Phaser®
3300MFP
Multi
Function
Printer

Phaser® 3300MFP
Service Manual

xerox

Service Manual

701P48425

Phaser® 3300MFP

Multifunction Product

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.

First Printing: July 2008

Prepared By:

Xerox Corporation

XOG Worldwide Product Training and Information

26600 SW Parkway

Wilsonville, OR 97070

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, may result in personal injury.

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

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

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

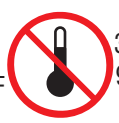
Warning. Use caution to avoid personal injury.

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

Do not touch the OPC Drum.

Do not expose the item to sunlight.

Do not tilt the Print Cartridge.



Do not expose item to high temperature.

Recycle the item.

Power Safety Precautions

Power Source

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

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

Disconnecting Power

Warning

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

Disconnect the power cord in the following cases:

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

Electrostatic Discharge Precautions

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

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

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

Service Safety Summary

General Guidelines

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

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.

Ozone: During normal operation, this machine produces ozone gas. The amount of ozone produced does not present a hazard to the operator. However, it is advisable that the machine be operated in a well ventilated area.

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 3300MFP 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.

Maintenance

Cleaning

Before cleaning this product, unplug the product from the electrical outlet. Always use materials specifically designated for this product, the use of other materials may result in poor performance and create a hazardous situation. Do not use aerosol cleaners; they may be explosive and flammable under certain conditions.

Print Cartridge

The product contains a dry image cartridge that is recyclable. Under various state and local laws, it may be illegal to dispose of the cartridge into the municipal waste. Check with the local waste officials for details on recycling options or the proper disposal procedures.

Fuses

Warning

Do not install a Fuse of a different type or rating. Installing the wrong type or rating of Fuse can cause overheating and a risk of fire.

Part Replacement

Only use genuine Xerox approved spare parts or components to maintain compliance with legislation and safety certification.

Reassembly Precautions

Use extreme care during assembly. Check all harnesses to ensure they do not contact moving parts and do not get trapped between components.

Servicing Electrical Components

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

Warning

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

Servicing Mechanical Components

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

Warning

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

Servicing Fuser Components

Warning

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

Moving the Printer

Warning

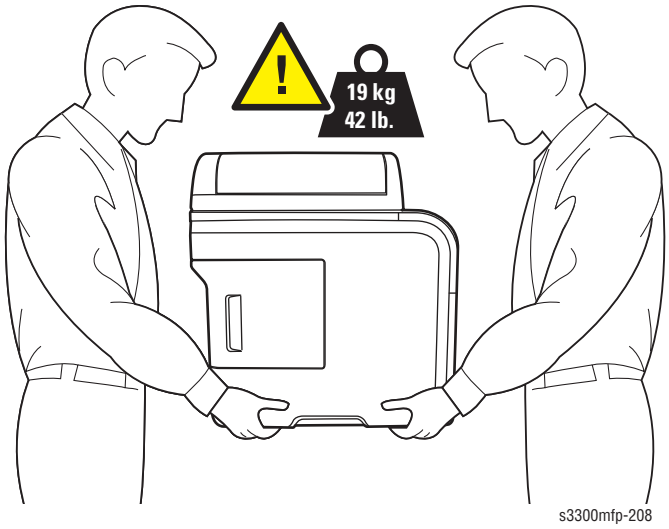
Parts of the printer are hot. Wait at least 30 minutes for the printer to cool before moving or packing the printer.

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

Warning

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

- The printer should be lifted by two persons. Use safety lifting and handling techniques when moving the printer.
- Always move the printer separately from Tray 2.



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

Caution

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

Regulatory Information

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

United States (FCC Regulations)

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

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

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

Canada (Regulations)

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

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

European Union

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

December 15, 2004: Council Directive 2004/108/EC as amended. Approximation of the laws of the member states related to electromagnetic compatibility.

December 12, 2006: Council Directive 2006/95/EC as amended. Approximation of the laws of the member states related to low voltage equipment.

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 3300MFP Multifunction Product 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 3300MFP Multifunction Product 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 machine's operation, configuration, specifications, and consumables.

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

Section 3 - Error Codes and Messages: This section provides detailed troubleshooting procedures for error messages and jam error codes displayed on the Control Panel display or on the CWIS status page.

Section 4 - General Troubleshooting: This section explains the operation of Tech Mode, and includes troubleshooting methods for situations where an error indicator is not available.

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

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

Section 7 - Cleaning and Maintenance: This section provides periodic cleaning procedures for the machine, and procedures for upgrading system firmware.

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, scanner, and optional Field Replaceable Units (FRUs), as well as part numbers for orderable parts.

Section 10 - Wiring Diagrams: This section contains wiring diagrams for the machine.

Appendix A - Reference: This section provides an illustration of the machine's Control Panel menu structure, and a list of acronyms and abbreviations.

Contents

1 General Information

2 Theory of Operation

3 Error Messages and Codes

4 General Troubleshooting

5 Print-Quality Troubleshooting

6 Adjustments and Calibrations

7 Cleaning and Maintenance

8 Service Parts Disassembly

9 Parts List

10 Wiring Diagrams

A Appendix

General Information

In this chapter…

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

Chapter 1

Printer Introduction and Overview

The Xerox Phaser 3300MFP Multifunction Product combines print, copy, scan, and fax functions in one unit. The print engine has a single-pass laser design architecture, which offers print speed at 30-ppm, and resolution up to 1200 x 1200 dots-per-inch image quality. The printer supports PostScript 3 and PCL 6 for Base and Network configurations. Automatic 2-sided printing and network capability are standard features of the Phaser 3300MFP unit.

The scanner uses a CCD for document scanning. Scanning is accomplished either manually or with the automatic document feeder (ADF). The scanner provides input for the copy, scan, and fax functions.

The Phaser 3300MFP provides a standard 250-Sheet Tray 1. The Multi-purpose Tray (MPT) holds 50 sheets, and supports specialty media, card stock, and envelopes. The Output Tray holds 150 sheets facedown. The Face-up Tray holds 1 sheet and is used when printing or copying on specialty media and heavy stock.

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

- Memory upgrades are available to increase from 96 MB standard RAM up to 320 MB maximum.
- A 250-Sheet Feeder (Tray 2) is available as an option.

Technical Support Information

The Xerox Phaser 3300MFP Multifunction Product Service Manual is the primary document used for repairing, maintaining, and troubleshooting the MFP.

To ensure complete understanding of this product, participation in Xerox Phaser 3300MFP Service Training is strongly recommended. To service this product, Xerox certification for this product is required.

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

- Xerox Global Service Net: https://www.xrxgsn.com/secure/main.pl
- Service Partners: http://www.office.xerox.com/partners

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

Printer Configuration

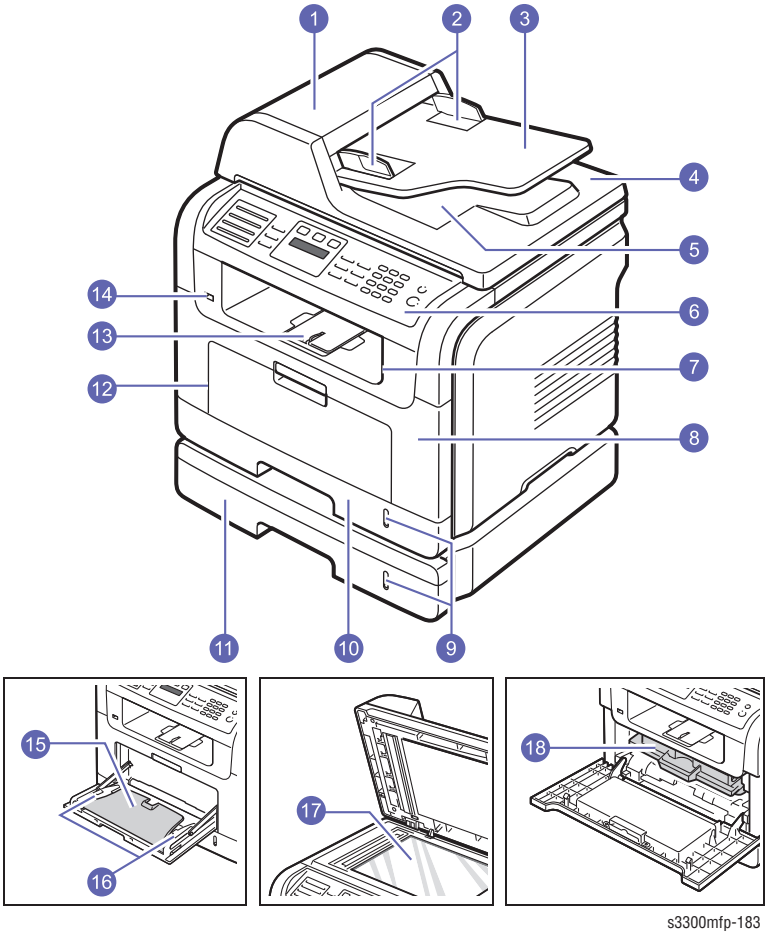
The Phaser 3300MFP printer is configured as follows.

Features	Configuration
Processor and Clock Speed	300 MHz
Memory Configuration*	64 + 32 MB
Duplex Unit	Standard
Print Speed	
■ Simplex (ppm)	30ppm/Ltr, 28ppm/A4 (600 dpi)
■ Duplex (ipm)	21ipm/Ltr, 19ipm/A4 (600dpi)
Printer Resolutions (dpi)	
■ Normal	600 x600
■ Best	1,200 x 1,200
Fonts	
■ PostScript 3 Fonts	Standard
■ PCL6 Fonts	Standard
Interface	
■ USB 2.0 Hi-Speed	Standard
■ Ethernet Interface	10/100 Base-TX
■ Wired Network (Protocol)	SPX/IPX, TCP/IP, EtherTalk, SNMP, HTTP 1.1
■ Wireless Network (Protocol)	N/A
Tray	
■ Multi-purpose Tray (50 Sheet)	Standard
■ Tray 1 (250 Sheet)	Standard
■ Tray 2 250-Sheet Feeder (250 Sheet)	Optional
Application	
■ Printer Settings Utility	Windows/Macintosh/UNIX
■ CentreWare IS (Network Management)	Standard
■ Set IP	Standard

* The MFP has one memory slot supporting 256 MB DDR2 DIMM to a maximum of 320 MB.

Parts of the Printer

Front View



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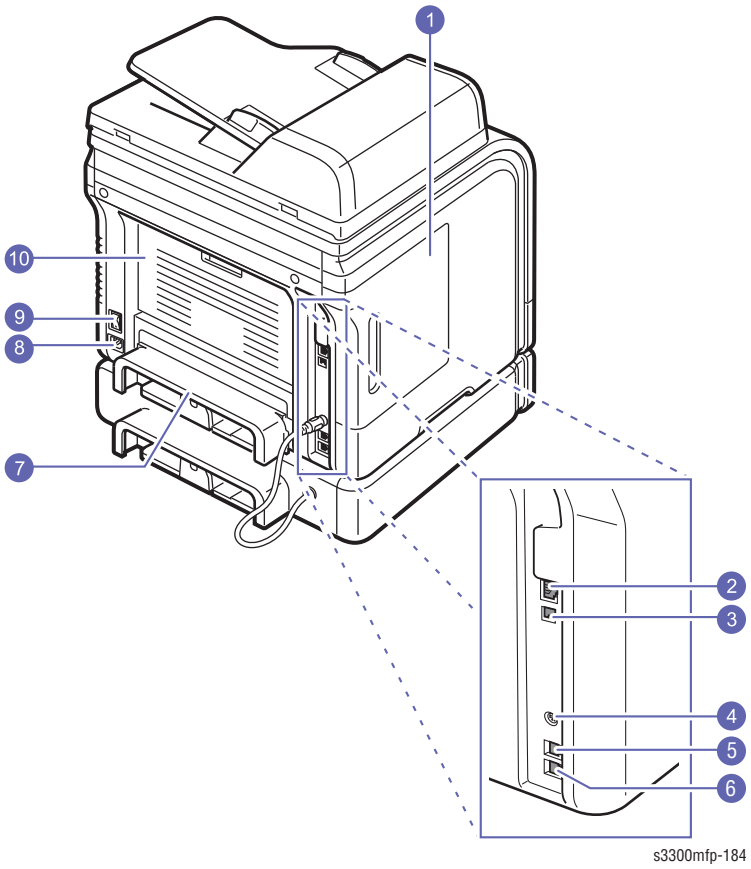
1	ADF (automatic document feeder)	10	Tray 1
2	Document width guides	11	Optional tray 2
3	Document input tray	12	Multi-purpose tray
4	Scanner lid	13	Output support
5	Document output tray	14	USB memory port
6	Control panel	15	Multi-purpose tray extension
7	Output tray	16	Multi-purpose tray paper width guides
8	Front cover	17	Scanner glass
9	Paper level indicator	18	Print cartridge

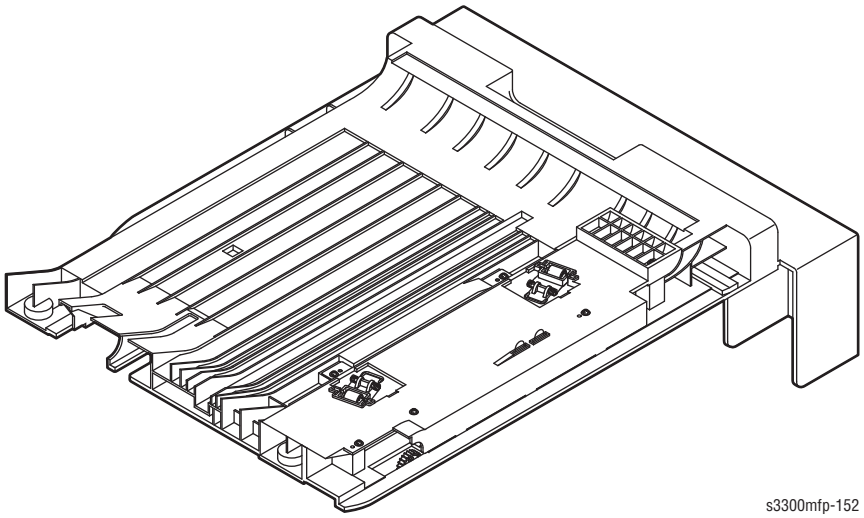
Rear View



1	Control Board Cover	6	Extension telephone socket (EXT)
2	Network port	7	Duplex unit
3	USB port	8	Power receptacle
4	Optional tray 2 cable connector	9	Power switch
5	Telephone line socket (LINE)	10	Rear cover

Duplex Unit

The Phaser 3300MFP includes a Duplex Unit. Users can install the Duplex Unit without using any tools.



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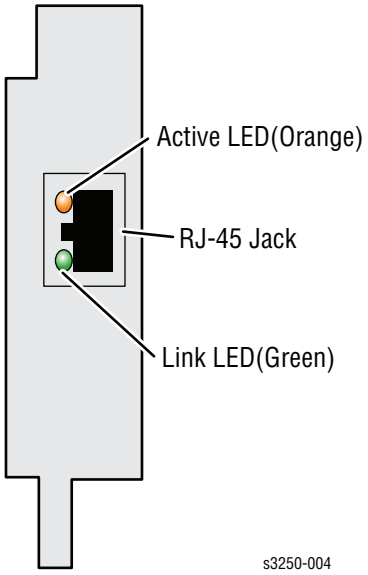
LAN

The Phaser 3300MFP can be used with a wired LAN.

LED State	Printer State
Active LED Random Blink	Normal NPC & Normal packet receive
Active LED Regular Blink	Normal NPC & No Packet
Active LED Off/On Maintenance	NPC Initial Error
Link LED On	Link LED On, Normally linked
Link LED Off	Link LED Off, Link Error



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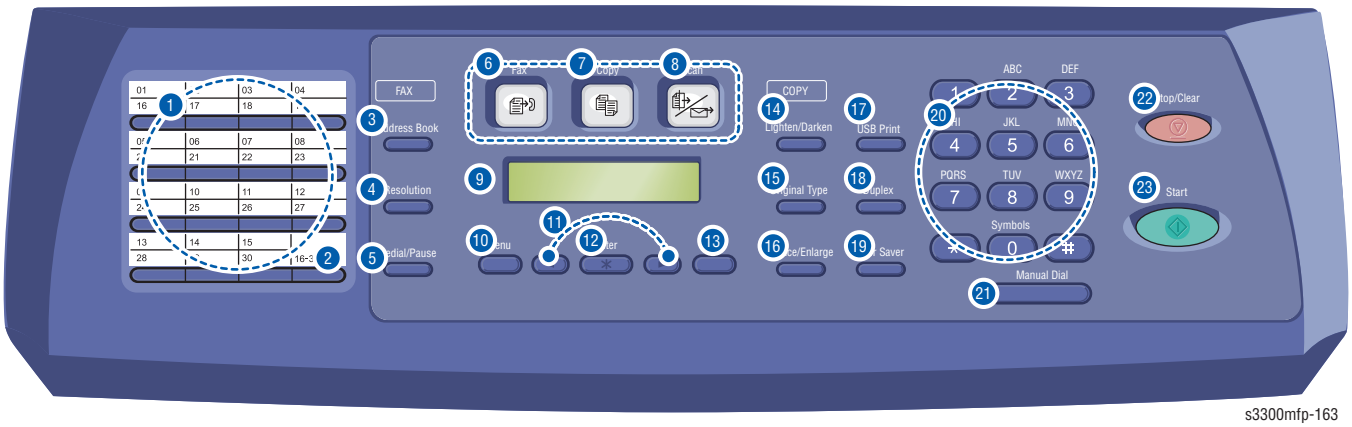
Control Panel



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Button	Description	Button	Description
1	**Speed buttons**: Allows you to store frequently-dialed fax numbers and email addresses and enter them with the touch of a few buttons.	13	**Exit**: Sends you back to the upper menu level.
2	**Shift**: Allows you to shift the speed buttons to access numbers 16 through 30.	14	**Lighten/Darken**: Adjusts the document brightness for the current copy job.
3	**Address Book**: Allows you to store frequently used fax numbers in memory or search for stored fax numbers or email addresses. Also allows you to print an Address Book/Phone Book list.	15	**Original Type**: Selects the document type for the current copy job.
4	**Resolution**: Adjusts the document resolution for the current fax job.	16	**Reduce/Enlarge**: Makes a copy smaller or larger than the original.
5	**Redial/Pause**: In Standby mode, redials the last number, or in Edit mode, inserts a pause into a fax number.	17	**USB Print**: Allows you to directly print files stored on a USB Memory device when it is inserted into the USB memory port on the front of your machine.
6	**Fax**: Activates Fax mode.	18	**Duplex**: Allows you to print documents on both sides of the paper.
7	**Copy**: Activates Copy mode.	19	**Toner Saver**: Allows you to save on toner by using less toner in printing.
8	**Scan**: Activates Scan mode.	20	**Number keypad**: dials a number or enters alphanumeric characters.
9	**Display**: Shows the current status and prompts during an operation.	21	**Manual Dial**: Engages the telephone line.
10	**Menu**: Enters Menu mode and scrolls through the available menus.	22	**Stop/Clear**: Stops an operation at any time. In Standby mode, clears/cancels the copy options, such as the darkness, the document type setting, the copy size, and the number of copies.
11	**Scroll buttons**: Scroll through the options available in the selected menu, and increase or decrease values.	23	**Start**: Starts a job.
12	**Enter**: Confirms the selection on the screen.		

Printer Options

The Phaser 3300MFP printer options include:

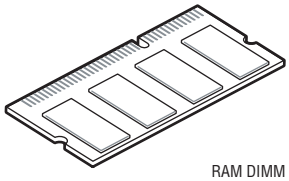
- Additional Memory (256 MB)
- 250-Sheet Feeder (Tray 2)

Additional Memory

The standard 96 MB memory consists of 64 MB soldered to the board plus a 32 MB RAM DIMM in the memory slot. The one memory slot supports up to 256 MB for a maximum of 320 MB. Memory modules must meet the following characteristics:

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

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



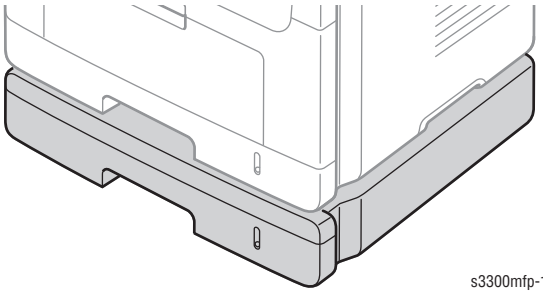
RAM DIMM

Optional 250-Sheet Feeder (Tray 2)

The Optional 250-Sheet Feeder increases the input capacity of the printer and can be attached to the printer underneath Tray 1. The Optional 250-Sheet Feeder is customer installable.

Note

Only one Optional 250-Sheet Feeder is supported.



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Maintenance Items

The cycle period outlined below is a general guideline for maintenance.

The example list is for an average usage of 50 transmitted and received documents per day.

Environmental conditions and actual use will vary.

The cycle period given below is for reference only.

Component	Replacement Cycle
ADF Rubber Pad	20.000 Pages
ADF Roller	60.000 Pages
Pick-up Roller	150.000 Pages
Transfer Roller	70.000 Pages
Fuser	80.000 Pages
Tray Rubber Pad	150.000 Pages

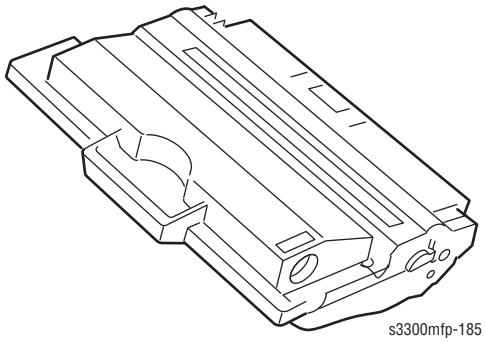
Consumables

Consumables consist of the Print Cartridge used in the printer.

The Print Cartridge has a CRUM (Customer Replaceable Unit Meter) to record the usage information. A CRUM counts the amount of remaining toner. When toner empty is detected, Life End status will be sent to indicate toner empty.

Life ratings are based on A4 (Letter) sheets at 5% coverage.

Print Cartridge	Print Life
Standard Capacity	4.000 pages
High Capacity	8,000 pages



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Specifications

General Specifications

Characteristic		Specification	Remarks
Major Features		As Standalone: Copier, Printer, Scan, Scan to USB, Fax	
		As Network connected: Network Print, Network Scan, Scan to E-mail, Scan to SMB, Scan to FTP	
Size (W*D*H) w/o Hand Set		460 x 435 x 450 mm (17.7 x 17.1 x 18inch)	
Net Weight (incl. Print Cartridge)		17.5 Kg (38.6 lbs)	
Net Weight (excl. Print Cartridge)		15.7kg	
Gross Weight (with package)		21.7kg	
LCD		16*2 Char (Export common)	(w/o backlight)
I/O Interface		IEEE 1284/ USB 2.0/ Ethernet 10/ 100 base Tx (Embedded type)	
MPU		CHORUSm / 300MHz	System Bus 100MHz
Power Consumption	Printing Operation	Less than 520W	
	Sleep Mode	Less than 30W	
	Power Switch	Yes	
Power Supply	Input Voltage	Low Voltage: 110 ~ 127VAC	
		High Voltage: 220 ~ 240VAC	
	Input Frequency	50 / 60Hz(+/- 3Hz)	
Noise	Printing	54dBA	
	Copy	55dBA	
	Standby	39dBA	
Warm Up Time	from Cold Status	Less than 20 seconds, Cold warm-Up time: 25sec	
Max. Monthly Volume (Duty Cycle)	Print	25,000 pages	
	Scan	2,000 pages	
	ADF	3,000 pages	
Machine Life		250,000 pages	

Characteristic		Specification	Remarks
Periodic Replacing	Pickup Roller	150,000 Pages	
	Pad Unit (Tray)	150,000 pages	
	Pad Unit (ADF)	20,000 Pages	
	Transfer Roller	70,000 Pages	
	Fuser Unit	80,000 Pages	
	ADF Roller	60,000 Pages	
Device Memory	Standard / Max.	96MB / 320MB(Std./Max)	Standard memory is 64MB + 32MB expansion; Max. memory is 64MB + 256MB.
	Type	SDRAM	
	Expand Memory Slot, Type	SDRAM DIMM	Expand Memory specification would be defined separate note.
	Compression Technology	YES	

Print Specifications

Characteristic	Specification	Remarks
Print Speed, Simplex	30ppm/Ltr, 28ppm/A4 (600 dpi)	
Print Speed, Duplex	21ipm/Ltr, 19ipm/A4 (600dpi)	Usable paper sizes Letter, A4, Folio, Legal, Oficio
Print Emulation	PCL6, PS3	
Auto Emulation Sensing	YES	
Font Type	45 Scalable, 1 Bitmap	
Power Save	Yes (5/10/15/30/45min.)	
Resolution	Normal (Up to 1200dpi Effective Output (Addressable 1200x1200dpi))	
Toner Save	Yes	
Memory	16MB	
FPOT (From Stand by)	Less than 8.5 sec. (From Ready)	
Duplex Print	Yes	
Printable Area	208 x 273 mm (Letter)	
Halftone (Gray Scale)	256 levels	

Scan Specifications

Characteristic		Specification	Remarks
Scan Method		Color CCD	
Scan Speed through ADF	Linearity	Approx. 15sec (USB 2.0)	
	Gray	Approx. 20sec (USB 2.0)	
	Color	Approx. 30sec (USB 2.0)	
Scan Speed through Platen	Linearity	Approx. 15sec (USB 2.0)	
	Gray	Approx. 20sec (USB 2.0)	
	Color 75dpi /300dpi	Approx. 30sec (USB 2.0)	
Resolution	Optical	600*1200dpi	75, 300, 600dpi horizontal
	Enhanced	4800dpi*4800dpi	

Characteristic		Specification	Remarks
Halftone		256 level	for only optical resolution
Scan Size (Max. Document Width)		Max.216mm (8.5")	
Scan Size (Effective Scan Width)		Max 208mm (8.2inch)	
Scan-to		Scan-to-Application, Scan-to-USB	
Scan Depth		Color (24 bit)	
Scan Depth		Mono (1bit for Line art, 8 Bit for Gray scale)	
Copy Quality Selection or Original Image type selection Mode	Text	600x300dpi	
	Text/Photo	600x300dpi	
	Photo	600x300dpi	
	Other	N/A	
FOOT	Stand by	Less than 8.5 sec. (From Ready)	
	From Cold Status	Less than 31.5 seconds	
Copy Speed/ Letter	SDMC at all mode	30cpm/Ltr, 28cpm/ A4	SDMC: Single Document Multiple Copy
	MDMC at mode	20cpm/A4	MDMC: Multi-all document Multiple Copy
Resolution		Scan:600x300dpi, 600*600dpi, Print:600*600dpi	
Zoom Range		25% to 400% for Platen 25% to 100% for ADF	
Number of Copies		1~99	
Preset		Yes	
Contrast Levels		3 level	
Copy Mode (=Quality)		Text, Text/Photo, Photo	
Collation Copy		Yes (ADF only)	
Auto return to default mode		Yes	Time can be changeable; 15,30,60,180sec, Off

Characteristic	Specification	Remarks
Changeable Default mode	Contrast, Image, Reduce/Enlarge, No. of Copies	
Special Copy (N-up copy)	2-up, 4-up (ADF only)	
Special Copy (Auto Fit Copy)	Yes (Platen only)	
Special Copy (AID Copy)	Yes (Platen only)	* Copy 2-side printed original document into one page (ex. ID Card Copy)
Special Copy (Clone)	Yes (Platen only)	
Poster	Yes (Platen only)	

Telephone Specifications

Telephone Specifications

Characteristic		Specification	Remarks
Handset		No	
On hook Dial		Yes	
Search		Yes (Phone Book)	by using Phone Book Button
1-Touch Dial		30EA	
Speed Dial		200 locations	Total locations can be stored
TAD I/F		Yes	
Tone/Pulse		Selectable in Tech mode	
Pause		Yes	
Auto Redial		Yes	
Last Number Redial		Yes	
Distinctive Ring		Yes	
Caller ID		No	
External Phone Interface		Yes	
Report & List Print out	Tx/Rx Journal	Yes	
	Confirmation	Yes	
	Help List	No	
	Auto Dial List	Yes	
	System Data List	List all user setting	
Sound Control	Ring Volume	Yes (Off, Low, MED, HIGH)	
	Key Volume	Yes (On, Off)	
	Alarm Volume	Yes (On, Off)	
	Speaker	Yes (On, Off)	

Fax Specifications

Characteristic	Specification	Remarks
Compatibility	ITU-T G3	
Communication System	PSTN/PABX	
Modem Speed	33.6Kbps	
TX Speed	3sec	LRT/MMR/ CCITT No.1 Chart/33.6Kbps

Characteristic		Specification	Remarks
Compression		MH/MR/MMR/ JPEG/JBIG	
Color Fax		Yes (Sending Only)	
ECM		Yes	
Resolution Fine		203*196dpi	
S.Fine		203*196dpi	
Std		300*300dpi	
Scan Speed (ADF) Std		2.5 sec./ LTR	
Fine/S.Fine		5 sec./ LTR	
Rx fax duplex print out		No	
Multiple page scan speed		21ppm/LTR, Std mode	
Receive Mode		Fax, TEL, Ans/Fax, DRPD	
Memory	Capacity	8MB	
	Optional	No	
	Max locations to store to 1 Group Dial	229 locations	
	Fax Forward	Yes (On/Off), both Sent and Received	
	Broadcasting	up to 239 locations	
	Cover page	No	
	Delayed fax	Yes (Tx only)	
	Memory RX	Yes	
	Voice Request	No	
Functions	TTI	Yes	
	RTI	Yes	
	Polling	No	
	Earth/Recall	No	
	Auto Reduction	Yes (On, Off)	
	F/W Remote	Yes	
Junk Fax barrier		Yes	
Secure Receive		Yes	
Memory Back-up		Yes, Max. 72hours	

Network Specifications

Characteristic	Specification
Protocol	TCP/IP (LPR, Standard TCP/IP Printing, IPP), NetWare, Ethertalk
Operating System	■ Windows 2000/XP(32/64bits)/Vista(32/64bits)/2003 Server(32/64bits) ■ Mac OS 10.3 and above ■ Various Linux OS (via USB interface only) including Red Hat 8~9, Fedora Core 1~4, Mandrake 9.2~10.1, and SuSE 8.2~9.2

Paper Handling Specifications

Characteristic		Specification
Capacity (20lbs)	Main Tray	250sheets
	MP Tray	50 Sheets
Optional Cassette		250sheets
Output Capacity		Face Down: 150Sheets/20lb, Face Up: 1Sheet
Output Control		Face Up/Down controlled manually by opening rear cover
Paper Size	Main Tray	A4, A5, Letter, Legal, Executive, Folio, Oficio, ISO B5, JIS B5
	MP Tray	A4, A5, A6, Letter, Legal, Folio, Oficio, Executive, ISO B5, JIS B5, 3"x5",Monarch, No.10, DL, C5, C6
Paper Weight	Main Tray	16~24lb (60 to 90g/m^2)
	MP Tray	16~43 lb.
Paper Path	Standard output	Bottom to Middle Front (FIFO)
	Straight Through	Face up, Single Sheet
Paper Size	Max	216 x 356mm(8.5"x14")
	Min	76 x 127mm(3"x5")
ADF	Paper Weight	12.5~28lb
	Capacity	50 sheets
	Document Size Width	142mm - 216mm (5.6" - 8.5")
	Document Size Length	148 mm - 356mm (5.8" - 14.0")
	Document Thickness	0.075mm - 0.13mm (0.003 - 0.005)

Print Cartridge Specifications

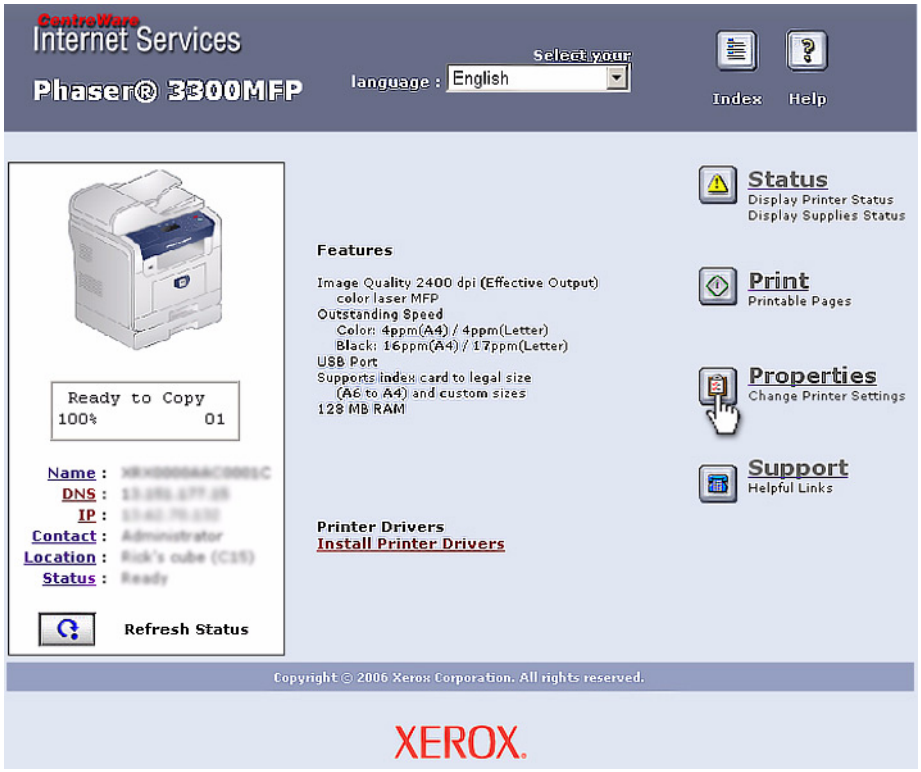
Characteristic	Specification
Toner Type	One Piece Type Print Cartridge
Toner Life	Initial 4Kpages (ISO 19752 Standard Test Pattern), running Standard: 4Kpages,High yield: 8K pages
Toner Level Sensor	No
Toner Count	Yes (CRUM)

CentreWare IS

The CentreWare IS (CWIS) enables the user to monitor the printer's status. User can access the CentreWare IS menu to add and/or update the printer's information as needed.

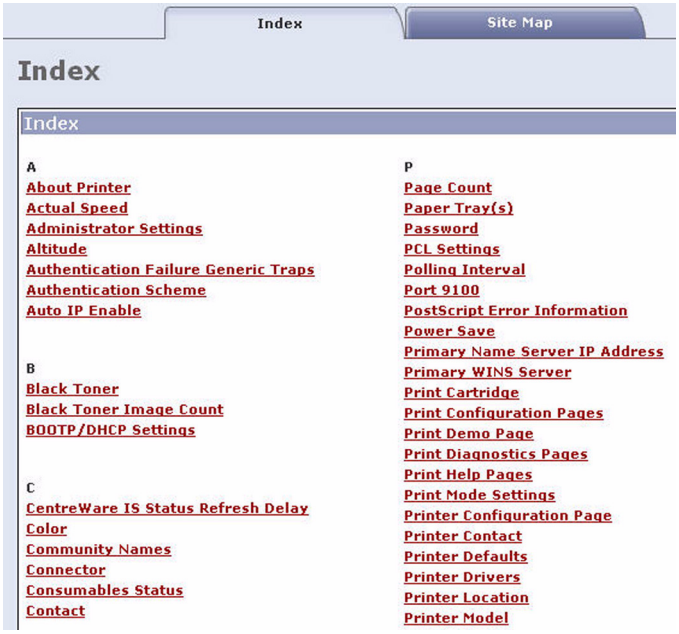
Accessing CentreWare IS

1. Open a web browser.
2. Enter the printer's IP address.
3. The **CentreWare IS** home page is displayed.



4. Various types of information are located under different categories:
   - **Status**: Provides General Status information of the printer.
   - **Print**: Prints the Printer or Network Configuration pages, and provides a way to download firmware to the machine.
   - **Properties**: Provides general information about the machine, and a way to change settings including General, Protocol, Fax, E-mail, FTP Setup, SMB Setup, Web Server, and Security settings.
   - **Support**: Provides web links and information for support including Software, Documentation, Supplies, and Registration.

The **Index** button provides links to specific topics in CWIS, and a site map for rapid navigation through the CWIS site.



Theory of Operation

In this chapter...

- Phaser 3300MFP Operational Overview
- Mechanical Parts Specifications
- Engine F/W
- S/W Descriptions

Chapter 2

Phaser 3300MFP Operational Overview

The Phaser 3300MFP is a monochrome multi-function product that uses Laser Scanner Unit (LSU) with an electrophotographic process in the print engine, a moving CCD in the automatic feed scanner, and a built-in fax-modem for fax functionality. The printer system consists of one print cartridge which creates toner image.

Summary

The Phaser 3300MFP is roughly made up of: Main Controller, Control Panel, Scanner, Line Interface, and Power subsystems. Each subsystem is a separate module that focuses on common and standard designs of different kind products. The Main controller consists of 1 CPU and 1 Board. The Scanner consists of the ADF and Platen, and is connected to the Main Controller by a harness. The Line Interface Unit is designed to apply TBR21 standard (Domestic, Europe, etc.)

1. CPU: ARM920T, which is exclusive controller to execute Printer & FAX Function and to execute operation block by flash memory within system program, and to control whole system.
   - Main function block
   - Completely Integrated System for Embedded Applications
   - PVC — Dual/Single Beam, LVDS Pad (VDO, HSYNC), Support A3 1200 dpi, multi-pass color.
   - HPVC — Dual/Single Beam, LVDS Pad (VDO, HSYNC), Support A4 600 dpi, multi-pass color.
   - DMA — 6 Channels (if not use CIP4e, 4ch is available for external DMA.
     If CIP4E used (a4 DMA channel use), 2ch available for external DMA)
   - Operation Frequency: CPU Core -> over 300 MHz, System Bus -> 100 MHz
   - Operation Voltage: Core Voltage -> 1.2 V, I/O Pad Voltage -> 3.3 V, RTC Voltage -> 3 V
2. Flash Memory: Record System Program, and download System Program by PC INTERFACE. FAX for Journal List, and Memory for One Touch Dial, Speed Dial List.
   - Size: 32 Mbyte (NAND Flash)
   - Random Access Time: 10 us (Max)
   - Serial Page Access Time: 50 ns (Min)
3. SDRAM: is used as Swath Buffer in Printing, Scan Buffer in Scanning, ECM Buffer in FAX receiving, and System Working Memory Area.

   Size: 64 Mbyte (Basic), 96 (64 + 32) to 320 (64 + 256) Mbyte (Duplex)

   20 MB: System Working Memory Area and Scan Buffer

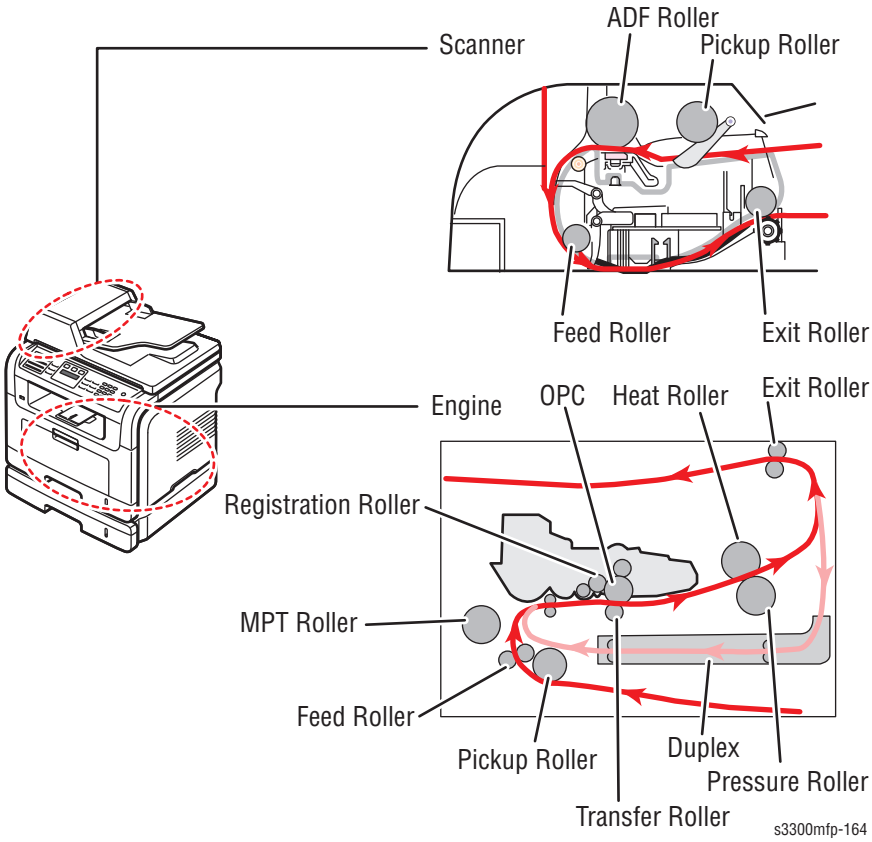
   6 MB: FAX Memory Receive Area

   30 MB: Printing System Working Memory Area

   Max Frequency: 166 MHz

   Store Fax Receive Memory Data by using Battery

Paper Path



Engine H/W

Sensor Input Circuit

Paper Empty Sensing

The operation of the Paper empty sensor actuator (Photo Interrupter) on the HVPS reports to the CPU whether the tray is empty or not. When the tray is empty, the CPU sends a *Paper Empty* message to the Control Panel display.

MPT Sensing

By operation of Actuator on the frame, MP Sensor (Photo interrupter) on the HVPS reports to the CPU whether is present or not. If paper is present in the MPT, it is fed into the machine.

Paper Feed Sensing

When paper passes the feed sensor actuator, the photo interrupter signals the CPU, which releases the image data after certain time.

If the CPU doesn't detect the feed sensor within 1sec. after paper is fed, paper Jam0 occurs.

The fact whether the print cartridge is inserted or not is detected by CRUM. After the print cartridge is mounted, the sub-CRUM can read the information of print cartridge from contact with CRUM involved in print cartridge. If the information of print cartridge is invalid, it will show invalid sign on a LCD.

Paper Exit Sensing

It detects paper state whether paper gets out from the set with operation of exit sensor on the HVPS and actuator on the frame. Paper detects the on/off time of exit sensor by reading D22 of CPU, and the normal operation or jam information is informed to the CPU. The paper JAM2 is reported.

