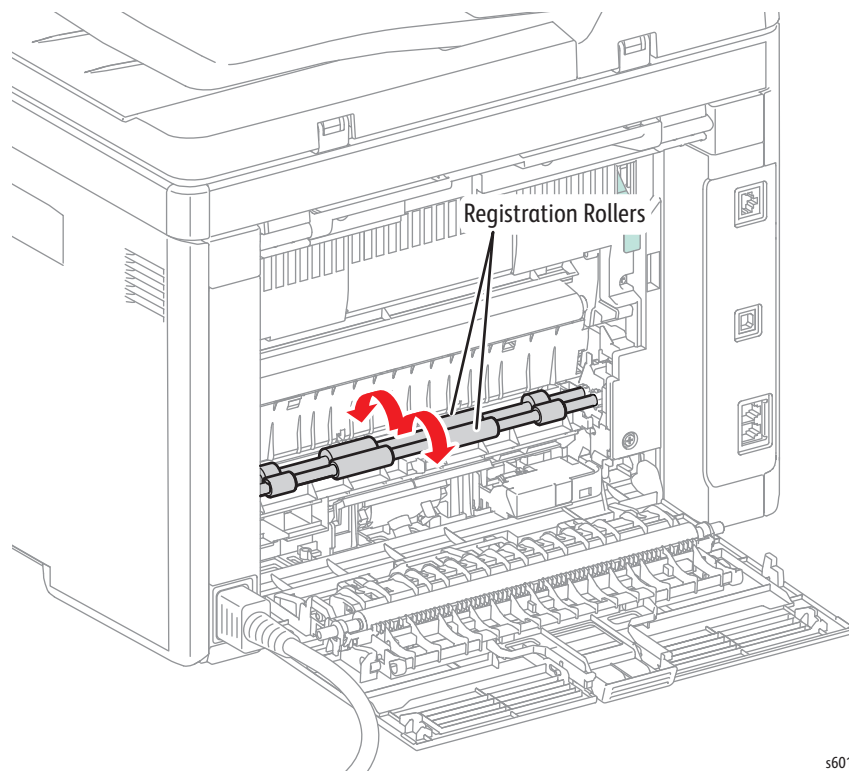
s6015-079

Feed Solenoid

The Feed Roller rotates when the DO-0 (Main Motor) and the DO-9 (Feed Solenoid) tests are executed simultaneously.

1. Enter Service Diagnostics (page 4-11).
2. Remove the Bypass Tray.
3. Run the Main Motor Full and Feed Solenoid tests: go to **Printer > IOT Diag > Digital Output > DO-0** and press **OK**, and then scroll down to **DO-9** and press **OK**.
4. Check that the Feed Roller rotates.
5. Press the **Stop** button to stop the Feed Solenoid test.
6. Use the **Down Arrow** to scroll to the motor test and press **Stop** to stop the motor test.
7. Replace the Bypass Tray.

Feed Roller
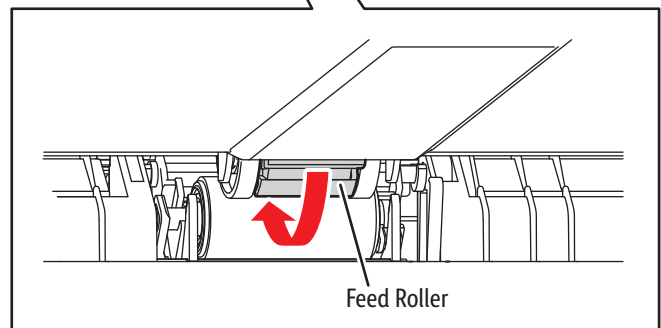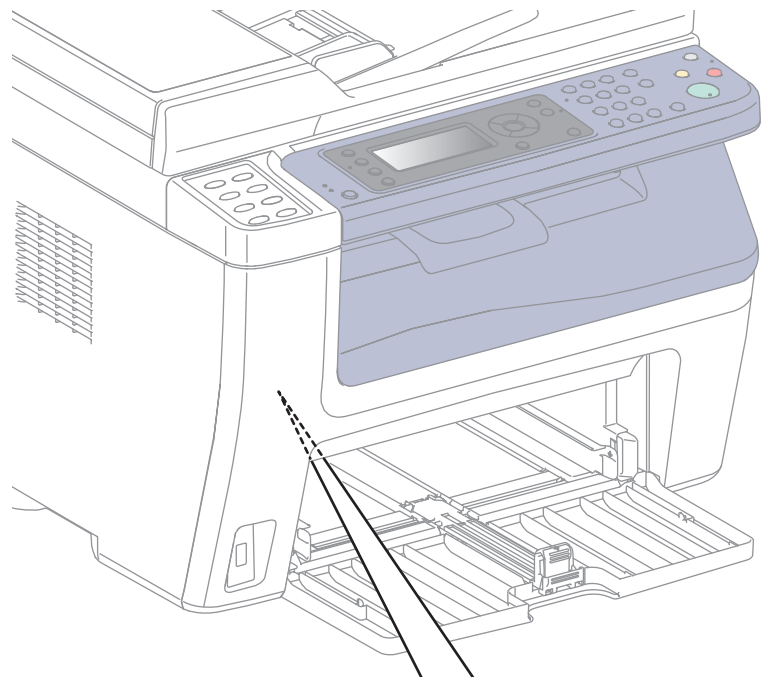
s6015-080

K Mode Solenoid

1. Remove the Left Side Cover and main paper tray harness guide.
2. Enter Service Diagnostics (page 4-11).
3. Run the K Mode Solenoid test: **Printer > IOT Diag > Digital Output > DO-b**.
4. Check K Mode Solenoid movement.
5. Press the **Stop** button to stop the solenoid test.
6. Replace the harness guide and Left Side Cover.
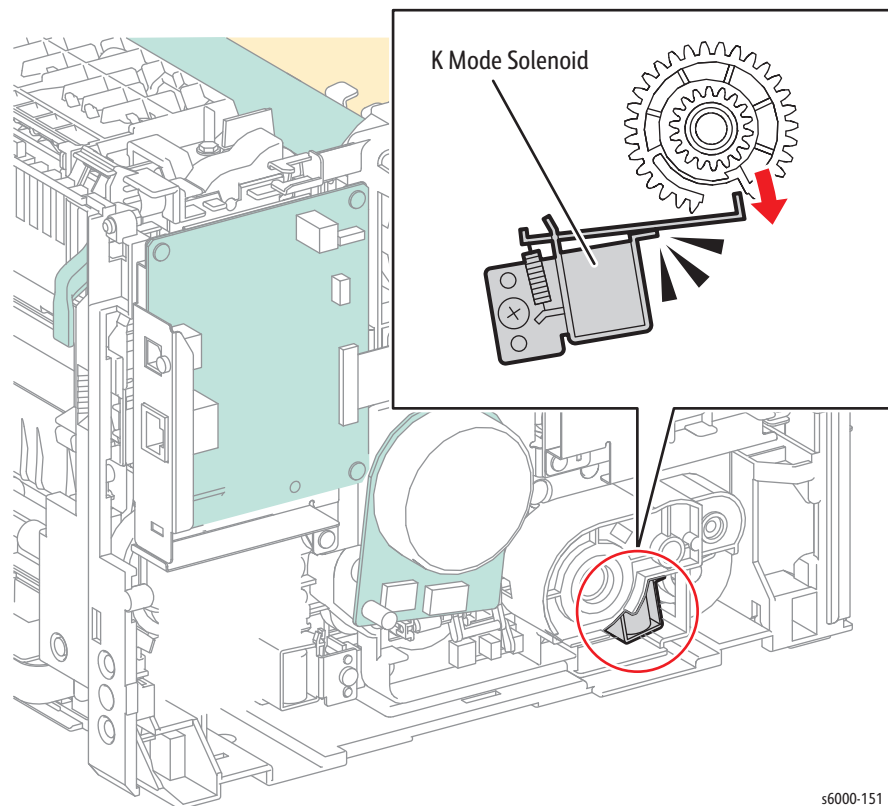
K Mode Solenoid

s6000-151

Y/M/C/K Toner Motor

1. Remove the Left Side Cover and main paper tray harness guide.
2. Enter Service Diagnostics (page 4-11).
3. Run the Color Mode Solenoid test: **Printer > IOT Diag > Digital Output > DO-X**, where X is one of the following:
   - Yellow Toner Motor: DO-10
   - Magenta Toner Motor: DO-12
   - Cyan Toner Motor: DO-14
   - Black Toner Motor: DO-16
4. Remove the toner cartridge under test.
5. Check that the toner motor gear rotates.
6. Press the **Stop** button to stop the test.
7. Replace the toner cartridge and close the Toner Door.

WorkCentre 6015 MFP Fax/Scanner Diagnostic Test Descriptions

Test	Control Panel (WorkCentre 6015N/NI Color MFP)	Description
Information	Tests FAX and Scanner components.	
Scan Counter	FB: 0x00000000 ADF: 0x00000000	Displays the scan counter value. ▪ FB: Platen scans ▪ ADF: ADF scans
Scanner Maintenance		
White Balance	White Balance	Reports the result of white balance which is performed while the printer powers up.
Registration Param.		This function adjusts the registration parameters of the scanner.

Parameter	Range	Description
Regi ADF Lead	-2.0 mm to 2.0 mm, in 0.1 mm steps	Adjusts Registration of the ADF leading edge.
Regi ADF Side	-1.0 mm to 1.0 mm, in 0.1 mm steps	Adjusts Registration of the ADF side edge.
Regi FB Lead	-2.0 mm to 2.0 mm, in 0.1 mm step	Adjusts Registration of the flatbed leading edge.
Regi FB Side	-1.0 mm to 1.0 mm, in 0.1 mm steps	Adjusts Registration of the flatbed side edge.
Auto Registration		Reports the result of auto registration which is performed while the printer powers up.
IIT I/O Check	▪ FB Home Sensor ▪ ADF Scan Sensor ▪ ADF Document Sensor ▪ ADF Cover Sensor	Tests the scanner sensors.
Scan Counter Clear		This function clears the flat bed and ADF counters.

	Parameter	Value Options
Pulse Dialing	Enable Pulse Dialing	Disable, Enable
	NOTE You can not select Pulse dialing at the Fax Setting Menu, only Tone dial.	
	Pulse dial make/break ratio	0: 30 % / 70 %, 1: 32 % / 68 %, 2: 33 % / 67 %, 3: 36 % / 64 %, 4: 38 % / 62 %, 5: 39 % / 61 %, 6: 40 % / 60 %, 7: 42 % / 58 %
	Enable 20 PPS DP	Disable, Enable
	NOTE You can not select Pulse 20PPS dialing at the Fax Setting Menu.	
DTMF Tone	DTMF high tone level (-dB)	0: -3 dB, 1: -4 dB, 2: -5 dB, 3: -6 dB, 4: -7 dB, 5: -8 dB, 6: -9 dB, 7: -10 dB
	DTMF high/low level difference (dB)	0: 0 dB, 1: -1 dB, 2: -2 dB, 3: -3 dB, 4: -4 dB, 5: -5 dB
	DTMF Dialing Speed (ms)	0: 70 ms, 1: 80 ms, 2: 85 ms, 3: 90 ms, 4: 95 ms, 5: 100 ms, 6: 105 ms, 7: 110 ms

Test	Control Panel (WorkCentre 6015N/NI Color MFP)	Description
Ring Detection	Freq Range @ On Period -- Upper Bound	27~85 Hz
	Freq Range @ On Period -- Lower Bound	13~20 Hz
	Minimum On time	0: 100 ms, 1: 110 ms, 2: 120 ms, 3: 130 ms, 4: 140 ms, 5: 150 ms, 6: 160 ms, 7: 170 ms, 8: 180 ms, 9: 190 ms, 10: 200 ms, 11: 210 ms, 12: 220 ms, 13: 230 ms, 14: 240 ms, 15: 250 ms
	Off time	0: 500 ms, 1: 600 ms, 2: 700 ms, 3: 800 ms, 4: 900 ms, 5: 1000 ms, 6: 1100 ms, 7: 1200 ms, 8: 1300 ms, 9: 1400 ms, 10: 1500 ms, 11: 1600 ms, 12: 1700 ms, 13: 1800 ms, 14: 1900 ms, 15: 2000 ms
Busy Tone Detection	Enable Busy Tone Detection	0: Disable, 1: Enable
	On duration (Max duration)	0~80 (10 ms)
	On duration (Min duration)	0~30 (10 ms)
	Off duration (Max duration)	0~80 (10 ms)
	Off duration (Min duration)	0~30 (10 ms)
	No. of cycle for busy condition	0: 3, 1: 4, 2: 5, 3: 6
	Power Threshold	0: 35 dB, 1: 36 dB, 2: 37 dB, 3: 38 dB, 4: 39 dB, 5: 40 dB, 6: 41 dB, 7: 42 dB, 8: 43 dB, 9: 44 dB, 10: 45 dB, 11: 46 dB, 12: 47 dB, 13: 48 dB, 14: 49 dB, 15: 50 dB
	TEL/FAX Power Threshold	0: -22 dB, 1: -24 dB, 2: -26 dB, 3: -28 dB, 4: -30 dB, 5: -32 dB, 6: -34 dB, 7: -36dB
Dial Tone Detection	Enable Dial Tone Detection	0: Disable, 1: Enable
	Validation time	6~30 (100 ms)
	Power Threshold	0: 35 dB, 1: 36 dB, 2: 37 dB, 3: 38 dB, 4: 39 dB, 5: 40 dB, 6: 41 dB, 7: 42 dB, 8: 43 dB, 9: 44 dB, 10: 45 dB, 11: 46 dB, 12: 47 dB, 13: 48 dB, 14: 49 dB, 15: 50 dB
Call Progress Tone Freq. Filter	Call Progress Tone Freq. Filter	0: 340 Hz ~ 560 Hz 1: 310 Hz ~ 485 Hz 2: 363 Hz ~ 502 Hz 3: 276 Hz ~ 504 Hz 4: 415 Hz ~ 460 Hz 5: 310 Hz ~ 640 Hz 6: 370 Hz ~ 525 Hz

Test	Control Panel (WorkCentre 6015N/NI Color MFP)	Description
RX Power	Rx Call Detection Level	0: -36 dB, 1: -37 dB, 2: -38 dB, 3: -39 dB, 4: -40 dB, 5: -41 dB, 6: -42 dB, 7: -43 dB, 8: -44 dB, 9: -45 dB, 10: -46 dB, 11: -47 dB, 12: -48 dB
TX Power	Tx Cable Equalizer	0: 0 dB, 1: 2 dB, 2: 4 dB, 3: 6 dB, 4: 8 dB, 5: 10 dB, 6: 11 dB, 7: 12 dB
	Tx Signal Level	0: -3 dB, 1: -4 dB, 2: -5 dB, 3: -6 dB, 4: -7 dB, 5: -8 dB, 6: -9 dB, 7: -10 dB, 8: -11 dB, 9: -12 dB, 10: -13 dB, 11: -14 dB, 12: -15 dB, 13: -16 dB, 14: -17 dB, 15: -18 dB
External Hook Threshold	High voltage	High (20~40 V)
	Medium voltage	Medium (10~19 V)
	Low voltage	Low (5~9 V)
FAX Capability Setting	Best Coding Capability	0: MH, 1: MR, 2: MMR, 3: JBIG
Backup Data		
All Clear		Clears all of the backup data.
User & System Clear		Clears the stored document data, the address information, the communication management data, and the history. Initializes the system data.
System Data Init		Initializes the system data.
Complete		Exits the diagnostics and returns to normal operation, taking the changes of the data into effect.

WorkCentre 6015 MFP Fax/Scanner Diagnostic Test Procedures

Procedures for testing each IIT component using Service Diagnostics.

Scanner Board

Control Panel Assembly

Carriage Assembly

Scanner Home Position Sensor

Carriage Motor

IP Board

Fax Board

USB Board
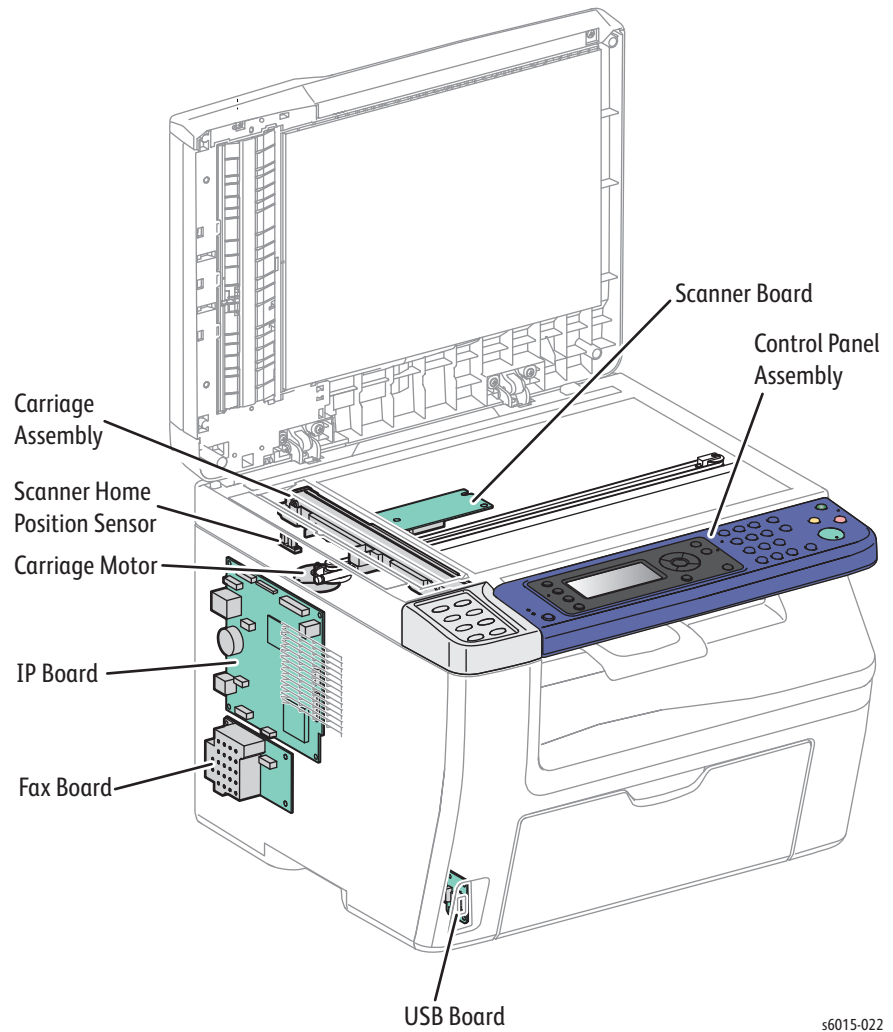
s6015-022

Enter FAX Scanner Diagnostic

1. Turn the printer Off.
2. Press and hold the **Up** and **Down Arrow** simultaneously and turn the printer On.
3. Release the buttons when **CE Mode Please wait** appears on the display.
4. Press **OK** at **Fax/Scanner**.

Information

Select this menu item to display the value of the scan counter.

Scanner Maintenance

White Balance

This menu item reports the result of white balance which is performed when powering up.

Registration Param

This menu item adjusts registration parameters of the scanner.

Parameter	Range	Description
Regi ADF Lead[a]	-2.0 mm to 2.0 mm 0.1 mm step	Adjusts Registration of ADF Lead.
Regi ADF Side[a]	-1.0 mm to 1.0 mm 0.1 mm step	Adjusts Registration of ADF Side.
Regi FB Lead	-2.0 mm to 2.0 mm 0.1 mm step	Adjusts Registration of FB Lead.
Regi FB Side	-1.0 mm to 1.0 mm 0.1 mm step	Adjusts Registration of FB Side.

a.3-in-1 model does not have an ADF.

Auto Registration

This menu item reports the result of auto registration which is performed when powering up.

IIT I/O Check

Tests Scanner sensors and motors.

Test	Description
FB Home Sensor	Checks the operation (on/off) of the flatbed home position sensor.
ADF Scan Sensor[a]	Checks the operation (on/off) of the ADF scan sensor.
ADF Document Sensor[a]	Checks the operation (on/off) of the Feed sensor.
ADF Cover Sensor[a]	Checks the operation (on/off) of the ADF cover sensor

a.3-in-1 model does not have an ADF.

Parameter (6015N/NI)

	Parameter Menu	Value/Options
Pulse Dialing	Enable Pulse Dialing[a]	0: Disable, 1: Enable
	Pulse dial make/break ratio	0: 30 % / 70 %, 1: 32 % / 68 % 2: 33 % / 67 %, 3: 36 % / 64 % 4: 38 % / 62 %, 5: 39 % / 61 %, 6: 40 % / 60 %, 7: 42 % / 58 %
	Enable 20 PPS DP[b]	0: Disable,1: Enable
DTMF Tone	DTMF high tone level (-dB)	0: -3 dB, 1: -4 dB, 2: -5 dB, 3: -6 dB, 4: -7 dB, 5: -8 dB, 6: -9 dB, 7: -10 dB
	DTMF high/low level difference (dB)	0: 0 dB, 1: -1 dB, 2: -2 dB, 3: -3 dB, 4: -4 dB, 5: -5 dB
	DTMF Dialing Speed (ms)	0: 70 ms, 1: 80 ms, 2: 85 ms, 3: 90 ms, 4: 95 ms, 5: 100 ms, 6: 105 ms, 7: 110 ms
Ring Detection	Freq Range @ On Period -- Upper Bound	27~85 Hz
	Freq Range @ On Period -- Lower Bound	13~20 Hz
	Minimum On time	0: 100 ms, 1: 110 ms, 2: 120 ms, 3: 130 ms, 4: 140 ms, 5: 150 ms, 6: 160 ms, 7: 170 ms, 8: 180 ms, 9: 190 ms, 10: 200 ms, 11: 210 ms, 12: 220 ms, 13: 230 ms, 14: 240 ms, 15: 250 ms
	Off time	0: 500 ms, 1: 600 ms, 2: 700 ms, 3: 800 ms, 4: 900 ms, 5: 1000 ms, 6: 1100 ms, 7: 1200 ms, 8: 1300 ms, 9: 1400 ms, 10: 1500 ms, 11: 1600 ms, 12: 1700 ms, 13: 1800 ms, 14: 1900 ms, 15: 2000 ms

Parameter Menu		Value/Options
Busy Tone Detection	Enable Busy Tone Detection	0: Disable, 1: Enable
	On duration (Max duration)	0~80 (10 ms)
	On duration (Min duration)	0~30 (10 ms)
	Off duration (Max duration)	0~80 (10 ms)
	Off duration (Min duration)	0~30 (10 ms)
	No. of cycle for busy condition	0: 3, 1: 4, 2: 5, 3: 6
	Power Threshold	0: 35 dB, 1: 36 dB, 2: 37 dB, 3: 38 dB, 4: 39 dB, 5: 40 dB, 6: 41 dB, 7: 42 dB, 8: 43 dB, 9: 44 dB, 10: 45 dB, 11: 46 dB, 12: 47 dB, 13: 48 dB, 14: 49 dB, 15: 50 dB
	TEL/FAX Power Threshold	0: -22 dB, 1: -24 dB, 2: -26 dB, 3: -28 dB, 4: -30 dB, 5: -32 dB, 6: -34 dB, 7: -36 dB
Dial Tone Detection	Enable Dial Tone Detection	0: Disable, 1: Enable
	Validation time	6~30 (100ms)
	Power Threshold	0: 35 dB, 1: 36 dB, 2: 37 dB, 3: 38 dB, 4: 39 dB, 5: 40 dB, 6: 41 dB, 7: 42 dB, 8: 43 dB, 9: 44 dB, 10: 45 dB, 11: 46 dB, 12: 47 dB, 13: 48 dB, 14: 49 dB, 15: 50 dB
Call Progress Tone Freq. Filter	Call Progress Tone Freq. Filter	0: 340 Hz ~ 560 Hz 1: 310 Hz ~ 485 Hz 2: 363 Hz ~ 502 Hz 3: 276 Hz ~ 504 Hz 4: 415 Hz ~ 460 Hz 5: 310 Hz ~ 640 Hz 6: 370 Hz ~ 525 Hz
RX Power	Rx Call Detection level	0: -36 dB, 1: -37 dB, 2: -38 dB, 3: -39 dB, 4: -40 dB, 5: -41 dB, 6: -42 dB, 7: -43 dB, 8: -44 dB, 9: -45 dB, 10: -46 dB, 11: -47 dB, 12: -48 dB
TX Power	Tx Cable Equalizer	0: 0 dB, 1: 2 dB, 2: 4 dB, 3: 6 dB, 4: 8 dB, 5: 10 dB, 6: 11 dB, 7: 12 dB
	Tx Signal Level	0: -3 dB, 1: -4 dB, 2: -5 dB, 3: -6 dB, 4: -7 dB, 5: -8 dB, 6: -9 dB, 7: -10 dB, 8: -11 dB, 9: -12 dB, 10: -13 dB, 11: -14 dB, 12: -15 dB, 13: -16 dB, 14: -17 dB, 15: -18 dB

Parameter Menu		Value/Options
External Hook Threshold	High voltage	High (20 ~ 40 V)
	Medium voltage	Medium (10 ~ 19 V)
	Low voltage	Low (10 ~ 19 V)
FAX Capability Setting	Best Coding Capability	0: MH, 1: MR, 2: MMR, 3: JBIG

a.User can not select Pulse dialing at Fax Setting Menu, only Tone dial.
b.User can not select Pulse 20PPS dialing at Fax Setting Menu.

BackUp Data

All Clear: Clears all of the backup data.

User & System Clear: Clears the stored document data, the address information, the communication management data, and the history. Initializes the system data.

System Data Init: Initializes the system data.

Complete

Exits the diagnostics and returns to normal operation, taking the changes of the data into effect.

Control Panel Troubleshooting

Printer Does not Come to a "Ready" State

1. Reseat connectors on the Image Processor Board.
2. Refer to "DC Power Troubleshooting" on page 4-68.
3. Replace the Control Panel (page 8-101 for Phaser 6000/6010, page 8-104 for WorkCentre 6015 MFP).
4. Repair the Control Panel wiring harnesses.

Ready LED is On, Display is Blank

1. Remove and reseat connections to the Image Processor Board.
2. Replace the Control Panel (page 8-101 for Phaser 6000/6010, page 8-104 for WorkCentre 6015 MFP).
3. Repair the Control Panel wiring harness.
4. Replace the Image Processor Board (page 8-114).

Control Panel has Failed

The Control Panel either fails to illuminate or the buttons fail to operate after the power switch is turned On.

Initial Actions

- Cycle printer power.

- If the problem persists, follow the procedure below.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check connections between the Image Processor Board and the Control Panel. Are P/J407 and P/J220 secure?	Go to step 2.	Secure the connections.
2	Check the continuity of the Control Panel Harness (PL1.1.5). Is the Control Panel Harness continuity good?	Go to step 3.	Repair the harness, and if the error persists, go to step 3.
3	Replace the Control Panel (page 8-101 for Phaser 6000/6010, page 8-104 for WorkCentre 6015 MFP). Does the error persist?	Replace the IP Board (page 8-114).	Complete.

Abnormal Noises

Electrical Noise

Initial Actions

- Cycle printer power.
- If the problem persists, follow the procedure below.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Are there any other electrical appliances within 3 meters of the printer, such as generators, radio and appliances with motors? Ether turn off the other electrical appliances, or relocate the printer at least 6 meters from other appliances. Does the electrical noise error still occur?	Go to step 2.	Complete.
2	Is AC power supply outlet wired and grounded appropriately?	Go to step 3.	Request the client to fix the AC power supply outlet.
3	Reseat the Toner Cartridges. Does the electrical noise error still occur?	Go to step 4.	Complete.
4	Check the xerographics assembly plate earth dl (PL3.2.2). Are there any stains or foreign substances on the contacts?	Wipe the stains or foreign substance with dry cloth.	Reseat the connectors on the HVPS.

Power Supply Troubleshooting

AC Power Troubleshooting

Initial Actions

- Cycle printer power.
- If the problem persists, follow the procedure below.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	When the printer is turned on, can you hear the motor?	Go to "DC Power Troubleshooting" on page 4-68.	Go to step 2.
2	Connect the power cord to a different outlet. Does the printer now work?	Complete.	Go to step 3.
3	Check that the power cord is plugged in to both the printer and the outlet. Does the printer now work?	Complete.	Go to step 4.
4	Disconnect the power cord and wait for 1 minute. Reseat all of the connectors on the LVPS, and then turn the printer on. Does the printer now work?	Complete.	Go to step 5.
5	Disconnect the power cord and wait for 1 minute. Reseat the AC Inlet Harness (PL7.2.9), and then turn the printer on. Does the printer now work?	Complete.	Replace the LVPS (page 8-119).

DC Power Troubleshooting

Initial Actions

- Cycle printer power.
- If the problem persists, follow the procedure below.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	When the printer is turned on, can you hear the motor?	Go to step 2.	Go to step 5.
2	Is the Control Panel working?	Go to step 4.	Go to step 3.
3	Reseat both ends of the Control Panel cable. Does the error persist?	Go to step 4.	Complete.
4	Reseat the connectors on the Image Processor Board. Does the error persist?	Complete.	Replace the Image Processor Board (page 8-114) and the Control Panel (page 8-101 for Phaser 6000/6010, page 8-104 for WorkCentre 6015 MFP).
5	Reseat the connectors on the MCU Board. Does the error persist?	Replace the LVPS (page 8-119).	Complete.

Image Quality

In this chapter...

Chapter 5

Image Quality Overview

Image-quality defects can be attributed to printer components, consumables, media, internal software, external software applications, and environmental conditions. To successfully troubleshoot print-quality problems, eliminate as many variables as possible. The first step is to generate prints using information pages embedded in the printer on laser paper from the approved media list. Refer to "Media and Tray Specifications" on page 1-31 for supported and specialty media that have been tested and approved for use in the Phaser 6000/6010 and WorkCentre 6015 MFP printers. Use paper from a fresh ream that is acclimated to room temperature and humidity.

If the print-quality defect remains after printing on approved media from an unopened ream of paper, then investigate applications and environmental conditions.

Determine the temperature and humidity under which the printer is operating. Compare this to the "Environmental Specifications" on page 1-23. Extreme temperature and humidity can adversely affect print quality.

When analyzing a print-quality defect, first determine if the defect occurs in all colors or only one color and if it is repeating or a random occurrence. Continuous defects in the process direction, such as voids and lines, are the most difficult to diagnose. Inspect the visible surfaces of all rollers for obvious defects. If no defects are found, replace the Fuser, and then the xerographics assembly.

Defects Associated with Specific Printer Components

Some print-quality problems are associated with specific assemblies. Refer to the specific print-quality troubleshooting procedure for detailed information.

Fuser

- Vertical Blank Lines
- Horizontal Band, Voids, or Streaks
- Unfused Image
- Random Spots
- Streaks

Transfer Roller

- Light or Undertone Print
- Horizontal Band, Voids, or Streaks
- Vertical Blank Lines
- Horizontal Band, Voids, or Streaks
- Random Spots
- Streaks
- Skew

Repeating Defects

Developer Assembles	Component	Part Number	Roll Diameter (mm)	Interval (mm)
Transfer Roller	Transfer Roller	PL1.1.9	14	44.0
Fuser	H/R	PL5.1.1	21.37	67.1
xerographics assembly	drum	PL3.3.1	30	94.3
	BCR	PL3.3.1	9	28.3
	BCR-CLN ROLL	PL3.3.1	8	25.1
	MAG ROLL	PL3.3.1	12.5	39.3
	1st BTR	PL3.3.1	10	31.4
	Back Up ROLL	PL3.3.1	15.85	49.8
	ID ROLL	PL3.3.1	16	50.2

Checklist Before Troubleshooting Print-Quality

Check Printer Condition

Toner

Low toner can cause print-quality problems, such as fading, streaking, white lines, or dropouts. Print a small document from different software applications to replicate the problem and check the amount of toner available. If the toner is low, replace the affected cartridges.

Toner that is not genuine Xerox toner can also cause print-quality problems. If the toner is not Xerox toner, replace the Toner Cartridge and recheck the print-quality issue.

Cleaning

Paper, toner, and dust particles can accumulate inside the printer and cause print-quality problems such as smearing or specks. Clean the inside of the printer to reduce these problems. Start by printing 10 blank sheets of paper, and then refer to "Cleaning" on page 7-3.

Symptom Checklist

Based on the observed defect, check the following items prior to performing troubleshooting. These actions may help resolve the problem without troubleshooting the printer.

Light Print

a. The toner may be too low. Check the amount of toner and change the Toner Cartridges if necessary.

b. Check the Toner Cartridges for proper installation.

c. Reset the print driver Image Settings (Brightness and Contrast) to the default settings.

d. In the printer Printing Preferences menu **Advanced** tab, check that **Draft Mode** is not selected.

e. If you are printing on an uneven print surface, change the paper type setting in the print driver.

f. Check that the correct media is being used.
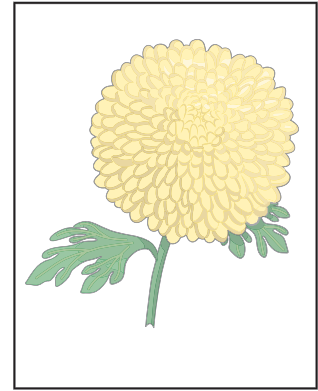
Light or Undertone Print

Entire page is white or one color is missing from image.

a. Ensure the packaging material is removed from the Toner Cartridge.

b. Check the Toner Cartridge to make sure that it is installed correctly.

c. The toner may be low. Change the Toner Cartridge.
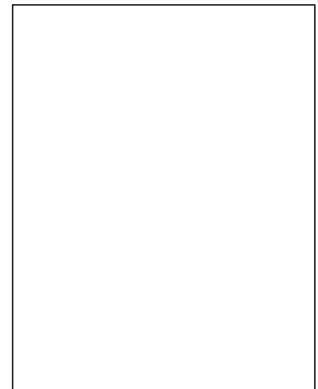
Blank Print

Black Output

Check the amount of toner remaining in the cartridge.

Black Print

Toner Smears

a. If you are printing on an uneven print surface, change the Paper Type setting in the printer driver.

b. Verify that the paper is within the printer specifications.

c. Adjust the Fuser temperature.

Smudges or Smears

Spots On Page and Printing Blurred

a. Check the Toner Cartridge(s) to ensure correct installation.

b. Clean the inside of the printer.
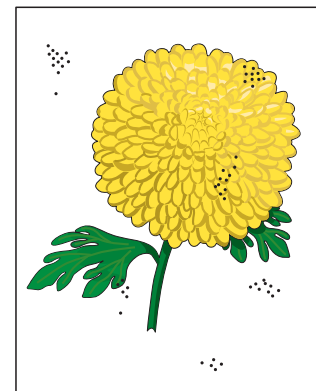
Random Spots

Streaks On Page

Check the amount of toner remaining in the cartridge.
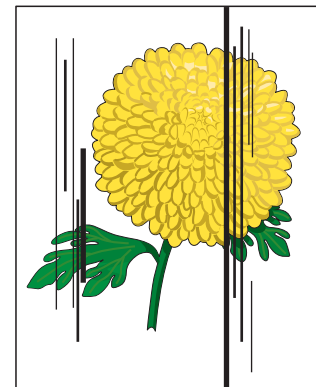
Vertical Stripes

Pitched Color Dots

Check the remaining amount of the Toner Cartridge.
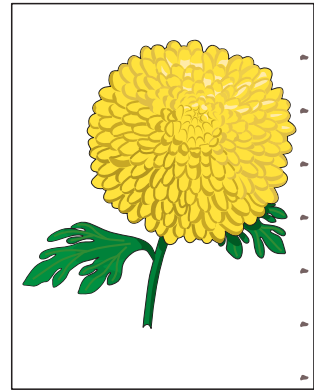
Repeating Defect, Developer Roller

Vertical Blank Lines

Clean the inside of the printer.
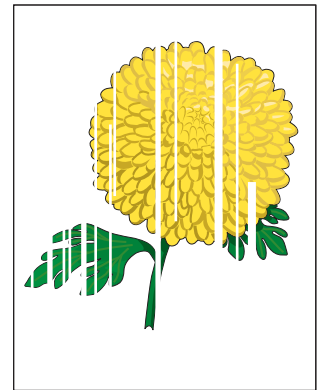
Vertical Blank Lines

Ghosting

a. Verify that the correct print media is being used.

b. The print media surface may be uneven. Try changing the Paper Type setting in the printer driver. For example, change the plain paper to thick.

c. Adjust the transfer bias (see page 6-8).

d. Adjust the Fuser temperature (see page 6-9).
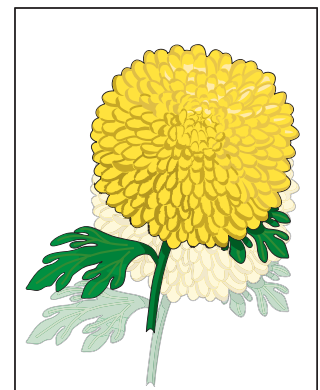
Residual Image/Ghosting

Background Contamination

There is toner contamination on all or most of the page.

Operate the Dispense Motor (Y, M, C or K) for the color in which the problem lies.
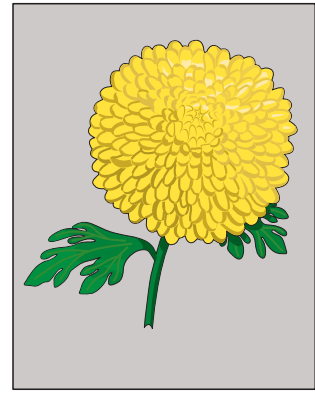
Background Contamination

Bead-Carry-Out

Small spots are scattered over the page.

If the printer is installed in a high altitude location, set the altitude for the location.
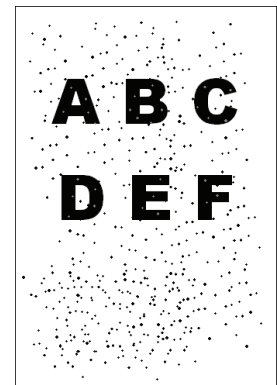
s6000-201

Jagged Characters

a. Set Screen to Fineness in the printer driver (found on the **Advanced** tab, under **Other Settings**).

b. Enable Bitmap Smoothing in the printer driver.

c. If using a downloaded font, ensure that the font is recommended for the printer, operating system, and the application being used.

Chrysanthemum × morifolium
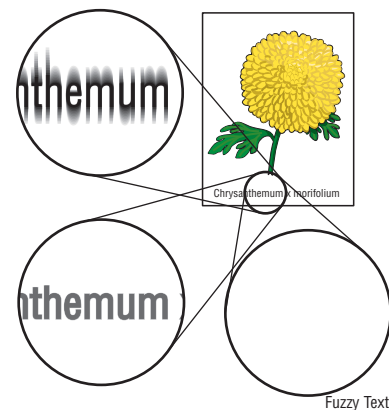
Fuzzy Text

Streaks on Page

The toner may be low. Change the Toner Cartridge(s).
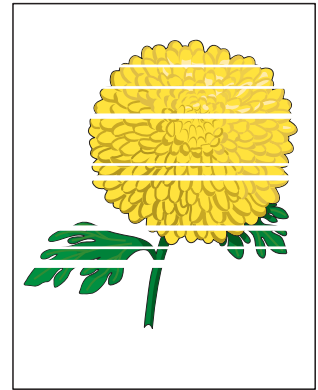
Horizontal Band, Void, or Streaks

Auger Mark

Diagonal marks of non-uniform density in halftone areas.

a. The toner may be low. Change the Toner Cartridge(s).
b. Operate the Dispense Motor (Y, M, C, or K) for the color in which the problem lies.

ABC DEF
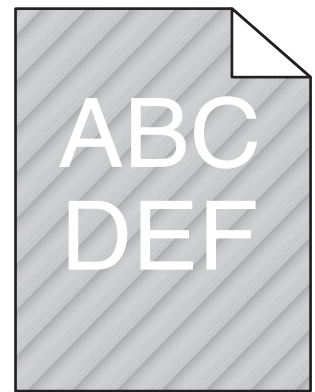
s6000-203

Damaged Media

Verify that the correct print media is being used.
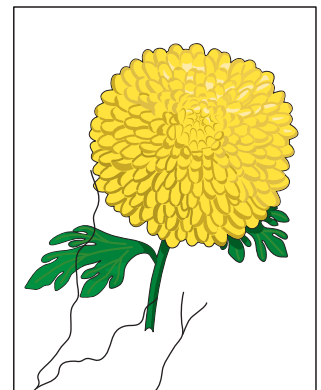
Wrinkling

Incorrect Margins

Make sure the margins are set correctly in the software application.
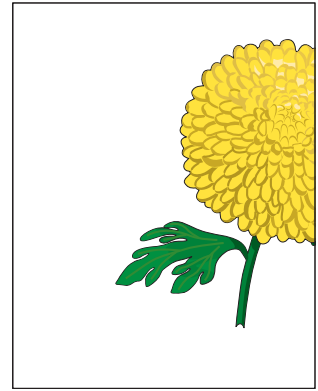
Image Not Centered

Color Out of Alignment

Note

This problem can occur after installing a new Black Toner Cartridge if the Imaging Unit has not been cleaned.

a. Execute Auto Color Registration Adjustment (page 6-2).
b. Clean the ADC Sensor (page 7-7).
c. Manually correct color registration (page 6-2).
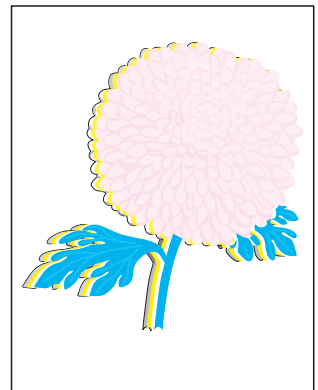
Color Registration

Skewed Images

a. Verify that the paper guides are set correctly.
b. Verify that the correct print media is being used.
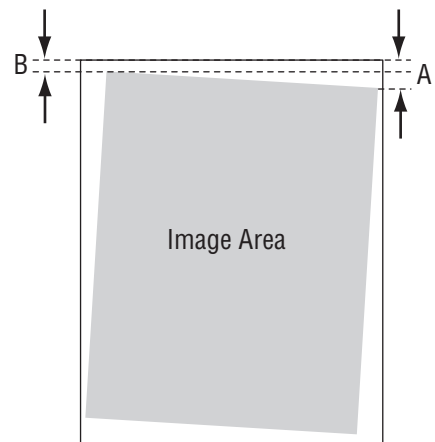
Skew 3

Damaged Media

a. Verify that the correct print media is being used.

b. Check for foreign materials around the Main Paper Tray and Registration sections.
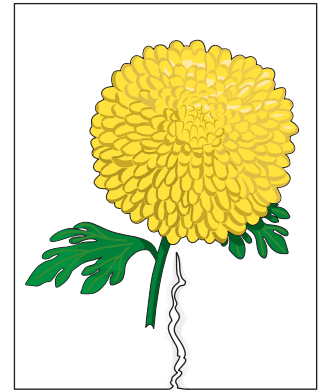
Damaged Print Media

Horizontal Streaks

The toner may be low. Change the Toner Cartridge(s).
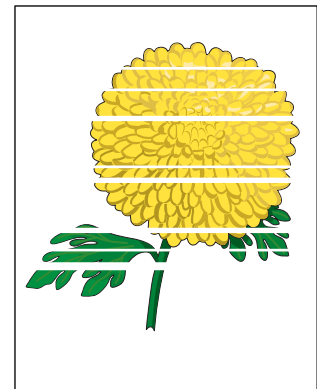
Horizontal Band, Void, or Streaks

Jagged or Uneven Character Edges

If you are using downloaded fonts, verify that the fonts are supported by the printer, the host computer, and the software application.
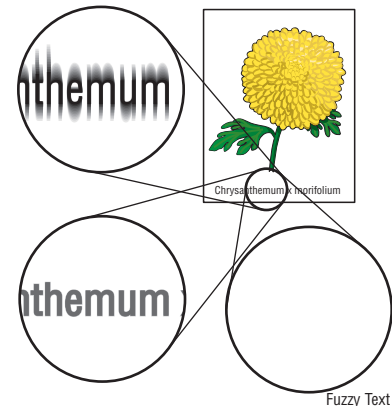
Fuzzy Text

Part or all the page prints in Cyan, Magenta, Yellow, or Black.

Check the Toner Cartridges to make sure they are installed correctly.
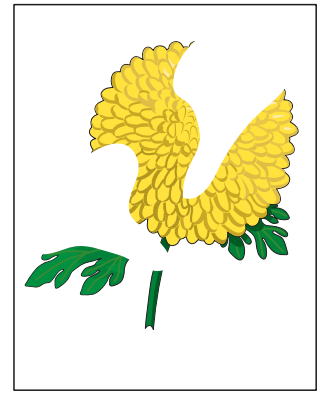
Partial Band

Print-Quality Troubleshooting

The troubleshooting flow is as follows:
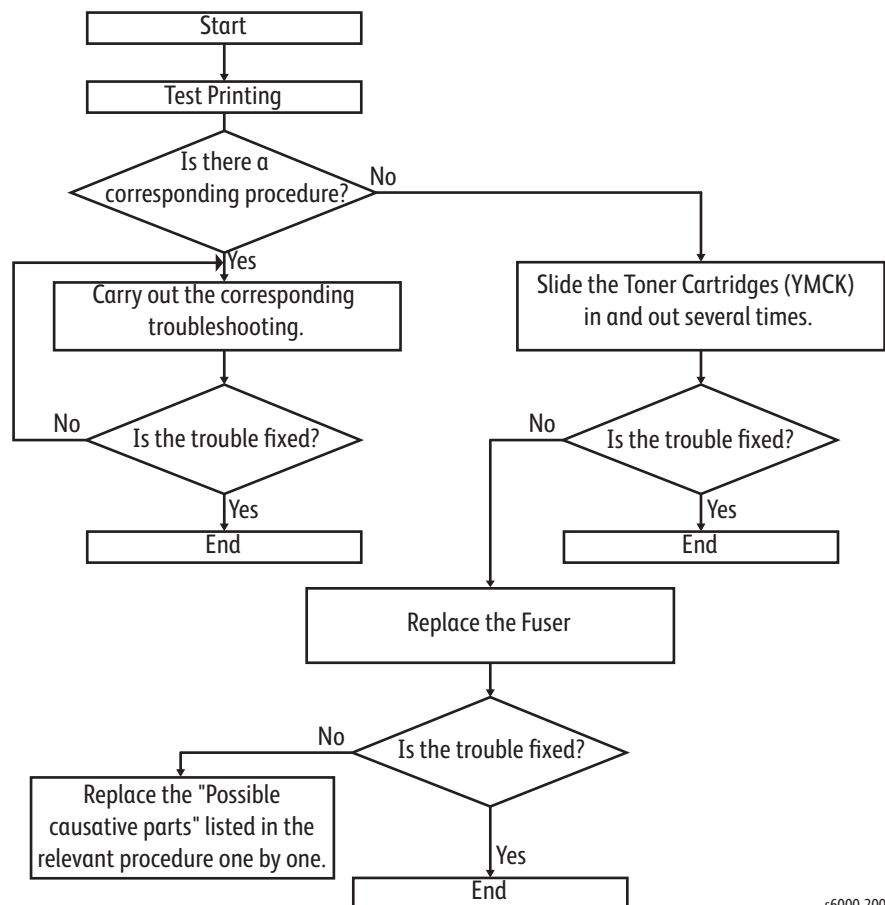
s6000-200

Print-Quality Defect Definitions

The following table lists the print-quality defect corrective procedure, their definition, and the page where each procedure is provided.

Defect	Description	Go to
Light or Undertone Print	The image density is too light in all colors.	5-13
Blank Print	The entire image area is blank.	5-15
Black Print	The entire image area is black.	5-16
Toner Smears	Toner smears appear on the page.	5-17
Random Spots	Spots of toner are randomly scattered on the page.	5-18
Streaks	Streaks appear on the page.	5-19
Pitched Color Dots	Evenly spaced dots appear vertically in a line.	5-20
Vertical Blank Lines	There are faded or completely non-printed lines along the page.	5-21
Ghosting	There are faint, ghostly images appearing on the page.	5-22
Jagged Characters	Characters have jagged or uneven edges.	5-23
Horizontal Band, Voids, or Streaks	Horizontal density non-uniformity appears in halftone areas.	5-24
Auger Mark	Diagonal density no uniformity appears in halftone areas.	5-25
Damaged Media	The paper is wrinkled, folded, or worn-out.	5-26
Image Not Centered	The image is not centered on the page.	5-28
Color Registration	Color registration is out of alignment.	5-31
Skew	The image is not parallel with both sides of the paper.	5-32
Unfused Image	The toner is not completely fused.	5-34
Hunting	The printed image has wavy column line in the direction of the paper travel.	5-36
Incorrect Magnification	Incorrect magnification when copying with the ADF feeding.	5-37

Light or Undertone Print

The overall image density is too light in all colors.

Initial Actions

- Check that the media settings match the media in use.
- Check that the media is dry and in good condition.

Troubleshooting Reference Table

Applicable Parts	Example Print
■ Toner Motor, PL4.1.9 ■ Transfer Roller, PL1.1.9	 Light or Undertone Print

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check Toner Motor function. Put the printer in diagnostic mode and select Phaser 6010N: **Engine Diag > Motor Test > Yellow/Magenta/Cyan/Black Toner Motor** WorkCentre 6015 MFP: **Printer > IOT Diag > Digital Output > DO-0 > Motor Test > DO-10/DO-12/DO-14/DO-16** See "Using Phaser 6010N and WorkCentre 6015 MFP Service Diagnostics" on page 4-10. Using CE Diagnostics: On the **CE Diag** tab, select **Digital Output**. In the drop down list select **Toner Motor Y/M/C/K On**, then click the **Start** button. Does the Toner Motor function?	Go to step 2.	Replace the Toner Motor (page 8-75).
2	Replace the Transfer Roller (page 8-14). Does the error persist?	Contact your designated field support for assistance.	Complete.
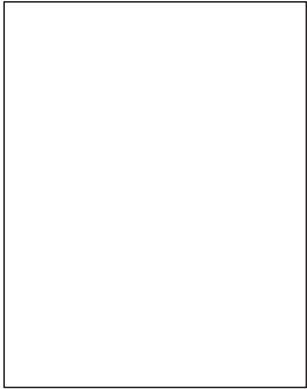
Blank Print

The entire image area is blank.

Initial Actions

- Ensure there is no debris in the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
■ Transfer Roller, PL1.1.9	

Blank Print

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check media condition. Is the media dry and recommended?	Go to step 3.	Replace the media, then go to step 2.
2	Does the image print correctly?	Complete.	Go to step 3.
3	Reseat and lock the Toner Cartridges. Does the image print correctly?	Complete.	Go to step 4.
4	Replace the Transfer Roller. Does the error persist?	Contact your designated field support for assistance.	Complete.

Black Print

Part of the image is black or the entire image is black.

Initial Actions

- Check the media path.

- Ensure there is no debris on the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
	Black Print

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Contact your designated field support for assistance.		
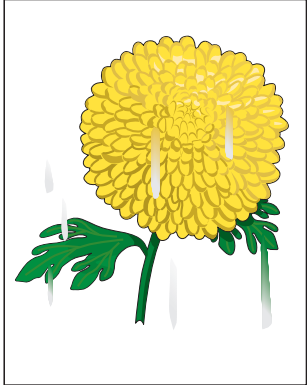
Toner Smears

There are faded or completely non-printed lines along the page in the direction of the paper travel from the leading edge to the trailing edge.

Initial Actions

- Check the media path.

- Ensure there is no debris on the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
■ Fuser, PL5.1.1 ■ Transfer Roller, PL1.1.9	 Smudges or Smears

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat P/J18 and P/J26 on the MCU Board, and P/J201 on the LVPS. Does the image print correctly?	Complete.	Go to step 2.
2	Replace the Fuser (page 8-80). Warning: Allow the Fuser to cool before removing it. Does the image print correctly?	Complete.	Replace the Transfer Roller.
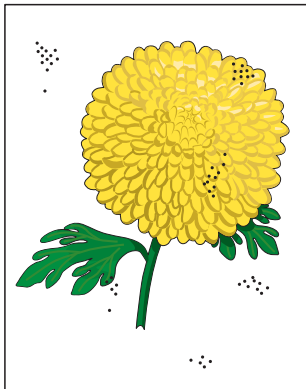
Random Spots

There are spots of toner randomly scattered across the page.

Initial Actions

- Check the paper transfer path.
- Ensure there is no debris on the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
■ Transfer Roller, PL1.1.9 ■ Fuser, PL5.1.1

Random Spots |

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Clean the LED windows and the inside of the printer. See "Cleaning" on page 7-3 and "Maintenance" on page 7-8. Does the image print correctly?	Complete.	Go to step 2.
2	Check the paper being used. Is it approved paper?	Go to step 4.	Load supported media, then go to step 3.
3	Does the image print correctly?	Complete.	Go to step 4.
4	Reseat and lock the Toner Cartridges. Does the image print correctly?	Complete.	Go to step 5.
5	Replace the Transfer Roller (page 8-14). Does the image print correctly?	Complete.	Go to step 6.
6	Replace the Fuser (page 8-80). **Warning: Allow the Fuser to cool before replacing.**	Complete.	

Streaks

Streaks appear on the output.

Initial Actions

- Check the paper transfer path.
- Ensure there is no debris on the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
▪ Transfer Roller, PL1.1.9 ▪ Fuser, PL5.1.1	 Vertical Stripes

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Clean the LED windows and the inside of the printer. See "Cleaning" on page 7-3 and "Maintenance" on page 7-8. Does the image print correctly?	Complete.	Go to step 2.
2	Check the paper being used. Is it approved paper?	Go to step 4.	Load supported media, then go to step 3.
3	Does the image print correctly?	Complete.	Go to step 4.
4	Reseat and lock the Toner Cartridges. Does the image print correctly?	Complete.	Go to step 5.
5	Replace the Transfer Roller (page 8-14). Does the image print correctly?	Complete.	Go to step 6.
6	Replace the Fuser (page 8-80). **Warning: Allow the Fuser to cool before replacing.**	Complete.	

Pitched Color Dots

There are recurring color dots on the page.

Initial Actions

- Check the paper transfer path.

- Ensure there is no debris on the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
■ Transfer Roller, PL1.1.9 ■ Fuser, PL5.1.1	 Repeating Defect, Developer Roller

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Measure the pitch. Does the pitch match any of the pitches shown in the Repeating Defects Table? See page 5-3.	Replace the corresponding parts.	Contact your designated field support for assistance.

Vertical Blank Lines

There are faded or completely non-printed lines along the page in the direction of the paper travel from the leading edge to the trailing edge.

Initial Actions

- Clean the LED windows. See "Cleaning the LED Windows" on page 7-3.

- Ensure there is no debris on the media path.

Troubleshooting Reference Table

Applicable Parts	Example Print
■ Transfer Roller, PL1.1.9 ■ Fuser, PL5.1.1	 Vertical Blank Lines

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check media condition. Is the media dry and approved for use?	Go to step 3.	Replace with dry, approved media, then go to step 2.
2	Does the image print correctly?	Complete.	Go to step 3.
3	Replace the Transfer Roller (page 8-14). Does the image print correctly?	Complete.	Go to step 4.
4	Replace the Fuser (page 8-80). Warning: Allow the Fuser to cool before replacing.	Complete.	

Image Quality

Residual Image or Ghosting

There are faint, ghostly images appearing on the page. The images may be either from a previous page or from the page currently being printed.

Initial Actions

- Check the paper transfer path.

- Ensure there is no debris on the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
■ Transfer Roller, PL1.1.9 ■ Fuser, PL5.1.1	 Residual Image/Ghosting

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Replace the Transfer Roller (page 8-14). Does the image print correctly?	Complete.	Go to step 2.
2	Replace the Fuser (page 8-80). Warning: Allow the Fuser to cool before replacing.	Complete.	

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Jagged Characters

Characters have fuzzy edges.

Initial Actions

- Check the paper transfer path.

- Ensure there is no debris on the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
■ Image Processor Board, PL7.1.9	

Fuzzy Text

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Replace the Image Processor Board.	Complete.	
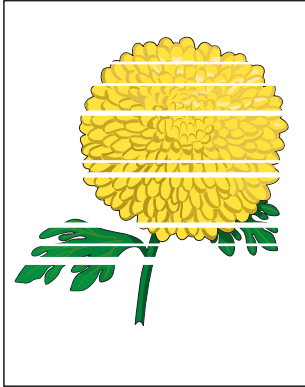
Horizontal Band, Voids, or Streaks

There are areas of the image that are extremely light or are missing entirely. These missing areas form wide bands which cover a wide area horizontally, perpendicular to the paper feed direction.

Initial Actions

- Clean the LED windows. See "Cleaning the LED Windows" on page 7-3.

- Check the paper transfer path.

- Ensure there is no debris on the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
■ Toner Cartridge Y, PL5.1.13 ■ Toner Cartridge M, PL5.1.14 ■ Toner Cartridge C, PL5.1.15 ■ Toner Cartridge K, PL5.1.16 ■ Transfer Roller, PL6.1.7 ■ Fuser, PL5.1.1	Horizontal Band, Void, or Streaks

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the paper condition. Is the paper dry and approved for use?	Go to step 4.	Replace with dry, approved paper, then go to step 3.
2	Compare the defects to the Pitch Chart (page 5-44). Do any of the horizontal bands match the chart?	Replace the corresponding parts.	Contact your designated field support for assistance.
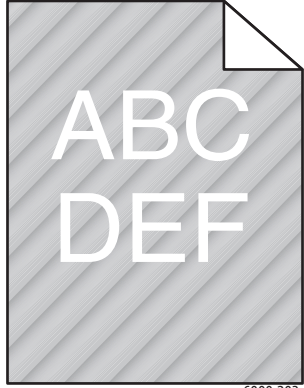
Auger Mark

Diagonal marks of non-uniform density in half tone areas appear on the image.

Initial Actions

- Ensure there is no debris on the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
■ Transfer Roller, PL6.1.7	

ABC
DEF

s6000-203

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Replace the Image Processor Board. Does the image print correctly?	Complete.	Contact your designated field support for assistance.
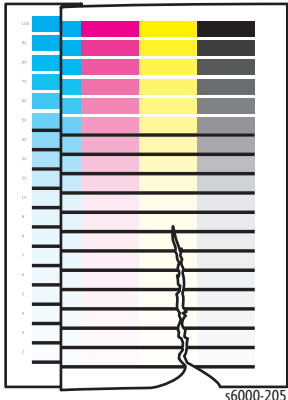
Damaged Media

Paper comes out from the printer wrinkled, folded, or worn-out.

Initial Actions

- Check the paper transfer path.

- Ensure there is no debris on the transfer path.

- If feeding through the manual feed slot, try feeding from Tray 1.

Troubleshooting Reference Table

Applicable Parts	Example Print
■ Feed Roller, PL2.2.4 Left and Right Feed Roller Cam, PL2.2.2 and PL2.2.7 ■ Registration Roller, PL2.3.1 ■ Registration Pinch Roller, PL2.3.2 ■ Fuser, PL5.1.1 ■ Separator Pad, PL2.2.11 ■ MCU Board, PL7.2.2	s6000-205

Note

The Main Paper Tray is recommended for paper feeding because paper fed from the Bypass Tray is prone to skew depending on how the sheet is fed.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the paper condition. Is the paper dry and approved for use?	Go to step 3.	Replace with dry, approved paper, then go to step 2.
2	Check the paper path for contamination or foreign objects. Is there contamination or foreign objects in the paper path?	Clean the paper path, and then go to step 3.	Go to step 4.
3	Does the image print correctly?	Complete.	Go to step 4.

Troubleshooting Procedure Table (Continued)

Step	Actions and Questions	Yes	No
4	Check the Registration Roller and the Registration Pinch Roller for rotation. Using the Control Panel: Put the printer in diagnostic mode (see page 4-10) and select ■ Phaser 6010N: Scroll to **Engine Diag > Motor Test > Regi Clutch > Motor > Main Motor**, and press **OK**. ■ WorkCentre 6015 MFP: Scroll to **Printer > IOT Diag > Digital Output > DO-0**, and press **OK**. CE Diagnostics can also be used to perform this test by running the Registration Clutch check. See "Digital Output Test Procedures" on page A-16. Do the Registration Roller and the Registration Pinch Roller rotate correctly?	Complete.	Go to step 5.
5	Replace the Registration Clutch (page 8-66), and then perform the test in step 4. Do the Registration Roller and the Registration Pinch Roller rotate correctly?	Go to step 8.	Go to step 6.
6	Replace the Feed Drive Assembly (page 8-91), and then perform the test in step 4. Do the Registration Roller and the Registration Pinch Roller rotate correctly?	Go to step 8.	Go to step 7.
7	Replace the Main Drive Assembly (page 8-82). Does the image print correctly?	Complete.	Go to step 8.
8	Replace the Fuser (page 8-80). Warning: Allow the Fuser to cool before removing it. Does the image print correctly?	Complete.	Go to step 9.
9	Replace the Separator Pad (page 8-49). Does the image print correctly?	Complete.	Go to step 10.

Troubleshooting Procedure Table (Continued)

Step	Actions and Questions	Yes	No
10	Replace the Feed Roller and the Left and Right Feed Roller Cams (page 8-45). Does the image print correctly?	Complete.	Go to step 11.
11	Replace the MCU Board (page 8-121). Does the image print correctly?	Complete.	Contact your designated field support for assistance.
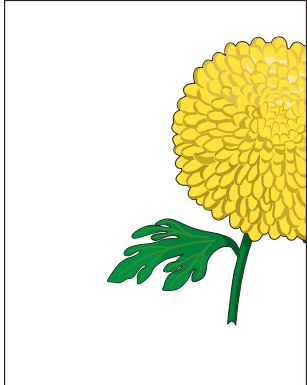
Image Not Centered

The image is not centered on the page.

Initial Actions

- Verify that the paper guides are set correctly.
- If feeding from the Bypass Tray, try feeding from Main Paper Tray.

Troubleshooting Reference Table

Applicable Parts	Example Print
■ Feed Drive Assembly, PL6.1.5 ■ Registration Roller, PL2.3.1 ■ Registration Pinch Roller, PL2.3.2 ■ Separator Pad, PL2.2.11 ■ MCU Board, PL7.2.2	 Image Not Centered

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the Registration Roller and the Registration Pinch Roller for rotation. Using the Control Panel: Put the printer in diagnostic mode (see page 4-10) and select ■ Phaser 6010N: Scroll to **Engine Diag > Motor Test > Regi Clutch** > **Motor > Main Motor**, and press **OK**. ■ WorkCentre 6015 MFP: Scroll to **Printer > IOT Diag > Digital Output > DO-0**, and press **OK**. CE Diagnostics can also be used to perform this test by running the Registration Clutch check. See "Digital Output Test Procedures" on page A-16. Do the Registration Roller and the Registration Pinch Roller rotate correctly?	Complete.	Go to step 6.
2	Replace the Registration Clutch (page 8-66), and then perform the test in step 1. Do the Registration Roller and the Registration Pinch Roller rotate correctly?	Go to step 5.	Go to step 3.
3	Replace the Feed Drive Assembly (page 8-91), and then perform the test in step 1. Do the Registration Roller and the Registration Pinch Roller rotate correctly?	Go to step 5.	Go to step 4.
4	Replace the Main Drive Assembly (page 8-82). Does the image print correctly?	Complete.	Go to step 6.
5	Does the image print correctly?	Complete.	Go to step 6.

Troubleshooting Procedure Table (Continued)

Step	Actions and Questions	Yes	No
6	Inspect the Registration Roller and the Registration Pinch Roller for wear or damage. Is either part worn or damaged?	Replace the Registration Roller (page 8-61) or the Registration Pinch Roller (page 8-57), then go to step 7.	Go to step 8.
7	Does the image print correctly?	Complete.	Go to step 8.
8	Replace the Separator Pad (page 8-49). Does the image print correctly?	Complete.	Go to step 9.
9	Replace the MCU Board (page 8-121). Does the image print correctly?	Complete.	Contact your designated field support for assistance.
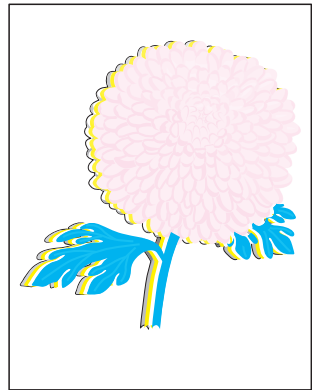
Color Registration

Color registration is out of alignment.

Initial Actions

- If feeding through the Bypass Tray, try feeding from Main Paper Tray.

Troubleshooting Reference Table

Applicable Parts	Example Print
	Color Registration

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Clean the ADC Sensors. See "Cleaning the Color Toner Density Sensors" on page 7-7. Does the image print correctly?	Complete.	Go to step 2.
2	Adjust the color registration. See "Color Registration" on page 6-2. Does the image print correctly?	Complete.	Contact your designated field support for assistance.
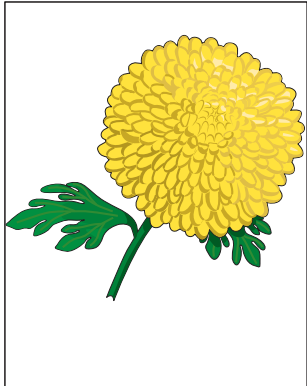
Skew

The image is not parallel with both sides of the paper.

Initial Actions

- Verify that the paper guides are set correctly.
- Ensure there is no debris on the media path.
- If feeding through the manual feed slot, try feeding from Tray 1.

Troubleshooting Reference Table

Applicable Parts	Example Print
■ Feed Roller, PL2.2.4 Left and Right Feed Roller Cam, PL2.2.2 and PL2.2.7 ■ Registration Roller, PL2.3.1 ■ Registration Pinch Roller, PL2.3.2 ■ Separator Roller, PL2.1.5 ■ MCU Board, PL7.2.2	Skew 2

Note

The Main Paper Tray is recommended for paper feeding because paper fed from the Bypass Tray is prone to skew depending on how the sheet is fed.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the Registration Roller and the Registration Pinch Roller for rotation. Using the Control Panel: Put the printer in diagnostic mode (see page 4-10) and select ■ Phaser 6010N: Scroll to **Engine Diag > Motor Test > Regi Clutch** > **Motor > Main Motor**, and press **OK**. ■ WorkCentre 6015 MFP: Scroll to **Printer > IOT Diag > Digital Output > DO-0**, and press **OK**. CE Diagnostics can also be used to perform this test by running the Registration Clutch check. See "Digital Output Test Procedures" on page A-16. Do the Registration Roller and the Registration Pinch Roller rotate correctly?	Go to step 6.	Go to step 2.
2	Replace the Registration Clutch (page 8-66), and then perform the test in step 1. Do the Registration Roller and the Registration Pinch Roller rotate correctly?	Go to step 5.	Go to step 3.
3	Replace the Feed Drive Assembly (page 8-91), and then perform the test in step 1. Do the Registration Roller and the Registration Pinch Roller rotate correctly?	Go to step 5.	Go to step 4.
4	Replace the Main Drive Assembly (page 8-82). Does the image print correctly?	Complete.	Go to step 5.

Troubleshooting Procedure Table (Continued)

Step	Actions and Questions	Yes	No
5	Inspect the Registration Roller and the Registration Pinch Roller for wear or damage. Is either part worn or damaged?	Replace the Registration Roller (page 8-61) or the Registration Pinch Roller (page 8-57), then go to step 6.	Go to step 7.
6	Does the image print correctly?	Complete.	Go to step 7.
7	Replace the Feed Roller and the Left and Right Feed Roller Cams (page 8-45). Does the image print correctly?	Complete.	Go to step 8.
8	Replace the Separator Pad (page 8-49). Does the image print correctly?	Complete.	Go to step 9.
9	Replace the MCU Board (page 8-121). Does the image print correctly?	Complete.	Contact your designated field support for assistance.

Unfused Image

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

Initial Actions

- Check the media path.

- Check the Fuser connection (P/J171).

Troubleshooting Reference Table
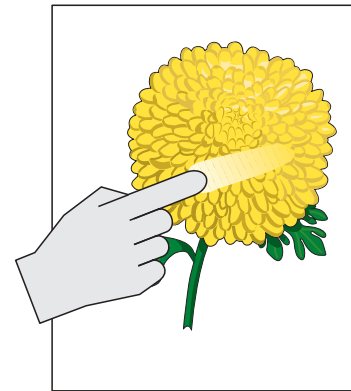
Applicable Parts	Example Print
▪ Fuser, PL5.1.1 ▪ MCU Board, PL7.2.2	 Unfused Image

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the media being used and its condition. Is the media dry and recommended?	Go to step 3.	Replace with dry, approved media, then go to step 2.
2	Does the image print correctly?	Complete.	Go to step 3.
3	Check the Toner type. Is non-Xerox Toner in use?	Replace with Xerox toner, then go to step 4.	Go to step 5.
4	Does the image print correctly?	Complete.	Go to step 5.
5	Replace the Fuser (page 8-80). Warning: Allow the Fuser to cool before removal. Does the error persist?	Complete.	Complete.
6	Replace the MCU Board (page 8-121). Does the error persist?	Contact your designated field support for assistance.	Complete.
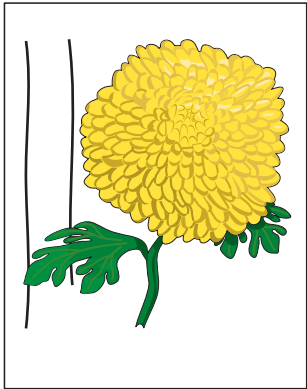
Hunting

The printed image has wavy column line in the direction of the paper travel.

Initial Actions

- Check the ADF media path for dirt or debris.

- Check the ADF media transport components.

Troubleshooting Reference Table

Applicable Parts	Example Print
▪ ADF Assembly, PL8.1.2 ▪ IIT Assembly, PL8.1.8	Hunting

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the media being used and its condition. Is the media dry and recommended?	Go to step 3.	Replace with dry, approved media, then go to step 2.
2	Does the image print correctly?	Complete.	Go to step 3.
3	Replace the ADF Assembly (page 8-37). Does the error persist?	Replace the IIT Assembly (page 8-35).	Complete.
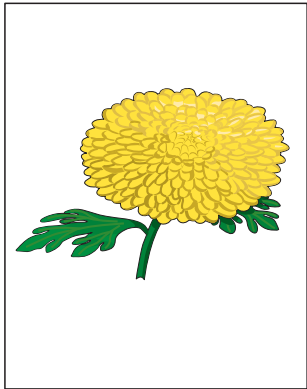
Incorrect Magnification

Incorrect magnification when copying with the ADF feeding.

Initial Actions

- Check the paper transfer path.
- Ensure there is no debris on the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
■ ADF Assembly, PL8.1.2 ■ IIT Assembly, PL8.1.8	 Magnification Incorrect

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the media being used and its condition. Is the media dry and recommended?	Go to step 3.	Replace with dry, approved media, then go to step 2.
2	Does the image print correctly?	Complete.	Go to step 3.
3	Replace the ADF Assembly (page 8-37). Does the error persist?	Replace the IIT Assembly (page 8-35).	Complete.

Test Prints

A variety of test prints are available for troubleshooting print quality defects and to confirm proper printer operation. Test Prints can isolate printing problems to the MCU or Image Processor Board by using on board image data to isolate the two boards. Test prints are also useful for stimulating asynchronous (dynamic) events related to the print process, or as a test for media path and media related problems. Some other key features of test prints:

- Is the only diagnostic utility to exercise the entire print cycle.
- They are isolated from the operating system, and are run from firmware.
- Isolates the Image Processor Board from the MCU Board.
- Captures static or dynamic events.
- Helps to isolate events that cause print artifacts or prevents printing.

Test prints are selected from the list of available test prints in the **Test Print** menu of diagnostics.

WorkCentre 6015 MFP Test Prints

To print a test print:

1. Start the Xerox Chart Print Tool.
2. Check that the Paper Size is set correctly in the tool.
3. Click the check box of the chart that you want to print.
4. Click the **Next** button.
5. Select either **Network** or **USB** for printing.
6. Select the appropriate printer and click **Next**.
7. Click **Finish** when complete.

Pitch Configuration Chart

Print these charts to check for any regular lines or toner spots when encountering PQ problems.

From the difference in the interval of regular lines or spots, you can determine the parts that have caused the trouble.
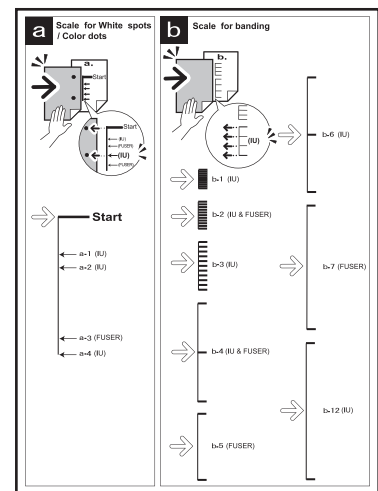
Pitch Chart Test Print

Ghost Configuration Chart

This print allows you to check for image ghosting. When a ghost occurs, the patches broken into two triangles and the K/B/G/R/M/C characters appear on the light-colored patches K/C/M in the lower half of the chart, and the patches with triangles only appears on the dark-colored patches K/C/M below the light-colored patches.

- Fail: Characters repeat in the light area.

- Pass: Characters are not visible in the light area.

s6015-111

4 Colors Configuration Chart

This test print provides 2 - 100 % density for Cyan, Magenta, Yellow, or Black on the whole page. This test is used to identify problems with the printer function or the Image Processor Board. Compare the print with this example to determine the problem.

- Fail: Check the printer function.

- Pass: Check the Image Processor Board.

s6015-109

MQ Chart

Prints charts to check for binding in A4 or Letter.

When the PQ problem occurred, this test helps to identify the problem as printer related or otherwise.
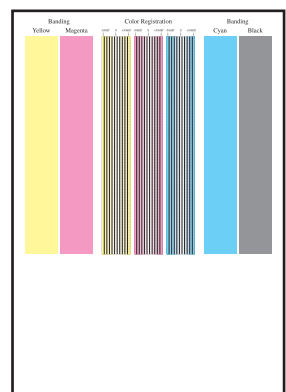
s6000-199

Alignment Chart

This chart allows you to check for media skew. When the sheet is fed normally, the vertical and horizontal lines are aligned parallel to the edges of the sheet. When there is a problem, alignment is skewed.

- Fail: Perform the Skew troubleshooting procedure (page 5-32).

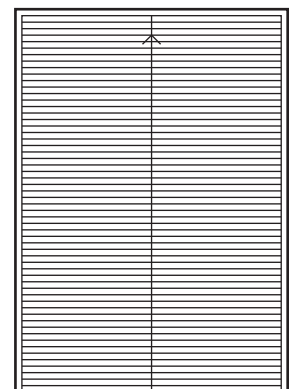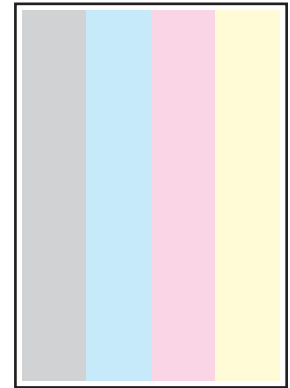- Pass: Lines are parallel to the edges of the sheet.

s6015-108

Drum Refresh Configuration Chart

This test print provides 20 % density for combination of yellow, magenta, cyan, and black on the whole page. This test is used to identify problems with balance of three color toners or another toner. Compare the print with this example to determine the problem.

- Checks Cyan, Magenta, or Yellow Toner Cartridge, HVPS, Imaging Units, biasing contacts.

- Used to troubleshoot repeating defects, missing colors, streaks, voids or banding.

s6015-110

Grid 2 Chart

Prints the ESS built-in grid pattern.

Compare the print with the sample chart. If the test print does not match the test print shown here, check the print process and the LED Driver Board. If the test print is OK, check that the printer is connected correctly.

s6000-192

Toner Pallet Check Test Print

This test print provides 100 % density for Cyan, Magenta, Yellow, and Black on the whole page. This test is used to identify problems with the toner when printing pictures or photos. Compare the print with this example to determine the problem.

- **Fail:** Check the Toner Cartridge and delivery for the problem color.

- **Pass:** Check the print data.
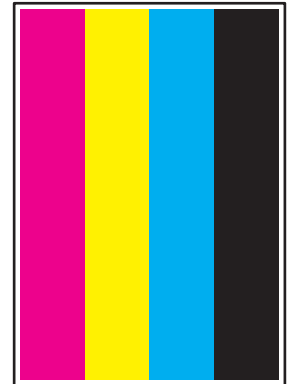
s6000-193

Additional Test Prints

The WorkCentre 6015 MFPs have additional test prints in the Service Diagnostics.

To print a test print:

1. Enter Service Diagnostics (page 4-11).
2. Using the **Down Arrow** button, select **Printer Diagnostics** and press **OK**.
3. Using the **Down Arrow** button, select **Test Print** and press **OK**.
4. Using the **Up** and **Down Arrow** buttons, select the desired test print and press **OK**.

TestPatASIC[IOT] Test Print

Prints the LED Driver Board built-in test pattern.

If the pattern does not print correctly, check the LED Driver board. If the pattern prints OK, check the Image Processor Board.

s6000-187

TestPatLPHY[IOT] Test Print

Prints the LPH Y built-in test pattern.

If the test pattern does not print correctly, check the print process. If the test pattern prints correctly, check the LED Driver Board and the Image Processor Board.

s6000-188

TestPatLPHM[IOT] Test Print

Prints the LPH M built-in test pattern.

If the test pattern does not print correctly, check the print process. If the test pattern prints correctly, check the LED Driver Board and the Image Processor Board.

s6000-189

TestPatLPHC[IOT] Test Print

Prints the LPH C built-in test pattern.

If the test pattern does not print correctly, check the print process. If the test pattern prints correctly, check the LED Driver Board and the Image Processor Board.

s6000-190

TestPatLPHK[IOT] Test Print

Prints the LPH K built-in test pattern.

If the test pattern does not print correctly, check the print process. If the test pattern prints correctly, check the LED Driver Board and the Image Processor Board.

s6000-191

Phaser 6000/6010 Test Prints

Printing Test Prints From CE Diagnostics

Note

> This procedure applies to the Phaser 6000/6010 printers only.

1. Start the CE Diagnostic software (see page A-4), and select the **CE Diag** tab.
2. Select **Test Print**.
3. Select the desired test print button.

Printing Test Prints from the Phaser 6010N

1. Power off the printer.
2. Power on the printer while pressing the **Down Arrow** and **Up Arrow** buttons.
3. Release your fingers from the buttons when **CE Mode** and **Password** are displayed.
4. Press the **Down Arrow** button twice and press the **OK** button.
   The printer is now in Service Diagnostic mode.
5. Press the **Down Arrow** button until **Test Print** is displayed.
6. Press **OK**.
7. Use the **Down Arrow** and **Up Arrow** buttons to select the desired test print, and press **OK**.

Pitch Configuration Chart

Print these charts to check for any regular lines or toner spots when encountering PQ problems.

From the difference in the interval of regular lines or spots, you can determine the parts that have caused the trouble.
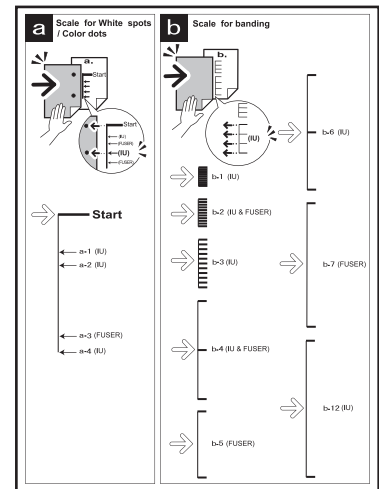
Pitch Chart Test Print

MQ Chart Test Print

Prints charts to check for binding in A4 or Letter.

When the PQ problem occurred, this test helps to identify the problem as printer related or otherwise.
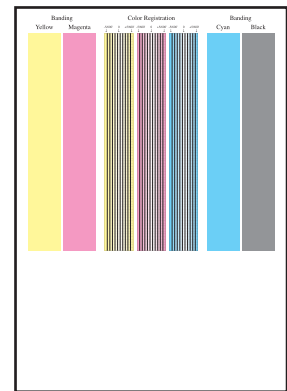
s6000-199

TestPatASIC[IOT] Test Print

Prints the LED Driver Board built-in test pattern.

If the pattern does not print correctly, check the LED Driver board. If the pattern prints OK, check the Image Processor Board.

s6000-187

TestPatLPHY[IOT] Test Print

Prints the LPH Y built-in test pattern.

If the test pattern does not print correctly, check the print process. If the test pattern prints correctly, check the LED Driver Board and the Image Processor Board.

s6000-188

TestPatLPHM[IOT] Test Print

Prints the LPH M built-in test pattern.

If the test pattern does not print correctly, check the print process. If the test pattern prints correctly, check the LED Driver Board and the Image Processor Board.

s6000-189

TestPatLPHC[IOT] Test Print

Prints the LPH C built-in test pattern.

If the test pattern does not print correctly, check the print process. If the test pattern prints correctly, check the LED Driver Board and the Image Processor Board.

s6000-190

TestPatLPHK[IOT] Test Print

Prints the LPH K built-in test pattern.

If the test pattern does not print correctly, check the print process. If the test pattern prints correctly, check the LED Driver Board and the Image Processor Board.

s6000-191

Grid 2 Test Print

Prints the ESS built-in grid pattern.

Compare the print with the sample chart. If the test print does not match the test print shown here, check the print process and the LED Driver Board. If the test print is OK, check that the printer is connected correctly.

s6000-192

Toner Pallet Check Test Print

This test print provides 100 % density for Cyan, Magenta, Yellow, and Black on the whole page. This test is used to identify problems with the toner when printing pictures or photos. Compare the print with this example to determine the problem.

- **Fail:** Check the Toner Cartridge and delivery for the problem color.

- **Pass:** Check the print data.

s6000-193
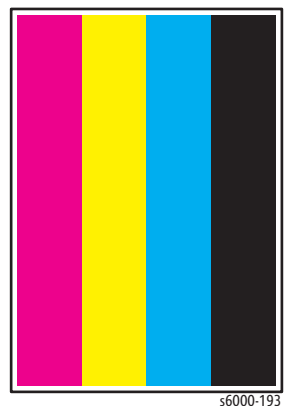
Additional Test Charts

Additional test charts can be found on the **Diagnosis** tab of the CE Diags tool.

