

Phaser[®] 6125/6130

Color Laser Printer



Phaser[®] 6125/6130

Color Laser Printer

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.

Prepared By:

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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.

Power Safety Precautions

Power Source

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

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

Disconnecting Power

Warning

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

Disconnect the power cord in the following cases:

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

Electrostatic Discharge (ESD) Precautions

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

Be sure the power is Off 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 ICs and Erasable Programmable Read-Only Memories (EPROM's) carefully to avoid bending pins.
- Pay attention to the direction of parts when mounting or inserting them on Printed Circuit Boards (PCB's).

Service Safety Summary

General Guidelines

For qualified service personnel only: Refer also to the preceding “Power Safety Precautions” on page 1-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 6125/6130 Color Laser PrinterPhaser 6125/6130 Color Laser Printer is certified to comply with Laser Product Performance Standards set by the U.S. Department of Health and Human Services as a Class 1 Laser Product. This means that this 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 you attempt to service the Fuser or adjacent components.

Regulatory Specifications

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

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.

Manual Organization

The Phaser 6125/6130 Color Laser 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 6125/6130 Color Laser 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: Troubleshooting discussions cover the operation of Power On Self Test (POST), 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 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 menu structure, printer firmware update instructions, and a list of acronyms and abbreviations.

Contents

Service Terms	iii
Symbols Marked on the Product	iv
Power Safety Precautions	v
Electrostatic Discharge (ESD) Precautions	vi
Service Safety Summary	vii
Regulatory Specifications	ix
Manual Organization	xi

1 General Information

Printer Introduction and Overview	1-2
Technical Support Information	1-2
Printer Configurations	1-3
Parts of the Printer	1-4
Front and Side Views	1-4
Rear View	1-5
Control Panel	1-6
Printer Options	1-8
Additional Memory	1-8
Multi-Protocol Network Card	1-8
Maintenance Items	1-9
Consumables	1-10
Printer Specifications	1-11
Memory Specifications	1-12
Electrical Specifications	1-12
Print Speed	1-13
Environmental Specifications	1-13
Operating Mode	1-14
First Print Output Time (FPOT)	1-15
Image Specifications	1-16
Physical Dimensions and Clearances	1-17
Mounting Surface Specifications	1-18
Media and Tray Specifications	1-19
Controller Functions	1-20
Job Control	1-20
Non-Genuine Mode	1-22
Toner Remaining Amount	1-23
Maintenance Function	1-23
Diagnostics	1-24
Information Pages	1-24

2 Theory of Operation

Phaser 6125/6130 Operational Overview	2-2
Print Process Block Diagram	2-2
Printing Process	2-3
Charging	2-4
Exposure	2-5
Development	2-7
Transfer (Drum ---> Paper)	2-9
Cleaning (Imaging Unit)	2-10
Excess Toner Collection	2-11
Fusing	2-12
Paper Path of the Printer	2-13
Paper Path Route	2-13
Paper Path Components	2-14
Major Assemblies and Functions	2-15
Paper Tray	2-15
Paper Feeder	2-17
Manual Feed & Registration	2-19
Transfer Unit and Fuser	2-23
Laser Unit	2-24
Toner Cartridge & Dispenser	2-26
Imaging Unit	2-27
Drive Assembly	2-28
Electrical	2-30
Printer Modes	2-34
Operational Modes	2-34
Printer Control	2-34
Paper Size Detection	2-34
Laser Unit Light Quantity Control	2-34
Process Control	2-35
Color Registration Control	2-36
Fuser Control	2-37
Drive Transmission	2-38
Main Drive	2-38
Sub Drive Assemblies	2-40

3 Error Messages and Codes

Introduction	3-2
Accessing Error History Report	3-2
Error History Report	3-2
Servicing Instructions	3-4
Messages, Chain Link Codes, and Procedures	3-5
Error Messages Abbreviations	3-5
Error Message and Chain Link Code Summary	3-6
Image Processor Board Errors	3-21
Flash Memory Errors	3-21
Out of Memory	3-22
PDL Error	3-23
Network/FontROM/MACaddress/RAM/Controller/NVRAM/ASIC Error	3-24
PAGEC Time Error	3-25
RAM Error	3-26

Toner Cartridge Errors	3-27
Insert Yellow/Cyan/Magenta/Black Cartridge	3-27
Non-Xerox Toner, Invalid Yellow/Magenta/Cyan/Black	3-27
Replace Yellow/Magenta/Cyan/Black	3-27
Yellow/Magenta/Cyan/Black Low	3-27
Waste Full, Yellow/Magenta/Cyan/Black Cartridge	3-28
Jam Errors	3-29
Jam at Tray	3-29
Jam at Front Cover	3-34
Jam at Manual Feed Slot	3-37
Jam at Front Cover	3-42
Jam at Exit	3-44
Jam at Registration Roll	3-46
MPC Errors	3-50
MPC Error	3-50
Transfer Unit Errors	3-51
CTD Sensor Error/CTD Sensor/Check Unit	3-51
DTB Life Over/Transfer Life	3-52
Insert Imaging Unit	3-53
Low Density Yellow/Magenta/Cyan/Black Cartridge	3-54
Paper Setting Errors	3-56
Insert Output to Tray/Manual Feed	3-56
Load Manual Feed	3-56
Load Manual Feed	3-57
Load Tray	3-59
Load Tray/Tray Empty	3-60
Fuser Errors	3-62
Insert Fuser	3-62
Replace Fuser / Fuser Life	3-63
Fuser Error	3-64
Motor Errors	3-66
Fan Motor Error	3-66
Motor Error	3-67
Sub Motor Error	3-69
Imaging Unit Errors	3-71
Replace Imaging Unit/PHD CRUM Error	3-71
Cover Open Errors	3-72
Front Cover Open	3-72
Side Door Open	3-73
MCU Errors	3-74
MCU Firmware Error	3-74
MCU NVRAM Error	3-75
Laser Unit Errors	3-76
Laser Error	3-76
System Error	3-77
MCU Communication Error	3-77
Other Errors	3-78
Invalid Job	3-78
Download Mode	3-79
K Mode Sol Error	3-80
Env Sensor Error	3-82

4 General Troubleshooting

Introduction	4-2
System Startup	4-2
Power On Self Test (POST)	4-3
Service Diagnostics	4-5
Entering Service Mode	4-5
Using Service Diagnostics	4-5
Service Mode Control Panel Button Descriptions	4-5
Service Mode Menu Map	4-6
Menu Map - Page 1	4-6
Menu Map - Page 2	4-7
Printer Components	4-8
Motors, Clutches, Solenoids, Lamps	4-8
Sensors	4-8
Service Mode Diagnostic Tests	4-9
Diagnostic Tests and Utilities	4-9
Sensor Tests	4-20
Motor Tests	4-27
Tray Feed Solenoid (Half/Init)	4-30
Control Panel Troubleshooting	4-37
Printer Does Not Come to a “Ready” State	4-37
Control Panel LED is On, Control Panel Display is Blank	4-37
Engine Test Print	4-38
Inoperable Printer Troubleshooting	4-39
Engine Power-Up Sequence	4-39
Printer Continually Displays Warming Up	4-39
AC Power Supply Troubleshooting	4-40
DC Power Supply Troubleshooting	4-41
LVPS Overcurrent Protection Circuit	4-41
LVPS Overvoltage Protection Circuit	4-41
LVPS	4-41
+24 VDC Interlock Switch	4-43
Abnormal Noise and Electrical Problems	4-44
Abnormal Noise When Power is Turned On	4-44
Abnormal Noise During Standby	4-45
Abnormal Noise During Printing	4-46
Electrical Noise	4-49
AC Supply Problems	4-50
DC Short	4-51
Operating System and Application Problems	4-52
Windows 2000, Windows XP, Windows Server Troubleshooting	4-52
Verify Settings	4-52
Verify Driver Installation	4-52
Macintosh Troubleshooting (Mac OS 10.2 and Higher)	4-53
UNIX / Linux	4-54

5 Print-Quality Troubleshooting

Print-Quality Problems Overview	5-2
Defects Associated with Specific Printer Components	5-2
Checklist Before Troubleshooting Print-Quality	5-4
Checking the Printer Condition	5-4
Checklist	5-5

Test Prints	5-8
No Image IOT	5-8
Pattern IOT	5-9
Grid 2 ESS	5-9
Cyan 20% ESS	5-10
Magenta 20% ESS	5-10
Yellow 20% ESS	5-11
Black 20% ESS	5-11
CMY 20% ESS	5-12
Gradation ESS	5-12
Toner Pallet Check	5-13
Contamination Check	5-14
Print-Quality Specifications	5-15
Environmental Condition	5-15
Quality Paper	5-15
Paper Condition	5-15
Printer Condition	5-15
Specifications	5-16
Print-Quality Troubleshooting	5-20
Print-Quality Defect Definitions	5-20
Repeating Defect Measurement	5-21
Light or Undertone Print	5-22
Blank Print (No Print)	5-25
Black Print	5-28
Vertical Blank Lines	5-30
Horizontal Band, Voids, or Streaks	5-32
Vertical Stripes	5-35
Horizontal Stripes	5-37
Partial Band	5-39
Random Spots	5-42
Repeating Bands, Lines, Marks, or Spots	5-45
Residual Image or Ghosting	5-46
Background Contamination	5-48
Skew	5-51
Damaged Paper	5-54
Unfused Image	5-57
Color Registration	5-59

6 Adjustments and Calibrations

Adjustments	6-2
Color Registration	6-2
Printing the Color Registration Correction Chart	6-2
Enabling/Disabling Automatic Color Registration	6-3
Adjusting Color Registration	6-3
Resetting the Fuser	6-5
Calibrations	6-6
Initializing Print Meter	6-6
Initializing NVM (NVRAM)	6-6
Parameter Setting	6-7

7 Cleaning and Maintenance

Service Maintenance Procedure	7-2
Recommended Tools	7-2
Cleaning	7-2
Maintenance	7-3
RIP (Repair, Inspect, and Prevent) Procedure	7-3

8 Service Parts Disassembly

Overview	8-2
Standard Orientation of the Printer	8-3
Preparation	8-4
Notations in the Disassembly Text	8-5
Fastener Types	8-6
Maintenance Items and Consumables	8-7
Separator Roller	8-7
Imaging Unit	8-8
Fuser	8-9
Toner Cartridges (C, M, Y, K)	8-10
Covers	8-11
Toner Access Door	8-11
Rear Tray Cover	8-12
Cassette Stopper	8-12
Control Panel	8-13
Top Cover	8-14
Output Tray Extension	8-15
Right Side Cover	8-16
Left Side Cover	8-17
Rear Cover	8-18
Front Cover	8-19
Paper Feeder	8-21
Drive Clutch Kit	8-21
Feed Drive Assembly	8-22
Feed Solenoid	8-24
Feeder Assembly	8-25
Left Harness Assembly	8-26
Manual Feed No Paper Sensor	8-28
Feed Roller	8-30
Xerographics	8-31
Laser Unit	8-31
Dispenser Assembly	8-34
Erase LED Assembly	8-37
Right Imaging Unit Restraint Block	8-38
Left Imaging Unit Restraint Block	8-39
Toner Cartridge Holder (K), (C), (M), (Y)	8-40
Transfer Unit	8-41
HVPS Board	8-43
Frame	8-44
I/P Board Cage	8-44
Transfer Unit Pivot Kit	8-45
Separate Upper and Lower Assemblies	8-47
Drive	8-52
Main Drive Assembly	8-52
Sub-Drive	8-53

Electrical	8-54
Control Panel Harness	8-54
Interlock Harness	8-54
LVPS	8-55
Fan	8-56
GFI Breaker	8-57
Humidity Sensor	8-58
MCU Board	8-59
Image Processor Board	8-60
Toner Access Door Switch	8-63

9 Parts List

Serial Number Format	9-2
Using the Parts List	9-3
Print Engine Parts	9-4
Parts List 1.1 Covers	9-4
Parts List 2.1 Paper Tray	9-6
Parts List 3.1 Paper Feeder (1 of 2)	9-8
Parts List 3.2 Paper Feeder (2 of 2)	9-10
Parts List 4.1 Xerographics	9-12
Parts List 5.1 Dispenser	9-14
Parts List 6.1 Transfer & Fuser	9-16
Parts List 7.1 Drive	9-18
Parts List 8.1 Electrical (1/2)	9-19
Parts List 8.2 Electrical (2/2)	9-21
Parts List 9.1 Wiring Harness	9-23
Xerox Supplies and Accessories	9-25
Service Kits	9-26

10 Plug/Jack and Wiring Diagrams

Plug/Jack Diagrams and Designators	10-2
Print Engine Plug/Jack Designators	10-2
Plug/Jack Locators	10-6
General Diagram - Plug/Jack Locations	10-6
Map 1 - Transfer Unit, Control Panel, Imaging Unit, Dispenser, Fuser	10-8
Map 2 - Laser Unit, Feeder Assembly	10-9
Map 3 - LVPS, Drive Motors, I/P Board, AC Power	10-10
Map 4 - Toner Dispenser Motors, HVPS, MCU	10-11
Notations Used in the Wiring Diagrams	10-12
Print Engine Wiring Diagrams	10-15
Wiring Diagrams Configurations	10-15
DC Power Supply	10-17
Feeder, Manual Feed, & Registration	10-19
Drive	10-20
Laser Unit	10-22
Xerographic	10-24
High Voltage Power Supply	10-26
Developer	10-27
Fuser	10-29
Controller	10-31

Reference

Phaser 6130 Menu Map	A-2
Firmware Update	A-3
Boot Controller Update	A-3
Firmware Controller Update	A-4
Firmware MPC Update	A-5
Acronyms and Abbreviations	A-6

Index

General Information

In this chapter...

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

Chapter 1

Printer Introduction and Overview

The Phaser 6125/6130 Color Laser Printer has a single-pass color laser-design architecture, which offers color and mono print speed at 12/16-ppm, and resolutions up to 600 x 600 dots-per-inch (dpi). The printer supports Adobe PostScript 3 and PCL6, USB 2.0, and 10/100 Base-TX Ethernet.

The Phaser 6125/6130 printer provides a standard 250-Sheet Paper Tray, and a single-sheet Manual Feed Slot. Both the Paper Tray and the Manual Feed Slot support specialty media, card stock, and envelopes. The Output Tray holds 150 sheets facedown.

The printer options add memory and functionality. Memory upgrades for the Phaser 6130 are available from Xerox to increase the standard RAM from 128 up to the 1152 MB maximum. The Phaser 6125 does not accept additional memory. The Multi-Protocol Network Card expands the supported network protocols.

Technical Support Information

The Xerox Phaser 6125/6130 Color Laser 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 6125/6130 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 printer is available in these configurations.

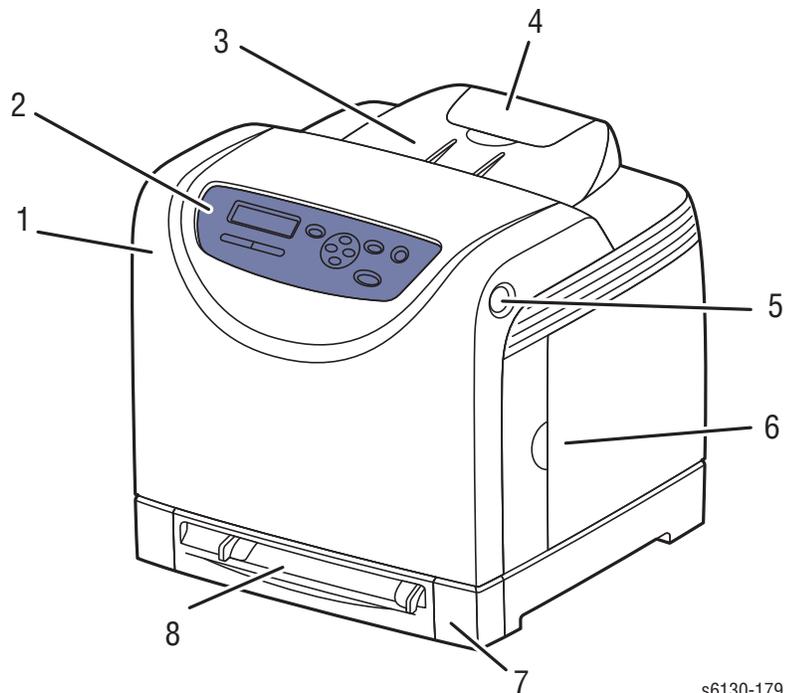
Printer Configurations

Features	Printer Configuration	
	6130N (PDL)	6125N (GDI)
Processor and Clock Speed	400 MHz	400 MHz
Memory Configuration ^a	128 MB	64 MB
Print Speed (Color/Mono)	12/16	12/16
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
Ethernet Interface	10/100 Base-TX	10/100 Base-TX
Manual Feed Slot (Single sheet)	Standard	Standard
Standard Tray (250 Sheet)	Standard	Standard
Wireless LAN	Optional	Optional
Warranty	1 year onsite	1 year onsite

a. The Phaser 6125/6130 has one memory slot supporting 256 MB/ 512 MB/ 1 GB DDR2 DIMMs, to a maximum of 1152 MB. Standard memories are soldered on board. The Phaser 6125 does not accept additional memory.

Parts of the Printer

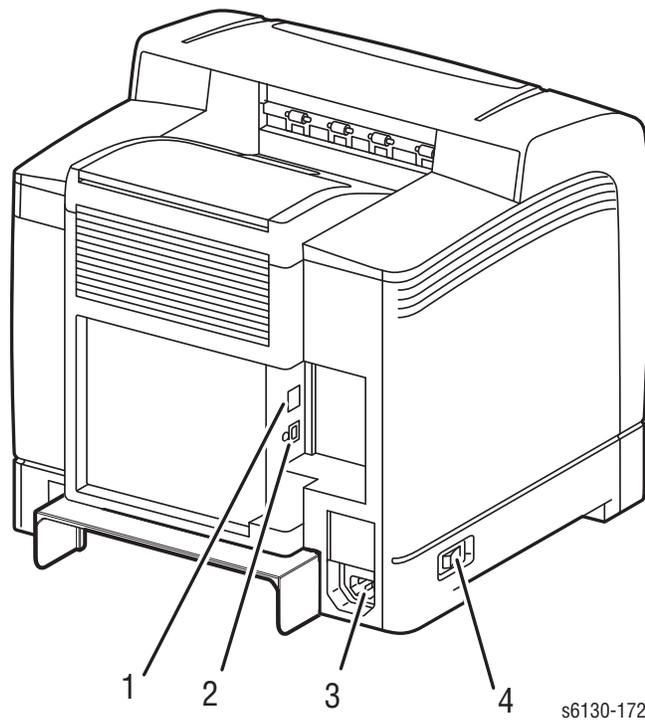
Front and Side Views



s6130-179

1. Front Cover
2. Control Panel
3. Output Tray (and Top Cover)
4. Output Tray Extender
5. Front Cover Release Button
6. Toner Access Door
7. Paper Tray
8. Manual Feed Slot
Top Cover

Rear View

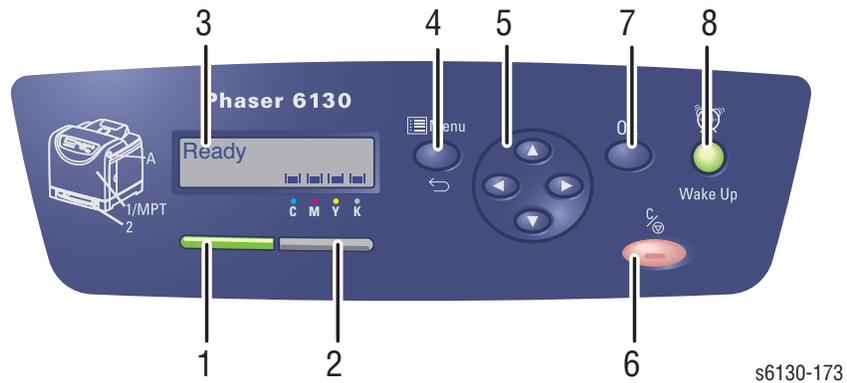


1. Ethernet Port
2. USB Port
3. Power Cord Connector
4. Power Switch

Control Panel

The Control Panel consists of two LEDs, one display window, and eight functional buttons. These buttons are used to navigate the menu system, perform functions, and select modes of operation for the printer.

Control Panel Button Descriptions



- | | |
|--------------------------------|--|
| 1. Ready LED (Power/Status) | LED On - Ready or processing print job.
LED blinking - Receiving data.
LED Off - An error has occurred and the printer is offline. |
| 2. Error LED | Light On - Error with print job.
(blinking = not user fixable)
(On solid = user fixable) |
| 3. Display | Displays printer settings, status, and messages. |
| 4. Menu Button | Toggles display between Menu mode and Print mode. |
| 5. 4 Way Cursor Buttons | Menu navigation. |
| Up and Down arrows | Switches between Menus or Items on the same level. |
| Right and Left arrows | Switches between the Menu levels. |
| 6. Cancel Button | Cancels the current print job. |
| 7. OK Button | Move to the next level, confirm setting, and print report. |
| 8. Wake Up LED/Button | LED comes On when the printer is in Power Saver Mode. Press this button to exit Power Saver Mode. |

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

Mode	Buttons Pressed at Power On
Service Diagnostics	Up + Down arrow buttons
Reset Password to 0000 (used when the Control Panel menus are locked)	Menu
Boot Download for Controller	Up + Down + Menu buttons

Printer Options

Printer options, available for the Phaser 6130 ,include:

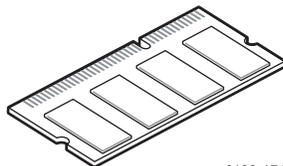
- Additional Memory (256 MB/ 512 MB)
- Multi-Protocol Network Card

Additional Memory

The Phaser 6125/6130 printer features one slot that accepts 256, 512, or 1024 MB of DDR2 DIMMs. Memory modules must meet the following characteristics:

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

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



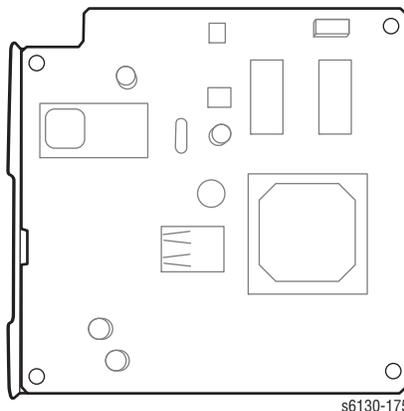
s6130-174

Note

Optional memory is not available for the 6125 model.

Multi-Protocol Network Card

The optional Multi-Protocol Network Card (MPC card) provides additional protocols and security features including IPP, SMB, SSL/HTTPs, WINS, DDNS, and Netware.



s6130-175

Maintenance Items

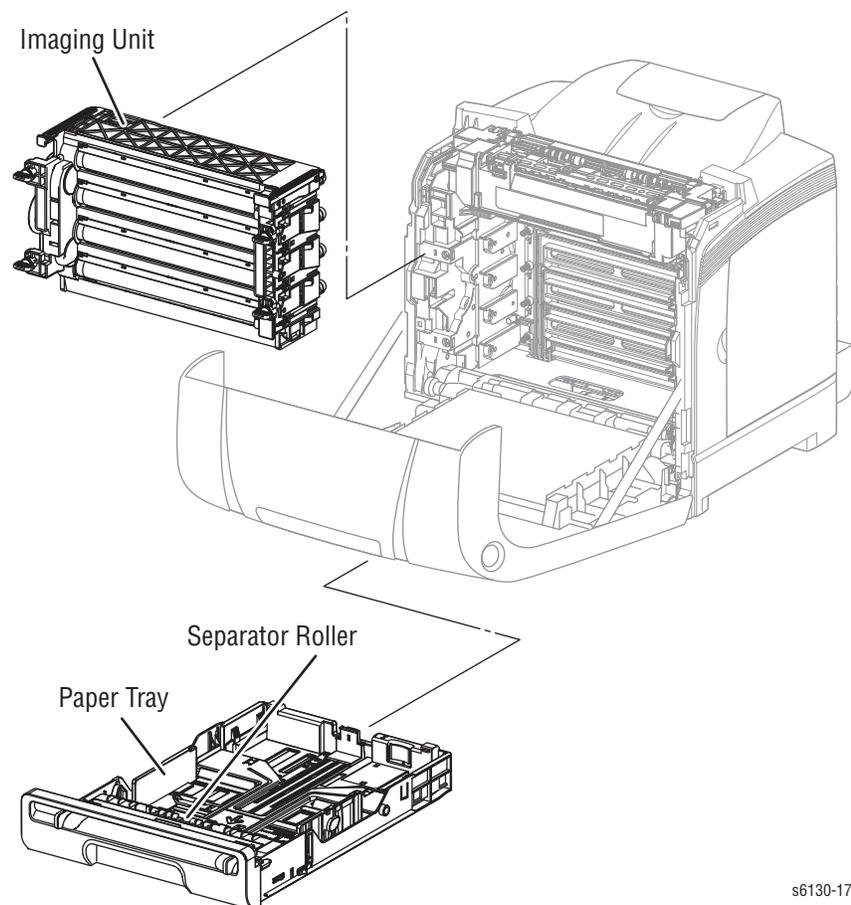
Routine maintenance items are parts or assemblies that require periodic replacement. These items are typically customer replaceable (CRU). The listed items have limited life and require periodic replacement.

Maintenance Items

Item	Print Life
Imaging Unit	Approximately 30,000 pages
Fuser	Up to 50,000 pages
Separator Roller	Up to 100,000 pages

Note

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



s6130-176

Consumables

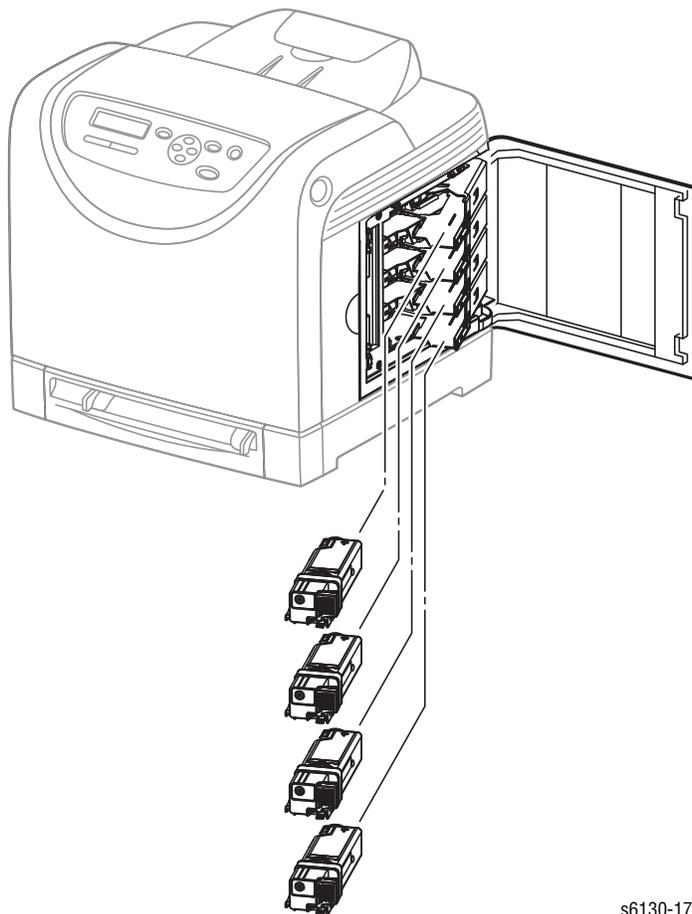
Consumables consist of four Toner Cartridges used in the printer.

CMY Toner is not consumed when printing in Mono mode or when printing a Grayscale job only. Internal counters track Consumables and Maintenance Items life usage.

Each Toner Cartridge has a CRUM (Customer Replaceable Unit Meter) to record the information. The CRUM counts the amount of remaining toner. When toner empty is detected, Life End status is sent to indicate the toner cartridge is empty.

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

Toner Cartridge Print Life	
Color (CMY)	Black
Up to 1,900 prints	Up to 2,500 prints



s6130-177

Printer Specifications

Functional Specifications

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

Memory Specifications

Characteristic	Specifications	
Memory	Minimum	128 MB On-Board memory
	Maximum	1152 MB
Supported RAM	Supports up to 1152 MB of DDR2 DIMM with one slot for 256 MB/ 512 MB/1 GB	

Electrical Specifications

Characteristic	Specification	
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 Engine: < 11 A 220 V Engine: < 5 A	
Power Consumption (with all options, 110 or 220 V)		
Power Saver Mode	5W or less	
Standby Mode (Fuser On)	50W or less	
During Color Continuous Printing	280W or less	
During B/W Continuous Printing	280W or less	
Maximum Value	1050 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
	110 V M/C	< 3.5 (UL) mA
	120 V	< 3.5 (UL) mA
	220-240 V	< 3.5 mA (IEC)
ENERGY STAR	Sleep Mode	< 45 W

Print Speed

Resolution	Color A/A4	Mono A/A4
600 Standard	12/12	16/16
600 Enhanced	12/12	16/16
Paper Type (65 - 220 gsm)		
Letter	12	26
A4	12	25
A5	18	26
Legal	15	26
Transparency	6	6

Environmental Specifications

Characteristic	Specification	
Temperature		
Operating	5 to 32° C (41 to 90° F)	
Standby	-20 to 40° C (-4 to 104° F)	
Humidity (% RH)		
Operating	15 to 85% RH	
Standby	5 to 85% RH	
Altitude		
Operating	0 to 3,100 meters (10,171 feet)	
Acoustic Noise LWA(B)	Sound Power Level (B)	Sound Pressure (dBA)
Printing	6.16	51.6
Standby	4.3	25.7

Operating Mode

Mode	Condition	Description
Running Mode		The printer is under operating condition such as running or recording.
	Fusing	Maintained at operating temperature.
	Exposure	The Laser Unit Motor runs at the operating speed.
	Recording	The system is operating.
	Cooling Fan	The fan operates at high speed.
Control Panel Operation	LCD - Backlight: On LED - Ready LED is turned On.	
Ready Mode		The printer is in standby status, ready to run.
	Fusing	The system keeps the standby temperature.
	Exposure	The system is at Pause.
	Recording	The system is at Pause.
	Cooling Fan	The fan operates at low speed.
Control Panel Operation	LCD - Backlight: On LED: If printer is online, Ready LED is turned On.	
Power Saver Mode (Deep Sleep)		The printer enters into the Power Saver mode to reduce power consumption when it has not received print data for the specified time.
	Fusing	The system is Off.
	Exposure	The system is at Pause.
	Recording	The system is at Pause.
	Cooling Fan	The system is Off.
Control Panel Operation	LCD: Off, LCD Backlight: Off LED: Power Saver LED is turned On.	

Note: When the printer receives a print job or the **Wake Up** button is pressed, the printer exits the Power Saver mode and enters the Ready mode.

First Print Output Time (FPOT)

First Print Output Time is defined as a 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
- Paper is A size Short Edge Feed (SEF)
- Process control time is not included

Mode	Tray	FPOT (sec.)
Color	Tray	As fast as 17.0 sec.
	Manual Feed	As fast as 17.0 sec.
Mono	Tray	As fast as 14.0 sec.
	Manual Feed	As fast as 14.0 sec.

Image Specifications

Note

The printer has 4 mm margins on all sides.

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

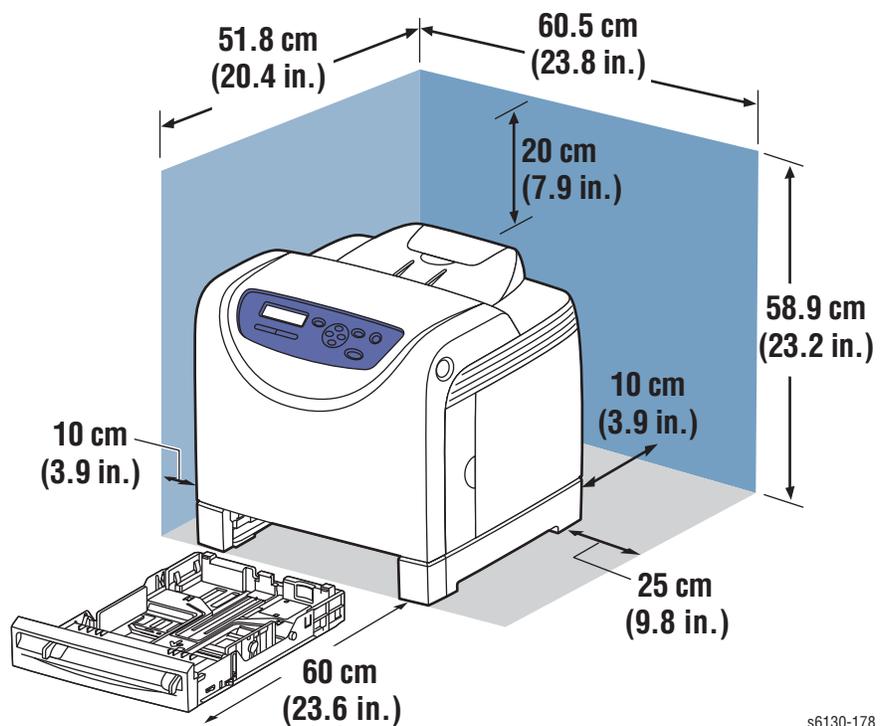
Characteristic	Specification
Maximum Print Area	210.9 mm (8.2 inches) x 351.6 mm (13.8 inches)
Guaranteed Print Area	207.9 mm (8.2 inches) x 347.6 mm (13.7 inches)
Skew	190 mm \pm 1.2 mm
Perpendicularity	114.5 mm \pm 0.8 mm
Parallelism	
Horizontal	180 mm \pm 1.2 mm
Vertical	234 mm \pm 1.2 mm
Linearity	
Horizontal	190 mm \pm 0.5 mm
Vertical	234 mm \pm 0.5 mm
Slant	269 mm \pm 1.2 mm
Magnification Error	
Horizontal Simplex	234 mm \pm 0.5 mm
Horizontal Duplex	234 mm \pm 0.8 mm
Vertical Simplex	190 mm \pm 0.5 mm
Vertical Duplex	190 mm \pm 0.8 mm
Registration	
Leading Edge	10.0 mm \pm 2.0 mm
Side Edge	8.5 mm \pm 2.5 mm

Physical Dimensions and Clearances

Printer Dimensions

Height	389 mm (15.3")
Width	400 mm (15.7 in.)
Depth	394 mm (15.5")
Weight (base printer with standard fill toner cartridges)	17.2 kg (38 lb.)

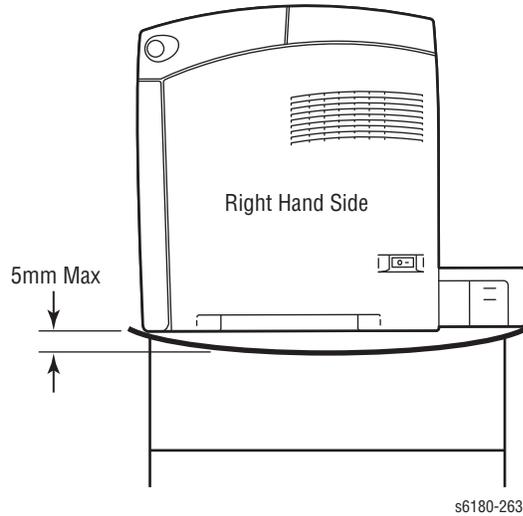
Minimum Clearances



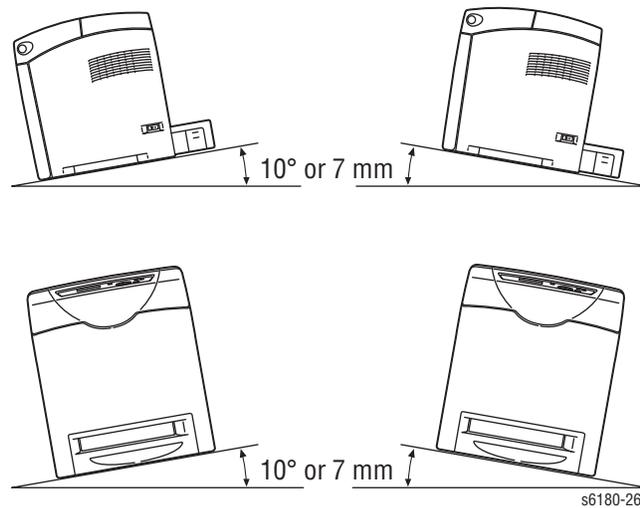
Mounting Surface Specifications

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

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



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



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

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

Media and Tray Specifications

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

Supported Paper Size

Paper Type	Dimension	Manual Feed	Tray
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 Size ^a		Yes	Yes

a. Minimum 3"x5", maximum 8.66"x14".

Supported Paper Types and Weights

Paper Type	Dimension	Manual Feed	Tray
Plain Paper	65-90 g/m ²	Yes	Yes
Letter Head	85-120 g/m ² (22-32 lb. Bond)	Yes	Yes
Pre-Punched	65-90 g/m ² (17-24 lb. Bond)	Yes	Yes
Color			
Thin Card Stock	100-163 g/m ²	Yes	Yes
Special	100-163 g/m ² (30-60 lb. Cover)	Yes	Yes
Thick Card Stock	170-216 g/m ²	Yes	No
Glossy Paper	100-163 g/m ²	Yes	Yes
Thick Glossy Paper	164-216 g/m ²	Yes	Yes
Label	N/A	Yes	Yes

Supported Envelopes

Type	Dimension	Manual Feed	Tray
Envelope #10	4.12 x 9.5 in.	Yes	Yes
Monarch Envelope	3.87 x 7.5 in.	Yes	Yes
C5 Envelope	162 x 229 mm	Yes	Yes
DL Envelope	110 x 220 mm	Yes	Yes

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 Timeout

When job transmission is interrupted for a certain period of time, the print data is deleted as an error. The timeout setting can be changed 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 Disk

RAM Disk functions when memory is expanded, enabling Collation, Secure Print, Proof Print, Form Overlay, and Font Download. 256 MB is needed to enable RAM Disk and all related functions.

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 set 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

When memory is expanded to 256 MB or more, the printer holds print data, including a User Password (11 digits), User Name, and Document Name in the 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. Proof Print requires at least 256 MB of memory. The printer prints only the first 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 are downloaded into RAM Disk.

Font Download

PCL6 fonts can be downloaded into RAM Disk.

Billing Meters

The Billing Print counter provides the number of pages printed properly (simplex print is counted as 1 and 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 mono (7 digits).
Total Print Counter	Count the total number of pages printed in color and mono (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 Toner Cartridge life has ended, the printer stops accepting print request (life of the Toner 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 Toner Cartridge rated life; however, the printer will display an end of life message on the Control Panel.

Toner Cartridge Control Panel Display

Toner Cartridge	Control Panel Display			Functionality
	Normal Status	Life Warning Error	End of Life Error	
Xerox	Xerox (TM) Toner Cartridge	Replace Soon	Replace Toner Cartridge	Prints with full functionality.
Xerox (refill Toner Cartridge)	Xerox (TM) Toner Cartridge	Replace Soon	Empty	Prints with full functionality up to 40% of the Toner Cartridge life.
Other OEM (non-Xerox printer manufacturer)	Non-Xerox Toner Cartridge			Printer displays error and will not print.
Non-Xerox Toner Cartridge Manufacturer	Non-Xerox Toner Cartridge	No Life Tracking	Replace Toner 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 a Windows PC or Macintosh with dedicated utilities. Firmware updates are available at www.xerox.com/office/support.

Detailed procedures are available in "Firmware Update" on page A-3.

Note

Boot Code can be updated via USB 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 ^a	Available	Available

a. 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 it is turned on. It is checked whether 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 of print for the Phaser 6125/6130 Color Laser Printer. The Demo Page is printed in color from selected paper tray.

Configuration Page

Note

The Configuration pages shown are for the 6130 model. Control Panel and Printer Settings pages are available on the 6125 model that provide similar information.

XEROX Configuration

Phaser® 6130N Color Printer

General	Total Impressions 267Pages	Port 9100 Port Status Enable
	Total Color Impressions 232Pages	IPP Port Status Enable
	Total Black Impressions 35Pages	SMB Port Status Enable
	Xerox Asset Number	NetWare® Port Status Enable
	Customer Asset Number 640MB	NetBEUI Enable
	Memory Capacity	NetWare® Host Name XX080037600166
	Printer Language PCL5	NetWare® Workgroup Name WORKGROUP
	PCL6 200704271156	NetWare® Port Status Enable
	PostScript 200704271156	NetWare® Active Mode DS-Server Mode
	Number of Fonts Available 200706221341	NetWare® Device Name XX080037600166
	PCL Roman:81Fonts	NetWare® Tree Name
	PostScript Roman:136Fonts	NetWare® Context Name
	PostScript Version 2015.103	FTP Port Status Enable
	PostScript Serial Number 3760017e	SMP Port Status Enable
	Firmware Version 200706291154	E-Mail Alert Port Status Enable
	Boot Version 200704201147	CentrWare IS Port Status Enable
	Engine Version 01.00.04	Bonjour(mDNS) Port Status Enable
	PostScript CRD Version 200706221342	Bonjour(mDNS) Host Name XX080037600166
	Default Paper Letter	Bonjour(mDNS) Printer Name Xerox Phaser 6130N (60:01:66)
	Default Language English	DNS Get Address Off
	Current Temperature 23°C / 73°F	DNS Primary Server 0. 0. 0. 0
	Current Humidity 47%	DNS Domain Name On
		DNS Dynamic Renewal On
Print Volume	Letter - 8.5x11 214Pages	HTTP SSL/TLS Port Status Disable
	B5 - 182x257 0Pages	Host Access List No.1/Address 0. 0. 0. 0
	A5 - 148x210 0Pages	Host Access List No.1/Mask 0. 0. 0. 0
	A4 - 210x297 259Pages	Host Access List No.1/Mode Off
	Executive 0Pages	Host Access List No.2/Address 0. 0. 0. 0
	US Folio - 8.5x13 0Pages	Host Access List No.2/Mask 0. 0. 0. 0
	Legal - 8.5x14 0Pages	Host Access List No.2/Mode Off
	#10Env - 4.1x9.5 0Pages	Host Access List No.3/Address 0. 0. 0. 0
	DL Env - 110x220 0Pages	Host Access List No.3/Mask 0. 0. 0. 0
	CS Env - 162x229 0Pages	Host Access List No.3/Mode Off
	Others 24Pages	
Network Setup	Firmware Version 96.13	
	MAC Address 08:00:37:60:01:7e	
	Ethernet 100Base Full(Auto)	
	TCP/IP Panel	
	Get IP Address 13. 62. 70.190	
	IP Address 255.255.252. 0	
	Network Mask Address 13. 62. 80. 1	
	Gateway Address Ready	
	Status Ready	
	Protocol LPR	
	Port Status Enable	

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Page:1

Page:2(Last Page)

User can print the Configuration Page from the Control Panel > **Menu** > **Information Pages** > **Configuration**. The Configuration Page is printed in from the default tray and includes the following information.

Configuration Page Information

General Description	Detail Description
Title	Prints Title of the document
Product Name (Logo)	Prints organization's logo
General	Total Impressions, Total Color Impressions, Total Black Impressions, Memory Capacity, Printer Language, Number of Fonts Available, PostScript Version, PostScript Serial Number, Firmware Version, Boot Version, Engine Version, PostScript CRD 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 2-3
Print Volume	Print Volume for each paper size
Network Setup	Firmware Version, MAC Address, Ethernet, TCP/IP, Protocol, Host Access List, Adobe Protocol
Parallel Setup	ECP, Adobe Protocol
USB Setup	Adobe Protocol
System Setup	PowerSaver Time, Audio Tones, Time-Out, Language, Auto Log Print, Print ID, Print Text, Banner Sheet, RAM Disk, Tray Switching, mm/inch, Start Up Page
Maintenance	Auto Reg Adj., Non-Xerox Toner
PCL	Paper Tray, Paper Size, Orientation, 2-Sided, Font, Symbol Set, Font Size, Font Pitch, Form Line, Quantity, Image Enhance, Hex Dump, Draft Mode, Line Termination, Default Color
PostScript	PS Error Report, PS Job Time-Out, Paper Select Mode
Control Panel	Panel Lock
Tray Settings	MPT Mode, 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

Job History Report

The printer can retain up to 20 job logs. Job History can be manually or automatically printed when the number of the retained job logs has reached 20. User can print the Job History Report default on A paper size from default tray. The Job History Report contains:

- Job sent data and time
- Input Interface (USB, LPD,...etc.)
- Document Name (File Name)
- Output Color
- User Name/Host Name
- Number of Printed Pages (Color/Mono)
- Number of Printed Impressions (Color/Mono)
- Paper Size
- Result (successful, error,...etc.)

Error History Report

XEROX Phaser® 6130N
Color Printer

Error History Report

System Fail History

Paper Jam History

No.	Total Print Count	Paper Jam Type
1	235	IoT SSF Insert Jam
2	218	IoT Registration Jam
3	218	IoT Exit On Jam
4	177	IoT Exit Jam
5	50	IoT Tray Misfeed Jam
6	50	IoT Tray Misfeed Jam

Page:1(Last Page)

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s6130-181

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

Jam Error log includes the following information:

- Item No., Total Print Count, Paper Jam Type

Fatal Error log includes the following information:

- Item No., Total Print Count, Chain-Link Code

Print Meter (Print Volume Report)

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

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

Theory of Operation

In this chapter...

- Phaser 6125/6130 Operational Overview
- Printing Process
- Paper Path of the Printer
- Major Assemblies and Functions
- Printer Modes
- Printer Control
- Drive Transmission

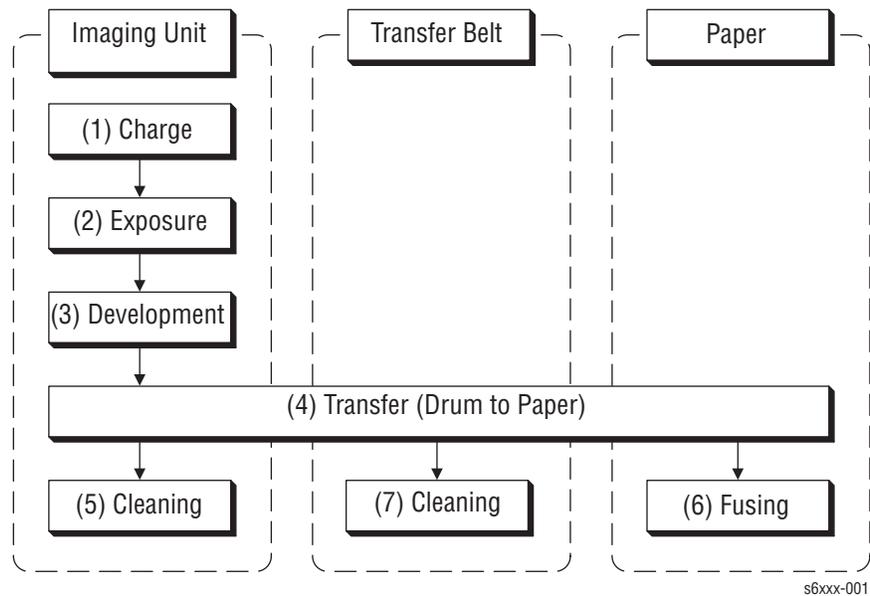
Chapter 2

Phaser 6125/6130 Operational Overview

The Phaser 6125/6130 Color Laser Printer 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 drums (C, M, Y, and K) which creates the toner image.

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

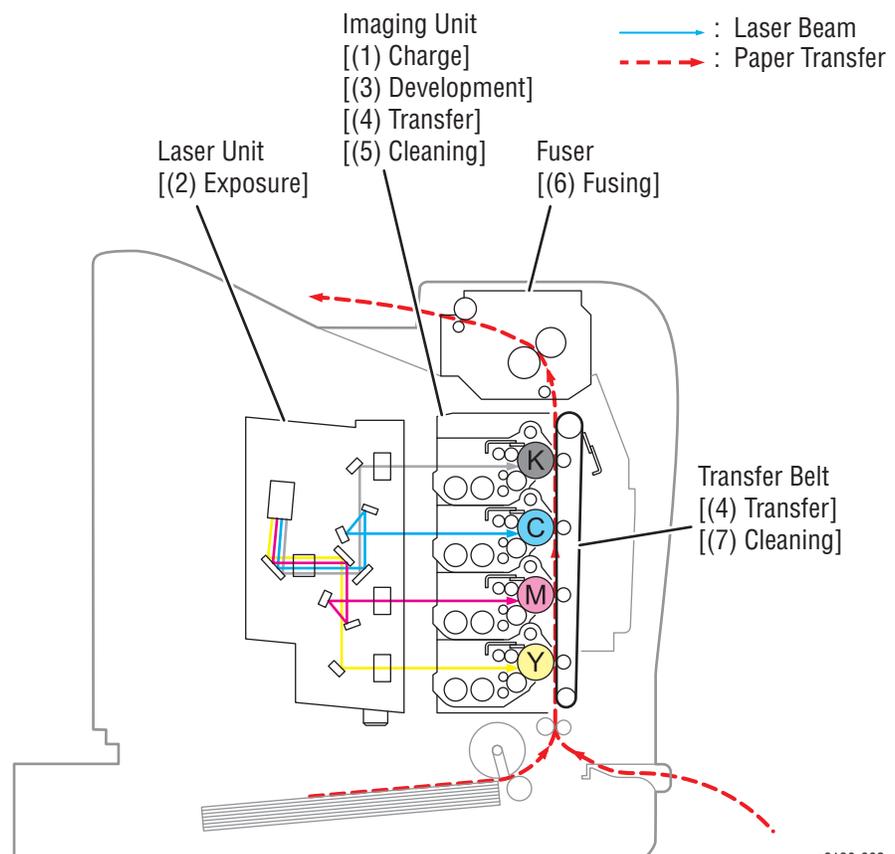
Print Process Block Diagram



Printing Process

The print process consists of the following steps:

1. **Charging** – The Drum surfaces are charged with electricity.
2. **Exposure** – The Drums are exposed to laser beams.
3. **Development** – Image is developed with toner.
4. **Transfer (Drum ----> Paper)** – Four color finished toner image on the Drums is transferred onto the paper.
5. **Cleaning (Imaging Unit)** – Excess toner is removed from the Drum and BCR.
6. **Excess Toner Collection** – Excess toner is moved to the collection box.
7. **Fusing** – The Fuser applies toner on to paper using heat and pressure.



s6130-002

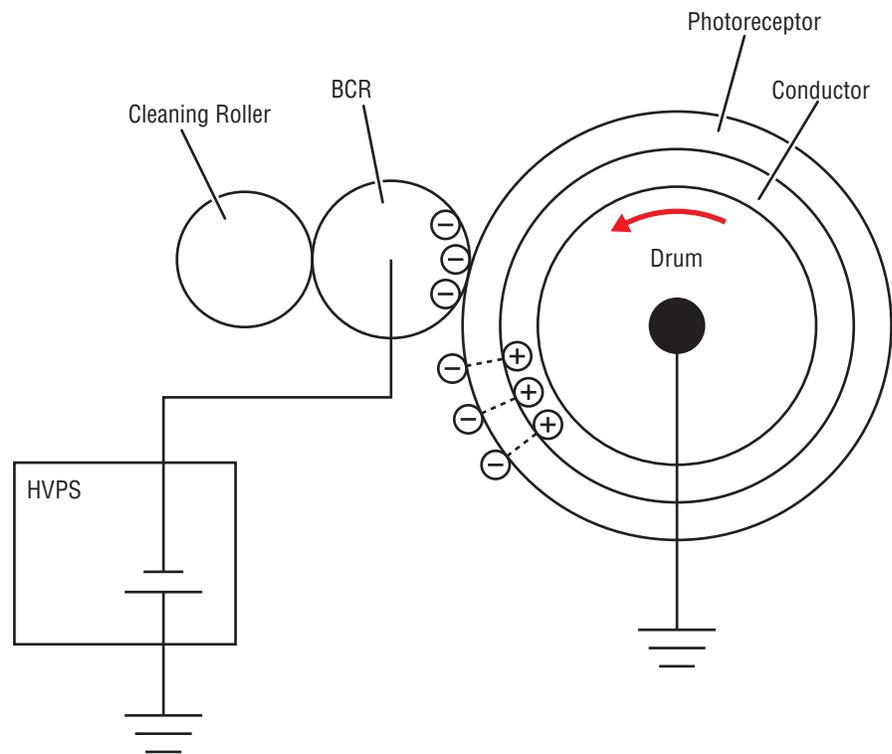
Charging

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

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

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

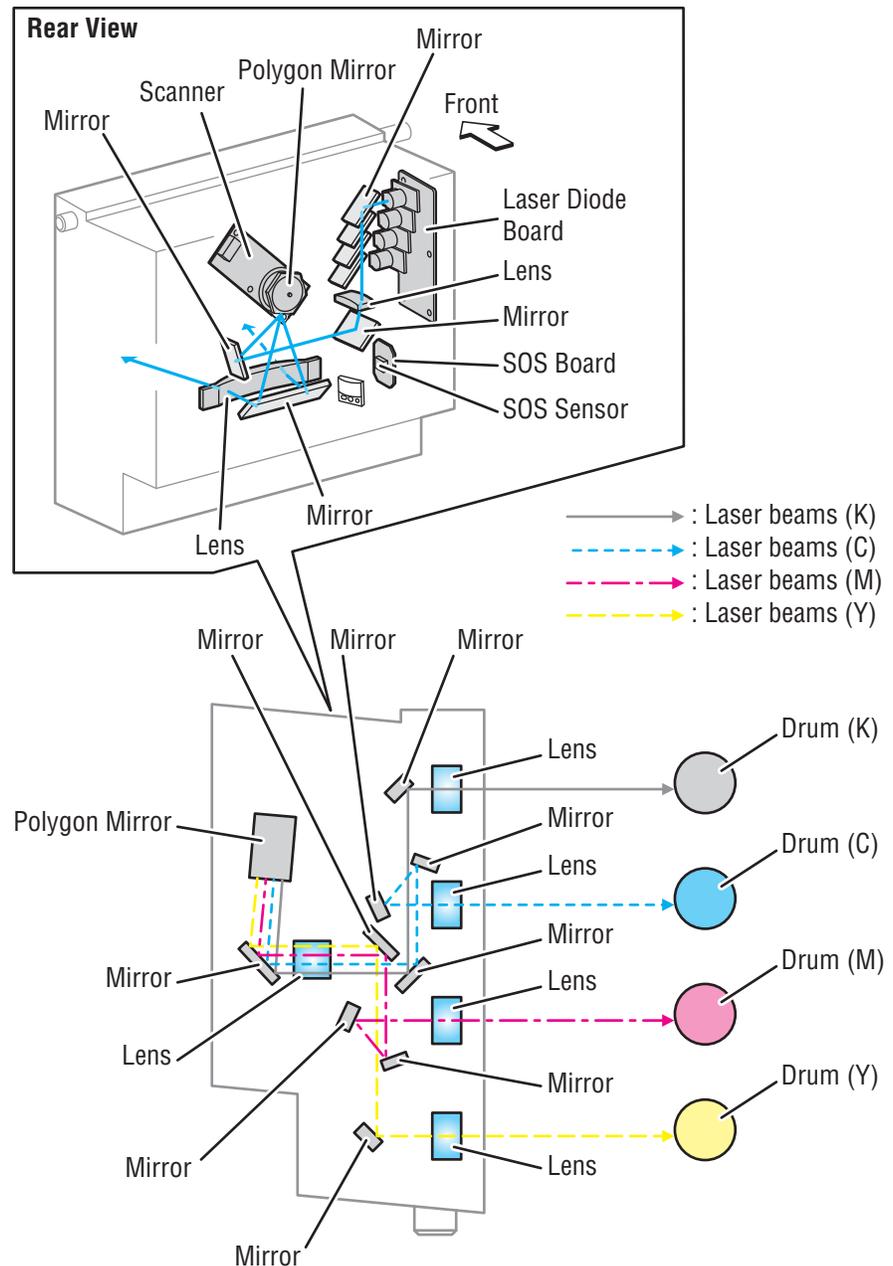
The Cleaning Roller is a sponge that contacts the BCR to catch the toner.



s6180-135

Exposure

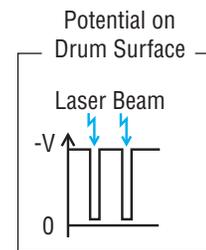
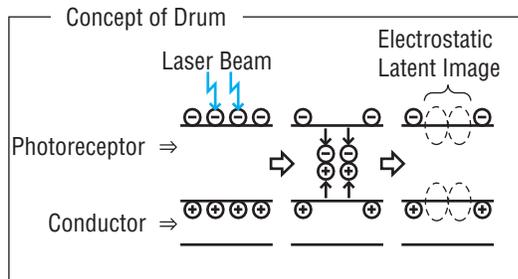
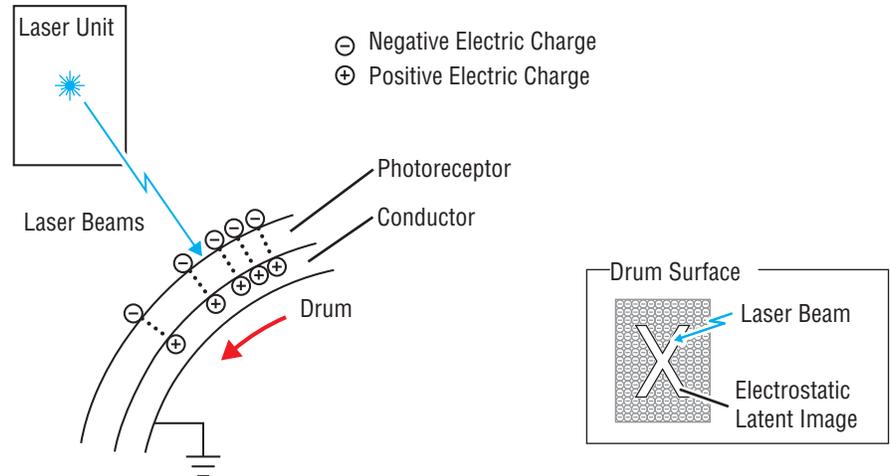
Four laser diodes (one for each color) in the Laser Unit emit laser beams. The beams are directed by mirrors to the rotating polygon mirror attached to the scanner motor. As the polygon mirror rotates, the beams are directed through a series of lenses and mirrors to each of the drums, which are scanned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



s6xxx-003

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

The area on the surface where the laser beam strikes becomes conductive. The negative charge on the surface flows to the more positive drum, lowering the voltage potential. In this way the surface areas exposed to the laser beam become the electrostatic latent image.



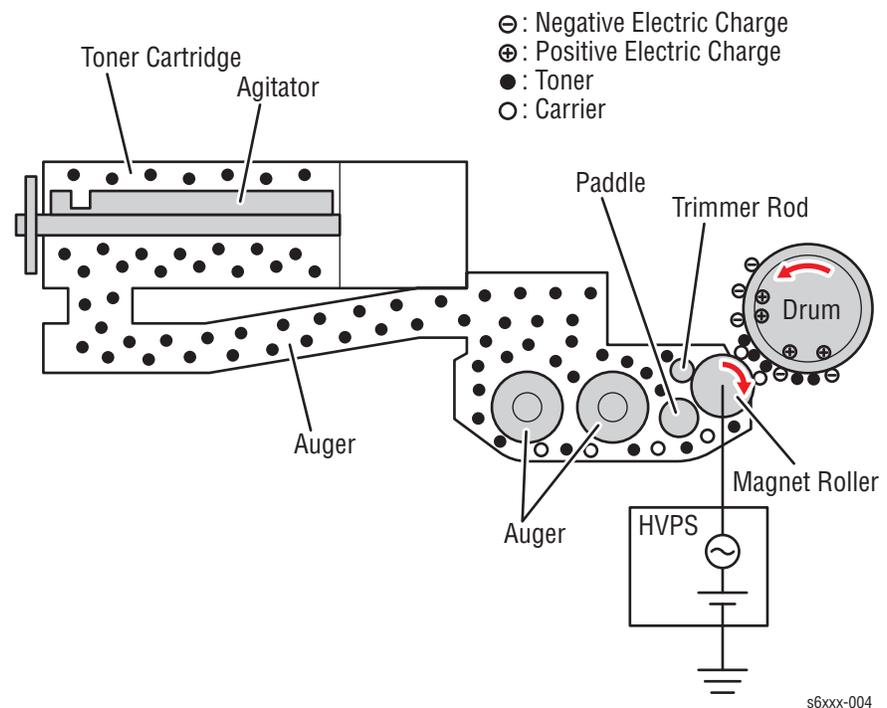
s6180-137

Development

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

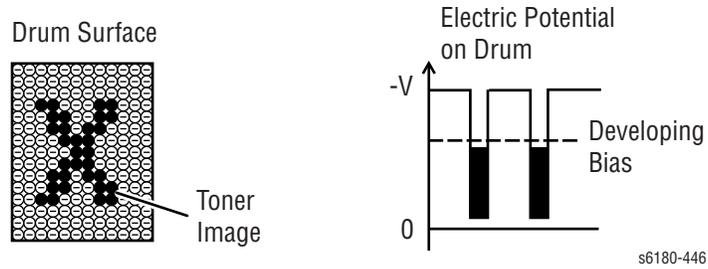
The toner in the Toner Cartridge is agitated by the built-in Agitator and fed into the Developer. The Augers are driven by the Toner Motor and the Developer Motor in the Main Drive. The toner to be consumed according to the print count is calculated and fed into the Developer. This process, called Toner Dispensation, 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 Roller 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 attracted electrically. A uniform layer is formed by the Trimmer Bar as the carrier magnetic substance is attracted to the Magnetic Roller.



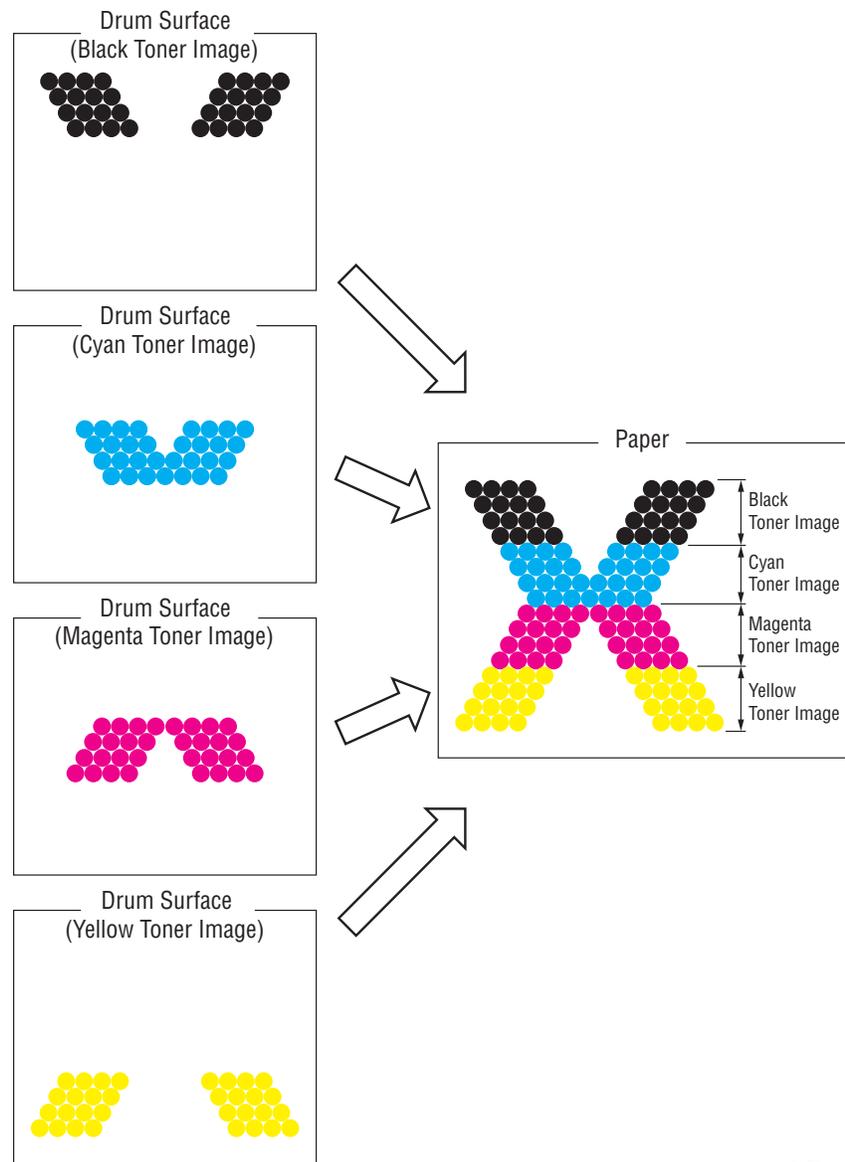
The Magnet Roller is covered by a thin semi-conductive sleeve over the surface. The Developer Bias voltage is supplied to this semiconductor sleeve from the High-Voltage Power Supply (HVPS). Developer Bias is negative Direct Current (DC) voltage combined with Alternating Current (AC) voltage. The Magnet Roller 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 Roller, while the potential is higher than the Magnet Roller at the area where the negative charge on the drum surface decreases. The AC voltage shakes the Developer on the Magnet Roller surface, causing the toner to transfer to the drum.

Thus, the negatively charged toner is attracted only to the area on the drum surface (electrostatic latent image) where the negative charge is lower than the charge on the Magnet Roller, forming the toner image on the drum. Once the toner adheres to the drum, the negative charge of the toner-bearing location increases, which decreases the potential and the toner-attracting force.



Transfer (Drum ---> Paper)

The 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.



s6180-140

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

Cleaning (Imaging Unit)

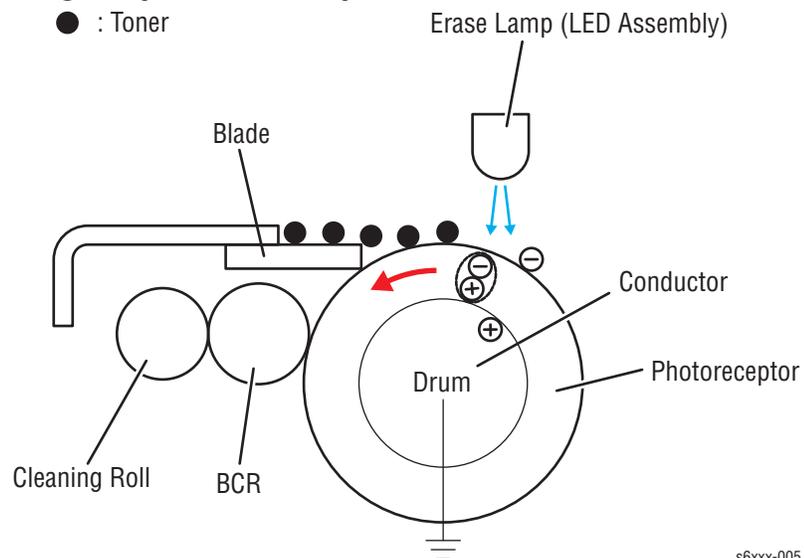
Excess toner is removed from the Drum and the BCR surfaces, while excess charge is also eliminated from the drum surface.

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

⊕ : Positive Electric Charge

⊖ : Negative Electric Charge

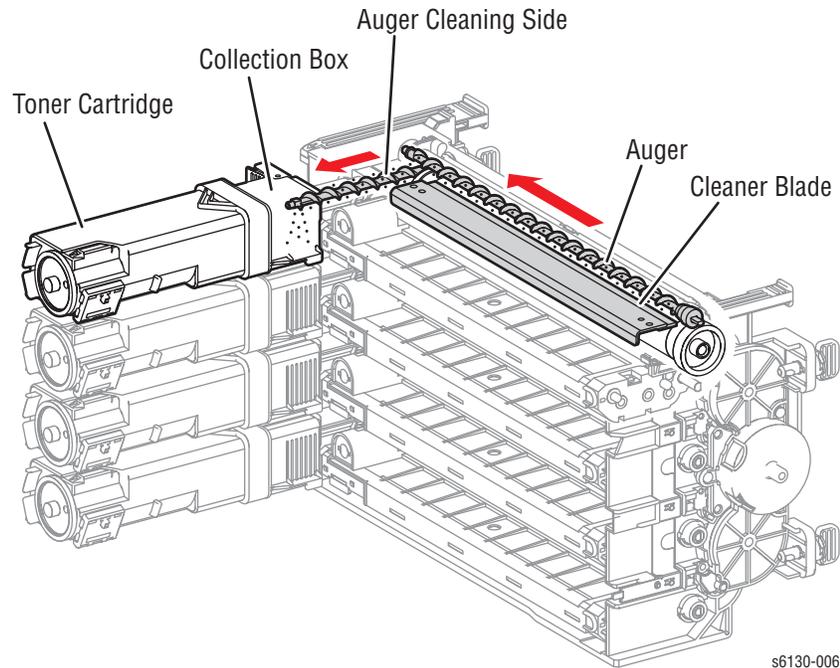
● : Toner



s6xxx-005

Excess Toner Collection

The excess toner is collected by the cleaner blade contacting the drum and carried by the Auger (1) to the AUGER CLNG SIDE, which then carries the toner (2) to the collection box (3) in the toner cartridge.

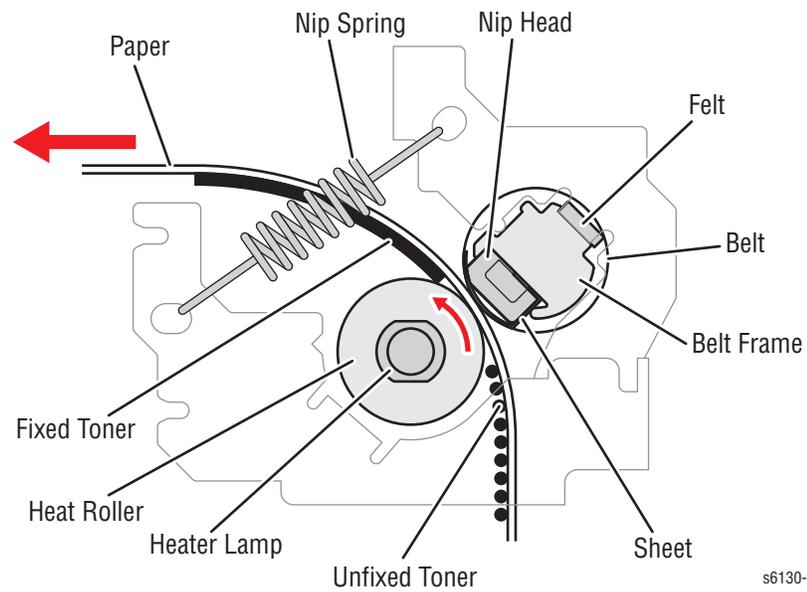


s6130-006

Fusing

Toner is applied by the BTR and the Developers. The toner image is bonded to the paper with the Fuser (Fusing Unit) by the Free Belt Nip Fusing (FBNF) thermal fusing system. The Heat Roller 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

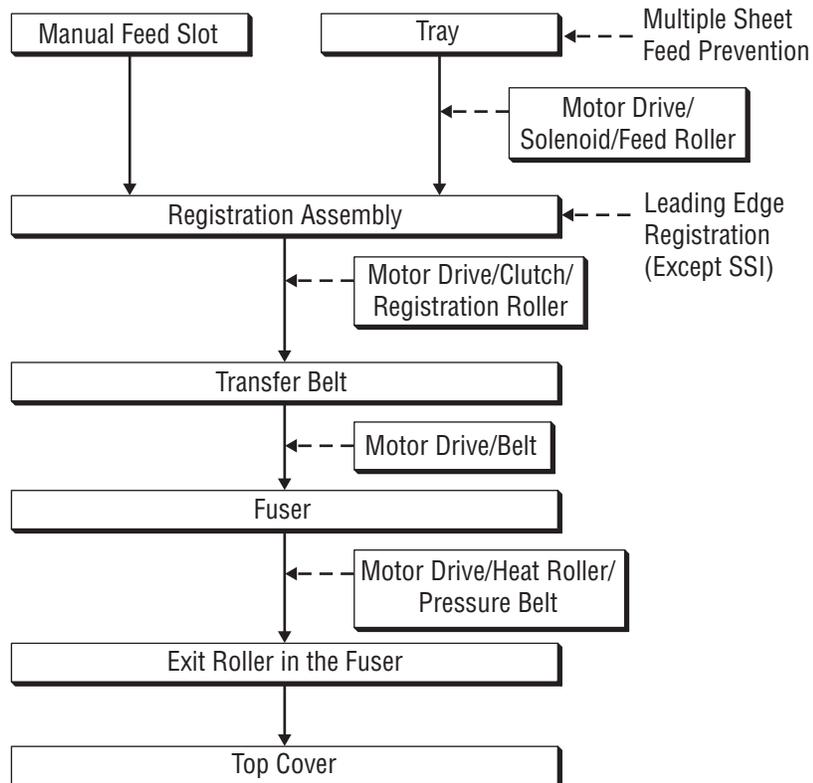


s6130-007

Paper Path of the Printer

Paper Path Route

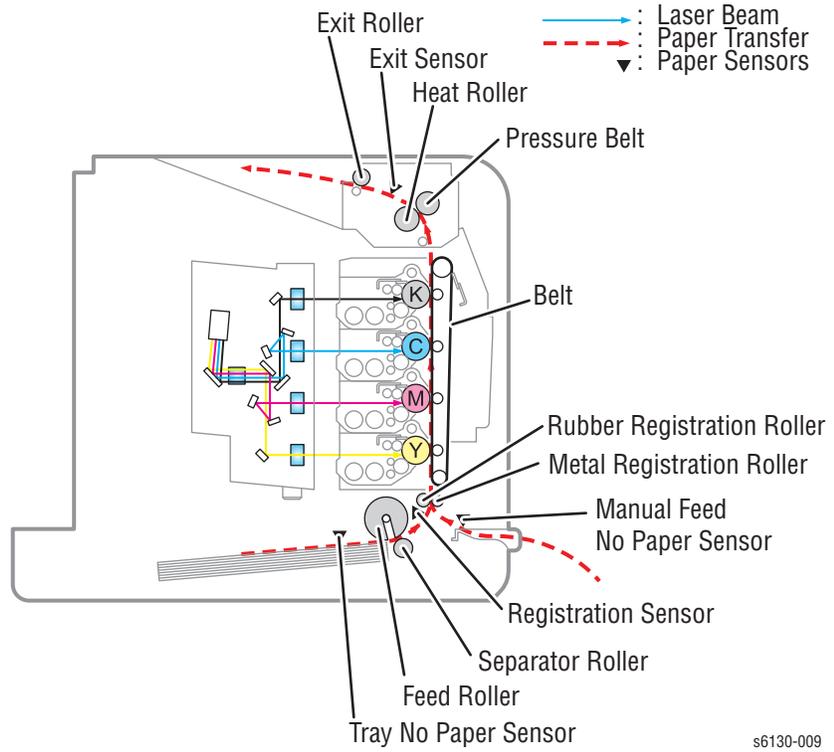
The paper is supplied from the Tray or the Manual Feed Slot, and is transported into the printer along the paper path as shown in the diagram.



s6130-008

Paper Path Components

Paper path components for the printer are shown in the following figure.

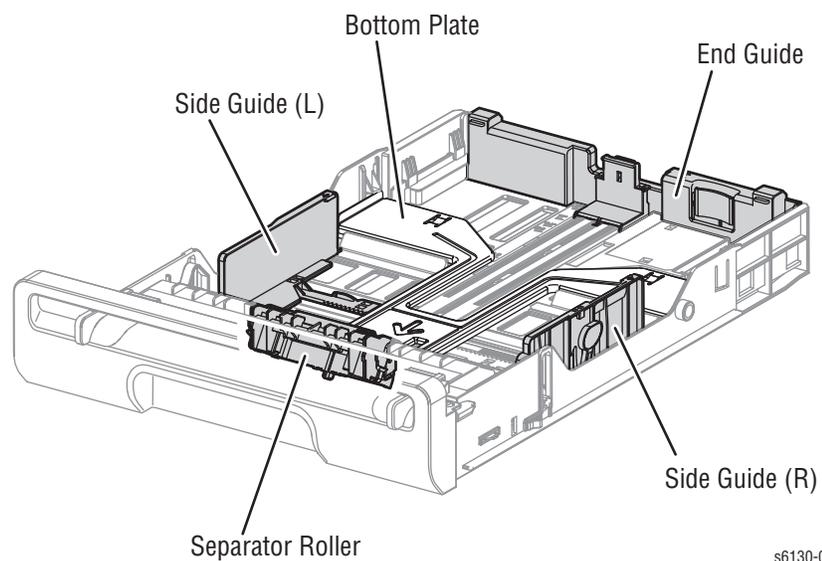


Major Assemblies and Functions

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

- Paper Tray
- Paper Feeder
- Manual Feed & Registration
- Transfer Unit and Fuser
- Laser Unit
- Toner Cartridge & Dispenser
- Imaging Unit
- Drive Assembly
- Electrical

Paper Tray



- **Left/Right Side Guide**

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

- **Separator Roller**

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

- **Paper Tray End Guide**

The End Guide moves in toward the paper transfer direction to determine the paper size.

- **Bottom Plate**

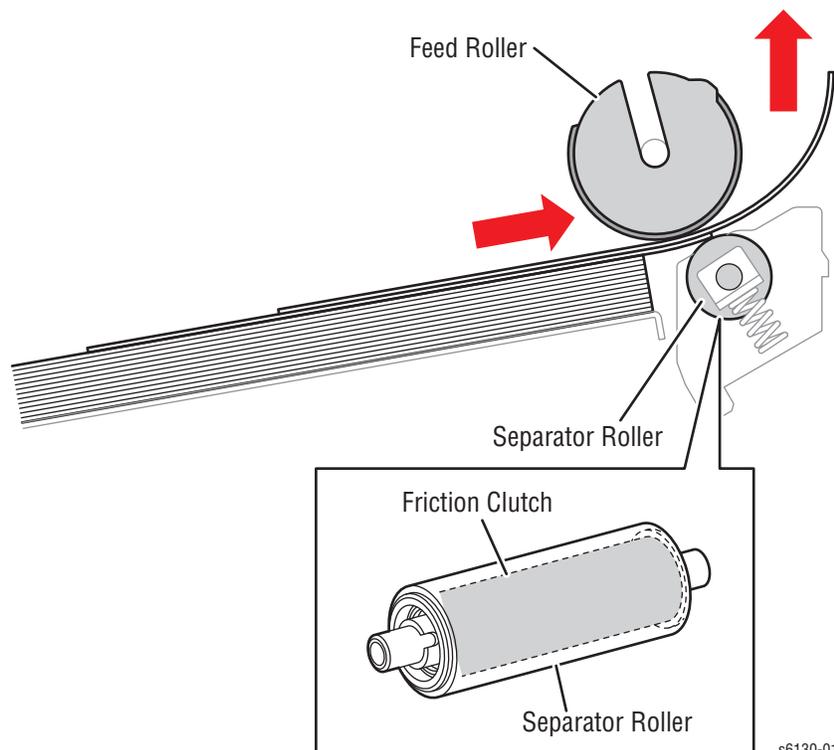
The bottom plate is locked to the tray bottom when the tray is pulled out of the paper feeder, and unlocked when the tray is installed in the paper feeder. When unlocked, the bottom plate lifts the paper, pushing it against the feed roller using spring tension.

Multiple Sheet Feed Prevention

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

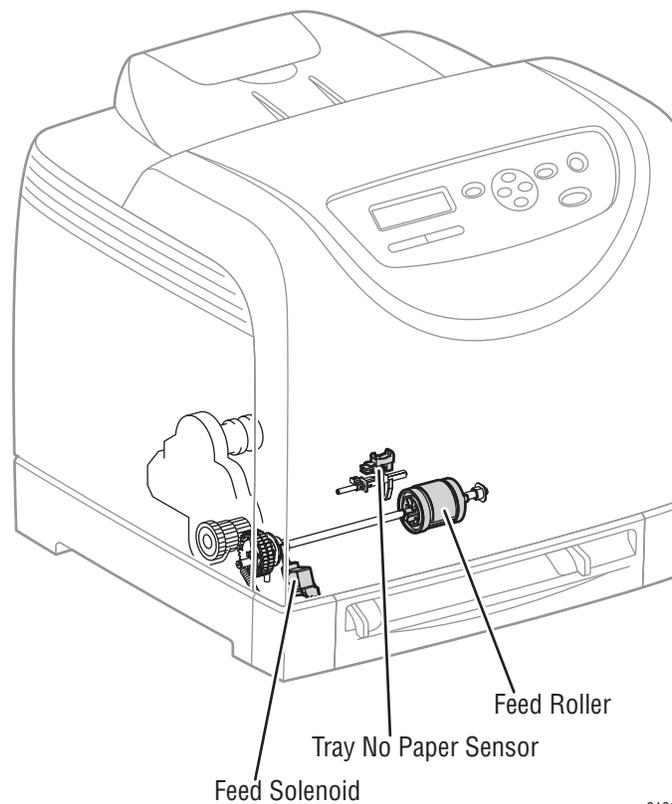
However, when two sheets are fed concurrently, only the Feed Roller rotates. The Separator Roller is locked, allowing the upper sheet to pass, separated from the lower sheet that is stopped by the friction with the Separator Roller at rest.

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



s6130-011

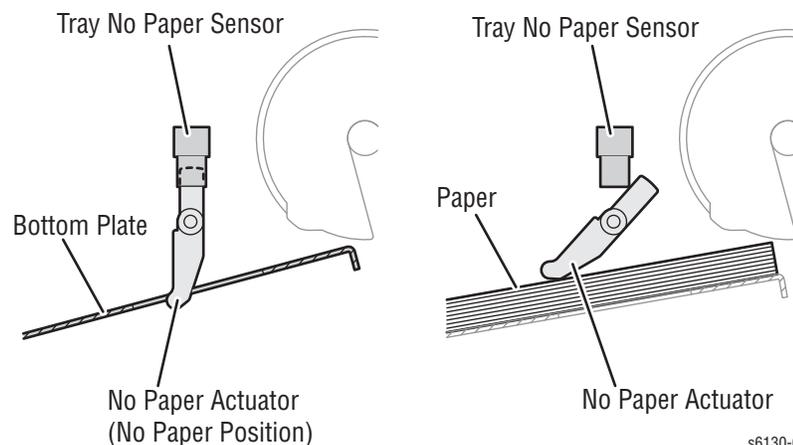
Paper Feeder



s6130-

■ Tray No Paper Sensor (Photo Sensor)

Detects the presence/absence of paper in the Paper Tray based on the position of No Paper Actuator. (No paper: Sensor beam is intercepted)



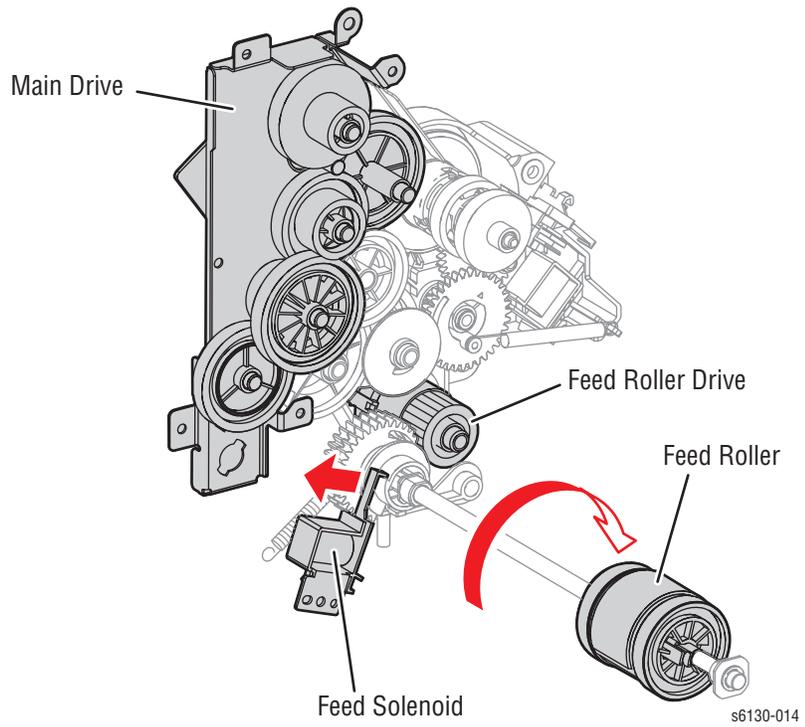
s6130-013

■ Feed Solenoid

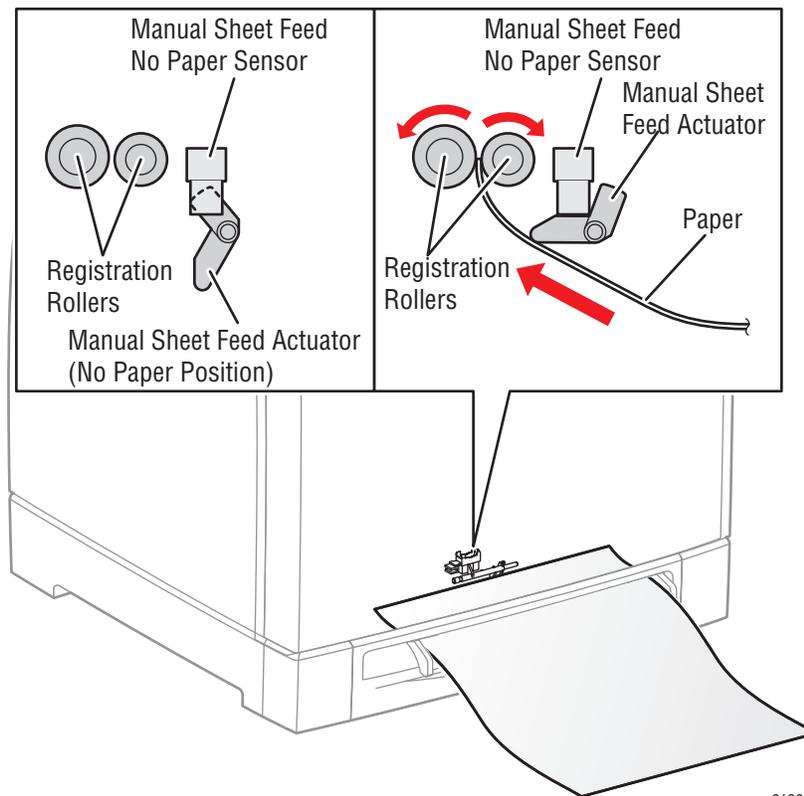
The Feed Solenoid transmits drive energy from the Main Drive Assembly to the Feed Roller.

■ **Feed Roller**

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



Manual Feed & Registration



s6130-

■ Manual Feed No Paper Sensor (Photo Sensor)

Detects presence/absence of paper in the Manual Feed Slot by the change in actuator position.

Upon detecting the sheet, the Regi Roller rotates for a predetermined duration to feed the sheet. The sheet is caught between the Rollers so that it may not fall from the Manual Feed Slot.

The Rollers stop immediately when the Registration Sensor detects the presence of paper.

■ Registration Sensor (Photo Sensor)

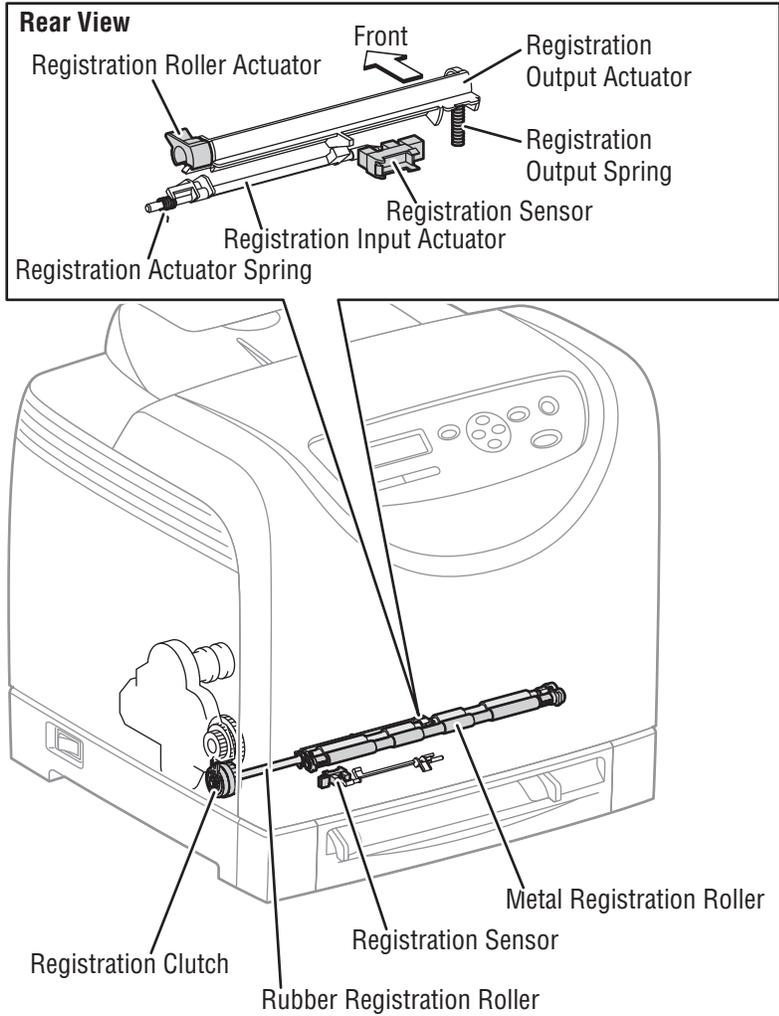
The Registration Sensor detects paper when the paper leading edge reaches the Registration Chute. When paper is fed from the Manual Feed Slot, the Registration Sensor measures the paper length. The On time of the Registration Sensor is converted into the paper length.

Note

On: The paper activates the Actuator.

■ **Registration Clutch**

The Registration Clutch transmits drive energy from the Main Drive to the Registration Rubber Roller, and transports paper from the Tray and Manual Feed Slot toward the Imaging Unit. The timing of sheets feeding from the Registration Assembly 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.