Cover Open Sensing

The Cover open sensor is located on the HVPS. After the front cover is opened, +24VS (DC fan, Solenoid, Main Motor, Polygon motor part of LSU and HVPS), which is supplied to the each unit, is cut off. The cover-open sensing is operated by the D23 of CPU. In case, the red will be ON for informing the facts to user.

DC FAN/SOLENOID Driving

The DC Fans are driven by transistor and controlled by D14 (FAN MAIN), E16 (FAN DUPLEX), C23 (PICK-UP CLUTCH), C18 (REGI CLUTCH), D15 (MPF CLUTCH) of CPU. When it is high, the fan is driven by turning on the TR, and it is off when the sleep mode is selected.

There are three solenoids, and they are driven by paper pick-up, regi and MPF signal. It is turned on or off by C23, C18, D15 of CPU. The diode protects the driving TR from the noise pulse generated when the solenoid is de-energizing.

Motor Drive

The main motor driving circuits are on the BLDC Motor Assembly Unit. The Main Controller has the interfacing circuits.

There is a motor driver IC on the motor control board of Motor Assembly Unit.

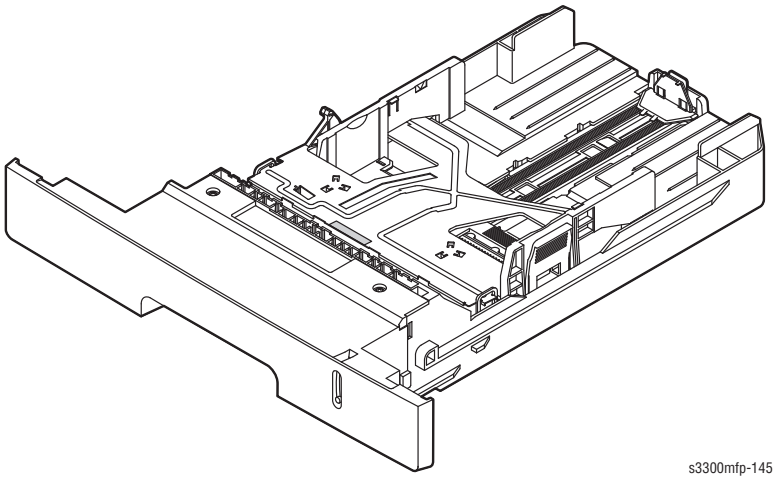
The exit motor driving circuits are formed when the driver IC is selected.

Assembly Description

Feed Section

Paper Tray

- Feed Method: Universal Cassette Type
- Feed Standard: Center Loading
- Capacity: Cassette 250 Sheets (75 g/m^2, 20 lb. Standard Paper)



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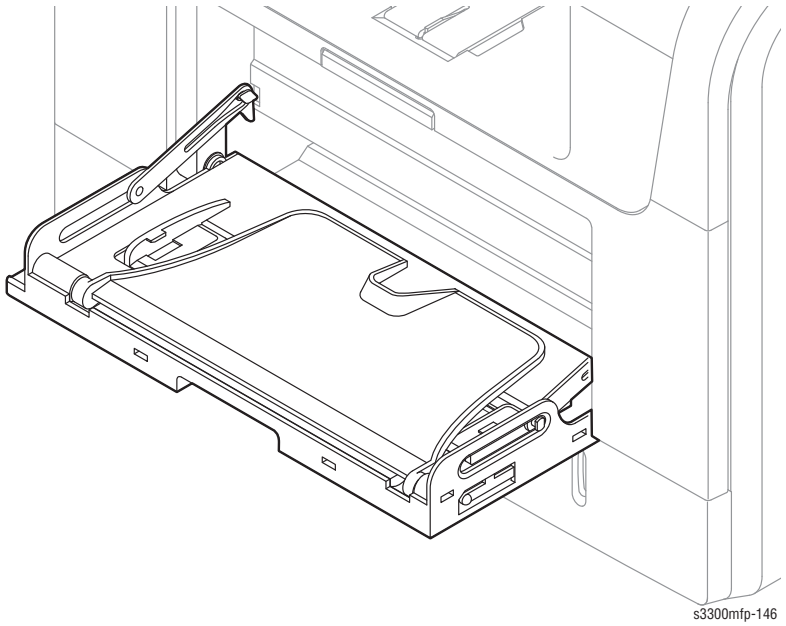
Multi-purpose Tray

- Feeding method: Multi-purpose tray (MPT)
- Capacity: 50 sheets (75 g/m^2, 20 lb. Standard Paper)



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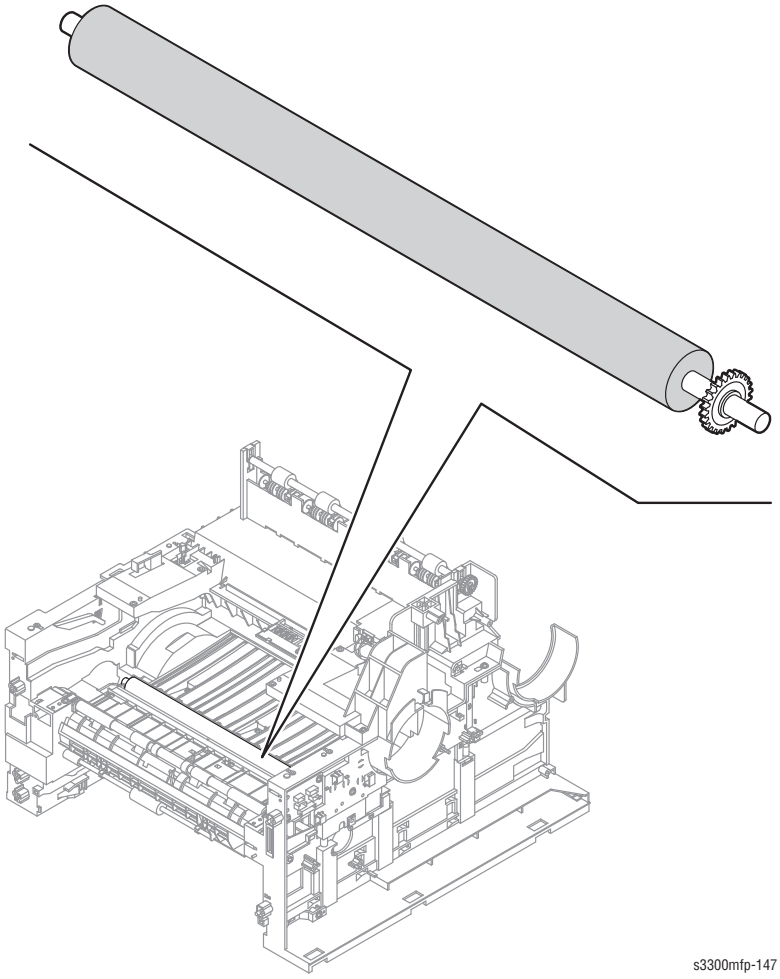
Transfer Assembly

- In Warranty (Life time): Within 70.000 sheets printing



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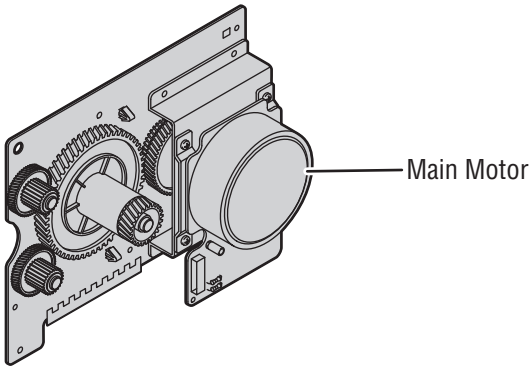
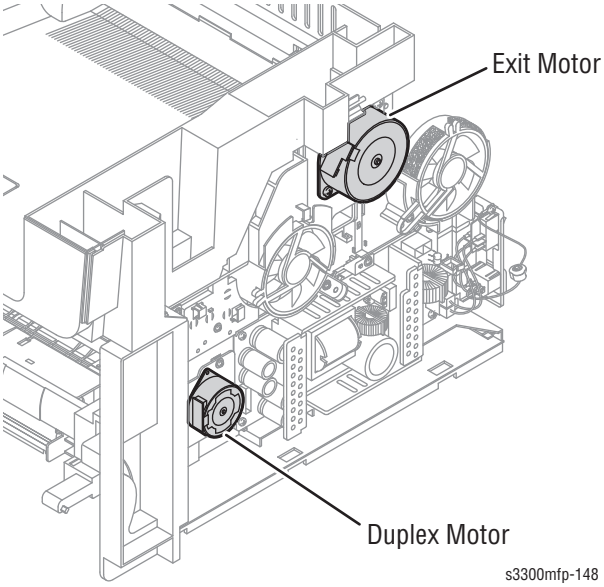
Driver Assembly

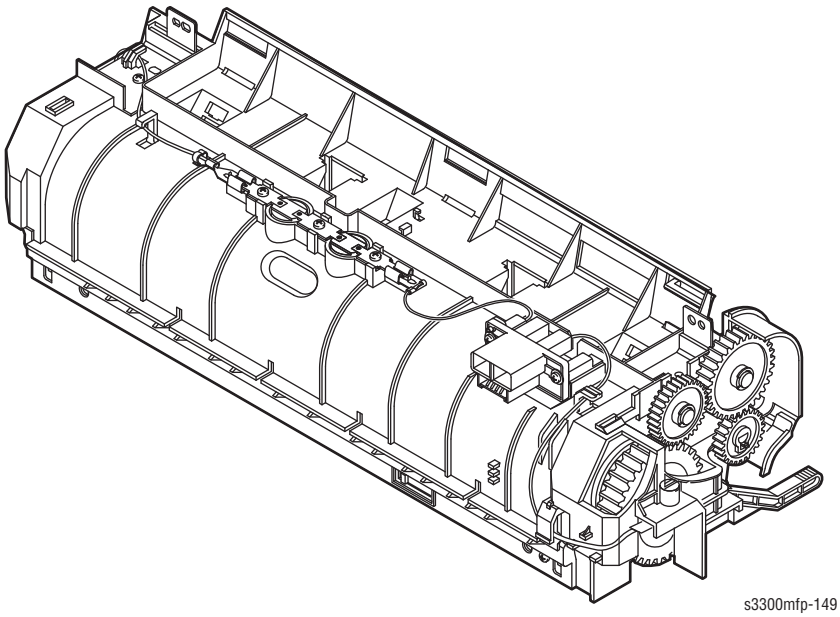
- The MAIN Motor assembly drives the Cassette, MPT, and Print Cartridge
- The EXIT Motor assembly drives the fuser, exit roller and the initial duplex feeding
- The DUPLEX Motor assembly drives the duplex feeder





Fuser Assembly

- Fusing Type: Halogen Lamp (R2)
- Heat Roller: 28.3 with 0.1 Crown
- Pressure Roller: Electrically conductive
- Thermistor - Temperature Detecting Sensor
- Thermostat - Overheat Protection Device



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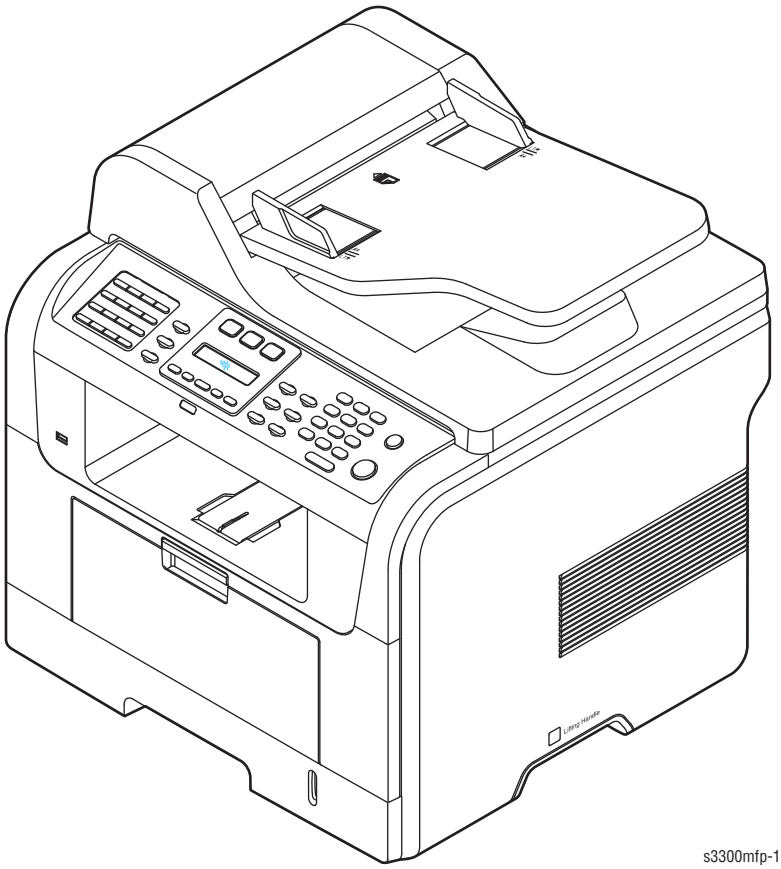
LSU

- The LSU consists of LD (Laser Diode) and polygon motor control. When the controller generate the printing signal LD will turn on and Polygon motor starts. If the receiving part in LSU detect the beam and then Hsync is generated. When the rotation of polygon motor is steady, it is time of LSU ready status for printing. If either of two condition is not satisfied, LSU error is expected.

Trouble	Failure Analysis
Polygon Motor Error	No steady rotation of Polygon Motor
Hsync Error	In spite of steady rotation of Polygon Motor, No generation of the Hsync signal

Scanner (ADF)

- Scanning Method: Color CCD (600 x 1200 dpi)
- Scan speed: SDMP 28 cpm/MDSP 20 cpm



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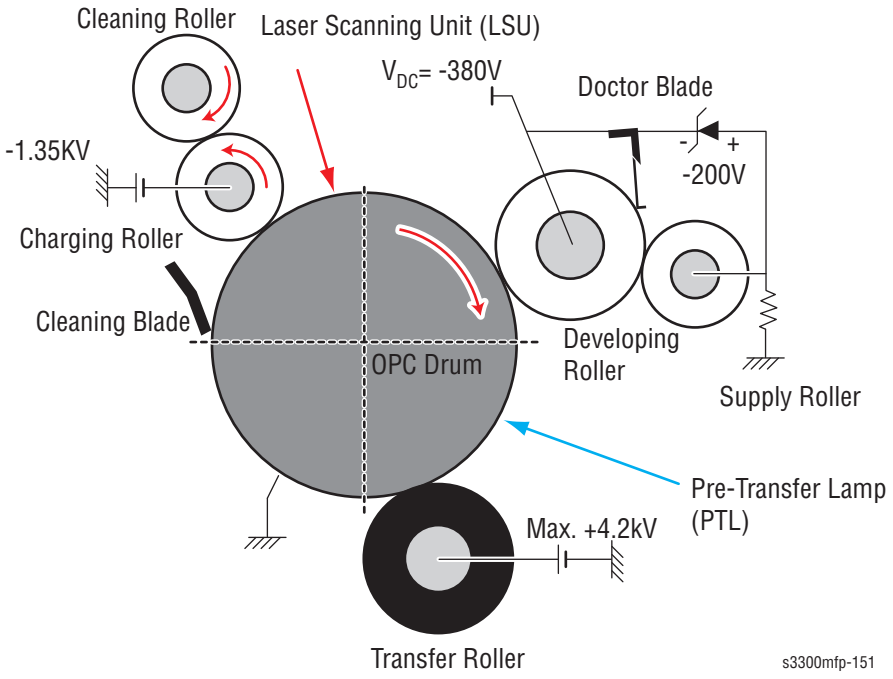
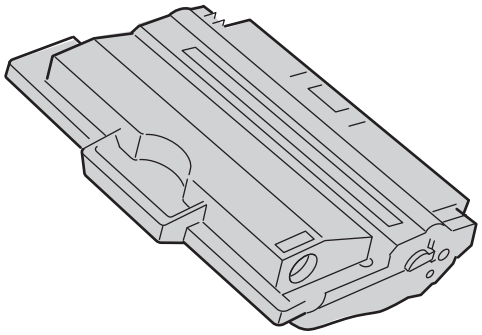
Print Cartridge

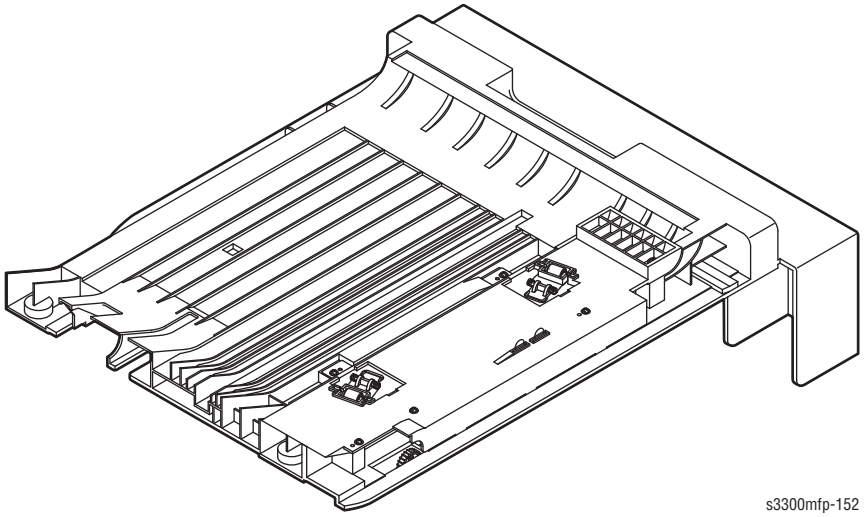
- OPC Cleaning: Mechanical Cleaning by the cleaning blade
- Waste toner: Room for the recycled toner
- No shutter for protecting the OPC Drum





Duplex Unit

- Duplex printing function as factory option
- Available Paper: Letter, Oficio, Legal, Folio, and A4



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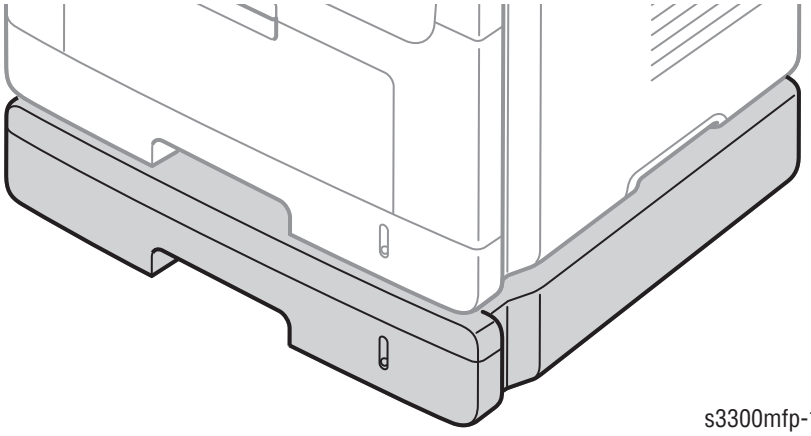
Optional Tray (SCF)

- For customer convenience in managing paper
- Capacity: 250 sheets



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Mechanical Parts Specifications

Frame

- Material: PC + ABS V0 NH-1000T (Cheil Industries)
- Weight: 1.0 kg

Feeding Part

- Feeding Type: Universal Cassette Type
- Feeding Standard: Center Loading
- Feeding Capacity:
  - Cassette 250 sheets (75 g/m^2, 20 lb. paper standard)
  - MP 50 sheets (75 g/m^2, 20 lb. paper standard)
  - Special Media 5 sheets in MP (OHP, Envelope, Label, PostCard, Index Paper etc.)
- Separating Type: Cassette - Friction Pad Type
  - MP - Friction Pad Type
- Driver Type: Driving by Gearing from Main Motor
- Pickup Roller Driver: Solenoid
- Pickup Roller Rubber Material: EPDM+IR μ = 1.6 or more
- Pickup Velocity: 217.27 mm/sec. (Process: 179.7 mm/sec.)
- Paper detecting Sensor: Photo Sensor
- Paper Size Sensor: None
- Paper Separating Pad Material: NBB 52 °C, μ = 0.8 ~ 1.2
- Separating Pad Pressure: 190 gf
- Pickup Roller RPM 139.71 RPM
- Feeding Pressure (Cassette): 250 ~ 320 gf
- Paper Exit Type: Face Down
- Feed roller Velocity:
  - Feed-roller Cassette; 182.34 mm/sec.
  - Feed-roller Frame; 180.42 mm/sec.
- Feed Roller Material:
  - Feed-roller Cassette; EPDM φ 13.7 mm
  - Feed-roller Frame; EPDM φ 14.2 mm

Transfer Assembly

The Transfer Assembly consists of the Transfer Roller and gear.
The transfer roller delivers the toner from the OPC drum to the paper.

- TR Voltage: +1.3 KV ± 5% (based on 200 MΩ, in accordance with media area, Transfer table)
  - -1.20 KV ± 10% (In cleaning)
- Transfer Efficiency: 85% or more (All environment: preferable media)
- Voltage System: Voltage PWM Control System
- Transfer Roller
  - Hardness: 40 °C ± 3% (ASKER-C)
  - Valid length: 224.2 + 0.5/-0 mm
  - OD: φ15.0 ± 0.5 mm
  - SHAFT Material: SUM -24L + Non-electrolysis Ni. Coating
- Life Span: Print over 70,000 sheets (in 15 ~ 30 °C)

Driver Assembly

Motor

- Spec: BLDC φ62 + PM φ55 Motor (2-2 Bipolar) + PM φ42 Motor (2-2 Bipolar)
- Pull-Out Torque:
  - BLDC φ62: 1500 gf.cm (based on actual value) or more (1342.4 rpm, 1.8 A)
  - PM φ55: 1490 gf.cm (based on actual value) or more (711 pps, 0.9 A)
  - PM φ42: 240 gf.cm (based on actual value) or more (1850 pps, 0.6 A)
- TORQUE MARGIN (Tp/o VTsys): BLDC φ62 Motor: 1500/1100 gf.cm = 1.36
  - PM φ55 Motor: 1490/1053 gf.cm = 1.41
  - PM φ42 Motor: 240/165 gf.cm = 1.45
- Driving Frequency: BLDC φ62 Motor: 1342.4 rpm (1006.8 Clock)
  - PM φ55 Motor: 888.75 rpm (711 pps)
  - PM φ42 Motor: 1156.25 rpm (1850 pps)
- It is a power delivery unit by gearing: BLDC φ62 Motor -> Pickup/Feeder/Print Cartridge
  - PM φ55 Motor -> Fuser/Exit
  - PM φ42 Motor -> Duplex

Process Speed

- Print Speed: 28/30 PPM (based on A4/LTR)
- OPC Drum Vp: 179.7 mm/sec.
- Unit Relative Velocity (Paper Speed)
  - Pickup: 217.27 mm/sec., 21.72% C VS OPC Vp
  - Feeder (cassette): 182.34 mm/sec., 2.15% C VS OPC Vp
  - Feeder (Frame): 180.42 mm/sec., 1.08% C VS OPC Vp
  - Transfer: 183.02 mm/sec. 2.53% C VS OPC Vp
  - Fuser: 177.96 mm/sec., 0.3% 8 VS OPC Vp
- Jitter
  - Horizontal: 3σ 0.022 or less in Vision System
- Orthogonality: SPEC: ± 1.0 mm or less

Acoustic Noise

- Warming Up: 49 dB or less
- Printing: 54 dB or less
- Copying: 55 dB or less
- Stand-by: 39 dB or less

Fuser

The fuser consists of the halogen lamp, Heat Roller, Pressure Roller, Thermistor and Thermostat. It fuses the toner to the paper with pressure and a heat to complete the printing job.

Halogen Lamp

- Voltage 120 V: 115 ± 5%
  220 V: 230 ± 5%
- Capacity: 800 Watt
- Temp. Distribution: 120%

Temperature-Interception Device (Thermostat)

- Thermostat Type: Non-Contact type THERMOSTAT
- Control Temperature: 70 °C ± 5 °C
- THERMOSTAT-ROLLER Gap: 1.1 ± 0.2 mm

Temperature Detecting Sensor (Thermistor)

- Thermistor Type: FS-50003 (SEMITEC 364 FL Type)
- Temperature Resistance: 7 kQ (180 °C)
- SYSTEM Temperature SETTING
  - Stand by:165 ± 5 °C
  - Printing:189 ± 5 °C (5 minutes before)
  - 184 ± 5 °C (5 minutes after)
  - Overshoot: 200 °C less
  - Overheat: 210 °C less

Heat Roller

- Length: 254 mm
- Valid length: 224 mm
- OD: φ 28.3 ± 0.05 (Coating incl., Crown 0.05 ~ -0.15)
- Material: AL (AL5052) + PFA Coating
- Thickness: 0.9 mm
- Coating Material: PFA 100%
- Coating Thickness: 20 um (Thickness after abrasion)
- GND Type: H/R Bearing Grounding type By SECC Fuser lower frame

Pressure Roller

- Shaft
  - Length: 251.3 mm
  - Material: STKM
  - Thickness: ∅ 6 (∅ 12–RUBBER portion)
- Rubber
  - Material: Silicon Rubber (Tubing Type: 032.25)
  - Length: 226.4 mm
  - Thickness: 5.5 mm (one-side)
- OD: ∅ 32.25 ± 0.2 (Center part Crown -0.3 ~ -0.5)

Media Separating System

Teflon Coating with SUS Plate Claw System

Safety Features

- To prevent overheating
  - 1st protection device: H/W cuts off when detecting an overheating
  - 2st protection device: S/W cuts off when detecting overheating
  - 3st protection device: Thermostat cuts off power to the lamp
- Safety device
  - Fuser power is cut-off when the front cover is open
  - LSU power is cut off when the front cover is open
  - The temperature of the fuser cover's surface is maintained at less than 80ºC to protect the user and a caution label is attached where the customer can see it easily when the rear cover assembly is opened.

LSU (Laser Scanner Unit)

The LSU unit is controlled by the video controller. It scans the video data received from video controller with laser beam by using the rotation principle of the polygon mirror to create a latent image on the OPC drum. It is the core part of LBP.

The OPC drum rotates as the same speed as the paper feeding speed. It creates the /HSYNC signal and sends it to the engine when the laser beam of the LSU reaches the end of the polygon mirror, and the engine detects the /HSYNC signal to arrange the vertical line of the image on the paper. After detecting the /HSYNC signal, the image data is sent to the LSU to arrange the its margin on the paper.

Each facet of the polygon mirror scans a single line.

	Item	Specification	Item
Resolution		Real 600 dpi	main direction x sub direction
Spot Size	Main	75 + 20/-20 μm	-beam diameter at the level of 1/e2 of intensity -at the spot location of 0, ±100 mm of image height
	Sub	85 + 25/-25 μm	
	Variation	40 μm/50 μm	main/sub, within image height of -100 ~ +100 mm range
Laser Property	Wavelength	785 + 10/-15 nm	at 25 °C
	Power	0.33 mW ± 0.02 mW	at the center of image on the focal plane, with stationary condition, power supplied at DC 5 volt
	Vignetting	Min 80%	spot power variation within image height of -100 ~ +100 mm
fθ Property	Magnification error	Max 0.7%	based on the printable area, 216 mm
	Partial Magnification error	max 1.5%	based on the 2.54 mm width within the printable area, 216 mm

Beam Position	Deviation of main scanning	±1.0 mm	at the center of image
	Deviation of sub scanning	±1.0 mm	
Scan Line Property	Bow	Max 1 mm	within image height
	Skew	Max 1 mm	-100 ~ +100 mm range
Sync. Property	Position	136.7 ± 1.0 mm	distance to synchronization position from the center of image
	Pulse width	Min 5.0 μsec	pulse width of synchronization
Pitch Error	Neighbor line	Max 10 μm	Pitch error in sub scanning direction within image height of -105 ~ +105 mm range
	Within 6 lines	Max 20 μm	within image height of -105 ~ +105 mm range
Unit assembly state		5°	
Motor	Control	PWM control	external clock (TTL pulse)
	Direction of rotation		CCW
	Rotational speed	31836.6 rpm	normal rotational speed (30 ppm)
	Rising time	Max 6.0 sec	time to stable rotational speed
Mirror	Facet number	4 faces	
	Inner diameter	φ14.14 mm	
Jitter	LF	Max 0.030%	within image height of -105 ~ +105 mm range
	RF	Max 0.020%	
Motor Driver	Supply voltage	24 V ± 10%	application voltage to the driving circuit of polygon motor
	Starting current	Max 2.0 A	required current for acceleration
	Running current	Max 1.0 A	required current to stable rotational speed
Scanning Property	Effective scanning width	216 mm	
	Scanning freq.	2.122.44 Hz	one line scanning frequency
	Scanning time	471.15 μs	
	Scanning dot	5.102 dots	
	1 dot ON time	53.86 ns	time interval from falling 0.9 VH to rising again 0.9 VH
	Scanning effective	58.3%	
	Video freq.	18.5648 MHz	frequency of video data
	Process Speed	179.7 mm/s	Drum Speed
Environment	Acoustical noise	45 dB	at normal operation condition, measuring at 1 m horizontal, 0.75 m vertical apart
Use	Temperature	+10 ~ +50 °C	
	Humidity	30 ~ 80%	
Preservation	Temperature Humidity	-20 ~ +60 °C 10 ~ 90%	
Size			W x L x H

Print Cartridge

In the print cartridge, the OPC unit and the developer unit are housed in a single case. The OPC unit consists of the OPC drum and charging roller, and the developer unit includes toner, toner chamber, supply roller, developing roller, and the blade.

Summary

- Developing Method: Non magnetic 1 element contacting method
- Toner: Non magnetic 1 element shatter type toner
- The life span of toner: 4k/8k sheets (ISO 19752 5% Pattern/A4 standard)
- Toner Residual Sensor: Dot count with CRUM (CRU Monitor)
- OPC Cleaning: Collect the toner by using cleaning blade + FILM OPC
- Handling of wasted toner: Collect the wasted toner in the cleaning frame by using cleaning blade
- OPC Drum Protecting Shutter: None
- Classifying device for print cartridge: ID is classified by interruption of the frame channel.

Developing Roller

- Rotary Speed: 203.06 mm/sec
- Roller Bias: -220 V ~ -400 ± 20 V
- Control Type: Bias PWM Control type
  - Structure: Mono layer
  - Valid Length: 228 mm
  - OD: φ 14.07 mm ± 0.05
  - Shaft material: SUS 303
  - Life: 8.000 sheets or more

Supply Roller

- Roller Bias: -370 V ~ -550 V
- Control Type: Bias
  - Valid Length: 220 mm
  - OD: φ 11.2 ± 0.1 mm
  - Shaft OD: φ 6 mm + 0 / -0.05
  - Driver: Gear Driver (in a direction opposed to D/R)
  - Sponge Density: 0.45, ± 0.1 g/m^3
  - Life: 8.000 sheets or more

Regulating Blade

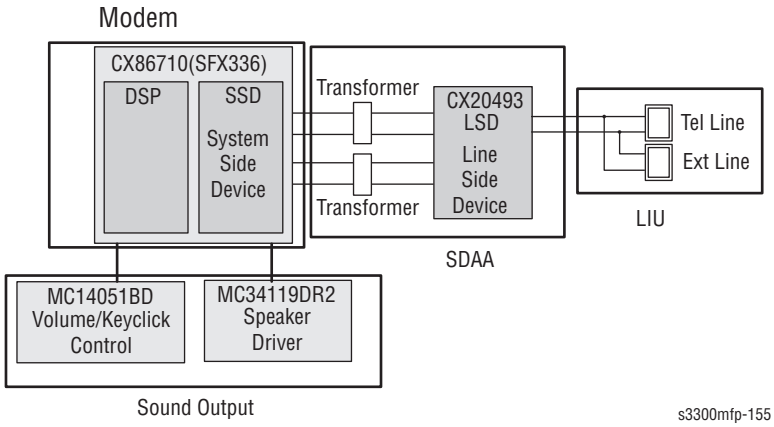
- Type: Regulating toner layer by pressure
- Valid Length: 228 mm
- Voltage: -420 V ~ -600 V

Charging Portion

- Type: Conductive Roller Contact-Charge
- Rotary Velocity: 179.7 mm/sec
  - Length: 230 mm
  - OD: φ 12.0 ± 0.05 mm
  - Shaft OD: φ 6 + 0 / -0.05 mm
  - Driver: Gear Driver
  - Roller life: 8.000 sheets or more
- Roller Voltage: -1.25 ~ -1.70 KV

FAX Section

Modem Block Diagram



Implemented by based on Conexant DAA (Data Access Arrangement) Solution, and is roughly composed of two kinds Chip Solution

- CX86710 (SFX336): Existing Modem Chip which adds SSD (System Side Device) for interfacing between LSD and DIB of FM 336 Plus Core.
- CX20493 (LSD): LIU (Line Interface Unit) Chip which is controlled by SSD and satisfies each PSTN Requirements by modulating internal Configuration with connecting Tel Line.

Modem (SFX336) specification.

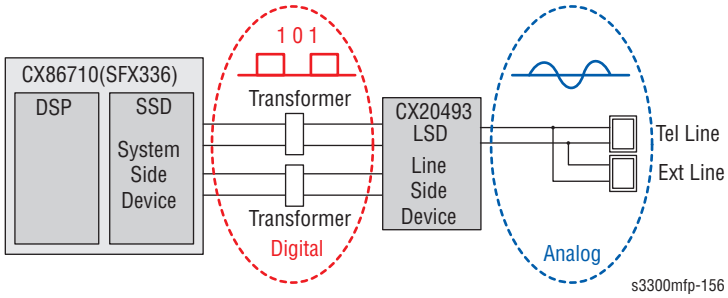
- 2-wire half-duplex fax modem modes with send and receive data rates up to 33.600 bps
- V.17, V.34, V.29, V.27 ter, and V.21 Channel 2
- Short train option in V.17 and V.27 ter
- PSTN session starting
- V.8 and V.8 bis signaling
- HDLC support at all speeds
- Flag generation, 0-bit stuffing, ITU CRC-16 or CRC-32 calculation and generation
- Flag detection, 0-bit deletion, ITU CRC-16 or CRC-32 check sum error detection
- FSK flag pattern detection during high-speed receiving
- Tone modes and features
- Programmable single or dual tone generation
- DTMF receiver
- Tone detection with three programmable tone detectors
- Receive dynamic range:
- 0 dBm to -43 dBm for V.17, V.29, V.27 ter and V.21 Channel 2
- 9 dBm to -43 dBm for V.34 half-duplex
- Digital speaker output to monitor received signal
- Two 16-byte FIFO data buffers for burst data transfer with extension up to 255 bytes
- V.21 Channel 1Flag detect
- V.21 Channel 1Flag detect
- +3.3 V only operation
- Typical power consumption
- Normal mode: 264 mW

Signal Transition of DAA Solution

Line Interface Signal of Tel Line and LSD is Analog Signal.

There is A/D, D/A Converter in LSD, so Analog Signal from Tel Line is converted in Digital through A/D Converter in DAA and transfer to SSD by DIB Capacitor.

Digital Signal from SSD is converted to Analog by D/A Converter in DAA and transfer to Tel Line.

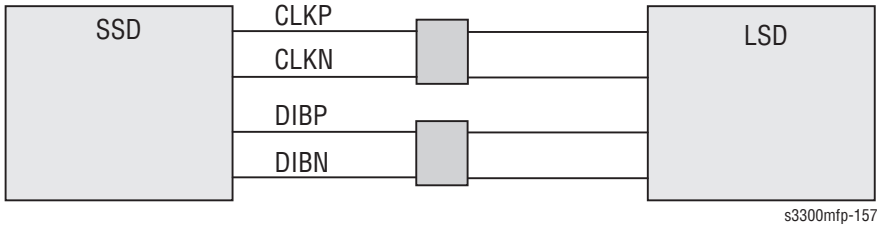


Transformer transfer Clock from SSD to LSD and Clock Frequency is 4.032 MHz.

LSD full wave rectifies Clock to use as inner Power supply and also use as Main Clock for DIB Protocol Sync between LSD and SSD. Transformer transfer Clock by separating Primary and Secondary, and amplifies Clock Level to LSD by Coil Turns Ratio 1:1.16.

Clock

Clock is supplied by transformer from SSD to LSD, and there is PWROUT to adjust output impedance of Clock Out Driver is inside SSD and CLKSHIGH Resistor to adjust duty of HLPWR Resistor and Clock.



Clock from SSD to LSD has Differential structure of 180 phase difference for Noise Robustness

DIB Data transfer Data from SSD to LSD by Transformer, and also transfer specific data from LSD to SSD.

After transferring data from SSD, RSP is transferred and LSD recognizes RSP and change LSD to output Driver transfer Data to SSD.

DIB Data form SSD to LSD by Transformer has Differential structure of 180 phase difference between DIBP and DIBN for Noise Robustness.

Line Interface

The Line Interface provides the connection between the system and the external telephone line. Main functions are Line Interface, Telephone Connection and Line Condition Monitoring.

Telephone Line Connection

- a) Modular Plug: RJ-11C
- b) LIU PBA Modular Type: 623 PCB4-4
- c) Line Code Length: 2500 ± 50 mm
- d) Line Code Color: Black

ON HOOK state Characteristic

1. DC Resistance

   a) DP Dial Mode (Direct Current 30 mA): 50 ~ 300 ohm
   b) DTMF Dial Mode (Direct Current 20 mA): 50 ~ 540 ohm

2. Ring Sensitivity

   a) Ring detection Voltage: 40 Vrms ~ 150 Vrms (condition: Current = 25 mA, Frequency = 15 Hz)
   product Margin: 30 Vrms ~ 150 Vrms

   b) Ring detection Frequency: 15.3 Hz ~ 68 Hz (condition: Voltage = 45 Vrms, Current = 25 mA)
   product Margin: 15 Hz ~ 70 Hz

   c) Ring detection Current: 20 mA ~ 100 mA (condition: Voltage = 40 Vrms, Frequency = 20 Hz)
   product Margin: over 15 mA

3. False Ring Sound

   a) Ring Frequency: 750 Hz + 1020 Hz

   b) Ring interrupt Cycle: On/Off depending on input Ring Signal Cycle.

Scan Part

Pictorial signal input part: output signal of CCD passes through Bypass Cap change to ADC at HT82V26, and defined signal between HT82V26 and CHORUSm processes the Image signal. When AFE accept each pixel, CDS (Correlated Double Sampling) technique which samples arm-level twice is used on each pixel by using CIP4e signal.

1. Pictorial image processing part: read CCD Pixel data in terms of 600 dpi Line and process Error Diffusion Algorithm on Text mode and Photo mode, and then store Data at Scan Buffer on PC Scan mode without algorithm.

   On every mode Shading Correction and Gamma Correction are executed ahead, then processing is executed later.

   * Scan Image Control Specification
   a) Minimum Scan Line Time: 0.7062 ms
   b) Scan Resolution: Max. 600 DPI
   c) Scan Width: 216 mm
   d) Main function

   - Internal 12 bit ADC
   - White Shading Correction
   - Gamma Correction
   - CCD Interface
   - 256 Gray Scale

2. CCD Operating Part: CCD Image sensor use +5V and Inverter uses +24V
   - CCD Maximum Operating Frequency: 10 MHz
   - CCD Line time: 0.7062 ms
   - White Data output Voltage: 0.7 V ± 0.5 V (Mono Copy, 0.75 ms/line)
   - Maximum Inverter Current: 600 mA Max. (+24 V)

Control Panel Section

Configuration

The Control Panel uses Main Control and separated OPE Chip Micom and work as inner program, systemic operation is serial system which exchange Date with SIO Port of Main Control. The Control Panel consists of the Micom part, Matrix part, and LCD.

Micom controller

Micom has ROM, RAM, I/O Port built-in and displays and lights LCD by CPU command of main control part and report Key recognition Data to Control Board.

Printer Section

The printer consists of the Engine and F/W, and engine consists of the mechanical parts that include the Frame, Feeding, Developing, Driving, Transferring, Fusing, Cabinet and H/W comprising the Control Board, power board, operation panel, PC Interface.

The main controller consists of ASIC (CHORUSm) parts, Memory parts, Engine Interface parts and it functions as Bus Control, I/O Handling, drivers & PC Interface by CPU.

The Engine Board and the Controller Board are in one united board, and it consists of CPU and print in functional aspect. The CPU functions as the bus control, I/O handler, drivers, and PC interface. The Control Board sends the Current Image, Video data to the LSU and manages the conduct of electro photography for printing. It consists of the circuits of the motor (paper feed, pass) drive, clutch drive, pre-transfer lamp drive, current drive, and fan drive.