Ghost Configuration Chart

This print allows you to check for image ghosting. When a ghost occurs, the patches broken into two triangles and the K/B/G/R/M/C characters appear on the light-colored patches K/C/M in the lower half of the chart, and the patches with triangles only appears on the dark-colored patches K/C/M below the light-colored patches.

- Fail: Characters repeat in the light area.

- Pass: Characters are not visible in the light area.

s6015-111

4 Colors Configuration Chart

This test print provides 2 - 100 % density for Cyan, Magenta, Yellow, or Black on the whole page. This test is used to identify problems with the printer function or the Image Processor Board. Compare the print with this example to determine the problem.

- Fail: Check the printer function.

- Pass: Check the Image Processor Board.

s6015-109

Alignment Chart

This chart allows you to check for media skew. When the sheet is fed normally, the vertical and horizontal lines are aligned parallel to the edges of the sheet. When there is a problem, alignment is skewed.

- Fail: Perform the Skew troubleshooting procedure (page 5-32).

- Pass: Lines are parallel to the edges of the sheet.

s6015-108

Drum Refresh Configuration Chart

This test print provides 20 % density for combination of yellow, magenta, cyan, and black on the whole page. This test is used to identify problems with balance of three color toners or another toner. Compare the print with this example to determine the problem.

- Checks Cyan, Magenta, or Yellow Toner Cartridge, HVPS, Imaging Units, biasing contacts.

- Used to troubleshoot repeating defects, missing colors, streaks, voids or banding.

s6015-110

Image Specifications

The following provide specifications for Skew, Parallelism, Linearity, Perpendicularity, Magnification Error, Registration, and Guaranteed Print Areas.

Note

> The printed image has 4.1 mm margins on all sides.

Characteristic	Specification
Maximum Print Area	215.9 mm x 355.6 mm (8.5 inches x 14 inches)
Guaranteed Print Area	215.9 mm x 355.6 mm (8.5 inches x 14 inches)
Skew	
Main Paper Tray (A4)	180 mm ± 1.4 mm
Main Paper Tray (LTR)	200 mm ± 1.5 mm
Bypass Tray (A4)	180 mm ± 2.0 mm
Bypass Tray (LTR)	200 mm ± 2.2 mm
Perpendicularity	140 mm ± 1.0 mm
Parallelism	
A4	280 mm ± 1.3 mm
LTR	260 mm ± 1.3 mm
Linearity (Main Paper Tray)	
Horizontal	
A4	180 mm ± 0.5 mm
LTR	200 mm ± 0.5 mm
Vertical	
A4	280 mm ± 0.6 mm
LTR	260 mm ± 0.6 mm
Slant	
A4	254.5 mm ± 1.1 mm
LTR	282.8 mm ± 1.2 mm
Magnification Error	
Horizontal	
A4	180 mm ± 0.5 mm
LTR	200 mm ± 0.5 mm
Vertical	
A4	280 mm ± 0.5 mm
LTR	260 mm ± 0.5 mm
Registration	
Leading Edge	≤ ± 2.0 mm
Side Edge	≤ ± 2.5 mm

Specification Chart

The points lettered A through K on the example illustration are measurement points used to determine whether the image is within specifications.
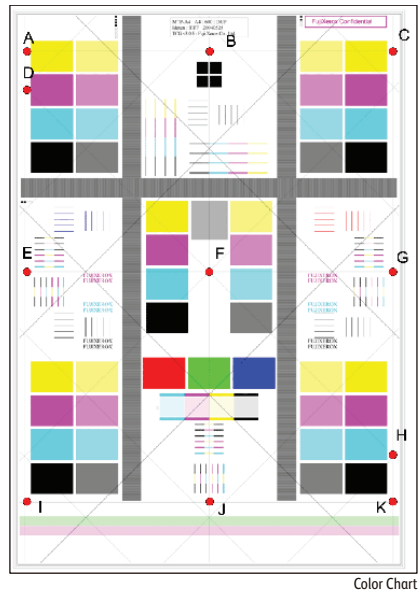
Color Chart

Skew

Main Paper Tray (A4)	180 mm ± 1.4 mm
Main Paper Tray (LTR)	200 mm ± 1.5 mm
Bypass Tray (A4)	180 mm ± 2.0 mm
Bypass Tray (LTR)	200 mm ± 2.2 mm

Skew = a - b

Lead Edge

A   a = | T/E - C |

180 mm

C   b = | T/E - D |
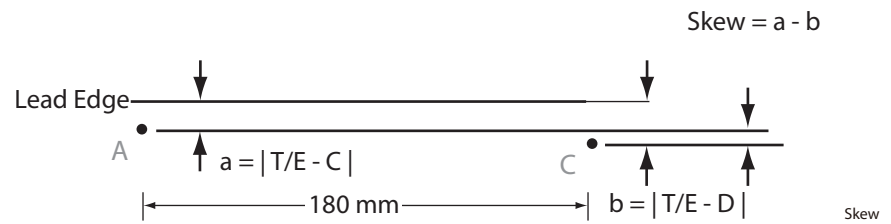
Skew

To measure skew, measure the margin of the paper at the leading edge of each corner, and then take the difference between them.

B

A

Image Area

s6000-242
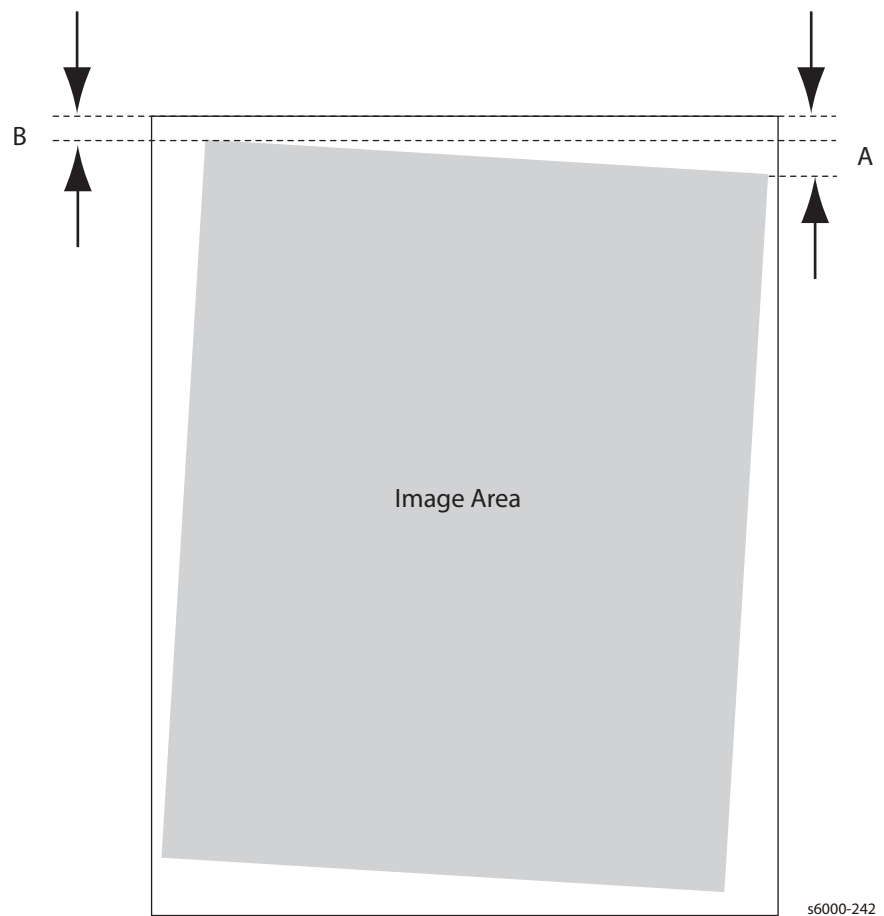
Note

The most common reason for skew to be out of specification is because the paper guides are set incorrectly.

Parallelism

- Horizontal: 180 mm ± 1.3 mm

- Vertical: 280 mm ± 1.3 mm
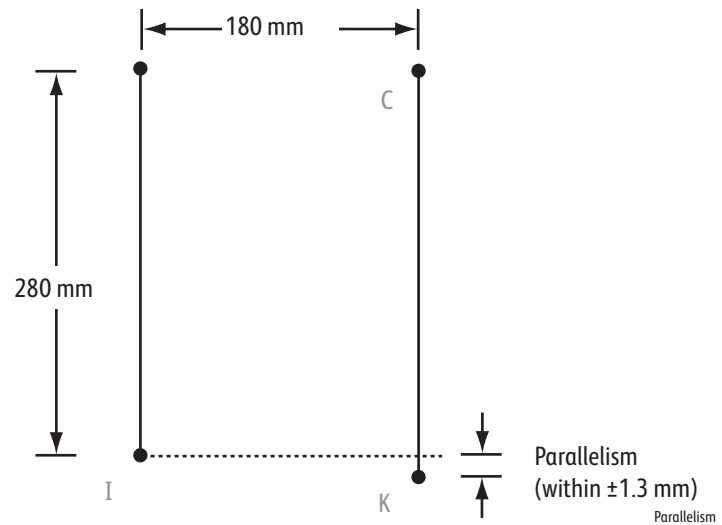
Note

 The most common reason for parallelism to be out of specification is because the paper guides are set incorrectly.

Linearity

Horizontal
A4	180 mm ± 0.5 mm
LTR	200 mm ± 0.5 mm

Vertical
A4	280 mm ± 0.6 mm
LTR	260 mm ± 0.6 mm

Slant
A4	254.5 mm ± 1.1 mm
LTR	282.8 mm ± 1.2 mm
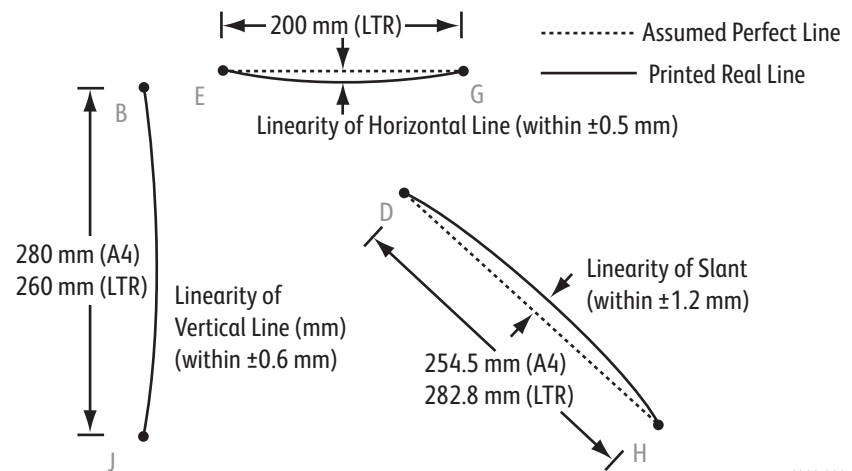
s6000-228

Perpendicularity
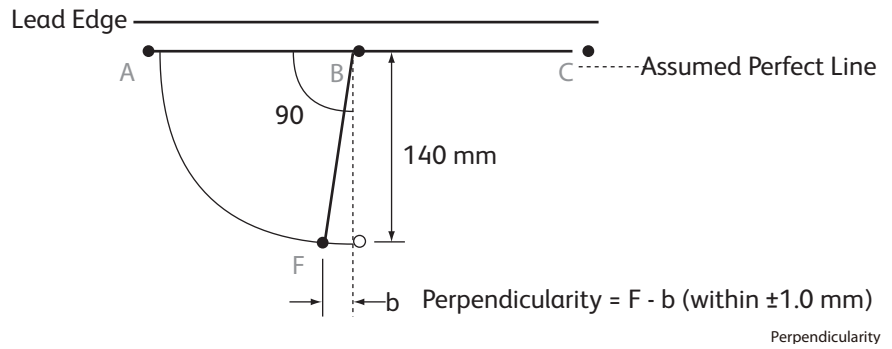
140 mm ± 1.0 mm

Lead Edge ——————————————————

A   B   C ·········· Assumed Perfect Line

90

140 mm

F

b   Perpendicularity = F - b (within ±1.0 mm)

Perpendicularity

Magnification Error

Horizontal
    A4   180 mm ± 0.5 mm
    LTR   200 mm ± 0.5 mm

Vertical
    A4   280 mm ± 0.5 mm
    LTR   260 mm ± 0.5 mm

Magnification = Measured Length / Nominal

B

Nominal = 280 mm
LTR Nominal = 260 mm

A4 Nominal = 180 mm
LTR Nominal = 200 mm

E   G

J
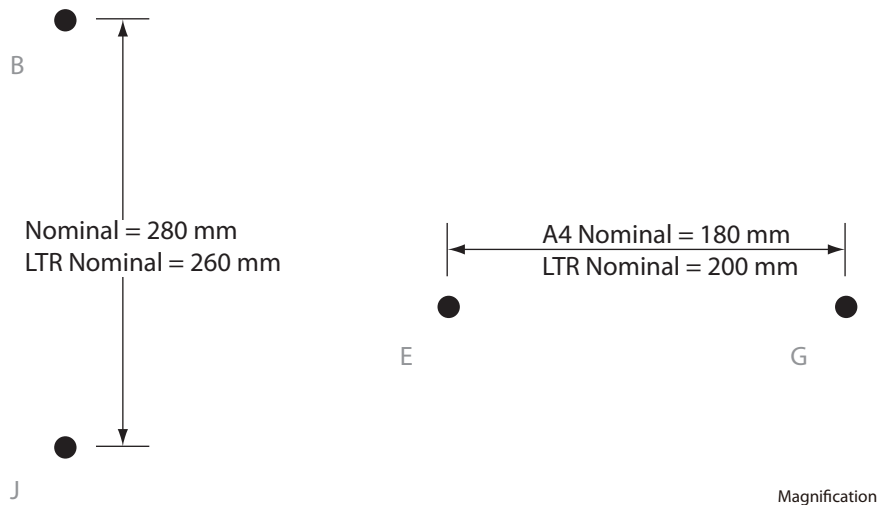
Magnification

Registration

- Leading Edge: ≤ ± 2.0 mm
- Side Edge: ≤ ± 2.5 mm

Registration = Measured Length - Nominal

Lead Edge

Nominal = 10.0 mm
(within ±2 mm)

B

Left Edge

Nominal = 8.5 mm
(within ±2.5 mm)

F
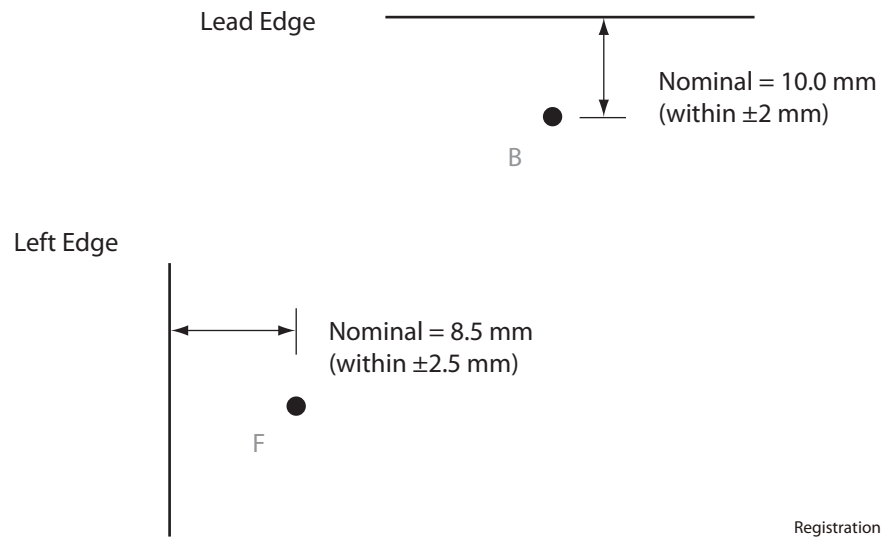
Registration

Note

The most common reason for registration to be out of specification is because the paper guides are set incorrectly.

Guaranteed Print Areas

- Maximum Print Area: 215.9 mm x 355.6 mm

4 mm · 4 mm · 4 mm · 4 mm

355.6 mm (14 inch)
351.6 mm
347.6 mm

Guaranteed Printing Area

207.9 mm
210.9 mm
215.9 mm
(8.5 inch)

Guaranteed and Maximum Area
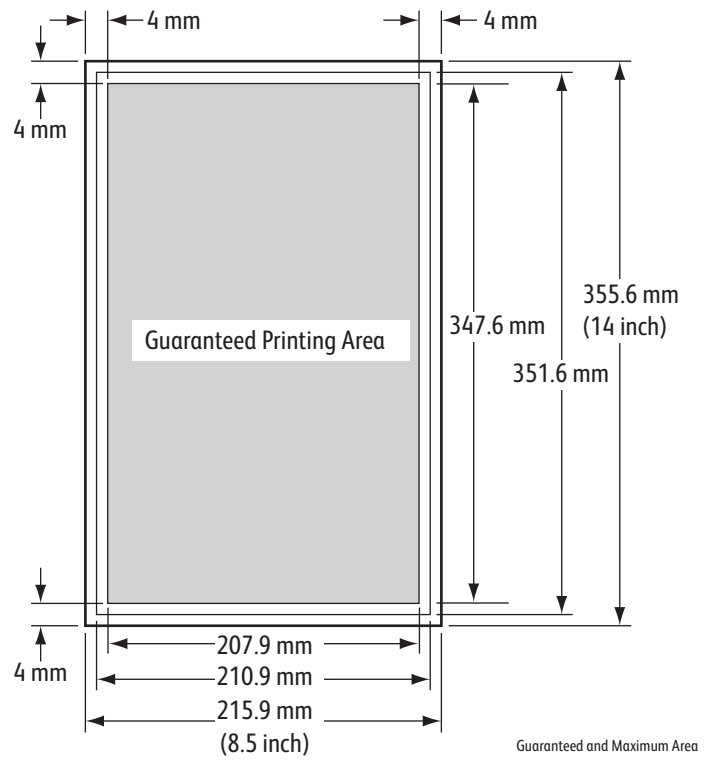
Adjustment and Calibration

In this chapter...

Chapter 6

Color Registration

The printer automatically adjusts the color registration when automatic adjustment is enabled. You can manually adjust color registration any time the printer is idle. Always adjust the color registration when the printer is moved. If you are having printing problems, adjust the color registration. For details, see "Image Quality" on page 5-1.

Performing Automatic Color Registration

Enabling/Disabling Automatic Color Registration

Use the following procedure to enable or disable the automatic color registration adjustment feature on the Phaser 6010N and the WorkCentre 6015 MFP.

1. On the printer control panel, press the **Menu** button (Phaser 6010N) or the **System** button (WorkCentre 6015 MFP).
2. Press the **Down Arrow** button to scroll to **Admin Menu** and then press the **OK** button.
3. Press the **Down Arrow** button to scroll to **Maintenance Mode** and press **OK**.
4. Press the **Down Arrow** button to scroll to **Auto Regi Adjust** and press **OK**.
5. Press the **Down** or **Up Arrow** buttons to select On or Off.
6. Do one of the following:
   - To enable the feature, at **On** press **OK**.
   - To disable the feature, at **Off** press **OK**.
7. Press the **Back** button to return to the main menu.

Performing an Automatic Color Registration Adjustment

Use the following procedure to perform the automatic color registration adjustment on the Phaser 6010N and the WorkCentre 6015 MFP.

Note

An automatic color registration adjustment is performed every time a new Toner Cartridge is installed.

1. On the printer control panel, press the **Menu** button (Phaser 6010N) or **System** button (WorkCentre 6015 MFP).
2. Press the **Down Arrow** button to scroll to **Admin Menu** and then press the **OK** button.
3. Press the **Down Arrow** button to scroll to **Maintenance Mode** and press **OK**.
4. Press the **Down Arrow** button to scroll to **Adjust Color Regi** and press **OK**.
5. At Auto Adjust, press **OK**.
6. At the prompt, Are you sure?, select Yes and press **OK** to begin the calibration.

   When the adjustment is complete, Ready appears on the printer control panel.

Phaser 6000/6010 Color Registration With the Printer Setting Utility

Note

The Color Registration procedures for the Printer Setting Utility work with USB connected Phaser 6000B and Phaser 6010N printers.

Enabling/Disabling Automatic Color Registration

Use the following procedure to enable or disable the automatic color registration adjustment feature.

1. On your computer, click **Start > All Programs > Xerox Office Printing > Phaser 6000B/6010N > Printer Setting Utility**.
2. Click the **Printer Maintenance** tab, then select **Color Registration Adjustment** from the list.
3. Do one of the following:
   - To enable the feature, click to select **On** for Automatic Registration Adjustment.
   - To disable the feature, click to clear the check for Automatic Registration Adjustment.
4. Click the **Apply New Settings** button to accept the change.

Performing an Automatic Color Registration Adjustment

Use the following procedure to perform the automatic color registration adjustment.

Note

An automatic color registration adjustment is performed every time a new Toner Cartridge is installed.

1. On your computer, click **Start > All Programs > Xerox Office Printing > Phaser 6000B/6010N > Printer Setting Utility**.
2. Click the **Printer Maintenance** tab, then select **Color Registration Adjustment** from the list.
3. Click the **Start** button next to Auto Correct. The Automatic Color Registration routine runs.

Note

The Phaser 6000B only corrects the X axis. If skew is a problem, click the **Start** button next to Print Color Regi Chart and adjust the left and right values.

Manual Color Registration With the Printer Setting Utility

Note

This procedure applies to the Phaser 6000/6010 Printers only.

You can fine-tune color registration by performing a manual adjustment. Manual color registration adjustment is a three-step process.

1. "Printing the Color Registration Correction Chart" on page 6-4.
2. "Determining Color Registration Values" on page 6-4.
3. "Entering Color Registration Values With the Printer Setting Utility" on page 6-5.

Printing the Color Registration Correction Chart

1. On your computer, click **Start > All Programs > Xerox Office Printing > Phaser 6000B/6010N > Printer Setting Utility**.
1. Click the **Printer Maintenance** tab, then select **Color Registration Adjustment** from the list.
2. Click the **Start** button next to Print Color Regi Chart. The Color Registration Chart prints.
3. Continue to "Determining Color Registration Values" on page 6-4 to determine if an adjustment is necessary.

Determining Color Registration Values

The Color Registration Chart shows horizontal and vertical values for each color. The color registration marks are grouped on the chart as follows:

Vertical registration values are at the top of the page:

- Y = Paper feed direction Yellow

- M = Paper feed direction Magenta

- C = Paper feed direction Cyan

Left side registration values are on the left side of the page:

- LY = Left Yellow

- LM = Left Magenta

- LC = Left Cyan

Right side registration values are on the right side of the page:

- RY = Right Yellow

- RM = Right Magenta

- RC = Right Cyan

To determine the vertical values:

1. In the upper section of the Color Registration Chart, vertical color lines are printed in gaps between corresponding vertical Black lines. The line sets are in color groups: Y, M, or C. Each set of lines has a corresponding number printed above it. In each color group, identify the set of lines in which the color line is perfectly aligned between the corresponding Black lines. Refer to the enlarged illustration on the chart that shows how to determine the closest number.

2. For each color, do one of the following:

   - If zero (0) is the value on the color set that is most closely aligned, you do not need to adjust that color.

   - If zero (0) is not the value on the color set that is most closely aligned, circle the number that is closest.

To determine the horizontal values:

1. In the left and right sections of the Color Registration Chart, horizontal color lines are printed in the gaps between corresponding horizontal Black lines. Each group of lines is arranged in a group under the corresponding letters LY, LM, LC, RY, RM, and RC. Each set of lines has a corresponding number printed to the right of it. In each color group, identify the set of lines in which color line is most closely aligned between the corresponding Black lines. Refer to the enlarged illustration on the chart that shows how to determine the closest number.

2. Proceed to determining the vertical values described in the following procedure:

   - If zero (0) is the value on the color set that is most closely aligned, you do not need to adjust that color.

   - If zero (0) is not the value on the color set that is most closely aligned, circle the number that is closest.

3. If it is necessary to make any horizontal or vertical adjustments, proceed to "Entering Color Registration Values With the Printer Setting Utility" on page 6-5.

Entering Color Registration Values With the Printer Setting Utility

Using the printer control panel, enter the values that you found in the Color Registration Correction Chart to make adjustments.

1. On your computer, click **Start > All Programs > Xerox Office Printing > Phaser 6000B/6010N > Printer Setting Utility**.

2. Click the **Printer Maintenance** tab, then select **Color Registration Adjustment** from the list.

3. Use the drop-down arrow at the right side of each color to select the value for the registration offset.

4. Repeat the previous step for each of the other registration colors.

5. After entering all of the color registration values, click the **Apply New Settings** button.

Performing Manual Color Registration at the 6010N

You can fine-tune color registration by performing a manual adjustment at the Phaser 6010N control panel. Manual color registration adjustment is a three-step process:

1. Print the Color Registration Chart. See "Printing the Color Registration Correction Chart" on page 6.

2. Determine the color registration values. See "Determining the Color Registration Values" on page 6.

3. Use the Control Panel to enter the color registration values. See "Entering Color Registration Values at the Control Panel" on page 7.

Printing the Color Registration Correction Chart

1. On the printer control panel, press the **Menu** button.
2. Press the **Down Arrow** button to go to **Admin Menu** and then press the **OK** button.
3. Press the **Down Arrow** button to scroll to **Maintenance Mode** and press **OK**.
4. Press the **Down Arrow** button to scroll to **Adjust Color Regi** and press **OK**.
5. Press the **Down Arrow** button to scroll to **Color Regi Chart** and press **OK**.

   The Color Registration Chart prints.

6. Continue to "Determining the Color Registration Values" on page 6-6 to determine if an adjustment is necessary.

Determining the Color Registration Values

The Color Registration Chart shows horizontal and vertical values for each color.

Vertical registration values are at the top of the page:

- Y = Paper feed direction Yellow

- M = Paper feed direction Magenta

- C = Paper feed direction Cyan

Left side registration values are on the left side of the page:

- LY = Left Yellow

- LM = Left Magenta

- LC = Left Cyan

Right side registration values are on the right side of the page:

- RY = Right Yellow

- RM = Right Magenta

- RC = Right Cyan

To determine the vertical values:

1. In the upper section of the Color Registration Chart, vertical color lines are printed in gaps between corresponding vertical Black lines. The line sets are in color groups: Y, M, or C. Each set of lines has a corresponding number printed above it. In each color group, identify the set of lines in which the color line is perfectly aligned between the corresponding Black lines. Refer to the enlarged illustration on the chart that shows how to determine the closest number.
2. For each color, do one of the following:
   - If zero (0) is the value on the color set that is most closely aligned, you do not need to adjust that color.
   - If zero (0) is not the value on the color set that is most closely aligned, circle the number that is closest.

To determine the horizontal values:

1. In the left and right sections of the Color Registration Chart, horizontal color lines are printed in the gaps between corresponding Black lines. Each group of lines is arranged in a group under the corresponding letters LY, LM, LC, RY, RM, and RC. Each set of lines has a corresponding number printed to the right of it.

In each color group, identify the set of lines in which the color line is most closely aligned between the corresponding Black lines. Refer to the enlarged illustration on the chart that shows how to determine the closest number.

2. Proceed to determining the vertical values described in the following procedure:

   - If zero (0) is the value on the color set that is most closely aligned, you do not need to adjust that color.

   - If zero (0) is not the value on the color set that is most closely aligned, circle the number that is closest.

3. If it is necessary to make any horizontal or vertical adjustments, proceed to "Entering Color Registration Values at the Control Panel" on page 6-7.

Entering Color Registration Values at the Control Panel

Using the printer control panel, enter the values that you found in the Color Registration Correction Chart to make adjustments.

1. On the control panel, press the **Menu** button.
2. Press the **Up** or **Down Arrow** button to select **Admin Menu**, then press the **OK** button.
3. Press an **Arrow** button to select **Maintenance Mode**, then press **OK**.
4. Press an **Arrow** button to select **Adjust Color Regi**, then press **OK**.
5. Press an **Arrow** button to select **Enter Number**, then press **OK**.
6. Adjust the Vertical registration values:
   a. Press an **Arrow** button to select the Y value from the Color Registration Correction Chart. Press the **Right Arrow** button to move to the next value.
   b. Press an **Arrow** button to select the M value from the Color Registration Correction Chart. Press the **Right Arrow** button to move to the next value.
   c. Press an **Arrow** button to select the C value from the Color Registration Correction Chart.
   d. Press **OK** to accept the changes and continue to the next adjustment.
7. Adjust the Left Horizontal registration values:
   a. Press an **Arrow** button to select the LY value from the Color Registration Correction Chart. Press the **Right Arrow** button to move to the next value.
   b. Press an **Arrow** button to select the LM value from the Color Registration Correction Chart. Press the **Right Arrow** button to move to the next value.
   c. Press an **Arrow** button to select the LC value from the Color Registration Correction Chart. Press **OK** to move to the next screen.
   d. Press **OK** to accept the changes and continue to the next adjustment.
8. Adjust the Right Horizontal registration values:
   a. Press the **Arrow** buttons to select the RY value from the Color Registration Correction Chart. Press the **Right Arrow** button to move to the next value.
   b. Press the **Arrow** buttons to select the RM value from the Color Registration Correction Chart. Press the **Right Arrow** button to move to the next value.
   c. Press the **Arrow** buttons to select the RC value from the Color Registration Correction Chart. Press **OK** to move to the next screen.
9. When the registration value adjustments are complete, press **OK**. The printer returns to Ready.
10. Print the chart again to verify the values:

    For details, see "Printing the Color Registration Correction Chart" on page 6-6.
11. Repeat the steps until the color registration is satisfactory.
12. Press the **Back** button to return to Ready.

Adjusting the Bias Transfer Roller

The Bias Transfer Roller (BTR) controls how the toner image is transferred from the marking unit to the paper. The bias is set for each paper type that is selected and used in the printer. If the bias is too low, the toner does not transfer properly, producing light colors and white spots. If the bias voltage is too high, it causes a mottling affect on the colors that are transferred.

Adjusting the WorkCentre 6015 MFP Bias Transfer Roller

To adjust the Bias Transfer Roller:

1. On the printer control panel, press the **System** button.
2. To select **Admin Menu**, press the **Up** or **Down Arrow** button, then press **OK**.
3. Select **Maintenance**, then press **OK**.
4. Select **Adjust BTR**, then press **OK**.
5. Press the **Up** or **Down Arrow** button to select the paper type for adjustment, then press **OK**.
6. Press the **Arrow** buttons to increase or decrease the amount of offset, then press **OK**.
7. Repeat this procedure for each paper type you need to adjust.
8. To return to the Ready screen, press **Back**.

Adjusting the Phaser 6000/6010 Bias Transfer Roller

To adjust the Bias Transfer Roller:

1. Identify the paper type loaded in the paper tray.
2. Make sure that the corresponding Paper Type is selected in the print driver Printing Preferences.
3. On your computer, click **Start > All Programs > Xerox Office Printing > Phaser 6000B/6010N > Printer Setting Utility**.
4. Click the **Printer Maintenance** tab, then select **Adjust BTR** from the list.
5. Click the arrow for the drop-down list to the right of the paper type.
6. Select the bias offset to adjust the BTR for the selected paper type.

    Select a more positive value to increase the bias voltage.

    Select a more negative value to decrease the bias voltage.

7. Click **Apply New Settings** to change the setting.
8. Continue printing.

Refreshing the Bias Transfer Roller

Use the BTR Refresh procedure to reduce paper curling and improve paper discharge.

To refresh the bias transfer roller:

1. On the printer control panel, press the **System** button.
2. Use the arrow buttons to select **Admin Menu**, then press **OK**.

3. Select **Maintenance**, then press **OK**.

4. Select **BTR Refresh**, then press **OK**.

5. Select **On**, then press **OK**.

6. To return to the Ready screen, press **Back**.

Adjusting the Fuser

The Fuser uses heat and pressure to bond the toner image to the paper. For optimal print quality, the printer automatically adjusts the temperature of the Fuser when you change the paper type. Because of differences in paper construction and thickness, the adjustment made by the printer is not enough or is too much for all paper types. If the Fuser temperature is too low, the toner will not properly bond to the paper. If the Fuser is too hot, the paper can curl.

Adjusting the WorkCentre 6015 MFP Fuser

To adjust the Fuser:

1. On the printer control panel, press the **System** button.

2. Use the arrow buttons to select **Admin Menu**, then press **OK**.

3. Select **Maintenance**, then press **OK**.

4. Select **Adjust Fuser**, then press **OK**.

5. Press the arrow buttons to select the paper type for the adjustment, then press **OK**.

6. Press the arrow buttons to increase or decrease the amount of offset, then press **OK**.

7. Repeat this procedure for each paper type you need to adjust.

8. To return to the Ready screen, press **Back**.

Adjusting the Phaser 6000/6010 Fuser

To adjust the Fuser:

1. Identify the paper type loaded in the paper tray.

2. Make sure that the corresponding Paper Type is selected in the print driver Printing Preferences.

3. On your computer, click **Start > All Programs > Xerox Office Printing > Phaser 6000B/6010N > Printer Setting Utility**.

4. Click the **Printer Maintenance** tab, then select **Adjust Fuser** from the list.

5. Click the arrow for the drop-down list to the right of the paper type to adjust.

6. Select the offset value to adjust the Fuser for the selected paper type.

   - Select a more positive value to increase the Fuser temperature.

   - Select a more negative value to decrease the Fuser temperature.

7. Click **Apply New Settings** to change the setting.

8. Continue printing.

Adjusting Altitude

Print quality varies with barometric pressure. Since the barometric pressure decreases as the altitude increases, the altitude can affect the print quality of the printer. To optimize print quality for your location, select the altitude setting on your printer to match the altitude of your location.

WorkCentre 6015 MFP Altitude Adjustment

To adjust altitude:

1. On the printer control panel, press the **System** button.
2. To select **Admin Menu**, press the arrow buttons, then press **OK**.
3. Select **Maintenance**, then press **OK**.
4. Select **Adjust Altitude**, then press **OK**.
5. Press the arrow buttons to select the altitude of the location of the printer, then press **OK**.
6. To return to the Ready screen, press **Back**.

Phaser 6000/6010 Altitude Adjustment

To adjust altitude:

1. On your computer, click **Start > All Programs > Xerox Office Printing > Phaser 6000B/6010N > Printer Setting Utility**.
2. Click the **Printer Maintenance** tab, then select **Adjust Altitude** from the list.
3. Click the arrow for the drop-down list to the right of Adjust Altitude.
4. Select the value closest to the altitude of your location.
5. Click **Apply New Settings** to change the setting.
6. Close the Printer Setting Utility.

Scanner Adjustment

When the Scanner or the IP Board are replaced, the Scanner calibration data must be written to the IP Board for proper Scanner operation. The WorkCentre 6015 MFPs have a Gap Serial Number sticker located at the center rear of the scanner. This number is the calibration data that is required.

s6015-102
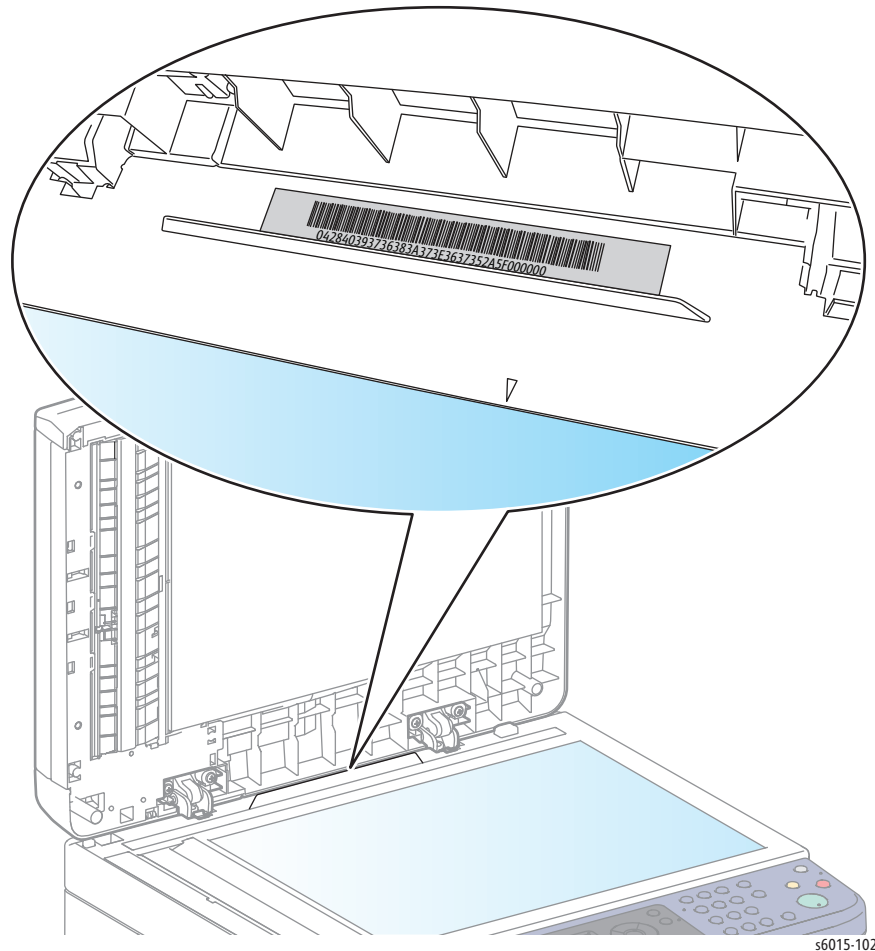
1. Connect the printer to the computer via USB.
2. Start the Grande Gap Writer software.
3. Choose the Scanner from the Scanner List.
4. Enter the Gap Serial Number in the **Gap SN** box and press Enter.

   The information is written to the IP Board.

Cleaning and Maintenance

In this chapter...

- Service Maintenance
- Cleaning
- Maintenance
- Moving the Printer

Chapter 7

Service Maintenance

Perform the procedures in this chapter 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, the type of media printed on, and operating environment are factors in determining how critical cleaning the machine is and how often it is necessary.

Recommended Tools

- Toner vacuum cleaner
- Clean water
- Clean, dry, lint-free cloth

Cleaning

Cleaning the LED Windows

If prints have voids or light streaks through one or more colors, use the following instructions to clean the LED windows.

Note

Do not use warm water or cleaning solvents to remove toner from your skin or clothing. Warm water sets the toner and makes it difficult to remove. If toner gets on your skin or clothing, brush it off, blow it off, or wash it off with cold water and mild soap.

1. Make sure that the printer is turned off and the power cord is unplugged.
2. Spread some paper at the right side of the printer to catch loose toner.
3. Open the toner access cover.
4. Pinch the Toner Cartridge release lever upward, as shown in the illustration.
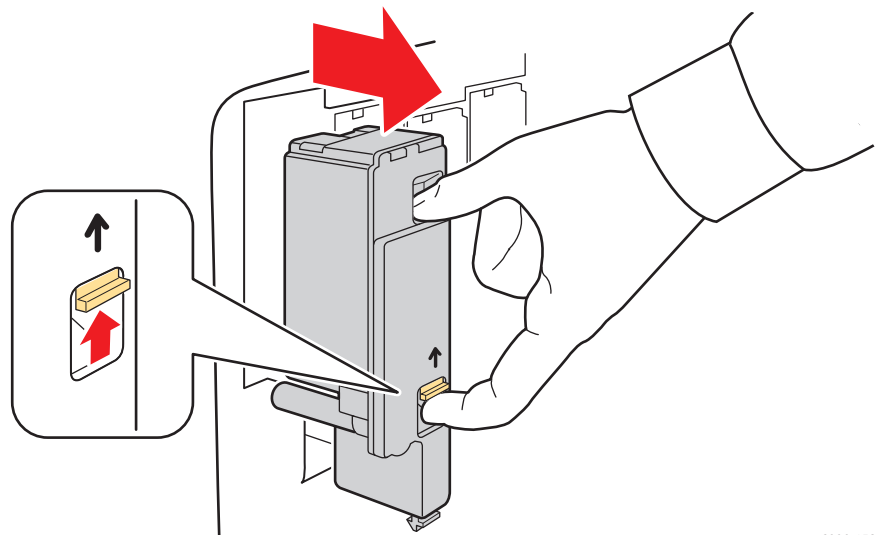
s6000-153

5. Pull out the Toner Cartridge and set it on the paper with the label side down to prevent spillage.
6. Remove the other 3 cartridges.

7. Pull out the cleaning rod and remove it from the printer.
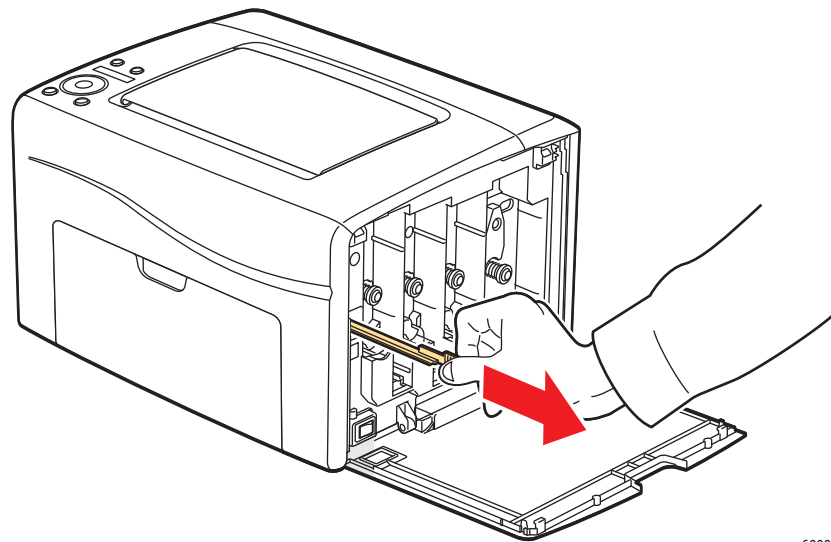
s6000-154

8. Insert the cleaning rod into the hole beside the arrow in the first toner slot.
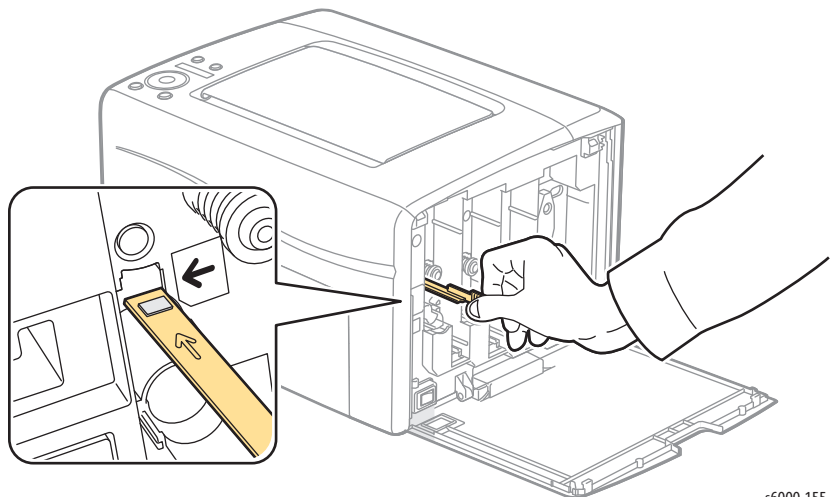
s6000-155

9. Push the cleaning rod into the printer until it stops, then pull it out of the printer.
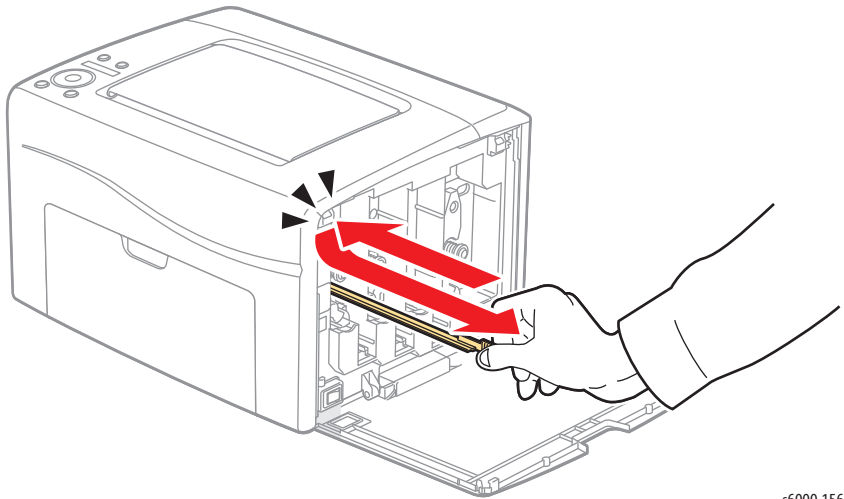
s6000-156

10. Repeat the same procedure for each of the other 3 LED windows.

11. Return the cleaning rod to the original location.
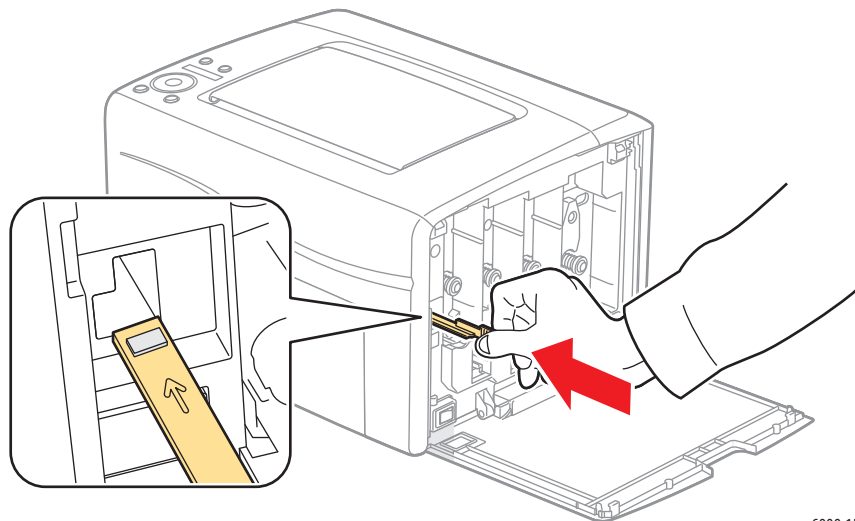
s6000-157

12. Align the Toner Cartridge to the associated slot by aligning the geared post with the hole. Insert the cartridge firmly by pressing in on the center of the label until it clicks in place.
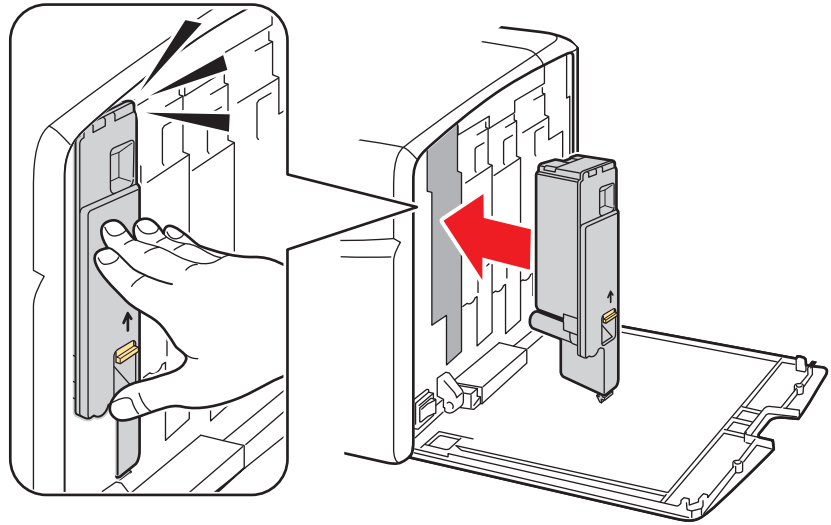
s6000-158

13. Insert each of the other 3 Toner Cartridges.
14. Close the toner access cover.

Cleaning the Color Toner Density Sensors

The Color Toner Density Sensors (ADC Sensors) measure the optical density of toner deposited on the marking unit during the calibration cycles of the printing process. One sensor is located at each side of the marking unit to insure that the density of the toner is consistent across the belt. To insure optimum print quality, the printer checks the operation of the ADC Sensors at the beginning of each calibration cycle. When the printer indicates an ADC Sensor error on the Control Panel or in the Printer Setting Utility, clean the ADC Sensors.

Note

Do not use warm water or cleaning solvents to remove toner from your skin or clothing. Warm water sets the toner and makes it difficult to remove. If toner gets on your skin or clothing, brush it off, blow it off, or wash it off with cold water and mild soap.

Warning

Never touch a labeled area found on or near the heat roller in the Fuser. You can get burned.

To clean the ADC Sensors:

1. Turn off the printer and unplug it from the power source.
2. Open the Rear Door.
3. Clean the ADC Sensors by wiping inside the access holes with a clean, dry cotton swab.
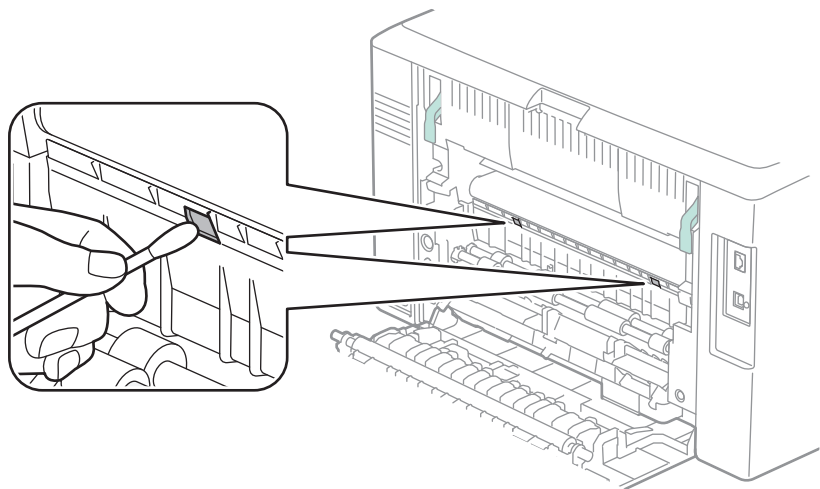
s6000-159

4. Close the Rear Door.

Cleaning the Document Glass

To clean the document glass, gently wipe the glass with a clean, dry, lint-free cloth.

Maintenance

Perform these routine maintenance procedures during the course of servicing the printer.

- Clean the Feed Rollers, exit rollers, and guides; replace if necessary.

- Remove and clean the paper tray.

- Print the Configuration and Error History pages, diagnose, and repair any problems as indicated.

- Check cleanliness of the interior and exterior, including the fan; if necessary clean (dust or vacuum) these areas.

- Review proper printer operation using a customer file, if possible. Check with the customer regarding any special applications they may be running.

- Review with the customer all work that was performed and discuss proper printer care.

Moving the Printer

The Phaser 6000/6010, with consumables installed weighs 11.3 kg (24.9 lb.), and the WorkCentre 6015 MFP weighs 15.2 kg (33.51 lb.).

Caution

When moving the printer over long distances, remove the Toner Cartridges to prevent toner from spilling.

Before moving the printer, do the following:

1. Turn the printer Off and disconnect all cables.
2. Allow the printer to cool about 40 minutes.
3. Remove media from the output tray and return the Tray Extension to its non-extended position.
4. Remove the Bypass Tray, then push in the center paper guide until it stops.
5. Push in the side paper guides until they stop.
6. Place the Bypass Tray inside the printer, on the Main Tray.
7. Fold up the Main Tray Extension to cover the paper feed.
8. Lift and carry the printer as shown in the illustration.

11.3 kg
24.9 lb.

s6000-160

15.2 kg
33.51 lb.

s6015-112
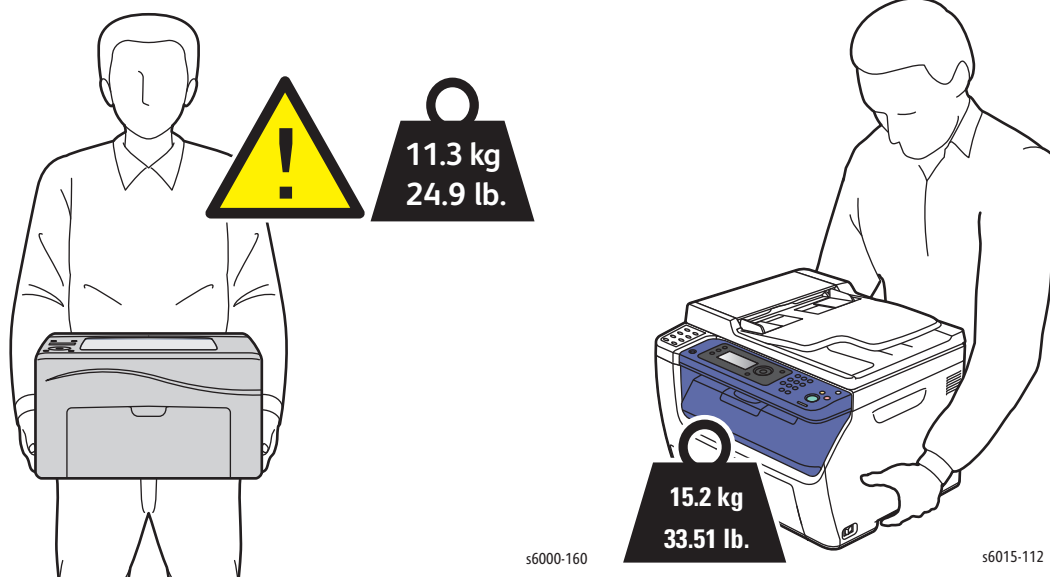
- Do not tilt the printer more than 10 degrees to the front or back, or left or right. Tilting the printer more than 10 degrees may cause toner spillage.

10° or 7 mm

10° or 7 mm

s6000-185
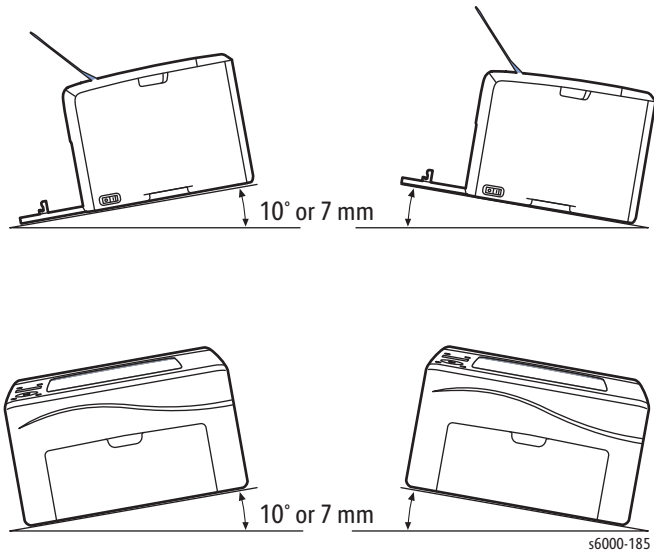
Caution

Failure to properly repackage the printer for shipment can result in damage not covered by the warranty, Service Agreement, or Total Satisfaction Guarantee.

After moving the printer:

1. Reinstall any parts you removed.
2. Reconnect the printer to the cables and power cord.
3. Plug in and turn On the printer.
4. Adjust the color registration before using the printer.

Service Parts Disassembly

In this chapter...

Chapter 8

Overview

This section contains the removal procedures for field-replaceable parts listed in the Parts List. In most cases, the replacement procedure is simply the reverse of the removal procedure. In some instances, additional steps are necessary and are provided for replacement of the parts. For specific assemblies and parts, refer to Chapter 9.

Standard Orientation of the Printer

When needed, the orientation of the printer is called out in the procedure as an aid for locating the printer parts. The following illustrations identify the Front, Rear, Left, and Right sides of the printer.

Phaser 6000/6010 Printers

s6000-001

WorkCentre 6015 MFP

s6015-001
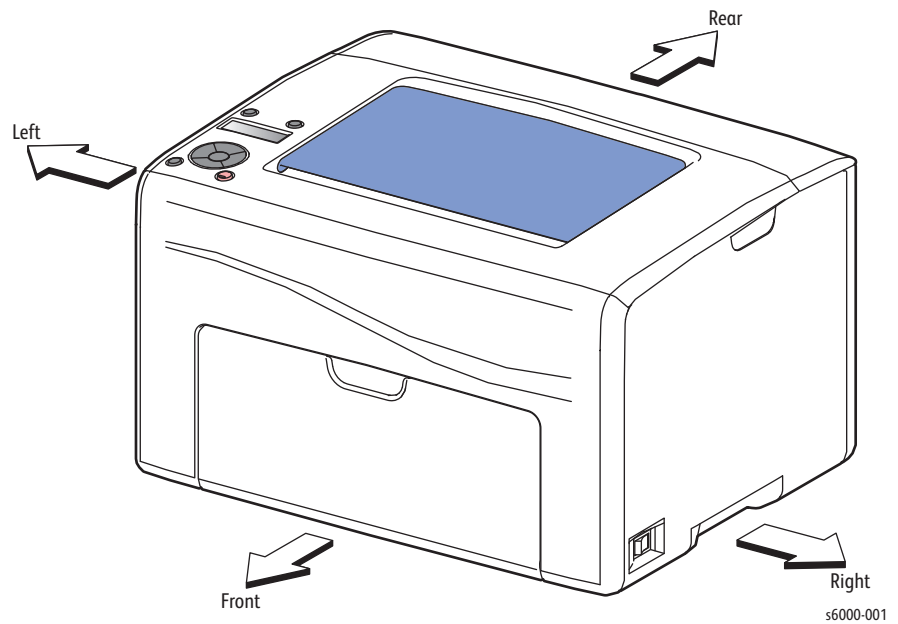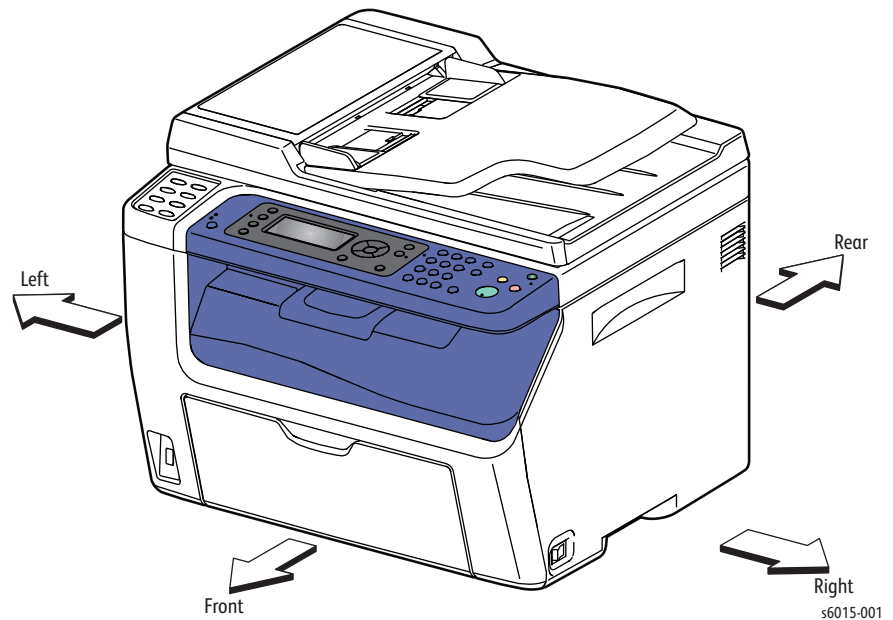
Preparation

Before you begin any procedure:

Warning

Unplug the power cord from the wall outlet.

Warning

Allow the Fuser to cool before using the procedure.

Caution

Many parts are secured by plastic tabs. Do not over flex or force these parts. Do not over torque screws threaded into plastic.

Note

Names of parts that appear in the removal procedures may not match the names that appear in the Parts List. For example, a part called Paper Tray in a removal procedure may appear on the Parts List as Cassette, Assembly. While using removal procedure, ignore any prerequisite procedures for parts already removed.

1. Wear an Electrostatic Discharge wrist strap.
2. Turn Off power and disconnect the power cord from the wall outlet.
3. Disconnect all cables from the printer.
4. Remove the Toner Cartridges (page 8-6).

Notations in the Disassembly Text

- The notation "(item X)" points to a numbered callout in the illustration corresponding to the disassembly procedure being performed.

- The notation "PL*X.X.X*" indicates the component is listed in the Parts List.

- Arrows in an illustration show direction of movement when removing or replacing a component.

- The notation "(tap, plastic, 10 mm)" or "(metal, 6 mm)" refer to the type of screw being removed.
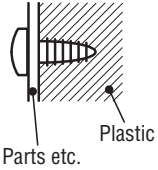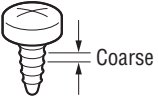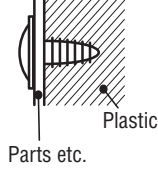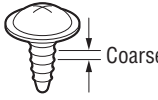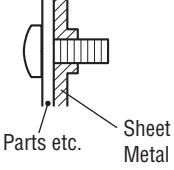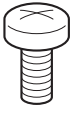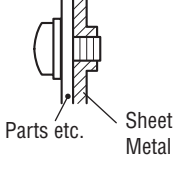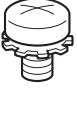
Replacement Note

Provides information specific to the replacement of parts or assemblies.

Fastener Types

The following table lists the types of Posi-Drive screws used to assemble the printer. The procedures provide dimensions for screws being removed.

Posi-Drive Screw Types Used in this Product

Type	Application	Shape	Characteristics
Self-tapping, plastic	Parts etc. / Plastic / Coarse		1. Silver colored. 2. Screw thread is coarse compared to metal screw. 3. Screw tip is thin.
Self-tapping, plastic, with flange	Parts etc. / Plastic / Coarse		1. Silver-colored 2. It has a flange. 3. Screw thread is coarse comparing to the sheet metal type. 4. Screw tip is thin.
Sheet Metal, silver	Parts etc. / Sheet Metal		1. Silver colored. 2. Diameter is uniform.
Sheet Metal, silver with lock washer	Parts etc. / Sheet Metal		1. Silver colored. 2. Includes a toothed washer. 3. Diameter is uniform. 4. Used for grounding terminals.

Caution

Use care when installing self-tapping screws in plastic. To properly start the screw in plastic, turn the screw counter-clockwise in the hole until you feel the screw engage the threads, then tighten as usual. Improperly aligning or over tightening the screw can result in damage to previously tapped threads.

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

Consumables

Consumables consist of the 4 Toner Cartridges.

Toner
Cartridges (Y, M, C, K)

s6015-086
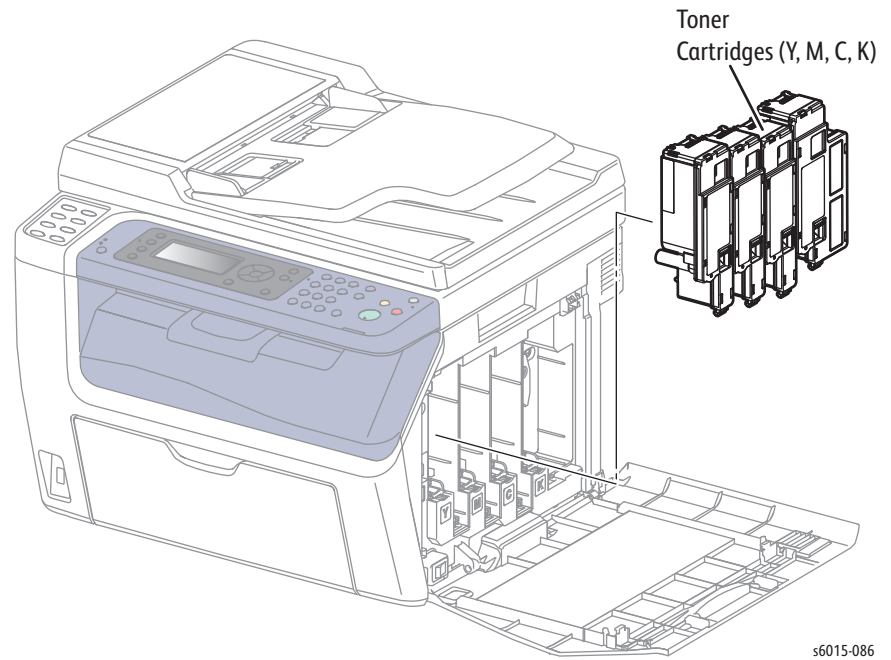
Removing Toner Cartridges

PL4.1.13-16

1. Open the Toner Door.
2. Lift the Toner Cartridge handle upward to release the lock.

s6000-153
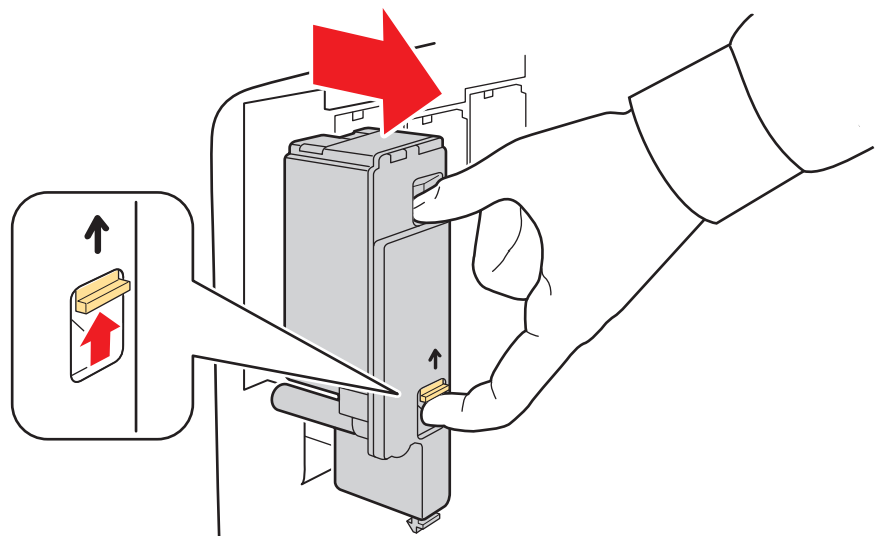
Phaser 6000/6010 Printer Covers

Phaser 6000/6010 Main Paper Tray Cover

PL1.1.17

1. Open the Main Paper Tray Cover.
2. Release the boss on the Main Paper Tray Cover from the hole in the Front Cover, and then remove the Main Paper Tray Cover.
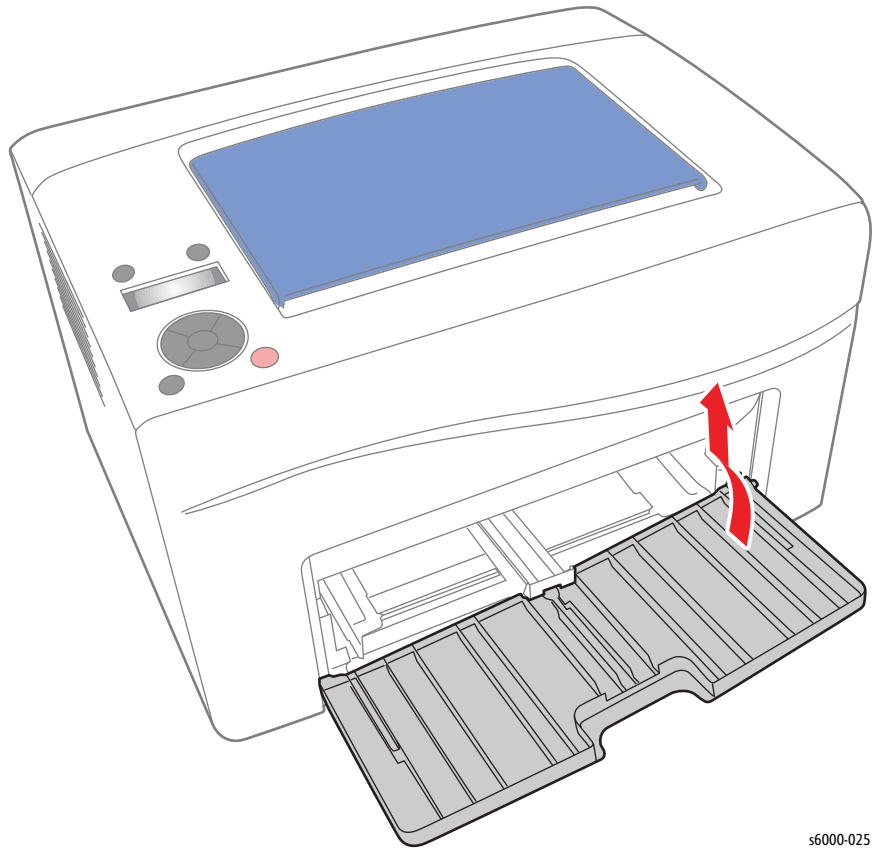
s6000-025

Phaser 6000/6010 Front Cover

PL1.1.18

1. Remove the Main Paper Tray Cover (page 8-7).
2. Open the Toner Door.
3. Remove the 2 screws (silver, tap, 8 mm) that fix the Front Cover to the printer.
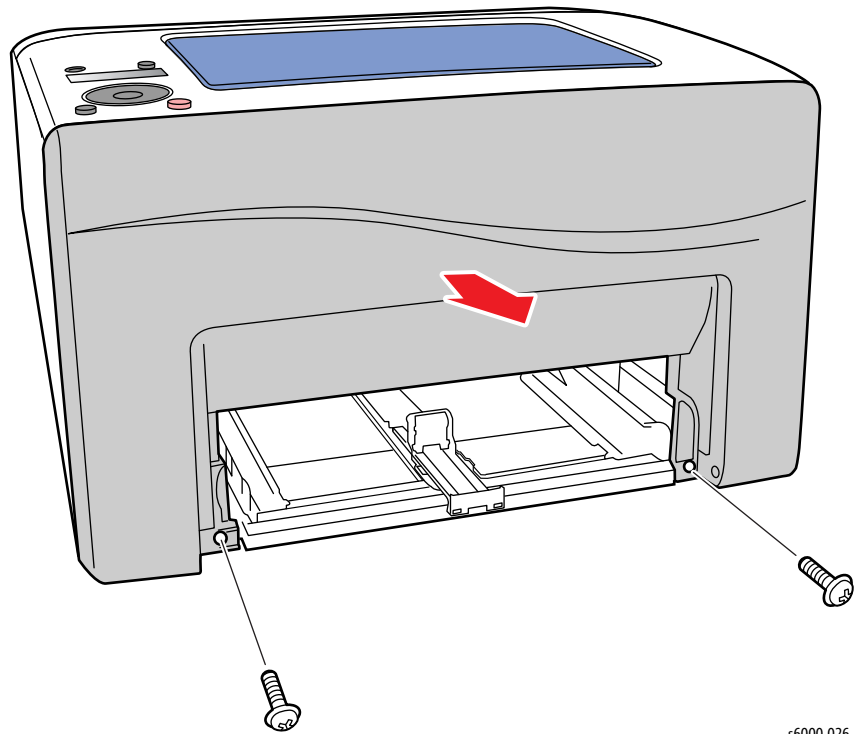
s6000-026

4. Starting on the bottom side, release the hooks on both sides of the printer, and remove the Front Cover. There are 3 hooks per side, and 7 on the top.

Replacement Note

Reinstall the top hooks first, and then work down the sides.
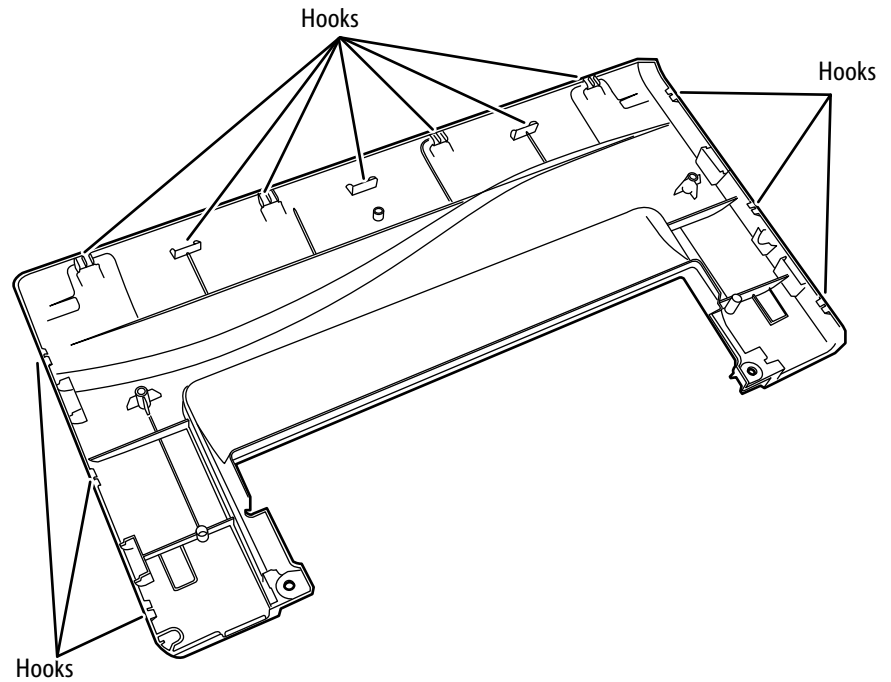
Hooks

Hooks

Hooks

s6000-027

Phaser 6000/6010 Left Side Cover

PL1.1.21

1. Remove the Top Cover (page 8-11).

2. Open the Rear Door.

3. Release the 2 hooks on the lower side of the Left Side Cover.

4. Remove the Left Side Cover by releasing the hooks attached on the bottom of the Left Side Cover.
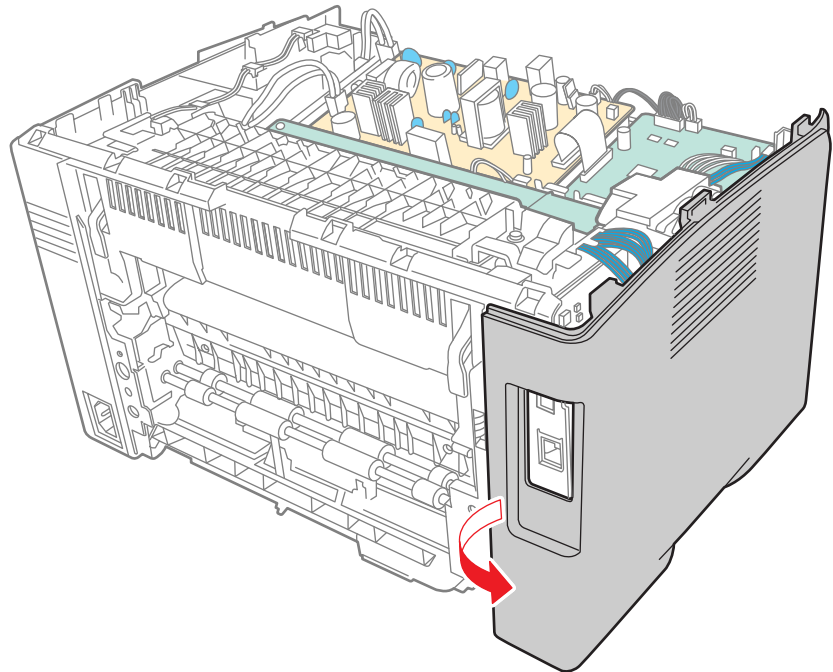
s6000-028

Replacement Note

Engage the hooks on the rear side of the printer, and then engage the hooks on the bottom of the Left Side Cover.

Phaser 6000/6010 Top Cover Assembly

PL1.1.1A, PL1.1.1B, PL1.1.4A, PL1.1.4B

1. Remove the Main Paper Tray Cover (page 8-7).
2. Remove the Front Cover (page 8-8).
3. Remove the 2 screws (silver, M3, 6 mm).
4. Release the front tabs, and carefully lift the Top Cover from the right and disconnect P/J220 on the Control Panel to remove the Top Cover.
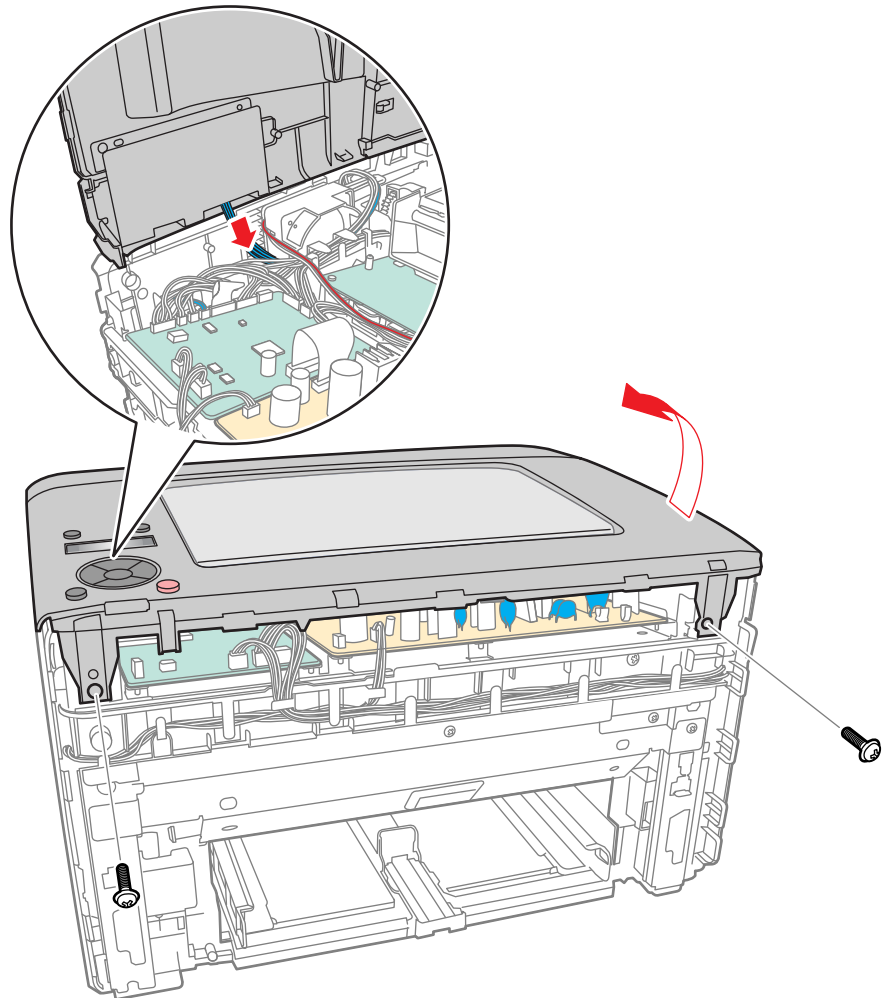
s6000-029

5. If replacing the Front Top Cover, remove the Top Rear Cover (see page 8-21).

Phaser 6000/6010 Output Tray Extension

PL1.1.2

1. Open the Output Tray Extension.
2. Release the boss of the Output Tray Extension from the hole on the Top Cover.
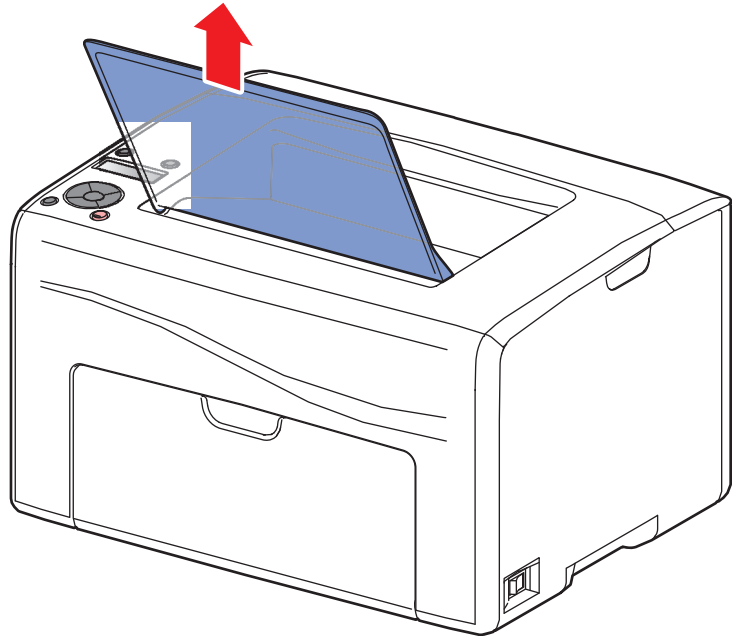
s6000-241

Phaser 6000/6010 Rear Door

PL1.1.6

1. Open the Rear Door.
2. Release the right side boss of the Rear Door (located adjacent to the power receptacle) from the hole in the printer.
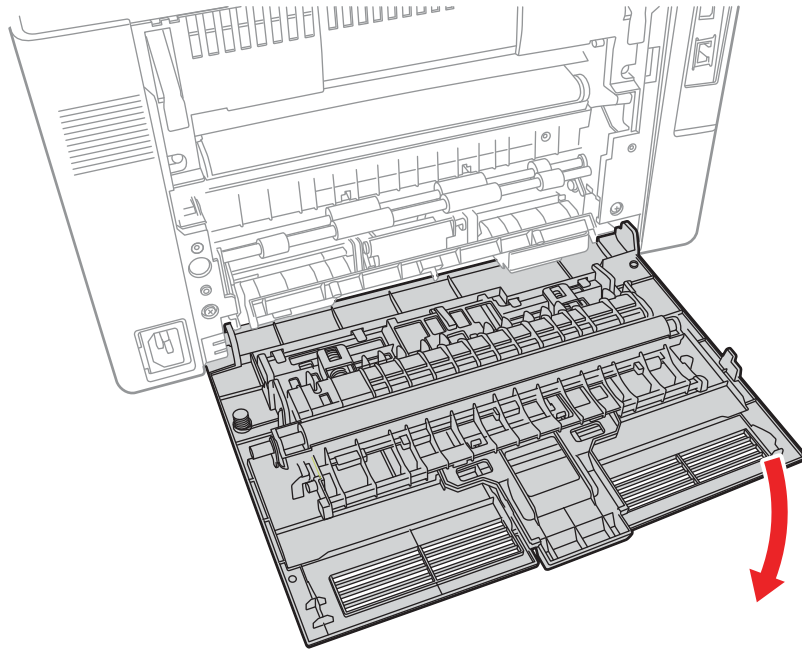
s6000-030

Transfer Roller

PL1.1.7~9

1. Open the Rear Door.
2. Unclip the Left Transfer Roller Bearing (white), then rotate it and pull it off of the Transfer Roller.
3. Unclip the Right Transfer Roller Bearing (black), then rotate it and pull it off of the Transfer Roller.
4. Remove the Transfer Roller from the printer.
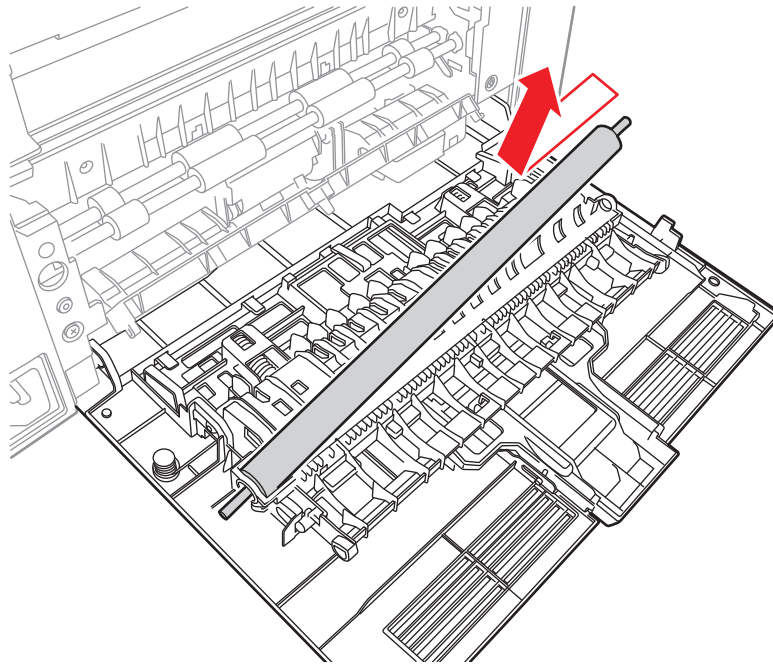
s6000-032

Replacement Note

The Right Transfer Roller Bearing is installed over the spring.