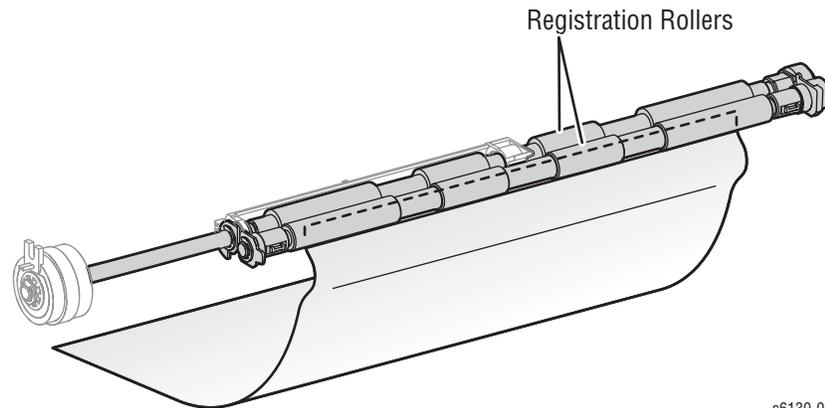


s6130-016

Lead Edge Registration

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

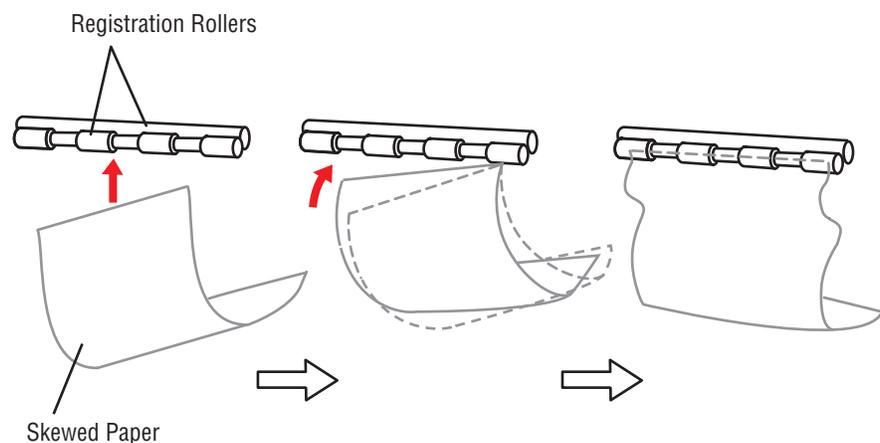
To avoid this problem, the lead edge position needs to be aligned at the Registration rollers before the sheet is fed in front of the Transfer Unit Belt, or in front of the BTRs.



s6130-017

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

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



s6180-271

Paper Size Control

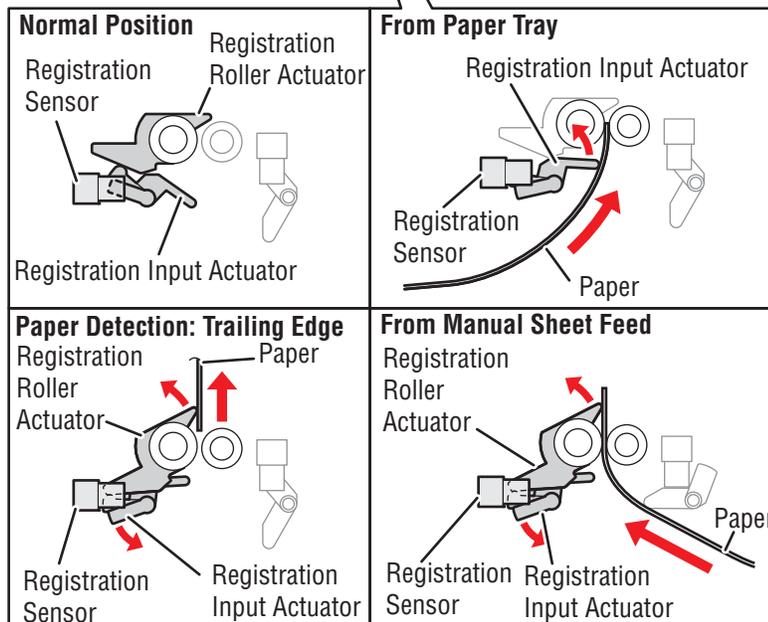
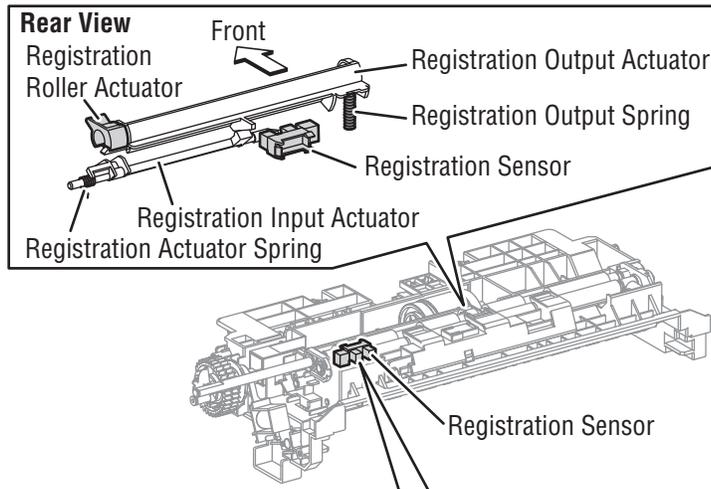
The printer doesn't have switches for detecting paper size, and the length of paper is detected only by the Registration Sensor when feeding paper. If printing data and paper size don't match, an error is sent to the Image Processor board.

Paper Detection

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

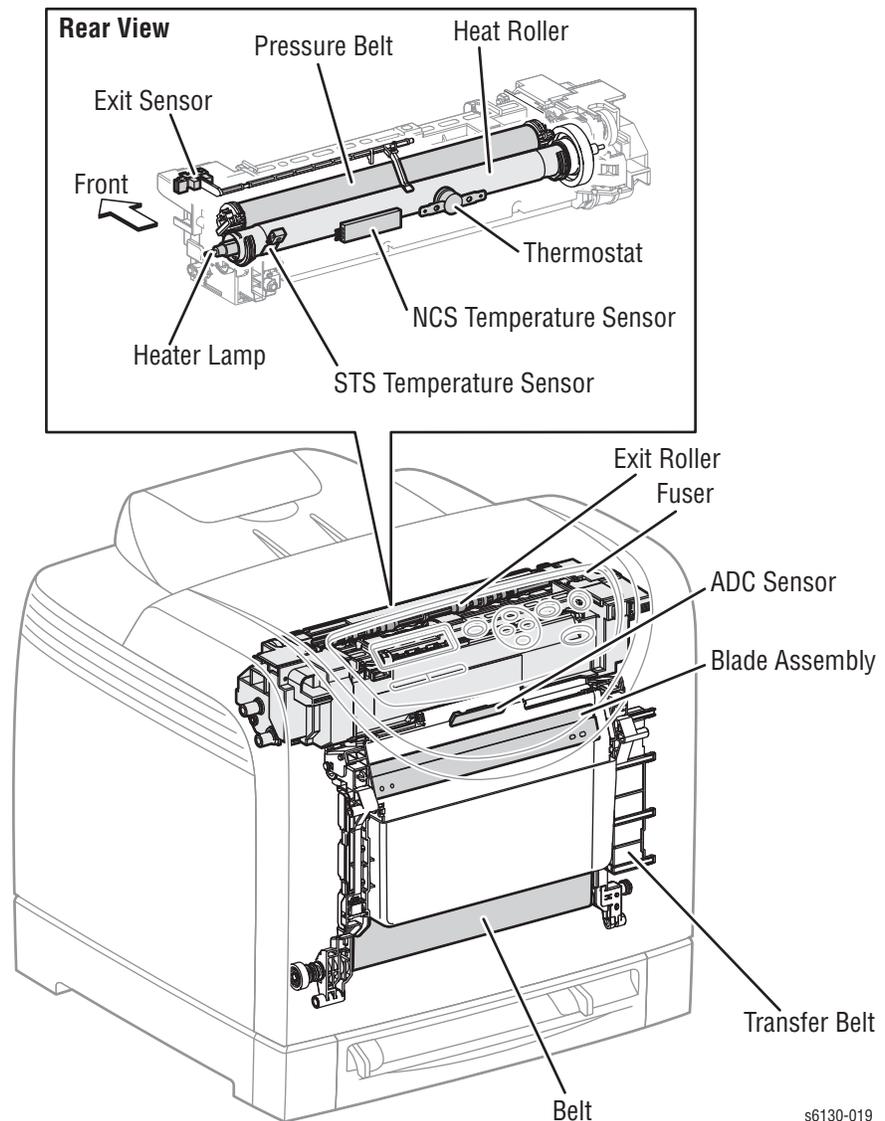
- The Registration Roller Actuator detects the sheet from the Manual Feed Slot and detects the tail edge of the paper from the paper tray.
- The Registration In Actuator detects the lead edge of the paper from the paper tray.

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



s6130-018

Transfer Unit and Fuser



s6130-019

Transfer Unit

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

- **Transfer Belt**

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

- **ADC 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.

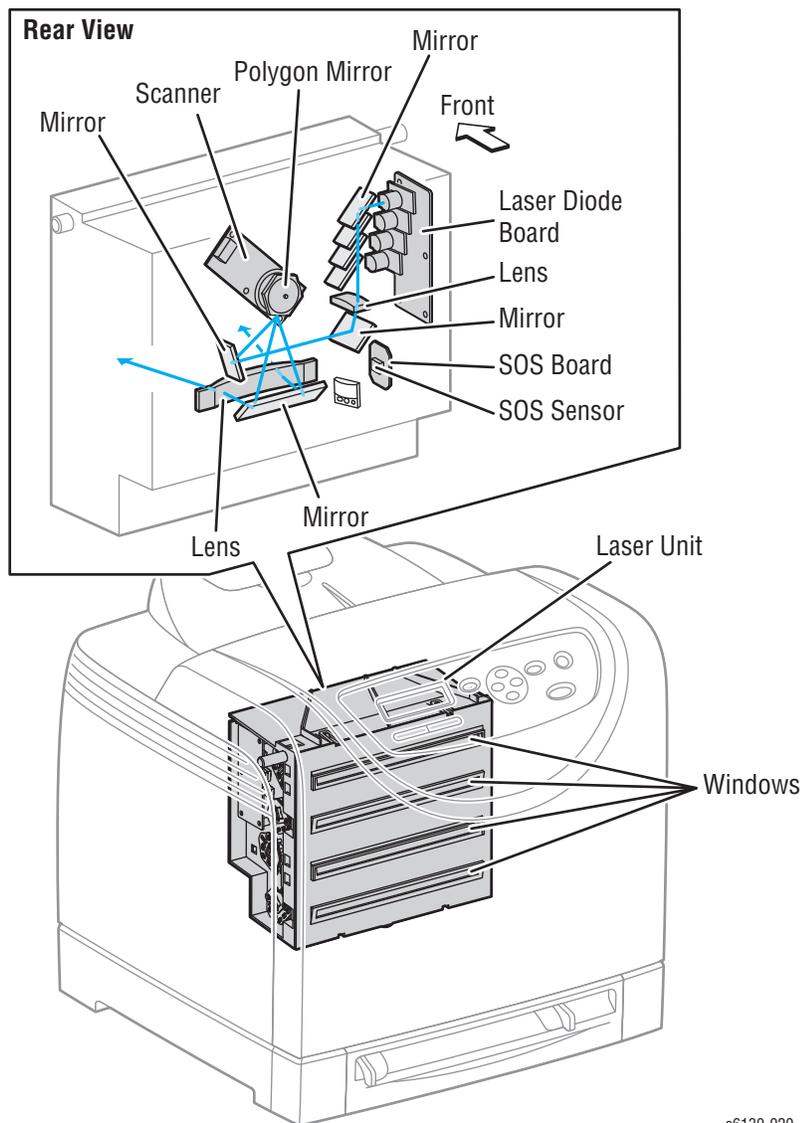
Fuser

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

- Exit Sensor

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

Laser Unit



s6130-020

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

■ Laser Diode Board

The Laser Diode Board consists of four laser diodes (LDs) corresponding to C, M, Y, and K. Each LD converts the electric signals of incoming image data into laser 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 consists of a Scanner Motor that rotates at a constant speed and a Polygon Mirror that is mounted on the Motor Shaft. The laser light output from the LD is directed onto the Polygon Mirror by the Mirror. The Polygon Mirror, provided with six reflecting mirror faces, changes the reflection angle of the laser light as it rotates, thereby allowing the laser light to scan the drum along its axial direction. Scanning is performed using one reflecting mirror face for each 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.

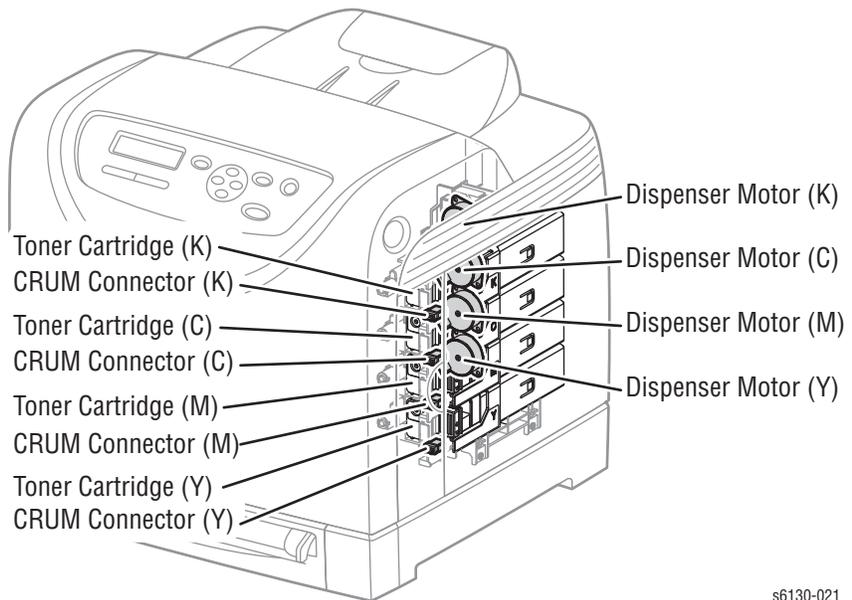
■ Mirror

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

■ Window

The window prevents debris from entering the Laser Unit.

Toner Cartridge & Dispenser



s6130-021

The Toner Cartridge is a customer replaceable item that includes the following components:

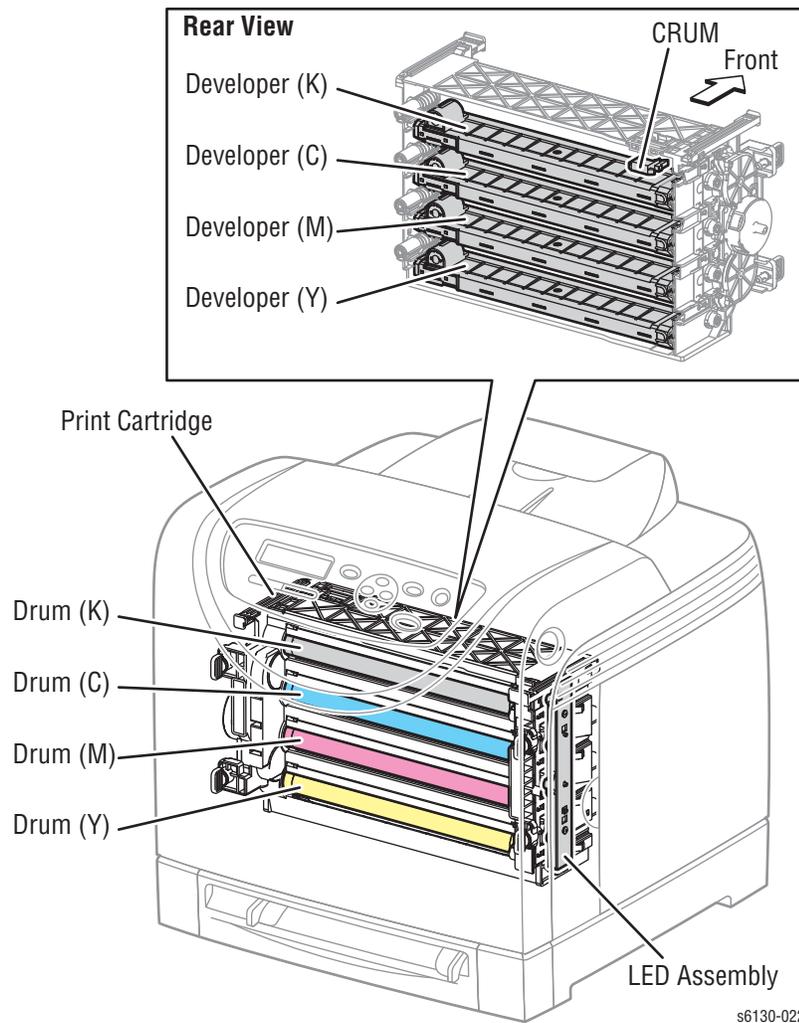
- **Customer Replaceable Unit Memory (CRUM) Connector**

The CRUM Connector reads and writes the CRUM data. Printer specific information is stored in the CRUM.

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

The Dispenser Motor provides the drive for the Agitator and Auger in the Toner Cartridge, and supplies toner to the Developer.

Imaging Unit



The Imaging Unit is a customer replaceable item that carries out the charging, development, transfer, and cleaning steps in the print process (see “Printing Process” on page 2-3).

The Imaging Unit consists of the following items:

- **Developers**

Each of the four Developers includes the Augers that distribute the toner and the Magnet Roller that applies toner to the Drum to develop the latent image.

- **Drums**

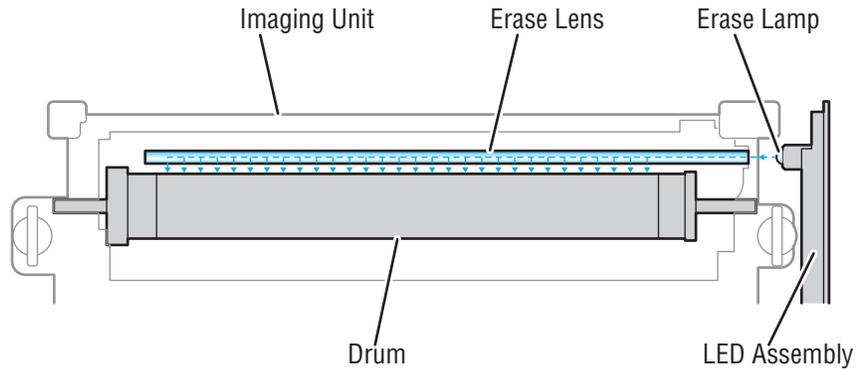
Each drum is given a latent image to which toner is applied by the Developer. The resulting toner image is transferred to the paper.

- **CRUM**

Information specific to the Developer/Imaging unit is stored in the CRUM.

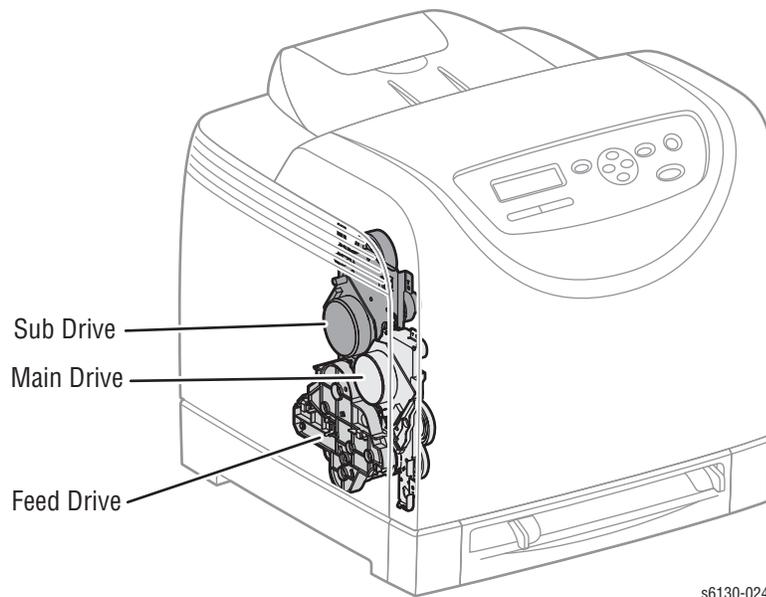
■ **Erase Lamp (LED)**

The light of the LED passes through the lens of the Developer, illuminates the drum, and eliminates the charge on the drum.



s6130-023

Drive Assembly



s6130-024

The Drive Assembly consists of three major sections:

■ **Main Drive Assembly**

Supplies drive to the Drums (C, M, Y, K), Transfer Belt, Registration Rollers, and Feeder Assembly.

■ **Sub Drive Assembly**

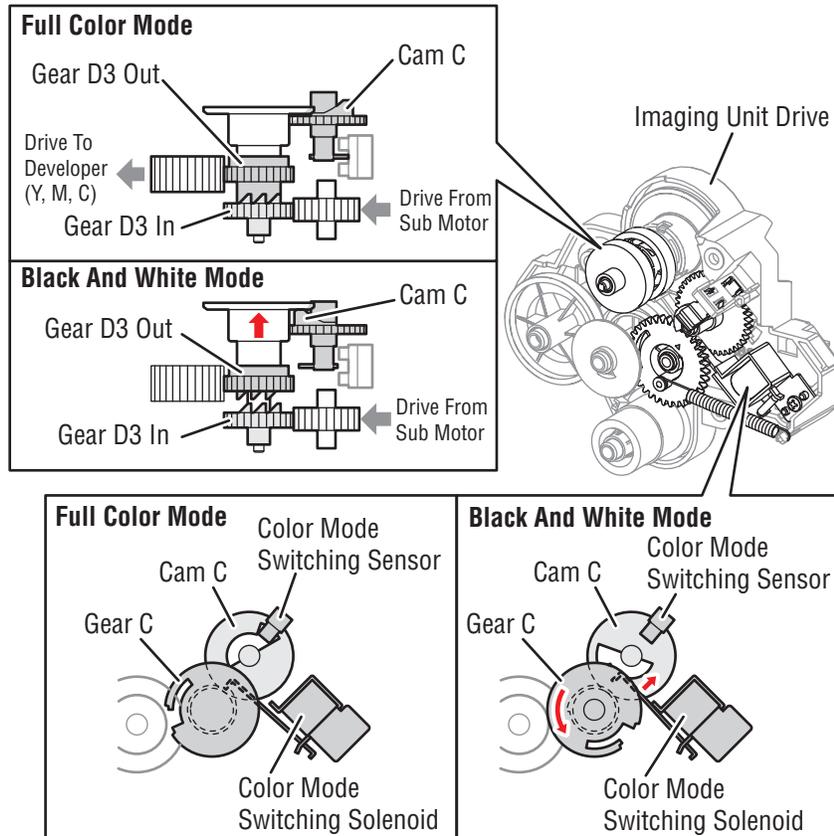
Supplies drive to the Fuser and Developers (C, M, Y, K).

■ **Feed Drive Assembly**

The Feed Drive Assy transmits the driving force from the Sub Drive Assembly to relevant parts.

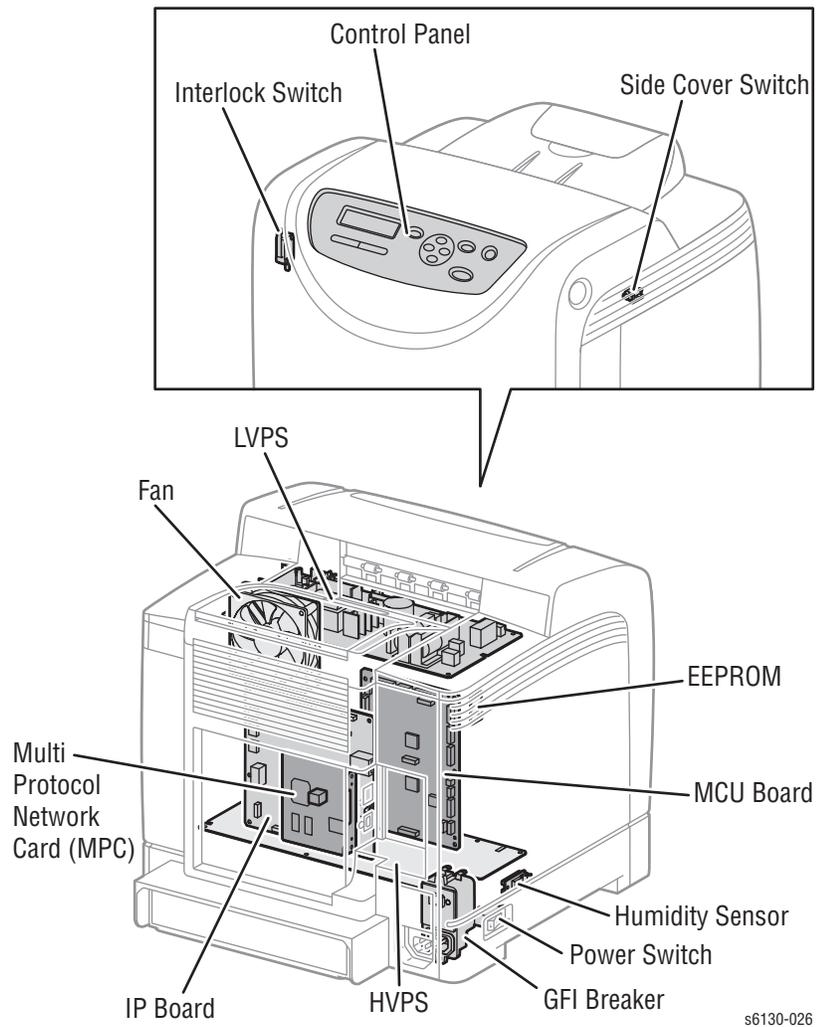
The drive path is changed by the Color Mode Switching Solenoid in the Feed Drive Assy to allow drive from the Main Drive Assy to reach only the Black Developer. This is done to ensure that the Sub Drive Assembly cannot rotate the Yellow, Magenta, and Cyan Developers during B/W printing.

The Color Mode Switching Sensor detects whether the drive path is set for B/W or full color.



s6130-025

Electrical



Fan

The Fan removes heat from the printer to prevent overheating.

Power Switch

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

Low-Voltage Power Supply (LVPS)

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

Machine Control Unit Board

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

1. Communicates with the Image Processor Board.
2. Receives information from the Sensors or Switches.
3. Controls the 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.

High-Voltage Power Supply (HVPS)

The HVPS provides high-voltage power to the components in the Transfer Belt and Imaging Unit to perform charging, development, and primary transfer of the print process to the BCR, BTR, and Developer.

Electrically Erasable Programmable Read-Only Memory (EEPROM) Board

The EEPROM Board stores the printer unique information.

Control Panel

The Control Panel displays the printer status and operates the printer.

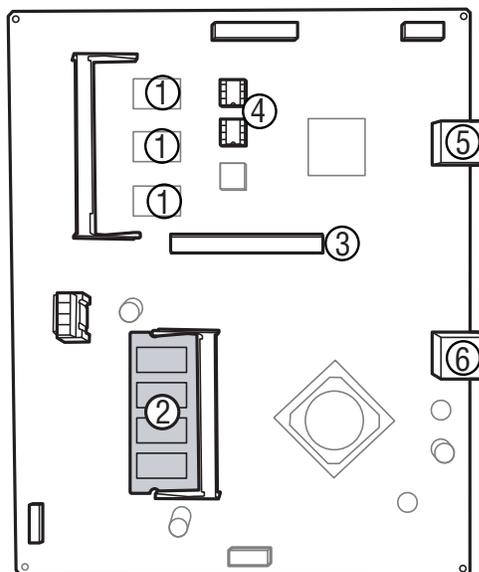


Image Processor Board

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 6130 printer.

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

1. Standard Memory (128 MB on-board RAM)
2. Optional Memory DIMM (should be swapped)
3. Multi-Protocol Network Card Connection
4. NVRAM
5. Ethernet Connection
6. USB Connection



s6130-070

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)

Humidity /Temperature Sensor

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

Interlock Switch

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

Toner Access Door Switch

A switch that detects when the Toner Access Door is open.

GFI Breaker

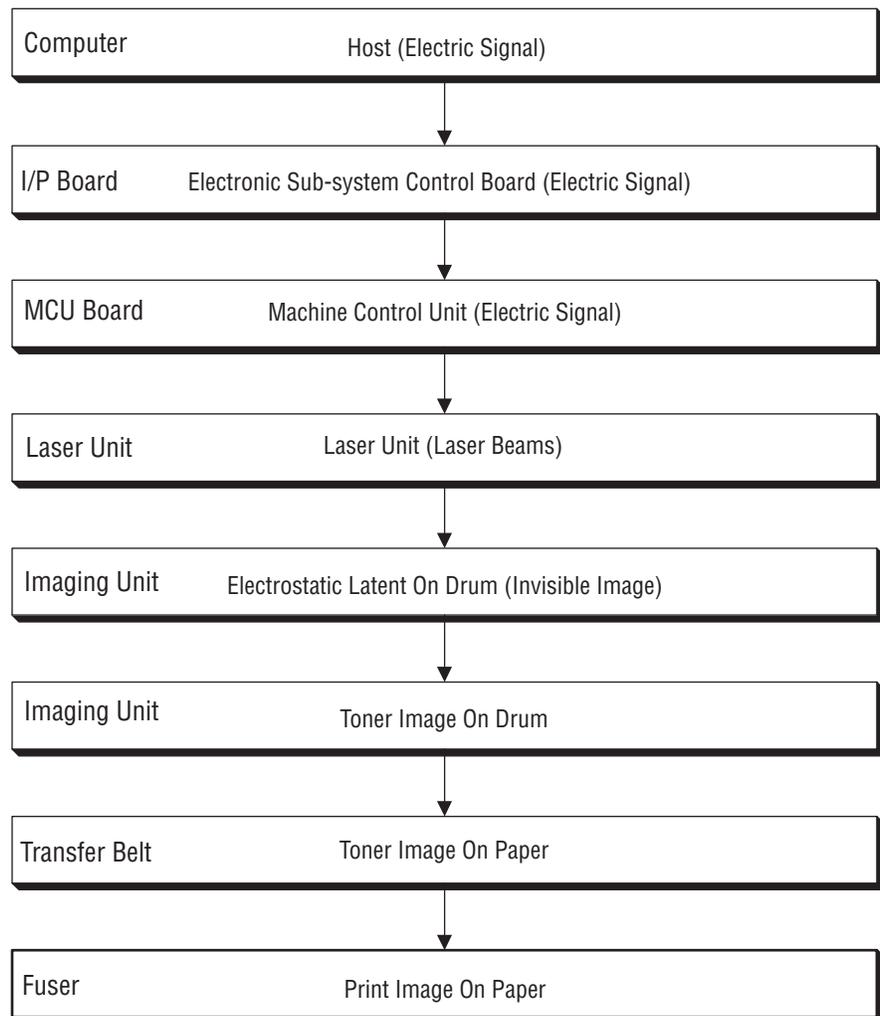
Opens to shut off the AC power if it detects any voltage or current or leakage current that exceeds the rating of the AC power supply.

Multi-Protocol Network Card (MPC)

An option that allows the use of multiple network protocols.

Data Flow

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



s6130-069

Printer Modes

Operational Modes

The Phaser 6130 printer includes the following modes:

- **Ready Mode**

The printer is ready for printing.

- **Printing Mode**

Printing is in progress.

- **Sleep Mode (Energy Star)**

The printer has entered a power saving state.

- **Deep Sleep Mode**

The printer has entered a power saving state.

Printer Control

Paper Size Detection

The printer has no switches for detecting paper size; only the length of the paper is detected by the Regi Sensor as the paper is feeding. If the detected size does not match the size sent in the print data, an error is reported to the Image Processor.

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, upon termination of a print run, or during a continuous run.

- Potential Control
- Toner Density Control

The following controls supplement the above controls:

- High Area Coverage Mode
- Admix Mode

Potential Control

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

Toner Density Control

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

1. PCDC (Pixel Count Dispense Control)

The amount of toner to be consumed in the developing process is calculated by counting the 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 Control Function

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

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

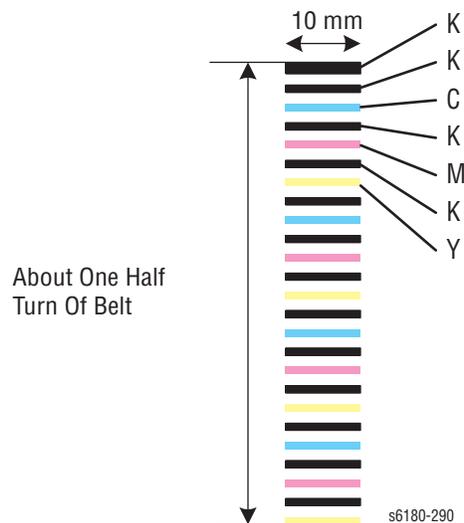
Color Registration Control

The printer uses a tandem electro-photographic system with Organic Photo Conductor (OPC) Drums and direct transfer by the Transfer Belt. Because the images are formed on the individual Drums of the respective colors and then overlapped to form one image, 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 amount of registration shift is calculated from the threshold value determined in step 1 and the patch density measured in step 3.
5. The Laser Unit write timing is changed according to the amount of registration shift.

Fuser Control

Fuser Temperature Control

After the target temperature is set, the Heat Roller surface temperature is controlled by turning the Heater Lamp On/Off.

Temperature of individual area of the Heat Roller is detected by the Fuser Non-Contact Sensor (NCS) in the middle of the Heat Roller and the Temp Sensor at the edge of it.

The target temperature set up varies depending on the time of Warm-up, Printing, or Process Control. The target set temperature is changed based on the printer's interior temperature detected by the Humidity Sensor.

Cool Down

As printing continues, the distribution of temperature in the Heat Roller becomes uneven in both the paper feed and non-paper feed areas. Cooling Down suspends paper feeding for a certain period of time so that the Heat Roller temperature distribution can be uniform.

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

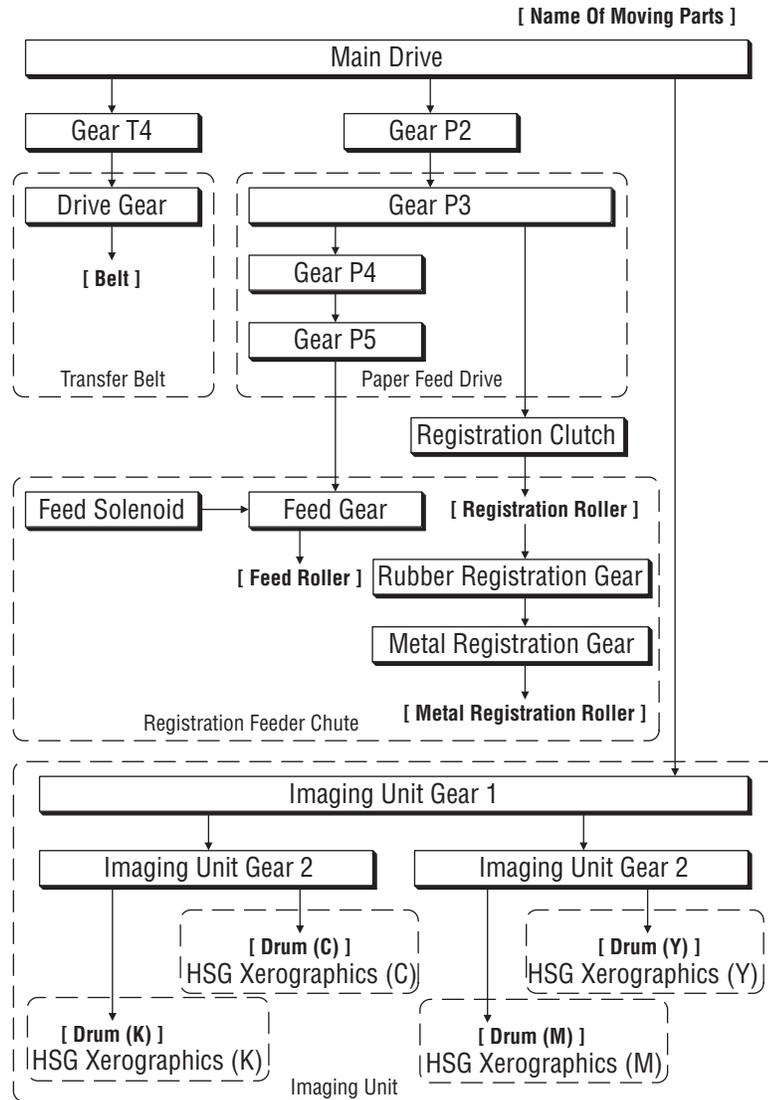
Fuser NCS Sensor Warm-Up

The Fuser Non-Contact Sensor at the center of the Heat Roller loses its accuracy when the temperature of the sensor itself is below -5°C . Therefore, the sensor is warmed up when the temperature is below -5°C .

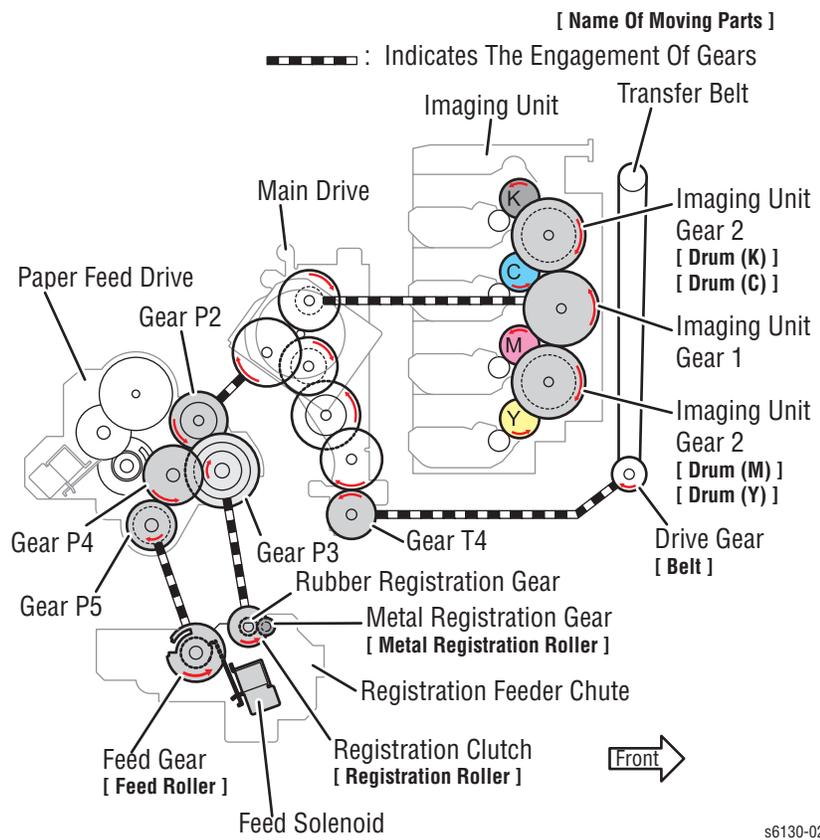
Drive Transmission

Main Drive

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



s6130-027

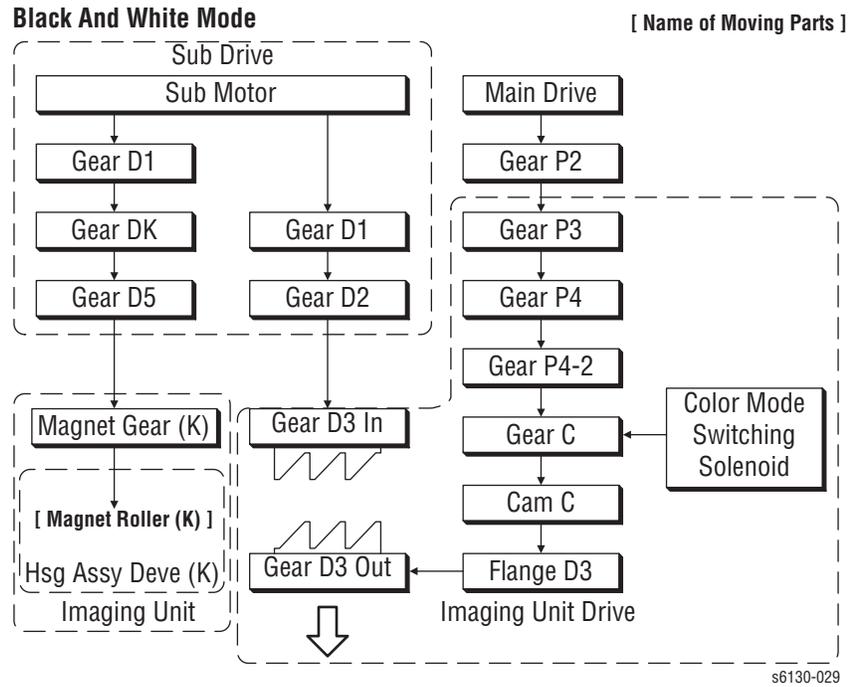


s6130-028

Sub Drive Assemblies

Sub Drive power is transmitted differently for Black and White or Color as shown in the following figures.

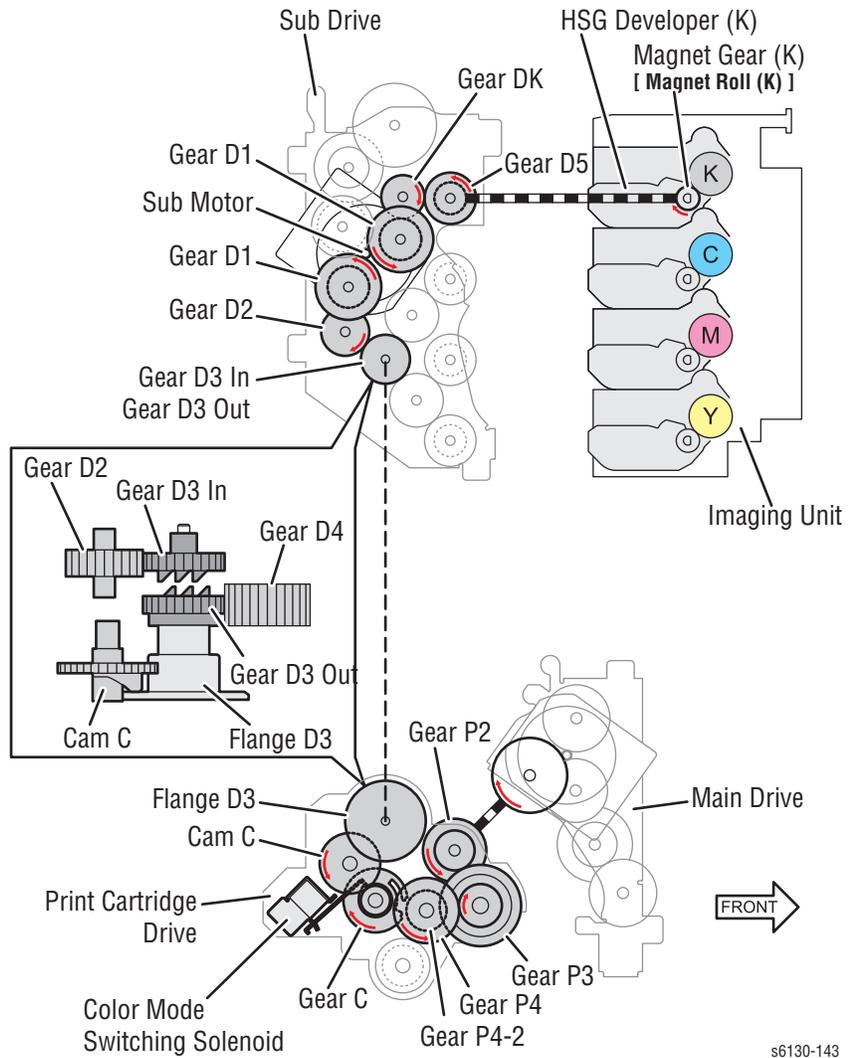
Black and White Mode



[Black And White Mode]

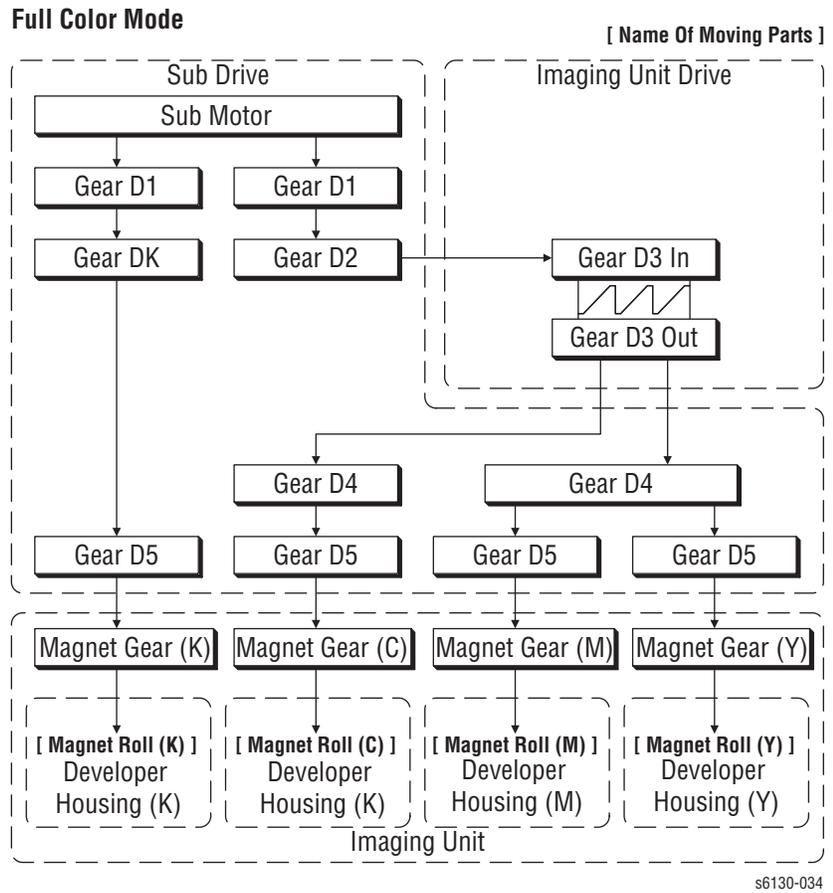
[Name Of Moving Parts]

▬ : Indicates The Engagement Of Gears.



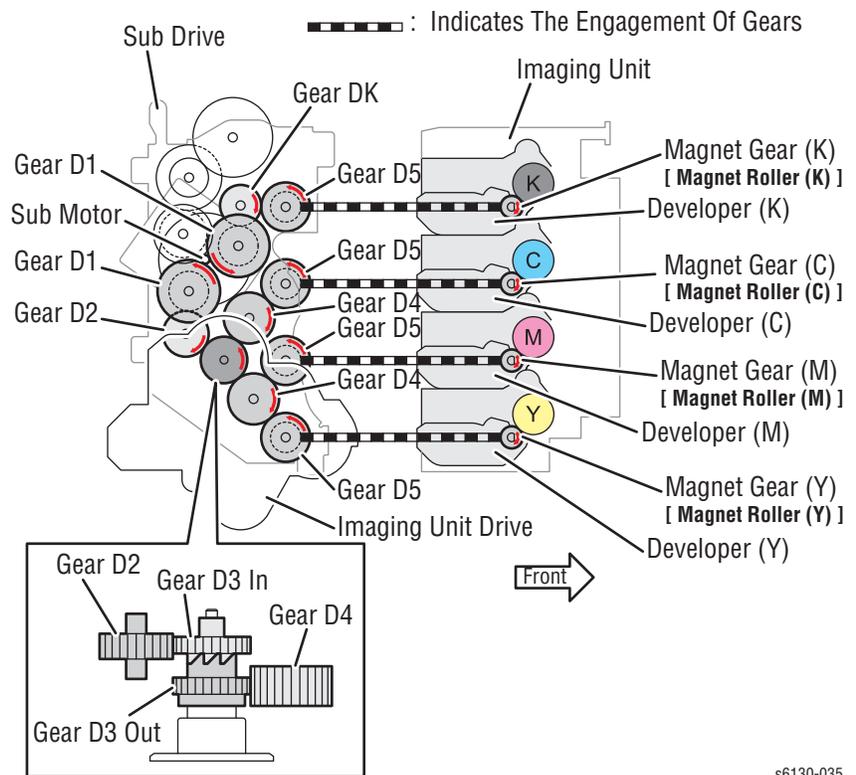
s6130-143

Color Mode



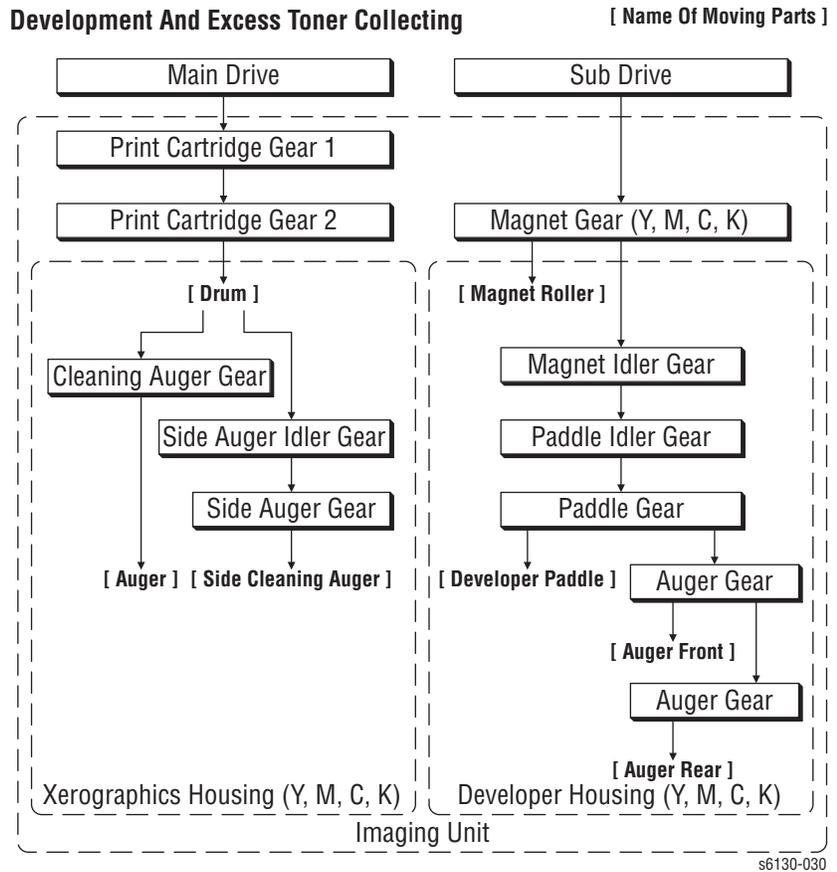
Full Color Mode

[Name Of Moving Parts]



s6130-035

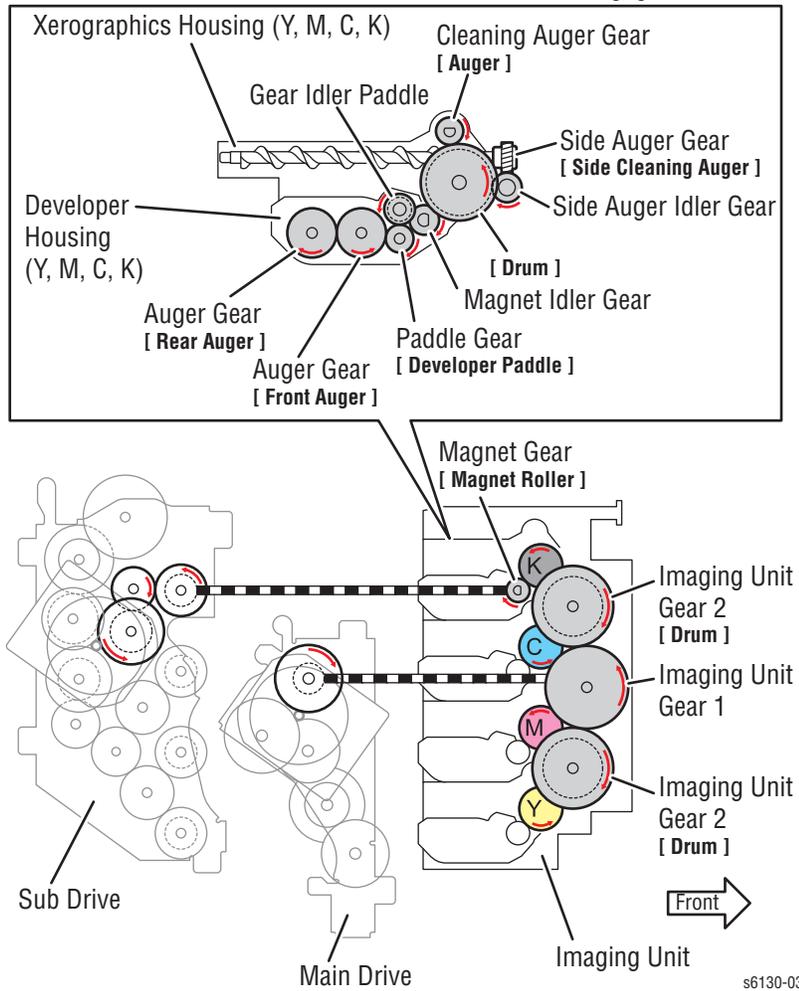
Development and Excess Toner Collection



Development And Excess Toner Collecting

[Name Of Moving Parts]

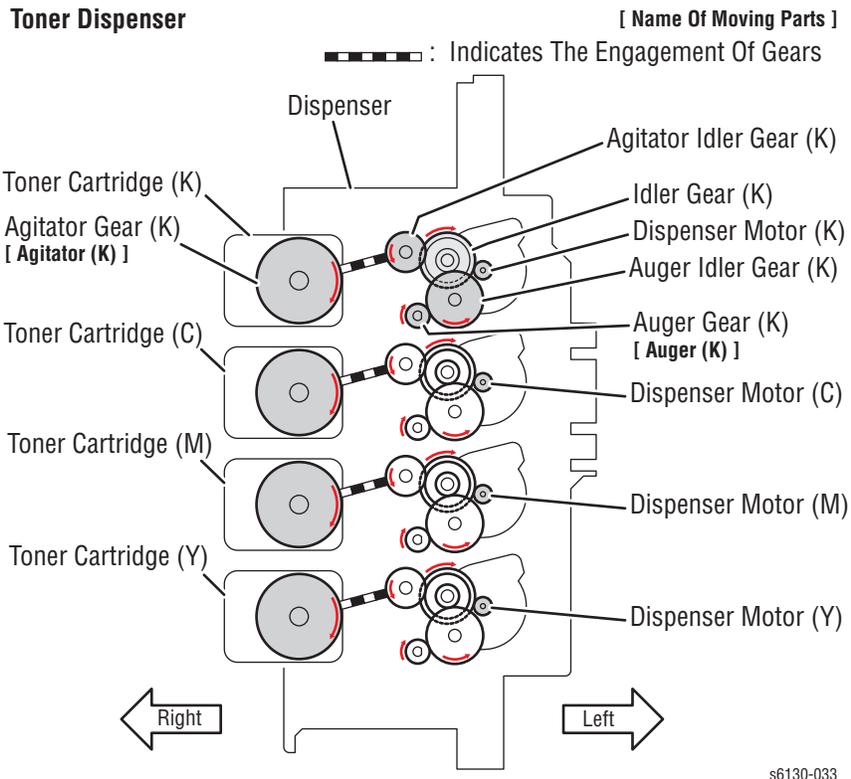
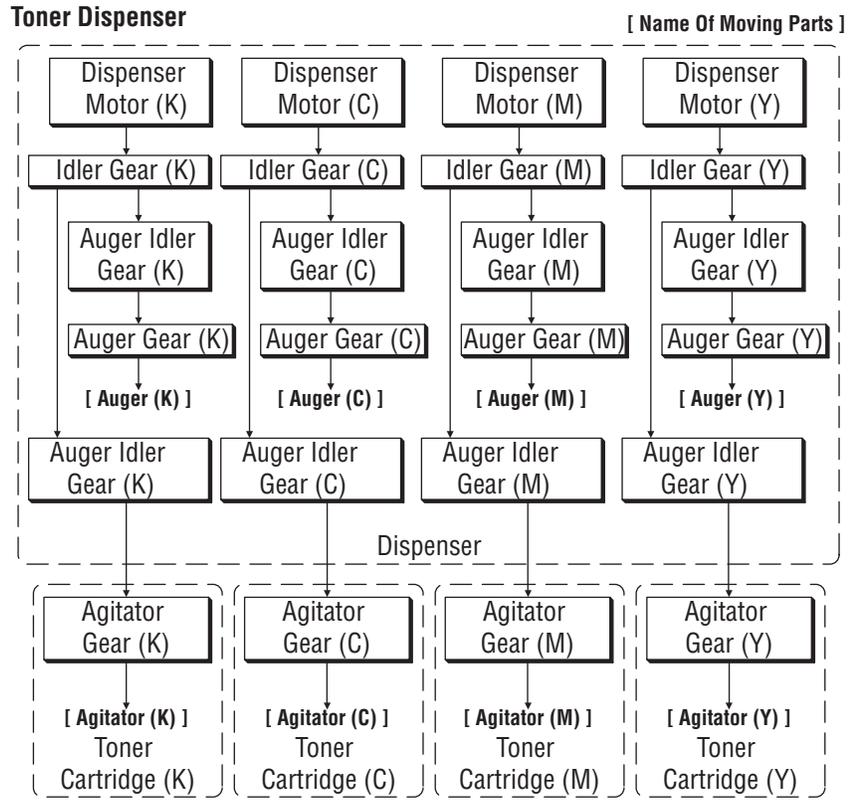
▬ : Indicates The Engagement Of Gears



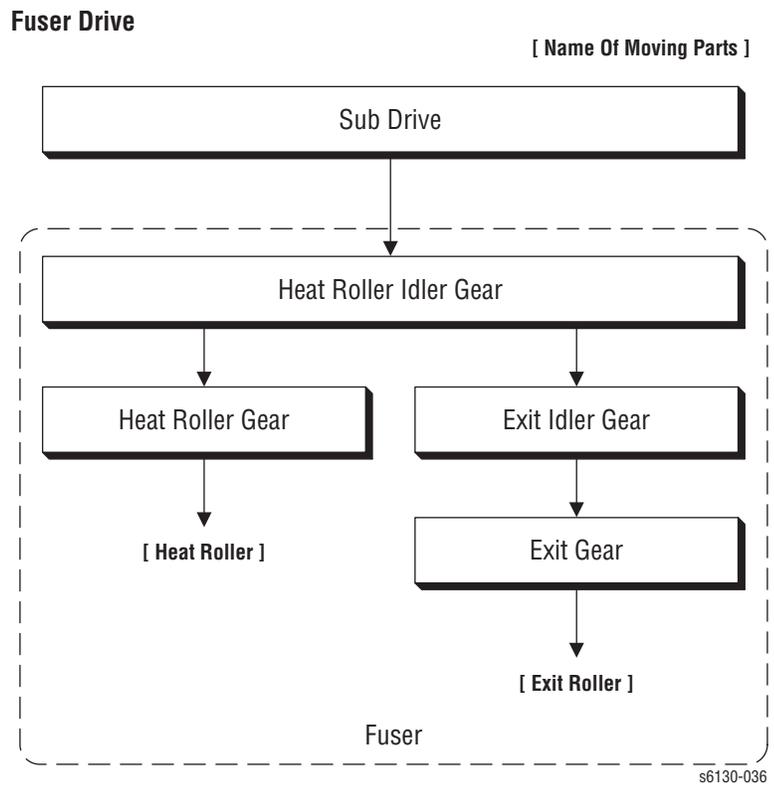
s6130-031

Toner Dispenser (Y, M, C, K)

Rotation power of the Toner Dispenser drives the agitator and the auger in the Toner Cartridge.



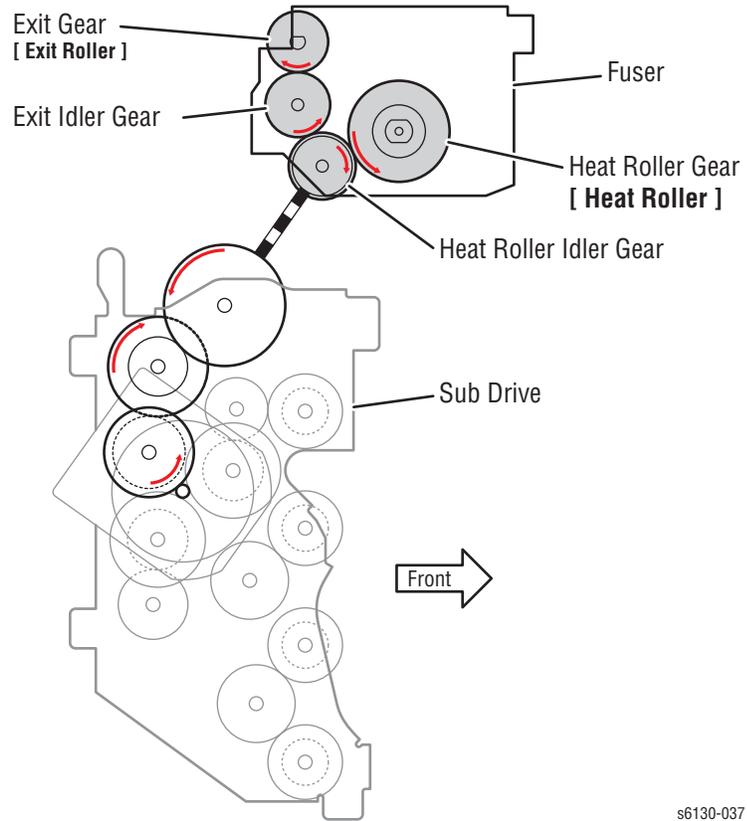
Fuser Drive



Fuser Drive

[Name Of Moving Parts]

▬ : Indicates The Engagement Of Gears



s6130-037

Error Messages and Codes

In this chapter...

- Introduction
- Servicing Instructions
- Messages, Chain Link Codes, and Procedures
- Image Processor Board Errors
- Toner Cartridge Errors
- Jam Errors
- MPC Errors
- Transfer Unit Errors
- Paper Setting Errors
- Fuser Errors
- Motor Errors
- Imaging Unit Errors
- Cover Open Errors
- MCU Errors
- Laser Unit 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 **Menu** button.
2. **Information Pgs** 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.

For Chain Link codes, Chain number (0 to 999) and Link number (0 to 999) are assigned. Chain numbers are assigned for each component. The component number that detects the Fault is entered in the Chain code, and the Fault type is defined by the Link code.

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® 6130N Color Printer
Error History Report			
System Fail History			
Paper Jam History			
No.	Total Print Count	Paper Jam Type	
1	205	IDT SSF Insert Jam	
2	218	IDT Registration Jam	
3	218	IDT Exit On Jam	
4	177	IDT Exit Jam	
5	50	IDT Tray Misfeed Jam	
6	50	IDT Tray Misfeed Jam	

Page: 1 (Last Page)

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s6130-181

Servicing Instructions

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

Step 1: Identify the Problem

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

Step 2: Inspect and Clean the Printer

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

Step 3: Find the Cause of the Problem

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

Step 4: Correct the Problem

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

Step 5: Final Checkout

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
CTD	Toner Density Sensor (ADC)
CRT	Cartridge
CRUM	Customer Replaceable Unit
DTB	Transfer Unit (Direct Transfer Belt)
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.
NV RAM	Non-Volatile Random Access Memory
PCL	Printer Control Language
PDL	Page Description Language
PHD	Imaging Unit
RAM	Random Access Memory
REG	Registration
ROM	Read Only Memory
SSI	Manual Feed Slot (Single Sheet Input)
TRAN	Transfer Unit

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.
- 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	Error Contents	Go to Page
Image Processor Board Errors			
016-500	Erase Flash Err Restart Printer ↕ <i>Scroll</i> Error 016-500 Restart Printer	<DOWNLOAD DELETE ERROR> The flash memory error is detected.	page 3-21
016-501	Write Flash Err Restart Printer ↕ <i>Scroll</i> Error 016-501 Restart Printer	<DOWNLOAD WRITE ERROR> The flash memory error is detected.	page 3-21
016-502	Verify Flash Err Restart Printer ↕ <i>Scroll</i> Error 016-502 Restart Printer	<DOWNLOAD VERIFY ERROR> The flash memory error is detected.	page 3-21
016-718	Out of Memory Press Ok Button ↕ <i>Scroll</i> Error 016-718 Press Ok Button	<Memory Overflow> Exceeds the memory capacity.	page 3-22
016-720	PDL Error Press Ok Button ↕ <i>Scroll</i> Error 016-720 Press Ok Button	<PDL Error> PDL error occurs.	page 3-23

Error Message and Chain Link Code Display (continued)

Chain Link Code	Control Panel Message	Error Contents	Go to Page
016-737	Format Error Press Ok Button ↕ <i>Scroll</i> Error 016-737 Press Ok Button	<DOWNLOAD FORMAT ERROR> The download file is broken, or communication error is detected.	page 3-21
016-742	Invalid ID Press Ok Button ↕ <i>Scroll</i> Error 016-742 Press Ok Button	<DOWNLOAD ID ERROR> The ID of the downloaded file is invalid.	page 3-21
016-743	Range Chk Error Press Ok Button ↕ <i>Scroll</i> Error 016-743 Press Ok Button	<DOWNLOAD RANGE ERROR> The wrong address is detected.	page 3-21
016-744	Check Sum Error Press Ok Button ↕ <i>Scroll</i> Error 016-744 Press Ok Button	<DOWNLOAD CHECKSUM ERROR> The checksum is invalid.	page 3-21
016-745	Header Error Press Ok Button ↕ <i>Scroll</i> Error 016-745 Press Ok Button	<DOWNLOAD HEADER ERROR> The header information is invalid.	page 3-21
018-319	Network Error Restart Printer ↕ <i>Scroll</i> Error 018-319 Restart Printer	<On Board Network OS Error> The error is detected by On Board Network OS.	page 3-24
018-320	Network Error Restart Printer ↕ <i>Scroll</i> Error 018-320 Restart Printer	<On Board Network VxWorks Error> The error is detected by On Board VxWORKS.	page 3-24
024-362	PAGEC Time Error Restart Printer ↕ <i>Scroll</i> Error 024-362 Restart Printer	<PAGEC Timeout Error> The PAGEC timeout error is detected.	page 3-25

Error Message and Chain Link Code Display (continued)

Chain Link Code	Control Panel Message	Error Contents	Go to Page
116-310	Font ROM Error Restart Printer ↕ <i>Scroll</i> Error 116-310 Restart Printer	<ESS FontROM Error (Main)> Checksum error in main Font ROM is detected.	page 3-24
116-314	MACAddress Error Restart Printer ↕ <i>Scroll</i> Error 116-314 Restart Printer	<On Board Network MAC Address Checksum Error> Checksum error in Network MAC address is detected. MAC: Media Access Control	page 3-24
116-315	RAM Error Restart Printer ↕ <i>Scroll</i> Error 116-315 Restart Printer	<ESS On Board RAM W/R Check Fail> The failure is detected by RAM W/R check during initialization.	page 3-24
116-316	RAM Error Restart Printer ↕ <i>Scroll</i> Error 116-316 Restart Printer	<ESS DIMM Slot RAM W/R Check Fail> The error is detected by DIMM slot RAM W/R check during initialization.	page 3-26
116-317	Controller Error Restart Printer ↕ <i>Scroll</i> Error 116-317 Restart Printer	<ESS ROM Check (Main) Fail> Checksum error in the main program ROM.	page 3-24
116-320	RAM Error Restart Printer ↕ <i>Scroll</i> Error 116-320 Restart Printer	<ESS DIMM Slot RAM Error> The error is detected by DIMM slot check during initialization.	page 3-26
116-323	NV RAM Error Restart Printer ↕ <i>Scroll</i> Error 116-323 Restart Printer	<ESS NVRAM1 W/R Check Fail> The failure is detected by NVRAM 1 W/R check during initialization.	page 3-24
116-324	Controller Error Restart Printer ↕ <i>Scroll</i> Error 116-324 Restart Printer	<ESS Illegal Exception> CPU illegal exception is detected.	page 3-24

Error Message and Chain Link Code Display (continued)

Chain Link Code	Control Panel Message	Error Contents	Go to Page
116-326	NV RAM Error Restart Printer ↕ <i>Scroll</i> Error 116-326 Restart Printer	<ESS NVRAM2 W/R Check Fail> The failure is detected by NVRAM 2 W/R check during initialization.	page 3-24
116-327	Controller Error Restart Printer ↕ <i>Scroll</i> Error 116-327 Restart Printer	<ESS Instruction Cash Error> Checksum error in the Instruction Cash.	page 3-24
116-328	Controller Error Restart Printer ↕ <i>Scroll</i> Error 116-328 Restart Printer	<ESS Data Cache Error> Checksum error in the Data Cash.	page 3-24
116-343	ASIC Error Restart Printer ↕ <i>Scroll</i> Error 116-343 Restart Printer	<ASIC Fail> The error is detected by ASIC error.	page 3-24
116-350	Network Error Restart Printer ↕ <i>Scroll</i> Error 116-350 Restart Printer	<On Board Network Communication Fail> Communication error between CPU Network and ESS F/W is detected.	page 3-24
116-351	Network Error Restart Printer ↕ <i>Scroll</i> Error 116-351 Restart Printer	<On Board Network Ethernet BIST parity/RAM R/W Error> The error is detected by Network Ethernet parity RAM R/W check.	page 3-24
116-352	Network Error Restart Printer ↕ <i>Scroll</i> Error 116-352 Restart Printer	<On Board Network Internal Loopback Error> The error is detected by on board Network Internal Loopback check.	page 3-24
116-355	Network Error Restart Printer ↕ <i>Scroll</i> Error 116-355 Restart Printer	<On Board Network Fatal Error> The fatal error is detected by on board Network check.	page 3-24

Error Message and Chain Link Code Display (continued)

Chain Link Code	Control Panel Message	Error Contents	Go to Page
116-390	NV RAM Error Restart Printer ↕ <i>Scroll</i> Error 116-390 Restart Printer	<ESS NVRAM1 SIZE And ID Check Fail> The error is detected by consistency check between NVRAM size required by the system and its actual size, and by consistency check of ID recorded when turning ON the power.	page 3-24
Toner Cartridge Errors			
	Insert Yellow Cartridge	<IOT Y CRU Detached> Yellow Cartridge detached is detected.	page 3-27
	Insert Magenta Cartridge	<IOT M CRU Detached> Magenta Cartridge detached is detected.	page 3-27
	Insert Cyan Cartridge	<IOT C CRU Detached> Cyan Cartridge detached is detected.	page 3-27
	Insert Black Cartridge	<IOT K CRU Detached> Black Cartridge detached is detected.	page 3-27
	Non-Xerox Toner Invalid Yellow	<IOT CRUM ID Error> CRUM ID error of Yellow Cartridge is detected.	page 3-27
	Non-Xerox Toner Invalid Magenta	<IOT CRUM ID Error> CRUM ID error of Magenta Cartridge is detected.	page 3-27
	Non-Xerox Toner Invalid Cyan	<IOT CRUM ID Error> CRUM ID error of Cyan Cartridge is detected.	page 3-27
	Non-Xerox Toner Invalid Black	<IOT CRUM ID Error> CRUM ID error of Black Cartridge is detected.	page 3-27
	%s Replace Yellow <i>and</i> Replace Yellow Cartridge	<IOT Y CRU Life Over> Yellow Cartridge has reached end-of-life.	page 3-27
	%s Replace Magenta <i>and</i> Replace Magenta Cartridge	<IOT M CRU Life Over> Magenta Cartridge has reached end-of-life.	page 3-27
	%s Replace Cyan <i>and</i> Replace Cyan Cartridge	<IOT C CRU Life Over> Cyan Cartridge has reached end-of-life.	page 3-27

Error Message and Chain Link Code Display (continued)

Chain Link Code	Control Panel Message	Error Contents	Go to Page
	%s Replace Black and Replace Black Cartridge	<IOT K CRU Life Over> Black Cartridge has reached end-of-life.	page 3-27
	%s Yellow Low Replace Soon	<IOT Y CRU Near Life> Yellow Cartridge is near end-of-life.	page 3-27
	%s Magenta Low Replace Soon	<IOT M CRU Near Life> Magenta Cartridge is near end-of-life.	page 3-27
	%s Cyan Low Replace Soon	<IOT C CRU Near Life> Cyan Cartridge is near end-of-life.	page 3-27
	%s Black Low Replace Soon	<IOT K CRU Near Life> Black Cartridge is near end-of-life.	page 3-27
	Waste Full Yellow Cartridge	<IOT Y CRU Waste Full> Waste Toner counter value is going to reach the replacement time.	page 3-28
	Waste Full Magenta Cartridge	<IOT M CRU Waste Full> Waste Toner counter value is going to reach the replacement time.	page 3-28
	Waste Full Cyan Cartridge	<IOT C CRU Waste Full> Waste Toner counter value is going to reach the replacement time.	page 3-28
	Waste Full Black Cartridge	<IOT K CRU Waste Full> Waste Toner counter value is going to reach the replacement time.	page 3-28
Jam Errors			
	Jam at Tray ↓ <i>Scroll</i> Check Tray Open Front Cover	<IOT Tray 2 Misfeed JAM> Regi Sensor is not turned ON within the specified time after feeding a sheet from the Tray.	page 3-29
	Jam at Manual Feed Slot ↓ <i>Scroll</i> Check Manual Feed Open Front Cover	<IOT SSI Misfeed JAM> Regi Sensor is not turned ON within the specified time after feeding a sheet from the Manual Feed Slot.	page 3-37

Error Message and Chain Link Code Display (continued)

Chain Link Code	Control Panel Message	Error Contents	Go to Page
	Jam at Front Cover ⇕ <i>Scroll</i> Open Front Cover and Remove Paper	<IOT SSI Insert JAM> SSI No Paper Sensor detect when a paper is inserted from SSI.	page 3-34
	Jam at Front Cover ⇕ <i>Scroll</i> Open Front Cover and Remove Paper	<IOT Regi On early JAM> Regi sensor turned on earlier than specified time.	page 3-34
	Jam at Front Cover ⇕ <i>Scroll</i> Open Front Cover and Remove Paper	<IOT Regi OFF Jam> Regi sensor turned off earlier than specified time.	page 3-42
	Jam at Exit ⇕ <i>Scroll</i> Open Front Cover and Remove Paper	<IOT Exit On JAM> The paper remains at Exit Sensor.	page 3-44
	Jam at Exit ⇕ <i>Scroll</i> Open Front Cover and Remove Paper	<IOT Exit On early JAM> Exit sensor turned on earlier than specified time.	page 3-44
	Jam at Exit ⇕ <i>Scroll</i> Open Front Cover and Remove Paper	<IOT Exit Off JAM> The paper remains at Exit Sensor.	page 3-44
	Jam at Exit ⇕ <i>Scroll</i> Open Front Cover and Remove Paper	<IOT Exit Off early JAM> Exit sensor turned off earlier than specified time.	page 3-44
	Jam at Exit Open Front Cover	<IOT Exit JAM> The paper remains at Exit Sensor.	page 3-44
	Jam at Reg. Roll Open Front Cover	<IOT Remain Registration JAM> The paper remains at Regi Sensor.	page 3-46
MPC Errors			
016-738	MPC Error Press Ok Button ⇕ <i>Scroll</i> Error 016-738 Press Ok Button	<DOWNLOAD INITIAL ERROR> Failed to start MPC download mode at MPC download.	page 3-50

Error Message and Chain Link Code Display (continued)

Chain Link Code	Control Panel Message	Error Contents	Go to Page
016-739	Reseat MPC Press Ok Button ↕ <i>Scroll</i> Error 016-739 Press Ok Button	<DOWNLOAD INSERTION ERROR> MPC Download was attempted without MPC mounted.	page 3-50
016-740	MPC Comm Error Press Ok Button ↕ <i>Scroll</i> Error 016-740 Press Ok Button	<DOWNLOAD COMM ERROR> Communication error occurred ESS during download.	page 3-50
018-310	MPC Error Restart Printer ↕ <i>Scroll</i> Error 018-310 Restart Printer	<MPC-ESS Communication Fail> Communication fail between MPC and ESS.	page 3-50
018-311	MPC Error Restart Printer ↕ <i>Scroll</i> Error 018-311 Restart Printer	<MPC Flash ROM Boot Module Checksum Error> Checksum error in MPC Flash ROM.	page 3-50
018-312	MPC Error Restart Printer ↕ <i>Scroll</i> Error 018-312 Restart Printer	<MPC RAM R/W Test Error> The error is detected by MPC RAM R/W check.	page 3-50
018-313	MPC Error Restart Printer ↕ <i>Scroll</i> Error 018-313 Restart Printer	<MPC Flash ROM Application Module Checksum Error> Checksum error in MPC Flash ROM.	page 3-50
018-314	MPC Error Restart Printer ↕ <i>Scroll</i> Error 018-314 Restart Printer	<MPC MAC Address Checksum Error> Checksum error in the MPC MAC address.	page 3-50
018-315	MPC Error Restart Printer ↕ <i>Scroll</i> Error 018-315 Restart Printer	<MPC Ethernet BIST parity/RAM R/W Error> The error is detected by MPC Ethernet BIST parity RAM R/W check.	page 3-50

Error Message and Chain Link Code Display (continued)

Chain Link Code	Control Panel Message	Error Contents	Go to Page
018-316	MPC Error Restart Printer ↕ <i>Scroll</i> Error 018-316 Restart Printer	<MPC Internal Loopback Error> The error is detected by Loopback test.	page 3-50
018-317	MPC Error Restart Printer ↕ <i>Scroll</i> Error 018-317 Restart Printer	<MPC Fatal Error> The error is detected by MPC check.	page 3-50
116-333	MPC error Restart Printer ↕ <i>Scroll</i> Error 116-333 Restart Printer	<PCI Option#0 Fail> Detection error of PCI option 0.	page 3-50
Transfer Unit Errors			
092-310	CTD Sensor Error Restart Printer ↕ <i>Scroll</i> Error 092-310 Restart Printer ↕ <i>Scroll</i> 092-310 Code: XXXX	<IOT CTD (ADC) Sensor Error> Shows detail of error code when pressing three keys Down arrow , Up arrow , and OK . 092-310 Code: 0801:fail 1/ 0802: Fail 2	page 3-51
094-330	DTB Life Over Restart Printer ↕ <i>Scroll</i> Error 094-330 Restart Printer	<IOT DTB Life Over> Imaging Unit reached the replacement time.	page 3-52
	Check Unit CTD Sensor	<IOT CTD (ADC) Sensor Contamination> Contamination of the ADC Sensor is detected.	page 3-51
	CTD Sensor	<IOT CTD (ADC) Sensor Contamination> Contamination of the ADC Sensor is detected.	page 3-51
	Insert Imaging Unit	<IOT PHD Detached> Imaging Unit detached is detected.	page 3-53
	Low Density Yellow Cartridge	<IOT Y Toner Low Density> Detects low density of yellow.	page 3-54

Error Message and Chain Link Code Display (continued)

Chain Link Code	Control Panel Message	Error Contents	Go to Page
	Low Density Magenta Cartridge	<IOT M Toner Low Density> Detects low density of magenta.	page 3-54
	Low Density Cyan Cartridge	<IOT C Toner Low Density> Detects low density of cyan.	page 3-54
	Low Density Black Cartridge	<IOT K Toner Low Density> Detects low density of black.	page 3-54
	Replace Imaging Unit	<IOT CRUM ID Error> CRUM ID error of Imaging Unit is detected.	page 3-71
	Transfer Life Replace Soon	<IOT DTB Life Pre Warning> The Imaging Unit is going to reach the replacement time.	page 3-52
Paper Setting Errors			
	Insert Output to Manual Feed	< Paper Empty at Manual Duplex> Waiting for side 2 to be set for manual duplex print (Manual Feed).	page 3-56
	Insert Output to Tray	< Paper Empty at Manual Duplex> Waiting for side 2 to be set for manual duplex print.	page 3-56
	Load Manual Feed XX (Paper size) ⇕ <i>Scroll</i> Load Manual Feed YY (paper type)	<IOT Paper Size Mismatch> Paper size mismatch detected in Manual Feed Slot.	page 3-56
	Load Manual Feed XX (Paper size) ⇕ <i>Scroll</i> Load Manual Feed YY (paper type)	<No suitable paper> Paper empty is detected in Manual Feed Slot.	page 3-57
	Load Tray XX (Paper size) ⇕ <i>Scroll</i> Load Tray YY (paper type)	<IOT Paper Size Mismatch> Paper size mismatch detected in Tray.	page 3-59
	Load Tray XX (Paper size) ⇕ <i>Scroll</i> Load Tray YY (paper type)	<No suitable paper> Paper empty is detected in Tray.	page 3-60
	Tray Empty	<No paper in Ready> The paper empty is detected.	page 3-60

Error Message and Chain Link Code Display (continued)

Chain Link Code	Control Panel Message	Error Contents	Go to Page
Fuser Errors			
010-317	Insert Fuser 010-317 ↕ <i>Scroll</i> Insert Fuser Restart Printer	<IOT Fuser Detached> Detached Fuser is detected.	page 3-62
010-351	Replace Fuser 010-351 ↕ <i>Scroll</i> Replace Fuser Restart Printer	<IOT Fuser Life Over> Fuser has reached replacement time.	page 3-63
010-397	Fuser Error Restart Printer ↕ <i>Scroll</i> Error 010-397 Restart Printer ↕ <i>Scroll</i> 010-397 Code: XX	<IOT Fuser Failure> Fuser Failure is detected. Shows detail of error code when pressing three keys “Down arrow”, “Upper arrow”, and “OK” 010-397 Code: XX 01: NC circuit fail/ 02: NC Detect disconnection/ 03: NC Detect fail/ 04: NC Comp disconnection/ 05: NC Comp fail/ 06: NC Temp Over/ 07: STS Temp Over/ 08: NC Comp Table Fail/ 09: NC Overheat/ 0A: STS disconnection/ 0B: STS Overheat/ 0C: STS Lowtemp/ 0D: NC Lowtemp/ 0E: Cool Timeover/ 0F: Fuser Ready Time over ERR1/ 10: NC Warm up Time over ERR2/ 11: Fuser Ready Time over ERR2/ 12: Relay Off STS H/ 13: Relay Off NC H/ 14: Relay Other/ 15: Fuser Machine Code ERR/ 16: Fuser Ready Time over ERR3	page 3-64
	Fuser Life Replace Soon	<IOT Fuser Life Pre Warning> Fuser is going to reach replacement time.	page 3-63

Error Message and Chain Link Code Display (continued)

Chain Link Code	Control Panel Message	Error Contents	Go to Page
Motor Errors			
042-313	Fan Motor Error Restart Printer ↕ <i>Scroll</i> Error 042-313 Restart Printer	<IOT Fan Motor Failure> Rear Fan Motor error is detected	page 3-66
042-325	Motor Error Restart Printer ↕ <i>Scroll</i> Error 042-325 Restart Printer	<IOT Motor Failure> Main Motor failure is detected.	page 3-67
042-326	Motor Error Restart Printer ↕ <i>Scroll</i> Error 042-326 Restart Printer	<IOT Motor Failure> Sub Motor failure is detected.	page 3-67
Imaging Unit Errors			
091-916	PHD CRUM Error Restart Printer ↕ <i>Scroll</i> Error 091-916 Restart Printer	<IOT CRUM ID Error> CRUM ID error of Imaging Unit is detected.	page 3-71
Cover Open Errors			
	Front Cover Open Close Front Cover	<IOT Cover Front Open> Front cover is open.	page 3-72
	Side Door Open Close Side Door	<IOT Side Cover Open> Side cover is open.	page 3-73

Error Message and Chain Link Code Display (continued)

Chain Link Code	Control Panel Message	Error Contents	Go to Page
MCU Errors			
024-340	MCU Firmware Err Restart Printer ↕ <i>Scroll</i> Error 024-340 Restart Printer ↕ <i>Scroll</i> 024-340 Code: XX	<IOT Firmware Error> Firmware error occurs. Shows detail of error code when pressing three keys “Down arrow”, “Up arrow”, and “OK”. 024-340 Code: XX 01: Task Over/ 02: Time Over/ 03: NV Write Retry/ 04: NV Write Queue Over/ 05: LEISUS Send Over/ 06: CRUM Data/ 07: Pursuit Comp/ 08: Pursuit SUM/ 09: Fuser NV/ 0A: Dispense/ 0B: FSR SBY Mode/ 0C: Media ERR2/ 0D: Hanpa/ 0E: FSR SBY Mode/ 0F: FSR Print Mode/ 10: Continuous Heater/ 11: PPM Group ERR/ 12: CMODE ERR/ 13: Send CMD ERR	page 3-74
041-340	MCU NVRAM Error Restart Printer ↕ <i>Scroll</i> Error 041-340 Restart Printer ↕ <i>Scroll</i> ADDR: XXXX Data: XX	<IOT NVRAM Error> IOT NVM Error occurs. Shows detail of error code and address when pressing three keys “Down arrow”, “Upper arrow”, and “OK”. ADDR: XXXX Data: XX 1000 to 17FF: MCU PWBA/ 3000 to 30FF: Transfer Belt/ 3100 to 31FF: Yellow Toner Cartridge/ 3200 to 32FF: Magenta Toner Cartridge/ 3300 to 33FF: Cyan Toner Cartridge/ 3400 to 34FF: Black Toner Cartridge	page 3-75

Error Message and Chain Link Code Display (continued)

Chain Link Code	Control Panel Message	Error Contents	Go to Page
Laser Unit Errors			
061-370	Laser Error Restart Printer ↕ <i>Scroll</i> Error 061-370 Restart Printer ↕ <i>Scroll</i> 061-370 Code: XX	<IOT ROS Failure> ROS Failure is detected. Shows detail of error code when pressing three keys “Down arrow”, “Upper arrow”, and “OK”. 061-370 Code: XX 01: SOS Rotating up defect/ 02: SOS Interval defect/ 03h: LD defect	page 3-76
System Error			
024-371	MCU Comm. Error Restart Printer ↕ <i>Scroll</i> Error 024-371 Restart Printer	<IOT-ESS Communication Fail> Communication failure between IOT and ESS is detected.	page 3-77
Other Errors			
016-799	Invalid Job Press Ok Button ↕ <i>Scroll</i> Error 016-799 Press Ok Button	<Job Environment Violation> Detects violation data for the print condition.	page 3-78
024-360	Download Mode Send FW Data ↕ <i>Scroll</i> Error 024-360 Send FW Data	<MCU Firmware Down Load Error> The MCU downloaded file is invalid.	page 3-79
042-372	K Mode Sol Error Restart Printer ↕ <i>Scroll</i> Error 042-372 Restart Printer	<IOT K Mode Solenoid Error> K Mode Solenoid (Color Mode Switching Solenoid) error is detected.	page 3-80

Error Message and Chain Link Code Display (continued)

Chain Link Code	Control Panel Message	Error Contents	Go to Page
092-661	Env Sensor Error Restart Printer ↕ <i>Scroll</i> Error 092-661 Restart Printer ↕ <i>Scroll</i> 092-661 Code: XX	<IOT Environment Sensor Error> Humidity sensor error is detected. Shows detail of error code when pressing three keys “Down arrow”, “Upper arrow”, and “OK”. 092-661 Code: XX 01: Humidity Sensor Error/ 10: Temperature Sensor Error/ 11: Humidity and Temperature Sensor Error	page 3-82

Image Processor Board Errors

Flash Memory Errors

Applicable Chain Links

- **Chain Link 016-500:** Erase Flash Error
- **Chain Link 016-501:** Write Flash Error
- **Chain Link 016-502:** Verify Flash Error
- **Chain Link 016-737:** Format Error
- **Chain Link 016-742:** Invalid ID
- **Chain Link 016-743:** Range Chk Error
- **Chain Link 016-744:** Check Sum Error
- **Chain Link 016-745:** 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, PL8.1.9 	“Map 3 - LVPS, Drive Motors, I/P Board, AC Power” on page 10-10 “Controller” on page 10-31

Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check the download file Was the correct file downloaded?	Go to step 2.	Re-download the correct file.
2	Check the connection between PC and printer Are the PC and the printer correctly connected by USB or LAN?	Go to step 4.	Go to step 3.
3	Disconnect and reconnect the USB or network cable. Does the error still occur when the power is turned OFF and ON?	Go to step 4.	Complete

Troubleshooting Procedure (continued)

Step	Actions and Questions	Yes	No
4	Reseat plugs and jacks on the Image Processor Board (refer to the procedure on page 8-60). Does the error still occur when the power is turned OFF and ON?	Go to step 4.	Complete
5	Re-download the correct file from the Xerox web site. Does the error still occur when the power is turned OFF and ON?	Replace the Image Processor Board (page 8-60).	Complete

Out of Memory

The printer memory is full and cannot continue to print. Print job requires additional memory.

Applicable Chain Link

- **Chain Link 016-718:** Out of memory

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, PL8.1.9 ■ Memory Card (Option) 	“Map 3 - LVPS, Drive Motors, I/P Board, AC Power” on page 10-10 “Controller” on page 10-31

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 (like a Windows test print). 3. Does the error still occur?	Go to step 2.	Add memory card or separate the print job.
2	Reseat the memory card. Does the error still occur?	Go to step 3.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
3	Check the memory card capacity. Print the printer Configuration Page: Menu > Information Pgs > Configuration . Is the memory capacity correct, including the optional memory?	Go to step 4.	Replace the Image Processor Board (page 8-60).
4	Replace the memory card. Does the error still occur?	Replace the Image Processor Board (page 8-60).	Complete.

PDL Error

Error relating to Printer Command Language (PCL) has occurred.

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, PL8.1.9 	“Map 3 - LVPS, Drive Motors, I/P Board, AC Power” on page 10-10 “Controller” on page 10-31

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the print job. 1. Print a small print job (like a Windows test print). 2. Does the error still occur?	Go to step 2.	Complete.
2	Reseat plugs and jacks on the Image Processor Board. Does the error still occur?	Replace the Image Processor Board (page 8-60).	Complete.

Network/FontROM/MACaddress/RAM/Controller/NVRAM/ASIC Error

Failure occurred on the Image Processor Board.

Applicable Chain Links

- **Network Error Chainlinks:**
 - **116-350** (Onboard Network Communication fail)
 - **116-351** (Onboard Network Ethernet BIST Parity/RAM R/W error)
 - **116-352** (Onboard Internal Loopback error)
 - **116-355** (Onboard Network Fatal error)
 - **018-319** (Onboard Network OS error)
 - **018-320** (Onboard Network VxWorks error)
- **Font ROM Error Chain Link 116-310:** (Main Font ROM checksum error)
- **MACaddress Error Chain Link 116-314:** (MACaddress checksum error)
- **RAM Error Chain Link 116-315:** (RAM W/R failure at initialization)
- **Controller Error Chain Links:**
 - **116-317:** (Program ROM checksum error)
 - **116-324:** (CPU Illegal Exception)
 - **116-327:** (Instruction Cache checksum error)
 - **116-328:** (Data Cache checksum error)
- **NVRAM Error Chain Links:**
 - **116-323:** (NVRAM1 W/R Check failure)
 - **116-326:** (NVRAM2 W/R Check failure)
 - **116-390:** (NVRAM1 Size and ID Check failure)
- **ASIC Error Chain Link 116-343**

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, PL8.1.9 	“Map 3 - LVPS, Drive Motors, I/P Board, AC Power” on page 10-10 “Controller” on page 10-31

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the Image Processor Board for correct installation. Is the Image Processor Board correctly installed?	Go to step 2.	Reseat plugs and jacks on the Image Processor Board. Go to step 2.
2	Does the error still occur?	Replace the Image Processor Board (page 8-60).	Complete.

PAGEC Time Error**Applicable Chain Link**

- **024-362:** PAGEC Time 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, PL8.1.9 	“Map 3 - LVPS, Drive Motors, I/P Board, AC Power” on page 10-10 “Controller” on page 10-31

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the error Does the error still occur when turning off and on the power?	Go to step 2.	Complete.
2	Check the Image Processor Board installation Reseat plugs and jacks on the Image Processor Board. Does the error still occur when turning off and on the power?	Replace the Image Processor Board (page 8-60).	Complete.

RAM Error

The printer controller has detected a DIMM slot RAM error.

