

XEROX®

Service Manual

701P47020

Phaser® 6180MFP

Multifunction Printer



Phaser® 6180MFP

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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Service Terms

Manual Terms

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

Note

A note indicates an operating or maintenance procedure, practice or condition that is necessary to efficiently accomplish a task.

A note can provide additional information related to a specific subject or add a comment on the results achieved through a previous action.

Caution

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

Warning

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

Product Terms

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

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

Symbols Marked on the Product



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



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



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



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



Do not touch the item.



Do not expose the item to sunlight.



Do not expose the item to light.



Do not burn the Print Cartridge.



Do not expose the Print Cartridge to sunlight.



Recycle the item.

Power Safety Precautions

Power Source

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

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

Disconnecting Power

Warning

Turning the power Off using the power switch does not completely de-energize the printer. You must also disconnect the power cord from the printer's Alternating Current (AC) 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 Precautions

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

Be sure the power is Off to the chassis or circuit board, and observe all other safety precautions.

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

Service Safety Summary

General Guidelines

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

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

Use care when servicing with power: Dangerous voltages may exist at several points in this product. To avoid personal injury, do not touch exposed connections and components while power is On. Disconnect power before removing the power supply shield or replacing components.

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

Warning Labels

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

Safety Interlocks

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

Class 1 Laser Product

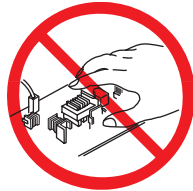
The Phaser 6180MFP is certified to comply with Laser Product Performance Standards set by the U.S. Department of Health and Human Services as a Class 1 Laser Product. This means that this product does not emit hazardous laser radiation; which is possible only because the laser beam is totally enclosed during all modes of customer operation. When servicing the printer or laser unit, follow the procedures specified in this manual and there will be no hazards from the laser.

Servicing Electrical Components

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

Warning

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

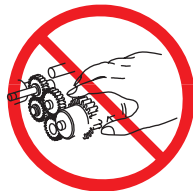


Servicing Mechanical Components

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

Warning

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



Servicing Fuser Components

Warning

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

Regulatory Information

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:



January 1, 1995: Low Voltage Directive 73/23/EEC as amended by 93/68/EEC

January 1, 1996: Electromagnetic Compatibility Directive 89/336/EEC

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

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

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

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

Copy Regulations

United States

Congress, by statute, has forbidden the reproduction of the following subjects under certain circumstances. Penalties of fine or imprisonment may be imposed on those guilty of making such reproductions.

1. Obligations or Securities of the United States Government, such as:

Certificate of Indebtedness	National Bank Currency
Coupons from Bonds	Federal Reserve Bank Notes
Silver Certificates	Gold Certificates
United States Bonds	Treasure Notes
Federal Reserve Notes	Fractional Notes
Certificates of Deposit	Paper Money
Bonds and Obligations of certain agencies of the government, such as FHA, etc.	
Bonds (U.S. Saving Bonds may be photographed only for publicity purposes in connection with the campaign for the sale of such bonds.)	
Internal Revenue Stamps. If it is necessary to reproduce a legal document on which there is a canceled revenue stamp, this may be done provided the reproduction of the document is performed for lawful purposes.	
Postage Stamps, canceled or uncanceled. For philatelic purposes, Postage Stamps may be photographed, provided the reproduction is in black and white and is less than 75% or more than 150% of the linear dimensions of the original.	
Postal Money Orders	
Bills, Checks, or Draft of money drawn by or upon authorized officers of the United States.	
Stamps and other representatives of value, of whatever denomination, which have been or may be issued under any Act of Congress.	

- 2. Adjusted Compensation Certificates for Veterans of the World Wars.**
- 3. Obligations or Securities of any Foreign Government, Bank, or Corporation.**
- 4. Copyrighted materials, unless permission of the copyright owner has been obtained or the reproduction falls within the "fair use" or library reproduction rights provisions of the copyright law. Further information of these provisions may be obtained from the Copyright Office, Library of Congress, Washington, D.C. 20559. Ask for Circular R21.**
- 5. Certificate of Citizenship or Naturalization. Foreign Naturalization Certificates may be photographed.**
- 6. Passports. Foreign Passports may be photographed.**
- 7. Immigration papers.**
- 8. Draft Registration Cards.**
- 9. Selective Service Induction papers that bear any of the following Registrant's information:**
 - Earnings or Income
 - Court Record
 - Physical or mental condition

-
- Dependency Status
 - Previous military service

Exception: United States military discharge certificates may be photographed.

10. Badges, Identification Cards, Passes, or Insignia carried by military personnel, or by members of the various Federal Departments, such as FBI, Treasury, etc. (Unless photograph is ordered by the head of such department or bureau.)

Reproducing the following is also prohibited in certain states:

- Automobile Licenses
- Driver's Licenses
- Automobile Certificates of Title

The above list is not all inclusive, and no liability is assumed for its completeness or accuracy. In case of doubt, consult your attorney.

Canada

Parliament, by statute, has forbidden the reproduction of the following subjects under certain circumstances. Penalties of fine or imprisonment may be imposed on those guilty of making such reproduction.

1. Current bank notes or current paper money.
2. Obligations or securities of a government or bank.
3. Exchequer bill paper or revenue paper.
4. The public seal of Canada or of a province, or the seal of a public body or authority in Canada, or of a court of law.
5. Proclamations, orders, regulations or appointments, or notices thereof (with intent to falsely cause same to purport to have been printed by the Queens Printer for Canada, or the equivalent printer for a province).
6. Marks, brands, seals, wrappers or designs used by or on behalf of the Government of Canada or of a province, the government of a state other than Canada or a department, board, Commission or agency established by the Government of Canada or of a province or of a government of a state other than Canada.
7. Impressed or adhesive stamps used for the purpose of revenue by the Government of Canada or of a province or by the government of a state other than Canada.
8. Documents, registers or record kept by public officials charged with the duty of making or issuing certified copies thereof, where the copy falsely purports to be a certified copy thereof.
9. Copyrighted material or trademarks of any manner or kind without the consent of the copyright or trademark owner.

The above list is provided for your convenience and assistance, but it is not all-inclusive, and no liability is assumed for its completeness or accuracy. In case of doubt, consult your solicitor.

Other Countries

Copying certain documents may be illegal in your country. Penalties of fine or imprisonment may be imposed on those found guilty of making such reproductions.

- Currency notes
- Bank notes and cheques
- Bank and government bonds and securities
- Passports and identification cards
- Copyright material or trademarks without the consent of the owner
- Postage stamps and other negotiable instruments

This list is not inclusive and no liability is assumed for either its completeness or accuracy. In case doubts, contact your legal counsel.

Fax Regulations

United States

Fax Send Header Requirements

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device, including a fax machine, to send any message unless such message clearly contains in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it is sent and an identification of the business or other entity, or other individual sending the message and the telephone number of the sending machine or such business, other entity or individual. The telephone number provided may not be a 900 number or any other number for which charges exceed local or long distance transmission charges.

In order to program this information into your machine, refer to customer documentation and follow the steps provided.

Data Coupler Information

This equipment complies with Part 68 of the FCC rules and the requirements adopted by the Administrative Council for Terminal Attachments (ACTA). On the cover of this equipment is a label that contains, among other information, a product identifier in the format US:AAAEQ##TXXXX. If requested, this number must be provided to the telephone company.

A plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by the ACTA. A compliant telephone cord and modular plug is provided with this product. It is designed to be connected to a compatible modular jack that is also compliant. See installation instructions for details.

You may safely connect the machine to the following standard modular jack: USOC RJ-11C using the compliant telephone line cord (with modular plugs) provided with the installation kit. See installation instructions for details.

The Ringer Equivalence Number (REN) is used to determine the number of devices that may be connected to a telephone line. Excessive RENs on a telephone line may result in the devices not ringing in response to an incoming call. In most but not all areas, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company. For products approved after July 23, 2001, the REN for this product is part of the product identifier that has the format US:AAAEQ##TXXXX. The digits represented by ## are the REN without a decimal point (e.g, 03 is a REN of 0.3). For earlier products, the REN is separately shown on the label.

To order the correct service from the local telephone company, please provide the Facility Interface Code (FIC) and Service Order Code (SOC) listed below:

FIC: 02LS2

SOC: 9.0F

You may also have to provide the USOC Jack code and the Ringer Equivalence Number (REN).

If this Xerox equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your rights to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.

If trouble is experienced with this Xerox equipment, for repair or warranty information, please contact the appropriate service center; details of which are displayed either on the machine or contained within the User Guide. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

Repairs to the machine should be made only by a Xerox Service Representative or an authorized Xerox Service Provider. This applies at any time during or after the service warranty period. If unauthorized repair is performed, the remainder of the warranty period is null and void. The equipment must not be used on party lines. Connection to party line service is subject to state tariffs. Contact the state public utility commission, public service commission or corporation commission for information.

If your office has specially wired alarm equipment connected to the telephone line, make sure that the installation of the Xerox equipment does not disable your alarm equipment.

If you have any question about what will disable alarm equipment, consult your telephone company or a qualified installer.

Canada

Note

The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users must make sure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should make sure their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe systems, if present, are connected together. This precaution may be particularly important in rural areas.

Caution

User should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirements that the sum of the Ringer Equivalent Numbers of all of the devices does not exceed 5. For the Canadian REN value, please see the label on the equipment.

Europe

Radio Equipment & Telecommunications Terminal Equipment Directive

The Facsimile has been approved in accordance with the Council Decision 1999/5/EC for pan-European single terminal connection to the public switched telephone network (PSTN). However, due to differences between the individual PSTNs provided in different countries, the approval does not, of itself, give an unconditional assurance of successful operation on every PSTN network terminal point.

In the event of a problem you should contact your authorized local dealer in the first instance.

This product has been tested to and is compliant with TBR21, a specification for terminal equipment for use on analogue-switched telephone networks in the European Economic Area. This product provides an user-adjustable setting of the country code. Refer to the customer documentation for this procedure. Country codes should be set prior to connecting this product to the network.

Note

Although this product can use either loop disconnect (pulse) or DTMF (tone) signaling, it is recommended that it is set to use DTMF signaling. DTMF signaling provides reliable and faster call setup. Modification of this product, connection to external control software or to external control apparatus not authorized by Xerox, will invalidate its certification.

Manual Organization

The Phaser 6180MFP Multifunction Printer Service Manual is the primary document used for repairing, maintaining, and troubleshooting the printer. Use this manual as your primary resource for understanding the operational characteristics of the printer and all available options. This manual describes specifications, theory, and the diagnosis and repair of problems occurring in the print engine and attached options. Also included are detailed replacement procedures, parts lists, and wiring diagrams.

The Phaser 6180MFP Multifunction Printer Service Manual contains these sections:

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

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

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

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

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

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

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

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

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

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

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

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

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Index

General Information

In this chapter...

- Printer Introduction and Overview
- Printer Configurations
- Parts of the Printer
- Printer Options
- Maintenance Items
- Consumables
- Specifications
- Controller Functions

Chapter 1

Printer Introduction and Overview

The Xerox Phaser 6180MFP Multifunction Printer combines a color laser print engine, a Scanner, Copier, and Fax. The Phaser 6180MFP has a single-pass color laser-design architecture, which offers color and mono print speed at 20/31-ppm, and resolutions up to 600 x 600 dots-per-inch (dpi). The printer supports Adobe PostScript 3 and PCL6, USB 2.0, Parallel port, and 10/100 Base-TX Ethernet. The Scanner supports USB Scan to Desktop, Network Scan to FTP, Network Scan to Server Message Block (SMB), and Network Scan to E-Mail with resolution up to 600 dpi and interpolated up to 9600 dpi. The Phaser 6180MFP provides a standard 150-Sheet Tray 1 (MPT) and a standard 250-Sheet Tray 2. Tray 1 (MPT) supports specialty media, card stock, and envelopes. The standard media input is 400 sheets and the maximum input with an optional Tray 3 is 950 sheets. The Output Tray holds 300 sheets facedown.

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

- Memory upgrades are available to increase the standard RAM from 384 MB up to 1.4 GB maximum.
- A 550-Sheet Feeder is available as an option.
- Automatic 2-sided printing is available and no tools are required to install the Duplex Unit.
- The Multi-Protocol Network Card expands the supported network protocols.

Technical Support Information

The Xerox Phaser 6180MFP Multifunction Printer Service Manual is the primary document used for repairing, maintaining, and troubleshooting the printer.

To ensure complete understanding of this product, participation in Xerox Phaser 6180MFP Service Training is strongly recommended. To service this product, Xerox certification for this product is required.

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

- Xerox Global Service Net - <https://www.xrsgsn.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 Phaser 6180MFP printer is available in two configurations.

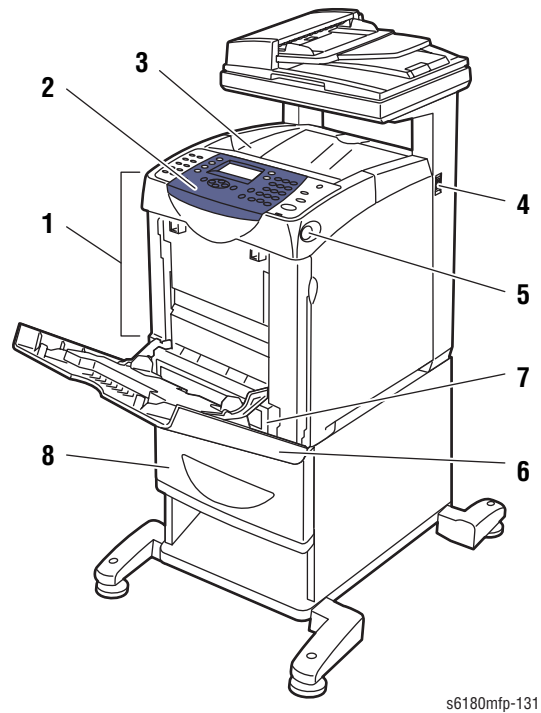
Phaser 6180MFP Configurations

Features	Printer Configurations	
	6180MFP/N	6180MFP/D
Processor and Clock Speed	400 MHz	400 MHz
Memory Configuration*	384 MB	384 MB
Print Speed (Color/Mono) (ppm)	20/31	20/31
Print Speed - Maximum Duplex (Letter/A4) (Color/Mono) (ppm)	14/21	14/21
Printer Resolutions (dpi)		
■ Standard	600 x 600 x 1 bit	600 x 600 x 1 bit
■ Enhanced	600 x 600 x 4 bit	600 x 600 x 4 bit
Adobe PostScript 3 Fonts	Standard	Standard
PCL6 Fonts	Standard	Standard
Job Pipelining	Standard	Standard
USB 2.0 Hi-Speed Support	Standard	Standard
Parallel Port	Standard	Standard
Ethernet Interface	10/100 Base-TX	10/100 Base-TX
Tray 1 (MPT) (150 Sheet)	Standard	Standard
Tray 2 (250 Sheet)	Standard	Standard
Tray 3 550-Sheet Feeder (550 Sheet)	Optional	Optional
Duplex Unit	Optional	Standard
Wireless LAN	Optional	Optional
Copy Resolutions (dpi)		
■ Color Resolutions	600 x 600	600 x 600
■ Mono Resolutions	600 x 600	600 x 600
Copy Speed (ipm or ppm)		
■ From Document Glass (Color/Mono)	20/11	20/11
■ From Document Feeder (Color/Mono)	23/13	23/13
Scan Resolutions (dpi)		
■ USB Scanning	Up to 9600 dpi	Up to 9600 dpi
■ Network Scanning	Up to 600 dpi	Up to 600 dpi
Scan Speed (color/mono) (ppm)	8/16	8/16
Warranty	1 year onsite	1 year onsite

* All configurations have one memory slot supporting 256 MB/ 512 MB/ 1 GB DDR2 DIMMs, to a maximum of 1.4 GB. Standard RAM is soldered on board.

Parts of the Printer

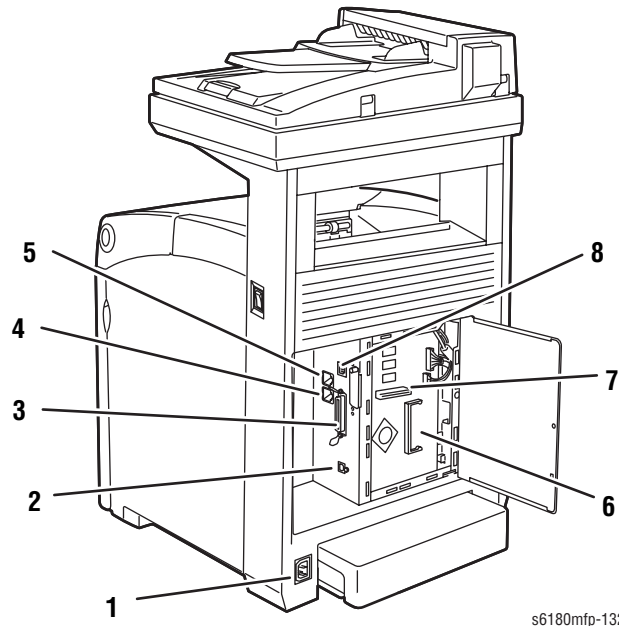
Front and Side Views



s6180mfp-131

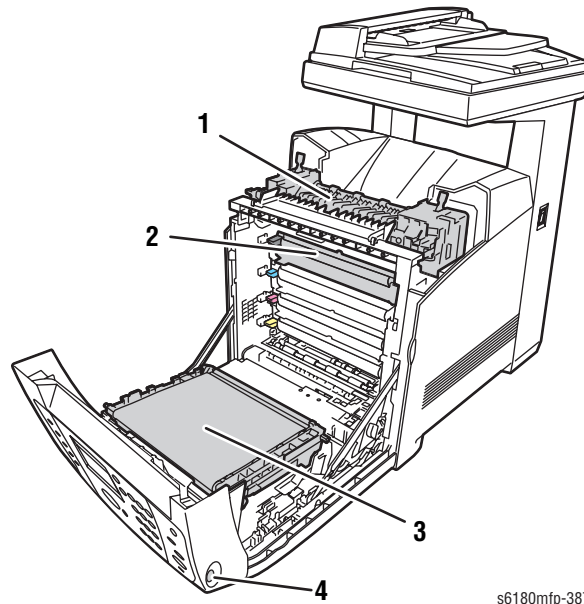
1. Front Door
2. Control Panel
3. Output Tray
4. Power Switch
5. Button A (for opening the Front Cover)
6. Tray 1 (MPT)
7. Tray 2
8. Tray 3 (Optional)

Rear View



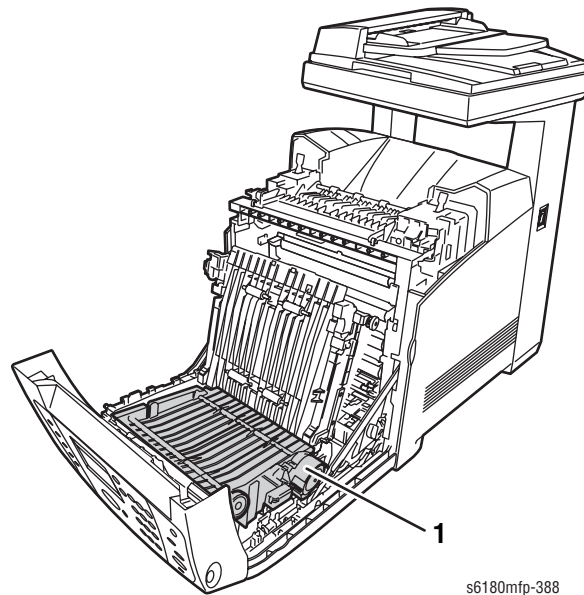
1. Power Cord Connector
2. USB Port
3. Parallel Port
4. Telephone Line Connector
5. Fax Line Connector
6. Memory Slot (Optional)
7. Multi-Protocol Network Card (MPC)
8. Network Connector

Internal View



s6180mfp-387

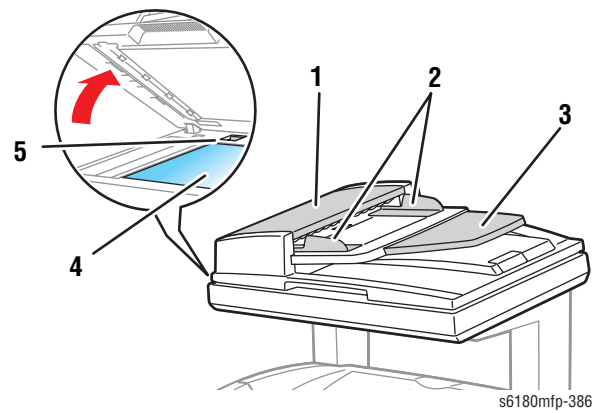
1. Fuser
2. Print Cartridge
3. Transfer Unit
4. Button A (for opening the Front Door)



s6180mfp-388

1. Duplex Unit

Scanner



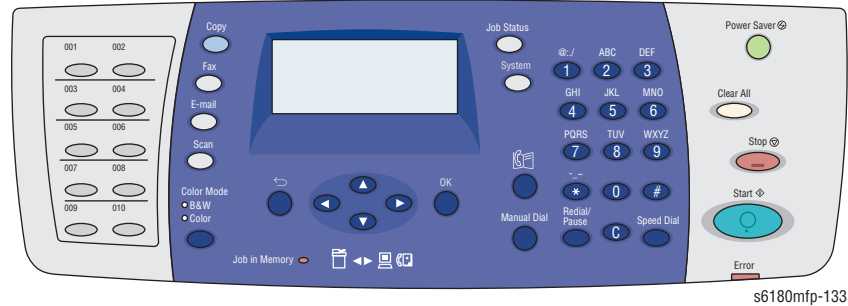
1. Automatic Document Feeder (ADF) Cover
2. Document Guides
3. Document Feed Tray
4. Document Glass
5. Scanner Lock Lever

Control Panel

The Control Panel consists of 4 LEDs, 1 display window, and 44 functional buttons. These buttons are used to navigate the menu system, perform functions, and select modes of operation for the printer, scanner, copier, and fax.

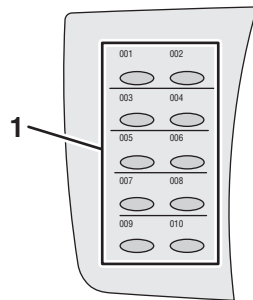
Control Panel Button Description

The Control Panel functions are segregated into three sections.



Control Panel - Left Side

The left side of the Control Panel contains One Touch Buttons.

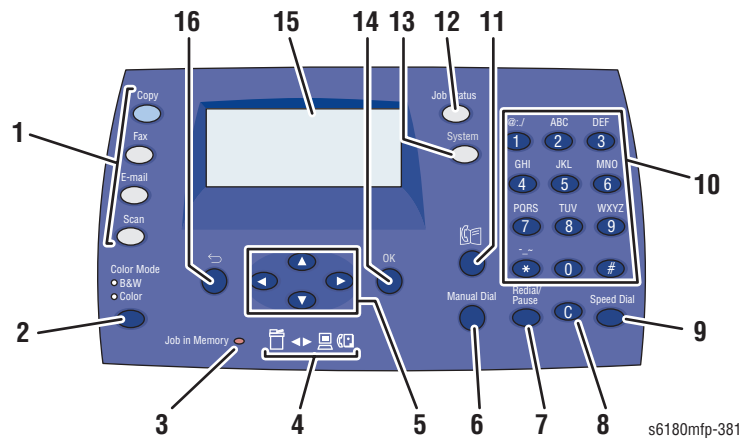


s6180mfp-380

1. **One Touch** button – Provides access to the first 10 entries in the Fax address book.

Control Panel - Center

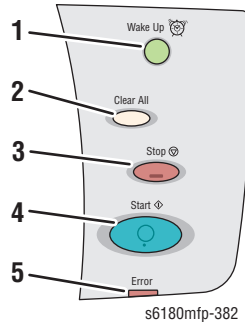
The center of the Control Panel provides the display, feature and navigation buttons, and the status LED.



1. **Copy, Fax, E-Mail, and Scan** – Use to access the functions for Copy, Fax, E-Mail, and Scan.
2. **Color Mode** – Switches between Color and Black and White modes for your copy and scan job.
3. **Job In Memory** – Indicates there is a job in printer's memory when illuminated.
4. **Arrow LED's** – Indicates the flow of data either into or out of the printer.
 - 5. 4 Way Cursor buttons
 - **Up Arrow** button – Scrolls upward through the menus.
 - **Down Arrow** button – Scrolls downward through the menus.
 - **Back Arrow** button – Scrolls backward through the menus.
 - **Forward Arrow** button – Scrolls forward through the menus.
6. **Manual Dial** button – Use to enter fax numbers via the alphanumeric key pad.
7. **Redial/Pause** button – Recalls the last Fax number used and inserts pauses in Fax numbers.
8. **Clear** button – Deletes a single character each time the button is pressed. For use when entering e-mail addresses and telephone numbers.
9. **Speed Dial** button – Provides access to Group or Individual Fax telephone numbers.
10. **Alphanumeric Keypad** – Use to enter numbers and letters for name and phone numbers.
11. **Address Book** button – Provides access to the address books for Fax and E-Mail.
12. **Job Status** button – Provides Active Jobs status and Walk-Up printing jobs.
13. **System** button – Switches the display to the Setup menu and back.
14. **OK** button – Confirms selected setting.
15. **Graphic Control Panel Display** – Displays printer settings, status, messages, and toner levels.
16. **Exit** button – Moves up one level in the menu.

Control Panel - Right Side

The right side of the Control Panel contains the Start, Stop, Error, Clear All, Wake Up buttons, and Error LED.



1. **Wake Up** button – This light is On in Power Saver mode. Press the button to exit the Power Saver mode.
2. **Clear All** button – Clears job and returns to the default main menu. All job settings are reset to default when the button is pressed.
3. **Stop** button – Cancels the current Print, Copy, Scan, or Fax job.
4. **Start** button – Starts the Copy, Scan, or Fax job.
5. **Error** – Red light indicates an error has occurred.

LED Indicators

LED State	Printer State
Green	Ready to Print or in Power Saver mode
Flashing Green	Processing print job
Red	Error occurs, can be fixed by user
Flashing Red	Error occurs, cannot be fixed by user

Control Panel Shortcuts

Function	Buttons Pressed at Power On
Enter Service Diagnostics	Up + Down Arrow buttons
Reset Password to 0000 (used when the Control Panel menus are locked)	OK
Boot Controller Update	Up + Down + OK buttons

Printer Options

Phaser 6180MFP Multifunction printer options include:

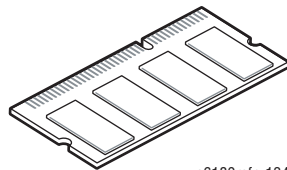
- Additional Memory (256 MB/ 512 MB/ 1GB)
- Optional 550-Sheet Feeder (Tray 3)
- Duplex Unit
- Multi-Protocol Network Card

Additional Memory

The printer features one slot that accepts 256 or 512 MB, or 1 GB of DDR2 DIMMs. The standard 384 MB memory is soldered on board. Memory modules must meet the following characteristics:

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

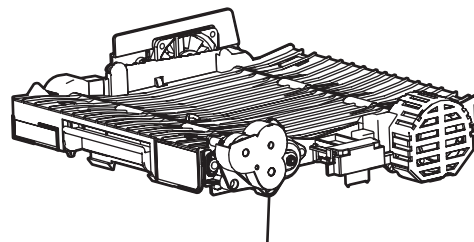
The printer's Configuration page lists the amount of RAM installed in the printer.



s6180mfp-134

Duplex Unit

User can install the Duplex Unit without using any tools by simply removing the Transfer Unit.

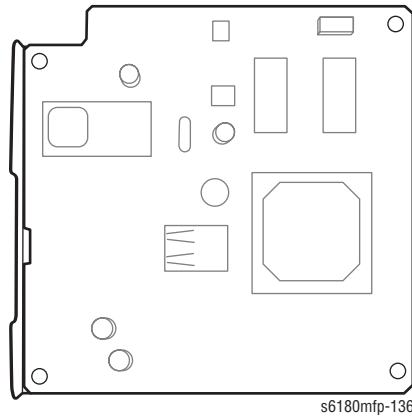


Duplex Unit

s6180mfp-135

Multi-Protocol Network Card

The Multi-Protocol Network Card provides additional protocols and security features including Netware, IPP, SMB, WINS, DDNS, SSL/HTTPS, and IPv6.

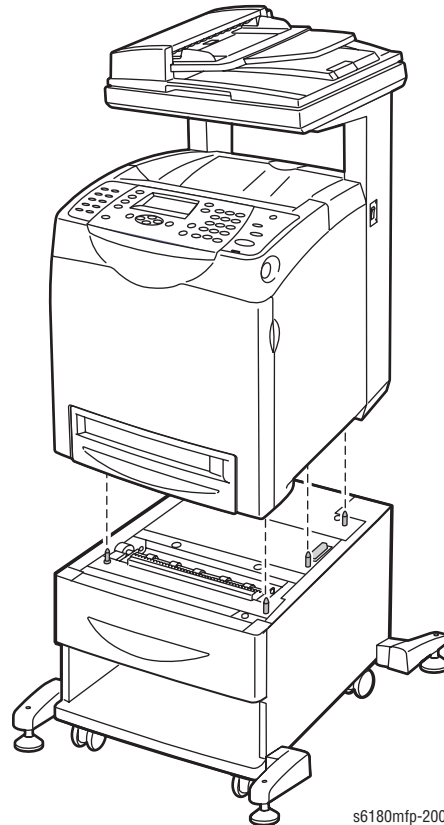


Optional 550-Sheet Feeder (Tray 3)

The Optional 550-Sheet Feeder increases the input capacity of the printer and can be attached to the printer underneath Tray 2 with 2 thumb screws. The Optional 550-Sheet Feeder is customer installable.

Note

Only one Optional 550-Sheet Feeder is supported.



s6180mfp-200

Maintenance Items

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

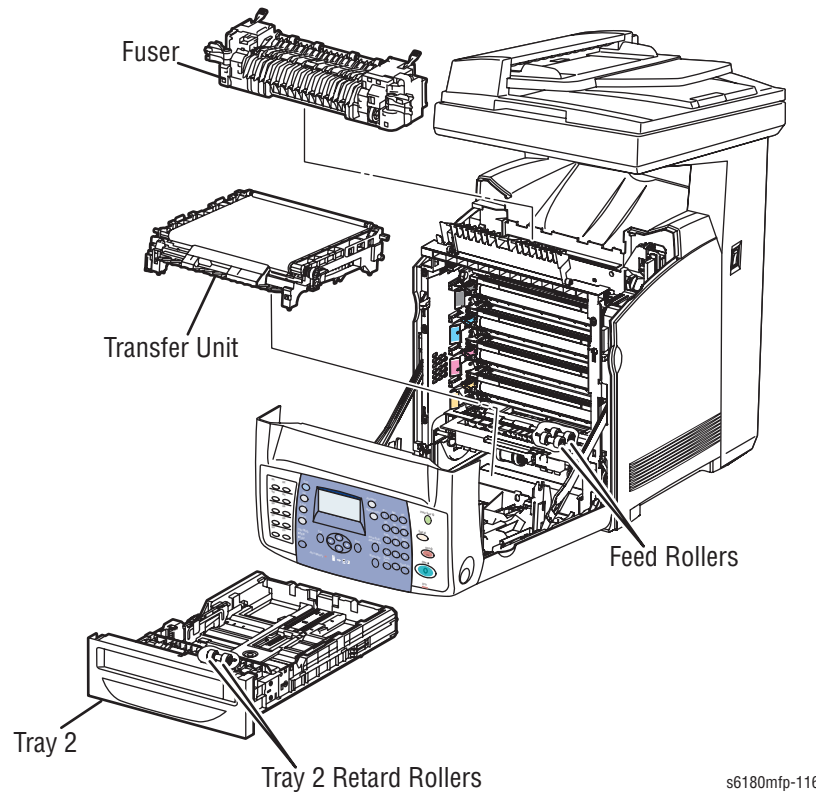
The following listed items have limited life and require periodic replacement.

Phaser 6180MFP Maintenance Items

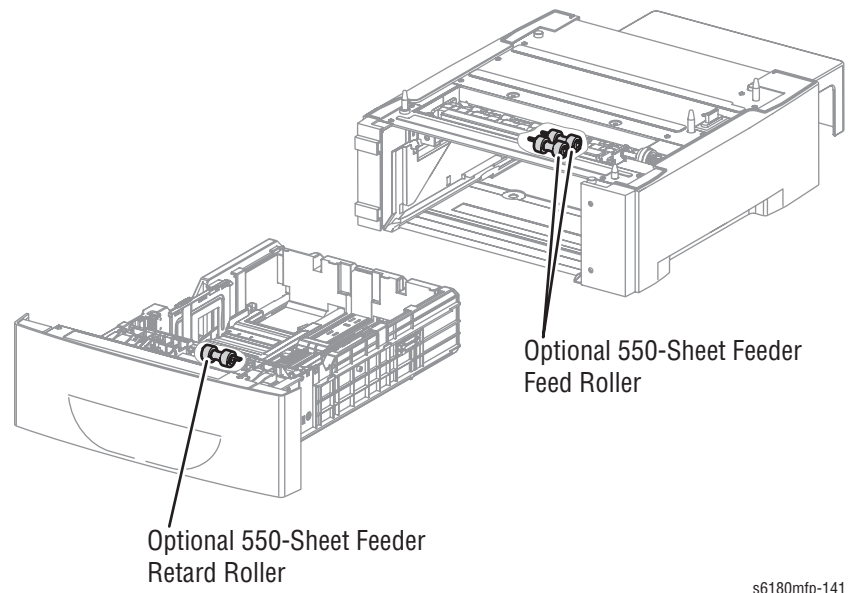
Item	Print Life
Transfer Unit	Up to 100,000 pages
Fuser	Up to 100,000 pages
Feed/Retard Roller	Up to 100,000 pages

Note

Print life is based on “typical” office printing and 5% coverage per color on 24 lb. paper. The 100,000 life is not guaranteed and varies depending on usage habits.



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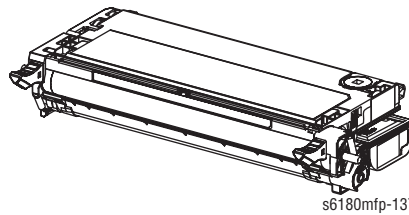
Consumables

Consumables consist of 4 Print Cartridges used in the printer. Each Print Cartridge has a CRUM (Customer Replaceable Unit Meter) to record the usage information. A CRUM counts the amount of remaining toner. When toner empty is detected, Life End status will be sent to indicate toner empty.

CMY Toner will not be consumed when printing in Mono mode or when printing a Gray scale job only. Internal counters track Consumables and Maintenance Items life usage.

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

Print Cartridge	Print Life	
	Color	Mono
Standard Capacity	2,000 pages	3,000 pages
High Capacity	6,000 pages	8,000 pages



Specifications

Printer Specifications

Characteristic	Specifications						
Printing Technology	<p>Recording System: Tandem electro-photographic system using OPC Drum and direct transfer by the Transfer Belt</p> <p>Exposure System: 4 semiconductors laser beam scanning system</p> <p>Transfer System: Four-color (C/M/Y/K) finished toner image is transferred onto the paper</p> <p>Fusing System: Thermal fusing system by Free Belt Nip Fusing (FBNF)</p>						
Printer Life	300,000 pages						
Print Volume	<table border="1"> <tr> <td>Median</td> <td>800 PV/month</td> </tr> <tr> <td>Average</td> <td>1,200 PV/month</td> </tr> <tr> <td>Maximum</td> <td>60,000 PV/month</td> </tr> </table> <p>For Duplex prints, prints on the front and back sides of paper are counted as 2 PV. Maximum PV is 2,000 PV/day</p>	Median	800 PV/month	Average	1,200 PV/month	Maximum	60,000 PV/month
Median	800 PV/month						
Average	1,200 PV/month						
Maximum	60,000 PV/month						
Maximum Duty Cycle	60,000 pages/month*						
Color Medium	Cyan, Magenta, Yellow, and Black Print Cartridges						
Resolution / Addressability (dpi)	<table border="1"> <tr> <td>Standard</td> <td>600 x 600 x 1</td> </tr> <tr> <td>Enhanced</td> <td>600 x 600 x 4</td> </tr> </table>	Standard	600 x 600 x 1	Enhanced	600 x 600 x 4		
Standard	600 x 600 x 1						
Enhanced	600 x 600 x 4						
Print-Quality Mode	<table border="1"> <tr> <td>600 x 600 x 1bit (Standard)</td> </tr> <tr> <td>600 x 600 x 4bit (Enhanced)</td> </tr> </table>	600 x 600 x 1bit (Standard)	600 x 600 x 4bit (Enhanced)				
600 x 600 x 1bit (Standard)							
600 x 600 x 4bit (Enhanced)							
Average Image Coverage	<table border="1"> <tr> <td>Color</td> <td>5% each CMYK</td> </tr> <tr> <td>Mono</td> <td>5%</td> </tr> </table>	Color	5% each CMYK	Mono	5%		
Color	5% each CMYK						
Mono	5%						
Maximum Image Coverage	240% for all C, M, Y, K combined						
Warm-Up Time	Less than 30 seconds from power On						
Operating System	<table border="1"> <tr> <td>Windows</td> <td>2000/ 2003 Server/ XP Pro/ XP/ Vista</td> </tr> <tr> <td>Macintosh</td> <td>OS 10.2 or higher</td> </tr> <tr> <td>Linux</td> <td>Redhat, SuSe, and TurboLinux 10 Desktop</td> </tr> </table>	Windows	2000/ 2003 Server/ XP Pro/ XP/ Vista	Macintosh	OS 10.2 or higher	Linux	Redhat, SuSe, and TurboLinux 10 Desktop
Windows	2000/ 2003 Server/ XP Pro/ XP/ Vista						
Macintosh	OS 10.2 or higher						
Linux	Redhat, SuSe, and TurboLinux 10 Desktop						
* Assumes a 30 day month of printing.							

Scanning Specifications

Characteristic	Specifications
Scanning Mode	<ul style="list-style-type: none"> ■ Platen Mode: Scan document using the document glass ■ Constant Velocity Transport (CVT) Mode: Scan document via the Automatic Document Feeder (ADF)
Maximum Scanning Size	<ul style="list-style-type: none"> ■ Platen Mode: 215.9 mm x 297 mm (8.5 in. x 11.7 in.) ■ CVT mode; 215.9 mm x 355.6 mm (8.5 in. x 14 in.)
Media Size	
<ul style="list-style-type: none"> ■ Minimum 	<ul style="list-style-type: none"> ■ Fast Scan Direction: 148 mm (5.8 in.) ■ Slow Scan Direction; 210 mm (8.3 in.)
<ul style="list-style-type: none"> ■ Maximum 	<ul style="list-style-type: none"> ■ Fast Scan Direction: 215.9 mm (8.5 in.) ■ Slow Scan Direction: 355.6 mm (14.0 in.)
USB Scanning	
Resolution	Up to 9600 dpi
<ul style="list-style-type: none"> ■ Scan Interface ■ File Formats 	TWAIN/ WIA BMP, JPG, PDF, TIFF
Network Scanning	
Resolution	Up to 600 dpi
Color Mode	Color, Black & White
Original Type	Text, Photo, Mixed
File Format	JPG, PDF, TIFF
Lighter/Darker	7 levels
Sharpness	3 levels
Contrast	3 levels
Auto Exposure	Off, Normal, Higher (1, 2)
Scan to Desktop via SMB	Up to 6 SMB servers
Scan to FTP	Up to 6 FTP servers
Scan to E-mail	Yes (no individual user log in)
E-mail Address Book	Up to 100 e-mail addresses & up to 10 e-mail group addresses stored in device memory. Each e-mail group may have up to 10 addresses associated with it. (Addresses stored in device memory.)

Scan Performance

	Document	Black & White	Color
USB Scan to Application (TWAIN)	Document Glass, 300 dpi, 24-bit color, letter size	8 sec.	10 sec.
USB Scan to Computer (via Express Scan Manager)	Document Glass, 300 dpi, 24-bit color, letter size	12 sec.	33 sec.
Network Scan to Computer via SMB	Document Glass, 150 dpi, mixed, letter size	9 sec.	8 sec.
Network Scan to E-mail	Document Glass, 150 dpi, mixed, letter size	9 sec.	10 sec.

Copy Specifications

Characteristic	Specifications
Resolution	<ul style="list-style-type: none"> ■ Black & White: 600 x 600 dpi ■ Color: 600 x 600 dpi
Copy Mode	Color, Black & White
Output Type	Standard, Enhanced (Best)
Original Type	Text, Photo, Text/Photo
Reduce/Enlarge	25%-400%
Lighter/Darker	7 levels
Color Saturation	3 levels
Sharpness	3 levels
Color Balance	4 colors, 3 densities, 5 levels
Auto Exposure	Off, Normal, Higher (1, 2)
Number of Copies	1-99
Multiple Up (N to 1)	Off, Auto, ID Copy, Manual
Duplex Copy	On, Off
Poster	2x2, 3x3, 4x4
Auto Fit	On, Off
Cloning	On, Off
Collate	<ul style="list-style-type: none"> ■ Color: 19 ■ B/W: 50

Copy Speeds from Document Glass (Simplex Output)

Mode	1st Copy, 1st Simplex Page (sec.)	1st Copy, Subsequent Simplex Pages (ppm)	Subsequent Simplex Copies (ppm)
Mono	11	N/A	30
Color	20	N/A	20

Copy Speeds from Document Feeder (Simplex Output)

Mode	1st Copy, 1st Simplex Page (sec.)	1st Copy, 2nd & 3rd Simplex Pages (ppm)	1st Copy, Subsequent Simplex Pages (ppm)	Subsequent Simplex Copies (ppm)
Mono	13	20	20	30
Color	23	9	7	20

Fax Specifications

Characteristic	Specifications
Walk-Up Fax	
Resolution	<ul style="list-style-type: none"> ■ Standard: 200 x 100 – 100 lpi ■ High Quality: 200 x 200 – 200 lpi ■ Super-High Quality: 400 x 400 – 400 lpi
Original Type	Text, Photo, Mixed
Compression Format	MH, MR, MMR, JBIG, JPEG (Color Fax)
Incoming Call Control	Telephone Mode, Fax Mode, Telephone/ Fax Mode, Answering Machine Mode, Distinctive Ring Pattern Detection (DRPD)
Lighter/Darker	7 levels
DM Protection	Reject junk Fax
Forwarding & Local Print	Supported
Polling Receive	-----
Remote Receive	With external phone
Immediate Receive	Supported
Delay Start	Up to 24 hours
Broadcast Sending	Up to 200 destinations
External Telephone Communication	Supported
Secure Receive	Print for receiving data with password input
Color Fax	Resolution is fixed by 200 x 200 dpi
Fax Address Book	Up to 200 Speed Dial numbers and up to 6 Group Dial numbers stored in device memory. The Group Dial Numbers may have up to 200 fax numbers associated with each group; however, the total number of allowable fax numbers for all groups is 200.
Lan Fax	
Resolution	<ul style="list-style-type: none"> ■ Normal: 200 x 100 dpi ■ Fine: 200 x 200 dpi ■ Super Fine: 400 x 400 dpi
Driver	<ul style="list-style-type: none"> ■ PCL driver - supported ■ PS driver - not support
Color	Not support
Delayed Start	Up to 24 hours
Broadcast Sending	Up to 30 destinations
Zoom	25%-400% (same as printer driver)
Auto Reduction/Enlarge (Auto Fit)	On/Off (same as printer driver)

Electrical Specifications

Characteristic	Specifications	
Power Supply Voltage/Frequency		
Line Voltages	110-127 VAC \pm 10%	
	220-240 VAC \pm 10%	
Frequency Range	50/60 Hz \pm 3 Hz	
Current Capacity	110 V: 9.0A 220 V: 4.5A	
Power Consumption	AC 110 V	AC 220 V
Sleep Mode	35 W or less	35 W or less
Deep Sleep Mode (ENERGY STAR)	17 W or less	17 W or less
Standby (Fuser On)	90 W or less	90 W or less
Continuous Color or Monochrome Printing Average	500 W or less	500 W or less
In-rush Current		
Maximum at 1st 2.5 msec	50 Amp (Cold start) 135 Amp (Hot start)	
Within 10 msec	80 Amp (110 V/ 220 V/ 240 V) 85 Amp (100 V)	
Leakage Current	Power	Current
	100 V M/C (1kVAC)	< 3.5 mA (UL)
	200 V M/C (1.5kVAC)	< 3.5 mA (IEC)
Battery	Equipped with a lithium primary battery to maintain contents of the system data and management information for image information stored for facsimile. Data and information are guaranteed for more than 5 years of accumulated power Off time under the condition where ambient temperature is 22° C. The battery is recyclable and does not cause fire or smoke.	

Print Speed

Resolution	Simplex (ppm)		Duplex (ipm)	
	Color A/A4	Mono A/A4	Color A/A4	Mono A/A4
600 Standard	20/20	31/30	14/14	21/20
600 Enhanced	20/20	31/30	14/14	21/20

Paper Type

	Simplex (ppm)			Duplex (ipm)		
	Color	Mono	Low Speed	Color	Mono	Low Speed
Paper Type (60 - 105gsm)						
Letter/B5/Executive	20	31	13	14	21	9
A4	20	30	12	14	20	8
A5	20	31	13	14	22	9
Legal	18	27	11	13	19	8
Custom Size	17	25	10	12	18	7
Paper Type (105 - 162gsm)						
Letter	20	26	13	14	17	9
A4	20	25	12	14	17	8
A5/B5/Executive	20	26	13	14	18	9
Legal	18	22	11	13	16	8
Custom Size	17	21	10	12	15	7
Paper Type (163 - 216gsm)						
Letter/A5/B5/Executive	N/A	N/A	13	N/A	N/A	N/A
A4	N/A	N/A	12	N/A	N/A	N/A
Legal	N/A	N/A	11	N/A	N/A	N/A
Custom	N/A	N/A	10	N/A	N/A	N/A
Transparencies, Envelopes, Cards						
Letter/A4	N/A	N/A	6	N/A	N/A	N/A
C5, D5, #10 Commercial Envelope	N/A	N/A	13	N/A	N/A	N/A
Post Card	N/A	N/A	13	N/A	N/A	N/A

Operating Mode

The Phaser 6180MFP consists of the following operating modes:

- **Running Mode:** The Printer, Scanner, and Fax communication operates in the Print mode, Scan mode, and Fax mode respectively. More than one of these three modes can exist concurrently.
- **Ready Mode:** When the machine is turned On, it changes from the power Off state to Ready mode. In this mode, the Copying, Fax Sending, and Network Scanning features are available from the Control Panel. Fax Receiving, Printing, PC Direct Fax, and Local Scanning are also available).
- **Sleep Mode:** The Printer enters into the Sleep mode to reduce power consumption when it has not received data for the specified time.

Note

The transfer time from Ready mode to Sleep mode can be changed via the Control Panel menu. Setting Range: 1 to 60 minutes.

- **Deep Sleep Mode (ENERGY STAR):** The Printer automatically enters into the Deep Sleep mode when Sleep mode has continued for the specified time.

Note

The transfer time from the Sleep mode to Deep Sleep mode can be changed via the Control Panel menu. Setting Range: 5 to 120 minutes. Off can be set.

Information listed in the table provides description and statuses of the printer modes at various states.

Operating Modes

Mode	Sub System	State
Running Mode		
Printing	Scanner	N/A
	Control Panel	Started condition
	Scanner Controller	Started condition
	Printer Controller	Started condition
	Print Engine	Ready (The Fuser is On.)
	Engine Fan	In operation

Operating Modes (continued)

Mode	Sub System	State
Scanning	Scanner	In operation (The Lamp is On.)
	Control Panel	Started condition
	Scanner Controller	Started condition
	Printer Controller	Started condition
	Engine	N/A
	Engine Fan	In operation
Faxing	Scanner	N/A
	Control Panel	N/A
	Scanner Controller	Started condition
	Printer Controller	N/A
	Engine	N/A
	Engine Fan	In operation
Ready Mode		
	Fixing	The system keeps the standby temperature.
	Exposure	The system is at Stop status.
	Recording	The system is at Stop status.
Sleep Mode		
	Scanner	Lamp On
	Control Panel	Back light Off. LCD displays Ready. Press any key to return to this state.
	Scanner Controller	Started condition
	Printer Controller	Started condition
	Engine	Ready (The Fuser is Off)
	Engine Fan	In operation
NOTE The Sleep mode is cancelled under the following conditions:		
<ul style="list-style-type: none"> ■ Any button on the Control Panel is pressed ■ A print job is started ■ A Fax job is started 		
Deep Sleep Mode (ENERGY STAR)		
	Scanner	Lamp Off
	Control Panel	Back light off... LCD displays Ready. Power Saver LED is On. Press the Wake Up button to wake up the printer.
	Scanner Controller	Wake Up key function is provided.

Operating Modes (continued)

Mode	Sub System	State
	Printer Controller	Only for 3.3 V
	Engine	Power is not supported except for Warm-Up part.
	Engine Fan	Stopped

NOTE The Deep Sleep mode is cancelled under the following conditions:

- Any button on the Control Panel is pressed
- A print job is started
- A Fax job is started

Warm-Up Time

Warm-up Time is defined as the time when the printer changes from Power-On to Standby mode.

- Standard Configuration: 30 seconds or less
- Environmental Temperature: 22° C (72° F)
- Humidity: 55% RH

First Print Output Time

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

The following conditions are applied:

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

Mode	FPOT (sec.)
Color	As fast as 10.0
Mono	As fast as 10.0

First Copy Output Time

First Copy Output Time (FCOT) is defined as the time slot when the Start button is pressed until the trail edge of the first copied media passes the printer Exit Roller.

The following conditions are applied:

- The Controller does not keep the print engine waiting.
- The printer is at Ready mode (Laser Unit Motor Off, Fuser Ready).
- Paper is A size Short-Edge Feed (SEF).
- Document is on the document glass (Document setting: Platen mode).
- Media: Media feed from the standard media tray.

Mode	FCOT (sec.)
Color	As fast as 11.1
Mono	As fast as 20.0

Image Specifications

Note

The printer has 4 mm margins on all sides.

- Refer to “Print-Quality Troubleshooting” on page 5-1 for detailed specifications.

Color (Simplex and Duplex)

Characteristic	Specifications
Color Registration	Worst target of 3. < 170 μ m

Black/White (Simplex and Duplex)

Characteristic	Specifications
Scanning Area	
Maximum Scanning Area	<ul style="list-style-type: none"> ■ Document Glass: 215.9 mm (8.5 in.) x 297.0 mm (11.7 in.) ■ ADF: 215 mm (8.5 in.) x 355.6 mm (14.0 in.)
Print Area	
Maximum Print Area	210.9 mm (8.2 in.) x 351.6 mm (13.8 in.)
Guaranteed Print Area	207.9 mm (8.2 in.) x 347.6 mm (13.7 in.)
Skew	190 mm (7.5 in.) \pm 1.2 mm (.05 in.)
Perpendicularity	114.5 mm (4.5 in.) \pm 0.8 mm (.03 in.)
Parallelism	
Horizontal	180 mm (7.1 in.) \pm 1.2 mm (.05 in.)
Vertical	234 mm (9.2 in.) \pm 1.2 mm (.05 in.)
Linearity	
Horizontal	190 mm (7.5 in.) \pm 0.5 mm (.02 in.)
Vertical	234 mm (9.2 in.) \pm 0.5 mm (.02 in.)
Slant	269 mm (10.6 in.) \pm 1.2 mm (.05 in.)
Magnification Error	
Horizontal Simplex	190 mm (7.5 in.) \pm 0.5 mm (.02 in.)
Horizontal Duplex	190 mm (7.5 in.) \pm 0.8 mm (.03 in.)
Vertical Simplex	234 mm (9.2 in.) \pm 0.5 mm (.02 in.)
Vertical Duplex	234 mm (9.2 in.) \pm 0.8 mm (.03 in.)
Registration	
Leading Edge	10.0 mm (.40 in.) \pm 2.0 mm (.08 in.)
Side Edge	8.5 mm (.33 in.) \pm 2.5 mm (.09 in.)

Alignment Specifications

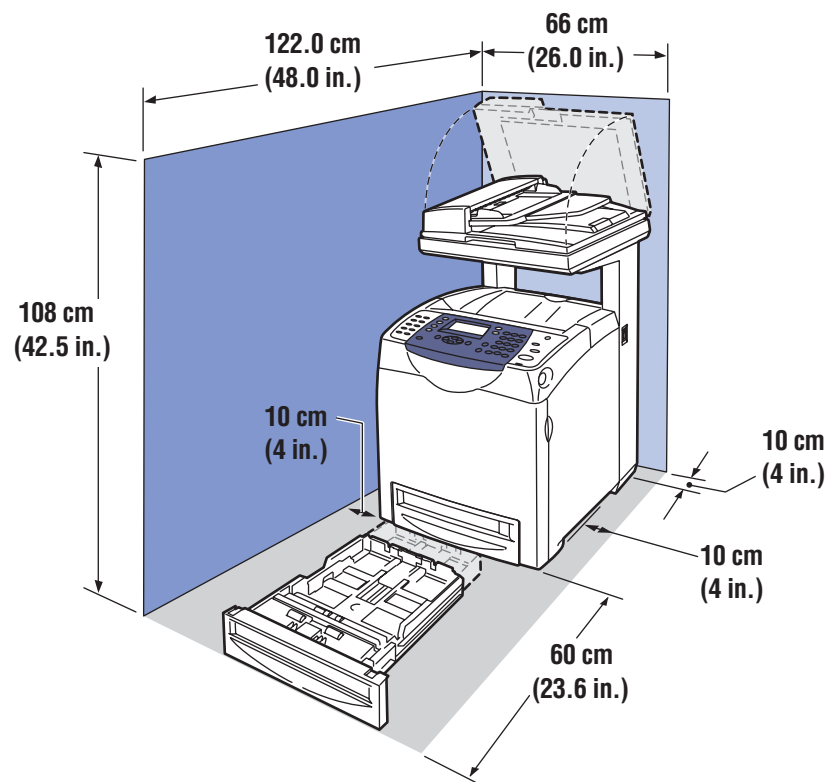
Characteristic	Specifications				
	Copy		Scan		Print
	System	ADF	Document Glass	ADF	Printer
Lead Registration	±3.0 mm	±4.0 mm	±1.0 mm	±2.0 mm	±2.0 mm
Side Registration	±3.5 mm	±4.5 mm	±1.0 mm	±2.0 mm	±2.5 mm
Lead Skew (180 mm)	±2.2 mm	±2.9 mm	±1.1 mm	±1.8 mm	±1.1 mm
Side Skew (280 mm)	±3.7 mm	±4.8 mm	±1.7 mm	±2.8 mm	±2.0 mm (converted from perpendicularity)
Magnification accuracy in the horizontal direction (180 mm) Applied when 100%	±3.6 mm	±3.6 mm	±2.7 mm	±2.7 mm	±0.9 mm (100±0.5% @180 mm)
Magnification accuracy in the vertical direction (280 mm) Applied when 100%	±4.2 mm	±4.2 mm	±2.8 mm	±2.8 mm	±1.4 mm (100±0.5% @280 mm)
Magnification accuracy in the vertical direction (140 mm) Applied when 50%	±2.1 mm	±2.1 mm	±1.4 mm	±1.4 mm	±0.7 mm (converted from 280 mm)
Magnification accuracy in the vertical direction (200 mm) Applied when 200%	±3.0 mm	±3.0 mm	±2.0 mm	±2.0 mm	±1.0 mm (converted from 280 mm)
Perpendicularity (140 mm)	±2.0 mm	±3.1 mm	±1.0 mm	±2.1 mm	±1.0 mm
Linearity (vertical) (280 mm)	±1.1 mm	±1.6 mm	±0.5 mm	±1.0 mm	±0.6 mm
Linearity (slant) (200 mm)	±2.1 mm	±2.9 mm	±1.2 mm	±2.0 mm	±0.9 mm (±1.1 mm/ 254.5 mm conversion)
Parallelism (280 mm)	±3.3 mm	±4.1 mm	±2.0 mm	±2.8 mm	±1.3 mm

Physical Dimensions and Clearances

Printer Dimensions

Print Engine	6180MFP/N	6180MFP/D
Height (top closed with no optional cart)	730 mm (28.7 in.)	
Width (no cart)	460 mm (18.1 in.)	460 mm (18.1 in.)
Depth (no cart - letter size paper)	520 mm (20.5 in.)	520 mm (20.5 in.)
Depth (with legal paper)	570 mm (22.4 in.)	570 mm (22.4 in.)
Weight (base printer with standard fill print cartridges)	40.0 kg (88.2 lb.)	41.0 kg (90.4 lb.)
Optional 550-Sheet Feeder		
Height	435 mm (17.1 in.)	
Width	585 mm (23.0 in.)	
Depth	696 mm (27.4 in.)	
Weight	20.0 kg (44.0 lb.)	

Minimum Clearances

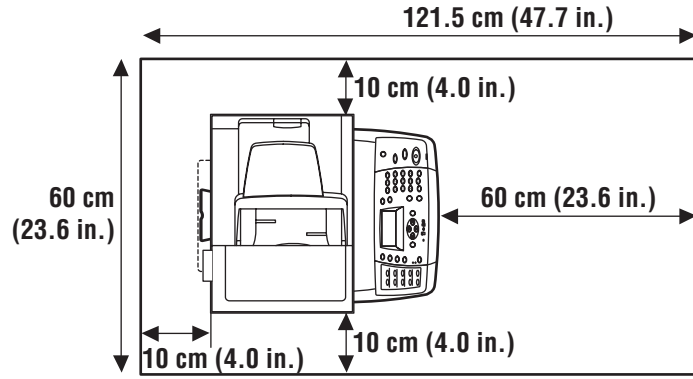


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Mounting Surface Specifications

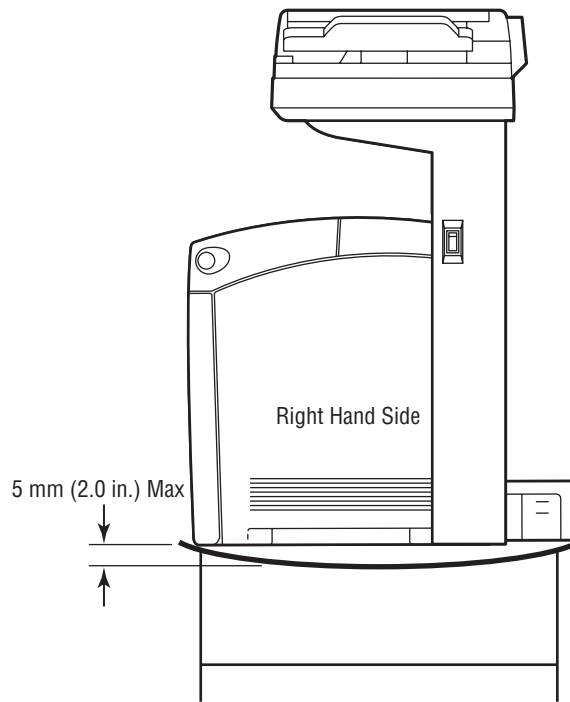
These specifications apply to any printer used as a table-top printer.

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



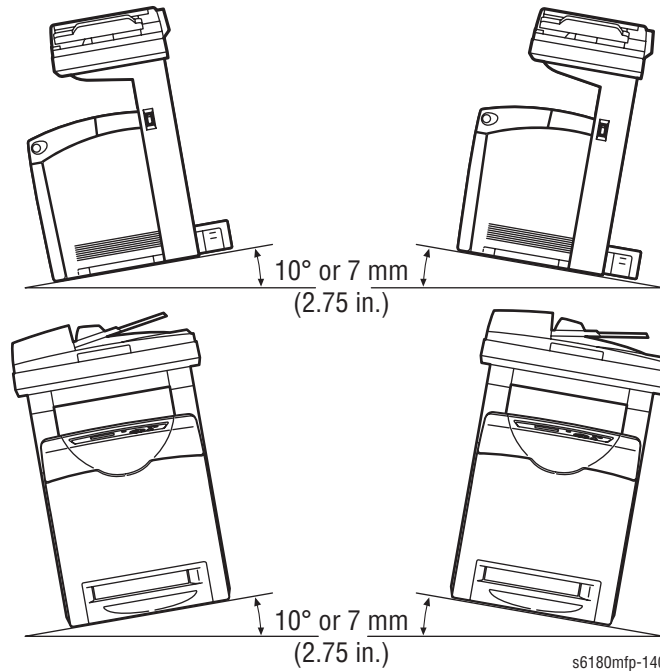
s6180mfp-138

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



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



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

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

Media and Tray Specifications

The following tables list the recommended Xerox paper for the printer.

Supported Paper Size

Paper Type	Dimension	Tray 1 (MPT)	Tray 2, 3
Letter	8.5 x 11 in.	Yes	Yes
Legal	8.5 x 14 in.	Yes	Yes
US Folio	8.5 x 13 in.	Yes	Yes
Executive	7.25 x 10.5 in.	Yes	Yes
A4	210 x 297 mm	Yes	Yes
A5	148 x 210 mm	Yes	Yes
B5 JIS	182 x 257 mm	Yes	Yes
Custom Page Size*		Yes	Yes

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

Supported Paper Types and Weights

Paper Type	Paper Weight	Tray 1 (MPT)	Tray 2, 3
Plain Paper	65-120 g/m ² (17-32 lb. Bond)	Yes	Yes
Letter Head	85-120 g/m ² (22-32 lb. Bond)	Yes	Yes
Glossy Coated Paper	100-160 g/m ² (28-40 lb. Bond; 40-60 lb. Cover)	Yes	Yes
Thick Coated Glossy Paper	160-220 g/m ² (40-60 lb. Bond; 60-80 lb. Cover)	Yes	Yes
Pre-Punched	65-90 g/m ² (17-24 lb. Bond)	Yes	Yes
Colored Paper	N/A	Yes	Yes
Label	N/A	Yes	Yes
Thin Card Stock	100-163 g/m ² (28-40 lb. Bond; 50-60 lb. Cover)	Yes	Yes
Thick Card Stock	160-220 g/m ² (65-80 lb. Cover; 90-120 lb. Index)	Yes	Yes
Transparency	Xerox Premium Transparency	Yes	No
Special	100-163 g/m ² (30-60 lb. Cover)	Yes	No

Supported Envelopes

Type	Dimension	Tray 1 (MPT)	Tray 2, 3
#10 Commercial Envelope	4.12 x 9.5 in.	Yes	No
Monarch Envelope	3.87 x 7.5 in.	Yes	No
C5 Envelope	162 x 229 mm	Yes	No
DL Envelope	110 x 220 mm	Yes	No

Note: Do not use envelopes with hot melt glue, windows, or metal clasps.

Controller Functions

Job Control

Cancel Print

User can cancel a print job while printing is in progress using the Cancel button on the Control Panel. Job cancellation is not immediate. Depending on the job size, it may take a while to completely cancel.

Forced Output

This function forces the printer to print the received data when the printer is waiting for the remaining data during job processing.

IP Filter

User can accept or reject print jobs up to five specified IP addresses. IP filter is available only to LPD and Port9100.

Job Recovery

When a print job fails due to a paper jam, the printer automatically restarts the job after the jammed paper is removed. User does not have to reprint the entire job.

Job Time-out

When job transmission is interrupted for a certain period of time, the print data is deleted as an error. Time-out setting can be changed and unlimited time can be selected using the menu on the printer's Control Panel.

Print Volume Management

Print Volume (PV) Management manages print volume per user and can manage up to 50 users.

RAM Collation

RAM-enabled consists of standard features including RAM Collation (copy and print), Secure Print, and Proof Print.

Collation

The job is stored in the memory and multiple copies are printed. When the entire job does not fit in the memory, the printer prints one copy up to the stored pages, and the remaining are discarded.

An error message will appear on the Control Panel: "Error xxxx Press **OK** key."

Two options are available to ensure Job Collation will process effectively:

- Break large print job into multiple small print jobs
- Increase memory for the printer

Secure Print

Secure Print allows the printer to hold print data, including a User Password (11 digits), User Name, and Document Name in its memory.

- **User ID** – consists of a variable length from 1 to 24 byte characters (20H-FFH). The driver requests the User ID from the user when the Secure Print option is selected. A user ID cannot be blanked with only space characters.
- **User Password** – consists of a variable length from 0 to 11 digits. The password is an optional input and hidden from the user interface by displaying "*" for each digit. If a password is not specified, the driver will accept it as a zero-length string so that a password will not be required when requesting job output from the printer.
- **Document Name** – consists of a variable length from 0 to 24 characters (20H-FFH) that specifies the document name.

The data will not be printed until the same password, user name, and document name are provided via the printer menu on the Control Panel. User can remove or keep the data after printing the document. The data remains in the printer memory as long as it is not cleared and will be cleared when the printer is turned Off. User can omit entering a password (this is called Store Print - not available for Mac OS 10.2.).

Proof Print

Proof Print can be selected only when multiple sets of prints are specified in the printer driver. The printer prints only the 1st set of the print data including a user name and document name specified in the printer driver. User can keep or remove the data using the printer menu on the Control Panel. The data remains in the printer memory as long as it is not cleared and will be cleared when the printer is turned Off.

This function is not available for Mac OS 10.2 and Linux operating systems.

Form Overlay

The function for writing PCL6 forms is downloaded into RAM Disk.

Font Download

PCL6 fonts are downloaded into RAM Disk.

Billing Meters

The Billing Print counter provides the number of pages printed properly.

- Simplex print is counted as 1 (including N- up)
- Duplex print is counted as 2 (including N- up)

If an error has occurred after the one side printed properly during duplex printing, it is counted as 1.

Note

Same data is stored in two or more addresses in one IC. When the Controller is replaced, IC can be transferred.

Counter	Description
Color Print Counter	Counts the number of pages printed in color (7 digits).
Mono Print Counter	Counts the number of pages printed in Black & White (7 digits).
Total Print Counter	Count the total number of pages printed in color and Black & White (7 digits).

ID Print

User can position and print the User Name on the upper right, upper left, lower right, and lower left (only for PCL6) of the page.

Non-Genuine Mode

When the Print Cartridge life has ended, the printer stops accepting print request (life of the Print Cartridge is counted by the counter in the CRUM). This mode can be changed so the printer will not stop at the end of the print cartridge rated life; however, the printer will display an end of life message on the Control Panel.

Print Cartridge Control Panel Display

Print Cartridge	Control Panel Display			Functionality
	Normal Status	Life Warning Error	End of Life Error	
Xerox	Xerox (TM) Print Cartridge	Replace Soon	Replace Print Cartridge	Prints with full functionality.
Xerox (refill Print Cartridge)	Xerox (TM) Print Cartridge	Replace Soon	Empty	Prints with full functionality up to 40% of the Print Cartridge life.
Other OEM (non-Xerox printer manufacturer)	Non-Xerox Print Cartridge			Printer displays error and will not print.
Non-Xerox Print Cartridge Manufacturer	Non-Xerox Print Cartridge	No Life Tracking	Replace Print Cartridge	Prints with full functionality.

Toner Remaining Amount

The CentreWare Internet Services (IS) and PrintingScout (SimpleMonitor) allow the printer to display toner remaining amount.

Maintenance Function

Firmware Update

The Image Processor Board and Multi-Protocol Network Card firmware can be updated by customers and service technicians using Windows PC or Macintosh with dedicated utilities. Firmware updates are available at www.xerox.com/office/6180MFPsupport.

Detailed procedures are available in the “Firmware Update” on page A-3.

Note

Boot Code can be updated via USB or Parallel port only.

Updated Firmware	Windows	
	Via USB/IEEE1284	Via Network (port 9100)
Image Processor Board	Available	Available
Multi-Protocol Network Card	Available	Available
MCU Board*	Available	Available

* MCU Board cannot be updated when ROM starts to be used for MCU Board.

Diagnostics

Two types of diagnostic functions are available:

1. Auto Diagnostics: The printer is checked when whether or not it is turned On. It is checked whether or not hardware (ROM, RAM, ASIC, etc....) operates properly.
2. Manual Diagnostics: Only qualified service personnel can perform manual diagnostics using the Service Mode in the Control Panel.

Information Pages

Demo Page

Demo Page provides sample print for the Phaser 6180MFP Multifunction Printer. The Demo Page is printed in color from the selected paper tray.

Configuration Page

XEROX Configuration

Phaser® 6180MFP/D
Color Printer

General

Total Impressions	1192Pages	Network Mask Address	255.255.248.0
Total Color Impressions	70/Pages	Gateway Address	13.62.152.1
Total Black Impressions	458/Pages	Status	Ready
Serial Number	GCHOLP106	Protocol	LPS
Xerox Asset Number		Port Status	Enable
Customer Asset Number		Port 9100	Port Status
Memory Capacity	256MB	Port Status	Enable
Printer Language	PCL5	FTP	Port Status
PCL5	200701261614	Port Status	Enable
PCL6	200701261614	SNMP	Port Status
PostScript	200702091558	Port Status	Enable
Number of Fonts Available	Roman: 81 fonts	Email Alerts	Port Status
PCL	3015.103	Port Status	Enable
PostScript Version	37429007	Controlpane IS	Port Status
PostScript Serial Number	200702231622	Port Status	Enable
Firmware Version	200702231545	Bonjour (mDNS)	Port Status
Boot Version	04.47.00	Port Status	Enable
Engine Version	(04.47.00)	Printer Name	Xerox Phaser 6180MFP/N
PostScript CRD Version	200702091558	Printer Name	Xerox Phaser 6180MFP/N
ITL Version	200611131206	Printer Name	(42:90:07)
IPS Version	200702231625		
Default Paper	Letter		
Default Language	English		
Current Temperature	26°C / 78°F		
Current Humidity	32%		

Printer Options

Duplex Unit	(02,10,00)	IP Filter	No.1/Address	0.0.0.0
Paper Tray	Tray 1 (MPF)	No.1/Mask	0.0.0.0	0.0.0.0
Tray 2		No.1/Mode	Off	Off
		No.2/Address	0.0.0.0	0.0.0.0
		No.2/Mask	0.0.0.0	0.0.0.0
		No.2/Mode	Off	Off
		No.3/Address	0.0.0.0	0.0.0.0
		No.3/Mask	0.0.0.0	0.0.0.0
		No.3/Mode	Off	Off
		No.4/Address	0.0.0.0	0.0.0.0
		No.4/Mask	0.0.0.0	0.0.0.0
		No.4/Mode	Off	Off
		No.5/Address	0.0.0.0	0.0.0.0
		No.5/Mask	0.0.0.0	0.0.0.0
		No.5/Mode	Off	Off
		Adobe Protocol	Auto	Auto

Print Volume

Letter - 8.5x11	1600Pages
B5 - 182x257	0Pages
A5 - 148x210	500Pages
A4 - 210x297	874Pages
Executive	0Pages
US Folio - 8.5x13	0Pages
Legal - 8.5x14	506Pages
#10Env - 4.1x9.5	0Pages
Monarch Env	0Pages
DL Env - 110x220	0Pages
C5 Env - 162x229	0Pages
Others	0Pages

Network Settings

Firmware Version (Onboard NIC)	92.07
Mac Address	08:00:37:42:90:07
Ethernet	100Base Full (Auto)
TCP/IP	
Set IP Address	
IP Address	13.62.154.241

Defaults Settings

Copy Defaults	Color	Color
Tray 2	Tray 2	Tray 2
Collated	Off	100%
Reduce/Enlarge	100%	Text&Photo
Document Type	Standard	Standard
Output Quality	2-Sided	1->1Sided

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USB Settings

Adobe Protocol	IBCP	Time Zone	-12:00
		mm/Inch	inch(°)

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User can print the Configuration Page from the Control Panel: **System** > **Information Pages** > **Configuration**. The Configuration Page is printed from the default tray which contains the following information.

Configuration Page Information

General Description	Detail Description
Title	Prints Title of the document
Product Name (Logo)	Prints organization's logo

Configuration Page Information (continued)

General Description	Detail Description
General	Total Impressions, Total Color Impressions, Total Black Impressions, Serial Number, Xerox Asset Number, Customer Asset Number, Memory Capacity, Printer Language, Number of Fonts Available, PostScript Version, PostScript Serial Number, Firmware Version, Boot Version, Engine Version, PostScript CRD Version, IIT Version, IPS Version, Default Paper, Default Language, Current Temperature, Current Humidity
Printer Options	Multi-Protocol Card (when installed) Duplex Unit: (00.00.00) Paper Tray: Tray 1 (MPT), Tray 2, Tray 3
Print Volume	Print Volume for each paper size
Network Settings	Firmware Version (Onboard NIC)/Firmware Version (MPC) (when installed), MAC Address, Ethernet, TCP/IP, Protocol, IP Filter, Adobe Protocol
Defaults Settings	Copy Defaults, Scan Defaults, Fax Defaults
Parallel Settings	ECP, Adobe Protocol
USB Settings	Adobe Protocol
Fax Settings	Interval Timer, Number of Redial, Interval of Redial, Ans Select, Auto Answer Fax, Auto Answer TEL/FAX, Auto Answer Ans/FAX, Line Monitor, Ring Tone Volume, Line Type, Dialing Type, Junk Fax Filter, Remote Receive, Remote Rcv Tone, Duplex Print, Send Header, Company Name, Your Fax Number, Device Name, DRPD Pattern, Forward Settings, Fwd. Settings Num, Fwd. Set Print, Prefix Dial, Prefix Dial Num, Discard Size, Color Fax, Extel Hook Thresh, Country, Fwd. Error Print
System Settings	2 Mode Power Saver, Power Saver Timer, Auto Reset, Alert Tone, Time-Out, Clock Settings, mm/inch, Language, Auto Log Print, Print ID, Print Text, Banner Sheet, Fax Activity, Fax Transmit, Fax Broadcast, Protocol Monitor, RAM Disk, Tray Switching, Start Up Page
Maintenance	Auto Regi Adjust, Non-Xerox Toner
PCL	Paper Supply, Document Size, Orientation, 2-Sided, Font, Symbol Set, Font Size, Font Pitch, Form Line, Quantity, Image Enhance, Hex Dump, Draft Mode, Line Termination, Default Color
PostScript	PS Error Report, PS Job Time-Out, Paper Select Mode
Secure Settings	Panel Lock, Scan/Fax Lock, Secure Receive Lock
Tray Settings	Tray 1 (MPT), Tray 2

PCL Fonts List

User can print the PCL Fonts List default in color on A size paper from default tray. The PCL Font List contains:

- No., Fonts, Escape Sequence, Font ID, Sample

PCL Macro List

User can print the PCL Macro List default on A paper size from default tray.

PostScript Fonts List

User can print the PostScript Fonts List default on A size paper from default tray. The PostScript Fonts List contains:

- Print Fonts, Fonts Sample


Stored Documents List

- The Stored Documents report provides list of Secure Print and Proof Print jobs.

Job History Report

The printer can retain up to 22 job logs and automatically prints a Job History Report when the number of the retained job logs reaches 22. User can also print the report any time. The Job History Report contains:

- Job sent data and time
- Input Port (Port 9100, USB,...etc.)
- Host/User Name
- Document Name (File Name)
- Default Color
- Paper Size
- Pages
- Sheets
- Result (completed, error,...etc.)

 Phaser® 6180MFP/D Color Printer										
Job History Report										
Date	Time	Input Port	Host/User Name	Document Name	Default Color	Paper Size	Pages	Sheets	Result	
		Report		Error History Report	Color	Letter	1	1	Completed	
2007/03/02	14:37	Port 9100	605K971/usx00001	out01nd://1113-0000000C2497 61731	Color	Letter	1	1	Completed	
2007/03/05	09:13	Port 9100	605K971/usx00002	http://www.docushare.world. xerox	Color	Letter	4	2	Completed	
2007/03/05	09:17	Port 9100	605K971/usx00001	http://www.docushare.world. xerox	Color	Letter	4	2	Completed	
2007/03/05	12:47	Port 9100	605K971/usx00002	out01nd://166-0000000C2497 61731	Color	Letter	1	1	Completed	
		Others		Menus	Color	Letter	1	1	Completed	
		Report		Job History Report	Color	Letter	1	1	Completed	
		Report		Error History Report	Color	Letter	1	1	Completed	
		Report		Protocol Monitor	Black	Letter	1	1	Completed	
2007/03/05	23:53	Scanner		Scan	Color		1	0	Completed	
2007/03/05	23:54	Scanner		Scan	Color		1	0	Completed	
2007/03/05	23:59	Scanner		Scan	Color		1	0	Completed	
		Report		Job History Report	Color	Letter	1	1	Completed	
2007/03/05	17:18	Port 9100	605K971/usx00001	01_general_info_6180MFP_fm	Color	Letter	1	1	Completed	
2007/03/05	17:20	Port 9100	605K971/usx00001	01_general_info_6180MFP_fm	Color	Letter	1	1	Completed	
		Report		DemoPage	Color	Letter	1	1	Completed	
2007/03/06	09:43	Port 9100	605K971/usx00001	01_general_info_6180MFP_fm	Color	Letter	1	1	Completed	
		Report		Print Volume Report	Color	Letter	1	1	Completed	
2007/03/06	17:53	Scanner		Scan	Color		1	0	Completed	
2007/03/06	09:58	Port 9100	605K971/usx00001	01_general_info_6180MFP_fm	Color	Letter	1	1	Completed	

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Error History Report

System Fail History		
No.	Total Print Count	Chain-Link
1	947	116-398
2	315	116-398
3	242	072-216
4	74	117-313
5	74	116-397
6	74	024-371
7	74	117-313
8	74	116-397
9	74	024-371
10	0	117-313
11	0	116-397
12	0	024-371

Paper Jam History		
No.	Total Print Count	Paper Jam Type
1	265	ADF Jam

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The printer can retain up to 42 System errors and 42 Jam errors. User can print the Error History Report default on A size paper from the default tray using the printer menu in the Control Panel.

The Error History Report contains the following information:

- System Fail History – Item No., Total Print Count, Chain-Link
- Paper Jam History Item No. – Item No., Total Print Count, Paper Jam Type

Admin Reports

Speed Dial Report

The Speed Dial report provides an address list for Speed Dial and Group Dial. The report can only be printed manually; auto print is not available.

Address Book Report

The Address Book report provides a list of the address book.

Server Address Report

The Server Address report provides a list of servers connected to the printer.

Fax Pending Report

The Fax Pending report provides a list of pending fax jobs that has been stored in the memory.

Fax Activity Report

The Fax Activity report provides a list of fax communication results up to 50 jobs. This report is automatically printed when sent/received faxes exceeds 50 jobs. The report can also be printed via the Control Panel menu.

This can indicate send mode is OK.

Phaser 6180MFP/N
Fax Activity Report

Page: 1 (Last Page)

Local Name: Horizon_Inc
Company Logo

**** Sent ****

No.	Job#	Remote Station	Start time	Dura	Pages	Mode	Contents	Result
1	0767	7834624	01-26:09:13	16"	1/1	SG3		Done
2	0777	8837482007	01-26:10:26	2*47"	13/13	SG3		Done
Total 14								

**** Received ****

No.	Job#	Remote Station	Start time	Dura	Pages	Mode	Contents	Result
1	0757	6133540	01-26:09:15	1*00"	2	ROM		Done
2	0758	SG3	09:16	10"	-	SG3		033-610
3	0759	757 xxxxxxxx	09:16	21"	-	SG3		033-610
4	0760	843 xxx xxxx	09:21	16"	-	SG3		033-610
5	0761	SG3	09:21	16"	-	SG3		033-610
6	0762	757 xxxxxxxx	09:22	28"	1	SG3		033-610
7	0763	843xxxxxxx	09:23	36"	2	SG3		Done
8	0764	910xxxxxxx	09:24	36"	1	ROM		Done
9	0765	843 xxx xxxx	09:26	23"	-	SG3		033-610
10	0766	757 xxxxxxxx	09:27	25"	-	SG3		033-610
Total 25								

Can monitor the status history or errors.

Phaser 6180MFP/N
Fax Activity Report

Page: 1 (Last Page)

Local Name: Horizon_Inc
Company Logo

**** Sent ****

No.	Job#	Remote Station	Start time	Dura	Pages	Mode	Contents	Result
1	0005	971xxxxxxx	12-22:18:07	00"	-/2			Cancelled
2	0006	966xxxxxx	18:09	00"	-/2		Resend	Auto Resend
3	0006	966xxxxxx	18:11	00"	-/2		Resend	Cancelled
4	0007	966xxxxxx	18:13	00"	-/2		Resend	Auto Resend
5	0007	966xxxxxx	18:16	00"	-/2		Resend	Send Again
6	0009	966xxxxxx	18:33	00"	-/2		Resend	Auto Resend
7	0009	966xxxxxx	18:35	00"	-/2		Resend	Send Again
8	-	-	12-26:12:21	46"	-			Cancelled
9	0011	966xxxxxx	13:42	00"	-/2		Resend	Cancelled
10	0011	966xxxxxx	13:45	00"	-/2		Resend	Cancelled
Total 0								

**** Received ****

No.	Job#	Remote Station	Start time	Dura	Pages	Mode	Contents	Result
1	0002	0611 inc	12-21:16:12	22"	2	SG3		Done
2	0003	716xxxxxxx	16:44	22"	2	SG3		Done
3	0001	716 xxx xxxx	12-22:13:01	1*31"	2	SG3		Done
Total 6								

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Print Meter (Print Volume Report)

User can print the Print Meter page on A paper size from default tray. The Print Meter page contains:

- Date of Initialization, Job Accounting User Name, Pages, Sheets, Date/ Time

XEROX. Phaser® 6180MFP/D
Color Printer

Print Volume Report

Date of Initialization: 2006/09/25 05:21 Date/Time: 2007/03/06 09:58

Job Accounting User Name	Pages						Black Total	Total Pages	Sheets		
	Legal	A4	Letter	B5	Others	Total			Color	Black	Total
EP Driver	4	0	116	0	0	120	52	172	107	29	136
Energy Star test	0	0	0	0	0	0	113	113	0	113	113
Demolition Version 2	0	0	1	0	0	1	0	1	1	0	1
USX0001	0	0	0	0	0	0	8	8	8	0	8
USX0001	0	0	1	0	0	1	0	1	1	0	1
USX0002	0	0	2	0	0	2	0	2	2	0	2
esprint	0	0	51	0	0	51	71	122	51	71	122
USX0001	0	0	1	0	0	1	0	1	1	0	1
USX0002	0	0	1	0	0	1	0	1	1	0	1
USX0002	0	0	156	0	0	156	17	173	93	9	102
Unknown User	154	267	839	0	150	1410	3437	2330	904	1837	2330
Report/List	0	0	167	0	0	167	17	184	167	17	184
Total	154	267	839	0	150	1410	2107	3517	1834	2076	3410

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Theory of Operation

In this chapter...

- Phaser 6180MFP Operational Overview
- Printing Process
- Paper Path of the Printer
- Major Assemblies and Functions
- Printer Modes
- Printer Control
- Drive Transmission
- Optional 550-Sheet Feeder Drive
- Scanner Assembly
- Fax System

Chapter 2

Phaser 6180MFP Operational Overview

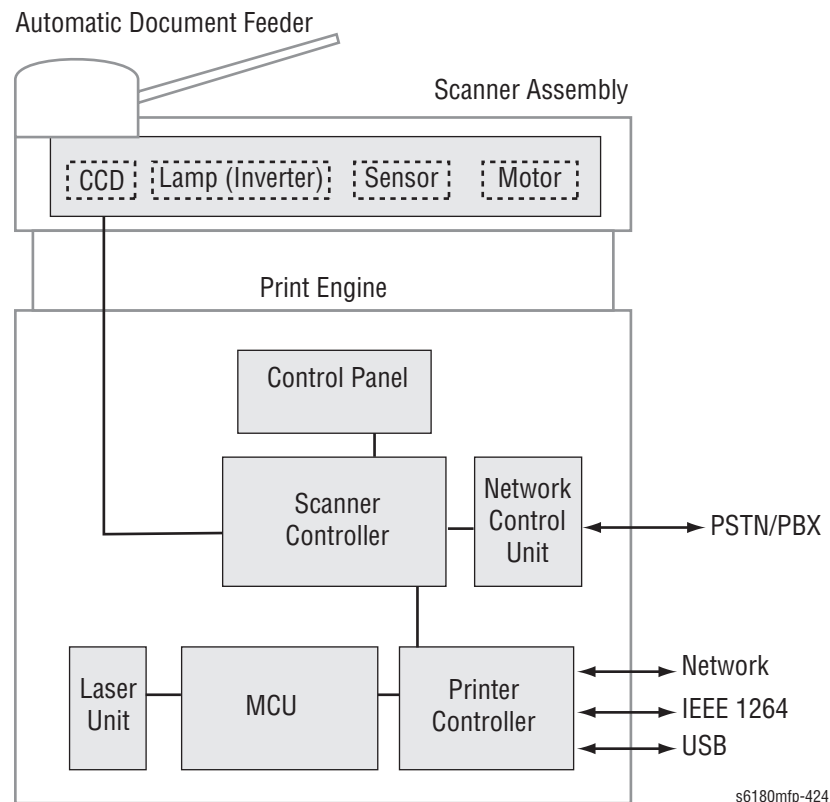
The Phaser 6180MFP is a full-color laser printer that uses Raster Output Scanner (ROS) lasers with an electrophotographic four-color CMYK process. The tandem system consists of four color print cartridges (C, M, Y, and K) which creates the toner image. The Phaser 6180MFP offers Print, Scan, Copy, and Fax functionality.

System Overview

The Phaser 6180MFP Multifunction Printer consists of the Scanner Assembly, Print Engine, Control Panel, Printer Controller, and All In One (AIO) Controller.

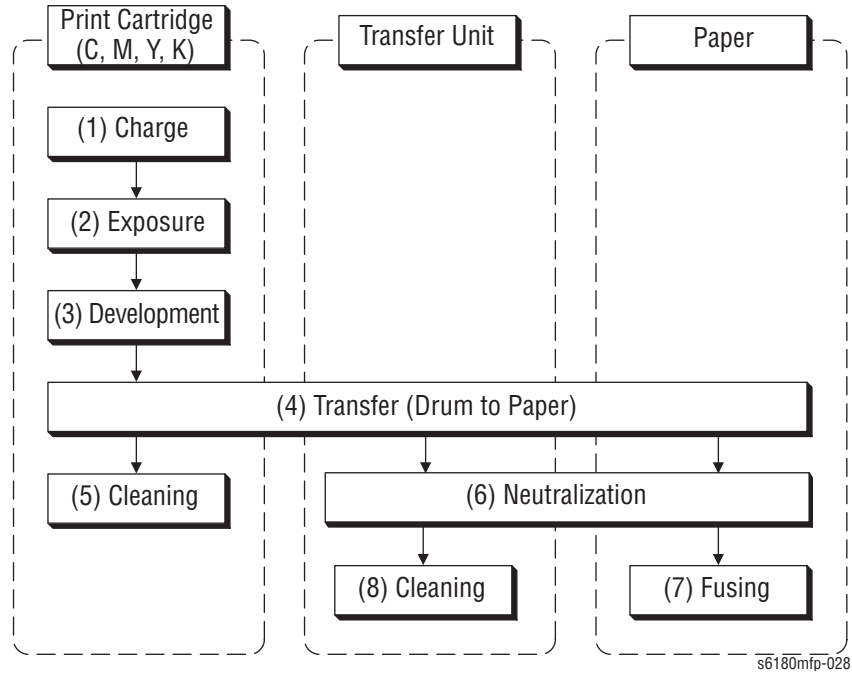
- **Scanner Assembly** – The Scanner Assembly scans document for copying, scanning, and facsimile sending. Automatic Document Feeder (ADF) is a standard feature.
- **Print Engine** – The Print Engine writes video data on paper for copying, printing files received by facsimile, and printing. The Image Output Terminal (IOT) prints data in four colors (CMYK). The laser xerography system employs four color independent tandem engines.
- **Control Panel** – The Control Panel displays various setup, instructions, and error messages for printing, scanning, copying, and faxing.
- **Printer Controller** – The Printer Controller controls the total system of the machine. The Printer Controller processes and stores images from the Scanner Assembly, Print Engine, facsimile, and printer I/F, and controls the panel.

- **Scanner Controller** – The Scanner Controller processes image input from the Scanner Assembly.
 - For copying, local scanning, and network scanning, the Scanner Controller sends data to the Printer Controller.
 - For Fax sending, the Scanner Controller sends data via the Network Control Unit (NCU) to the communication line.
 - For Fax receiving, the Scanner Controller processes data sent from the communication line via the NCU, and sends the data to the Printer Controller.



Print Process Block Diagram

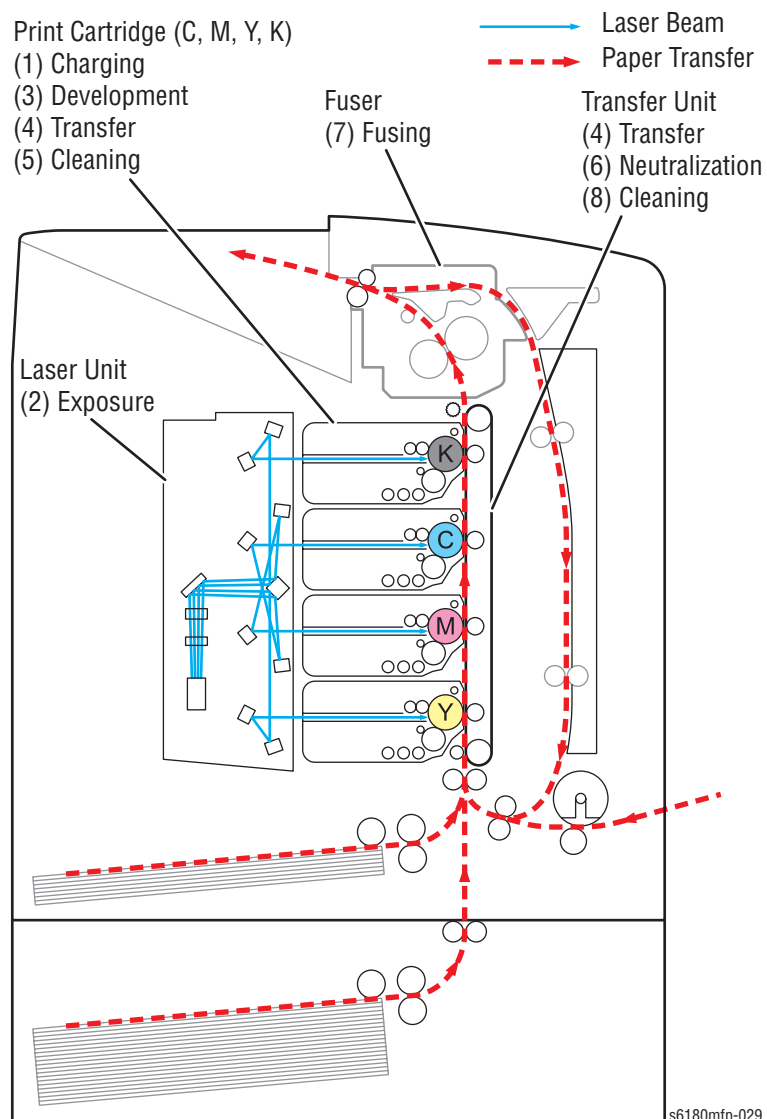
The following block diagram provides the sequence of events for the xerographic process (dashed lines) and the paper flow (solid lines) into and out of the Phaser 6180MFP.



Printing Process

The Phaser 6180MFP print process consists of the following steps:

1. **Charging** – The Drum surfaces are charged with electricity.
2. **Exposure** – The Drums are exposed to laser beams.
3. **Development** – Image is developed with toner.
4. **Transfer (Drum ----> Paper)** – Four color finished toner image on the Drums is transferred onto the paper.
5. **Cleaning (Print Cartridge)** – Remaining toner on the drums is collected.
6. **Neutralization** – The Detack Saw neutralizes the charge on the paper via the Belt.
7. **Fusing** – The Fuser applies toner on to paper using heat and pressure.
8. **Cleaning** – Remaining toner on the Transfer Unit is collected.



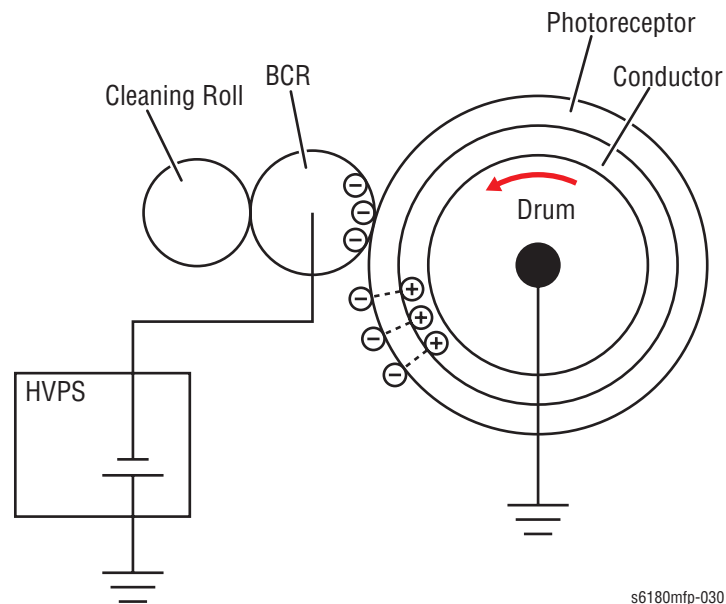
Charging

The Drum surface is charged with negative electricity by discharging of the Bias Charge Roll (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 roll, which receives negative voltage from the High-Voltage Power Supply (HVPS) and discharges a negative Direct Current (DC) voltage.

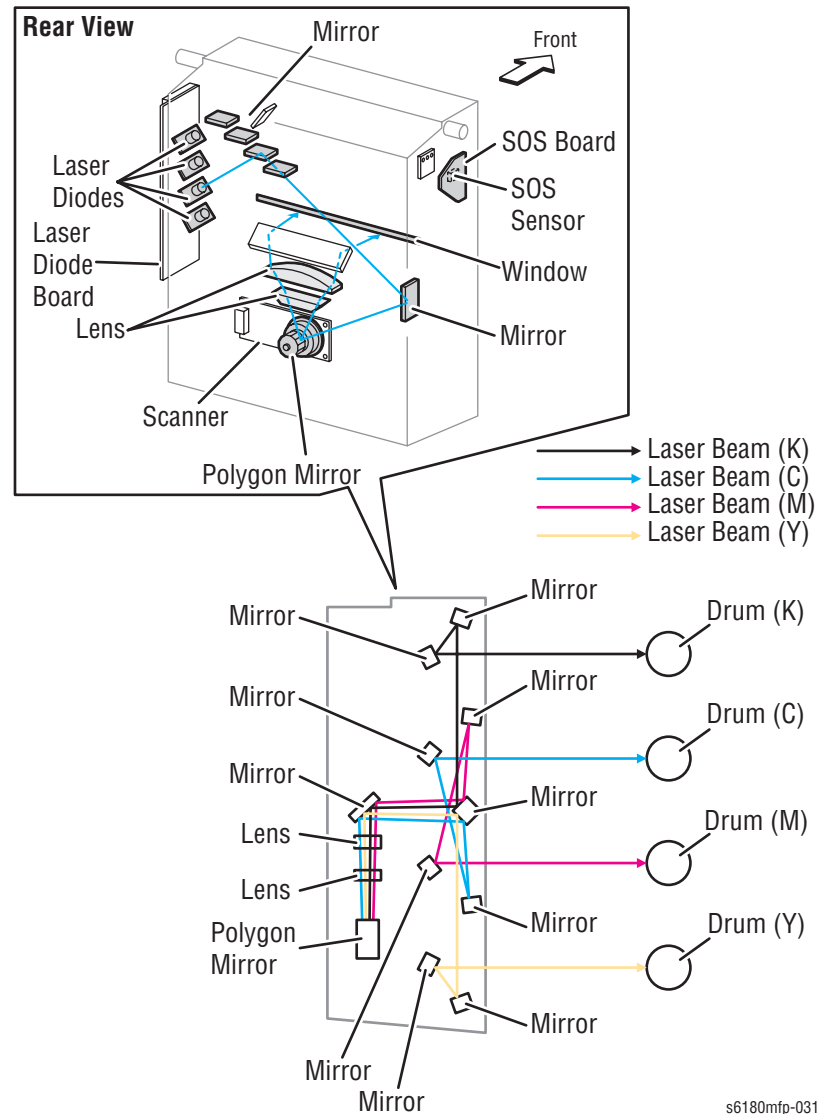
The Drum surface is uniformly and negatively charged with DC bias voltage. The Drum surface is a photoreceptor (which is an insulator in a dark area and a conductor when receiving light) and the Drum inside is composed of conductor.

The BCR Cleaner contacts with the BCR to catch the toner.



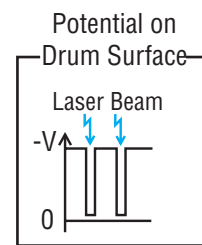
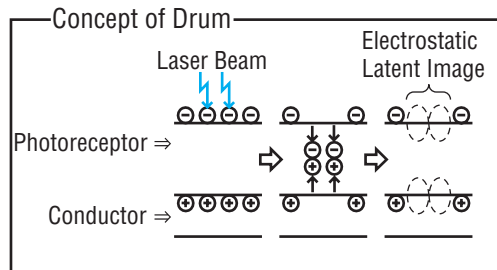
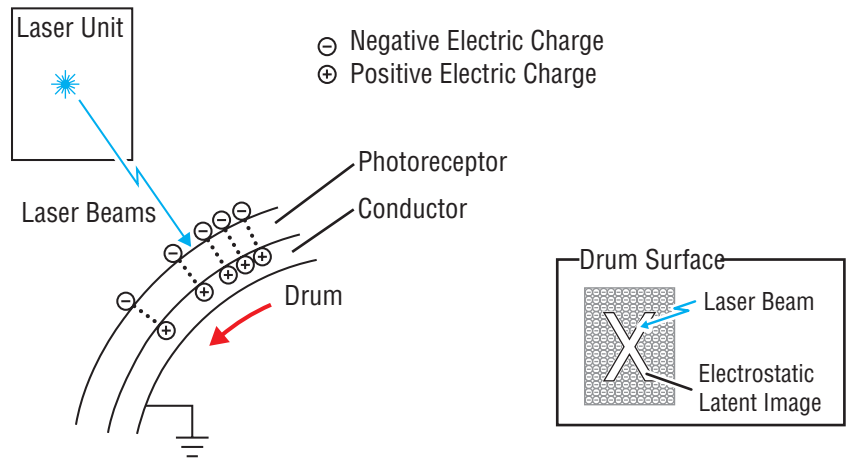
Exposure

Laser beams are emitted from the laser diodes in the Laser Unit. The Drum for each color is scanned from end to end in the axial direction as the polygon mirror rotates, which attaches the fixed mirror and lenses to the Scanner Motor of the Laser Unit.



The negative charged Drum surface is scanned by the laser beams to form an invisible electrostatic latent image on the drum surface. The process is performed in parallel for Cyan, Magenta, Yellow, and Black colors.

The area on the surface where the voltage potential drops due to exposure to the laser beam becomes the electrostatic latent image.



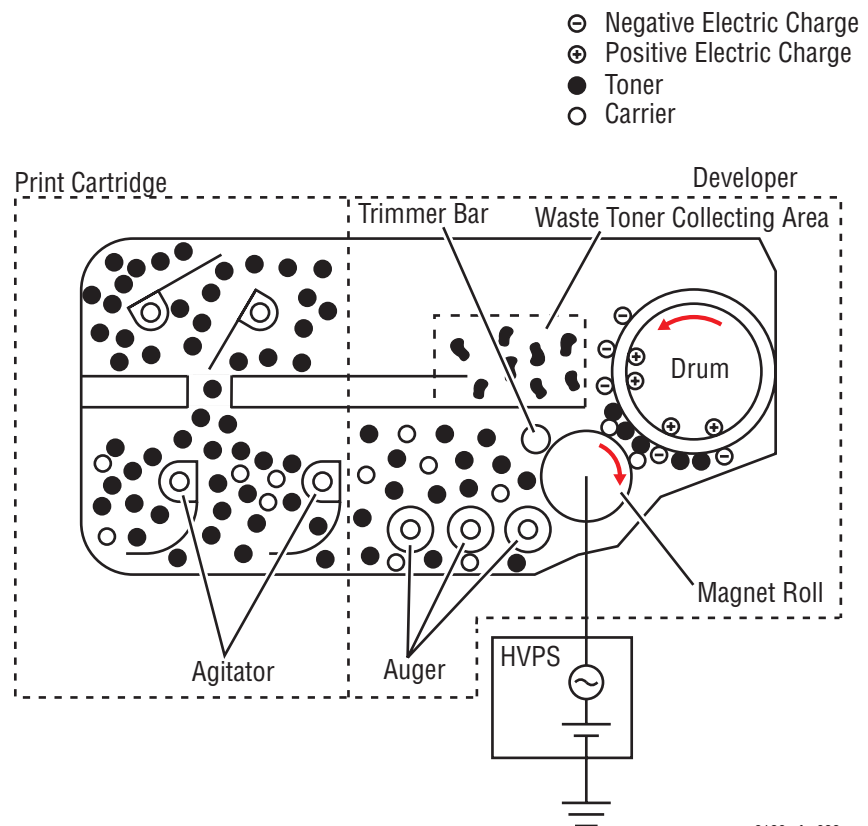
s6180mfp-032

Development

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

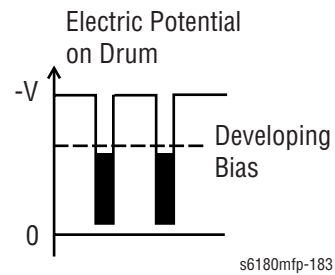
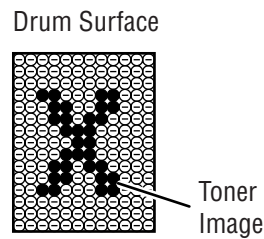
The toner in the Print Cartridge is agitated by the built-in Agitator and fed into the Developer part. The Augers are driven by the Toner Motor and the Developer Motor in the Main Drive. The toner to be consumed according to the print count is calculated and fed into the Developer. This process is called Toner Dispensation, which is controlled by two processes: Pixel Count Dispense Control (PCDC) and Automatic Density Control (ADC).

The toner fed into the Developer and the carrier in the Developer are agitated by the Auger, and supplied to the Magnet Roll arranged in the drum surface area. The toner and carrier are charged by friction due to agitation (toner in negative, carrier in positive), and they are absorbed electrically. A uniform layer is formed by the Trimmer Bar as the carrier magnetic substance is attracted to the Magnetic Roll.



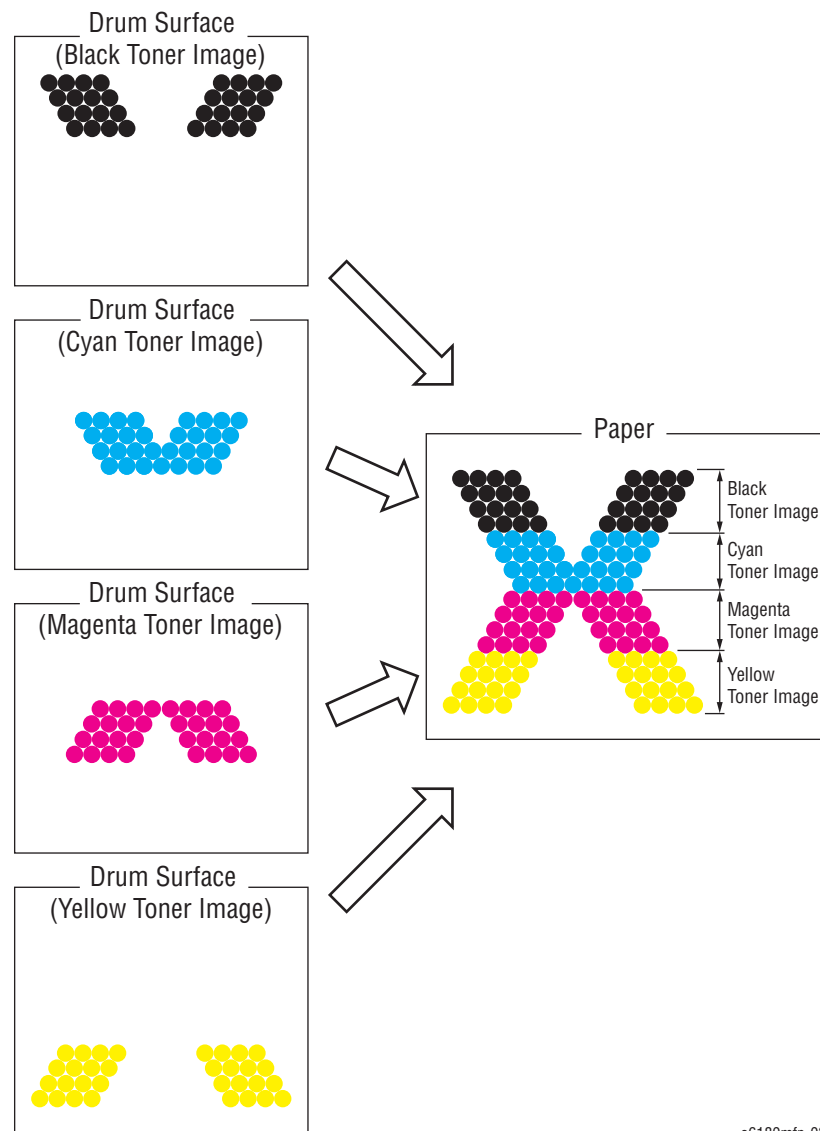
The Magnet Roll is covered by a thin semi-conductive sleeve over the surface. The Developer Bias voltage is supplied to this semiconductor sleeve from the High-Voltage Power Supply (HVPS). Developer Bias is negative Direct Current (DC) voltage combined with Alternating Current (AC) voltage. The Magnet Roll is kept at constant negative voltage against the photoreceptor layer of the drum by DC voltage. Therefore, at the area on the drum surface where the negative electric charge does not decrease, potential is lower than the magnet roll, while the potential is higher than the magnet roll at the area where the negative charge on the drum surface decreases. The AC voltage shakes the Developer on the Magnet Roll surface, causing the toner to transfer to the drum.

Thus, the negatively charged toner is attracted only by the area where the negative charge has decreased on the drum surface from the Magnet Roll (electrostatic latent image) and the toner image is formed on the drum. When the toner is attached, the negative charge at the portion of the drum increases where the toner is located increases, the potential decreases, and the force to attract the toner decreases.



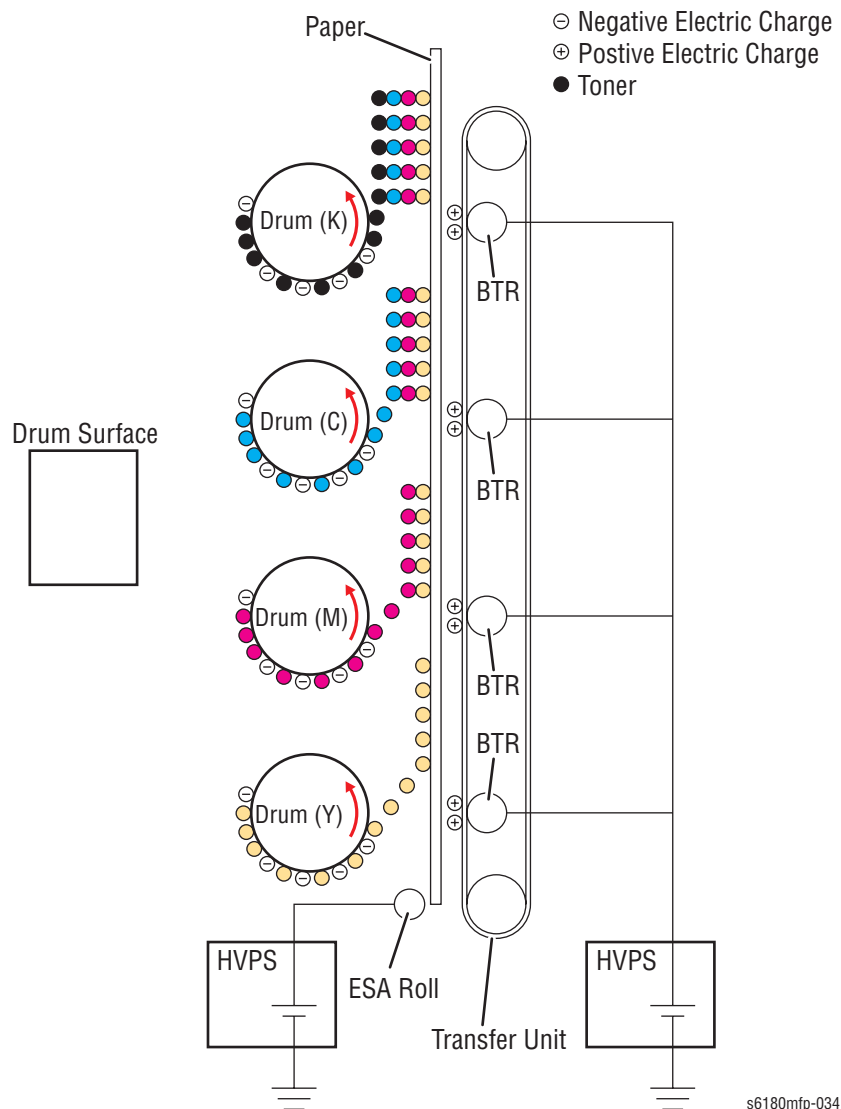
Transfer (Drum ---> Paper)

Toner image formed on the Drum surface is transferred onto the surface of the paper. The toner is transferred onto the paper in the order of Y, M, C, and K.



s6180mfp-035

- **Bias Transfer Roll (BTR)** – The BTR is a conductive roll, which receives positive voltage from the HVPS. The BTR contacts the rear side of the Belt and applies the positive voltage to the Belt.
- **Transfer Unit (Belt)** – The Transfer Unit is a conductive unit, which receives positive voltage from the BTR. After the negative charged toner image on the Drum surface is drawn by the positive charge on the belt, it is transferred from the Drum to the paper. The Transfer Unit feeds the paper toward the direction of the Fuser.
- **Electric Static Attachment (ESA) Roll** – The ESA Roll is a conductive roll, which receives positive voltage from the HVPS and discharges to the paper to improve the toner transfer efficiency.

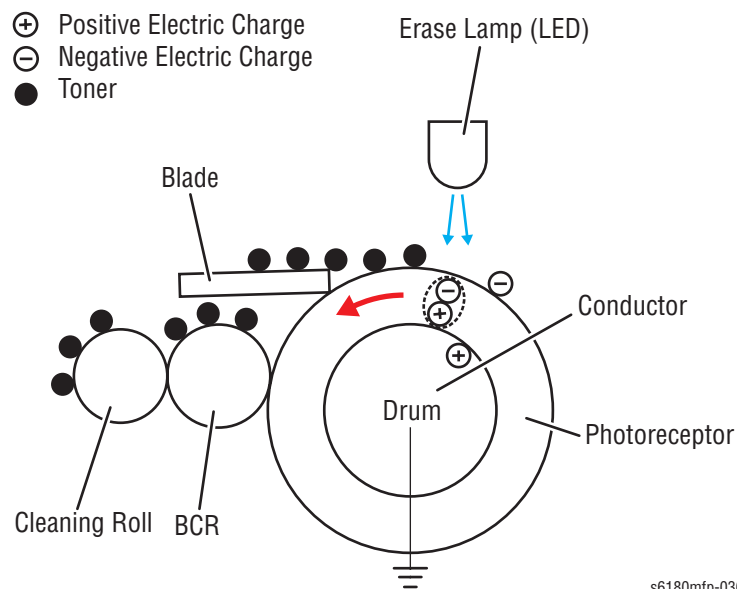


s6180mfp-034

Cleaning (Print Cartridge)

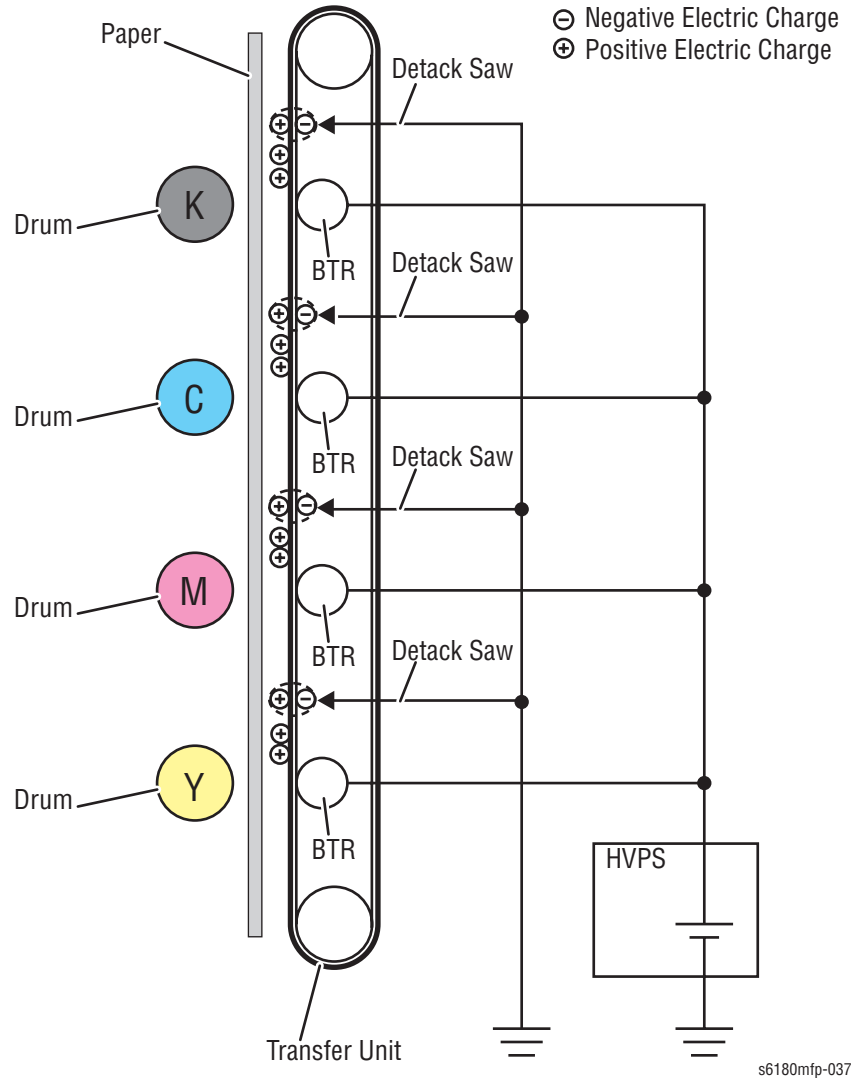
Excess toner is removed from the Drum and the BCR surfaces, while excess charge is also eliminated from the drum surface.

- **Drum Cleaning** – The cleaning blade contacts the surface of the drum collecting the excess toner by scraping off toner.
- **Cleaning Roll** – The Cleaning Roll contacts the surface of the BCR collecting the excess toner by scraping off toner.
- **Charge Cleaning** – When the Drum is charged by the BCR, any excess charge hinders the Drum surface from being uniformly charged, which may lead to print quality problems. The excess charge on the surface of the Drum is eliminated by irradiating light of the Erase Lamp (LED).



Neutralization

The Detack Saw neutralizes the charge on the paper via the Belt. The Detack Saw, a metal sheet secured at the ground level, is installed at several millimeters away from the back side of the belt.

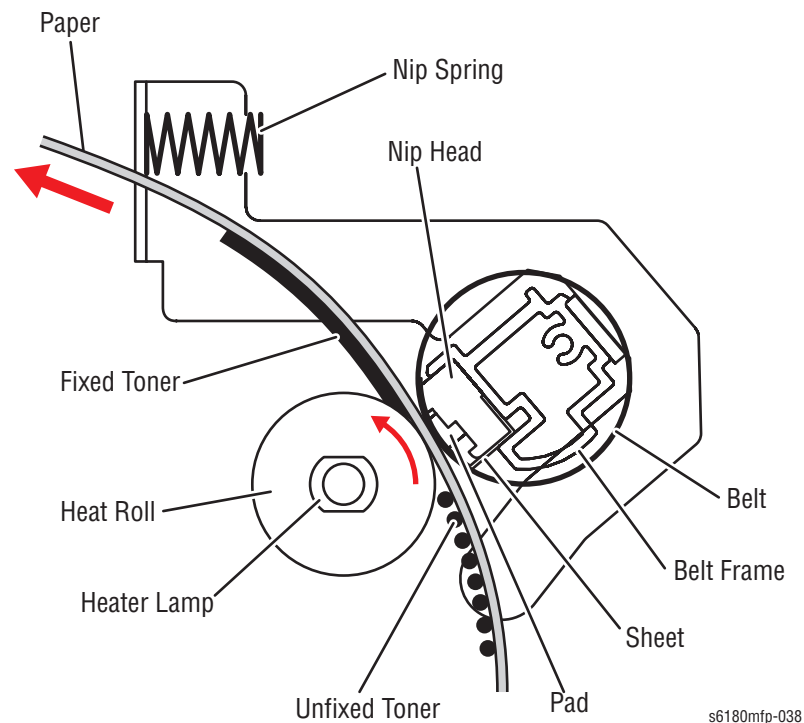


s6180mp-037

Fusing

Toner is applied by the BTR and the Developers. The toner image is applied on the paper with the Fuser (Fusing Unit) by the Free Belt Nip Fusing (FBNF) thermal fusing system. The Heat Roll with the Heater Lamp melts the toner particles. Toner is fused onto the paper by the combination of heat and pressure.

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



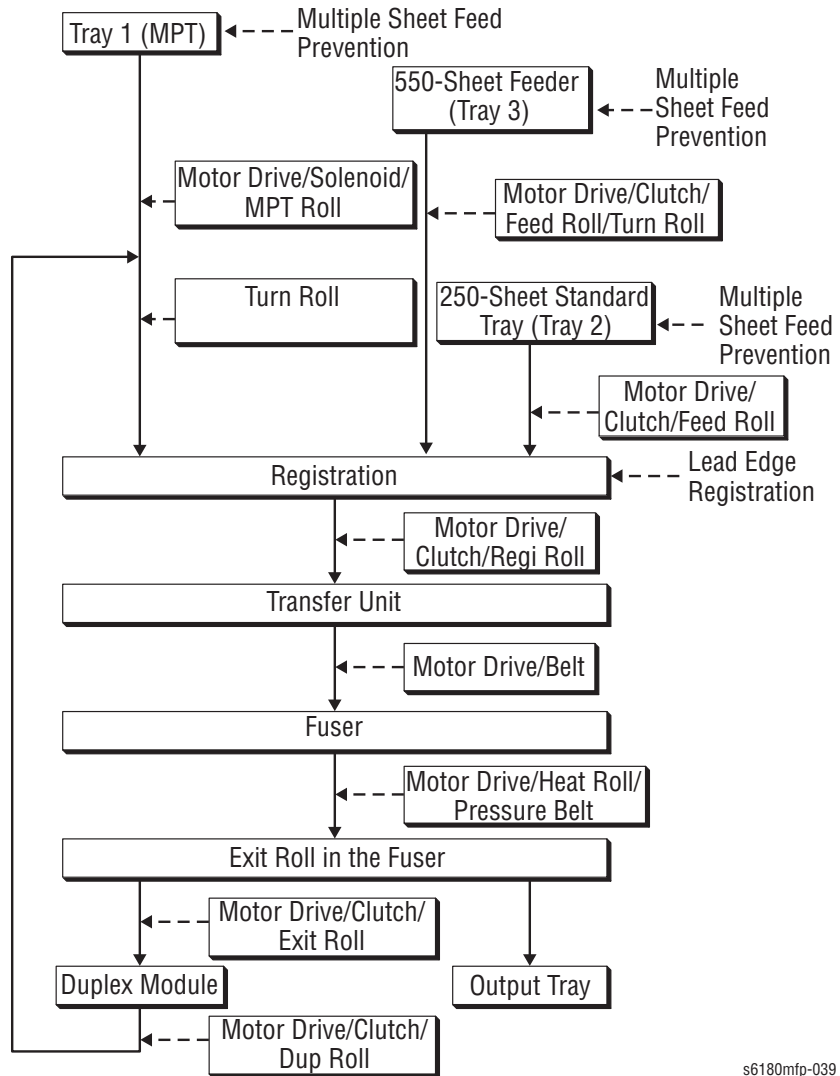
Cleaning

A cleaning blade in the Print Cartridge scrapes off toner remaining on the drum surface after transfer has occurred. Then, the latent charge pattern remaining on the photoconductive drum is neutralized by the Erase Lamp to prepare the drum for the next Exposure cycle.

Paper Path of the Printer

Paper Path Route

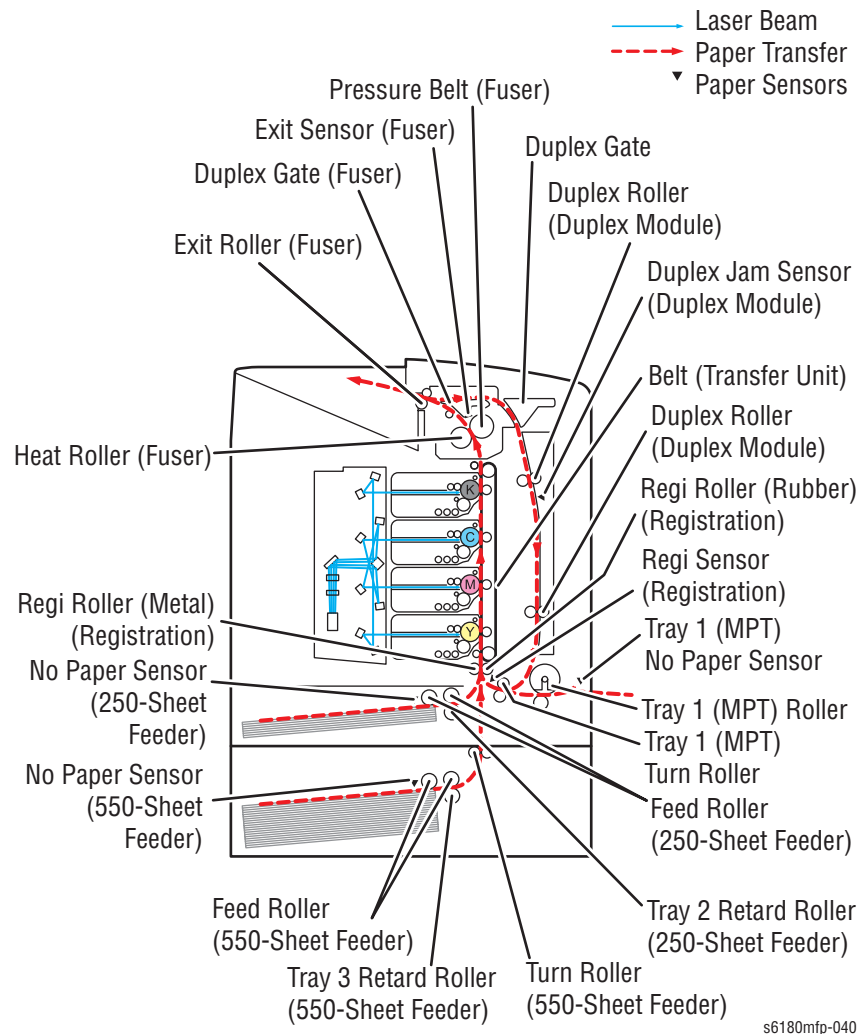
The paper is supplied from Tray 1 (MPT), Tray 2, or optional Tray 3, and is transported into the printer along the paper path as shown in the diagram.



s6180mfp-039

Paper Path Components

Paper path components for the printer and the Optional 550-Sheet Feeder are shown in the following figure.

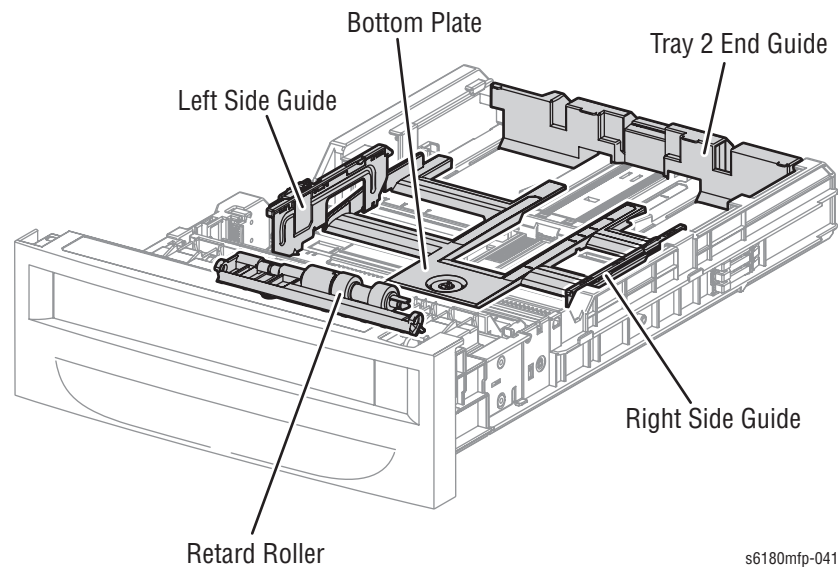


Major Assemblies and Functions

Major functional components for the printer are classified into the following categories based on the printer configuration.

- Tray 2
- Paper Feeder
- Tray 1 (MPT) & Registration
- Fuser Unit
- Transfer Unit
- Laser Unit
- Print Cartridge
- Main Drive
- Electrical
- Duplex Unit
- Tray 3 - Optional 550-Sheet Feeder

Tray 2



■ Tray 2 Left/Right Side Guide

The Side Guides move at a right angle toward the paper transfer direction to align the paper width.

■ Tray 2 Retard Roller/Feed Roller

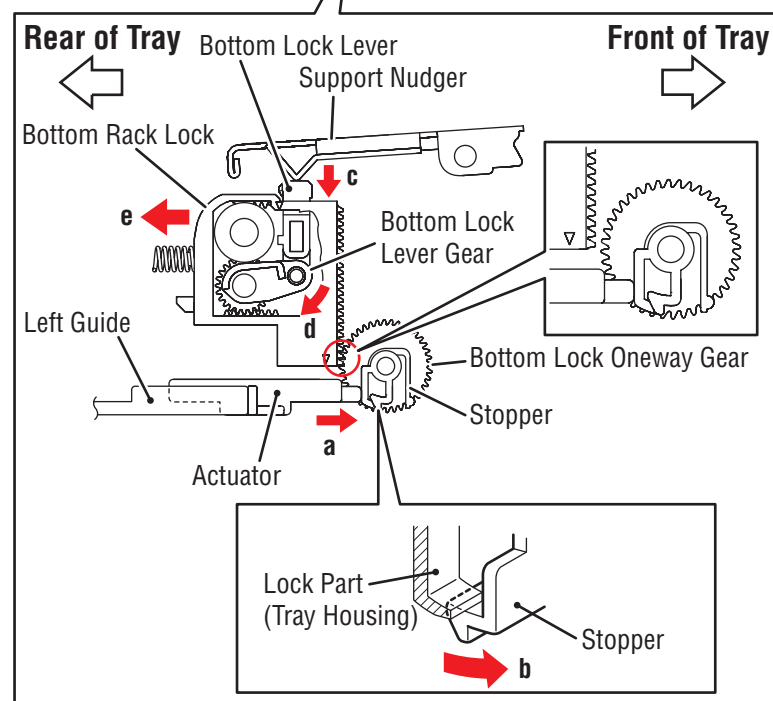
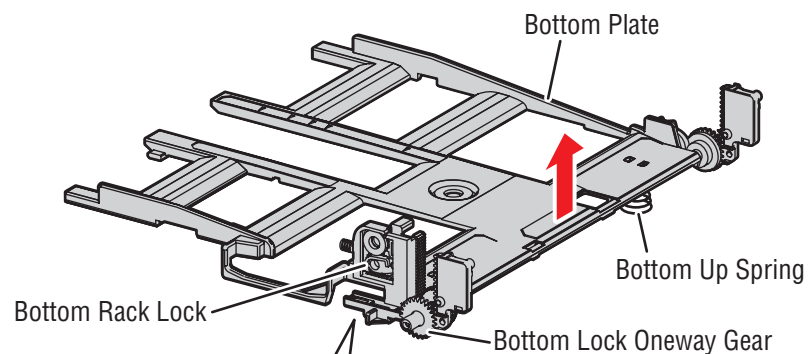
The Retard Roller and Feed Roller pinch the paper to prevent multiple sheets of paper from feeding.

■ Tray 2 End Guide

The End Guide moves in toward the paper transfer direction to determine the paper size. The On/Off of the Size Switches adjust according to the Tray End Guide position to detect the paper size.

■ Tray 2 Bottom Plate

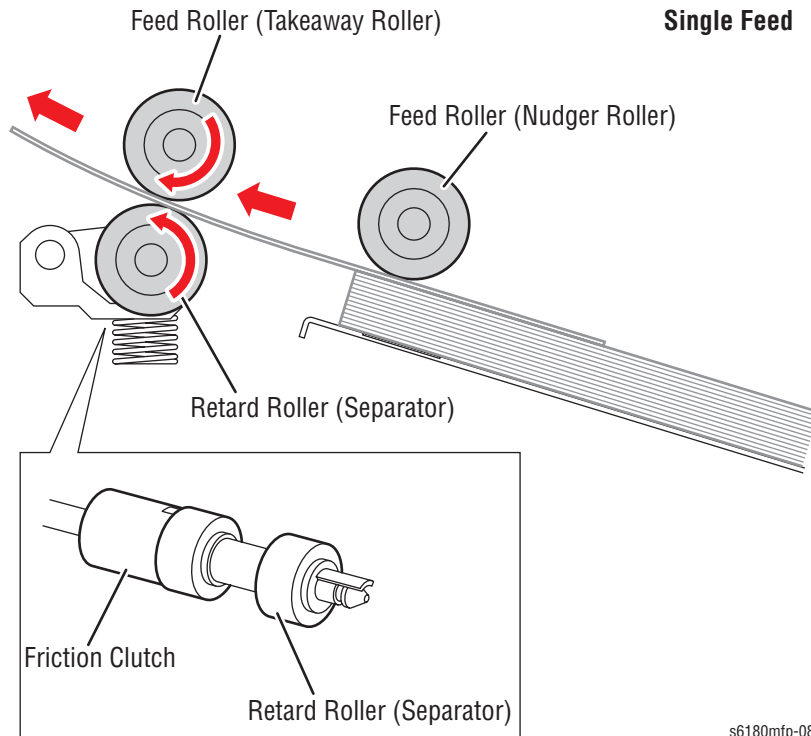
- a. When the tray is inserted into the Sheet Feeder, the Actuator is pushed toward the front by the Left Guide, which pushes the Stopper.
- b. The Stopper unlocks the Bottom Lock Oneway Gear.
- c. When the tray is pushed until it stops, the Bottom Lock Lever is pressed down by the Support Nudger in the Sheet Feeder.
- d. The Bottom Lock Lever actuates the Bottom Lock Lever Gear, which pushes the Bottom Rack Lock toward the rear.
- e. The gear on the Bottom Rack Lock is disengaged from the Bottom Lock Oneway Gear, which allows the Bottom Plate to raise up by the Bottom Up Springs.



s6180mfp-043

Tray 2 Multiple Sheet Feed Prevention

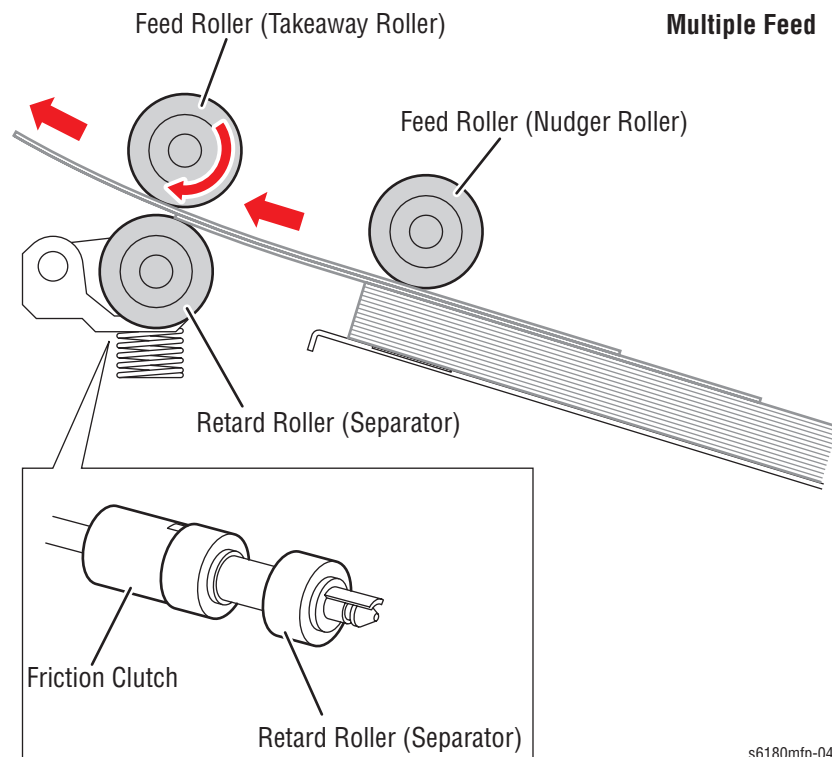
The sheets loaded into Tray 2 are occasionally stuck together along the edges, which can cause a multiple feed or a jam. The Nudger Roller feeds the sheets to a position between the Feed Roller and the Retard Roller. Normally, when only one sheet is fed, both the Feed Roller and Retard Roller rotate to allow the sheet to pass.



s6180mfp-085

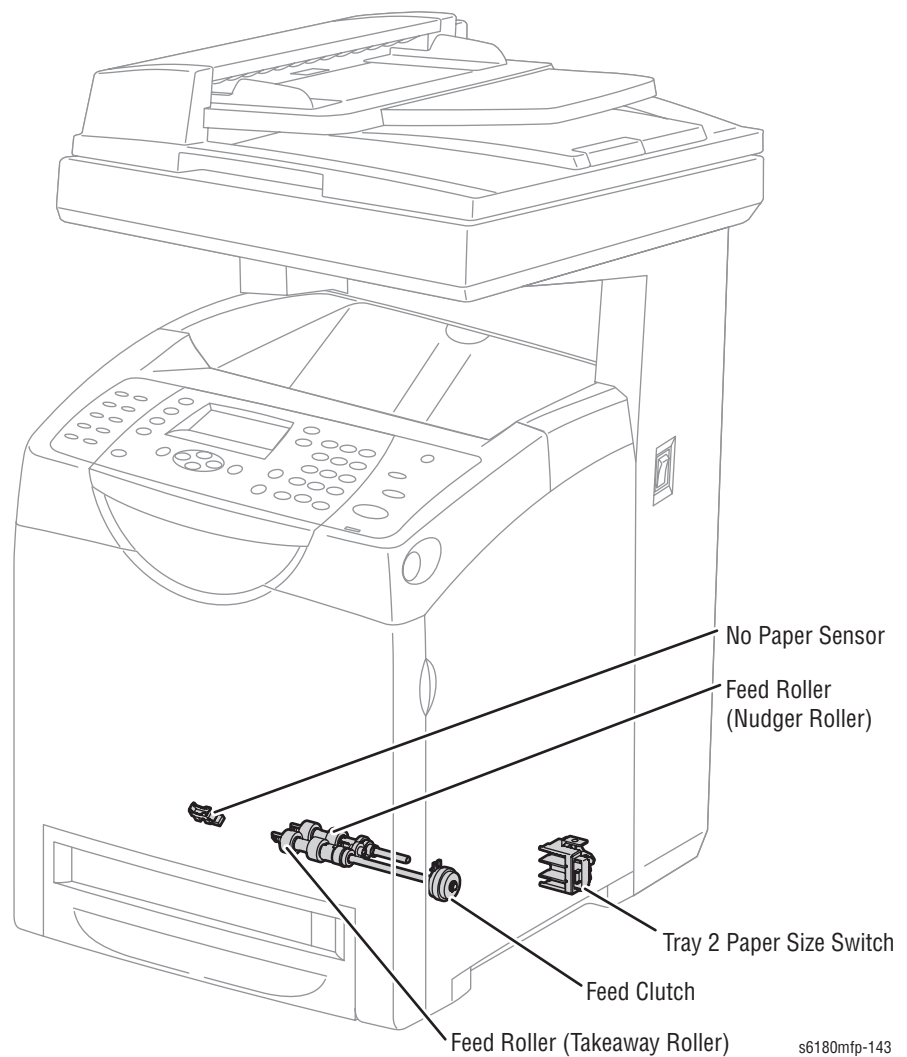
However, when two sheets are fed concurrently, only the Feed Roller rotates. The Retard Roller is coupled to a friction clutch that prevents the roller from rotating due to extra force from feeding two sheets; this process allows the upper sheet to pass by as the lower sheet is stopped by the friction with the Retard Roller at rest.

The Retard Roller is pushed toward the Feed Roller by spring pressure, and controlled by the Friction Clutch with which it is coupled.



s6180mfp-042

Paper Feeder



■ Tray 2 Feed Roller

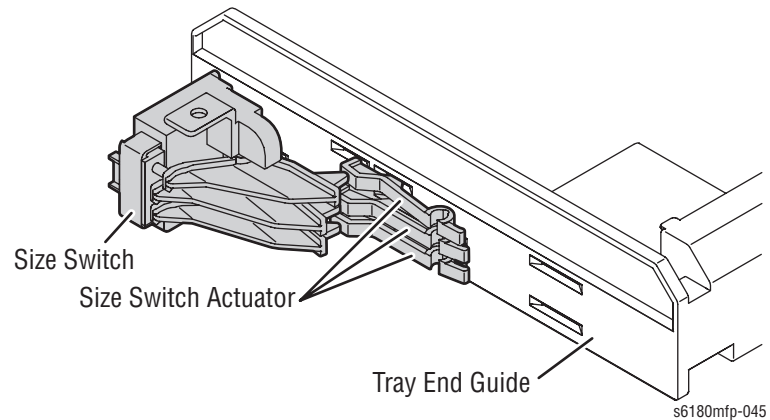
The Feed Roller (Takeaway Roller) feeds the paper when the Feed Clutch operates.

■ Tray 2 Feed Clutch

The Feed Clutch transmits drive energy from the Drive Assembly to the Feed Roller.

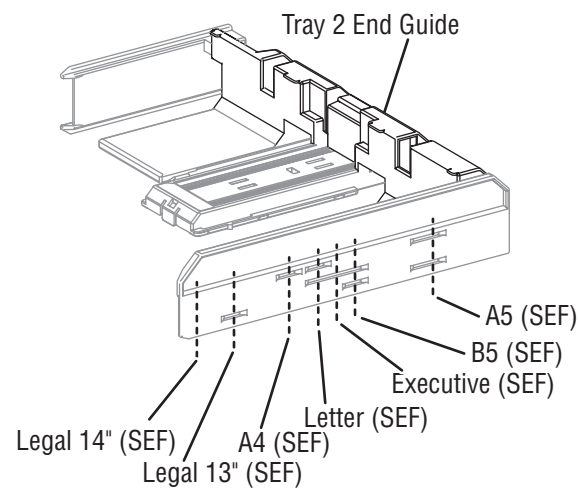
■ Tray 2 Size Switch

The Size Switch detects the size of the paper in the tray.



■ Tray 2 End Guide

The paper size is detected at the End Guide position.



All paper should be loaded SEF.

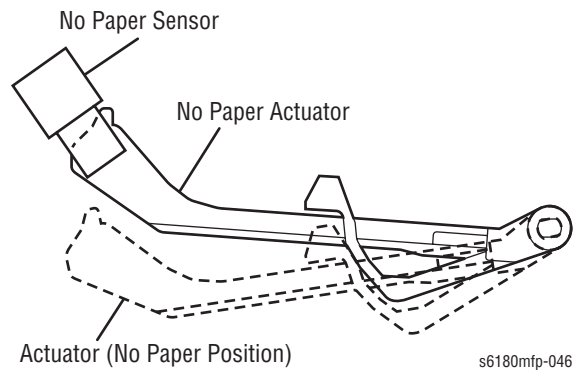
s6180mfp-044

Note

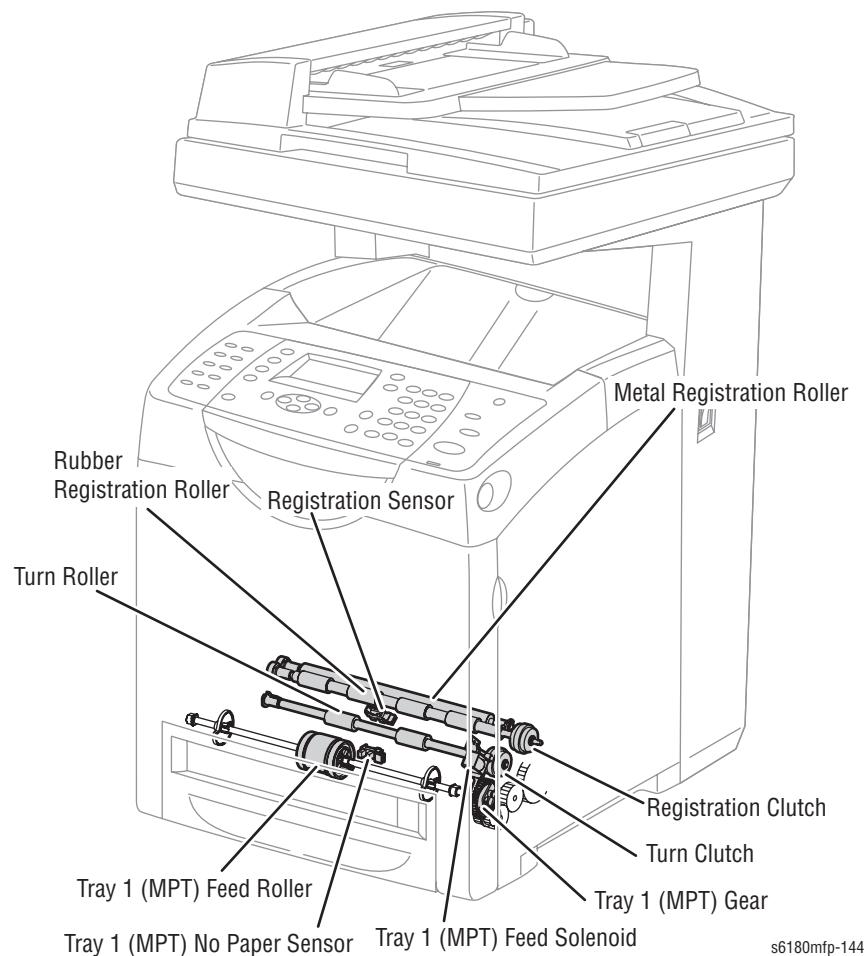
Refer to “Paper Size Detection” on page 2-56 for detailed information on paper size switches and paper size.

■ **Tray 2 No Paper Sensor**

The No Paper Sensor detects the presence of the paper in the tray based on the Tray 2 No Paper Actuator position.



Tray 1 (MPT) & Registration



s6180mfp-144

■ Tray 1 (MPT) Turn Clutch

The Turn Clutch transmits drive energy from the Drive Assembly to the Turn Roller.

■ Tray 1 (MPT) Turn Roller

The Turn Roller is rotated by the drive from the Drive Assembly through the Turn Clutch to feed paper from the Tray 1 (MPT) or duplex paper path to the Registration Chute.

■ Tray 1 (MPT) Registration Sensor

The Registration Sensor detects paper when the paper leading edge reaches the Registration Chute. When paper is fed from Tray 1 (MPT), the Registration Sensor measures the paper length. The On time of the Registration Sensor is converted into the paper length.

Note

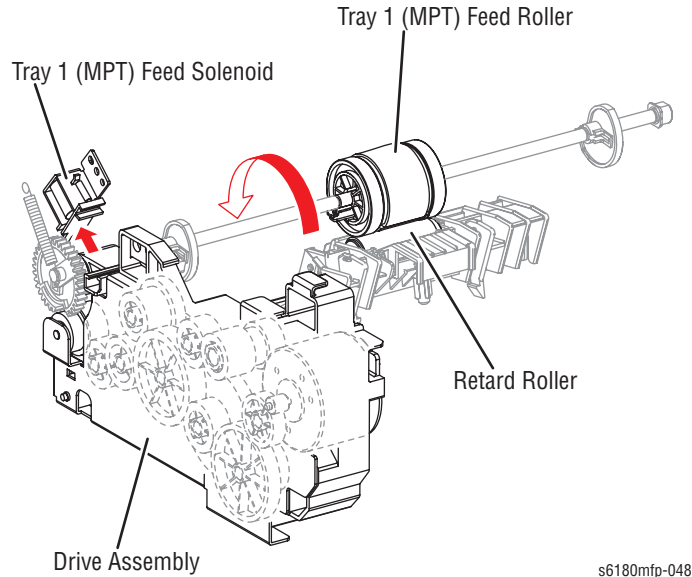
On: The paper activates the Actuator.

- **Tray 1 (MPT) Registration Clutch**

The Registration Clutch transmits drive energy from the Main Drive to the Registration Rubber Roller, and transports paper from Tray 1 (MPT) and the duplex path to the Print Cartridge direction. The timing of sheets feeding from the Registration is adjusted by the duration of the Registration Clutch operation so that the toner image on the drum can be transferred to the appropriate position on the sheet.

- **Tray 1 (MPT) Feed Solenoid**

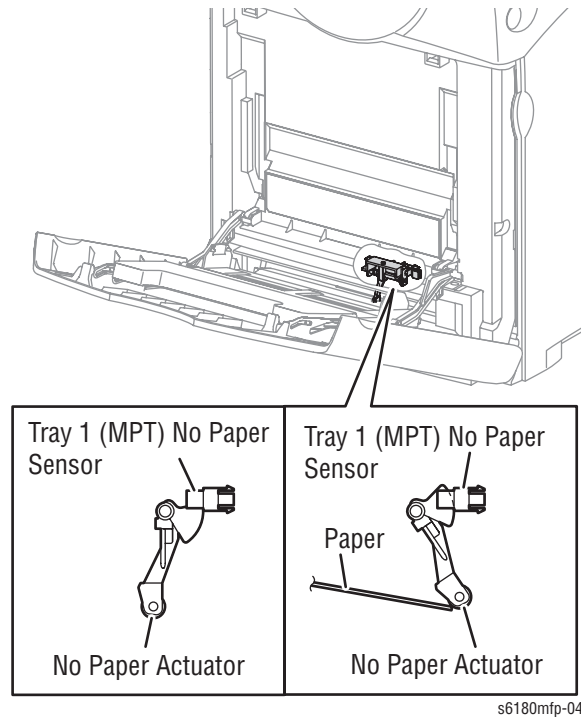
The Feed Solenoid controls drive energy from the Drive Assembly to the Tray 1 (MPT) Feed Roller.



s6180mfp-048

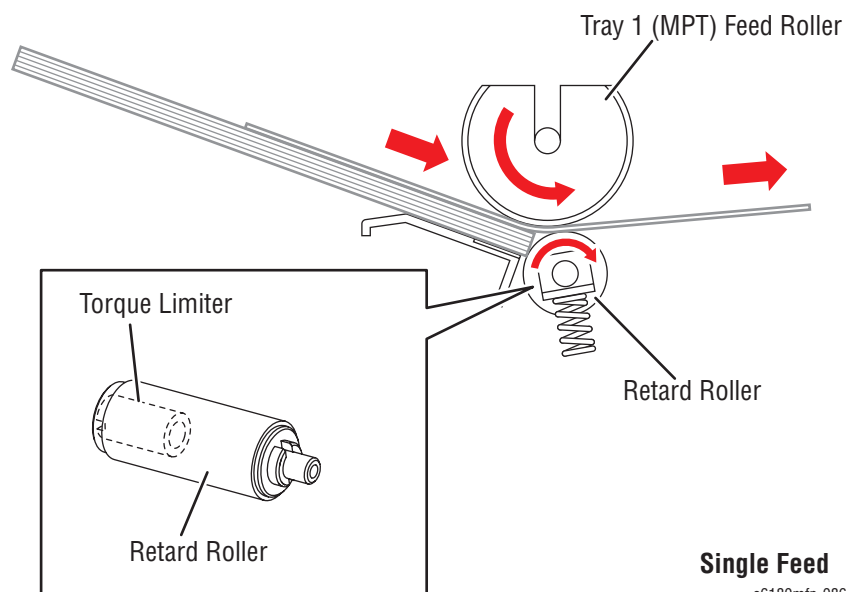
■ Tray 1 (MPT) No Paper Sensor

The No Paper Sensor detects the presence of paper in Tray 1 (MPT) based on the Actuator's position.



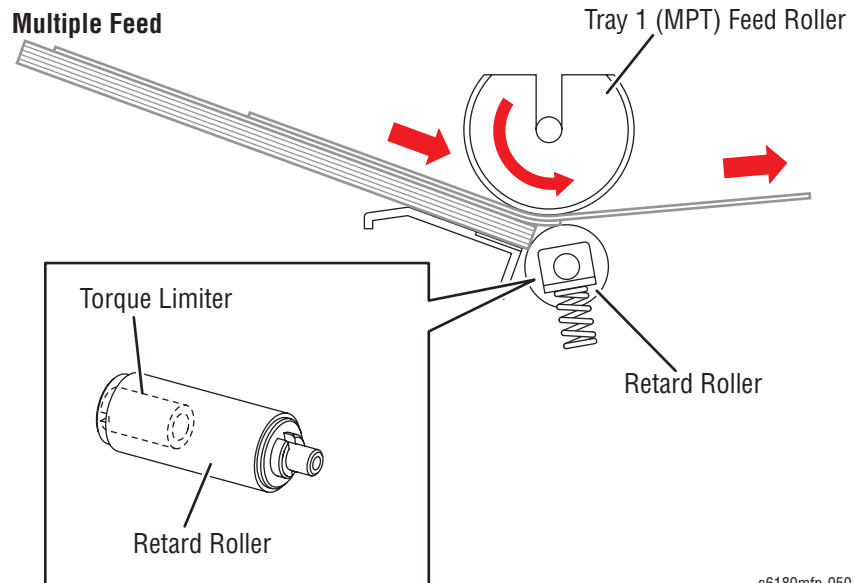
Multiple Sheet Feed Prevention

The sheets loaded in Tray 1 (MPT) are occasionally stuck together at the edges, which can cause a multiple sheet feed or a jam. Normally, when only one sheet is fed, both the Feed Roller and Retard Roller rotate to allow the sheet to pass.



However, when two sheets are fed concurrently, only the Feed Roller rotates. The Retard Roller is coupled to a friction clutch that prevents the roller from rotating due to the extra force from feeding two sheets; this process allows the upper sheet to pass by as the lower sheet is stopped by the friction with the Retard Roller at rest.

The Retard Roller is pushed toward the Feed Roller by spring pressure, and controlled by the Torque Limiter (Friction Clutch Retard) with which it is coupled.

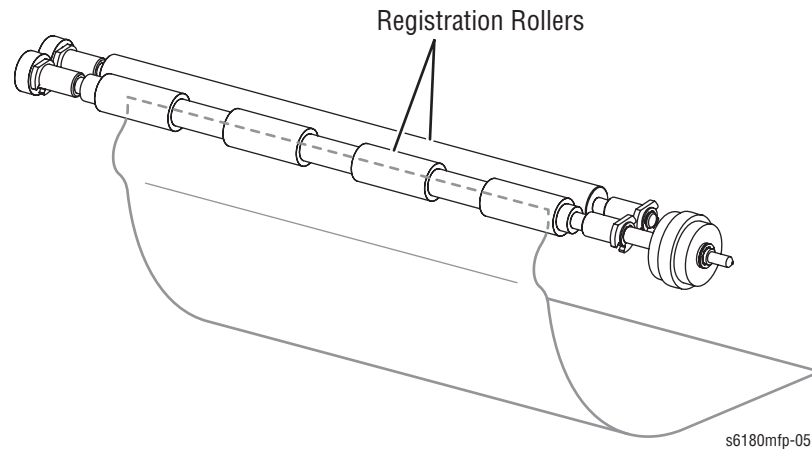


s6180mfp-050

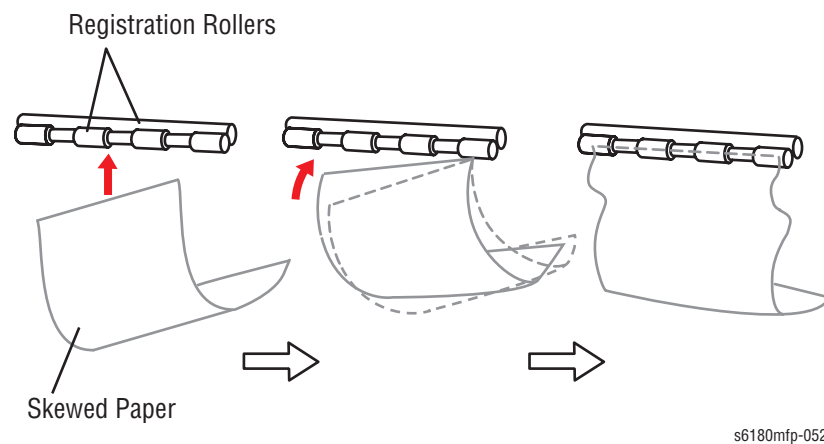
Lead Edge Registration

When a sheet is fed from Tray 1 (MPT) to the toner transfer position, the registration of the sheet may not be correctly maintained due to misalignment of lead edges in the tray.

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



Before the Registration rollers are energized, the paper is advanced from the tray to the rollers. This process aligns the leading edge as shown below. By pushing the edge of the sheet coming out of Tray 1 (MPT) against the Registration Roller that is not turning, the lead edge of the sheet is registered.

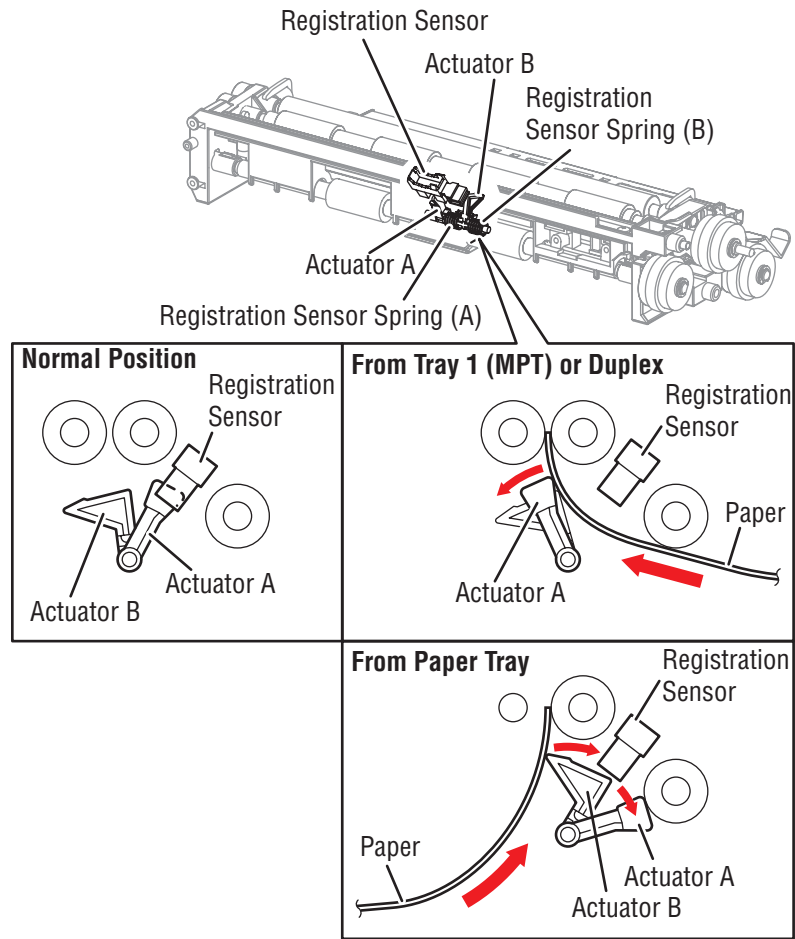


Paper Detection

Since the paper path from Tray 1/Duplex to the Registration Sensor and from the paper tray to the Registration Sensor are different, the Registration Sensor is provided with Actuators A and B.

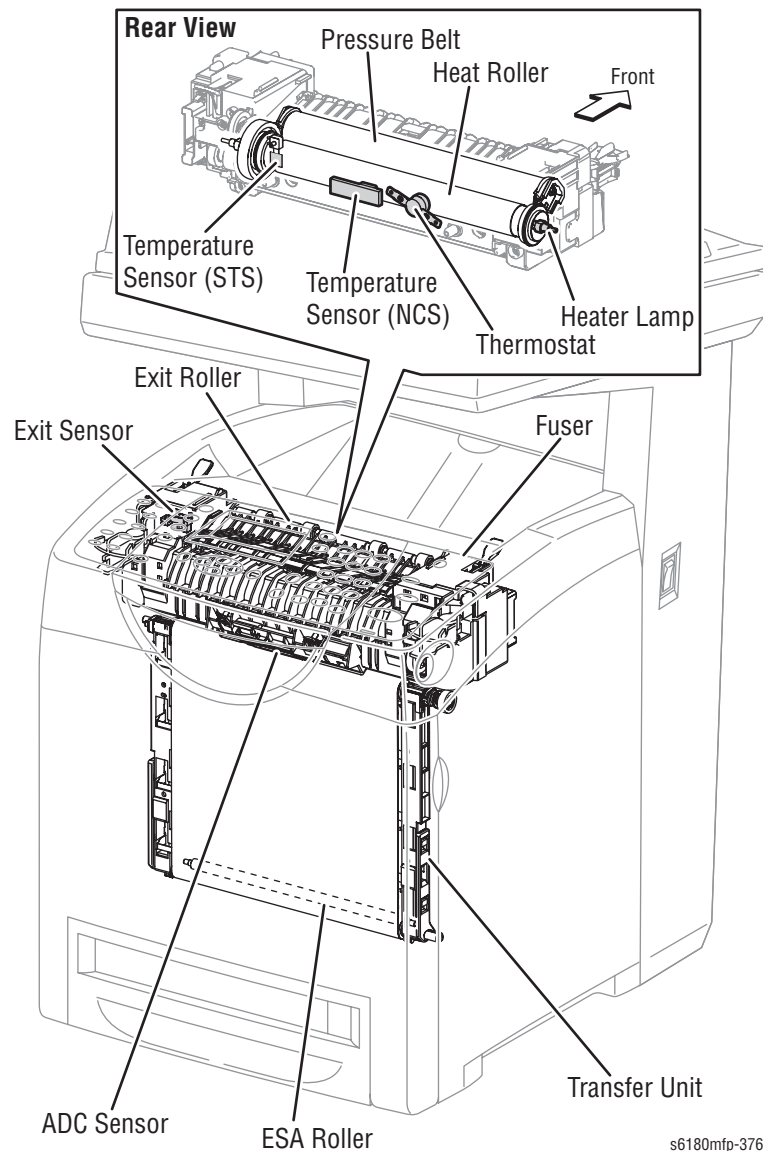
- Actuator A detects the sheet fed from Tray 1/Duplex.
- Actuator B detects the sheet fed from the paper tray.

The movement of Actuator A does not affect Actuator B.



s6180mfp-053

Fuser Unit



The Fuser fixes transferred toner onto the paper using heat and pressure and feeds the paper before and after toner is fixed. The Fuser consists of the following components: Heat Roller, Heater Lamp, Thermostat, Temperature Sensor, Pressure Belt, Exit Roller, and Exit Sensor.

■ Heat Roller

The Heat Roller is a metal tube with coated surface and a Heater inside. As the paper passes between the Heat Roller and Pressure Belt, heat that is applied to the paper, melts the toner, and fuses it to the paper.

- **Heater Lamp**

The Heater Rods are glass tubes containing the heater coils. The Main Heater Lamp heats the entire length of the Heat Roller, and the Dual Sub-Heater Rods heat the center.

- **Thermostat**

The Thermostat provides a second-level of protection. If the Heat Roller temperature exceeds the current temperature, the Thermostat cuts off the AC power to the Heater Lamps.

- **Temperature Sensors**

The temperature sensors are thermistors having a known value of resistance that varies with temperature. There are two Temperature Sensors. The Soft Touch Sensor (STS) is located at the edge of the Heater Lamp, and the Non-Contact Sensor (NCS) is located at the center of the Fuser. The sensors monitor temperature of each location to control lighting of the Heater Lamp. The Sensors are mounted in contact with the surface of the Heat Roller. Power to the Heater Lamp is turned On and Off using the signals from these sensors, so that the surface temperature of the Heat Roller can be maintained within a specified range. This signal is also used to provide a first stage of overheat protection.

- **Pressure Belt**

The Pressure Belt maintains pressure on the paper passing between it and the Heat Roller. The pressure bonds the melted toner to the paper.

- **Exit Roller**

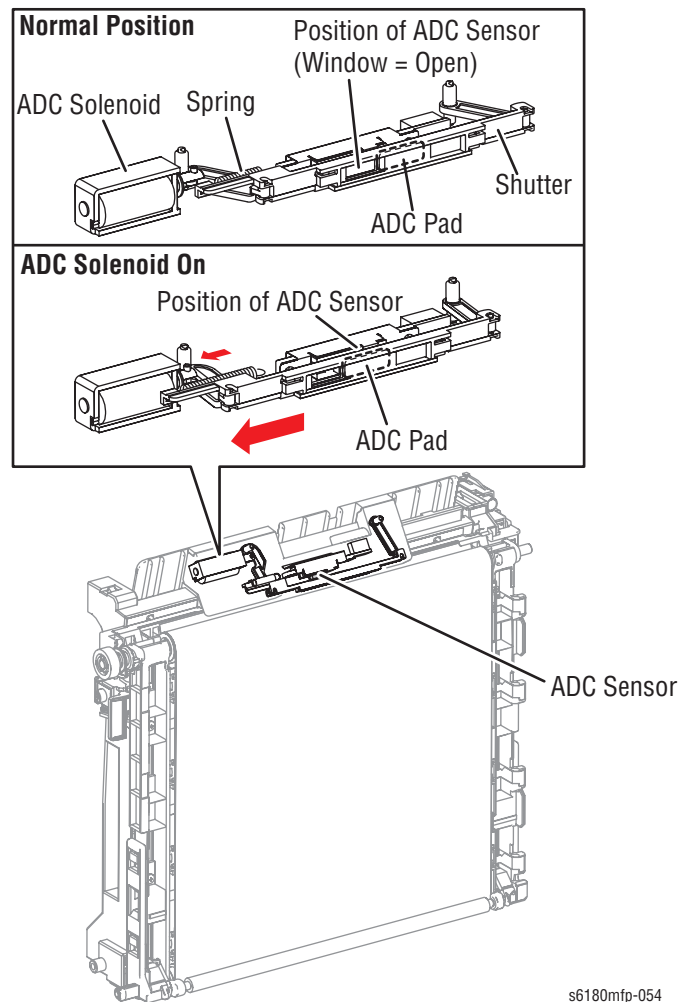
The Exit Roller transports paper from the Fuser to the output tray.

- **Exit Sensor**

The Exit Sensor detects passage of printed pages after fusing on the Actuator's position changes.

Transfer Unit

The Transfer Unit consists of the Belt, ADC Sensor, ADC Solenoid, ADC Pad, and ESA Roller.



- **Belt**

The Belt feeds the paper toward the direction of the Fuser.

- **ADC (CTD) Sensor**

The ADC Sensor detects the toner patches on the Belt and converts them to voltage value. The voltage value is used to control the density of toner.

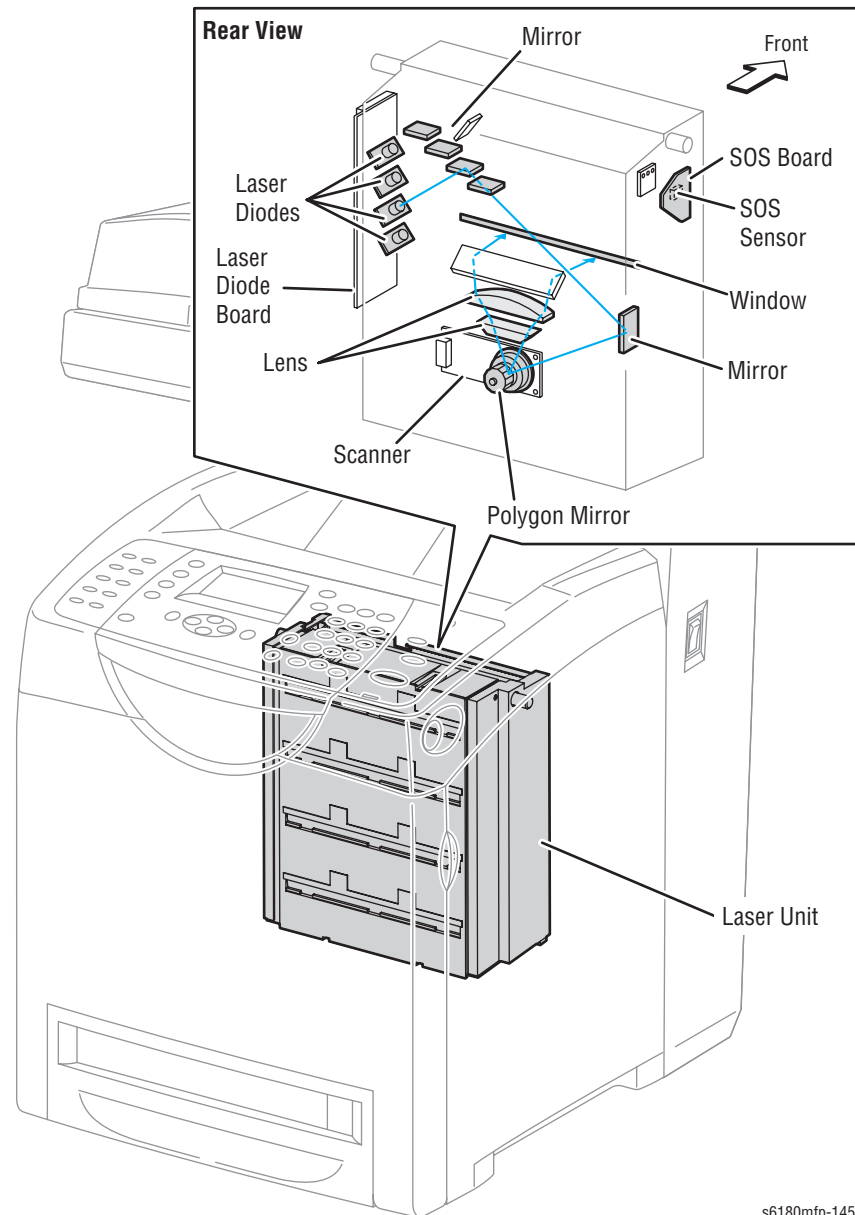
- **ADC Solenoid**

To activate the ADC Pad, turn On the ADC Solenoid for a fixed time before the ADC Sensor starts reading the toner patches. When turned On, the ADC Solenoid activates the ADC Pad, which cleans contamination on the ADC Sensor surface.

- **ESA Roller**

The ESA Roller discharges a positive voltage to the paper. Toner transfer efficiency is raised by applying a positive charge to the paper.

Laser Unit



s6180mfp-145

The Laser Unit is an exposure unit that generates laser beams to form electrostatic latent image on the drum surface. The Laser Unit consists of the following components: Laser Diode (LD), Scanner, Start of Scan (SOS) Board, Lenses, Mirror, and Window.

■ Laser Diode Board

There are four Laser Diodes which produce laser beams that are turned On and Off according to the print data signal.

The Laser Diode Board is comprised of four LDs corresponding to C, M, Y, and K. Each LD converts the electric signals of incoming image data into laser waves. In order to stabilize the laser light quantity during formation of an electrostatic latent image, the LD Board monitors the intensity of the laser beam to adjust it to the appropriate level. This process is called Auto Power Control (APC).

■ Scanner

The Scanner is comprised of a Scanner Motor that rotates at a constant speed and a Polygon Mirror that is mounted on the Motor Shaft. The laser light output from the LD is irradiated onto the Polygon Mirror via the Mirror. The Polygon Mirror, provided with six reflecting mirror faces, changes the reflection angle of the laser light as it rotates by the Scanner Motor, thereby allowing the laser light to scan the drum along its axial direction. Scanning is performed using one reflecting mirror face for each line.

■ Start of Scan (SOS) Board

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

■ Lenses

The laser light reflected from the Polygon Mirror reaches the drum surface via the Lenses, Mirror, and Window. The Lenses correct aberration.

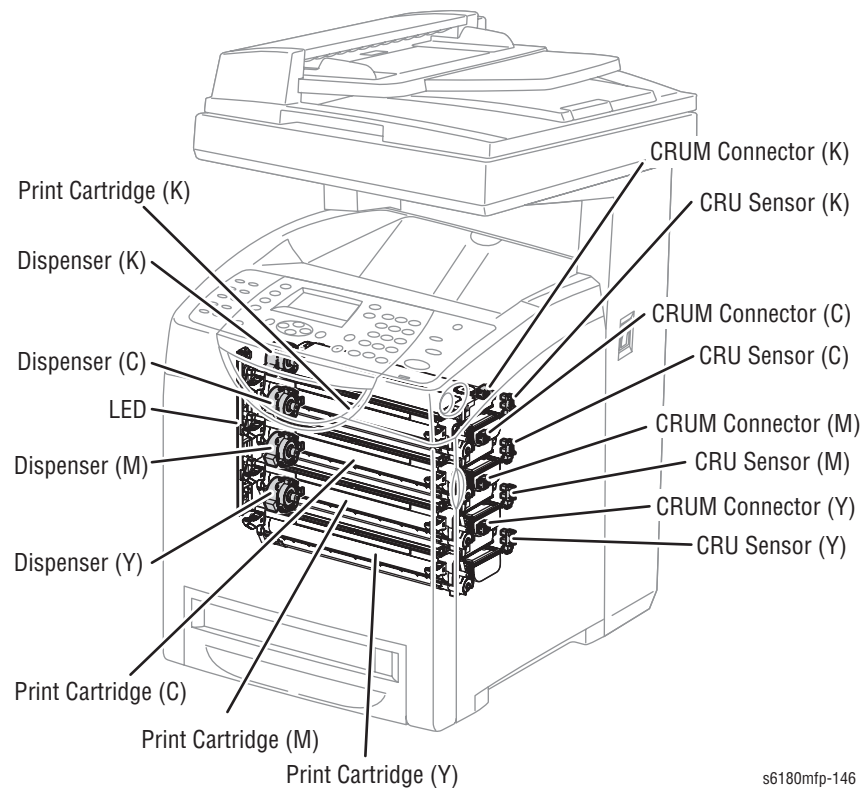
■ Mirror

The Mirror directs the laser beam and secure an optical path.

■ Window

The window prevents debris from entering into the Laser Unit.

Print Cartridge



s6180mfp-146

The Print Cartridge is a customer replaceable item consisting of the following components:

- **Customer Replaceable Unit Memory (CRUM) Connector**

The CRUM Connector reads and writes the CRUM data. Printer specific information is stored in the CRUM. When toner empty is detected, Life End status will be sent to indicate toner empty.

- **Dispenser (C/M/Y/K)**

The Dispenser provides drive energy to the Agitator and Auger in the Print Cartridge, and provides toner to the Developer part of the Print Cartridge.

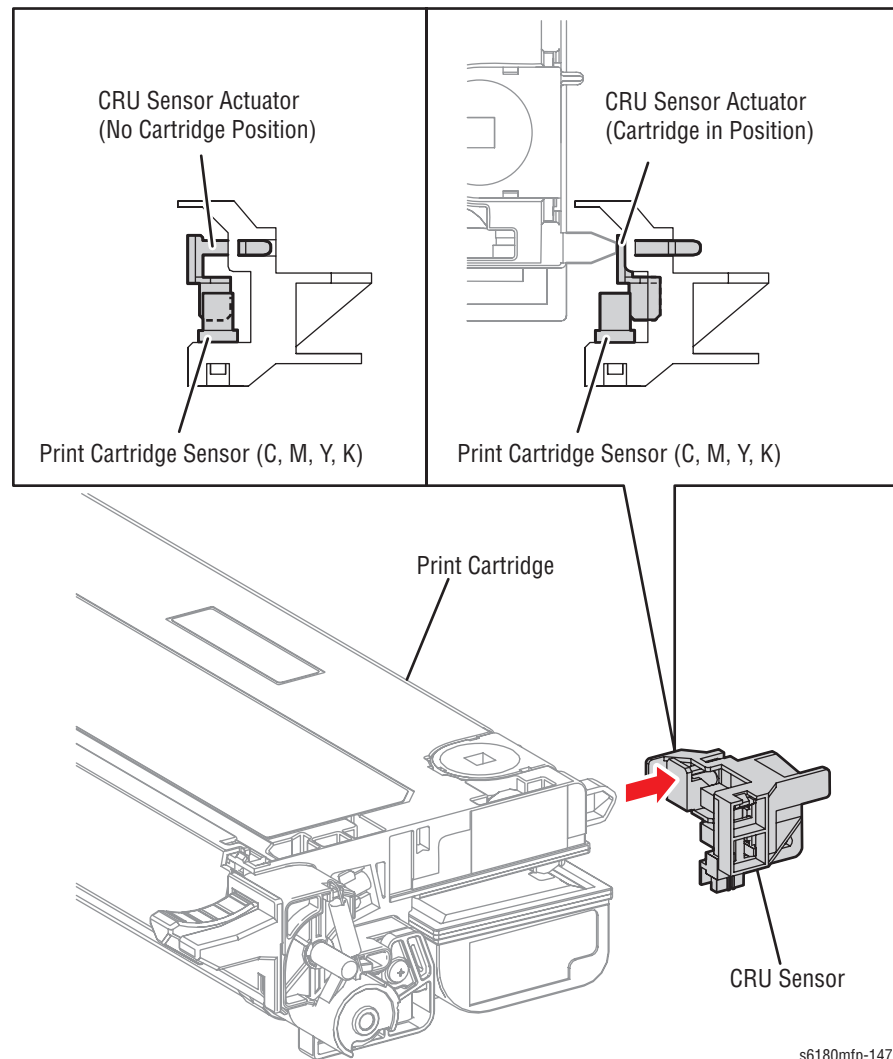
- **Print Cartridge**

The printer contains four Print Cartridges: Cyan, Magenta, Yellow, and Black. Print Life for the Print Cartridges are:

- Standard Capacity: 2,000 pages for color print, and 3,000 pages for black & white prints
- High Capacity: 6,000 pages for color prints, and 8,000 pages for black & white prints

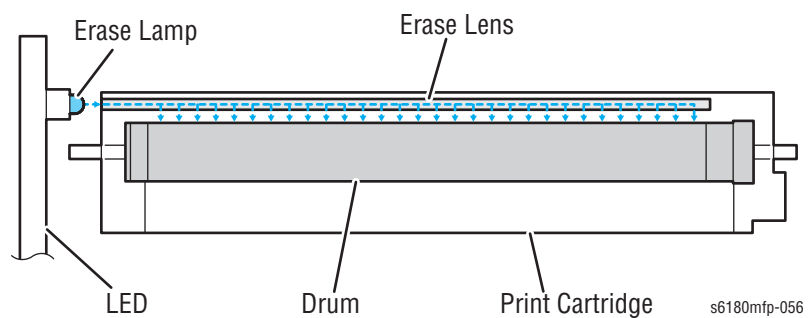
■ CRU Sensor (C/M/Y/K)

The CRU Sensor detects the presence of the Print Cartridge.

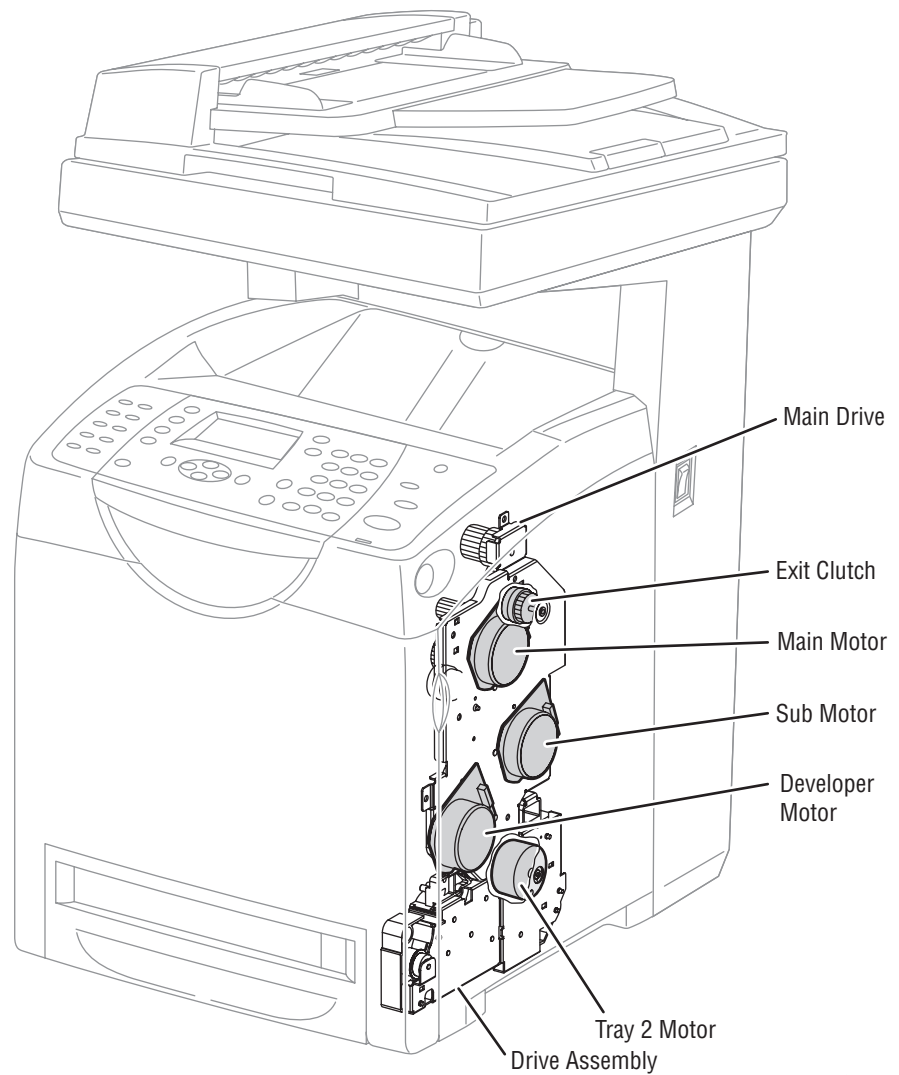


■ Erase Lamp (LED)

The light of the LED passes through the lens of the Print Cartridge, illuminates the Drum, and eliminates the charge on the Drum.



Main Drive



s6180mfp-148

The Main Drive provides drive energy to the following components:

- **Main Motor**

The Main Motor provides drive energy for the Black Drum, Transfer Unit, and Fuser.

- **Sub Motor**

The Sub Motor provides drive energy for the Black Developer, Cyan, Magenta, and Yellow Drums.

- **Developer Motor**

The Developer Motor provides drive energy for the Cyan, Magenta, and Yellow Developers.

- **Exit Clutch**

The Exit Clutch transmits drive energy from the Main Motor to the Exit Roller in the Fuser. When Duplex mode is in use, the Exit Clutch stops. The Exit Roller is driven by the Duplex Motor.

- **Drive Assembly**

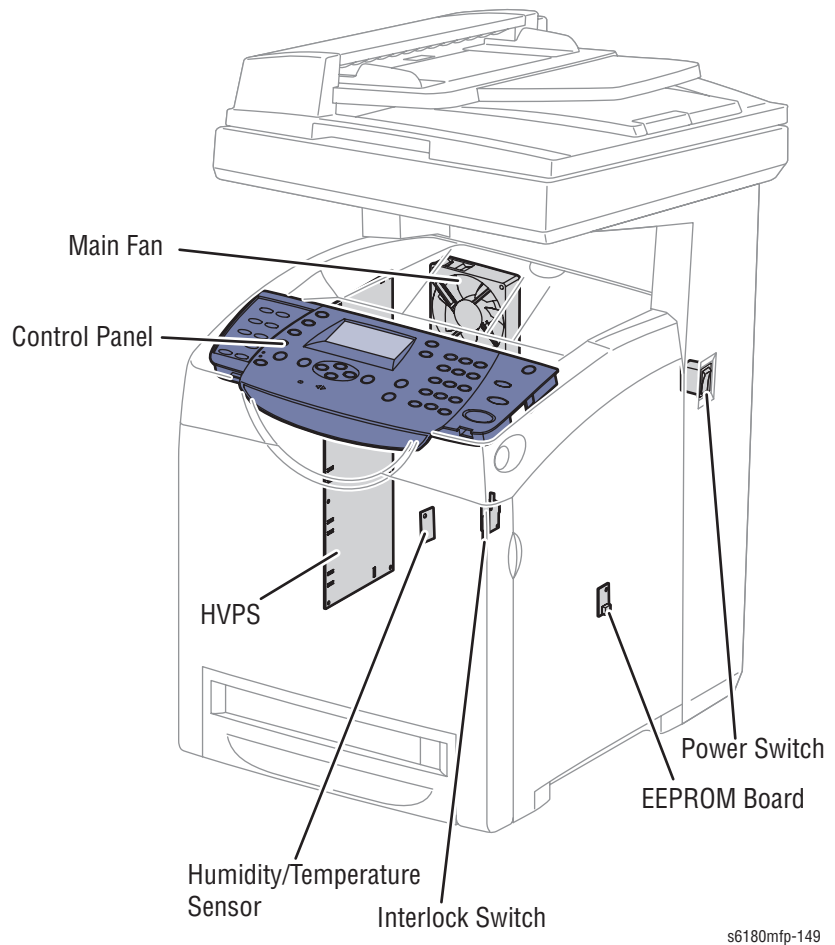
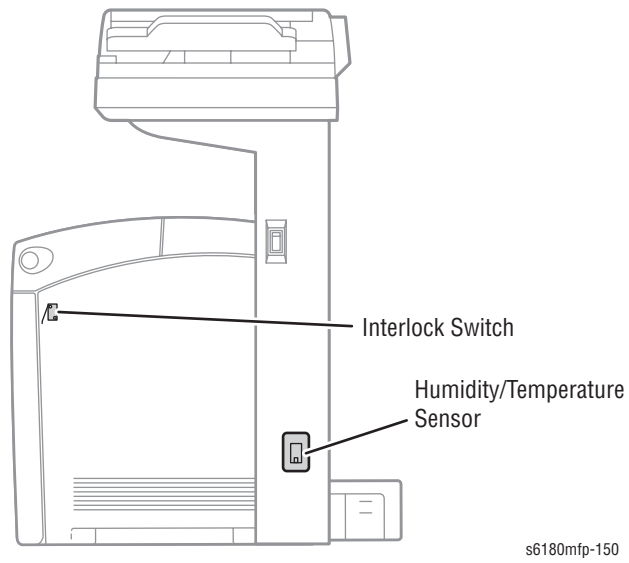
The Drive Assembly provides drive energy for Tray 1 (MPT), Tray 2, and Registration. The Tray 2 Motor is part of the Drive Assembly.

Note

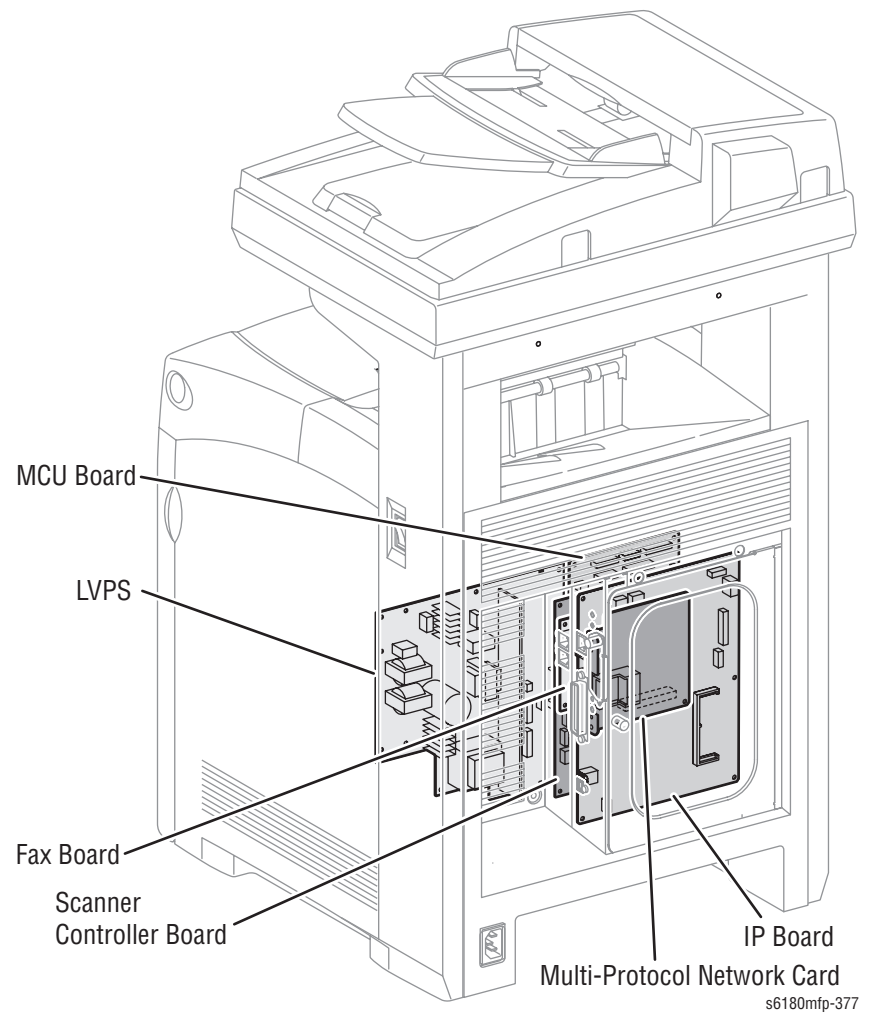
Refer to “Mechanical Components” on page 2-62 for detailed diagrams.