Phaser 6000/6010 Rear Cover

PL1.1.10

1. Remove the Main Paper Tray Cover (page 8-7).
2. Remove the Front Cover (page 8-8).
3. Open the Rear Door.
4. Remove the Left Side Cover (page 8-10).
5. Remove the Top Cover (page 8-11).
6. Pull up the 2 levers on the Fuser.
7. Remove the 4 screws (silver, tap, 8 mm), and remove the Rear Cover from the printer.
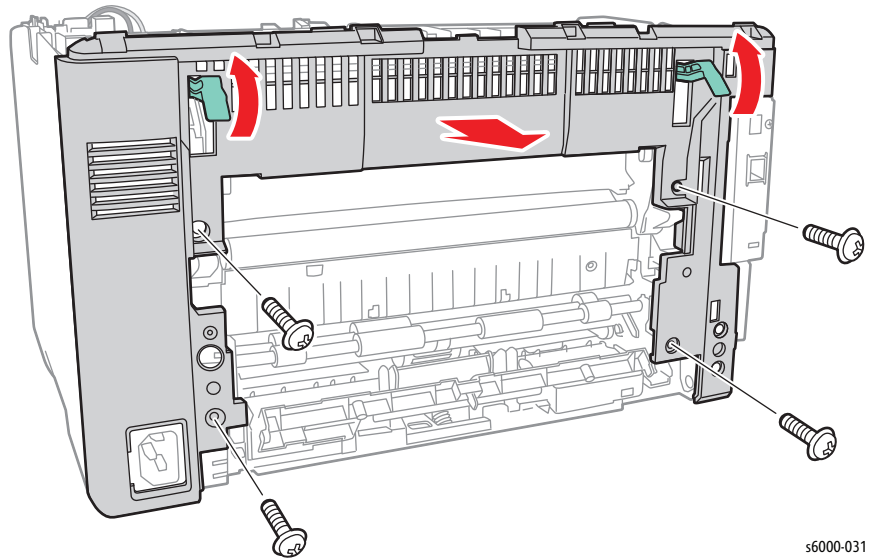
s6000-031

8. Disconnect P/J204 on the LVPS, and then release the harness from the harness guide.

Note

> You do not have to completely unthread the harness. You need only enough play to access the screws on the Rear Cover Interlock Switch in the next step.

P/J204   s6000-033
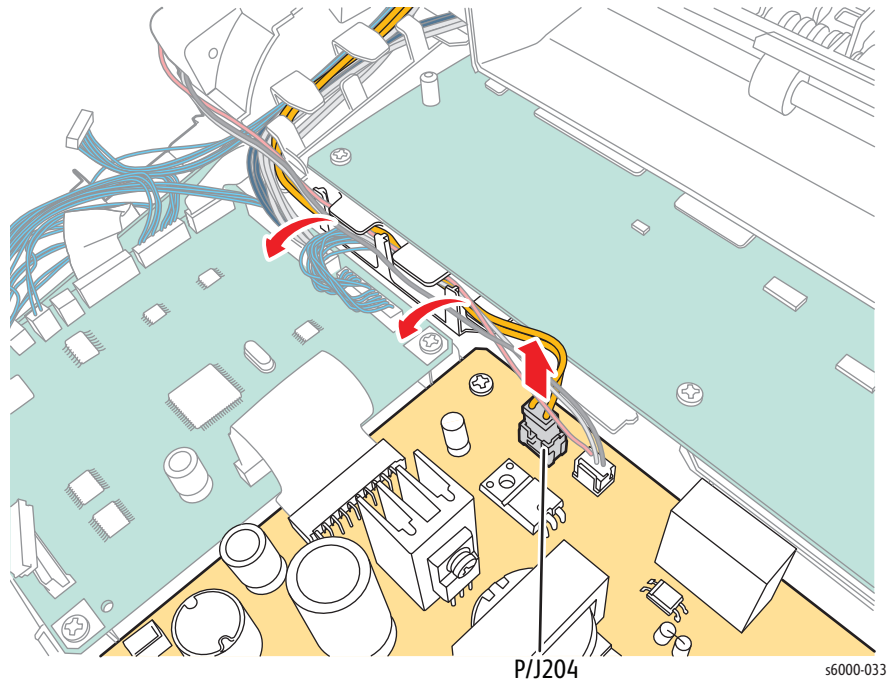
9. Remove 2 screws (silver, tap, 8mm) that secure the Rear Cover Interlock Switch to the Rear Cover.

s6000-034
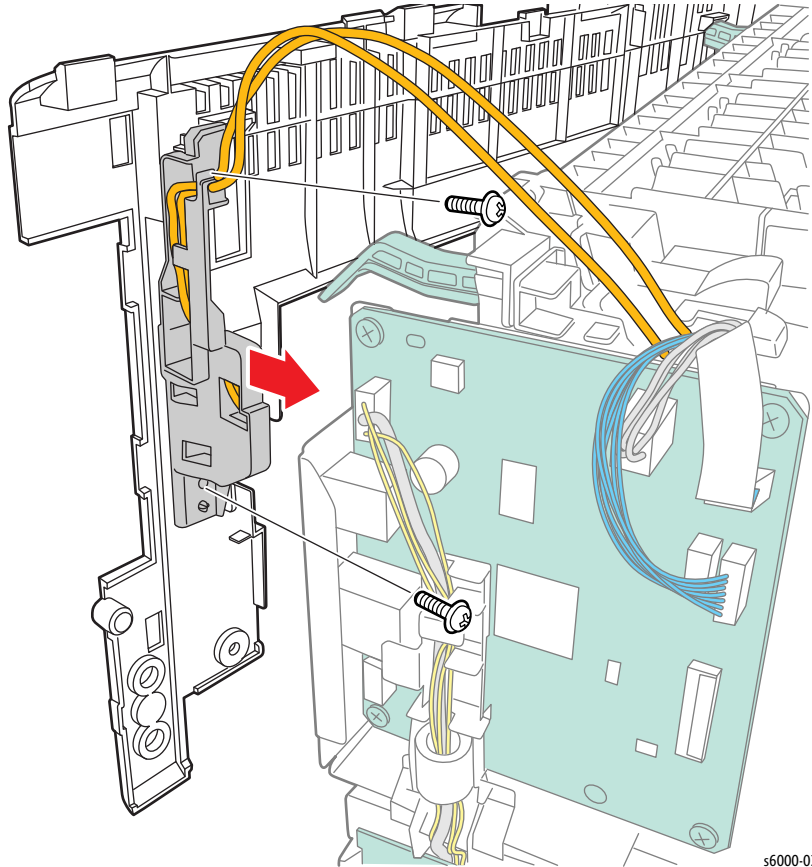
Phaser 6000/6010 Rear Cover Interlock Switch

PL1.1.12

1. Remove the Main Paper Tray Cover (page 8-7).
2. Remove the Front Cover (page 8-8).
3. Open the Rear Door.
4. Remove the Left Side Cover (page 8-10).
5. Remove the Top Cover (page 8-11).
6. Remove the Rear Cover (page 8-15).

7. Disconnect P/J204 on the LVPS.

P/J204

s6000-033
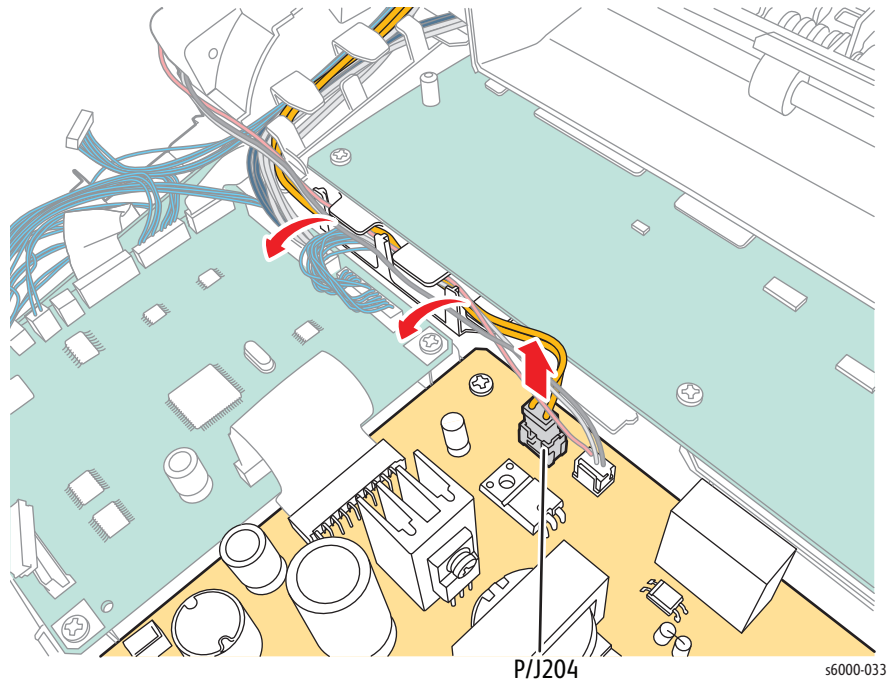
8. Unthread the Interlock Switch harness from the harness guide.

9. Remove two screws (silver, tap, 8 mm) to disconnect the Interlock Switch from the rear cover.

s6015-068
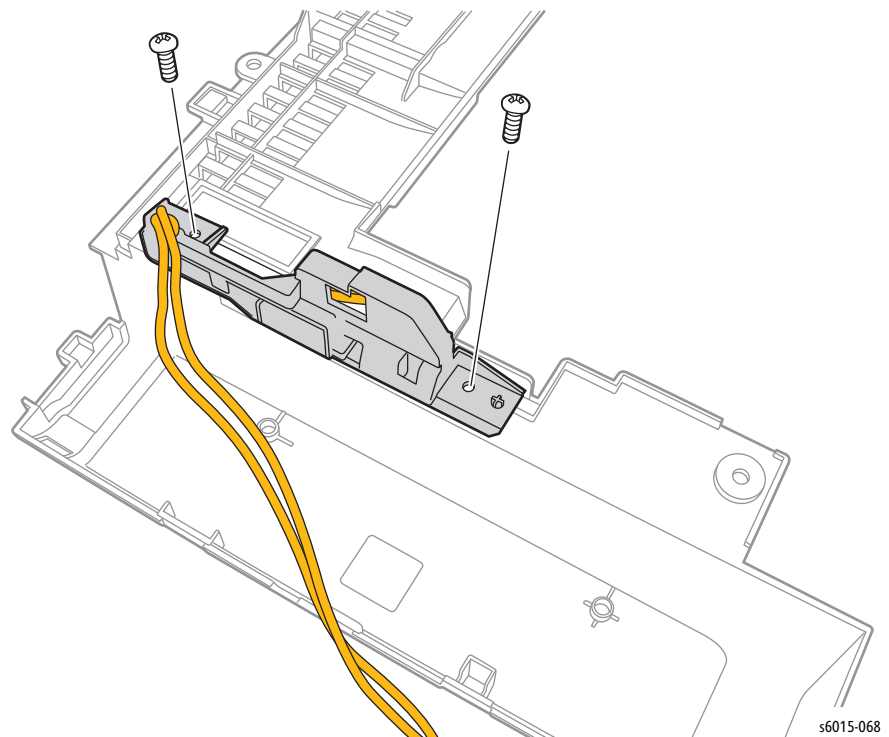
Phaser 6000/6010 Toner Door

PL1.1.15

1. Remove the Main Paper Tray Cover (page 8-7).
2. Remove the Front Cover (page 8-8).
3. Open the Rear Door.
4. Remove the Top Cover (page 8-11).
5. Remove the Left Side Cover (page 8-10).
6. Remove the Rear Cover (page 8-15).
7. Remove the Toner Door.
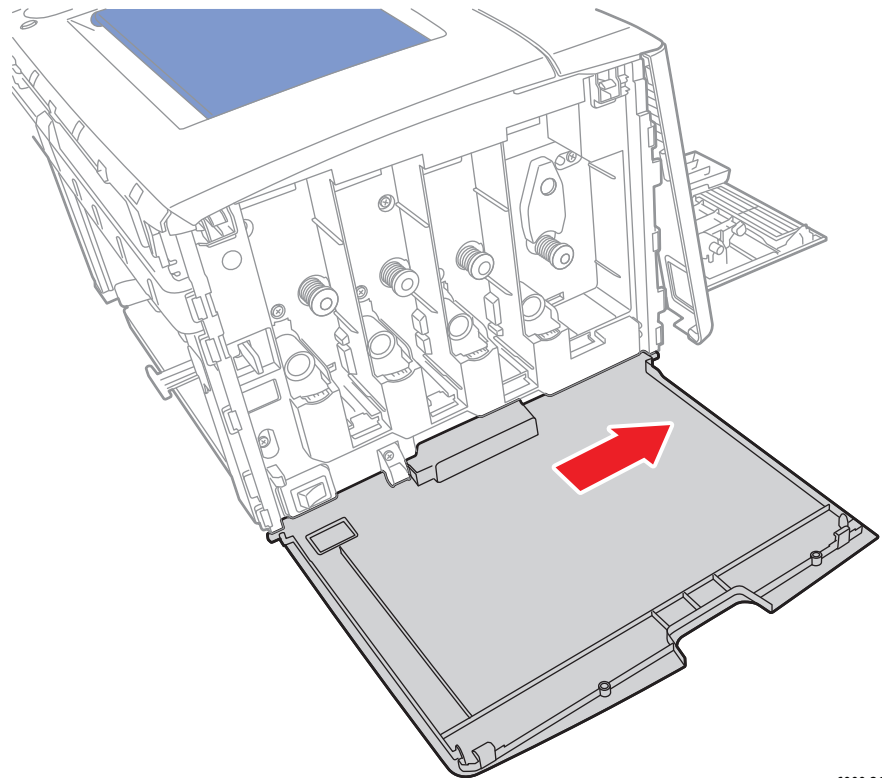
s6000-212

Phaser 6000/6010 Hinge Cover

PL1.1.16

1. Remove the Main Paper Tray Cover (page 8-7).
2. Remove the Front Cover (page 8-8).
3. Open the Rear Door.
4. Remove the Top Cover (page 8-11).
5. Remove the Left Side Cover (page 8-10).
6. Remove the Rear Cover (page 8-15).
7. Remove the Toner Door (page 8-19).
8. Remove 1 screw (silver, tap, 8 mm), and remove the Hinge Cover from the printer.
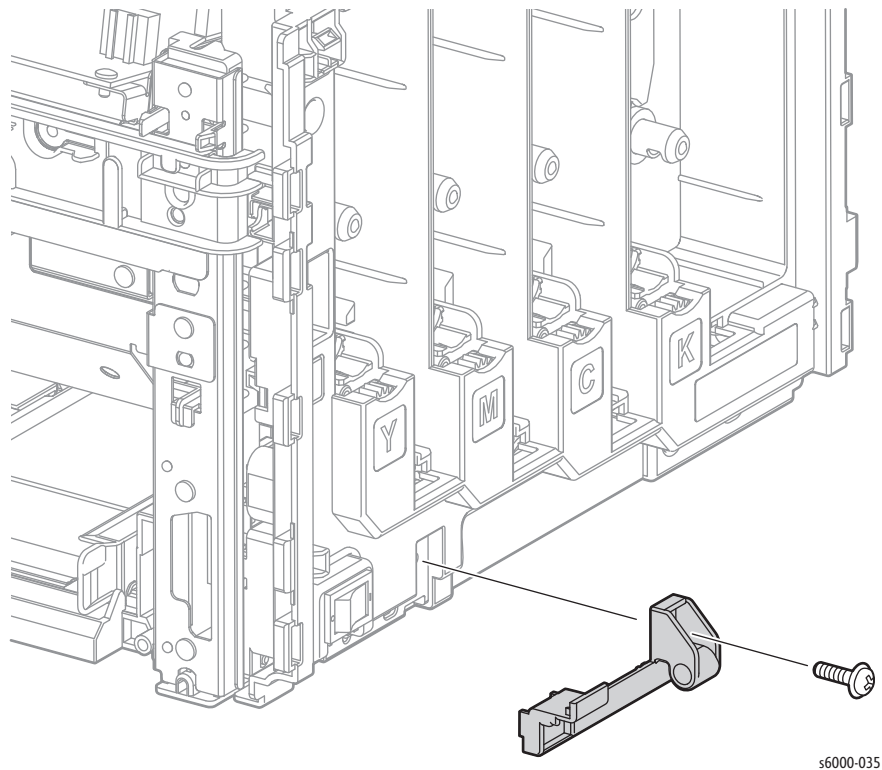
s6000-035

Phaser 6000/6010 Top Rear Cover

PL1.1.23

1. Remove the Main Paper Tray Cover (page 8-7).
2. Remove the Front Cover (page 8-8).
3. Remove the Top Cover (page 8-11).
4. Remove the Inner Top Cover (page 8-21).
5. Remove the Top Rear Cover.
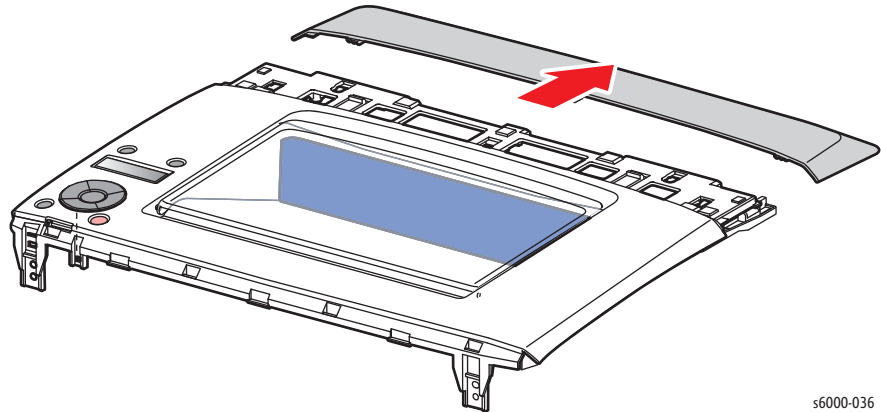
s6000-036

Phaser 6000/6010 Inner Top Cover

PL1.1.24

1. Remove the Main Paper Tray Cover (page 8-7).
2. Remove the Front Cover (page 8-8).
3. Remove the Top Cover (page 8-11).
4. Release the 2 hooks and remove the Inner Top Cover.
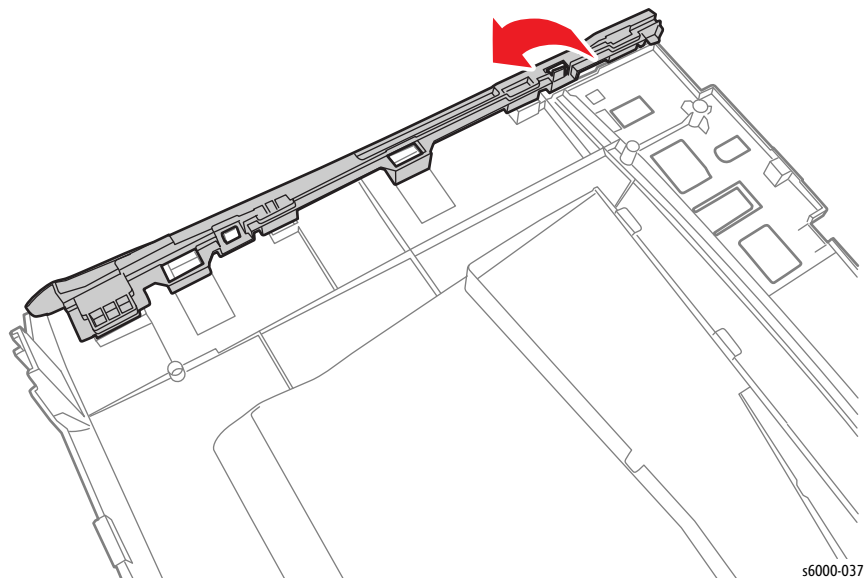
s6000-037

WorkCentre 6015 MFP Covers
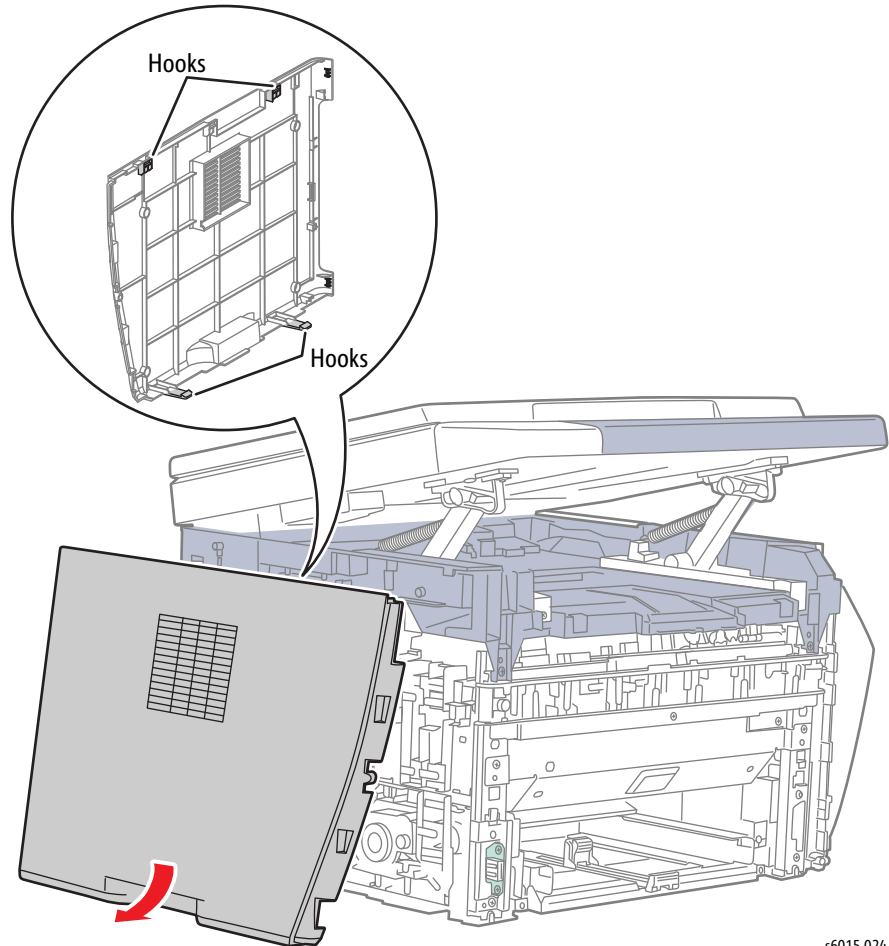
WorkCentre 6015 MFP Top Cover

PL1.1.1

1. Remove the Main Paper Tray Cover (page 8-29).
2. Lift the Scanner.
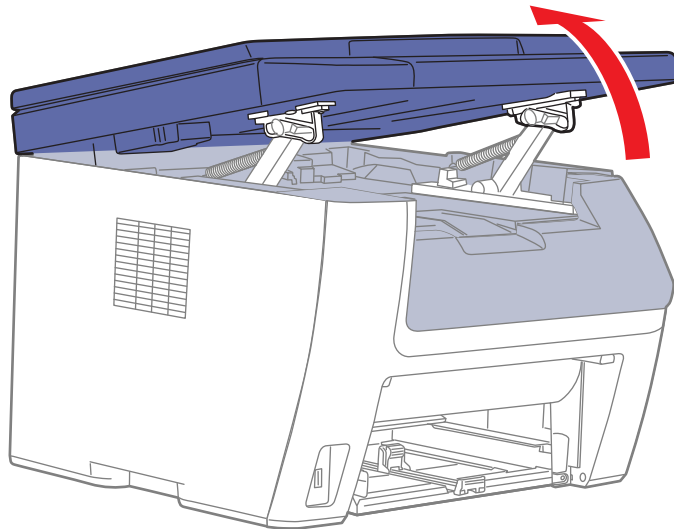
s6015-065

3. Remove the Output Tray Extension (page 8-31).
4. Open the Toner Door.
5. Remove the Front Cover (page 8-34).
6. Remove the Left Side Cover (page 8-22).
7. Remove the Scanner (page 8-35).
8. If present, remove the Wi-Fi Assembly (page 8-103)
9. Open the Rear Door.

10. Remove the 2 screws (silver, tap, 8 mm) that fix the Top Cover to the printer.

s6015-103
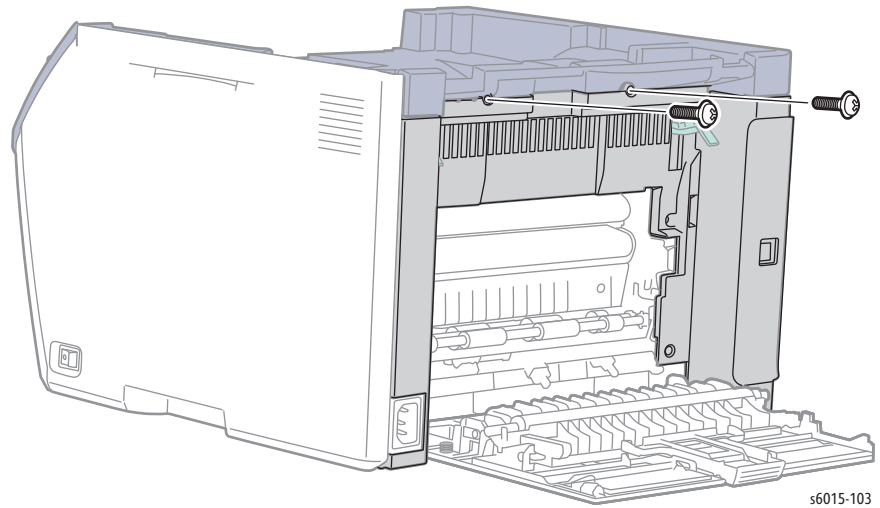
11. Remove 4 screws (silver, M3m 6 mm) that fix the Top Cover to the printer.

Tabs

s6015-027
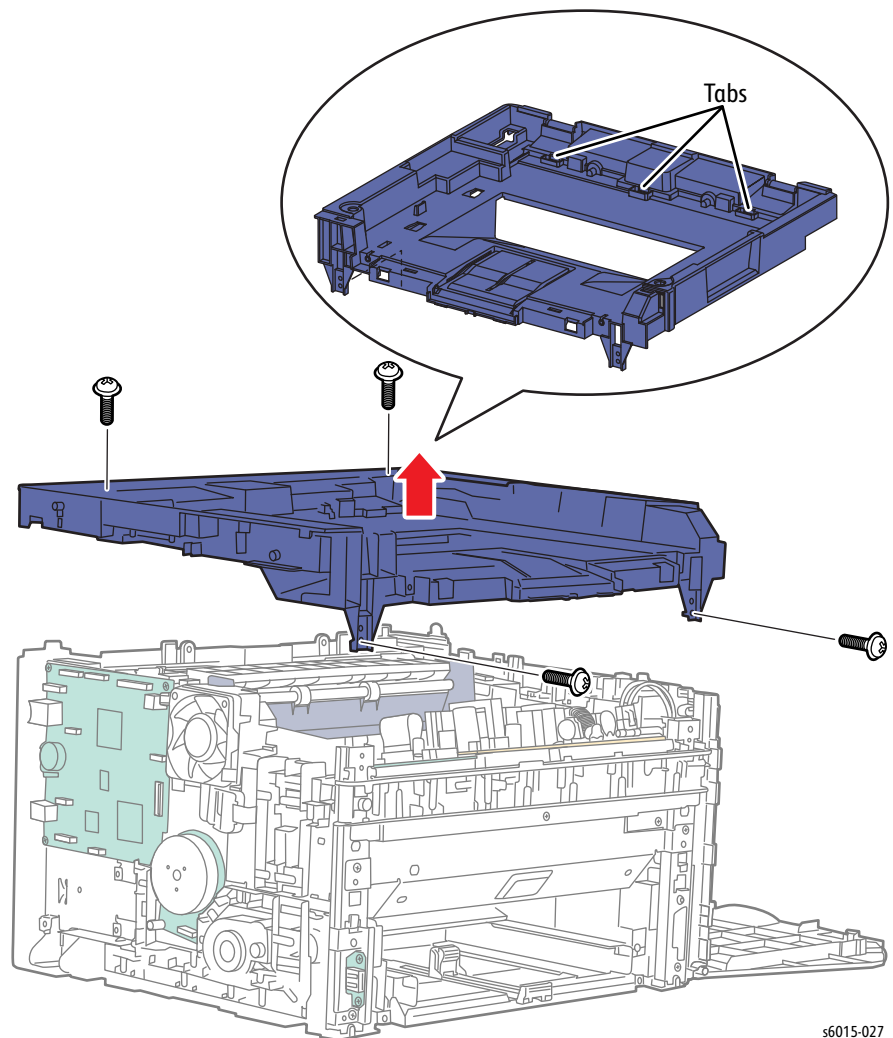
12. Release the 3 hooks and remove the Top Cover from the printer.

WorkCentre 6015 MFP Rear Door

PL1.1.6

1. Open the Rear Door.
2. Release the right side boss of the Rear Door (located adjacent to the power receptacle) from the hole in the printer.

s6015-067
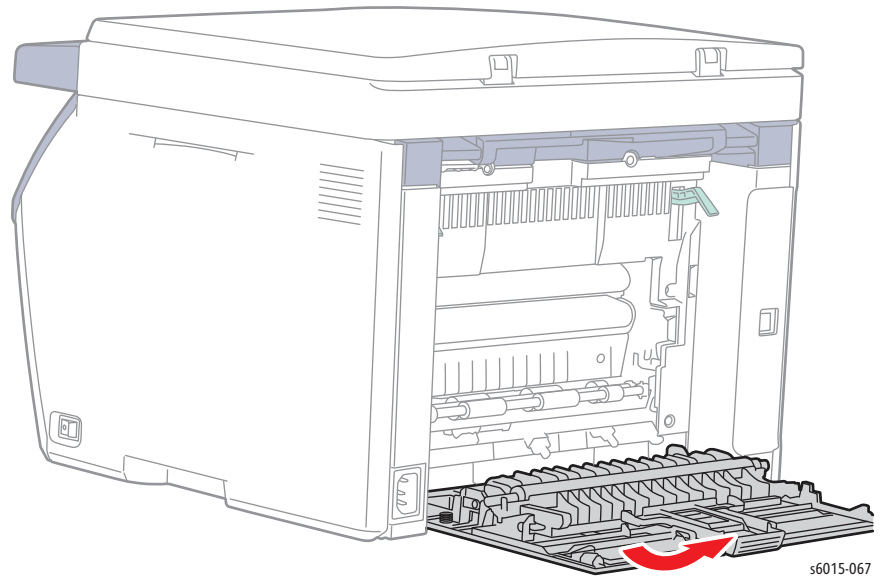
WorkCentre 6015 MFP Rear Cover

PL1.1.10

1. Remove the Top Cover (page 8-22).
2. Remove the Rear Door (page 8-24).

3. Disconnect P/J204 on the LVPS, and release the harness from the harness guide.

P/J204

s6000-033
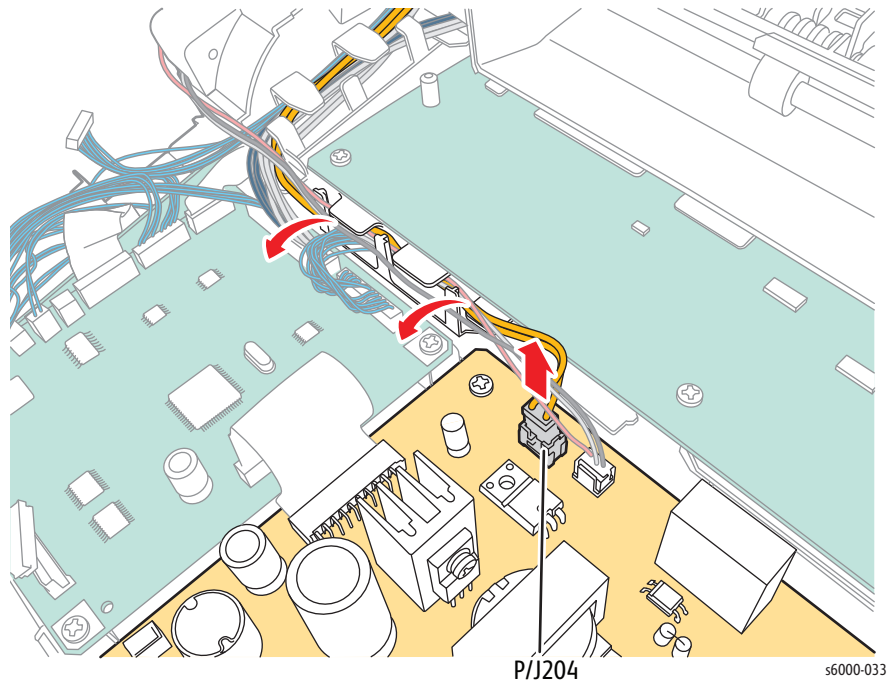
4. Pull up the two levers on the Fuser.

s6015-104
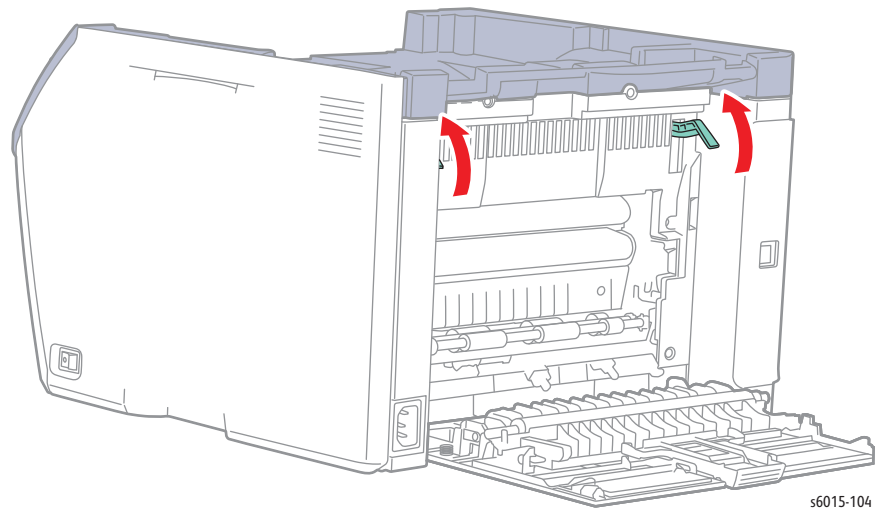
5. Remove 4 screws (silver, tap, 8 mm), and remove the Rear Cover from the printer.
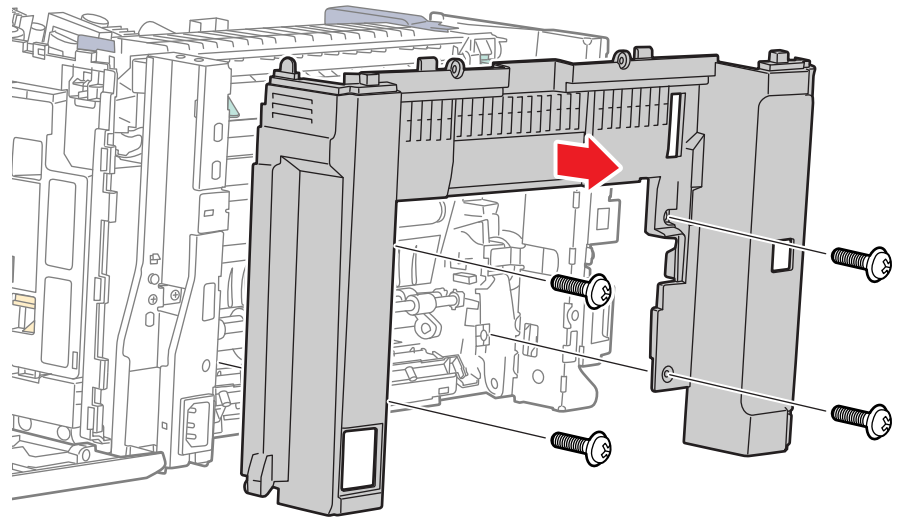
s6015-028

WorkCentre 6015 MFP Rear Interlock Switch

PL1.1.12

1. Remove the Rear Cover (page 8-24).

2. Remove 2 screws (silver, tap, 8 mm) and remove the switch holder from the Rear Cover.
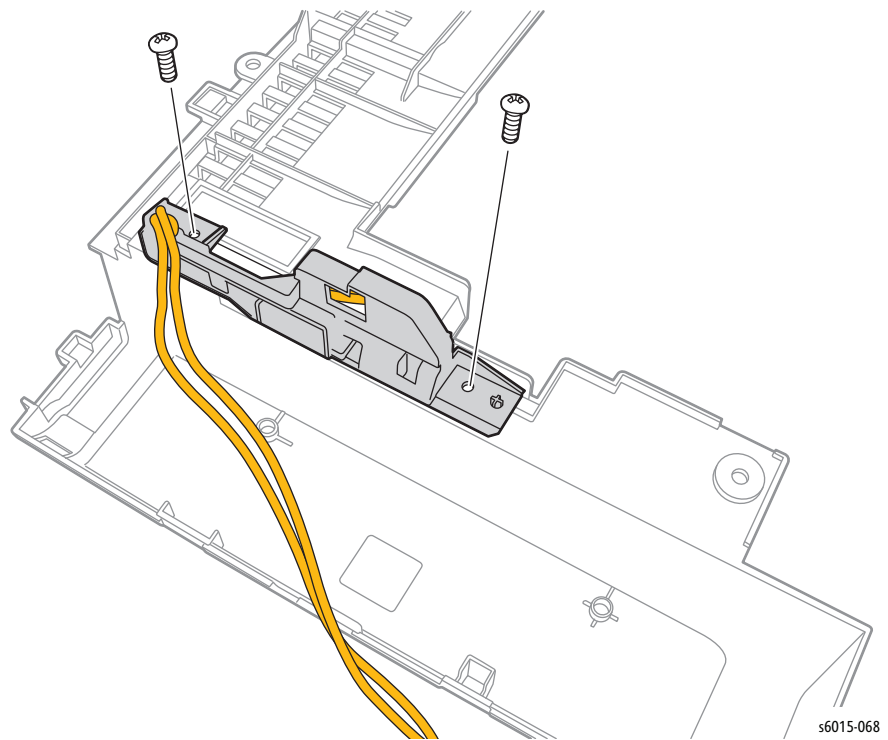
s6015-068

3. Remove the Rear Interlock Switch from the switch holder.

WorkCentre 6015 MFP Toner Door

PL1.1.15

1. Remove the Top Cover (page 8-22).
2. Remove the Rear Cover (page 8-24).
3. Remove the Toner Door.
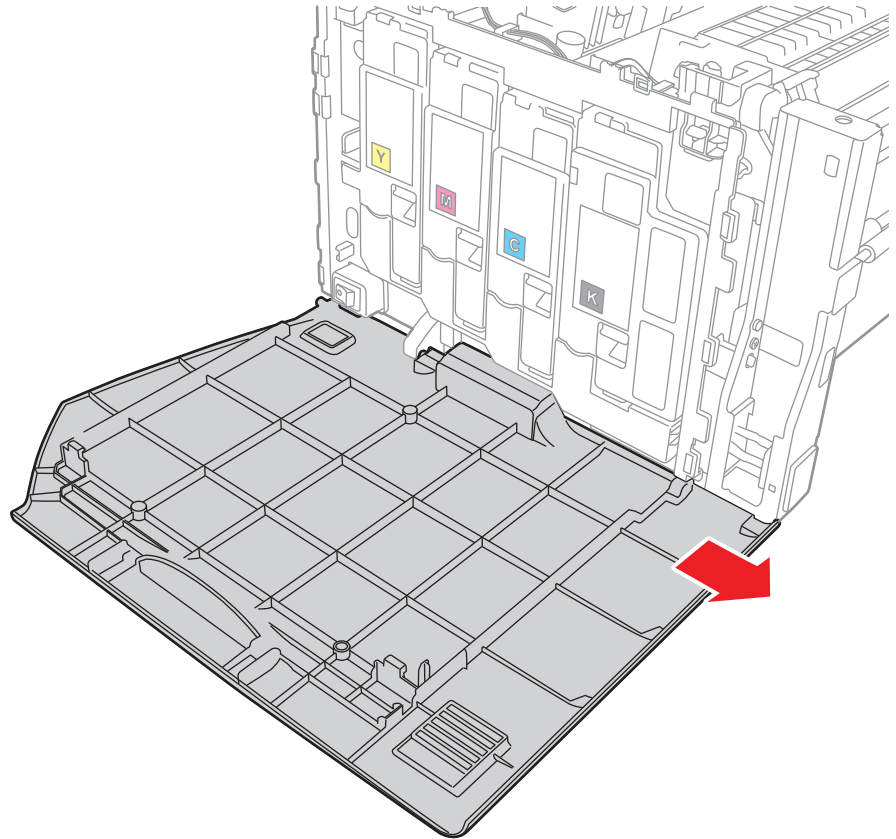
s6015-069

WorkCentre 6015 MFP Hinge Cover

PL1.1.16

1. Remove the Rear Cover (page 8-24).
2. Remove the Toner Door (page 8-27).
3. Remove 1 screw (silver, tap, 8 mm), and remove the Hinge Cover from the printer.

s6000-035
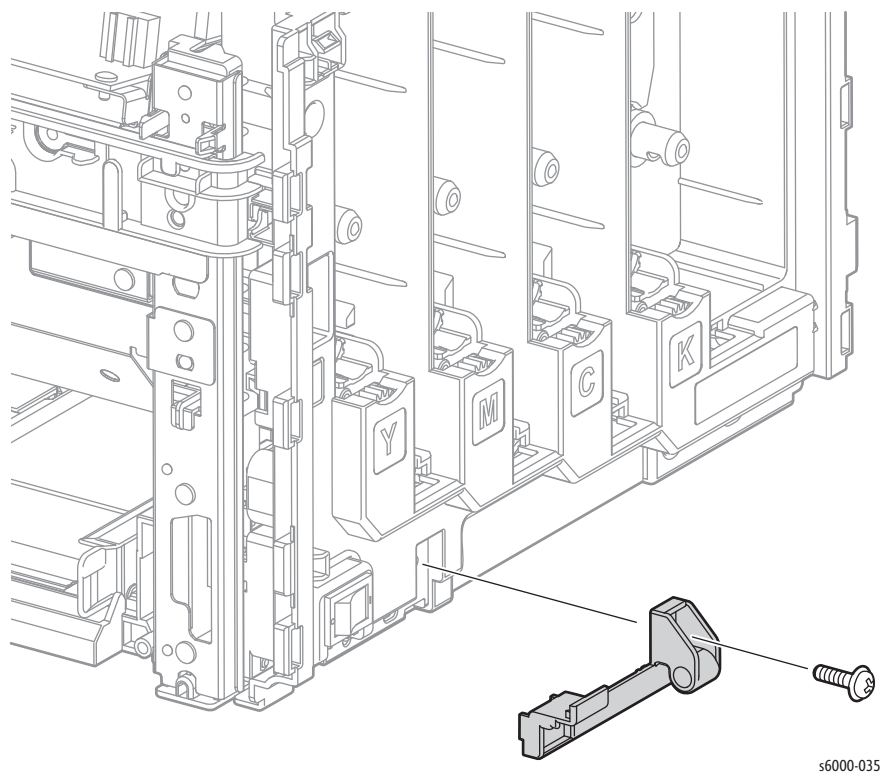
WorkCentre 6015 MFP Main Paper Tray Cover

PL1.1.17

1. Open the Main Paper Tray Cover.
2. Release the boss on the Main Paper Tray Cover from the hole in the Front Cover, and then remove the Main Paper Tray Cover.

s6015-093
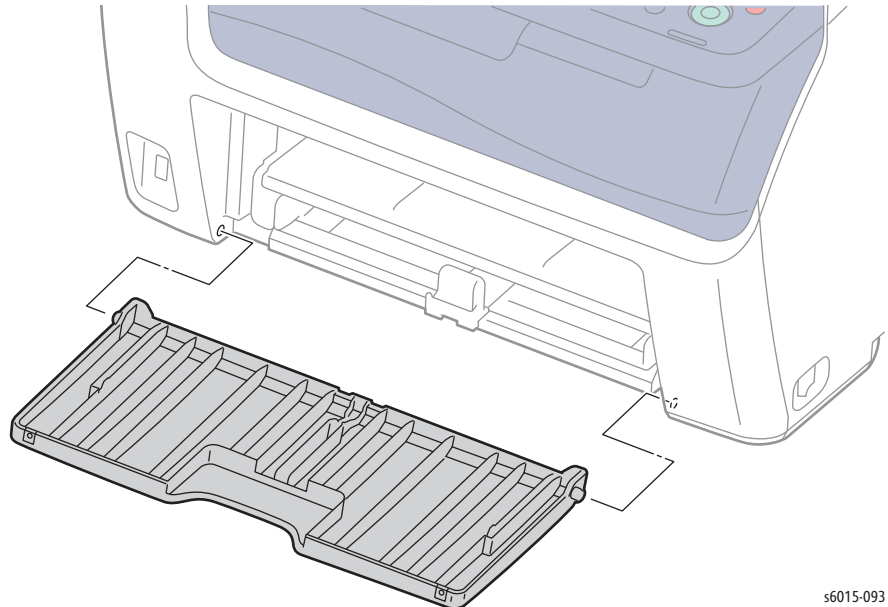
WorkCentre 6015 MFP Left Side Cover

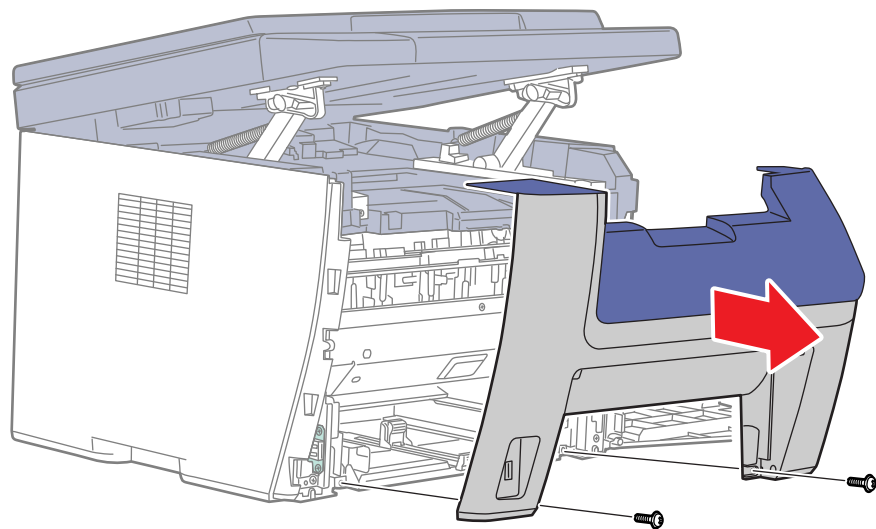**PL1.1.21**

1. Remove the Main Paper Tray Cover (page 8-29).
2. Lift the Scanner.
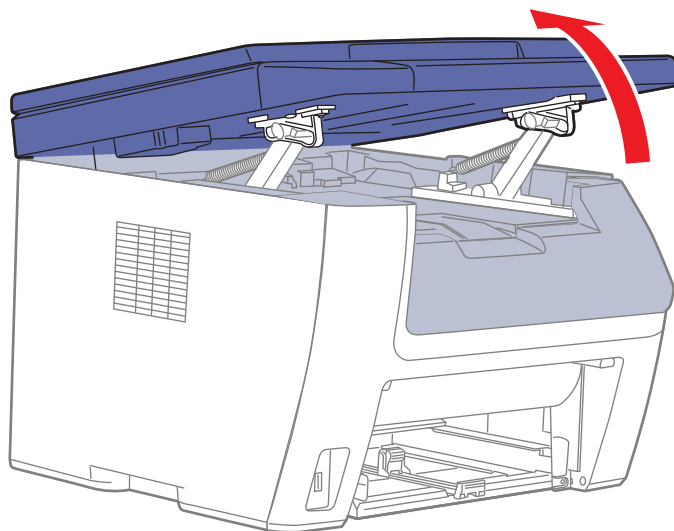
s6015-065

3. Remove the Output Tray Extension (page 8-31).

4. Open the Toner Door.
5. Remove the Front Cover (page 8-34).
6. Release 2 hooks on the lower side of the Left Cover.
7. Release the hooks on the Left Cover at the rear of the printer.
8. To remove the cover, release the hooks while pulling the Left Cover down and away from the printer.

s6015-024

WorkCentre 6015 MFP Output Tray Extension

PL1.1.27

1. Lift the Scanner.
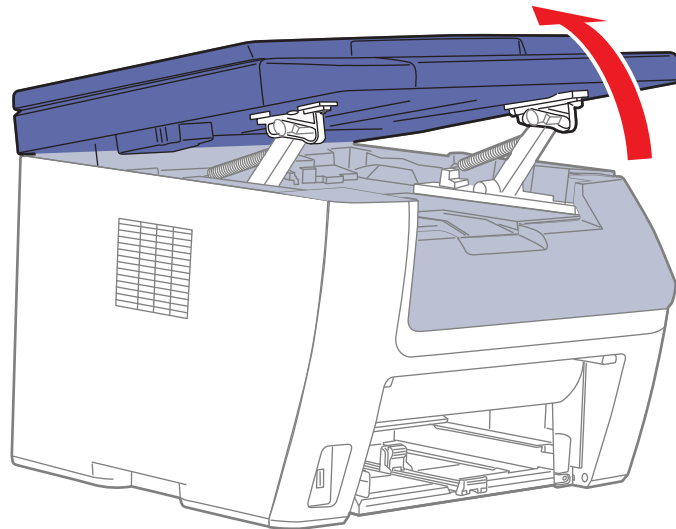
s6015-065

2. Slide the Output Tray Extension towards the front of the printer until it stops.
3. Remove the Output Tray Extension by releasing the bosses from the Top Cover.
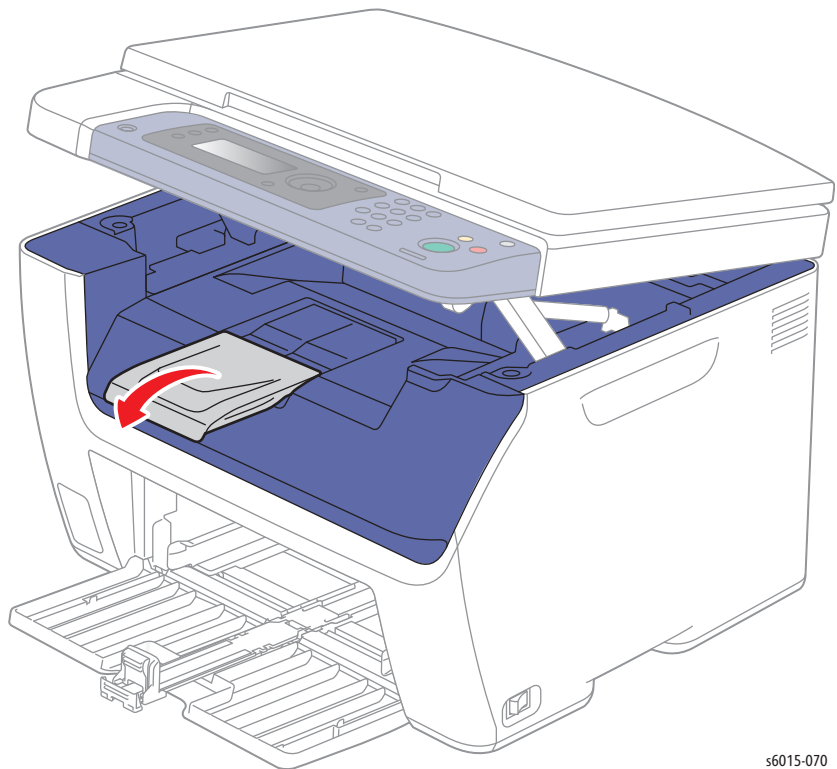
s6015-070

WorkCentre 6015 MFP Left and Right Scanner Arms
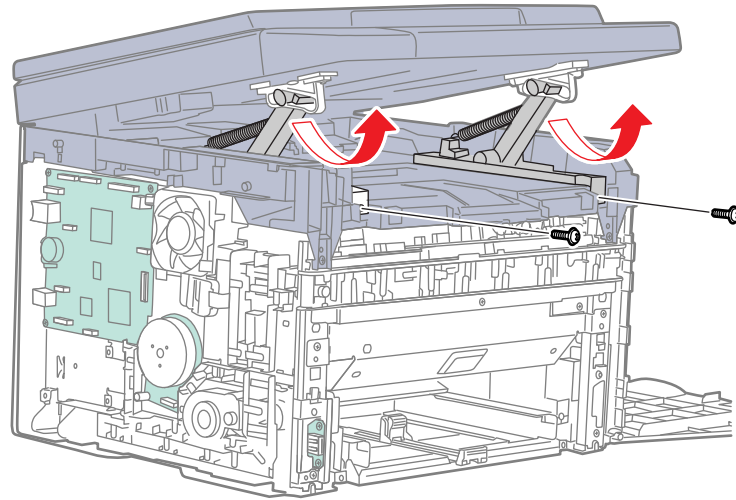
PL 1.1.33 and PL1.1.34

1. Remove the Main Paper Tray Cover (page 8-29).
2. Remove the Output Tray Extension (page 8-31).
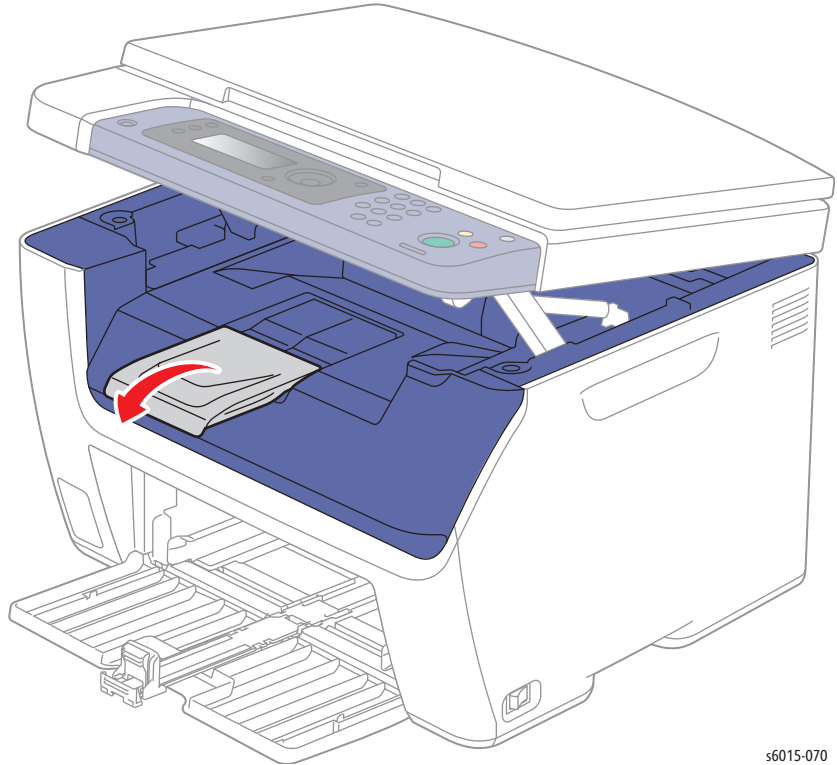
s6015-070

3. Open the Toner Door.
4. Remove the Front Cover (page 8-34).
5. Remove the Left Side Cover (page 8-29).

6. Disconnect P/J1, P/J6, and P/J16 on the Image Processor Board.
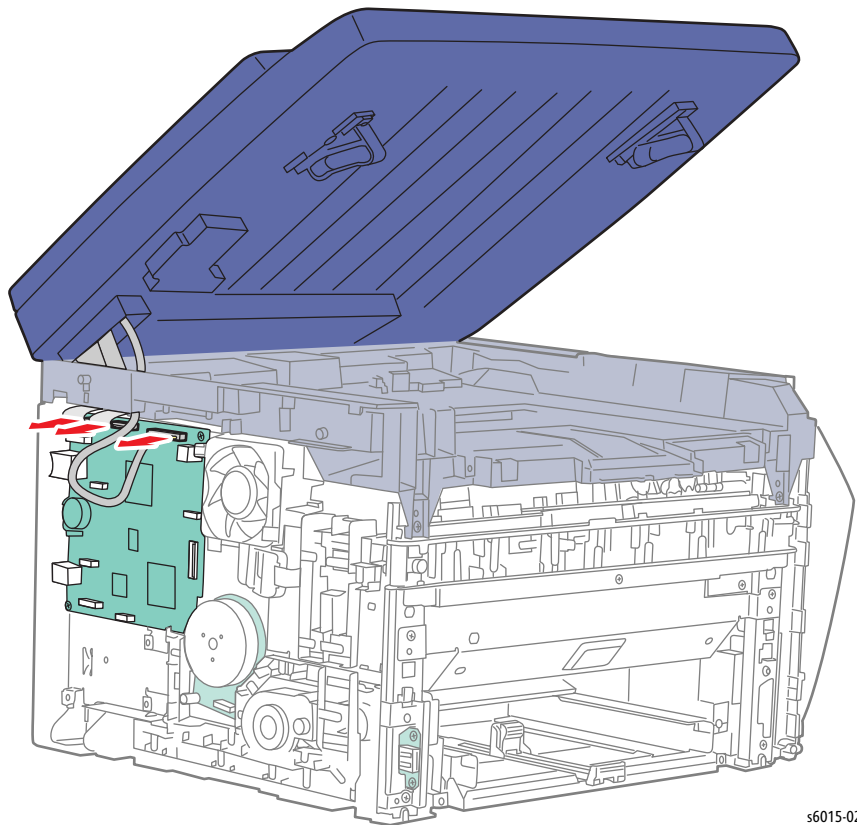
s6015-026

7. Remove 1 screw (silver, tap, 8 mm) from each arm, and remove the arms from the Scanner.
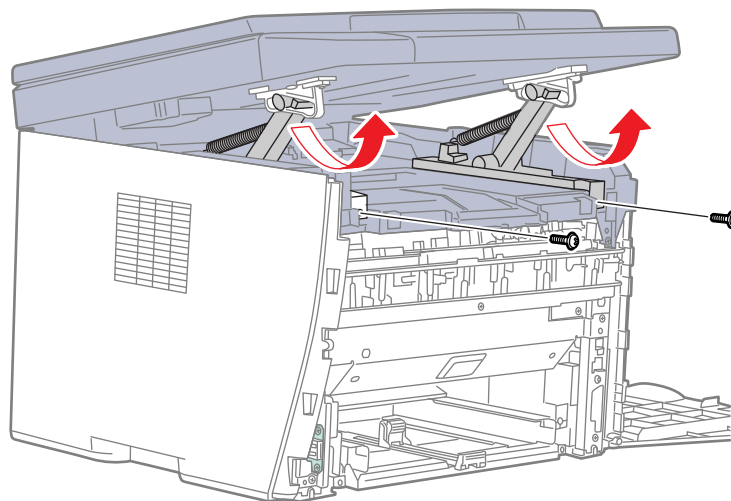
s6015-025

WorkCentre 6015 MFP Front Cover

PL1.1.38

Includes PL1.1.18, PL1.1.35, and PL1.1.36.

1. Remove the Main Paper Tray Cover (page 8-29).
2. Lift the Scanner.
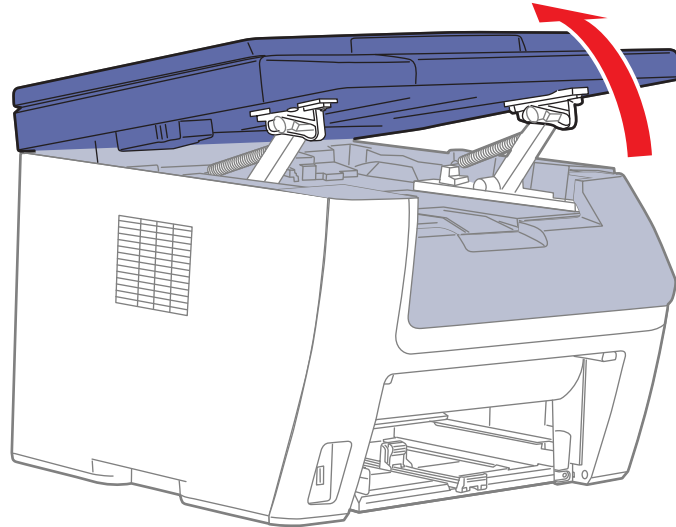
s6015-065

3. Remove the Output Tray Extension (page 8-31).
4. Open the Toner Door.
5. Remove 2 screws (silver, tap, 8 mm). Refer to the following illustration.
6. Starting on the right side, release the hooks and remove the Front Cover.

s6015-023

IIT Procedures

WorkCentre 6015 MFP Scanner Assembly

PL8.1.1/PL9.1.1

Note

> This procedures applies to the WorkCentre 6015 MFP.

1. Remove the Main Paper Tray Cover (page 8-29).
2. Remove the Output Tray Extension (page 8-31).
3. Open the Toner Door.
4. Remove the Front Cover (page 8-34).
5. Remove the Left Side Cover (page 8-29).
6. Disconnect P/J1, P/J6, and P/J16 on the IP Board. If the printer has an ADF, remove 1 screw (silver, M3, 6 mm) to disconnect the ADF ground wire from the chassis.
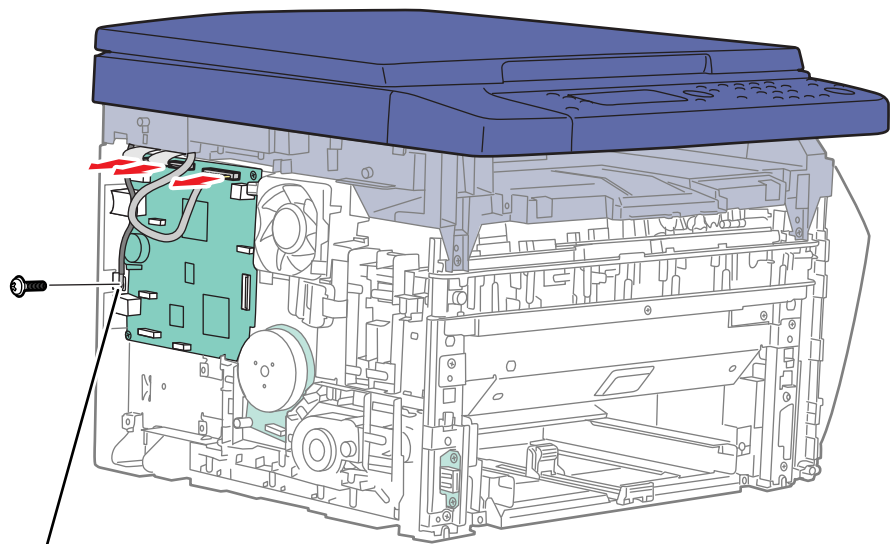
Grounding Wire and screw: ADF Only

s6015-051

7. Remove 2 screws (silver, tap, 8 mm), and pull the left and right scanner arms toward the front of the printer and up.

s6015-050

8. Remove the scanner arms.

Note

If the Scanner has an ADF, hold it closed when performing the next step.

9. Remove the Scanner from the printer by opening the Scanner until the hooks disconnect from the Top Cover. Pull the cables through the hole in the Top Cover while removing the scanner.
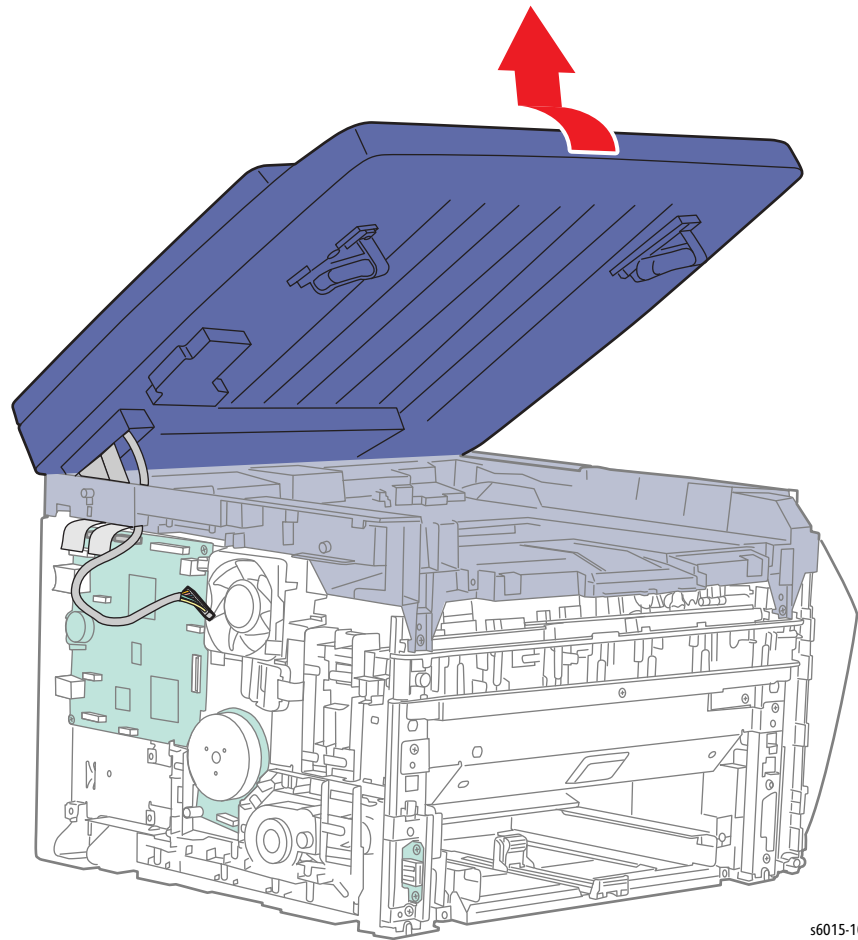

s6015-100

Replacement Note

When the Scanner Assembly is replaced, the new scanner needs to be calibrated. See "Scanner Adjustment" on page 6-11.

WorkCentre 6015 MFP ADF Assembly

PL8.1.2

1. Remove the Main Paper Tray Cover (page 8-29).
2. Open the Scanner.
3. Remove the Main Tray Extension (page 8-42).
4. Open the Toner Door.
5. Remove the Front Cover (page 8-34).
6. Remove the Left Side Cover (page 8-29).
7. Remove the Scanner (page 8-35).
8. Turn the Scanner over and set it down.

9. Remove 1 screw (silver, with flange, tap, 6 mm) and remove the SSB Cover.
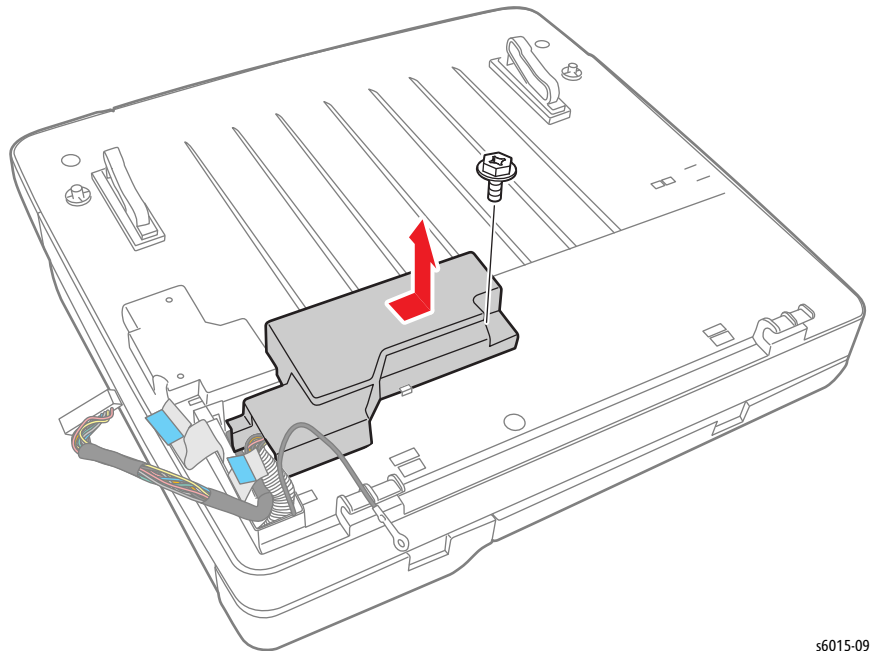
s6015-097

10. Disconnect P/J3, P/J4, P/J5, P/J8, and P/J10 on the IIT Board, and release the harness from the harness guide.


P/J8

P/J10

P/J4

P/J5

P/J3
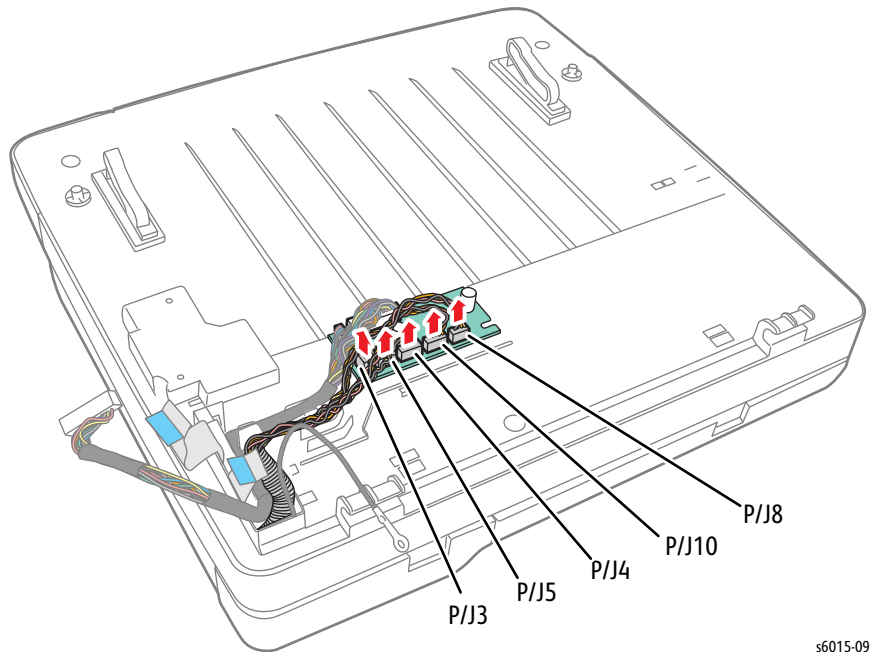
s6015-098

11. Turn the scanner over, and then open the ADF Assembly.

12. Lift the ADF Assembly, and release the hook of the ADF Hinge Assembly using a screwdriver. Remove the ADF Assembly from the IIT Assembly, and pull the harness through the hole in the IIT Assembly.

WorkCentre 6015 MFP ADF Cover

PL8.1.3

1. Open the ADF Cover.
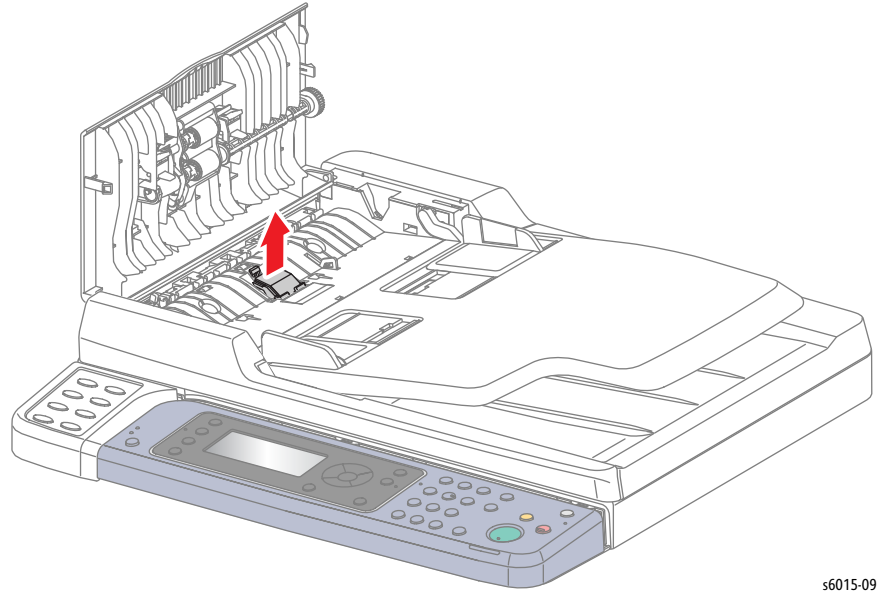2. Release the ADF Cover from the bosses on the ADF Assembly.
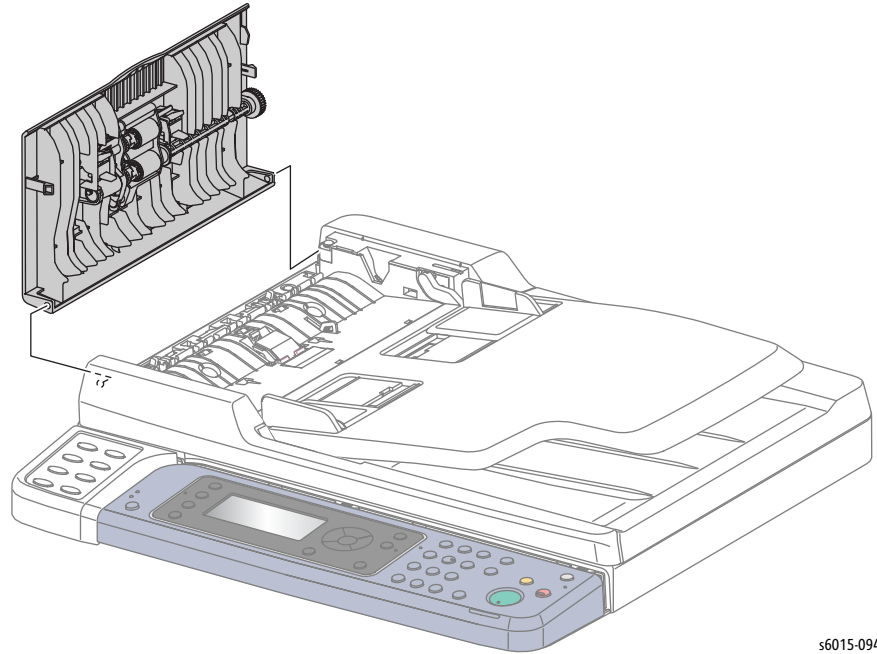
s6015-094

WorkCentre 6015 MFP ADF Separator Pad

PL8.1.4

1. Open the ADF Cover
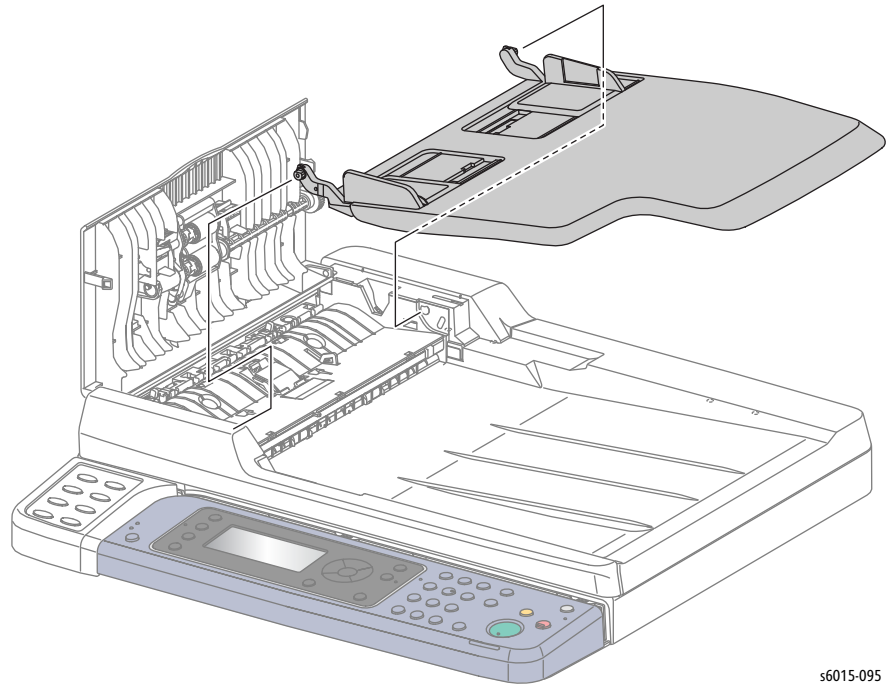2. Release the hook on the Separator Pad and remove it.

s6015-096

WorkCentre 6015 MFP ADF Input Tray

PL8.1.6

1. Open the ADF Cover
2. Slightly bend the Input Tray rear side hinge to release the boss from the hole in the ADF Assembly.
3. Release the front side boss of the Input Tray to remove it.

s6015-095

Paper Feeder

Main Tray Extension

PL2.1.7

1. Remove the Main Paper Tray Cover (Phaser 6000/6010 page 8-7; WorkCentre 6015 MFP page 8-29).

2. Remove the Bypass Tray Cover/Dust Cover (page 8-43).

3. Slide the Main Tray Extension to the front side until it stops.
   Use 2 small screwdrivers to release the 2 hooks on the Main Tray Extension.
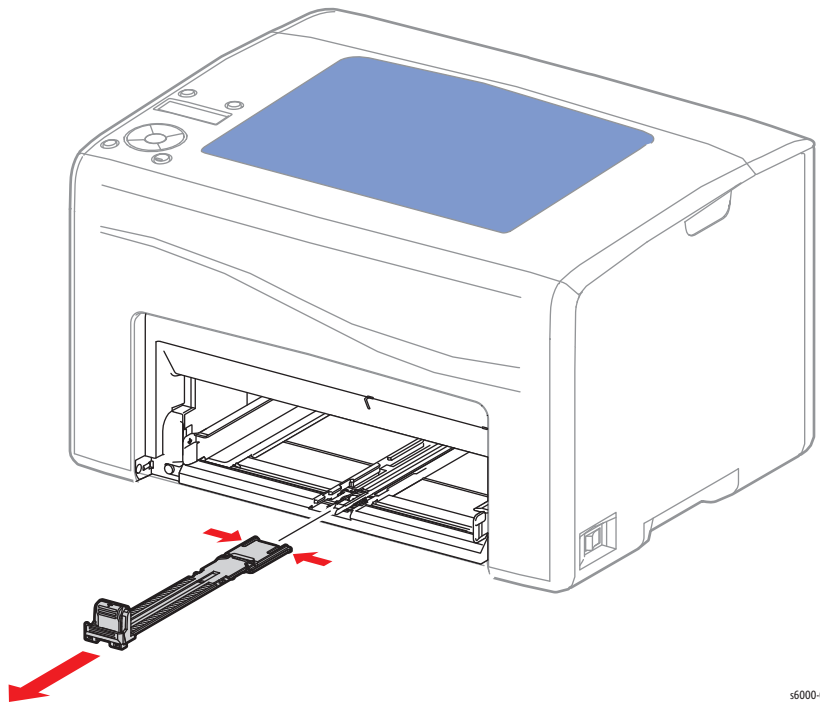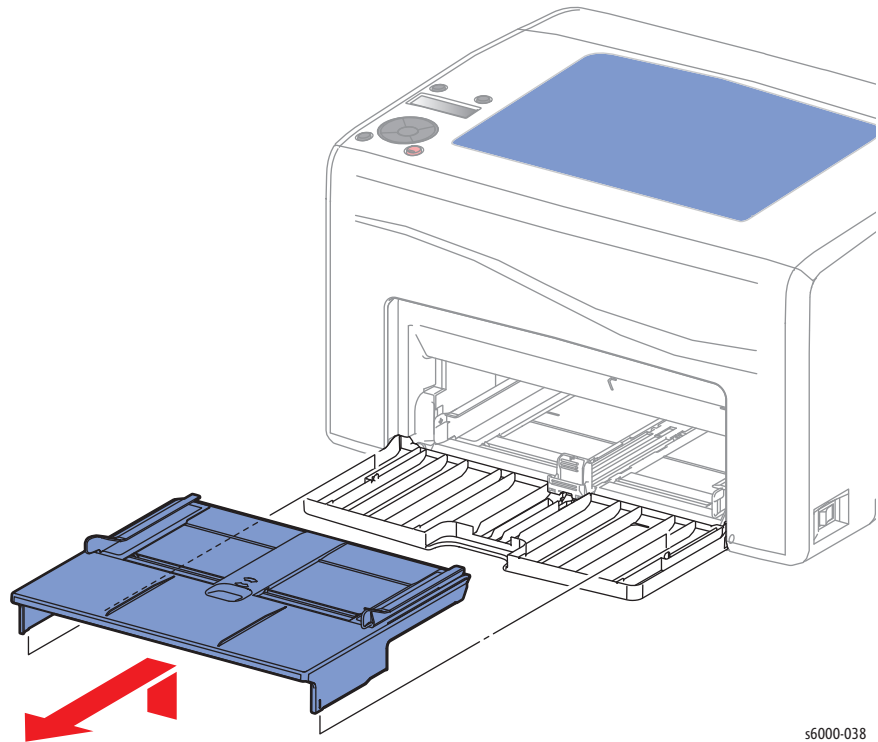

s6000-005

Bypass Tray Cover/Dust Cover

PL2.1.10, PL2.1.11

1. Open the Main Paper Tray Cover.
2. Remove the Bypass Tray Cover/Dust Cover from the printer.

s6000-038

Paper Guide

PL2.1.12

Note

This procedure applies to the Phaser 6010N and the WorkCentre 6015 MFPs.