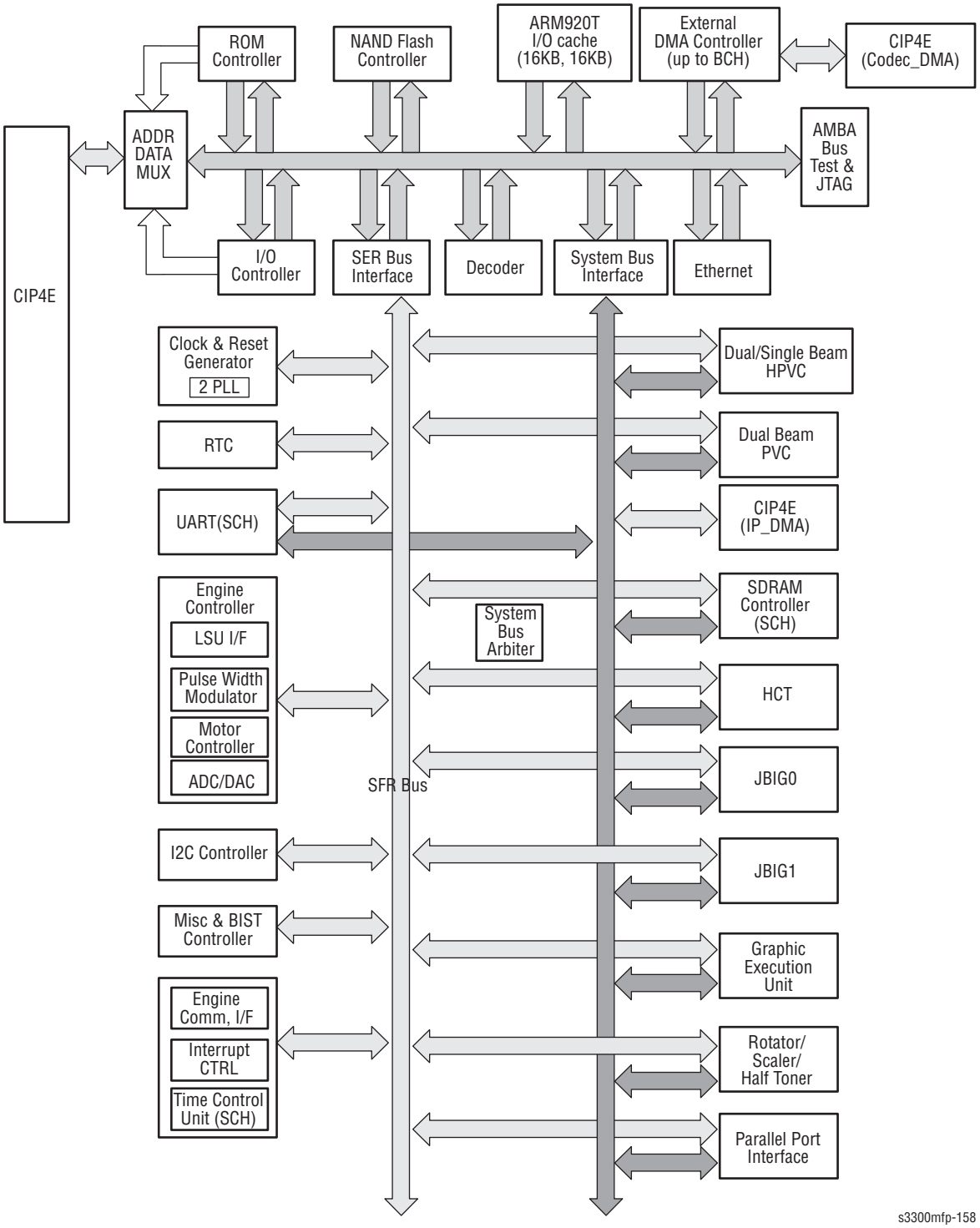
The signals from the paper feed jam sensor and paper empty sensor are direct inputs to the Control Board.

Printing Method:	Laser-based Electro-photography
Supported Operating Systems:	■ Windows 2000/XP(32/64bits)/Vista(32/64bits)/ 2003 Server(32/64bits) ■ Mac OS 10.3 and above ■ Various Linux OS (via USB interface only) including Red Hat 8~9, Fedora Core 1~4, Mandrake 9.2~10.1, and SuSE 8.2~9.2
Emulation:	PCL5e, PCL6, PS3
Maximum Paper Size:	Legal
Effective Printing Width:	Letter/Legal: 208 mm A4: 202 mm
Resolution: (selectable from Print	Addressable 1200 x 1200 dpi 600 x 600 dpi (True; no RET)
Speed:	30 ppm (Letter)
Input Paper Capacity:	Tray: 250 sheets (20 lb) MP Tray: 50 sheets (20 lb)
Output Paper Capacity:	150 sheets (20 lb; sequenced 1 to N, face down)
Feed Direction:	Front In, Front Out (FIFO)
PC Interface:	USB 2.0 (without HUB mode) Requires 6 ft. USB Cable
Print Cartridge:	Toner Low Sensor: None Toner Low Indicator: Message displayed on LCD Cartridge Missing Indicator: Message displayed on
Paper Sensing:	Tray: “Add Paper” message displayed on LCD MP Tray: “Add Paper” message displayed on LCD

ASIC

Items	Specification
Process	0.13 um (STDH150)
Package	■ 496 PBGA (total pad number: 597 ea) ■ Function pin: about 367pins ■ PWR & GND pin: 130 pins ((130/496) x 100 = 26.2%) ■ PWR & GND pad: 204 ea ((204/597) x 100 = 34.17%)
Voltage	■ Core Voltage: 1.2 V ■ I/O Pad Voltage: 3.3 V ■ RTC Voltage: 3 V
CPU Core	ARM 920T (I-Cache: 16 KB, D-Cache-16 KB)
Operating Freq.	■ CPU Core: over 300 MHz ■ Target System Bus: 100 MHz
SDRAMC	■ 32 Bits Only, 100 MHz ■ 5 Banks (Up to 128 MB per Bank) ■ Feed-back clock (for SDRAM read) is appended
ROMC	4 Banks (Up to 16 MB per Bank)
IOC	6 Banks (Up to 16 MB per Bank)
DMAC	6 Channels (if CIP4e is not used, 4ch is available for external DMA. If CIP4E is used (a4 DMA channel use), 2ch available for external DMA)
HPVC	■ Dual/Single Beam ■ LVDS Pad (VDO, HSYNC) ■ Support A4 600 dpi, multi-pass color.
PVC	■ Dual/Single Beam ■ LVDS Pad (VDO, HSYNC) ■ Support A3 1200 dpi, multi-pass color.
UART	5 Channels (Channel 0 supports DMA/interrupt Operation)
INTERRUPT	6 External Interrupts, 26 Internal Interrupts
TIMER	6 System Timers
CIP4e	■ 300/400/600/1200 dpi CIS/CCD image sensor interface ■ Color/Mono grey image, Binary image scan support ■ 600 dpi Color/Mono Copy support ■ Image processing for High-End MFP, Digital Copier ■ MH/MR/MMR CODEC function for fax ■ Scan image: (max) A4 1200 dpi pixel processing ■ Copy image: (max) A4 600 dpi pixel processing
NAND Flash Controller	■ 8/16 Bits, H/W ECC Generation ■ Auto Boot Mode (using internal SRAM, 4 KB)
MAC	■ 10M/100 Mbps ■ Full IEEE 802.3 compatibility
GEU	Graphic Execution Unit
RSH	Fully Hardware Rotator/Scaler/Halftoner support
Engine Controller	■ LSU Interface unit, contained APC function. ■ Step Motor: 4 Phase ■ PWM: 8 Channels ■ ADC: 8 Channels ■ BLDC clock support.
APC	DAC (2 ea)

Items	Specification
I2C Controller	I2C bus (SM bus) Slave Device Support (I2C Version 2.1)
RTC	RTC Core Voltage: 3 V
PLL	2 PLL (MAIN/(H) PVC)



Copier Section

Copy Mode:	Black and White
Scanner Type; Maximum Size of Original: (max. width = 218 mm, max length = 400 mm)	CCD with Flatbed/Platen and ADF ■ Platen: 216 x 297 mm ■ ADF: Legal (216 x 356 mm)
Optical Resolution:	600 x 600 dpi
Copy Quality - H x V: (User selectable via Content button)	■ Text: 600 x 300 dpi (default) ■ Text/Photo: 600 x 300 dpi ■ Photo: 600 x 600 dpi
Supported Media Types: Copy Speed: (SDMP = Single Document, Multiple Printout, MDSP = Multiple Document, Single Printout)	Plain, Label, Card stock, Transparency ■ Platen, SDMP: 30 cpm (Letter) ■ ADF, SDMP: 30 cpm (Letter) ■ ADF, MDSP: 20 cpm (A4, Text or Text/Photo) 10 cpm (A4, Photo)
Reduce/Enlarge:	■ Platen: 25% - 400% (1% increments) ■ ADF: 25% - 100% (1% increments)
Non-printable Area:	4 mm (Top, Bottom, and each Side)
Copy Count: (Page count displayed on LCD during copy operation)	1 to 199
Copy Modes:	Text, Text/Photo, Photo
Fixed R/E Setting:	100%, Auto-fit, 2 (4)-Up
Darkness Control:	3 levels
First Copy Output Time (FCOT):	■ Platen: 8.5 sec. (600 x 300 dpi) ■ ADF: 15 sec. (600 x 300 dpi)
Duplex Copy	■ Manual from MP Tray for SCX-5330N model ■ Automatic Duplex Copy for SCX-5530FN model

Telephone Section

Speed Dial:	400 Locations (46 digits maximum per location)
Manual Dial (manual fax):	Yes
Last Number Redial:	Yes
Automatic Redial:	Yes
Pause:	Yes (using Redial key)
Ringer Volume:	Off, Low, Medium, High
Tone/Pulse:	Selectable (Tech Mode Only no Telecom certification for Pulse mode)

SMPS & HVPS board

The SMPS supplies DC Power to the System. It takes 110 V/220 V and outputs the +5 V, +24 V to supply the power to the Control Board.

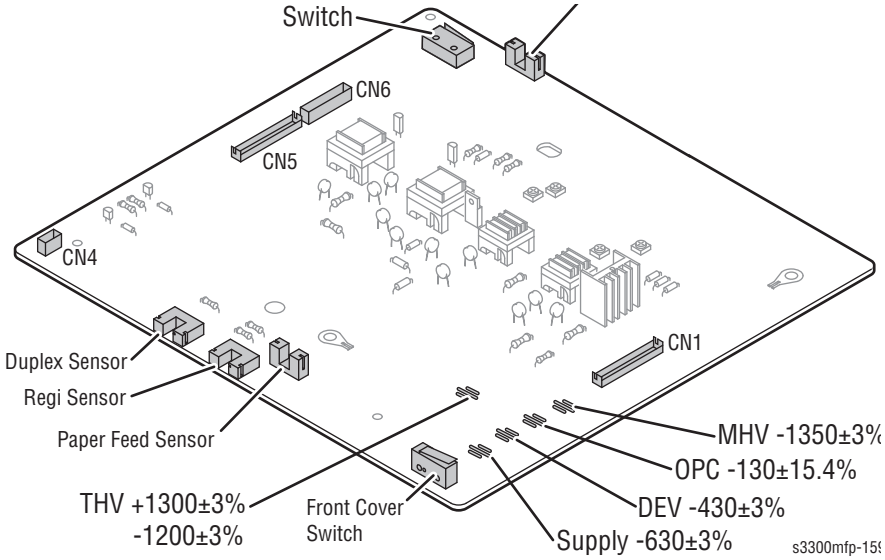
The HVPS board creates the high voltage of THV/MHV/Supply/Dev and supplies it to the print cartridge for making best condition to display the image. The HVPS takes the 24 V and outputs the high voltage for THV/MHV/BIAS, and the high voltage output is supplied to the toner, OPC cartridge, and transfer roller.

1) HVPS (High Voltage Power Supply)

- Transfer High Voltage (THV+)
  - Input Voltage: 24 V DC ± 15%
  - Output Voltage: MAX +5.0 KV ± 5%, (Duty Variable, no loading) -> 1.2 KV ± 15% (when cleaning, 200 MΩ)
  - Output Voltage Trigger: 6.5 μA
  - Input contrast of the Voltage stability degree: under ± 5% (fluctuating input 21.6 V - 26.4 V) Loading contrast: ± 5% or less
  - Output Voltage Rising Time: 100 ms Max
  - Output Voltage Falling Time: 100 ms Max
  - Fluctuating transfer voltage with environmental various: +650 V (Duty 10%) ~ 5 KV (Duty 90%)
  - Environment Recognition Control Method: The THV-PWM ACTIVE is transfer active signal. It detects the resistance by recognizing the voltage value, F/B, while permits the environmental recognition voltage.
  - Output Voltage Control Method: Transfer Output Voltage is outputted and controlled by changing Duty of THVPWM Signal. 10% Duty: +650 V, 90% Duty: +5 KV ± 5%
- Charge Voltage (MHV)
  - Input Voltage: 24 V DC ± 15%
  - Output Voltage: -1.3 KV ~ -1.8 KV DC ± 50 V
  - Output Voltage Rising Time: 50 ms Max
  - Output Voltage Falling Time: 50 ms Max
  - Output Loading range: 30 MΩ ~ 1000 MΩ
  - Output Control Signal (MHV-PWM): CPU is HV output when PWM is Low
- Cleaning Voltage (THV-)
  - The (+) Transfer Voltage is not outputted because the THV PWM is controlled with high.
  - The (-) Transfer Voltage is outputted because the THV-Enable Signal is controlled with low.
  - The output fluctuation range is big because there is no Feedback control.
- Developing Voltage (DEV)

- Input Voltage: 24 V DC ± 15%
- Output Voltage: -200 V ~ -600 V DC +20 V
- Output Voltage Fluctuation range: PWM Control
- Input contrast of the output stability degree: ± 5% or less Loading contrast: ± 5% or less
- Output Voltage Rising Time: 50 ms Max
- Output Voltage Falling Time: 50 ms Max
- Output Loading range: 10 MΩ ~ 1000 MΩ
- Output Control Signal (BIAS-PWM): the CPU output is HV output when PWM is low.

- Supply
  - Output Voltage: -400 V ~ -800 V DC ± 50 V (ZENER using, DEV)
  - Input contrast of the output stability degree: under + 5% Loading contrast: ± 5% or less
  - Output Voltage Rising Time: 50 ms Max
  - Output Voltage Falling Time: 50 ms Max
  - Output Loading range: 10 MΩ ~ 1000 MΩ
  - Output Control Signal (BIAS-PWM): the CPU is HV output when PWM is low.



2) SMPS (Switching Mode Power Supply)

It is the power source of entire system. It is assembled by an independent module, so it is possible to use for common use. It is mounted at the side of the set.

It consists of the SMPS part, which supplies the DC power for driving the system, and the AC heater control part, which supplies the power to fuser. SMPS has two output channels. Which are +5 V and +24 V.

- AC Input
  - Input Rated Voltage: AC 220 V ~ 240 V AC 110 V ~ 127 V
  - Input Voltage fluctuating range: AC 198 V ~ 264 V AC 99 V ~ 135 V

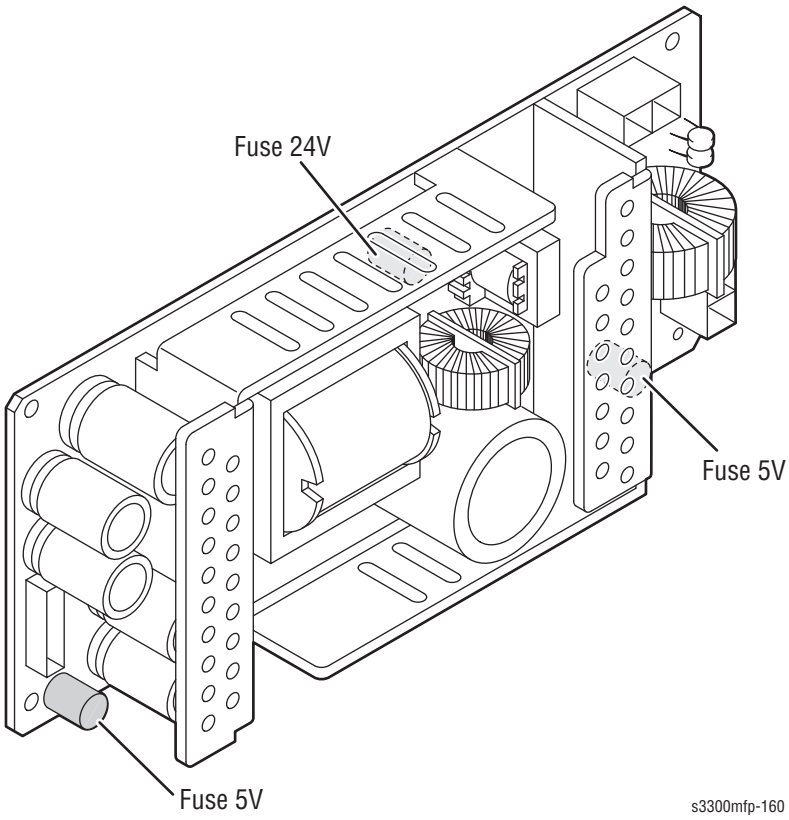
- Rated Frequency: 50/60 Hz
- Frequency Fluctuating range: 47 ~ 63 Hz
- Input Current: Under 4.0 Arms/2.0 Arms (But, the status when e-coil is off or rated voltage is inputted/outputted)

- Rated Output Power

NO	ITEM	CH1	CH2	Remark
1	CHANNEL NAME	+5 V	+24.0 V	
2	CONNECTOR PIN	CON 35 V PIN: 11, 13, 15 GND PIN: 12, 14, 16	CON 324 V PIN: 3, 5, 7, 9 GND PIN: 4, 6, 8, 10	
3	Rated Output	+5 V ± 5% (4.75-5.25 V)	+24 V ± 10% (21.6-26.4 V)	
4	Max. Output Current	3 A	4.4 A	
5	Peak Loading Current	3.6 A	5.3 A	1 ms
6	RIPPLE NOISE Voltage	100 m Vp-p	Under 500 m Vp-p	
7	Maximum output	15 W	105.6 W	
8	Peak output	18 W	127.2 W	1 ms
9	Protection for loading shortage and overflowing current	Shut down or Fuse Protection	Shut down or Output Voltage Drop	

- Consumption Power

NO	ITEM	System
1	Stand-By	Less than 150 W
2	PRINTING	Less than 400 W
3	Sleep-Mode	Less than 11 W



- Length of Power Cord: 1830 ± 50 mm
- Power Switch: Use
- Feature
  - Insulating Resistance: 100 MΩ or more (at DC 500V)
  - Withstanding Voltage: Must be no problem within 1 min. (at 1000V-LV model/1500 Vac-HV model,10 mA)
  - Leaking Current: under 3.5 mA
  - Running Current: under 40 A PEAK (AT 25 °C, COLD START) under 60 A PEAK (In other conditions)
  - Rising Time: within 2 sec
  - Falling Time: over 20 ms
  - Surge: Bi-Wave 3 KV? Normal, 6 KV - Common
- Environment Condition
  - Operating temperature range: 10°- 32°C
  - Storage/Shipping temperature range: –20°- 40 °C
  - Operating Humidity Condition: 20 - 80% RH max., 30 - 70% RH opti.
  - Storage/Shipping Humidity Condition: 10% - 90% RH
  - Operating atmospheric pressure range: 1 atm
- EMI Requirement: CISPR, FCC, CE, MIC, C-Tick
- Safety Requirement: IEC950 UL1950, CSA950, C-UL, NOM, TUV, Semko, Nemko, iK, CB, CCC (CCIB), GOST, EPA, Power Save

Fuser AC Power Control

AC power to the Fuser is controlled with a Triac, a semiconductor switch. The ON/OFF control is operated when the gate of the Triac is turned on/off by Phototriac (insulating part).

When the ‘HEATER ON’ signal is turned on at engine, the LED of PC501 (Photo Triac) flashes. From the flashing light, the Triac (light receiving part) takes the voltage, and the voltage is supplied to the gate of Triac and flows into the Triac. As a result, the AC current flows in the lamp to create heat.

When the signal is off, the PC501 is off, the voltage is cut off at the gate of Triac. The Triac is turned off, interrupting power to the lamp.

- Triac (Q501) feature: 24 A-LV model/16 A-HV model, 600 V SWTCHING
- Phototriac Coupler (PC501)
  - Turn On If Current: 15 mA ~ 50 mA (Design: 16 mA)
  - High Repetive Peak Off State Voltage: Min 600 V

Engine F/W

Control Algorithm

Feeding

If feeding from a cassette, the drive of the pickup roller is controlled by controlling the solenoid. The on/off of the solenoid is controlled by controlling the general output port or the external output port. While paper moves, occurrence of Jam is judged as below.

ITEM	Description
JAM 0	■ After picking up, paper cannot be entered due to paper is not fed. ■ After picking up, paper entered but it cannot reach to the feed sensor in certain time due to slip, etc. ■ After picking up, if the feed sensor is not on, re-pick up. After re-picking up, if the feed sensor is not on after certain time, it is JAM 0. **It is a status that the leading edge of the paper doesn't pass the feed sensor.*
JAM 1	■ After the leading edge of the paper passes the feed sensor, the trailing edge of the paper cannot pass the feed sensor after a certain time. (The feed sensor cannot be OFF) ■ After the leading edge of the paper passes the feed sensor, the paper cannot reach the exit sensor after certain time. (The exit sensor cannot be
JAM 2	■ After the trailing edge of the paper passes the feed sensor, the paper cannot pass the exit sensor after certain time.
Dup JAM 1	■ After the trailing edge of the paper passes the exit sensor, the paper cannot pass the Dup sensor after certain time.
Dup JAM 0	■ After the trailing edge of the paper passes the Dup sensor, the paper cannot pass the feed sensor after certain time.

Transfer

The charging voltage, developing voltage, and transfer voltage are controlled by PWM (Pulse Width Modulation). Each output voltage is changeable due to the PWM duty. The transfer voltage produced when the paper passes the transfer roller is determined by environment recognition. The resistance value of the transfer roller changes due to the surrounding environment of the set. The voltage value, which also changes due to the environment, is changed through AD converter.

Fusing

The temperature change of the heat roller's surface varies with the resistance value through the thermistor. The resistance value determines how much voltage will be converted into heat to raise the temperature of the fuser. If the value measured by the thermistor is out of controlling range, one of the errors below may occur:

Error	Temperature Control Concept
Open Heat Error	90 °C below for 45 sec at Warm up
Over Heat Error	230 °C over for 10 sec or 240 over for 5 sec
Low Heat Error	Standby: 130 °C below for 10 sec Printing: 35 °C below for 7 sec at consecutive 2 page printing.

Open Heat Error

This error occurs when a specified temperature is not reached during the warm up process. When this happens, the engine stops all functions and processes. The engine then informs the error status to the main system. An error message is then displayed on the LCD which informs the user.

Recovery is performed automatically. Maximum heat is supplied to the fuser and a second reading is taken. When the specified temperature is reached, the printer resumes operation as normal.

Low Heat Error

This error occurs when the temperature is lower than the specified temperature during stand-by, printing or warm-up mode. When this happens, the engine stops all functions and processes. The engine then reports the error status to the main system. An error message is then displayed on the LCD which informs the user.

Recovery is performed automatically. Maximum heat is supplied to the fuser and a second reading is taken. When the specified temperature is reached, the printer resumes operation as normal.

Over Heat Error

This error occurs whenever the printer temperature is higher than specified. When this happens, the engine stops all functions and processes. The engine then informs the error status to the main system. An error message is then displayed on the LCD or LED which informs the user.

Recovery is performed automatically. The heat supply is cut off to the fuser and a second reading is taken. When the temperature is a degree below the specified temperature, printer resumes operation as normal.

LSU

The LSU receives image data from PVC or HPVC and makes a latent image on OPC surface. It uses the dual beam, LD1 and LD2. But the control method of each is the same.

Compared to the single beam, the dual beam has half of the LSU's frequency.

->The frequency of the dual beam = the frequency of the single beam /2.

The errors related to LSU are as follows:

By LReady: When the printing is started, the engine drives the polygon motor of LSU. After the specified time is elapsed, if the motor is not in a ready status, the engine detects the error that the polygon motor is not in a ready status. If this error happens, the engine stops all functions and keeps it at the error state. Also, the engine informs the error status of the main system and the error message is displayed at LCD window to inform the error status of the user.

By Hsync: When the polygon motor is ready, the LSU sends out the signal called Hsync and used to synchronize with each image line. So, if the engine does not detect consecutively the signal for a fixed time, it defines the Hsync Error. If this error happens, the engine stops all functions and keeps it at the error state. Also, the engine informs the error status of the main system and then the error message is displayed at LCD window to inform the error status of the user.

LSU Error Recovery: If the LReady or Hsync error happens, the paper exits out beforehand. The engine mode is changed to recovery mode and the engine informs the main system of the engine mode. And the engine checks the LSU error. If the error doesn‘t happen, the printing job will be proceeding.

S/W Descriptions

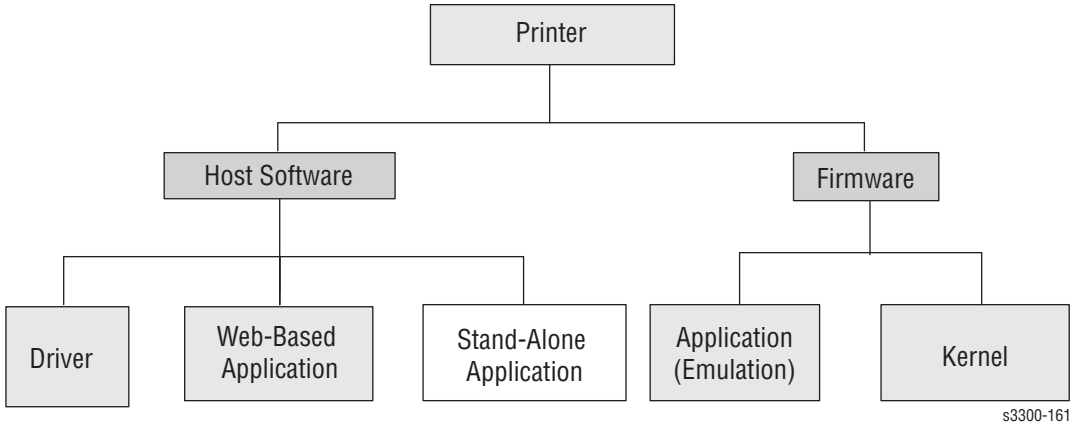
Overview

The software of Phaser 3300MFP system is constructed with

1) Host software - the application software that operates in Windows and Web Environments.

2) Firmware - Embedded software that controls the printing job.

Architecture



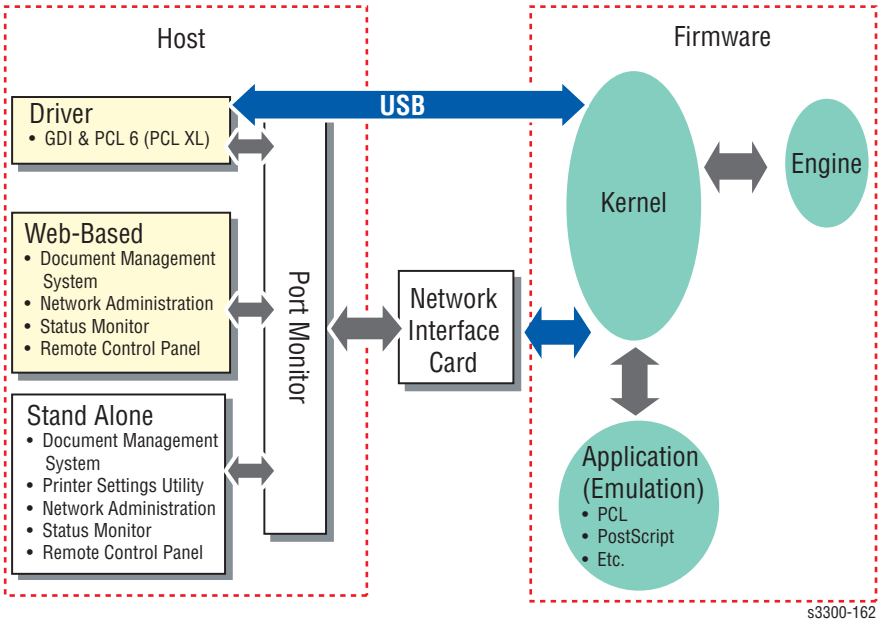
Host Software is made up of

- Graphic User Interface — offers the various editing functions to user in Host
- Driver — translates the received document to a Printing Command language which printer can understand and transfers data to spooler,
- Stand-alone Application — offers the various printing application, DMS (Document Management System), RCP (Remote Control Panel), Printer Status Monitor, Network Management in Window system,
- Web-based-Application — offers the same functions as Stand-alone Application in Web environment.

Firmware is made up of

- Application (Emulation) — translates data received from Host to a Printing Command language (PCL, PS, etc.).
- Kernel — controls and manages the whole procedure including control flow and printing jobs before processing the data to the printer engine.

Data and Control Flow



As shown in the block diagram, the Host Side is made up of:

- Driver — a Windows software application that translates printed data to one of the printer languages, and creates a spooler file.
- Web-based Application — offers various printer additional functions: management of printing jobs, printer administration, status monitor for monitoring printer status in real time on the Web, independent environment on OS.
- Stand-alone Application — similar in functionality to Web-based applications.
- Port Monitor — manages the network communication between spooler and Network Interface Card, or various additional applications and Network Interface Card, (this is, at first, make communication logical port, manage the data, transfer them from spooler to network port, and offer the result of printing).

The Firmware Side is made up of:

- Network Interface Card — relays communications between Host and kernel using various network protocols
- Kernel — manages the flow control of emulation procedure, receiving data from Host or Network card and printing with engine & rendering job
- Emulation — interprets the various output data from selected emulation
- Engine — prints rendered bit-map data to paper with size and type required by Kernel.

And then, for Job Spooling function for Multi-User, Multi-Printing that occurs in Network printing and various additional printing functions, this Kernel use max. 10 Queuing systems in a memory.

In Printing, the two procedures are

- Using the USB Port
  - **a.** When the user starts to print the desired document to a PCL or PS string, the Driver translates the all-graphic data and sends the data to the host spooler. The spooler then sends the data stream to the printer via the USB port.
  - **b.** The Kernel receives this data from Host, and then select emulation fit to data and start selected one. After emulation job end, Kernel sends the output bit-map data to Engine using Printer Video Controller (by clock type for LSU).
  - **c.** Engine print the received data to required paper with the sequential developing process.
- Using the Network Interface Card
  - **a.** When the user starts to print the desired document to a PCL or PS string, the Driver translates the all-graphic data and sends the data to the host spooler.
  - **b.** The Port monitor managing the network port receives data from spooler, and sends a data stream to the Network Interface Card.
  - **c.** The network interface card receives the data and sends it to the Kernel.
  - **d.** The Kernel receives this data from Host, then selects an emulation that fits the data, and start the selected emulation. After the emulation job ends, the Kernel sends the output bit-map data to the Engine using Printer Video Controller (by clock type for LSU).
  - **e.** The Engine prints the received data to the selected paper with the sequential developing process.

The additional printing function are realized in

(1) Web environment.

(2) Window environment.

In addition, the Kernel reports printing status and printer status with the Status Monitor.

Error Messages and Codes

In this chapter…

Chapter 3

Introduction

This chapter describes error messages that appear on the CWIS status window or the Control Panel display to indicate the machine's status or errors. These error indications serve as the entry point into the troubleshooting process.

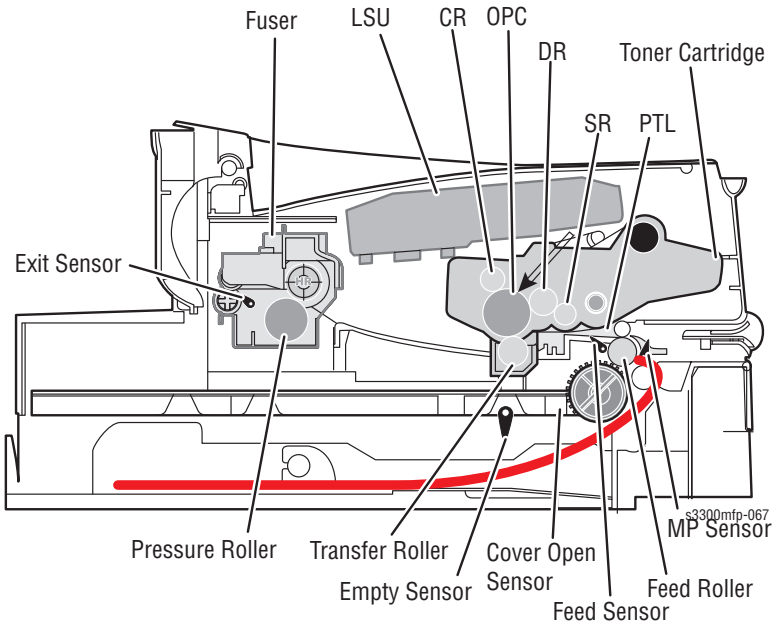
Troubleshooting of problems not directly indicated by or associated with an error message or error code is covered in "General Troubleshooting" on page 4-1. Print quality problems are covered in "Print-Quality Troubleshooting" on page 5-1.

Jam Error Codes

JAM 0

Description

1. Paper does not leave the tray.
2. Jam-0 occurs if the paper feeds into the printer.



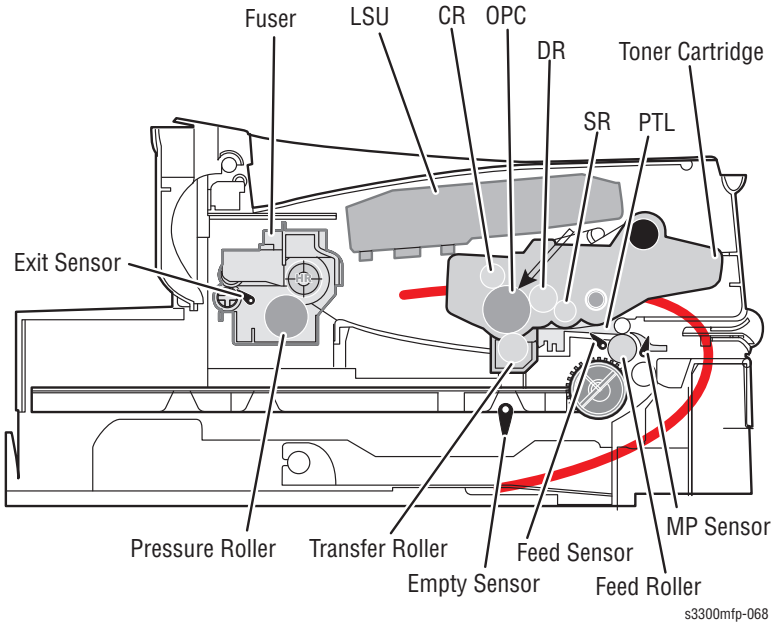
Check and Cause	Solution
1. Check the Solenoid.	1. Replace the solenoid.
2. Check the surface of the roller-pickup for foreign matter.	2. Clean with soft cloth dampened with water.

Check and Cause	Solution
3. If continuous clusters occur, check whether the assembly slot between shaft-pickup and housing-pickup become open or is broken away.	3. Replace the Housing-Pickup and/or Shaft-Pickup.
4. If the paper feeds into the printer and Jam 0 occurs, check feed-sensor of the Control Board.	

JAM 1

Description

1. Paper is jammed in front of or inside the fuser.
2. Paper is stuck in the discharge roller and in the fuser just after passing through the Actuator-Feed.



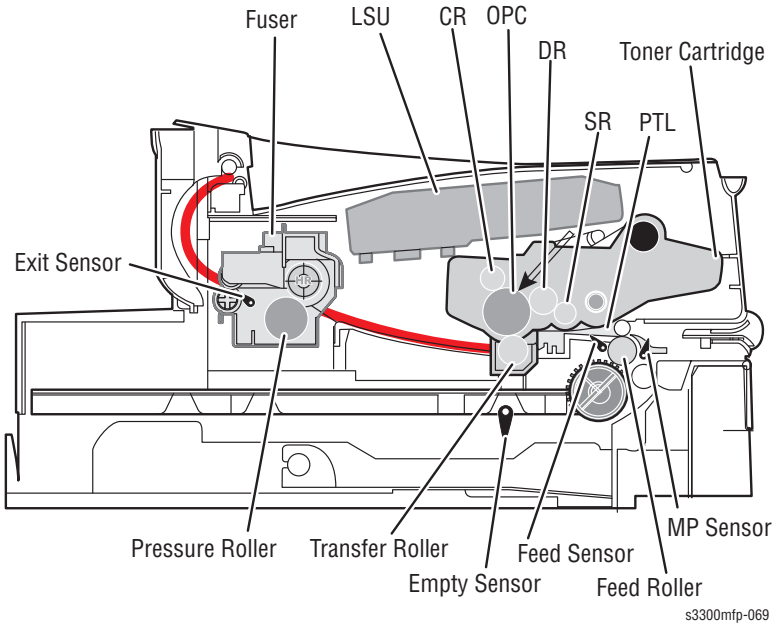
Check and Cause	Solution
1. If the paper is jammed in front of or inside the fuser.	1. Replace the HVPS.
2. If the paper is stuck in the discharge roller and the fuser just after passing through the Actuator-Feed, Feed Actuator may be defective.	2. Reassemble the Actuator-Feed and Spring-Actuator if the return is bad.

JAM 2

Description

1. Paper is jammed in front of or inside the fuser.

2. Paper is stuck in the discharge roller and in the fuser just after passing through the Actuator-Feed.



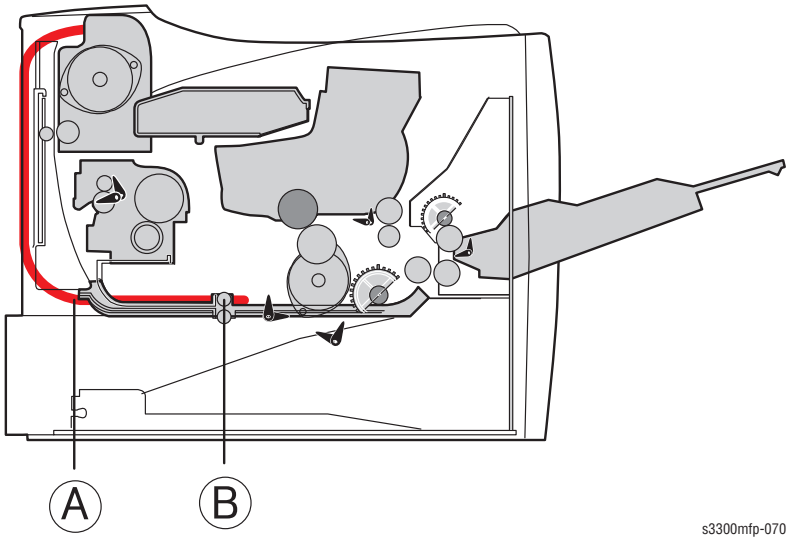
Check and Cause	Solution
1. If the paper is completely fed out of the printer, but Jam 2 occurs: Exit sensor is defective. ■ After the paper is completely discharged, actuator Exit should return to the original position to shut off the photo-sensor. Sometimes it takes longer than it should and does not return.	1. Check if the exit sensor actuator is defective. ■ Check if the actuator exit is deformed (Check if the lever part is deformed in shape). ■ Check whether burrs occur in the assembly part of the actuator exit or not and if the actuator is smoothly operated. ■ Check for foreign matter and if a wire is caught in the actuator exit's operation.
2. If the paper is rolled in the Fuser Roller: ■ This occurs when a Guide claw is broken away or deformed. ■ It occurs when the Guide claw spring is broken away or deformed. ■ It occurs when the Heat-Roller or Pressure-Roller is seriously contaminated with toner.	2. If the paper is stuck in the fuser: disassemble the fuser and remove the jammed paper, and clean the surface of the pressure roller with dry gauze.

Check and Cause	Solution
3. Paper is accordion jammed in fuser.	3. Remove the jammed paper after disassembling the fuser: Clean the surface of the pressure roller with dry cloth. ■ Remove the toner dust on the rib. ■ Check the assemblage and performance of the exit assembly.

Duplex Jam 1

Description

The 'Duplex Jam 1' message is displayed in the LCD window.

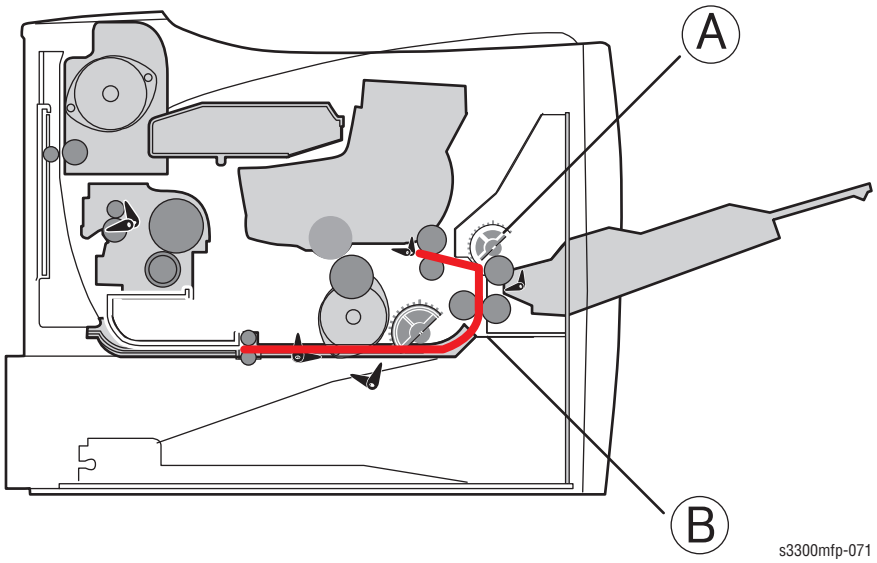


Check and Cause	Solution
1. Paper can not operate a duplex sensor.	1. Replace the HVPS or Control Board.
2. Paper can not reach a duplex sensor due to a paper jam in the duplex path.	2. A case that a paper jam occurs on (A) after it is reversed: replace a 2nd exit roller after checking its operation.
3. Duplex unit reaches end of life.	3. A case that a paper jam occurs on (B) after it is reversed: replace a duplex roller after checking its operation.
	4. Replace Duplex unit.

Duplex Jam 0

Description

The 'Duplex Jam 0' message is displayed in the LCD window.



Check and Cause	Solution
1. Paper cannot pass the Duplex sensor.	1. Replace a HVPS or Control Board.
2. Paper cannot reach the registration sensor after it has passed the duplex sensor.	2. If leading edge of a paper is jammed on (A), check operation of guide front. If it is worn or defective, replace it.
3. Duplex unit reaches end of life.	3. Check operation of feed roller and registration roller. If they are worn or defective replace them.
	4. Replace Duplex unit.

Error Messages

Messages appear in the CentreWare IS window or on the control panel display to indicate the machine's status or errors. Refer to the tables below to understand the messages' meaning and correct the problem if necessary. Messages and their meanings are listed in alphabetical order.

Message	Meaning	Suggested solutions
Authentication Failed	The ID or password you entered is incorrect.	Enter the correct ID or password
Cancel? 1: Yes 2: No	Your machine's memory has become full while trying to store an original into memory.	To cancel the fax job, press the 1 button to accept Yes. If you want to send those pages that have been successfully stored, press the 2 button to accept No. You should send the remaining pages later, when memory is available.
[COMM. Error]	The machine has a communication problem.	Ask the sender to try again.
Connection Error	Connection with the SMTP server failed.	Check the server settings and the network cable.
Connection Failed	The protocol you have entered is not supported or server port is wrong.	Check the protocol or server port.
Data Read Fail Check USB Memory	Time expired while reading data.	Try again.
Data Write Fail Check USB Memory	Storing to the USB memory failed.	Check the available USB memory space.
Document Jam	The loaded original has jammed in the ADF.	Clear the jam.
Door Open	The front cover or rear cover is not securely latched.	Close the cover until it locks into place.
Duplex Jam 0 Check Inside	Paper has jammed during duplex printing.	Clear the jam.
Duplex Jam 1 Open/Close Door	Paper has jammed during duplex printing.	Clear the jam.
Enter Again	You entered an unavailable item.	Enter the correct item again.
File Access Denied	Login to the network server was successful. However, access to the file on the network server was denied.	Change the server settings.
File Name Exist	The file name you have entered already exists.	Enter a different file name.
File Name Over Limit	The file names you can use are from doc001 to doc999. However, all file names are used already.	Delete unnecessary files.
File Format Not Supported	The selected file format is not supported.	Use the correct file format.
Fuser Door Open	The fuser door is not securely latched.	Open the rear cover and close the fuser door until it locks into place. For the location of the fuser door.