Electrical

Switches, Sensor, and Boards

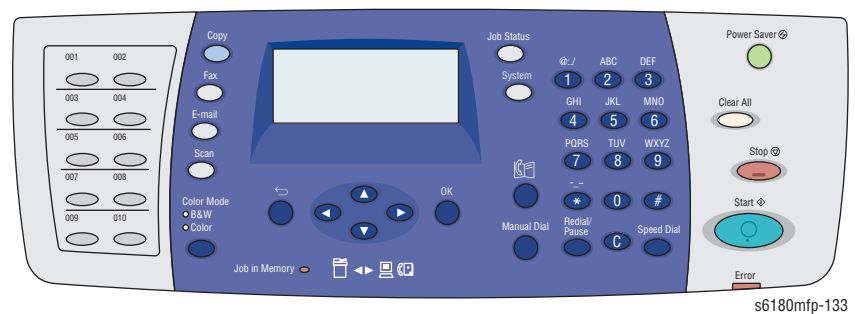


Boards



Control Panel

The Control Panel displays the machine status and operates the printer/scanner/copier/fax.



Power Switch

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

Main Fan

The Main Fan removes heat from the printer to prevent overheating.

Electrically Erasable Programmable Read-Only Memory Board

The Electrical Erasable Programmable Read-Only Memory (EEPROM) Board stores the machine unique information. Information on the EEPROM Board is also stored on the Machine Control Unit (MCU) Board.

Humidity /Temperature Sensor

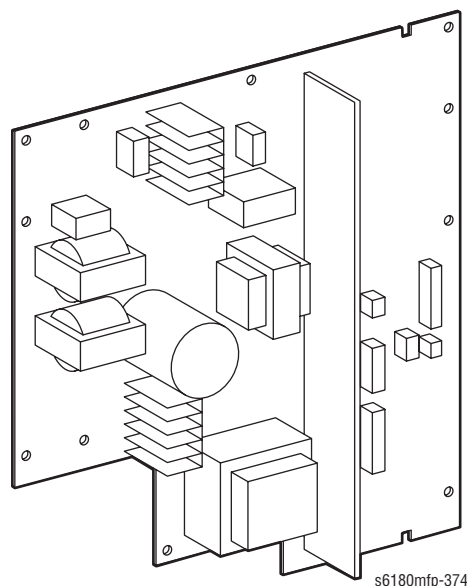
The Humidity/Temperature Sensor reads the humidity and temperature within the machine.

Interlock Switch

The Interlock Switch is a switch that cuts the +24 VDC power supply to the HVPS or Motor upon the opening of the Front Cover.

Low-Voltage Power Supply

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



High-Voltage Power Supply

The High-Voltage Power Supply (HVPS) provides high-voltage power to the components in the Transfer Unit and Print Cartridge to perform charging, development, and primary transfer of the print process to the BCR, BTR, Developer, and ESA Roller.

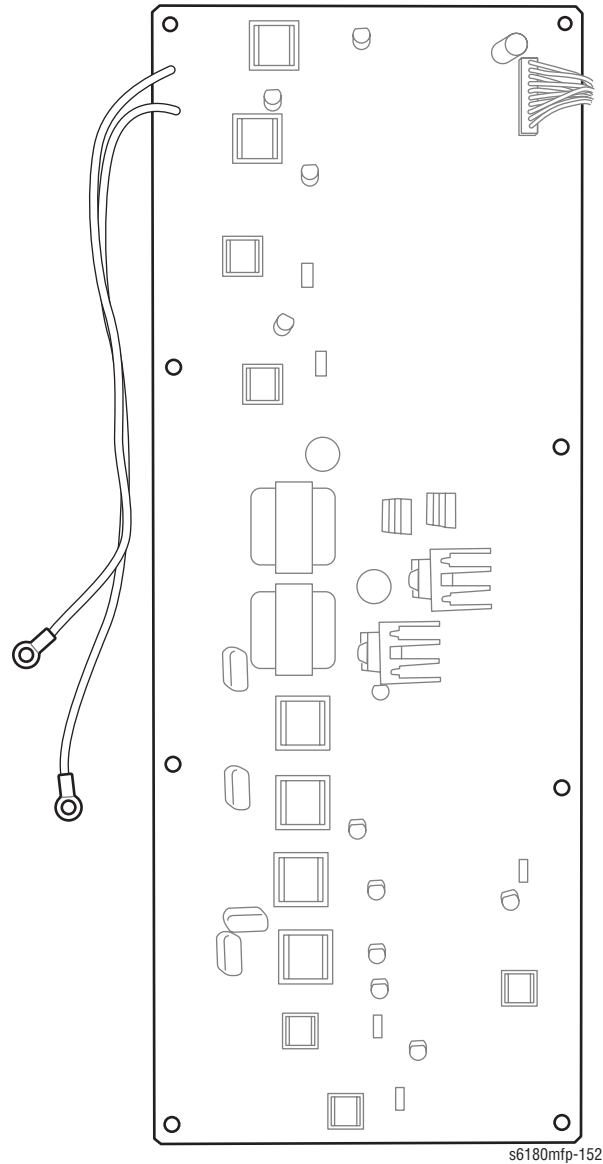


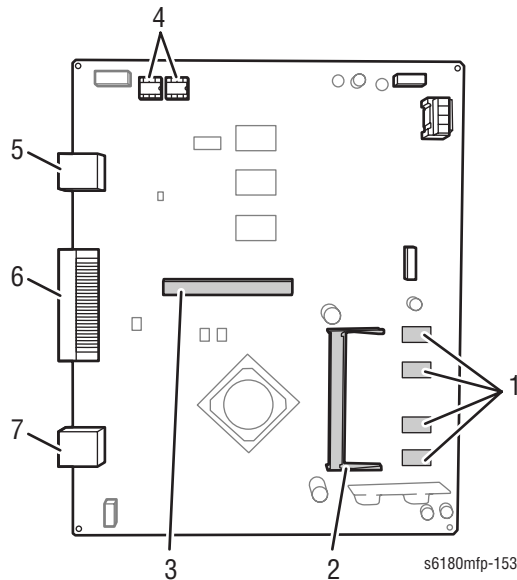
Image Processor Board

The Image Processor (I/P) Board is connected to the MCU Board, which controls the printer, including Diagnostic, Interface, and Image Processing.

The I/P Board is one of the major elements of the Phaser 6180MFP.

The primary function of the I/P Board is to receive host data through one of the following available ports (Parallel, USB, or Ethernet). The received host data is buffered, stored, and sent to the print engine in a rasterized format.

1. Standard Memory (384 MB on-board RAM)
2. Optional Memory DIMM (should be swapped)
3. Multi-Protocol Network Card Connection
4. NVRAM
5. Ethernet Connection
6. PC Interface Connection (Parallel)
7. USB Connection



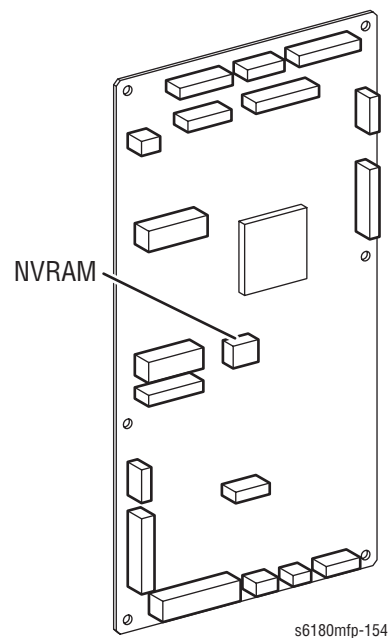
When installing a new I/P Board in the printer, you must transfer the following parts from the old board to the new board:

- Memory DIMM (if installed)
- NVRAM
- Multi-Protocol Network Card (if installed)

Machine Control Unit Board

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

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

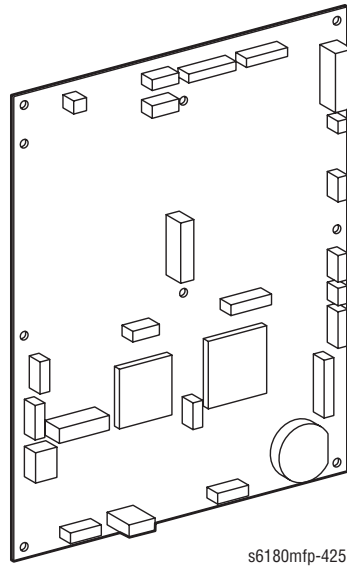


Note

When replacing an MCU Board, be sure to transfer the NVRAM from the old MCU Board to the new MCU Board.

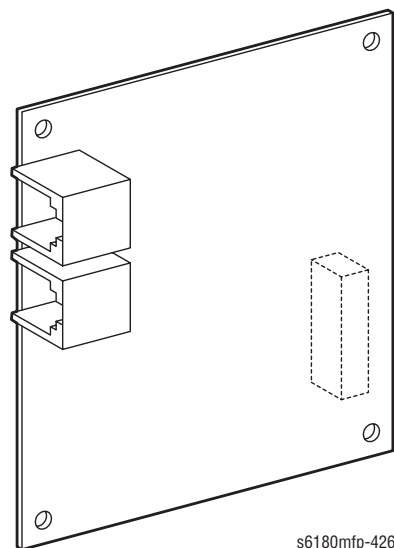
Scanner Controller Board

The Scanner Controller Board is the logic interface between the Scanner, Fax Modem, MCU, and Image Processor boards. Its primary function is to control and manage copy scan and fax image information. During the copy (scan or fax) process, RGB data is collected by the scanhead and then converted by the Scanner Controller Board into CMYK data. CMYK data is then routed either to the MCU, I/P Board, or Fax Modem for proper management.



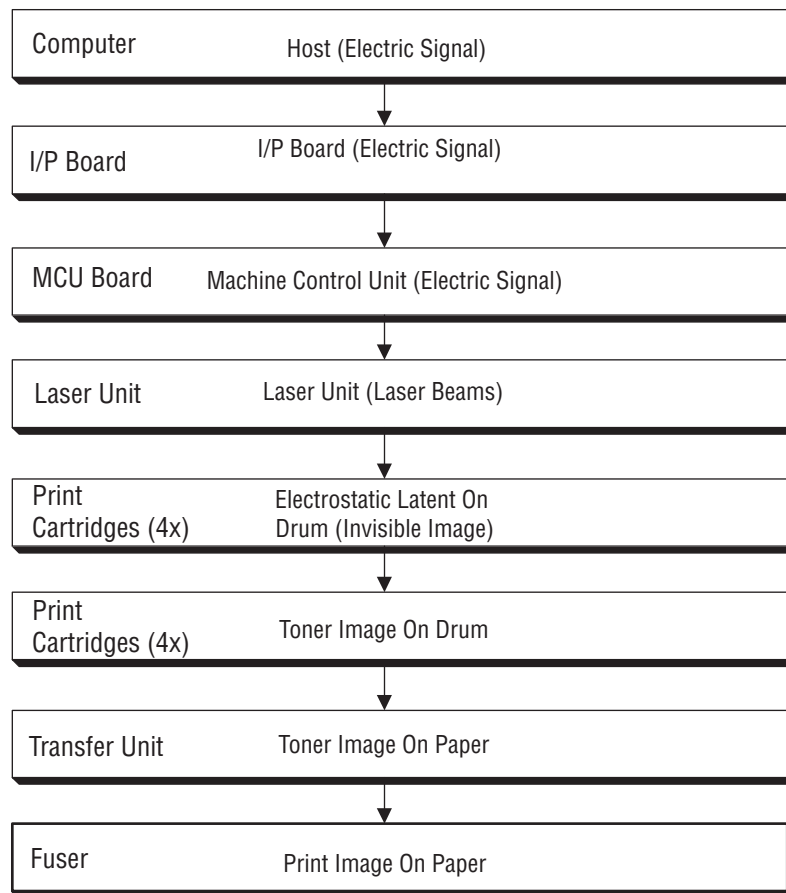
Fax Board

The Fax Board provides and interfaces between remote fax machines and the Scanner Controller Board. Incoming fax data is received by the modem board and is passed directly to the Scanner Controller Board for further processing. Outgoing fax data is passed from the Scanner Controller Board at the appropriate timing sequence when a clear transmission line has been established.



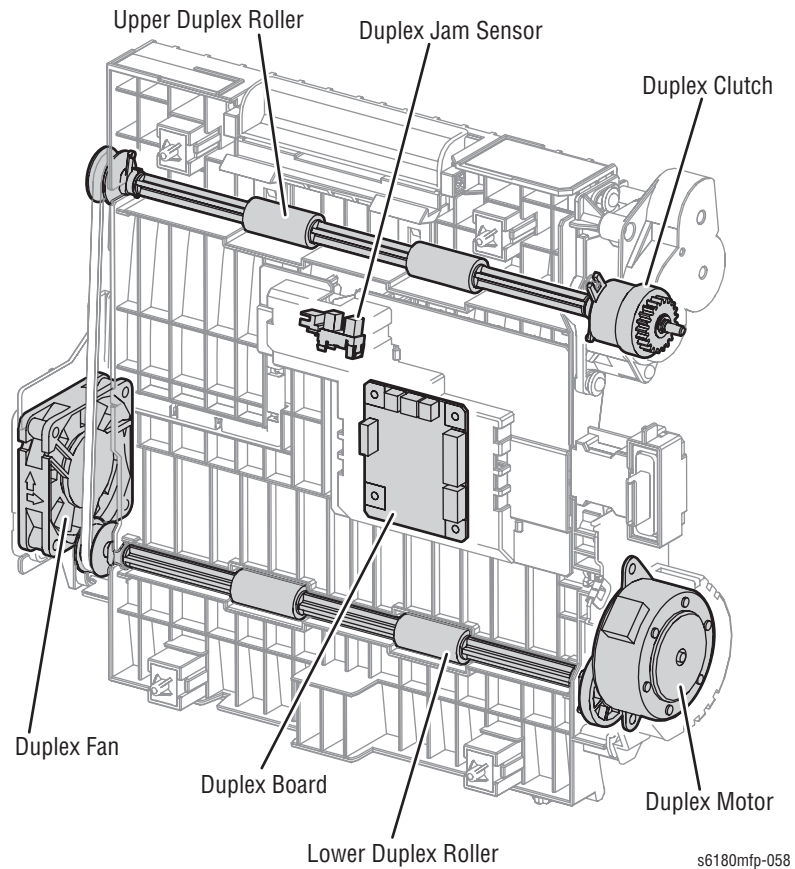
Data Flow

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



s6180mfp-057

Duplex Unit



- **Duplex Jam Sensor**

The Duplex Jam Sensor detects paper that is carried to the Duplex Unit.

- **Duplex Clutch**

The Duplex Clutch transmits drive energy from the Duplex Motor to the Exit Roller in the Fuser. When the Clutch operates, the Exit Roller rotates in the reverse direction.

- **Duplex Motor**

The Duplex Motor provides drive energy to the Lower Roller (Duplex 2 Roller), Upper Roller (Duplex 1 Roller), and Exit Roller on the Fuser.

- **Duplex Board**

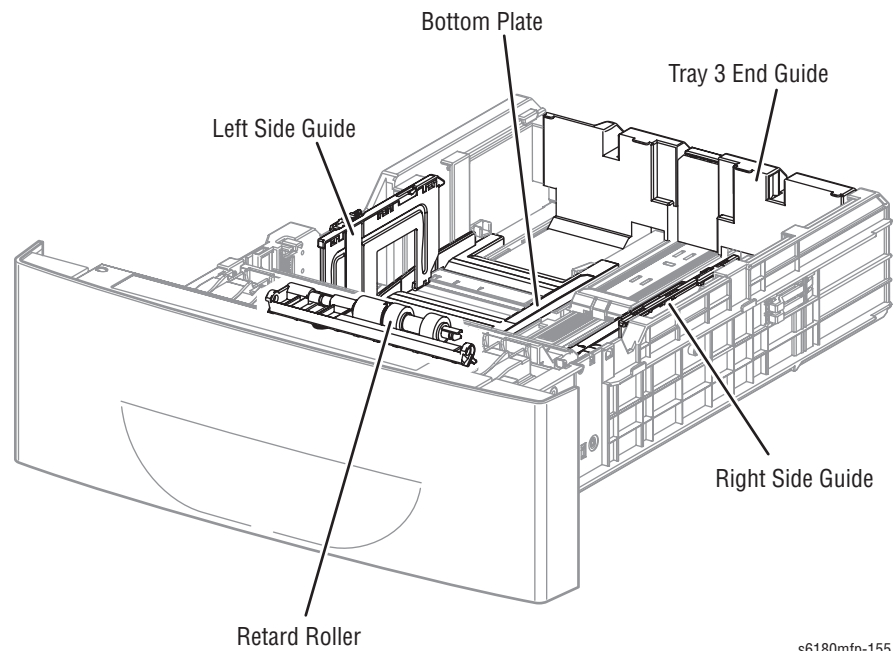
The Duplex Board controls the Motor, Sensor, and Clutch.

- **Duplex Fan**

The Duplex Fan removes heat from inside of the printer to prevent overheating.

Tray 3 - Optional 550-Sheet Feeder

Tray 3



s6180mfp-155

■ Tray 3 Side Guide (Left/Right)

The Left/Right Side Guides move at a right angle to the paper transfer direction to align the paper width.

■ Tray 3 End Guide

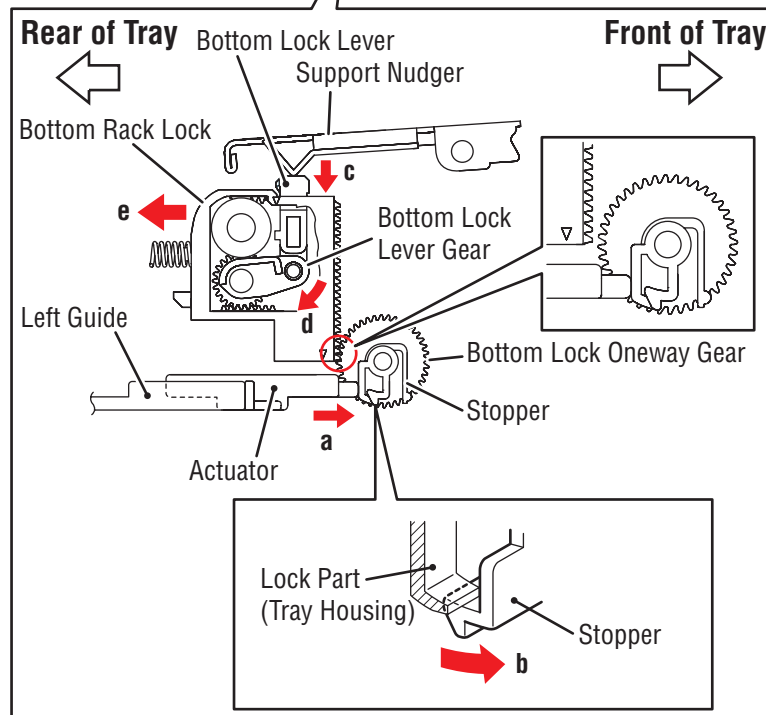
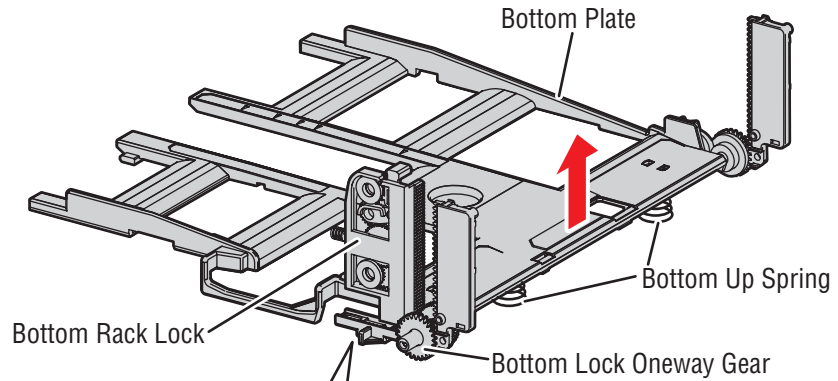
The End Guide moves toward the paper direction to determine the paper size. The On/Off of the Size Switches adjust according to the Tray 3 End Guide position to detect the paper size.

■ Tray 3 Retard Roller

The Retard Roller and the Feed Roller (Pick Up Unit) pinch the paper to feed.

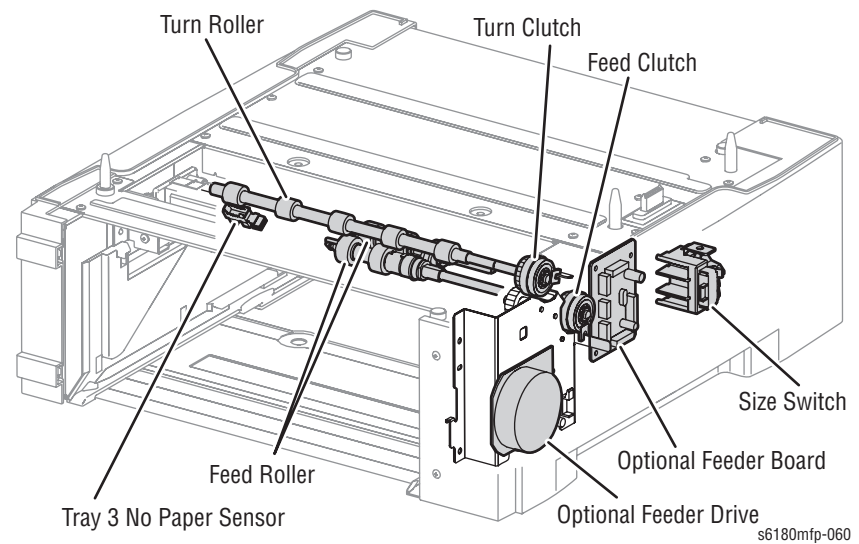
■ **Tray 3 Bottom Plate**

- a. When the tray is inserted into the Sheet Feeder, the Actuator is pushed toward the front by the Left Guide, which pushes the Stopper.
- b. The Stopper unlocks the Bottom Lock Oneway Gear.
- c. When the tray is pushed until it stops, the Bottom Lock Lever is pressed down by the Support Nudger in the Feeder.
- d. The Bottom Lock Lever actuates the Bottom Lock Lever Gear, which pushes the Bottom Rack Lock toward the rear.
- e. The gear on the Bottom Rack Lock is disengaged from the Bottom Lock Oneway Gear, which allows the Bottom Plate to raise up by the Bottom Up Springs.



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Optional 550-Sheet Feeder



- **Tray 3 No Paper Sensor**

The No Paper Sensor detects the presence of the paper in the paper tray based on the No Paper Actuator position.

- **Tray 3 Feed Clutch**

The Feed Clutch transmits drive energy from the Feeder Drive to the Feed Roller.

- **Tray 3 Feed Roller**

When the Feed Clutch operates, the Feed Roller rotates and feeds the paper.

- **Tray 3 Turn Clutch**

The Turn Clutch transmits drive energy from the Optional 550-Sheet Feeder Drive through the Turn Clutch to feed the paper from the paper tray to the printer.

- **Optional 550-Sheet Feeder Drive**

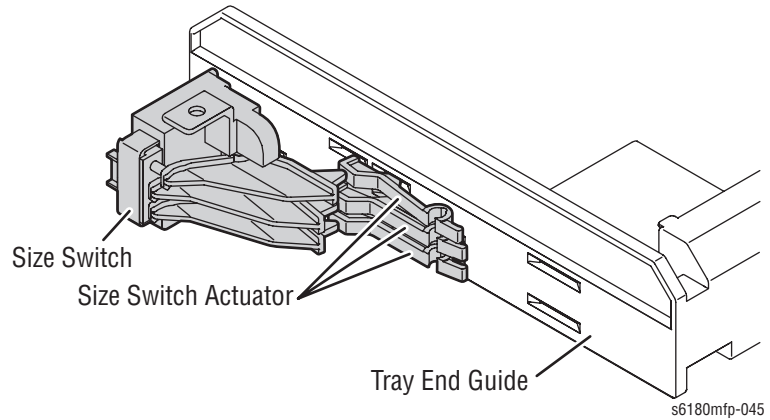
The Optional 550-Sheet Feeder Drive drives the rollers of the Optional Feeder.

- **Optional 550-Sheet Feeder Board**

The Optional 550-Sheet Feeder Board controls the Motor, Sensor, and Clutch.

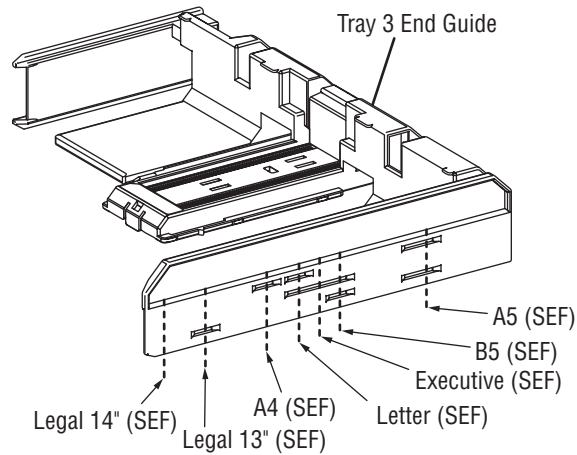
■ **Tray 3 Size Switch**

The Size Switch detects the paper size of the paper tray.



■ **Tray 3 End Guide**

Paper is detected at the Tray 3 End Guide.



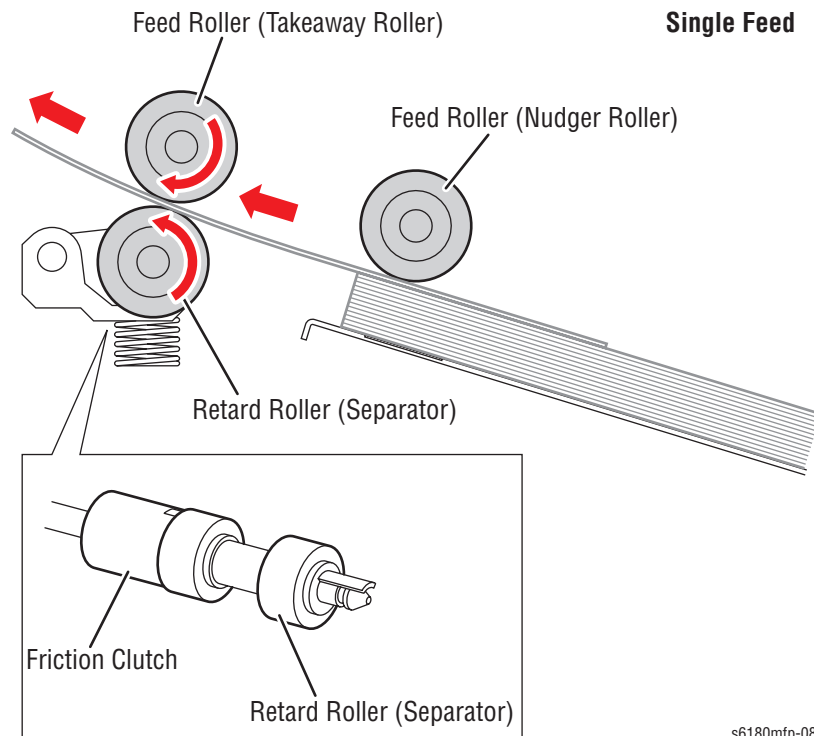
All paper should be loaded SEF.

Note

Refer to “Paper Size Detection” on page 2-56 for detailed information on paper size switches and paper size.

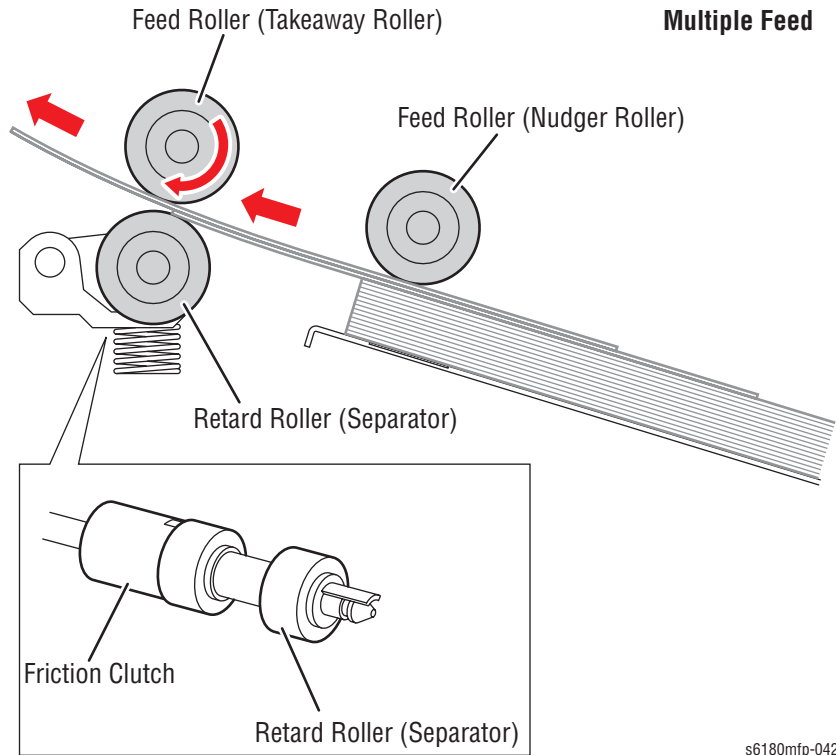
Tray 3 Multiple Sheet Feed Prevention

The sheets loaded in Tray 3 are occasionally stuck together along the edges, which can cause a multiple sheet feed or a jam. The Nudger Roller feeds the sheets to a position between the Feed Roller and the Retard Roller. Normally, when only one sheet is fed, both the Feed Roller and Retard Roller rotate to allow the sheet to pass.



However, when two sheets are fed concurrently, only the Feed Roller rotates. The Retard Roller is coupled to a friction clutch that prevents the roller from rotating due to extra force from feeding two sheets; this process allows the upper sheet to pass by as the lower sheet is stopped by the friction with the Retard Roller at rest.

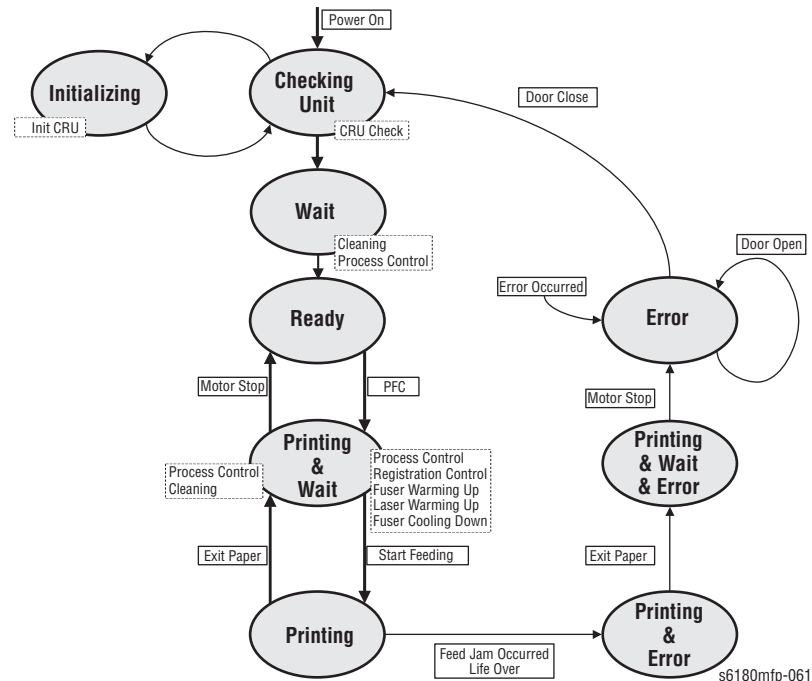
The Retard Roller is pushed toward Feed Roller by spring pressure, and controlled by the Friction Clutch with which it is coupled.



s6180mfp-042

Printer Modes

Operational Modes



The Phaser 6180MFP includes the following modes:

- **Diagnostics Mode**

The printer is ready to receive diagnostic commands, or the printer diagnostic function is operating.

- **Wait Mode**

The printer is performing Print Quality adjustment.

- **Ready Mode**

The printer is ready for printing.

- **Printing Mode**

Printing is in progress.

- **Error Mode**

An error is detected in the printer.

- **Initializing Mode**

The printer is initializing with a new Developer Unit (new parts have been installed into the printer).

- **Checking Unit Mode**

The printer is checking consumable units.

Printer Control

Paper Size Detection

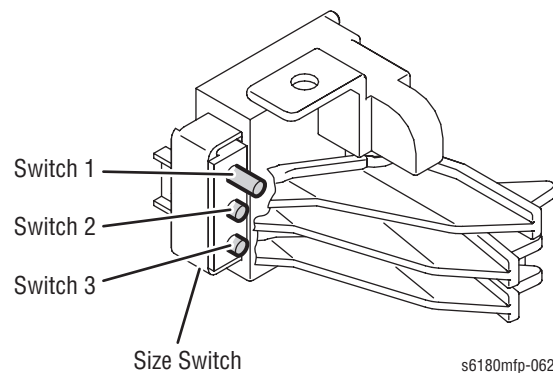
The paper size detection for Trays 2 and 3 is determined by three paper Size Switches in each paper tray slot. The switch condition is set by moving the paper end guide in the tray. This in turn sets the plastic “fingers” on the side of the paper tray to a specific position that activates the correct switch combination for the selected paper size.

Paper Size Switches Indicated as SW1, SW2, and SW3

Paper Size	Paper Size Switch		
	SW1	SW2	SW3
Letter (SEF)	Off	Off	On
A4 (SEF)	Off	On	On
A5	Off	On	Off
B5 (SEF)	On	Off	Off
Legal 13” (SEF)	On	On	On
Legal 14” (SEF)	On	On	On
Executive (SEF)	On	Off	On
No Tray	Off	Off	Off

Note

On: The Actuator is pushing the Size Switch.



Selective Control on Paper Tray

The default tray is Tray 2. The preferred paper tray can be changed using the menu on the printer's Control Panel: **System > Tray Settings**.

Laser Unit Light Quantity Control

Image data is sent to the Laser Unit as an electric signal (data are expressed with high and low voltage values), and the laser diodes convert the image data from electric signals to optical signals (data are expressed with blinking laser beams).

Variations in light quantity of laser beams or variations in the optical system (such as lenses) or drum sensitivity cannot attain a proper electrostatic image. Therefore, the laser beam light quantity is monitored and controlled by the laser diodes.

The Laser Unit has four laser diodes for Yellow, Magenta, Cyan, and Black respectively and the beam intensity is automatically adjusted for each color.

Process Control

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

- Potential Control
- Toner Density Control

The following controls supplement the above controls:

- High Area Coverage Mode
- Admix Mode

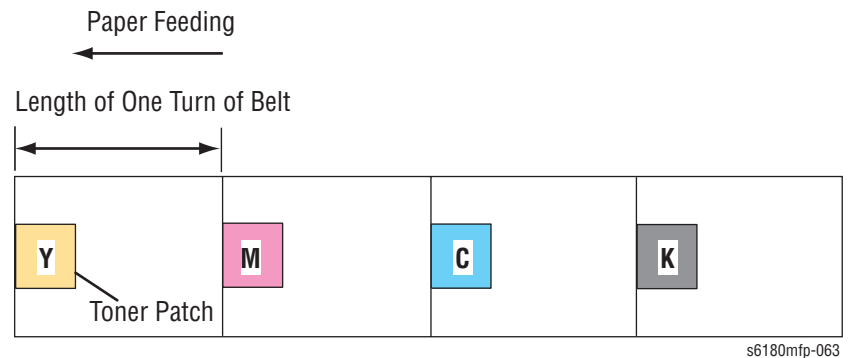
Potential Control

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

The outline of controls is as follows:

1. The Humidity/Temperature Sensor detects humidity and temperature.
2. The patches of respective colors (Yellow, Magenta, Cyan, and Black) for the potential control are generated and transferred on the Transfer Belt.
3. The ADC Sensor (Density Sensor) detects the density of the patch on the Belt.

- The drum charging voltage, developing DC voltage, and the Laser Unit beam intensity are adjusted for each color according to the detected patch density.



Toner Density Control

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

1. PCDC (Pixel Count Dispense Control)

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

2. ADC (Auto Density Control)

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

High Area Coverage Mode

A continuous printing of any image of area coverage exceeding the toner dispense capability causes the toner density in the Developer to be lowered. The High Area Coverage Mode postpones the next page feed and dispenses extra toner during this time, if the toner dispense time reaches the specified value during a continuous printing.

Admix Mode

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

ADC Sensor Adjustment

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

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

The surface is cleared by actuating the ADC Solenoid, which causes the ADC Pad to wipe the lens on the ADC Sensor.

LED Light Quantity Control of ADC Sensor

The ADC Sensor is a reflection type sensor that radiates light from its LED onto the target and detects the reflected light at its photoreceptor and outputs electric signals responsive to the amount of the detected light. For exact density measurement, the sensor output value (reflected light intensity) must be the specified value when no toner is put on the Belt as an objective. The reflected light intensity varies, depending on the Belt surface condition or dirty condition of the ADC Sensor surface. The light intensity emitted from the LED is controlled so that the reflected light intensity satisfies the specified value. This control is made in two ways, one to set the light intensity so that the reflected light quantity satisfies the specified value, and the other to adjust the subsequent light intensity to be within the tolerance.

1. Light Intensity Setting

The reflected light intensity may vary largely, if the Transfer Unit was replaced or the ADC Sensor was cleaned. Assuming this fact, the light intensity is set when the power is turned On, or the Front Cover is opened and closed.

The light intensity of the LED is increased gradually, and the set value is fixed when the output of the ADC Sensor exceeds the specified value.

2. Light Intensity Adjustment

At the execution of ADC, the light intensity adjustment is made immediately before the patches for toner density control are generated.

The LED outputs the current setting of light intensity to check the output value of the ADC Sensor for the specified range. If the output value is low, the light intensity is increased by the specified amount at the next ADC, or if high, the light intensity is reduced at the next ADC.

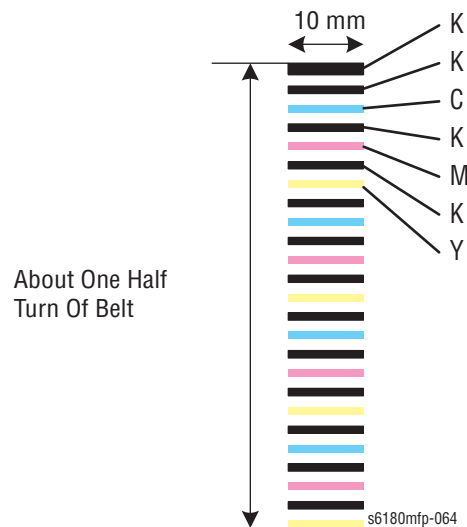
Color Registration Control

The printer uses a tandem electro-photographic system with Organic Photo Conductor (OPC) Drums and direct transfer by the Transfer Belt. The images are formed on the Drums of respective colors and they are overlapped to form one image, and in this case, a color shift may occur. The color registration control calculates how much the registration is shifted, and adjusts the Laser Unit write timing.

The scan control adjusts all four colors in the process direction.

The color registration control is made from a change in inside temperature and the print count at the execution of the process control. This control is outlined as follows:

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



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

Fuser Control

Fuser Temperature Control

After the target temperature is set, the Heat Roll surface temperature is controlled so that it can be the target temperature by turning the Heater Lamp On/Off.

Temperature of individual area of the Heat Roll is detected by the Fuser Non-Contact Sensor (NCS) in the middle of the Heat Roll and the Temp Sensor at the edge of it. When the temperature is detected higher than the target, the Heater Lamp will turn Off. When the temperature is lower than the target, the Heater Lamp will turn On.

The target temperature set up varies depending on the time of Warm-up, Printing, or Process Control. The target temperature will be changed based on the interior temperature detected by the Humidity Sensor, the difference of the temperature between the center and edge areas of the Heat Roll, Printing Mode, or the Input Power Voltage.

Cool Down

As printing continues, the distribution of temperature in the Heat Roll becomes uneven in both the paper feed and non-paper feed areas. Cooling Down process is to provide a certain period of time without feeding paper so that the Heat Roll temperature can be distributed evenly.

When the edge of Heat Roll temperature is high, cooling down is performed to lower the temperature to the target temperature.

Sensor Warm-Up

The Fuser Non-Contact Sensor at the center of the Heat Roll will lose its accuracy of detecting temperature when the temperature of the Sensor itself is below -5° C. Therefore, the Sensor will be warmed up when the temperature is below -5° C. This process is called Sensor Warm-Up.

Drive Transmission

Mechanical Components

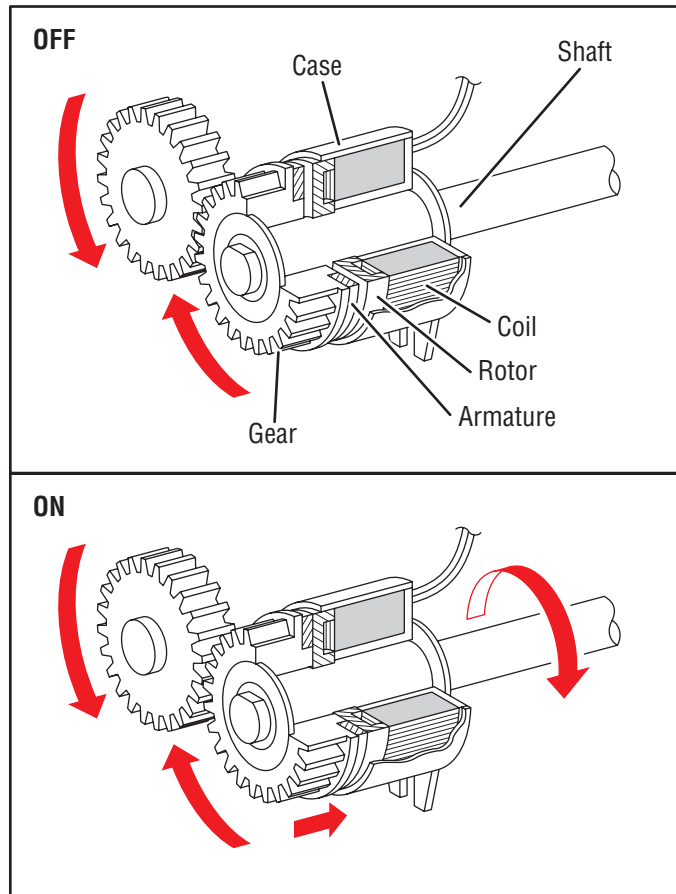
Clutch

The electromagnetic Clutch in the printer controls the rotation of the Roller by transferring torque from the Motor to the Roller.

The electromagnetic Clutch becomes an electromagnet by transferring electric current through the coil inside the case and attracts the armature and gear to the rotating rotor, which rotates the Gear.

When the Coil lost its power, electromagnetic force is lost and the armature comes off the rotor, and the Gear stops rotating.

The Clutch makes very soft noise. When verifying the Clutch operation, ensure to stay close to the component in order to hear the sound.



s6180mfp-083

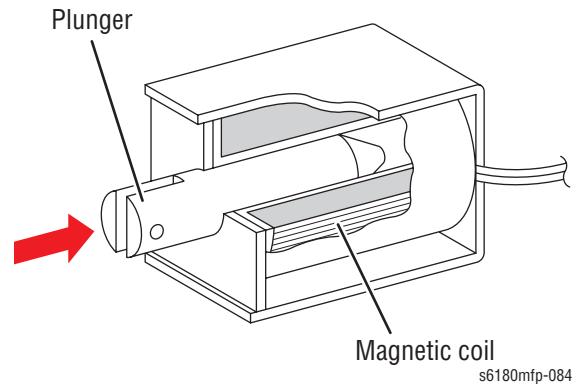
Solenoid

The Solenoid opens/closes the shutter or controls the position of the Gear for transferring torque of the Motor to the Roller.

The Solenoid becomes an electromagnet by transferring electric current through the Coil inside the Case and attracts the Plunger.

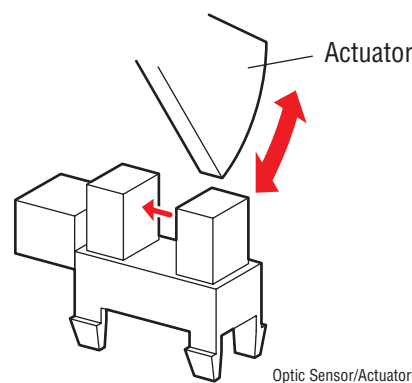
When the Coil lost its power, electromagnetic is lost and the Plunger is returned to its original position by spring action, which allows the shutter to operate or the Gear to move to the predefined position.

Unlike a Clutch, a Solenoid generates a loud noise.



Sensor

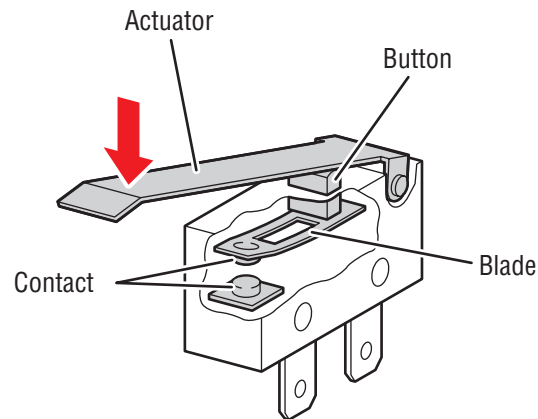
A transmissive type sensor is composed of the light-emitting side and the light-receiving side that are placed opposite to each other, allowing the light to pass from the former to the latter. On the basis of whether or not the light path is blocked due to the actuator, etc., the sensor detects the paper absence/presence or the moving parts position such as at the home position or elsewhere.



Switch

A micro-switch closes the internal contacts via a button, which is pushed down under the leaf spring that is held down by the Actuator of the cover or door that is being closed.

When the door or cover is opened, the leaf spring returns to its original position and the button is pushed up by the spring in the Switch, allowing the internal contacts to open.

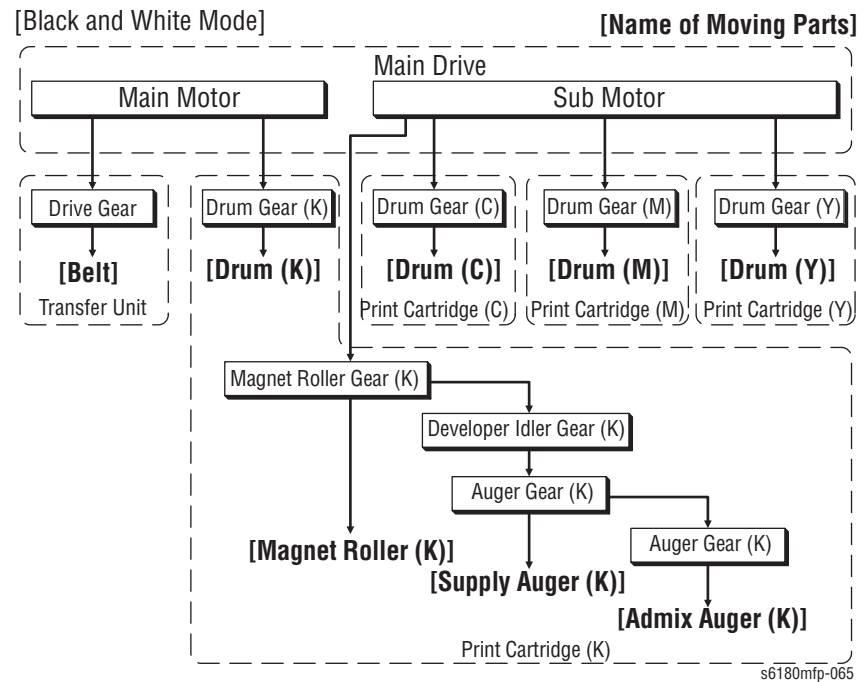


Main Drive

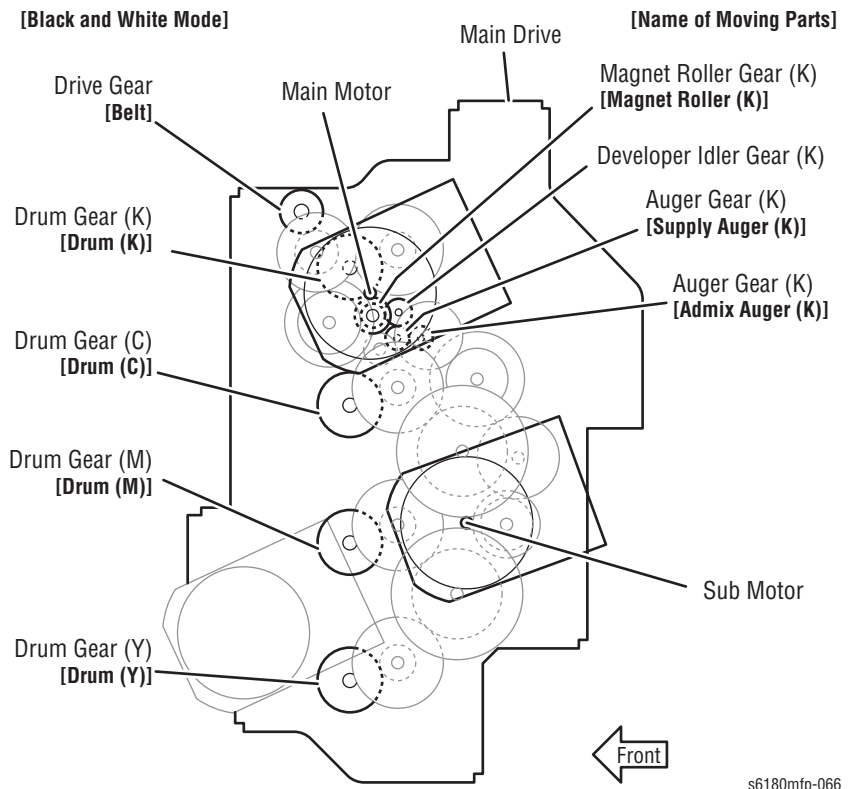
The Main Drive transmits power for Black and White, Full Color, and Simplex modes as shown in the following diagrams.

Black and White Mode

Process

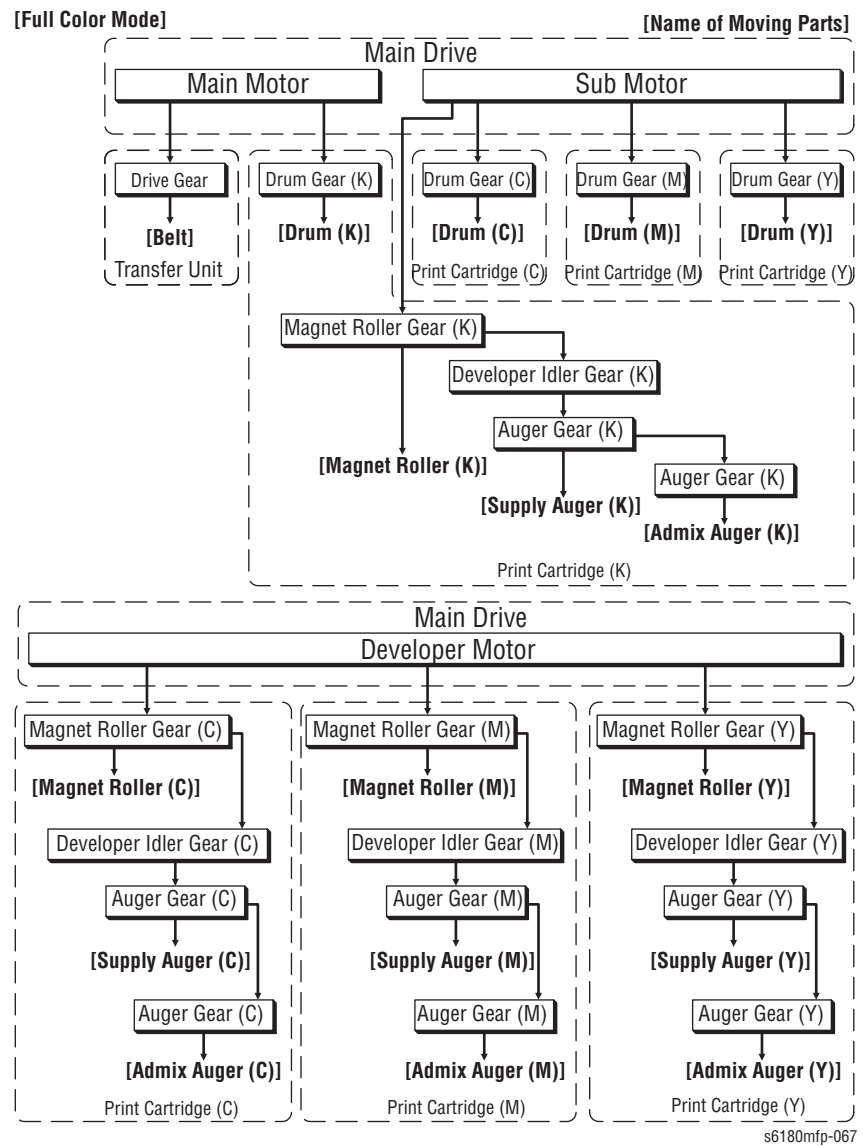


Front View

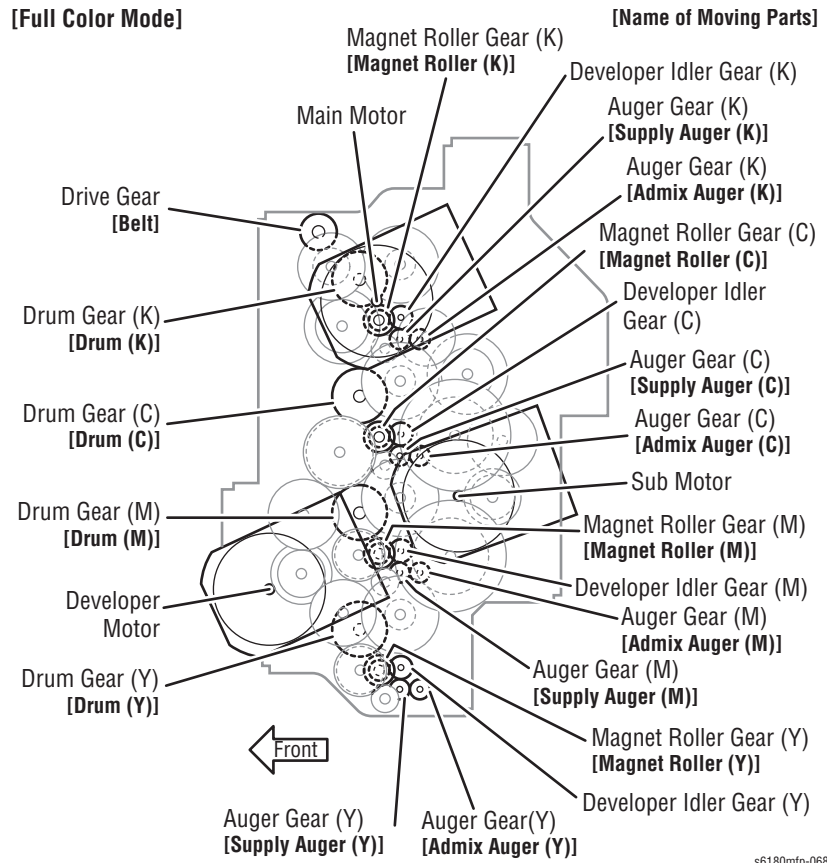


Full Color Mode

Process

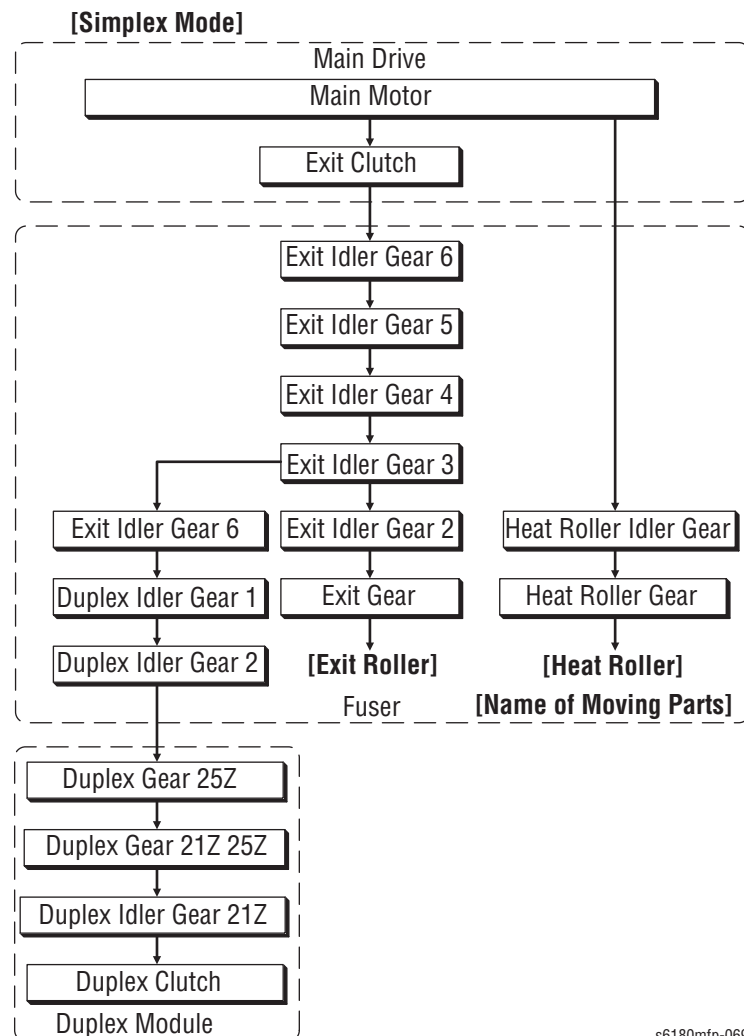


Front View



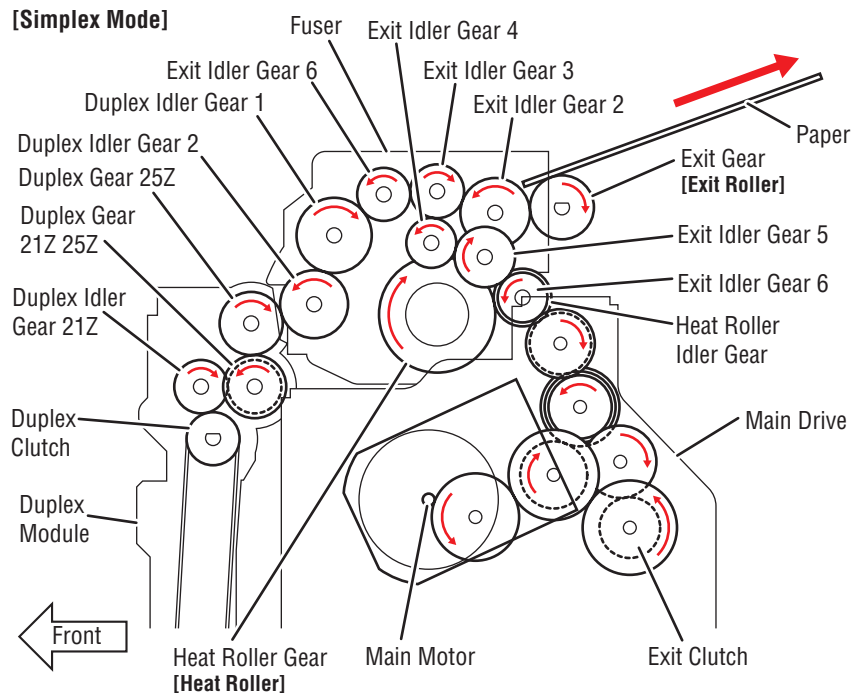
Simplex Mode

Process



s6180mfp-069

Front View



[Name of Moving Parts]

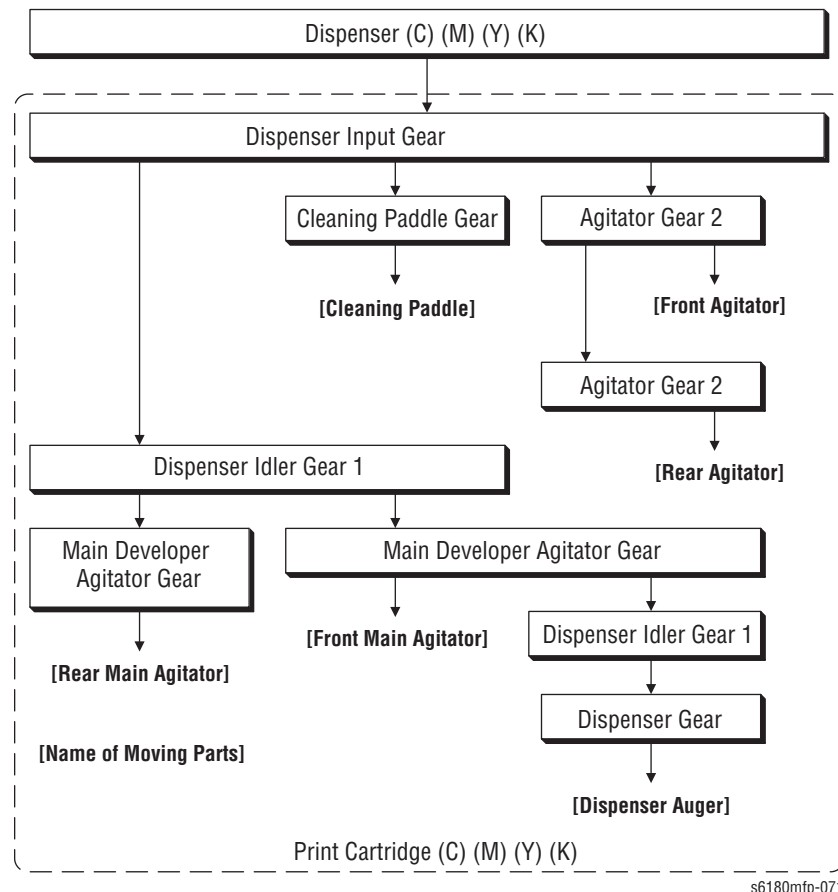
s6180mfp-070

Dispenser (C) (M) (Y) (K)

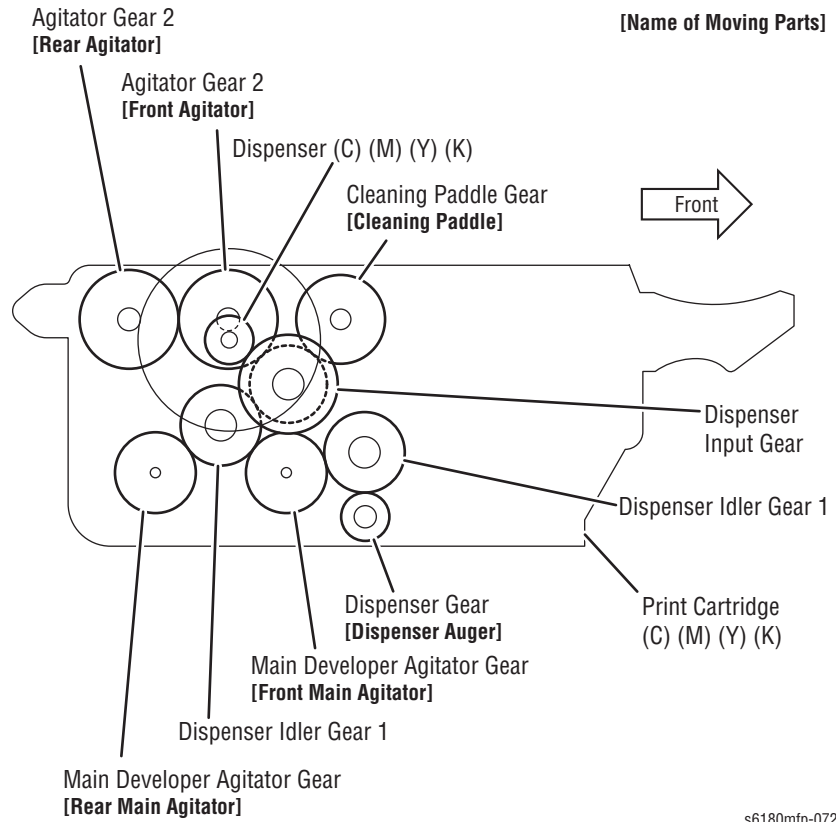
The Dispenser drives the Agitator and the Auger in the Print Cartridge as shown in the following diagram. The operation is common among the Dispensers C, M, Y, and K.

Customer Replaceable Unit

Process



Front View



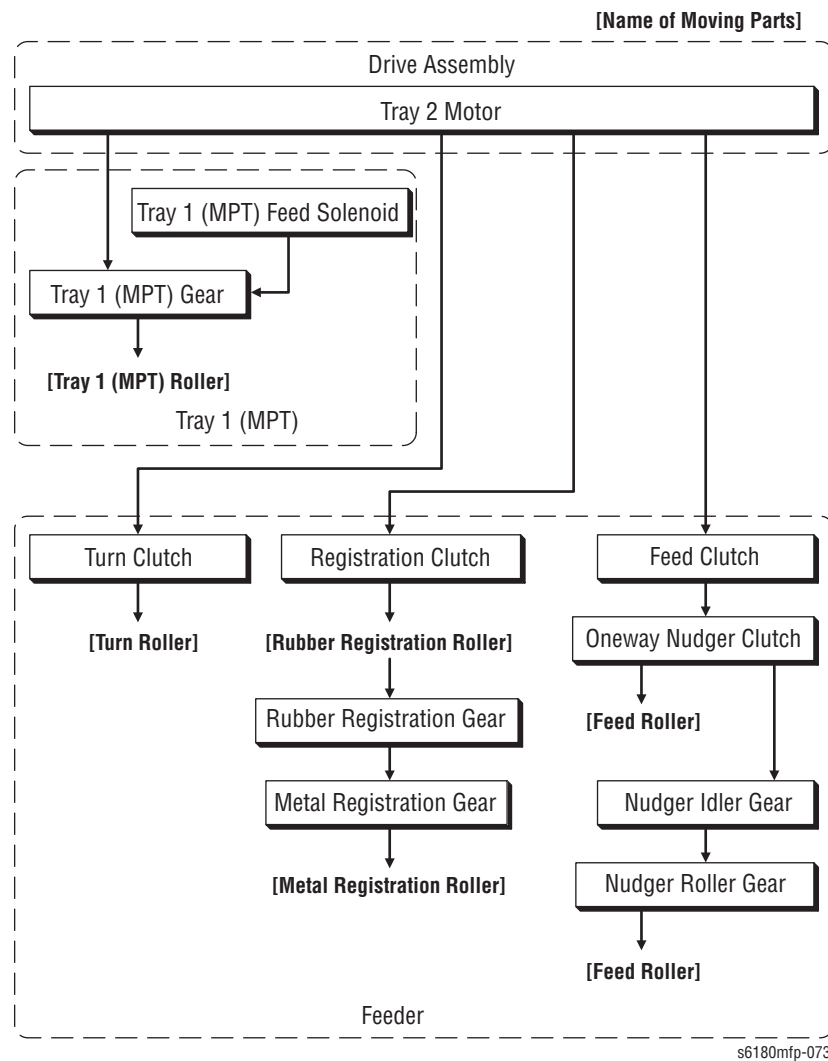
s6180mfp-072

Drive Assembly

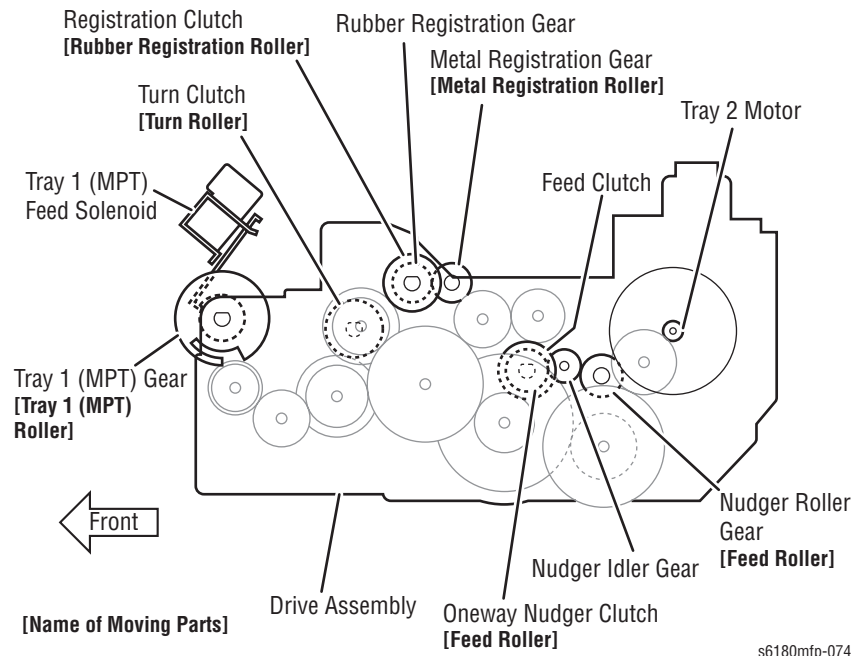
The Drive Assembly transmits drive energy as shown in the following diagram.

Paper Handling

Process



Front View

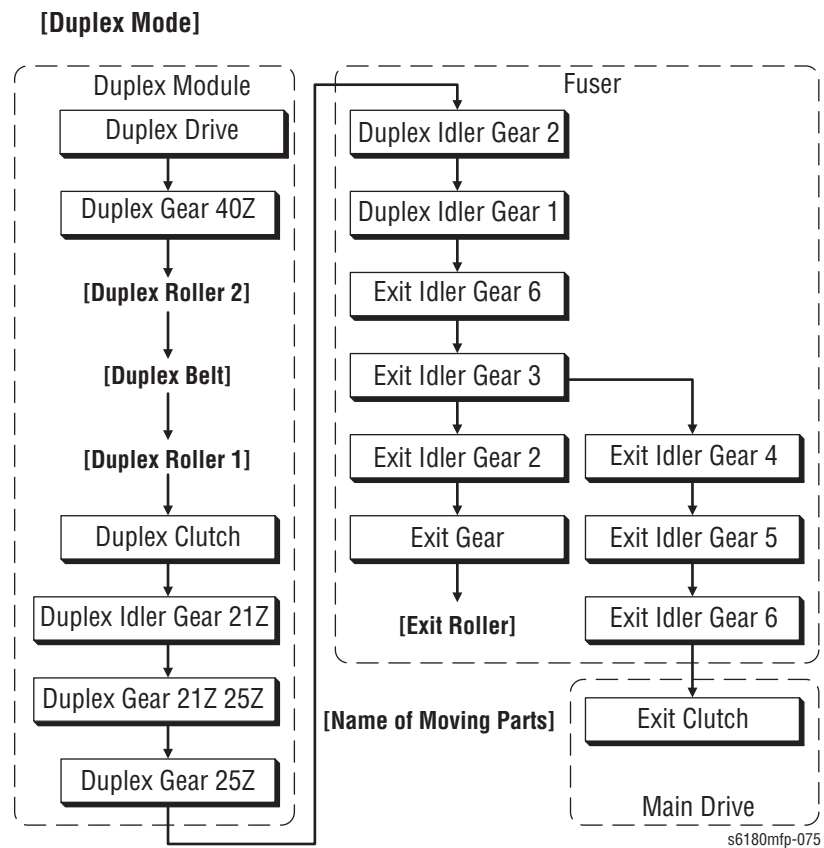


Duplex Drive

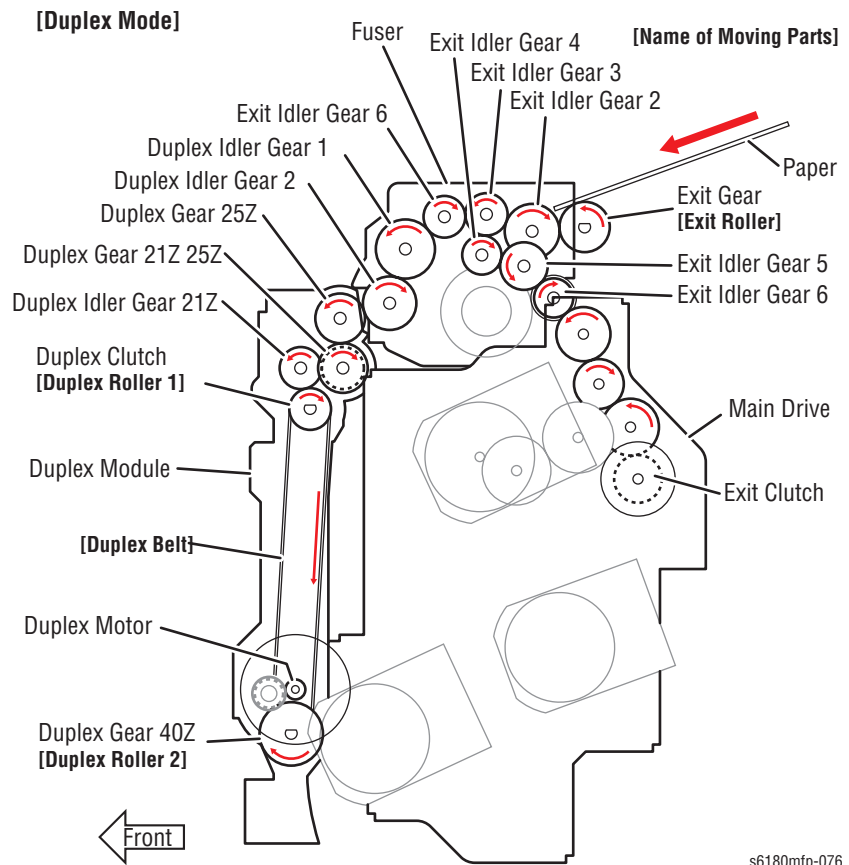
The following diagram provides a process flow of the Duplex Drive.

Duplex Mode

Process



Front View



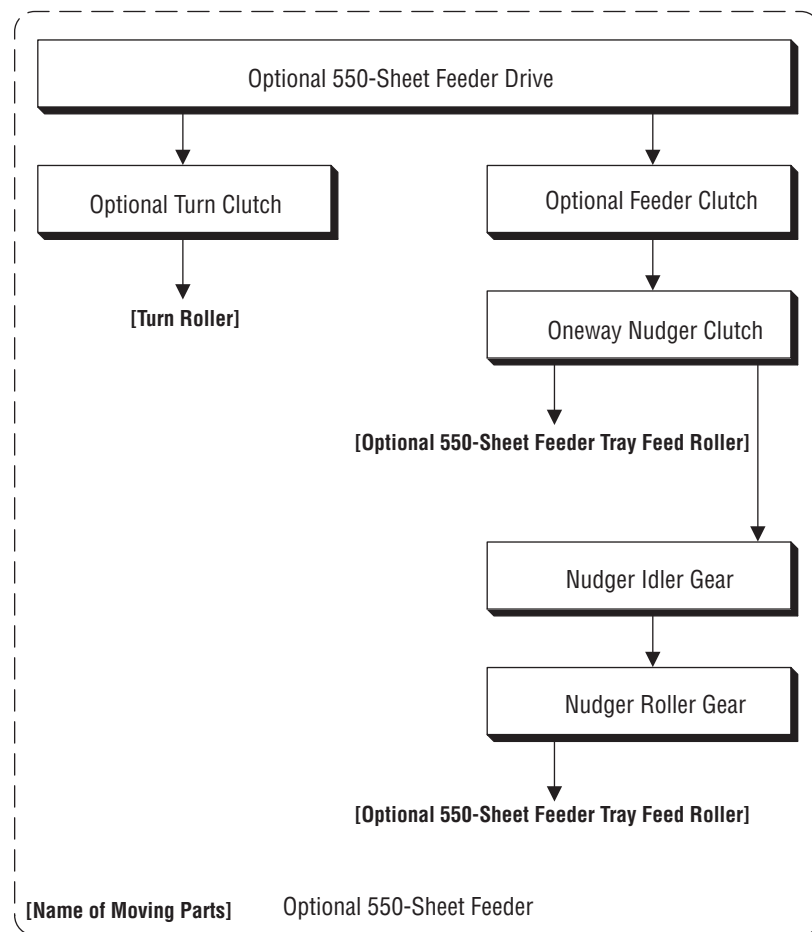
s6180mfp-076

Optional 550-Sheet Feeder Drive

The following diagram provides a process flow of the Optional 550-Sheet Feeder Drive.

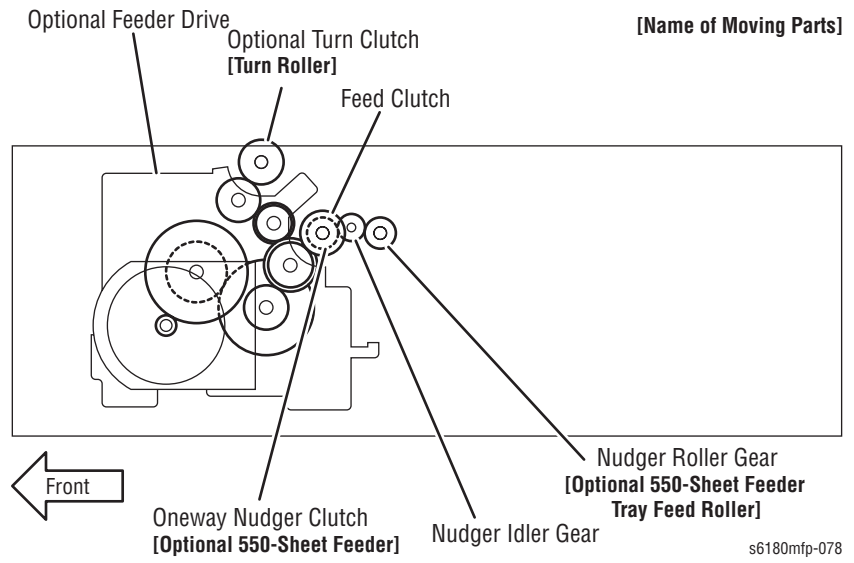
Optional 550-Sheet Feeder

Process



6180mfp-077

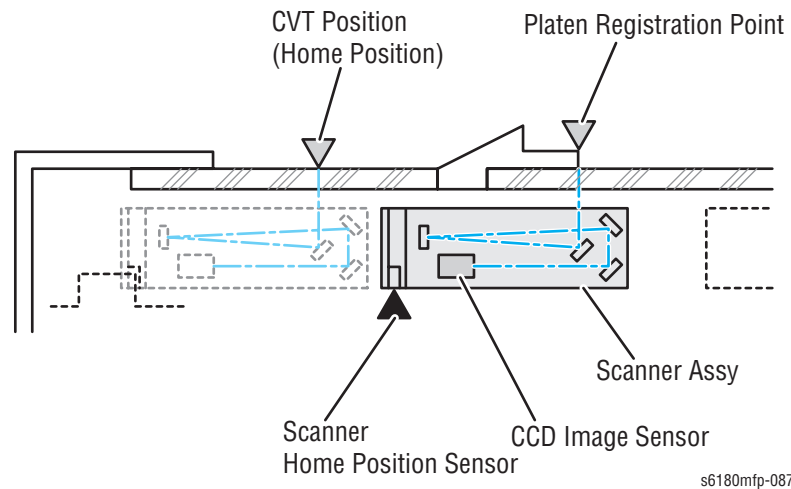
Front View



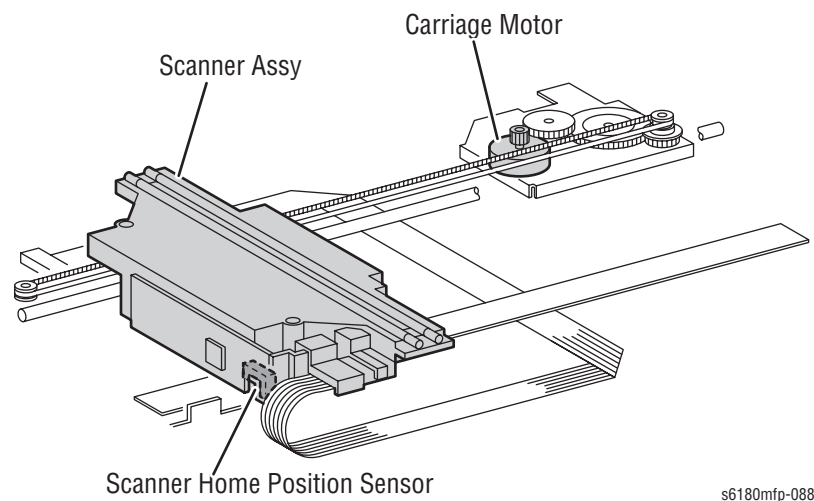
Scanner Assembly

The scanning section consists of a Scanner Assembly that reads a single-sheet document placed on the document glass, and an Automatic Document Feeder (ADF) that conveys the pages of a multiple-sheet document.

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



Scanning on Document Glass

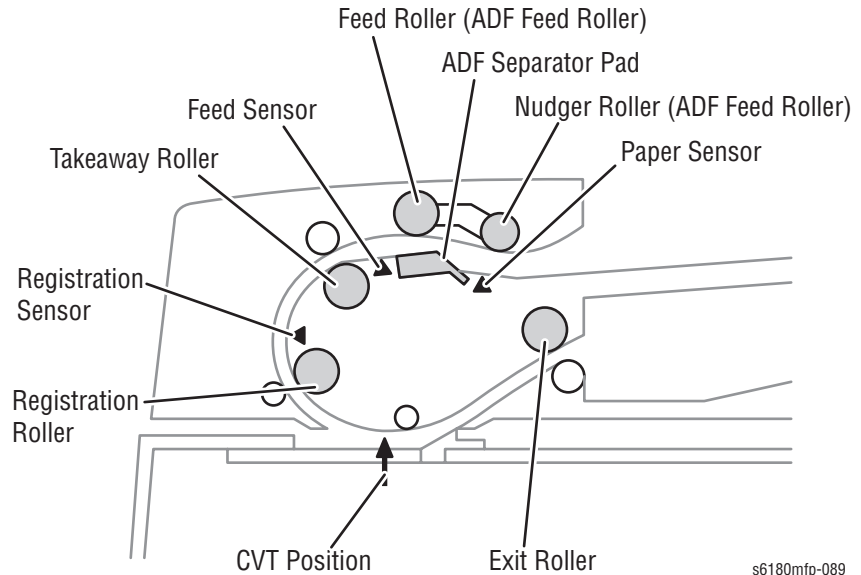


The Scanner Assembly travels to read the document. The following components are installed on the Scanner Assembly:

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

Scanning at Automatic Document Feeder

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



Media Setting

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

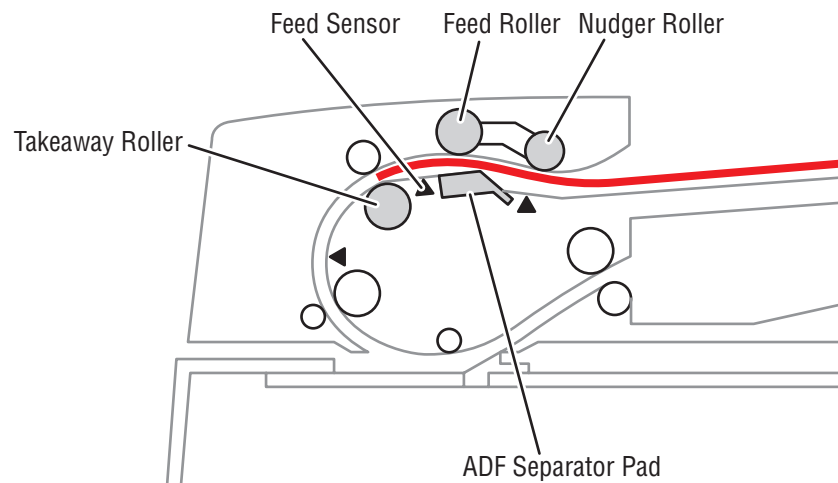
Preparation for Feed

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

Prefeed

In the Prefeed process, the media is fed from the Feed Roller to the Takeaway Roller.

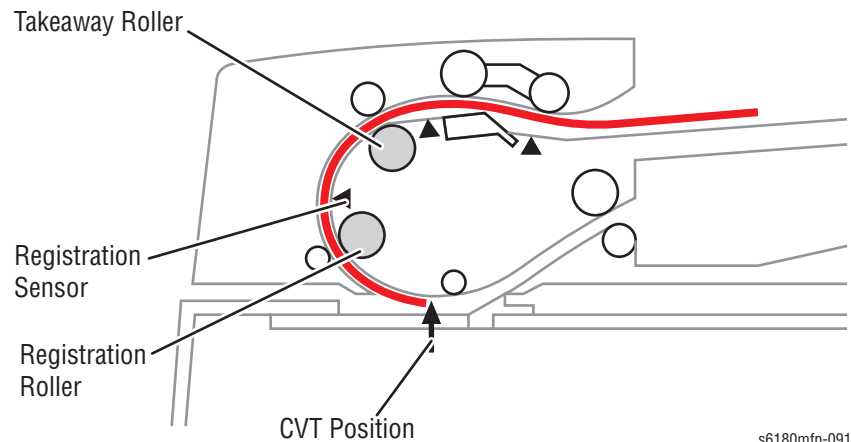
When the Nudger Roller is pressed down to the media surface, the ADF Motor rotates to drive the Nudger Roller and Feed Roller. The Nudger Roller feeds the top media in the document tray to the Feed Roller. The Feed Roller, nipped by the ADF Separator Pad, feeds the media (coming from the Nudger Roller) one by one. When the Feed Sensor detects the media, the printer recognizes that first media feeding is complete.



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Preregistration

In the preregistration process, the media (fed to the Takeaway Roller in the prefeed process) is fed to the Registration Roller. The lead edge of the media is then fed from the Registration Roller to the scan feed reference position (Wait Position), located upstream from the CVT position, where the media stops. This operation accomplishes registration of the lead edge of the media. The ADF Motor drives the Takeaway Roller when the media is fed to the Takeaway Roller, which then feeds the media to the Registration Roller. When the Registration Sensor detects the media, the ADF Motor rotates to drive the Registration Roller and Exit Roller. The Registration Roller feeds the media (fed from the Takeaway Roller) to the scan feed reference position.



Scan Control

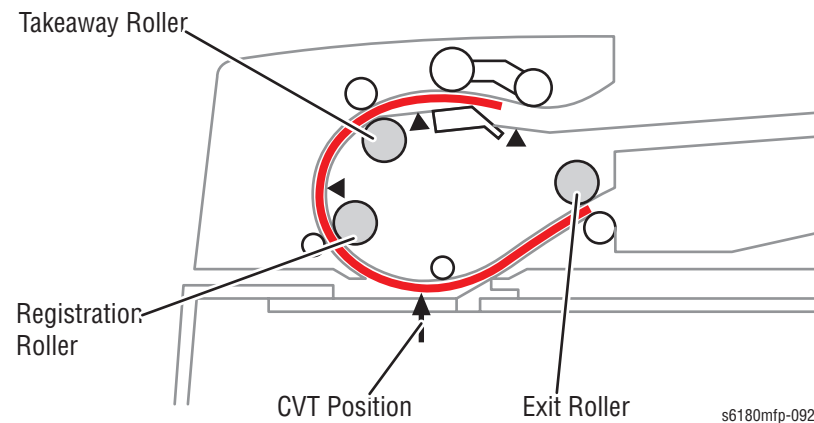
Scanning of the image illuminated with the Exposure Lamp of the Scanner Assembly is controlled by changing the feed speed according to the copy magnification.

When the media passes the CVT position at the specified speed, the images on the media are exposed by scanning with the Exposure Lamp of the Scanner Assembly, and read by the CCD Image Sensor.

Simplex Document

For simplex document, media feed is performed as follows:

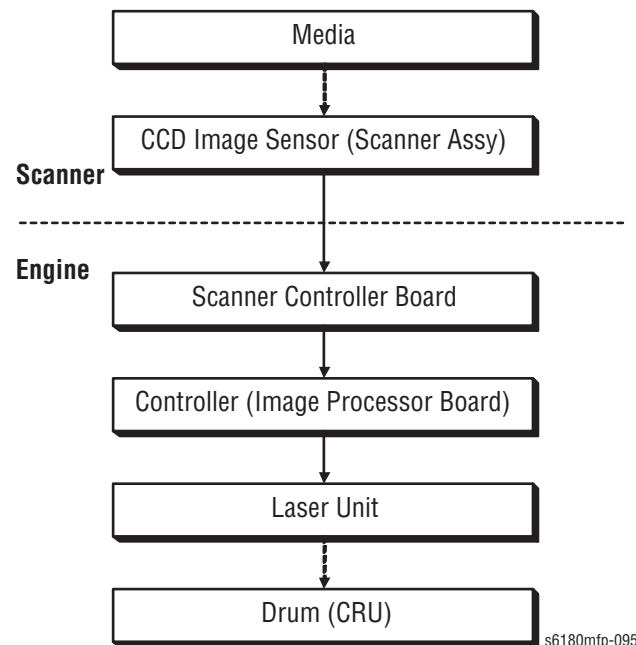
1. The media is fed to the Takeaway Roller, the Registration Roller, and then fed to the scan feed reference position.
2. The media is fed to the Registration Roller, and then fed to the scan feed reference position.
3. The media is fed at the feed speed corresponding to the selected magnification, and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



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Image Data Flow

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

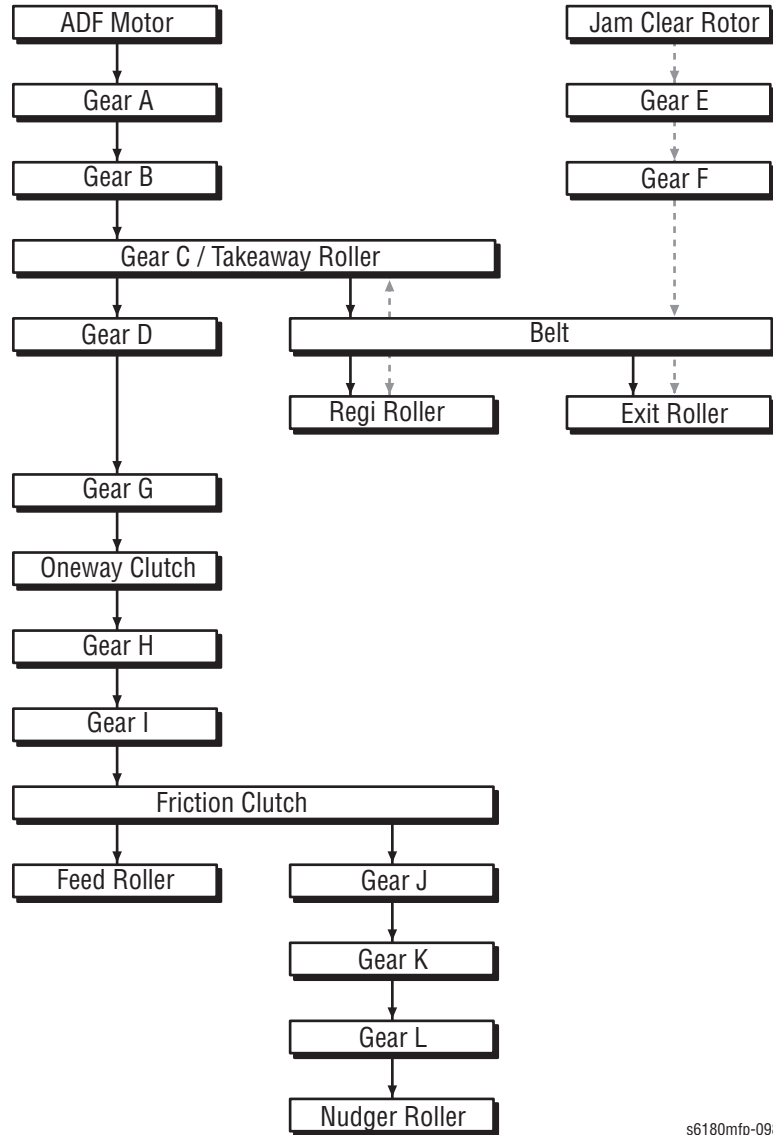


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Drive Torque Transfer

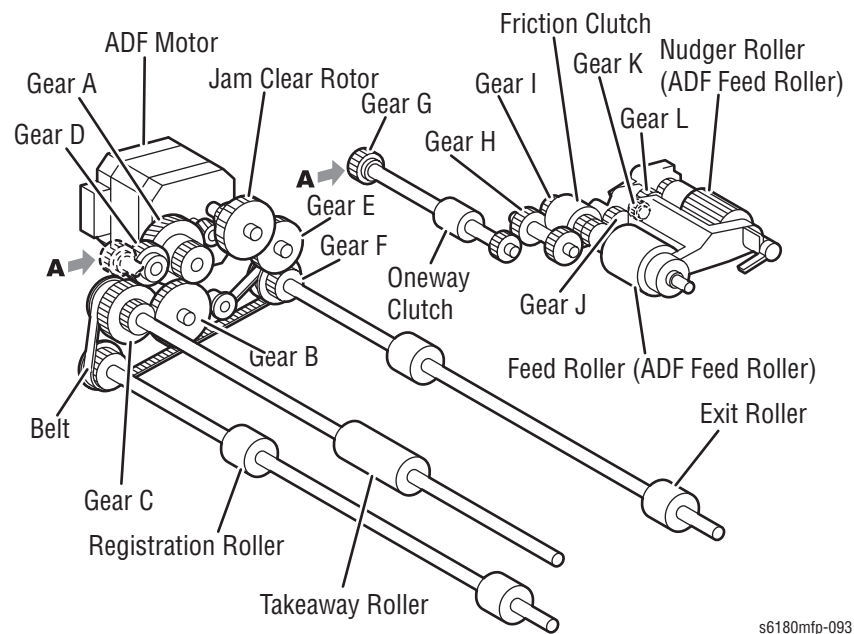
ADF Motor

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



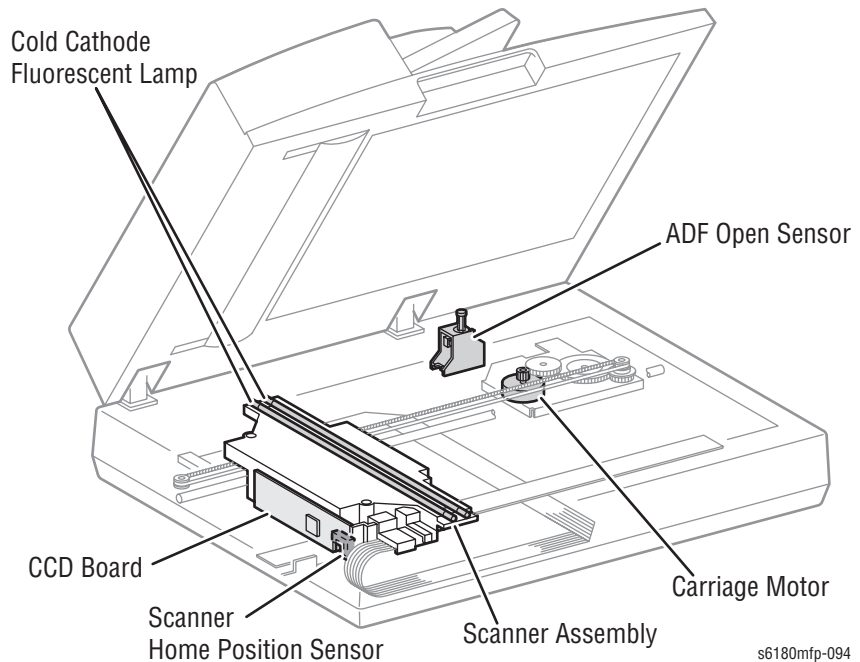
s6180mfp-098

Gear Layout



Functions of Components

Scanner



■ ADF Open Sensor

The ADF Open Sensor detects whether or not the ADF is open and determines the timing of document size detection.

■ Carriage Motor

The Carriage Motor drives the Scanner Assembly.

■ Scanner Home Position Sensor

The Scanner Home Position Sensor is a part of the rear section of the Scanner Assembly frame that functions as an Actuator which shields the Scanner Home Position Sensor, thus detecting the Registration position.

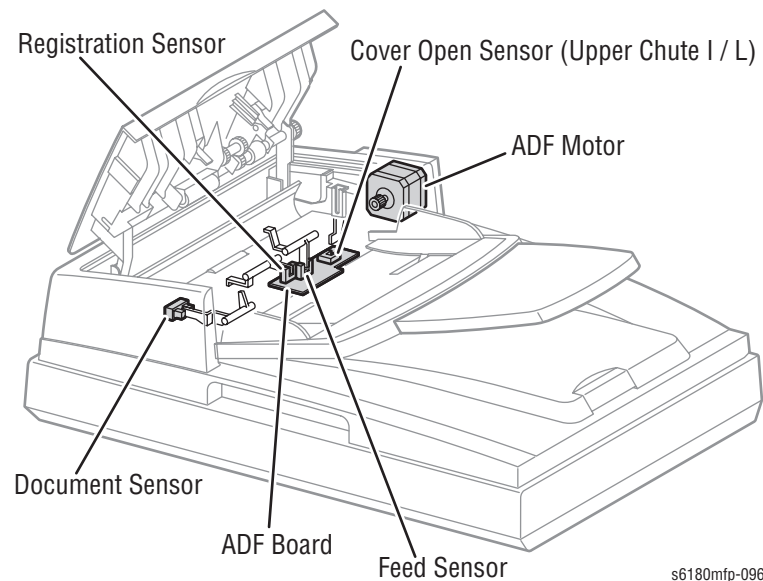
■ Cold Cathode Fluorescent Lamp (Exposure Lamp)

The Cold Cathode Fluorescent Lamp exposes the document.

■ Charged Coupled Device Board

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

Automatic Document Feeder (ADF)



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■ Document Sensor

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

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

■ Cover Open Sensor

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

■ ADF Board

The ADF Board controls the sensors and motor in the ADF.

■ Feed Sensor

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

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

■ Registration Sensor

The Registration Sensor detects the preceding media is about to leave the Registration Roller, thereby determining the next document feed can be started.

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

■ ADF Motor

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

Control

Document Scanning Steps

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

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

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

During AGC, the Scanner 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 CCD Image Sensor as the white reference value, which is used to adjust the CCD Image Sensor output.

2. AOC (Auto Offset Control)

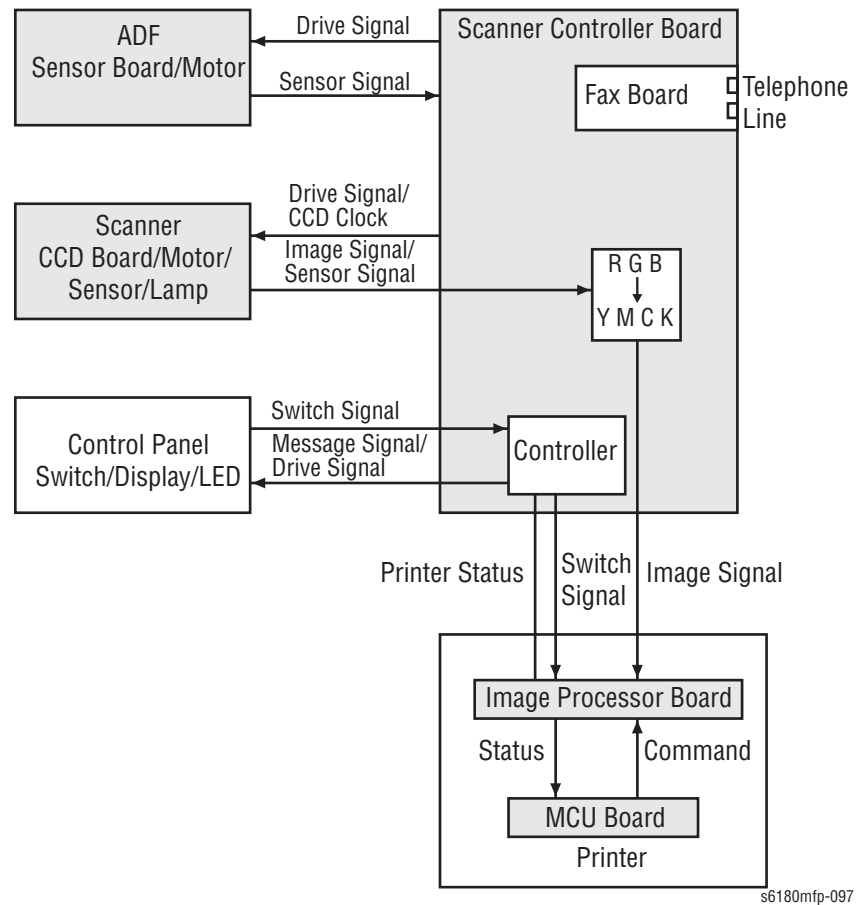
AOC is performed by turning Off the Exposure Lamp after AGC. This state is read by the CCD Image Sensor as the black reference value, which is used to adjust the CCD Image Sensor output. (The order of AGC and AOC adjustment depends on the model.)

3. Shading Compensation

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

CCD Image Sensor Overview

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



Fax System

Telephone System Overview

Converting and Sending Voice in the Form of Electrical Signals

The human voice is a sound wave; in other words, air vibrations. Conversation between two people results when such vibrations travel through the air and reach each other's ears. A string telephone transmits the sound wave generated between two people along a string stretched tight, thus allowing conversation over a distance. In this system, a paper cup at one end of the string receives the sound wave, which are then transmitted along the string. A paper cup at the other end of the string transmits them back to the air, so that they again become audible sound waves.

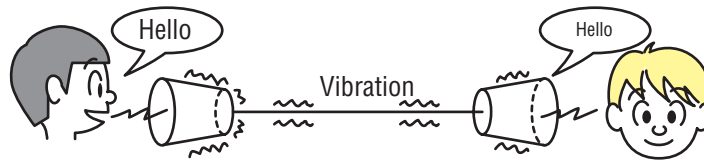
A telephone is a device that replaces the vibrations transmitted by string with electrical signals. The two paper cups correspond to microphone, speaker, and the string to the telephone line. Because electrical signals travel over the telephone line at a high speed with minimal attenuation, the telephone enables conversation over great distances.

Voice is changed into electrical signals using electromagnetic induction, a process by which electrical signals are generated by vibrating a coil in a magnetic field. Both the microphone and speaker utilize this process. The microphone transduces sound into electrical signals using electromagnetic induction that occurs as a moving coil coupled to a diaphragm picking up sound wave.

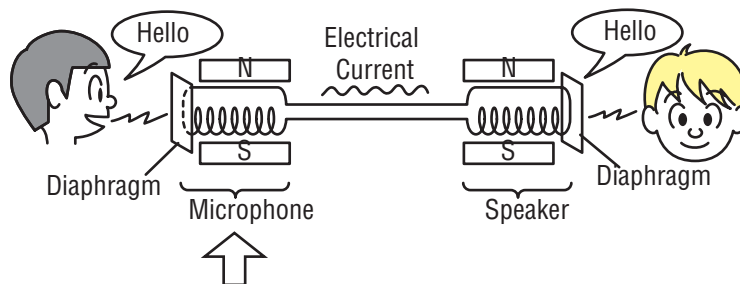
On the other hand, the speaker functions in the reverse manner, transducing electrical signals back to sound wave. Therefore, its construction is basically the same as that of a microphone. Electrical signals passing through a coil in the magnetic field vibrate the coil, which in turn vibrates the air to reproduce the voice.

These electrical signals are analog signals that fluctuate in response to the volume of the voice.

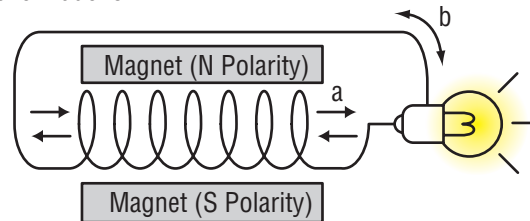
String Telephone



Telephone



Electromagnetic Induction



- a. The coil in the magnetic field is vibrated.
The magnetic field around the coil is altered.
- b. An electric current (alternating current) is generated in the coil.

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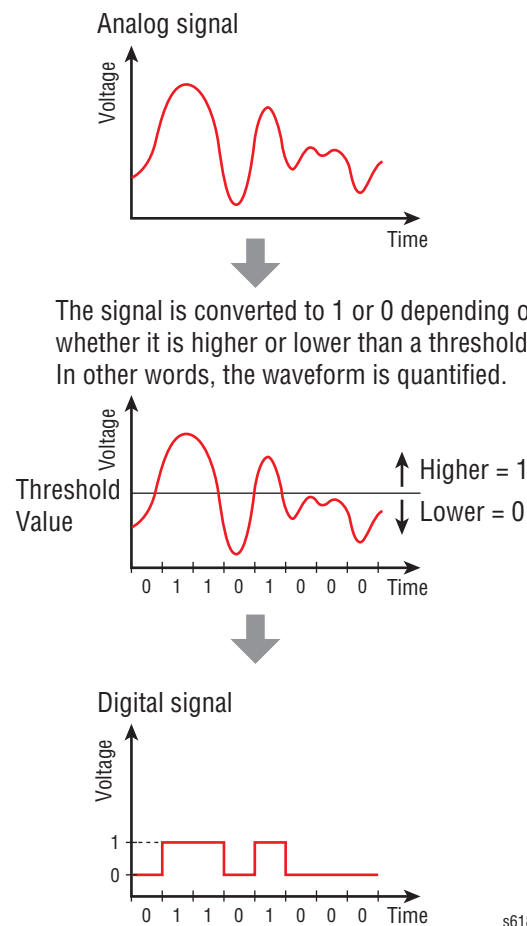
Analog and Digital Signals

An analog signal is an electrical signal generated by the telephone's microphone. The waveform of this analog signal fluctuates responsive to the voice volume. When the voice is loud, the amplitude (voltage) increases; when the voice is soft, the amplitude decreases. When the voice is high-pitched, the frequency (number of vibrations) increases; when low-pitched, the frequency decreases.

A signal whose values change in a continuous manner with time like this is called an analog signal. In contrast, a digital signal is a set of values that change with time in a discrete instead of continuous manner. In other words, an analog signal is like a hill. A digital signal is like stairs.

A digital signal is a series of values obtained by sampling a continuous analog signal at a certain required rate. For example, when sampling is by time, the rate is once a second, millisecond, etc. Because the sampling reduces the amount of data along the time axis, the converted signal is compressed and smaller in data size. Thus, once digitized, the signal information is spread out compared to the original analog signal.

Moreover, digital signal transmission is performed by dividing a continuously changing electrical signal according to a certain rate of time, then converting each division to a value of 1 or 0, depending on whether it is greater or less than a specified threshold value. Compared to an analog signal, a digital signal offers precise data exchange because the only change that must be handled is that between 1 (high-voltage) and 0 (low-voltage) with respect to a standard value (the threshold value).



The difference between analog and digital signals can be easily understood by comparing analog measuring instruments, such as clocks and scales with their needles and gradations to digital gauges that display results as a value. An analog instrument with a continuously moving needle, at least in theory, can be read beyond the decimal point to infinitely small divisions (12.47253...g, 35.1864...g, etc.). A digital instrument, however, can only display results to the minimum necessary decimal place (12.5 g, 35.0 g, etc.). Conversion of an analog signal to digital signal is called AD conversion. DA conversion is the conversion of digital signal to analog signal. Image data read by a Fax is a digital signal in which 0s and 1s are assigned according to whether or not there is black in the squares of a paper surface divided into a grid. Fax communications that use an analog telephone network perform DA conversion before transmitting the scanned image from the phone, and AD conversion before printing the received data.

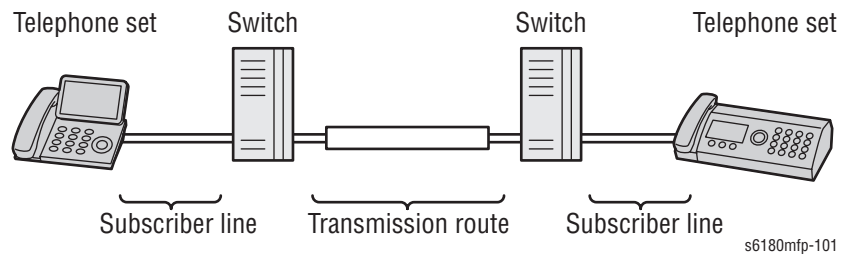
Telephone Call Connection Mechanism

Analog Telephone Network

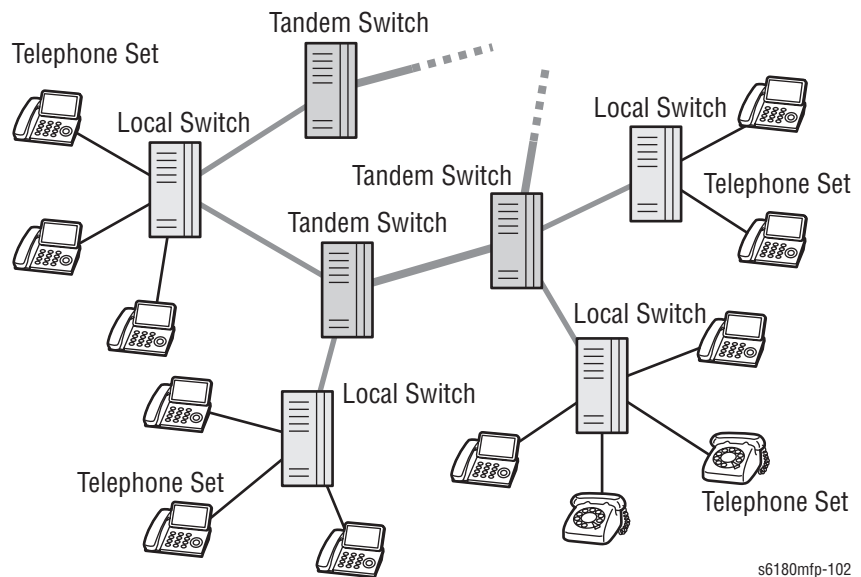
To make a telephone call, the calling party and called party each must have a telephone. These telephones must be connected by a transmission route. The transmission route includes switches located at the central offices. The route itself comprises various components such as metallic and optical cables. The entire transmission path between the two telephones is called an analog telephone network.

An analog telephone network comprises of four parts: Telephone Set, Switch, Subscriber Line, and Transmission Route.

Analog Telephone Network Configuration



Switching Equipment Network



Telephone Call Mechanism

There are two types of telephone line corresponding to the two ways of transmitting the phone number. They are known as dial types. Most recent telephones can automatically distinguish the dial type.

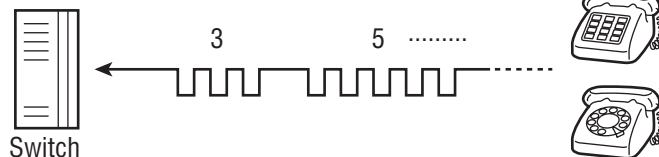
One type is "Pulse Dialing (PD)," also called "Dial Pulse (DP)." After the rotary dial on a dial phone is rotated, the dial returns to its original position. While returning, the electric current is interrupted (dividing the signal into pulses) the number of times corresponding to the number dialed. The switch derives the number from the number of pulses. When the pulse repetition rate is ten pulses per second, it is referred to as 10PPS (Pulses Per Second), when twenty, 20PPS.

The other type is known as "Tone Dialing (TD)," formally called "Dual-Tone Multi-Frequency (DTMF)." Each button on a push-button phone is assigned a unique pair of frequencies (the "tone"), from which the switch derives the number.

Pulse Dialing & Tone Dialing

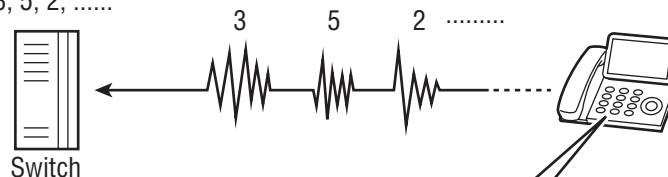
Pulse Dialing

"3, 5,"



Tone Dialing

"3, 5, 2,"



DTMF Matrix			
1	2	3	697Hz
4	5	6	770Hz
7	8	9	852Hz
*	0	#	941Hz
1209Hz	1336Hz	1447Hz	

Low Frequency

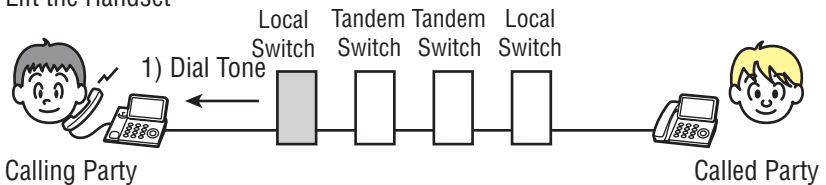
High Frequency

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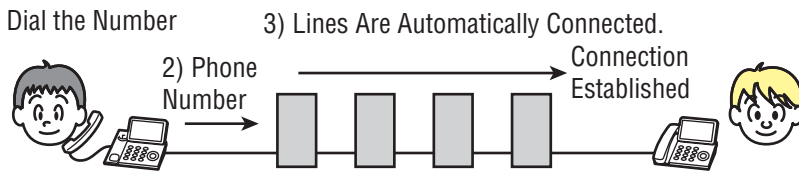
1. When the handset is lifted, the hook switch is activated and a transmission signal (400Hz/48VDC), called a dial tone (DT), is sent from the local switch. The dial tone is audible at the handset speaker, indicating that the calling party can start dialing.
2. Entering the telephone number by rotating the dial or pushing the buttons transmits the number to the local switch.
3. The switch connects lines according to the transmitted number.
4. When a connection between local switches is established, the local switch of the called party sends a ringing signal to the telephone of the called party. The telephone that receives the ringing signal emits its orienting. At the same time, the called party's local switch sends a ring back tone (RBT) to the calling party's telephone to indicate that a connection to the called party has been established.
5. When the called party's handset is lifted, activating the hook switch, the local switch on the called party side receives a response signal and stops sending tones to the calling and called parties. This is when a communications path is established between both parties.

Connecting Out-of-Town Calls

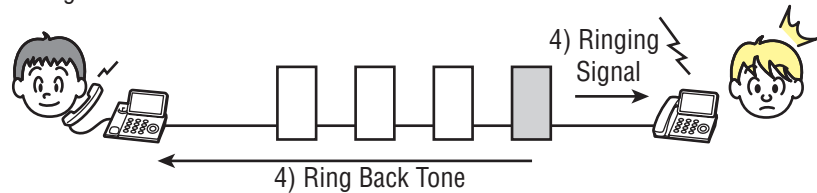
a. Lift the Handset



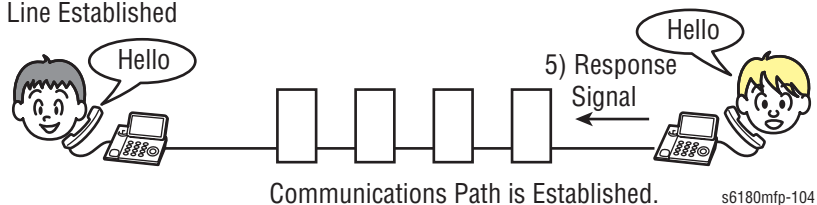
b. Dial the Number



c. Calling



d. Line Established



s6180mfp-104

Fax (Facsimile) System Overview

A Fax is a device that sends and receives image data using either an analog or a digital telephone line.

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

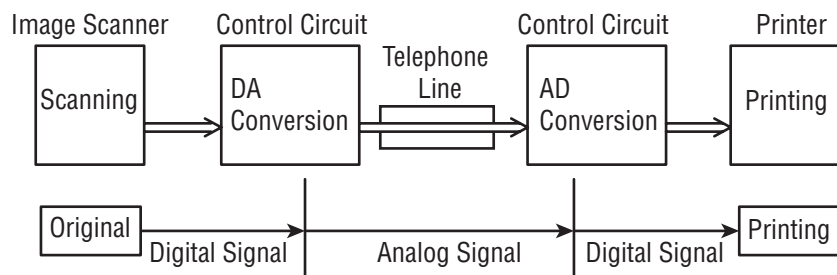
The scanner splits the image into a fine grid and reads the brightness (white/black) of each cell. This operation is called scanning. The white/black information is converted to a digital signal: bright cells become 1, dark cells become 0.

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.

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 System (Overview)



s6180mfp-105

Scanner

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

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

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

To scan the original, the CCD device must be shifted a distance of one line after each line is scanned. When the original is scanned on the document glass (as for a flatbed scanner), the CCD unit is moved with respect to the original. In the case of a Fax equipped with the ADF, scanning via the ADF is performed by moving the original with the CCD fixed at one position. This is called Constant Velocity Transport (CVT).

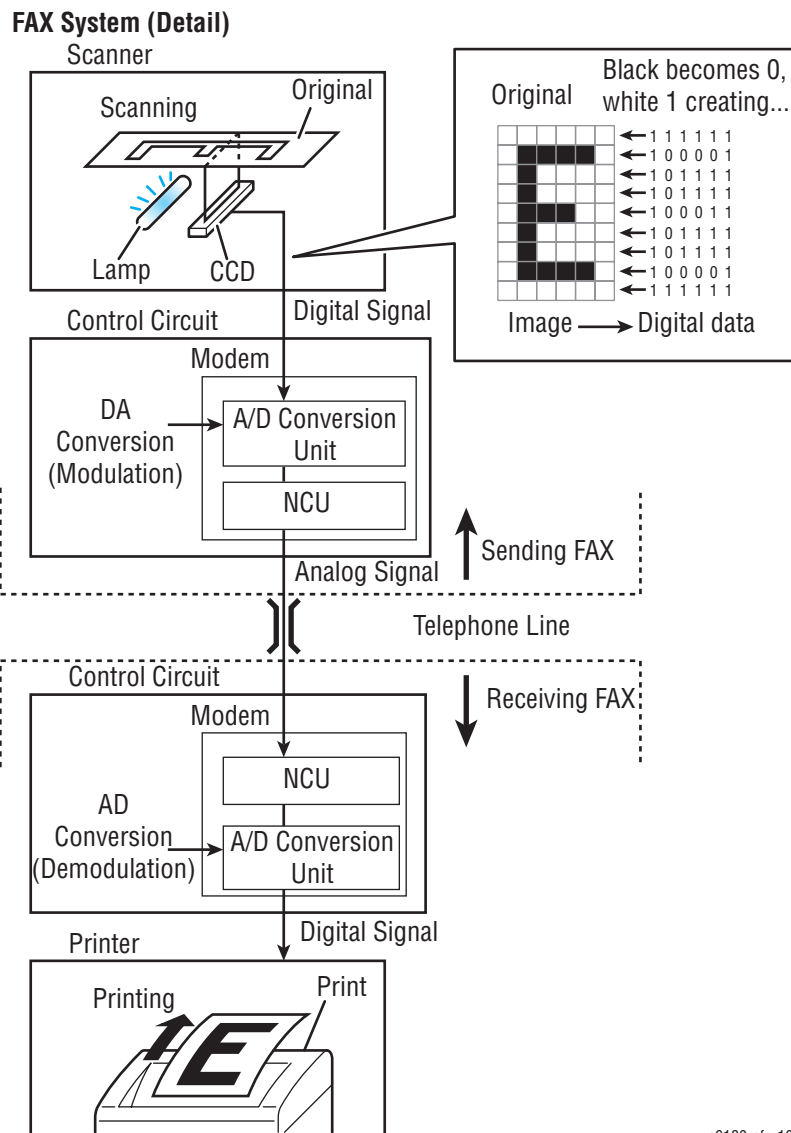
During scanning, the finer the grid into which the original is divided, the greater scanning precision of the original image. For a G3 Fax (normal mode: G3 Normal), scanning is performed at the resolution of 8 divisions per millimeter (200 dpi) in the horizontal direction and 3.85 divisions per millimeter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

Control Circuit

The Control Circuit executes scanning of image data by controlling the image scanner. A line of CCDs scans the original image one line at a time. When scanning of one horizontal line is completed, the next line below is scanned. As this continues, the original is scanned from end to end one line at a time and converted to digital data as black-and-white information.

Because this image data is a set of digital signals, it cannot be transmitted using an analog telephone line; it must be subjected to DA conversion (modulation). On the other hand, the receiving Fax machine must perform AD conversion to restore the incoming digital data to analog data.

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.



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After the telephone number is entered, the NCU automatically performs steps 1 and 2 of the line connection procedure described in "Telephone Call Mechanism" on page 95. If on the receiving end, step 6 is automatically performed to answer.

The following steps contains the line connection procedure between two Faxes based on the described procedures in "Telephone Call Mechanism" on page 95.

1. When an AT command (a modem control command) is sent from the control circuit to the modem, the hook switch is activated, and a state is obtained that is identical to that when the handset of a telephone is lifted. A dial tone (400Hz/48VDC) is sent from the local switch. The modem's speaker emits the dial tone as an audible sound.
2. After image scanning, the telephone number (a previously stored number, number entered by pressing phone buttons, etc.) is automatically dialed and transmitted to the local switch.
3. The switch connects lines according to the transmitted number.
4. When a connection between local switches is established, the local switch of the called party sends a ringing signal to the telephone of the called party. The telephone that receives the ringing signal emits its ringtone. At

the same time, the called party's local switch sends a ring back tone (RBT) to the calling party's telephone to indicate that a connection to the called party has been established.

5. When the called party's handset is lifted, activating the hook switch, the local switch on the called party side receives a response signal and stops sending tones to the calling and called parties. This is when a communications path is established between both parties.
6. The receiving party's Fax automatically answers when it receives the call signal, and the hook switch is activated. The local switch on the receiving party side receives a response signal and stops sending tones to the sending and receiving parties, thereby establishing a communications path between both parties.

In the case of a telephone call, only voice conversion between the two parties follows. For Fax, preparation for delivery of image data is required that includes the following types of exchanges:

- a. The sending Fax indicates that the transmission is a Fax transmission.
- b. The receiving Fax indicates that it is ready to receive and also its communications capacity.
- c. The sending Fax then sends data in accordance with the receiving Fax's communications capacity.

Once the preparation is completed, image data sending and receiving is started. Image data is modulated into an analog signal by the A/D converter at the sending Fax, then sent from its NCU. Image data received by the NCU of the receiving Fax is demodulated into a digital signal by its A/D converter and then sent to the control circuit. When image data reception is completed, the Fax automatically disconnects the line (hook is Off).

In summary, the NCU automatically executes a series of such operations from hook switch On to hook switch Off.

The control circuit also retains other important functions such as data compression and memory. With data compression, any part of the scanned imaged data consisting of continuous or black pixels is encoded into a single element, thus compressing the volume of data. Memory temporarily stores data during transmission and reception.

Printer

The printer prints image data from the control circuit onto the surface of paper. The principle is the same as that of an ordinary printer in that black is applied to specified locations on the paper.

Protocol Monitor

Overview of Communication Protocol

A protocol refers to an agreed-upon set of special rules to be adhered to by endpoints attempting to establish a telecommunication connection.

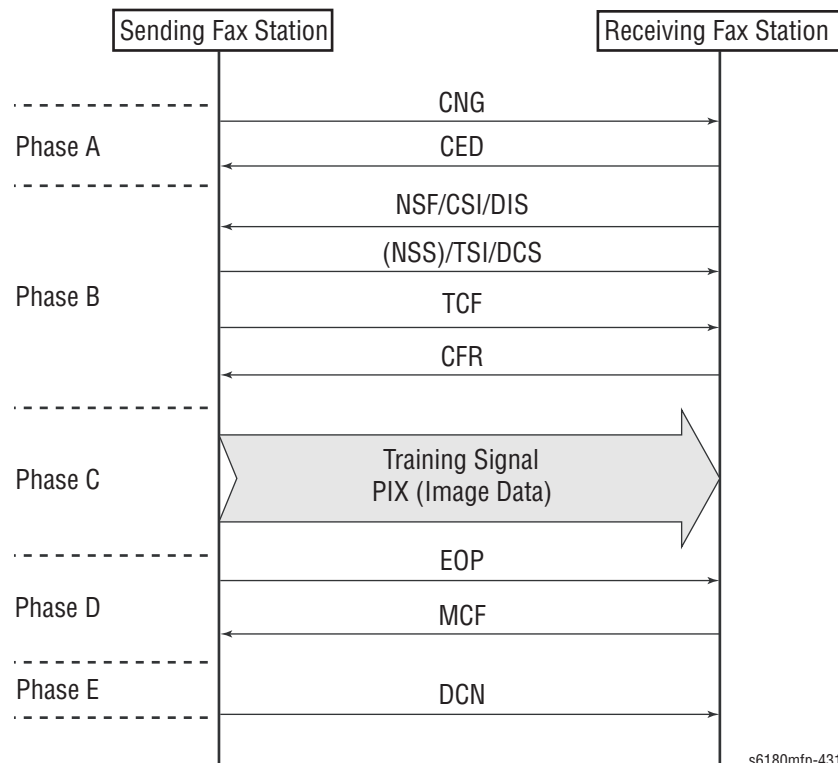
The communication protocol for the G3 fax specifications is stipulated by an international specification known as ITU-T Recommendation T.30 (page 2-105).

All G3 fax machines conform to this protocol when exchanging signal to establish communication.

The G3 fax session consists of five phases from “Phase A” to “Phase E.”

- Phase A – Call Establishment
- Phase B – Capability Negotiations
- Phase C – Image Data Transfer
- Phase D – Post-transfer Procedure
- Phase E – Call Release

The following flow chart provides a typical G3 fax session of a one-page document.



■ **Phase A – Call Establishment**

In order for a fax to be established, both ends of the line must recognize that the other end is a non-voice (Fax) terminal. Since G3 fax communication is intended for a transmission over the conventional voice network, a fax communication must be initiated via audible tones.

The sending side sends out a Calling Tone (CNG.1100Hz for 0.5 sec.), which identifies itself as a fax terminal. Then, the receiving side responds with a Called Station Identification (CED.2100Hz for 3 sec.) to identify itself as an available fax terminal. Thus, a fax call is established between the two terminals.

■ **Phase B – Capability Negotiations**

The receiving side presents all of the capabilities it has to offer by sending out NSF/CSI/DIS signals. Then, the sending side responds with NSS/TSI/DCS signals to declare what it has selected from the capabilities presented by the receiving side.

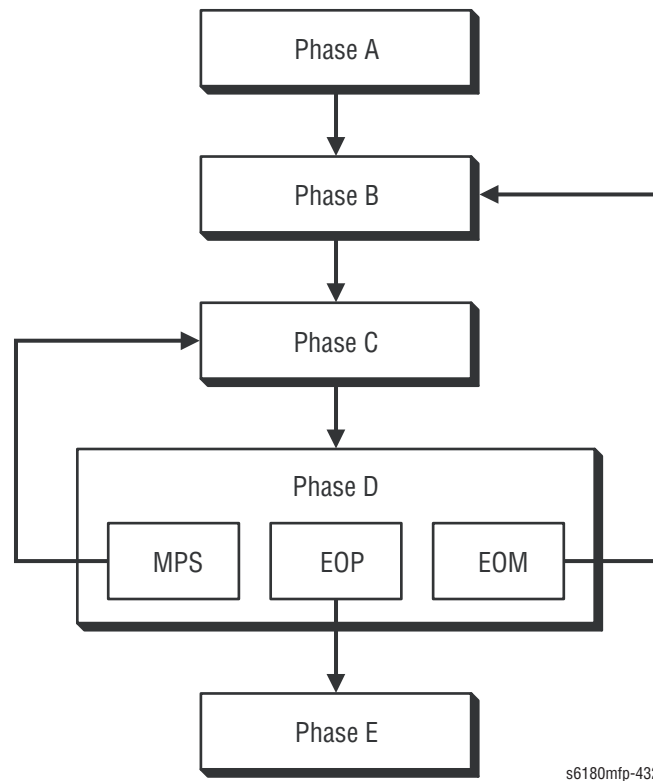
The sending side sends out a training signal (TCF) to adjust the modem to the maximum transmission rate available. Upon a successful reception of TCF, the receiving side responds with Confirmation to Receive (CFR), which indicates that the receiving side is ready for receiving image data. In the event of an abnormal TCF reception, the receiving side responds with Failure to Train (FTT), which requests retransmission of NSS/TSI/DCS and TCF signals.

■ **Phase C – Image Data Transfer**

The sending side transmits the image data based on the parameters agreed upon in Phase B. Also carried out are the signaling control procedures including synchronization, error detection/correction, and line supervision.

■ **Phase D – Post-transfer Procedure**

In the Post-transfer Procedure, the sending side checks its status after the completion of Phase C and sends an appropriate signal to return the session to the previous phases. When there are more pages to follow, the sending side sends out Multi-Page Signal (MPS) and the session returns to Phase C. When there are more pages to follow and the subsequent page is to be sent in a different mode, the sending side sends out End of Message (EOM) and the session returns to Phase B. The session proceeds to Phase E only when the receiving side receives End of Procedure (EOP) indicating that the sending side has completed transmission of the entire document. Therefore, the session may show a looped sequence such as ABCDCD...E, ABCDBCDCD...E. etc., depending on the remainder of the document or the transmission parameters for the subsequent page.



When the image data has been successfully received, the receiving side sends out Message Confirmation (MCF) to prompt for subsequent image data transmission. When the received image data contains permissible errors, the receiving data side responds with Retrain Positive (RTP). When unacceptable errors are detected, the receiving side responds with Retrain Negative (RTN). To a signal requesting operator intervention, the receiving side responds with Procedural Interrupt Positive (PIP) when the image data has been received successfully. When the image data contains unacceptable errors, the receiving side responds with Procedural Interrupt Negative (PIN). When retransmission is required in Error Correction Mode (ECM), the receiving side responds with Partial Page Request (PPR).

- ECM – A transmission method that manages the encoded data by dividing it in units called frames and by numbering them. In the event of image corruption due to noise, etc., image quality can be corrected by retransmitting only the corrupted units specified by number. Multiple frames form a unit called block. One block transmitted, or multiple frames retransmitted are called partial page. To use ECM, both the sending the receiving sides must have ECM feature.
- **Phase E – Call Release**
This phase terminates the entire fax session and releases the line. Before releasing the line, the sending side sends out Disconnect (DCN), which expects no response.

Overview of Protocol Monitor

Protocol Monitor allows the user to monitor and print the transmission/reception records of signals during a G3 fax session that is in conformance to the ITU-T Recommendation T.30, thereby helping to isolate fax communication issues.

Protocol Monitor covers the following sequence of a fax session:

- Sending side: From the detection of incoming CED signal to the transmission of DCN signal.
- Receiving side: From the transmission of CED signal to the detection of incoming DCN signal.

The following example provides a Protocol Monitor report sample with the descriptions of signals handled by Protocol Monitor.

Protocol Monitor

```

Local Name           012345
Company Code        9988776655
Total Pages Scanned 020
Total Pages Sent    020
    
```

NO	Job#	Remote Station	Start Time	Dura.	Pages	Mode	Contents	Result
1	0039	0123456789	04-01 : 01:11	1' 01"	20/20	G3		0504-000000

LAP TIME	LOCAL	REMOTE	FCF	FIF
0" 00		<-- CED	79	
4" 40		<-- NSF	20	0000191DC0A39FFDDBE182A4B701125245544E45432054524F 505055532E54454E
5" 50		<-- CSI	40	38353136353032333020202020202020202020
6" 20		<-- DIS	80	00CFF904
7" 50	TSI -->		43	38363136353032333020202020202020202020
8" 20	NSS -->		23	00001920C0A0D685DD8A0E48081011444535420584F524558 20494A5546000000000000
9" 80	TCF -->		F0	
11" 30	TCF -->		F0	
12" 60		<-- CFR	84	
13" 30	CPIX -->		F2	
1' 13" 30	CPIX -->		F2	
1' 14" 40	PPS.NULL -->		BF00	0000FF3707
1' 19" 00	PPS.NULL -->		BF00	0000FF3707
1' 23" 50	PPS.NULL -->		BF00	0000FF3707
1' 28" 10	DCN -->		FB	

Time passed since the communication started.

Signal sent from this station.

Signal received from the other station.

Facsimile control field: 8bit information that identifies each signal by type.

Facsimile information field: Information regarding the content of each signal.

s6180mp-430

Fax Standards (ITU-T Recommendations)

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

Fax Standards

Standard	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)	First standard. Analog transmission. No band compression technology.
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	14.4kbps (Super G3: 33.6kbps)	Connection to analog line using Fax modem. Image data in digital format. Data compression. Most common standard in use.
Group 4 (G4)	1988	Approx. 3 sec.	400 x 400 dpi	64kbps (using ISDN)	Digital transmission. Supported by various digital transmission services. Halftone supported.

Error Messages and Codes

In this chapter...

- Introduction
- Servicing Instructions
- Messages, Chain Link Codes, and Procedures
- Jam Errors
- Consumable/Routine Maintenance Errors
- Tray and Paper Errors
- Options Errors
- Configuration, Memory, and Firmware Errors
- E-Mail Errors
- Scanner and Copier Errors
- Fax Errors

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

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

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

Accessing Error History Report

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

Error History Report

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

Examples of Error message and Chain Link code:

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

The Error History page contains two types of history information.

System Fail History

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

Paper Jam History

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

XEROX			Phaser® 6180MFP/D
			Color Printer
Error History Report			
System Fail History			
No.	Total Print Count	Chain-Link	
1	947	116-398	
2	315	116-398	
3	242	072-216	
4	74	117-313	
5	74	116-397	
6	74	024-371	
7	74	117-313	
8	74	116-397	
9	74	024-371	
10	0	117-313	
11	0	116-397	
12	0	024-371	
Paper Jam History			
No.	Total Print Count	Paper Jam Type	
1	255	ADF Jam	

Page:1(Last Page)

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Servicing Instructions

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

Step 1: Identify the Problem

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

Step 2: Inspect and Clean the Printer

1. Turn the printer power Off.
2. Disconnect the AC power cord from the wall outlet.
3. Verify the power cord is free from damage or short circuit and is connected properly.
4. Remove the Print Cartridges and protect them from light.
5. Remove the Transfer Unit.
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 Print Cartridges appear obviously damaged, replace with new ones.

Step 3: Find the Cause of the Problem

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

Step 4: Correct the Problem

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

Step 5: Final Checkout

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

Messages, Chain Link Codes, and Procedures

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

Error Messages Abbreviations

Due to limited display space, some error messages include 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
ER/ERR	Error
ENV	Environment
FUNC	Function
MACAddress	Media Access Control Address
MCU	Machine Control Unit
MPC	Multi-Protocol Network Card
NVM	Non-Volatile Memory. Used instead of NVRAM.
NVRAM	Non-Volatile Random Access Memory
PCL	Printer Control Language
PDL	Page Description Language
RAM	Random Access Memory
REG	Registration
ROM	Read Only Memory
TRAN	Transfer Unit

Chain Link Definition

For Chain Link codes, Chain number (0 to 999) and Link number (0 to 999) are assigned.

- Chain Number – Indicates target feature area. The Chain Number is assigned based on Chain Number numbering guide.
- Link Number - Assigned based on Link Number numbering guide. The Fault type is defined by the Link Number.

The following table contains Chain Link definition for the Phaser 6180MFP.

Chain Link Definition for Printer

Chain	Fail Group	Link	Definition
010		310~	Fuser
016		500~	Controller (ESS)
018		310~	Network Connect
024		310~, 910~	Controller (IOT)
041		310~	IOT
042		310~, 700~	IOT Fan Motor
061		310~	IOT (ROS)
071		100~	Tray 2
072		100~	Tray 3
075		100~	Tray 1 (MPT)
077		210~, 900~	Undefined Tray
092		600~	IOT (Sensor)
093		310~, 910~	IOT (Developer, Print Cartridge, CRUM)
094		310~, 910~	IOT (Transfer Unit)
116		310~, 910~	Controller (ESS)
117		310~	Controller (AIOC)
142		700~	IOT (Drive)

Chain Link for Scanner Controller

Chain	Fail Group	Link	Definition
005	ADF	100~, 301~	ADF
016		500~	Controller (ESS)
017	Notice	910~	Controller (AIOC)
117	System Fail	310~	Controller (AIOC)
033	Job Fail	500~, 700~	Controller (Fax)

Chain Link for Scanner Controller (continued)

Chain	Fail Group	Link	Definition
133	Service Fail	210~	Controller (Fax)
034	Job Fail	500~, 700~	Fax Card (Main)
134	Service Fail	210~	Fax Card (Main)
035	Job Fail	700~	Fax Module
062	Sub System Fail	310~, 700~	Scanner
102	System Fail	310~	Controller (UI, Panel)
123	System Fail	310~	Panel

Error Message and Chain Link Code Summary

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

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

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

Error Message and Chain Link Code Display

Chain Link Code	Control Panel Message	Go to Page
Jam Errors (page 3-19)		
N/A	Jam at Tray 2 (Illegal Settings)	page 3-19
005-110	Jam at Scanner (Pickup Jam)	page 3-22
005-121	Jam at Scanner (ADF Jam)	page 3-22
071-100	Jam at Tray 2 (IOT Feeder 1 Jam)	page 3-24
072-100	Jam at Tray 3 (IOT Feeder 2 Jam)	page 3-26
075-100	Jam at Tray 1 (MPT) (IOT MPT Jam)	page 3-30
077-900	Jam at Exit (IOT Exit Jam)	page 3-36
077-901	Jam at Registration Roll (IOT Remain Registration Jam)	page 3-36
077-903	Jam at Tray 2 (IOT Feed Jam)	page 3-34
077-907	Jam at Duplexer (IOT Remain Duplex Jam)	page 3-42
Consumable/Routine Maintenance Errors (page 3-46)		
010-317	Insert Fuser (IOT Fuser Detached)	page 3-46
010-351	Fuser Error (IOT Fuser Life Over)	page 3-48

Error Message and Chain Link Code Display (continued)

Chain Link Code	Control Panel Message	Go to Page
010-359	Fuser CRUM Error	page 3-49
010-397	Fuser Error (IOT Fuser Failure)	page 3-50
010-421	Replace Fuser Soon (Fuser End of Life)	page 3-52
093-423 093-424 093-425 093-426	Check Print Cartridge Error (Y/M/C/K)	page 3-53
093-919 093-920 093-921 093-922	Remove Print Cartridge Tape (Y/M/C/K)	page 3-54
093-925	Print Cartridge CRUM Error (K)	page 3-58
093-926	Non-Xerox Toner Print Cartridge (K) - (IOT CRUM ID)	page 3-60
093-930 093-931 093-932 093-933	Replace Print Cartridge (Y/M/C/K)	page 3-56
093-935 093-936 093-937 093-938	Empty Print Cartridge (Y/M/C/K)	page 3-57
093-950 093-951 093-952	Print Cartridge CRUM Error (Y/M/C)	page 3-58
093-960 093-961 093-962	Non-Xerox Print Cartridge (Y/M/K) - (IOT CRUM ID)	page 3-60
093-970 093-971 093-972 093-973	Insert Print Cartridge (Y/M/C/K)	page 3-61
094-330	Transfer CRUM Error (IOT CRUM ID Error)	page 3-68
094-422	Ready Transfer Unit Life (IOT DTB Life Pre Warning)	page 3-69
094-910	Insert Transfer Unit (IOT DTB Detached)	page 3-66
094-911	Replace Transfer Unit (IOT DTB Life Over)	page 3-70
193-700	Non-Xerox Print Cartridge Installed - (Custom Toner Mode)	page 3-64
Tray and Paper Errors (page 3-71)		
024-910	Load Tray 2 (IOT Paper Size Mismatch)	page 3-73
024-911	Load Tray 3 (IOT Paper Size Mismatch)	page 3-75

Error Message and Chain Link Code Display (continued)

Chain Link Code	Control Panel Message	Go to Page
024-946	Insert Tray 2 (Tray Missing) (Tray Detached)	page 3-77
024-947	Insert Tray 3 (Tray 3 Missing)	page 3-79
024-958	Load Tray 1 (MPT) (IOT Paper Size Mismatch)	page 3-71
024-959	Load Tray 2 (No Suitable Paper)	page 3-83
024-960	Load Tray 3 (No Suitable Paper)	page 3-85
024-963	Load Tray 1 (MPT) (No Suitable Paper)	page 3-81
077-912	Insert Tray 2 (Tray 2 Missing) (Upper Cassette Detached)	page 3-77
N/A	Multiple Feed	page 3-88
Option Errors		
072-215	550 Feeder Error (IOT Optional Feeder Failure)	page 3-90
072-216	Optional 550 Motor Error (Print Engine Motor Failure)	page 3-92
077-215	Duplexer Error (IOT Option Duplexer Failure)	page 3-94
Configuration, Memory, and Firmware Errors (page 3-96)		
016-220	Incorrect PagePack Password Error (Too Many Incorrect Numeric Passwords have been entered)	page 3-96
016-500	Erase Flash Error (Download Delete Error)	page 3-97
016-501	Erase Flash Error (Download Write Error)	page 3-97
016-502	Verify Flash Error (Download Verify Error)	page 3-97
016-610	Control Panel Language Set Unsupported	page 3-98
016-611	Engine Model Mismatch	page 3-99
016-718	Out of Memory	page 3-100
016-720	PDL Error	page 3-101
016-737	Format Error (Download Format Error)	page 3-102
016-738	MPC Error (Download Initial Error)	page 3-103
016-739	Reseat MPC (Download Insertion Error)	page 3-105
016-740	MPC Communication Error (Download Comm. Error)	page 3-107
016-741	Protection Error (Download Protect Error)	page 3-109
016-742	Invalid ID (Download ID Error)	page 3-110
016-743	Range Check Error (Download Range Error)	page 3-111
016-744	Check Sum Error (Download Checksum Error)	page 3-112
016-745	Header Error (Download Header Error)	page 3-113
016-799	Invalid Job (Job Environment Violation)	page 3-114

Error Message and Chain Link Code Display (continued)

Chain Link Code	Control Panel Message	Go to Page
016-982	Hard Drive Full (Disk Full)	page 3-100
018-310	MPC Error (NIC-ESS Communication Fail)	page 3-115
018-311	MPC Error (NIC Flash ROM Boot Module Checksum Error)	page 3-115
018-312	MPC Error (NIC RAM R/W Test Error)	page 3-115
018-313	MPC Error (NIC Flash ROM Application Module Checksum Error)	page 3-115
018-314	MPC Error (NIC MAC Address Checksum Error)	page 3-115
018-315	MPC Error (NIC Ethernet BIST Parity/RAM/R/W Error)	page 3-115
018-316	MPC Error (NIC Internal Loopback Error)	page 3-115
018-317	MPC Error (NIC Fatal Error)	page 3-115
018-319	MPC Error (MPC OS Error)	page 3-115
018-320	MPC Error (MPC VxWorks Error)	page 3-115
024-340	MCU Firmware Error (IOT Firmware Error)	page 3-118
024-360	Download Mode Send FW Data (MCU Download Error)	page 3-119
024-371	MCU Communication Error (IOT-ESS Communication Fail)	page 3-120
041-340	MCU NVRAM Error (IOT NVRAM Error)	page 3-121
042-313	Fan Motor Error (Duplex Fan) (IOT Fan Motor Failure)	page 3-123
042-325	Main Motor Error (IOT Motor Failure)	page 3-127
042-326	Sub Motor Error (IOT Motor Failure)	page 3-129
042-358	Fan Motor Error (Main Fan) (IOT Fan Motor Failure)	page 3-131
042-700	Printer Too Hot (IOT Over Heat Stop)	page 3-125
061-370	Laser Error (IOT ROS Failure)	page 3-133
077-300	Door A Open (IOT Front Cover Open)	page 3-139
077-343	Tray 2 Motor Error (IOT Motor Failure)	page 3-137
092-651	ADC Sensor Error (IOT ADC Sensor Error) (Error Code 01)	page 3-140
092-651	ADC Sensor Error (IOT ADC Sensor Error) (Error Code 02)	page 3-142
092-661	Environmental Sensor Error (IOT Environmental Sensor Error)	page 3-145
093-320	Deve Motor Error (IOT Motor Failure)	page 3-135
116-310	Font ROM Error (ESS Font ROM Error) (Main)	page 3-147

Error Message and Chain Link Code Display (continued)

Chain Link Code	Control Panel Message	Go to Page
116-311	Font ROM Option (Option)	page 3-147
116-314	MAC Address Error (On Board Network MAC Address Checksum Error)	page 3-148
116-315	RAM Error (ESS On Board RAM W/R Check Fail)	page 3-149
116-316	RAM Error (ESS DIM Slot RAM W/R Check Fail)	page 3-150
116-317	Controller Error (ESS ROM Check (Main) Fail)	page 3-152
116-320	RAM Error (DIMM Slot RAM Error)	page 3-150
116-323	NVRAM Error (NVRAM1 W/R Check Fail))	page 3-151
116-324	Controller Error (ESS Illegal Exception)	page 3-152
116-326	NVRAM Error (NVRAM2 W/R Check Fail)	page 3-151
116-327	Controller Error (ESS Instruction Cache Error)	page 3-152
116-328	Controller Error (ESS Data Cache Error)	page 3-152
116-333	MPC Error (PCI Option #0 Fail)	page 3-115
116-343	ASIC Error (ASIC Fail)	page 3-153
116-350	Network Error (On Board Network Communication Fail)	page 3-117
116-351	Network Error (On Board Network Ethernet BIST Parity/RAM R/W Error)	page 3-117
116-352	Network Error (On Board Network Internal Loopback Error)	page 3-117
116-355	Network Error (On Board Network Fatal Error)	page 3-117
116-367	Parallel Port Error (IEEE1284 Data Error)	page 3-154
116-390	NVRAM Error (NVRAM1 Size and ID Check Fail)	page 3-151
116-392	MACPHY Chip Test Error (Diag Mode)	page 3-155
116-393	MACPHY Int Loop Test Error (Diag Mode)	page 3-156
116-394	MACPHY Ext Loop Test Error (Diag Mode)	page 3-157
116-397	Controller Error (Communication Error with AIOC)	page 3-158
116-398	Controller Error (Communication Time Out with AIOC)	page 3-158
117-313	Controller Communication Error (ESS Data Transmission Error)	page 3-158
117-323	Task Error (ESSMGR Task Error)	page 3-160
117-324	Task Error (ESSSUB1 Task Error)	page 3-160
117-354	Task Error (ESSMGR Task Error)	page 3-160
117-355	Task Error (ESSMGR Task Error)	page 3-160
142-700	Printer Too Hot (IOT Over Heat Forced Half Speed)	page 3-125

Error Message and Chain Link Code Display (continued)

Chain Link Code	Control Panel Message	Go to Page
E-Mail Errors (page 3-162)		
016-503	Email Error, Invalid SMTP Server Error (SMTP Server Address Resolution Fail for Maillib)	page 3-162
016-504	Email Error, Invalid POP3 Server Error (POP Server Address Resolution Fail for Maillib)	page 3-162
016-505	Email Login Error, POP3 Login Failed Error (POP Authentication Fail for Maillib)	page 3-164
016-506	Email Login Error (SMTP Input Error)	page 3-164
016-507	Email Login Error, SMTP Login Failed Error (SMTP Authentication Fail for Maillib)	page 3-164
016-767	Invalid Email Address (Illegal Email Destination Address)	page 3-166
016-768	Invalid 'From' Address (Illegal Email from Address)	page 3-166
016-782	Login Error	page 3-164
Scanner and Copier Errors (page 3-168)		
N/A	Network Scan Error Connection Time Out	page 3-169
N/A	Network Scan Error SMTP Connection Failed	page 3-169
005-301	ADF Scanner Cover Open (ADF Cover Open)	page 3-168
016-783	Network Scan Error, Invalid SMB/FTP Server Error (Server path List Error)	page 3-169
016-784	Network Scan Error, Directory Not Found Error (File Write Access Error)	page 3-169
016-786	Network Scan Error, Communication Time Out Error (Data Communication Time Out)	page 3-169
016-787	Network Scan Error, Directory Not Found Error (Make Directory Error)	page 3-169
016-788	Network Scan Error, File Name Exist Error (SMB/FTP Same File Name Detection Error)	page 3-169
016-789	Network Scan Error (Post-operation Error)	page 3-169
016-790	Network Not Ready (F2N Module is not Ready)	page 3-171
016-794	Network Not Ready, Scan Aborted (SMB Over TCP Error)	page 3-173
016-986	File Size Limit (File Size Error)	page 3-174
017-988	PC Scan Time Out (Time Out in Scan to Application Job)	page 3-175
033-785	Scan Codec Error	page 3-177
062-311	Scanner Initial Error	page 3-178
062-320	Scanner Error (Imaging Scanning Error)	page 3-179

Error Message and Chain Link Code Display (continued)

Chain Link Code	Control Panel Message	Go to Page
062-321	Scanner Error (Scanner Malfunction)	page 3-178
062-322	Scanner Error (Parameter Error)	page 3-180
062-323	Control Panel Error	page 3-184
062-324	Scanner Error	page 3-179
062-360	Scanner Sensor Error	page 3-178
062-371	Scanner Lamp Error	page 3-178
062-393	Scanner Error (CcdAsic Error)	page 3-180
062-790	Copier Error (Copy Limit)	page 3-182
116-396	Scan Error (Fatal Error of Maillib)	page 3-182
116-987	Scan Error (Fatal Error of Format Lib.)	page 3-182
117-352	Controller Error (AIOC-IIT Communication Error)	page 3-183
Fax Errors (page 3-185)		
017-970	Memory Full (AIOC Lack of Memory)	page 3-185
017-971	Controller Error (Flash ROM Write Error)	page 3-189
017-972	Controller Error (FlashROM Erase Error)	page 3-189
017-973	Controller Error (FlashROM Suspend Error)	page 3-189
017-974	Controller Error (FlashROM Resume Error)	page 3-189
017-975	Controller Error (File Handle Over)	page 3-189
017-976	Controller Error (File Table Over)	page 3-189
017-977	Controller Error (File Count Over)	page 3-189
017-978	Controller Error (File Page Over)	page 3-189
017-979	Controller Error (Double File Open)	page 3-189
017-980	Report Error (Report File Open/Close Error)	page 3-196
017-983	Controller Initialized NVM (EEPROM R/W Error)	page 3-189
017-986	Controller Error (Create 0 Byte File)	page 3-189
017-987	Controller Error (File Read Error)	page 3-189
017-989	Controller Error (File Write Error)	page 3-189
033-500	Fax Codec Error (FAX RX JPEG Data Limit Over)	page 3-207
033-501	Fax Codec Error	page 3-210
033-502	Fax Error (File Open Error)	page 3-194
033-503	Memory Full	page 3-185
033-510	Fax Codec Error	page 3-187
033-511	Fax Codec Error (MH/MR/MMR Decode Error)	page 3-207

Error Message and Chain Link Code Display (continued)

Chain Link Code	Control Panel Message	Go to Page
033-512	Fax Communication Error (Modem Parameter Exchange Error)	page 3-197
033-513	Fax Communication Error (Stop Communication in Memory Full)	page 3-197
033-514	Fax Codec Error (JPEG DNL/SOF 0 Error)	page 3-207
033-515	Fax Codec Error (JPEG Nf Error)	page 3-207
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033-751	Fax Communication Error (Over Run)	page 3-197
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Jam Errors

Jam at Tray 2 (Illegal Settings)

The Registration Sensor is not turned On within the specified time. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- Jam at Tray 2 (Illegal Settings)

Initial Actions

- Try picking paper from a different tray.
- Check the paper path for obstructions or debris.
- Cycle printer power.
- If the problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Feed Clutch Assy, PL3.1.20 ■ Registration Sensor, PL3.2.30 ■ Regi Sensor Harness Assembly, PL3.2.37 ■ Feed Drive Assy, PL8.1.7 ■ MCU Board, PL9.2.13 ■ Right Side Harness Assy, PL10.1.12 	<ul style="list-style-type: none"> ■ “Map 1 - Electrical and Drive” on page 10-10 ■ “Map 2 - Laser Unit and Feeder” on page 10-11 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Tray 1 (MPT) and Registration” on page 10-26 ■ “Feeder” on page 10-30

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the paper condition/ 2. Is the paper damaged?	Replace the paper.	Go to step 2.
2	1. Check the paper size setup. 2. Does the paper size in use match the paper size setting on the printer Control Panel?	Go to step 3.	Adjust the paper size setting on the printer Control Panel.
3	Does the error still occur when printing?	Go to step 4.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	<ol style="list-style-type: none"> 1. Reseat the paper in the tray. 2. Does the error still occur? 	Go to step 5.	Complete.
5	<ol style="list-style-type: none"> 1. Check the paper transfer path. 2. Are there any debris on the paper transfer path? 	Remove the debris.	Go to step 6.
6	<ol style="list-style-type: none"> 1. Perform the Registration Sensor test (page 4-43): Service Mode > Printer Diag > Engine Diag > Sensor Test > Regi Sensor. 2. Does the number on the Control Panel increase by 1 when the Actuator of the Registration Sensor is activated? 	Go to step 7.	Go to step 9.
7	<ol style="list-style-type: none"> 1. Perform the Tray 2 Motor test (page 4-56): Service Mode > Printer Diag > Engine Diag > Motor Test > Tray 2 Motor. 2. Does the motor operate properly? 	Go to step 8.	Go to step 16.
8	<ol style="list-style-type: none"> 1. Perform the Tray 2 Feed Clutch test (page 4-68): Service Mode > Printer Diag > Engine Diag > Motor Test > Tray 2 Feed Clutch. 2. Does the Feed Clutch operate properly? 	Replace the MCU Board (page 8-88).	Go to step 13.
9	<ol style="list-style-type: none"> 1. Check the wiring harness connectors P/J23, P/J232, and P/J2322 between the MCU Board and the Registration Sensor. 2. Are the connectors securely connected? 	Go to step 10.	Reconnect the connectors.
10	<p>Check the Registration Sensor Harness for continuity.</p> <ol style="list-style-type: none"> 1. Disconnect P/J2322 from the Registration Sensor. 2. Disconnect P/J232 from the Right Side Harness. 3. Check continuity between P/J232 <=> P/J2322. 	Go to step 11.	Replace the Registration Sensor Harness.
11	<p>Check the Right Side Harness for continuity.</p> <ol style="list-style-type: none"> 1. Disconnect P/J23 from the MCU Board. 2. Disconnect P/J232 from the Registration Sensor Harness. 3. Check continuity between P/J23 <=> P/J232. 	Go to step 12.	Replace the Right Side Harness.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
12	<p>Check the Registration Sensor signal.</p> <ol style="list-style-type: none"> 1. Disconnect P/J23 from the MCU Board. 2. Is there +3.3 V across ground <=> J23-8 pin on the MCU Board? 	Replace the MCU Board (page 8-88).	Replace the Registration Sensor (page 8-44).
13	<ol style="list-style-type: none"> 1. Check the Feed Clutch wiring harness connectors between the MCU Board and the Feed Clutch Assembly. 2. Are the connectors securely connected? 	Go to step 14.	Reconnect the connectors.
14	<p>Check the Right Side Harness for continuity.</p> <ol style="list-style-type: none"> 1. Disconnect P/J23 from the MCU Board. 2. Disconnect P/J235 from the Feed Clutch Assembly. 3. Check continuity between P/J23 <=> P/J235. 	Go to step 15.	Replace the Right Side Harness.
15	<p>Check the Feed Clutch Assembly signal.</p> <ol style="list-style-type: none"> 1. Disconnect P/J23 from the MCU Board. 2. Is there +24 V across ground <=> J23-15 pin on the MCU Board in the Interlock Switch is activated? 	Replace the Feed Clutch Assembly (page 8-46).	Replace the MCU Board (page 8-88).
16	<ol style="list-style-type: none"> 1. Check the wiring harness connectors between the MCU Board and the Feed Drive Assembly. 2. Are the connectors securely connected? 	Go to step 17.	Reconnect the connectors.
17	<p>Check the Right Side Harness for continuity.</p> <ol style="list-style-type: none"> 1. Disconnect P/J25 from the MCU Board. 2. Disconnect P/J235 from the Feed Clutch Assembly. 3. Check continuity between P/J23 <=> P/J235. 	Replace the Feed Drive Assembly (page 8-78).	Replace the MCU Board (page 8-88).

Jam at Scanner

Jam has occurred at the ADF. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 005-110:** Jam at Scanner (Pickup Jam)
- **Chain Link 005-121:** Jam at Scanner (ADF Jam)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 ■ ADF Scanner Assembly, PL11.1.1 ■ ADF Feed Roller, PL11.1.3 	<ul style="list-style-type: none"> ■ “Map 3 - Image Processor Board and Dispenser Motors” on page 10-12 ■ “Automatic Document Feeder Wiring Diagram” on page 10-53

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the original document. 2. Does the document meet the ADF specifications?	Go to step 2.	Use the document glass mode or change the paper type.
2	1. Check the ADF. 2. Is the ADF completely closed?	Go to step 3.	Close the ADF.
3	1. Check the paper feeding. 2. Did the document feed through the ADF?	Go to step 4.	Go to step 5.
4	1. Check the document path. 2. Are there debris on the document path?	Remove the debris.	Go to step 7.
5	1. Check the ADF Feed Roller for correct installation and damages. 2. Is the ADF Feed Roller correctly installed?	Go to step 6.	Is the ADF Feed Roller damaged? Replace the ADF Feed Roller (page 8-110).

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
6	1. Check the wiring harness connectors P/J60, P/J62, P/J63, P/J64, and P/J65 on the Scanner Controller Board. Reseat the connectors. 2. Does the error still occur when copying?	Replace the ADF Scanner Assembly (page 8-103).	Complete.
7	1. Replace the ADF Scanner Assembly (page 8-103). 2. Does the error still occur when copying?	Replace the Scanner Controller Board (page 8-99).	Complete.

Jam at Tray 2 (IOT Feeder Jam)

Paper fed from Tray 2 did not reach the Registration Sensor on time. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 071-100:** Jam at Tray 2 (IOT Feeder 1 Jam)

Initial Actions

- Try picking paper from a different tray.
- Check the paper path for obstructions or debris.
- Cycle printer power.
- If the problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Tray 2 Retard Roller, PL2.2.17 ■ Tray 2 Feeder Assembly, PL3.2.1 ■ Registration Sensor, PL3.2.30 ■ Regi Sensor Harness Assembly, PL3.2.37 ■ Tray 2 Feed Roller, PL3.2.53 ■ MCU Board, PL9.2.13 ■ Right Side Harness Assy, PL10.1.12 	<ul style="list-style-type: none"> ■ “Map 2 - Laser Unit and Feeder” on page 10-11 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Tray 1 (MPT) and Registration” on page 10-26

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the jam paper location. Remove the paper. 2. Does the error still occur?	Go to step 2.	Complete.
2	1. Perform the Registration Sensor test (page 4-43): Service Mode > Printer Diag > Engine Diag > Sensor Test > Regi Sensor. 2. Does the number on the Control Panel increase by 1 when the Actuator of the Registration Sensor is activated?	Go to step 3.	Go to step 7.
3	1. Check the paper feed. 2. Does multiple feed occur?	Go to step 4.	Go to step 5.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	1. Replace the paper. 2. Does the error still occur?	Replace the Tray 2 Retard Roller (page 8-15).	Complete.
5	1. Replace the Feed Roller (page 8-14). 2. Does the error still occur?	Go to step 6.	Complete.
6	1. Check the paper? 2. Does the error still occur?	Replace the Feeder Unit (page 8-47).	Complete.
7	1. Check the wiring harness connectors P/J23, P/J232, and P/ J2322 between the MCU Board and the Registration Sensor. 2. Are the connectors securely connected?	Go to step 8.	Reconnect the connectors.
8	Check the Registration Sensor Harness for continuity. 1. Disconnect P/J2322 from the Registration Sensor. 2. Disconnect P/J232 from the Right Side Harness. 3. Check continuity between P/J232 <=> P/J2322.	Go to step 9.	Replace the Registration Sensor Harness.
9	Check the Right Side Harness for continuity. 1. Disconnect P/J23 from the MCU Board. 2. Disconnect P/J232 from the Registration Sensor Harness. 3. Check continuity between P/J23 <=> P/J232.	Go to step 10.	Replace the Right Side Harness.
10	Check the Registration Sensor signal. 1. Disconnect P/J23 from the MCU Board. 2. Is there +3.3 V across ground <=> J23-8 pin on the MCU Board?	Replace the MCU Board (page 8-88).	Replace the Registration Sensor (page 8-44).

Jam at Tray 3 (IOT Feeder 2 Jam)

The Registration Sensor is not turned On within the specified time. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 072-100:** Jam at Tray 3 (IOT Feeder 2 Jam)

Initial Actions

- Try picking paper from a different tray.
- Check the paper path for obstructions or debris.
- Cycle printer power.
- If the problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ MCU Board, PL9.2.13 ■ Right Side Harness, PL10.1.12 ■ Optional Feeder, PL13.2.9 ■ Feed Roller, PL13.2.10 ■ Optional Feeder Board, PL13.3.6 ■ Optional Feeder Drive, PL13.3.10 ■ Optional 550-Sheet Feeder, PL13.4.1 ■ Retard Roller, PL13.4.10 	<ul style="list-style-type: none"> ■ “Map 2 - Laser Unit and Feeder” on page 10-11 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Map 6 - Optional 550-Sheet Feeder” on page 10-15 ■ “Main Drive” on page 10-28 ■ “Optional 550-Sheet Feeder Wiring Diagram” on page 10-45

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the paper condition. 2. Is the paper damaged?	Replace the paper.	Go to step 2.
2	1. Check the paper setting. 2. Does the paper in use match with the paper settings on the printer Control Panel?	Go to step 3.	Correct the paper size settings on the printer Control Panel. Go to step 3.
3	Does the error still occur when printing?	Go to step 4.	Complete.
4	1. Reseat Tray 3. 2. Does the error still occur when printing?	Go to step 5.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	<ol style="list-style-type: none"> 1. Perform the Registration Sensor test (page 4-43): Service Mode > Printer Diag > Engine Diag > Sensor Test > Regi Sensor. 2. Does the number on the Control Panel increase by 1 when the Actuator of the Registration Sensor is activated? 	Go to step 6.	Go to step 10.
6	<ol style="list-style-type: none"> 1. Perform the Tray 3 Feed Motor test (page 4-59): Service Mode > Printer Diag > Engine Diag > Motor Test > Tray 3 Feed Motor. 2. Does the Tray 3 Feed Motor operate properly? 	Go to step 7.	Go to step 18.
7	<ol style="list-style-type: none"> 1. Perform the Tray 3 Feed Clutch test (page 4-59): Service Mode > Printer Diag > Engine Diag > Motor Test > Tray 3 Feed Clutch. 2. Does the Tray 3 Feed Clutch operate properly? 	Go to step 8.	Go to step 14.
8	<ol style="list-style-type: none"> 1. Perform the Tray 3 Turn Clutch test (page 4-59): Service Mode > Printer Diag > Engine Diag > Motor Test > Tray 3 Turn Clutch. 2. Does the Tray 3 Turn Clutch operate properly? 	Go to step 9.	Go to step 11.
9	<ol style="list-style-type: none"> 1. Check the Retard Rollers and Feed Roller for operation. 2. Are the rollers correctly installed? 	Go to step 10.	Are the rollers contaminated? Replace the defective Rollers.
10	<ol style="list-style-type: none"> 1. Replace the 550-Sheet Feeder (page 8-116). 2. Does the error still occur when printing? 	Replace the MCU Board (page 8-88).	Complete.
11	<ol style="list-style-type: none"> 1. Check the wiring harness connectors P/J27, P/J273, and P/J419 between the Optional Feeder Board and the MCU Board. 2. Are the connectors securely connected? 	Go to step 12.	Reconnect the connectors.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
12	<p>Check the Right Side Harness for continuity.</p> <ol style="list-style-type: none"> 1. Disconnect P/J273 from the Feeder Unit Harness. 2. Disconnect P/J27 from the MCU Board. 3. Check continuity between P/J27 <=> P/J273. 	Go to step 13.	Replace the Right Side Harness.
13	<ol style="list-style-type: none"> 1. Replace the Optional 550-Sheet Feeder (page 8-116). 2. Does the error still occur? 	Replace the MCU Board (page 8-88).	Complete.
14	<ol style="list-style-type: none"> 1. Check the wiring harness connectors P/J421 and P/J4213 between the Optional Feeder Board and the Optional Feed Clutch. 2. Are the connectors securely connected? 	Go to step 15.	Reconnect the connectors.
15	<ol style="list-style-type: none"> 1. Check the wiring harness connectors P/J419, P/J273, and P/J27 between the Optional Feeder Board and the MCU Board. 2. Are the connectors securely connected? 	Go to step 16.	Reconnect the connectors.
16	<p>Check the Right Side Harness for continuity.</p> <ol style="list-style-type: none"> 1. Disconnect P/J273 from the Optional Feeder Harness. 2. Disconnect P/J27 from the MCU Board. 3. Check continuity between P/J273 <=> P/J27. 	Go to step 17.	Replace the Right Side Harness.
17	<p>Check the Optional Feeder Board signal.</p> <ol style="list-style-type: none"> 1. Disconnect P/J27 from the MCU Board. 2. Is there +24 V across ground <=> J27-B4 pin/J27-B5 pin on the MCU Board when the Interlock Switch is activated? 	Replace the 550-Sheet Feeder (page 8-116).	Replace the MCU Board (page 8-88).
18	<ol style="list-style-type: none"> 1. Check the wiring harness connectors P/J422 and P/J4222 between the Optional Feeder Drive and the Optional Feeder Board. 2. Are the connectors securely connected? 	Go to step 19.	Reconnect the connectors.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
19	Check the Optional Feeder Drive signal. 1. Disconnect P/J422 from the Optional Feeder Board. 2. Is there +24 V across ground <=> J422-6 pin on the Optional Feeder Board when the Interlock Switch is activated?	Replace the 550-Sheet Feeder (page 8-116).	Go to step 20.
20	1. Check the wiring harness connectors P/J419, P/J273, and P/J27 between Optional Feeder Board and the MCU Board. 2. Are the connectors securely connected?	Go to step 21.	Reconnect the connectors.
21	Check the Right Side Harness for continuity. 1. Disconnect P/J273 from the Optional Feeder Harness. 2. Disconnect P/J27 from the MCU Board. 3. Check continuity between P/J273 <=> P/J27.	Go to step 22.	Replace the Right Side Harness.
22	Check the Optional Feeder Board signal. 1. Disconnect P/J27 from the MCU Board. 2. Is there +24 V across ground <=> J27-B4 pin/J27-B5 pin on the MCU Board when the Interlock Switch is activated?	Replace the 550-Sheet Feeder (page 8-116).	Replace the MCU Board (page 8-88).

Jam at Tray 1 (MPT)

Paper fed from Tray 1 (MPT) did not reach the Registration Sensor on time. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 075-100:** Jam at Tray 1 (IOT MPT Jam)

Initial Actions

- Try picking paper from a different tray.
- Check the paper path for obstructions or debris.
- Cycle printer power.
- If the problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map Reference
<ul style="list-style-type: none"> ■ Tray 1 (MPT) Retard Holder Kit, PL2.1.3 ■ Separator Roll, PL2.1.7 ■ Tray 1 Feed Solenoid, PL3.1.3 ■ MPT Feed Roll, PL3.1.10 ■ Feeder Unit, PL3.2.1 ■ Turn Roll, PL3.2.32 ■ Registration Sensor Harness, PL3.2.37 ■ Feed Drive Assembly, PL8.1.7 ■ MCU Board, PL9.2.13 ■ Right Side Harness, PL10.1.12 	<ul style="list-style-type: none"> ■ “Map 2 - Laser Unit and Feeder” on page 10-11 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Tray 1 (MPT) and Registration” on page 10-26 ■ “Feeder” on page 10-30

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the paper condition. 2. Is the paper damaged?	Replace the paper.	Go to step 2.
2	1. Check the paper setting. 2. Does the paper in use match with the paper settings on the printer Control Panel?	Go to step 3.	Correct the paper settings on the printer Control Panel. Go to step 3.
3	Does the error still occur when printing?	Go to step 4.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	1. Reseat the Tray 1 Side Guides. 2. Does the error still occur when printing?	Go to step 5.	Complete.
5	1. Perform the Registration Sensor test (page 4-43): Service Mode > Printer Diag > Engine Diag > Sensor Test > Regi Sensor. 2. Does the number on the Control Panel increase by 1 every time the Actuator of the Registration Sensor is activated?	Go to step 6.	Go to step 10.
6	1. Perform the Tray 1 (MPT) Feed Solenoid test (page 4-67): Service Mode > Printer Diag > Engine Diag > Motor Test > Tray 1 (MPT) Feed Solenoid. 2. Does the Solenoid operate properly?	Go to step 7.	Go to step 15.
7	1. Perform the Tray 1 (MPT) Turn Clutch test (page 4-66): Service Mode > Printer Diag > Engine Diag > Motor Test > Tray 1 (MPT) Turn Clutch. 2. Does the Clutch operate properly?	Go to step 8.	Go to step 18.
8	1. Perform the Tray 2 Motor test (page 4-56): Service Mode > Printer Diag > Engine Diag > Motor Test > Tray 2 Motor. 2. Does the Motor operate properly?	Go to step 9.	Go to step 21.
9	1. Check the following for evidence of fault or damage: <ul style="list-style-type: none"> ■ Retard Roll, PL2.1.7 ■ MPT Feed Roll, PL3.1.10 2. Is the part damaged?	Replace the MCU Board (page 8-88).	Replace the defective part(s). <ul style="list-style-type: none"> ■ Retard Roll (page 8-15) ■ MPT Feed Roll (page 8-13)
10	1. Check the wiring harness connectors P/J23, P/J232, and P/J2322 between the MCU Board and the Registration Sensor. 2. Are the connectors securely connected?	Go to step 11.	Reconnect the connectors.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
11	Check the Registration Sensor Harness for continuity. 1. Disconnect P/J232 from the Right Side Harness. 2. Disconnect P/J2322 from the Registration Sensor. 3. Check continuity between P/J232 <=> P/J2322.	Go to step 12.	Replace the Registration Sensor Harness.
12	Check the Right Side Harness for continuity. 1. Disconnect P/J23 from the MCU Board. 2. Disconnect P/J232 from the Registration Sensor Harness. 3. Check continuity between P/J23 <=> P/J232.	Go to step 13.	Replace the Right Side Harness.
13	Check the Registration Sensor for continuity. 1. Disconnect P/J23 from the MCU Board. 2. Is there +3.3 V across ground <=> J23-8 pin on the MCU Board?	Go to step 14.	Replace the MCU Board (page 8-88).
14	Check the Registration Sensor signal. 1. Measure the voltage across ground <=> J23-10 pin on the MCU Board. 2. Does the voltage change when the Actuator of the Registration Sensor is activated?	Replace the MCU Board (page 8-88).	Replace the Feeder Unit (page 8-47).
15	1. Check the wiring harness connectors P/J23 and P/J236 between the MCU Board and the Tray 1 Feed Solenoid. 2. Are the connectors securely connected?	Go to step 16.	Reconnect the connectors.
16	Check the Right Side Harness for continuity. 1. Disconnect P/J23 from the MCU Board. 2. Disconnect P/J236 from the Tray 1 Feed Solenoid. 3. Check continuity between P/J23 <=> P/J236.	Go to step 17.	Replace the Right Side Harness.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
17	<p>Check the Tray 1 Feed Solenoid signal.</p> <ol style="list-style-type: none"> 1. Disconnect P/J23 from the MCU Board. 2. Is there +24 V across ground <=> J23-17 pin on the MCU Board when the Interlock Switch is activated? 	Replace the Tray 1 Feed Solenoid (page 8-40).	Replace the MCU Board (page 8-88).
18	<ol style="list-style-type: none"> 1. Check the wiring harness connectors P/J23 and P/J234 between the MCU Board and the Turn Clutch. 2. Are the connectors securely connected? 	Go to step 19.	Reconnect the connectors.
19	<p>Check the Right Side Harness for continuity.</p> <ol style="list-style-type: none"> 1. Disconnect P/J23 from the MCU Board. 2. Disconnect P/J234 from the Turn Clutch. 3. Check continuity between P/J23 <=> P/J234. 	Go to step 20.	Replace the Right Side Harness.
20	<p>Check the Turn Clutch signal.</p> <ol style="list-style-type: none"> 1. Disconnect P/J23 from the MCU Board. 2. Is there +24 V across ground <=> J23-13 pin when the Interlock Switch is activated? 	Replace the Feeder Unit (page 8-47).	Replace the MCU Board (page 8-88).
21	<ol style="list-style-type: none"> 1. Check the wiring harness connectors P/J25 and P/J251 between the MCU Board and the Feed Drive Assembly. 2. Are the connectors securely connected? 	Go to step 22.	Reconnect the connectors.
22	<p>Check the Right Side Harness for continuity.</p> <ol style="list-style-type: none"> 1. Disconnect P/J25 from the MCU Board. 2. Disconnect P/J251 Feed Drive Assembly. 3. Check continuity between P/J25 <=> P/J251. 	Go to step 23.	Replace the Right Side Harness.
23	<p>Check the Feed Drive Assembly signal.</p> <ol style="list-style-type: none"> 1. Disconnect P/J25 from the MCU Board. 2. Is there +24 V across ground <=> J25-1/J25-2 pin on the MCU Board when the Interlock Switch is activated? 	Replace the Feed Drive Assembly (page 8-78).	Replace the MCU Board (page 8-88).

Jam at Tray 2 (IOT Feed Jam)

Paper fed from Tray 2 did not reach the Registration Sensor on time. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 077-903:** Jam at Tray 2 (IOT Feed Jam)

Initial Actions

- Ensure that Tray 1 (MPT) is attached to the printer.
- Try picking paper from a different tray.
- Check the paper path for obstructions or debris.
- Cycle printer power.
- If the problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map Reference
<ul style="list-style-type: none"> ■ Tray 1 (MPT) Retard Holder Kit, PL2.1.3 ■ Feeder Unit, PL3.2.1 ■ Feed Roll, PL3.2.53 ■ MCU Board, PL9.2.13 	<ul style="list-style-type: none"> ■ “Map 2 - Laser Unit and Feeder” on page 10-11 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Tray 1 (MPT) and Registration” on page 10-26 ■ “Feeder” on page 10-30

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	<ol style="list-style-type: none"> 1. Perform the Registration Sensor test (page 4-43): Service Mode > Printer Diag > Engine Diag > Sensor Test > Regi Sensor. 2. Does the number on the Control Panel increase by 1 when the Actuator of the Registration Sensor is activated? 	Go to step 3.	Go to step 2.
2	<ol style="list-style-type: none"> 1. Check the wiring harness connectors P/J23, P/J232, and P/J2322 between the MCU Board and the Registration Sensor. 2. Are the connectors securely connected? 	Go to step 3.	Reconnect the connectors.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
3	<ol style="list-style-type: none">1. Replace the paper.2. Check the paper feed.3. Does multiple feed occur?	Replace the damaged part(s): <ul style="list-style-type: none">■ Retard Holder (page 8-38)■ Tray 2 Feed Roller (page 8-14)■ Feeder Unit (page 8-47).	Replace the MCU Board (page 8-88). Go to step 4.

Jam at Exit/Jam at Registration Roll

The following error(s) has occurred.

- Paper remains at the Exit Sensor or Registration Sensor.
- Paper does not reach the Exit Sensor or Registration Sensor within the specified time.
- Paper passed the Exit Sensor earlier than the specified time.
- Paper did not pass through the Registration Sensor within the specified time.

The following troubleshooting procedure applies to these errors.

Warning

The Fuser may be hot. Turn the printer power Off and allow at least 5 minutes for the Fuser to cool before removing the Fuser.

Applicable Chain Link

- **Chain Link 077-900:** Jam at Exit (IOT Exit Jam)
- **Chain Link 077-901:** Jam at Registration Roll (IOT Remain Registration Jam)

Initial Actions

- Ask the customer about the paper types being used. If not on the recommended list, determine if this is contributing to the problem. Recycled, multi-purpose or copier paper tends to contaminate the paper path. Constant use of special papers such as labels or business cards can also contribute to jamming.
- Ensure the correct tray loading and setup procedures are followed (securing the guides, selecting the correct paper type, fanning the paper, etc.)
- Make sure the printer is plugged directly into an electrical outlet. Using extension cords or a power strip is not recommended.
- Make every attempt to establish a jam rate prior to starting any work. If possible print an Error History Report and note the page count between jams.
- Determine if jamming is occurring in one tray but not another. This helps to identify any dirty or defective parts.
- Clear the paper path of any jams and paper debris. Start at the Turn Chute and work up to the Registration Chute Assembly.
- Clean the paper Feed and Retard Rollers in the paper tray and tray slot using a slightly damp (water only) lint free cloth.
- Cycle printer power.
- If the problem persists, follow the procedure below.

Troubleshooting References Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Registration Clutch, PL3.1.19 ■ Feeder Unit, PL3.2.1 ■ Regi Metal Roll, PL3.2.6 ■ Regi Rubber Roll, PL3.2.7 ■ Registration Sensor, PL3.2.30 ■ Registration Sensor Harness, PL3.2.37 ■ Transfer Unit, PL4.1.1 ■ Fuser Harness, PL6.1.11 ■ Main Drive, PL8.1.2 ■ Drive Assembly, PL8.1.7 ■ MCU Board, PL9.2.13 ■ Right Side Harness, PL10.1.12 	<ul style="list-style-type: none"> ■ “Map 1 - Electrical and Drive” on page 10-10 ■ “Map 2 - Laser Unit and Feeder” on page 10-11 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Main Drive” on page 10-28 ■ “Feeder” on page 10-30 ■ “Fuser” on page 10-40

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	<ol style="list-style-type: none"> 1. Check the paper condition. 2. Is the paper damaged? 	<p>Replace the paper. Go to step 2.</p>	Go to step 2.
2	<ol style="list-style-type: none"> 1. Open and close the Front Cover to check the latches. 2. Does the error still occur when printing? 	Go to step 3.	Complete.
3	<ol style="list-style-type: none"> 1. Reseat the Fuser (page 8-12). 2. Does the error still occur when printing? 	Go to step 4.	Complete.
4	<ol style="list-style-type: none"> 1. Perform the Exit Sensor test (page 4-42): Service Mode > Printer Diag > Engine Diag > Sensor Test > Exit Sensor. 2. Does the number on the Control Panel increase by 1 when the Actuator of the Exit Sensor is activated? 	Go to step 5.	Go to step 13.
5	<ol style="list-style-type: none"> 1. Perform the Registration Sensor test (page 4-43): Service Mode > Printer Diag > Engine Diag > Sensor Test > Regi Sensor. 2. Does the number on the Control Panel increase by 1 when the Actuator of the Registration Sensor is activated? 	Go to step 6.	Go to step 17.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
6	1. Perform the Main Motor test (page 4-54): Service Mode > Printer Diag > Engine Diag > Motor Test > Main Motor. 2. Does the Motor operate properly?	Go to step 7.	Go to step 22.
7	1. Perform the Sub Motor test (page 4-55): Service Mode > Printer Diag > Engine Diag > Motor Test > Sub Motor. 2. Does the Motor operate properly?	Go to step 8.	Go to step 25.
8	1. Perform the Tray 2 Motor test (page 4-56): Service Mode > Printer Diag > Engine Diag > Motor Test > Tray 2 Motor. 2. Does the Motor operate properly?	Go to step 9.	Go to step 28.
9	1. Perform the Regi Clutch test (page 4-65): Service Mode > Printer Diag > Engine Diag > Motor Test > Regi Clutch. 2. Does the Clutch operate properly?	Go to step 10.	Go to step 31.
10	1. Check the Fuser. 2. Are there any remaining paper or debris in the Fuser?	Remove the debris.	Go to step 11.
11	1. Check the Regi Rubber Roll and Regi Metal Roll for damages and correct installation. 2. Are the rollers correctly installed? 3. Are there any damages on the rollers?	Go to step 12.	Replace the Feeder Unit (page 8-47).
12	1. Check the Transfer Unit for correct installation. Reseat the Transfer Unit (page 8-9). 2. Does the error still occur when printing?	Replace the MCU Board (page 8-88).	Complete.
13	1. Check the wiring harness connectors P/J17 and P/J171 between the MCU Board and the Fuser. 2. Are the connectors securely connected?	Go to step 14.	Reconnect the connectors.
14	Check the Fuser Harness for continuity. 1. Disconnect P/J17 from the MCU Board. 2. Disconnect P/J171 from the Fuser. 3. Check continuity between P/J17 <=> P/J171.	Go to step 15.	Replace the Fuser Harness.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
15	<p>Check the Fuser signal.</p> <ol style="list-style-type: none"> 1. Disconnect P/J17 from the MCU Board. 2. Is there +3.3 V across ground <=> J17-1 pin on MCU Board? 	Go to step 16.	Replace the MCU Board (page 8-88).
16	<p>Check the Exit Sensor for signal.</p> <ol style="list-style-type: none"> 1. Measure the voltage across ground <=> P/J17-3 on the MCU Board. 2. Does the voltage change when the Actuator of the Exit Sensor is activated? 	Replace the MCU Board (page 8-88).	Replace the Fuser (page 8-12).
17	<ol style="list-style-type: none"> 1. Check the wiring harness connectors P/J23, P/J232, and P/J2322 between the MCU Board and the Registration Sensor. 2. Are the connectors securely connected? 	Go to step 18.	Reconnect the connectors.
18	<p>Check the Registration Sensor Harness for continuity.</p> <ol style="list-style-type: none"> 1. Disconnect P/J2322 from the Registration Sensor. 2. Disconnect P/J232 from the Right Side Harness. 3. Check continuity between P/J232 <=> P/J2322. 	Go to step 19.	Replace the Registration Sensor Harness.
19	<p>Check the Right Side Harness for continuity.</p> <ol style="list-style-type: none"> 1. Disconnect P/J23 from the MCU Board. 2. Disconnect P/J232 from the Registration Sensor Harness. 3. Check continuity between P/J23 <=> P/J232. 	Go to step 20.	Replace the Right Side Harness.
20	<p>Check the Registration Sensor for continuity.</p> <ol style="list-style-type: none"> 1. Disconnect P/J23 from the MCU Board. 2. Is there +3.3 V across ground <=> J23-8 pin on the MCU Board? 	Go to step 21.	Replace the MCU Board (page 8-88).
21	<p>Check the Registration Sensor signal.</p> <ol style="list-style-type: none"> 1. Measure the voltage across ground <=> J23-10 pin on the MCU Board. 2. Does the voltage change when the Actuator of the Registration Sensor is activated? 	Replace the MCU Board (page 8-88).	Replace the Feeder Unit (page 8-47).

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
22	<ol style="list-style-type: none"> 1. Check the wiring harness connectors P/J21 and P/J211 between the MCU Board and the Main Drive Assembly. 2. Are the connectors securely connected? 	Go to step 23.	Reconnect the connectors.
23	<p>Check the Right Side Harness for continuity.</p> <ol style="list-style-type: none"> 1. Disconnect P/J21 from the MCU Board. 2. Disconnect P/J211 from the Main Drive Assembly. 3. Check continuity between P/J21 <=> P/J211. 	Go to step 24.	Replace the Right Side Harness.
24	<p>Check the Main Drive signal.</p> <ol style="list-style-type: none"> 1. Disconnect P/J21 from the MCU Board. 2. Is there +24 V across ground <=> J21-2/J21-4 pin on the MCU Board? 	Replace the Main Drive Assembly (page 8-75).	Replace the MCU Board (page 8-88).
25	<ol style="list-style-type: none"> 1. Check the wiring harness connectors P/J22 and P/J221 between the MCU Board and the Main Drive Assembly. 2. Are the connectors securely connected? 	Go to step 26.	Reconnect the connectors.
26	<p>Check the Right Side Harness for continuity.</p> <ol style="list-style-type: none"> 1. Disconnect P/J22 from the MCU Board. 2. Disconnect P/J221 from the Main Drive Assembly. 3. Check continuity between P/J22 <=> P/J221. 	Go to step 27.	Replace the Right Side Harness.
27	<p>Check the Main Drive signal.</p> <ol style="list-style-type: none"> 1. Disconnect P/J22 from the MCU Board. 2. Is there +24 V across ground <=> J22-A2/J22-A4 pin on the MCU Board when the Interlock Switch is activated? 	Replace the Main Drive Assembly (page 8-75).	Replace the MCU Board (page 8-88).
28	<ol style="list-style-type: none"> 1. Check the wiring harness connectors P/J25 and P/J251 between the MCU Board and the Feed Drive Assembly. 2. Are the connectors securely connected? 	Go to step 29.	Reconnect the connectors.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
29	<p>Check the Right Side Harness for continuity.</p> <ol style="list-style-type: none"> 1. Disconnect P/J25 from the MCU Board. 2. Disconnect P/J251 from the Feed Drive Assembly. 3. Check continuity between P/J25 <=> P/J251. 	Go to step 30.	Replace the Right Side Harness.
30	<p>Check the Feed Drive Assembly signal.</p> <ol style="list-style-type: none"> 1. Disconnect P/J25 from the MCU Board. 2. Is there +24 V across ground <=> J25-1/J25-2 pin on the MCU Board when the Interlock Switch is activated? 	Replace the Feed Drive Assembly (page 8-78).	Replace the MCU Board (page 8-88).
31	<ol style="list-style-type: none"> 1. Check the wiring harness connectors P/J23 and P/J233 between the MCU Board and the Registration Clutch. 2. Are the connectors securely connected? 	Go to step 32.	Reconnect the connectors.
32	<p>Check the Right Side Harness continuity.</p> <ol style="list-style-type: none"> 1. Disconnect P/J23 from the MCU Board. 2. Disconnect P/J233 from the Registration Clutch. 3. Check continuity between P/J23 <=> P/J233. 	Go to step 33.	Replace the Right Side Harness.
33	<p>Check the Registration Clutch signal.</p> <ol style="list-style-type: none"> 1. Disconnect P/J23 from the MCU Board. 2. Is there +24 V across ground <=> J23-11 pin on the MCU Board when the Interlock Switch is activated? 	Replace Registration Clutch (page 8-45).	Replace the MCU Board (page 8-88).