1. Open the Main Paper Tray Cover.
2. Remove the Bypass Tray Cover/Dust Tray Cover (page 8-43).
3. Turn the printer over and set it on the Rear Door.
4. On the bottom of the printer, unhook the left side tab, and then push the boss to release that side of the tray bypass base assembly.

Hooks

s6000-208
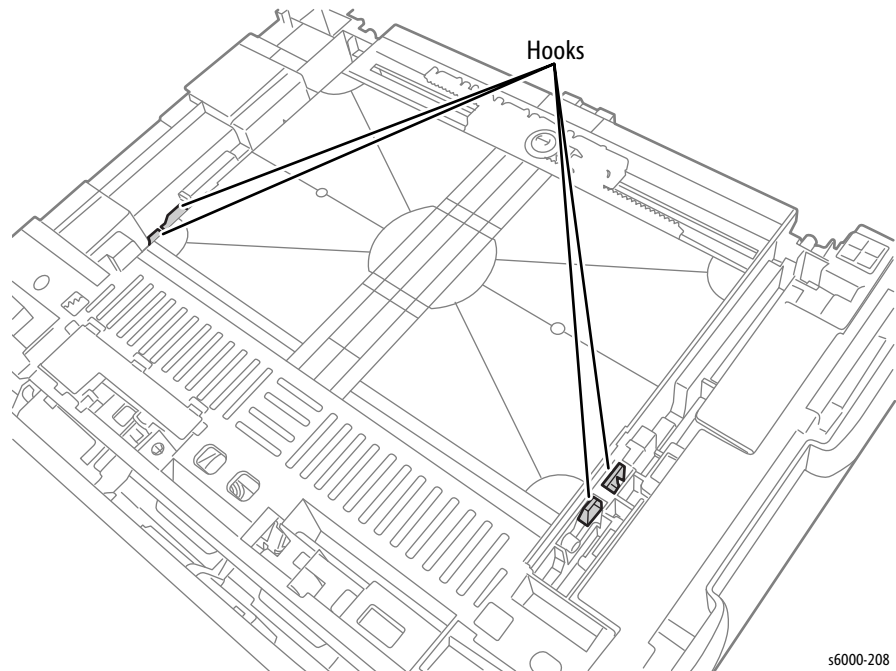
5. Repeat step 4 for the other side, and then pull the assembly out of the printer.

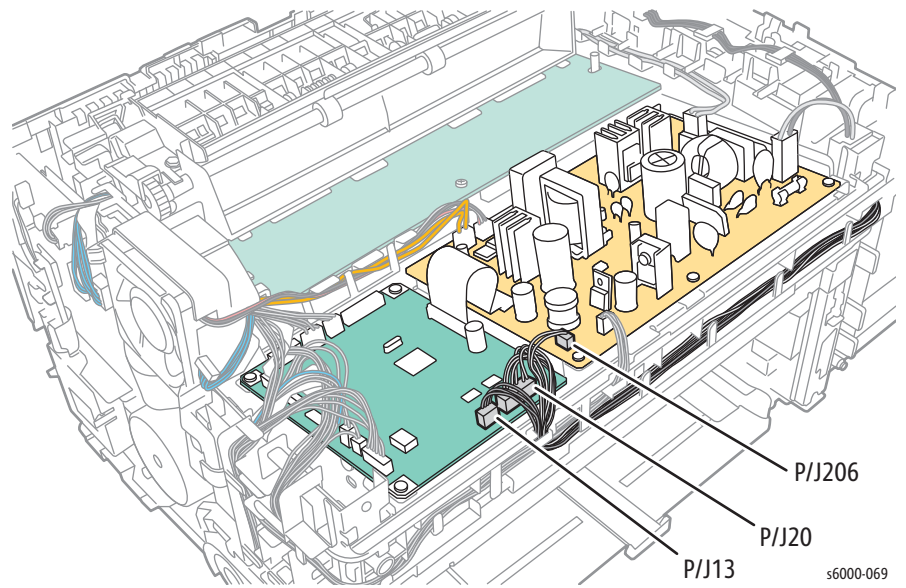6. Remove the Paper Guide from the tray bypass base.

s6000-207
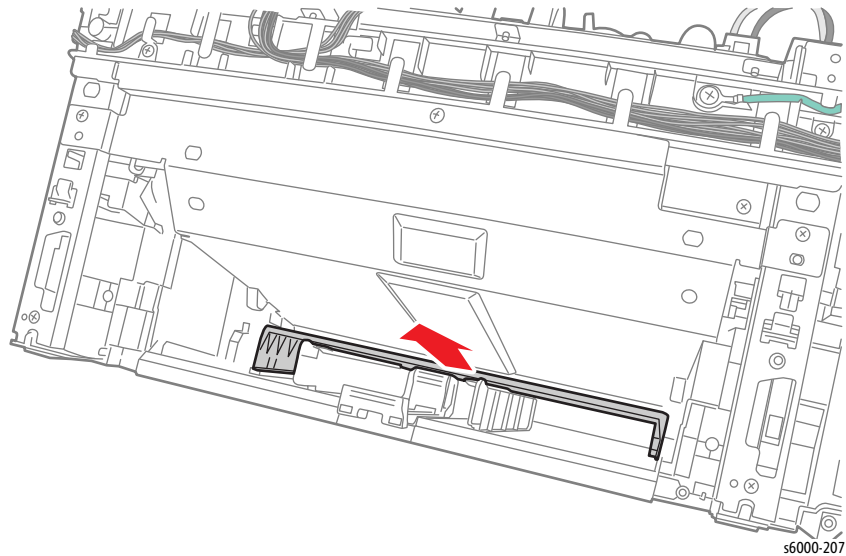
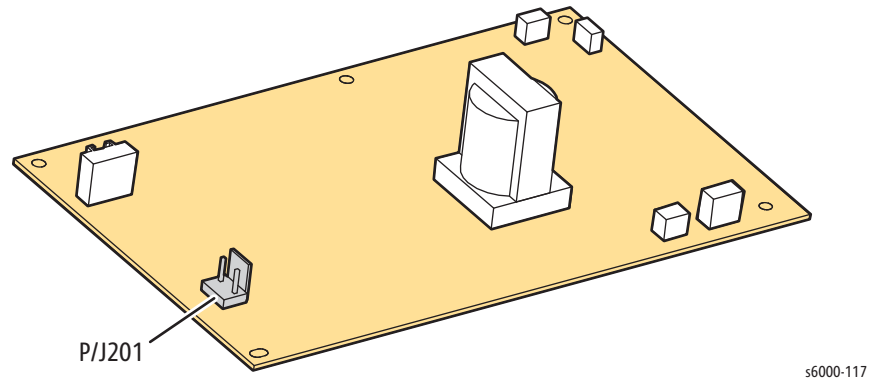## Left and Right Feed Roller Cam/Feed Roller

PL2.2.2, PL2.2.4, PL2.2.7

1. Remove the Main Paper Tray Cover (Phaser 6000/6010 page 8-7; WorkCentre 6015 MFP page 8-29).

2. Remove the Front Cover (Phaser 6000/6010 page 8-8; WorkCentre 6015 MFP page 8-34).

3. Open the Rear Door.

4. Remove the Left Side Cover (Phaser 6000/6010 page 8-10; WorkCentre 6015 MFP page 8-29).

5. If present, remove the Wi-Fi Assembly (page 8-103).

6. Remove the Top Cover (Phaser 6000/6010 page 8-11; WorkCentre 6015 MFP page 8-22).

7. Remove the Rear Cover (Phaser 6000/6010 page 8-15; WorkCentre 6015 MFP page 8-24).

8. Remove the Toner Door (Phaser 6000/6010 page 8-19; WorkCentre 6015 MFP page 8-27).

9. Remove the Cleaner Assembly (page 8-79).

10. Disconnect P/J206 on the LVPS, and P/J13 and P/J20 on the MCU Board. Release the harness from the harness guide.
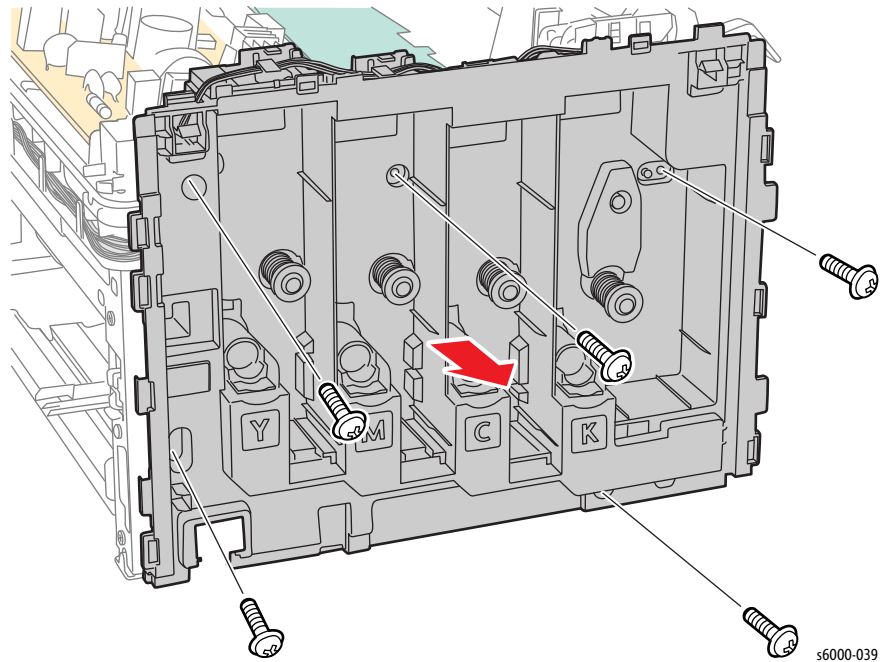

P/J206

P/J20

P/J13

s6000-069

11. Disconnect P/J201 on the LVPS and release the harness from the harness guide.

P/J201

s6000-117

12. Remove 5 screws (silver, tap, 8 mm), and remove the toner dispense frame from the printer.

s6000-039

13. Remove the IP Board (page 8-114).
14. Remove the Feed Drive Assembly (page 8-91).
15. Remove the Registration Clutch (page 8-66).
16. Remove the Registration Pinch Roller (page 8-57).
17. Remove the Registration Roller (page 8-61).
18. Remove the Main Paper Tray Chute (page 8-64).
19. Remove the Registration Actuator (page 8-67).
20. Remove the Separator Assembly (page 8-49).
21. Release the hooks on the Left Cam (PL 2.2.7) and Right Cam (PL 2.2.2).

s6000-040
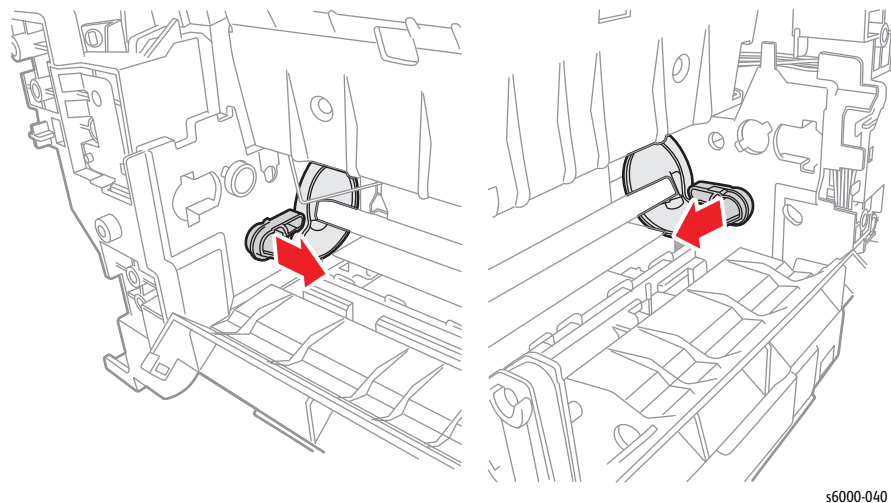
22. Depress the Feed Solenoid arm while rotating the Feed Roller Shaft counterclockwise 90 degrees.
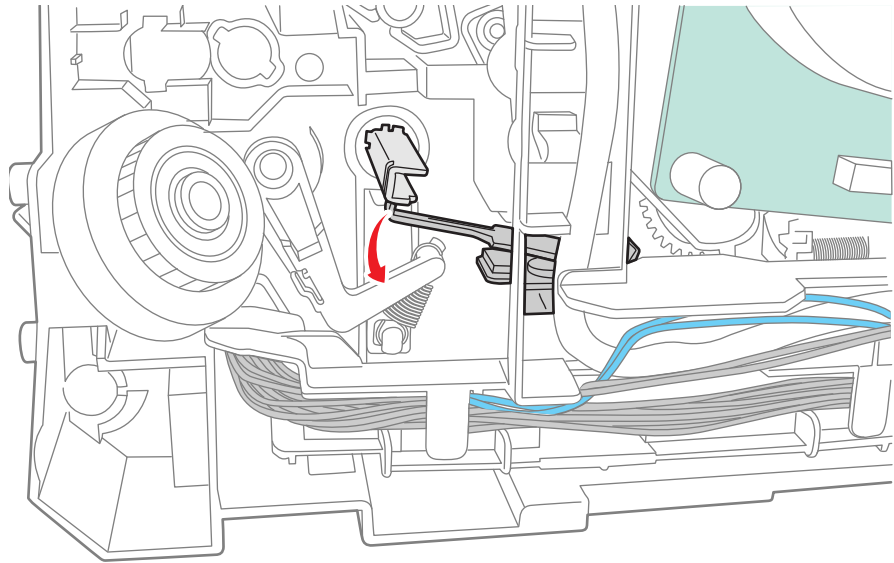
s6000-243

23. Release the hook on the Feed Roller, and move the Feed Roller to printer right to remove it.

Rear
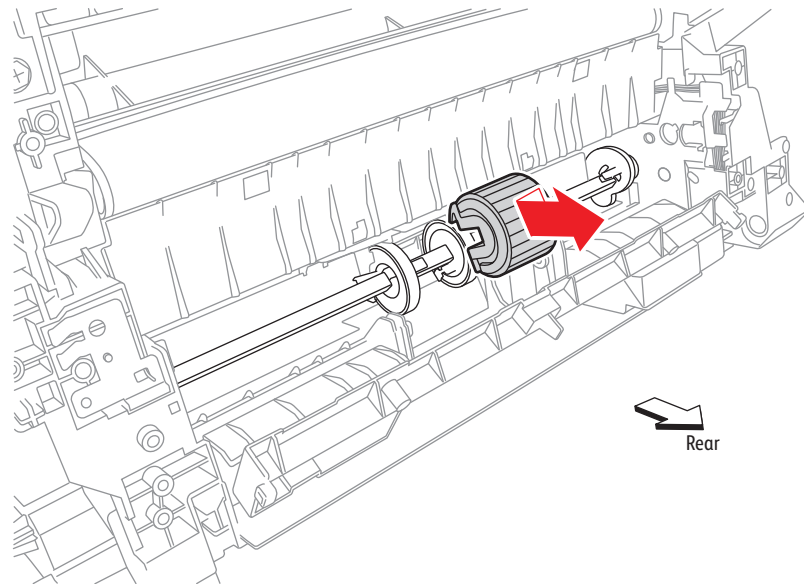
s6000-215

24. Feed Shaft removal:

    a. Release the Left Feed Roller Cam latch, and move the Feed Shaft to the left side of the printer.

    b. Release the Right Feed Roller Cam latch, and remove the Right Feed Roller Cam from the Feed Shaft.

    c. Remove the Feed Shaft from the printer, and remove the Left Feed Roller Cam from the Feed Shaft.

Latch
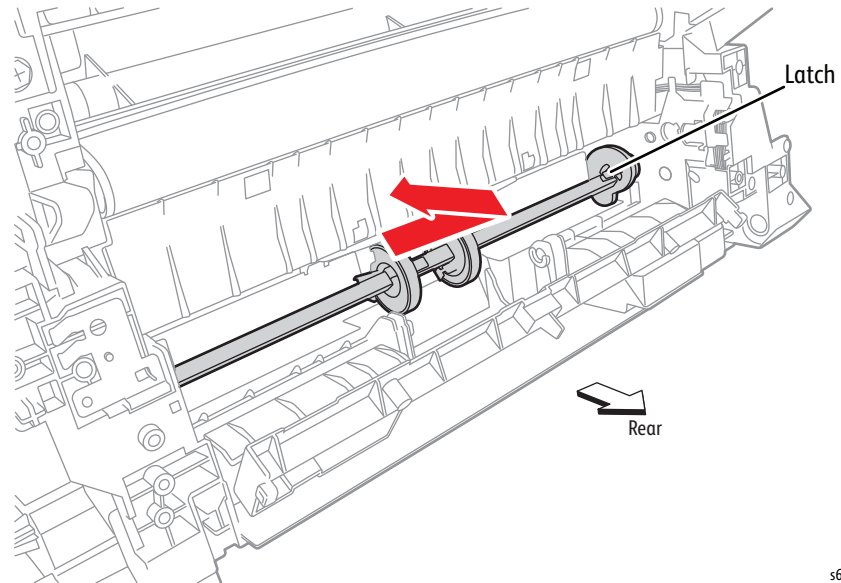
Rear

s6000-214

Separator Pad Assembly and Spring

PL2.2.11~12

1. Remove the Main Paper Tray Cover (Phaser 6000/6010 page 8-7; WorkCentre 6015 MFP page 8-29).

2. Remove the Front Cover (Phaser 6000/6010 page 8-8; WorkCentre 6015 MFP page 8-34).

3. Open the Rear Door.

4. Remove the Left Side Cover (Phaser 6000/6010 page 8-10; WorkCentre 6015 MFP page 8-29).

5. If present, remove the Wi-Fi Assembly (page 8-103).

6. Remove the Top Cover (Phaser 6000/6010 page 8-11; WorkCentre 6015 MFP page 8-22).

7. Remove the Rear Cover (Phaser 6000/6010 page 8-15; WorkCentre 6015 MFP page 8-24).

8. Remove the Toner Door (Phaser 6000/6010 page 8-19; WorkCentre 6015 MFP page 8-27).

9. Remove the Cleaner Assembly (page 8-79).

10. Disconnect P/J206 on the LVPS, and P/J13 and P/J20 on the MCU Board. Release the harness from the harness guide.

P/J206

P/J20

P/J13

s6000-069

11. Disconnect P/J201 on the LVPS and release the harness from the guide.


P/J201

s6000-117

12. Remove the 5 screws (silver, tap, 8 mm), and remove the toner dispense frame from the printer.

s6000-039

13. Remove the Image Processor Board (page 8-114).
14. Remove the Feed Drive Assembly (page 8-91).
15. Remove the Registration Clutch (page 8-66).
16. Remove the Registration Roller (page 8-61).
17. Remove the Main Paper Tray Chute (page 8-64).
18. Remove the Registration Actuator (page 8-67).
19. Release the Separator Spring.
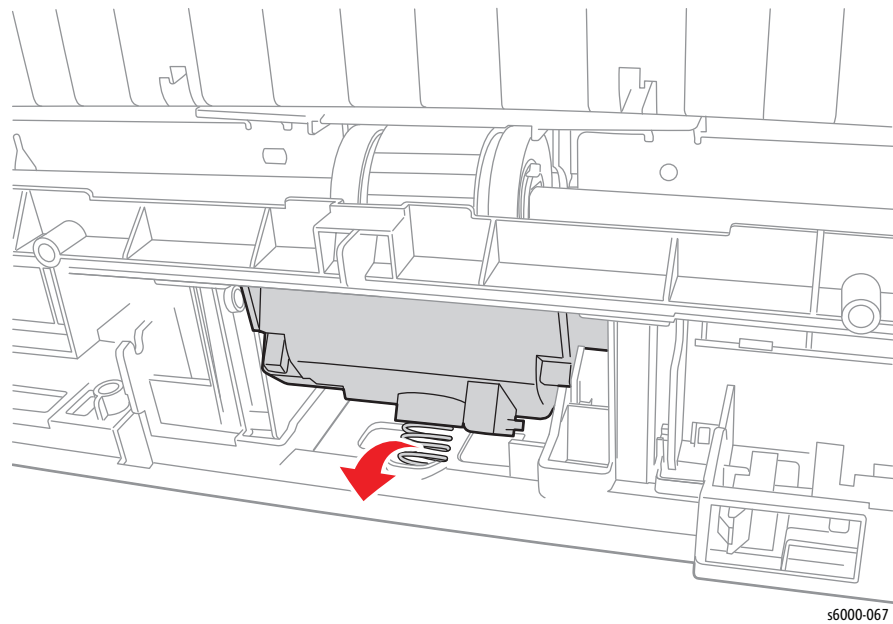
s6000-067

20. Rotate the Separator Pad Assembly until you can lift it out.
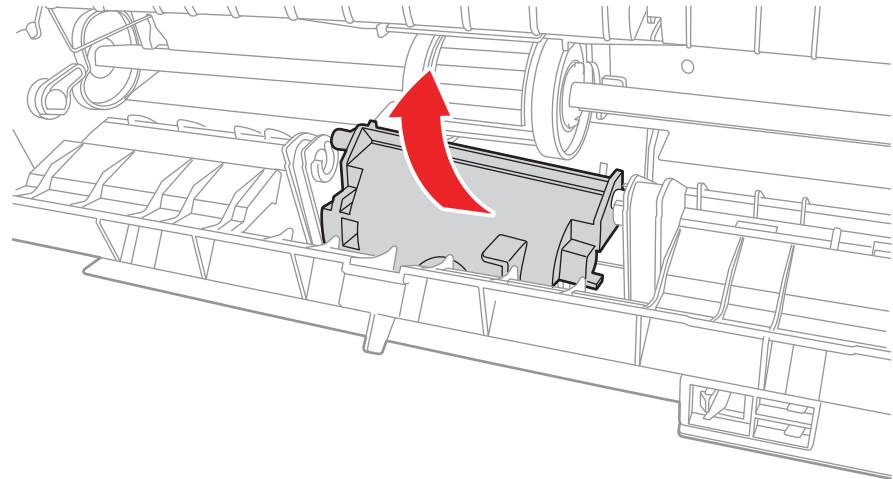
s6000-068

Left/Right Follower, Arm, and Spring
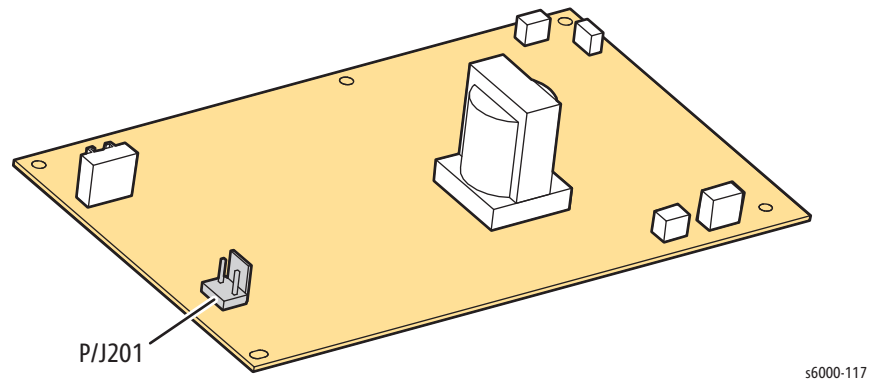
PL2.2.13~14, PL2.2.17~18, PL2.2.24

1. Remove the Main Paper Tray Cover (Phaser 6000/6010 page 8-7; WorkCentre 6015 MFP page 8-29).

2. Remove the Front Cover (Phaser 6000/6010 page 8-8; WorkCentre 6015 MFP page 8-34).

3. Open the Rear Door.

4. Remove the Left Side Cover (Phaser 6000/6010 page 8-10; WorkCentre 6015 MFP page 8-29).

5. If present, remove the Wi-Fi Assembly (page 8-103).

6. Remove the Top Cover (Phaser 6000/6010 page 8-11; WorkCentre 6015 MFP page 8-22).

7. Remove the Rear Cover (Phaser 6000/6010 page 8-15; WorkCentre 6015 MFP page 8-24).

8. Remove the Toner Door (Phaser 6000/6010 page 8-19; WorkCentre 6015 MFP page 8-27).
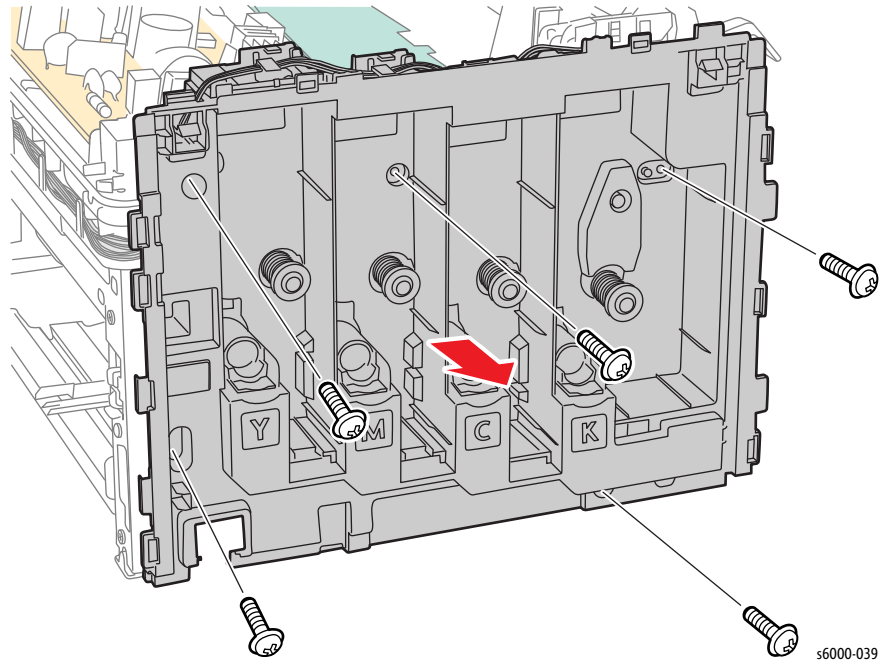
9. Remove the Cleaner Assembly (page 8-79).

10. Disconnect P/J206 on the LVPS, and P/J13 and P/J20 on the MCU. Release the harness from the harness guide.
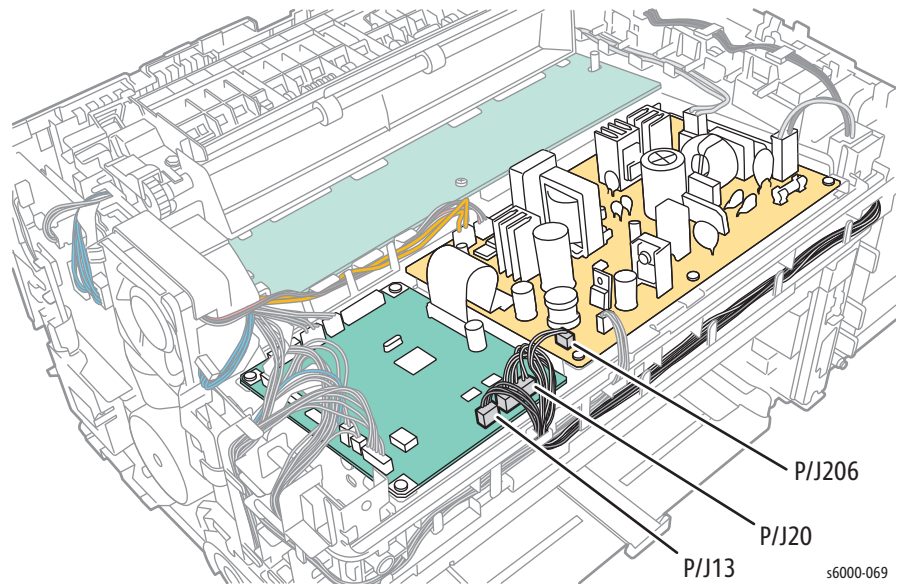
P/J206

P/J20

P/J13

s6000-069

11. Disconnect P/J201 on the LVPS and release the harness from the harness guide.


P/J201

s6000-117

12. Remove the 5 screws (silver, tap, 8 mm), and remove the toner dispense frame from the printer.

s6000-039
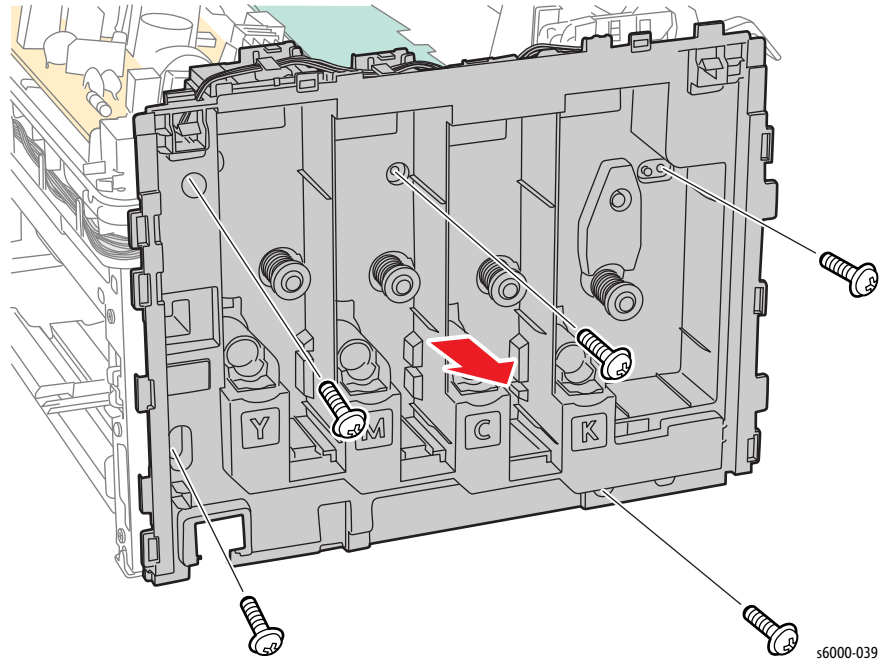
13. Remove the IP Board (page 8-114).
14. Remove the Feed Drive Assembly (page 8-91).
15. Remove the Registration Clutch (page 8-66).
16. Remove the Registration Roller (page 8-61).
17. Remove the Main Paper Tray Chute (page 8-64).
18. While releasing the hook of the Follower, push the Follower towards the inside of the printer.

   Note

   This step applies to both the left and right parts.
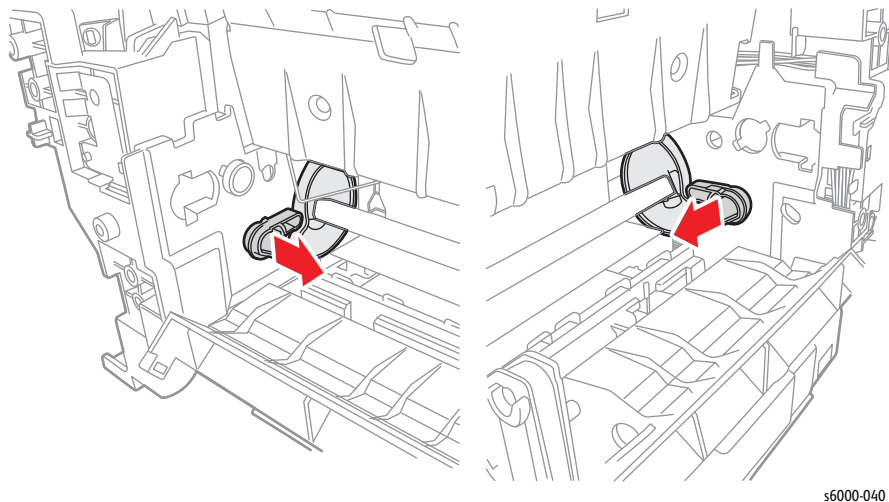
s6000-040

19. Remove the NF Springs.
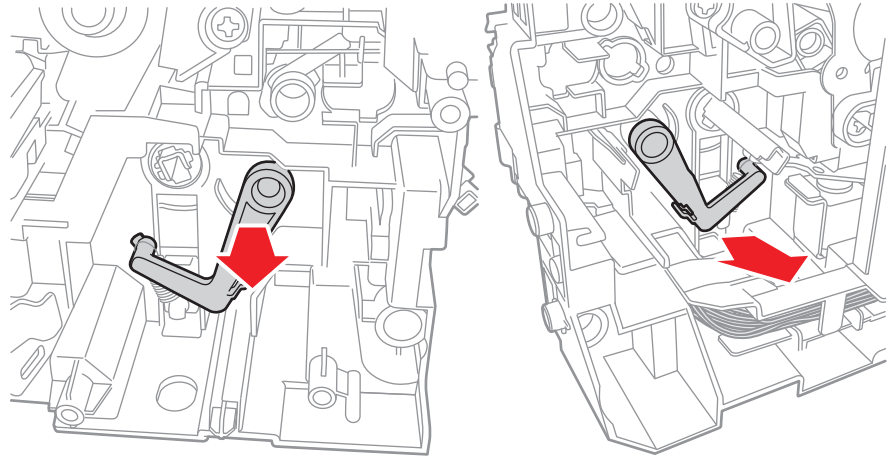
s6000-041

No Paper Spring Actuator, No Paper Actuator, No Paper Cover

PL2.2.20, 2.2.21, 2.2.22

Note

This procedure applies to the Phaser 6010N and WorkCentre 6015 MFPs.

1. Check that there are no cables attached to the rear of the printer, and then turn the printer over and set it on the Rear Door.

2. Release the 2 hooks, and remove the No Paper Cover.

Hooks
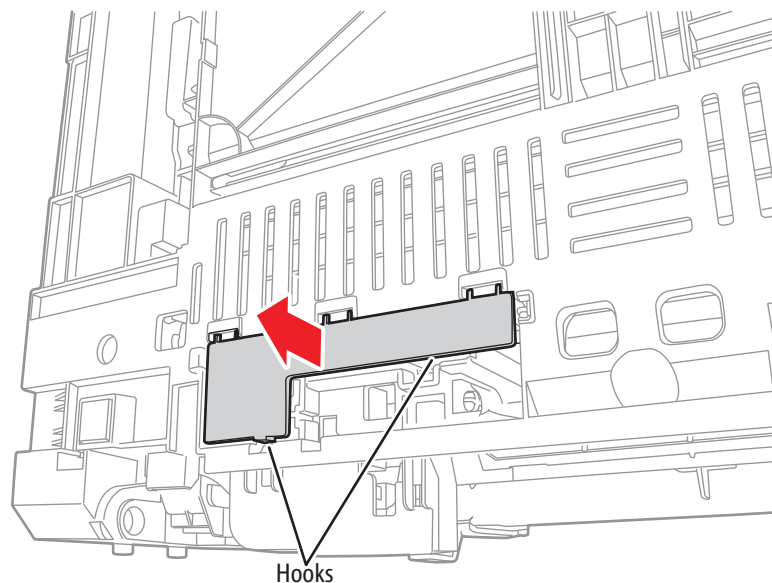
s6000-042

3. Release the right shaft of the No Paper Actuator from the hole in the printer, and remove it.
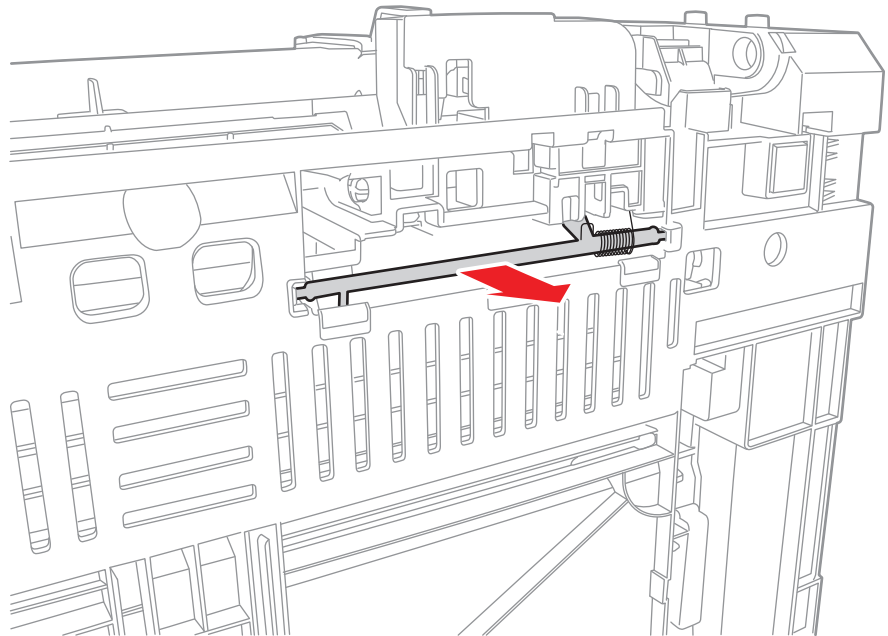
s6000-043

4. Remove the No Paper Spring Actuator from the No Paper Actuator.
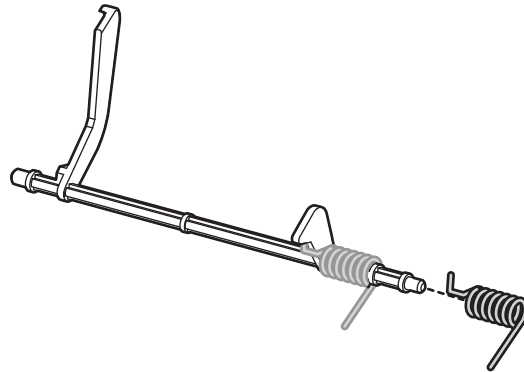
s6000-044

No Paper Sensor

PL2.2.23

Note

This procedure applies to the 6010N and WorkCentre 6015 MFP.

1. Remove the xerographics assembly (page 8-68).
2. Release the 3 hooks, and remove the No Paper Sensor.

P/J121

s6000-216
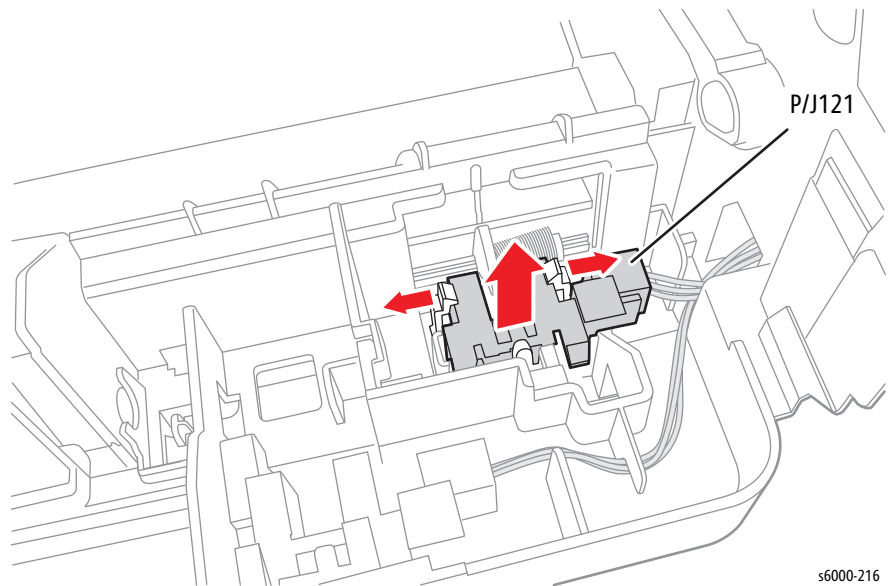
Registration Pinch Roller

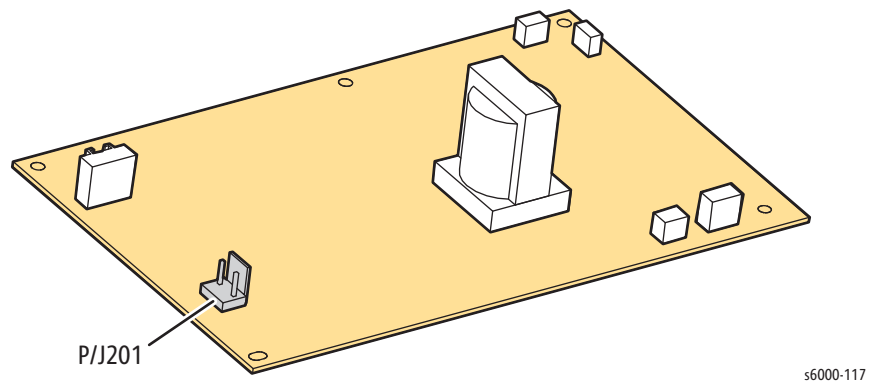**PL2.3.2**

1. Remove the Main Paper Tray Cover (Phaser 6000/6010 page 8-7; WorkCentre 6015 MFP page 8-29).
2. Remove the Front Cover (Phaser 6000/6010 page 8-8; WorkCentre 6015 MFP page 8-34).
3. Open the Rear Door.
4. Remove the Left Side Cover (Phaser 6000/6010 page 8-10; WorkCentre 6015 MFP page 8-29).
5. Remove the Top Cover (Phaser 6000/6010 page 8-11; WorkCentre 6015 MFP page 8-22).
6. Remove the Rear Cover (Phaser 6000/6010 page 8-15; WorkCentre 6015 MFP page 8-24).
7. Remove the Toner Door (Phaser 6000/6010 page 8-19; WorkCentre 6015 MFP page 8-27).
8. Remove the Cleaner Assembly (page 8-79).

9. Disconnect P/J206 on the LVPS, and P/J13 and P/J20 on the MCU Board. Release the harness from the harness guide.

P/J206

P/J20

P/J13

s6000-069

10. Disconnect P/J201 on the LVPS and release the harness from the harness guide.

P/J201

s6000-117

11. Remove the 5 screws (silver, tap, 8 mm), and remove the toner dispense frame from the printer.

s6000-039

12. Remove the Image Processor Board (page 8-114).
13. Remove the Feed Drive Assembly (page 8-91).
14. Remove the Registration Clutch (page 8-66).

Note

Steps 15 and 16 apply to the bearings on both the left and right side.

15. Remove the Registration Spring.

s6000-092
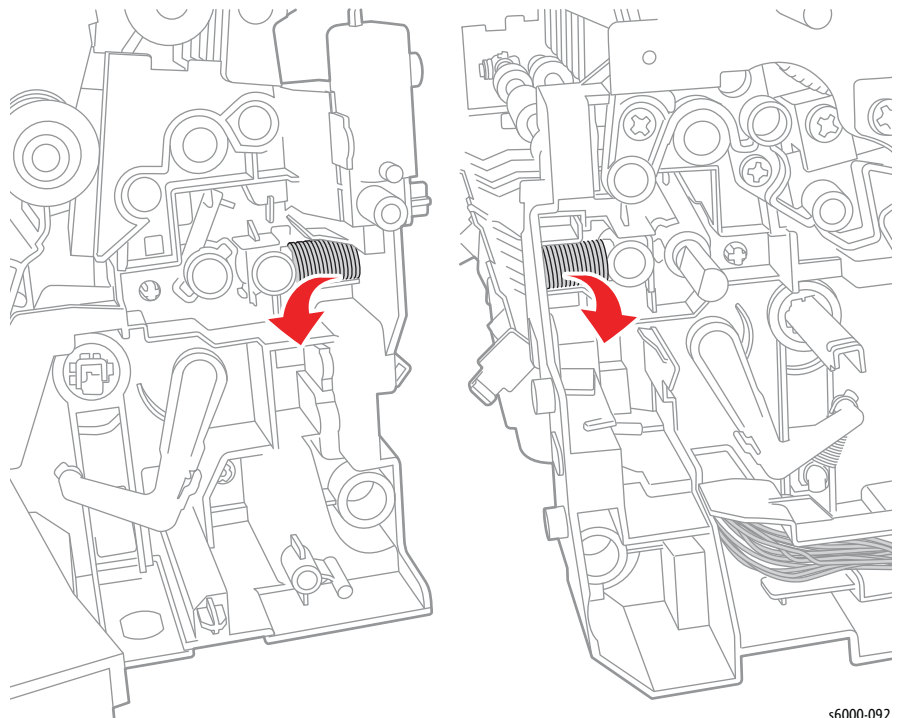
16. Release the latch, and remove the Registration Bearing.
17. Remove the Registration Pinch Roller Assembly.
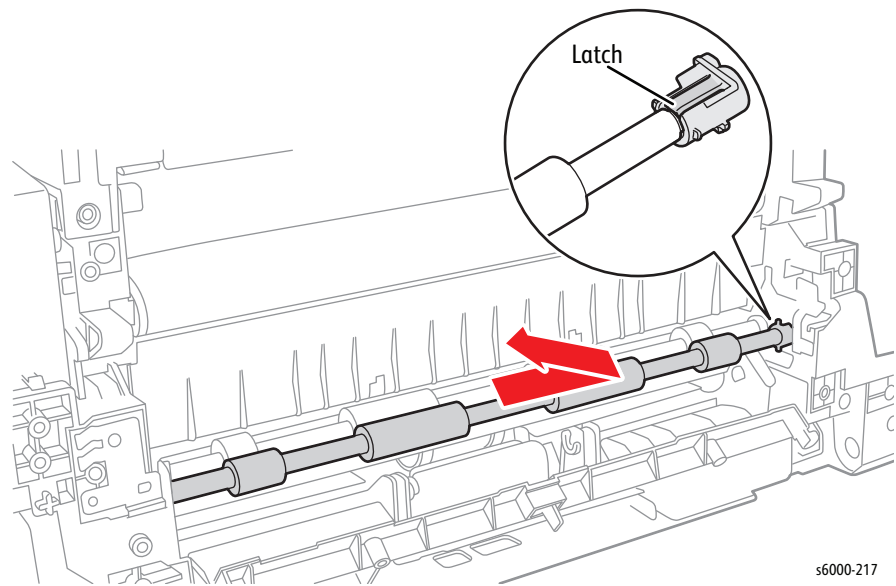
s6000-217

Registration Roller

PL2.3.1

1. Remove the Main Paper Tray Cover (Phaser 6000/6010 page 8-7; WorkCentre 6015 MFP page 8-29).

2. Remove the Front Cover (Phaser 6000/6010 page 8-8; WorkCentre 6015 MFP page 8-34).

3. Open the Rear Door.

4. Remove the Left Side Cover (Phaser 6000/6010 page 8-10; WorkCentre 6015 MFP page 8-29).

5. If present, remove the Wi-Fi Assembly (page 8-103).

6. Remove the Top Cover (Phaser 6000/6010 page 8-11; WorkCentre 6015 MFP page 8-22).

7. Remove the Rear Cover (Phaser 6000/6010 page 8-15; WorkCentre 6015 MFP page 8-24).

8. Remove the Toner Door (Phaser 6000/6010 page 8-19; WorkCentre 6015 MFP page 8-27).

9. Remove the Cleaner Assembly (page 8-79).

10. Disconnect P/J206 on the LVPS, and P/J13 and P/J20 on the MCU Board. Release the harness from the harness guide.

P/J206

P/J20

P/J13

s6000-069

11. Disconnect P/J201 on the LVPS and release the harness from the harness guide.

P/J201

s6000-117

12. Remove the 5 screws (silver, tap, 8 mm), and remove the toner dispense frame from the printer.

s6000-039

13. If present, remove the Wi-Fi Assembly (page 8-103).
14. Remove the Image Processor Board (page 8-114).
15. Remove the Feed Drive Assembly (page 8-91).
16. Remove the Registration Clutch (page 8-66).
17. Remove the Registration Pinch Roller (page 8-57).

18. Release the hook by rotating the Registration Bearing counterclockwise. Pull the Registration Roller to the right.

Note

> If the printer you are working on is a WorkCentre 6015 MFP, ignore the left-hand side of the following illustration as it is not a necessary step.

s6000-093
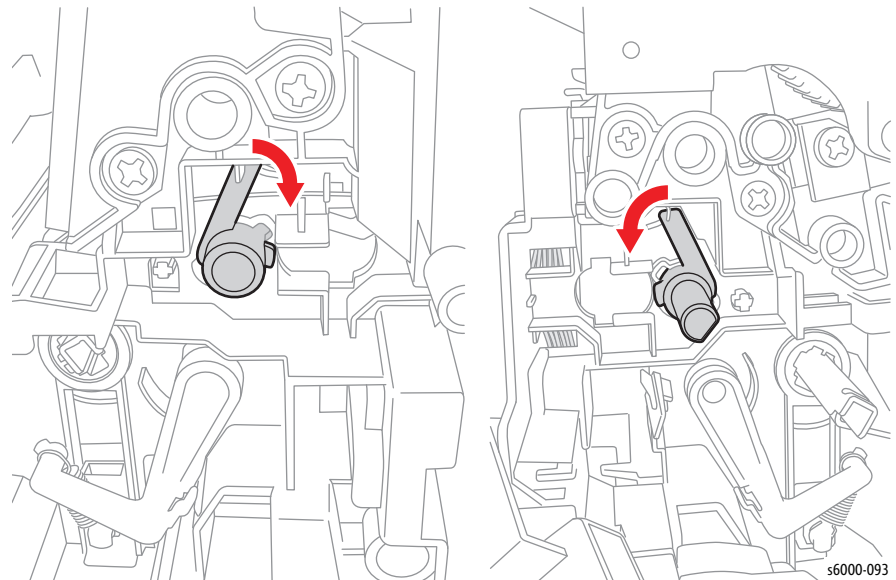
19. Release the tab, and remove the Registration Bearing from the Registration Roller.

s6000-094
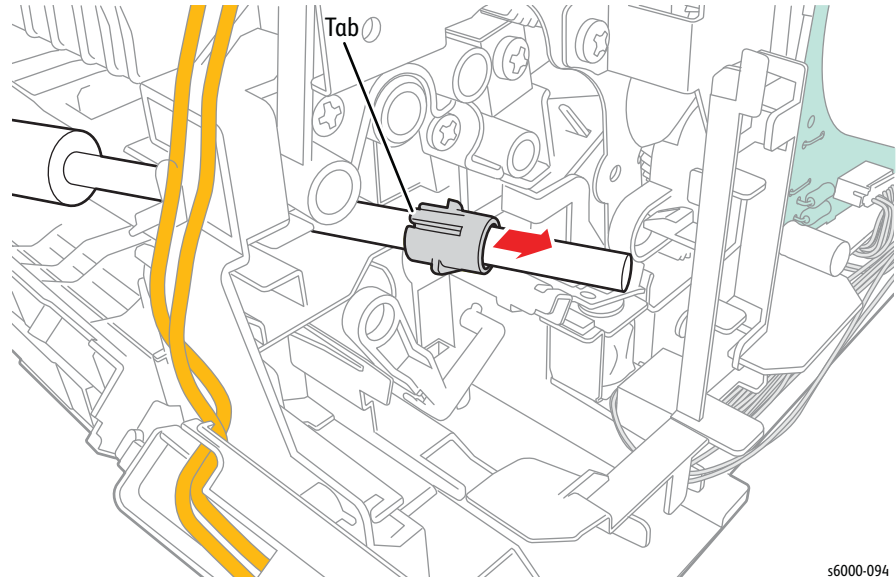
20. Remove the Registration Roller.

Main Paper Tray Chute
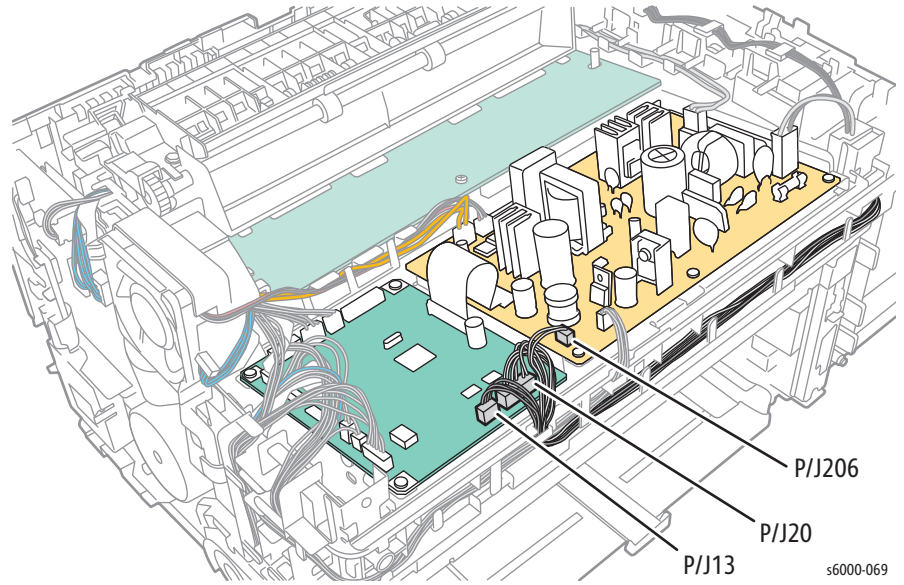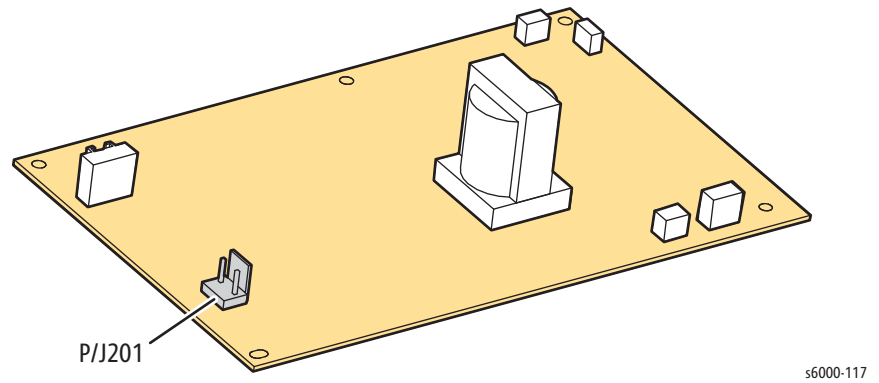
PL2.3.3

1. Remove the Main Paper Tray Cover (Phaser 6000/6010 page 8-7; WorkCentre 6015 MFP page 8-29).

2. Remove the Front Cover (Phaser 6000/6010 page 8-8; WorkCentre 6015 MFP page 8-34).

3. Open the Rear Door.

4. Remove the Left Side Cover (Phaser 6000/6010 page 8-10; WorkCentre 6015 MFP page 8-29).

5. If present, remove the Wi-Fi Assembly (page 8-103).

6. Remove the Top Cover (Phaser 6000/6010 page 8-11; WorkCentre 6015 MFP page 8-22).

7. Remove the Rear Cover (Phaser 6000/6010 page 8-15; WorkCentre 6015 MFP page 8-24).

8. Remove the Toner Door (Phaser 6000/6010 page 8-19; WorkCentre 6015 MFP page 8-27).
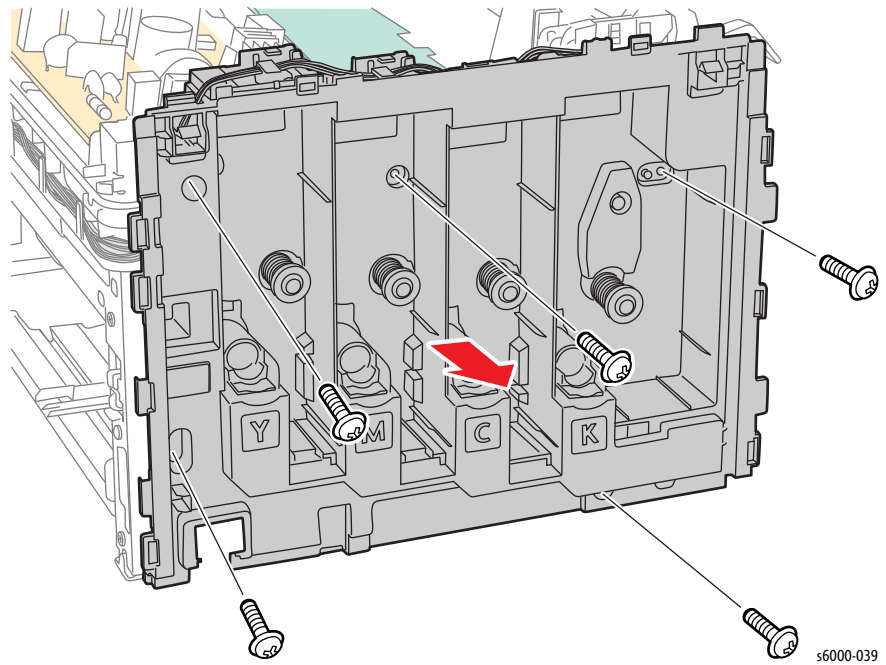
9. Remove the Cleaner Assembly (page 8-79).

10. Remove the Registration Pinch Roller (page 8-57).

11. Remove the Registration Roller (page 8-61).

12. Release the 4 bosses on the Main Paper Tray Chute, and then remove it from the printer.

Caution

Be careful to not damage the spring in the lower right side.
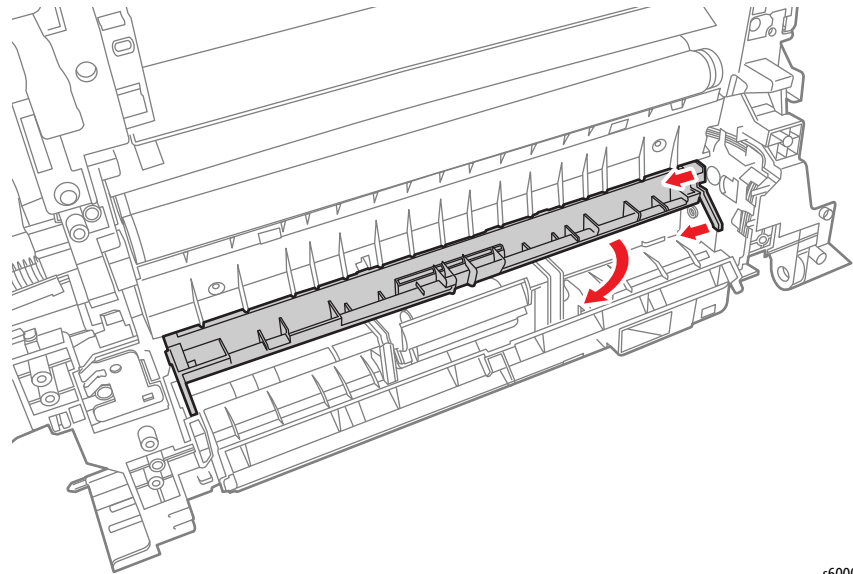
s6000-046

Registration Sensor

PL2.3.5

1. Open the Rear Door.
2. Release the 2 hooks and remove the Sensor Cover.
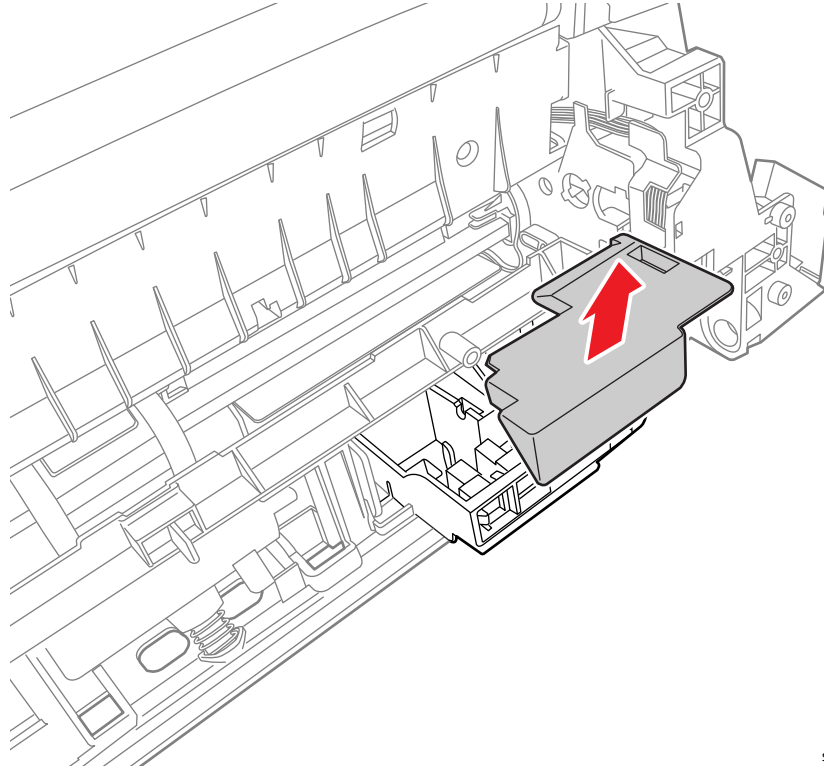
s6000-047

3. Lift the Chute Low and release the 3 hooks on the Registration Sensor.

P/Jxx
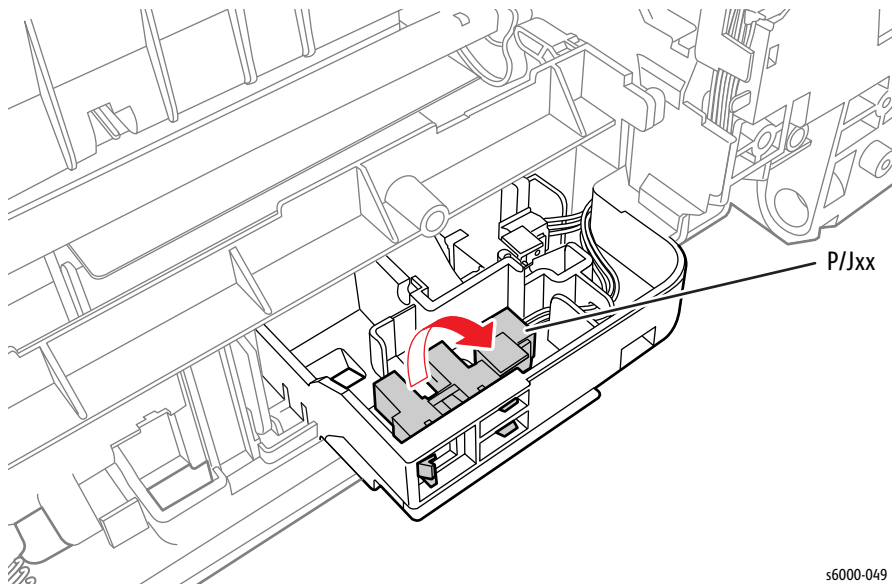
s6000-049

Registration Clutch

PL2.3.7

1. Remove the Main Paper Tray Cover (Phaser 6000/6010 page 8-7; WorkCentre 6015 MFP page 8-29).
2. Remove the Front Cover (Phaser 6000/6010 page 8-8; WorkCentre 6015 MFP page 8-34).
3. Open the Rear Door.
4. Remove the Left Side Cover (Phaser 6000/6010 page 8-10; WorkCentre 6015 MFP page 8-29).
5. If present, remove the Wi-Fi Assembly (page 8-103).
6. Remove the Top Cover (Phaser 6000/6010 page 8-11; WorkCentre 6015 MFP page 8-22).
7. Remove the Fan (page 8-106).
8. Remove the Image Processor Board (page 8-114).
9. Remove the PH3 Gear (page 8-87).
10. Remove the Feed Drive Assembly (page 8-91).
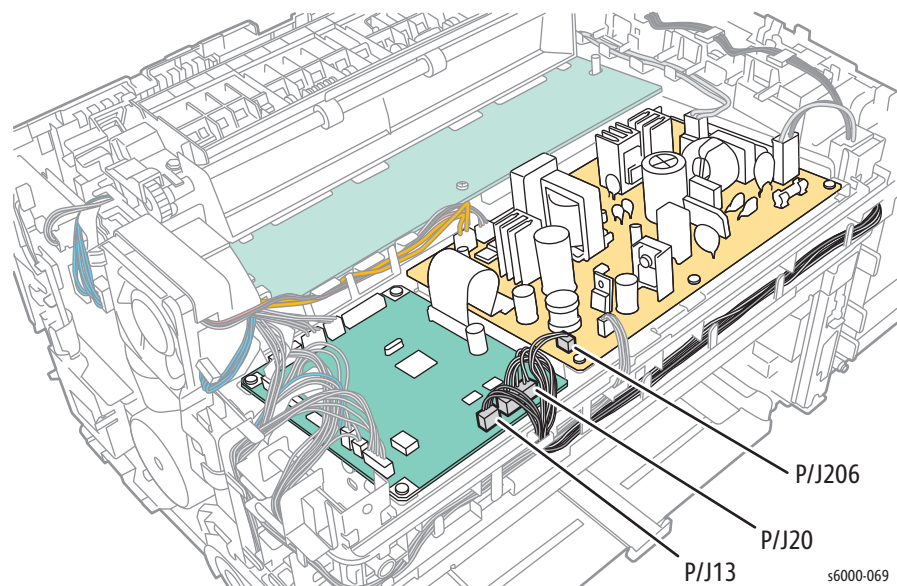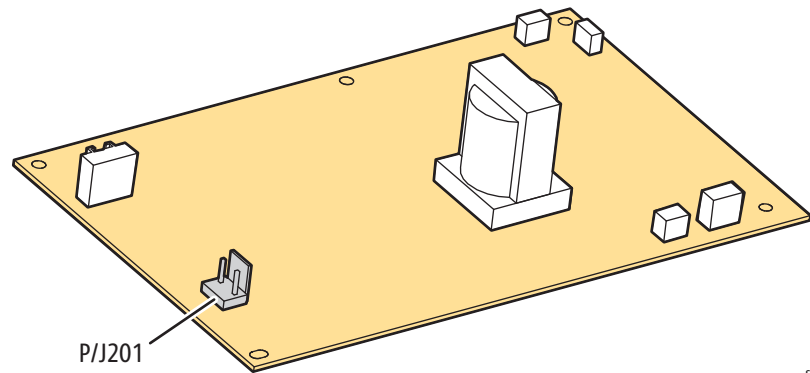11. Remove the spring. Release the hook, and remove the gear.
12. Disconnect P/J25 on the MCU Board and unthread the harness.
13. Remove the Registration Clutch.
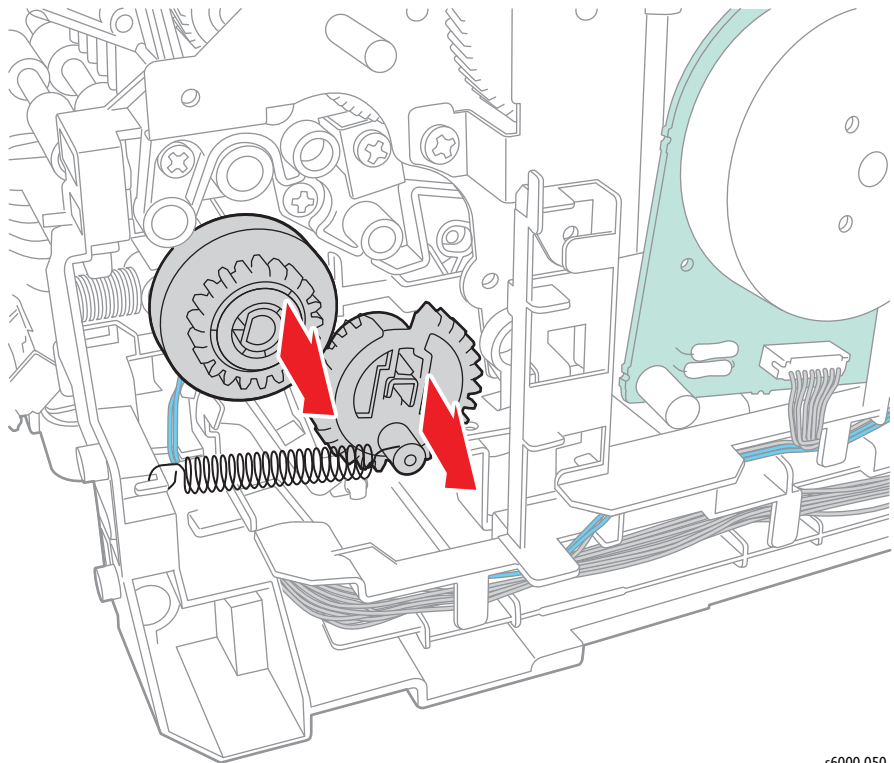
s6000-050

Registration Actuator

PL2.3.11

1. Open the Rear Door.
2. Release the 2 hooks and remove the Sensor Cover.
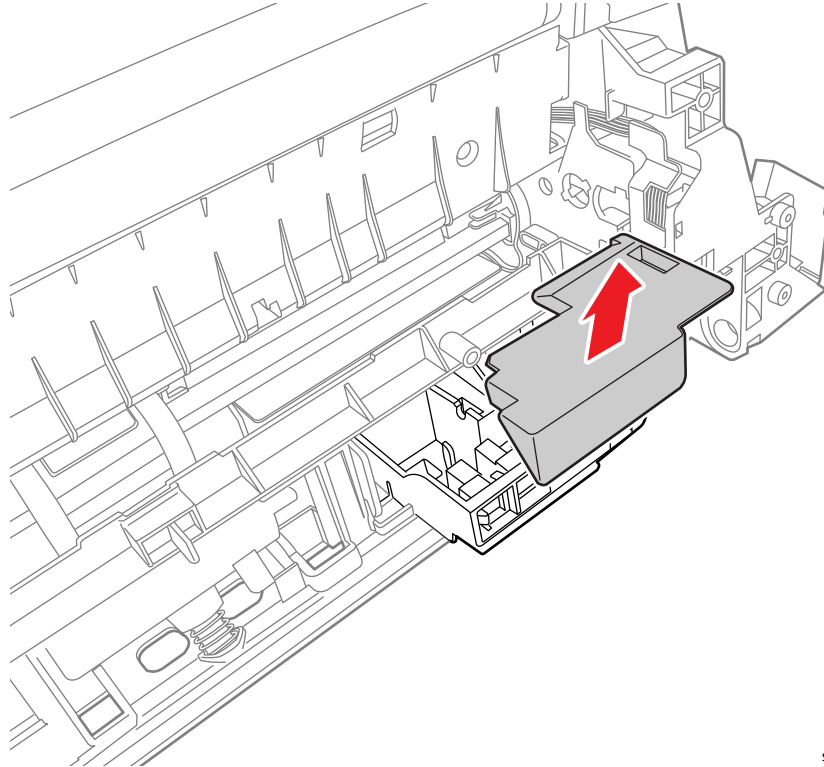
s6000-047

3. Release the left shaft of the Registration Actuator from the hole in the printer.
4. Remove the Registration Actuator and spring.
5. Remove the Registration Spring from the Registration Actuator.
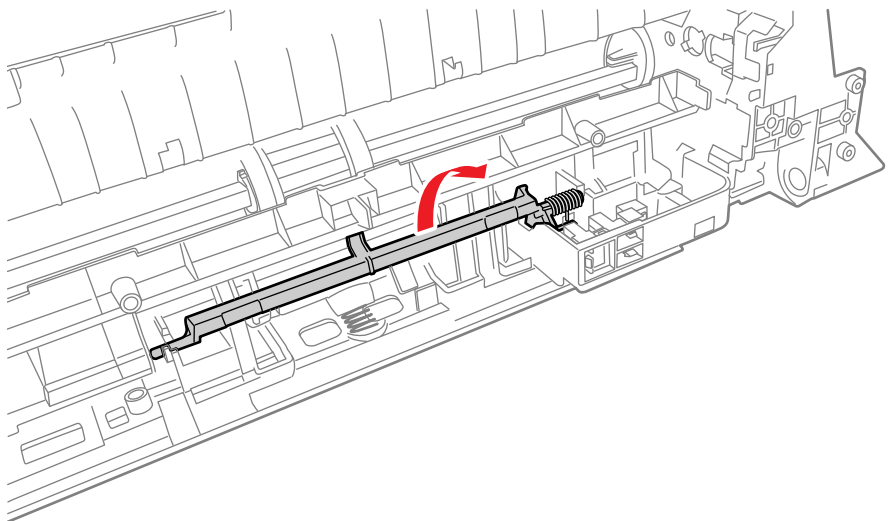
s6000-051

Xerographics

Xerographics Assembly

PL3.1.1

1. Remove the Main Paper Tray Cover (Phaser 6000/6010 page 8-7; WorkCentre 6015 MFP page 8-29).

2. Remove the Front Cover (Phaser 6000/6010 page 8-8; WorkCentre 6015 MFP page 8-34).

3. Open the Rear Door.

4. Remove the Left Side Cover (Phaser 6000/6010 page 8-10; WorkCentre 6015 MFP page 8-29).

5. If present, remove the Wi-Fi Assembly (page 8-103).

6. Remove the Top Cover (Phaser 6000/6010 page 8-11; WorkCentre 6015 MFP page 8-22).

7. Remove the Rear Cover (Phaser 6000/6010 page 8-15; WorkCentre 6015 MFP page 8-24).

8. Remove the Toner Door (Phaser 6000/6010 page 8-19; WorkCentre 6015 MFP page 8-27).

9. Remove the IP Board (page 8-114).

10. Remove the Fuser (page 8-80).

11. Remove the Cleaner Assembly (page 8-79).

12. Disconnect P/J206 on the LVPS, and P/J13 and P/J20 on the MCU Board. Release the harness from the harness guide.
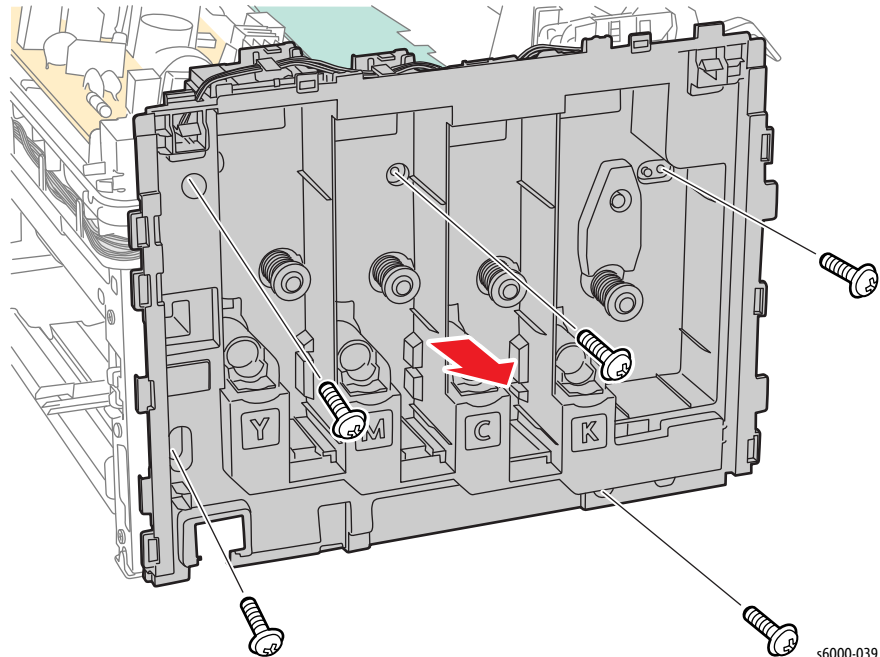

P/J206

P/J20

P/J13
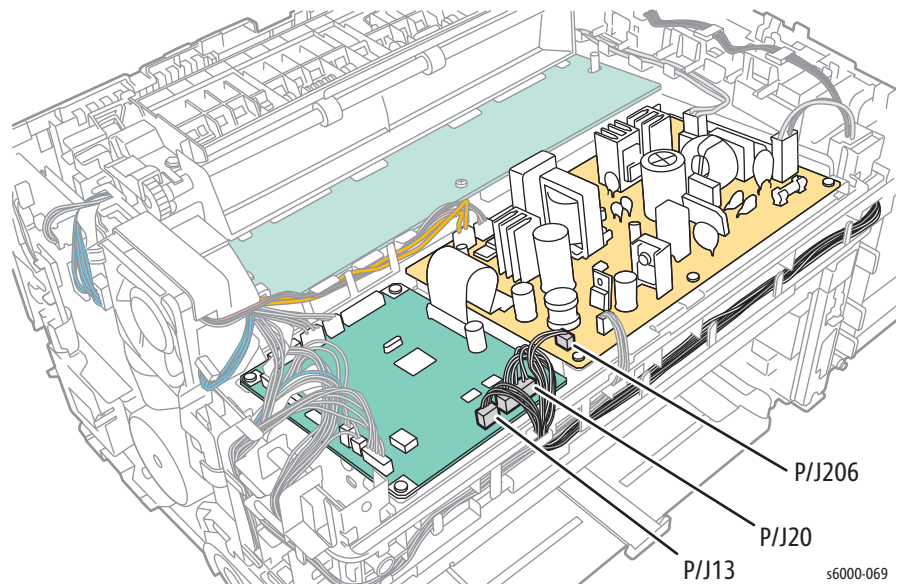
s6000-069

13. Disconnect P/J201 on the LVPS and release the harness from the harness guide.

P/J201
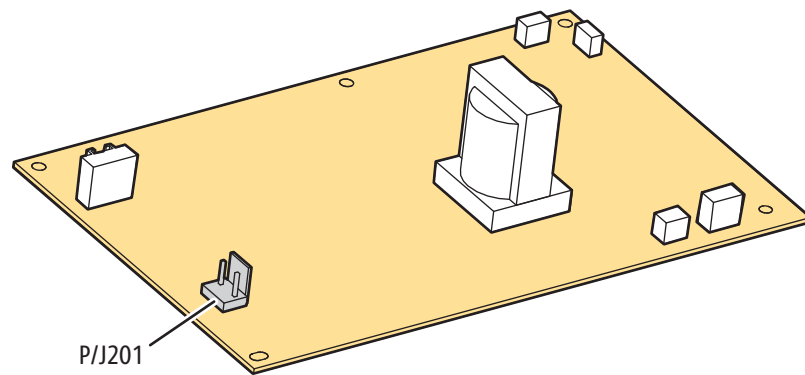
s6000-117

14. Remove the 5 screws (silver, tap, 8 mm), and remove the toner dispense frame from the printer.
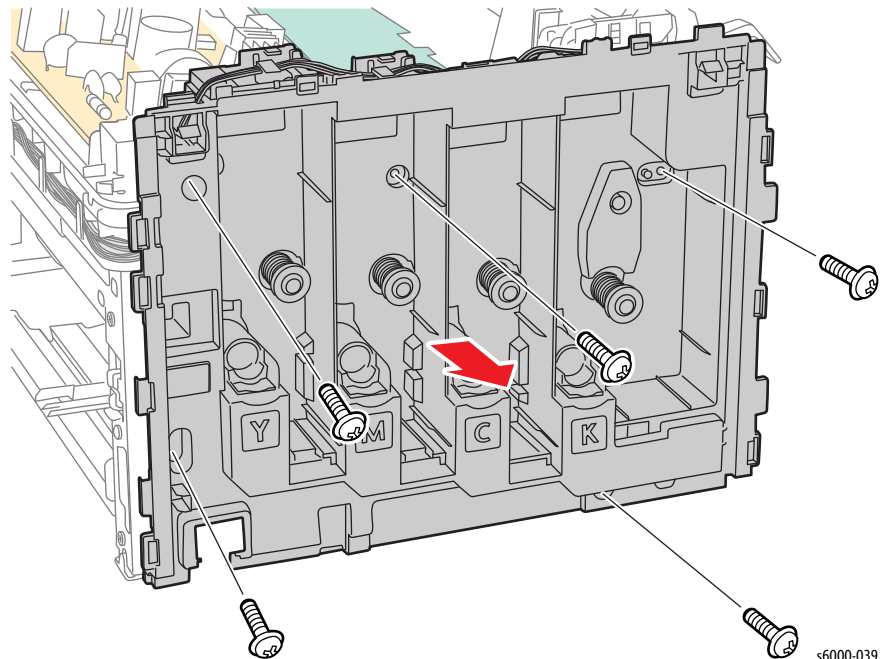

s6000-039

15. Remove the MCU Board (page 8-121).
16. Remove the HVPS (page 8-123).
17. Remove the LED Driver Board (page 8-107).
18. Remove the Feed Drive Assembly (page 8-91).
19. Remove the Main Drive Assembly (page 8-82).
20. Remove the Developer Drive Assembly (page 8-95).