Message	Meaning	Suggested solutions
Group Not Available	You have tried to select a group location number where only a single location number can be used, such as when adding locations for a Multiple Send operation.	Use a speed dial number or dial a number manually using the number keypad.
[Incompatible]	The remote machine does not have the requested feature, such as polling. This message also occurs if the remote machine does not have enough memory space to complete the operation you are attempting.	Reconfirm the remote machine features.
Install Toner	A print cartridge is not installed or bad contact between CRUM terminals and CRUM Board	Install a print cartridge.
Invalid Server Address	The server address you have entered is invalid.	Enter the correct server address.
Invalid Cartridge	The print cartridge you have installed is not compatible with your machine.	Install a Xerox-genuine print cartridge, designed for your machine.
Line Busy	The receiving fax machine did not answer or the line is already engaged.	Try again after a few minutes.
[Line Error]	Your machine cannot connect with the receiving fax machine or has lost contact because of a problem with the phone line.	Try again. If the problem persists, wait an hour or so for the line to clear and try again. Or, turn the ECM mode on.
Invalid Toner	The print cartridge you have installed is not for your printer.	Install a Xerox-genuine print cartridge, designed for your printer.
Low Heat Error Cycle Power	There is a problem in the fuser unit.	Unplug the power cord and plug it back in. If the problem persists, please call for service.
LSU Motor Error Cycle Power	A problem has occurred in the LSU (Laser Scanning Unit).	Unplug the power cord and plug it back inches. If the problem persists, please call for service.
LSU Hsync Error Cycle Power	A problem has occurred in the LSU (Laser Scanning Unit).	Unplug the power cord and plug it back inches. If the problem persists, please call for service.
Main Motor Locked	There is a problem in the main motor.	Open and then close the front cover.
Mail Exceeds Server Support	The mail size is larger than the supported size by SMTP server.	Divide your mail or reduce the resolution.
Memory Dial Full	You are trying to schedule a fax job when memory for storing fax jobs is full.	Wait until a scheduled job is completed.
Memory Full	The memory is full.	Delete unnecessary fax jobs and retransmit after more memory becomes available. Alternatively, split the transmission into more than one operation.
MP Tray Paper Empty	There is no paper in the multi-purpose tray.	Load paper in the multi-purpose tray.
Network Error	There is a problem with the network.	Contact your network administrator.
[No Answer]	The receiving fax machine has not answered after several redial attempts.	Try again. Make sure that the receiving machine is operational.

Message	Meaning	Suggested solutions
Not Assigned	The speed button or speed dial number you tried to use has no number or e-mail address assigned to it.	Enter the number or email address manually using the number keypad or store the number or address.
[No Paper] Add Paper	The paper in the tray has run out.	Load paper in the tray.
One Page is Too Large	Single page data exceeds the configured mail size.	Reduce the resolution and try again.
Low Heat Error Cycle Power	There is a problem in the fuser unit.	Unplug the power cord and plug it back in. If the problem persists, please call for service.
LSU Motor Error Cycle Power	A problem has occurred in the LSU (Laser Scanning Unit).	Unplug the power cord and plug it back inches. If the problem persists, please call for service.
LSU Hsync Error Cycle Power	A problem has occurred in the LSU (Laser Scanning Unit).	Unplug the power cord and plug it back inches. If the problem persists, please call for service.
Main Motor Locked	There is a problem in the main motor.	Open and then close the front cover.
Mail Exceeds Server Support	The mail size is larger than the supported size by SMTP server.	Divide your mail or reduce the resolution.
Memory Dial Full	You are trying to schedule a fax job when memory for storing fax jobs is full.	Wait until a scheduled job is completed.
Memory Full	The memory is full.	Delete unnecessary fax jobs and retransmit after more memory becomes available. Alternatively, split the transmission into more than one operation.
MP Tray Paper Empty	There is no paper in the multi-purpose tray.	Load paper in the multi-purpose tray.
Network Error	There is a problem with the network.	Contact your network administrator.
[No Answer]	The receiving fax machine has not answered after several redial attempts.	Try again. Make sure that the receiving machine is operational.
Not Assigned	The speed button or speed dial number you tried to use has no number or email address assigned to it.	Enter the number or email address manually using the number keypad or store the number or address.
[No Paper] Add Paper	The paper in the tray has run out.	Load paper in the tray.
One Page is Too Large	Single page data exceeds the configured mail size.	Reduce the resolution and try again.
Open Heat Error Cycle Power	There is a problem in the fuser unit.	Unplug the power cord and plug it back in. If the problem persists, please call for service.
Operation Not Assigned	You are in the Add Page/Cancel Job operation, but there are no jobs stored.	Check the display to see if there are any scheduled jobs.
Over Heat Error Cycle Power	There is a problem in the fuser unit.	Unplug the power cord and plug it back in. If the problem persists, please call for service.
Paper Jam 0 Open/Close Door	Paper has jammed in the feeding area of the tray.	Clear the jam.
Paper Jam 1 Open/Close Door	Paper has jammed in the fuser area.	Clear the jam.
Paper Jam 2 Check Inside	Paper has jammed in the paper exit area.	Clear the jam.

Message	Meaning	Suggested solutions
Power Failure	Power has turned off then on and the machine's memory has not been back up.	The job which you were trying to do before the power failure must be completely re-done.
Replace Toner	The print cartridge installed is not a genuine cartridge.	Replace the print cartridge with a new one.
Retry Redial?	The machine is ready to redial the most recently dialed number.	You can press OK to immediately redial, or Stop/Clear to cancel the redial operation.
Scanner locked	The scanner module is locked	Unlock the scanner and press Stop/Clear.
Self Diagnostic LSU	The LSU (Laser Scanning Unit) in your printer is checking some problems detected.	Please wait a few minutes.
Self Diagnostic Temperature	The engine in your machine is checking some problems detected.	Please wait a few minutes.
Send Error (AUTH)	There is a problem in SMTP authentication.	Configure the authentication setting.
Send Error (DNS)	There is a problem in DNS.	Configure the DNS setting.
Send Error (P0P3)	There is a problem in POP3.	Configure the POP3 setting.
Send Error (SMTP)	There is a problem in SMTP.	Change to the available server.
Send Error (Wrong Config)	There is a problem on the network interface card.	Configure your network interface card correctly.
[Stop Pressed]	Stop/Clear has been pressed during a fax transmission.	Try again.
Toner Empty	The print cartridge has run out of toner. The machine stops printing.	Replace the print cartridge with a new one.
Toner Low	The print cartridge is almost empty.	Take out the print cartridge and thoroughly shake it. By doing this, you can temporarily re-establish printing operations.
Tray 1 Paper Empty	There is no paper in the tray 1.	Load paper in the tray 1.
Tray 2 Paper Empty	There is no paper in the optional tray 2.	Load paper in the optional tray 2.
Nongenuine Toner A STOP	The print cartridge installed is not a genuine cartridge.	You can select Stop or Continue. It you do not select any, the printer will work as stop is selected. If you select stop, you cannot print until the genuine cartridge is installed. However, you can still print any kind of reports. It you select continue, you can keep printing but the quality cannot be guaranteed and the produce support is no longer provided. If you want to change the selection, turn the printer off and on to have this message appear again, and then re-select stop or continue.
Nongenuine Toner Replace Toner 1	The print cartridge installed is not a genuine cartridge.	This message appears when you selected stop at the Non Genuine Toner prompt. Install the genuine print cartridge.

Message	Meaning	Suggested solutions
Nongenuine Toner Replace Toner	The print cartridge installed is not a genuine cartridge.	This message appears when you selected stop at the Non Genuine Toner prompt. Install the genuine print cartridge.
Toner Exhausted A STOP	The life span of the print cartridge is reached.	You can select either stop or continue. It you do not select any, the printer will as stop is selected. If you select stop, you cannot print until the genuine cartridge is installed. If you select continue, you can keep printing but the quality cannot be guaranteed, and the product support is no longer provided. If you want to change the selection, turn the printer off and on to have this message appear again, and then re-select stop or continue.
Toner Exhausted Replace Toner 1	The life span of the print cartridge is reached.	This message appears when you selected stop at the Toner Exhausted prompt. Install the genuine print cartridge.
Toner Exhausted Replace Toner	The life span of the print cartridge is reached.	This message appears when you selected continue at the Toner Exhausted prompt. Install the genuine print cartridge.

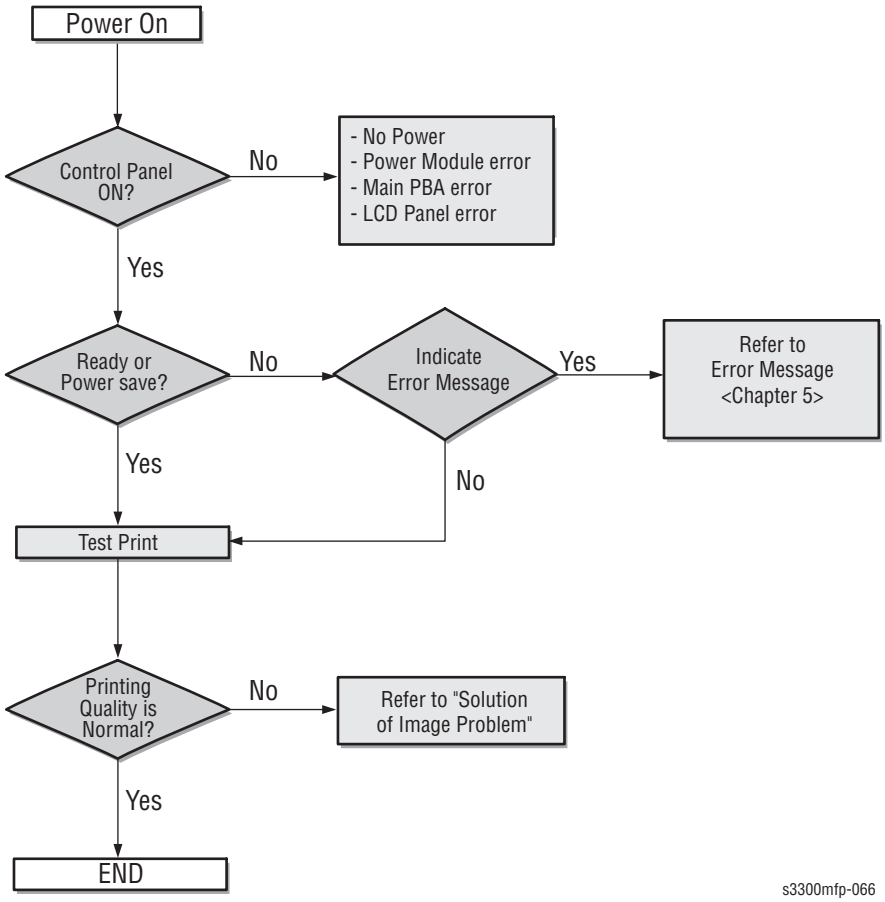
General Troubleshooting

In this chapter...

Chapter 4

Procedure for Checking the Symptoms

Before attempting to repair the printer first obtain a detailed description of the problem from the customer.



Tech Mode

How to Enter Tech Mode

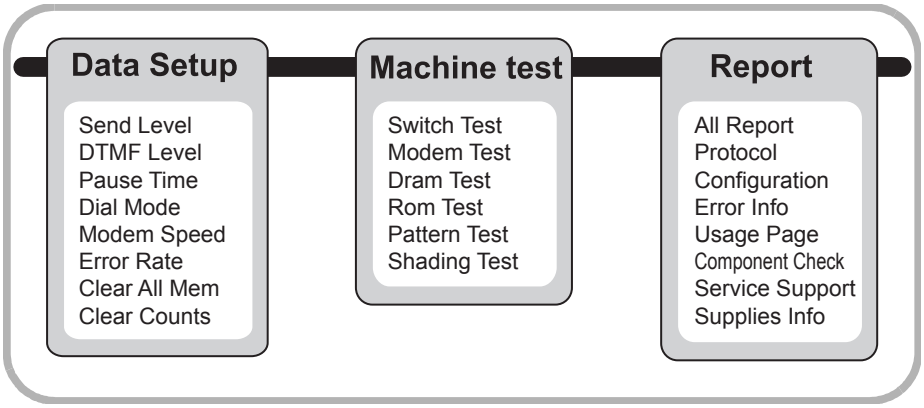
In service (tech) mode, the technician can check the machine and perform various test to isolate the cause of a malfunction.

While in Tech mode, the machine still performs all normal operations.

To enter the Tech mode

To enter the Tech mode, press Menu → # → 1 → 9 → 3 → 4 → Menu in sequence. The LCD briefly displays '**TECH**', and the machine has entered service (tech) mode.

Setting-up System in Tech Mode



Data Setup

SEND LEVEL

You can set the level of the transmission signal. Typically, the Tx level should be under -12 dBm.

Caution

The Send Fax Level is set at the best condition in the shipment from factory. Never change settings arbitrarily.

DIAL MODE

This function can choose dial method.
*Default: Dial (Dial/Pulse)

MODEM SPEED

You can set the maximum modem speed.

Communication is done with modem speed automatically set at lower speed when communicating with a slower speed modem since communication is done on the standard of the side where modem speed is low for transmission/reception. It is best set 33.6 Kbps as default setting.

ERROR RATE

When the error rate is about exceed the set value, the Baud rate automatically adjusts to 2400 bps.

This ensures that the error rate remains below the set value.

You can select the rate between 5% and 10%.

CLEAR ALL MEMORY

The function resets the system to factory default settings.

This function is used to reset the system to the initial value when the product is functioning abnormally. All the values are returned to the default values, and all the information, which was set by the user, will be erased.

Method

1. Select the [MEMORY CLEAR] at the TECH MODE.
2. Push the ENTER button.
3. Select you country. (There are four country groups. Refer to the table below.)
4. Push the ENTER button then it will clear all memory.

Note

Always perform a memory clear after replacing the Control Board. Otherwise, the system may not operate properly.

Country Group	USA/Canada	UK	Russia	South Africa
Country	USA/Canada Mexico Brazil	UK Germany France Italy Spain Austria Netherlands Belgium Portugal Sweden Norway Denmark Finland Switzerland Greece Ireland Turkey	Russia India Oman Poland Bangladesh Kuwait Morocco Algeria Pakistan UAE Bahrain Sri Lanka Saudi Arabia Chile Peru Argentina Hungary Romania Bulgaria Czech	South Africa

Machine Test

Switch Test

Use this feature to test all keys on the operation control panel. The result is displayed on the LCD window each time you press a key.

Modem Test

Use this feature to hear various transmission signals to the telephone line from the modem and to check the modem. If no transmission signal sound is heard, it means the modem part of the Control Board malfunctioned.

DRAM Test

Use this feature to test the machine's DRAM. The result appears in the LCD display. If all memory is working normally, the LCD shows << OK >>

ROM Test

Use this feature to test the machine'S ROM. The result and the software version appear in the LCD display.

- FLASH VER: 1.00 V
- ENGINE VER: 1.00 V

Pattern Test

Using this test pattern, you can check if the printer mechanism is functioning properly. It is needed in the production progress. Service person doesn't need to use it.

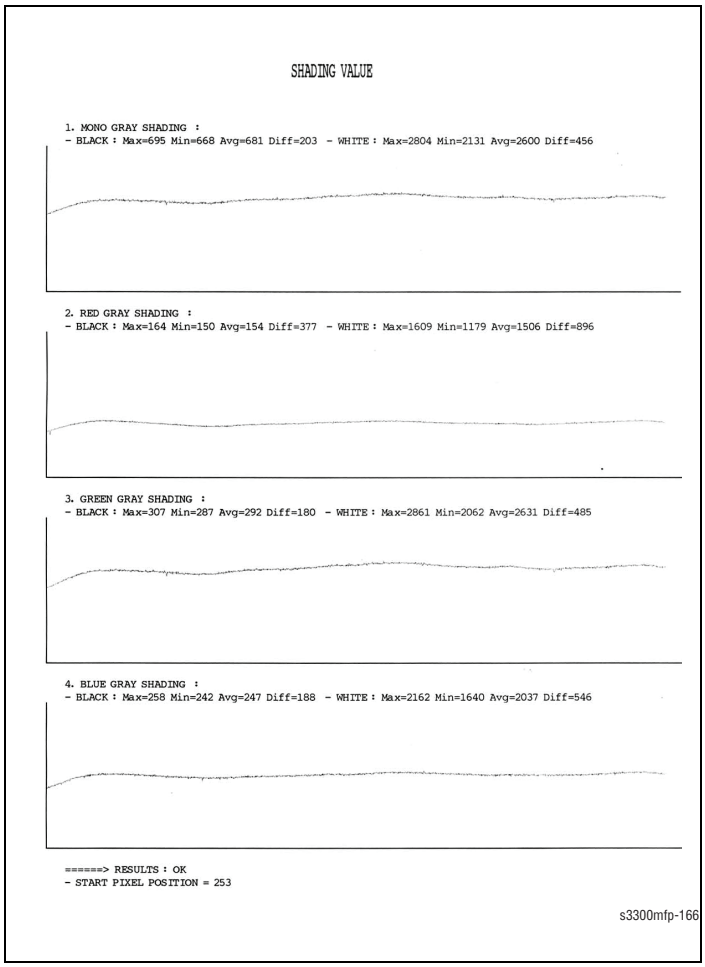
Shading Test

The function is to get the optimum scan quality by the specific character of the CCD (Charge Coupled Device). If the copy image quality is poor, perform this function to check the condition CCD unit.

When the scan unit becomes dirty, it can alter the shading value. If your copy has black lines or is blurred, adjust the shading setting.

Method

1. Enter Tech mode.
2. Scroll to *Machine Test* and press **Enter**.
3. Scroll to *Shading Test* and press **Enter**.
4. *Shading & Print* appears on the bottom line; press **Enter**.
5. *Print?* appears in the top line, and *Yes* in the bottom line. Press **Enter** to start the test. If you select *No*, the machine returns to *Shading & Print*.
6. The machine adjusts the shading value, then prints the result.



Report

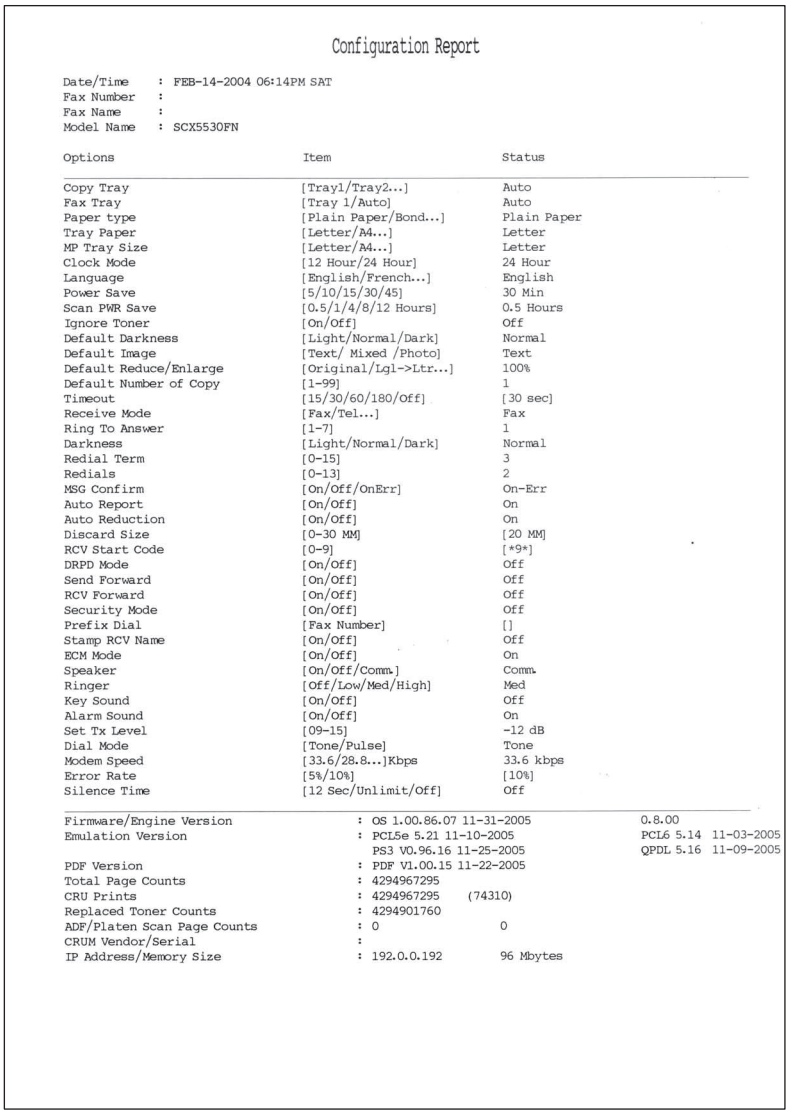
Protocol List

This list shows the sequence of the CCITT group 3 T.30 protocol during the most recent sending or receiving operation. Use this list to check for send and receive errors. If a communication error occurs while the machine is in TECH mode, the protocol list will print automatically.

Other Item

This list provides a list of the user system data settings and tech mode settings.

Component Check



Configuration Report

Date/Time : FEB-14-2004 06:14PM SAT
Fax Number :
Fax Name :
Model Name : SCX5530FN

Options	Item	Status
Copy Tray	[Tray1/Tray2...]	Auto
Fax Tray	[Tray 1/Auto]	Auto
Paper type	[Plain Paper/Bond...]	Plain Paper
Tray Paper	[Letter/A4...]	Letter
MP Tray Size	[Letter/A4...]	Letter
Clock Mode	[12 Hour/24 Hour]	24 Hour
Language	[English/French...]	English
Power Save	[5/10/15/30/45]	30 Min
Scan PWR Save	[0.5/1/4/8/12 Hours]	0.5 Hours
Ignore Toner	[On/Off]	Off
Default Darkness	[Light/Normal/Dark]	Normal
Default Image	[Text/ Mixed /Photo]	Text
Default Reduce/Enlarge	[Original/Lgl->Ltr...]	100%
Default Number of Copy	[1-99]	1
Timeout	[15/30/60/180/Off]	[30 sec]
Receive Mode	[Fax/Tel...]	Fax
Ring To Answer	[1-7]	1
Darkness	[Light/Normal/Dark]	Normal
Redial Term	[0-15]	3
Redials	[0-13]	2
MSG Confirm	[On/Off/OnErr]	On-Err
Auto Report	[On/Off]	On
Auto Reduction	[On/Off]	On
Discard Size	[0-30 MM]	[20 MM]
RCV Start Code	[0-9]	[*9*]
DRPD Mode	[On/Off]	Off
Send Forward	[On/Off]	Off
RCV Forward	[On/Off]	Off
Security Mode	[On/Off]	Off
Prefix Dial	[Fax Number]	[]
Stamp RCV Name	[On/Off]	Off
ECM Mode	[On/Off]	On
Speaker	[On/Off/Comm.]	Comm.
Ringer	[Off/Low/Med/High]	Med
Key Sound	[On/Off]	Off
Alarm Sound	[On/Off]	On
Set Tx Level	[09-15]	-12 dB
Dial Mode	[Tone/Pulse]	Tone
Modem Speed	[33.6/28.8...]Kbps	33.6 kbps
Error Rate	[5%/10%]	[10%]
Silence Time	[12 Sec/Unlimit/Off]	Off

Firmware/Engine Version	: OS 1.00.86.07 11-31-2005	0.8.00
Emulation Version	: PCL5e 5.21 11-10-2005	PCL6 5.14 11-03-2005
	PS3 V0.96.16 11-25-2005	QPDL 5.16 11-09-2005
PDF Version	: PDF V1.00.15 11-22-2005	
Total Page Counts	: 4294967295	
CRU Prints	: 4294967295 (74310)	
Replaced Toner Counts	: 4294901760	
ADF/Platen Scan Page Counts	: 0 0	
CRUM Vendor/Serial	:	
IP Address/Memory Size	: 192.0.0.192 96 Mbytes	

s3300mfp-167

Paper Feeding Problems

Wrong Print Position

Printing begins when the paper is in the wrong position.

Check and Cause	Solution
A defective feed sensor actuator can cause incorrect timing.	Replace the defective actuator.

Multi-Feeding

Multiple sheets of paper are fed at once.

Check and Cause	Solution
1. Solenoid malfunction (the solenoid does not work properly).	1. Replace the solenoid if necessary.
2. Friction-pad is contaminated with foreign matter. (oil.)	2. Clean the friction-pad with soft cloth dampened with water.
3. The face of paper is smudged.	3. Use the smooth paper.

Paper rolled in the fuser

Paper rolled in the fuser 100.5 mm

Check and Cause	Solution
1. Contamination of the pressure roller or heat roller. (Background, Hot off set).	1. After disassembling the fuser, clean contamination between the heat roller and the thermistor and remove the contamination of the pressure roller.
2. Check the claw of the fuser whether it is deformed.	2. If there is heavy background, repair it by the background troubleshooting method.
	3. Clean the surface of the heat roller with IPA or water.
	4. Check the warp or separation of the print claw and the holder plate claw, and then manage it.

Paper rolled in the OPC

Paper is rolled up in the OPC.

Check and Cause	Solution
1. Paper is too thin.	1. Recommend to use normal paper thickness.
2. The face of paper is curled.	2. How to remove the rolled paper in the OPC. ■ Remove the paper while turning the OPC against the ongoing direction. ■ Clean fingerprints on the OPC gently with soft cloth dampened with water, or tissue.

Defective ADF

ADF (Automatic document Feeder) does not operate properly.

Check and Cause	Solution
1. Check if ADF rubber and HOLDER rubber are damaged.	1. Replace the contaminated or damaged part.
2. Check if the document sensors of ADF Assembly (3 paper sensors) are normal.	2. If you cannot confirm the damaged part with the naked eye, try replacing the ADF Assembly.

Printing Problems (Malfunction)

Defective Operation (LCD WINDOW) Display

Strange characters are displayed on the Control Panel and buttons are not operated.

Check and Cause	Solution
1. Clear the memory.	1. Try again after clearing the memory.
2. Check if OPE HARNESS is connected to the Connection Board correctly.	2. After confirming that OPE HARNESS is connected to the Connection Board correctly, if it is so, then replace the OPE Assembly and Control Board in sequence.

Defective LCD Operation

Defective LCD Operation.

Check and Cause	Solution
1. Clear the memory.	1. The key is wrong itself or wrongly assembled.
2. Listen for a click when pressing a key on the Control Panel.	2. Even after the key has been replaced, it is still wrong, try replacing the Control Panel Assembly, then the Control Board in sequence.

Fuser Gear not functioning due to melting

The Motor breaks away from its place due to gear melting away.

Check and Cause	Solution
1. Check the Heat Lamp.	1. Replace the Fuser.
	2. Replace the Control Board.
	3. Replace the SMPS.

Paper Empty

The paper empty status on the Control Panel is displayed even when paper is loaded in the tray.

Check and Cause	Solution
1. Bending or deformation of the actuator of the paper sensor.	1. Replace the defective actuator. 2. Replace the Control Board.

Paper Empty without indication

The paper empty status on the Control Panel is not displayed when the paper tray is empty.

Check and Cause	Solution
1. Bending or deformation of the actuator of the paper sensor.	1. Replace the defective actuator. 2. Replace the Control Board.

Door Open

Door open status is not indicated when print Door is open.

Check and Cause	Solution
1. The hook lever in the Front Cover may be defective.	1. Replace the hook lever, if defective.
2. Check the Connector (CN1) and Circuit of the Cover Switch on the Control Board.	2. Check the connection of the Door Open Switch socket.
	3. Replace the Control Board or Door Open Switch.

No Beep when the Door is open

Door open status does not come on even when the printer Door is open.

Check and Cause	Solution
Check the Connector (CN1) and Circuit of the Cover Switch on the Control Board.	1. Check the 4 of the Door Open Switch socket. 2. Replace the Control Board or Door Open Switch.

Defective Motor operation

Main Motor is not driving when printing, and paper does not feed into the printer, resulting ‘Jam 0’.

Check and Cause	Solution
1. Motor harness or sub PCB may be defective.	1. Check the Motor harness, replace it, if defective.
	2. Replace the SMPS, if necessary.

No Power

When system power is turned on, the Control Panel LEDs do not come on.

Check and Cause	Solution
1. Check if the power input and SMPS output are normal.	1. Replace the power supply cord or SMPS.
2. Check for defective of LCD-Panel on the front-cover if the LCD of Panel does not appear after normal warming-up.	2. Replace the Control Board.
	3. Replace the LCD-panel.

Vertical Line is Curved

When printing, a vertical line becomes curved.

Check and Cause	Solution
1. Check the stability of +24 V in the Control Board linking with LSU.	1. Replace LSU.
	2. Replace the Control Board.

Fax & Phone Problems

No Dial Tone

While Manual Dial button is pressed, there is no dial tone.

Check and Cause	Solution
1. Check if the telephone line cord is connected to TEL LINE correctly.	1. If the telephone cord is normal but there is no dial tone, then try to replace the LIU B'd.
2. Check if the Manual Dial button makes CLICK sound when pressed.	2. If you cannot hear the Manual Dial CLICK sound, the Control Panel Assembly may be defective. Try replacing the Control Panel Assembly.
3. Check the connection of HARNESS between the LIU and the Control Board.	3. Check the Speaker connection, and try to replace it.
4. Check if the SPEAKER is connected correctly.	4. Lastly, try to replace the Control Board.

Defective MF DIAL

The MF DIAL is not functioning.

Check and Cause	Solution
1. Check if the telephone line is connected correctly.	
2. While the Manual Dial button is pressed, listen for a CLICK sound.	1. If you cannot hear the Manual Dial CLICK sound, the Control Panel Assembly may be defective. Try replacing the Control Panel Assembly.
3. Check the connection of HARNESS between the LIU and the Control Board.	2. If you can hear a CLICK sound, after checking the connection of HARNESS between the LIU and the Control Board, replace the HARNESS.
	3. If the problem persists, replace first the LIU, then the Control Board.

Note

Product supports the MF DIAL type only.

Defective FAX FORWARD/RECEIVE

FAX FORWARD/RECEIVE is not functioning.

Check and Cause	Solution
1. Listen for a dial tone by pressing Manual Dial.	1. If the MODEM testing is normal and there is no dial tone, then replace the LIU Board.
2. Listen for a RECEIVE tone while MODEM testing in the TECH Mode.	2. If the MODEM testing is abnormal, replace the Control Board.

Defective FAX FORWARD

RECEIVE is functioning, but FORWARD is not functioning or the received data is corrupt.

Check and Cause	Solution
1. Check if there is NOISE when pressing Manual dial.	1. If it makes NOISE while using Manual Dial, replace or repair the telephone line.
2. Check the RECEIVE condition by trying to forward a FAX to another fax machine from the forwarding side FAX.	
3. Check if the telephone line connected to the Product is contaminated or gets stripped off or down.	

Defective FAX RECEIVE (1)

FORWARD is functioning, but RECEIVE is not functioning or the received data is corrupt.

Check and Cause	Solution
1. Check if there is NOISE when pressing Manual Dial.	1. If it makes NOISE while pressing Manual Dial, replace or repair the telephone line.
2. Check the RECEIVE condition by trying to receive a FAX at another fax machine.	

Defective FAX RECEIVE (2)

The received data is distorted or cut-off when printed.

Check and Cause	Solution
1. Check if there is NOISE when pressing Manual Dial.	1. If it makes NOISE, rearrange the telephone line. (Refer to 'Defective FAX RECEIVE'.)
2. Ask the forwarding side to check the image quality of another machine receiving a FAX.	2. Check if the FAX status of the forwarding side is normal.

Defective FAX RECEIVE (3)

The phone is ringing continuously, but it cannot receive.

Check and Cause	Solution
Check if the RECEIVE Mode is TEL MODE or FAX MODE.	Even when the RECEIVE Mode is changed to FAX MODE, it cannot receive, then replace the LIU and the Control Board in sequence.

Defective FAX RECEIVE (4)

The received data is reduced by more than 50% when printed.

Check and Cause	Solution
Check the FAX status of the forwarding side.	After checking the data of the forwarding side, correct the FAX of the forwarding side.

Defective Automatic Receiving

The automatic receiving function is not working.

Check and Cause	Solution
1. Check if the RECEIVE Mode is TEL MODE or FAX MODE.	1. If the RECEIVE Mode is set to the TEL MODE, reset it to the FAX MODE.
	2. Even after the RECEIVE Mode is changed to the FAX Mode, it cannot receive, then replace the LIU and the Control Board in sequence.

Copy Problems

White Copy

Blank page is printed out when in Copy mode.

Check and Cause	Solution
1. Check if the Scan-Cover is open.	1. Room light can pass through a thin original.
2. Check shading profile.	2. Correct the shading profile in Tech Mode.
	3. Replace the Control Board.

Black Copy

Black page is printed out when in Copy mode.

Check and Cause	Solution
1. Check the CCD problem in Control Board.	1. Check the CCD harness contact.
2. Check shading profile.	2. Correct the shading profile in Tech Mode.

Abnormal noise

There is noise when copying.

Check and Cause	Solution
1. Check the Scanner Motor for any mechanical disturbance.	1. Check the right position of the Scanner Motor, and check for any mechanical disturbance in the CCD carriage.
	2.Replace the Platen Assembly if noise is from the Scanner. If noise persists, replace Control Board.

Defective Image Quality

The copied image is light or defective.

Check and Cause	Solution
1. Check shading profile.	1. Correct the shading profile in Tech Mode.
2. Check the gap between original and scanner glass.	2. A gap greater than 0.5 mm can cause a blurred image.
3. Check print quality.	3. See “Print” troubleshooting.

Scanning Problems

Defective PC Scan

The PC Scan is not functioning.

Check and Cause	Solution
1. Check the USB Cable .	1. If the PC and the cable are not connected properly, reconnect it.
2. Check if the driver is installed properly.	2. Send a test page from the PC.
3. Check if the copy function operates normally.	3. If the copy function works, replace the Control Board. If copy function doesn’t work, replace the CCD Assembly and try again.

Defective Image Quality of PC Scan

The image PC scanned is not clear or it is defective.

Check and Cause	Solution
1. Check the waveform form by performing a Shading Test in TECH Mode.	1. If the CCD waveform is abnormal, replace the CCD Assembly.
2. Check if the resolution is set too low in PC Scan options. (Refer to User Guide.)	2. If the resolution is set too low, explain to the customer how to set the resolution or refer them to the User Guide.

Print Cartridge Service

Safekeeping of the Print Cartridge

Excessive exposure to direct light more than a few minutes may cause damage to the cartridge.

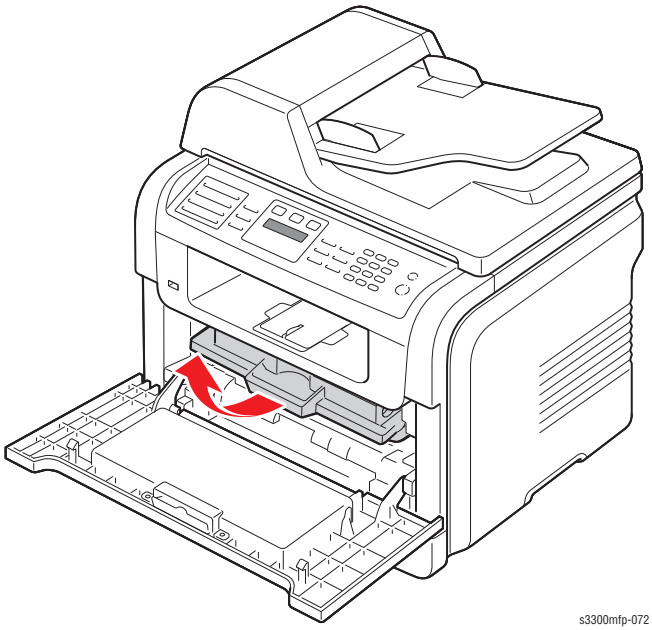
Service for the Life of the Print Cartridge

If the printed image is light due to the life of the toner, you can temporarily improve the print quality by redistributing the toner (Shake the print cartridge), however, you should replace the print cartridge to solve the problem thoroughly.

Redistributing Toner

When the print cartridge is near the end of its life, white streaks or light print occurs. The LCD displays the warning message, “Toner Low”. You can temporarily reestablish the print quality by redistributing the remaining toner in the cartridge.

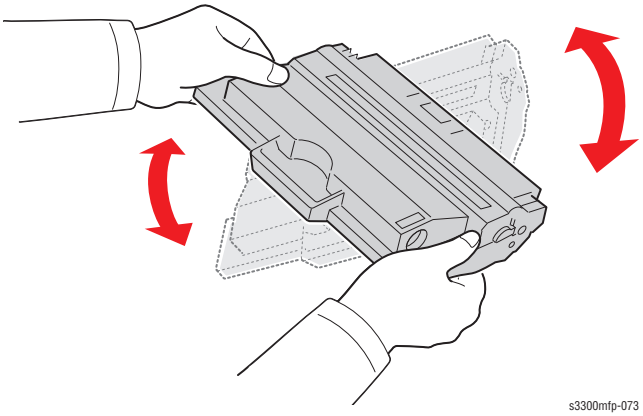
1. Open Front Cover.
2. Push down lightly on the cartridge and pull it out.



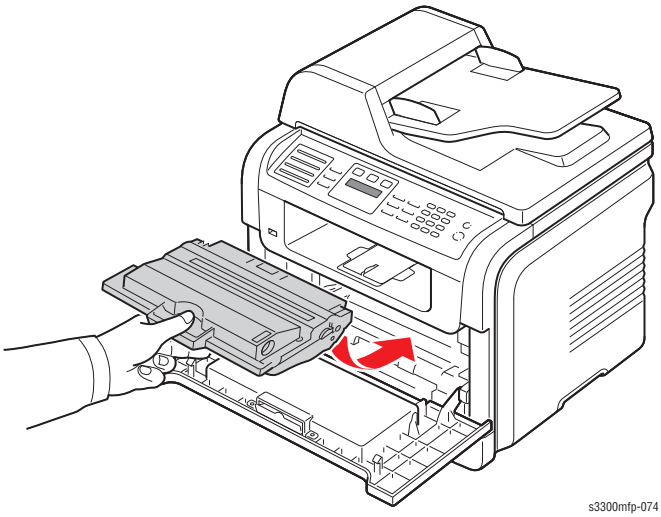
Note

Help the environment by recycling your used print cartridge. Refer to the recycling brochure shipped with the print cartridge for details.

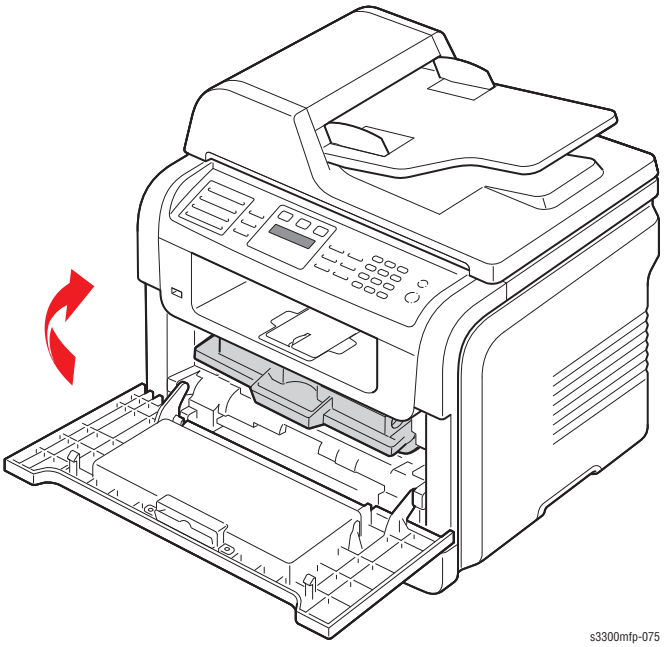
3. Unpack the new print cartridge and gently shake it horizontally four or five times to distribute the toner evenly inside the cartridge.



4. Save the box and the cover for shipping. Slide the new print cartridge in until it locks into place.



5. Close the front cover.



Print Cartridge Problems

Defect	Symptom	Cause & Check	Solution
Light image and partially blank image (At or near end-of-life.)	■ The printed image is light or unclean and untidy.	1. If the image is light or unclean and untidy - Shake the print cartridge, then recheck. (1) NG: Weigh the print cartridge (2) OK: Lack of toner, near end-of-life.	1. All of 1, 2, 3, 4: (1) The weight of the print cartridge at end-of-life: 800 g ± 20 g (2) If image improved by shaking, replace with a new print cartridge after 50-100 sheets.
	■ Some part of the image is not printed.	2. Some part of image is not printed - Shake the print cartridge, then recheck. (1) NG: Weigh the print cartridge, and clean the LSU window with a cotton swab, then recheck. (2) OK: Lack of toner, near end-of-life.	2. If it improves after cleaning the LSU window, then the print cartridge is normal. (Because of foreign substance on the LSU window, the image has not been printed completely.)
	■ A “tick tick” noise occurs periodically.	3. A “tick tick” noise occurs periodically - Measure the interval, and weigh the print cartridge.	3. If the cycle of noise is about 2 seconds, the toner inside the print cartridge has been nearly exhausted. (Purchase and replace with a new print cartridge after printing about 200 sheets).
	■ White vertical stripes on all or part of the output:	4. Weigh the print cartridge.	4.This is a phenomenon caused by lack of toner; replace with a new print cartridge.
Toner Contamination	■ Toner periodically falls on the paper.	1. Toner contamination. (1) Check the pattern of the toner contamination. (2) Check the appearance of both ends of the print cartridge OPC drum.	1. If both ends of the OPC drum are contaminated with toner: Check the life of the print cartridge. (In case of less than 1000 g, the life may be expired.) or check the rate of remain toner if remain toner is below 10% the toner is almost empty. 2. Check whether it could be recycled. 3. If it cannot be recycled: Replace the print cartridge.
	■ Contaminated with toner on prints partly or over the whole surface.	2. The center of the printed matter is contaminated with toner. (1) Check whether foreign substances or toner are stuck to the terminal (contact point) of the print cartridge. (2) Check whether the state of the terminal assembly is normal.	