Jam at Duplexer

The Duplex Jam Sensor indicates the paper did not reach the sensor on time or that paper remains in the Chute Assembly Out. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 077-907:** Jam at Duplexer (IOT Remain Duplex Jam)

Initial Actions

- Check for obstruction or debris in the Exit Chute Out or paper path.
- Cycle printer power.
- If the problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map Reference
<ul style="list-style-type: none"> ■ Front Cover Harness, PL1.2.13 ■ Feeder Unit, PL3.2.1 ■ PH Turn Clutch, PL3.2.25 ■ Registration Sensor Harness, PL3.2.37 ■ Exit Out Chute, PL6.1.1 ■ Fuser Harness, PL6.1.11 ■ Duplex Gate Chute, PL6.1.13 ■ Main Drive, PL8.1.2 ■ Drive Assembly, PL8.1.7 ■ MCU Board, PL9.2.13 ■ Right Side Harness, PL10.1.12 ■ Duplex Unit, PL12.1.1 ■ Duplex Unit Board, PL12.1.5 ■ Duplex Harness, PL12.1.18 	<ul style="list-style-type: none"> ■ “Map 1 - Electrical and Drive” on page 10-10 ■ “Map 2 - Laser Unit and Feeder” on page 10-11 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Map 5 - Duplex Unit” on page 10-14 ■ “Tray 1 (MPT) and Registration” on page 10-26 ■ “Main Drive” on page 10-28 ■ “Feeder” on page 10-30 ■ “Fuser” on page 10-40 ■ “Duplex Wiring Diagram” on page 10-48

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Front Cover Latch. Open and close the Front Cover. 2. Does the error still occur when printing?	Go to step 2.	Complete.
2	1. Reseat the Fuser (page 8-12). 2. Does the error still occur when printing?	Go to step 3.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
3	<ol style="list-style-type: none"> 1. Check the Duplex Gate Chute for correct installation. Reseat the Duplex Gate Chute (page 8-68). 2. Does the error still occur when printing? 	Go to step 4.	If the Duplex Gate Chute is damaged, replace the Duplex Gate Chute (page 8-68).
4	<ol style="list-style-type: none"> 1. Check the Exit Out Chute for correct installation. 2. Is the Exit Out Chute correctly installed? 	Go to step 5.	Reseat the Exit Out Chute. If damaged, replace the Exit Out Chute (page 8-67).
5	<ol style="list-style-type: none"> 1. Perform the Duplex Jam Sensor test (page 4-41): Service Mode > Printer Diag > Engine Diag > Sensor Test > DuplexJamSensor. 2. Does the number increase by 1 when the Actuator of the Sensor is activated? 	Go to step 6.	Go to step 16.
6	<ol style="list-style-type: none"> 1. Perform the Duplex Clutch test (page 4-71): Service Mode > Printer Diag > Engine Diag > Motor Test > Duplex Clutch. 2. Does the Clutch operate properly? 	Go to step 7.	Go to step 16.
7	<ol style="list-style-type: none"> 1. Perform the Duplex Motor test (page 4-58): Service Mode > Printer Diag > Engine Diag > Motor Test > Duplex Motor. 2. Does the Motor operate properly? 	Go to step 8.	Go to step 16.
8	<ol style="list-style-type: none"> 1. Perform the Tray 1 (MPT) Turn Clutch test (page 4-66): Service Mode > Printer Diag > Engine Diag > Motor Test > Tray 1 (MPT) Turn Clutch. 2. Does the Clutch operate properly? 	Go to step 9.	Go to step 10.
9	<ol style="list-style-type: none"> 1. Perform the Tray 2 Motor test (page 4-56): Service Mode > Printer Diag > Engine Diag > Motor Test > Tray 2 Motor. 2. Does the Motor operate properly? 	Replace the MCU Board (page 8-88).	Go to step 13.
10	<ol style="list-style-type: none"> 1. Check the wiring harness connectors P/J23 and P/J234 between the Tray 2 Turn Clutch and the MCU Board. 2. Are the connectors securely connected? 	Go to step 10.	Reconnect the connectors.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
11	<p>Check the Right Side Harness for continuity.</p> <ol style="list-style-type: none"> 1. Disconnect P/J23 from the MCU Board. 2. Disconnect P/J234 from the Tray 2 Turn Clutch. 3. Check continuity between P/J23 <=> P/J234. 	Go to step 12.	Replace the Right Side Harness.
12	<p>Check the Tray 2 Turn Clutch signal.</p> <ol style="list-style-type: none"> 1. Disconnect P/J23 from the MCU Board. 2. Is there +24 V across ground <=> J23-13 pin when the Interlock Switch is activated? 	Replace the Feeder Unit (page 8-47).	Replace the MCU Board (page 8-88).
13	<ol style="list-style-type: none"> 1. Check the wiring harness connectors P/J25 and P/J251 between the Drive Assembly and the MCU Board. 2. Are the connectors securely connected? 	Go to step 14.	Reconnect the connectors.
14	<p>Check the Right Side Harness for continuity.</p> <ol style="list-style-type: none"> 1. Disconnect P/J25 and P/J251. 2. Check continuity between P/J25 <=> P/J251. 	Go to step 15.	Replace the Right Side Harness.
15	<p>Check the Feed Drive Assembly signal.</p> <ol style="list-style-type: none"> 1. Disconnect P/J25 from the MCU Board. 2. Is there +24 V across ground <=> J25-1/J25-2 pin when the Interlock Switch is activated? 	Replace the Feed Drive Assembly (page 8-78).	Replace the MCU Board (page 8-88).
16	<ol style="list-style-type: none"> 1. Check the wiring harness connectors P/J428, P/J2720, P/J272, and P/J27 between the Duplex Board and the MCU Board. 2. Are the connector securely connected? 	Go to step 17.	Reconnect the connectors.
17	<p>Check the Duplex Unit Harness for continuity.</p> <ol style="list-style-type: none"> 1. Disconnect P/J28 from the Duplex Unit Board. 2. Disconnect P/J2720 from the Front Cover Harness. 3. Check continuity between P/J428 <=> P/J2720. 	Go to step 18.	Replace the Duplex Unit Harness.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
18	Check the Front Cover Harness for continuity. 1. Disconnect P/J2720 from the Duplex Unit Harness. 2. Disconnect P/J272 from the Right Side Harness. Check continuity between P/J2720 <=> P/J272.	Go to step 19.	Replace the Front Cover Harness.
19	Check the Right Side Harness for continuity. 1. Disconnect P/J272 from the Right Side Harness. 2. Disconnect P/J27 from the MCU Board. 3. Check continuity between P/J272 <=> P/J27.	Go to step 20.	Replace the Right Side Harness.
20	Check the Duplex Unit Board signal. 1. Disconnect P/J27 from the MCU Board. 2. Is there +3.3 V across ground <=> J27-A15 pin on the MCU Board when the Interlock Switch is activated?	Go to step 21.	Replace the MCU Board (page 8-88).
21	Does the error occur when the printer is turned On?	Replace the Duplex Unit (page 8-115).	Complete.

Consumable/Routine Maintenance Errors

Insert Fuser

The printer does not detect the presence of the Fuser. The following troubleshooting procedure applies to this error.

Warning

The Fuser may be hot. Turn the printer power Off and allow at least 5 minutes for the Fuser to cool before removing the Fuser.

Applicable Chain Link

- **Chain Link 010-317:** Insert Fuser (IOT Fuser Detached)

Initial Actions

- Ensure that the Fuser latches are fully locked.
- Cycle printer power.
- If the problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map Reference
<ul style="list-style-type: none"> ■ Fuser, PL6.1.10 ■ MCU Board, PL9.2.13 ■ LVPS, PL9.2.14 ■ LVPS Harness, PL10.1.3 ■ Fuser Harness, PL10.1.5 	<ul style="list-style-type: none"> ■ “Map 1 - Electrical and Drive” on page 10-10 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Fuser” on page 10-40

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Fuser for correct installation. 2. Is the Fuser correctly installed?	Go to step 2.	Reseat the Fuser (page 8-12). Go to step 2.
2	Does the error still occur when the printer is turned On?	Go to step 3.	Complete.
3	1. Check the wiring harness connectors P/J17, P/J171, P/J47, P/J501, and P/J14 between the MCU Board and the Fuser Unit. 2. Are the connectors securely connected?	Go to step 4.	Reconnect the connectors.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	Check the Fuser Harness for continuity. 1. Disconnect P/J17 from the MCU Board. 2. Disconnect P/J171 from the Fuser Unit. 3. Disconnect P/J47 from the LVPS. 4. Check continuity between P/J17 and P/J47 <=> P/J171.	Go to step 5.	Replace the Fuser Harness.
5	Check the LVPS Harness for continuity. 1. Disconnect P/J501 from the LVPS. 2. Disconnect P/J14 from the MCU Board. 3. Check continuity between P/J501 <=> P/J14.	Go to step 6.	Replace the LVPS Harness.
6	1. Replace the Fuser (page 8-12). 2. Does the error still occur?	Go to step 7.	Complete.
7	1. Replace the LVPS (page 8-83). 2. Does the error still occur when the printer is turned On?	Replace the MCU Board (page 8-88).	Complete.

Fuser Error (IOT Fuser Life Over)

The Fuser has reached its end of life. The following troubleshooting procedure applies to this error.

Warning

The Fuser may be hot. Turn the printer power Off and allow at least 5 minutes for the Fuser to cool before removing the Fuser.

Applicable Chain Link

- **Chain Link 010-351:** Fuser Error (IOT Fuser Life Over)

Initial Action

- Check the Fuser life using CentreWare IS.
- Cycle printer power.
- If problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Fuser, PL6.1.10 ■ MCU Board, PL9.2.13 	<ul style="list-style-type: none"> ■ “Map 1 - Electrical and Drive” on page 10-10 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Fuser” on page 10-40

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Fuser life using CentreWare IS. 2. Does the Level show 0%?	Replace the Fuser (page 8-12).	Go to step 2.
2	Is the Fuser correctly installed?	Go to step 3.	Reseat the Fuser (page 8-12).
3	Does the error still occur when the power is turned On?	Go to step 4.	Complete.
4	1. Replace the Fuser (page 8-12). 2. Does the error still occur?	Replace the MCU Board (page 8-88).	Complete.

Fuser CRUM ID Error

The Fuser CRUM ID error is detected. The following troubleshooting procedure applies to this error.

Warning

The Fuser may be hot. Turn the printer power Off and allow at least 5 minutes for the Fuser to cool before removing the Fuser.

Applicable Chain Link

- **Chain Link 010-359:** Fuser CRUM Error (Fuser CRUM ID Error)

Initial Actions

- Ensure that the Fuser latches are fully locked.
- Cycle printer power.
- If problem persists, follow the procedure below.

Troubleshooting Reference

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Fuser, PL6.1.10 ■ MCU Board, PL9.2.13 ■ Fuser Harness, PL10.1.5 	<ul style="list-style-type: none"> ■ “Map 1 - Electrical and Drive” on page 10-10 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Fuser” on page 10-40

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Check the Fuser for correct installation. Reseat the Fuser (page 8-12). 2. Does the error still occur when the printer is turned On?	Go to step 2.	Complete.
2	1. Check the Fuser type. 2. Is the Fuser for the Phaser 6180MFP?	Go to step 3.	Complete.
3	Check the Fuser Harness for continuity. 1. Disconnect P/J17 from the MCU Board. 2. Disconnect P/J171 from the Fuser Unit. 3. Check continuity between P/J17 <=> P/J171.	Go to step 4.	Replace the Fuser Harness.
4	1. Replace the Fuser (page 8-12). 2. Does the error still occur when the printer is turned On?	Replace the MCU Board (page 8-88).	Complete.

Fuser Error

The Fuser temperature regulation has failed. The following troubleshooting procedure applies to this error.

Warning

The Fuser may be hot. Turn the printer power Off and allow at least 5 minutes for the Fuser to cool before removing the Fuser.

Applicable Chain Link

- **Chain Link 010-397:** Fuser Error (IOT Fuser Failure)

Initial Actions

- Ensure that the Fuser latches are fully locked.
- Cycle printer power.
- If problem persists, follow the procedure below.

Troubleshooting References

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Fuser, PL6.1.10 ■ MCU Board, PL9.2.13 ■ LVPS, PL9.2.14 ■ LVPS Harness, PL10.1.3 ■ Fuser Harness, PL10.1.5 	<ul style="list-style-type: none"> ■ “Map 1 - Electrical and Drive” on page 10-10 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Fuser” on page 10-40

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	1. Check the Fuser for correct installation. 2. Is the Fuser correctly installed?	Go to step 2.	Reseat the Fuser (page 8-12). Go to step 2.
2	Does the error still occur when the printer is turned On?	Go to step 3.	Complete.
3	1. Check the wiring harness connectors P/J17, P/J171, P/J47, P/J501, and P/J14 between the MCU Board and the Fuser Unit. 2. Are the connectors securely connected?	Go to step 4.	Reconnect the connectors.

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
4	Check the Fuser Harness for continuity. 1. Disconnect P/J17 from the MCU Board. 2. Disconnect P/J171 from the Fuser Unit. 3. Disconnect P/J47 from the LVPS. 4. Check continuity between P/J17 and P/J47 <=> P/J171.	Go to step 5.	Replace the Fuser Harness.
5	Check the LVPS Harness for continuity. 1. Disconnect P/J501 from the LVPS. 2. Disconnect P/J14 from the MCU Board. 3. Check continuity between P/J501 <=> P/J14.	Go to step 6.	Replace the LVPS Harness.
6	1. Replace the Fuser (page 8-12). 2. Does the error still occur?	Go to step 7.	Complete.
7	1. Replace the LVPS (page 8-83). 2. Does the error still occur when the printer is turned On?	Replace the MCU Board (page 8-88).	Complete.

Replace Fuser Soon (Fuser End of Life)

The Fuser has reached its end of life.

Warning

The Fuser may be hot. Turn the printer power Off and allow at least 5 minutes for the Fuser to cool before removing the Fuser.

Applicable Chain Link

- **Chain Link 010-421:** IOT Fuser Life Pre Warning (Fuser End of Life)

Initial Actions

- Check the Print Cartridge life using CentreWare IS.
- Cycle printer power.
- If problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Fuser, PL6.1.10 ■ MCU Board, PL9.2.13 	<ul style="list-style-type: none"> ■ “Map 1 - Electrical and Drive” on page 10-10 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Fuser” on page 10-40

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Fuser for correct installation. 2. Is the Fuser correctly installed?	Go to step 3.	Reseat the Fuser. Go to step 2.
2	Does the error still occur?	Go to step 3.	Complete.
3	1. Replace the Fuser (page 8-12). 2. Does the error still occur?	Replace the MCU Board (page 8-88).	Complete.

Check Print Cartridge Error (Yellow/Magenta/Cyan/Black)

The Print Cartridge (Yellow/Magenta,/Cyan/Black) is near or has reached its end of life. The following troubleshooting procedure applies to these errors.

Applicable Chain Links

- **Chain Link 093-423:** Yellow Cartridge Low
- **Chain Link 093-424:** Magenta Cartridge Low
- **Chain Link 093-425:** Cyan Cartridge Low
- **Chain Link 093-426:** Black Cartridge Low

Initial Actions

- Check the Print Cartridge life using CentreWare IS.
- Cycle printer power.
- If problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Print Cartridge (Y/M/C/K), PL5.1.17-20 ■ MCU Board, PL9.2.13 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Print Cartridge for correct installation. 2. Is the Print Cartridge correctly installed?	Go to step 3.	Reseat the Print Cartridge (page 8-11). Go to step 2.
2	Does the error still occur?	Go to step 3.	Complete.
3	1. Replace the Print Cartridge (page 8-11). 2. Does the error still occur?	Replace the MCU Board (page 8-88).	Complete.

Remove Print Cartridge Tape (Yellow/Magenta/Cyan/Black)

The Print Cartridge (Yellow/Magenta/Cyan/Black) tape was not removed when a new Print Cartridge is installed. The following troubleshooting procedure applies to these errors.

Applicable Chain Links

- **Chain Link 093-919:** Check Yellow Cartridge
- **Chain Link 093-920:** Check Magenta Cartridge
- **Chain Link 093-921:** Check Cyan Cartridge
- **Chain Link 093-922:** Check Black Cartridge

Initial Actions

- Check the Print Cartridge life using CentreWare IS.
- Cycle printer power.
- If problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Print Cartridge (Y/M/C/K), PL5.1.17-20 ■ Dispenser, PL5.2.10 ■ MCU Board, PL9.2.13 ■ Top LV Harness, PL10.1.3 	<ul style="list-style-type: none"> ■ “Map 3 - Image Processor Board and Dispenser Motors” on page 10-12 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Developer” on page 10-38

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Print Cartridge tape. 2. Has the tape been removed?	Go to step 2.	Remove the tape on the Print Cartridge. Go to step 2.
2	Does the error still occur?	Go to step 3.	Complete.
3	1. Replace the Print Cartridge (page 8-11). 2. Does the error still occur?	Go to step 4.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	<p>Perform the Toner Motor test: Service Mode > Engine Diag > Motor Test > Toner Motor.</p> <ul style="list-style-type: none"> ■ Yellow Toner Motor (page 4-61) ■ Magenta Toner Motor (page 4-62) ■ Cyan Toner Motor (page 4-63) ■ Black Toner Motor (page 4-64) <p>While testing the Toner Motor, close the Interlock Harness.</p>	Check the gear of the Auger for damage. If the gear is damaged, replace the Dispenser Motor (page 8-59).	Go to step 5.
5	<ol style="list-style-type: none"> 1. Check the Dispenser wiring harness connectors. <ul style="list-style-type: none"> ■ Yellow: P/J18 and P/J181 ■ Magenta: P/J18 and P/J182 ■ Black: P/J18 and P/J183 ■ Cyan: P/J18 and P/J184 2. Are the connectors securely connected? 	Go to step 6.	Reconnect the connectors. Go to step 6.
6	Does the error still occur?	Go to step 7.	Complete.
7	<p>Check the Top LV Harness for continuity.</p> <ol style="list-style-type: none"> 1. Disconnect P/J Harnesses. <ul style="list-style-type: none"> ■ Yellow: P/J18 and P/J181 ■ Magenta: P/J18 and P/J182 ■ Black: P/J18 and P/J183 ■ Cyan: P/J18 and P/J184 2. Check continuity between P/J connectors: <ul style="list-style-type: none"> ■ Yellow: P/J18 <=> P/J181 ■ Magenta: P/J18 <=> P/J182 ■ Black: P/J18 <=> P/J183 ■ Cyan: P/J18 <=> P/J184 	Go to step 8.	Complete.
8	<p>Check the Dispenser signal.</p> <ol style="list-style-type: none"> 1. Disconnect P/J18 from the MCU Board. 2. When the Interlock Switch is activated, is there +24 V across: <ul style="list-style-type: none"> ■ Ground <=> P/J18-A1/P/J18-A2 pin (Yellow) ■ Ground <=> P/J18-A7/P/J18-A8 pin (Magenta) ■ Ground <=> P/J18-B1/P/J18-B2 pin (Black) ■ Ground <=> P/J18-B7/P/J18-B8 pin (Cyan) 	Replace the Dispenser (page 8-59).	Replace the MCU Board (page 8-88).

Replace Print Cartridge (Yellow/Magenta/Cyan/Black)

The Print Cartridge (Yellow/Magenta/Cyan/Black) has reached its end of life. The following troubleshooting procedure applies to these errors.

Applicable Chain Links

- **Chain Link 093-930:** Replace Yellow Cartridge
- **Chain Link 093-931:** Replace Magenta Cartridge
- **Chain Link 093-932:** Replace Cyan Cartridge
- **Chain Link 093-933:** Replace Black Cartridge

Initial Actions

- Check the Print Cartridge life using CentreWare IS.
- Cycle printer power.
- If problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Print Cartridge (Y/M/C/K), PL5.1.17-20 ■ MCU Board, PL9.2.13 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Print Cartridge for correct installation. 2. Is the Print Cartridge correctly installed?	Go to step 3.	Reseat the Print Cartridge (page 8-11). Go to step 2.
2	Does the error still occur?	Go to step 3.	Complete.
3	1. Replace the Print Cartridge (page 8-11). 2. Does the error still occur?	Replace the MCU Board (page 8-88).	Complete.

Empty Print Cartridge (Yellow/Magenta/Cyan/Black)

The Print Cartridge has reached its end of life. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 093-935:** Replace Yellow Cartridge
- **Chain Link 093-936:** Replace Magenta Cartridge
- **Chain Link 093-937:** Replace Cyan Cartridge
- **Chain Link 093-938:** Replace Black Cartridge

Initial Actions

- Check the Print Cartridge life using CentreWare IS.
- Cycle printer power.
- If problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Print Cartridge (Y/M/C/K), PL5.1.17-20 ■ MCU Board, PL9.2.13 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Print Cartridge for correct installation. 2. Is the Print Cartridge correctly installed?	Go to step 3.	Reseat the Print Cartridge (page 8-11). Go to step 2.
2	Does the error still occur?	Go to step 3.	Complete.
3	1. Replace the Print Cartridge (page 8-11). 2. Does the error still occur?	Replace the MCU Board (page 8-88).	Complete.

Print Cartridge CRUM Error (Yellow/Magenta/Cyan/Black)

The Print Cartridge CRUM communication is detected. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 093-925:** Black CRUM Error
- **Chain Link 093-950:** Yellow CRUM Error
- **Chain Link 093-951:** Magenta CRUM Error
- **Chain Link 093-952:** Cyan CRUM Error

Initial Actions

- Check the Print Cartridge life using CentreWare IS.
- Cycle printer power.
- If problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Print Cartridge (Y/M/C/K), PL5.1.17-20 ■ CRUM Connector, PL5.2.1 ■ MCU Board, PL9.2.13 ■ CRUM Harness, PL10.1.9 	<ul style="list-style-type: none"> ■ “Map 2 - Laser Unit and Feeder” on page 10-11 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Developer” on page 10-38

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Print Cartridge(s) for correct installation. 2. Is the Print Cartridge(s) correctly installed?	Go to step 3.	Reseat the Print Cartridge(s) (page 8-11). Go to step 2.
2	Does the error still occur when the printer is turned On?	Go to step 4.	Complete.
3	Is the Print Cartridge a Xerox Print Cartridge?	Go to step 5.	Install a Xerox Print Cartridge.
4	1. Check the CRUM Connector for correct installation. 2. Is the connector securely connected?	Go to step 5.	Reseat the CRUM Connector (page 8-56). Go to step 5.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	1. Check the wiring harness connector(s) between the CRUM Connector and the MCU Board. <ul style="list-style-type: none"> ■ Yellow: P/J31 and P/J311 ■ Magenta: P/J31 and P/J312 ■ Cyan: P/J31 and P/J313 ■ Black: P/J31 and P/J314 2. Is the connector(s) securely connected?	Go to step 6.	Reconnect the connector(s). Go to step 6.
6	Check the CRUM Harness for continuity. <ol style="list-style-type: none"> 1. Disconnect the wiring harnesses from the Connector CRUM and MCU Board. <ul style="list-style-type: none"> ■ Yellow: P/J31 and P/J311 ■ Magenta: P/J31 and P/J312 ■ Cyan: P/J31 and P/J313 ■ Black: P/J31 and P/J314 2. Check continuity between P/J connectors: <ul style="list-style-type: none"> ■ Yellow: P/J31 <=> P/J311 ■ Magenta: P/J31 <=> P/J312 ■ Cyan: P/J31 <=> P/J313 ■ Black: P/J31 <=> P/J314 	Go to step 7.	Replace the CRUM Harness.
7	Check the CRUM Connector for damages. Is the CRUM Connector damaged?	Replace the CRUM Connector (page 8-56).	Go to step 8.
8	1. Replace the CRUM Connector (page 8-56). 2. Does the error still occur when the printer is turned On?	Go to step 9.	Complete.
9	1. Replace the Print Cartridge (page 8-11). 2. Does the error still occur?	Replace the MCU Board (page 8-88).	Complete.

Non-Xerox Print Cartridge Error (Yellow/Magenta/Cyan/Black)

The Print Cartridge CRUM ID error indicates that a non-Xerox Print Cartridge is installed. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 093-960:** Non-Xerox Toner, Invalid Yellow
- **Chain Link 093-961:** Non-Xerox Toner, Invalid Magenta
- **Chain Link 093-962:** Non-Xerox Toner, Invalid Cyan
- **Chain Link 093-926:** Non-Xerox Toner, Invalid Black

Initial Actions

- Check the Print Cartridge life using CentreWare IS.
- Cycle printer power.
- If problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Print Cartridge (Y/M/C/K), PL5.1.17-20 ■ MCU Board, PL9.2.13 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Print Cartridge for correct installation. 2. Is the Print Cartridge correctly installed?	Go to step 3.	Reinstall the Print Cartridge (page 8-11).
2	Does the error still occur?	Go to step 3.	Complete.
3	Reseat the Print Cartridge. Does the error still occur?	Go to step 4.	Complete.
4	1. Replace the Print Cartridge (page 8-11). 2. Does the error still occur?	Replace the MCU Board (page 8-88).	Complete.

Insert Print Cartridge (Yellow/Cyan/Magenta/Black)

The printer does not detect the Print Cartridge. The following troubleshooting procedure applies to these errors.

Applicable Chain Links

- **Chain Link 093-970:** Insert Yellow Cartridge
- **Chain Link 093-971:** Insert Magenta Cartridge
- **Chain Link 093-972:** Insert Cyan Cartridge
- **Chain Link 093-973:** Insert Black Cartridge

Initial Actions

- Check the Print Cartridge life using CentreWare IS.
- Cycle printer power.
- If problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Print Cartridge Sensor, PL5.1.6 ■ Print Cartridge (Y/M/C/K), PL5.1.17-20 ■ MCU Board, PL9.2.13 ■ Toner Sensor Harness, PL10.1.7 	<ul style="list-style-type: none"> ■ “Developer” on page 10-38

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Print Cartridge for correct installation. 2. Is the Print Cartridge correctly installed?	Go to step 3.	Reseat the Print Cartridge (page 8-11)
2	Does the error still occur?	Go to step 3.	Complete.
3	1. Replace the Print Cartridge (page 8-11). 2. Does the error still occur?	Go to step 4.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	<p>1. Perform the CRU Sensor test: Service Mode > Printer Diag > Engine Diag > Sensor Test > CRU Sensor.</p> <ul style="list-style-type: none"> ■ Yellow CRU Sensor (page 4-45) ■ Magenta CRU Sensor (page 4-46) ■ Black CRU Sensor (page 4-47) ■ Cyan CRU Sensor (page 4-48) <p>2. Does the number on the Control Panel increase by 1 when the Print Cartridge is reseated?</p>	Replace the MCU Board (page 8-88).	Go to step 5.
5	<p>1. Check the Toner Sensor wiring harness connectors between the Print Cartridge Sensor and the MCU Board.</p> <ul style="list-style-type: none"> ■ Yellow: P/J19 and P/J191 ■ Magenta: P/J19 and P/J192 ■ Black: P/J19 and P/J193 ■ Cyan: P/J19 and P/J194 <p>2. Are the connectors securely connected?</p>	Go to step 6.	Reconnect the connectors. Go to step 6.
6	Does the error still occur?	Go to step 7.	Complete.
7	<p>Check the Toner Sensor Harness for continuity.</p> <p>1. Disconnect P/J Harnesses from the MCU Board and the Print Cartridge Sensor.</p> <ul style="list-style-type: none"> ■ Yellow: P/J19 and P/J191 ■ Magenta: P/J19 and P/J192 ■ Black: P/J19 and P/J193 ■ Cyan: P/J19 and P/J194 <p>2. Check continuity between P/J connectors:</p> <ul style="list-style-type: none"> ■ Yellow: P/J19 <=> P/J191 ■ Magenta: P/J19 <=> P/J192 ■ Black: P/J19 <=> P/J193 ■ Cyan: P/J19 <=> P/J194 	Go to step 8.	Replace the Toner Sensor Harness.
8	<p>Check the Print Cartridge Sensor signal.</p> <p>1. Disconnect P/J19 from the MCU Board.</p> <p>2. Is there +3.3 V across the Toner Sensor Harness?</p> <ul style="list-style-type: none"> ■ Yellow: J19-1 pin <=> J19-2 pin ■ Magenta: J19-4 pin <=> J19-5 pin ■ Black: J19-7 pin <=> J19-8 pin ■ Cyan: J19-10 pin <=> J19-11 pin 	Go to step 9.	Replace the MCU Board (page 8-88).

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
9	Check the Print Cartridge Sensor for operation. 1. Measure the voltage across: <ul style="list-style-type: none"> ■ Ground <=> P/J19-3 pin (Yellow) ■ Ground <=> P/J19-6 pin (Magenta) ■ Ground <=> P/J19-9 pin (Black) ■ Ground <=> P/J19-12 pin (Cyan) 2. Does the voltage change when the paper is inserted into the sensor detecting point?	Replace the MCU Board (page 8-88).	Replace the Print Cartridge Sensor: <ul style="list-style-type: none"> ■ Black (page 8-57) ■ Yellow/Magenta/Cyan (page 8-58)

Non-Xerox Print Cartridge Installed

The Printer does not have a genuine Xerox Print Cartridge installed. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 193-700:** Non-Xerox Toner (Custom Toner Mode)

Initial Actions

- Check the Print Cartridge life using CentreWare IS.
- Cycle printer power.
- If problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack References
<ul style="list-style-type: none"> ■ Print Cartridge (Y/M/C/K), PL5.1.17-20 ■ MCU Board, PL9.2.13 ■ CRUM Harness, PL10.1.9 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Print Cartridge(s) for correct installation. 2. Is the Print Cartridge(s) correctly installed?	Go to step 3.	Reseat the Print Cartridge(s) (page 8-11). Go to step 2.
2	Does the error still occur when the printer is turned On?	Go to step 4.	Complete.
3	Is the Print Cartridge a Xerox Print Cartridge?	Go to step 5.	Install a Xerox Print Cartridge.
4	1. Check the CRUM Connector for correct installation. 2. Is the connector securely connected?	Go to step 5.	Reseat the CRUM Connector (page 8-56). Go to step 5.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	1. Check the wiring harness connector(s) between the CRUM Connector and the MCU Board. <ul style="list-style-type: none"> ■ Yellow: P/J31 and P/J311 ■ Magenta: P/J31 and P/J312 ■ Cyan: P/J31 and P/J313 ■ Black: P/J31 and P/J314 2. Is the connector(s) securely connected?	Go to step 6.	Reconnect the connector(s). Go to step 6.
6	Check the CRUM Harness for continuity. <ol style="list-style-type: none"> 1. Disconnect the wiring harnesses from the Connector CRUM and MCU Board. <ul style="list-style-type: none"> ■ Yellow: P/J31 and P/J311 ■ Magenta: P/J31 and P/J312 ■ Cyan: P/J31 and P/J313 ■ Black: P/J31 and P/J314 2. Check continuity between P/J connectors: <ul style="list-style-type: none"> ■ Yellow: P/J31 <=> P/J311 ■ Magenta: P/J31 <=> P/J312 ■ Cyan: P/J31 <=> P/J313 ■ Black: P/J31 <=> P/J314 	Go to step 7.	Replace the CRUM Harness.
7	Check the CRUM Connector for damages. Is the CRUM Connector damaged?	Replace the CRUM Connector (page 8-56).	Go to step 8.
8	1. Replace the CRUM Connector (page 8-56). 2. Does the error still occur when the printer is turned On?	Go to step 9.	Complete.
9	1. Replace the Print Cartridge (page 8-11). 2. Does the error still occur?	Replace the MCU Board (page 8-88).	Complete.

Insert Transfer Unit

The printer does not detect the Transfer Unit. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 094-910:** Insert Transfer Unit (IOT DTB Detached)

Initial Actions

- Remove and reseal the Transfer Unit.
- Cycle printer power.
- If the problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Transfer Unit, PL4.1.1 ■ MCU Board, PL9.1.20 ■ Front Cover Harness, PL1.2.11 ■ Right Side Harness, PL10.1.15 	<ul style="list-style-type: none"> ■ “Map 1 - Electrical and Drive” on page 10-10 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Xerographic” on page 10-34

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Is the Transfer Unit installed correctly?	Go to step 2.	Reseat the Transfer Unit (page 8-9).
2	Does the error still occur?	Go to step 3.	Complete.
3	1. Check the wiring harness connectors P/J27, P/J272, and P/J2721 between the MCU Board and the Transfer Unit. 2. Are the connectors securely connected?	Go to step 4.	Reconnect the connectors.
4	Check the Right Side Harness for continuity. 1. Disconnect P/J27 from the MCU Board. 2. Disconnect P/J272 from the Front Cover Harness. 3. Check continuity between P/J27 <=> P/J272.	Go to step 5.	Replace the Right Side Harness.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	Check the Front Cover Harness for continuity. 1. Disconnect P/J272 from the Right Side Harness. 2. Disconnect P/J2721 from the Transfer Unit. 3. Check continuity between P/J272 <=> P/J2721.	Go to step 6.	Replace the Front Cover Harness.
6	1. Replace the Transfer Unit (page 8-9). 2. Does the error still occur when the printer is turned On?	Replace the MCU Board (page 8-88).	Complete.

Transfer Unit CRUM Error

The Transfer Unit CRUM ID error is detected. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 094-330:** Transfer CRUM Error (IOT CRUM ID Error)

Initial Actions

- Ensure the Transfer Unit is installed correctly.
- Cycle printer power.
- If problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Transfer Unit, PL4.1.1 ■ MCU Board, PL9.2.13 	<ul style="list-style-type: none"> ■ “Map 1 - Electrical and Drive” on page 10-10 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Xerographic” on page 10-34

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Transfer Unit for correct installation. 2. Is the Transfer Unit correctly installed?	Go to step 3.	Reseat the Transfer Unit (page 8-9). Go to step 2.
2	Does the error still occur when the printer is turned On?	Go to step 3.	Complete.
3	1. Replace the Transfer Unit (page 8-9). 2. Does the error still occur when the printer is turned On?	Replace the MCU Board (page 8-88).	Complete.

Ready Transfer Unit Life

The Transfer Unit is near or has reached its end of life. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 094-422:** Ready Transfer Life (IOT DTB Life Pre Warning)

Initial Action

- Check the Transfer Unit life using CentreWare IS.
- Cycle printer power.
- If problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map Reference
<ul style="list-style-type: none"> ■ Transfer Unit, PL4.1.1 ■ MCU Board, PL9.2.13 	<ul style="list-style-type: none"> ■ “Map 1 - Electrical and Drive” on page 10-10 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Xerographic” on page 10-34

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Transfer Unit life using CentreWare IS. 2. Does the Level show 0%?	Replace the Transfer Unit (page 8-9).	Go to step 2.
2	Does the error still occur when the printer is turned On?	Replace the MCU Board (page 8-88).	Complete.

Replace Transfer Unit

The Transfer Unit has reached its end of life. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 094-911:** Replace Transfer Unit (IOT DTB Life Over)

Initial Actions

- Check the Transfer Unit life using CentreWare IS.
- Cycle printer power.
- If problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Transfer Unit, PL4.1.1 ■ MCU Board, PL9.2.13 	<ul style="list-style-type: none"> ■ “Map 1 - Electrical and Drive” on page 10-10 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Xerographic” on page 10-34

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Transfer Unit life using CentreWare IS. 2. Does the Level show 0%?	Replace the Transfer Unit (page 8-9).	Go to step 2.
2	Does the error still occur when the printer is turned On?	Replace the MCU Board (page 8-88).	Complete.

Tray and Paper Errors

Load Tray 1 (MPT) (Paper Mismatch)

The paper size mismatch is detected in Tray 1 (MPT). The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 024-958:** Load Tray 1 (MPT) (IOT Paper Mismatch)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map Reference
<ul style="list-style-type: none"> ■ Tray 1 (MPT) Feed Roll, PL3.1.10 ■ Feeder Unit, PL3.2.1 ■ Registration Sensor, PL3.2.30 ■ Registration Sensor Harness, PL3.2.37 ■ Size Switch, PL7.1.18 ■ MCU Board, PL9.2.13 ■ Right Side Harness, PL10.1.12 	<ul style="list-style-type: none"> ■ “Map 1 - Electrical and Drive” on page 10-10 ■ “Map 2 - Laser Unit and Feeder” on page 10-11 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Main Drive” on page 10-28 ■ “Feeder” on page 10-30

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the paper size. 2. Does the paper size meet specifications?	Go to step 2.	Replace the paper with the correct specifications.
2	1. Check the paper size setting. 2. Does the paper match with the settings on the printer Control Panel?	Go to step 4.	Correct the paper settings on the printer Control Panel. Go to step 3.
3	Does the error still occur when printing?	Go to step 4.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	<ol style="list-style-type: none"> 1. Perform the Registration Sensor test (page 4-43): Service Mode > Printer Diag > Engine Diag > Sensor Test > Regi Sensor. 2. Does the number on the Control Panel increase by 1 when the Actuator of the Registration Sensor is activated? 	Replace the MCU Board (page 8-88).	Go to step 5.
5	<ol style="list-style-type: none"> 1. Check the wiring harness connectors P/J23, P/J232, and P/J2322 between the MCU Board and the Registration Sensor. 2. Are the connectors securely connected? 	Go to step 6.	Reconnect the connectors.
6	<p>Check the Registration Sensor Harness for continuity.</p> <ol style="list-style-type: none"> 1. Disconnect P/J232 from the Right Side Harness. 2. Disconnect P/J2322 from the Registration Sensor. 3. Check continuity between P/J232 <=> P/J2322. 	Go to step 7.	Replace the Registration Sensor Harness.
7	<p>Check the Right Side Harness for continuity.</p> <ol style="list-style-type: none"> 1. Disconnect P/J23 from the MCU Board. 2. Disconnect P/J232 from the Registration Sensor Harness. 3. Check continuity between P/J23 <=> P/J232. 	Go to step 8.	Replace the Right Side Harness.
8	<p>Check the Registration Sensor for continuity.</p> <ol style="list-style-type: none"> 1. Disconnect P/J23 from the MCU Board. 2. Is there +3.3 V across ground <=> J23-8 pin? 	Go to step 9.	Replace the MCU Board (page 8-88).
9	<p>Check the Registration Sensor signal.</p> <ol style="list-style-type: none"> 1. Measure the voltage across ground <=> J23-10 on the MCU Board. 2. Does the voltage change when the Actuator of the Registration Sensor is activated? 	Replace the MCU Board (page 8-88).	Replace the Feeder Unit (page 8-47). Go to step 10.

Load Tray 2 (Paper Size Mismatch)

The paper size mismatch is detected in Tray 2. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 024-910:** Load Tray 2 (IOT Paper Size Mismatch)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map Reference
<ul style="list-style-type: none"> ■ Tray 2, PL2.1.1 ■ Tray 2 Retard Roll, PL2.2.17 ■ Tray 2 Size Switch, PL7.1.18 ■ MCU Board, PL9.2.13 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the paper size. 2. Does the paper size meet the specifications?	Go to step 2.	Replace the paper with the correct specifications.
2	1. Check the paper size setting. 2. Does the paper match with the settings on the printer Control Panel?	Go to step 4.	Correct the paper settings on the printer Control Panel.
3	Does the error still occur when printing?	Go to step 4.	Complete.
4	1. Reseat the Tray Paper End Guide. 2. Does the error still occur?	Go to step 5.	Complete.
5	1. Replace Tray 2. 2. Does the error still occur when printing?	Go to step 6.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
6	1. Perform the Tray 2 Paper Size test (page 4-52): Service Mode > Printer Diag > Engine Diag > Sensor Test > Tray 2 Paper Size 2. Does Size Switch operate properly?	Go to step 7.	Replace the Tray 2 Size Switch Assembly (page 8-74).
7	1. Check the Rollers for operation. 2. Do the Rollers rotate smoothly?	Replace the MCU Board (page 8-88).	Replace the Retard Roller (page 8-15).

Load Tray 3 (Paper Mismatch)

The paper size mismatch is detected in Tray 3. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 024-911:** Load Tray 3 (IOT Paper Size Mismatch)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ MCU Board, PL9.2.13 ■ Tray 3 Size Switch, PL13.3.5 ■ Tray 3, PL13.4.1 ■ Tray 3 Retard Roll, PL13.4.10 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the paper size. 2. Does the paper size meet the specifications?	Go to step 2.	Replace the paper with the correct specifications.
2	1. Check the paper size setting. 2. Does the paper match with the settings on the printer Control Panel?	Go to step 4.	Correct the paper settings on the printer Control Panel.
3	Does the error still occur when printing?	Go to step 4.	Complete.
4	1. Reseat the Tray Paper End Guide. 2. Does the error still occur?	Go to step 5.	Complete.
5	1. Replace Tray 2. 2. Does the error still occur when printing?	Go to step 6.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
6	1. Perform the Tray 3 Paper Size test (page 4-53): Service Mode > Printer Diag > Engine Diag > Sensor Test > Tray 3 Paper Size 2. Does Size Switch operate properly?	Go to step 7.	Replace the Tray 3 Size Switch Assembly (page 8-129).
7	1. Check the Rollers for operation. 2. Do the Rollers rotate smoothly?	Replace the MCU Board (page 8-88).	Replace the Retard Roller (page 8-17).

Insert Tray 2

The Tray 2 Size Switch indicates that Tray 2 is not installed. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 024-946:** Insert Tray 2 (Tray Detached)
- **Chain Link 077-912:** Insert Tray 2 (Upper Cassette Detached)

Initial Actions

- Remove the tray and inspect the tray cavity to ensure that it is free of obstructions or debris.
- Reinstall the tray and cycle printer power.
- If the problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Tray 2 Size Switch, PL7.1.18 ■ MCU Board, PL9.2.13 ■ Right Side Harness, PL10.1.12 	<ul style="list-style-type: none"> ■ “Map 2 - Laser Unit and Feeder” on page 10-11 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Feeder” on page 10-30

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the tray for correct installation. 2. Is Tray 2 correctly installed?	Go to step 3.	Reseat Tray 2.
2	Does the error still occur when the printer is turned On?	Go to step 3.	Complete.
3	1. Perform the Tray 2 Paper Size test (page 4-52): Service Mode > Printer Diag > Engine Diag > Sensor Test > Tray2 Paper Size. 2. Does the switch operate properly?	Complete.	Go to step 4.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	Check the Right Side Harness for continuity. 1. Disconnect P/J23 from the MCU Board. 2. Disconnect P/J231 from the Size Switch Assembly. 3. Check continuity between P/J23 <=> P/J231.	Go to step 5.	Replace the Right Side Harness.
5	1. Replace the Tray 2 Size Switch (page 8-74). 2. Does the error still occur when the printer is turned On?	Replace the MCU Board (page 8-88).	Complete.

Insert Tray 3 (Tray 3 Missing)

The Tray 3 Size Switch indicates that Tray 3 is not installed. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 024-947:** Insert Tray 3 (Tray 3 Missing)
- **Chain Link 024-947:** Insert Tray 3 (Tray Detached)

Initial Actions

- Remove the tray and inspect the tray cavity to ensure that it is free of obstructions or debris.
- Reinstall the tray and cycle printer power.
- If the problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ MCU Board, PL9.2.13 ■ 550-Sheet Feeder, PL13.1.1 ■ Tray 3 Size Switch, PL13.3.5 ■ C2 Chute Harness, PL13.3.7 	<ul style="list-style-type: none"> ■ “Map 6 - Optional 550-Sheet Feeder” on page 10-15 ■ “Optional 550-Sheet Feeder Wiring Diagram” on page 10-45

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the tray for correct installation. 2. Is Tray 3 correctly installed?	Go to step 3.	Reseat tray 2.
2	Does the error still occur when the printer is turned On?	Go to step 3.	Complete.
3	1. Perform the Tray 3 Paper Size test (page 4-53): Service Mode > Printer Diag > Engine Diag > Sensor Test > Tray3 Paper Size. 2. Does the Switch operate properly?	Complete.	Go to step 4.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	Check the G2 Chute Harness for continuity. 1. Disconnect P/J421 from the Optional Feeder Board. 2. Disconnect P/J4211 from the Optional Size Switch Assembly. 3. Check continuity between P/J421 <=> P/J4211.	Go to step 5.	Replace the 550-Sheet Feeder (page 8-116).
5	1. Replace the Tray 3 Size Switch (page 8-129). 2. Does the error still occur?	Replace the MCU Board (page 8-88).	Complete.

Load Tray 1 (MPT) (No Suitable Paper)

The type or size of paper mismatched or Tray 1 (MPT) is empty. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 024-963:** Load Tray 1 (No Suitable Paper)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Tray 1 (MPT) Actuator, PL2.1.24 ■ Tray 1 (MPT) Feed Roll, PL3.1.10 ■ Feeder Unit, PL3.2.1 ■ MCU Board, PL9.2.13 ■ Right Side Harness, PL10.1.12 	<ul style="list-style-type: none"> ■ “Map 1 - Electrical and Drive” on page 10-10 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Tray 1 (MPT) and Registration” on page 10-26 ■ “Main Drive” on page 10-28 ■ “Feeder” on page 10-30

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the paper size. 2. Does the paper size meet specifications?	Go to step 2.	Replace the paper with the correct specifications.
2	1. Check the paper size setting. 2. Does the paper match with the settings on the printer Control Panel?	Go to step 3.	Correct the paper settings on the printer Control Panel. Go to step 3.
3	1. Check the paper type. <ul style="list-style-type: none"> ■ Paper in the tray ■ Paper type setting in the Control Panel ■ Paper type of the printing job 2. Are the paper types the same?	Go to step 4.	Correct the paper type setting on the printer Control Panel.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	<ol style="list-style-type: none"> 1. Check the MPT Actuator for operation. 2. Does the Actuator operate smoothly? 	Go to step 5.	Replace the Tray 1 (MPT) Actuator (page 8-39).
5	<ol style="list-style-type: none"> 1. Perform the Tray 1 (MPT) No Paper test (page 4-50): Service Mode > Printer Diag > Engine Diag > Sensor Test > MPT No Paper. 2. Does the number on the Control Panel increase by 1 when the Actuator is activated? 	Replace the MCU Board (page 8-88).	Go to step 6.
6	<ol style="list-style-type: none"> 1. Check the wiring harness connectors P/J27, P/J275, and P/J2751 between the Tray 1 No Paper Sensor and the MCU Board. 2. Are the connectors securely connected? 	Go to step 6.	Reconnect the connectors. Go to step 6.
7	<p>Check the Right Side Harness for continuity.</p> <ol style="list-style-type: none"> 1. Disconnect P/J27 and P/J275. 2. Check continuity between P/J27 <=> P/J275. 	Go to step 7.	Replace the Right Side Harness.
8	<p>Check the Tray 1 (MPT) NPP Harness for continuity.</p> <ol style="list-style-type: none"> 1. Disconnect P/J275 and P/J2751. 2. Check continuity between P/J275 <=> P/J2751. 	Go to step 8.	Replace the MCU Board (page 8-88).
9	<p>Check the Tray 1 No Paper Sensor for operation.</p> <ol style="list-style-type: none"> 1. Measure the voltage across ground <=> J27-B1 pin. 2. Does the voltage change when the Tray 1 No Paper Sensor is activated? 	Replace the MCU Board (page 8-88).	Replace the Tray 1 No Paper Sensor (page 8-44).

Load Tray 2 (No Suitable Paper)

The type or size of paper mismatched or Tray 2 is empty. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 024-959:** Load Tray 2 (No Suitable Paper)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Tray 2, PL2.1.24 ■ Feeder Unit, PL3.2.1 ■ Tray 2 No Paper Sensor, PL3.2.30 ■ Registration Sensor Harness, PL3.2.37 ■ No Paper Actuator, PL3.2.49 ■ MCU Board, PL9.2.13 ■ Right Side Harness, PL10.1.12 	<ul style="list-style-type: none"> ■ “Map 1 - Electrical and Drive” on page 10-10 ■ “Map 2 - Laser Unit and Feeder” on page 10-11 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Feeder” on page 10-30 ■ “Tray 1 (MPT) and Registration” on page 10-26

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the paper size. 2. Does the paper size meet specifications?	Go to step 2.	Replace the paper with the correct specifications.
2	1. Check the paper size setting. 2. Does the paper match with the settings on the printer Control Panel?	Go to step 3.	Correct the paper settings on the printer Control Panel. Go to step 3.
3	1. Check the paper type. <ul style="list-style-type: none"> ■ Paper in the tray ■ Paper type setting in the Control Panel ■ Paper type of the printing job 2. Are these paper types the same?	Go to step 4.	Correct the paper type setting on the printer Control Panel.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	1. Reseat Tray 2. 2. Does the error still occur when printing?	Go to step 5.	Complete.
5	1. Check the No Paper Actuator. 2. Does the Actuator operate smoothly?	Go to step 6.	Replace the Feeder Unit (page 8-47).
6	1. Perform the Tray 2 No Paper test (page 4-51): Service Mode > Printer Diag > Engine Diag > Sensor Test > Tray 2 No Paper . 2. Does the number on the Control Panel increase by 1 every time the Actuator is activated?	Replace the MCU Board (page 8-88).	Go to step 7.
7	1. Check the wiring harness connectors P/J23, P/J232, and P/J2321 between the No Paper Sensor and the MCU Board. 2. Are the connectors securely connected?	Go to step 8.	Reconnect the connectors.
8	Check the Right Side Harness for continuity. 1. Disconnect P/J23 from the MCU Board. 2. Disconnect P/J232 from the Registration Sensor Harness. 3. Check continuity between P/J23 <=> P/J232.	Go to step 9.	Replace the Right Side Harness.
9	Check the Registration Sensor Harness for continuity. 1. Disconnect P/J232 from the Right Side Harness. 2. Disconnect P/J2321 from the No Paper Sensor. 3. Check continuity between P/J232 <=> P/J2321.	Go to step 10.	Replace the Registration Sensor Harness.
10	Check the No Paper Sensor signal. 1. Disconnect P/J23 from the MCU Board. 2. Is there +3.3 V across ground <=> J23-5 pin on the MCU Board?	Go to step 11.	Replace the MCU Board (page 8-88).
11	Check the No Paper Sensor for operation. 1. Measure the voltage across ground <=> J23-7 on the MCU Board. 2. Does the voltage change when the No Paper Sensor is activated?	Replace the MCU Board (page 8-88).	Replace the No Paper Sensor (page 8-44).

Load Tray 3 (No Suitable Paper)

The type or size of paper mismatched or Tray 3 is empty. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 024-960:** Load Tray 3 (No Suitable Paper)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Feeder Unit, PL3.2.1 ■ Registration Sensor, PL3.2.30 ■ Registration Sensor Harness, PL3.2.37 ■ No Paper Actuator, PL3.2.49 ■ MCU Board, PL9.2.13 ■ Right Side Harness, PL10.1.12 ■ 550-Sheet Feeder, PL13.1.1 ■ Tray 3 Feeder, PL13.2.8 ■ Tray 3 Feeder Harness, PL13.3.3 ■ Tray 3, PL13.4.1 	<ul style="list-style-type: none"> ■ “Map 1 - Electrical and Drive” on page 10-10 ■ “Map 2 - Laser Unit and Feeder” on page 10-11 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Feeder” on page 10-30 ■ “Tray 1 (MPT) and Registration” on page 10-26 ■ “Optional 550-Sheet Feeder Wiring Diagram” on page 10-45

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the paper size. 2. Does the paper size meet specifications?	Go to step 2.	Replace the paper with the correct specifications.
2	1. Check the paper size setting. 2. Does the paper match with the settings in the Control Panel?	Go to step 3.	Correct the paper settings in the Control Panel. Go to step 3.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
3	1. Check the paper type. <ul style="list-style-type: none"> ■ Paper in the tray ■ Paper type setting on the printer Control Panel ■ Paper type of the printing job 2. Are the paper types the same?	Go to step 4.	Correct the paper type setting on the printer Control Panel.
4	1. Reseat Tray 3. 2. Does the error still occur when printing?	Go to step 5.	Complete.
5	1. Check the No Paper Actuator. 2. Does the Actuator operate smoothly?	Go to step 6.	Replace the Tray 3 Feeder (page 8-127).
6	1. Perform the Tray 3 No Paper test (page 4-49): Service Mode > Printer Diag > Engine Diag > Sensor Test > Tray 3 No Paper . 2. Does the number on the Control Panel increase by 1 every time the Actuator is activated?	Replace the MCU Board (page 8-88).	Go to step 7.
7	1. Check the wiring harness connectors P/J421, P/J4212, and P/J42121 between the No Paper Sensor and the Tray 3 Feeder Board. 2. Are the connectors securely connected?	Go to step 8.	Reconnect the connectors.
8	Check the No Paper Sensor signal. <ol style="list-style-type: none"> 1. Disconnect P/J421 from the Optional Feeder Board. 2. Is there +3.3 V across ground <=> J421-3 pin? 	Go to step 9.	Go to step 10.
9	Check the No Paper Sensor for operation. <ol style="list-style-type: none"> 1. Measure the voltage across ground <=> J421-5 pin on the Optional Feeder Board. 2. Does the voltage change when the No Paper Sensor is activated? 	Complete.	Replace the MCU Board (page 8-88).
10	1. Check the wiring harness connectors P/J419, P/J273, and P/J27 between the Optional Feeder Board and the MCU Board. 2. Are the connectors securely connected?	Go to step 11.	Reconnect the connectors.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
11	Check the Registration Sensor Harness for continuity. 1. Disconnect P/J273 from the Feeder Unit Harness. 2. Disconnect P/J27 from the MCU Board. 3. Check continuity between P/J273 <=> P/J27.	Go to step 12.	Replace the Right Side Harness.
12	Check the Optional Feeder Board signal. 1. Disconnect P/J27 from the MCU Board. 2. Is there +3.3 V across ground <=> J27-B7 pin on the MCU Board?	Replace the 550-Sheet Feeder (page 8-116).	Replace the MCU Board (page 8-88).

Multiple Feed

Multiple sheets of paper are fed concurrently. The following troubleshooting procedure applies to this error.

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Retard Roll (Separator), PL2.2.7 ■ MPT Feed Roll, PL3.1.10 ■ Feeder Unit, PL3.2.1 ■ Metal Regi Roll, PL3.2.6 ■ Rubber Regi Roll, PL3.2.7 ■ Turn Roll, PL3.2.32 ■ Feed Roll, PL3.2.53 ■ Retard Roll, PL13.2.10 ■ Retard Roll (Nudger), PL13.4.10 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the paper feeding. 2. Does multiple feed occur?	Go to step 2.	Go to step 3.
2	1. Check the paper. Replace the paper. 2. Does multiple feed still occur?	Replace the following parts: <ul style="list-style-type: none"> ■ MPT Feed Roller (page 8-13) ■ Tray 2 Feed Roller (page 8-14) ■ Tray 3 Feed Roller (page 8-16) ■ Tray 2 Retard Roller (page 8-15) ■ Tray 3 Retard Roller (page 8-17) 	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
3	1. Check the paper. Replace the paper. 2. Does multiple feed still occur?	Replace the Feeder Unit. ■ Tray 1/2 (page 8-47) Tray 3 (page 8-127)	Complete.

Options Errors

550 Feeder Error (Optional 550-Sheet Feeder)

The Optional 550-Sheet Feeder has failed. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 072-215:** 550 Feeder Error (IOT Option Feeder Failure)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ MCU Board, PL9.2.13 ■ Right Side Harness, PL10.1.12 ■ Optional 550-Sheet Feeder, PL13.1.1 ■ Feeder Unit Harness, PL13.3.3 ■ Tray 3 Feeder Board, PL13.3.6 	<ul style="list-style-type: none"> ■ “Map 2 - Laser Unit and Feeder” on page 10-11 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Map 6 - Optional 550-Sheet Feeder” on page 10-15 ■ “Optional 550-Sheet Feeder Wiring Diagram” on page 10-45

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Optional 550-Sheet Feeder for correct installation. 2. Is the Optional 550-Sheet Feeder correctly installed?	Go to step 3.	Reseat the Optional 550-Sheet Feeder (page 8-116). Go to step 2.
2	Does the error still occur when the printer is turned On?	Go to step 3.	Complete.
3	1. Check the wiring harness connectors P/J27, P/J273, and P/J419 between the MCU Board and the Tray 3 Feeder Board. 2. Are the connectors securely connected?	Go to step 5.	Reconnect the connectors. Go to step 4.
4	Does the error still occur when the printer is turned On?	Go to step 5.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	Check the Feeder Unit Harness for continuity. 1. Disconnect P/J419 from the Tray 3 Feeder Board. 2. Disconnect P/J273 from the Right Side Harness. 3. Check continuity between P/J419 <=> P/J273.	Go to step 6.	Replace the Feeder Unit Harness.
6	Check the Right Side Harness for continuity. 1. Disconnect P/J27 from the MCU Board. 2. Disconnect P/J273 from the Feeder Unit Harness. 3. Check continuity between P/J27 <=> P/J273.	To go step 7.	Replace the Right Side Harness.
7	1. Replace the Optional 550-Sheet Feeder (page 8-116). 2. Does the error still occur when the printer is turned On?	Replace the MCU Board (page 8-88).	Complete.

Motor Error (Optional 550-Sheet Feeder)

The Optional 550-Sheet Feeder Motor has failed. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 072-216:** Option Feeder Motor Failure

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ MCU Board, PL9.2.13 ■ Right Side Harness, PL10.1.12 ■ 550-Sheet Feeder, PL13.1.1 ■ Feed Roll, PL13.2.10 ■ Optional Feeder Board, PL13.3.6 ■ Optional Feeder Drive Assembly PL13.3.10 ■ Retard Roll, PL13.4.10 	<ul style="list-style-type: none"> ■ “Map 2 - Laser Unit and Feeder” on page 10-11 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Map 6 - Optional 550-Sheet Feeder” on page 10-15 ■ “Optional 550-Sheet Feeder Wiring Diagram” on page 10-45

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the paper tray for correct installation. 2. Is the tray correctly installed?	Go to step 3.	Reseat the paper tray. Go to step 2.
2	Does the error still occur when the printer is turned On?	Go to step 3.	Complete.
3	1. Check the Feed Rollers and Retard Rollers for rotation. 2. Do the Rollers rotate smoothly?	Go to step 4.	Replace the defective Roller(s).
4	1. Check the wiring harness connectors P/J422, P/J4221, and P/J4222 between the Tray 3 Feeder Board and the Tray 3 Feeder Drive. 2. Are the connectors securely connected?	Go to step 5.	Reconnect the connectors. Go to step 5.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	<ol style="list-style-type: none"> 1. Perform the Tray 3 Feed Motor test (page 4-59): Service Mode > Printer Diag > Engine Diag > Motor Test > Tray 3 Feed Motor. Close the Front Door while running the Tray 3 Feed Motor. 2. Does the Tray 3 Motor operate properly? 	Replace the MCU Board (page 8-88).	Go to step 6.
6	<ol style="list-style-type: none"> 1. Check the Tray 3 Feeder Unit for correct installation. 2. Is the Tray 3 Feeder Assembly correctly installed? 	Go to step 7.	Reseat the Tray 3 Feeder Unit (page 8-127). Go to step 7.
7	Does the error still occur when the printer is turned On?	Go to step 8.	Complete.
8	<ol style="list-style-type: none"> 1. Check the wiring harness connectors P/J422 and P/J4222 between the Optional Feeder Board and the Optional Feeder Drive Assembly. 2. Are the connectors securely connected? 	Go to step 9.	Reconnect the connectors. Go to step 9.
9	<ol style="list-style-type: none"> 1. Check the wiring harness connectors P/J419, P/J273, and P/J27 between the Optional Feeder Board and the MCU Board. 2. Are the connectors securely connected? 	Go to step 10.	Reconnect the connectors. Go to step 10.
10	<p>Check the Right Side Harness for continuity.</p> <ol style="list-style-type: none"> 1. Disconnect P/J273 from the Feeder Unit harness. 2. Disconnect P/J27 from the MCU Board. 3. Check continuity between P/J273 <=> P/J27. 	Go to step 11.	Replace the Right Side Harness.
11	<p>Check the Optional Feeder Board signal.</p> <ol style="list-style-type: none"> 1. Disconnect P/J27 from the MCU Board. 2. Is there +24 V across ground <=> J27-B4/J27-B5 pin on the MCU Board when the Interlock Switch is activated? 	Replace the 550-Sheet Feeder (page 8-116).	Replace the MCU Board (page 8-88).

Duplexer Error

The Duplexer Unit has failed. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 077-215:** Duplexer Error

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Front Cover Harness, PL1.2.13 ■ MCU Board, PL9.2.13 ■ Right Side Harness, PL10.1.12 ■ Duplex Unit, PL12.1.1 ■ Duplex Unit Harness, PL12.1.18 	<ul style="list-style-type: none"> ■ “Map 1 - Electrical and Drive” on page 10-10 ■ “Map 2 - Laser Unit and Feeder” on page 10-11 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Map 5 - Duplex Unit” on page 10-14 ■ “Duplex Wiring Diagram” on page 10-48

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Duplex Unit for correct installation. 2. Is the Duplex correctly installed?	Go to step 3.	Reseat the Duplex Unit (page 8-115). Go to step 2.
2	Does the error still occur when the printer turned On?	Go to step 3.	Complete.
3	1. Check the wiring harness connectors P/J27, P/J272, P/J2720, and P/J428 between the Duplex Board and the MCU Board. 2. Are the connectors securely connected?	Go to step 5.	Reconnect the connectors. Go to step 4.
4	Does the error still occur when the printer is turned On?	Go to step 5.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	Check the Duplex Unit Harness for continuity. 1. Disconnect P/J428 from the Duplex Board. 2. Disconnect P/J2720 from the Front Cover Harness. 3. Check continuity between P/J428 <=> P/J2720.	Go to step 6.	Replace the Duplex Unit (page 8-115).
6	Check the Front Cover Harness for continuity. 1. Disconnect P/J272 from the Right Side Harness. 2. Disconnect P/J2720 from the Duplex Unit Harness. 3. Check continuity between P/J272 <=> P/J2720.	Go to step 7.	Replace the Front Cover Harness.
7	Check the Right Side Harness for continuity. 1. Disconnect P/J272 from the Front Cover Harness. 2. Disconnect P/J27 from the MCU Board. 3. Check continuity between P/J272 <=> P/J27.	Go to step 8.	Replace the Right Side Harness.
8	1. Replace the Duplex Unit (page 8-115). 2. Does the error still occur when the printer is turned On?	Replace the MCU Board (page 8-88).	Complete.

Configuration, Memory, and Firmware Errors

Incorrect PagePack Password

Flash error has occurred. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 016-220:** Too Many Incorrect Numeric Passwords (PagePack Password Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Image Processor Board, PL9.1.20 	

Note

Be sure to move the NVRAM chip from the old I/P Board to the new I/P Board. Carefully check the correct orientation of the NVRAM ROM when installing the NVRAM ROM.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the password. 2. Did the user enter the correct password for PagePack?	Go to step 2.	Re-enter the correct password for PagePack.
2	Does the error still occur when the printer is turned On?	Replace the Image Processor Board (page 8-90).	Complete.

Flash Error

Flash error has occurred. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 016-500:** Erase Flash Error (Download Delete Error)
- **Chain Link 016-501:** Write Flash Error (Download Write Error)
- **Chain Link 016-502:** Write Flash Error (Download Verify Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Image Processor Board, PL9.1.20 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Image Processor Board for correct installation. Reseat the Image Processor Board (page 8-90). 2. Does the error still occur when the printer is turned On?	Replace the Image Processor Board (page 8-90).	Complete.

Control Panel Language Set Unsupported

The Control Panel does not support the language. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 016-610:** Panel Language Set unsupported

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU Board, PL9.2.13	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Turn the printer power Off and back On. 2. Does the error still occur?	Replace the MCU Board (page 8-88).	Complete.

Engine Model Mismatch

Printer Engine model does not match. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 016-611:** Print Engine Model Mismatch (IOT Model Mismatch)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ MCU Board, PL9.2.13 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Turn the printer power Off and back On. 2. Does the error still occur?	Replace the MCU Board (page 8-88).	Complete.

Out of Memory/Hard Drive Full

The printer memory is full and cannot continue to print. Print job requires additional memory. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 016-718:** Out of memory
- **Chain Link 016-982:** Hard Drive Full (Disk Full)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Image Processor Board, PL9.1.20 ■ Memory Card (Option), PL9.1.22 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the required memory for the print job. 2. Print a small size file (example as a Windows test print). 3. Does the error still occur?	Go to step 2.	Add memory card or separate the print job.
2	1. Reseat the memory card (page 8-94). 2. Does the error still occur?	Go to step 3.	Complete.
3	1. Check the memory card capacity. Print the printer Configuration Page: System > Information Pages > Configuration. 2. Does the memory meet the print job requirements?	Go to step 4.	Replace the Image Processor Board (page 8-90).
4	1. Replace the memory card (page 8-94). 2. Does the error still occur?	Replace the Image Processor Board (page 8-90).	Complete.

PDL Error

PDL Error has occurred. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 016-720:** PDL Error

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Image Processor Board, PL9.1.20 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the print job. 1. Print a small print job (example as a Windows test print). 2. Does the error still occur?	Go to step 2.	Complete.
2	1. Reseat the Image Processor Board (page 8-90). 2. Does the error still occur?	Replace the Image Processor Board (page 8-90).	Complete.

Format Error

The format is invalid. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 016-737:** Format Error (Download Format Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Image Processor Board, PL9.1.20 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the printer firmware. 2. Does the firmware have the correct version?	Go to step 2.	Update the firmware (“Firmware Update” on page A-3).
2	1. Check the Image Processor Board for correct installation. Reseat the Image Processor Board (page 8-90). 2. Does the error still occur?	Replace the Image Processor Board (page 8-90).	Complete.

MPC Error

MPC download has failed to start MPC download. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 016-738:** MPC Error (Download Initial Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Image Processor Board, PL9.1.20 ■ Multi-Protocol Network Card (Option), PL9.1.23 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Multi-Protocol Network Card (MPC) for correct installation. 2. Is the MPC installed on the Image Processor Board?	Go to step 2.	Install the MPC (page 8-95). Go to step 2.
2	1. Check the firmware for the MPC. 2. Does the firmware have the correct version?	Go to step 3.	Update the firmware ("Firmware Update" on page A-3).
3	1. Check the MPC for correct installation. Reseat the MPC (page 8-95). 2. Does the error still occur after the firmware has been updated?	Go to step 4.	Complete.
4	1. Check the Image Processor Board for correct installation. Reseat the Image Processor Board (page 8-90). 2. Does the error still occur after the firmware has been updated?	Go to step 5.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	1. Replace the MPC (page 8-95). 2. Does the error still occur when the printer is turned On?	Replace the Image Processor Board (page 8-90).	Complete.

Reseat MPC Error

MPC download was attempted without MPC installed. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 016-739:** Reseat MPC Error (Download Insertion Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Image Processor Board, PL9.1.20 ■ Multi-Protocol Network Card (Option), PL9.1.23 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Multi-Protocol Network Card (MPC) for correct installation. 2. Is the MPC installed on the Image Processor Board?	Go to step 2.	Install the MPC (page 8-95). Go to step 2.
2	1. Check the firmware for the MPC. 2. Does the firmware have the correct version?	Go to step 3.	Update the firmware ("Firmware Update" on page A-3).
3	1. Check the MPC for correct installation. Reseat the MPC (page 8-95). 2. Does the error still occur after the firmware has been updated?	Go to step 4.	Complete.
4	1. Check the Image Processor Board for correct installation. Reseat the Image Processor Board (page 8-90). 2. Does the error still occur after the firmware has been updated?	Go to step 5.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	1. Replace the MPC (page 8-95). 2. Does the error still occur when the printer is turned On?	Replace the Image Processor Board (page 8-90).	Complete.

MPC Communication Error

Communication error has occurred between the MPC and the Controller during download. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 016-740:** MPC Comm. Error (Download Comm Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Image Processor Board, PL9.1.20 ■ Multi-Protocol Network Card (Option), PL9.1.23 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Multi-Protocol Network Card (MPC) for correct installation. 2. Is the MPC installed on the Image Processor Board?	Go to step 2.	Install the MPC (page 8-95). Go to step 2.
2	1. Check the printer firmware. 2. Does the firmware have the correct version?	Go to step 3.	Update the firmware ("Firmware Update" on page A-3).
3	1. Check the MPC for correct installation. Reseat the MPC (page 8-95). 2. Does the error still occur after the firmware has been updated?	Go to step 4.	Complete.
4	1. Check the Image Processor Board for correct installation. Reseat the Image Processor Board (page 8-90). 2. Does the error still occur after the firmware has been updated?	Go to step 5.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	1. Replace the MPC (page 8-95). 2. Does the error still occur when the printer is turned On?	Replace the Image Processor Board (page 8-90).	Complete.

Protection Error

File was downloaded to the unavailable (protected) area of the Flash ROM. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 016-741:** Protection Error (Download Protection Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Image Processor Board, PL9.1.20 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the printer firmware. 2. Does the firmware have the correct version?	Go to step 2.	Update the firmware ("Firmware Update" on page A-3).
2	1. Check the Image Processor Board for correct installation. Reseat the Image Processor Board (page 8-90). 2. Does the error still occur?	Replace the Image Processor Board (page 8-90).	Complete.

Invalid ID

The ID of the downloaded file is invalid. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 016-742:** Invalid ID Error (Download ID Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Image Processor Board, PL9.1.20	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the printer firmware. 2. Does the firmware have the correct version?	Go to step 2.	Update the firmware (“Firmware Update” on page A-3).
2	1. Check the Image Processor Board for correct installation. Reseat the Image Processor Board (page 8-90). 2. Does the error still occur?	Replace the Image Processor Board (page 8-90).	Complete.

Range Check Error

An error occurred while writing to Flash memory. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 016-743:** Range Check Error (Download Range Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Image Processor Board, PL9.1.20 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the printer firmware. 2. Does the firmware have the correct version?	Go to step 2.	Update the firmware (refer to “Firmware Update” on page A-3).
2	1. Check the Image Processor Board for correct installation. Reseat the Image Processor Board (page 8-90). 2. Does the error still occur?	Replace the Image Processor Board (page 8-90).	Complete.

Check Sum Error

Checksum is invalid. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 016-744:** Check Sum Error (Download Check Sum Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Image Processor Board, PL9.1.20 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the printer firmware. 2. Does the firmware have the correct version?	Go to step 2.	Update the firmware (refer to “Firmware Update” on page A-3).
2	1. Check the Image Processor Board for correct installation. Reseat the Image Processor Board (page 8-90). 2. Does the error still occur?	Replace the Image Processor Board (page 8-90).	Complete.

Header Error

The file header information is invalid. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 016-745:** Header Error (Download Header Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Image Processor Board, PL9.1.20 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the printer firmware. 2. Does the firmware have the correct version?	Go to step 2.	Update the firmware (refer to “Firmware Update” on page A-3).
2	1. Check the Image Processor Board for correct installation. Reseat the Image Processor Board (page 8-90). 2. Does the error still occur?	Replace the Image Processor Board (page 8-90).	Complete.

Invalid Job

The controller has detected incorrect data for the printing condition. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 016-799:** Invalid Job (Job Environment Violation)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Image Processor Board, PL9.1.20	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the paper size. 2. Does the paper meet the specifications?	Go to step 2.	Replace the paper.
2	1. Check the paper size setup on the Control Panel: System > Tray Settings > Tray 1/Tray 2 > Paper Size . 2. Does the paper size in use match the settings on the printer Control Panel?	Complete.	Go to step 3.
3	1. Set the paper size settings in the Control Panel to match the paper in the tray. 2. Does the error still occur when printing?	Replace the Image Processor Board (page 8-90).	Complete.

MPC Error

Multi-Protocol Network Card error has occurred. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 018-310:** MPC Error (NIC ESS Communication) - Communication has failed between the MPC and the Controller.
- **Chain Link 018-311:** MPC Error (NIC Flash ROM Boot Module Checksum Error) – Checksum error in MPC Flash ROM.
- **Chain Link 018-312:** MPC Error (NIC RAM R/W Test Error) – The MPC RAM R/W check has detected an error.
- **Chain Link 018-313:** MPC Error (NIC Flash ROM Application Module Checksum Error) – Checksum error occurred in the MPC Flash ROM.
- **Chain Link 018-314:** MPC Error (NIC MAC Address Checksum Error) – Checksum error occurred in the MPC MAC Address.
- **Chain Link 018-315:** MPC Error (NIC Ethernet BIST Parity/RAM R/W Error) – The MPC Ethernet BIST parity RAM R/W has detected an error.
- **Chain Link 018-316:** MPC Error (NIC Internal Loopback Error) – The Loopback test has detected an error.
- **Chain Link 018-317:** MPC Error (NIC Fatal Error) – MPC check has detected an error.
- **Chain Link 018-319:** MPC Error (MPC OS Error) – MPC Network OS has detected an error.
- **Chain Link 018-320:** MPC Error (MPC VxWorks Error) – MPC VxWORKS has detected an error.
- **Chain Link 116-333:** MPC Error (PCI Option #0 Failure) – PCI option 0 error has occurred.

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Image Processor Board, PL9.1.20 ■ Multi-Protocol Network Card (Option), PL9.1.23 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Multi-Protocol Network Card (MPC) for correct installation. 2. Is the MPC correctly installed?	Go to step 2.	Reseat the MPC (page 8-95). Go to step 2.
2	Does the error still occur when the printer is turned On?	Go to step 3.	Complete.
3	1. Replace the Multi-Protocol Network Card (page 8-95). 2. Does the error still occur?	Replace the Image Processor Board (page 8-90).	Complete.

Network Error

Failure occurred on the Image Processor Board. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 116-350:** Network Error (On Board Network Communication Fail)
- **Chain Link 116-351:** Network Error (On Board Network Ethernet BIST Parity/RAM R/W Error)
- **Chain Link 116-352:** Network Error (On Board Network Internal Loopback Error)
- **Chain Link 116-355:** Network Error (On Board Network Fatal Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Image Processor Board, PL9.1.20	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Image Processor Board for correct installation. 2. Is the Image Processor Board correctly installed?	Go to step 2.	Reseat the Image Processor Board (page 8-90). Go to step 2.
2	Does the error still occur when the printer is turned On?	Replace the Image Processor Board (page 8-90).	Complete.

MCU Firmware Error

Firmware error has been detected. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 024-340:** MCU Firmware Error (IOT Firmware Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ MCU Board, PL9.2.13	■ “General Wiring Diagram” on page 10-23

Note

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

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Turn the printer power Off and back On. 2. Does the error still occur?	Go to step 2.	Complete.
2	1. Check the firmware version: System > Information Pages > Configuration . 2. Does the firmware have the correct version?	Go to step 3.	Update the firmware (“Firmware Update” on page A-3).
3	1. Reseat the MCU Board (page 8-88). 2. Does the error still occur?	Go to step 4.	Complete.
4	1. Replace the MCU Board (page 8-88). 2. Does the error still occur when the printer is turned On?	Refer to “Electrical Noise” on page 4-108, Troubleshooting chapter.	Complete.

Download Mode

Error has occurred while updating MCU firmware. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 024-360:** Download Mode, Send FW Data (MCU Download Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ MCU Board, PL9.2.13 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the firmware version: System > Information Pages > Configuration . 2. Does the firmware have the correct version?	Go to step 2.	Update the firmware ("Firmware Update" on page A-3).
2	1. Check the MCU Board for correct installation. Reseat the MCU Board (page 8-88). 2. Does the error still occur?	Replace the MCU Board (page 8-88).	Complete.

MCU Communication Error

Communication has failed between the Engine and the Controller. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 024-371:** MCU Comm. Error (IOT-ESS Communication Fail)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Image Processor Board, PL9.1.20 ■ MCU Board, PL9.2.13 	<ul style="list-style-type: none"> ■ “General Wiring Diagram” on page 10-23

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Reseat the Image Processor Board (page 8-90) (and the MCU Board (page 8-88)). 2. Does the error still occur?	Go to step 2.	Complete.
2	1. Replace the Image Processor Board (page 8-90). 2. Does the error still occur?	Replace the MCU Board (page 8-88).	Complete.

MCU NVRAM Error

Engine NVRAM is corrupted. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 041-340:** MCU NVRAM Error (IOT NVRAM Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Transfer Unit, PL4.1.1 ■ HVPS, PL5.2.15 ■ Fuser, PL6.1.10 ■ EEPROM Board, PL9.2.1 ■ MCU Board, PL9.2.13 ■ Right Side Harness, PL10.1.12 	<ul style="list-style-type: none"> ■ “Map 1 - Electrical and Drive” on page 10-10 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “High Voltage” on page 10-36 ■ “Xerographic” on page 10-34

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the error on the Control Menu display. 2. Is the “ADDR:38**” error displayed?	Go to step 2.	Go to step 3.
2	1. Reseat the EEPROM Board (page 8-81). 2. Does the error still occur when the printer is turned On?	Replace the EEPROM Board (page 8-81).	Complete.
3	1. Check the error on the Control Menu display. 2. Is the “ADDR:3C**” error displayed?	Go to step 4.	Go to step 5.
4	1. Reseat the Fuser (page 8-12). 2. Does the error still occur when the printer is turned On?	Replace the Fuser (page 8-12).	Complete.
5	1. Check the error on the Control Menu display. 2. Is the “ADDR:3A**” error displayed?	Go to step 6.	Go to step 7.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
6	1. Reseat the Transfer Unit (page 8-9). 2. Does the error still occur when the printer is turned On?	Replace the Transfer Unit (page 8-9).	Complete.
7	1. Check the error on the Control Menu display. 2. Is the "ADDR:31**" error displayed?	Go to step 8.	Complete.
8	1. Reseat the HVPS (page 8-64). 2. Does the error still occur after the printer is turned On?	Replace the HVPS (page 8-64).	Complete.
9	1. Reseat the MCU Board (page 8-88). 2. Does the error still occur after the printer is turned On?	Replace the MCU Board (page 8-88).	Complete.

Fan Motor Error (Duplex Fan)

Error for the Duplex Fan Motor has occurred. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 042-313:** Fan Motor Error (IOT Fan Motor Failure)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Front Cover Harness, PL1.2.13 ■ MCU Board, PL9.2.13 ■ Right Side Harness, PL10.1.12 ■ Duplex Unit, PL12.1.1 ■ Duplex Harness, PL12.1.18 	<ul style="list-style-type: none"> ■ “Map 1 - Electrical and Drive” on page 10-10 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Map 5 - Duplex Unit” on page 10-14 ■ “DC Power Supply” on page 10-24 ■ “Duplex Wiring Diagram” on page 10-48

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Perform the Duplex Fan test (page 4-77): Service Mode > Printer Diag > Engine Diag > Motor Test > Duplex Fan. 2. Does the Motor operate properly?	Replace the MCU Board (page 8-88).	Go to step 2.
2	1. Check the Duplex Unit installation. Reseat the Duplex Unit (page 8-115). 2. Does the error still occur when the printer is turned On?	Go to step 3.	Complete.
3	1. Check the wiring harness connectors P/J27, P/J272, P/J2720, and P/J428 between the Duplex Board and the MCU Board. 2. Are the connectors securely connected?	Go to step 4.	Go to step 8.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	Check the Duplex Unit Harness for continuity. 1. Disconnect P/J428 from the Duplex Board. 2. Disconnect P/J2720 from the Front Cover Harness. 3. Check continuity between P/J2720 <=> P/J428.	Go to step 5.	Replace the Duplex Unit Harness.
5	Check the Front Cover Harness for continuity. 1. Disconnect P/J2720 and P/J272. 2. Check continuity between P/J2720 <=> P/J272.	Go to step 8.	Replace the Front Cover Harness.
6	Check the Right Side Harness for continuity. 1. Disconnect P/J272 from the Front Cover Harness. 2. Disconnect P/J27 from the MCU Board. 3. Check continuity between P/J27 and P/J272.	Go to step 7.	Replace the Right Side Harness.
7	1. Replace the Duplex Unit (page 8-115). 2. Does the error still occur?	Replace the MCU Board (page 8-88).	Complete.
8	1. Reconnect the wiring harness connectors. 2. Does the error still occur when the printer is turned On?	Go to step 4.	Complete.

Printer Too Hot

The printer is too hot. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 042-700:** Printer Too Hot (IOT Over Heat Stop)
- **Chain Link 142-700:** Printer Too Hot (IOT Over Heat Forced Half Speed)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Feeder Assembly, PL3.2.1 ■ MCU Board, PL9.2.13 ■ Humidity Harness, PL10.1.15 	<ul style="list-style-type: none"> ■ “Map 2 - Laser Unit and Feeder” on page 10-11 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Xerographic” on page 10-34

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the room temperature. 2. Is the room temperature over 32° C?	Adjust the room temperature to less than 32° C.	Go to step 2.
2	Did the user print large print jobs?	Go to step 6.	Go to step 3.
3	1. Check the MCU Board for correct installation. Reseat the MCU Board (page 8-88). 2. Does the error still occur when printing?	Go to step 4.	Complete.
4	Check the Humidity Harness for continuity. 1. Disconnect P/J26 from the MCU Board. 2. Disconnect P/J261 from the Humidity/Temperature Sensor. 3. Check continuity between P/J26 <=> P/J261.	Go to step 5.	Replace the Humidity Harness.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	1. Replace the MCU Board (page 8-88). 2. Does the error still occur when printing?	Replace the Feeder Assembly (page 8-47).	Complete.
6	Does the error still occur after the printer has cooled down for about five minutes?	Go to step 3.	Complete.

Main Motor Error

The Main Motor has failed. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 042-325:** Main Motor Error (IOT Motor Failure)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Transfer Unit, PL4.1.1 ■ Print Cartridge (K), PL5.1.17 ■ Fuser, PL6.1.10 ■ Main Drive, PL8.1.2 ■ MCU Board, PL9.2.13 ■ Right Side Harness, PL10.1.12 	<ul style="list-style-type: none"> ■ “Map 1 - Electrical and Drive” on page 10-10 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Main Drive” on page 10-28

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Transfer Unit, Fuser, and Black Print Cartridge for correct installation. 2. Are the parts correctly installed?	Go to step 3.	Reseat the Transfer Unit (page 8-9), Fuser (page 8-12), and Black Print Cartridge (page 8-11).
2	Does the error still occur when the printer is turned On?	Go to step 3.	Complete.
3	1. Check the wiring harness connectors P/J21 and P/J211 between the MCU Board and the Main Drive. 2. Are the connectors securely connected?	Go to step 5.	Reconnect the connectors. Go to step 4.
4	Does the error still occur when the printer is turned On?	Go to step 5.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	1. Perform the Main Motor test (page 4-54): Service Mode > Printer Diag > Engine Diag > Motor Test > Main Motor . During the test, close the Front Cover. 2. Does the Motor operate properly?	Replace the MCU Board (page 8-88).	Go to step 6.
6	1. Check the Main Drive Assembly for correct installation. 2. Is the Main Drive Assembly securely installed?	Go to step 7.	Reseat the Main Drive Assembly (page 8-75). Go to step 7.
7	Does the error still occur when the printer is turned On?	Go to step 8.	Complete.
8	Check the Right Side Harness for continuity. 1. Disconnect P/J21 from the MCU Board. 2. Disconnect P/J211 from the Main Drive Assembly. 3. Check continuity between P/J21 <=> P/J211.	Go to step 9.	Replace the Right Side Harness.
9	Check the Main Drive signal. 1. Disconnect P/J21 on the MCU Board. 2. Is there +24 V across ground <=> J21-2/J21-4 pin when the Interlock Switch is activated?	Replace the Main Drive Assembly (page 8-75).	Replace the MCU Board (page 8-88).

Sub Motor Error

The Sub Motor has failed. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 042-326:** Sub Motor Error (IOT Motor Failure)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack References
<ul style="list-style-type: none"> ■ Print Cartridge (C/M/Y/K), PL5.1-17-20 ■ Main Drive, PL8.1.2 ■ MCU Board, PL9.2.13 ■ Right Side Harness, PL10.1.12 	<ul style="list-style-type: none"> ■ “Map 1 - Electrical and Drive” on page 10-10 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Main Drive” on page 10-28

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Print Cartridges for correct installation. 2. Are the Print Cartridges correctly installed?	Go to step 3.	Reseat the Print Cartridges. Go to step 2.
2	Does the error still occur when the printer is turned On?	Go to step 3.	Complete.
3	1. Check the wiring harness connectors P/J22 and P/J221 between the MCU Board and the Main Drive. 2. Are the connectors securely connected?	Go to step 4.	Reconnect the connectors. Go to step 4.
4	1. Perform the Sub Motor test (page 4-55): Service Mode > Printer Diag > Engine Diag > Motor Test > Sub Motor . During the test, close the Front Cover. 2. Does the Motor operate properly?	Replace the MCU Board (page 8-88).	Go to step 5.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	1. Check the Main Drive for correct installation. 2. Is the Main Drive correctly installed?	Go to step 6.	Reseat the Main Drive (page 8-75). Go to step 6.
6	Does the error still occur when the printer is turned On?	Go to step 7.	Complete.
7	Check the Right Side Harness for continuity. 1. Disconnect P/J22 from the MCU Board. 2. Disconnect P/J221 from the Drive Assembly. 3. Check continuity between P/J22 <=> P/J221.	Go to step 8.	Replace the Right Side Harness.
8	Check the Main Drive signal. 1. Disconnect P/J22 from the MCU Board. 2. Is there +24 V across ground <=> J22-A2/J22-A4 pin when the Interlock Switch is activated?	Replace the Main Drive (page 8-75).	Replace the MCU Board (page 8-88).

Fan Motor Error (Main Fan)

Error for the Main Fan Motor has occurred. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 042-358:** Fan Motor Error (IOT Fan Motor Failure)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Main Fan, PL9.2.10 ■ MCU Board, PL9.2.13 ■ LVPS, PL9.2.14 ■ LVPS Harness, PL10.1.3 	<ul style="list-style-type: none"> ■ “Map 1 - Electrical and Drive” on page 10-10 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “DC Power Supply” on page 10-24

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Perform the Main Fan test (page 4-77): Service Mode > Printer Diag > Engine Diag > Motor Test > Fan . 2. Does the Motor operate properly?	Replace the MCU Board (page 8-88).	Go to step 2.
2	1. Check the Main Fan for correct installation. Reseat the Main Fan (page 8-84). 2. Does the error still occur when the printer is turned On?	Go to step 3.	Complete.
3	Check the LVPS Harness for continuity. <ol style="list-style-type: none"> 1. Disconnect P/J501 from the LVPS. 2. Disconnect P/J14 from the MCU Board. 3. Check continuity between P/J501 <=> P/J14. 	Go to step 4.	Replace the LVPS Harness.
4	1. Replace the Main Fan (page 8-84). 2. Does the error still occur when the printer is turned On?	Go to step 5.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	1. Replace the MCU Board (page 8-88). 2. Does the error still occur when the printer is turned On?	Replace the LVPS (page 8-83).	Complete.

Laser Error

An error was detected in the Laser Unit. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 061-370:** Laser Error (IOT ROS Failure)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Laser Unit, PL5.1.12 ■ MCU Board, PL9.2.13 	<ul style="list-style-type: none"> ■ “Map 2 - Laser Unit and Feeder” on page 10-11 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Laser Unit” on page 10-32

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Laser Unit for correct installation. 2. Is the Laser Unit correctly installed?	Go to step 3.	Reinstall the Laser Unit (page 8-52). Go to step 2.
2	Does the error still occur when the printer is turned On?	Go to step 3.	Complete.
3	1. Check the wiring harness connector P/J12 on the MCU Board. 2. Is the connector securely connected?	Go to step 5	Reconnect the connector. Go to step 4.
4	Does the error still occur when the printer is turned On?	Go to step 5.	Complete.
5	1. Check the MCU Board for correct installation. 2. Is the MCU Board correctly installed?	Go to step 7.	Reseat the MCU Board (page 8-88). Go to step 6.
6	Does the error still occur when the printer is turned On?	Go to step 7.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
7	1. Replace the Laser Unit (page 8-52). 2. Does the error still occur when the printer is turned On?	Replace the MCU Board (page 8-88).	Complete.

Deve Motor Error

The Deve Motor has failed. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 093-320:** Deve Motor Error (IOT Motor Failure)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Feeder Kit, PL3.2.1 ■ Main Drive, PL8.1.2 ■ MCU Board, PL9.2.13 ■ Right Side Harness, PL10.1.12 	<ul style="list-style-type: none"> ■ “Map 1 - Electrical and Drive” on page 10-10 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Main Drive” on page 10-28

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Print Cartridges for correct installation. 2. Are the Print Cartridges correctly installed?	Go to step 3.	Reseat the Print Cartridges (page 8-11). Go to step 2.
2	Does the error still occur when the printer is turned On?	Go to step 3.	Complete.
3	1. Check the wiring harness connectors P/J22 and P/J222 between the MCU Board and the Main Drive. 2. Are the connectors securely connected?	Go to step 4.	Reconnect the connectors. Go to step 4.
4	1. Perform the Deve Motor test (page 4-57): Service Mode > Printer Diag > Engine Diag > Motor Test > Deve Motor . Close the Front Door while running the test. 2. Does the Motor operate properly?	Replace the MCU Board (page 8-88).	Go to step 5.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	1. Check the Main Drive Assembly for correct installation. 2. Is the Main Drive Assembly correctly installed?	Go to step 6.	Reseat the Main Drive Assembly (page 8-75).
6	Does the error still occur when the printer is turned On?	Go to step 7.	Complete.
7	1. Check the wiring harness connectors P/J22 and P/J222 between the MCU Board and the Main Drive Assembly. 2. Are the connectors securely connected?	Go to step 8.	Reconnect the connectors.
8	Check the Right Side Harness for continuity. 1. Disconnect P/J22 from the MCU Board. 2. Disconnect P/J222 from the Main Drive Assembly. 3. Check continuity between P/J22 <=> P/J252.	Go to step 9.	Replace the Right Side Harness.
9	Check the Main Drive Assembly signal. 1. Disconnect P/J22 from the MCU Board. 2. Is there +24 V across ground <=> J22-B2/J22-B4 pin when the Interlock Switch is activated?	Replace the Main Drive Assembly (page 8-75).	Replace the MCU Board (page 8-88).

Motor Error (Tray 2)

The Tray 2 Motor has failed. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 077-343:** Tray 2 Motor Error (IOT Motor Failure)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Feeder Unit Kit, PL3.2.1 ■ Feed Drive Assembly, PL8.1.7 ■ MCU Board, PL9.2.13 ■ Right Side Harness, PL10.1.12 	<ul style="list-style-type: none"> ■ “Map 1 - Electrical and Drive” on page 10-10 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Tray 1 (MPT) and Registration” on page 10-26

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Rubber Registration Roller for rotation. 2. Does the Roller rotate smoothly?	Go to step 2.	Replace the Feeder Unit (page 8-47).
2	1. Check the wiring harness connectors P/J25 and P/J251 between the MCU Board and the Drive Assembly. 2. Are the connectors securely connected?	Go to step 3.	Reconnect the connectors. Go to step 3.
3	1. Perform Tray 2 Motor test (page 4-56): Service Mode > Printer Diag > Engine Diag > Motor Test > Tray 2 Motor . During the test, close the Front Cover. 2. Does the Motor operate properly?	Replace the MCU Board (page 8-88).	Go to step 4.
4	1. Check the Feed Drive Assembly for correct installation. 2. Is the Feed Drive Assembly correctly installed?	Go to step 5.	Reseat the Feed Drive Assembly (page 8-78). Go to step 5.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	Does the error still occur when the printer is turned On?	Go to step 6.	Complete.
6	Check the Right Side Harness for continuity. 1. Disconnect P/J25 from the MCU Board. 2. Disconnect P/J251 from the Feed Drive Assembly. 3. Check continuity between P/J25 <=> P/J251.	Go to step 7.	Replace the Right Side Harness.
7	Check the Drive Assembly signal. 1. Disconnect P/J25 from the MCU Board. 2. Is there +24 V across ground <=> J25-1/J25-2 pin on the MCU Board when the Interlock Switch is activated?	Replace the Feed Drive Assembly (page 8-78).	Replace the MCU Board (page 8-88).

Door A Open

The Front Cover is open. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 077-300:** Door A Open (IOT Front Cover Open)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Front Cover, PL1.2.1 ■ Interlock Harness, PL9.2.3 ■ MCU Board, PL9.2.13 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Front Cover for damages. 2. Are there any damages on the Front Cover?	Replace the Front Cover (page 8-28).	Go to step 2.
2	Check the Interlock Switch for operation. 1. Perform the Interlock Switch test (page 4-44): Service Mode > Printer Diag > Engine Diag > Sensor Test > Interlock Switch . 2. Does the Switch operate properly?	Replace the MCU Board (page 8-88).	Go to step 3.
3	1. Replace the Interlock Switch Harness (page 8-82). 2. Does the error still occur when the printer is turned On?	Replace the MCU Board (page 8-88).	Complete.

ADC Sensor Error (Error Code 01)

The ADC Sensor has detected density error. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 092-651:** ADC Sensor Error (IOT ADC Sensor Error) (Error Code 01)

Initial Actions

- Ensure the Transfer Unit and surrounding area is free of waste toner.
- Cycle printer power.
- If the problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Front Cover Harness, PL1.2.13 ■ Transfer Unit, PL4.1.1 ■ Print Cartridge (C/M/Y/K), PL5.1.17-20 ■ MCU Board, PL9.2.13 ■ Right Side Harness, PL10.1.12 	<ul style="list-style-type: none"> ■ “Map 1 - Electrical and Drive” on page 10-10 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Xerographic” on page 10-34

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Transfer Unit for correct installation. 2. Is the Transfer Unit correctly installed?	Go to step 3.	Reseat the Transfer Unit (page 8-9). Go to step 2.
2	Does the error still occur when the printer is turned On?	Go to step 3.	Complete.
3	Check the toner density and compare the density of four colors toner. 1. Perform Gradation Test Print (page 5-16): Service Mode > Printer Diag > Test Print > Gradation ESS. 2. Is there dark color on the print?	Go to step 4.	Replace the MCU Board (page 8-88).

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	<p>Check the Solenoid in the Transfer Unit for operation.</p> <ol style="list-style-type: none"> 1. Perform the ADC Sensor Solenoid test (page 4-72): Service Mode > Printer Diag > Engine Diag > Motor Test > ADC (CTD) Sensor Solenoid. 2. Perform the ADC Sensor LED test (page 4-73): Service Mode > Printer Diag > Engine Diag > Motor Test > ADC (CTD) Sensor LED. 3. Does the ADC Sensor operate properly? 	Replace the corresponding Print Cartridge (page 8-11).	Go to step 5.
5	<ol style="list-style-type: none"> 1. Check the wiring harness connectors P/J27, P/J272, and P/J2721 between the MCU Board and the Transfer Unit. 2. Are the connectors securely connected? 	Go to step 6.	Reconnect the connectors. Go to step 10.
6	<p>Check the Front Cover Harness for continuity.</p> <ol style="list-style-type: none"> 1. Disconnect P/J2721 from the Transfer Unit. 2. Disconnect P/J272 from the Right Side Harness. 3. Check continuity between P/J2721 <=> P/J272. 	Go to step 7.	Replace the Front Cover Harness.
7	<p>Check the Right Side Harness for continuity.</p> <ol style="list-style-type: none"> 1. Disconnect P/J27 from the MCU Board. 2. Disconnect P/J272 from the Front Cover Harness. 3. Check continuity between P/J27 <=> P/J272. 	Go to step 8.	Replace the Right Side Harness.
8	<p>Check the ADC Sensor signal.</p> <ol style="list-style-type: none"> 1. Disconnect P/J27 from the MCU Board. 2. Is there +5 V across ground <=> J27-A7 pin on the MCU Board? 	Replace the Transfer Unit (page 8-9).	Replace the MCU Board (page 8-88).

ADC Sensor Error (Error Code 02)

The ADC Sensor has detected density error. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 092-651:** ADC Sensor Error (IOT ADC Sensor Error) (Error Code 02)

Initial Actions

- Ensure the Transfer Unit and surrounding area is free of waste toner.
- Cycle printer power.
- If the problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Front Cover Harness, PL1.2.13 ■ Transfer Unit, PL4.1.1 ■ Laser Unit, PL5.1.12 ■ Print Cartridge (C/M/Y/K), PL5.1.17-20 ■ MCU Board, PL9.2.13 ■ Right Side Harness, PL10.1.12 	<ul style="list-style-type: none"> ■ “Map 1 - Electrical and Drive” on page 10-10 ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Xerographic” on page 10-34

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Transfer Unit for correct installation. 2. Is the Transfer Unit correctly installed?	Go to step 3.	Reseat the Transfer Unit (page 8-9). Go to step 2.
2	Does the error still occur when the printer is turned On?	Go to step 3.	Complete.
3	1. Check the Print Cartridges for correct installation. 2. Are the Print Cartridges correctly installed?	Go to step 5.	Reseat the Print Cartridges (page 8-11). Go to step 4.
4	Does the error still occur when the printer is turned On?	Go to step 5.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	<p>Check the toner density and compare the density of four colors toner.</p> <ol style="list-style-type: none"> 1. Check the toner density. Perform Gradation Test Print (page 5-16): Service Mode > Printer Diag > Test Print > Gradation ESS. 2. Is there light color on the print? 	Go to step 6.	Replace the MCU Board (page 8-88).
6	<p>Check the Solenoid in the Transfer Unit for operation.</p> <ol style="list-style-type: none"> 1. Perform the ADC Sensor Solenoid test (page 4-72): Service Mode > Printer Diag > Engine Diag > Motor Test > ADC (CTD) Sensor Solenoid. 2. Perform the ADC Sensor LED test (page 4-73): Service Mode > Printer Diag > Engine Diag > Motor Test > ADC (CTD) Sensor LED. 3. Does the ADC Sensor operate properly? 	Go to step 11.	Go to step 7.
7	<ol style="list-style-type: none"> 1. Check the wiring harness connectors P/J27, P/J272, and P/J2721 between the MCU Board and the Transfer Unit. 2. Are the connectors securely connected? 	Go to step 8.	Reconnect the connectors. Go to step 10.
8	<p>Check the Front Cover Harness for continuity.</p> <ol style="list-style-type: none"> 1. Disconnect P/J2721 from the Transfer Unit. 2. Disconnect P/J272 from the Right Side Harness. 3. Check continuity between P/J2721 <=> P/J272. 	Go to step 9.	Replace the Front Cover Harness.
9	<p>Check the Right Side Harness for continuity.</p> <ol style="list-style-type: none"> 1. Disconnect P/J27 from the MCU Board. 2. Disconnect P/J272 from the Front Cover Harness. 3. Check continuity between P/J27 <=> P/J272. 	Go to step 10.	Replace the Right Side Harness.
10	<p>Check the ADC Sensor signal.</p> <ol style="list-style-type: none"> 1. Disconnect P/J27 from the MCU Board. 2. Is there +5 V across ground <=> J27-A7 pin on the MCU Board? 	Replace the Transfer Unit (page 8-9).	Replace the MCU Board (page 8-88).

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
11	<p>Check the Deve Motor for operation.</p> <p>1. Perform the Deve Motor test (page 4-72): Service Mode > Printer Diag > Engine Diag > Motor Test > Deve Motor. Close the Front Cover while running the test.</p> <p>2. Does the Deve Motor function normally?</p>	Go to step 13.	Go to step 12.
12	<p>1. Replace the Main Drive Assembly (page 8-75).</p> <p>2. Does the error still occur when the printer is turned On?</p>	Replace the MCU Board (page 8-88).	Complete.
13	<p>1. Replace the corresponding Print Cartridge (page 8-11).</p> <p>2. Does the error still occur when the printer is turned On?</p>	Replace the Laser Unit (page 8-52).	Complete.

Environmental (Humidity/Temperature) Sensor Error

The Environmental Sensor has detected temperature error. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 092-661:** Environmental Sensor Error (IOT Environment Sensor Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Humidity/Temperature Sensor PL9.2.11 ■ MCU Board, PL9.2.13 ■ Humidity Harness, PL10.1.15 	<ul style="list-style-type: none"> ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “Xerographic” on page 10-34

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Humidity/Temperature Sensor for correct installation. 2. Is the Humidity/Temperature Sensor correctly installed?	Go to step 2.	Reseat the Humidity/Temperature Sensor. Go to step 2.
2	Does the error still occur when the printer is turned On?	Go to step 3.	Complete.
3	1. Check the wiring harness connectors P/J26 and P/J261 between the MCU Board and the Humidity/Temperature Sensor. 2. Are the connectors securely connected?	Go to step 4.	Reconnect the connectors.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	Check the Humidity Harness for continuity. 1. Disconnect P/J26 from the MCU Board. 2. Disconnect P/J261 from the Humidity/Temperature Sensor. 3. Check continuity between P/J26 <=> P/J261.	Go to step 5.	Replace the Humidity Harness.
5	Check the Humidity/Temperature Sensor signal. 1. Disconnect P/J26 from the MCU Board. 2. Is there +5 V across ground <=> J26-4 pin on the MCU Board?	Replace the Humidity/Temperature Sensor (page 8-87).	Replace the MCU Board (page 8-88).

Font ROM Error

The printer controller has detected error. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 116-310:** Font ROM Error (ESS Font ROM Error) (Main)
- **Chain Link 116-311:** Font ROM Error (ESS Font ROM Error) (Option)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Image Processor Board, PL9.1.20	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Image Processor Board for correct installation. 2. Is the Image Processor Board correctly installed?	Go to step 2.	Reseat the Image Processor Board (page 8-90).
2	Does the error still occur when the printer is turned On?	Replace the Image Processor Board (page 8-90).	Complete.

Mac Address Error

The printer controller has detected error. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 116-314:** MAC Address Error (On Board Network MAC Address Checksum Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Image Processor Board, PL9.1.20 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Image Processor Board for correct installation. 2. Is the Image Processor Board correctly installed?	Go to step 2.	Reseat the Image Processor Board (page 8-90).
2	Does the error still occur when the printer is turned On?	Replace the Image Processor Board (page 8-90).	Complete.

RAM Error

The printer controller has detected error. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 116-315:** RAM Error (ESS On Board RAM W/R Check Fail)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Image Processor Board, PL9.1.20 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Image Processor Board for correct installation. 2. Is the Image Processor Board correctly installed?	Go to step 2.	Reseat the Image Processor Board (page 8-90).
2	Does the error still occur when the printer is turned On?	Replace the Image Processor Board (page 8-90).	Complete.

RAM Error

The printer controller has detected RAM error. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 116-316:** RAM Error (DIMM Slot RAM W/R Check Fail)
- **Chain Link 116-320:** RAM Error (DIMM Slot RAM Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Image Processor Board, PL9.1.20 ■ Memory Card (Option), PL9.1.22 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Verify the Memory Card is compatible with the printer. If the Memory Card was recently installed, it may not be compatible. 2. Is the Memory Card compatible?	Go to step 2.	Replace the Memory Card.
2	1. Check the Memory Card for correct installation. 2. Is the Memory Card correctly installed?	Go to step 3.	Complete.
3	1. Replace the Memory Card (page 8-94). 2. Does the error still occur when the printer is turned On?	Replace the Image Processor Board (page 8-90).	Complete.

NVRAM Error

The printer controller has detected NVRAM error. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 116-323:** NVRAM Error (NVRAM1 W/R Check Fail)
- **Chain Link 116-326:** NVRAM Error (NVRAM2 W/R Check Fail)
- **Chain Link 116-390:** NVRAM Error (NVRAM1 Size and ID Check Fail)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Image Processor Board, PL9.1.20 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Image Processor Board for correct installation. 2. Is the Image Processor Board correctly installed?	Go to step 2.	Reseat the Image Processor Board (page 8-90).
2	Does the error still occur when the printer is turned On?	Replace the Image Processor Board (page 8-90).	Complete.

Controller Error

The printer controller has detected error. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 116-317:** Controller Error (ROM Check Fail) (Main)
- **Chain Link 116-324:** Controller Error (Illegal Exception)
- **Chain Link 116-327:** Controller Error (Instruction Cache Error)
- **Chain Link 116-328:** Controller Error (Data Cache Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Image Processor Board, PL9.1.20 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Image Processor Board for correct installation. 2. Is the Image Processor Board correctly installed?	Go to step 2.	Reseat the Image Processor Board (page 8-90).
2	Does the error still occur when the printer is turned On?	Replace the Image Processor Board (page 8-90).	Complete.

ASIC Error

The printer controller has detected error. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 116-343:** ASIC Error (ASIC Fail)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Image Processor Board, PL9.1.20 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Image Processor Board for correct installation. 2. Is the Image Processor Board correctly installed?	Go to step 2.	Reseat the Image Processor Board (page 8-90).
2	Does the error still occur when the printer is turned On?	Replace the Image Processor Board (page 8-90).	Complete.

Parallel Port Error

Parallel Port error has occurred. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 116-367:** Parallel Port Error (IEEE 1284 Data Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Image Processor Board, PL9.1.20 ■ Parallel Cable 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Parallel cable connection. 2. Is the cable securely connected?	Go to step 2.	Reconnect the cable. Go to step 2.
2	Does the error still occur?	Replace the Parallel Cable. Go to step 3.	Complete.
3	Does the error still occur?	Replace the Image Processor Board (page 8-90).	Complete.

MACPHY Chip Test Error

MACPHY Chip Test error has occurred. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 116-392:** MACPHY Chip Test Error (Diag 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
<ul style="list-style-type: none"> ■ Image Processor Board, PL9.1.27 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Reboot the printer. 2. Does the error still occur?	Go to step 2.	Complete.
2	1. Reseat the Image Processor Board. 2. Does the error still occur?	Replace the Image Processor Board (page 8-90).	Complete.

MACPHY Internal Loop Test Error

MACPHY Internal Loop Test error has occurred. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 116-393:** MACPHY Int Loop Test Error (Diag 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
<ul style="list-style-type: none"> ■ Image Processor Board, PL9.1.27 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Reboot the printer. 2. Does the error still occur?	Go to step 2.	Complete.
2	1. Reseat the Image Processor Board. 2. Does the error still occur?	Replace the Image Processor Board (page 8-90).	Complete.

MACPHY External Loop Test Error

MACPHY External Loop Test error has occurred. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 116-394:** MACPHY Ext Loop Test Error (Diag 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
■ Image Processor Board, PL9.1.27	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Reboot the printer. 2. Does the error still occur?	Go to step 2.	Complete.
2	1. Reseat the Image Processor Board. 2. Does the error still occur?	Replace the Image Processor Board (page 8-90).	Complete.

Controller Error

Communication error has occurred while performing a copy job. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 116-397:** Controller Error (Communication Error with AIOC)
- **Chain Link 116-398:** Controller Error (Communication Time Out with AIOC)
- **Chain Link 117-313:** Controller Communication Error (ESS Data Transmission Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 ■ Image Processor Board, PL9.1.20 ■ AIO-ESS Harness Assembly, PL10.1.14 	<ul style="list-style-type: none"> ■ “Map 3 - Image Processor Board and Dispenser Motors” on page 10-12 ■ “Fax Controller Wiring Diagram” on page 10-50

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Turn the printer Off, wait for five seconds, and turn the printer back On. 2. Does the error still occur when copying?	Go to step 2.	Complete.
2	1. Check the wiring harness connector P/J480 on the Image Processor Board. Reseat the connector. 2. Does the error still occur when copying?	Go to step 3.	Complete.
3	1. Check the wiring harness connector P/J48 on the Scanner Controller Board. Reseat the connector. 2. Does the error still occur when copying?	Go to step 4.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	Check the AIO-ESS Harness for continuity. 1. Disconnect P/J48 from the Scanner Controller Board. 2. Disconnect P/J480 from the Image Processor Board. 3. Check continuity between P/J48 <=> P/J480.	Go to step 5.	Replace the AIO-ESS Harness Assembly.
5	1. Replace the Scanner Controller Board (page 8-99). 2. Does the error still occur when copying?	Replace the Image Processor Board (page 8-90).	Complete.

Task Error

Communication error has occurred while performing a copy job. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 116-397:** Controller Error (Communication Error with AIOC)
- **Chain Link 116-398:** Controller Error (Communication Time Out with AIOC)
- **Chain Link 117-313:** Controller Communication Error (ESS Data Transmission Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 ■ Image Processor Board, PL9.1.20 ■ AIO-ESS Harness Assembly, PL10.1.14 	<ul style="list-style-type: none"> ■ “Map 3 - Image Processor Board and Dispenser Motors” on page 10-12 ■ “Fax Controller Wiring Diagram” on page 10-50

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Turn the printer Off, wait for five seconds, and turn the printer back On. 2. Does the error still occur when copying?	Go to step 2.	Complete.
2	1. Check the wiring harness connector P/J480 on the Image Processor Board. Reseat the connector. 2. Does the error still occur when copying?	Go to step 3.	Complete.
3	1. Check the wiring harness connector P/J48 on the Scanner Controller Board. Reseat the connector. 2. Does the error still occur when copying?	Go to step 4.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	Check the AIO-ESS Harness for continuity. 1. Disconnect P/J48 from the Scanner Controller Board. 2. Disconnect P/J480 from the Image Processor Board. 3. Check continuity between P/J48 <=> P/J480.	Go to step 5.	Replace the AIO-ESS Harness Assembly.
5	1. Replace the Scanner Controller Board (page 8-99). 2. Does the error still occur when copying?	Replace the Image Processor Board (page 8-90).	Complete.

E-Mail Errors

Email Error

E-mail did not detect SMTP server address. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 016-503:** Email Error, Invalid SMTP Server Error (SMTP Server Address Resolution Fail for Maillib)
- **Chain Link 016-504:** E-Mail Error, Invalid POP3 Server Error (POP Server Address Resolution Fail for Maillib)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 ■ Image Processor Board, PL9.1.20 ■ Multi-Protocol Card, PL9.1.23 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the network connection using ping command. 2. Does the printer connect to the network?	Go to step 2.	Go to step 5.
2	1. Check the Address Book setting: System > Admin Menu > Address Book > Speed Dial/Group Dial. 2. Is the Address Book setting correct?	Go to step 3.	Set the correct Address Book information.
3	1. Check the printer specification. 2. Does the printer specification meet the server specification?	Go to step 4.	Change the server.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	<ol style="list-style-type: none"> 1. Check the Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when connecting to the server? 	Replace the Scanner Controller Board (page 8-99).	Complete.
5	<ol style="list-style-type: none"> 1. Check the network connection. Reseat the network connector. 2. Does the error still occur? 	Go to step 6. If an MPC Card is not installed, go to step 7.	Complete.
6	<ol style="list-style-type: none"> 1. Check the MPC Card for correct installation. Reseat the MPC Card (page 8-95). 2. Does the error still occur when connecting to the server? 	Go to step 7.	Complete.
7	<ol style="list-style-type: none"> 1. Check the network setting: System > Admin Menu > Network Settings. 2. Is the printer network setting correct? 	Go to step 8.	Change the Network Setting information.
8	<ol style="list-style-type: none"> 1. Check the Image Processor Board for correct installation. Reseat the Image Processor Board (page 8-90). 2. Does the error still occur when connecting to the server? 	Replace the Image Processor Board (page 8-90).	Complete.

Email Login Error

POP3 or SMTP Authentication has failed. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 016-505:** Email Login Error, POP3 Login Failed Error (POP Authentication Fail for Maillib)
- **Chain Link 016-506:** Email Login Error (SMTP Input Error)
- **Chain Link 016-507:** Email Login Error, SMTP Login Failed Error (SMTP Authentication Fail for Maillib)
- **Chain Link 016-782:** Login Error

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 ■ Image Processor Board, PL9.1.20 ■ Multi-Protocol Card, PL9.1.23 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the network connection using ping command. 2. Does the printer connect to the network?	Go to step 2.	Go to step 5.
2	1. Check the Address Book setting: System > Admin Menu > Address Book > Speed Dial/Group Dial. 2. Is the Address Book setting correct?	Go to step 3.	Set the correct Address Book information.
3	1. Check the printer specification. 2. Does the printer specification meet the server specification?	Go to step 4.	Change the server.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	<ol style="list-style-type: none"> 1. Check the Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when connecting to the server? 	Replace the Scanner Controller Board (page 8-99).	Complete.
5	<ol style="list-style-type: none"> 1. Check the network connection. Reseat the network connector. 2. Does the error still occur? 	Go to step 6. If an MPC Card is not installed, go to step 7.	Complete.
6	<ol style="list-style-type: none"> 1. Check the MPC Card for correct installation. Reseat the MPC Card (page 8-95). 2. Does the error still occur when connecting to the server? 	Go to step 7.	Complete.
7	<ol style="list-style-type: none"> 1. Check the network setting: System > Admin Menu > Network Settings. 2. Is the printer network setting correct? 	Go to step 8.	Change the Network Setting information.
8	<ol style="list-style-type: none"> 1. Check the Image Processor Board for correct installation. Reseat the Image Processor Board (page 8-90). 2. Does the error still occur when connecting to the server? 	Replace the Image Processor Board (page 8-90).	Complete.

Invalid Email Address

Email address is invalid. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 016-767:** Invalid Email Address (Illegal Email Destination Address)
- **Chain Link 016-768:** Invalid From Address (Illegal Email From Address)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 ■ Image Processor Board, PL9.1.20 ■ Multi-Protocol Card, PL9.1.23 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the network connection using ping command. 2. Does the printer connect to the network?	Go to step 2.	Go to step 5.
2	1. Check the Address Book setting: System > Admin Menu > Address Book > Speed Dial/Group Dial. 2. Is the Address Book setting correct?	Go to step 3.	Set the correct Address Book information.
3	1. Check the printer specification. 2. Does the printer specification meet the server specification?	Go to step 4.	Change the server.
4	1. Check the Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when connecting to the server?	Replace the Scanner Controller Board (page 8-99).	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	1. Check the network connection. Reseat the network connector. 2. Does the error still occur?	Go to step 6. If an MPC Card is not installed, go to step 7.	Complete.
6	1. Check the MPC Card for correct installation. Reseat the MPC Card (page 8-95). 2. Does the error still occur when connecting to the server?	Go to step 7.	Complete.
7	1. Check the network setting: System > Admin Menu > Network Settings. 2. Is the printer network setting correct?	Go to step 8.	Change the Network Setting information.
8	1. Check the Image Processor Board for correct installation. Reseat the Image Processor Board (page 8-90). 2. Does the error still occur when connecting to the server?	Replace the Image Processor Board (page 8-90).	Complete.

Scanner and Copier Errors

Scanner ADF Cover Open

ADF Cover Open error has occurred. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 005-301:** Scanner ADF Cover Open (ADF Cover Open)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 ■ ADF Scanner Assembly, PL11.1.1 	<ul style="list-style-type: none"> ■ “Map 3 - Image Processor Board and Dispenser Motors” on page 10-12 ■ “Automatic Document Feeder Wiring Diagram” on page 10-53

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Is the ADF Cover closed?	Go to step 2.	Close the ADF Cover.
2	1. Check the wiring harness connector P/J60 on the Scanner Controller Board. Reseat the connector. 2. Does the error still occur when the printer is turned On?	Go to step 3.	Complete.
3	1. Replace the ADF Scanner Assembly (page 8-103). 2. Does the error still occur when the printer is turned On?	Replace the Scanner Controller Board (page 8-99).	Complete.

Network Scan Error

Failed to access SMTP/SMB/FTP server. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 016-783:** Network Scan Error, Invalid SMB/FTP Server (Server Path List Error)
- **Chain Link 016-784:** Network Scan Error, Invalid Write Permission (File Write Access Error)
- **Chain Link 016-786:** Network Scan Error, Communication Time Out (Data Communication Time Out)
- **Chain Link 016-787:** Network Scan Error, Directory Not Found (Make Directory Error)
- **Chain Link 016-788:** Network Scan Error, File Name Exists Error (SMB/FTP Same File Name Detection Error)
- **Chain Link 016-789:** Network Scan Error (Post Operation Error)
- **Chain Link:** Network Scan Error, Connection Time Out
- **Chain Link:** Network Scan Error, SMTP Connection Failed

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 ■ Image Processor Board, PL9.1.20 ■ Multi-Protocol Card, PL9.1.23 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the network connection using ping command. 2. Does the printer connect to the network?	Go to step 2.	Go to step 5.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
2	1. Check the Address Book setting: System > Admin Menu > Address Book > Speed Dial/Group Dial. 2. Is the Address Book setting correct?	Go to step 3.	Set the correct Address Book information.
3	1. Check the printer specification. 2. Does the printer specification meet the server specification?	Go to step 4.	Change the server.
4	1. Check the Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when connecting to the server?	Replace the Scanner Controller Board (page 8-99).	Complete.
5	1. Check the network connection. Reseat the network connector. 2. Does the error still occur?	Go to step 6. If an MPC Card is not installed, go to step 7.	Complete.
6	1. Check the MPC Card for correct installation. Reseat the MPC Card (page 8-95). 2. Does the error still occur when connecting to the server?	Go to step 7.	Complete.
7	1. Check the network setting: System > Admin Menu > Network Settings. 2. Is the printer network setting correct?	Go to step 8.	Change the Network Setting information.
8	1. Check the Image Processor Board for correct installation. Reseat the Image Processor Board (page 8-90). 2. Does the error still occur when connecting to the server?	Replace the Image Processor Board (page 8-90).	Complete.

Network Not Ready Error

The network is not ready. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 016-790:** Network Not Ready Error (F2N Module is not Ready)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 ■ Image Processor Board, PL9.1.20 ■ Multi-Protocol Card, PL9.1.23 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the network connection using ping command. 2. Does the printer connect to the network?	Go to step 2.	Go to step 5.
2	1. Check the Address Book setting: System > Admin Menu > Address Book > Speed Dial/Group Dial. 2. Is the Address Book setting correct?	Go to step 3.	Set the correct Address Book information.
3	1. Check the printer specification. 2. Does the printer specification meet the server specification?	Go to step 4.	Change the server.
4	1. Check the Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when connecting to the server?	Replace the Scanner Controller Board (page 8-99).	Complete.
5	1. Check the network connection. Reseat the network connector. 2. Does the error still occur?	Go to step 6. If an MPC Card is not installed, go to step 7.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
6	1. Check the MPC Card for correct installation. Reseat the MPC Card (page 8-95). 2. Does the error still occur when connecting to the server?	Go to step 7.	Complete.
7	1. Check the network setting: System > Admin Menu > Network Settings. 2. Is the printer network setting correct?	Go to step 8.	Change the Network Setting information.
8	1. Check the Image Processor Board for correct installation. Reseat the Image Processor Board (page 8-90). 2. Does the error still occur when connecting to the server?	Replace the Image Processor Board (page 8-90).	Complete.

Network Not Ready, Scan Aborted Error

The scan job has been aborted due to network not ready. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 016-794:** Network Not Ready, Scan Aborted Error (SMB Over TCP Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Image Processor Board, PL9.1.20 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the network setting using a PC. 2. Is the setting correct?	Go to step 2.	Set the correct network information.
2	1. Check the network setting: System > Admin Menu > Network Settings. 2. Is the printer network setting correct?	Go to step 3.	Set the correct network settings.
3	1. Check the Protocol setting: System > Admin Menu > Network Settings > Protocol > SMB TCP/IP? 2. Is SMB TCP/IP disabled?	Set SMB TCP/IP to Enable.	Go to step 4.
4	1. Check the Image Processor Board for correct installation. Reseat the Image Processor Board (page 8-90). 2. Does the error still occur when the printer power is turned On?	Replace the Image Processor Board (page 8-90).	Complete.

File Size Limit

File size error is over the maximum file size in file conversion. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 016-986:** File Size Limit (File Size Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Turn the printer power Off and back On. 2. Does the error still occur?	Go to step 2.	Complete.
2	1. Check the Country setting information on the Control Panel: System > Admin Menu > Fax Settings > Country. 2. Is the Country setting correct?	Go to step 3.	Change the Country Setting to the correct country.
3	1. Check the Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when the printer is turned On?	Replace the Scanner Controller Board (page 8-99).	Complete.

PC Scan Time Out

The Scanner has failed. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 017-988:** Scan Time Out (Time Out In)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Driver ■ Phaser 6180MFP Express Scan Manager 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the user operation. 2. Does the user operate the scanner correctly?	Go to step 2.	Complete.
2	1. Check the USB cable connection. Reconnect the PC and the printer. 2. Does the error still occur when scanning?	Go to step 3.	Complete.
3	1. Enable Windows Image Acquisition on the computer: Start > Settings > Control Panel > Administrative Tools > Services > Window Image Acquisition (WIA) . 2. Check the Scanner Icon on the computer: Start > Settings > Control Panel > Scanners and Cameras . 3. Is the Scanner icon available?	Go to step 4.	Install the scanner driver.
4	1. Check the scanner software on the computer: Start > Programs > Xerox > Phaser 6180MFP . 2. Is the Phaser 6180MFP Scan Manager software installed?	Go to step 5.	Install the scanner utility software.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	1. Check the Scan Manager setting: Start > Programs > Xerox > Phaser 6180MFP > Express Scan Manager. 2. Is the Scan Manager setting correct?	Go to step 6.	Set the correct settings: <ul style="list-style-type: none"> ■ Image Type ■ Resolution ■ Paper Type ■ Output Destination Note: Verify that the Output Destination exists.
6	1. Check the scanner utility software: Start > Settings > Control Panel > Scanners and Cameras > Xerox Phaser 6180MFP Scanner. 2. Highlight and right-click on Phaser6180MFP Scanner to open the Properties window. 3. Click the Events tab. 4. Verify that the Select an event option is correctly selected. 5. Verify the software program to be used with the scanner. Is Phaser 6180MFP Express Scan Manager selected? (Actions > Start this program > Phaser 6180MFP Express Scan Manager)	Retry the scanning job. If the message “Select the program to launch for this action” appears on the computer monitor, select the Express Scan Manager within 30 seconds.	Under the Events tab, Actions box, Start this program, select Phaser 6180MFP Express Scan Manager.

Scan Codec Error

The Scanner has failed. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 033-785:** Scan Codec Error

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Turn the printer power Off and back On. 2. Does the error still occur?	Go to step 2.	Complete.
2	1. Check the Country setting information on the Control Panel: System > Admin Menu > Fax Settings > Country. 2. Is the Country setting correct?	Go to step 3.	Change the Country Setting to the correct country.
3	1. Check the Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when the printer is turned On?	Replace the Scanner Controller Board (page 8-99).	Complete.

Scanner Error

The Scanner has failed. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 062-311:** Scanner Initial Error
- **Chain Link 062-321:** Scanner Malfunction
- **Chain Link 062-360:** Scanner Sensor Error
- **Chain Link 062-371:** Scanner Lamp Error

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 ■ ADF Scanner Assembly, PL11.1.1 	<ul style="list-style-type: none"> ■ “Automatic Document Feeder Wiring Diagram” on page 10-53

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the Scanner Lock. Is the Scanner Lock at the Unlock position?	Go to step 2.	Set the Scanner Lock to the Unlock position.
2	1. Check the wiring harness connectors P/J60, P/J62, P/J63, P/J64, and P/J65 on the Scanner Controller Board. Reseat the connectors. 2. Does the error still occur when the printer power is turned On?	Go to step 3.	Complete.
3	1. Replace the ADF Scanner Assembly (page 8-103). 2. Does the error still occur when the printer is turned On?	Replace the Scanner Controller Board (page 8-99).	Complete.

Scanner Error

The Scanner has failed. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 062-320:** Scanner Error (Image Scanning Error)
- **Chain Link 062-321:** Scanner Error (Scanner Malfunction)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 ■ ADF Scanner Assembly, PL11.1.1 	<ul style="list-style-type: none"> ■ “Automatic Document Feeder Wiring Diagram” on page 10-53

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the wiring harness connectors P/J60, P/J62, P/J63, P/J64, and P/J65 on the Scanner Controller Board. Reseat the connectors. 2. Does the error still occur when the printer is turned On?	Go to step 2.	Complete.
2	1. Replace the ADF Scanner Assembly (page 8-103). 2. Does the error still occur when the printer is turned On?	Replace the Scanner Controller Board (page 8-99).	Complete.

Scanner Error

The Scanner has failed. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 062-322:** Scanner Parameter Error
- **Chain Link 062-393:** Scanner Error (CcdAsic Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 ■ ADF Scanner Assembly, PL11.1.1 	<ul style="list-style-type: none"> ■ “Automatic Document Feeder Wiring Diagram” on page 10-53

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Turn the printer Off and back On. 2. Does the error still occur?	Go to step 2.	Complete.
2	1. Replace the Scanner Control Board (page 8-99). 2. Does the error still occur when copying and faxing?	Replace the ADF Scanner Assembly (page 8-103).	Complete.

Copier Error

The Copier has failed. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 062-790:** Scanner Parameter Error

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 ■ ADF Scanner Assembly, PL11.1.1 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the error. 2. Does the error message disappear within 70 seconds automatically, or disappear after pressing the OK button?	Go to step 2.	Go to step 4.
2	1. Check the error. 2. Does the error still occur when copying or scanning?	Go to step 3.	To to step 4.
3	1. Print a Configuration page: System > Information Pages > Configuration . 2. Does the error still occur when copying or scanning the Configuration report?	Go to step 5.	Complete.
4	1. Turn the printer Off and back On. 2. Does the error still occur when copying or scanning?	To to step 5.	Complete.
5	1. Replace the Scanner Controller Board (page 8-99). 2. Does the error still occur when copying or scanning?	Replace the ADF Scanner Assembly (page 8-103).	Complete.

Scan Error

Error occurs when scanning. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 116-396:** Scan Error (Fatal Error of Maillib)
- **Chain Link 116-987:** Scan Error (Fatal Error of Format lib.)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Turn the printer power Off and back On. 2. Does the error still occur?	Go to step 2.	Complete.
2	1. Check the Country setting information on the Control Panel: System > Admin Menu > Fax Settings > Country . 2. Is the Country setting correct?	Go to step 3.	Change the Country Setting to the correct country.
3	1. Check the Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when the printer is turned On?	Replace the Scanner Controller Board (page 8-99).	Complete.

Controller Error

Communication between the Scanner and the Controller has failed. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 117-352:** MFP Controller Error (AIOC-IIT Communication Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 ■ ADF Scanner Assembly, PL11.1.1 	<ul style="list-style-type: none"> ■ “Automatic Document Feeder Wiring Diagram” on page 10-53

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the Scanner Lock. Is the Scanner Lock at the Unlock position?	Go to step 2.	Set the Scanner Lock to the Unlock position.
2	1. Check the wiring harness connectors P/J60, P/J62, P/J63, P/J64, and P/J65 on the Scanner Controller Board. Reseat the connectors. 2. Does the error still occur when the printer power is turned On?	Go to step 3.	Complete.
3	1. Replace the ADF Scanner Assembly (page 8-103). 2. Does the error still occur when the printer is turned On?	Replace the Scanner Controller Board (page 8-99).	Complete.

Control Panel Error

The parameter setting on the Control Panel has failed. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 062-323:** Panel Setting Parameter NG
- **Chain Link 123-314:** Control Panel Error

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Control Panel, PL1.2.2 ■ Scanner Controller Board, PL9.1.1 	<ul style="list-style-type: none"> ■ “Map 1 - Electrical and Drive” on page 10-10 ■ “Automatic Document Feeder Wiring Diagram” on page 10-53

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Wait for 5 seconds and turn the printer Off and back On. 2. Does the error still occur when the printer is turned On?	Go to step 2.	Complete.
2	1. Check the Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when the printer is turned On?	Go to step 3.	Complete.
3	1. Check the Control Panel for correct installation. Reseat the Control Panel (page 8-30). 2. Does the error still occur when the printer is turned On?	Go to step 4.	Complete.
4	1. Replace the Scanner Controller Board (page 8-99). 2. Does the error still occur when the printer is turned On?	Replace the Control Panel (page 8-30).	Complete.

Fax Errors

Memory Full

The Scanner Controller Board does not have enough memory allocation. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 017-970:** Memory Full (AIOC Lack of Memory)
- **Chain Link 033-503:** Memory Full

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 ■ ADF Scanner Assembly, PL11.1.1 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Turn the printer power Off and back On. 2. Does the error still occur when receiving fax?	Go to step 2.	Complete.
2	1. Check the stored data on the printer: System > Information Pages > Stored Documents. 2. Are there any stored data?	<ul style="list-style-type: none"> ■ For the Delayed Start, wait until the data will be sent. ■ For the Delayed Print, print the stored data. ■ For the Secure Receive, enter password to print. 	Go to step 3.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
3	1. Check the Fax setting on the Control Panel: System > Admin Menu > Fax Settings > Interval Timer . 2. Is the Interval Timer Value long? ■ Default Value: 8	Decrease the Interval Timer Value.	Go to step 4.
4	1. Replace the Scanner Controller Board (page 8-99). 2. Does the error still occur when receiving fax?	Replace the ADF Scanner Assembly (page 8-103).	Complete.

Fax Codec Error

The Fax has failed. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 033-510:** Fax Codec Error

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Scanner Controller Board, PL9.1.1	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Turn the printer power Off and back On. 2. Does the error still occur when faxing after turning the printer back On?	Go to step 2.	Complete.
2	1. Check the Fax Parameter setting: Service Mode > Fax/Scanner Diag > Parameter. 2. Enter Chain Link 825-662. 3. Does the value [Hex] show number 2 (MMR)? (refer to “Chain Link for Fax Parameter Setting” on page A-9 for detailed information)	Go to step 3.	Change the value ([Hex] to 2.
3	1. Check the Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when faxing?	Replace the Scanner Controller Board (page 8-99).	Complete.

Memory Full

The Scanner Controller Board does not have enough memory allocation. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 033-787:** Memory Full
- **Chain Link 033-788:** Memory Full (MFP Memory Full)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Turn the printer power Off and back On. 2. Does the error still occur?	Go to step 2.	Complete.
2	1. Check the Country setting information on the Control Panel: System > Admin Menu > Fax Settings > Country . 2. Is the Country setting correct?	Go to step 3.	Change the Country Setting to the correct country.
3	1. Check the Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when the printer is turned On?	Replace the Scanner Controller Board (page 8-99).	Complete.

Controller Error

The Controller has detected errors. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 017-971:** Controller Error (FlashROM Write Error)
- **Chain Link 017-972:** Controller Error (FlashROM Erase Error)
- **Chain Link 017-973:** Controller Error (FlashROM Suspend Error)
- **Chain Link 017-974:** Controller Error (FlashROM Resume Error)
- **Chain Link 017-975:** Controller Error (File Handle Over)
- **Chain Link 017-976:** Controller Error (File Table Over)
- **Chain Link 017-977:** Controller Error (File Count Over)
- **Chain Link 017-978:** Controller Error (File Page Over)
- **Chain Link 017-979:** Controller Error (Double File Open)
- **Chain Link 017-983:** Controller Initialized NVM (EEPROM R/W Error)
- **Chain Link 017-986:** Controller Error (Create 0 Byte File)
- **Chain Link 017-987:** Controller Error (File Read Error)
- **Chain Link 017-989:** Controller Error (File Write Error)
- **Chain Link 117-310:** Controller Error (Main Program Sum Error)
- **Chain Link 117-311:** Controller Error (Parameter Sum Error)
- **Chain Link 117-312:** Controller Error (Download Program Sum Error)
- **Chain Link 117-322:** Error (SYSMGR Task Error)
- **Chain Link 117-328:** Error (MSCAN Task Error)
- **Chain Link 117-335:** Error (DFAX Task Error)
- **Chain Link 117-336:** Error (Pull Task Error)
- **Chain Link 117-337:** Error (IITTX Task Error)
- **Chain Link 117-340:** Error (Hook Task Error)
- **Chain Link 117-344:** Error (Flash File Task Error)
- **Chain Link 117-348:** Error (IITRX Task Error)
- **Chain Link 117-349:** Error (SCANMGR Task Error)
- **Chain Link 117-350:** Error (Task Initialize Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Scanner Controller Board, PL9.1.1	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Turn the printer power Off and back On. 2. Does the error still occur?	Go to step 2.	Complete.
2	1. Check the Country setting information on the Control Panel: System > Admin Menu > Fax Settings > Country. 2. Is the Country setting correct?	Go to step 3.	Change the Country Setting to the correct country.
3	1. Check the Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when the printer is turned On?	Replace the Scanner Controller Board (page 8-99).	Complete.

NVM Error

NVM error has occurred. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 117-363:** NVM Error (NVM Sum Check Error)
- **Chain Link:** Controller Initialized NVM

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Turn the printer power Off and back On. 2. Does the error still occur?	Go to step 2.	Complete.
2	1. Check the Country setting information on the Control Panel: System > Admin Menu > Fax Settings > Country. 2. Is the Country setting correct?	Go to step 3.	Change the Country Setting to the correct country.
3	1. Check the Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when the printer is turned On?	Replace the Scanner Controller Board (page 8-99).	Complete.

Task Error

The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 117-322:** Error (SYSMGR Task Error)
- **Chain Link 117-328:** Error (MSCAN Task Error)
- **Chain Link 117-335:** Error (DFAX Task Error)
- **Chain Link 117-336:** Error (PULL Task Error)
- **Chain Link 117-337:** Error (IITTX Task Error)
- **Chain Link 117-340:** Error (HOOK Task Error)
- **Chain Link 117-344:** Error (FLASHFILE Task Error)
- **Chain Link 117-348:** Error (IITRX Task Error)
- **Chain Link 117-349:** Error (SCANMGR Task Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Turn the printer power Off and back On. 2. Does the error still occur?	Go to step 2.	Complete.
2	1. Check the Country setting information on the Control Panel: System > Admin Menu > Fax Settings > Country. 2. Is the Country setting correct?	Go to step 3.	Change the Country Setting to the correct country.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
3	1. Check the Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when the printer is turned On?	Replace the Scanner Controller Board (page 8-99).	Complete.

Fax Error

The Fax has failed. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 033-502:** Fax Error (File Open Error)
- **Chain Link 133-234:** Fax Error (JBIG Parameter Error)
- **Chain Link 133-235:** Fax Error (MHR Parameter Error)
- **Chain Link 133-236:** Fax Error (MHR Encode Error)
- **Chain Link 133-239:** Fax Error (FAX ECM Buffer Address Error)
- **Chain Link 133-240:** Fax Error (Resolution Change Error)
- **Chain Link 133-241:** Fax Error (Memory Pool Get Error)
- **Chain Link 133-242:** Fax Error (Memory Pool Reverse Error)
- **Chain Link 133-243:** Fax Error (Message Send Error)
- **Chain Link 133-244:** Fax Error (Memory Receive Error)
- **Chain Link 133-246:** Fax Error (Memory Pool Get Error)
- **Chain Link 133-247:** Fax Error (Message Send Error)
- **Chain Link 133-248:** Fax Error (Memory Pool Reverse Error)
- **Chain Link 133-249:** Fax Error (Message Receive Error)
- **Chain Link 133-251:** Fax Error (File Open Error)
- **Chain Link 133-252:** Fax Error (File Close Error)
- **Chain Link 133-253:** Fax Error (File Erase Error)
- **Chain Link 133-254:** Fax Error (Mem Full)
- **Chain Link 133-259:** Fax Error (OS Call Error)
- **Chain Link 133-260:** Fax Error (File Open Error)
- **Chain Link 133-261:** Fax Error (File Close Error)
- **Chain Link 133-269:** Fax Error (File Close Error)
- **Chain Link 133-271:** Fax Error (Memory Pool Get Error)
- **Chain Link 133-272:** Fax Error (Message Send Error)
- **Chain Link 133-273:** Fax Error (Memory Pool Release Error)
- **Chain Link 133-274:** Fax Error (Message Receive Error)
- **Chain Link 133-275:** Fax Error (OS Call Error)
- **Chain Link 133-276:** Fax Error (File Open Error)
- **Chain Link 133-277:** Fax Error (File Close Error)

- **Chain Link 133-278:** Fax Error (File Erase Error)
- **Chain Link 133-279:** Fax Error (Maximum Reception Lines Over)
- **Chain Link 133-280:** Fax Error (EER_FAX_TIME)
- **Chain Link 133-282:** Fax Error (Memory Pool Get Error)
- **Chain Link 133-283:** Fax Error (Message Send Error)
- **Chain Link 133-286:** Fax Error (OS Call Error)
- **Chain Link 133-287:** Fax Error (File Open Error)
- **Chain Link 133-288:** Fax Error (File Close Error)
- **Chain Link 133-289:** Fax Error (File Erase Error)
- **Chain Link 133-290:** Fax Error (Print Decode Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Scanner Controller Board, PL9.1.1	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Turn the printer power Off and back On. 2. Does the error still occur?	Go to step 2.	Complete.
2	1. Check the Country setting information on the Control Panel: System > Admin Menu > Fax Settings > Country. 2. Is the Country setting correct?	Go to step 3.	Change the Country Setting to the correct country.
3	1. Check the Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when the printer is turned On?	Replace the Scanner Controller Board (page 8-99).	Complete.

Report Error

Report Error has occurred. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 017-980:** Report Error (Report File Open/Close Error)
- **Chain Link 117-314:** Report Error (Report Program Error)
- **Chain Link 133-281:** Fax Report Error (Power Off Report Create Fail)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Turn the printer power Off and back On. 2. Does the error still occur?	Go to step 2.	Complete.
2	1. Check the Country setting information on the Control Panel: System > Admin Menu > Fax Settings > Country. 2. Is the Country setting correct?	Go to step 3.	Change the Country Setting to the correct country.
3	1. Check the Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when the printer is turned On?	Replace the Scanner Controller Board (page 8-99).	Complete.

Fax Communication Error

Fax communication has occurred. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 033-512:** Fax Communication Error (Modem Parameter Exchange Error)
- **Chain Link 033-513:** Fax Communication Error (Stop Communication in Memory Full)
- **Chain Link 033-751:** Fax Communication Error (Over Run)
- **Chain Link 033-764:** Fax Communication Error (Draw Data Create Not Do)
- **Chain Link 035-730:** Fax Communication Error (RS Request CS NOT ON)
- **Chain Link 035-779:** Fax Communication Error (FAX FWD Document Change Error)
- **Chain Link 133-231:** Fax Communication Error (T_FAXCOM Data Receive I/F Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Scanner Controller Board, PL9.1.1	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Turn the printer power Off and back On. 2. Does the error still occur?	Go to step 2.	Complete.
2	1. Check the Country setting: System > Admin Menu > Fax Settings > Country. 2. Is the Country setting correct?	Go to step 3.	Change the Country Setting to the correct country.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
3	1. Check the Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when the printer is turned On?	Replace the Scanner Controller Board (page 8-99).	Complete.

Target Fax Busy Error

The Fax has detected busy tone after dialing. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 035-781:** Target Fax Busy Error (Detect Busy Tone)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Scanner Controller Board, PL9.1.1	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Is the dial number correct?	Go to step 2.	Set the correct dial number.
2	Is the telephone line busy?	Wait for ten minutes and re-dial.	Go to step 3.
3	1. Check the Fax Parameter setting: Service Mode > Fax/Scanner Diag > Parameter. 2. Enter Chain Link 825-662. 3. Does the value [Hex] show number 2 (MMR)? (refer to "Chain Link for Fax Parameter Setting" on page A-9 for detailed information)	Go to step 4.	Change the value ([Hex]) to 2.
4	1. Check the Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when faxing?	Replace the Scanner Controller Board (page 8-99).	Complete.

Target Fax Busy Error

The target device opens the line by detecting busy tone while calling the external telephone. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 033-752:** Target Fax Busy (During Call Busy Tone)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 ■ Fax Board, PL9.1.3 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Is the dial number correct?	Go to step 2.	Set the correct dial number.
2	1. Check the telephone line connection. Reconnect the telephone line connector on the Scanner Controller Board. 2. Does the error still occur when faxing?	Go to step 3.	Complete.
3	1. Check the Fax Board installation. Reseat the Fax Board (page 8-98). 2. Does the error still occur when faxing?	Go to step 4.	Complete.
4	1. Check the Scanner Controller Board installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when faxing?	Replace the Scanner Controller Board (page 8-99).	Complete.

Fax Communication Error

The Fax job has failed. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 033-753:** Fax Communication Error (CJ Not Detection)
- **Chain Link 033-754:** Fax Communication Error (V8 Error)
- **Chain Link 033-755:** Fax Communication Error (Phase2 Error)
- **Chain Link 033-756:** Fax Communication Error (Phase3 Error)
- **Chain Link 033-757:** Fax Communication Error (Primary Channel Synchronization Error)
- **Chain Link 033-758:** Fax Communication Error (Control Channel Synchronization Error)
- **Chain Link 033-759:** Fax Communication Error (Control Channel Retrain Error)
- **Chain Link 033-760:** Fax Communication Error (Control Channel Off Time Out)
- **Chain Link 033-761:** Fax Communication Error (Primary Channel Off Time Out)
- **Chain Link 035-706:** Fax Communication Error (Fall Back Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Scanner Controller Board, PL9.1.1	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Is the dial number correct?	Go to step 2.	Set the correct dial number.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
2	1. Check the telephone line connection. Reconnect the telephone line connector on the Scanner Controller Board. 2. Does the error still occur when faxing?	Go to step 3.	Complete.
3	1. Check the Fax Board installation. Reseat the Fax Board (page 8-98). 2. Does the error still occur when faxing?	Go to step 4.	Complete.
4	1. Check the Scanner Controller Board installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when faxing?	Replace the Scanner Controller Board (page 8-99).	Complete.

Fax Communication Error

The Fax has failed to received transmission signal. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 033-762:** Fax Communication Error (DM Prevention Function Receive Refuse)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Fax setting: System > Admin Menu > Fax Settings > Junk Fax Filter . 2. Is Junk Fax Filter On?	Complete.	Go to step 2.
2	1. Check the Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur?	Replace the Scanner Controller Board (page 8-99).	Complete.

Fax Communication Error

The Fax did not read the document in manual transmission. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 033-763:** Fax Communication Error (Manual Transmission Read Manuscript Not Do)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 ■ ADF Scanner Assembly, PL11.1.1 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Turn the printer power Off and back On. 2. Does the error still occur when faxing?	Go to step 2.	Complete.
2	1. Replace the Scanner Controller Board (page 8-99). 2. Does the error still occur when faxing?	Replace the ADF Scanner Assembly (page 8-103).	Complete.

Fax Codec Error

The Fax has failed. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 033-769:** Fax Codec Error (JBIG NEWLEN Marker Error)
- **Chain Link 033-772:** Fax Codec Error (Undefined Marker Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Is the dial number correct?	Go to step 2.	Set the correct dial number.
2	1. Check the telephone line connection. Reconnect the telephone line connector on the Scanner Controller Board. 2. Does the error still occur when faxing?	Go to step 3.	Complete.
3	1. Check the Fax Board installation. Reseat the Fax Board (page 8-98). 2. Does the error still occur when faxing?	Go to step 4.	Complete.
4	1. Check the Scanner Controller Board installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when faxing?	Replace the Scanner Controller Board (page 8-99).	Complete.

Fax Codec Error

The Fax has failed. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 033-773:** Fax Codec Error (Undefined Marker Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 ■ Fax Board, PL9.1.3 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Is the dial number correct?	Go to step 2.	Set the correct dial number.
2	1. Check the Parameter setting: Service Mode > Fax/Scanner Diag Parameter. 2. Does Chain Link value 825-662 show on the Control Panel menu?	Go to step 3.	Set the Chain Link value to 825-662.
3	1. Check the country setting: System > Admin Menu > Fax Settings > Country. 2. Is the country setting correct?	Go to step 4.	Set the country setting to the correct country.
4	1. Check the Fax Board for correct installation. Reseat the Fax Board (page 8-98). 2. Does the error still occur when faxing?	Go to step 5.	Complete.
5	1. Check the Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when faxing?	Replace the Scanner Controller Board (page 8-99).	Complete.

Fax Codec Error

The Fax has failed. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 033-500:** Fax Codec Error (FAX RX JPEG Data Limit Over)
- **Chain Link 033-511:** Fax Codec Error (MH/MR/MMR Decode Error)
- **Chain Link 033-514:** Fax Codec Error (JPEG DNL/SOF 0 Error)
- **Chain Link 033-515:** Fax Codec Error (JPEG Nf Error)
- **Chain Link 033-775:** Fax Codec Error (FAX RX Encode Output Buffer Over)
- **Chain Link 033-777:** Fax Codec Error (FAX RX Decode Input Buffer Over)
- **Chain Link 033-782:** Fax Codec Error (NSS/DCS Function Disagreement)
- **Chain Link 033-784:** Fax Codec Error
- **Chain Link 033-799:** Fax Codec Error (Maximum Reception Lines Over)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the fax cable connection for correct installation. Reconnect the fax cable on the Scanner Controller Board. 2. Does the error still occur?	Go to step 2.	Complete.
2	1. Check the Fax protocol: System > Information Pages > Protocol Monitor . 2. Does the sending fax meet the specifications?	Go to step 3.	Change the sending fax side setting.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
3	1. Check the country setting: System > Admin Menu > Fax Settings > Country . 2. Is the country setting correct?	Go to step 4.	Set the country setting to the correct country.
4	1. Check Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when faxing?	Replace the Scanner Controller Board (page 8-99).	Complete.

Incorrect Password

The DFAX password does not match with the Fax/Scan Lock password. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 033-517:** Incorrect Password (DFAX Password Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Scanner Controller Board, PL9.1.1	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the password setting: System > Admin Menu > Secure Settings > Scan/Fax Lock . 2. Is the password correct?	Go to step 2.	Set the password.
2	1. Check the Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when the printer is turned On?	Replace the Scanner Controller Board (page 8-99).	Complete.

Fax Codec Error

The Fax has failed. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 033-501:** Fax Codec Error

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 ■ ADF Scanner Assembly, PL11.1.1 	<ul style="list-style-type: none"> ■ “Map 3 - Image Processor Board and Dispenser Motors” on page 10-12 ■ “General Wiring Diagram” on page 10-23

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the user operation. 2. Does the user operate the Fax machine correctly?	Go to step 2.	Retry the Fax operation.
2	1. Check the wiring harness connectors P/J60, P/J62, P/J63, P/J64, and P/J65 on the Scanner Controller Board. Reconnect the connectors. 2. Does the error still occur when faxing?	Go to step 3.	Complete.
3	1. Replace the ADF Scanner Assembly (page 8-103). 2. Does the error still occur when the printer power is turned On?	Replace the Scanner Controller Board (page 8-99).	Complete.

Fax Codec Error

The Fax has failed. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 033-765:** Fax Codec Error (File Pointer Error)
- **Chain Link 033-766:** Fax Codec Error (Target File Opening)
- **Chain Link 033-767:** Fax Codec Error (MMR MN86064 Decode Error)
- **Chain Link 033-768:** Fax Codec Error (ATMove Counter Over)
- **Chain Link 033-770:** Fax Codec Error (YD Error)
- **Chain Link 033-771:** Fax Codec Error (Abort Marker Error)
- **Chain Link 033-774:** Fax Codec Error (FAX TX Encode Output Buffer Over)
- **Chain Link 033-776:** Fax Codec Error (SCAN Encode Output Buffer Over)
- **Chain Link 033-786:** Fax Codec Error
- **Chain Link 133-237:** Fax Codec Error (MHR Input Buffer Error)
- **Chain Link 133-238:** Fax Codec Error (MHR Output Buffer Error)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Scanner Controller Board, PL9.1.1	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Turn the printer power Off and back On. 2. Does the error still occur?	Go to step 2.	Complete.
2	1. Check the Country setting: System > Admin Menu > Fax Settings > Country. 2. Is the Country setting correct?	Go to step 3.	Change the Country Setting to the correct country.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
3	1. Check the Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when the printer is turned On?	Replace the Scanner Controller Board (page 8-99).	Complete.

Fax Job Cancelled

Fax Job Cancelled has occurred. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 033-789:** Fax Job Cancelled (Cancel)
- **Chain Link 033-790:** Fax Job Cancelled (Cancel)
- **Chain Link 033-791:** Fax Job Cancelled (Cancel)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Turn the printer power Off and back On. 2. Does the error still occur?	Go to step 2.	Complete.
2	1. Check the Country setting: System > Admin Menu > Fax Settings > Country . 2. Is the Country setting correct?	Go to step 3.	Change the Country Setting to the correct country.
3	1. Check the Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when the printer is turned On?	Replace the Scanner Controller Board (page 8-99).	Complete.

Fax Send Error

The Fax has failed. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 033-795:** Fax Send Error (Fax Send Count Limit)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Scanner Controller Board, PL9.1.1	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the original documents. 2. Are the documents 100 sheets or more?	Go to step 2.	To go step 3.
2	1. Separate the original documents into small sections to be faxed. 2. Does the error still occur when faxing?	Go to step 3.	Complete.
3	1. Check the Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when faxing?	Replace the Scanner Controller Board (page 8-99).	Complete.

Fax Communication Error

The Fax signal was not sent. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 034-508:** Fax Communication Error (Command Refuse Signal Send)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 ■ ADF Scanner Assembly, PL11.1.1 	<ul style="list-style-type: none"> ■ “Automatic Document Feeder Wiring Diagram” on page 10-53

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Turn the printer power Off and back On. 2. Does the error still occur?	Go to step 2.	Complete.
2	1. Replace the Scanner Control Board (page 8-99). 2. Does the error still occur when copying and faxing?	Replace the ADF Scanner Assembly (page 8-103).	Complete.

Fax Communication Error

The Fax has received illegal command. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 034-515:** Fax Communication Error (DIS DCS Illegal Command Send)
- **Chain Link 035-792:** Fax Communication Error (MJ Not Detection)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 ■ ADF Scanner Assembly, PL11.1.1 	<ul style="list-style-type: none"> ■ “Map 3 - Image Processor Board and Dispenser Motors” on page 10-12 ■ “General Wiring Diagram” on page 10-23

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the user operation. 2. Does the user operate the Fax machine correctly?	Go to step 2.	Retry the Fax operation.
2	1. Check the wiring harness connectors P/J60, P/J62, P/J63, P/J64, and P/J65 on the Scanner Controller Board. Reconnect the connectors. 2. Does the error still occur when faxing?	Go to step 3.	Complete.
3	1. Replace the ADF Scanner Assembly (page 8-103). 2. Does the error still occur when the printer power is turned On?	Replace the Scanner Controller Board (page 8-99).	Complete.

Fax Number Error

The Fax does not have dial information. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 034-799:** Fax Number Error (No Dial Data)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Scanner Controller Board, PL9.1.1	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Is the dial number correct?	Go to step 2.	Set the correct dial number.
2	1. Check the country setting: System > Admin Menu > Fax Settings > Country . 2. Is the country setting correct?	Go to step 3.	Set the correct country setting.
3	1. Check the Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when faxing?	Replace the Scanner Controller Board (page 8-99).	Complete.

Target Fax No Answer

The Fax has failed. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 035-702:** Fax Communication Error (Receive DCN)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Scanner Controller Board, PL9.1.1	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the fax number. 2. Is the fax number correct?	Go to step 2.	Enter the correct fax number.
2	1. Check the telephone line connection. Reseat the telephone line connector on the Scanner Controller Board. 2. Does the error still occur when faxing?	Go to step 3.	Complete.
3	1. Check the country setting: System > Admin Menu > Fax Settings > Country. 2. Is the country setting correct?	Go to step 4.	Set the correct country setting.
4	1. Check the Fax Board for correct installation. Reseat the Fax Board (page 8-98). 2. Does the error still occur?	Go to step 5.	Complete.
5	1. Check the Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when faxing?	Replace the Scanner Controller Board (page 8-99).	Complete.

Fax Communication Error

The Fax has failed. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 035-702:** Fax Communication Error (Receive DCN)
- **Chain Link 035-704:** Fax Communication Error (Not Send Ability)
- **Chain Link 035-705:** Fax Communication Error (DCS/NSS Resend Over)
- **Chain Link 035-708:** Fax Communication Error (Post Message Resend Over)
- **Chain Link 035-709:** Fax Communication Error (G3 Send RTN/PIN Receive)
- **Chain Link 035-710:** Fax Communication Error (Receive PIN)
- **Chain Link 035-716:** Fax Communication Error (T2 Time Out)
- **Chain Link 035-717:** Fax Communication Error (G3 Receive RTN Send)
- **Chain Link 035-728:** Fax Communication Error (G3 EOL Not Receive)
- **Chain Link 035-729:** Fax Communication Error (Career Cut)
- **Chain Link 035-737:** Fax Communication Error (CTC/EOR Resend Over)
- **Chain Link 035-739:** Fax Communication Error (T5 Time Out)
- **Chain Link 035-740:** Fax Communication Error (ECM Send EOR-Q Send)
- **Chain Link 035-742:** Fax Communication Error (ECM Receive EOR-Q Receive)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the fax cable connection for correct installation. Reconnect the fax cable on the Scanner Controller Board. 2. Does the error still occur?	Go to step 2.	Complete.
2	1. Check the fax protocol: System > Information Pages > Protocol Monitor . 2. Does the sending fax meet the specifications?	Go to step 3.	Change the sending fax side setting.
3	1. Check the country setting: System > Admin Menu > Fax Settings > Country . 2. Is the country setting correct?	Go to step 4.	Set the correct country setting.
4	1. Check Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when faxing?	Replace the Scanner Controller Board (page 8-99).	Complete.

Target Fax No Answer

The Fax has failed. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 035-718:** Target Fax No Answer (Receive T1 Time Out)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Scanner Controller Board, PL9.1.1	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the telephone line connection. Reconnect the telephone line connector on the Scanner Controller Board. 2. Does the error still occur when faxing?	Go to step 2.	Complete.
2	1. Check the sending fax side protocol: on the Configuration page: System > Information Pages . 2. Does the Protocol Monitor meet the specifications?	Go to step 3.	Change the sending fax side setting.
3	1. Check the printer setting: System > Admin Menu > Fax Settings > Country . 2. Is the Country setting correct?	Go to step 4.	Set the correct Country setting.
4	1. Check the Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when faxing?	Replace the Scanner Controller Board (page 8-99).	Complete.

Fax Communication Error

The Fax has failed to received the transmission. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 035-720:** Fax Communication Error (Not Receive Ability)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Scanner Controller Board, PL9.1.1	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Fax specifications. 2. Does the receiving Fax meet specification?	Go to step 2.	Change the receiving Fax setting or send to a different Fax location.
2	1. Check the country setting: System > Admin Menu > Fax Settings > Country . 2. Is the country setting correct?	Go to step 3.	Set the correct country setting.
3	1. Check the Scanner Controller Board installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when faxing?	Go to step 4.	Complete.
4	1. Fax to a different location. 2. Does the error still occur when faxing?	Replace the Scanner Controller Board (page 8-99).	Complete. Check the receiving Fax side.

No Dial Tone

The Fax does not detect dial tone before dialing. The following troubleshooting procedure applies to this error.

Applicable Chain Link

- **Chain Link 035-746:** No Dial Tone (Before Dial Dial Tone)

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Scanner Controller Board, PL9.1.1	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Is the dial number correct?	Go to step 2.	Set the correct dial number.
2	1. Check the country setting: System > Admin Menu > Fax Settings > Country . 2. Is the country setting correct?	Go to step 3.	Set the correct country setting.
3	1. Check the Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when faxing?	Replace the Scanner Controller Board (page 8-99).	Complete.

EEPROM Error

EEPROM error has occurred. The following troubleshooting procedure applies to these errors.

Applicable Chain Link

- **Chain Link 117-315:** EEPROM Error
- **Chain Link 117-350:** EEPROM Error
- **Chain Link 117-362:** EEPROM Error

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Scanner Controller Board, PL9.1.1 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Turn the printer power Off and back On. 2. Does the error still occur?	Go to step 2.	Complete.
2	1. Check the Country setting: System > Admin Menu > Fax Settings > Country . 2. Is the Country setting correct?	Go to step 3.	Set the correct country setting.
3	1. Check the Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the error still occur when the printer is turned On?	Replace the Scanner Controller Board (page 8-99).	Complete.

General Troubleshooting

In this chapter...

- Introduction
- System Startup
- Power On Self Test (POST)
- Service Diagnostics
- Service Diagnostics Menu Map
- Printer Components
- Duplex Components
- Service Diagnostics Tests
- Control Panel Troubleshooting
- Inoperable Printer Troubleshooting
- AC Power Supply Troubleshooting
- DC Power Supply Troubleshooting
- +24 VDC Interlock Switch
- Fax Troubleshooting
- Abnormal and Electrical Noise
- Operating System and Application Problems

Chapter 4

Introduction

This chapter covers the System Startup, Power On Self Test (POST), Service Diagnostics, and troubleshooting problems that are not associated with a Chain Link code or Control Panel error message.

For troubleshooting problems associated with a Chain Link code or Control Panel error message, refer to “Error Messages and Codes” on page 3-1. Print-quality problems are covered in “Print-Quality Troubleshooting” on page 5-1.

System Startup

The printer requires approximately 20 seconds to complete this sequence. A typical startup from a cold start contains the following steps:

1. When the power switch is turned On, the “Health” LED on the Image Processor Board turns On immediately.
2. The Boot Loader checks for RAM present and functional. If an error is detected, RAM ERROR is displayed and the Health LEDs alternately blink at 1/2 second intervals.
3. The Boot Loader then loads and performs POST diagnostics.
4. POST turns Off the Health LED.
5. POST checks the Control Panel.
6. The Control Panel LED cycles: Green and Red simultaneously, and Green.
7. The Control Panel LED turns Green and Red and **Please Wait...** message is displayed.
8. The Control Panel message changes to **Ready Calibrating** and then **Xerox (TM) Print Cartridge**.
9. The Control Panel LED turns Green and the **Ready** message is displayed.

Power On Self Test (POST)

POST Diagnostics provide a quick means of isolating a defective subsystem associated with the Image Processor Board and SDRAM. POST returns control to the boot loader and the operating system is loaded.

The following tests are performed when the printer is powered On.

1. Power On.
2. Initializes ASIC.
3. Checks RAM.
 - Chain Link 116-315 is displayed if Included RAM does not match.
 - Chain Link 116-316 is displayed if Extended RAM does not match.
 - Chain Link 116-320 is displayed if Extended RAM is not supported.
4. Processes the ROM Sum Check.
 - Chain Link 116-310 is displayed if FONT block does not match.
 - Chain Link 116-317 is displayed if another block does not match.
5. Initializes the Panel driver.
 - No additional message is displayed.
6. Initializes Memory Manager.
7. Initializes EEPROM driver.
 - Chain Link 116-323 is displayed if the error is found in EEPROM0.
 - Chain Link 116-326 is displayed if the error is found in EEPROM1.
8. Starts the Operating System process.
 - a. Initializes the Operation System resource.
 - b. Starts up process of some device drivers as follows:
 - PCI driver (Chain Link 116-333 is displayed if there is an improper device)
 - IEEE1284 driver
 - USB driver
 - NIC driver
 - HDD driver (Chain Link 116-350 is displayed if the communication error occurs)
 - Video DMA driver
 - c. Starts up all tasks
9. Checks and initializes CRU Register.
10. Initializes the Print Engine Controller.
 - Chain Link 024-371 is displayed if the communication error occurs.
11. Printer is Ready.

POST Test Description

Test	Chain Link	Description
CodeROM	116-317	This test calculates the ROM checksum chip by chip and compares it with the value stored in the CodeROM itself. Checksum error is in the main program ROM.
FontROM		This test calculates the FontROM checksum chip by chip and compares it with the value stored in the FontROM itself.
	116-310	Checksum error is in the built-in FontROM.
	116-317	Checksum error is in the main program ROM.
EEPROM		This test writes/reads/verifies on the diagnostic area of the EEPROM.
	116-323	Error is detected in EEPROM0 during initialization.
	116-326	Error is detected in EEPROM1 during initialization.
DRAM		This test checks OPEN/SHORT of the address line of the DRAM. This test also writes/reads/verifies on the entire DRAM.
	116-315	Error is detected if included RAM is different.
	116-316	Error is detected if extended RAM is different.
	116-320	Error is detected if extended RAM is not supported.
MAC+PHY Test	116-352 116-392 116-393 116-394	This test performs PHY internal loopback.
ASIC	116-343	Performs register test.
IOT	024-371	This test performs communication test with the Engine. This test also checks for communication failure between the Engine and Controller.

Service Diagnostics

The Phaser 6180MFP has built-in diagnostics that allow access to Sensors, Clutches, Solenoids, printer status, turning the motors On and Off, and some NVRAM access. Using these tests, service technicians should be able to diagnose the problems quickly 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 Service Diagnostics 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 “Service Diagnostics” on page 4-5.

Entering Service Diagnostics

1. Turn the printer power Off.
2. Press and hold the **Up** and **Down Arrow** buttons simultaneously and turn the printer power On.
3. **Please wait...** message is displayed.
4. Continue to hold the buttons until the **Service Mode** message is displayed on the Control Panel and release the buttons.
5. Select the appropriate option to perform diagnostics procedures.
 - Fax/Scanner Diag
 - Printer Diag

Using Service Diagnostics

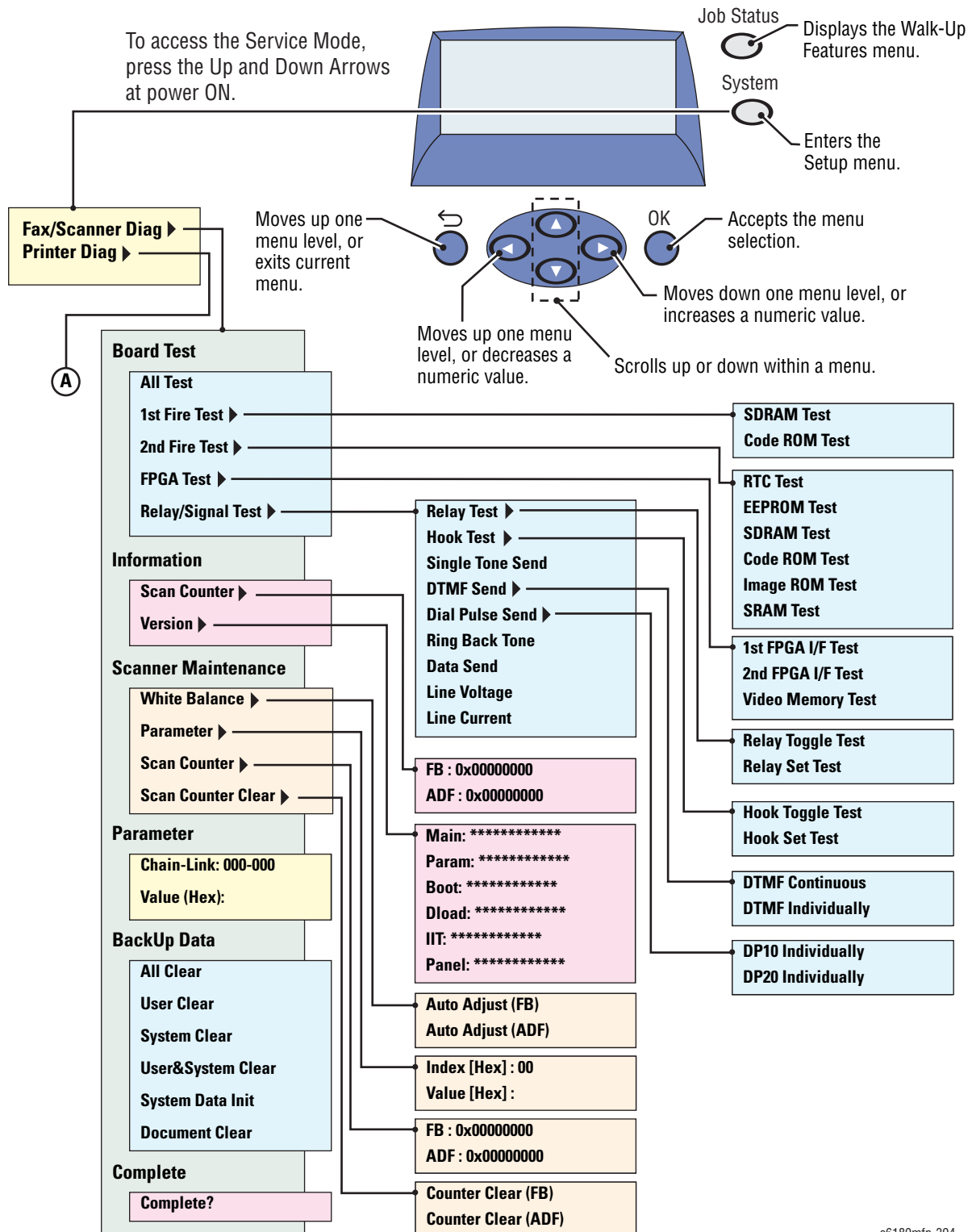
Most of the diagnostic tests are straightforward and require no additional explanation, but there are some that require specific conditions be met to achieve meaningful results. These instructions cover each of the test groups, listing special instructions, conditions, or other information necessary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

Service Diagnostics Control Panel Button Descriptions

Button	Function
Menu	Displays printer menu.
Up	Moves from one item to another.
Down	Moves from one item to another.
Left	Moves the cursor to the left.
Right	Moves the cursor to the right.
OK	Confirms settings or executes a task.
Exit	Resets a diagnostic item, cancels a task, or exit the menu.
System	Exit out of the current menu.
Wake Up	Function not available in Diagnostics mode.

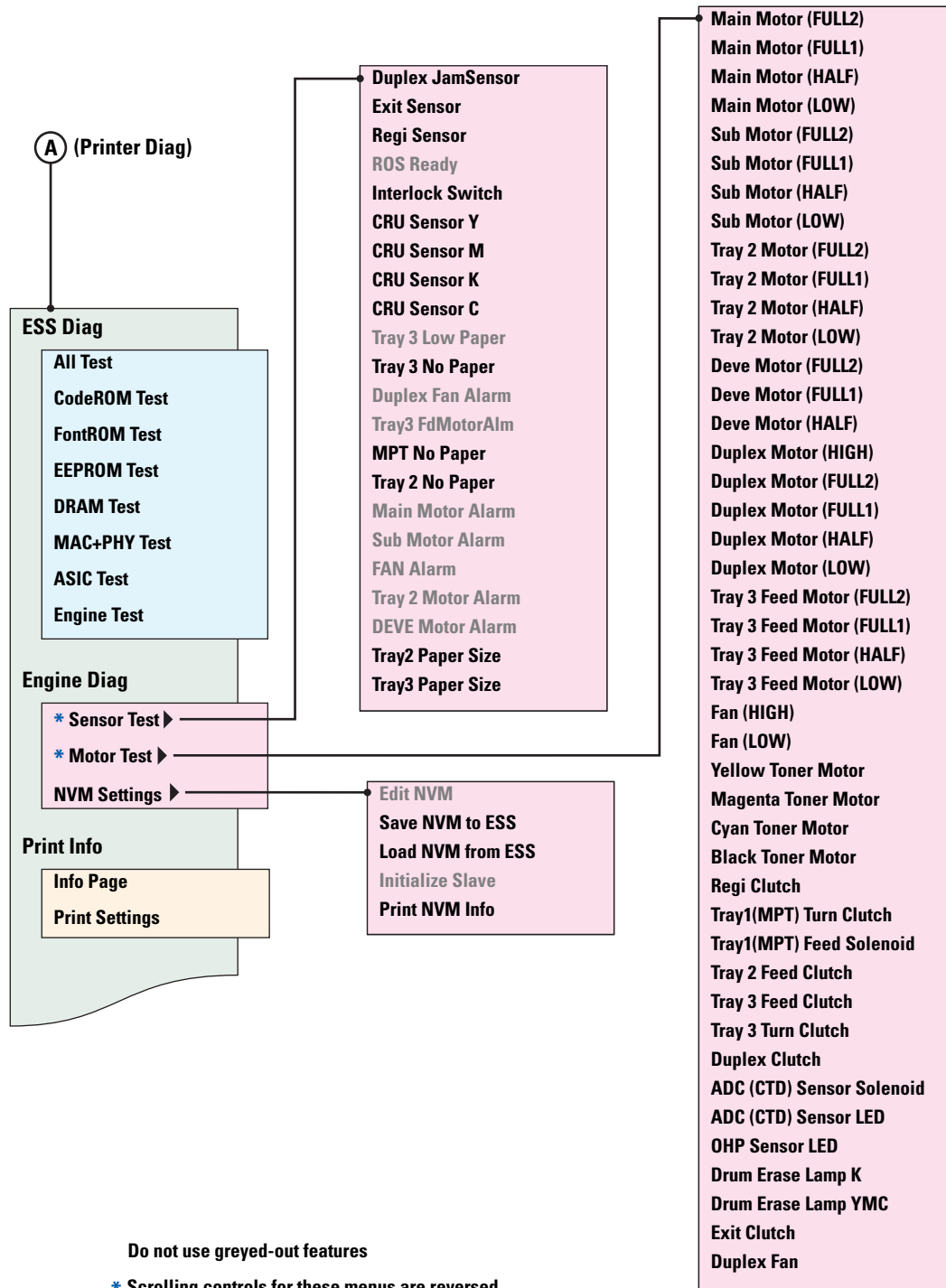
Service Diagnostics Menu Map

Fax/Scanner Diag



s6180mp-394

Printer Diag

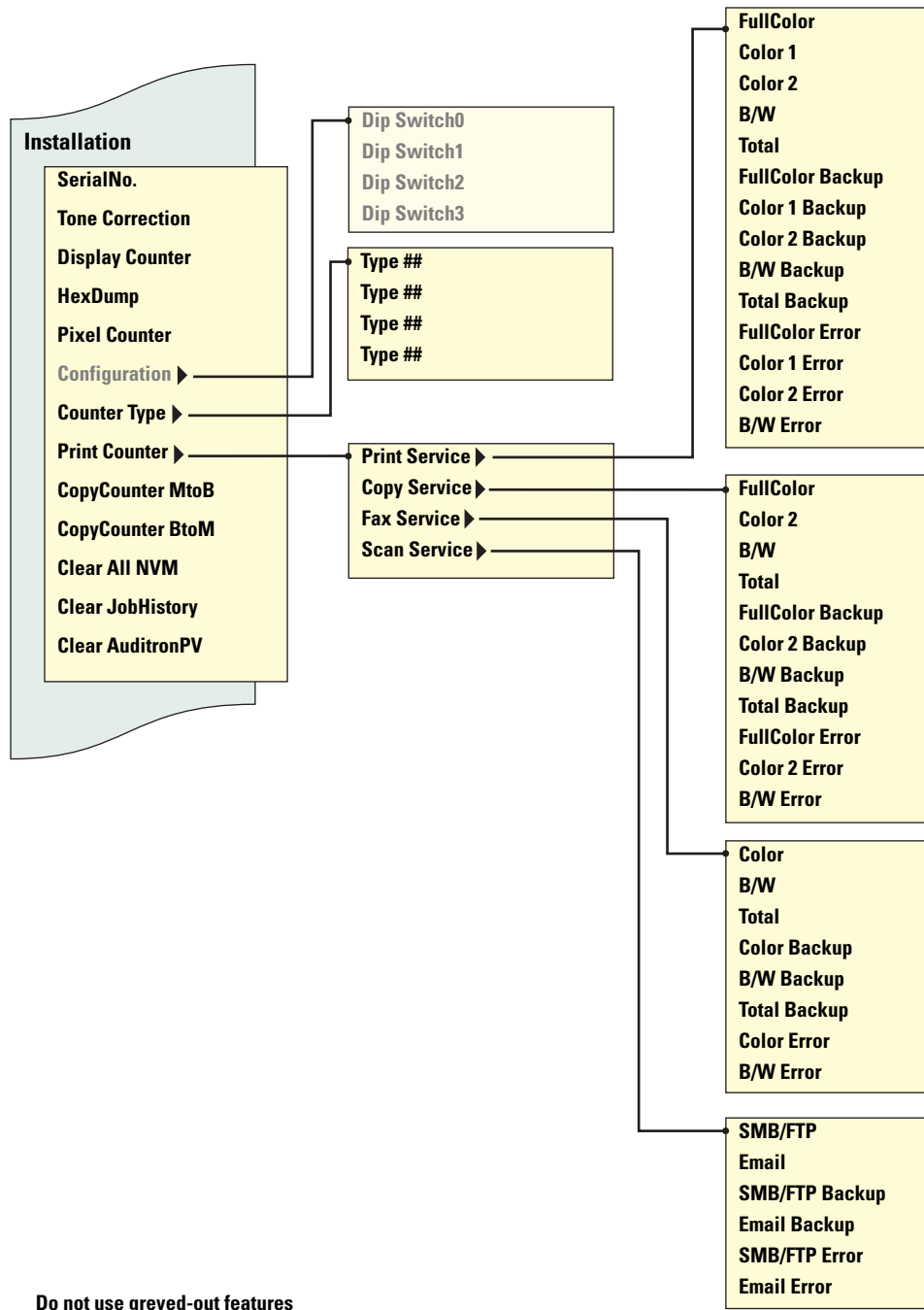


Do not use greyed-out features

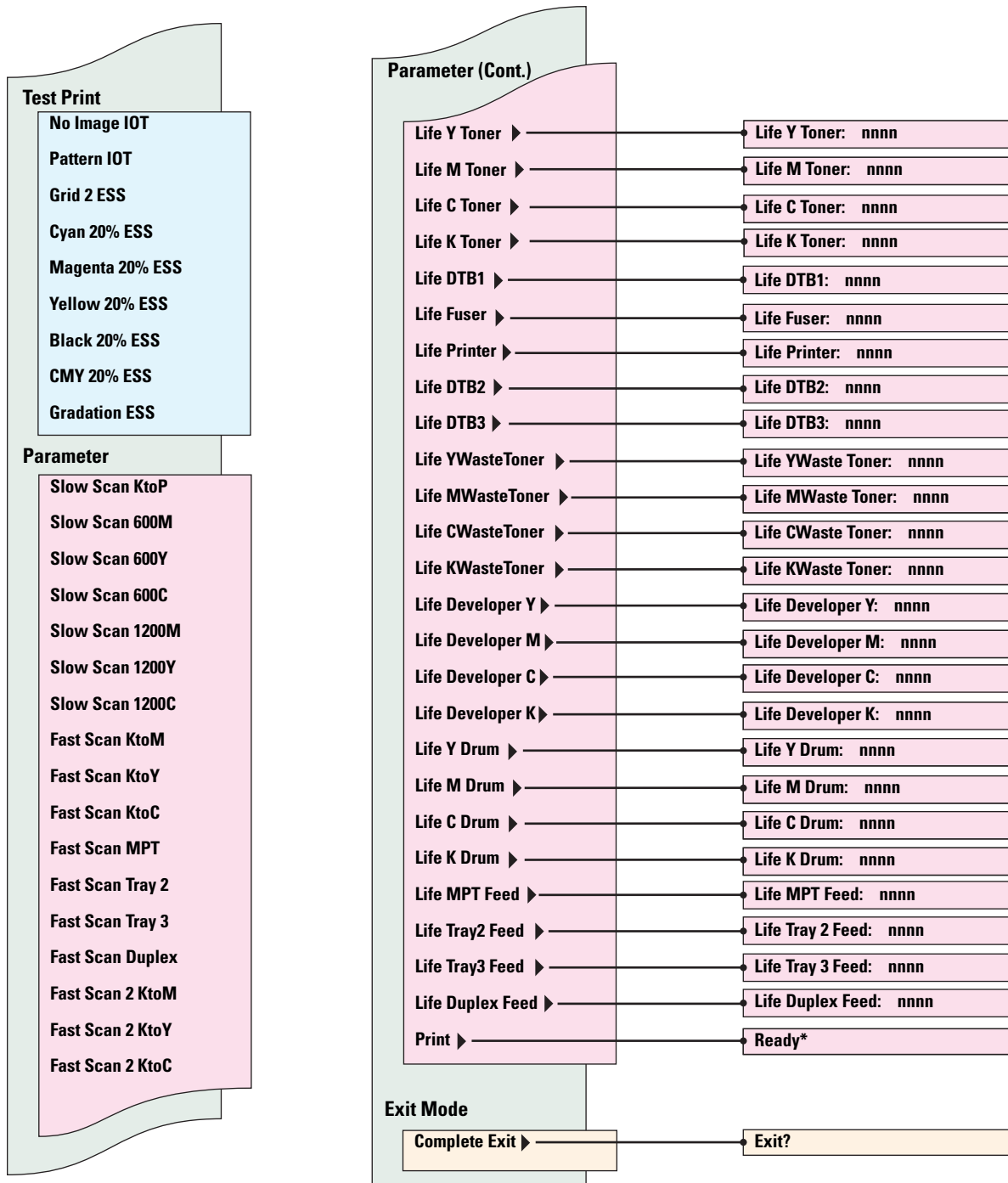
* Scrolling controls for these menus are reversed

s6180mfp-379

Printer Diag (cont.)



Printer Diag (cont.)

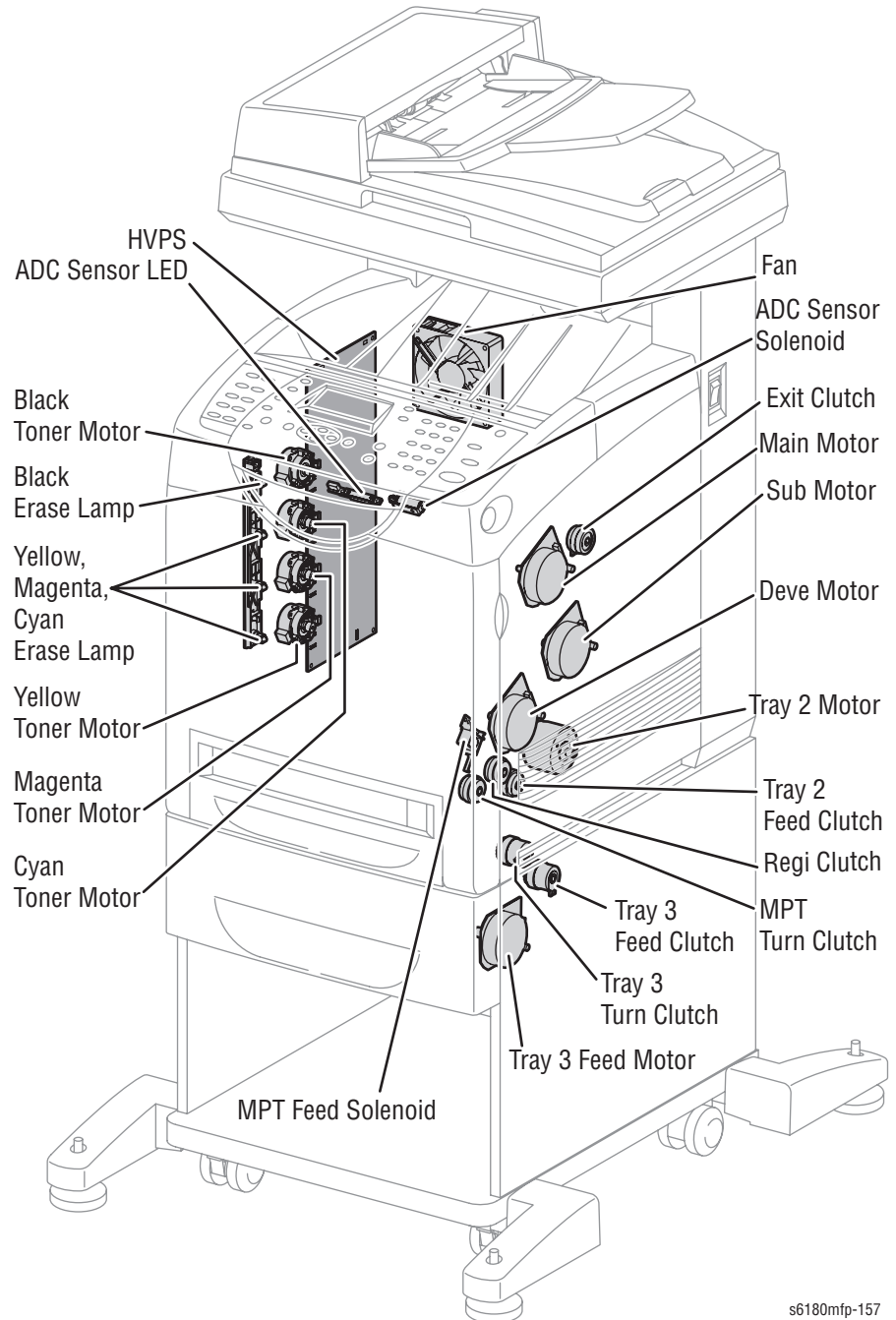


*Prints current parameters

s6180mfp-393

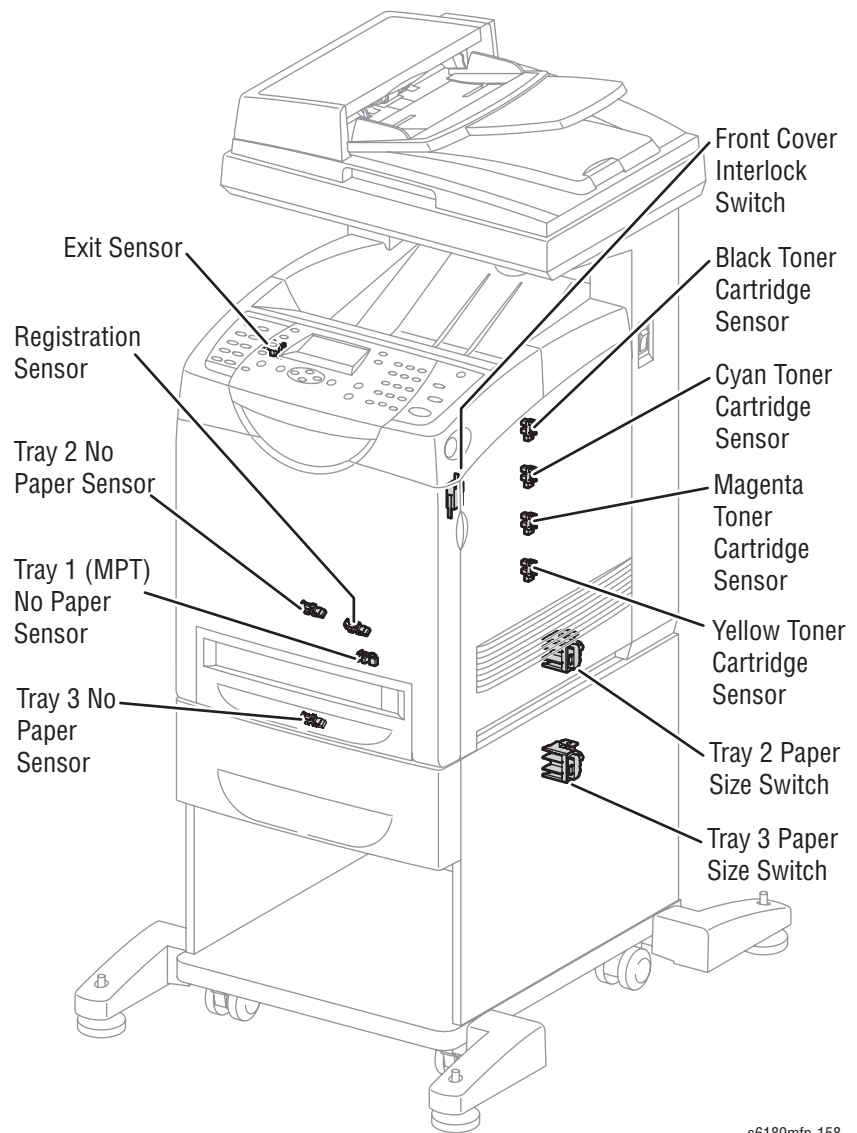
Printer Components

Motors, Clutches, Solenoids, Lamps



s6180mfp-157

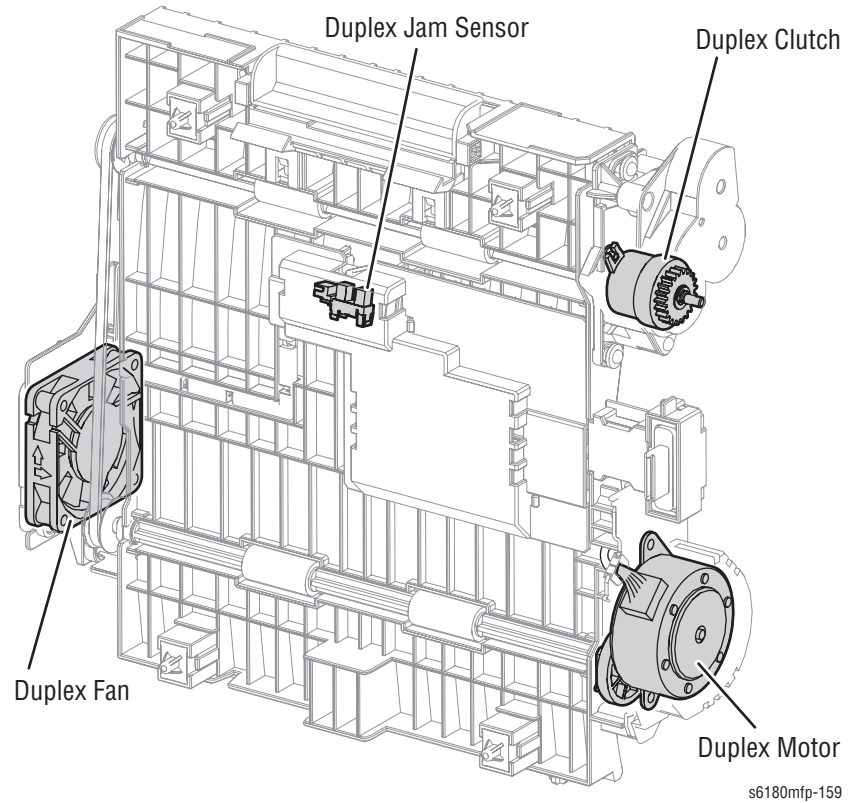
Sensors



s6180mfp-158

Duplex Components

Clutch, Fan, Motor, Sensor



Service Diagnostics Tests

Service Diagnostic Tests and Utilities

Printer Diag Test Table

Test	Control Panel Display	Test Description
ESS Diag	Tests memory devices on the Controller.	
All Test	All Test <ul style="list-style-type: none"> ■ Start ■ Processing ■ Check OK ■ ***ERROR 	Tests all Controller Diag tests except for the MAC+PHY and Control Panel tests.
CodeROM Test	CodeROM Test <ul style="list-style-type: none"> ■ Start ■ Processing ■ Check OK ■ CodeROM#* ERROR ■ S=xxxx V=yyyy 	<p>Calculates the ROM checksum chip by chip and compares it with the value stored in the CodeROM itself beforehand.</p> <p>When the checksum is identical to the stored value, this test determines the chip is normal.</p> <p>Note: Run this test when error 116-317 occurs.</p>
FontROM Test	FontROM Test <ul style="list-style-type: none"> ■ Start ■ Processing ■ Check OK ■ FontROM ERROR ■ S=xxxx V=yyyy 	<p>Calculates the Font ROM checksum chip by chip and compares it with the value stored in the FontROM itself beforehand.</p> <p>When the checksum is identical to the stored value, this test determines the chip is normal.</p> <p>Note: Run this test when errors 116-310 and 116-311 occur.</p>
EEPROM Test	EEPROM Test <ul style="list-style-type: none"> ■ Start ■ Processing ■ Check OK ■ EEPROM ID* ERROR (*:1,2) 	<p>Performs write/read/verification of the test patterns (0xff, 0xaa, 0x55, and 0x00) on one byte at every 0x400 from the first address of EEPROM.</p> <p>Note: Run this test when errors 116-323, 116-324, and 116-327 occur.</p>
DRAM Test	DRAM Test <ul style="list-style-type: none"> ■ Start ■ Processing ■ Check OK ■ DRAM slot* ERROR (*: 0,1) 	<p>Tests Open/Short with the address line of the DRAM, and performs write/read/verification on the entire DRAM. When the optional DRAM SIMM is checked and found, it checks the optional memory area.</p> <p>Note: Run this test when errors 116-315, 116-316, 116-318, 116-332, and 116-335 occur.</p>

Printer Diag Test Table (continued)

Test	Control Panel Display	Test Description
MAC+PHY Test	MAC+PHY Test <ul style="list-style-type: none"> ■ Start ■ Processing ■ Check OK <ul style="list-style-type: none"> ■ MAC+PHY ERROR 	Tests PHY Internal loopback test. Note: Run this test when errors 016-334, 016-340, 016-344, 016-345, 016-346, and 016-347 occur.
ASIC Test	ASIC Test <ul style="list-style-type: none"> ■ Start ■ Check OK <ul style="list-style-type: none"> ■ ASIC ERROR 	Performs register test. Note: Run this test when error 116-343 occurs.
Engine Test	Engine Test <ul style="list-style-type: none"> ■ Start ■ Check OK <ul style="list-style-type: none"> ■ Engine ERROR 	Performs communication test with the Engine Controller. Then it reads the status register of the engine to check whether commands can be exchanged with the engine. Note: Run this test when error 016-370 occurs.
Engine Diag	Performs function checks on the components whether they operate normally or not. Note: During Engine Diag test, other Service Diagnostics functions cannot be performed simultaneously.	
Sensor Test	Tests the sensors and switches of the printer. When a paper jam is occurred, or an error message or code is displayed, run this test to locate the damage components. Note: The Low/High values can be 0 to 99, and they can be incremented as the sensor state changes. This value is incremented up when a sensor or switch is turned On from Off, which allows the user to know the component is active.	
Duplex Jam Sensor	Duplex JamSensor <ul style="list-style-type: none"> ■ OFF ■ L - 0 ■ H - 0 	Tests the Duplex Jam Sensor.
Exit Sensor	Exit Sensor <ul style="list-style-type: none"> ■ OFF ■ L - 0 ■ H - 0 	Tests the Exit Sensor.
Regi Sensor	Regi Sensor <ul style="list-style-type: none"> ■ OFF ■ L - 0 ■ H - 0 	Tests the Registration Sensor.