Applicable Chain Link

- **116-316:** RAM Error (DIMM Slot RAM W/R Check Fail)
- **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, PL8.1.9 ■ Memory Card (Option) 	“Map 3 - LVPS, Drive Motors, I/P Board, AC Power” on page 10-10 “Controller” on page 10-31

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Verify RAM is compatible with the printer. If RAM was recently installed, it may not be compatible. Is RAM compatible?	Go to step 2.	Replace the Memory Card.
2	Check the Memory Card for correct installation. Is the Memory Card correctly installed?	Go to step 3.	Complete.
3	Replace the Memory Card. Does the error still occur?	Replace the Image Processor Board (page 8-60).	Complete.

Toner Cartridge Errors

Insert Yellow/Cyan/Magenta/Black Cartridge

The printer does not detect the Toner Cartridge.

Non-Xerox Toner, Invalid Yellow/Magenta/Cyan/Black

The Toner Cartridge CRUM ID error indicates that a non-Xerox Toner Cartridge is installed.

Replace Yellow/Magenta/Cyan/Black

The Toner Cartridge (Yellow/Magenta,/Cyan/Black) has reached its end of life.

Yellow/Magenta/Cyan/Black Low

The Toner Cartridge (Yellow/Magenta,/Cyan/Black) is near its end of life.

Initial Actions

- Check the Toner 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"> ■ Toner Cartridge (Y/M/C/K), PL5.1.21-24 ■ MCU Board, PL8.2.13 	<ul style="list-style-type: none"> ■ “Map 1 - Transfer Unit, Control Panel, Imaging Unit, Dispenser, Fuser” on page 10-8 ■ “Map 4 - Toner Dispenser Motors, HVPS, MCU” on page 10-11 ■ “Developer” on page 10-27

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the Toner Cartridge for correct installation. Is the Toner Cartridge correctly installed?	Go to step 3.	Go to step 2.
2	Reseat the Toner Cartridge. Make sure the lock key is in the lock position. Does the error still occur?	Go to step 3.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
3	Replace the Toner Cartridge (page 8-10). Does the error still occur?	Go to step 4.	Complete.
4	Check the Toner CRUM Harness for continuity 1. Disconnect J31 from the MCU Board. 2. Disconnect J311 (Y), J312 (M), J313 (C) or J314 (K) from the connector CRUM. Is each cable of J31 <=> J311, J312, J313 or J314 continuous?	Go to step 5.	Replace the Dispenser Assembly (page 8-34)
5	Reseat plugs and jacks on the MCU Board. Does the error still occur when the power is turned OFF and ON?	Go to step 6.	Complete.
6	Measure the voltage at P31-3 <=> Ground. Is the voltage approximately +3.3VDC?	Replace the Dispenser Assembly (page 8-34)	Replace the MCU Board (page 8-59).

Waste Full, Yellow/Magenta/Cyan/Black Cartridge

Initial Actions

- Check the Toner 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"> ■ Toner Cartridge (Y/M/C/K), PL5.1.21-24 ■ MCU Board, PL8.2.13 	<ul style="list-style-type: none"> ■ “Map 1 - Transfer Unit, Control Panel, Imaging Unit, Dispenser, Fuser” on page 10-8 ■ “Map 4 - Toner Dispenser Motors, HVPS, MCU” on page 10-11 “Developer” on page 10-27

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Replace the TONER CARTRIDGE. Does the error still occur when turning of and on the power?	Replace the MCU Board. (page 8-59)	Complete.

Jam Errors

Jam at Tray

Paper fed from Paper Tray did not reach the Registration Sensor on time.

Initial Actions

- 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"> ■ Cassette Assy 250 (PL2.1.1) ■ Separator Roller Assembly (PL2.1.5) ■ Drive Clutch Assembly Kit (PL3.1.99) ■ Feed Solenoid Kit (PL3.1.98) ■ Left Side Harness Assy (PL3.1.18) ■ Feed Roller Assembly (PL3.2.4) ■ Regi Roll Actuator (PL3.2.8) ■ Regi In Actuator (PL3.2.11) ■ Photo Sensor (PL3.2.13) ■ Main Drive Assembly (PL7.1.2) ■ MCU Board (PL8.2.13) 	<ul style="list-style-type: none"> ■ “Map 2 - Laser Unit, Feeder Assembly” on page 10-9 ■ “Map 4 - Toner Dispenser Motors, HVPS, MCU” on page 10-11 ■ “Feeder, Manual Feed, & Registration” on page 10-19

Troubleshooting Procedure Table

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

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	Check the Main Motor (Main Drive Assembly) for operation Perform the Main Motor (FULL2) test (page 4-27): Service Mode > Engine Diag > Motor Test > Main Motor (FULL2) . During this check, defeat the Front Cover interlock switch. Does the Main Motor (Main Drive Assembly) operate properly?	Go to step 5.	Go to step 16.
5	Check the Feed Drive Assembly for operation Perform the Regi Clutch test (page 4-33): Service Mode > Engine Diag > Motor Test > Regi Clutch . During this check, defeat the Front Cover interlock switch. Do the Registration and Metal Registration Rollers rotate properly?	Go to step 6.	Go to step 26.
6	Check the paper feeding position Is the paper not fed from the Tray?	Go to step 7.	Go to step 11.
7	Check after resetting the Side Guides and End Guide on the Tray. Reset the Side Guides and End Guide, and reseat the Tray in the printer correctly. Does the error still occur when printing?	Go to step 8.	Complete
8	Check the Separator Roller Assembly on the Tray for shape and rotation Pull the Tray out from the printer. Is the Separator Roller Assembly not contaminated and/or damaged, and rotated smoothly?	Go to step 9.	Replace the Separator Roller Assembly (page 8-7).
9	Check the Feed Roller Assembly for shape and rotation Pull the Tray out of the printer. Is the Feed Roller Assembly free of contamination and/or undamaged, and does it rotate smoothly?	Go to step 10.	Replace the Feed Roller Assembly (page 8-30).
10	Check the Feed Solenoid for operation Perform the Tray Feed Solenoid (Auto) test (page 4-34): Service Mode > Engine Diag > Motor Test > Tray Feed Solenoid (Auto) . During this check, defeat the Front Cover interlock switch. Does the Feed Solenoid operate properly?	Replace the Paper Tray (CASSETTE ASSY 250).	Go to step 18.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
11	Check the paper lead edge stopping position Does the paper lead edge stop before the Registration Roller and Metal Registration Roller?	Go to step 12.	The paper lead edge stops past the Registration Roller and Metal Regi Roller. Go to step 14.
12	Check the paper transfer path between the Feed Roller Assembly and Registration Roller. Are there any obstacles on the paper transfer path?	Remove the obstacles from the paper transfer path.	Go to step 13.
13	Check the Regi In Actuator for shape and operation. Are the shape and operation of the Regi In Actuator normal?	Go to step 14.	Reseat the Regi In Actuator. If broken or deformed, replace the Feeder Assembly (page 8-25).
14	Check the Regi Roll Actuator for shape and operation. Are the shape and operation of the Regi Roll Actuator normal?	Go to step 15.	Reseat the Regi Roll Actuator. If broken or deformed, replace the Feeder Assembly (page 8-25).
15	Perform the Regi. Sensor test: Service Mode > Engine Diag > Sensor Test > Regi Sensor. Does the number on the screen increase by one, when the Regi In Actuator is operated?	Replace the MCU Board (page 8-59).	Go to step 22.
16	Check the connections between the MCU Board and Main Drive Assembly (Main Motor). Are P/J21 and P/J211 connected correctly?	Go to step 17.	Reconnect the connector(s) P/J21 and/or P/J211 correctly.
17	Check the power to the Main Drive Assembly Disconnect J21 from the MCU Board. Are the voltages across J21-2/J21-4 <=> ground on the MCU Board, about +24 VDC when the Front Cover interlock switch is pushed?	Replace the Main Drive Assembly (page 8-52).	Replace the MCU Board (page 8-59).
18	Check the connections between the MCU Board and Feed Solenoid. Are P/J23 and P/J231 connected correctly?	Go to step 19.	Reconnect the connector(s) P/J23 and/or P/J231 correctly.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
19	Check the Left Side Harness Assy for continuity Disconnect J23 from the MCU Board. Disconnect P231 from the Feed Solenoid. Is each cable of J23 <=> P231 continuous?	Go to step 20.	Replace the Feeder Assy (page 8-25) or Left Side Harness Assy (page 8-26).
20	Check the power to the Feed Solenoid Disconnect J23 from the MCU Board. Is the voltage across P23-1 <=> ground on the MCU Board, about +24 VDC when the Front Cover interlock switch is pushed?	Go to step 21.	Replace the MCU Board (page 8-59).
21	Check the Feed Solenoid for resistance Disconnect P/J231 of the Feed Solenoid. Is the resistance across J231-1 and J231-2 about 96 ohm?	Replace the MCU Board (page 8-59).	Replace the Feed Solenoid Kit (page 8-24).
22	Check the connectors of the Regi Sensor (Photo Sensor) for connection Check the connections between the MCU Board and Regi Sensor (Photo Sensor). Are P/J23 and P/J232 connected correctly?	Go to step 23.	Reconnect the connector(s) P/J23 and/or P/J232 correctly.
23	Check the Left Side Harness Assy for continuity Disconnect J23 from the MCU Board. Disconnect J232 from the Regi Sensor (Photo Sensor). Is each cable of J23 <=> J232 continuous?	Go to step 24.	Replace the Feeder Assy (page 8-25) or Left Side Harness Assy (page 8-26).
24	Check the power to the Regi Sensor (Photo Sensor) Disconnect J23 from the MCU Board. Is the voltage across P23-3 <=> ground on the MCU Board, about +3.3 VDC?	Go to step 25.	Replace the MCU Board (page 8-59).
25	Check the Regi Sensor (Photo Sensor) for operation Check the voltage across J23-5 <=> ground on the MCU Board. Does the voltage change, when the actuator (Regi In Actuator) is operated?	Replace the MCU Board (page 8-59).	Replace the Feeder Assy. (page 8-25).

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
26	<p>Check the connectors of the Drive Clutch Assembly (Regi Clutch) for connection</p> <p>Check the connections between the MCU Board and Drive Clutch Assembly.</p> <p>Are P/J26 and P/J262 connected correctly?</p>	Go to step 27.	Reconnect the connector(s) P/J26 and/or P/J262 correctly.
27	<p>Check the power to the Drive Clutch Assembly</p> <p>Disconnect J26 from the MCU Board.</p> <p>Is the voltage across P26-4 <=> ground on the MCU Board, about +24 VDC when the Front Cover interlock switch is pushed?</p>	Go to step 28.	Replace the MCU Board (page 8-59).
28	<p>Check the Drive Clutch Assembly for resistance</p> <p>Disconnect P/J262 of the Drive Clutch Assembly.</p> <p>Is the resistance across J262-1 and J262-2 approximately 280-ohm?</p>	Replace the MCU Board (page 8-59).	Replace the Drive Clutch Assembly Kit (page 8-21).

Jam at Front Cover

Paper fed from Paper Tray arrived at or left the Registration Sensor early.

Initial Actions

- 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"> ■ Drive Clutch Assy Kit (PL3.1.99) ■ Left Side Harness Assy (PL3.1.18) ■ Feeder Assy NV (PL3.1.3) ■ Photo Sensor (PL3.2.13) ■ MCU Board (PL8.2.13) 	<ul style="list-style-type: none"> ■ “Map 2 - Laser Unit, Feeder Assembly” on page 10-9 ■ “Map 4 - Toner Dispenser Motors, HVPS, MCU” on page 10-11 ■ “Feeder, Manual Feed, & Registration” on page 10-19

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the paper setting Was the paper setting for the Tray correct?	Go to step 3.	Enter the correct paper setting, then go to step 2.
2	Does the error still occur when printing?	Go to step 3.	Complete.
3	Using your finger, check the Registration Roller and Metal Registration Roller for contact Does the spring force on both sides of the Metal Registration Roller hold it firmly in contact with the Registration Roller?	Go to step 4.	Replace the Feeder Assy NV (page 8-25).
4	Perform the Regi Clutch test (page 4-33): Service Mode > Engine Diag > Motor Test > Regi Clutch. Does the Regi Clutch operate properly?	Go to step 5.	Go to step 6.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	Check the Regi Sensor (Photo Sensor) for operation. Perform the Regi Sensor test (page 4-21): Service Mode > Engine Diag > Sensor Test > Regi Sensor . Does the number on the screen increase by one, when the actuator (Regi In Actuator) is operated?	Replace the MCU Board (page 8-59).	Go to step 9.
6	Check the connections between the MCU Board and Drive Clutch Assembly (Regi Clutch). Are P/J26 and P/J262 connected correctly?	Go to step 7.	Reconnect the connector(s) P/J26 and/or P/J262 correctly.
7	Check the power to the Drive Clutch Assembly Disconnect J26 from the MCU Board. Is the voltage across P26-4 <=> ground on the MCU Board, about +24 VDC when the Front Cover interlock switch is pushed?	Go to step 8.	Replace the MCU Board (page 8-59).
8	Check the Drive Clutch Assembly for resistance Disconnect P/J262 of the Drive Clutch Assembly. Is the resistance across J262-1 and J262-2 approximately 280-ohm?	Replace the MCU Board (page 8-59).	Replace the Drive Clutch Assembly Kit (page 8-21).
9	Check the connectors of the Regi Sensor (Photo Sensor) for connection Check the connections between the MCU Board and Regi Sensor (Photo Sensor). Are P/J23 and P/J232 connected correctly?	Go to step 10.	Reconnect the connector(s) P/J23 and/or P/J232 correctly.
10	Check the Left Side Harness Assy for continuity Disconnect J23 from the MCU Board. Disconnect J232 from the Regi Sensor. Is each cable of J23 <=> J232 continuous?	Go to step 11.	Replace the Feeder Assy (page 8-25) or Left Side Harness Assy (page 8-26).
11	Check the power to the Regi Sensor Disconnect J23 from the MCU Board. Is the voltage across P23-3 <=> ground on the MCU Board, about +3.3 VDC?	Go to step 12.	Replace the MCU Board (page 8-59).

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
12	Check the Regi Sensor (Photo Sensor) for operation Check the voltage across P23-5 <=> ground on the MCU Board. Does the voltage change, when the actuator of the Regi Sensor (Photo Sensor) is operated?	Replace the MCU Board (page 8-59).	Replace the Regi Sensor (Photo Sensor).

Jam at Manual Feed Slot

Paper fed from the Manual Feed Slot did not reach the Registration Sensor on time.

Initial Actions

- Try picking paper from the 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"> ■ Drive Clutch Assy Kit, PL3.1.99 ■ Left Side Harness Assy, PL3.1.18 ■ Photo Sensor, PL3.2.13 ■ Actuator SSI, PL3.2.14 ■ Main Drive Assy, PL7.1.2 ■ MCU Board, PL8.2.13 	<ul style="list-style-type: none"> ■ “Map 2 - Laser Unit, Feeder Assembly” on page 10-9 ■ “Map 4 - Toner Dispenser Motors, HVPS, MCU” on page 10-11 ■ “Feeder, Manual Feed, & Registration” on page 10-19

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the paper size Does the paper size meet the specification?	Go to step 3.	Use the paper that meets the specifications, then go to step 2.
2	Does the error still occur when printing?	Go to step 3.	Complete
3	Check the paper condition Is the paper in the Manual Feed Slot wrinkled or damaged?	Replace with a new and dry sheet, then go to step 4.	Go to step 5.
4	Does the error still occur when printing?	Go to step 6.	Complete
5	Insert a fresh sheet of paper in the Manual Feed Slot. Does the error still occur when printing?	Go to step 6.	Complete

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
6	Check the Front Cover for latching Open and close the Front Cover, and then latch correctly. Does the error still occur when printing?	Go to step 7.	Complete
7	Check the paper lead edge stopping position Does the paper lead edge stop before the Registration Roller and Metal Regi Roller?	Go to step 8.	The paper lead edge stops past the Registration Roller and Metal Regi Roller. Go to step 13.
8	Check after resetting the guide sides of the Manual Feed Slot Reset the side guides. Does the error still occur when printing?	Go to step 9.	Complete
9	Check the paper transfer path between the Manual Feed Slot and Regi.Sensor Are there any obstacles on the paper transfer path?	Remove the obstacles or stain from the paper transfer path, then go to step 10.	Go to step 11.
10	Does the error still occur when printing?	Go to step 11.	Complete
11	Check the SSI Actuator for shape and operation Are the shape and operation of the SSI Actuator normal?	Go to step 12.	Reseat the SSI Actuator. If broken or damaged, replace the SSI Actuator.
12	Check the Manual Feed Sensor (Photo Sensor) for operation Perform the Manual Feed Sensor test: Service Mode > Engine Diag > Sensor Test > Manual Feed Sensor Does the number on the screen increase by one, when the actuator (Actuator SSI) is operated?	Go to step 13.	Go to step 16.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
13	<p>Check the Regi. Clutch (CLUTCH ASSY DRV) for operation, and Regi Roll Assy and Metal Regi Roll for rotation</p> <p>First, start the Main Motor FULL2 test: Service Mode > Engine Diag > Motor Test > Main Motor FULL2, then start the Regi Clutch test: Service Mode > Engine Diag > Motor Test > Regi Clutch.</p> <p>Does the Regi. Clutch operate properly, and do the Regi Roll Assy and Metal Regi Roll rotate?</p> <p>During this check, defeat the Front Cover interlock switch (HARN ASSY INTERLOCK).</p>	Go to step 14.	Go to step 25.
14	<p>Check the Regi Roll Actuator for shape and operation</p> <p>Are the shape and operation of the Regi Roll Actuator normal?</p>	Go to step 15.	Reseat the Regi Roll Actuator. If broken or deformed, replace it with a new one.
15	<p>Perform the Regi. Sensor test: Service Mode > Engine Diag > Sensor Test > Regi Sensor.</p> <p>Does the number on the screen increase by one, when the Regi Roll Actuator is operated?</p>	Replace the MCU Board (page 8-59).	Go to step 21.
16	<p>Check the connectors of the Manual Feed No Paper Sensor (Photo Sensor) for connection</p> <p>Check the connections between the MCU Board and Manual Feed No Paper Sensor (Photo Sensor).</p> <p>Are P/J23 and P/J233 connected correctly?</p>	Go to step 18.	Reconnect the connector(s) P/J23 and/or P/J233 correctly, then go to step 17.
17	<p>Does the error still occur when printing?</p>	Go to step 18.	Complete
18	<p>Check the Left Side Harness Assy for continuity</p> <p>Disconnect J23 from the MCU Board.</p> <p>Disconnect J233 from the Manual Feed No Paper Sensor (Photo Sensor).</p> <p>Is each cable of J23 <=> J233 continuous?</p>	Go to step 19.	Replace the Feeder Assy (page 8-25) or Left Side Harness Assy (page 8-26).
19	<p>Check the power to the Manual Feed No Paper Sensor (Photo Sensor)</p> <p>Disconnect J23 from the MCU Board.</p> <p>Is the voltage across P23-6pin <=> ground on the MCU Board, about +3.3 VDC?</p>	Go to step 20.	Replace the MCU Board (page 8-59).

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
20	Check the Manual Feed No Paper Sensor (Photo Sensor) for operation Check the voltage across J23-8pin <=> ground on the MCU Board. Does the voltage change, when the SSI Actuator is operated?	Replace the MCU Board (page 8-59).	Replace the Feeder Assembly (page 8-25).
21	Check the connectors of the Regi Sensor (Photo Sensor) for connection Check the connections between the MCU Board and Regi Sensor (Photo Sensor). Are P/J23 and P/J232 connected correctly?	Go to step 22.	Reconnect the connector(s) P/J23 and/or P/J232 correctly.
22	Check the Left Side Harness Assy for continuity Disconnect J23 from the MCU Board. Disconnect J232 from the Regi Sensor (Photo Sensor). Is each cable of J23 <=> J232 continuous?	Go to step 23.	Replace the Feeder Assy (page 8-25) or Left Side Harness Assy (page 8-26).
23	Check the power to the Regi Sensor (Photo Sensor) Disconnect J23 from the MCU Board. Is the voltage across P23-3pin <=> ground on the MCU Board about +3.3 VDC?	Go to step 24.	Replace the MCU Board (page 8-59).
24	Check the Regi Sensor (Photo Sensor) for operation Check the voltage across J23-5pin <=> ground on the MCU Board. Does the voltage change, when the Regi Roll Actuator is operated?	Replace the MCU Board (page 8-59).	Replace the Feeder Assembly page 8-25.
25	Check the connectors of the Drive Clutch Assy (Regi Clutch) for connection Check the connections between the MCU Board and Drive Clutch Assy. Are P/J26 and P/J262 connected correctly?	Go to step 26.	Reconnect the connector(s) P/J26 and/or P/J262 correctly.
26	Check the HARN ASSY KSNR REGCL for continuity Disconnect J26 from the MCU Board. Disconnect P262 from the Drive Clutch Assy (Regi Clutch). Is each cable of J26 <=> P262 continuous?	Go to step 27.	Replace the HARN ASSY KSNR REGCL.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
27	Check the power to the Drive Clutch Assy Disconnect J26 from the MCU Board. Is the voltage across P26-4pin <=> ground on the MCU Board, about +24 VDC when the Interlock Switch (HARN ASSY INTERLOCK) is pushed?	Go to step 28.	Replace the MCU Board (page 8-59).
28	Check the Drive Clutch Assy for resistance Disconnect P/J262 of the Drive Clutch Assy. Is the resistance across J262-1 and J262-2 approximately 280-ohm?	Replace the MCU Board (page 8-59).	Replace the Drive Clutch Kit. (page 8-21)

Jam at Front Cover

No Paper condition detected at the Manual Feed.

Initial Actions

- 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"> ■ Left Side Harness Assy (PL3.1.18) ■ Photo Sensor (PL3.2.13) ■ MCU Board (PL8.2.13) 	<ul style="list-style-type: none"> ■ “Map 2 - Laser Unit, Feeder Assembly” on page 10-9 ■ “Map 4 - Toner Dispenser Motors, HVPS, MCU” on page 10-11 ■ “Feeder, Manual Feed, & Registration” on page 10-19

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the customer operation Did the customer insert the paper to the Manual Feed Slot during print?	After print completion, insert the paper to the SSI.	Go to step 2.
2	Check the Manual Feed No Paper Sensor (Photo Sensor) for operation Perform the Manual Feed Sensor test (page 4-25): Service Mode > Engine Diag > Sensor Test > Manual Feed Sensor. Does the number on the screen increase by one, when the actuator (SSI Actuator) is operated by paper.	Go to step 3.	Go to step 4.
3	Check the error Does the error still occur when printing?	Replace the MCU Board (page 8-59).	Complete
4	Check the connections between the MCU Board and Manual Feed No Paper Sensor (Photo Sensor). Are P/J23 and P/J233 connected correctly?	Go to step 6.	Reconnect the connector(s) P/J23 and/or P/J233 correctly, then go to step 5.
5	Does the error still occur when printing?	Go to step 6.	Complete

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
6	Check the Left Side Harness Assy for continuity Disconnect J23 from the MCU Board. Disconnect J233 from the Manual Feed No Paper Sensor (Photo Sensor). Is each cable of J23 <=> J233 continuous?	Go to step 7.	Replace the Feeder Assy (page 8-25) or Left Side Harness Assy (page 8-26).
7	Check the power to the Manual Feed No Paper Sensor Disconnect J23 from the MCU Board. Is the voltage across P23-6pin <=> ground on the MCU Board, about +3.3 VDC?	Go to step 8.	Replace the MCU Board (page 8-59).
8	Check the Manual Feed No Paper Sensor for operation Check the voltage across J23-8pin <=> ground on the MCU Board. Does the voltage change when the SSI Actuator is operated?	Replace the MCU Board (page 8-59).	Replace the Feeder Assembly (page 8-25).

Jam at Exit

The Registration Sensor indicates that paper did not reach the sensor on time or that paper remains in the Registration Chute.

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.

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 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 the tray but not the manual feed slot or vice-versa. 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 Separator 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"> ■ Fuser Harness, PL6.1.2 ■ Fuser, PL6.1.1 ■ MCU Board, PL8.2.13 	<ul style="list-style-type: none"> ■ “Map 1 - Transfer Unit, Control Panel, Imaging Unit, Dispenser, Fuser” on page 10-8 ■ “Map 4 - Toner Dispenser Motors, HVPS, MCU” on page 10-11 ■ “Fuser” on page 10-29

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the paper condition. Is the paper damaged?	Replace the paper. Go to step 2.	Go to step 2.
2	Open and close the Front Cover to check the latches. Does the error still occur?	Go to step 3.	Complete.
3	Reseat the Fuser. Does the error still occur?	Go to step 4.	Complete.
4	Perform the Exit Sensor test (page 4-20): Service Mode > Engine Diag > Sensor Test > Exit Sensor . Does the number on the Control Panel increase by 1 when the Exit Sensor Actuator is activated?	Go to step 9.	Go to step 5.
5	Check the wiring harness connectors P/J17 and P/J171 between the MCU Board and the Fuser. Are the connectors securely connected?	Go to step 6.	Reconnect the connectors.
6	Check the power to the Exit sensor in the Fuser. 1. Disconnect P/J17 on the MCU Board. 2. Is there +3.3 V across ground <=> J17-1?	Go to step 7.	Replace the MCU Board (page 8-59).
7	Check the Exit Sensor for signal. 1. Measure the voltage across ground <=> P/J17-3. 2. Does the voltage change when the Actuator of the Exit Sensor is activated?	Replace the MCU Board (page 8-59).	Replace the Fuser (page 8-9).

Jam at Registration Roll

The Registration Sensor indicates that paper did not reach the sensor on time or that paper remains in the Registration Chute.

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.

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 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 the tray but not the manual feed slot or vice-versa. 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 Separator 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"> ■ Drive Clutch Assembly Kit (PL3.1.99) ■ Left Side Harness Assembly (PL3.1.18) ■ Feeder Assembly (PL3.1.3) ■ Photo Sensor (PL3.2.13) ■ Transfer Unit (PL6.1.7) ■ Main Drive Assembly (PL7.1.2) ■ MCU Board (PL8.2.13) 	<ul style="list-style-type: none"> ■ “Map 1 - Transfer Unit, Control Panel, Imaging Unit, Dispenser, Fuser” on page 10-8 ■ “Map 2 - Laser Unit, Feeder Assembly” on page 10-9 ■ “Map 3 - LVPS, Drive Motors, I/P Board, AC Power” on page 10-10 ■ “Map 4 - Toner Dispenser Motors, HVPS, MCU” on page 10-11 ■ “Drive” on page 10-20 ■ “Feeder, Manual Feed, & Registration” on page 10-19 ■ “Fuser” on page 10-29

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the paper condition Is the paper wrinkled or damaged?	Replace the paper. Go to step 2.	Go to step 3.
2	Does the error still occur when printing?	Go to step 3.	Complete
3	Check the Front Cover for latching Open and close the Front Cover, and then latch correctly. Does the error still occur when printing?	Go to step 4.	Complete
4	Check around the Regi Sensor Is there any remaining paper and/or foreign substance around the Regi Sensor?	Remove the paper and/or substance, then go to step 5.	Go to step 6.
5	Does the error still occur when printing?	Go to step 6.	Complete
6	Check the Transfer Unit Is there any remaining paper and/or damage on the belt of the Transfer Unit?	Remove the remaining paper. If the belt is damaged, replace the Transfer Unit (page 8-41).	Go to step 7.
7	1. Remove the Imaging Unit. 2. Rotate the Registration and Metal Registration Rollers with your finger. Are the Registration and Metal Registration Rollers seated correctly? Are they undamaged and free of contamination, and do they rotate smoothly?	Go to step 8.	Clean the rollers if possible, or replace the Feeder Assembly (page 8-25).
8	Check the Regi In and Regi Roll Actuators for shape and operation. Are the shape and operation of the Regi In and Regi Roll Actuators normal?	Go to step 9.	Reseat the Regi In Actuator and/or Regi Roll Actuator. If broken or deformed, replace the Feeder Assembly (page 8-25).

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
9	<p>Check the Regi. Sensor (Photo Sensor) for operation.</p> <p>Perform the Regi Sensor test: Service Mode > Engine Diag > Sensor Test > Regi Sensor</p> <p>Does the number on the screen increase by one, when the actuator (Regi In Actuator) is operated?</p>	Go to step 10.	Go to step 13.
10	<p>Check the Main Motor (Main Drive Assembly) for operation. During this check, defeat the Front Cover interlock switch (HARN ASSY INTERLOCK).</p> <p>Perform the Main Motor test (page 4-27): Service Mode > Engine Diag > Motor Test > Main Motor.</p> <p>Does the Motor operate properly?</p>	Go to step 11.	Go to step 20.
11	<p>Check the Regi. Clutch (CLUTCH ASSY DRV) for operation, and Regi Roll Assy and Metal Regi Roll for rotation</p> <p>First, start the Main Motor FULL2 test: Service Mode > Engine Diag > Motor Test > Main Motor FULL2, then start the Regi Clutch test: Service Mode > Engine Diag > Motor Test > Regi Clutch.</p> <p>Does the Regi. Clutch operate properly, and do the Regi Roll Assy and Metal Regi Roll rotate?</p> <p>During this check, defeat the Front Cover interlock switch (HARN ASSY INTERLOCK).</p>	Go to step 12.	Go to step 17.
12	<p>Reseat the connectors on the Transfer Unit.</p> <p>Does the error still occur when printing?</p>	Replace the Transfer Unit. (page 8-41)	Complete
13	<p>Check the connectors of the Regi Sensor (Photo Sensor) for connection</p> <p>Check the connections between the MCU Board and Regi Sensor (Photo Sensor).</p> <p>Are P/J23 and P/J232 connected correctly?</p>	Go to step 14.	Reconnect the connector(s) P/J23 and/or P/J232 correctly.
14	<p>Check the Left Side Harness Assy for continuity</p> <p>Disconnect J23 from the MCU Board.</p> <p>Disconnect J232 from the Photo Sensor.</p> <p>Is each cable of J23 <=> J232 continuous?</p>	Go to step 15.	Replace the Feeder Assy (page 8-25) or Left Side Harness Assy (page 8-26).

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
15	Check the power to the Photo Sensor Disconnect J23 from the MCU Board. Is the voltage across P23-3pin <=> ground on the MCU Board, about +3.3 VDC?	Go to step 16.	Replace the MCU Board (page 8-59).
16	Check the Photo Sensor for operation Check the voltage across J23-5 <=> ground on the MCU Board. Does the voltage change, when the Regi Roll Actuator is operated?	Replace the MCU Board (page 8-59).	Replace the Feeder Assembly (page 8-25).
17	Check the connectors of the Drive Clutch Assy (Regi Clutch) for connection Check the connections between the MCU Board and Drive Clutch Assy. Are P/J26 and P/J262 connected correctly?	Go to step 18.	Reconnect the connector(s) P/J26 and/or P/J262 correctly.
18	Check the power to the Drive Clutch Assy (Regi Clutch) Disconnect J26 from the MCU Board. Is the voltage across P26-4pin <=> ground on the MCU Board, about +24 VDC when the Front Cover Interlock Switch is pushed?	Go to step 19.	Replace the MCU Board (page 8-59).
19	Check the Drive Clutch Assy for resistance Disconnect P/J262 of the Drive Clutch Assy. Is the resistance across J262-1 and J262-2 approximately 280-ohm?	Replace the MCU Board (page 8-59).	Replace the Drive Clutch Kit (page 8-21).
20	Check the connections between the MCU Board and Main Drive Assembly (Main Motor). Are P/J21 and P/J211 connected securely?	Go to step 21.	Reconnect the connector(s) P/J21 and/or P/J211 securely.
21	Check the power to the Main Drive Assembly Disconnect J21 from the MCU Board. Are the voltages across J21-2/J21-4 <=> ground on the MCU Board, about +24 VDC when the Front Cover Interlock Switch is pushed?	Replace the Main Drive Assembly (page 8-52)	Replace the MCU Board (page 8-59).

MPC Errors

MPC Error

Multi-Protocol Network Card error occurs.

Applicable Chain Link

- **016-738:** MPC Error (Download Initial Error)
- **016-739:** MPC Error (Reseat MPC)
- **016-740:** MPC Communication Error
- **018-310:** MPC Error (NIC Controller Communication)
- **018-311:** MPC Error (NIC Flash ROM Boot Module Checksum Error)
- **018-312:** MPC Error (.....)
- **018-313:** MPC Error (NIC Flash ROM Application Module Checksum Error)
- **018-314:** MPC Error (NIC MAC Address Checksum Error)
- **018-315:** MPC Error (NIC Ethernet BIST Parity/RAM R/W Error)
- **018-316:** MPC Error (NIC Internal Loopback Error)
- **018-317:** MPC Error (NIC Fatal Error)
- **116-333:** MPC Error (PCI Option #0 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"> ■ Multi-Protocol Network Card (Option), PL8.1.11 ■ Image Processor Board, PL8.1.9 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the Multi-Protocol Network Card (MPC) for correct installation. Is the MPC correctly installed?	Go to step 2.	Reseat the MPC. Go to step 2.
2	Does the error still occur?	Go to step 3.	Complete.
3	Replace the Multi-Protocol Network Card (page 8-63).	Replace the Image Processor Board (page 8-60).	Complete.

Transfer Unit Errors

CTD Sensor Error/CTD Sensor/Check Unit

Applicable Chain Link

- **092-310:** CTD Sensor Error

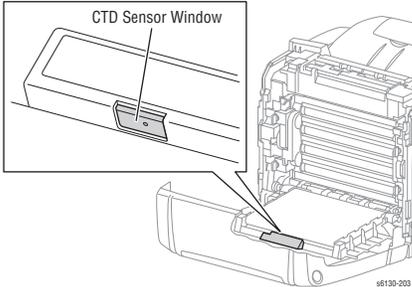
Initial Actions

- 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"> ■ Left Side Harness, PL3.1.18 ■ MCU Board, PL8.2.13 ■ Transfer Unit, PL6.1.7 	<ul style="list-style-type: none"> ■ “Map 1 - Transfer Unit, Control Panel, Imaging Unit, Dispenser, Fuser” on page 10-8 ■ “Map 4 - Toner Dispenser Motors, HVPS, MCU” on page 10-11 ■ “Xerographic” on page 10-24

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the ADC Sensor Window Open the Front Cover. Is the ADC Sensor window dirty? 	Go to step 2.	Go to step 3.
2	1. Turn off the power, and gently wipe the ADC Sensor window with a clean dry cloth or cotton swab. 2. After wiping the window, close the Front Cover. Does the error still occur when the power is turned OFF and ON?	Go to step 3.	Complete.
3	Check the Transfer Unit belt. Open the Front Cover. Is there any damage on the belt surface?	Replace the Transfer Unit. (page 8-41.)	Go to step 4.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	Check the connections between the MCU Board and Transfer Unit. Are both P/J28 and P/J281 connected correctly?	Go to step 6.	Reconnect P/J28 and/or P/J281 correctly, then go to step 5.
5	Does the error still occur when the power is turned OFF and ON?	Go to step 6.	Complete
6	Check the Left Side Harness for continuity 1. Disconnect J281 from the Transfer Unit. 2. Disconnect J28 from the MCU Board. Is each cable of J281 <=> J28 continuous?	Go to step 7.	Replace the Feeder Assy (page 8-25) or Left Side Harness Assy (page 8-26).
7	Check the power to the ADC Sensor 1. Disconnect J28 from the MCU Board. 2. Measure the voltage between P28-1 and ground. Does the voltage measure about +5 VDC?	Replace the Transfer Unit (page 8-41.)	Replace the MCU Board (page 8-59.)

DTB Life Over/Transfer Life

Applicable Chain Link

- **094-330:** Transfer Unit is at end of life.

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"> ■ MCU Board, PL8.2.13 ■ Transfer Unit, PL6.1.7 	<ul style="list-style-type: none"> ■ “Map 1 - Transfer Unit, Control Panel, Imaging Unit, Dispenser, Fuser” on page 10-8 ■ “Map 4 - Toner Dispenser Motors, HVPS, MCU” on page 10-11 ■ “Xerographic” on page 10-24

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the life counter value of the Transfer Belt: Service Mode > Parameter > Life DTB Waste . Is the life count value near the maximum?	Replace the Transfer Unit (page 8-41).	Replace the MCU Board (page 8-59).

Insert Imaging Unit

Initial Actions

- Cycle printer power.
- Ensure the Imaging Unit is installed correctly.
- If 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, PL8.2.13 ■ Imaging Unit, PL4.1.21 	<ul style="list-style-type: none"> ■ “Map 1 - Transfer Unit, Control Panel, Imaging Unit, Dispenser, Fuser” on page 10-8 ■ “Map 4 - Toner Dispenser Motors, HVPS, MCU” on page 10-11 ■ “Xerographic” on page 10-24

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the connectors between the MCU Board and Imaging Unit. Are P/J42 and P/J422 connected securely?	Replace the Imaging Unit (page 8-8), then go to step 3.	Securely reconnect P/J42 and/or P/J422, then go to step 2.
2	Does the error still occur when the power is turned OFF and ON?	Go to step 3.	Complete
3	Does the error still occur when the power is turned OFF and ON?	Replace the MCU Board (page 8-59).	Complete

Low Density Yellow/Magenta/Cyan/Black Cartridge

Initial Actions

- Cycle printer power.
- Remove the toner cartridge and shake it gently side-to-side, then reinstall.
- Check that all sealing tapes are removed from the Imaging Unit.
- If problem persists, follow the procedure below.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Dispenser Assy, PL5.1.1 ■ Toner Cartridge (Y,M,C,K), PL5.1.(21,22,23,24) ■ Transfer Unit Assy, PL6.1.7 ■ MCU Board, PL8.2.13 ■ Imaging Unit, PL4.1.21 	<ul style="list-style-type: none"> ■ “Map 1 - Transfer Unit, Control Panel, Imaging Unit, Dispenser, Fuser” on page 10-8 ■ “Map 4 - Toner Dispenser Motors, HVPS, MCU” on page 10-11 ■ “Xerographic” on page 10-24

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Use CWIS to determine the amount of toner remaining. Does CWIS report very little toner remaining?	Replace the Toner Cartridge, then go to step 2.	Go to step 3.
2	Does the error still occur when the power is turned OFF and ON?	Go to step 3.	Complete
3	Check the Y, M, C, or K Toner Motor: Service Mode > Engine Diag > Motor Test > (Yellow, Magenta, Cyan, Black) Toner Motor. Does the Toner Motor function normally? During this check, defeat the Front Cover interlock switch.	Go to step 4.	Go to step 5.
4	Check the Dispenser Assy gears for shape and operation. Are the shape and operation of the gears of the DISPENSER ASSY normal?	Go to step 9.	Replace the Dispenser Assembly (page 8-34).
5	Check the connectors between the MCU Board and Dispenser Motor Assembly. Are P/J18 and P/J181 connected correctly?	Go to step 7.	Reconnect connector(s) P/J18 and/or P/J181 securely, then go to step 6.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
6	Does the error still occur when the power is turned OFF and ON?	Go to step 7.	Complete
7	Check the Toner Motor Harness Assembly for continuity Disconnect J18 from the MCU Board for the Y or M Toner Motors, or J19 for the C or K Toner Motors. Disconnect J181 from the Y Motor, or J182 from the M Motor; or disconnect J191 for the C Motor, or J192 for the K Motor Is each cable of J18 <=> J181/J182 or J19 <=> J191/J192 continuous?	Go to step 8.	Replace the Dispenser Assembly (page 8-34).
8	Check the power to the Toner Motors Disconnect J18 and/or J19 from the MCU Board. On the MCU Board, is the voltage across P18-3, P18-8, P19-4 or P19-9 <=> ground about +24 VDC when the interlock switch (HARN ASSY INTERLOCK) is pushed.	Replace the Dispenser Assembly (page 8-34).	Replace the MCU Board (page 8-59).
9	Replace the Toner Cartridge (Y, M, C, or K), and check that the lock key is in the lock position. Does the error still occur when the power is turned OFF and ON?	Go to step 10.	Complete
10	Replace the Imaging Unit. Does the error still occur when the power is turned OFF and ON?	Replace the Transfer Unit (page 8-41).	Complete

Paper Setting Errors

Insert Output to Tray/Manual Feed

Waiting for side 2 to be set for manual duplex print.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the customer operation Did the customer load the paper to the tray?	Go to step 2.	Load the paper.
2	Check the customer operation Did the customer load the paper to the tray too late?	Try print again.	Go to step 3.
3	Check the customer operation Did the customer load the paper to specified tray?	Go to Load Manual Feed (page 3-57)	Try printing again.

Load Manual Feed

Size mismatch detected at Manual Feed Slot.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
Image Processor Board (PL8.1.9) MCU Board (PL8.2.13)	<ul style="list-style-type: none"> ■ “Map 1 - Transfer Unit, Control Panel, Imaging Unit, Dispenser, Fuser” on page 10-8 ■ “Map 4 - Toner Dispenser Motors, HVPS, MCU” on page 10-11 ■ “Xerographic” on page 10-24

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the paper size Does the paper size being used meet the specification?	Go to step 3.	Use paper that meets the specifications, then go to step 2.
2	Does the error still occur when printing?	Go to step 3.	Complete

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
3	Check the print data, paper (print media), and paper setting for the following, and correct the incorrect items: <ul style="list-style-type: none"> ■ Is the paper suitable for the print data? ■ Does the paper setting match the paper? ■ Is the paper setting suitable for the print data? Does the error still occur when printing?	Go to step 4.	Complete
4	Insert a sheet of paper that is suitable for the print data and the paper settings in the Manual Feed Slot. Does the error still occur when printing?	Replace the MCU Board (page 8-59) and go to step 5.	Complete
5	Does the error still occur when printing?	Replace the Image Processor Board (page 8-60).	Complete

Load Manual Feed

No paper detected at Manual Feed Slot.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
Left Side Harness Assy (PL3.1.18) Photo Sensor (PL3.2.13) SSI Actuator (PL3.2.14) MCU Board (PL8.2.13)	<ul style="list-style-type: none"> ■ “Map 1 - Transfer Unit, Control Panel, Imaging Unit, Dispenser, Fuser” on page 10-8 ■ “Map 4 - Toner Dispenser Motors, HVPS, MCU” on page 10-11 ■ “Xerographic” on page 10-24

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the paper for loading and setting Check that the paper in use meets the print job requirements Does the error still occur after reloading the paper and changing the paper settings that the print job requires?	Go to step 2.	Complete

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
2	Reset the side guides. Does the error still occur when printing?	Go to step 3.	Complete
3	Insert a sheet of paper that is suitable for the print data and the paper settings into the Manual Feed Slot. Does the error still occur when printing?	Go to step 4.	Complete
4	Check the SSI Actuator for shape and operation Are the shape and operation of the SSI Actuator normal?	Go to step 5.	Reseat the SSI Actuator. If broken or damaged, replace the SSI Actuator.
5	Check the Manual Feed Sensor (Photo Sensor) for operation. Perform the Manual Feed Sensor test: Service Mode > Engine Diag > Sensor Test > Manual Feed Sensor Does the number on the screen increase by one, when the SSI Actuator is operated?	Replace the MCU Board (page 8-59).	Go to step 6.
6	Check the connectors of the Photo Sensor (SSI No Paper Sensor) for connection Check the connections between the MCU Board and Photo Sensor (SSI No Paper Sensor). Are P/J23 and P/J233 connected correctly?	Go to step 8.	Reconnect the connector(s) P/J23 and/or P/J233 correctly, then go to step 7.
7	Does the error still occur when printing?	Go to step 8.	Complete
8	Check the Left Side Harness Assy for continuity Disconnect J23 from the MCU Board. Disconnect J233 from the Photo Sensor. Is each cable of J23 <=> J233 continuous?	Go to step 9.	Replace the Feeder Assy (page 8-25) or Left Side Harness Assy (page 8-26).
9	Check the power to the Photo Sensor Disconnect J23 from the MCU Board. Is the voltage across P23-6pin <=> ground on the MCU Board, about +3.3 VDC?	Go to step 10.	Replace the MCU Board (page 8-59).
10	Check the Photo Sensor for operation Check the voltage across J23-8pin <=> ground on the MCU Board. Does the voltage change, when the SSI Actuator is operated?	Replace the MCU Board (page 8-59).	Replace the Feeder Assy. (page 8-25).

Load Tray

Size mismatch detected at Tray.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
Image Processor Board (PL8.1.9) MCU Board (PL8.2.13)	<ul style="list-style-type: none"> ■ “Map 1 - Transfer Unit, Control Panel, Imaging Unit, Dispenser, Fuser” on page 10-8 ■ “Map 4 - Toner Dispenser Motors, HVPS, MCU” on page 10-11 ■ “Xerographic” on page 10-24

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the paper size Does the paper size being used meet the specification?	Go to step 3.	Use paper that meets the specifications, then go to step 2.
2	Does the error still occur when printing?	Go to step 3.	Complete
3	Check the print data, paper (print media), and paper setting for the following, and correct the incorrect items: <ul style="list-style-type: none"> ■ Is the paper suitable for the print data? ■ Does the paper setting match the paper? ■ Is the paper setting suitable for the print data? Does the error still occur when printing?	Go to step 4.	Complete
4	Reload the paper tray with the correct paper and return the tray to the printer. Does the error still occur when printing?	Go to step 5.	Complete
5	Replace the MCU Board (page 8-59). Does the error still occur when printing?	Replace the Image Processor Board (page 8-60).	Complete

Load Tray/Tray Empty

No paper detected in tray.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
Left Side Harness Assy (PL3.1.18) Photo Sensor (PL3.2.13) Paper Feeder (PL3.1.3) MCU Board (PL8.2.13)	<ul style="list-style-type: none"> ■ “Map 2 - Laser Unit, Feeder Assembly” on page 10-9 ■ “Map 4 - Toner Dispenser Motors, HVPS, MCU” on page 10-11 ■ “Feeder, Manual Feed, & Registration” on page 10-19

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the paper for loading and setting Check that the paper in use meets the print job requirements Does the error still occur after reloading the paper and changing the paper settings that the print job requires?	Go to step 2.	Complete
2	Check the No Paper Actuator for shape and operation Pull the paper tray out. Are the shape and operation of the No Paper Actuator normal?	Go to step 3.	Reseat the No Paper Actuator. If broken or deformed, replace the Feeder Assembly (page 8-25).
3	Check the Tray No Paper Sensor (Photo Sensor) for operation Pull the CASSETTE ASSY 250 out. Perform the Tray No Paper test (page 4-26): Service Mode > Engine Diag > Sensor Test > Tray No Paper Does the number on the screen increase by one, when the actuator of the Tray No Paper Sensor (Photo Sensor) is operated?	Replace the MCU Board (page 8-59).	Go to step 4.
4	Check the connectors of the Tray No Paper Sensor (Photo Sensor) for connection Check the connections between the MCU Board and Photo Sensor. Are P/J23 and P/J234 connected correctly?	Go to step 5.	Reconnect the connector(s) P/J23 and/or P/J234 correctly.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	<p>Check the Left Side Harness Assy for continuity</p> <p>Disconnect J23 from the MCU Board.</p> <p>Disconnect J234 from the Photo Sensor.</p> <p>Is each cable of J23 <=> J234 continuous?</p>	Go to step 6.	Replace the Feeder Assy (page 8-25) or Left Side Harness Assy (page 8-26).
6	<p>Check the power to the Tray No Paper Sensor (Photo Sensor)</p> <p>Disconnect J23 from the MCU Board.</p> <p>Is the voltage across P23-9pin <=> ground on the MCU Board, about +3.3 VDC?</p>	Go to step 7.	Replace the MCU Board (page 8-59).
7	<p>Check the Tray No Paper Sensor (Photo Sensor) for operation</p> <p>Check the voltage across J23-11pin <=> ground on the MCU Board.</p> <p>Does the voltage change, when the Tray No Paper Sensor actuator is operated?</p>	Replace the MCU Board (page 8-59).	Replace the Photo Sensor.

Fuser Errors

Insert Fuser

The printer detects that the Fuser is not installed.

Applicable Chain Link

- **010-317:** Fuser not detected

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
Fuser (PL6.1.1) Fuser Harness Assy (PL6.1.2) MCU Board (PL8.2.13)	<ul style="list-style-type: none"> ■ “Map 2 - Laser Unit, Feeder Assembly” on page 10-9 ■ “Map 4 - Toner Dispenser Motors, HVPS, MCU” on page 10-11 ■ “Feeder, Manual Feed, & Registration” on page 10-19

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat the Fuser. Warning: Start the operation after the Fuser has cooled down. Does the error still occur when the power is turned OFF and ON?	Go to step 2.	Complete
2	Check the connectors for connection Remove the Fuser. Warning: Start the operation after the Fuser has cooled down. Check the connections between the MCU Board and Fuser. Are P/J17 and P/J171 connected correctly?	Go to step 4.	Reconnect the connector(s) P/ J17 and/or P/ J171 correctly, then go to step 3.
3	Does the error still occur when the power is turned OFF and ON?	Go to step 4.	Complete
4	Check the Fuser Harness Assy for continuity Remove the Fuser. Warning: Start the operation after the Fuser has cooled down. Disconnect J17 from the MCU Board. Is each cable of J17 <=> P171 continuous? NOTE: P171 is attached to the frame.	Go to step 5.	Replace the Fuser Harness Assy.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	Check the resistances of Temp. Sensor in the Fuser Remove the Fuser. Warning: Start the operation after the Fuser has cooled down. Check the resistances across the following pins of the removed Fuser. J171-5 <=> J171-4 J171-6 <=> J171-8 J171-6 <=> J171-7 Can the resistances be measured? (The resistances are 7 k-ohm at 180 degrees C).	Replace the MCU Board (page 8-59)	Replace the Fuser (page 8-9). After replacing the Fuser, be sure to reset the life counter value.

Replace Fuser / Fuser Life

The Fuser has reached end of life.

Applicable Chain Link

- **010-351:** The Fuser is at end of life.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
Fuser (PL6.1.1) MCU Board (PL8.2.13)	<ul style="list-style-type: none"> ■ “Map 2 - Laser Unit, Feeder Assembly” on page 10-9 ■ “Map 4 - Toner Dispenser Motors, HVPS, MCU” on page 10-11 ■ “Feeder, Manual Feed, & Registration” on page 10-19

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the life counter value of the Fuser Does the life counter value show the near of the end?	Replace the Fuser (page 8-9). After replacing the Fuser, be sure to reset the life counter value.	Go to step 2.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
2	Check after reseating the Fuser Reseat the Fuser. Warning: Start the operation after the Fuser has cooled down. Does the error still occur when the power is turned OFF and ON?	Go to step 3.	Complete
3	Check after replacing the Fuser Replace the Fuser (page 8-9). Warning: Start the operation after the Fuser has cooled down. Does the error still occur when the power is turned OFF and ON? NOTE: After replacement, be sure to clear the life counter value.	Replace the MCU Board (page 8-59).	Complete

Fuser Error

Applicable Chain Link

- **010-397:** Fuser failure is detected.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
Fuser (PL6.1.1) LVPS Board (PL8.2.1) MCU Board (PL8.2.13)	<ul style="list-style-type: none"> ■ “Map 1 - Transfer Unit, Control Panel, Imaging Unit, Dispenser, Fuser” on page 10-8 ■ “Map 3 - LVPS, Drive Motors, I/P Board, AC Power” on page 10-10 ■ “Map 4 - Toner Dispenser Motors, HVPS, MCU” on page 10-11 ■ “Fuser” on page 10-29

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Does the error still occur when the power is turned OFF and ON?	Go to step 2.	Complete
2	Check after reseating the Fuser Reseat the Fuser. Warning: Start the operation after the Fuser has cooled down. Does the error still occur when the power is turned OFF and ON?	Go to step 3.	Complete

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
3	<p>Check the connectors for connection Remove the Fuser. Warning: Start the operation after the Fuser has cooled down. Check the connections between the MCU Board (P/J17) and Fuser (P/J171). Check the connections between the Fuser (P/J171) and LVPS Board (P/J47). Check the connections between the LVPS Board (P/J501 and P/J502) and MCU Board (P/J14 and P/J15). Are these connectors connected correctly?</p>	Go to step 5.	Reconnect the connector(s) P/J17, P/J47, P/J171, P/J501, P/J502, P/J14 and/or P/J15 correctly, then go to step 4."
4	Does the error still occur when the power is turned OFF and ON?	Go to step 5.	Complete
5	<p>Check the Fuser Harness Assy for continuity Disconnect J17 from the MCU Board. Disconnect J47 from the LVPS Board. Is each cable of J17 and J47 <=> P171 continuous? NOTE: P171 is attached to the frame.</p>	Go to step 6.	Replace the Fuser Harness Assy.
6	<p>Check the LVPS Harness Assy for continuity Disconnect J14 from the MCU Board. Disconnect J501 from the LVPS Board. Is each cable of J14 <=> J501 continuous?</p>	Go to step 7.	Replace the LVPS Harness Assy.
7	<p>Check after replacing the Fuser Replace the Fuser (page 8-9). Warning: Start the operation after the Fuser has cooled down. Does the error still occur when the power is turned OFF and ON? NOTE: After replacement, be sure to clear the life counter value.</p>	Go to step 8.	Complete
8	<p>Check after replacing the LVPS Board Replace the LVPS Board (page 8-55) Does the error still occur when the power is turned OFF and ON?</p>	Replace the MCU Board (page 8-59).	Complete

Motor Errors

Fan Motor Error

The Fan Motor is not in operation.

Applicable Chain Link

- **042-313:** Fan Motor 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, PL8.2.13 ■ LVPS Harness Assy, PL9.1.3 ■ FAN, PL8.1.1 ■ LVPS Board, PL8.2.1 	<ul style="list-style-type: none"> ■ “Map 1 - Transfer Unit, Control Panel, Imaging Unit, Dispenser, Fuser” on page 10-8 ■ “Map 4 - Toner Dispenser Motors, HVPS, MCU” on page 10-11 ■ “DC Power Supply” on page 10-17

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Perform the Fan test (page 4-31): Service Mode > Engine Diag > Fan HIGH. Does the Fan operate properly?	Replace the MCU Board. (page 8-59)	Go to step 2.
2	Check the connection between the FAN and LVPS. Is P/J503 on the LVPS connected correctly?	Go to step 4.	Reconnect the connector P/J503 correctly, then go to step 3.
3	Does the error still occur when the power is turned OFF and ON?	Go to step 4.	Complete
4	Check the connections between the LVPS and MCU Board. Are P/J501 and P/J14 connected correctly?	Go to step 6.	Reconnect the connector(s) P/J501 and P/J14 correctly, then go to step 5.
5	Does the error still occur when the power is turned OFF and ON?	Go to step 7.	Complete

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
6	Disconnect J503 from the LVPS. defeat the front cover interlock and measure the voltage across P503-1pin <=> ground on the LVPS. Does the voltage read about +24 VDC?	Replace the Fan (page 8-56).	Replace the LVPS (page 8-55), then go to step 7.
7	Does the error still occur when the power is turned OFF and ON?	Replace the MCU Board (page 8-59).	Complete

Motor Error

The Main Motor has failed.

Applicable Chain Link

- **042-325:** Motor 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, PL8.2.13 ■ Main Drive Assembly, PL8.1.2 	<ul style="list-style-type: none"> ■ “Map 1 - Transfer Unit, Control Panel, Imaging Unit, Dispenser, Fuser” on page 10-8 ■ “Map 4 - Toner Dispenser Motors, HVPS, MCU” on page 10-11

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the Imaging Unit for correct installation. Is the Imaging Unit seated correctly?	Go to step 3.	Reseat the Imaging Unit and cycle the power. Go to step 2.
2	Does the error still occur?	Go to step 3.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
3	1. Close the Front Cover. 2. Perform the Main Motor test (page 4-27): Service Mode > Engine Diag > Motor Test > Main Motor FULL2 . Does the Motor operate properly?	Replace the MCU Board (page 8-59).	Go to step 4.
4	Check the wiring harness connectors P/J21 and P/J211 between the MCU Board and the Main Drive. Are the connectors securely connected?	Go to step 6.	Reconnect the connectors. Go to step 5.
5	Turn the power Off, then On. Does the error still occur?	Go to step 6.	Complete.
6	Check the Main Drive for correct installation. Is the Main Drive securely installed?	Go to step 8.	Reseat the Main Drive. Go to step 7.
7	Does the error still occur?	Go to step 8.	Complete.
8	Check the Main Drive signal. 1. Disconnect P/J21 on the MCU Board. 2. Are there +24 V across ground <=> J21-2/J21-4 when the Interlock Switch is activated?	Replace the Main Drive Assembly (page 8-52).	Replace the MCU Board (page 8-59).

Sub Motor Error

The Sub Motor has failed.

Applicable Chain Link

- **Chain Link 042-326:** Sub Motor 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, PL8.2.13 ■ Sub Drive Assembly, PL7.1.1 	<ul style="list-style-type: none"> ■ “Map 1 - Transfer Unit, Control Panel, Imaging Unit, Dispenser, Fuser” on page 10-8 ■ “Map 3 - LVPS, Drive Motors, I/P Board, AC Power” on page 10-10

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the Imaging Unit and Fuser for correct installation. Are the Imaging Unit and Fuser correctly installed?	Go to step 3.	Reseat the Imaging Unit and Fuser. Go to step 2.
2	Does the error still occur?	Go to step 3.	Complete.
3	1. Close the Front Cover. 2. Perform the Sub Motor test (page 4-28): Service Mode > Engine Diag > Motor Test > Sub Motor FULL2 . Does the Sub Motor operate properly?	Replace the MCU Board (page 8-59).	Go to step 4.
4	Check the wiring harness connectors P/J22 and P/J221 between the MCU Board and the Sub Drive Assembly. Are the connectors securely connected?	Go to step 6.	Reconnect the connectors. Go to step 5.
5	Does the error still occur?	Go to step 6.	Complete.
6	Check the Sub Drive Assembly for correct installation. Is it correctly installed?	Go to step 8.	Reseat the Main Drive. Go to step 7.
7	Does the error still occur?	Go to step 8.	Complete.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
8	Check power to the Sub Drive Assembly. 1. Disconnect P/J22 from the MCU Board. 2. Are there +24 V across J22-2/J22-4 <=> ground when the Interlock Switch is activated?	Replace the Sub Drive Assembly (page 8-53).	Replace the MCU Board (page 8-59).

Imaging Unit Errors

Replace Imaging Unit/PHD CRUM Error

Applicable Chain Link

- **091-916:** Imaging Unit CRUM 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, PL8.2.13 ■ Imaging Unit, PL4.1.21 	<ul style="list-style-type: none"> ■ “Map 1 - Transfer Unit, Control Panel, Imaging Unit, Dispenser, Fuser” on page 10-8 ■ “Map 3 - LVPS, Drive Motors, I/P Board, AC Power” on page 10-10

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the Imaging Unit type Is the correct Imaging Unit installed?	Go to step 3.	Replace with the correct Imaging Unit, then go to step 2.
2	Does the error still occur when the power is turned OFF and ON?	Go to step 3.	Complete
3	Reseat the Imaging Unit. Does the error still occur when the power is turned OFF and ON?	Go to step 4.	Complete
4	Check the connectors to the MCU Board and Imaging Unit. Are P/J42 and P/J422 connected correctly?	Go to step 6.	Reconnect the connector(s) P/J42 and/or P/J422 securely, then go to step 5.
5	Does the error still occur when the power is turned OFF and ON?	Go to step 6.	Complete
6	Replace the Imaging Unit (page 8-8). Does the error still occur when the power is turned OFF and ON?	Replace the MCU Board. (page 8-59)	Complete

Cover Open Errors

Front Cover Open

The Front Cover is 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"> ■ MCU Board, PL8.2.13 ■ Front Cover, PL1.1.7 ■ Interlock Harness, PL9.1.3 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Is the Front Cover damaged?	Replace the Front Cover (page 8-19).	Go to step 2.
2	Check the Interlock Switch for operation. Perform the Cover Open Sensor test (page 4-22): Service Mode > Engine Diag > Sensor Test > Cover Open Sensor . Does the Switch operate properly?	Replace the MCU Board (page 8-59).	Go to step 3.
3	Measure the voltage a P44-1 <=> ground. Does the voltage measure +24 VDC?	Go to step 4.	Replace the LVPS (page 8-55).
4	Replace the Interlock Switch Harness (page 8-54). Does the error still occur?	Replace the MCU Board (page 8-59).	Complete.

Side Door Open

The Side Door (Toner Access Door) is 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"> ■ MCU Board, PL8.2.13 ■ Cover Window Tnr (Toner Access Door), PL1.1.5 ■ Switch (Side door interlock), PL5.1.9 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Is the Toner Access Door damaged?	Replace the Toner Access Door (page 8-11).	Go to step 2.
2	Open and close the Toner Access Door. Is the door latched correctly?	Go to step 3.	Reseat or replace the Toner Access Door (page 8-11).
3	Check the Side R Switch (SWITCH) for operation Perform the Side Switch test (page 4-24): Service Mode > Engine Diag > Sensor Test > Side Switch . Does the number on the screen increase by one when the Toner Access Door is closed and opened?	Replace the MCU Board (page 8-59).	Go to step 4.
4	Check the Side Switch Harness for continuity 1. Disconnect J29 from the MCU Board. 2. Disconnect J291 from the Side Switch. Is each cable of J29 <=> J291 continuous?	Replace the Switch (R Side Door) (page 8-63) then go to step 5.	Replace the Harn Assy Side SW.
5	Does the error still occur when the power is turned OFF and ON?	Replace the MCU Board (page 8-59).	Complete

MCU Errors

MCU Firmware Error

The MCU Board detected a firmware error.

Applicable Chain Link

- **024-340:** MCU Firmware Error

Initial Actions

- Cycle printer power several times.
- 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, PL8.2.13 ■ HVPS, PL5.1.17 	<ul style="list-style-type: none"> ■ “Map 1 - Transfer Unit, Control Panel, Imaging Unit, Dispenser, Fuser” on page 10-8 ■ “Map 4 - Toner Dispenser Motors, HVPS, MCU” on page 10-11 ■ “Xerographic” on page 10-24

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the firmware version Is the firmware the latest version?	Go to step 2.	Upgrade the firmware, then go to step 2.
2	Reseat the connectors on the MCU Board. Does the error still occur when the power is turned OFF and ON?	Replace the MCU Board (page 8-59) then go to step 3.	Complete ^a
3	After replacing the MCU Board, does the error still occur when the power is turned OFF and ON?	Go to Electrical Noise (page 4-49).	Complete

a. Some kind of foreign noise could be a possible cause. Go to “Electrical Noise” on page 4-49 to make sure.

MCU NVRAM Error

Engine NVRAM is corrupted.

Applicable Chain Link

- **041-340:** MCU 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"> ■ Toner Cartridge, PL5.1.21/5.1.22/5.1.23/5.1.24 ■ Transfer Unit, PL6.1.7 ■ MCU Board, PL8.2.13 	<ul style="list-style-type: none"> ■ “Map 1 - Transfer Unit, Control Panel, Imaging Unit, Dispenser, Fuser” on page 10-8 ■ “Map 4 - Toner Dispenser Motors, HVPS, MCU” on page 10-11 ■ “Xerographic” on page 10-24

Note

Press the **Down Arrow**, **Up Arrow**, and **OK** buttons simultaneously to display error code detail called for in this procedure.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the error Does the error still occur when turning off and on the power?	Go to step 2.	Complete
2	Check the failure parts Is the “ADDR: 1***” displayed?	Replace the MCU Board (page 8-59).	Go to step 3.
3	Check the failure parts Is the “ADDR: 30***” displayed?	Replace the Transfer Unit (page 8-41).	Go to step 4.
4	Check the failure parts Is the “ADDR: 31***” displayed?	Replace the Yellow Toner Cartridge.	Go to step 5.
5	Check the failure parts Is the “ADDR: 32***” displayed?	Replace the Magenta Toner Cartridge.	Go to step 6.
6	Check the failure parts Is the “ADDR: 33***” displayed?	Replace the Cyan Toner Cartridge.	Replace the Black Toner Cartridge.

Laser Unit Errors

Laser Error

An error was detected in the Laser Unit.

Applicable Chain Link

- **Chain Link 061-370:** Laser Error (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"> ■ ROS (Laser Unit) Kit, PL4.1.99 ■ MCU Board, PL8.2.13 	<ul style="list-style-type: none"> ■ “Map 2 - Laser Unit, Feeder Assembly” on page 10-9 ■ “Map 4 - Toner Dispenser Motors, HVPS, MCU” on page 10-11 ■ “Laser Unit” on page 10-22

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the Laser Unit for correct installation. Is the Laser Unit correctly installed?	Go to step 3.	Reinstall the Laser Unit. Go to step 2.
2	Cycle the power. Does the error still occur?	Go to step 3.	Complete.
3	Check the wiring harness connectors P/J40, P/J41, P/J411, and P/J412 between the MCU Board and the Laser Unit. Are the connectors securely connected?	Go to step 5	Reconnect the connectors. Go to step 4.
4	Cycle the power. Does the error still occur?	Go to step 5.	Complete.
5	Replace the Laser Unit (page 8-31). Does the error still occur?	Replace the MCU Board (page 8-59).	Complete.

System Error

MCU Communication Error

The MCU Board detected a communication error.

Applicable Chain Link

- **024-371:** MCU 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"> ■ MCU Board, PL8.2.13 ■ Image Processor Board, PL8.1.9 	<ul style="list-style-type: none"> ■ “Map 3 - LVPS, Drive Motors, I/P Board, AC Power” on page 10-10 ■ “Map 4 - Toner Dispenser Motors, HVPS, MCU” on page 10-11 ■ “Controller” on page 10-31

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check connectors P/J10 on the MCU Board and P/J101 on the Image Processor Board. Are the connectors securely connected?	Go to step 3.	Reconnect the connector(s) P/J10 and/or P/J101 correctly, then go to step 2.
2	Cycle the power. Does the error still occur?	Go to step 3	Complete.
3	Replace the Image Processor Board (page 8-60). Does the error still occur?	Replace the MCU Board (page 8-59).	Complete.

Other Errors

Invalid Job

Error occurs when the configuration of the printer does not match the printer driver.

Applicable 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, PL8.1.9	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the paper size. Does the paper meet the specifications?	Go to step 2.	Replace the paper.
2	Check the paper size setup on the Control Panel: Menu > Tray Settings > Paper Size.	Go to step 4.	Go to step 3.
3	Set the paper size in the Control Panel to match the paper in the tray. Does the error still occur?	Replace the Image Processor Board (page 8-60).	Complete.
4	Does the error still occur?	Replace the Image Processor Board (page 8-60).	Complete.

Download Mode

The MCU downloaded file is invalid.

Applicable Chain Link

- **024-360:** MCU Firmware Download Error

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Image Processor Board, PL8.1.9 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the download firmware Is the correct firmware downloaded?	Go to step 2.	Download the correct firmware.
2	Check the Image Processor Board installation Reseat <i>all</i> connectors on the Image Processor Board. Does the error still occur when downloading the firmware?	Replace the Image Processor Board (page 8-60).	Complete

K Mode Sol Error

K Mode Solenoid (Color Mode Switching Solenoid) error is detected.

Applicable Chain Link

- **042-372:** K Mode Solenoid 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"> ■ Feed Drive Assembly (Drive Assy PH), PL7.1.4 ■ MCU Board, PL8.2.13 	<ul style="list-style-type: none"> ■ “Map 4 - Toner Dispenser Motors, HVPS, MCU” on page 10-11 ■ “Drive” on page 10-20

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat the Imaging Unit. Does the error still occur when the power is turned OFF and ON?	Go to step 2.	Complete
2	Perform the K Mode Solenoid test (page 4-29): Service Mode > Motor Test > K Mode Solenoid. During this check, close the Front Cover. Does the solenoid click when the K Mode Solenoid check is performed?	Go to step 7.	Go to step 3.
3	Check the connection between the MCU Board and K Mode Solenoid. Is P/J24 connected securely?	Go to step 5.	Reconnect the connector P/J24 correctly, then go to step 4.
4	Does the error still occur when the power is turned OFF and ON?	Go to step 5.	Complete
5	Check the power to the K Mode Solenoid Disconnect J24 from the MCU Board. Is the voltage across P24-1pin <=> ground on the MCU Board, about +24 VDC when the Interlock Switch (HARN ASSY INTERLOCK) is pushed?	Go to step 6.	Replace the MCU Board (page 8-59).

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
6	Check the K Mode Solenoid for resistance Disconnect P/J24 from the MCU Board. Is the resistance across J24-1 and J24-2 about 80 to 110-ohm?	Replace the MCU Board (page 8-59).	Replace the Feed Drive Assembly (page 8-22).
7	Check that the Feed Drive Assembly is properly installed. If not, install correctly. Does the error still occur when the printer is powered on?	Go to step 8	Complete
8	Check the connections between the MCU Board and K Mode Sensor. Are P/J26 and P/J261 connected securely?	Go to step 10.	Reconnect the connector(s) P/J26 and/or P/J261 correctly, then go to step 9.
9	Does the error still occur when the power is turned OFF and ON?	Go to step 10.	Complete
10	1. Disconnect J26 from the MCU Board. 2. Measure the voltage across P26-1 <=> ground on the MCU Board. Is the voltage about +3.3 VDC?	Go to step 11.	Replace the MCU Board (page 8-59).
11	1. Remove the Feed Drive Assembly from the printer (page 8-22), but let P/J261 and P/J24 remain connected. 2. Perform the K Mode Sensor test (page 4-23): Service Mode > Sensor Test > K Mode Sensor. During this check, close the Front Cover. Does the voltage change, when a piece of paper is inserted into the gap of the K Mode Sensor?	Replace the MCU Board (page 8-59).	Replace the Feed Drive Assembly (page 8-22).

Env Sensor Error

Humidity sensor error is detected.

Applicable Chain Link

- **092-661**: Env 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 Sensor, PL8.2.7 ■ MCU Board, PL8.2.13 	<ul style="list-style-type: none"> ■ “Map 3 - LVPS, Drive Motors, I/P Board, AC Power” on page 10-10 ■ “Map 4 - Toner Dispenser Motors, HVPS, MCU” on page 10-11 ■ “Xerographic” on page 10-24

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Reseat the connector (P/J201) on the Humidity Sensor. Does the error still occur when the power is turned OFF and ON?	Go to step 2.	Complete
2	Check the power to Humidity Sensor. 1. Disconnect the connector of J20 from the MCU Board. 2. Measure the voltage across P20-4 <=> ground on the MCU Board Is the voltage about +5 VDC?	Replace the Humidity Sensor (page 8-58).	Replace the MCU Board (page 8-59).

General Troubleshooting

In this chapter...

- Introduction
- System Startup
- Power On Self Test (POST)
- Service Diagnostics
- Service Mode Menu Map
- Printer Components
- Service Mode Diagnostic Tests
- Control Panel Troubleshooting
- Inoperable Printer Troubleshooting
- AC Power Supply Troubleshooting
- DC Power Supply Troubleshooting
- +24 VDC Interlock Switch
- Abnormal Noise and Electrical 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

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

1. When the power switch is turned On, the “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 runs 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 **Diagnosing...** message is displayed.
8. The Control Panel message changes to **Ready Calibrating** and then **Xerox (TM) Toner Cartridge**.
9. The Control Panel LED turns Green and the **Ready** message is displayed.

Power On Self Test (POST)

POST Diagnostics provide a quick mean 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. Checks and initializes CRU Register.
2. Initializes ASIC.
3. Checks RAM.
4. Initializes the Control Panel driver.
5. Processes the ROM Sum Check.
6. Initializes Memory Manager.
7. Initializes EEPROM driver.
8. Initializes IOT Controller.
9. Starts the Operating System process.
10. 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	This test performs PHY internal loopback.
ASIC	116-343	Performs register test.

POST Test Description (continued)

Test	Chain Link	Description
PANEL		This test checks input and output of the Control Panel buttons.
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 6125/6130 printer 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 the diagnostic test in Service Mode 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 Mode Diagnostic Tests” on page 4-9.

Entering Service Mode

1. Turn the printer power Off.
2. Press and hold the **Up** and **Down Arrow** buttons simultaneously and turn the printer power On.
3. **Diagnosing...** message is displayed.
4. Continue to hold the buttons until the **Service Mode** message is displayed on the Control Panel and release the buttons.

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.

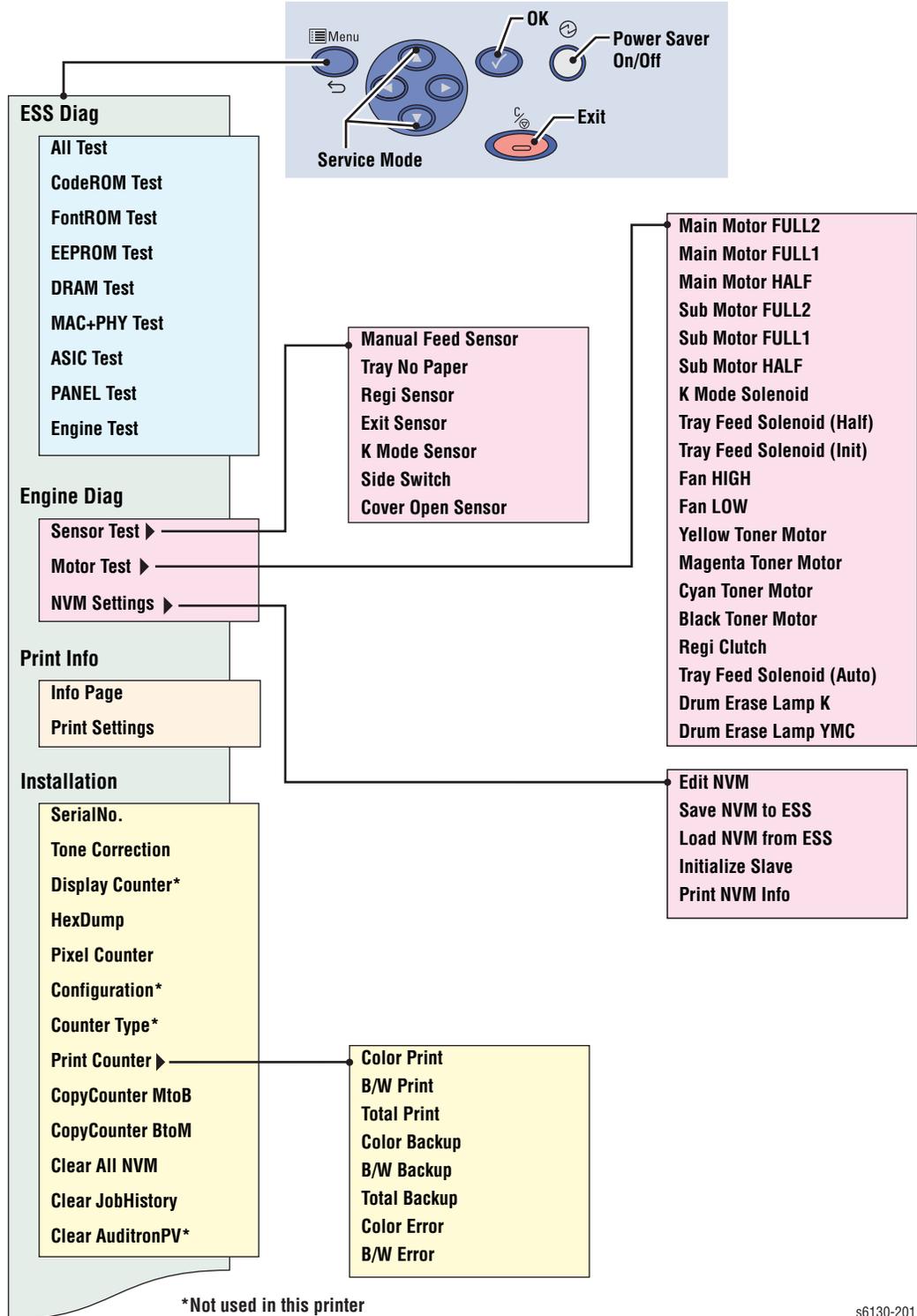
Service Mode Control Panel Button Descriptions

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/Cancel	Resets a diagnostic item, cancels a task, or exit the menu.
Wake Up	Function not available in Diagnostics mode.

Service Mode Menu Map

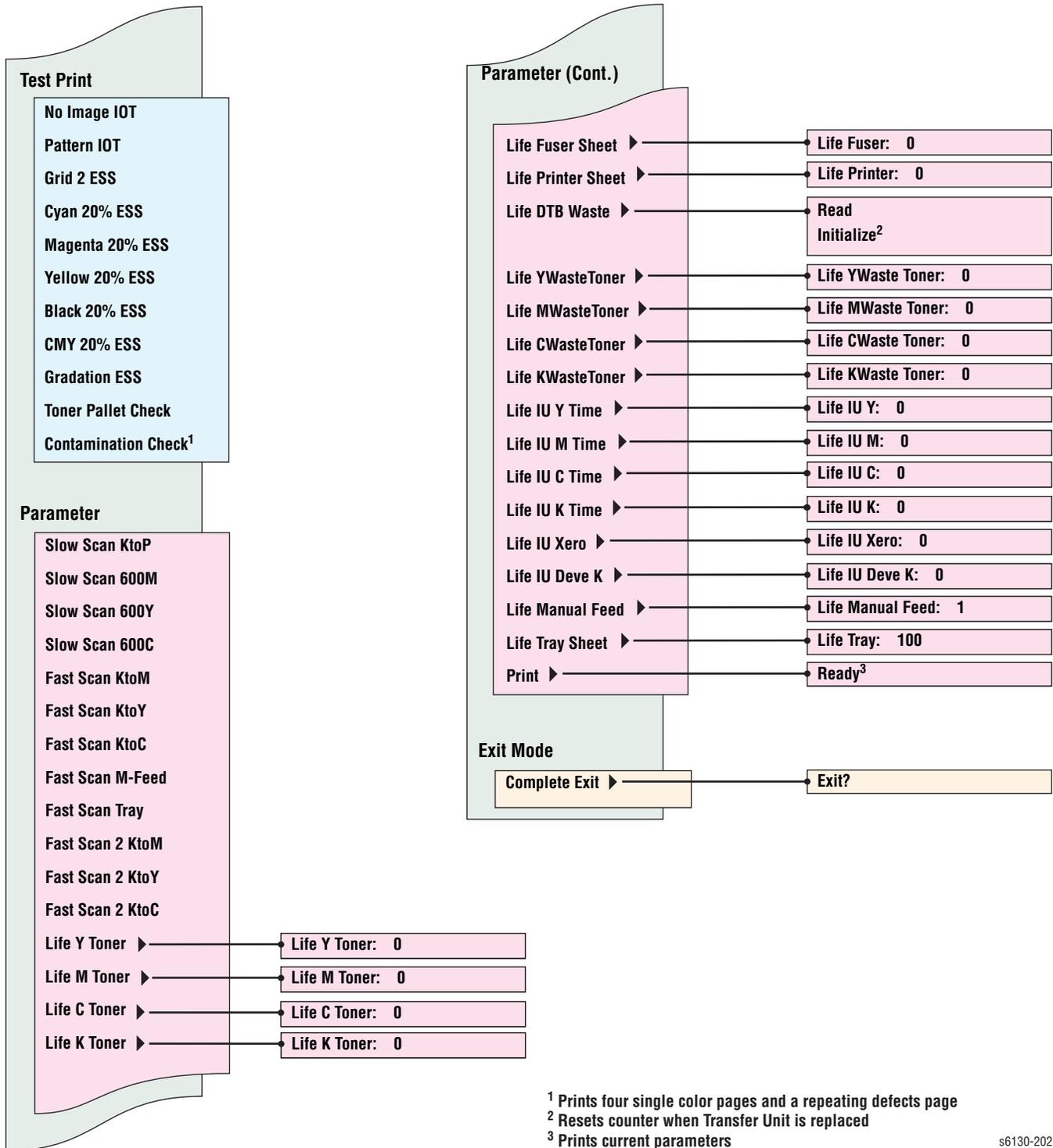
6130 Menu Map - Page 1

To access Service Mode, press Up and Down Arrows at power ON.



s6130-201

Menu Map - Page 2

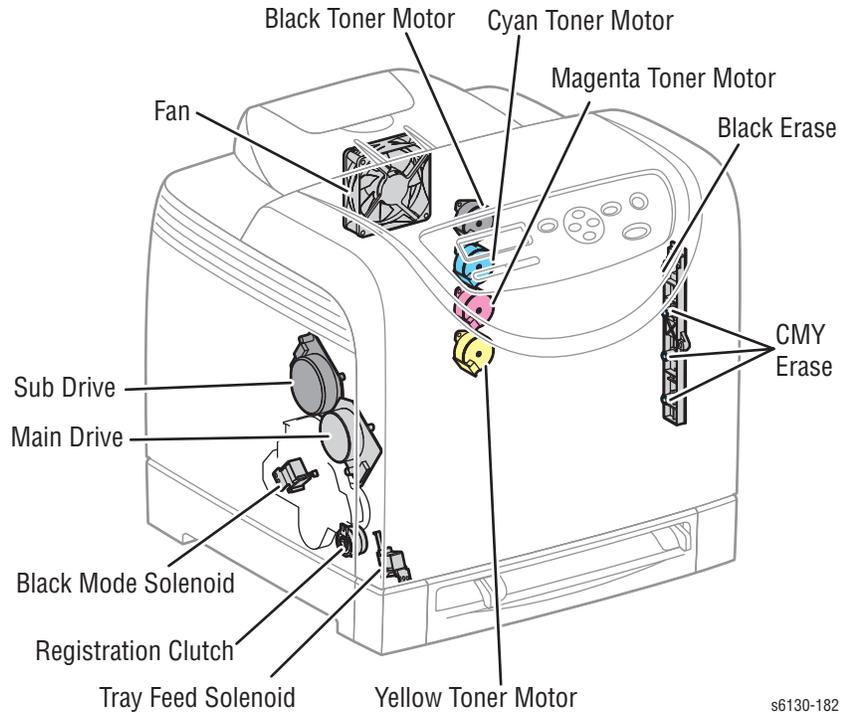


Note

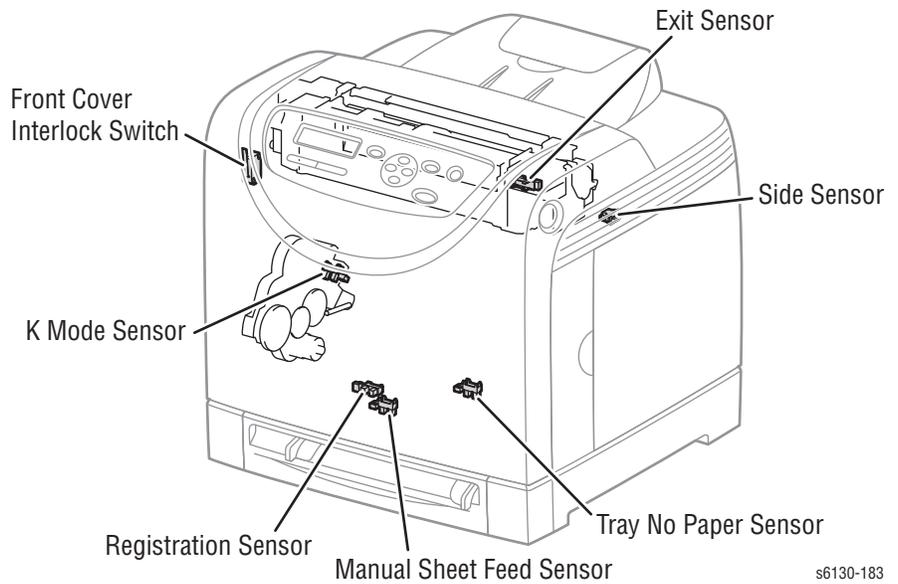
The 6125 includes a similar menu structure accessed from the Control Panel.

Printer Components

Motors, Clutches, Solenoids, Lamps



Sensors



Service Mode Diagnostic Tests

Diagnostic Tests and Utilities

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 	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 	<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 occurred.</p>
FontROM Test	FontROM Test <ul style="list-style-type: none"> ■ Start ■ Processing ■ Check OK 	<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 occurs.</p>
EEPROM Test	EEPROM Test <ul style="list-style-type: none"> ■ Start ■ Processing ■ Check OK 	<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 	<p>Tests Open/Short with the address line of the DRAM, and performs write/read/verification on the entire DRAM.</p> <p>Note: Run this test when errors 116-315, 116-316, and 116-320 occur.</p>
MAC+PHY Test	MAC+PHY Test <ul style="list-style-type: none"> ■ Start ■ Processing ■ Check OK 	<p>Tests PHY Internal loopback test.</p> <p>Note: Run this test when error 116-352 occurs.</p>
ASIC Test	ASIC Test <ul style="list-style-type: none"> ■ Start ■ Check OK 	<p>Performs register test.</p> <p>Note: Run this test when error 116-343 occurs.</p>

Test	Control Panel Display	Test Description
PANEL Test	PANEL Test <ul style="list-style-type: none"> ■ Start 	Checks input and output of the Control Panel buttons. When buttons are pressed as shown, the test displays the corresponding contents on the LED.
	Button LCD Note: To exit the Panel Test, press the Up and Down buttons simultaneously. Up Displays Up on the LCD. Down Displays Down on the LCD. Left Displays Left on the LCD. Right Displays Right on the LCD. OK Displays Set on the LCD. Menu Displays Menu on the LCD. Cancel Displays Cancel Job on the LCD. Wake Up Displays Power Saver on the LCD.	
Engine Test	Engine Test <ul style="list-style-type: none"> ■ Start ■ Check OK 	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.
Engine Diag	Performs function checks on components to determine whether they operate normally or not. Note: During Engine Diag test, other Service Diagnostics functions cannot be performed simultaneously.	
Sensor Test		Tests the sensors of the printer. The “L” and “H” values increment with each actuation of the sensor under test.
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.
Cover Open Sensor	Cover Open Sensor <ul style="list-style-type: none"> ■ OFF ■ L - 0 ■ H - 0 	Tests the Front Cover Interlock Switch.
Side Switch	Side Switch <ul style="list-style-type: none"> ■ OFF ■ L - 0 ■ H - 0 	Tests the Side Door Open switch.

Test	Control Panel Display	Test Description
K Mode Sensor	K Mode Sensor ■ OFF ■ L - 0 ■ H - 0	Tests the sensor for K Mode only operation.
Manual Feed Sensor	Manual Feed Sensor ■ OFF ■ L - 0 ■ H - 0	Tests Manual Feed No Paper Sensor.
Tray No Paper	Tray No Paper ■ OFF ■ L - 0 ■ H - 0	Tests Tray No Paper Sensor.
Motor Test		Tests the Motors of the printer.
Main Motor (Full2)	Main Motor FULL2	Tests the Main Motor.
Main Motor (Full1)	Main Motor FULL1	
Main Motor (Half)	Main Motor HALF	
Sub Motor (Full2)	Sub Motor FULL2	Tests the Sub Motor.
Sub Motor (Full1)	Sub Motor FULL1	
Sub Motor (Half)	Sub Motor HALF	
K Mode Solenoid	K Mode Solenoid	Tests the K Mode Solenoid.
Tray Feed Solenoid (Half)	Tray Feed Solenoid (Half)	Tests the Tray Feed Solenoid.
Tray Feed Solenoid (Init)	Tray Feed Solenoid (Init)	Tests the Feed Solenoid.
Fan (High)	Fan (HIGH)	Tests the printer Fan.
Fan (Low)	Fan (LOW)	
Yellow Toner Motor	Yellow Toner Motor	Tests the yellow Toner Motor.
Magenta Toner Motor	Magenta Toner Motor	Tests the magenta Toner Motor.
Cyan Toner Motor	Cyan Toner Motor	Tests the cyan Toner Motor.
Black Toner Motor	Black Toner Motor	Tests the black Toner Motor.
Regi Clutch	Regi Clutch	Tests the Registration Clutch.
Tray Feed Solenoid (Auto)	Tray Feed Solenoid (Auto)	Tests the Feed Solenoid.

Test	Control Panel Display	Test Description
Drum Erase Lamp K	Drum Erase Lamp K	Tests the black Erase Lamp.
Drum Erase Lamp YMC	Drum Erase Lamp YMC	Tests the yellow, magenta, and cyan Erase Lamps.
NVM Settings	Edits, saves, loads, and prints NVRAM information.	
Edit NVM	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 Set button to save the value in Engine NVM> <Press the Cancel button to move one level up the menu>	Displays the current NVRAM value. Use this function to edit NVRAM information.
Save NVM to ESS	Save NVM <ul style="list-style-type: none"> ■ SaveNVM MCU -> ESS OK? ■ Saved ■ Please wait <Press the Set button to save the value in the Controller NVM> <Press the Cancel 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 .
Load NVM from ESS	Load NVM <ul style="list-style-type: none"> ■ LoadNVM MCU -> ESS OK? ■ Processing ■ Loaded ■ Please wait <Press the Set button to load the value saved in the Controller NVM to the Engine> <Press the Cancel button to move one level up the menu>	Loads NVRAM information of the Engine saved in the Controller into the Engine. 1000-10FF / 1100-11FF / 1200-12FF Note: Information saved in the Controller NVM can be initialized using Clear All NVM .

Test	Control Panel Display	Test Description
Initialize Slave	<p>Initialize Slave</p> <ul style="list-style-type: none"> ■ Initialize Slave OK? ■ Processing ■ Initialized ■ Please wait <p><Press the Set button to run Slave Initialization> <Press the Cancel button to move one level up the menu></p>	Initializes Slave.
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> <Press the Cancel button to move one level up the menu></p>	Prints NVRAM information saved in the Controller.
Print Info	Provides printer configurations and settings information.	
Info Page	<p>Info Page</p> <ul style="list-style-type: none"> ■ Ready ■ Processing 	<p>Prints the software version of the printer controller. Use this function to verify the printer configuration. The Configuration Page contains:</p> <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	<p>Print Settings</p> <ul style="list-style-type: none"> ■ Ready ■ Processing 	<p>Prints the configured settings through the Control Panel. The Print Settings page contains:</p> <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.	<p>SerialNo.</p> <ul style="list-style-type: none"> ■ HATxxxxxx <p>or</p> <ul style="list-style-type: none"> ■ HARxxxxxx 	<p>Displays the 6 digit Serial Number.</p> <p>Note: This information is not initialized with any key action.</p>

Test	Control Panel Display	Test Description
Tone Correction	<p>Tone Correction</p> <ul style="list-style-type: none"> ■ ON * ■ OFF <p><Press the Up or Down button to switch Tone Correction On/Off> <Press the Set button to save the setting and move one level up the menu> <Press the Cancel button to move one level up the menu without saving the value></p>	<p>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.</p> <p>Sets the printer Tone Correction mode On/Off.</p> <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 (Printer Menu > Admin Menu > Maintenance Mode > Initialize NVM).</p>
Display Counter		Not used in this printer.
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> <Press the Set button to save the setting and move one level up the menu> <Press the Cancel 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 Set or Cancel 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 Toner 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	■	Not used in this printer.
Counter Type		Not used in this printer.