Defect	Symptom	Cause & Check	Solution
White/Black spots	■ Light or dark black dots on the image occur periodically.	1. If light or dark periodical black dots occur, this is because the print cartridge rollers are contaminated with foreign substance or paper particles. (1) 37.7 mm interval: Charged roller (2) 75.5 mm interval: OPC cycle	1. In case of 1 above: Run OPC Cleaning Mode Print 4-5 times repeatedly to remove. Remove any foreign substance on the OPC surface with a clean gauze moistened with water to avoid unnecessary damage to OPC. **Never use usual alcohol.**
	■ White spots occur in the image periodically.	2. If white spots occur in a black image at intervals of 75 mm, or black spots occur elsewhere, the OPC drum is damaged or foreign substance is stuck to the surface.	2. If spots remain after running OPC Cleaning Mode Print 4-5 times. : at intervals of 37.7 mm -Replace the print cartridge. : at intervals of 75.5 mm -Remove foreign substance. : Broken image - Replace the print cartridge according to carelessness.
		3. If a black and white or graphic image is partially broken at irregular intervals, the transfer roller is at end-of-life or the transfer voltage is abnormal.	3. Replace the transfer roller because the life of the transfer roller in use has expired. (Check the transfer voltage and readjust if different.)

Defect	Symptom	Cause & Check	Solution
Ghost & Image Contamination	■ The printed image is too light or dark, or partially contaminated black.	1. The printed image is too light or dark, or partially contaminated black. (1) Check whether foreign substance or toner are stuck to the terminal (point of contact) of the print cartridge. (2) Check whether the terminal assembly is normal.	1. All of 1, 2, 3 above: (1) Remove toner and foreign substances adhered to the print cartridge contact points. (2) Clean the terminals on the frame that make contact with the Print Cartridge contacts. (3) If one or more of the terminals is jammed and/or not fully extended: ■ Remove the side plate that covers the terminals (between the duplex fan and the connection board). ■ Push the jammed terminal to free it or, if necessary, carefully disassemble then reassemble the terminal and spring assembly.
	■ Totally contaminated black. (Black image printed out)	2. Totally contaminated black. (Black image printed out) (1) Check whether foreign substances are stuck to the terminal (point of contact) of the print cartridge and the state of assembly. (Especially check the charged roller terminal.)	2. In case of 2: This phenomenon occurs when the OPC drum is not electrically charged. Clean the terminals of the charged roller, then recheck it.
	■ The density of printouts is too dark and ghost occurs.	3. The printed image is dark and ghost occurs. (1) Check foreign substance attached to the terminal (point of contact) of the print cartridge and the state of assembly. (Especially check the developing roller terminal.)	3. In case of 3: It is a phenomenon as the developing bias voltage of the print cartridge. Clean the terminals of the developing roller, then recheck it.

Network Problems Troubleshooting

General Problems

Problem	Solution
System does not function with some wrong values entered by mistake while configuring.	Possibly the network parameters are corrupted. Restart the system and set to factory defaults on the printer front panel or on your computer using CWIS.
Print server does not print using TCP/IP protocol.	1. Check whether TCP/IP protocol is installed in your PC. 2. Check whether your PC is on the same network with print server.

Macintosh Problems

Problem	Solution
The printer name is not displayed in the Chooser.	1. Make sure the printer is connected to network correctly. 2. Make sure the printer is configured in CWIS using the new name. 3. After turning on the printer, wait 3 minutes, then check it again. 4. Make sure that your Macintosh is connected to the network through Ethernet. 5. When the Macintosh and network printer are in the same network, check above items again. Otherwise check whether the router can support AppleTalk protocol. If the router can not support the AppleTalk protocol, then ask the network manager to solve this problem.
The printer drops letters.	1. Make sure the PS option is installed in your printer correctly. 2. Make sure the SIMM provided with PS option is installed correctly. Check that the total memory is 12 MB by printing a self-test page.

Windows Problems

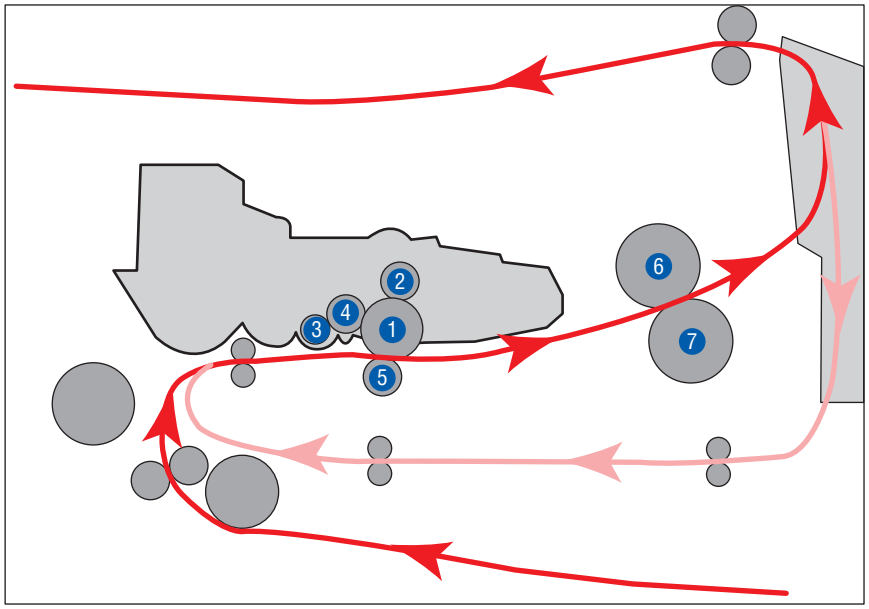
Problem	Solution
The print server name is displayed, but the test page is not printed.	Select the Network menu from the front panel menus. Check that the test page is printed. If the Network menu is not displayed, or the test page is not printed, turn off the printer, then turn it back on.

Problem	Solution
Firmware upgrade process is completed. But upgrading is not executed.	An IP address should be assigned to upgrade the Firmware. Make sure that IP address is entered in Print Server. If an IP address is not entered, reassign it and try again.

Problem	Solution
The printer does not print.	Try Add a Port.

Abnormal Image Printing and Defective Roller

If abnormal image prints periodically, check the parts shown below.



s3300mfp-169

1. OPC Drum
2. Charge Roller
3. Supply Roller
4. Developing Roller
5. Transfer Roller
6. Heat Roller
7. Pressure Roller
8.

No	Roller	Abnormal image period	Kind of abnormal image
1	OPC Drum	75.5 mm	White spot, Block spot
2	Charge Roller	37.7 mm	Black spot
3	Supply Roller	53.2 mm	Horizontal density band
4	Develop Roller	39.2 mm	Horizontal density band
5	Transfer Roller	47.1 mm	Black side contamination/transfer fault
6	Heat Roller	88.9 mm	Black spot and fuser ghost
7	Pressure Roller	101.3 mm	Black side contamination

Print-Quality Troubleshooting

In this chapter...

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 the *Supported print media types and sizes* list in the *Phaser 3300MFP User Guide* for supported and specialty media that have been tested and approved for use in the Phaser 3300MFP. 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.

Check the temperature and humidity under which the printer is operating. Compare this to “Operating Environment” on page 5-7. Extreme temperature and humidity can adversely affect the xerographic and fusing characteristics of the printer.

When analyzing a print-quality defect, determine if the defect is repeating or random occurrence. Continuous defects in the process direction, such as Voids and Lines, are the most difficult to diagnose. Inspect the visible surfaces of all Rollers for obvious defect. If no defects are found, replace the Print Cartridge, Transfer Roller, Fuser, and Laser Unit one at a time until the defect is eliminated.

Defects Associated with Specific Printer Components

Some print-quality problems can be associated with specific assemblies; the most common problems and the associated assemblies are listed in this section. Refer to the specific print-quality troubleshooting procedure for detail information.

Laser Unit

- “Dark or Black Image” on page 5-13
- “Vertical White Line” on page 5-10

Transfer Roller

- “Uneven Density” on page 5-13
- “Background” on page 5-14
- “Ghost (1)” on page 5-14
- “Vertical White Line” on page 5-10
- “Vertical Black Line and Band” on page 5-10
- “Stains on the front of the page” on page 5-16
- “Stains on back of the page” on page 5-16

Fuser

Print Cartridge

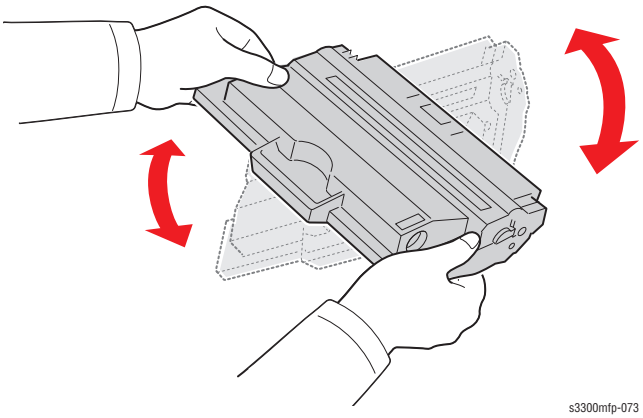
Checklist Before Troubleshooting Print-Quality

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.

If the toner is low, you can extend the Print Cartridge life by removing the Print Cartridge (page 8-18) from the printer, and gently shake the Print Cartridge from side-to-side to distribute toner.



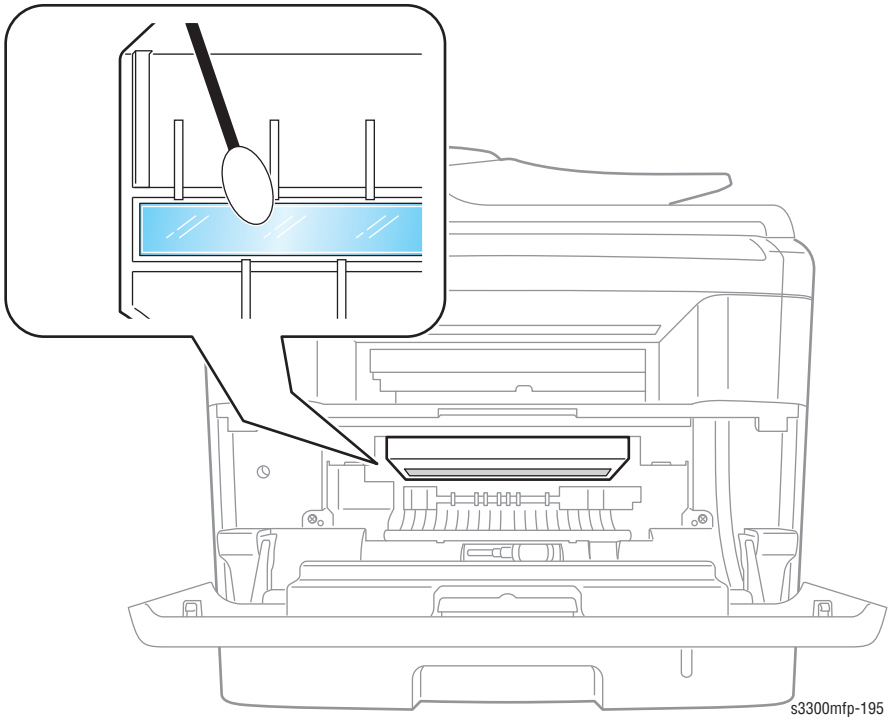
Cleaning

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 Before Troubleshooting Image Quality

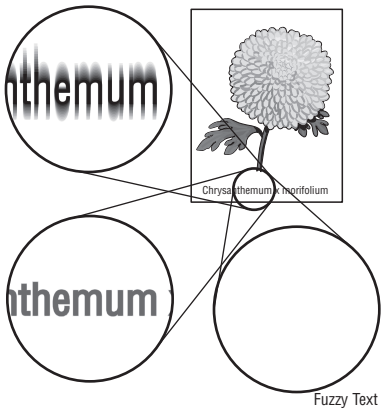
Check the following items prior to performing troubleshooting. These procedures may help to resolve the problems without troubleshooting the printer.

1. Clean the Laser Unit window using a Q-tip or a dry, lint-free cloth to wipe the window.



2. Check the Transfer Roller for damage.

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 software application.
b. From the **Start** menu, go to **Settings** > **Printers and Faxes**.
c. Select **Phaser 3300MFP/Phaser 3300MFP PCL6**. Right click on the printer icon and select **Printing Preferences**.
d. Click the **Graphic** tab. Under **Image Mode**, select **Text Enhancement**. Click **OK**.

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

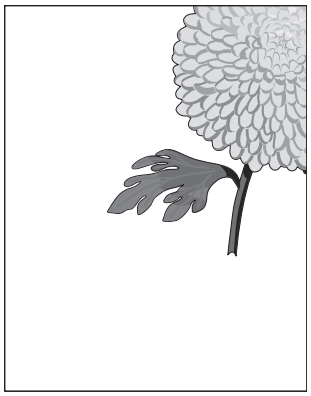


Image Not Centered

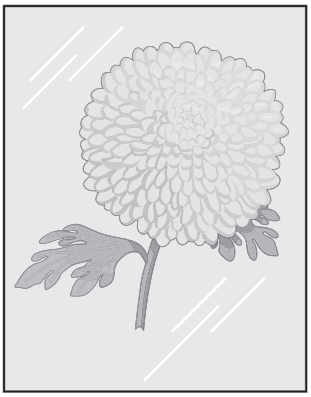
a. Ensure the Media Size settings in the Tray Settings are correct.

b. Ensure the margins are set correctly in your software application.

c. Perform internal test prints (i.e., printer's Demo Page, etc.,) and evaluate the prints.

Printing on both ends of the transparencies is faded.

This occurs when the printer is operating at a location where relative humidity reaches 85° or more.



Light Print on Transparency

a. Adjust the humidity or relocate the printer to an appropriate environment.

Print-Quality Specifications

The Print-Quality specifications are provided as follows.

Operating Environment

- Temperature: 10° C - 32° C (50° F - 90.0° F)
- Humidity: 30 - 70% RH optimum, 20 - 80% RH maximum

Note

Defects may occur due to condensation after around 30 minutes if the printer is turned On in a critical environment such as 85% at 10° C (50° F).

Quality Paper

The print-quality is best when quality paper is fed from the tray. The print quality is evaluated on the maximum size of each standard paper.

- Color Print Quality: Xerox-brand Color XPressions 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.

Print-Quality Troubleshooting

Print-Quality Defect Definitions

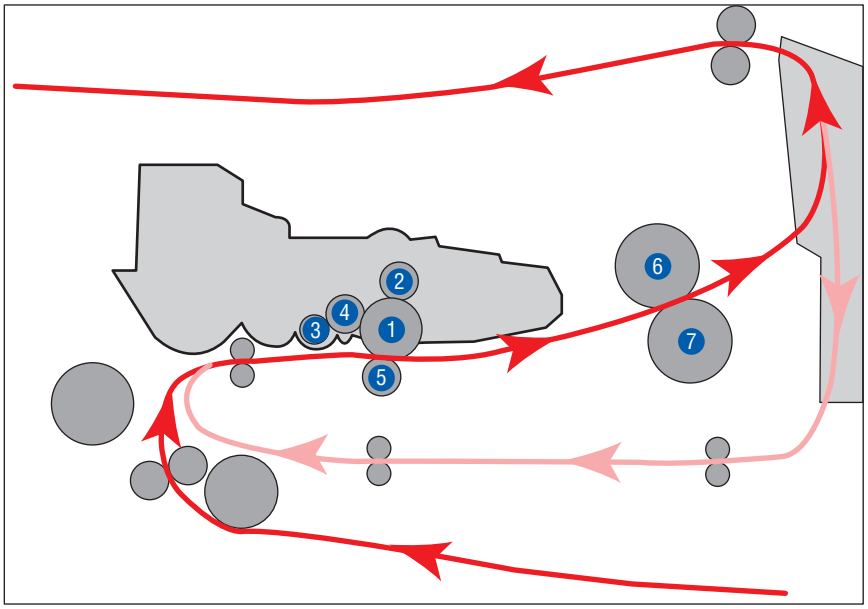
The following table lists the print-quality defect corrective procedure, their definition, and the page where each corrective procedure is provided.

Defect	Definition	Page
Light Image	The overall image density is too light.	page 5-12
Dark or Black Image	The entire image area is black.	page 5-13
Uneven Density	Print Density is uneven between the left and right sides.	page 5-13
Background	Light or gray dusting contamination appears on all or most of the page.	page 5-14
Ghost (1)	There is ghosting at 75.5 mm intervals from the OPC Drum.	page 5-14
Ghost (2)	There is ghosting at 75.5 mm intervals on the whole print.	page 5-15
Ghost (3)	There is ghosting at 62.8 mm and 77.6 mm intervals.	page 5-15
Ghost (4)		page 5-15
Vertical White Line	There are faded or completely non-printed lines along the page of the paper travel from the leading edge to the trailing edge.	page 5-10
Vertical Black Line and Band	There are faded or black lines along the page in the direction of the paper travel from the leading edge to the trailing edge.	page 5-10
Horizontal Black Band	There are black lines running parallel with the leading edge of the print.	page 5-11
Black/White Spot	The toner image is not completely fused to the paper. The image easily rubs off.	page 5-12
Stains on the front of the page	The background of the front of the page is stained.	page 5-16
Stains on back of the page	The background of the back of the page is stained.	page 5-16
Blank Page Print Out (1)	The entire image area is blank.	page 5-17
Blank Page Print Out (2)	The entire image area is blank. One or several blank pages are printed.	page 5-17

Repeating Defect Measurement

When horizontal lines and/or spots occurs periodically, it is possibly caused by a defect on a particular roller. Measure the interval of the defect on the test print and check the relation to the roller in the table. The interval does not necessarily match the circumference of the roller.

If abnormal image prints periodically, check the parts shown below.



s3300mfp-169

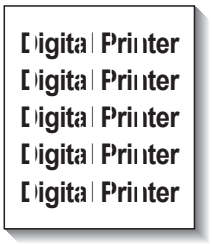
No	Roller	Abnormal image period	Kind of abnormal image	Part to replace	Parts List
1	OPC Drum	75.5 mm	White spot, Black spot	Print Cartridge	
2	Charge Roller	37.7 mm	Black spot	Print Cartridge	
3	Supply Roller	53.2 mm	Horizontal density band	Print Cartridge	
4	Developing Roller	39.2 mm	Horizontal density band	Print Cartridge	
5	Transfer Roller	47.1 mm	Black side contamination /transfer fault	Transfer Roller	
6	Heat Roller	88.9 mm	Black spot and fuser ghost	Fuser	
7	Pressure Roller	101.3 mm	Black side contamination	Fuser	

Vertical Black Line and Band

Straight thin black vertical line occurs in the printing.
Dark black vertical band occur in the printing.

Check and Cause	Solution
Damaged develop roller in the print cartridge. Deformed Doctor-blade.	If causes 1 and 2 occur in the print cartridge, replace the print cartridge and try to print out.
Scratched surface of the charge roller in the print cartridge.	Replace the transfer roller if occurred as No. 3.
Partial depression or deformation on the surface of the transfer roller.	

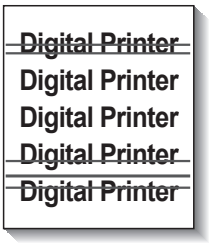
Vertical White Line



White vertical voids in the image.

Check and Cause	Solution
Foreign matter stuck onto the window or internal lenses of LSU mirror.	■ Foreign matter stuck onto the window: Clean the LSU window with recommended cleaner (IPA) Clean the window with a clean cotton swab. ■ Foreign matter in the LSU: Open the cover of LSU and clean with a cotton swab on the surface of the reflex mirror.
Foreign matter or toner particles between the developer roller and blade. (If the print cartridge is at or near end-of-life, white lines or light image occur in front of the image.) It may occur when a burr and foreign substances are on the window of the print cartridge frame.	Remove the foreign matter and burr of the exposure window. (Print Cartridge)
If the fuser is defective, voids occur periodically at the top of a black image.	Open the front cover and check ribs that correspond to the position of the voids. Remove if found.
	If the problems are not solved, replace the print cartridge.

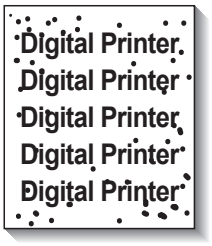
Horizontal Black Band



Dark or blurry horizontal stripes occur in the printing periodically.
(They may not occur periodically.)

Check and Cause	Solution
Bad contacts of the voltage terminals to print cartridge.	Clean each voltage terminal of the Charge, Supply, Develop and Transfer roller. (remove the toner particles and paper particles)
The rollers of print cartridge may be stained. Charge roller = 37.7 mm Supply roller = 53 mm Develop roller = 39 mm Transfer roller = 45.3 mm	Clean the right Gear that has a relatively small gap of the teeth in the OPC.
	If the malfunction persists, replace the print cartridge.

Black/White Spot



Dark or blurry black spots occur periodically in the printing.
White spots occur periodically in the printing.

Check and Cause	Solution
If dark or blurry black spots occur periodically, the rollers in the Print Cartridge may be contaminated with foreign matter or paper particles. (Charge roller: 37.7 mm interval OPC drum: 75.5 mm interval)	Run OPC cleaning Mode Print and run the Self-test 2 or 3 times.
If faded areas or voids occur in a black image at intervals of 75.5 mm, or black spots occur elsewhere, the OPC drum surface is damaged.	In case of 75.5 mm interval unremovable in 1, cleanly remove foreign substances stuck on the OPC location equivalent to black spots and white spots with a dry duster.
If a black image is partially broken, the transfer voltage is abnormal or the transfer roller's life has expired.	The transfer roller guarantees 70.000 sheets printing. If the roller's life is expired, replace it.
	In case of 37.7 mm interval unremovable in 1, take measures as to replace the print cartridge and try to print out.
	Clean the inside of the set against the paper particles and foreign matter in order not to cause the trouble.

Light Image

The printed image is light, with no ghost.

Check and Cause	Solution
Check if the Toner Save Mode is off.	Set Toner Save Mode to OFF.
Developer roller is stained when the print cartridge is near end of life.	Replace the print cartridge and try to print out.
Ambient temperature is below 10 °C.	Wait 30 minutes after printer is powered on before you start printing.
Bad contact caused by the toner stains between the high voltage terminal in the HVPS and the one in the set.	Clean up the contaminated area by the toner.
Abnormal output from the HVPS.	Replace the HVPS if the problems are not solved by the above four directions.

Dark or Black Image

The printed image is dark.

Check and Cause	Solution
No charge voltage in the Control Board.	Clean the high voltage charge terminal.
Charge voltage is not turned on due to the bad contacts between power supply in the side of the Print Cartridge and charge terminal of HVPS.	Check the state of the connector which connects the Control Board and HVPS.
	If the solutions above did not correct the problem, replace the HVPS.

Uneven Density

Print density is uneven between left and right.

Check and Cause	Solution
■ The pressure force on the left and right springs of the transfer roller is not even. ■ The springs are damaged. ■ The transfer roller is improperly installed. ■ The transfer roller bushing or holder is damaged.	Replace both the left and right Spring Holder.
The life of the Print Cartridge has expired.	Problem with the print cartridge, replace the print cartridge and re-run the job.
The toner level is not even on the developer roller due to the bad blade.	Problem with the print cartridge, replace the print cartridge and re-run the job.

Background

Light dark background appears in whole area of the printing.

Check and Cause	Solution
Recycled paper has been used.	Quality is not guaranteed when using recycled paper.
The life of the Print Cartridge has expired.	Replace the print cartridge.
Does the Transfer Roller rotate smoothly?	Clean the bushing on the transfer roller.
The HVPS is normal?	Replace the HVPS.

Ghost (1)

Ghost image occurs at 75.5 mm intervals of the OPC drum on the output.

Check and Cause	Solution
Bad contacts caused by contamination from toner particles between high voltage terminal in the main body and the electrode of the Print Cartridge.	Clean the contaminated terminals.
Bad contacts caused by contamination from toner particles between high voltage terminal in the main body and the one in the HVPS board.	Problem in the print cartridge. Replace the print cartridge and re-run the job.
The life of print cartridge is expired.	Replace the Control Board if not solved by the previous suggestions.
Transfer roller life (70.000 sheets) has expired.	If not solved by the previous suggestion, check the transfer roller lifetime and replace it.
Abnormal low temperature (below 10 °C).	Wait about 1 hour after power on before using printer.
Damaged cleaning blade in the print cartridge.	Problem in the print cartridge, replace the print cartridge and try to print out.

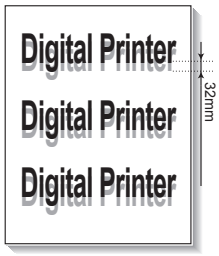
Ghost (2)

Ghost image occurs at 75.5 mm intervals of the OPC drum on the output when printing on card stock or transparencies using manual feeder.

Check and Cause	Solution
When printing on card stock thicker than normal paper or transparencies, higher transfer voltage is required.	Select 'Thick Mode' on paper type menu from the software application. After use, return to the original Mode.

Ghost (3)

White ghost image occurs in the black image printing at 35.2 mm intervals.



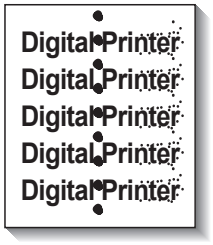
Check and Cause	Solution
The life of the print cartridge may be expired.	Problem in the print cartridge. Replace the print cartridge and re-run the job.
The abnormal voltage and bad contact of the terminal of the developing roller.	Check the approved voltage of the supply roller and contact of the terminal and adjust if necessary.

Ghost (4)

Ghost occurs at 88.9 mm intervals.

Check and Cause	Solution
The temperature of the fuser is too high.	Caution: Handle the heat roller carefully to avoid deforming the roller. Allow the Fuser to cool at least 5 minutes. 1. Disassemble the fuser. 2. Remove the contaminated toner particles on the roller. 3. Clean the foreign matter between thermistor and heat roller.

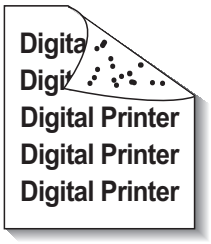
Stains on the front of the page



The background on the face of the printed page is stained.

Check and Cause	Solution
Toner leakage due to improperly sealed print cartridge.	Replace the print cartridge.
If the Transfer Roller is contaminated, stains on the face of page will occur.	If the Transfer Roller is contaminated, replace it.

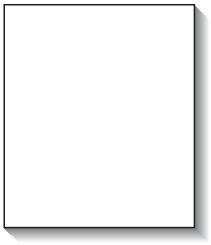
Stains on back of the page



The back of the page is stained at 47.1 mm intervals.

Check and Cause	Solution
Transfer Roller is contaminated.	Replace the Transfer Roller if contaminated severely.
Pressure roller is contaminated.	Disassemble the fuser and clean the heat roller and pressure roller). Check the area between the heat roller and Thermistor. Clean the area if contaminated.

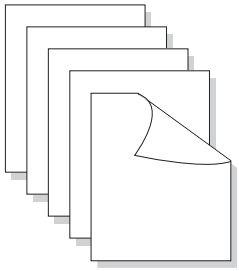
Blank Page Print Out (1)



Blank page is printed.

Check and Cause	Solution
Bad ground contacts in OPC and/or print cartridge.	Remove contamination on the terminals of the print cartridge and the printer.

Blank Page Print Out (2)



Blank page is printed.

One or several blank pages are printed.

When the printer turns on, several blank pages print.

Check and Cause	Solution
Bad ground contacts in OPC and/or print cartridge.	Remove contamination on the print cartridge terminals.
	If not solved by the above suggestions, replace the Control Board.
	Turn the power off, delete the print job on the computer, and try printing again.

Adjustments and Calibrations

In this chapter...

Note

The Altitude Adjustment might not be available for the Phaser 3300MFP immediately after product launch. If the adjustment is not available as described in these procedures, verify that the machine has the most current version of firmware installed.

Chapter 6

Altitude Adjustment

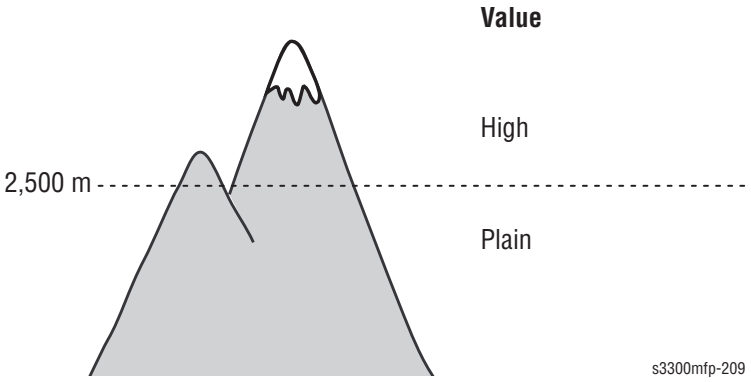
Print Quality is affected by atmospheric pressure, which is determined by the location of the printer above sea level. The following information contains instructions and specifications for adjusting altitude information for the Phaser 3300MFP.

Note

Verify that the Phaser 3300MFP printer driver has been installed.

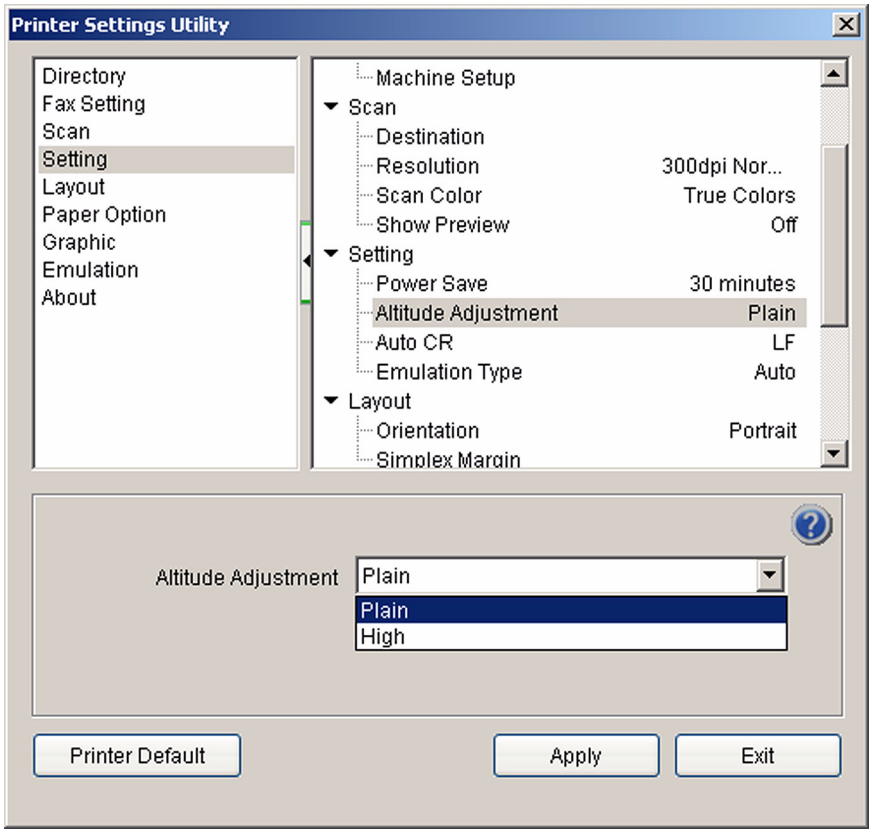
Altitude Specifications

Prior to performing the altitude adjustment procedure, determine the altitude location of the printer and the appropriate value to be adjusted for the printer.



Printer Settings Utility Method (USB Connection Only)

1. From the Start Menu, select Programs > Xerox Phaser 3300MFP >Printer Settings Utility.
2. The Printer Settings Utility window is displayed.
   a. In the left column, select Setting.
   b. In the right column, select Altitude Adjustment.
   c. Under Altitude Adjustment window, from the pull-down menu, select the appropriate altitude information for the printer.
   d. Click the Apply button to change the altitude information.
   e. Click the Exit button to close the Printer Settings Utility window.



Cleaning and Maintenance

In this chapter...

- Service Maintenance Procedure
- Cleaning
- Maintenance
- Software Maintenance
- Flash Upgrade
- Resetting Firmware

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.

Warning

Never apply alcohol or other chemicals to any parts of the printer. Do not use aerosol cleaners; they may be explosive and flammable under certain conditions.

Caution

Never use a damp cloth to clean up toner. If you remove the Print Cartridge, 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 Print Cartridge, Transfer Roller, Fuser, Duplex Unit, 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 Print Cartridge, Fuser, Transfer Roller, Duplex Unit, and inside of the printer.

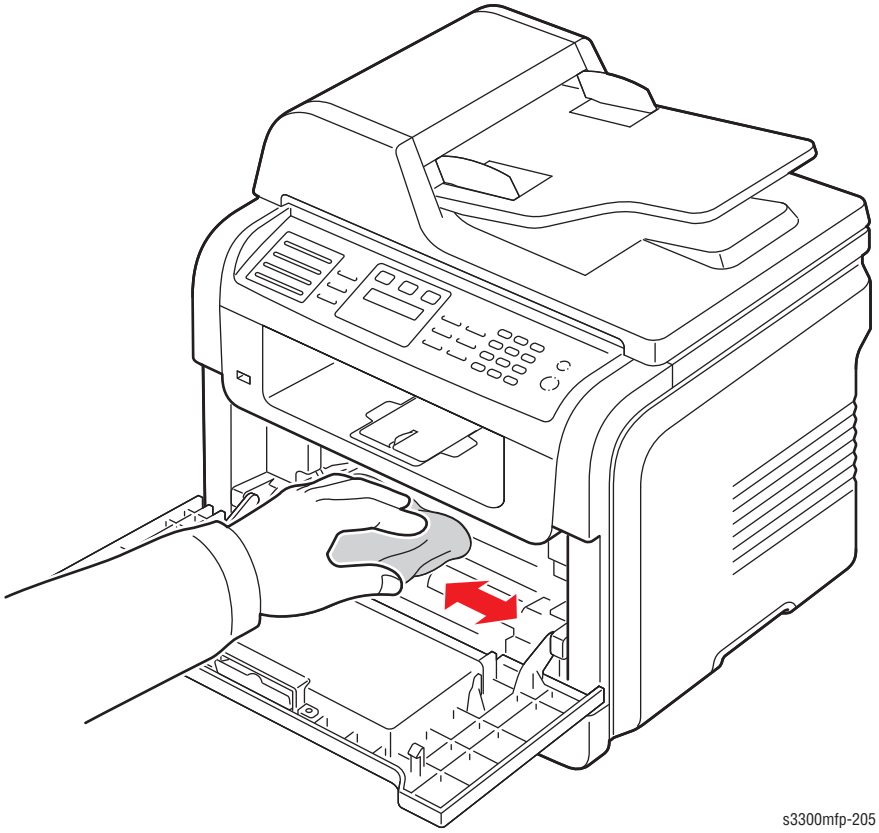
8. Remove and clean the paper trays.
9. Clean all rubber rollers with a lint-free cloth slightly dampened with cold water.

Cleaning the Print Cartridge

Caution

Do not expose the Print Cartridge to light for more than 5 minutes. Cover the Print Cartridge to avoid damage.

1. Open the Front Cover.
2. Use a dry lint-free cloth to wipe any dust and/or spilled toner from the Print Cartridge area. Remove any paper debris from the area.



s3300mfp-205

Cleaning the Laser Unit

Caution

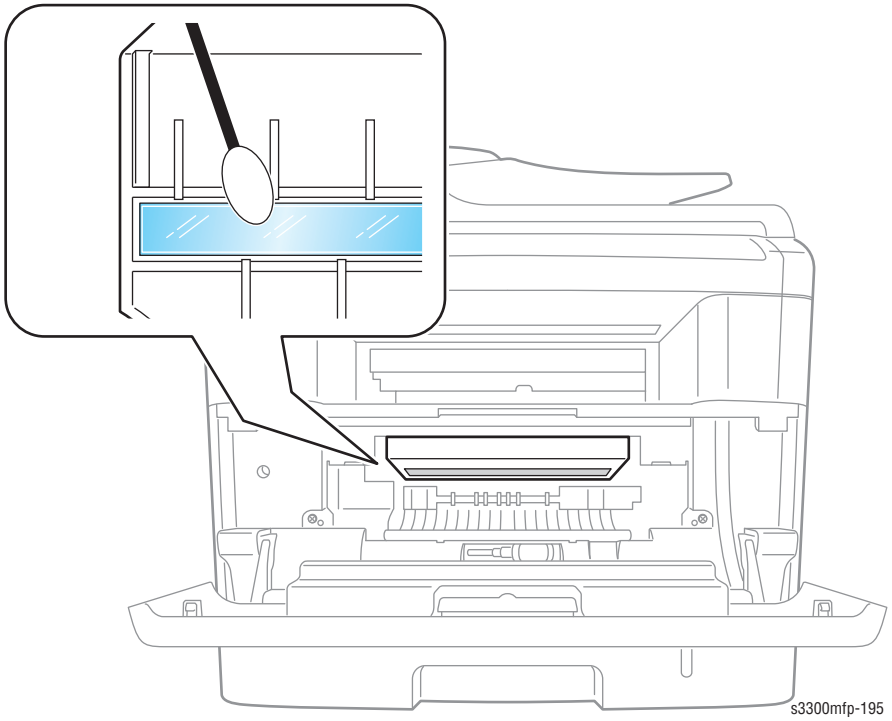
Do not expose the Print Cartridge to light for more than 5 minutes. Cover the Print Cartridge to avoid damage.

1. Open the Front Cover.
2. Remove the Print Cartridge (page 8-18).

Note

It may be difficult to locate the strip of glass on the Laser Unit.

1. Use a Q-tip to wipe the long strip of glass of the Laser Unit.



Maintenance

RIP (Repair, Inspect, and Prevent) Procedure

Perform these routine maintenance procedures during the course of servicing the printer.

- Clean the Feed Rollers, Exit Rollers, and Guides; replace if necessary.
- Remove and clean the paper trays.
- Print a Configuration and Error History pages; diagnose, and repair any problems as indicated.
- Check the printer engine and image processor firmware fans; if necessary, clean (dust or vacuum) these areas.
- Check cleanliness of the interior and exterior, including fans; if necessary, clean (dust or vacuum) these areas.
- Review proper printer operation using a customer file, if possible. Check with the customer regarding any special applications they may be using.
- Review with the customer all work that was performed and discuss proper printer care.

Software Maintenance

Clearing the Memory

You can selectively clear information stored in the machine's memory.

1. Press **Menu** on the control panel and scroll left or right to *System Setup*; press **Enter**.
2. Scroll left or right until *Clear Setting* appears on the bottom line; press **Enter**.
   - The first available menu item, *All Settings* displays on the bottom line.
   - There are some items to be displayed on the LCD.
3. Scroll left or right until you see the item you want to clear.
4. Press **Enter**. The selected memory is cleared and the display asks you to continue clearing the next item.
5. To clear another item, press **Enter** and repeat steps 3 and 4
   - To return to Standby mode, press **Stop/Clear**.

You can selectively clear information stored in the machine's memory for the following items:

Clear All Mem.: Clears all of the data stored in the memory and resets all of your settings to the factory default.

Paper Setting: Restores all of the Paper Setting options to the factory default.

Copy Setup: Restores all of the Copy Setup options to the factory default.

Fax Setup: Restores all of the Fax Setup options to the factory default.

Fax Feature: Cancels all of the scheduled fax jobs in the machine's memory.

As below item you can selectively clear information stored in your machine's memory.

Advanced Fax: Restores all of the Advanced Fax setting options to the factory default.

Sound/Volume: Resets the sound and volume settings to the factory default.

Machine Setup: Resets all of the system settings, such as the machine ID, date and time, display language and save modes, to the factory default.

Sent Report: Clears all records of your sent faxes.

RCV Report: Clears all records of your received faxes.

Phone Book: Clears the one-touch, speed and group dial numbers stored in the memory.

Flash Upgrade

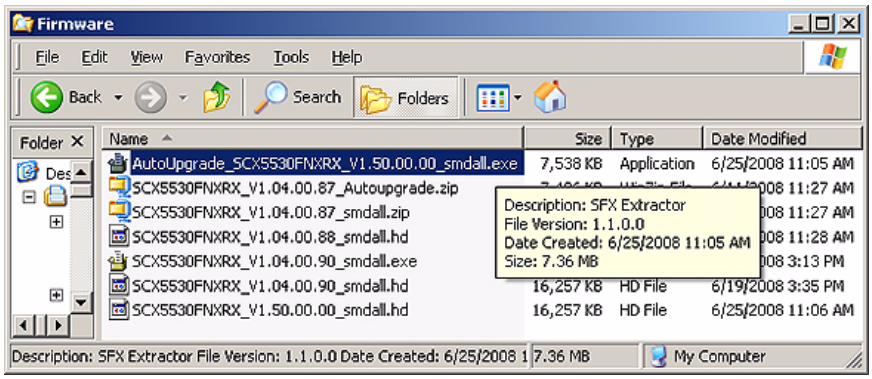
There are two methods for upgrading firmware, USB and Network.

1. Down load the applicable files from the Xerox support web site. Unzip (decompress) the files.
2. Be sure your appropriate firmware updating option (Network or USB) is available and connected.
3. Reboot the printer.

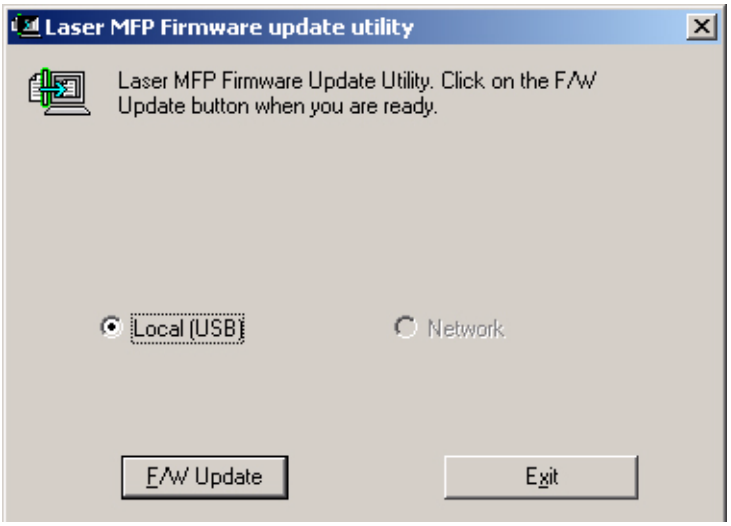
USB Connection

This method uses the *Laser MFP Firmware Utility* to upgrade the firmware over a USB connection.