Printer Diag Test Table (continued)

Test	Control Panel Display	Test Description
ROS Ready <i>(Do not use)</i>	ROS Ready ■ OFF ■ L - 0 ■ H - 0	Tests the Laser Unit.
Interlock Switch	Interlock Switch ■ OFF ■ L - 0 ■ H - 0	Tests the Front Cover Interlock Switch.
CRU Sensor (Y)	CRU Sensor Y ■ OFF ■ L - 0 ■ H - 0	Tests the Yellow Print Cartridge Sensor.
CRU Sensor (M)	CRU Sensor M ■ OFF ■ L - 0 ■ H - 0	Tests the Magenta Print Cartridge Sensor.
CRU Sensor (K)	CRU Sensor K ■ OFF ■ L - 0 ■ H - 0	Tests the Black Print Cartridge Sensor.
CRU Sensor (C)	CRU Sensor C ■ OFF ■ L - 0 ■ H - 0	Tests the Cyan Print Cartridge Sensor.
Tray 3 Low Paper <i>(Do not use)</i>	Tray 3 Low Paper ■ OFF ■ L - 0 ■ H - 0	Tests the Tray 3 Low Paper Sensor.
Tray 3 No Paper	Tray 3 No Paper ■ OFF ■ L - 0 ■ H - 0	Tests the Tray 3 No Paper Sensor.
Duplex Fan Alarm <i>(Do not use)</i>	Duplex Fan Alarm ■ OFF ■ L - 0 ■ H - 0	Tests Duplex Fan Alarm.
Tray 3 Feed Motor Alarm <i>(Do not use)</i>	Tray 3 FdMotorAlm ■ OFF ■ L - 0 ■ H - 0	Tests Tray 3 Feed Motor Alarm.
MPT No Paper	MPT No Paper ■ OFF ■ L - 0 ■ H - 0	Tests the Tray 1 No Paper Sensor.

Printer Diag Test Table (continued)

Test	Control Panel Display	Test Description
Tray 2 No Paper	Tray 2 No Paper <ul style="list-style-type: none"> ■ OFF ■ L - 0 ■ H - 0 	Tests the Tray 2 No Paper Sensor.
Main Motor Alarm <i>(Do not use)</i>	Main Motor Alarm <ul style="list-style-type: none"> ■ OFF ■ L - 0 ■ H - 0 	Tests Main Motor Alarm.
Sub Motor Alarm <i>(Do not use)</i>	Sub Motor Alarm <ul style="list-style-type: none"> ■ OFF ■ L - 0 ■ H - 0 	Tests Sub Motor Alarm.
Fan Alarm <i>(Do not use)</i>	FAN Alarm <ul style="list-style-type: none"> ■ OFF ■ L - 0 ■ H - 0 	Tests Fan Alarm.
Tray 2 Motor Alarm <i>(Do not use)</i>	Tray2 Motor Alarm <ul style="list-style-type: none"> ■ OFF ■ L - 0 ■ H - 0 	Tests Tray 2 Motor Alarm.
Deve Motor Alarm <i>(Do not use)</i>	DEVE Motor Alarm <ul style="list-style-type: none"> ■ OFF ■ L - 0 ■ H - 0 	Tests Developer Motor Alarm.
Tray 2 Paper Size	Tray2 Paper Size <ul style="list-style-type: none"> ■ OFF ■ L - 0 ■ H - 0 ■ Paper Size (Letter - 8.5x11) 	Tests the Tray 2 Paper Size Switch.
Tray 3 Paper Size	Tray3 Paper Size <ul style="list-style-type: none"> ■ OFF ■ L - 0 ■ H - 0 ■ Paper Size (Legal - 8.5x14) 	Tests the Tray 3 Paper Size Switch.
Motor Test	<Press the Up or Down button to move from one item to another>	Tests the Motors of the printer.
Main Motor (Full2)	Main Motor (FULL2) <ul style="list-style-type: none"> ■ Ready ■ EXEC 	Tests the Main Motor.
Main Motor (Full1)	Main Motor (FULL1) <ul style="list-style-type: none"> ■ Ready ■ EXEC 	

Printer Diag Test Table (continued)

Test	Control Panel Display	Test Description
Main Motor (Half)	Main Motor (HALF) ■ Ready ■ EXEC	
Main Motor (Low)	Main Motor (LOW) ■ Ready ■ EXEC	
Sub Motor (Full2)	Sub Motor (FULL2) ■ Ready ■ EXEC	Tests the Sub Motor.
Sub Motor (Full1)	Sub Motor (FULL1) ■ Ready ■ EXEC	
Sub Motor (Half)	Sub Motor (HALF) ■ Ready ■ EXEC	
Sub Motor (Low)	Sub Motor (LOW) ■ Ready ■ EXEC	
Tray 2 Motor (Full2)	Tray 2 Motor (FULL2) ■ Ready ■ EXEC	Tests the Tray 2 Motor.
Tray 2 Motor (Full1)	Tray 2 Motor (FULL1) ■ Ready ■ EXEC	
Tray 2 Motor (Half)	Tray 2 Motor (HALF) ■ Ready ■ EXEC	
Tray 2 Motor (Low)	Tray 2 Motor (LOW) ■ Ready ■ EXEC	
Deve Motor (Full2)	Deve Motor (FULL2) ■ Ready ■ EXEC	Tests the Developer Motor.
Deve Motor (Full1)	Deve Motor (FULL1) ■ Ready ■ EXEC	
Deve Motor (Half)	Deve Motor (HALF) ■ Ready ■ EXEC	
Duplex Motor (High)	Duplex Motor (HIGH) ■ Ready ■ EXEC	Tests the Duplex Motor.

Printer Diag Test Table (continued)

Test	Control Panel Display	Test Description
Duplex Motor (Full2)	Duplex Motor (FULL2) ■ Ready ■ EXEC	
Duplex Motor (Full1)	Duplex Motor (FULL1) ■ Ready ■ EXEC	
Duplex Motor (Half)	Duplex Motor (HALF) ■ Ready ■ EXEC	
Duplex Motor (Low)	Duplex Motor (LOW) ■ Ready ■ EXEC	
Tray 3 Feed Motor (Full2)	Tray 3 Feed Motor (FULL2) ■ Ready ■ EXEC	Tests the Tray 3 Feed Motor.
Tray 3 Feed Motor (Full1)	Tray 3 Feed Motor (FULL1) ■ Ready ■ EXEC	
Tray 3 Feed Motor (Half)	Tray 3 Feed Motor (HALF) ■ Ready ■ EXEC	
Tray 3 Feed Motor (Low)	Tray 3 Feed Motor (LOW) ■ Ready ■ EXEC	
Fan (High)	Fan (HIGH) ■ Ready ■ EXEC	Tests the printer Fan.
Fan (Low)	Fan (LOW) ■ Ready ■ EXEC	
Yellow Toner Motor	Yellow Toner Motor ■ Ready ■ EXEC	Tests the yellow Toner Motor.
Magenta Toner Motor	Magenta Toner Motor ■ Ready ■ EXEC	Tests the magenta Toner Motor.
Cyan Toner Motor	Cyan Toner Motor ■ Ready ■ EXEC	Tests the cyan Toner Motor.

Printer Diag Test Table (continued)

Test	Control Panel Display	Test Description
Black Toner Motor	Black Toner Motor ■ Ready ■ EXEC	Tests the black Toner Motor.
Regi Clutch	Regi Clutch ■ Ready ■ EXEC	Tests the Registration Clutch.
Tray1 (MPT) Turn Clutch	Tray1(MPT) Turn Clutch ■ Ready ■ EXEC	Tests the Tray 1 Turn Clutch.
Tray 1 (MPT) Feed Solenoid	Tray1(MPT) Feed Solenoid ■ Ready ■ EXEC	Tests the Tray 1 Feed Solenoid.
Tray 2 Feed Clutch	Tray 2 Feed Clutch ■ Ready ■ EXEC	Tests the Tray 2 Feed Clutch.
Tray 3 Feed Clutch	Tray 3 Feed Clutch ■ Ready ■ EXEC	Tests the Tray 3 Feed Clutch.
Tray 3 Turn Clutch	Tray 3 Turn Clutch ■ Ready ■ EXEC	Tests the Tray 3 Turn Clutch.
Duplex Clutch	Duplex Clutch ■ Ready ■ EXEC	Tests the Duplex Clutch.
ADC (TCD) Sensor Solenoid	ADC (TCD) Sensor Solenoid ■ Ready ■ EXEC	Tests the ADC Sensor Solenoid.
ADC (TCD) Sensor LED	ADC (TCD) Sensor LED ■ Ready ■ EXEC	Tests the ADC Sensor LED.
OHP Sensor LED <i>(Do not use)</i>	OHP Sensor LED ■ Ready ■ EXEC	Tests the OHP Sensor LED.
Drum Erase Lamp K	Drum Erase Lamp K ■ Ready ■ EXEC	Tests the black Erase Lamp.
Drum Erase Lamp YMC	Drum Erase Lamp YMC ■ Ready ■ EXEC	Tests the yellow, magenta, and cyan Erase Lamps.
Exit Clutch	Exit Clutch ■ Ready ■ EXEC	Tests the Exit Clutch.

Printer Diag Test Table (continued)

Test	Control Panel Display	Test Description
Duplex Fan	Duplex Fan <ul style="list-style-type: none"> ■ Ready ■ EXEC 	Tests the Duplex Fan.
NVM Settings	<Press the Up or Down button to move from one item to another> <Press the Cancel button to move one level up the menu> <Press the Set button to move to the execution level>	Edits, saves, loads, and prints NVRAM information.
Edit NVM <i>(Do not use)</i>	Edit NVM <ul style="list-style-type: none"> ■ Ad0000=00000000* ■ Please wait <Press the Left or Right button to move the cursor> <Press the Up or Down button to change the value at the cursor> <Press the OK button to save the value in Engine NVM> <Press the Exit button to move one level up the menu>	Displays the current NVRAM value. Use this function to edit NVRAM information.
Save NVM to ESS	SaveNVM to ESS <ul style="list-style-type: none"> ■ SaveNVM to ESS OK? ■ Processing ■ Saved ■ Please wait <Press the OK button to save the value in the Controller NVM> <Press the Exit button to move one level up the menu>	Saves the NVRAM information of the Engine in the Controller. NVRAM addresses to be saved are as follows: 1000-10FF, Total: 256Byte Note: Information saved in the Controller NVM can be initialized using Clear All NVM .

Printer Diag Test Table (continued)

Test	Control Panel Display	Test Description
Load NVM from ESS	<p>LoadNVM from ESS</p> <ul style="list-style-type: none"> ■ LoadNVM from ESS OK? ■ Processing ■ Loaded ■ Please wait <p><Press the OK button to load the value saved in the Controller NVM to the Engine></p> <p><Press the Exit button to move one level up the menu></p>	<p>Loads NVRAM information of the Engine saved in the Controller into the Engine.</p> <p>1000-10FF / 1100-11FF / 1200-12FF</p> <p>Note: Information saved in the Controller NVM can be initialized using Clear All NVM.</p>
Initialize Slave <i>(Do not use)</i>	<p>Initialize Slave</p> <ul style="list-style-type: none"> ■ Initialize Slave OK? ■ Processing ■ Initialized ■ Please wait <p><Press the OK button to run Slave Initialization></p> <p><Press the Exit button to move one level up the menu></p>	<p>Initializes Slave.</p>
Print NVM Info	<p>Print NVM Info</p> <ul style="list-style-type: none"> ■ Processing ■ Please wait <p><Press the Set button to run the test></p> <p><Press the Cancel button to move one level up the menu></p>	<p>Prints NVRAM information saved in the Controller.</p>
Print Info Provides printer configurations and settings information.		
<p>Menu Buttons</p> <p><Press the Up or Down button to move from one item to another></p> <p><Press the Exit button to move one level up the menu></p> <p><Press the OK button to move to the execution level></p>		

Printer Diag Test Table (continued)

Test	Control Panel Display	Test Description
Info Page	Info Page <ul style="list-style-type: none"> ■ Ready ■ Processing 	Prints the software version of the printer controller. Use this function to verify the printer configuration. The Configuration Page contains: <ul style="list-style-type: none"> ■ Engine installation unit information ■ Standard Tray ■ Optional Tray (displaying version) ■ Optional Duplex Unit (displaying version) ■ Engine ROM Revision No. ■ MCU NVM Revision No.
Print Settings	Print Settings <ul style="list-style-type: none"> ■ Ready ■ Processing 	Prints the configured settings through the Control Panel. The Print Settings page contains: <ul style="list-style-type: none"> ■ Serial No. ■ HexDump On/Off Information ■ Tone Correction On/Off Information ■ Color Print Count ■ B/W Print Count ■ Total Print Count ■ Color Backup Count ■ B/W Backup Count ■ Total Backup Count ■ Color Error Count ■ B/W Error Count
Installation	Provides printer installation information.	
Serial No.	SerialNo. <ul style="list-style-type: none"> ■ GNXxxxxx or <ul style="list-style-type: none"> ■ GPXxxxxx 	Displays the 6 digit Serial Number. <p>Note: This information is not initialized with any key action.</p>
Tone Correction	Tone Correction <ul style="list-style-type: none"> ■ ON * ■ OFF <Press the Up or Down button to switch Tone Correction On/Off> <Press the OK button to save the setting and move one level up the menu> <Press the Exit button to move one level up the menu without saving the value>	Controls TRC in conjunction with process control to keep the printer density constant. This function is implemented to turn Off tone correction control in case correction exceeds the limit due to machine-to-machine variation. Sets the printer Tone Correction mode On/Off. <p>Note: When the Tone Correction has been changed, an "*" is displayed next to the text.</p> <p>Note: This information can be initialized by Initialize NVM (System > Admin Menu > Maintenance > Initialize NVM).</p>

Printer Diag Test Table (continued)

Test	Control Panel Display	Test Description
Display Counter	<p>Display Counter</p> <ul style="list-style-type: none"> ■ ON * ■ OFF <p><Press the Up or Down button to switch Display Counter On/Off></p> <p><Press the OK button to save the setting and move one level up the menu></p> <p><Press the Exit button to move one level up the menu without saving the value></p>	<p>Displays the current Display Counter On/Off information and sets mode On/Off.</p> <p>Note: This information is not initialized with any key action.</p>
Hex Dump	<p>HexDump</p> <ul style="list-style-type: none"> ■ OFF * ■ ON <p><Press the Up or Down button to switch HexDump On/Off></p> <p><Press the OK button to save the setting and move one level up the menu></p> <p><Press the Exit button to move one level up the menu without saving the value></p>	<p>Displays the current HexDump On/Off information and sets mode On/Off.</p> <p>Note: This information is initialized by Clear All NVM.</p> <p>Note: When the Counter Type has been changed, an "*" is displayed next to the text.</p>
Pixel Counter	<p>Pixel Counter</p> <ul style="list-style-type: none"> ■ Y: nn.n ■ C: nn.n ■ M: nn.n ■ K: nn.n <p><Press the OK or Exit button to move one level up the menu></p>	<p>Displays the ratio (% used) of the number of pixel per C/M/Y/K counted by the Controller to A4 size area except 4 mm area from the edge on the last page print.</p> <ul style="list-style-type: none"> ■ 100% = empty print cartridge <p>The value is rounded off to one decimal place.</p> <p>For B/W print, only K is displayed.</p> <p>The ranges are from 0-100% for each color (CMYK).</p>
Configuration (Do not use - for Development Only)	<p>Configuration</p> <ul style="list-style-type: none"> ■ Dip Switch0 ■ 00000000 * ■ Dip Switch1 ■ 00000000 * ■ Dip Switch2 ■ 00000000 * ■ Dip Switch3 ■ 00000000 * 	<p>Operates the DIP switch on NVRAM of the Controller.</p> <p>Available values are 0 and 1.</p> <p>Note: This information is initialized by Clear All NVM.</p>

Printer Diag Test Table (continued)

Test	Control Panel Display	Test Description
Counter Type	Counter Type <ul style="list-style-type: none">■ Type1*■ Type2■ Type3■ Type4 <Press the Up or Down button to change counter type> <Press the OK button to save the setting> <Press the Exit button to move one level up the menu>	Sets counter type from 1-4. Note: When the Counter Type has been changed, an “*” is displayed next to the text.

Printer Diag Test Table (continued)

Test	Control Panel Display	Test Description
Print Counter	<p>Menu Buttons <Press the Up or Down button to move from one item to another> <Press the Exit button to move one/two level(s) up the menu> <Press the OK button to run the test></p> <p>Print Counter Print Service Full Color ■ n Color 1 ■ n Color 2 ■ n B/W ■ n Total ■ n FullColor Backup ■ n Color 1 Backup ■ n Color 2 Backup ■ n B/W Backup ■ n Total Backup ■ n FullColor Error ■ n Color 1 Error ■ n Color 2 Error ■ n B/W Error ■ n</p>	Operates the print counter.

Printer Diag Test Table (continued)

Test	Control Panel Display	Test Description
	Print Counter	
	Copy Service	
	Full Color	
	■ n	
	Color 2	
	■ n	
	B/W	
	■ n	
	Total	
	■ n	
	FullColor Backup	
	■ n	
	Color 2 Backup	
	■ n	
	B/W Backup	
	■ n	
	Total Backup	
	■ n	
	FullColor Error	
	■ n	
	Color 2 Error	
	■ n	
	B/W Error	
	■ n	
	Print Counter	
	Fax Service	
	Color	
	■ n	
	B/W	
	■ n	
	Total	
	■ n	
	Color Backup	
	■ n	
	B/W Backup	
	■ n	
	Total Backup	
	■ n	
	Color Error	
	■ n	
	B/W Error	
	■ n	

Printer Diag Test Table (continued)

Test	Control Panel Display	Test Description
	<p>Print Counter</p> <p>Scan Service</p> <p>SMB/FTP</p> <ul style="list-style-type: none"> ■ n <p>Email</p> <ul style="list-style-type: none"> ■ n <p>SMB/FTP Backup</p> <ul style="list-style-type: none"> ■ n <p>Email Backup</p> <ul style="list-style-type: none"> ■ n <p>SMB/FTP Error</p> <ul style="list-style-type: none"> ■ n <p>Email Error</p> <ul style="list-style-type: none"> ■ n 	
<p>Copy Counter MtoB</p>	<p>CopyCounter MtoB</p> <ul style="list-style-type: none"> ■ OK? ■ Processing ■ Copied <p><Press the Exit button to move one level up the menu></p> <p><Press the OK button to run the test></p>	<p>Copies the values from Master NVRAM to Backup NVRAM.</p> <ul style="list-style-type: none"> ■ Device-specific information called * ■ “Personal info” in the first 128 Byte ■ PV counter master ■ Printer counter master
<p>Copy Counter BtoM</p>	<p>CopyCounter BtoM</p> <ul style="list-style-type: none"> ■ OK? ■ Processing ■ Copied <p><Press the Exit button to move one level up the menu></p> <p><Press the OK button to run the test></p>	<p>Copies the values from Backup NVRAM to Master NVRAM.</p> <ul style="list-style-type: none"> ■ Device-specific information called “Personal info” in the first 128 Byte. ■ PV counter backup ■ Printer counter backup
<p>Clear All NVM</p>	<p>Clear All NVM</p> <ul style="list-style-type: none"> ■ OK? ■ Processing ■ Initialized <p><Press the Exit button to move one level up the menu></p> <p><Press the OK button to run the test></p>	<p>Clears all NVRAM of the Controller including billing.</p>

Printer Diag Test Table (continued)

Test	Control Panel Display	Test Description
Clear Job History	Clear JobHistory <ul style="list-style-type: none"> ■ OK? ■ Processing ■ Initialized <Press the Exit button to move one level up the menu> <Press the OK button to run the test>	Deletes the job history data. Note: Job History can also be initialized by Clear All NVM .
Clear Auditron PV	Clear AuditronPV <ul style="list-style-type: none"> ■ OK? ■ Processing ■ Initialized <Press the Exit button to move one level up the menu> <Press the OK button to run the test>	Initializes Auditron or Print Volume. Print Volume and Auditron work exclusively and share the setting memory area. When Auditron is enabled, user account and restricted information is cleared. When Print Volume is enabled, Print Volume Counter is initialized. Note: AuditronPV can also be initialized by Clear All NVM .
Test Print	Provides various test prints to be used for troubleshooting the printer. Menu Buttons <Press the Up or Down button to switch from one item to another> <Press the Exit button to move one/two level(s) up the menu> <Press the OK button to run the test>	
No Image IOT	No Image IOT <ul style="list-style-type: none"> ■ Ready ■ Processing 	Prints a blank page.
Pattern IOT	Pattern IOT <ul style="list-style-type: none"> ■ Ready ■ Processing 	Prints the printer built-in Test Pattern 600 DPI. This test checks the print function of the printer.
Grid 2 ESS	Grid 2 ESS <ul style="list-style-type: none"> ■ Ready ■ Processing 	Prints the Controller built-in grid pattern. This test checks the print function of the printer.
Cyan 20% ESS	Cyan 20% ESS <ul style="list-style-type: none"> ■ Ready ■ Processing 	Prints 20% density paint pattern of cyan on the whole page.
Magenta 20% ESS	Magenta 20% ESS <ul style="list-style-type: none"> ■ Ready ■ Processing 	Prints 20% density paint pattern of magenta on the whole page.
Yellow 20% ESS	Yellow 20% ESS <ul style="list-style-type: none"> ■ Ready ■ Processing 	Prints 20% density paint pattern of yellow on the whole page.
Black 20% ESS	Black 20% ESS <ul style="list-style-type: none"> ■ Ready ■ Processing 	Prints 20% density paint pattern of black on the whole page.

Printer Diag Test Table (continued)

Test	Control Panel Display	Test Description
CMY 20% ESS	CMY 20% ESS ■ Ready ■ Processing	Prints 20% density paint pattern of cyan, magenta, and black combined on the whole page.
Gradation ESS	Gradation ESS ■ Ready ■ Processing	Prints a pattern in which the density of each cyan, magenta, yellow, or black is varied from 0~100%.
Parameter	Reads/writes the parameter values, errors, and life counter values stored in the printer. Menu Buttons <Press the Up or Down button to move from one item to another or change the value> <Press the Exit button to move to one/two level(s) up the menu without saving the value> <Press the OK button to run the test or the value in NVM and move one level up the menu>	Note: After the setting has been changed, the “*” at the right end disappears. Sets registration in the paper feeding direction. Note: When the value is minimum or maximum, pressing the Up or Down button does not change the value.
Slow Scan KtoP	Slow Scan KtoP ■ -128 * ■ : ■ 127 *	Adjusts the registration in the paper feeding direction.
Slow Scan 600M	Slow Scan 600M ■ -30 * ■ : ■ 30 *	
Slow Scan 600Y	Slow Scan 600Y ■ -30 * ■ : ■ 30 *	
Slow Scan 600C	Slow Scan 600C ■ -30 * ■ : ■ 30 *	
Slow Scan 1200M	Slow Scan 1200M ■ -60 * ■ : ■ 60 *	
Slow Scan 1200Y	Slow Scan 1200Y ■ -60 * ■ : ■ 60 *	

Printer Diag Test Table (continued)

Test	Control Panel Display	Test Description
Slow Scan 1200C	Slow Scan 1200C ■ -60 * ■ : ■ 60 *	
Fast Scan KtoM	Fast Scan KtoM ■ -30 * ■ : ■ 30 *	Sets the registration in the scanning direction for Tray 1 (MPT), Tray 2, Tray 3, and Duplex Unit.
Fast Scan KtoY	Fast Scan KtoY ■ -30 * ■ : ■ 30 *	
Fast Scan KtoC	Fast Scan KtoC ■ -30 * ■ : ■ 30 *	
Fast Scan Tray 1 (MPT)	Fast Scan MPT ■ -30 * ■ : ■ 30 *	
Fast Scan Tray 2	Fast Scan Tray 2 ■ -30 * ■ : ■ 30 *	
Fast Scan Tray 3	Fast Scan Tray 3 ■ -30 * ■ : ■ 30 *	
Fast Scan Duplex	Fast Scan Duplex ■ -30 * ■ : ■ 30 *	
Fast Scan 2 KtoM	Fast Scan 2 KtoM ■ -1 * ■ : ■ 2 *	
Fast Scan 2 KtoY	Fast Scan 2 KtoY ■ -1 * ■ : ■ 2 *	
Fast Scan 2 KtoC	Fast Scan 2 KtoC ■ -1 * ■ : ■ 2 *	

Printer Diag Test Table (continued)

Test	Control Panel Display	Test Description
Life Y Toner	Life Y Toner ■ nnnn	Reads life counter of the yellow toner.
Life M Toner	Life M Toner ■ nnnn	Reads life counter of the magenta toner.
Life C Toner	Life C Toner ■ nnnn	Reads life counter of the cyan toner.
Life K Toner	Life K Toner ■ nnnn	Reads life counter of the black toner.
Life DTB1	Life DTB1 ■ nnnn	Reads life counter of the Belt Page Count.
Life Fuser	Life Fuser ■ nnnn	Reads life counter of the Fuser.
Life Printer	Life Printer ■ nnnn	Reads life counter of the Printer.
Life DTB2	Life DTB2 ■ nnnnn	Reads life counter of the Belt Waste Count.
Life DTB3	Life DTB3 ■ nnnn	Reads life counter of the Belt Rotation Count.
Life Y Waste Toner	Life YWaste Toner ■ nnnn	Reads life counter of the yellow Waste Toner.
Life M Waste Toner	Life MWaste Toner ■ nnnn	Reads life counter of the magenta Waste Toner.
Life C Waste Toner	Life CWaste Toner ■ nnnn	Reads life counter of the cyan Waste Toner.
Life K Waste Toner	Life KWaste Toner ■ nnnn	Reads life counter of the black Waste Toner.
Life Developer Y	Life Developer Y ■ nnnn	Reads life counter of the yellow Developer.
Life Developer M	Life Developer M ■ nnnn	Reads life counter of the magenta Developer.
Life Developer C	Life Developer C ■ nnnn	Reads life counter of the cyan Developer.
Life Developer K	Life Developer K ■ nnnn	Reads life counter of the black Developer.
Life Y Drum	Life Y Drum ■ nnnn	Reads life counter of the yellow OPC Drum.
Life M Drum	Life M Drum ■ nnnn	Reads life counter of the magenta OPC Drum.
Life C Drum	Life C Drum ■ nnnn	Reads life counter of the cyan OPC Drum.

Printer Diag Test Table (continued)

Test	Control Panel Display	Test Description
Life K Drum	Life K Drum ■ nnnn	Reads life counter of the black OPC Drum.
Life Tray 1 (MPT) Feed	Life MPT Feed ■ nnnn	Reads life counter of the Tray 1 (MPT) Feed.
Life Tray 2 Feed	Life Tray2 Feed ■ nnnn	Reads life counter of the Tray 2 Feed.
Life Tray 3 Feed	Life Tray3 Feed ■ nnnn	Reads life counter of the Tray 3 Feed.
Life Duplex Feed	Life Duplex Feed ■ nnnn	Reads life counter of the Duplex Feed.
Print	Print ■ Ready ■ Processing	Prints current parameters.
Exit Mode	Exits the Printer Diag menu.	
	Menu Buttons <Press the Exit button to move one/two level(s) up the menu> <Press the OK button to move to the Execution level or reboot the printer>	
Complete Exit	Complete Exit ■ Exit?	Exits the Service Diagnostic menu.

Fax/Scanner Diag

Test	Control Panel Display	Test Description
Board Test	Tests memory devices on the Board.	
All Test	All Test ■ Ready ■ Now checking ■ Check OK ■ All Tests OK ■ Check NG ■ All Tests NG SDRAM Test <1st> Code ROM Test <1st> RTC Test EEPROM Test SDRAM Test <2nd> Code ROM Test <2nd> Image ROM Test SRAM Test Video Memory Test	Tests all Boards of the Board tests.

Fax/Scanner Diag

Test	Control Panel Display	Test Description
1st Fire Test		
SDRAM Test	SDRAM Test <1st> <ul style="list-style-type: none"> ■ Ready ■ Now checking ■ Check OK/Check NG 	Performs write/read/verification on the SDRAM. Perform this test when error occurs: 017-970, 033-503, 062-320, 062-324, 117-311, 117-363, or 133-254.
Code ROM Test	Code ROM Test <1st> <ul style="list-style-type: none"> ■ Ready ■ Now checking ■ Check OK/Check NG 	Performs write/read/verification on the Code ROM. Run this test when error 117-310 occurs.
2nd Fire Test		
RTC Test	RTC Test <ul style="list-style-type: none"> ■ Ready ■ Now checking ■ Check OK/Check NG 	Data 2 and 3 are effective (only when they are configured). This test checks the Real Time Clock chip. Run this test when error 117-316 occurs. Note: The time becomes about 1-2 seconds behind the configured time after execution of the test.
EEPROM Test	EEPROM Test <ul style="list-style-type: none"> ■ Ready ■ Now checking ■ Check OK/Check NG 	Performs write/read/verification on the EEPROM (256 Byte). Run this test when error occurs: 117-315, 117-362, or 117-363.
SDRAM Test	SDRAM Test <2nd> <ul style="list-style-type: none"> ■ Ready ■ Now checking ■ Check OK/Check NG 	Performs write/read/verification on the SDRAM in the following areas: <ul style="list-style-type: none"> ■ Standard: Whole work area ■ Speed Up: Specified address of work Run this test when error occurs: 017-970, 033-503, 117-311, 117-363, or 133-254.
Code ROM Test	Code ROM Test <2nd> <ul style="list-style-type: none"> ■ Ready ■ Now checking ■ Check OK/Check NG 	Performs write/read/verification on the Code ROM in the following areas: <ul style="list-style-type: none"> ■ Standard: Whole ROM area (4MB) ■ Speed Up: Specified address of ROM Run this test when error occurs: 117-310 or 117-312.
Image ROM Test	Image ROM Test <ul style="list-style-type: none"> ■ Ready ■ Now checking ■ Check OK/Check NG 	Performs write/read/verification on the Image ROM in the following areas: <ul style="list-style-type: none"> ■ Standard: Whole ROM area (4MB) ■ Speed Up: Specified address of ROM Run this test when error occurs: 017-971, 017-972, 017-973, or 017-974.
SRAM Test	SRAM Test <ul style="list-style-type: none"> ■ Ready ■ Now checking ■ Check OK/Check NG 	Performs write/read/verification on the SRAM (128 KByte). Run this test when error occurs: 017-970, 033-503, 117-311, 117-363, or 133-254. Note: After writes and reads test, the values are not restored.

Fax/Scanner Diag

Test	Control Panel Display	Test Description
FPGA Test		
1st FPGA I/F Test	1st FPGA I/F Test <ul style="list-style-type: none"> ■ Ready ■ Now Checking ■ Check OK/Check NG 	Tests the register area of FPGA from 2nd.Fire Chip. This test generates accesses from 1st Fire to the register space of FPGA. Run this test when communication errors occur between Fax and Scanner occur.
2nd FPGA I/F Test	2nd FPGA I/F Test <ul style="list-style-type: none"> ■ Ready ■ Now Checking ■ Check OK/Check NG 	Tests the register area of FPGA from 1st.Fire Chip. This test generates accesses from 2nd Fire to the register space of FPGA. Run this test when communication errors occur between Fax and Scanner occur.
Video Memory Test	Video Memory Test <ul style="list-style-type: none"> ■ Ready ■ Now Checking ■ Check OK/Check NG 	Performs read/write/verification on the Video Memory. Run this test when error occurs: 017-970, 033-503, 062-324, or 133-254.
Relay/Signal Test		
Relay Test	Relay Test <Press the Left or Right button to move the cursor> <Press the Up or Down button to change the value at the cursor> <Press the OK button to save the value in Engine NVM> <Press the Exit button to move one level up the menu>	Switches the relay circuit between the Fax and telephone.
Relay Toggle Test	Relay Toggle Test <ul style="list-style-type: none"> ■ Time [10ms]:0000 ■ Now Switching 	This test switches the relay circuit ON/OFF between the Fax and telephone line at a predetermined cycle. Toggle test value can be set in the range of 50 to 9999, and the toggle interval is 10ms. Data 1: Default is 2 seconds.
Relay Set Test	Relay Set Test <ul style="list-style-type: none"> ■ Set ON [OPEN] ■ Set OFF [CLOSE] ■ Complete <Press the Up or Down button to change the value at the cursor>	This test connects the relay circuit selectively to the Fax or telephone line. <ul style="list-style-type: none"> ■ Set ON (open): Connected selectively to the Fax line. ■ Set OFF (closed): Connected selectively to the telephone line.
Hook Test	Hook Test	Switches the telephone line between the on-hook and off-hook states.

Fax/Scanner Diag

Test	Control Panel Display	Test Description
Hook Toggle Test	<p>Hook Toggle Test</p> <ul style="list-style-type: none"> ■ Time [10ms]:0000 ■ Now Switching <p><Press the Up or Down button to change the value at the cursor></p> <p><Press the Left or Right button to move the cursor></p>	<p>This test switches the telephone line between the on-hook and off-hook states at a predetermined cycle. The toggle test value can be set in the range of 50 to 9999, and the toggle interval is 10ms. Data 1: Default is 2 seconds.</p>
Hook Set Test	<p>Hook Set Test</p> <ul style="list-style-type: none"> ■ Set ON ■ Set OFF ■ Complete <p><Press the Up or Down button to change the value at the cursor></p>	<p>This test switches the telephone line selectively to the on-hook or off-hook state.</p> <ul style="list-style-type: none"> ■ Set ON (on-hook): Connected selectively to the on-hook circuit. ■ Set OFF (off-hook): Connected selectively to the off-hook circuit.
Single Tone Send	<p>Single Tone Send</p> <ul style="list-style-type: none"> ■ 0Hz, 400Hz, 462Hz, 1100Hz, 1300Hz, 1500Hz, 1650Hz, 1850Hz, 2100Hz, 500Hz, 600Hz, 900Hz, 1000Hz ■ Now Sending Signal ■ Complete 	<p>Checks the tone output for each single tone for tone dialing.</p>
DTMF Send	<p>DTMF Send</p>	<p>Note: Unplug phone line before performing this test to prevent a call connection.</p>
DTMF Continuous	<p>DTMF Continuous</p> <ul style="list-style-type: none"> ■ DTMF: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, *, # ■ Now Sending Signal ■ Complete 	<p>This test checks the tone output for all touch tones for tone dialing.</p>
DTMF Individually	<p>DTMF Individually</p> <ul style="list-style-type: none"> ■ 0000000000000000 ■ Now Sending Signal ■ Complete <p><Press the Up or Down button to change the value at the cursor></p> <p><Press the Left or Right button to move the cursor></p>	<p>This test checks the tone output for one of the 16 key numbers set on the LCD. Use to transmit the specified signal separately 3 seconds after OFF HOOK. After 16-digit signal is transmitted, the signal stops, but OFF HOOK status continues.</p>
Dial Pulse Send	<p>Dial Pulse Send</p> <p><Press the Up or Down button to change the value at the cursor></p> <p><Press the Left or Right button to move the cursor></p>	<p>Note: Unplug phone line before performing this test to prevent a call connection.</p>

Fax/Scanner Diag

Test	Control Panel Display	Test Description
DP10 Individually	DP10 Individually <ul style="list-style-type: none"> ■ 0000000000 ■ Now Sending Signal ■ Complete 	<p>This test checks the 10PPS pulse output for one of the 10 key numbers set on the LCD.</p> <p>Use to transmit the specified signal separately 3 seconds after OFF HOOK. After 10-digit signal is transmitted, the signal stops, but OFF HOOK status continues.</p>
DP20 Individually	DP20 Individually <ul style="list-style-type: none"> ■ 0000000000 ■ Now Sending Signal ■ Complete 	<p>This test checks the 20PPS pulse output for one of the 10 key numbers set on the LCD.</p> <p>Use to transmit the specified signal separately 3 seconds after OFF HOOK. After 10-digit signal is transmitted, the signal stops, but OFF HOOK status continues.</p>
Ring Back Tone	Ring Back Tone <ul style="list-style-type: none"> ■ Now Sending Signal 	<p>Checks the tone output signals for the ring back tone at 400Hz + 16Hz.</p>
Data Send	Data Send <ul style="list-style-type: none"> ■ V.34 33600bps ■ V.34 31200bps ■ V.34 28800bps ■ V.34 26400bps ■ V.34 24000bps ■ V.34 21600bps ■ V.34 19200bps ■ V.34 16800bps ■ V.34 14400bps ■ V.34 12000bps ■ V.34 9600bps ■ V.34 7200bps ■ V.34 4800bps ■ V.34 2400bps ■ V.29 9600bps ■ V.29 7200bps ■ V.27ter 4800bps ■ V.27ter 2400bps ■ V.21 300 bps ■ V.17 14400bps ■ V.17 12000bps ■ V.17 9600bps ■ V.17 7200bps <ul style="list-style-type: none"> ■ Pattern All 0 ■ Pattern All 1 ■ Pattern 0101010101 ■ Pattern 0000100001 ■ Pattern 1111011110 ■ Now Sending Signal 	<p>Checks the modem output for each of the transmission rates in compliance with ITU-T recommendations.</p> <p>Data Sending Patterns:</p> <ul style="list-style-type: none"> ■ All 0 ■ All 1 ■ 0101010101 ■ 0000100001 ■ 1111011110

Fax/Scanner Diag

Test	Control Panel Display	Test Description
Line Voltage	Line Voltage <ul style="list-style-type: none"> ■ Value[1.0V]: 000 ■ Now Sampling 	This test measures the telephone voltage. The voltage displayed in this test varies from country to country. The state is ON HOOK during the CE mode. Cycle at repeat: 500ms
Line Current	Line Current <ul style="list-style-type: none"> ■ Value[1.1mA]: 000 ■ Now Sampling 	This test measures the telephone line amperage. The state is OFF HOOK during the CE mode. Cycle at repeat: 500ms Note: The minimum guaranteed current in the United States is 20mA.
Information	Provides Scan Counter and Firmware versions information.	
Scan Counter	Scan Counter <ul style="list-style-type: none"> ■ FB:0x00000000 ■ ADF:0x00000000 	Displays the scan counter value. <ul style="list-style-type: none"> ■ FB: Scanning of document glass mode. ■ ADF: Scanning of ADF mode.
Version	Version <ul style="list-style-type: none"> ■ Main:nnnnnnnnnnnn ■ Param:nnnnnnnnnnnn ■ Boot:nnnnnnnnnnnn ■ Dload:nnnnnnnnnnnn ■ IIT:nnnnnnnnnnnn ■ Panel:nnnnnnnnnnnn 	Displays the software version. <ul style="list-style-type: none"> ■ Main: Main program version ■ Param: Parameter version ■ Boo: Boo program version ■ Dload: Down load program version ■ IIT: Scanner and ADF control program versions ■ Panel: Control panel program version
Scanner Maintenance		
White Balance	White Balance	Enables automatic calibration of the correction value for document glass scanning (FB) and ADF scanning.
Auto Adjust (FB)	Auto Adjust (FB) <ul style="list-style-type: none"> ■ Ready ■ Now Adjusting ■ Adjust OK/Adjust NG 	Use to configure the White Balance by correcting C2 value for document glass with auto-adjustment.
Auto Adjust (ADF)	Auto Adjust (ADF) <ul style="list-style-type: none"> ■ Ready ■ Now Adjusting ■ Adjust OK/Adjust NG 	Use to configure the White Balance by correcting C2 value for ADF with auto-adjustment.
Parameter	Parameter <ul style="list-style-type: none"> ■ Index[Hex]: 00 ■ Value[Hex]:*00 <Press the Up or Down button to change the value at the cursor> <Press the Left or Right button to move the cursor>	Enables manual calibration of the registration adjustment value or correction value. Use this function to enter the correction value when replacing the scanner (refer to “Scanner Calibration” on page 6-8).

Fax/Scanner Diag

Test	Control Panel Display	Test Description
Scan Counter	Scan Counter <ul style="list-style-type: none"> ■ FB:0x00000000 ■ ADF:0x00000000 	Displays scan counter values.
Scan Counter Clear		Initializes the counter value of document glass scanning (FB) and ADF scanning. Use this menu to enter the correction value when replacing the scanner.
Counter Clear (FB)	Counter Clear (FB) <ul style="list-style-type: none"> ■ Ready ■ Processing ■ Complete 	Use to clear the counter for the document glass.
Counter Clear (ADF)	Counter Clear (ADF) <ul style="list-style-type: none"> ■ Ready ■ Processing ■ Complete 	Use to clear the counter for the ADF.
Parameter	This function reads and writes the parameter stored on the Scanner Controller Board.	
Parameter	Parameter <ul style="list-style-type: none"> ■ Chain-Link: 000-000 ■ Value[Hex]: <Press the Up or Down button to change the value at the cursor> <Press the Left or Right button to move the cursor>	This functions reads and writes the parameter stored on the Scanner Controller Board. Run this test to configure the registration adjustment value and C2 correction value manually. Note: Refer to the “Chain Link for Fax Parameter Setting” on page A-9 in the Reference chapter.
BackUp Data	NOTE The system data initialization does not initialize data on EEPROM (except dial types and country codes). The counter clear does not clear scan counter clearance on EEPROM; it only clears counters on SRAM.	
All Clear	All Clear <ul style="list-style-type: none"> ■ (displays a list of country) 	<ul style="list-style-type: none"> ■ Initializes system data. ■ Clears address data, etc. ■ Clears communication control data. ■ Clears history. ■ Clears counters. Information includes: <ul style="list-style-type: none"> ■ User's area ■ System area ■ Counters (in SRAM) <ul style="list-style-type: none"> Number of Scan Number of Fax sending Number of FlashROM erase
User Clear	User Clear <ul style="list-style-type: none"> ■ (displays a list of country) 	<ul style="list-style-type: none"> ■ Clears stored document data and address information. ■ Initializes system data.

Fax/Scanner Diag

Test	Control Panel Display	Test Description
System Clear	System Clear ■ (displays a list of country)	<ul style="list-style-type: none"> ■ Clears stored document data, communication management data, and history. ■ Initializes system data.
User & System Clear	User&System Clear ■ (displays a list of country)	<ul style="list-style-type: none"> ■ Clears stored document data, address information, communication management data, and history. ■ Initializes system data.
System Data Init	System Data Init ■ (provides a list of country)	<ul style="list-style-type: none"> ■ Initializes system data in accordance with the country specified in Data1.
Document Clear	Document Clear ■ Ready ■ Processing ■ Complete	<ul style="list-style-type: none"> ■ Clears all stored data including calling table, substitute queue.
Complete	Exits the Fax/Scanner Diag menu.	
Complete	Complete?	Exits the Service Diagnostic menu.

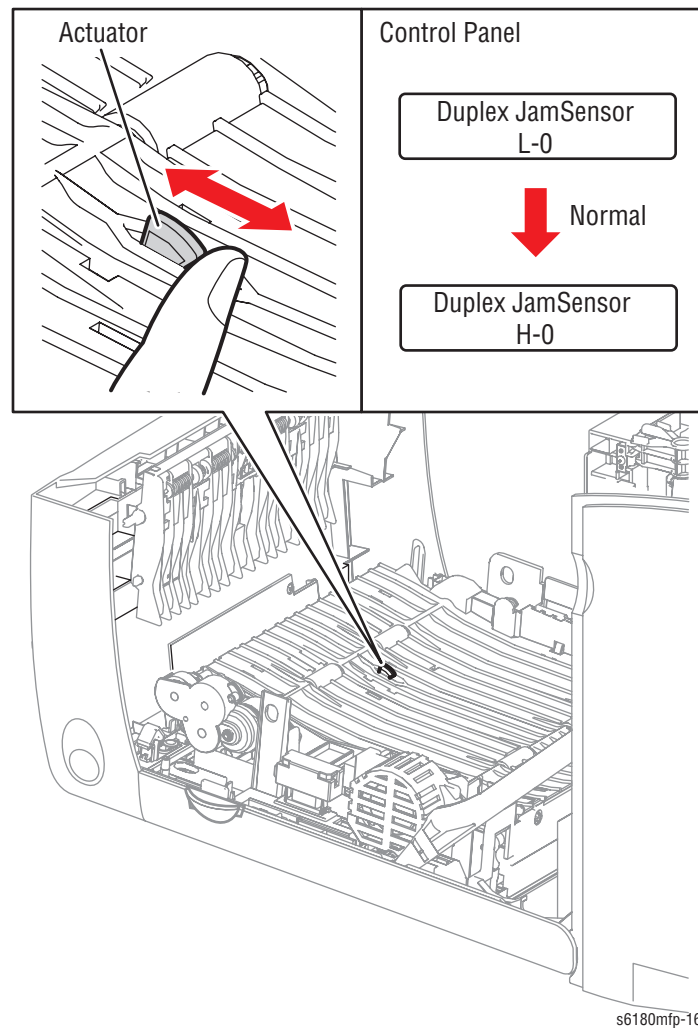
Sensor Tests

Duplex Jam Sensor

Caution

When performing this procedure, remove and cover the Print Cartridges to avoid exposure to light if the Front Door will be opened for prolonged periods.

1. Enter the Service Diagnostic menu (page 4-5).
2. Open the Front Cover.
3. Remove the Transfer Unit (page 8-9).
4. Remove the Print Cartridges (page 8-11).
5. Perform the Duplex Jam Sensor test: **Printer Diag > Engine Diag > Sensor Test > Duplex JamSensor > OK.**
6. Move the Actuator back and forth and check the information on the Control Panel display. The Low and High values change from 0 up to 99.



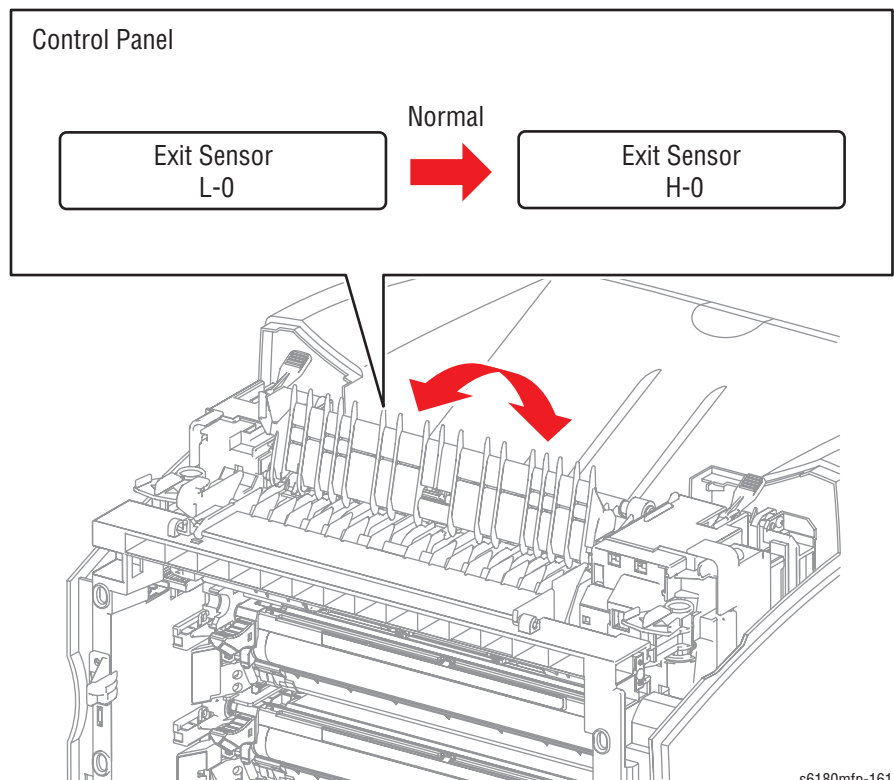
7. Press the **Stop** button to stop the Duplex Jam Sensor test.

Exit Sensor

Warning

Ensure to wait for the Fuser to cool down before starting the procedure.

1. Enter the Service Diagnostic menu (page 4-5).
2. Open the Front Cover.
3. Remove the Transfer Unit (page 8-9).
4. Perform the Exit Sensor test: **Printer Diag > Engine Diag > Sensor Test > Exit Sensor > OK.**
5. Move the Sensor up and down and check the information on the Control Panel display. The Low and High values change from 0 up to 99.

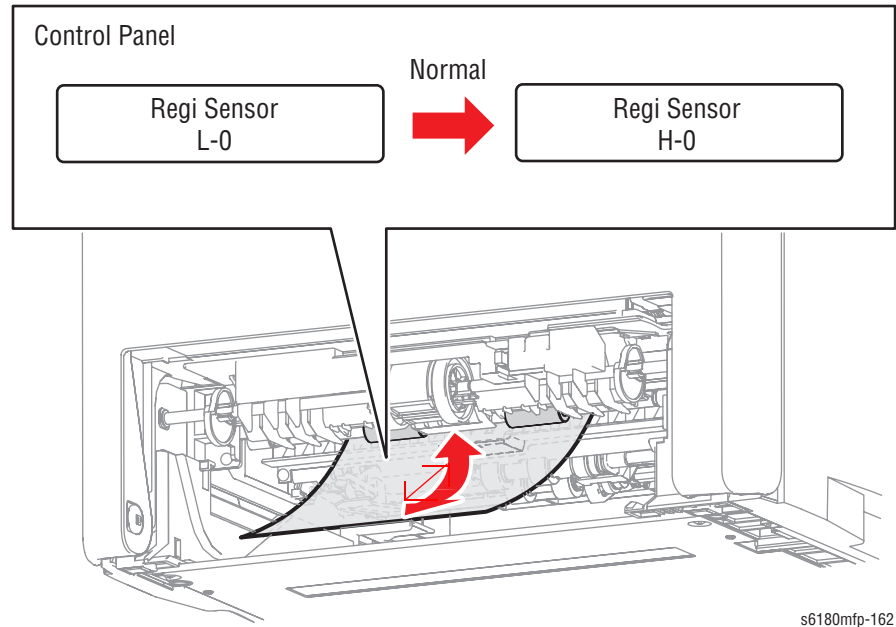


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6. Press the **Stop** button to stop the Exit Sensor test.

Regi Sensor

1. Enter the Service Diagnostic menu (page 4-5).
2. Remove Tray 2.
3. Perform the Regi Sensor test: **Printer Diag > Engine Diag > Sensor Test > Regi Sensor > OK.**
4. Insert one sheet of paper in between the Registration Chute and the Turn Clutch until the paper stops.
5. Slowly pull out the sheet of paper while checking the information on the Control Panel display. The Low and High values change from 0 up to 99.



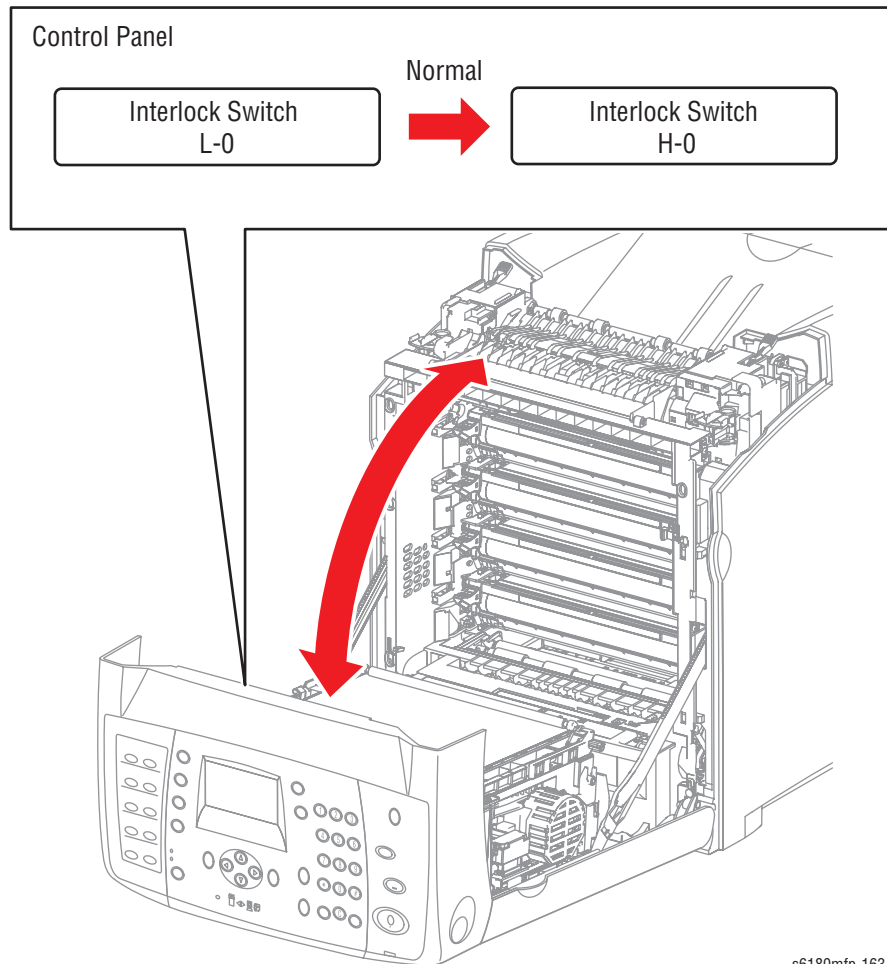
6. Press the **Stop** button to stop the Regi Sensor test.

Interlock Switch

Caution

When performing this procedure, remove and cover the Print Cartridges to avoid exposure to light if the Front Door will be opened for prolonged periods.

1. Enter the Service Diagnostic menu (page 4-5).
2. Open the Front Cover.
3. Remove the Transfer Unit (page 8-9).
4. Remove the Print Cartridges (page 8-11).
5. Perform the Interlock Switch test: **Printer Diag > Engine Diag > Sensor Test > Interlock Switch > OK.**
6. Open and close the Front Door while checking the information on the Control Panel display. The Low and High values change from 0 up to 99.



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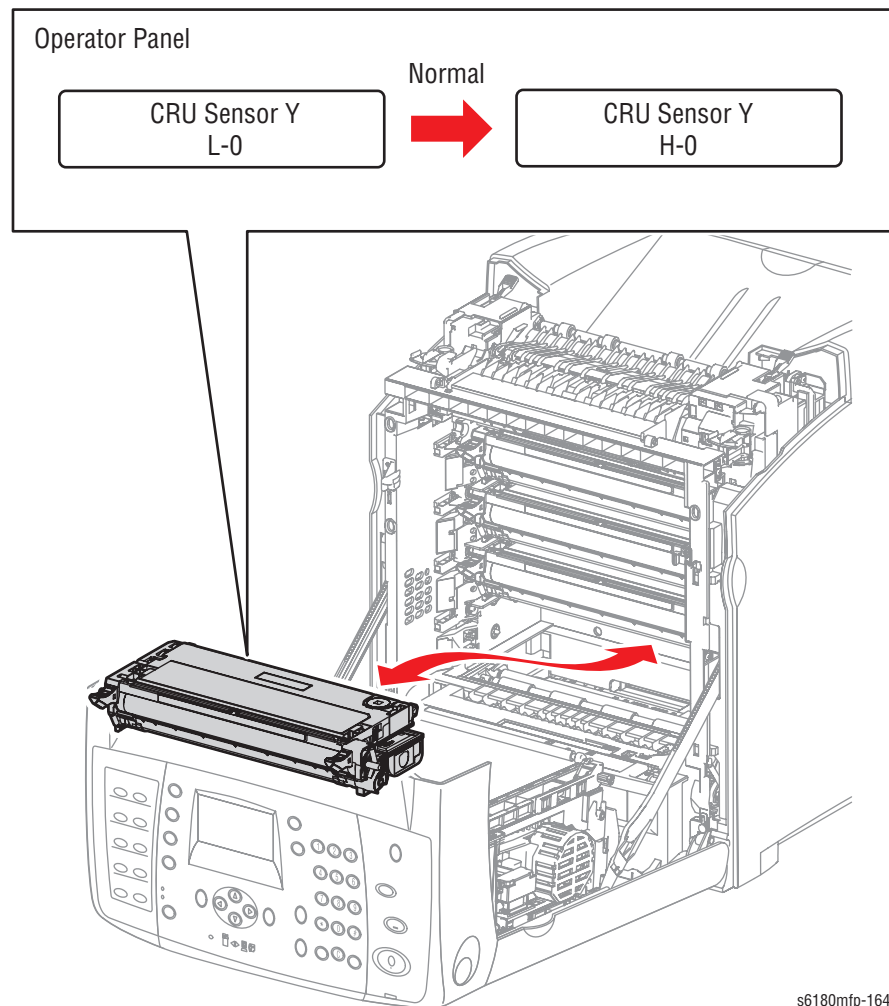
7. Press the **Stop** button to stop the Interlock Switch test.

CRU Sensor Y (Yellow Toner Cartridge Sensor)

Caution

When performing this procedure, remove and cover the Print Cartridges to avoid exposure to light if the Front Door will be opened for prolonged periods.

1. Enter the Service Diagnostic menu (page 4-5).
2. Open the Front Cover.
3. Remove the Transfer Unit (page 8-9).
4. Remove the Print Cartridges (page 8-11).
5. Perform the CRU Sensor Y test: **Printer Diag > Engine Diag > Sensor Test > CRU Sensor Y > OK.**
6. Install and remove the Yellow Print Cartridge while checking the information on the Control Panel display. The Low and High values change from 0 up to 99.



7. Press the **Stop** button to stop the CRU Sensor Y test.

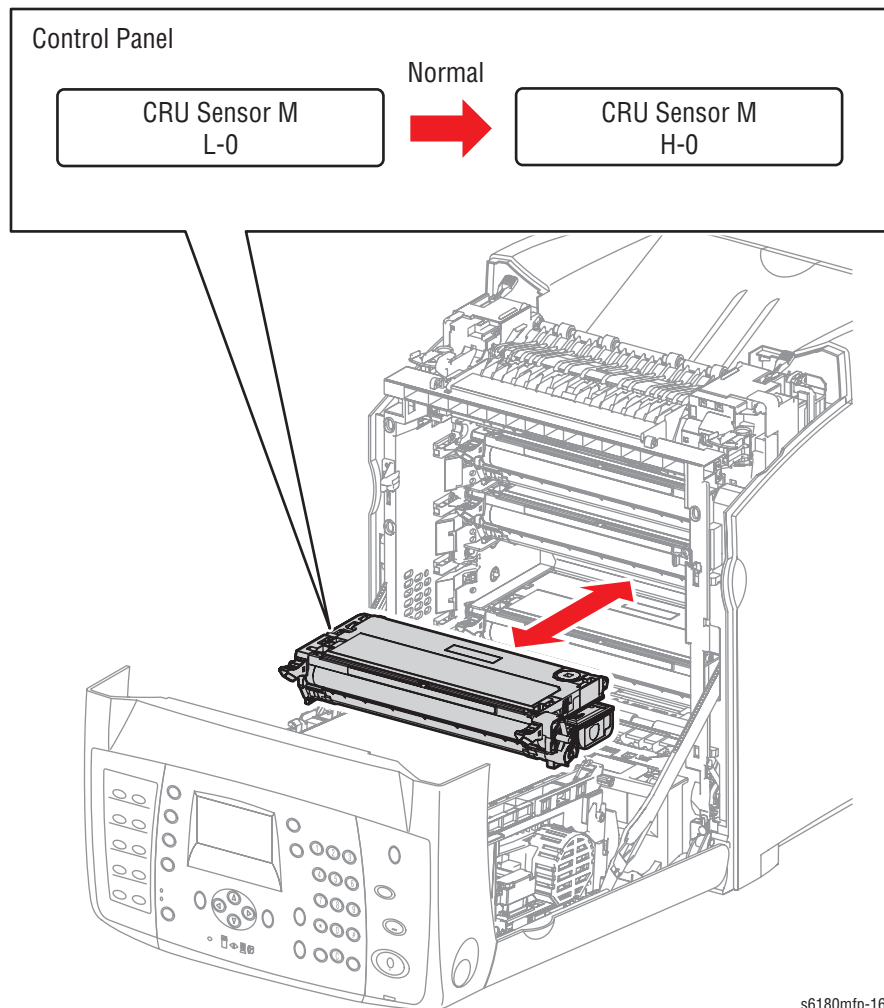
s6180mfp-164

CRU Sensor M (Magenta Toner Cartridge Sensor)

Caution

When performing this procedure, remove and cover the Print Cartridges to avoid exposure to light if the Front Door will be opened for prolonged periods.

1. Enter the Service Diagnostic menu (page 4-5).
2. Open the Front Cover.
3. Remove the Transfer Unit (page 8-9).
4. Remove the Print Cartridges (page 8-11).
5. Perform the CRU Sensor M test: **Printer Diag > Engine Diag > Sensor Test > CRU Sensor M > OK.**
6. Install and remove the Magenta Print Cartridge while checking the information on the Control Panel display. The Low and High values change from 0 up to 99.



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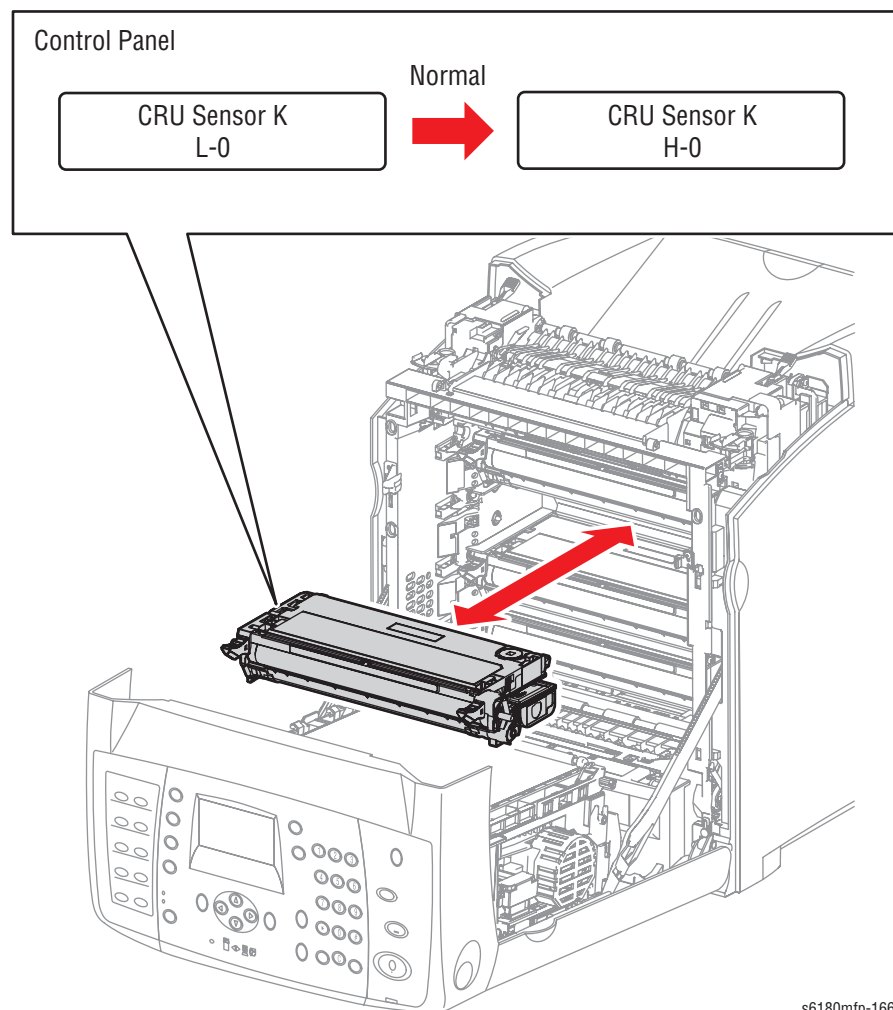
7. Press the **Stop** button to stop the CRU Sensor M test.

CRU Sensor K (Black Toner Cartridge Sensor)

Caution

When performing this procedure, remove and cover the Print Cartridges to avoid exposure to light if the Front Door will be opened for prolonged periods.

1. Enter the Service Diagnostic menu (page 4-5).
2. Open the Front Cover.
3. Remove the Transfer Unit (page 8-9).
4. Remove the Print Cartridges (page 8-11).
5. Perform the CRU Sensor K test: **Printer Diag > Engine Diag > Sensor Test > CRU Sensor K > OK.**
6. Install and remove the Black Print Cartridge while checking the information on the Control Panel display. The Low and High values change from 0 up to 99.



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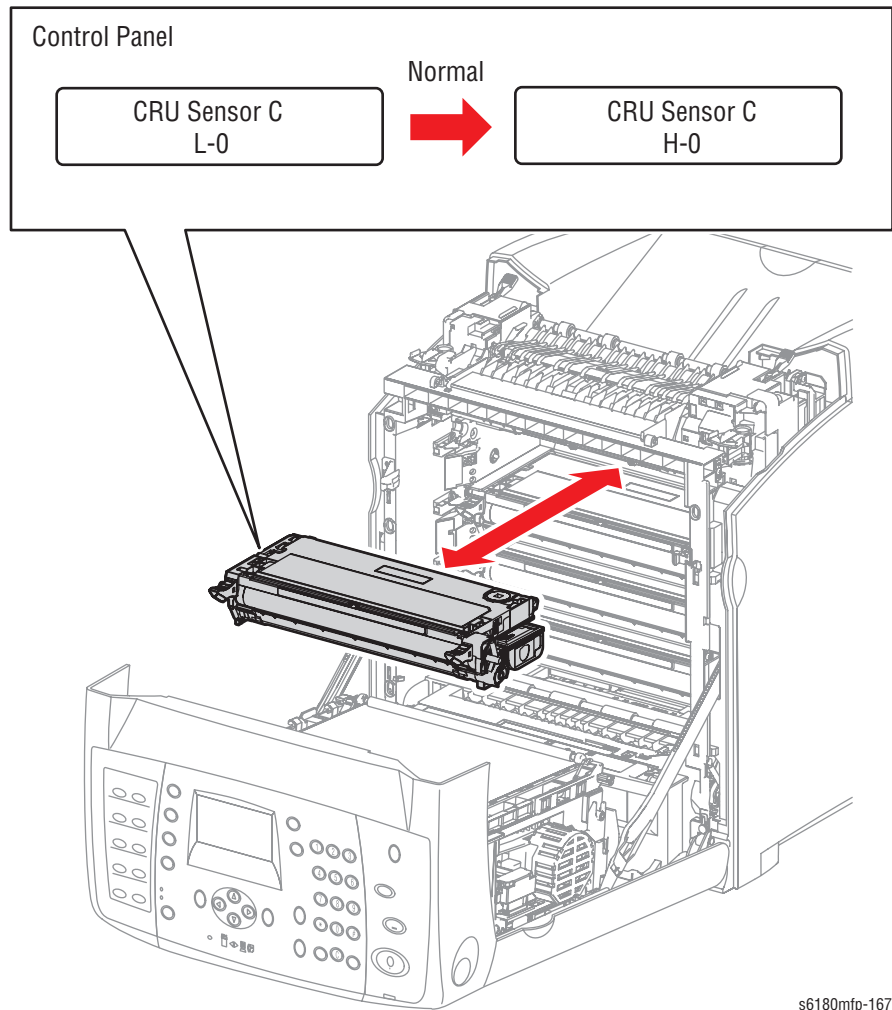
7. Press the **Stop** button to stop the CRU Sensor K test.

CRU Sensor C (Cyan Toner Cartridge Sensor)

Caution

When performing this procedure, remove and cover the Print Cartridges to avoid exposure to light if the Front Door will be opened for prolonged periods.

1. Enter the Service Diagnostic menu (page 4-5).
2. Open the Front Cover.
3. Remove the Transfer Unit (page 8-9).
4. Remove the Print Cartridges (page 8-11).
5. Perform the CRU Sensor C test: **Printer Diag > Engine Diag > Sensor Test > CRU Sensor C > OK.**
6. Install and remove the Cyan Print Cartridge while checking the information on the Control Panel display. The Low and High values change from 0 up to 99.



7. Press the **Stop** button to stop the CRU Sensor C test.

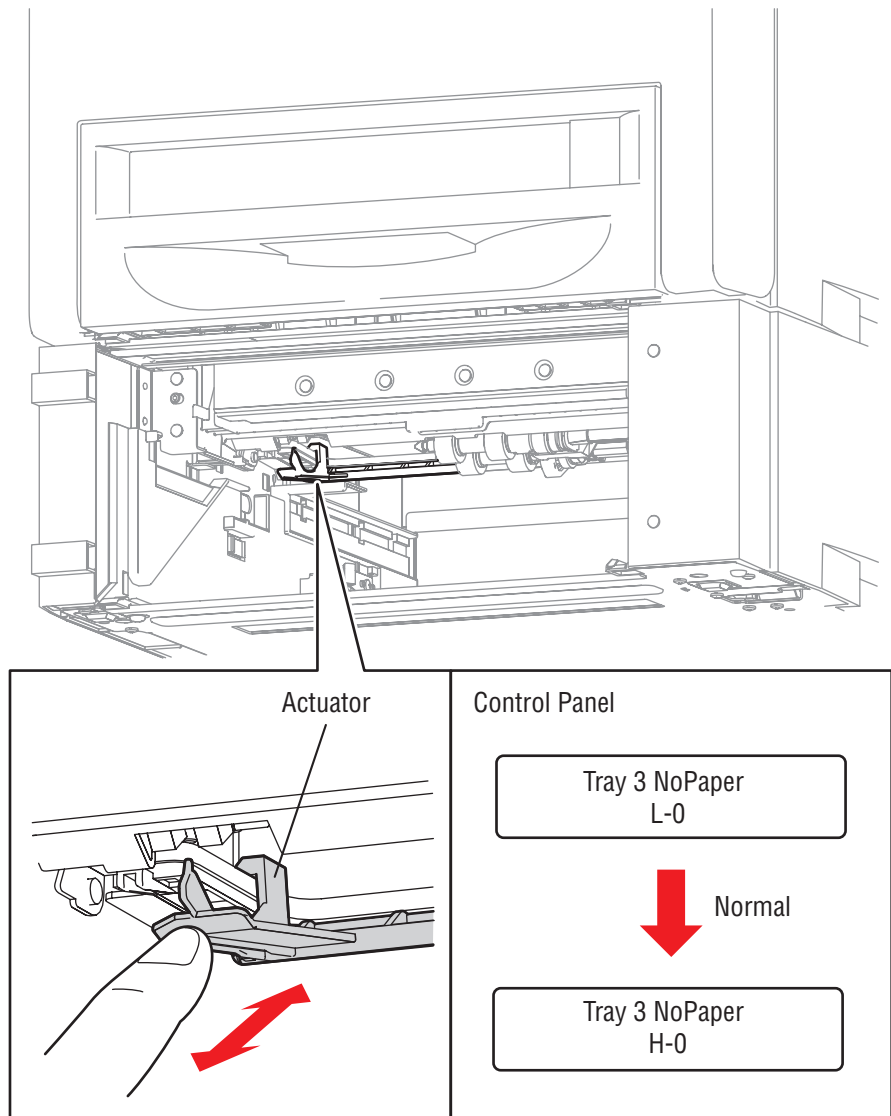
s6180mfp-167

Tray 3 No Paper

Note

The Tray 3 No Paper Sensor is located in the Optional 550-Sheet Feeder.

1. Enter the Service Diagnostic menu (page 4-5).
2. Perform the Tray 3 No Paper test: **Printer Diag > Engine Diag > Sensor Test > Tray 3 No Paper > OK.**
3. Remove Tray 3.
4. Move the Tray 3 Low Paper sensor up and down while checking the information on the Control Panel display. The Low and High values change from 0 up to 99.



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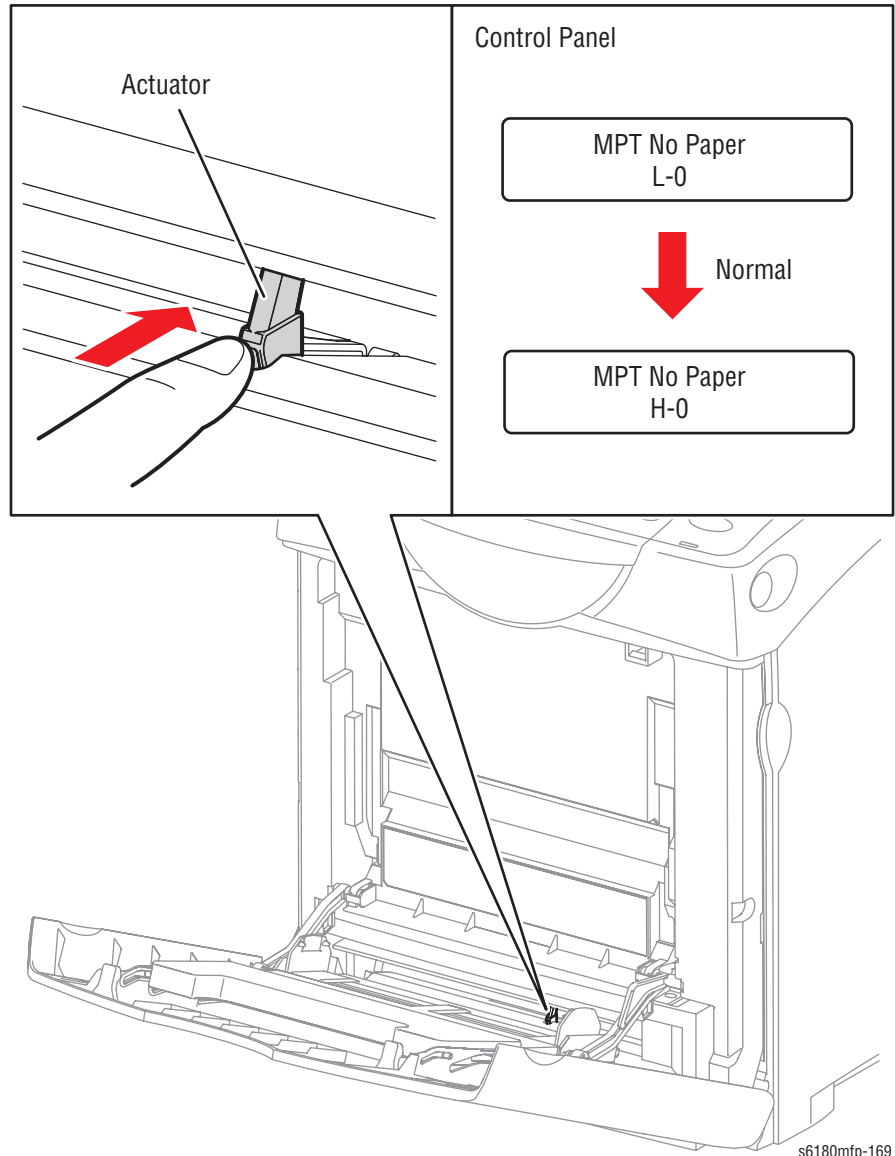
5. Press the **Stop** button to stop the Tray 3 No Paper test.

Tray 1 (MPT) No Paper

Note

Ensure to remove paper from the Tray 1 (MPT) prior performing the test.

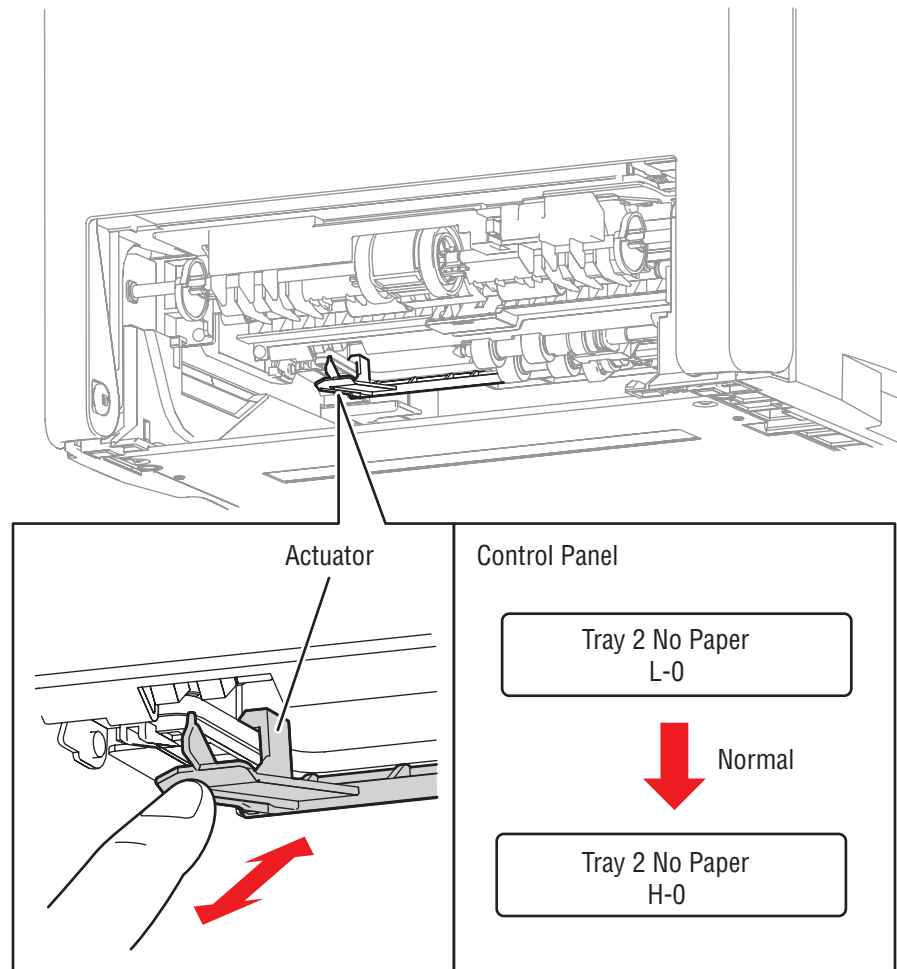
1. Enter the Service Diagnostic menu (page 4-5).
2. Perform the MPT No Paper test: **Printer Diag > Engine Diag > Sensor Test > MPT No Paper > OK.**
3. Open Tray 1 (MPT).
4. Move the Actuator back and forth while checking the information on the Control Panel display. The Low and High values change from 0 up to 99.



5. Press the **Stop** button to stop the Tray 1 No Paper test.

Tray 2 No Paper

1. Enter the Service Diagnostic menu (page 4-5).
2. Perform the Tray 2 No Paper test: **Printer Diag** > **Engine Diag** > **Sensor Test** > **Tray 2 No Paper** > **OK**.
3. Remove Tray 2.
4. Move the Actuator up and down while checking the information on the Control Panel display. The Low and High values change from 0 up to 99.

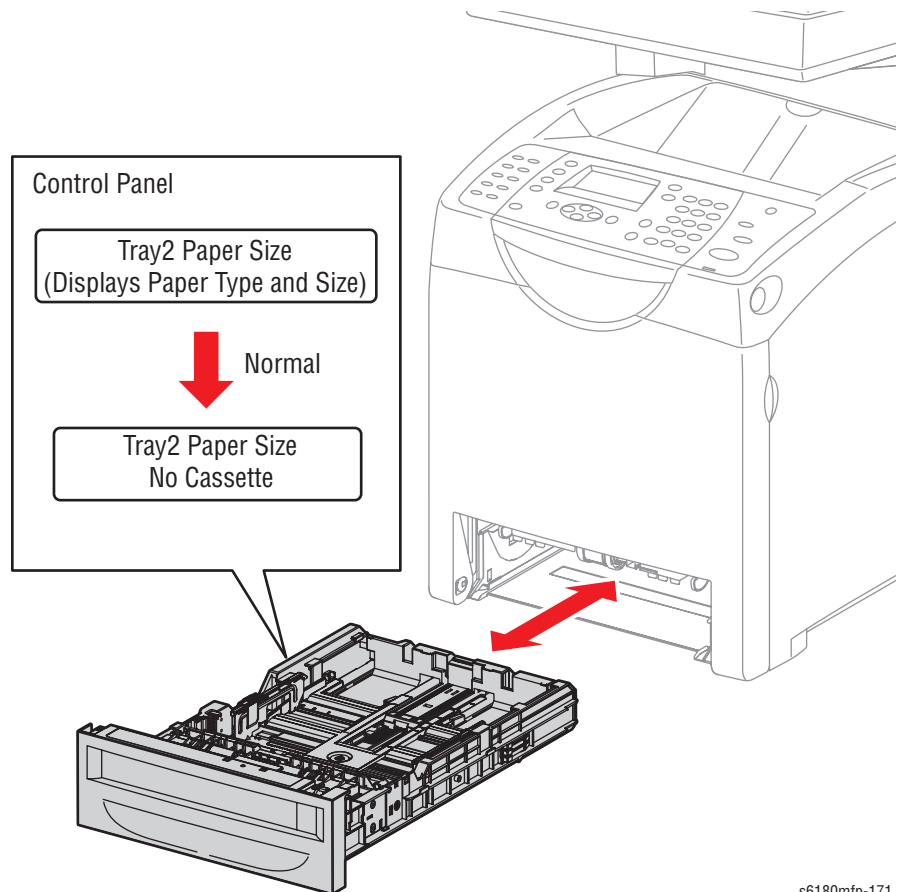


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5. Press the **Stop** button to stop the Tray 2 No Paper test.

Tray 2 Paper Size

1. Enter the Service Diagnostic menu (page 4-5).
2. Perform the Tray 2 Paper Size test: **Printer Diag > Engine Diag > Sensor Test > Tray 2 Paper Size > OK.**
3. The paper size information is displayed on the Control Panel.
4. Remove Tray 2.
5. Verify that the displayed paper size information on the Control Panel matches with the paper size settings located inside of Tray 2.

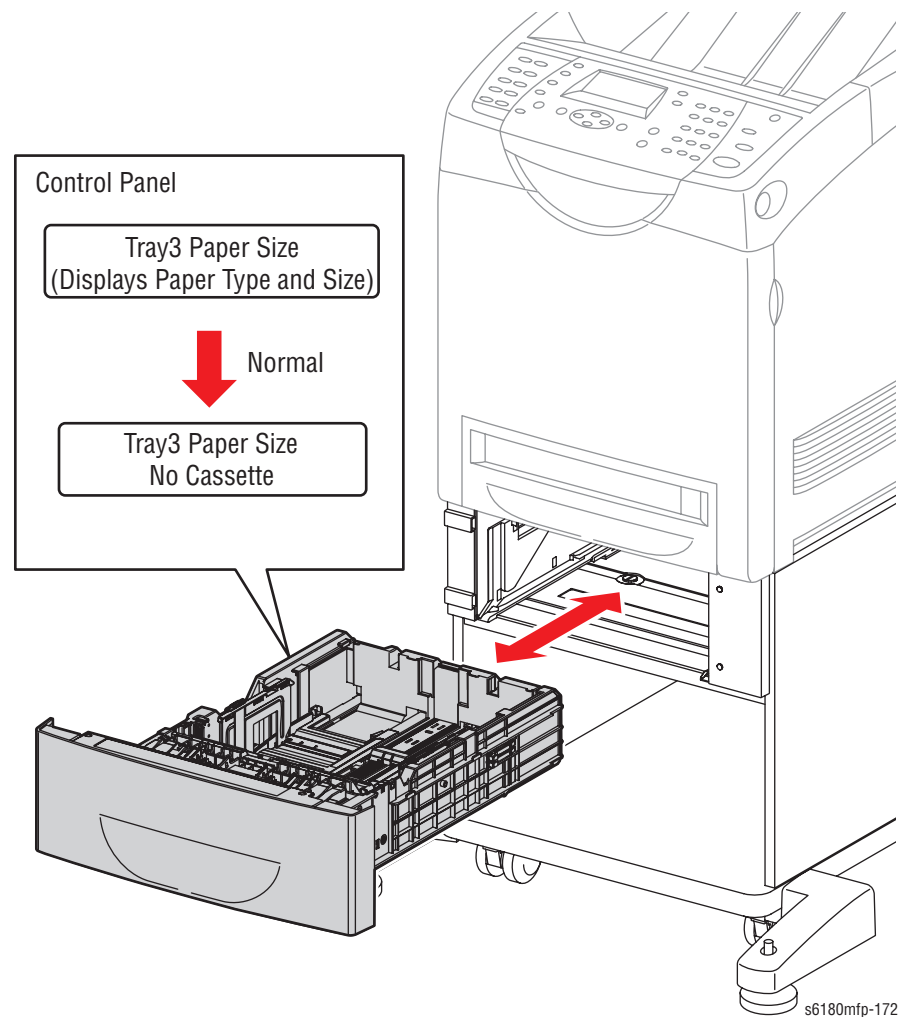


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6. Press the **Stop** button to stop the Tray 2 Paper Size test.

Tray 3 Paper Size

1. Enter the Service Diagnostic menu (page 4-5).
2. Perform the Tray 3 Paper Size test: **Printer Diag > Engine Diag > Sensor Test > Tray 3 Paper Size > OK.**
3. The paper size information is displayed on the Control Panel.
4. Remove Tray 3.
5. Verify that the displayed paper size information on the Control Panel matches with the paper size settings located inside of Tray 3.



6. Press the **Stop** button to stop the Tray 3 Paper Size test.

Motor Tests

Main Motor (FULL2/FULL1/HALF1/LOW)

Caution

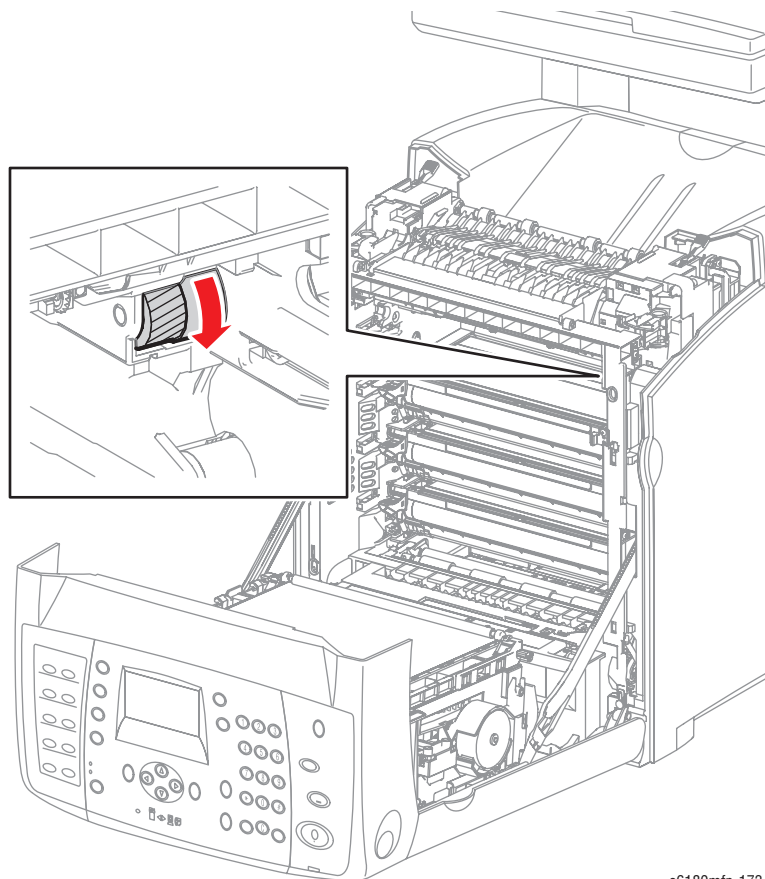
The Main Motor is in the Main Drive. When performing this procedure, remove and cover the Print Cartridges to avoid exposure to light.

Note

The rotational speed of the Main Motor is as follows:

■ LOW < HALF < FULL2 < FULL1

1. Enter the Service Diagnostic menu (page 4-5).
2. Open the Front Cover.
3. Remove the Transfer Unit (page 8-9).
4. Remove the Print Cartridges (page 8-11).
5. Use a paper clip to secure the Interlock Switch.
6. Perform the Main Motor (FULL2/FULL1/HALF/LOW) test: [Printer Diag](#) > [Engine Diag](#) > [Motor Test](#) > [Main Motor \(FULL2/FULL1/HALF/LOW\)](#).
7. Verify that the Main Motor is running and the gear is rotating.



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8. Press the **Stop** button to stop the Main Motor test.
9. Remove the paper clip from the Interlock Switch.

Sub Motor (FULL2/FULL1/HALF/LOW)

Caution

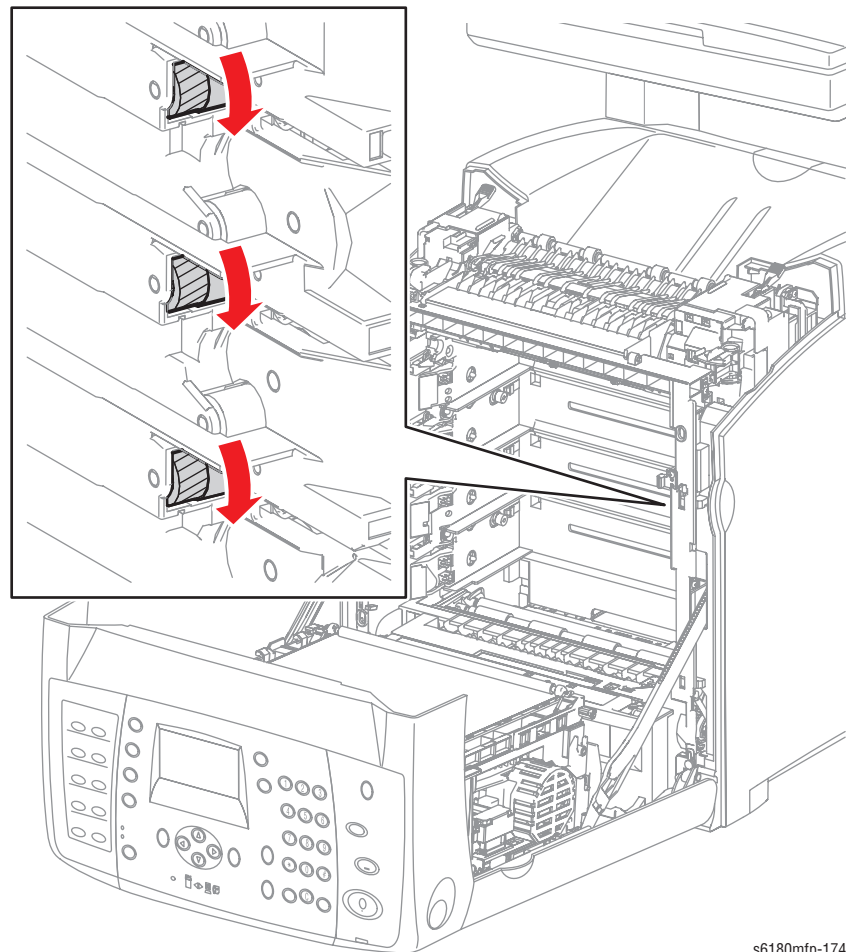
The Sub Motor is located in the Main Drive. When performing this procedure, remove and cover the Print Cartridges to avoid exposure to light.

Note

The rotational speed of the Sub Motor is as follows:

■ LOW < HALF < FULL2 < FULL1

1. Enter the Service Diagnostic menu (page 4-5).
2. Open the Front Cover.
3. Remove the Transfer Unit (page 8-9).
4. Remove the Print Cartridges (page 8-11).
5. Use a paper clip to secure the Interlock Switch.
6. Perform the Sub Motor (FULL2/FULL1/HALF/LOW) test: **Printer Diag > Engine Diag > Motor Test > Sub Motor (FULL2/FULL1/HALF/LOW)**.
7. Verify that the Sub Motor is running and the three gears are rotating.



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8. Press the **Stop** button to stop the Sub Motor test.
9. Remove the paper clip from the Interlock Switch.

Tray 2 Motor (FULL2/FULL1/HALF/LOW)

Caution

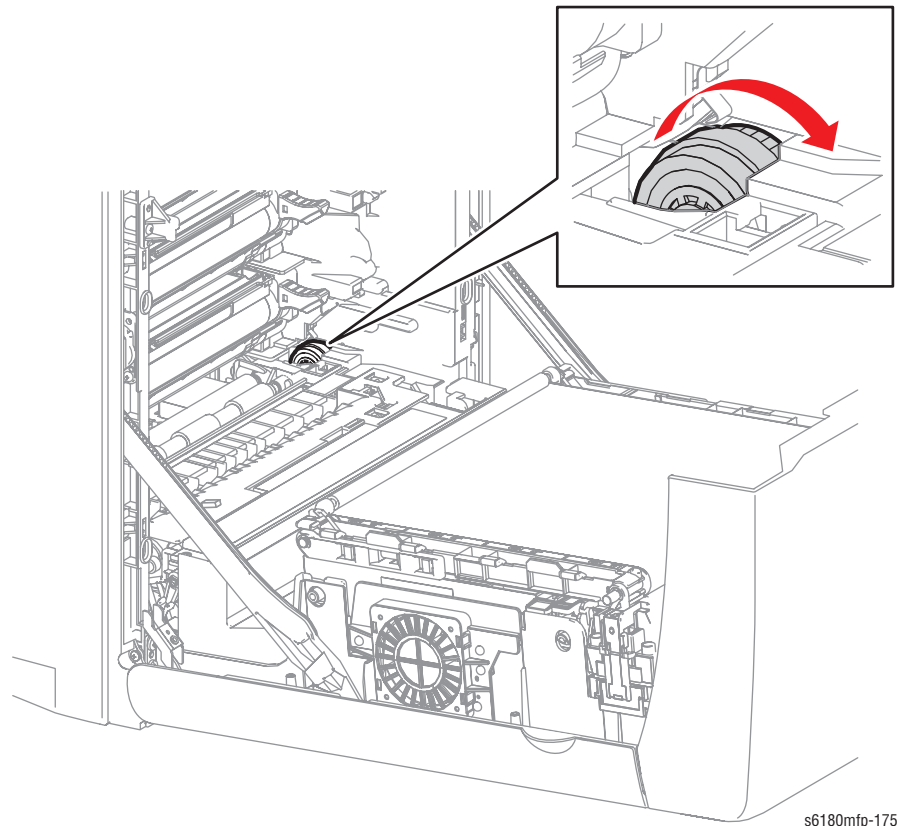
When performing this procedure, remove and cover the Print Cartridges to avoid exposure to light if the Front Door will be opened for prolonged periods.

Note

The Tray 2 Motor is located in the Main Drive. The rotational speed of the Tray 2 Motor is as follows:

■ LOW < HALF < FULL2 < FULL1

1. Enter the Service Diagnostic menu (page 4-5).
2. Open the Front Cover.
3. Remove the Transfer Unit (page 8-9).
4. Remove the Print Cartridges (page 8-11).
5. Use a paper clip to secure the Interlock Switch.
6. Perform the Tray 2 Motor (FULL2/FULL1/HALF/LOW) test: **Printer Diag > Engine Diag > Motor Test > Tray 2 Motor (FULL2/FULL1/HALF/LOW)**.
7. Verify that the Tray 2 Motor is running and the gear is rotating.



8. Press the **Stop** button to stop the Tray 2 Motor test.
9. Remove the paper clip from the Interlock Switch.

Deve Motor (FULL2/FULL1/HALF)

Caution

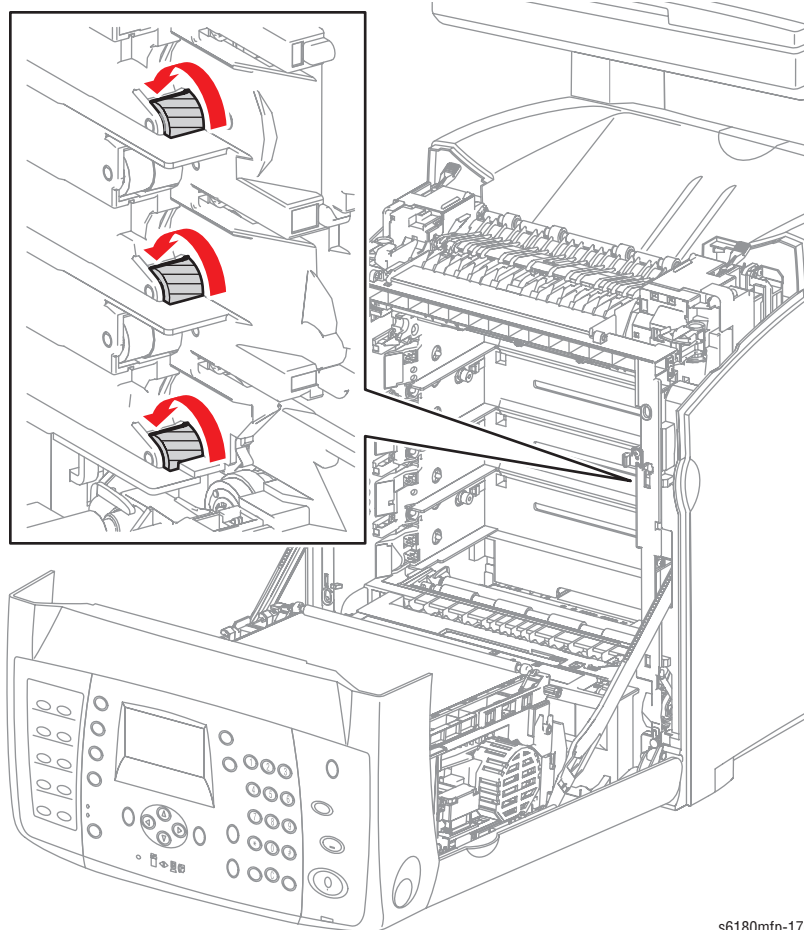
When performing this procedure, remove and cover the Print Cartridges to avoid exposure to light if the Front Door will be opened for prolonged periods.

Note

The Deve Motor is located in the Main Drive. The rotational speed of the Deve Motor is as follows:

- HALF < FULL1 < FULL2

1. Enter the Service Diagnostic menu (page 4-5).
2. Open the Front Cover.
3. Remove the Transfer Unit (page 8-9).
4. Remove the Print Cartridges (page 8-11).
5. Use a paper clip to secure the Interlock Switch.
6. Perform the Deve Motor (FULL2/FULL1/HALF) test: [Printer Diag](#) > [Engine Diag](#) > [Motor Test](#) > [Deve Motor \(FULL2/FULL1/HALF\)](#).
7. Verify that the Deve Motor is running and the three gears are rotating.



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8. Press the **Stop** button to stop the Deve Motor test.
9. Remove the paper clip from the Interlock Switch.

Duplex Motor (HIGH/FULL2/FULL1/HALF/LOW)

Caution

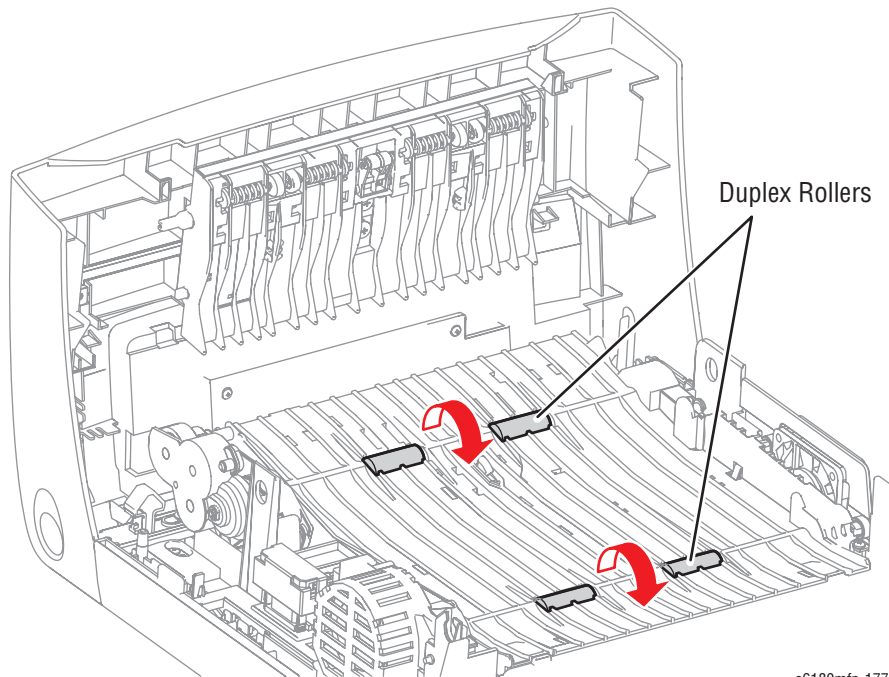
When performing this procedure, remove and cover the Print Cartridges to avoid exposure to light if the Front Door will be opened for prolonged periods.

Note

The Duplex Motor is located in the Duplex Unit. The rotational speed of the Duplex Motor is as follows:

■ LOW < HALF < FULL1 < FULL2 < HIGH

1. Enter the Service Diagnostic menu (page 4-5).
2. Open the Front Cover.
3. Remove the Transfer Unit (page 8-9).
4. Remove the Print Cartridges (page 8-11).
5. Use a paper clip to secure the Interlock Switch.
6. Perform the Duplex Motor (HIGH/FULL2/FULL1/HALF/LOW) test: **Printer Diag > Engine Diag > Motor Test > Duplex Motor (HIGH/FULL2/FULL1/HALF/LOW)**.
7. Verify that the Duplex Motor is running and the four Duplex Rollers are rotating.



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8. Press the **Stop** button to stop the Duplex Motor test.
9. Remove the paper clip from the Interlock Switch.

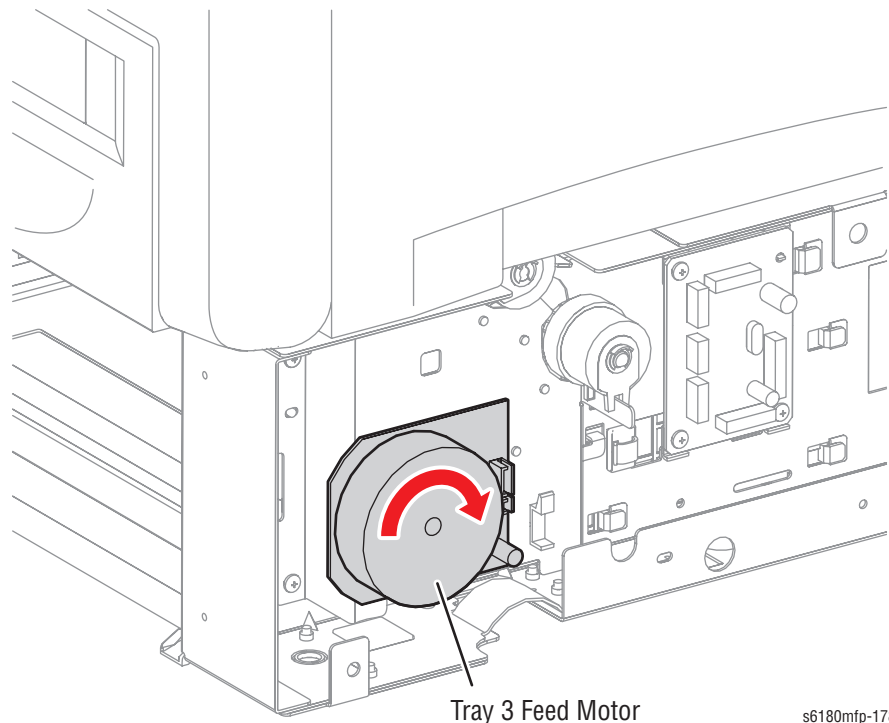
Tray 3 Feed Motor (FULL2/FULL1/HALF/LOW)

Note

The rotational speed of the Motor is as follows:

■ LOW < HALF < FULL2 < FULL1

1. Enter the Service Diagnostic menu (page 4-5).
2. Remove Tray 3.
3. Remove the Tray 3 Left Cover (page 8-117).
4. Perform the Tray 3 Feed Motor (FULL2/FULL1/HALF/LOW) test: **Printer Diag > Engine Diag > Motor Test > Tray 3 Feed Motor (FULL2/FULL1/HALF/LOW)**.
5. Verify that the Tray 3 Feed Motor is running.



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6. Press the **Stop** button to stop the Tray 3 Feed Motor test.

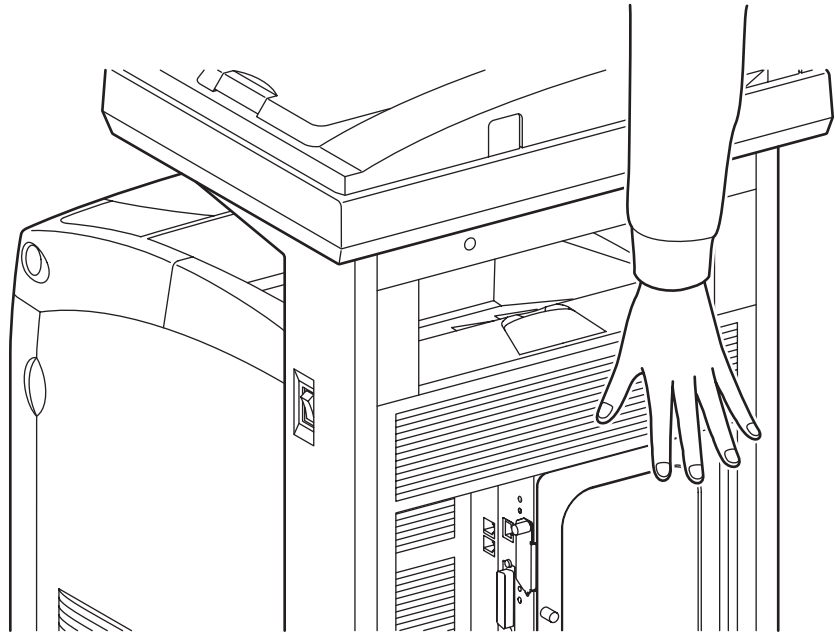
Fan (HIGH/LOW)

Note

The rotational speed of the Motor is as follows:

■ LOW < HIGH

1. Enter the Service Diagnostic menu (page 4-5).
2. Perform the Fan (HIGH/LOW) test: **Printer Diag > Engine Diag > Motor Test > Fan (HIGH/LOW)**.
3. Verify that the fan is running.



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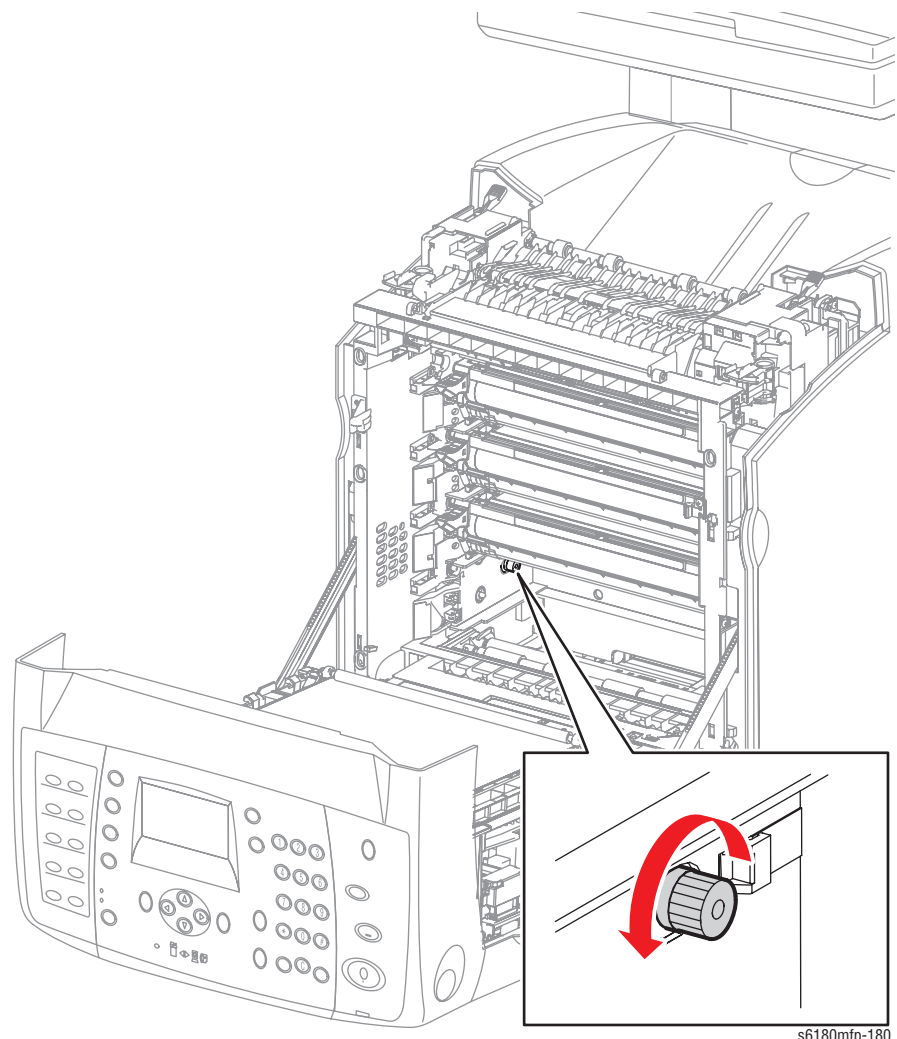
4. Press the **Stop** button to stop the Fan test.

Yellow Toner Motor

Caution

When performing this procedure, remove and cover the Print Cartridges to avoid exposure to light if the Front Door will be opened for prolonged periods.

1. Enter the Service Diagnostic menu (page 4-5).
2. Open the Front Cover.
3. Remove the Transfer Unit (page 8-9).
4. Remove the Yellow Print Cartridge (page 8-11).
5. Use a paper clip to secure the Interlock switch.
6. Perform the Yellow Toner Motor test: **Printer Diag > Engine Diag > Motor Test > Yellow Toner Motor**.
7. Verify that the Yellow Toner Motor is running and the gear is rotating.



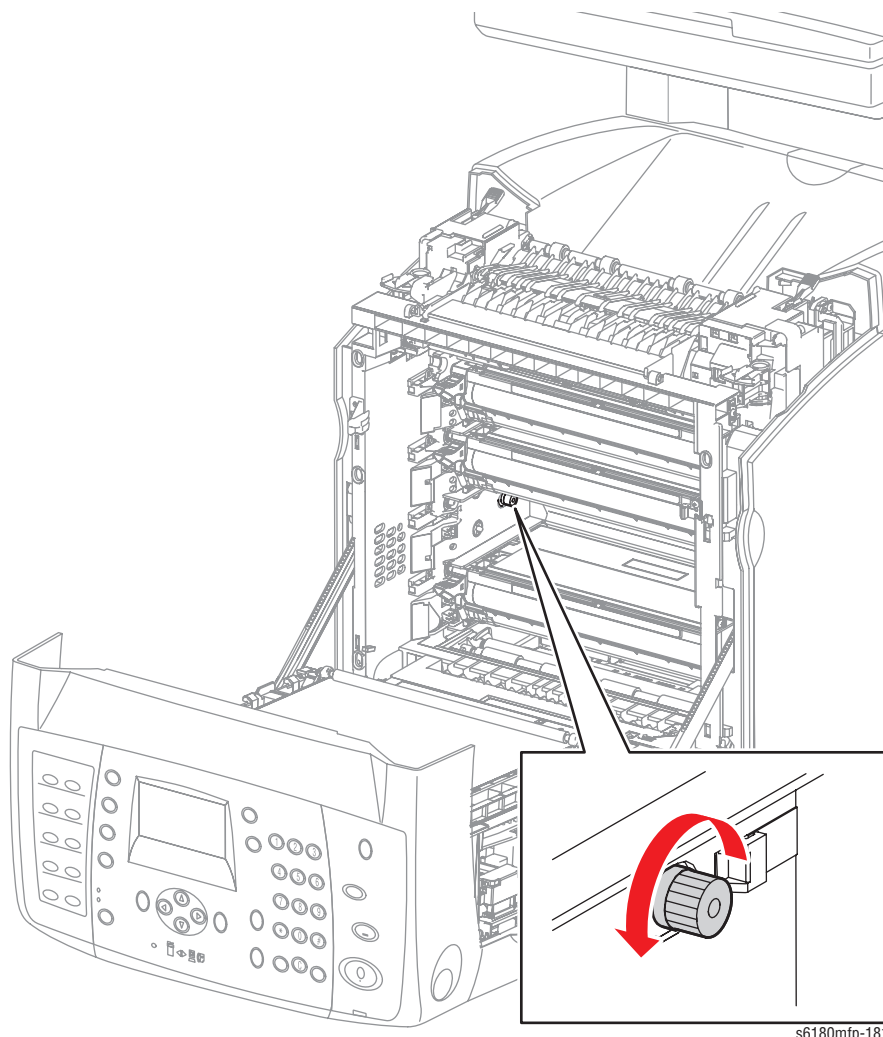
8. Press the **Stop** button to stop the Yellow Toner Motor test.
9. Remove the paper clip from the Interlock Switch.

Magenta Toner Motor

Caution

When performing this procedure, remove and cover the Print Cartridges to avoid exposure to light if the Front Door will be opened for prolonged periods.

1. Enter the Service Diagnostic menu (page 4-5).
2. Open the Front Cover.
3. Remove the Transfer Unit (page 8-9).
4. Remove the Magenta Print Cartridge (page 8-11).
5. Use a paper clip to secure the Interlock Switch.
6. Perform the Magenta Toner Motor test: **Printer Diag > Engine Diag > Motor Test > Magenta Toner Motor**.
7. Verify that the Magenta Toner Motor is running and the gear is rotating.



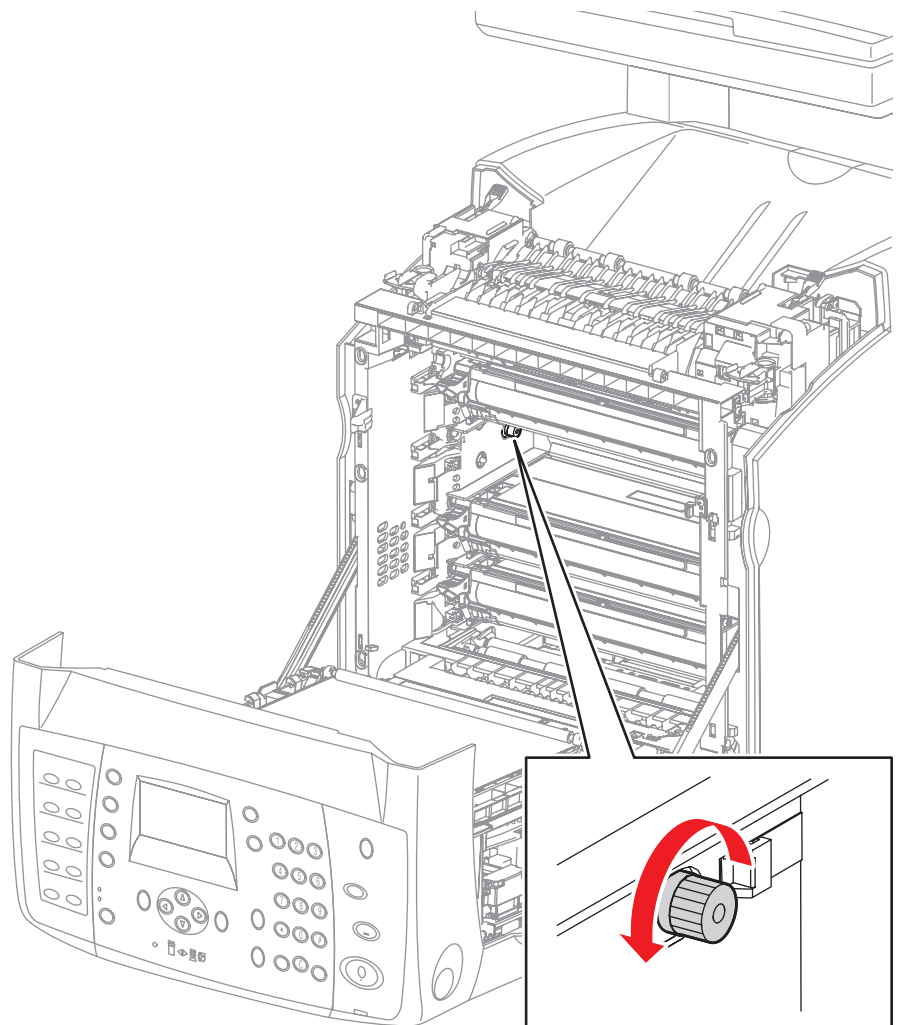
8. Press the **Stop** button to stop the Magenta Toner Motor test.
9. Remove the paper clip from the Interlock Switch.

Cyan Toner Motor

Caution

When performing this procedure, remove and cover the Print Cartridges to avoid exposure to light if the Front Door will be opened for prolonged periods.

1. Enter the Service Diagnostic menu (page 4-5).
2. Open the Front Cover.
3. Remove the Transfer Unit (page 8-9).
4. Remove the Cyan Print Cartridge (page 8-11).
5. Use a paper clip to secure the Interlock Switch.
6. Perform the Cyan Toner Motor test: **Printer Diag > Engine Diag > Motor Test > Cyan Toner Motor**.
7. Verify that the Cyan Toner Motor is running and the gear is rotating.



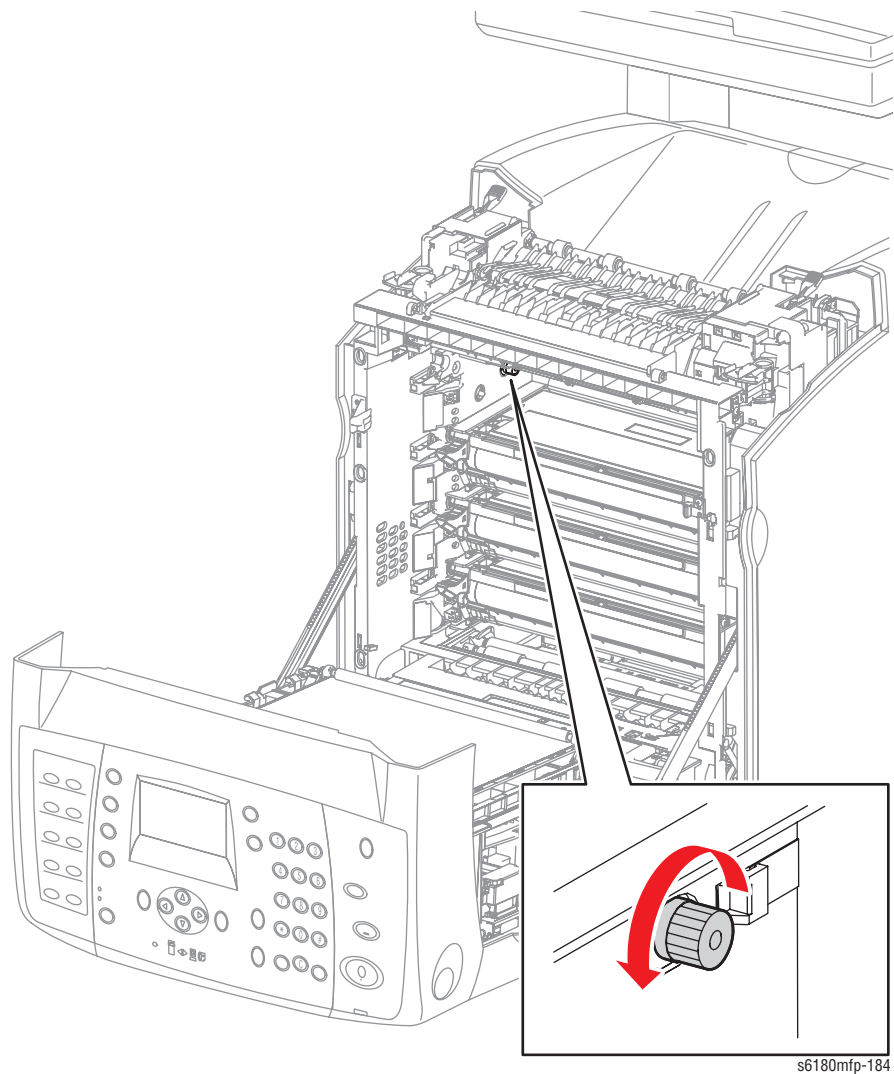
8. Press the **Stop** button to stop the Cyan Toner Motor test.
9. Remove the paper clip from the Interlock Switch.

Black Toner Motor

Caution

When performing this procedure, remove and cover the Print Cartridges to avoid exposure to light if the Front Door will be opened for prolonged periods.

1. Enter the Service Diagnostic menu (page 4-5).
2. Open the Front Cover.
3. Remove the Transfer Unit (page 8-9).
4. Remove the Black Print Cartridge (page 8-11).
5. Use a paper clip to secure the Interlock Switch.
6. Perform the Black Toner Motor test: **Printer Diag** > **Engine Diag** > **Motor Test** > **Black Toner Motor**.
7. Verify that the Black Toner Motor is running and the gear is rotating.



8. Press the **Stop** button to stop the Black Toner Motor test.
9. Remove the paper clip from the Interlock Switch.

Regi Clutch

Caution

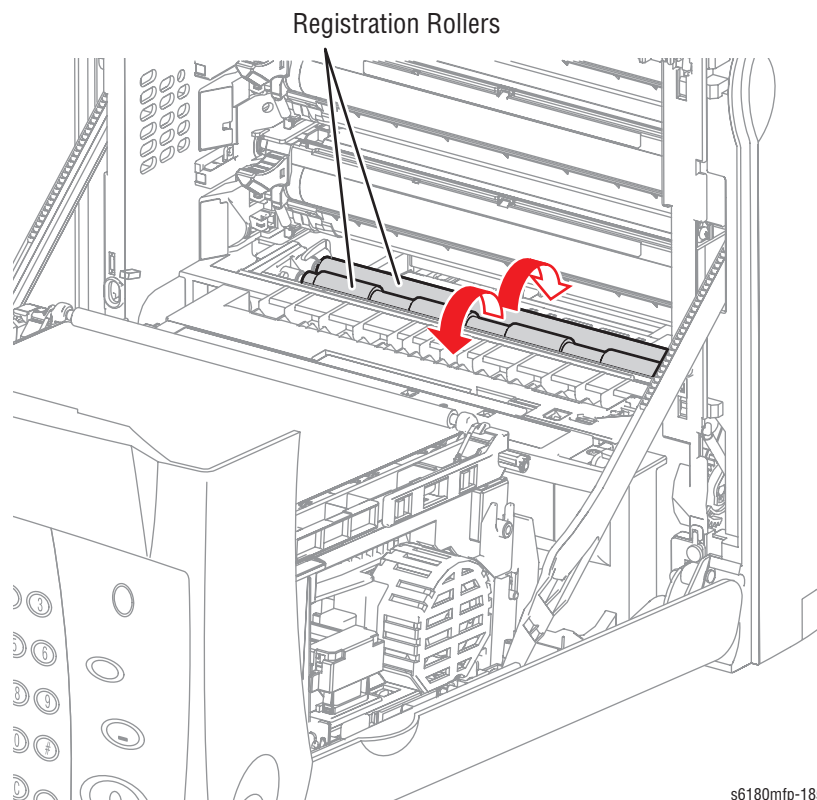
When performing this procedure, remove and cover the Print Cartridges to avoid exposure to light if the Front Door will be opened for prolonged periods.

1. Enter the Service Diagnostic menu (page 4-5).
2. Open the Front Cover.
3. Remove the Transfer Unit (page 8-9).
4. Remove the Print Cartridges (page 8-11).
5. Use a paper clip to secure the Interlock Switch.
6. Perform the Tray 2 Motor (FULL2) test: **Printer Diag > Engine Diag > Motor Test > Tray 2 Motor (FULL2)**.
7. While the Tray 2 Motor is running, press the **Up Arrow** button to find **Regi Clutch**. Press the **OK** button to run the Regi Clutch test.

Note

The Registration Rollers rotate when the Tray 2 Motor (FULL2) and the Registration Clutch tests are executed.

8. Verify that the Tray 2 Motor is running and the Registration Rollers are rotating.



9. Press the **Stop** button to stop the Regi Clutch test.
10. Press the **Down Arrow** button to find **Tray 2 Motor (FULL2)**.
11. Press the **Stop** button to stop the Tray 2 Motor test.
12. Remove the paper clip from the Interlock Switch.

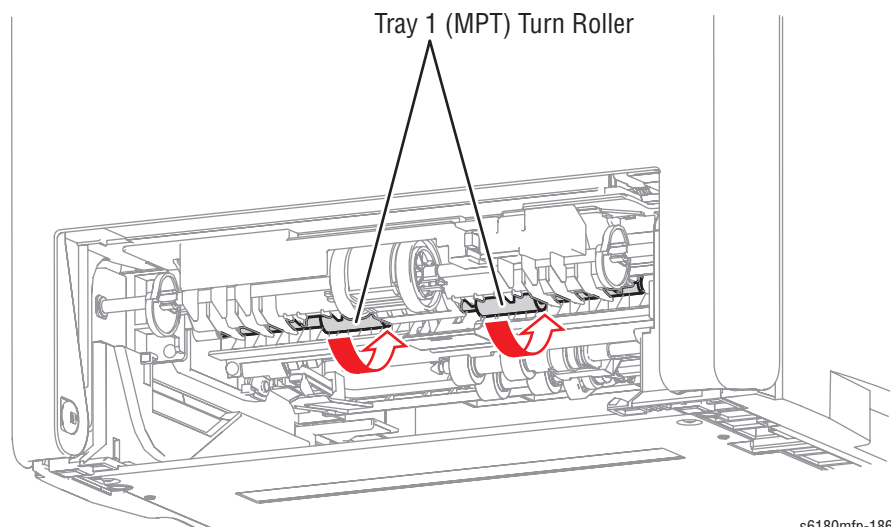
Tray 1 (MPT) Turn Clutch

1. Enter the Service Diagnostic menu (page 4-5).
2. Remove Tray 2.
3. Perform the Tray 2 Motor (FULL2) test: **Printer Diag > Engine Diag > Motor Test > Tray 2 Motor (FULL2)**.
4. While the Tray 2 Motor is running, press the **Up Arrow** button to find **Tray 1 (MPT) Turn Clutch**. Press the **OK** button to run the Tray 1 (MPT) Turn Clutch test.

Note

The Tray 1 (MPT) Turn Rollers rotate when the Tray 2 Motor (FULL2) and the Tray 1 (MPT) Turn Clutch tests are executed.

5. Verify that the Tray 2 Motor is running and the Turn Rollers are rotating.



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6. Press the **Stop** button to stop the Tray 1 Turn Clutch test.
7. Press the **Down Arrow** button to find **Tray 2 Motor (FULL2)**.
8. Press the **Stop** button to stop the Tray 2 Motor test.

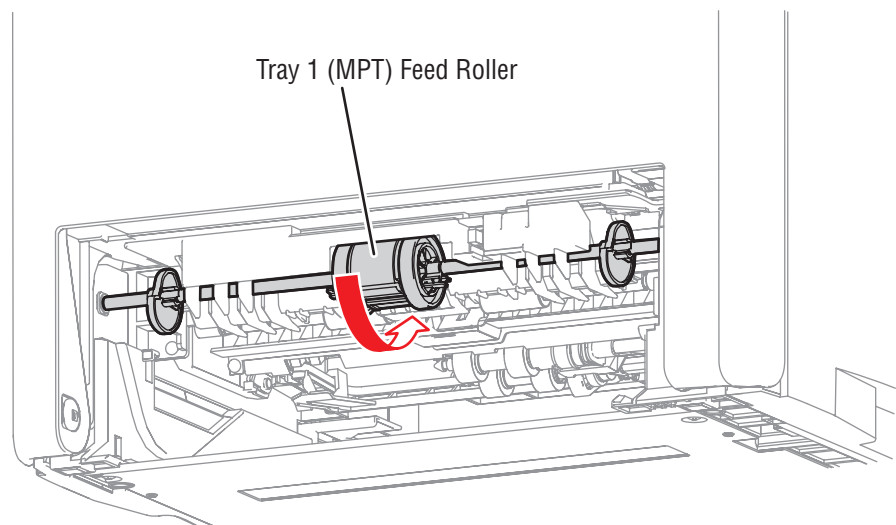
Tray 1 (MPT) Feed Solenoid

1. Enter the Service Diagnostic menu (page 4-5).
2. Remove Tray 2.
3. Perform the Tray 2 Motor (FULL2) test: **Printer Diag > Engine Diag > Motor Test > Tray 2 Motor (FULL2)**.
4. While the Tray 2 Motor is running, press the **Up Arrow** button to find **Tray 1 (MPT) Feed Solenoid**. Press the **OK** button to run the Tray 1 (MPT) Feed Solenoid test.

Note

The Tray 1 (MPT) Feed Roller rotates when the Tray 2 Motor (FULL2) and the Tray 1 (MPT) Feed Solenoid tests are executed.

5. Verify that the Tray 2 Motor is working and the Tray 1 Feed Roller is rotating.



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6. Press the **Stop** button to stop the Tray 1 Feed Solenoid test.
7. Press the **Down Arrow** button to find **Tray 2 Motor (FULL2)**.
8. Press the **Stop** button to stop the Tray 2 Motor test.

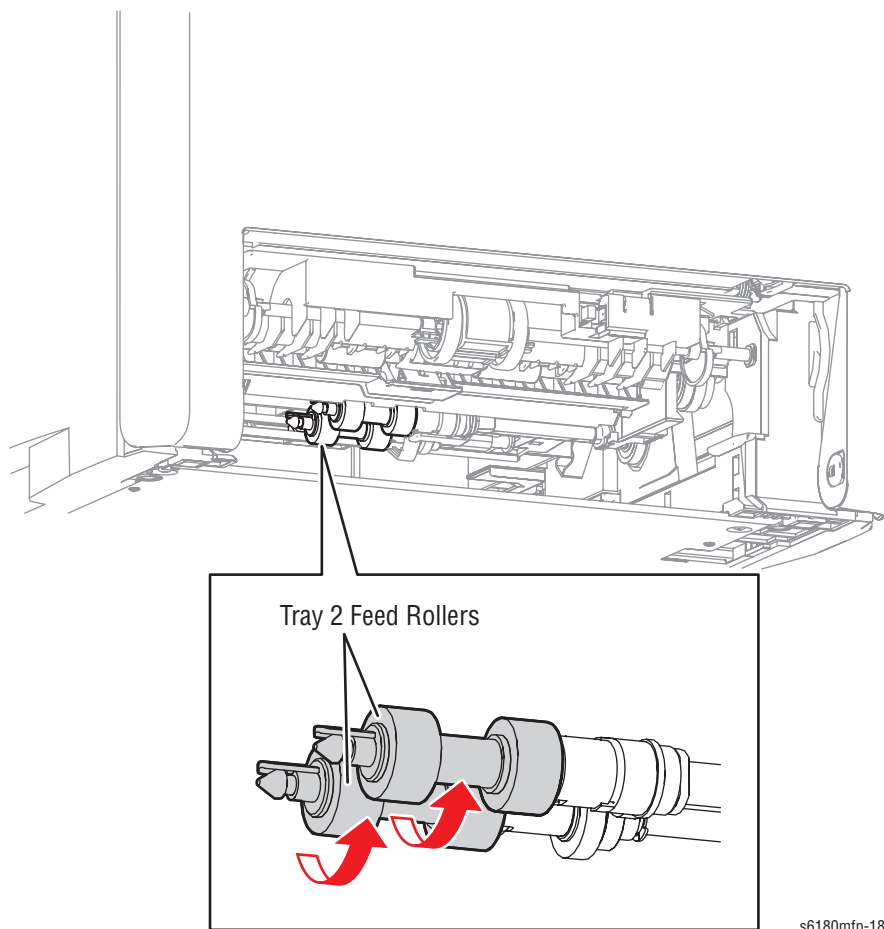
Tray 2 Feed Clutch

1. Enter the Service Diagnostic menu (page 4-5).
2. Remove Tray 2.
3. Perform the Tray 2 Feed Motor (FULL2) test: **Printer Diag > Engine Diag > Motor Test > Tray 2 Motor (FULL2)**.
4. While the Tray 2 Motor is running, press the **Up Arrow** button to find **Tray 2 Feed Clutch**. Press the **OK** button to run the Tray 2 Feed Clutch test.

Note

The Tray 2 Feed Rollers rotate when the Tray 2 Motor (FULL2) and the Tray 2 Feed Clutch tests are executed.

5. Verify that the Tray 2 Motor is working and the Tray 2 Feed Rollers are rotating.



6. Press the **Stop** button to stop the Tray 2 Feed Clutch test.
7. Press the **Down Arrow** button to find **Tray 2 Motor (FULL2)**.
8. Press the **Stop** button to stop the Tray 2 Motor test.

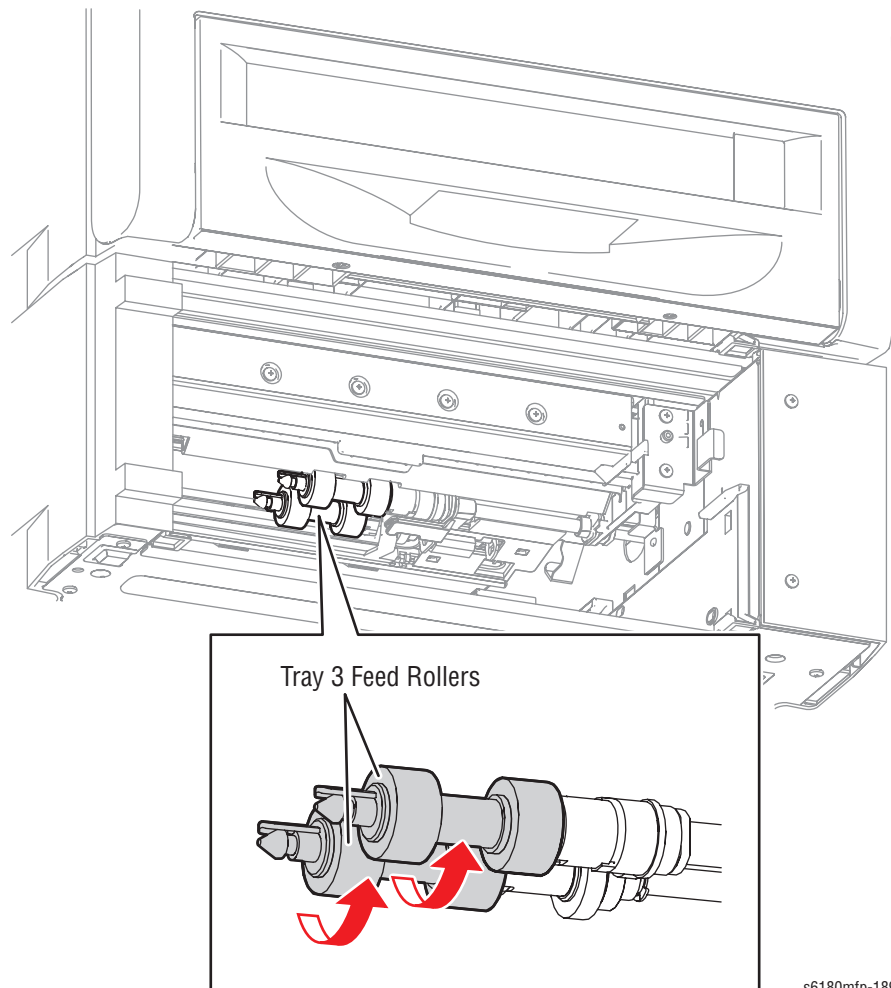
Tray 3 Feed Clutch

1. Enter the Service Diagnostic menu (page 4-5).
2. Remove Tray 3.
3. Perform the Tray 3 Feed Motor (FULL2) test: **Printer Diag > Engine Diag > Motor Test > Tray 3 Feed Motor (FULL2)**.
4. While the Tray 3 Feed Motor is running, press the **Up Arrow** button to find **Tray 3 Feed Clutch**. Press the **OK** button to run the Tray 3 Feed Clutch test.

Note

The Tray 3 Feed Rollers rotate when the Tray 3 Feed Motor (FULL2) and the Tray 3 Feed Clutch tests are executed.

5. Verify that the Tray 3 Feed Motor is working and the Tray 3 Feed Rollers are rotating.



s6180mfp-189

6. Press the **Stop** button to stop the Tray 3 Feed Clutch test.
7. Press the **Down Arrow** button to find **Tray 3 Feed Motor (FULL2)**.
8. Press the **Stop** button to stop the Tray 3 Feed Motor test.

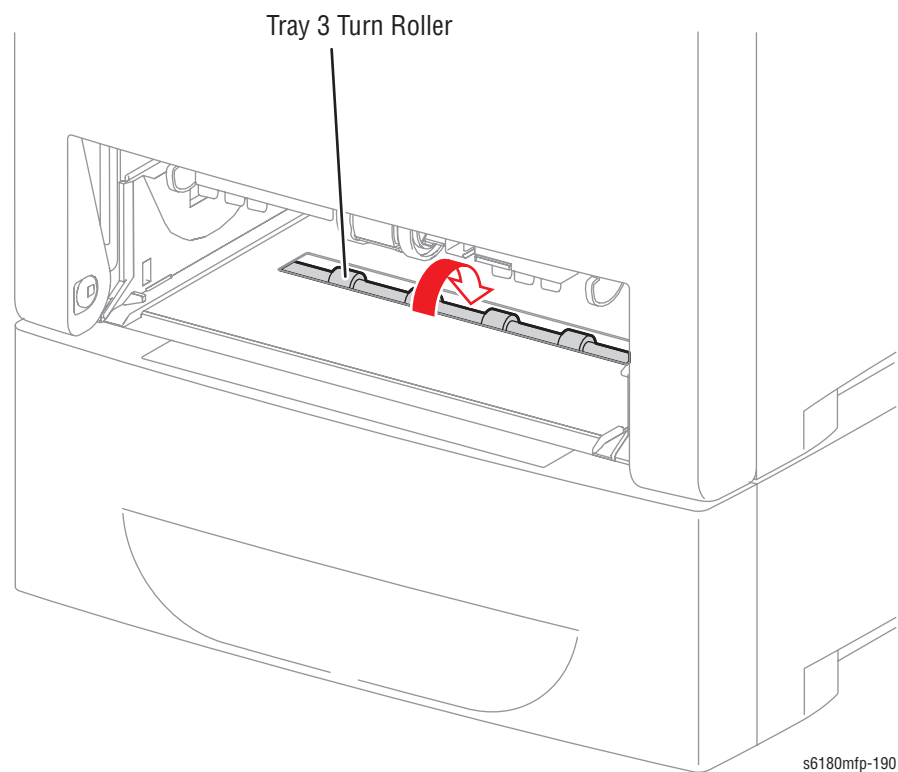
Tray 3 Turn Clutch

1. Enter the Service Diagnostic menu (page 4-5).
2. Remove Tray 3.
3. Perform the Tray 3 Feed Motor (FULL2) test: **Printer Diag > Engine Diag > Motor Test > Tray 3 Feed Motor (FULL2)**.
4. While the Tray 3 Feed Motor is running, press the **Up Arrow** button to find **Tray 3 Turn Clutch**. Press the **OK** button to run the Tray 3 Turn Clutch test.

Note

The Tray 3 Turn Roll rotates when the Tray 3 Feed Motor (FULL2) and the Tray 3 Turn Clutch tests are executed.

5. Verify that the Tray 3 Feed Motor is working and the Turn Roller is rotating.



6. Press the **Stop** button to stop the Tray 3 Turn Clutch test.
7. Press the **Down Arrow** button to find **Tray 3 Feed Motor (FULL2)**.
8. Press the **Stop** button to stop the Tray 3 Feed Motor test.

Duplex Clutch

Caution

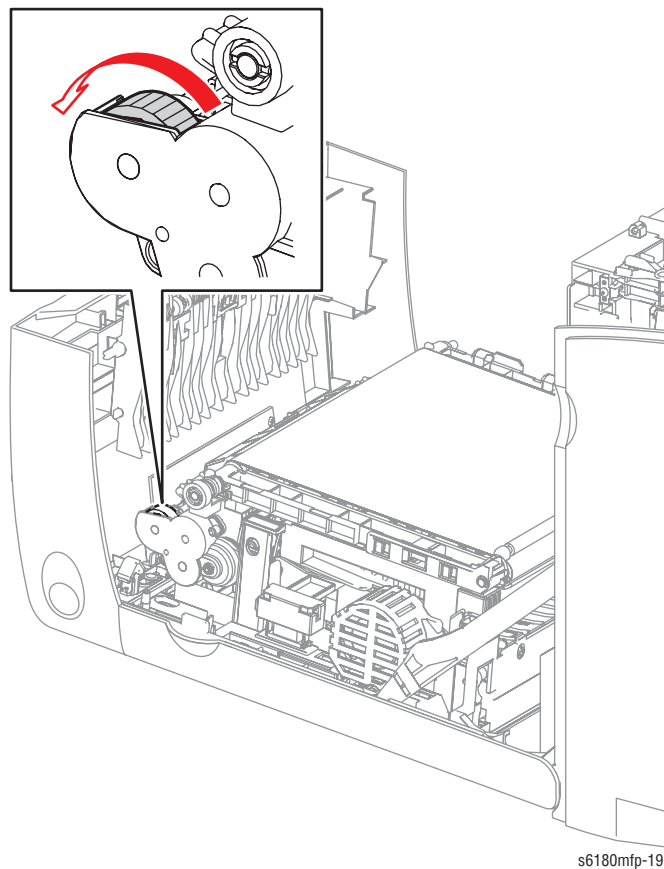
When performing this procedure, remove and cover the Print Cartridges to avoid exposure to light if the Front Door will be opened for prolonged periods.

1. Enter the Service Diagnostic menu (page 4-5).
2. Open the Front Cover.
3. Remove the Transfer Unit (page 8-9).
4. Remove the Print Cartridges (page 8-11).
5. Use a paper clip to secure the Interlock Switch.
6. Perform the Duplex Motor (HIGH) test: **Printer Diag > Engine Diag > Motor Test > Duplex Motor (HIGH)**.
7. While the Duplex Motor is running, press the **Up Arrow** button to find **Duplex Clutch**. Press the **OK** button to run the Duplex Clutch test.

Note

The Duplex Gear rotates when the Duplex Motor (HIGH) and the Duplex Clutch tests are executed.

8. Verify that the Duplex Motor is working and the gear is rotating.



s6180mfp-191

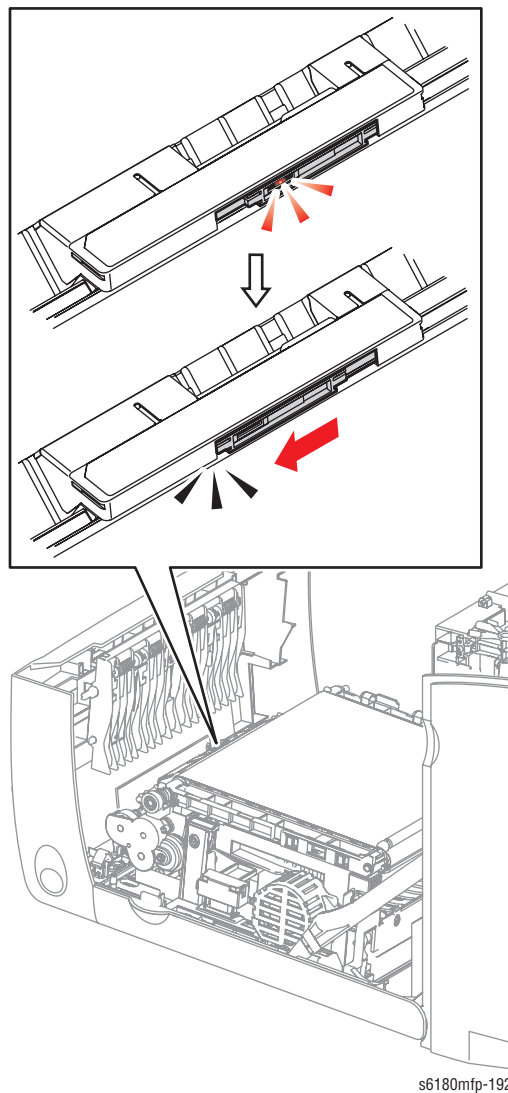
9. Press the **Stop** button to stop the Duplex Clutch test.
10. Press the **Down Arrow** button to display **Duplex Motor (HIGH)**.
11. Press the **Stop** button to stop the Duplex Motor test.

ADC (CTD) Sensor Solenoid

Caution

When performing this procedure, remove and cover the Print Cartridges to avoid exposure to light if the Front Door will be opened for prolonged periods.

1. Enter the Service Diagnostic menu (page 4-5).
2. Open the Front Cover.
3. Remove the Print Cartridges (page 8-11).
4. Use a paper clip to secure the Interlock Switch.
5. Perform the ADC Sensor Solenoid test: **Printer Diag > Engine Diag > Motor Test > ADC (CTD) Sensor Solenoid**.
6. Verify that there is a clicking sound when the Solenoid is operating. The ADC Sensor LED turns off (inside the Transfer Unit).



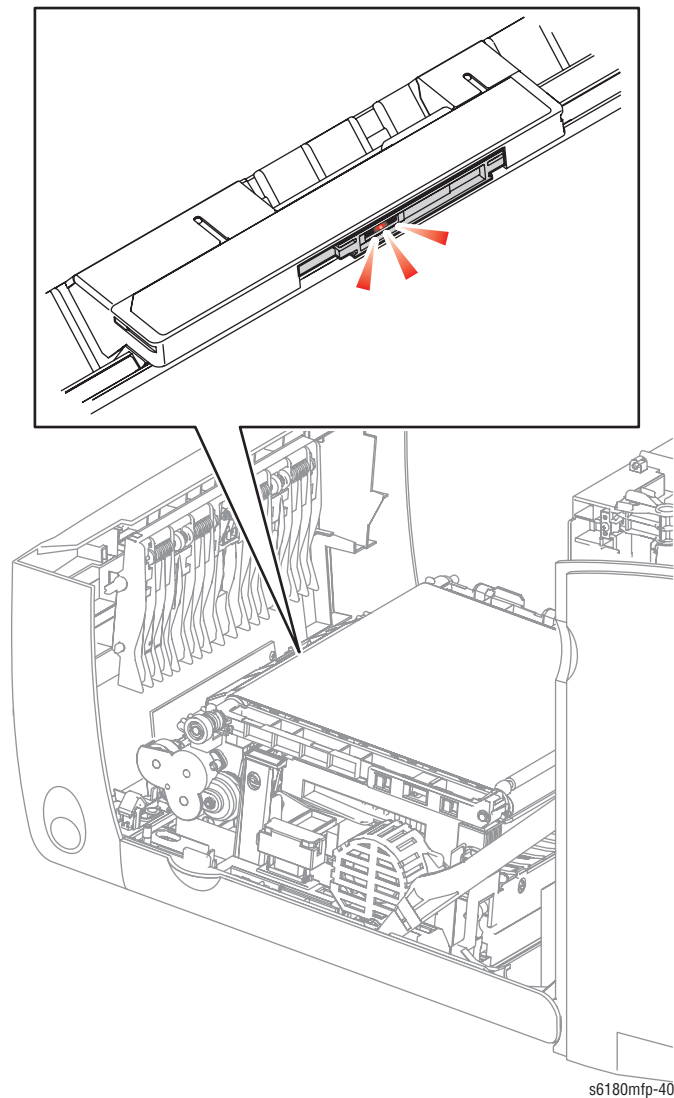
7. Press the **Stop** button to stop the ADC Sensor Solenoid test.
8. Remove the paper clip from the Interlock Switch.

ADC (CTD) Sensor LED

Caution

When performing this procedure, remove and cover the Print Cartridges to avoid exposure to light if the Front Door will be opened for prolonged periods.

1. Enter the Service Diagnostic menu (page 4-5).
2. Open the Front Cover.
3. Remove the Print Cartridges (page 8-11).
4. Use a paper clip to secure the Interlock Switch.
5. Perform the ADC Sensor LED test: **Printer Diag > Engine Diag > Motor Test > ADC (CTD) Sensor LED**.
6. Verify that the LED is working (red light inside the Transfer Unit).



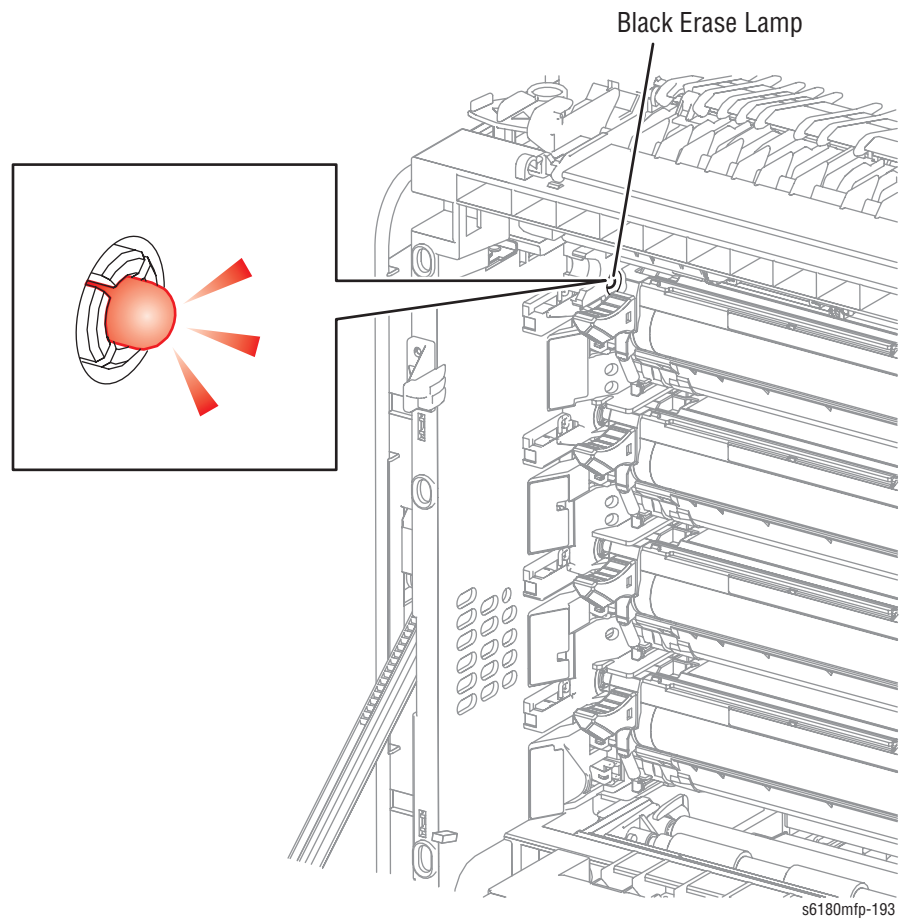
7. Press the **Stop** button to stop the ADC Sensor LED test.
8. Remove the paper clip from the Interlock Switch.

Drum Erase Lamp (K)

Caution

When performing this procedure, remove and cover the Print Cartridges to avoid exposure to light if the Front Door will be opened for prolonged periods.

1. Enter the Service Diagnostic menu (page 4-5).
2. Open the Front Cover.
3. Remove the Print Cartridges (page 8-11).
4. Use a paper clip to secure the Interlock Switch.
5. Perform the Drum Erase Lamp K test: **Printer Diag > Engine Diag > Motor Test > Drum Erase Lamp K.**
6. Verify that the Lamp is operating.



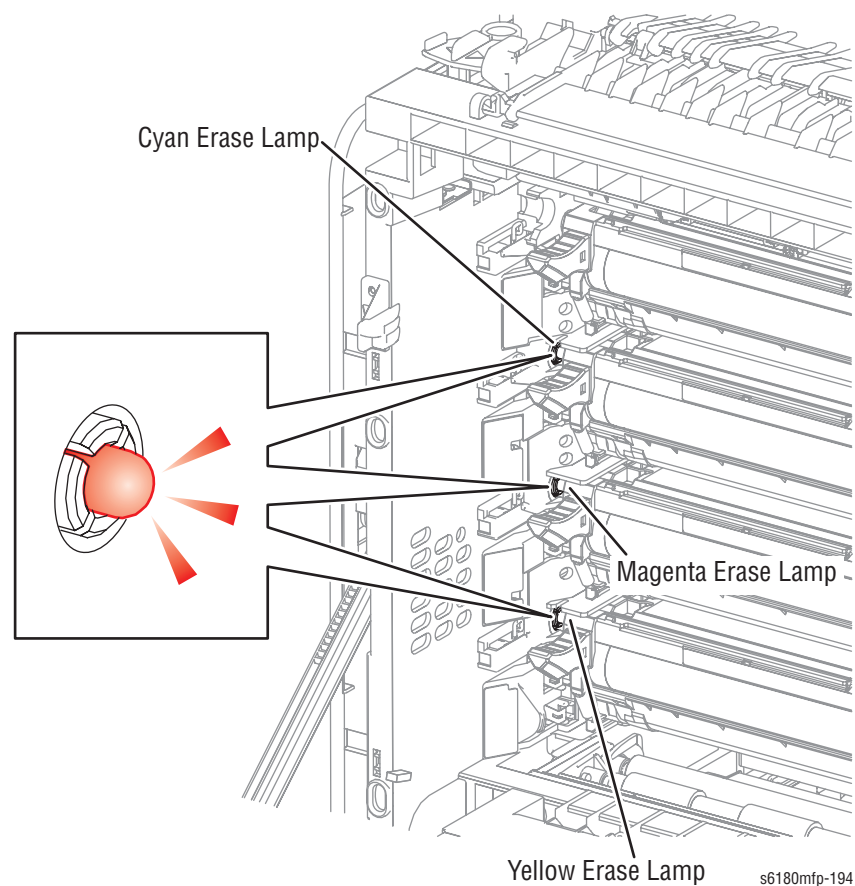
7. Press the **Stop** button to stop the Drum Erase Lamp K test.
8. Remove the paper clip from the Interlock Switch.

Drum Erase Lamp Y/M/C

Caution

When performing this procedure, remove and cover the Print Cartridges to avoid exposure to light if the Front Door will be opened for prolonged periods.

1. Enter the Service Diagnostic menu (page 4-5).
2. Open the Front Cover.
3. Remove the Print Cartridges (page 8-11).
4. Use a paper clip to secure the Interlock Switch.
5. Perform the Drum Erase Lamp YMC test: **Printer Diag > Engine Diag > Motor Test > Drum Erase Lamp YMC**.
6. Verify that the Lamps are operating.



7. Press the **Stop** button to stop the Drum Erase Lamp YMC test.
8. Remove the paper clip from the Interlock Switch.

Exit Clutch

1. Enter the Service Diagnostic menu (page 4-5).
2. Run the Exit Clutch test: **Printer Diag** > **Engine Diag** > **Motor Test** > **Exit Clutch**.
3. Verify that the Exit Roller is not rotating.
4. Press the **Stop** button to stop the test.

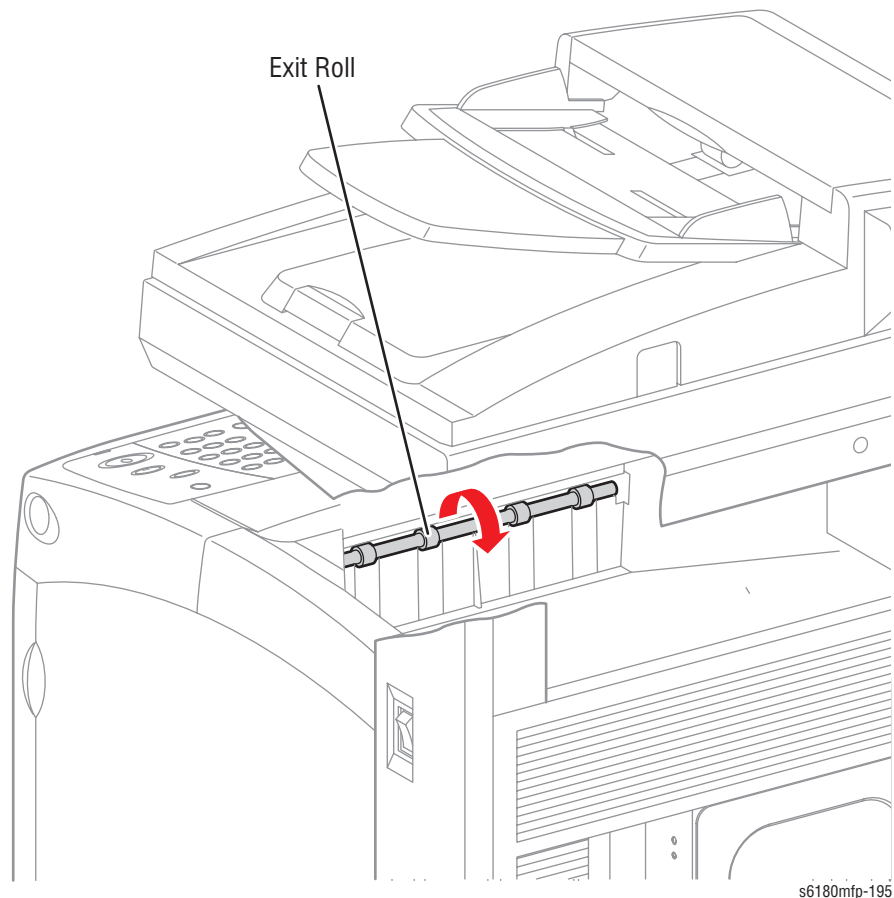
Combination Test

1. Enter the Service Diagnostic menu (page 4-5).
2. Perform the Main Motor (FULL2) test: **Printer Diag** > **Engine Diag** > **Motor Test** > **Main Motor (FULL2)**.
3. While the Main Motor is running, press the **Up Arrow** button to find **Exit Clutch**. Press the **OK** button to run the Exit Clutch test.

Note

The Exit Roller rotates when the Main Motor (FULL2) and the Exit Clutch tests are executed.

4. Verify that the Main Motor is working and the Exit Roller is rotating.



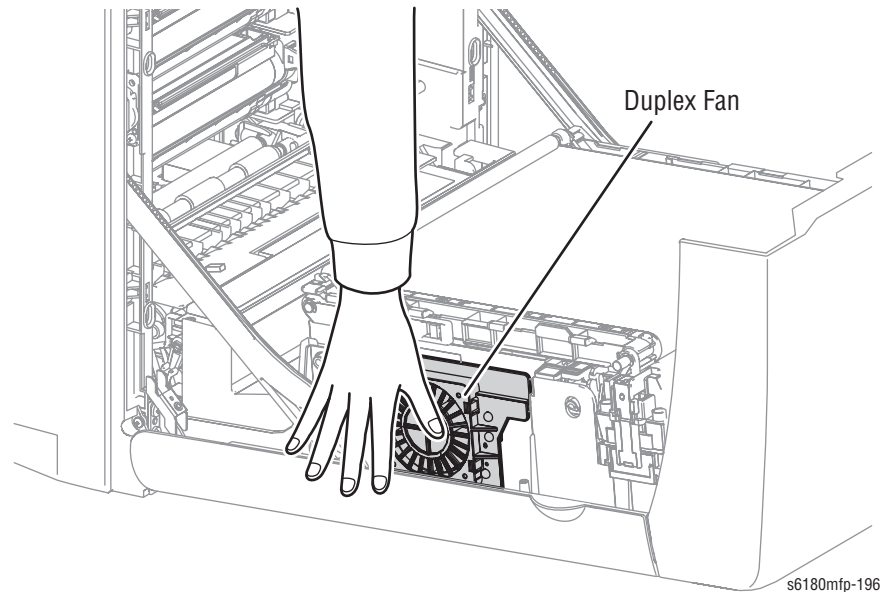
5. Press the **Stop** button to stop the Exit Clutch test.
6. Press the **Down Arrow** button to find **Main Motor (FULL2)**.
7. Press the **Stop** button to stop the Main Motor test.

Duplex Fan

Caution

When performing this procedure, remove and cover the Print Cartridges to avoid exposure to light if the Front Door will be opened for prolonged periods.

1. Enter the Service Diagnostic menu (page 4-5).
2. Open the Front Cover.
3. Remove the Transfer Unit (page 8-9).
4. Remove the Print Cartridges (page 8-11).
5. Use a paper clip to secure the Interlock Switch.
6. Perform the Duplex Fan test: **Printer Diag > Engine Diag > Motor Test > Duplex Fan**.
7. Verify that the Fan is operating.



8. Press the **Stop** button to stop the Duplex Fan test.
9. Remove the paper clip from the Interlock Switch.

Control Panel Troubleshooting

Printer Does Not Come to a “Ready” State

1. Remove and reseal the Image Processor Board (page 8-90).
2. Refer to “DC Power Supply Troubleshooting” on page 4-84.
3. Replace the Control Panel (page 8-30).
4. Replace the Control Panel wiring harness (page 8-30).

Control Panel LED is On, Control Panel Display is Blank

1. Remove and reseal the Image Processor Board (page 8-90).
2. Replace the Control Panel (page 8-30).
3. Replace the Control Panel wiring harness (page 8-30).
4. Replace the Image Processor Board (page 8-90).

Engine Test Print

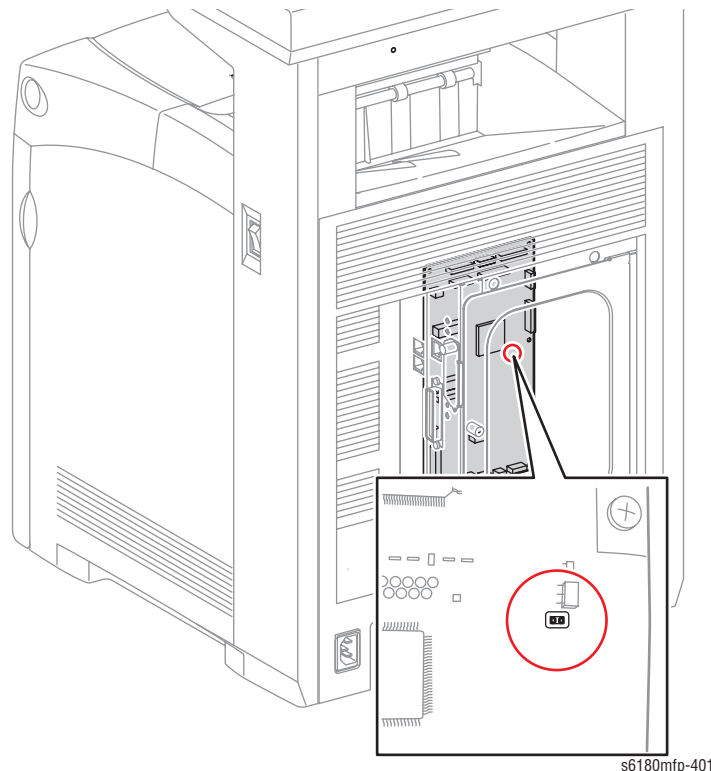
This test isolates printer hardware problems to either the Engine Control Board or Image Processor Board.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Image Processor Board, PL9.1.20 ■ MCU Board, PL9.2.13 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Remove the Image Processor Board (page 8-90).		
2	Turn the printer power On (the Control Panel will be blank).		
3	Short the two pins on the MCU Board.		
4	Did the printer print the Pattern IOT page?	Replace the Image Processor Board (page 8-90).	Replace the MCU Board (page 8-88).



Inoperable Printer Troubleshooting

Engine Power-Up Sequence

1. Machine Control Unit (MCU) Board logic check
2. Print Cartridge (Missing, NVRAM (CRUM) Error, CRUM ID, Life Over)
3. Fuser (Missing, NVRAM (CRUM) Error, Life Over)
4. Transfer Unit (Missing, Life Over)
5. ADC Sensor (Error)
6. All paper Sensor (Jam)
7. Door (Open)
8. Environmental (Humidity/Temperature) Sensor (Error)
9. NVRAM (NVRAM Error)
10. Image Processor Board POST Diagnostic check

Printer Continually Displays Warming Up

1. Verify the correct Fuser (110 V vs. 220 V) is installed in the printer.
2. Refer to the Engine Power-Up Sequence (page 4-80).

Printer Continually Displays Insert Print Cartridge

Initial Actions

- Check the Print Cartridge life using CentreWare IS.
- Cycle printer power.
- If problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Print Cartridge (Y/M/C/K), PL5.1.17-20 ■ Print Cartridge Sensor, PL5.2.6 ■ MCU Board, PL9.2.13 ■ Toner Sensor Harness, PL10.1.7 	<ul style="list-style-type: none"> ■ “Developer” on page 10-38

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the Print Cartridge for correct installation. 2. Is the Print Cartridge correctly installed?	Go to step 3.	Reseat the Print Cartridge (page 8-11).
2	Does the error still occur?	Go to step 3.	Complete.
3	1. Perform the CRU Sensor test: Service Mode > Printer Diag > Engine Diag > Sensor Test > CRU Sensor. <ul style="list-style-type: none"> ■ Yellow CRU Sensor (page 4-45) ■ Magenta CRU Sensor (page 4-46) ■ Black CRU Sensor (page 4-47) ■ Cyan CRU Sensor (page 4-48) 2. Does the number on the Control Panel increase by 1 when the Print Cartridge is reseated?	Replace the MCU Board (page 8-88).	Go to step 4.
4	1. Replace the Print Cartridge (page 8-11). 2. Does the error still occur?	Go to step 5.	Complete.
5	1. Check the Toner Sensor wiring harness connectors between the Print Cartridge Sensor and the MCU Board. <ul style="list-style-type: none"> ■ Yellow: P/J19 and P/J191 ■ Magenta: P/J19 and P/J192 ■ Black: P/J19 and P/J193 ■ Cyan: P/J19 and P/J194 2. Are the connectors securely connected?	Go to step 6.	Reconnect the connectors. Go to step 6.
6	Does the error still occur?	Go to step 7.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
7	<p>Check the Toner Sensor Harness for continuity.</p> <ol style="list-style-type: none"> 1. Disconnect the wiring harnesses from the MCU Board and the Print Cartridge Sensor. <ul style="list-style-type: none"> ■ Yellow: P/J19 and P/J191 ■ Magenta: P/J19 and P/J192 ■ Black: P/J19 and P/J193 ■ Cyan: P/J19 and P/J194 2. Check continuity between P/J connectors: <ul style="list-style-type: none"> ■ Yellow: P/J19 <=> P/J191 ■ Magenta: P/J19 <=> P/J192 ■ Black: P/J19 <=> P/J193 ■ Cyan: P/J19 <=> P/J194 	Go to step 8.	Replace the Toner Sensor Harness.
8	<p>Check the Print Cartridge Sensor signal.</p> <ol style="list-style-type: none"> 1. Disconnect the wiring harness connector P/J19 from the MCU Board. 2. Is there +3.3 V across the Toner Sensor Harness? <ul style="list-style-type: none"> ■ Yellow: J19-1 <=> J19-2 ■ Magenta: J19-4 <=> J19-5 ■ Black: J19-7 <=> J19-8 ■ Cyan: J19-10 <=> J19-11 	Go to step 9.	■ Replace the MCU Board (page 8-88).
9	<p>Check the Print Cartridge Sensor for operation.</p> <ol style="list-style-type: none"> 1. Measure the voltage across: <ul style="list-style-type: none"> ■ Ground <=> P/J19-3 (Yellow) ■ Ground <=> P/J19-6 (Magenta) ■ Ground <=> P/J19-9 (Black) ■ Ground <=> P/J19-12 (Cyan) 2. Does the voltage change when the paper is inserted into the sensor detecting point? 	Replace the MCU Board (page 8-88).	<p>Replace the Print Cartridge Sensor.</p> <ul style="list-style-type: none"> ■ Black (page 8-57) ■ Yellow/Magenta/Cyan (page 8-58)

AC Power Supply Troubleshooting

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack References
<ul style="list-style-type: none"> ■ LVPS, PL9.2.14 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the voltage at the AC wall outlet. 2. Is there approximately 110 VAC (or 220 VAC if the printer is a 220 V configuration) at the AC wall outlet?	Go to step 2.	Notify the customer of improper AC output from the outlet.
2	1. Check the power cord for defects or loose connection. 2. Is the power cord loose or defective?	Replace or reconnect the power cord.	Replace the LVPS (page 8-83).

DC Power Supply Troubleshooting

LVPS Overcurrent Protection Circuit

This circuit stops all outputs if any of the Low Voltage Power Supply voltages 3.3 VDC, 5 VDC, or 24 VDC are shorted.

The circuit is reset when the short is removed, the power is turned Off, and then On again.

LVPS Overvoltage Protection Circuit

This circuit stops all outputs if the power supply voltage 3.3 VDC, 5 VDC, or 24 VDC exceeds the specified voltage respectively. The operating point is 32 VDC or less for 24 VDC, 7 VDC or less for 5 VDC, or 4.4 VDC for 3.3 VDC.

The circuit is reset when the power is turned Off, and then On again after a certain time.

LVPS

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ LVPS, PL9.2.13 ■ LVPS Harness, PL10.1.3 	<ul style="list-style-type: none"> ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “DC Power Supply” on page 10-24

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Perform the AC power supply troubleshooting procedure (page 4-83). 2. Does the problem persist?	Go to step 2.	Complete.
2	1. Turn the AC power switch Off. 2. Is the Fuse on the low-voltage power supply board open?	Replace the LVPS (page 8-83).	Go to step 3.
3	1. Disconnect the wiring harness connectors J501 and J502 from the LVPS. 2. Turn the AC power switch On. 3. Verify the DC voltages between the following pins on the LVPS: <ul style="list-style-type: none"> ■ P501-1 <=> P501-2 = +5 V ■ P501-3 <=> P501-4 = +3.3 V ■ P502-1 <=> P501-2 = +24 V 	Go to step 4.	Replace the LVPS (page 8-83).

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	<ol style="list-style-type: none"> 1. Turn the AC power switch Off. 2. Connect the wiring harness connector J501 to the LVPS, then turn the AC power switch On. 3. Check continuity between P501-3 <=> P501-4? 4. Is there 3.3 V present? 	Go to step 7.	Go to step 5.
5	<p>Check the following parts for fault or damage:</p> <ul style="list-style-type: none"> ■ LVPS Harness, PL10.1.3 ■ MCU Board, PL9.2.13 	Replace the part if damaged. Go to step 6.	Go to step 7.
6	Does the problem still occur?	Go to step 7.	Complete.
7	<ol style="list-style-type: none"> 1. Turn the AC power switch Off. 2. Connect the wiring harness connector J501 to the LVPS, then turn the AC power switch Off. 3. Check continuity between P501-1 <=> P501-2. 4. Is there +5 V present? 	Go to step 10.	Go to step 8.
8	<ol style="list-style-type: none"> 1. Check the LVPS Harness for fault or damage. 2. Is the LVPS Harness damaged? 	Replace if damaged. Go to step 9.	Go to step 10.
9	Does the error still occur?	Go to step 10.	Complete.
10	<ol style="list-style-type: none"> 1. Turn the AC power switch Off. 2. Connect the wiring harness connector J502 to the LVPS, then turn the AC power switch On. 3. Check continuity between P502-1 <=> P502-2? 4. Is there +24 V present? 	Complete.	Go to step 11.
11	<ol style="list-style-type: none"> 1. Check the LVPS Harness for fault or damage. 2. Is the LVPS Harness damaged? 	Replace the part if damaged.	Complete.

+24 VDC Interlock Switch

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Interlock Harness, PL9.2.3 ■ LVPS, PL9.2.4 ■ LVPS Harness, PL10.1.3 	<ul style="list-style-type: none"> ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “DC Power Supply” on page 10-24

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the Interlock Harness for continuity. 1. Disconnect P/J44. 2. Check continuity between P/J44-1 <=> P/J44-3. 3. Is there voltage present when the Interlock is activated?	Go to step 2.	Replace the Interlock Switch (page 8-82).
2	1. Disconnect the wiring harness connectors P/J501 and P/J14. 2. Check continuity between P/J44-1 <=> P/J44-3. 3. Is there +24 V present?	Go to “LVPS” on page 4-84.	Replace the LVPS Harness.

Fax Troubleshooting

Locating a fault could be problematic because a Fax is composed of multiple blocks.

Fault Occurs

First, try using the copy function. If the copy function's printing results are correct, the probability of a fault in the Fax itself is low. The fault is likely in the telephone line or receiving Fax. If the fault is in the telephone line, first retry sending the data. If there is no improvement, contact the telephone company. If the copy function's printing results are incorrect, it can be determined if the fault is in the scanner or printer by operating each unit separately via a computer.

Transmission Fault

1. Problem with printing quality at receiving Fax, such as corrupt image, lines in image, or top/bottom cut off.
 - a. If a copy is normal.

Cause: Degraded telephone line connection is caused by noise, etc., or a fault in receiving Fax's printer.

Corrective Action: Determine whether fault is in the telephone or at receiving Fax by trying copy function at receiving Fax.

Note

If the telephone line degraded, white horizontal lines, missing rows, and/or cut-off top/bottom may occur.

Branch connections or incoming call (call waiting) may also caused image corruption.

- b. If copy function is faulty.

Cause: Dirt or fault in scanner.

Corrective Action: Clean the document glass or repair the scanner. If the original is being sent from the ADF, try making a copy with the original placed on the document glass. If this resolves the problem, the fault is in the ADF.

2. Cannot dial.

Cause: No connection. Incorrect setup of dial type and/or line type.

Corrective Action: Reconnect the telephone line. Reset the dial type and/or line type to correct the settings.

Note

If the telephone line condition is degraded, white horizontal lines, missing rows, and/or cut-off top/bottom may occur.

Branch connections or incoming call (call waiting) may also cause image corruption.

Reception Fault

1. Cannot Receive.
 - a. Answering mode is incorrect.

Cause: The answering mode is set to “TEL Mode” in the Fax Settings: **System --> Admin Menu --> Fax Settings --> Ans Select.**

Corrective Action: Change the answering mode from TEL Mode to other mode (i.e., FAX Mode, TEL/FAX Mode, Ans/FAX Mode, DRPD Mode...).
 - b. Fax memory is full.

Cause: An attempt was made to send document data in excess of the available memory capacity.

Corrective Action: On the receiving side, wait until the current fax job is printed completely.
 - c. The printer displays some fault messages.

Cause: A fault occurred in the printer.

Corrective Action: Refer to the appropriate fault error procedures to resolve the problem.
 - d. Distinctive ring pattern detection fails.

Cause: The distinctive ring pattern set for the DRPD mode is incorrect (applicable only in USA and Canada).

Corrective Action: Check the ring pattern provided by the telephone service provider, and select the correct pattern for fax.
 - e. Cannot detect Calling Tone (CNG) signal.

Cause: Communication fails in TEL/FAX mode or Ans/FAX mode.

Corrective Action: Ground the printer properly.
 - f. Cannot detect off-hook.

Cause: Communication fails in TEL/FAX mode or Ans/FAX mode.

Corrective Action: Set **Extel Hook Thresh** to **Higher:** **System --> Admin Menu --> Fax Settings --> Extel Hook Thresh.**

A detection of an off-hook can be checked by the change of the panel display upon the off-hook of an external telephone.
2. Problem with printing quality, such as corrupted image, lines in image, or top/bottom cut off.
 - a. If copy function is normal.

Cause: Degraded telephone line connection is caused by noise, etc., or a fault is sending Fax’s scanner.

Corrective Action: Determine whether fault is in the telephone line or at sending Fax by trying the copy function at sending Fax.

Note

If the telephone line condition is degraded, white horizontal lines, missing rows, and/or cut-off top/bottom may occur.

Branch connections or an incoming call (Call Waiting) may also cause image corruption.

- b. If copy function is faulty.

Cause: Dirt or fault in printer.

Corrective Action: Clean all parts of the printer or repair the printer.

2. Response signal was not sent.

Cause: No connection. Incorrect setup of dial type, line type, and/or reception mode.

Corrective Action: Reconnect the telephone line. Reset the dial type, line type, and/or receive mode to correct settings.

Note

If a call is made to the Fax from a telephone, and the Fax does not emit its ringing sound, a telephone line fault is highly probable. Be sure an external telephone line is connected prior checking for a ring tone.

Other Problems

Branch Connection (Parallel Connection)

During Fax reception, if the handset of another telephone on a branch connection is lifted, the received image may be corrupted or a transmission error may occur. Branch connection may also interfere with Caller ID, Call Waiting, or the receiving operation of the connected telephones.

Call Waiting

If a call comes in during Fax sending/reception, the image may be corrupted.

Digital Subscriber Line

Digital Subscriber Line (DSL) is a high-speed digital transmission method using existing telephone lines. Because the line is used for both voice and data transmission, various problems may occur, such as noise during spoken conversation, low sound volume, and mis-dialing. Replacing the splitter may improve the situation.

The Digital Subscriber Line cannot be directly connected to a fax machine; the line must be connected via a filter.

There are several types of DSL:

- **ADSL** (Asymmetric Digital Subscriber Line) – Transmits digital information at a high-speed bandwidth on phone lines. ADSL provides continuously available connection with differing upstream and downstream transmission speeds and simultaneously accommodates analog (voice) and digital information on the same line. Downstream data rates are offered from 512 Kbps to about 6 Mbps.
- **SDSL** (Symmetric Digital Subscriber Line) – Runs over one pair of copper wires with symmetrical upstream and downstream transmission speeds up to 3 Mbps, with a maximum range up to 3 km.
- **VDSL** (Very high Bit Rate Digital Subscriber Line) – An xDSL technology that provides faster data transmission over a single twisted pair of copper wires. VDSL transmits data from 13 Mbps ~ 55 Mbps range over short distances, usually between 1000 and 4500 feet.

Noise

If electronic equipment (television, computer, microwave, etc.) or devices equipped with motors are located near a Fax, noise from the electronic equipment may degrade the line condition.

Also, a telephone line, acting as an antenna, may absorb electric waves generated from wireless or broadcasting equipment.

Because Fax data is audio data, the line quality affects the quality/stability of image data as well as that of conversation.

Fax Failure After Installation/Relocation

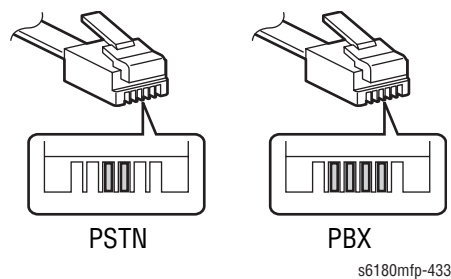
The Fax has failed to send after installation. The following troubleshooting procedure applies to this error.

Initial Actions

- Disconnect all devices other than the Fax machine.
- Cycle printer power.
- If the problem persists, follow the procedure below.

Note

The conventional analog telephone line uses standard RJ-11 cable, which has two conductors. However, the four-conductor cables commonly available are backward compatible with RJ-11 and can be used with no problems. On the other hand, since these four-conductor cables are also used for ISDN systems, the number of elements is not the key for identification of the type of line/service.



Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Scanner Controller Board, PL9.1.1	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the telephone services for screening feature such as blocking unwanted calls, etc. 2. Is the line identified?	Go to step 2.	Go to step 4.
2	1. Manually dial any local phone number using touch tone, pulse 20PPM and pulse 10PPM in this order. 2. Is there a connection?	Go to step 3.	Request the phone company for a line repair.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
3	<ol style="list-style-type: none"> 1. Manually dial any out-of-area phone number. 2. Is there a connection? 	Go to step 6.	Check if the transmission route consists of multiple telephone service providers. Confirm that your telephone line supports faxing.
4	<ol style="list-style-type: none"> 1. Check the line type. <ul style="list-style-type: none"> ■ Confirm that the line is not an ISDN/xDSL/IP phone line but an analog line. ■ If no dial tone is present at Off hook, the line may be faulty. 2. For PSTN: <ul style="list-style-type: none"> ■ Is there a continuous tone present at the hook? ■ Does the cable have 2 conductors? 	Manually dial any local phone number using touch tone.	Go to step 5.
5	Is the line a PBX?	Go to step 8.	Request the telephone company for a line repair.
6	<ol style="list-style-type: none"> 1. Update Fax Setting information for a new fax job. 2. Send a fax to another fax machine. 3. Did the fax transmit? 	Go to step 10.	Note: Error 035-781 occurs when the receiving line is busy. If the receiving line is not busy, resend the fax. Go to step 7.
7	<ol style="list-style-type: none"> 1. Check the outside line prefix is added. 2. Is the fax number correct? 	Check the following information: System > Admin Menu > Fax Settings. <ul style="list-style-type: none"> ■ Ans Select ■ Line Type ■ Dialing Type 	Retry the fax transmission.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
8	1. Manually dial any local phone number using touch tone with the outside line prefix (i.e., 9). 2. Is there a connection?	Go to step 3.	Go to step 9.
9	1. Check for the pulse. Manually dial using pulse 20PPM. 2. Is there a connection?	Go to step 3.	Set pulse to 10PPM. Go to step 3.
10	1. Receive a fax from another fax machine. 2. Did the reception complete?	Complete. Connect additional devices such as external telephone and answering machine.	1. Check the Secure settings: System > Admin Menu > Secure Settings > Secure Receive. 2. Is Secure Rcv. Set Disable? (the default setting is Disable)
11	1. Check the Fax setting: System > Admin Menu > Fax Settings > Ans Select. 2. Is the Ans Select setting correct?	Go to step 12.	Correct the setting. Refer to "Fax Configuration Settings" on page 4-99 for detailed information.
12	1. Check the Auto Answer Fax value: System > Admin Menu > Fax Settings > Auto Answer Fax. 2. Does the value exceed 30?	Set the value to below 30.	Replace the Scanner Controller Board (page 8-99).

Fax Failure After Continuous Normal Operation

The Fax has failed to send or receive after continuous normal operation. The following troubleshooting procedure applies to this error.

Initial Actions

- Disconnect all the devices other than the Fax machine.
- Cycle printer power.
- If the problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Scanner Controller Board, PL9.1.1	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the error message on the Control Panel. 2. Is there an error code (Chain Link)?	Refer to the appropriate error code procedure (“Error Messages and Codes” on page 3-1).	Go to step 2.
2	Has the Fax machine been relocated?	Refer to “Fax Failure After Installation/Relocation” on page 4-91).	Go to step 3.
3	Do all calls fail?	Go to step 4.	Go to step 11.
4	Has the line contract been switched to ISDN/xDSL or IP-phone?	Check the Fax configuration for the TA/xDSL modem, etc.	Go to step 5.
5	Has there been any change of line contract for the line type (Pulse to Tone, Tone to Pulse, etc.)?	Correct the Line Type setting.	Go to step 6.
6	Is a dial tone present at Off hook?	Go to step 7.	Go to step 9.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
7	Does the manual dialing function properly?	Go to step 8.	Replace the Scanner Controller Board (page 8-99).
8	Is the paper size correct?	Replace the Scanner Controller Board (page 8-99).	Replace the paper.
9	<ol style="list-style-type: none"> 1. Check the cable type. <ul style="list-style-type: none"> ■ Two-conductor (PSTN) ■ Four-conductor (PBX) 2. Check the cable condition. <ul style="list-style-type: none"> ■ Normal continuity ■ Straight, unlooped, uncoiled routing ■ Appropriate cable length 3. Is the cable type correct and in good condition? 	Go to step 10.	Replace the cable.
10	Is a sufficient line voltage obtained via Diagnostics?	Replace the Scanner Controller Board (page 8-99).	Request for a line repair.
11	Does the error occur only when sending?	Go to step 12.	Go to step 18.
12	<ol style="list-style-type: none"> 1. Check the Delayed Start setting: System > Default Settings > Fax Defaults > Delayed Start. 2. Is the Delayed Start On? 	Go to step 13.	Go to step 15.
13	Is the Delayed Start on a specified time?	Complete.	Go to step 14.
14	Is the Local Time setting correct?	Replace the Scanner Controller Board (page 8-99).	Set the Local Time setting.
15	Is a ring tone present?	Go to step 16.	Go to step 17.
16	Is the modem sound present?	Analyze the Protocol Monitor Report.	Replace the Scanner Controller Board (page 8-99).
17	Is the setting correct for the line type?	Replace the Scanner Controller Board (page 8-99).	Correct the setting.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
18	1. Check the Secure Receive setting: System > Admin Menu > Secure Settings > Secure Receive. 2. Is the Secure Rcv. Set Enable?	Go to step 19.	Go to step 20.
19	1. Print the stored data and turn Secure Rcv. to Disable. 2. Does the error still occur?	Go to step 20.	Complete.
20	Is a calling tone present?	Go to step 21.	Replace the Scanner Controller Board (page 8-99).
21	Is a modem sound present at transmission?	Go to step 22.	Replace the Scanner Controller Board (page 8-99).
22	1. Check the Junk Fax Filter setting: System > Admin Menu > Fax Settings > Junk Fax Filter. 2. Is the Junk Fax Filter On?	Go to step 23.	Analyze the Protocol Monitor Report.
23	Is the number of sending fax registered?	Analyze the Protocol Monitor Report.	Complete.