21. Remove the grounding terminal from the front of the printer by removing 1 screw (silver, with washer, 6 mm).

s6000-095
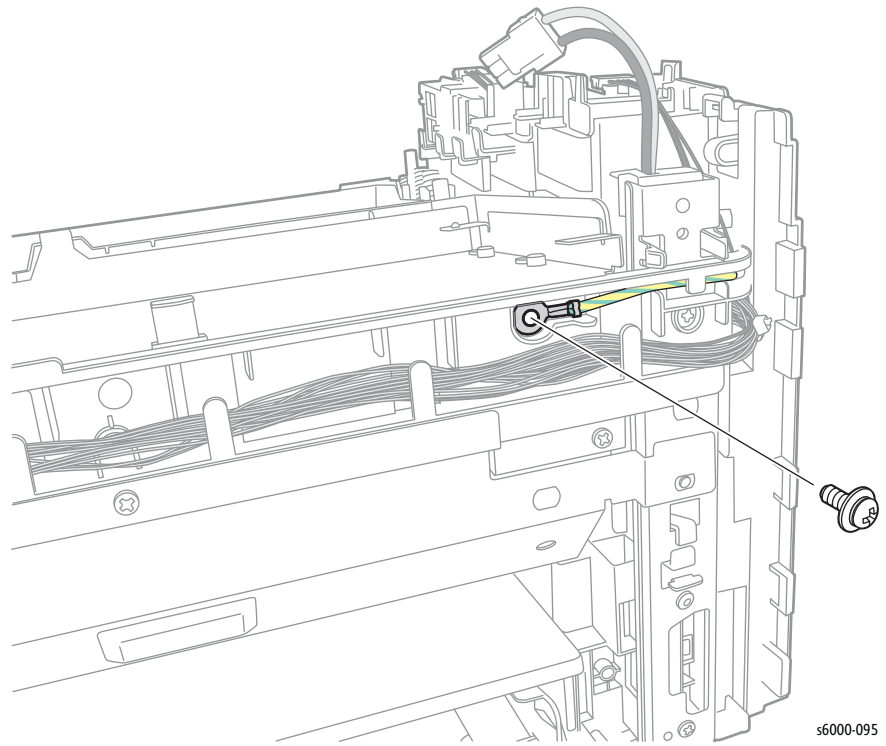
22. Remove 2 screws (silver, M3, 6 mm), and remove the Front Harness Guide.
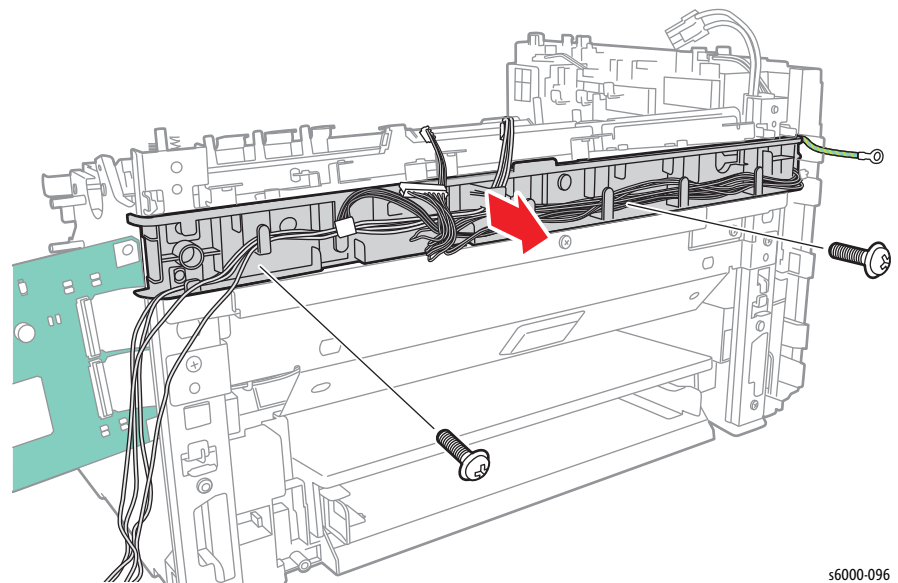
s6000-096

23. Remove 5 screws (silver, tap, 8 mm), 2 screws (silver, M4, 6 mm), and 1 screw (silver, M3, 6 mm), and lay the MU Drive Assembly on the work surface.

Caution

> The MU Drive Assembly has a ground strap welded to it. Take care to not damage the strap.
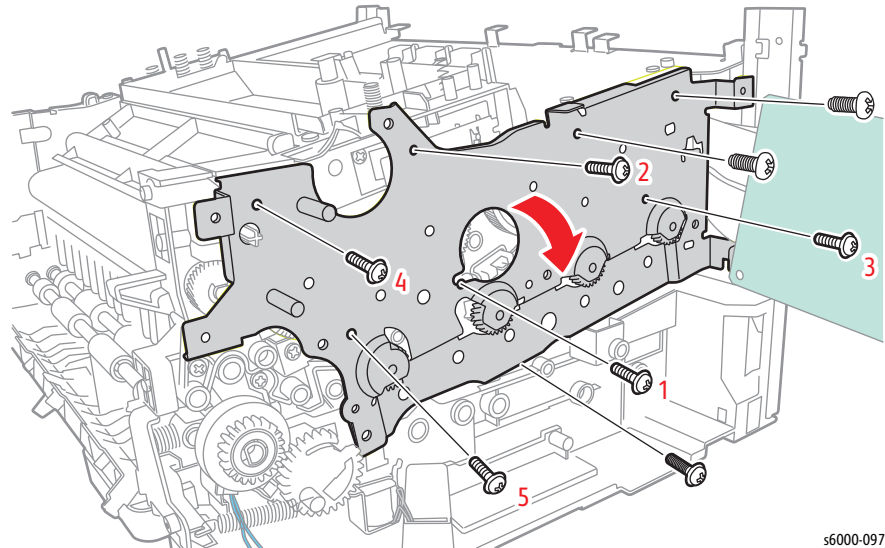
s6000-097

Replacement Note

> When replacing the MU Drive Assembly, loosely install the 5 numbered screws first, and then tighten screw number 1 through 5 in that order.

24. Remove the 4 screws (silver, tap, 8 mm) that fix the xerographics assembly to the printer.
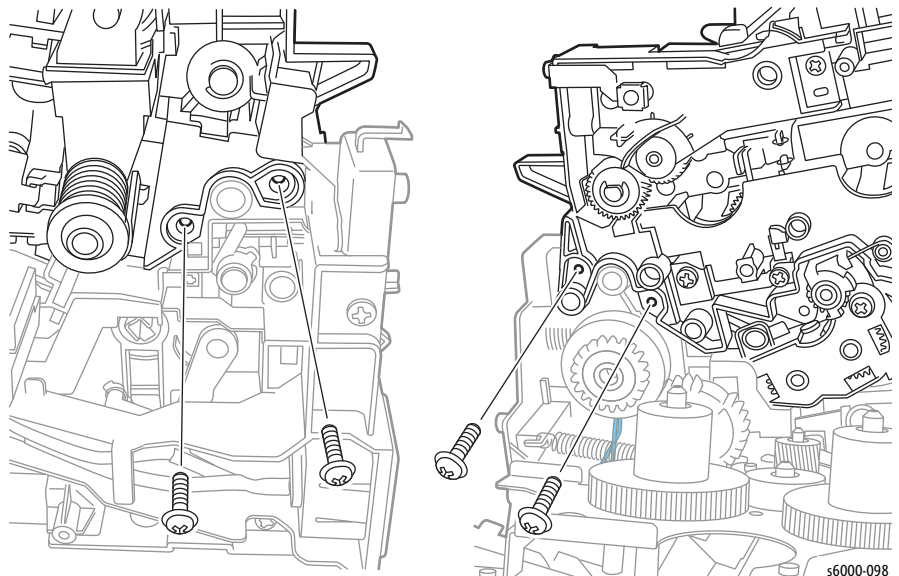
s6000-098

25. Unlace the xerographics harness.
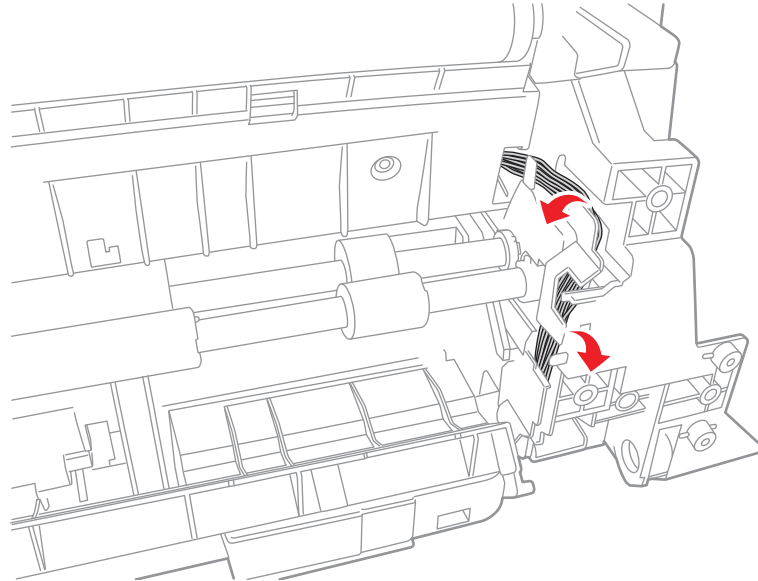
s6000-100

26. Remove the xerographics assembly.

Note

After removing the xerographics assembly place it in a flat stable location.

Front
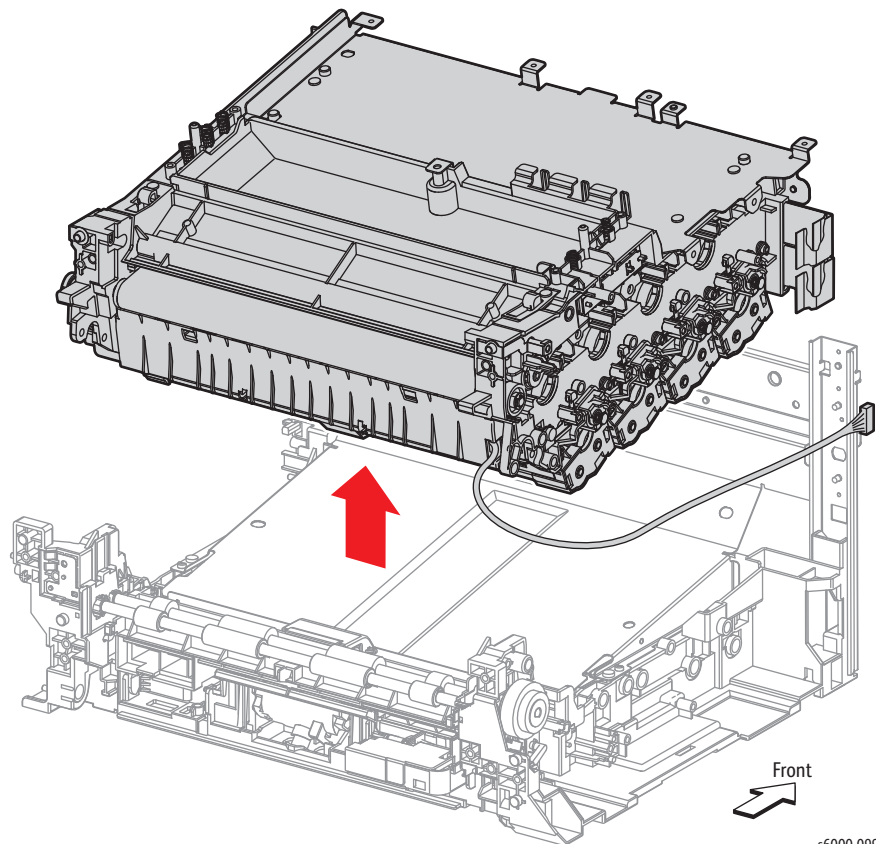
s6000-099

27. Inspect the Feed Roller and replace if worn (page 8-45).

28. Clean the Separator Roller. If damaged, replace the Separator Pad Assembly (page 8-49).

Toner Dispenser

Idler 34 Gear, Oneway Clutch Assembly, and Idler 23 Gear

PL4.1.6~7, PL 4.1.11

1. Remove the Main Paper Tray Cover (Phaser 6000/6010 page 8-7; WorkCentre 6015 MFP page 8-29).
2. Remove the Front Cover (Phaser 6000/6010 page 8-8; WorkCentre 6015 MFP page 8-34).
3. Open the Rear Door.
4. Remove the Left Side Cover (Phaser 6000/6010 page 8-10; WorkCentre 6015 MFP page 8-29).
5. If present, remove the Wi-Fi Assembly (page 8-103).
6. Remove the Top Cover (Phaser 6000/6010 page 8-11; WorkCentre 6015 MFP page 8-22).
7. Remove the Rear Cover (Phaser 6000/6010 page 8-15; WorkCentre 6015 MFP page 8-24).
8. Remove the Toner Door (Phaser 6000/6010 page 8-19; WorkCentre 6015 MFP page 8-27).
9. Remove the Toner Motors (page 8-75).
10. Release the Toner Motor harness from the harness guide.
11. Remove the 1 screw (silver, tap, 8 mm).
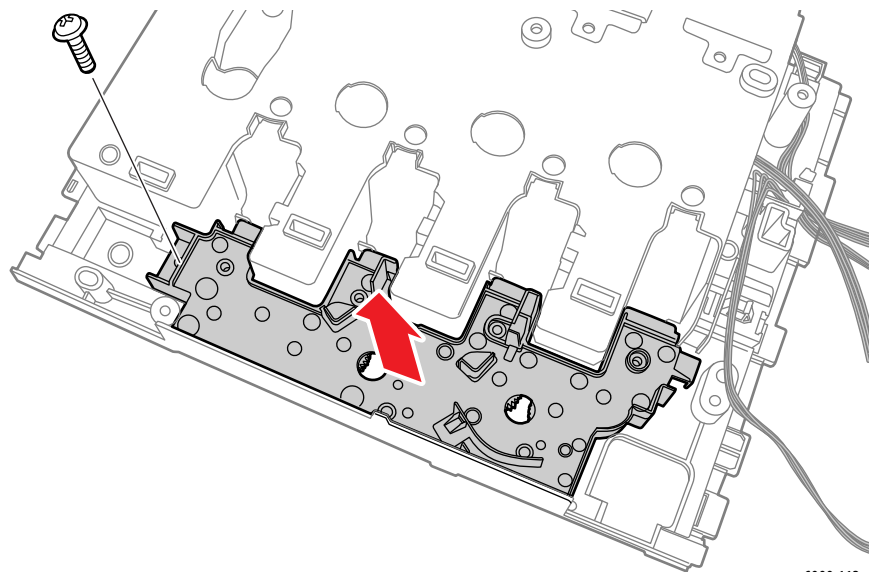
s6000-113

12. Release the 2 hooks on the Frame Drive Assembly, and remove the Frame Drive Assembly from the toner dispense frame.

   Caution

   When performing this step, do not drop the gears on the Frame Drive Assembly.

Hooks
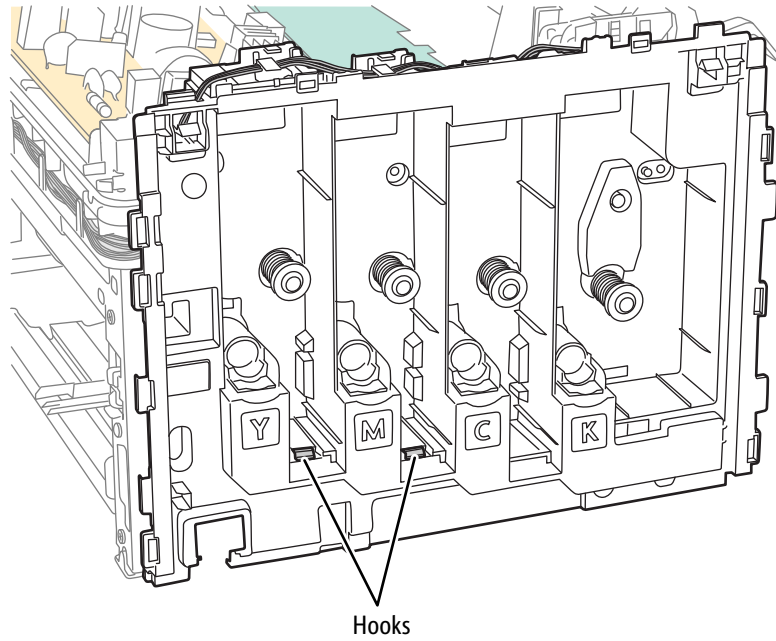
s6000-232

13. Remove the Idler 34 Gears, the Oneway Clutches Assemblies, and the Idler 23 Gears.

Idler 23 Gears

Oneway Clutches
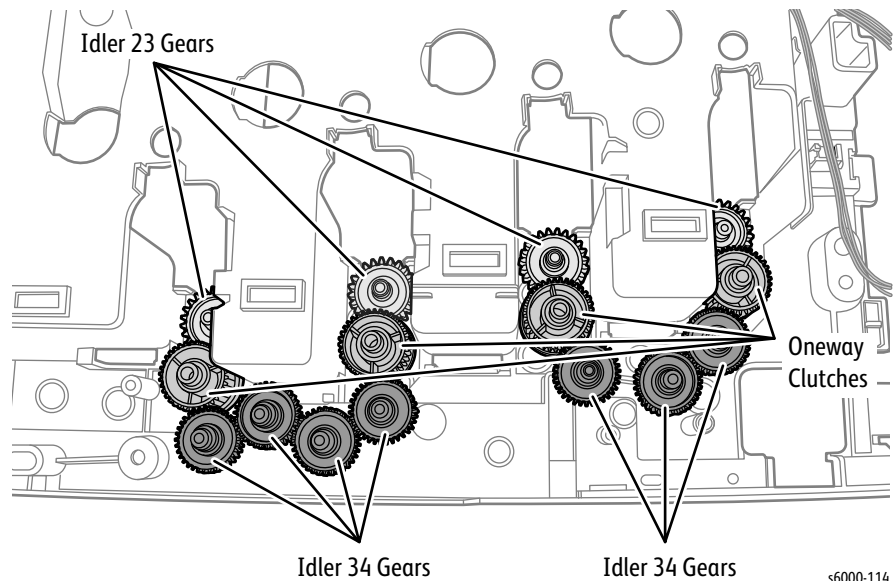
Idler 34 Gears   Idler 34 Gears   s6000-114

Toner Motor

PL4.1.9

1. Remove the Main Paper Tray Cover (Phaser 6000/6010 page 8-7; WorkCentre 6015 MFP page 8-29).

2. Remove the Front Cover (Phaser 6000/6010 page 8-8; WorkCentre 6015 MFP page 8-34).

3. Open the Rear Door.

4. Remove the Left Side Cover (Phaser 6000/6010 page 8-10; WorkCentre 6015 MFP page 8-29).

5. If present, remove the Wi-Fi Assembly (page 8-103).

6. Remove the Top Cover (Phaser 6000/6010 page 8-11; WorkCentre 6015 MFP page 8-22).

7. Remove the Rear Cover (Phaser 6000/6010 page 8-15; WorkCentre 6015 MFP page 8-24).

8. Remove the Toner Door (Phaser 6000/6010 page 8-19; WorkCentre 6015 MFP page 8-27).

9. Remove the Cleaner Assembly (page 8-79).

10. Disconnect P/J206 on the LVPS, and P/J13 and P/J20 on the MCU Board. Release the harness from the harness guide.

P/J206

P/J20

P/J13

s6000-069

11. Disconnect P/J201 on the LVPS and release the harness from the harness guide.

P/J201

s6000-117

12. Remove 5 screws (silver, tap, 8 mm), and remove the toner dispense frame from the printer.

s6000-039

13. Disengage P/J200 and P/J201 from the Toner Motors.
    Remove the 2 screws (silver, tap, 8 mm), and remove the Toner Motors from the toner dispense frame.

P/J200

P/J201

s6000-101
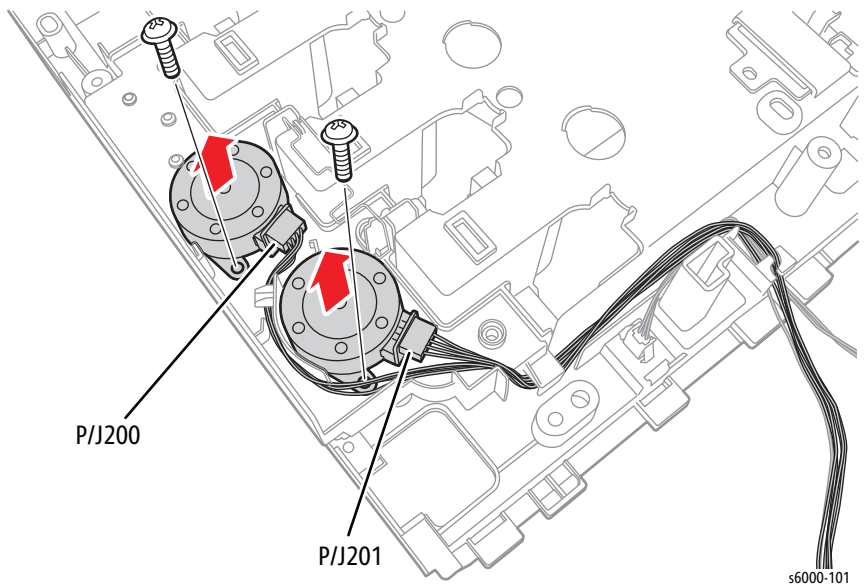
Connector Cover

PL4.1.12

1. Open the Toner Door.
2. Release the hook, and remove the Connector Cover from the printer.

s6000-115
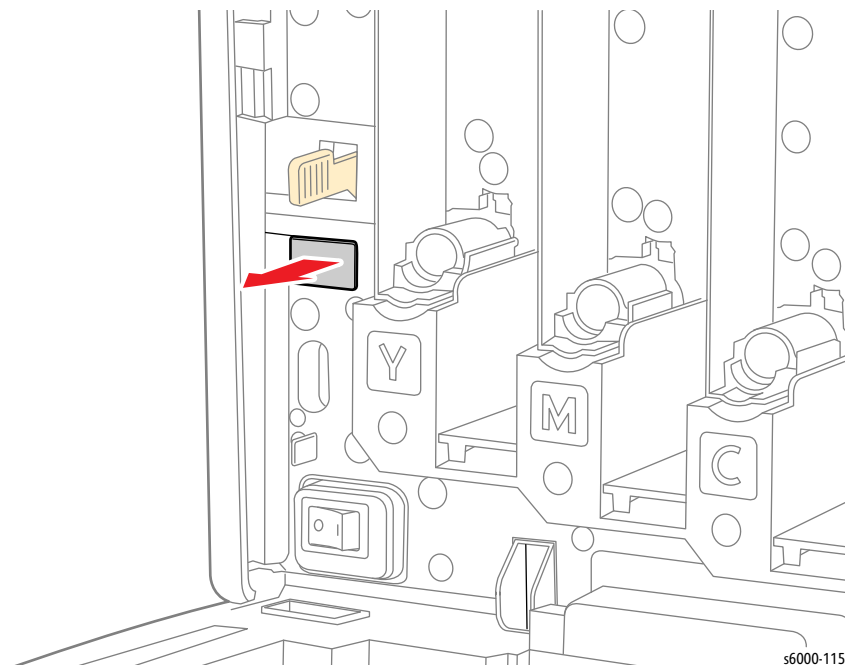
Cleaner Assembly

PL4.1.17

1. Open the Toner Door.
2. Pull the Cleaner Assembly out of the printer.
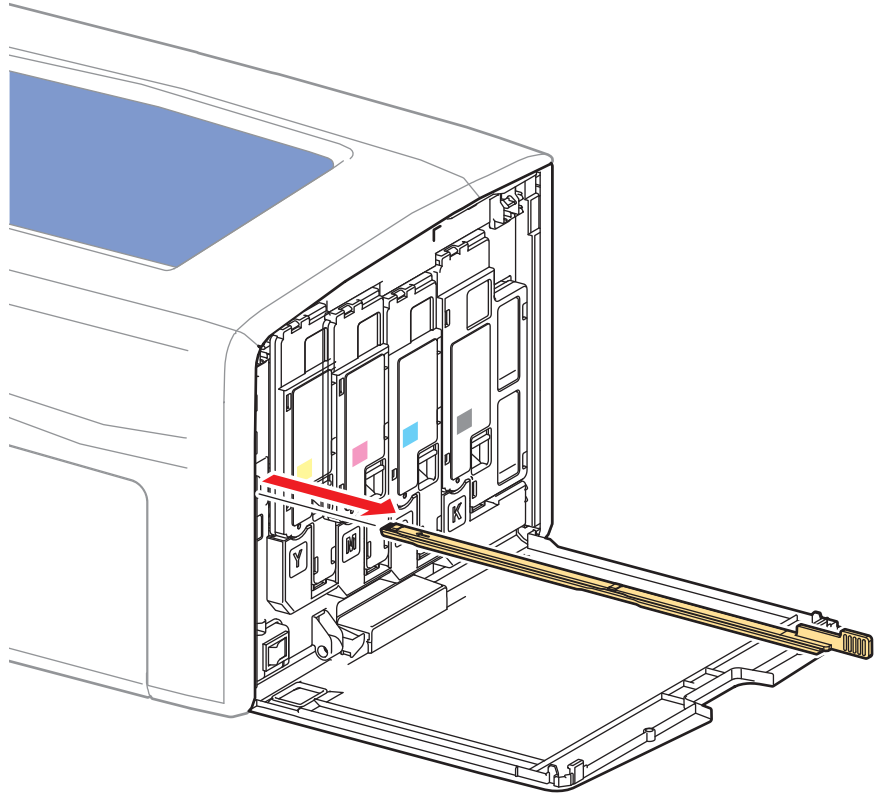
s6000-006

Fuser

PL5.1.1

Warning

Allow the Fuser to cool before performing this procedure.

1. Remove the Main Paper Tray Cover (Phaser 6000/6010 page 8-7; WorkCentre 6015 MFP page 8-29).
2. Remove the Front Cover (Phaser 6000/6010 page 8-8; WorkCentre 6015 MFP page 8-34).
3. Open the Rear Door.
4. Remove the Left Side Cover (Phaser 6000/6010 page 8-10; WorkCentre 6015 MFP page 8-29).
5. If present, remove the Wi-Fi Assembly (page 8-103).
6. Remove the Top Cover (Phaser 6000/6010 page 8-11; WorkCentre 6015 MFP page 8-22).
7. Remove the Rear Cover (Phaser 6000/6010 page 8-15; WorkCentre 6015 MFP page 8-24).
8. Disconnect P/J18 and P/J26 from the MCU Board, and release the harness from the harness guide.


P/J18   P/J26
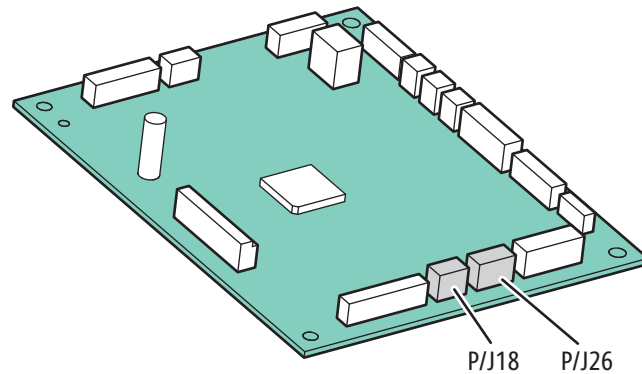
s6000-116

9. Disconnect P/J201 on the LVPS, and release the harness from the harness guide.

P/J201
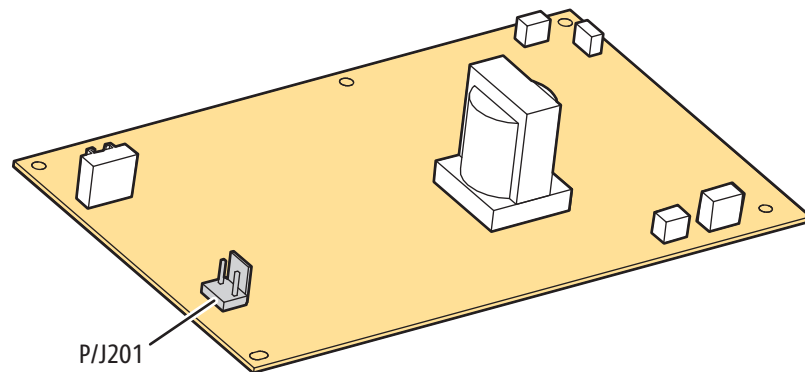
s6000-117

10. Remove 2 screws (silver, Hex Head, tap, 8 mm), and remove the Fuser.

(J201)

(J18) (J26)

Front
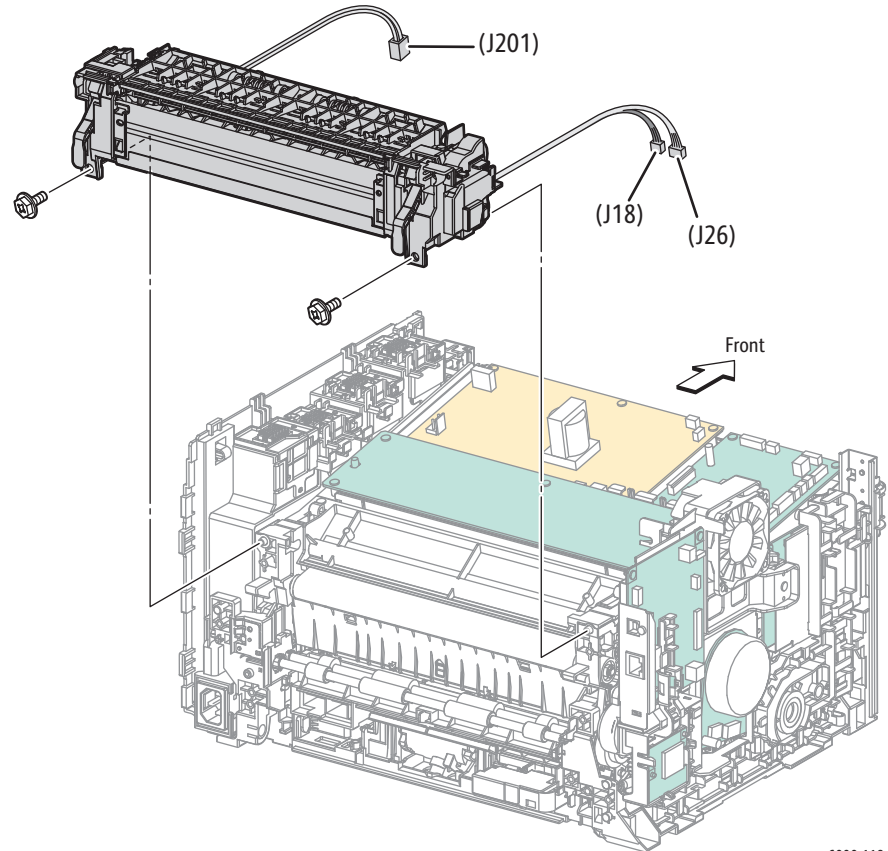
s6000-118

Warning

To avoid electrical shock hazards, be sure to properly route the wires into the wire harness guides when reinstalling the Fuser.

Drive

Main Drive Assembly

PL6.1.2

1. Remove the Main Paper Tray Cover (Phaser 6000/6010 page 8-7; WorkCentre 6015 MFP page 8-29).

2. Remove the Front Cover (Phaser 6000/6010 page 8-8; WorkCentre 6015 MFP page 8-34).

3. Open the Rear Door.

4. Remove the Left Side Cover (Phaser 6000/6010 page 8-10; WorkCentre 6015 MFP page 8-29).

5. If present, remove the Wi-Fi Assembly (page 8-103).

6. Remove the Top Cover (Phaser 6000/6010 page 8-11; WorkCentre 6015 MFP page 8-22).

7. Remove the Image Processor Board (page 8-114).

8. Remove 1 screw (silver, metal, 6mm) and move the fan out of the way (page 8-106).
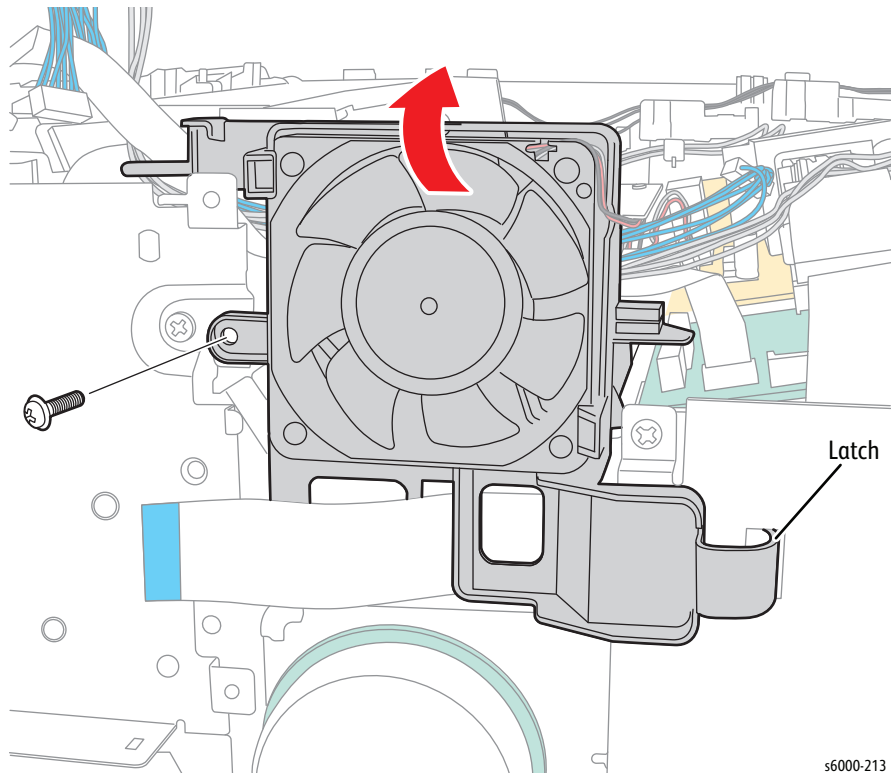
Latch

s6000-213

9. This step varies depending on the model of the printer.

- Phaser 6000/6010: Remove the 3 screws (silver, M3, 6 mm), and remove the IP Board plate from the printer.

s6000-054
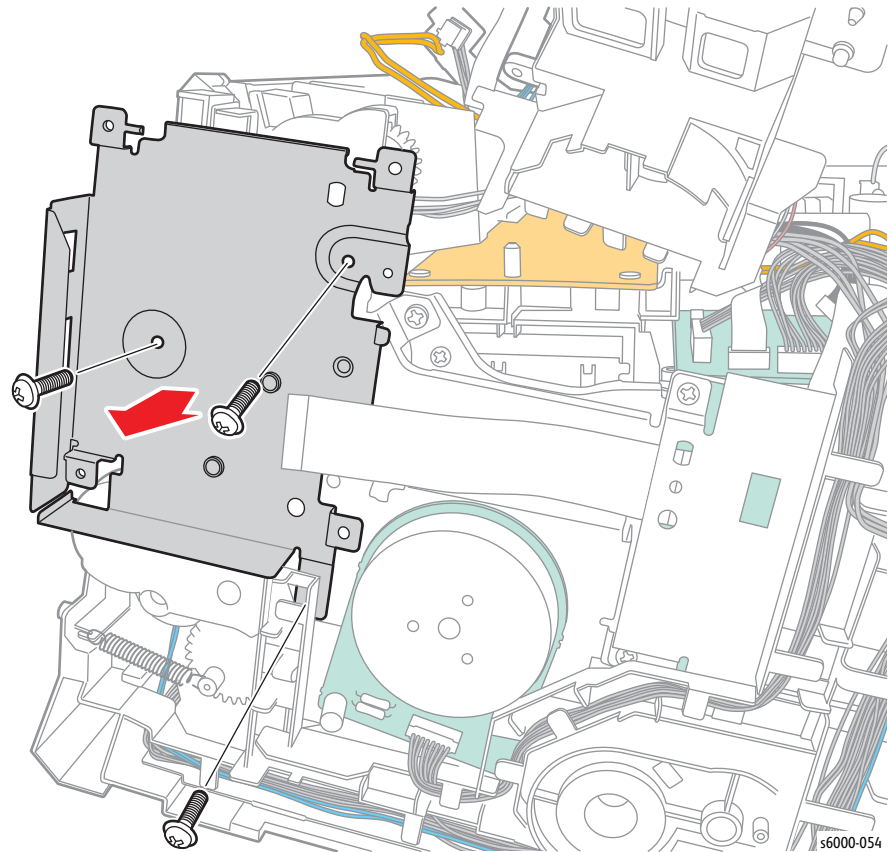
- WorkCentre 6015 MFP: Remove the Rear Cover (page 8-24).
  Remove the 5 screws (silver, M3, 6 mm), and remove the IP Board plate from the printer.

Note

> To gain access to the lower screw on the face of the IP Board plate, unhook the Main Paper Tray Harness Guide from the IP Board plate.
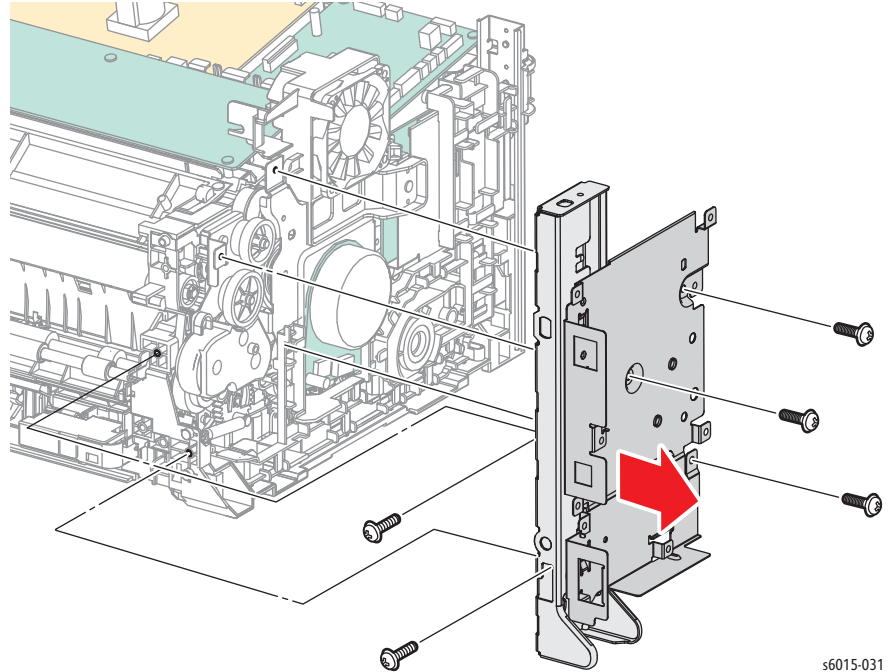
s6015-031

10. On the MCU Board, disconnect the harness at P/J10, and then unlace the harness from the harness guide.

11. Disconnect the connectors on the MCU Board as shown in the following illustration.
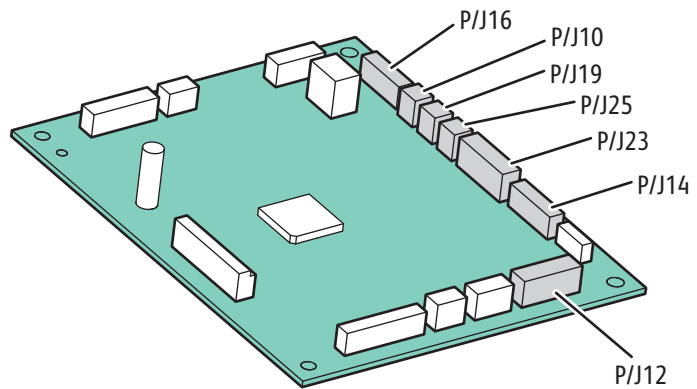
P/J16
P/J10
P/J19
P/J25
P/J23
P/J14
P/J12   s6000-119

12. If present, unplug the USB cable (WorkCentre 6015 MFP only).

P/J2

s6015-032
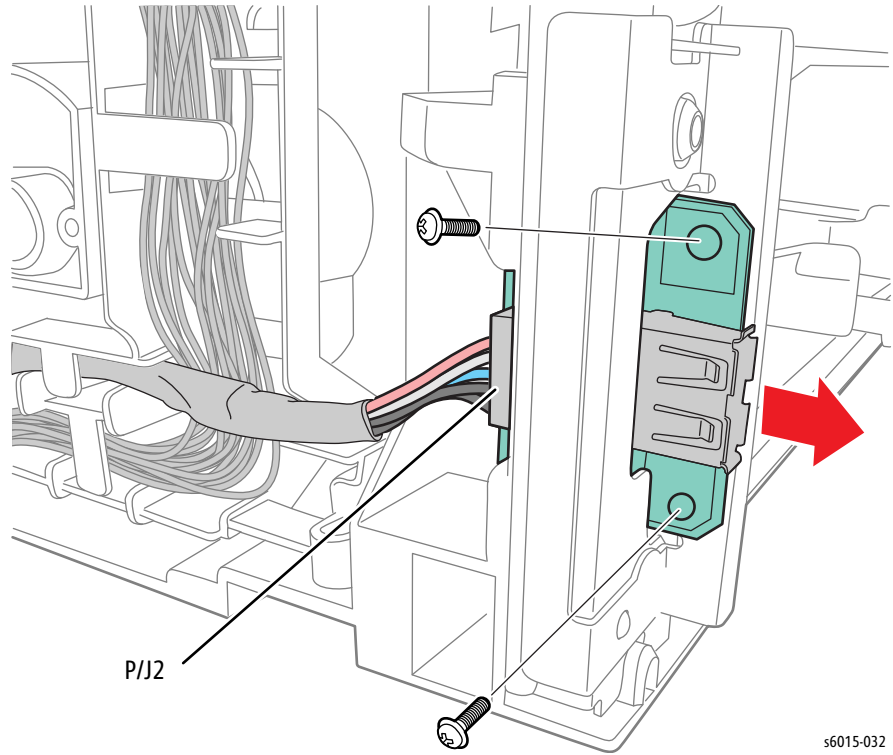
13. Release the hook, and move the drive harness guide away from the printer.
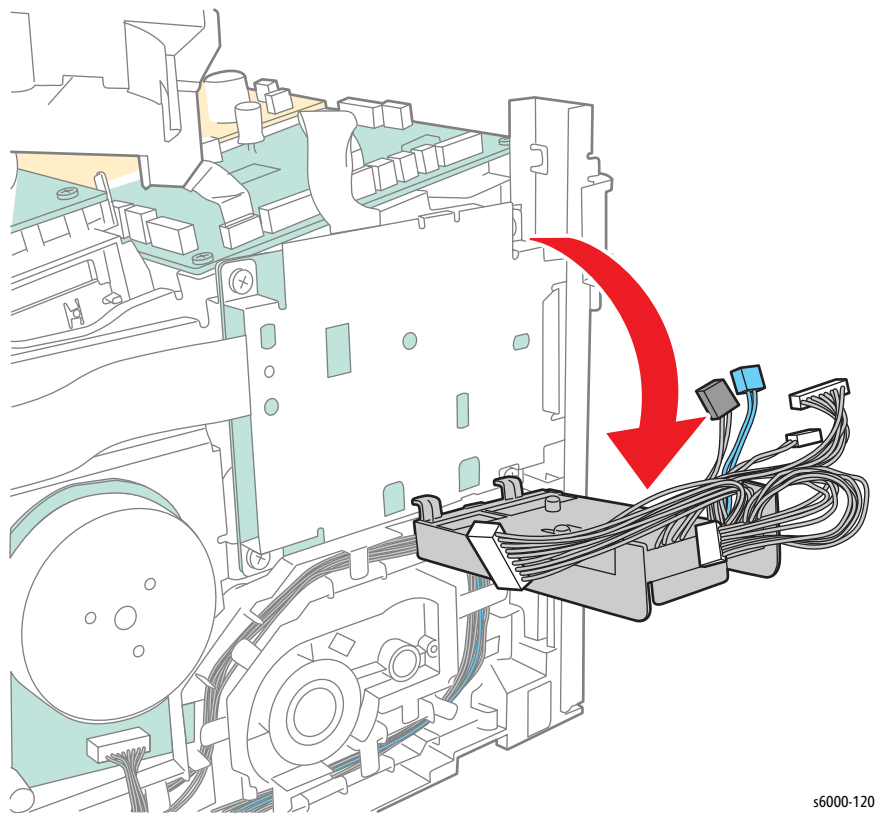
s6000-120

14. Release the 3 hooks, and move the main paper tray harness guide away from the printer.
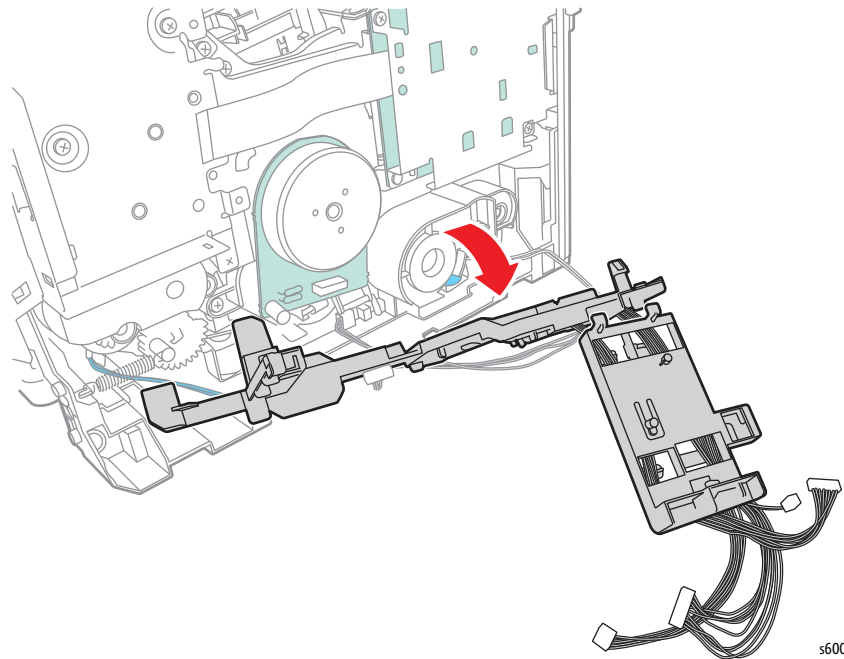
s6000-121

15. Remove the LED Driver Board (page 8-107).
16. Remove the Feed Drive Assembly (page 8-91).
17. Disconnect P/J160 on the Main Drive Assembly.

18. Remove 2 screws (silver, M4, 6 mm) and 1 screw (silver, tap, 8mm) to remove the Main Drive Assembly.

Caution

When performing this step, take care to not drop the gears on the Main Drive Assembly.
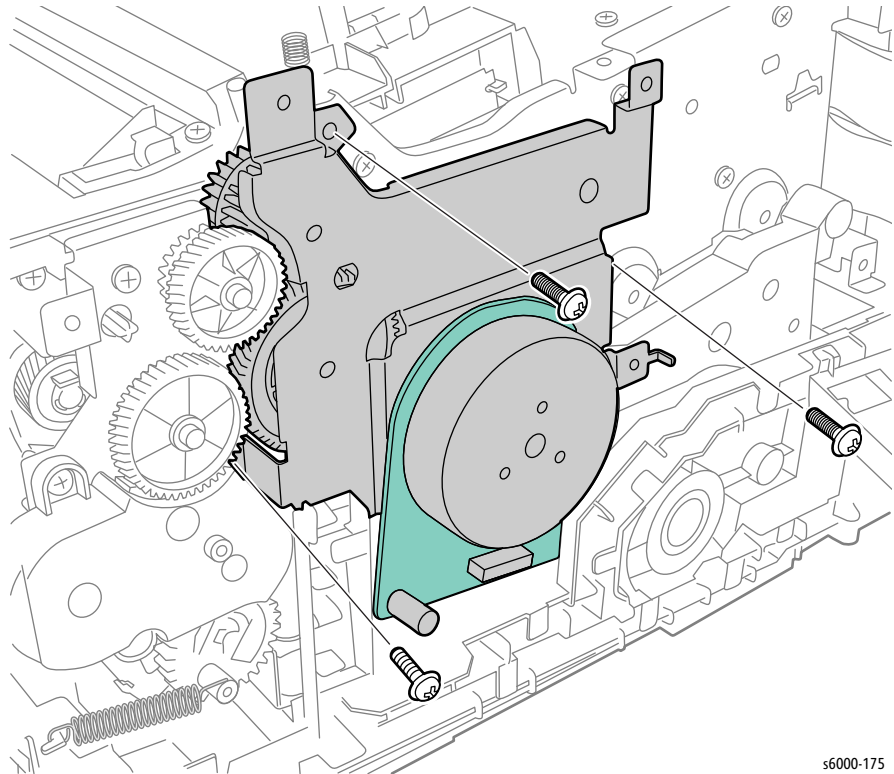
s6000-175

Drive Gears F3 and PH3

PL6.1.3~4

1. Remove the Main Paper Tray Cover (Phaser 6000/6010 page 8-7; WorkCentre 6015 MFP page 8-29).

2. Remove the Front Cover (Phaser 6000/6010 page 8-8; WorkCentre 6015 MFP page 8-34).

3. Open the Rear Door.

4. Remove the Left Side Cover (Phaser 6000/6010 page 8-10; WorkCentre 6015 MFP page 8-29).

5. If present, remove the Wi-Fi Assembly (page 8-103)

6. Remove the Top Cover (Phaser 6000/6010 page 8-11; WorkCentre 6015 MFP page 8-22).

7. Remove the Image Processor Board (page 8-114).

8. Remove 1 screw (silver, metal, 6mm) and move the fan out of the way.

Latch

s6000-213

9. This step varies depending on the model of the printer.
    - Phaser 6000/6010: Remove the 3 screws (silver, M3, 6 mm), and remove the IP Board Plate from the printer.

s6000-054

• WorkCentre 6015 MFP: Remove the Rear Cover (page 8-24).
  Remove 5 screws (silver, M3, 6 mm), and remove the IP Board Plate from
  the printer.

Note

To gain access to the lower screw on the face of the IP Board plate,
unhook the Main Paper Tray Harness Guide from the IP Board plate.

s6015-031

10. Remove the F3 Gear and the PH3 Gear.

s6000-176
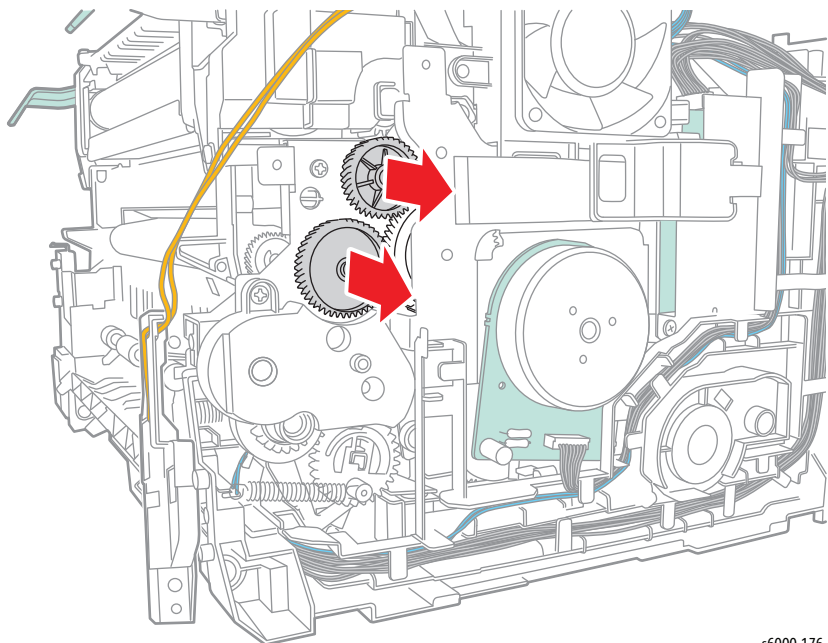
Feed Drive Assembly
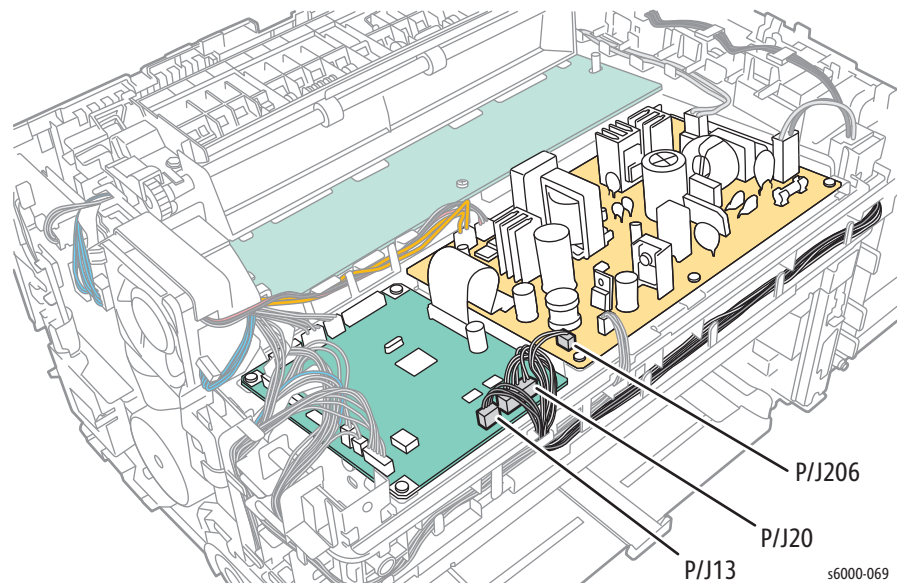
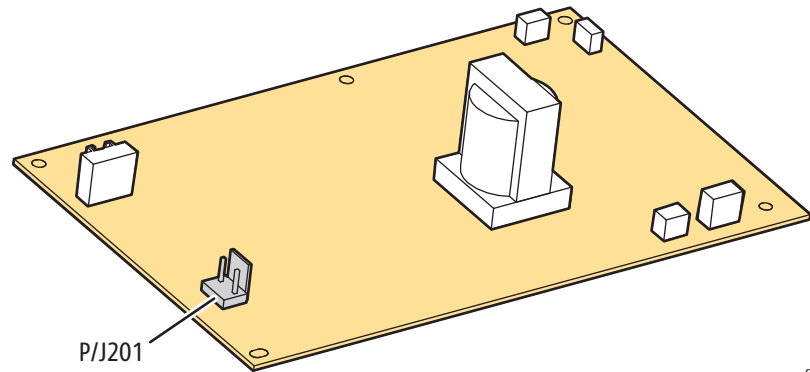**PL6.1.5**

1. Remove the Main Paper Tray Cover (Phaser 6000/6010 page 8-7; WorkCentre 6015 MFP page 8-29).

2. Remove the Front Cover (Phaser 6000/6010 page 8-8; WorkCentre 6015 MFP page 8-34).

3. Open the Rear Door.

4. Remove the Left Side Cover (Phaser 6000/6010 page 8-10; WorkCentre 6015 MFP page 8-29).

5. If present, remove the Wi-Fi Assembly (page 8-103).

6. Remove the Top Cover (Phaser 6000/6010 page 8-11; WorkCentre 6015 MFP page 8-22).

7. Remove the Image Processor Board (page 8-114).

8. Remove 1 screw (silver, M3, 6 mm), and move the Fan Assembly up and out of the way.
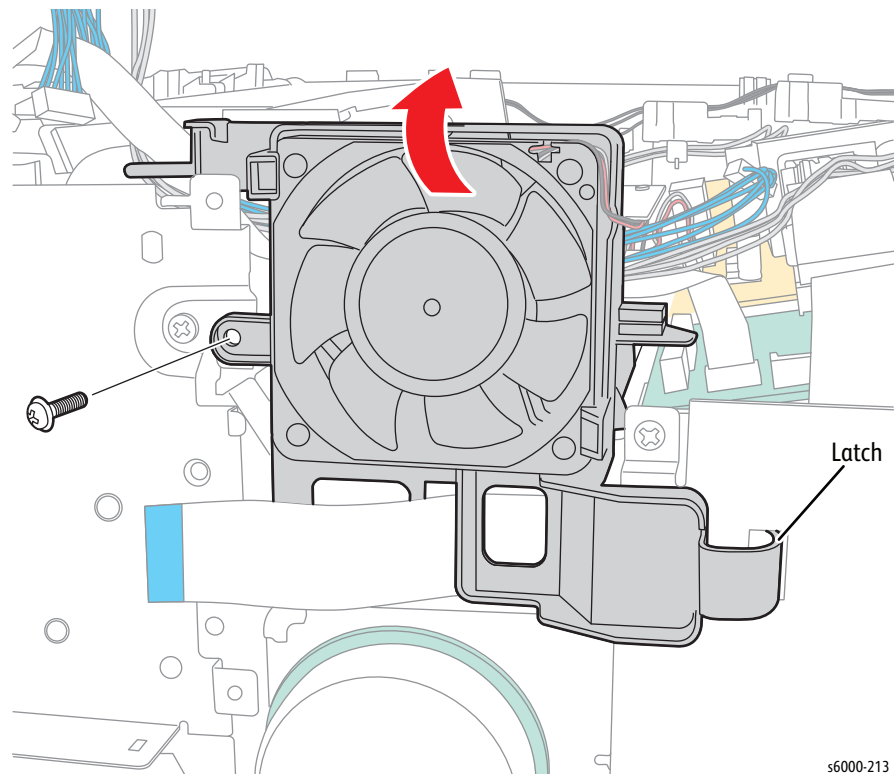
Latch

s6000-213

9. This step varies depending on the model of the printer.

- Phaser 6000/6010: Remove the 3 screws (silver, M3, 6 mm), and remove the IP Board Plate from the printer.

s6000-054

- WorkCentre 6015 MFP: Remove the Rear Cover (page 8-24).
  Remove 5 screws (silver, M3, 6 mm), and remove the IP Board Plate from the printer.

Note

> To gain access to the lower screw on the face of the IP Board plate, unhook the Main Paper Tray Harness Guide from the IP Board plate.

s6015-031
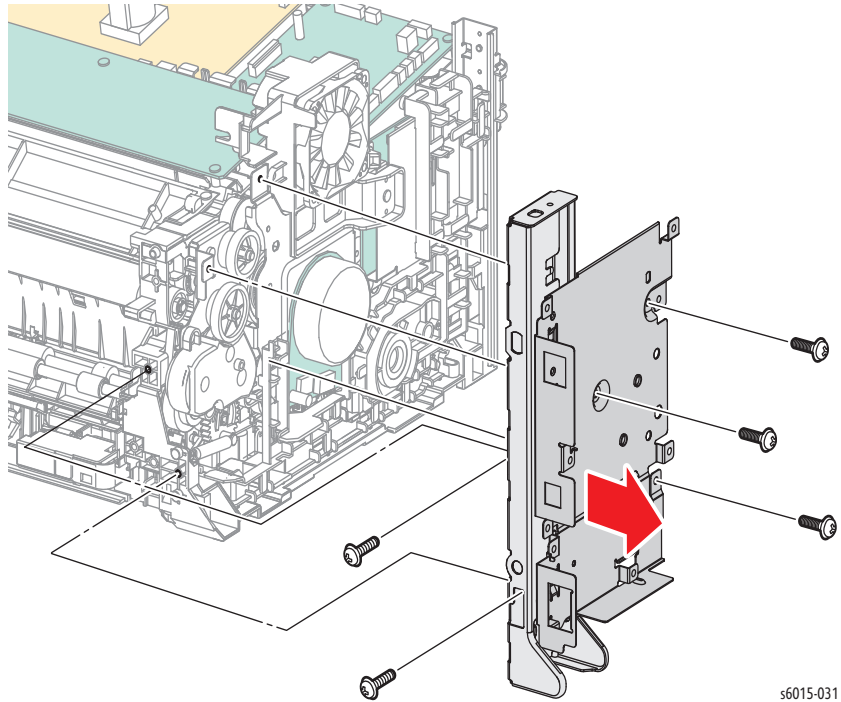
10. Remove the F3 and PH3 Gears (page 8-87).

11. Remove 2 screws (silver, M3, 6 mm), and remove the Feed Drive Assembly from the printer.
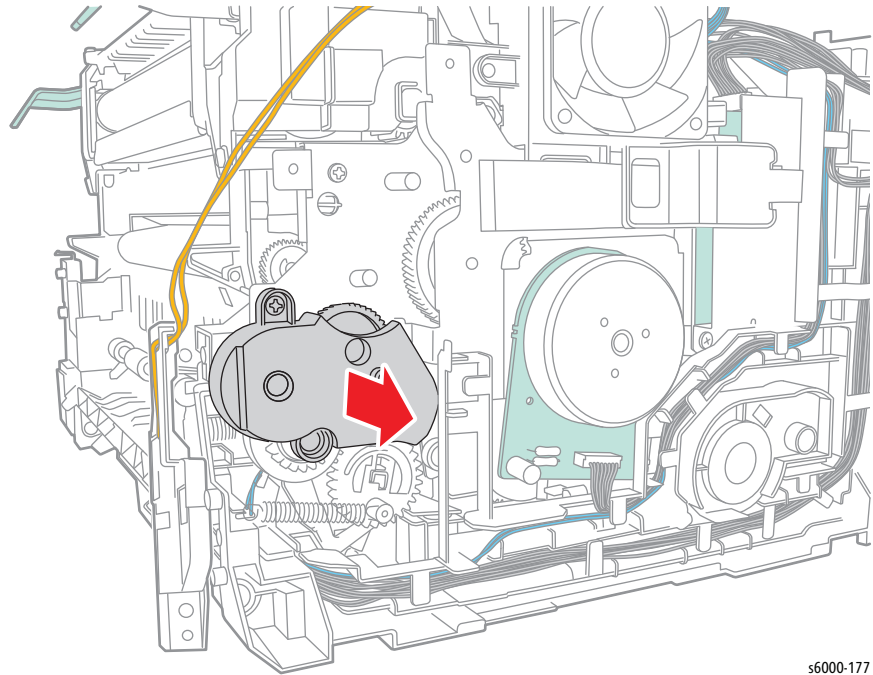
s6000-177

Developer Drive Assembly

PL6.1.6

1. Remove the Main Paper Tray Cover (Phaser 6000/6010 page 8-7; WorkCentre 6015 MFP page 8-29).

2. Remove the Front Cover (Phaser 6000/6010 page 8-8; WorkCentre 6015 MFP page 8-34).

3. Open the Rear Door.

4. Remove the Left Side Cover (Phaser 6000/6010 page 8-10; WorkCentre 6015 MFP page 8-29).

5. If present, remove the Wi-Fi Assembly (page 8-103).

6. Remove the Top Cover (Phaser 6000/6010 page 8-11; WorkCentre 6015 MFP page 8-22).

7. This step varies depending on the model of the printer.

    - Phaser 6000/6010: Remove the 3 screws (silver, M3, 6 mm), and remove the IP Board Plate from the printer.

s6000-054

- WorkCentre 6015 MFP: Remove the Rear Cover (page 8-24).
  Remove 5 screws (silver, M3, 6 mm), and remove the IP Board Plate from the printer.

Note

To gain access to the lower screw on the face of the IP Board plate, unhook the Main Paper Tray Harness Guide from the IP Board plate.

s6015-031
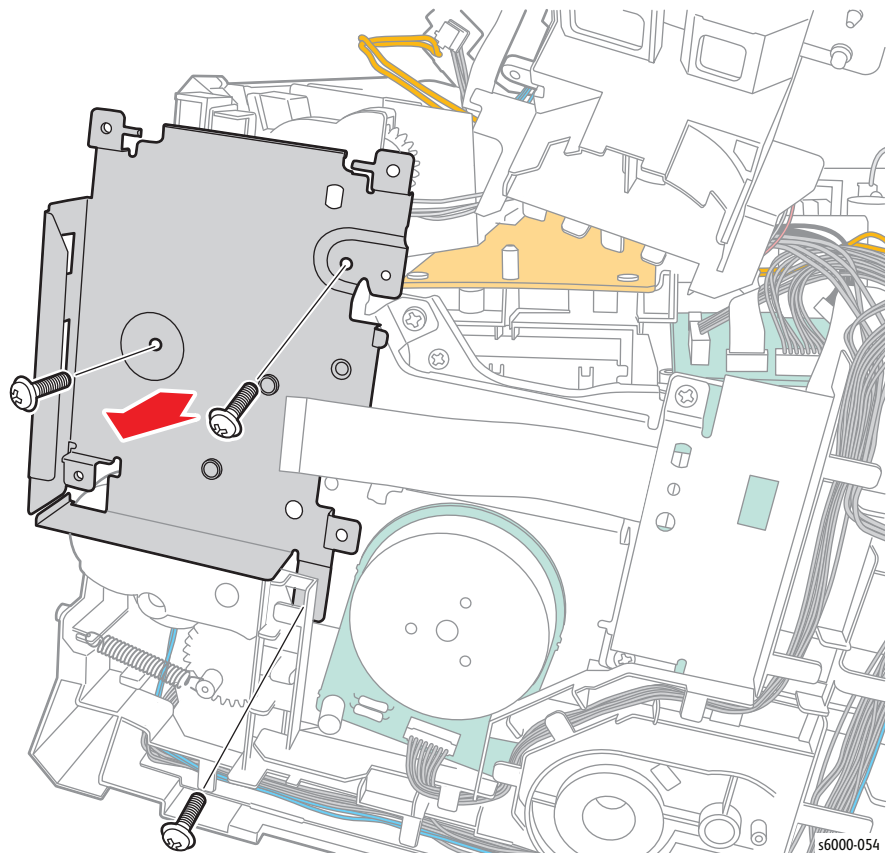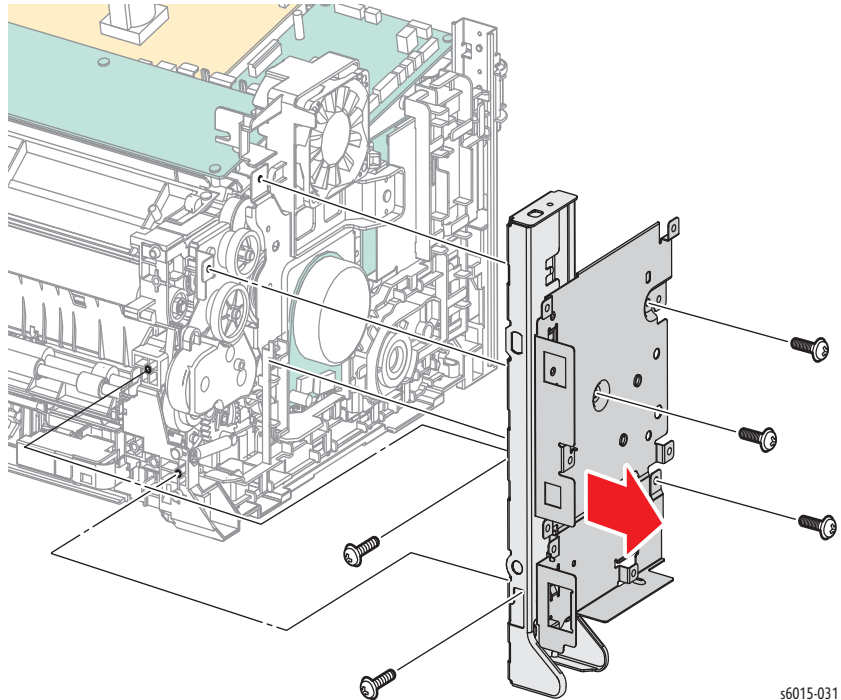
8. Remove the Feed Drive Assembly (page 8-91).

9. Remove the LED Driver Board (page 8-107).

10. Remove the Main Drive Assembly (page 8-82).

11. WorkCentre 6015 MFP: Loosen the cables enough to move the Main Paper Tray Harness Guide away from the printer.

12. Remove 3 screws (silver, M4, 6 mm) and 2 screws (silver, tap, 8 mm) to remove the Developer Drive Assembly from the printer.

Caution

> Be careful to not let the gears fall off of the assembly. When removing, start by tipping the top of the assembly away from the printer so that the gears do not fall off.

s6000-178
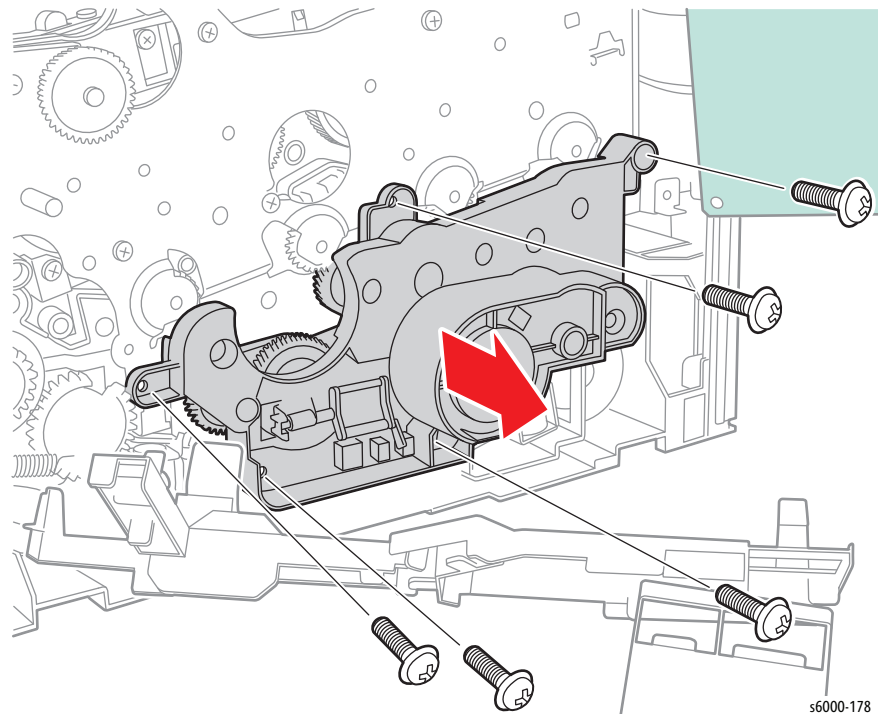
Feed Solenoid

PL6.1.10

1. Remove the Main Paper Tray Cover (Phaser 6000/6010 page 8-7; WorkCentre 6015 MFP page 8-29).

2. Remove the Front Cover (Phaser 6000/6010 page 8-8; WorkCentre 6015 MFP page 8-34).

3. Open the Rear Door.

4. Remove the Left Side Cover (Phaser 6000/6010 page 8-10; WorkCentre 6015 MFP page 8-29).

5. If present, remove the Wi-Fi Assembly (page 8-103).

6. Remove the Top Cover (Phaser 6000/6010 page 8-11; WorkCentre 6015 MFP page 8-22).

7. Perform these steps if the printer is a WorkCentre 6015 MFP.

   a. Remove the Rear Cover (page 8-24).

   b. Remove the IP Board (page 8-114).

   c. Remove 5 screws (silver, M3, 6 mm), and remove the IP Board Plate from the printer.

   Note

   To gain access to the lower screw on the face of the IP Board plate, unhook the Main Paper Tray Harness Guide from the IP Board plate.

s6015-031
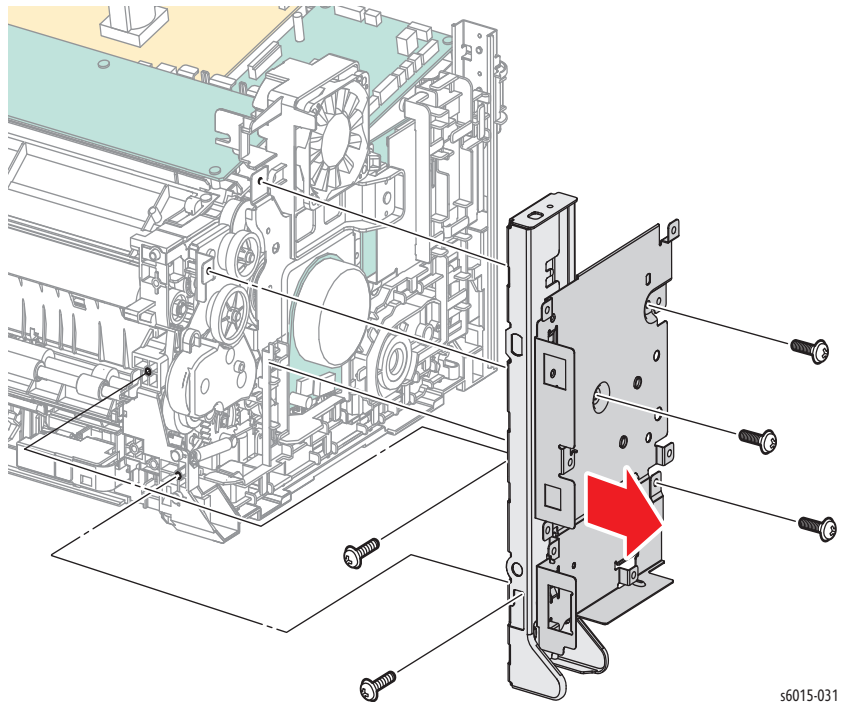
8. Disconnect the connectors on the MCU Board (page 8-121).

9. Disconnect P/J160 on the Main Drive Assembly.

10. Release the hook, and remove the drive harness guide from the printer.
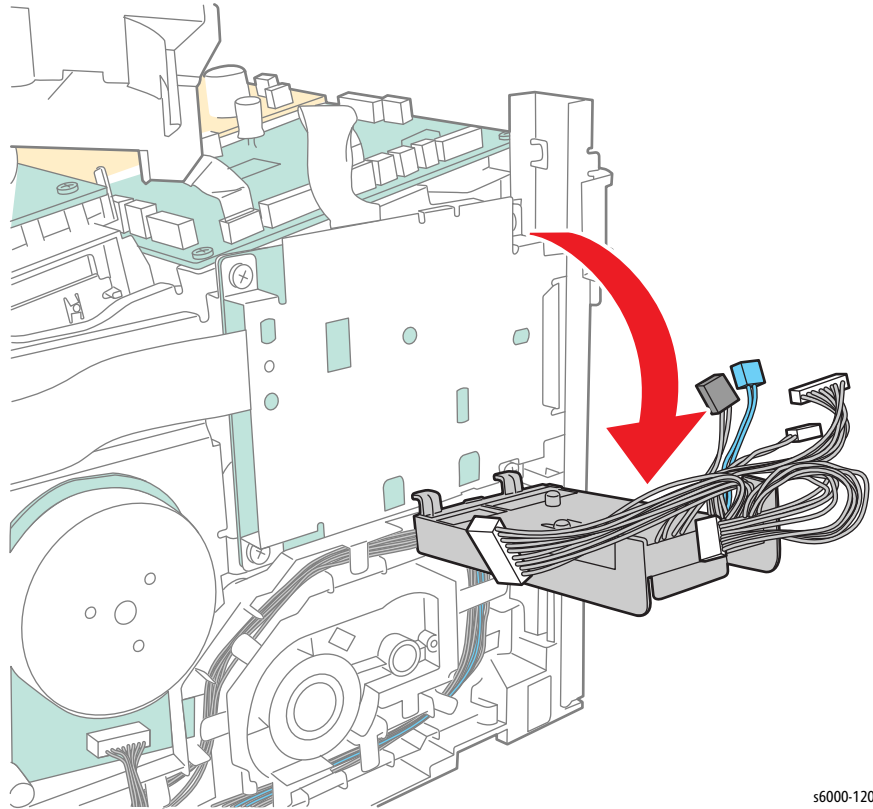
s6000-120

11. Release the 3 hooks, and move the main paper tray harness guide away from the printer.
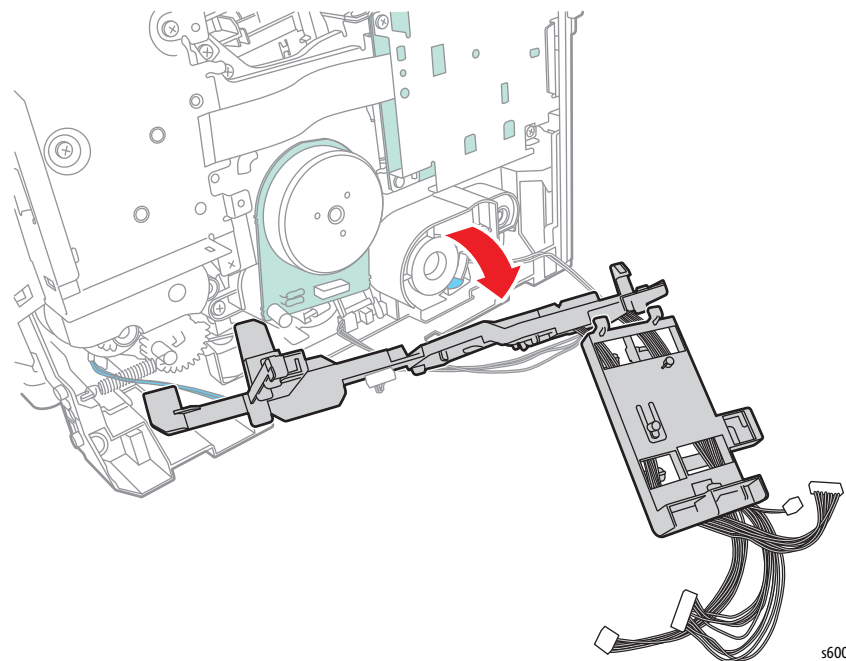
s6000-121

12. Remove 1 screw (silver, tap, 8 mm), and remove the Feed Solenoid from the printer.
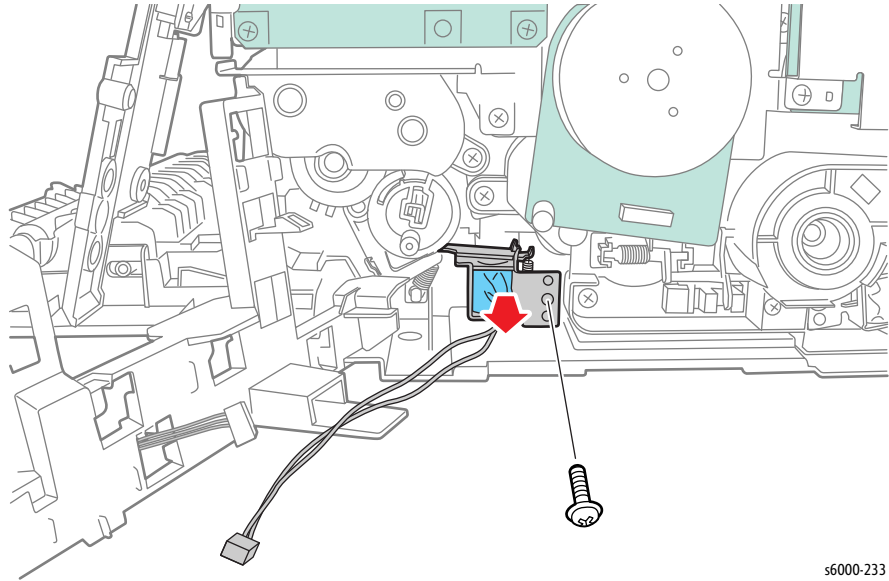
s6000-233

Electrical

Phaser 6000/6010 Control Panel

PL1.1.3

Note

This procedure applies to the Phaser 6000/6010.

1. Remove the Main Paper Tray Cover (page 8-7).
2. Remove the Front Cover (page 8-8).
3. Open the Rear Door.
4. Remove the Top Cover (page 8-11).
5. Remove the Control Panel cover.
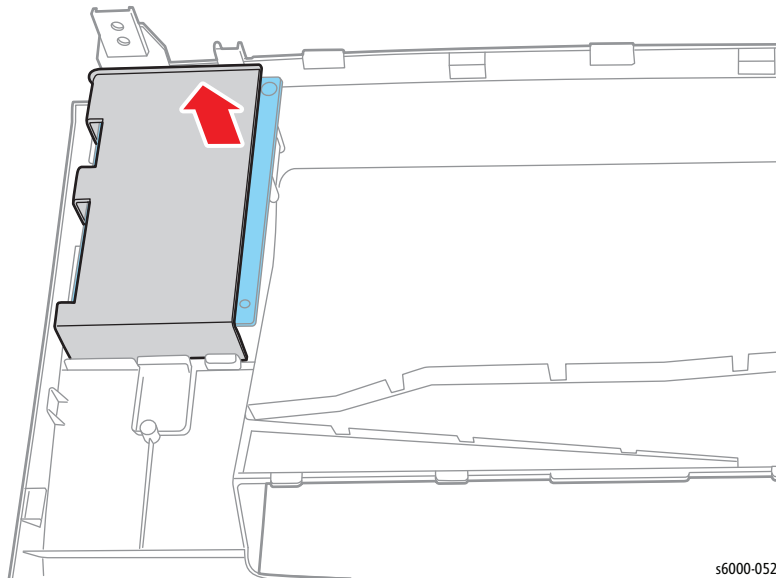
s6000-052

6. Remove the 3 screws (silver, tap, 8 mm), and remove the Control Panel.

s6000-053
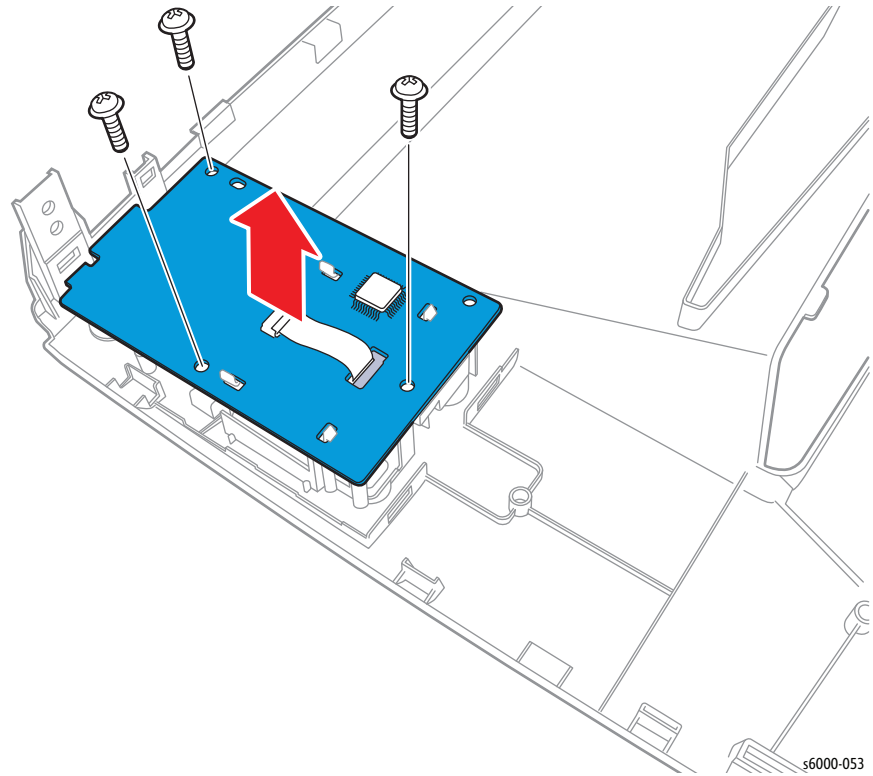
Replacement Note

There are 2 slots at the front of the printer, install the Control Panel in the lower slot and the board shield in the upper slot. See the following illustration.