Test	Control Panel Display	Test Description
Print Counter	<p>Print Counter</p> <ul style="list-style-type: none"> ■ Color Print ■ n ■ B/W Print ■ n ■ Total Print ■ n ■ Color Backup ■ n ■ B/W Backup ■ n ■ Total Backup ■ n ■ Color Error ■ n ■ B/W Error ■ n <p>Menu Buttons</p> <p><Press the Up or Down button to move from one item to another></p> <p><Press the Cancel button to move one/two level(s) up the menu></p> <p><Press the Set button to run the test></p>	Operates the print counter.
Copy Counter MtoB	<p>CopyCounter MtoB</p> <ul style="list-style-type: none"> ■ OK? ■ Processing ■ Copied <p><Press the Cancel button to move one level up the menu></p> <p><Press the Set 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
Copy Counter BtoM	<p>CopyCounter BtoM</p> <ul style="list-style-type: none"> ■ OK? ■ Processing ■ Copied <p><Press the Cancel button to move one level up the menu></p> <p><Press the Set 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

Test	Control Panel Display	Test Description
Clear All NVM	Clear All NVM <ul style="list-style-type: none"> ■ OK? ■ Processing ■ Initialized <Press the Cancel button to move one level up the menu> <Press the Set button to run the test>	Clears all NVRAM of the Controller.
Clear Job History	Clear JobHistory <ul style="list-style-type: none"> ■ OK? ■ Processing ■ Initialized <Press the Cancel button to move one level up the menu> <Press the Set button to run the test>	Deletes the job history data. Note: Job History can also be initialized by Clear All NVM .
Clear Auditron PV		Not used in this printer.
Test Print	Provides various test prints to be used for troubleshooting the printer.	
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.
CMY 20% ESS	CMY 20% ESS <ul style="list-style-type: none"> ■ Ready ■ Processing 	Prints 20% density paint pattern of cyan, magenta, and black combined on the whole page.

Test	Control Panel Display	Test Description
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%.
Toner Pallet Check	Toner Pallet Check	Prints a pattern of 100% density of each color.
Contamination Check	Contamination Check	Prints a scale pattern for each color (sheets 1-4) and the Pitch Chart, a repeating defects page (sheet 5).
Parameter	Reads/writes the parameter values, errors, and life counter values stored in the printer.	
Slow Scan KtoP	Slow Scan KtoP ■ -128 * ■ : ■ 127 *	Adjusts the registration in the scanning 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 *	
Fast Scan KtoM	Fast Scan KtoM ■ -30 * ■ : ■ 30 *	
Fast Scan KtoY	Fast Scan KtoY ■ -30 * ■ : ■ 30 *	
Fast Scan KtoC	Fast Scan KtoC ■ -30 * ■ : ■ 30 *	
Fast Scan M-feed	Fast Scan M-feed ■ -30 * ■ : ■ 30 *	
Fast Scan Tray	Fast Scan Tray ■ -30 * ■ : ■ 30 *	

Test	Control Panel Display	Test Description
Fast Scan 2 KtoM	Fast Scan 2 KtoM ■ -1 * ■ : ■ 2 *	Sets the registration in the paper feeding direction for Manual Feed and Tray. Adjusts by one-quarter pixel per unit.
Fast Scan 2 KtoY	Fast Scan 2 KtoY ■ -1 * ■ : ■ 2 *	
Fast Scan 2 KtoC	Fast Scan 2 KtoC ■ -1 * ■ : ■ 2 *	
Life Y Toner	Life Y Toner ■ 0	Reads life counter of the yellow toner.
Life M Toner	Life M Toner ■ 0	Reads life counter of the magenta toner.
Life C Toner	Life C Toner ■ 0	Reads life counter of the cyan toner.
Life K Toner	Life K Toner ■ 0	Reads life counter of the black toner.
Life Fuser Sheet	Life Fuser ■ 0	Reads sheet count of the Fuser.
Life Printer Sheet	Life Printer ■ 0	Reads sheet count of the Printer.
Life DTB Waste	Life DTB Waste ■ 0	Reads life counter of the Belt Waste Count.
Life Y Waste Toner	Life YWaste Toner ■ 0	Reads life counter of the yellow Waste Toner.
Life M Waste Toner	Life MWaste Toner ■ 0	Reads life counter of the magenta Waste Toner.
Life C Waste Toner	Life CWaste Toner ■ 0	Reads life counter of the cyan Waste Toner.
Life K Waste Toner	Life KWaste Toner ■ 0	Reads life counter of the black Waste Toner.
Life IU Y Time	Life IU Y Time ■ 0	Reads dispense time of the yellow Developer.
Life IU M Time	Life IU M Time ■ 0	Reads dispense time of the magenta Developer.
Life IU C Time	Life IU C Time ■ 0	Reads dispense time of the cyan Developer.
Life IU K Time	Life IU K Time ■ 0	Reads dispense time of the black Developer.

Test	Control Panel Display	Test Description
Life IU Xero	Life IU Xero ■ 0	Reads working time of the Imaging Unit motor.
Life IU Deve K	Life IU Deve K ■ 0	Reads sheet count of the K Developer in the Imaging Unit.
Life Manual Feed	Life Tray Sheet ■ 0	Reads sheet count of the Manual Feed Slot.
Life Tray Sheet	Life Tray Sheet ■ 0	Reads sheet count of the Tray.
Print	Print ■ Ready	Prints current parameters.
Exit Mode	Exits Service Mode.	
Complete Exit	Complete Exit ■ Exit?	Exits the Service Diagnostic menu.

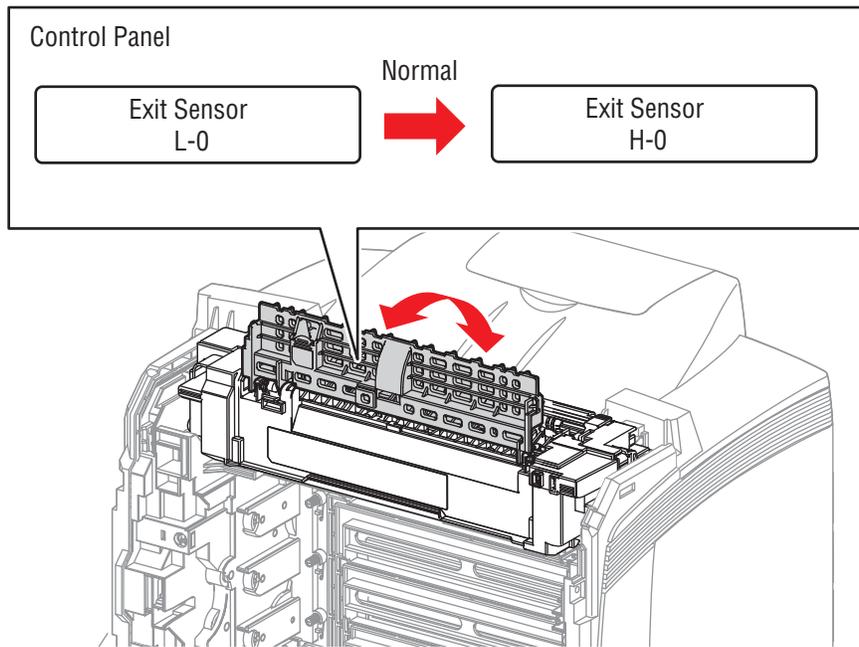
Sensor Tests

Exit Sensor

Warning

Allow the Fuser to cool down before starting the procedure.

1. Enter Service Mode (page 4-5).
2. Open the Front Cover.
3. Perform the Exit Sensor test: **Engine Diag > Sensor Test > Exit Sensor**.
4. Move the Sensor up and down and check the information on the Control Panel display. The Low and High values change from 0 up 99.

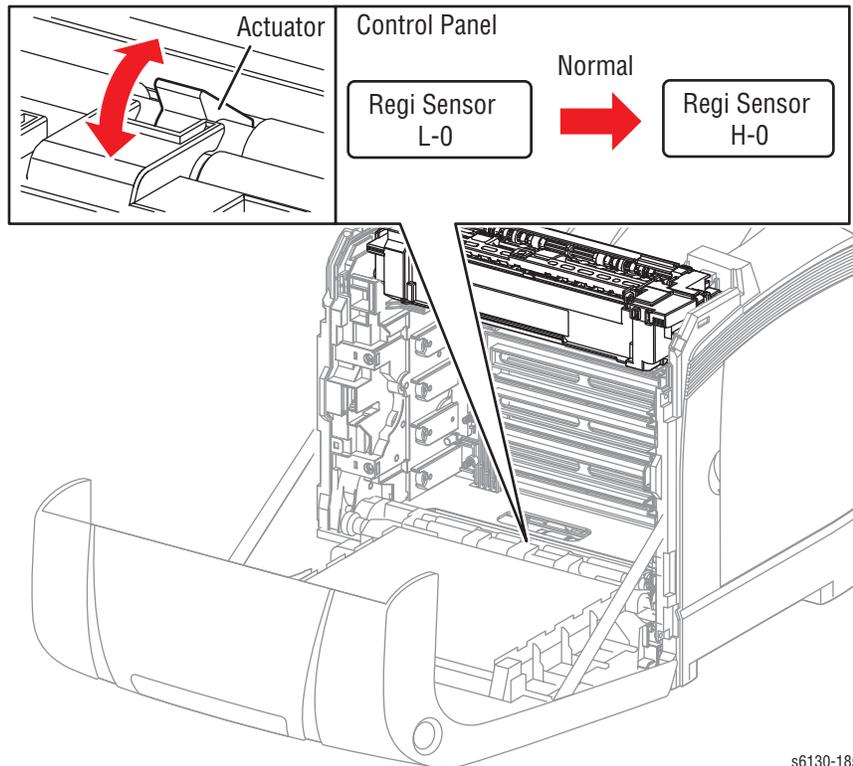


s6130-184

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

Regi Sensor

1. Enter the Service Diagnostic menu (page 4-5).
2. Open the Front Cover.
3. Perform the Regi Sensor test: **Engine Diag** > **Sensor Test** > **Regi Sensor**.
4. Operate the actuator while checking the information on the Control Panel display. The Low and High values change from 0 up 99.



s6130-185

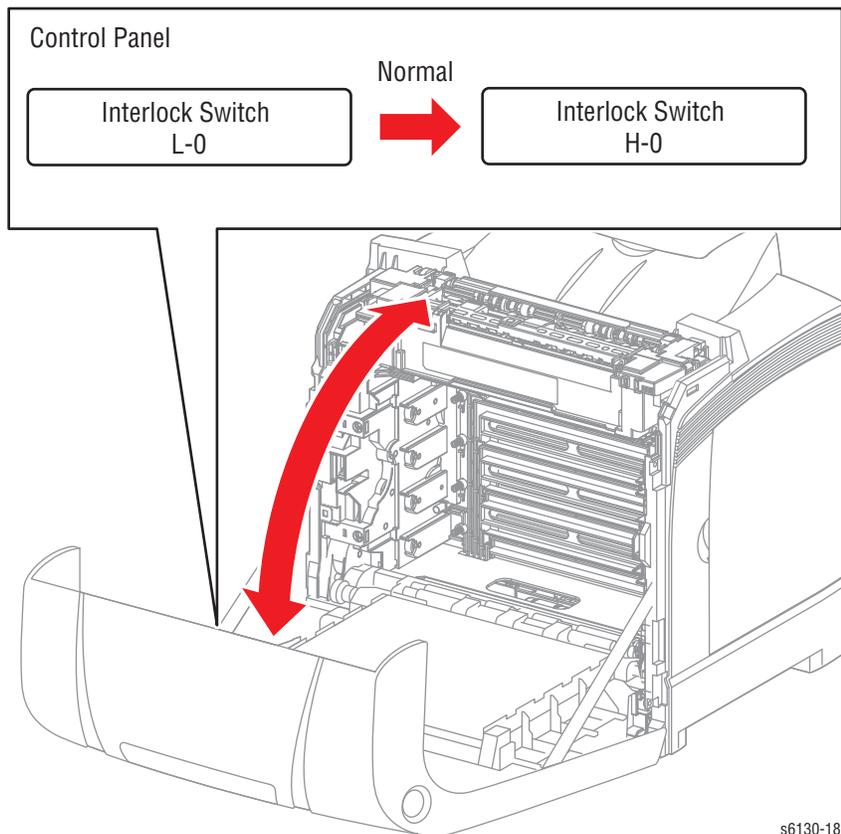
5. Press the **Cancel** button to stop the Regi Sensor test.

Cover Open Sensor

Caution

When performing this procedure, remove the Imaging Unit to avoid exposure to light.

1. Enter the Service Diagnostic menu (page 4-5).
2. Open the Front Cover.
3. Remove the Imaging Unit (page 8-8) and place in a dark location.
4. Perform the Interlock Switch test: **Engine Diag > Sensor Test > Cover Open Sensor**.
5. 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.



s6130-186

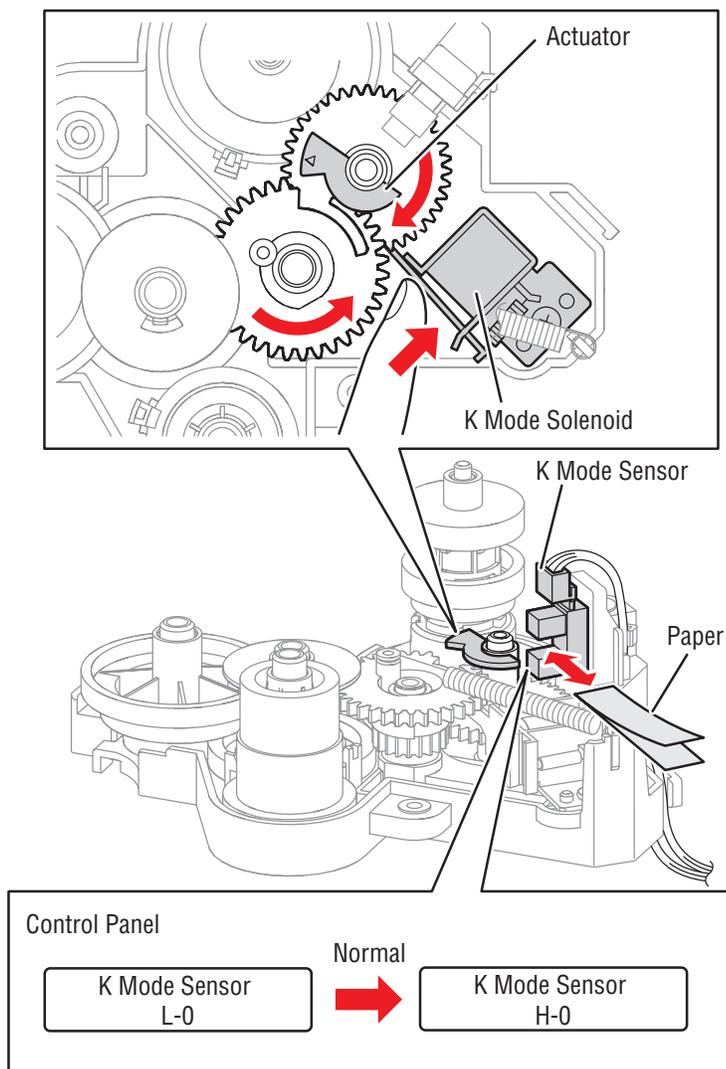
6. Press the **Cancel** button to stop the Cover Open Sensor test.

K Mode Sensor

Caution

When performing this procedure, remove and cover the Imaging Unit to avoid exposure to light.

1. Enter the Service Diagnostic menu (page 4-5).
2. Open the Front Cover.
3. Remove the Imaging Unit (page 8-8) and place in a dark location.
4. Remove the Left Side Cover (page 8-17).
5. Remove the Feed Drive Assembly (page 8-22) but do not unplug any of the cables.
6. Perform the K Mode Sensor test: **Engine Diag** > **Sensor Test** > **K Mode Sensor**.
7. Press the lever mounted on the Solenoid to retract the actuator from the sensor.
8. Move a strip of paper in and out of the sensor arms to simulate the action of the actuator. The Low and High values change from 0 up to 99.

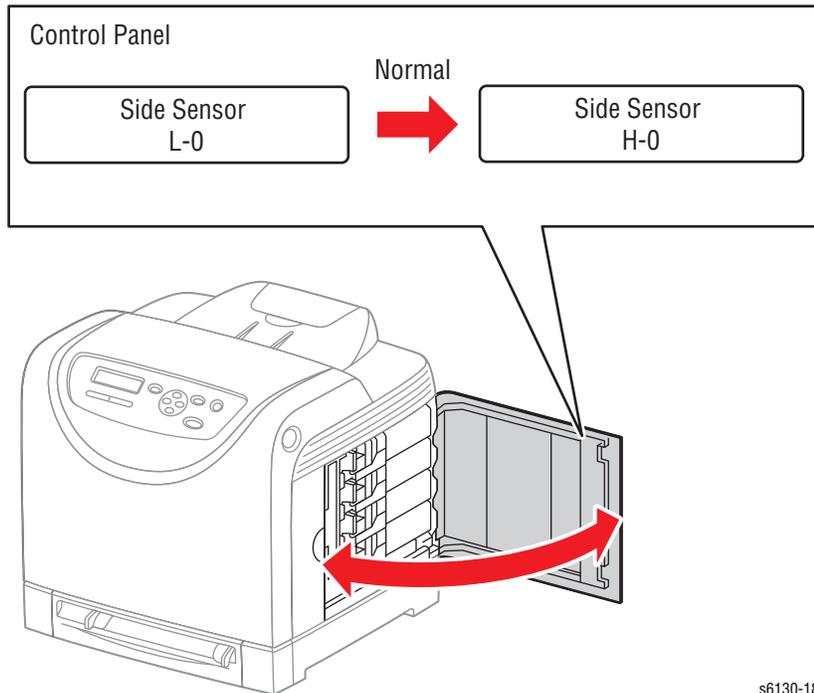


s6130-187

9. Press the **Cancel** button to stop the CRU Sensor Y test.

Side Switch (Toner Access Door Interlock)

1. Enter the Service Diagnostic menu (page 4-5).
2. Perform the Side Switch test: **Engine Diag > Sensor Test > Side Switch**.
3. Open and close the Toner Access Door while checking the information on the Control Panel display. The Low and High values change from 0 up to 99.

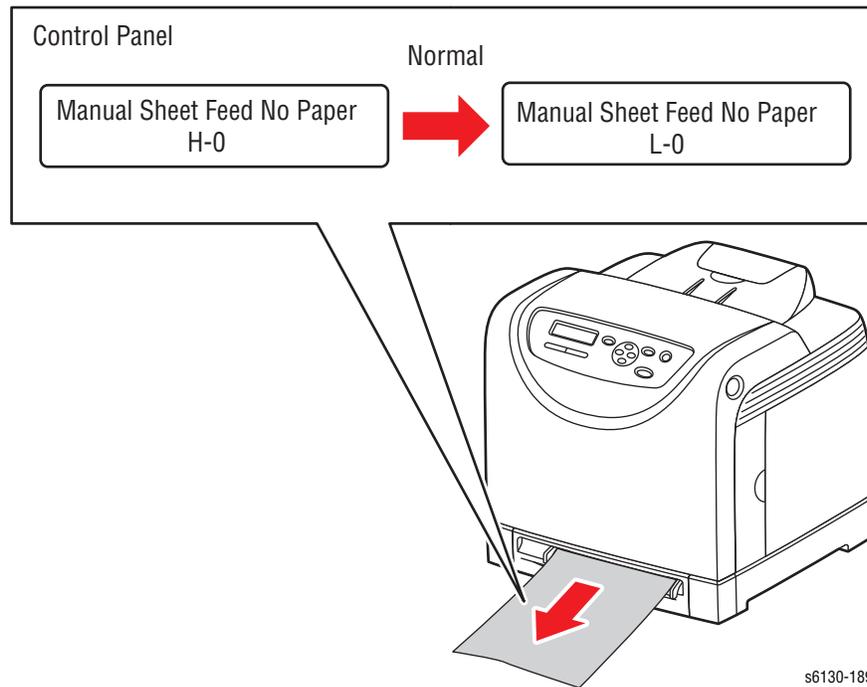


s6130-188

4. Press the **Cancel** button to stop the Side Switch test.

Manual Feed Slot Paper Detect

1. Enter the Service Diagnostic menu (page 4-5).
2. Perform the Tray 1 (MPT) Sensor test: **Engine Diag** > **Sensor Test** > **Manual Feed Sensor**.
3. Slide a sheet of paper in and out of the Manual Feed Slot. The Low and High values change from 0 up to 99.

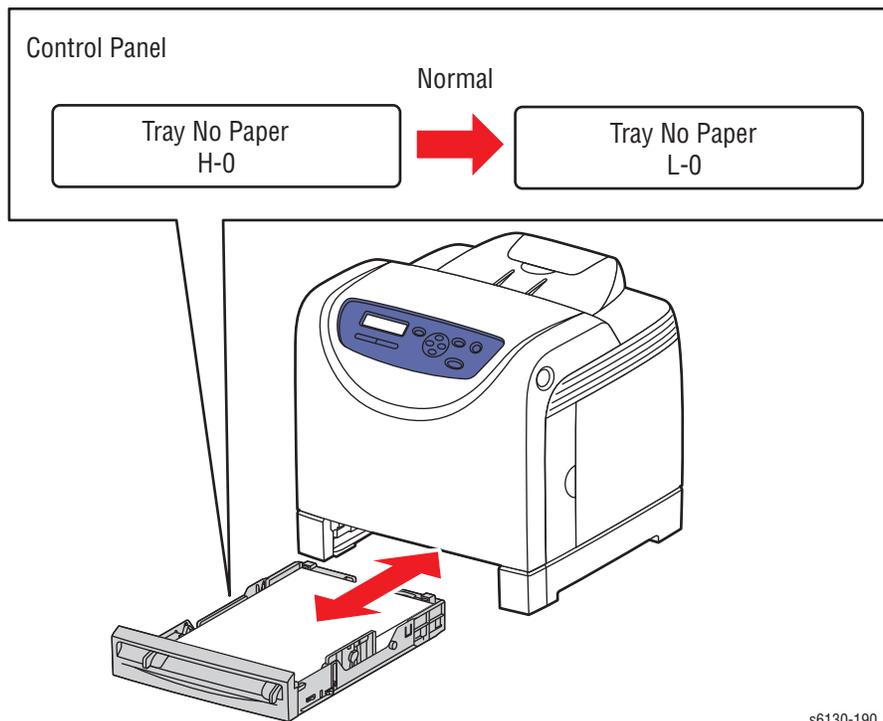


s6130-189

4. Press the **Cancel** button to stop the Tray 1 No Paper test.

Tray No Paper

1. Enter the Service Diagnostic menu (page 4-5).
2. Perform the Tray No Paper test: **Engine Diag > Sensor Test > Tray No Paper**.
3. Remove Tray.
4. Move the Actuator up and down while checking the information on the Control Panel display. The Low and High values change from 0 up to 99.



s6130-190

5. Press the **Cancel** button to stop the Tray No Paper test.

Motor Tests

Main Motor FULL2/FULL1/HALF

The Main Motor drives the Transfer Belt and Imaging Unit drums.

Caution

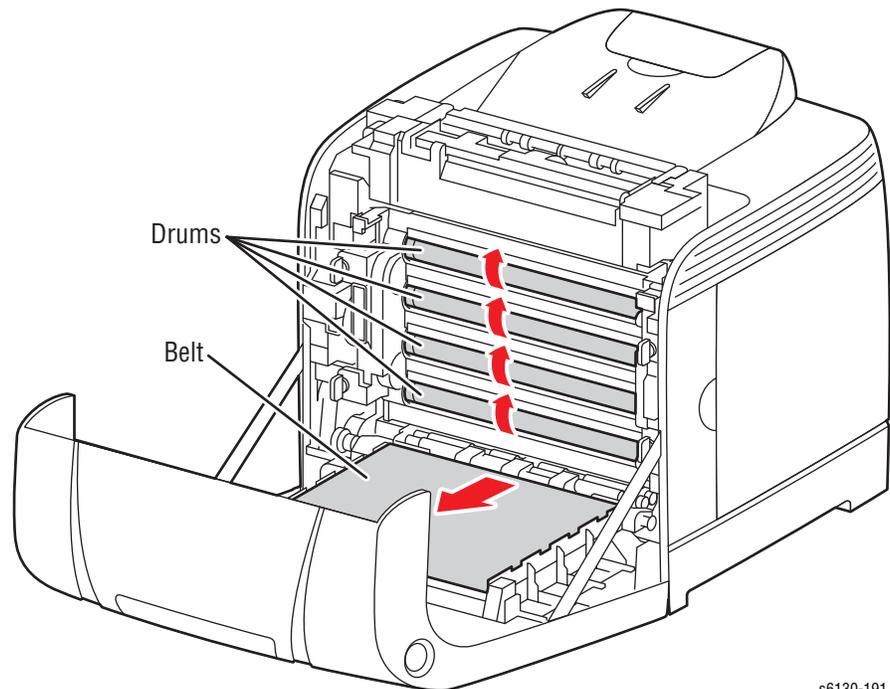
If the Front Cover will be open for more than 5 minutes, remove the Imaging Unit and cover it or place it in a dark location to avoid exposure to light.

Note

The rotational speed order of the Main Motor Test is as follows:

- FULL2 < FULL1 < HALF

1. Enter the Service Diagnostic menu (page 4-5).
2. Open the Front Cover.
3. Defeat the Front Cover Interlock Switch.
4. Perform the Main Motor test: **Engine Diag > Motor Test > Main Motor FULL2/FULL1/HALF**.
5. Verify that the Main Motor is running, the imaging unit drums are rotating, and the Transfer Belt is moving.



s6130-191

6. Press the **Cancel** button to stop the Main Motor test.
7. Remove the cheater from the Interlock Switch.

Sub Motor (FULL2/FULL1/HALF)

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

Caution

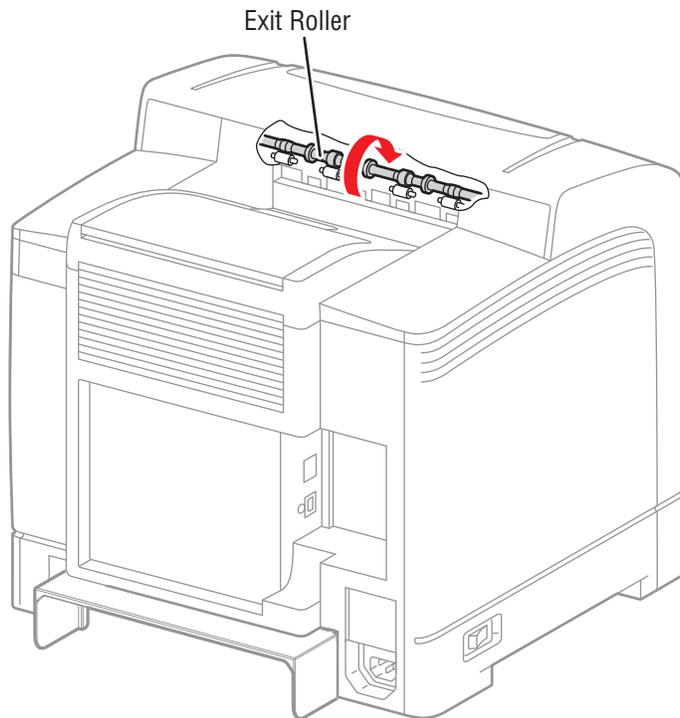
If the Front Cover will be open for more than 5 minutes, remove the Imaging Unit and cover it or place it in a dark location to avoid exposure to light.

Note

The rotational speed order of the of the Sub Motor test is as follows:

- FULL2 < FULL1 < HALF

1. Enter the Service Diagnostic menu (page 4-5).
2. Open the Front Cover.
3. Defeat the Interlock Switch.
4. Perform the Sub Motor FULL2/FULL1/HALF test: **Engine Diag > Motor Test > Sub Motor FULL2/FULL1/HALF**.
5. Verify that the Sub Motor is running and the Exit Roller is rotating.



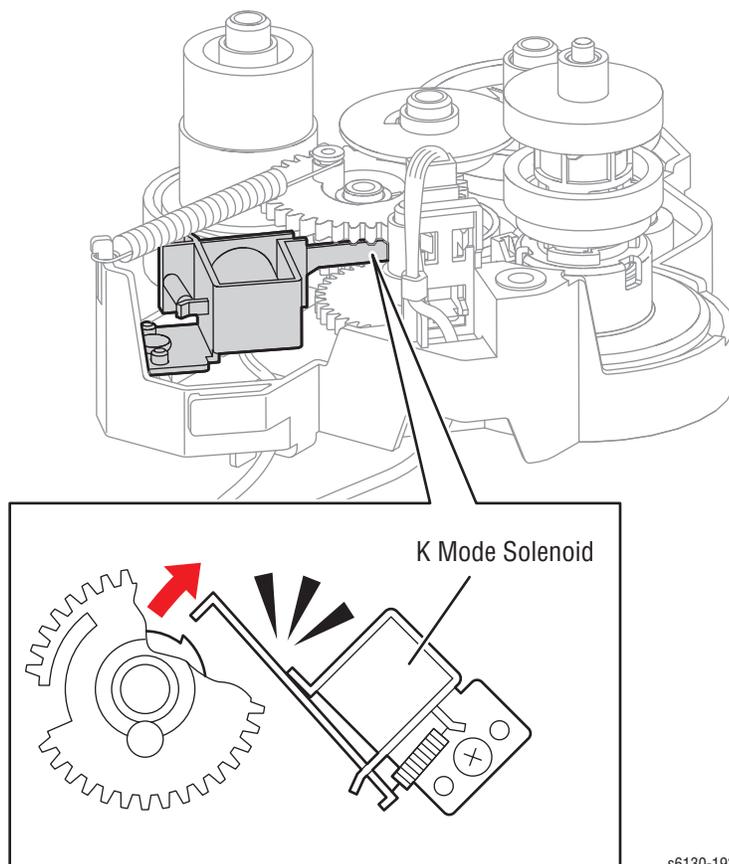
s6130-192

6. Press the **Cancel** button to stop the Sub Motor test.
7. Remove the paper clip from the Interlock Switch.

K Mode Solenoid Test

The K Mode Solenoid shifts the gear drive when printing in B & W Only mode.

1. Remove the Feed Drive Assembly (page 8-22) but leave all harnesses connected.
2. Defeat the Interlock Switch.
3. Turn on the power and enter Service Diagnostics.
4. Perform the K Mode Solenoid test: **Engine Diag > Motor Test > K Mode Solenoid**.

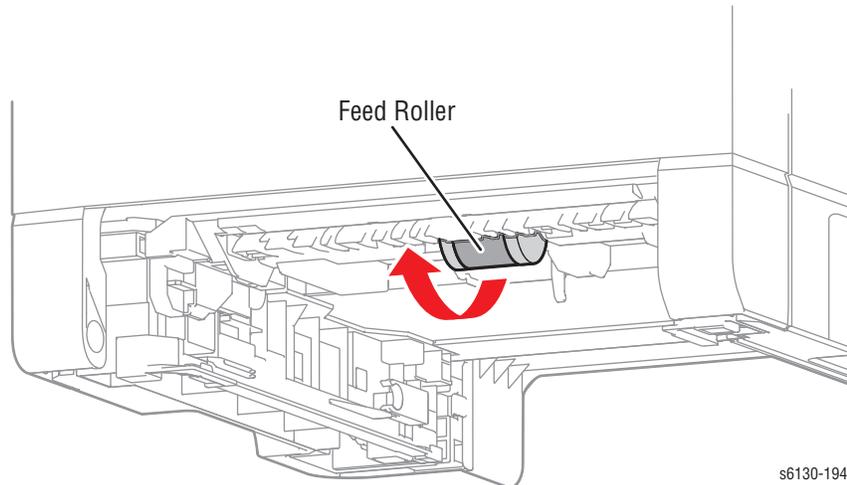


5. Press the **Cancel** button to stop the K Mode Solenoid test.
6. Turn off the printer and re-install the Feed Drive Assembly.
7. Remove the Interlock Switch cheater and turn on the printer.

Tray Feed Solenoid (Half/Init)

This test operates the Feed Solenoid and allows the Feed Roller for the Paper Tray to turn. When (Half) is selected, the Feed Roller makes a half rotation; When (Init) is selected, the Feed Roller makes a half-rotation to return to the initial position.

1. Enter the Service Diagnostic menu (page 4-5).
2. Remove the Paper Tray.
3. Perform the Tray 2 Feed Solenoid (Half) or (Init) test: **Engine Diag > Motor Test > Tray 2 Feed Solenoid (Half/Init)**.



Note

To repeat either the (Half) or (Init) test, it is necessary to press the **Cancel** button first. However, to perform the (Init) test after the (Half) test, it is only necessary to select the test

4. Press the **Cancel** button to stop the Tray 2 Feed Solenoid (Half/Init) test.

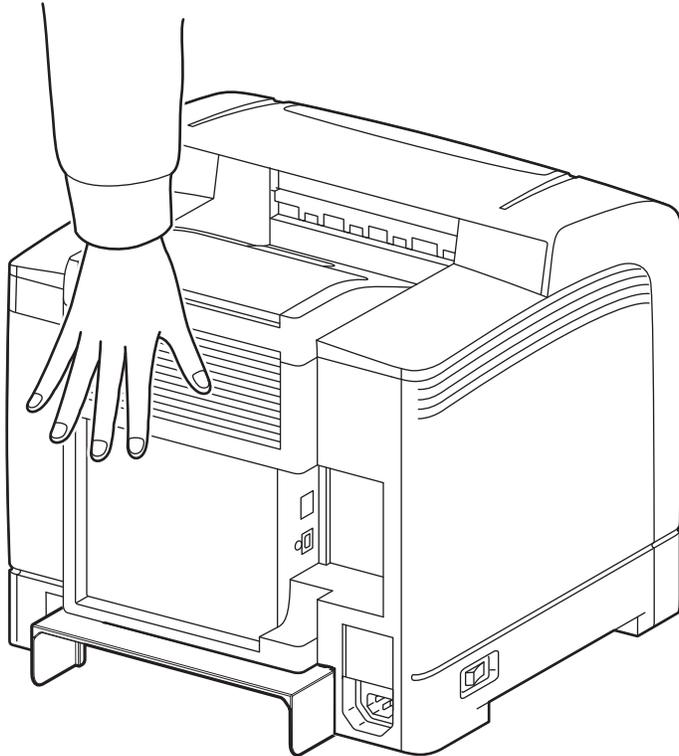
Fan (HIGH/LOW)

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: **Engine Diag > Motor Test > Fan (HIGH/LOW)**.
3. Verify that the fan is running.

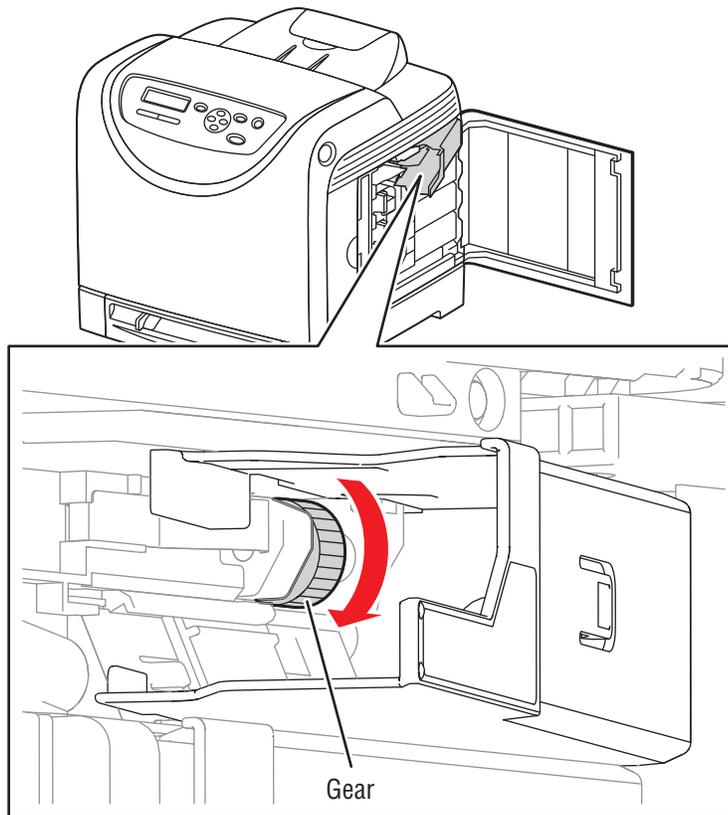


s6130-195

4. Press the **Cancel** button to stop the Fan test.

Yellow/Magenta/Cyan/Black Toner Motor

1. Enter the Service Diagnostic menu (page 4-5).
2. Remove the Toner Cartridge (page 8-10) of the color under test.
3. Open the Toner Cartridge Holder of the color under test.
4. Perform the Toner Motor test: **Engine Diag > Motor Test > Yellow/Magenta/Cyan/Black Toner Motor**.
5. Verify that the Toner Motor for the chosen color is running and the gear is rotating.



s6130-196

6. Press the **Cancel** button to stop the Toner Motor test.

Regi Clutch

The Regi clutch controls the drive to the Registration Roller.

Caution

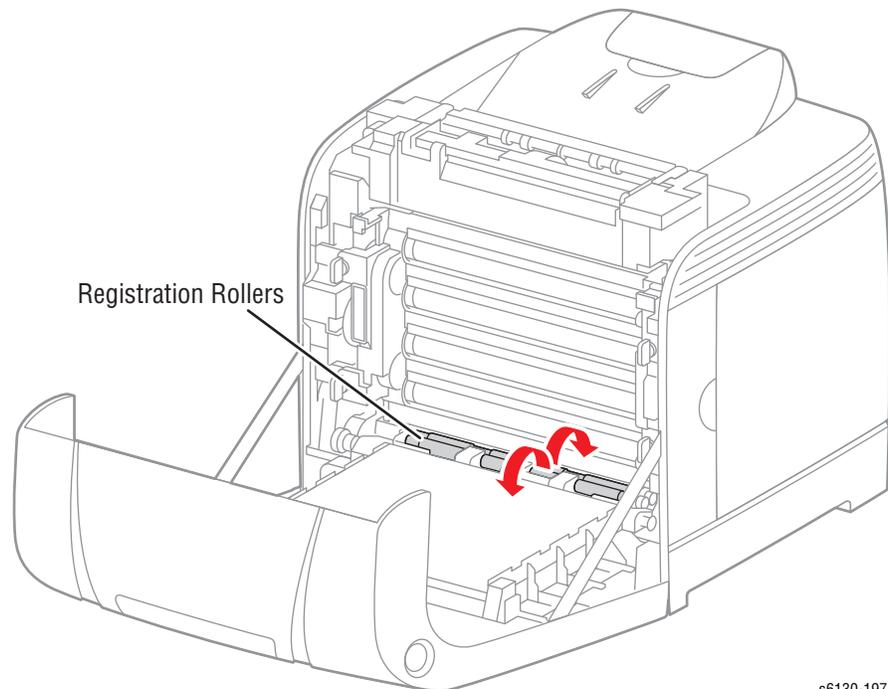
When performing this procedure, remove and cover the Imaging Unit to avoid exposure to light.

1. Enter the Service Diagnostic menu (page 4-5).
2. Open the Front Cover.
3. Remove the Imaging Unit (page 8-8).
4. Use a paper clip to secure the Interlock Switch.
5. Perform the Main Motor FULL2 test: **Engine Diag > Motor Test > Main Motor FULL2**.
6. While the Main 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 Main Motor FULL2 and the Registration Clutch tests are executed.

7. Verify that the Main Motor is running and the Registration Rollers are rotating.



s6130-197

8. Press the **Cancel** button to stop the Regi Clutch test.
9. Press the **Down Arrow** button to find **Main Motor FULL2**.
10. Press the **Cancel** button to stop the Main Motor test.
11. Remove the paper clip from the Interlock Switch.
12. Press the **Cancel** button to stop the ADC Sensor Solenoid test.
13. Remove the paper clip from the Interlock Switch.

Tray Feed Solenoid (Auto)

Solenoid that controls the drive of the Tray Feed Roll

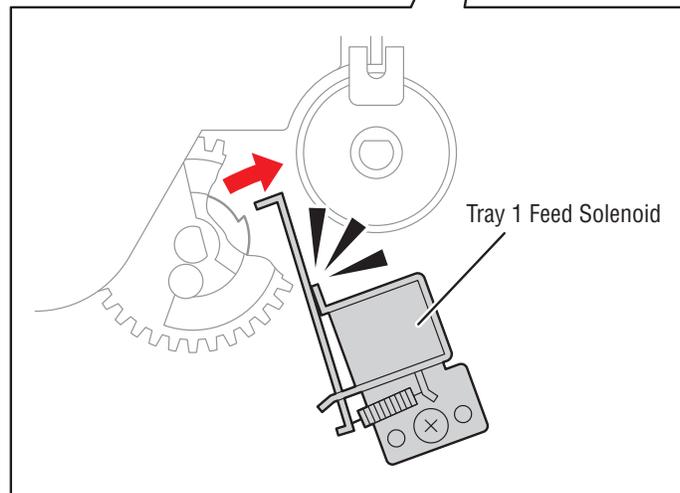
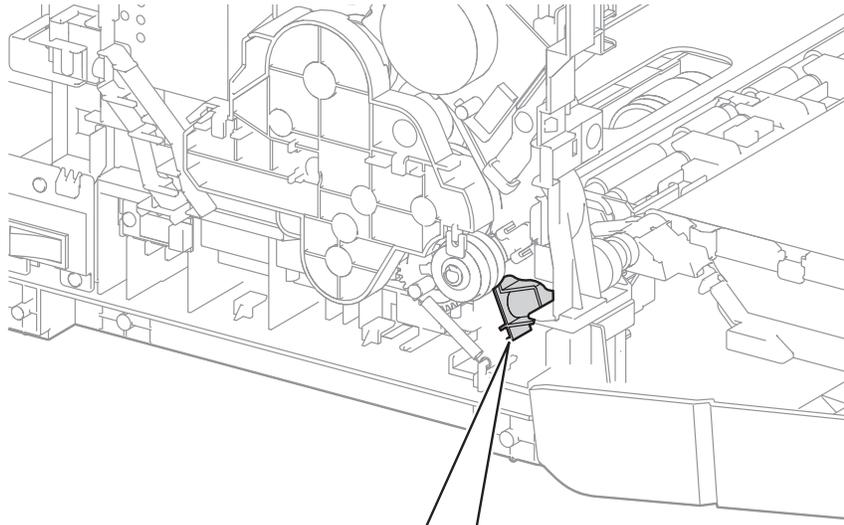
Note

This test should be performed when the Feed Roller fails to rotate during the Tray 2 Feed Solenoid (Half) test.

Caution

If the front cover will be open for more than 5 minutes, remove the Imaging Unit and cover it or place it in a dark location to avoid exposure to light.

1. Remove the Left Side Cover (page 8-17).
2. Defeat the Front Cover interlock switch.
3. Enter the Service Diagnostic menu (page 4-5).
4. Perform the Tray 2 Feed Solenoid (Auto) test: **Engine Diag > Motor Test > Tray 2 Feed Solenoid (Auto)**.
5. Observe the Feed Solenoid movement.



s6130-198

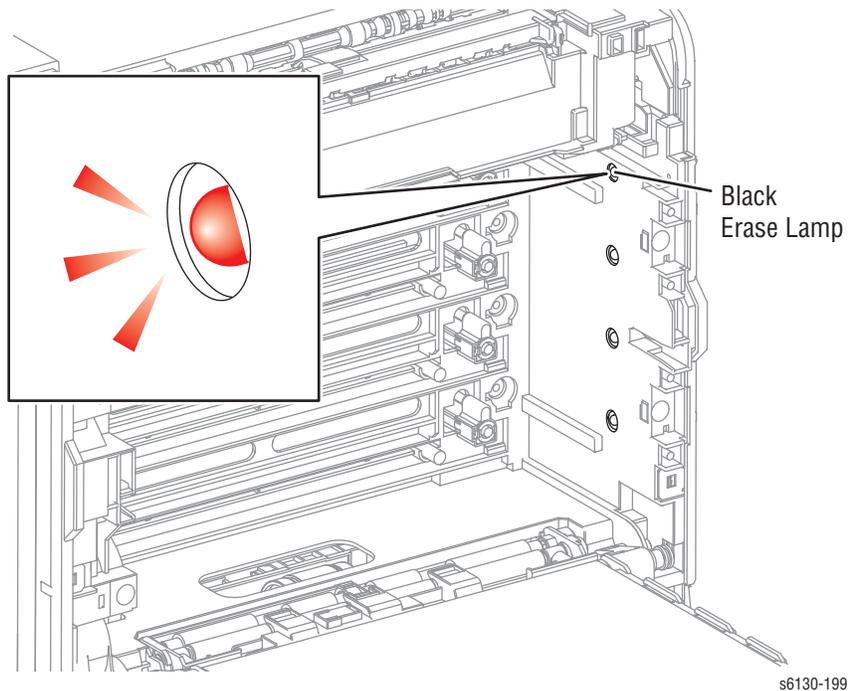
6. Press the **Cancel** button to stop the Tray 2 Feed Solenoid (Auto) test.

Drum Erase Lamp (K)

Caution

When performing this procedure, remove and cover the Imaging Unit to avoid exposure to light.

1. Enter the Service Diagnostic menu (page 4-5).
2. Open the Front Cover.
3. Remove the Imaging Unit (page 8-8).
4. Use a paper clip to secure the Interlock Switch.
5. Perform the Drum Erase Lamp K test: **Engine Diag > Motor Test > Drum Erase Lamp K**.
6. Verify that the Lamp is operating.



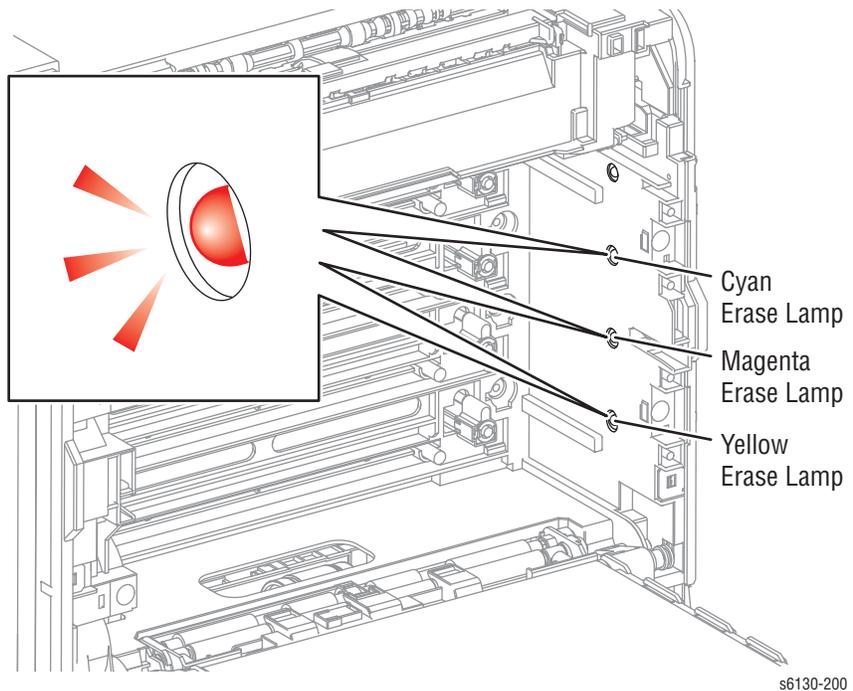
7. Press the **Cancel** button to stop the Drum Erase Lamp K test.
8. Remove the paper clip from the Interlock Switch.

Drum Erase Lamp (Y/M/C)

Caution

When performing this procedure, remove and cover the Imaging Unit to avoid exposure to light.

1. Enter the Service Diagnostic menu (page 4-5).
2. Open the Front Cover.
3. Remove the Imaging Unit (page 8-8).
4. Use a paper clip to secure the Interlock Switch.
5. Perform the Drum Erase Lamp YMC test: **Engine Diag > Motor Test > Drum Erase Lamp YMC**.
6. Verify that the Lamps are operating.



7. Press the **Cancel** button to stop the Drum Erase Lamp YMC test.
8. Remove the paper clip from the Interlock Switch.

Control Panel Troubleshooting

Printer Does Not Come to a “Ready” State

1. Reseat connectors on the Image Processor Board (page 8-60).
2. Refer to “DC Power Supply Troubleshooting” on page 4-41.
3. Replace the Control Panel (page 8-13).
4. Replace the Control Panel wiring harness (page 8-54).

Control Panel LED is On, Control Panel Display is Blank

1. Remove and reseat the Image Processor Board (page 8-60).
2. Replace the Control Panel (page 8-13).
3. Replace the Control Panel wiring harness (page 8-54).
4. Replace the Image Processor Board (page 8-60).

Engine Test Print

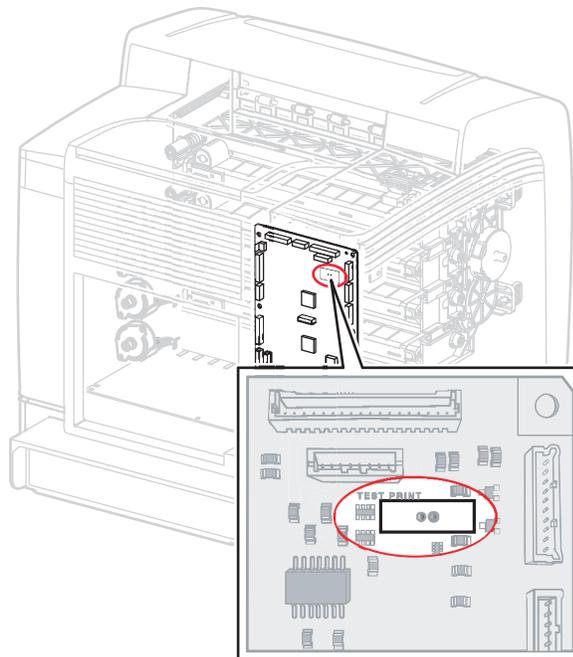
This test isolates printer hardware problems to either the MCU Board or Image Processor Board.

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Image Processor Board, PL9.1.27 ■ MCU Board, PL9.1.20 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Remove the Rear Cover (page 8-18).		
2	Disconnect P/J 10 & 11, from the MCU Board.		
3	Turn the printer power On (disregard any messages on the Control Panel).		
4	Short the two contacts in the TEST PRINT block on the MCU Board as shown in the figure below.		
5	Did the Pattern IOT page print correctly?	Replace the Image Processor Board (page 8-60).	Replace the MCU Board (page 8-59).



s 6130 - 225

Inoperable Printer Troubleshooting

Engine Power-Up Sequence

1. Machine Control Unit (MCU) Board logic check
2. Toner 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 4-39).

AC Power Supply Troubleshooting

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack References
■ LVPS, PL9.1.4	■ “DC Power Supply” on page 10-17

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the voltage at the AC wall outlet. 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	Check the power cord for defects or a loose connection. Is the power cord loose or defective?	Replace or reconnect the power cord.	Replace the LVPS (page 8-55).

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 certain time.

LVPS

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ LVPS, PL8.2.1 ■ MCU Board, PL8.2.13 	<ul style="list-style-type: none"> ■ “Map 4 - Toner Dispenser Motors, HVPS, MCU” on page 10-11 ■ “DC Power Supply” on page 10-17

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Perform the AC power supply troubleshooting procedure. Does the problem persist?	Go to step 2.	Complete.
2	Turn the AC power switch Off. Is the Fuse on the low-voltage power supply board open?	Replace the LVPS (page 8-55).	Go to step 3.
3	1. Disconnect the connectors J501 and J502 from the LVPS. 2. Turn the AC power Switch On. 3. Measure 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 <=> P502-2 = +24 V Are all of the voltages present?	Go to step 4.	Replace the LVPS (page 8-55).

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	1. Turn the AC power Switch Off. 2. Connect J501 to the LVPS then turn the AC power Switch On. 3. Measure the voltage between P501-3 <=> P501-4? Is there 3.3 V present?	Go to step 7.	Go to step 5.
5	Is there obvious damage to the MCU Board, PL8.2.13?	Replace the MCU Board (page 8-59), then go to step 6.	Go to step 7.
6	Does the problem still occur?	Go to step 7.	Complete.
7	1. Turn the AC power Switch Off. 2. Connect J501 to the LVPS then turn the AC power Switch On. 3. Measure the voltage between P501-1 <=> P501-2. Is there +5 V present?	Go to step 9.	Replace the MCU Board (page 8-59), then go to step 8.
8	Does the error still occur?	Go to step 9.	Complete.
9	1. Turn the AC power Switch Off. 2. Connect J502 to the LVPS then turn the AC power Switch On. 3. Measure the voltage between P502-1 <=> P501-2? Is there +24 V present?	Complete.	Go to step 10.

+24 VDC Interlock Switch

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Interlock Harness, PL8.2.5 ■ LVPS, PL8.2.1 ■ Top LV Harness, PL10.1.16 	<ul style="list-style-type: none"> ■ “Map 4 - Toner Dispenser Motors, HVPS, MCU” on page 10-11 ■ “DC Power Supply” on page 10-17

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the Interlock Harness for continuity. 1. Disconnect P/J44. 2. Check continuity between P/J44-1 <=> P/J44-3. Is the circuit continuous when the Interlock is activated?	Complete	Replace the Interlock Harness (page 8-54).

Abnormal Noise and Electrical Problems

Abnormal Noise When Power is Turned On

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Imaging Unit (PL4.1.21) ■ Fuser (PL6.1.1) ■ Transfer Unit (PL6.1.7) ■ Sub Drive Assembly (PL7.1.1) ■ Main Drive Assembly (PL7.1.2) 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Perform the Main Motor test (page 4-27): Service Mode > Engine Diag > Motor Test > Main Motor FULL2. Is the noise still present?	Go to step 2.	Go to step 5.
2	1. Reseat the Imaging Unit. 2. Perform the Main Motor test (page 4-27): Service Mode > Engine Diag > Motor Test > Main Motor FULL2. Is the noise still present?	Go to step 3.	Complete
3	1. Reseat the connectors on the Transfer Unit. 2. Perform the Main Motor test (page 4-27): Service Mode > Engine Diag > Motor Test > Main Motor FULL2. Is the noise still present?	Go to step 4.	Complete
4	1. Reseat the Main Drive Assembly. 2. Perform the Main Motor test (page 4-27): Service Mode > Engine Diag > Motor Test > Main Motor FULL2. Is the noise still present?	Try replacing one after another: <ul style="list-style-type: none"> ■ Imaging Unit (page 8-8) ■ Transfer Unit (page 8-41) ■ Main Drive Assembly (page 8-52). 	Complete
5	Perform the Sub Motor test (page 4-28): Service Mode > Engine Diag > Motor Test > Sub Motor FULL2. Is the noise still present?	Go to step 6.	Check the installation situation of printer.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
6	1. Reseat the Imaging Unit. 2. Perform the Sub Motor test (page 4-28): Service Mode > Engine Diag > Motor Test > Sub Motor FULL2. Is the noise still present?	Go to step 7.	Complete
7	Warning: Start the operation after the Fuser has cooled down. 1. Reseat the Fuser. 2. Perform the Sub Motor test (page 4-28): Service Mode > Engine Diag > Motor Test > Sub Motor FULL2. Is the noise still present?	Go to step 8.	Complete
8	1. Reseat the Sub Drive Assembly. 2. Perform the Sub Motor test (page 4-28): Service Mode > Engine Diag > Motor Test > Sub Motor FULL2. Is the noise still present?	Try replacing one after another: <ul style="list-style-type: none"> ■ Imaging Unit (page 8-8) ■ Fuser (page 8-9) ■ Sub Drive Assembly (page 8-53). 	Complete

Abnormal Noise During Standby

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Fan (PL8.1.1) ■ LVPS Board (PL8.2.1) 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Perform the Fan HIGH test (page 4-31): Service Mode > Engine Diag > Motor Test > Fan HIGH. Is the noise coming from the Fan?	Replace the Fan. (page 8-56)	Replace the LVPS Board. (page 8-55)

Abnormal Noise During Printing

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
<ul style="list-style-type: none"> ■ Separator Roller Assembly (PL2.1.5) ■ Feed Roller Assembly (PL3.2.4) ■ Imaging Unit (PL4.1.21) ■ Fuser (PL6.1.1) ■ Transfer Unit (PL6.1.7) ■ Sub Drive Assembly (PL7.1.1) ■ Main Drive Assembly (PL7.1.2) ■ Fan (PL8.1.1) 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Is the noise present when paper is fed from the Tray?	Go to step 2.	Go to step 6.
2	Check the paper condition in the Tray Is the paper dry and approved paper?	Go to step 4.	Replace with dry and approved paper, then go to step 3.
3	Check noise when the paper is fed from the Tray 1 Is the noise still present?	Go to step 4.	Complete
4	1. Remove the Paper Tray from the printer. 2. Rotate the Separator Roller in the Paper Tray with your finger. Does the Separator Roller rotate smoothly?	Go to step 5.	Replace the Separator Roller Assembly (page 8-7).
5	Check the Feed Roller Assembly for rotation 1. Remove the Paper Tray from the printer. 2. Start the Main Motor FULL2 test (page 4-27): Service Mode > Engine Diag > Motor Test > Main Motor FULL2 , then while the motor is running, start the Tray Feed Solenoid (Auto) test (page 4-34): Service Mode > Engine Diag > Motor Test > Tray Feed Solenoid (Auto) . Is the noise coming from this Roller? NOTE: After check is completed, turn off the Tray Feed Solenoid test first, then turn off the Main Motor FULL2 test.	Replace the Feed Roller Assembly (page 8-30).	Go to step 9.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
6	Check the setting of the Manual Feed Slot paper guides Were the paper guides correctly set, and was the paper correctly inserted into Manual Feed?	Go to step 7.	Reset the paper guides, and insert the paper correctly in the Manual Feed Slot, then go to step 7.
7	Check the paper condition Is the paper dry and approved paper?	Go to step 9.	Replace with dry and approved paper, then go to step 8.
8	Check noise when the paper is fed from the Manual Feed Does the noise come from the printer?	Go to step 9	Complete
9	Perform the Main Motor test (page 4-27): Service Mode > Engine Diag > Motor Test > Main Motor FULL2. Does the noise arise from the printer?	Go to step 10.	Go to step 16.
10	1. Reseat the Imaging Unit. 2. Perform the Main Motor test (page 4-27): Service Mode > Engine Diag > Motor Test > Main Motor FULL2. Is the noise still present?	Go to step 11.	Complete
11	1. Reseat the connectors on the Transfer Unit. 2. Perform the Main Motor test (page 4-27): Service Mode > Engine Diag > Motor Test > Main Motor FULL2. Is the noise still present?	Go to step 12.	Complete
12	Are there any foreign substances on the surfaces of the Registration Roller Assembly and Metal Registration Roller?	Remove the foreign substances, then go to step 13.	Go to step 14.
13	Check noise when printing Is the noise still present?	Go to step 14.	Complete
14	Check the Registration and Metal Registration Rollers for rotation 1. Start the Main Motor test (page 4-27): Service Mode > Engine Diag > Motor Test > Main Motor FULL2 , and while the motor is running start the Regi Clutch test: Service Mode > Engine Diag > Motor Test > Regi Clutch. Is the noise coming from the Roller(s)?	Replace the Registration Roller Assembly and/or Metal Registration Roller.	Go to step 15.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
15	1. Reseat the Main Drive Assembly. 2. Perform the Main Motor test (page 4-27): Service Mode > Engine Diag > Motor Test > Main Motor FULL2. Is the noise still present?	Try replacing one after another: ■ Imaging Unit (page 8-8) ■ Transfer Unit (page 8-41) ■ Main Drive Assembly (page 8-52).	Complete
16	Perform the Sub Motor test (page 4-28): Service Mode > Engine Diag > Motor Test > Sub Motor FULL2. Is the noise still present?	Go to step 17.	Check the installation situation of the printer.
17	1. Reseat the Imaging Unit. 2. Perform the Sub Motor test (page 4-28): Service Mode > Engine Diag > Motor Test > Sub Motor FULL2. Is the noise still present?	Go to step 18.	Complete
18	Warning: Start the operation after the Fuser has cooled down. 1. Reseat the Fuser. 2. Perform the Sub Motor test (page 4-28): Service Mode > Engine Diag > Motor Test > Sub Motor FULL2. Is the noise still present?	Go to step 19.	Complete
19	1. Reseat the Sub Drive Assembly. 2. Perform the Sub Motor test (page 4-28): Service Mode > Engine Diag > Motor Test > Sub Motor FULL2. Is the noise still present?	Try replacing one after another: ■ Imaging Unit (page 8-8) ■ Fuser (page 8-9) ■ Sub Drive Assembly (page 8-53).	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"> ■ HVPS, PL4.1.19 ■ Transfer Unit, PL6.1.7 ■ Imaging Unit, PL4.1.21 	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check external noise. 1. Are there other electrical appliances within 3 meters of the printer? 2. Turn the electrical appliances Off or relocate the printer at least 6 meters away from other electrical appliances. Does the error still occur?	Go to step 2.	Complete
2	Check the AC ground Is AC power supply outlet wired and grounded appropriately?	Go to step 3.	Request the client to fix AC power supply outlet.
3	1. Open the Front Cover. 2. Inspect the four Transfer Unit HV connections. Are the four terminals on the Transfer Unit, and the four springs on the frame (PL4.1.11, 12, 13 and 14) dirty and/or deformed?	Clean or replace the Transfer Unit (page 8-41) or clean the spring(s).	Go to step 4.
4	Check the Imaging Unit connection 1. Remove the Imaging Unit. 2. Inspect the five Imaging Unit HV connections. Are the five HV terminals on the Imaging Unit, and five springs on the frame (PL4.1.10 and PL4.1.15 to 18) dirty and/or deformed?	Clean and/or replace the Imaging Unit (page 8-8) or clean the spring(s).	Go to step 5.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	Reseat the Imaging Unit. Does the electrical noise error still occur?	Go to step 6.	Complete
6	Reseat the Transfer Unit. Does the electrical noise error still occur?	Reseat the HVPS.	Complete

AC Supply Problems**Troubleshooting Reference Table**

Applicable Parts	Wiring and Plug/Jack Map References
■ LVPS, PL8.2.1	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	NOTE: During this test, close the Front Cover. Does the motor noise occur when the power is turned on?	Go to FIP-DC.	Go to step 2.
2	1. Connect the printer power cord to another electrical outlet. 2. Turn the printer power On. Does the printer operate normally?	Complete	Go to step 3.
3	1. Turn the printer power Off. 2. Reconnect the printer power cord. 3. Turn the printer power On. Does the printer operate normally?	Complete	Go to step 4.
4	Test the GFI Breaker Does the GFI Breaker operate normally?	Complete	Go to step 5.
5	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. Does the printer operate normally?	Complete	Go to step 6.
6	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. Does the printer operate normally?	Complete	Replace the LVPS Board. (Refer to Removal 13/Replacement 40.)

DC Short

Troubleshooting Reference Table

Applicable Parts	Wiring and Plug/Jack Map References
■ LVPS, PL9.1.4	

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	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. Does the printer operate normally?	Complete	Go to step 2.
2	Check the Control Panel connection Reconnect the Control Panel connector (P/J220). Does the Control Panel operate normally?	Complete	Go to step 3.
3	Reseat the connectors on the MCU Board. Does the printer operate normally?	Complete	Replace the LVPS Board (page 8-55).

Operating System and Application Problems

Windows 2000, Windows XP, Windows Server Troubleshooting

Note

For Windows XP, select Classic Look or the Windows XP procedures will not match the following procedures. To select **Classic Look**, click **Start**, **Settings**, **Taskbar**, and **Start Menu**. Select the **Start Menu** tab, and then **Classic Start Menu**. Click **OK**.

This troubleshooting section assumes you have completed the following tasks.

- Loaded a Phaser printer PCL or PostScript printer driver.
- Printed and kept a current copy of the Configuration page.

Verify Settings

1. Verify the settings on the Configuration page.
 - **IP Address Source** is set to: **DHCP**, **Control Panel**, **BOOTP**, or **Auto IP** (depending on your network configuration).
 - **Current IP Address** is set correctly. (Note this address if it is assigned by Auto IP, DHCP, or BOOTP.)
 - **Subnet Mask** is set correctly (if used).
 - **Default Gateway** is set correctly (if used).
 - **LPR** is enabled. Verify that the LPR and AppSocket settings are set as desired.
 - **Interpreters**: **Auto**, **PCL**, or **PostScript** (depending on your driver).
2. Verify that the client is logged into the network and printing to the correct print queue. The user should also have access to the Phaser printer queue.

Verify Driver Installation

1. From the desktop, right-click **My Network Places**, and select **Properties**.
2. Right-click **Local Area Connection** and select **Properties**.
3. Click the **General** tab. View the list of installed network protocols to verify that TCP/IP is installed. (For more information, contact your network administrator.)
4. Click **Install** to install any components not listed, and then restart your computer.
5. From the **Start** menu, select **Start > Settings > Printers and Faxes**.
6. Right-click the printer icon, and select **Properties**.
7. Click the **Advanced** tab. Verify that the correct printer driver is installed.

8. Click the **Ports** tab. Verify that the IP Address in the **Print to the Following Ports** list is identical to the one on the Configuration page. You may need to click the **Configure Port** button to see the IP address. If necessary, re-select the TCP/IP number used for the printer.

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/support.

Macintosh Troubleshooting OS 10.2 Step-by-Step

Perform these steps **only** for Mac OS 10.2 and higher.

1. For **AppleTalk**, perform the steps below. For **TCP/IP**, proceed to step 2.
 - a. From the printer's Control Panel, verify that the **EtherTalk** is enabled. If it not, enable **EtherTalk**, and reset the printer.
 - b. Print the Configuration page and verify that **EtherTalk** is enabled.
 - c. From the Configuration page, verify the **Zone**. If you have multiple zones on your network, verify that your printer appears in the desired zone.
2. Open the **Network Utility** and click the Ping tab.
3. Enter the printer's IP address.
4. Click **Ping**. If you do not get a response, verify that your TCP/IP settings are correct for your printer and computer.

Note

See also: www.xerox.com/office/support

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/drivers.
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/support.

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/drivers. 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 1-19 for supported and specialty media that have been tested and approved for use in the Phaser 6130 Color Laser Printer. 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 “Environmental Specifications” on page 1-13. Extreme temperature and humidity can adversely affect the xerographic and fusing characteristics of the printer.

When analyzing a print-quality defect, first determine if the defect occurs in all colors or only one color and if it is repeating or random occurrence.

Continuous defects in the process direction, such as Voids and Lines, are the most difficult to diagnose. Inspect the visible surfaces of all Rollers for obvious defect. If no defects are found, replace the Imaging Unit, 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
- Blank Print (No Print)
- Black Print
- Vertical Blank Lines
- Horizontal Band, Voids, or Streaks
- Vertical Stripes
- Horizontal Stripes
- Partial Band
- Random Spots
- Repeating Bands, Lines, Marks, or Spots

Transfer Unit

- Light or Undertone Print
- Horizontal Band, Voids, or Streaks
- Vertical Stripes
- Horizontal Stripes
- Partial Band
- Random Spots
- Repeating Bands, Lines, Marks, or Spots
- Background Contamination

Fuser

- Vertical Stripes
- Horizontal Stripes
- Repeating Bands, Lines, Marks, or Spots
- Unfused Image

Imaging Unit

- Light or Undertone Print
- Blank Print (No Print)
- Black Print
- Vertical Blank Lines
- Horizontal Band, Voids, or Streaks
- Vertical Stripes
- Horizontal Stripes
- Partial Band
- Random Spots
- Repeating Bands, Lines, Marks, or Spots
- Background Contamination
- Unfused Image

Checklist Before Troubleshooting Print-Quality

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 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 Toner Cartridge life by removing it from the printer, and gently shaking the Toner Cartridge from side-to-side.

Cleaning

Paper, toner, and dust particles can accumulate inside the printer and cause print-quality problems such as Smearing or Toner Specks. Clean the inside of the printer to prevent these problems.

Checklist

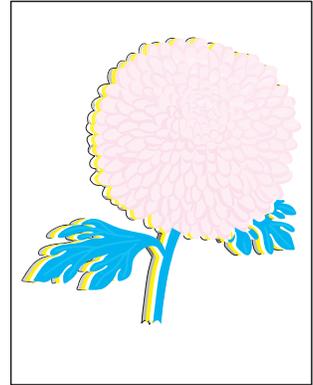
Check the following items prior to performing troubleshooting. These procedures may help to resolve the problems without troubleshooting the printer.

1. Color is out of alignment.

Note

This problem can occur after installing a new black Toner Cartridge if the Imaging Unit has not been cleaned.

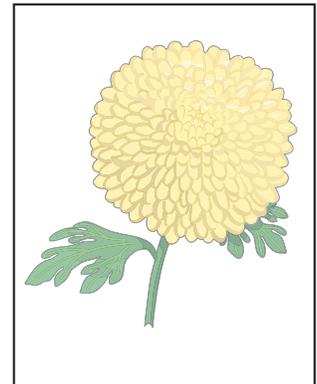
- a. Clean inside the printer.



Color Registration

2. Print is too light.

- a. The toner may be too low. Check the amount of toner and change the Toner Cartridges if necessary.
- b. In the printer Printing Preferences menu, **Advanced > Details > Draft Mode**, verify **Off** is selected.
- c. If you are printing on an uneven print surface, change the paper type settings in the Tray Settings menu.
- d. Verify that the correct type of paper is being used.
- e. The Imaging Unit needs to be replaced.



Light or Undertone Print

3. Toner smears or print comes off page.

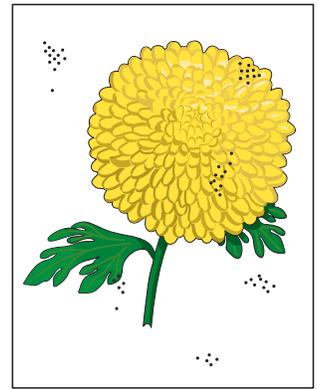
- a. If you are printing on an uneven print surface, change the Media Type settings in the Tray Settings menu.
- b. Verify that the paper is within the printer specifications (refer to "Media and Tray Specifications" on page 1-19).



Smudges or Smears

4. Toner spots appear on the page and printing is blurred.

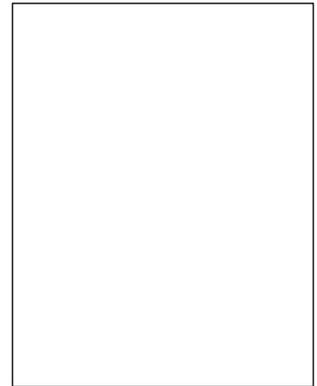
- a. Check the Toner Cartridge(s) to make sure that it is installed correctly.
- b. Change the Toner Cartridge(s).



Random Spots

5. Entire page is white or one color is missing from color image.

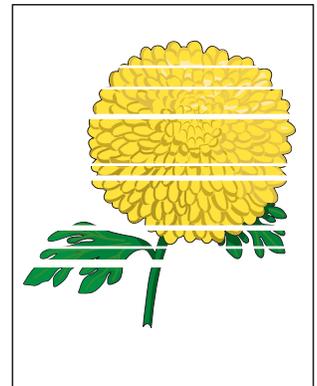
- a. Ensure the packaging material is removed from the Toner Cartridge.
- b. Check the Toner Cartridge to make sure that it is installed correctly.
- c. The toner may be low. Change the Toner Cartridge.



Blank Print

6. Streaks appear on the page.

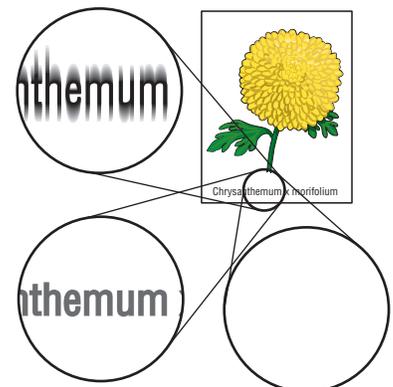
- a. The toner may be low. Change the Toner Cartridge(s).
- b. If you are using preprinted forms, make sure the toner can withstand the temperature of 0° C to 35° C.



Horizontal Band, Void, or Streaks

7. Characters have jagged or uneven edges.

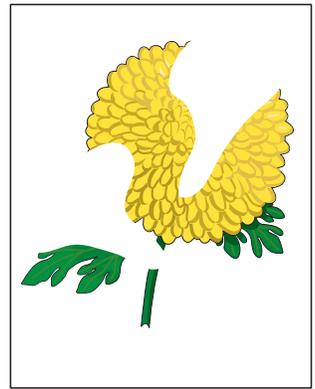
- a. If you are using downloaded fonts, verify that the fonts are supported by the printer, the host computer, and the software application.



Fuzzy Text

8. Part or all the page prints in cyan, magenta, yellow, or black.

- a. Check the Toner Cartridges to make sure they are installed correctly.



Partial Band

9. The job prints, but the top and side margins are incorrect.

- a. Make sure the Paper Size setting in the Tray Settings is correct.
- b. Make sure the margins are set correctly in your software application.

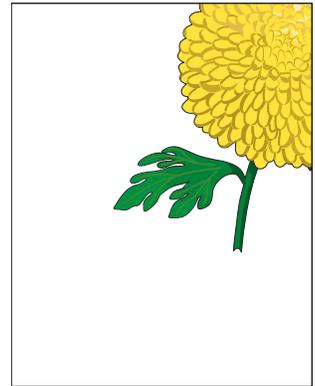


Image Not Centered

Test Prints

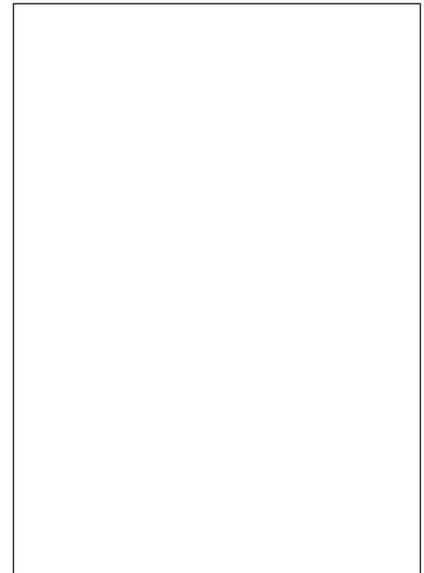
This section provides information for how to analyze test prints. A variety of test prints are available for determining the quality of output from the printer and to assist in troubleshooting the problems.

- No Image IOT
- Pattern IOT
- Grid 2 ESS
- Cyan 20% ESS
- Magenta 20% ESS
- Yellow 20% ESS
- Black 20% ESS
- CMY 20% ESS
- Gradation ESS

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.

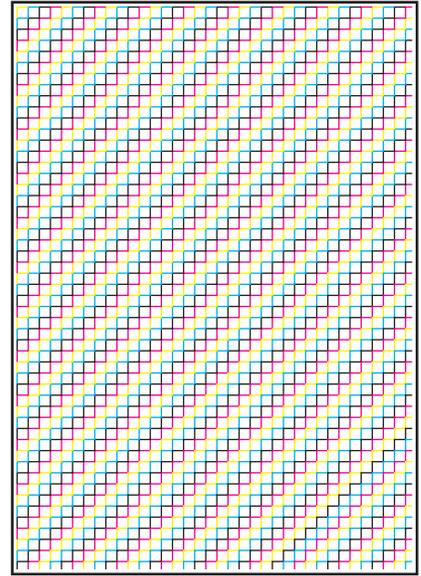


s6180-318

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.

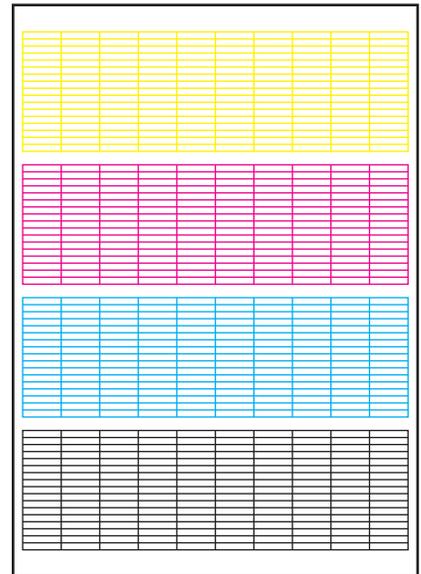


s6180-152

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.

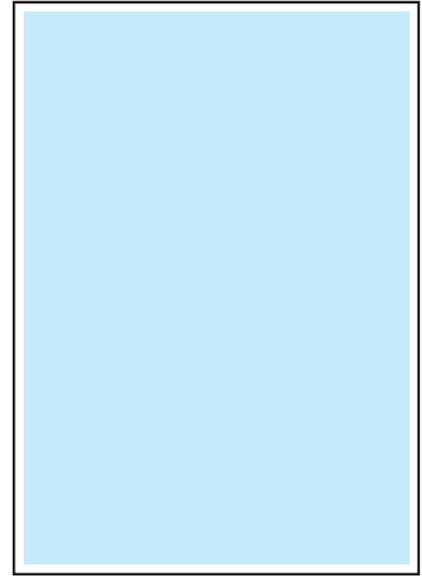


s6180-390

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 Toner Cartridge.
- **Pass:** Check another Toner Cartridge.

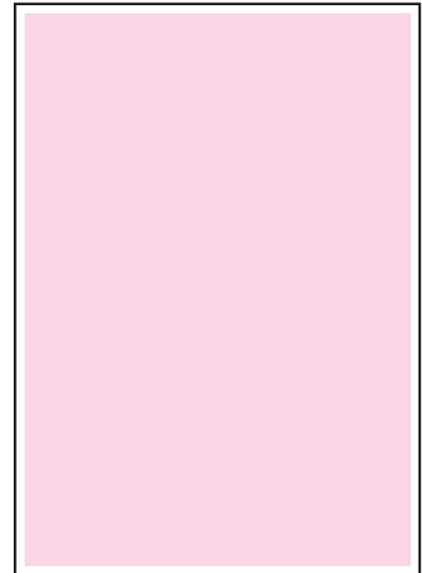


s6180-391

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 Toner Cartridge.
- **Pass:** Check another Toner Cartridge.

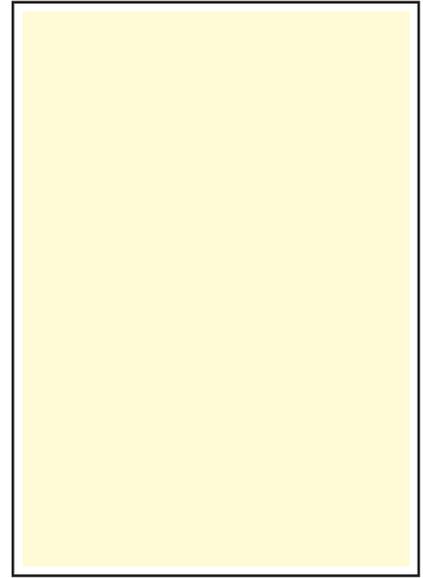


s6180-392

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 Toner Cartridge.
- **Pass:** Check another Toner Cartridge.

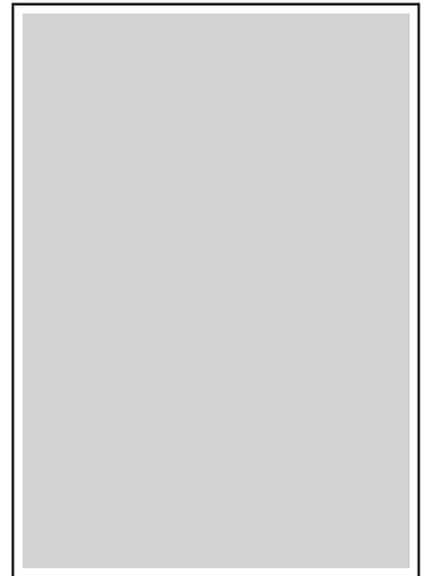


s6180-393

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 Toner Cartridge.
- **Pass:** Check another Toner Cartridge.

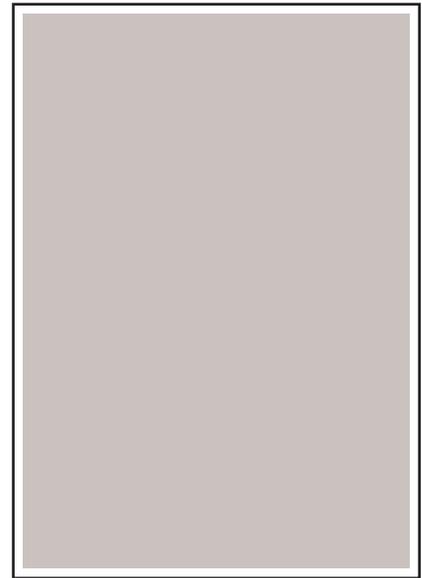


s6180-394

CMY 20% ESS

This test print provides 20% density for combination of cyan, magenta, and black on the whole page. This test is used to identify problems with balance of three color toners or another toner. Compare the print with the following chart to determine the problem.

- **Fail:** Check the cyan, magenta, or yellow Toner Cartridge.
- **Pass:** Check the black Toner Cartridge.

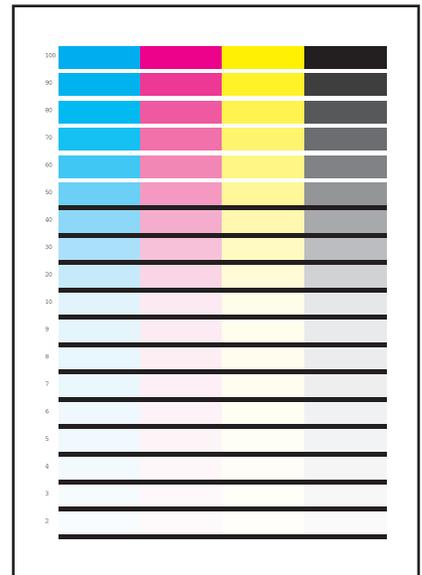


s6180-395

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.

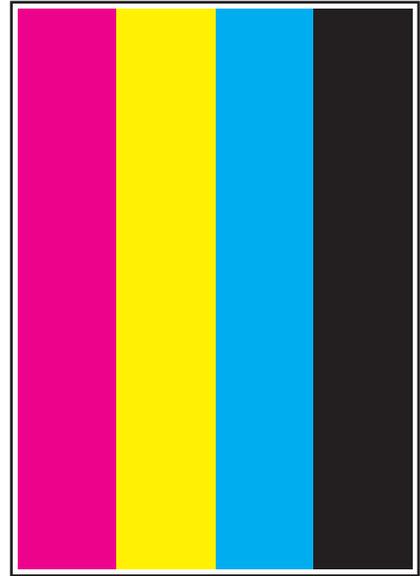


s6180-396

Toner Pallet Check

This test print provides 100% density for cyan, magenta, yellow, and black on the whole page. This test is used to identify problems with the toner when printing pictures or photos. Compare the print with the following chart to determine the problem.

- **Fail:** Check the toner cartridge and delivery for the problem color.
- **Pass:** Check the print data.



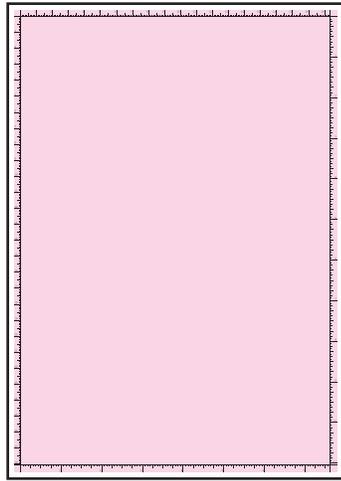
s6130-213

Contamination Check

This check produces five pages that are useful for analyzing repeating defects such as lines or spots that occur at regular interval. By measuring the size of the interval it is possible to determine which printer component is causing the problem.

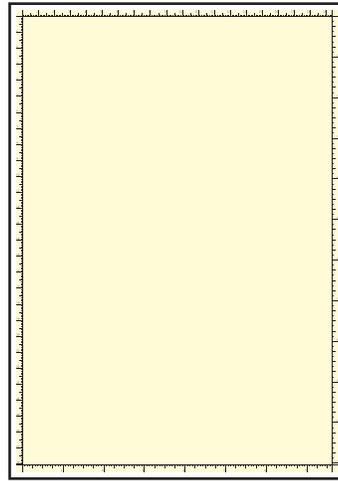
Pages 1 through 4: Vertical and horizontal scale patterns on a 20% density background of one color; for evaluating regularity and intervals.

Page 5: A Pitch Chart that lists repeating defect intervals and their associated components.



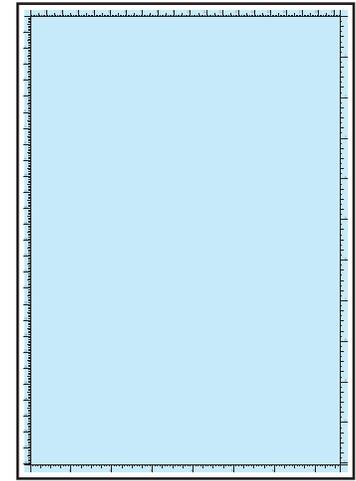
Page 1

s6130-214



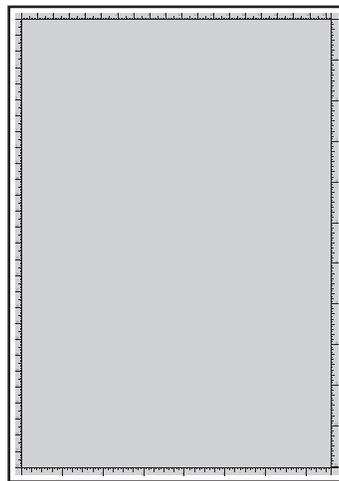
Page 2

s6130-215



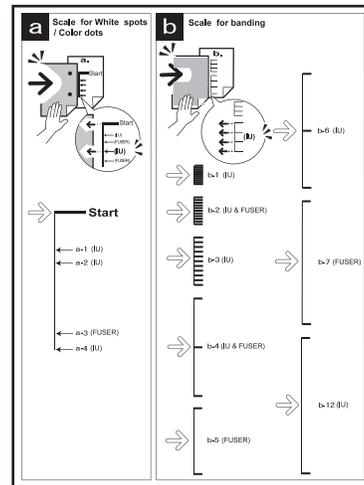
Page 3

s6130-216



Page 4

s6130-217



Page 5

s6130-218

Print-Quality Specifications

The Print-Quality specifications are provided as follows.

Environmental Condition

- Temperature: 10° C - 32° C
- Humidity: 15% RH - 85% RH (85% RH at 28° C)

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.

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

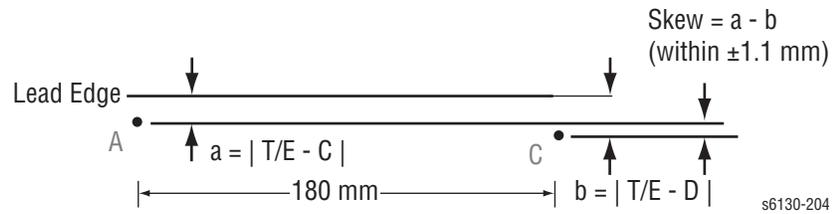
The specified print-quality is guaranteed with the printer in specified normal environmental condition.

Specifications

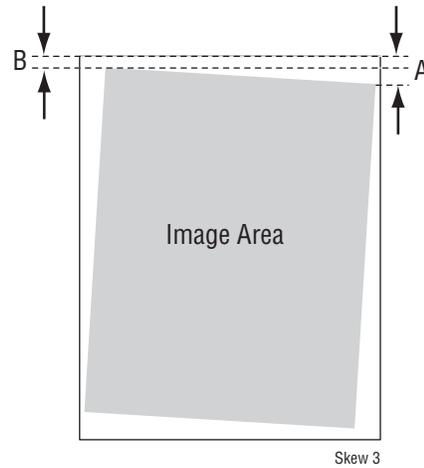
The following charts provide specifications for Skew, Parallelism, Linearity, Perpendicularity, Magnification Error, Registration, and Guaranteed and Maximum Print Areas.

Skew

- 180 mm ± 1.1 mm

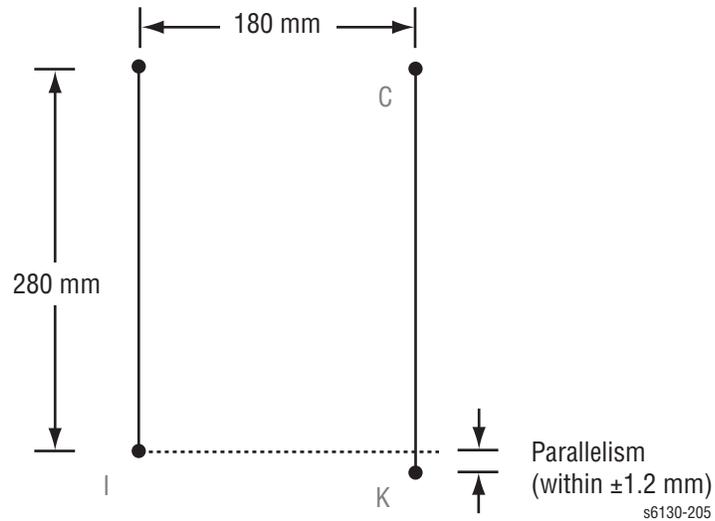


To measure Skew: Measure the margin of the paper at the leading edge of each corner, and then take the difference between them.