Color Fax Troubleshooting

Color Faxing job has failed. The following troubleshooting procedure applies to this error.

Note

The following limitations apply to Color faxing.

- Color Fax cannot be used while receiving or transmitting a Fax.
- When reading a document to be faxed in the document glass mode, only one page can be transmitted.
- If the Fax machine on the other party side is made by other supplier or other Xerox model, there may be a case that color transmission or color reception of Fax cannot be made.
- There will be no retransmission when an error occurs during Color fax transmission.
- Color Fax cannot be used by Direct Fax.
- The data of Color Fax cannot be transferred to other parties.

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ Scanner Controller Board, PL9.1.1	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Did the user operate the Fax machine correctly?	Go to step 2.	Complete.
2	Does the error occur when sending a Fax?	Go to step 3.	Check with the sender on information: <ul style="list-style-type: none"> ■ Fax machine ■ Original document ■ Fax settings ■ Fax menu
3	1. Check the Fax settings: System > Admin Menu > Fax Settings > Color Fax. 2. Is the Color Fax setting On?	Go to step 4.	Turn the Color Fax setting to On.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	1. Check the original document. 2. Is the customer using a color document?	Go to step 5.	Complete.
5	Did the user select Color Fax mode?	Replace the Scanner Controller Board (page 8-99).	Complete.

Fax Configuration Settings

The following information provides the minimum Fax configuration settings for the Phaser 6180MFP.

Note

Be sure to record the correct settings before initializing the password, since Initialization will reset all other settings.

If you forgot the Admin password, you can initialize the password by turning On the printer while pressing the **System** button.

Required Settings

Printer Menu	Menu Content
Note: Default item is in Bold .	
Line Type	Line Type Setting <ul style="list-style-type: none"> ■ PSTN: Public Switched Telephone Network ■ PBX: Private Branch Exchange
Dialing Type	Dialing Type Setting <ul style="list-style-type: none"> ■ PB: Push button (touch tone) dialing ■ DP (10PPS): Pulse dialing at 10PPS ■ DP (20PPS): Pulse dialing at 20PPS
Ans Select	Answering Mode Selection <ul style="list-style-type: none"> ■ TEL Mode: You must receive a fax manually. ■ FAX Mode: The multifunction printer receives a fax automatically. ■ TEL/FAX Mode: The multifunction printer automatically switches between an external telephone and the fax reception mode. ■ Ans/FAX Mode: The multifunction printer automatically switches between an external answering machine and the fax reception mode. ■ DRPD Mode: Available when DRPD service is provided with your telephone line.
Country	Selection of the country where the multifunction printer is used (selectable from 30 countries including the United States). United States, Unknown , Argentina, Bahrain, Belgium, Brazil, Canada, Chile, Denmark, France, Germany, India, Ireland, Israel, Italy, Jordan, Luxembourg, Mexico, Morocco, Netherlands EU, Norway, Poland, Russia, South Africa, Spain, Sweden, Switzerland, Turkey, UAE, Ukraine, United Kingdom
Your Fax Number	Contains your telephone number, which is printed at the top of each page sent from the multifunction printer. This feature is available when you set Send Header to On, and must be set to On when you set Junk Fax Filter to On.

Environment-Specific Settings

Printer Menu	Menu Content
Note: Default item is Bold .	
DRPD Pattern	DRPD settings for fax detection to be configured when the Ans Select menu is set to DRPD. <ul style="list-style-type: none">■ Disable: Disable DRPD■ Pattern 1 to 5: Register one of the DRPD patterns provided by your telephone company.

Abnormal and Electrical Noise

Abnormal Noise when Power is Turned On

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Transfer Unit, PL4.1.1 ■ Print Cartridge (C/M/Y/K), PL5.1.17-20 ■ Fuser Unit, PL6.1.10 ■ Main Drive, PL8.1.2 ■ Drive Assembly, PL8.1.7 ■ Optional 550-Sheet Feeder, PL13.1.1 	

Warning

Ensure to wait for the Fuser to cool down before starting the procedure.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Perform the Main Motor test (page 4-54): Service Mode > Printer Diag > Engine Diag > Motor Test > Main Motor . 2. Does the noise come from the printer?	Go to step 2.	Go to step 9.
2	1. Remove the Fuser (page 8-12). 2. Perform the Main Motor test (page 4-54): Service Mode > Printer Diag > Engine Diag > Motor Test > Main Motor . 3. Does the noise come from the printer?	Go to step 3.	Complete.
3	1. Reseat the Fuser (page 8-12). 2. Perform the Main Motor test (page 4-54): Service Mode > Printer Diag > Engine Diag > Motor Test > Main Motor . 3. Does the noise come from the printer?	Go to step 4.	Complete.
4	1. Remove the Black Print Cartridge (page 8-11). 2. Perform the Main Motor test (page 4-54): Service Mode > Printer Diag > Engine Diag > Motor Test > Main Motor . 3. Does the noise come from the printer?	Go to step 5.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	<ol style="list-style-type: none"> 1. Check the Black Print Cartridge for correct installation. Reseat the Black Print Cartridge (page 8-11). 2. Perform the Main Motor test (page 4-54): Service Mode > Printer Diag > Engine Diag > Motor Test > Main Motor. 3. Does the noise come from the printer? 	Go to step 6.	Complete.
6	<ol style="list-style-type: none"> 1. Remove the Transfer Unit (page 8-9). 2. Perform the Main Motor test (page 4-54): Service Mode > Printer Diag > Engine Diag > Motor Test > Main Motor. 3. Does the noise come from the printer? 	Go to step 7.	Complete.
7	<ol style="list-style-type: none"> 1. Check the Transfer Unit for correct installation. Reseat the Transfer Unit (page 8-9). 2. Perform the Main Motor test (page 4-54): Service Mode > Printer Diag > Engine Diag > Motor Test > Main Motor. 3. Does the noise come from the printer? 	Go to step 8.	Complete.
8	<ol style="list-style-type: none"> 1. Check the Main Drive Assembly for correct installation. Reseat the Main Drive Assembly (page 8-75). 2. Perform the Main Motor test (page 4-54): Service Mode > Printer Diag > Engine Diag > Motor Test > Main Motor. Remove the following parts, one after another when performing the Main Motor test. <ul style="list-style-type: none"> ■ Fuser (page 8-12) ■ Black Print Cartridge (page 8-11) ■ Transfer Unit (page 8-9) ■ Main Drive Assembly (page 8-75) 3. Does the noise come from the printer? 	Go to step 9.	Complete.
9	<ol style="list-style-type: none"> 1. Perform the Sub Motor test (page 4-55): Service Mode > Printer Diag > Engine Diag > Motor Test > Sub Motor. 2. Does the noise come from the printer? 	Go to step 10.	Go to step 13.
10	<ol style="list-style-type: none"> 1. Remove the Print Cartridges (page 8-11). 2. Perform the Sub Motor test (page 4-55): Service Mode > Printer Diag > Engine Diag > Motor Test > Sub Motor. 3. Does the noise come from the printer? 	Go to step 11.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
11	<ol style="list-style-type: none"> 1. Check the Print Cartridges for correct installation. Reseat the Print Cartridges (page 8-11). 2. Perform the Sub Motor test (page 4-55): Service Mode > Printer Diag > Engine Diag > Motor Test > Sub Motor. 3. Does the noise come from the printer? 	Go to step 12.	Complete.
12	<ol style="list-style-type: none"> 1. Check the Main Drive Assembly for correct installation. Reseat the Main Drive Assembly (page 8-75). 2. Perform the Sub Motor test (page 4-55): Service Mode > Printer Diag > Engine Diag > Motor Test > Sub Motor. 3. Does the noise come from the printer? 	Replace the following parts, one after another. <ul style="list-style-type: none"> ■ Print Cartridges (C/M/Y/K) (page 8-11) ■ Main Drive Assembly (page 8-75) 	Complete.
13	<ol style="list-style-type: none"> 1. Perform the Deve Motor test (page 4-57): Service Mode > Printer Diag > Engine Diag > Motor Test > Deve Motor. 2. Does the noise come from the printer? 	Go to step 14.	Go to step 17.
14	<ol style="list-style-type: none"> 1. Remove the Print Cartridges (page 8-11). 2. Perform the Deve Motor test (page 4-57): Service Mode > Printer Diag > Engine Diag > Motor Test > Deve Motor. 3. Does the noise come from the printer? 	Go to step 15.	Complete.
15	<ol style="list-style-type: none"> 1. Check the Print Cartridges for correct installation. Reseat the Print Cartridges (page 8-11). 2. Perform the Deve Motor test (page 4-57): Service Mode > Printer Diag > Engine Diag > Motor Test > Deve Motor. 3. Does the noise come from the printer? 	Go to step 16.	Complete.
16	<ol style="list-style-type: none"> 1. Check the Main Drive Assembly for correct installation. Reseat the Main Drive Assembly (page 8-75). 2. Perform the Deve Motor test (page 4-57): Service Mode > Printer Diag > Engine Diag > Motor Test > Deve Motor. 3. Does the noise come from the printer? 	Replace the following parts, one after another. <ul style="list-style-type: none"> ■ Print Cartridges (C/M/Y/K) (page 8-11) ■ Main Drive Assembly (page 8-75) 	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
17	1. Check the Feed Drive Assembly for correct installation. Reseat the Feed Drive Assembly (page 8-78). 2. Perform the Tray 2 Motor test (page 4-56): Service Mode > Printer Diag > Engine Diag > Motor Test > Tray 2 Motor. 3. Does the noise come from the printer?	Go to step 18.	Complete. If the Optional 550-Sheet Feeder is installed, go to step 18.
18	1. Perform the Option Feeder Motor test (page 4-59): Service Mode > Printer Diag > Engine Diag > Motor Test > Tray 3 Feed Motor. 2. Does the noise come from the printer?	Replace the Optional 550-Sheet Feeder (page 8-116).	Complete.

Abnormal Noise During Printing

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Retard Roll (Separator), PL2.1.7 ■ Tray 2 Retard Roll, PL2.2.17 ■ MPT Feed Roll, PL3.1.10 ■ Metal Regi Roll, PL3.2.6 ■ Rubber Regi Roll, PL3.2.7 ■ Turn Roll, PL3.2.32 ■ Tray 2 Feed Roll, PL3.2.53 ■ Transfer Unit, PL4.1.1 ■ Print Cartridge (C/M/Y/K), PL5.1.17-20 ■ Fuser, PL6.1.10 ■ Main Drive, PL8.1.2 ■ Drive Assembly, PL8.1.7 ■ ADF Feed Roller & Pad, PL11.1.16 ■ Duplex Unit, PL12.1.1 ■ Optional 550-Sheet Feeder, PL13.1.1 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check Tray 1 (MPT). 2. Does the noise come from Tray 1 when paper is fed from Tray 1?	Go to step 2.	Go to step 3.
2	1. Remove the paper from Tray 1. 2. Does the noise still occur?	Go to step 3.	Go to step 4.
3	1. Check the paper condition. 2. Replace the paper. 3. Does the noise still occur?	Replace the Tray 1 (MPT) Retard Holder Kit (page 8-38).	Complete.
4	1. Check the Feeder for abnormal noise. 2. Does the noise come from the Feeder while paper is feeding?	Go to step 5.	Go to step 7.
5	1. Remove the paper from Tray 2. 2. Does the noise still come from the printer?	Go to step 6.	Complete.
6	1. Replace the paper. 2. Does the noise still come from the printer?	Replace the Tray 2 Retard Roller (page 8-15).	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
7	1. Check the Duplex Unit for abnormal noise. 2. Does the noise occur when feeding the paper from the Duplex Unit?	Go to step 8.	Go to step 10.
8	1. Check the Duplex Unit for correct installation. Reseat the Duplex Unit (page 8-115). 2. Does the noise still occur?	Replace the Duplex Unit (page 8-103).	Go to step 9.
9	1. Perform the Tray 2 Motor test (page 4-56): Service Mode > Printer Diag > Engine Diag > Motor Test > Duplex Motor. 2. Does the noise still occur?	Replace the Duplex Unit (page 8-103).	Complete.
10	1. Check the ADF. 2. Does the noise occur when feeding the paper from the ADF?	Go to step 11.	Go to step 13.
11	1. Check the document. 2. Does the document meet the ADF specifications?	Go to step 12.	Change the paper type.
12	1. Check the ADF Feed Roller and ADF Separator Pad. 2. Are the parts damaged or are there any contaminations on the parts?	Clean the parts.	Replace the ADF Feed Roller (page 8-110).
13	1. Check the Fuser for correct installation. Reseat the Fuser (page 8-12). 2. Does the noise still occur?	Go to step 14.	Complete.
14	1. Check the Transfer Unit for correct installation. Reseat the Transfer Unit (page 8-9). 2. Does the noise still occur?	Go to step 15.	Complete.
15	1. Check the Print Cartridges for correct installation. Reseat the Print Cartridges (page 8-11). 2. Does the noise still occur?	Go to step 16.	Complete.
16	1. Check the Main Drive Assembly for correction installation. Reseat the Main Drive Assembly (page 8-75). 2. Does the noise still occur?	Go to step 17.	Complete.
17	1. Check the Feed Drive Assembly for correct installation. Reseat the Feed Drive Assembly (page 8-78). 2. Does the noise still occur?	Go to step 18.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
18	1. Perform the Main Motor test (page 4-54): Service Mode > Printer Diag > Engine Diag > Motor Test > Main Motor. 2. Does the noise come from the motor?	Replace the Main Drive Assembly (page 8-75).	Go to step 19.
19	1. Perform the Deve Motor test (page 4-57): Service Mode > Printer Diag > Engine Diag > Motor Test > Deve Motor. 2. Does the noise come from the motor?	Replace the Main Drive Assembly (page 8-75).	Go to step 20.
20	1. Perform the Sub Motor test (page 4-55): Service Mode > Printer Diag > Engine Diag > Motor Test Sub Motor. 2. Does the noise come from the motor?	Replace the Main Drive Assembly (page 8-75).	Go to step 21.
21	1. Perform the Tray 2 Motor test (page 4-56): Service Mode > Printer Diag > Engine Diag > Motor Test Tray 2 Motor. 2. Does the noise come from the motor?	Replace the Feed Drive Assembly (page 8-78).	Complete. If Tray 3 is installed, go to step 22.
22	1. Perform the Tray 3 Feed Motor test (page 4-59): Service Mode > Engine Diag > Motor Test > Tray 3 Motor. 2. Does the noise come from the motor?	Replace the Optional 550-Sheet Feeder (page 8-116).	Complete.

Electrical Noise

There is a variable pitch sound coming from the printer. Electrical noise can be either noise in the electrical lines or static in electromagnetic communications.

Initial Actions

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

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Print Cartridge (C/M/Y/K), PL5.1.17-20 ■ HVPS, PL5.2.15 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check external noise. <ol style="list-style-type: none"> 1. Are there other electrical appliances within 3 meters from the printer? 2. Turn the electrical appliances Off or relocate the printer at least 6 meters away from other electrical appliances. 3. Does the error still occur? 	Go to step 2.	Complete.
2	<ol style="list-style-type: none"> 1. Check the AC ground. 2. Is the AC power supply outlet wired and grounded appropriately? 	Go to step 3.	Request the client to fix the AC power supply outlet.
3	<ol style="list-style-type: none"> 1. Reseat the Print Cartridges (page 8-11) and Transfer Unit (page 8-9). 2. Does the electrical noise still occur? 	Go to step 4.	Complete.
4	<ol style="list-style-type: none"> 1. Check the Print Cartridges for stains or debris. 2. Are the Print Cartridges dirty? 	Clean the Print Cartridges.	Reseat the HVPS (page 8-64).

High Pitched Noise

There is high pitch sound coming from the printer.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ MCU Board, PL9.2.13 ■ LVPS, PL9.2.14 	<ul style="list-style-type: none"> ■ “Map 4 - LVPS and MCU Board” on page 10-13 ■ “DC Power Supply” on page 10-24

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check for abnormal noise. 2. Is there abnormal noise from the motors when turning On the printer?	Go to step 2.	Go to step 4.
2	1. Turn the printer power Off. 2. Disconnect the power cord and wait for one minute. 3. Reseat the LVPS connectors. 4. Turn the printer power On. Is the printer working?	Complete.	Go to step 3.
3	1. Check the MCU Board for correct installation. Reseat the MCU Board (page 8-88). 2. Is the printer working?	Complete.	Replace the MCU Board (page 8-88).
4	1. Connect the printer power cord to another electrical outlet. 2. Turn the printer power On. Is the printer working?	Complete.	Go to step 5.
5	1. Turn the printer power Off. 2. Check the power cord connection. Reconnect the printer power cord. 3. Is the printer working?	Complete.	Go to step 6.
6	1. Turn the printer power Off. 2. Disconnect the power cord and wait for one minute. 3. Reseat the LVPS connectors. 4. Turn the printer power On. Is the printer working?	Complete.	Go to step 7.
7	1. Turn the printer power Off. 2. Disconnect the printer power cord and wait for one minute. 3. Reconnect the power cord. 4. Turn the printer power On. Is the printer working?	Complete.	Replace the LVPS (page 8-83).

Operating System and Application Problems

Windows 2000, Windows XP, Windows Server Troubleshooting

1. To select **Classic Look**, click **Start**, select **Control Panel**, and select **Taskbar** and **Start Menu**.
2. Select the **Start Menu** tab and then **Classic Start Menu**.
3. Click **OK**.

This troubleshooting section assumes you have completed the following tasks.

- Loaded a Phaser printer PCL or PostScript printer driver.
- Printed and kept a current copy of the Configuration page.

Verify Settings

1. Verify the settings on the Configuration page.
 - **Get Address** is set to: **DHCP, Panel, DHCP/Autonet, BOOTP**, and **RARP** (depending on your network configuration).
 - **Current IP Address** is set correctly. (Note this address if it is assigned by Auto IP, DHCP, or BOOTP.)
 - **Subnet Mask** is set correctly (if used).
 - **Default Gateway** is set correctly (if used).
 - **LPR** is enabled. Verify that the LPR and Port 9100 (AppSocket) settings are set as desired.
2. Verify that the client is logged on to the network and printing to the correct print queue. The user should also have access to the Phaser printer queue.

Verify Driver Installation

1. From the desktop, right-click **My Network Places**, and select **Properties**.
2. Right-click **Local Area Connection** and select **Properties**.
3. Click the **General** tab. View the list of installed network protocols to verify that TCP/IP is installed. (For more information, contact your network administrator.)
4. Click **Install** to install any components not listed, and then restart your computer.
5. From the **Start** menu, select **Start > Settings > Printers and Faxes**.
6. Right-click the printer icon, and select **Properties**.
7. Click the **Advanced** tab. Verify that the correct printer driver is installed.
8. Click the **Ports** tab. Verify that the IP Address in the **Print to the Following Ports** list is identical to the one on the Configuration page. You may need to click the **Configure Port** button to see the IP address. If necessary, re-select the TCP/IP number used for the printer.

Macintosh Troubleshooting (Mac OS 10.2 and Higher)

The following procedures eliminates cabling, communication, and connection problems. Once you complete these steps, print a test page from your software application.

Note

If the job prints, no further system troubleshooting is necessary. If there are print-quality problems, refer to the User Guide at www.xerox.com/office/6180MFPsupport.

Macintosh Troubleshooting OS 10.2 Step-by-Step

Perform these steps **only** for Mac OS 10.2 and higher.

1. Open the **Network Utility** and click the Ping tab.
2. Enter the printer's IP address.
3. Click **Ping**. If you do not get a response, verify that your TCP/IP settings are correct for your printer and computer.

Note

See also: www.xerox.com/office/6180MFPsupport

UNIX / Linux

This section includes:

- Quick Install Steps
- Additional Resources

Your printer supports connection to a variety of UNIX platforms through the Parallel and Network interface. The workstations currently supported by CentreWare for UNIX/Linux to a network-connected printer are:

- Sun Solaris
- IBM AIX
- Hewlett-Packard HP-UX
- Linux (i386) tested on SUSE 10.0, RedHat 9, Fedora Core1

The following procedures enable you to connect your printer using any of the supported versions of UNIX or Linux listed above.

Quick Install Steps

Perform the following procedures to set up the printer and install the appropriate drivers.

From the Printer

To set up the printer:

1. Verify that both TCP/IP protocol and the proper connector are enabled.
2. On the Control Panel, select one of these IP address options:
 - Allow the printer to set up a DHCP address
 - Enter the IP address manually
3. Print the Configuration page and keep it for reference.

From Your Computer

To install the CentreWare for Unix driver:

1. Go to www.xerox.com/office/6180MFPdrivers.
2. Select your printer, the platform you are running (**UNIX**), and file type (**Drivers**).
3. Click **Go to Downloads**.
4. From the list of provided files, download the **PrinterPackageXPXX** and the appropriate CentreWare printer driver for your platform <O/S>XPXX 4.xx.x.tar.
 - a. As root untar the Driver and Printer package, this will create two subdirectories. Cd to <O/S>InstallPackage and type `./setup` to install the driver.
 - b. CD to the PrinterPackagexpxx and type `./setup` to install the printer specific data files.

- c. Type `xpadmin` to open the admin tool for creating print queues. Select the printer from the list of discovered printers you want to print to. Click on the printer icon at the top left of the screen to add a print queue.
5. Print a test page and verify the print quality of the printed page.

Note

If print-quality problem exists, or your job did not print, refer to the User Guide at www.xerox.com/office/6180MFPsupport.

Additional Resources

For users that want to use the CUPS driver instead of CentreWare for Unix, access the Xerox web site for the latest CUPS ppd package at www.xerox.com/office/6180MFPdrivers. To download printer drivers:

1. Find your printer. Click the **Drivers & Downloads** link. Select the platform you are running (UNIX), and the files you would like to download (Drivers).
2. Click the **Go** button.
3. Click the **CUPSPrinterPackage**.
4. Untar the printer package and select the ppd for the printer you want to install.
5. Copy the file to `/usr/share/cups/model/Xerox`. (This is the directory for SUSE10.1. The directory may not be in the same location on other Linux versions).
6. Open the printer manager supplied for the Linux release and follow the instructions for adding a print queue.

Note

The print daemon may need restarting for the print manager to see the new PPD added to the CUPS ppd directory.

Print-Quality Troubleshooting

In this chapter...

- Print-Quality Problems Overview
- Checklist Before Troubleshooting Print-Quality
- Test Prints
- Print-Quality Specifications
- Print-Quality Troubleshooting

Chapter 5

Print-Quality Problems Overview

Print-quality defects can be attributed to printer components, consumables, media, internal software, external software applications, and environmental conditions. To successfully troubleshoot print-quality problems, eliminate as many variables as possible. The first step is to generate prints using information pages embedded in the printer on laser paper from the approved media list. Refer to “Media and Tray Specifications” on page 1-34 for supported and specialty media that have been tested and approved for use in the Phaser 6180MFP. Use paper from a fresh ream that is acclimated to room temperature and humidity.

If the print-quality defect is still present when printing on approved media from an unopened ream of paper, then investigate software applications and environmental conditions.

Print the Configuration page to determine the temperature and humidity under which the printer is operating. Compare this to the “Environment Specifications” on page 1-22. Extreme temperature and humidity can adversely affect the xerographic and fusing characteristics of the printer.

When analyzing a print-quality defect, first determine if the defect occurs in all colors or only one color and if it is repeating or random occurrence.

Continuous defects in the process direction, such as Voids and Lines, are the most difficult to diagnose. Inspect the visible surfaces of all Rollers for obvious defect. If no defects are found, replace the Print Cartridge, Laser Unit, Transfer Unit, and Fuser one at a time until the defect is eliminated.

Defects Associated with Specific Printer Components

Some print-quality problems can be associated with specific assemblies; the most common problems and the associated assemblies are listed in this section. Refer to the specific print-quality troubleshooting procedure for detail information.

Laser Unit

- Light or Undertone Print (page 5-26)
- Blank Print (No Print) (page 5-28)
- Black Print (page 5-31)
- Vertical Blank Lines (page 5-34)
- Horizontal Band, Voids, or Streaks (page 5-36)
- Vertical Stripes (page 5-38)
- Horizontal Stripes (page 5-40)
- Faded or Missing Image (page 5-42)
- Random Spots (page 5-44)
- Repeating Bands, Lines, Marks, or Spots (page 5-48)

Transfer Unit

- Light or Undertone Print (page 5-26)
- Horizontal Band, Voids, or Streaks (page 5-36)
- Vertical Stripes (page 5-38)
- Horizontal Stripes (page 5-40)
- Faded or Missing Image (page 5-42)
- Random Spots (page 5-44)
- Repeating Bands, Lines, Marks, or Spots (page 5-48)
- Background Contamination (page 5-52)

Fuser

- Horizontal Stripes (page 5-40)
- Repeating Bands, Lines, Marks, or Spots (page 5-48)
- Vertical Stripes (page 5-52)
- Unfused Image (page 5-60)

Print Cartridge

- Light or Undertone Print (page 5-26)
- Blank Print (No Print) (page 5-28)
- Black Print (page 5-31)
- Vertical Blank Lines (page 5-34)
- Horizontal Band, Voids, or Streaks (page 5-36)
- Vertical Stripes (page 5-38)
- Horizontal Stripes (page 5-40)
- Faded or Missing Image (page 5-42)
- Random Spots (page 5-44)
- Defects in One Color (C, M, Y, or K) (page 5-46)
- Repeating Bands, Lines, Marks, or Spots (page 5-48)
- Background Contamination (page 5-52)
- Unfused Image (page 5-60)

ADF

- Lines or Streaks (from ADF) (page 5-66)
- Spots (from ADF) (page 5-67)

Scanner

- Repeating Bands, Lines, Marks, or Spots (page 5-48)
- Spots (from ADF) (page 5-67)
- Pattern in the Halftone (Moire) (page 5-68)

Checklist Before Troubleshooting Print-Quality

Checking the Printer Condition

Toner

Low toner can cause print-quality problems, such as Fading, Streaking, White Lines, or Dropouts. Print a small document from different software applications to replicate the problem and check the amount of toner available. Use the CentreWare Internet Services (IS) to check the supplies status. To access the CentreWare IS:

1. Open your web browser.
2. In the Address field, enter the printer's IP address.
3. Click the **Status** button.
4. Click the **Supplies** button.
5. The **Supplies Status** is displayed.

If the toner is low, you can extend the Print Cartridge life by removing the Cartridge (page 8-11) from the printer, and gently shaking the Print Cartridge from side-to-side.

Cleaning

Paper, toner, and dust particles can accumulate inside the printer and cause print-quality problems such as Smearing or Toner Specks. Clean the inside of the printer to prevent these problems.

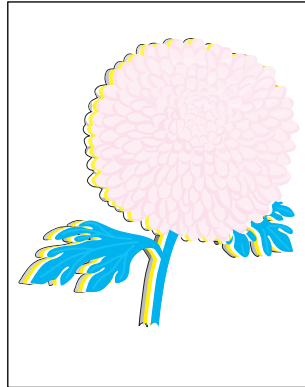
Checklist

Check the following items prior to performing troubleshooting. These procedures may help to resolve the problems without troubleshooting the printer.

1. Color is out of alignment.

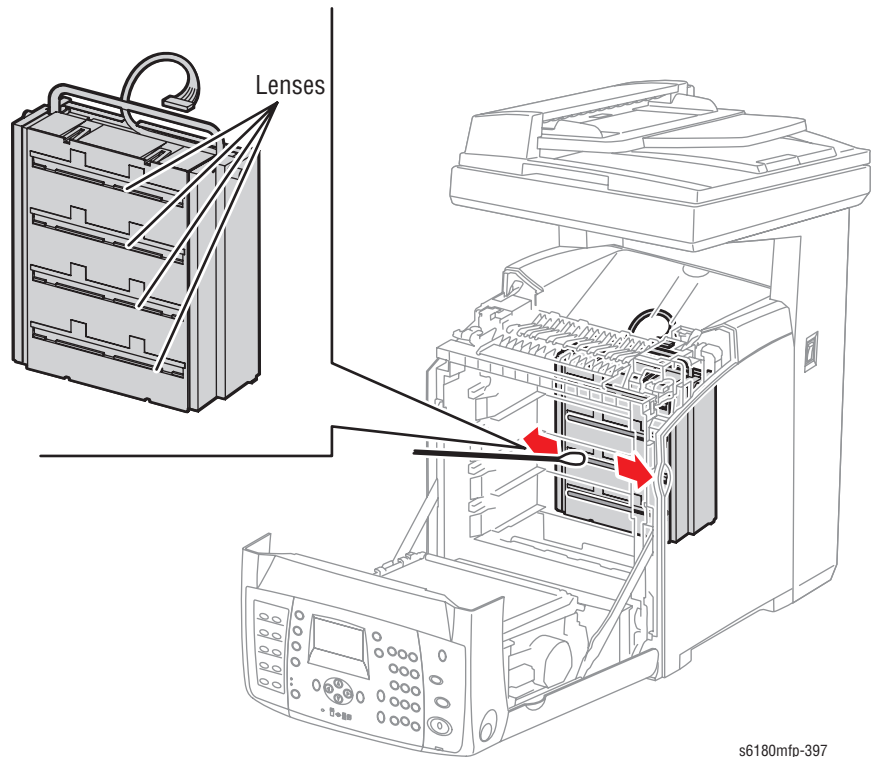
Note

After installing a new black Print Cartridge, ensure to clean the Laser lens.



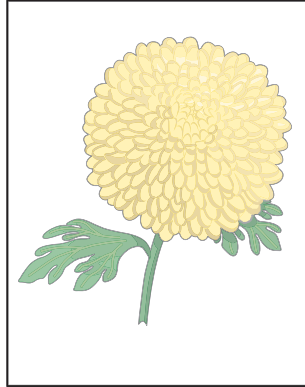
Color Registration

- a. Clean the Laser Unit lenses using a Q-tip or a dry, lint-free cloth to wipe the lenses.



- b. Check the Transfer Unit for damage.
- c. Perform Color Registration Adjustment (page 6-3).

2. Print is too light.



Light or Undertone Print

- a. The toner may be too low. Check the amount of toner and change the Print Cartridges if necessary.
- b. In the printer Printing Preferences menu: **Advanced** > **Details**, verify that the **Draft Mode** box is **not** selected.
- c. If you are printing on an uneven print surface, change the paper type settings in the Tray Settings menu.
- d. Verify that the correct type of paper is used.
- e. The Print Cartridge may need to be replaced. Replace the Print Cartridge.

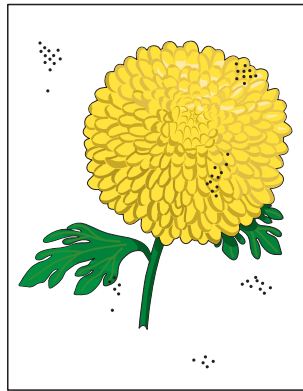
3. Toner smears or print comes off page.



Smudges or Smears

- a. If you are printing on a thick or an uneven media, change the Media Type settings in the Tray Settings menu to a heavier type.
- b. Verify that the paper is within the printer specifications (refer to "Media and Tray Specifications" on page 1-34).

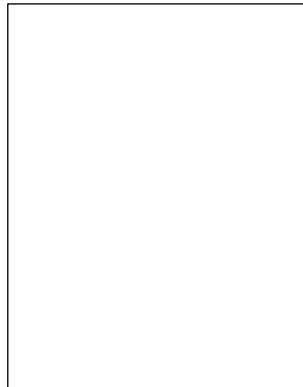
4. Toner spots appear on the page and printing is blurred.



Random Spots

- a. Check the Print Cartridge(s) to make sure that it is installed correctly.
- b. Change the Print Cartridge(s).

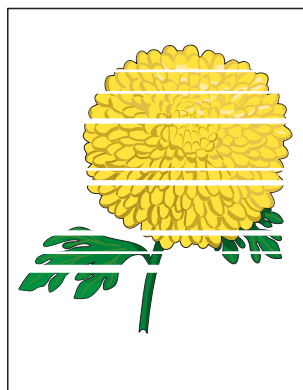
5. Entire page is white or one color is missing from color image.



Blank Print

- a. Ensure the packaging material is removed from the Print Cartridge.
- b. Check the Print Cartridge to make sure that it is installed correctly.
- c. The toner may be low. Change the Print Cartridge.

6. Streaks appear on the page.

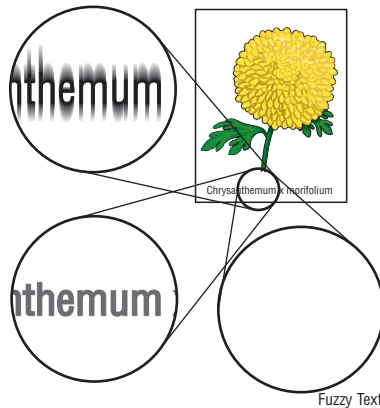


Horizontal Band, Void, or Streaks

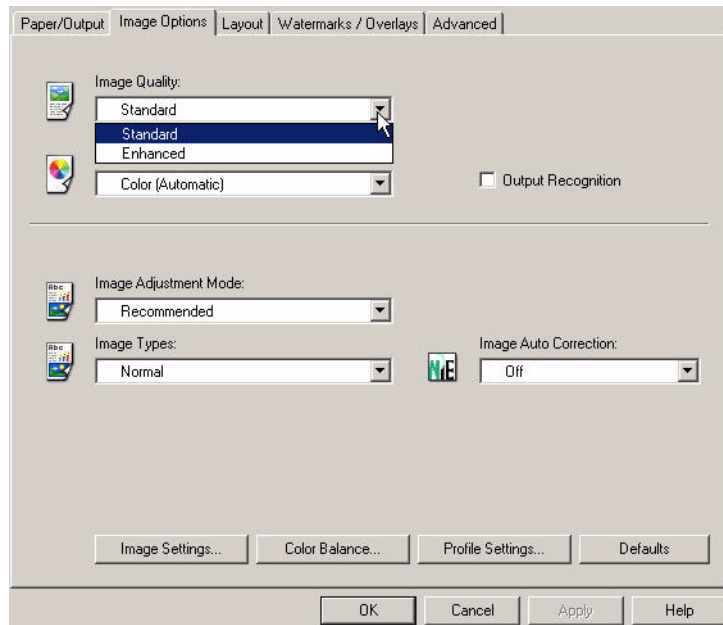
- a. The toner may be low. Change the Print Cartridge(s).

- b. If you are using preprinted forms, make sure the toner can withstand the operating temperature of 0° C to 35° C.

7. Characters have jagged or uneven edges.



- a. If you are using downloaded fonts, verify that the fonts are supported by the printer, the host computer, and the software application.
- b. From the **Start** menu, go to **Settings > Printers and Faxes**.
- c. Select **Phaser 6180MFP-N/DN PCL**. Right click on the printer icon and select **Printing Preferences**.
- d. Click the **Image Options** tab. Under **Image Quality**, select **Standard**. Click **OK**.



8. Part or all the page prints in cyan, magenta, yellow, or black.



Partial Band

- a. Check the Print Cartridges to make sure they are installed correctly.

9. The job prints, but the top and side margins are incorrect.

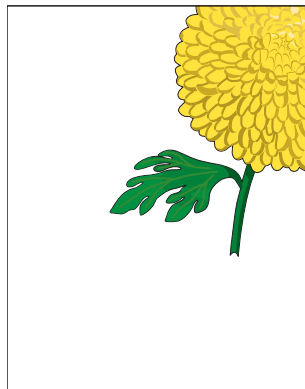


Image Not Centered

- a. Ensure the Media Size settings in the Tray Settings are correct.
- b. Ensure the margins are set correctly in your software application.
- c. Perform internal test prints (i.e., printer's Demo Page, service diagnostics Test Prints, etc.) and evaluate the prints.

10. Printing on both ends of the transparencies is faded.

This occurs when the printer is operating at a location where relative humidity reaches 85° or more.



Light Print on Transparency

- a.** Adjust the humidity or relocate the printer to an appropriate environment.

Test Prints

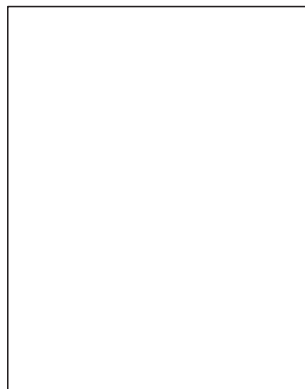
This section provides information for how to analyze test prints. A variety of test prints are available for determining the quality of output from the printer and to assist in troubleshooting the problems.

- No Image IOT (page 5-12)
- Pattern IOT (page 5-13)
- Grid 2 ESS (page 5-13)
- Cyan 20% ESS (page 5-14)
- Magenta 20% ESS (page 5-14)
- Yellow 20% ESS (page 5-15)
- Black 20% ESS (page 5-15)
- CMY 20% ESS (page 5-16)
- Gradation ESS (page 5-16)

No Image IOT

This test print provides a sample of blank page. This test is used to identify problems with the printer function.

- **Fail:** Check the printer function.
- **Pass:** Check the network connection, cable, PC...etc.

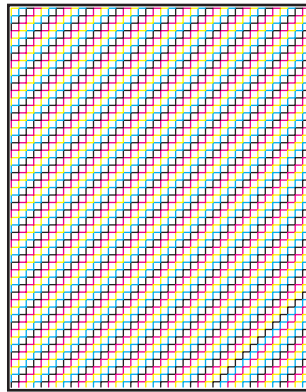


Blank Print

Pattern IOT

This test print provides the printer's built-in test pattern. This test is used to identify problems with the printer function or the Image Processor Board. The colors should be aligned vertically and horizontally. Compare the print with the following chart to determine the problem.

- **Fail:** Check the printer controller or the MCU Board.
- **Pass:** Check the Image Processor Board.

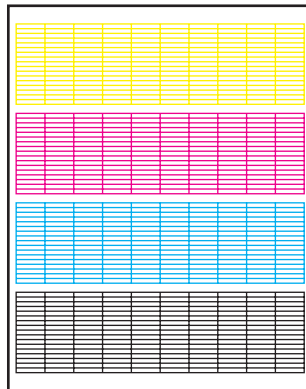


Pattern 600 IOT

Grid 2 ESS

This test print provides the Controller built-in grid pattern sample. This test is used to identify problems with the printer function. Compare the print with following chart to determine the problem.

- **Fail:** Check the printer function and the Image Processor Board.
- **Pass:** Check the network connection, cable, PC...etc.

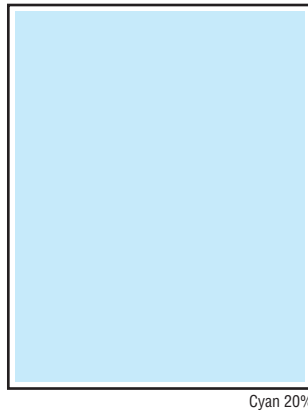


Grid 2

Cyan 20% ESS

This test print provides 20% cyan density on the whole page. This test is used to identify problems with cyan toner or another color toner. Compare the print with the following chart to determine the problem.

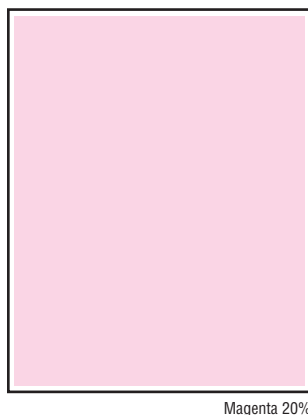
- **Fail:** Check the cyan Print Cartridge.
- **Pass:** Check another Print Cartridge.



Magenta 20% ESS

This test print provides 20% magenta density on the whole page. This test is used to identify problems with magenta toner or another color toner. Compare the print with the following chart to determine the problem.

- **Fail:** Check the magenta Print Cartridge.
- **Pass:** Check another Print Cartridge.



Yellow 20% ESS

This test print provides 20% yellow density on the whole page. This test is used to identify problems with yellow toner or another color toner. Compare the print with the following chart to determine the problem.

- **Fail:** Check the yellow Print Cartridge.
- **Pass:** Check another Print Cartridge.

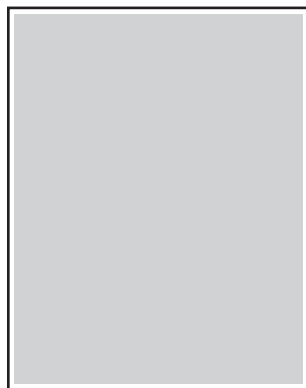


Yellow 20%

Black 20% ESS

This test print provides 20% black density on the whole page. This test is used to identify problems with black toner or another color toner. Compare the print with the following chart to determine the problem.

- **Fail:** Check the black Print Cartridge.
- **Pass:** Check another Print Cartridge.

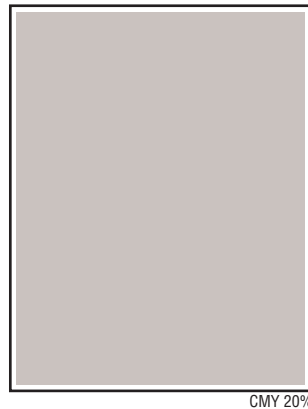


Black 20%

CMY 20% ESS

This test print provides 20% density for combination of cyan, magenta, and yellow on the whole page. This test is used to identify problems with balance of three color toners or another toner. Compare the print with the following chart to determine the problem.

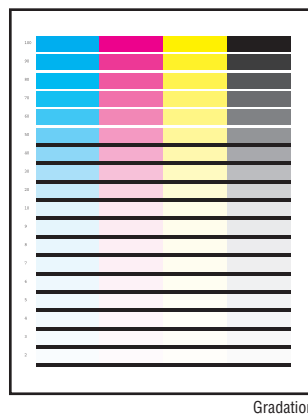
- **Fail:** Check the cyan, magenta, or yellow Print Cartridge.
- **Pass:** Check the black Print Cartridge.



Gradation ESS

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 the following chart to determine the problem.

- **Fail:** Check the printer function.
- **Pass:** Check the Image Processor Board.



Print-Quality Specifications

The Print-Quality specifications are provided as follows.

Environmental Condition

- Temperature: 10° C - 32° C (50° F - 89.6° F)
- Humidity: 15% RH - 85% RH (85% RH at 28° C) (82.4° F)

Note

Defects may occur due to condensation after around 30 minutes if the printer is turned On in a critical environment such as 85% at 10° C (50° F).

Quality Paper

The print-quality is best when quality paper is fed from the tray. The print quality is evaluated on the maximum size of each standard paper.

- Color Print Quality: Xerox-brand X-Pression paper
- Black and White Quality: Xerox-brand 4200 paper

Paper Condition

Paper should be fresh and stored in the operating environment for 12 hours before use for printing.

Printer Condition

The specified print quality is guaranteed with the printer in specified normal environmental condition.

Specifications

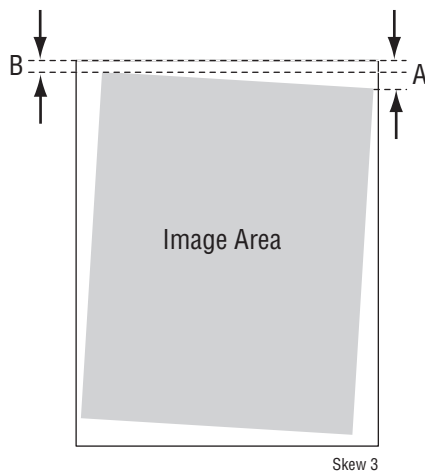
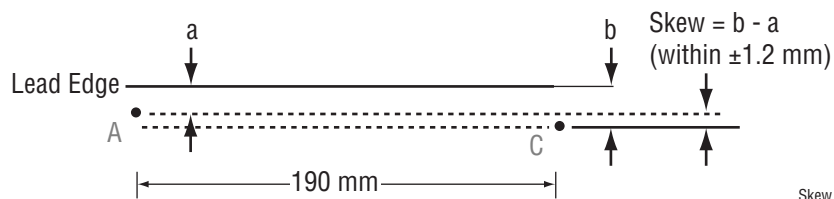
The following charts provide specifications for Skew, Parallelism, Linearity, Perpendicularity, Magnification Error, Image to Page Registration, and Maximum Print Areas.

Skew

- 190 mm (7.5 in.) \pm 1.2 mm (.05 in.)

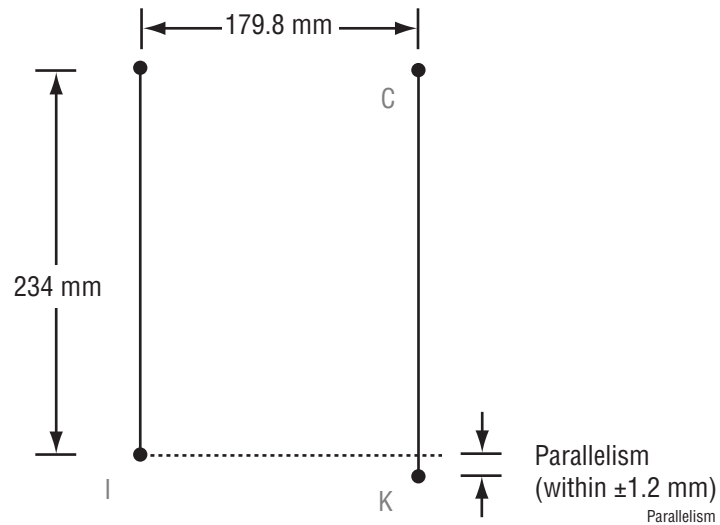
Measuring Skew

Measure the margin of the paper at the leading edge of each corner, and then take the difference between them.



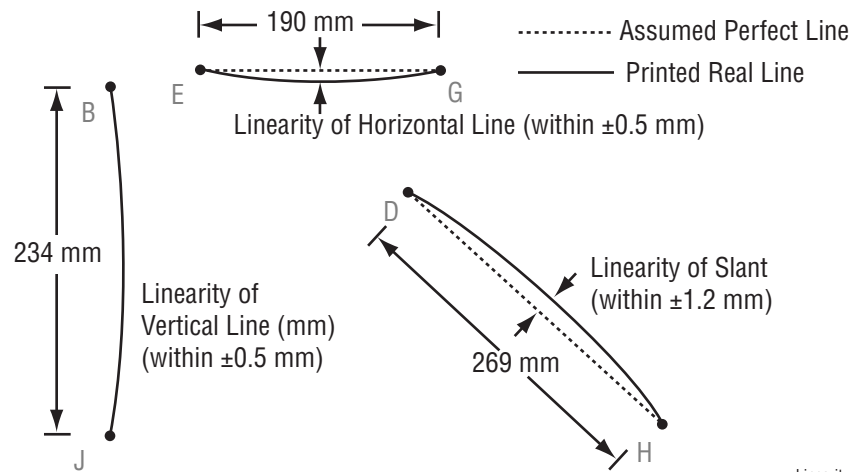
Parallelism

- Horizontal: 179.8 mm (7.1 in.) \pm 1.2 mm (.05 in.)
- Vertical: 234 mm (9.2 in.) \pm 1.2 mm (.05 in.)



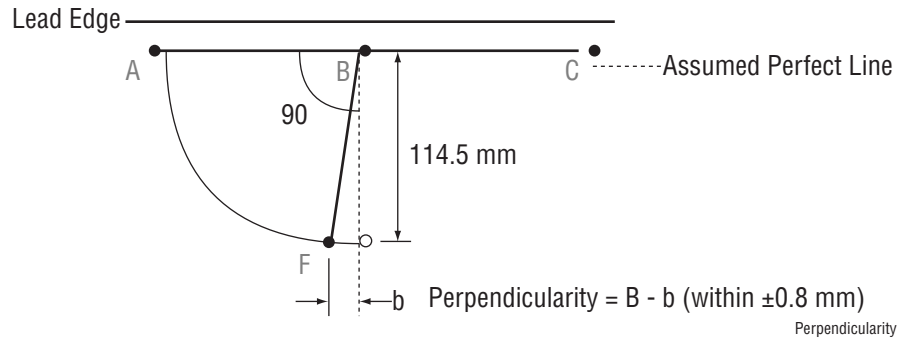
Linearity

- Horizontal: 190.0 mm (7.5 in.) \pm 0.5 mm (.02 in.)
- Vertical: 234.0 mm (9.2 in.) \pm 0.5 mm (.02 in.)
- Slant: 269.0 mm (10.6 in.) \pm 1.2 mm (.05 in.)



Perpendicularity

- 114.5 mm (4.5 in.) ± 0.8 mm (.03 in.)



Magnification Error

- Horizontal Simplex: 190.0 mm (7.5 in.) ± 0.5%
- Horizontal Duplex: 190.0 mm (7.5 in.) ± 0.8%
- Vertical Simplex: 234.0 mm (9.2 in.) ± 0.5%
- Vertical Duplex: 234.0 mm (9.2 in.) ± 0.8%

Magnification = Measured Length / Nominal (within ±0.5%)

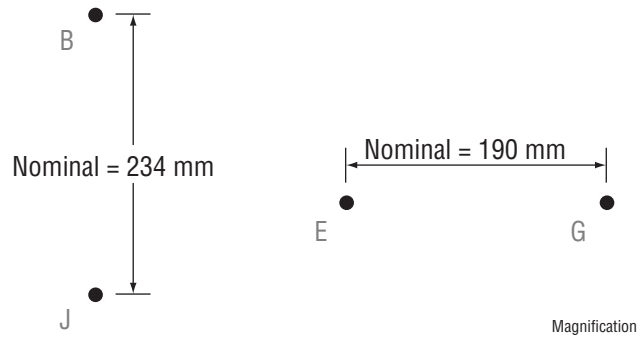
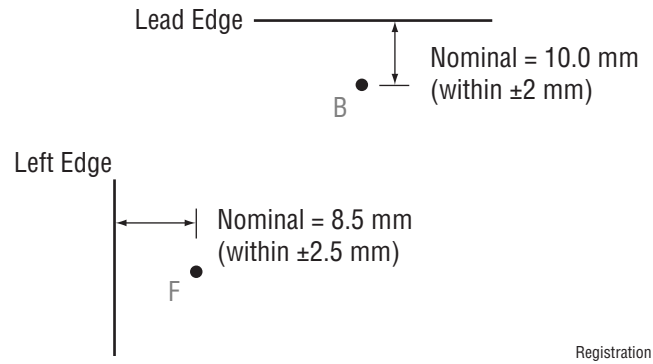


Image to Page Registration

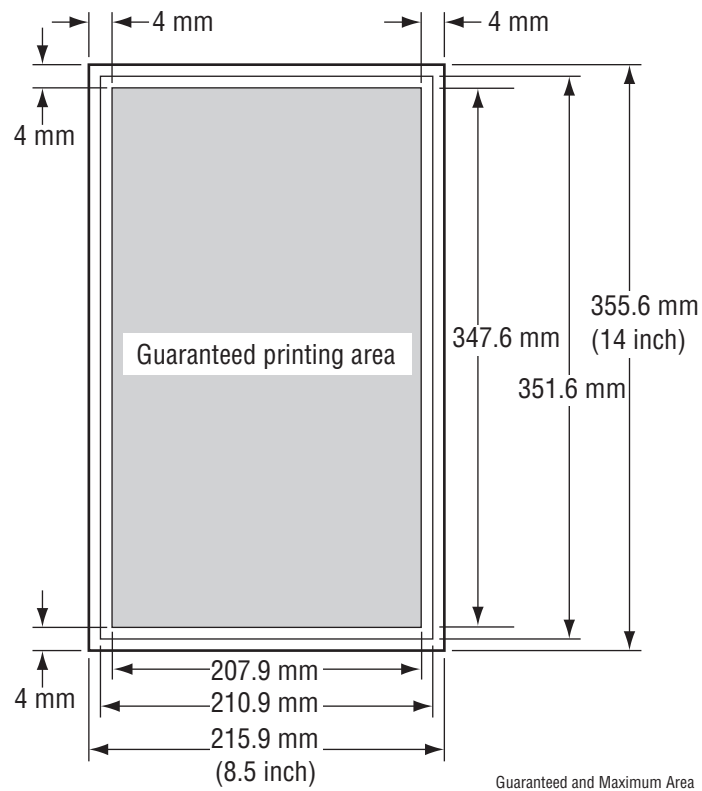
- Leading Edge: 10.0 mm (.40 in.) ± 2.0 mm (.08 in.)
- Side Edge: 8.5 mm (.33 in.) ± 2.5 mm (.09 in.)

Registration = Measured Length - Nominal



Maximum Print Areas

- Maximum Print Area: 210.9 mm (8.3 in.) x 351.6 mm (13.8 in.)
- Guaranteed Print Area: 207.9 mm (8.2 in.) x 347.6 mm (13.7 in.)



Print-Quality Troubleshooting

Print-Quality Defect Definitions

The following table lists the print-quality defect corrective procedure, their definition, and the page where each procedure is provided.

Defect	Definition	Page
Light or Undertone Print	The overall image density is too light in all colors.	page 5-26
Blank Print (No Print)	The entire image area is blank.	page 5-28
Black Print	The entire image area is black.	page 5-31
Vertical Blank Lines	There are faded or completely non-printed lines along the page.	page 5-34
Horizontal Band, Voids, or Streaks	There are areas of the image that are extremely light or are missing entirely.	page 5-36
Vertical Stripes	There are black lines along the page in the direction of the paper travel.	page 5-38
Horizontal Stripes	There are dark lines running parallel with the leading edge of the print.	page 5-40
Faded or Missing Image	There are areas of the image that are extremely light or are missing in a limited area.	page 5-42
Random Spots	There are spots of toner randomly scattered across the page.	page 5-44
Defects in One Color (C, M, Y, or K)	Only one color (Cyan, Magenta, Yellow, or Black) is too light on the printed image.	page 5-46
Repeating Bands, Lines, Marks, or Spots	There are recurring lines, marks, or spots on the page.	page 5-48
Background Contamination	There is toner contamination on all or most of the page.	page 5-52
Skew	The printed image is not paralleled with both sides of the paper.	page 5-54
Damaged Paper	The paper comes out from the printer wrinkled, folded, or worn-out.	page 5-57
Unfused Image	The toner image is not completely fused to the paper. The image easily rubs off.	page 5-60
Color Registration	A printed yellow or black image is not overlapped on a cyan or magenta image correctly.	page 5-62
Wavy Lines	The printed image has wavy column line in the direction of the paper travel.	page 5-64

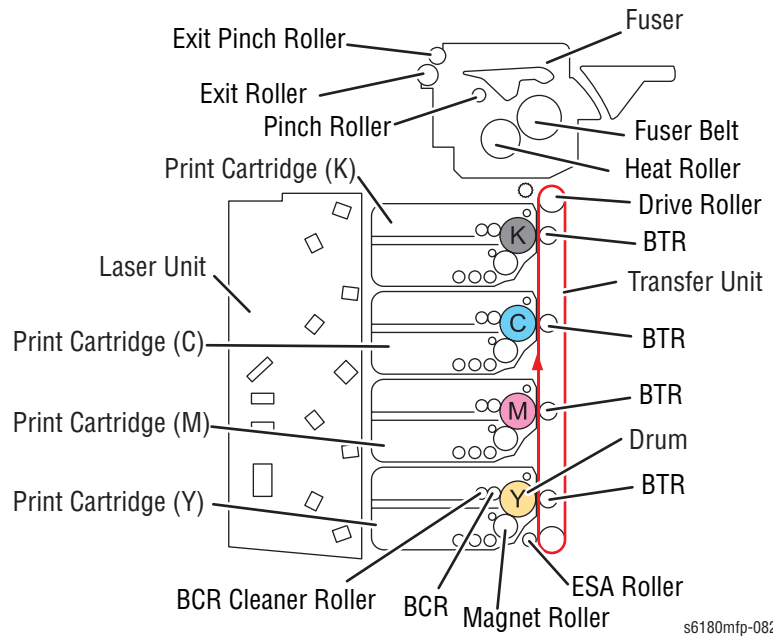
Defect	Definition	Page
Incorrect Magnification	Incorrect magnification when copying with the ADF feeding.	page 5-65
Lines or Streaks (from ADF)	There are lines or streaks on copies from the ADF.	page 5-66
Spots (from ADF)	There are spots on copies from the ADF.	page 5-67
Pattern in the Halftone (Moire)	There are patterns on the image when copying in Standard mode.	page 5-68

Repeating Defect Measurement

When horizontal lines and/or spot occur periodically, it is possibly caused by the trouble of particular roller. Measure the trouble interval on the test print, and check the relation to the Roller in the table. The interval does not necessary match circumference of the Roller.

Horizontal Line and Spot Trouble Measurement

Roll	Roll Diameter	Interval	Replacement	Part List Number
Drum	24.0 mm (.94 in.)	75.4 mm (2.9 in.)	Print Cartridge (C/M/Y/K)	PL5.1.17-20
BCR	9.0 mm (.35 in.)	28.8 mm (1.13 in.)	Print Cartridge (C/M/Y/K)	PL5.1.17-20
BCR Cleaner Roll	8.0 mm (.31 in.)	25.9 mm (1.02 in.)	Print Cartridge (C/M/Y/K)	PL5.1.17-20
Sleeve (K)	16.0 mm (.63 in.)	25.2 mm (.99 in.)	Print Cartridge (K)	PL5.1.17
Sleeve (Y,M,C)	16.0 mm (.63 in.)	22.3 mm (.88 in.)	Print Cartridge (Y,M,C)	PL5.1.18-20
1st BTR	12.0 mm (.47 in.)	37.7 mm (1.45 in.)	Transfer Unit	PL4.1.1
ESA Roll	9.0 mm (.35 in.)	28.3 mm (1.11 in.)	Transfer Unit	PL4.1.1
Drive Roll	18.1 mm (.71 in.)	56.9 mm (2.2 in.)	Transfer Unit	PL4.1.1
Fuser Roll	26.32 mm (1.01 in.)	82.7 mm (1.3 in.)	Fuser	PL6.1.10
Fuser Belt	30.0 mm (1.2 in.)	94.2 mm (3.7 in.)	Fuser	PL6.1.10
Pinch Roll	6.0 mm (.24 in.)	18.8 mm (.74 in.)	Fuser	PL6.1.10
Exit Roll	13.75 mm (.54 in.)	43.2 mm (1.7 in.)	Fuser	PL6.1.10
Exit Pinch Roll	10.0 mm (.4 in.)	31.4 mm (1.24 in.)	Fuser	PL6.1.10



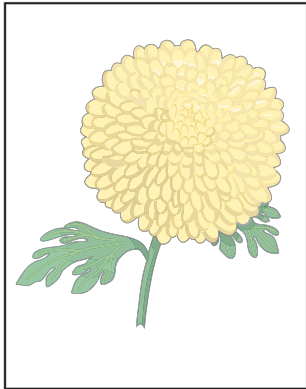
Light or Undertone Print

The overall image density is too light in all colors.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
<ul style="list-style-type: none"> ■ Transfer Unit, PL4.1.1 ■ Laser Unit, PL5.1.12 ■ Print Cartridge (C/M/Y/K), PL5.1.17-20 ■ Dispenser, PL5.2.10 ■ HVPS, PL5.2.15 ■ Scanner Controller Board, PL9.1.1 ■ Image Processor Board, PL9.1.20 ■ MCU Board, PL9.2.13 ■ ADF Scanner Assembly, PL11.1.1 	 <p style="text-align: center; font-size: small;">Light or Undertone Print</p>

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Perform Test Print (Cyan 20%, Magenta 20%, Yellow 20%, and Black 20%): Service Mode > Printer Diag > Test Print. 2. Does the error still occur when printing?	Go to step 5.	Go to step 2.
2	1. Perform a copy job. 2. Does the error still occur when copying?	Go to step 3.	Complete.
3	1. Check the Scanner Controller Board wiring harness connectors P/J64 and P/J65. Reseat the connectors. 2. Does the error still occur?	Replace the ADF Scanner Assembly (page 8-103). Go to step 4.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	Does the error still occur?	Replace the Scanner Controller Board (page 8-99).	Complete.
5	1. Check the paper condition. 2. Is the paper dry, recommended type, and loaded in the correct position?	Go to step 6.	Replace the paper.
6	1. Check the Print Cartridge (C/M/Y/K) for damages. 2. Is the Print Cartridge damaged?	Replace the Print Cartridge (page 8-11).	Go to step 7.
7	1. Check the Transfer Unit for correct installation. Reseat the Transfer Unit (page 8-9). 2. Does the image quality improve?	Complete.	Go to step 8.
8	1. Check the laser beam path. 2. Are there any debris between the Laser Unit and Transfer Unit?	Remove the debris.	Go to step 9.
9	1. Perform Yellow/Magenta/Cyan/Black Toner Motor test (Yellow, page 4-61; Magenta, page 4-62; Cyan, page 4-63; Black, page 4-64): Service Mode > Printer Diag Engine Diag > Motor Test > Toner Motor. 2. Does the Toner Dispenser Motor rotate?	Go to step 10.	Replace the following parts: 1. MCU Board (page 8-88). 2. Toner Dispenser Motor (page 8-59).
10	1. Check the HVPS for correct installation. Reseat the HVPS (page 8-64). 2. Does the image quality improve?	Complete.	Go to step 11.
11	1. Replace the Print Cartridge (page 8-11). 2. Does the image quality improve?	Complete.	Replace the Image Processor Board (page 8-90).

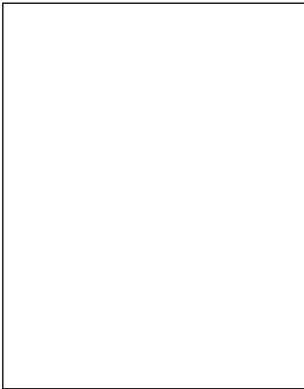
Blank Print (No Print)

The entire image area is blank.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
<ul style="list-style-type: none"> ■ Transfer Unit, PL4.1.1 ■ Laser Unit, PL5.1.12 ■ Print Cartridge (C/M/Y/K), PL5.1.17-20 ■ Dispenser, PL5.2.10 ■ HVPS, PL5.2.15 ■ Scanner Controller Board, PL9.1.1 ■ Image Processor Board, PL9.1.20 ■ MCU Board, PL9.2.13 ■ ADF Scanner Assembly, PL11.1.1 	 <p style="text-align: center; font-size: small;">Blank Print</p>

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Perform Test Print (Cyan 20%, Magenta 20%, Yellow 20%, and Black 20%): Service Mode > Printer Diag > Test Print. 2. Does the error still occur when printing?	Go to step 6.	Go to step 2.
2	1. Perform a copy job. 2. Does the error still occur when copying?	Go to step 3.	Complete.
3	Does the document on the ADF or document glass have incorrect face up?	Place the document in the correct position.	Go to step 4.
4	1. Check the Scanner Controller Board wiring harness connectors P/J64 and P/J65. Reseat the connectors. 2. Does the error still occur?	Replace the ADF Scanner Assembly (page 8-103). Go to step 5.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	Does the error still occur?	Replace the Scanner Controller Board (page 8-99).	Complete.
6	1. Check the paper condition. 2. Is the paper dry, recommended type, and loaded in the correct position?	Go to step 7.	Replace the paper.
7	1. Check the Print Cartridge (C/M/Y/K) for damages. 2. Is the Print Cartridge damaged?	Replace the Print Cartridge (page 8-11).	Go to step 8.
8	1. Check the Transfer Unit for correct installation. 2. Reseat the Transfer Unit (page 8-9). 3. Does the image quality improve?	Complete.	Go to step 9.
9	1. Check the laser beam path. 2. Are there any debris between the Laser Unit and Transfer Unit?	Remove the debris.	Go to step 10.
10	1. Check the wiring harness connectors P/J12 and P/J151 between the Laser Unit and the MCU Board. 2. Are the connectors securely connected?	Go to step 11.	Reconnect the connectors. Go to step 11.
11	1. Perform Yellow/Magenta/Cyan/Black Toner Motor test (Yellow, page 4-61; Magenta, page 4-62; Cyan, page 4-63; Black, page 4-64): Service Mode > Printer Diag > Engine Diag > Motor Test > Toner Motor. 2. Does the Toner Dispenser Motor rotate properly?	Go to step 12.	Replace the MCU Board (page 8-88). If not, replace the Toner Dispenser Motor (page 8-59).
12	1. Check the Image Processor Board for correct installation. Reseat the Image Processor Board (page 8-90). 2. Does the image quality improve?	Complete.	Go to step 13.
13	1. Check the MCU Board for correct installation. Reseat the MCU Board (page 8-88). 2. Does the image quality improve?	Complete.	Go to step 14.
14	1. Check the HVPS for correct installation. Reseat the HVPS (page 8-64). 2. Does the image quality improve?	Complete.	Go to step 15.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
15	1. Check the Scanner Controller Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the image quality improve?	Complete.	Go to step 16.
16	1. Replace the Laser Unit (page 8-52). 2. Does the image quality improve?	Complete.	Replace the Image Processor Board (page 8-90).


Black Print

The entire image is black.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
<ul style="list-style-type: none"> ■ Transfer Unit, PL4.1.1 ■ Laser Unit, PL5.1.12 ■ Print Cartridge (C/M/Y/K), PL5.1.17-20 ■ HVPS, PL5.2.15 ■ Scanner Controller Board, PL9.1.1 ■ Image Processor Board, PL9.1.20 ■ MCU Board, PL9.2.13 	 <p style="text-align: center; font-size: small;">Black Print</p>

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Perform Test Print (Cyan 20%, Magenta 20%, Yellow 20%, and Black 20%): Service Mode > Printer Diag > Test Print. 2. Does the error still occur when printing?	Go to step 5.	Go to step 2.
2	1. Perform a copy job. 2. Does the error still occur when copying?	Go to step 3.	Complete.
3	1. Check the Scanner Controller Board wiring harness connectors P/J64 and P/J65. Reseat the connectors. 2. Does the error still occur?	Replace the ADF Scanner Assembly (page 8-103). Go to step 4.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	Does the error still occur?	Replace the Scanner Controller Board (page 8-99).	Complete.
5	1. Check the paper condition. 2. Is the paper dry, recommended type, and loaded in the correct position?	Go to step 6.	Replace the paper.
6	1. Check the Print Cartridge (C/M/Y/K) for damages. 2. Is the Print Cartridge damaged?	Replace the Print Cartridge (page 8-11).	Go to step 7.
7	1. Check the Transfer Unit for correct installation. Reseat the Transfer Unit (page 8-9). 2. Does the image quality improve?	Complete.	Go to step 8.
8	1. Check the wiring harness connectors P/J12 and P/J151 between the Laser Unit and the MCU Board. 2. Are the connectors securely connected?	Complete.	Reconnect the connectors. Go to step 9.
9	1. Check the Image Processor Board for correct installation. Reseat the Image Processor Board (page 8-90). 2. Does the image quality improve?	Complete.	Go to step 10.
10	1. Check the Scanner Control Board for correct installation. Reseat the Scanner Controller Board (page 8-99). 2. Does the image quality improve?	Complete.	Go to step 11.
11	1. Check the MCU Board for correct installation. Reseat the MCU Board (page 8-88). 2. Does the image quality improve?	Complete.	Go to step 12.
12	1. Check the HVPS for correct installation. Reseat the HVPS (page 8-64). 2. Does the image quality improve?	Complete.	Go to step 13.
13	1. Replace the Print Cartridge (page 8-11). 2. Does the image quality improve?	Complete.	Go to step 14.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
14	1. Replace the Laser Unit (page 8-52). 2. Does the image quality improve?	Complete.	Replace the Image Processor Board (page 8-90).


Vertical Blank Lines

There are faded or completely non-printed lines along the page in the direction of the paper travel from the leading edge to the trailing edge.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
<ul style="list-style-type: none"> ■ Transfer Unit, PL4.1.1 ■ Laser Unit, PL5.1.12 ■ Print Cartridge (C/M/Y/K), PL5.1.17-20 ■ Scanner Controller Board, PL9.1.1 	 <p style="text-align: center; font-size: small;">Vertical Blank Lines</p>

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Perform Test Print (Cyan 20%, Magenta 20%, Yellow 20%, and Black 20%): Service Mode > Printer Diag > Test Print. 2. Does the error still occur when printing?	Go to step 5.	Go to step 2.
2	1. Perform a copy job. 2. Does the error still occur when copying?	Go to step 3.	Complete.
3	Is the original document normal?	Go to step 4.	Replace the original document.
4	Does the paper feed through the ADF?	Go to step 5.	Go to step 6.
5	1. Check the document path. 2. Are there any debris on the document path?	Remove the debris.	Go to step 6.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
6	1. Check the wiring harness connectors P/J64 and P/J65 on the Scanner Controller Board. Reseat the connectors. 2. Does the image quality improve?	Complete.	Go to step 7.
7	1. Check the Print Cartridge (C/M/Y/K) for damages. 2. Is the Print Cartridge damaged?	Replace the Print Cartridge (page 8-11).	Go to step 8.
8	1. Check the paper condition. 2. Is the paper dry, recommended type, and loaded in the correct position?	Go to step 9.	Replace the paper.
9	1. Check the Transfer Unit. 2. Are there any damages on the Transfer Unit surface?	Replace the Transfer Unit (page 8-9).	Go to step 10.
10	1. Check the Transfer Unit for correct installation. Reseat the Transfer Unit (page 8-9). 2. Does the image quality improve?	Complete.	Go to step 11.
11	1. Check for debris in the laser beam path between the Laser Unit and Transfer Unit. 2. Are there any debris?	Remove the debris.	Go to step 12.
12	Does the image quality improve?	Complete.	Replace the Laser Unit (page 8-52).

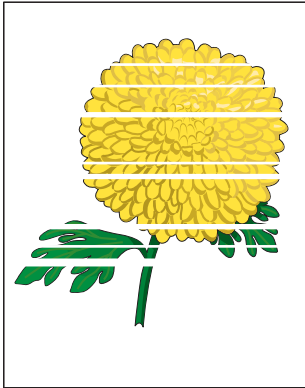
Horizontal Band, Voids, or Streaks

There are areas of the image that are extremely light or are missing entirely. These missing areas form wide bands which cover a wide area horizontally, perpendicular to the paper feed direction.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
<ul style="list-style-type: none"> ■ Transfer Unit, PL4.1.1 ■ Laser Unit, PL5.1.12 ■ Print Cartridge (C/M/Y/K), PL5.1.17-20 ■ Scanner Controller Board, PL9.1.1 	 <p style="text-align: center; font-size: small;">Horizontal Band, Void, or Streaks</p>

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Perform Test Print (Cyan 20%, Magenta 20%, Yellow 20%, and Black 20%): Service Mode > Printer Diag > Test Print. 2. Does the error still occur when printing?	Go to step 6.	Go to step 2.
2	1. Perform a copy job. 2. Does the error still occur when copying?	Go to step 3.	Complete.
3	Is the original document normal?	Go to step 4.	Replace the original document.
4	1. Check the document path. 2. Are there any debris on the document path?	Remove the debris.	Go to step 5.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	1. Check the wiring harness connectors P/J64 and P/J65 on the Scanner Controller Board. Reseat the connectors. 2. Does the image quality improve?	Complete.	Go to step 6.
6	1. Check for band's regular intervals 2. Are there any bands on the page?	Refer to "Repeating Defect Measurement" on page 5-24.	Go to step 7.
7	1. Check the Print Cartridge (C/M/Y/K) for damages. 2. Is the Print Cartridge damaged?	Replace the Print Cartridge (page 8-11).	Go to step 8.
8	1. Check the paper condition. 2. Is the paper dry, recommended type, and loaded in the correct position?	Go to step 9.	Replace the paper.
9	1. Check the Transfer Unit. 2. Are there any damages on the Transfer Unit surface?	Replace the Transfer Unit (page 8-9).	Go to step 10.
10	1. Check the Transfer Unit for correct installation. Reseat the Transfer Unit (page 8-9). 2. Does the image quality improve?	Complete.	Go to step 11.
11	1. Check for debris in the laser beam path between the Laser Unit and the Transfer Unit. 2. Are there any debris?	Remove the debris.	Go to step 12.
12	Does the image quality improve?	Complete.	Replace the Laser Unit (page 8-52).

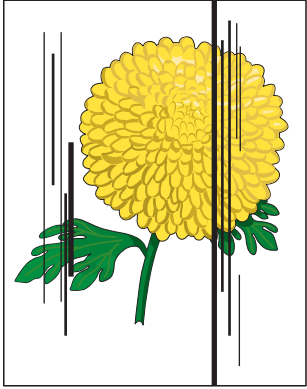
Vertical Stripes

There are black lines along the page in the direction of the paper travel from the leading edge to the trailing edge.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
<ul style="list-style-type: none"> ■ Transfer Unit, PL4.1.1 ■ Print Cartridge (C/M/Y/K), PL5.1.17-20 ■ Fuser, PL6.1.10 ■ Scanner Controller Board, PL9.1.1 	 <p style="text-align: center;">Vertical Stripes</p>

Warning

Ensure to wait for the Fuser to cool down before starting the procedure.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Perform Test Print (Cyan 20%, Magenta 20%, Yellow 20%, and Black 20%): Service Mode > Printer Diag > Test Print . 2. Does the error still occur when printing?	Go to step 6.	Go to step 2.
2	1. Perform a copy job. 2. Does the error still occur when copying?	Go to step 3.	Complete.
3	Is the original document normal?	Go to step 4.	Replace the original document.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	1. Check for any debris on the document glass and the CVT window. 2. Are there any debris?	Remove the debris.	Go to step 5.
5	1. Check the Scanner Controller Board wiring harness connectors P/J64 and P/J65. Reseat the connectors. 2. Does the image quality improve?	Complete.	Go to step 6.
6	1. Check the Print Cartridge (C/M/Y/K) for damages. 2. Is the Print Cartridge damaged?	Replace the Print Cartridge (page 8-11).	Go to step 7.
7	1. Check the Transfer Unit. 2. Are there any damages on the Transfer Unit surface?	Replace the Transfer Unit (page 8-9).	Go to step 8.
8	1. Check the Transfer Unit for correct installation. Reseat the Transfer Unit (page 8-9). 2. Does the image quality improve?	Complete.	Go to step 9.
9	1. Verify the media type selection: System > Tray Settings > Tray1 (MPT)/Tray 2/Tray 3 > Paper Type. 2. Does the media selection have the correct type?	Go to step 10.	Set the correct media type.
10	1. Check the Fuser for correct installation. Reseat the Fuser (page 8-12). 2. Does the image quality improve?	Complete.	Replace the Fuser (page 8-12).

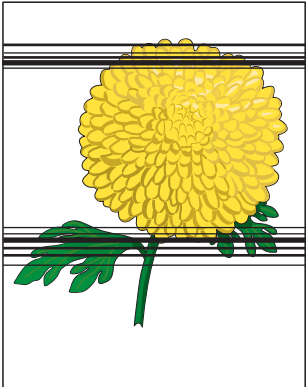
Horizontal Stripes

There are black lines running parallel with the leading edge of the print, perpendicular to the direction of the paper travel.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
<ul style="list-style-type: none"> ■ Transfer Unit, PL4.1.1 ■ Print Cartridge (C/M/Y/K), PL5.1.17-20 ■ Fuser, PL6.1.10 ■ Scanner Controller Board, PL9.1.1 	 <p style="text-align: center;">Horizontal Stripes</p>

Warning

Ensure to wait for the Fuser to cool down before starting the procedure.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Perform Test Print (Cyan 20%, Magenta 20%, Yellow 20%, and Black 20%): Service Mode > Printer Diag > Test Print. 2. Does the error still occur when printing?	Go to step 6.	Go to step 2.
2	1. Perform a copy job. 2. Does the error still occur when copying?	Go to step 3.	Complete.
3	Is the original document normal?	Go to step 4.	Replace the original document.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	1. Check for any debris on the document glass and the CVT window. 2. Are there any debris?	Remove the debris.	Go to step 5.
5	1. Check the Scanner Controller Board wiring harness connectors P/J64 and P/J65. Reseat the connectors. 2. Does the image quality improve?	Complete.	Go to step 6.
6	1. Check the Print Cartridge (C/M/Y/K) for damages. 2. Is the Print Cartridge damaged?	Replace the Print Cartridge (page 8-11).	Go to step 7.
7	1. Check the Transfer Unit. 2. Are there any damages on the Transfer Unit surface?	Replace the Transfer Unit (page 8-9).	Go to step 8.
8	1. Check the Transfer Unit for correct installation. Reseat the Transfer Unit (page 8-9). 2. Does the image quality improve?	Complete.	Go to step 9.
9	1. Check the paper path. 2. Are there any toner contaminations on the paper path?	Go to step 10.	Complete.
10	1. Check the Fuser for correct installation. Reseat the Fuser (page 8-12). 2. Does the image quality improve?	Complete.	Replace the Fuser (page 8-12).

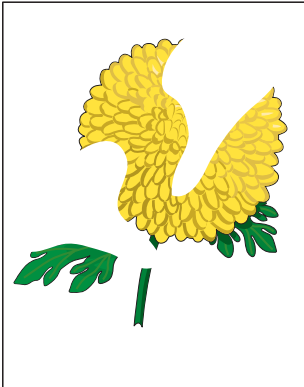
Faded or Missing Image

There are areas of the image that are extremely light or are missing in a limited area on the paper.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
<ul style="list-style-type: none"> ■ Transfer Unit, PL4.1.1 ■ Print Cartridge (C/M/Y/K), PL5.1.17-20 ■ Scanner Controller Board, PL9.1.1 	 <p style="text-align: right; font-size: small;">Partial Band</p>

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Perform Test Print (Cyan 20%, Magenta 20%, Yellow 20%, and Black 20%): Service Mode > Printer Diag > Test Print. 2. Does the error still occur when printing?	Go to step 5.	Go to step 2.
2	1. Perform a copy job. 2. Does the error still occur when copying?	Go go step 3.	Complete.
3	Is the original document normal?	Go to step 4.	Replace the original document.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	1. Check the Scanner Controller Board wiring harness connectors P/J64 and P/J65. Reseat the wiring harness connectors. 2. Does the image quality improve?	Complete.	Go to step 5.
5	1. Check the spot's regular intervals. 2. Are there any blank spots on the page?	Refer to "Repeating Defect Measurement" on page 5-24.	Go to step 6.
6	1. Check the paper condition. 2. Is the paper dry, recommended type, and loaded in the correct position?	Go to step 7.	Replace the paper.
7	1. Check the Print Cartridge (C/M/Y/K) for damages. 2. Is the Print Cartridge damaged?	Replace the Print Cartridge (page 8-11).	Go to step 8.
8	1. Check the Transfer Unit. 2. Are there any damages on the Transfer Unit surface?	Replace the Transfer Unit (page 8-9).	Go to step 9.
9	1. Check the Transfer Unit for correct installation. Reseat the Transfer Unit (page 8-9). 2. Does the image quality improve?	Complete.	Replace the Transfer Unit (page 8-9).

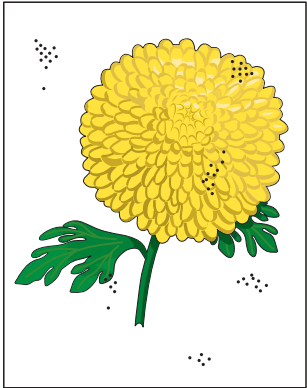
Random Spots

There are spots of toner randomly scattered across the page.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
<ul style="list-style-type: none"> ■ Transfer Unit, PL4.1.1 ■ Print Cartridge (C/M/Y/K), PL5.1.17-20 ■ Fuser, PL6.1.10 ■ Scanner Controller Board, PL9.1.1 	 <p style="text-align: center; font-size: small;">Random Spots</p>

Warning

Ensure to wait for the Fuser to cool down before starting the procedure.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Perform Test Print (Cyan 20%, Magenta 20%, Yellow 20%, and Black 20%): Service Mode > Printer Diag > Test Print. 2. Does the error still occur when printing?	Go to step 6.	Go to step 2.
2	1. Perform a copy job. 2. Does the error still occur when copying?	Go to step 3.	Complete.
3	Is the original document normal?	Go to step 4.	Replace the original document.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	1. Check for any debris on the document glass and the CVT window. 2. Are there any debris?	Remove the debris.	Go to step 5.
5	1. Check the Scanner Controller Board wiring harness connectors P/J64 and P/J65. Reseat the connectors. 2. Does the image quality improve?	Complete.	Go to step 6.
6	1. Check for spot's regular intervals. 2. Are there any spots on the page?	Refer to "Repeating Defect Measurement" on page 5-24.	Go to step 7.
7	1. Check the Print Cartridge (C/M/Y/K) for damages. 2. Is the Print Cartridge damaged?	Replace the Print Cartridge (page 8-11).	Go to step 8.
8	1. Check the Transfer Unit. 2. Are there any damages on the Transfer Unit surface?	Replace the Transfer Unit (page 8-9).	Go to step 9.
9	1. Check the Transfer Unit for correct installation. Reseat the Transfer Unit (page 8-9). 2. Does the image quality improve?	Complete.	Go to step 10.
10	1. Check the paper path. 2. Are there any toner contaminations on the paper path?	Clean the paper path.	Go to step 11.
11	1. Check the Fuser for correct installation. Reseat the Fuser (page 8-12). 2. Does the image quality improve?	Complete.	Replace the Print Cartridge (page 8-11).

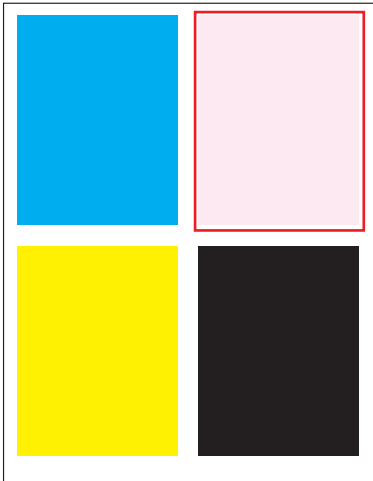
Defects in One Color (C, M, Y, or K)

Only one color (Cyan, Magenta, Yellow, or Black) is too light on the printed image.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path

Troubleshooting Reference Table

Applicable Parts	Example Print
<ul style="list-style-type: none"> ■ Laser Unit, PL5.1.12 ■ Print Cartridge (C/M/Y/K) PL5.1.17-20 ■ HVPS, PL5.2.15 	 <p style="text-align: center; font-size: small;">Light Print (One Color)</p>

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Perform Test Print (Cyan 20%, Magenta 20%, Yellow 20%, or Black 20%): Service Mode > Printer Diag > Test Print. 2. Does the error still occur when printing?	Go to step 2.	Complete.
2	1. Check the Print Cartridge (C/M/Y/K). 2. Is there a faint toner?	Go to step 3.	Complete.
3	1. Check the Print Cartridge (C/M/Y/K) for damages. 2. Is the Print Cartridge damaged?	Replace the Print Cartridge (page 8-11).	Go to step 4.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	1. Check the paper condition. 2. Is the paper dry, recommended type, and loaded in the correct position?	Go to step 5.	Replace the paper.
5	1. Check the laser beam path. 2. Are there any debris between the Laser Unit and Transfer Unit?	Remove the debris.	Go to step 6.
6	1. Replace the Laser Unit (page 8-52). 2. Does the image quality improve?	Complete.	Replace the HVPS (page 8-64).

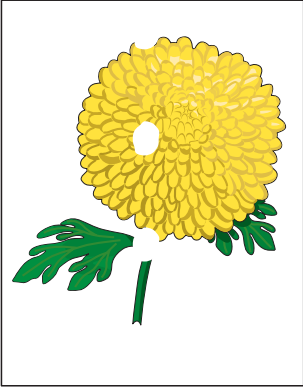
Repeating Bands, Lines, Marks, or Spots

There are recurring lines, marks, or spots on the page.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
<ul style="list-style-type: none"> ■ Transfer Unit, PL4.1.1 ■ Laser Unit, PL5.1.12 ■ Print Cartridge (C/M/Y/K), PL5.1.17-20 ■ Scanner Controller Board, PL9.1.1 	 <p style="text-align: center; font-size: small;">Repeating Defects</p>

Warning

Ensure to wait for the Fuser to cool down before starting the procedure.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Perform Test Print (Cyan 20%, Magenta 20%, Yellow 20%, or Black 20%): Service Mode > Printer Diag > Test Print. 2. Does the error still occur when printing?	Go to step 6.	Complete.
2	1. Perform a copy job. 2. Does the error still occur?	Go to step 3.	Complete.
3	Is the original document normal?	Go to step 4.	Replace the original document.
4	1. Check the document path. 2. Are there any debris on the document path?	Remove the debris.	Go to step 5.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	1. Check the wiring harness connectors P/J64 and P/J65 on the Scanner Controller Board. Reseat the connectors. 2. Does the image quality improve?	Complete.	Go to step 6
6	1. Check for band or spot's regular intervals. 2. Are there any bands or spots on the page?	Refer to Repeating Defect Measurement on page 5-24.	Go to step 7.
7	1. Check the Print Cartridge (C/M/Y/K) for damages. 2. Is the Print Cartridge damaged?	Replace the Print Cartridge (page 8-11).	Go to step 8.
8	1. Check the paper condition. 2. Is the paper dry, recommended type, and loaded in the correct position?	Go to step 9.	Replace the paper.
9	1. Check the Transfer Unit. 2. Are there any damages on the Transfer Unit surface?	Replace the Transfer Unit (page 8-9).	Go to step 10.
10	1. Check the Transfer Unit for correct installation. Reseat the Transfer Unit (page 8-9). 2. Does the image quality improve?	Complete.	Go to step 11.
11	1. Check for debris in the laser beam path between the Laser Unit and the Transfer Unit. 2. Are there any debris?	Remove the debris.	Go to step 12.
12	Does the image quality improve?	Complete.	Replace the Laser Unit (page 8-52).

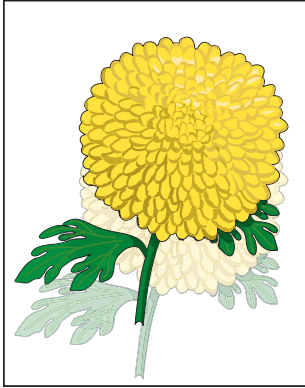
Residual Image or Ghosting

There are faint, ghostly images appearing on the page. The images may be either from a previous page or from the page currently being printed.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.
- Verify the paper is within the printer specifications (refer to “Media and Tray Specifications” on page 1-34).

Troubleshooting Reference Table

Applicable Parts	Example Print
<ul style="list-style-type: none"> ■ Transfer Unit, PL4.1.1 ■ Print Cartridge (C/M/Y/K), PL5.1.17-20 ■ Fuser, PL6.1.10 ■ Image Processor Board, PL9.1.20 	 <p style="text-align: center; font-size: small;">Residual Image/Ghosting</p>

Warning

Ensure to wait for the Fuser to cool down before starting the procedure.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the printing usage. 2. Did the user print the same image at a large volume?	Go to step 2.	Go to step 3.
2	1. Print a page including color photograph. If not possible, perform Test Print (Cyan 20%, Magenta 20%, Yellow 20%): Service Mode > Printer Diag > Test Print. 2. Does the image quality improve?	Complete.	Go to step 3.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
3	1. Check the Transfer Unit. 2. Are there any damages on the Transfer Unit surface?	Replace the Transfer Unit (page 8-9).	Go to step 4.
4	1. Check the Transfer Unit for correct installation. Reseat the Transfer Unit (page 8-9). 2. Does the image quality improve?	Complete.	Go to step 5.
5	1. Check the Print Cartridge (C/M/Y/K) for correct installation. Reseat the Print Cartridge (page 8-11). 2. Does the image quality improve?	Complete.	Go to step 6.
6	1. Replace the Fuser (page 8-12). 2. Does the image quality improve?	Complete.	Go to step 7.
7	1. Replace the Print Cartridge (page 8-11). 2. Does the image quality improve?	Complete.	Replace the Image Processor Board (page 8-90).

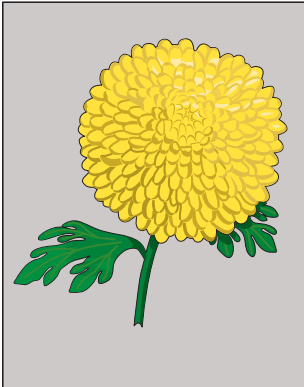
Background Contamination

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

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
<ul style="list-style-type: none"> ■ Transfer Unit, PL4.1.1 ■ Print Cartridge (C/M/Y/K), PL5.1.17-20 ■ HVPS, PL5.2.15 ■ Scanner Controller Board, PL9.1.1 	 <p style="text-align: center; font-size: small;">Background Contamination</p>

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Perform Test Print (Cyan 20%, Magenta 20%, Yellow 20%, or Black 20%): Service Mode > Printer Diag > Test Print . 2. Does the error still occur when printing?	Go to step 6.	Go to step 2.
2	1. Perform a copy job. 2. Does the error still occur when copying?	Go to step 3.	Complete.
3	Is the original document normal?	Go to step 5.	Replace the original document.
4	1. Check the Scanner Controller Board wiring harness connectors P/J64 and P/J65. Reseat the connectors. 2. Does the image quality improve?	Complete.	Go to step 5.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	1. Check the Print Cartridge (C/M/Y/K) for damages. 2. Is the Print Cartridge damaged?	Replace the Print Cartridge (page 8-11).	Go to step 6.
6	1. Check the Transfer Unit. 2. Are there any damages on the Transfer Unit surface?	Replace the Transfer Unit (page 8-9).	Go to step 7.
7	1. Check the Transfer Unit for correct installation. Reseat the Transfer Unit (page 8-9). 2. Does the image quality improve?	Complete.	Go to step 8.
8	1. Check the HVPS for correct installation. Reseat the HVPS (page 8-64). 2. Does the image quality improve?	Complete.	Replace the Printer Cartridge (page 8-11).

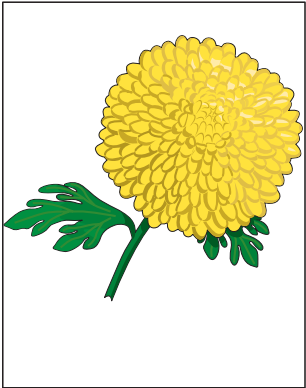
Skew

The printed image is not parallel with both sides of the paper.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Notes	Example Print
<ul style="list-style-type: none"> ■ MPT Retard Holder Assembly, PL2.1.3 ■ Tray 2 Retard Roll, PL2.2.17 ■ Tray 1 (MPT) Feed Roll, PL3.1.10 ■ Tray 2 Feed Roll, PL3.2.53 ■ Transfer Unit, PL4.1.1 ■ Scanner Controller Board, PL9.1.1 ■ ADF Scanner Assembly, PL11.1.1 ■ ADF Roller & Pad, PL11.1.16 ■ Duplex Unit, PL12.1.1 ■ Tray 3 Feed Roll, PL13.2.10 ■ Tray 3 Retard Roll, PL13.4.10 	 <p style="text-align: right; font-size: small;">Skew 2</p>

Troubleshooting Procedure Table

Step	Action and Questions	Yes	No
1	1. Perform Test Print (Cyan 20%, Magenta 20%, Yellow 20%, or Black 20%): Service Mode > Printer Diag > Test Print. 2. Does the error still occur when printing?	Go to step 9.	Go to step 2.
2	1. Perform a copy job. 2. Does the error still occur when copying?	Go to step 3.	Complete.
3	Is the original document normal?	Go to step 4.	Replace the original document.
4	Does the paper feed through the ADF?	Go to step 5.	Go to step 7.

Troubleshooting Procedure Table (continued)

Step	Action and Questions	Yes	No
5	1. Check the document. 2. Does the document meet the ADF specifications?	Check the paper guide setting to ensure it is adjusted correctly. Reset the side guide of the ADF. Go to step 6.	Use the document glass mode or change the paper type.
6	Does the image quality improve?	Complete.	Go to step 7.
7	1. Check the document setting. 2. Is the document placed on the document glass correctly?	Replace the ADF Scanner Assembly (page 8-103).	Reseat the document.
8	1. Check the Feed Roller and the Separator Pad. 2. Are there damages or debris on the Feed Roller and the Separator Pad?	Remove the debris or replace the ADF Feed Roller & Pad (page 8-110).	Replace the ADF Scanner Assembly (page 8-103).
9	1. Check the paper condition. 2. Is the paper dry, recommended type, and loaded in the correct position?	Go to step 10.	Replace the paper.
10	1. Check the Front Cover Latch. Open and close the Front Cover. 2. Does the error still occur?	Go to step 11.	Complete.
11	1. Check the Transfer Unit for correct installation. Reseat the Transfer Unit (page 8-9). 2. Does the error still occur?	Go to step 12.	Complete.
12	1. Check the Print Cartridge (C/M/Y/K) for correct installation. Reseat the Print Cartridge (page 8-11). 2. Does the error still occur?	Go to step 13.	Complete.
13	1. Check the skewed tray. 2. Is the skewed paper fed from Tray 1 (MPT)?	Go to step 14.	Go to step 18.
14	1. Check the paper for correct placement. Reseat the paper. 2. Does the error still occur?	Go to step 15.	Complete.
15	1. Check the Tray 1 (MPT) Side Guides. Reset the Paper Guides. 2. Does the error still occur?	Go to step 16.	Complete.
16	1. Check the paper path. 2. Are there any debris on the paper path?	Remove the debris.	Go to step 17.

Troubleshooting Procedure Table (continued)

Step	Action and Questions	Yes	No
17	1. Replace the Tray 1 (MPT) Feed Roller (page 8-13). 2. Does the error still occur?	Replace the Tray 1 (MPT) Retard Holder (page 8-38).	Complete.
18	1. Check the skewed mode through the Duplex Unit. 2. Is the skewed paper fed the from the Duplex?	Go to step 19.	Go to step 21.
19	1. Check the Duplex Unit for correct installation. Reseat the Duplex Unit (page 8-115). 2. Does the error still occur?	Go to step 20.	Complete.
20	1. Check the paper path. 2. Are there any debris on the paper path?	Remove the debris.	Replace the Duplex Unit (page 8-103).
21	1. Check the paper tray for correct installation. Reseat the tray. 2. Does the error still occur?	Go to step 22.	Complete.
22	1. Check the paper for correct placement. Reseat the paper in the tray. 2. Does the error still occur?	Go to step 23.	Complete.
23	1. Check the paper tray Side Guides. Reset the Side Guides. 2. Does the error still occur?	Go to step 24.	Complete.
24	1. Check the paper path. 2. Are there any debris on the paper path?	Remove the debris.	Go to step 25.
25	1. Replace the Feed Roller (Tray 2, page 8-14) (Tray 3, page 8-16). 2. Does the error still occur?	Replace the Retard Roller (Tray 2, page 8-15) (Tray 3, page 8-17).	Complete.

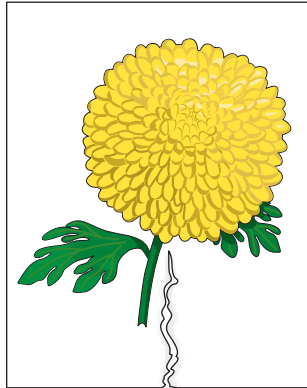
Damaged Paper

Paper comes out from the printer wrinkled, folded, or worn-out.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
<ul style="list-style-type: none"> ■ MPT Retard Holder Assembly, PL2.1.3 ■ Tray 2 Retard Roll, PL2.2.17 ■ Tray 1 (MPT) Feed Roll, PL3.1.10 ■ Feed Roll, PL3.2.53 ■ Transfer Unit, PL4.1.1 ■ Fuser, PL6.1.10 ■ ADF Scanner Assembly, PL11.1.1 ■ ADF Roller & Pad, PL11.1.16 ■ Duplex Unit, PL12.1.1 ■ Tray 3 Feed Roll, PL13.2.10 ■ Tray 3 Retard Roll, PL13.4.10 	 <p style="text-align: center;">Damaged Print Media</p>

Note

Steps 2-5 should only be considered if the original document is damaged.

Warning

Ensure to wait for the Fuser to cool down before starting the procedure.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Does the error occur when printing?	Go to step 6.	Go to step 2.
2	1. Check the error. 2. Does the document meet the ADF specifications?	Go to step 3.	Change the paper type or use the platen mode.
3	1. Check the side guide setting. Reset the side guide setting. 2. Does the document feed correctly?	Complete.	Go to step 4.
4	1. Replace the ADF Feed Roller and Separator Pad (page 8-110). 2. Does the document feed correctly?	Complete.	Go to step 5.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	1. Replace the ADF Scanner Assembly (page 8-103). 2. Does the document feed correctly?	Complete.	Go to step 6.
6	1. Check the paper condition. 2. Is the paper dry, recommended type, and loaded in the correct position?	Go to step 7.	Replace the paper.
7	1. Check the Front Cover Latch. Open and close the Front Cover. 2. Does the error still occur?	Go to step 8.	Complete.
8	1. Check the Transfer Unit for correct installation. Reseat the Transfer Unit (page 8-9). 2. Does the error still occur?	Go to step 9.	Complete.
9	1. Check the Fuser for correct installation. Reseat the Fuser (page 8-12). 2. Does the error still occur?	Go to step 10.	Complete.
10	1. Check the skewed tray. 2. Did the damaged paper feed from Tray 1 (MPT)?	Go to step 11.	Go to step 15.
11	1. Check the paper for correct placement. Reseat the paper in Tray 1 (MPT). 2. Does the error still occur?	Go to step 12.	Complete.
12	1. Check the Tray 1 (MPT) Side Guides. Reseat the Side Guides. 2. Does the error still occur?	Go to step 13.	Complete.
13	1. Check the paper path. 2. Are there any debris on the paper path?	Remove the debris.	Go to step 14.
14	1. Replace the Tray 1 (MPT) Feed Roller (page 8-13). 2. Does the error still occur?	Replace the Tray 1 (MPT) Retard Holder (page 8-38).	Complete.
15	Did the damaged paper feed from the Duplex Unit?	Go to step 16.	Go to step 18.
16	1. Check the Duplex Unit for correct installation. Reseat the Duplex Unit (page 8-115). 2. Does the error still occur?	Go to step 17.	Complete.
17	1. Check the paper path. 2. Are there any debris on the paper path?	Remove the debris.	Replace the Duplex Unit (page 8-103).

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
18	1. Check the paper tray for correct installation. Reseat the tray. 2. Does the error still occur?	Go to step 19.	Complete.
19	1. Check the paper for correct placement. Reseat the paper. 2. Does the error still occur?	Go to step 20.	Complete.
20	1. Check the paper tray Paper Guides. Reseat the tray Paper Guides. 2. Does the error still occur?	Go to step 21.	Complete.
21	1. Check the paper path. 2. Are there any debris on the paper path?	Remove the debris.	Go to step 22.
22	1. Replace the Feed Roller (Tray 2 - page 8-14, Tray 3 - page 8-16). 2. Does the error still occur?	Replace the Retard Roller (Tray 2 - page 8-15, Tray 3 - page 8-17).	Complete.

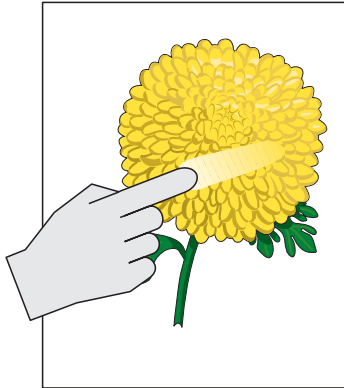
Unfused Image

The toner image is not completely fused to the paper. The image easily rubs off.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
<ul style="list-style-type: none"> ■ Print Cartridge (C/M/Y/K), PL5.1.17-20) ■ Fuser, PL6.1.10 	 <p style="text-align: center; font-size: small;">Unfused Image</p>

Warning

Ensure to wait for the Fuser to cool down before starting the procedure.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Verify the media type selection: System > Tray Settings > Tray1 (MPT)/Tray 2/Tray 3 > Paper Type.	Go to step 2.	Set the correct media type.
2	1. Check the paper condition. 2. Is the paper dry, recommended type, and loaded in the correct position?	Go to step 3.	Replace the paper.
3	1. Check the Print Cartridge (C/M/Y/K) for damages. 2. Is the Print Cartridge damaged?	Go to step 4.	Replace the Print Cartridge (page 8-11).

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	1. Check the Fuser for correct installation. Reseat the Fuser (page 8-12). 2. Does the image quality improve?	Complete.	Replace the Fuser (page 8-12).

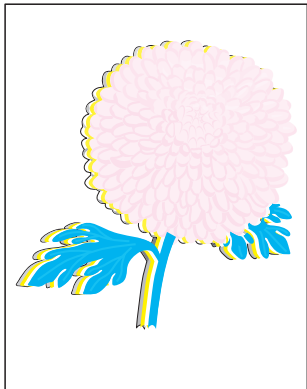
Color Registration

A printed yellow or black image is not overlapped on a cyan or magenta image correctly.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
<ul style="list-style-type: none"> ■ Feeder Unit, PL3.2.1 ■ Transfer Unit, PL4.1.1 ■ Print Cartridge (C/M/Y/K), PL5.1.17-20 ■ MCU Board, PL9.2.13 	 <p style="text-align: center;">Color Registration</p>

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Perform Auto Color Registration: System > Admin Menu > Maintenance > Adjust ColorRegi > Auto Correct. 2. Does the error still occur?	Go to step 2.	Complete.
2	1. Turn the printer power Off and back On. 2. Does the image quality improve?	Complete.	Go to step 3.
3	1. Check the paper condition. 2. Is the paper dry, recommended type, and loaded in the correct position?	Go to step 4.	Replace the paper.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	1. Perform Test Print procedure (Cyan 20%, Magenta 20%, Yellow 20%): Service Mode > Printer Diag > Test Print . 2. Does the image quality improve?	Complete.	Go to step 5.
5	1. Check the parameter value. 2. Did the client change the value of the registration parameter?	Reset the value to default.	Go to step 6.
6	1. Check the Front Cover Latch. Open and close the Front Cover. 2. Does the image quality improve?	Complete.	Go to step 7.
7	1. Check the Transfer Unit for correct installation. Reseat the Transfer Unit (page 8-9). 2. Does the image quality improve?	Complete.	Go to step 8.
8	1. Check the Print Cartridge (C/M/Y/K) for correct installation. Reseat the Print Cartridge (page 8-11). 2. Does the image quality improve?	Complete.	Go to step 9.
9	1. Perform the Regi Clutch test (page 4-65): Service Mode > Printer Diag > Engine Diag > Motor Test > Regi Clutch . 2. Does the Registration Clutch operate properly?	Replace the MCU Board (page 8-88).	Replace the Feeder Unit (page 8-47).

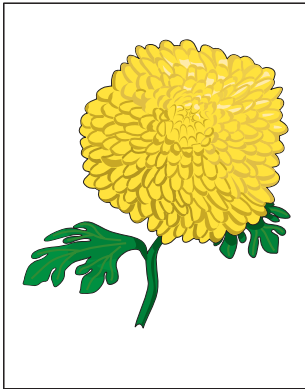
Wavy Lines

The printed image has wavy column line in the direction of the paper travel.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
<ul style="list-style-type: none"> ■ ADF Scanner Assembly, PL11.1.1 	 <p style="text-align: right; margin-right: 50px;">Hunting</p>

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the paper condition. 2. Is the paper dry, recommended, loaded in the correct position, and meet the ADF specifications?	Go to step 2.	Replace the paper or use the document glass mode.
2	Is the ADF closed against the document glass completely?	Replace the ADF Scanner Assembly (page 8-129).	Close the ADF.

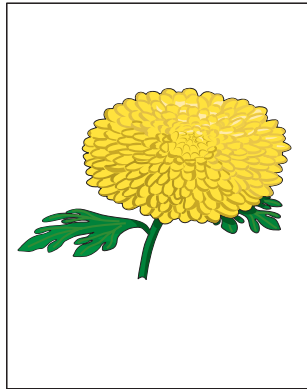
Incorrect Magnification

Incorrect magnification when copying with the ADF feeding.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
<ul style="list-style-type: none"> ■ ADF Scanner Assembly, PL11.1.1 	 <p style="text-align: center;">Magnification Incorrect</p>

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the paper condition. 2. Is the paper dry, recommended, loaded in the correct position, and meet the ADF specifications?	Go to step 2.	Replace the paper or use the platen mode.
2	Is the ADF closed against the document glass completely?	Go to step 3.	Close the ADF.
3	1. Perform Scanner Calibration procedure ("Scanner Calibration" on page 6-8). 2. Does the error still occur?	Replace the ADF Scanner Assembly (page 8-129).	Complete.

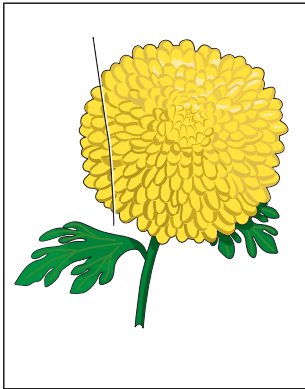
Lines or Streaks (from ADF)

There are lines or streaks on copies from the ADF.

Initial Actions

- Check the document glass.
- Ensure there are no debris on the document glass.

Troubleshooting Reference Table

Applicable Parts	Example Print
<ul style="list-style-type: none"> ■ ADF Scanner Assembly, PL11.1.1 	 <p style="text-align: center;">Scratch on Glass</p>

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the output document. 2. Are there lines or streaks on the document?	Replace the original document.	Go to step 2.
2	Are there debris on the document glass?	Clean the document glass using a lint-free cloth.	Go to step 3.
3	Does the image quality improve?	Complete.	Go to step 4.
4	Are there scratches on the document glass?	Replace the ADF Scanner Assembly (page 8-129).	Complete.

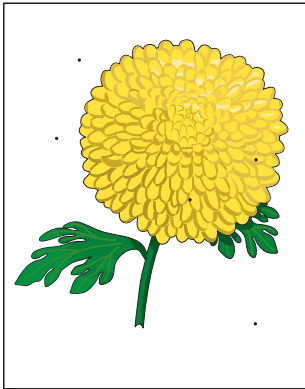
Spots (from ADF)

There are spots on copies from the ADF.

Initial Actions

- Check the document glass.
- Ensure there are no debris on the document glass.

Troubleshooting Reference Table

Applicable Parts	Example Print
<ul style="list-style-type: none"> ■ ADF Scanner Assembly, PL11.1.1 	 <p style="text-align: center;">Spots on Glass</p>

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the output document. 2. Are there spots on the output document?	Replace the original document.	Go to step 2.
2	1. Check for any debris on the document glass and the CVT window. 2. Are there any debris?	Remove the debris and clean the document glass using a lint-free cloth.	Go to step 3.
3	Does the image quality improve?	Complete.	Replace the ADF Scanner Assembly (page 8-103).

Pattern in the Halftone (Moire)

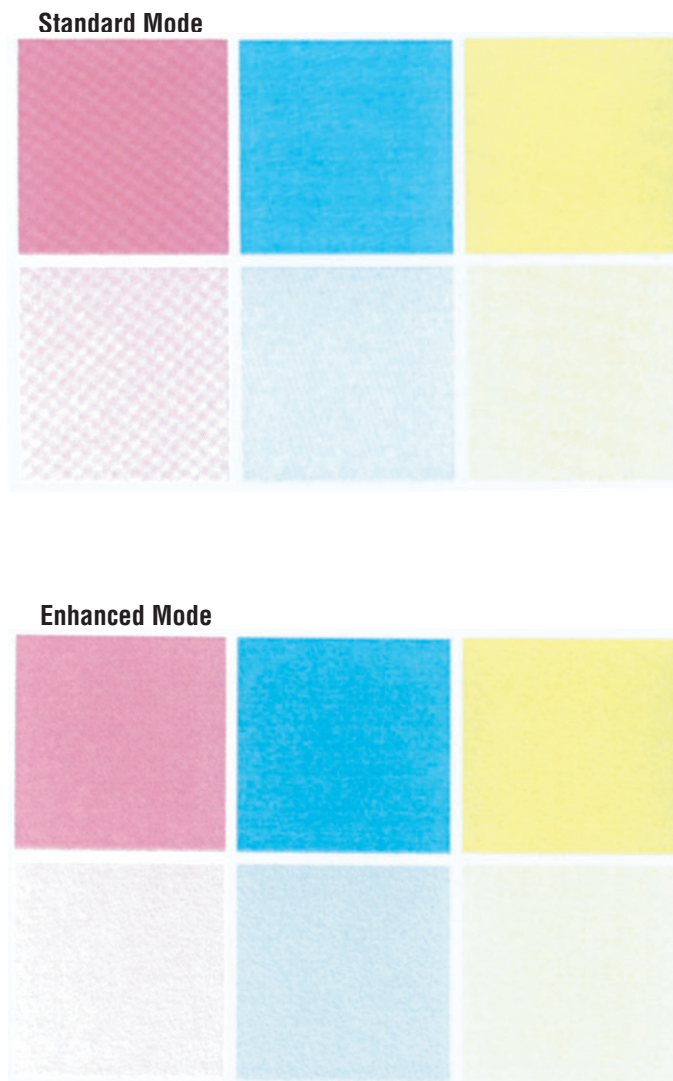
There are patterns on the image when copying in Standard mode.

Initial Actions

- Check the document glass.
- Ensure there are no debris on the document glass.

Troubleshooting Reference Table

Example Print



s6180mfp-396

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Check the output document. 2. Are there patterns in the image?	Go to step 2.	Complete.
2	1. Check the original document. 2. Are there patterns in the image?	Replace the original document.	Go to step 3.
3	Adjust the Copy Mode. 1. Press the Copy button. 2. Use the Up or Down Arrow button to find and select Output Quality. 3. Press the OK button. 4. Select Enhanced and press the OK button. 5. Verify the Ready Copy menu displays “ Output Quality...Enhanced. ” 6. Press the Start button to begin scanning. NOTE Enhanced mode copies may take a couple of seconds longer to complete. 7. Does the image quality improve?	Complete.	Complete.

Adjustments and Calibrations

In this chapter...

- Adjustments
- Calibrations
- Parameter Setting

Chapter 6

Adjustments

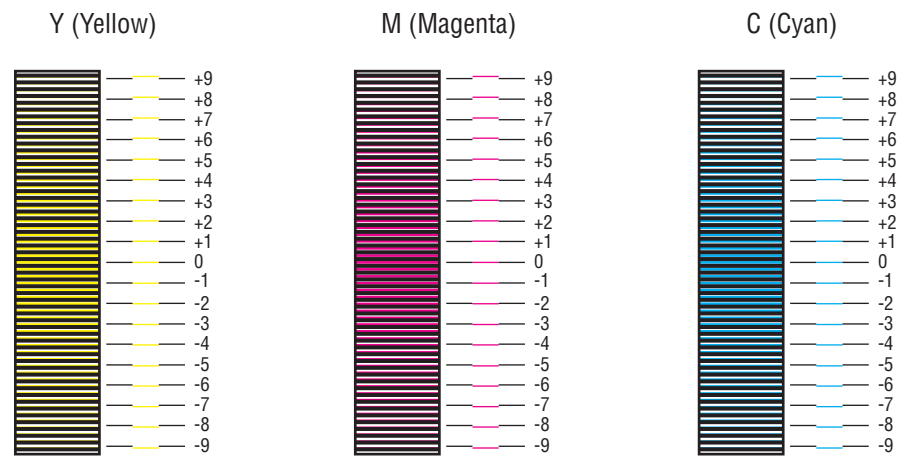
Color Registration

Color Registration adjustment procedure allows the user to change or correct the alignment of the four color images to meet specifications and/or user's requirements.

Printing the Color Registration Correction Chart

Before performing Color Registration adjustment procedure, print the Color Registration Chart for reference.

1. From the Control Panel, press the **System** button.
2. Press the **Up Arrow** or **Down Arrow** button to find **Admin Menu**. Press the **OK** button.
3. Press the **Up Arrow** or **Down Arrow** button to find **Maintenance**. Press the **OK** button.
4. Press the **Up Arrow** or **Down Arrow** button find **Adjust ColorRegi**. Press the **OK** button.
5. Select **Color Regi Chart** and press the **OK** button two times. The Color Registration Chart is printed. When printing is finished, the **Ready** menu is displayed.



Horizontal Color Registration YMC

Enabling/Disabling Automatic Color Registration

This procedure provides instructions for how to enable or disable the Automatic Color Registration function after a new Print Cartridge is installed.

- If the function is set to On, the printer will calibrate the color alignment every time it detects a new Print Cartridge.
- If the function is set to Off, calibration will not occur. This allows users to save toner.

To enable or disable the Automatic Color Registration:

1. From the Control Panel, press the **System** button.
2. Press the **Up Arrow** or **Down Arrow** button to find **Admin Menu**. Press the **OK** button.
3. Press the **Up Arrow** or **Down Arrow** button to find **Maintenance**. Press the **OK** button.
4. Press the **Up Arrow** or **Down Arrow** button find **Auto Regi Adjust**. Press the **OK** button.
5. Select **On/ Off** and press the **OK** button to turn the Auto Registration **On/ Off**.

Adjusting Color Registration

Color Registration can be automatically or manually adjusted.

Determining the Values

From the lines to the right of the Y (yellow), M (magenta), and C (cyan) pattern, find the values of the straightest lines.

When “0” is the value nearest the straightest line, you do not need to adjust the color registration. When the value is not “0,” refer to “Manual Adjustment” on page 6-4.

Auto Adjustment

1. From the Control Panel, press the **System** button.
2. Press the **Up Arrow** or **Down Arrow** button to find **Admin Menu**. Press the **OK** button.
3. Press the **Up Arrow** or **Down Arrow** button to find **Maintenance**. Press the **OK** button.
4. Press the **Up Arrow** or **Down Arrow** button to find **Adjust ColorRegi**. Press the **OK** button.
5. Press the **Up Arrow** or **Down Arrow** button to find **Auto Correct**. Press the **OK** button.
6. Select **Yes** and press the **OK** button to start the Auto Adjustment procedure.
7. The printer starts the auto Color Registration process.
8. When the auto Color Registration is completed, the **Ready** menu is displayed.
9. Print the Color Registration Chart (page 6-2) and verify the adjustments.

Manual Adjustment

Use the adjustment information in the following table to perform Color Registration procedure.

Caution

After printing the Color Registration Correction Chart, DO NOT turn Off the printer until the printer motor has stopped running.

Color Registration Adjustment

Color	Range	Default
Yellow	-9 to +9	0
Magenta	-9 to +9	0
Cyan	-9 to +9	0

1. From the Control Panel, press the **System** button.
2. Press the **Up Arrow** or **Down Arrow** button to find **Admin Menu**. Press the **OK** button.
3. Press the **Up Arrow** or **Down Arrow** button to find **Maintenance**. Press the **OK** button.
4. Press the **Up Arrow** or **Down Arrow** button to find **Adjust ColorRegi**. Press the **OK** button.
5. Press the **Up Arrow** or **Down Arrow** button to find **Color Regi**. Press the **OK** button.
6. Select **Yellow**, **Magenta**, or **Cyan** and press the **OK** button
7. Use the **Up Arrow** or **Down Arrow** button to enter the values and press the **OK** button to save the data.
8. Repeat steps 6 and 7 to continue adjusting the Color Registration.
9. Press the **Exit** button to access the **Color Regi Chart** menu. Select **Color Regi Chart** and press the **OK** button.
10. Press the **OK** button again to print the **Color Regi Chart**.
11. The Color Registration adjustment is complete when the straightest Y (yellow), M (magenta), and C (cyan) lines are next to the "0" line.

Note

If "0" is not next the straightest lines, determine and adjust the values again.

Resetting the Fuser

Fuser reset is required when a new Fuser is installed into the printer. This function sets the life counter to "0."

1. From the Control Panel, press the **System** button.
2. Press the **Up Arrow** or **Down Arrow** button to find **Admin Menu**. Press the **OK** button.
3. Press the **Up Arrow** or **Down Arrow** button to find **Maintenance**. Press the **OK** button.
4. Press the **Up Arrow** or **Down Arrow** button to find **Reset Fuser**. Press the **OK** button.
5. **Are You Sure?** message is displayed. Select **Yes** and press the **OK** button to start the process.
6. The **Maintenance - Reset Fuser** menu is displayed when the process is completed.

Calibrations

Initializing Print Meter

This process initializes the Print Meter.

1. From the Control Panel, press the **System** button.
2. Press the **Up Arrow** or **Down Arrow** button to find **Admin Menu**. Press the **OK** button.
3. Press the **Up Arrow** or **Down Arrow** button to find **Maintenance**. Press the **OK** button.
4. Press the **Up Arrow** or **Down Arrow** button to find **Init Print Meter**. Press the **OK** button.
5. **Are You Sure?** message is displayed. Select **Yes** and press the **OK** button to start the process.
6. **Initializing** message is displayed. The **Maintenance - Init Print Meter** menu is displayed when the process is completed.

Initializing NVM (NVRAM)

This process initializes the settings stored in the NVRAM except for the network settings. The NVRAM is a non-volatile memory that stores the printer settings even after the power is turned Off. After executing this function and restarting the printer, all the menu parameters are reset to their default values.

There are two options available: **User Section** and **System Section**.

- **User Section (User NVM)** – Unique user information stored in NVM which includes Address Book (e-mails, computer, FTP, and Fax).
 - **System Section (System NVM)** – System information stored in NVM which includes default settings and some passwords for print, copy, scan, and fax. Any information stored in the User NVM will not be cleared when System NVM is reset.
1. Press the **System** button to access the printer Control Panel menu.
 2. Press the **Up Arrow** or **Down Arrow** button to find **Admin Menu**. Press the **OK** button.
 3. Press the **Up Arrow** or **Down Arrow** button to find **Maintenance**. Press the **OK** button.
 4. Press the **Up Arrow** or **Down Arrow** button to find **Initialize NVM**. Press the **OK** button.
 5. Select **User Section** or **System Section**. Press the **OK** button.
 6. **Are You Sure?** message is displayed. Select **Yes** and press the **OK** button to start the process.
 7. **Please wait** message is displayed.
 8. The **Ready** menu is displayed when the process is completed.

Saving NVM (NVRAM)

This process saves the settings stored in the NVRAM to the Image Processor Board.

1. Access the Service Diagnostics menu by pressing and holding the **Up** and **Down Arrow** buttons simultaneously and turn the printer power On.
2. The **Service Mode** is displayed. Select **Printer Diag** and press the **OK** button.
3. Press the **Up Arrow** or **Down Arrow** button to find **Engine Diag**. Press the **OK** button.
4. Press the **Up Arrow** or **Down Arrow** button to find **NVM Settings**. Press the **OK** button.
5. Press the **Up Arrow** or **Down Arrow** button to find **Save NVM to ESS**. Press the **OK** button.
6. **SaveNVM to ESS - OK?** message is displayed. Press the **OK** button to start the process.
7. **Processing > Saved** message is displayed.
8. Press the **Exit** button three times to return to the **Printer Diag** menu. Press the **Up Arrow** or **Down Arrow** button to find **Exit Mode**. Press the **OK** button.
9. **Complete Exit** message is displayed. Press the **OK** button.
10. **Exit?** message is displayed. Press the **OK** button.

Loading NVM (NVRAM)

This process loads the NVM settings stored in the Image Processor Board.

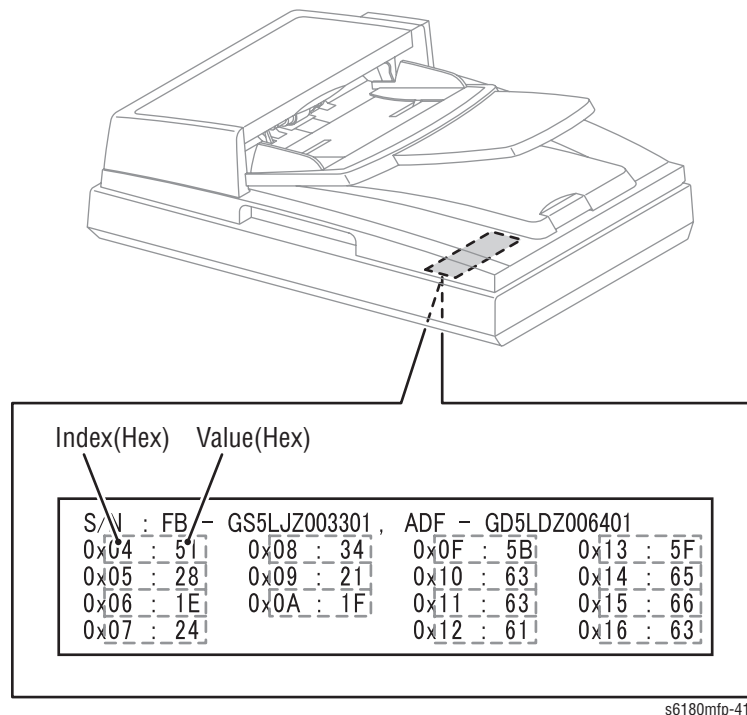
1. Access the Service Diagnostics menu by pressing and holding the **Up** and **Down Arrow** buttons simultaneously and turn the printer power On.
2. The **Service Mode** is displayed. Select **Printer Diag** and press the **OK** button.
3. Press the **Up Arrow** or **Down Arrow** button to find **Engine Diag**. Press the **OK** button.
4. Press the **Up Arrow** or **Down Arrow** button to find **NVM Settings**. Press the **OK** button.
5. Press the **Up Arrow** or **Down Arrow** button to find **LoadNVM from ESS**. Press the **OK** button.
6. **LoadNVM from ESS - OK?** message is displayed. Press the **OK** button to start the process.
7. **Processing > Loaded** message is displayed.
8. Press the **Exit** button.
9. **Please wait...** message is displayed on the printer's Control Panel.
10. **NVM Settings... - LoadNVM from ESS** menu is displayed.
11. Press the **Exit** button two times to return to the **Printer Diag** menu. Press the **Up Arrow** or **Down Arrow** button to find **Exit Mode**. Press the **OK** button.
12. **Complete Exit** message is displayed. Press the **OK** button.
13. **Exit?** message is displayed. Press the **OK** button.
14. **Please wait... --> Ready** messages are displayed on the printer Control Panel.

Scanner Calibration

This process enables manual calibration of the registration adjustment value or correction value. Use this procedure to enter the correction value when replacing the scanner.

Note

Note the ADF Scanner correction values under the ADF Scanner Assembly prior to installing the ADF Scanner Assembly to the printer.



Note

The information in the table below is for reference only. Each scanner has its own calibration information.

FB - GS6JW0000501, ADF - GD6JW0000501 >PET<

0x04 : 52	0x08 : 46	0x0F : 56	0x13 : 5D
0x05 : 2B	0x09 : 21	0x10 : 5D	0x14 : 64
0x06 : 1E	0x0A : 1E	0x11 : 5D	0x15 : 66
0x07 : 26		0x12 : 59	0x16 : 62

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1. Turn the printer power Off.
2. Access the Service Diagnostics menu by pressing and holding the **Up** and **Down Arrow** buttons simultaneously and turn the printer power On.
3. The **Service Mode** is displayed. Select **Fax/Scanner Diag** and press the **OK** button.
4. Press the **Up Arrow** or **Down Arrow** button to find **Scanner Maintenance**. Press the **OK** button.
5. Press the **Up Arrow** or **Down Arrow** button to find **Parameter**. Press the **OK** button.

6. Enter the value using the numbers provided underneath the Scanner.

- Index[Hex]: 00
- Value[Hex]:

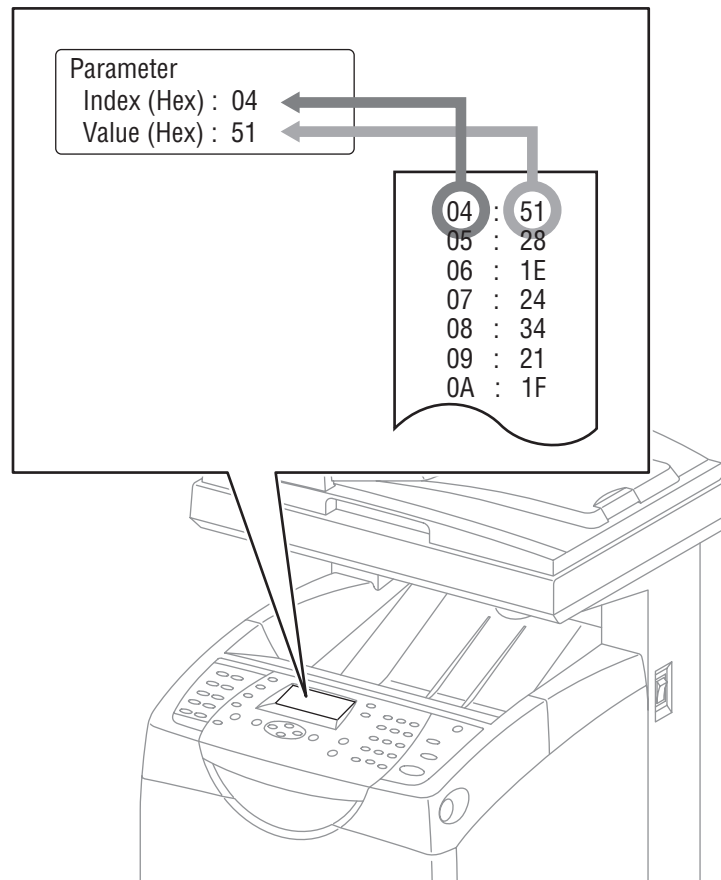
Note

Use the **Left** and **Right Arrow** buttons to move the cursor. Use the **Up** and **Down Arrow** buttons to change the value.

- a. Enter the Index information and press the **OK** button.
- b. The Value is displayed with an "*", which should match the provided value from the table. Ensure to confirm that there is an "*" in front of the Value number. This represents the value has been updated and saved.

Examples:

- Index[Hex]: 04
 - Value[Hex]: *52
- c. Press the **Exit** button to return to the **Parameter** screen. Continue to enter the Index and Value information using the provided scanner calibration information.



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Parameter Setting

Fax/Scanner Parameter Setting

This function reads and writes parameter stored in the Scanner Controller Board.

Note

Refer to “Chain Link for Fax Parameter Setting” on page A-9 in the Reference chapter.

To access the Parameter menu:

1. Turn the printer power Off (if the printer is On).
2. Simultaneously press the **Up Arrow** and **Down Arrow** buttons and turn on the printer.
3. The **Service Mode** menu is displayed.
4. Select **Fax/Scanner Diag** and press the **OK** button.
5. Press the **Up Arrow** or **Down Arrow** button to find **Parameter**. Press the **OK** button.

Note

Use the **Left** or **Right Arrow** button to move the cursor. Use the **Up** or **Down Arrow** button to change the value.

6. Enter the Chain Link number and press the **OK** button.
7. The value of the parameter is displayed with an *. This is the current value.
8. Enter the appropriate value and press the **OK** button.
9. Press the **Stop** button three times to return to the **Parameter** menu.
10. Press the **Up Arrow** or **Down Arrow** button to find **Complete**. Press the **OK** button two times to exit.

Printer Parameter Setting

This function reads/writes the parameter values, errors, and life counter values stored in the printer.

Note

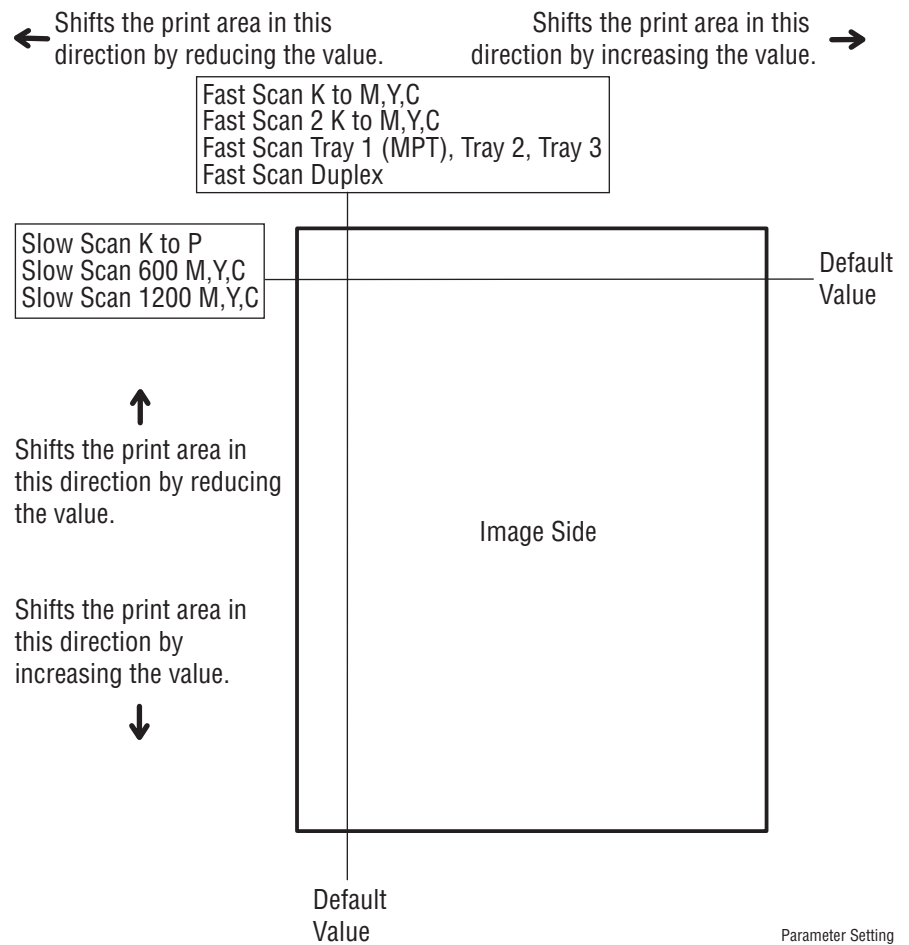
Print the parameter list from the Service Diagnostics menu - **Service Mode** > **Printer Diag** > **Parameter** > **Print** before changing the registration value.

To access the Parameter menu:

1. Turn the printer power Off (if the printer is On).
2. Simultaneously press the **Up Arrow** and **Down Arrow** buttons and turn on the printer.
3. The **Service Mode** menu is displayed.
4. Select **Printer Diag** and press the **OK** button.
5. Press the **Up Arrow** or **Down Arrow** button to find **Parameter**. Press the **OK** button.
6. Press the **Up Arrow** or **Down Arrow** button to find the appropriate item to change (i.e., **Slow Scan KtoP**). Press the **OK** button.
7. Enter the appropriate range using the **Up Arrow** or **Down Arrow** button. Press the **OK** button to save the value.
8. The new value "# *" is displayed. The **Parameter** menu is displayed.
9. Press the **Exit** button to return to the **Printer Diag** menu. Press the **Up Arrow** or **Down Arrow** button to find **Exit Mode**. Press the **OK** button.
10. **Complete Exit** message is displayed. Press the **OK** button.
11. **Exit?** message is displayed. Press the **OK** button.
12. **Please wait...** --> **Ready** messages are displayed on the printer Control Panel.

Note

"*" = data has been saved



Parameter Setting

Item	Range	Description
Slow Scan K to P	-128 to +127	Sets the registration in the paper feeding direction.
Slow Scan 600 Y/M/C	-30 to 30	
Slow Scan 1200 Y/M/C	-60 to 60	
Fast Scan (all items)	-30 to 30	Sets the registration in the scanning direction.
Life Counter	---	Reads the life counter and the printer.

Registration Values

Parameter	Function	Default	Adjustable Range
Slow Scan K to P (shifts 0.17 mm/1 count)	Black registration adjustment	---	-128 to 127
Slow Scan 600 M, Y, C (shifts 0.042 mm/1 count)	Color registration adjustment (600 and 1200 dpi)	---	-60 to 60
Slow Scan 1200 M, Y, C (shifts 0.021 mm/1 count)			
Fast Scan Reg K to M, Y, or C (shifts 0.042 mm/1 count)	Color registration adjustment Calculation of adjustment is shown below (exp. Yellow)	---	-30 to 30
Fast Scan Reg2 K to M, C, or Y (shifts 0.01 mm/1 count)	(Value of Fast Scan Reg K to Y + Value of Fast Scan Reg2 K to Y)/4	---	-1 to 2
Fast Scan Reg Tray 1 (MPT), Tray 2, or Tray 3 (shifts 0.17 mm/1 count)	Black registration adjustment at side 1 print	---	-30 to 30
Fast Scan Reg Duplex (shifts 0.17 mm/1 count)	Black registration adjustment at side 2 print	---	-30 to 30

Note

The default values are different in each printer.

Reference Counter Values

Counter Name	Value of Life Warning
Life Y Toner (Dispense Time)	---
Life M Toner (Dispense Time)	---
Life C Toner (Dispense Time)	---
Life K Toner (Dispense Time)	---
Life DTB (Transfer Unit) 1 (paper feeding count)	100,000
Life Fuser (paper feeding count)	100,000
Life Printer (paper feeding count)	---
Life DTB (Transfer Unit) 2 (Waste Toner cleaning count)	200,000
Life DTB (Transfer Unit) 3 (Cycle count)	14,000,000
Life Y Waste Toner (Waste Toner cleaning count)	18,000
Life M Waste Toner (Waste Toner cleaning count)	18,000
Life C Waste Toner (Waste Toner cleaning count)	18,000
Life K Waste Toner (Waste Toner cleaning count)	18,000
Life Y Developer (Cycle count)	2,500,000
Life M Developer (Cycle count)	2,500,000
Life C Developer (Cycle count)	2,500,000
Life K Developer (Cycle count)	2,500,000
Life Y Drum (Cycle count)	3,000,000
Life M Drum (Cycle count)	3,000,000
Life C Drum (Cycle count)	3,000,000
Life K Drum (Cycle count)	3,000,000
Life Tray 1 (MPT) Feed	---
Life Tray 2 Feed	---
Life Duplex Feed	---
Print	---

Cleaning and Maintenance

In this chapter...

- Service Maintenance Procedure
- Cleaning
- Maintenance

Chapter 7

Service Maintenance Procedure

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

The frequency of use, Average Monthly Print Volume (AMPV), type of media printed on, and operating environment are factors in determining how critical cleaning the machine is and how often it is necessary. Record the number of sheets printed.

Recommended Tools

- Toner vacuum cleaner
- Clean water
- Clean, dry, lint-free cloth
- Black light-protective bag

Cleaning

Perform the following general cleaning steps as indicated by the printer's operating environment.

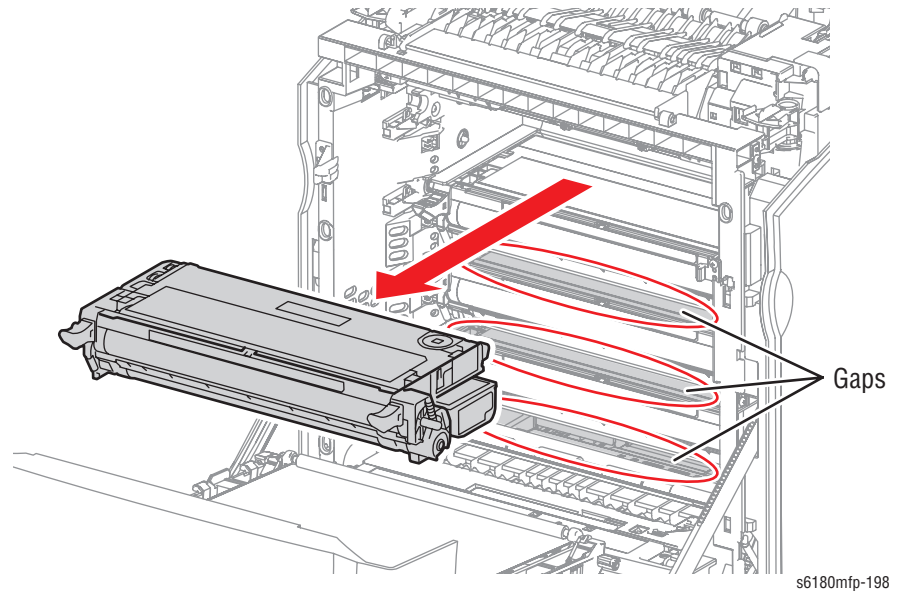
Caution

Never apply alcohol or other chemicals to any parts of the printer. Never use a damp cloth to clean up toner. If you remove the Print Cartridges, place them in a light-protective bag or otherwise protect them as exposure to light can quickly degrade performance and result in early failure.

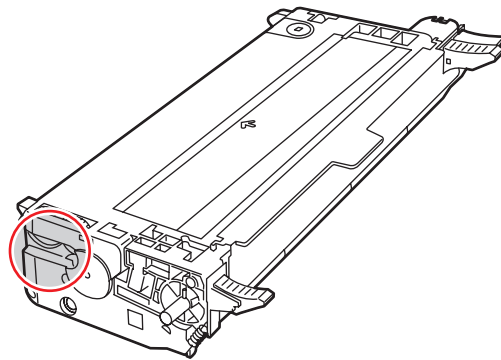
1. Record number of sheets printed.
2. Print several sheets of paper to check for problems or defects.
3. Turn the printer power Off and disconnect the power cord.
4. Remove the Transfer Unit, Fuser, Print Cartridges, Duplex Unit (if installed), Side Covers, and Rear Cover before cleaning.
5. Remove the Top Cover and clean the Main Fan to remove excess dust.
6. Ensure that all cover vents are clean and free of obstructions.
7. Remove any debris or foreign objects from the Fuser, Transfer Unit, Print Cartridges, Duplex Unit, and inside of the printer.
8. Remove and clean the paper trays.
9. Clean all rubber rollers with a lint-free cloth slightly dampened with cold water.

Cleaning the Print Cartridge

1. Open the Front Cover.
2. Using a flash light, inspect the gaps between the Print Cartridges. Remove the Print Cartridge if necessary. Using tweezers, remove any paper debris from the area.



3. Check for any debris around the Print Cartridge gear areas.



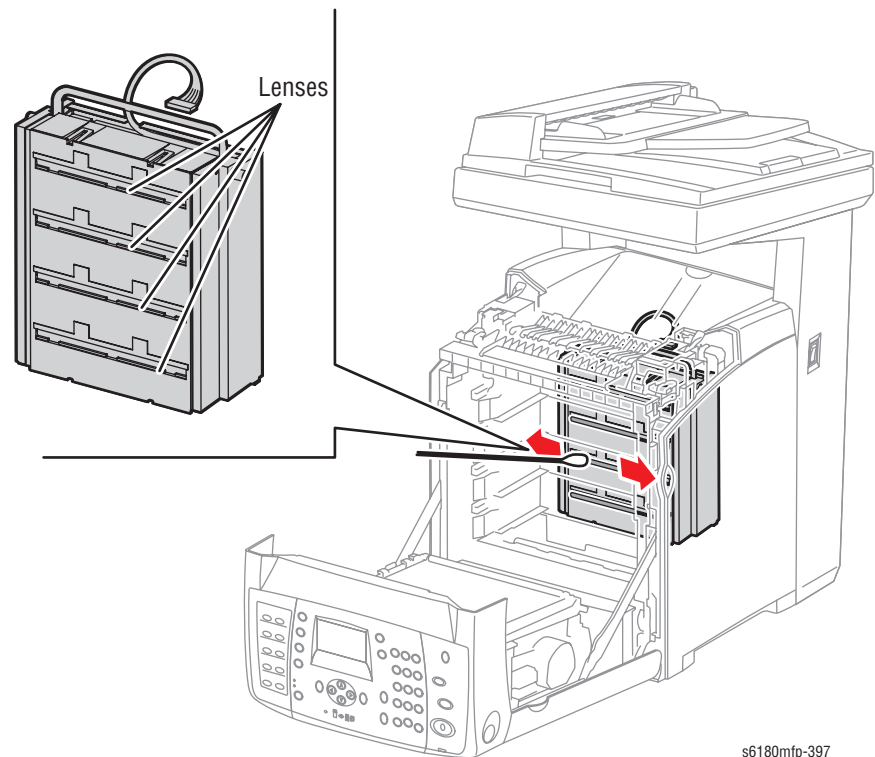
Cleaning the Laser Unit

1. Open the Front Cover.

Caution

When performing this procedure, remove and cover the Print Cartridges to avoid exposure to light.

1. Remove the Print Cartridges (page 8-11).
2. Insert the Q-Tip between the gap on the Laser Unit and move the Q-Tip side to side to clean the len.



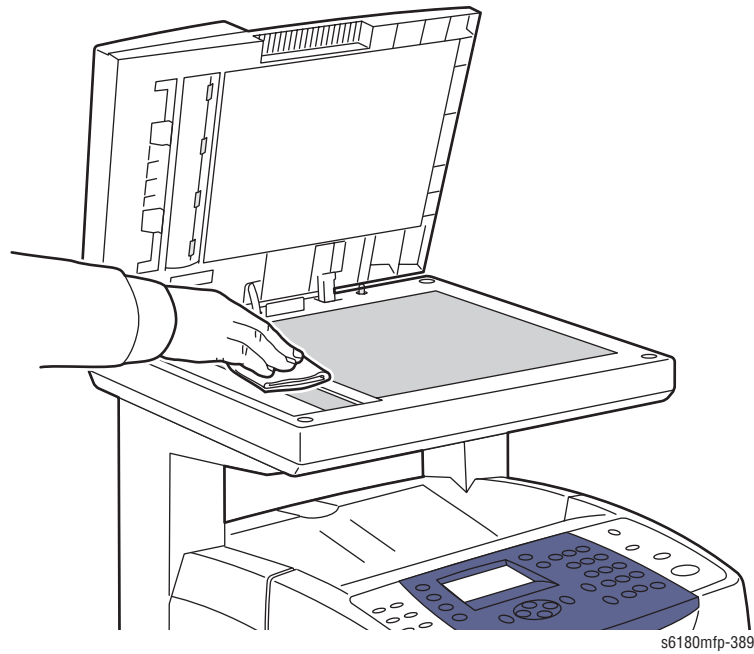
s6180mp-397

Cleaning the Document Glass

Note

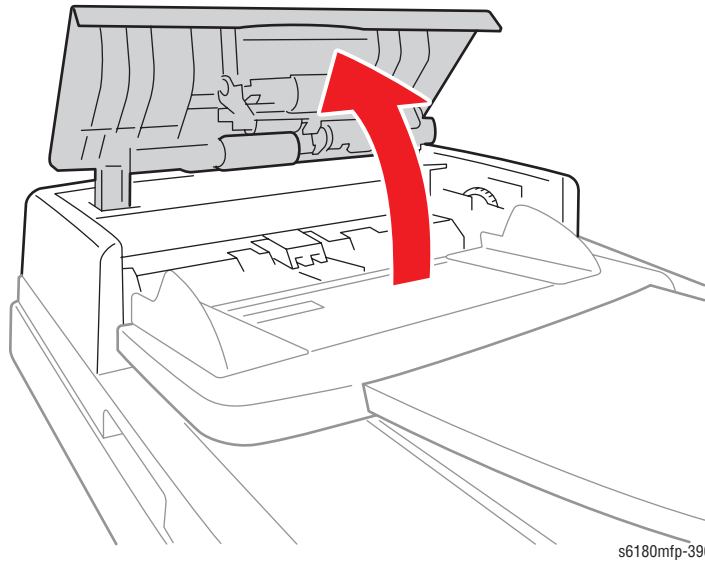
Use only a moistened lint-free cloth to clean the document glass. Do not use any kind of cleaning agent to clean the glass.

1. Open the Scanner Cover.
2. Wipe the document glass using a moistened lint-free cloth. Ensure there are no scratches on the document glass surface.

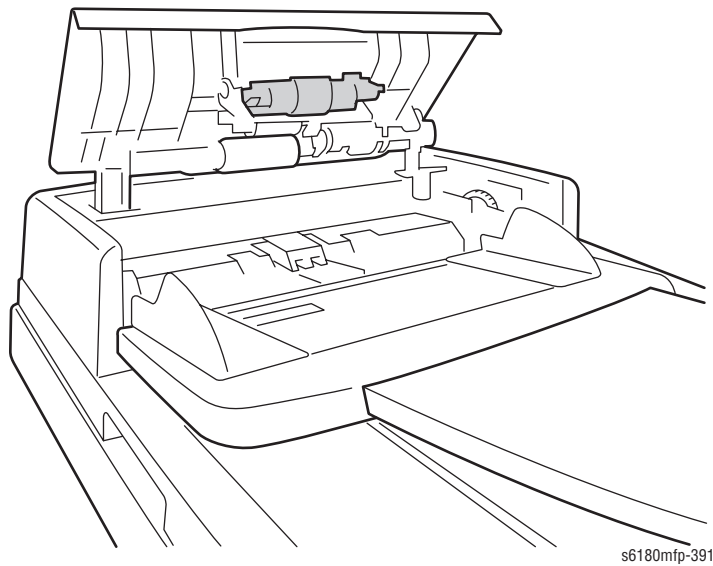


Cleaning the ADF Roller

1. Open the ADF Cover.



2. Wipe the Roller using a moistened lint-free cloth.



Maintenance

RIP (Repair, Inspect, and Prevent) Procedure

Perform these routine maintenance procedures during the course of servicing the printer.

- Clean the Feed Rollers, Exit Rollers, and Guides; replace if necessary.
- Remove and clean the paper trays.
- Print a Configuration and Error History pages; diagnose, and repair any problems as indicated.
- Check the printer engine and image processor firmware fans; if necessary, clean (dust or vacuum) these areas.
- Check cleanliness of the interior and exterior, including fans; if necessary, clean (dust or vacuum) these areas.
- Review proper printer operation using a customer file, if possible. Check with the customer regarding any special applications they may be using.
- Review with the customer all work that was performed and discuss proper printer care.

Service Parts Disassembly

In this chapter...

- Overview
- Maintenance Items and Consumables
- Covers
- Paper Tray
- Paper Feeder
- Xerographics
- Exit Chute
- Frame
- Drive
- Electrical
- Automatic Document Feeder and Scanner Assembly
- Options

Chapter 8

Overview

This section contains the removal procedures for field-replaceable parts of the printer listed in the Parts List. In most cases, the replacement procedure is simply the reverse of the removal procedure. In some instances, additional steps are necessary and are provided for replacement of the parts. For specific assemblies and parts, refer to the “Parts List” in Section 9.

Note

Always use the correct type and size screw (page 8-6). Using the wrong screw can damage tapped holes. Do not use excessive force to remove or install either a screw or a printer part.

The procedures are organized by the consumer replacement parts and functions of the printer.

Maintenance Items and Consumables

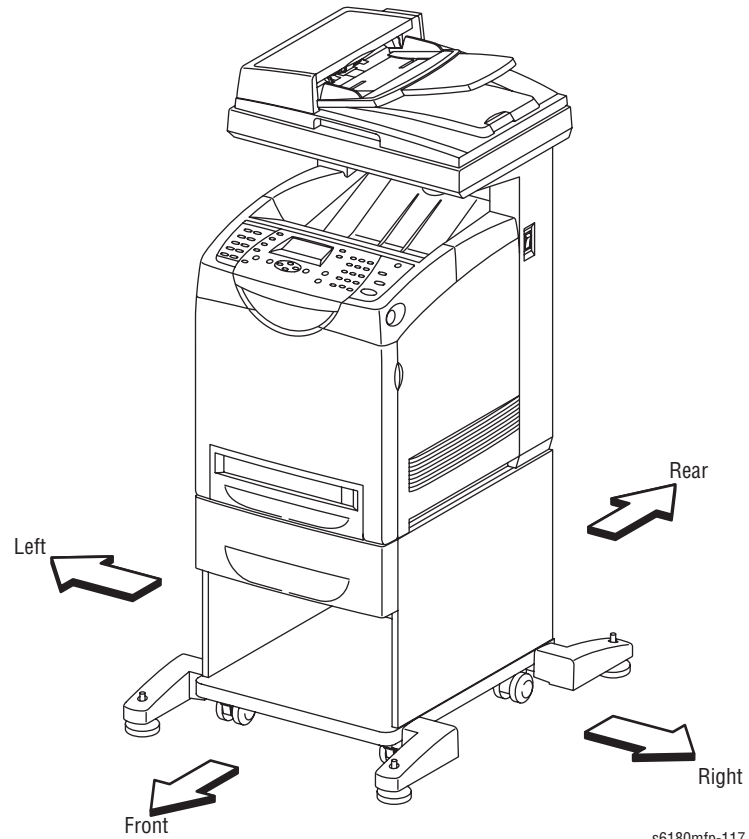
- Transfer Unit (page 8-9)
- Print Cartridge (C/M/Y/K) (page 8-11)
- Fuser (page 8-12)
- Tray 1 (MPT) Feed Roller (page 8-13)
- Tray 2 Feed Roller (page 8-14)
- Tray 2 Retard Roller (page 8-15)
- Tray 3 Feed Roller (page 8-16)
- Tray 3 Retard Roller (page 8-17)

Printer, Scanner Assembly, and Options

- Covers (page 8-18)
- Paper Tray (page 8-38)
- Paper Feeder (page 8-40)
- Xerographics (page 8-52)
- Exit Chute (page 8-67)
- Frame (page 8-69)
- Drive (page 8-75)
- Electrical (page 8-81)
- Automatic Document Feeder and Scanner Assembly (page 8-103)
- Options (page 8-115)

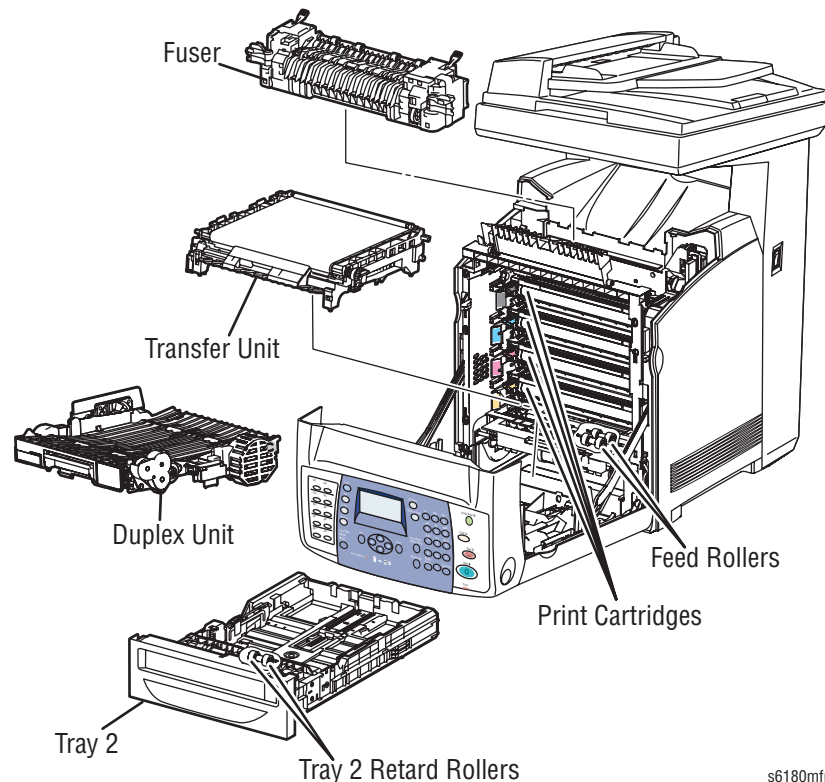
Standard Orientation of the Printer

When needed, the orientation of the printer is called out in the procedure as an aid for locating the printer parts. The following figure identifies the Front, Rear, Left, and Right sides of the printer.



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Preparation



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Before you begin any removal and replacement procedure:

1. Wear an Electrostatic Discharge wrist strap to help prevent damaging to the sensitive electronics of the printer circuit boards.
2. Turn the printer power Off and disconnect the power cord from the wall outlet.
3. Disconnect all computer interface cables from the printer.
4. Remove Tray 2.
5. Open the Front Cover.
6. Remove the following Maintenance Items and Consumables.
 - a. Transfer Unit (page 8-9)

Caution

Do not touch the Transfer Unit belt area.

- b. Print Cartridges (page 8-11)

Caution

Do not expose the Print Cartridges to light for more than 5 minutes. After removal, cover the Print Cartridges to minimize the amount of light striking the Print Cartridges. Prolonged exposure to light significantly reduces Print Cartridges performance.

- c. Fuser (page 8-12)

Warning

The Fuser may be hot. Turn the printer power Off and allow at least 5 minutes for the Fuser to cool before removing the Fuser.

Note

Names of parts that appear in the removal and replacement procedures may not match the names that appear in the Parts List. For example, a part called the Registration Chute Assembly in a removal procedure may appear on the Parts List as Assembly, Registration Chute. When working on a removal procedure, ignore any prerequisite procedure for parts already removed.

Caution

Many parts are secured by plastic tabs. DO NOT over flex or force these parts. DO NOT over torque the screws threaded into plastic parts.

Warning

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

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 “PLX.X.X” indicates that this component is listed in the Parts List.
- Bold arrows in an illustration show direction of movement when removing or replacing a component.
- The notation “(tap, plastic, 10 mm)” or “(metal, 6 mm)” refer to the type of screw being removed.

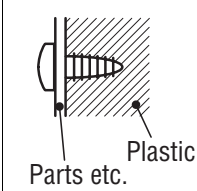
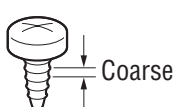
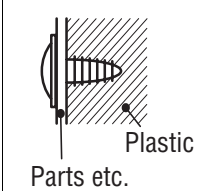

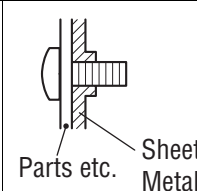

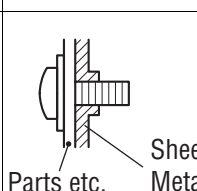

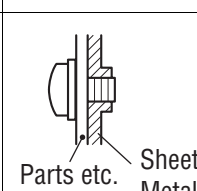

Note

Provides information specific to the replacement of parts or assemblies.

Fastener Types

The following table lists the primary types of Posi-Drive screws used to assemble the printer. The procedures provide dimensional specifications for screws being removed.

Posi-Drive Screw Types used in the Printer

Type	Application	Shape	Characteristics
Self-tapping, plastic			<ol style="list-style-type: none"> 1. Silver colored. 2. Screw thread is coarse compared to metal screw. 3. Screw tip is thin.
Self-tapping, plastic, with flange			<ol style="list-style-type: none"> 1. Black colored. 2. Screw thread is coarse compared to metal screw. 3. Screw has a flange. 4. Screw tip is thin.
Sheet Metal, silver			<ol style="list-style-type: none"> 1. Silver colored. 2. Diameter is uniform.
Sheet Metal, with flange			<ol style="list-style-type: none"> 1. Silver colored. 2. Screw has a flange. 3. Diameter is uniform.
Sheet Metal, silver with lock washer			<ol style="list-style-type: none"> 1. Silver colored. 2. Includes a toothed washer. 3. Diameter is uniform. 4. Used for grounding terminals.

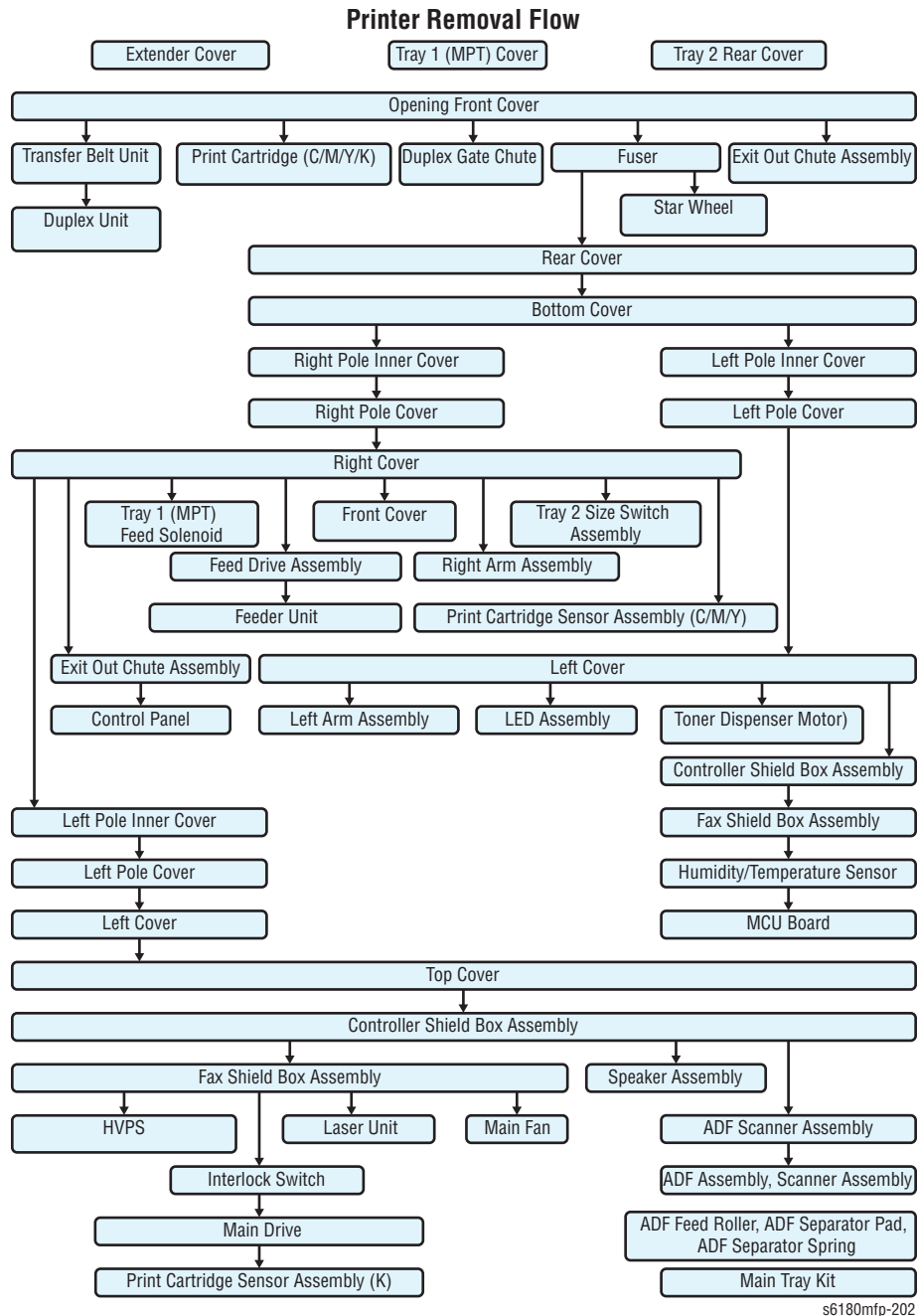
Caution

Use care when installing self-tapping screws in plastic. To properly start the screw in plastic, turn the screw counter-clockwise in the hole until you feel the screw engage the threads, then tighten as usual. Failure to properly align or over tighten the screw can result in damage to previously tapped threads.

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

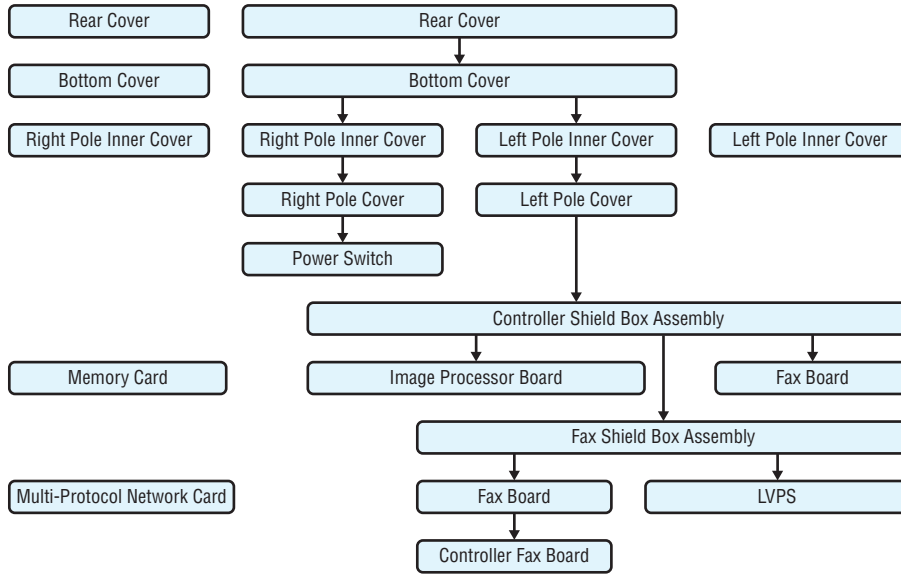
Disassembly Flow Charts

Printer Disassembly Flow Chart

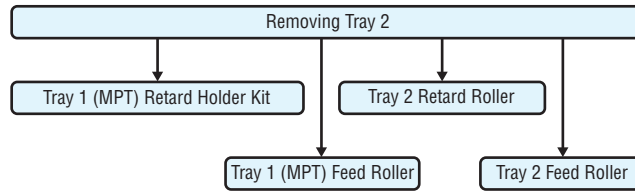


Tray 1 (MPT) and Optional 550-Sheet Feeder Disassembly Flow Charts

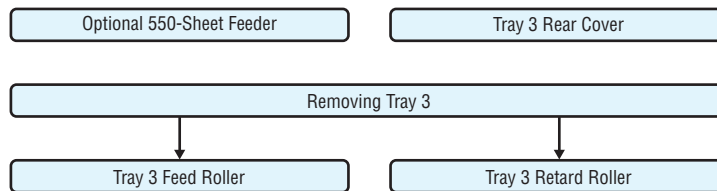
Printer (Rear Pole Side) Removal Flow



Printer (MPT Roller & Feed Roller) Removal Flow



550 Sheet Feeder Assembly Removal Flow



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Maintenance Items and Consumables

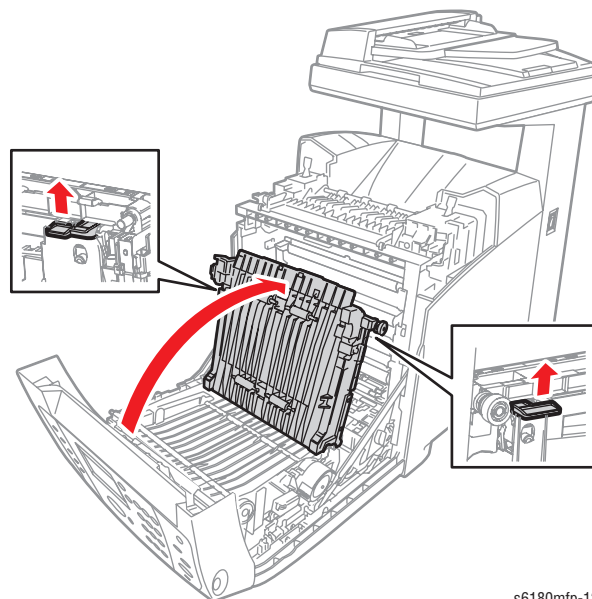
Maintenance and Consumable items include the Transfer Unit, Fuser, and Feed/Retard Rollers. Consumables consist of the four print cartridges.

Transfer Unit (PL4.1.1)

Caution

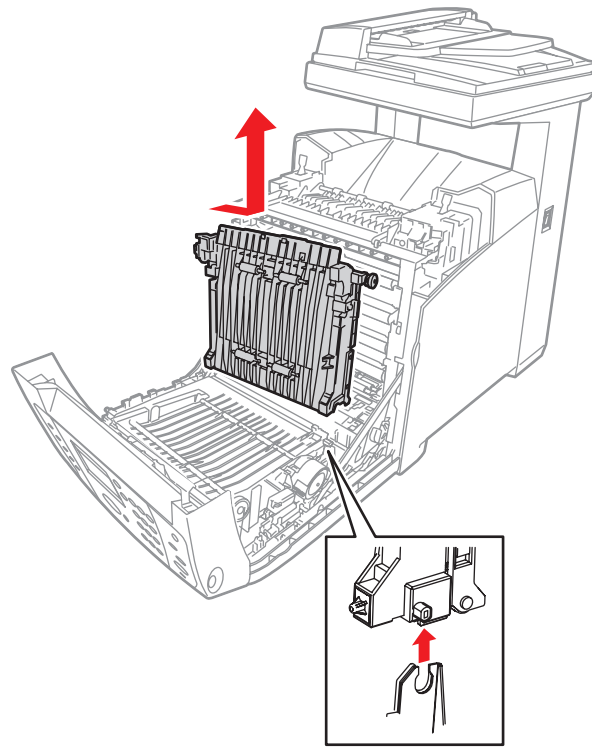
Do not touch the Transfer Unit belt area.

1. Open the Front Cover (PL13.2.1).
2. Release the levers on the left and right sides of the Transfer Unit and lift the Transfer Unit at a 90° angle.



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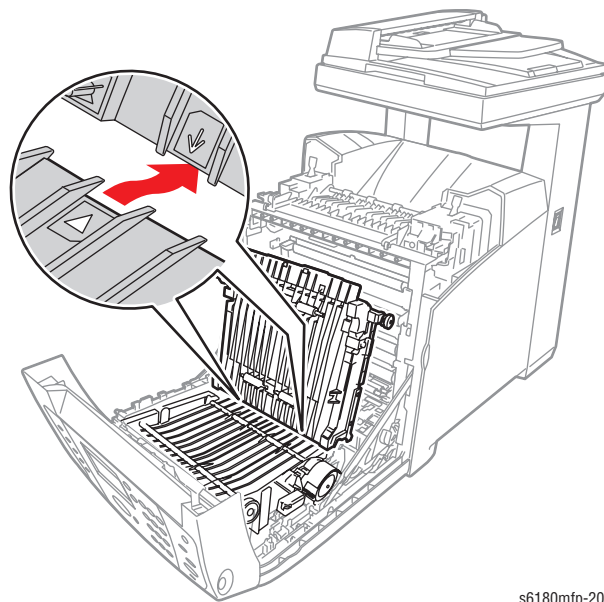
3. Tilt the right side of the Transfer Unit up toward the left side to move the notch out of the U-shape groove and slide the notch on the left side away from the hole.



s6180mfp-125

Replacement Note

If there is a Duplex Unit installed, be sure to align the arrows on the bottom of the Transfer Unit with the arrows on top of the Duplex Unit.



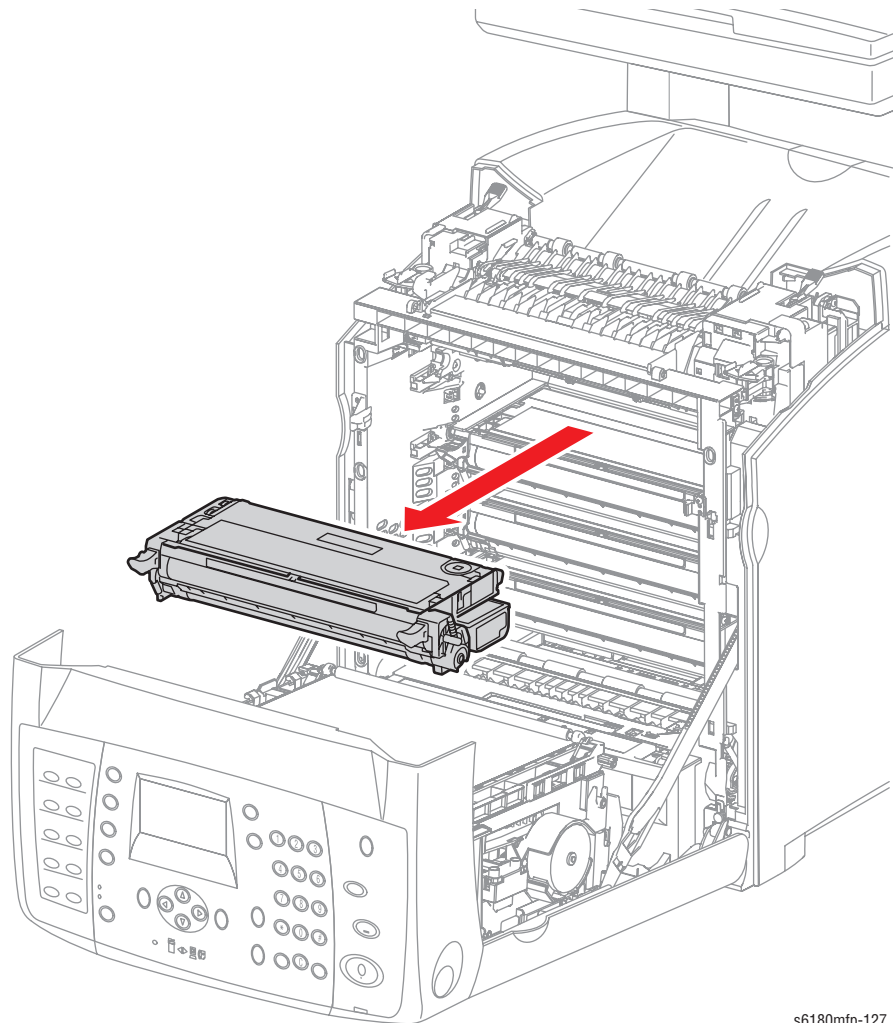
s6180mfp-205

Print Cartridge (C/M/Y/K) (PL5.1.17-20)

Caution

Do not expose the Print Cartridges to light for more than 5 minutes. Cover the Print Cartridges to avoid damage.

1. Open the Front Cover.
2. Hold the levers on the left and right sides of the Print Cartridge and slowly pull it out.



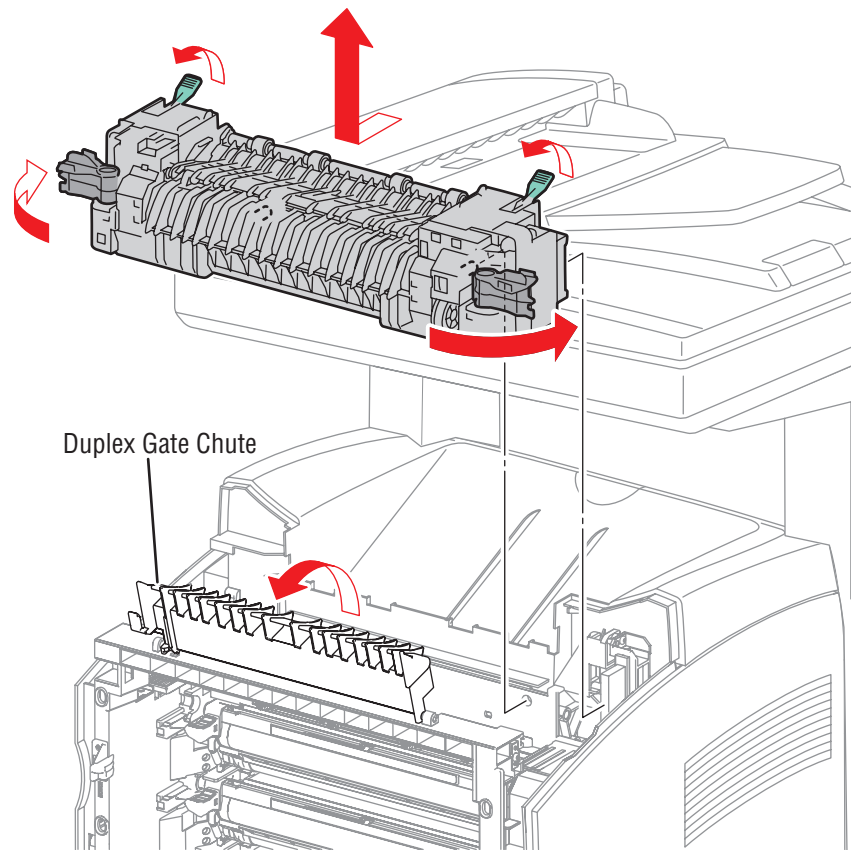
s6180mfp-127

Fuser Unit (PL6.1.10)

Warning

The Fuser may be hot. Turn the printer power Off and allow at least 5 minutes for the Fuser to cool before removing the Fuser.

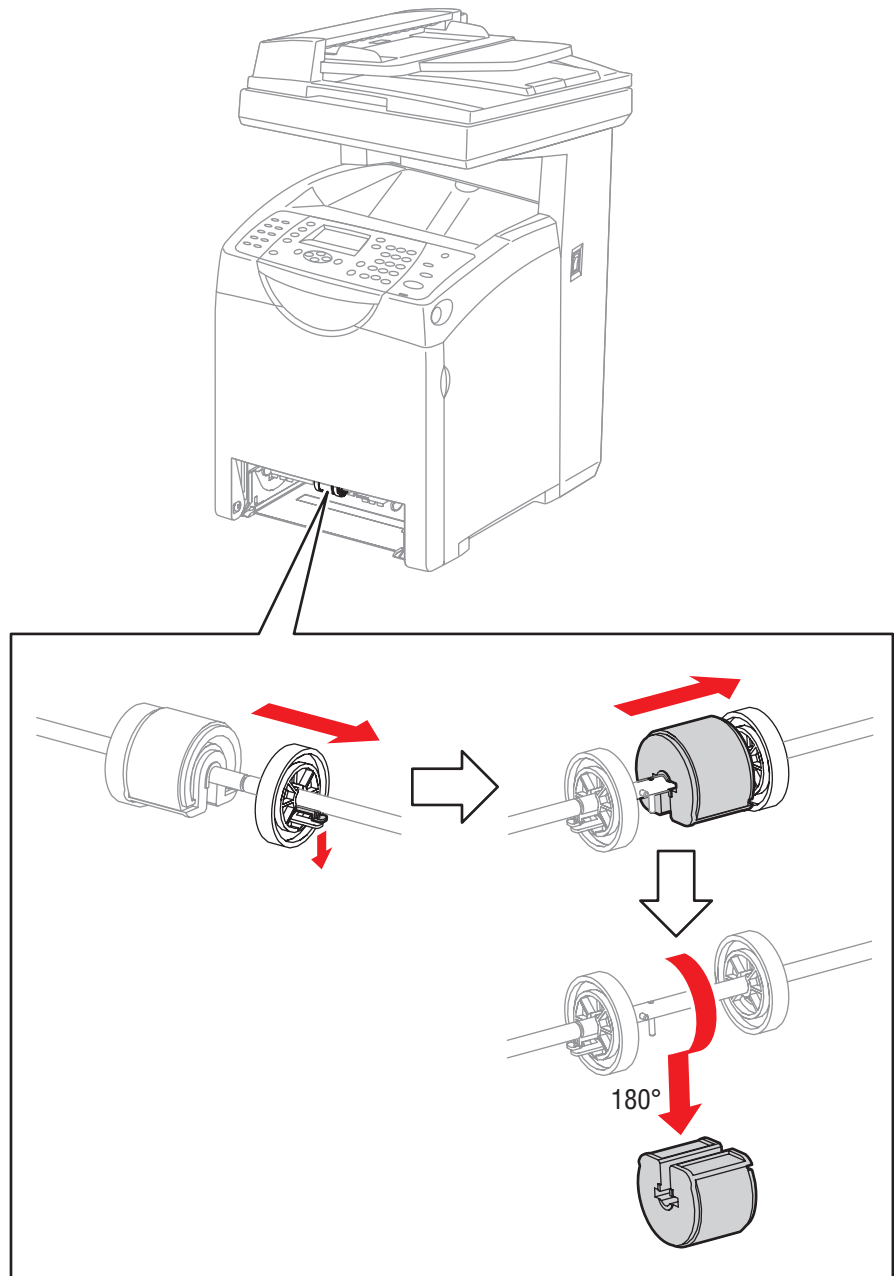
1. Open the Front Cover.
2. Open the Duplex Gate Chute (PL6.1.13).
3. Release the levers on the left and right sides of the Fuser to unlock the Fuser from the printer.
4. Lift the green latches, push the Fuser toward the front, and lift the Fuser up to remove it.



s6180mfp-129

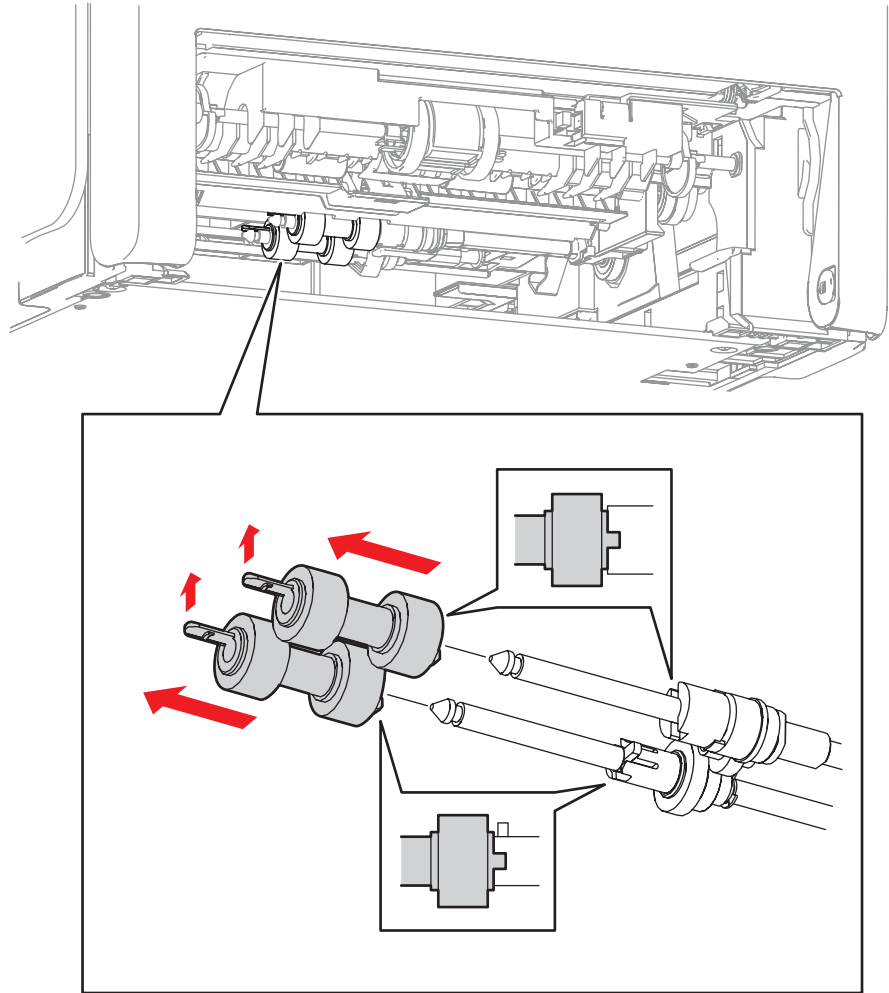
Tray 1 (MPT) Feed Roller (PL3.1.10)

1. Remove Tray 2.
2. Release the MPT Core Roll hook (PL3.1.9) on the right side of the MPT Feed Roller and slide the MPT Core Roll to the right.
3. Slide the MPT Roller to the right to release the groove on the MPT Roller from the vertical pin mounted on the MPT Shaft (PL3.1.12).
4. Rotate the Tray 1 (MPT) Feed Roller 180° and remove it from the Shaft.



Tray 2 Feed Roller (PL3.2.53)

1. Remove Tray 2.
2. Release the hooks on the Tray 2 Feed Rollers and remove the Feed Rollers from the Shafts.



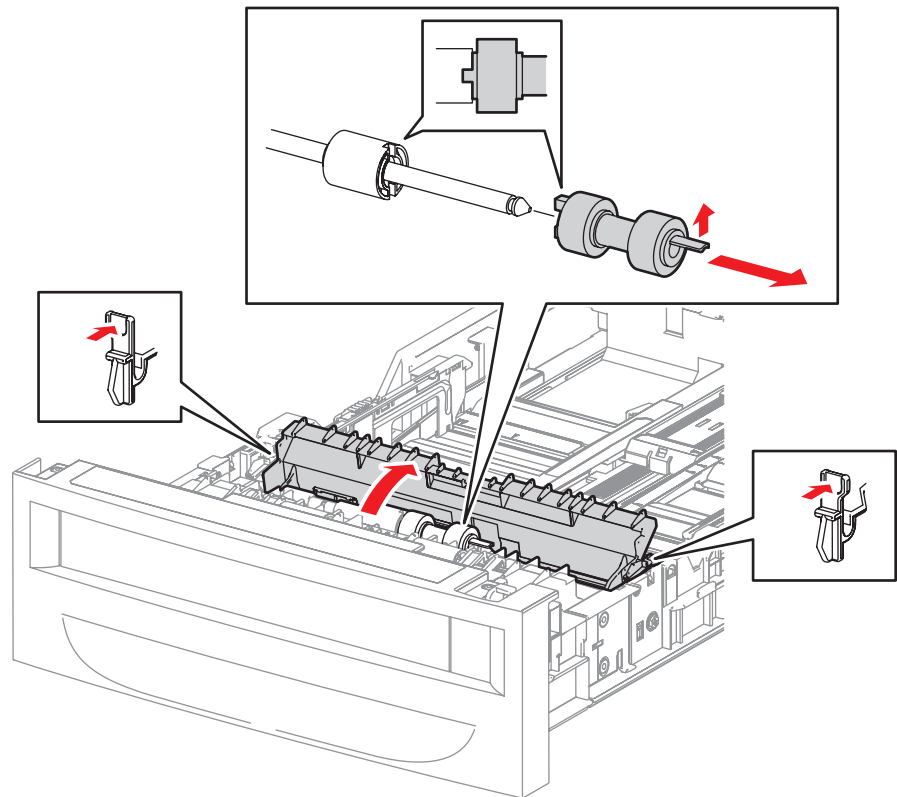
s6180mfp-207

Replacement Note

Be sure to align the convex section of the Tray 2 Feed Roll with the concave section of the Nudger Roll Gear (PL3.2.46) and the Oneway Feed Clutch (PL3.2.52).

Tray 2 Retard Roller (PL2.2.17)

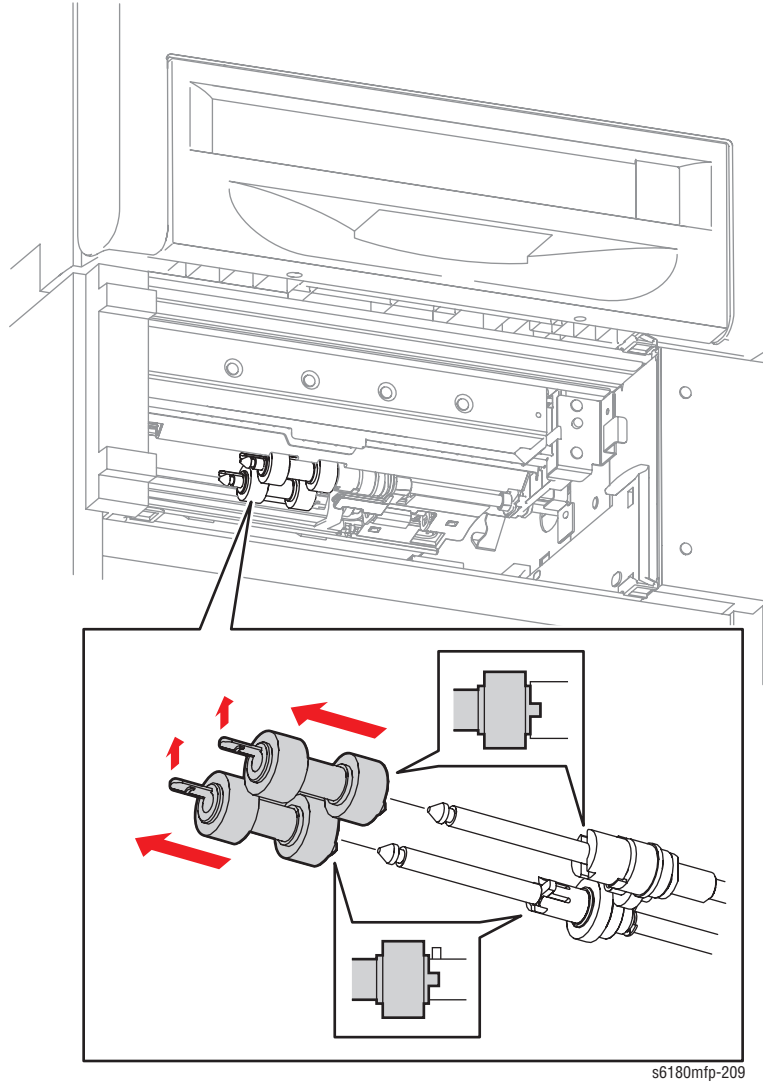
1. Remove Tray 2.
2. Release the hooks on the left and right sides of the Retard Tray Cover (PL2.2.13) and open the Retard Tray Cover.
3. Release the hooks on the left and right sides of the Retard Roller and remove the Retard Roller from the Retard Shaft (PL2.2.15).



s6180mfp-208

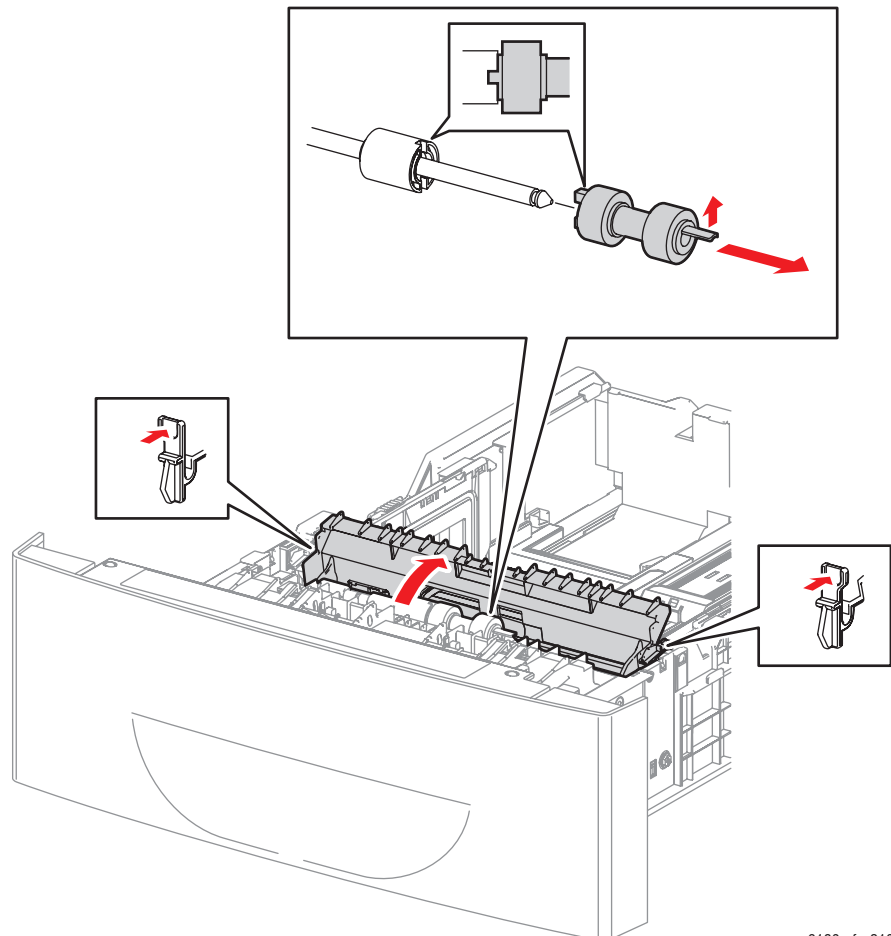
Tray 3 Feed Roller (PL13.2.10)

1. Remove Tray 3 from the Optional 550-Sheet Feeder (PL13.1.1).
2. Release the Tray 3 Feed Roller hooks and remove the Feed Roller from the Shafts.