Tab

s6000-179
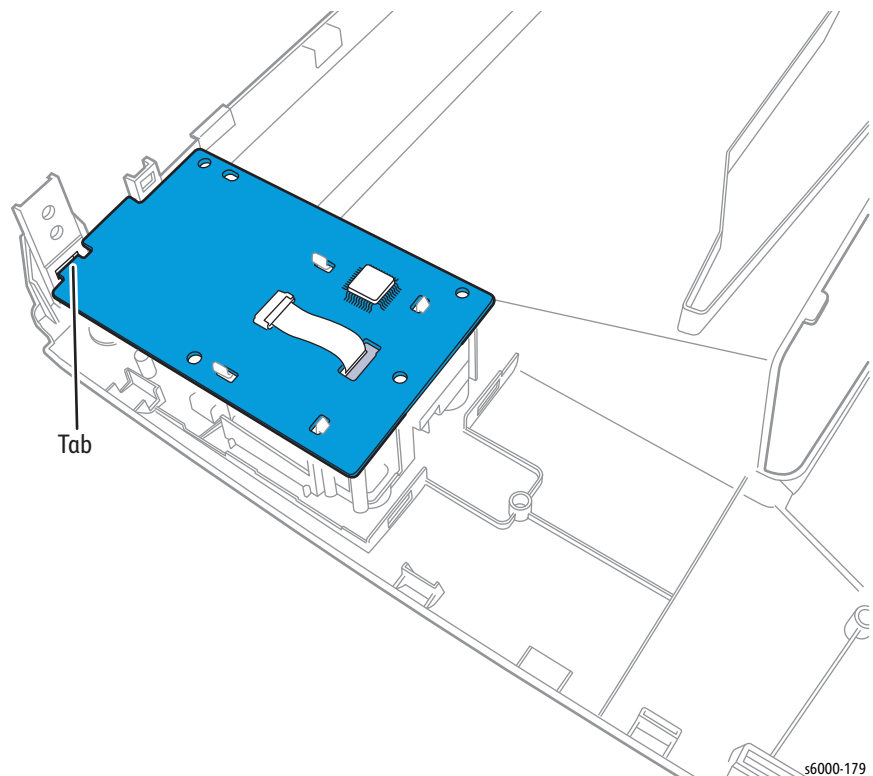
Wi-Fi Assembly

PL1.1.32

Note

This procedure applies to the WorkCentre 6015NI Color MFP.

1. Remove the Main Paper Tray Cover (page 8-29).
2. Open the Scanner Assembly.
3. Remove the Output Tray Extension (page 8-31).
4. Open the Toner Door.
5. Remove the Front Cover (page 8-34).
6. Remove the Left Side Cover (page 8-29).
7. Disconnect P/J12 on the IP Board and unlace the harness.
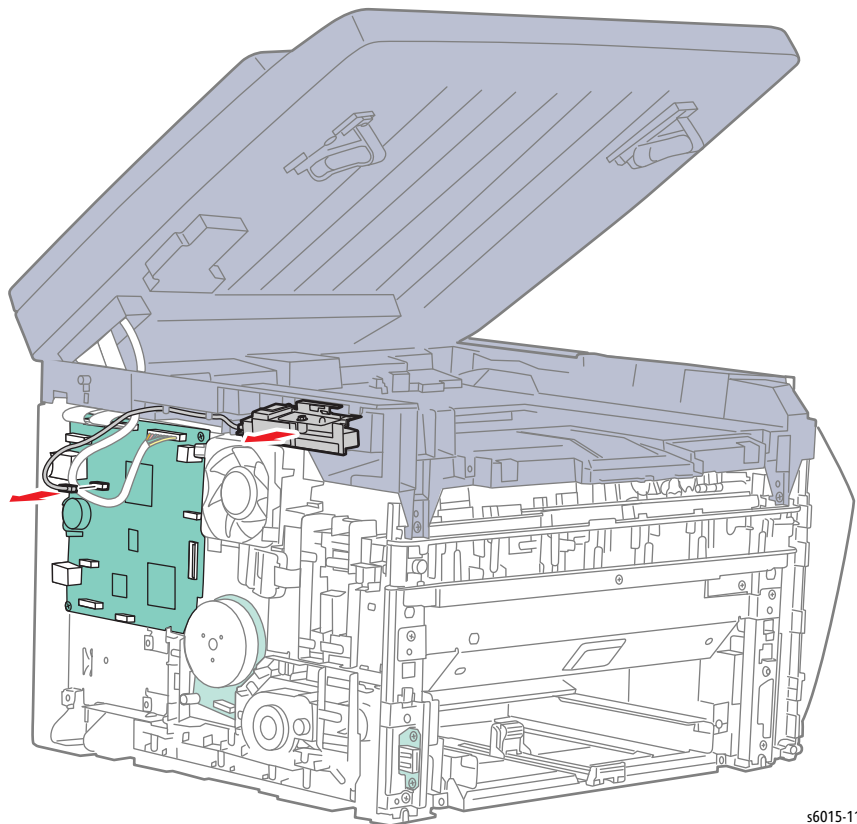
s6015-113

8. Release the two clips and remove the Wi-Fi Assembly.

WorkCentre 6015 MFP Control Panel

PL9.1.10

Note

> This procedure applies to the WorkCentre 6015 MFP.

1. Lift the Scanner Assembly.
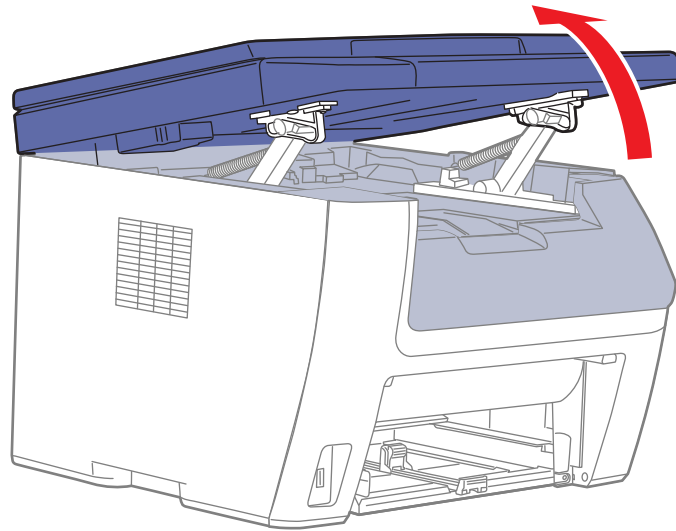
s6015-065

2. Remove 2 screws (silver, with flange, tap, 8 mm).
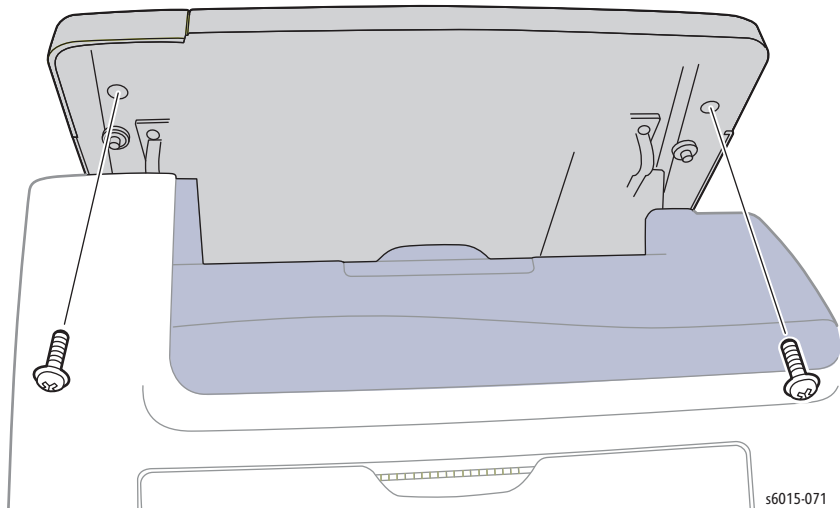
s6015-071

3. Close the Scanner Assembly.

4. Disconnect the ribbon cable and remove the Control Panel.

P/J1
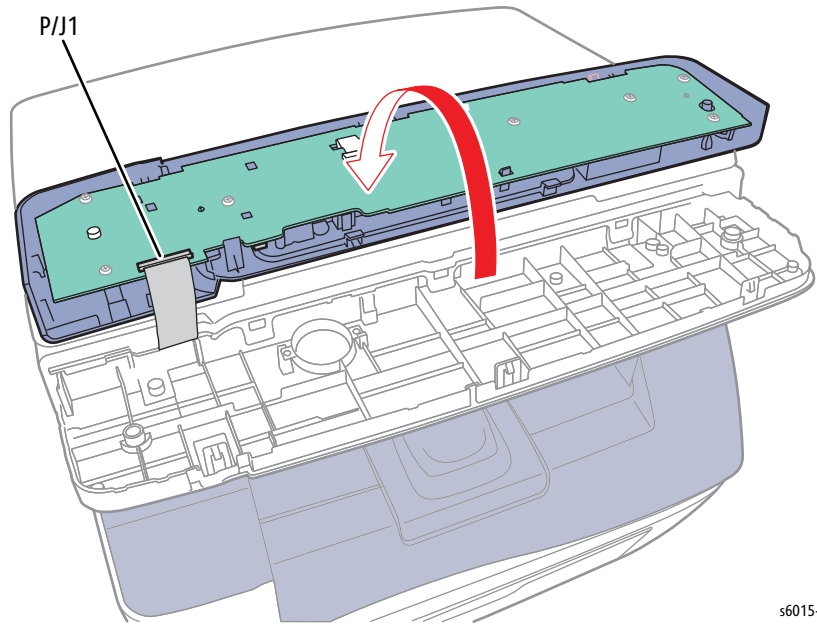
s6015-072

Fan

PL7.1.2

1. Remove the Main Paper Tray Cover (Phaser 6000/6010 page 8-7; WorkCentre 6015 MFP page 8-29).
2. Remove the Front Cover (Phaser 6000/6010 page 8-8; WorkCentre 6015 MFP page 8-34).
3. Open the Rear Door.
4. Remove the Left Side Cover (Phaser 6000/6010 page 8-10; WorkCentre 6015 MFP page 8-29).
5. If present, remove the Wi-Fi Assembly (page 8-103).
6. Remove the Top Cover (Phaser 6000/6010 page 8-11; WorkCentre 6015 MFP page 8-22).
7. Disconnect P/J205 on the LVPS, and release the harness from the harness guide.
8. Release the hooks, and remove the Fan from the Fan Duct.

Hooks

s6000-180

LED Driver Board and Harness

PL7.1.5, PL7.1.7A~B

1. Remove the Main Paper Tray Cover (Phaser 6000/6010 page 8-7; WorkCentre 6015 MFP page 8-29).

2. Remove the Front Cover (Phaser 6000/6010 page 8-8; WorkCentre 6015 MFP page 8-34).

3. Open the Rear Door.

4. Remove the Left Side Cover (Phaser 6000/6010 page 8-10; WorkCentre 6015 MFP page 8-29).

5. If present, remove the Wi-Fi Assembly (page 8-103).

6. Remove the Top Cover (Phaser 6000/6010 page 8-11; WorkCentre 6015 MFP page 8-22).

7. Remove the Fan (page 8-106).

8. Disconnect the connectors on the MCU Board as shown in the following illustration.

P/J16
P/J10
P/J19
P/J25
P/J23
P/J14
P/J12

s6000-119

9. Release the harness from the drive harness guide.

s6000-219

10. Release the hook, and remove the drive harness guide from the printer.

s6000-220

11. Disengage P/J2 on the Front USB Board.

12. Release the harness from the main paper tray harness guide.

s6000-221
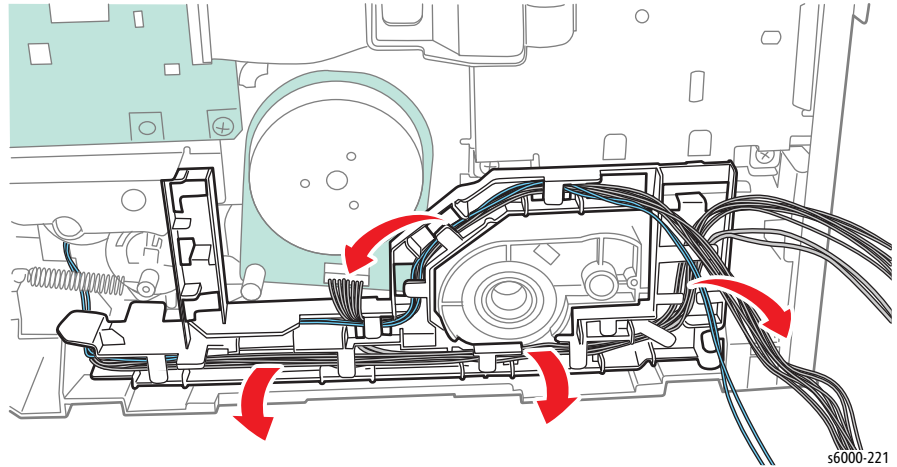
13. Release the 3 hooks, and remove the main paper tray harness guide from the printer.

s6000-218
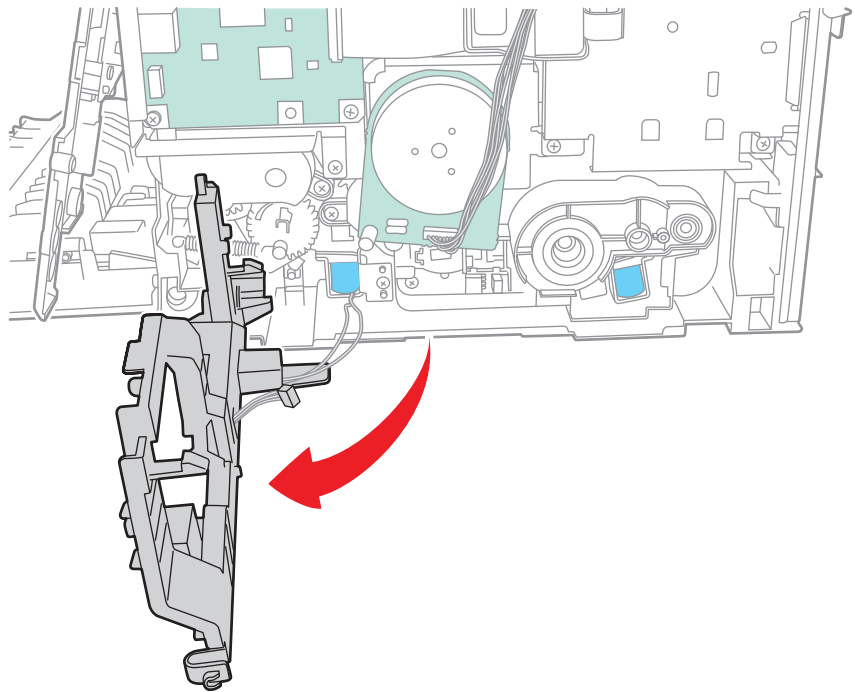
14. Remove 4 screws (silver, M3, 6 mm), and remove the plate from the printer.

s6000-122
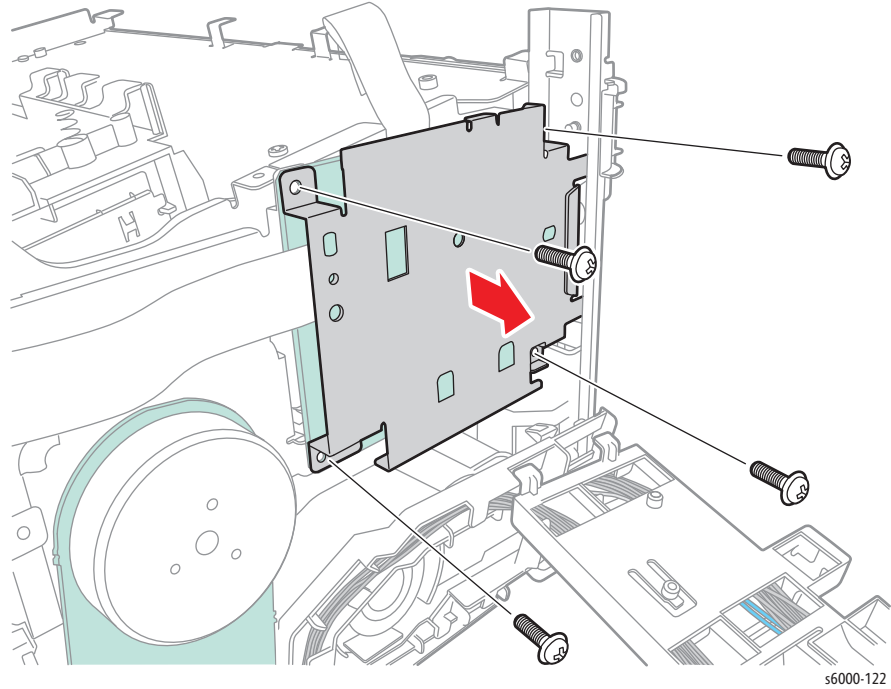
15. Disengage the flexible cables on the LED Driver Board, and remove the LED Driver Board.

P/J1

s6000-182
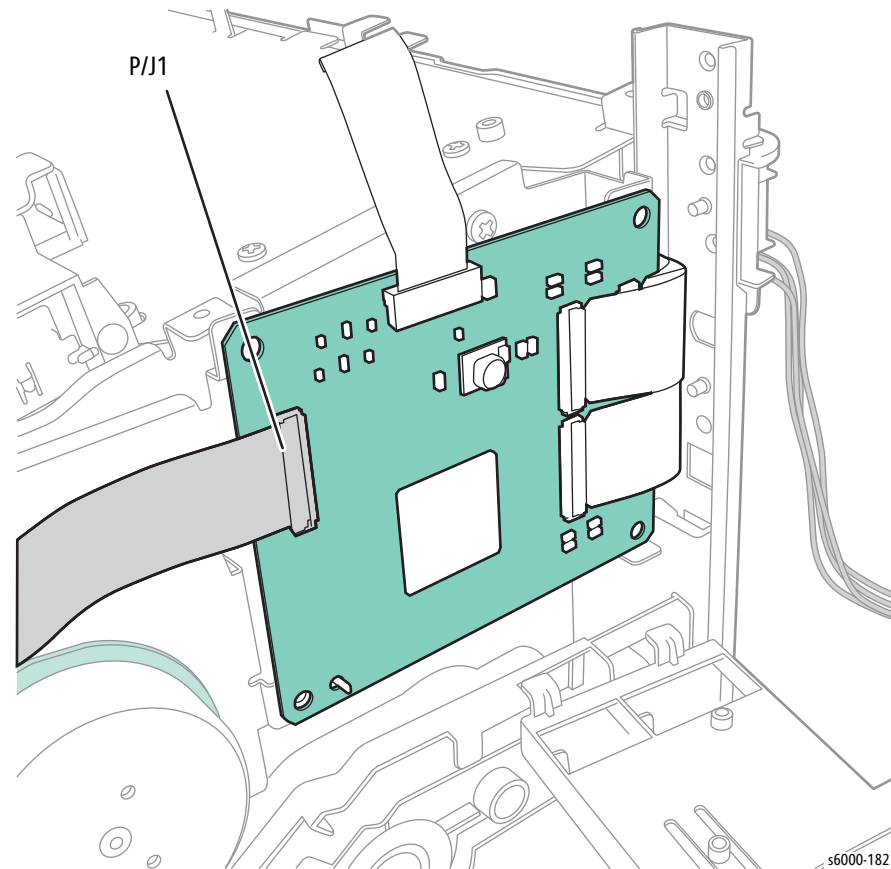
LED/MCU Cable

PL7.1.6

1. Remove the Main Paper Tray Cover (Phaser 6000/6010 page 8-7; WorkCentre 6015 MFP page 8-29).

2. Remove the Front Cover (Phaser 6000/6010 page 8-8; WorkCentre 6015 MFP page 8-34).

3. Open the Rear Door.

4. Remove the Left Side Cover (Phaser 6000/6010 page 8-10; WorkCentre 6015 MFP page 8-29).

5. If present, remove the Wi-Fi Assembly (page 8-103).

6. Remove the Top Cover (Phaser 6000/6010 page 8-11; WorkCentre 6015 MFP page 8-22).
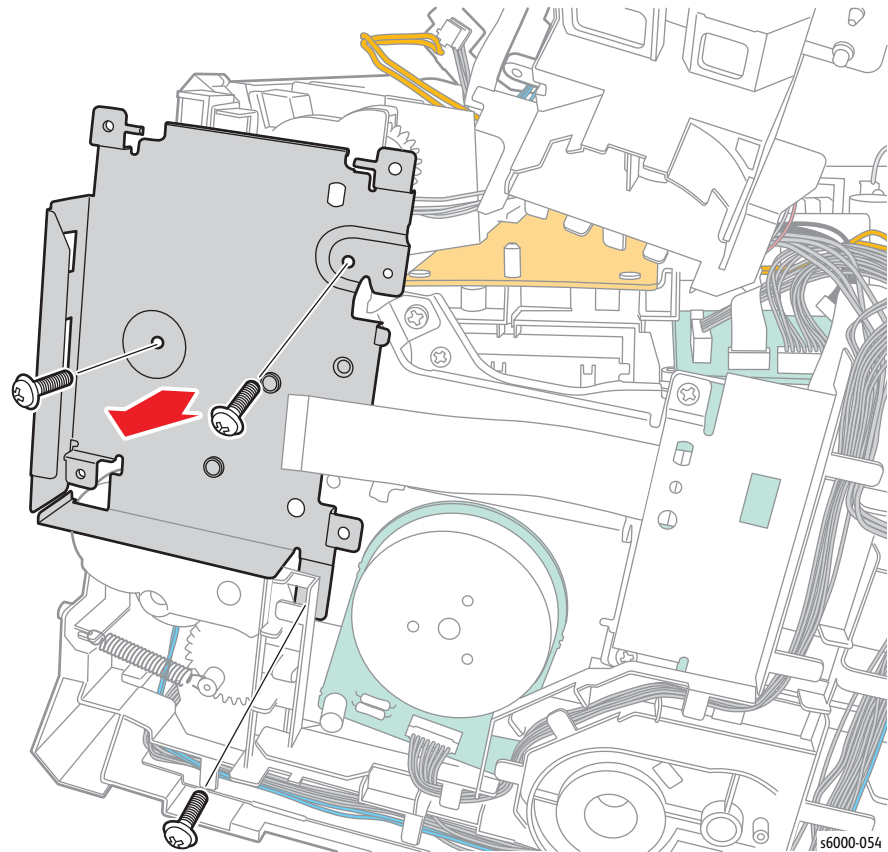
7. Remove the Fan (page 8-106).

8. Disconnect the connectors on the MCU Board as shown in the following illustration.

s6000-119

9. Release the harness from the drive harness guide.

s6000-219

10. Release the hook, and remove the drive harness guide from the printer.

s6000-220

11. Remove 4 screws (silver, M3, 6 mm), and remove the plate from the printer.

s6000-122

12. Disengage the LED/MCU Cable from P/J1 on the LED Driver Board and P/J23 on the MCU Board.

Image Processor Board

PL7.1.9, PL7.1.16

Note

> The Phaser 6000/6010 and the WorkCentre 6015 MFP have different procedures to follow after installation of a new IP Board. These procedures are detailed in the Replacement Notes that follow the removal procedure.
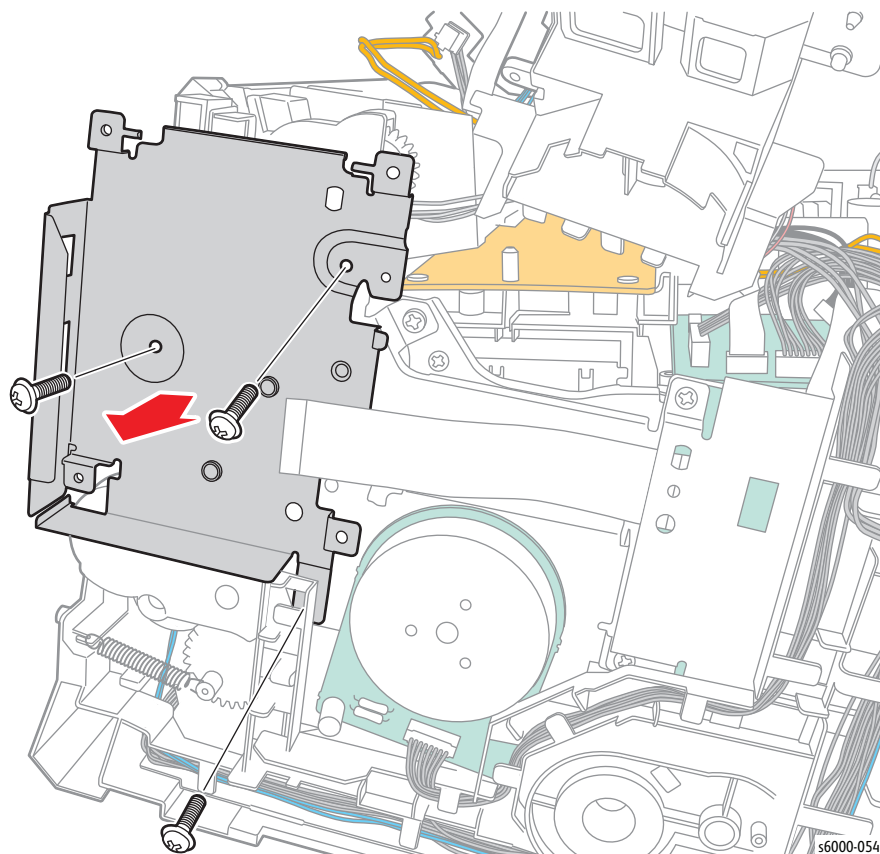
1. Remove the Main Paper Tray Cover (Phaser 6000/6010 page 8-7; WorkCentre 6015 MFP page 8-29).
2. Remove the Front Cover (Phaser 6000/6010 page 8-8; WorkCentre 6015 MFP page 8-34).
3. Open the Rear Door.
4. Remove the Left Side Cover (Phaser 6000/6010 page 8-10; WorkCentre 6015 MFP page 8-29).
5. Open the connector cover at P/J112, or P/J9 if the printer is a WorkCentre 6015 MFP, on the Image Processor Board.

P/J112

s6000-234
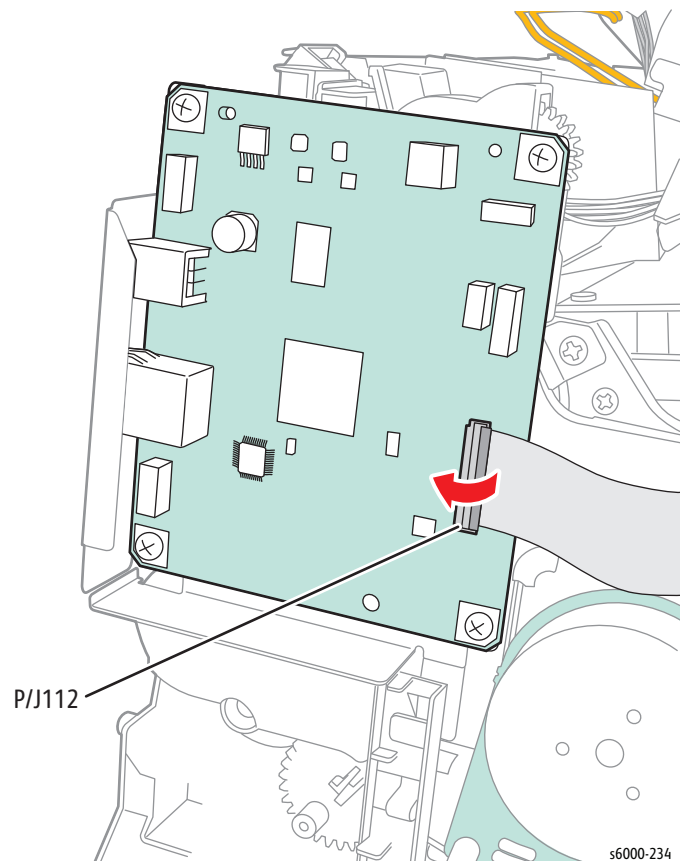
6. Disconnect the other cables on the Image Processor Board.

7. Remove 4 screws (silver, M3, 6 mm), and 1 screw (silver, M2, 6 mm), and remove the Image Processor Board from the printer.
WorkCentre 6015 MFP IP Board (4 screws only)
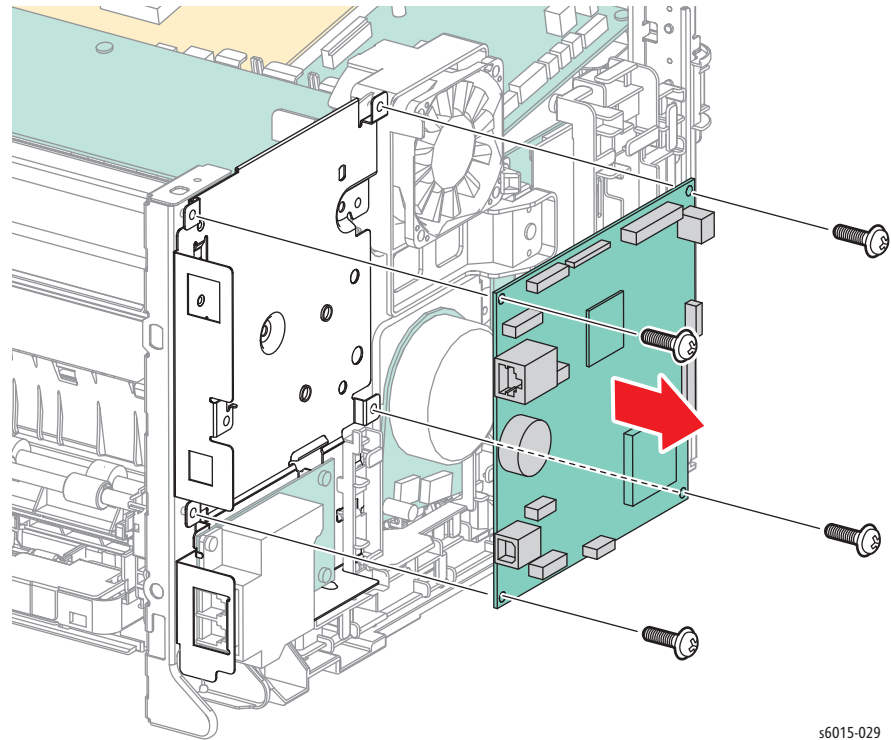
s6015-029

Phaser 6000/6010 IP Board

s6000-055
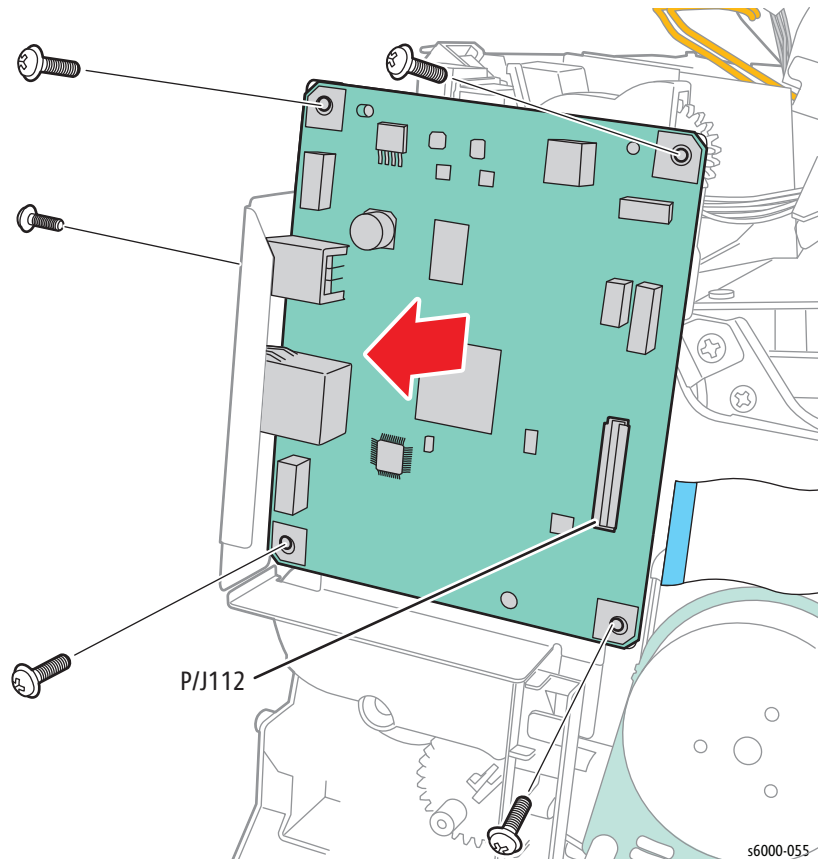
Replacement Note

Use the following procedure after installing a new IP Board in the Phaser 6000/6010.

a.   Power the printer on.

b.   Open Windows Explorer.

c.   Copy usbutil.exe, and paste it in the same folder with the following .prn files.

Model	Print File
Phaser 6000B, 110V Engine	Karin-A_XC(US).prn
Phaser 6000B, 220V Engine	Karin-A_XC(EU).prn
Phaser 6010N, 110V Engine	KSXN_US.prn
Phaser 6010N, 220V Engine	KSXN_EU.prn

d.   Drag the appropriate .prn file for the printer you have and drop it on the usbutil.exe file. The data is sent over USB to the device.

e.   Start the CE Diags Tool.

f.   Click the CE Diag tab.

g.   In the options menu, located on the upper left of the CE Diag tab, select Installation Set.

h.   Enter the printer's serial number in the **Printer Serial Number** text field, and then click the **Restart printer to apply new settings** button.

    i.   Close the CE Diags Tool.

Replacement Note

Perform the following procedure after installing a new IP Board in a WorkCentre 6015 MFP.

a.   Enter CE Diag mode (page 4-11).

b.   Using the **Up** and **Down Arrow** and **OK** buttons, select **Printer > Installation Set > Serial No.**

c.   Set the Serial No. using the **Arrow** buttons, and then press the **OK** button.

d.   Restart the printer, and then press the **System** button.

e.   Using the **Up** or **Down Arrow** and **OK** buttons, select **Admin Menu > System Settings > Power On Wizard**.

f.   Use the **Up** or **Down Arrow** button to select **Yes**, and then press the **OK** button. The Power On Wizard starts.

g.   Set the following items according to the instructions of the Power On Wizard:
Language / Country / Time Zone / Date / Time / Fax setup / Fax Number / Fax Name

Replacement Note

When replacing the IP board on a WorkCentre 6015 MFP, the Scanner calibration data must be written to the IP Board. See "Scanner Adjustment" on page 6-11.

Front USB Board

PL7.1.18

Note

This procedure applies to the WorkCentre 6015 MFP.

1. Remove the Left Side Cover (page 8-29).

2. Disconnect P/J2 from the Front USB Board.

P/J2

s6015-032
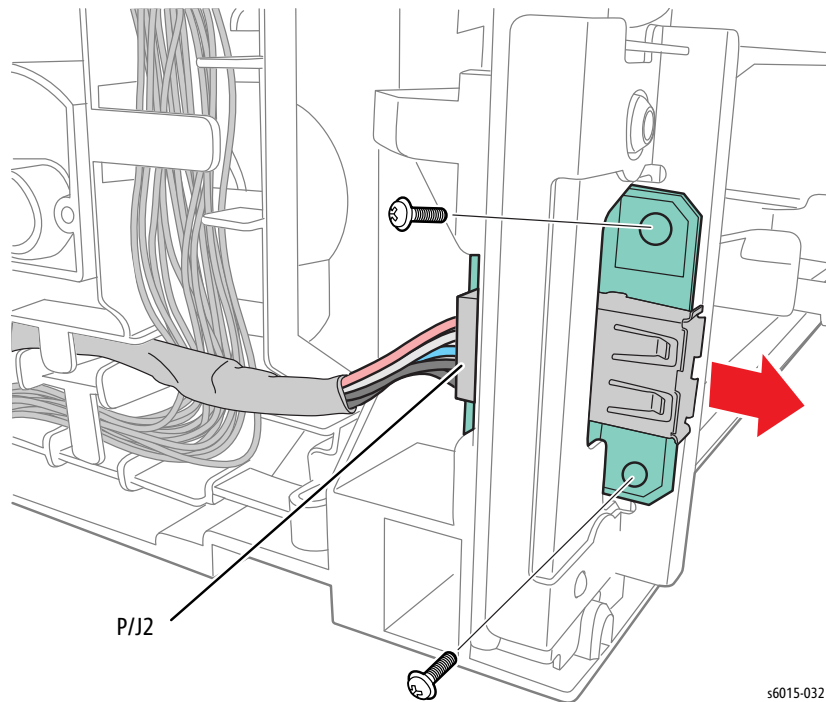
3. Remove 2 screws (silver, tap, 8 mm) and remove the Front USB Board from the printer.

Fax Board

PL7.1.22

Note

This procedure applies to the WorkCentre 6015N/NI Color MFP.

1. Remove the Main Paper Tray Cover (page 8-29).
2. Open the Scanner Assembly.
3. Remove the Output Tray Extension (page 8-31).
4. Open the Toner Door.
5. Remove the Front Cover (page 8-34).
6. Remove the Left Side Cover (page 8-29).

7. Disengage P/J2 on the IP Board, and remove 4 screws (silver, M3, 6 mm) to remove the Fax Board.


s6015-030
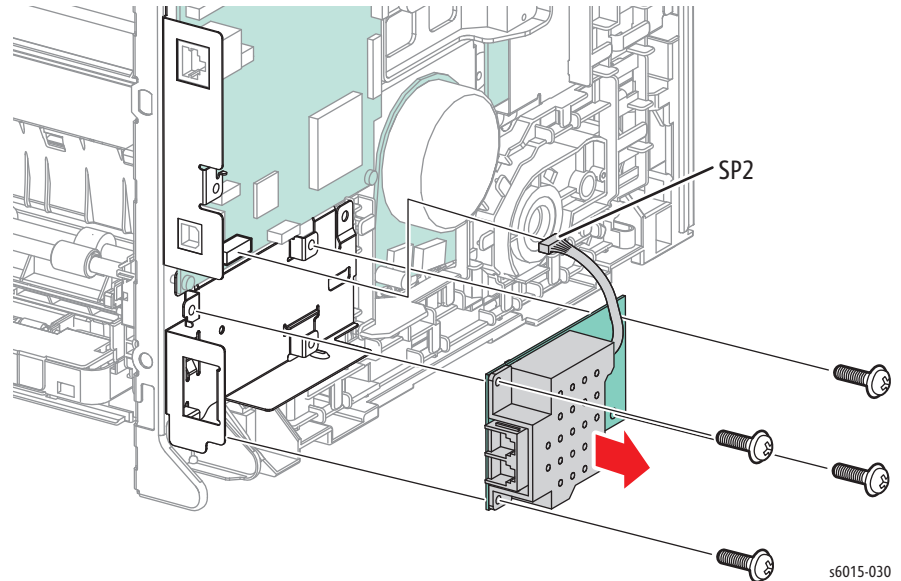
LVPS

PL7.2.1A~B

1. Remove the Main Paper Tray Cover (Phaser 6000/6010 page 8-7; WorkCentre 6015 MFP page 8-29).

2. Remove the Front Cover (Phaser 6000/6010 page 8-8; WorkCentre 6015 MFP page 8-34).

3. Open the Rear Door.

4. Remove the Left Side Cover (Phaser 6000/6010 page 8-10; WorkCentre 6015 MFP page 8-29).

5. If present, remove the Wi-Fi Assembly (page 8-103).

6. Remove the Top Cover (Phaser 6000/6010 page 8-11; WorkCentre 6015 MFP page 8-22).

7. Disconnect the ribbon cable from P/J17 on the MCU Board.
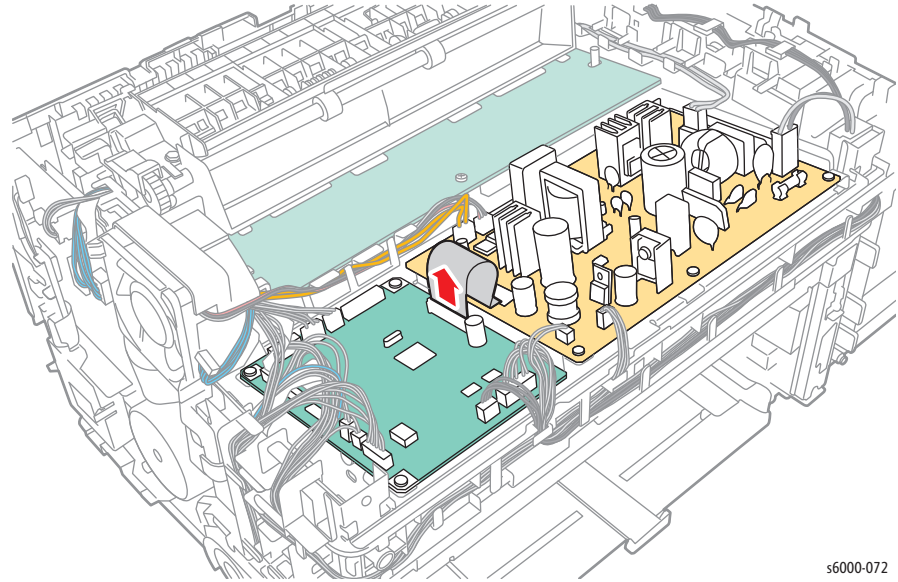
s6000-072

8. Disconnect the connectors on the LVPS, and remove 4 screws (silver, M3, 6 mm). Remove the LVPS from the printer.
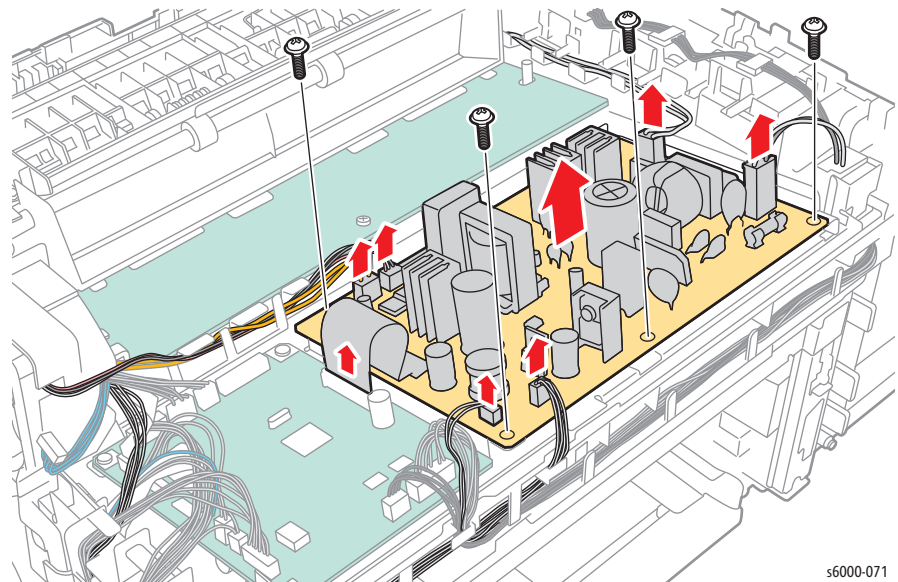
s6000-071

Warning

When reinstalling the LVPS, ensure all the cables remain properly routed through the harness guides and all connectors are fully seated.

MCU Board

PL7.2.2

Before replacing the MCU Board, save the NVM data to the IP Board.

Saving the NVM Data to the IP Board (Phaser 6000/6010)

1. Start the CE Diags Tool (page A-4).
2. Click the CE Diag tab, and then click **NVM Settings-Save NVM to ESS**.
3. Click the Start button.

   The NVM data of the MCU Board is saved to the IP Board.

Saving the NVM Data to the IP Board (WorkCentre 6015 MFP)

1. Power on the printer while pressing the **Up** and **Down Arrow** keys.
2. Press the **Up** or **Down Arrow** key to select **Printer**, and press the **OK** key.
3. Press the **Up** or **Down Arrow** key to select **IOT Diag**, and press the **OK** key.
4. Press the **Up** or **Down Arrow** key to select **NVM Settings**, and press the **OK** key.
5. Press the **Up** or **Down Arrow** key to select **SaveNVM to ESS**, and press the **OK** key.

Replacement Procedure

1. Remove the Main Paper Tray Cover (Phaser 6000/6010 page 8-7; WorkCentre 6015 MFP page 8-29).
2. Remove the Front Cover (Phaser 6000/6010 page 8-8; WorkCentre 6015 MFP page 8-34).
3. Open the Rear Door.
4. Remove the Left Side Cover (Phaser 6000/6010 page 8-10; WorkCentre 6015 MFP page 8-29).
5. If present, remove the Wi-Fi Assembly (page 8-103).
6. Remove the Top Cover (Phaser 6000/6010 page 8-11; WorkCentre 6015 MFP page 8-22).
7. Remove the Rear Cover (Phaser 6000/6010 page 8-15; WorkCentre 6015 MFP page 8-24).
8. Remove the IP Board (page 8-114).

9. Remove 1 screw (silver, metal, 6mm) that secures the fan shroud, release the fan shroud clip, and move the Fan away from the chassis.

Latch
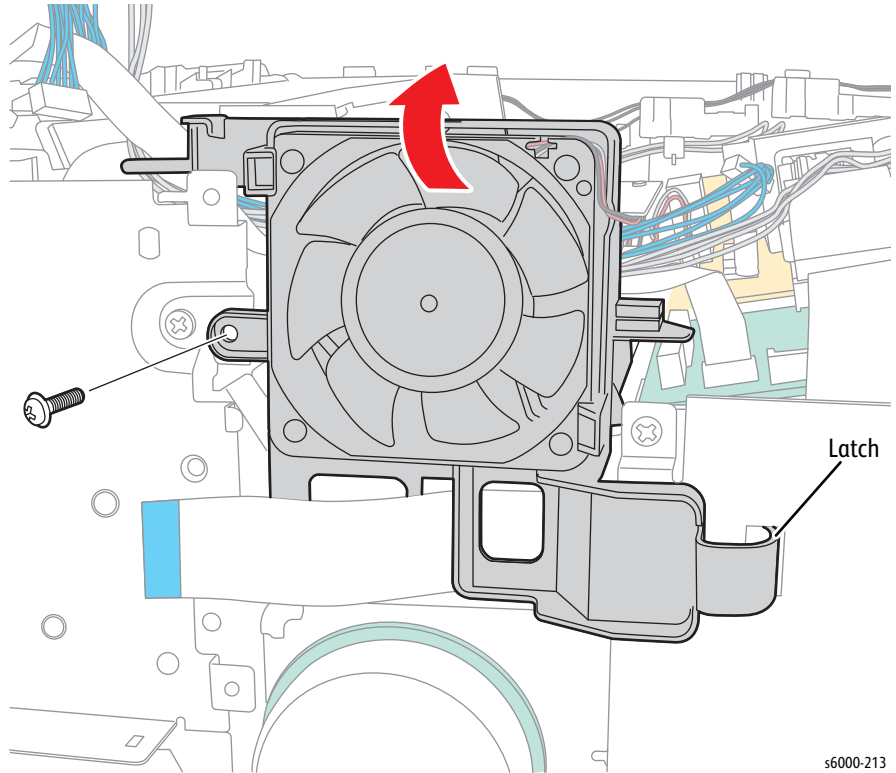
s6000-213

10. Disconnect the connectors on the MCU Board.

11. Remove 4 screws (silver, plastic, 6 mm), to remove the MCU Board.
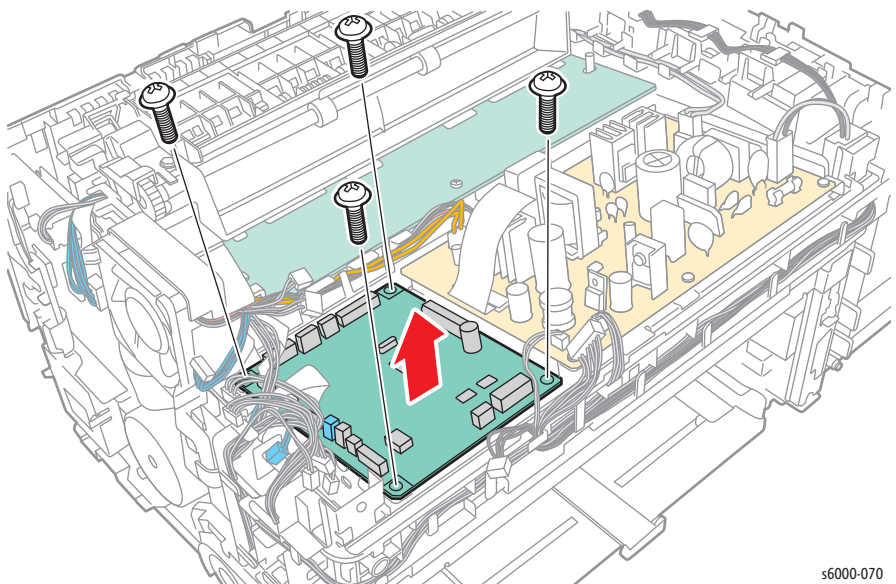
s6000-070

Replacement Note

Restore the NVM data from the IP Board using the following procedure that matches the model of printer.

Reload the MCU Board NVM Data (Phaser 6000/6010)

1. Start the CE Diags Tool (page A-4).
2. Click the CE Diag tab, and then click **NVM Settings - Load NVM from ESS**.
3. Click the **Start** button.

   The NVM data of the MCU Board is reloaded.

Reload the MCU Board NVM Data (WorkCentre 6015 MFP)

1. Power on the printer while pressing the **Up** and **Down Arrow** keys.
2. Press the **Up** or **Down Arrow** key to select **Printer**, and then press the **OK** key.
3. Press the **Up** or **Down Arrow** key to select **IOT Diag**, and then press the **OK** key.
4. Press the **Up** or **Down Arrow** key to select **NVM Settings,** and then press the **OK** key.
5. Press the **Up** or **Down Arrow** key to select **LoadNVM from ESS**, and then press the **OK** key.
6. Press the **OK** key twice to execute **LoadNVM from ESS**.

HVPS

PL7.2.3

1. Remove the Main Paper Tray Cover (Phaser 6000/6010 page 8-7; WorkCentre 6015 MFP page 8-29).
2. Remove the Front Cover (Phaser 6000/6010 page 8-8; WorkCentre 6015 MFP page 8-34).
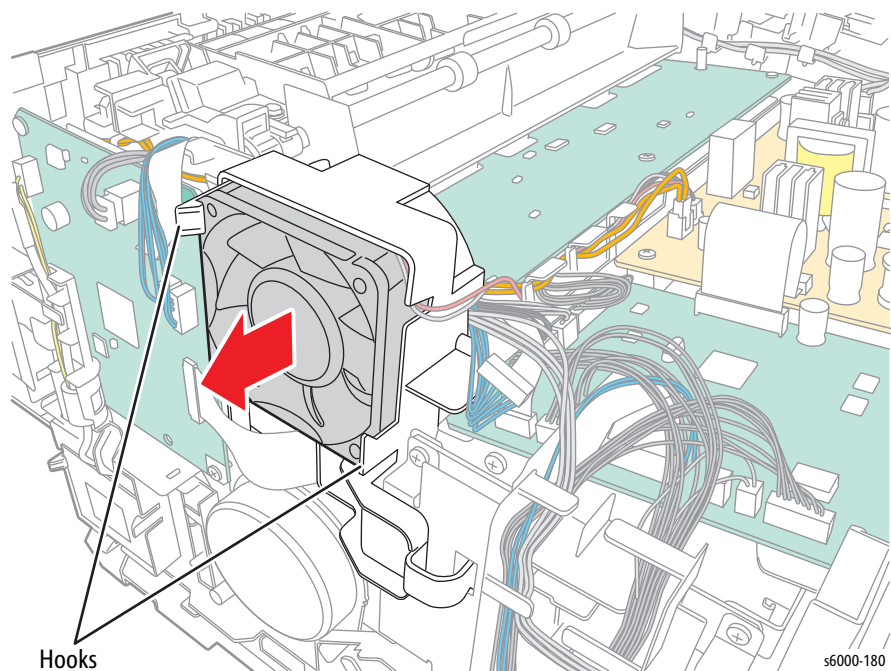3. Open the Rear Door.
4. Remove the Left Side Cover (Phaser 6000/6010 page 8-10; WorkCentre 6015 MFP page 8-29).
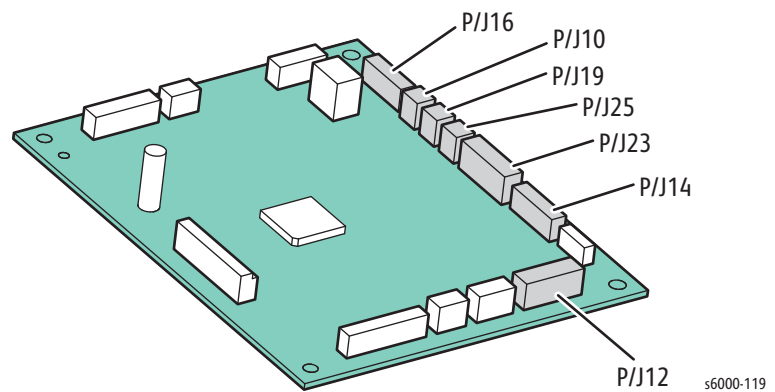5. If present, remove the Wi-Fi Assembly (page 8-103).
6. Remove the Top Cover (Phaser 6000/6010 page 8-11; WorkCentre 6015 MFP page 8-22).
7. Remove the Rear Cover (Phaser 6000/6010 page 8-15; WorkCentre 6015 MFP page 8-24).

8. Remove 2 screws (silver, Hex Head, tap, 8 mm), and pull the Fuser slightly away from the printer.

(J201)

(J18)   (J26)

Front
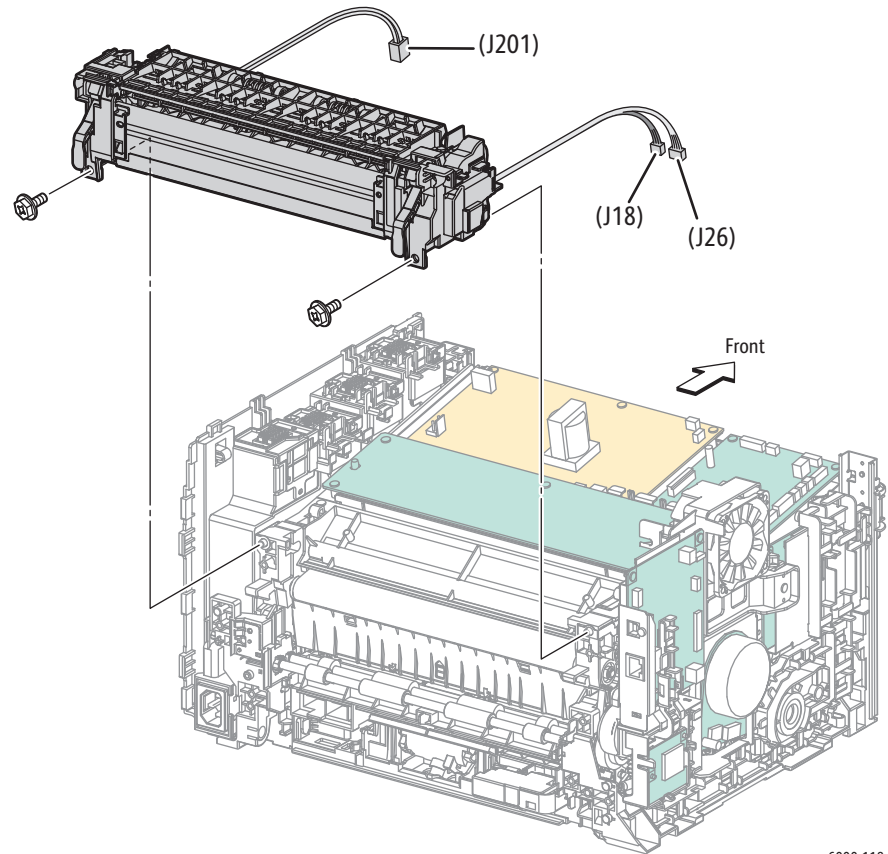
s6000-118

9. Disconnect P/J21 on the MCU Board.

10. Remove 1 screw (silver, metal, 6mm) that secures the fan shroud, release the fan shroud clip, and move the Fan away from the chassis.

Latch
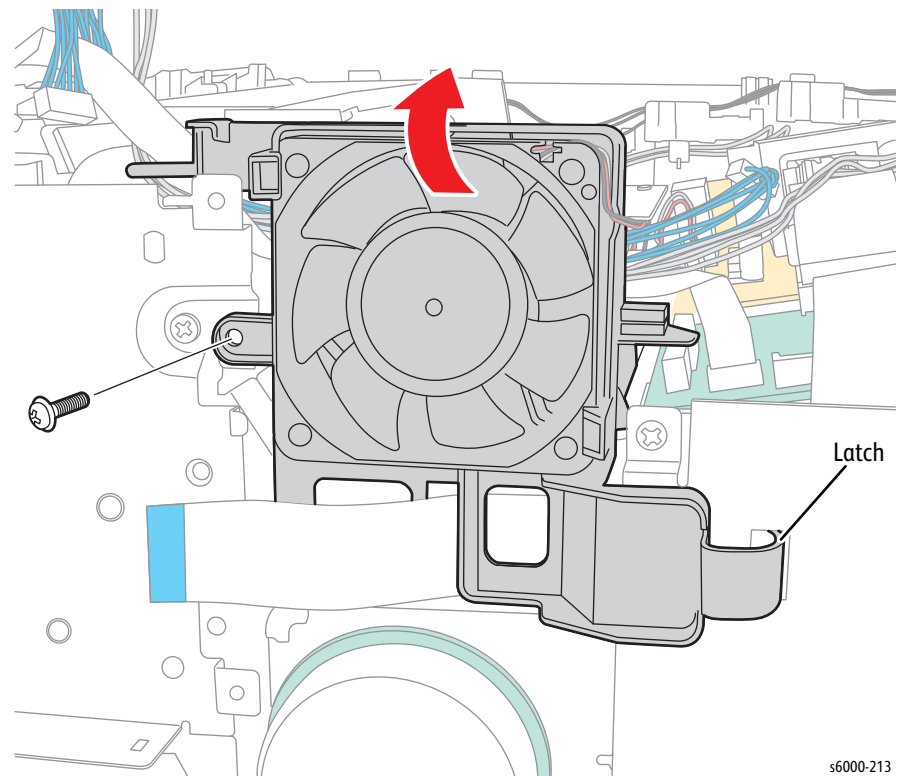
s6000-213

11. Unlace the HVPS wiring from the harness guide.

12. Disconnect P/J210, and remove 5 screws (silver, tap, 8mm).

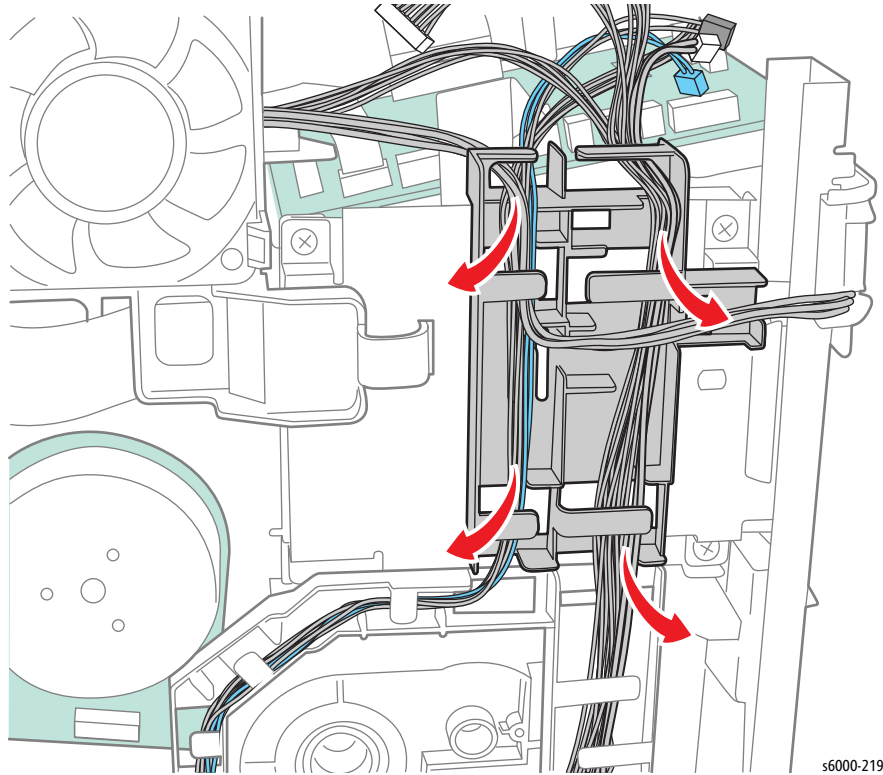13. Lift the side of the board closest to the fan first, and remove the HVPS.

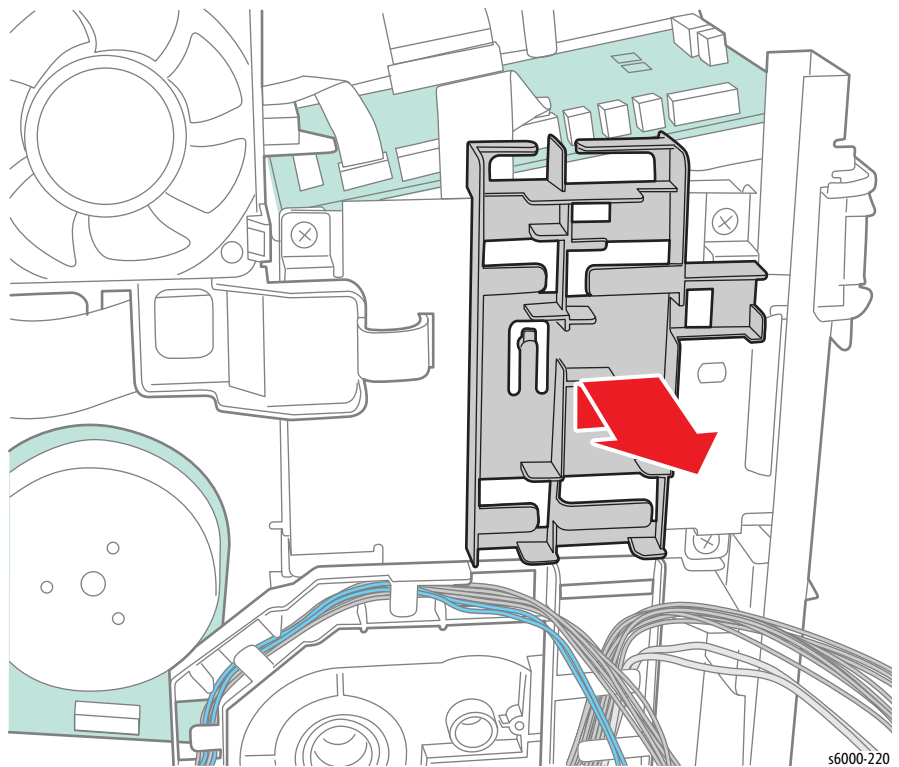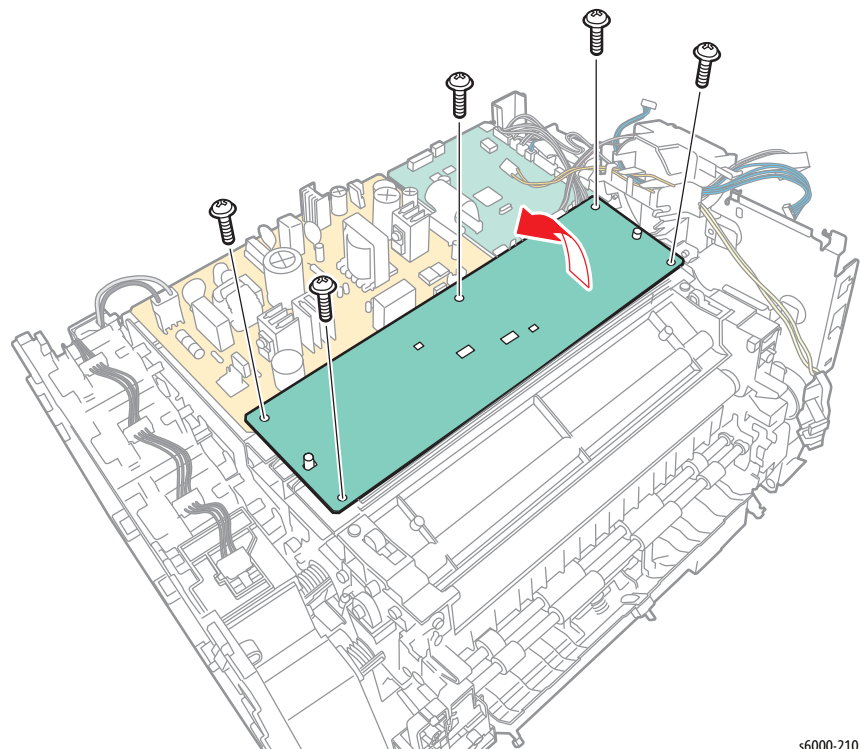s6000-210

Image Processor Harness

PL7.2.12

1. Remove the Main Paper Tray Cover (Phaser 6000/6010 page 8-7; WorkCentre 6015 MFP page 8-29).

2. Remove the Front Cover (Phaser 6000/6010 page 8-8; WorkCentre 6015 MFP page 8-34).

3. Open the Rear Door.

4. Remove the Left Side Cover (Phaser 6000/6010 page 8-10; WorkCentre 6015 MFP page 8-29).

5. If present, remove the Wi-Fi Assembly (page 8-103).

6. Remove the Top Cover (Phaser 6000/6010 page 8-11; WorkCentre 6015 MFP page 8-22).

7. Disengage the Image Processor Harness from P/J22 on the MCU Board.

P/J22
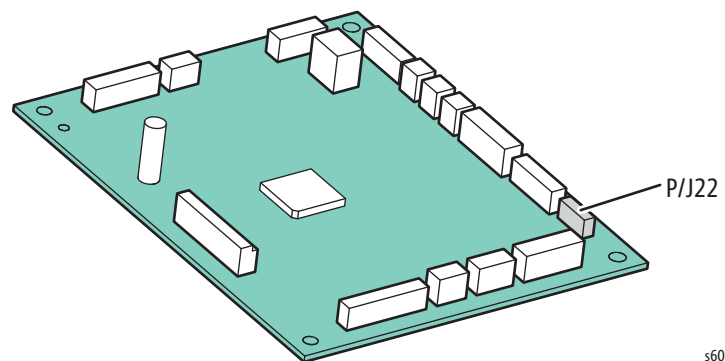
s6000-237

8. Remove the Image Processor Harness by disengaging P/J402 (Phaser 6000/6010) or P/J8 (WorkCentre 6015 MFP) on the Image Processor Board.

P/J402

s6000-238
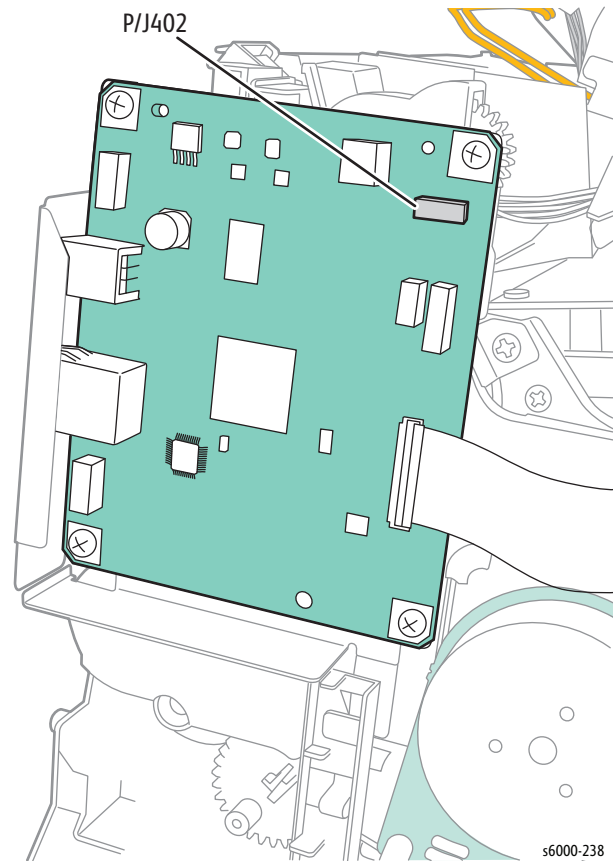
Parts List

In this chapter...

Chapter 9

Serial Number Format

Changes to Xerox products are made to accommodate improved components as they become available. It is important when ordering parts to include the following information:

- Component's part number
- Product type or model number
- Serial Number of the printer

The serial number is found on a label located on the left-side frame near the AC inlet. The Right Side Cover must be opened to view the Serial Number.

MANUFACTURED: March, 2011
Xerox S/N: YXN000524

s6000-211
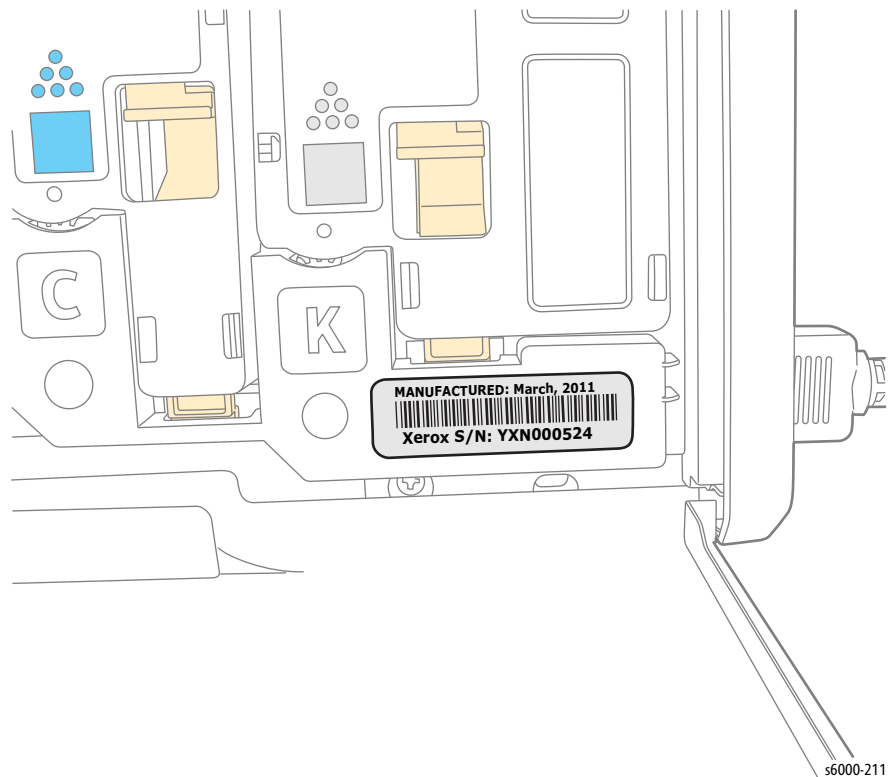
Phaser 6000/6010 Serial Number Format

The nine or ten-digit serial number uses the format **PPPRSSSSS or MMMSSSSSSc**.

- **PPP** = Three digit alphanumeric product code

- MMM =Three digit numeric manufacturing location code

Product Code	Mfg. Location Code	Product
YXL	—	6000B, 110V Engine
YXM	316	6000B, 220V Engine
YXN	—	6010N, 110V Engine
YXR	316	6010N, 220V Engine
AP2	—	6015B, 110V Engine
AP3	316	6015B, 220V Engine
AP5	316	6015N, 220V Engine
BD1	—	6015Ni, 110V Engine
BD2	316	6015Ni, 220V Engine

- **R** = Single digit numeric revision digit, 0-9. To be rolled when the ending serial number is reached or when a major product change occurs.

- **SSSSSS** = Six digit numeric serial number based on the following table. The serial numbers are reset only when the ending number is reached or when the revision number is rolled.

- **c** = Check digit (correct number from check digit algorithm)

Product	Starting Serial Number	Ending Serial Number
6000B, 110V Engine	10001	99999
6000B, 220V Engine	860101	960000
6010N, 110V Engine	10001	99999
6010N, 220V Engine	100601	200500
6015B MFP, 110 V Engine	000601	006500
6015B MFP, 220 V Engine	006601	086500
6015N MFP, 220V Engine	091601	141500
6015NI MFP, 110V Engine	141601	143000
6015NI MFP, 220V Engine	143101	158000

Example

YXL240299: Xerox Serial Number
YXL: Product Code for the Phaser 6000B, 110V printer
2 = Revision Level
40299 = Serial Number for 6000B

Using the Parts List

Note

> Only parts showing part numbers are available for ordering by support. Parts not showing part numbers are available on the parent assembly.

- **Item:** The callout number from the exploded part diagram.

- **Name/Description:** The name of the part to be ordered and the number of parts supplied per order.

- **Part Number:** The material part number used to order that specific part.

- Parts identified throughout this manual are referenced **PL#.#.#**; For example, PL3.1.10 means the part is item 10 of Parts List 3.1.

- A black triangle preceding a number followed by a parenthetical statement in an illustrated parts list means the item is a parent assembly, made up of the individual parts called out in parentheses.

- The notation "**with X~Y**" following a part name indicates an assembly that is made up of components X through Y. For example, "1 (with 2~4)" means part 1 consists of part 2, part 3, and part 4.

- An asterisk (*) following a part name indicates the page contains a note about this part.

- The notation "**J1<>J2 and P2**" is attached to a wire harness. It indicates that connector Jack 1 is attached to one end of the wire harness and connector J2 is attached to the other end that is plugged into P2.

- Fastener location and type are indicated using designators listed in the following table. Refer to "Fastener Types" on page 8-5 for a complete list of fasteners used, and "Hardware Kit" on page 9-41 for fasteners available in the Hardware Kit.