1. Connect PC and Printer with a USB Cable.
2. Start the Laser MFP Firmware Update Utility executable file.



3. Verify that Local (USB) is selected, then click the **F/W Update** button.

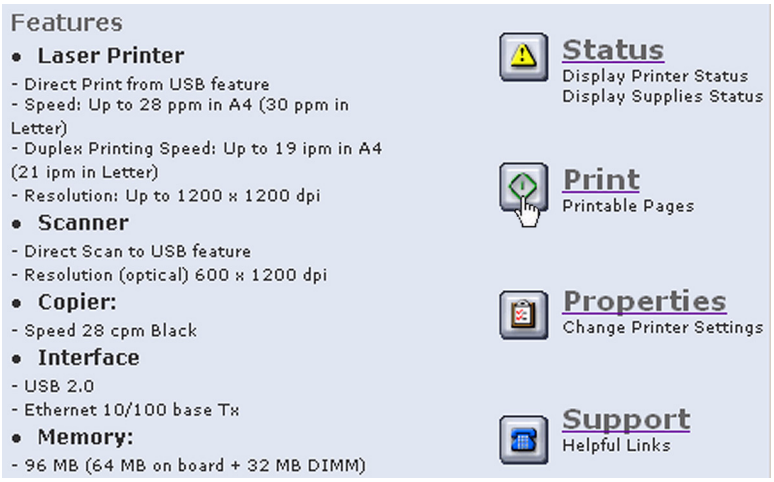


4. Check the Control Panel display to verify that it reads “Flash Upgrade…” The messages on the display change as the update progresses.
5. The firmware file is transmitted to Printer automatically and printer initializes when finished. The process can take several minutes to complete.
6. Print a **Configuration** page and verify the firmware information.

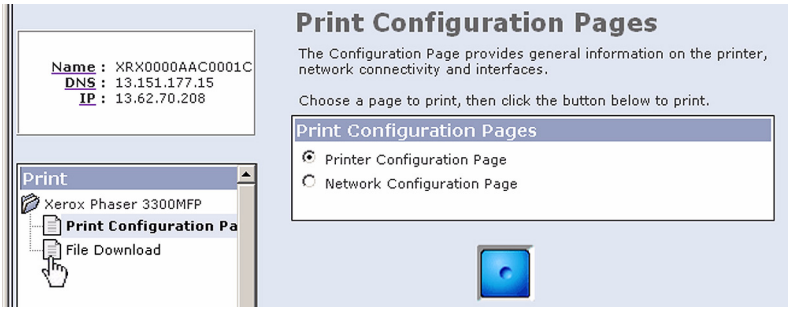
Network Connection

This method uses CentreWare IS to upgrade the firmware over the network connection.

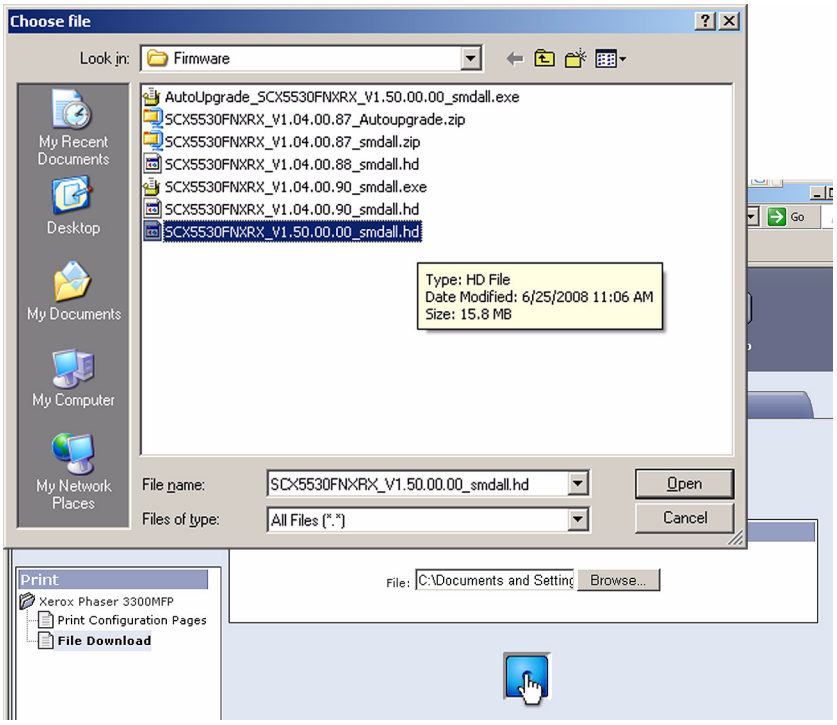
1. Ensure the printer is connected to the computer with a network connection.
2. Verify that you have downloaded the ***.fls** file.
3. Open a web browser.
4. Enter the printer's IP address.
5. The **CentreWare IS** window is displayed.
6. Click the **Print** button.



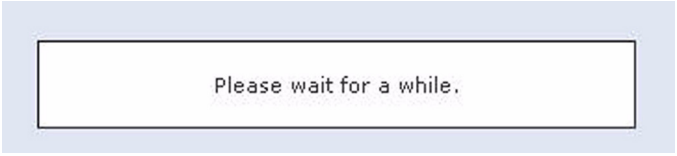
7. On the left side, click **File Download**.



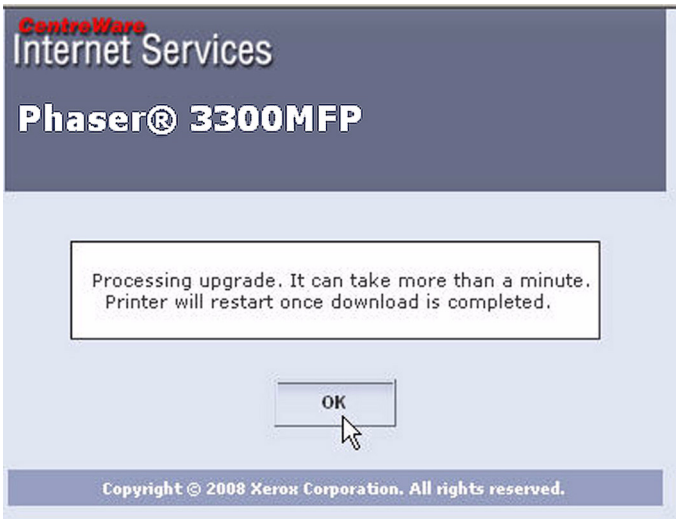
8. Click the **Browse** button and locate the "***.hd**" file on your computer. Select the "***.hd**" file and click **Open**.
9. Click the **Blue** button to start the firmware update process.



10. A status window is displayed.



11. Messages on the Control Panel display follow the progress of the update as the printer proceeds through the firmware update. The update is complete when the printer initializes and returns to "Ready."
12. Click **OK** to close the status window when the firmware upgrade is complete.



13. Print a **Configuration** page and verify the firmware information.

Resetting Firmware

USB Connection

1. Ensure the printer is connected to the computer with a USB connection.
2. Verify that you have downloaded the **reset_xerox.Lt** file.
3. At the DOS Prompt, verify that you're at the root directory of the files. Type **usblist2 reset_xerox.Lt** and press **Enter**.
4. On the Control Panel, messages reveal the status of the update. When the update is complete, a **Configuration** page is printed.
5. Verify the Firmware version and the Total Page Count is "0 pages."
6. Turn the printer power Off and back On.

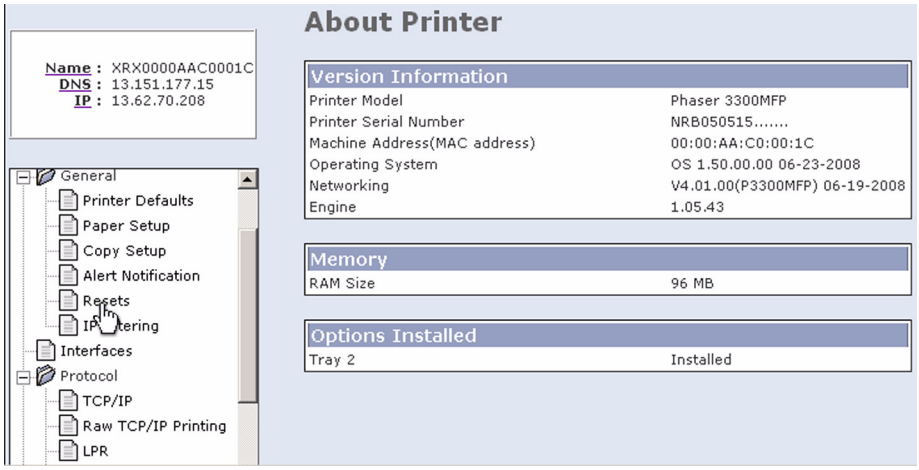
Restoring Printer Setting and Network Setting (Network Connection)

Two Restore options are available for the Phaser 3300MFP: **Restore Printer Default** and **Restore Network Default**.

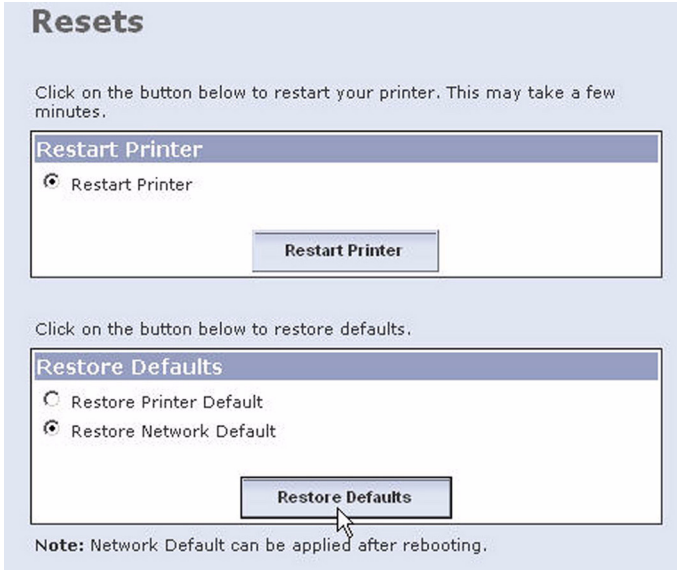
- Restore Printer Default – This function restores all printer related settings (Power Save, Print Mode Settings, PCL, PostScript, Epson Settings, Troubleshoot, Margins).
- Restore Network Default – This function restores all network related settings (all non-printer related settings in CentreWare IS).

1. Ensure the printer is connected to the computer with a network connection.
2. Open a web browser.
3. Enter the printer's IP address.
4. The **CentreWare IS** window is displayed.
5. Click the **Properties** link.

6. The **About Printer** page is displayed. On the left side, expand **General,** and click **Resets.**

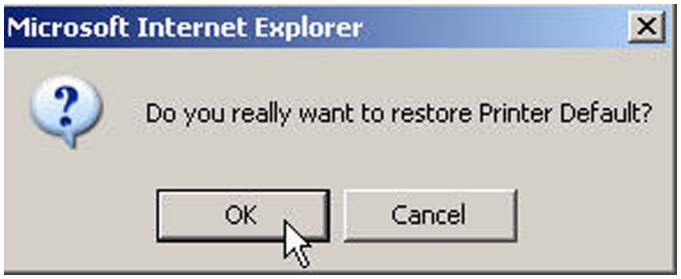


7. The **Resets** window is displayed. Select the appropriate option to restore the printer information.
8. Click **Restore Defaults.**

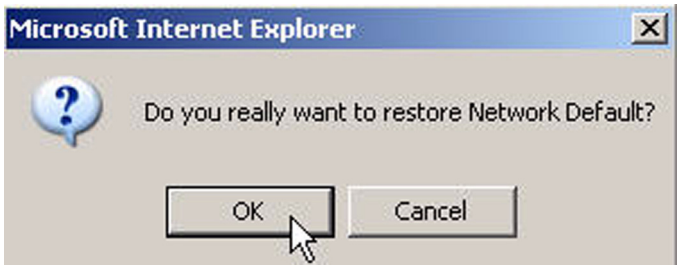


9. The **Microsoft Internet Explorer** window is displayed confirming restoring the Printer Default/Network Default information. Click **OK**.

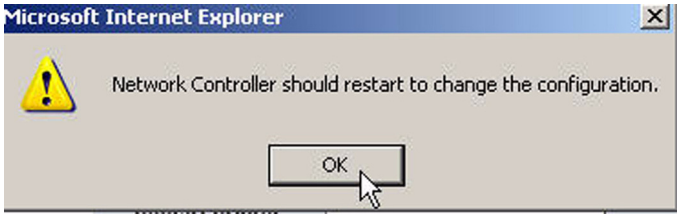
Printer Default



Network Default



10. For Restoring Network Default, a message window is displayed. Click **OK**.



11. The Completion window is displayed. Click **OK** to close the window.

12. The printer is turned Off.
13. Turn On the printer.

Service Parts Disassembly

In this chapter...

Chapter 8

Overview

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

Note

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

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

Maintenance Items and Consumables

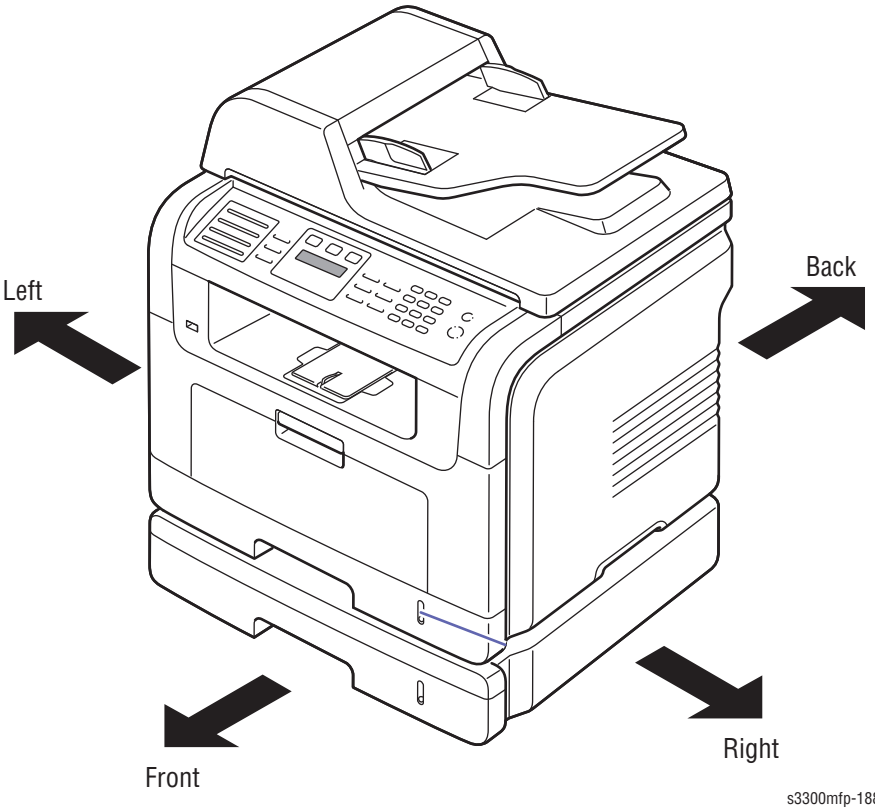
- Print Cartridge (page 8-18)
- Tray Holder Pad (page 8-16)
- Transfer Roller (page 8-8)
- Pick-Up Roller (page 8-9)
- Fuser (page 8-10)

Product Assembly

- Covers (page 8-19)
- Duplex (page 8-35)
- Paper Feeder (page 8-36)
- Scanner Assembly (page 8-47)
- Xerographics (page 8-61)
- Drive (page 8-63)
- Electrical (page 8-68)
- Options (page 8-79)

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 illustration identifies the Front, Rear, Left, and Right sides of the printer.



Preparation

Before you begin any removal and replacement procedure:

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

Caution

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

6. Remove the Print Cartridge (page 8-18).

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.

Note

When performing 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.

Laying the Unit on its Back

Several of the procedures recommend laying the unit on its back to make the procedure easier to perform. When laying the machine on its back, be sure to:

- Disconnect the power and network cables from the unit.
- Remove the Duplex Unit (page 8-35)
- Remove the ADF Assembly (page 8-47)
- Remove the 250-sheet Feeder option if one is installed.

Notations in the Disassembly Text

- The notation “(item X)” points to a numbered callout in the illustration corresponding to the disassembly procedure being performed.
- The notation “PL*X.X.X*” indicates that this component is listed in the Parts List.
- Bold arrows in an illustration show direction of movement when removing or replacing a component.
- The notation “(tap, plastic, 10 mm)” or “(metal, 6 mm)” refer to the type of screw being removed.

Note

Provides information specific to the replacement of parts or assemblies.

Caution

Use care when installing self-tapping screws in plastic. To properly start the screw in plastic, turn the screw counter-clockwise in the hole until you feel the screw engage the threads, then tighten as usual. Failure to properly align or over tighten the screw can result in damage to previously tapped threads.

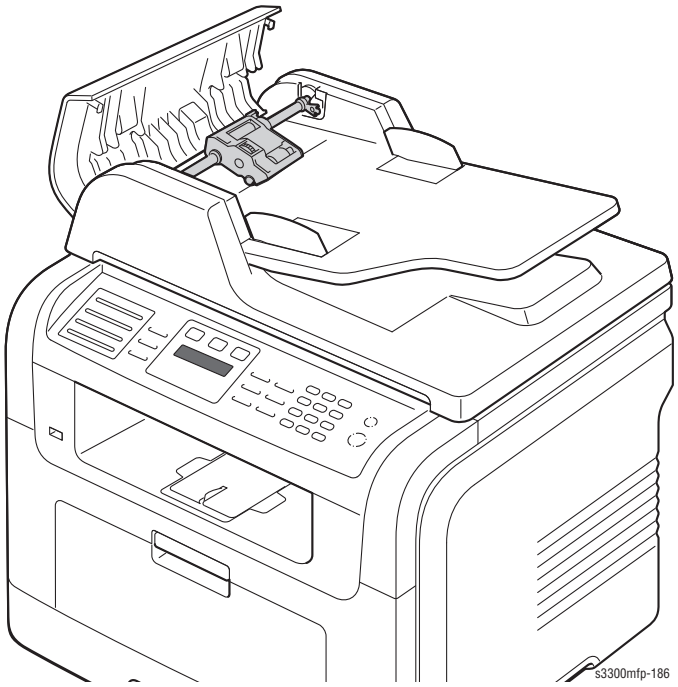
Always use the correct type and size screw. Using the wrong screw can damage tapped holes. Do not use excessive force to remove or install either a screw or a printer part.

Maintenance Items and Consumables

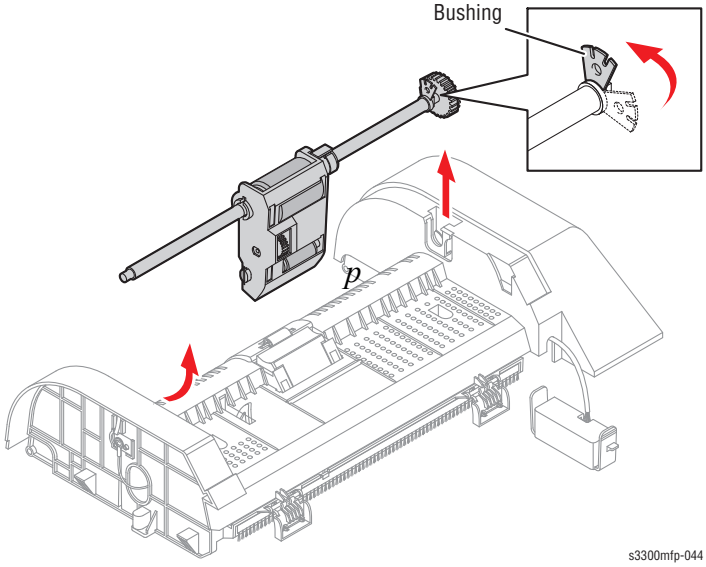
Maintenance items include the ADF Pickup Roller, ADF Rubber Pad, Transfer Roller, Fuser, Pick-Up Roller, and Tray Rubber Pad. Except for the Fuser, all the Maintenance Items are customer-replaceable. The Print Cartridge is the one Consumable item.

ADF Pickup Assembly (PL 13.0.4)

1. Open the ADF Cover, as shown below.

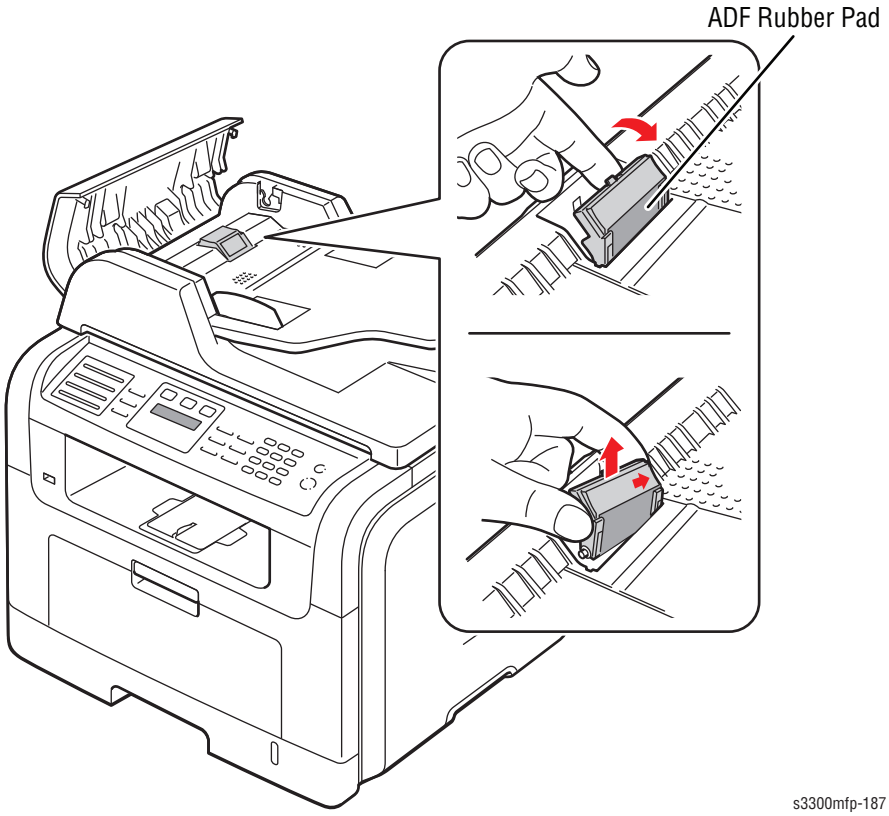


2. Lift the tab to release the bushing, and rotate it as shown below until it is straight up and the bushing is free in the slot.
3. Lift the Pick Up Assembly out of the ADF housing.



ADF Rubber Pad (PL 13.0.3-2)

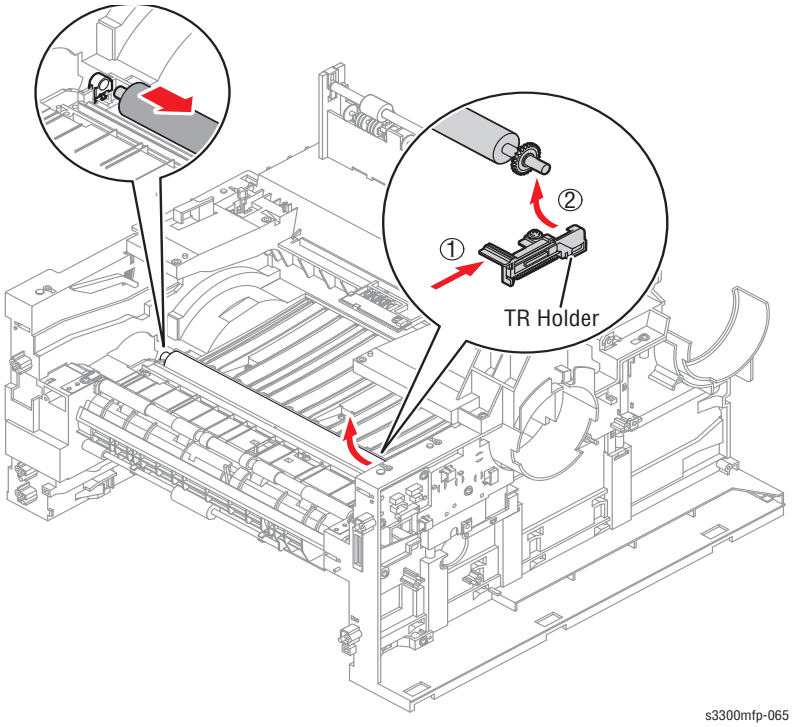
1. Remove the ADF Pickup Assembly. (See the previous procedure.)
2. Swing the rubber pad assembly up on its pivots, then squeeze the sides of the assembly to release the pivots from the housing as shown.



Transfer Roller

To remove the Transfer Roller:

1. Push the TR Holder toward the rear of the machine to release the right end of the roller shaft.
2. Slide the roller to the right just enough to release the left end of the roller shaft; remove the roller from the machine.

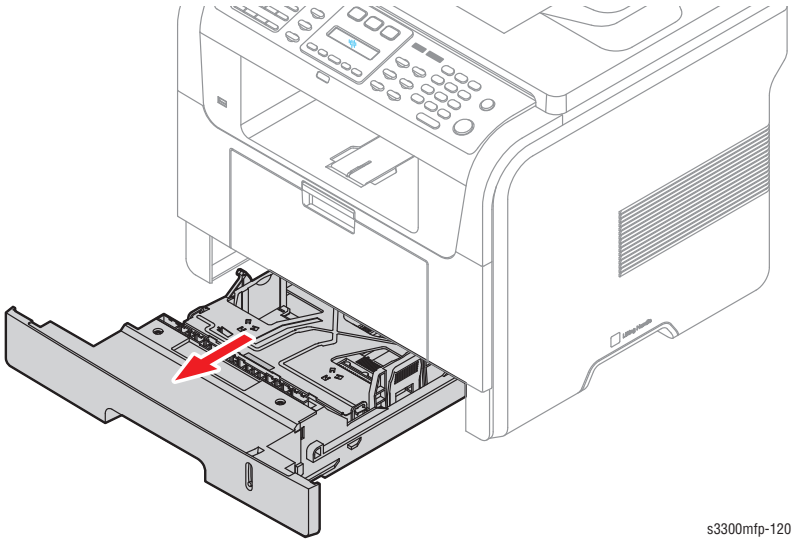


Note

Avoid touching the rubber part of the Transfer Roller to prevent contamination of the surface. Hold the ends of the Transfer Roller shaft when replacing the roller.

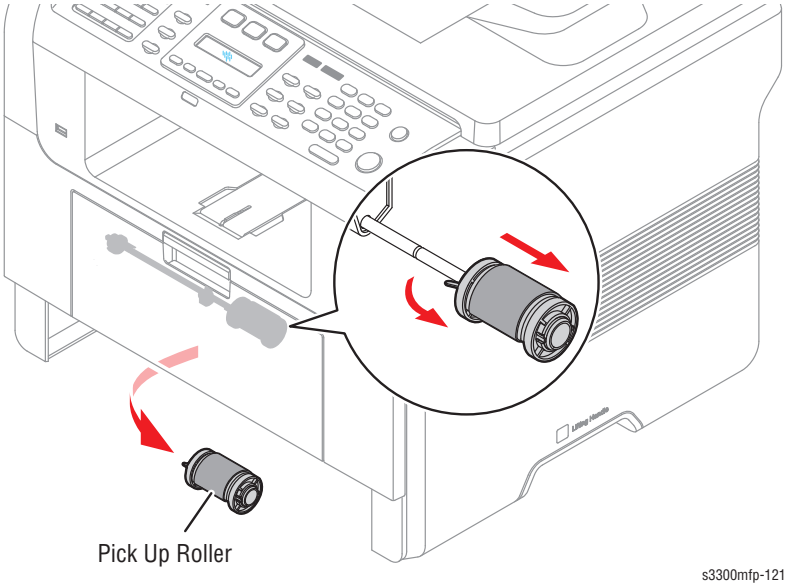
Pick Up Roller (PL3.0.3-9)

1. Take out the Cassette.



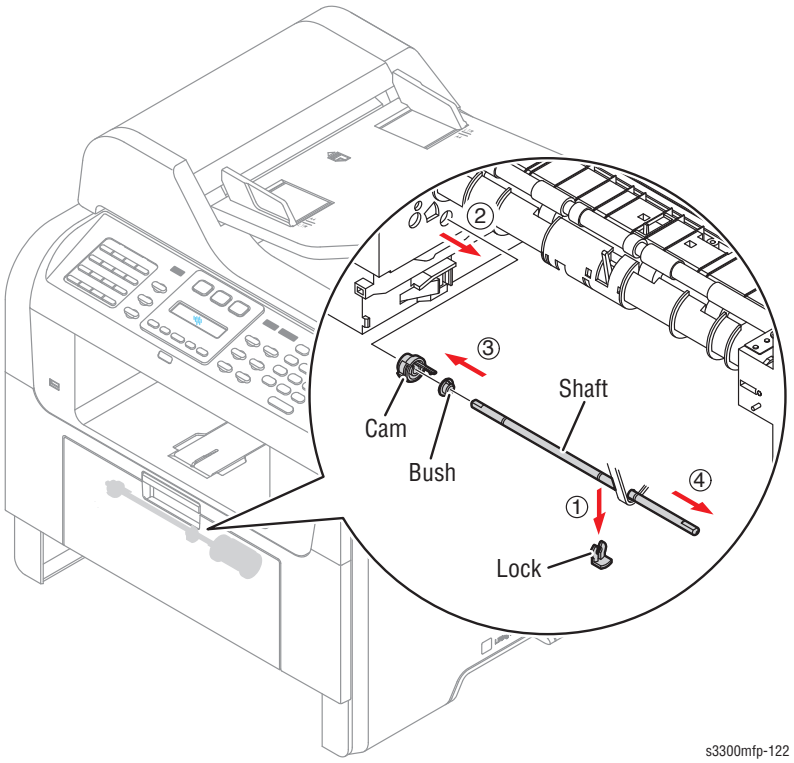
s3300mfp-120

2. To remove the Pick Up Roller Assembly, first lift the notch attached to the Pick Up Roller Assembly from the Shaft, then slide the Pick Up Roller Assembly from left to right and it will be released completely, as shown below.



s3300mfp-121

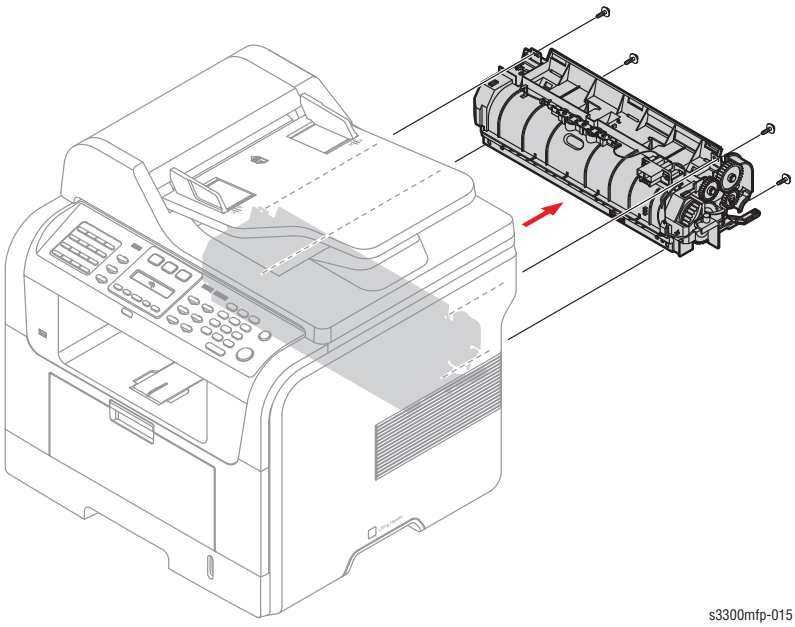
3. To remove the Shaft, first release the locker and slide the Shaft from left to right, then lift the notch attached to the Cam so that it's released from the Shaft. Then release the Bush from the Shaft and remove the Shaft from the Duplex Guide Housing, as shown below.



s3300mfp-122

Fuser Assembly (PL3.0.61)

1. Open the face up cover and open the fuser output guide.
2. Remove the four screws securing the Fuser Assembly, then pull the Fuser Assembly out of the frame.



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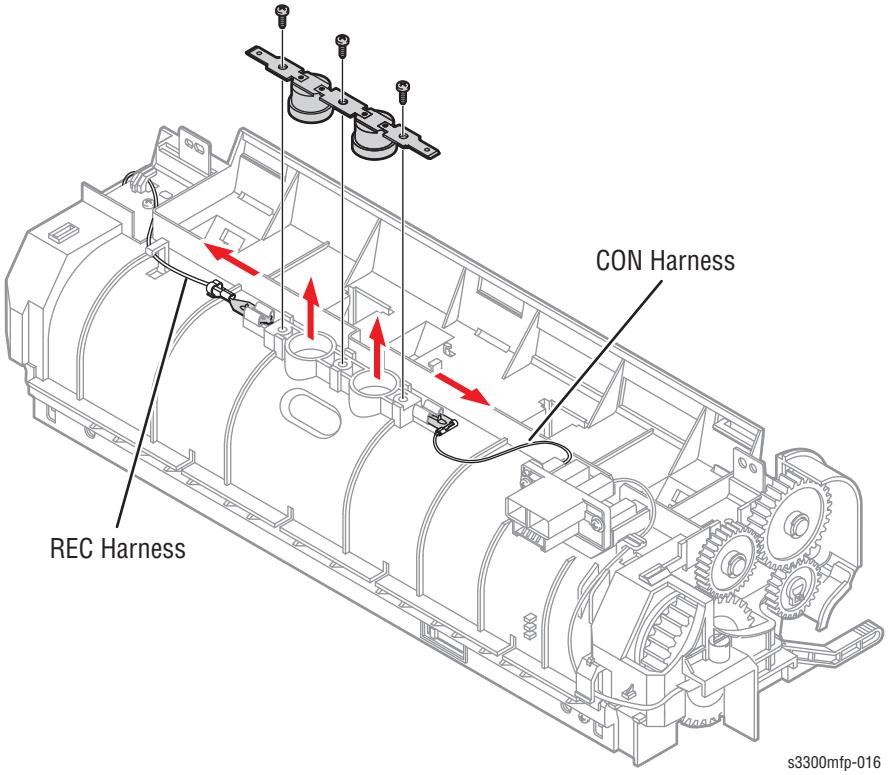
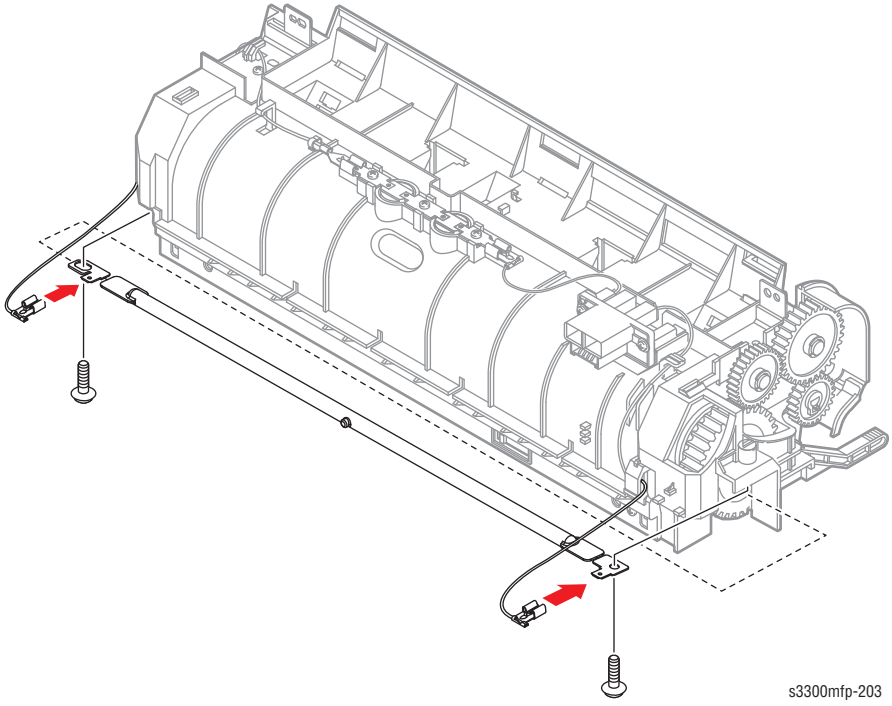
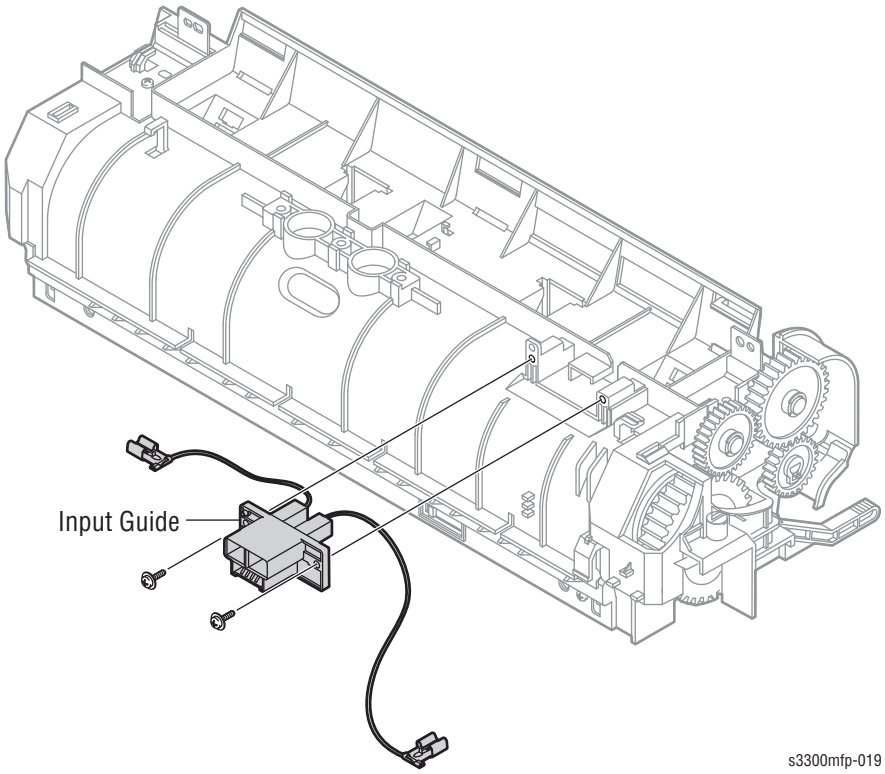
3. Release the CON Harness and REC Harness from the Thermostat and then remove the three screws securing the Thermostat and remove it.



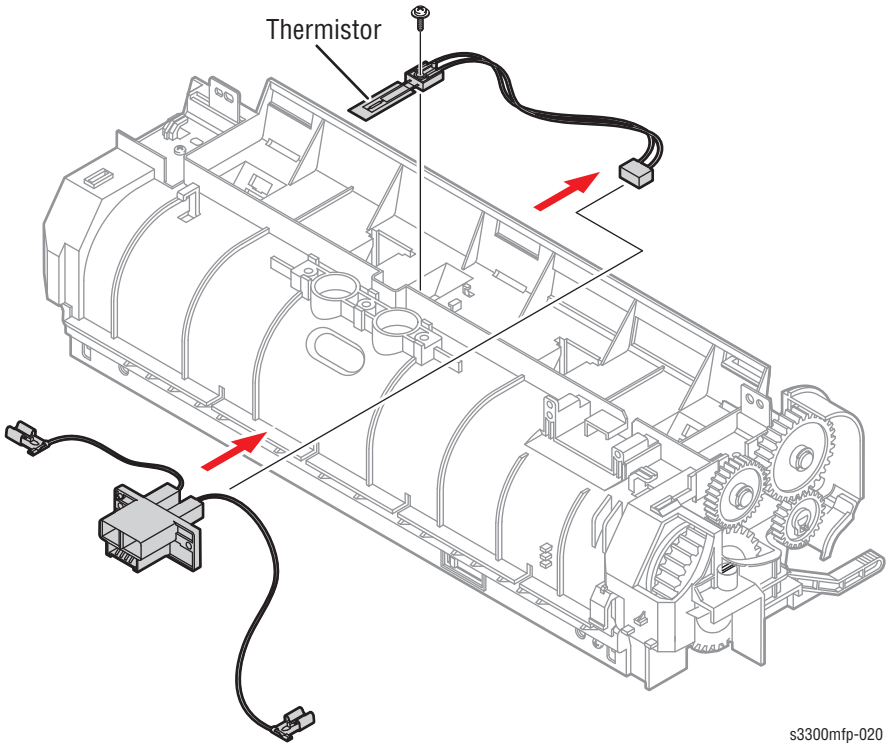
4. To remove the halogen lamp, release the REC harness and CON harness from both sides of the fuser. Remove 2 screws, then carefully slide the halogen lamp out of the fuser.



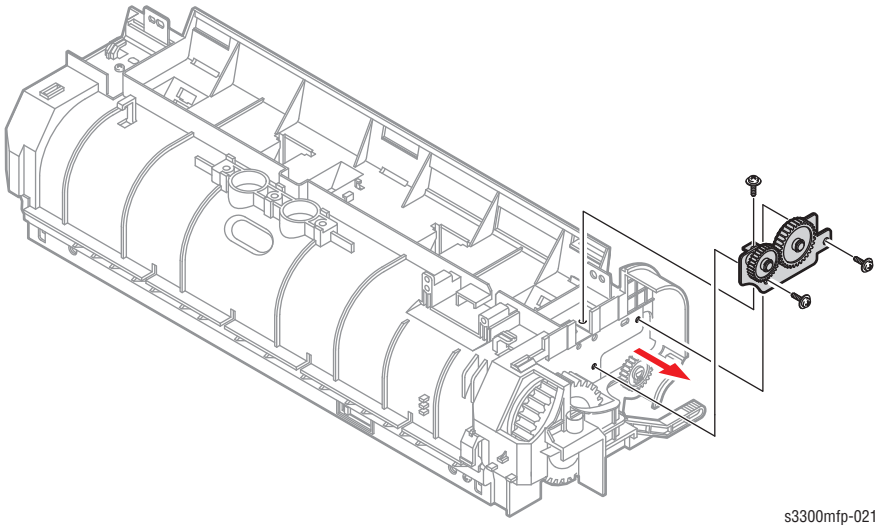
5. Remove two screws, then the Fuser Harness Connector.