Tray 3 Retard Roller (PL13.4.10)

1. Remove Tray 3 from the Optional 550-Sheet Feeder (PL13.1.1).
2. Release the hooks on the left and right sides of the Retard Tray Cover (PL13.4.6) and open the Retard Tray Cover.
3. Release the hooks of the Tray 3 Retard Roller and remove the Tray 3 Retard Roller from the Retard Shaft (PL13.4.8).

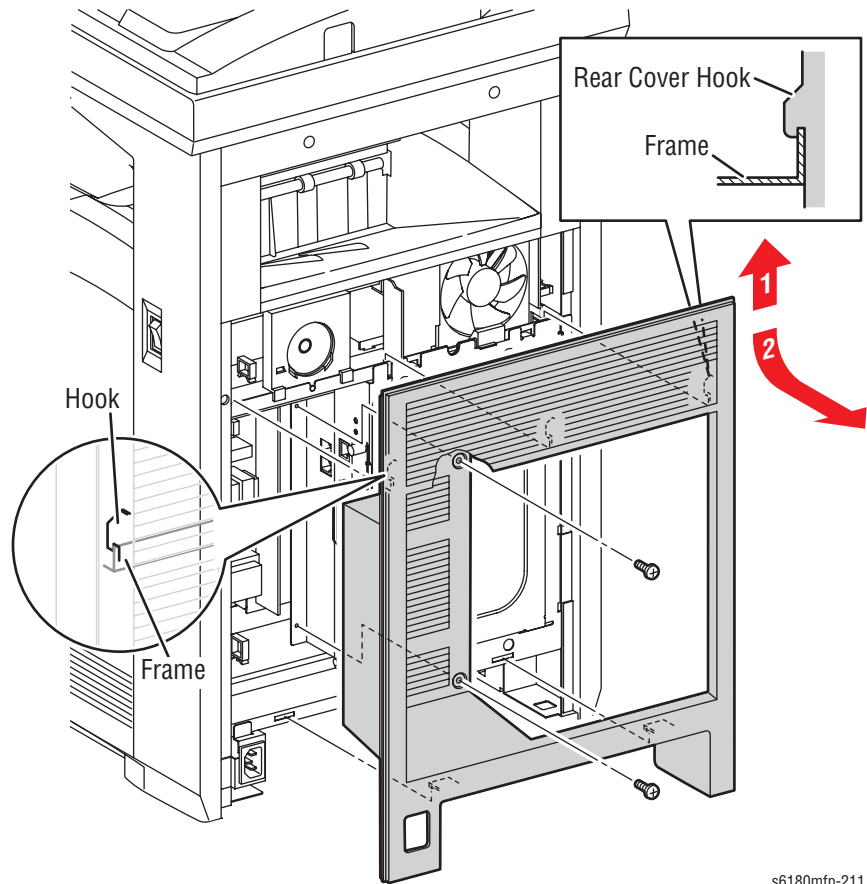


s6180mfp-210

Covers

Rear Cover (PL1.1.6)

1. Remove 2 screws (6 mm) securing the Rear Cover.
2. Push the Rear Cover up to release the 5 hooks on the back side of the Rear Cover.
3. Release the rim on the upper section of the Rear Cover from the inside of the Top Cover (PL1.1.1) and remove the Rear Cover.



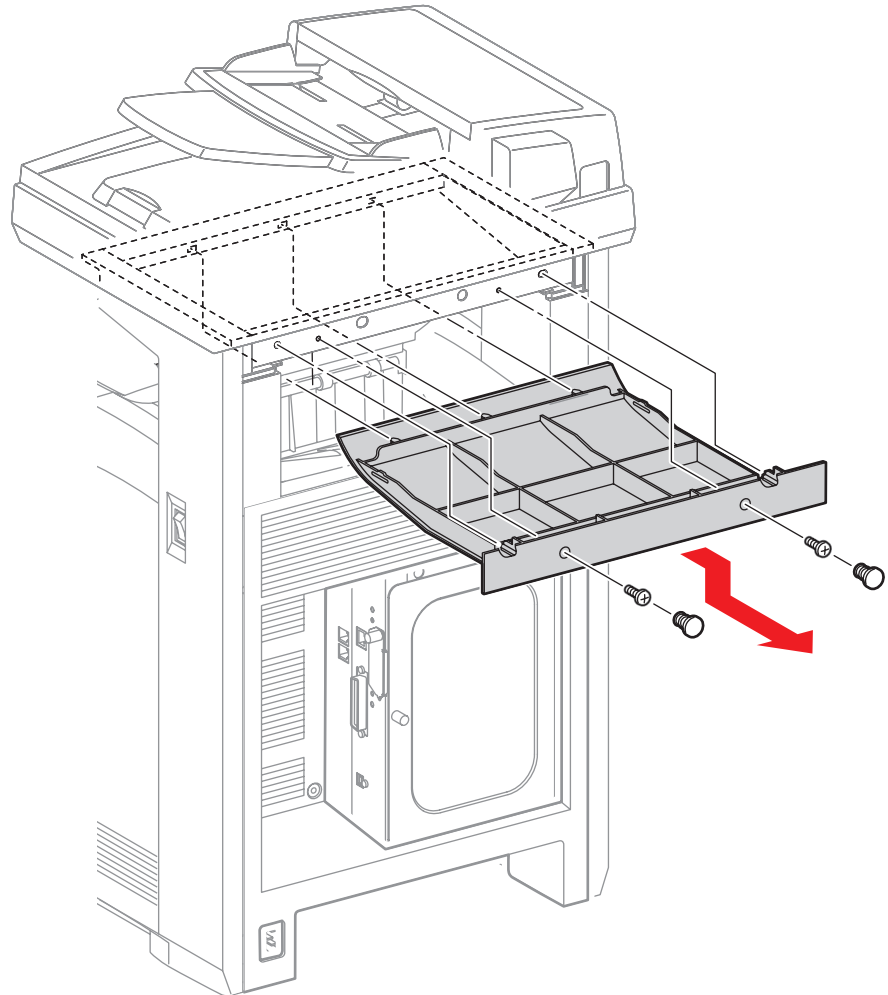
s6180mfp-211

Replacement Note

Be sure to hold down the metal clips on the Parallel connector while inserting the Rear Cover to prevent bending the clips.

Bottom Cover (PL1.1.5)

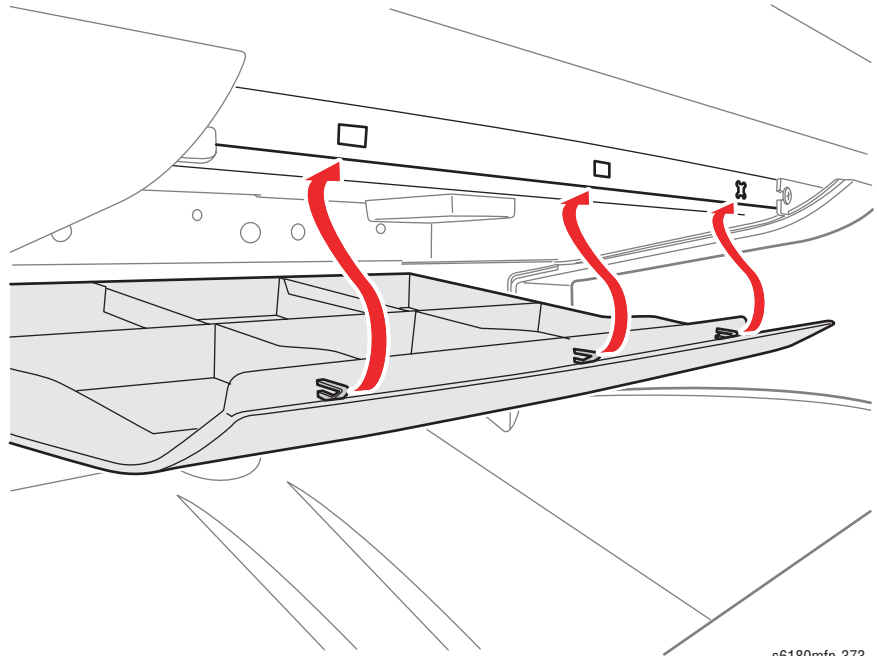
1. Remove the 2 rubber Caps (PL1.1.12) from the Bottom Cover.
2. Remove 2 screws (6 mm) securing the Bottom Cover.
3. Push the Bottom Cover from the front while sliding the Bottom Cover back to release the 5 latches and remove the Bottom Cover from the printer.



s6180mfp-215

Replacement Note

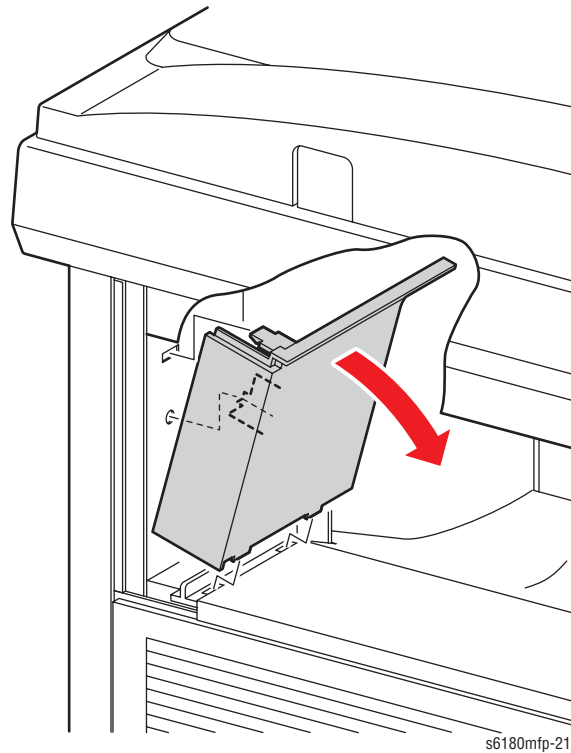
Be sure to align the 3 front tabs with the holes to seat the Bottom Cover correctly.



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Right Pole Inner Cover (PL1.1.4)

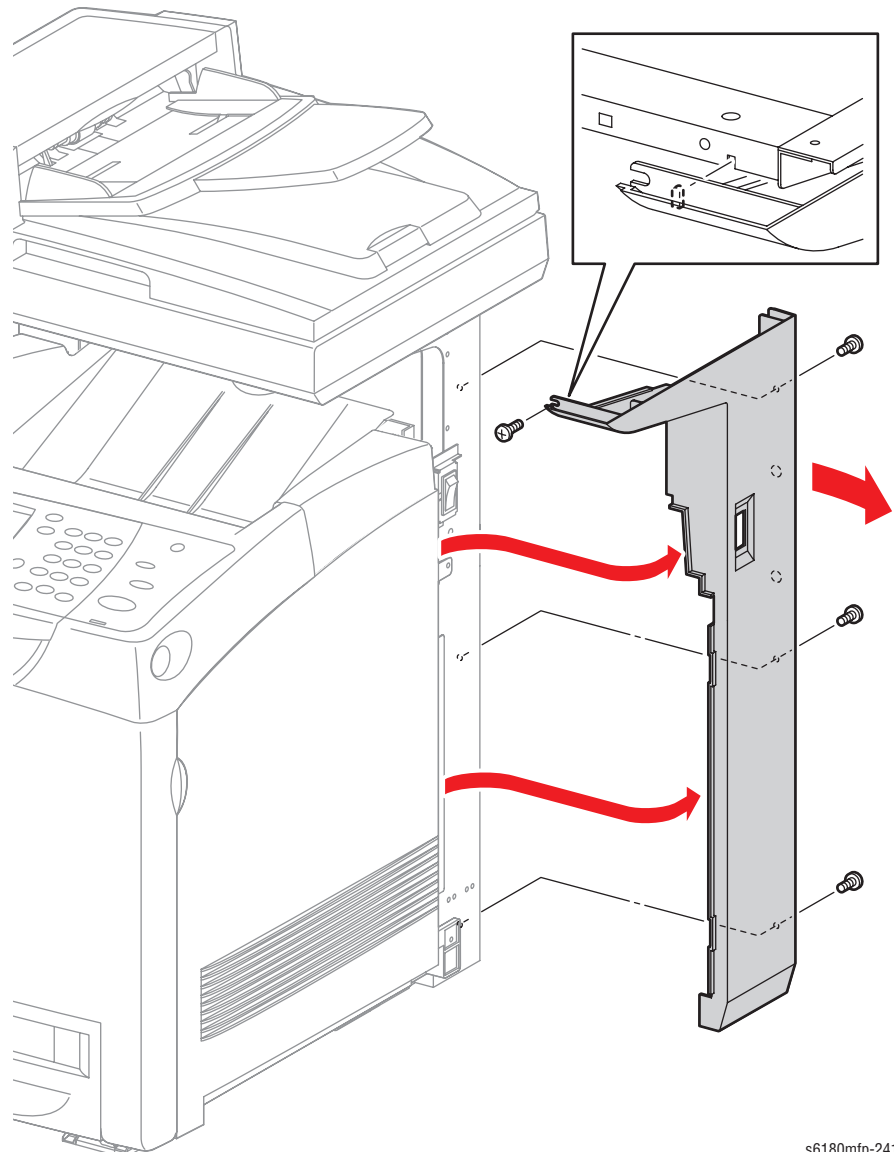
1. Remove the Bottom Cover (page 8-19).
2. Tilt the Right Pole Inner Cover inward to release the hook on the rear side of the Right Pole Inner Cover.
3. Release the 2 hooks on the bottom side of the Right Pole Inner Cover from the holes on the Top Cover (PL1.1.1) and remove the Right Pole Inner Cover from the printer.



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Right Pole Cover (PL1.1.8)

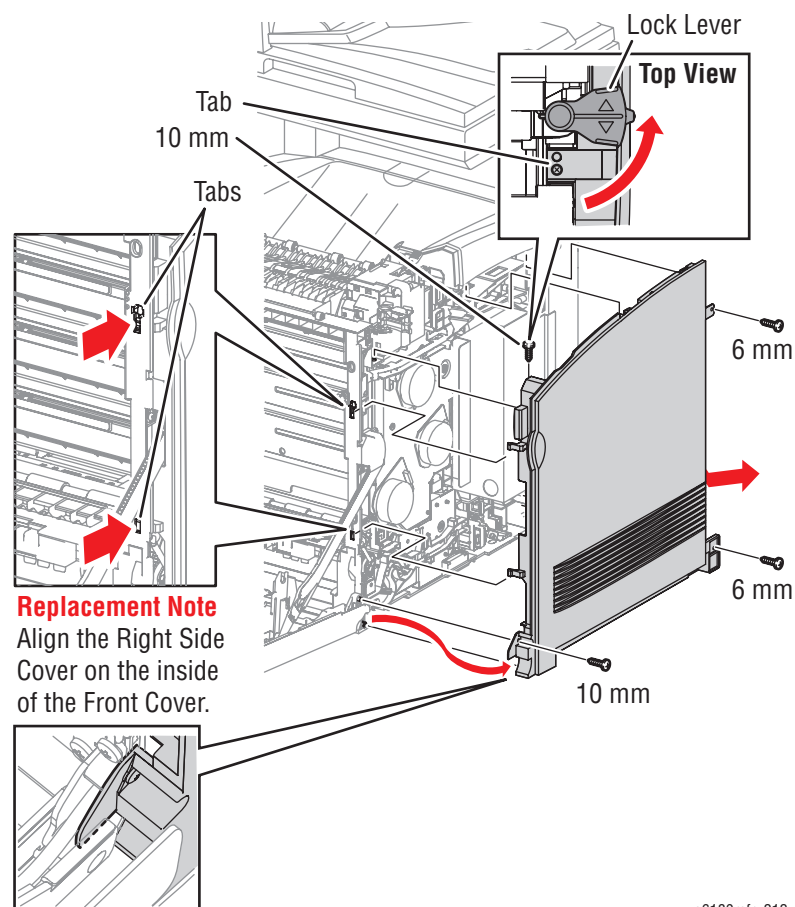
1. Remove the Rear Cover (page 8-18).
2. Remove the Bottom Cover (page 8-19).
3. Remove the Right Pole Inner Cover (page 8-21).
4. Remove 4 screws (6 mm) securing the Right Pole Cover.
5. Release the notch on the screw mounting position on the front section of the Right Pole Cover from the printer.
6. Slide the rear section of the Right Pole Cover outward.
7. Release the rims on the front section of the Right Pole Cover from the Top Cover and from the inside of the Right Cover (PL1.1.9) and remove the Right Pole Cover.



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Right Cover (PL1.1.9)

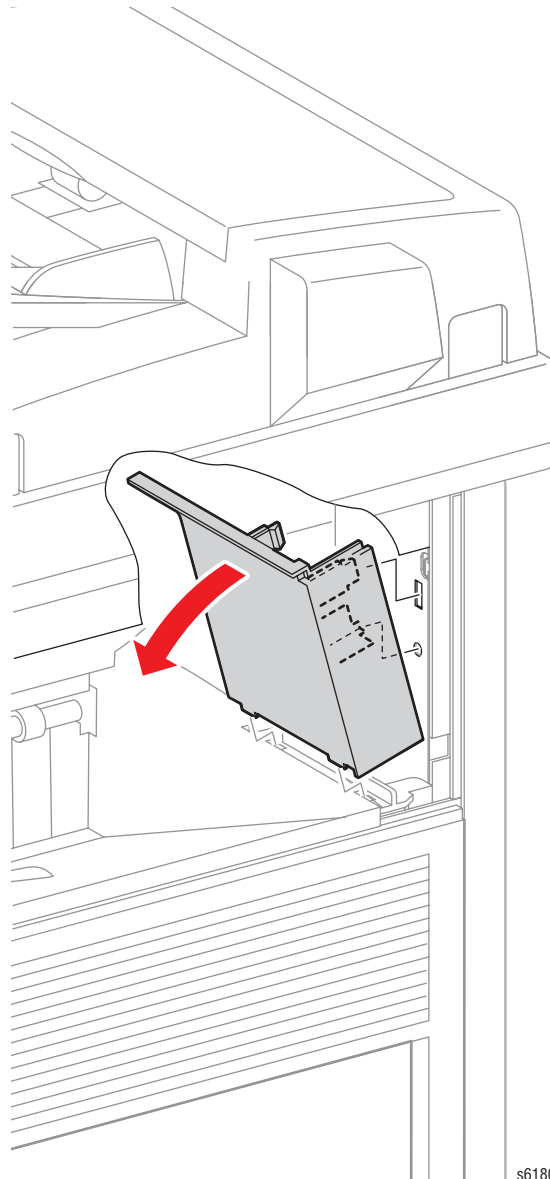
1. Open the Front Cover.
2. Remove the Fuser (page 8-12).
3. Remove the Rear Cover (page 8-18).
4. Remove the Bottom Cover (page 8-19).
5. Remove the Right Pole Inner Cover (page 8-21).
6. Remove the Right Pole Cover (page 8-22).
7. Remove 2 screws (10 mm) and 2 screws (6 mm) securing the Right Cover.
8. Use a flat tip screwdriver to release the plastic tabs from the notches on the top and rear sides of the printer frame.
9. Slide the rear of the Right Cover slightly outward to release the 1 hook on the Right Cover and slide the Right Cover outward.
10. Release the 2 hooks on the front section of the Right Cover and slide the Cover backward to remove it.



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Left Pole Inner Cover (PL1.1.3)

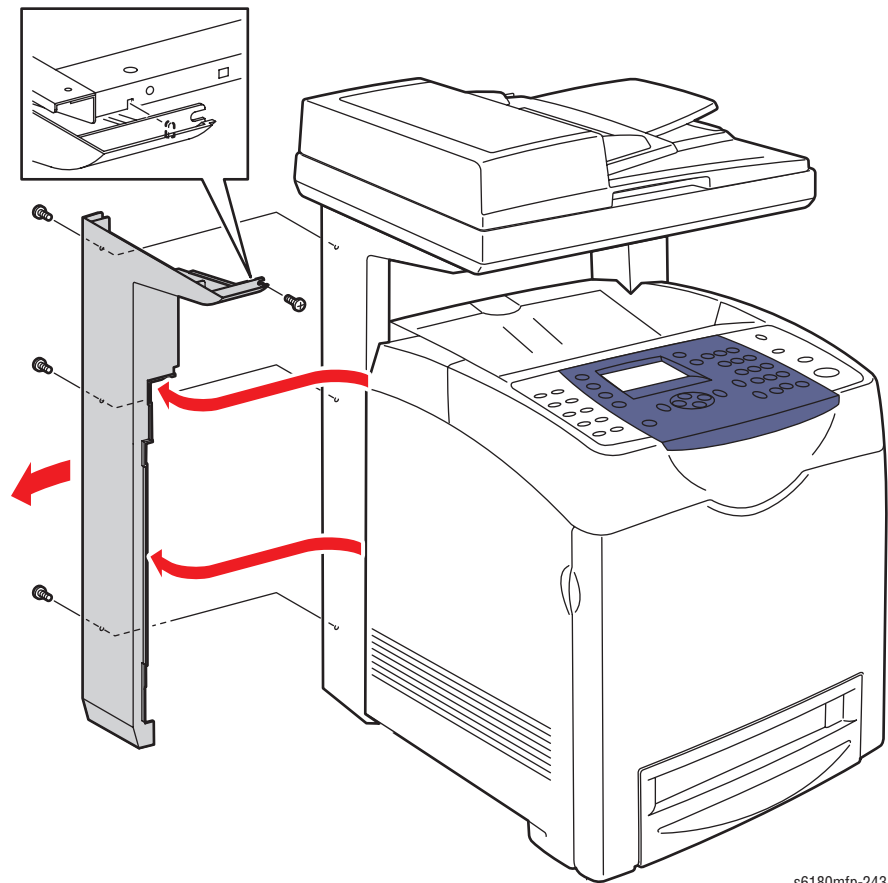
1. Remove the Bottom Cover (page 8-19).
2. Tilt the Left Pole Inner Cover inward to release the 2 hooks on the rear side of the Left Pole Inner Cover.
3. Release the 2 hooks on the bottom side of the Left Pole Inner Cover from the holes of the Top Cover and remove the Left Pole Inner Cover.



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Left Pole Cover (PL1.1.11)

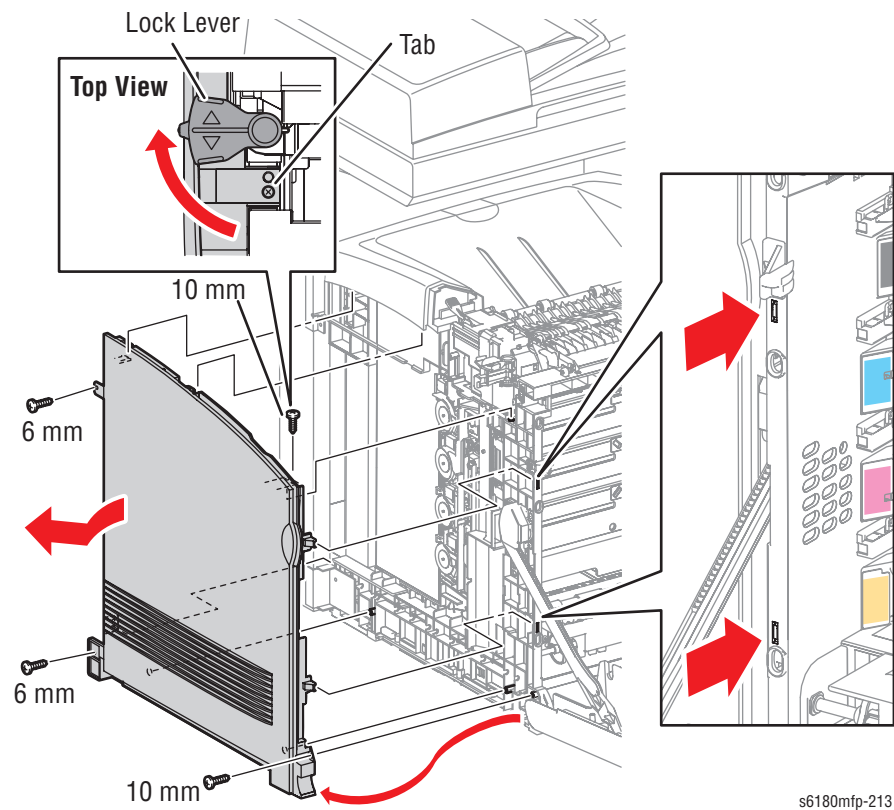
1. Remove the Rear Cover (page 8-18).
2. Remove the Bottom Cover (page 8-19).
3. Remove the Left Pole Inner Cover (page 8-24).
4. Remove 4 screws (6 mm) securing the Left Pole Cover.
5. Release the notches on the screw mounting positions on the front section of the Left Pole Cover.
6. Slide the rear section of the Left Pole Cover outward.
7. Release the rim on the front section of the Left Pole Cover from the Top Cover (PL1.1.1) and from the inside of the Left Cover (PL1.1.10). Remove the Left Pole Cover.



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Left Cover (PL1.1.10)

1. Open the Front Cover.
2. Remove the Fuser (page 8-12).
3. Remove the Rear Cover (page 8-18).
4. Remove the Bottom Cover (page 8-19).
5. Remove the Left Pole Inner Cover (page 8-24).
6. Remove the Left Pole Cover (page 8-25).
7. Remove 2 screws (10 mm) and 2 screws (6 mm) securing the Left Cover.
8. Release the Left Cover from the rear side while releasing the Cover from the tab from the top front notch.
9. Slide the Left Cover outward and backward to remove it.



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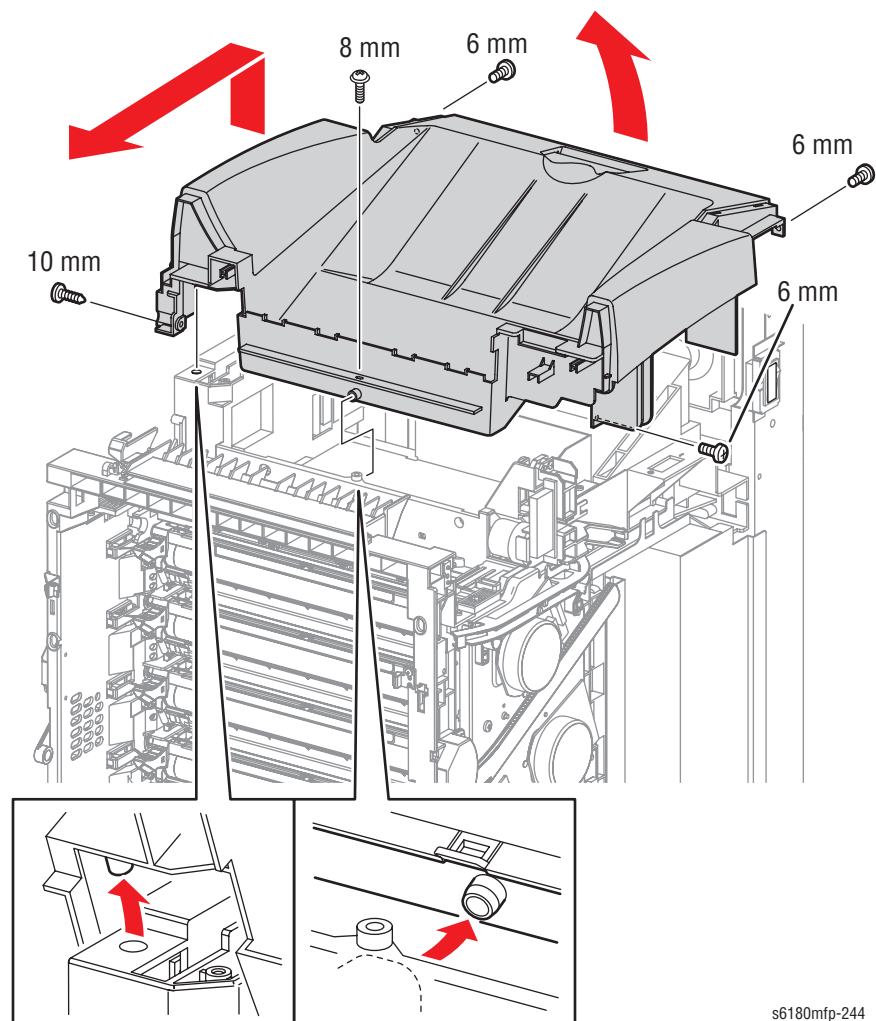
Replacement Note

Insert the top and bottom tabs of the Left Side Cover at an angle in order to fit the Left Side Cover in the correct position.

Be sure the notch on the printer frame is secured to the top tab of the Left Cover.

Top Cover (PL1.1.1)

1. Open the Front Cover.
2. Remove the Fuser (page 8-12).
3. Remove the Rear Cover (page 8-18).
4. Remove the Bottom Cover (page 8-19)
5. Remove the Right Pole Inner Cover (page 8-21).
6. Remove the Right Pole Cover (page 8-22).
7. Remove the Right Cover (page 8-23).
8. Remove the Left Pole Inner Cover (page 8-24).
9. Remove the Left Pole Cover (page 8-25).
10. Remove the Left Cover (page 8-26).
11. Remove 3 screws (6 mm), 1 screw (8 mm), and 1 screw (10 mm) securing the Top Cover.
12. Lift the Top Cover to release the tabs on the front center and the front left of the Top Cover from the hook and hole on the printer.
13. Slightly rotate the Top Cover at angle and slide the Top Cover forward to remove it.



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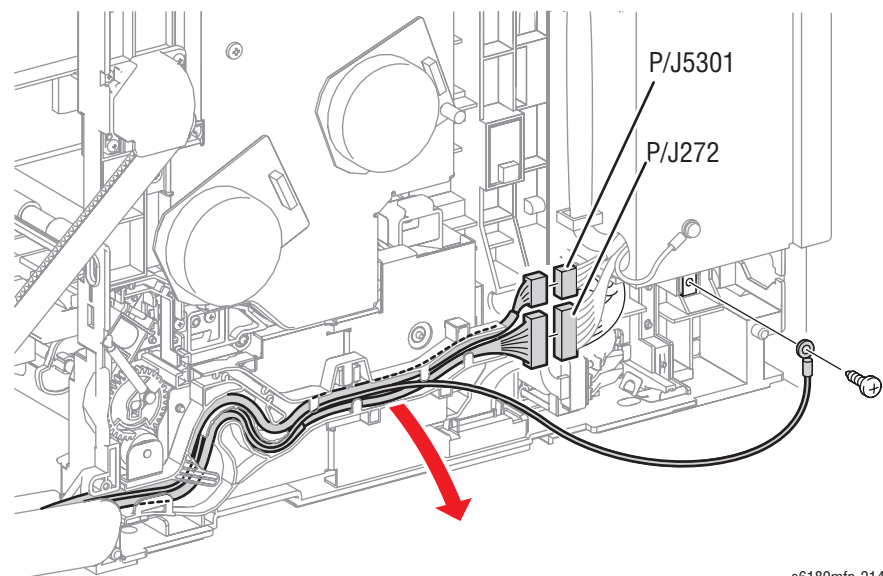
Front Cover (PL1.2.1)

1. Open the Front Cover.
2. Remove the Fuser (page 8-12).
3. Remove the Rear Cover (page 8-18).
4. Remove the Bottom Cover (page 8-19).
5. Remove the Right Pole Inner Cover (page 8-21).
6. Remove the Right Pole Cover (page 8-22).
7. Remove the Right Cover (page 8-23).
8. Remove 1 screw (6 mm) securing the Ground Wire on the printer.

Note

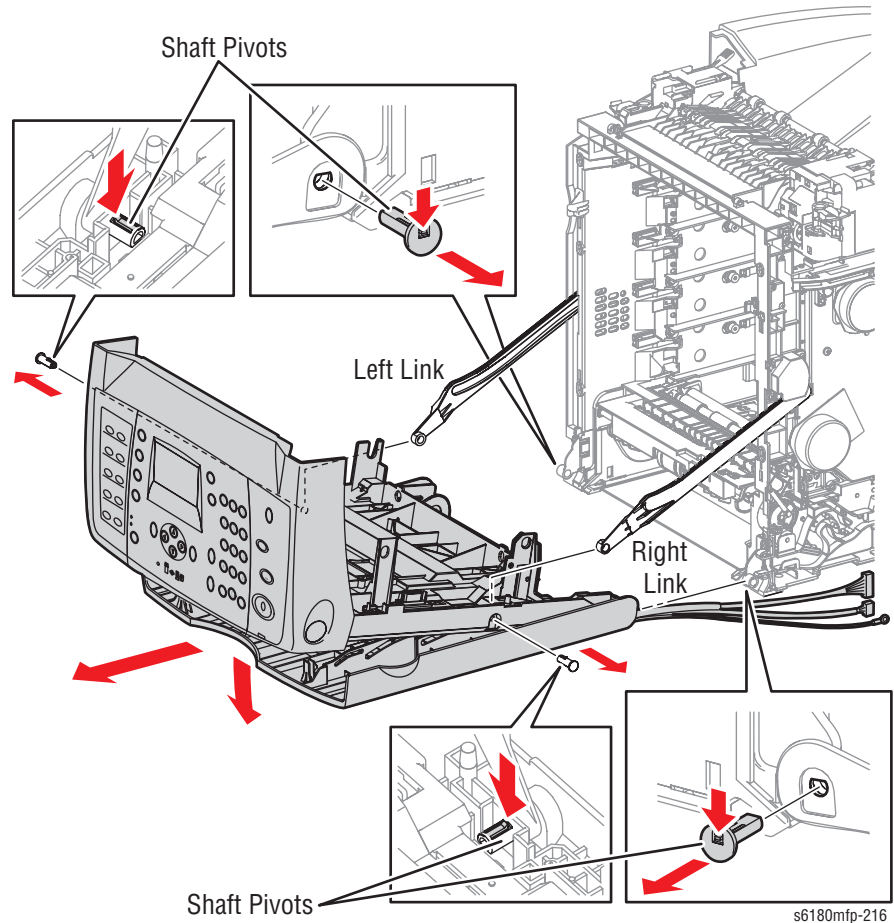
When performing the following steps, leave the junction connector on the printer side cable.

9. Disconnect the Front Cover connector P/J272 and the A-OP-OPP Harness (Control Panel) connector P/J5301 (PL1.2.24).
10. Release the Ground Wire and the wiring harness from the Drive Duct (PL8.1.8).



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11. Open the Tray 1 (MPT) Cover (PL1.2.26).
12. Release the hook of the Shaft Pivot (PL1.2.10) on the left and right side of the Front Cover. Pull the Shaft Pivot outward while holding the Front Cover and remove the Cover from the Left (PL7.1.3) and Right Links (PL 7.1.13).
13. Release the hooks of the Tray 1 (MPT) Shaft Pivot (PL1.2.33) securing the Front Cover and the MPT Cover to the printer and pull out the MPT Shaft Pivot.
14. Remove the Front Cover together with the Tray 1 (MPT) Cover.

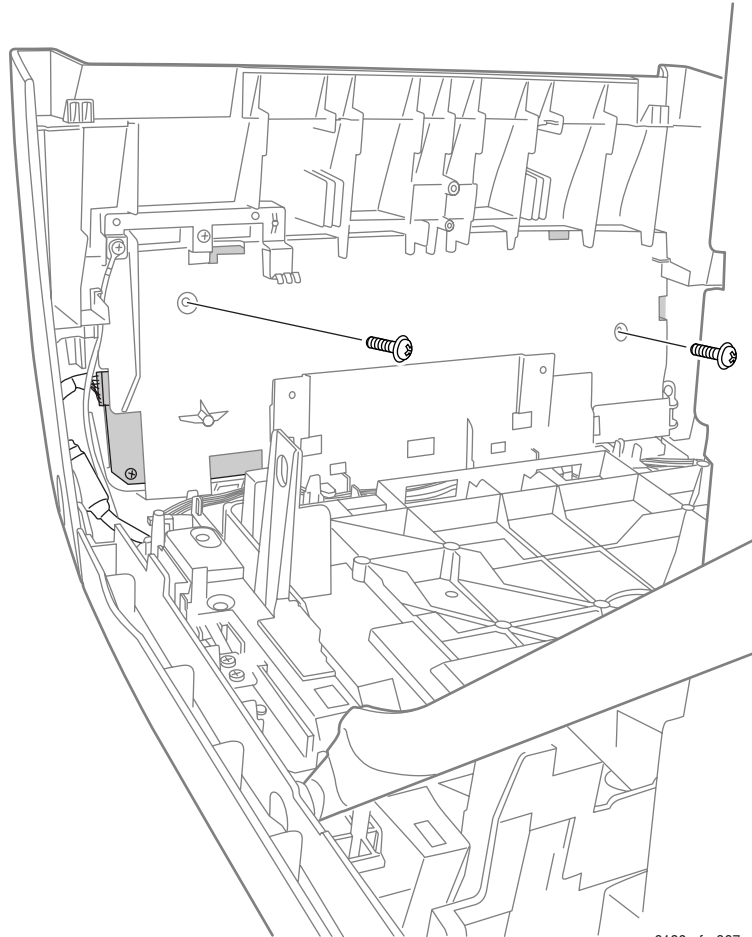


Replacement Note

Be sure to tilt the Front Cover accordingly when mounting the Front Cover. Push the Shaft Pivot in all the way to secure the hooks of the Shaft Pivots to the Left and Right Links.

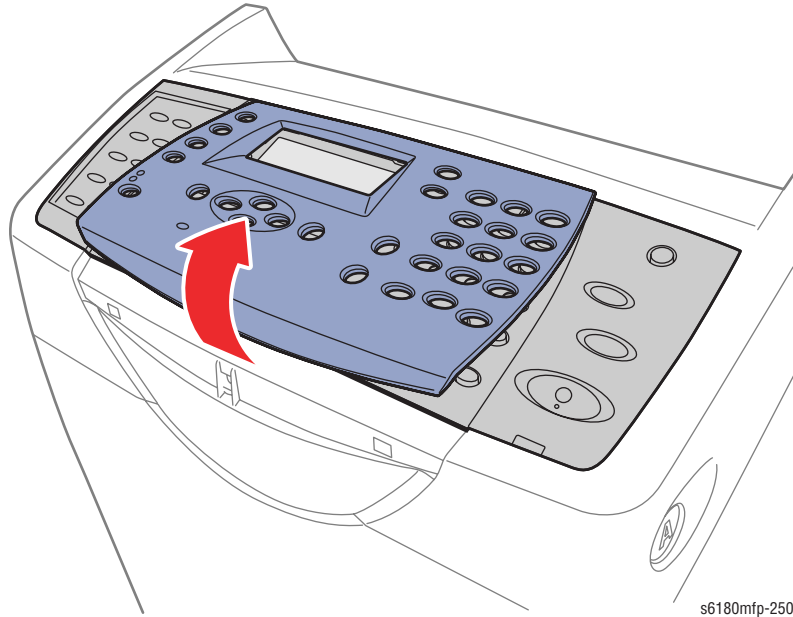
Control Panel (PL1.2.2)

1. Open the Front Cover.
2. Remove the Transfer Unit (page 8-9).
3. Remove the Exit Out Chute (page 8-67).
4. Remove 2 screws (10 mm) securing the Control Panel to the printer.



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5. Lift up the Bezel from the Control Panel to remove it.

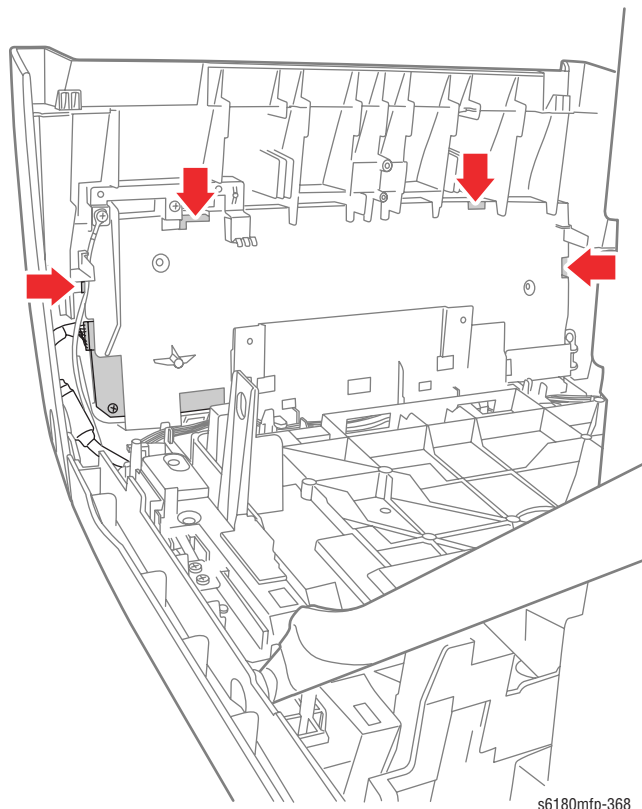


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Caution

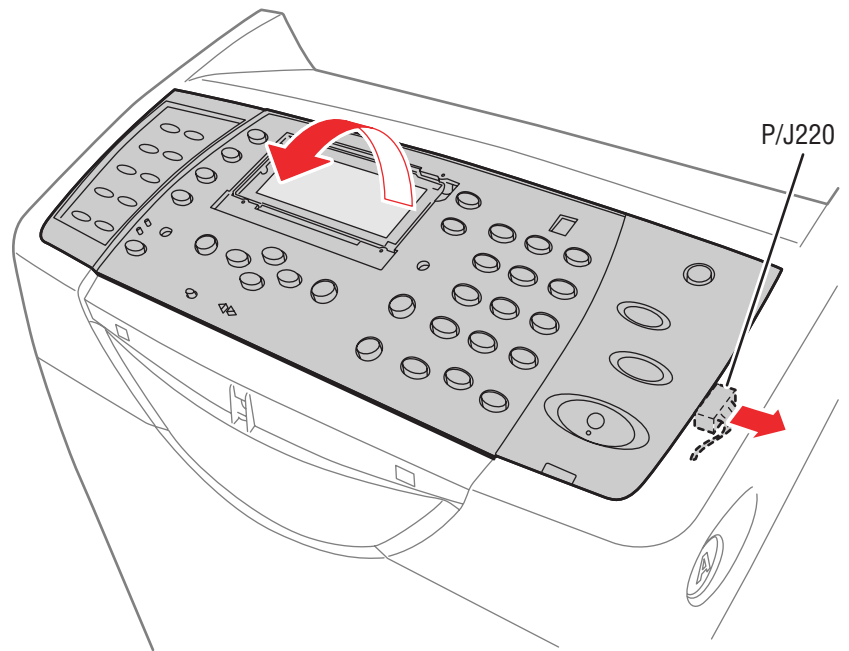
DO NOT move the Control Panel too far, because the Control Panel is secured to the Control Panel wiring harness.

6. Release the hooks securing the Control Panel to the Front Cover (2 on the top, 1 on the left, and 1 on the right). Use a flat tip screwdriver to release the hidden hook on the right.



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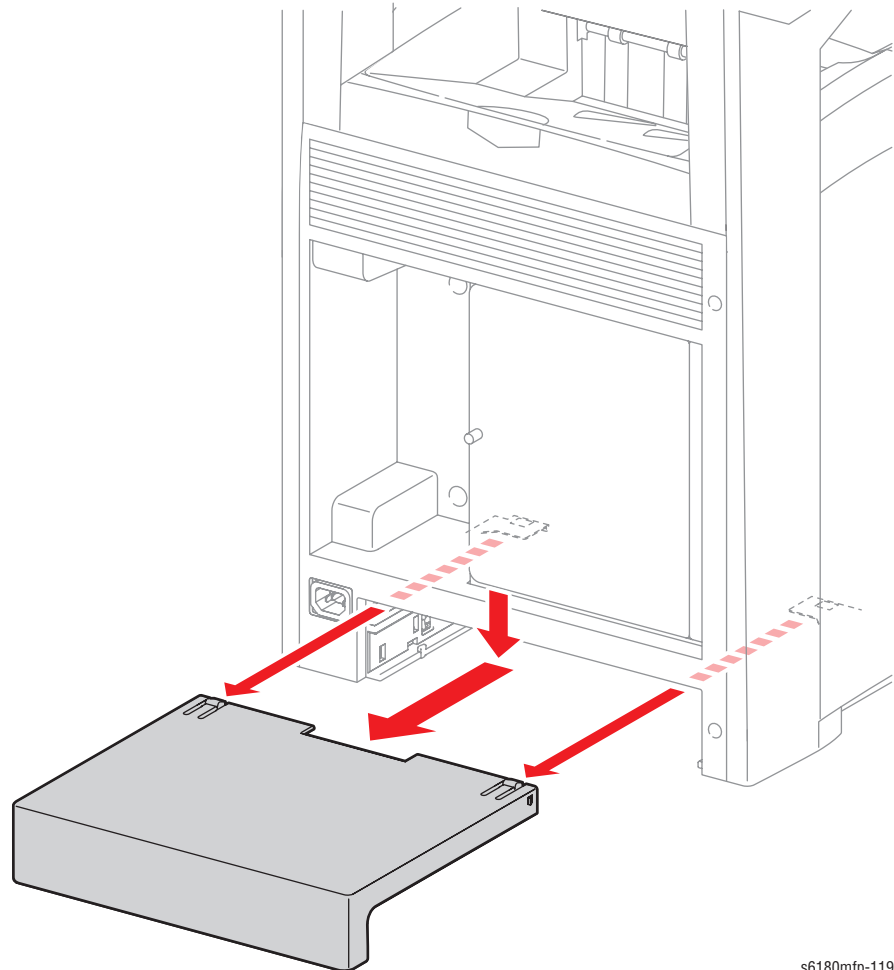
7. Release the Control Panel forward away from the Front Cover. Disconnect the Control Panel connector P/J220 and remove the Control Panel.



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Tray 2 Rear Cover (PL1.1.7)

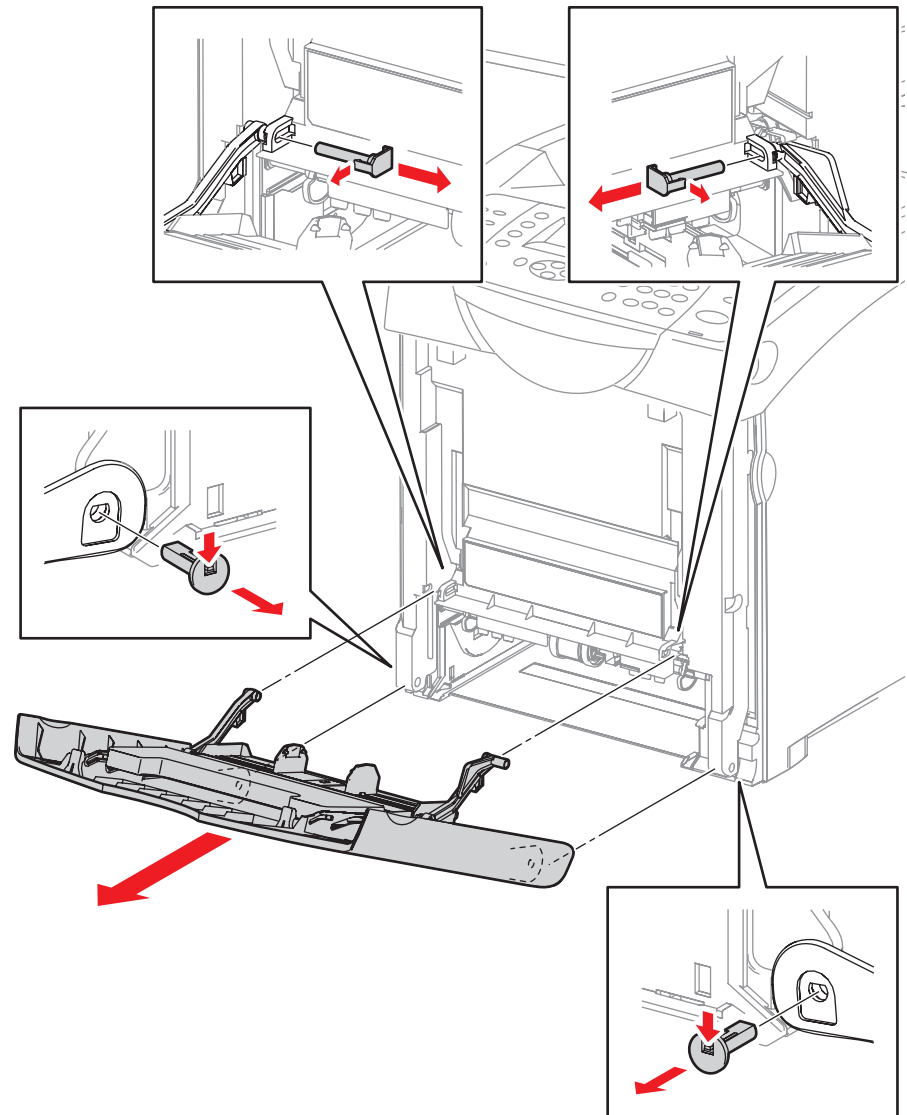
1. Pull the Tray 2 Rear Cover all the way out until it stops.
2. Press the center part of the Tray 2 Rear Cover to release the hooks (on the left and right sides) and remove the Tray 2 Rear Cover from the printer.



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Tray 1 (MPT) Cover (PL1.2.26)

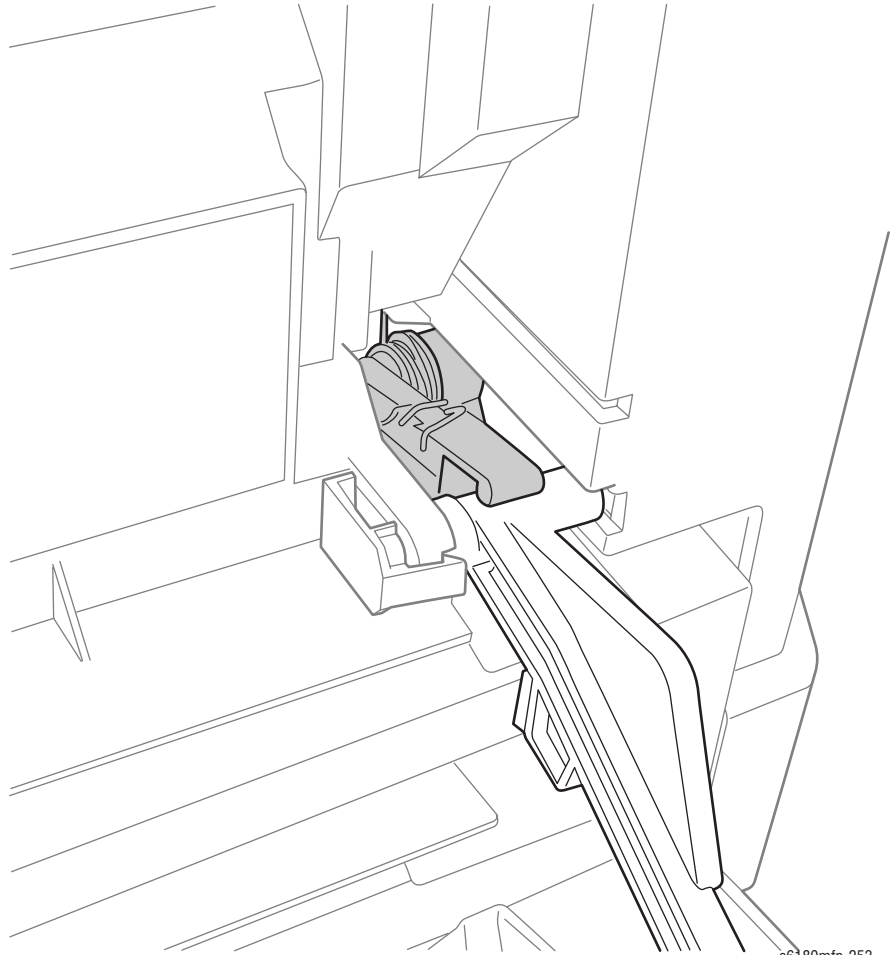
1. Open Tray 1 (MPT) Cover.
2. Rotate the Pivot Pin (PL1.2.17) to release the hooks securing the Link on the left and right sides of the Tray 1 (MPT) Cover. Remove the left and right Pivot Pins.
3. Use a small flat tip screwdriver to press on the lip of the Shaft Pivots to release the Shaft Pivots (PL1.2.33) securing the left and right sides of the Tray 1 (MPT) Cover and remove the Shaft Pivots.
4. Remove the Tray 1 (MPT) Cover.



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Replacement Note

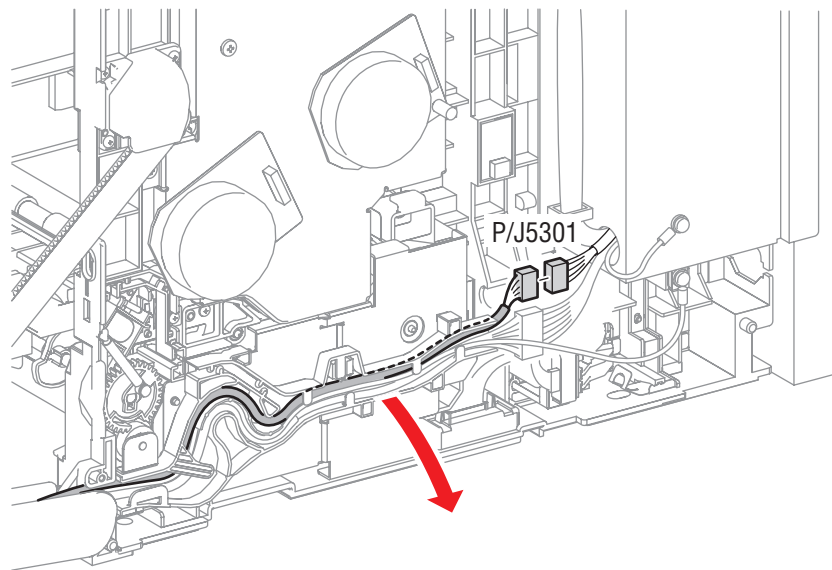
Be sure to place the Tray 1 (MPT) Lever on top of Tray 1 (MPT).



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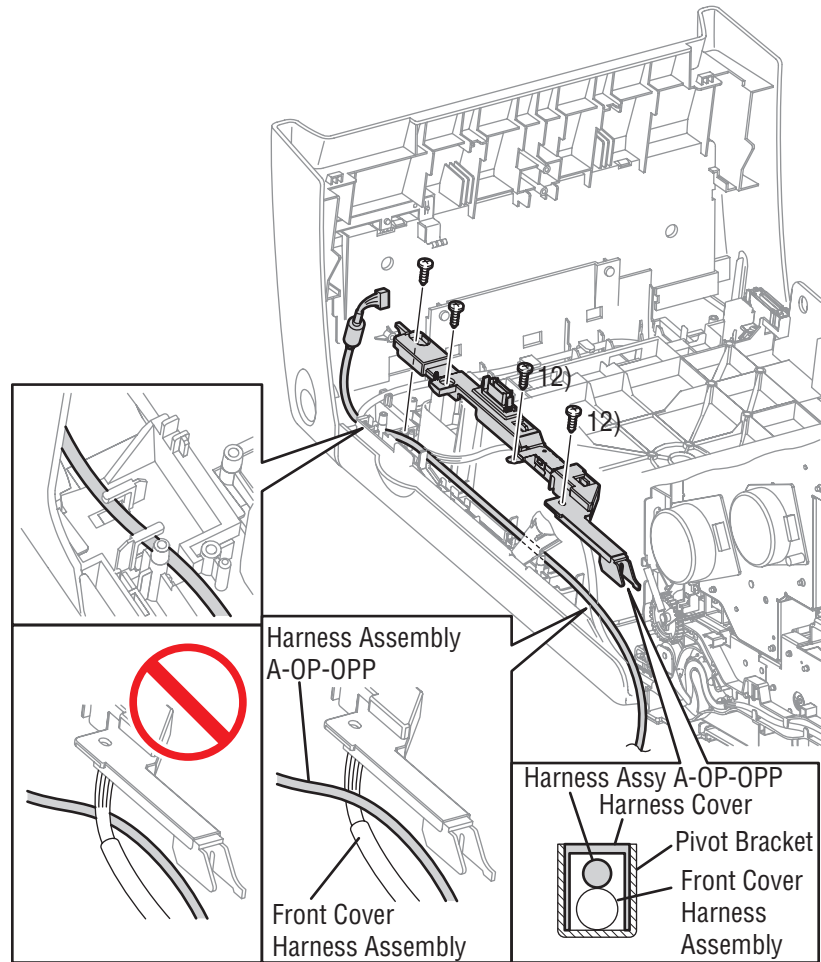
Wiring Harness A-OP-OPP (PL1.2.24)

1. Open the Front Cover.
2. Remove the Fuser (page 8-12).
3. Remove the Rear Cover (page 8-18).
4. Remove the Bottom Cover (page 8-19).
5. Remove the Right Pole Inner Cover (page 8-21).
6. Remove the Right Pole Cover (page 8-22).
7. Remove the Right Cover (page 8-23).
8. Remove the Control Panel (page 8-30).
9. Disconnect the Control Panel (PL1.2.2) wiring harness connector P/J5301.
10. Release the A-OP-OPP Wiring Harness from the Drive Duct (PL8.1.8).



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11. Remove 4 screws (8 mm) securing the Harness Cover (PL1.2.7) to the Front Cover.
12. Remove the Harness Cover from the Front Cover.
13. Remove the A-OP-OPP Wiring Harness from the Front Cover.

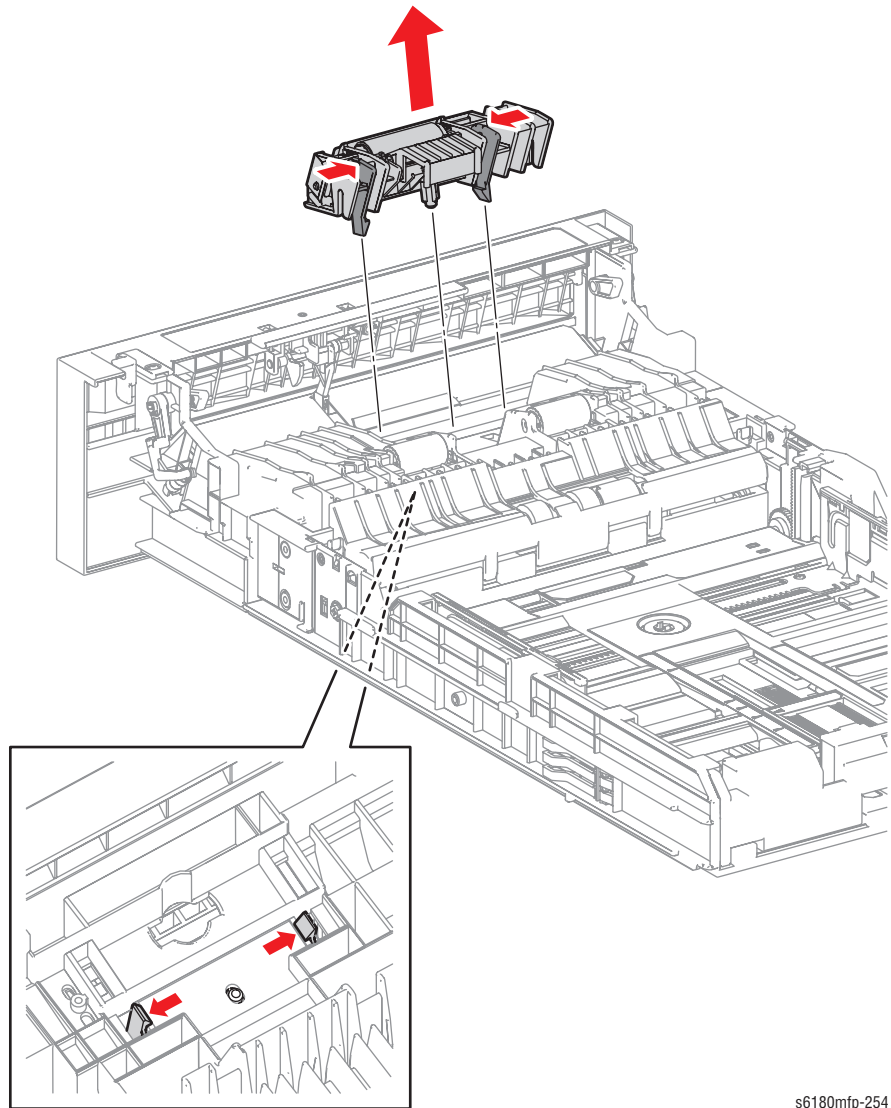


s6180mfp-411

Paper Tray

Tray 1 (MPT) Retard Holder Kit (PL2.1.3)

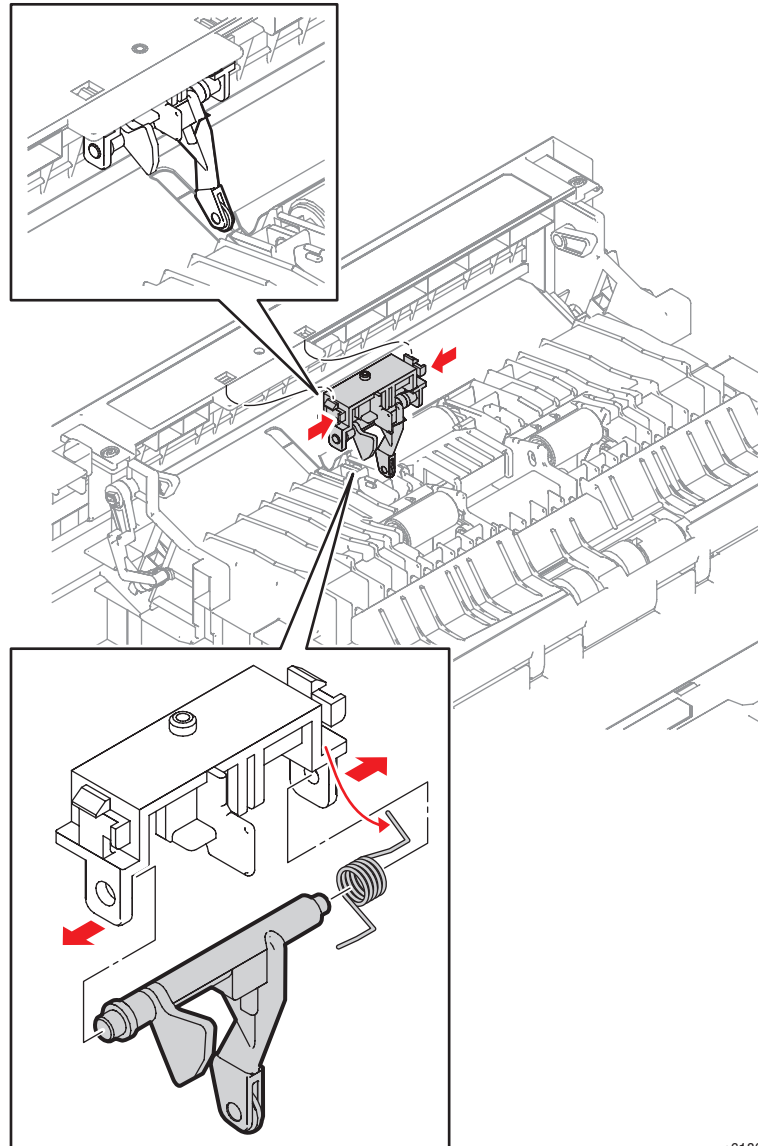
1. Remove Tray 2 (PL2.1.1).
2. Press the left and right tabs of the Retard Holder toward the inside to release and remove the Holder from Tray 2.



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Tray 1 (MPT) No Paper Actuator (PL2.1.24)

1. Remove Tray 2.
2. Press on the notches on the Actuator to release the hooks. Remove the Actuator from the Tray Handle (PL2.1.23).
3. Remove the No Paper Spring hooks (PL2.1.28) from the Actuator Holder (PL2.1.25).
4. Expand the left and right Actuator Holder mounting sections and remove the Shaft. Remove the No Paper Actuator together with the No Paper Spring.
5. Remove the No Paper Spring from the No Paper Actuator.

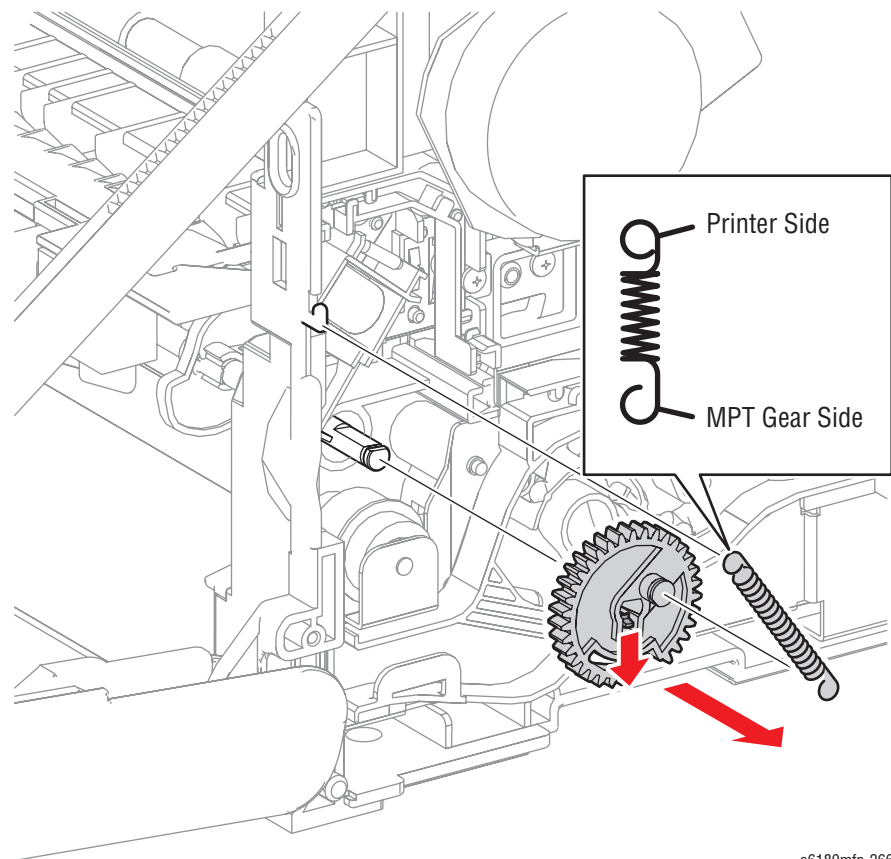


s6180mfp-259

Paper Feeder

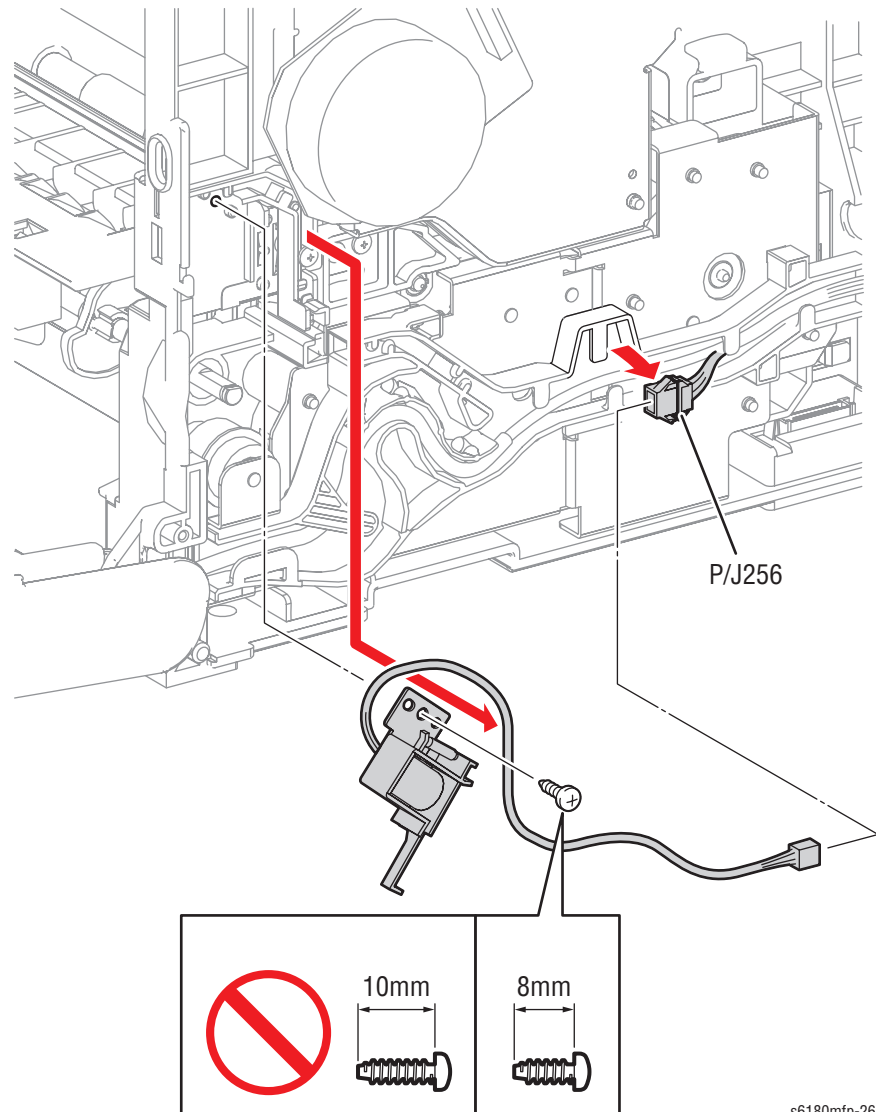
Tray 1 (MPT) Feed Solenoid (PL3.1.3)

1. Open the Front Cover.
2. Remove the Fuser (page 8-12).
3. Remove the Rear Cover (page 8-18).
4. Remove the Bottom Cover (page 8-19).
5. Remove the Right Pole Inner Cover (page 8-21).
6. Remove the Right Pole Cover (page 8-22).
7. Remove the Right Cover (page 8-23).
8. Remove the MPT Feed Spring (PL3.1.4).
9. Release the hook and remove the MPT Gear (PL3.1.5) from the MPT Shaft (PL3.1.12).



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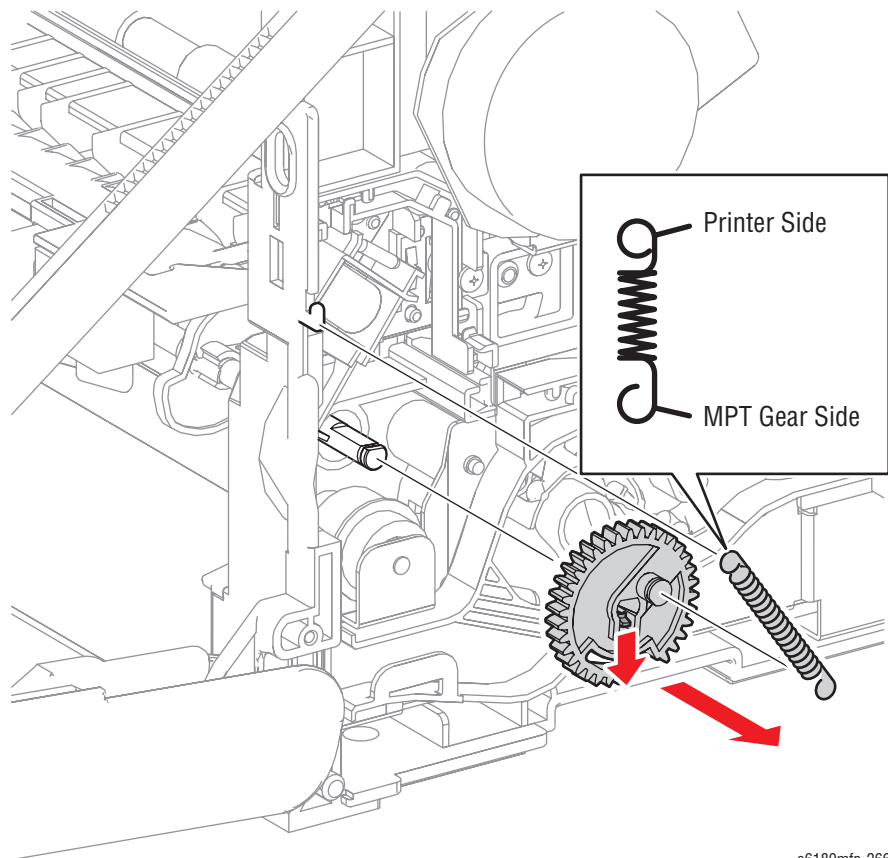
10. Disconnect the Tray 1 (MPT) Feed Solenoid connector P/J256.
11. Release the Feed Solenoid wiring harness from the Solenoid Duct (PL3.1.2) and the Drive Duct (PL8.1.8).
12. Remove 1 screw (8 mm) securing the Feed Solenoid to the printer.
13. Remove the Tray 1 (MPT) Feed Solenoid.



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Tray 1 (MPT) Roller (PL3.1.8)

1. Open the Front Cover.
2. Remove the Fuser (page 8-12).
3. Remove the Rear Cover (page 8-18).
4. Remove the Bottom Cover (page 8-19).
5. Remove the Right Pole Inner Cover (page 8-21).
6. Remove the Right Pole Cover (page 8-22).
7. Remove the Right Cover (page 8-23).
8. Remove the MPT Feed Spring (PL3.1.4).
9. Release the hook of the MPT Gear (PL3.1.5) and remove the Gear from the MPT Shaft (PL3.1.12).



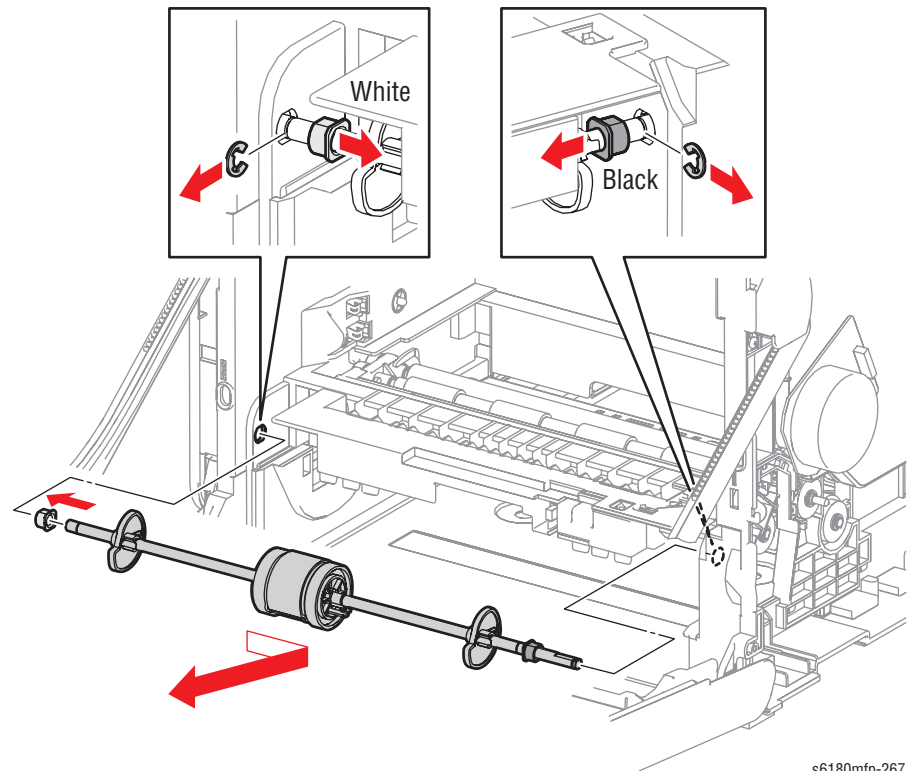
s6180mfp-266

10. Close the Front Door (this will provide easier access to the Roll). Remove the E-ring securing the bearing on the left and right sides of the Roll, and shift the bearing toward the inside.
11. Shift the Roll to the right and pull out the left side shaft section of the Roll from the bearing. Pull the Tray 1 (MPT) Roll out toward the lower left side to remove it.

Caution

Be careful not to drop and lose the Earth Bearing (black) and the Bearing (white).

12. Remove the Earth Bearing from the Tray 1 (MPT) Roll.



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Replacement Note

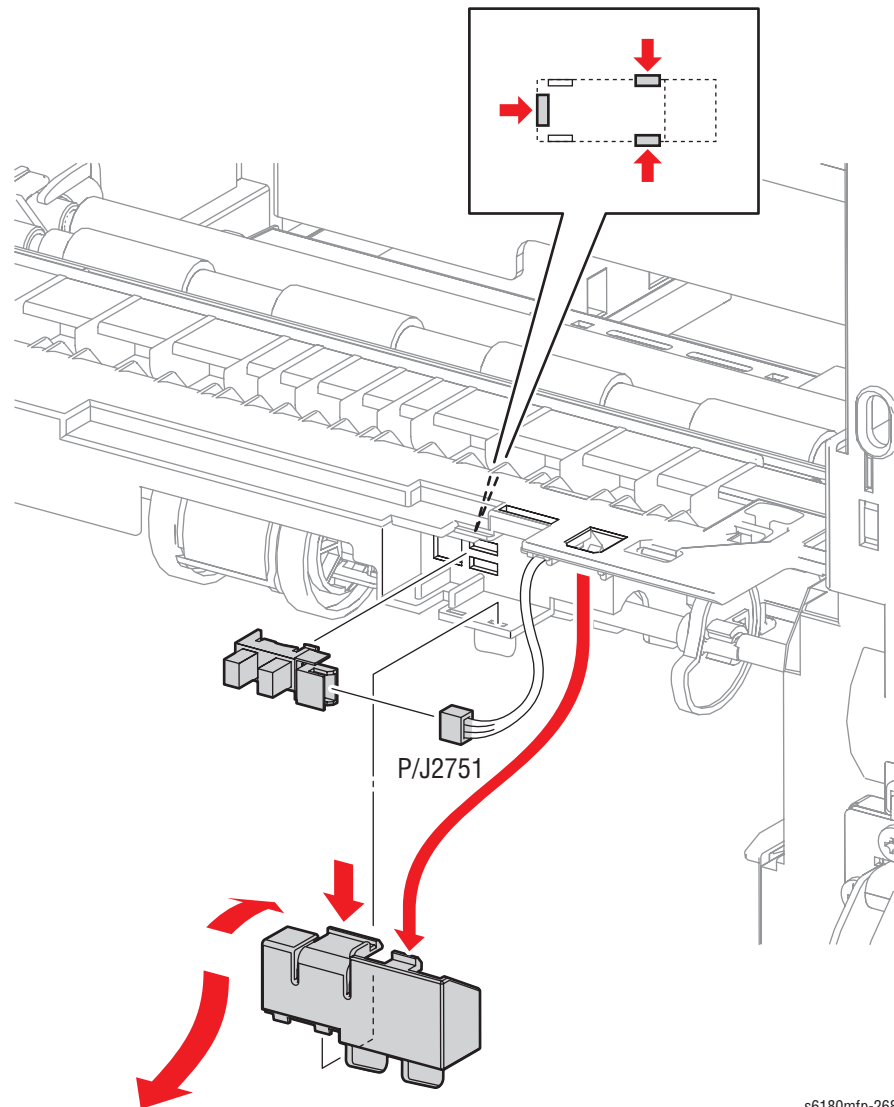
Pay attention to the orientation of the Bearings. The right side of the Earth Bearing (PL3.1.6) is Black; the left side of the Bearing (PL3.1.13) is White.

Be sure the D cut surface of the Shaft faces upward which makes the installation process easier.

Attach the elliptical side of the mounting section of the MPT Feed Spring to the Gear.

Tray 1 (MPT) No Paper Sensor (PL3.1.15)

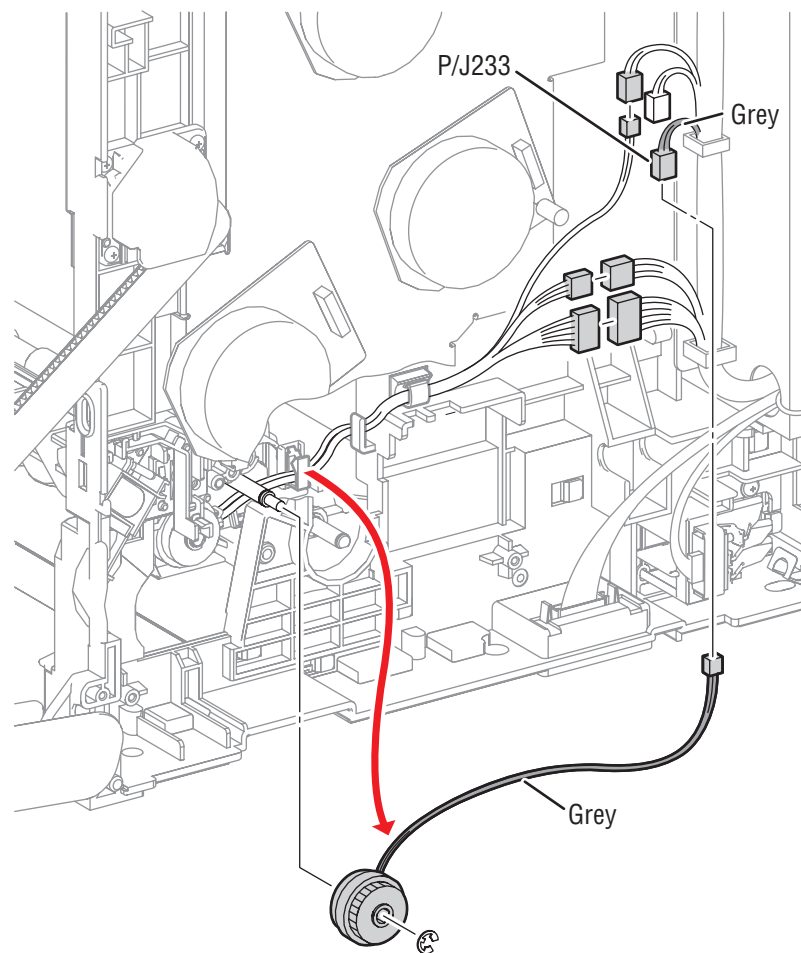
1. Remove Tray 2.
2. Open the Front Cover.
3. Remove the Transfer Unit (page 8-9).
4. Release the Cover Sensor hook (PL3.1.16).
5. Push the Cover Sensor backward while pressing on the lower side of the Sensor to remove the latch on the upper right side of the Cover Sensor from the MPT Chute (PL3.1.14).
6. Release the hooks and remove the Tray 1 (MPT) No Paper Sensor from the MPT Chute.
7. Disconnect the Tray 1 (MPT) No Paper Sensor connector P/J2751.



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Registration Clutch (PL3.1.19)

1. Open the Front Cover.
2. Remove the Fuser (page 8-12).
3. Remove the Rear Cover (page 8-18).
4. Remove the Bottom Cover (page 8-19).
5. Remove the Right Pole Inner Cover (page 8-21).
6. Remove the Right Pole Cover (page 8-22).
7. Remove the Right Cover (page 8-23).
8. Remove the Drive Assembly (page 8-78).
9. Disconnect connector P/J233.
10. Release the Gray Registration Clutch wiring harness from the clamp and hook on the printer frame, and the clamp of the Feeder (PL3.2.1).
11. Remove the E-ring securing the Registration Clutch to the Feeder.
12. Remove the Registration Clutch from the Feeder.



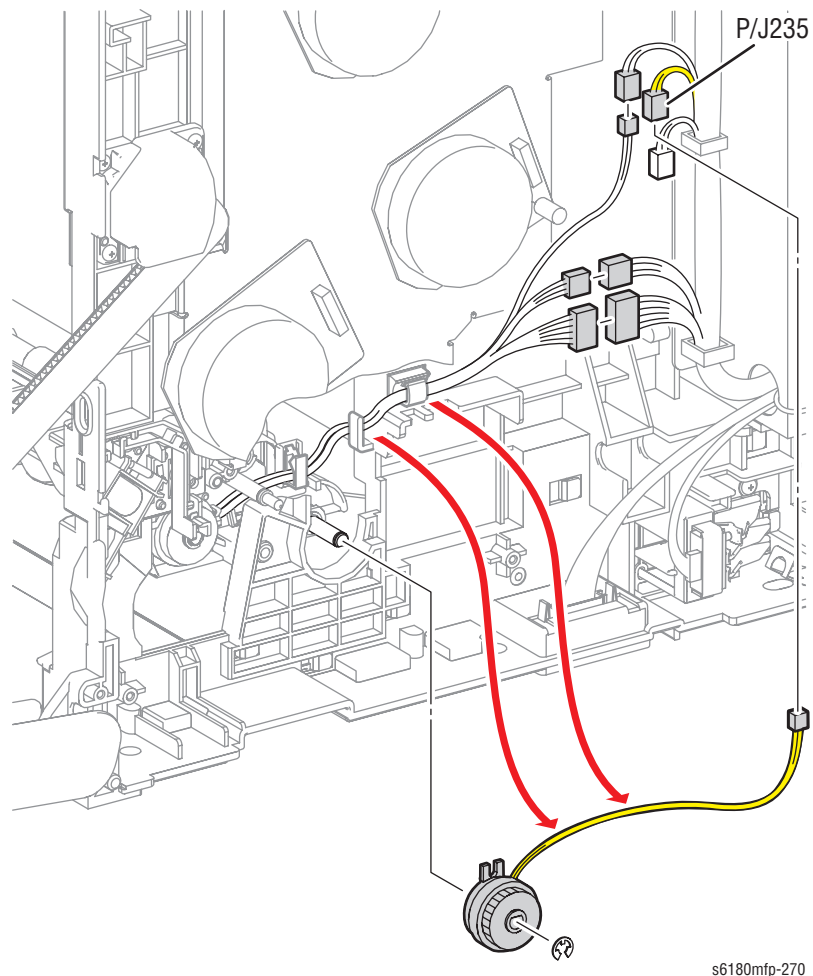
s6180mfp-269

Replacement Note

Be sure to match the color of the Clutch Harness and the color of the Clutch positioning rib. The Registration Clutch Harness is Gray.

Feeder Clutch (PL3.1.20)

1. Open the Front Cover.
2. Remove the Fuser (page 8-12).
3. Remove the Rear Cover (page 8-18).
4. Remove the Bottom Cover (page 8-19).
5. Remove the Right Pole Inner Cover (page 8-21).
6. Remove the Right Pole Cover (page 8-22).
7. Remove the Right Cover (page 8-23).
8. Remove the Drive Assembly (page 8-78).
9. Disconnect P/J235.
10. Release the Yellow Feeder Clutch wiring harness from the clamp and hook on the printer frame.
11. Remove the E-ring securing the Feeder Clutch to the Feeder Unit (PL3.2.1).
12. Remove the Feeder Clutch from the Feeder.



Replacement Note

Be sure to match the color of the Clutch Harness and the color of the Clutch positioning rib. The Feeder Clutch Harness is Yellow.

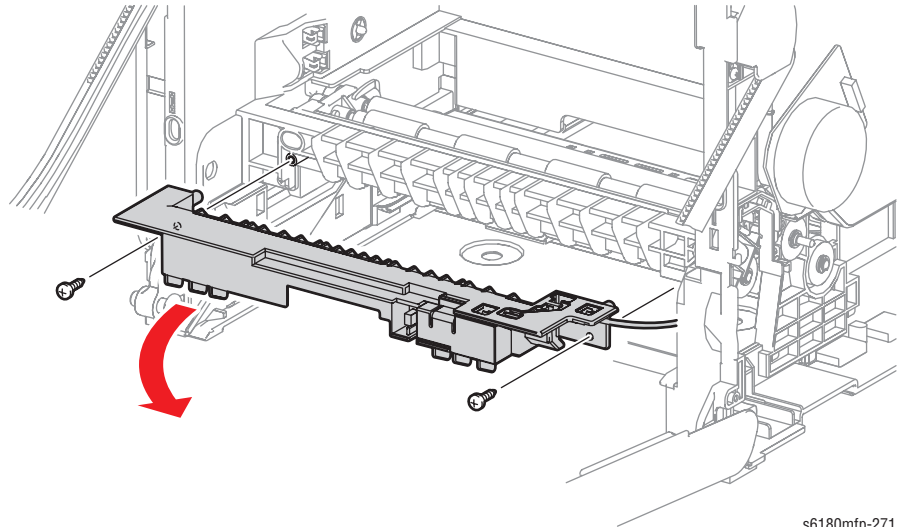
Tray 2 Feeder Unit (PL3.2.1)

1. Remove Tray 2.
2. Open the Front Cover.
3. Remove the Fuser (page 8-12).
4. Remove the Rear Cover (page 8-18).
5. Remove the Bottom Cover (page 8-19).
6. Remove the Right Pole Inner Cover (page 8-21).
7. Remove the Right Pole Cover (page 8-22).
8. Remove the Right Cover (page 8-23).
9. Remove the Drive Assembly (page 8-78).
10. Remove the Registration Clutch (page 8-45).
11. Remove the Feed Clutch (page 8-46).
12. Remove the Tray 1 (MPT) Roll (page 8-42).

Note

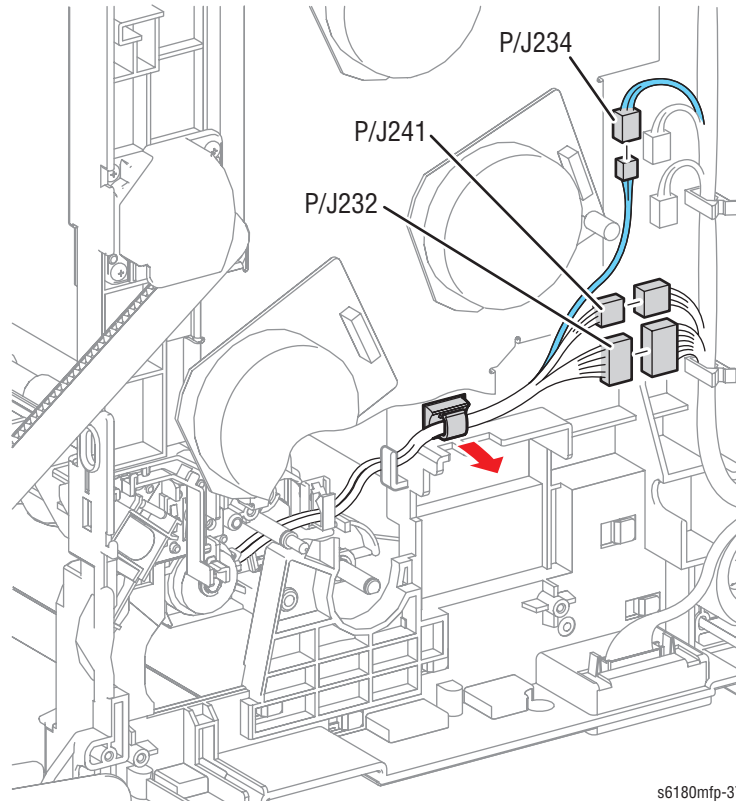
It is not necessary to remove the Tray 1 (MPT) No Paper Sensor (PL3.1.15) and the Cover Sensor (PL3.1.16).

13. Remove 2 screws (10 mm) securing the MPT Chute (PL3.1.14) to the printer.
14. Remove the MPT Chute from the printer.



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15. Disconnect the Feeder connectors P/J232 and P/J241.
16. Disconnect the Turn Clutch (PL3.2.25) connector P/J234.
17. Release the wiring harnesses from the clamp and the hook.



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Caution

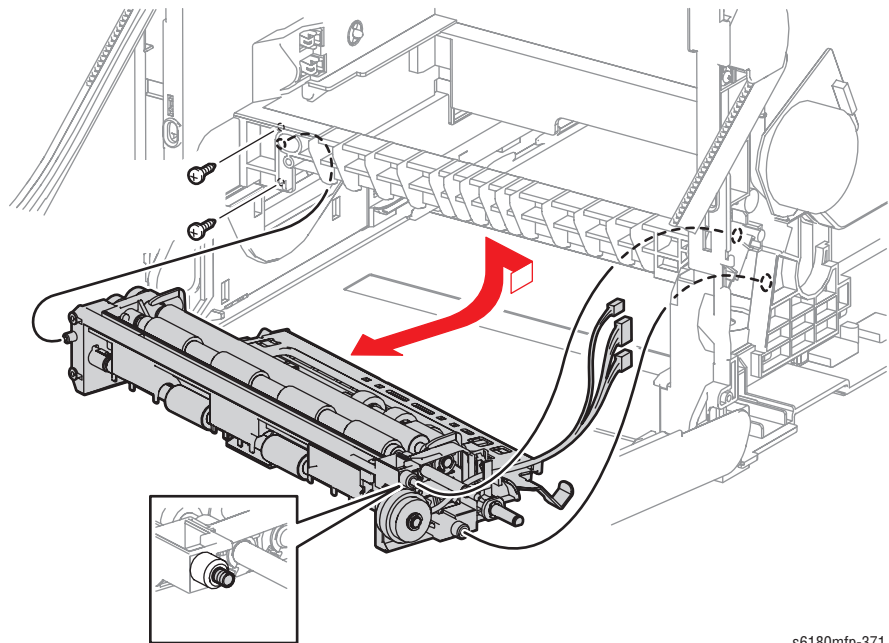
Be sure to hold the bottom left of the Feeder while removing the 2 screws to prevent the Feeder drop to the bottom.

18. Close the Front Door (this provides easier access to the Feeder Unit)
Remove 2 screws (10 mm) securing the Feeder Unit.

Caution

Be careful not to drop the Earth Spring on the right side of the Feeder Unit.

19. Move the Feeder down and forward to release the notch on the left side of the Feeder out of the hole on the printer. Slightly shift the Feeder Unit toward the rear left side to remove the notches (1 on the Earth Spring and 1 on the right side of the Feeder Unit) out of the holes on the printer.
20. Pull the Shaft section and the Clutch on the right side of the Feeder Unit out of the hole on the printer and remove the Feeder Unit.



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Replacement Procedures

1. Insert the Feeder Unit into the printer with the right side in first.
2. Insert the 2 wiring harness connectors coming out of the Feeder and the connector of the Turn Clutch through the hole of the printer.

Note

Be sure the Earth Spring attached on the right side of the Feeder is touching the Earth Plate.

3. Insert the shaft section and the Clutch on the right side of the Feeder and the 2 notches through the holes on the printer.
4. Insert the notch on the left side of the Feeder through the hole on the printer and attach the Feeder.
5. Secure the Feeder to the printer with 2 screws (10 mm).
6. Route the wiring harnesses to the hooks on the printer frame and secure them with the clamps.

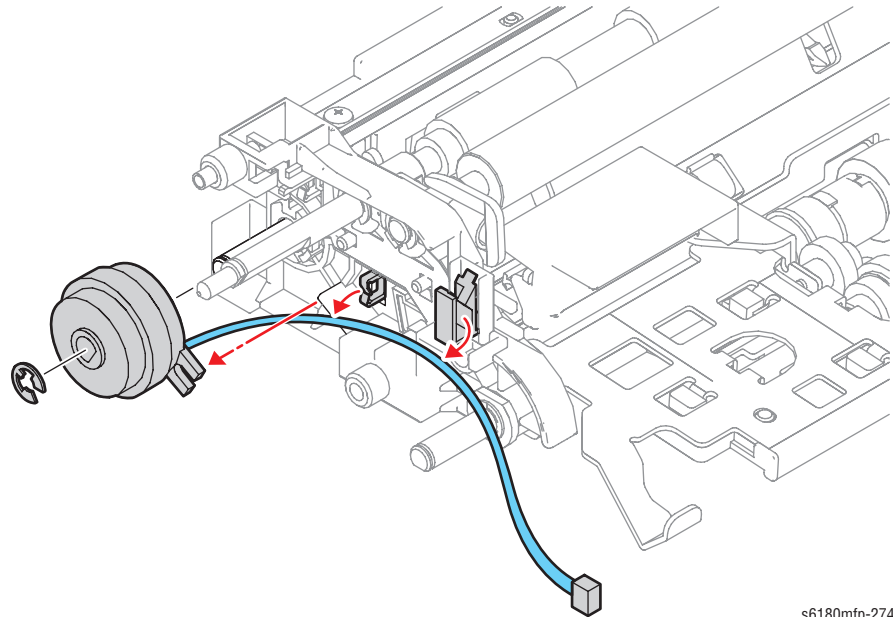
Caution

Be sure to match the color of the wiring harness. The Turn Clutch wiring harness is blue.

7. Connect the Turn Clutch connector P/J234.
8. Connect connectors P/J232 and P/J241.
9. Align the notch on the Chute with the printer and attach the Chute.
10. Secure the Chute with 2 screws (10 mm).
11. Install the Tray 1 Roller (page 8-42).
12. Install the Feeder Clutch (page 8-46).
13. Install the Registration Clutch (page 8-45).
14. Install the Drive Assembly (page 8-78).
15. Attach the Right Cover (page 8-23).
16. Attach the Right Pole Cover (page 8-22).
17. Attach the Right Pole Inner Cover (page 8-24).
18. Attach the Bottom Cover (page 8-19).
19. Attach the Rear Cover (page 8-18).
20. Install the Transfer Unit (page 8-9).
21. Install the Print Cartridges (C/M/Y/K) (page 8-11).
22. Insert the Fuser (page 8-12).
23. Close the Front Cover.
24. Insert Tray 2.

Turn Clutch (PL3.2.25)

1. Remove the Feeder Unit (page 8-47).
2. Release the Turn Clutch wiring harness from the Clamps.
3. Remove the E-ring securing the Turn Clutch.
4. Remove the Turn Clutch from the Feeder Unit.

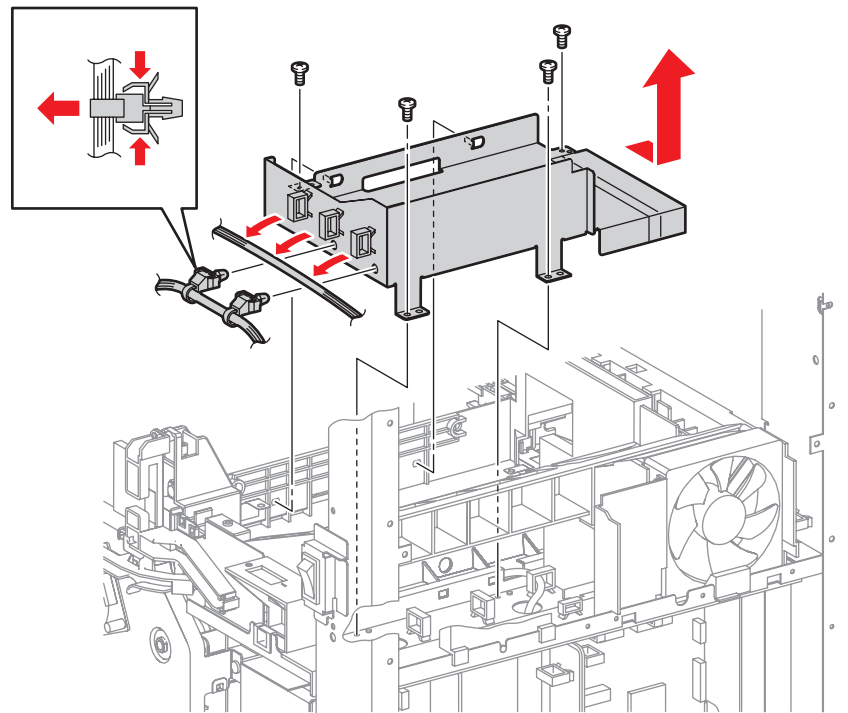


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Xerographics

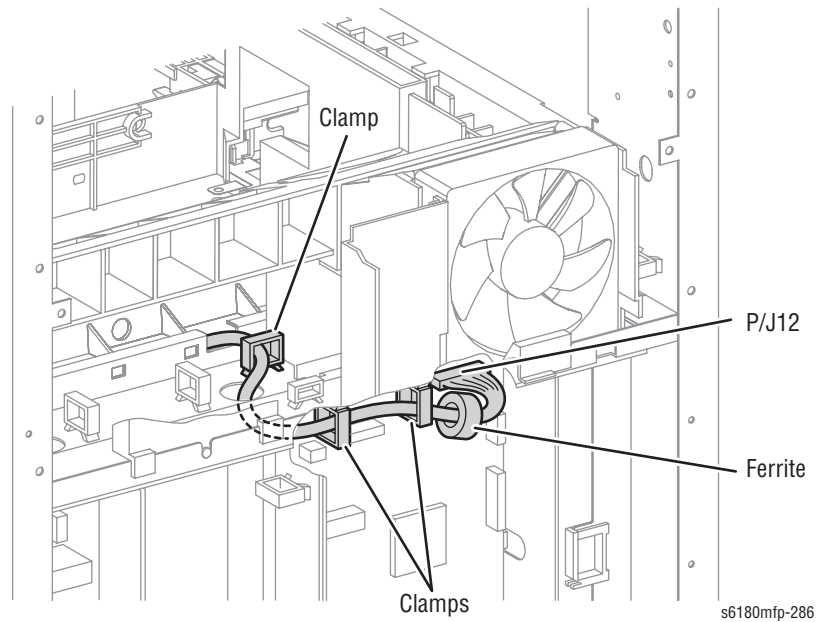
Laser Unit (PL5.1.12)

1. Open the Front Cover.
2. Remove the Fuser (page 8-12).
3. Remove the Rear Cover (page 8-18).
4. Remove the Bottom Cover (page 8-19).
5. Remove the Right Pole Inner Cover (page 8-21).
6. Remove the Right Pole Cover (page 8-22).
7. Remove the Right Cover (page 8-23).
8. Remove the Left Pole Inner Cover (page 8-24).
9. Remove the Left Pole Cover (page 8-25).
10. Remove the Left Cover (page 8-26).
11. Remove the Top Cover (page 8-27).
12. Remove the Controller Shield Box Assembly (AIO PRT Box Assembly) (page 8-92).
13. Remove the Fax Shield Box Assembly (page 8-96).
14. Release the Fuser wiring harness (PL10.1.5) from the 3 clamps on the Earth Frame Assembly (PL5.1.2).
15. Remove 4 screws (6 mm) securing the Earth Frame Assembly to the printer.
16. Slide the Earth Frame Assembly backward, release the 2 hooks on the front side of the Earth Frame Assembly from the holes of the printer, and remove the Earth Frame Assembly.

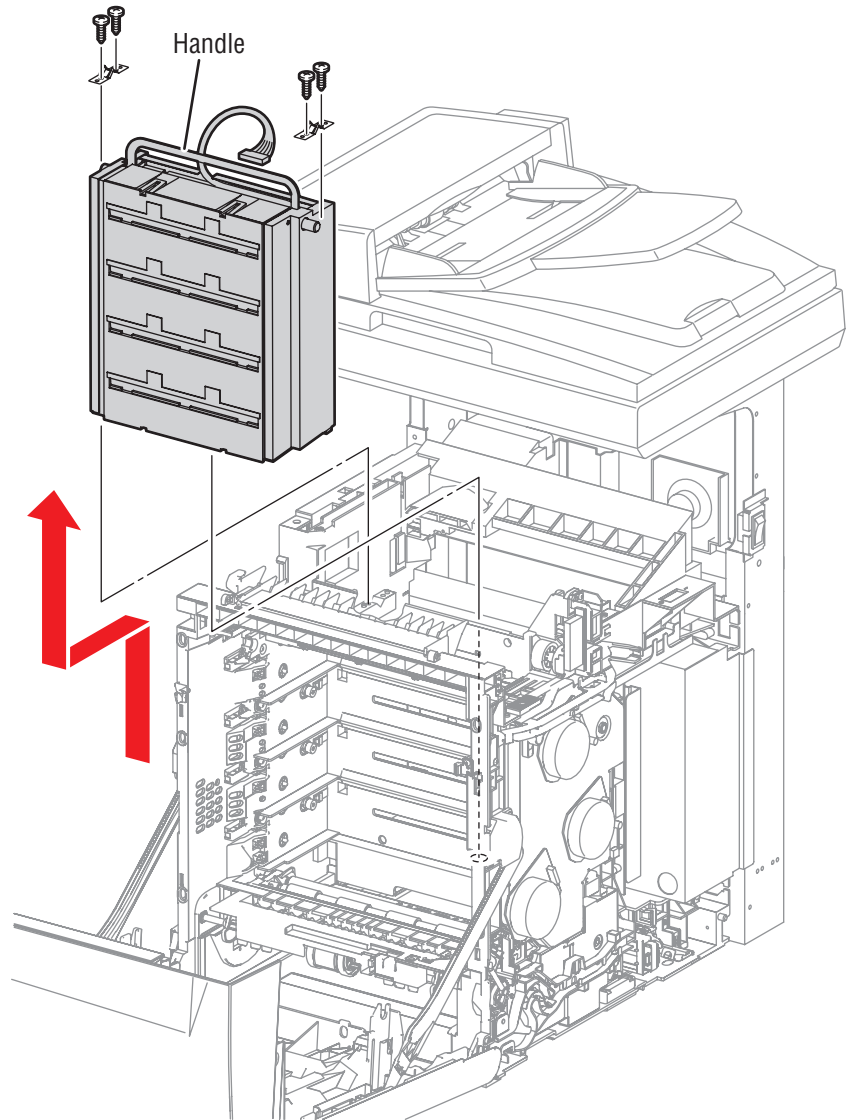


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17. Remove the 2 Clamps on the Fuser wiring harness from the Earth Frame Assembly.
18. Disconnect the Laser Unit connector P/J12 from the MCU Board (PL9.2.13) and remove the Ferrite Core (PL5.1.13) from the harness.
19. Release the Laser Unit wiring harness from the 3 clamps and pull the wiring harness from the hole of the printer.



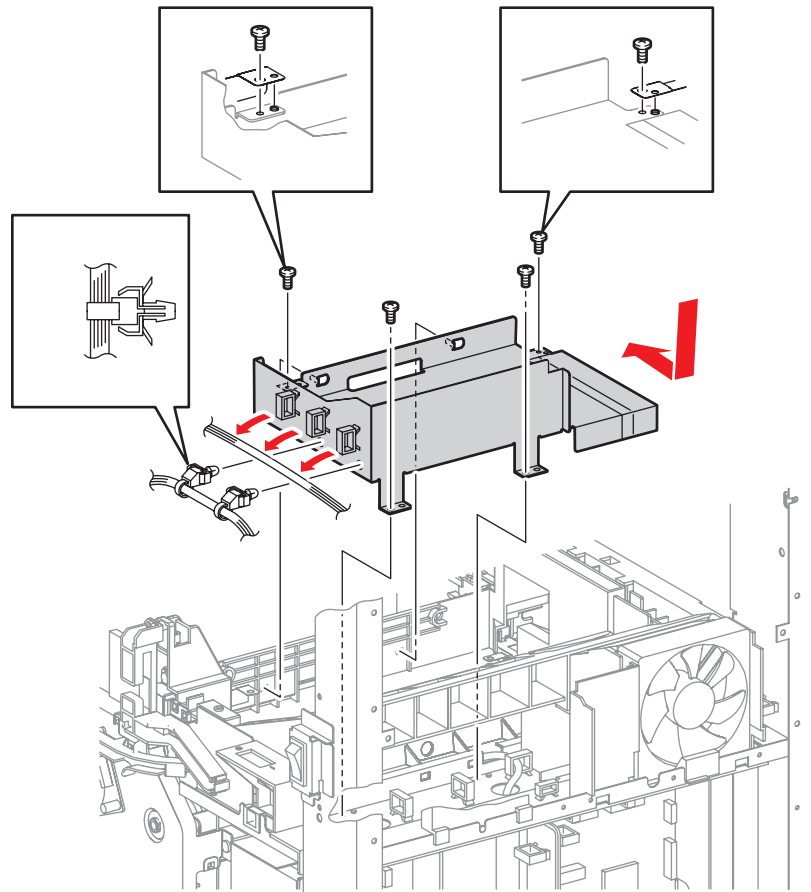
20. Remove 4 screws (10 mm) securing the 2 Laser Unit springs (PL5.1.11) to the left and right sides of the printer and remove the Springs.
21. Slowly pull up the Laser Unit from the printer using the handle.



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Replacement Note

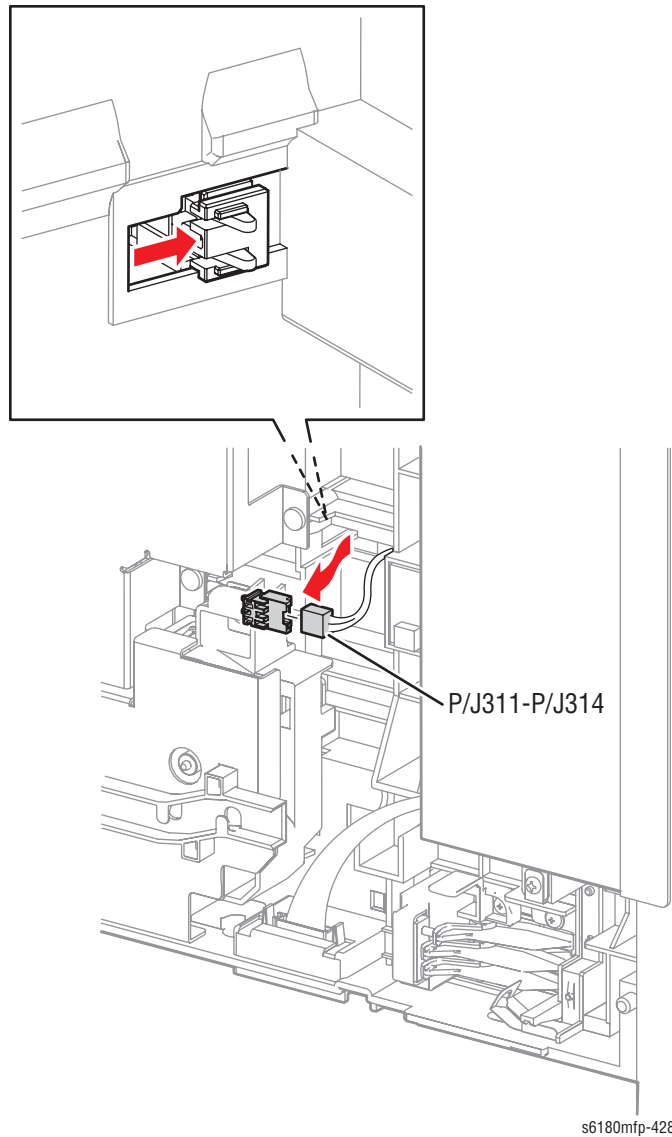
Be sure the Earth Frame Assembly is under the Earth Plate when securing the Laser Unit to the printer.



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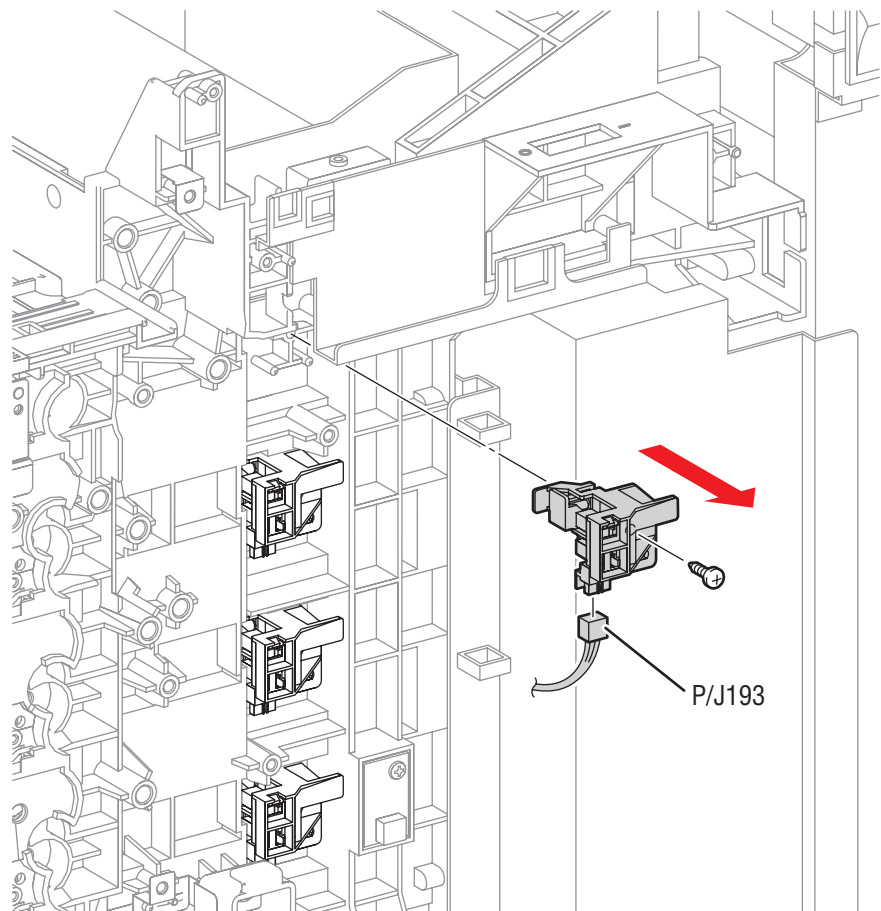
CRUM Connector (PL5.2.1)

1. Open the Front Cover.
2. Remove the Fuser (page 8-12).
3. Remove the Rear Cover (page 8-18).
4. Remove the Bottom Cover (page 8-19).
5. Remove Right Pole Inner Cover (page 8-21).
6. Remove the Right Pole Cover (page 8-22).
7. Remove the Right Cover (page 8-23).
8. Remove the Print Cartridge Assembly (Black - page 8-57) (Cyan, Magenta, Yellow - page 8-58).
9. Shift the CRUM Connector to the right and remove the groove of the CRUM Connector from the printer.
10. Disconnect and remove the CRUM Connector.



Print Cartridge Sensor Assembly (Black) (PL5.2.2)

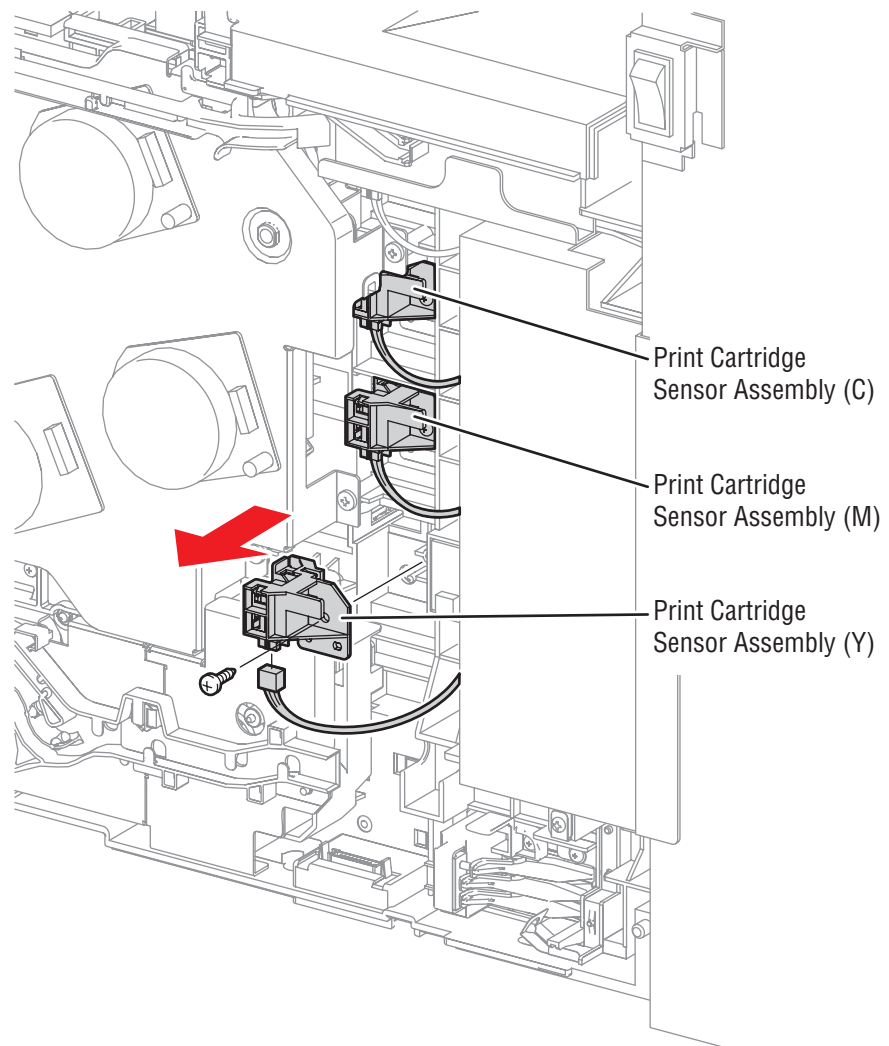
1. Open the Front Cover.
2. Remove the Fuser (page 8-12).
3. Remove the Rear Cover (page 8-18).
4. Remove the Bottom Cover (page 8-19).
5. Remove Right Pole Inner Cover (page 8-21).
6. Remove the Right Pole Cover (page 8-22).
7. Remove the Right Cover (page 8-23).
8. Remove the Left Pole Inner Cover (page 8-24).
9. Remove the Left Pole Cover (page 8-25).
10. Remove the Left Cover (page 8-26).
11. Remove the Top Cover (page 8-27).
12. Remove the Interlock Switch (page 8-82).
13. Remove the Main Drive (page 8-75).
14. Remove 1 screw (10 mm) securing the Black Print Cartridge Sensor Assembly to the printer.
15. Remove the Black Print Cartridge Sensor Assembly.
16. Disconnect the Black Print Cartridge Sensor Assembly connector P/J193.



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Print Cartridge Sensor Assembly (Cyan/Magenta/Yellow) (PL5.2.2)

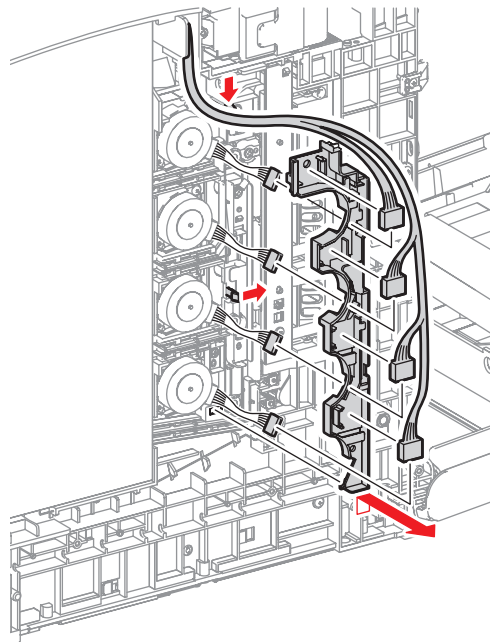
1. Open the Front Cover.
2. Remove the Fuser (page 8-12).
3. Remove the Rear Cover (page 8-18).
4. Remove the Bottom Cover (page 8-19).
5. Remove the Right Pole Inner Cover (page 8-21).
6. Remove the Right Pole Cover (page 8-22).
7. Remove the Right Cover (page 8-23).
8. Remove 1 screw (10 mm) securing the Print Cartridge Sensor Assembly to the printer.
9. Remove the Print Cartridge Sensor Assembly.
10. Disconnect the Print Cartridge Sensor Assembly connectors.



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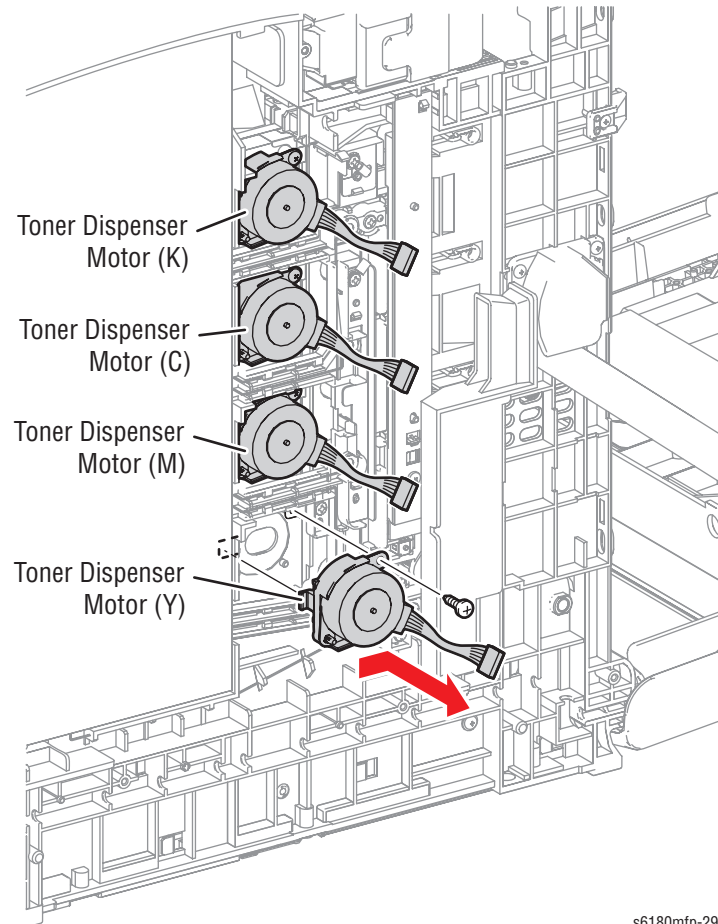
Toner Dispenser Motor (C/M/Y/K) (PL5.2.10)

1. Open the Front Cover.
2. Remove the Fuser (page 8-12).
3. Remove the Rear Cover (page 8-18).
4. Remove the Bottom Cover (page 8-19).
5. Remove the Left Pole Inner Cover (page 8-24).
6. Remove the Left Pole Cover (page 8-25).
7. Remove the Left Cover (page 8-26).
8. Disconnect the 4 Toner Dispenser Motor wiring harnesses from the Motor Harness Duct (PL5.2.14).
9. Release the 2 hooks securing the Motor Harness Duct to the printer.
10. Slightly shift the Motor Harness Duct upward and release the convex sections of the Duct from the printer. Pass the 4 connectors through the hole of the Motor Harness Duct and remove the Duct.



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11. Remove 1 screw (10 mm) securing the Toner Dispenser Motor.
12. Slightly shift the Toner Dispenser Motor toward the front, release the convex sections, and remove the Toner Dispenser Motor.



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Replacement Note

Be sure to align the convex sections of the Toner Dispenser Motor with the holes on the printer and shift the Motor toward the rear.

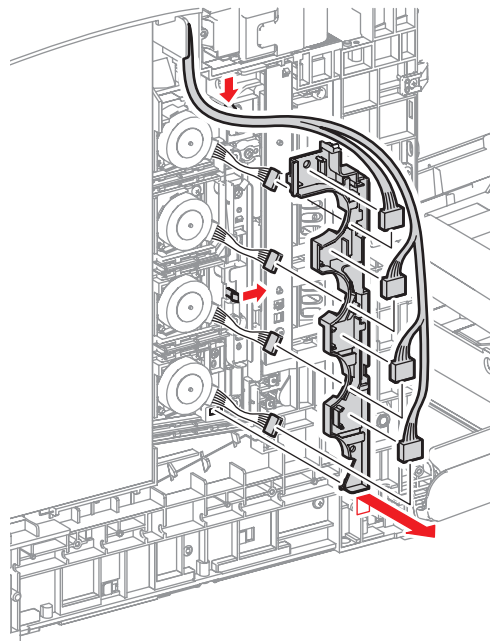
BIAS Assembly (PL5.2.11)

1. Open the Front Cover.
2. Remove the Fuser (page 8-12).
3. Remove the Rear Cover (page 8-18).
4. Remove the Bottom Cover (page 8-19).
5. Remove the Right Pole Inner Cover (page 8-21).
6. Remove the Right Pole Cover (page 8-22).
7. Remove the Right Cover (page 8-23).
8. Remove the Left Pole Inner Cover (page 8-24).
9. Remove the Left Pole Cover (page 8-25).
10. Remove the Left Cover (page 8-26).
11. Remove the Top Cover (page 8-27).
12. Remove the LED (page 8-63).

Note

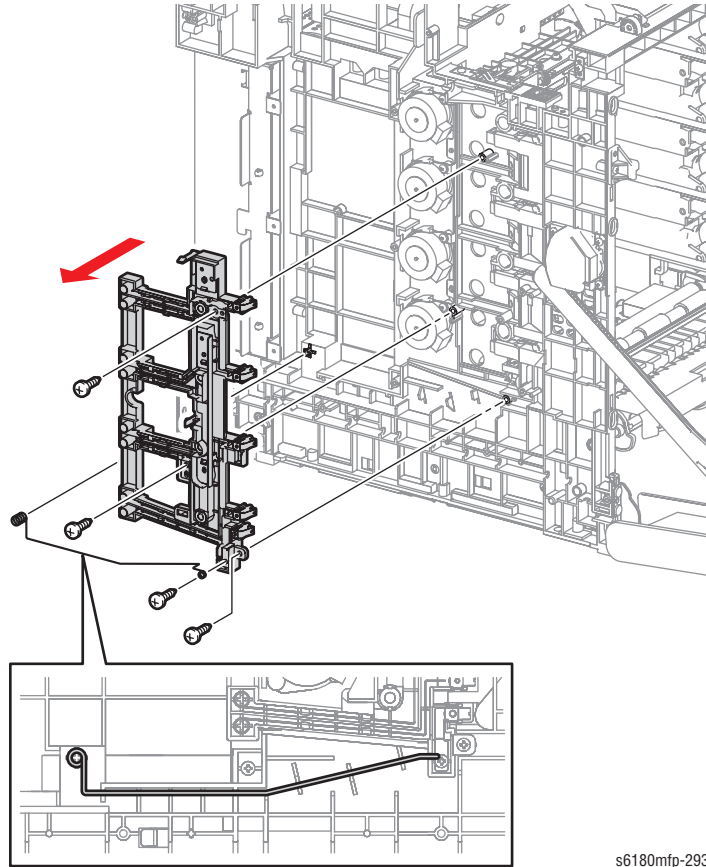
It is not necessary to disconnect the connector on the MCU Board for the following steps.

13. Remove the HVPS (page 8-64).
14. Disconnect the Dispenser Motor connectors and release the wiring harnesses from the Motor Harness Duct.
15. Release the 2 hooks securing the Motor Harness Duct.
16. Slightly shift the Motor Harness Duct upward to release the convex section from the printer. Pass the connectors through the hole of the Motor Harness Duct and remove the Duct.



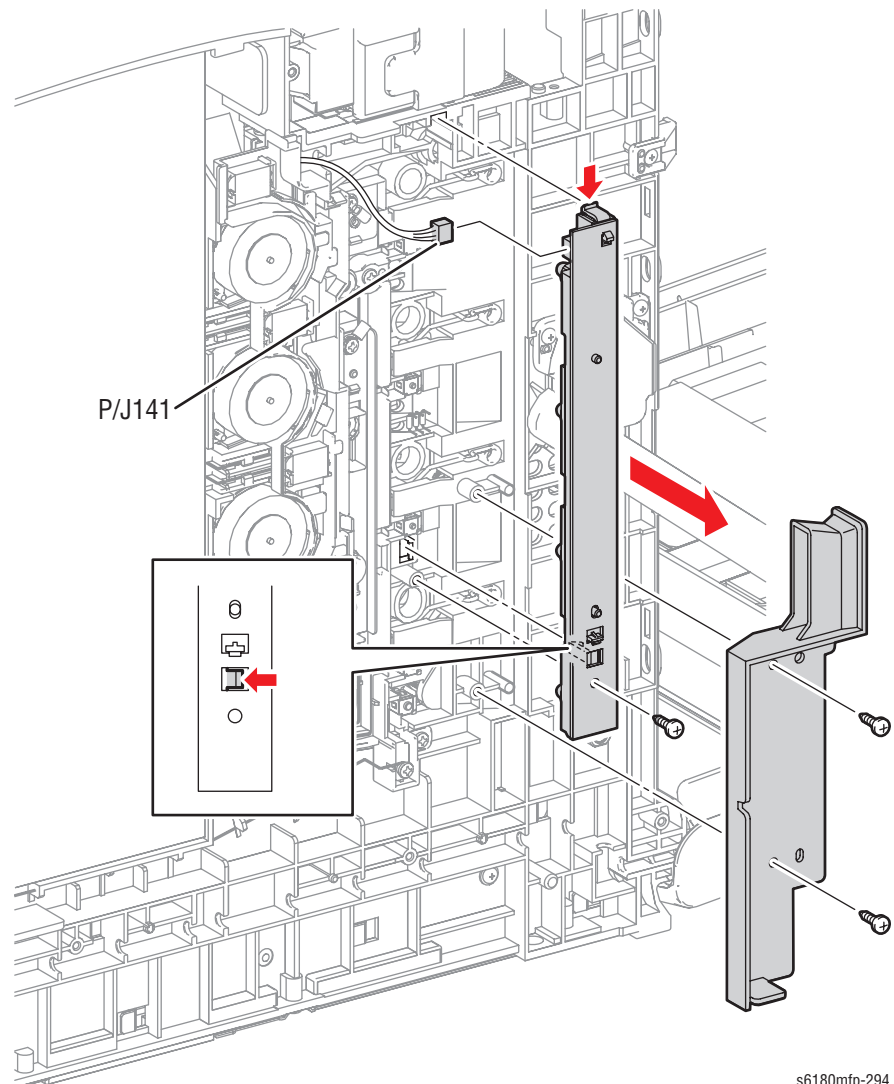
s6180mfp-291

17. Remove 1 screw (10 mm) securing the ESA Roll Spring (PL5.2.12) and remove the ESA Roll Spring.
18. Remove 3 screws (10 mm) securing the Bias and remove the BIAS.



LED Assembly (PL5.2.13)

1. Open the Front Cover.
2. Remove the Fuser (page 8-12).
3. Remove the Rear Cover (page 8-18).
4. Remove the Bottom Cover (page 8-19).
5. Remove the Left Pole Inner Cover (page 8-24).
6. Remove the Left Pole Cover (page 8-25).
7. Remove the Left Cover (page 8-26).
8. Remove 2 screws (8 mm) securing the Left Side Duct (PL7.1.23) and remove the Duct.
9. Remove 1 screw (10 mm) securing the LED Assembly.
10. Release the 2 hooks securing the LED Assembly and remove the LED Assembly.
11. Disconnect the LED connector P/J141.



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HVPS (PL5.2.15)

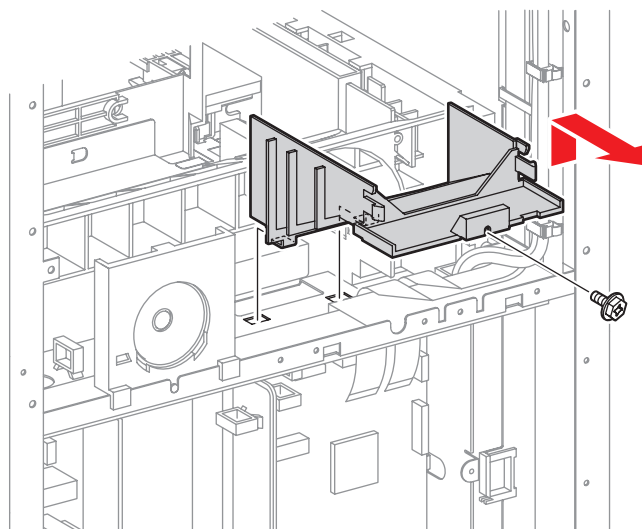
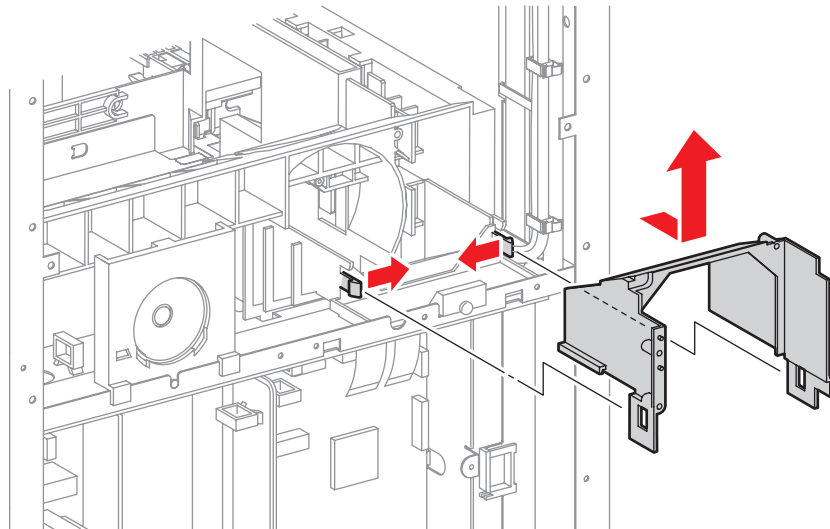
1. Open the Front Cover.
2. Remove the Fuser (page 8-12).
3. Remove the Rear Cover (page 8-18).
4. Remove the Bottom Cover (page 8-19).
5. Remove the Right Pole Inner Cover (page 8-21).
6. Remove the Right Pole Cover (page 8-22).
7. Remove the Right Cover (page 8-23).
8. Remove the Left Pole Inner Cover (page 8-24).
9. Remove the Left Pole Cover (page 8-25).
10. Remove Left Cover (page 8-26).
11. Remove the Top Cover (page 8-27).
12. Remove the Controller Shield Box Assembly (AIO PRT Box Assembly) (page 8-92).
13. Remove the Fax Shield Box Assembly (page 8-96).

Note

When performing the following step, it is not necessary to remove the connector and Fan wiring harness.

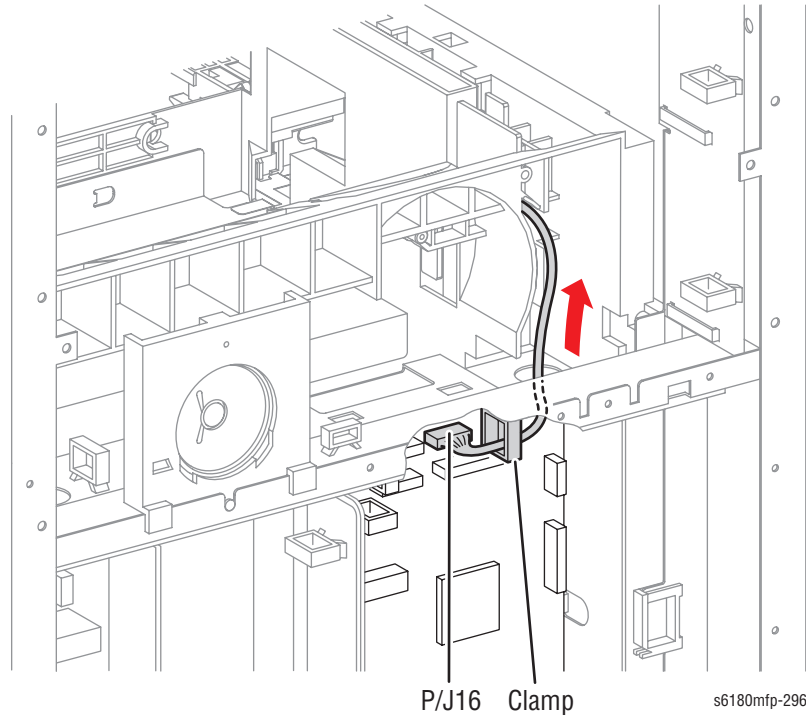
14. Remove the Main Fan (page 8-84).

15. Use a flat tip screwdriver to release the 2 hooks on the inside of the Lower Duct (PL9.2.8) and slide the Upper Duct backward to remove it.
16. Remove 1 screw (6 mm) securing the Lower Duct to the printer.
17. Release the 2 Lower Duct hooks from the hole of the printer and remove the Lower Duct.

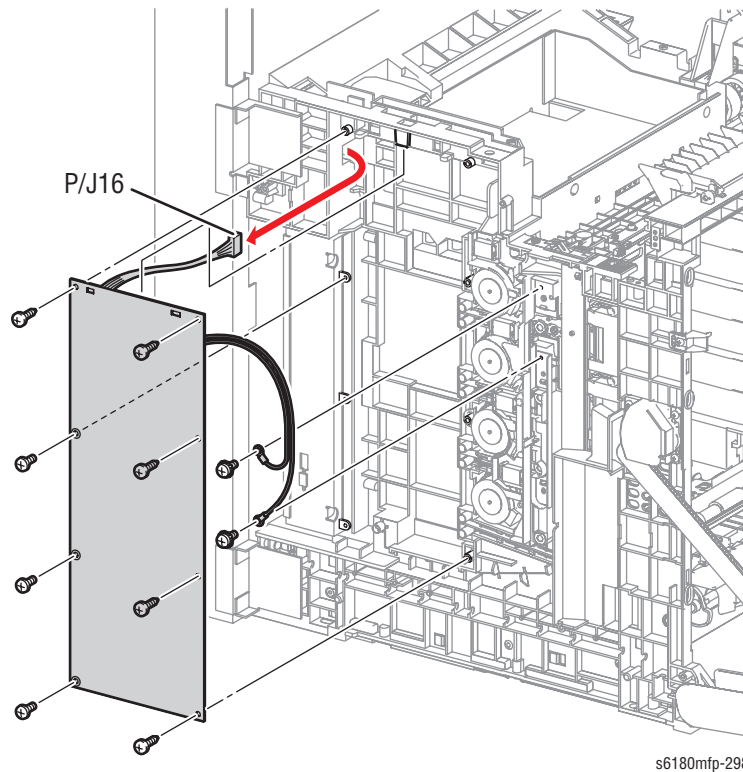


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18. Disconnect the HVPS connector P/J16 from the MCU (PL9.2.13).



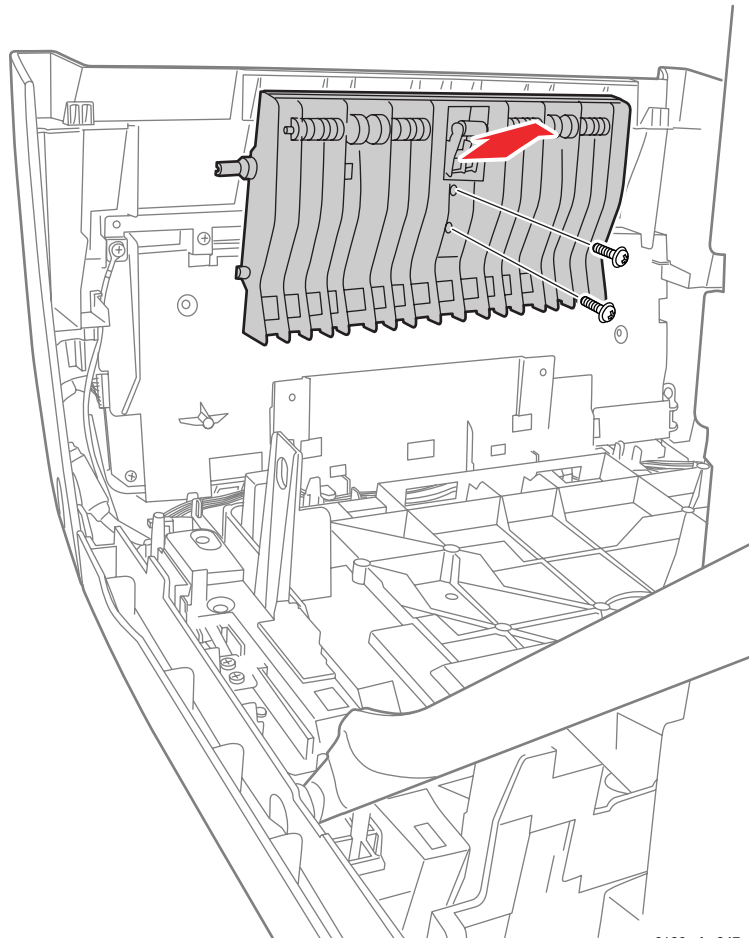
19. Remove 2 screws (6 mm, with washer) securing the HVPS wiring harnesses.
20. Remove 5 screws (10 mm) and 3 screws (6 mm) securing the HVPS to the printer.
21. Release the upper part of the HVPS from the 2 tabs on printer, pull out the connector through the hole of the printer, and remove the HVPS.



Exit Chute

Exit Out Chute Assembly (PL6.1.1)

1. Open the Front Cover.
2. Remove 2 screws (silver, 10 mm, flanged) securing the Exit Out Chute to the Front Cover.
3. Remove the Exit Out Chute.

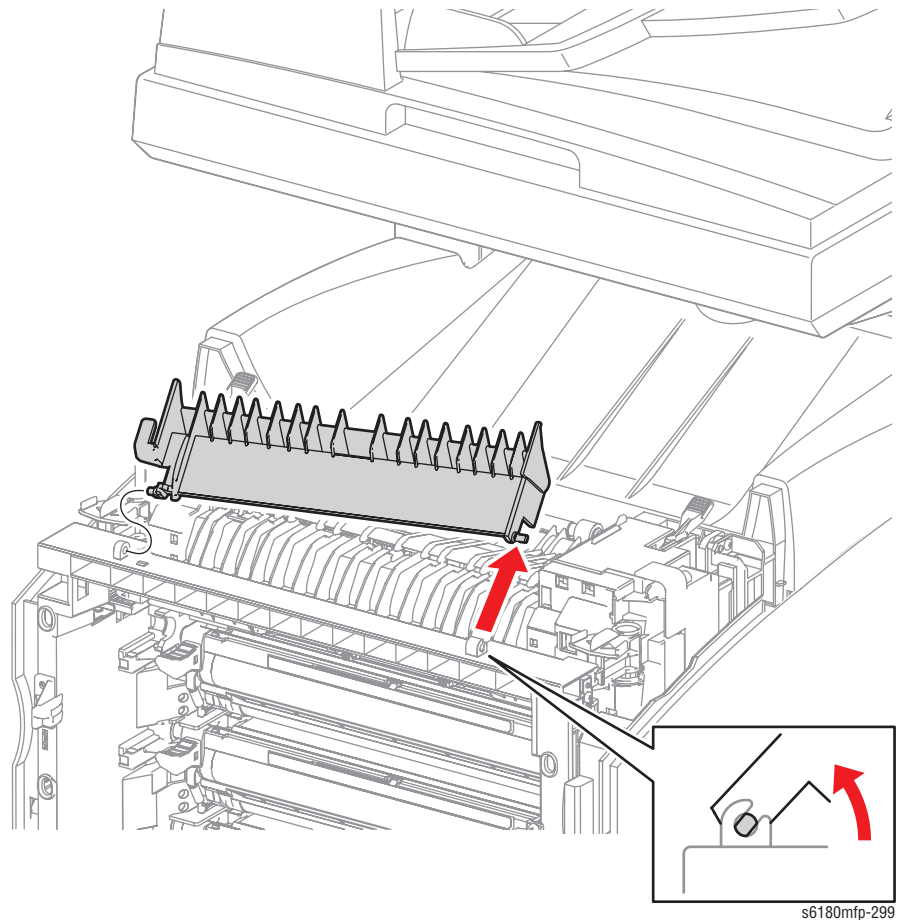


Replacement Note

When installing the Exit Out Chute, DO NOT overtighten the screws.

Duplex Gate Chute (PL6.1.13)

1. Open the Front Cover.
2. Open the Duplex Gate Chute approximately 45° and align the flat surface of the right side pivot of the Duplex Gate Chute parallel with the U-shaped notch. Pull out the right side pivot of the Duplex Gate from the U-shaped notch toward the rear side of the printer.
3. Detach the left side pivot of the Duplex Gate Chute from the hole of the printer and remove the Chute.



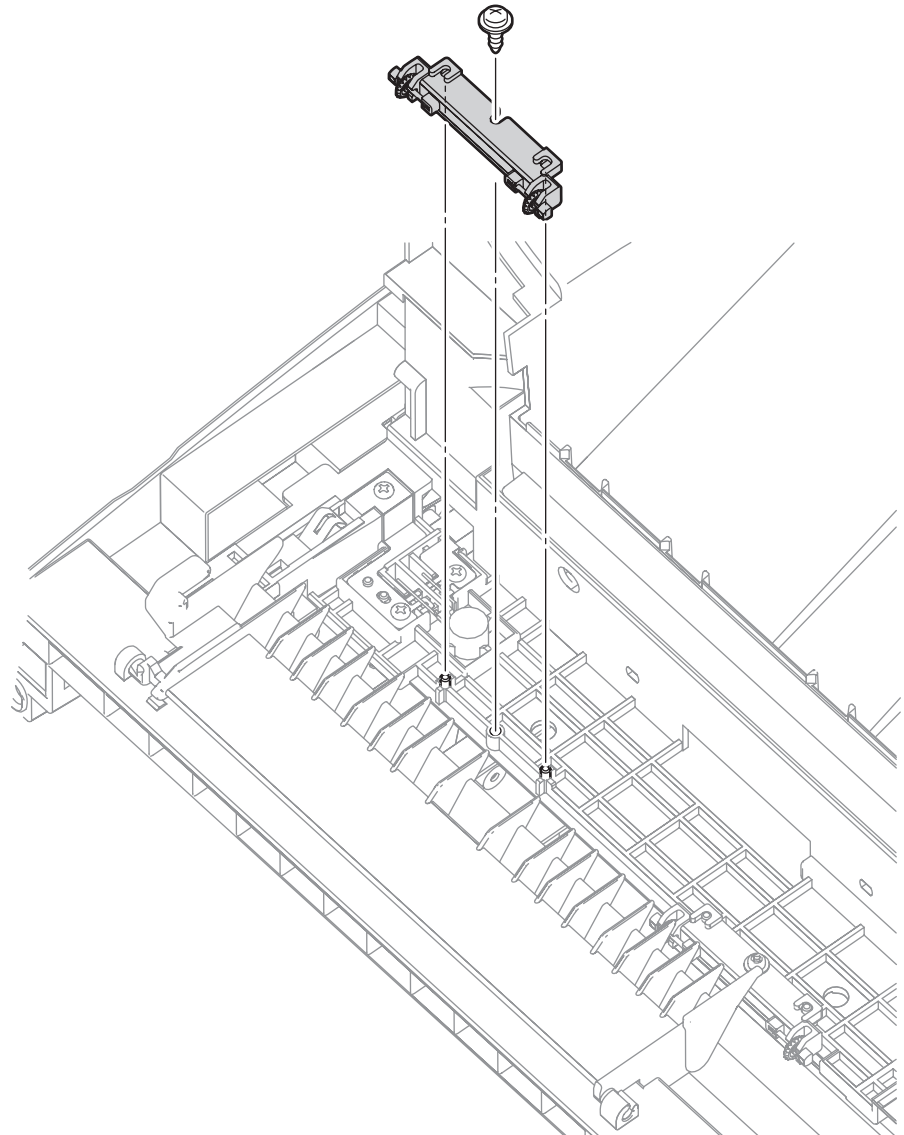
Replacement Note

Be sure to open the Duplex Gate Chute at approximately 45° angle and align the cutter surface of the shaft on the right side of the Chute with the notch on the printer.

Frame

Star Wheel (Spur Assembly)(PL7.1.1)

1. Open the Front Cover.
2. Remove the Fuser (page 8-12).
3. Remove 1 screw (8 mm, flanged) securing the Star Wheel to the printer.
4. Remove the Star Wheel.



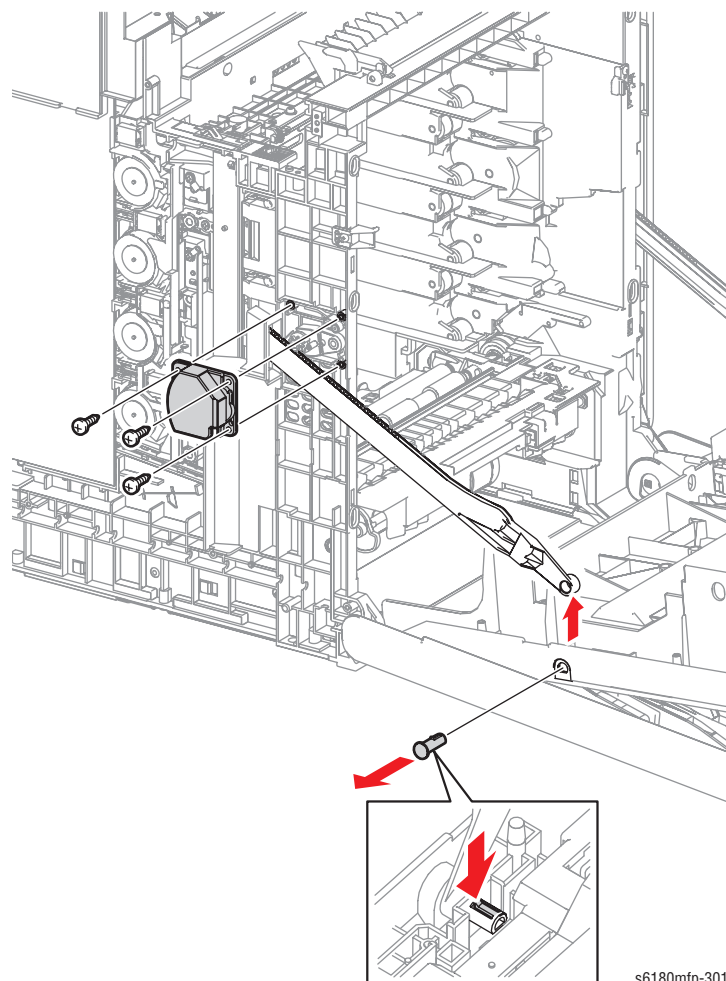
s6180mfp-300

Left Arm Assembly (PL7.1.3)

1. Open the Front Cover.
2. Remove the Fuser (page 8-12).
3. Remove the Rear Cover (page 8-18).
4. Remove the Bottom Cover (page 8-19).
5. Remove the Left Pole Inner Cover (page 8-24).
6. Remove the Left Pole Cover (page 8-25).
7. Remove the Left Cover (page 8-26).
8. Release the hook of the Shaft Pivot (PL1.2.10) securing the Left Link to the Front Cover.
9. Remove the Shaft Pivot and the Left Link.
10. Remove 3 screws (8 mm) securing the Left Link Support (PL7.1.2) to the printer.
11. Remove the Left Link Support.

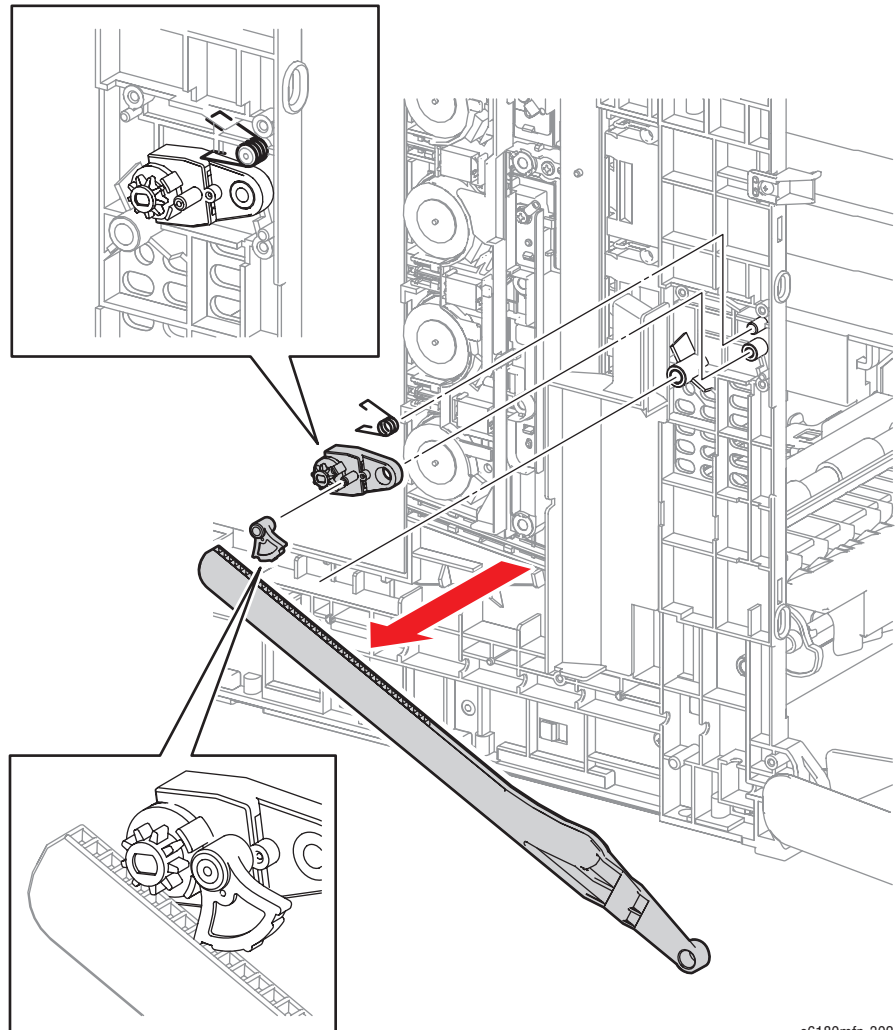
Caution

The Support Spring may come loose when removing the Left Link Support. Cover the area with your hand to prevent the Support Spring from coming loose.



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12. Remove the Release Lever (PL7.1.4).
13. Remove the Left Link from the printer.
14. Remove the Support Spring (PL7.1.8).
15. Remove the Damper Holder (PL7.1.6) together with the Oil Damper (PL7.1.7).



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Replacement Note

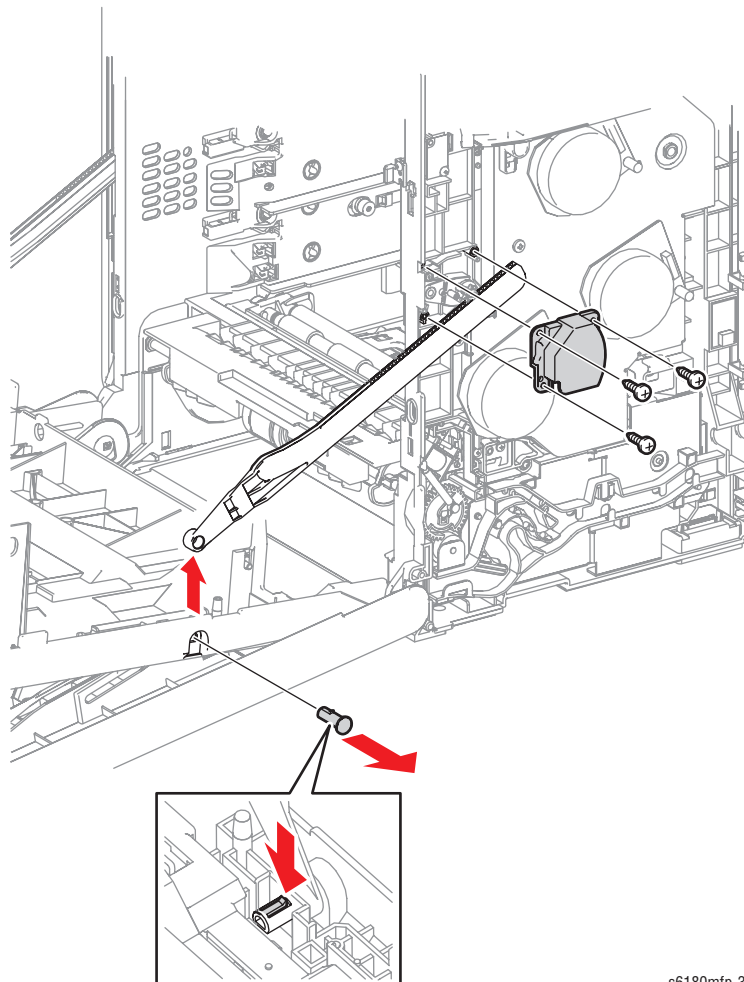
Be sure the orientation of the Damper Holder is correct. Push the cylinder of the Release Lever toward the Damper Holder side.

Right Arm Assembly (PL7.1.13)

1. Open the Front Cover.
2. Remove the Fuser (page 8-12).
3. Remove the Rear Cover (page 8-18).
4. Remove the Bottom Cover (page 8-19).
5. Remove the Right Pole Inner Cover (page 8-21).
6. Remove the Right Pole Cover (page 8-22).
7. Remove the Right Cover (page 8-23).
8. Release the hook of the Shaft Pivot (PL1.2.10) securing the Right Link to the Front Cover.
9. Remove the Shaft Pivot and the Right Link.
10. Remove 3 screws (8 mm) securing the Right Link Support (PL7.1.12) to the printer.
11. Remove the Right Link Support.

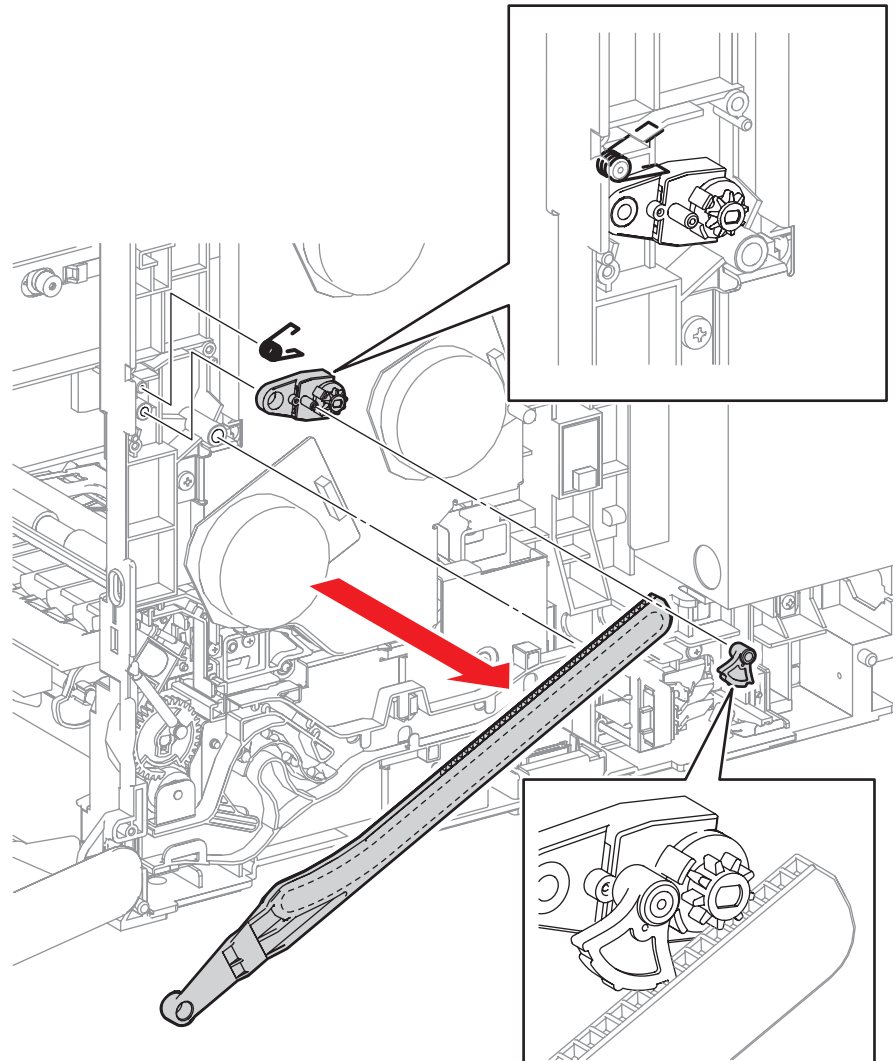
Caution

The Support Spring may come loose when removing the Right Link Support. Cover the area with your hand to prevent the Support Spring from coming loose.



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12. Remove the Release Lever (PL7.1.4).
13. Remove the Right Link from the printer.
14. Remove the Support Spring (PL7.1.8).
15. Remove the Damper Holder (PL7.1.6) together with the Oil Damper (PL7.1.7).



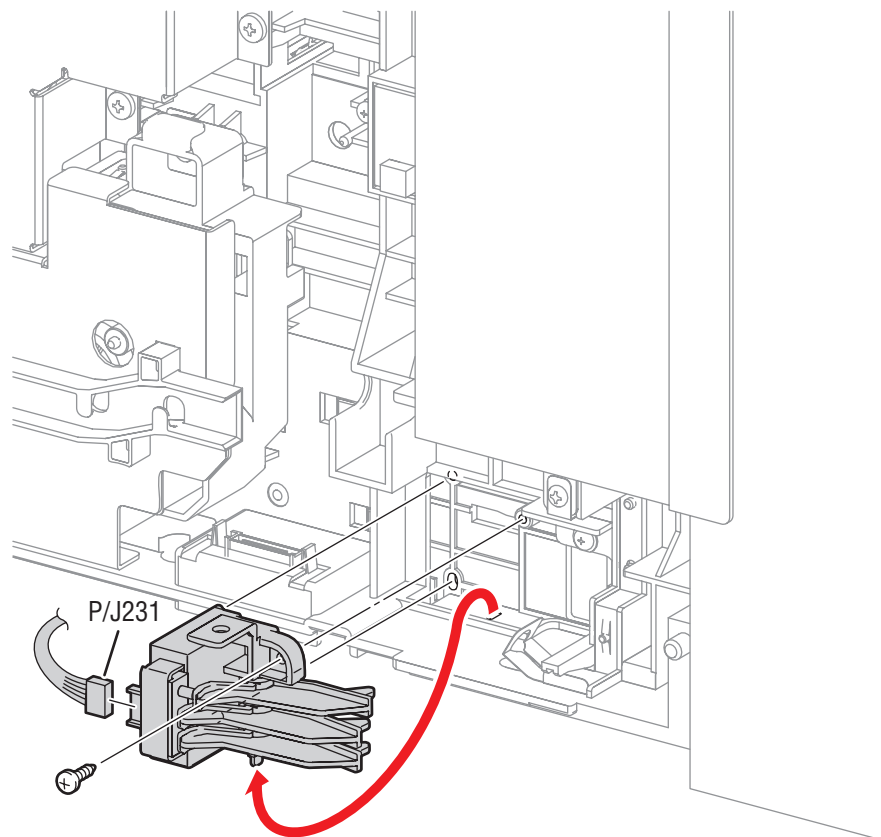
s6180mfp-304

Replacement Note

Be sure the orientation of the Damper Holder is correct. Push the cylinder of the Release Lever toward the Damper Holder side.

Tray 2 Size Switch Assembly (PL7.1.18)

1. Open the Front Cover.
2. Remove the Fuser.
3. Remove the Rear Cover (page 8-18).
4. Remove the Bottom Cover (page 8-19).
5. Remove the Right Pole Inner Cover (page 8-21).
6. Remove the Right Pole Cover (page 8-22).
7. Remove the Right Cover (page 8-23).
8. Disconnect the Size Switch connector P/J231.
9. Remove 1 screw (10 mm) securing the Size Switch to the printer.
10. Release the 2 notches of the Size Switch and the notch located on the bottom from the holes of the printer and remove the Size Switch.



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Drive

Main Drive Assembly (PL8.1.2)

1. Open the Front Cover.
2. Remove the Fuser (page 8-12).
3. Remove the Rear Cover (page 8-18).
4. Remove the Bottom Cover (page 8-19).
5. Remove the Right Pole Inner Cover (page 8-21).
6. Remove the Right Pole Cover (page 8-22).
7. Remove the Right Cover (page 8-23).
8. Remove the Left Pole Inner Cover (page 8-24).
9. Remove the Left Pole Cover (page 8-25).
10. Remove the Left Cover (page 8-26).
11. Remove the Top Cover (page 8-27).

Note

When performing the following step, it is not necessary to disconnect the Interlock Switch.

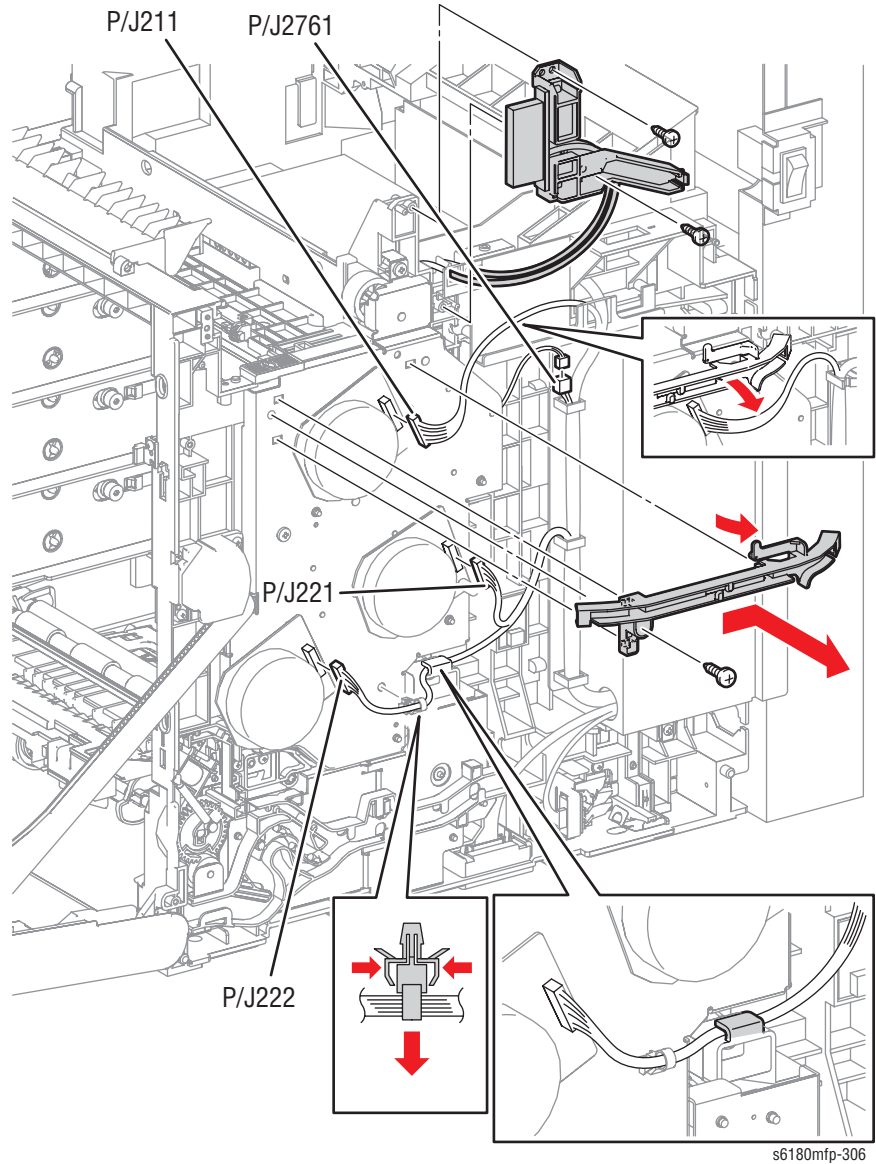
12. Remove the Interlock Switch (page 8-82).
13. Remove 2 screws (10 mm) securing the Fuser Bracket (PL6.1.12) to the printer.

Caution

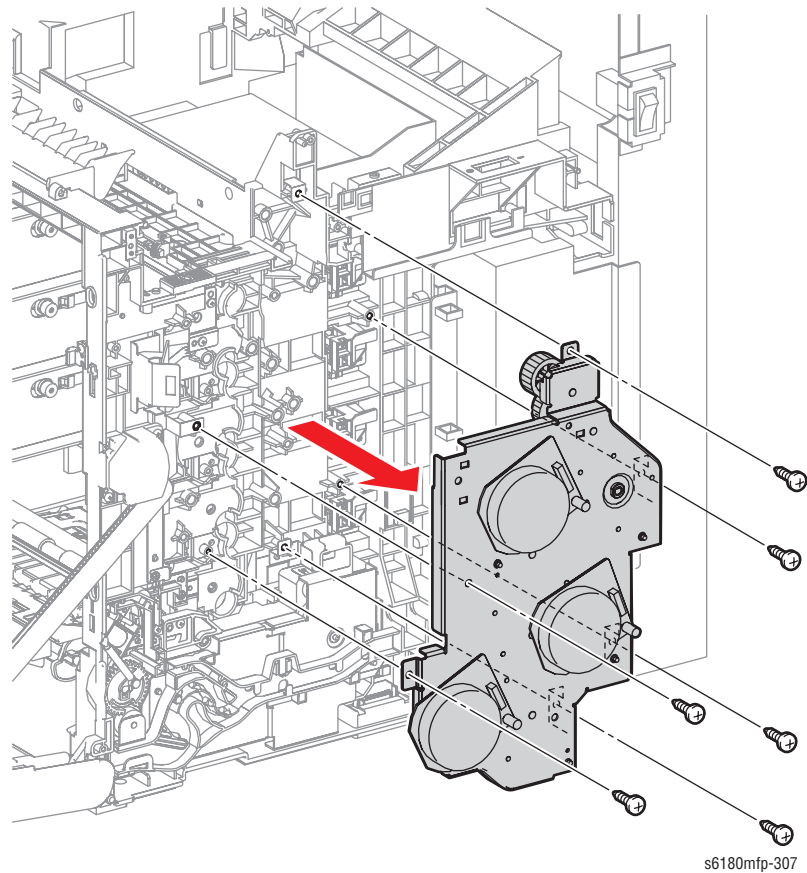
DO NOT separate the Fuser Bracket and the printer too far apart, because they are connected by a wiring harness.

14. Remove the Fuser Bracket.
15. Release the Main Drive wiring harness from the Main Drive Duct (PL8.1.9).
16. Remove 1 screw (10 mm) securing the Main Drive Duct to the printer.
17. Release the notches on the Main Drive Duct and slide the Main Drive Duct backward to remove it.
18. Disconnect the following 4 connectors:
 - Main Motor - P/J211
 - Sub Motor - P/J221
 - Developer Motor - P/J222
 - Exit Clutch: P/J2761

19. Remove the wiring harness together with the Clamp.



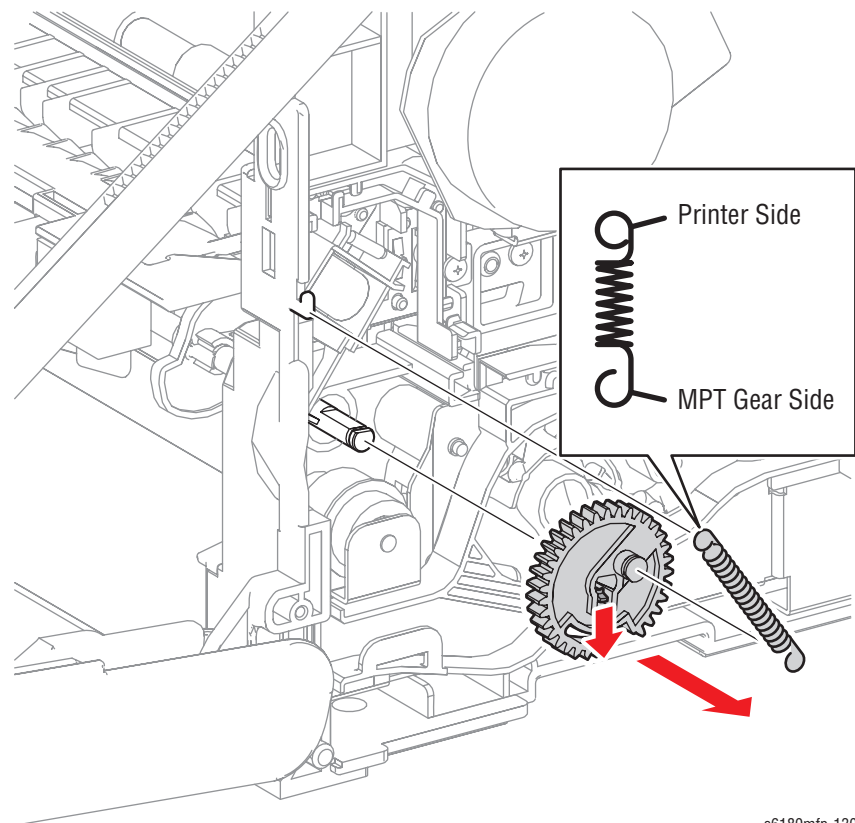
20. Remove 6 screws (10 mm) securing the Main Drive to the printer.
21. Remove the Main Drive.

**Replacement Note**

Be sure to place the wiring harness connecting the Developer Motor through the back of the hook on the Drive Assembly (PL8.1.7).

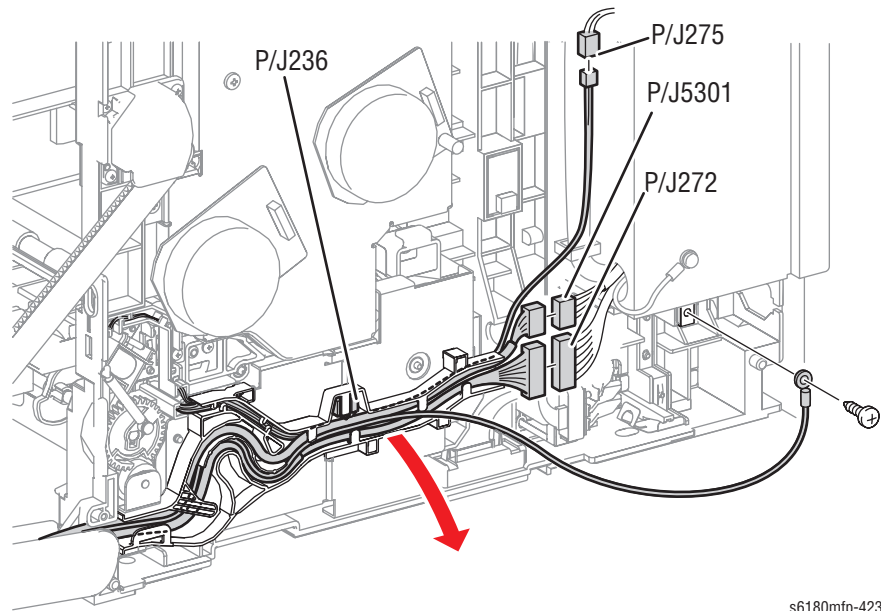
Feed Drive Assembly (PL8.1.7)

1. Open the Front Cover.
2. Remove the Fuser (page 8-12).
3. Remove the Rear Cover (page 8-18).
4. Remove the Bottom Cover (page 8-19).
5. Remove the Right Pole Inner Cover (page 8-21).
6. Remove the Right Pole Cover (page 8-22).
7. Remove the Right Cover (page 8-23).
8. Remove the MPT Feed Spring (PL3.1.4).
9. Release the hook on the MPT Gear (PL3.1.5) to remove the Gear from the MPT Shaft (PL3.1.12).

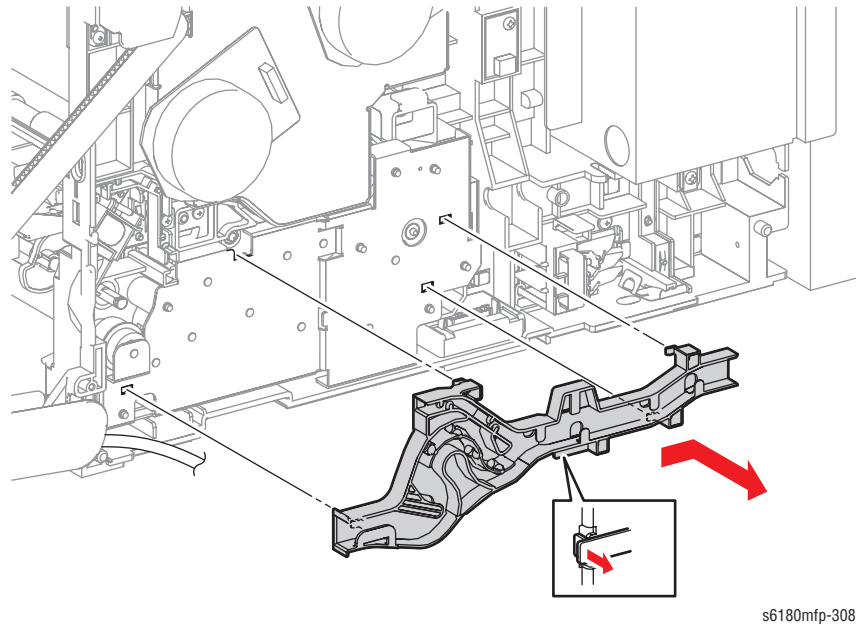


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10. Disconnect the wiring harnesses and release the wiring harnesses from the Drive Duct (PL8.1.8).



11. Release the hook of the Drive Duct from the Feed Drive Assembly. Shift the Drive Duct toward the rear side of the printer and remove it from the Feed Drive Assembly.

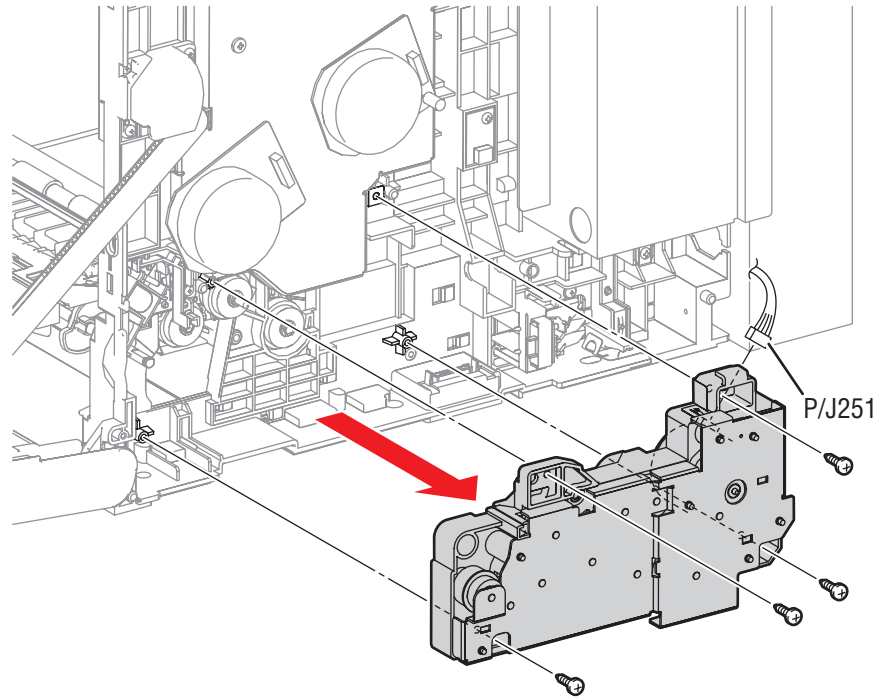


12. Remove 4 screws (10 mm) securing the Feed Drive Assembly to the printer.

Caution

DO NOT separate the Feed Drive Assembly from the printer, because they are connected with the wiring harness.

13. Remove the Feed Drive Assembly.
14. Disconnect the Feed Drive Assembly connector P/J251.



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Replacement Note

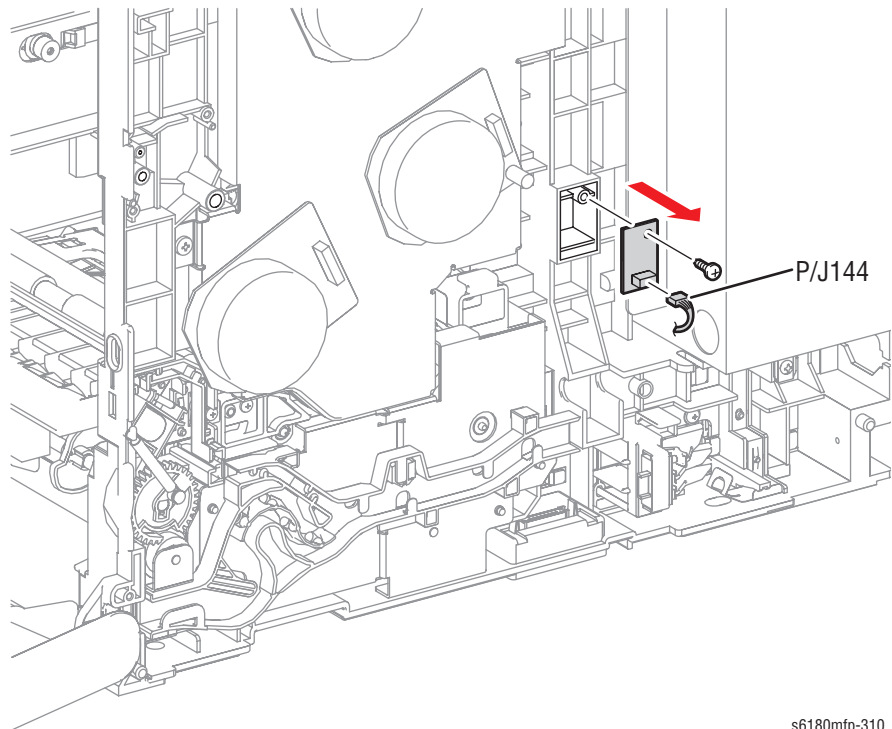
Be sure to place the wiring harness connecting the Developer Motor of the Main Drive (PL8.1.2) through the back of the hook on top of the Feed Drive Assembly.

Pay attention to the direction of the MPT Feed Spring. Attach the hyperelliptic side of the Tray 1 (MPT) Feed Spring to the Tray 1 (MPT) Gear.

Electrical

EEPROM Board (PL9.2.1)

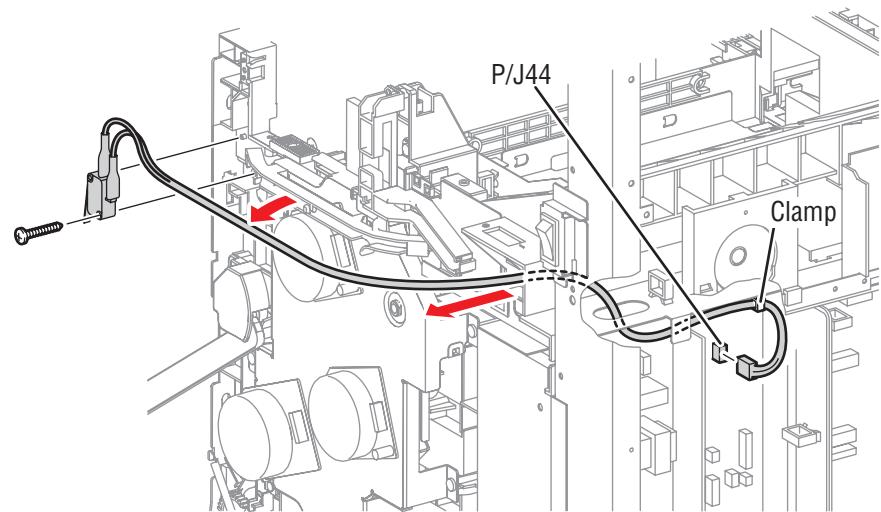
1. Open the Front Cover.
2. Remove the Fuser (page 8-12).
3. Remove the Rear Cover (page 8-18).
4. Remove the Bottom Cover (page 8-19).
5. Remove the Right Pole Inner Cover (page 8-21).
6. Remove the Right Pole Cover (page 8-22).
7. Remove the Right Cover (page 8-23).
8. Disconnect the EEPROM Board connector P/J144.
9. Remove 1 screw (10 mm) securing the EEPROM Board to the printer.
10. Remove the EEPROM Board.



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Interlock Switch (PL9.2.3)

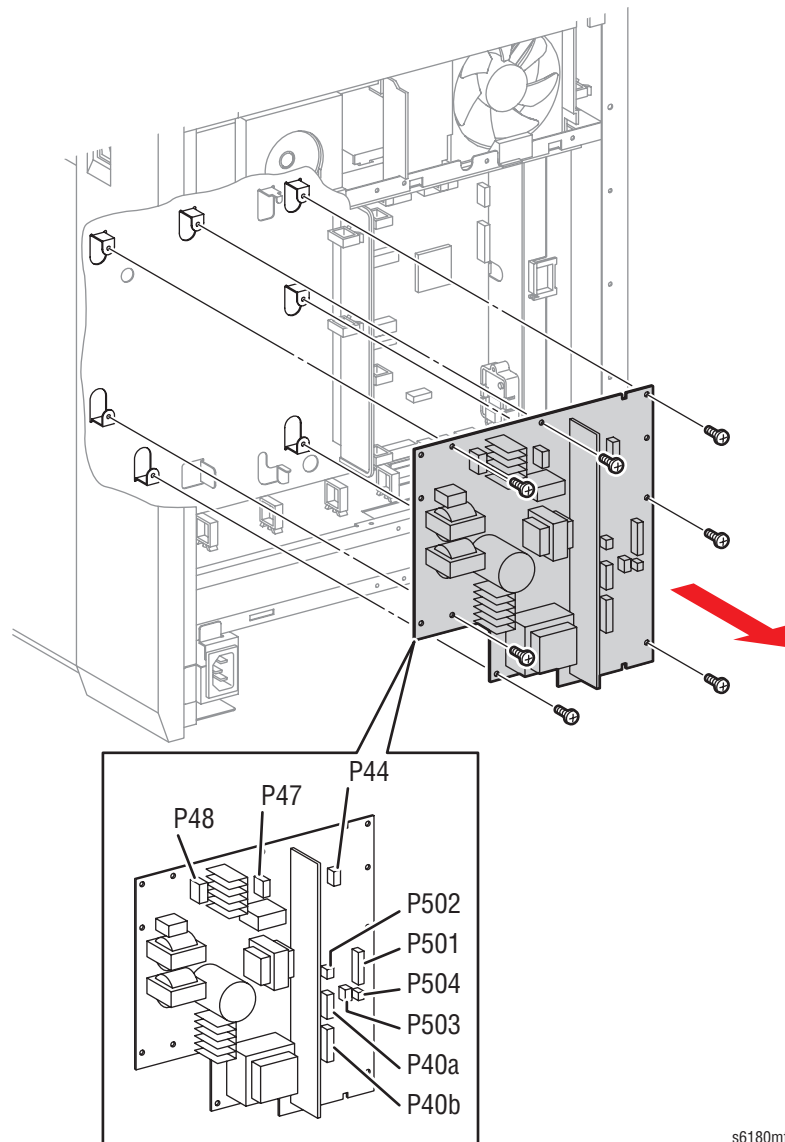
1. Open the Front Cover.
2. Remove the Fuser (page 8-12).
3. Remove the Rear Cover (page 8-18).
4. Remove the Bottom Cover (page 8-19).
5. Remove the Right Pole Inner Cover (page 8-21).
6. Remove the Right Pole Cover (page 8-22).
7. Remove the Right Cover (page 8-23).
8. Remove the Left Pole Inner Cover (page 8-24).
9. Remove the Left Pole Cover (page 8-25).
10. Remove the Left Cover (page 8-26).
11. Remove the Top Cover (page 8-27).
12. Remove the Controller Shield (PRT AIO Box Assembly) (page 8-92).
13. Remove the Fax Shield Assembly (page 8-96).
14. Disconnect the Interlock Switch connector P/J44 on the LVPS (PL9.2.14).
15. Release the Interlock Switch wiring harness from the clamp and pass it through the hole on the printer.
16. Remove the Interlock Switch from the Main Drive Duct (PL8.1.9).
17. Remove 1 screw (16 mm) securing the Interlock Switch to the printer.
18. Remove the Interlock Switch.