Parts Diagram Fastener Designators

Designator	Fastener Type
E	E-ring
KL	K-clip
ST	Screw, self-tapping
SM	Screw, sheet metal

Print Engine Parts

Parts List 1.1 Phaser 6000/6010 Covers

For WorkCentre 6015 MFP covers, see page 9-7.
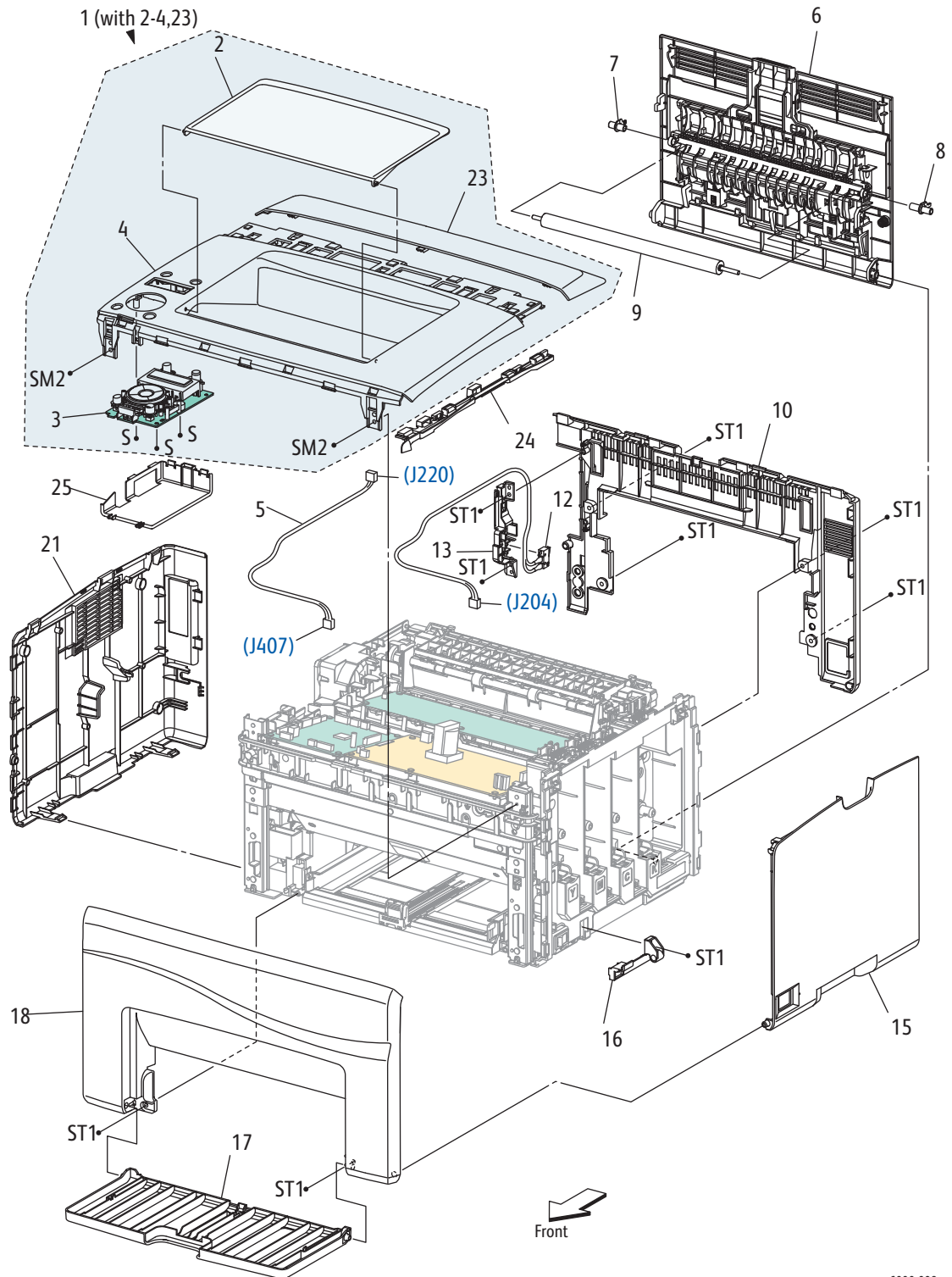
s6000-008

Parts List 1.1 Phaser 6000/6010 Covers

Item	Parts name	Part Number
1A	Cover Assembly Top (Output Tray Extension) (6010N only)	848K 49810
1B	Cover Assembly Top (Output Tray Extension) (6000B only)	848K 49820
2	Tray Extension (Output Tray Extension)	086S 29661
3A	Panel Assembly LED (Control Panel) (6000B only)	676K 00682
3B	Panel Assembly LCD (Control Panel) (6010N only)	676K 00670
4A	Cover Top Front (Top Cover)	848E 67303
4B	Cover Top Front (Top Cover)	848E 67295
5	Control Panel Harness	
6	Cover Assy Rear (Rear Door)	848K 49870
7	Left Transfer Roller Bearing	013E 38091
8	Right Transfer Roller Bearing	013E 38101
9	Roll Assembly BTR (Transfer Roller)	059K 66830
10	Cover Inner Rear (Inner Rear Cover)	675K 98132
11	—	
12	Switch I/L (Rear Cover Interlock Switch)	676K12440
13	Holder IL Rear	
14	—	
15	Cover Window TNR (Toner Door)	848E 67463
16	Hinge CVR SFP (Hinge Cover)	803E 06441
17	Cover (Main Paper Tray Cover)	675K 98111
18	Cover Front Lower (Front Cover)	675K 98122
19	—	
20	—	
21	Cover Side L (Left Side Cover)	848E 67322
22	—	
23	Cover Top Rear (Top Rear Cover)	848E 67350
24	Cover Inner Top (inner Top Cover)	848E 67370
25	Cover Opp	
99A	LED Key Panel Kit	676K 00682
99B	LCD Key Panel Kit	676K 00670

Parts List 1.1 WorkCentre 6015 MFP Covers

For Phaser 6000/6010 covers, see page 9-5.
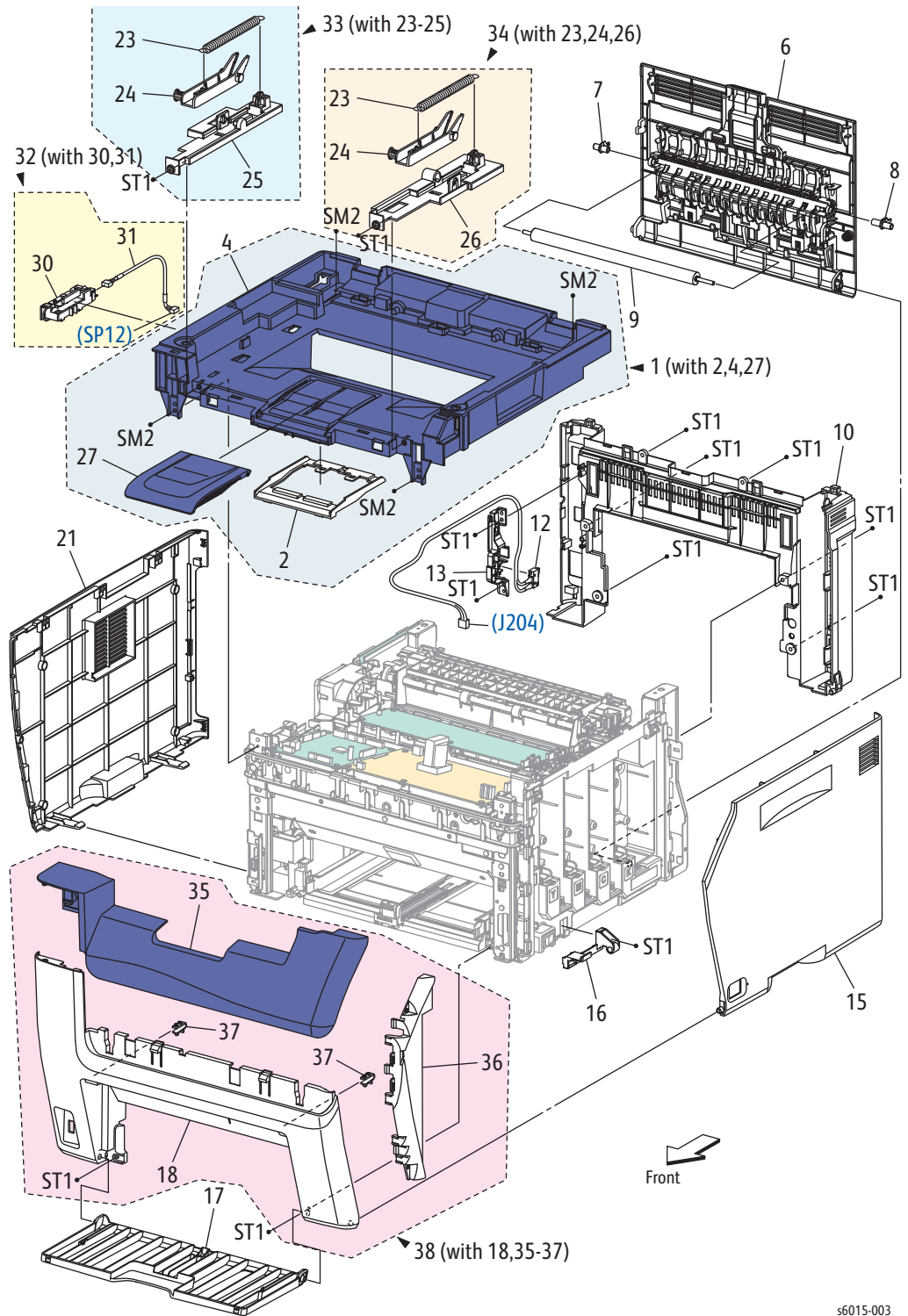
s6015-003

Parts List 1.1 WorkCentre 6015 MFP Covers

Item	Parts name	Part Number
1A	Cover Assembly Top (with 2-4,23) (Top Cover)	
2	Cover Extension (Output Tray Extension)	
4	Cover Top (Top Cover)	848E 67410
6	Cover Assy Rear (Rear Door)	848K 49871
7	Left Transfer Roller Bearing	013E 38091
8	Right Transfer Roller Bearing	013E 38101
9	Roll Assembly BTR (Transfer Roller)	059K 66830
10A	Cover Inner Rear (Inner Rear Cover) (WorkCentre 6015B MFP)	676K 03180
10B	Cover Inner Rear (Inner Rear Cover) (WorkCentre 6015N/NI MFP)	604K 66400
11	—	
12	Switch I/L (Rear Cover Interlock Switch)	676K 12440
13	Holder IL Rear	
14	—	
15	Cover Window TNR (Toner Door)	848E 67463
16	Hinge Cover	
17	Cover (Main Paper Tray Cover)	676K 03230
18	Lower Front Cover	
19	—	
20	—	
21	Cover Side L (Left Side Cover)	848E 67451
22	—	
23	Spring IIT	
24	Arm IIT	
25	Holder Arm L	
26	Holder Arm R	
27	Output Tray Extension	
28	—	
29	—	
30	Bracket Assembly Wi-Fi (Wireless Board)	
31	Harness Assembly Wi-Fi LT (Wireless Harness)	
32	Package Assembly Wi-Fi (with 30, 31)	101K 61442
33	Holder Assembly Arm L (Left Scanner Arm)	019K 11690
34	Holder Assembly Arm R (Right Scanner Arm)	019K 11700

Parts List 1.1 WorkCentre 6015 MFP Covers

Item	Parts name	Part Number
35	Upper Front Cover	
36	Inner Front Cover	
37	Latch	
38	Cover Front (18, 35, and 37)(Front Cover)	604K 66371
98	Kit Cover Extension Assembly (2, and 27)	604K 66380

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Parts List 2.1 Feeder (1/3)

ST1

1

2

ST1

SM2

SM2

12

SM2

3

4

5

Front

6

6

7

8

8

9

6

10

6000B Model Only

11
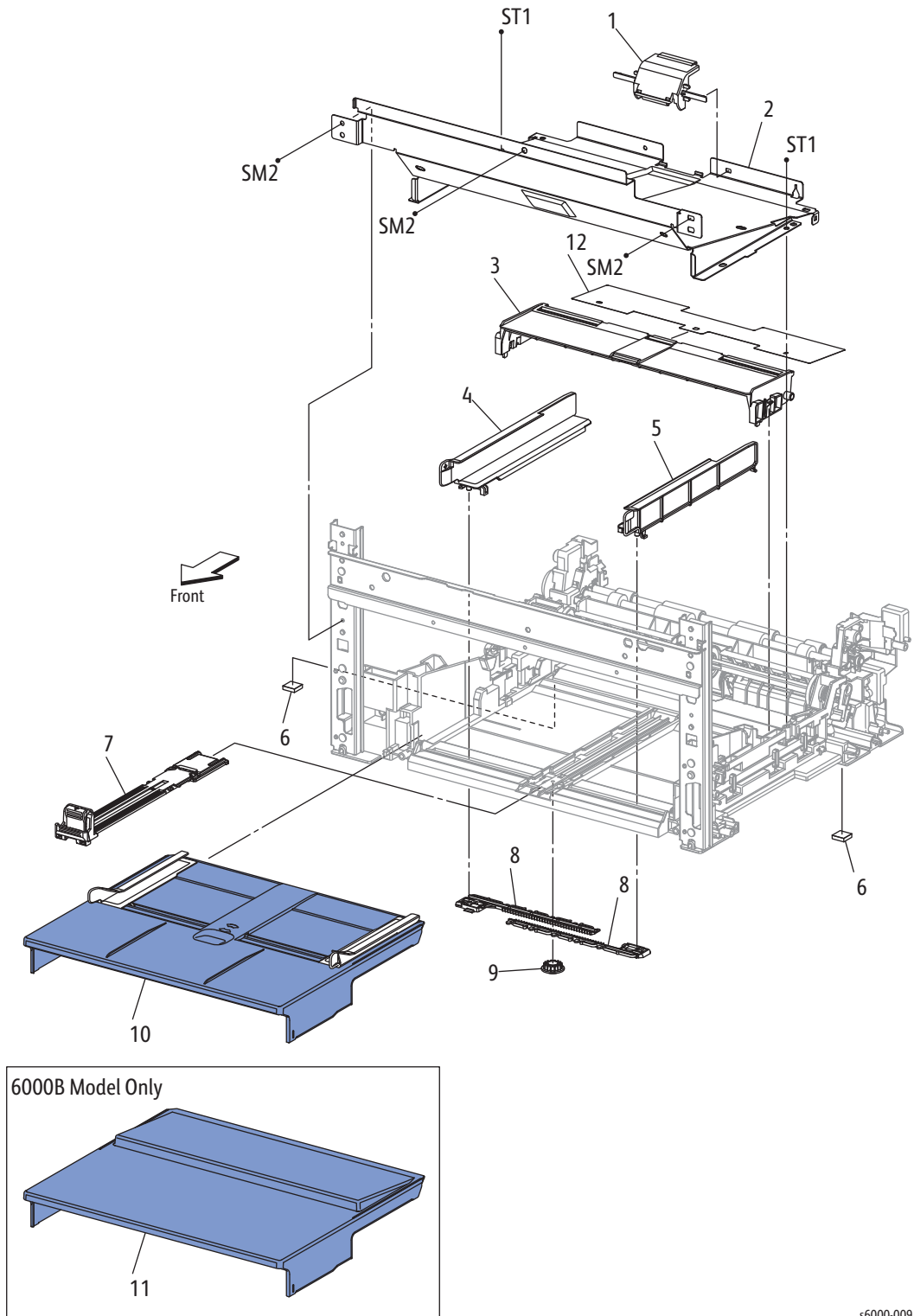
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Parts List 2.1 Feeder

Item	Parts name	Part Number
1	Cover Feed	
2	Plate Lower	
3	Tray Bypass Base	
4	Guide Side L	
5	Guide Side R	
6	Foot Assy	
7	Tray Assy Extension (Main Tray Extension)	050K 66340
8	Rack Guide Side	
9	Gear Pinion	
10	Tray Assembly Bypass Cover (Bypass Tray) (6010N and WorkCentre 6015 MFPs only)	050K 66350
11	Cover Dust (Dust Cover) (6000B only)	
12	Guide Paper Bypass (Paper Guide) (6010N and WorkCentre 6015 MFPs only)	038E 39310

Parts List 2.2 Feeder (2/3)

1 (with 2-7)

2

3

4

6

5

3

7

27

28

9 (with 27,28)

8

29

30

31

10

11 (with 29-31)

13

12

14

24

Front

18

(P121)

23
No Paper
Sensor

21

20

17

18

22

(J122)

(J12)

(J121)

25

(J120)

(J122)

(J12)

(J120)

LT Model Only

26

s6000-010
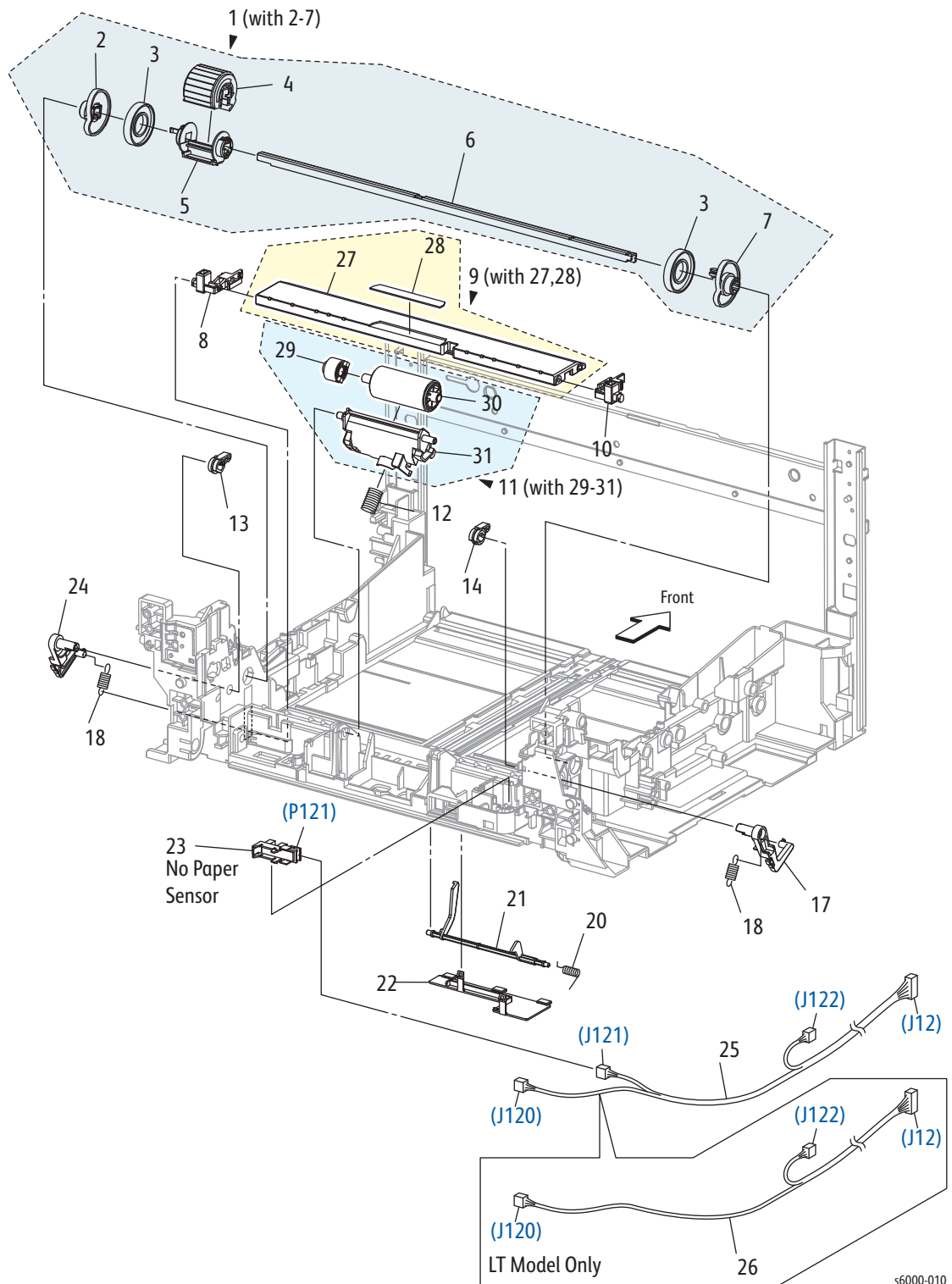
Parts List 2.2 Feeder (2/3)

Item	Parts name	Part Number
1	Feed Assy (with 2-7) (Feed Roller Assembly)	
2	CAM R (Right Feed Roller Cam)	008E 97492
3	Roll Core	
4	Roll Assy Feed (Feed Roller)	059K 66781
5	Holder Feed	
6	Feed Shaft	
7	CAM L (Left Feed Roller Cam)	008E 97481
8	Holder BTM R	
9	Plate Assembly Bottom (With 27-28) (Bottom Plate)	
10	Holder BTM L	
11	Holder Assy Separator (With 29-31) (Separator Pad Assembly)	019K 11790
12	Spring Separator (Separator Spring)	809E 91661
13	Follower R (Right Follower)	008E 97512
14	Follower L (Left Follower)	008E 97502
15	—	
16	—	
17	Arm L (Left Follower Arm)	031E 98380
18	Spring NF (NF Spring)	809E 91680
19	—	
20	Spring ACT REGI (No Paper Spring Actuator)	809E 91650
21	Actuator No Paper (No Paper Actuator)	120E 32601
22	Cover No Paper (No Paper Cover) (Phaser 6010N and WorkCentre 6015 MFPs only)	848E 50650
23	Sensor Photo (No Paper Sensor) (Phaser 6010N and WorkCentre 6015 MFPs only)	930W 00123
24	Arm R (Right Follower Arm)	031E 98390
25	Harness Assembly RKN SNS (J12-J120,J121,J122) (Phaser 6010N and WorkCentre 6015 MFPs only)	
26	Harness Assembly RK SNS (J12-J120,J122) (6000B only)	
27	Plate Bottom	
28	Pad Main Paper Tray	
29	Clutch Assy Friction	
30	Roll Assy Separator	
31	Holder Separator	

Parts List 2.3 Feeder (3/3)

5 Registration Sensor

(P120)

(J25)

Front
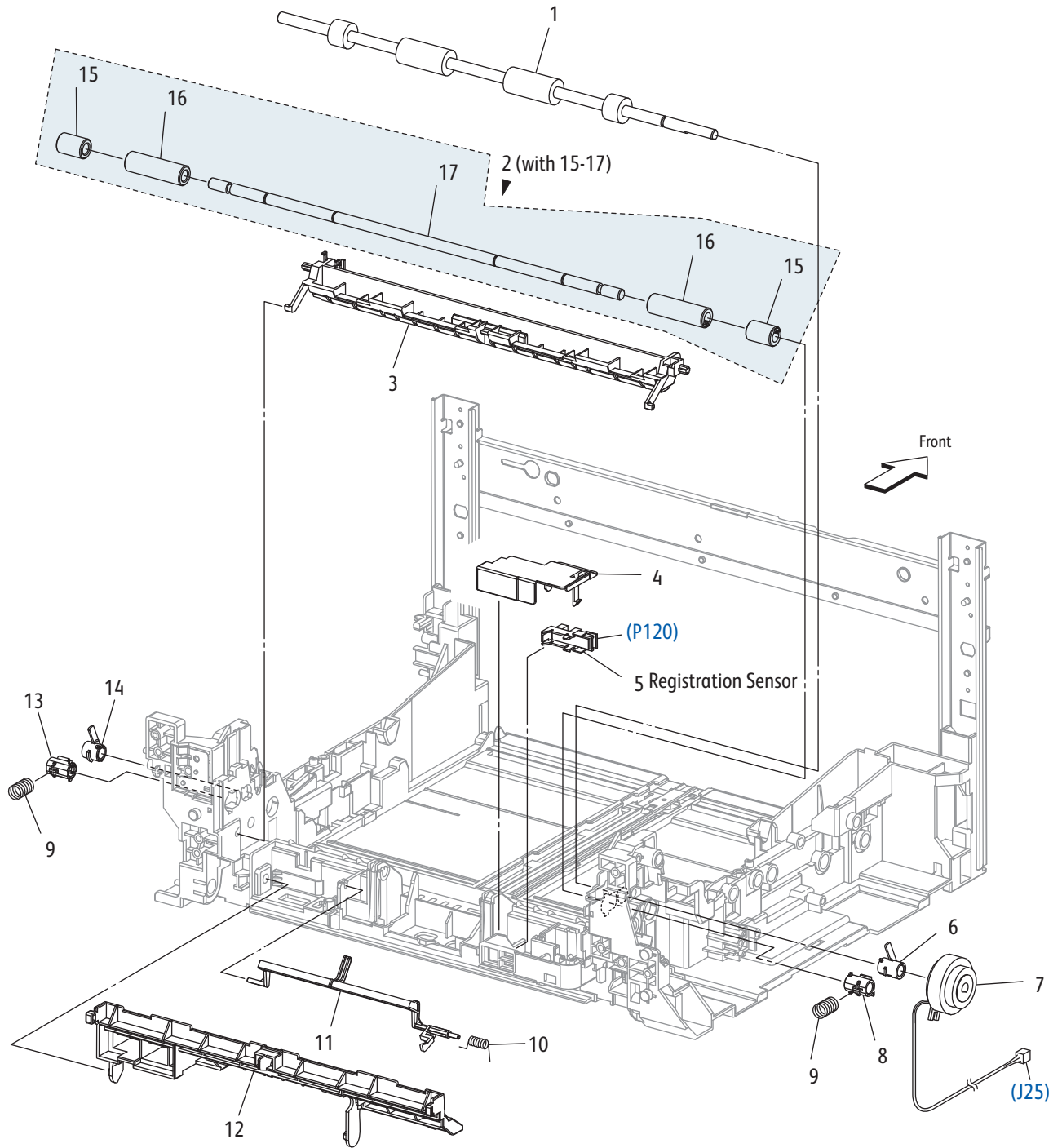
s6000-011

Parts List 2.3 Feeder (3/3)

Item	Parts name	Part Number
1	Roll Regi (Registration Roller)	059E 06931
2	Roll Assy Pinch Regi (With 15-17) (Registration Pinch Roller)	059K 67751
3	Chute (Main Paper Tray Chute)	054E 42891
4	Cover Sensor	
5	Sensor Photo (Regi Sensor) (Registration Sensor)	930W 00123
6	Bearing Regi	
7	Clutch Regi (Registration Clutch)	121K 46582
8	Bearing Regi Metal	
9	Spring Regi	
10	Spring Act Regi (Registration Spring Actuator)	809E 91650
11	Actuator Regi (Registration Actuator)	120E 32561
12	Chute Low	
13	Bearing Regi Metal Earth	
14	Bearing Regi Earth	
15	Roll Pinch Regi 10	
16	Roll Pinch Regi 30	
17	Shaft Pinch Regi	

Parts List 3.1 Xerographics (1/3)

1 (with PL3.2,PL3.3)

(J2) (LPH M)

(J3) (LPH Y)

(J5) (LPH C)

(J4) (LPH K)

ST1

ST1

ST1

ST1

(J14)

Front
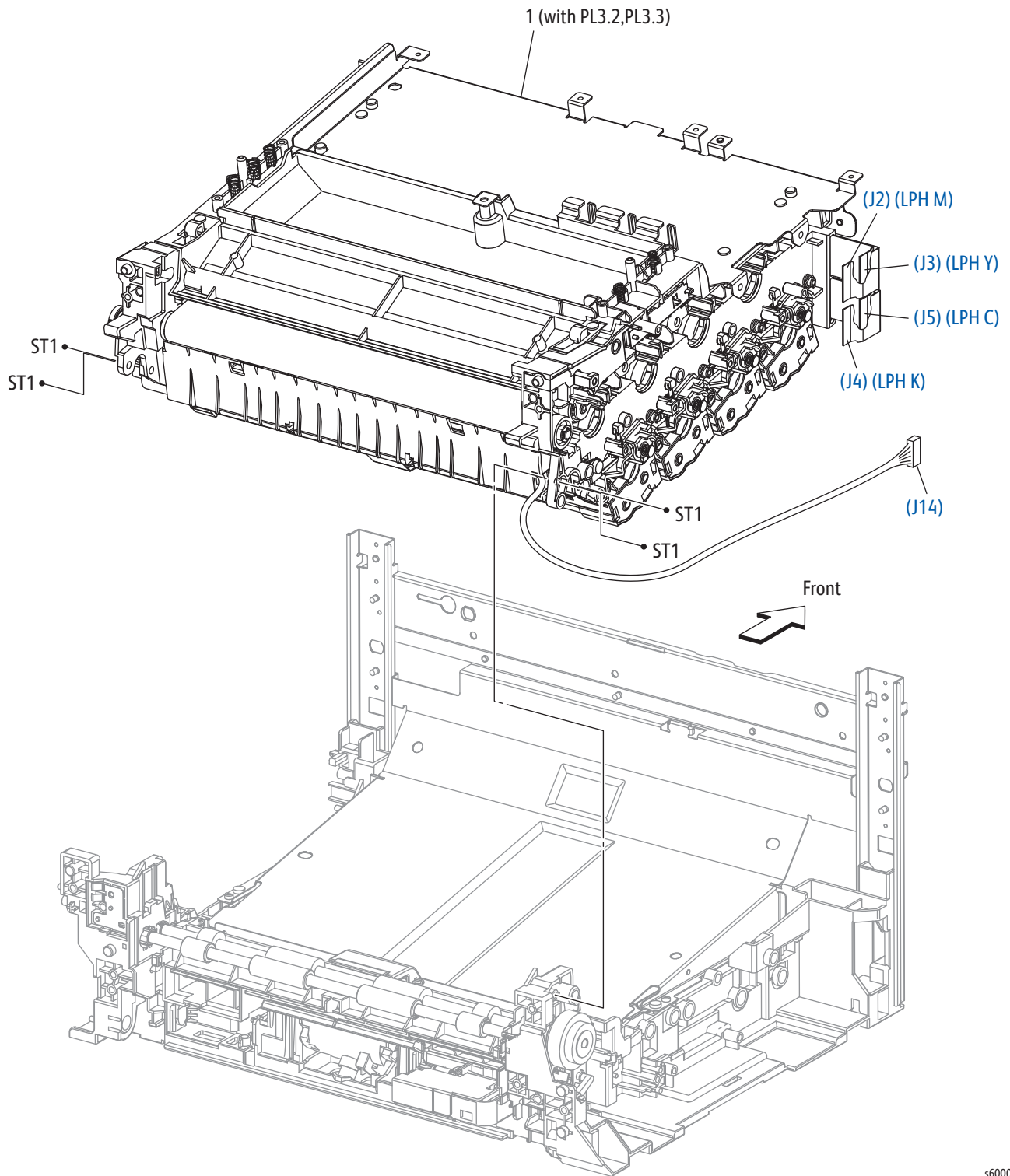
s6000-012

Parts List 3.1 Xerographics (1/3)

Item	Parts name	Part Number
1	Xerographics Deve LPH Belt Assembly (with PL3.2, PL3.3) (xerographics assembly)	

Parts List 3.2 Xerographics (2/3)

Front

3

4

5

ST1

5

ST1

5

ST1

5

ST1

ST1

2

ST4

ST4

2

ST4

2

ST4

2

1

1

1

1

(J14)

[Ref PL3.3]

6

7

8

9

10

10

10

10
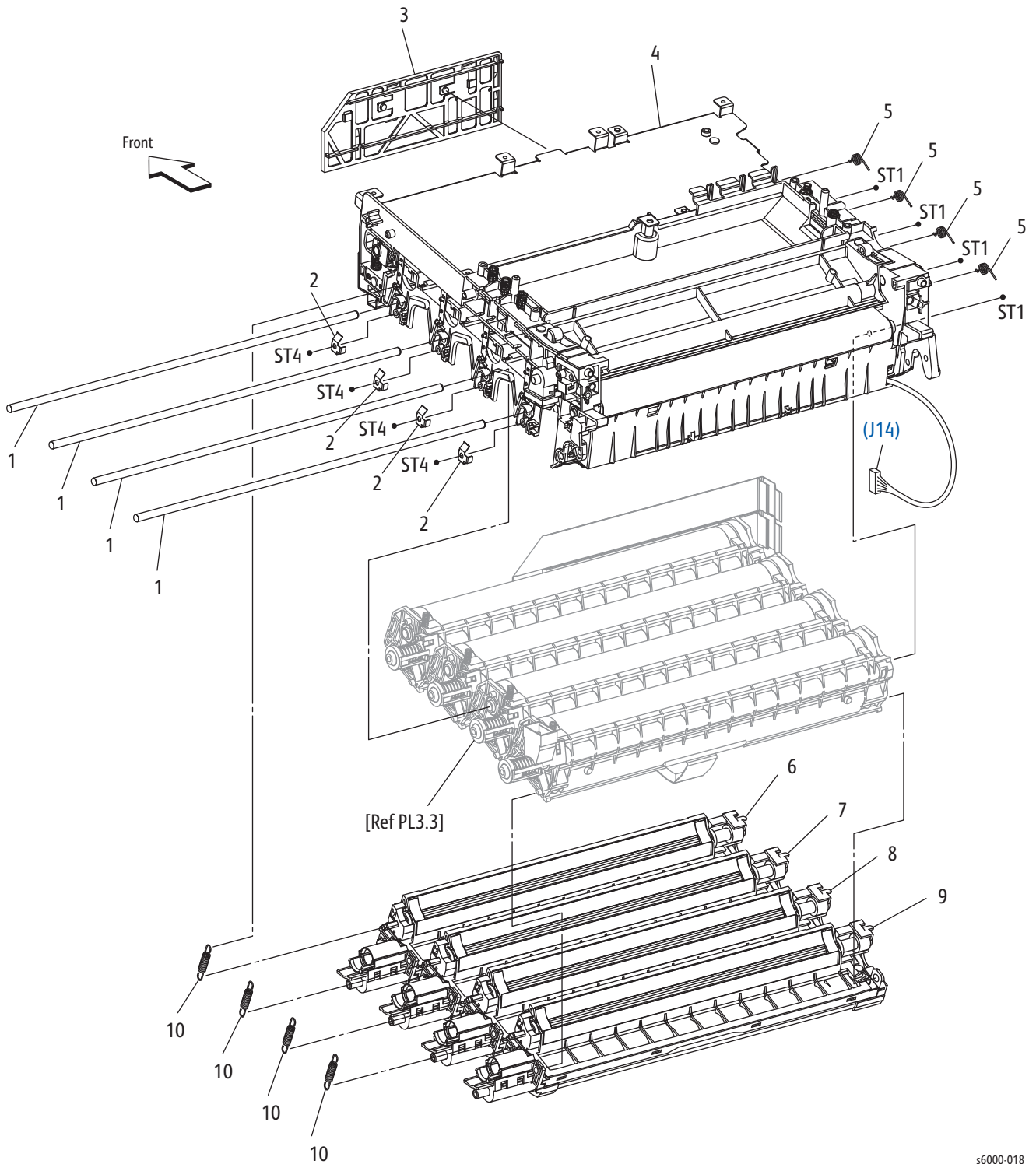
s6000-018

Parts List 3.2 xerographics (2/3)

Item	Parts name	Part Number
1	Shaft drum	
2	Plate Earth Dl	
3	Guide Ffc Lph	
4	Housing Assy Transfer B	
5	Spring Deve D	
6	Housing Assy Deve Y	
7	Housing Assy Deve M	
8	Housing Assy Deve C	
9	Housing Assy Deve K	
10	Spring Deve Ad	

Parts List 3.3 Xerographics (3/3)

Front

1
2
ST4
3
(P7) C 4
ST4
5
1
2
ST4
3
(P6) B 4
ST4
5
1
2
ST4
3
(P9) A 4
ST4
5
6
2
ST4
3
(P8) 4
ST4
5

(J3)
(J2)
(J4)
(J5)

C (J7)
12
11
B (J6)
10
A
9 (J9)
8 (J8)
7
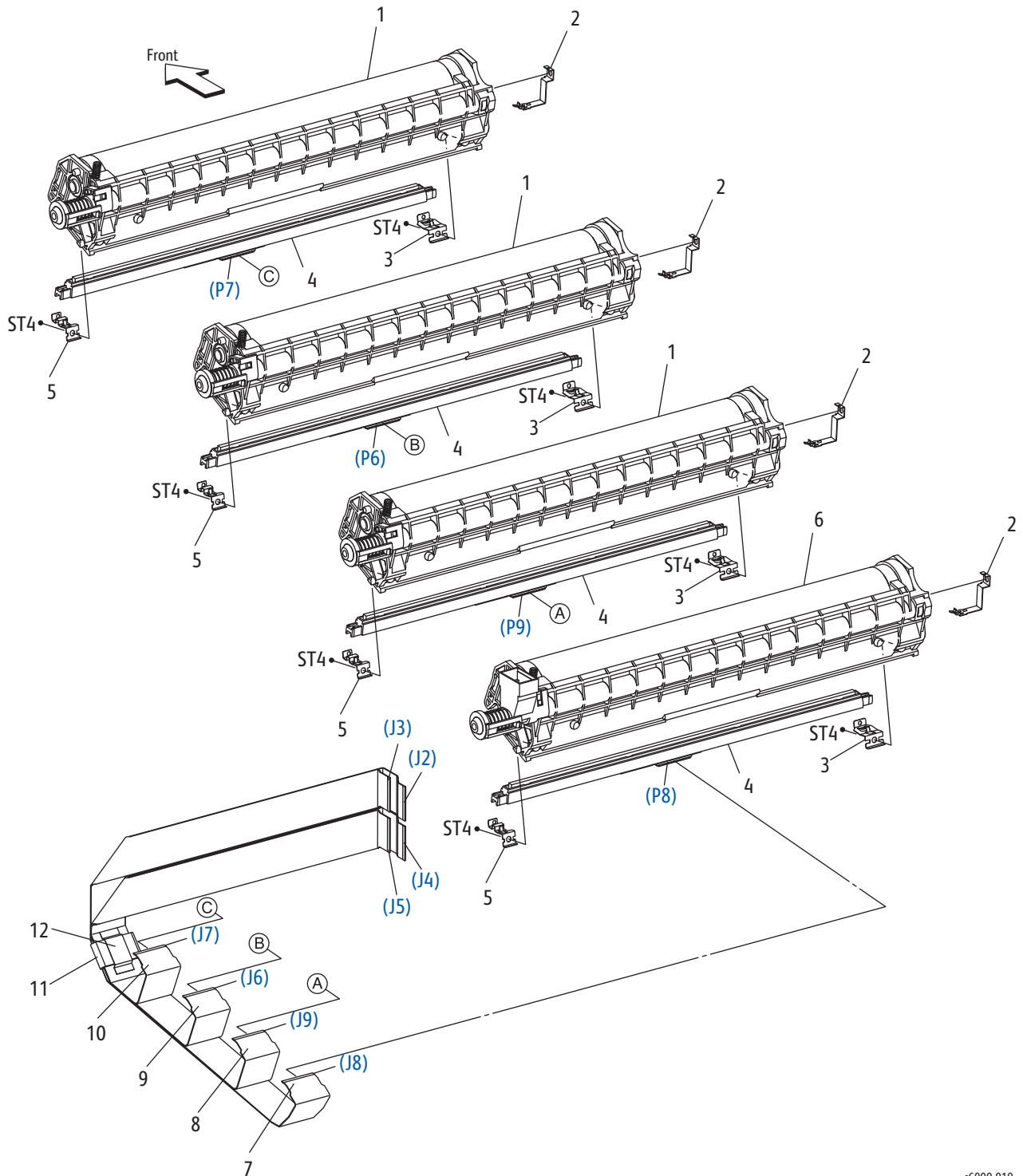
s6000-019

Parts List 3.3 Xerographics (3/3)

Item	Parts name	Part Number
1	Housing Assy Xero High	
2	Spring-FG Part2	
3	Spring LPH D PART2	
4	Head Assembly-K	
5	Spring LPH Ad Part2	
6	Housing Assy Xero High K	
7	Cable-FFC-K,KRN	
8	Cable-FFC-C,KRN	
9	Cable-FFC-M,KRN	
10	Cable-FFC-Y,KRN	
11	Core Ferrite	
12	Tape	

Parts List 4.1 Toner Dispense

s6000-013

Parts List 4.1 Toner Dispense

Item	Parts name	Part Number
1	Dispenser Assy (With 2-11)	
2	Harness Assembly DCKR (J13-toner CRUM Y,M,C,K)	
3	Key-HW K	
4	Key HW YMC	
5	Frame Disp	
6	Gear Idler 23 (Idler 23 Gear)	807E 32140
7	Clutch Assembly Oneway (Oneway Clutch Assembly)	005K 10070
8	Conductor GND MOT	
9	Motor Assy Disp (Toner Motor)	127K 61370
10	Frame Motor	
11	Gear Idler 34 (Idler 34 Gear)	807E 32130
12	Cover Connector (Connector Cover)	848E 51070
13	—	
14	—	
15	—	
16	—	
17	Cleaner Assy (Cleaner Assembly)	042K 94280
18	Harness Assembly FSR Test (J206-J208)	
19	Harness Assembly Dispense MOT (J20-J200, J201)	

Parts List 5.1 Fuser

(J201)

(J18) (J26)

ST10

1

ST10

Front
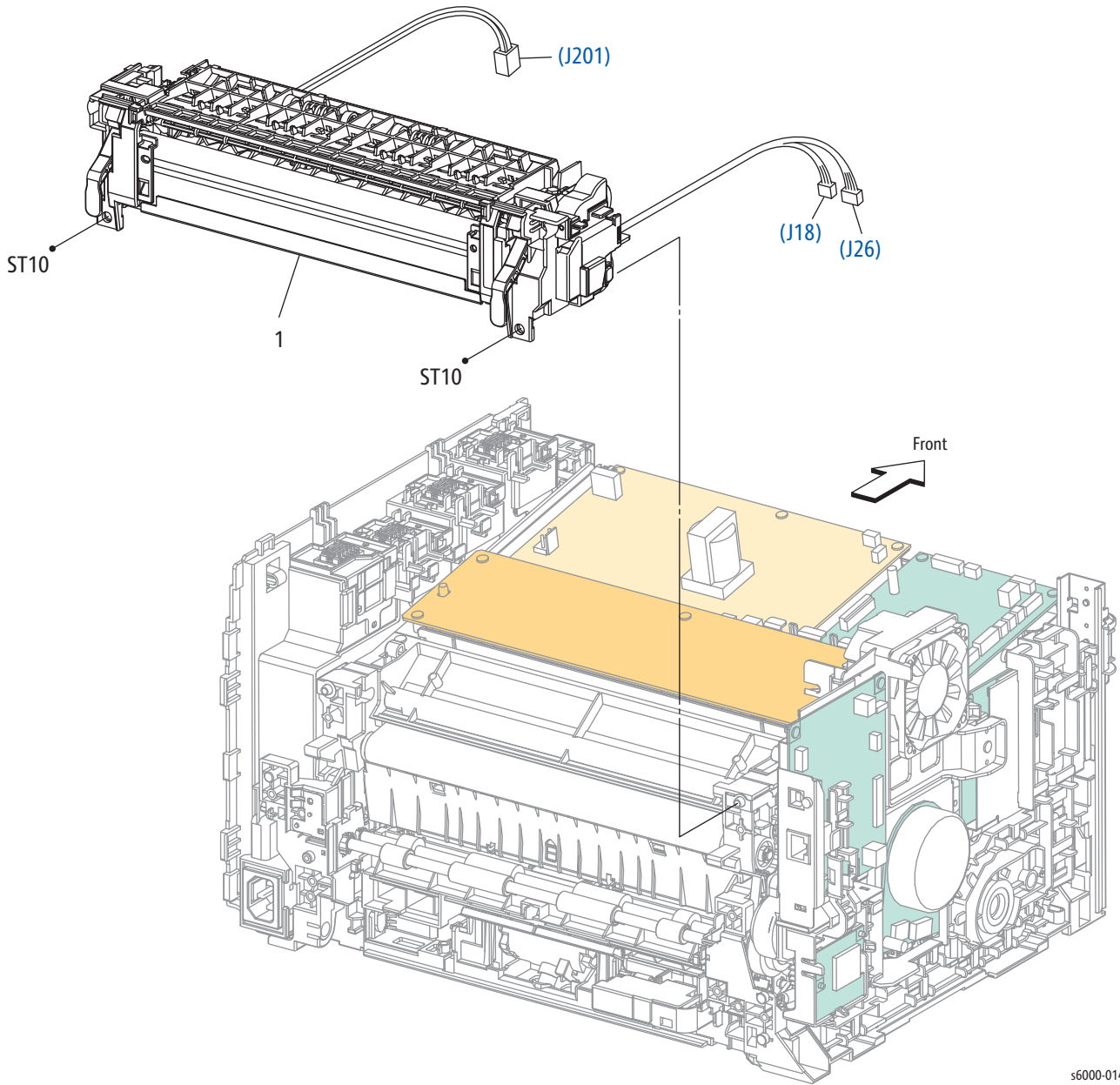
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Parts List 5.1 Fuser

Item	Parts name	Part Number
1	WorkCentre 6015 MFP Fuser, 110V Model Fuser, 220V Model	 126K 29414 126K 29424
1	Phaser 6000/6010 Fuser, 110V Model Fuser, 220V Model	 126K 29175 126K 29185

Parts List 6.1 Drive

Front

1

ST1

SM3

SM3

ST1

ST1

(J16)

SM3

2

ST1

SM2

ST1

3

SM2

SM3

ST1

4

SM2

7

SM2

(J160)

5

SM2

(P160)

SM3

SM3

6

SM3

(J10)

8

ST1

9

SM3

ST1

(J19)

K Mode
Switching Sensor

(P122)

ST1

10

s6000-015
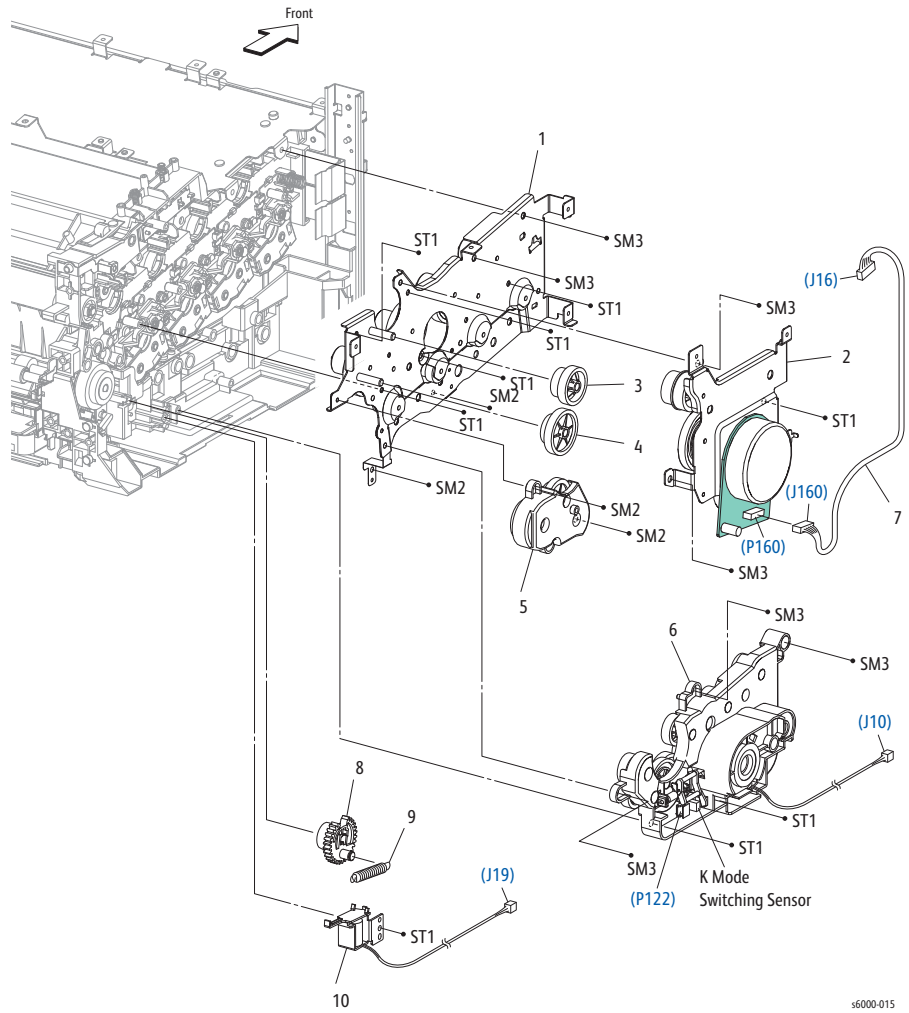
Parts List 6.1 Drive

Item	Parts name	Part Number
1	Drive Assembly MU	
2	Drive Assembly MOT (Main Drive Assembly)	007K 17072
3	Gear F3 (F3 Drive Gear)	807E 32380
4	Gear PH3 (PH3 Drive Gear)	807E 32390
5	Drive Assembly PH (Feed Drive Assembly)	007K 17091
6	Drive Assy Deve (Developer Drive Assembly)	007K 17087
7	Harness Assembly Main MOT (J16-J160)	
8	Gear Feed	
9	Spring Feed	
10	Solenoid Feed (Feed Solenoid)	121E 22671
99	Drive Assembly Mot (With 2, 3, 4, and 5) (Main Drive Assembly Kit)	604K 64630

Parts List 7.1 Phaser 6000/6010 Electrical (1/2)

Front

1

2

(J205)

SM2

6

(J23)

(J1)

5

4

3

(P1)

(P2)

(P1)

(P3)

SM2

(P112)

7

SM2

SM2

(P5)

SM2

(P4)

(J1)

SM2

8

9

SM2

SM2

SM2

SM2

SM7

SM2

SM2

SM2

11

SM2

SM2

Model 6000 Only

Model 6010 Only

(P401)

16

(P402)

15

(P407)

(J111)

SM7

SM2

SM2

(J112)

SM7

SM2

(P404)*

SM7

SM2

(P406)*

*: Not used

s6000-016

Parts List 7.1 Phaser 6000/6010 Electrical (1/2)

Item	Parts name	Part Number
1	Duct Fan	
2	Fan Main (Fan)	127E 86170
3	Guide Harness Drive (Drive Harness Guide)	
4	Plate Bitz	
5	PWB Assy TOKI (LED Driver Board)	960K 54361
6	FFC Assy Light Biz (LED/MCU Cable)	962K 79920
7A	Harness Assembly TOKI (6000B model) (LED Driver Board Harness)	962K 84860
7B	Harness Assembly TOKI (6010N model) (LED Driver Board Harness)	962K 81970
8	PLATE ESS IOT	
9	PWBA ESS (6010N model) (IP Board)	676K 12210
10	—	
11	Guide Harness Main Paper Tray (Main Paper Tray Harness Guide)	
12	—	
15	Plate ESS IOT LT (6000B model)	
16	PWBA ESS LT (6000B model) (IP Board)	676K 12200

Parts List 7.2 Phaser 6000/6010 Electrical (2/2)
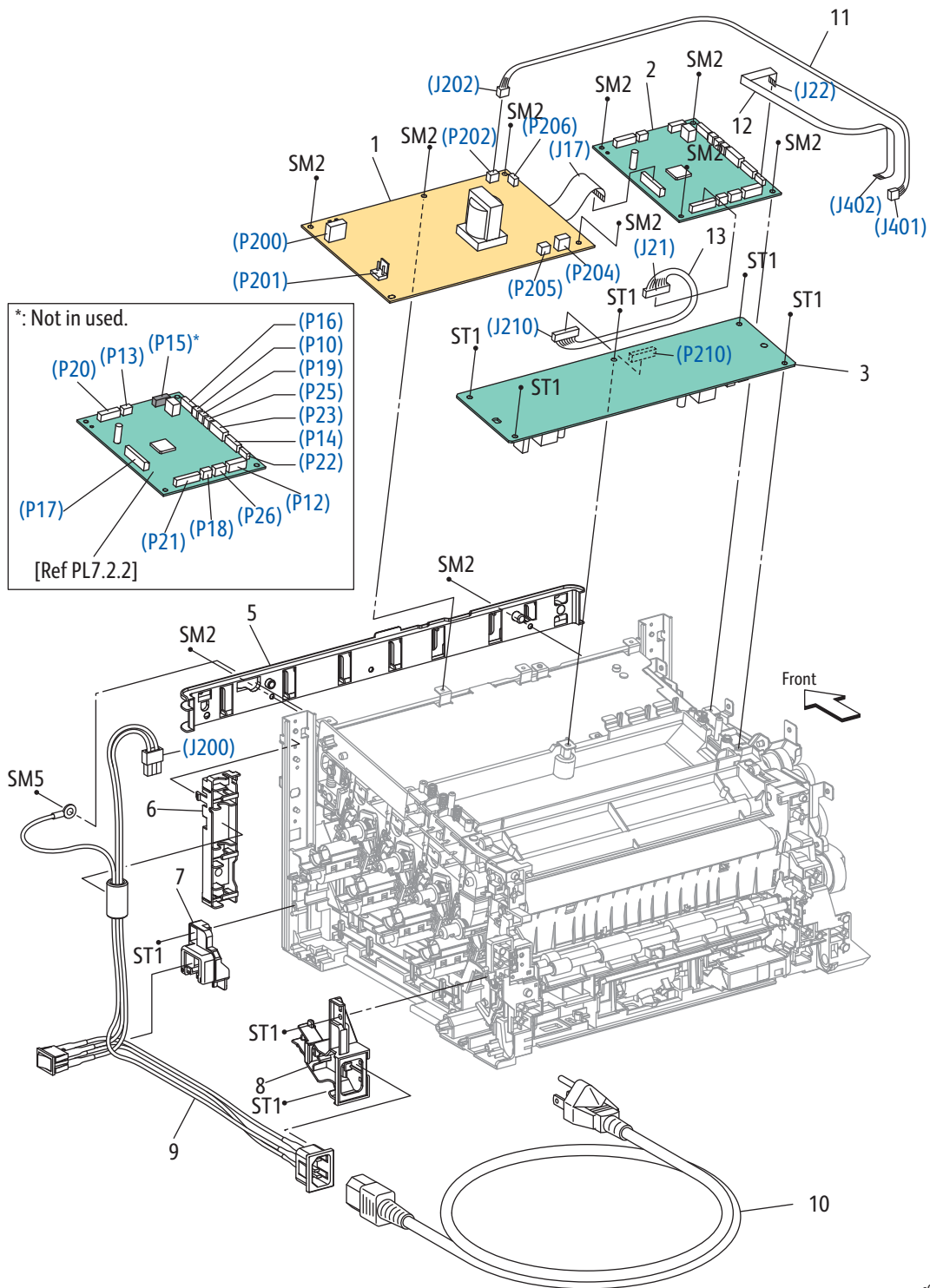
s6000-017

Parts List 7.2 Phaser 6000/6010 Electrical (2/2)

Item	Parts name	Part Number
1A	LVPS (110V)	105K 23974
1B	LVPS (220V)	105K 23984
2	MCU Board	960K 60951
3	HVPS	105K 23993
4	—	
5	Guide Harness Front	
6	Guide Harness AC	
7	Holder SW SFP	
8	Guide Harness Inlet	
9	Harness Assembly Inlet SFP (AC INLET-MAIN SW, J200) (AC Inlet Harness)	962K 91570
10A	Power Cord 110V (Power Cord) 220V (Power Cord)	 675K 17830 675K 17660
11	Harness Assy Lves	
12	FFC Assembly ESS (Image Processor Harness)	962K 81910
13	Harness Assy HVPS (J21-J210)	

Parts List 7.1 WorkCentre 6015 MFP Electrical (1/2)

Front

1

2

(J205)

(A)

6

(J23)

(J1)

5

4

(P1)

(P2)

(P1)

(P3)

7

3

SM2

(P5)

SM2

(P4)

SM2

(J1)

17

SM2

(SP9)

18

ST1

SM2

(J2)

SM2

19

(SP11)

9

SM2

SM2

11

SM2

SM2

8

SM2

SM2

(SP2)

SM2

20

SM2

SM2

SM2

21

22 (with 20,21)

(SJ1)

(SJ6)

(SJ16)

(J1)

(SJ14)*

(SJ8)

(SJ9)

(SJ11)

(SJ12)

(J2)*

(SJ2)

*: Not used

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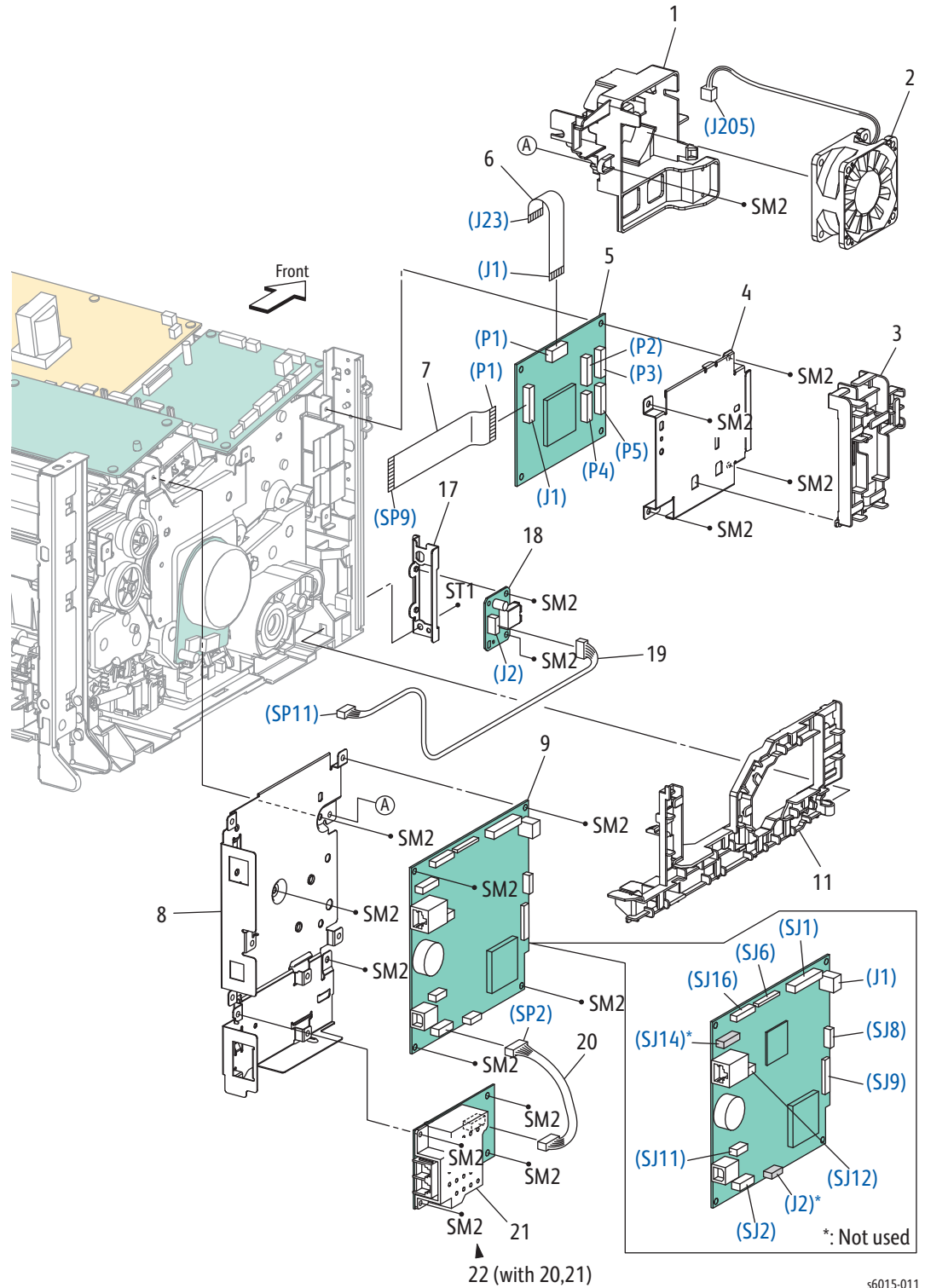
Parts List 7.1 WorkCentre 6015 MFP Electrical (1/2)

Item	Parts name	Part Number
1	Duct Fan	
2	Fan Main (Fan)	127E 86170
3	Guide Harness Drive (Drive Harness Guide)	
4	Plate Bitz	
5	PWB Assy TOKI (LED Driver Board)	960K 54361
6	LED/MCU Cable	
7	Harness Assembly TOKI (6010N model) (LED Driver Board Harness)	962K 81970
8	PLATE ESS IOT	
9A	PWBA ESS (WorkCentre 6015B MFP) (IP Board)	676K 13512
9B	PWBA ESS (WorkCentre 6015N MFP) (IP Board)	676K 13522
9C	PWBA ESS (WorkCentre 6015NI MFP) (IP Board)	676K 13532
10	—	
11	Main Paper Tray Harness Guide	
13	—	
17	Bracket Front USB	
18	PWB Assembly USB Front (USB Board)	960K 47000
19	—	
20	Harness Assembly Swift FAX (Fax Harness)	
21	PWBA Swift FAX (FAX Board)	
22	Package Assembly FAX LT (with 20 and 21)	101K 62530

Parts List 7.2 WorkCentre 6015 MFP Electrical (2/2)
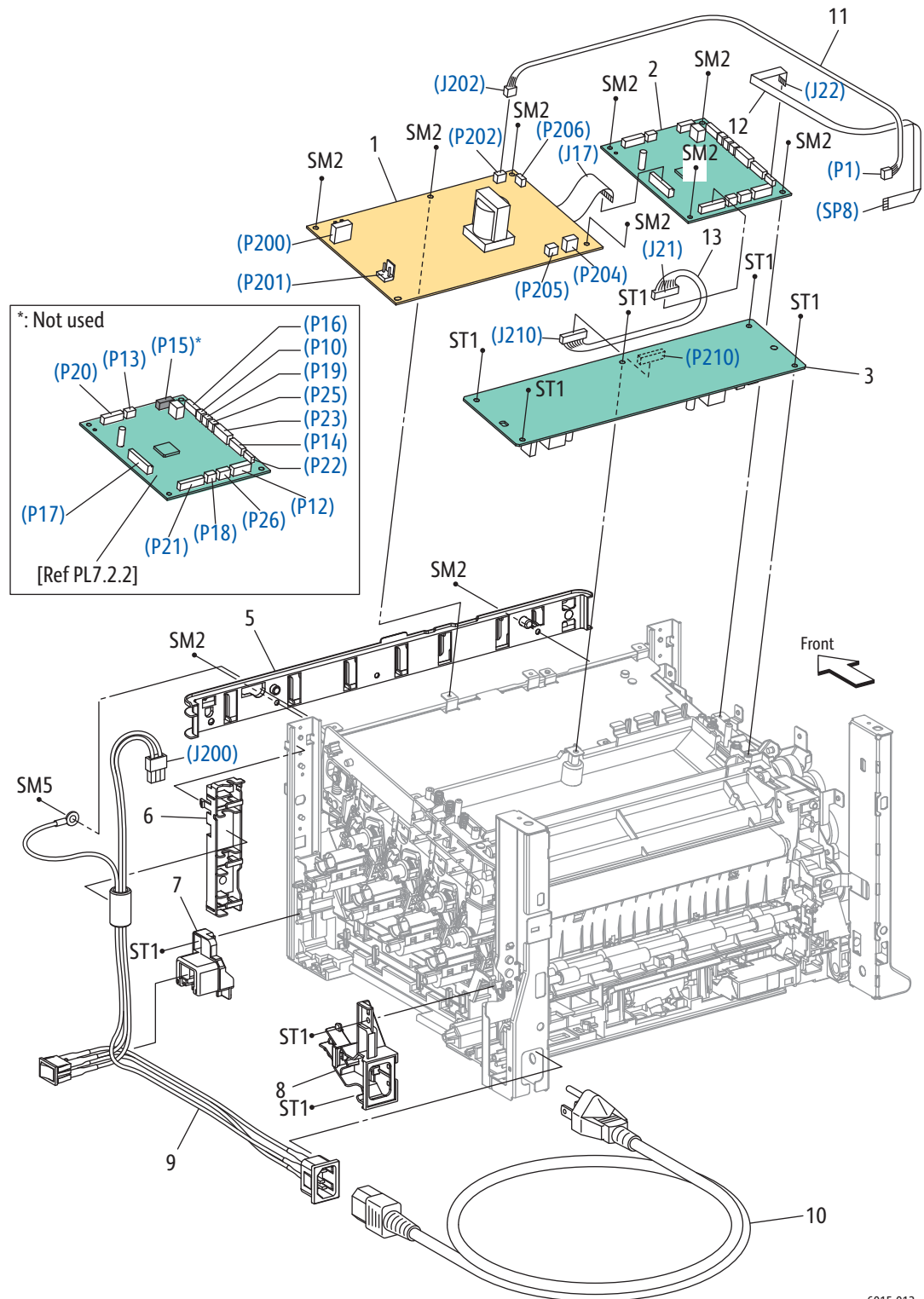
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Parts List 7.2 WorkCentre 6015 MFP Electrical (2/2)

Item	Parts name	Part Number
1A	LVPS (110V)	105K 23974
1B	LVPS (220V)	105K 23984
2	MCU Board	960K 60951
3	HVPS	105K 23993
4	—	
5	Guide Harness Front	
6	Guide Harness AC	
7	Holder SW	
8	Inlet Harness Guide	
9	Harness Assembly Inlet A10 (AC INLET-MAIN SW, J200) (AC Inlet Harness)	
10A	Power Cord, 110V (Power Cord)	675K 17830
10B	Power Cord, 220V (Power Cord)	675K 17660
11	Harness Assembly LVPS	
12	FFC Assy ESS (Image Processor Harness)	
13	Harness Assy HVPS (J21-J210)	

Parts List 8.1 WorkCentre 6015N/NI MFP Scanner

1 (with 2,8,10-12)

3

4

5

6

2 (with 3-7)

7

8

7

S

S

S

S

S

S

10

S

12

11

S

12

[Ref PL1.1.34]

[Ref PL1.1.33]

S

ST1

ST1

Front
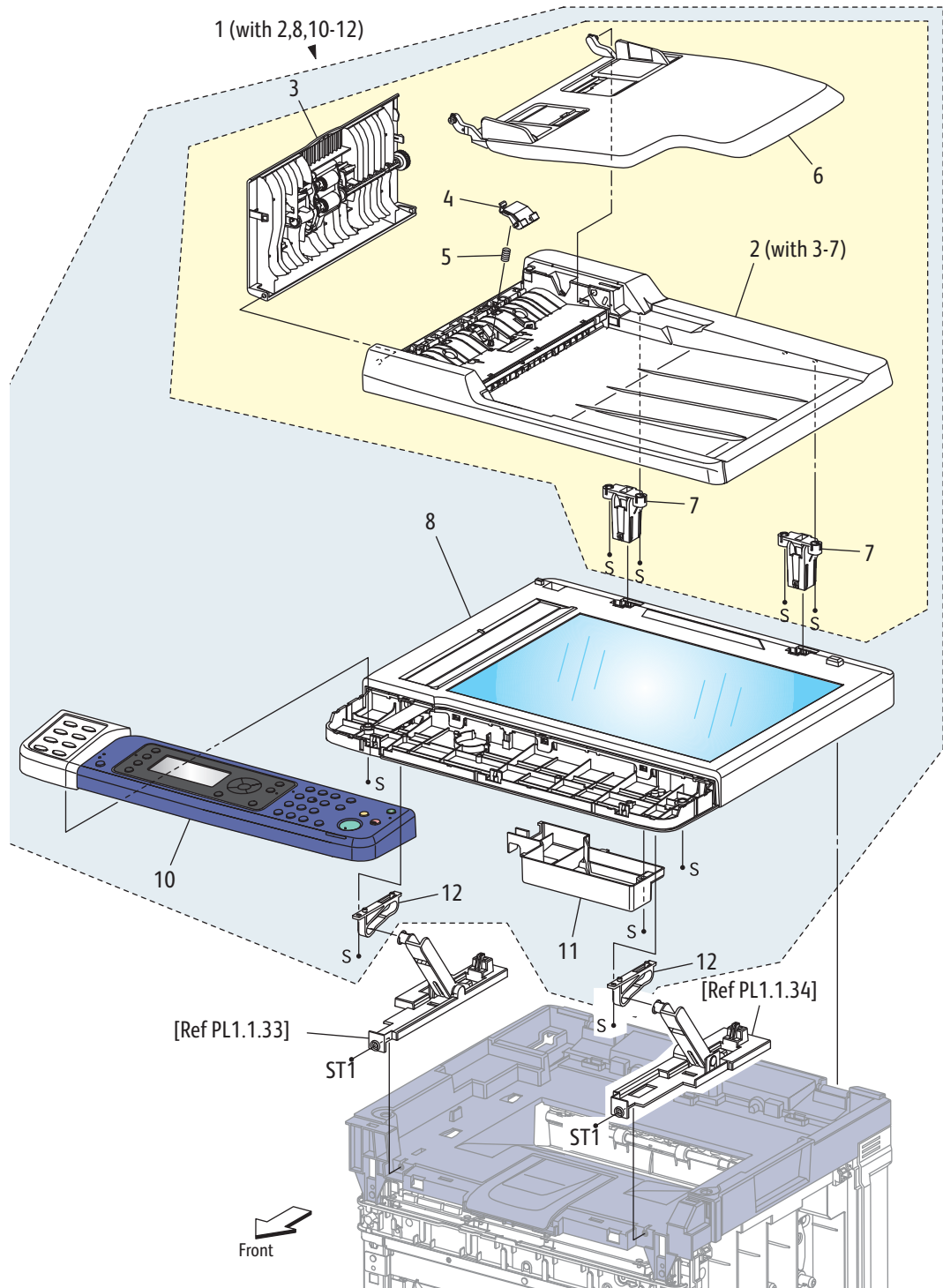
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Parts List 8.1 WorkCentre 6015N/NI MFP Scanner

Item	Parts name	Part Number
1	Scanner Assembly 4In1	604K 70711
2	ADF Assembly (with 3-7) (ADF)	
3	Cover Assembly Top ADF (ADF Cover)	604K65550
4	ADF Separator Pad (with 5)	604K65560
5	Spring Separator	
6	Tray Assembly Input ADF (ADF Input Tray)	604K65530
7	ADF Hinge Assembly	TBD
8	IIT Assembly 3IN VB	
9	—	
10B	Console Assembly 4IN (Control Panel) (See 13 and 14 below)	
11	SSB Cover	
12	Rail IIT FB	
13	Control Panel Board	TBD
14	LCD	TBD
96	Label FAX	897E82971

Parts List 9.1 WorkCentre 6015B MFP Scanner

1 (with 2,8,10-12)

2 (with 7)

7

7

8

S S

S S

S

10

S

12

S

11

S

12

[Ref PL1.1.33]

[Ref PL1.1.34]

ST1

S

ST1

Front
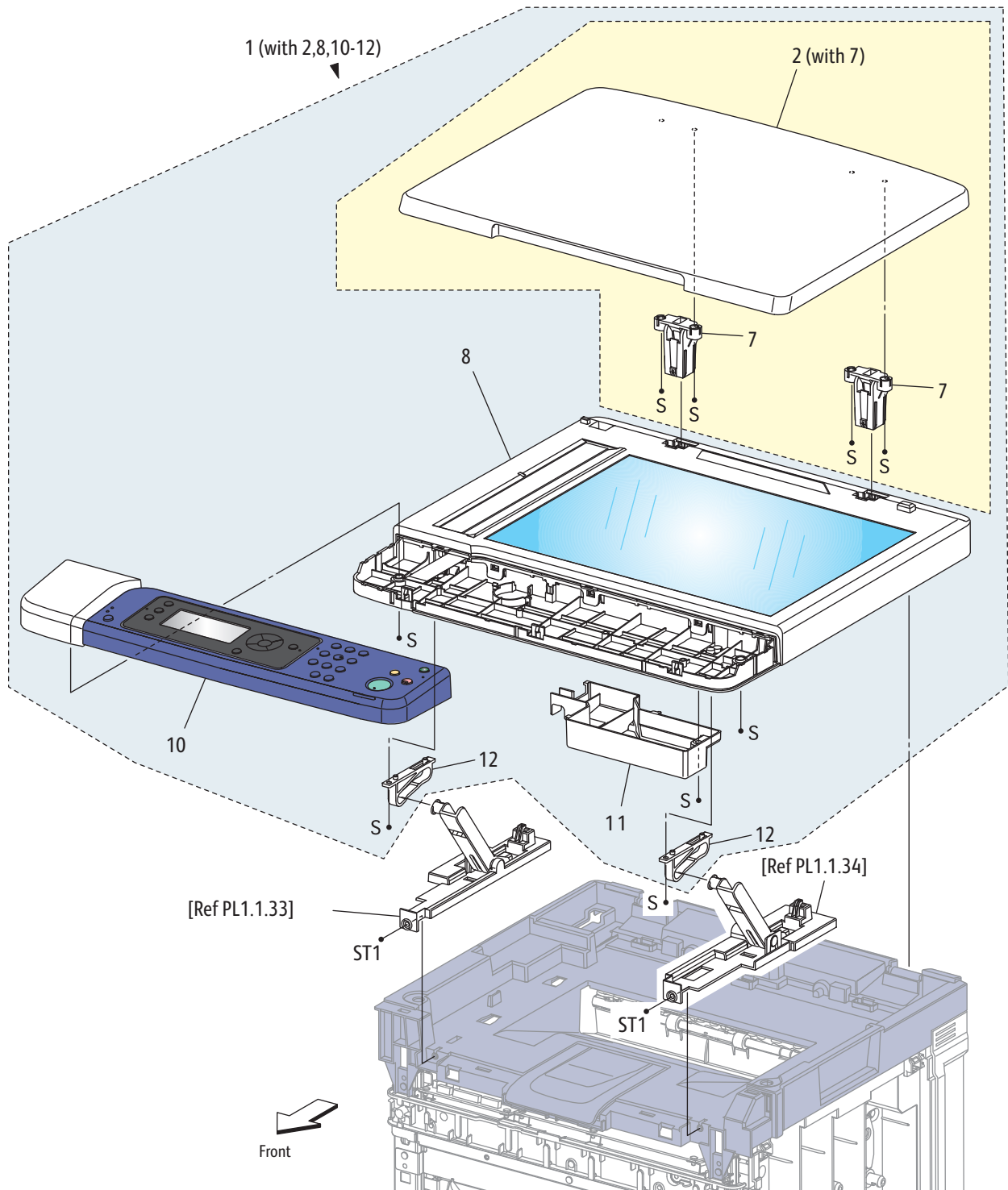
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Parts List 9.1 WorkCentre 6015B MFP Scanner

Item	Parts name	Part Number
1A	Scanner	604K 70692
2	Cover Assembly Platen	
3	—	
4	—	
5	—	
6	—	
7	Hinge Assembly	TBD
8	—	
9	—	
10	Console Assembly (Control Panel) (See 13 and 14 below)	
11	SSB Cover	
12	Rail IIT FB	
13	Control Panel Board	TBD
14	LCD	TBD
98	ADF Top Cover Kit	

Xerox Supplies and Accessories

The printer is shipped with starter Toner Cartridges that have a 500 print capacity and no CRUM.

Toner Cartridge Types

Region/Type	Description	Capacity	Part Number
US/EU	Cyan Standard Capacity	1,000	CT201605
	Magenta Standard Capacity	1,000	CT201606
	Yellow Standard Capacity	1,000	CT201607
	Black Standard Capacity	2,000	CT201604
DMO	Cyan Standard Capacity	1,000	CT201600
	Magenta Standard Capacity	1,000	CT201601
	Yellow Standard Capacity	1,000	CT201602
	Black Standard Capacity	2,000	CT201599

Power Cords

Description	Part Number
Power Cord, 110 V	675K 17830
Power Cord, 220 V	675K 05330

Service Kits

Service Kits provide spare parts normally associated with larger assemblies.

Hardware Kit

Hardware Kit

Fastener Type	Size	Parts List Designator	Quantity
Screw for plastic, Silver, self-tapping	M3 x 6 mm M3 x 8 mm	ST4 ST1	2 4
Screw for plastic, Silver, self-tapping, with flange	M3 x10 mm	ST10	2
Sheet metal screw, Silver	M3 x 6 mm M4 x 6mm M3 x 6mm	SM2 SM3 SM7	4 2 1
Screw for sheet metal, Silver, with external tooth washer	M4 x 6mm	SM5	1

Wiring

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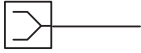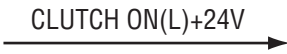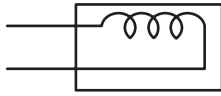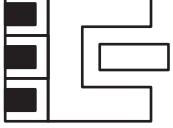
Chapter 10

Wiring Diagrams

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.
P/Jxx YY Plug and Jack	Denotes Pin yy and Jack yy of the connector Pxx and Jxx.
JPxxx Jumper	Denotes a Jumper Point (JPxxx/xxx). Each end of the Jumper connection has a numeric designation.
Fuser PL X.Y.Z Subassembly 1	Denotes the parts. PL X.Y.Z implies the item "Z" of plate (PL) "X.Y" in Parts List.
Heater Subassembly 2	Denotes functional parts attached with functional parts name.
Control Subassembly 3	Denotes the control and its outline in the Board.

Symbol	Description
DEVE_A → Connection Wire	Denotes a connection between parts with harness or wires, attached with signal name/contents.
CLUTCH ON(L)+24V → Function Logic 1	Denotes 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.
← EXIT SENSED(L)+3.3VDC Function Logic 2	Denotes function, and logic value of the signal when the function operated (Low: L, High: H). The given voltage is for signal in high status. The arrow indicates the direction of signal.
Connection of Wires	Denotes a connection between wires.
Solenoid/Clutch	Denotes a Clutch or Solenoid.
M Motor	Denotes a Motor.
Optic Sensor	Denotes a Photo Sensor.
LED	Denotes an LED.
Safety Interlock Switch	Denotes a Safety Interlock Switch.

Symbol	Description
On Off Switch	Denotes an On-Off Switch (single-pole, single-throw switch).
Temperature Switch	Denotes an On-Off Switch (Temperature - normally close).
	Denotes an NPN Photo-transistor.
I/L +24 VDC	Denotes DC voltage when the Interlock Switch in MCU Board turns On.
+5 VDC +3.3 VDC	Denotes DC voltage.
SG	Denotes signal ground.
AG	Denotes analog ground.
RTN	Denotes return.

Phaser 6000/6010 Printer Plug/Jack Designations

This chapter contains the plug/jack designators, locator diagrams, and wiring diagrams. The Plug/Jack Locator diagrams show the P/J locations within the printer. Use these illustrations to locate connections called out in the troubleshooting procedures presented in Sections 3, 4, and 5.

1. Locate the P/J connector designator in the first column of the table.
2. With this information, go to the map listed in the Map column.
3. Use the coordinates to locate the connection indicated on the map by its P/J designation number.
4. The Remarks column provides a brief description of each connection.

For WorkCentre 6015 MFP plug and jack designators, see "WorkCentre 6015 MFP Printer Plug/Jack Designations" on page 10-19.

Phaser 6000/6010 Plug and Jack Designators

P/J	Map	Coordinates	Remarks
1	2	I-122	Connects LED Driver Board and LED/MCU CABLE
1	2	I-123	Connects LED Driver Board and IP Board
2	2	J-122	Connects LED Driver Board and FFC LPH (M)
3	2	J-122	Connects LED Driver Board and FFC LPH (Y)
4	2	J-123	Connects LED Driver Board and FFC LPH (K)
5	2	J-123	Connects LED Driver Board and FFC LPH (C)
10	3	I-134	Connects MCU Board and Deve Drive Assy (K Mode Switching Solenoid)
12	3	J-134	Connects MCU Board and RKN SNS Harness (6010N Only)
12	3	J-134	Connects MCU Board and RKN SNS Harness (6000B Only)
13	3	H-133	Connects MCU Board and DCKR Harness
14	3	J-134	Connects MCU Board and ADC1 Harness (6010N Only)
14	3	J-134	Connects MCU Board and ADC Harness (6000B Only)
15	3	I-133	Not Connected
16	3	I-133	Connects MCU Board and Main MOT Harness
17	3	H-134	Connects MCU Board and LVPS
18	3	I-134	Connects MCU Board and Fuser
19	3	I-134	Connects MCU Board and Feed Solenoid
20	3	H-134	Connects MCU Board and Dispense MOT Harness
21	3	I-134	Connects MCU Board and HVPS Harness
22	3	J-134	Connects MCU Board and ESS FFC Assy
23	3	I-134	Connects MCU Board and LED/MCU Cable
25	3	I-134	Connects MCU Board and Registration Clutch
26	3	I-134	Connects MCU Board and Fuser
111	2	G-123	Not Connected

Phaser 6000/6010 Plug and Jack Designators (Continued)

P/J	Map	Coordinates	Remarks
112	2	H-123	Connects LED Driver Board and LED Driver Board
120	2	E-125	Connects Registration Sensor and RKN SNS Harness (6010N Only)
120	2	E-125	Connects Registration Sensor and RKN SNS Harness (6000B Only)
121	2	F-125	Connects No Paper Sensor and RKN SNS Harness (6010N Only)
122	2	H-125	Connects Deve Drive Assembly (K Mode Switching Sensor) and RKN SNS Harness (6010N Only)
122	2	H-125	Connects Deve Drive Assembly (K Mode Switching Sensor) and RKN SNS Harness (6000B Only)
130	1	I-107	Connects Toner CRUM (K) and DCKR Harness
131	1	I-107	Connects Toner CRUM (C) and DCKR Harness
132	1	H-107	Connects Toner CRUM (M) and DCKR Harness
133	1	H-107	Connects Toner CRUM (Y) and DCKR Harness
140	2	C-123	Connects ADC Sensor and ADC1 TRO Harness (Marking Unit) (6010N Only)
140	2	C-123	Connects ADC Sensor and ADC Harness (Marking Unit) (6000B Only)
141	2	E-124	Connects Mark On Belt Sensor and ADC1 TRO Harness (Marking Unit) (6010N Only)
160	2	H-124	Connects Main Drive Assembly and MAIN MOT Harness
200	1	H-110	Connects Toner Motor (CK) and Dispense MOT Harness
200	3	B-139	Connects LVPS and AC Inlet Harness
201	1	G-110	Connects Toner Motor and Dispense MOT Harness
201	3	C-139	Connects LVPS and Fuser
202	3	E-138	Connects LVPS and LVES Harness
204	3	F-139	Connects LVPS and Interlock Switch
205	3	F-139	Connects LVPS and Fan
206	3	E-138	Connects LVPS and FSR Test Harness
208	1	G-109	Not Connected (Used in production process only)
210	3	F-139	Connects HVPS and HVPS Harness
220	1	B-106	Connects Control Panel and Console Harness
220	2	G-125	Not Connected
401	2	H-122	Connects LED Driver Board and LVES Harness
402	2	H-122	Connects LED Driver Board and Image Processor Harness
404	2	G-124	Not Connected
406	2	G-124	Not Connected
407	2	H-123	Connects LED Driver Board and Console Harness

Phaser 6000/6010 Plug and Jack Locator Diagrams

Map 1 - Phaser 6000/6010
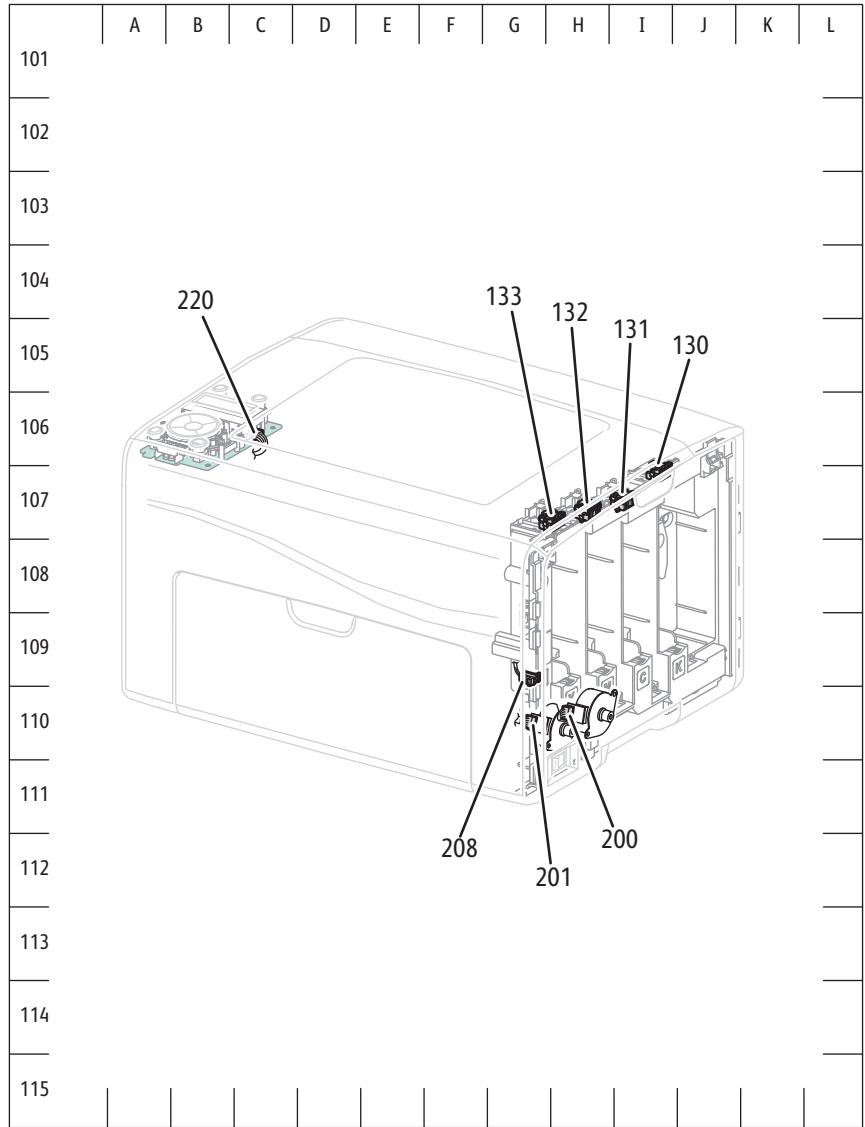
s6000-007

Map 2 - Phaser 6000/6010
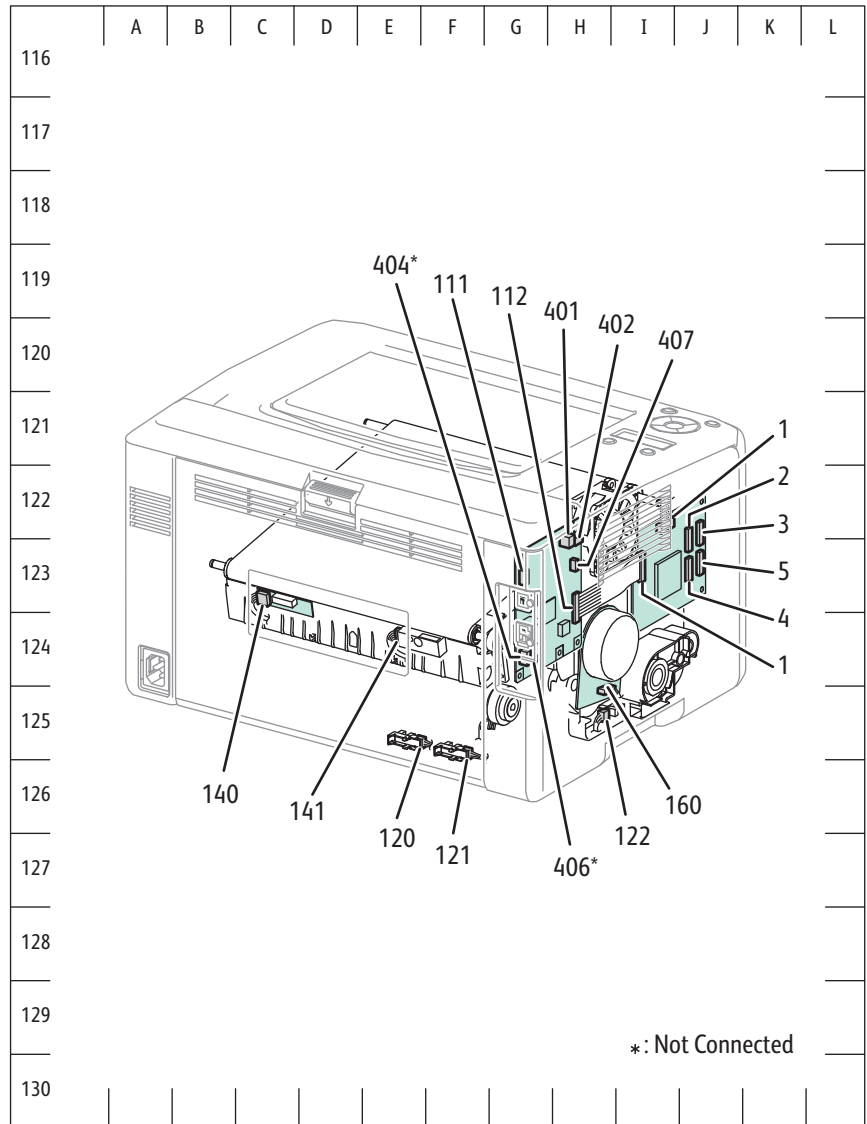
s6000-123

Map 3 - Phaser 6000/6010

s6000-124

Phaser 6000/6010 Wiring Diagrams

Phaser 6000/6010 System Wiring

7 Fuser

Fuser
PL5.1.1

MCU
Board
PL7.2.2

P/J201 · LVPS PL7.2.1 · P/J200 · Inlet Harness PL7.2.9

P/J26

P/J18

P/J205 — Main Fan PL7.1.2

5 High Voltage

HVPS
PL7.2.3

P/J210 · P/J21

P/J204 — Interlock Switch PL1.1.12

P/J17

1 DC Power Supply

P/J202

8 Controller

LED Driver Board
PL7.1.5

P/J401

IP Board
PL7.1.9

Control
Panel
PL1.1.3

LPH (Y) · P/J 7 · P/J 3

LPH (M) · P/J 6 · P/J 2

P/J 111

LPH (C) · P/J 9 · P/J 5

P/J22 · P/J402 · P/J407 · P/J220

LPH (K) · P/J 8 · P/J 4

P/J112

P/J 1

6 Developer

Belt

CTD
(ADC) · P/J140

P/J23

P/J14

P/J20 · P/J201 — Dispense Motor (YM) PL4.1.9

P/J200 — Dispense Motor (CK) PL4.1.9

TRO
(MOB) · P/J141

P/J13 · P/J130 — CRUM K PL4.1.3

4 Xerographic

P/J131 — CRUM C PL4.1.4

P/J132 — CRUM M PL4.1.4

P/J133 — CRUM Y PL4.1.4

3 Drive

P/J16 · P/J160 — Main Drive PL6.1.2

P/J10 — K Mode Switching Solenoid · Developer Drive PL6.1.6

P/J122 — K Mode Switching Sensor

2 Feeder, MSI & Registration

P/J12 · P/J120 — Registration Sensor PL2.3.5

P/J121 — No Paper Sensor PL2.2.23 (6010 Only)

P/J19 — MSI Feed Solenoid PL6.1.10

P/J25 — Registration Clutch PL2.3.7

Phaser 6000/6010 LVPS

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Phaser 6000/6010 Feeder

MCU
PL7.2.2

P/J19

+24V
FEED 1

MSI Feed Solenoid
PL6.1.10

+3.3VDC

Registration Sensor Harness PL2.2.25
Registration Sensor Harness PL2.2.26

P/J12

P/J120

PULL UP +3.3VDC
SG
REGI SENSED (L) +3.3VDC

Registration Sensor
PL2.3.5

+3.3VDC

P/J121

PULL UP +3.3VDC
SG
NO PAPER SENSED (H) +3.3VDC

No Paper Sensor
PL2.2.23

Interlock
+24VDC

P/J25

I/L +24VDC
REGI CL ON (L) +24VDC

Registration Clutch
PL2.3.7

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Phaser 6000/6010 Drive

MCU Board
PL7.2.2

Interlock
+24VDC

P/J10

Developer Drive
PL6.1.6

1   I/L +24VDC

2   K MODE SOL ON (L) +24VDC

K Mode
Switching Solenoid

+3.3VDC

Registration Sensor Harness Assembly PL2.2.25
Registration Sensor Harness Assembly PL2.2.26

P/J12   P/J122

7   PULL UP +3.3VDC   3

8   SG   2

9   K MODE SENSED (L) +3.3VDC   1

K Mode
Switching Sensor

Interlock
+24VDC

Main Motor Harness Assembly
PL6.1.7

P/J16   P/J160

Main Drive Assembly
PL6.1.2

1   SG   9

2   I/L +24VDC   8

3   SG   7

4   I/L +24VDC   6

5   START / STOP   5

6   SG   4

7   REF CLOCK   3

8   GAIN CHANGE   2

M

s6000-166

Phaser 6000/6010 Xerographics

LED Driver Board PL7.1.5

FFC LPH YMCK

LPH Developer Belt PL3.1.1

(LPH Y/M/C/)

P/J xx*1

P/J xx*2

Pin	Signal	Pin
1	SG	40
2	VCC 5V	39
3	RESET	38
4	SCL (SCK)	37
5	SDA (DI)	36
6	SG (DO)	35
7	Pull up 3.3V (CS)	34
8	VCC 5V	33
9	SG	32
10	VDATA 3 P	31
11	VDATA 3 N	30
12	VDATA 2 P	29
13	VDATA 2 N	28
14	VDATA 1 P	27
15	VDATA 1 N	26
16	VDATA 0 P	25
17	VDATA 0 N	24
18	VCC 5V	23
19	SG	22
20	VCLK P	21
21	VCLK N	20
22	SG	19
23	VCC 5V	18
24	HSYNC	17
25	MODE	16
26	READY	15
27	VCC 5V	14
28	SG	13
29	1.5V RETURN	12
30	1.5V RETURN	11
31	1.5V RETURN	10
32	1.5V RETURN	9
33	1.5V RETURN	8
34	1.5V RETURN	7
35	VCC 1.5V	6
36	VCC 1.5V	5
37	VCC 1.5V	4
38	VCC 1.5V	3
39	VCC 1.5V	2
40	VCC 1.5V	1

FFC Assembly Light Biz PL7.1.6

MCU Board PL7.2.2

Belt

P/J 1

P/J23

P/J14

P/J140

Pin	Signal	Pin		Pin	Signal	Pin
1	+3.3V	11		5	SG	1
2	+5V	10		4	Vmon	2
3	+5V	9		3	LED-K	3
4	SG	8		2	VOUT	4
5	SG	7		1	+5V	5
6	MOB 1	6				
7	MOB 2	5				
8	SDAT	4				
9	SCLK	3				
10	RESET	2				
11	INT	1				

CTD (ADC)

P/J141

Pin	Signal	Pin
6	LED	1
7	VOUT	2
8	SG	3
9	+5V	4

TR0*3 (MOB)

s6000-167

Phaser 6000/6010 HVPS

MCU Board
PL7.2.2

HVPS Harness
PL7.2.13

HVPS
PL7.2.3

P/J21

13	DEV DA
12	DEV AC
11	TR1+ DA
10	TR2- DA
9	TR2+ DA
8	TR1 I MON
7	TR2 I MON
6	CR DA
5	HV CLK
4	+3.3V
3	SG
2	SG
1	+24V

P/J210

1
2
3
4
5
6
7
8
9
10
11
12
13

LPH Developer Belt
PL3.1.1

BCR

BTR

K

Developer

C

M

Y

BTR : Bias Transfer Roller

BCR : Bias Charge Roller

s6000-168

Phaser 6000/6010 Developer

MCU Board
PL7.2.2

Toner Dispense Motor Harness Assembly
PL4.1.19

P/J20

8	YM DISPENSE MOT A	P/J201	1	4
7	YM DISPENSE MOT B		2	3
6	YM DISPENSE MOT XA		3	2
5	YM DISPENSE MOT XB		4	1

Dispense Motor (YM)
PL4.1.9

M

4	CK DISPENSE MOT A	P/J200	1	4
3	CK DISPENSE MOT B		2	3
2	CK DISPENSE MOT XA		3	2
1	CK DISPENSE MOT XB		4	1

Dispense Motor (CK)
PL4.1.9

M

CRUM Harness Assembly
PL4.1.2

P/J13

4	SDAT
3	+3.3V
2	SCLK
1	SG

Toner
CRUM Y

Toner
CRUM M

Toner
CRUM C

Toner
CRUM K

4	3	2	1	P/J133
4	3	2	1	P/J132
4	3	2	1	P/J131
4	3	2	1	P/J130

CRUM Y Key
PL4.1.4

CRUM M Key
PL4.1.4

CRUM C Key
PL4.1.4

CRUM K Key
PL4.1.3

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Phaser 6000/6010 Fuser

MCU Board
PL7.2.2

P/J26

Fuser
PL5.1.1

4   SG

3   STS 2

STS 2

2   SG

1   STS

STS 1

+3.3VDC

P/J18

3   FUSER EXIT SENSED (L) +3.3VDC   1

2   SG   2

1   PULL UP +3.3VDC   3

Exit
Sensor

LVPS
PL8.2.1

P/J201

1   N HEAT1

3   LINE

Heater

Thermostat

s6000-170

Phaser 6000/6010 Image Processor Board

IP Board
PL7.1.9

IP FFC Assembly
PL7.2.12

P/J402

1	STS
2	CMD
3	CRDY
4	SRDY
5	NC
6	SG
7	SG
8	SLEEP

P/J22

1
2
3
4
5
6
7
8

MCU Board
PL7.2.2

+5VDC

LVPS Harness Assembly
PL7.2.11

P/J207

1	+5V ESS
2	+5V ESS
3	SG
4	SG

P/J202

1
2
3
4

LVPS
+5VDC   PL7.2.1

+5VDC

Control Panel Harness Assembly
PL1.1.5

P/J407

1	+5V
2	OPPCLK
3	OPPDAT
4	SG

P/J220

1
2
3
4

Control Panel
PL1.1.3

LED Harness Assembly
PL7.1.7

P/J112

40	SG
39	CONTCLK+ Y
38	CONTCLK- Y
37	SG
36	SG
35	VDO+ Y
34	VDO- Y
33	SG
32	VD1 Y
31	SG
30	PREQ Y
29	(VALID Y)
28	SG
27	VDO+ M
26	VDO- M
25	SG
24	VD1 M
23	SG
22	PREQ M
21	(VALID M)
20	SG
19	VDO+ C
18	VDO- C
17	SG
16	VD1 C
15	SG
14	PREQ C
13	(VALID C)
12	SG
11	VDO+ K
10	VDO- K
9	SG
8	VD1 K
7	SG
6	PREQ K
5	LREQ K
4	(VALID K)
3	SG
2	NC
1	NC

P/J1

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
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33
34
35
36
37
38
39
40

LED Driver Board
PL7.1.5

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WorkCentre 6015 MFP Printer Plug/Jack Designations

The Plug/Jack Locator diagrams show the P/J locations within the WorkCentre 6015 MFP. Use these illustrations to locate connections called out in the troubleshooting procedures presented in Sections 3, 4, and 5.