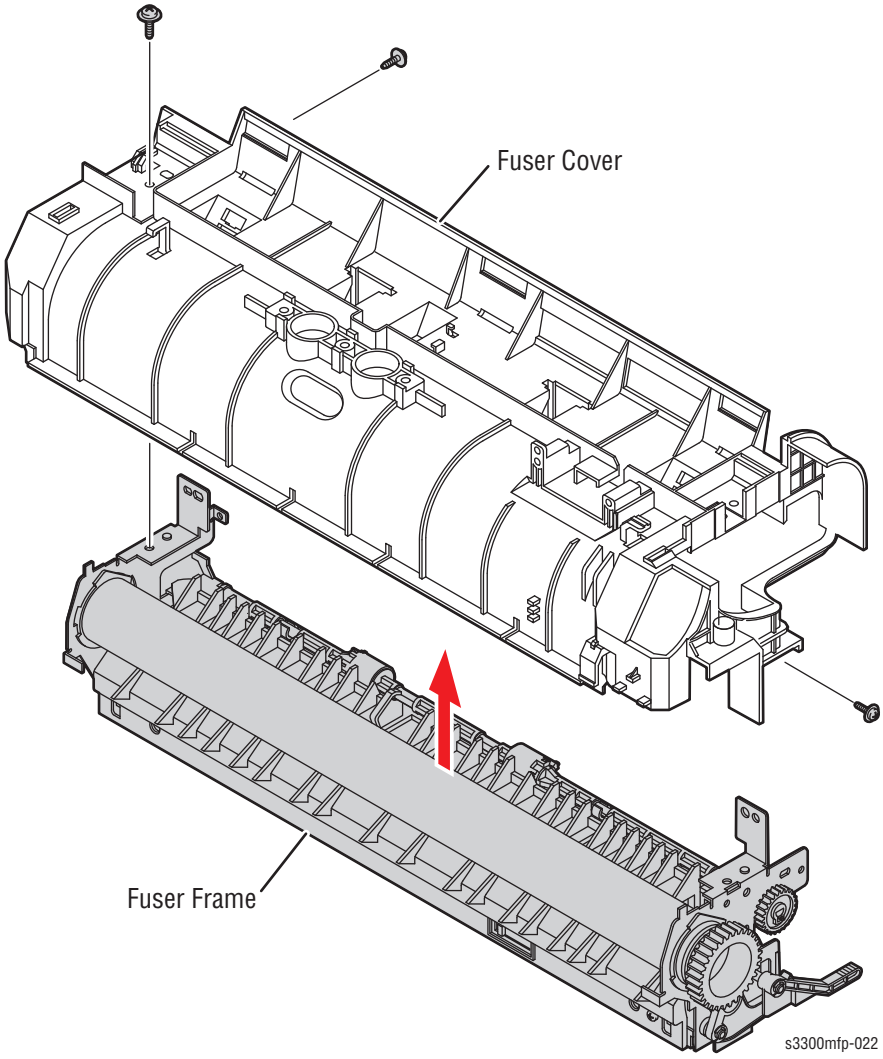
6. Unplug the thermistor harness from the Fuser Harness Connector. Remove one screw then the Thermistor.



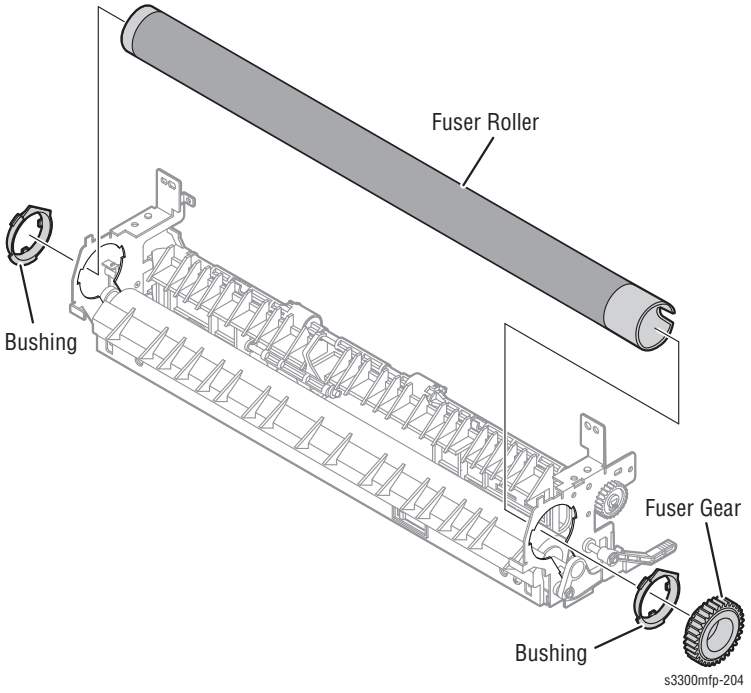
7. Remove three machine screws, then the Idle Gear Bracket.



8. Remove the three screws (two machine screws and one tapping screw with washer and lock washer), then release the Fuser Cover from the Fuser Frame.



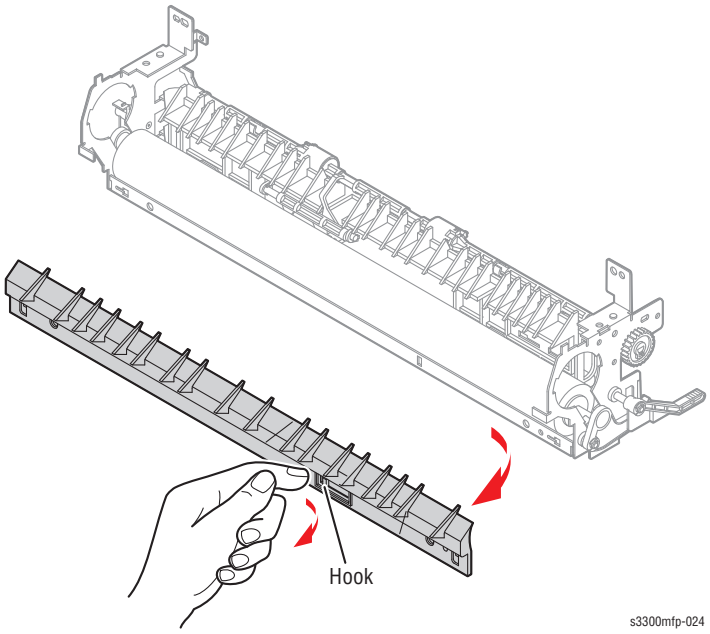
9. Remove the fuser gear, the left heat roller bushing, the right heat roller bushing, then the heat roller.



Note

Be careful not to damage or contaminate the surface of the roller when assembling and disassembling the Heat Roller.

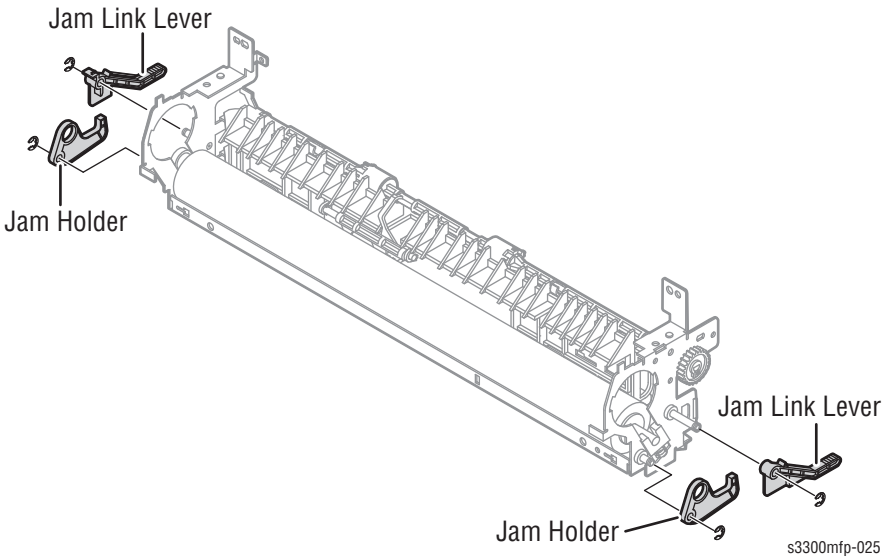
10. To remove the Input Guide, first unlatch the Hook, then slide the Input Guide in the direction of arrow to release the remaining hooks, as shown below.



Note

Remove the Input Guide before removing the Jam Link Holders to avoid damaging the Pressure Roller.

11. Remove four E-clips, the left Jam Link Lever, the right Jam Link Lever, and two Jam Link Holders, as shown here.



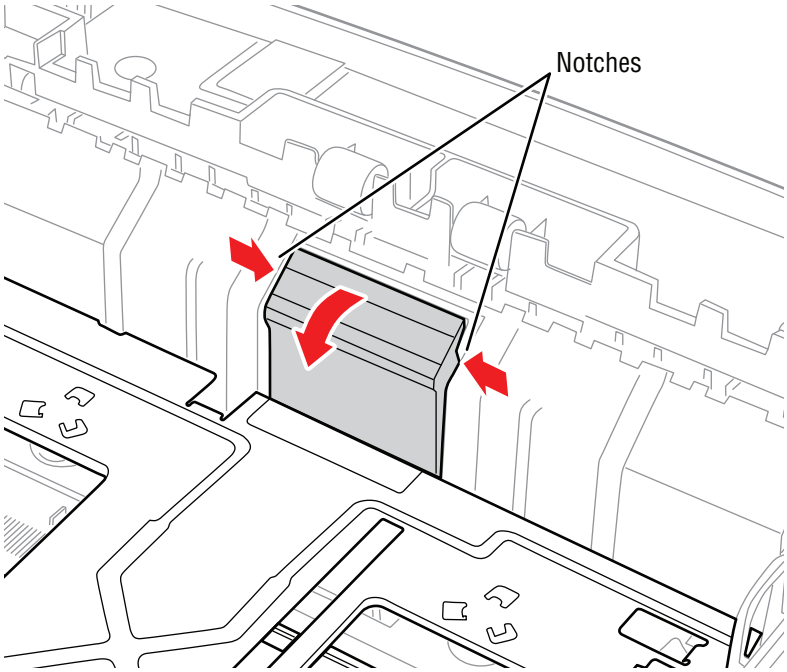
12. Carefully lift the Pressure Roller out of the Fuser frame. Be careful not to drop the pressure bearings, which are loose on the frame.

Fuser Reassembly Notes

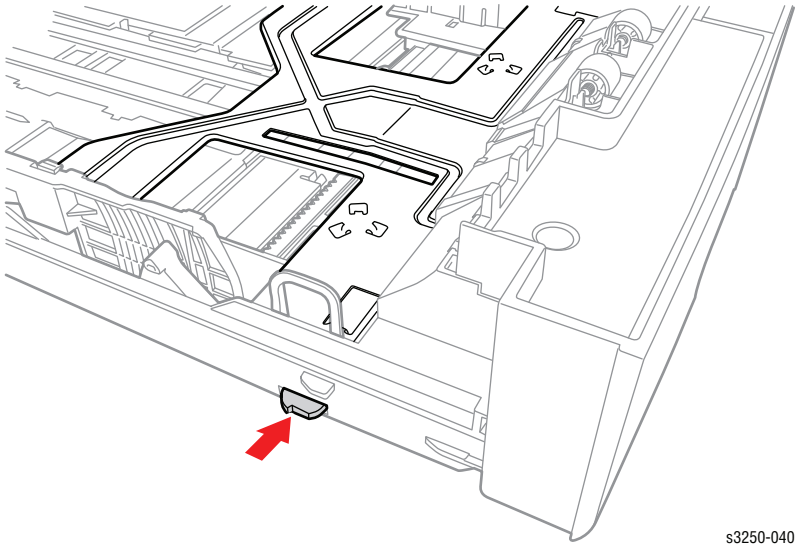
- When reinstalling the Jam Link Holders, grasp the assembly so that you can compress the pressure roller springs. Wrap the assembly in a sheet of paper to avoid contaminating the roller surface.
- When reinstalling the Heat Roller, be sure the bushings are installed correctly. Press on the Jam Link Levers as needed to take the pressure of the Pressure Roller off the Heat Roller.
- When reinstalling the Fuser Cover, make sure the stripper fingers in the cover are in the “down” position. Install the cover very carefully to prevent the stripper fingers from gouging the Heat Roller surface, or from pivoting up in the wrong position.
- When reinstalling the halogen lamp, avoid touching the glass with bare hands. Handle the lamp by the metal terminals at the ends.

Tray Holder Pad (PL15.0.4)

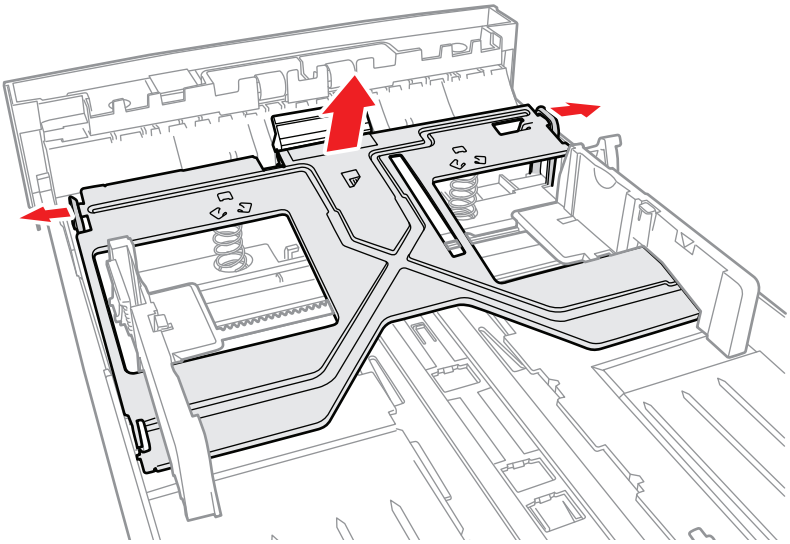
1. Remove Tray 1.
2. Remove paper from Tray 1.
3. Press the Tray Holder Pad to the left and right to release the notches on the left and right sides.



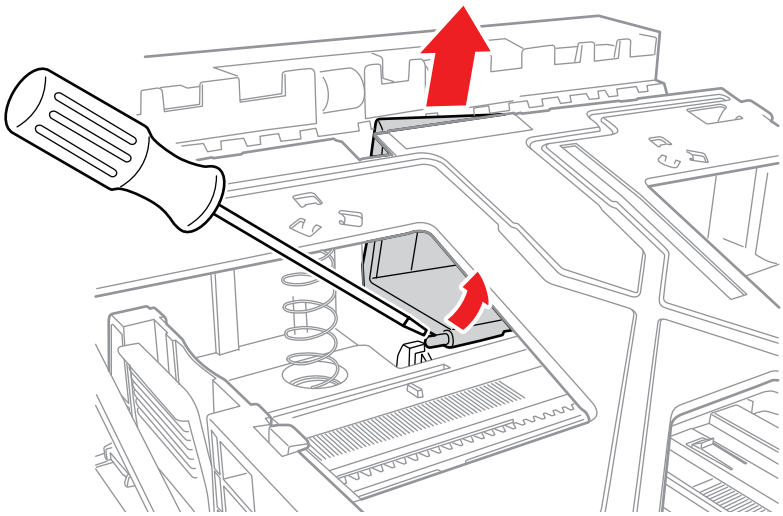
4. Apply pressure on the Knock-Up P Plate while pressing the white tab to release Knock-Up P Plate.



5. Carefully spread the loops on each side of the tray to release the left and right tabs on the Knock-Up P Plate.



6. While holding the Tray Holder Pad, use a flat tip screw driver to pry the Holder Pad notch up from the tray.
7. Remove the Tray Holder Pad from the tray.



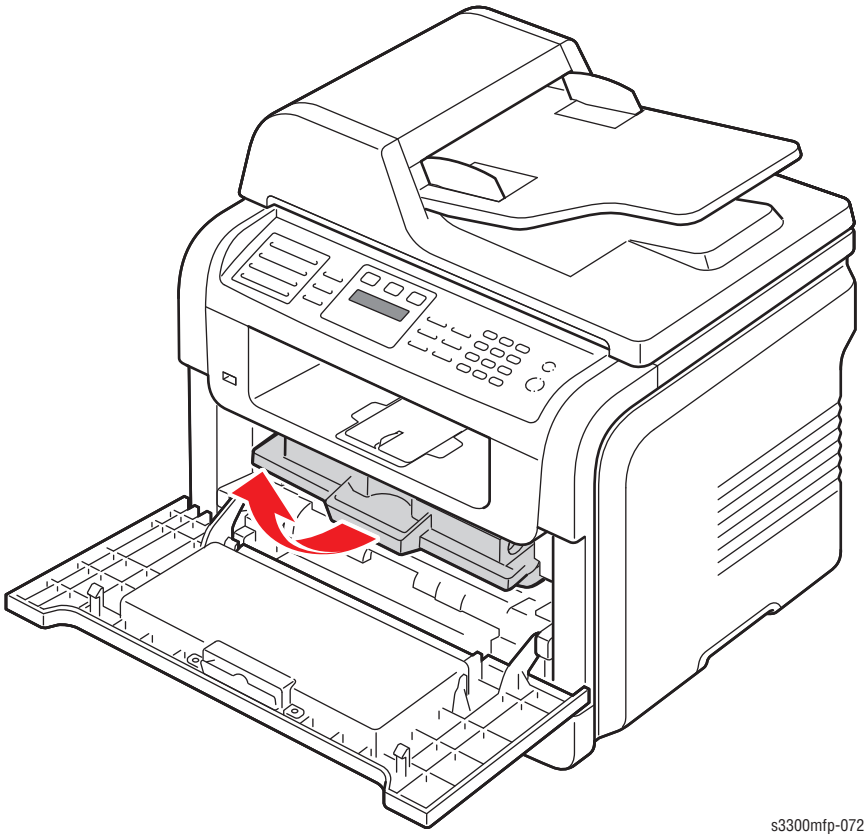
Print Cartridge (PL1.0.16)

Caution

Do not expose the Print Cartridge to light for more than 5 minutes. Cover the Print Cartridge to avoid damage.

Do not touch the green surface underneath the Print Cartridge.

1. Open the Front Cover.
2. Lift the Print Cartridge handle upward and pull the Print Cartridge out from the machine.



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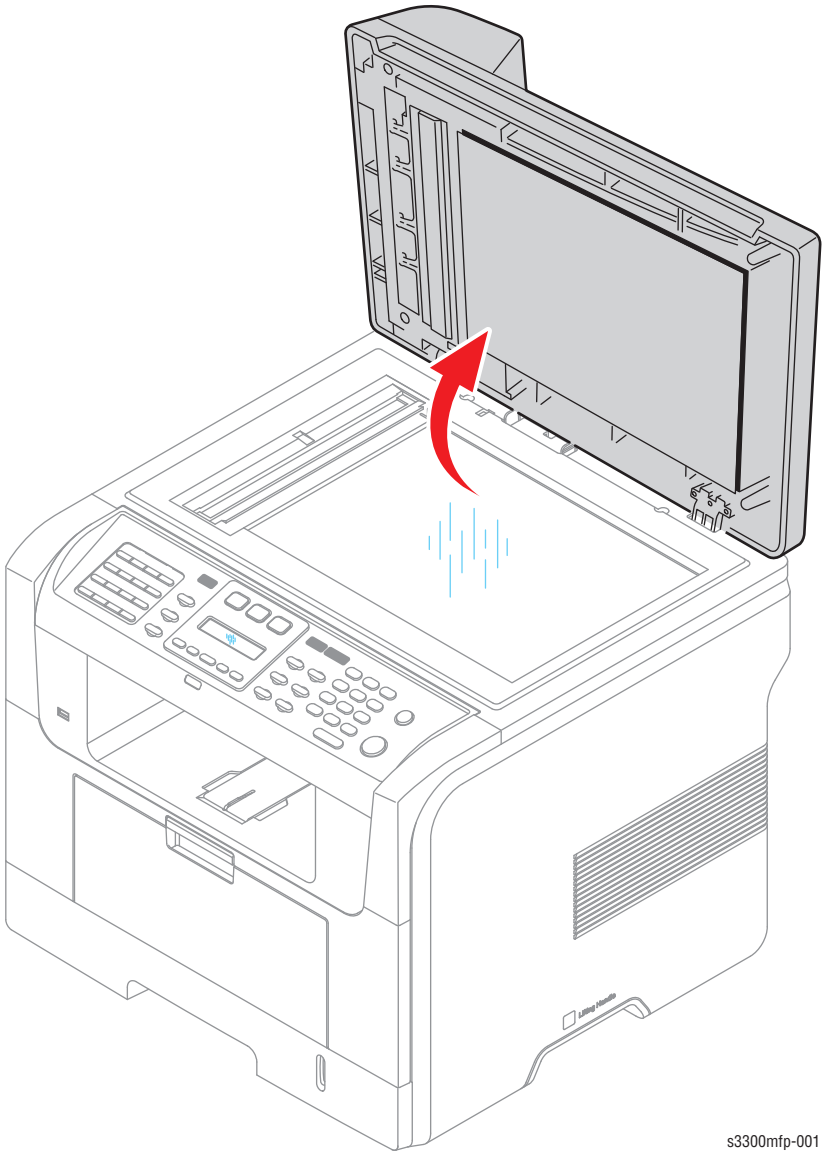
Covers

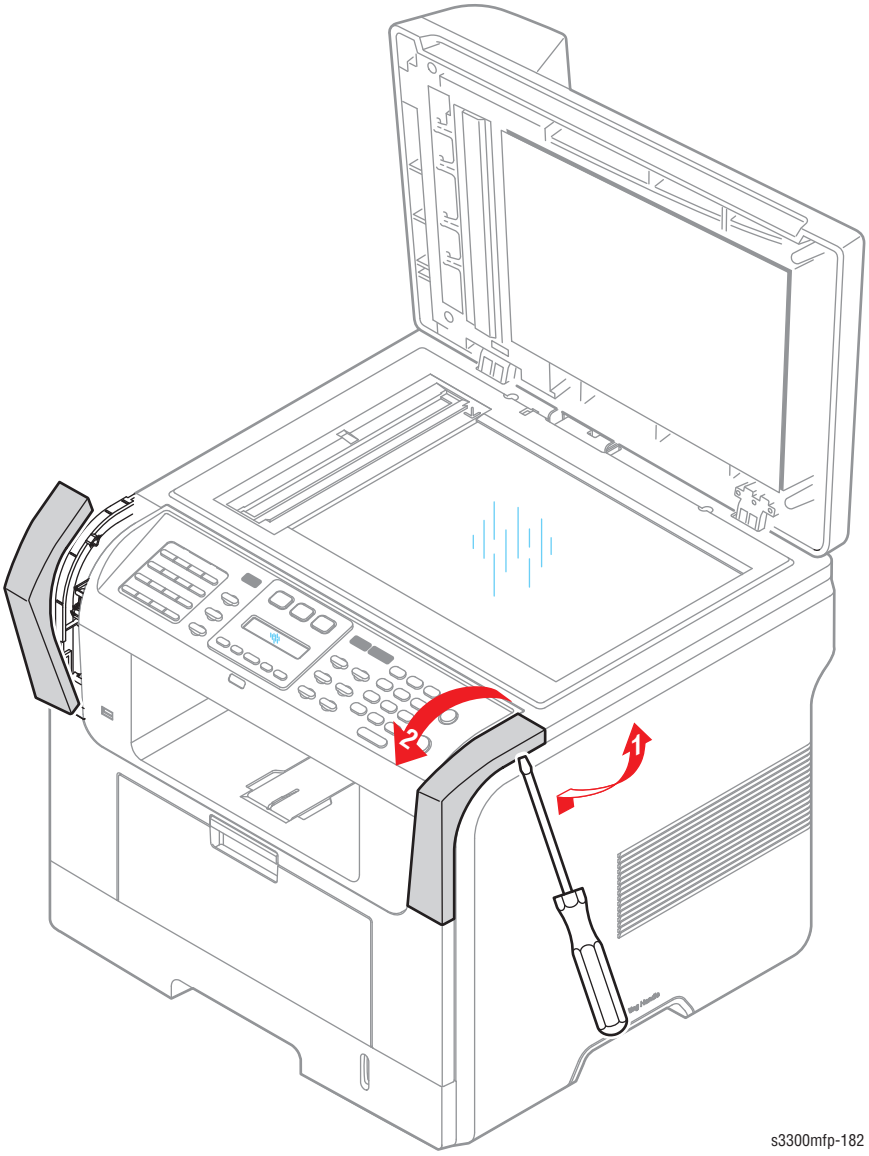
Upper Cover (Left, Right) (PL2.0.7 & 2.0.8)

1. Open the ADF Assembly.



s3300mfp-001

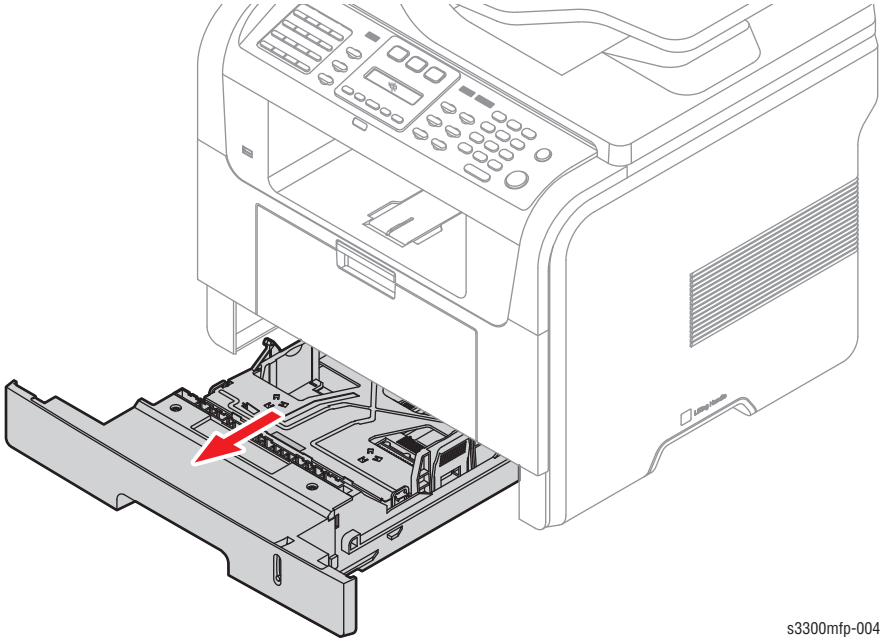
2. Insert a flat-bladed screwdriver under the outside edge of the Left or Right Upper Cover near the top and pry up to release the latches. Then swing the cover forward to release the bottom hook on the cover.



s3300mfp-182

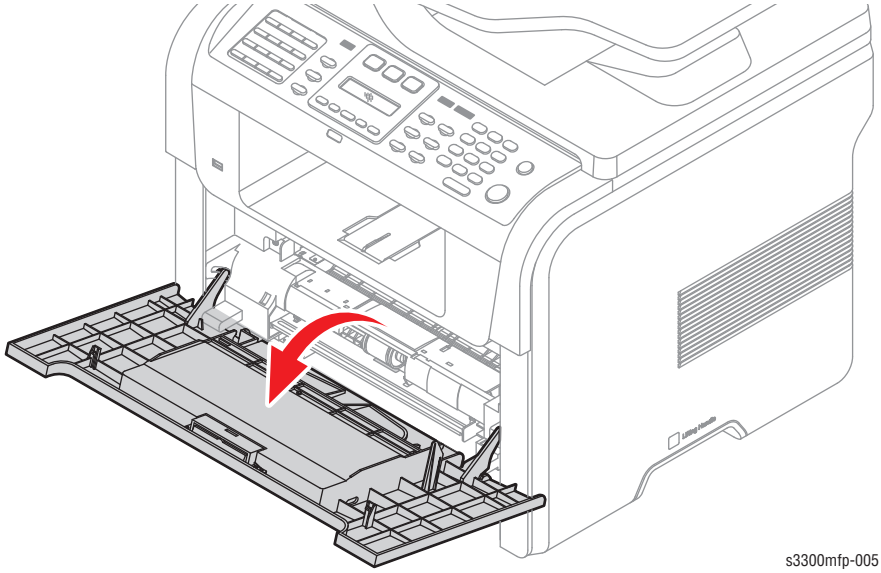
Front Cover

1. Remove Tray 1.



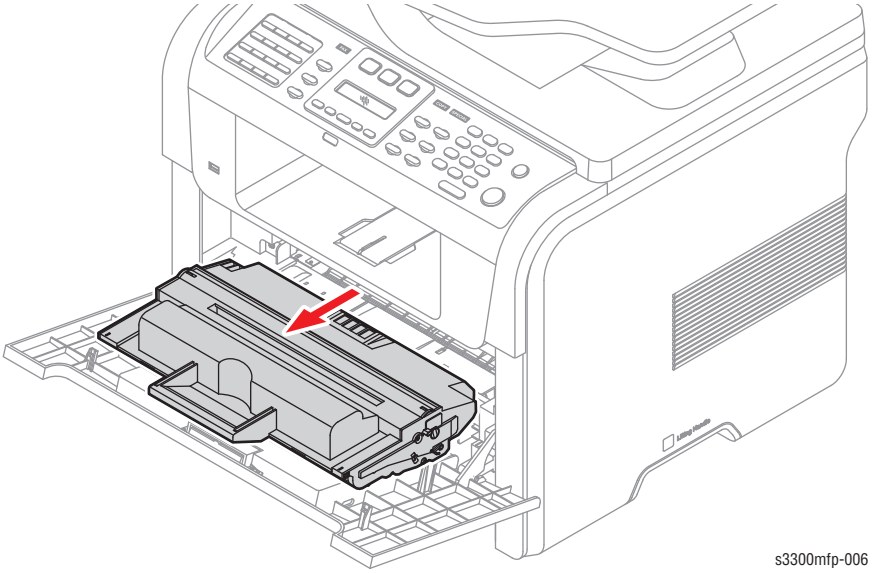
s3300mfp-004

2. Open the Front Cover.

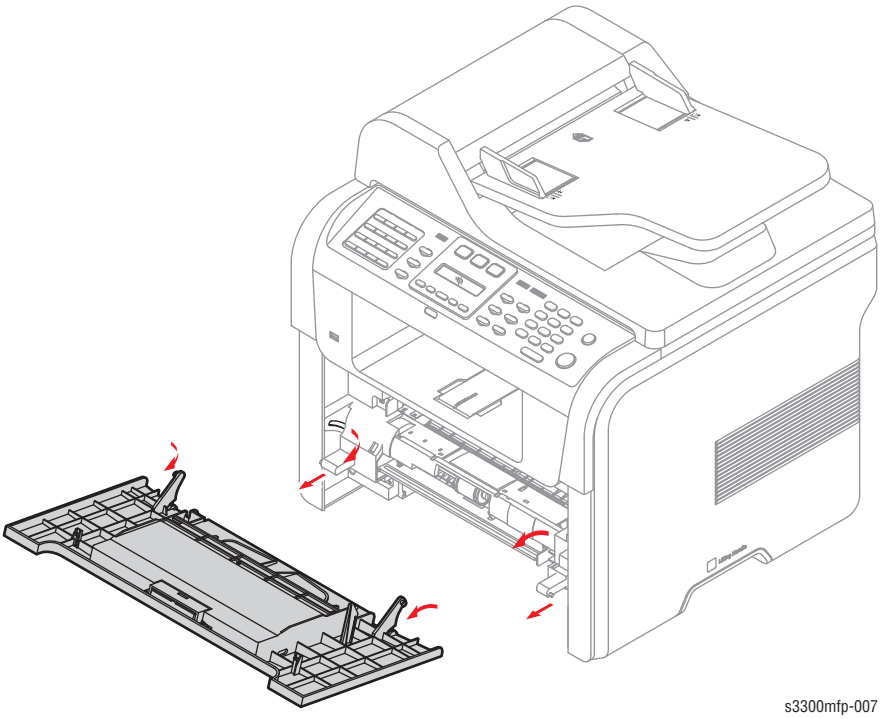


s3300mfp-005

3. If necessary, remove the Print Cartridge.



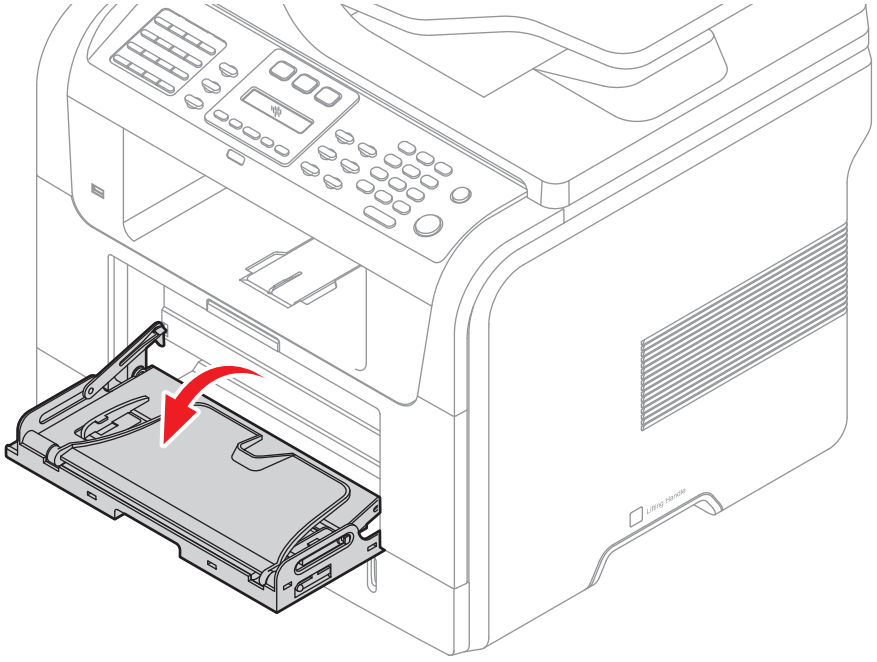
4. Press both restraining arms to the center as indicated by the arrows until the catches are free from the slots.



5. Swing the door downward until the door slides off the pivots on the frame.

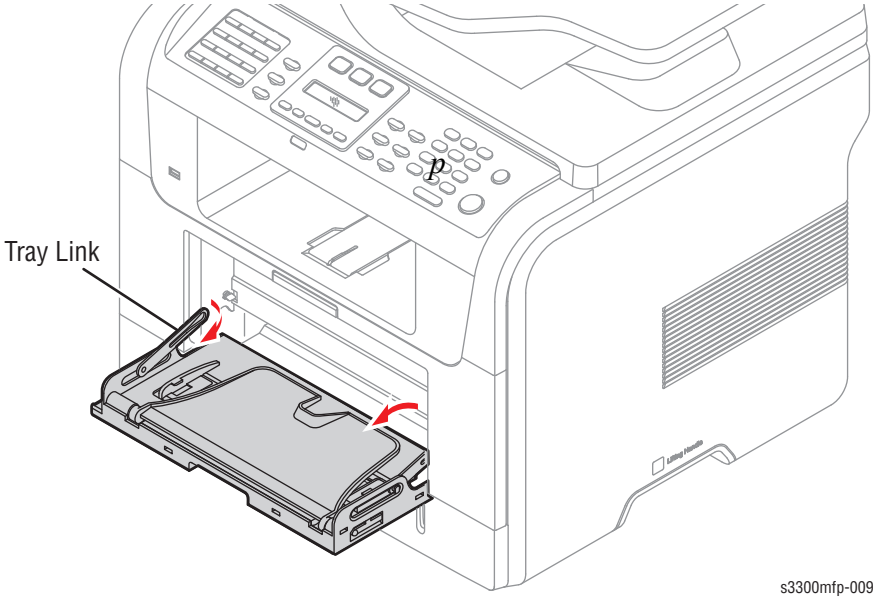
MP Tray Assembly

1. Open the MP Tray Assembly.



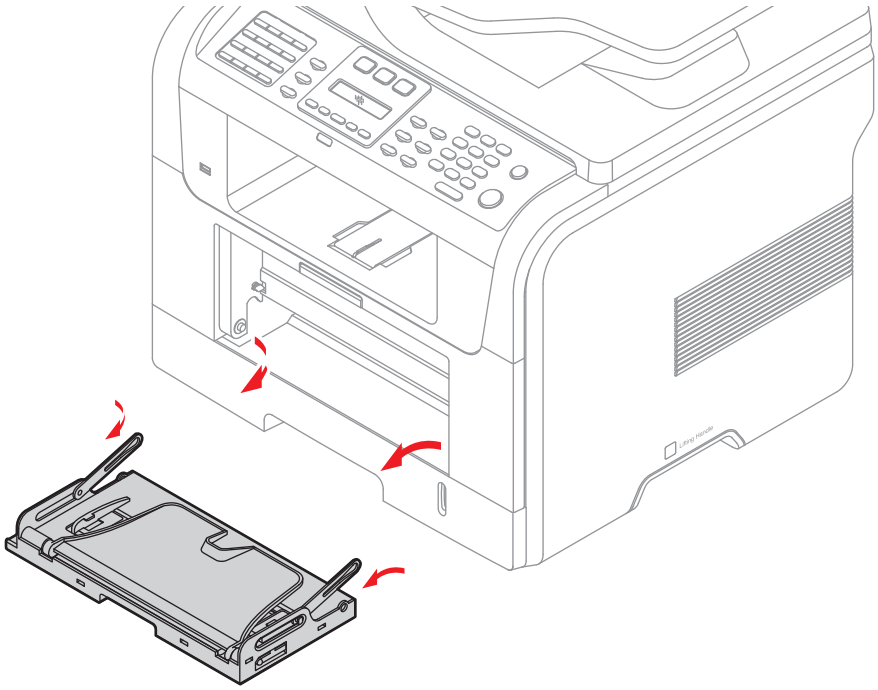
s3300mfp-008

2. Pull the Tray Links from the both side of the Front Cover with a light pressure to the direction of arrow.



s3300mfp-009

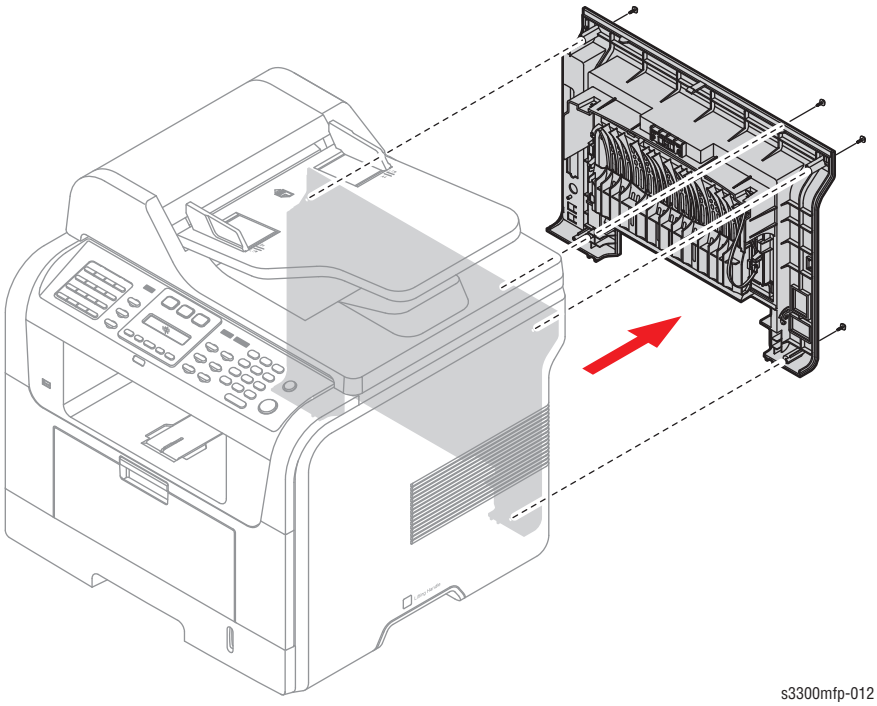
3. Apply light pressure to the both side of the MP Tray Assembly and pull it in the direction of arrow, as shown below.



s3300mfp-010

Rear Cover (PL5.1.0)

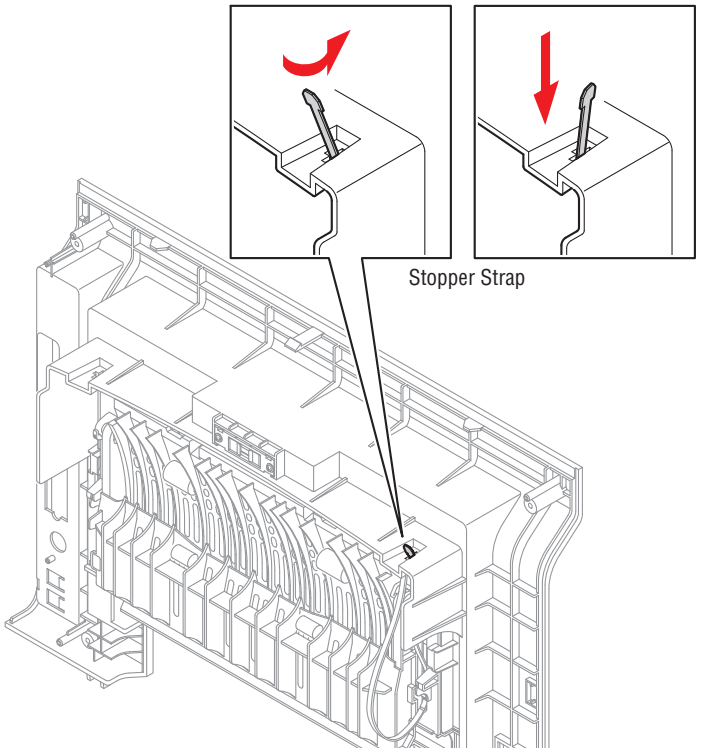
1. Remove the Duplex Unit (page 8-35).
2. Remove the four screws securing the Rear Cover and remove the Rear Cover from the frame.