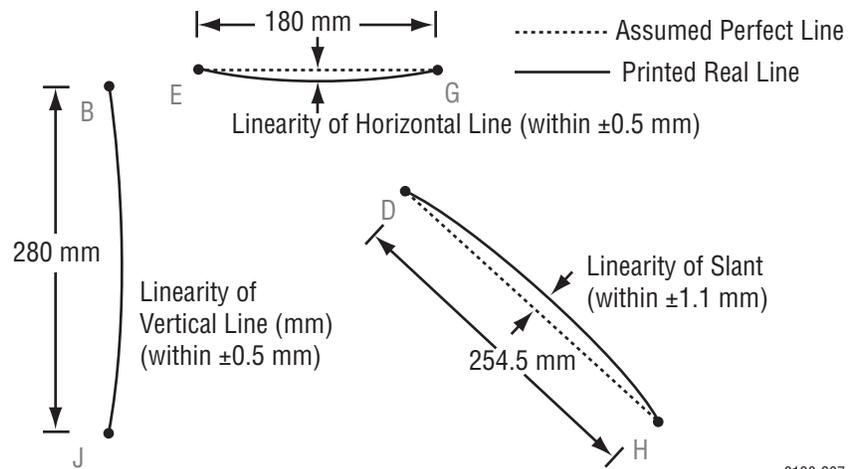
Parallelism

- Horizontal: 180 mm \pm 1.2 mm
- Vertical: 280 mm \pm 1.2 mm



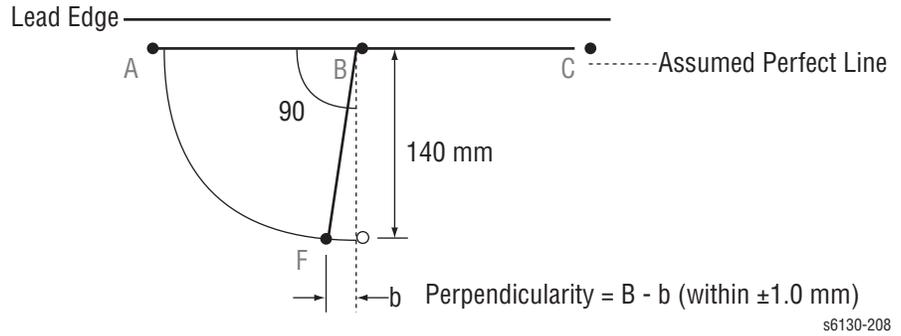
Linearity

- Horizontal: 190 mm \pm 0.5 mm
- Vertical: 234 mm \pm 0.5 mm
- Slant: 269 mm \pm 1.2 mm



Perpendicularity

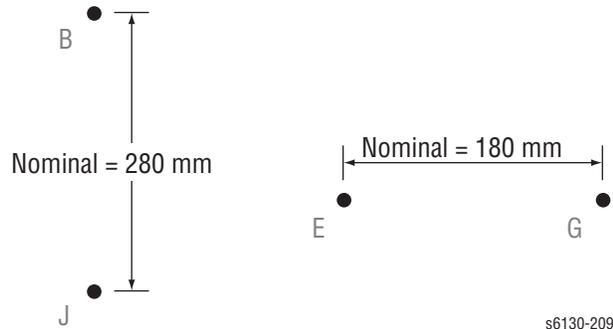
- 114.5 mm ± 0.8 mm



Magnification Error

- Horizontal Simplex: 190 mm ± 0.5%
- Horizontal Duplex: 190 mm ± 0.8%
- Vertical Simplex: 234 mm ± 0.5%
- Vertical Duplex: 234 mm ± 0.8%

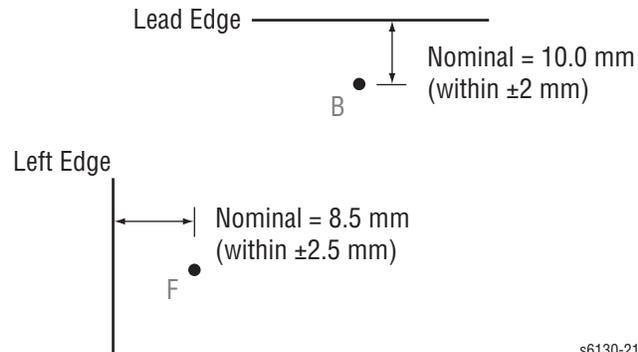
Magnification = Measured Length / Nominal (within ±0.5%)



Registration

- Leading Edge: 10.0 mm ± 2.0 mm
- Side Edge: 8.5 mm ± 2.5 mm

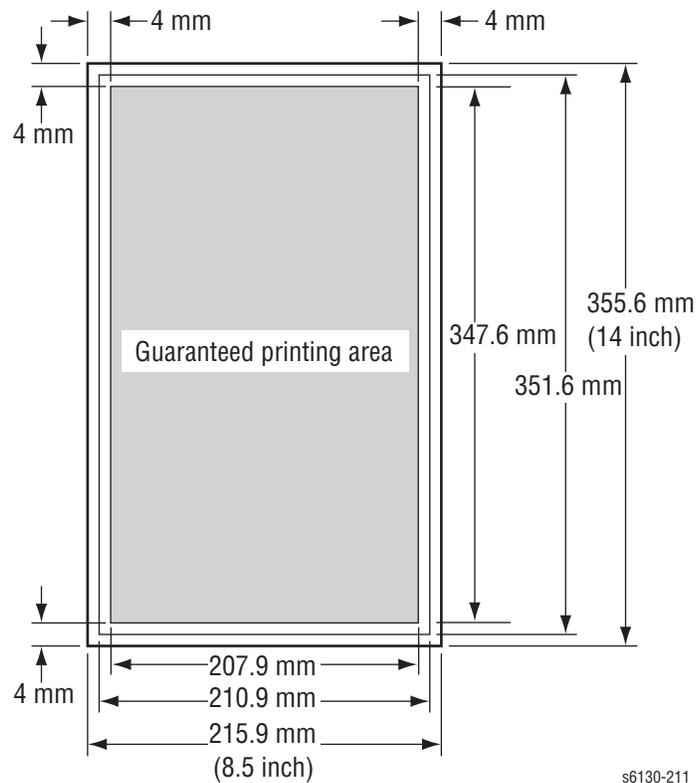
Registration = Measured Length - Nominal



s6130-210

Guaranteed and Maximum Print Areas

- Maximum Print Area: 210.9 mm x 351.6 mm
- Guaranteed Print Area: 207.9 mm x 347.6 mm



s6130-211

Print-Quality Troubleshooting

Print-Quality Defect Definitions

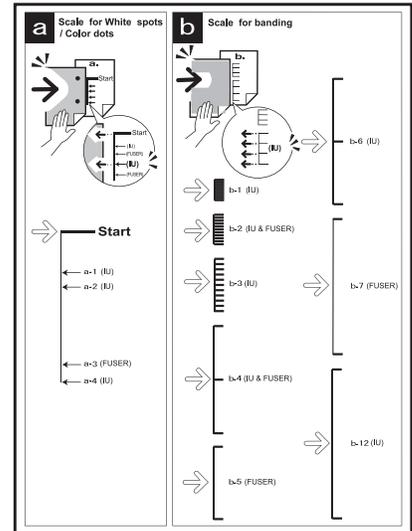
The following table lists the print-quality defect corrective procedure, their definition, and the page where each procedure is provided.

Defect	Definition	Page
Light or Undertone Print	The overall image density is too light in all colors.	page 5-22
Blank Print (No Print)	The entire image area is blank.	page 5-25
Black Print	The entire image area is black.	page 5-28
Vertical Blank Lines	There are faded or completely non-printed lines along the page.	page 5-30
Horizontal Band, Voids, or Streaks	There are areas of the image that are extremely light or are missing entirely.	page 5-32
Vertical Stripes	There are black lines along the page in the direction of the paper travel.	page 5-35
Horizontal Stripes	There are dark lines running parallel with the leading edge of the print.	page 5-37
Partial Band	There are areas of the image that are extremely light or are missing in a limited area.	page 5-39
Random Spots	There are spots of toner randomly scattered across the page.	page 5-42
Repeating Bands, Lines, Marks, or Spots	There are recurring lines, marks, or spots on the page.	page 5-45
Background Contamination	There is toner contamination on all or most of the page.	page 5-48
Skew	The printed image is not paralleled with both sides of the paper.	page 5-51
Damaged Paper	The paper comes out from the printer wrinkled, folded, or worn-out.	page 5-54
Unfused Image	The toner image is not completely fused to the paper. The image easily rubs off.	page 5-57
Color Registration	A printed yellow or black image is not overlapped on a cyan or magenta image correctly.	page 5-59

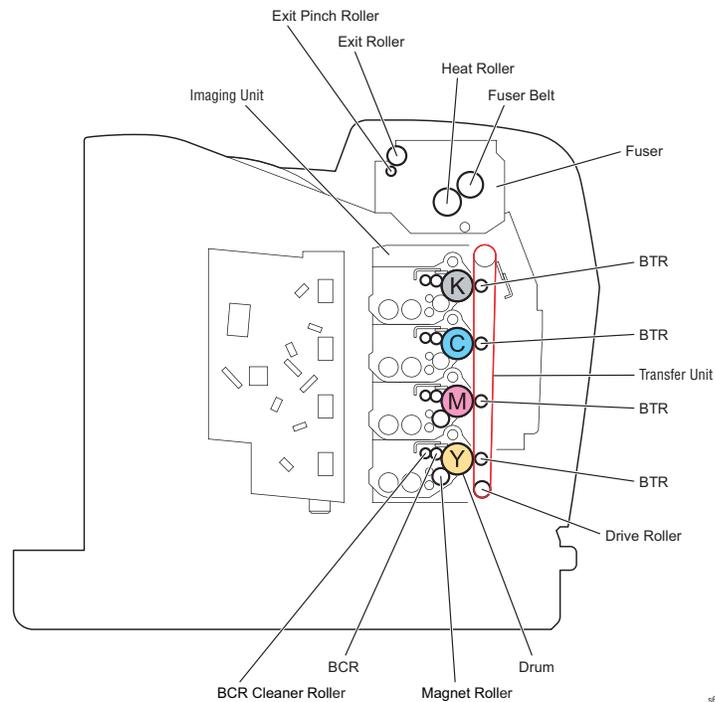
Repeating Defect Measurement

Horizontal lines and/or spots that occur periodically are usually caused by one of the printer's many rollers. However, the interval does not necessarily match the circumference of the roller. Compare the print defect intervals on the test print with the gauges on the Pitch Chart that can be printed from the diagnostics in Service Mode. The problem may be solved easily by the check.

To print the Pitch Chart, print the Contamination Check test prints: **Service Mode > Test Print > Contamination Check**.



s6130-218



s6130-212

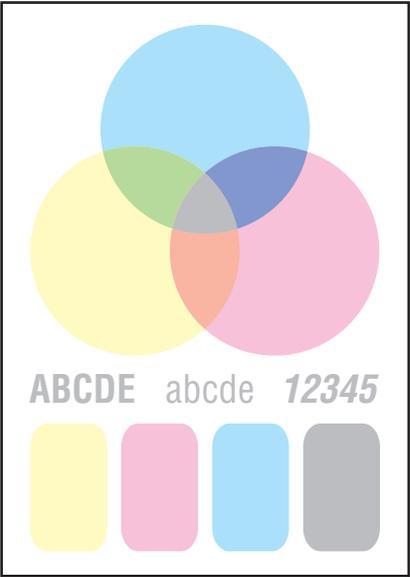
Light or Undertone Print

The overall image density is too light in all colors.

Initial Actions

- Check the paper transfer path.
- Ensure there is no debris on the transfer path.

Troubleshooting Reference Table

Applicable Parts	Example Print
<ul style="list-style-type: none"> ■ Laser Unit kit(PL4.1.99) ■ Imaging Unit (PL4.1.21) ■ Dispenser Assy (PL5.1.3) ■ Toner Cartridge K (PL5.1.21) ■ Toner Cartridge C (PL5.1.22) ■ Toner Cartridge M (PL5.1.23) ■ Toner Cartridge Y (PL5.1.24) ■ Transfer Unit (PL6.1.7) ■ IP Board (PL8.1.9) ■ MCU Board (PL8.2.13) 	 <p style="text-align: right; font-size: small;">s6180-317</p>

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the Toner Type Is the Xerox Toner seated?	Go to step 2.	Replace the toner with the Xerox toner.
2	Check the paper condition Is the paper dry and recommended paper?	Go to step 4.	Replace the paper with a new dry and recommended one, then go to step 3.
3	Is the image printed correctly?	Complete	Go to step 4.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	Check the Advanced tab of the Printer Driver. Is the Draft Mode selected?	Cancel the Draft Mode , then go to step 5.	Go to step 6.
5	Is the image printed correctly?	Complete	Go to step 6.
6	Perform the Toner Pallet Check: Service Mode > Test Print > Toner Pallet Check Is one or more of the colors faint?	Go to step 7.	Check the original printing data.
7	Reseat the Toner Cartridges, and check that their lock keys are in the lock positions. Is the image printed correctly?	Complete	Go to step 8.
8	Open the Front Cover and check the Transfer Unit HV connections. Are the four HV contacts on the right side of the Transfer Unit, and four springs on the frame (PL4.1.11, 12, 13, 14) dirty and/or deformed?	Clean or replace the Transfer Unit or spring(s), then go to step 9.	Go to step 9.
9	Remove the Imaging Unit and check the Imaging Unit HV connections Are the five HV terminals on the Imaging Unit, and five springs on the frame (PL4.1.10 and PL4.1.15 to 18) dirty and/or deformed?	Clean and/or replace the Imaging Unit or spring(s), then go to step 10.	Go to step 10.
10	Reseat the Imaging Unit. Is the image printed correctly?	Complete	Go to step 11.
11	Check the laser beam windows of the Laser Unit Are the laser beam windows on the Laser Unit clean?	Go to step 12.	Clean the window(s) with soft cloth or cotton swab gently.
12	Check the laser beam path Are there any foreign substances between the Laser Unit and Imaging Unit?	Remove the foreign substances.	Go to step 13.
13	Perform the Toner Motor test for each color: Service Mode > Engine Diag > Motor Test > Yellow/Magenta/Cyan/Black Toner Motor Does the Toner Dispenser Motor function normally?	Go to step 15.	Replace the Dispenser Assy (page 8-34), then go to step 14.
14	Is the image printed correctly?	Complete	Replace the MCU Board (page 8-59).
15	Reseat the connectors on the MCU Board. Is the image printed correctly?	Complete	Go to step 16.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
16	Reseat the connectors on the IP Board. Is the image printed correctly?	Complete	Go to step 17.
17	Open and close the Front Cover to reseal the Transfer Unit. Is the image printed correctly?	Complete	Go to step 18.
18	Replace the Transfer Unit (page 8-41) Is the image printed correctly?	Complete	Go to step 19.
19	Replace the Imaging Unit. (page 8-8) Is the image printed correctly?	Complete	Go to step 20.
20	Replace the Dispenser Motor Assy (page 8-34). Is the image printed correctly?	Complete	Go to step 21.
21	Replace the Laser Unit. (page 8-31) Is the image printed correctly?	Complete	Replace the IP Board (page 8-60)

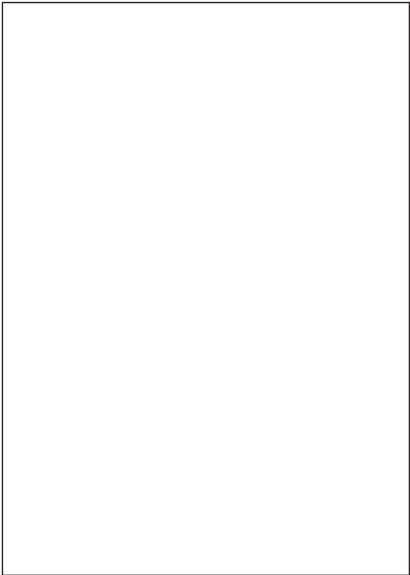
Blank Print (No Print)

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"> ■ Laser Unit Kit (PL4.1.99) ■ Imaging Unit (PL4.1.21) ■ Dispenser Assy (PL5.1.1) ■ Toner Cartridge K (PL5.1.21) ■ Toner Cartridge C (PL5.1.22) ■ Toner Cartridge M (PL5.1.23) ■ Toner Cartridge Y (PL5.1.24) ■ Transfer Unit (PL6.1.7) ■ Sub Drive Assembly (PL7.1.1) ■ Main Drive Assembly (PL7.1.2) ■ Feed Drive Assembly (PL7.1.4) ■ IP Board (PL8.1.9) ■ MCU Board (PL8.2.13) 	 <p>s6180-318</p>

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the Toner Type Is non-Xerox Toner in use?	Replace the toner with the Xerox toner, then go to step 2.	Go to step 3.
2	Is the image printed correctly?	Complete	Replace the IP Board (page 8-60).
3	Reseat the Toner Cartridges, and check that their lock keys are in the lock positions. Is the image printed correctly?	Complete	Go to step 4.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	Open the Front Cover and check the Transfer Unit HV connections. Are the four HV contacts on the right side of the Transfer Unit, and four springs on the frame (PL4.1.11, 12, 13, 14) dirty and/or deformed?	Clean or replace the Transfer Unit (page 8-41) or spring(s), then go to step 5.	Go to step 6.
5	Is the image printed correctly?	Complete	Go to step 6.
6	Check the paper condition Is the paper dry and recommended paper?	Go to step 8.	Replace the paper with a new dry and recommended one, then go to step 7.
7	Is the image printed correctly?	Complete	Go to step 8.
8	Check the Toner Cartridge life using CentreWare IS. Are one or more of the Toner Cartridges near end of life?	Replace the Toner Cartridge(s) (page 8-10).	Go to step 9.
9	Inspect the laser beam windows of the Laser Unit Are the laser beam windows on the Laser Unit clean?	Go to step 10.	Clean the window(s) with soft cloth or cotton swab gently.
10	Inspect the laser beam path Are there any foreign substances between the Laser Unit and Imaging Unit?	Remove the foreign substances.	Go to step 11.
11	Reseat the Imaging Unit. Is the image printed correctly?	Complete	Go to step 12.
12	Perform the Toner Motor test for each color: Service Mode > Engine Diag > Motor Test > Yellow/Magenta/Cyan/Black Toner Motor Does the Toner Dispenser Motor function normally?	Go to step 17.	Go to step 13.
13	Inspect the connectors between the MCU Board and Toner Motor (Y/M/C/K) (Dispenser Motor Assy). Are P/J18, P/J19, P/J181, P/J182, P/J191 and P/J192 connected correctly?	Go to step 15.	Securely reconnect the connectors, then go to step 14.
14	Is the image printed correctly?	Complete	Go to step 15.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
15	<p>Check the Toner Motor Harness for continuity:</p> <ol style="list-style-type: none"> 1. Disconnect J18 and J19 from the MCU Board. 2. Disconnect J181, J182, J191 and J192 from the Toner Motors. <p>Is each cable of J18 <=> J181 and J182 continuous? Is each cable of J19 <=> J191 and J192 continuous?</p>	Go to step 16.	Replace the Dispenser Assy (page 8-34).
16	<p>Check the power to Toner Motors (Y/M/C/K):</p> <ol style="list-style-type: none"> 1. Disconnect J18 and J19 from the MCU Board. 2. Measure the voltage across P18-3, P18-8, P19-4 and P19-9 <= > ground on the MCU Board. <p>Is the voltage about +24 VDC when the Front Cover interlock switch (Interlock Harness Assy) is actuated?</p>	Replace the Dispenser Assy (page 8-34).	Replace the MCU Board (page 8-59).
17	<p>Check the connections between the Laser Unit and MCU Board. Are P/J40, P/J 41, P/J411 and P/J 412 connected correctly?</p>	Go to step 19.	Reconnect the connector(s) P/J40, P/J41, P/J411 and/or P/J412 securely, then go to step 18.
18	Is the image printed correctly?	Complete	Go to step 19.
19	<p>Reseat the connectors on the MCU Board. Is the image printed correctly?</p>	Complete	Go to step 20.
20	<p>Reseat the connectors on the IP Board. Is the image printed correctly?</p>	Complete	Go to step 21.
21	<p>Open and close the Front Cover to reseat the Transfer Unit. Is the image printed correctly?</p>	Complete	Go to step 22.
22	<p>Replace the Imaging Unit (page 8-8). Is the image printed correctly?</p>	Complete	Go to step 23.
23	<p>Replace the Transfer Unit (page 8-41). Is the image printed correctly?</p>	Complete	Go to step 24.
24	<p>Replace the Laser Unit. (page 8-31) Is the image printed correctly?</p>	Complete	Replace the IP Board (page 8-60).

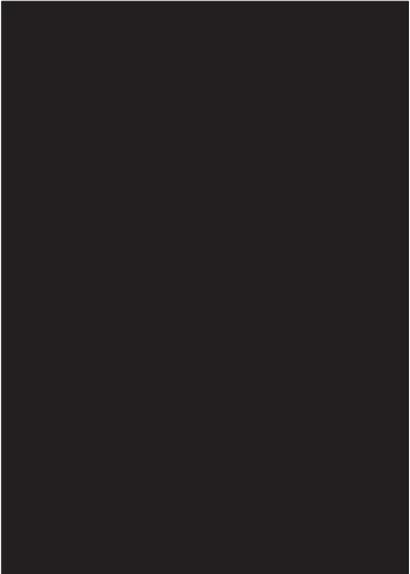
Black Print

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"> ■ Laser Unit Kit (PL4.1.99) ■ HVPS Board (PL4.1.19) ■ Imaging Unit (PL4.1.21) ■ IP Board (PL8.1.9) ■ MCU Board (PL8.2.13) 	 <p style="text-align: right; font-size: small;">s6180-319</p>

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Run the Gradation ESS test print: Service Mode > Test Print> Toner Gradation ESS Is the image printed correctly?	Go to step 2.	Go to step 3.
2	Run the Pattern IOT test print: Service Mode > Test Print> Toner Pattern IOT Is the image printed correctly?	Replace the IP Board (page 8-60).	Go to step 3.
3	Reseat the Imaging Unit. Is the image printed correctly?	Complete	Go to step 4.
4	Reseat the connectors on the MCU Board. Is the image printed correctly?	Complete	Go to step 5.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	Reseat the connectors on the IP Board. Is the image printed correctly?	Complete	Go to step 6.
6	Reseat the Laser Unit. Is the image printed correctly?	Complete	Go to step 7.
7	Inspect the connections between the Laser Unit and MCU Board. Are P/J40, P/J 41, P/J411 and P/J 412 connected correctly?	Go to step 9.	Reconnect the connectors securely, then go to step 8.
8	Is the image printed correctly?	Complete	Go to step 9.
9	Replace the Imaging Unit (page 8-8). Is the image printed correctly?	Complete	Go to step 10.
10	Replace the IP Board (page 8-60). Is the image printed correctly?	Complete	Go to step 11.
11	Replace the HVPS Board (page 8-43). Is the image printed correctly?	Complete	Go to step 12.
12	Replace the Laser Unit (page 8-31). Is the image printed correctly?	Complete	Replace the MCU Board (page 8-59).

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"> ■ Laser Unit Kit (PL4.1.99) ■ Imaging Unit (PL4.1.21) ■ Transfer Unit (PL6.1.7) ■ IP Board (PL8.1.9) ■ MCU Board (PL8.2.13) 	 <p style="text-align: right; font-size: small;">s6180-320</p>

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the paper condition Is the paper dry and approved for use?	Go to step 3.	Replace with dry, approved paper, then go to step 2.
2	Is the image printed correctly?	Complete	Go to step 3.
3	Inspect the paper path between the Transfer Unit and Fuser. Is there any debris or other foreign substance in the paper path?	Remove the debris or foreign substances, then go to step 4.	Go to step 5.
4	Is the image printed correctly?	Complete	Go to step 5.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
5	Inspect the Transfer Belt surface. Is there any damage to the Transfer Belt surface?	Replace the Transfer Unit (page 8-41).	Go to step 6.
6	1. Open the Front Cover. 2. Inspect the four Transfer Unit HV connections. Are the four terminals on the Transfer Unit, and the four springs on the frame (PL4.1.11, 12, 13 and 14) dirty and/or deformed?	Clean or replace the Transfer Unit contacts or spring(s).	Go to step 7.
7	Inspect the laser beam path Are there any foreign substances between the Laser Unit and Imaging Unit?	Remove the foreign substances.	Go to step 8.
8	Check the Imaging Unit HV Connections 1. Remove the Imaging Unit. 2. Inspect the five Imaging Unit HV connections. Are the five HV terminals on the Imaging Unit, and five springs on the frame (PL4.1.10 and PL4.1.15 to 18) dirty and/or deformed?	Clean or replace the Imaging Unit contacts or spring(s).	Go to step 9.
9	Reseat the Imaging Unit. Is the image printed correctly?	Complete	Go to step 10.
10	Reseat the Fuser. Warning: Start the operation after the Fuser has cooled down. Is the image printed correctly?	Complete	Go to step 11.
11	Reseat the connectors on the MCU Board. Is the image printed correctly?	Complete	Go to step 12.
12	Reseat the connectors on the IP Board. Is the image printed correctly?	Complete	Go to step 13.
13	Open and close the Front Cover to reseat the Transfer Unit. Is the image printed correctly?	Complete	Go to step 14.
14	Replace the Imaging Unit (page 8-8). Is the image printed correctly?	Complete	Go to step 15.
15	Replace the IP Board (page 8-60). Is the image printed correctly?	Complete	Go to step 16.
16	Inspect the connections between the Laser Unit and MCU Board. Are P/J40, P/J 41, P/J411 and P/J 412 connected correctly?	Go to step 18.	Reconnect the connectors securely, then go to step 17.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
17	Is the image printed correctly?	Complete	Go to step 18.
18	Replace the Laser Unit (page 8-31). Is the image printed correctly?	Complete	Replace the MCU Board (page 8-59).

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"> ■ Laser Unit Kit (PL4.1.99) ■ HVPS Board (PL4.1.19) ■ Imaging Unit (PL4.1.21) ■ Toner Cartridge K (PL5.1.21) ■ Toner Cartridge C (PL5.1.22) ■ Toner Cartridge M (PL5.1.23) ■ Toner Cartridge Y (PL5.1.24) ■ Transfer Unit (PL6.1.7) ■ IP Board (PL8.1.9) ■ MCU Board (PL8.2.13) 	

s6180-321

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Run the Contamination Check test print: Service Mode > Test Print > Contamination Chk Compare any horizontal dropout bands with the Pitch Chart (page 5-21). Do any of the horizontal bands match the chart?	Replace the corresponding parts	Go to step 2.
2	Check the paper condition Is the paper dry and approved for use?	Go to step 4.	Replace with dry, approved paper, then go to step 3.
3	Is the image printed correctly?	Complete	Go to step 4.
4	Inspect the Transfer Belt surface. Is there any damage to the Transfer Belt surface?	Replace the Transfer Unit (page 8-41).	Go to step 5.
5	1. Open the Front Cover. 2. Inspect the four Transfer Unit HV connections. Are the four terminals on the Transfer Unit, and the four springs on the frame (PL4.1.11, 12, 13 and 14) dirty and/or deformed?	Clean or replace the Transfer Unit contacts or spring(s).	Go to step 6.
6	Inspect the laser beam path Are there any foreign substances between the Laser Unit and Imaging Unit?	Remove the foreign substances.	Go to step 7.
7	1. Remove the Imaging Unit. 2. Inspect the five Imaging Unit HV connections. Are the five HV terminals on the Imaging Unit, and five springs on the frame (PL4.1.10 and PL4.1.15 to 18) dirty and/or deformed?	Clean or replace the Imaging Unit contacts or spring(s).	Go to step 8.
8	Reseat the Imaging Unit. Is the image printed correctly?	Complete	Go to step 9.
9	Reseat the Fuser. Warning: Start the operation after the Fuser has cooled down. Is the image printed correctly?	Complete	Go to step 10.
10	Reseat the connectors on the MCU Board. Is the image printed correctly?	Complete	Go to step 11.
11	Reseat the connectors on the IP Board. Is the image printed correctly?	Complete	Go to step 12.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
12	Open and close the Front Cover to reseal the Transfer Unit. Is the image printed correctly?	Complete	Go to step 13.
13	Replace the Toner Cartridge(s) (page 8-10). Is the image printed correctly?	Complete	Go to step 14.
14	Replace the Imaging Unit (page 8-8). Is the image printed correctly?	Complete	Go to step 15.
15	Replace the IP Board (page 8-60). Is the image printed correctly?	Complete	Go to step 16.
16	Inspect the connections between the Laser Unit and MCU Board. Are P/J40, P/J 41, P/J411 and P/J 412 connected correctly?	Go to step 18.	Reconnect the connectors securely, then go to step 17.
17	Is the image printed correctly?	Complete	Go to step 18.
18	Replace the HVPS Board (page 8-43). Is the image printed correctly?	Complete	Go to step 19.
19	Replace the Laser Unit (page 8-31). Is the image printed correctly?	Complete	Replace the MCU Board (page 8-59).

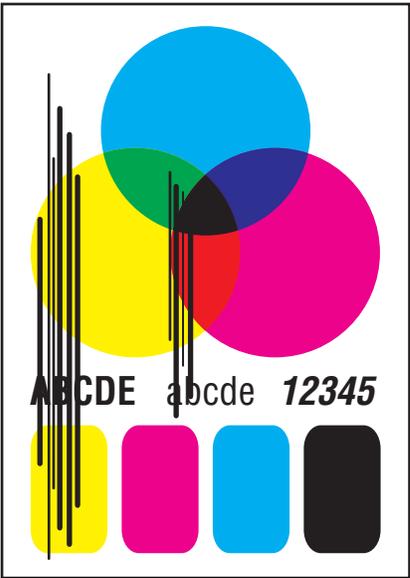
Vertical Stripes

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"> ■ Laser Unit Kit (PL4.1.99) ■ Imaging Unit (PL4.1.21) ■ Fuser (PL6.1.1) ■ Transfer Unit (PL6.1.7) ■ IP Board (PL8.1.9) ■ MCU Board (PL8.2.13) 	

s6180-322

Warning

To prevent burns, allow the Fuser to cool down before starting the procedure.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	1. Open the Front Cover. 2. Inspect the four Transfer Unit HV connections. Are the four terminals on the Transfer Unit, and the four springs on the frame (PL4.1.11, 12, 13 and 14) dirty and/or deformed?	Clean or replace the Transfer Unit contacts or spring(s).	Go to step 2.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
2	1. Remove the Imaging Unit. 2. Inspect the five Imaging Unit HV connections. Are the five HV terminals on the Imaging Unit, and five springs on the frame (PL4.1.10 and PL4.1.15 to 18) dirty and/or deformed?	Clean and/or replace the Imaging Unit or spring(s).	Go to step 3.
3	Reseat the Imaging Unit. Is the image printed correctly?	Complete	Go to step 4.
4	Reseat the Fuser. Warning: Start the operation after the Fuser has cooled down. Is the image printed correctly?	Complete	Go to step 5.
5	Reseat the connectors on the MCU Board. Is the image printed correctly?	Complete	Go to step 6.
6	Reseat the connectors on the IP Board. Is the image printed correctly?	Complete	Go to step 7.
7	Open and close the Front Cover to reseat the Transfer Unit. Is the image printed correctly?	Complete	Go to step 8.
8	Check after reseating the HVPS Board Reseat the HVPS Board. Is the image printed correctly?	Complete	Go to step 9.
9	Check the connections between the Laser Unit and MCU Board. Are P/J40, P/J 41, P/J411 and P/J 412 connected correctly?	Go to step 10.	Reconnect the connectors securely, then go to step 10.
10	Is the image printed correctly?	Complete	Go to step 11.
11	Replace the Imaging Unit (page 8-8). Is the image printed correctly?	Complete	Go to step 12.
12	Replace the Fuser (page 8-9). Is the image printed correctly?	Complete	Go to step 13.
13	Replace the IP Board (page 8-60). Is the image printed correctly?	Complete	Go to step 14.
14	Replace the Laser Unit (page 8-31). Is the image printed correctly?	Complete	Replace the MCU Board (page 8-59).

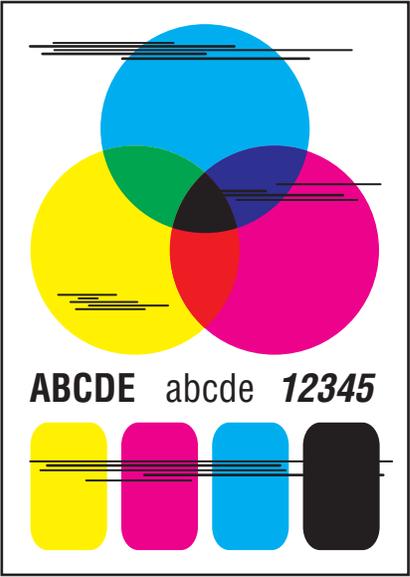
Horizontal Stripes

There are black lines running parallel with the leading edge of the print, perpendicular to the direction of the paper travel.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Notes	Example Print
<ul style="list-style-type: none"> ■ Laser Unit Kit (PL4.1.99) ■ Imaging Unit (PL4.1.21) ■ Toner Cartridge K (PL5.1.21) ■ Toner Cartridge C (PL5.1.22) ■ Toner Cartridge M (PL5.1.23) ■ Toner Cartridge Y (PL5.1.24) ■ Fuser (PL6.1.1) ■ Transfer Unit (PL6.1.7) ■ IP Board (PL8.1.9) ■ MCU Board (PL8.2.13) 	

s6180-323

Warning

To prevent burns, allow the Fuser to cool down before starting the procedure.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	<p>Run the Contamination Check test print: Service Mode > Test Print > Contamination Chk</p> <p>Compare any horizontal dropout bands with the Pitch Chart (page 5-21).</p> <p>Do any of the horizontal bands match the chart?</p>	<p>Replace the corresponding parts.</p>	<p>Go to step 2.</p>

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
2	1. Open the Front Cover. 2. Inspect the four Transfer Unit HV connections. Are the four terminals on the Transfer Unit, and the four springs on the frame (PL4.1.11, 12, 13 and 14) dirty and/or deformed?	Clean or replace the Transfer Unit contacts or spring(s).	Go to step 3.
3	Inspect the paper path. Is there toner contamination on the paper path?	Clean the paper path (refer to "Cleaning" on page 7-2).	Go to step 4.
4	1. Remove the Imaging Unit. 2. Inspect the five Imaging Unit HV connections. Are the five HV terminals on the Imaging Unit, and five springs on the frame (PL4.1.10 and PL4.1.15 to 18) dirty and/or deformed?	Clean and/or replace the Imaging Unit or spring(s).	Go to step 5.
5	Reseat the Imaging Unit. Is the image printed correctly?	Complete	Go to step 6.
6	Reseat the Fuser. Warning: Start the operation after the Fuser has cooled down. Is the image printed correctly?	Complete	Go to step 7.
7	Inspect the Toner Cartridges Are any of the Toner Cartridges damaged?	Replace any damaged Toner Cartridges (page 8-10)	Go to step 8.
8	Reseat the connectors on the MCU Board. Is the image printed correctly?	Complete	Go to step 9.
9	Reseat the connectors on the IP Board. Is the image printed correctly?	Complete	Go to step 10.
10	Open and close the Front Cover to reseal the Transfer Unit. Is the image printed correctly?	Complete	Go to step 11.
11	Check the connections between the Laser Unit and MCU Board. Are P/J40, P/J 41, P/J411 and P/J 412 connected correctly?	Go to step 14.	Reconnect the connectors securely, then go to step 12.
12	Is the image printed correctly?	Complete	Go to step 13.
13	Replace the Imaging Unit (page 8-8). Is the image printed correctly?	Complete	Go to step 14.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
14	Replace the Fuser (page 8-9). Warning: Start the operation after the Fuser has cooled down. Does the error still occur when printing?	Complete	Go to step 15.
15	Replace the IP Board (page 8-60). Is the image printed correctly?	Complete	Go to step 16.
16	Replace the Laser Unit (page 8-31). Is the image printed correctly?	Complete	Replace the MCU Board (page 8-59).

Partial Band

There are areas of the image that are extremely light or are missing in a limited area on the paper.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Notes	Example Print
<ul style="list-style-type: none"> ■ Laser Unit Kit (PL4.1.99) ■ Imaging Unit (PL4.1.21) ■ Transfer Unit (PL6.1.7) ■ IP Board (PL8.1.9) ■ MCU Board (PL8.2.13) 	 <p style="text-align: right; font-size: small;">s6180-324</p>

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	<p>1. Run the Contamination Check test print: Service Mode > Test Print > Contamination Chk</p> <p>2. Compare any blank areas with the Pitch Chart (page 5-21).</p> <p>Do any of the blank areas appear at regular intervals, and do the intervals match the chart?</p>	Replace the corresponding parts.	Go to step 2.
2	<p>Check the paper condition</p> <p>Is the paper dry and approved for use?</p>	Go to step 4.	Replace with dry, approved paper, then go to step 3.
3	<p>Is the image printed correctly?</p>	Complete	Go to step 4.
4	<p>Inspect the Transfer Belt surface.</p> <p>Is there any damage on the surface of the Transfer Belt?</p>	Replace the Transfer Unit (page 8-41).	Go to step 5.
5	<p>1. Open the Front Cover.</p> <p>2. Inspect the four Transfer Unit HV connections.</p> <p>Are the four terminals on the Transfer Unit, and the four springs on the frame (PL4.1.11, 12, 13 and 14) dirty and/or deformed?</p>	Clean or replace the Transfer Unit contacts or spring(s).	Go to step 6.
6	<p>1. Remove the Imaging Unit.</p> <p>2. Inspect the five Imaging Unit HV connections.</p> <p>Are the five HV terminals on the Imaging Unit, and five springs on the frame (PL4.1.10 and PL4.1.15 to 18) dirty and/or deformed?</p>	Clean and/or replace the Imaging Unit or spring(s).	Go to step 7.
7	<p>Reseat the Imaging Unit.</p> <p>Is the image printed correctly?</p>	Complete	Go to step 8.
8	<p>Reseat the Toner Cartridges (Y/M/C/K), and check that their lock keys are in the lock positions.</p> <p>Is the image printed correctly?</p>	Complete	Go to step 9.
9	<p>Reseat the connectors on the MCU Board.</p> <p>Is the image printed correctly?</p>	Complete	Go to step 10.
10	<p>Reseat the connectors on the IP Board.</p> <p>Is the image printed correctly?</p>	Complete	Go to step 11.
11	<p>Open and close the Front Cover to reseal the Transfer Unit.</p> <p>Is the image printed correctly?</p>	Complete	Go to step 12.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
12	Check after reseating the HVPS Board. Reseat the HVPS Board. Is the image printed correctly?	Complete	Go to step 13.
13	Check the connections between the Laser Unit and MCU Board. Are P/J40, P/J 41, P/J411 and P/J 412 connected correctly?	Go to step 15.	Reconnect the connectors securely, then go to step 14.
14	Is the image printed correctly?	Complete	Go to step 15.
15	Replace the Imaging Unit (page 8-8). Is the image printed correctly?	Complete	Go to step 16.
16	Replace the IP Board (page 8-60). Is the image printed correctly?	Complete	Go to step 17.
17	Replace the Laser Unit (page 8-31). Is the image printed correctly?	Complete	Replace the MCU Board (page 8-59).

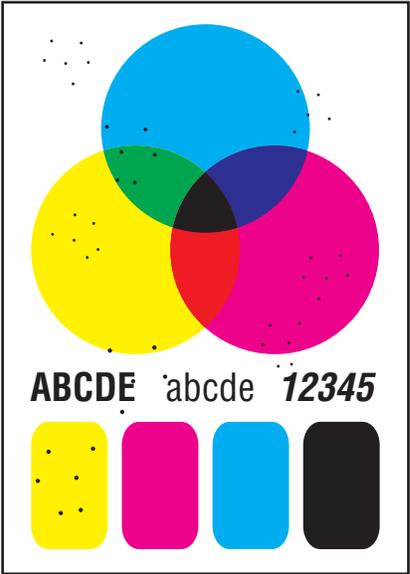
Random Spots

There are spots of toner randomly scattered across the page.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Notes	Example Print
<ul style="list-style-type: none"> ■ Laser Unit Kit (PL4.1.99) ■ Imaging Unit (PL4.1.21) ■ Transfer Unit (PL6.1.7) ■ IP Board (PL8.1.9) ■ MCU Board (PL8.2.13) 	 <p style="text-align: right; font-size: small;">s6180-325</p>

Warning

To prevent burns, allow the Fuser to cool down before starting the procedure.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Inspect the paper transfer path. Is there any contamination on the paper transfer path?	Clean the paper path (refer to "Cleaning" on page 7-2), then go to step 2.	Go to step 3.
2	Is the image printed correctly?	Complete	Go to step 3.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
3	<p>1. Run the Contamination Check test print: Service Mode > Test Print > Contamination Chk</p> <p>2. Compare any spots with the Pitch Chart (page 5-21).</p> <p>Do any of the spots appear at regular intervals, and do the intervals match the chart?</p>	Replace the corresponding parts.	Go to step 4.
4	<p>Inspect the paper being used. Is it approved paper?</p>	Go to step 6.	Use paper that is on the list of papers approved for the printer, then go to step 5.
5	<p>Is the image printed correctly?</p>	Complete	Go to step 6.
6	<p>Inspect the Transfer Belt surface. Is there any damage on the surface of the Transfer Belt?</p>	Replace the Transfer Unit (page 8-41).	Go to step 7.
7	<p>1. Open the Front Cover.</p> <p>2. Inspect the four Transfer Unit HV connections.</p> <p>Are the four terminals on the Transfer Unit, and the four springs on the frame (PL4.1.11, 12, 13 and 14) dirty and/or deformed?</p>	Clean or replace the Transfer Unit contacts or spring(s).	Go to step 8.
8	<p>1. Remove the Imaging Unit.</p> <p>2. Inspect the five Imaging Unit HV connections.</p> <p>Are the five HV terminals on the Imaging Unit, and five springs on the frame (PL4.1.10 and PL4.1.15 to 18) dirty and/or deformed?</p>	Clean and/or replace the Imaging Unit or spring(s).	Go to step 9.
9	<p>Reseat the Imaging Unit. Is the image printed correctly?</p>	Complete	Go to step 10.
10	<p>Reseat the Toner Cartridges (Y/M/C/K), and check that their lock keys are in the lock positions. Is the image printed correctly?</p>	Complete	Go to step 11.
11	<p>Reseat the Fuser.</p> <p>Warning: Start the operation after the Fuser has cooled down.</p> <p>Is the image printed correctly?</p>	Complete	Go to step 12.
12	<p>Reseat the connectors on the MCU Board. Is the image printed correctly?</p>	Complete	Go to step 13.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
13	Reseat the connectors on the IP Board. Is the image printed correctly?	Complete	Go to step 14.
14	Open and close the Front Cover to reseat the Transfer Unit. Is the image printed correctly?	Complete	Go to step 15.
15	Check the connections between the Laser Unit and MCU Board. Are P/J40, P/J 41, P/J411 and P/J 412 connected correctly?	Go to step 17.	Reconnect the connectors securely, then go to step 16.
16	Is the image printed correctly?	Complete	Go to step 17.
17	Replace the Imaging Unit (page 8-8). Is the image printed correctly?	Complete	Go to step 18.
18	Replace the IP Board (page 8-60). Is the image printed correctly?	Complete	Go to step 19.
19	Replace the Laser Unit (page 8-31). Is the image printed correctly?	Complete	Replace the MCU Board (page 8-59).

Repeating Bands, Lines, Marks, or Spots

There are recurring lines, marks, or spots on the page.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Notes	Example Print
<ul style="list-style-type: none"> ■ Transfer Unit, PL4.1.1 ■ Print Cartridge (C/M/Y/K), PL5.1.18-21 ■ Fuser, PL6.1.10 ■ Laser Unit, PL5.1.2 	

Warning

To prevent burns, allow the Fuser to cool down before starting the procedure.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check for spot's regular intervals. Do spots, lines, or marks that might appear on the page occur at regular intervals?	Refer to "Repeating Defect Measurement" on page 5-21.	Complete.

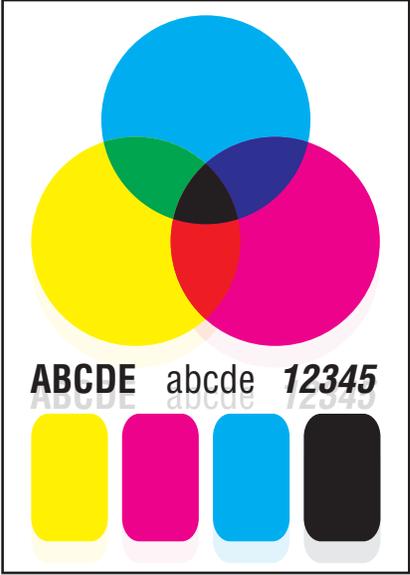
Residual Image or Ghosting

There are faint, ghostly images appearing on the page. The images may be either from a previous page or from the page currently being printed.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Notes	Example Print
<ul style="list-style-type: none"> ■ Erase LED Assy (PL4.1.8) ■ Imaging Unit (PL4.1.21) ■ Fuser (PL6.1.1) ■ Transfer Unit (PL6.1.7) ■ IP Board (PL8.1.9) ■ MCU Board (PL8.2.13) ■ LVPS Harness Assy (PL9.1.3) 	 <p style="text-align: right; font-size: small;">s6180-326</p>

Warning

To prevent burns, allow the Fuser to cool down before starting the procedure.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Did the client print a large number of the same image?	Go to step 2.	Go to step 3.
2	Run the Contamination Check test print: Service Mode > Test Print > Contamination Chk Is the image printed correctly?	Complete	Go to step 3.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
3	1. Open the Front Cover, and remove the Imaging Unit. 2. Defeat the safety interlock switch. Do the four erase LEDs light correctly?	Go to step 6.	Go to step 4.
4	Inspect the connections between the MCU Board and Erase LED Assy. Are P/J141 and P/J14 connected correctly?	Go to step 5.	Reconnect the connectors securely, then go to step 5.
5	1. Disconnect J14 from the Erase LED Assy. 2. Measure the voltage across P14-15 <=> ground on the MCU Board. Does the voltage measure about +3.3 VDC?	Replace the Erase LED Assy (page 8-37).	Replace the MCU Board (page 8-59).
6	1. Remove the Imaging Unit. 2. Inspect the five Imaging Unit HV connections. Are the five HV terminals on the Imaging Unit, and five springs on the frame (PL4.1.10 and PL4.1.15 to 18) dirty and/or deformed?	Clean and/or replace the Imaging Unit or spring(s), then go to step 7.	Go to step 8.
7	Reseat the Imaging Unit. Is the image printed correctly?	Complete	Go to step 8.
8	1. Open the Front Cover. 2. Inspect the four Transfer Unit HV connections. Are the four terminals on the Transfer Unit, and the four springs on the frame (PL4.1.11, 12, 13 and 14) dirty and/or deformed?	Clean or replace the Transfer Unit contacts or spring(s).	Go to step 9.
9	Reseat the connectors on the MCU Board. Is the image printed correctly?	Complete	Go to step 10.
10	Reseat the connectors on the IP Board. Is the image printed correctly?	Complete	Go to step 11.
11	Open and close the Front Cover to reseat the Transfer Unit. Is the image printed correctly?	Complete	Go to step 12.
12	Replace the Imaging Unit (page 8-8). Is the image printed correctly?	Complete	Go to step 13.
13	Replace the Fuser (page 8-9). Warning: Start the operation after the Fuser has cooled down. Does the error still occur when printing?	Complete	Go to step 14.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
14	Replace the MCU Board (page 8-59). Is the image printed correctly?	Complete	Replace the IP Board (page 8-60).

Background Contamination

There is toner contamination on all or most of the page. The contamination appears as a very light gray dusting.

Initial Actions

- Check the paper transfer path.
- Ensure there are no debris on the transfer path.

Troubleshooting Reference Table

Applicable Notes	Example Print
<ul style="list-style-type: none"> ■ Erase LED Assy (PL4.1.8) ■ Imaging Unit (PL4.1.21) ■ Transfer Unit (PL6.1.7) ■ IP Board (PL8.1.9) ■ MCU Board (PL8.2.13) ■ LVPS Harness Assy (PL9.1.3) 	 <p style="text-align: right; font-size: small;">s6180-327</p>

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Inspect the paper transfer path. Is there any contamination on the paper transfer path?	Clean the paper path (refer to "Cleaning" on page 7-2), then go to step 2.	Go to step 3.
2	Is the image printed correctly?	Complete	Go to step 3.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
3	Print the Windows test page after printing the Demo page (Menu > Information Pages > Demo Page , or running Service Mode > Test Print > Toner Pallet Check). Is the image printed correctly?	Complete	Go to step 4.
4	1. Open the Front Cover, and remove the Imaging Unit. 2. Defeat the safety interlock switch. Do the four erase LEDs light correctly?	Go to step 7.	Go to step 5.
5	Check the connections between the MCU Board and Erase LED Assy. Are P/J141 and P/J14 connected correctly?	Go to step 6.	Reconnect the connector(s) securely, then go to step 6.
6	1. Disconnect J14 from the Erase LED Assy. 2. Measure the voltage across P14-15 <=> ground on the MCU Board. Does the voltage measure about +3.3 VDC?	Replace the Erase LED Assy (page 8-37).	Replace the MCU Board (page 8-59).
7	1. Open the Front Cover. 2. Inspect the four Transfer Unit HV connections. Are the four terminals on the Transfer Unit, and the four springs on the frame (PL4.1.11, 12, 13 and 14) dirty and/or deformed?	Clean or replace the Transfer Unit contacts or spring(s).	Go to step 8.
8	1. Remove the Imaging Unit. 2. Inspect the five Imaging Unit HV connections. Are the five HV terminals on the Imaging Unit, and five springs on the frame (PL4.1.10 and PL4.1.15 to 18) dirty and/or deformed?	Clean and/or replace the Imaging Unit or spring(s).	Go to step 9.
9	Reseat the connectors on the IP Board. Is the image printed correctly?	Complete	Go to step 10.
10	Reseat the Toner Cartridges (Y/M/C/K), and check that their lock keys are in the lock positions. Is the image printed correctly?	Complete	Go to step 11.
11	Check the connections between the Laser Unit and MCU Board. Are P/J40, P/J 41, P/J411 and P/J 412 connected correctly?	Go to step 13.	Reconnect the connectors securely, then go to step 12.
12	Is the image printed correctly?	Complete	Go to step 13.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
13	Reseat the connectors on the MCU Board. Is the image printed correctly?	Complete	Go to step 14.
14	Reseat the connectors on the IP Board. Is the image printed correctly?	Complete	Go to step 15.
15	Open and close the Front Cover to reseat the Transfer Unit. Is the image printed correctly?	Complete	Go to step 16.
16	Replace the Imaging Unit (page 8-8). Is the image printed correctly?	Complete	Go to step 17.
17	Replace the IP Board (page 8-60). Is the image printed correctly?	Complete	Replace the MCU Board (page 8-59).

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"> ■ Separator Roller Assembly (PL2.1.5) ■ Feed Roller Assembly (PL3.2.4) ■ Registration Roller Assembly (PL3.2.9) ■ Metal Registration Roller (PL3.2.10) 	 <p style="text-align: right; font-size: small;">s6180-328</p>

Note

The Tray is recommended for paper feeding because paper fed via the Manual Feed is prone to skew depending on how the sheet is placed on Manual Feed.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Inspect the paper being used. Is it approved paper?	Go to step 3.	Use paper that is on the list of papers approved for the printer, then go to step 2.
2	Is the image printed correctly?	Complete	Go to step 3.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
3	Check the paper being used and its condition. Is the paper dry and recommended paper?	Go to step 5.	Replace the paper with a new dry and recommended one, then go to step 4.
4	Is the image printed correctly?	Complete	Go to step 5.
5	Open and close the Front Cover. Does the Front Cover latch closed properly?	Complete	Replace the defective parts, then go to step 6.
6	Is the image printed correctly?	Complete	Go to step 7.
7	Reseat the Imaging Unit. Is the image printed correctly?	Complete	Go to step 8.
8	Open and close the Front Cover to reseal the Transfer Unit. Is the image printed correctly?	Complete	Go to step 9.
9	Is the skewed paper being fed from the Manual Feed Slot?	Go to step 10.	Go to step 14.
10	Check the setting of the Manual Feed Slot side guides and reset the side guides if needed. Is the image printed correctly?	Complete	Go to step 11.
11	Inspect the paper path. Is there toner contamination on the paper path?	Clean the paper path (refer to "Cleaning" on page 7-2), then go to step 12.	Go to step 13.
12	Is the image printed correctly?	Complete	Go to step 13.
13	Reseat the Paper Tray. Is the image printed correctly?	Complete	Go to step 14.
14	Reseat the paper in the Paper Tray. Is the image printed correctly?	Complete	Go to step 15.
15	Reset the Paper Tray side guides. Is the image printed correctly?	Complete	Go to step 16.
16	Reseat the Separator Roller Assembly. Is the image printed correctly?	Complete	Go to step 17.
17	Replace the Separator Roller Assembly (page 8-7). Is the image printed correctly?	Complete	Go to step 18.
18	Replace the Feed Roller (page 8-30). Is the image printed correctly?	Complete	Go to step 19.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
19	<p>NOTE: During this check, defeat the Front Cover interlock switch (HARN ASSY INTERLOCK).</p> <p>1. Start the Main Motor FULL2 test: Service Mode > Engine Diag > Motor Test > Main Motor FULL2.</p> <p>2. While it is running, start the Regi Clutch test: Service Mode > Engine Diag > Motor Test > Regi Clutch.</p> <p>Do the Regi Roller Assy and Metal Regi Roller rotate?</p>	Complete	Replace the Feeder Assembly page 8-25.

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 Notes	Example Print
<ul style="list-style-type: none"> ■ Separator Roller Assembly (PL2.1.5) ■ Feed Roller Assembly (PL3.2.4) ■ Registration Roller Assembly (PL3.2.9) ■ Metal Registration Roller (PL3.2.10) 	 <p style="text-align: right; font-size: small;">s6180-329</p>

Note

The Tray is recommended for paper feeding because paper fed via the Manual Feed is prone to skew depending on how the sheet is placed on Manual Feed.

Warning

To prevent burns, allow the Fuser to cool down before starting the procedure.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the paper condition Is the paper dry and approved for use?	Go to step 3.	Replace with dry, approved paper, then go to step 2.
2	Is the image printed correctly?	Complete	Go to step 3.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
3	Open and close the Front Cover. Does the Front Cover latch closed properly?	Complete	Replace any defective parts, then go to step 4.
4	Is the image printed correctly?	Complete	Go to step 5.
5	Reseat the Imaging Unit. Is the image printed correctly?	Complete	Go to step 6.
6	Reseat the Fuser. Warning: Start the operation after the Fuser has cooled down. Is the image printed correctly?	Complete	Go to step 7.
7	Open and close the Front Cover to reseat the Transfer Unit. Is the image printed correctly?	Complete	Go to step 8.
8	Is the paper damaged when fed from the Manual Feed Slot?	Go to step 9.	Go to step 12.
9	Check the setting of the Manual Feed Slot side guides and reset the side guides if needed. Is the image printed correctly?	Complete	Go to step 10.
10	Inspect the paper path. Is there any contamination on the paper path?	Clean the paper path (refer to "Cleaning" on page 7-2), then go to step 11.	Go to step 12.
11	Is the image printed correctly?	Complete	Go to step 12.
12	Reseat the Paper Tray. Is the image printed correctly?	Complete	Go to step 13.
13	Reset the Paper Tray side guides. Is the image printed correctly?	Complete	Go to step 14.
14	Replace the paper in the Paper Tray with new paper. Is the image printed correctly?	Complete	Go to step 15.
15	Inspect the paper path. Is there any contamination on the paper path?	Clean the paper path (refer to "Cleaning" on page 7-2), then go to step 16.	Go to step 17.
16	Is the image printed correctly?	Complete	Go to step 17.
17	Reseat the Separator Roller Assembly. Is the image printed correctly?	Complete	Go to step 18.
18	Replace the Separator Roller Assembly (page 8-7). Is the image printed correctly?	Complete	Go to step 19.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
19	Replace the Feed Roller (page 8-30). Is the image printed correctly?	Complete	Go to step 20.
20	<p>NOTE: During this check, defeat the Front Cover interlock switch (HARN ASSY INTERLOCK).</p> <p>1. Start the Main Motor FULL2 test: Service Mode > Engine Diag > Motor Test > Main Motor FULL2.</p> <p>2. While it is running, start the Regi Clutch test: Service Mode > Engine Diag > Motor Test > Regi Clutch.</p> <p>Do the Regi Roller Assy and Metal Regi Roller rotate?</p>	Complete	Replace the Feeder Assembly page 8-25.

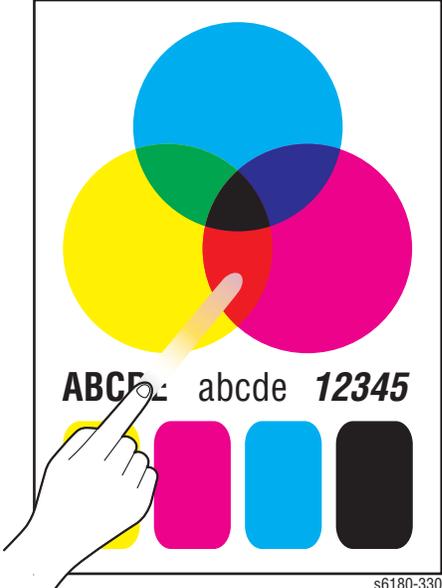
Unfused Image

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 Notes	Example Print
<ul style="list-style-type: none"> ■ Fuser (PL6.1.1) ■ MCU Board (PL8.2.13) 	

Warning

To prevent burns, allow the Fuser to cool down before starting the procedure.

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Check the paper being used and its condition. Is the paper dry and recommended paper?	Go to step 3.	Replace with dry, approved paper, then go to step 2.
2	Is the image printed correctly?	Complete	Go to step 3.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
3	Check the Toner Type Is non-Xerox Toner in use?	Replace the toner with the Xerox toner, then go to step 4.	Go to step 5.
4	Is the image printed correctly?	Complete	Go to step 5.
5	Reseat the Fuser. Warning: Start the operation after the Fuser has cooled down. Is the image printed correctly?	Complete	Go to step 6.
6	Replace the Fuser (page 8-9). Warning: Start the operation after the Fuser has cooled down. Does the error still occur when printing?	Replace the MCU Board (page 8-59).	Complete

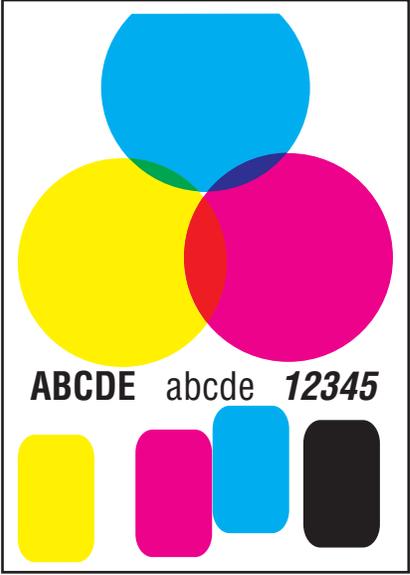
Color Registration

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 Notes	Example Print
<ul style="list-style-type: none"> ■ Imaging Unit (PL4.1.21) ■ Fuser (PL6.1.1) ■ Transfer Unit (PL6.1.7) ■ MCU Board (PL8.2.13) 	 <p style="text-align: right; font-size: small;">s6180-331</p>

Troubleshooting Procedure Table

Step	Actions and Questions	Yes	No
1	Cycle the printer power OFF, then ON. Does the mis-registration (color shift) appear on the printed material when printing?	Go to step 2.	Complete
2	Print the Windows test page. Is the image printed correctly?	Check the printing data for errors.	Go to step 3.
3	Check the paper being used and its condition. Is the paper dry and recommended paper?	Go to step 5.	Replace with dry, approved paper, then go to step 4.

Troubleshooting Procedure Table (continued)

Step	Actions and Questions	Yes	No
4	Does the mis-registration (color shift) appear on the printed material when printing?	Go to step 5.	Complete
5	Open and close the Front Cover. Does the Front Cover latch closed properly?	Complete	Replace any defective parts, then go to step 6.
6	Open and close the Front Cover. Does the mis-registration (color shift) appear on the printed material when printing?	Go to step 7.	Complete
7	Reseat the Imaging Unit. Does the mis-registration (color shift) appear on the printed material when printing?	Go to step 8.	Go to step 8.
8	Open and close the Front Cover to reseat the Transfer Unit. Does the mis-registration (color shift) appear on the printed material when printing?	Go to step 8.	Complete
9	Set the printer to adjust the color registration automatically: Menus > Admin Menu > Maintenance Mode > Automatic Registration Adjust. Does the mis-registration (color shift) appear on the printed material when printing?	Go to step 9.	Complete
9	Adjust the color registration manually: Menus > Admin Menu > Maintenance Mode > Adjust Color Registration. (Refer to the <i>User Guide</i> .) Does the mis-registration (color shift) appear on the printed material when printing?	Go to step 10.	Complete
10	Replace the Imaging Unit (page 8-8). Is the image printed correctly?	Go to step 11.	Complete
11	Replace the Transfer Unit (page 8-41). Does the mis-registration (color shift) appear on the printed material when printing?	Go to step 12.	Complete
12	Replace the MCU Board (page 8-59). Does the mis-registration (color shift) appear on the printed material when printing?	Replace the printer.	Complete

Adjustments and Calibrations

In this chapter...

- Adjustments
- Calibrations
- Parameter Setting

Chapter 6

Adjustments

Color Registration

The Color Registration adjustment procedure allows the user to change or correct the alignment of the four color images to meet specifications and/or user's requirements.

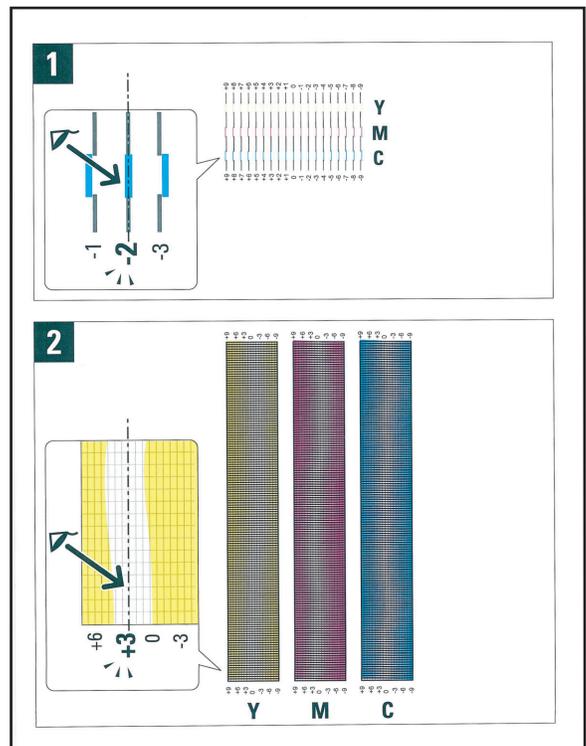
Note

Adjusting laser power from the default value impacts other print-quality parameters, such as background, halftone/fine line production, fuser fix, and toner consumption. **This adjustment should not be performed without first discussing with the customer regarding its potential impact on overall print quality.**

Printing the Color Registration Correction Chart

Before performing the Color Registration adjustment procedure, print the Color Registration Correction Chart for reference.

1. From the Control Panel, press the **Menu** button.
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 Mode**. Press the **OK** button.
4. Press the **Up Arrow** or **Down Arrow** button find **Adjust Color Regi**. Press the **OK** button.
5. Press the **Up Arrow** or **Down Arrow** button to find **Color Regi Chart**. Press the **OK** button. The Color Registration Chart is printed. When printing is finished, the **Ready** menu is displayed.



s6130-226

Note

After printing the Color Registration Correction Chart, do not power OFF the printer until the printer motor has stopped running.

Enabling/Disabling Automatic Color Registration

This procedure provides instructions for how to enable or disable the Automatic Color Registration function after a new Imaging Unit is installed.

- If the function is set to On, the printer will calibrate the color alignment every time it detects a new Imaging Unit.
- 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 **Menu** 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 Mode**. Press the **OK** button.
4. Press the **Up Arrow** or **Down Arrow** button find **Adjust Regi.** Press the **OK** button.
5. Press the **Up Arrow** or **Down Arrow** button to turn automatic color registration **On** or **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 Color Registration Adjustment” on page 6-4.

Auto Adjustment

1. From the Control Panel, press the **Menu** 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 Mode**. Press the **OK** button.
4. Press the **Up Arrow** or **Down Arrow** button find **Adjust Color Regi.** Press the **OK** button.
5. The **Auto Adjust** menu is displayed. Press the **OK** button.
6. **Are you sure?** message is displayed. 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.

Manual Color Registration Adjustment

Color registration can be adjusted manually by a user or automatically by the printer. Color registration should be adjusted any time the printer is moved. The color registration can be fine tuned by performing a manual adjustment.

Note

An automatic color registration adjustment is performed every time a new Print Cartridge is installed.

Horizontal Registration

Section 1 of the Color Registration Correction Chart displays a series of lines. Some lines are straight, with both the colored and black segments aligned, while other lines are jagged, with the colored segments offset to the right or left. A value is listed next to each line. When the value is **0**, the color registration needs no adjustment.

To determine correction values for Horizontal Registration, choose the straightest line. If the value listed next to the straight line is anything other than **0**, follow the procedure below to enter values.

Note

The densest colors of the grid can also be used to find the straightest lines. The colors printed at the highest density are those next to the straight lines.

To enter values:

1. From the Control Panel, press the **Menu** 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 Mode**. Press the **OK** button.
4. Press the **Up Arrow** or **Down Arrow** button to find **Adjust Color Regi.** Press the **OK** button.
5. Press the **Up Arrow** or **Down Arrow** button to find **Enter Number**. Press the **OK** button.
6. Press the **Up Arrow** or **Down Arrow** button to find **Fast Scan**. Press the **OK** button.
7. Use the **Up Arrow** or **Down Arrow** button to enter the values and the **Right Arrow** button to move from Y to M to C.
8. Repeat step 2 to continue adjusting the color registration.
9. Press the **OK** button twice to print the Color Registration Correction Chart with the new values. The color registration adjustment is complete when the straightest Y, M, and C lines are next to the **0** line.

Note

If **0** is not displayed next to the straightest lines, determine the values and adjust again.

Vertical Registration

Section 2 of the Color Registration Correction Chart displays three columns of color. In the center of each column is a wavy white column. This column of white needs to be centered as much as possible at 0.

To determine correction values for use in Vertical Registration adjustment, choose the value from each column that is best centered on the wavy white column.

To enter the correction values:

1. From the Control Panel, press the **Menu** 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 Mode**. Press the **OK** button.
4. Press the **Up Arrow** or **Down Arrow** button to find **Adjust Color Regi**. Press the **OK** button.
5. Press the **Up Arrow** or **Down Arrow** button to find **Enter Number**. Press the **OK** button.
6. Press the **Up Arrow** or **Down Arrow** button to find **Slow Scan**. Press the **OK** button.
7. Use the **Up Arrow** or **Down Arrow** button to enter the values and the **Right Arrow** button to move from Y to M to C.
8. Repeat step 7 to continue adjusting the color registration.
9. Press the **OK** button twice to print the Color Registration Correction Chart with the new values. The color registration adjustment is complete when the columns of white are centered, as much as possible, on 0.

Resetting the Fuser

Fuser reset is required when a new Fuser is installed into the printer. This function sets the life counter to "0."

1. From the Control Panel, press the **Menu** 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 Mode**. 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. Press the **OK** button to start the process.
6. **Initializing...** --> **Initialized** messages are displayed. The **Maintenance Mode - Reset Fuser** menu is displayed when the process is completed.

Calibrations

Initializing Print Meter

This process initializes the Print Meter.

1. From the Control Panel, press the **Menu** 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 Mode**. Press the **OK** button.
4. Press the **Up Arrow** or **Down Arrow** button to find **Init PrintMeter**. Press the **OK** button.
5. **Are you sure?** message is displayed. Press the **OK** button to start the process.
6. **Initialized** message is displayed. The **Maintenance Mode - Init PrintMeter** menu is displayed when the process is completed.

Initializing NVM (NVRAM)

This process initializes the settings stored in the NVRAM except for the network settings. The NVRAM is a non-volatile memory that stores the printer settings even after the power is turned Off. After executing this function and restarting the printer, all the menu parameters are reset to their default values.

1. From the Control Panel, press the **Menu** 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 Mode**. Press the **OK** button.
4. Press the **Up Arrow** or **Down Arrow** button to find **Initialize NVM**. Press the **OK** button.
5. **Are you sure?** message is displayed. Press the **OK** button to start the process.
6. **Initializing...** --> **Initialized** messages are displayed.
7. The **Maintenance Mode - Initialize NVM** menu is displayed when the process is completed.
8. Turn the printer power Off and back On.

Parameter Setting

This function reads/writes the parameter values, errors, and life counter values stored in the printer.

Note

Print the parameter list from **Service Mode > Parameter > Print** before changing the registration value. The parameter list contains the parameter and life counter values currently stored in the engine.

To access the Parameter list:

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. Press the **Up Arrow** or **Down Arrow** button to find **Parameter**. Press the **OK** button.
5. Select the appropriate item to change (i.e., **Slow Scan KtoP**). Press the **OK** button.
6. Enter the appropriate range using the **Up Arrow** or **Down Arrow** button. Press the **OK** button.
7. The new value “# *” is displayed.

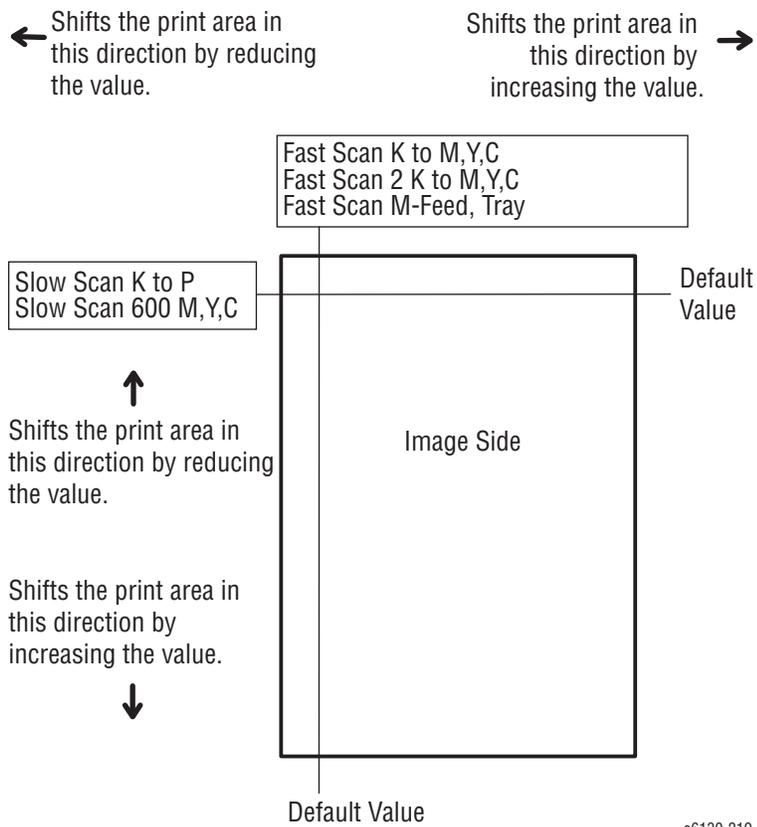
Note

“*” = data has been saved

8. Press the **Cancel** button to return to the **Parameter** menu.

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	
Fast Scan K to M, Y, C	-128 to 127	Sets the registration in the scanning direction.
Fast Scan 2 K to M, Y, C	-1 to 2	
Fast Scan M-Feed, Tray	-30 to 30	
Life Counter	—	Reads the life counter and the printer.



Note

The default values are different in each 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 (600dpi)	—	-30 to 30
Fast Scan K to M, Y, or C (shifts 0.042 mm/1 count)	Color registration adjustment Calculation of adjustment is shown below (exp. Yellow)	—	-30 to 30
Fast Scan 2 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 M-Feed or Tray (shifts 0.17 mm/1 count)	Black registration adjustment at side 1 print	—	-30 to 30

Life Counter Values

Counter Name	Reported Life Counter Value ^a
Life Y Toner (Dispense Time)	---
Life M Toner (Dispense Time)	---
Life C Toner (Dispense Time)	---
Life K Toner (Dispense Time)	---
Life Fuser Sheet	---
Life Printer Sheet	---
Life DTB (Transfer Unit) Waste (Toner cleaning count)	---
Life Y Waste Toner (Waste Toner cleaning count)	---
Life M Waste Toner (Waste Toner cleaning count)	---
Life C Waste Toner (Waste Toner cleaning count)	---
Life K Waste Toner (Waste Toner cleaning count)	---
Life IU Y Time (Dispense Time)	---
Life IU M Time (Dispense Time)	---
Life IU C Time (Dispense Time)	---
Life IU K Time (Dispense Time)	---
Life IU Xero (Round Time)	---
Life IU Deve K (Sheet)	---
Life Manual Feed	---
Life Tray Sheet	---

- a. The life counter values reported when checking these parameters are not expressed in units that can be compared to end-of-life values listed in the product specifications. Use CWIS to find the life remaining for engine components.

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 Imaging Unit, place it in a light-protective bag or otherwise protect it as exposure to light can quickly degrade performance and result in early failure.

1. Record number of sheets printed.
2. Print several sheets of paper to check for problems or defects.
3. Turn the printer power Off and disconnect the power cord.
4. Remove the Imaging Unit, Fuser, Toner Cartridges, Left and Right Side Covers, and Rear Cover before cleaning.
5. 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, Imaging Unit, and inside of the printer.
8. Remove and clean the paper trays.
9. Clean all rubber rollers with a lint-free cloth slightly dampened with cold water.

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 running.
- 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 Feeder
- Xerographics
- Frame
- Drive
- Electrical

Chapter 8

Overview

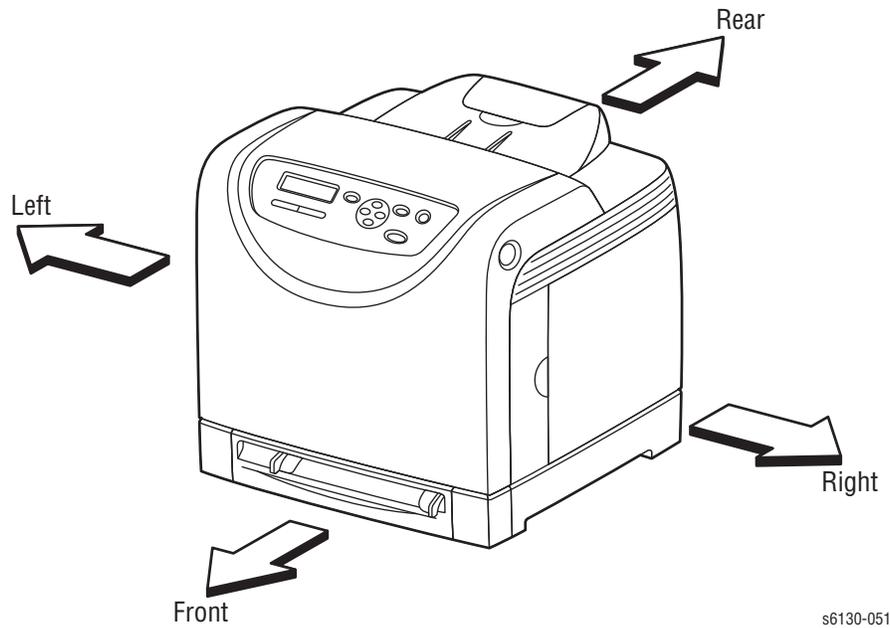
This section contains the removal procedures for field-replaceable parts of the printer listed in the Parts List. In most cases, the replacement procedure is simply the reverse of the removal procedure. In some instances, additional steps are necessary and are provided for replacement of the parts. For specific assemblies and parts, refer to the “Parts List” in Chapter 9.

The procedures are organized by the consumer replacement parts and functions of the printer.

- Maintenance Items and Consumables (page 8-7)
- Separator Roller (page 8-7)
- Imaging Unit (page 8-8)
- Fuser (page 8-9)
- Toner Cartridges (C, M, Y, K) (page 8-10)
- Covers (page 8-11)
- Paper Feeder (page 8-21)
- Xerographics (page 8-31)
- Frame (page 8-44)
- Drive (page 8-52)
- Electrical (page 8-54)

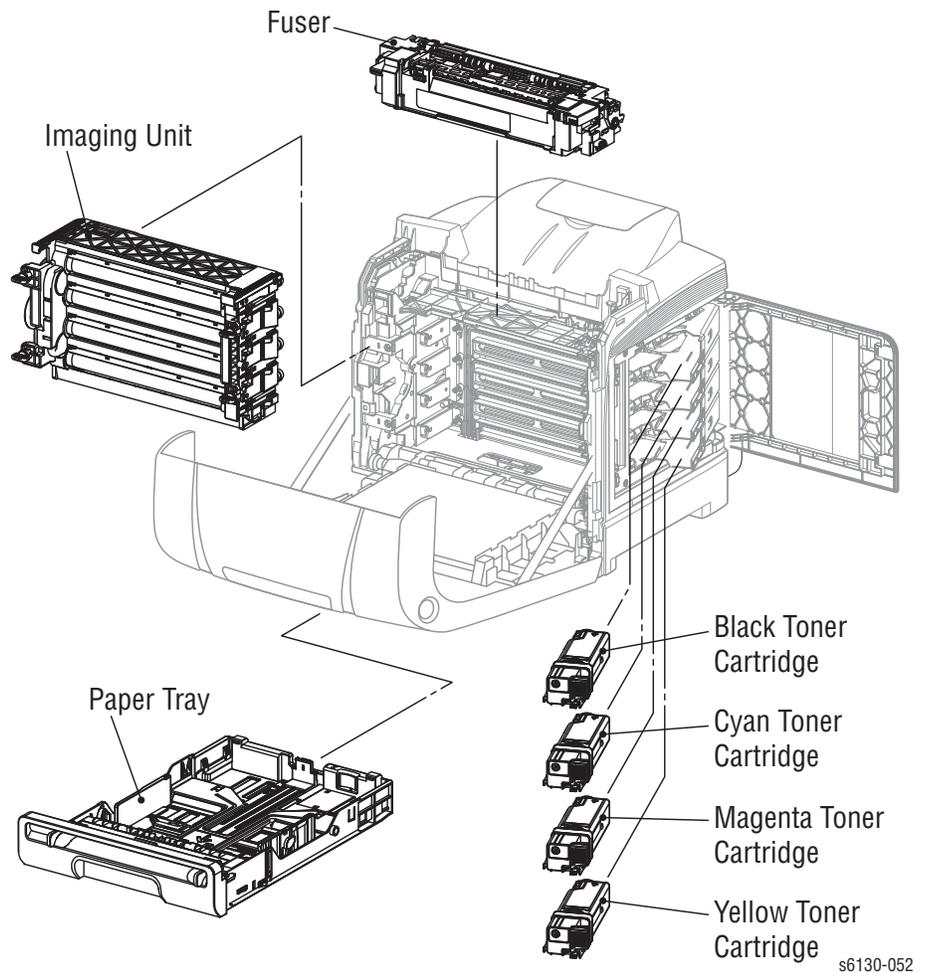
Standard Orientation of the Printer

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.



s6130-051

Preparation



Before you begin any removal and replacement procedure:

1. Wear an Electrostatic Discharge wrist strap to help prevent damage to the sensitive electronics of the printer circuit boards.
2. Turn Off the printer and disconnect the power cord from the wall outlet.
3. Disconnect all interface cables from the printer.
4. Remove the Paper Tray.
5. Open the Front Cover.
6. Remove the following Maintenance Items:

Caution

Do not expose the Imaging Unit to light for more than 5 minutes. After removal, cover the Imaging Unit to minimize the amount of light striking the drums. Prolonged exposure to light significantly reduces Imaging Unit performance.

- a. Imaging Unit (page 8-8).

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.

b. Fuser (page 8-9).

7. Open the Toner Access Door.

8. Remove the Toner Cartridges (page 8-10).

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.

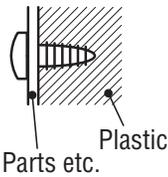
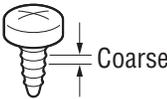
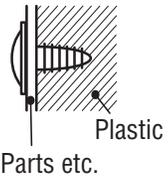
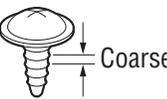
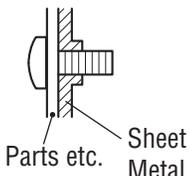
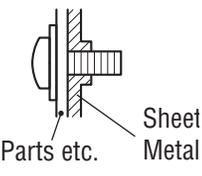
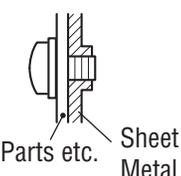
Note

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	 Plastic Parts etc.	 Coarse	<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	 Plastic Parts etc.	 Coarse	<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	 Sheet Metal Parts etc.		<ol style="list-style-type: none"> 1. Silver colored. 2. Diameter is uniform.
Sheet Metal, with flange	 Sheet Metal Parts etc.		<ol style="list-style-type: none"> 1. Silver colored. 2. Screw has a flange. 3. Diameter is uniform.
Sheet Metal, silver with lock washer	 Sheet Metal Parts etc.		<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. Improperly aligning or over tightening the screw can result in damage to previously tapped threads.

Always use the correct type and size screw. Using the wrong screw can damage tapped holes. Do not use excessive force to remove or install either a screw or a printer part.

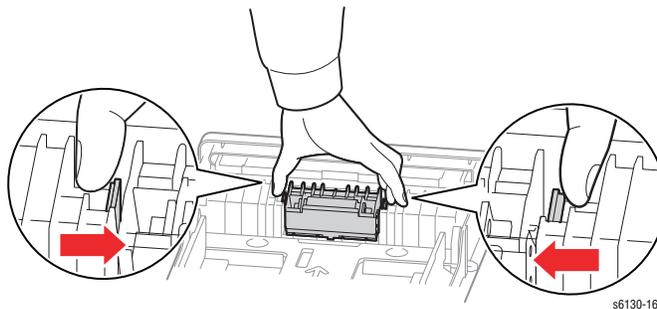
Maintenance Items and Consumables

Maintenance items include the Separator Roller in the Paper Tray, Imaging Unit, and Fuser. Consumables consist of the four Toner Cartridges.

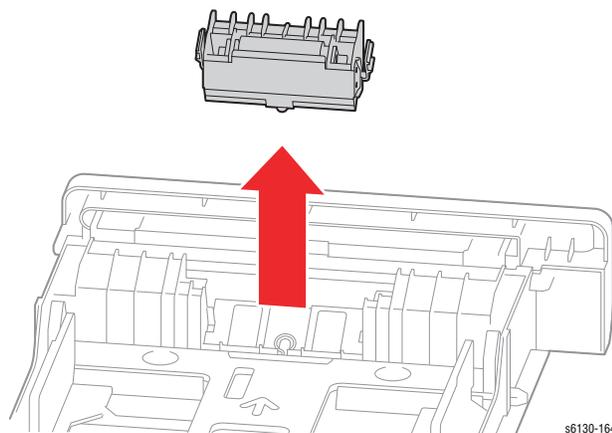
Separator Roller

(PL2.1.5)

1. Remove the Paper Tray completely from the printer.
2. Hold the tray and pinch the left and right hooks of the Separator Roller. Swing the Separator Roller to release the two hooks.



3. Pull the Separator Roller up to remove it from the Tray.



Imaging Unit

(PL4.1.21)

Caution

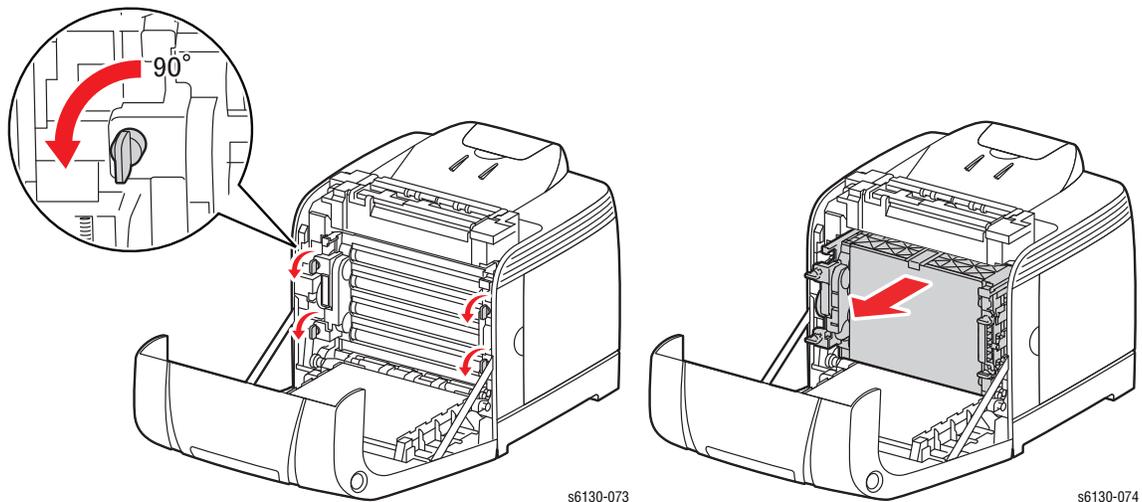
Do not expose the drums on the Imaging Unit to light for more than 5 minutes. Cover the drums to avoid damage.

1. Open the Front Cover.
2. Rotate the four securing locks counter-clockwise.

Caution

When removing the Imaging Unit, take particular care to neither drag nor drop the Imaging Unit on the Transfer Belt.

3. Grasp the left and right handles and pull the Imaging Unit straight forward until it is clear, then lift it out of the printer as shown. Take care to not touch the drums.



Fuser

(PL6.1.1)

Warning

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

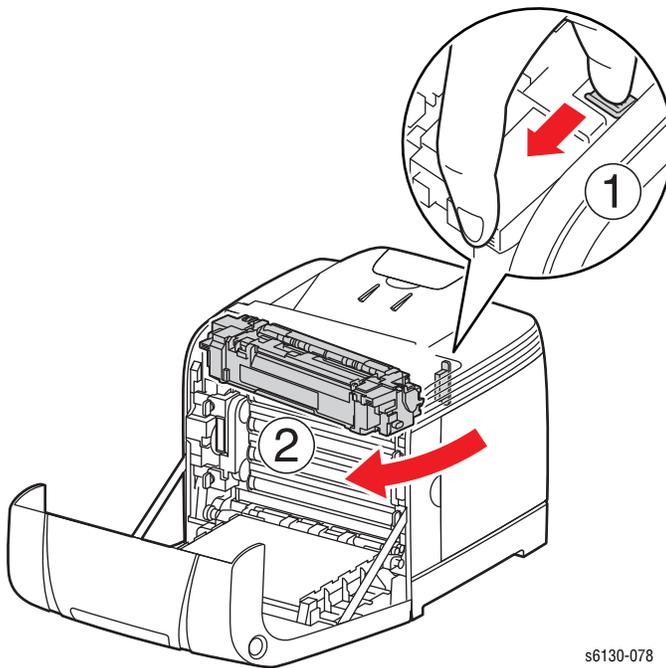
After opening the Front Cover:

1. Pull the Lever to release the lock.
2. Swing the right side of the Fuser toward you with the Lever released to unplug the Fuser Connector.
3. Lift the Fuser up, then to the right to remove it.

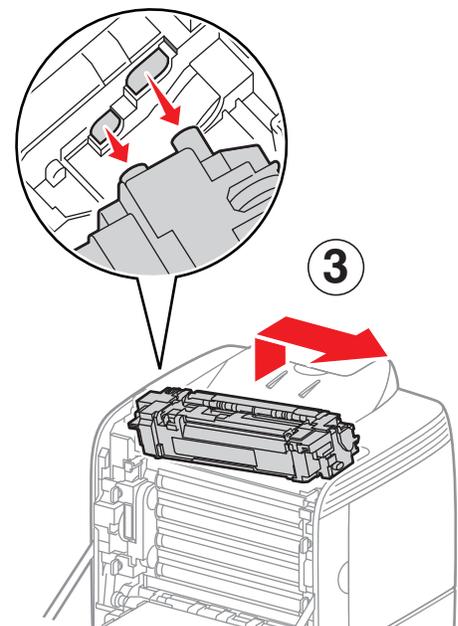
Note

If the Fuser being replaced has reached end-of-life:

- Be sure to reset the fuser counter in the customer menu
- It is highly recommended that the Feed and Separator Rollers be replaced at the same time



s6130-078



s6130-079

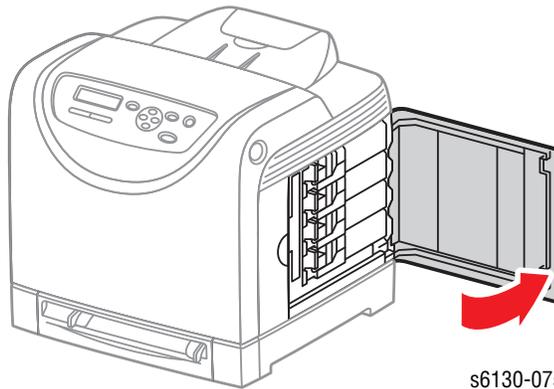
Toner Cartridges (C, M, Y, K)

(PL5.1.21-24)

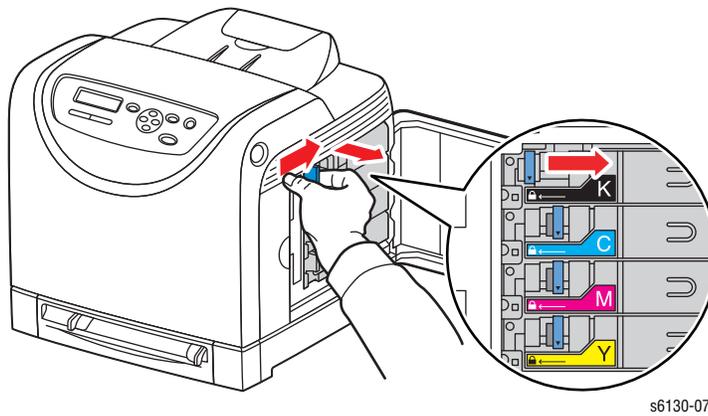
Note

This procedure applies to all four toner cartridges.

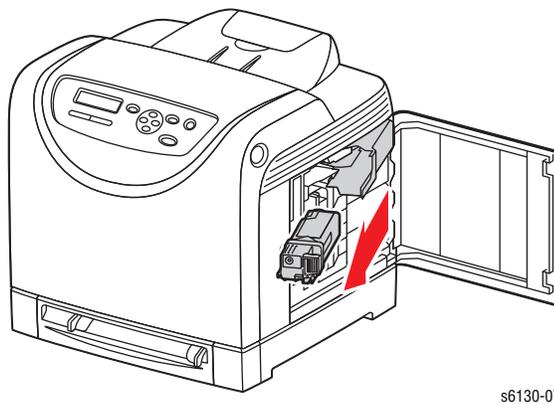
1. Open the Toner Access Door.



2. Push the toner cartridge handle toward the rear to release the latch.



3. Swing open the toner cartridge holder and slide the toner cartridge out of the holder as shown.

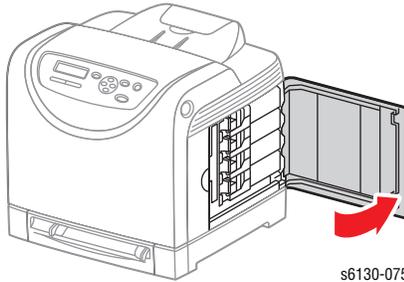


Covers

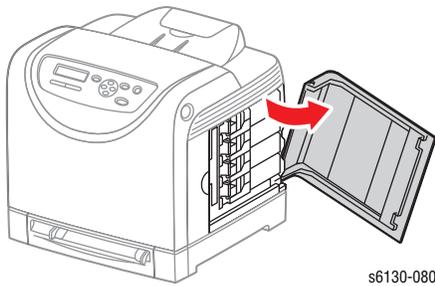
Toner Access Door

(PL1.1.5)

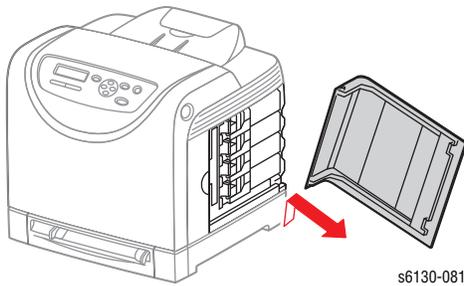
1. Open the Toner Access Door approximately 60 degrees.



2. Press down on the upper hinge of the Toner Access Door to release the boss on the hinge from the hole in the Right Side Cover, and tilt the Toner Access Door down so that its top hinge clears the printer frame.



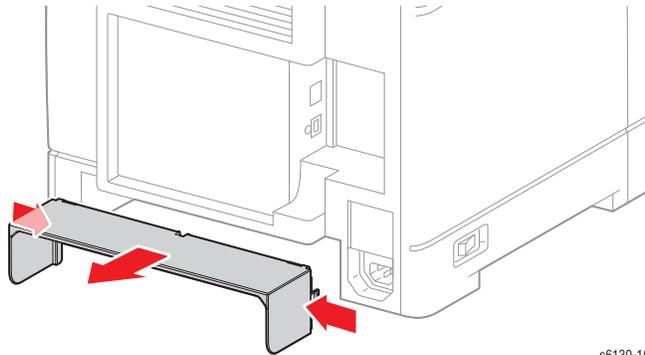
3. Lift the Toner Access Door up and out to remove it from the printer.