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LVPS (PL9.2.14)

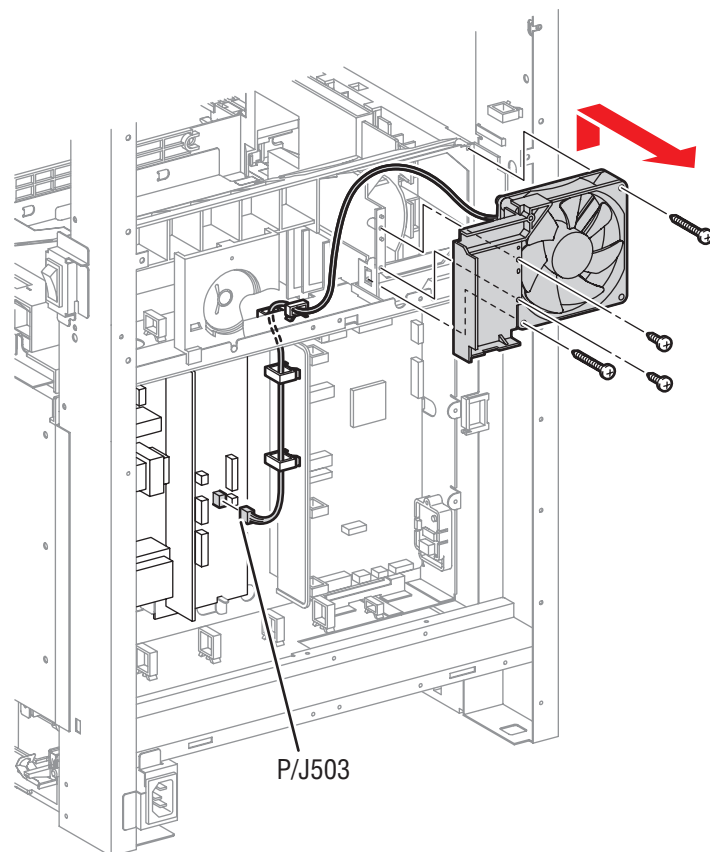
1. Remove the Rear Cover (page 8-18).
2. Remove the Bottom Cover (page 8-19).
3. Remove the Left Pole Inner Cover (page 8-24).
4. Remove the Left Pole Cover (page 8-25).
5. Remove the Left Cover (page 8-26).
6. Remove the Controller Shield (PRT AIO Box Assembly) (page 8-92).
7. Remove the Fax Shield Assembly (page 8-96).
8. Disconnect all the LVPS connectors.
9. Remove the 7 screws (6 mm) securing the LVPS to the printer.
10. Remove the LVPS.



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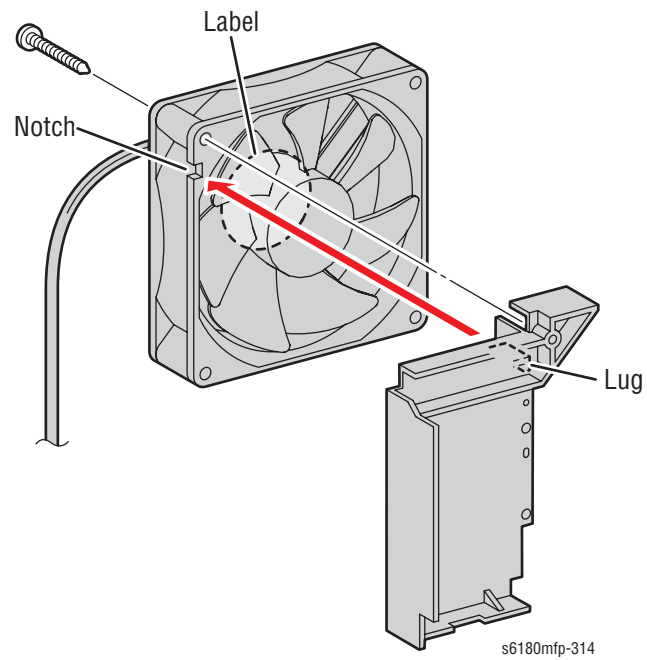
Main Fan (PL9.2.10)

1. Open the Front Cover.
2. Remove the Fuser (page 8-12).
3. Remove the Rear Cover (page 8-18).
4. Remove the Bottom Cover (page 8-19).
5. Remove the Right Pole Inner Cover (page 8-21).
6. Remove the Right Pole Cover (page 8-22).
7. Remove the Right Cover (page 8-23).
8. Remove the Left Pole Inner Cover (page 8-24).
9. Remove the Left Pole Cover (page 8-25).
10. Remove the Left Cover (page 8-26).
11. Remove the Top Cover (page 8-27).
12. Remove the Controller Shield Box Assembly (page 8-92).
13. Remove the Fax Shield Box Assembly (page 8-96).
14. Disconnect the Fan connector P/J503 from the LVPS (PL9.2.14).
15. Release the Fan wiring harness from the 4 Clamps and pull it out of the hole on the printer.
16. Remove 2 screws (8 mm) securing the Main Fan to the Duct Plate (PL9.2.9)
17. Remove 2 screws (32 mm) securing the Main Fan to the printer.
18. Remove Duct Plate and Main Fan from the printer.



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19. Remove 1 screw (32 mm) securing the Duct Plate to the Fan.
20. Remove the Fan from the Duct Plate.

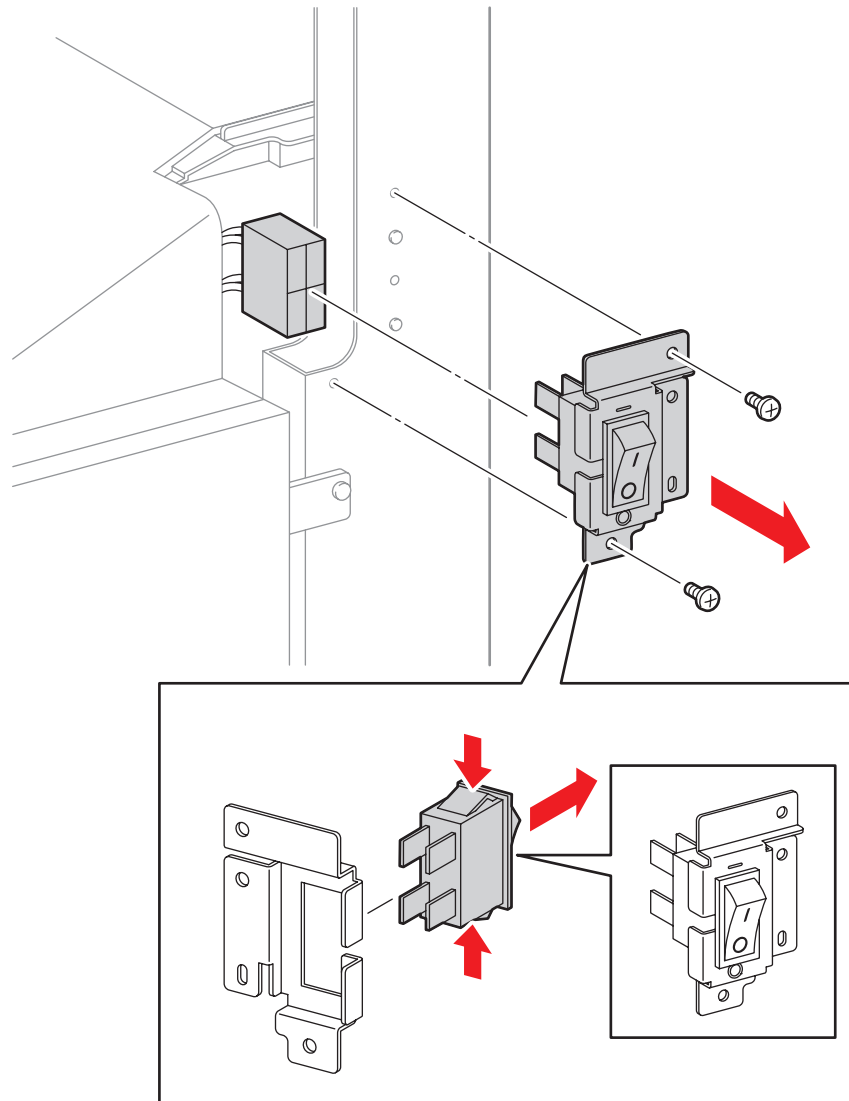


Power Switch (PL9.2.4)

Warning

Be sure the mark on the Power Switch matches the mark on the printer frame to prevent from injury.

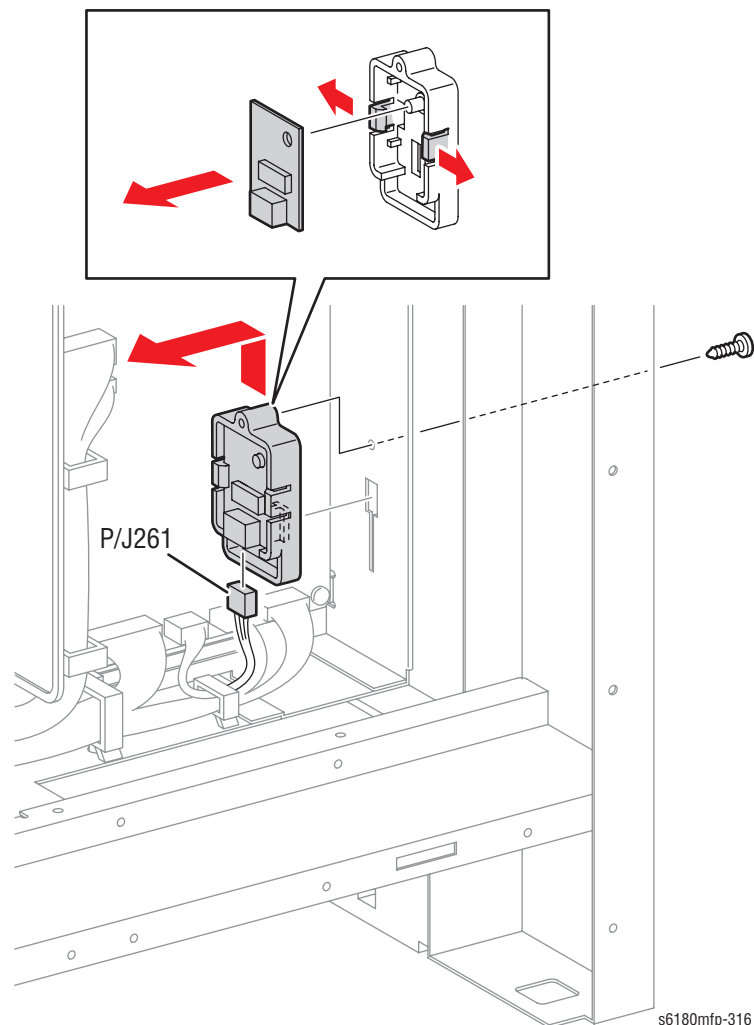
1. Remove the Rear Cover (page 8-18).
2. Remove the Bottom Cover (page 8-19).
3. Remove the Right Pole Inner Cover (page 8-21).
4. Remove the Right Pole Cover (page 8-22).
5. Disconnect the Power Switch connector P/J481.
6. Remove 2 screws (6 mm) securing the SW Main Bracket (PL9.2.5) to the printer.
7. Remove the SW Main Bracket together with the Power Switch.
8. Release the hooks on the Power Switch from the SW Main Bracket and remove the Power Switch.



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Humidity/Temperature Sensor (PL9.2.11)

1. Open the Front Cover.
2. Remove the Fuser (page 8-12).
3. Remove the Rear Cover (page 8-18).
4. Remove the Bottom Cover (page 8-19).
5. Remove the Left Pole Inner Cover (page 8-24).
6. Remove the Left Pole Cover (page 8-25).
7. Remove the Left Cover (page 8-26).
8. Remove the Controller Shield Box Assembly (page 8-92).
9. Remove the Fax Shield Box Assembly (page 8-96).
10. Remove 1 screw (10 mm) securing the Humidity/Temperature Sensor to the printer.
11. Slide the Humidity/Temperature Sensor Bracket upward to release the hooks and remove the Humidity/Temperature Sensor Bracket together with the Humidity/Temperature Sensor.
12. Disconnect the Humidity/Temperature Sensor connector P/J261.
13. Release the hooks on the Humidity/Temperature Sensor Bracket and remove the Humidity/Temperature Sensor.



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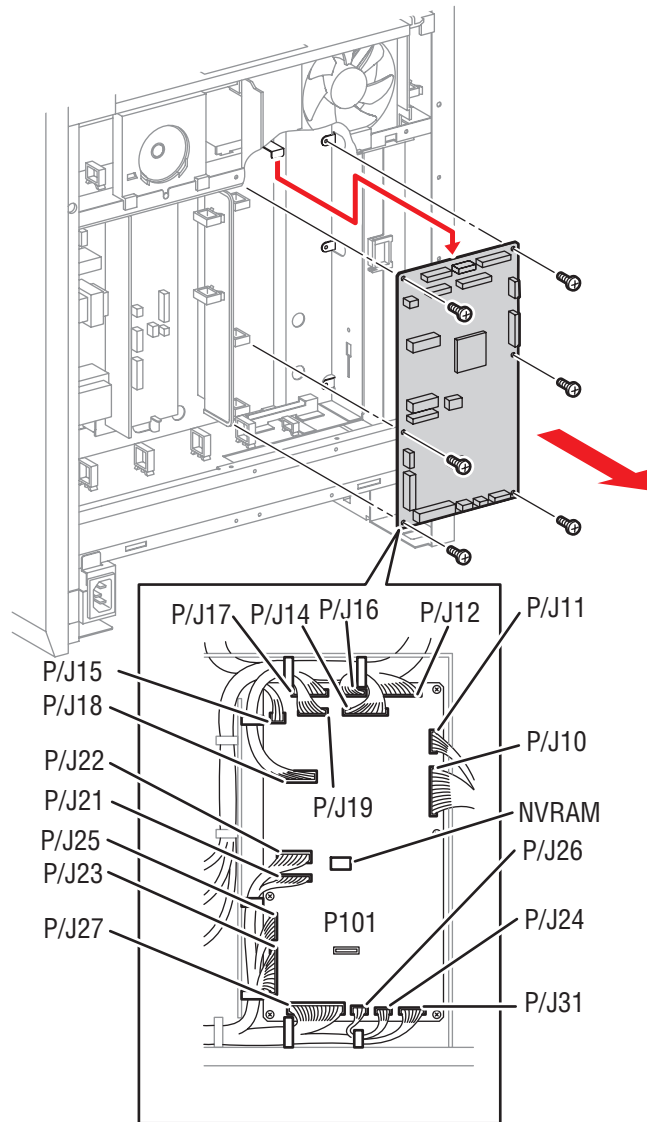
MCU Board (PL9.2.13)

Note

If the MCU Board is exchanged, store internal data to the Image Processor Board. Enter Service Diagnostics menu: **Service Mode** > **Printer Diag** > **Engine Diag** > **NVM Settings** > **Save NVM to ESS**. Refer to "Saving NVM (NVRAM)" on page 6-7 for detailed procedures.

1. Open the Front Cover.
2. Remove the Fuser (page 8-12).
3. Remove the Rear Cover (page 8-18).
4. Remove the Bottom Cover (page 8-19).
5. Remove the Left Pole Inner Cover (page 8-24).
6. Remove the Left Pole Cover (page 8-25).
7. Remove the Left Cover (page 8-26).
8. Remove the Controller Shield Box Assembly (page 8-92).
9. Remove the Fax Shield Box Assembly (page 8-96).
10. Remove the Humidity/Temperature Sensor (page 8-87).
11. Disconnect all the MCU Board connectors and release the wiring harnesses from the Clamps.

12. Remove 6 screws securing the MCU Board to the printer.
13. Remove the MCU Board.



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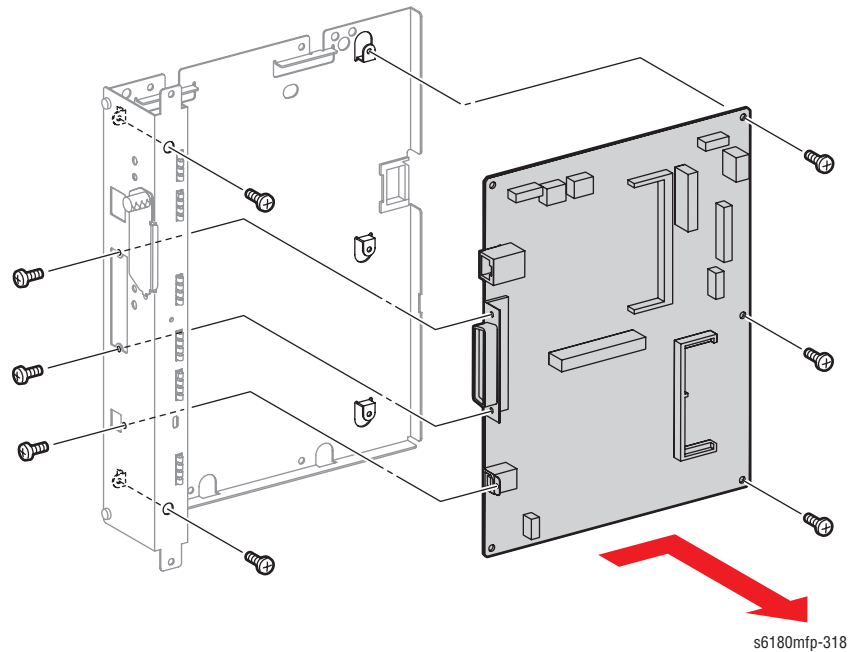
Replacement Note

If the MCU Board is exchanged, simply move the NVRAM chip from the old MCU Board to the new MCU Board.

Load the data from the I/P Board. Enter Service Diagnostics menu:
Service Mode > Printer Diag > Engine Diag > NVM Settings > Load NVM from ESS. Refer to "Loading NVM (NVRAM)" on page 6-7 for detailed procedures.

Image Processor Board (PL9.1.20)

1. Remove the Rear Cover (page 8-18).
2. Remove the Bottom Cover (page 8-19).
3. Remove the Left Pole Inner Cover (page 8-24).
4. Remove the Left Pole Cover (page 8-25).
5. Remove the Controller Shield (PRT AIO Box Assembly) (page 8-92).
6. Remove 3 screws (6 mm) securing the Image Processor Board connector connections to the Controller Shield (PRT AIO Box Assembly) (PL9.1.13).
7. Remove 5 screws (6 mm) securing the Image Processor Board to the Controller Shield.
8. Remove the Image Processor Board.

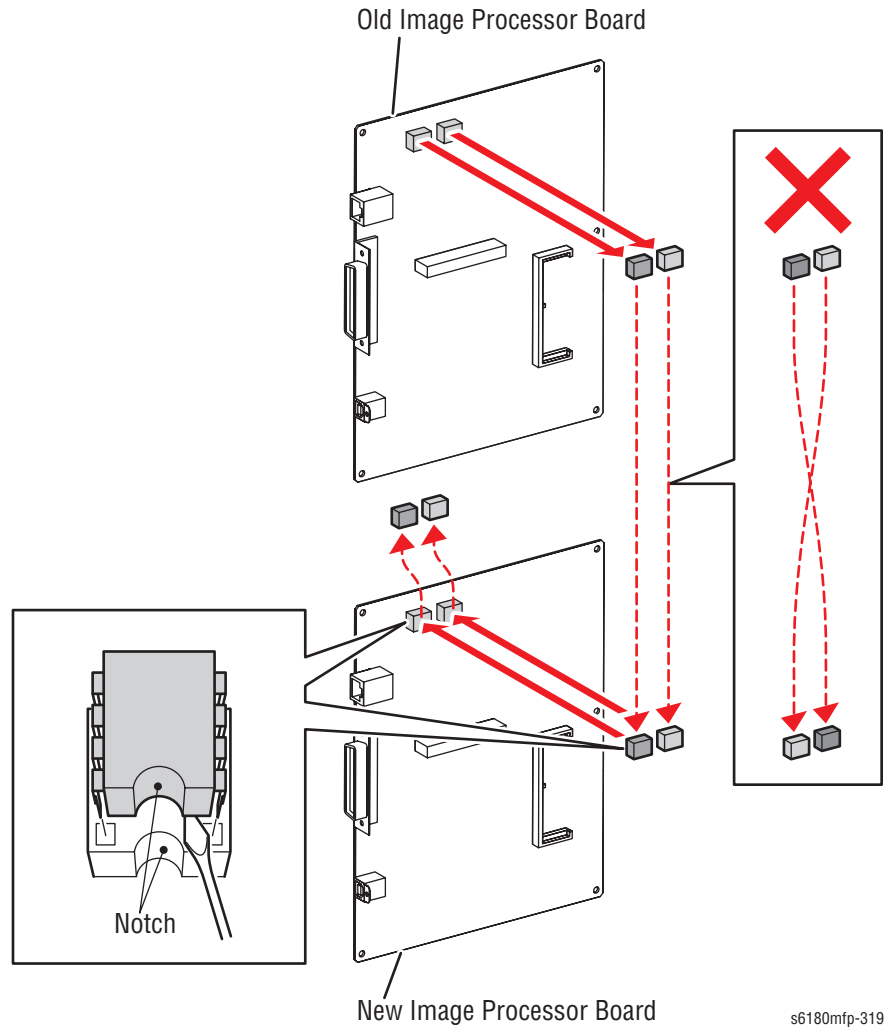


Replacement Note

DO NOT use the NVRAM ROM from the new I/P Board.

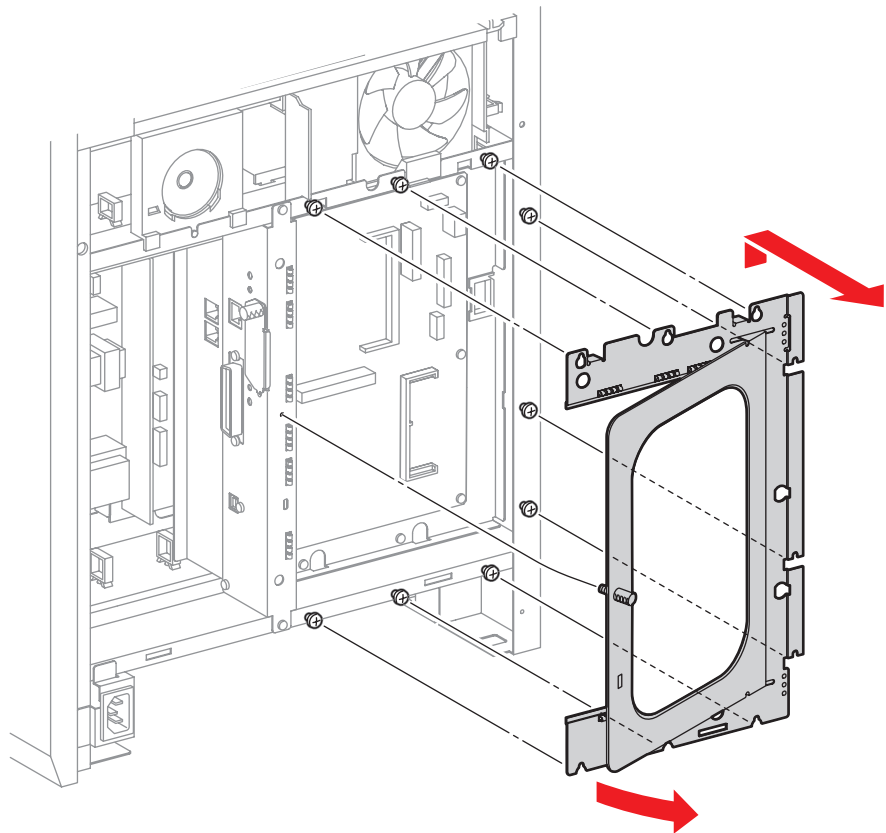
DO NOT apply pressure on the I/P Board when removing the NVRAM ROM.

Make sure to move the NVRAM ROM from the old I/P Board to the new I/P Board. Carefully check the correct orientation of the NVRAM ROM when installing the NVRAM ROM.



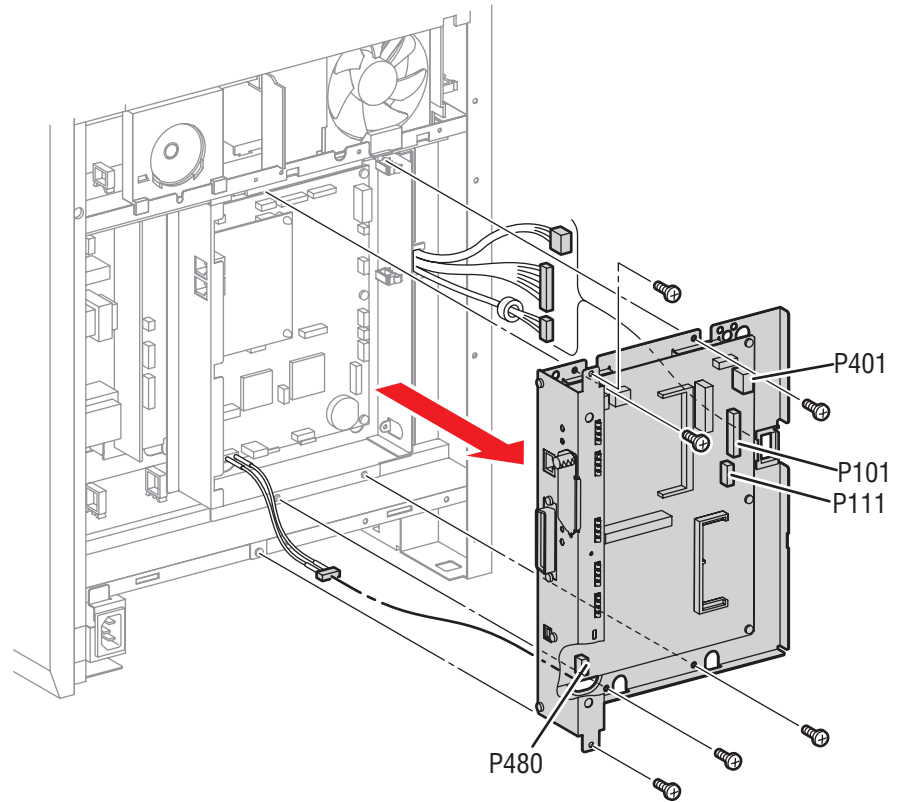
Controller Shield Box Assembly (PRT AIO Box Assembly) (PL9.1.13)

1. Remove the Rear Cover (page 8-18).
2. Remove the Bottom Cover (page 8-19).
3. Remove the Left Pole Inner Cover (page 8-24).
4. Remove the Left Pole Cover (page 8-25).
5. Loosen the Knurling screw (PL9.1.12) and open the Controller Shield Window Plate (PL9.1.10).
6. Loosen 9 screws securing the Controller Shield Window Assembly (PL9.1.7) to the printer.
7. Slightly slide the Controller Shield Window Plate upward until the U-shaped grooves on the Controller Shield Window Plate are disengaged from the 9 screws.



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8. Disconnect all the Image Processor Board (PL9.1.20) connectors.
9. Remove 6 screws (6 mm) securing the Controller Shield to the printer.
10. Slightly pull out the Controller Shield forward and release the 3 wiring harnesses on the right side from the LES-1017 Saddle Clamp (PL9.1.19).
11. Disconnect the Controller AIO-ESS wiring harness (PL10.1.14) from the Image Processor Board.
12. Release the wiring harness clip to remove the wiring harnesses from the Controller Shield Box Assembly. Remove the Controller Shield together with the Image Processor Board.



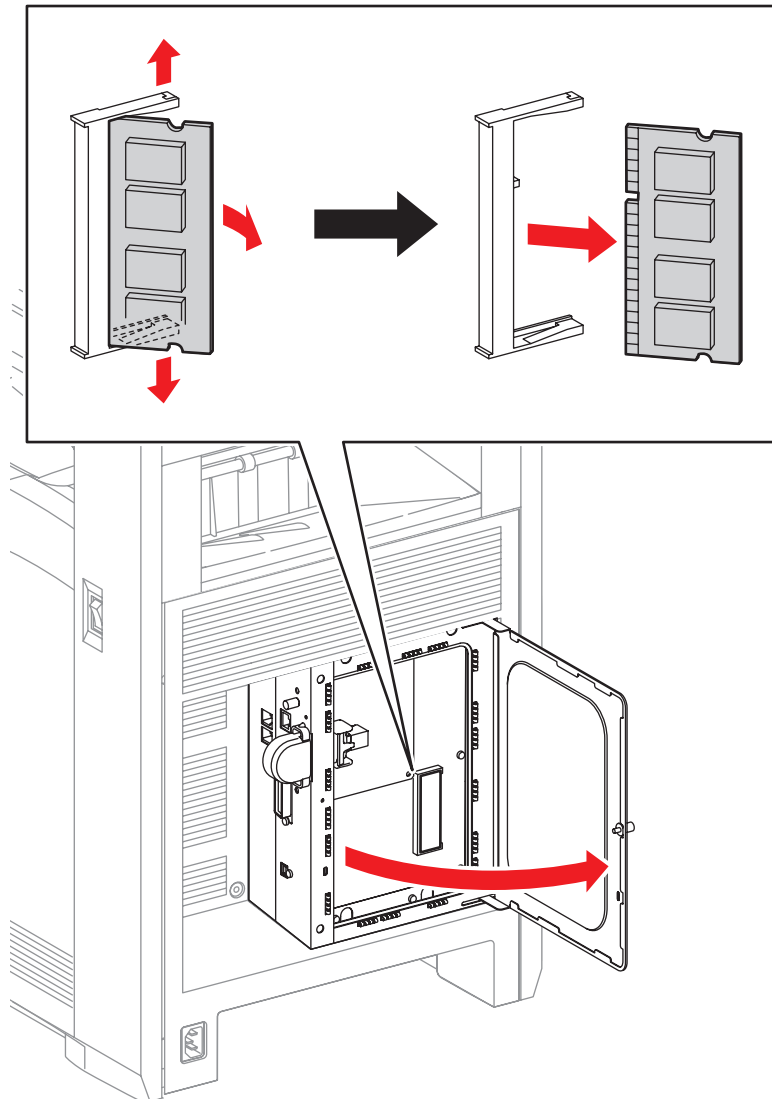
s6180mfp-375

Memory Card (PL9.1.22)

Caution

Be sure to wear proper ESD protection to prevent from damaging the Memory Card.

1. Loosen the Knurling Screw (PL9.1.12) and open the Controller Shield Window Plate (PL9.1.10).
2. Gently release both tabs on the memory socket until the Memory Card releases.
3. Remove the Memory Card.



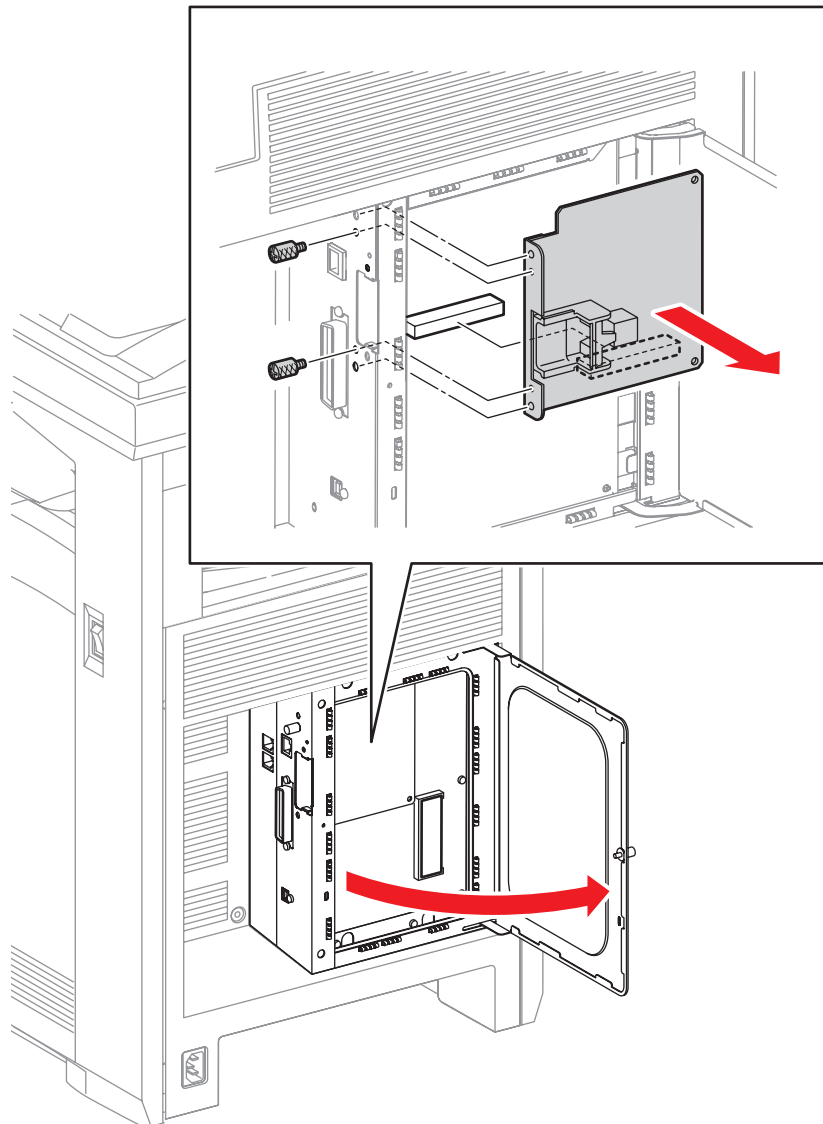
s6180mfp-321

Multi-Protocol Network Card (PL9.1.23)

Caution

Be sure to wear proper ESD protection to prevent from damaging the Multi-Protocol Card (MPC).

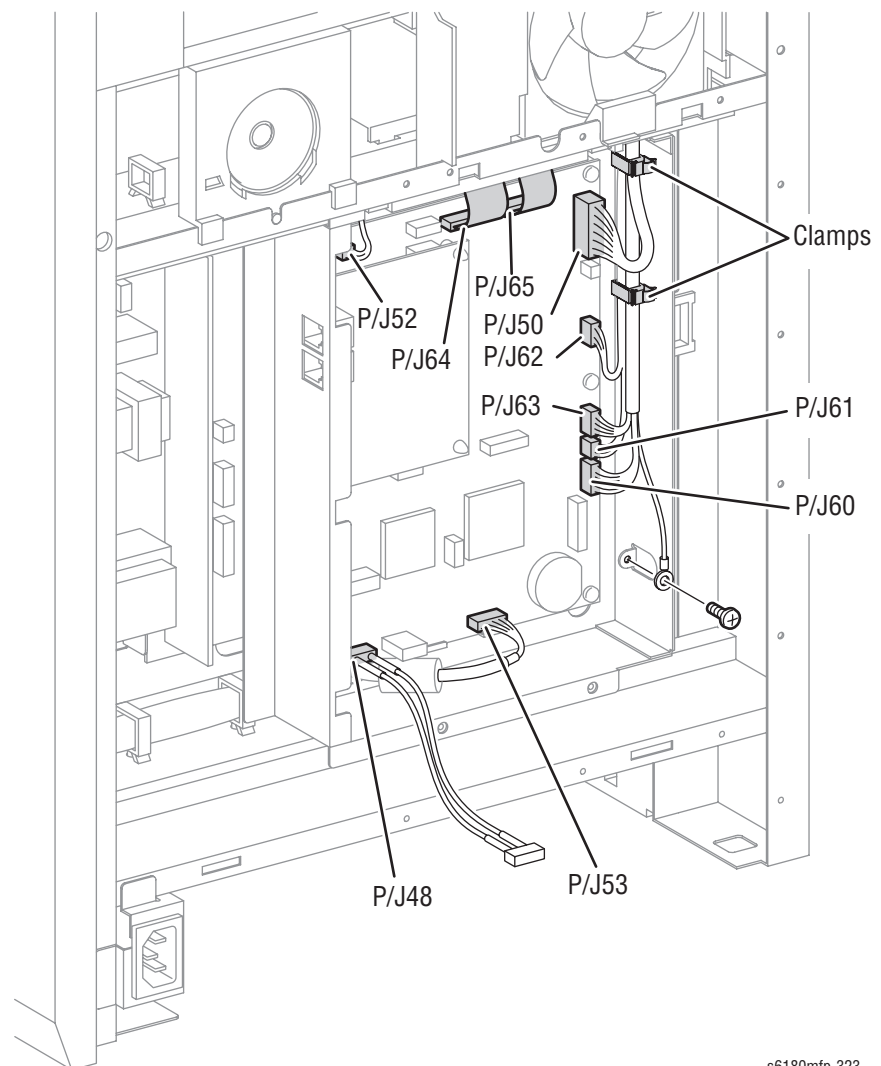
1. Loosen 1 Knurling Screw (PL9.1.12) and open the Controller Shield Window Plate (PL9.1.10).
2. Remove 2 Knurling Screws (PL9.1.12) securing the Multi-Protocol Card to the printer.
3. Remove the Multi-Protocol Card from the Image Processor Board (PL9.1.20).



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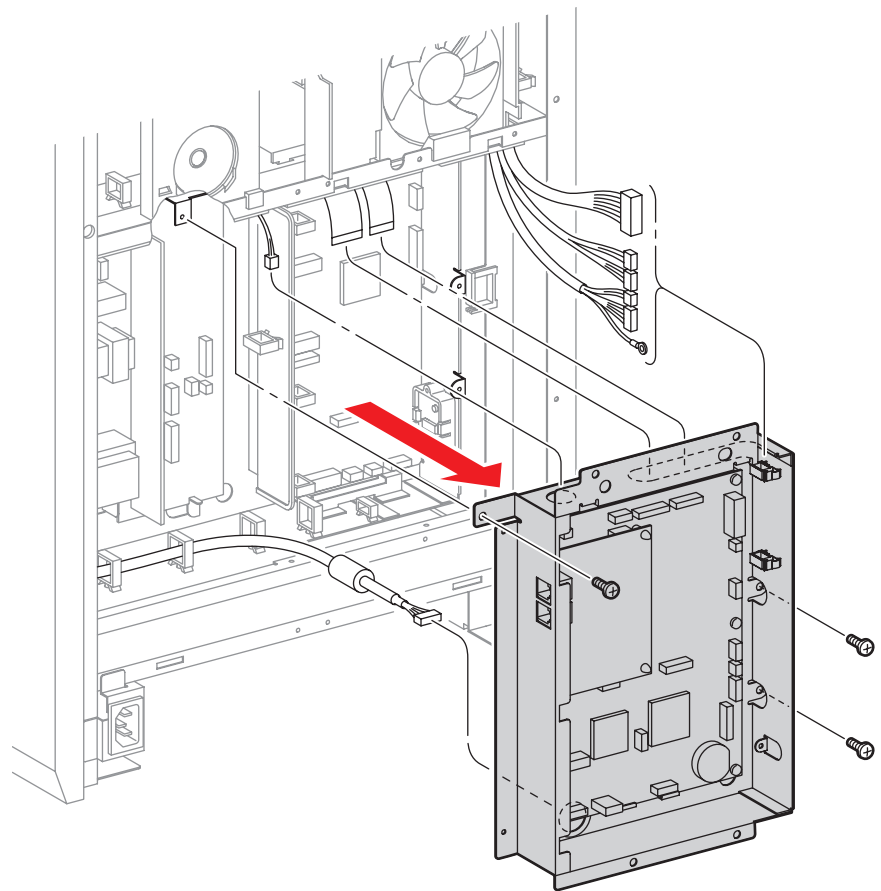
Fax Shield Box Assembly (PL9.1.4)

1. Remove the Rear Cover (page 8-18).
2. Remove the Bottom Cover (page 8-19).
3. Remove the Left Pole Inner Cover (page 8-24).
4. Remove the Left Pole Cover (page 8-25).
5. Remove the Controller Shield Box Assembly (page 8-92).
6. Disconnect all the Scanner Controller Board (PL9.1.1) connectors.
 - 6 connectors: P/J50, P/J52, P/J60, P/J61, P/J62, P/J63
 - 2 flat cables: P/J64, P/J65
7. Remove 1 screw (6 mm) securing the ground wire of the ADF Scanner Assembly (PL11.1.1) to the Fax Shield Box Assembly.
8. Release the wiring harnesses from the Clamps.



s6180mp-323

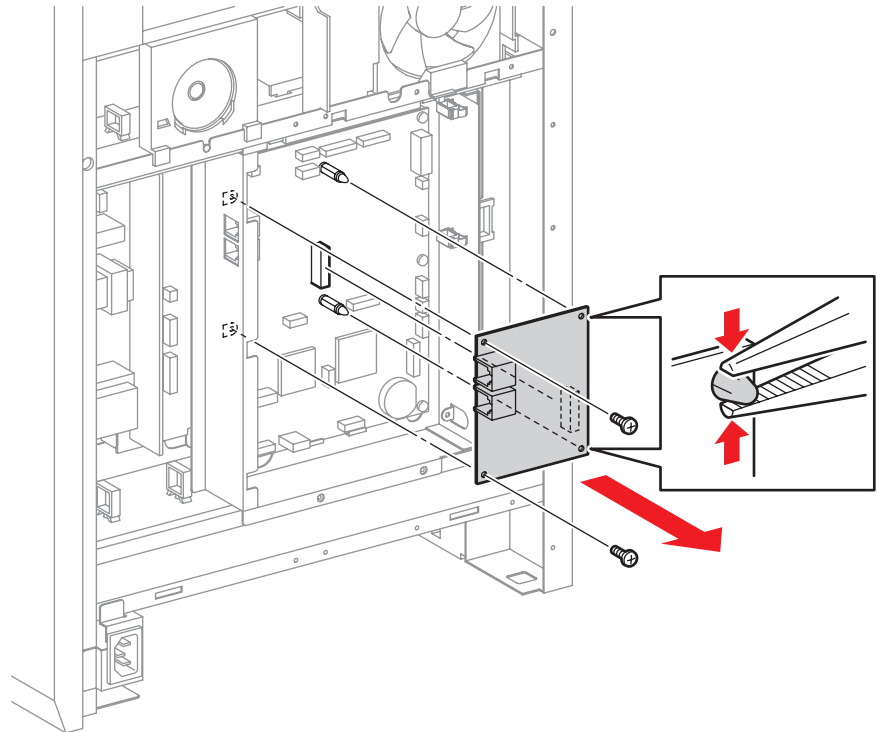
9. Remove 3 screws securing the Controller Shield to the printer.
10. Remove the Fax Shield Box Assembly together with the Scanner Controller Board and the Fax Board (PL9.1.3) while passing the wiring harnesses through the hole on the Fax Shield Box Assembly.



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Fax Board (PL9.1.3)

1. Remove the Rear Cover (page 8-18).
2. Remove the Bottom Cover (page 8-19).
3. Remove the Left Pole Inner Cover (page 8-24).
4. Remove the Left Pole Cover (page 8-25).
5. Remove the Left Cover (page 8-26).
6. Remove the Controller Shield Box Assembly (page 8-92).
7. Remove 2 screws (6 mm) securing the Fax Board to the Fax Shield Box Assembly (PL9.1.4).
8. Release the hooks on the Fax Support (PL9.1.2) and remove the Fax Board from the Scanner Controller Board (PL9.1.1).



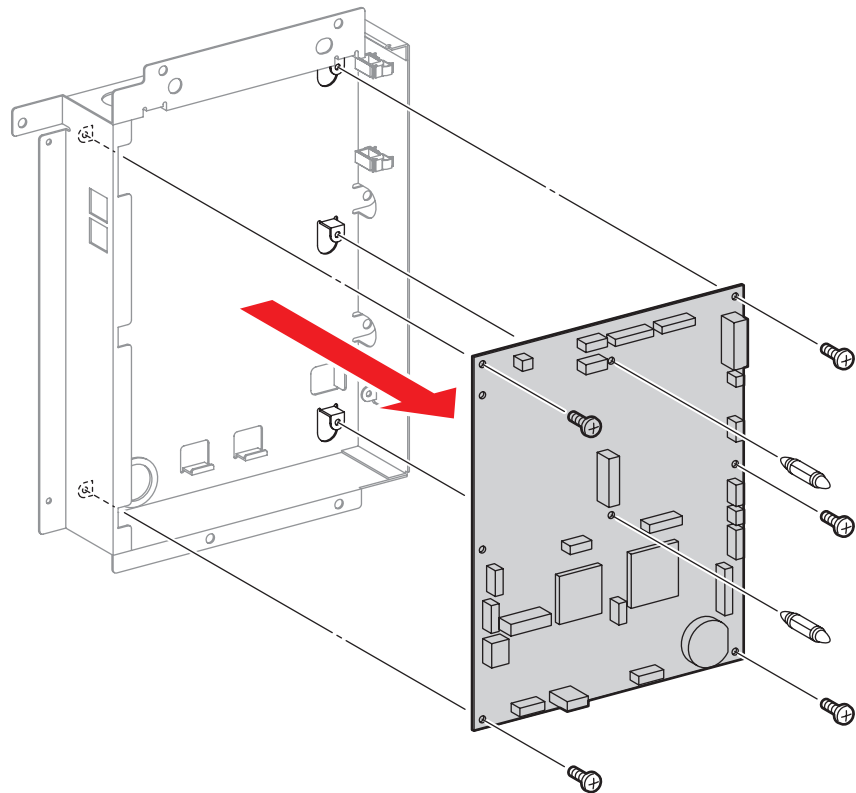
s6180mfp-325

Scanner Controller Board (PL9.1.1)

Caution

Be sure to wear proper ESD protection to prevent from damaging the Scanner Controller Board.

1. Remove the Rear Cover (page 8-18).
2. Remove the Bottom Cover (page 8-19).
3. Remove the Left Pole Inner Cover (page 8-24).
4. Remove the Left Pole Cover (page 8-25).
5. Remove the Left Cover (page 8-26).
6. Remove the Controller Shield Box Assembly (page 8-92).
7. Remove the Fax Shield Box Assembly (page 8-96).
8. Remove the Fax Board (page 8-98).
9. Remove 5 screws (6 mm) securing the Scanner Controller Board to the Fax Shield Box Assembly (PL9.1.4).
10. Remove the Scanner Controller Board from the Fax Shield Box Assembly.
11. Release the hooks and remove the Fax Support (PL9.1.2) from the Scanner Controller Board.



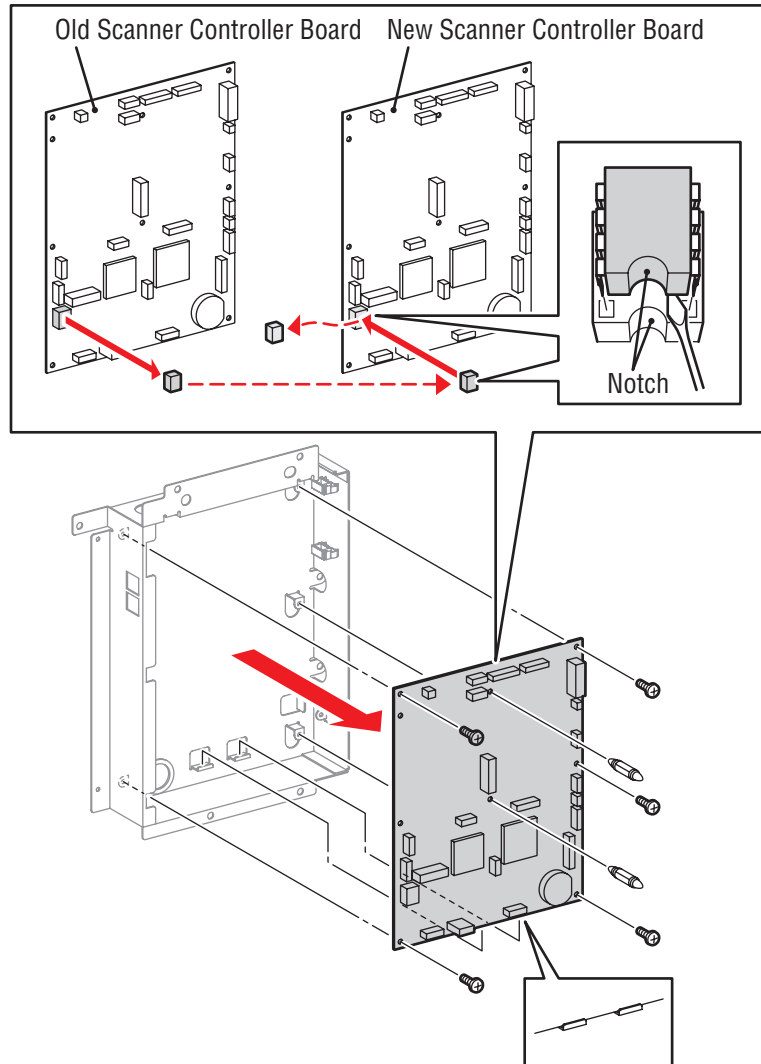
s6180mfp-326

Replacement Note

DO NOT use the NVM ROM from the new Scanner Controller Board.

DO NOT apply pressure on the Scanner Controller Board when removing the NVM ROM.

1. Make sure to move the NVM ROM from the old Scanner Controller Board to the new Scanner Controller Board.
2. Carefully check the correct orientation of the NVM ROM when installing the NVM ROM.
3. Install the NVM ROM that was removed from the old Scanner Controller Board on the IC socket of the new Scanner Controller Board with its notch aligned with the notch in the IC socket.



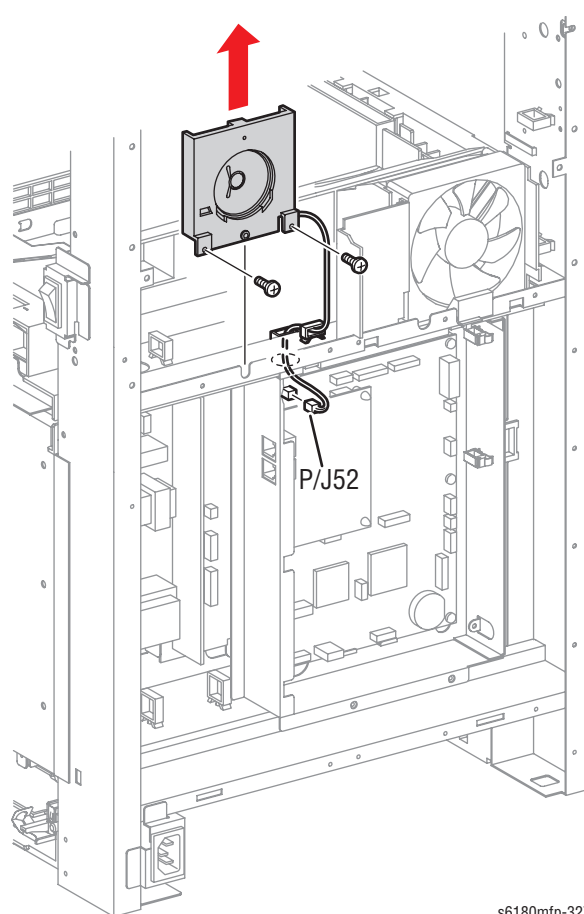
s6180mfp-413

4. After reinstall all the components, turn On the printer.
5. Press the **System** button to access the **Control Panel** menu. Press the **Up Arrow** or **Down Arrow** to find **Admin** menu. Press the **OK** button.
6. Press the **Up Arrow** or **Down Arrow** to find **Fax Settings...** Press the **OK** button.
7. Press the **Up Arrow** or **Down Arrow** to find **Country...** Press the **OK** button.

8. Press the **Up Arrow** or **Down Arrow** to select the appropriate country and press the **OK** button.
9. **Restart System (Are You Sure?)** menu is displayed. Select **Yes** and press the **OK** button to start system initialization.
10. **Restart System** menu with Print, Initialize NVM, Initializing... messages are displayed.
11. When the process is completed, the **Please wait...** --> **Ready** messages are displayed on the printer's Control Panel.

Speaker Assembly (PL9.2.6)

1. Open the Front Cover.
2. Remove the Fuser.
3. Remove the Rear Cover (page 8-18).
4. Remove the Bottom Cover (page 8-19).
5. Remove the Right Pole Inner Cover (page 8-21).
6. Remove the Right Pole Cover (page 8-22).
7. Remove the Right Cover (page 8-23).
8. Remove the Left Pole Inner Cover (page 8-24).
9. Remove the Left Pole Cover (page 8-25).
10. Remove the Left Cover (page 8-26).
11. Remove the Top Cover (page 8-27).
12. Remove the Controller Shield Box Assembly (page 8-92).
13. Disconnect the Speaker Assembly connector P/J52 from the Scanner Controller Board (PL9.1.1).
14. Release the Speaker Assembly wiring harness from the 2 clamps and pull them out of the hole on the printer.
15. Remove 2 screws (6 mm) securing the Speaker Assembly to the printer.
16. Slide the Speaker Assembly upward to remove it.



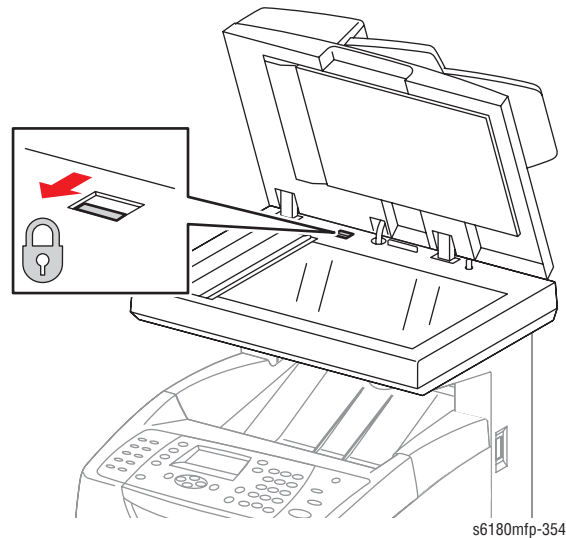
s6180mfp-327

Automatic Document Feeder and Scanner Assembly

ADF Scanner Assembly (PL11.1.1)

Caution

Prior to removing the Automatic Document Feeder (ADF), open the ADF Assembly (PL11.1.2) and move the Carriage Lock Lever toward the front to the locking position.

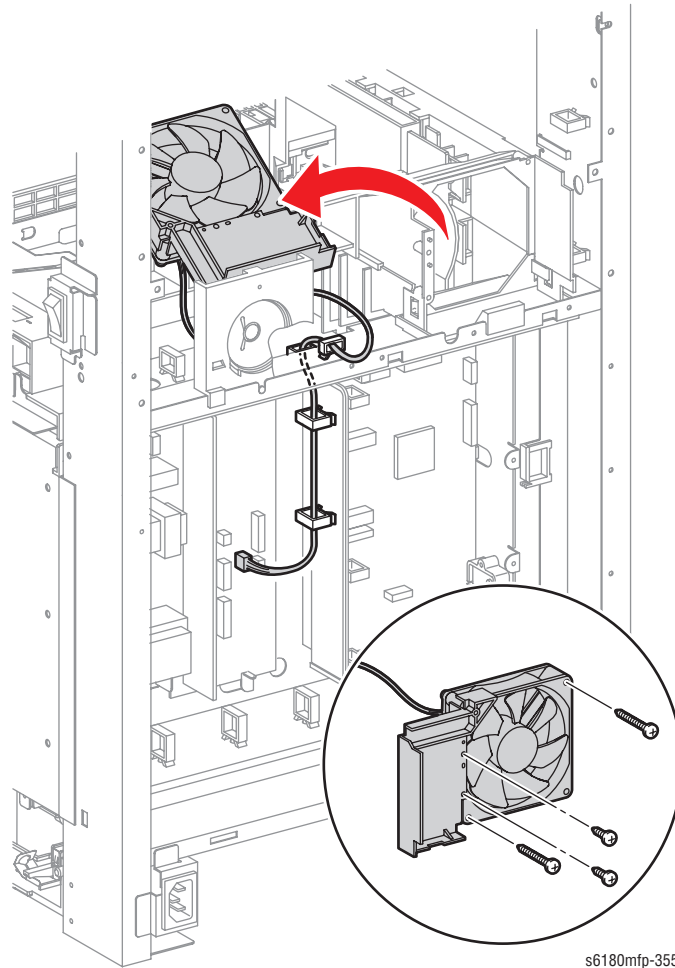


1. Open the Front Cover.
2. Remove the Fuser (page 8-12).
3. Remove the Rear Cover (page 8-18).
4. Remove the Bottom Cover (page 8-19).
5. Remove the Right Pole Inner Cover (page 8-21).
6. Remove the Right Pole Cover (page 8-22).
7. Remove the Right Cover (page 8-23).
8. Remove the Left Pole Inner Cover (page 8-24).
9. Remove the Left Pole Cover (page 8-25).
10. Remove the Left Cover (page 8-26).
11. Remove the Top Cover (page 8-27).
12. Remove the Controller Shield Box Assembly (page 8-92).

Note

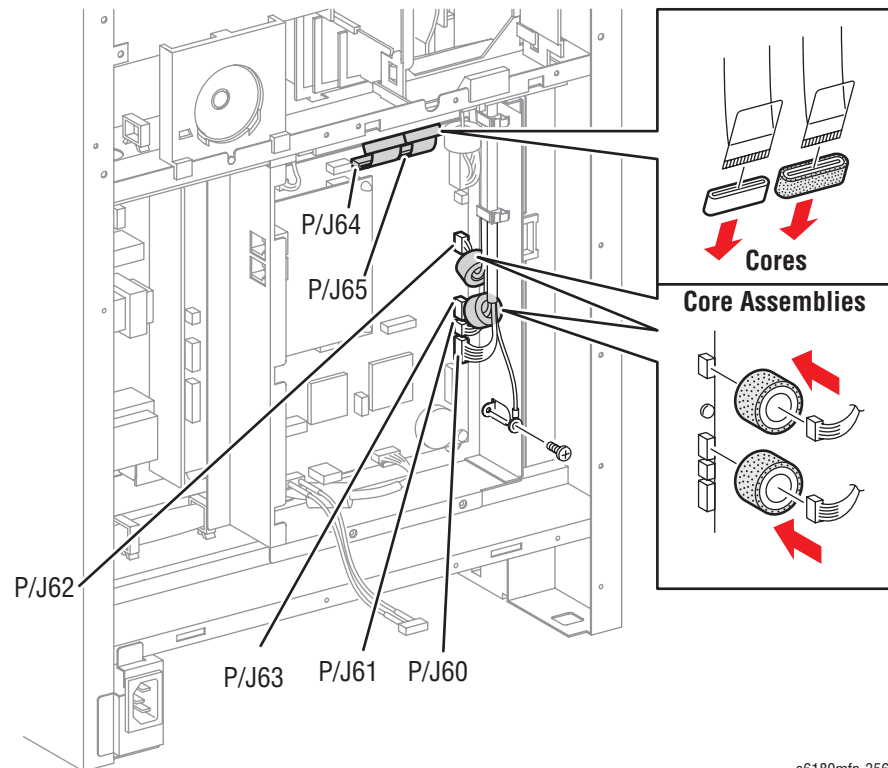
When performing the following step, it is not necessary to remove the Fan connector and wiring harness.

13. Remove 4 screws securing the Main Fan to the printer. Move the Main Fan to the left side and sit the Fan on the printer frame.



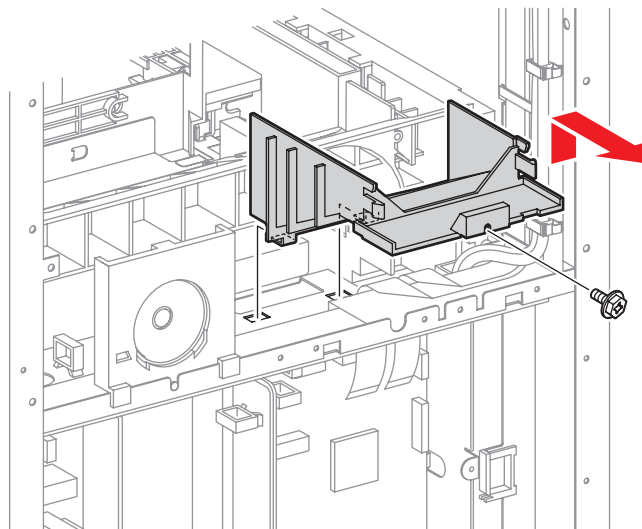
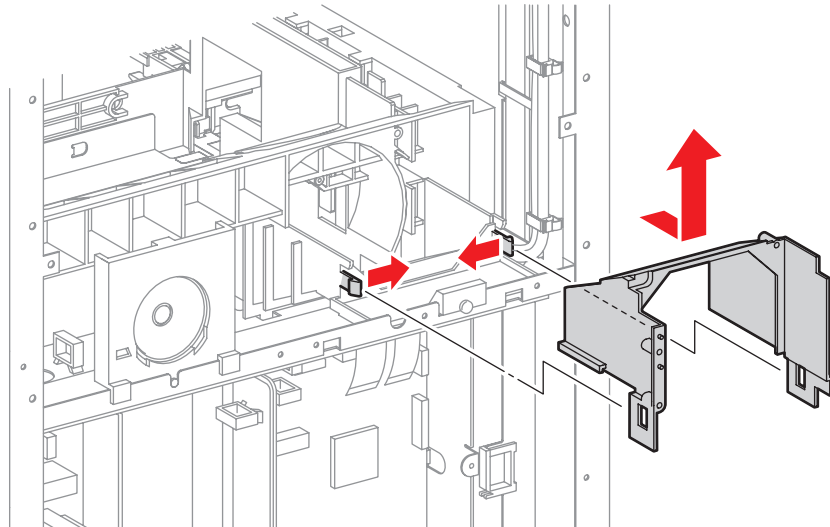
s6180mfp-355

14. Disconnect the ADF Scanner Assembly connectors and cables from the Scanner Controller Board (PL9.1.1).
 - 6 connectors: P/J50, P/J52, P/J60, P/J61, P/J62, P/J63
 - 2 flat cables: P/J64, P/J65
15. Remove 1 screw (6 mm) securing the ADF Scanner Assembly ground wire to the Fax Shield Box Assembly (PL9.1.4).
16. Remove the FCR27-12-1.3 Core (PL11.1.14) and the FCR27 Core (PL11.1.13) from the 2 flat cables.
17. Remove the two SC-18 Core Assemblies (PL11.1.15) on the connectors J62 and J63.



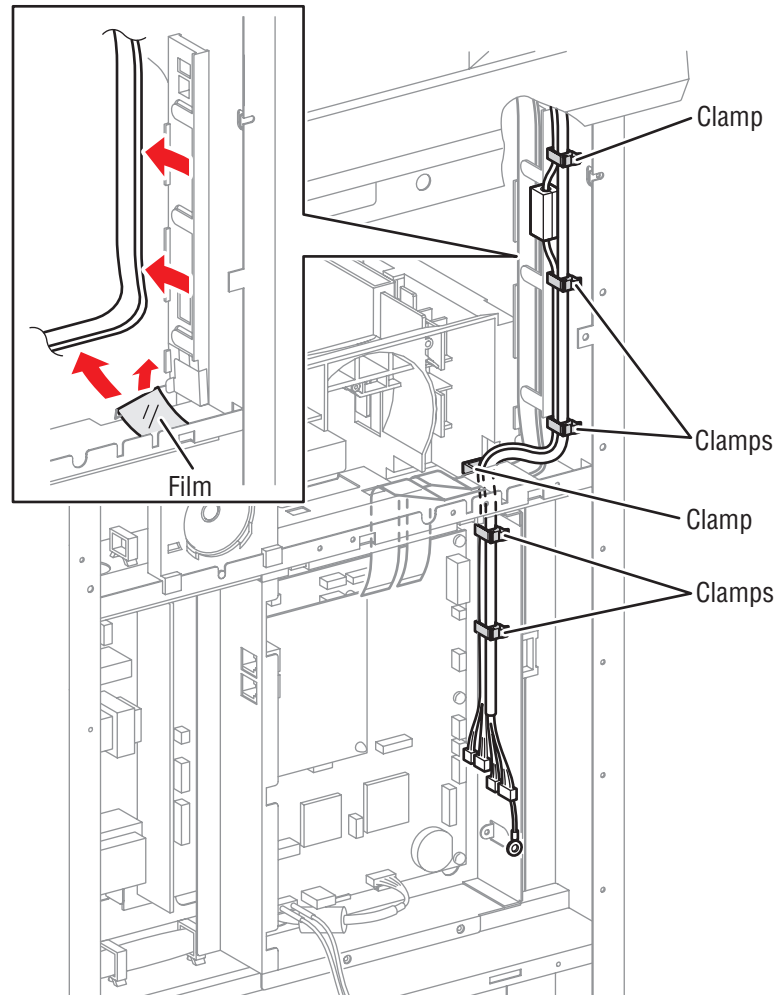
s6180mfp-356

18. Use a flat tip screwdriver to release the 2 hooks from the inside of the Lower Duct (PL9.2.8) and slide the Upper Duct back and upward to remove it.
19. Remove 1 screw (6 mm) securing the Lower Duct to the printer.
20. Release the 2 hooks on the bottom of the Lower Duct from the holes of the printer and remove the Lower Duct.



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21. Release the ADF Scanner Assembly wiring harness from the 6 Clamps and pull it out of the slot on the Fax Plate Assembly (PL9.1.5).
22. Release the 2 hooks on the SFT-25SN Core (PL11.1.12) and remove the Core from the wiring harness.
23. Release the 2 flat cables from underneath the Film.
24. Release the 2 flat cables from the FFC Spacer Assembly (PL5.1.14).



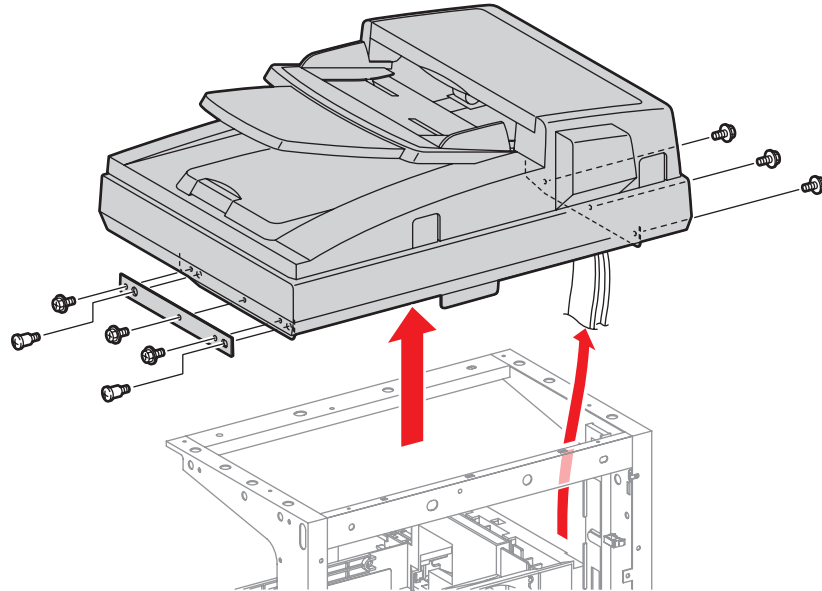
s6180mfp-357

25. Remove 6 screws (6 mm, flanged) securing the ADF Scanner Assembly to the printer.
26. Remove 2 screws securing the Sub Plate (PL11.1.8) to the ADF Scanner Assembly.

Caution

When performing the following step, be sure that wiring harness of the ADF Scanner Assembly is not caught inside the printer.

27. Slowly lift the ADF Scanner Assembly to remove it.

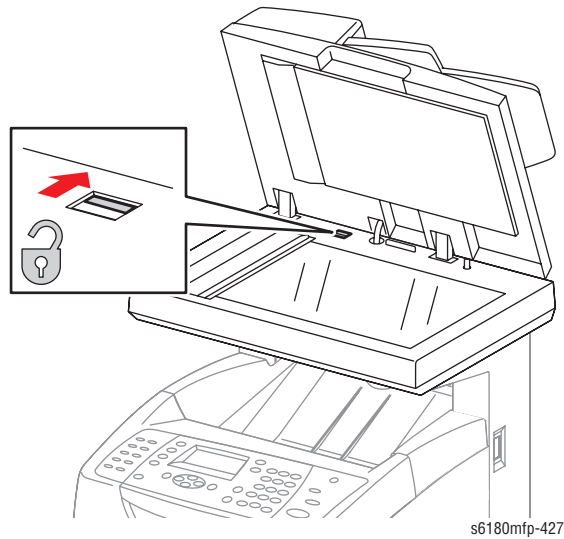


s6180mfp-358

Replacement Note

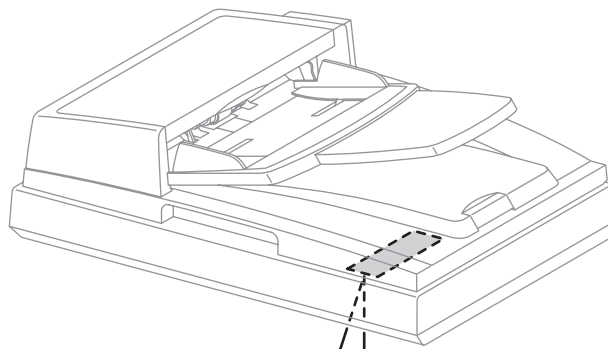
Caution

Be sure to verify the Carriage Lock Lever position is in the Unlocking position. If the Carriage Lock Lever is in the Locking position, the printer can be damaged when it is turned On.



When replacing the ADF Scanner Assembly, be sure to perform calibration for the new ADF Scanner Assembly using Diagnostics procedures ("Scanner Calibration" on page 6-8).

Note the ADF Scanner correction values under the ADF Scanner Assembly prior to installing the ADF Scanner Assembly to the printer.

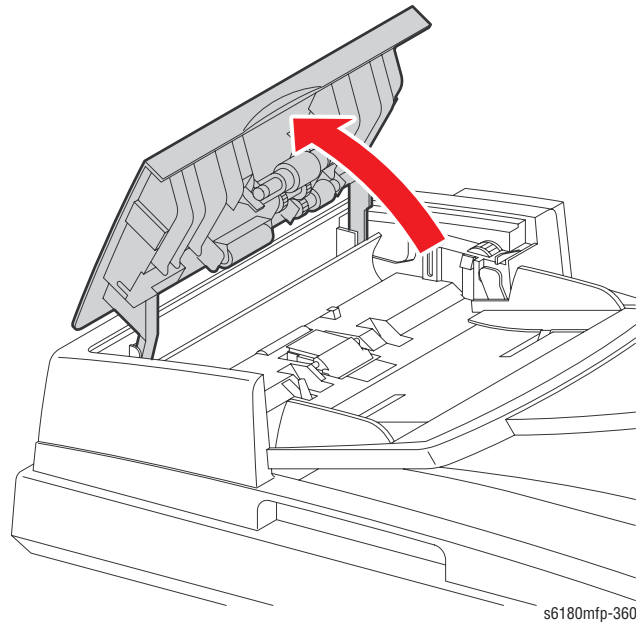


Index(Hex)	Value(Hex)		
S/N : FB - GS5LJZ003301, ADF - GD5LDZ006401			
0x04 : 51	0x08 : 34	0x0F : 5B	0x13 : 5F
0x05 : 28	0x09 : 21	0x10 : 63	0x14 : 65
0x06 : 1E	0x0A : 1F	0x11 : 63	0x15 : 66
0x07 : 24		0x12 : 61	0x16 : 63

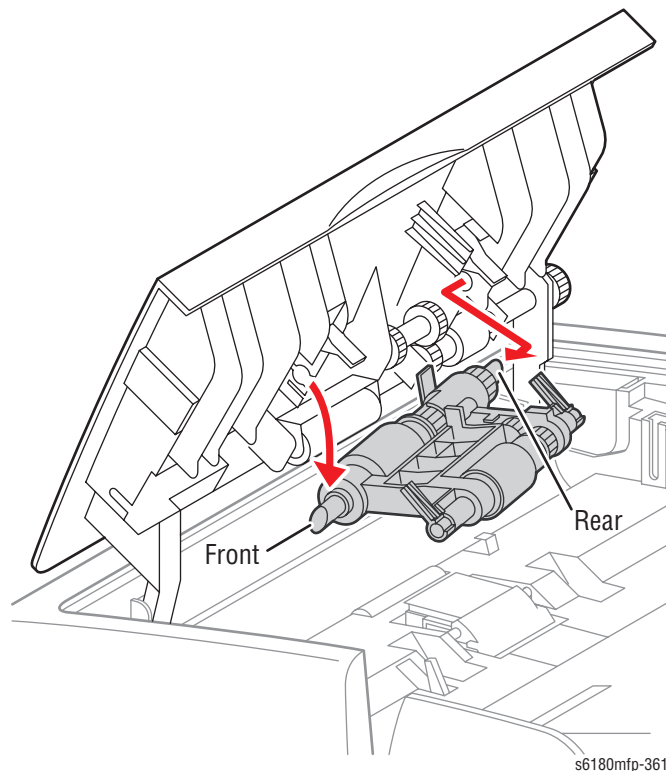
s6180mfp-414

ADF Feeder Roller (PL11.1.3, ADF Separator Pad, PL11.1.5), ADF Separator Spring (PL11.1.6)

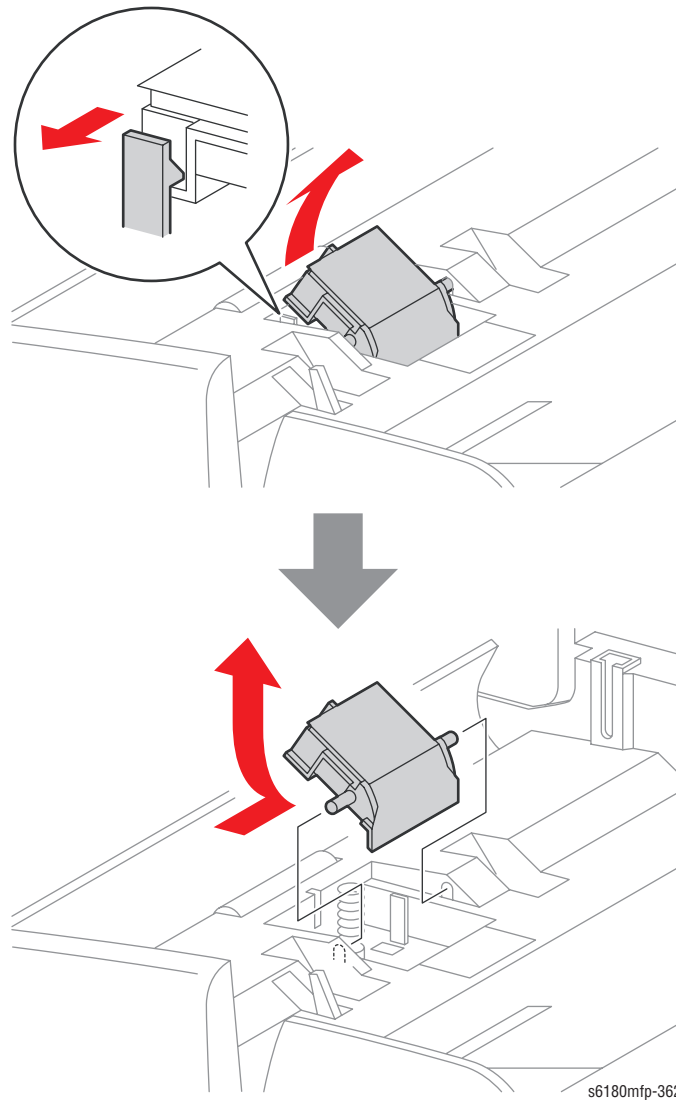
1. Open the ADF Assembly Cover.



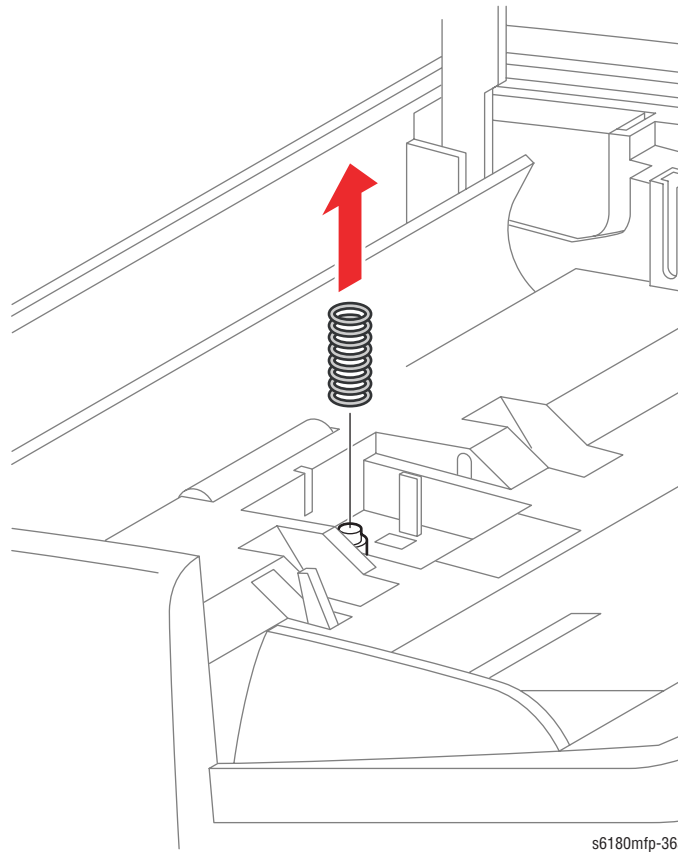
2. Release the front shaft of the ADF Feed Roller (PL11.1.3) from the ADF Assembly.
3. Release the rear shaft of the ADF Feed Roller from the ADF Assembly to remove the ADF Feed Roller.



4. Release the hook securing the ADF Separator Pad (PL11.1.5) to the ADF Assembly.
5. Slide the ADF Separator Pad backward until the front shaft of the ADF Separator Pad is released from the hole on the ADF Assembly. Release the rear shaft and remove the ADF Separator Pad.



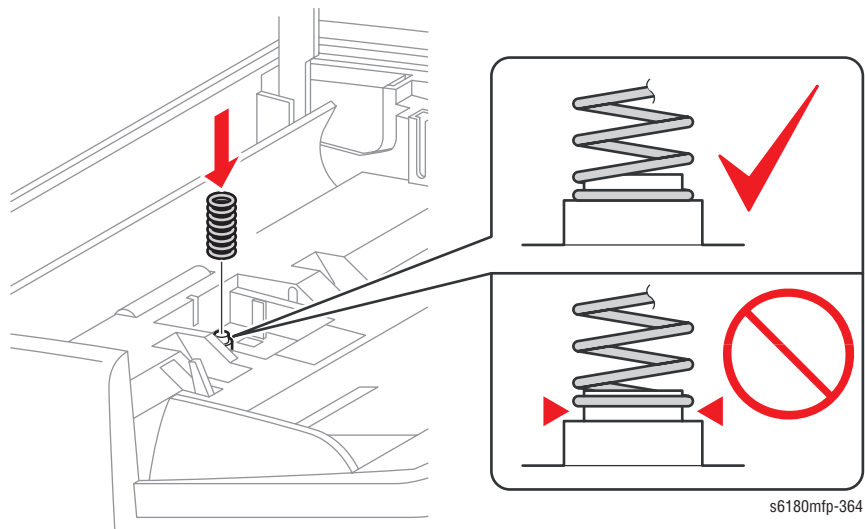
6. Remove the ADF Separator Spring (PL11.1.6) from the notch on the ADF Assembly.



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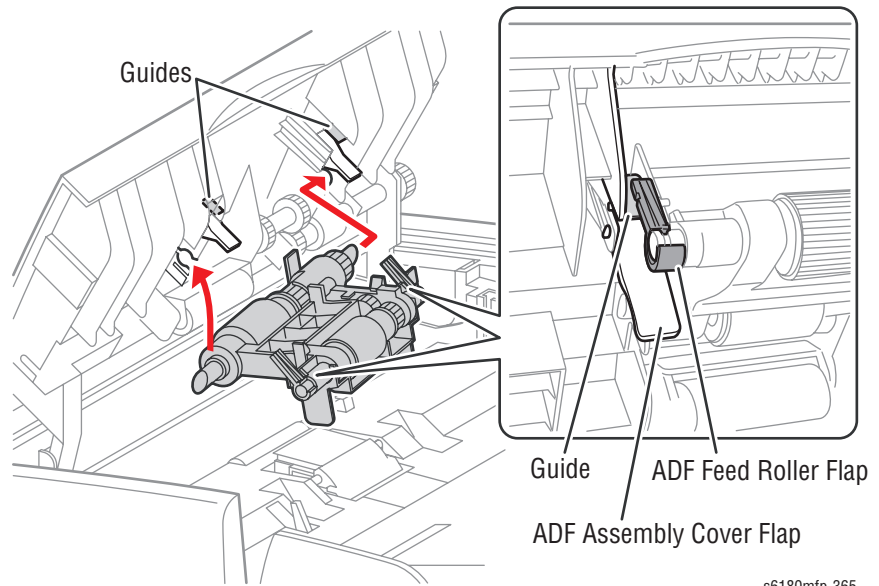
Replacement Note

1. Be sure the ADF Separator Spring (PL11.1.6) sits correctly.

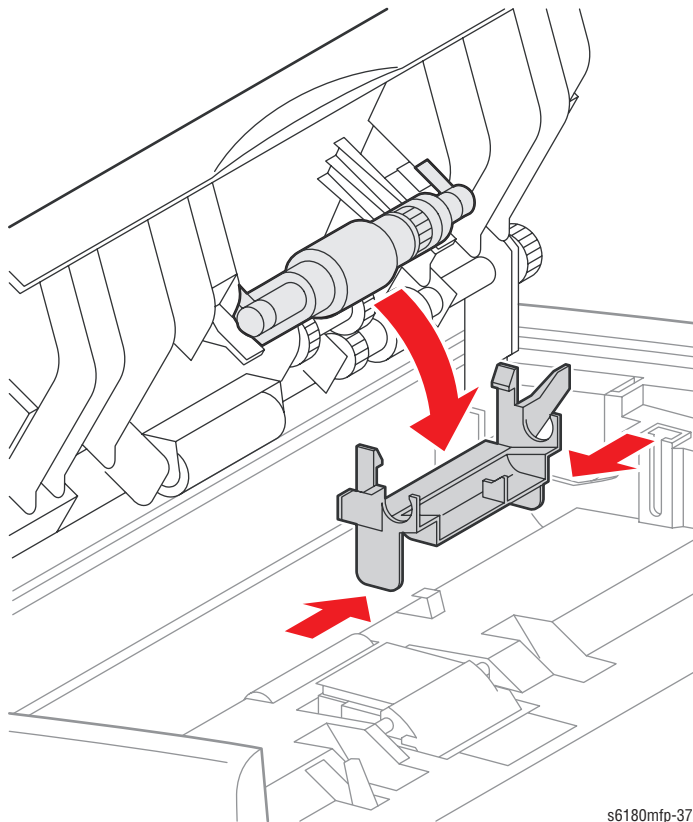


s6180mfp-364

2. Be sure the ADF Feed Roller flaps (black) sit on top of the Guides above the ADF Assembly Cover flaps (white).

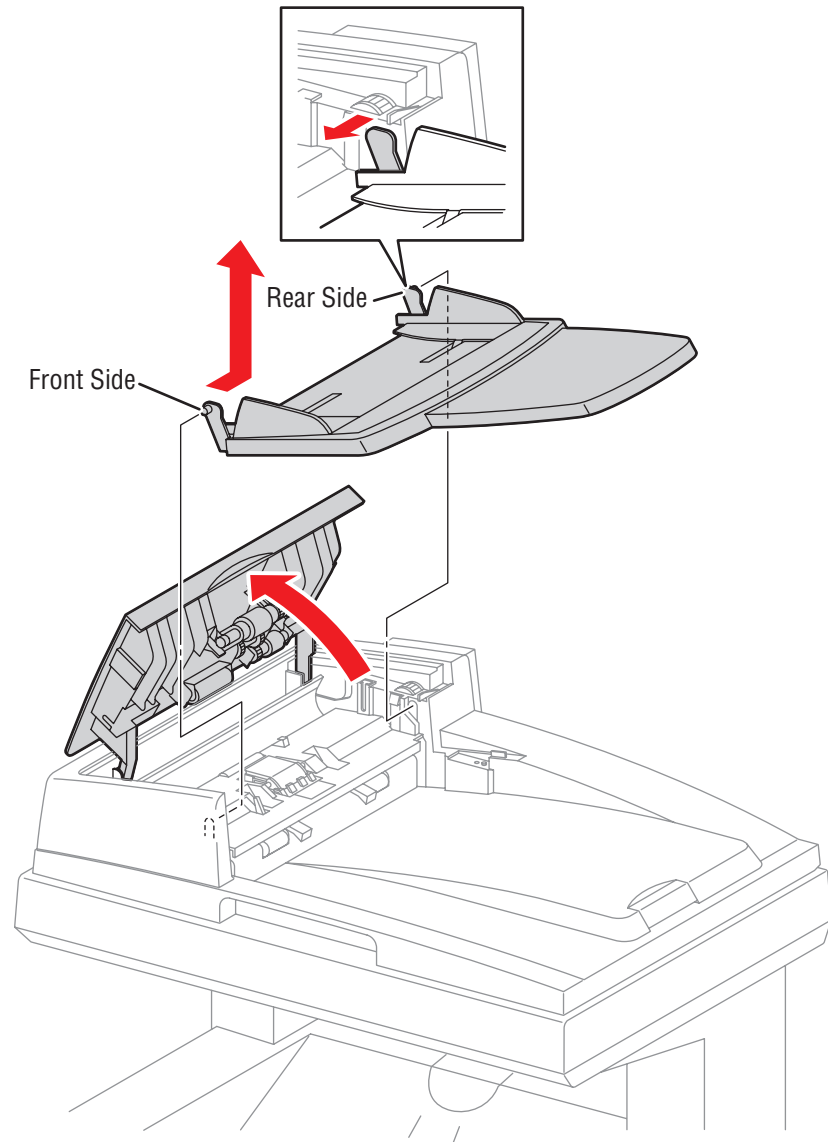


3. Remove the ADF Feed Roller Cover from the Feed Roller.



Main Tray Kit (PL11.1.10)

1. Open the ADF Assembly Cover.
2. Press the rear side mounting section of the Main Tray Kit toward the inside to release the notch of the Main Tray Kit from the hole of the ADF Assembly (PL11.1.2).
3. Release the front side notch of the Main Tray Kit from the hole of the ADF Assembly and remove the Main Tray Kit.

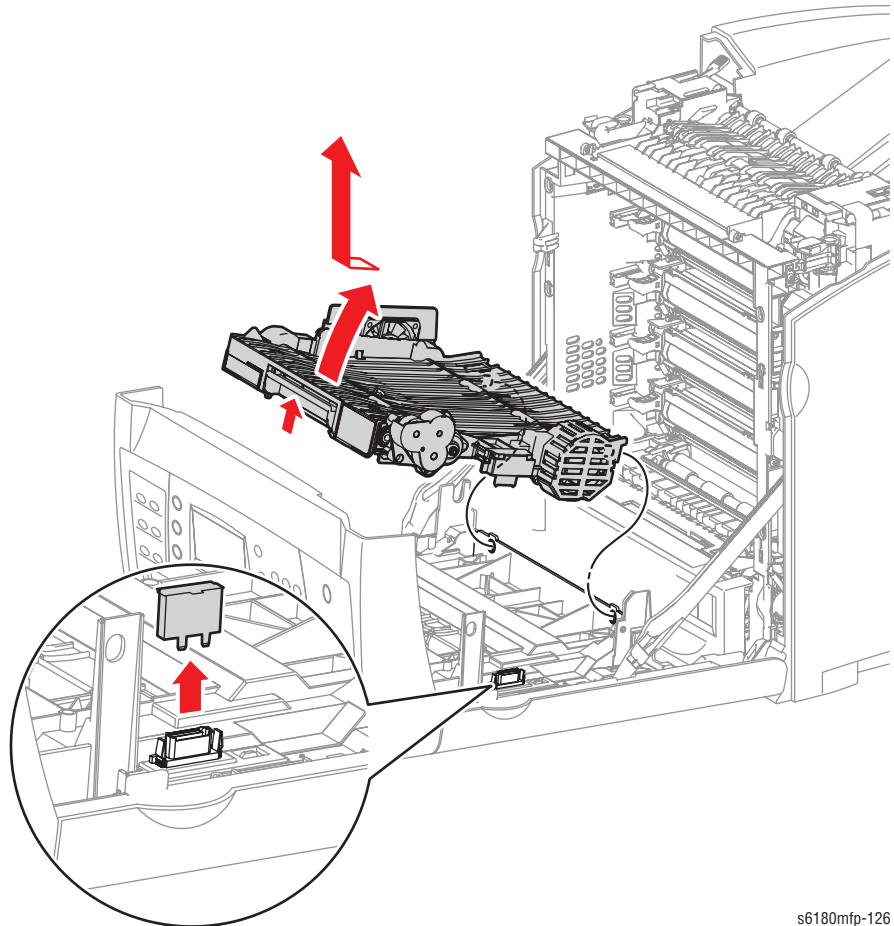


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Options

Duplex Unit (PL12.1.1)

1. Open the Front Cover.
2. Remove the Transfer Unit (page 8-9).
3. Lift the Duplex Unit lever to release the lock.
4. Release the notches on the bottom of the Duplex Unit out from the holes of the Front Cover and remove the Duplex Unit.



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Replacement Note

Be sure to remove the plastic Connector Cover from the Duplex Unit connector location (if installed). The cover is only installed if the printer never had a Duplex Unit installed.

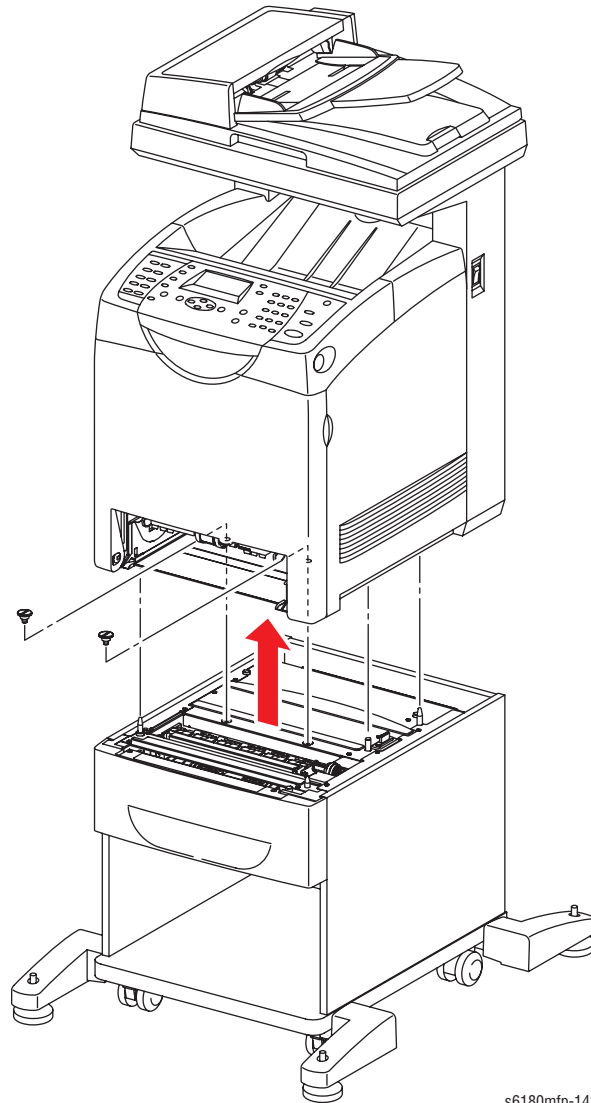
Optional 550-Sheet Feeder (PL13.1.1)

1. Remove Tray 2.
2. Remove 2 Joint screws (PL13.1.2) securing the Optional 550-Sheet Feeder to the printer.

Caution

Lifting the printer requires two people. Use care when removing the printer from the Optional 550-Sheet Feeder.

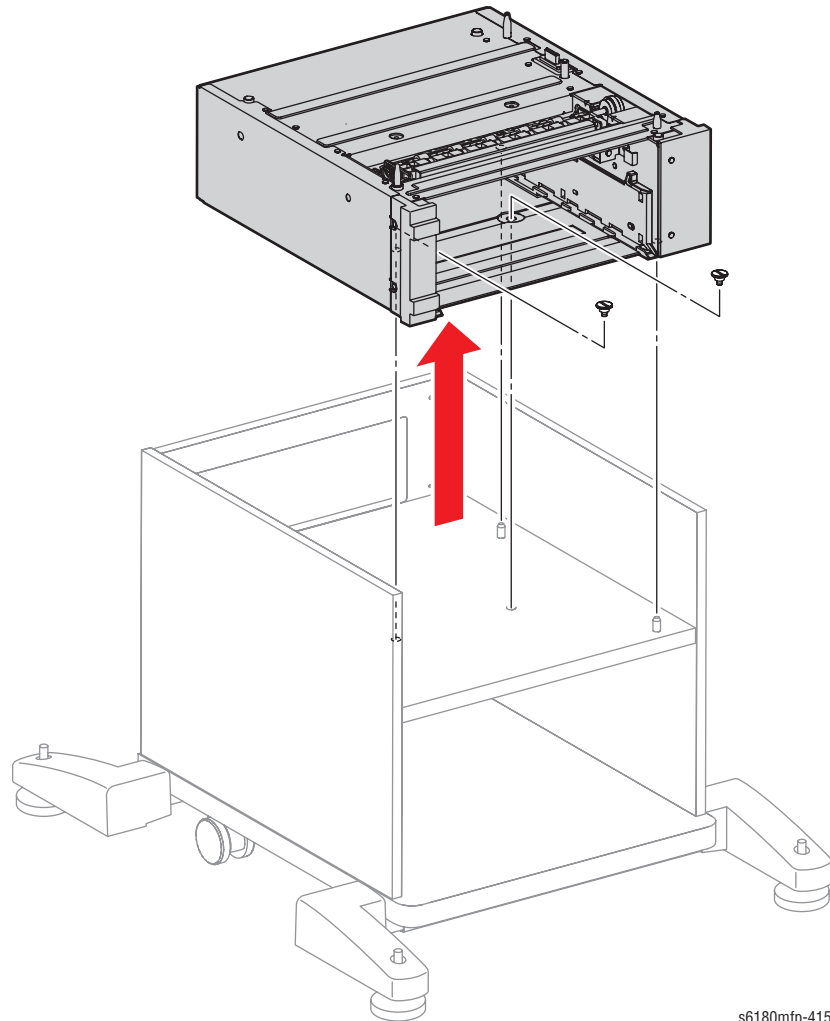
3. Lift the printer up from the Optional 550-Sheet Feeder.



s6180mfp-142

Optional Feeder Assembly (PL13.2.8)

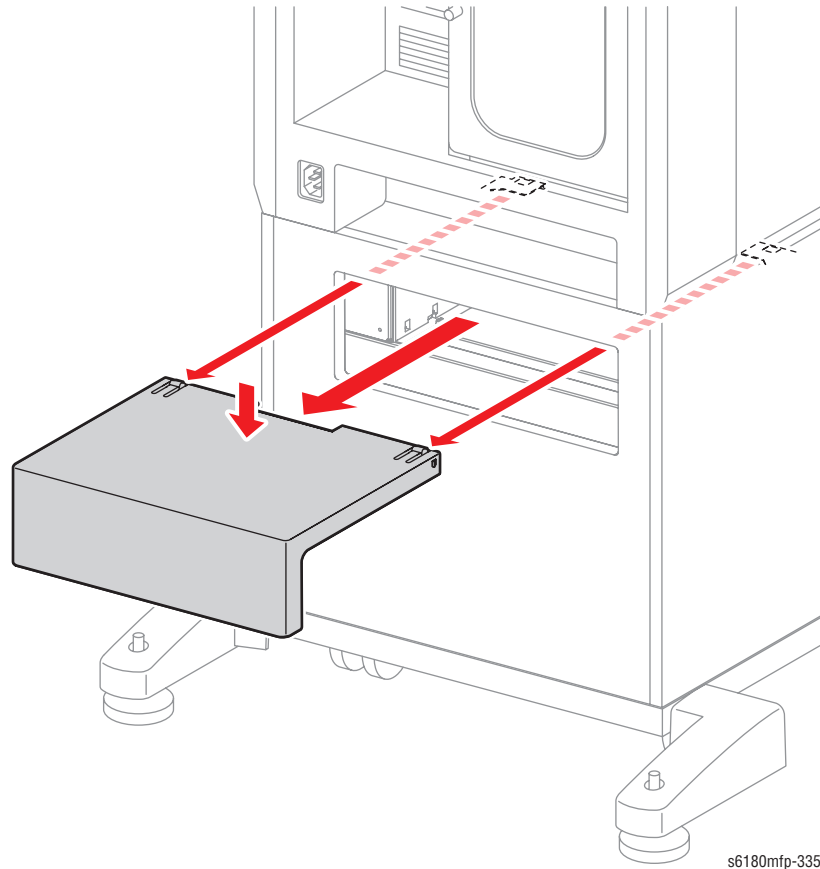
1. Remove the Optional 550-Sheet Feeder (page 8-116).
2. Remove the Tray 3 Rear Cover (page 8-118).
3. Remove 2 Joint screws securing the Optional Feeder Assembly to the Cart Assembly (PL13.1.5).
4. Lift up the Optional Feeder Assembly to separate it from the Cart Assembly.



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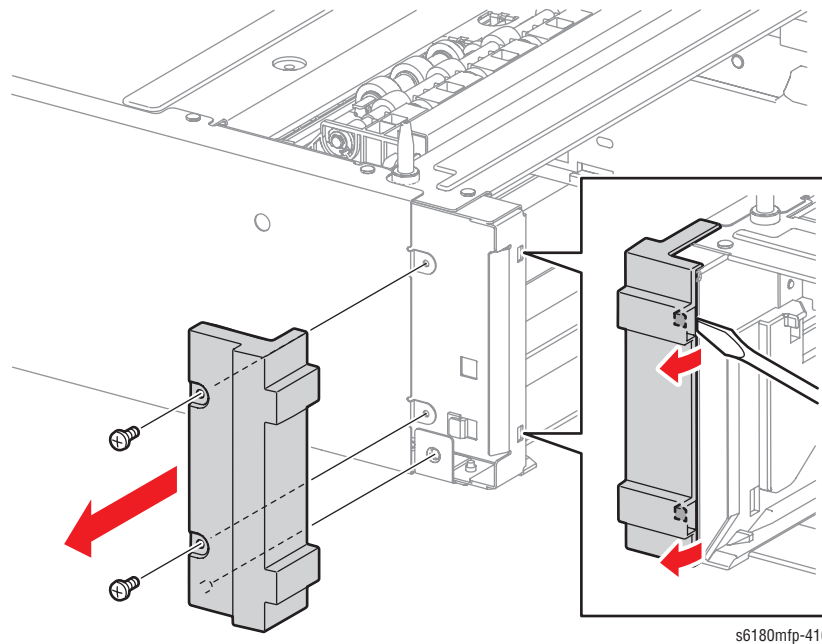
Tray 3 Rear Cover (PL13.2.3)

1. Remove the Tray 2 Rear Cover (page 8-33).
2. Remove Tray 3 from the Optional 550-Sheet Feeder.
3. Pull the Tray 3 Cover backward until it stops.
4. Press the center part of the Tray 3 Cover to release the 2 hooks (on the left and right sides), and remove the Tray 3 Cover from the Optional 550-Sheet Feeder.



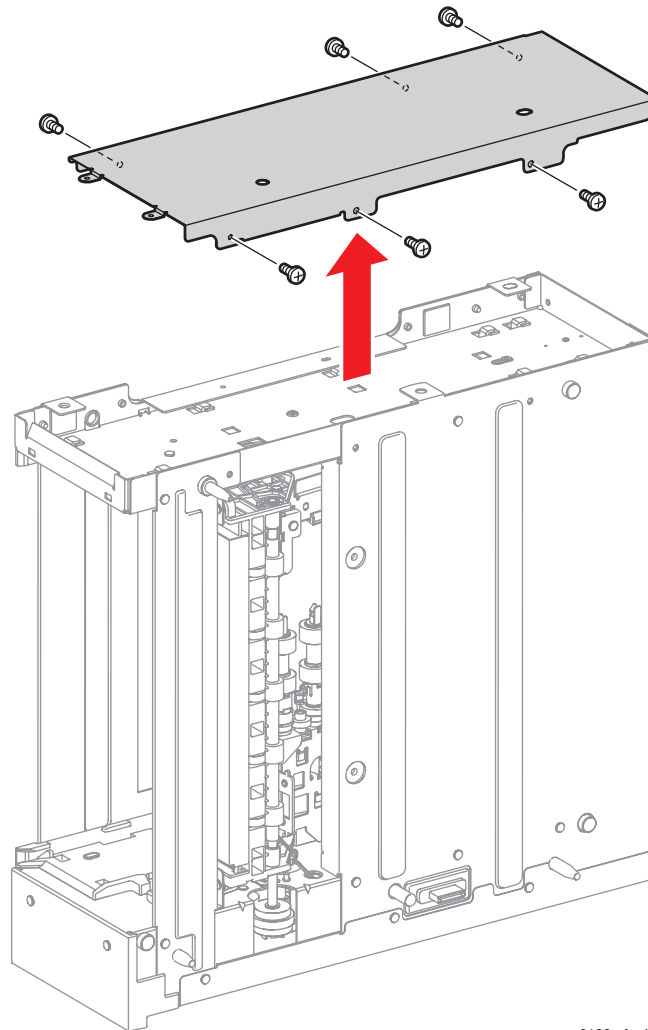
Tray 3 Front Left Cover (PL13.2.1)

1. Remove the Optional 550-Sheet Feeder (page 8-116).
2. Remove the Tray 3 Rear Cover (page 8-118).
3. Remove the Optional Feeder Assembly (page 8-117).
4. Remove 2 screws (6 mm) securing the Front Left Cover to the Optional Feeder Assembly.
5. Release the Front Left Cover hooks and remove the Front Left Cover from the Optional Feeder Assembly (PL13.2.8).



Tray 3 OPF Left Cover (PL13.2.2)

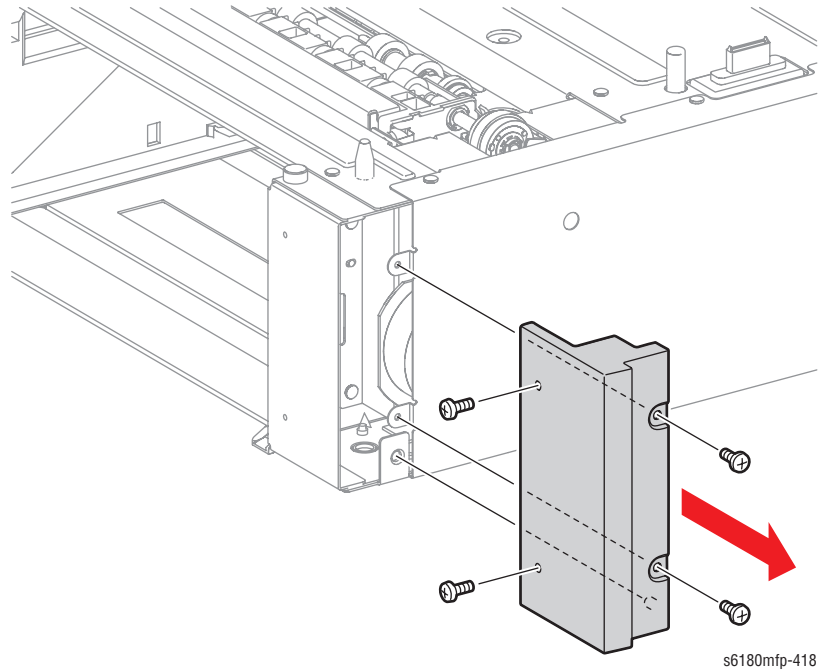
1. Remove the Optional 550-Sheet Feeder (page 8-116).
2. Remove the Tray 3 Rear Cover (page 8-118).
3. Remove the Optional Feeder Assembly (page 8-117).
4. Remove the Tray 3 Front Left Cover (page 8-119).
5. Rotate the Optional Feeder Assembly 90° from left to right.
6. Remove 6 screws (6 mm) securing the Tray 3 Left Cover to the Optional Frame Assembly (PL13.3.1).
7. Remove the Tray 3 Left Cover from the Optional Frame Assembly.



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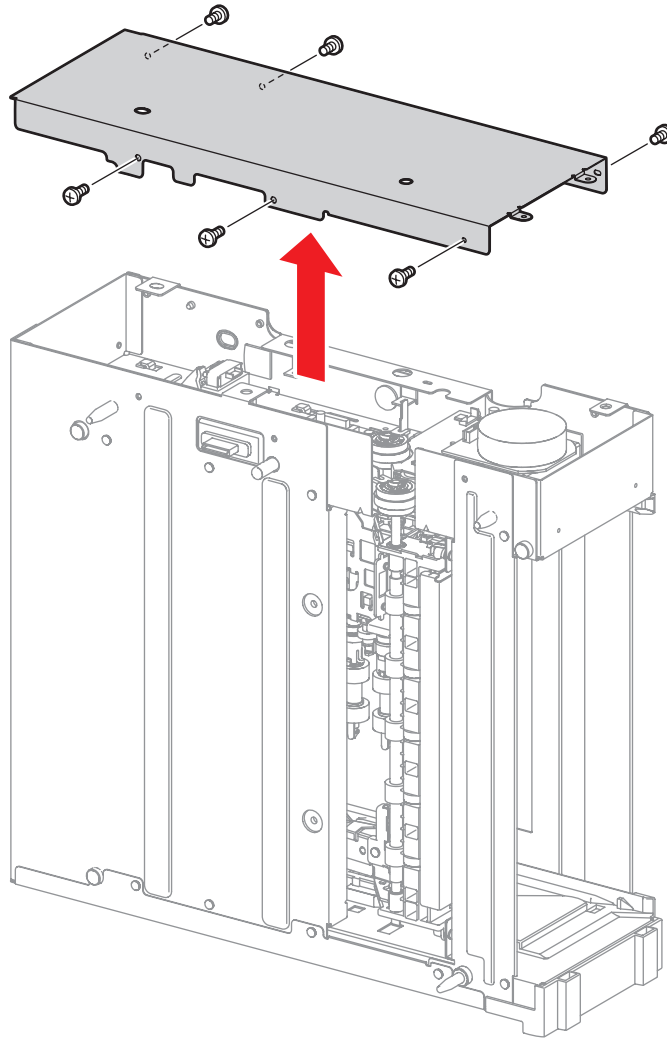
Tray 3 Front Right Cover (PL13.2.7)

1. Remove the Optional 550-Sheet Feeder (page 8-116).
2. Remove the Tray 3 Rear Cover (page 8-118).
3. Remove the Optional Feeder Assembly (page 8-117).
4. Remove 4 screws (6 mm) securing the Front Right Cover to the Optional Feeder Assembly.
5. Remove the Front Right Cover from the Optional Feeder Assembly.



Tray 3 OPF Right Cover (PL13.2.6)

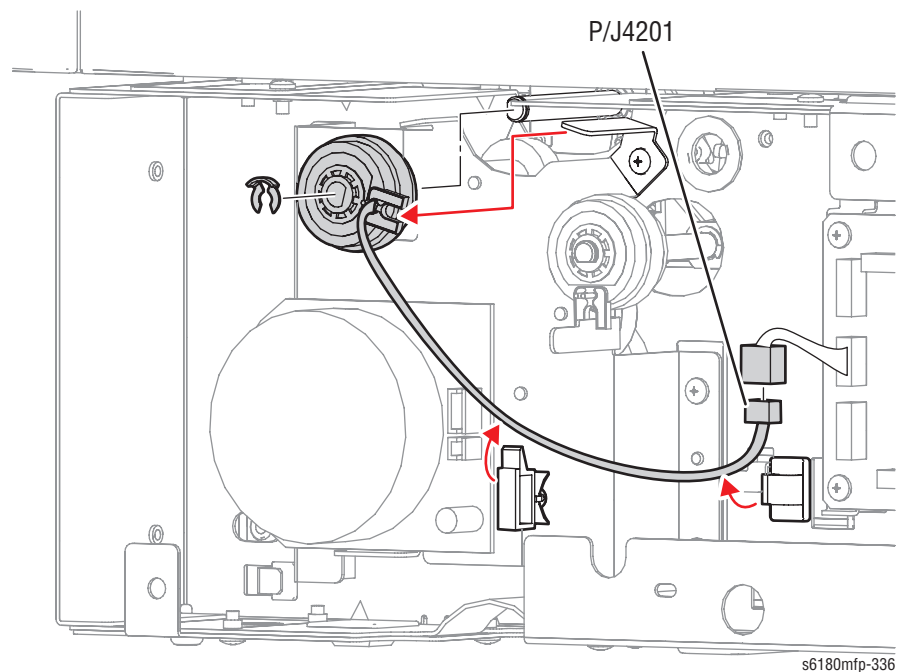
1. Remove the Optional 550-Sheet Feeder (page 8-116).
2. Remove the Tray 3 Rear Cover (page 8-118).
3. Remove the Optional Feeder Assembly (page 8-117).
4. Remove the Tray 3 Front Right Cover (page 8-121).
5. Rotate the Optional Feeder Assembly 90° from right to left.
6. Remove 6 screws (6 mm) securing the Tray 3 Right Cover to the Optional Frame Assembly (PL13.3.1).
7. Remove the Tray 3 Right Cover from the Optional Frame Assembly.



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Tray 3 Turn Clutch (PL13.2.4)

1. Remove the Optional 550-Sheet Feeder (page 8-116).
2. Remove the Tray 3 Rear Cover (page 8-118).
3. Remove the Optional Feeder Assembly (page 8-117).
4. Remove the Front Right Cover (page 8-121).
5. Remove the Tray 3 OPF Right Cover (page 8-122).
6. Disconnect the Tray 3 Turn Clutch connector P/J4201.
7. Release the 2 Clamps securing the Tray 3 Turn Clutch wiring harness and remove the harness.
8. Remove the KL-ring securing the Tray 3 Turn Clutch to the Turn Roller.
9. Remove the Tray 3 Turn Clutch from the Turn Roller.



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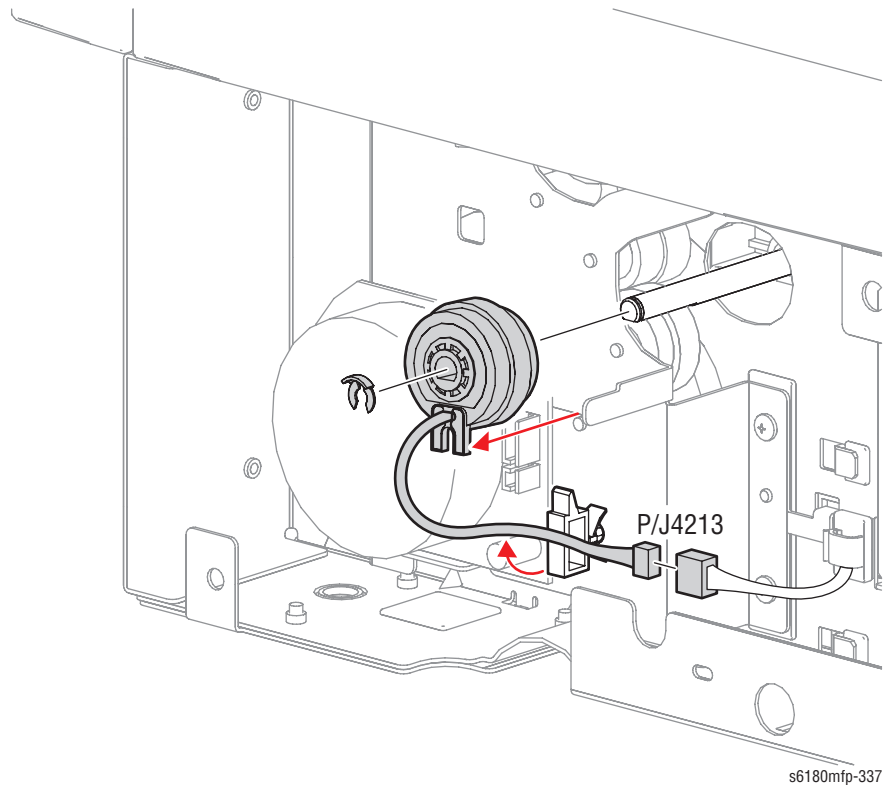
Tray 3 Feed Clutch (PL13.2.5)

1. Remove the Optional 550-Sheet Feeder (page 8-116).
2. Remove the Tray 3 Rear Cover (page 8-118).
3. Remove the Optional Feeder Assembly (page 8-117).
4. Remove the Front Right Cover (page 8-121).
5. Remove the Tray 3 OPF Right Cover (page 8-122).

Note

When performing the following step, leave the junction connector on the Optional Frame Assembly.

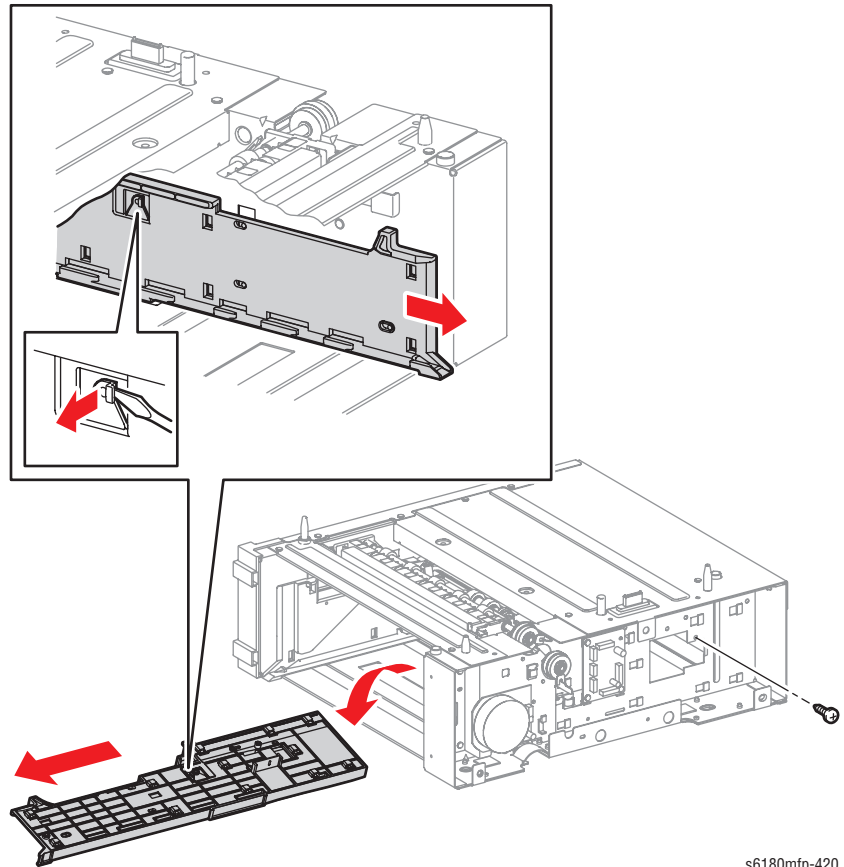
6. Disconnect the Tray 3 Feed Clutch connector P/J4213.
7. Release the Clamp securing the Tray 3 Feed Clutch wiring harness to the Feed Shaft.
8. Remove the KL-ring securing the Optional Feed Clutch to the Optional Feed Shaft.
9. Remove the Optional Feed Clutch from the Optional Feed Shaft.



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Tray 3 Right Guide (PL13.3.11)

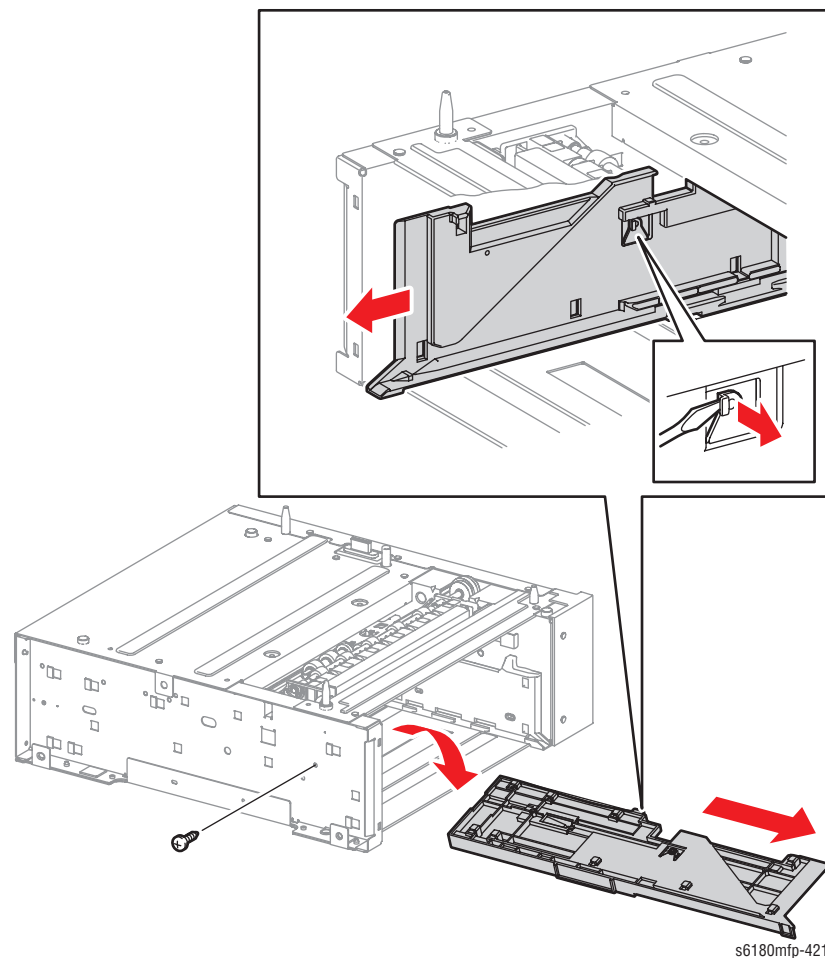
1. Remove the Optional 550-Sheet Feeder (page 8-116).
2. Remove the Tray 3 Rear Cover (page 8-118).
3. Remove the Optional Feeder Assembly (page 8-117).
4. Remove the Front Right Cover (page 8-121).
5. Remove the Tray 3 OPF Right Cover (page 8-122).
6. Remove the Tray 3 Size Switch (page 8-129).
7. Remove 1 screw (8 mm) securing the Tray 3 Tray Guide to the Optional Frame Assembly (PL13.3.1).
8. Use a small screwdriver to release the notch on the Tray 3 Right Guide. Shift the Tray 3 Right Guide toward the front to release the 12 hooks on the Tray 3 Right Guide from the Optional Frame Assembly.
9. Tilt the Tray 3 Right Guide toward the inside and remove the Tray 3 Right Guide from the Optional Frame Assembly.



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Tray 3 Left Tray Guide (PL13.3.13)

1. Remove the Optional 550-Sheet Feeder (page 8-116).
2. Remove the Tray 3 Rear Cover (page 8-118).
3. Remove the Optional Feeder Assembly (page 8-117).
4. Remove the Tray 3 Front Left Cover (page 8-119).
5. Remove the Tray 3 OPF Left Cover (page 8-120).
6. Remove 1 screw (8 mm) securing the Tray 3 Left Guide to the Optional Frame Assembly (PL13.3.1).
7. Use a screwdriver to release the notch on the Tray 3 Left Guide. Shift the Tray 3 Left Guide toward to release the 9 hooks on the Tray 3 Left Guide from the holes of the Optional Frame Assembly.
8. Tilt the Tray 3 Left Guide toward the inside and remove the Tray 3 Left Guide from the Optional Frame Assembly.



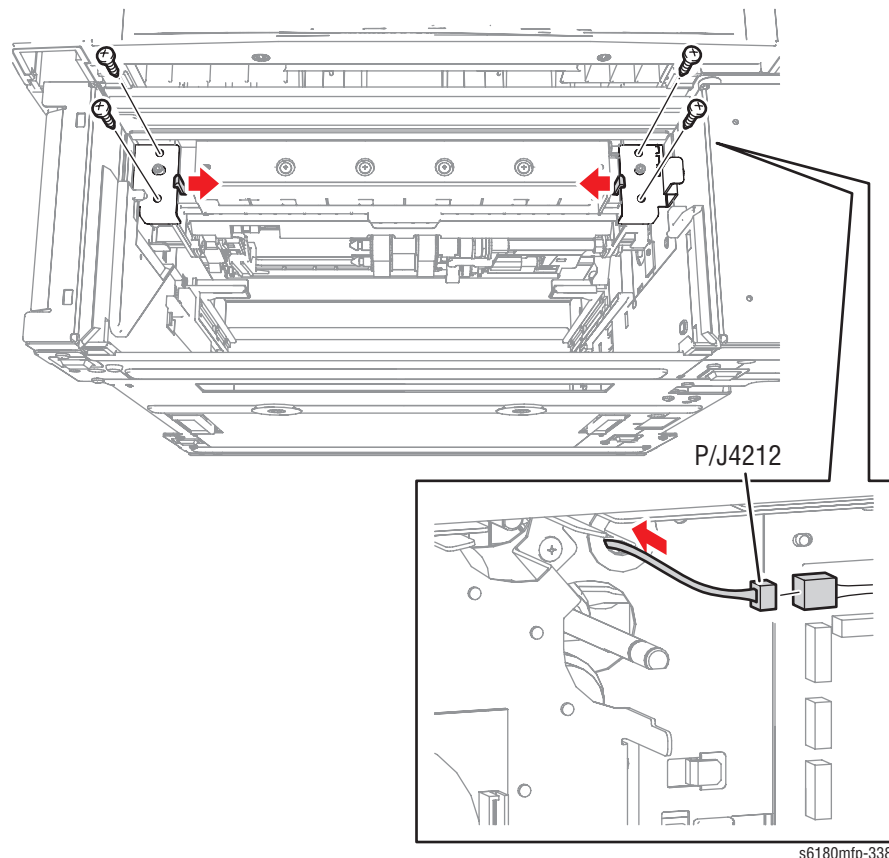
Tray 3 Feeder Unit (PL13.2.9)

1. Remove the Optional 550-Sheet Feeder (page 8-116).
2. Remove the Tray 3 Rear Cover (page 8-118).
3. Remove the Optional Feeder Assembly (page 8-117).
4. Remove the Tray 3 Front Left Cover (page 8-119).
5. Remove the Tray 3 OPF Left Cover (page 8-120).
6. Remove the Tray 3 Front Right Cover (page 8-121).
7. Remove the Tray 3 OPF Right Cover (page 8-122).
8. Remove the Tray 3 Turn Clutch (page 8-123).
9. Remove the Tray 3 Feed Clutch (page 8-124).
10. Remove the Tray 3 Size Switch (page 8-129).
11. Remove the Tray 3 Right Tray Guide (page 8-125).
12. Remove the Tray 3 Left Tray Guide (page 8-126).

Note

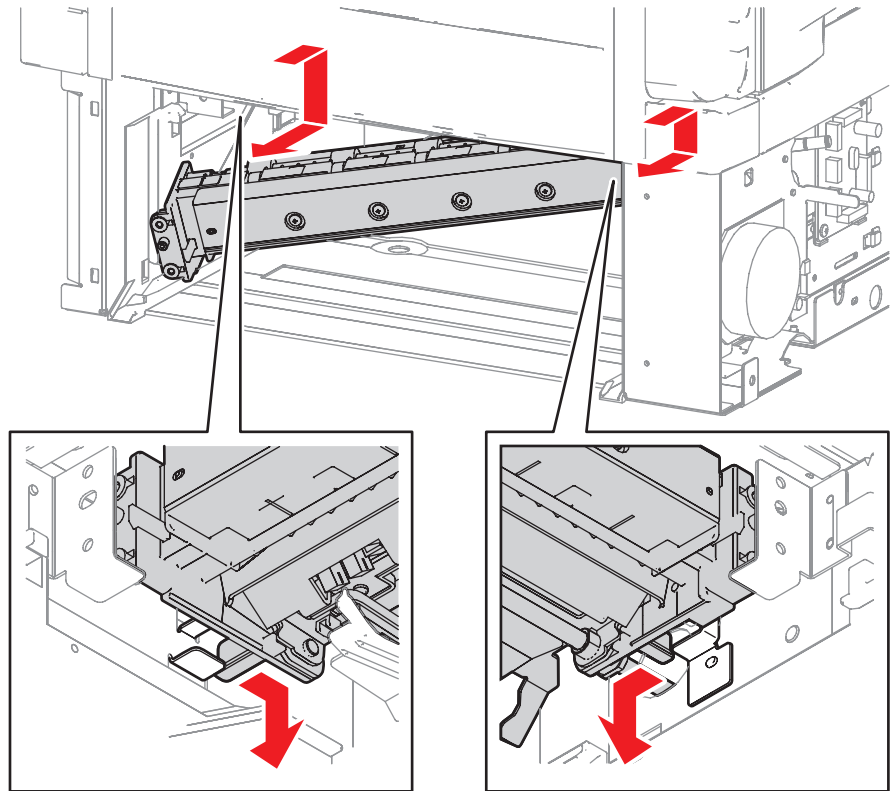
When performing the following step, leave the junction connector on the Optional Frame Assembly side cable.

13. Disconnect the Tray 3 Feeder connector P/J4212 and slide the connector out of the hole of the Optional Frame Assembly (PL13.3.1).
14. Remove 4 screws (8 mm) securing the Tray 3 Feeder to the Optional Frame Assembly.
15. Release the 2 hooks securing the Tray 3 Feeder to the Optional Frame Assembly and release the 2 notches from the hole of the Frame.



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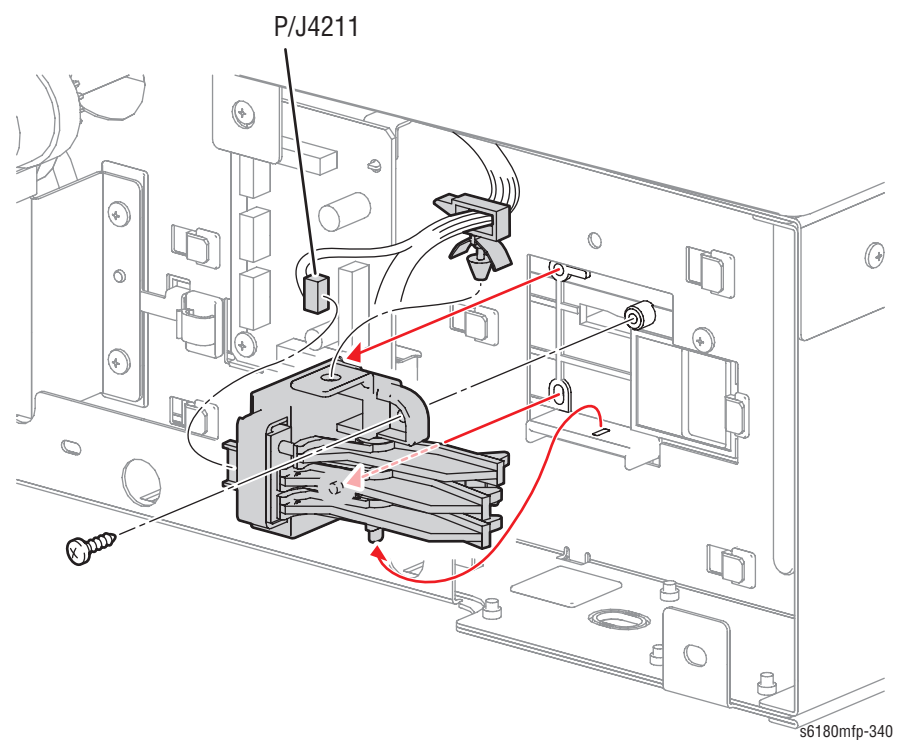
16. Release the convex parts on the left and right sides of the Tray 3 Feeder from the flange on the left and right sides of the Optional Frame Assembly to remove the Tray 3 Feeder.



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Tray 3 Size Switch (PL13.3.5)

1. Remove the Optional 550-Sheet Feeder (page 8-116).
2. Remove the Tray 3 Rear Cover (page 8-118).
3. Remove the Optional Feeder Assembly (page 8-117).
4. Remove the Tray 3 Front Right Cover (page 8-121).
5. Remove the Tray 3 OPF Right Cover (page 8-122).
6. Disconnect the Tray 3 Size Switch connector P/J4211.
7. Release the Clamp securing the Tray 3 Size Switch wiring harness.
8. Remove 1 screw (8 mm) securing the Tray 3 Size Switch to the Tray 3 Right Guide (PL13.3.11).
9. Release the tabs on the Tray 3 Size Switch from the holes of the Tray 3 Right Guide and remove the Tray 3 Size Switch.



Parts List

In this chapter...

- Serial Number Format
- Using the Parts List
- Print Engine Parts
- Options
- Xerox Supplies and Accessories
- Service Kits

Chapter 9

Serial Number Format

Changes to Xerox products are made to accommodate improved components as they become available. It is important when ordering parts to include the following information:

- Component's part number
- Product type or model number
- Serial Number of the printer

The serial number is found on a label located on the frame of the printer. Front Cover must be opened to locate the Serial Number.

The nine-digit serial number has the following format:

- **PPPRSSSSS**
- **PPP** = Three digit alphanumeric product code
- **R** = Single digit numeric revision digit, 0-9. To be rolled when a major product change occurs and initiated with a change request.

Product Code	Product
GNX	6180MFP, 110 V Engine
GPX	6180MFP V, 220 V Engine

Mass Production Units (MP Build)

PPP1SSSSS

SSSSS = Five digit numeric serial number based on the following table:

Product	Starting Serial Number	Ending Serial Number
6180MFP_N, 110V Engine	10001	50000
6180MFP_D, 110V Engine	50001	99999
6180MFPV_N, 220V Engine	10001	50000
6180MFP V_D, 220V Engine	50001	99999

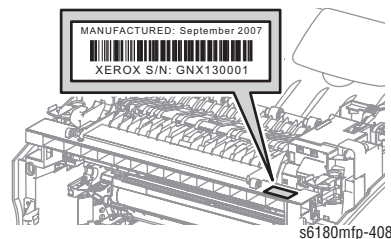
Example

GNX130001: Xerox Serial Number

GNX: Product Code for the Phaser 6180MFP, configuration N or D, 110V printer

1 = Revision Level

30001 = Serial Number for 6180MFP_N



Using the Parts List

- **ID No.:** The callout number from the exploded part diagram.
- **Name/Description:** The name of the part to be ordered and the number of parts supplied per order.
- **Part Number:** The material part number used to order that specific part.
- Parts identified throughout this manual are referenced **PL#.#. #**; For example, PL3.1.10 means the part is item 10 of Parts List 3.1.
- A black triangle preceding a number followed by a parenthetical statement in an illustrated parts list means the item is a parent assembly, made up of the individual parts called out in parentheses.
- The notation “**with X~Y**” following a part name indicates an assembly that is made up of components X through Y. For example, “1 (with 2~4)” means part 1 consists of part 2, part 3, and part 4.
- An asterisk (*) following a part name indicates the page contains a note about this part.
- The notation (NS) next to a part indicates that particular part is not spared, but contained in a kit or major assembly.
- The notation “**J1<>J2 and P2**” is attached to a wire harness. It indicates that connector Jack 1 is attached to one end of the wire harness and connector J2 is attached to the other end that is plugged into P2.

Note

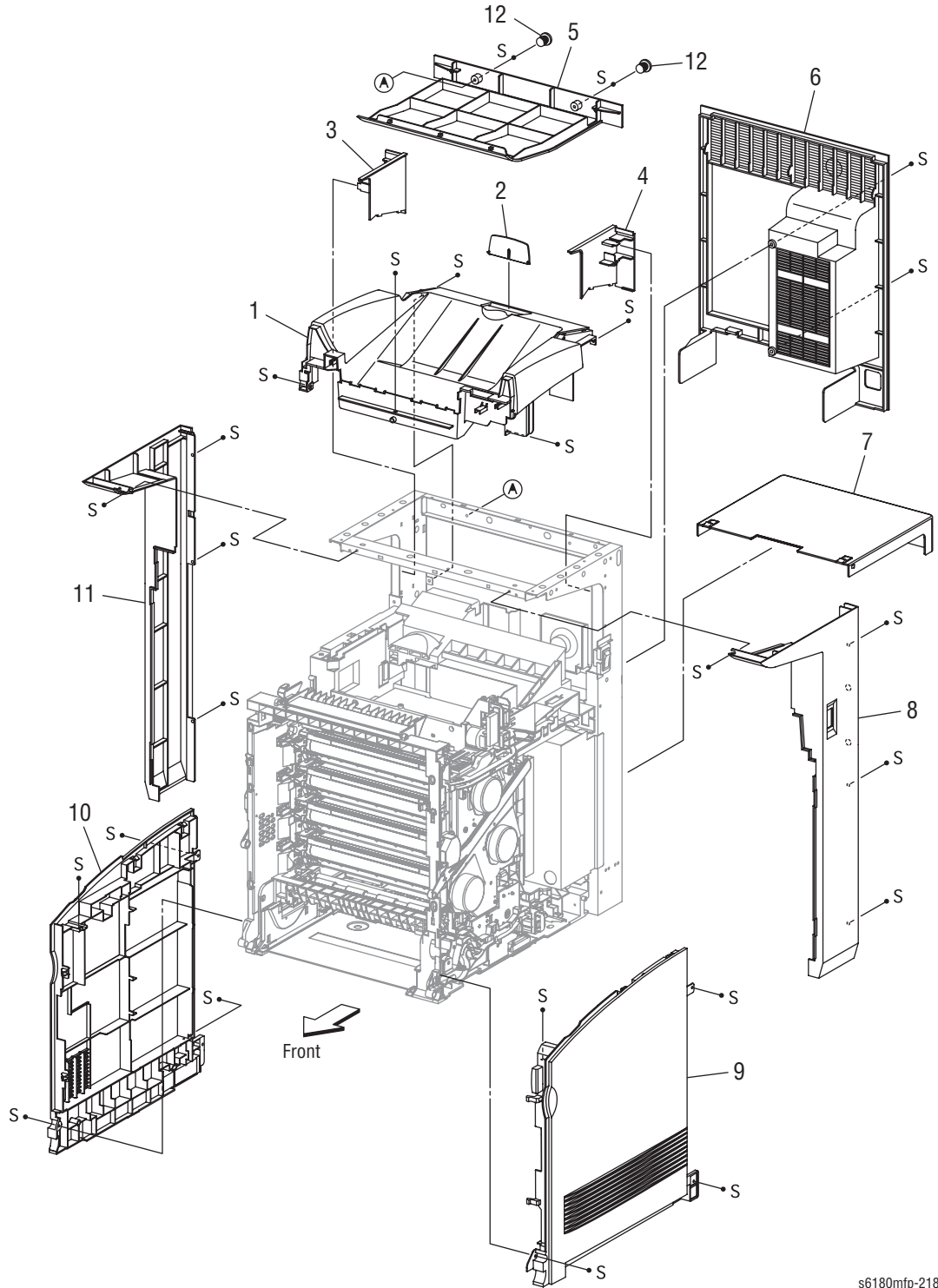
Only parts showing part numbers are available for ordering by support. Parts not showing part numbers are available on the parent assembly.

Abbreviations

Abbreviation	Meaning
C	C-ring
E	E-ring
KL	K-clip
S	Screw

Print Engine Parts

Parts List 1.1 Covers (1 of 2)

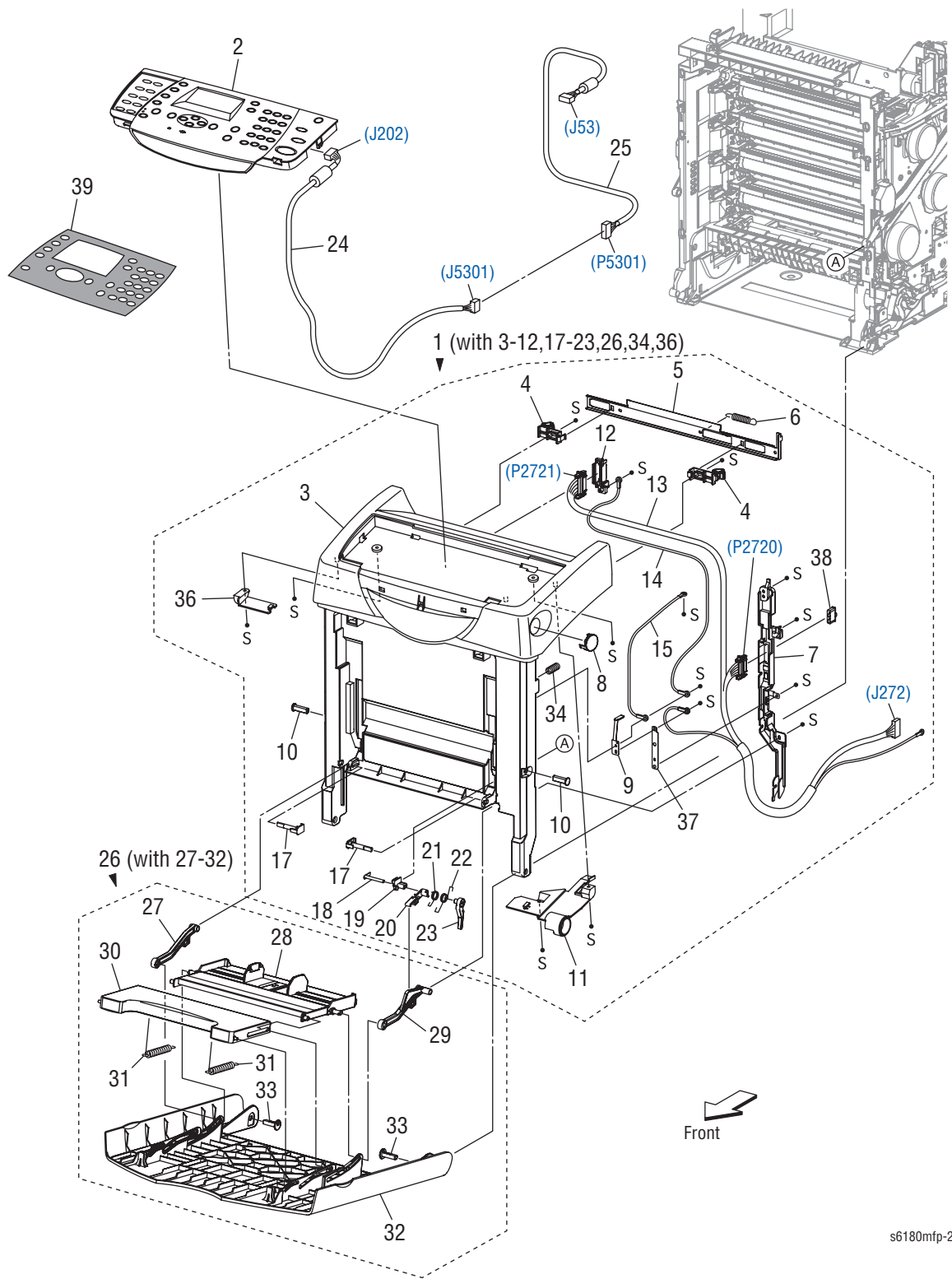


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Parts List 1.1 Covers (1 of 2)

ID No.	Name/Description	Part Number
1.	Cover Assy Top (with 2)	848K08750
2.	Cover Top Stopper	
3.	Cover Pole In Left	
4.	Cover Pole In Right	
5.	Cover Bottom	
6.	Cover Rear	848E06720
7.	Cover CST	848E07990
8.	Cover Pole Right	848E06700
9.	Cover Right Assy	848E25840
10.	Cover Left Assy	848E25830
11.	Cover Pole Left	848E06690
12.	Cap Screw	

Parts List 1.2 Covers (2 of 2)



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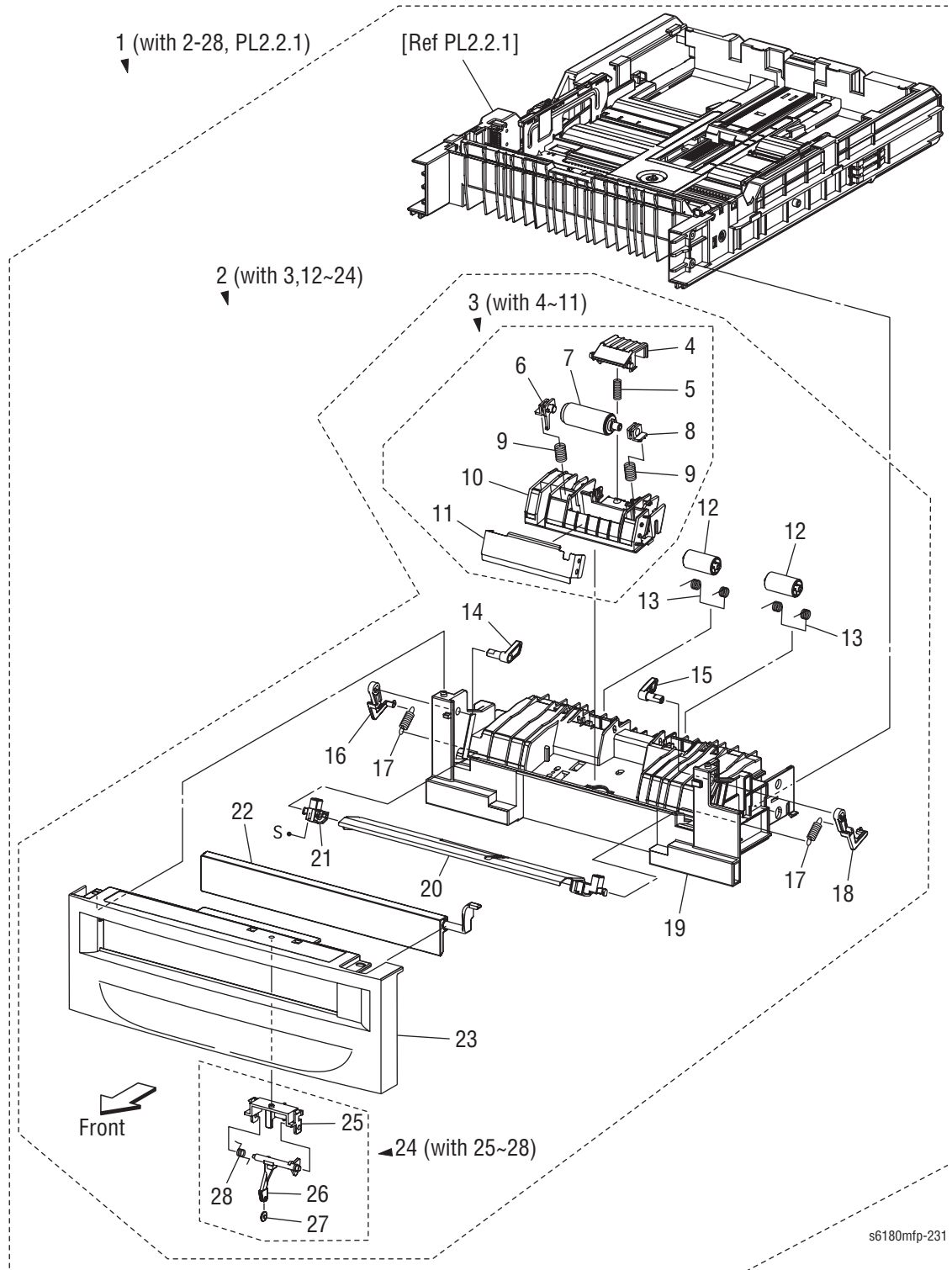
Parts List 1.2 Covers (2 of 2)

ID No.	Name/Description	Part Number
1.	Cover Assy Front (with 3-12, 17-23, 26, 34, 36)	848K07713
2.	Control Panel (without overlays)	848K05082
3.	Cover Front Assy	
4.	Latch Front	
5.	Plate Latch	
6.	Spring Latch	
7.	Cover Harness	
8.	Button Top	
9.	Contact Front	
10.	Shaft Pivot (Pin Kit)	675K47432
11.	Cover Harness	
12.	Holder Drawer	
13.	Harness Assy Front Cover (J272-P2720, P2721, T4322-T43221) (Harness Kit)	604K44680
14.	Harness Assy Drawer Earth (T4321-T43210)	
15.	Harness Assy Front Cover Earth 1 (T4321-T43210)	
16.	-----	
17.	Pin Pivot PMT (Pin Kit)	675K47432
18.	Shaft Lever	
19.	Plate Pivot	
20.	Lever MPT 1	
21.	Spring Lever MPT	
22.	Spring Lever Link	
23.	Lever MPT 2	
24.	Harness Assy A-OP-OPP (J202-J5301) (Harness Kit)	604K44680
25.	Harness Assy A-OP-ESS (J53-P5301) (Harness Kit)	604K44680
26.	Cover Assy MPT (with 27-32)	848K02012
27.	Link Assy MPT Left	
28.	Tray Assy MPT Base	
29.	Link Assy MPT Right	
30.	Tray MPT	
31.	Spring Tray	
32.	Cover MPT	
33.	Shaft Pivot MPT (Pin Kit)	675K47432
34.	Spring	
35.	-----	
36.	Cover OPP Left	
37.	Plate Earth FC	
38.	Dup Connector Cap	
	Kit Cap Connector Drawer	

Parts List 1.2 Covers (2 of 2) (continued)

ID No.	Name/Description	Part Number
39.	Label, Overlay, French (World Kit)	650K29130
	Label, Overlay, Spanish (World Kit)	650K29130
	Label, Overlay, Brazilian/Portuguese (World Kit)	650K29130

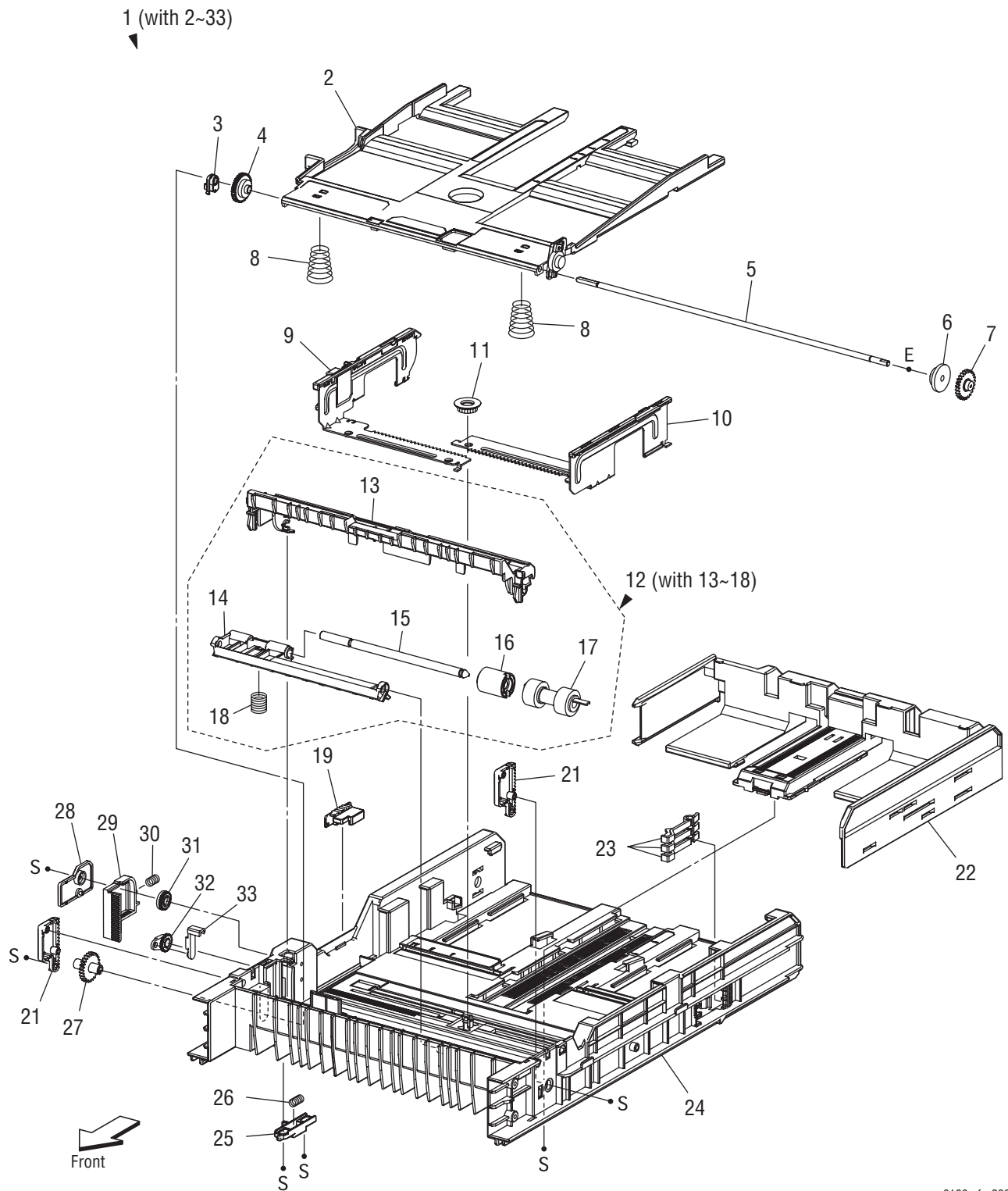
Parts List 2.1 Tray 2 (1 of 2)



Parts List 2.1 Tray 2 (1 of 2)

No.	Name/Description	Part Number
1.	Cassette Assy 250 (with 2-28, PL2.2.1) (Tray 2)	050K57916
2.	Cassette Assy Front (with 3, 12, 24) (Tray 2 Front Assy)	
3.	Kit Holder Assy Retard MPT (with 4-11)	019K09061
4.	Chute Separator	
5.	Spring Chute	
6.	Bearing Separator Left	
7.	Roll Assy Separator N	
8.	Bearing Separator Right	
9.	Spring Separator 200	
10.	Holder Separator MPT	
11.	Plate Assy Separator	
12.	Roll Pinch Turn	
13.	Spring Pinch Turn	
14.	Follower Left	
15.	Follower Right	
16.	Arm Left	
17.	Spring NF MPT	
18.	Arm Right	
19.	Housing Base FR 250	
20.	Plate Assy Bottom	
21.	Holder MPT Left	
22.	Cover Front MPT	
23.	Handle CST (Tray Handle)	
24.	Actuator Assy MPT (with 25-28)	120K92151
25.	Holder Actuator	
26.	Actuator No Paper MPT	
27.	Roll Actuator No Paper	
28.	Spring No Paper	

Parts List 2.2 Tray 2 (2 of 2)

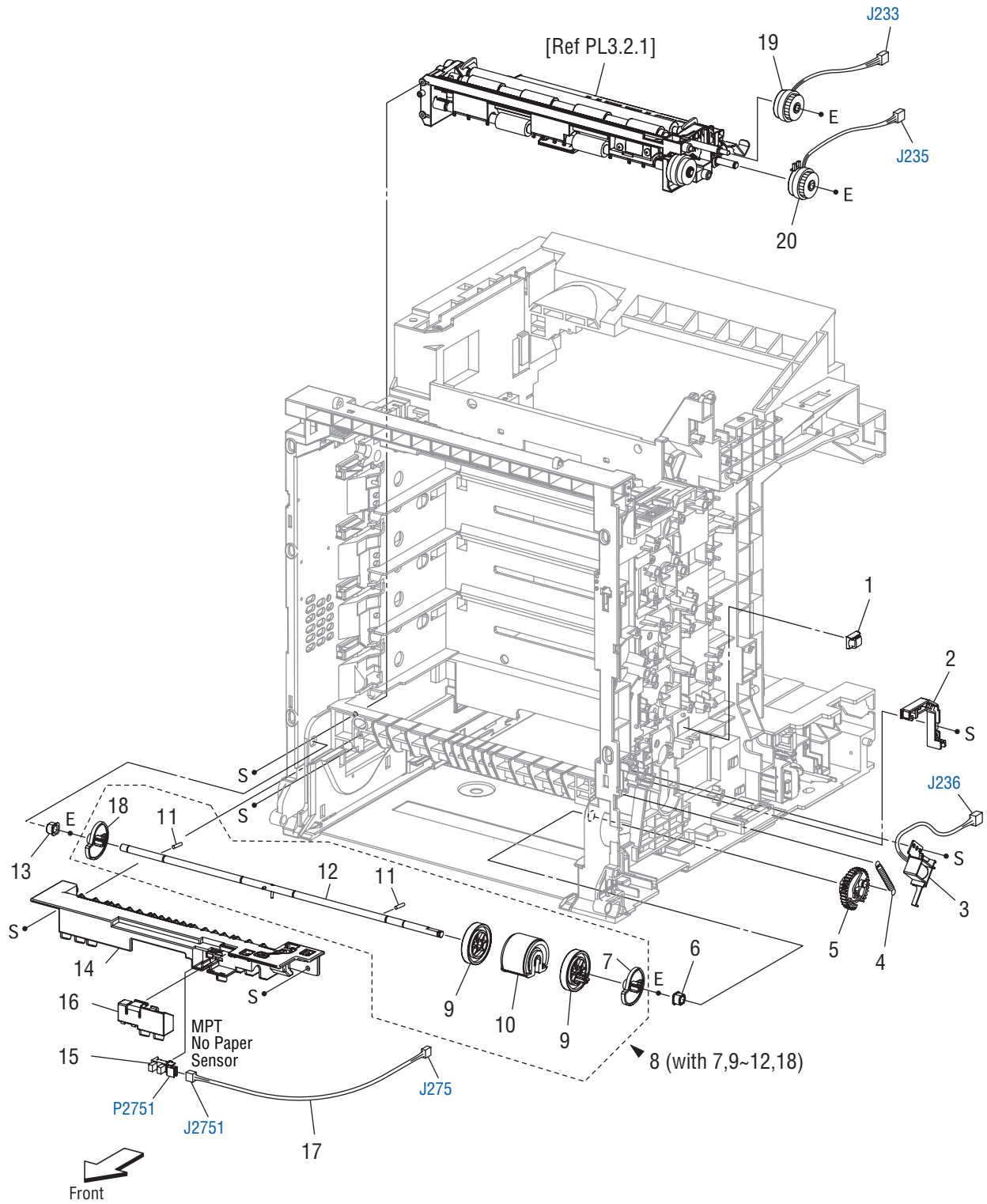


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Parts List 2.2 Tray 2 (2 of 2)

No.	Name/Description	Part Number
1.	Cassette Assy Rear 250 (with 2-33)	
2.	Plate Assy BTM A4	
3.	Stopper PB	
4.	Gear BTM Lock Oneway	
5.	Shaft PB A4	
6.	Gear BTM DMP Oneway	
7.	Gear PB Left	
8.	Spring BTM Up 250 A4	
9.	Guide Assy Side Right 250 A4	
10.	Guide Assy Side Left 250 A4	
11.	Gear Pinion	
12.	Holder Assy Separator (with 13-18)	019K08510
13.	Cover Retard CST (Tray Retard Cover)	
14.	Holder Separator	
15.	Shaft Separator	
16.	Clutch Friction Retard	
17.	Kit, Roll Assy Feed & Retard (Periodic Replacement Part - per 100K prints) (consists of 3 pcs and tech sheet)	675K47671
18.	Spring Separator	
19.	Switch Size Set	
20.	-----	
21.	Plate Gear Lock 250	
22.	Guide Assy Tray End 250	
23.	Actuator Size	
24.	Housing Base RE 250	
25.	Actuator Release PB	
26.	Spring Stopper Gear	
27.	Gear PB Right	
28.	Cover BTM Up 250	
29.	Rack BTM Lock 250	
30.	Spring BTM Lock	
31.	Gear BTM Lock Pinion	
32.	Gear Lever BTM Lock	
33.	Lever BTM Lock	

Parts List 3.1 Paper Feeder (1 of 2)

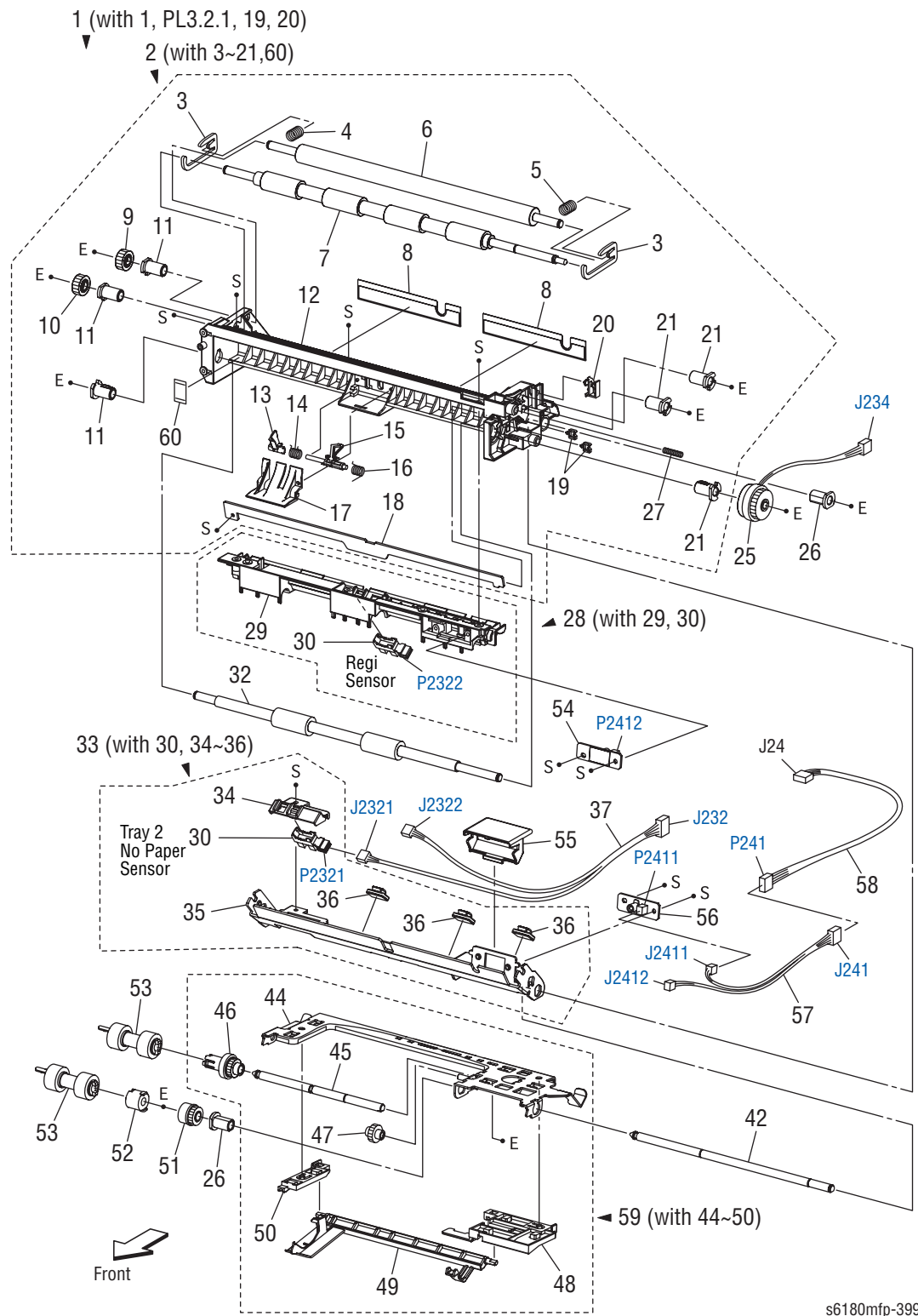


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Parts List 3.1 Paper Feeder (1 of 2)

ID No.	Name/Description	Part Number
1.	Clamp	
2.	Duct MPT Solenoid	
3.	Kit Solenoid Feed MPT (with 4, 5)	675K35590
4.	Spring Feed MPT	
5.	Gear MPT	
6.	Bearing Earth	
7.	CAM MPT Right	
8.	Roll Assy MPT (with 7, 9-12, 18)	059K43961
9.	Roll Core MPT	
10.	Kit Roll Assy Feed MPT (with tech sheet)	675K47380
11.	Pin Dowel	
12.	Shaft MPT	
13.	Bearing	
14.	Chute MPT	
15.	Sensor Photo (Tray 1 No Paper Sensor)	930W00113
16.	Cover Sensor	802E89292
17.	Harness Assy MPT NPP (J275-J2751) - (Harness Kit)	604K44690
18.	CAM MPT Left	
19.	Clutch Assy PH Regi	121K37160
20.	Clutch Assy PH Feeder	121K37170

Parts List 3.2 Paper Feeder (2 of 2)



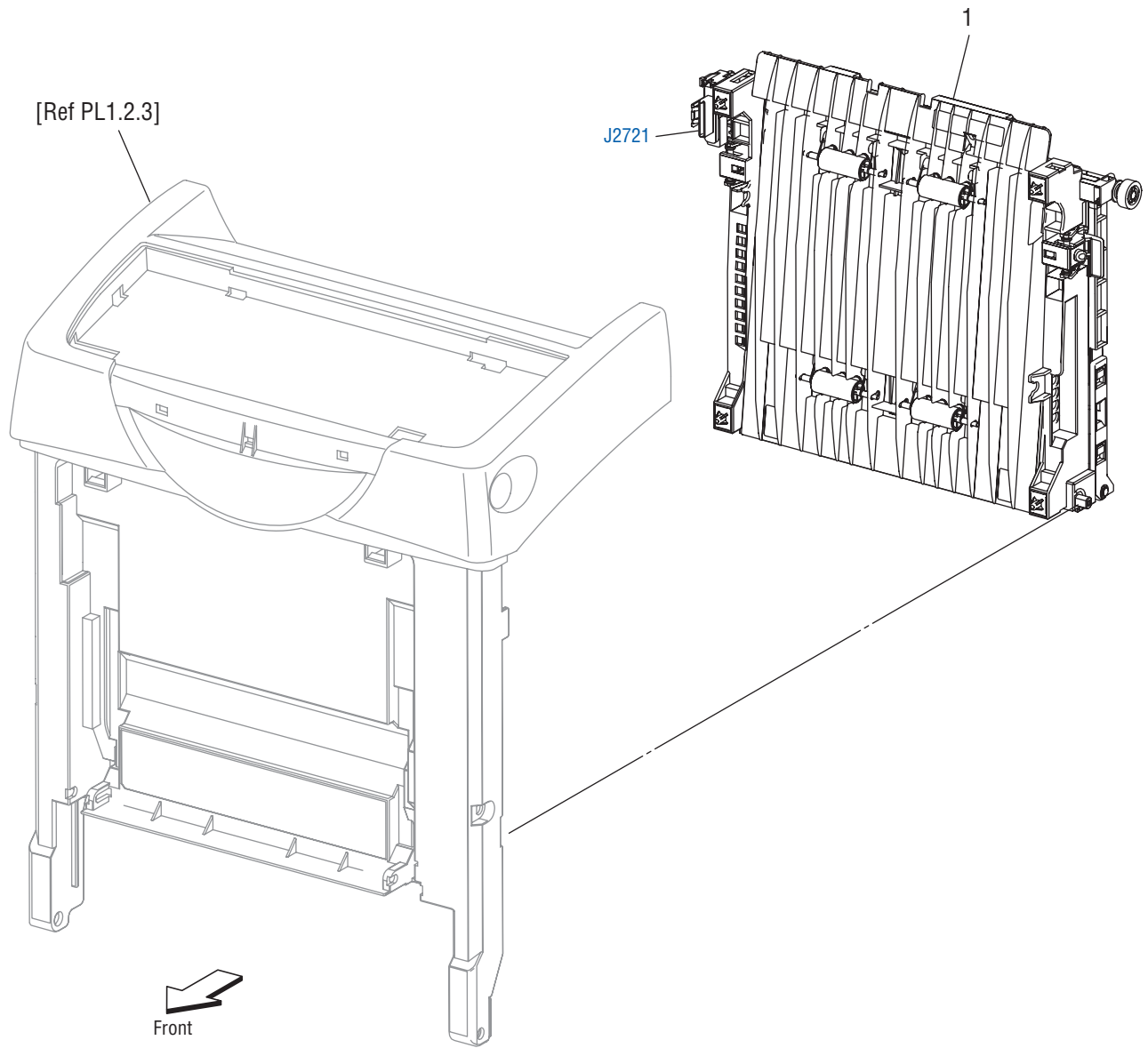
Parts List 3.2 Paper Feeder (2 of 2)

ID No.	Name/Description	Part Number
1.	Kit Feeder Assy (with 1, PL3.2.1, 19-20)	675K47544
2.	Chute Assy Regi (with 3-21, 60)	
3.	Bracket NIP	
4.	Spring Regi Left	
5.	Spring Regi Right	
6.	Roll Regi Metal	
7.	Roll Regi Rubber	
8.	Film Inlet Left	
9.	Gear Regi Metal	
10.	Gear Regi Rubber	
11.	Bearing Regi	
12.	Chute Regi	
13.	Actuator A	
14.	Spring Regi Sensor A	
15.	Actuator B	
16.	Spring Regi Sensor B	
17.	Cover Actuator	
18.	Chute Separator BTM	
19.	Clamp Mini-Saddle	
20.	Clamp	
21.	Bearing Regi E	
22.	-----	
23.	-----	
24.	-----	
25.	Clutch Assy PH Turn	
26.	Bearing Nudger	
27.	Spring Earth	
28.	Chute Assy Regi Upper (with 29, 30)	
29.	Chute Regi Upper	
30.	Sensor Photo (Regi Sensor, Tray No Paper Sensor)	
31.	-----	
32.	Roll Assy Turn	
33.	Chute Assy Top (with 30, 34, 35)	
34.	Holder No Sensor	
35.	Chute Assy Separator	
36.	Clamp	
37.	Harness Assy Regi Sensor (J232-J2321, J2322) - (Harness Kit)	604K44690
38.	-----	
39.	-----	
40.	-----	

Parts List 3.2 Paper Feeder (2 of 2) (continued)

ID No.	Name/Description	Part Number
41.	-----	
42.	Shaft Feed	
43.	-----	
44.	Support Nudger Assy	
45.	Shaft Nudger	
46.	Roll Assy Gear Nudger	
47.	Gear Idler Nudger	
48.	Holder No Paper Left A4	
49.	Actuator No Paper A4	
50.	Holder No Paper Right A4	
51.	Clutch Oneway Nudger	
52.	Clutch Oneway Feed	
53.	Roll Assy Feed (Periodic Replacement Part - per 100K prints) (consist of 3 pcs and tech sheet)	675K47670
54.	PWBA OHP LED (Not used on 6180MFP)	
55.	Cover OHP Sensor	
56.	PWBA OHP Sensor (Not used on 6180MFP)	
57.	Harness Assy OHP Sensor (J241-J2411, J2412)	
58.	Harness Assy OHP (J24-P241)	
59.	Nudger Assy (with 44-50)	068K29482
60.	Guide Film	

Parts List 4.1 Transfer Unit

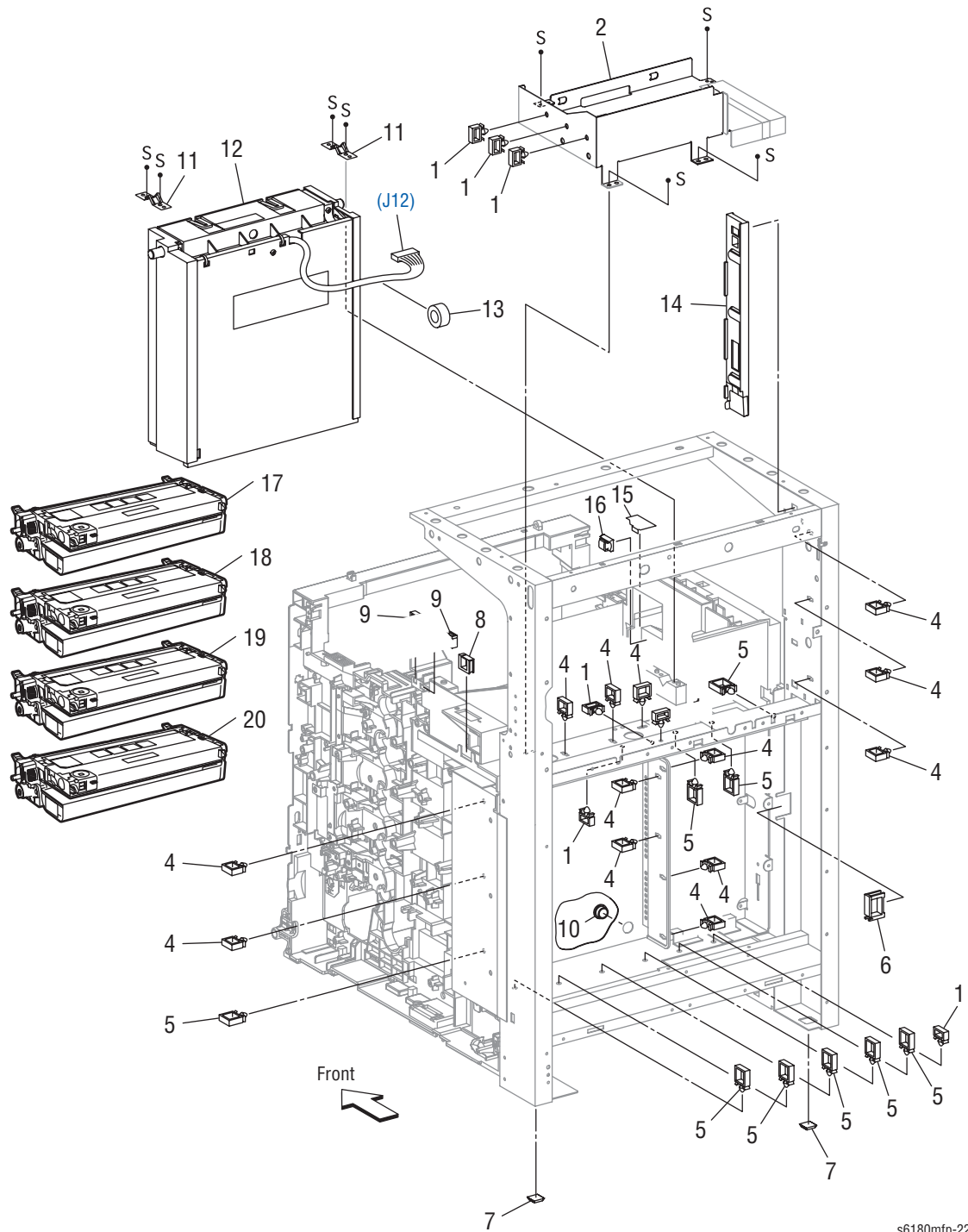


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Parts List 4.1 Transfer

ID No.	Name/Description	Part Number
1.	Kit Belt CRU (Transfer Unit) (Periodic Replacement Part - per 100K prints)	675K47085

Parts List 5.1 Xerographics (1 of 2)

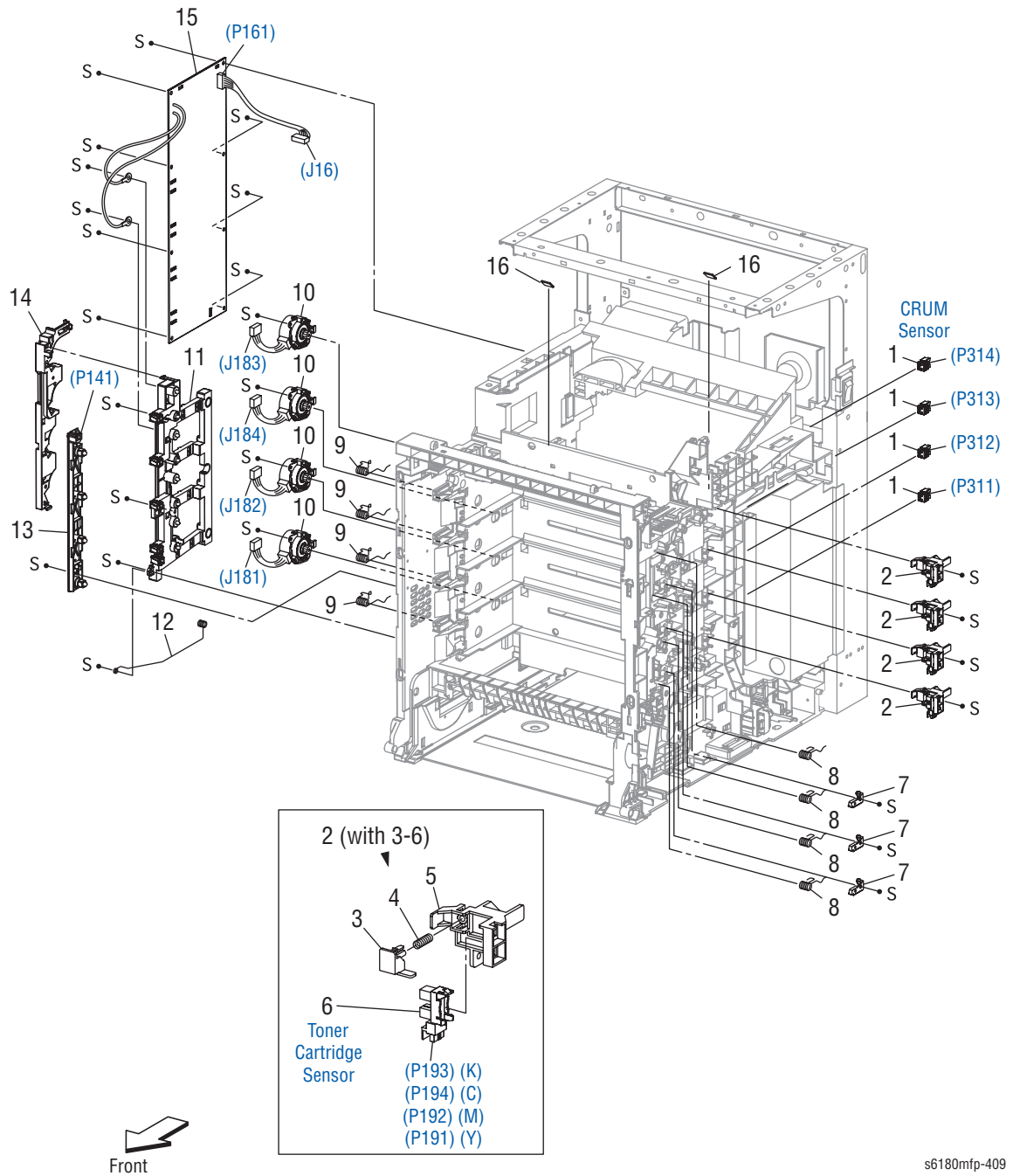


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Parts List 5.1 Xerographics (1 of 2)

ID No.	Name/Description	Part Number
1.	Clamp RLMS-2V0	
2.	Frame Assy Earth	
3.	-----	
4.	Clamp RLWT-2V0	
5.	Clamp RLWC-3SV0	
6.	Clamp Saddle LES-1017	
7.	Foot	
8.	Clamp Saddle LES-1010	
9.	Clamp Saddle LED-0505	
10.	Bush STB-13	
11.	Spring ROS	
12.	ROS Assy GNB	604K42890
13.	CORE (Ferrite Core)	
14.	Spacer Assy FFC	
15.	Film Assy Harness Guard	
16.	Clamp	
17.	Cartridge Assy (Print Cartridge) (K) (Periodic Replacement Part - per 8K prints)	113R00726
	Cartridge Assy (Print Cartridge) (K) (Periodic Replacement Part - per 3K prints)	113R00722
	Cartridge Assy (Print Cartridge) (K) (Periodic Replacement Part - Metered Print)	113R00734
18.	Cartridge Assy (Print Cartridge) (C) (Periodic Replacement Part - per 6K prints)	113R00723
	Cartridge Assy (Print Cartridge) (C) (Periodic Replacement Part - per 2K prints)	113R00719
	Cartridge Assy (Print Cartridge) (C) (Periodic Replacement Part - Metered Print)	113R00731
19.	Cartridge Assy (Print Cartridge) (M) (Periodic Replacement Part - per 6K prints)	113R00724
	Cartridge Assy (Print Cartridge) (M) (Periodic Replacement Part - per 2K prints)	113R00720
	Cartridge Assy (Print Cartridge) (M) (Periodic Replacement Part - Metered Print)	113R00732
20.	Cartridge Assy (Print Cartridge) (Y) (Periodic Replacement Part - per 6K prints)	113R00725
	Cartridge Assy (Print Cartridge) (Y) (Periodic Replacement Part - per 2K prints)	113R00721
	Cartridge Assy (Print Cartridge) (Y) (Periodic Replacement Part - Metered Print)	113R00733

Parts List 5.2 Xerographics (2 of 2)

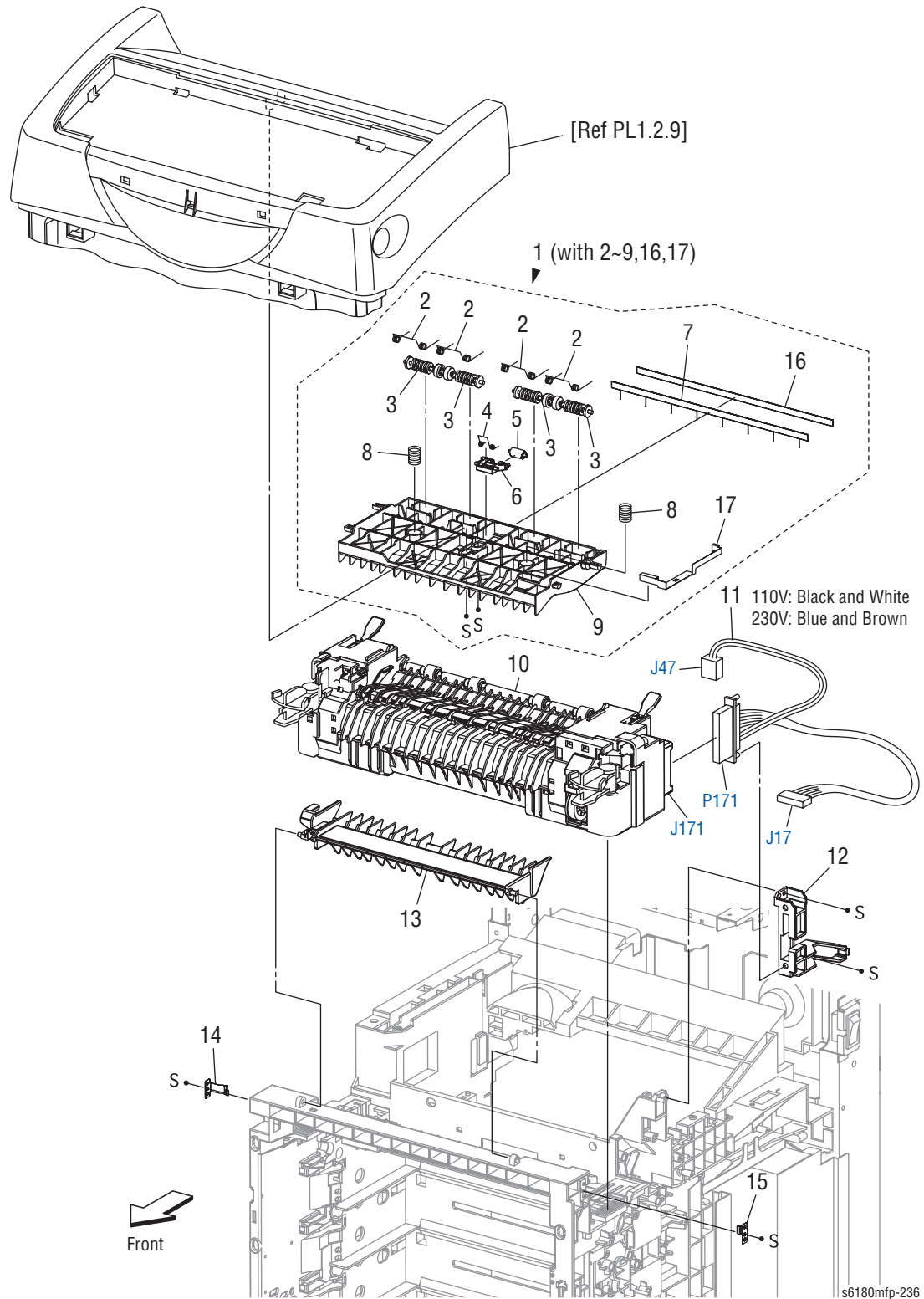


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Parts List 5.2 Xerographics (2 of 2)

ID No.	Name/Description	Part Number
1.	Connector CRUM	
2.	Sensor Assy CRU (with 3-6)	130K69871
3.	Actuator Sensor CRU	
4.	Spring CRU	
5.	Bracket Sensor CRU	
6.	Sensor Photo (Print Cartridge Sensor)	
7.	Stopper Spring	
8.	Spring CRU Right	
9.	Spring CRU Left	
10.	Dispenser Assy	094K91880
11.	Bias Assy	
12.	Spring ESA Roll	
13.	LED Assy	122K93900
14.	Duct Harness Motor	
15.	HVPS	105K22441
16.	Spacer ROS Shaft	

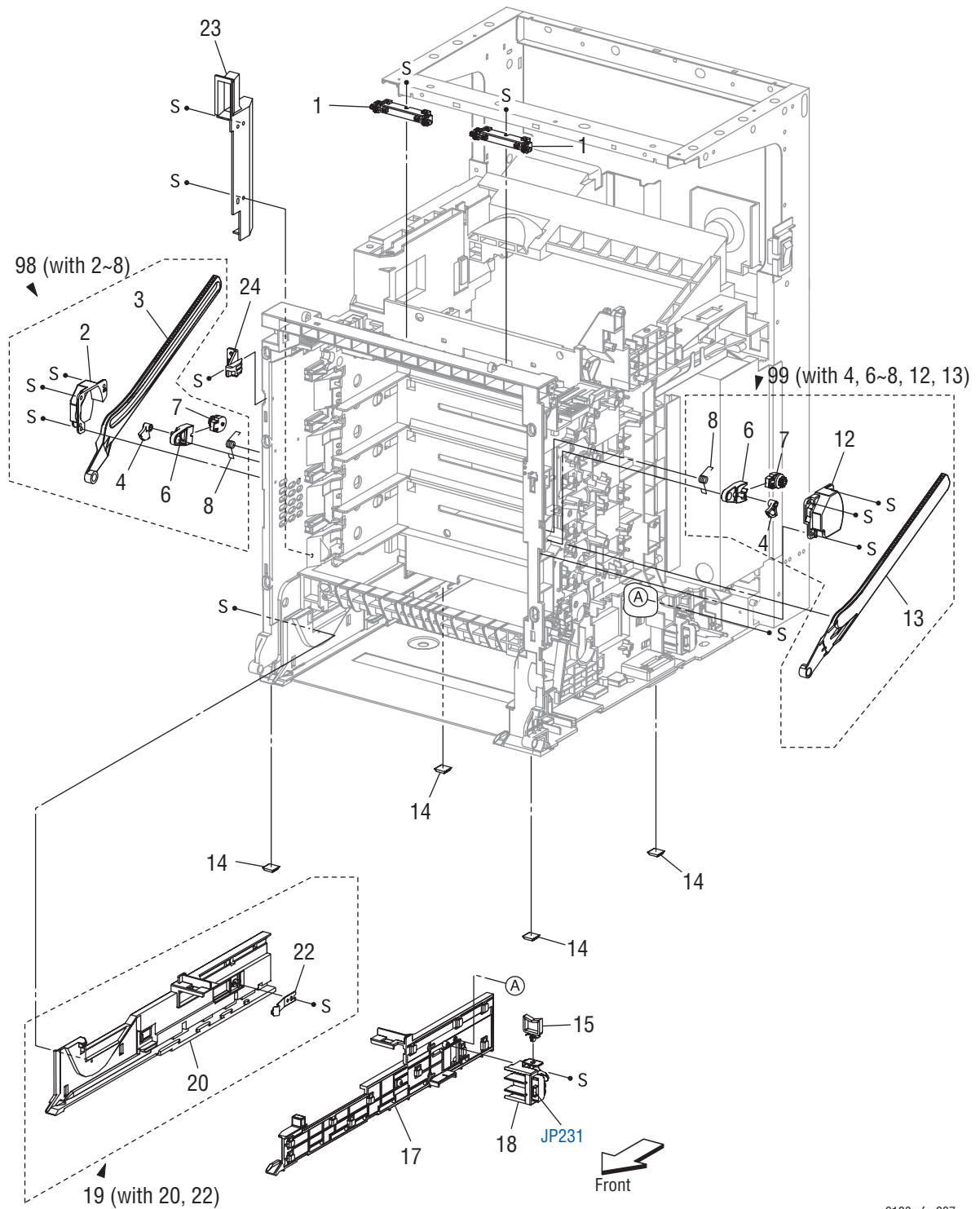
Parts List 6.1 Fuser & Exit



Parts List 6.1 Fuser & Exit

ID No.	Name/Description	Part Number
1.	Chute Assy Exit Out (with 2-9, 16, 17) (attached on PL1.2.3)	054K30851
2.	Spring Pinch Exit Out	
3.	Roll Pinch Exit	
4.	Spring CORR	
5.	Roll Corrugate	
6.	Holder CORR 2	
7.	Eliminator Exit 1	
8.	Spring Chute Out	
9.	Chute Exit Out 20	
10.	Fuser Assy KMY 115V (Periodic Replacement Part - per 100K prints)	675K47094
	Fuser Assy KMY 230V (Periodic Replacement Part - per 100K prints)	675K47105
11.	Harness Assy Fuser AIO 100V (P171-J17, J47) - (Harness Kit, Black & White)	604K44690
	Harness Assy Fuser AIO 200V (P171-J17, J47) - (Harness Kit, Blue & Brown)	604K44690
12.	Bracket Fuser	
13.	Chute Dup Gate	675K53460
14.	Plate Latch FSR AD	
15.	Plate Latch FSR D	
16.	Tape Eliminator	
17.	Plate Earth Exit	