1. Locate the P/J connector designator in the first column of the table.
2. With this information, go to the map listed in the Map column.
3. Use the coordinates to locate the connection indicated on the map by its P/J designation number.
4. The Remarks column provides a brief description of each connection.

WorkCentre 6015 MFP **Plug and Jack Designators**

P/J	Map	Coordinates	Remarks
1	2	I-124	Connects LED Driver Board and LED/MCU Cable
1	2	I-125	Connects LED Driver Board and IP Board
1	2	J-117	Connects IP Board and Harness Assembly LVES AIO
2	2	H-119	Connects IP Board and Fax Board
2	2	I-119	Not connected
2	2	J-125	Connects LED Driver Board and the LPH (M)
2	2	J-126	Connects USB Board to Harness Assembly USB Front
3	2	J-125	Connects LED Driver Board and the LPH (Y)
4	2	J-125	Connects LED Driver Board and the LPH (K)
5	2	J-125	Connects LED Driver Board and the LPH (C)
6	2	I-117	Connects IP Board and Scanner (Control Panel)
8	2	J-118	Connects IP Board and Image Processor Harness
9	2	J-118	Connects IP Board and LED Driver Board Harness
10	3	I-133	Connects MC Board and Developer Drive Assembly
11	2	H-119	Connects IP Board and Harness Assembly USB Front
12	2	H-118	Connects IP Board and Wi-Fi Board
12	3	J-134	Connects MCU Board and Harness Assembly RKN SNS
13	3	H-133	Connects MCU Board and Harness Assembly DCKR
14	2	H-118	Not connected
14	3	J-133	Connects MCU Board and Harness Assembly CTD1 TRO
15	3	H-133	Not connected
16	2	H118	Connects IP Board and Scanner
16	3	I-133	Connects MCU Board and Harness Assembly Main MOT
17	3	H-134	Connects MCU Board and LVPS
18	3	I-134	Connects MCU Board and Fuser
19	3	I-133	Connects MCU Board and Feed Solenoid

WorkCentre 6015 MFP **Plug and Jack Designators (Continued)**

P/J	Map	Coordinates	Remarks
20	3	H-133	Connects MCU Board and Harness Assembly Dispense MOT
21	3	I-134	Connects MCU Board and Harness Assembly HVPS
22	3	J-134	Connects MCU Board and Image Processor Harness
23	3	I-133	Connects MCU Board and LED/MCU Cable
25	3	I-133	Connects MCU Board and Registration Clutch
26	3	I-134	Connects MCU Board and Fuser
101	2	G-127	Connects Fax Board and Image Processor Board
120	2	E-128	Connects Registration Sensor and Harness Assembly RKN SNS
121	2	F-128	Connects No Paper Sensor and Harness Assembly RKN SNS
122	2	H-127	K Mode Switching Sensor and Harness Assembly RKN SNS
130	1	I-107	Connects Toner CRUM (K) and DCKR Harness
131	1	I-108	Connects Toner CRUM (C) and DCKR Harness
132	1	H-108	Connects Toner CRUM (M) and DCKR Harness
133	1	G-108	Connects Toner CRUM (Y) and DCKR Harness
140	2	C-126	Connects Mark On Belt Sensor and ADC1 TRO Harness
141	2	E-126	Connects ADC Sensor and ADC1 TRO Harness
160	2	H-127	Connect Main Drive Assembly and Main MOT Harness
200	1	H-111	Connects Toner Motor (CK) and Dispense MOT Harness
201	1	G-111	Connects Toner Motor (YM) and Dispense MOT Harness
201	3	C-140	Connects LVPS and Fuser
202	3	E-139	Connects LVPS and LVES Harness
204	3	F-139	Connects LVPS and Interlock Switch
205	3	E-140	Connects LVPS and Fan
206	3	E-139	Connects LVPS and FSR Test Harness
210	3	f-140	Connects HVPS and HVPS Harness

WorkCentre 6015 MFP Plug and Jack Locator Diagrams

Map 1 - WorkCentre 6015 MFP

s6015-015

Map 2 - WorkCentre 6015 MFP

s6015-016

Map 3 - WorkCentre 6015 MFP

s6015-017

WorkCentre 6015 MFP Wiring Diagrams

WorkCentre 6015 MFP System Wiring

7 Fuser

Fuser
PL5.1.1

P/J201

LVPS
PL7.2.1 — P/J200

Inlet Harness
Assembly
PL7.2.9

MCU
PL7.2.2

P/J26

P/J18

P/J205 — Main Fan
PL7.1.2

P/J204 — Interlock
Switch
PL1.1.12

DC Power
Supply 1

5 High Voltage

HVPS
PL7.2.3 — P/J210 — P/J21

P/J17

P/J202

Controller 8

4 Xerographic

LED Driver
Board
PL7.1.5

IP Board
PL7.1.9

P/J1

LPH (Y) — P/J7 — P/J3

LPH (M) — P/J6 — P/J2

LPH (C) — P/J9 — P/J5

LPH (K) — P/J8 — P/J4

SP/J2200 — P/J220 — Control Panel
PL8.1.10

P/J22 — SP/J8

SP/J2 — P/J TBD — Swift Fax Board
PL7.1.21

SP/J9

SP/J11 — P/J2 — Front USB Board
PL1.1.18

SP/J12 — P/J TBD — WiFi Bracket
Assembly
PL1.1.30

P/J1 — P/J1

Transfer Belt

CTD
(ADC) — P/J140

TRO
(MOB) — P/J141

P/J23

P/J14

Scanner 9

SP/J1 — Scanner
PL8.1.1

SP/J16

3 Drive

Motor Drive Assembly
PL6.1.2 — P/J160 — P/J16

Developer
Drive
PL6.1.6

K Mode Switching
Solenoid — P/J10

K Mode
Switching Sensor — P/J122

P/J20 — P/J201 — Dispense Motor (YM)
PL4.1.9

P/J200 — Dispense Motor (CK)
PL4.1.9

Developer 6

2 Feeder, MPT & Registration

Registration Sensor
PL2.3.5 — P/J120 — P/J12

No Paper Sensor
PL2.2.23 — P/J121

MPT Feed Solenoid
PL2.2.19 — P/J19

Clutch Registration
PL6.1.10 — P/J25

P/J13 — P/J133 — CRUM Connector (Y)
PL4.1.2

P/J132 — CRUM Connector (M)
PL4.1.2

P/J131 — CRUM Connector (C)
PL4.1.2

P/J130 — CRUM Connector (K)
PL4.1.2

s6015-052

WorkCentre 6015 MFP LVPS

s6015-053

WorkCentre 6015 MFP Feeder

| MCU | | | | | | |
| PL7.2.2 | | | | | | |

P/J19

1   +24V   →   MSI Feed Solenoid

2   FEED 1   →   PL6.1.10

+3.3VDC

Registration Sensor Harness PL2.2.25

P/J12   P/J120

1   PULL UP +3.3VDC   3   Registration Sensor

2   SG   2   PL2.3.5

3   REGI SENSED (L) +3.3VDC   1

+3.3VDC

                     P/J121

4   PULL UP +3.3VDC   3   No Paper Sensor

5   SG   2   PL2.2.23

6   NO PAPER SENSED (H) +3.3VDC   1

Interlock
+24VDC

P/J25

1   I/L +24VDC   →   Registration Clutch

2   REGI CL ON (L) +24VDC   →   PL2.3.7

s6015-054

WorkCentre 6015 MFP Drive

MCU Board
PL7.2.2

Interlock
+24VDC

+3.3VDC

Interlock
+24VDC

P/J10

I/L +24VDC
K MODE SOL ON (L) +24VDC

Developer Drive
PL6.1.6

K Mode
Switching Solenoid

Registration Sensor Harness Assembly PL2.2.25
Registration Sensor Harness Assembly PL2.2.26

P/J12

PULL UP +3.3VDC
SG
K MODE SENSED (L) +3.3VDC

P/J122

K Mode
Switching Sensor

Main Motor Harness Assembly
PL6.1.7

P/J16

SG
I/L +24VDC
SG
I/L +24VDC
START / STOP
SG
REF CLOCK
GAIN CHANGE

P/J160

Main Drive Assembly
PL6.1.2

M

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WorkCentre 6015 MFP Xerographics

s6015-055

WorkCentre 6015 MFP HVPS

MCU Board
PL7.2.2

HVPS Harness
PL7.2.13

P/J21

13	DEV DA
12	DEV AC
11	TR1+ DA
10	TR2- DA
9	TR2+ DA
8	TR1 I MON
7	TR2 I MON
6	CR DA
5	HV CLK
4	+3.3V
3	SG
2	SG
1	+24V

P/J210: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13

HVPS
PL7.2.3

LPH Developer Belt
PL3.1.1

BCR

BTR

K

Developer

C

M

Y

BTR : Bias Transfer Roller

BCR : Bias Charge Roller

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WorkCentre 6015 MFP Developer

Toner Dispense Motor Harness Assembly
PL4.1.19

MCU Board
PL7.2.2

P/J20

8 YM DISPENSE MOT A
7 YM DISPENSE MOT B
6 YM DISPENSE MOT XA
5 YM DISPENSE MOT XB

P/J201

Dispense Motor (YM)
PL4.1.9

4 CK DISPENSE MOT A
3 CK DISPENSE MOT B
2 CK DISPENSE MOT XA
1 CK DISPENSE MOT XB

P/J200

Dispense Motor (CK)
PL4.1.9

CRUM Harness Assembly
PL4.1.2

P/J13

4 SDAT
3 +3.3V
2 SCLK
1 SG

Toner CRUM Y
Toner CRUM M
Toner CRUM C
Toner CRUM K

4 3 2 1 P/J133
4 3 2 1 P/J132
4 3 2 1 P/J131
4 3 2 1 P/J130

CRUM Y Key
PL4.1.4
CRUM M Key
PL4.1.4
CRUM C Key
PL4.1.4
CRUM K Key
PL4.1.3

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WorkCentre 6015 MFP Fuser

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WorkCentre 6015 MFP Image Processor Board

s6015-057

WorkCentre 6015 MFP Scanner

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IP Board
PL7.1.9

IIT Assembly
PL8.1.8

Lamp Inverter

P/J1001

CON2

1	SG	1
2	SG	2
3	INV_PW	3
4	INV_PW	4
5	SG	5
6	+12VDC	6
7	+3VDC	7
8	Home SEN	8
9	+5VDC	9
10	SG	10
11	/RESET	11
12	SH_R	12
13	AFE_SDIO	13
14	AFE_SCLK	14
15	/AFE_SEN	15
16	RXIN0-	16
17	RXIN0+	17
18	SG	18
19	RXIN1-	19
20	RXIN1+	20
21	DGND	21
22	RXIN2-	22
23	RXIN2+	23
24	SG	24
25	RXINCLK-	25
26	RXINCLK+	26
27	DGND	27
28	LVDSCLK+	28
29	LVDSCLK-	29
30	SG	30

CON1
1
2

1 2

Lamp

P/J1002

1	SCAN MOT/B
2	SCAN MOTB
3	SCAN MOT/A
4	SCAN MOTA

Scanner Motor

M

s6015-059

Reference

In this chapter...

- WorkCentre 6015 MFP Menu Map
- Phaser 6010N Menu Map
- Using the CE Diags Tool Software
- Acronyms and Abbreviations

Appendix A

WorkCentre 6015 MFP Menu Map

Xerox® WorkCentre® 6015
Color Multifunction Printer

Menus

System

Information Pages

System Settings
Panel Settings
Job History
Error History
Demo Page
Protocol Monitor
Address Book*
Fax Activity*

Billing Meters

Total Impression
Color Impression
Black Impression

Admin Menu

Address Book*
Network*
Fax Settings*
System Setup
Maintenance
Secure Settings
Scan to Email
USB Setup

Defaults Settings

Copy Defaults
Scan Defaults
Fax Defaults
Print from USB Defaults

Tray Settings

Main Tray

Panel Language

English	Svenska
Français	Polski
Italiano	Türkçe
Deutsch	Русский
Español	Česko
Nederlands	Magyar
Dansk	Português Brasileiro

Display job status*

Enter the system menu

Enter the fax address book*

Arrow buttons scroll up, down, forward, and back through the menus

OK button accepts the menu selection

Back/Return button goes up one level in the menu

Speed Dial
Group Dial

Ethernet†
Status**
Wireless Setup**
Reset Wireless**
TCP/IP
Protocol
Initialize NVM

F/W Version
Adjust Paper Type
Adjust BTR
Adjust Fuser
Auto Regi Adjust
Adjust Color Regi
Clean Developer
Toner Refresh
BTR Refresh
Initialize NVM
Adjust Altitude

Power Saver Time
Auto Reset
Fault time-Out
Job Time-Out
Clock Settings
Alert tone
mm/inch
Low toner Alert
Power On Wizard

Panel Lock
Service Lock
Secure Receive

Edit From Field

Port Status

Ans Select
Auto Answer Fax
Auto Ans.Tel/FAX
Auto Ans. Ans/FAX
Ring Tone Volume
Junk Fax Filter
DRPD Pattern
Discard Size
ECM
Modem Speed
Fax Activity
Region

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= Additional items not shown
 * WorkCentre 6015N/6015NI
** WorkCentre 6015NI
 † WorkCentre 6015N

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Phaser 6010N Menu Map

Xerox® Phaser® 6010
Color Printer

Menus

Access the system menu

Power Saver On/Off

Accept the menu selection

Scroll up

Go down one level or move right

Go up one level or move left

Cancel

Go up one level

Scroll down

Information Pages

Printer Settings
Panel Settings
Job History
Error History
Demo Page

Billing Meters

Total Impression
Color Impression
Black Impression

Admin Menu

Network Setup ▶
USB Setup ▶
System Setup ▶
Maintenance Mode ▶
Secure Settings ▶

Port Status

Ethernet
TCP/IP ▶
Protocol ▶
Host Access List
Reset Defaults

IP Mode
IPv4

LPR
Port 9100
WSD
SNMP
Email Alerts
Internet Services
Bonjour (mDNS)

Power Saver Time
Fault Time-Out
Time-Out
Auto Log Print
mm/inch
Def Paper Size
Low Toner Msg

F/W Version
Adjust Paper Type
Adjust BTR
Adjust Fusing Unit
Auto Regi Adjust
Adjust Color Regi
Clear Developer
Toner Refresh
BTR Refresh
Chart
Initialize NVM
Adjust Altitude

Panel Language

English
Français
Italiano
Deutsch
Español
Dansk
Nederlands
Português
Svenska
Русский
Magyar
Česky
Polski
Türkçe

Panel Lock
Login Error

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Using the CE Diags Tool Software

CE Diags Tool

The CE Diags Tool extends the functionality of the Printer Settings Utility by adding the Phaser 6010N Service Diagnostics. The CE Diags provide a way to test electromechanical components, display printer status, and provide NVRAM access. Use these tests to diagnose problems and isolate which component or sub assembly part needs replacement.

If confronted with an error that requires more than a cursory investigation to clear or when directed by a troubleshooting procedure, use the diagnostic tests to exercise selected sub-assemblies or parts in the vicinity of the reported error.

Two versions of the CE Diags Tool are available. One for the Phaser 6000B, and another for the Phaser 6010N. Both versions have the following system requirements.

CE Diags Tool System Requirements

Description	Characteristic
Operating System	■ Windows 7 ■ Windows Server 2008 ■ Windows Vista ■ Windows XP ■ Windows 2003
Connection Mode	USB

Starting the CE Diags Tool

To start the CE Diags Tool:

1. On the computer, select **Start >Programs > Xerox Office Printing > Phaser 6000B/6010N > Printer Settings Utility**.
2. Select the port that the printer is connected to and press **OK**.
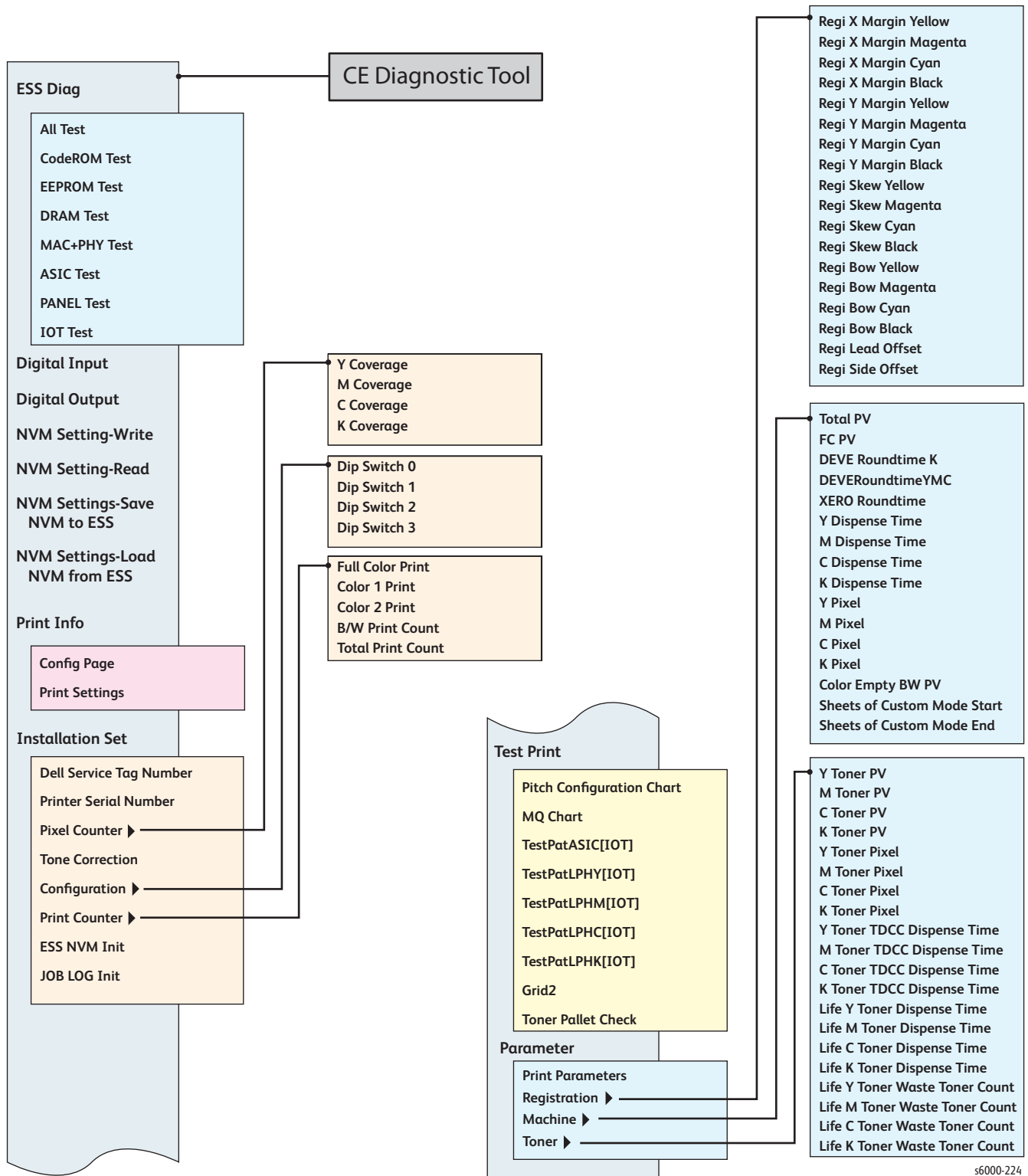
CE Diags Screen

The CE Diags screen has four tabs.

- Printer Settings Report
  Provides printer information, menu settings, information pages, and TCP/IP settings.

- Printer Maintenance
  Provides access to printer settings such as paper type, altitude adjustment, and Fuser adjustments.

- Diagnosis
  Outputs the test charts incorporated in the printer.

- CE Diag
  Checks the operation of internal parts of the printer, prints out the printer information, changes the adjusted values, and implements other functions.

  This CE Diag tab is the focus of this section of the manual.

CE Diags Menu Tree

CE Diagnostic Tool

ESS Diag

- All Test
- CodeROM Test
- EEPROM Test
- DRAM Test
- MAC+PHY Test
- ASIC Test
- PANEL Test
- IOT Test

Digital Input

Digital Output

NVM Setting-Write

NVM Setting-Read

NVM Settings-Save
NVM to ESS

NVM Settings-Load
NVM from ESS

Print Info

- Config Page
- Print Settings

Installation Set

- Dell Service Tag Number
- Printer Serial Number
- Pixel Counter ▶
- Tone Correction
- Configuration ▶
- Print Counter ▶
- ESS NVM Init
- JOB LOG Init

Y Coverage
M Coverage
C Coverage
K Coverage

Dip Switch 0
Dip Switch 1
Dip Switch 2
Dip Switch 3

Full Color Print
Color 1 Print
Color 2 Print
B/W Print Count
Total Print Count

Test Print

- Pitch Configuration Chart
- MQ Chart
- TestPatASIC[IOT]
- TestPatLPHY[IOT]
- TestPatLPHM[IOT]
- TestPatLPHC[IOT]
- TestPatLPHK[IOT]
- Grid2
- Toner Pallet Check

Parameter

- Print Parameters
- Registration ▶
- Machine ▶
- Toner ▶

Regi X Margin Yellow
Regi X Margin Magenta
Regi X Margin Cyan
Regi X Margin Black
Regi Y Margin Yellow
Regi Y Margin Magenta
Regi Y Margin Cyan
Regi Y Margin Black
Regi Skew Yellow
Regi Skew Magenta
Regi Skew Cyan
Regi Skew Black
Regi Bow Yellow
Regi Bow Magenta
Regi Bow Cyan
Regi Bow Black
Regi Lead Offset
Regi Side Offset

Total PV
FC PV
DEVE Roundtime K
DEVERoundtimeYMC
XERO Roundtime
Y Dispense Time
M Dispense Time
C Dispense Time
K Dispense Time
Y Pixel
M Pixel
C Pixel
K Pixel
Color Empty BW PV
Sheets of Custom Mode Start
Sheets of Custom Mode End

Y Toner PV
M Toner PV
C Toner PV
K Toner PV
Y Toner Pixel
M Toner Pixel
C Toner Pixel
K Toner Pixel
Y Toner TDCC Dispense Time
M Toner TDCC Dispense Time
C Toner TDCC Dispense Time
K Toner TDCC Dispense Time
Life Y Toner Dispense Time
Life M Toner Dispense Time
Life C Toner Dispense Time
Life K Toner Dispense Time
Life Y Toner Waste Toner Count
Life M Toner Waste Toner Count
Life C Toner Waste Toner Count
Life K Toner Waste Toner Count

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Diag Types and Test Contents

ESS Diag

Diagnostic	Function
All Test	This test executes all the tests of the ESS diagnostic except the MAC+PHY test and PANEL test.
Code ROM Test	Calculates the ROM checksum and compares it with the value stored in the ROM. Execute this test when the 116-317 error occurs. Test result: NG: See "Firmware Errors" on page 3-31. OK: Turn off/on the main power.
EEP ROM Test	Performs read/write/verify on the diagnostic part of the EEPROM. Execute this test when the 116-326 error occurs. Test result: NG: See "Firmware Errors" on page 3-31. OK: Turn off/on the main power.
DRAM Test	Tests OPEN/SHORT with the address line of the DRAM. Performs read/write/verify on the entire DRAM. Execute this test when the 116-315 error occurs. Test result: NG: See "Firmware Errors" on page 3-31. OK: Turn off/on the main power.
MAC+PHY Test (Phaser 6010N only)	PHY Internal loopback test. Execute this test when the 116-314, 016-350, 116-351, 116-352 and 116-355 errors occur. Test result: NG: See "ESS Error" on page 3-105, and "On Board Network Fatal Error" on page 3-108. OK: Turn off/on the main power. MAC: Media Access Control PHY: Physical Layer
ASIC Test	ASIC Register check. Executes this test when the 116-343 error occurs. Test result: NG: See "Firmware Errors" on page 3-31. OK: Turn off/on the main power.

| PANEL Test Phaser 6010N	Tests the buttons of the Control Panel. This test checks input and output of the Control Panel. When the Control Panel buttons are pressed, the test displays the corresponding contents on the LCD.	
	Button	**LCD Display**
	Up Arrow	Displays "UP".
	Down Arrow	Displays "DOWN".
	Left Arrow	Displays "LEFT".
	Right Arrow	Displays "RIGHT".
	OK	Displays "SET".
	Menu	Displays "MENU".
	Cancel	Displays "UP".
	Up Arrow and **Down Arrow** pressed at same time	Displays "Start".
PANEL Test Phaser 6000B	**OK**	Illuminates amber LEDs.
	Cancel	Illuminates green LEDs.
	OK/Cancel	Press both **OK** and **Cancel** to end PANEL Test.
Engine Test	Communication test with the IOT. Execute this test when the 024-371 error occurs. Test result: NG: See "MCU Comm Error" on page 3-51. OK: Turn off/on the main power.	

Digital Input

This function checks whether the Digital Input components operate normally or not. The Digital Input test is performed for all the Digital Input components. Select the component to test from the drop down list box, and then click the **OK** button. LOW or HIGH is displayed on the Result screen. The component operation is checked in such a way that the component status is changed from LOW to HIGH and vice versa by operating the actuator or opening/closing the door. To stop the operation, click the **Stop** button.

The following items are available for test.

Test	Description
NO PAPER SNR	Tests the No Paper Sensor.
REGI SNR	Tests the Registration Sensor.
EXIT SNR	Tests the Exit Sensor.
K MODE SNR	Tests the K Mode Sensor (color mode switching sensor).
IL OPEN	Tests the Rear Door Interlock Switch.
FAN ALARM	Not used.
CRU Y/ CRU M/ CRU C/ CRU K	Tests the Toner Cartridge sensors.

Digital Input Test Procedures

Interlock Switch
(Cover Open Sensor)

Exit Sensor

CRUM Sensors (K, C, M, Y)

Registration
Sensor

No Paper Sensor

K Mode Sensor

s6000-140
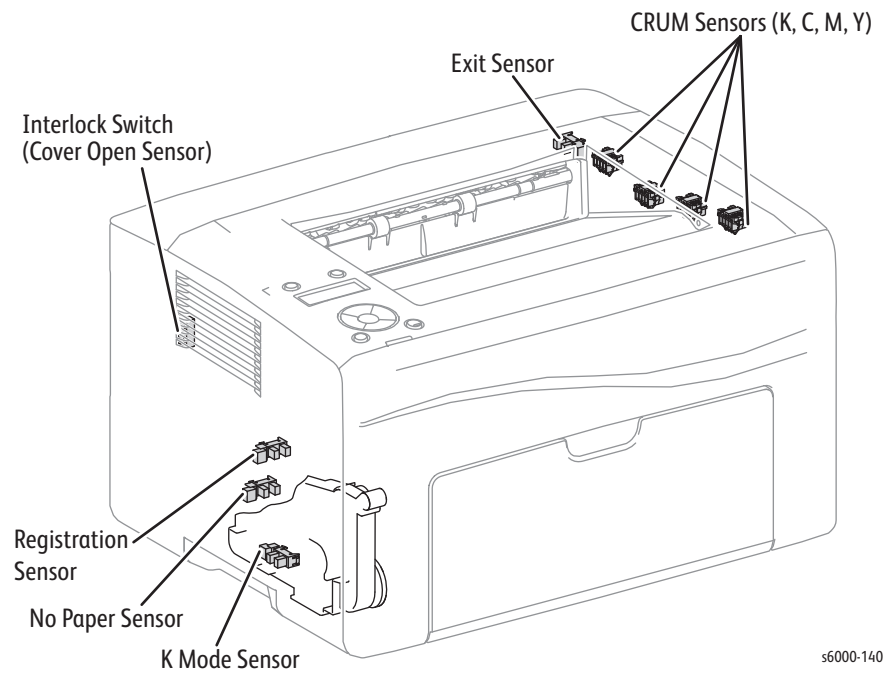
All of the diagnostic test procedures in the following table can be accessed from the CE Diag tab. Select Digital Input, and then select the test from the Digital Input Number drop down list.

Test	Procedure
NO PAPER SNR	1. Power on the printer, and start the CE Diag Tool.
	2. Click the CE Diag tab, and then select Digital Input.
	3. Select the NO PAPER SNR test, and click the **OK** button.
	4. Insert a sheet into the Main Paper Tray to check whether the sensor functions properly.
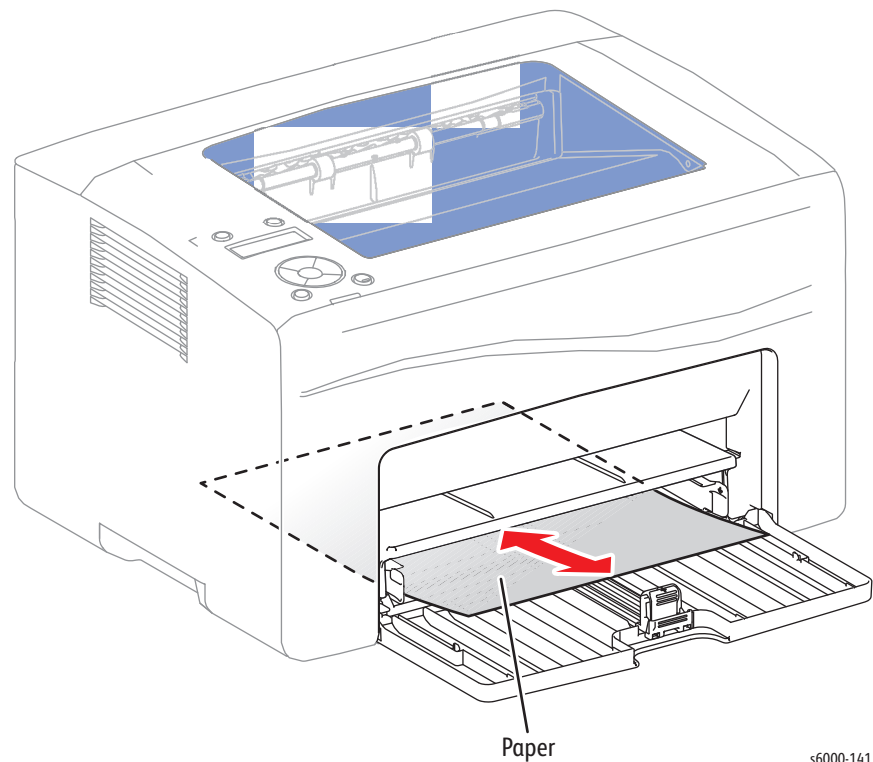
Paper

s6000-141

6. Click the **Stop** button to stop the test.

Test example:
[23:58]
Digital Input Mode = ENTRY
[23:58]
No PAPER SNR = LOW
STARTED = No PAPER SNR
[23:58]
No PAPER SNR = HIGH
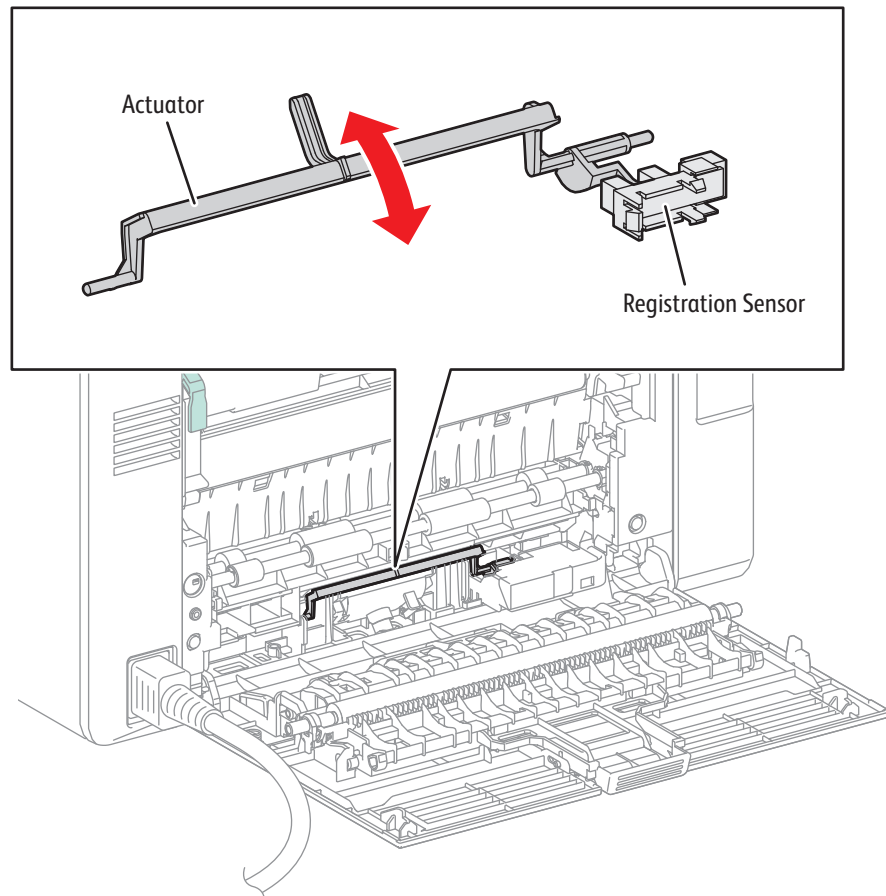STARTED = No PAPER SNR
[23:58]
No PAPER SNR = LOW
STARTED = No PAPER SNR
[23:58]
Digital Input Mode = EXIT

Test	Procedure
REGI SNR	1. Power on the printer, and start the CE Diag Tool.
	2. Click the CE Diag tab, and then select Digital Input.
	3. Open the Rear Door.
	4. Select the REGI SNR test, and click the **OK** button.
	5. Manually operate the actuator to check whether the sensor functions properly.

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6. Click the **Stop** button to stop the test.

7. Close the Rear Door.

Test example:
[12:08]
Digital Input Mode = ENTRY
[12:08]
REGI SNR = LOW
STARTED = REGI SNR
[12:08]
REGI SNR = HIGH
STARTED = REGI SNR
[12:08]
REGI SNR = LOW
STARTED = REGI SNR
[12:08]
Digital Input Mode = EXIT

Test	Procedure
EXIT SNR	1. Remove the Top Cover (Phaser 6000/6010 page 8-11; WorkCentre 6015 MFP page 8-22). 2. Power on the printer, and start the CE Diag Tool. 3. Select the EXIT SNR test, and click the **OK** button. 4. Manually operate the actuator to check whether the sensor functions properly.
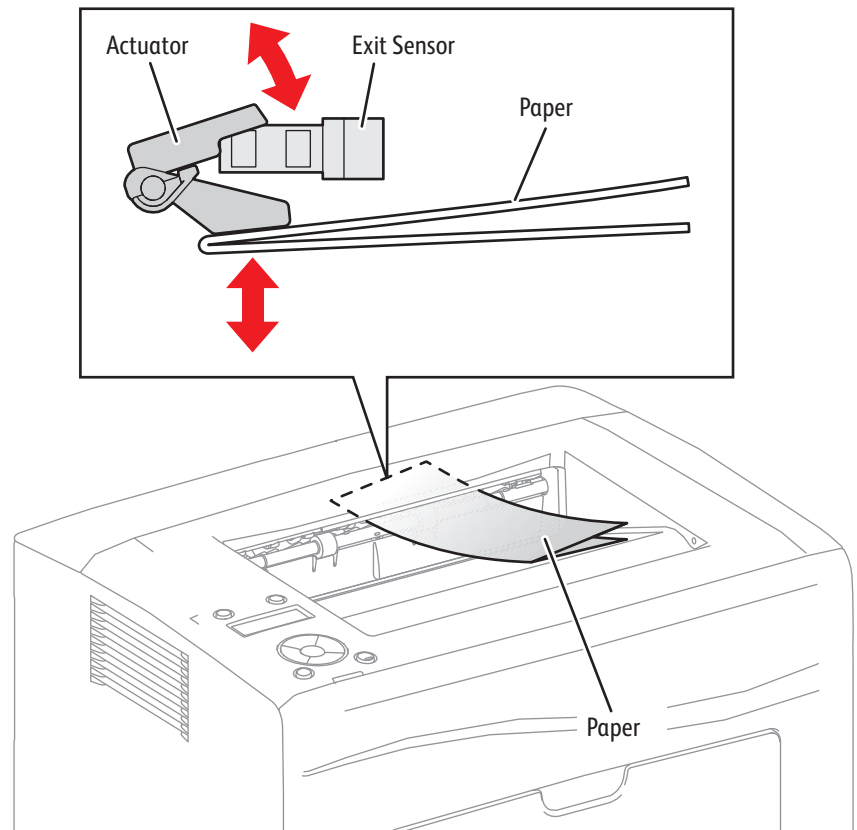
s6000-143

5. Click the **Stop** button to stop the test.

Test example:
[23:58]
Digital Input Mode = ENTRY
[23:58]
EXIT SNR = LOW
STARTED = EXIT SNR
[23:58
EXIT SNR = HIGH
STARTED = EXIT SNR
[23:58]
EXIT SNR = LOW
STARTED = EXIT SNR
[23:58]
Digital Input Mode = EXIT

Test	Procedure
K MODE SNR	1. Remove the Left Side Cover and MAIN PAPER TRAY HARNESS GUIDE. 2. Power on the printer, and start the CE Diag Tool. 3. Click the CE Diag tab, and then select Digital Input. 4. Select the K MODE SNR test, and click the **OK** button. 5. Manually operate the actuator to check whether the sensor functions properly.

Actuator

K Mode Switching Sensor
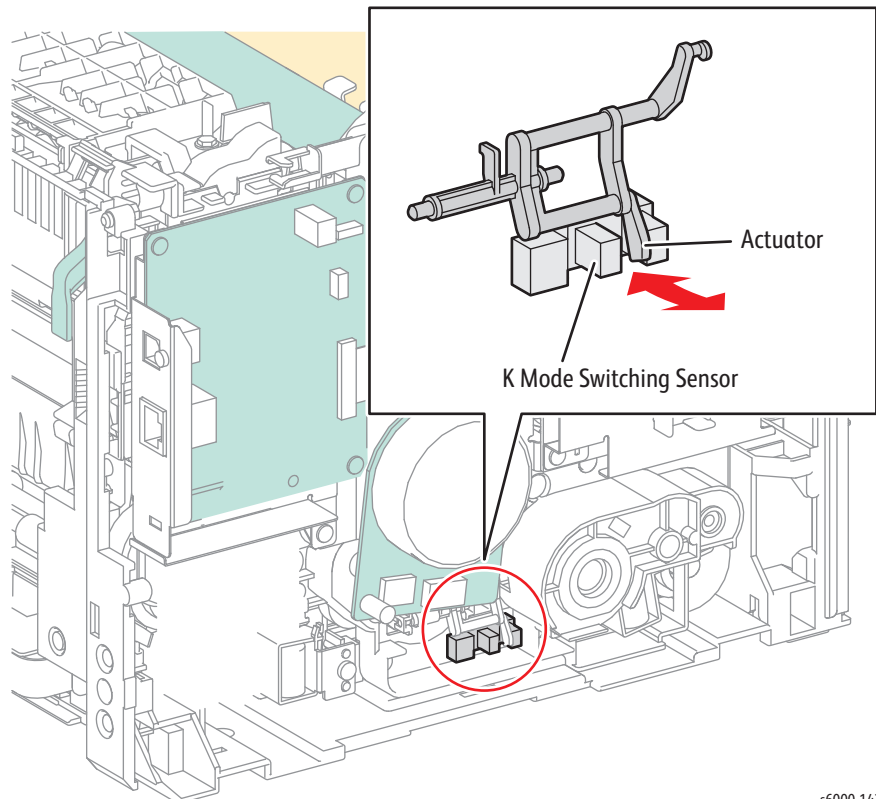
s6000-142

5. Click the **Stop** button to stop the test.

Test example:
[14:08]
Digital Input Mode = ENTRY
[14:08]
K MODE SNR = LOW
STARTED = K MODE SNR
[14:08]
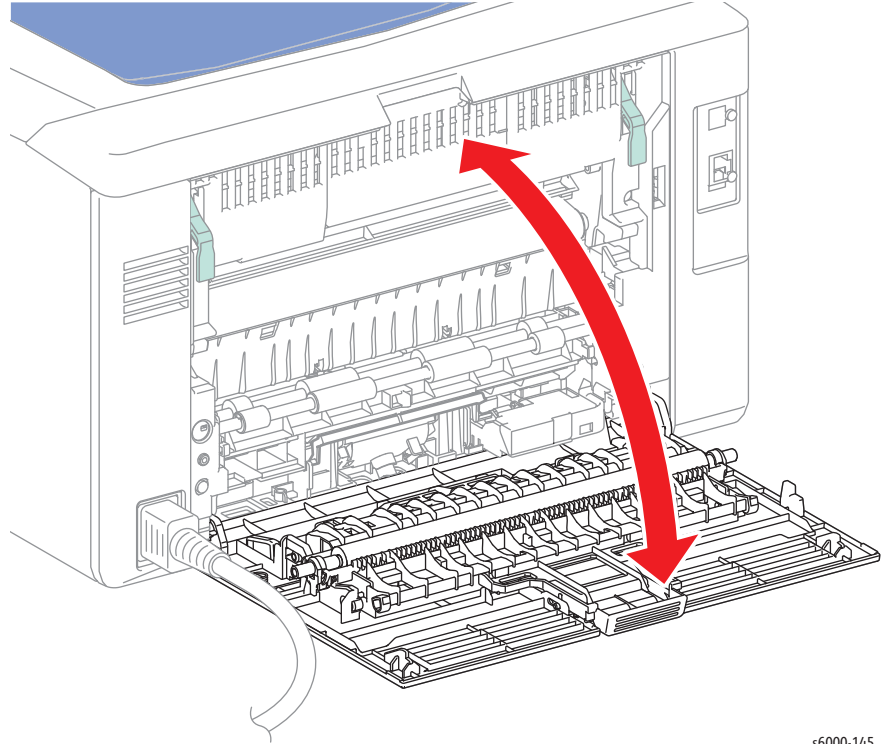K MODE SNR = HIGH
STARTED = K MODE SNR
[14:08]
K MODE SNR = LOW
STARTED = K MODE SNR
[14:08]
Digital Input Mode = EXIT

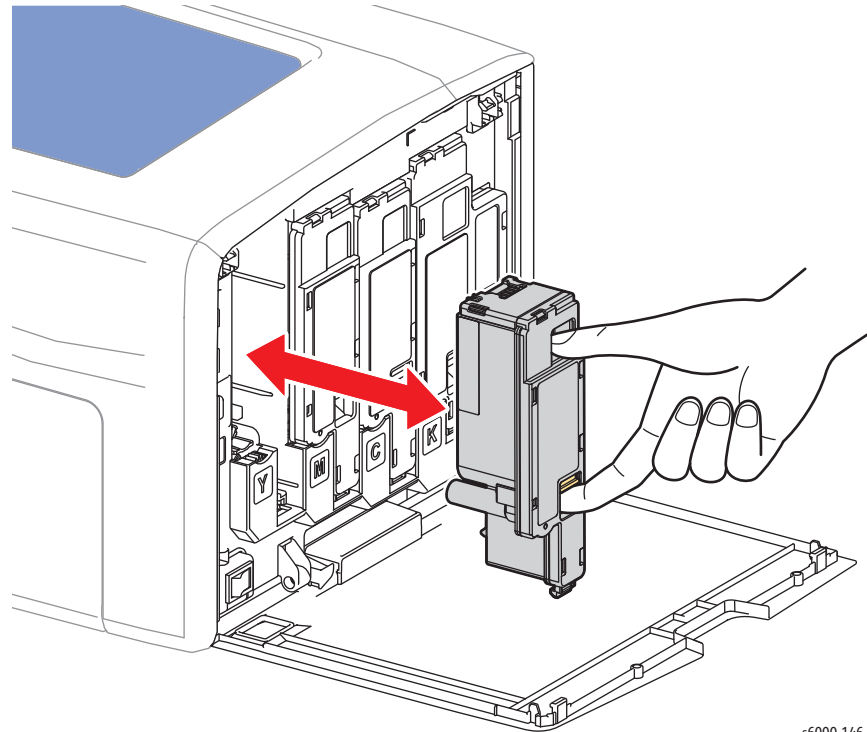| Test	Procedure
IL OPEN	1. Power on the printer, and start the CE Diag Tool. 2. Click the CE Diag tab, and then select Digital Input. 3. Select the IL OPEN test, and click the **OK** button. s6000-145 4. Click the **Stop** button to stop the test. Test example: [09:37] Digital Input Mode = ENTRY [09:37] IL OPEN = LOW STARTED = IL OPEN [09:37] IL OPEN = HIGH STARTED = IL OPEN [09:37] IL OPEN = LOW STARTED = IL OPEN [09:37] Digital Input Mode = EXIT
FAN ALARM	Not used.

Test	Procedure
CRU Y CRU M CRU C CRU K	Example of CRU Y test. 1. Power on the printer, and start the CE Diag Tool. 2. Open the Toner Door. 3. Click the CE Diag tab, and then select Digital Input. 4. Select the CRU Y test, and click the **OK** button. 5. Check whether the sensor functions properly by removing and replacing the Y Toner Cartridge.

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6. Click the **Stop** button to stop the test.

7. Close the Toner Door.

NOTE The procedure for CRU M, CRU C, CRU K, and CRU Y are all the same.

Test example:
[09:15]
Digital Input Mode = ENTRY
[09:15]
CRU Y = LOW
STARTED = CRU Y
[09:15]
CRU Y = HIGH
STARTED = CRU Y
[09:15]
CRU Y = LOW
STARTED = IL OPEN
[09:15]
Digital Input Mode = EXIT
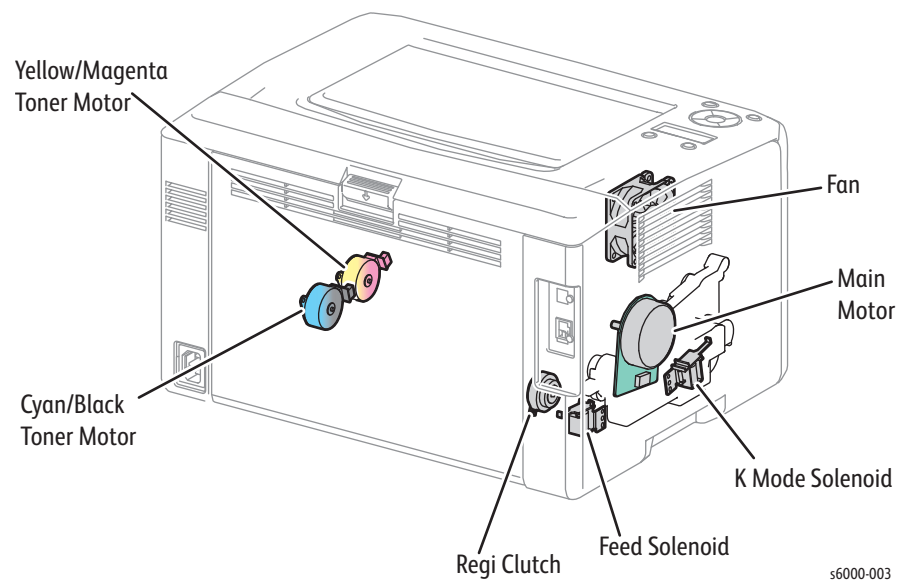
Digital Output Test Procedures

This group of diagnostics checks whether the DO components operate. As many as ten different components can be simultaneously operated. However, it is recommended to operate only one or two components at a time. Simultaneous operation of many different components can break them.

Item
MAIN MOTOR ON FULL
MAIN MOTOR ON HALF
MAIN MOTOR OR SLOW
FEED SOLENOID ON
K MODE SOLENOID ON
FAN ON (HIGH)
FAN ON (LOW)
TONER MOTOR Y ON
TONER MOTOR M ON
TONER MOTOR C ON
TONER MOTOR K ON

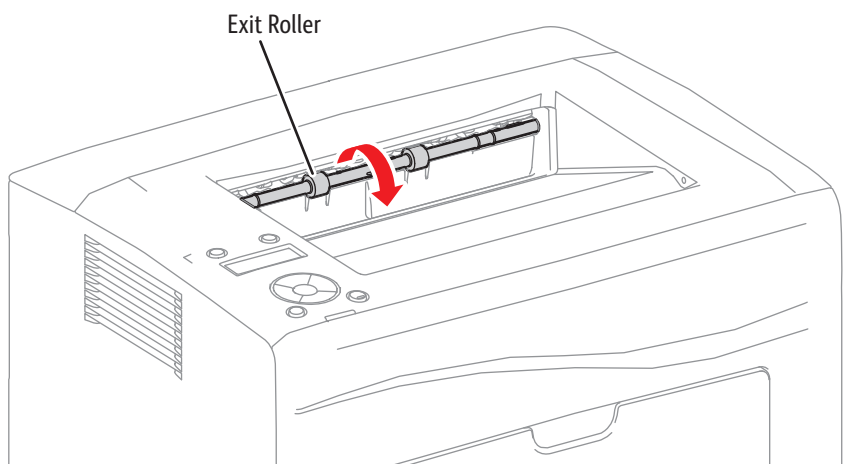| Item |
| --- |
| REGI CLUTCH ON |
| DBAC ON |
| DBDC ON |
| 24V ON |
| HV CLK ON |
| TR+ ON |
| TR2+ ON |
| TR2- ON |
| CR ON |
| MOB LED ON |
| ADC LED ON |

Note

The use of DBAC ON, DBDC ON, 24V ON, HV CLK ON, TR1+ ON, TR2+ ON, TR2- ON, CR ON, MOB LED ON, and ADC LED ON is prohibited to avoid shock hazards since they are high-voltage outputs.

Digital Output Components Locations

Yellow/Magenta Toner Motor

Fan

Main Motor

Cyan/Black Toner Motor

K Mode Solenoid

Regi Clutch

Feed Solenoid

s6000-003

Digital Output Test Procedures

| Test	Procedure
MAIN MOTOR ON FULL MAIN MOTOR ON HALF MAIN MOTOR OR SLOW	1. Power on the printer, and start the CE Diag Tool. 2. Click the CE Diag tab, and then select Digital Input. 3. Select the MAIN MOTOR ON FULL, MAIN MOTOR ON HALF, or MAIN MOTOR ON SLOW test, and click the **OK** button. 4. Check that the Exit Roller rotates.

Exit Roller

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Test	Procedure
	5. Click the **Stop** button to stop the test.
	Test Example:
	[14:14]
	Digital Output Mode = ENTRY
	[14:14]
	MAIN MOTOR ON FULL = ON
	STARTED = MAIN MOTOR ON FULL
	[14:15]
	Digital Output Mode = EXIT
FEED SOLENOID ON	The Feed Roller rotates when the MAIN MOTOR ON FULL and the FEED SOLENOID ON tests are executed at the same time.
	1) Power on the printer, and start up the CE Diag Tool.
	2) Remove the Bypass Tray.
	3) Select the MAIN MOTOR ON FULL and FEED SOLENOID ON tests, and click the **OK** button.
	4) Check that the Feed Roller rotates.

Test	Procedure

Feed Roller
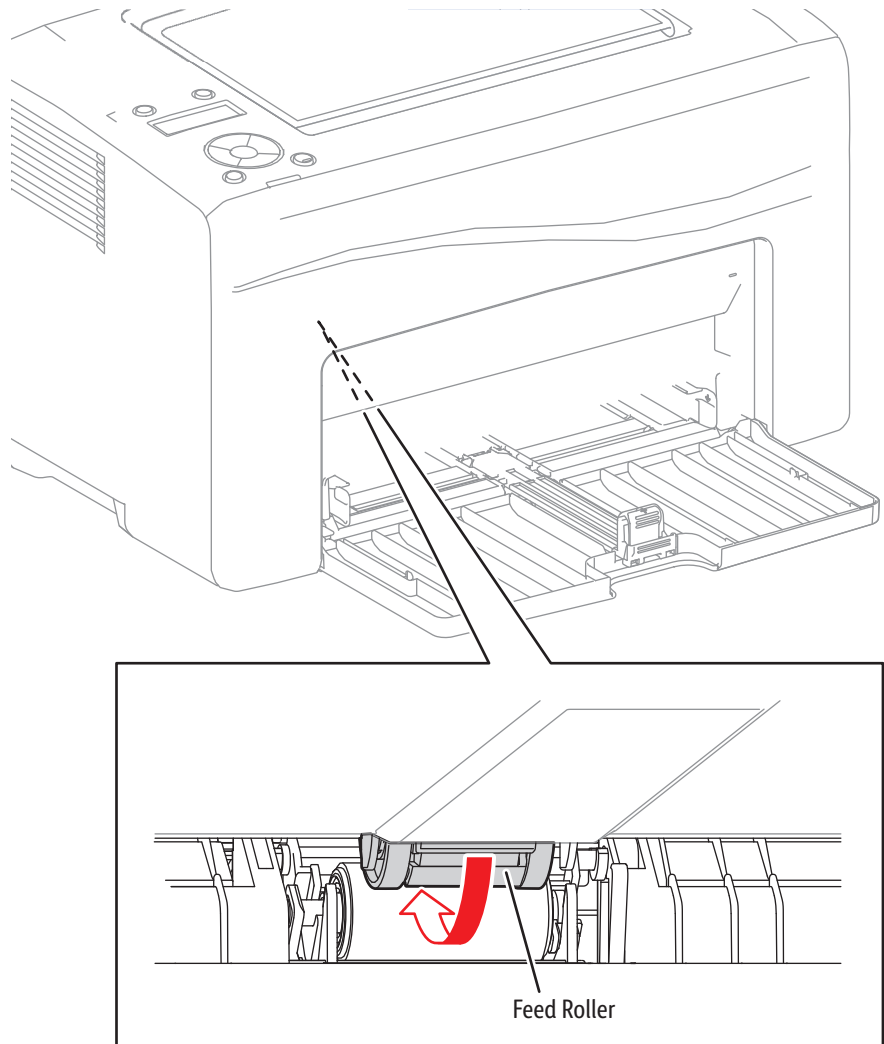
s6000-150

5. Click the **Stop** button to stop the test.

Test example:
[15:25]
Digital Output Mode = ENTRY
[15:25]
MAIN MOTOR ON FULL = ON
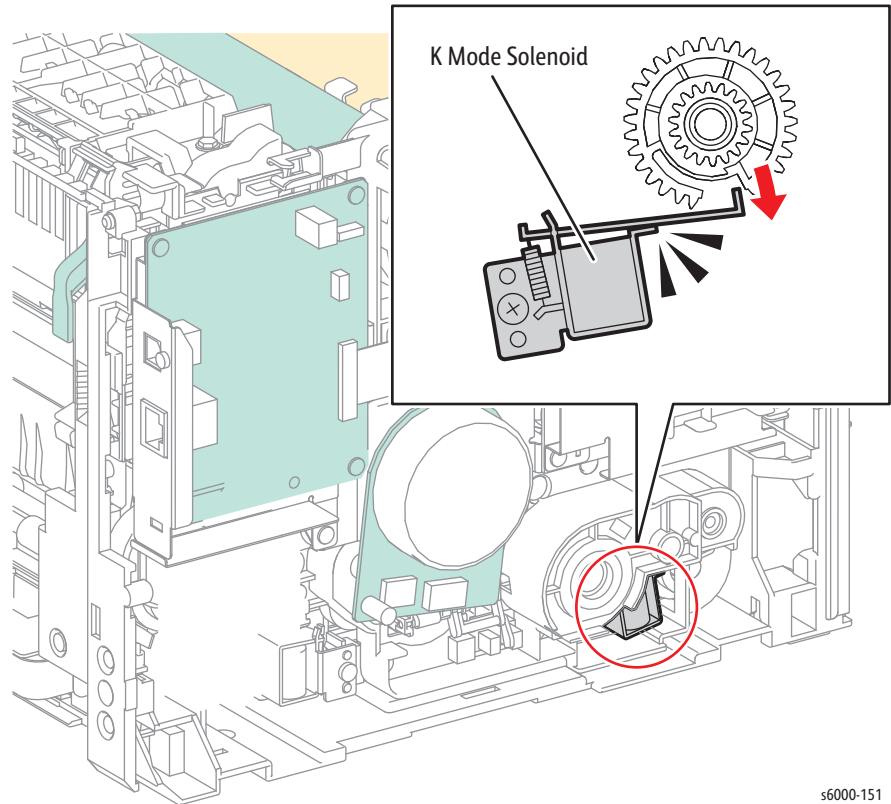STARTED = MAIN MOTOR ON FULL, FEED
SOLENOID ON
[15:25]
FEED SOLENOID ON = ON
STARTED = MAIN MOTOR ON, FEED
SOLENOID ON
[15:25]
Digital Output Mode = EXIT

Test	Procedure
K MODE SOLENOID ON	1.) Remove the Left Side Cover and the MAIN PAPER TRAY HARNESS GUIDE. 2. Power on the printer, and start up the CE Diag Tool. 3. Execute the K MODE SOLENOID ON test. 4. Check the K Mode Solenoid movement.

K Mode Solenoid

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5. Click the **Stop** button to stop the test.

Test example:
14:14]
Digital Output Mode = ENTRY
[14:14]
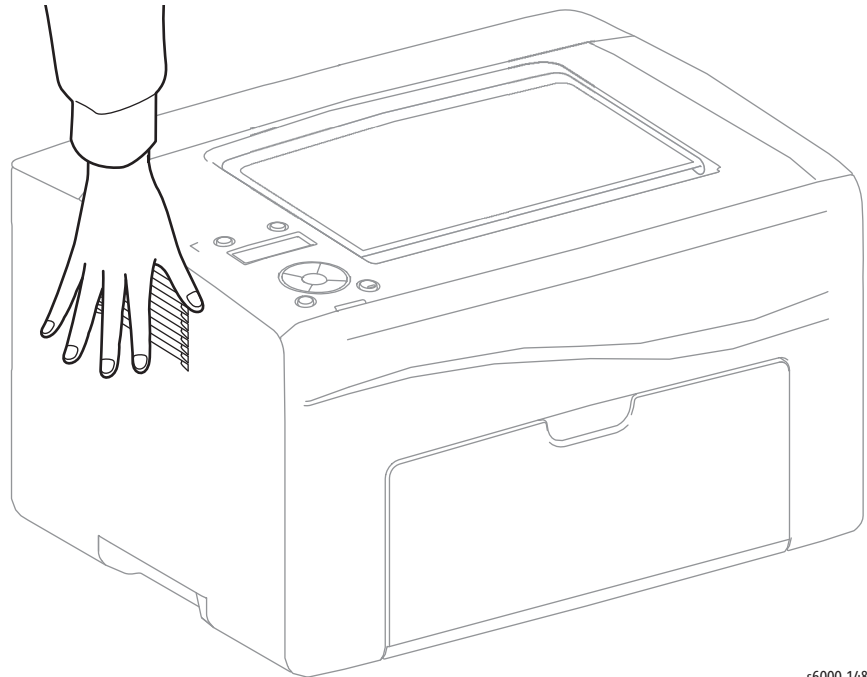K MODE SOLENOID ON = ON
STARTED = K MODE SOLENOID ON
[14:15]
Digital Output Mode = EXIT

Test	Procedure
FAN ON (HIGH) FAN ON (LOW)	1. Power on the printer, and start the CE Diag Tool. 2. Select the FAN ON (HIGH) or FAN ON (LOW) tests, and click the **OK** button. 3. Check that the Fan rotates.

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5. Click the **Stop** button to stop the test.

Test example:
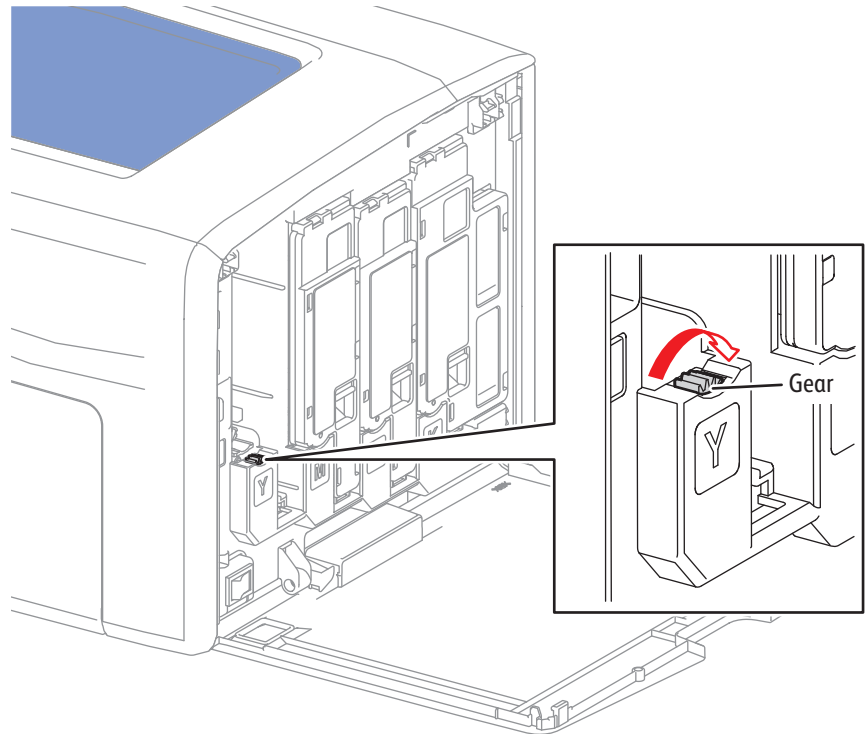[14:14]
Digital Output Mode = ENTRY
[14:14]
FAN ON (HIGH) = ON
STARTED = FAN ON (HIGH)
[14:15]
Digital Output Mode = EXIT

Test	Procedure
TONER MOTOR Y ON TONER MOTOR M ON TONER MOTOR C ON TONER MOTOR K ON	Example: Yellow Toner Motor 1. Power on the printer, and start the CE Diag Tool. 2. Open the Toner Access Cover. 3. Remove the Y Toner Cartridge. 4. Select the TONER MOTOR Y ON test, and click the **OK** button. 5. Check that the Gear rotates.

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6. Click the **Stop** button to stop the test.

Test example:
[14:14]
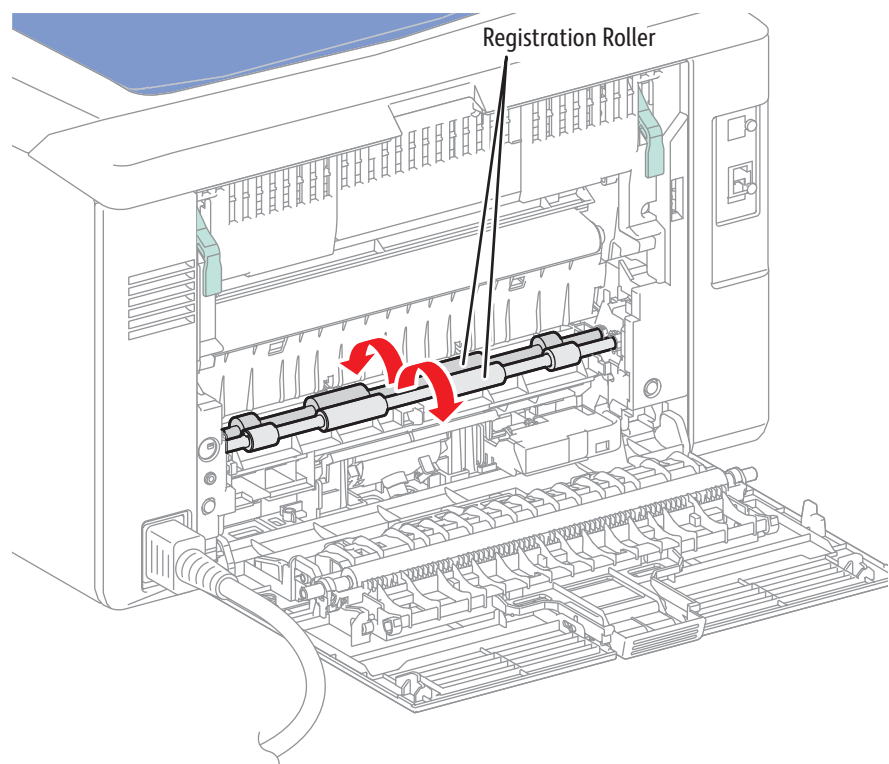Digital Output Mode = ENTRY
[14:14]
TONER MOTOR Y ON = ON
STARTED = TONER MOTOR Y ON
[14:15]
Digital Output Mode = EXIT

NOTE The check procedure for TONER MOTOR M ON, TONER MOTOR C ON, and TONER MOTOR K ON are the same as that for TONER MOTOR Y ON.

Test	Procedure
REGI CLUTCH ON	The Registration Roller rotates when the MAIN MOTOR ON FULL and the REGI CLUTCH ON tests are executed at the same time.

1. Power on the printer, and start up the CE Diag Tool.
2. Open the Rear Door.
3. Cheat the Safety Interlock System.
4. Select the MAIN MOTOR ON FULL and REGI CLUTCH ON test, and click the **OK** button.
5. Check that the Registration Roller rotates.

Registration Roller

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6. Click the **Stop** button to stop the test.

Test example:
[14:14]
Digital Output Mode = ENTRY
[14:14]
MAIN MOTOR ON FULL = ON
STARTED = MAIN MOTOR ON FULL, REGI CLUTCH ON
[14:14]
REGI CLUTCH ON = ON
STARTED = MAIN MOTOR ON, REGI CLUTCH ON
[14:15]
Digital Output Mode = EXIT

Test	Procedure
NVM Settings - Write	Used for changing the settings for internal data of the printer. This operation is prohibited since it can damage the internal data.
NVM Settings - Read	Used for confirming the internal data of the printer.
NVM Settings - Save NVM to ESS	Saves the internal data of the MCU Board to the Image Processor Board. This is used when the MCU Board needs to be replaced
Settings - Load NVM from ESS	Loads the internal data saved via NVM Settings - SaveNVM to ESS to the new MCU Board.
Print Info	
Config Page	The current version of software and the configuration of the printer can be confirmed by executing this test. Click the **Config Page** button to print the "Config Page".
Print Settings	The service tag, printing count value and error count value can be confirmed by executing this test. Click the **Print Settings** button to print the "Print Settings" page.
Installation Set	Displays values of the printer's counters and sets service tags. To apply changes, click the **Apply New Settings** button, or the **Restart printer to apply new settings** button.
Printer Serial Number	Serial number of the printer.
Pixel Counter	Pixel count values of colors Y/M/C/K (read only).
Tone Correction	Specifies whether or not tone correction is performed. When the checkmark is placed in the checkbox, tone correction is performed.
Configuration	The use of "Configuration" is prohibited since it is a tool for design development.
Print Counter	Displays the respective counter values in the master NVM and backup NVM (read only).
ESS NVM Init	Initializes the NVM of the Image Processor Board.
JOB LOG Init	Initializes the print job history.
Apply New Settings	This button should be clicked to move to any other setting menu from the current menu in operation. **NOTE** After completion of all operations the **Restart printer to apply new settings** button should be clicked without exceptions.

| Test	Procedure
Restart printer to apply new settings	Click this button when ready to apply your changes to the settings. The restart of a printer is required in order to confirm this setup.
Test Print	Print an internal test pattern of the printer. If a paper jam or paper empty error occurs during the print, the test waits until they are resolved.
Paper Size	Sets the paper size in which the test print is printed.
Pitch Configuration Chart	Allows you to check the print for any regular lines or toner spots when encountering print quality problems. From the difference in the interval of regular lines or spots, you can determine the parts that have caused the trouble.
MQ Chart	Prints charts to check for binding in A4 or Letter. When a print quality problem occurs, this test identifies the problem as printer-related or otherwise.
TestPatASIC[IOT]	Prints the LED Driver Board built-in test pattern. When a print quality problem occurs, this test identifies the problem as printer-related or otherwise.
TestPatLPHY[IOT]	Prints the LPH Y built-in test pattern. When a print quality problem occurs, this test identifies the problem as printer-related or otherwise.
TestPatLPHM[IOT]	Prints the LPH M built-in test pattern. When a print quality problem occurs, this test identifies the problem as printer-related or otherwise.
TestPatLPHC[IOT]	Prints the LPH C built-in test pattern. When a print quality problem occurs, this test identifies the problem as printer-related or otherwise.
TestPatLPHK[IOT]	Prints the LPH C built-in test pattern. When a print quality problem occurs, this test identifies the problem as printer-related or otherwise.
Grid 2	Prints the ESS built-in grid pattern. When a print quality problem occurs, this test identifies the problem as printer-related or otherwise.

Test	Procedure
Toner Pallet Check	Outputs each 100 % density color pattern of Y/M/C/K. When a print quality problem occurs in the picture or photo printing, this test identifies the problem as the toner or something else.
Parameters	This screen is used to read/write the parameters stored in the printer.
Print Parameters	Click this button to print the current parameter settings.
Registration	This function reads/writes the following parameters stored in the printer.

Parameter	Range
Regi X Margin Y, M, C, K	-137 to 137
Regi Y Margin Y, M, C, K	-3780 to 3780
Regi Skew Y, M, C, K	-630 to 630
Regi Bow Y, M, C, K	-100 to 100
Regi Lead Offset	-94 to 94
Regi Side Offset	-68 to 68

See the following illustration for additional explanation.

Test	Procedure

Shifts the print area in this direction by reducing the value. ←

→ Shifts the print area in this direction by increasing the value.

X Margin Y, M, C, K

Y Margin Y, M, C, K

Default Value

↑
Shifts the print area in this direction by reducing the value.

Shifts the print area in this direction by increasing the value.
↓

Image Side

Default Value
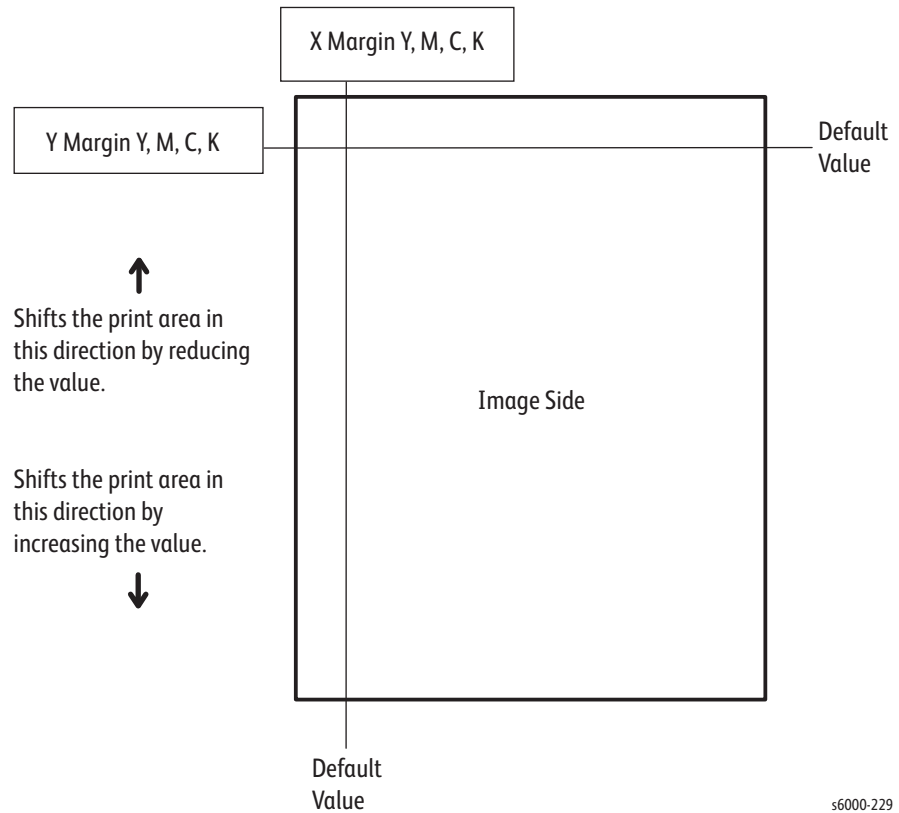
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| Machine/Toner | Lists counter values for multiple parameters |

Acronyms and Abbreviations

Acronym	Description
A3	297 millimeters (11.69 inches) x 420 millimeters (16.54 inches).
A4	210 millimeters (8.27 inches) x 297 millimeters (11.69 inches).
A5	148 millimeters (5.82 inches) x 210 millimeters (2.10 inches).
AC	Alternating Current
AMPV	Average Monthly Print Volume
APC	Auto Power Control
ASSY	Assembly
ATM	Adobe Type Manager
CCD	Charge Coupled Device (Photoelectric Converter)
CCW	Counter-Clock Wise
CMYK	Toner colors for the printer: Y=Yellow, C=Cyan, M=Magenta, K=Black
CRU	Customer Replaceable Unit
CRUM	Customer Replaceable Unit Meter/Memory
CST	Cassette
dB	Decibel
DC	Direct Current
DDNS	Dynamic Domain Name System
DEV	Developer
DHCP	Dynamic Host Configuration Protocol
DPI	Dots Per Inch
DRV	Drive
DUP	Duplex
EEPROM	Electrically Erasable Programmable Read-Only Memory
ESD	Electrostatic Discharge
ESS	Image process controller
FCC	Federal Communications Commission
FDR	Feeder
FPOT	First Print Output Time
FRU	Field Replaceable Unit
GB	Giga Byte
GND	Ground
HARN	Harness
HUM	Humidity
HV	High Voltage
HVPS	High-Voltage Power Supply
Hz	Hertz (cycles per second)
IEC	International Electrotechnical Commission

Acronym	Description
I/F	Interface
IIT	Image Input Terminal - ADF, Scanner
IOT	Image Output Terminal - the printer
IP	Image Processor
KB	Kilo Byte
LAN	Local Area Network
LCD	Liquid Crystal Display
LD	Laser Diode
LED	Light Emitting Diode
LEF	Long-Edge Feed
LPD	Line Printer Daemon
LPR	Line Printer Remote
LTR	Letter Size Paper (8.5 x 11 inches)
LVPS	Low-Voltage Power Supply
MB	Mega Byte
MCU	Machine Control Unit (Engine Control Board)
MHz	Mega Hertz
MIB	Management Information Base
MM	Millimeters
MOT	Motor
MFP	Multi-Function Printer
NCS	Non-Contact Sensor
NVM	Non-Volatile Memory
NVRAM	Non-Volatile Random Access Memory
OPT	Optional
OS	Operating System
PCB	Printed Circuit Board
PDL	Page Description Language
P/J	Plug Jack (electrical connections)
PJL	Printer Job Language
PL	Parts List
POP3	Post Office Protocol version 3
PPD	PostScript Printer Description
PPM	Pages Per Minute
PWBA	Printed Wiring Board Assembly
RAM	Random Access Memory
RH	Relative Humidity
RMS	Root Mean Square Voltage
ROM	Read-Only Memory
ROS	Raster Output Scanner - Laser Unit
SEF	Short-Edge Feed

Acronym	Description
SFP	Single-Function Printer
SMB	Server Message Block
SNMP	Simple Network Management Protocol
SNR	Sensor
SOL	Solenoid
TDC	Toner Density Control
TNR	Toner
UI	User Interface
USB	Universal Serial Bus