Rear Tray Cover

(PL1.1.4)

1. Remove the Paper Tray from the printer.
2. Press the left and right sides of the Rear Tray Cover to release the two hooks from the holes in the printer and remove the cover.

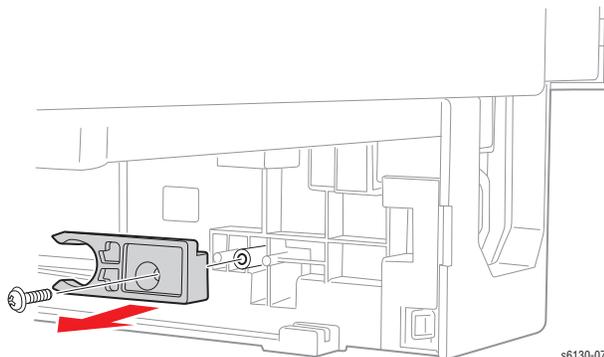


s6130-166

Cassette Stopper

(PL3.1.7)

1. Remove the Paper Tray.
2. Remove the Rear Tray Cover.
3. Remove the screw (silver, tapping) that attaches the Cassette Stopper to the Feeder Assembly, and remove the stopper from the printer.



s6130-071

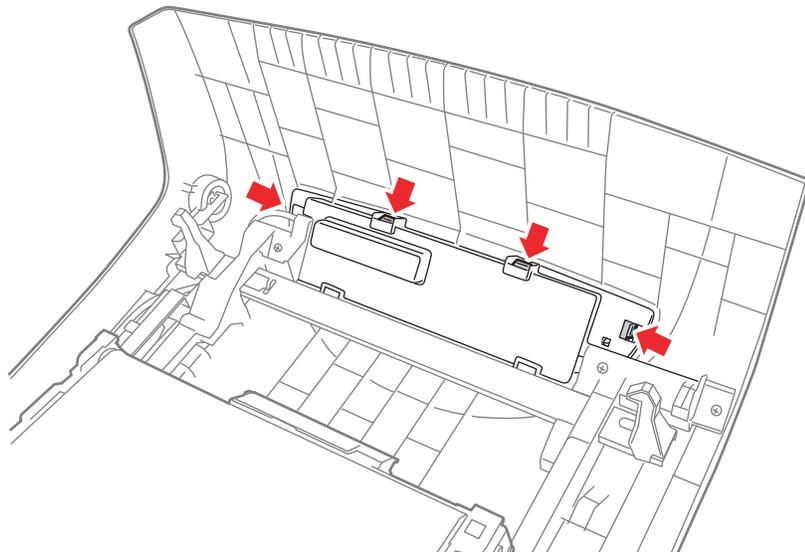
Control Panel

(PL1.1.19)

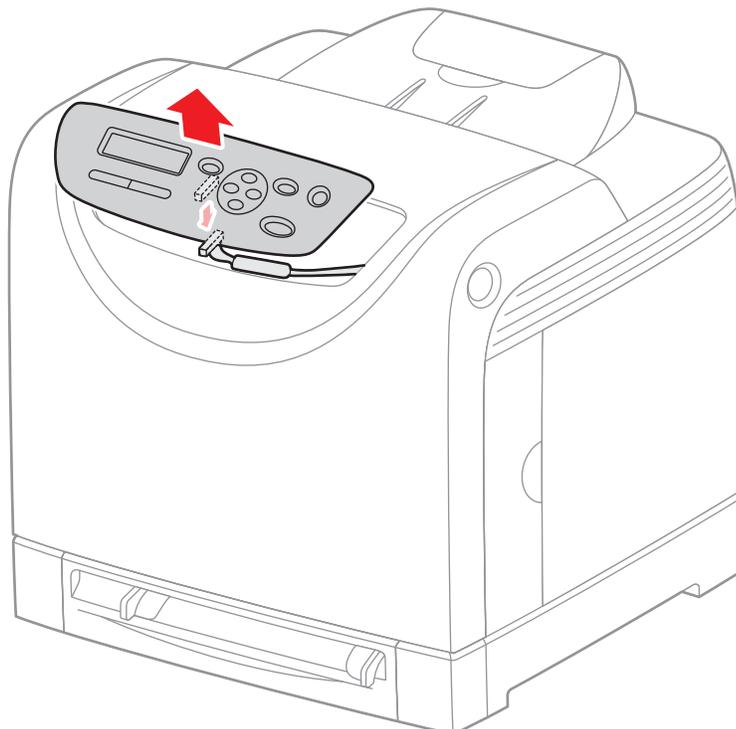
1. Open the Front Cover.

Caution

Do not expose the Imaging Unit drums to light for more than 5 minutes. Cover or remove the Imaging Unit if the Front Cover will remain open longer than 5 minutes to complete this procedure.



2. Release the upper four of the six Control Panel hooks.
3. Rotate the Control Panel down and out from the Front Cover.



s6130-083

4. Unplug connector P/J220 from the Control Panel.

Top Cover

(PL1.1.1)

Caution

Do not expose the drums on the Imaging Unit to light for more than 5 minutes. Cover the Imaging Unit or remove it to a dark storage location to avoid damage.

1. Remove the Imaging Unit (page 8-8).

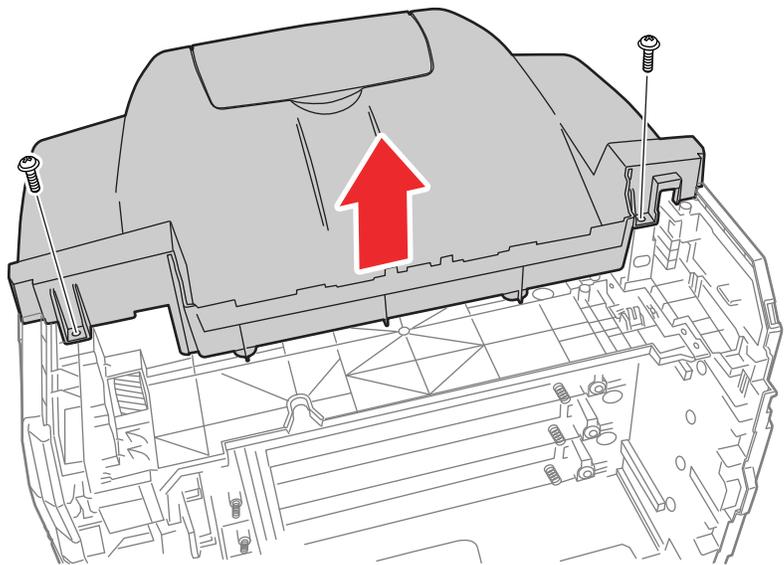
Warning

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.

2. Remove the Fuser (page 8-9).
3. Remove the two screws (silver, tap, 8mm) that attach the Top Cover to the printer.
4. Lift up the front side of the Top Cover just enough to release it from the two pegs on the printer.
5. Push the Top Cover toward the rear to disengage the latches, and lift to remove it.

Note

There are three latches holding down the Top Cover at the rear. When pushing the Top Cover toward the rear, the latches on each side will release. The third latch in the center will snap free as the cover is lifted.



Replacement Note

When reinstalling the Top Cover, set the cover in place, then press down on the rear edge so that the latches snap in place. Install the screws to complete the reassembly.

Output Tray Extension

(PL1.1.2)

Note

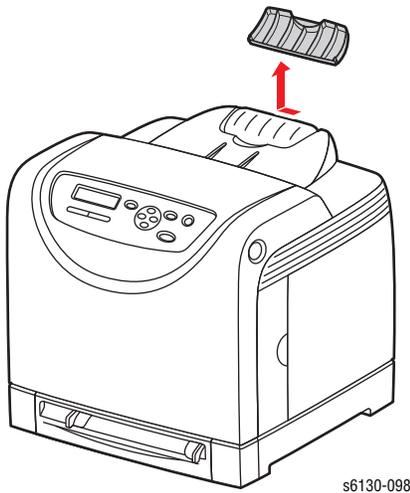
Removal of the Output Tray Extension is a stand-alone procedure and is not required before removing any other part of the printer.

1. Open the Output Tray Extension.



s6130-097

2. Press the right side of the Output Tray Extension to the left to release the hole in the Output Tray Extension from the boss on the printer.
3. Remove the Output Tray Extension.

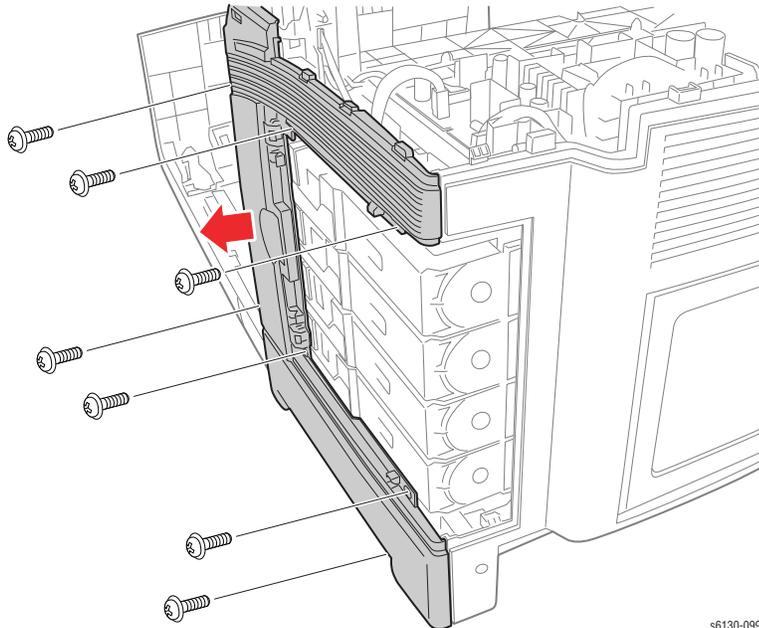


s6130-098

Right Side Cover

(PL1.1.6)

1. Remove the Toner Access Door (page 8-11).
2. Remove the Rear Tray Cover (page 8-12).
3. Remove the Top Cover (page 8-14).
4. Remove the seven screws (silver, tap, 8mm) that attach the Right Side Cover to the printer.

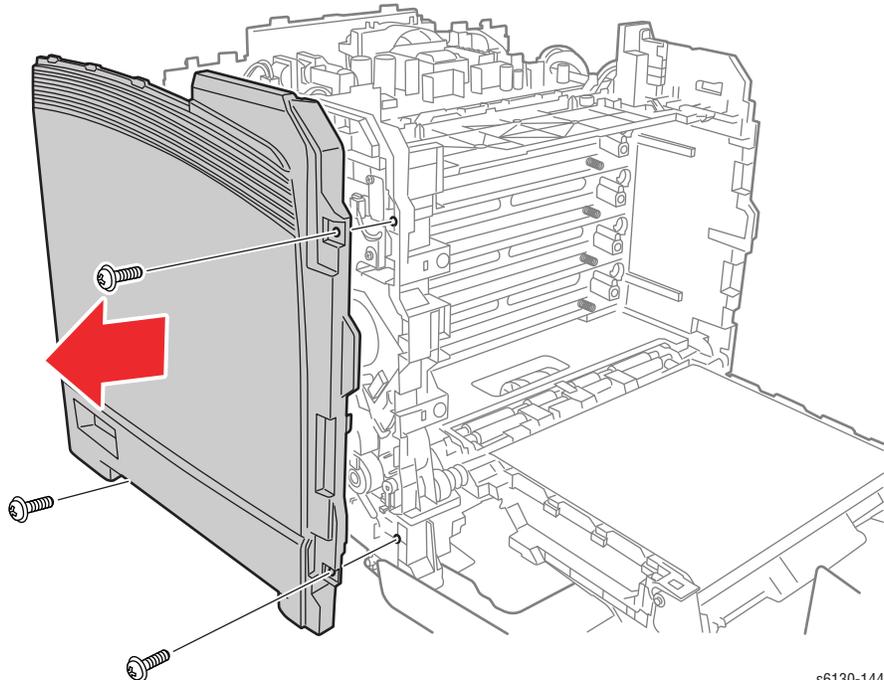


5. Release the hook at the front and remove the Right Side Cover from the printer.

Left Side Cover

(PL1.1.20)

1. Remove the Rear Tray Cover (page 8-12).
2. Remove the Top Cover (page 8-14).
3. Remove the three screws (silver, tap, 8mm) that attach the Left Side Cover to the printer.
4. Release the hook at the front of the Left Side Cover.
5. Carefully rotate the Left Side Cover to release the rear hooks.
6. Remove the Left Side Cover from the printer.

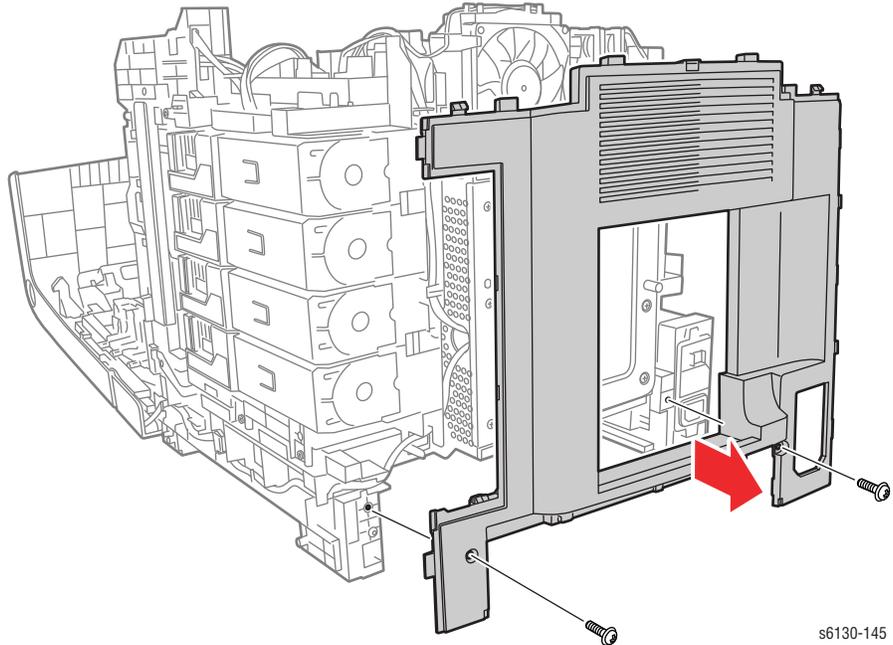


s6130-144

Rear Cover

(PL1.1.3)

1. Remove the Right Side Cover (page 8-16).
2. Remove the Left Side Cover (page 8-17).
3. Remove 2 screws (8 mm) securing the Rear Cover.
4. Remove the Rear Cover from the printer.

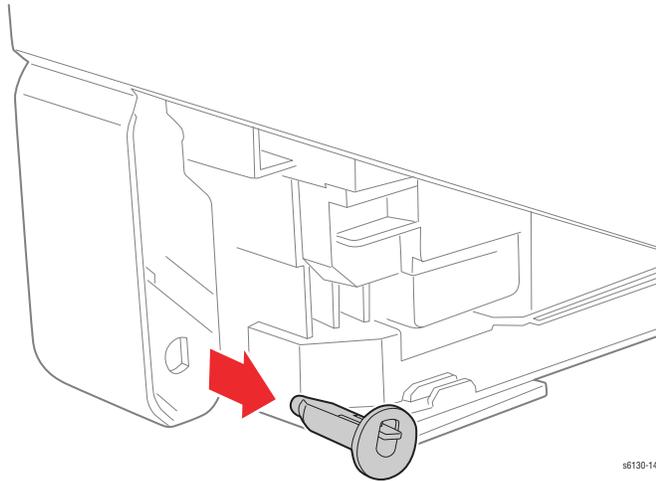


s6130-145

Front Cover

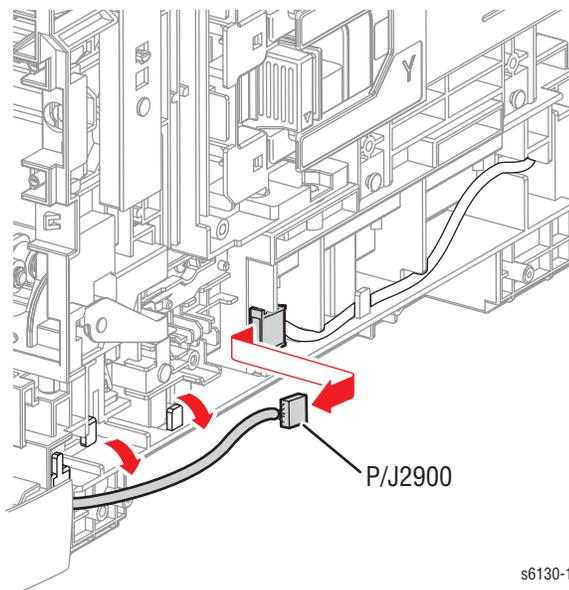
(PL1.1.7)

1. Remove the Right Side Cover (page 8-16).
2. Remove the Left Side Cover (page 8-17).
3. Remove the Paper Tray.
4. Remove the Left and Right Pivot Shafts. Release the latch in the shaft and pull it out of the printer.



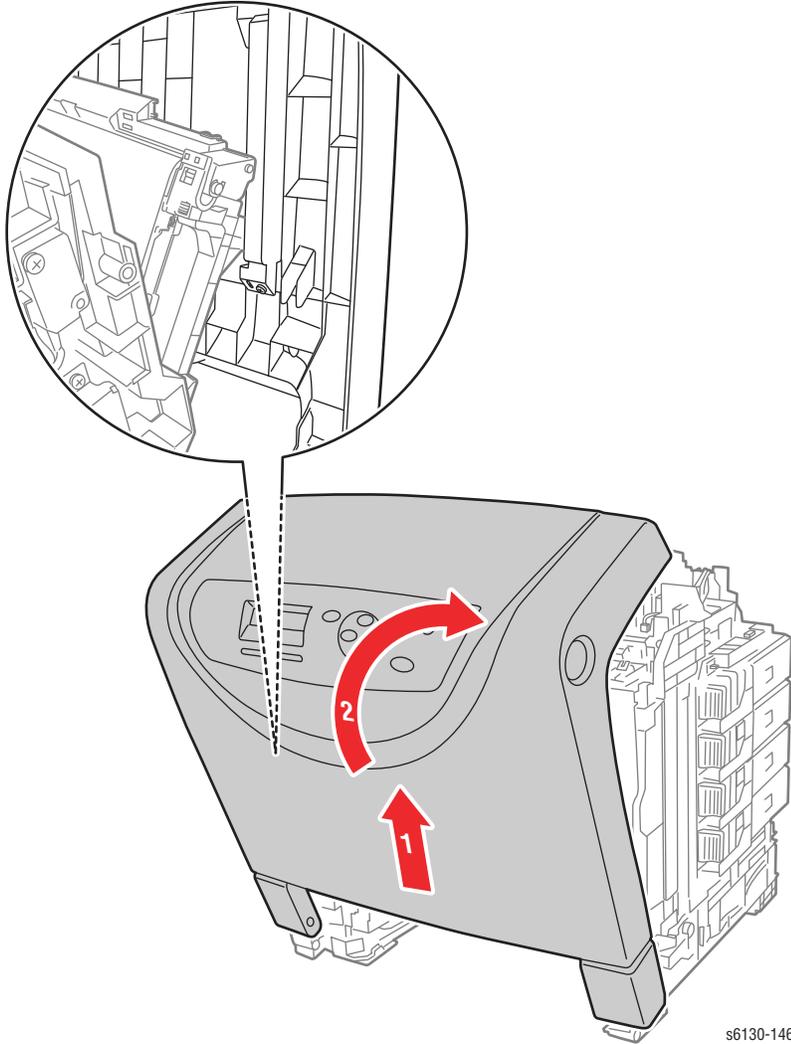
s6130-147

5. Release the Control Panel Harness from the cable restraints in the frame.
6. Release the Control Panel Harness connector from the rib of the printer, and disconnect connector P/J2900 of the B Harness.



s6130-167

7. Raise the Front Cover almost to the upright position, then lift the cover until the guide pins on the Transfer Unit reach the bottom of the guide slots.
8. Rotate the Front Cover clockwise until the left-side guide pin releases from the guide slot.
9. Release the right-side guide pin from its slot and remove the Front Cover from the printer.



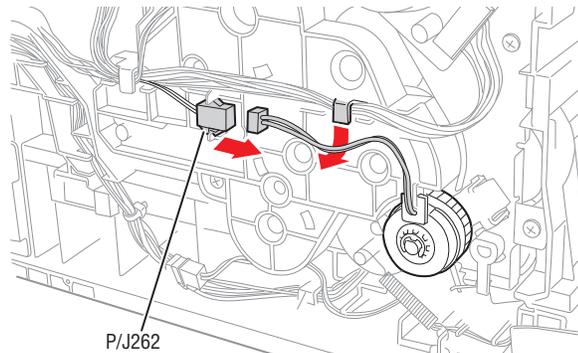
s6130-146

Paper Feeder

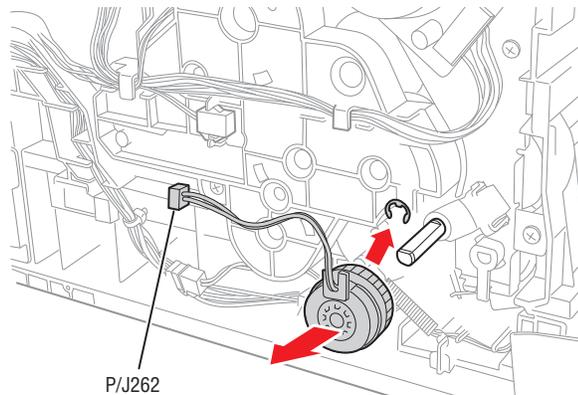
Drive Clutch Kit

(PL3.1.99)

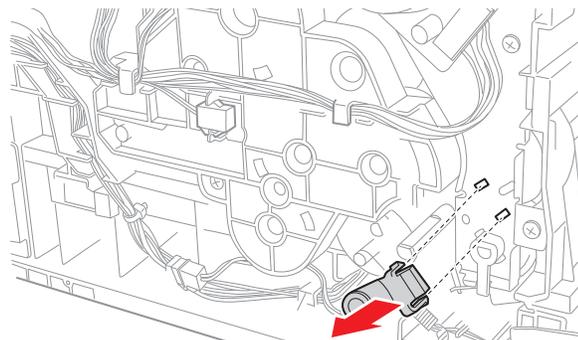
1. Remove the Left Side Cover (page 8-17).
2. Release the Drive Clutch harness from the cable restraint on the Feed Drive Assembly.
3. Unplug the Drive Clutch connector, P/J262. Allow the relay connector to remain with the printer side of the harness.



4. Remove the E-ring that secures the Drive Clutch on the shaft, using a miniature screwdriver, and remove the Drive Clutch.



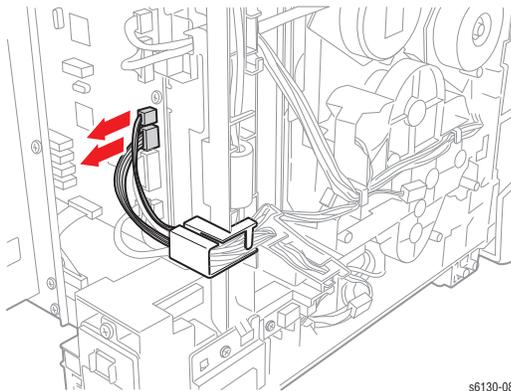
5. Release the two hooks of the Registration Bearing, and remove the Registration Bearing from the shaft.



Feed Drive Assembly

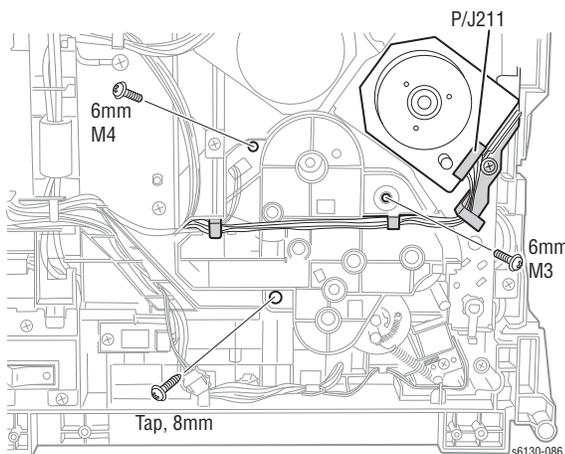
(PL7.1.4)

1. Remove all covers except the Front Cover.
2. Remove the Drive Clutch Kit (page 8-21).
3. Unplug two connectors, P/J24 and 26, from the MCU Board; release the harness from the AC Harness Guide.



s6130-085

4. Unplug the Main Drive Assembly connector (on the motor circuit board) and release the harness from the hooks on the Feed Drive Assembly.
5. Remove the three screws (one silver, M4, 6mm; one silver, M3, 6mm; one silver, tap, 8mm) that attach the Feed Drive Assembly to the printer.

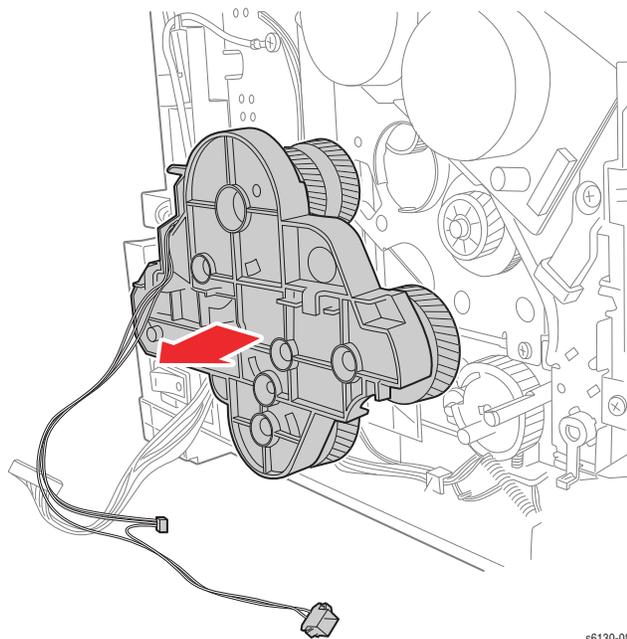


s6130-086

Note

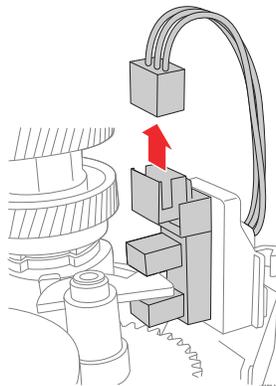
When performing the next step, make sure the coupling gear remains on the shaft of the Feed Drive Assembly. Take care not to drop the gear to inside.

6. Remove the Feed Drive Assembly from the printer.



s6130-088

7. Unplug the color mode sensor connector (P/J261) from the Feed Drive Assembly and release the Color Mode Sensor Harness from the hook on the Feed Drive Assembly.



Replacement Note

The screw holes in the assembly are marked with "M" and "T" to indicate where machine (M) or tapping (T) screws are used.

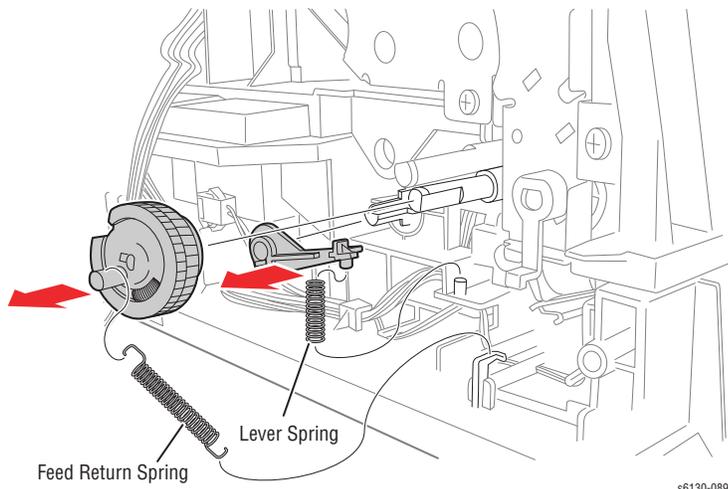
Feed Solenoid

(PL3.1.98)

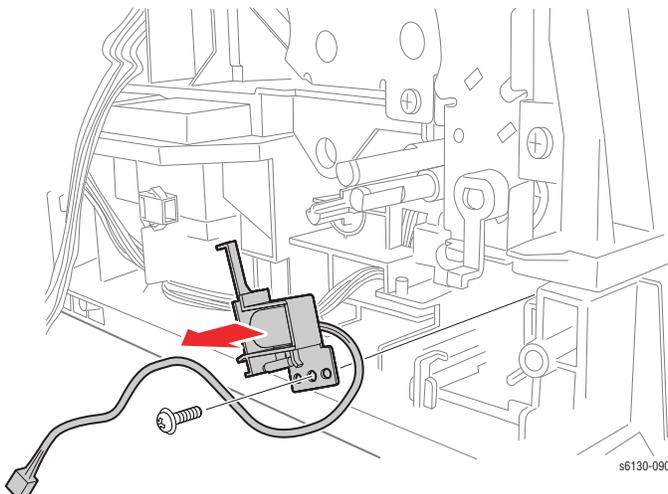
Note

The first step in this procedure requires removal of the Drive Clutch Kit and all of the printer's covers except the Front Cover.

1. Remove the Feed Drive Assembly (page 8-22).
2. Release the Feed Gear Return Spring from the hook on the printer frame. Leave the spring connected to the arm on the Feed Gear.
3. Release the Feed Gear retainer hook and slide the Feed Gear off the Feed Shaft.
4. Remove the Lever Spring from the printer.
5. Release the Feed Lever hook and slide the Feed Lever off the shaft.



6. Release the Feed Solenoid harness from the cable restraints on the frame.
7. Unplug the Feed Solenoid connector (P/J231). Allow the relay connector to remain with the printer side of the harness.
8. Remove the screw (silver, tap, 8mm) that fastens the Feed Solenoid to the printer and remove the Feed Solenoid.



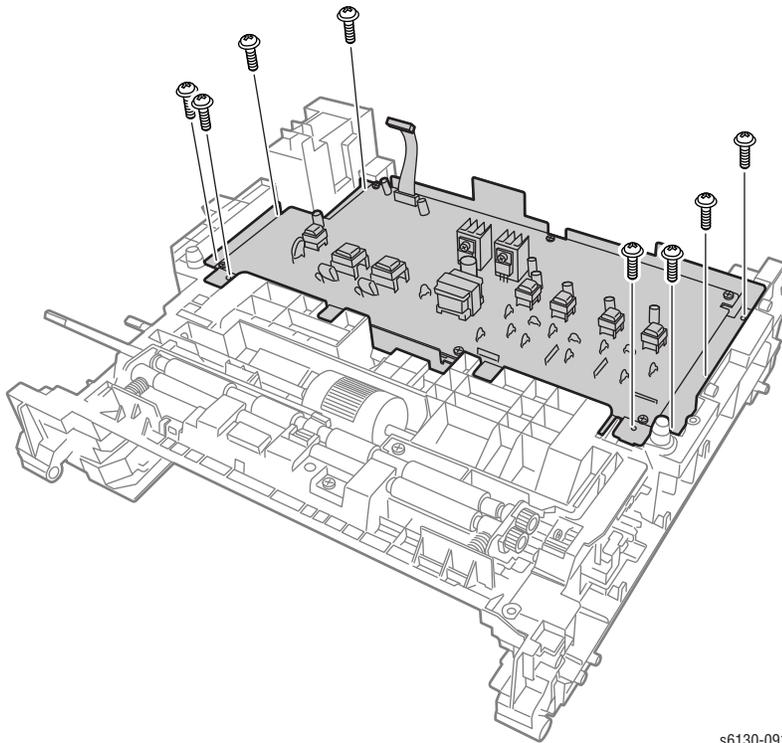
Feeder Assembly

(PL3.1.3)

Note

Separation of the Upper and Lower Assemblies involves almost complete disassembly of the printer.

1. Separate the Upper and Lower Assemblies (page 8-47).
2. Remove the eight screws (silver, tap, 8mm) that attach the HVPS Frame to the Feeder Assembly.
3. Remove the HVPS Frame from the Feeder Assembly together with the HVPS Board.
4. If replacing the Feeder Assembly, remove the GFI Breaker (page 8-57) and Humidity Sensor (page 8-58) for transfer to the new assembly.



s6130-091

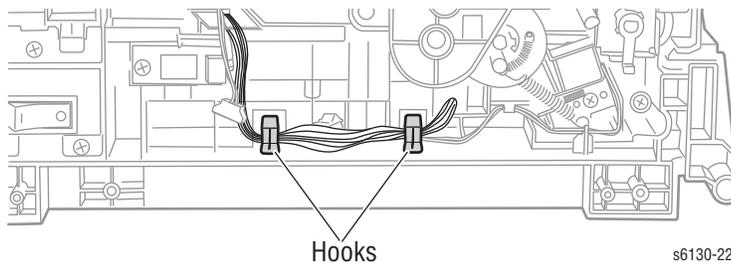
Left Harness Assembly

PL 3.1.18

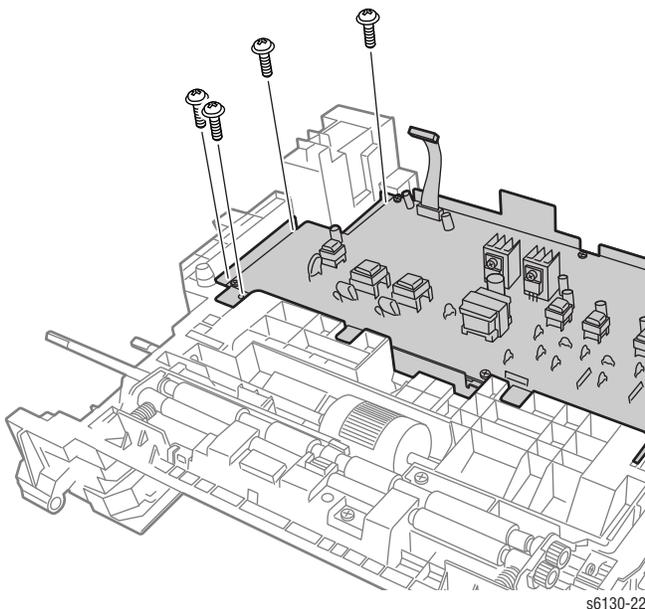
Note

Pay close attention to the routing of the wires as they are removed from the Feeder.

1. Remove the Manual Feed No Paper Sensor (page 8-28).
2. Remove the Drive Clutch Kit (page 8-21).
3. Remove the Feed Solenoid (page 8-24).
4. Separate the Upper and Lower Assemblies (page 8-47).
5. Release the Left Harness Assembly wires from the AC Harness Guide.
6. Remove the E-ring that retains the Feed Shaft assembly (PL3.2.2) in the bearing on the Left Feeder Chassis.
7. Release the Left Harness Assembly from the hooks in the Left Feeder Chassis.



8. Remove the four screws (silver, tap, 8mm) that secure the HVPS Frame to the Left Feeder Chassis.



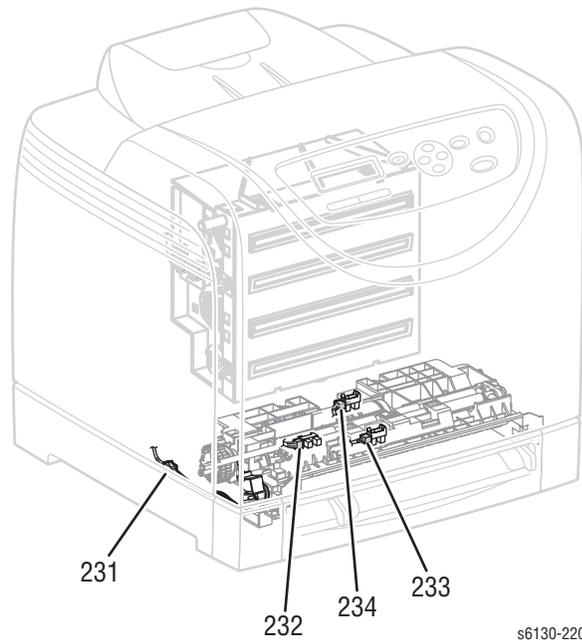
9. Remove the three screws (silver, tap, 8mm) that attach the Left Feeder Chassis to the Regi Feeder Chute.
10. Separate the Left Feeder Chassis from the Regi Feeder Chute; pull the Left Harness Assembly through the square hole in the Left Feeder Chassis.

11. Release the harness wires from the hooks and retainers in the wire runs in the Regi Feeder Chute.

Note

Disconnecting the connectors from the photo sensors is usually easier if you remove the sensor from the chassis first. This may require further disassembly of the Regi Feeder Chute, including removal of the Regi Roller and the Feed Roller Shaft. Refer to the exploded drawings in the parts lists, PL 3.1 on page 9-8 and PL 3.2 on page 9-10.

12. Unplug the connectors from the Regi (P/J 232) and Tray No Paper (P/J234) sensors.



Manual Feed No Paper Sensor

Note

To help prevent damage to the Transfer Belt while removing the Manual Feed No Paper Sensor, lay a sheet of paper on the Transfer Belt.

1. Remove the Tray.
2. Open the Front Cover.

Caution

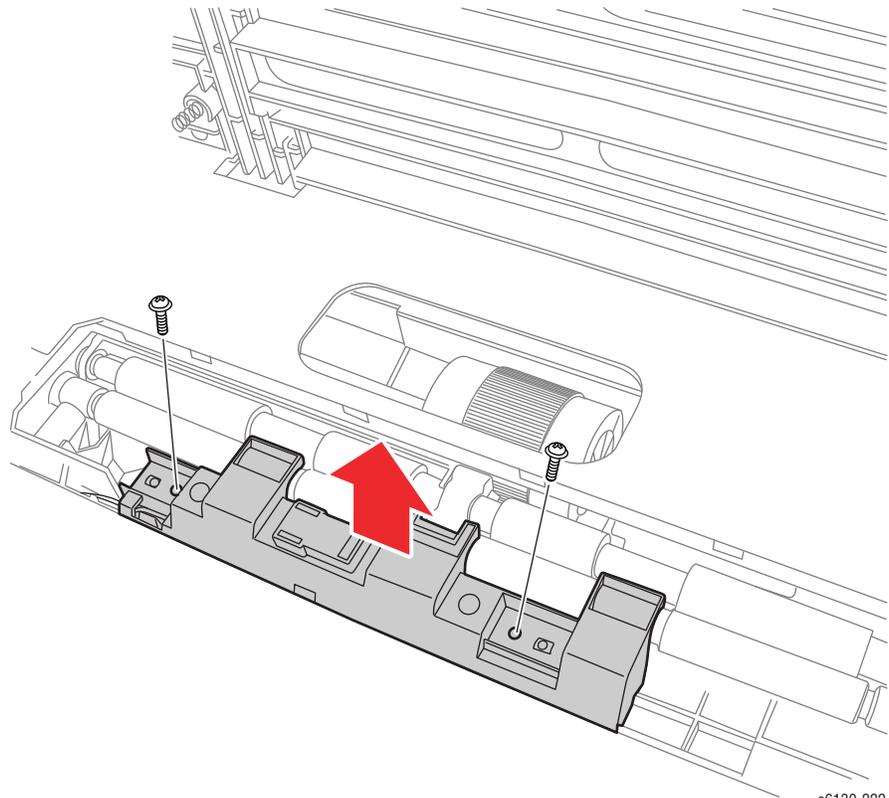
Do not expose the drums on the Imaging Unit to light for more than 5 minutes. Cover the drums to avoid damage.

3. Remove the Imaging Unit (page 8-8).

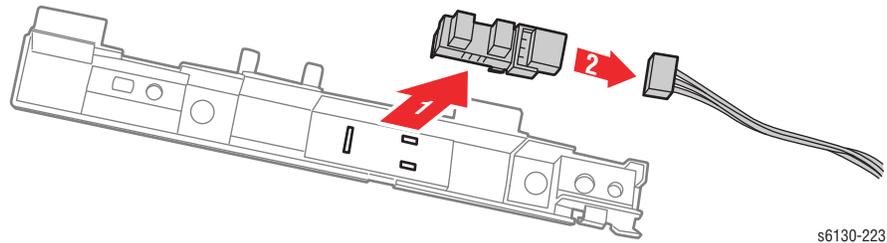
Note

In the next step, lift the bracket gently to avoid damaging the sensor harness wires.

4. Remove the two screws (silver, tap, 8mm) that attach the sensor bracket to the printer, and carefully lift the bracket from the printer.



5. Release the three hooks that attach the photo sensor to the bracket and separate the sensor from the bracket. Release the harness wires from the restraint on the bracket and set the bracket aside.



s6130-223

6. Unplug the sensor from the harness connector (P/J233).

Replacement Note

When reinstalling the sensor (or installing a new sensor):

1. Plug the sensor into harness connector.
2. Install the sensor into the bracket. Tip: insert the end hook first, then snap the side hooks in place.
3. Route the harness wires into the restraint in the bracket.
4. Set the bracket in place and secure it with the two screws.

Feed Roller

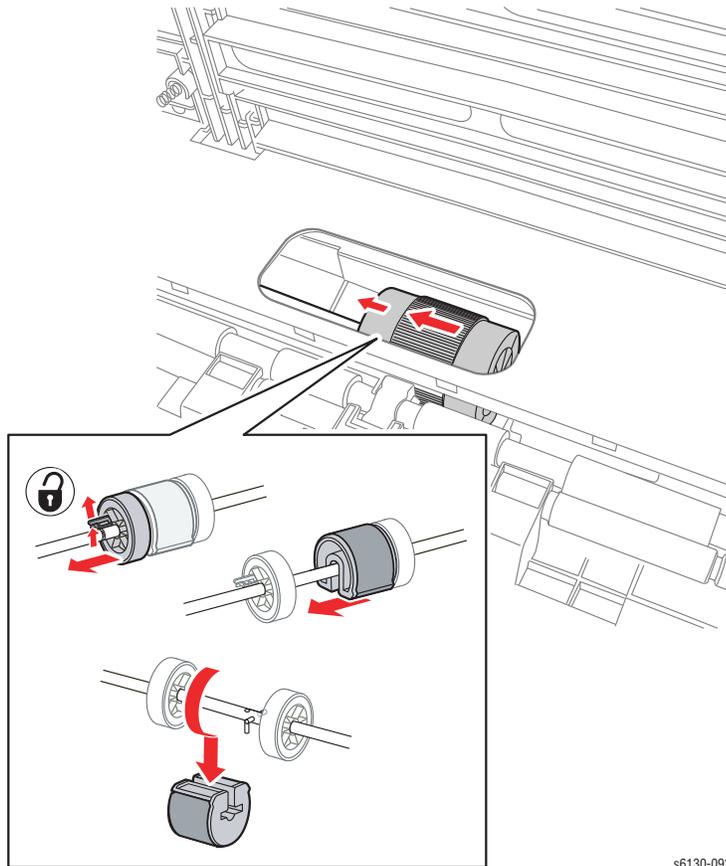
(PL3.2.4)

1. Remove the Tray.
2. Open the Front Cover.

Caution

Do not expose the drums on the Imaging Unit to light for more than 5 minutes. Cover the drums to avoid damage.

3. Remove the Imaging Unit (page 8-8)
4. Reach in through the opening in the bottom of the imaging unit cavity and release the hook on the left side Roller Core. Move the Roller Core to the left side.
5. Move the Feed Roller to the left, so that the grooves in the Feed Roller are clear of the pins on the Feed Shaft.
6. Rotate the Feed Roller 180° on the Feed Shaft and allow the Feed Roller to drop off the shaft.



s6130-092

Replacement Note

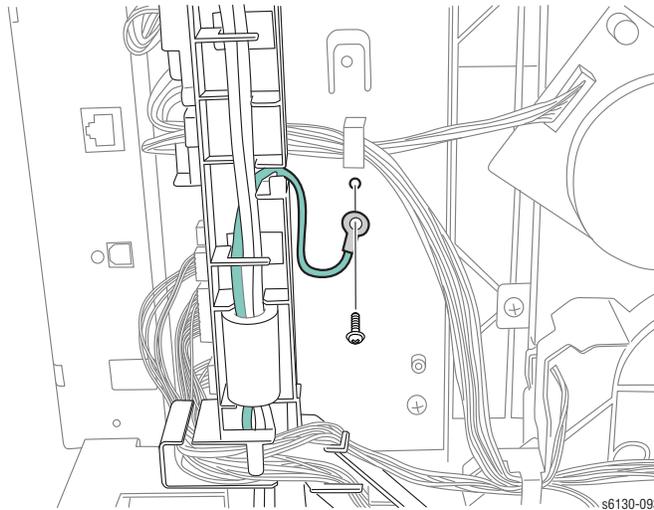
Because there are grooves in only in one side of the Feed Roller, it fits over the pins on the Feed Shaft in only one direction. Note the location of the grooves when installing the Feed Roller on the shaft.

Xerographics

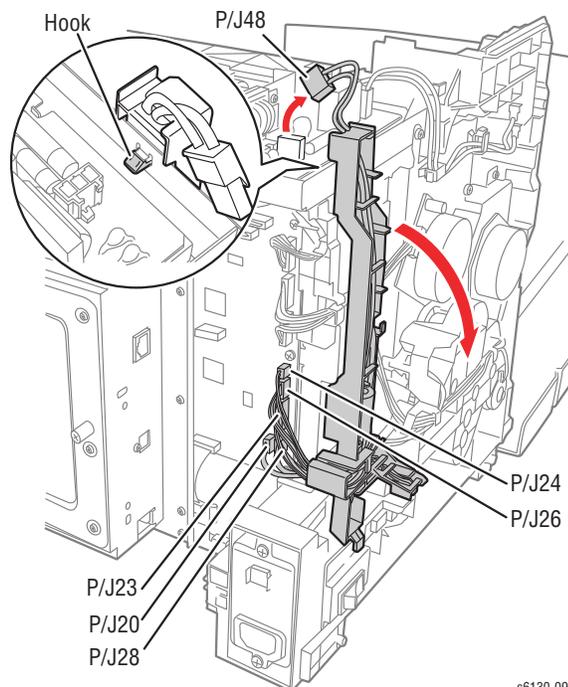
Laser Unit

(PL4.1.1)

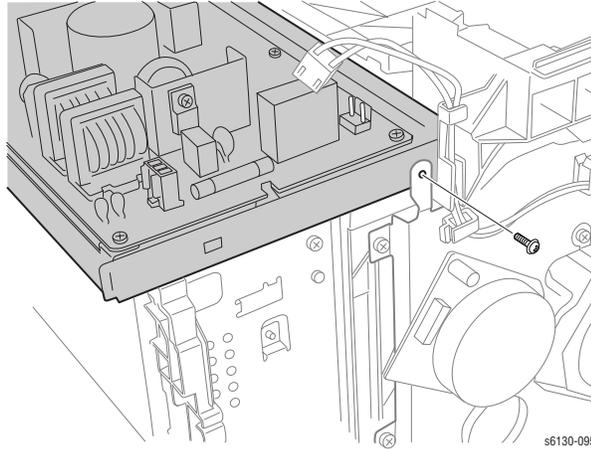
1. Remove the I/P Board Cage (page 8-44)
2. Remove the MCU Board (page 8-59)
3. Remove the screw (silver, with washer, 6mm) that secures the GFI Ground Harness ground lead.



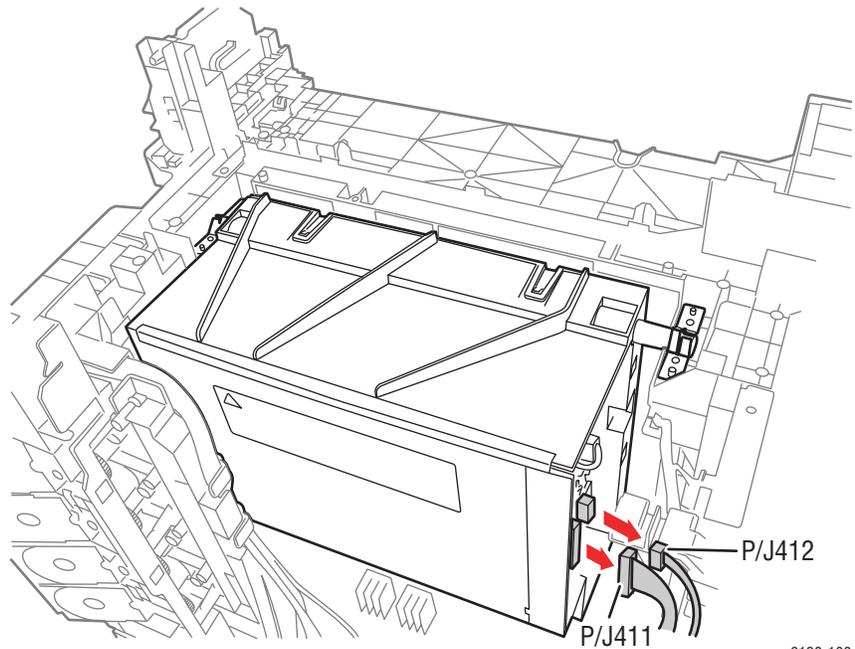
4. Unplug the Power Switch Harness connector (P/J48) from the LVPS Board.
5. Release the AC Harness Guide hook from the LVPS Frame and allow the guide to lay to the side.



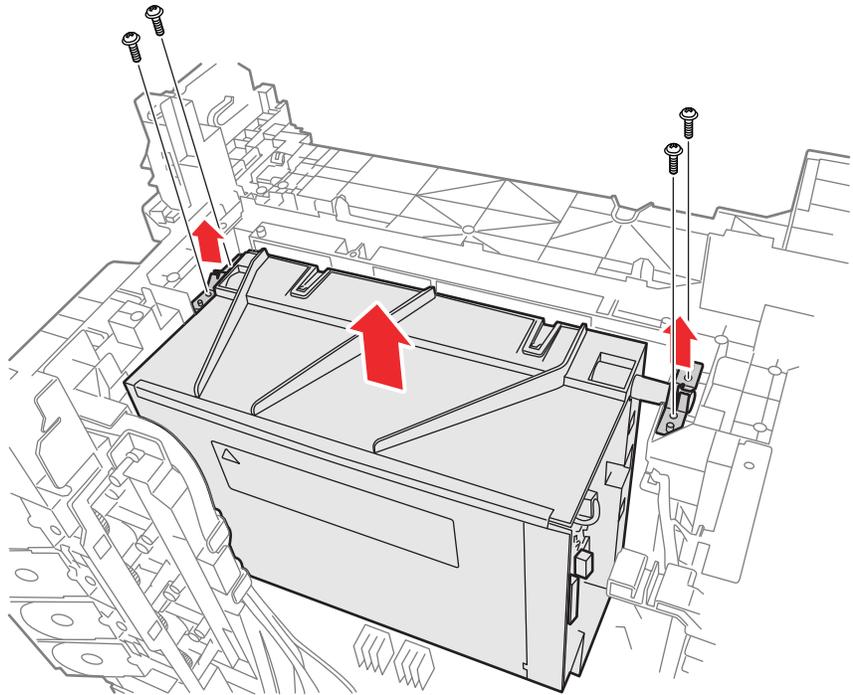
6. Remove the two screws (silver, 6mm) that attach the Right MCU Bracket to the printer.
7. Remove the Right MCU Bracket from the printer.
8. Remove all the connectors on the LVPS Board. Release the Fuser Harness from the Fuser Harness Guide.
9. Release the latches of the Fuser Harness Guide and slide it to the left to release the hooks from the LVPS Frame.
10. Remove the two screws (silver, 6mm) and the six screws (silver, tap, 8mm) that attach the LVPS Frame to the printer.
11. Remove the screw (silver, M4, 6mm) that attaches the Sub-Drive to the LVPS Frame, remove the LVPS Frame from the printer together with the LVPS Board.



12. Remove the four screws (silver, tap 8mm) that attach the left and right sides of the Laser Unit Springs to the printer. Remove the Laser Unit Springs from the printer.
13. Unplug the two connectors (P/J411, 412) from the Laser Unit.



14. Lift up the Laser Unit slowly from the printer.

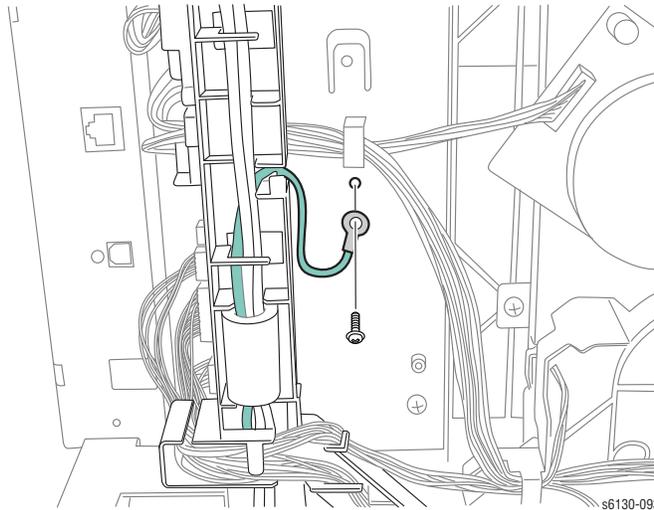


s6130-101

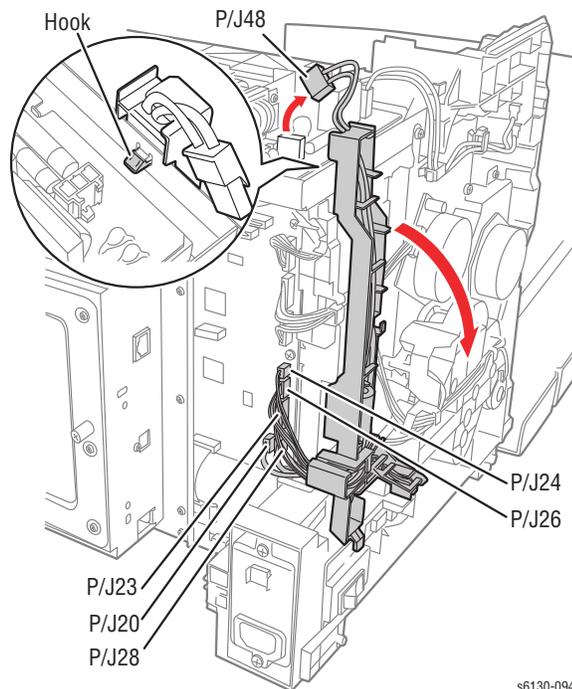
Dispenser Assembly

(PL5.1.1)

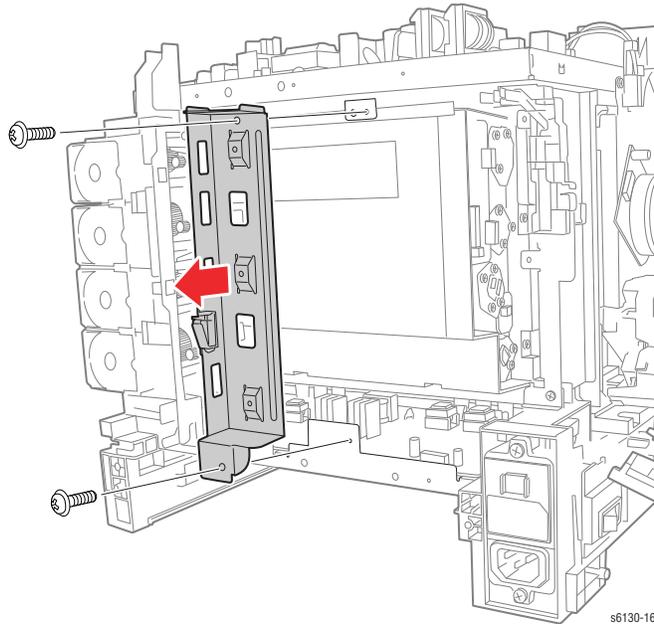
1. Remove the Toner Cartridges (page 8-10).
2. Remove the Fan (page 8-56).
3. Remove the I/P Board Cage (page 8-44).
4. Remove the MCU Board (page 8-59).
5. Remove the screw (silver, with washer, 6mm) that secures the GFI Ground Harness ground lead.



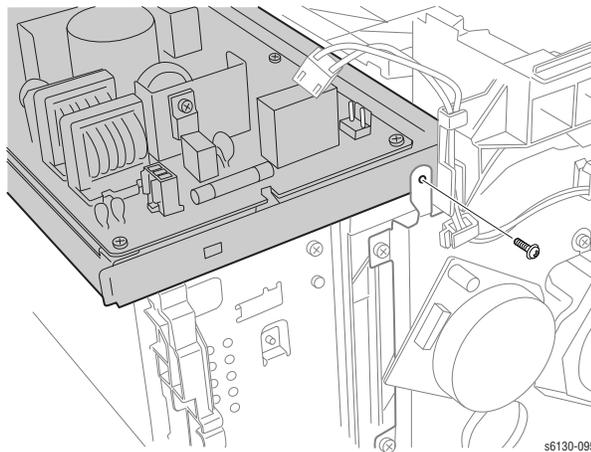
6. Unplug the Power Switch Harness connector (P/J48) from the LVPS Board.
7. Release the AC Harness Guide hook from the LVPS Frame and allow the guide to lay to the side.



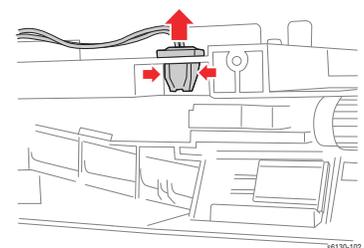
8. Remove the two screws (silver, 6mm) that attach the Right MCU Bracket to the printer.
9. Remove the Right MCU Bracket from the printer.



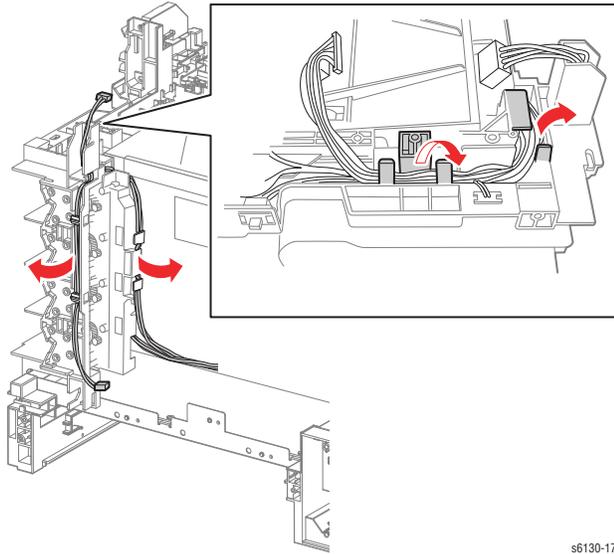
10. Remove all the connectors on the LVPS Board. Release the Fuser Harness from the Fuser Harness Guide.
11. Release the latches of the Fuser Harness Guide and slide it to the left to release the hooks from the LVPS Frame.
12. Remove the two screws (silver, 6mm) and the six screws (silver, tap, 8mm) that attach the LVPS Frame to the printer.
13. Remove the screw (silver, M4, 6mm) that attaches the Sub-Drive to the LVPS Frame, remove the LVPS Frame from the printer together with the LVPS Board.



14. Release the hook of the connector of the RL Test Harness using a pliers, and then remove it from the Dispenser Assembly.

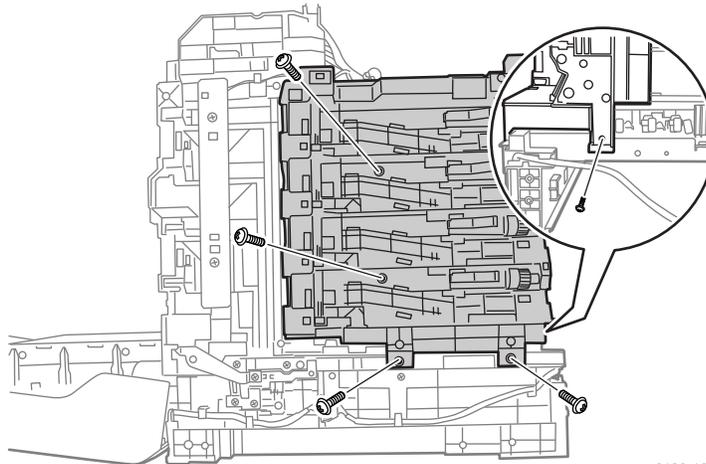


15. Remove the Fuser Harness, LVPS Harness, 24V Harness, I/P Board Power Harness and Harness B from the hooks on the Dispenser Assembly.



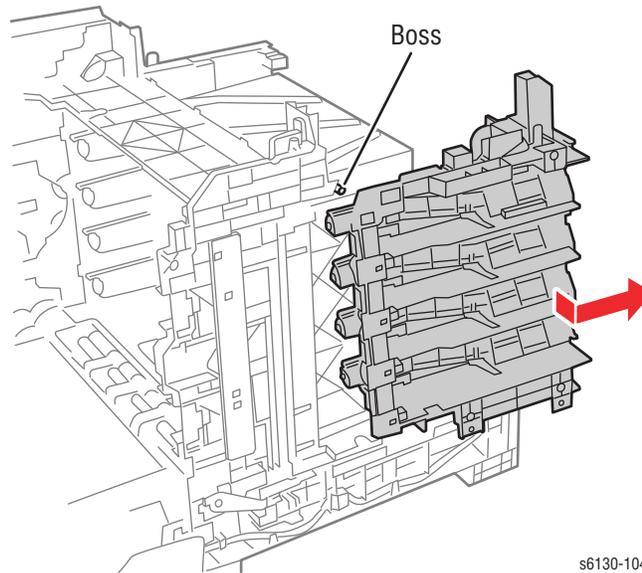
s6130-170

16. Remove the four screws (silver, tap, 8mm) that attach the Dispenser Assembly to the printer.
17. Remove the screw (silver, 6mm) that attaches the rear side of the Dispenser Assembly to the printer.



s6130-103

18. Release the hole in the Dispenser Assembly from the boss on the printer. Move the Dispenser Assembly toward the rear to remove it from the printer.

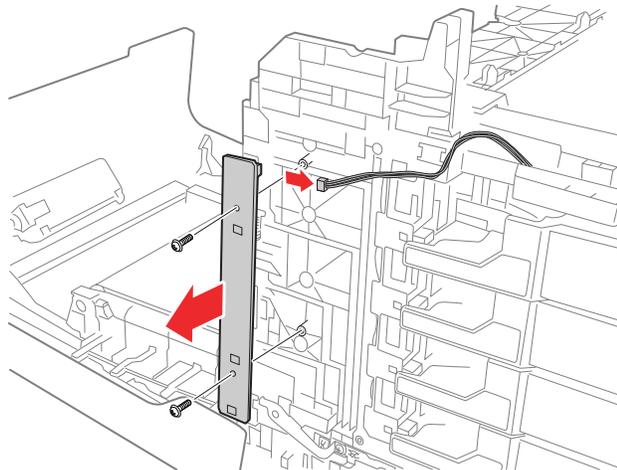


s6130-104

Erase LED Assembly

(PL4.1.8)

1. Remove the Right Side Cover (page 8-16).
2. Remove the two screws (silver, tap, 8mm) that attach the Erase LED Assembly to the printer.
3. Remove the Erase LED Assembly from the printer.
4. Unplug the connector (P/J141) of the Erase LED Assembly.



s6130-105

Right Imaging Unit Restraint Block

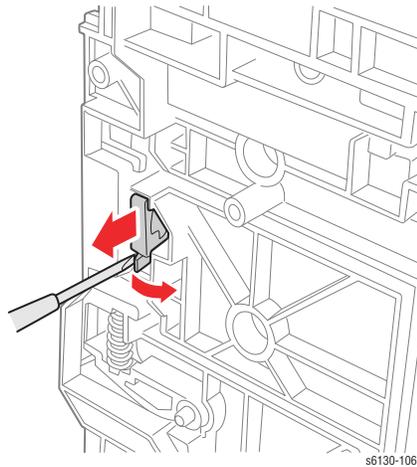
(PL4.1.97)

1. Remove the Right Side Cover (page 8-16).

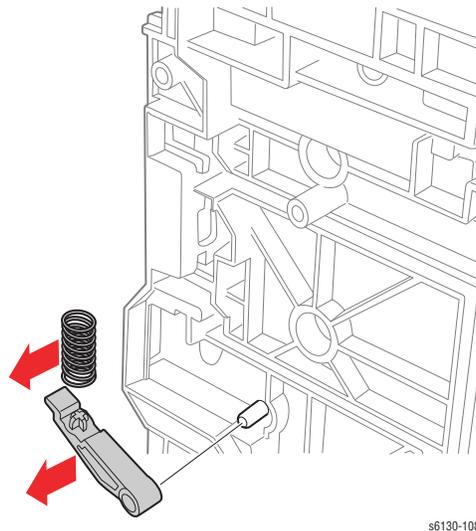
Note

The following procedure applies to both the upper and lower Imaging Unit Restraint Blocks.

2. Use a miniature screwdriver to release the hook on the Imaging Unit Restraint Block.
3. Remove the Imaging Unit Restraint Block from the printer.
4. Remove the Imaging Unit Spring from the printer.



5. Rotate the Imaging Unit Lever slightly and remove it from the printer.



Left Imaging Unit Restraint Block

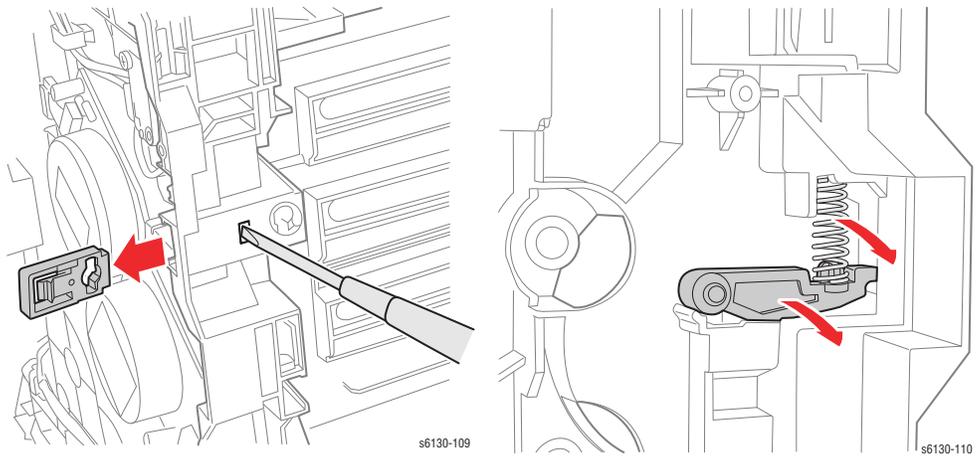
(PL4.1.98)

1. Remove the Left Side Cover (page 8-17).
2. Remove the Main Drive Assembly (page 8-52).

Note

The following procedure applies to both the upper and lower Imaging Unit Restraint Blocks.

3. Use a miniature screwdriver to release the hook on the Imaging Unit Restraint Block.
4. Remove the Imaging Unit Restraint Block from the printer.
5. Remove the Imaging Unit Spring from the printer.
6. Rotate the Imaging Unit Lever slightly and remove it from the printer.



Toner Cartridge Holder (K), (C), (M), (Y)

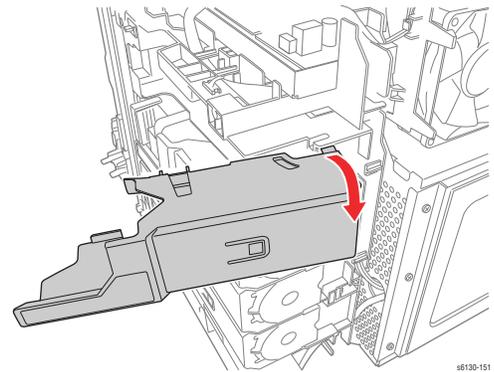
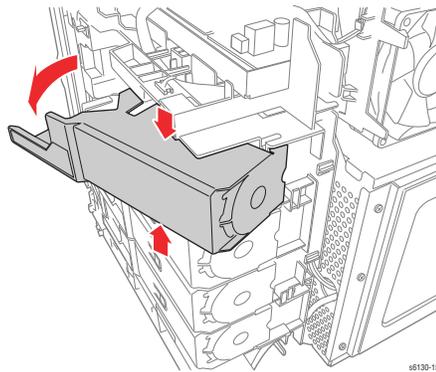
(PL5.1.17~20)

1. Remove the Rear Cover (page 8-18).

Note

The following procedure applies to each of the four Toner Cartridge Holders.

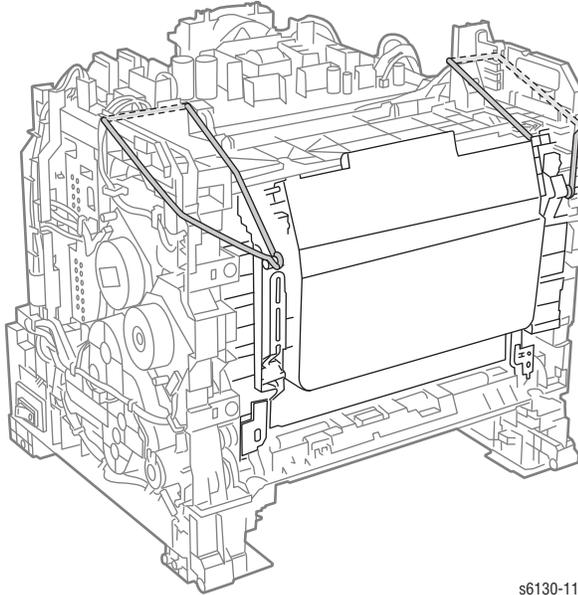
2. Press the central part of the Toner Cartridge Holder to release the hole of the Toner Cartridge Holder from the boss of the Dispenser Frame. Open the Toner Cartridge Holder by 90 degrees.
3. Press the boss part of the Toner Cartridge Holder, remove the Toner Cartridge Holder from the printer.



Transfer Unit

(PL6.1.7)

1. Remove the Front Cover (page 8-19).
2. Secure the Transfer Unit to the printer with rubber bands.



Caution

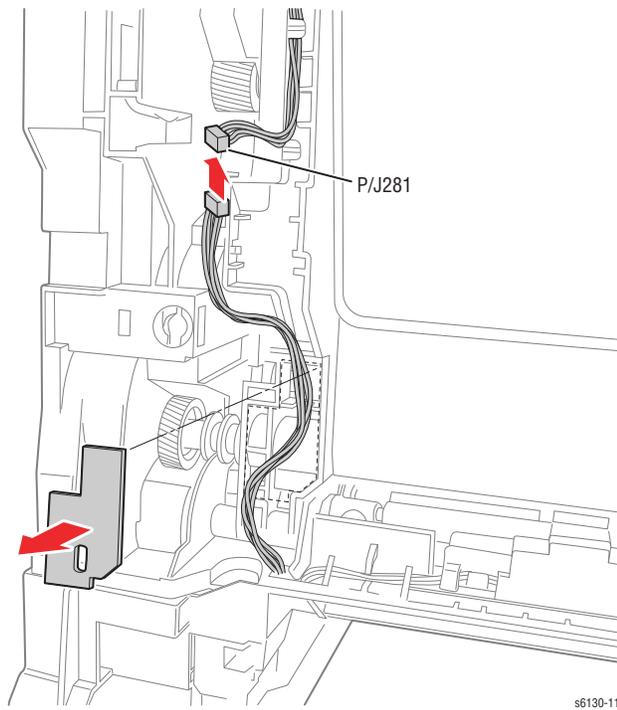
When performing the next step, take care not to scratch the belt surface of the Transfer Unit.

3. Use a miniature screwdriver to release the Harness 2 Cover hook, then remove the Harness 2 Cover.

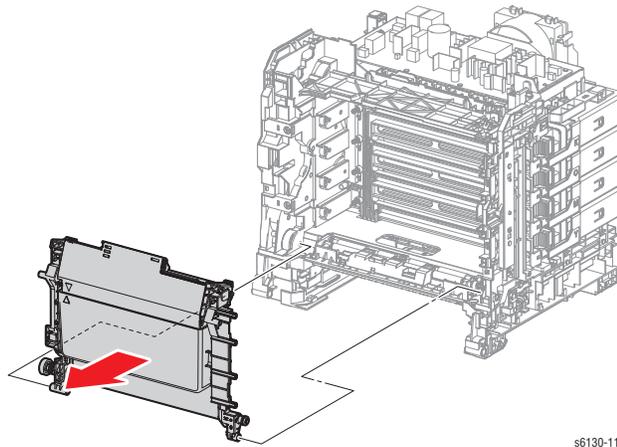
Note

When performing the next step, leave the relay connector on the Transfer Unit harness side.

4. Release the harness from the pegs of the Transfer Unit, then unplug the Transfer Unit connector (P/J281).
5. Release the harness coming from printer from hook of the Transfer Unit.



6. Tilt the Transfer Unit slowly.
7. Remove the Pivot Kit (page 8-45).
8. Remove the Transfer Unit from the printer.



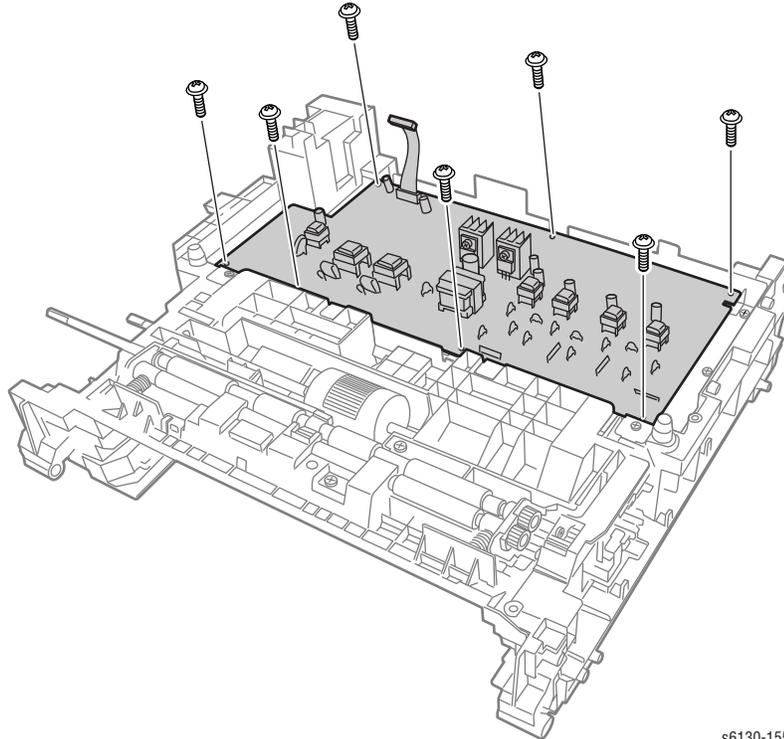
Replacement Note

If a new Transfer Unit is being installed, be sure to reset the transfer belt counter in Service Diagnostics: **Service Mode > Parameter > Life DTB Waste > Initialize.**

HVPS Board

(PL4.1.19)

1. Separate the Upper and Lower Assemblies (page 8-47).
2. Remove the seven screws (silver, 6mm) that attach the HVPS Board to the HVPS Frame.
3. Remove the HVPS Board from the HVPS Frame.



s6130-155

Frame

I/P Board Cage

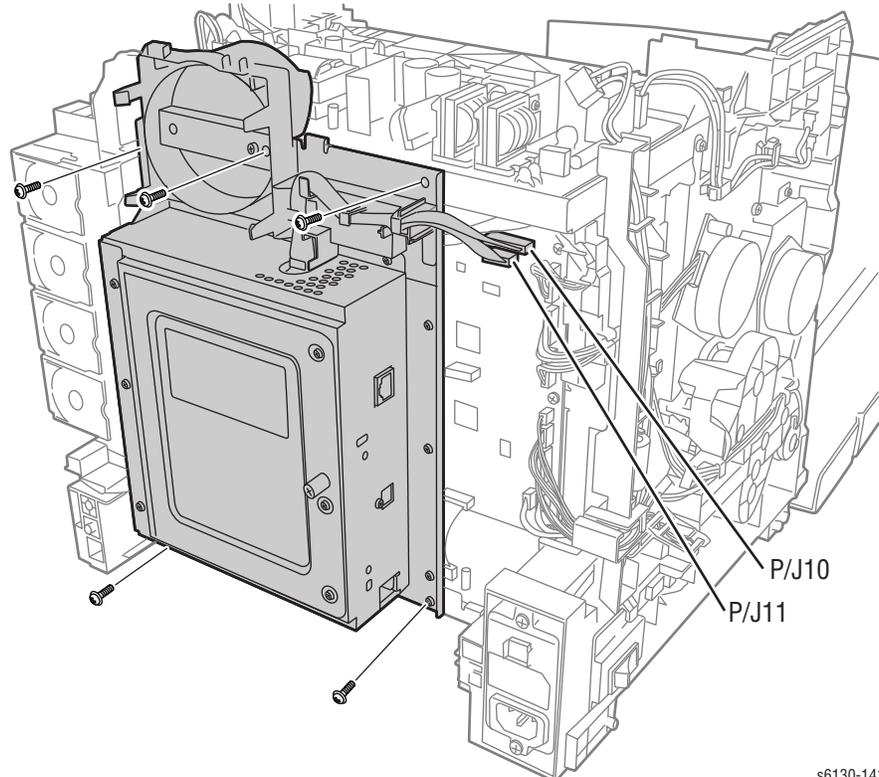
This procedure removes the entire I/P board enclosure including the Fan Duct. Although it is not associated with any one part, it is a necessary prerequisite for other procedures.

1. Remove the Fan (page 8-56).
2. Remove the two screws with circles scribed around them at the bottom of the Image Processor Frame.
3. Unplug the cables at P10 and P11 on the MCU board.
4. Disconnect P40 from the LVPS and release the harness from restraints.
5. Disconnect P2200 and release the harness from restraints.
6. Remove the three circled screws at the top of the Image Processor Frame. (one screw is behind the Fan).

Note

Loosening or removing the screw that holds the Fan Duct to the IP Board Frame can ease the IP Board Frame removal. Do not remove the Fan Duct.

7. Swing the assembly out from the bottom and lift up enough to free the hook at the top.



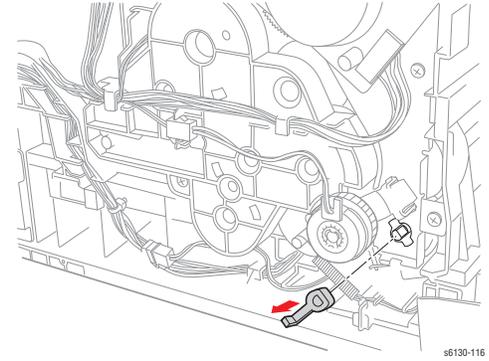
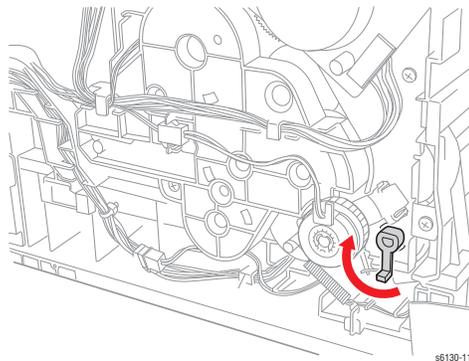
s6130-141

Transfer Unit Pivot Kit

(PL6.1.99)

This procedure removes the pivot shafts for the Transfer Unit.

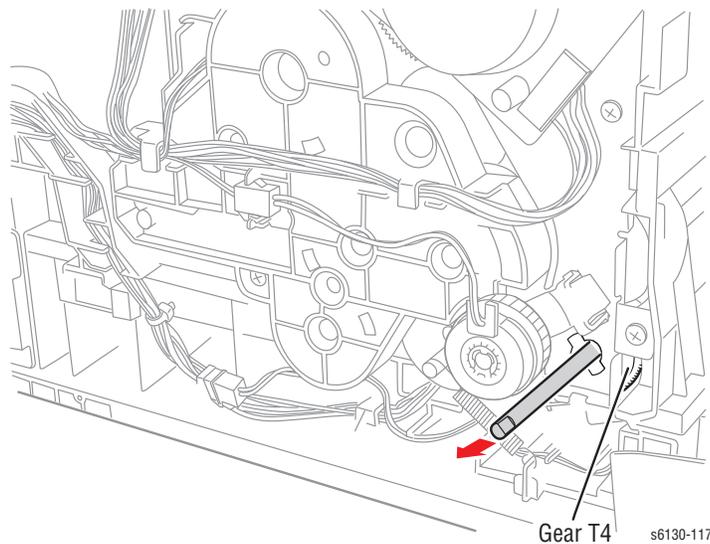
1. Remove the Right Side Cover (page 8-16).
2. Remove the Left Side Cover (page 8-17).
3. Rotate the Pivot Stopper to align the tabs of the Pivot Stopper with the notches of the Main Drive Assembly.
4. Remove the Pivot Stopper from the printer.



Note

When performing the following procedure, take care not to drop Gear T4.

5. Pull out the Left Transfer Pivot, and remove the Gear T4 from the printer.

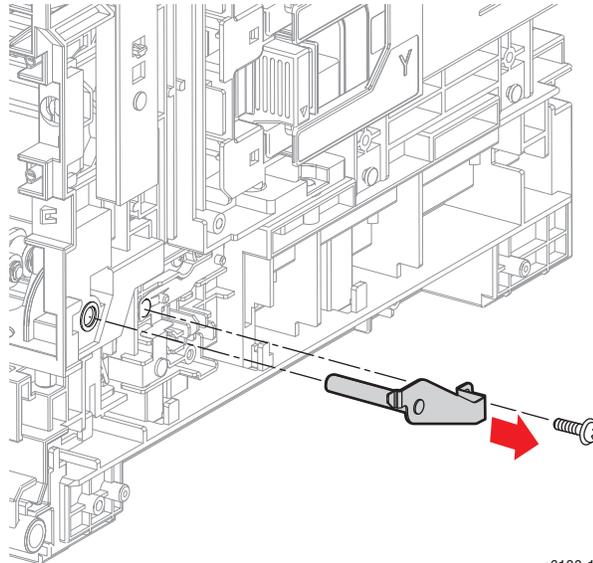


6. Remove the screw (silver, tap, 8mm) that attaches the Right Side Pivot Shaft to the printer.

Note

When performing the next step, keep the Transfer Unit slightly lifted to ease removal of the Pivot Shaft. If you are performing this procedure as part of the Transfer Unit removal, the only step remaining after removing the Right Pivot Shaft is to lift the Transfer Unit out of the printer.

7. Pull the Pivot Shaft out of the printer.

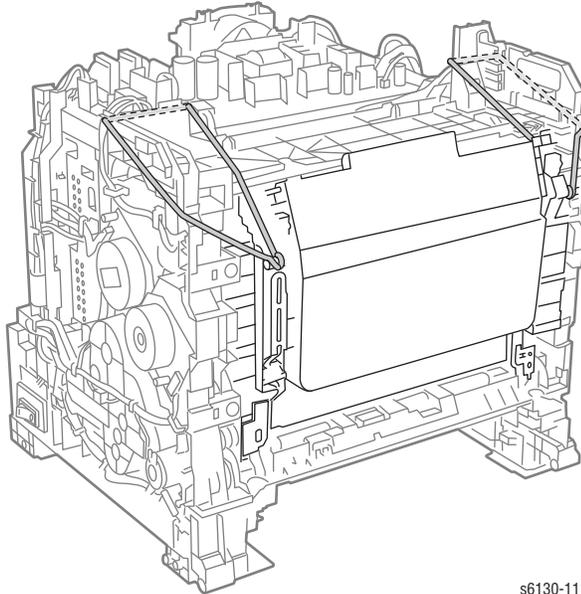


s6130-118

Separate Upper and Lower Assemblies

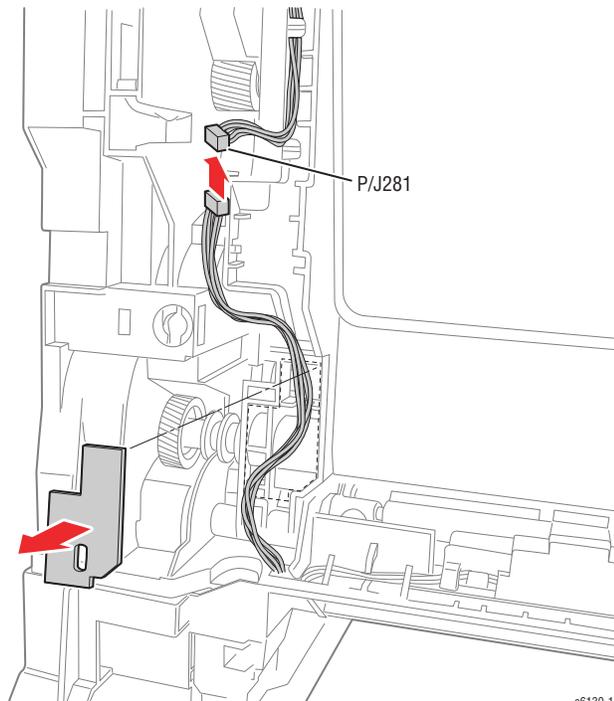
While this major procedure is not connected to a specific part or parts list, it is a necessary pre-requisite for removing the HVPS or the Feeder Assembly. As few parts as possible are removed from the upper assembly that will allow the assemblies to separate.

1. Remove the I/P Board Cage (page 8-44).
2. Remove the Drive Clutch Kit (page 8-21).
3. Remove the Front Cover (page 8-19). Use rubber bands to secure the Transfer Unit in the upright position, as shown.



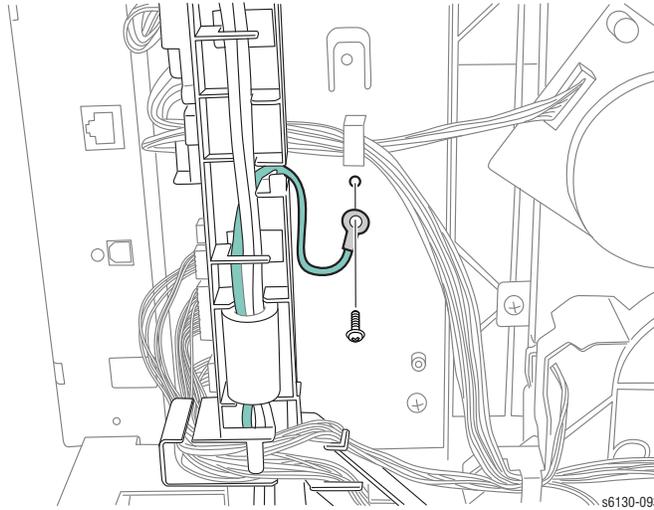
s6130-111

4. Disconnect the plug (P/J281) on the Transfer Unit, then remove the cover from the harness guide, and release the harness wires from the guide.

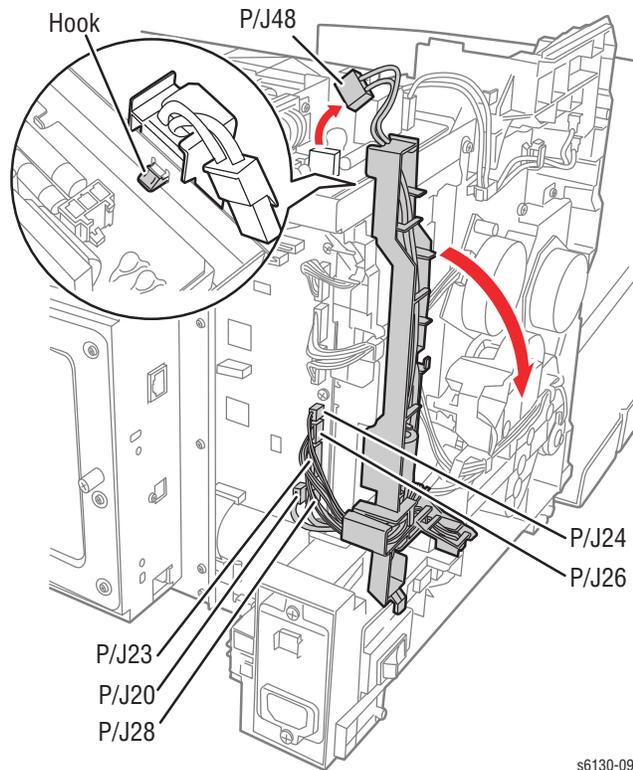


s6130-112

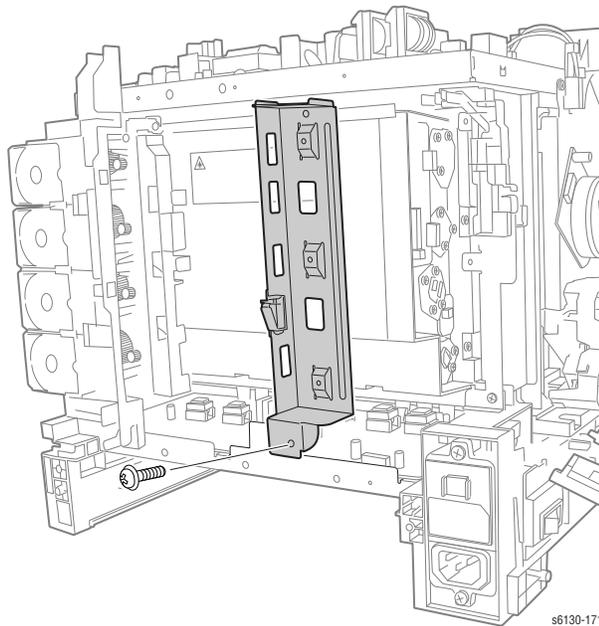
5. Remove the screw (silver, with washer, 6mm) that secures the GFI Ground Harness ground lead.



6. Unplug the Power Switch Harness connector (P/J48) from the LVPS Board.
7. Unplug P24 and P26 from the MCU Board and release the wires from the hooks and the harness guide channels.
8. Unplug P20, P23, and P28 from the MCU Board, but do not release the wires from the AC Harness Guide.
9. Unplug P16 from the bottom of the MCU Board.
10. Release the AC Harness Guide hook from the LVPS Frame and allow the guide to lay to the side.

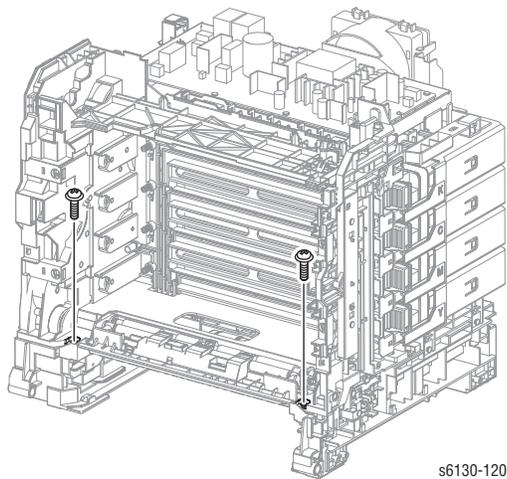


11. Remove the screw (silver, machine, 6mm) that attaches bottom of the Right MCU Bracket to the HVPS bracket.

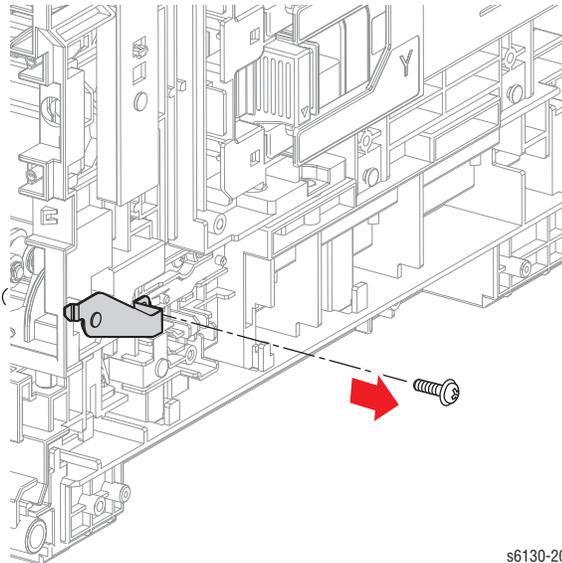
**Note**

With the Transfer Unit in place, normal length screwdrivers cannot engage the two screws removed in the following step straight on. Use a short or offset screwdriver to remove the screws.