Parts List 7.1 Frame

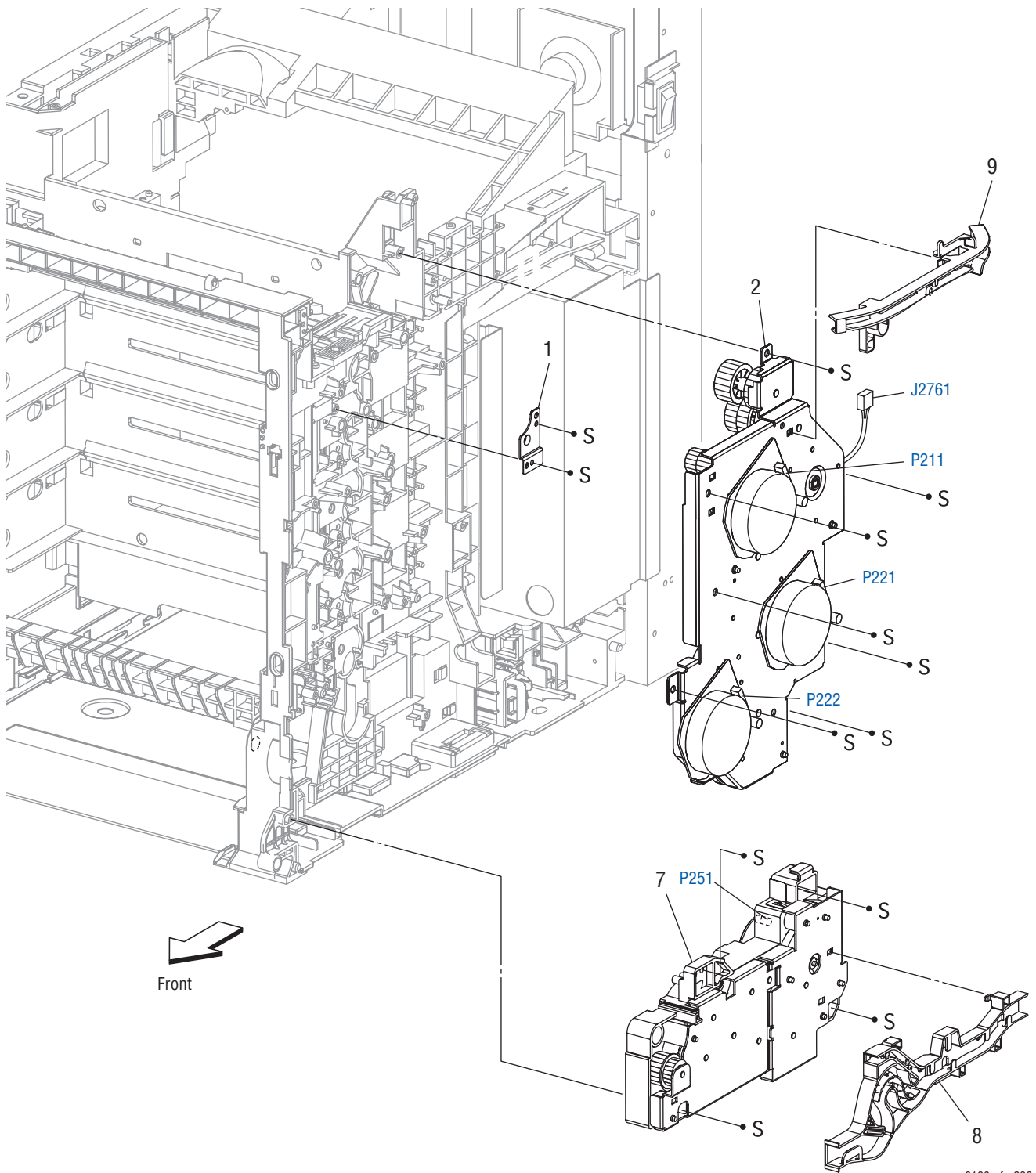


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Parts List 7.1 Frame

ID No.	Name/Description	Part Number
1.	Wheel Star Assy	019K08450
2.	Link Assy Left (Kits)	
3.	Link Latch Trans (Kits)	
4.	Lever Release (Kits)	
5.	-----	
6.	Holder Damper H (Kits)	
7.	Damper Oil H (Kits)	
8.	Spring Support	
9.	-----	
10.	-----	
11.	-----	
12.	Link Assy Right (Kits)	
13.	Link Right	
14.	Kit Foot Assy (4 pcs)	675K35450
15.	Clamp WS-2W-V0	
16.	-----	
17.	Guide Tray Right 250	
18.	Switch Assy Size	110K12820
19.	Guide Tray Assy Left 250 (with 20, 22)	
20.	Guide Tray Left 250	
21.	-----	
22.	Spring Tray Lock	
23.	Duct Side Left	
24.	Stopper Frame Left	
98.	Kit Link Assy Left (with 2-8)	675K35434
99.	Kit Link Assy Right (with 4, 6-8, 12, 13)	675K48081

Parts List 8.1 Drive



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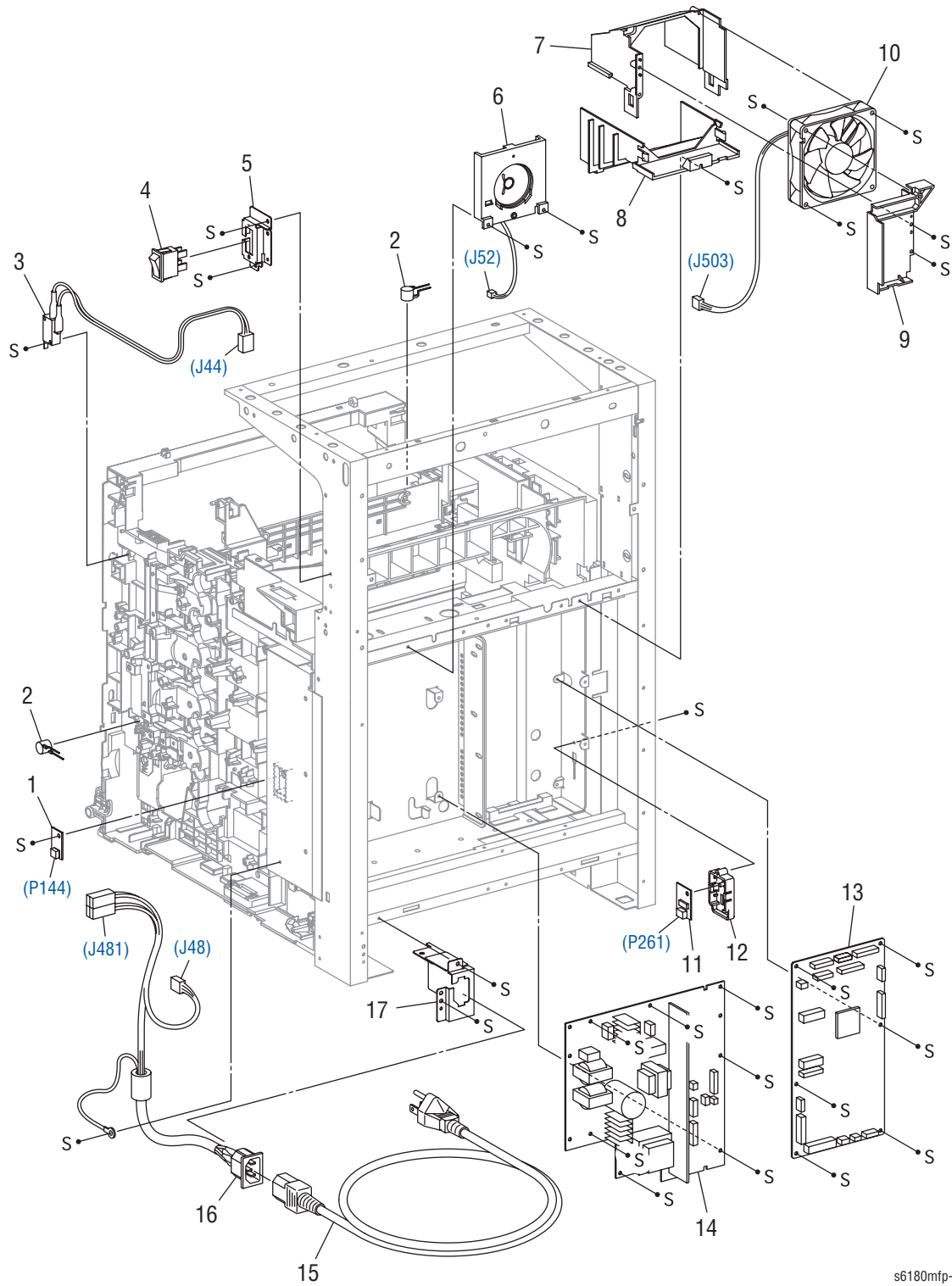
Parts List 8.1 Drive

ID No.	Name/Description	Part Number
1.	Bracket Gear T1	
2.	Drive Assy Main	675K45142
3.	-----	
4.	-----	
5.	-----	
6.	-----	
7.	Drive Assy PH	675K47390
8.	Duct Drive PH	
9.	Duct Drive Main	

Parts List 9.1 Electrical (1 of 2)

ID No.	Name/Description	Part Number
1.	Scanner Controller Board (with 2, 26)	960K31723
2.	Support Fax	
3.	PWBA Fax	960K31710
4.	Box Assy Fax AIO (with 5, 6, 27)	
5.	Plate Assy Fax AIO	
6.	Clamp RLWT-2V0	
7.	Shield Assy ESS Window (with 8-12)	
8.	Hinge Assy Window	
9.	Plate Assy ESS Sub	
10.	Plate Window ESS	
11.	Washer	
12.	Screw Knurling	
13.	Box Assy PRT AIO (with 11, 12, 15, 17-19, 28, 29)	
14.	-----	
15.	Plate Asst PRT AIO	
16.	-----	
17.	Plate Optional	
18.	Box ESS PRT	
19.	Clamp Saddle LES-1017	
20.	PWBA ESS (with 21)	960K31113
21.	NVM ROM	
22.	512 MB DDR2 Memory Card (1x 512 MB) (Option)	604K48400
	256 MB DDR2 Memory Card (1x 256 MB) (Option)	604K48180
23.	Multi-Protocol Card (Option)	675K47113
24.	-----	
25.	-----	
26.	NVM ROM	
27.	Film Assy Insulation FFC	
28.	Gasket SSTG 5-14	
29.	Gasket SSTG 1-5	

Parts List 9.2 Electrical (2 of 2)

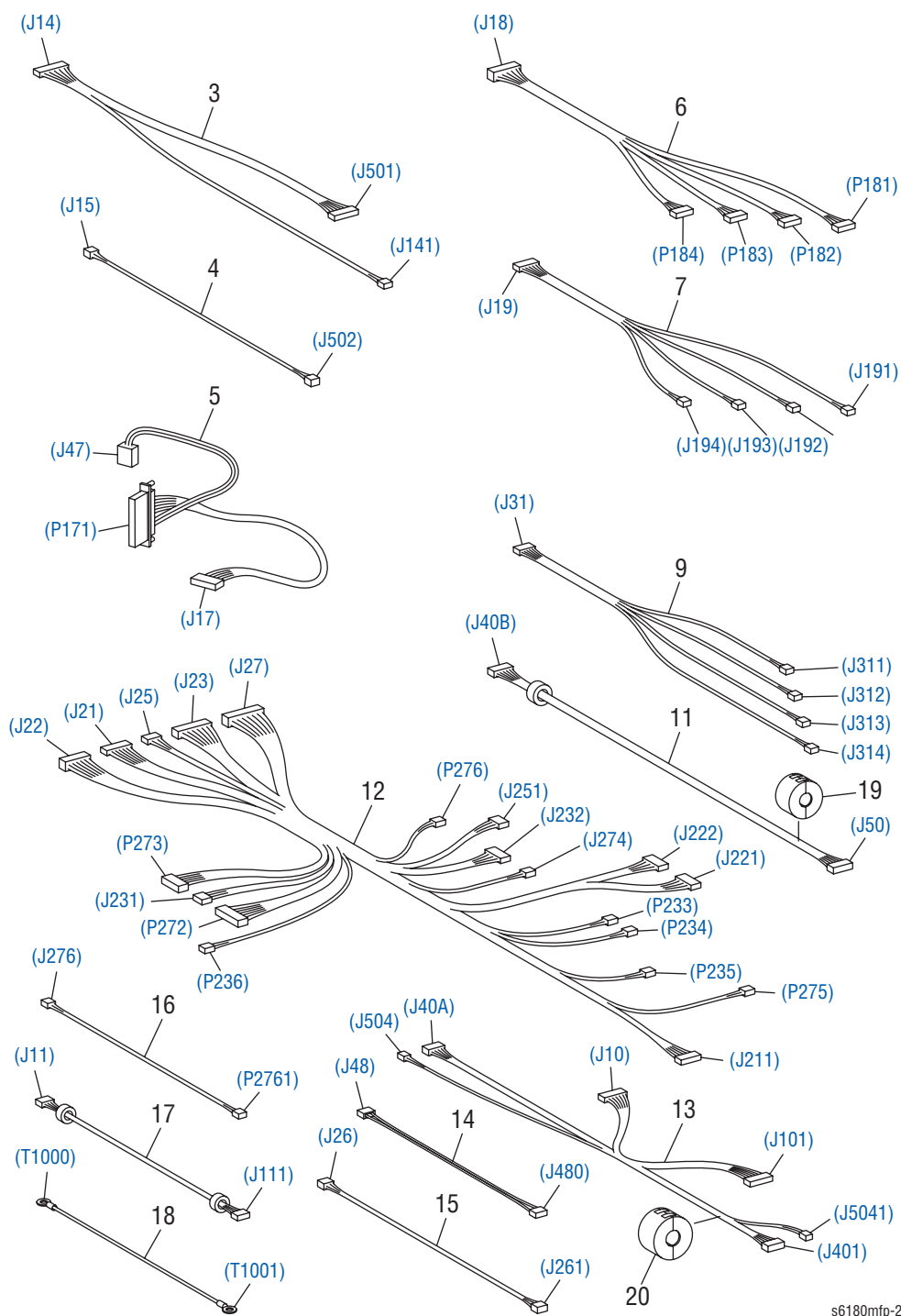


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Parts List 9.2 Electrical (2 of 2)

ID No.	Name/Description	Part Number
1.	PWBA EEPROM (XPRO)	960K17290
2.	Varistor	
3.	Harness Assy Interlock AIO (Harness Kit)	604K44690
4.	Switch Power (Harness Kit)	604K44710
5.	Bracket Main SW	
6.	Speaker Assy	604K37840
7.	Duct Upper	
8.	Duct Lower	
9.	Plate Duct	
10.	Fan Main	127E84800
11.	Sensor Humidity (Temperature Sensor)	130E87990
12.	Bracket Sensor Humidity Sensor (Temperature Sensor)	
13.	PWBA MCU	960K36440
14.	LVPS AIO, 100V, K	105K23100
	LVPS AIO, 200V, K	105K23110
15.	Power Cord 110V, North American (NEMA 5-15), 125V, 13A	117E35170
	Power Cord, Cable Assy, UK, 240V	117E29510
	Power Cord, Cable Assy, EUR, 240V	117E29500
16.	Harness Assy Inlet AIO 100V (J48~J481) (Harness Kit)	604K44710
	Harness Assy Inlet AIO 220V (J48~J481) (Harness Kit)	604K44710
17.	Bracket Inlet	

Parts List 10.1 Wiring Harness (with Scanner)

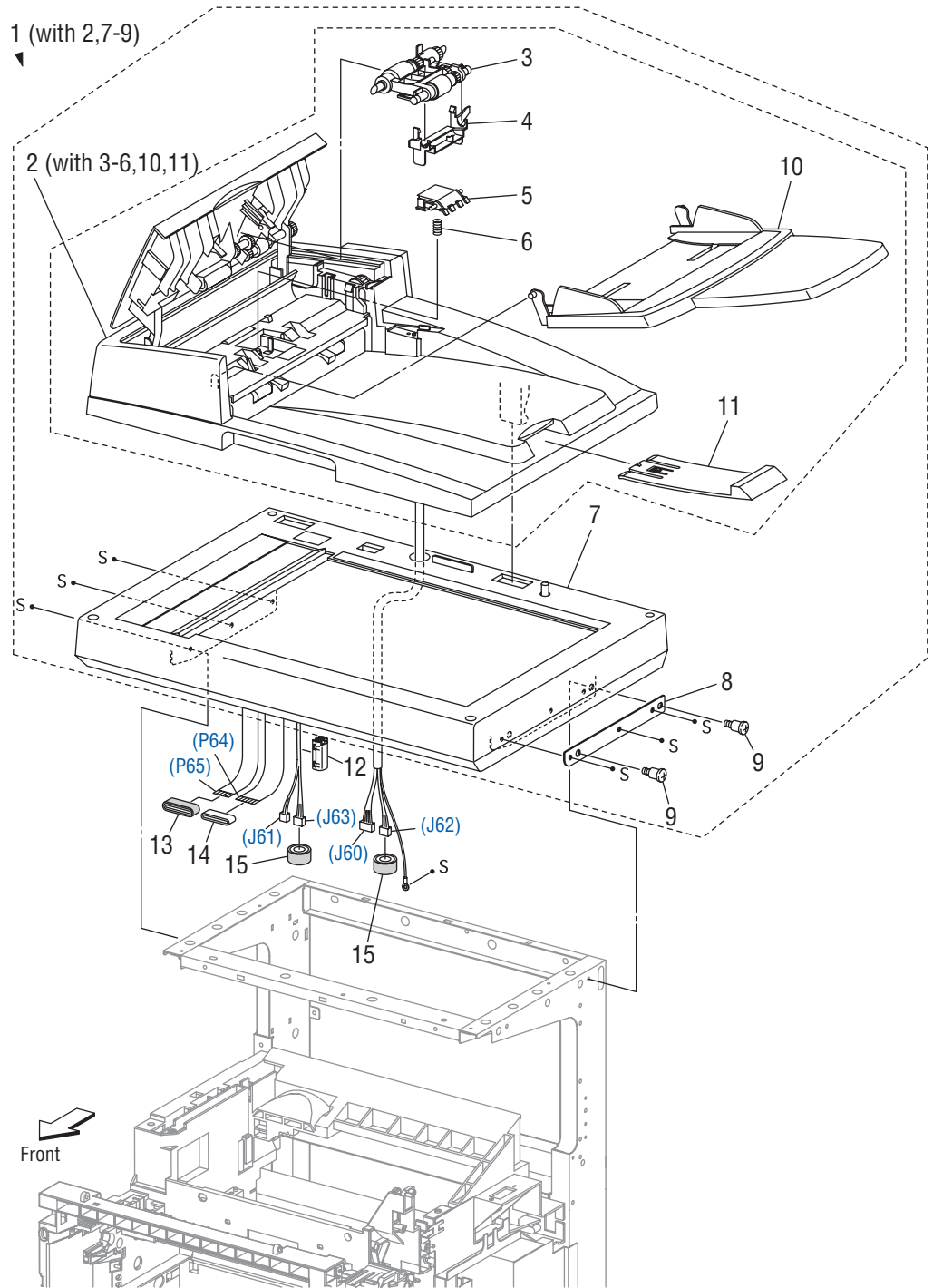


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Parts List 10.1 Wiring Harness (with Scanner)

ID No.	Name/Description	Part Number
1.	-----	
2.	-----	
3.	Harness Assy LVPS AIO (J14-J141, J501) (Harness Kit)	604K44690
4.	Harness Assy 24V AIO (J15-J502) (Harness Kit)	604K44690
5.	Harness Assy Fuser AIO 100V (P171-J17, J47) (Harness Kit)	604K44690
	Harness Assy Fuser AIO 200V (P171-J17, J47) (Harness Kit)	604K44690
6.	Harness Toner Motor AIO (J18-P181, P182, P183, P184) (Harness Kit)	604K44710
7.	Harness Assy Toner Sensor AIO (J19-J191, J192, J193, J194) (Harness Kit)	604K44710
8.	-----	
9.	Harness Assy CRU AIO (J31-J311, J312, J313, J314) (Harness Kit)	604K44710
10.	-----	
11.	Harness Assy ESS Power AIO (J40-6N - J401-6N) (Harness Kit)	604K44710
12.	Harness Assy Right Side AIO (J21, J22, J23, J25, J27~J211, J221, J222, J231, J232, P233, P234, P235, P236, J251, P272, P273, J274, P275, P276)	962K45460
13.	Harness Assy IF AIO (J10, J40A, J504-J101, J111, J401, J5041)	604K44710
14.	Harness Assy AIO-ESS (J48-J480) (Harness Kit)	604K44710
15.	Harness Assy HUM (J26-J261) (Harness Kit)	604K44710
16.	Harness Assy Exit Clutch (J276-P2761) (Harness Kit)	604K44690
17.	Harness Assy Video AIO (J11-J111) (Harness Kit)	604K44710
18.	Harness Assy Drive Earth AIO (T1000-T1001)	
19.	CORE TFT-102010N	
20.	CORE TFT-102010N	

Parts List 11.1 Scanner Assembly



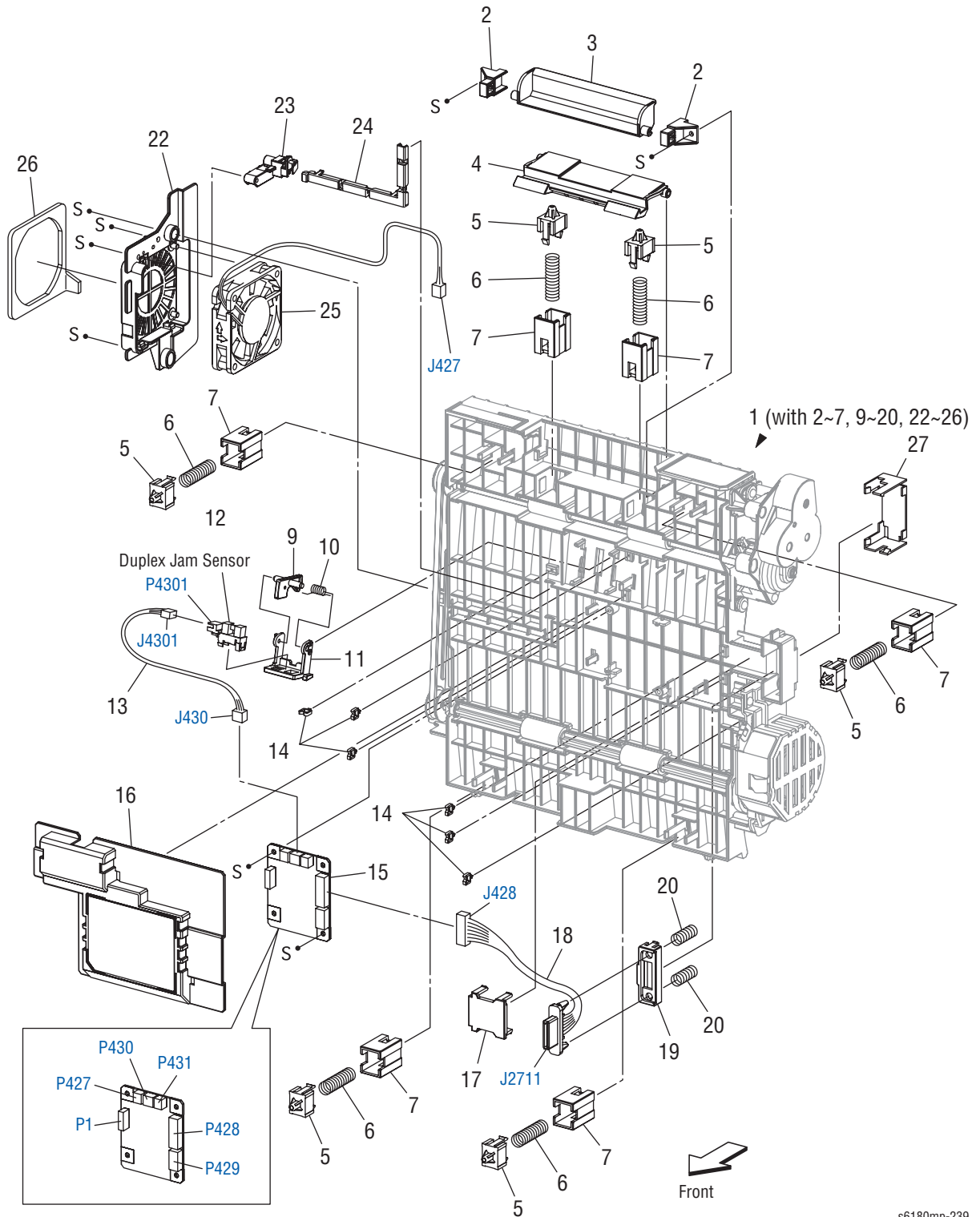
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Parts List 11.1 Scanner Assembly

ID No.	Name/Description	Part Number
1.	ADF Scanner Assy (with 2, 7-9)	675K56481
2.	ADF Assy (with 3-6, 10, 11)	
3.	ADF Feed Roller	
4.	ADF Feed Roller Holder	
5.	ADF Separator Pad	
6.	ADF Separator Spring	
7.	Scanner Assy	
8.	Plate Sub	
9.	Screw	
10.	Kit Tray Main	604K43720
11.	Tray Extension	
12.	Core SFT-25SN	
13.	Core Assy FRC27	
14.	Core FRC27-12-1.3	
15.	Core Assy SC-18	
16.	Kit ADF Roll & Pad (with 3, 4, 5, 6)	604K44130

Options

Parts List 12.1 Duplex



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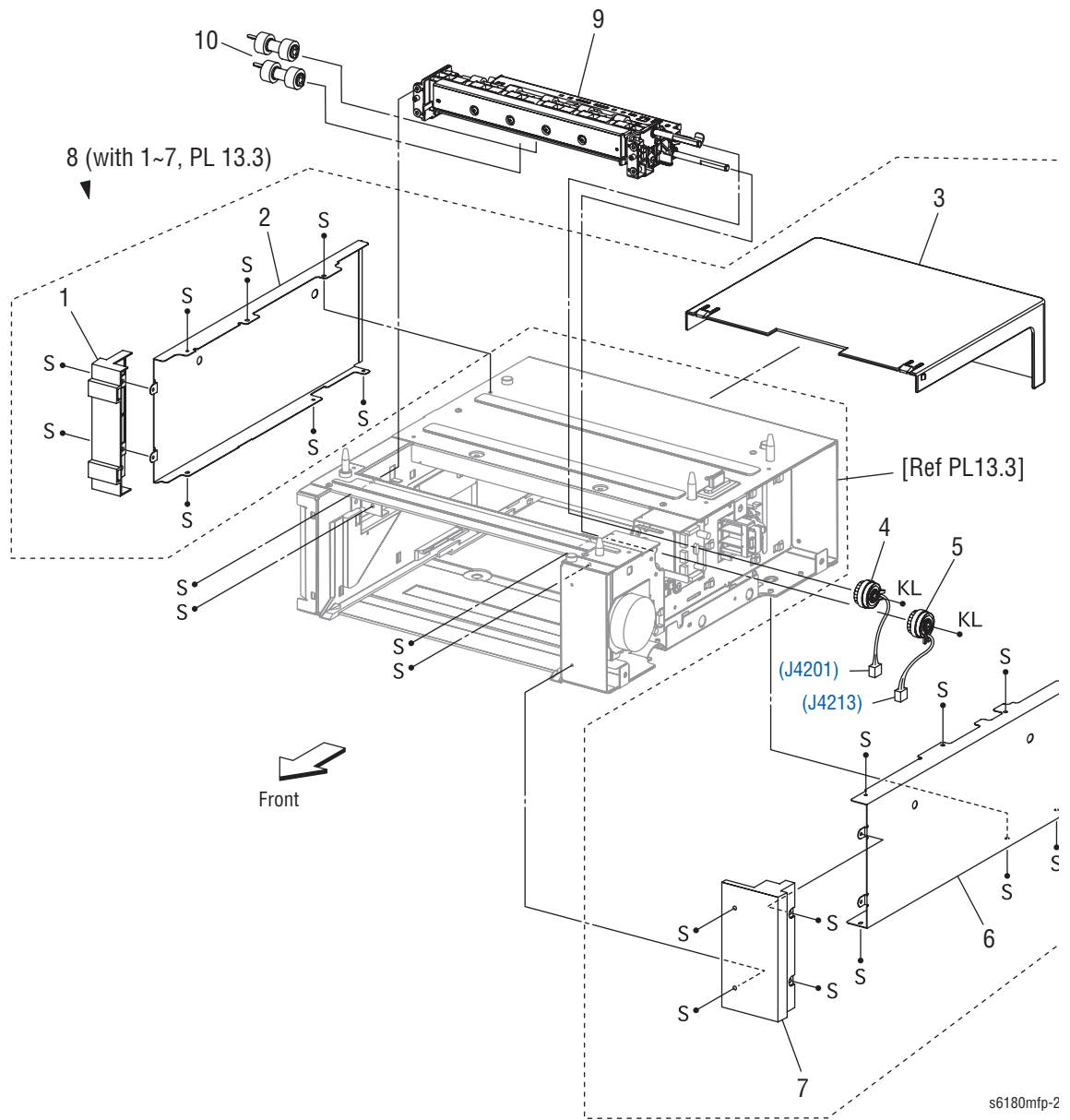
Parts List 12.1 Duplex

ID No.	Name/Description	Part Number
1.	Kit Duplex Module (with 2-7, 9-20, 22-26)	675K47079
2.	Stopper Latch Pivot	
3.	Handle Latch Duplex	
4.	Latch Duplex	
5.	Holder Main	
6.	Spring Chute Duplex	
7.	Bracket Holder Duplex	
8.	-----	
9.	Actuator Duplex	
10.	Spring Sensor Duplex	
11.	Holder Sensor Duplex	
12.	Sensor Photo (Duplex Jam Sensor)	
13.	Harness Assy Duplex Sensor (J430-J4301)	
14.	Clamp Mini	
15.	PWBA Duplex	
16.	Cover PWBA Duplex	
17.	Cover Connect Duplex	
18.	Harness Assy Duplex Unit (J428-J2711)	
19.	Holder Connect Duplex	
20.	Spring Connect Duplex	
21.	-----	
22.	Bracket Fan Duplex	
23.	Cover Harness Fan	
24.	Cover Harness Chute	
25.	Fan Duplex	
26.	Seal Duplex	
27.	Cover Chute Duplex	

Parts List 13.1 Optional 550-Sheet Feeder - Tray 3 (1 of 4)

ID No.	Name/Description	Part Number
1.	550-Sheet Feeder (with 2-10, PL13.2 - PL13.4)	059K63430
2.	Screw Joint	
3.	Block Safety	
4.	Screw BTR	
5.	Cabinet Assy	
6.	Caster	
7.	Caster-S	
8.	Frame Base	
9.	Foot Assy FL RR	
10.	Foot Assy FR RL	
11.	Cabinet Assy (with 2, 12, PL13.2.8)	
12.	Cabinet Assy AIO FDR (with 5-8)	

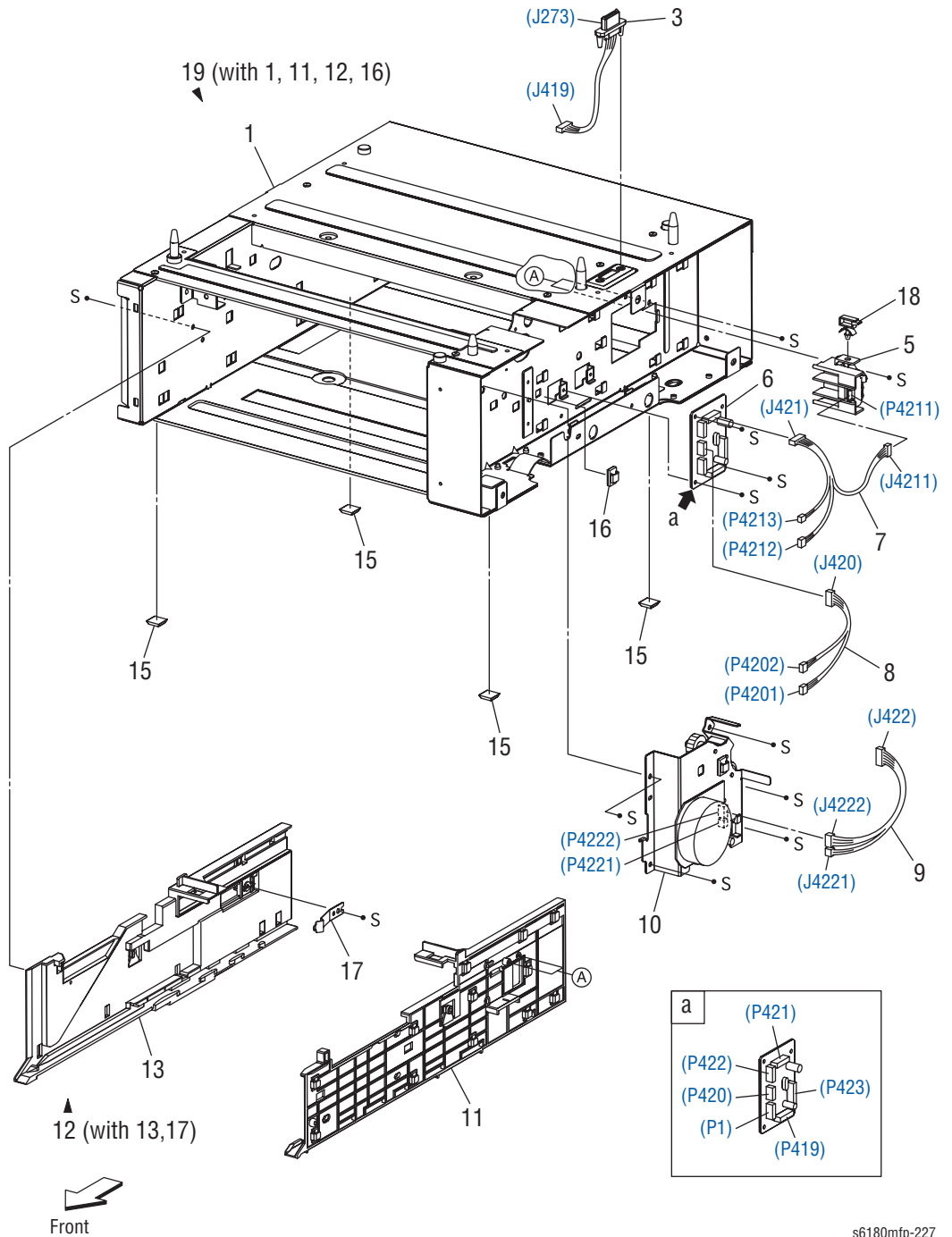
Parts List 13.2 Optional 550-Sheet Feeder - Tray 3 (2 of 4)



Parts List 13.2 Optional 550-Sheet Feeder - Tray 3 (2 of 4)

ID No.	Name/Description	Part Number
1.	Cover Front Left	
2.	Cover OPF Left	
3.	Cover CST 550	
4.	Clutch Assy Turn Opt	
5.	Clutch Assy Feed Opt	
6.	Cover OPF Right	
7.	Cover Front Right	
8.	Feeder Assy Opt Cabinet (with 1-7, PL13.3)	
9.	Feeder Assy Option	059K48273
10.	Roll Assy Feed (Periodic Replacement Part - per 100K prints)	675K47670

Parts List 13.3 Optional 550-Sheet Feeder - Tray 3 (3 of 4)

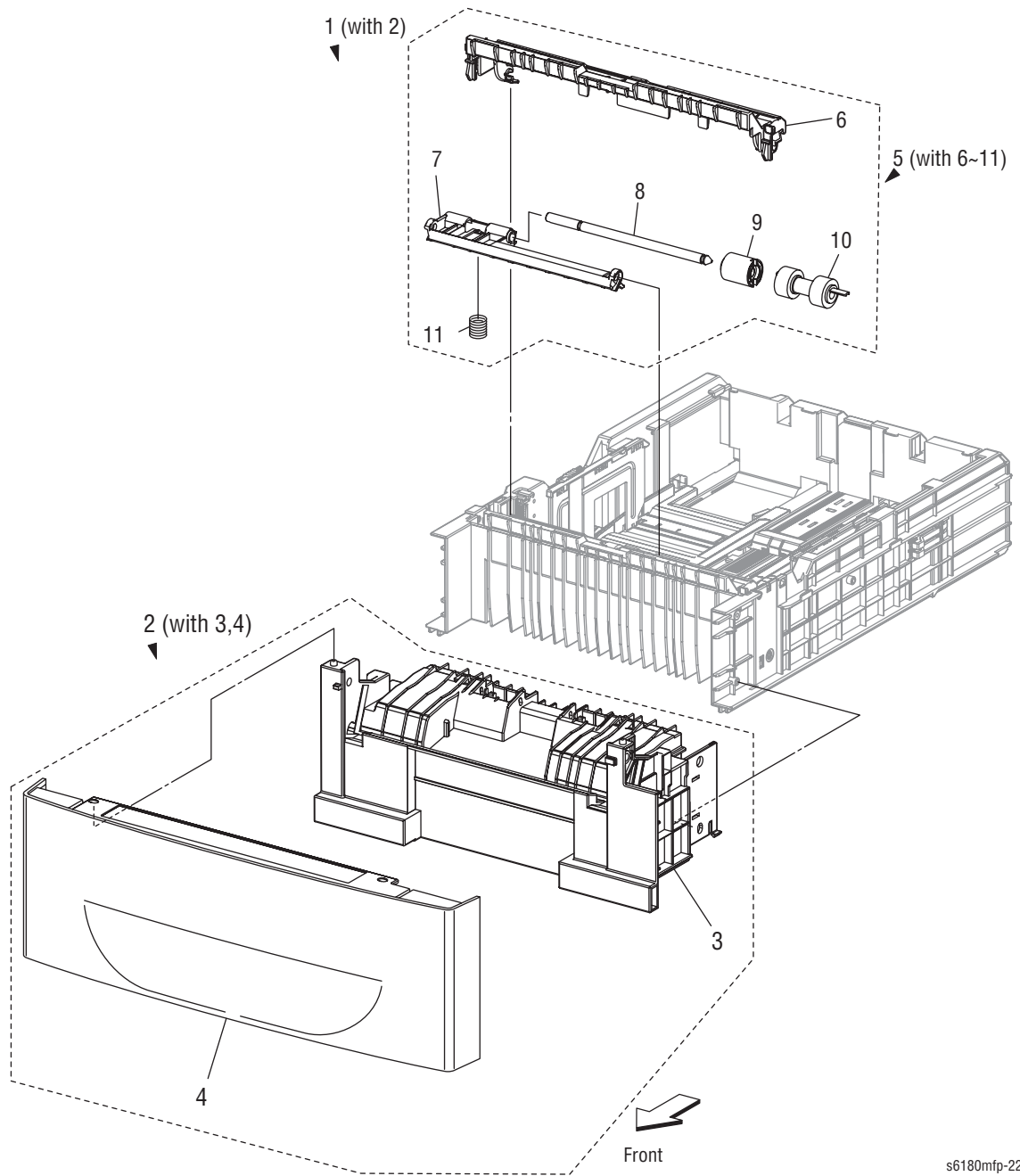


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Parts List 13.3 Optional 550-Sheet Feeder - Tray 3 (3 of 4)

ID No.	Name/Description	Part Number
1.	Frame Assy Opt	
2.	-----	
3.	Harness Assy Feeder Unit (J273-J419)	
4.	-----	
5.	Switch Assy Size Opt	
6.	PWBA Opt Feeder	
7.	Harness Assy C2 Chute (J421-J4211, P4212, P4213)	
8.	Harness Assy C2 Turn (J420-J4201, P4202)	
9.	Harness Assy C2 Motor (J422-J4221, J4222)	
10.	Drive Assy Opt Feeder	
11.	Guide Tray Right 550	
12.	Guide Assy 550 Left (with 13, 17)	
13.	Guide Tray Left 550	
14.	-----	
15.	Foot	
16.	Clamp Mini	
17.	Spring CST Lock	
18.	Clamp Locking	
19.	Frame Assy Opt (with 1, 11, 12, 16)	

Parts List 13.4 Optional 550-Sheet Feeder - Tray 3 (4 of 4)



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Parts List 13.4 Optional 550-Sheet Feeder - Tray 3 (4 of 4)

ID No.	Name/Description	Part Number
1.	Cassette Assy 550 Option (Tray 3) (with 2)	050K57923
2.	Cassette Assy Front 550 Opt (with 3, 4) (Tray 3 Front Assy)	
3.	Housing Base FR 550 (Tray 3 Housing Base)	
4.	Handle CST 550 Opt (Tray 3 Handle)	
5.	Holder Assy Separator (with 6-11)	
6.	CVR RTD CST (Tray 3 Retard Cover)	
7.	Holder Separator	
8.	Shaft Separator	
9.	Clutch Friction RET (Clutch Friction Retard)	
10.	Roller Assy Retard (Periodic Replacement Part - per 100K prints)	657K47670
11.	Spring Separator	

Xerox Supplies and Accessories

World Kit

Description	Part Number
World Kit	650K29130

Consumables and Maintenance Items

Parts List Reference	Description	Part Number
PL2.2.17 PL3.2.53 PL13.4.10	Kit, Roll Assy Feed (100K)	675K47670
PL4.1.1	Kit Belt CRU (Transfer Unit) (100K)	675K47085
PL6.1.10	Fuser Assy - 115V (100K)	675K47094
	Fuser Assy - 230V (100K)	675K47105
PL5.1.17	Print Cartridge (K), High Capacity (8K)	113R00726
	Print Cartridge (K), Standard Capacity (3K)	113R00722
	Print Cartridge (K), Metered Print	113R00734
PL5.1.18	Print Cartridge (C), High Capacity (6K)	113R00723
	Print Cartridge (C), Standard Capacity (2K)	113R00719
	Print Cartridge (C), Metered Print	113R00731
PL5.1.19	Print Cartridge (M), High Capacity (6K)	113R00724
	Print Cartridge (M), Standard Capacity (2K)	113R00720
	Print Cartridge (M), Metered Print	113R00732
PL5.1.20	Print Cartridge (Y), High Capacity (6K)	113R00725
	Print Cartridge (Y), Standard Capacity (2K)	113R00721
	Print Cartridge (Y), Metered Print	113R00733

Options

Parts List Reference	Description	Part Number
PL9.1.22	512 MB DDR2 Memory (1x 512 MB)	604K48400
	256 MB DDR2 Memory (1x 256 MB)	604K48180
PL9.1.23	Multi-Protocol Network Card	675K47113
PL12.1.1	Kit Duplex Unit	675K47079
PL13.1.1	550-Sheet Feeder	059K63430

Power Cords

Description	Part Number
Power Cord, North America (NEMA 5-15), 125 V, 13A	117E35170
Power Cord, Cable Assy, UK, 240 V	117E29510
Power Cord, Cable Assy, EUR, 240 V	117E29500

Service Kits

Service Kits are developed to provide an easy means to obtain spare parts normally associated with larger assemblies. A number of Service Kits have been developed for the Phaser 6180MFP. The following tables list the contents for each kit.

Kits

Pin Kit

Parts List Reference	Description	Part Number
99.99.95	Kit Pin BKY	675K47432

Hardware Kit

Parts List Reference	Description	Part Number
99.99.99	Hardware Kit	604K34030
	<i>Screw, Bind Head Del (1)</i>	
	<i>Screw, 8 mm Plastic (1)</i>	
	<i>Screw, Tap Bind Head (1)</i>	
	<i>Screw, M3x6 B (1)</i>	
	<i>Screw, DT3x8 B (1)</i>	
	<i>E-Ring, 3 mm (1)</i>	
	<i>E-Ring, 4 mm (1)</i>	

Packaging Kit

Parts List Reference	Description	Part Number
	Packaging Kit	695K28210

Harness Kits

Parts List Reference	Description	Part Number
99.99.96	Kit Harness Front Cover	604K44680
PL1.2.13	<i>Harness Assy Front Cover (J272-P2720, P2721, T4322-T43221)</i>	
PL1.2.24	<i>Harness Assy A-OP-OPP (J202-J5301)</i>	
PL1.2.25	<i>Harness Assy A-OP-ESS (J53-P5301)</i>	
99.99.97	Kit Harness Feeder/Fuser/Interlock	604K44690
PL3.1.17	<i>Harness Assy MPT NPP (J275-J2751)</i>	
PL3.2.37	<i>Harness Assy Regi Sensor (J232-J2321, J2322)</i>	
PL9.2.3	<i>Harness Assy Interlock AIO</i>	
PL10.1.3	<i>Harness Assy LVPS AIO (J14-J141, J501)</i>	
PL10.1.4	<i>Harness Assy 24V AIO (J15-J502)</i>	
PL10.1.5	<i>Harness Assy Fuser AIO 100V (P171-J17, J47)</i>	
PL10.1.5	<i>Harness Assy Fuser AIO 200V (P171-J17, J47)</i>	
PL10.1.16	<i>Harness Assy Exit CLT (J276-J2761)</i>	
99.99.98	Kit Harness Power Switch	604K44710
PL9.2.4	<i>Power Switch</i>	
PL9.2.16	<i>Harness Assy Inlet AIO, 100 V (J48-J481)</i>	
PL9.2.16	<i>Harness Assy Inlet AIO, 220 V (J48-J481)</i>	
PL10.1.6	<i>Harness Toner Motor AIO (J18-P181, P182, P183, P184)</i>	
PL10.1.7	<i>Harness Assy Toner Sensor AIO (J19-J191, J192, J193, J194)</i>	
PL10.1.9	<i>Harness Assy CRU AIO (J31-J311, J312, J313, J314)</i>	
PL10.1.11	<i>Harness Assy ESS Power AIO (J40N-6N - J401-6N)</i>	
PL10.1.13	<i>Harness Assy IF AIO (J10, J40A, J504-J101, J111, J401, J5041)</i>	
PL10.1.14	<i>Harness Assy AIO-ESS (J48-J480)</i>	
PL10.1.15	<i>Harness Assy HUM (J26-J261)</i>	
PL10.1.17	<i>Harness Assy Video AIO (J11-J111)</i>	

Plug/Jack and Wiring Diagrams

In this chapter...

- Plug/Jack Diagrams and Designators
- Plug/Jack Locators
- Notations Used in the Wiring Diagrams
- Print Engine Wiring Diagrams
- Optional 550-Sheet Feeder Wiring Diagram
- Duplex Wiring Diagram
- Fax Controller Wiring Diagram
- Scanner Wiring Diagram
- Automatic Document Feeder Wiring Diagram

Chapter 10

Plug/Jack Diagrams and Designators

This chapter contains the Plug/Jack Designators, Locators, and wiring diagrams for the print engine and all options.

The Plug/Jack Locator diagrams show the P/J locations within the printer, Optional 550-Sheet Feeder, Duplex Unit, Fax, Copier, and Scanner. Use these illustrations to locate P/J connectors called out in the Troubleshooting procedures presented in Sections 3, 4, and 5.

The Plug/Jack locators consist of the P/J Designator Tables and the P/J Locator Diagrams.

- The P/J column lists the Plug/Jack numbers in numerical order.
- The Map column provides the map number of the specific areas (i.e., Electrical, Laser Unit...etc.)
- The Coordinates column lists the diagram coordinates for the location of the connector.
- The Remarks column provides a brief description of each connection.
 1. Locate the P/J connector designator in the first column of the table.
 2. With this information, go to the map listed in the second column.
 3. Use the coordinates to locate the connection indicated on the map with its P/J designation number.

Print Engine Plug/Jack Designators

Print Engine Plug/Jack Designators

P/J	Map	Coordinates	Remarks
3	3	E-138	Connects the Image Processor Board and Multi-Protocol Network Card.
10	4	I-157	Connects the MCU Board and AIO I/F Harness.
11	4	I-157	Connects the MCU Board and AIO I/F Harness.
12	4	I-156	Connects the MCU Board and Laser Unit Harness.
14	4	I-156	Connects the MCU Board and LVPS Harness.
15	4	H-157	Connects the MCU Board and 24V Controller Harness.
16	4	I-156	Connects the MCU Board and HVPS.
17	4	I-156	Connects the MCU Board and Fuser Harness.
18	4	H-157	Connects the MCU Board and Toner Motor Harness.
19	4	I-157	Connects the MCU Board and Toner Sensor Harness.
21	4	H-158	Connects the MCU Board and Right Side Harness.
22	4	H-158	Connects the MCU Board and Right Side Harness.
23	4	H-159	Connects the MCU Board and Right Side Harness.
24	4	I-159	Connects the MCU Board and Overhead Paper (OHP) Harness.

Print Engine Plug/Jack Designators (continued)

P/J	Map	Coordinates	Remarks
25	4	H-158	Connects the MCU Board and Right Side AIO Harness.
26	4	I-159	Connects the MCU Board and Humidity/Temperature Harness.
27	4	I-159	Connects the MCU Board and Right Side AIO Harness.
31	4	I-159	Connects the MCU Board and CRUM Harness.
40a	4	F-153	Connects the LVPS and AIO I/F Harness.
40b	4	F-153	Connects the LVPS and AIO Power Controller Harness.
44	4	F-152	Connects the LVPS and Interlock Switch.
47	4	F-152	Connects the LVPS and Fuser Harness.
48	4	E-152	Connects the LVPS and Inlet Harness.
48	3	H-144	Connects the Scanner Controller Board and Controller Harness.
50	3	J-142	Connects the Scanner Controller Board and AIO Power Controller Harness.
52	3	H-141	Connects the Scanner Controller Board and Speaker Assembly.
53	3	I-144	Connects the Scanner Controller Board and A-OP Controller Harness.
56	3	I-143	Connects the Scanner Controller Board and Fax Board.
60	3	J-143	Connects the Scanner Controller Board and ADF Scanner Assembly (Empty Sensor, PCB Sensor).
61	3	J-143	Connects the Scanner Controller Board and ADF Scanner Assembly (ADF Open Sensor).
62	3	J-143	Connects the Scanner Controller Board and ADF Scanner Assembly (ADF Motor).
63	3	J-143	Connects the Scanner Controller Board and ADF Scanner Assembly (Scanner Motor).
64	3	I-142	Connects the Scanner Controller Board and ADF Scanner Assembly (CCD Board).
65	3	J-142	Connects the Scanner Controller Board and the ADF Scanner Assembly (CCD Board).
101	3	F-138	Connects the Image Processor Board and AIO I/F Harness.
101	4	I-158	Not connected (Debug only).
111	3	F-138	Connects the Image Processor Board and AIO I/F Harness.
121	2	G-123	Connects the Laser Unit and Laser Unit Harness.
141	3	I-136	Connects the LED and LVPS Harness.

Print Engine Plug/Jack Designators (continued)

P/J	Map	Coordinates	Remarks
144	1	C-110	Connects the EEPROM Board and Belt Harness (Transfer Unit).
144	4	D-153	Connects the EEPROM Board and Right Side AIO Harness.
161	3	G-136	Connects the HVPS and MCU Board.
171	1	G-108	Connects the Fuser and Fuser Harness.
181	3	I-138	Connects the Dispenser (Y) and Toner Motor Harness.
182	3	I-137	Connects the Dispenser (M) and Toner Motor Harness.
183	3	H-136	Connects the Dispenser (K) and Toner Motor Harness.
184	3	H-137	Connects the Dispenser (C) and Toner Motor Harness.
191	2	G-126	Connects the Print Cartridge Sensor (Y) and Toner Sensor Harness.
192	2	G-125	Connects the Print Cartridge Sensor (M) and Toner Sensor Harness.
193	2	G-124	Connects the Print Cartridge Sensor (K) and Toner Sensor Harness.
194	2	G-124	Connects the Print Cartridge Sensor (C) and Toner Sensor Harness.
202	1	F-108	Connects the Control Panel and A-OP-OPP Harness.
211	1	G-109	Connects the Main Drive (Main Motor) and Right Side AIO Harness.
221	1	G-110	Connects the Main Drive (Sub Motor) and Right Side AIO Harness.
222	1	G111	Connects the Main Drive (Developer Motor) and Right Side AIO Harness.
231	2	H-127	Connects the Size Switch Assembly and Right Side AIO Harness.
232	2	H-126	Connects the Feeder Unit (Registration Sensor Harness) and Right Side AIO Harness.
233	2	H-125	Connects the Feeder Unit (Registration Clutch) and Right Side AIO Harness.
234	2	H-125	Connects the Feeder Unit (Turn Clutch) and Right Side AIO Harness.
235	2	H-124	Connects the Feeder Unit (Feed Clutch) with Right Side AIO Harness.
236	1	G-112	Connects the Tray 1 (MPT) Feed Solenoid with Right Side AIO Harness.
241	2	H-126	Connects the OHP Sensor Harness with OHP Harness (not used on 6180MFP).

Print Engine Plug/Jack Designators (continued)

P/J	Map	Coordinates	Remarks
251	1	G-111	Connects the Feed Drive Assembly (Tray 2 Motor) with Right Side AIO Harness.
261	4	I-153	Connects the Humidity/Temperature Sensor and Humidity/Temperature Harness.
272	1	H-111	Connects the Front Cover Harness and Right Side AIO Harness.
273	2	G-127	Connects the Right Side AIO Harness and Optional-550 Sheet Feeder (Feeder Unit Harness).
275	1	H-109	Connects the Tray 1 (MPT) No Paper Harness and Right Side AIO Harness.
276	1	H-110	Connects the Exit Clutch Harness and Right Side AIO Harness.
311	2	G-125	Connects the CRUM Sensor (Y) and CRUM Harness.
312	2	G-125	Connects the CRUM Sensor (M) and CRUM Harness.
313	2	G-124	Connects the CRUM Sensor (C) and CRUM Harness.
314	2	G-123	Connects the CRUM Sensor (K) and CRUM Harness.
401	3	F-137	Connects the Image Processor Board and AIO I/F Harness.
480	3	D-139	Connects the Image Processor Board and AIO Controller Harness.
481	4	E-151	Connects the Power Switch and AIO Inlet Harness.
501	4	G-153	Connects the LVPS and AIO LVPS Harness.
502	4	F-153	Connects the LVPS and AIO 24V Harness.
503	4	G-153	Connects the LVPS and Fan.
504	4	G-153	Connects the LVPS and AIO I/F Harness.
2321	2	D-126	Connects the Feeder Unit (No Paper Sensor) and Registration Sensor Harness.
2322	2	D-126	Connects the Feeder Unit (Registration Sensor) and Registration Sensor Harness.
2411	2	F-126	Connects the OHP Sensor Board and OHP Sensor Harness (not used on 6180MFP).
2412	2	E-127	Connects the OHP LED Board and OHP Sensor Harness (not used on 6180MFP).
2721	1	B-108	Connects the Transfer Unit and Front Cover Harness.
2751	1	E-112	Connects the Tray 1 (MPT) No Paper Sensor and Tray 1 (MPT) No Paper Harness.
2761	1	H-109	Connects the Main Drive (Exit Clutch) and Exit Clutch Harness.

Print Engine Plug/Jack Designators (continued)

P/J	Map	Coordinates	Remarks
5041	3	F-138	Not connected (used in Production process only).
5301	1	H-111	Connects the A-OP-OPP Harness and A-OP-ESS Harness.
27212	1	D-108	Connects the ADC Sensor and Transfer Unit Harness.
27213	1	D-108	Connects the ADC Solenoid and Transfer Unit Harness.

Duplex Plug/Jack Designators

Duplex Plug/Jack Designators

P/J	Map	Coordinates	Remarks
1	5	E-168	Not connected (Debug only).
427	5	F-168	Connects the Duplex Board and Duplex Fan.
428	5	F-168	Connects the Duplex Board and Duplex Unit Harness.
429	5	F-169	Connects the Duplex Board and Duplex Motor.
430	5	F-168	Connects the Duplex Board and Duplex Sensor Harness.
431	5	F-168	Connects the Duplex Board and Duplex Clutch.
2720	5	I-169	Connects the Duplex (Duplex Unit Harness) and printer.
4301	5	E-167	Connects the Duplex Jam Sensor and Duplex Sensor Harness.

Optional Feeder Plug/Jack Designators

Optional Feeder Plug/Jack Designators

P/J	Map	Coordinates	Remarks
273	6	H-183	Connects the Optional-550 Sheet Feeder (Feeder Unit Harness) and printer.
419	6	G-180	Connects the Optional Feeder Board and Feeder Unit Harness.
420	6	G-180	Connects the Optional Feeder Board and Tray 3 Turn Harness.
421	6	G-179	Connects the Optional Feeder Board and Tray 3 Chute Harness.
422	6	G-179	Connects the Optional Feeder Board and Tray 3 Motor Harness.
4201	6	H-185	Connects the Turn Clutch and Tray 3 Turn Harness.
4211	6	I-184	Connects the Optional Size Switch and Tray 3 Chute Harness.
4212	6	H-184	Connects the Tray 3 Chute Harness and Tray 3 No Paper Harness.
4213	6	H-185	Connects the Feed Clutch and Tray 3 Chute Harness.
4221	6	G-185	Connects the Optional Feeder Drive (Optional Feeder Motor) and Tray 3 Motor Harness.
4222	6	G-185	Connects the Optional Feeder Drive (Optional Feeder Motor) and Tray 3 Motor Harness.
42121	6	D-183	Connects the Tray 3 No Paper Sensor and Tray 3 No Paper Sensor Harness.
1	6	G-180	Not connected (Debug only).

Optional Feeder Plug/Jack Designators (continued)

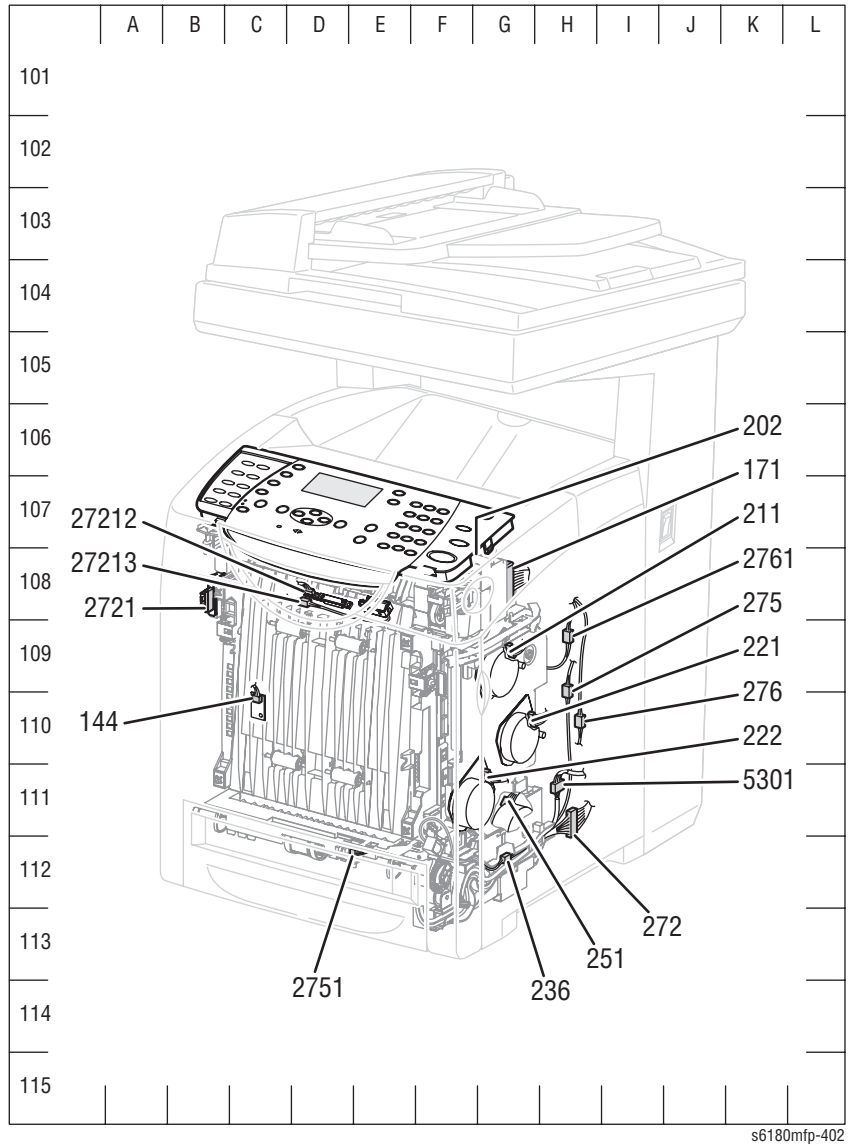
P/J	Map	Coordinates	Remarks
423	6	G-180	Not connected.
4202		H-185	

Plug/Jack Locators

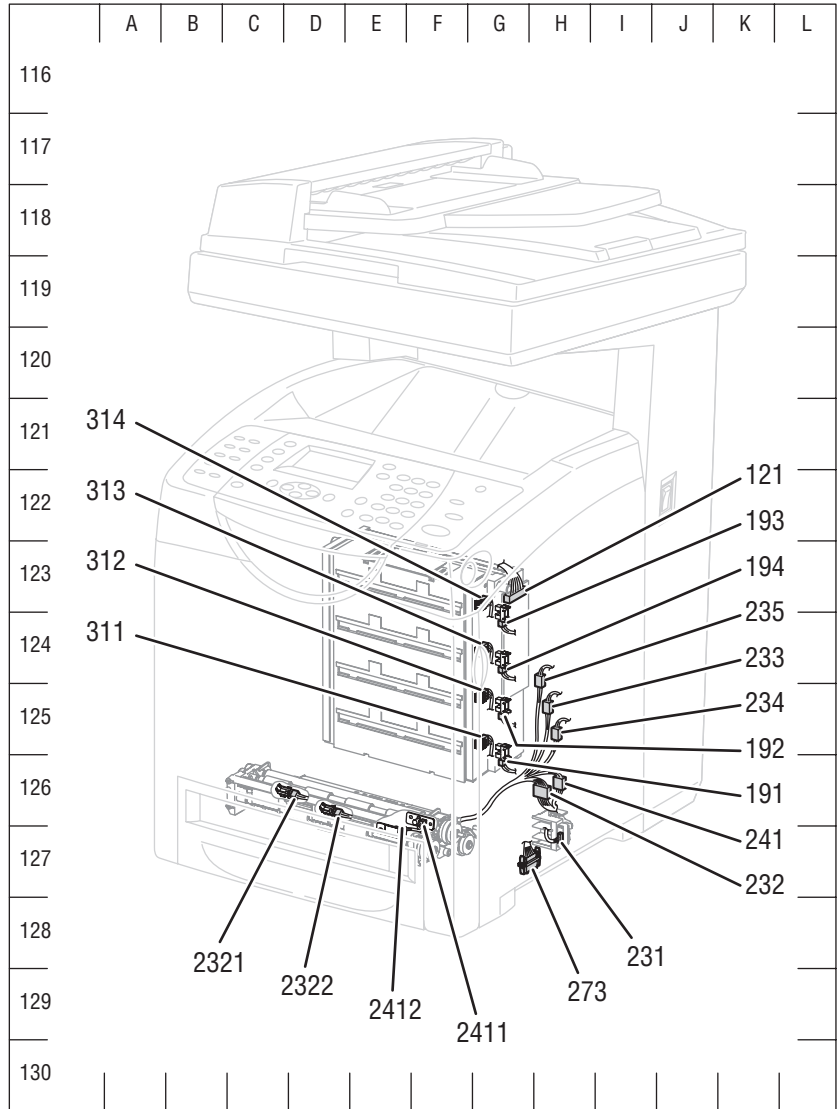
Maps 1 through 6 indicate the location of key connections within the printer. Connections are referenced by their P/J designation.

1. Map 1 - Electrical and Drive
2. Map 2 - Laser Unit and Feeder
3. Map 3 - Image Processor Board and Dispenser Motors
4. Map 4 - LVPS and MCU Board
5. Map 5 - Duplex Unit
6. Map 6 - Optional 550-Sheet Feeder

Map 1 - Electrical and Drive

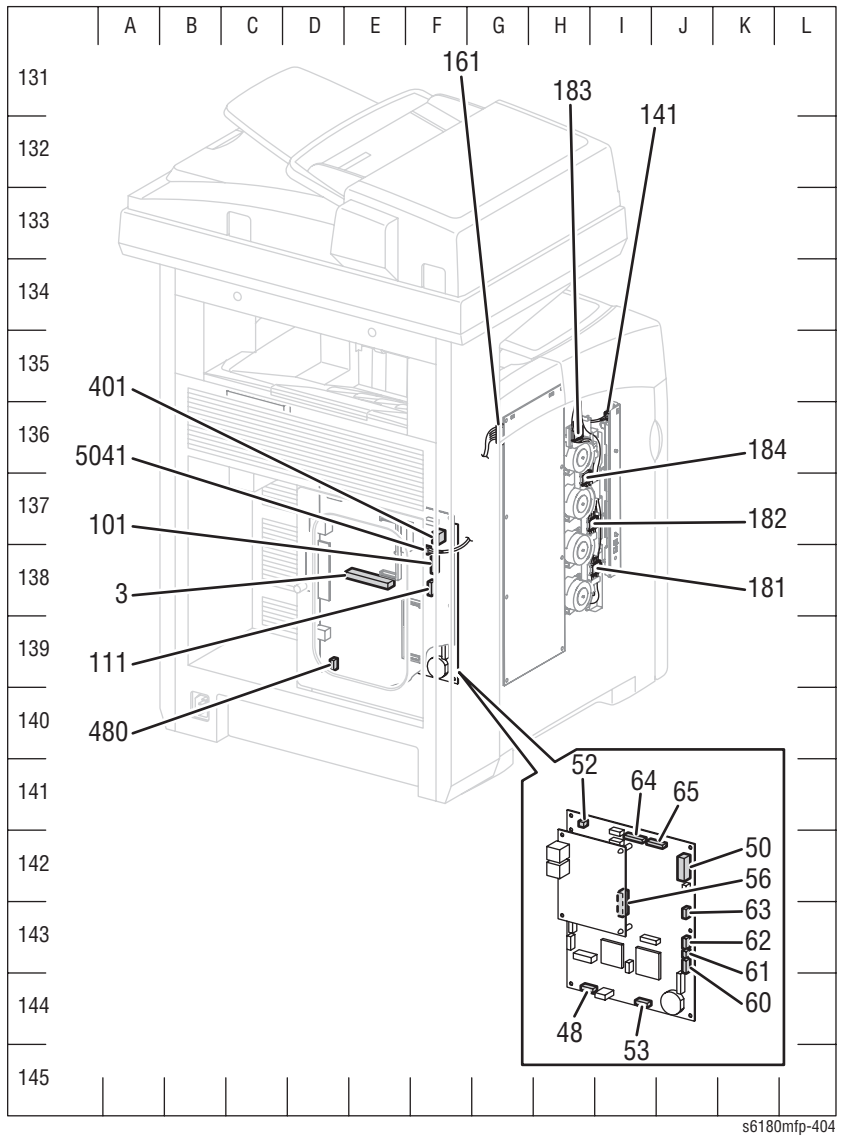


Map 2 - Laser Unit and Feeder

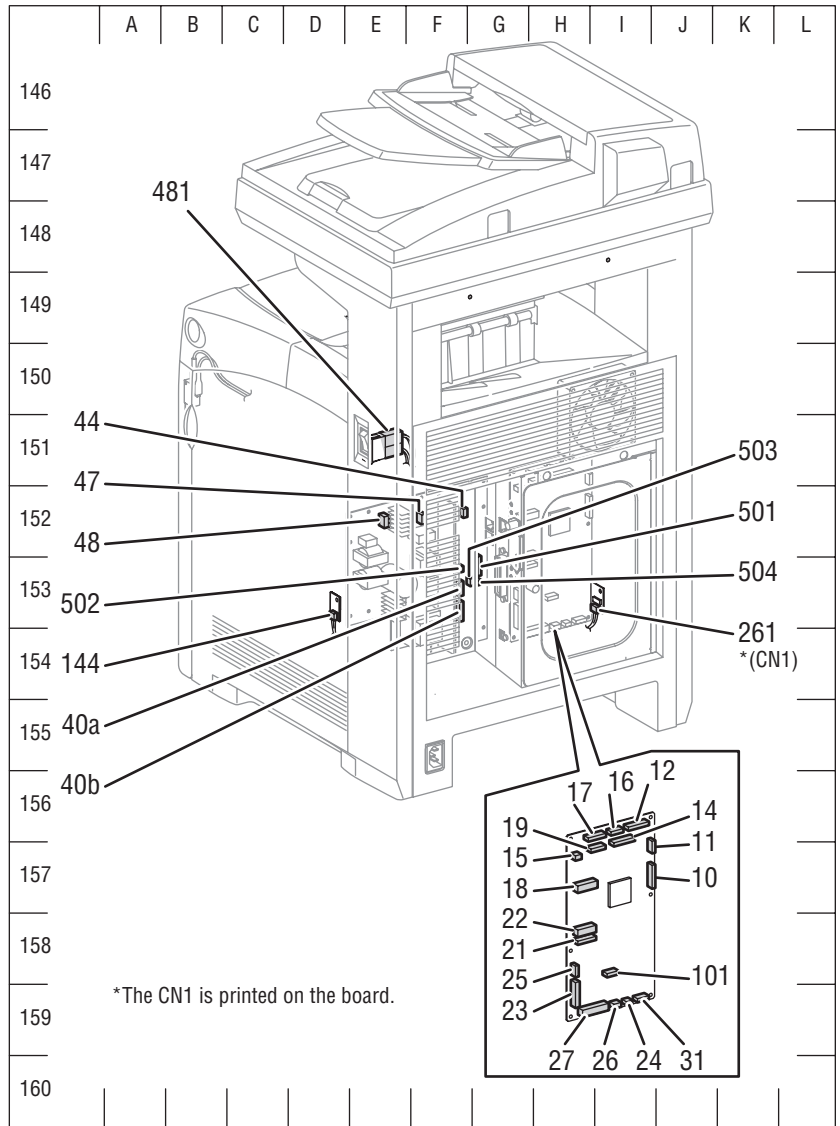


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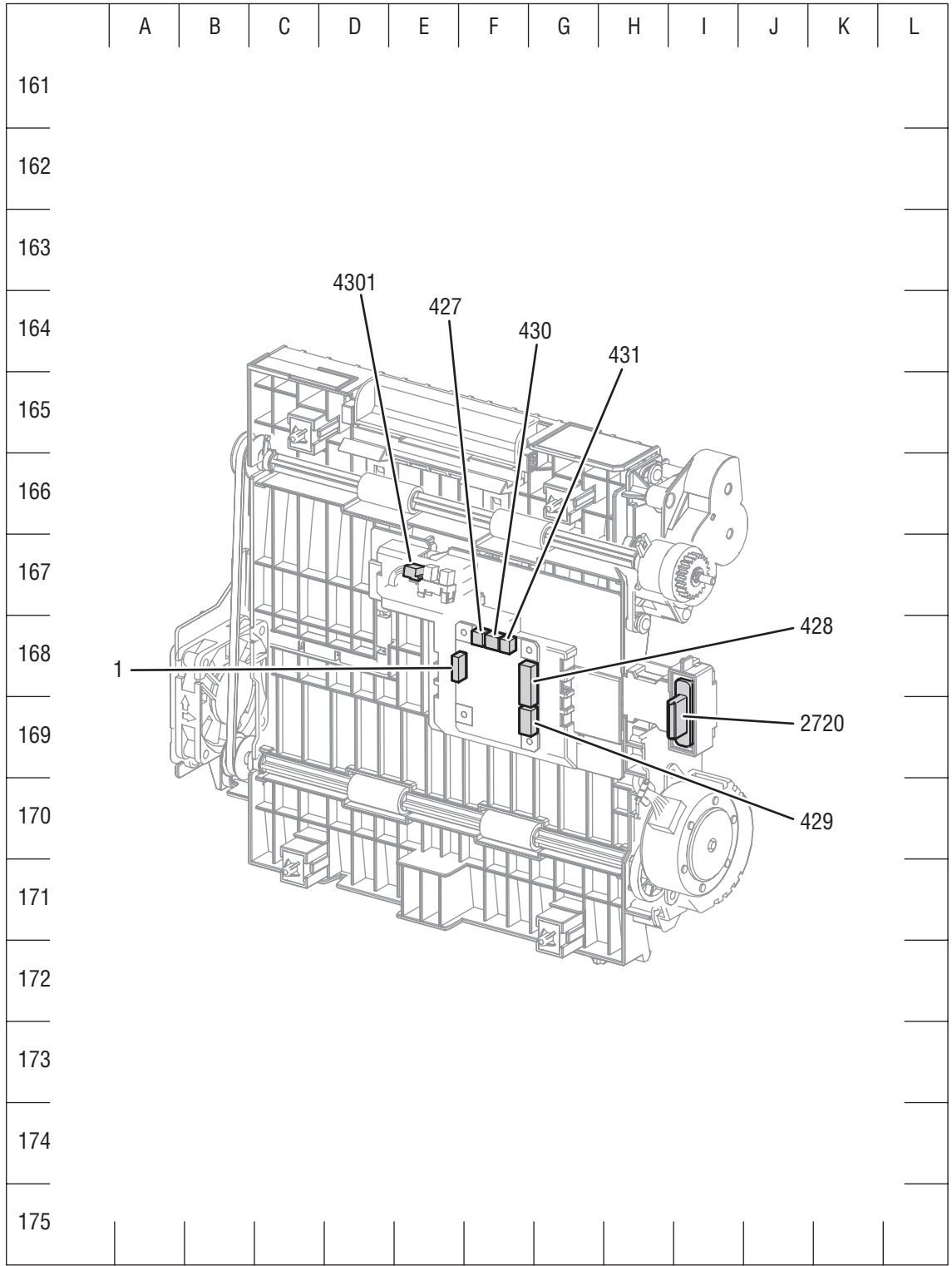
Map 3 - Image Processor Board and Dispenser Motors



Map 4 - LVPS and MCU Board

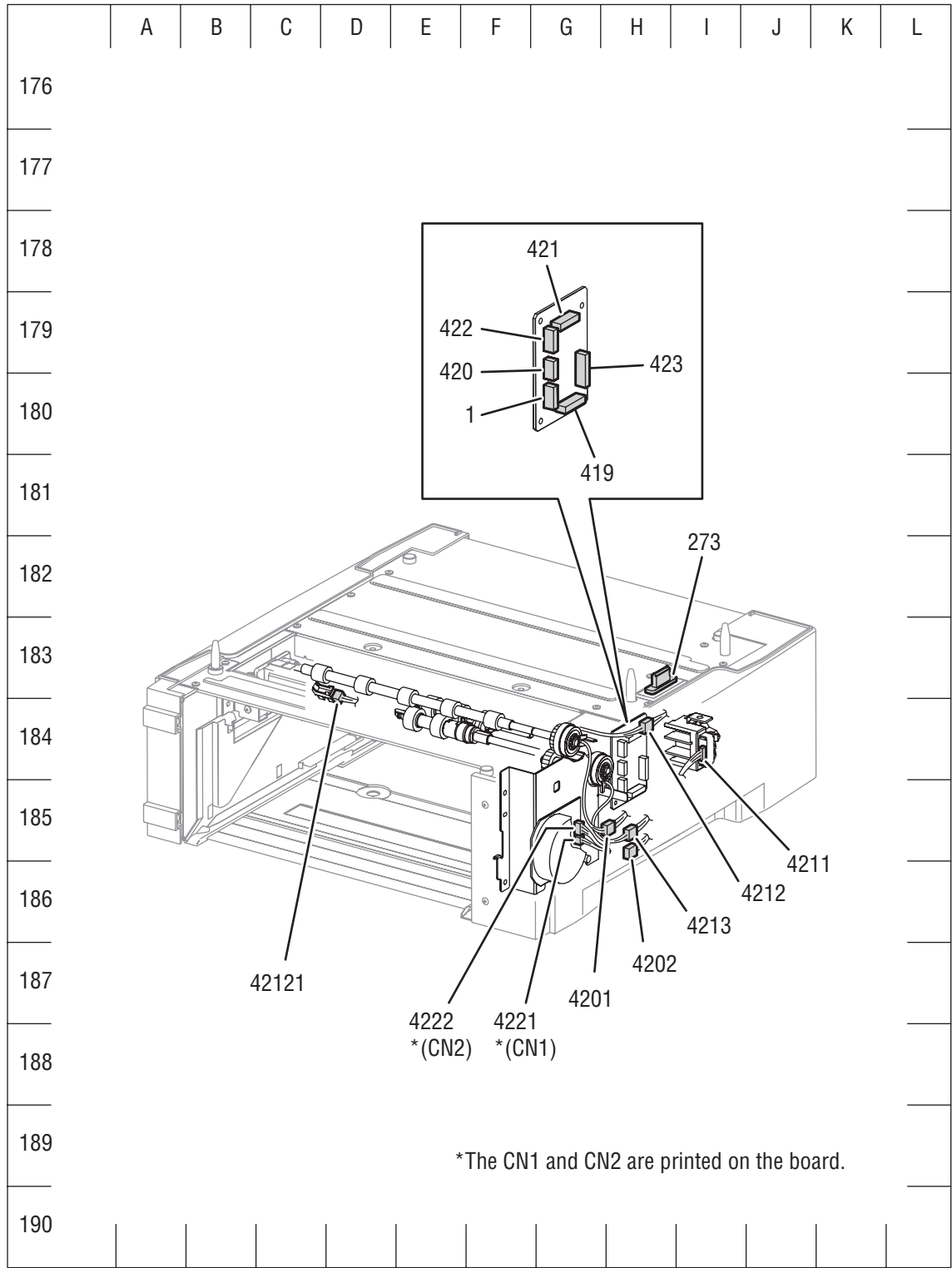


Map 5 - Duplex Unit




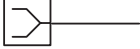


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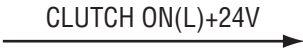


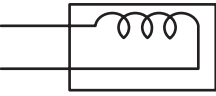
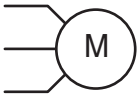
Map 6 - Optional 550-Sheet Feeder








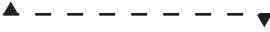



Notations Used in the Wiring Diagrams

The following table lists the symbols used in the wiring diagrams.

Symbol	Description
 <p style="text-align: center;">Plug</p>	Denotes a Plug.
 <p style="text-align: center;">Jack</p>	Denotes a Jack.
<p style="text-align: center;">P/Jxx</p>  <p style="text-align: center;">Plug and Jack</p>	Denotes Pin yy and Jack yy of the connector Pxx and Jxx.
<p style="text-align: center;">JPxxx</p>  <p style="text-align: center;">Jumper</p>	Denotes a Jumper Point (JPxxx/xxx). Each end of the Jumper connection has a numeric designation.
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> <p>Fuser PL X.Y.Z</p> </div> <p style="text-align: center;">Subassembly 1</p>	Denotes the parts. PL X.Y.Z implies the item "Z" of plate (PL) "X.Y" in Parts List.
<div style="border: 1px dashed black; padding: 5px; width: fit-content; margin: auto;"> <p>Heater</p> </div> <p style="text-align: center;">Subassembly 2</p>	Denotes functional parts attached with functional parts name.

Symbol	Description
	Denotes the control and its outline in the Board.
Subassembly 3	
	Denotes a connection between parts with harness or wires, attached with signal name/ contents.
Connection Wire	
	Denotes the function, and logic value of the signal to operate the function (Low: L, High: H). The given voltage is for signal in high status. The arrow indicates the direction of signal.
Function Logic 1	
	Denotes the function, and logic value of the signal when the function is operated (Low: L, High: H). The given voltage is for signal in high status. The arrow indicates the direction of signal.
Function Logic 2	
	Denotes a connection between wires.
Connection of Wires	
	Denotes a Clutch or Solenoid.
Solenoid/Clutch	
	Denotes a Motor.
Motor	

Symbol	Description
	Denotes a Photo Sensor.
Optic Sensor	
	Denotes an LED.
LED	
	Denotes a Safety Interlock Switch.
Safety Interlock Switch	
	Denotes an On-Off Switch (single-pole, single-throw switch).
On Off Switch	
	Denotes an On-Off Switch (Temperature - normally close).
Temperature Switch	
	Denotes an NPN Photo-transistor.
NPN Phototransistor	
	Represents an interconnection between parts using wiring harness or wire.
Interconnection	
	Represents an interconnection which differs according to the specifications.
Interconnection, Differing	

Symbol	Description
	Represents an interconnection between parts using a conductive part such as a Plate Spring.
Interconnection, Conductive Part	
I/L +24 VDC	Denotes DC voltage when the Interlock Switch in the MCU Board turns On.
+5 VDC +3.3 VDC	Denotes DC voltage.
SG	Denotes signal ground.
AG	Denotes analog ground.
RTN	Denotes return.

Print Engine Wiring Diagrams

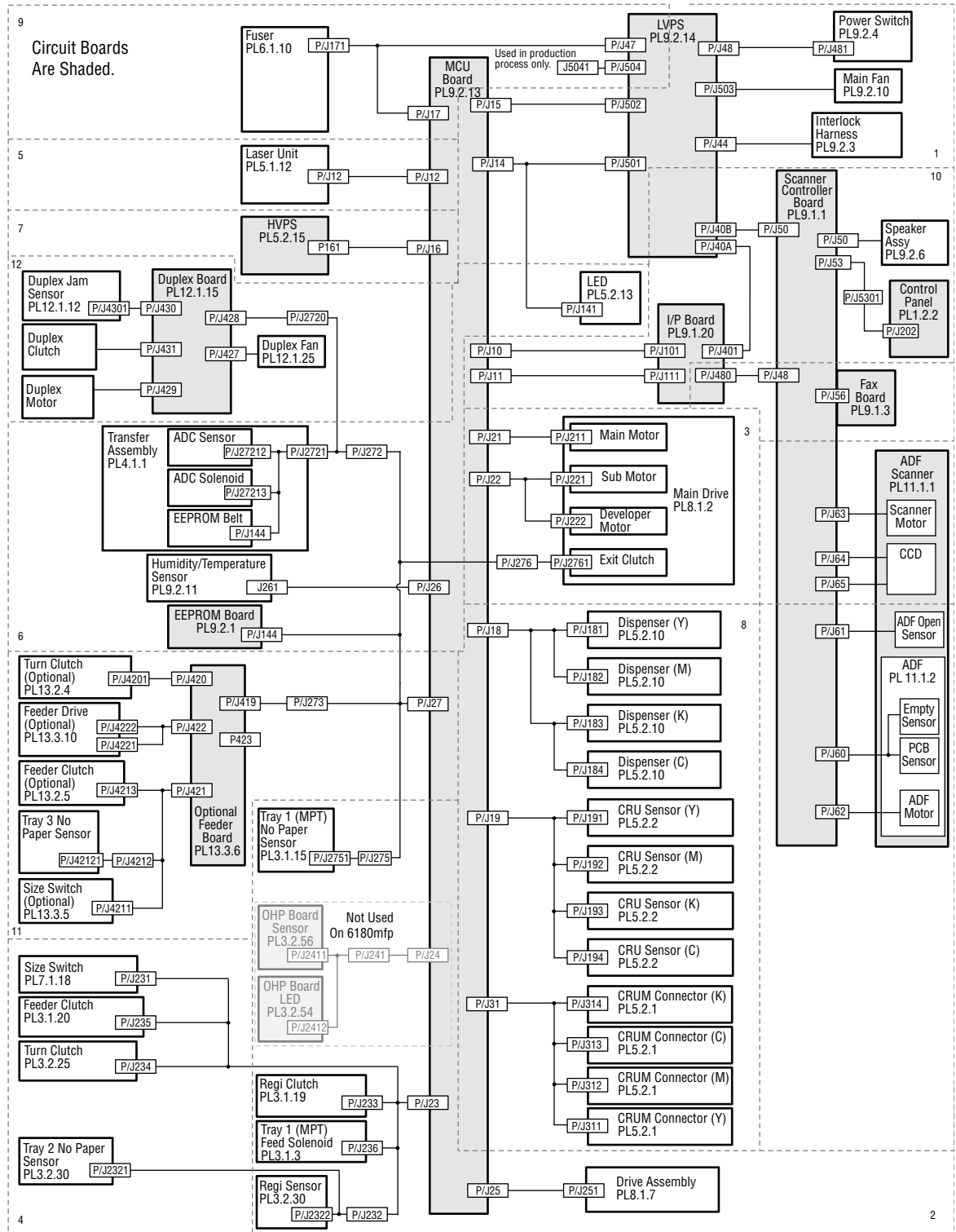
Wiring Diagram Configurations

Wiring Diagram	Description
DC Power Supply	Connections of the LVPS with MCU Board.
	Connections of the Power Switch with LVPS.
	Connections of the Main Fan with LVPS.
	Connections of the Interlock Switch with LVPS.
	Connections of the LVPS with AIO Controller Board.
Tray 1 (MPT) & Registration	Connections of the Drive Assembly with MCU Board.
	Connections of the Registration Clutch with MCU Board.
	Connections of the Tray 1 (MPT) Feed Solenoid with MCU Board.
	Connections of the Registration Sensor with MCU Board.
	Connections of the OHP Temperature Sensor with MCU Board.
	Connections of the OHP LED with MCU Board.
Drive	Connections of the Main Drive Assembly with MCU Board.
Feeder	Connections of the No Paper Sensor with MCU Board.
	Connections of the Size Switch Assembly with MCU Board.
	Connections of the Feed Clutch with MCU Board.
	Connections of the Turn Clutch with MCU Board.
Laser Unit (ROS)	Connections of the Laser Unit with MCU Board.
Xerographic	Connections of the ADC Sensor with MCU Board.
	Connections of the ADC Solenoid with MCU Board.
	Connections of the EEPROM Belt with MCU Board.
	Connections of the Humidity/Temperature Sensor with MCU Board.
	Connections of the EEPROM Board with MCU Board.
	Connections of the LED Assembly and MCU Board.
High Voltage	Connections of the HVPS with MCU Board.

Wiring Diagram	Description
Developer	Connections of the Dispenser Motor (C) with MCU Board.
	Connections of the Dispenser Motor (M) with MCU Board.
	Connections of the Dispenser Motor (Y) with MCU Board.
	Connections of the Dispenser Motor (K) with MCU Board.
	Connections of the Print Cartridge Sensor (C) with MCU Board.
	Connections of the Print Cartridge Sensor (M) with MCU Board.
	Connections of the Print Cartridge Sensor (Y) with MCU Board.
	Connections of the Print Cartridge Sensor (K) with MCU Board.
	Connections of the CRUM Sensor (C) with MCU Board.
	Connections of the CRUM Sensor (M) with MCU Board.
	Connections of the CRUM Sensor (Y) with MCU Board.
	Connections of the CRUM Sensor (K) with MCU Board.
Fuser	Connections of the Fuser with MCU Board.
	Connections of the Fuser with LVPS.
	Connections of the MCU Board with LVPS.
Controller	Connections of the Image Processor Board with MCU Board.
	Connections of the Control Panel with Image Processor Board.
	Connections of the Speaker Assembly with Scanner Controller Board.
Optional 550-Sheet Feeder	Connections of the Optional Feeder Board with MCU Board.
	Connections of the Optional Turn Clutch with Optional Feeder Board.
	Connections of the Optional Feeder Motor with Optional Feeder Board.
	Connections of the Optional Feed Clutch with Optional Feeder.
	Connections of the No Paper Sensor with Optional Feeder Board.
	Connections of the Optional Size Switch Assembly with Optional Feeder Board.
Duplex	Connections of the Duplex Board with MCU Board.
	Connections of the Duplex Jam Sensor with Duplex Board.
	Connections of the Duplex Clutch with Duplex Board.
	Connections of the Duplex Motor with Duplex Board.
	Connections of the Duplex Fan with Duplex Board.

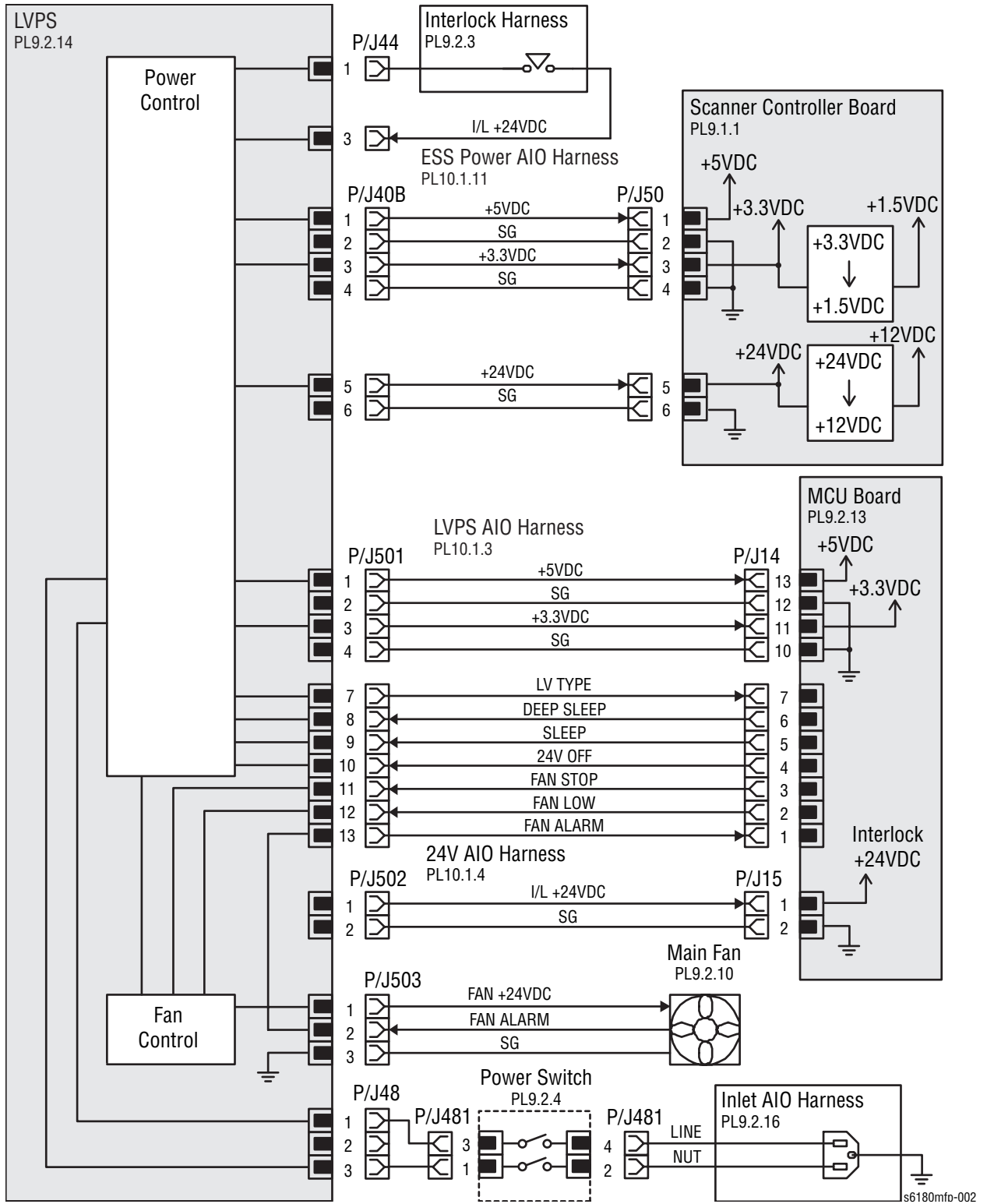
Wiring Diagram	Description
Fax Controller	Connections of the Scanner Controller Board with Image Processor Board.
	Connections of the Fax Board with Scanner Controller Board.
Imaging	Connections of the Scanner Motor with Scanner Controller Board.
	Connections of the CCD Board with Scanner Controller Board.
ADF	Connections of the ADF Open Sensor with Scanner Controller Board.
	Connections of the Empty Sensor with Scanner Controller Board.
	Connections of the Sensor Board with Scanner Controller Board.
	Connections of the ADF Motor with Scanner Controller Board.

General Wiring Diagram



s6180mp-001

DC Power Supply



Signal Line Name	Description
LV TYPE	Controls signal of the LVPS.
DEEP SLEEP	
SLEEP	
24V OFF	
FAN STOP	Drives control signal of the Main Fan.
FAN LOW	
FAN ALARM	

LVPS Over-Current Protection Circuit

This circuit stops all outputs if the power supply voltage 3.3 VDC, 5 VDC, or 24 VDC is shorted.

The circuit is reset, when after the cause of short was removed, the power is turned Off, and then On again after certain time.

LVPS Over-Voltage Protection Circuit

This circuit stops all outputs, if the power supply voltage 3.3 VDC, 5 VDC, or 24 VDC exceeds the specified voltage respectively.

At this time, the operating point is 36 VDC or less for 24 VDC, 7 VDC or less for 5 VDC, or 7 VDC or less for 3.3 VDC.

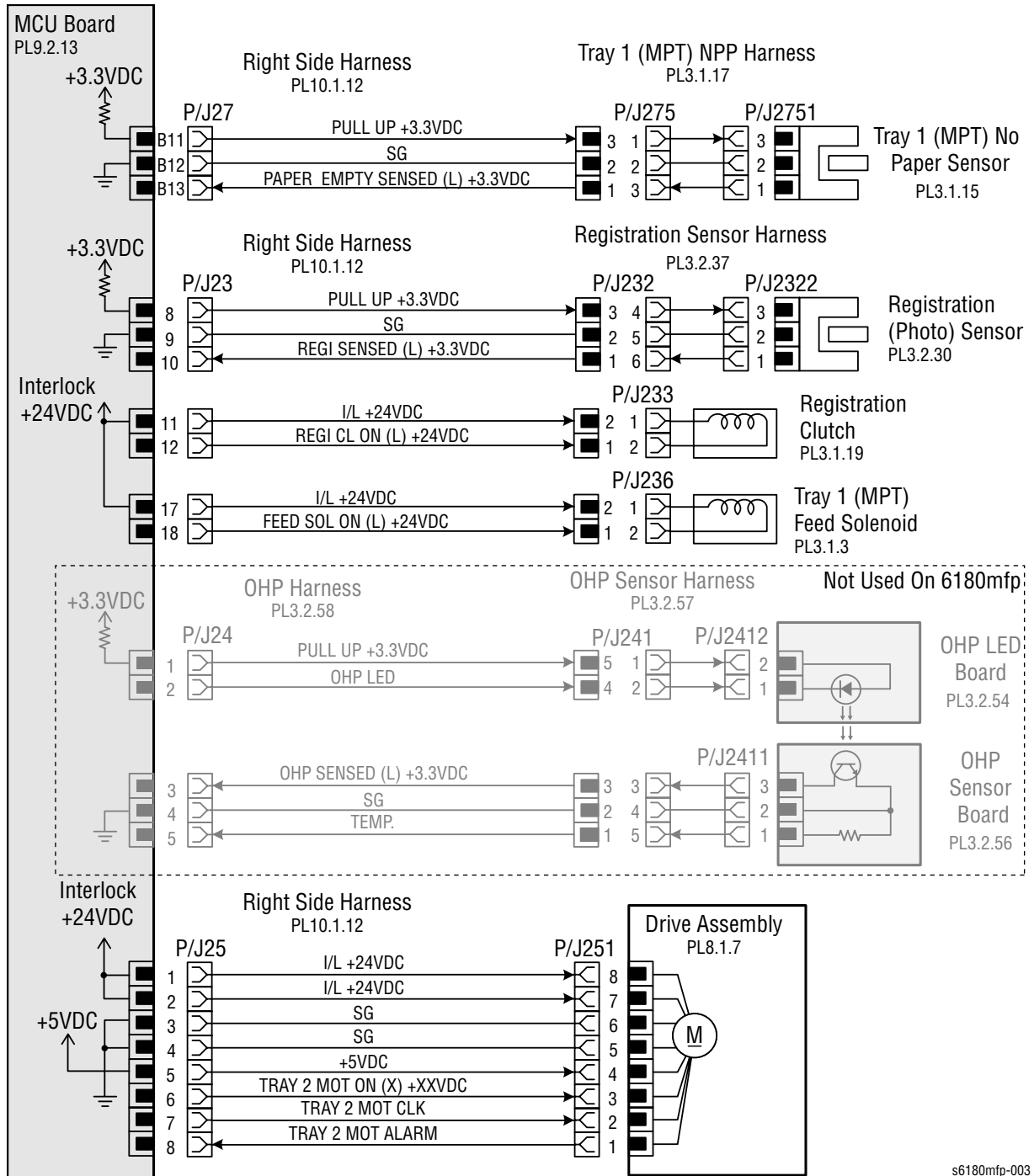
The circuit is reset when the power is turned Off, and then On again after certain time.

Sleep Mode and Deep Sleep Mode

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

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

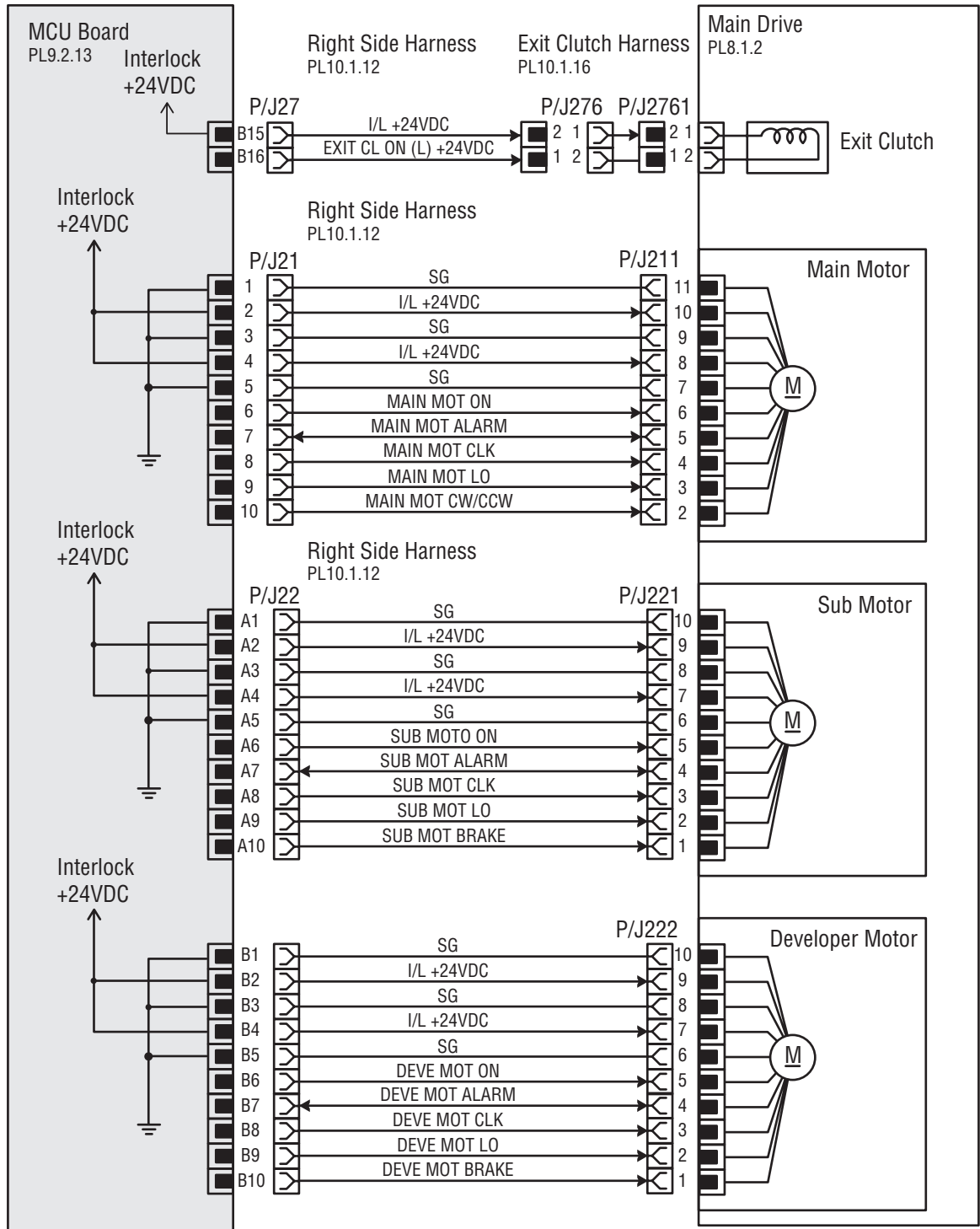
Tray 1 (MPT) and Registration



s6180mfp-003

Signal Line Name	Description
PAPER EMPTY SENSED (L) +3.3 VDC	Detects signal of the Tray 1 (MPT) by the Photo Sensor (Tray 1 No Paper Sensor).
REGI SENSED (L) +3.3 VDC	Detects signal of the Registration area by the Photo Sensor (Registration Sensor).
REGI CL ON (L) +24 VDC	On/Off signal of the Registration Clutch.
FEED SOL ON (L) +24VDC	On/Off signal of the Tray 1 (MPT) Feed Solenoid.
OHP LED	On/Off signal of the OHP LED Board (not used on 6180MFP).
OHP SENSED (L) +3.3 VDC	Detects signal of the transparency sheet by the Photo Sensor (OHP Sensor) (not used on 6180MFP).
TEMP.	Detects temperature data inside the printer.
TRAY2 MOT ON (X) +XX VDC	Drives control signal of the Drive Assembly.
TRAY2 MOT CLK	
TRAY2 MOT ALARM	

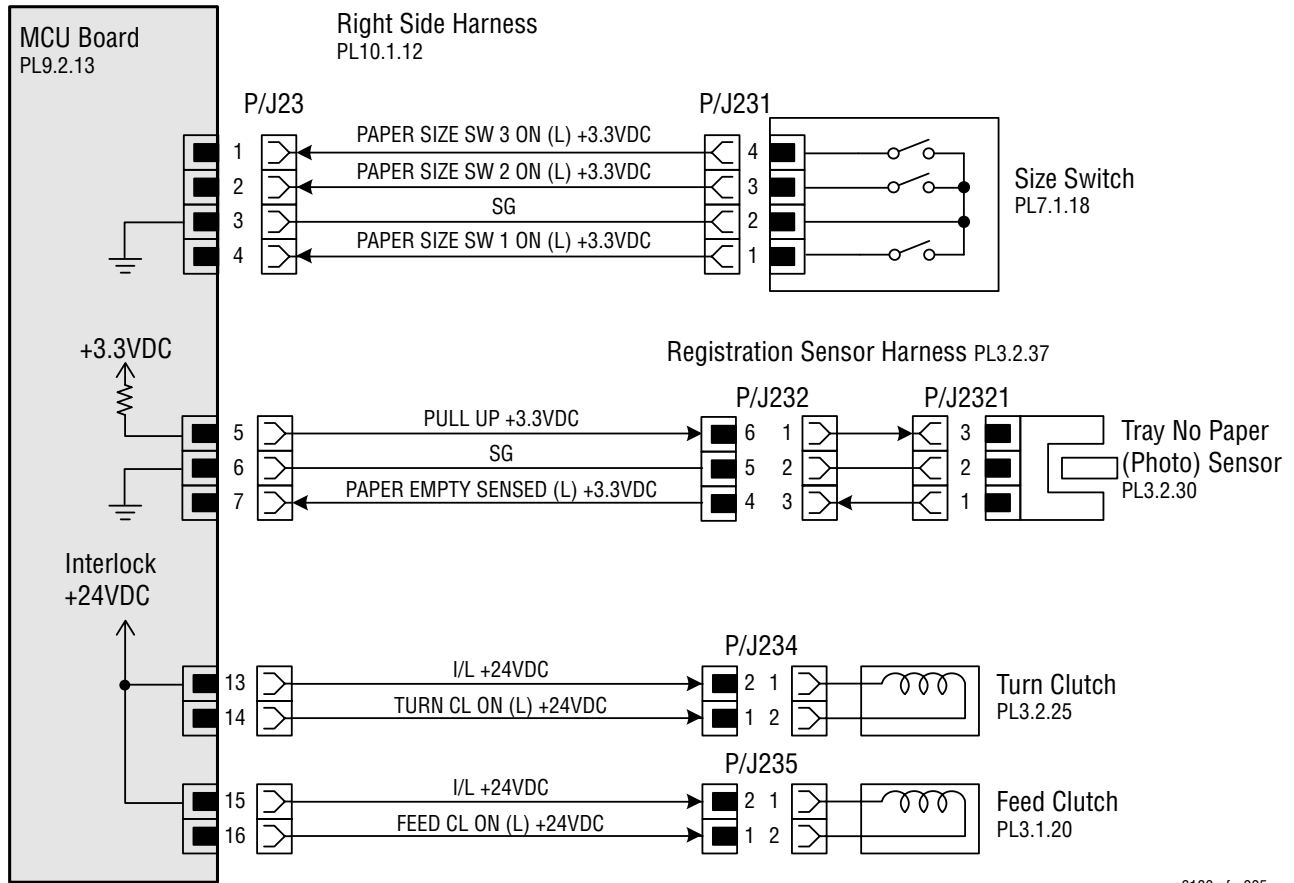
Main Drive



s6180mfp-004

Signal Line Name	Description
MAIN MOT ON	Drives control signal of the Main Motor.
MAIN MOT ALARM	
MAIN MOT CLK	
MAIN MOT LO	
MAIN MOT CW/CCW	
SUB MOT ON	Drives control signal of the Sub Motor.
SUB MOT ALARM	
SUB MOT CLK	
SUB MOT LO	
SUB MOT BRAKE	
DEVE MOT ON	Drives control signal of the Developer Motor.
DEVE MOT ALARM	
DEVE MOT CLK	
DEVE MOT LO	
DEVE MOT BRAKE	
EXIT CL ON (L) +24 VDC	On/Off signal of the Exit Clutch.

Feeder



s6180mfp-005

Signal Line Name	Description
PAPER SIZE SW 1 ON (L) +3.3 VDC	On/Off signal of the Size Switch Assembly.
PAPER SIZE SW 2 ON (L) +3.3 VDC	
PAPER SIZE SW 3 ON (L) +3.3 VDC	
PAPER EMPTY SENSED (L) +3.3 VDC	Detects signal of the Feeder by the Photo Sensor (No Paper Sensor).
TURN CL ON (L) +24 VDC	On/Off signal of the Turn Clutch.
FEED CL ON (L) +24 VDC	On/Off signal of the Feed Clutch.

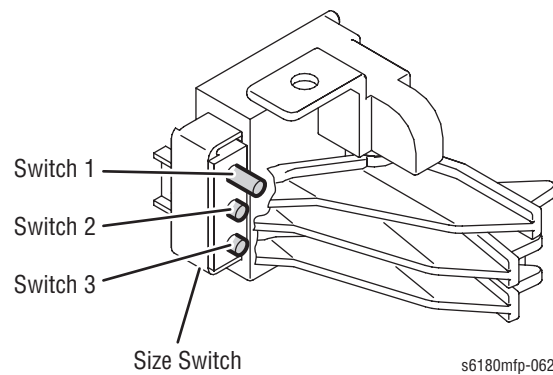
Outline of Size Switch

The paper size is determined by a combination of the On/Off statuses of the SW 1, SW 2, and SW 3 switches of the Size Switch.

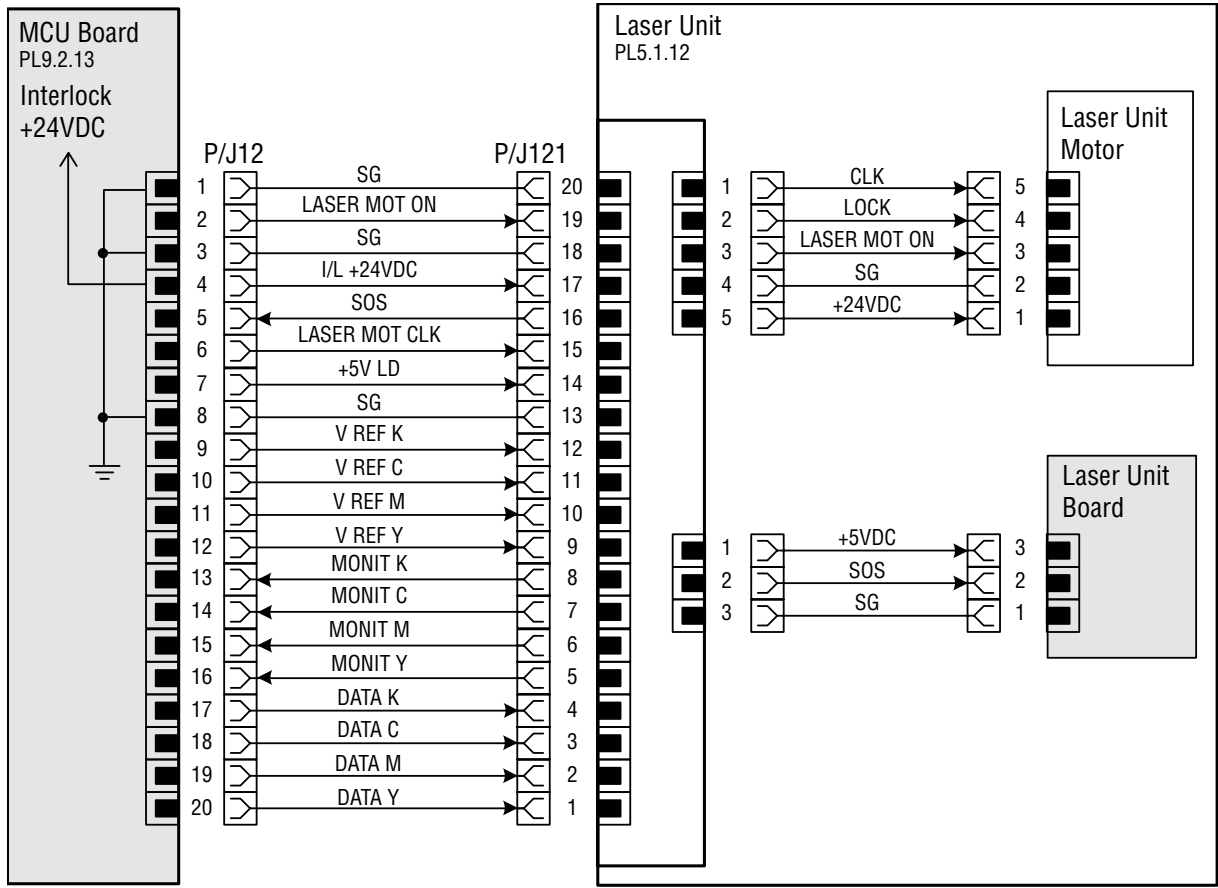
Paper Size	Switches		
	SW 1	SW 2	SW 3
Letter (SEF)	Off	Off	On
A4 (SEF)	Off	On	On
A5	Off	On	Off
B5 (SEF)	On	Off	Off
Legal 13" (SEF)	On	On	Off
Legal 14" (SEF)	On	On	On
Executive (SEF)	On	Off	On
No Tray	Off	Off	Off

Note

The Actuator is pushing the Size Switch.



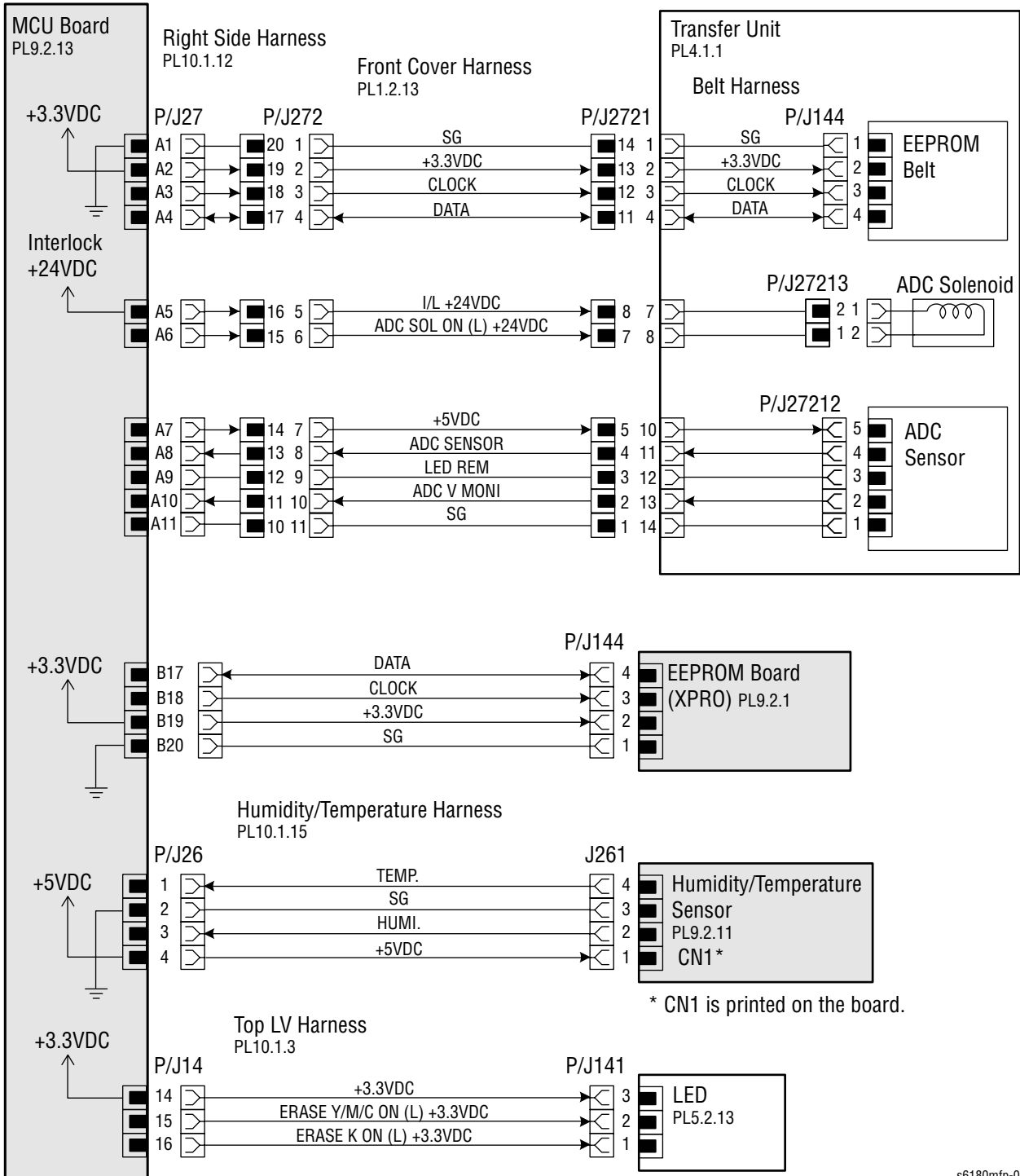
Laser Unit



s6180mfp-006

Signal Line Name	Description
ROS MOT ON	Drives control signal of the Laser Unit Motor.
ROS MOT CLK	
SOS	Detects reference signal for scan start of the Laser Unit.
V REF K	Emits control signal of the Laser Diode.
V REF C	
V REF M	
V REF Y	
MONIT K	Monitors voltage of the Laser Diode.
MONIT C	
MONIT M	
MONIT Y	
DATA K	Provides video signal of the Laser Diode.
DATA C	
DATA M	
DATA Y	

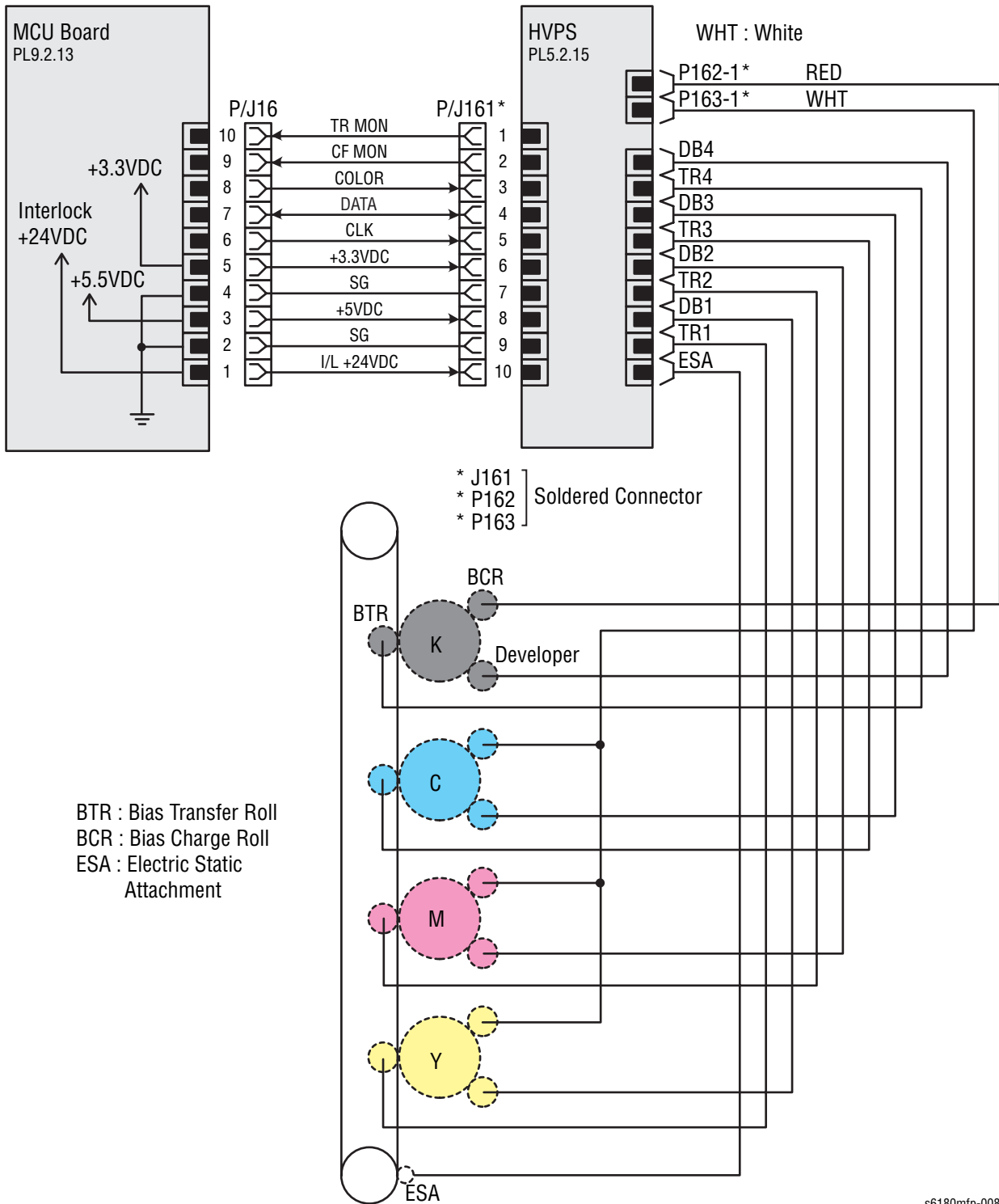
Xerographic



s6180mfp-007

Signal Line Name	Description
CLOCK	Controls signal of the EEPROM Belt.
DATA	
ADC SOL ON (L) +24 VDC	On/Off signal of the ADC Solenoid.
ADC SENSOR	Detects toner patch density data measured by the ADC Sensor (Analog value).
LED REM	Provides remote signal of the LED of the ADC Sensor.
ADC V MONI	Controls signal of the ADC Sensor.
DATA	Controls signal of the EEPROM Board.
CLOCK	
TEMP.	Provides temperature data in the printer by the Humidity/Temperature Sensor (Analog value).
HUMI.	Provides Humidity/Temperature data in the printer by the Humidity/Temperature Sensor (Analog value).
ERASE K ON (L) +3.3 VDC	On/Off signal of the LED Assembly.
ERASE Y/M/C ON (L) +3.3 VDC	

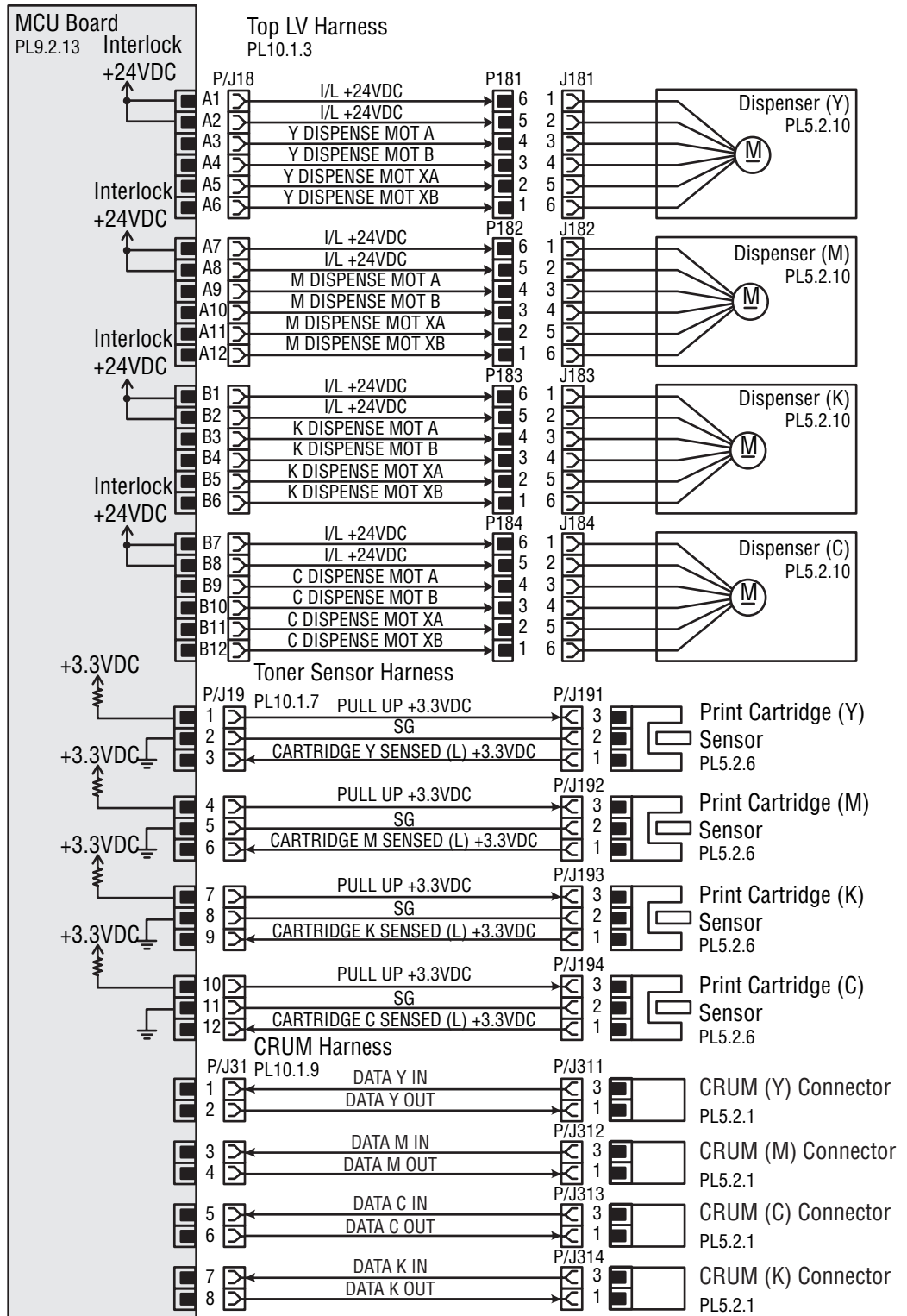
High Voltage



s6180mfp-008

Signal Line Name	Description
TR MON	Controls signal of the HVPS.
CF MON	
COLOR	
DATA	
CLK	

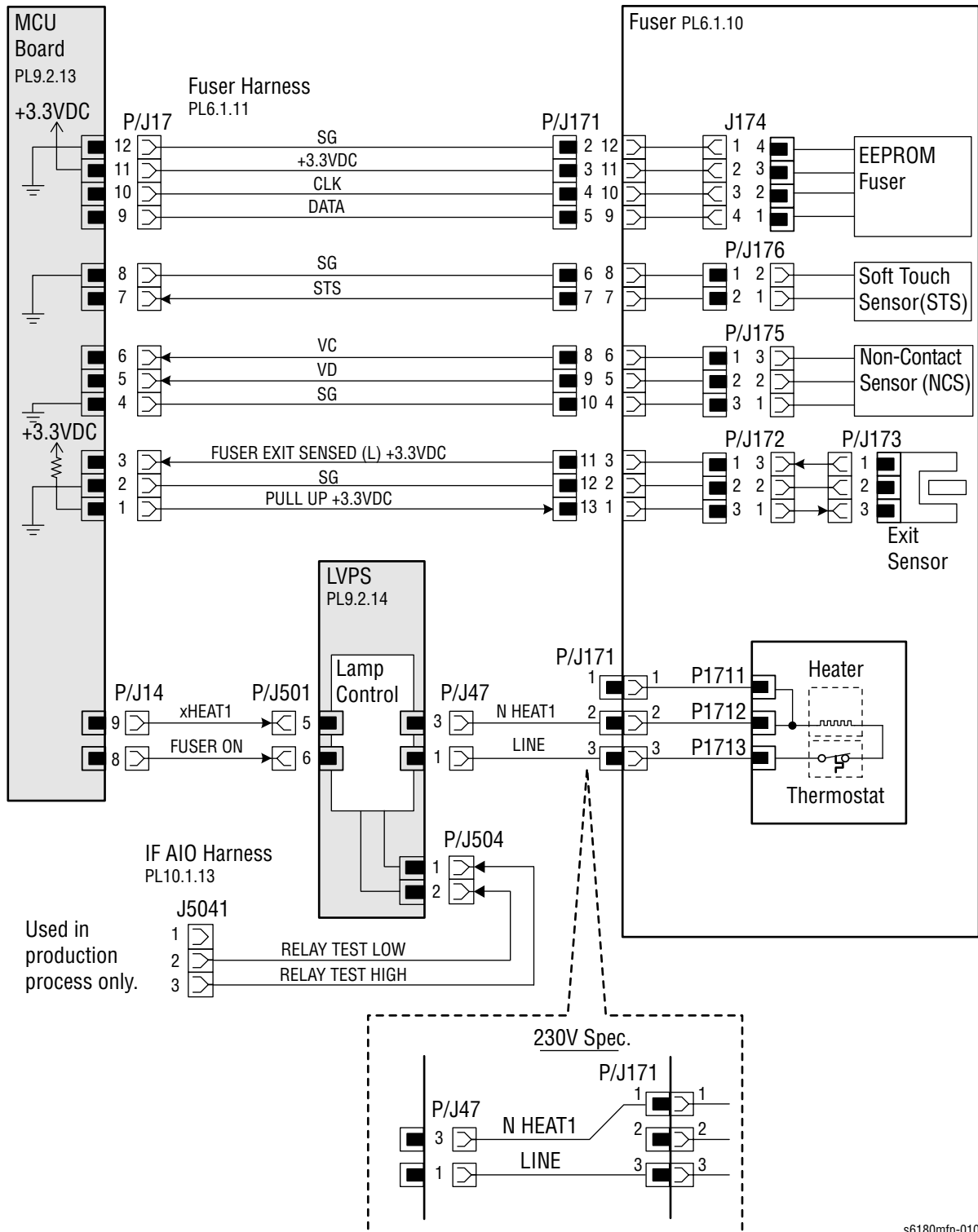
Developer



s6180mfp-009

Signal Line Name	Description
Y DISPENSE MOT A	Drives control signal of the Dispenser Motor (Y).
Y DISPENSE MOT B	
Y DISPENSE MOT XA	
Y DISPENSE MOT XB	
M DISPENSE MOT A	Drives control signal of the Dispenser Motor (M).
M DISPENSE MOT B	
M DISPENSE MOT XA	
M DISPENSE MOT XB	
C DISPENSE MOT A	Drives control signal of the Dispenser Motor (C).
C DISPENSE MOT B	
C DISPENSE MOT XA	
C DISPENSE MOT XB	
K DISPENSE MOT A	Drives control signal of the Dispenser Motor (K).
K DISPENSE MOT B	
K DISPENSE MOT XA	
K DISPENSE MOT XB	
CARTRIDGE Y SENSED (L) +3.3 VDC	Detects signal of the Print Cartridge (Y) Sensor.
CARTRIDGE M SENSED (L) +3.3 VDC	Detects signal of the Print Cartridge (M) Sensor.
CARTRIDGE K SENSED (L) +3.3 VDC	Detects signal of the Print Cartridge (K) Sensor.
CARTRIDGE C SENSED (L) +3.3 VDC	Detects signal of the Print Cartridge (C) Sensor.
DATA Y IN	Controls signal of the CRUM Sensor (Y).
DATA Y OUT	
DATA M IN	Controls signal of the CRUM Sensor (M).
DATA M OUT	
DATA C IN	Controls signal of the CRUM Sensor (C).
DATA C Out	
DATA K IN	Controls signal of the CRUM Sensor (K).
DATA K OUT	

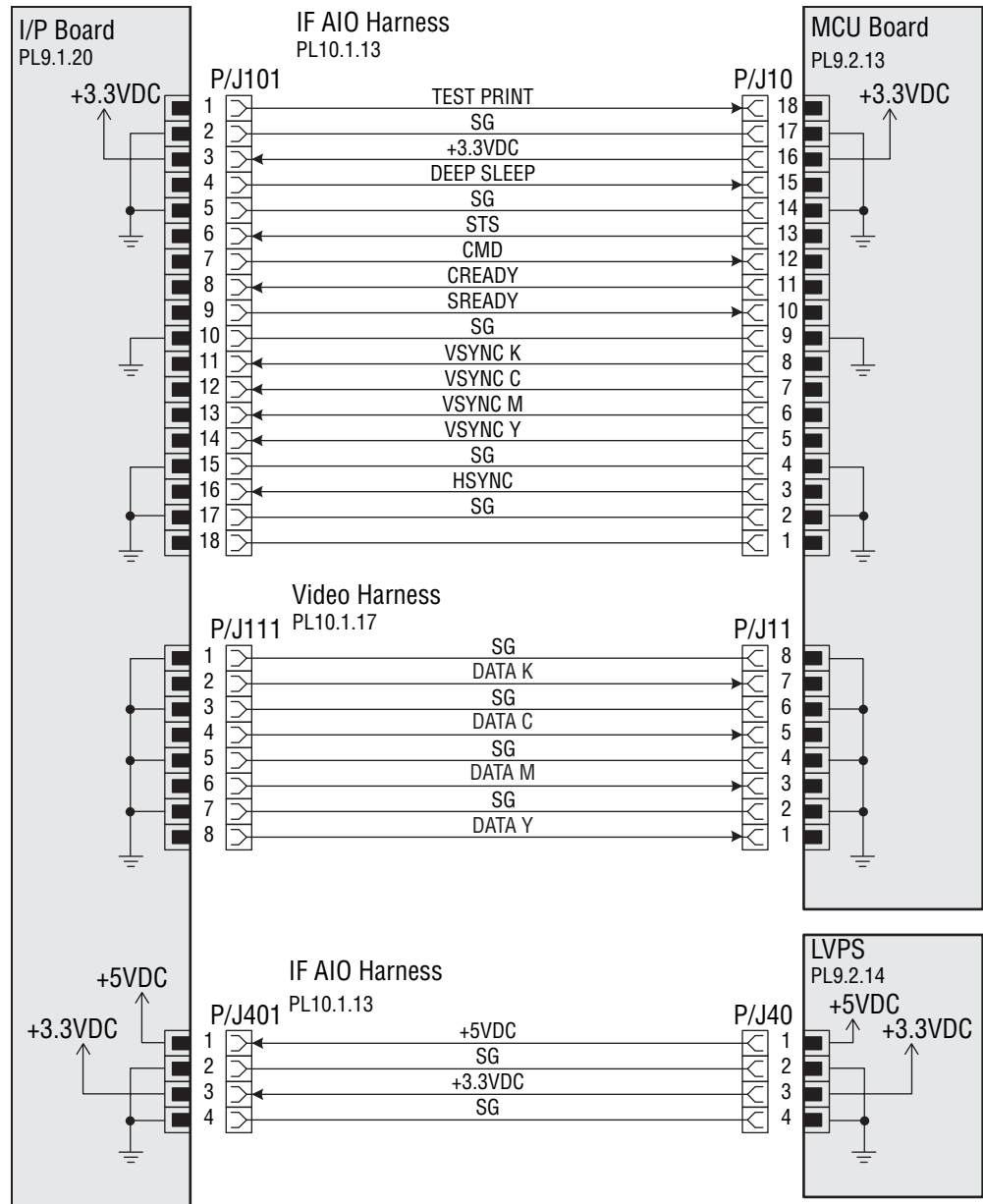
Fuser



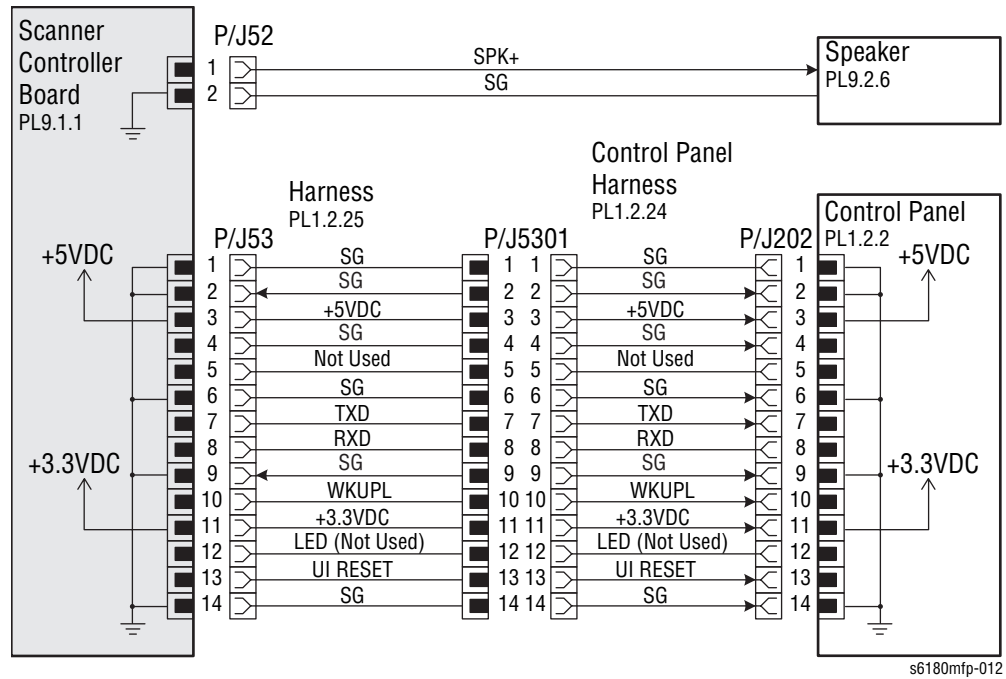
s6180mfp-010

Signal Line Name	Description
CLK	Controls signal of the EEPROM Fuser.
DATA	
STS	Provides Heat Roll surface temperature data measured by the Humidity/Temperature Sensor for detecting high temperature (Analog value).
VC	Provides temperature data measured by the Humidity/Temperature Sensor for controlling the temperature (Analog value).
VD	
FUSER EXIT SENSED (L) +3.3 VDC	Detects signal of the Fuser Exit by the Photo Sensor (Exit Sensor).
FUSER ON	Displays lighting signal of the Fuser Lamp.
RELAY TEST LOW	Tests signal of the LVPS (used in production process only)
RELAY TEST HIGH	

Controller



s6180mfp-011

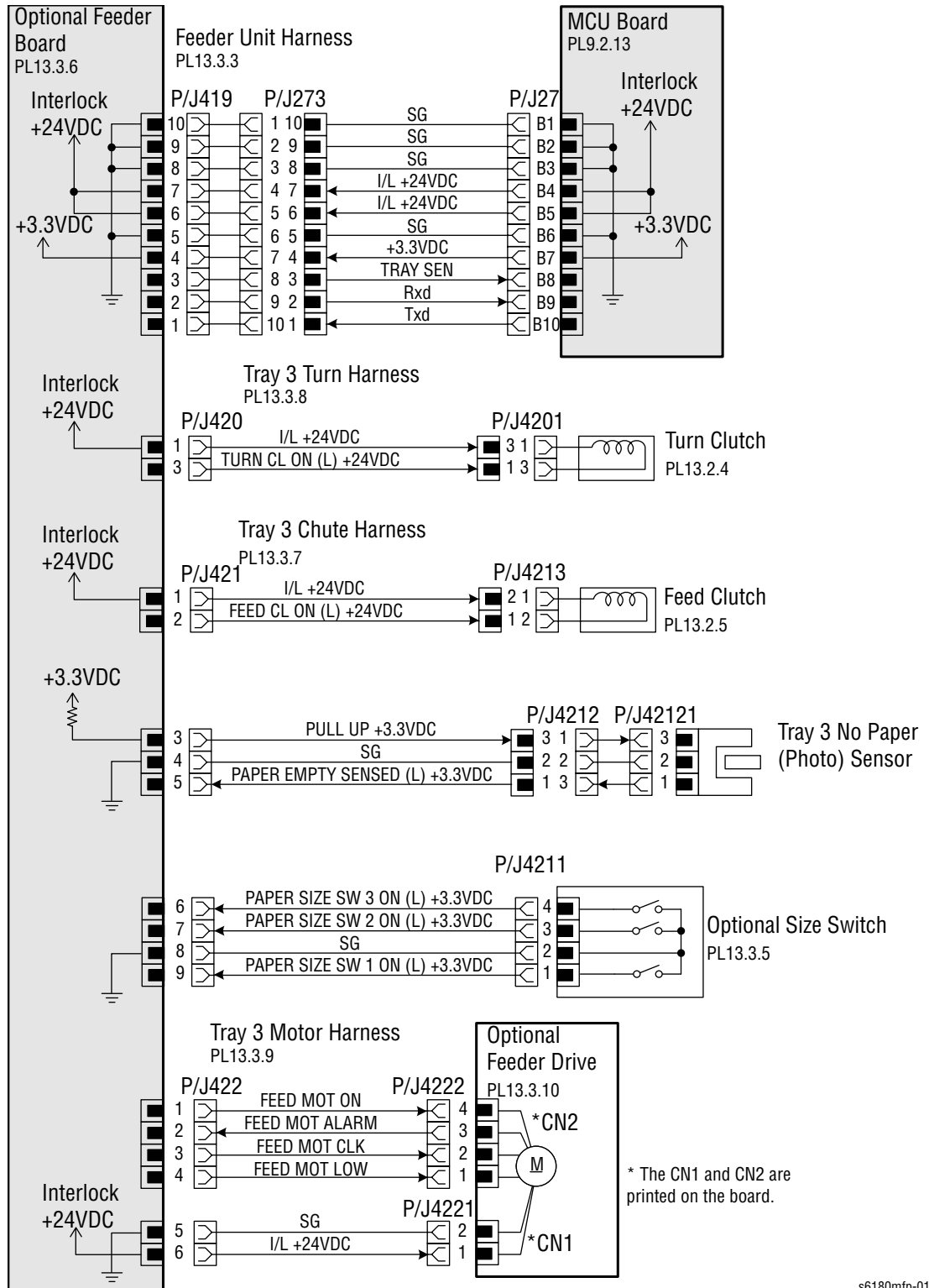


s6180mfp-012

Signal Line Name	Description
TEST PRINT	Controls signal for the Test Print mode.
DEEP SLEEP	Controls signal for the Deep Sleep mode.
STS	Provides status signal transmitted from the MCU Board to the Image Processor Board.
CMD	Commands signal transmitted from the Image Processor Board to the MCU Board.
CREADY	Detects signal for indicating whether or not the printer is ready for receiving command signal.
SREADY	
VSYNC K	Detects signal for indicating registration position of each of images Y, M, C, and K.
VSYNC C	
VSYNC M	
VSYNC Y	
HSYNC	Detects signal for data.
DATA K	Provides video data of four colors.
DATA C	
DATA M	
DATA Y	

Signal Line Name	Description
DATA	Controls signal of the Control Panel.
CLK	
BACK LIGHT	
BL +5 VDC	
SPK+	Controls signal of the Speaker.
TXD	Controls signal of the Control Panel.
RXD	
UI Reset	Resets signal of the Control Panel.

Optional 550-Sheet Feeder Wiring Diagram



s6180mfp-013

Signal Line Name	Description
TRAY SEN	Controls signal of the Optional Feeder Board.
Rxd	
Txd	
TURN CL ON (L) +24 VDC	On/Off signal of the Optional Turn Clutch.
FEED CL ON (L) +24 VDC	On/Off signal of the Feed Clutch.
PAPER EMTY SENSED (L) +3.3 VDC	Detects signal of the Feeder by the Photo Sensor (Tray 3 No Paper Sensor).
PAPER SIZE SW 1 ON (L) +3.3 VDC	On/Off signal of the Optional Size Switch Assembly.
PAPER SIZE SW 2 ON (L) +3.3 VDC	
PAPER SIZE SW 3 ON (L) +3.3 VDC	
FEED MOT ON	Drives control signal of the Feed Motor.
FEED MOT ALARM	
FEED MOT CLK	
FEED MOT LOW	

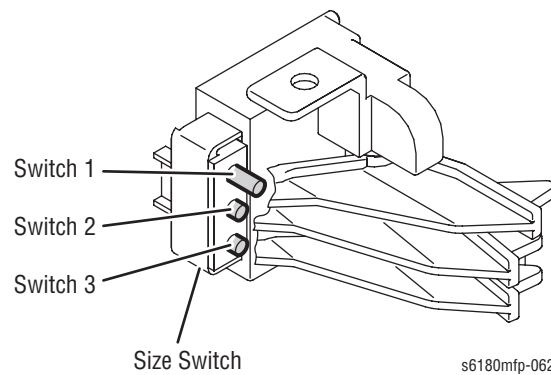
Outline of Optional Size Switch

The paper size is determined by a combination of the On/Off statuses of the SW 1, SW 2, and SW 3 switches of Optional Size Switch.

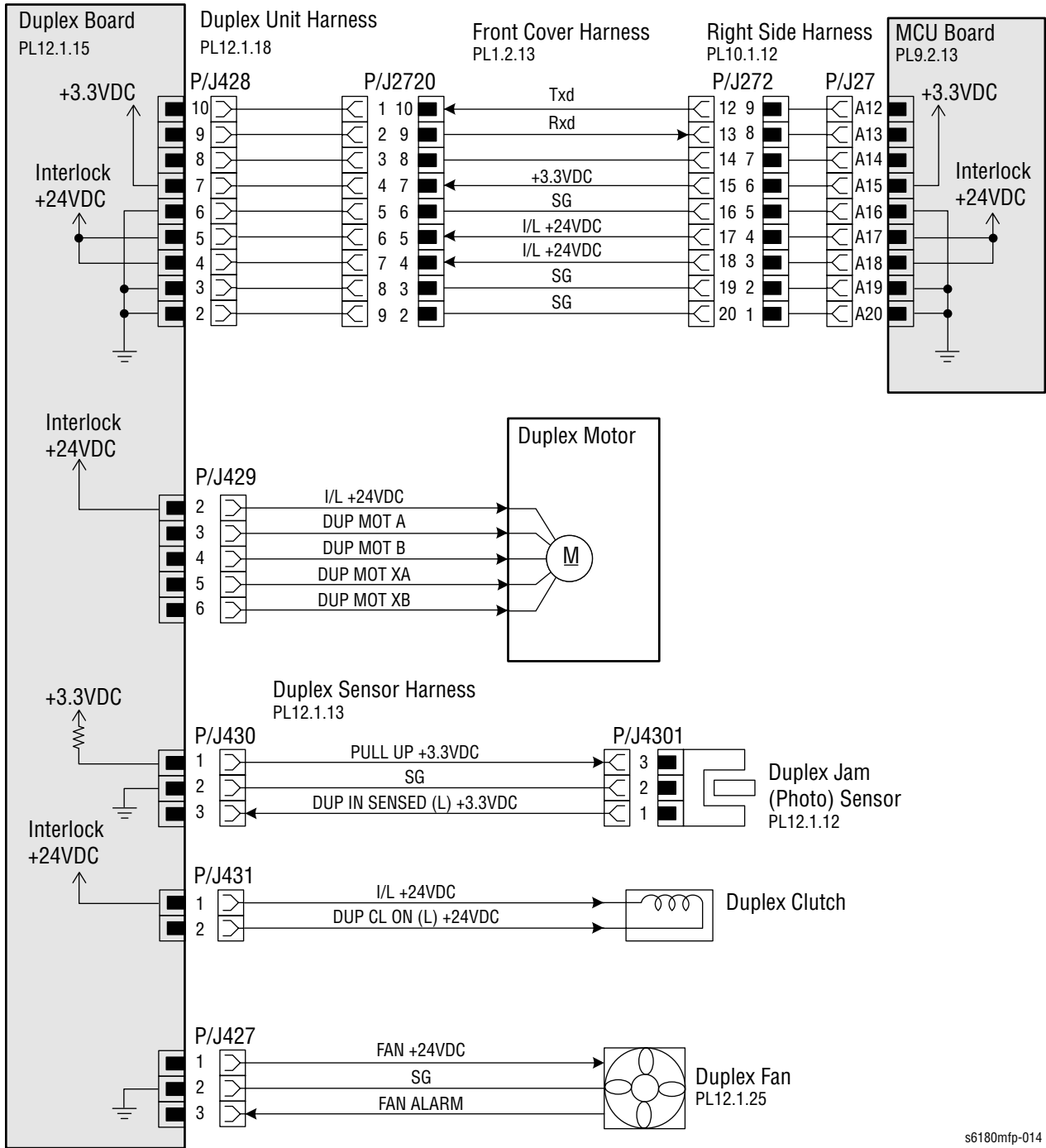
Paper Size	Switches		
	SW 1	SW 2	SW 3
Letter (SEF)	Off	Off	On
A4 (SEF)	Off	On	On
A5	Off	On	Off
B5 (SEF)	On	Off	Off
Legal 13" (SEF)	On	On	Off
Legal 14" (SEF)	On	On	On
Executive (SEF)	On	Off	On
No Tray	Off	Off	Off

Note

The Actuator is pushing the Size Switch.



Duplex Wiring Diagram

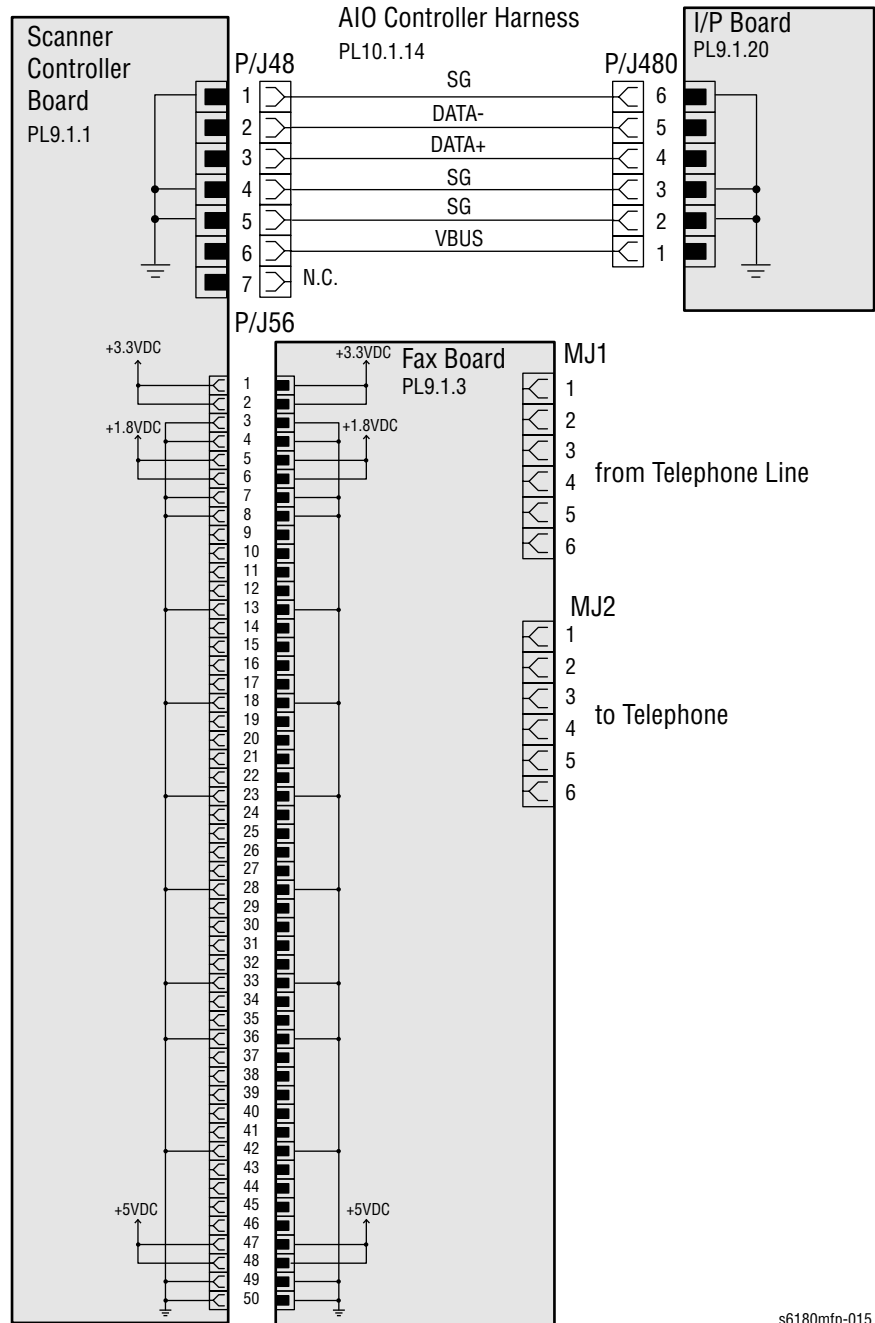


s6180mp-014

Signal Line Name	Description
Txd	Controls signal of the Duplex Board.
Rxd	

Signal Line Name	Description
DUP MOT A	Drives control signal of the Duplex Motor.
DUP MOT B	
DUP MOT XA	
DUP MOT XB	
DUP IN SENSED (L) +3.3 VDC	Detects signal of the Duplex by the Photo Sensor (Duplex Jam Sensor).
DUP CL ON (L) +24 VDC	On/Off signal of the Duplex Clutch.
FAN +24 VDC	Drives control signal of the Duplex Fan.
FAN ALARM	

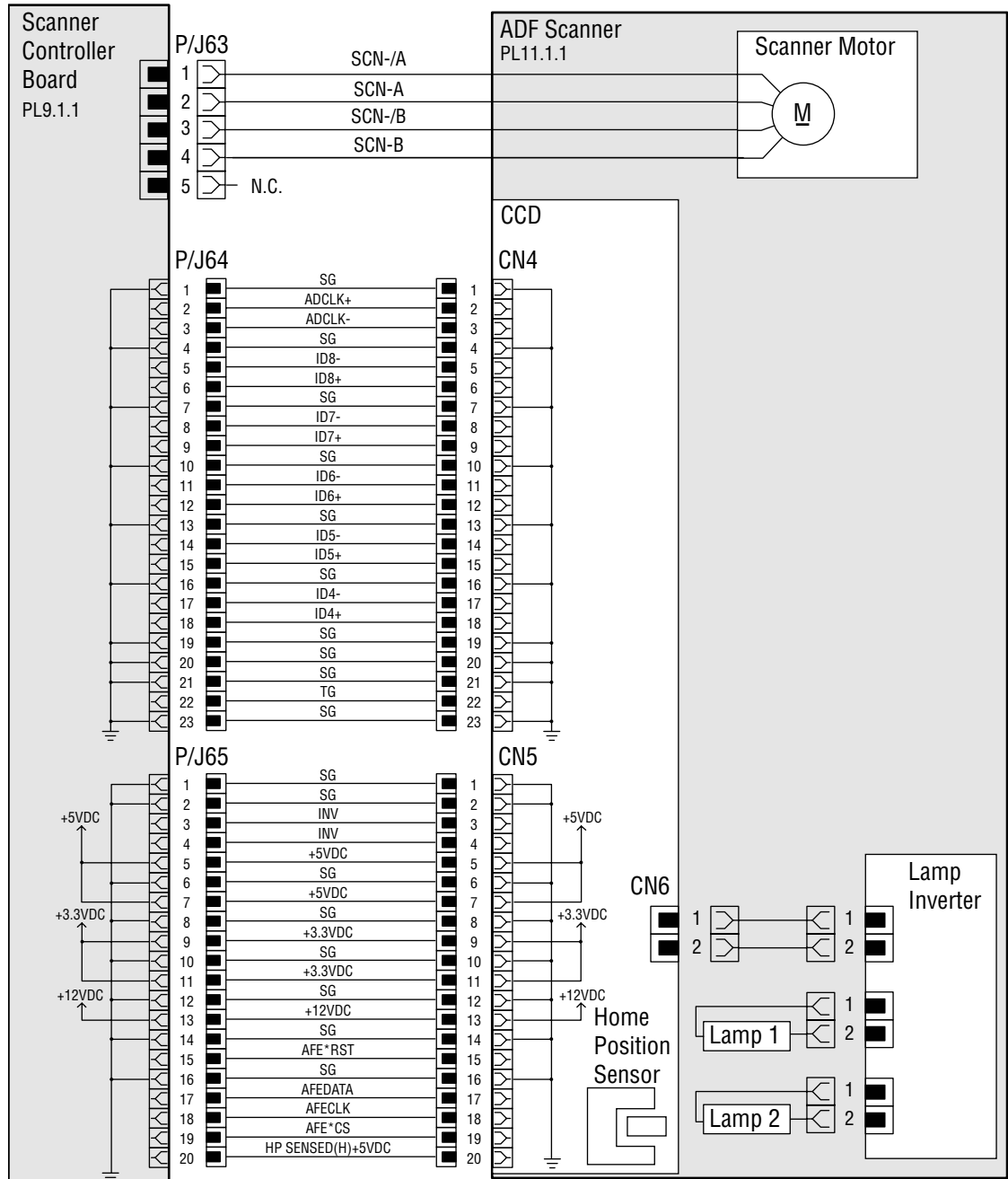
Fax Controller Wiring Diagram



s6180mfp-015

Signal Line Name	Description
DATA+	Controls signal of the Image Processor Board.
DATA-	
VBUS	

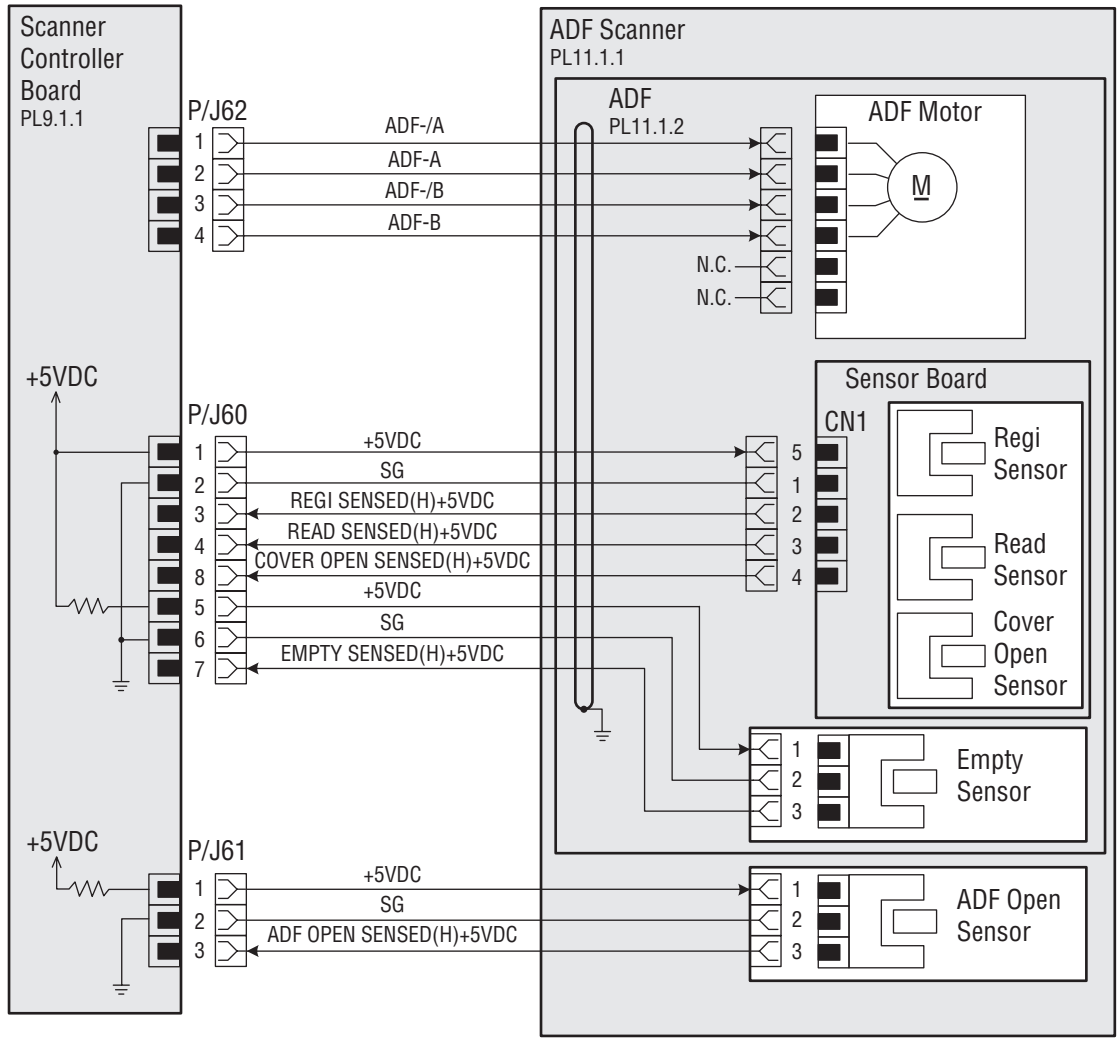
Scanner Wiring Diagram



s6180mp-016

Signal Line Name	Description	
SCN-/A	Drives control signal of the Scanner Motor.	
SCN-A		
SCN-/B		
SCN-B		
ADCLK+	Controls signal of the CCD Board.	
ADCLK-		
TG		
ID8-	Controls image data of the document by the CCD.	
ID8+		
ID7-		
ID7+		
ID6-		
ID6+		
ID5-		
ID5+		
ID4-		
ID4+		
INV		Controls signal of the Lamp Inverter.
AFE*RST		Controls signal of the CCD Board.
AFEDATA		
AFECLK		
AFE*CS		
HP SENSED (H) +5 VDC	Detects Home Position signal of the Carriage by the Photo Sensor.	

Automatic Document Feeder Wiring Diagram



s6180mfp-017

Signal Line Name	Description
ADF-/A	Drives control signal of the ADF Motor.
ADF-A	
ADF-/B	
ADF-B	
REGI SENSED (H) +5 VDC	Detects signal of the Regi part by the Photo Sensor.
READ SENSED (H) +5 VDC	Detects signal of the Read part by the Photo Sensor.
COVER OPEN SENSED (H) +5 VDC	Detects signal of the ADF Cover by the Photo Sensor.
EMPTY SENSED (H) +5 VDC	Provides Document empty signal of the ADF Tray by the Photo Sensor.
ADF OPEN SENSED (H) +5 VDC	ADF opens signal by the Photo Sensor.

Reference

Contents...

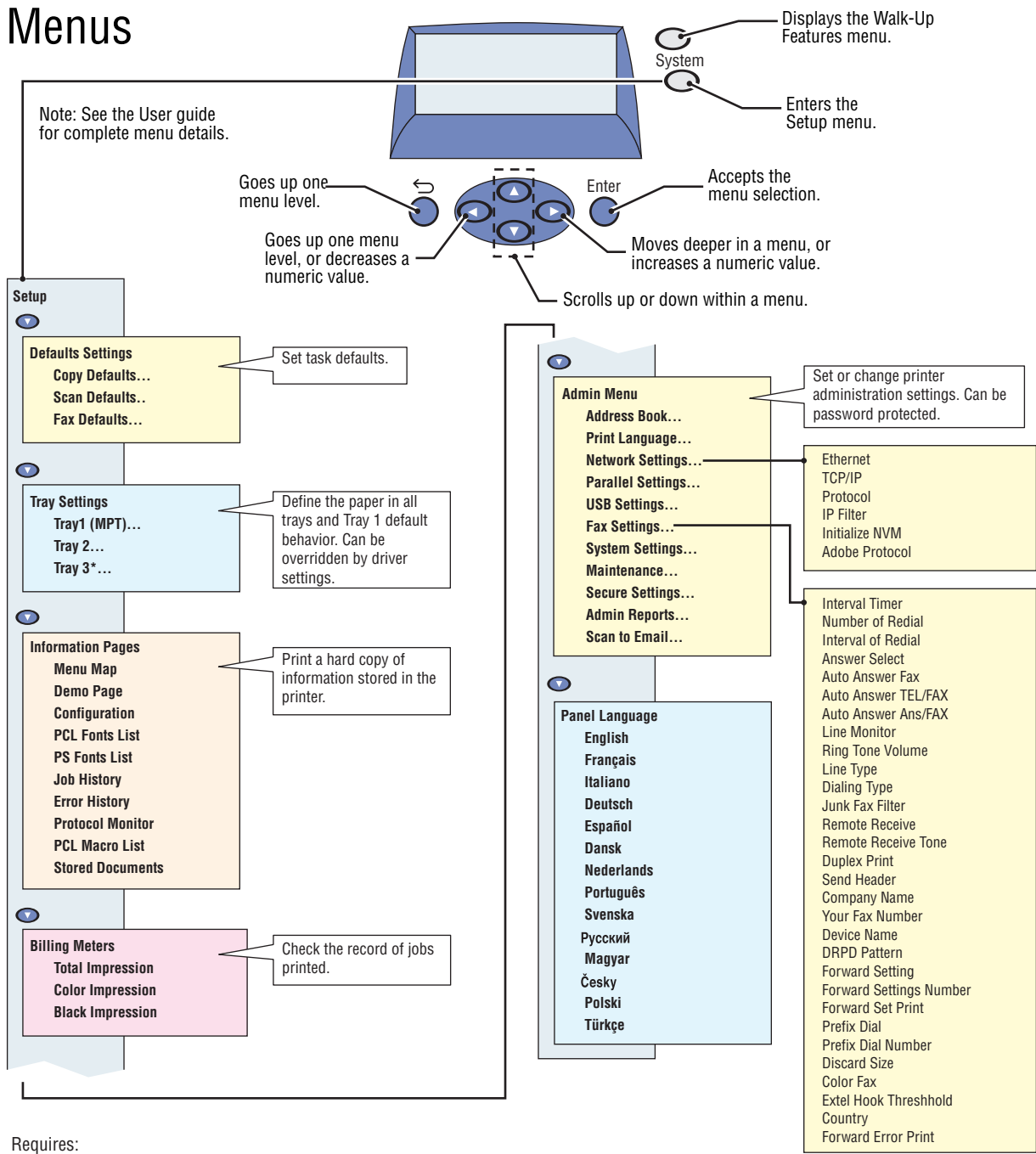
- Phaser 6180MFP Menu Map
- Firmware Update
- Chain Link for Fax Parameter Setting
- Acronyms and Abbreviations

Appendix A



Phaser 6180MFP Menu Map

Menus



Requires:
 * 550-Sheet Feeder

s6180mfp-398

Firmware Update

Note

The firmware update procedure in this manual is for PC only. It is important to perform Firmware Update procedures in the following order.

1. "Firmware MPC Update" on page 8 (if an MPC is installed on the printer)
2. "Control Panel Bit Map Display Update" on page 3
3. "Boot Controller Update" on page 5
4. "Firmware Controller Update" on page 6

Control Panel Bit Map Display Update

1. Download applicable files from the Xerox support web site. Unzip (decompress) the files.
2. Be sure the appropriate downloading option (Network, USB, or Parallel) is available and connected.
3. Reboot the printer.
4. On your computer, locate the decompressed files. Open the **Panel** directory. Double-click the **Xeroxfwup.exe** file.
5. The **xeroxfwup** window with connection options is displayed. Three connections are available for updating the Control Panel Bit Map Display.
 - a. For Network connection:
 - Select **Network** and click the **Next** button.
 - If your printer's IP address is available, select the appropriate box. Click the **Next** button.
 - If your printer's IP address is not listed, click the **Add** button. Enter your printer's IP address and click the **OK** button. Select the box with your printer's IP address and click the **Next** button.
 - On the printer's Control Panel, messages are displayed from **Receiving data Port 9100 --> Please wait... Port 9100 F/W --> Writing... Port 9100 AIOC --> Writing... Port 9100 PANEL** as the printer starts updating the firmware.
 - b. For USB connection:
 - Select **USB** and click the **Next** button.
 - Select the box with the printer to be updated and click the **Next** button.
 - On the printer's Control Panel, messages are displayed from **Receiving data USB... AIOC --> Please wait... USB F/W --> Writing... USB AIOC --> Writing... USB PANEL** as the printer starts updating the firmware.

- c. For Parallel connection:
 - Select **Parallel** and click the **Next** button.
 - The **xeroxfwup** window with the Module Name is displayed. Click the **Next** button.
 - On the printer's Control Panel, messages are displayed from **Receiving data Parallel --> Please wait... Parallel F/W --> Writing... Parallel AIOC --> Writing... Parallel PANEL** as the printer starts updating the firmware.

Caution

Do Not reboot or turn Off the printer. The printer will automatically reboot.

6. When the process is completed, the **Please wait... --> Ready** messages are displayed on the printer Control Panel.
7. On your computer, verify that the firmware update has been completed.
 - For Network and USB connections: In the **xeroxfwup** window, verify that "**The firmware update has been sent**" message is displayed and **Sent** is displayed under the **Status** column. Click the **Next** button. Click the **OK** button.
 - For Parallel connection: In the **xeroxfwup** window, verify that "**The firmware update has been sent**" message is displayed. Click the **Next** button. Click the **OK** button.
8. Verify the Control Panel Firmware Version information.
 - a. Turn the printer power Off.
 - b. Access the Service Diagnostics menu by pressing the **Up Arrow** and **Down Arrow** buttons simultaneously and turn On the printer.
 - c. Select **Fax/Scanner Diag** and press the **OK** button.
 - d. Press the **Up Arrow** or **Down Arrow** button to find **Information**. Press the **OK** button.
 - e. Press the **Up Arrow** or **Down Arrow** button to find **Version**. Press the **OK** button.
 - f. Press the **Up Arrow** or **Down Arrow** button to find **Panel**. Press the **OK** button.
 - g. Verify the version number to ensure the Control Panel firmware has been updated.

Boot Controller Update

Note

Boot Code can be updated via USB or Parallel port only.

1. Download applicable files from the Xerox support web site. Unzip (decompress) the files.
2. Be sure the appropriate downloading cable option (USB or Parallel) is available and connected.
3. Turn the printer power Off.
4. Press the **Up Arrow**, **Down Arrow**, and **OK** buttons simultaneously and turn On the printer.
5. The **FW Update Password** message is displayed.
6. Press the **Down Arrow** button 2 times and press the **OK** button.
7. The **F/W Download** message is displayed.
8. Use the Up or Down arrow to scroll through the menu and select the appropriate method (**DL Mode Parallel** or **DL Mode USB**). Press the **OK** button.
9. The serial number of the printer is displayed. Then the **Download Mode Send F/W Data** message is displayed.
10. On your computer, locate the decompressed files. Open the **Boot** directory. Double-click the **Xeroxfwup.exe** file.
11. Select the appropriate method (**USB** or **Parallel**) and click the **Next** button.
12. The **xeroxfwup** window with the module number is displayed.
 - For USB connection: Select the box with the printer to be updated and click the **Next** button.
 - For Parallel connection: The **xeroxfwup** window with Module Name is displayed. Click the **Next** button.
13. On the printer's Control Panel, the **Loading Data... Please wait --> Erasing Flash... Please wait** messages are displayed. The printer starts updating the firmware.

Caution

Do Not reboot or turn Off the printer. The printer will automatically reboot.

14. When the process is completed, the **Please wait... --> Ready** messages are displayed on the printer's Control Panel.
15. On your computer, verify that the firmware update has been completed.
 - For USB connection: In the **xeroxfwup** window, verify that "**The firmware update has been sent**" message is displayed and **Sent** is displayed under the **Status** column. Click the **Next** button. Click the **OK** button.
 - For Parallel connection: In the **xeroxfwup** window, verify that "**The firmware update has been sent**" message is displayed. Click the **Next** button. Click the **OK** button.
16. Print the Configuration page (**System > Information Pages > Configuration > OK**) and verify the Boot Version information.

Firmware Controller Update

1. Download the applicable files from the Xerox support web site. Unzip (decompress) the files.
2. Be sure your appropriate downloading option (Network, USB, or Parallel) is available and connected.
3. Reboot the printer.
4. On your computer, locate the decompressed files. Open the **fw** directory. Double-click the **Xeroxfwup.exe** file.
5. The **xeroxfwup** window with connection options is displayed. Three connections are available for updating the Firmware Controller.
 - a. For Network connection:
 - Select **Network** and click the **Next** button.
 - If your printer's IP address is available, select the appropriate box. Click the **Next** button.
 - If your printer's IP address is not listed, click the **Add** button. Enter your printer's IP address and click the **OK** button. Select the box with your printer's IP address and click the **Next** button.
 - On the printer's Control Panel, messages are displayed from **Receiving data Port 9100 AIOC --> Receiving data Port 9100 F/W --> Please wait Port 9100 F/W --> Writing... Port 9100 AIOC --> Writing... Port 9100 F/W** as the printer starts updating the firmware.
 - b. For USB connection:
 - Select **USB** and click the **Next** button.
 - The **xeroxfwup** window with the printer serial number is displayed. Select the box with your listed printer. Click the **Next** button.
 - On the printer's Control Panel, messages are displayed from **Receiving data USB AIOC --> Receiving data USB F/W --> Please wait... USB F/W --> Writing... USB AIOC --> Writing... USB F/W** as the printer starts updating the firmware.
 - c. For Parallel connection:
 - Select **Parallel** and click the **Next** button.
 - The **xeroxfwup** window with the Module Name is displayed. Click the **Next** button.
 - On the printer's Control Panel, messages are displayed from **Receiving data Parallel AIOC --> Receiving data Parallel F/W --> Please wait Parallel F/W --> Writing... Parallel AIOC --> Writing... Parallel F/W --> Completed...** as the printer starts updating the firmware.

Caution

Do Not reboot or turn Off the printer. The printer will automatically reboot.

6. When the process is completed, the **Please wait... --> Ready** messages are displayed on the printer Control Panel.

7. On your computer, verify that the firmware update has been completed.
 - For Network connection: In the **xeroxfwup** window, verify that “**The firmware update has been sent**” message is displayed and **Completed** is displayed under the **Status** column. Click the **Next** button. Click the **OK** button.
 - For USB connection: In the **xeroxfwup** window, verify that “**The firmware update has been sent**” message is displayed and **Sent** is displayed under the **Status** column. Click the **Next** button. Click the **OK** button.
 - For Parallel connection: In the **xeroxfwup** window, verify that “**The firmware update has been sent**” message is displayed. Click the **Next** button. Click the **OK** button.
8. Print the Configuration page (**System > Information Pages > Configuration**) and verify the Firmware Version information.

Firmware MPC Update

1. Download the applicable files from the Xerox support web site. Unzip (decompress) the files.
2. Be sure your appropriate downloading cable option (Ethernet, USB, or Parallel) is available and connected.
3. Reboot the printer.
4. On your computer, locate the decompressed files. Double-click the **Xeroxfwup.exe** file.
5. The **xeroxfwup** window with connection options is displayed. Select the appropriate downloading option (Network, USB, or Parallel). Click the **Next** button.
6. The **xeroxfwup** window is displayed.
 - a. For Network connection:
 - If your printer's IP address is available, select the appropriate box. Click the **Next** button.
 - If your printer's IP address is not listed, click the **Add** button. Enter your printer's IP address. Click the **OK** button. Select the box with your printer's IP address. Click the **Next** button.
 - On the printer's Control Panel, messages are displayed from **Receiving data Port 9100 NIC --> Checking... Port 9100 NIC --> Writing... Port 9100 NIC** as the printer starts updating the firmware.
 - b. For USB or Parallel connection:
 - The **xeroxfwup** window with the module number is displayed. Click the **Next** button.
 - On the printer's Control Panel, messages are displayed from **Receiving data Parallel/USB --> Checking... Parallel/USB --> Writing... Parallel/USB** as the printer starts updating the firmware.

Caution

Do Not reboot or turn off the printer. The printer will automatically reboot.

7. When the process is completed, the **Please wait... --> Ready** messages are displayed on the printer's Control Panel.
8. On your computer, verify that the firmware update has been completed.
 - For Network and USB connections: In the **xeroxfwup** window, verify that the **Sent** message is displayed under the **Status** column. Click the **Next** button. Click the **OK** button.
9. Print the Configuration page (**System > Information Pages > Configuration**) and verify the Firmware Version information. The Firmware Version for the MPC is displayed under **Network Settings**.

Chain Link for Fax Parameter Setting

The following Chain Links are used for setting the Fax parameter.

Chain Link

Chain Link	Parameter Name	Contents	Setting Range	Default Value
821-201	CONTINUE ILLEGAL	Operation after error such as transmission storage.	<ul style="list-style-type: none"> ■ 0: All clear ■ 1: Storage document is issued. 	1
821-202	THRESH MEMRX	Remaining memory threshold (%) for stopping/ disabling fax reception (color disabled).	0 to 99%	0
821-203	THRESH RXPRINT	Remaining memory threshold (%) for stopping/ disabling transmission storage.	0 to 99%	20
821-204	THRESH MEMTX	Remaining memory threshold (%) for stopping/ disabling transmission storage.	0 to 100%	0
821-206	THRESH COLOR FAX RX	Remaining memory threshold (%) for disabling fax reception (color enabled).	<ul style="list-style-type: none"> ■ 0: 0.5MB ■ 1: 1.0MB ■ 2: 1.5MB 	0
821-207	THRESH GC START	Remaining memory threshold (%) for starting garbage collection.	0 to 99%	50
821-401	PAGE MARGIN	Page margin (with reduction OFF).	0 to 127mm	20
821-406	COLOR RX PAGE LIMIT	Maximum color data size per page.	0 to 64 (64KB/1 step)	16
821-412	PAGE MARGIN REDUCTION	Page margin (with reduction ON).	0 to 127mm	30
825-013	DIS DP 20PPS	20PPS pulse dialing.	<ul style="list-style-type: none"> ■ 0: Enable ■ 1: Disable 	1
825-015	CNG DETECT TIME	CNG detection duration.	0 to 255 (0.1sec/ 1 step)	165
825-016	AUTO ANSWER TIME	External telephone call up duration. (Duration for which to emit ring sound from the speaker in case CNG was not detected upon reception.)	0 to 255 sec	21

Chain Link (Continued)

Chain Link	Parameter Name	Contents	Setting Range	Default Value
825-037	NUM CHECK TIMER	Interval duration for the same destination.	1 to 255 sec	60
825-109	ONHOOK LCS RATE	Offhook detection threshold for SiDAA LCS.	1 to 100%	75
825-074	TIME TO DETECT DIALTONE	Dial tone detection timeout duration.	0 to 255 sec	20
825-079	ONHOOK DETECT TIME	ONHOOK detection duration.	10 to 255 (20ms/1 step)	65
825-110	DIS DIALTONE PATTERN	Dial tone pattern detection.	<ul style="list-style-type: none"> ■ 0:Disable ■ 1:Enable 	0
825-111	DIALTONE ONOFFPT MIN	Minimum dial tone ON/OFF duration.	8 to 255 (10ms/1 step)	10
825-112	DIALTONE ONOFFPTN MAX	Maximum dial tone ON/OFF duration.	8 to 255 (10ms/1 step)	100
825-605	CNG STOP SELECT	Select CNG stop criterion.	<ul style="list-style-type: none"> ■ 0:CED and V.21 ■ 1:CED ■ 2:V.21 	0
825-622	G3M TX MODEM SPEED	Outbound transfer mode (rate).	<ul style="list-style-type: none"> ■ 0:Fallback partner ■ 1:Fallback V27ter ■ 2:V27ter (2400/4800bps) ■ 3:V29 (7200/9600bps) ■ 4:V33 (12000/14400bps) ■ 5:V17 (7200/9600/12000/14400bps) 	0
825-623	G3M RX MODEM SPEED	Inbound transfer mode (rate).	<ul style="list-style-type: none"> ■ 0:V27ter+V29+V33+V17 ■ 1:V27ter (2400bps) ■ 2:V27ter (2400/4800bps) ■ 3:V29 (7200/9600bps) ■ 4:V27ter+V29 ■ 5:V27ter+V29+V33 	0

Chain Link (Continued)

Chain Link	Parameter Name	Contents	Setting Range	Default Value
825-630	G3M TX CABLE_EQU	Inbound cable equalizer.	<ul style="list-style-type: none"> ■ 0:0db (0km) ■ 1:4db (1.9km) ■ 2:8db (3.6km) ■ 3:12db (7.2km) 	2
825-631	GM3 RX CABLE EQU	Inbound cable equalizer.	<ul style="list-style-type: none"> ■ 0:0db (0km) ■ 1:4db (1.9km) ■ 2:8db (3.6km) ■ 3:12db (7.2km) 	2
825-635	CAPAB ECM	ECM capability.	<ul style="list-style-type: none"> ■ 0:Disable ■ 1:Enable 	1
825-646	G3M V34 MAX BIT RATE	Maximum bit rate.	<ul style="list-style-type: none"> ■ 1:2400bps ■ 2:4800bps ■ 3:7200bps ■ 4:9600bps ■ 5:12000bps ■ 6:14400bps ■ 7:16800bps ■ 8:13200bps ■ 9:21600bps ■ 10:24000bps ■ 11:26400bps ■ 12:28800bps ■ 13:31200bps ■ 14:33600bps 	14
825-658	CAPAB V34	V34 capability	<ul style="list-style-type: none"> ■ 0:Disable ■ 1:Enable 	1
825-661	G3M TX CODING	Outbound signal encoding method.	<ul style="list-style-type: none"> ■ 0:MH ■ 1:MR ■ 2:MMR ■ 3:JBIG 	3
825-662	G3M RX CODING	Inbound signal encoding method.	<ul style="list-style-type: none"> ■ 0:MH ■ 1:MR ■ 2:MMR ■ 3:JBIG 	3
825-674	G3M BAUDRATE FIXATION	Fix band rate to:	<ul style="list-style-type: none"> ■ 0:Disable ■ 1:2400bps ■ 2:4800bps ■ 3:7200bps ■ 4:9600bps ■ 5:12000bps ■ 6:14400bps 	0

Acronyms and Abbreviations

Acronym	Description
3TM	Three Tray Module
A3	Paper size 297 millimeters (11.69 inches) x 420 millimeters (16.54 inches).
A4	Paper size 210 millimeters (8.27 inches) x 297 millimeters (11.69 inches).
A5	Paper size 148 millimeters (5.82 inches) x 210 millimeters (2.10 inches).
AC	Alternating Current is type of current available at power source for the printer.
ACTA	Administrative Council for Terminal Attachments
AD	Analog to Digital signal conversion
ADC	Automatic Density Control
ADF	Automatic Document Feeder
ADSL	Asymmetric Digital Subscriber Line
AGC	Automatic Gain Control
AIO	All In One
AMPV	Average Monthly Print Volume
AOC	Auto Offset Control, Automatic Offset Control
APC	Auto Power Control
ASSY	Assembly
ATM	Adobe Type Manager
BCR	Bias Charge Roller
BOOTP	Boot Parameter Protocol
BSD	Block Schematic Diagram
BTM	Bottom
BTR	Bias Transfer Roller
CAM	Cam Shaft
CCD	Charged Coupled Device (Photoelectric Converter)
CCW	Counter-Clock Wise
CD	Circuit Diagram
CD	Compact Disc
CED	Called Station Identification
CFD	Computational-Fluid Dynamics
CFR	Confirmation to Receive
CLT	Clutch

Acronym	Description
CMYK	Toner colors for the printer: Y=yellow, C=cyan, M=magenta, K=black
CNG	Calling Tone
CORR	Corrugate
CRD	(PostScript) Color Rendering Dictionary
CRU	Customer Replaceable Unit
CRUM	Customer Replaceable Unit Meter/Memory
CSI	Called Subscriber Identification
CST	Cassette
CVT	Constant Velocity Transport
CWIS	Collection Workflow Integration System
dB	Decibel
DA	Digital to Analog signal conversion
DC	Direct Current is type of power for printer components. Machine converts AC power from power source to DC power.
DCN	Disconnect
DCS	Digital Command Signal
DDNS	Dynamic Domain Name System
DDR2 DIMM	Double Data Rate Dual In-Line Memory Module
DEV	Developer
DHCP	Dynamic Host Configuration Protocol
DIS	Digital Identification Signal
DMP	Damper
DP	Dial Pulse
DPI	Dot Per Inch
DRPD	Distinctive Ring Pattern Detection
DRV	Drive
DSL	Digital Subscriber Line
DTMF	Dual-Tone Multi-Frequency
DUP	Duplex
Duplex	2-sided printing
EA	Emulsion Aggregation (Toner)
EC	European Community
ECM	Error Correction Mode
EEA	European Economic Area
EEC	European Economic Community

Acronym	Description
EEPROM	Electrically Erasable Programmable Read-Only Memory
EOM	End of Message
EOP	End of Procedure
ESA	Electric Static Attachment
ESD	Electrostatic Discharge. A transfer of charge between bodies at different electrostatic potential.
ESS	Printer Controller
Fax	Facsimile
FCC	Federal Communications Commission
FCOT	First Copy Output Time
FDR	Feeder
FE	Field Engineer
FIC	Facility Interface Code
FPOT	First Print Output Time
FR/FRNT	Front
FRU	Field Replaceable Unit
FTT	Failure to Train
GB	Giga Byte
GND	Ground
HARN	Harness
HCF	High-Capacity Feeder
HDD	Hard Disk Drive
HGEA	High-Grade Emulsion Aggregation (Toner)
HSG	Housing
HUM	Humidity
HVPS	High-Voltage Power Supply
Hz	Hertz (cycles per second)
IBT	Intermediate Belt Transfer
IC	Integrated Circuit
IDT	Intermediate Drum Transfer
IEC	International Electrotechnical Commission
I/F	Interface
IOT	Image Output Terminal - the ROS/Xerox/paper handling/fusing portion of the printer
IP	Image Processor
IPM	Impression Per Minutes
IPP	Internet Present Provider

Acronym	Description
IPX	Internetwork Packet Exchange
IQ	Image Quality
ISDN	Integrated Services Digital Network
ITU-T	International Telecommunication Union - Telecommunication (Standards Organization)
JBA	Job-Based Accounting
KB	Kilo Byte
LAN	Local Area Network
LCD	Liquid Crystal Display
LD	Laser Diode
LED	Light Emitting Diode
LEF	Long-Edge Feed
LH	Left Hand
LPD	Line Printer Daemon
LPR	Line Printer Remote
LTR	Letter Size Paper (8.5 x 11 inches)
LVPS	Low-Voltage Power Supply
MAC	Media Access Control
MB	Mega Byte
MCF	Message Confirmation
MCU	Machine Control Unit (Engine Control Board)
MHz	Mega Hertz
MIB	Management Information Base
MICR	Magnetic Ink Character Recognition
MM	Millimeters
MOB	Marks On Belt
MOT	Motor
MPC	Multi-Protocol Network Card
MPS	Multi-Page Signal
MPT	Multi-Purpose Tray
NCS	Non-Contact Sensor
NCU	Network Control Unit
NPP	No Paper
NSF	Non-Standard Facilities
NSS	Non-Standard Set-up
NVM	Non-Volatile Memory
NVRAM	Non-Volatile Random Access Memory

Acronym	Description
OEM	Original Equipment Manufacturer
OHP	Overhead Paper (Transparency)
OPC	Organic Photo Conductor
OPT	Optional
OS	Operating System
PB	Push Button
PBX	Private Branch Exchange
PC	Personal Computer
PCB	Printed Circuit Board
PCDC	Pixel Count Dispense Control
PCL	Printer Command Language
PD	Pulse Dialing
PDL	Page Description Language
PH	Paper Handling
PHY	Physical Layer
PIN	Procedural Interrupt Negative
PIP	Procedural Interrupt Positive
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
PPR	Partial Page Request
PPS	Pages
PPS	Pulses Per Second
PSTN	Public Switched Telephone Network
PV	Print Volume Management
PWB	Printed Wiring Board
PWBA	Printed Wiring Board Assembly
RAM	Random Access Memory
RBT	Ring Back Tone
RegiCon	Registration Control
REN	Ringer Equivalence Number
RET	Retard
RGB	Three primary colors of light - Red Green Blue

Acronym	Description
RH	Relative Humidity
RLS	Release
RMS	Root Mean Square Voltage
ROM	Read-Only Memory
ROS	Raster Output Scanner - Laser Unit
RTD	Retard
RTN	Retrain Negative
RTP	Retrain Positive
SDSL	Symmetric Digital Subscriber Line
SEF	Short-Edge Feed
SLP	Service Location Protocol
SMB	Server Message Block
SNMP	Simple Network Management Protocol
SNR	Sensor
SOC	Service Order Code
SOL	Solenoid
SOS	Start of Scan
STS	Soft Touch Sensor
TCF	Training Check Frame
TD	Tone Dialing
TDC	Toner Density Control
TNR	Toner
TRNS	Transport
TSI	Transmitting Subscriber Identification
UI	User Interface
USB	Universal Serial Bus
VDSL	Very High Bit Rate Digital Subscriber Line
WINS	Wireless Integrated Network Sensor

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