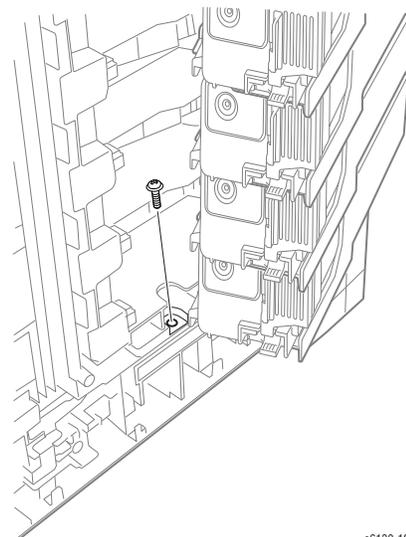
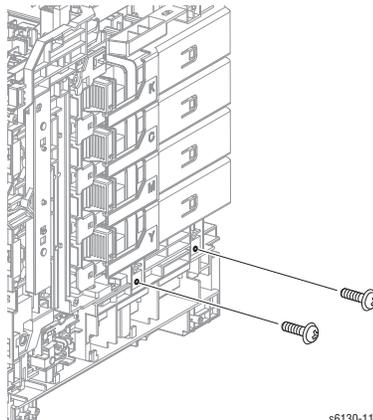
12. Remove the two screws that attach the front side of the printer frame.



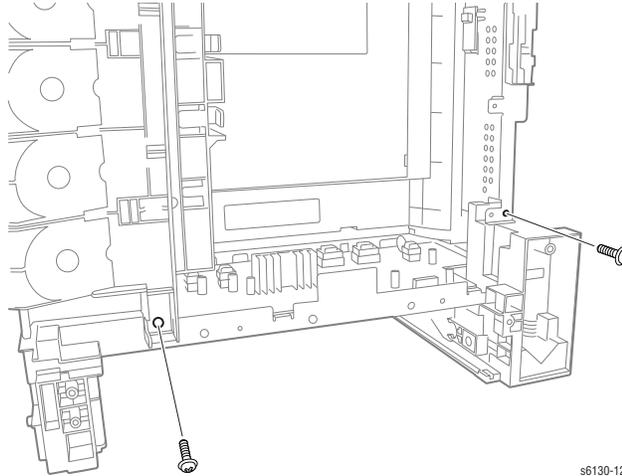
13. Remove the screw (silver, tap, 8mm) that attaches the right Transfer Unit Pivot Shaft to the Lower Assembly, but do not remove the Pivot Shaft.



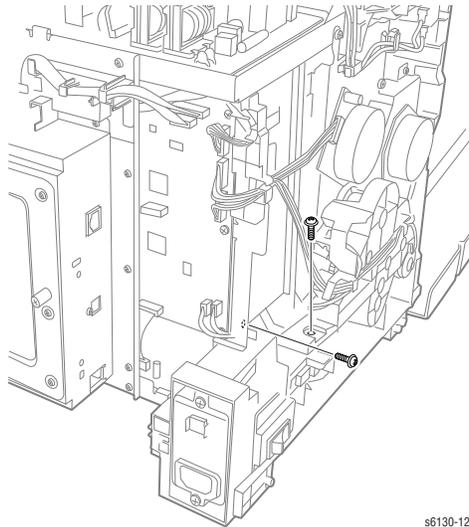
14. Remove the two screws that attach the bottom part of the Dispenser Assembly to the Lower Assembly.
15. Unlock the Toner Cartridges and open the Toner Cartridge Holders (K), (C), (M), and (Y); remove the screw (silver, tap, 8mm) that attaches the right side of the printer frame. Close and lock the Toner Cartridges after removing the screw.



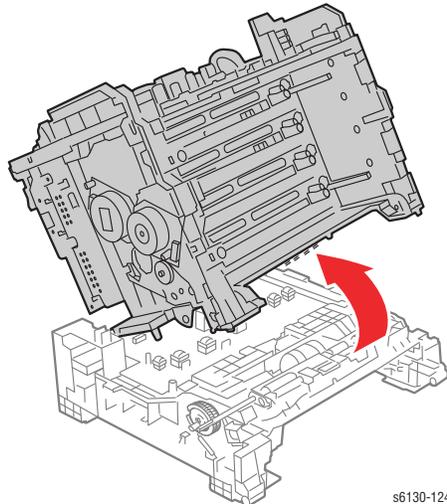
- 16.** Remove the screw (silver, 6mm) that attaches the rear side of the Dispenser Assembly and the screw (silver, tap, 8mm) that attaches the MCU L.



- 17.** Remove the screw (silver, tap, 8mm) that attaches the left side of the printer frame and the screw (silver, tap, 8mm) that attaches the BRACKET MCU L.



- 18.** Lift the Upper Assembly off of the Lower Assembly.

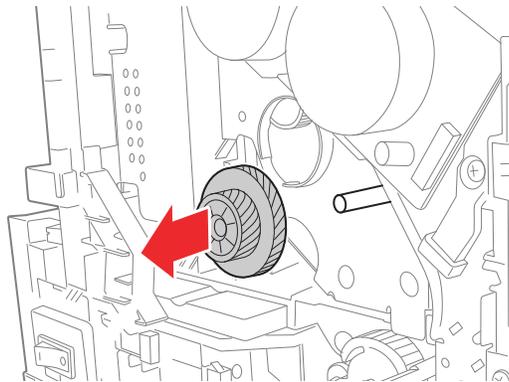


Drive

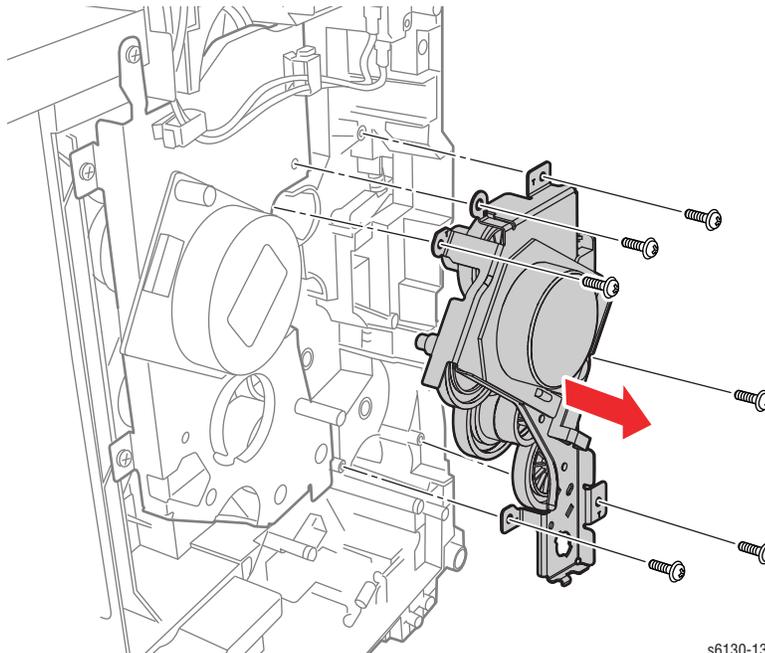
Main Drive Assembly

(PL7.1.2)

1. Remove the Feed Drive Assembly (page 8-22).
2. Slide Gear P2 from the Sub-Drive shaft.



3. Remove the one screw (silver, M4, 6mm) and the five screws (silver, tap, 8mm) that attach the Main Drive Assembly to the printer.
4. Remove the Main Drive Assembly from the printer.



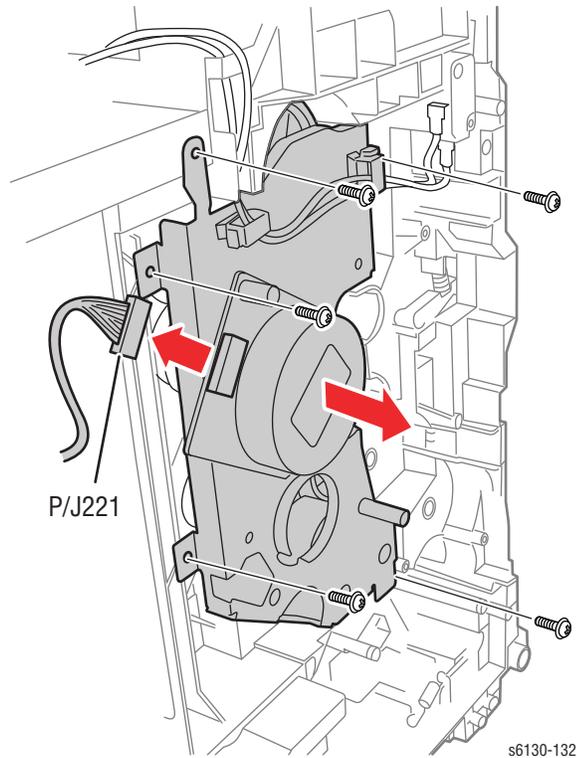
Replacement Note

Be sure to place the wiring harness connecting the Developer Motor through the back of the hook on the Drive Assembly

Sub-Drive

(PL7.1.1)

1. Remove the Main Drive Assembly (page 8-52).
2. Remove the Interlock Harness (page 8-54).
3. Unplug the connector (P/J221) of the Sub-Drive.
4. Remove the one screw (silver, M4, 6mm) and the four screws (silver, tap, 8mm) that attach the Sub-Drive to the printer.
5. Remove the Sub-Drive from the printer.

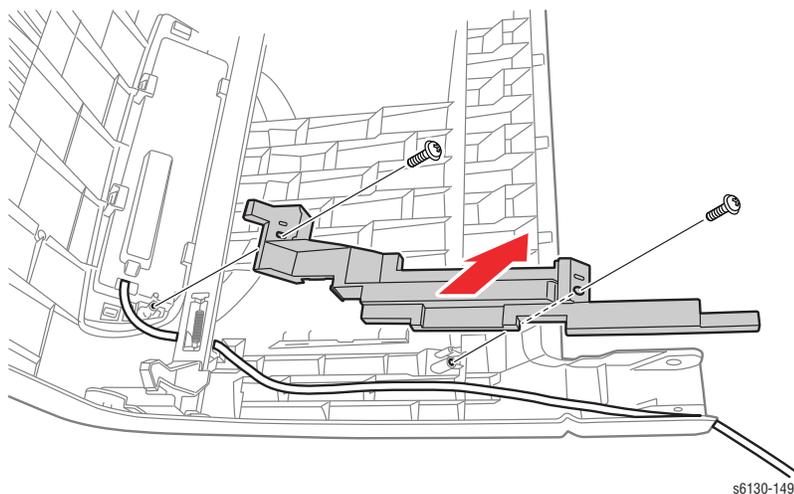


Electrical

Control Panel Harness

(PL1.1.17)

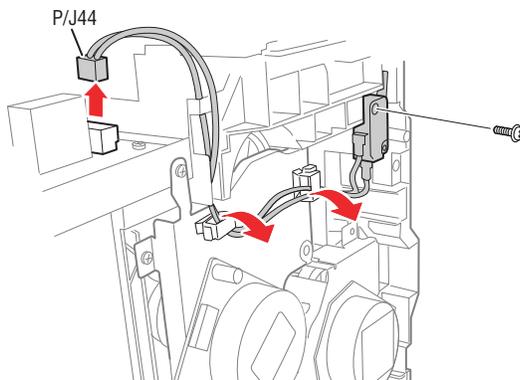
1. Remove the Control Panel (page 8-13)
2. Remove the Front Cover (page 8-19).
3. Remove the two screws (silver, tapping) that attach the Right Guide to the Front Cover, and lift off the Right Guide.
4. Release the Control Panel Harness from the hooks in the Front Cover and remove the Control Panel Harness.



Interlock Harness

(PL8.2.5)

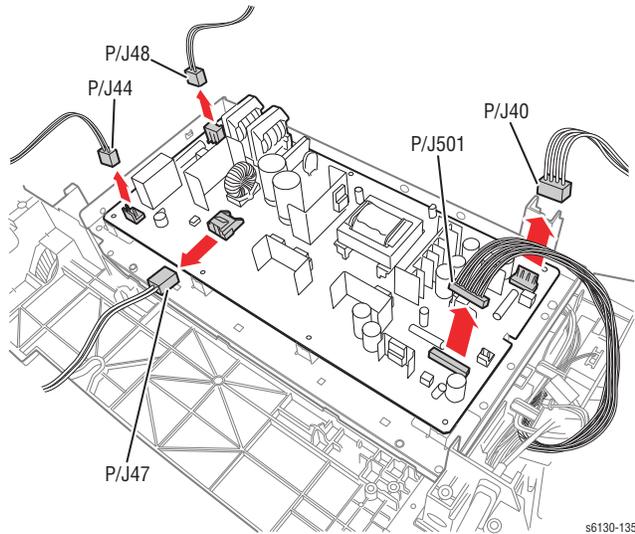
1. Remove the Left Side Cover (page 8-17).
2. Unplug the connector (P/J44) of the Interlock Harness on the LVPS Board.
3. Release the clamps that attach the harness of the Interlock Harness, remove the harness.
4. Remove the screw (silver, tap, 6mm) that attaches the Interlock Harness to the printer, remove the Interlock Harness.



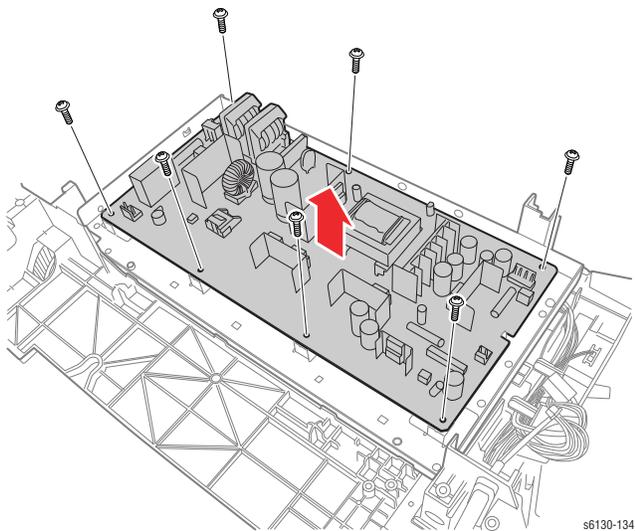
LVPS

(PL8.2.1)

1. Remove the Top Cover (page 8-14).
2. Unplug all connectors from the LVPS Board.



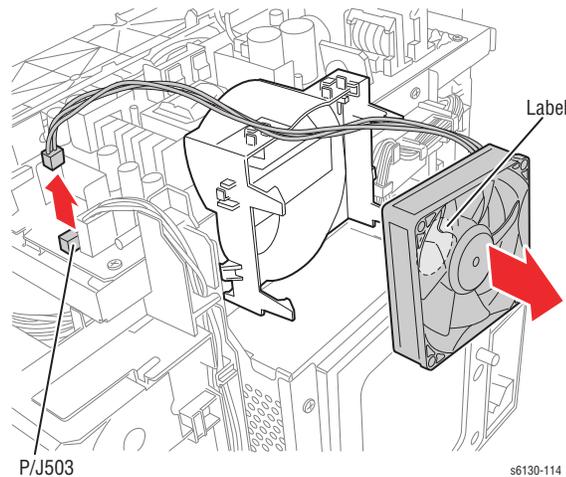
3. Remove the seven screws (silver, 6mm) that attach the LVPS Board to the printer.
4. Remove the LVPS Board from the printer.



Fan

(PL8.1.1)

1. Remove the Rear Cover (page 8-18).
2. Unplug the Fan connector (P/J503) on the LVPS Board and release the Fan harness from the harness restraints on the Fan Duct.
3. Release the four hooks on the Fan Duct that hold the Fan in place, and remove the Fan from the Fan Duct.



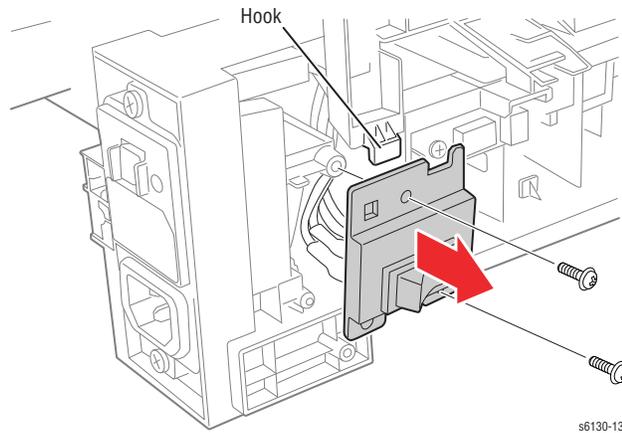
Replacement Note

When replacing the Fan, the label faces the front of the printer.

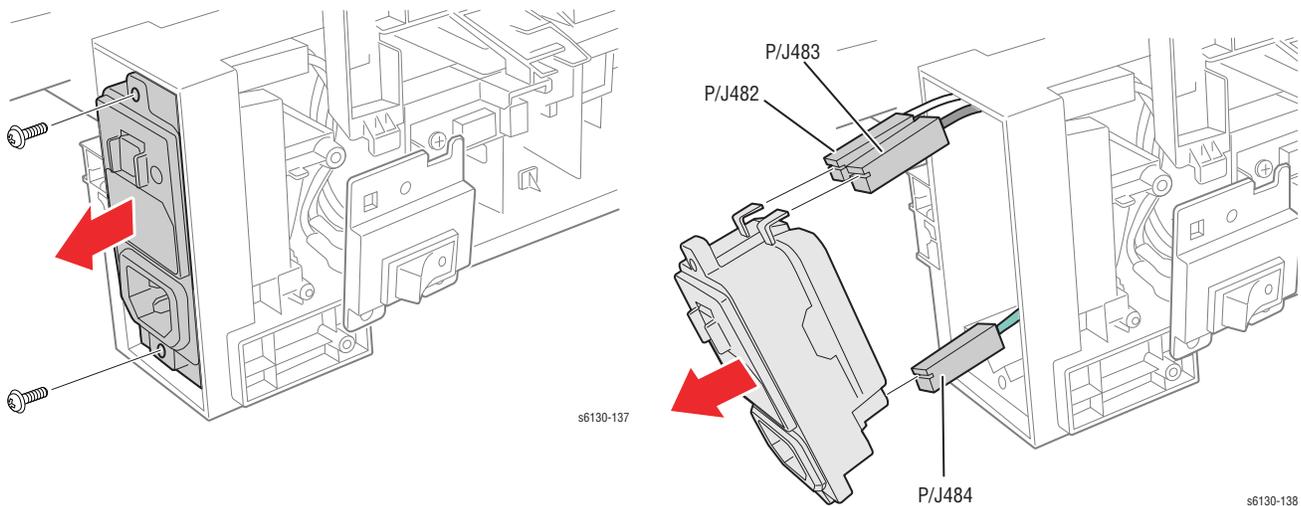
GFI Breaker

(PL8.2.11)

1. Remove the Rear Cover (page 8-18).
2. Remove 2 screws (silver, tap, 8mm) that attach the Switch Bracket to the printer.
3. Release the Switch Bracket from the hook together with the Main Switch.
4. Remove the two screws (silver, tap, 16mm) that attach the GFI Breaker to the printer.



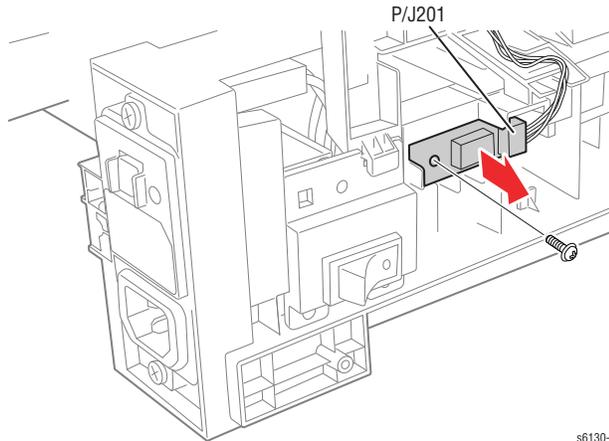
5. Pull the GFI Breaker out of the frame, unplug the three connectors (P/J482, 483, 484), and remove the GFI Breaker from the printer.



Humidity Sensor

(PL8.2.7)

1. Remove the Left Side Cover (page 8-17).
2. Remove the screw (silver, tap, 8mm) that attaches the Humidity Sensor to the printer, and remove the Humidity Sensor.
3. Unplug the connector (P/J201) of the Humidity Sensor.



s6130-139

MCU Board

(PL8.2.13)

Note

If the MCU Board is exchanged, store internal data to the Image Processor Board before removing the MCU Board. Enter Service Diagnostics menu: **Service Mode > Engine Diag > NVM Settings > Save NVM to ESS**. Refer to “Service Diagnostics” on page 4-5 for detailed procedures. When the new MCU Board is in place, use the **Load NVM from ESS** procedure.

1. Turn off the power.
2. Remove the I/P Board Cage (page 8-44).
3. Unplug all connectors from the MCU Board.
4. Remove the six screws (silver, 6mm) that attach the MCU Board to the printer.
5. Remove the MCU Board from the printer.

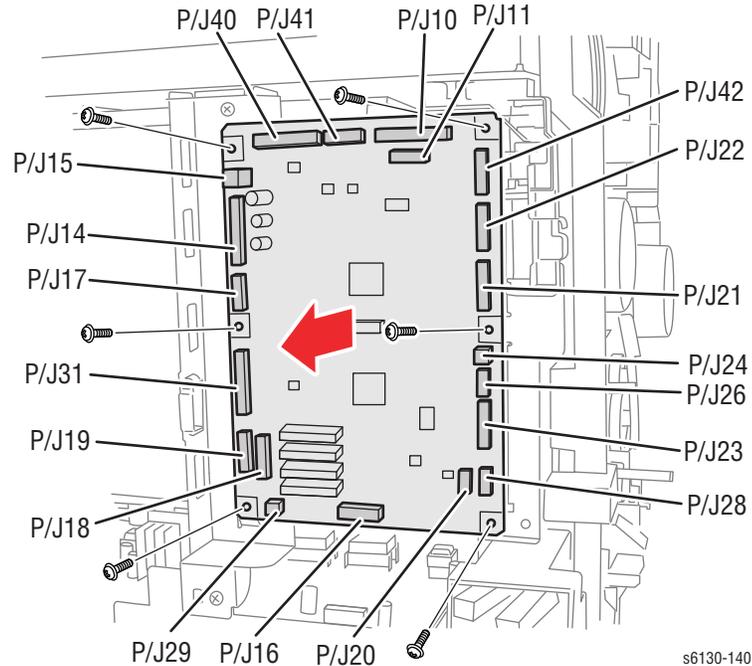
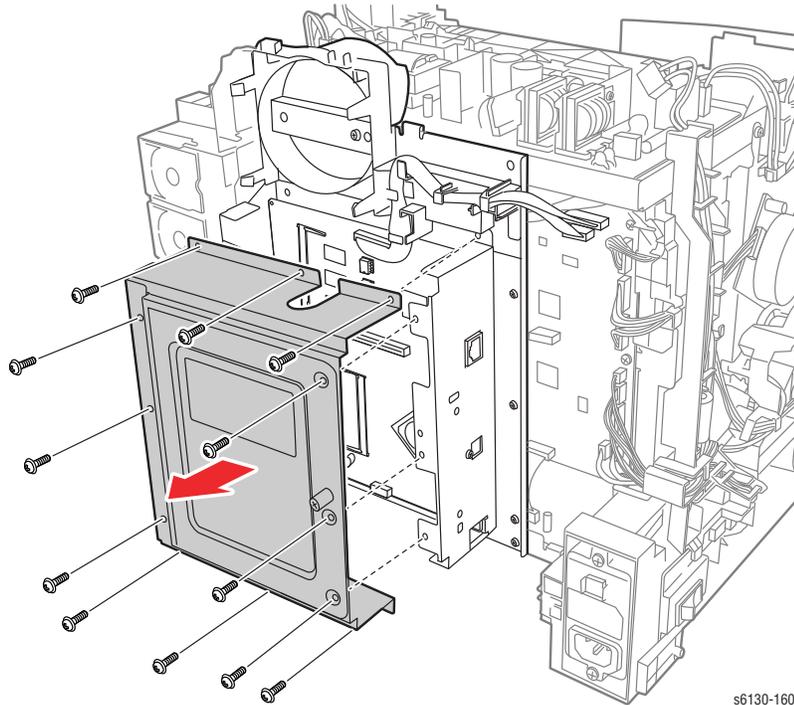


Image Processor Board

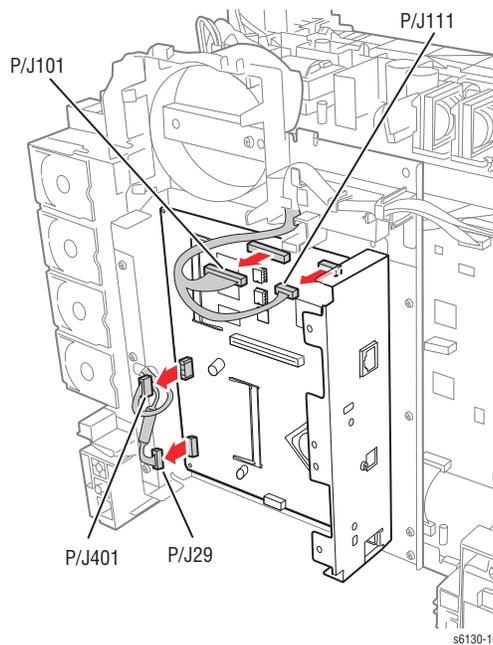
(PL8.1.7)

1. Remove the Fan (page 8-56).
2. Remove 12 screws for the 6130 or 8 screws for the 6125 (silver, 6mm) that attach the Image Processor Board Shield and remove it from the printer.



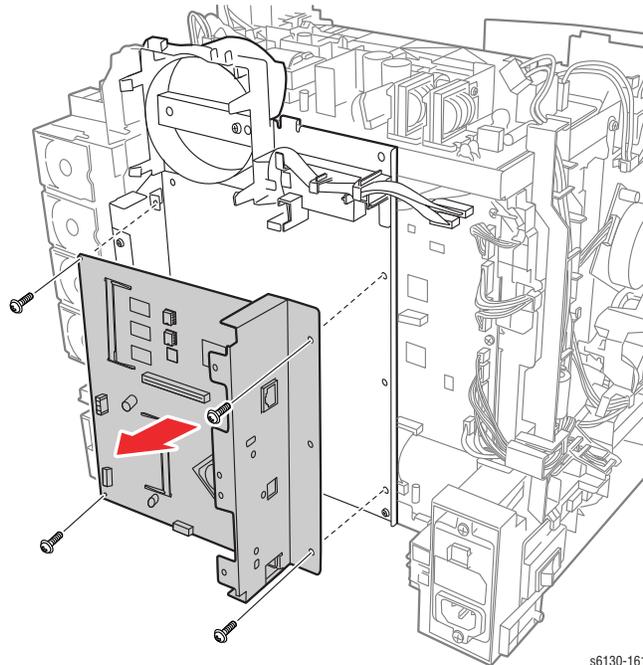
s6130-160

3. Unplug all connectors from the Image Processor Board.



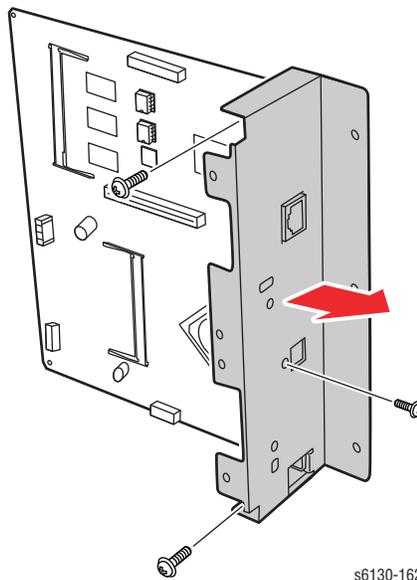
s6130-168

4. Remove 4 screws (silver, 6mm) that attach the Image Processor Board and the I/O Plate to the printer, and remove the Image Processor Board from the printer together with the I/O Plate.



s6130-161

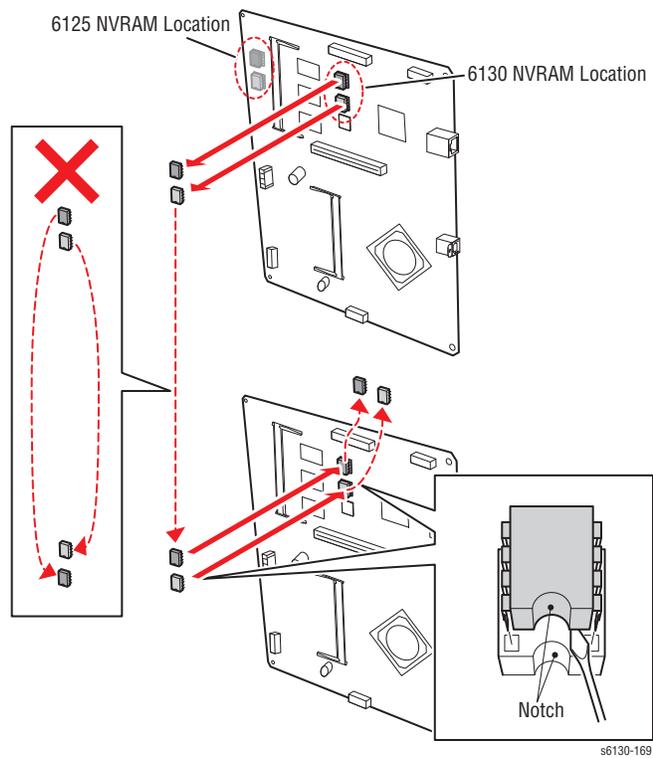
5. Remove the screw (silver, 4mm) that attaches the USB connector on the Image Processor Board to the I/O Plate.
6. Remove the two screws (silver, 6mm) that attach the Image Processor Board to the I/O Plate and separate the two pieces.



s6130-162

Replacement Note

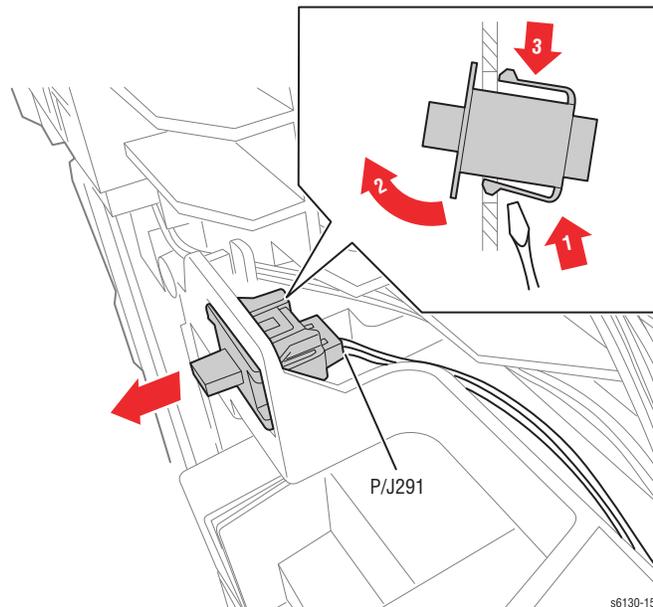
When installing a new I/P Board, move the NVRAM chips from the old I/P Board to the new I/P Board. Carefully check the correct location and orientation of each NVRAM chip when installing.



Toner Access Door Switch

(PL5.1.9)

1. Remove the Right Side Cover (page 8-16).
2. Using a miniature screwdriver, release the hooks that latch the switch in the frame and remove the switch from the printer.
3. Unplug the switch from the harness connector (P/J291).



s6130-152

Parts List

In this chapter...

- Serial Number Format
- Using the Parts List
- Print Engine Parts
- Xerox Supplies and Accessories
- Service Kits

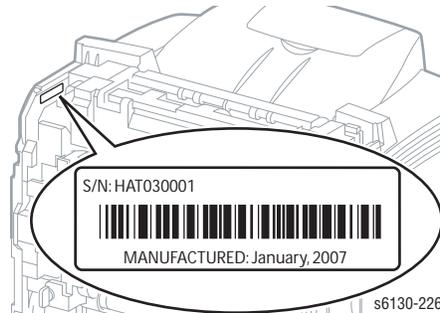
Chapter 9

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 left-side frame near the Fuser. The Front Cover must be opened to locate the Serial Number.



The nine-digit serial number uses the format **PPPRSSSSS**.

- **PPP** = Three digit alphanumeric product code

Product Code	Product
HAT	6130, 110 V Engine
HAR	6130V, 220 V Engine
LAN	6125, 110 V Engine
LAL	6125V, 220 V Engine

- **R** = Single digit numeric revision digit, 0-9. To be rolled when the ending serial number is reached or when a major product change occurs.
- **SSSSS** = Five digit numeric serial number based on the following table. The serial numbers are reset only when the ending number is reached or the revision number is rolled.

Product	Starting Serial Number	Ending Serial Number
6130_N, 110V Engine	30001	79999
6130_WN, 110V Engine	80000	99999
6130V_N, 220V Engine	30001	79999
6130V_WN, 220V Engine	80000	99999
6125_N, 110V Engine	30001	55000
6125_WN, 110V Engine	55001	99999
6125V_N, 220V Engine	30001	60000
6125V_WN, 220V Engine	60001	99999

Example

HAT253072: Xerox Serial Number
HAT: Product Code for the Phaser 6130, 110V printer
2 = Revision Level
53072 = Serial Number for 6130 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

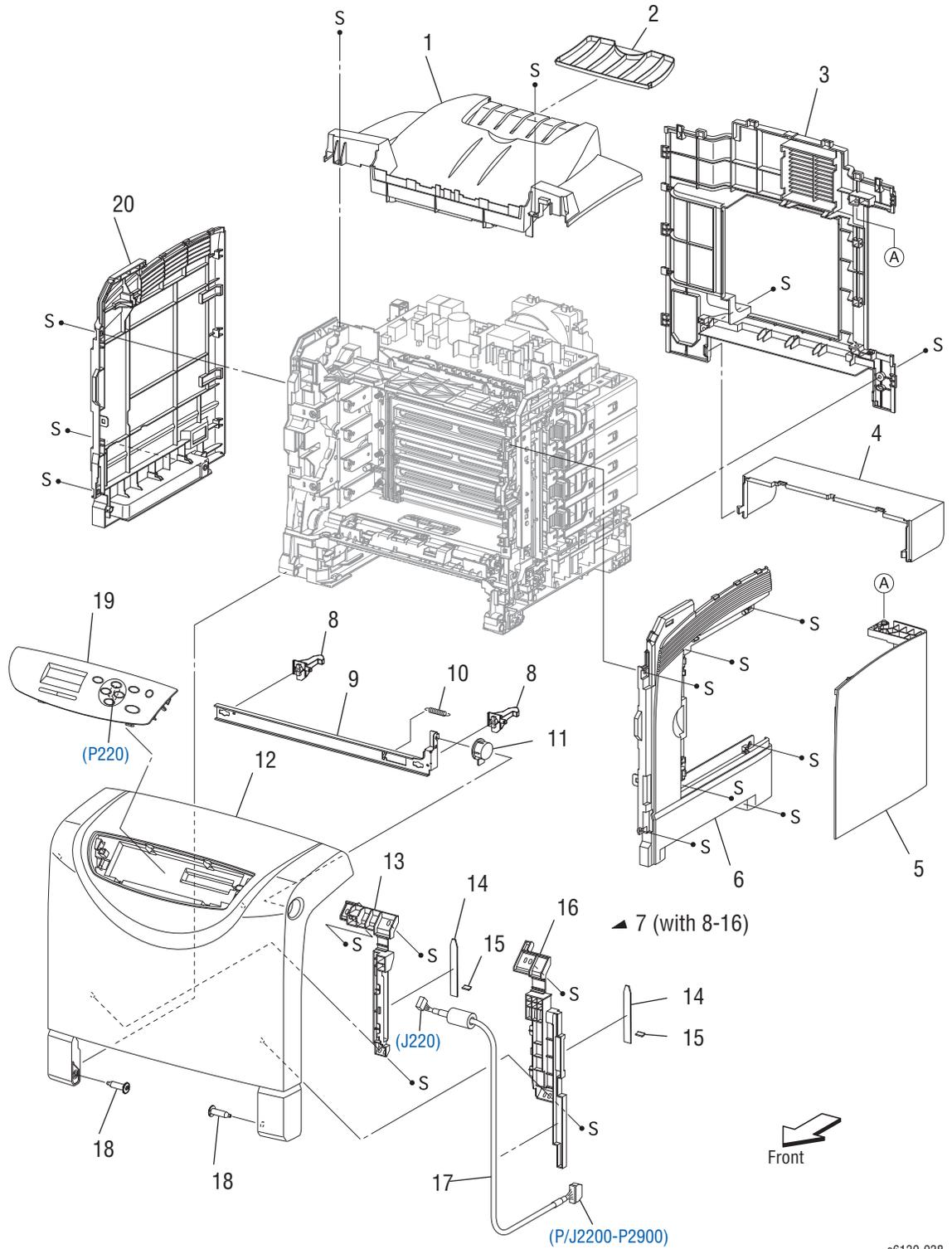
Only parts showing part numbers are available for ordering by support. Parts not showing part numbers are available on the parent assembly.

Abbreviations

Abbreviation	Meaning
C	C-ring
E	E-ring
KL	K-clip
S	Screw

Print Engine Parts

Parts List 1.1 Covers

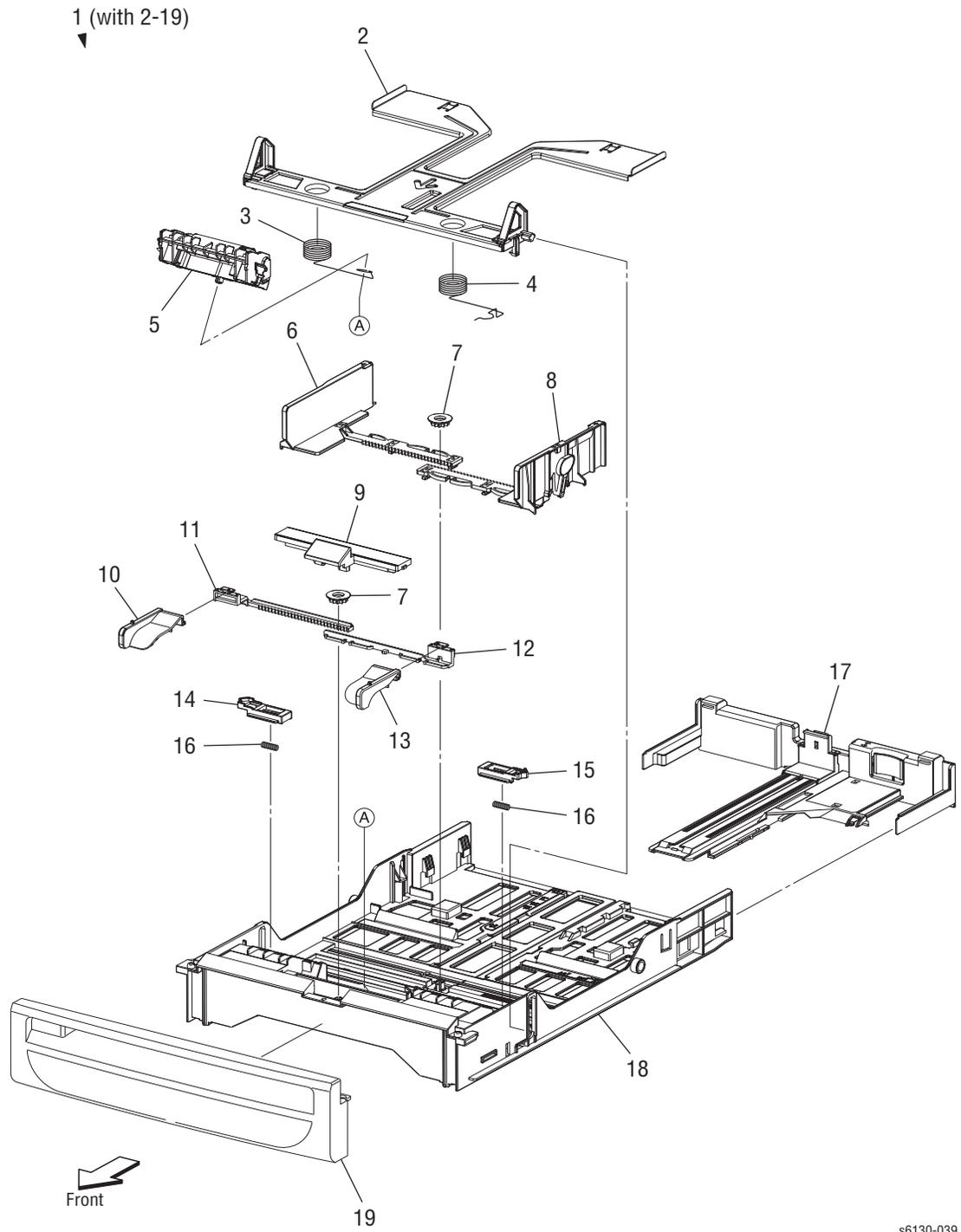


s6130-038

Parts List 1.1 Covers

ID No.	Name/Description	Part Number
1	Cover Top	848E20100
2	Tray Ext	050E24201
3	Cover Rear	848E20072
4	Cover Cst	848E20121
5	Cover Window Tnr (Toner Access Door)	848K10661
6	Cover Side R	848E20091
7	Cover Assy Front (with 8-17)	675K61041
8	Latch Front	—
9	Plate Latch	—
10	Spring Latch Out	—
11	Button Latch	—
12	Cover Front	
13	Guide Belt	—
14	Damper Front L	—
15	Damper Front S	—
16	Cover Harness	—
17	Harness Assy A-OP (J2200-P2900)	962K60030
18	Shaft Pivot	—
19A	Control Panel Assy PDL (6130)	848K09303
19B	Control Panel Assy GDI (6125)	848K16161
20	Cover Side L	848E20081
21	—	—
99	Kit Shaft Pivot (with 18 × 2pcs)	675K54050

Parts List 2.1 Paper Tray

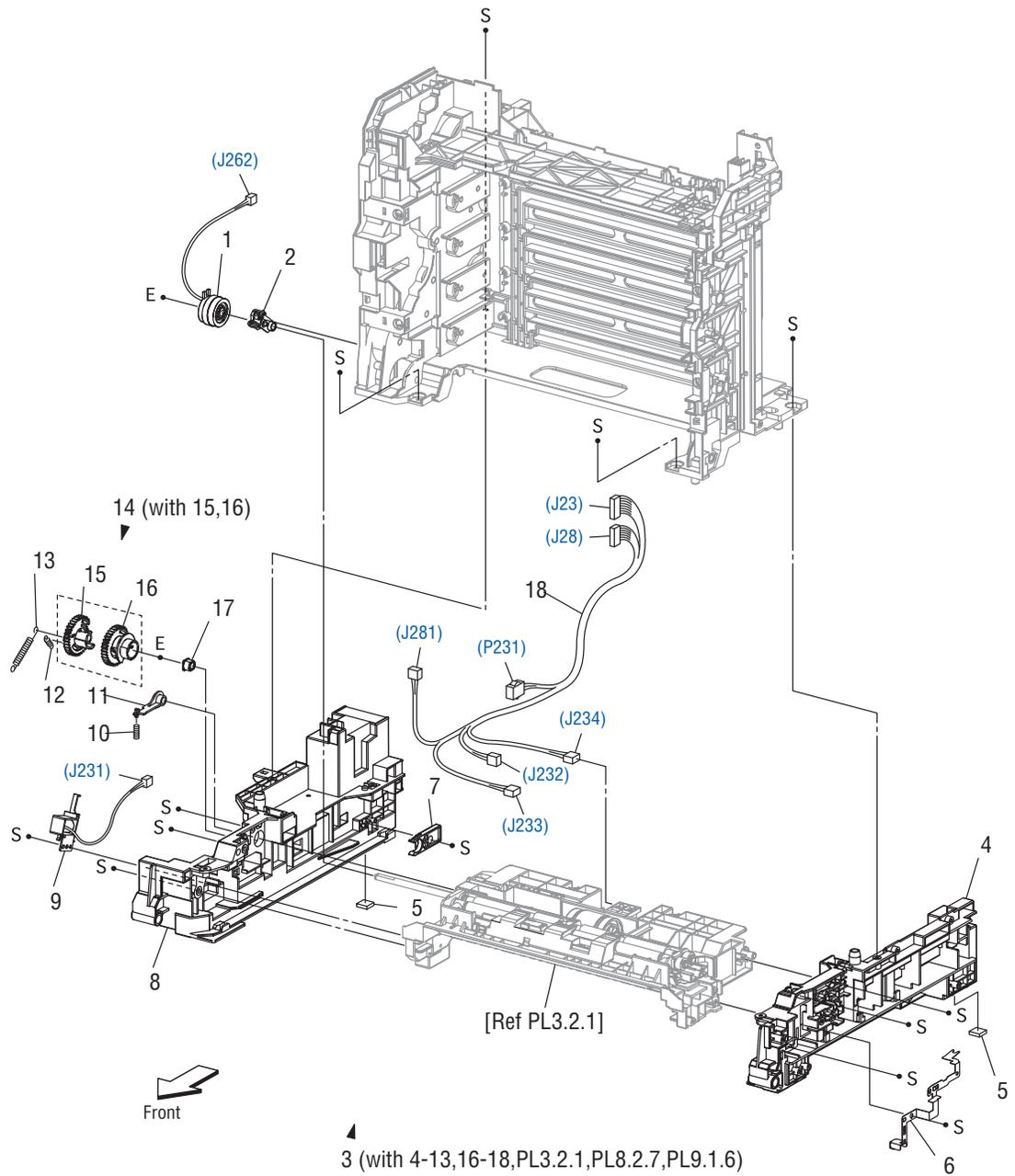


s6130-039

Parts List 2.1 Paper Tray

ID No.	Name/Description	Part Number
1	CASSETTE ASSY 250 (with 2-19)	050K61151
2	PLATE ASSY BOTTOM	—
3	SPRING N/F L	—
4	SPRING N/F R	—
5	SEPARATOR ROLLER ASSEMBLY	019K09470
6	GUIDE SIDE L	—
7	GEAR PINION	—
8	GUIDE SIDE ASSY R	—
9	COVER SSI	—
10	GUIDE SIDE SSI L	—
11	RACK GUIDE SIDE SSI L	—
12	RACK GUIDE SIDE SSI R	—
13	GUIDE SIDE SSI R	—
14	LATCH BOTTOM L	—
15	LATCH BOTTOM R	—
16	SPRING LEVER	—
17	TRAY ASSY EXTENSION	—
18	HOUSING CST 250	—
19	HANDLE CST	—

Parts List 3.1 Paper Feeder (1 of 2)



s6130-040

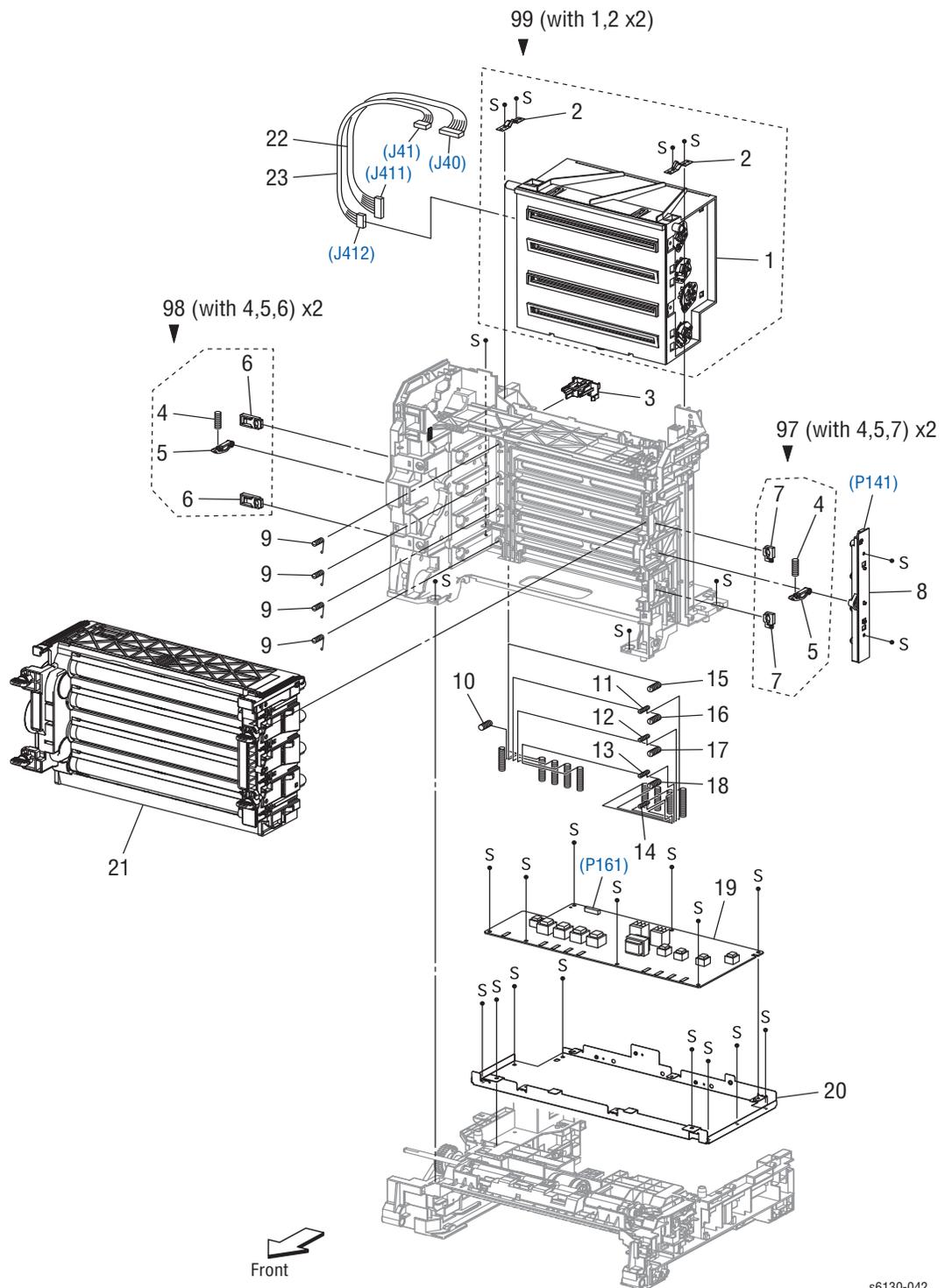
Parts List 3.1 Paper Feeder (1 of 2)

Item	Parts name	Part Number
1	CLUTCH ASSY DRV	—
2	BEARING REGI	—
3	FEEDER ASSY NV (with 4-13,16-18,PL3.2.1,PL8.2.7,PL9.1.6)	059K56390
4	CHASSIS FDR R	—
5	FOOT	—
6	PLATE EARTH PH	—
7	STOPPER CST	003E73341
8	CHASSIS FDR L	—
9	SOLENOID FEED MSI	—
10	SPRING LEVER	—
11	LEVER FEED	—
12	SPRING FEED IN	—
13	SPRING FEED OUT	—
14	GEAR ASSY FEED (with 15,16)	—
15	GEAR FEED OUT	—
16	GEAR FEED IN	—
17	BEARING	—
18	HARN ASSY L SIDE (J23,J28-P231,J232,J233,J234,J281)	962K57541
98	KIT SOLENOID FEED (with 9-14)	675K54150
99	KIT CLUTCH ASSY DRV (with 1,2)	675K54230

Parts List 3.2 Paper Feeder (2 of 2)

Item	Parts name	Part number
1	CHUTE ASSY FDR REGI (with 2-16,20-33)	REF ONLY
2	SHAF ASSY FEED	—
3	ROLL CORE MSI	—
4	ROLL ASSY FEED	059K50731
5	BEARING EARTH	—
6	ACTUATOR REGI OUT	—
7	SPRING REGI OUT	—
8	ACTUATOR REGI ROLL	—
9	ROLL ASSY REGI	—
10	ROLL REGI METAL	—
11	ACTUATOR REGI IN	—
12	SPRING ACT REGI	—
13	SENSOR PHOTO	130E87090
14	ACTUATOR SSI (Manual Feed)	120E27850
15	SPRING ACT SSI	—
16	SPRING STP	—
17	STOPPER ACT	—
18	SPRING ACT NP	—
19	ACTUATOR NO PAPER	—
20	BEARING M EARTH	—
21	BEARING EARTH REGI	—
22	GEAR REGI R	—
23	GEAR REGI M	—
24	SPRING REGI R M	—
25	PLATE EARTH REGI	—
26	CHUTE UP	—
27	CHUTE LOW	—
28	BRACKET SNS	—
29	SPRING REGI L M	—
30	BEARING M	—
31	BEARING R	—
32	ACTUATOR ASSY NO PAPER (with 17-19)	—
33	PLATE WEIGHT	—

Parts List 4.1 Xerographics



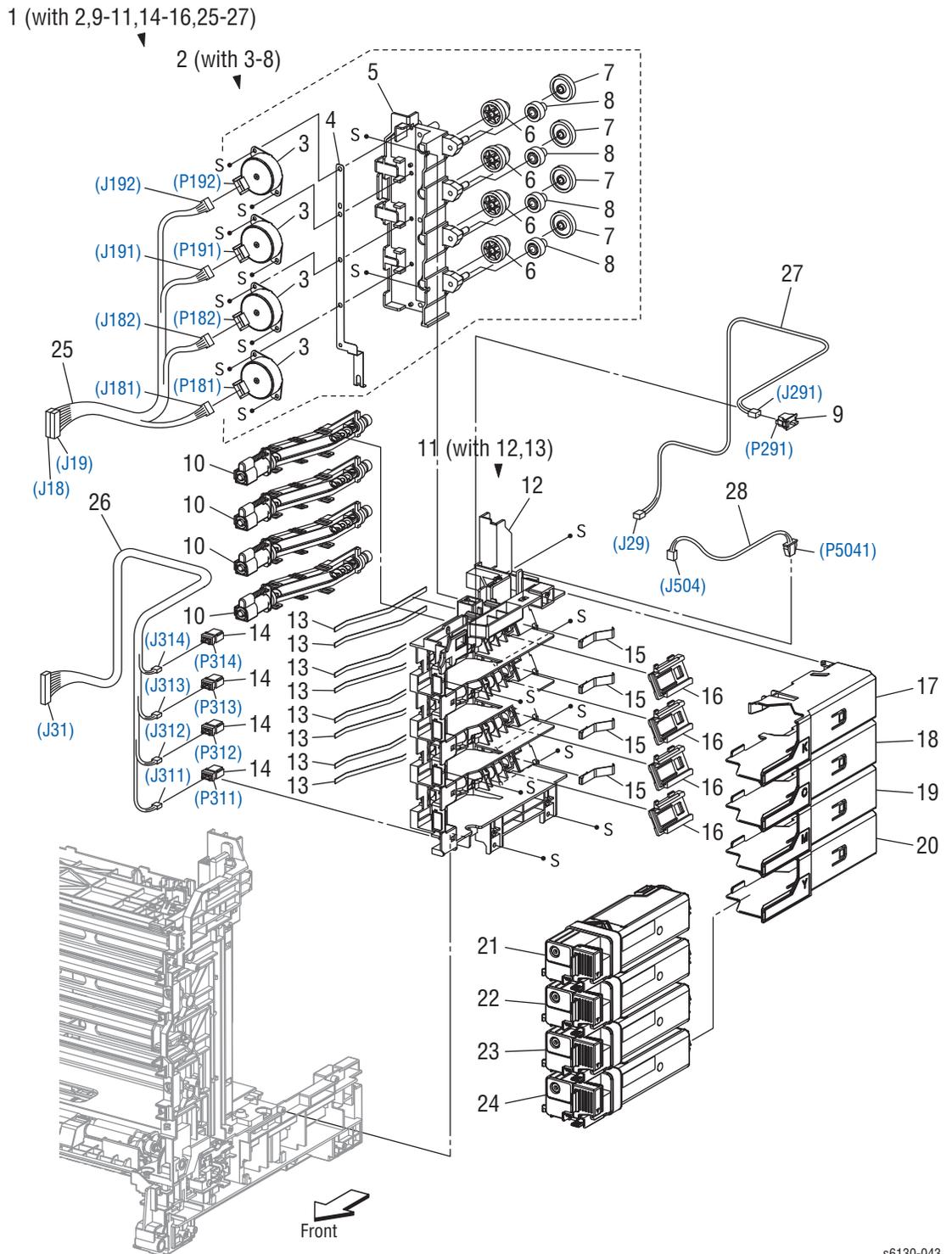
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Parts List 4.1 Xerographics

ID No.	Name/Description	Part Number
1	ROS ASSY (Laser Unit) ^a	—
2	SPRING ROS	—
3	HOLDER CRUM	—
4	SPRING PHD	—
5	LEVER PHD	—
6	BLOCK STOPPER PHD D	—
7	BLOCK STOPPER PHD AD	—
8	LED ASSY ERASE	122K94040
9	SPRING TRACKING	—
10	SPRING CF	—
11	SPRING TR4	—
12	SPRING TR3	—
13	SPRING TR2	—
14	SPRING TR1	—
15	SPRING D4	—
16	SPRING D3	—
17	SPRING D2	—
18	SPRING D1	—
19	PWBA HVPS	105K22661
20	FRAME HVPS	801E01503
21	PHD ASSY (Imaging Unit)	675K69240
22	HARN ASSY ROS RE (J40-J411)	—
23	HARN ASSY ROS VIDEO (J41-J412)	—
97	KIT BLOCK PHD RIGHT (with 4,5,7 × 2pcs)	675K54241
98	KIT BLOCK PHD LEFT (with 4,5,6 × 2pcs)	675K54251
99	KIT ROS (with 1,2 × 2pcs) (Laser Unit kit)	604K43050

a. Use PL4.1.99, Laser Unit kit, when ordering the Laser Unit.

Parts List 5.1 Dispenser

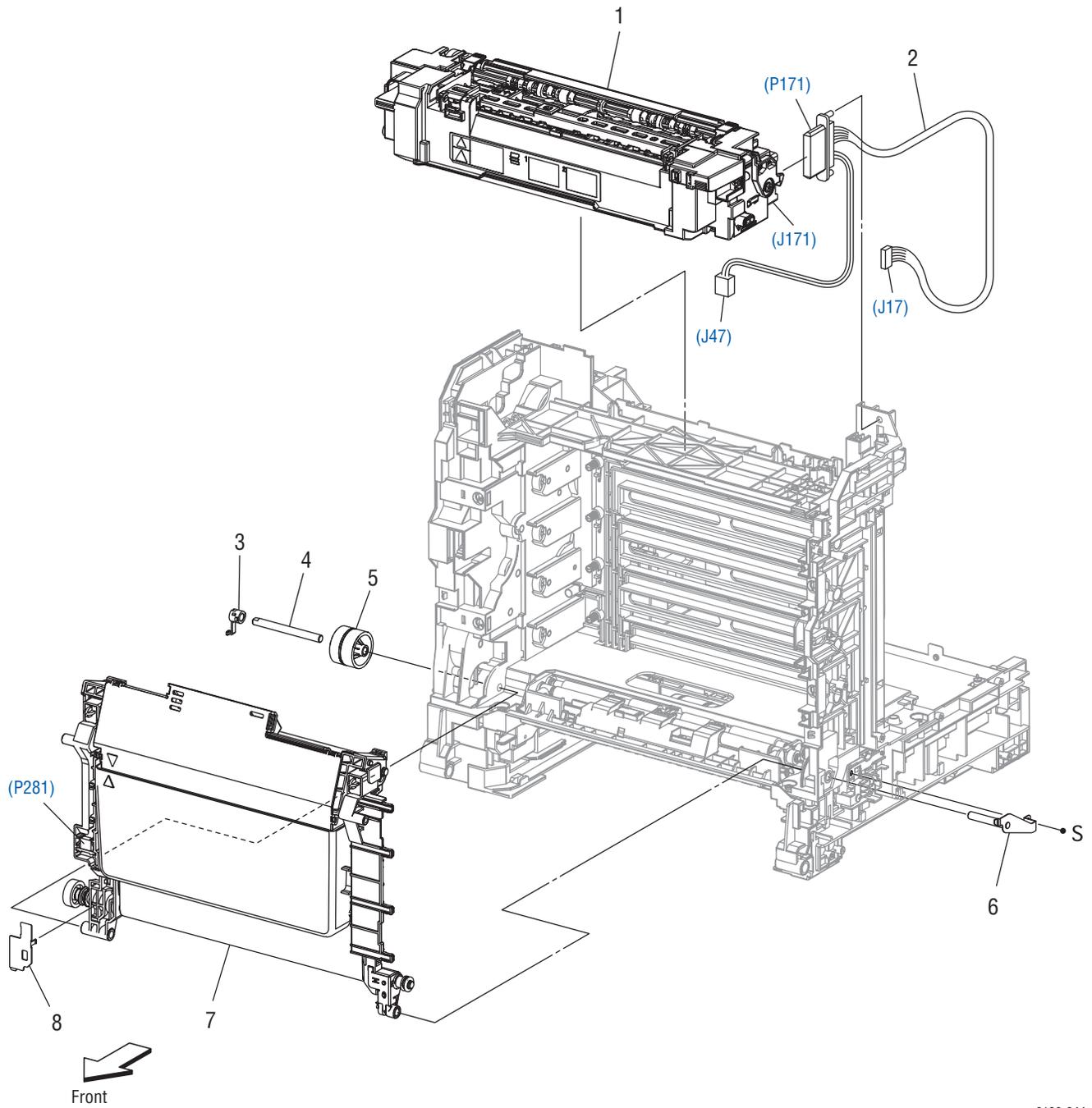


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Parts List 5.1 Dispenser

ID No.	Name/Description	Part Number
1	DISPENSER ASSY (with 2,9-11,14-16,25-27)	094K92290
2	FRAME ASSY MOT (with 3-8)	—
3	MOTOR ASSY DISP	—
4	CONDUCTOR MOTOR	—
5	FRAME MOTOR	—
6	GEAR IDLER	—
7	GEAR IDLER AUG	—
8	GEAR IDLER AGI	—
9	SWITCH (R Side Door)	110E10200
10	HOUSING ASSY AUGER	—
11	FRAME ASSY DISP (with 12,13)	—
12	FRAME DISP	—
13	SEAL DISP AUG	—
14	CONNECTOR CRUM	—
15	SPRING DISP	—
16	JOINT ASSY DISP	—
17	HOLDER TCRU K	604K44920
18	HOLDER TCRU C	604K44930
19	HOLDER TCRU M	604K44940
20	HOLDER TCRU Y	604K44950
21B	TONER CARTRIDGE US/EU 2.5K (K)	675K59231
21C	TONER CARTRIDGE DMO 2.5K (K)	675K59311
21D	TONER CARTRIDGE US/EU (GDI) 6125 (K)	106R01334
21E	TONER CARTRIDGE DMO (GDI) 6125 (K)	106R01338
22B	TONER CARTRIDGE US/EU 2K (C)	675K59241
22C	TONER CARTRIDGE DMO 2K (C)	675K59321
22D	TONER CARTRIDGE US/EU (GDI) 6125 (C)	106R01331
22E	TONER CARTRIDGE DMO (GDI) 6125(C)	106R01335
23B	TONER CARTRIDGE US/EU 2K (M)	675K59251
23C	TONER CARTRIDGE DMO 2K (M)	675K59331
23D	TONER CARTRIDGE US/EU (GDI) 6125 (M)	106R01332
23E	TONER CARTRIDGE DMO (GDI) 6125 (M)	106R01336
24B	TONER CARTRIDGE US/EU 2K (Y)	675K59261
24C	TONER CARTRIDGE DMO 2K (Y)	675K59341
24D	TONER CARTRIDGE US/EU (GDI) 6125 (Y)	106R01333
24E	TONER CARTRIDGE DMO (GDI) 6125 (Y)	106R01337
25	HARN ASSY TNR MOT (J18,J19-J181,J182,J191,J192)	—
26	HARN ASSY TONER CRUM (J31-J311,J312,J313,J314)	—
27	HARN ASSY SIDE SW (J29-J291)	—
28	HARN ASSY TEST RL (J504-P5041)	—

Parts List 6.1 Transfer & Fuser



s6130-044

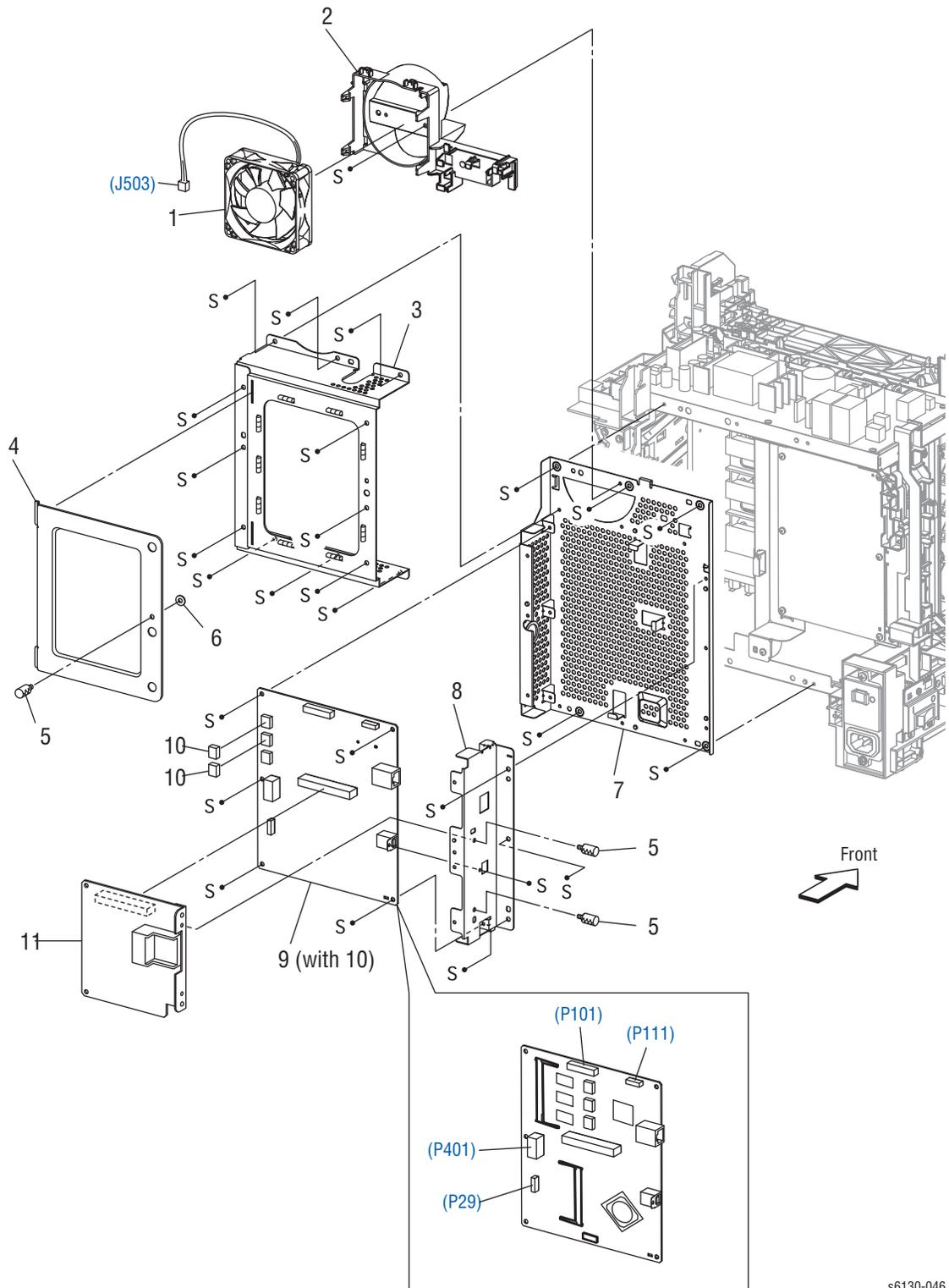
Parts List 6.1 Transfer & Fuser

ID No.	Name/Description	Part Number
1A 1B	Fuser 115V Fuser 220V	126K24951 126K24961
2	Harn Assy Fuser (J17,J47-P171)	—
3	Stopper Pivot	—
4	Pivot Trans L	—
5	Gear T4	—
6	Shaft Assy Pivot	—
7	Transfer (Unit) Belt	848K03270
8	Cover Harness 2	—
99	Kit Pivot (with 3-6)	675K54121

Parts List 7.1 Drive

ID No.	Name/Description	Part Number
1	Drive Assy Sub (Sub Drive Assembly)	007K94691
2	Drive Assy Main (Main Drive Assembly)	007K94685
3	Gear P2	807E15100
4	Drive Assy PH (Feed Drive Assembly)	007K94704

Parts List 8.1 Electrical (1/2)

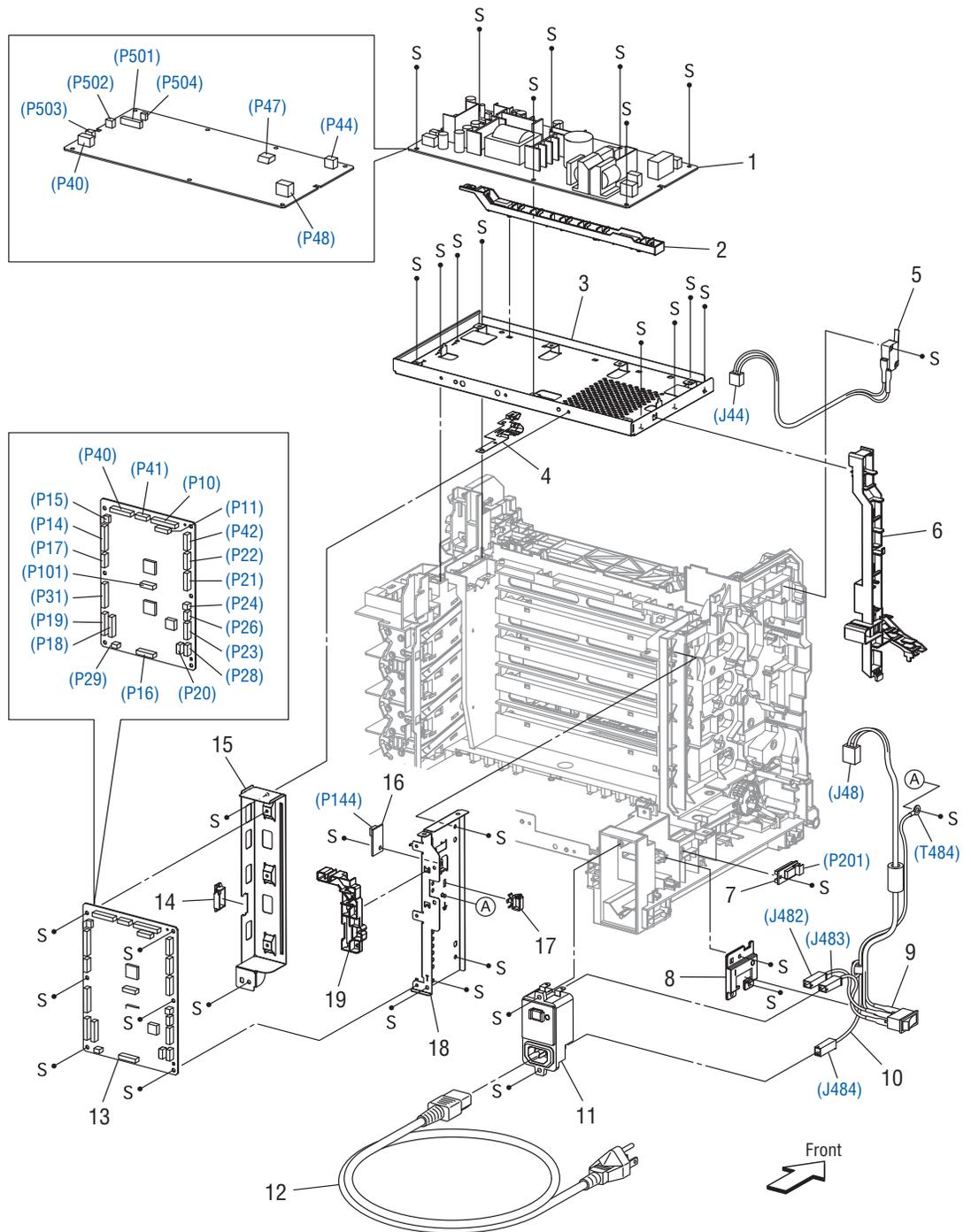


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Parts List 8.1 Electrical (1/2)

ID No.	Name/Description	Part Number
1	FAN	127E85360
2	DUCT FAN	—
3	Shield Assy ESS (Image Processor Shield)	—
4	PLATE ESS	—
5	Screw Knurling	—
6	Washer	—
7	Frame ESS (Image Processor Frame)	—
8	Plate IF	—
9A	PWBA ESS Phaser 6130 (with 10) (I/P Board)	960K36163
9B	PWBA ESS Phaser 6125 (with 10) (I/P Board)	960K38520
10	NVM ROM	REF ONLY
11	MULTI PROTOCOL CARD (OPTION)	097S03745

Parts List 8.2 Electrical (2/2)

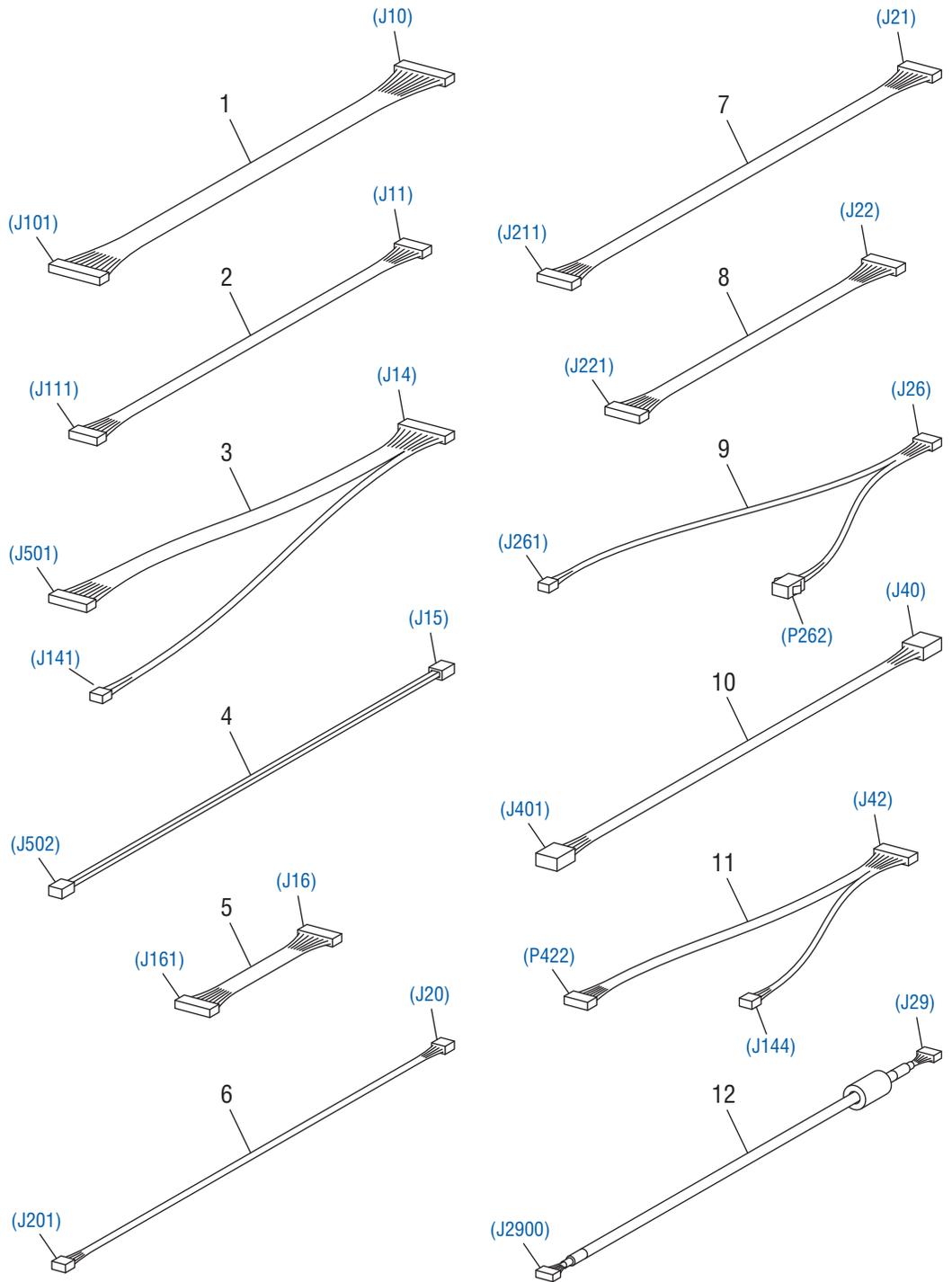


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Parts List 8.2 Electrical (2/2)

ID No.	Name/Description	Part Number
1A	PWBA LVPS 100V	105K22382
1B	PWBA LVPS 200V	105K22721
2	Guide Harness Fsr	—
3	Frame Assy LVPS	—
4	Plate Earth	—
5	Harn Assy Interlock (SW-J44) (Front Cover)	962K52120
6	Guide Harness AC	—
7	Sensor Hum (Humidity Sensor)	130E93460
8	Bracket SW	—
9 A	HARN ASSY SW PWR (SW-J48,J482,J483) 100V	962K62110
9 B	HARN ASSY SW PWR (SW-J48,J482,J483) 200V	962K62120
10	HARN ASSY GFI GND (J484-T484)	—
11	BREAKER GFI	908W01201
12 A	Power Cord 110V	675K17830
12 B	Power Cord 220V	675K17660
13	PWBA MCU	960K36420
14	EDGING SADDLE	—
15	BRACKET MCU R	—
16	PWBA EEPROM (XPRO)	960K32640
17	CLAMP	—
18	BRACKET MCU L	—
19	GUIDE HARNESS MCU	—

Parts List 9.1 Wiring Harness



s6130-048

Parts List 9.1 Wiring Harness

ID No.	Name/Description	Part Number
1	Harn Assy ESS (Image Processor) (J10-J101)	—
2	Harn Assy ESS (Image Processor) Video (J11-J111)	—
3	Harn Assy LVPS (J14-J141,J501)	—
4	Harn Assy 24V (J15-J502)	—
5	Harn Assy HVPS (J16-J161)	—
6	Harn Assy HUM (J20-J201)	—
7	Harn Assy Main Mot (J21-J211)	—
8	Harn Assy Sub Mot (J22-J221)	—
9	Harn Assy KSNR REGCL (J26-J261,P262)	—
10	Harn Assy ESS (Image Processor) Power (J40-J401)	—
11	Harn Assy PHD XPRO (J42-J144,P422)	—
12	Harness Assy B (J29-J2900)	—

Xerox Supplies and Accessories

World Kit/Documentation

Description	Part Number
World Kit	650K29210

Consumable and Maintenance Items

Parts List Reference	Description	Part Number
PL5.1.21B	Toner Cartridge US/EU 2.5K (K)	675K59231
PL5.1.21C	Toner Cartridge DMO 2.5K (K)	675K59311
PL5.1.22B	Toner Cartridge US/EU 2.5K (C)	675K59241
PL5.1.22C	Toner Cartridge DMO 2.5K (C)	675K59321
PL5.1.23B	Toner Cartridge US/EU 2.5K (M)	675K59251
PL5.1.23C	Toner Cartridge DMO 2.5K (M)	675K59331
PL5.1.24B	Toner Cartridge US/EU 2.5K (Y)	675K59261
PL5.1.24C	Toner Cartridge DMO 2.5K (Y)	675K59341

Customer-replaceable Service Items

Parts List Reference	Description	Part Number
PL6.1.1A	Fuser 115V	126K24951
PL6.1.1B	Fuser 220V	126K24961
PL4.1.21	Imaging Unit	675K59860
PL3.2.4	Feed Roller Assembly	059K50731
PL2.1.05	Separator Roller Assembly	019K09470

Options

Parts List Reference	Description	Part Number
PL9.1.30	512 MB DDR2 Memory (1x 512 MB)	604K48400
	256 MB DDR2 Memory (1x 256 MB)	604K48180
PL8.1.11	Multi-Protocol Network Card	097S03745

Power Cords

Description	Part Number
Power Cord, North America (NEMA 5-15), 125 V, 13A	117E35170
Power Cord, Italy, 230 V	117E29450
Power Cord, Denmark, 230 V	117E29460
Power Cord, India/South Africa, 230 V	117E29470
Power Cord, Israel, 230 V	117E29480
Power Cord, Australia, 230 V	117E29490
Power Cord, Euro, 230 V	117E29500
Power Cord, UK, 240 V	117E29510
Power Cord, China, 220 V	117E35030
Power Cord, Argentina, 220 V	117E35040
Power Cord, Switzerland, 230 V	117E35050

Service Kits

Service Kits are developed to provide an easy means to obtain spare parts normally associated with larger assemblies. The following tables list the contents for each kit.

Kits

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, 110V	100S64594
	Packaging Kit, 220V	100S64595
—	Packaging Kit, DMO 110V	100S64644
	Packaging Kit, DMO 220V	100S64645

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

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. Use these illustrations to locate connections 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
10	4	I-156	Connects MCU Board and Image Processor Harness Assy
11	4	I-156	Connects MCU Board and Image Processor Video Harness Assy
12	3	E-138	Connects Image Processor Board and Network Adaptor
14	4	H-157	Connects MCU Board and LVPS Harness Assy
15	4	H-156	Connects MCU Board and 24V Harness Assy
16	4	I-158	Connects MCU Board and HVPS Harness Assy
17	4	H-157	Connects MCU Board and Fuser Harness Assy
18	4	H-158	Connects MCU Board and TNR Motor Harness Assy
19	4	H-158	Connects MCU Board and TNR Motor Harness Assy
20	4	J-158	Connects MCU Board and HUM Harness Assy
21	4	J-157	Connects MCU Board and Main Motor Harness Assy
22	4	J-157	Connects MCU Board and Sub Motor Harness Assy
23	4	J-158	Connects MCU Board and L Side Harness Assy

Print Engine Plug/Jack Designators (continued)

P/J	Map	Coordinates	Remarks
24	4	J-158	Connects MCU Board and Feeder Drive Assy (Color Mode Switching Solenoid)
26	4	J-158	Connects MCU Board and Ksnr Regcl Harness Assy
28	4	J-158	Connects MCU Board and L Side Harness Assy
29	3	C-139	Connects Image Processor Board and B Harness Assy
29	4	I-158	Connects MCU Board and Side Switch Harness Assy
31	4	H-157	Connects MCU Board and Toner CRUM Harness Assy
40	3	C-136	Connects LVPS Board and Image Processor Power Harness Assy
40	4	I-156	Connects MCU Board and Laser Unit RE Harness Assy
41	4	I-156	Connects MCU Board and Laser Unit Video Harness Assy
42	4	J-157	Connects MCU Board and Imaging Unit XPRO Harness Assy
44	3	G-136	Connects LVPS Board and Interlock Switch
47	3	F-136	Connects LVPS Board and Fuser Harness Assy
48	3	G-137	Connects LVPS Board and Power Switch Harness Assy
101	3	D-138	Connects Image Processor Board and Image Processor Harness Assy
101	4	I-157	Not Connect (Debug only)
111	3	E-138	Connects Image Processor Board and Image Processor Video Harness Assy
141	1	G-107	Connects Erase LED Assy and LVPS Harness Assy
144	4	G-151	Connects PWBA EEPROM and Imaging Unit XPRO Harness Assy
161	4	F-153	Connects PWBA HVPS and HVPS Harness Assy
171	1	H-106	Connects FUSER and Fuser Harness Assy
181	4	C-152	Connects Dispenser Assy (Y-Dispenser Motor Assy) and TNR Motor Harness Assy
182	4	C-151	Connects Dispenser Assy (M-Dispenser Motor Assy) and TNR Motor Harness Assy
191	4	C-151	Connects Dispenser Assy (C-Dispenser Motor Assy) and TNR Motor Harness Assy
192	4	C-150	Connects Dispenser Assy (K-Dispenser Motor Assy) and TNR Motor Harness Assy

Print Engine Plug/Jack Designators (continued)

P/J	Map	Coordinates	Remarks
201	3	H-140	Connects NV Feeder Assy (HUM Sensor) and HUM Harness Assy
211	3	J-138	Connects Main Drive Assy (Main Motor) and Main Motor Harness Assy
220	1	E-106	Connects Control Panel Assy and A-OP Harness Assy
221	3	H-138	Connects Sub Drive Assy (Sub Motor) and Sub Motor Harness Assy
231	2	C-125	Connects NV Feeder Assy (Feed Solenoid) and L Side Harness Assy
232	2	F-125	Connects NV Feeder Assy (REGI SensorI) and L Side Harness Assy
233	2	G-125	Connects NV Feeder Assy (SSI No Paper Sensor) and L Side Harness Assy
234	2	F-124	Connects NV Feeder Assy (Tray No Paper Sensor) and L Side Harness Assy
261	3	H-139	Connects Feeder Drive Assy (Color Mode Switching Sensor) and Ksnr Regcl Harness Assy
262	3	I-139	Connects Drive Clutch Assy and Ksnr Regcl Harness Assy
281	1	C-108	Connects Transfer Belt (ADC SNR2 Harness Assy) and L Side Harness Assy
291	1	H-107	Connects Dispenser Assy (Toner Access Door Switch) and Side Switch Harness Assy
311	1	H-110	Connects Dispenser Assy (Connector CRUM Y) and Toner CRUM Harness Assy
312	1	H-109	Connects Dispenser Assy (Connector CRUM M) and Toner CRUM Harness Assy
313	1	H-108	Connects Dispenser Assy (Connector CRUM C) and Toner CRUM Harness Assy
314	1	H-108	Connects Dispenser Assy (Connector CRUM K) and Toner CRUM Harness Assy
401	3	C-139	Connects Image Processor Board and Image Processor Power Harness Assy
411	2	D-122	Connects ROS ASSY and Laser Unit RE Harness Assy
412	2	D-123	Connects ROS ASSY and Laser Unit Video Harness Assy
422	4	G-150	Connects Imaging Unit (Eeprom Imaging Unit) and Imaging Unit XPRO Harness Assy
482	3	G-140	Connects GFI Breaker and Power Switch Harness Assy

Print Engine Plug/Jack Designators (continued)

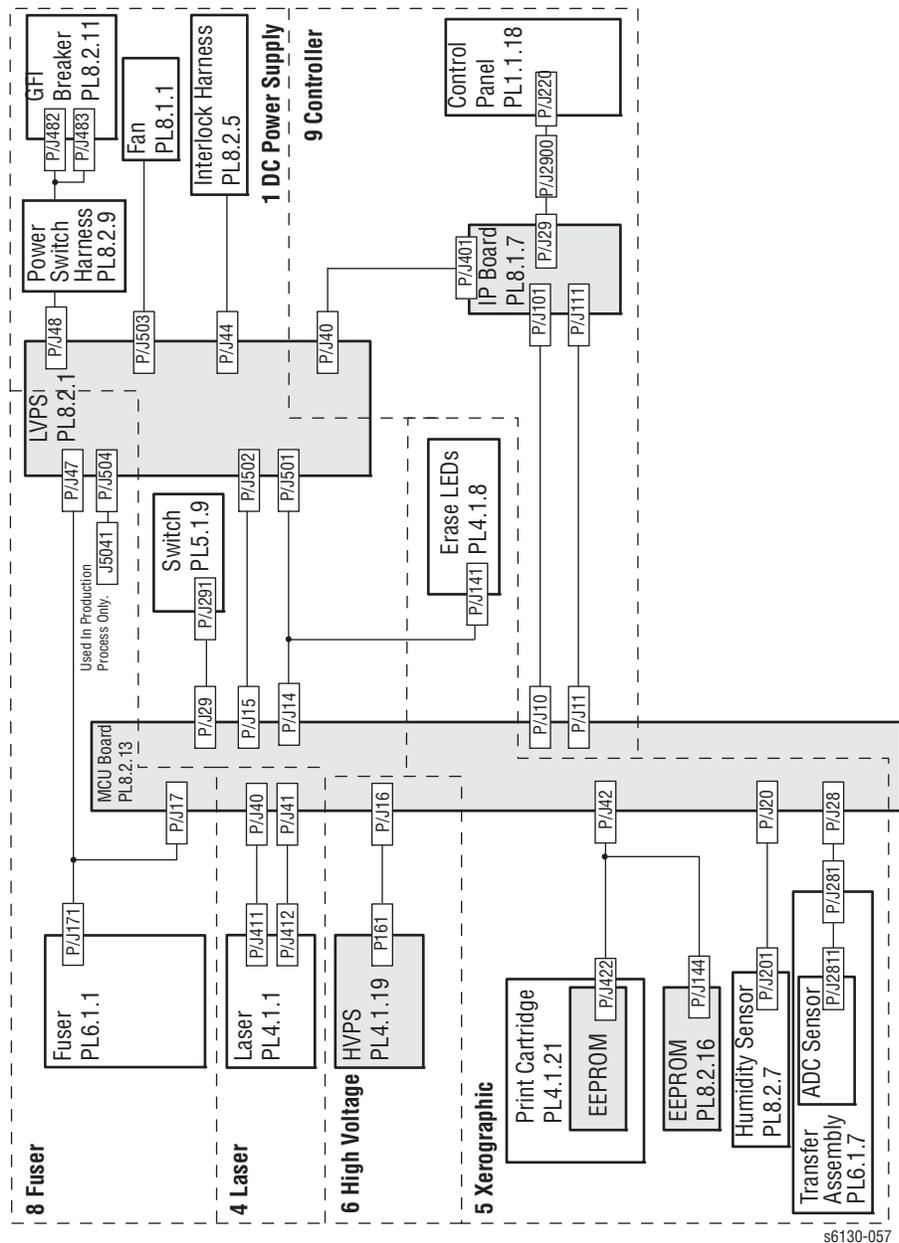
P/J	Map	Coordinates	Remarks
483	3	G-140	Connects GFI Breaker and Power Switch Harness Assy
484	3	G-141	Connects GFI Breaker and GFI Ground Harness Assy
501	3	D-136	Connects LVPS Board and LVPS Harness Assy
502	3	C-136	Connects LVPS Board and 24V Harness Assy
503	3	C-136	Connects LVPS Board and FAN
504	3	D-136	Connects LVPS Board and RL Test Harness Assy
2811	1	D-107	Connects ADC Sensor and ADC SNR2 Harness Assy (Transfer Belt)
5041	1	I-107	No Connection (Used in production process only)
2200/ 2900	1	H-111	Connects A-OP Harness Assy and B Harness Assy

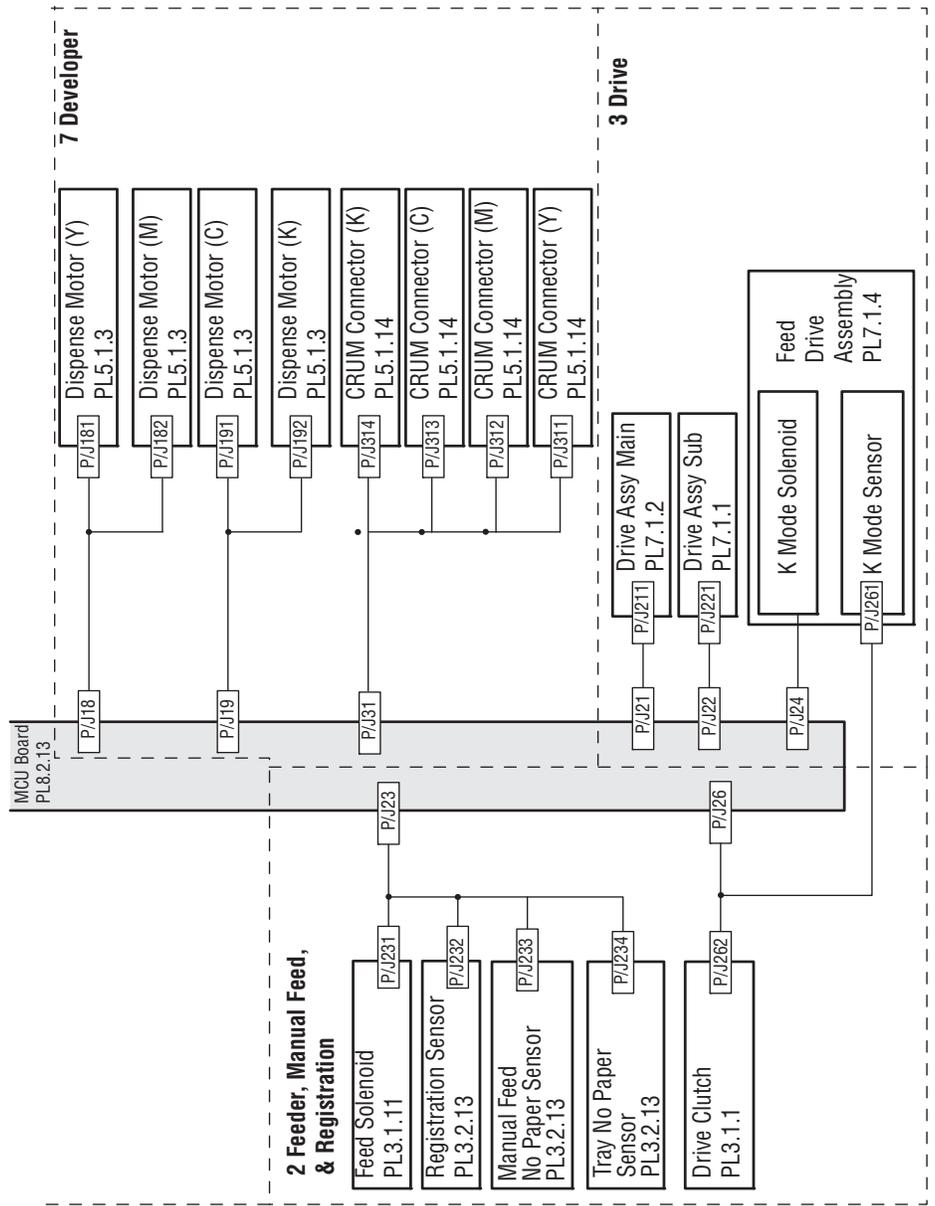
Plug/Jack Locators

Maps 1 through 4 indicate the location of key connections within the printer. Connections are referenced by their P/J designation.

1. General Diagram - Plug/Jack Locations
2. Map 1 - Transfer Unit, Control Panel, Imaging Unit, Dispenser, Fuser
3. Map 2 - Laser Unit, Feeder Assembly
4. Map 3 - LVPS, Drive Motors, I/P Board, AC Power
5. Map 4 - Toner Dispenser Motors, HVPS, MCU

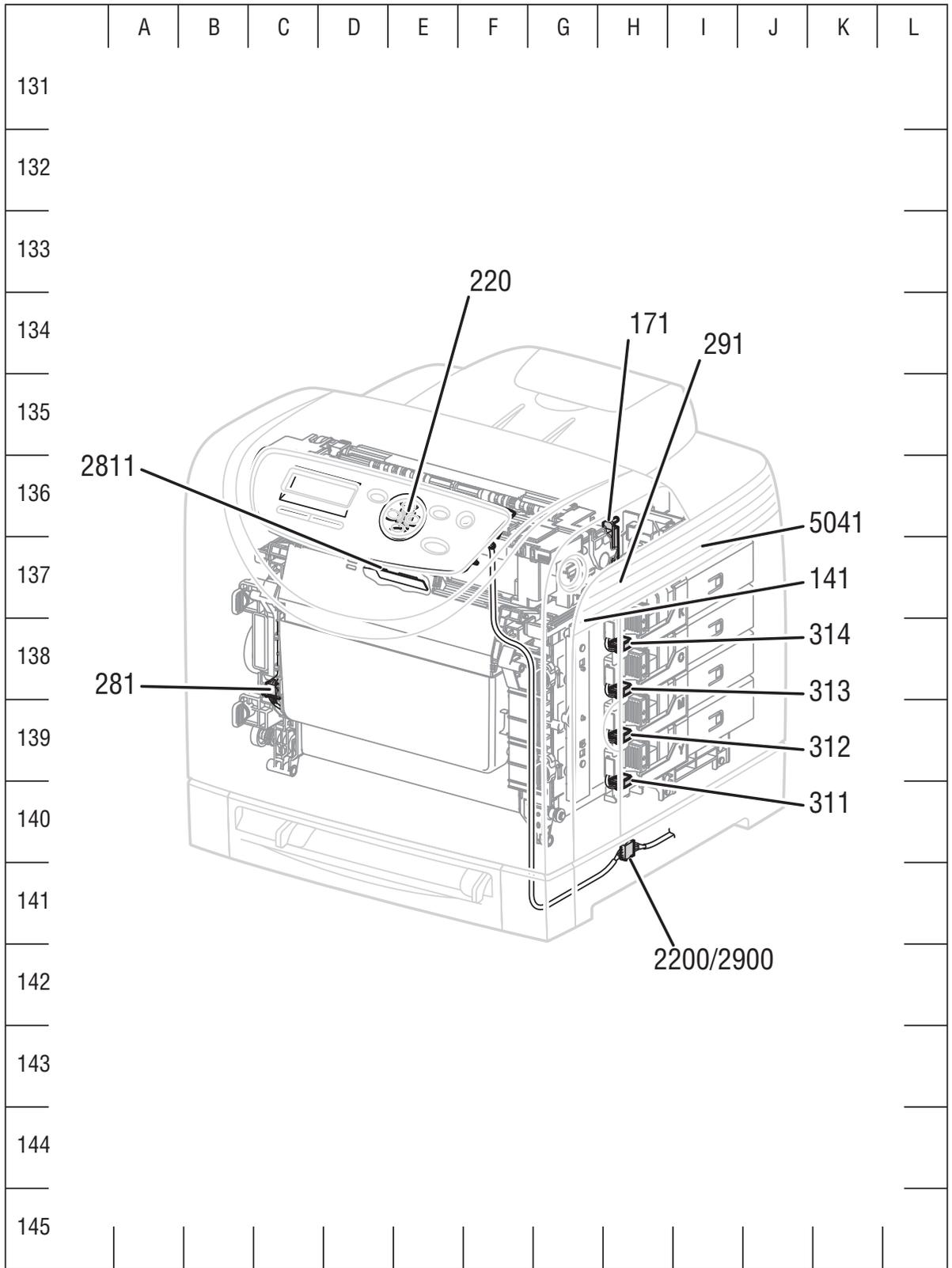
General Diagram - Plug/Jack Locations





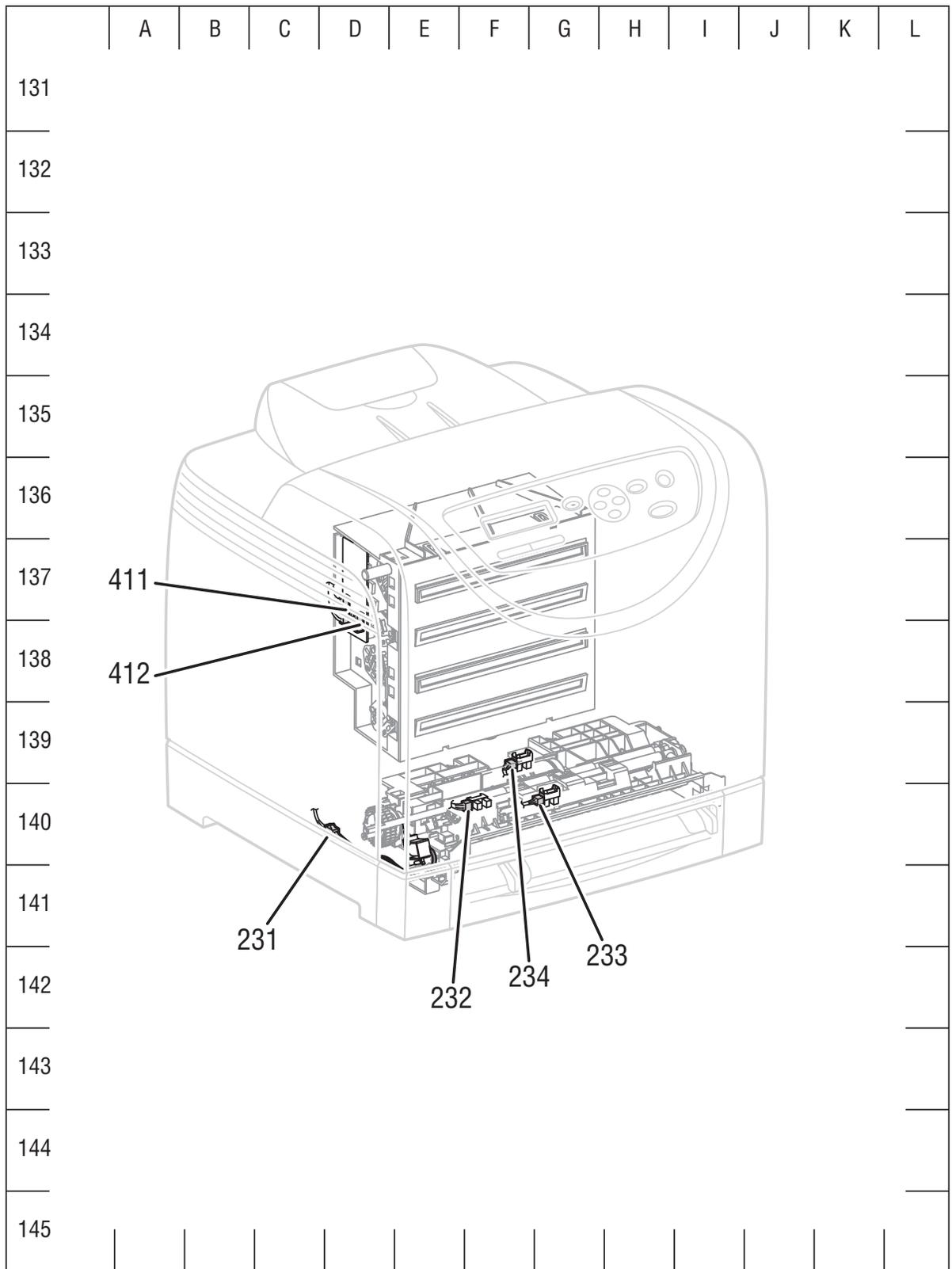
s6130-058

Map 1 - Transfer Unit, Control Panel, Imaging Unit, Dispenser, Fuser



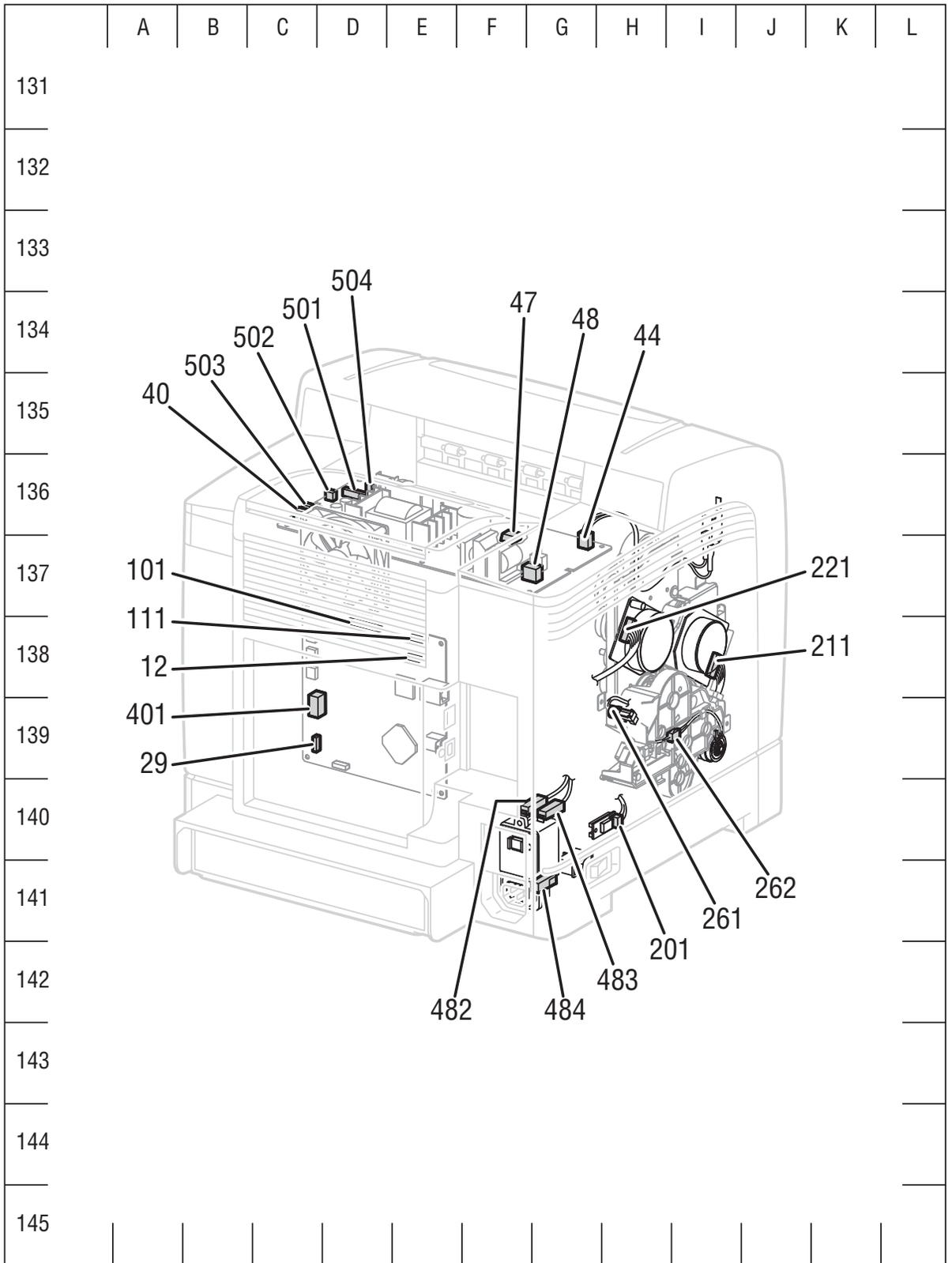
s6130-053

Map 2 - Laser Unit, Feeder Assembly



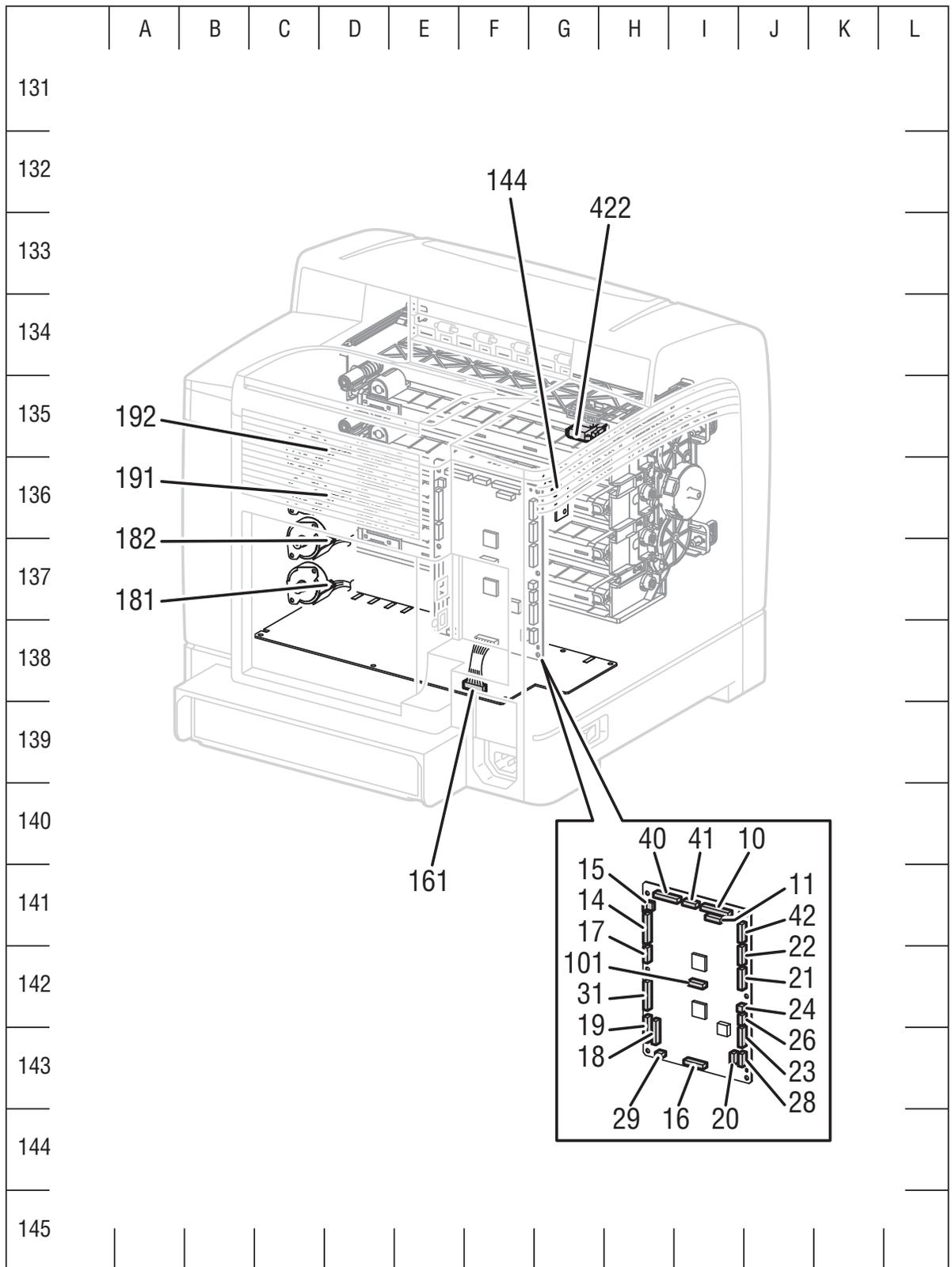
s6130-054

Map 3 - LVPS, Drive Motors, I/P Board, AC Power



s6130-055

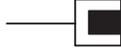
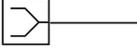
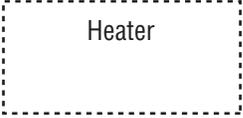
Map 4 - Toner Dispenser Motors, HVPS, MCU

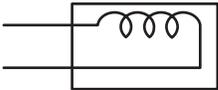
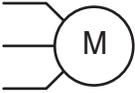


s6130-056

Notations Used in the Wiring Diagrams

The following table lists the symbols used in the wiring diagrams.

Symbol	Description
 <p>s6180-467</p>	Denotes a Plug.
 <p>s6180-468</p>	Denotes a Jack.
<p>P/Jxx</p>  <p>s6180-469</p>	Denotes Pin yy and Jack yy of the connector Pxx and Jxx.
<p>JPxxx</p>  <p>s6180-470</p>	Denotes a Jumper Point (JPxxx/xxx). Each end of the Jumper connection has a numeric designation.
 <p>s6180-471</p>	Denotes the parts. PL X.Y.Z implies the item "Z" of plate (PL) "X.Y" in Parts List.
 <p>s6180-472</p>	Denotes functional parts attached with functional parts name.

Symbol	Description
	Denotes the control and its outline in the Board.
s6180-473	
	Denotes a connection between parts with harness or wires, attached with signal name/ contents.
s6180-474	
	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.
s6180-475	
	Denotes the function, and logic value of the signal when the function operated (Low: L, High: H). The given voltage is for signal in high status. The arrow indicates the direction of signal.
s6180-476	
	Denotes a connection between wires.
s6180-477	
	Denotes a Clutch or Solenoid.
s6180-464	
	Denotes a Motor.
s6180-465	

Symbol	Description
 <p>s6180-466</p>	Denotes a Photo Sensor.
 <p>s6180-480</p>	Denotes an LED.
 <p>s6180-481</p>	Denotes a Safety Interlock Switch.
 <p>s6180-482</p>	Denotes an On-Off Switch (single-pole, single-throw switch).
 <p>s6180-484</p>	Denotes an On-Off Switch (Temperature - normally close).
 <p>s6180-483</p>	Denotes an NPN Photo-transistor.
I/L +24 VDC	Denotes DC voltage when the Interlock Switch in MCU Board turns On.
+5 VDC +3.3 VDC	Denotes DC voltage.
SG	Denotes signal ground.
AG	Denotes analog ground.
RTN	Denotes return.

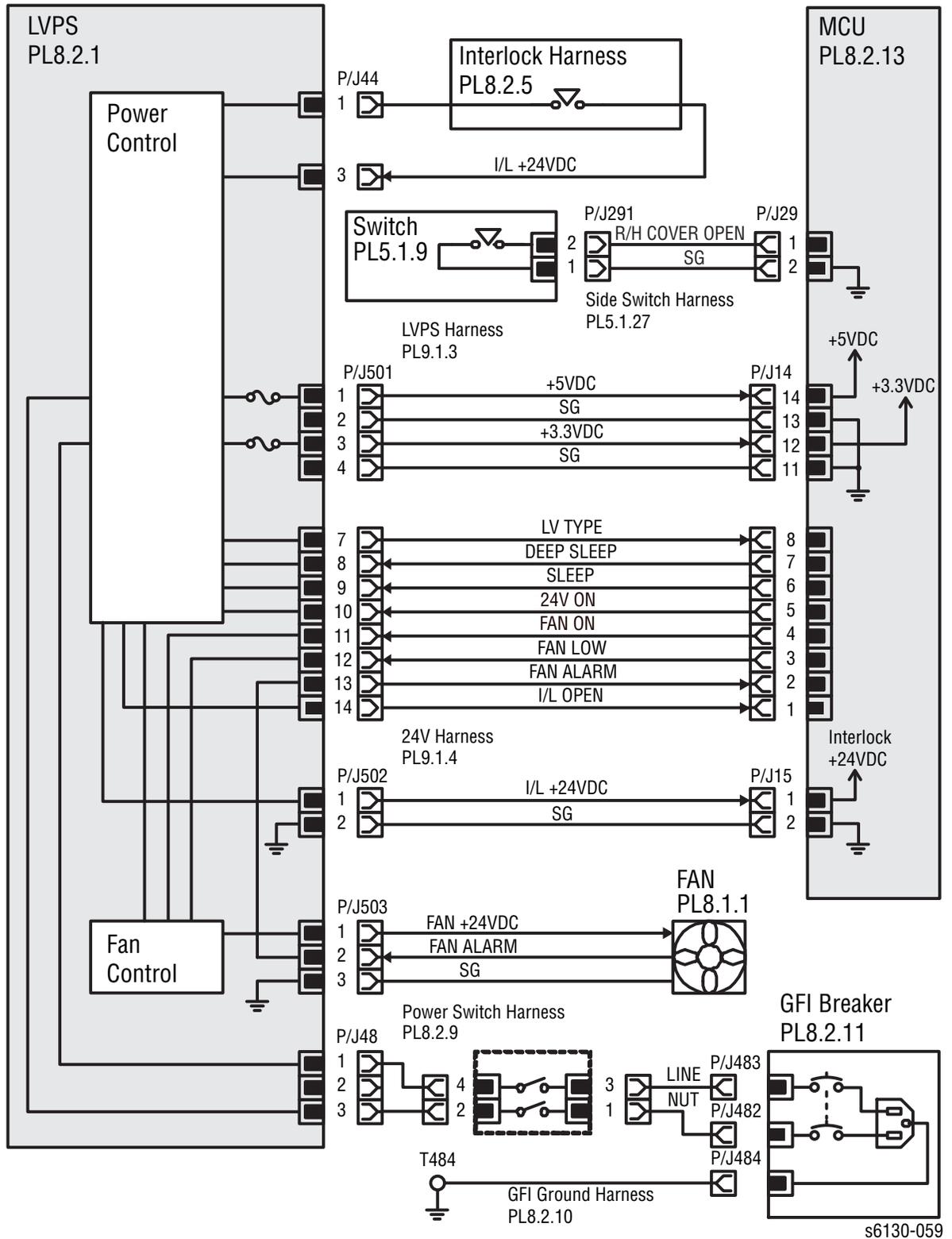
Print Engine Wiring Diagrams

Wiring Diagrams Configurations

Wiring Diagram	Description
DC Power Supply	Connections of LVPS with MCU Board.
	Connections of Power Switch with LVPS.
	Connections of GFI Breaker with Power Switch.
	Connections of Main Fan with LVPS.
	Connections of Interlock Harness with LVPS.
	Connections of RH Cover Switch with MCU Board.
Feeder, Manual Feed, & Registration	Connections of Feed Solenoid with MCU Board.
	Connections of Registration Sensor with MCU Board.
	Connections of Manual Feed (SSI) No Paper Sensor with MCU Board.
	Connections of CST No Paper Sensor with MCU Board.
	Connections of Drive Clutch with MCU Board.
Drive	Connections of Feeder Drive with MCU Board.
	Connections of Main Drive with MCU Board.
	Connections of Sub-Drive with MCU Board.
Laser Unit (ROS)	Connections of Laser Unit with MCU Board.
Xerographic	Connections of EEPROM Board with MCU Board.
	Connections of Imaging Unit (PHD) with MCU Board.
	Connections of Humidity/Temperature Sensor with MCU Board.
	Connections of Erase LEDs and MCU Board.
	Connections of Transfer Unit with MCU Board.
High Voltage	Connections of HVPS with MCU Board.
Developer	Connections of Dispenser Motor (Y) with MCU Board.
	Connections of Dispenser Motor (M) with MCU Board.
	Connections of Dispenser Motor (C) with MCU Board.
	Connections of Dispenser Motor (K) with MCU Board.
	Connections of CRUM Connector (Y) with MCU Board.
	Connections of CRUM Connector (M) with MCU Board.
	Connections of CRUM Connector (C) with MCU Board.
	Connections of CRUM Connector (K) with MCU Board.

Wiring Diagram	Description
Fuser	Connections of Fuser with MCU Board.
	Connections of Fuser with LVPS.
	Connections of MCU Board with LVPS.
Controller	Connections of Image Processor Board (ESS) with MCU Board.
	Connections of Control Panel with Image Processor Board.
	Connections of LVPS with Image Processor Board.

DC Power Supply



Signal Line Name	Description
LV TYPE	Controls signal of the LVPS.
DEEP SLEEP	
SLEEP	
24 V ON	
FAN ON	Drives control signal of the Main Fan.
FAN LOW	
FAN ALARM	

LVPS Over-Current Protection Circuit

This circuit stops all outputs if 3.3 VDC, 5 VDC, or 24 VDC is shorted.

LVPS Over-Voltage Protection Circuit

This circuit stops all outputs, if 3.3 VDC, 5 VDC, or 24 VDC exceeds the specified voltage respectively.

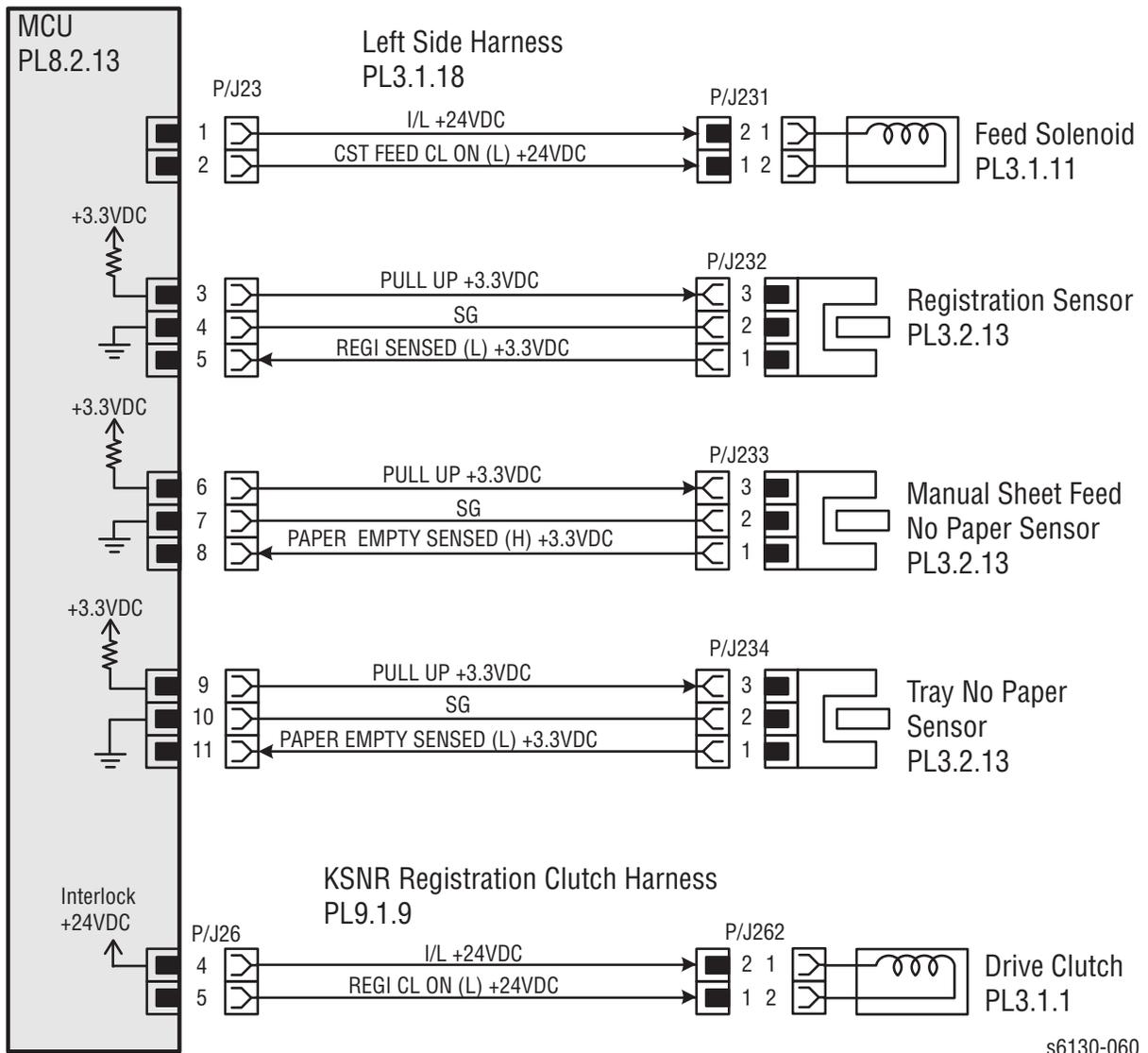
At this time, the operating point is 36 VDC or less for 24 VDC, 7 VDC or less for 5 VDC and 3.3 VDC.

Deep Sleep Mode (Power Saver)

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

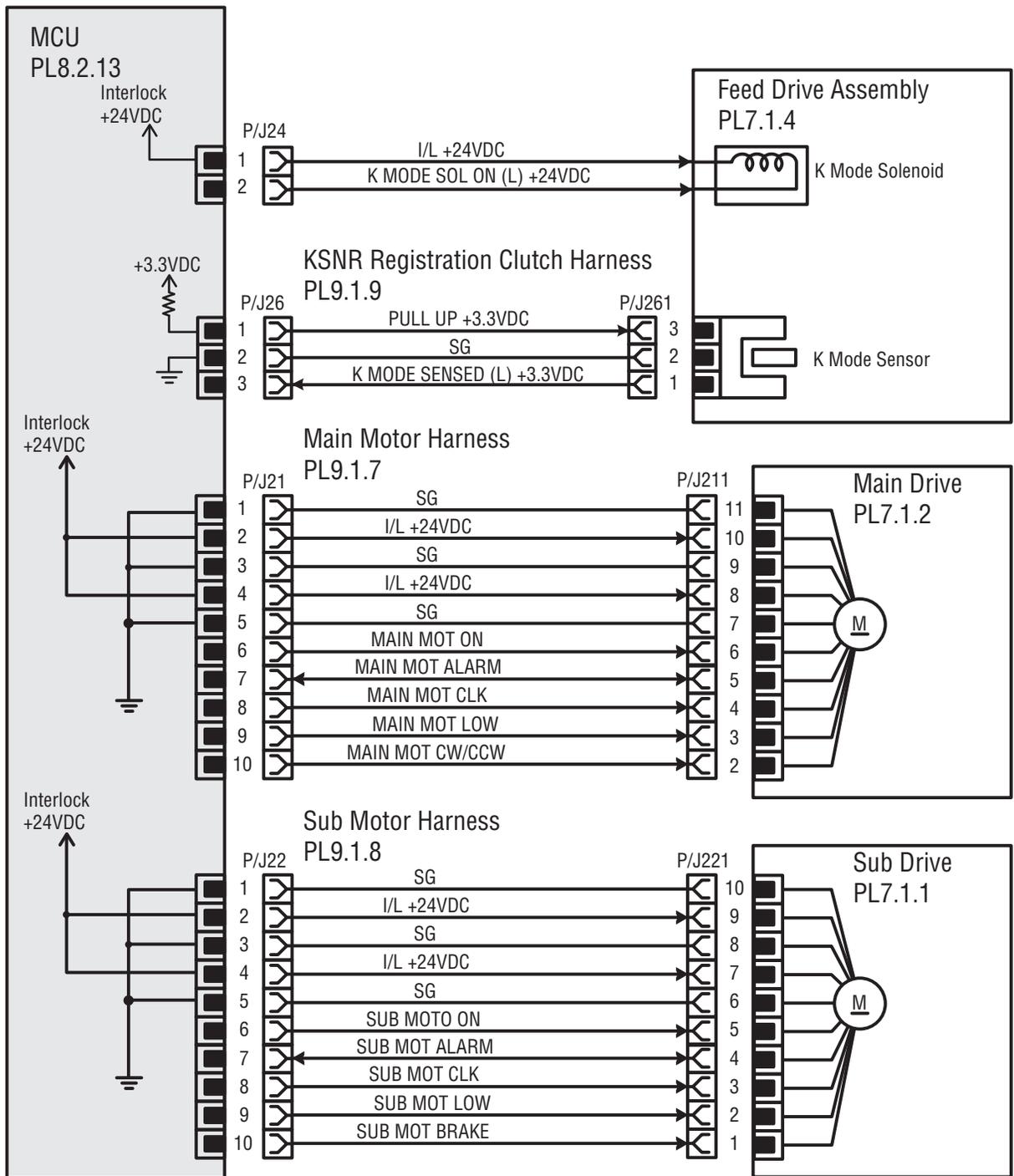
Signal	+3.3 VDC	+5 VDC	+24 VDC
Sleep	On	Off	Off
Deep Sleep	Off	Off	Off

Feeder, Manual Feed, & Registration



Signal Line Name	Description
CST FEED CL ON (L) +24VDC	ON/OFF signal of the Feed Solenoid
REGI SENSED (L) +3.3VDC	Paper detect signal of the Registration area by the Photo Sensor (Registration Sensor).
PAPER EMPTY SENSED (H) +3.3VDC	Paper detect signal of the Manual Feed by the Photo Sensor (SSI No Paper Sensor).
PAPER EMPTY SENSED (L) +3.3VDC	Paper detect signal of the Paper Tray by the Photo Sensor (CST No Paper Sensor).
REGI CL ON (L) +24VDC	ON/OFF signal of the Drive Clutch.

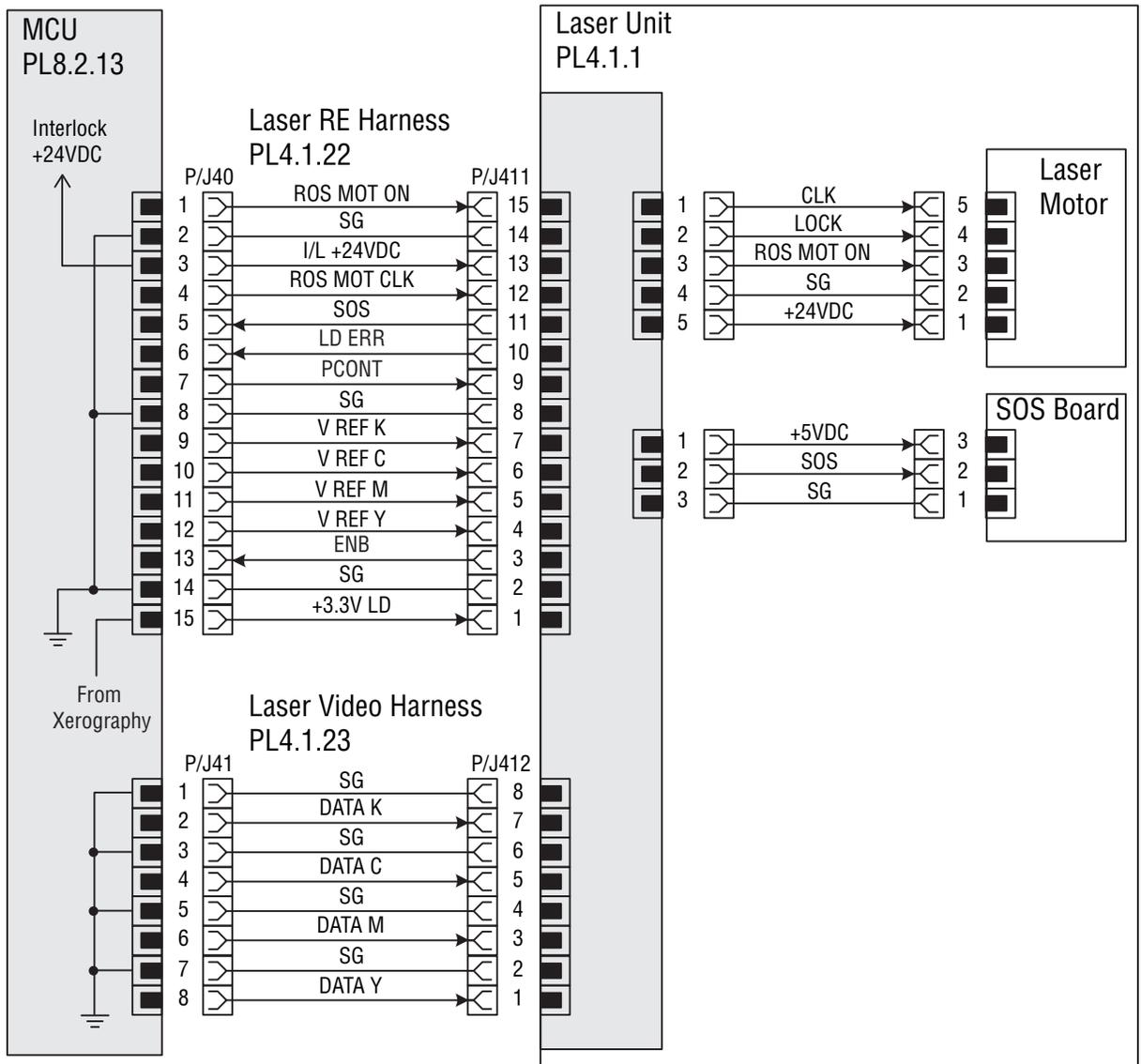
Drive



s6130-061

Signal Line Name	Description
K MODE SOL ON (L) +24VDC	ON/OFF signal of the Color Mode Switching Solenoid
K MODE SENSED (L) +3.3VDC	Color mode detect signal of the Feeder Drive by the Sensor Photo (Color Mode Switching Sensor)
MAIN MOT ON	Drive control signal of the Main Drive
MAIN MOT ALARM	
MAIN MOT CLK	
MAIN MOT LOW	
MAIN MOT CW/CCW	
SUB MOT ON	Drive control signal of the Sub Drive
SUB MOT ALARM	
SUB MOT CLK	
SUB MOT LOW	
SUB MOT BRAKE	

Laser Unit

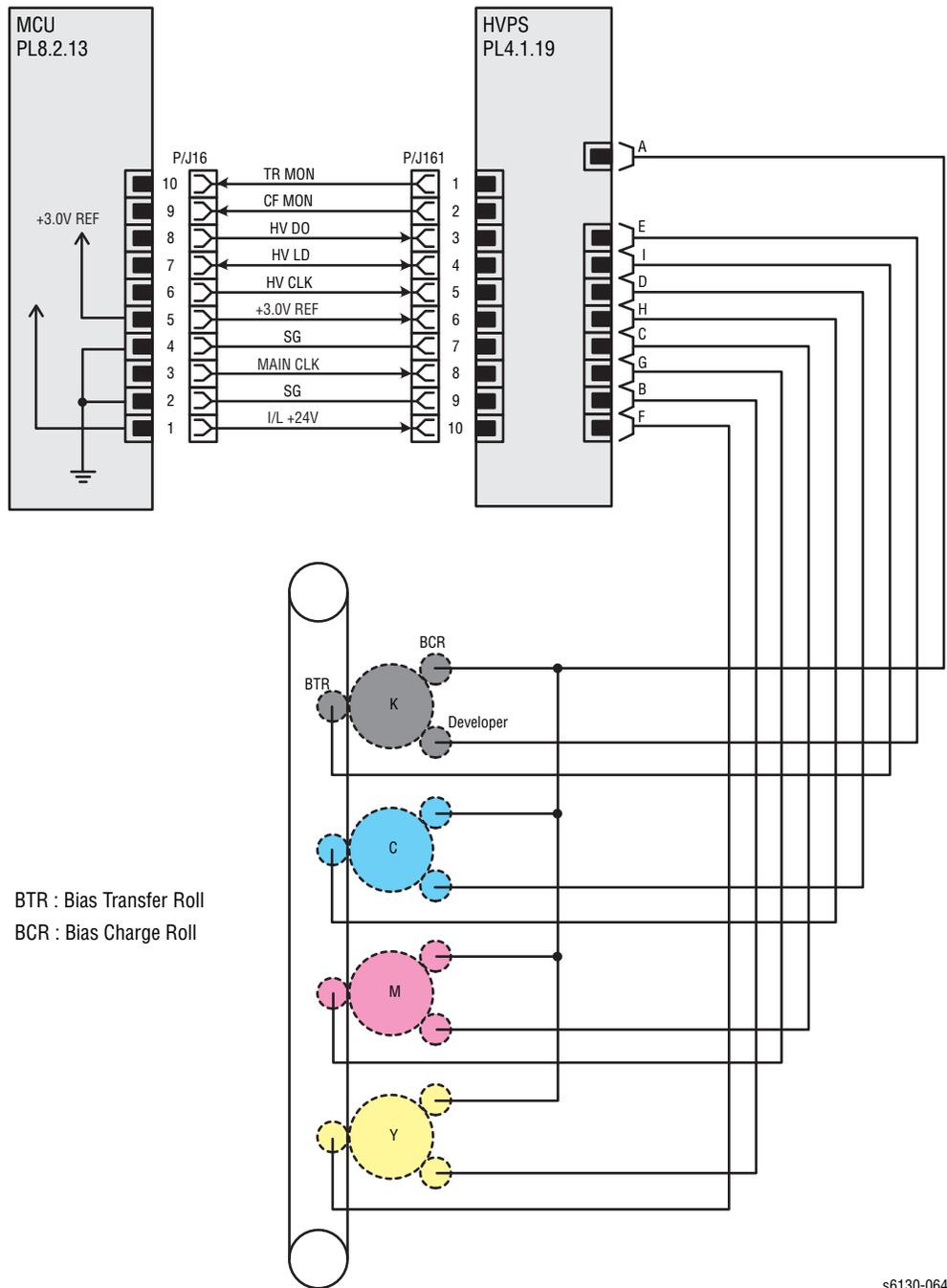


s6130-062

Signal Line Name	Description
ROS MOT ON	Drive control signals of the Laser Unit Motor.
ROS MOT CLK	
SOS	Reference signal for scan start of Laser
V REF K	Emission control signal of the laser diode.
V REF C	
V REF M	
V REF Y	
LD ERR	Error signal of the laser diode
PCONT	Power control signal of the laser diode
DATA K	Video signal of the laser diode.
DATA C	
DATA M	
DATA Y	

Signal Line Name	Description
CLOCK	Control signals of the EEPROM Board.
DATA	
CLOCK	Control signals of the Imaging Unit EEPROM Board.
DATA	
TEMP.	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 signals of the Erase LEDs.
ERASE Y/M/C ON (L) +3.3 VDC	
ADC SENSOR	Toner patch density data measured by the ADC Sensor (Analog value).
LED REM	Remote signal of the LED of the ADC Sensor.
ADC V MONI	Control signal of the ADC Sensor.

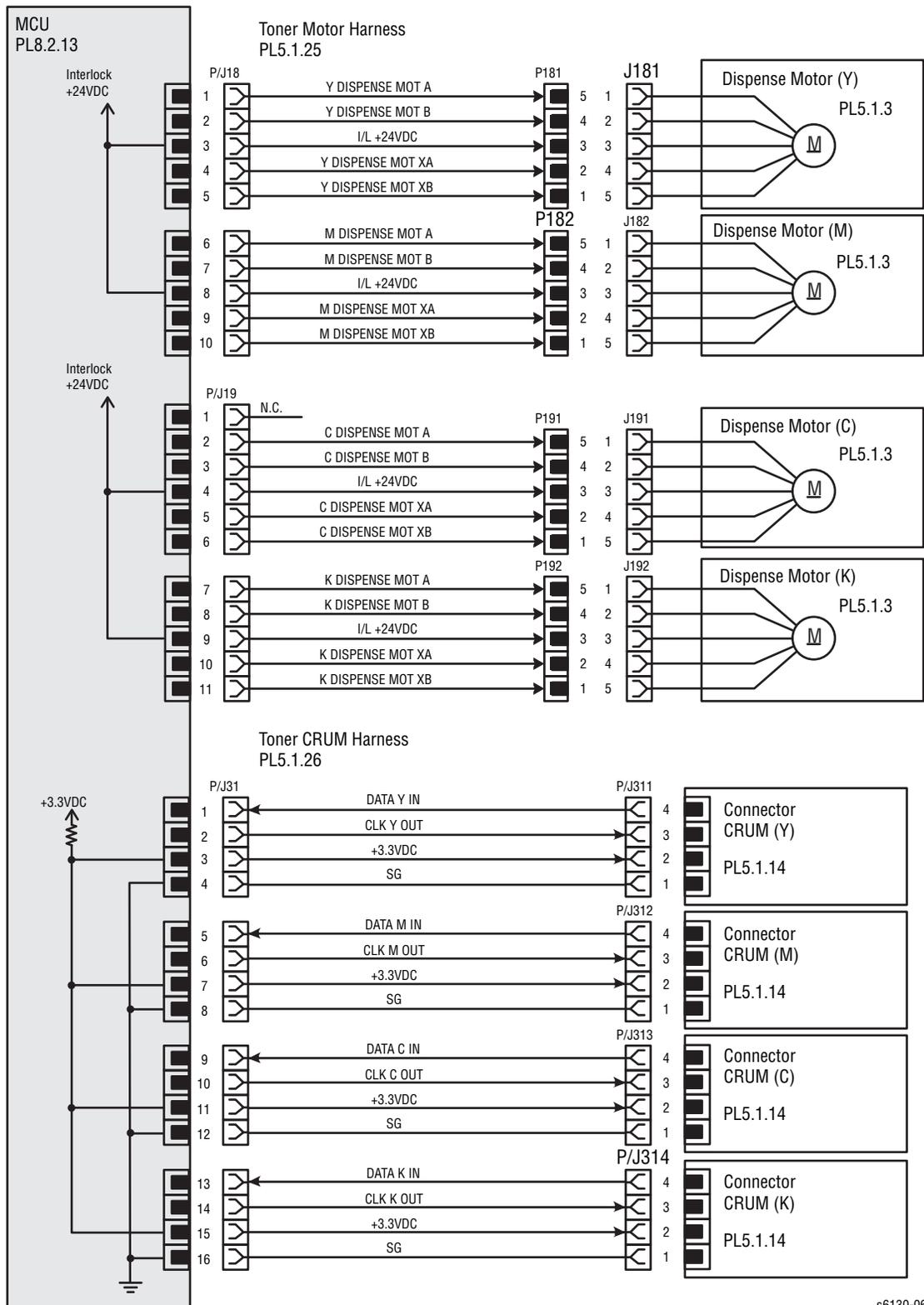
High Voltage Power Supply



s6130-064

Signal Line Name	Description
TR MON	Controls signal of the HVPS.
CF MON	
COLOR	
DATA	
CLK	

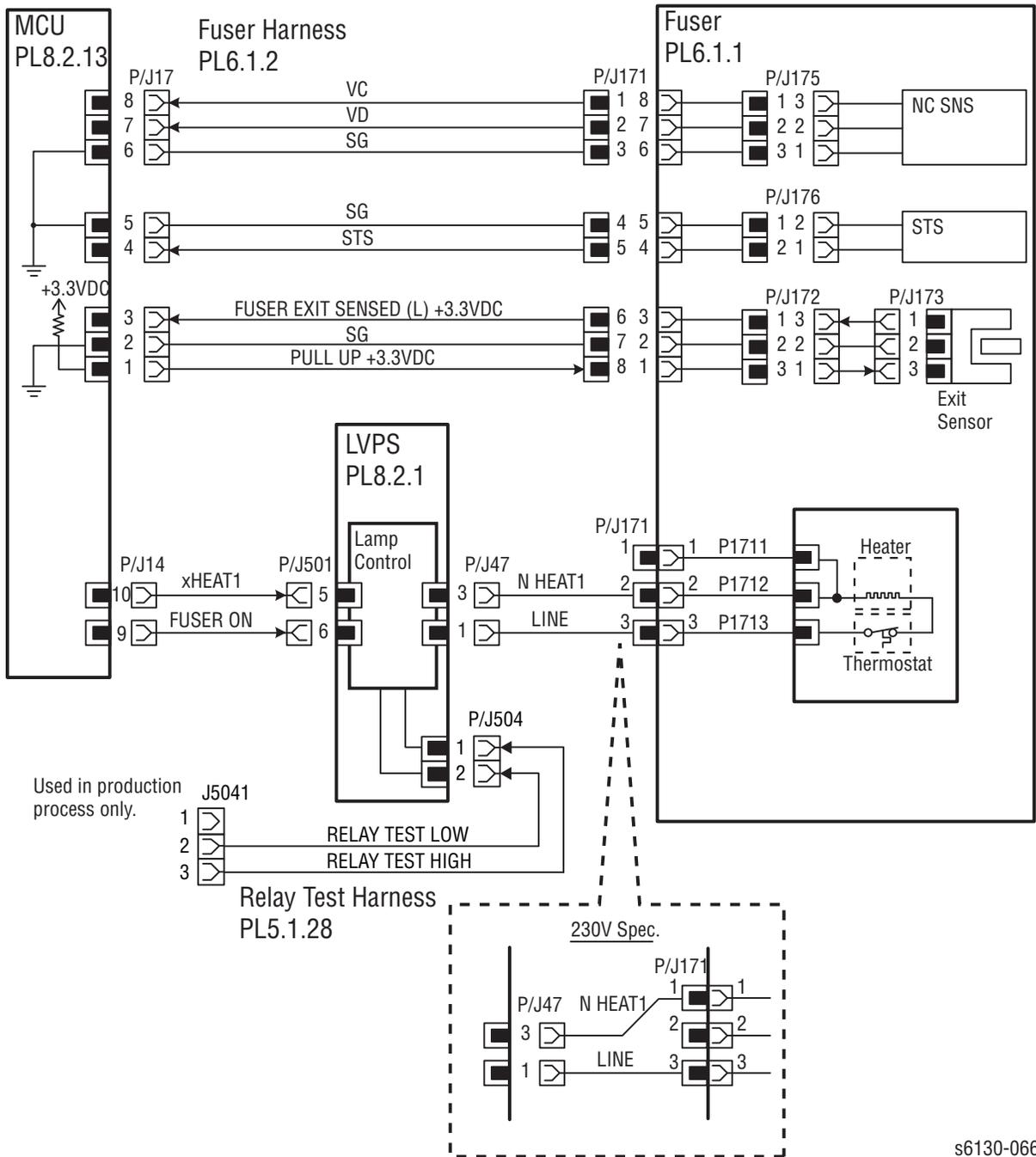
Developer



s6130-065

Signal Line Name	Description
Y DISPENSE MOT A	Drives control signal of the Dispenser (Y).
Y DISPENSE MOT B	
Y DISPENSE MOT XA	
Y DISPENSE MOT XB	
M DISPENSE MOT A	Drives control signal of the Dispenser (M).
M DISPENSE MOT B	
M DISPENSE MOT XA	
M DISPENSE MOT XB	
C DISPENSE MOT A	Drives control signal of the Dispenser (C).
C DISPENSE MOT B	
C DISPENSE MOT XA	
C DISPENSE MOT XB	
K DISPENSE MOT A	Drives control signal of the Dispenser (K).
K DISPENSE MOT B	
K DISPENSE MOT XA	
K DISPENSE MOT XB	
DATA Y IN	Controls signal of the CRUM Connector (Y).
CLK Y OUT	
DATA M IN	Controls signal of the CRUM Connector (M).
CLK M OUT	
DATA C IN	Controls signal of the CRUM Connector (C).
CLK C Out	
DATA K IN	Controls signal of the CRUM Connector (K).
CLK K OUT	

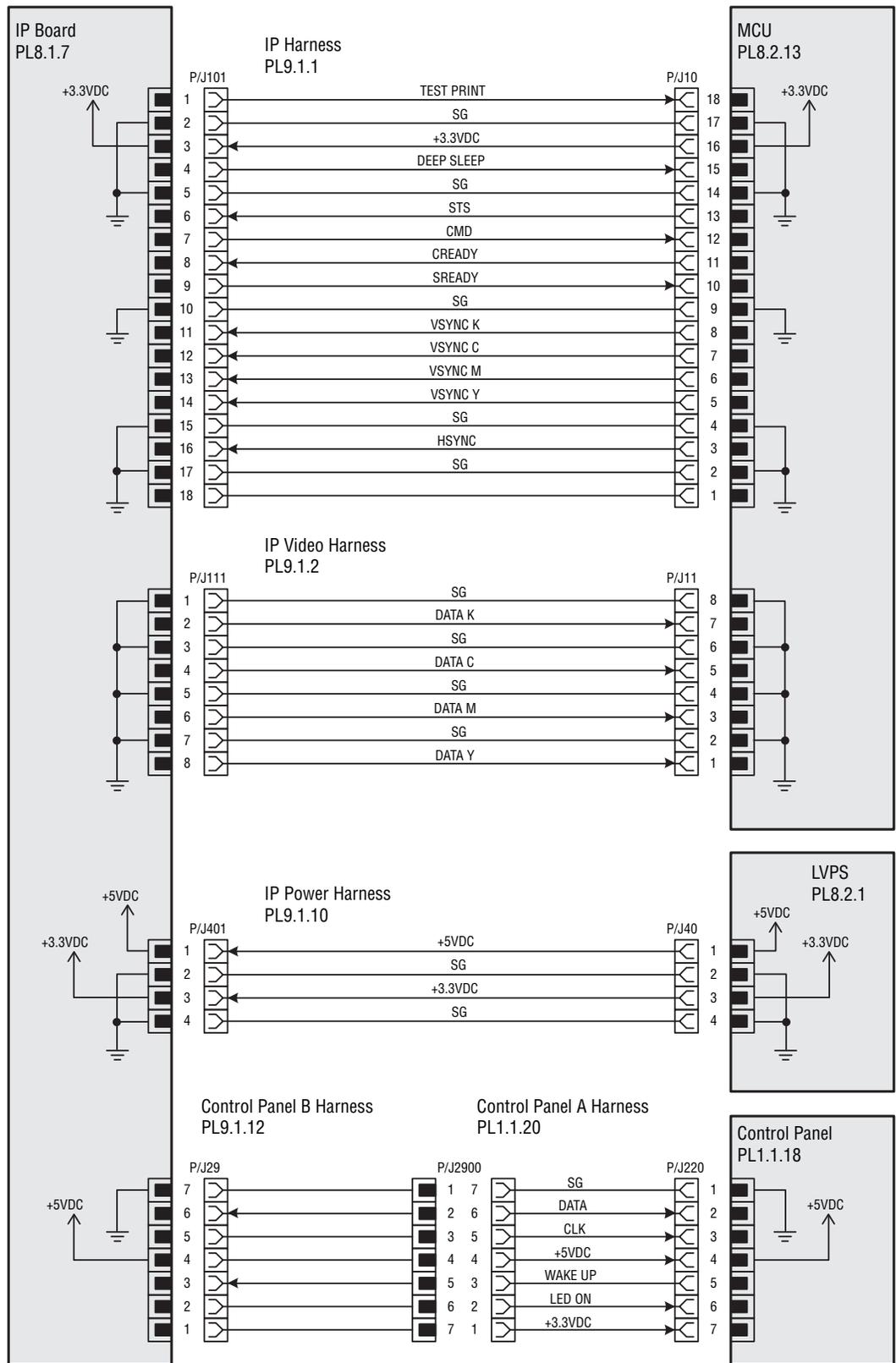
Fuser



s6130-066

Signal Line Name	Description
STS	Heat Roll surface temperature data measured by the Humidity/Temperature Sensor for detecting high temperature (Analog value).
VC	Temperature data measured by the Humidity/
VD	Temperature Sensor for controlling the temperature (Analog value).
FUSER EXIT SENSED (L) +3.3 VDC	Paper 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
RELAY TEST HIGH	only)

Controller



s6130-067

Signal Line Name	Description
TEST PRINT	Controls signal for the Test Print mode.
DEEP SLEEP	Controls signal for the Deep Sleep mode.
STS	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	Signal for indicating whether or not the printer is ready for receiving command signal.
SREADY	
VSYNC K	Signal for indicating registration position of each of images Y, M, C, and K.
VSYNC C	
VSYNC M	
VSYNC Y	
HSYNC	Signal for data.
DATA K	Video data of four colors.
DATA C	
DATA M	
DATA Y	
DATA	Control signals of the Control Panel.
CLK	
BACK LIGHT	
BL +5 VDC	

Reference

Contents...

- Phaser 6130 Menu Map
- Firmware Update
- Acronyms and Abbreviations

Appendix **A**

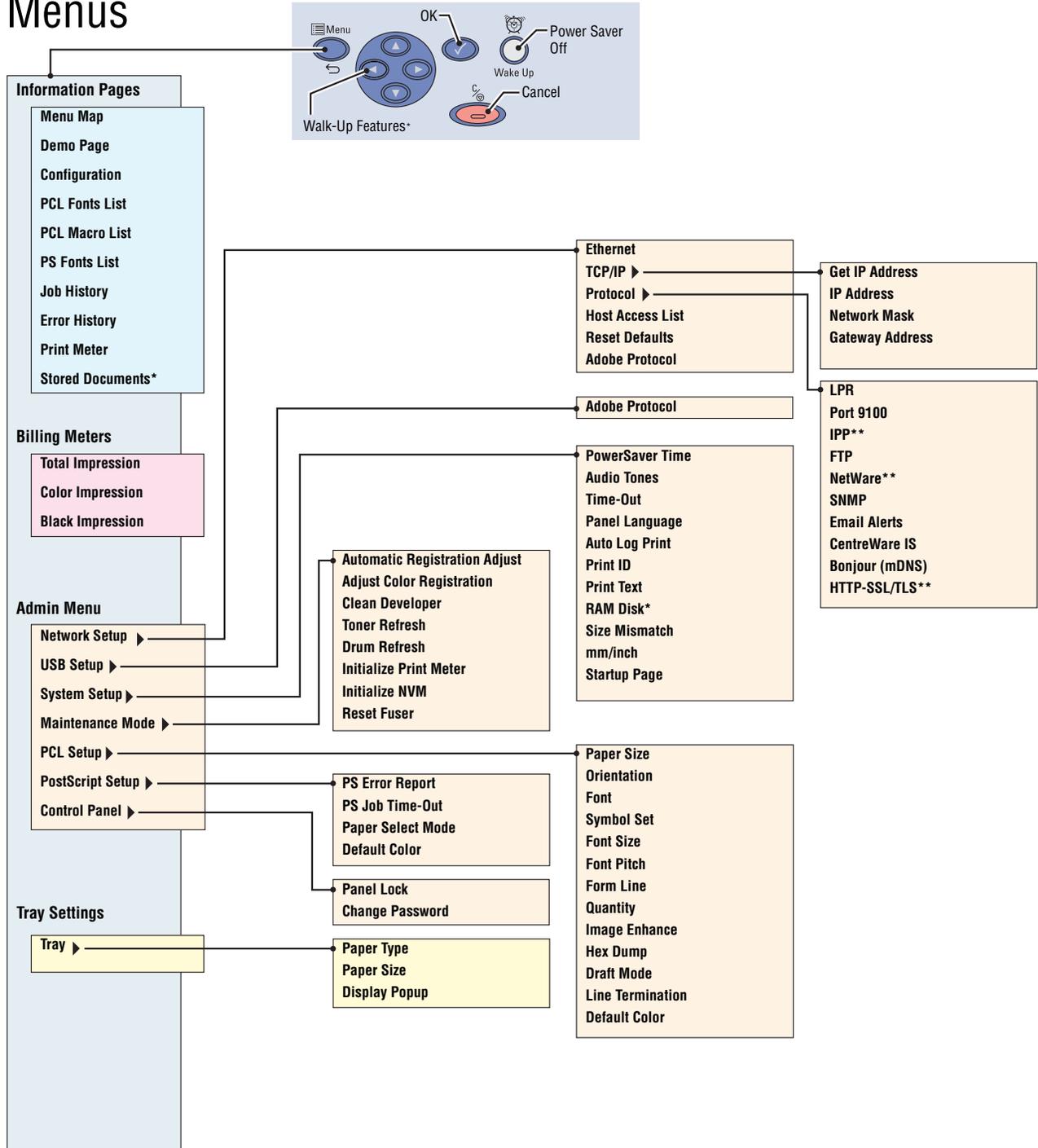


Phaser 6130 Menu Map



Phaser® 6130
Printer

Menus



Requires:

- * Optional Memory
- ** Multi-Protocol Network Card

Firmware Update

Boot Controller Update

Note

Boot Code can be updated via USB port only.

1. Download applicable files from the Xerox support web site.
2. Turn off the printer.
3. Ensure your USB cable is connected.
4. Press the **Up Arrow**, **Down Arrow**, and **Menu** buttons simultaneously and turn on the printer.
5. The **FW Update Password** is displayed.
6. Press the **Down Arrow** button 2 times.
7. Press the **OK** button.
8. The **F/W Download** is displayed.
9. Select **DL Mode USB**. Press the **OK** button.
10. The serial number of the printer is displayed. Then the **Download Mode Send F/W Data** is displayed.
11. On your computer, locate the downloaded file. Open the **Boot** directory. Double-click the **Xeroxfwup.exe** file.
12. Select **USB**. Click the **Next** button.
13. The **xeroxfwup** window with the module number is displayed. Click the **Next** button.
14. On the printer Control Panel, the **Erasing Flash... --> Diagnosing** message is displayed. The printer starts updating the firmware.

Caution

Do Not reboot or turn off the printer. The printer will automatically reboot.

12. When the process is completed, the following messages are displayed on the printer Control Panel.
 - **Xerox (TM) Print Cartridge**
 - **Processing... Ready**
13. Print the printer Configuration page (**Menu > Information Pgs > Configuration**) and verify the Boot Version information.

Firmware Controller Update

1. Download the applicable files from the Xerox support web site.
2. Ensure your appropriate downloading cable option (Ethernet or USB) is connected.
3. Reboot the printer.
4. On your computer, locate the downloaded file. Open the **Main** directory. Double-click the **Xeroxfwup.exe** file.
5. The **xeroxfwup** window with connection options is displayed. Select the appropriate downloading option (Network or USB). Click the **Next** button.
6. The **xeroxfwup** window is displayed.
 - a. For Network connection:
 - If your printer IP address is available, select the appropriate box. Click the **Next** button.
 - If your printer IP address is not listed, click the **Add** button. Enter your printer IP address. Click the **OK** button. Select the box with your printer IP address. Click the **Next** button.
 - On the printer Control Panel, messages are displayed from **Receiving data Port 9100 --> Writing... Port 9100** as the printer starts updating the firmware.
 - b. For USB connection:
 - The **xeroxfwup** window with the module number is displayed. Click the **Next** button.
 - On the printer Control Panel, messages are displayed from **Receiving data USB --> Writing... USB** as the printer starts updating the firmware.
 - A **Completed** message is displayed on the Control Panel.
7. When the process is completed, the following messages are displayed on the printer Control Panel.
 - **Diagnosing... Xerox (TM) Print Cartridge**
 - **Processing... Please wait... Calibrating... Ready**
8. On your computer, verify that the firmware update has been sent. Click the **Next** button. Click the **OK** button.
9. Print the printer Configuration page (**Menu > Information Pgs > Configuration**) and verify the Firmware Version information.

Caution

Do Not reboot or turn off the printer. The printer will automatically reboot.

Firmware MPC Update

1. Download the applicable files from the Xerox support web site.
2. Ensure your appropriate downloading cable option (Ethernet or USB) is connected.
3. Reboot the printer.
4. On your computer, locate the downloaded file. Double-click the **Xeroxfwup.exe** file.
5. The **xeroxfwup** window with connection options is displayed. Select the appropriate downloading option (Network or USB). Click the **Next** button.
6. The **xeroxfwup** window is displayed.
 - a. For Network connection:
 - If your printer IP address is available, select the appropriate box. Click the **Next** button.
 - If your printer IP address is not listed, click the **Add** button. Enter your printer IP address. Click the **OK** button. Select the box with your printer IP address. Click the **Next** button.
 - On the printer Control Panel, messages are displayed from **Receiving data Port 9100 --> Checking... Port 9100 --> Writing... Port 9100** as the printer starts updating the firmware.
 - b. For USB connection:
 - The **xeroxfwup** window with the module number is displayed. Click the **Next** button.
 - On the printer Control Panel, messages are displayed from **Receiving data USB --> Checking... USB --> Writing... USB** as the printer starts updating the firmware.
 - A **Diagnosing...** message is displayed on the Control Panel.
7. When the process is completed, the following messages are displayed on the printer Control Panel.
 - **Diagnosing... Xerox (TM) Toner Cartridge**
 - **Processing... Please wait... Calibrating... Ready**
8. On your computer, verify that the firmware update has been sent. Click the **Next** button. Click the **OK** button.
9. Print the printer Configuration page (**Menu > Information Pgs > Configuration**) and verify the Firmware Version information.

Caution

Do Not reboot or turn off the printer. The printer will automatically reboot.

Acronyms and Abbreviations

Acronym	Description
A3	Paper size 297 millimeters (11.69 inches) x 420 millimeters (16.54 inches).
A4	Paper size 210 millimeters (8.27 inches) x 297 millimeters (11.69 inches).
A5	Paper size 148 millimeters (5.82 inches) x 210 millimeters (2.10 inches).
AC	Alternating Current is type of current available at power source for the printer.
ADC	Automatic Density Control
AMPV	Average Monthly Print Volume
APC	Auto Power Control
ASSY	Assembly
BCR	Bias Charge Roller
BOOTP	Boot Parameter Protocol
BTR	Bias Transfer Roller
CAM	Cam Shaft
CCD	Charge Coupled Device (Photoelectric Converter)
CCW	Counter-Clock Wise
CMYK	Toner colors for the printer: Y=yellow, C=cyan, M=magenta, K=black
CRU	Customer Replaceable Unit
CRUM	Customer Replaceable Unit Meter/Memory
CST	Cassette
dB	Decibel
DC	Direct Current is type of power for printer components. Machine converts AC power from power source to DC power.
DDNS	Dynamic Domain Name System
DDR2 DIMM	Double Data Rate Dual In-Line Memory Module
DEV	Developer
DHCP	Dynamic Host Configuration Protocol
DPI	Dot Per Inch
DRV	Drive
DUP	Duplex
Duplex	2-sided printing
EA	Emulsion Aggregation (Toner)

Acronym	Description
EEPROM	Electrically Erasable Programmable Read-Only Memory
ESA	Electric Static Attachment
ESD	Electrostatic Discharge. A transfer of charge between bodies at different electrostatic potential.
ESS	Printer Controller
FCC	Federal Communications Commission
FDR	Feeder
FPOT	First Print Output Time
FR/FRNT	Front
FRU	Field Replaceable Unit
GB	Giga Byte
GDI	Graphics Device Interface
GND	Ground
HARN	Harness
HCF	High-Capacity Feeder
HDD	Hard Disk Drive
HGEA	High-Grade Emulsion Aggregation (Toner)
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
IPX	Internetwork Packet Exchange
IQ	Image Quality
KB	Kilo Byte
LAN	Local Area Network
LCD	Liquid Crystal Display
LD	Laser Diode
LED	Light Emitting Diode
LEF	Long-Edge Feed
LH	Left Hand

Acronym	Description
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
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
MPT	Multi-Purpose Tray
NCS	Non-Contact Sensor
NPP	No Paper
NVM	Non-Volatile Memory
NVRAM	Non-Volatile Random Access Memory
OEM	Original Equipment Manufacturer
OHP	Overhead Paper (Transparency)
OPC	Organic Photo Conductor
OPT	Optional
OS	Operating System
PC	Personal Computer
PCB	Printed Circuit Board
PCDC	Pixel Count Dispense Control
PCL	Printer Command Language
PDL	Page Description Language
P/J	Plug Jack (electrical connections)
PJL	Printer Job Language
PL	Parts List
POP3	Post Office Protocol version 3
PPD	PostScript Printer Description
PPM	Pages Per Minute
PPS	Pages

Acronym	Description
PWB	Printed Wiring Board
PWBA	Printed Wiring Board Assembly
RAM	Random Access Memory
RegiCon	Registration Control
RET	Retard
RH	Relative Humidity
RLS	Release
RMS	Root Mean Square Voltage
ROM	Read-Only Memory
ROS	Raster Output Scanner - Laser Unit
RTD	Retard
SEF	Short-Edge Feed
SLP	Service Location Protocol
SMB	Server Message Block
SNMP	Simple Network Management Protocol
SNR	Sensor
SOL	Solenoid
SOS	Start of Scan
STS	Soft Touch Sensor
TDC	Toner Density Control
TNR	Toner
TRNS	Transport
UI	User Interface
USB	Universal Serial Bus
WINS	Wireless Integrated Network Sensor

Index

A

abbreviations
 error messages, 3-5
 Phaser 6130, A-6

AC power
 plug/jack locator, 10-10
 troubleshooting, 4-40

ADC (CTD) error, 3-51

ADC Sensor
 control function, 2-36
 description, 2-23

adjustments
 color registration, 6-2
 resetting Fuser life counter, 6-5
 setting parameter, 6-7

AMPV, 1-11

ASIC error, 3-24

B

Bias Charge Roller (BCR), 2-4

Bias Transfer Roller (BTR), 2-9

black and white mode, 2-40

boot controller, firmware update, A-3

button functions, control panel, 1-6

C

calibrations
 initializing NVM, 6-6
 initializing print meter, 6-6

chain link code
 description, 3-2
 message summary, 3-6

check sum error, 3-21

cleaning
 tools, 7-2

clearances, 1-17

Clutch
 Registration, 2-20

collation, 1-21

color mode switching, 2-29

color registration, 2-36
 adjustment, 6-2

adjustments
 auto adjustment, 6-3
 disabling, 6-3
 enabling, 6-3
 manual adjustment, 6-4

configuration page, 1-24

consumables
 Toner Cartridge
 description, 1-10
 part number, 9-25

Control Panel
 buttons, 1-6
 LED states, 1-7
 operation, 2-31
 plug/jack locator, 10-8
 shortcuts, 1-7
 troubleshooting, 4-37

Control Panel Harness
 removal, 8-54

controller error, 3-24

controller functions, 1-20
 information pages, 1-24
 job control, 1-20
 maintenance function, 1-23
 non-genuine mode, 1-22
 toner remaining, 1-23

counters
 billing print, 1-22

Cover
 front, removal, 8-19
 left side, removal, 8-17
 output tray extension, removal, 8-15
 rear, removal, 8-18
 right side, removal, 8-16
 toner access door, removal, 8-11
 top, removal, 8-14

covers
 removal, 8-11

CRUM Connector
 location, 2-26
 operation, 2-26

D

DC power
 troubleshooting, 4-41

Deep Sleep Mode, 10-18

- demo page, 1-24
- Developer
 - wiring diagrams, 10-27
- Diagnostic Tests
 - Engine Diag, 4-10
 - ESS Diag
 - Exit Mode, 4-19
 - Installation, 4-13
 - Parameter, 4-17
 - Print Info, 4-13
 - Test Print, 4-16
- dimensions, 1-17
- disassembly
 - covers, 8-11
 - drive, 8-52
 - electrical, 8-54
 - frame, 8-44
 - paper feeder, 8-21
 - separate upper and lower assemblies, 8-47
 - Xerographics, 8-31
- Dispenser
 - location, 2-26
 - operation, 2-26
 - plug/jack locator, 10-8
- Dispenser Assembly
 - removal, 8-34
- Door
 - side door open error, 3-73
 - toner access open, 3-73
- Download Mode error, 3-79
- Drive
 - black and white mode, 2-40
 - color mode switching, 2-29
 - components, 2-28
 - development, 2-44
 - excess toner collection, 2-44
 - Feed Drive location, 2-28
 - Feed Drive operation, 2-28
 - K mode, 2-40
 - Main Drive location, 2-28
 - Main Drive operation, 2-28, 2-38
 - Sub Drive, 2-40
 - Sub Drive location, 2-28
 - Sub Drive operation, 2-28
 - wiring diagrams, 10-20
- Drive Clutch Kit
 - removal, 8-21
- Drive Motors
 - plug/jack locator, 10-10
- location, 2-15
- operation, 2-16
- engine test print, 4-38
- Env Sensor error, 3-82
- envelopes
 - supported sizes, 1-19
- environmental specifications, 1-13
- erase flash error, 3-21
- Erase Lamp
 - operation, 2-28
 - removal, LED assembly, 8-37
 - troubleshooting, black, 4-35
 - troubleshooting, YMC, 4-36
- error
 - ADC (CTD), 3-51
 - ASIC, 3-24
 - check sum, 3-21
 - controller, 3-24
 - cover open, 3-72
 - download mode, 3-79
 - erase flash, 3-21
 - fan motor, 3-66
 - fontROM, 3-24
 - format, 3-21
 - front cover open, 3-72
 - Fuser, 3-62
 - fuser, 3-64
 - header, 3-21
 - humidity sensor, 3-82
 - imaging unit, 3-71
 - imaging unit CRUM, 3-71
 - insert fuser, 3-62
 - insert imaging unit, 3-53
 - insert output, 3-56
 - invalid ID, 3-21
 - invalid job, 3-78
 - jam at exit, 3-44
 - jam at front cover, 3-34, 3-42
 - jam at manual feed, 3-37
 - jam at registration roll, 3-46
 - K mode solenoid, 3-80
 - laser unit, 3-76
 - load manual feed, 3-56, 3-57
 - load tray, 3-59, 3-60
 - low density YMCK, 3-54
 - MACaddress, 3-24
 - main motor, 3-67
 - MCU communication, 3-77
 - MCU firmware, 3-74
 - MCU NVRAM, 3-75
 - motor, 3-66
 - MPC, 3-50
 - network, 3-24
 - NVRAM, 3-24
 - out of memory, 3-22
 - PAGEC time, 3-25
 - paper settings, 3-56
 - RAM, 3-24, 3-26
 - range check, 3-21
 - side door open, 3-73
 - sub motor error, 3-69
 - toner access door open, 3-73

E

- EEPROM Board
 - location, 2-30
 - operation, 2-31
- electrical
 - data flow diagram, 2-33
 - specifications, 1-12
- electrostatic discharge (ESD), 1-vi
- End Guide, Paper Tray

- toner cartridge, 3-27
- transfer unit life, 3-52
- tray empty, 3-60
- verify flash, 3-21
- waste full, 3-28
- write flash, 3-21
- error history report
 - accessing, 3-2
 - chain link code, 3-2
 - paper jam history, 3-2, 3-3
 - system fail history, 3-3
- error messages
 - abbreviation used, 3-5
 - list of errors, 3-6
 - POST, 4-3
- Ethernet Port, 1-5
- European Union, 1-x
- excess toner, 2-44
- Exit Roller
 - location, 2-23
- Exit Sensor
 - location, 2-23
 - operation, 2-24
 - troubleshooting, 4-20
- write, 3-21
- fontROM error, 3-24
- format error, 3-21
- FPOT, 1-15
- free belt nip fusing (FBNF), 2-12
- Front Cover
 - error, open, 3-72
 - removal, 8-19
 - troubleshooting, 3-72
- Fuser
 - components, 2-24
 - cooling down, 2-37
 - end of life error, 3-63
 - error, 3-64
 - errors, 3-62
 - Exit Sensor, 2-24
 - insert error, 3-62
 - operation, 2-12, 2-24
 - plug/jack locator, 10-8
 - removal, 8-9
 - resetting life counter, 6-5
 - temperature control, 2-37
 - warming-up, 2-37
 - wiring diagrams, 10-29

F

- Fan
 - location, 2-30
 - motor error, 3-66
 - operation, 2-30
 - removal, 8-56
 - troubleshooting, 4-31
- fasteners
 - precautions, 8-6
 - screws, 8-6
- Feed Drive Assembly
 - removal, 8-22
- Feed Roller
 - operation, 2-18
 - removal, 8-30
- Feed Solenoid
 - operation, 2-17
 - removal, 8-24
- Feeder Assembly
 - plug/jack locator, 10-9
 - removal, 8-25
- firmware update, 1-23
 - boot controller, A-3
 - controller, A-4
 - MPC, A-5
- first print output time (FPOT), 1-15
- flash error
 - check sum, 3-21
 - erase, 3-21
 - format, 3-21
 - header, 3-21
 - invalid ID, 3-21
 - range check, 3-21
 - verify, 3-21

G

- GFI Breaker, 2-33
 - removal, 8-57

H

- header error, 3-21
- Humidity Sensor
 - location, 2-30
 - operation, 2-32
 - removal, 8-58
- HVPS
 - location, 2-30
 - operation, 2-31
 - plug/jack locator, 10-11
 - removal, 8-43
 - wiring diagrams, 10-26

I

- Image Processor Board
 - location, 2-30, 2-32
 - operation, 2-32
 - plug/jack locator, 10-10
 - removal, 8-60
 - wiring diagrams, 10-31
- Image Processor Board Cage
 - removal, 8-44
- Imaging Unit
 - CRUM error, 3-71
 - errors, 3-71

- insert error, 3-53
- plug/jack locator, 10-8
- removal, 8-8
- replace error, 3-71
- Information pages
 - configuration, 1-24
 - demo, 1-24
 - error history, 1-27
 - job history, 1-26
 - PCL fonts, 1-25
 - PCL macros, 1-25
 - PostScript fonts, 1-26
 - Print Meter, 1-27
- insert fuser error, 3-62
- insert output to tray/MF, 3-56
- Interlock Harness
 - removal, 8-54
- Interlock Switch
 - location, 2-30
 - operation, 2-32
 - troubleshooting, 4-43
- invalid ID, 3-21
- Invalid Job error, 3-78
- IP Board - See Image Processor Board

J

- jam at tray error, 3-29
- jam error
 - at exit, 3-44
 - at front cover, 3-34, 3-42
 - at manual feed, 3-37
 - at registration roll, 3-46
 - jam at tray, 3-29
- job control functions
 - billing meters, 1-22
 - cancel print, 1-20
 - forced output, 1-20
 - ID print, 1-22
 - IP filter, 1-20
 - job recovery, 1-20
 - job timeout, 1-20
 - print volume management, 1-20
 - RAM disk, 1-20

K

- K mode (see black and white mode), 2-40
- K Mode Solenoid error, 3-80

L

- Laser Diode
 - location, 2-24
 - operation, 2-25
- Laser Unit
 - components, 2-24

- light quantity control, 2-34
- location, 2-24
- operation, 2-5, 2-24
- plug/jack locator, 10-9
- removal, 8-31
- troubleshooting, 3-76
- wiring diagrams, 10-22
- LED indicators, 1-7
- Left Harness Assembly removal, 8-26
- Left Imaging Unit Restraint Block removal, 8-39
- Left Side Cover removal, 8-17
- load manual feed error, 3-56, 3-57
- load tray error, 3-59, 3-60
- low density YMCK error, 3-54
- LVPS
 - location, 2-30
 - operation, 2-30
 - overcurrent protection, 4-41
 - overvoltage protection, 4-41
 - plug/jack locator, 10-10
 - removal, 8-55
 - troubleshooting, 4-41

M

- MACAddress error, 3-24
- Macintosh
 - operating system, 1-11
 - troubleshooting, 4-53
- Main Drive Assembly removal, 8-52
- maintenance
 - preventive, 7-2
 - RIP, 7-3
 - tools, 7-2
- maintenance items
 - Fuser, 1-9
 - Fuser removal, 8-9
 - Imaging Unit, 1-9
 - imaging unit removal, 8-8
 - removal, 8-7
 - Separator Roller, 1-9
 - separator roller removal, 8-7
 - toner cartridge removal, 8-10
- Manual Feed
 - No Paper Sensor operation, 2-19
 - No Paper Sensor removal, 8-28
 - Registration Sensor operation, 2-19
- MCU Board
 - communication error, 3-77
 - errors, 3-74
 - firmware error, 3-74
 - location, 2-30
 - NVRAM error, 3-75
 - operation, 2-31
 - plug/jack locator, 10-11
 - removal, 8-59
- Memory
 - location, 2-32
 - maximum, 1-12
 - minimum, 1-12

- out of memory error, 3-22
- part number, 9-25
- specifications, 1-12
- supported types, 1-8, 1-12
- menu map
 - Phaser 6130, A-2
 - Service Mode, 4-6
- Motor
 - main motor error, 3-67
 - sub motor error, 3-69
 - troubleshooting Sub Motor, 4-28
- motor
 - errors, 3-66
 - troubleshooting Main Motor, 4-27
- MPC Card, 2-33
- MPC card, 1-8
- MPC error, 3-50
- MPC part number, 9-25
- multiple sheet feed prevention, 2-16
- Multi-Protocol Network Card, 2-33
 - part number, 9-25

N

- network
 - error, 3-24
 - Ethernet Port, 1-5
 - Macintosh troubleshooting, 4-53
 - UNIX troubleshooting, 4-54
 - Windows troubleshooting, 4-52
- Network Card
 - description, 1-8
 - MPC error, 3-50
- No Paper Sensor, Tray
 - troubleshooting, 4-26
- NVRAM
 - error, 3-24
 - initializing, 6-6
 - location, 2-32
 - troubleshooting, 3-75

O

- operating environment, 1-13
- operating systems
 - specifications, 1-11
 - troubleshooting, 4-52
- output tray, 1-2
- Output Tray Extension removal, 8-15
- over-current protection, 10-18
- over-voltage protection, 10-18

P

- PAGEC time error, 3-25
- paper
 - envelopes, 1-19

- supported sizes, 1-19
- supported types and weights, 1-19
- paper detection, 2-22
- paper path
 - components, 2-14
 - flow diagram, 2-13
- paper setting errors, 3-56
- paper size detection, 2-34
- Paper Tray
 - components, 2-15
 - Feed Roller
 - operation, 2-18
 - Feed Solenoid
 - operation, 2-17
 - operation, 2-16
- parameter
 - setting, 6-7
- Plug/Jack
 - designators list, 10-2
 - locator diagrams, 10-6
- Power Cord
 - connector location, 1-5
- Power On Self Test (POST)
 - chain link, 4-3
 - description, 4-3
 - error display, 4-3
 - process, 4-3
 - type of tests, 4-3
- power requirements, 1-12
- power saver mode, 1-12
- Power Switch
 - location, 1-5
 - operation, 2-30
- print meter
 - initializing, 6-6
- print volume, 1-11
- printer
 - configurations, 1-3
 - data flow, 2-33
 - dimensions, 1-17
 - job control functions, 1-20
 - operating modes, 1-14
 - options, 1-8
 - print process, 2-3
 - print process diagram, 2-2
 - print speed, 1-13
 - printing life, 1-11
 - resolution, 1-11
 - serial number, 9-2
 - specifications, 1-11
 - technology, 1-11
- printer options
 - memory, 1-8
 - MPC card, 1-8
- print-quality
 - defect definitions, 5-20
 - mode, 1-11
 - repeating defect, 5-21
 - specifications, 5-15
 - guaranteed and maximum print areas, 5-19
 - linearity, 5-17
 - magnification error, 5-18

- parallelism, 5-17
- perpendicularity, 5-18
- registration, 5-19
- skew, 5-16
- troubleshooting, 5-20
- troubleshooting checklist, 5-5
- process control parameters, 2-35
 - admix mode, 2-36
 - high area coverage mode, 2-36
 - potential, 2-35
 - toner density, 2-35
- proof print, 1-21

R

- RAM error, 3-24, 3-26
- range check error, 3-21
- Rear Cover removal, 8-18
- registration
 - components, 2-22
 - operation, 2-21, 2-22
- Registration Clutch
 - operation, 2-20
 - troubleshooting, 4-33
- Registration Sensor
 - Manual Feed operation, 2-19
 - troubleshooting, 4-21
- repeating defects
 - measurements, 5-21
 - Pitch Chart, 5-14, 5-21
- replace fuser/fuser life error, 3-63
- report
 - error history, 1-27
 - job history, 1-26
 - PCL fonts list, 1-25
 - PCL macro list, 1-25
 - postscript fonts list, 1-26
 - print meter, 1-27
- resolution, 1-11
- resources, 4-55
- Right Imaging Unit Restraint Block
 - removal, 8-38
- Right Side Cover removal, 8-16

S

- safety symbols, 1-iv
- Scanner, laser, 2-25
- screw types, 8-6
- secure print, 1-21
- Sensor
 - ADC, 2-23
 - color mode switching, 2-29
 - error, humidity, 3-82
 - Exit, 2-24
 - Humidity, 2-32
 - Manual Feed No Paper, 2-19
 - Registration, 2-19
 - Start of Scan (SOS), 2-25

- Temperature, 2-32
- Tray No Paper, 2-17
- Separator Roller
 - operation, 2-16
 - operation and location, 2-15
 - removal, 8-7
- serial number
 - format, 9-2
 - location, 9-2
- Service Diagnostics
 - menu map, 4-6
- Service Kits
 - Hardware Kit
 - contents, 9-26
 - part number, 9-26
 - Packaging Kit part number, 9-26
- Service Mode
 - accessing
 - button functions, 4-5
 - control panel display, 4-9
 - diagnostic tests, 4-9
 - menu map, 4-6
 - servicing instructions, 3-4
- Side Guide, Paper Tray
 - operation and location, 2-15
- Side Switch - see Toner Access Door Switch
- skew measurement, 5-16
- specifications, 1-11
 - electrical, 1-12
 - environmental, 1-13
 - functional, 1-11
 - image, 1-16
 - media and tray, 1-19
 - memory, 1-12
 - mounting surface, 1-18
 - print-quality, 5-15
 - regulatory - Canada, 1-ix
 - regulatory - United States, 1-ix
- Start of Scan (SOS), 2-25
- startup sequence, 4-2
- Sub Motor error, 3-69
- Sub-Drive removal, 8-53

T

- technical support, 1-2
- Temperature Sensor
 - location, 2-30
 - operation, 2-32
- test print
 - Black 20% ESS, 5-11
 - CMY 20% ESS, 5-12
 - Contamination Check, 5-14
 - Cyan 20% ESS, 5-10
 - Gradation ESS, 5-12
 - Grid 2 ESS, 5-9
 - Magenta 20% ESS, 5-10
 - no image IOT, 5-8
 - Pattern IOT, 5-9
 - Toner Pallet Check, 5-13
 - Yellow 20% ESS, 5-11

test print, engine, 4-38
 Toner Access Door removal, 8-11
 Toner Access Door Switch, 2-33
 removal, 8-63
 Toner Cartridge
 components, 2-26
 consumables, 1-10
 errors, 3-27
 location, 2-26
 non-Xerox type, 1-22
 operation, 2-7
 part number, 9-25
 print life, 1-10
 Toner Cartridge Holder removal, 8-40
 Toner Dispenser Motors plug/jack locator, 10-11
 Top Cover removal, 8-14
 Transfer Unit
 ADC Sensor, 2-23
 belt, 2-23
 end of life error, 3-52
 errors, 3-51
 operation, 2-9, 2-23
 pivot kit removal, 8-45
 plug/jack locator, 10-8
 removal, 8-41
 Transfer Unit Pivot Kit
 removal, 8-45
 tray empty error, 3-60
 Tray No Paper Sensor, 2-17
 troubleshooting, 4-26
 troubleshooting
 electrical noise, 4-49
 Macintosh, 4-53
 print-quality, 5-2, 5-20
 UNIX, 4-54

U

UNIX
 operating system, 1-11
 troubleshooting, 4-54
 USB Port, 1-5

V

verify flash error, 3-21
 voltage
 in-rush current, 1-12
 leakage current, 1-12
 power consumption, 1-12
 power supply, 1-12

W

warm-up time, 1-11
 waste full error, 3-28
 waste toner (see excess toner), 2-44
 Windows
 operating system, 1-11
 troubleshooting, 4-52
 Wiring Diagrams
 configurations, 10-15
 controller, 10-31
 DC power supply, 10-17
 developer, 10-27
 drive, 10-20
 feeder, 10-19
 fuser, 10-29
 HVPS, 10-26
 laser unit, 10-22
 manual feed, 10-19
 registration, 10-19
 xerographic, 10-24
 write flash error, 3-21

X

Xerographic
 wiring diagrams, 10-24