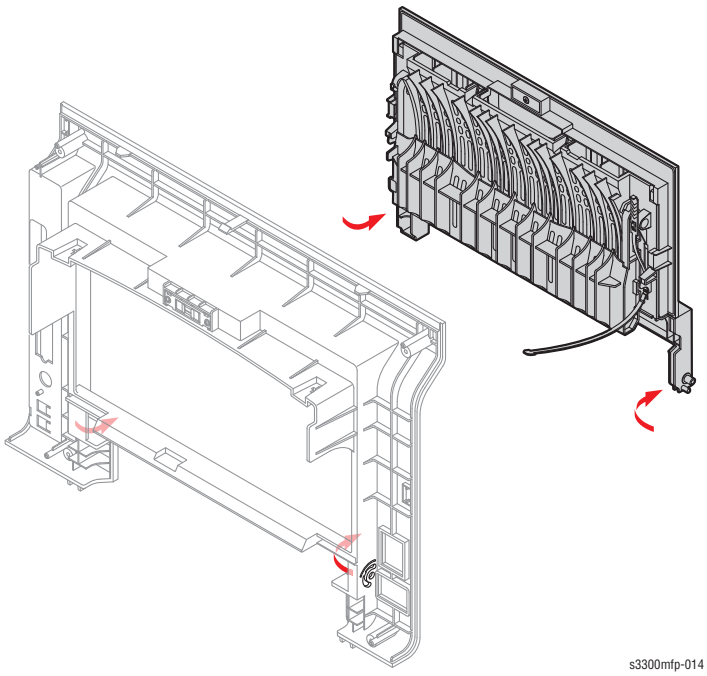
s3300mfp-012

Face Up Cover Assembly

1. Remove the Duplex Unit (page 8-35).
2. Open the Face Up Cover and release the Stopper Strap from the Face Up Cover
3. Release the Stopper Strap from the Rear Cover by twisting the strap 90 degrees so that the wide end of the strap can pull through the slot.



4. Unlatch the Face Up Cover from the Rear Cover and then release the Face Up Cover, as shown below.



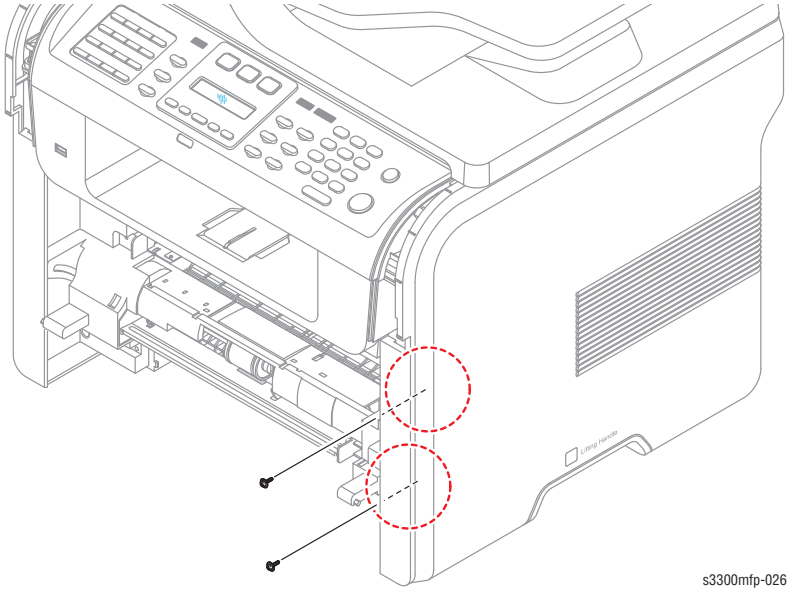
Side Cover (Left, Right) (PL2.0.5 & 4)

Before you remove either Side Cover, you must remove:

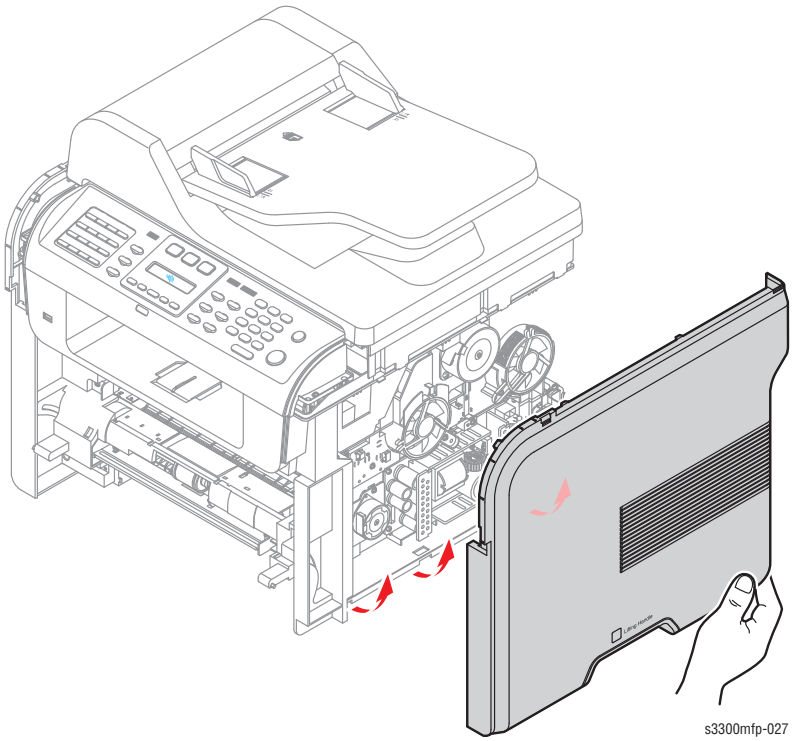
- Front Cover (page 8-21)
- Rear Cover (page 8-24)

To remove the Right Side Cover:

1. Remove the two screws securing the Right Side Cover, as shown below.

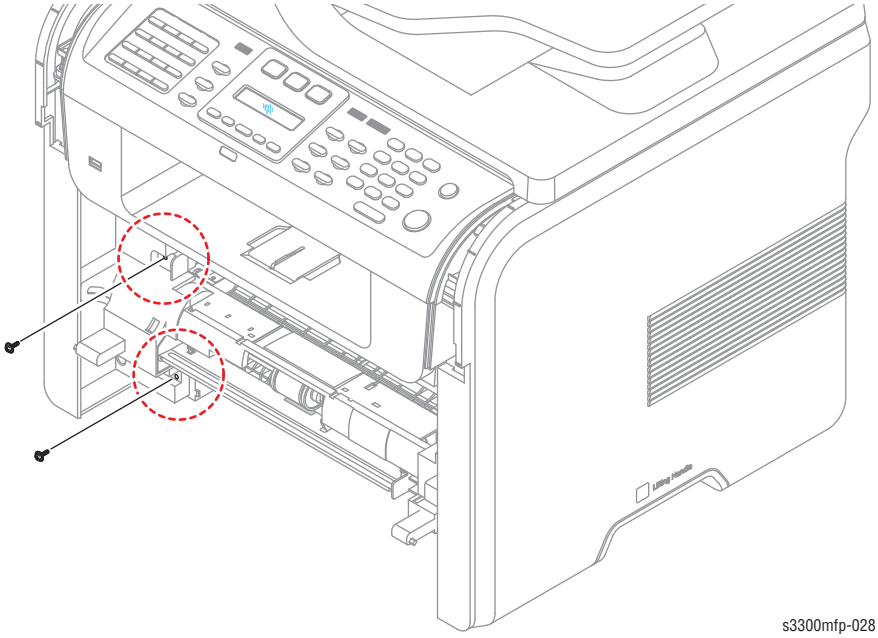


2. Apply light pressure to the bottom of the Right Side Cover and pull it to the right side in the direction of arrows, as shown below.



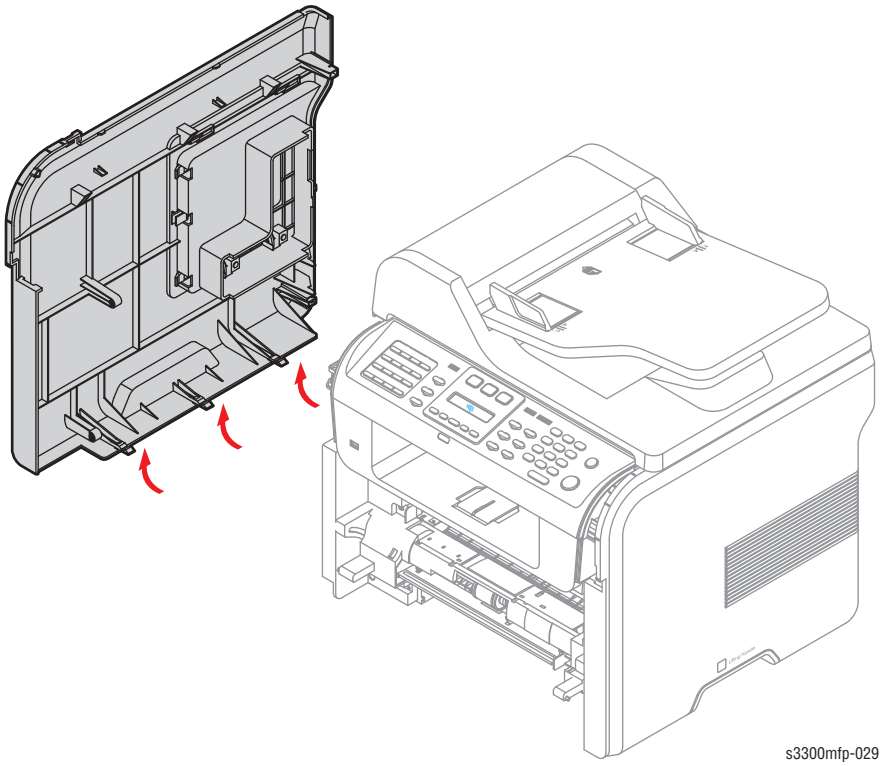
To remove the Left side cover:

1. Remove the two screws securing the Left Side Cover, as shown below.



s3300mfp-028

2. Apply light pressure to the bottom of the Left Side Cover and pull it to the left side in the direction of arrows, as shown below.

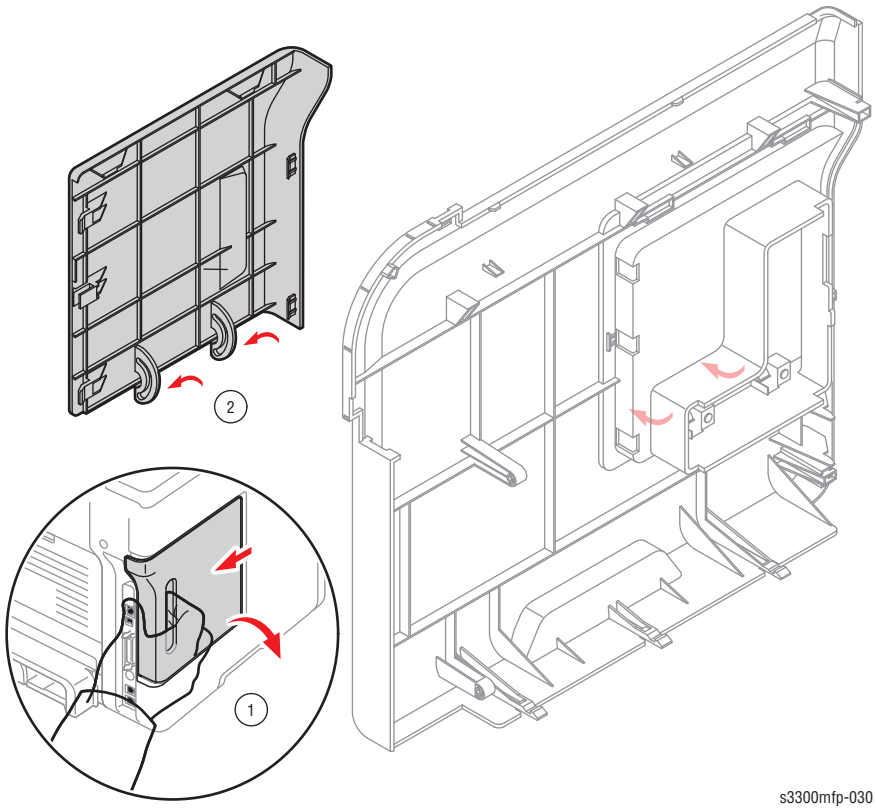


s3300mfp-029

Control Board Cover

To remove the Control Board Cover:

1. Pull the Control Board Cover to the rear to release the latches as shown, then swing the cover partially open.
2. Push the cover to the front until the slots in the DIMM cover hinge blades are free from the restraining arms on the side cover.



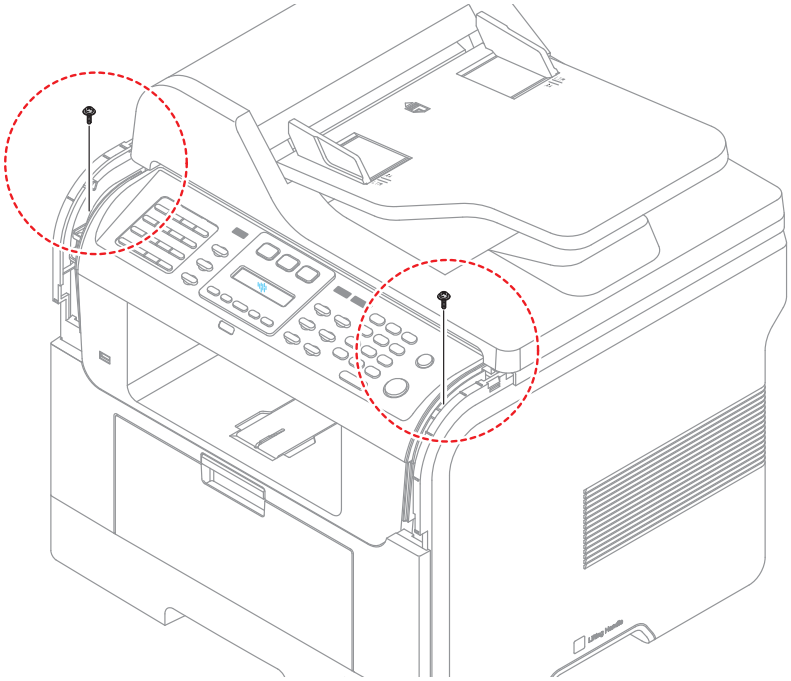
s3300mfp-030

Control Panel (OPE Unit)

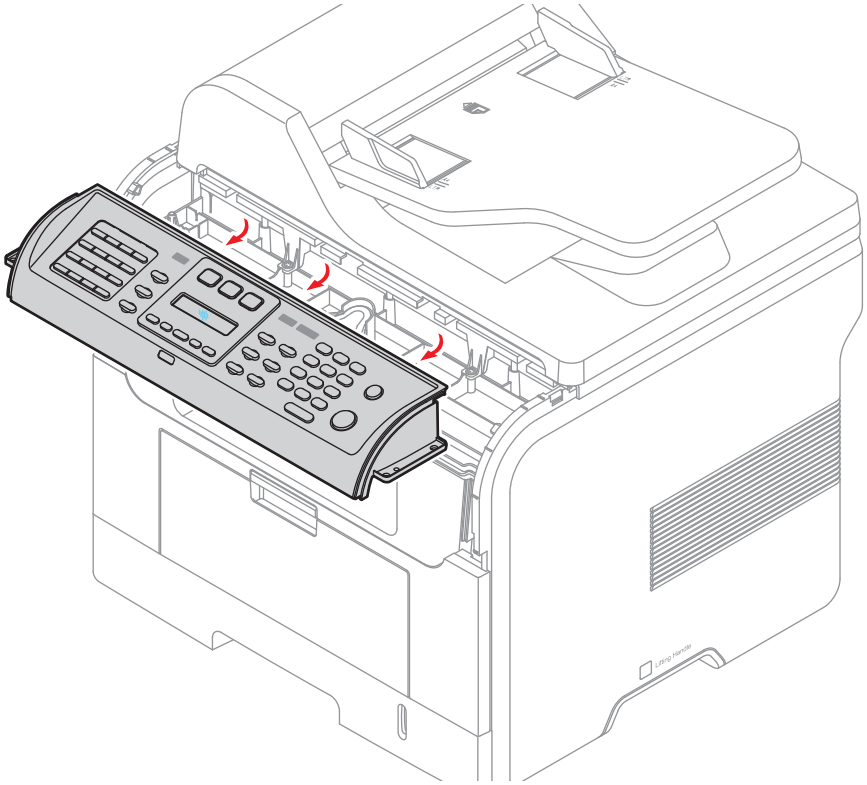
Before you remove the Control Panel, you must remove:

- Upper Cover L, R (page 8-19)

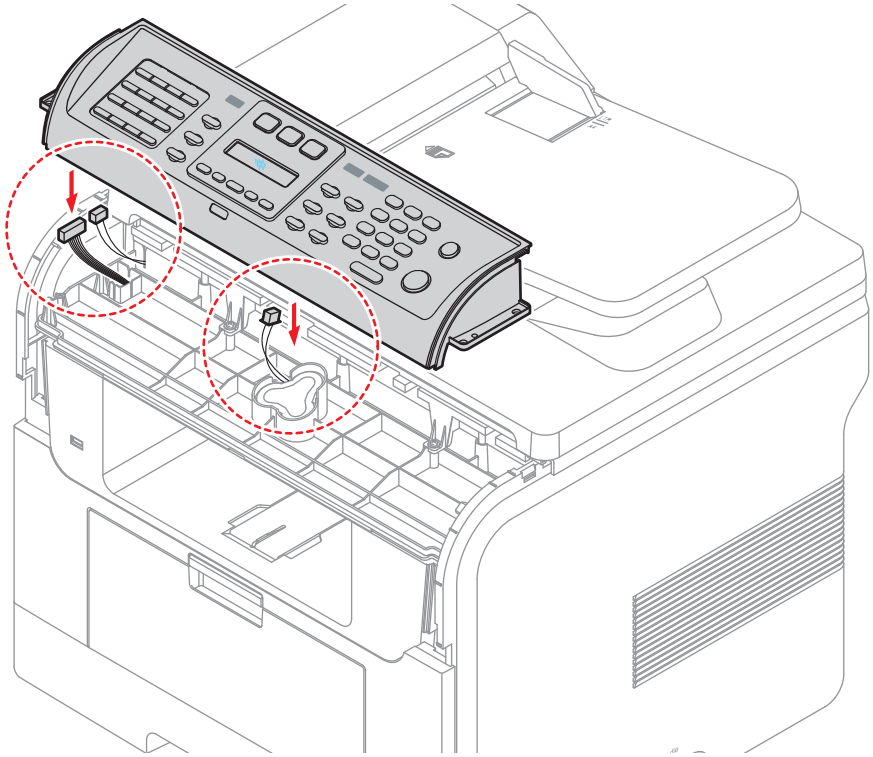
1. Remove the two screws securing the Control Panel to the Platen Assembly.



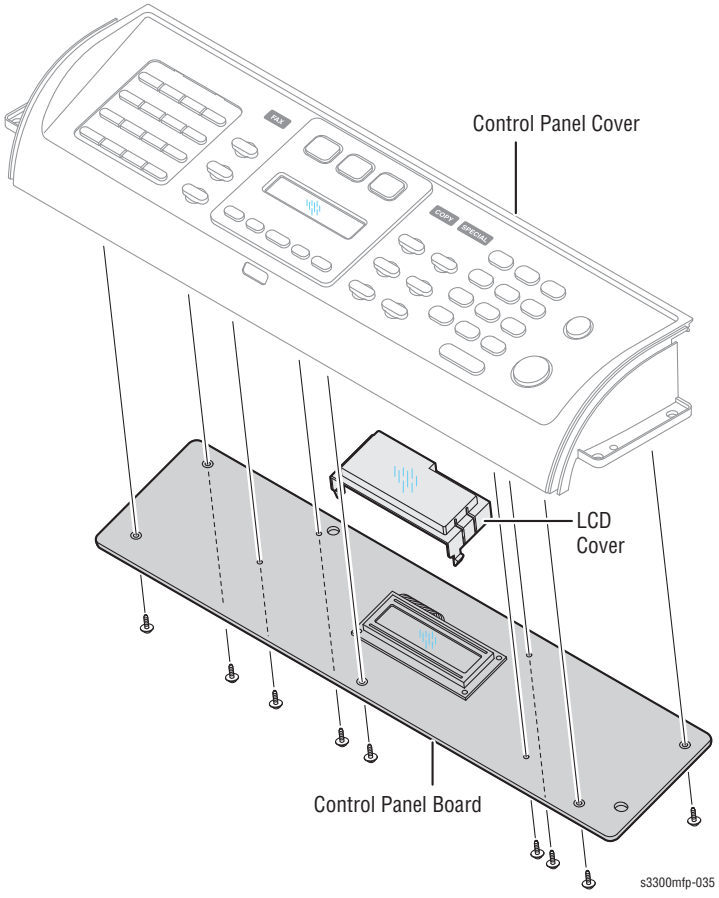
2. Apply light pressure to the front of the Control Panel and pull it in the direction of arrow, as shown below.



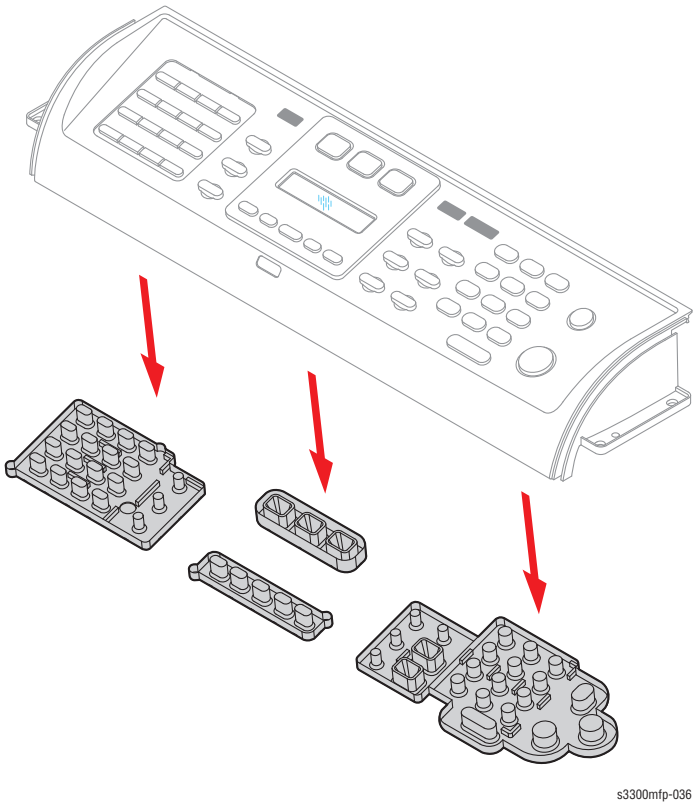
3. Unplug the three connectors from the Control Panel PBA, as shown below.



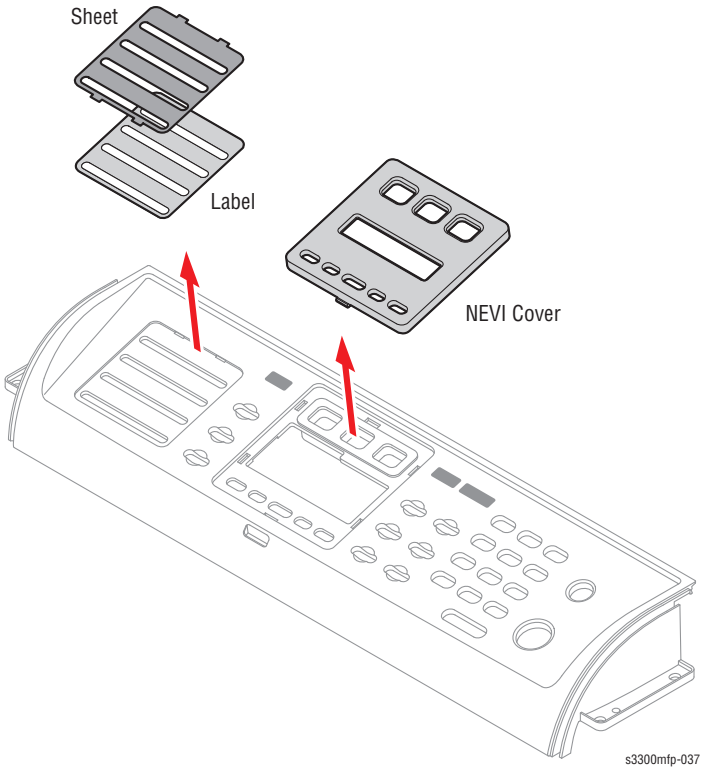
4. Remove the nine screws securing the Control Panel PBA to the Control Panel Cover.



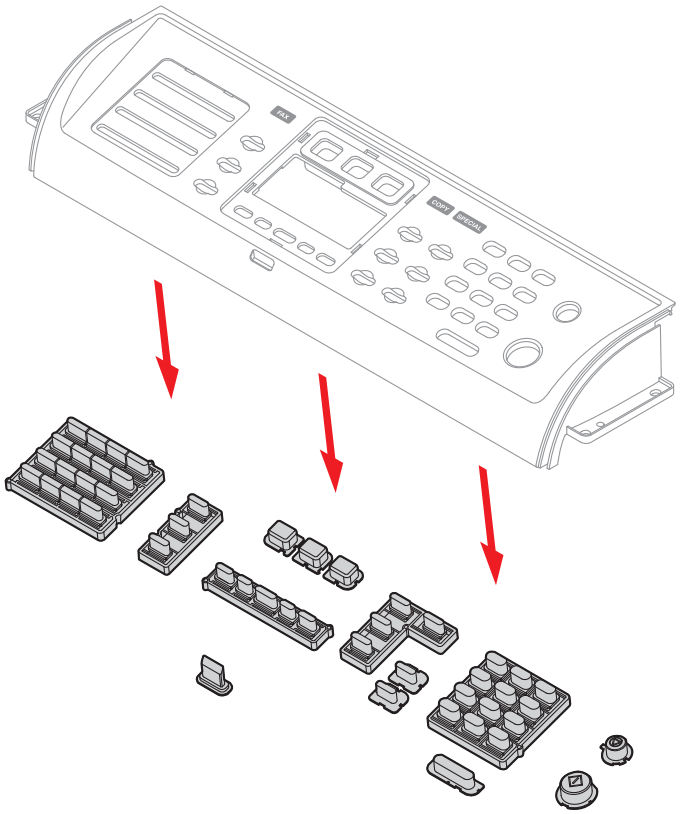
5. Remove the Contact Rubbers from the Control Panel Cover.



6. Remove the Lens and Keys from the Control Panel Cover.

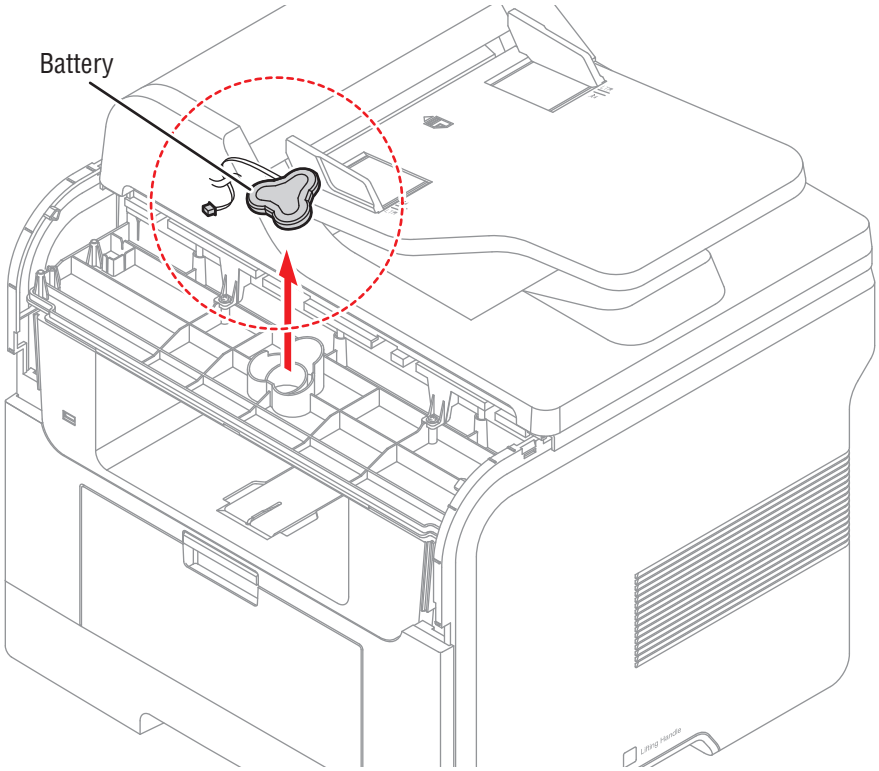


7. If necessary, remove the NEVI Cover.



s3300mfp-038

8. For easy disassembly, release the Battery-NIH.

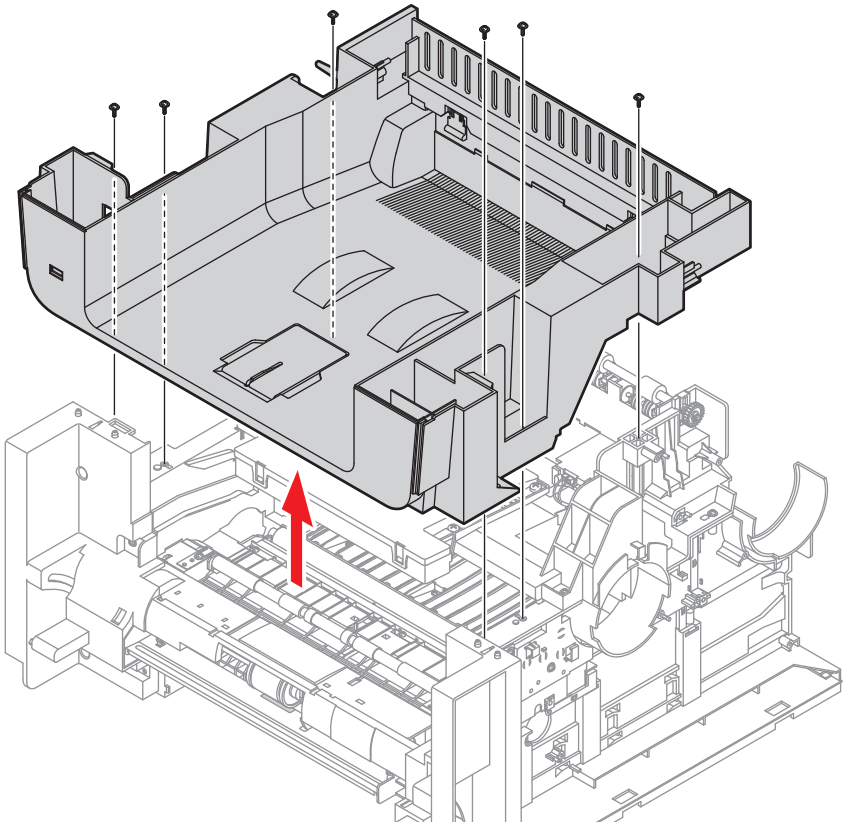


Middle Cover Assembly

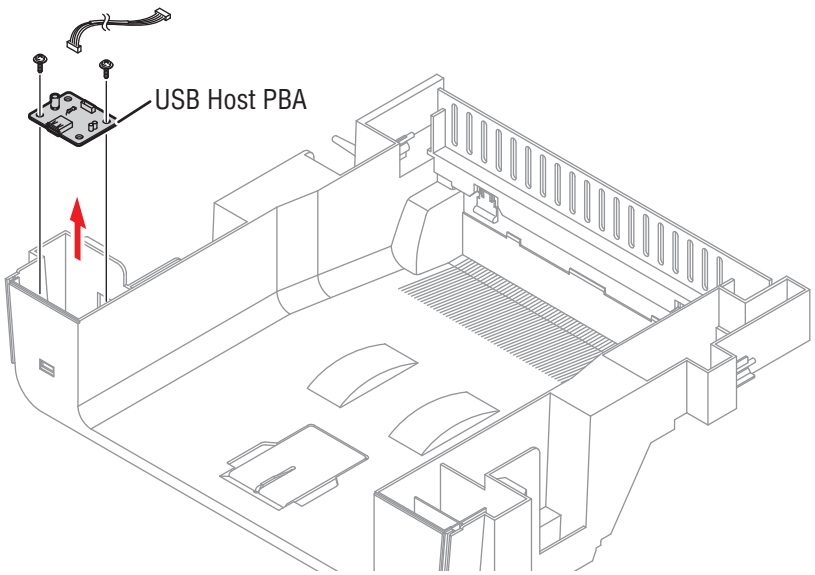
Before you remove the Middle Cover Assembly, you must remove:

- Side Cover (Left, Right) (page 8-33)
- Platen Assembly (page 8-52)
- Shield Controller Assembly (page 8-68)

1. Remove the six screws securing the Middle Cover Assembly and remove it.



2. If necessary, remove the two screws securing the USB Host PBA and remove it.



Mid-Front Cover

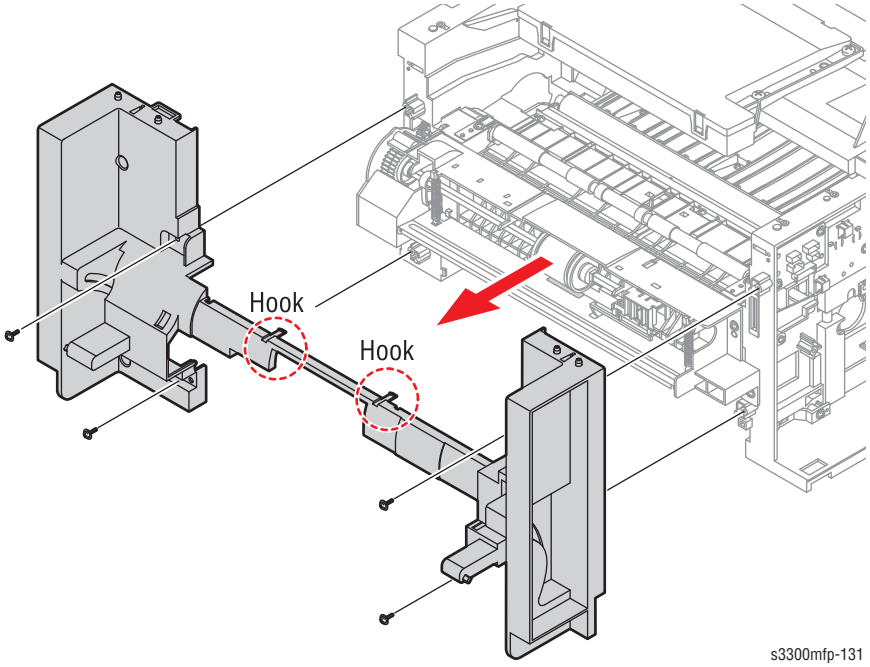
Before you remove the Mid-Front Cover, you must remove:

- Middle Cover Assembly (page 8-33)

Caution

This cover is fragile. Take care when removing it.

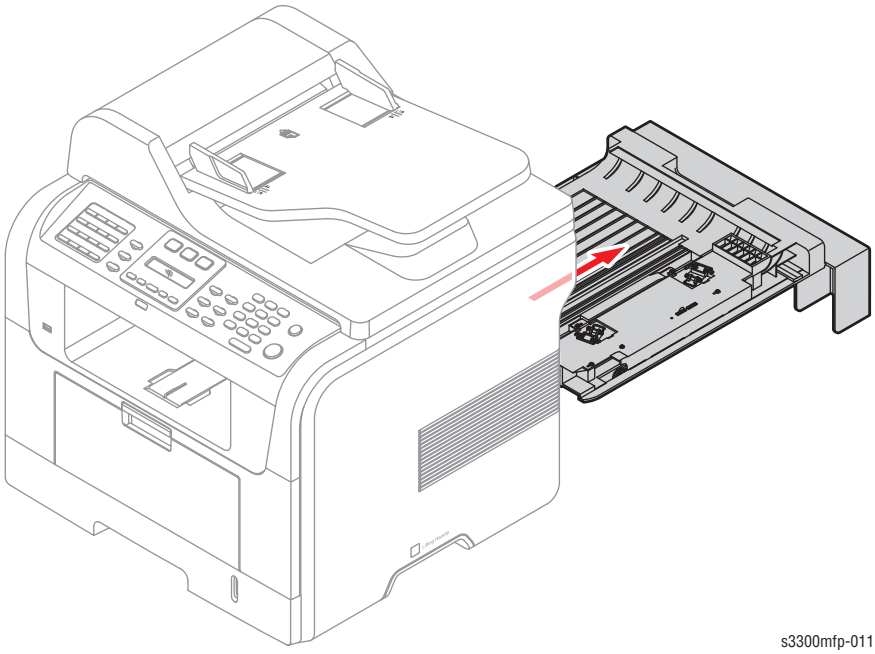
1. Remove the four screws securing the Mid-Front Cover and release two hooks in the center.



Duplex

Duplex Unit (PL1.0.26)

1. Slide the Duplex Unit out of the printer.



s3300mfp-011

Paper Feeder

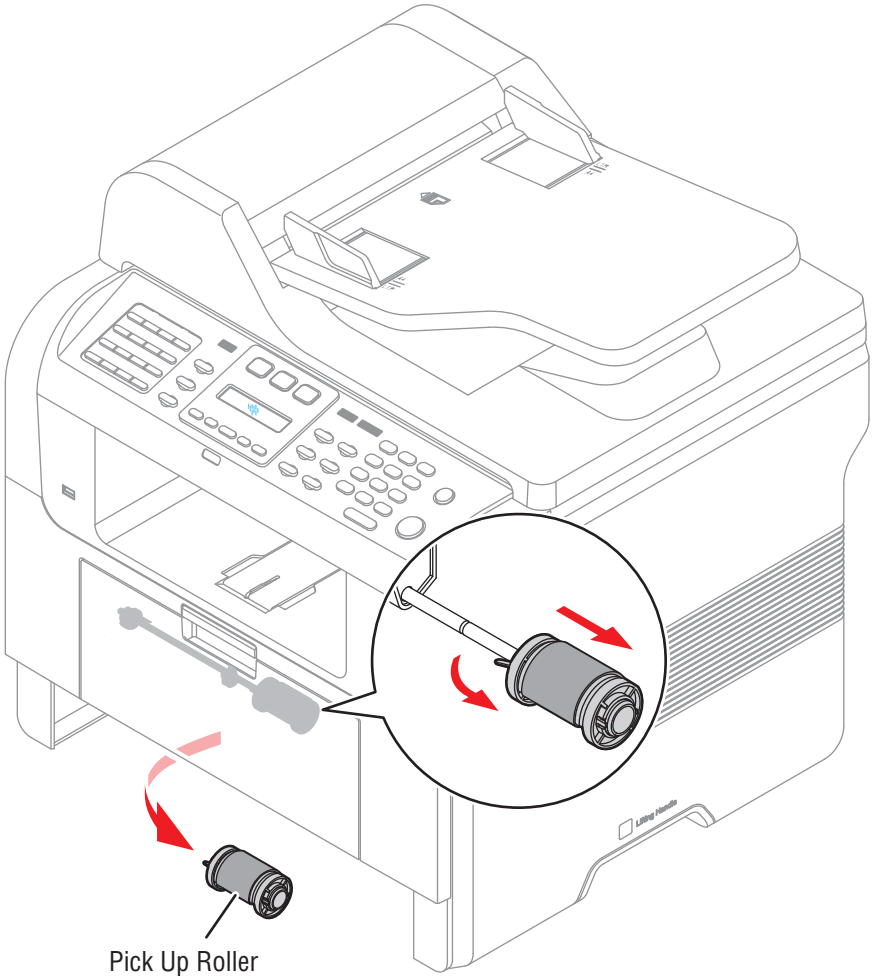
Pick Up Roller Assembly

Note

To allow better access to the parts, lay the machine on its back. Refer to “Laying the Unit on its Back” on page 8-4.

To remove the Pick Up Roller Assembly:

1. Take out the Cassette.
2. lift the latch tab on the Pick Up Roller Assembly from the notch in the Shaft, then slide the Pick Up Roller Assembly to the right and free of the shaft.



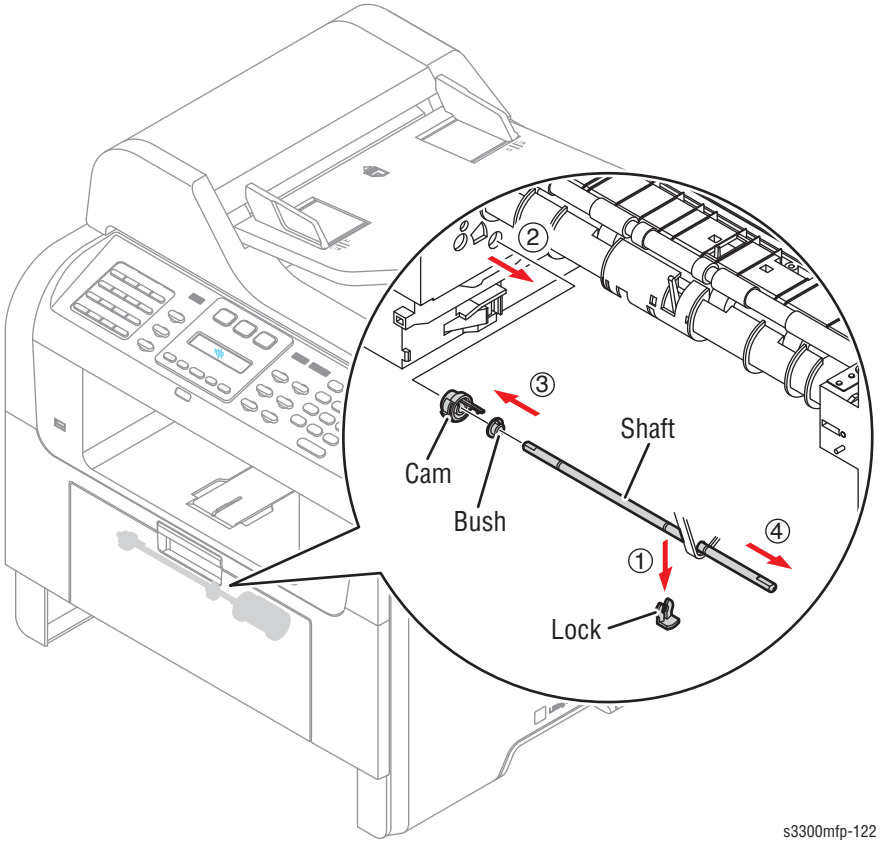
Pick Up Roller Shaft

Note

To allow better access to the parts, lay the machine on its back. Refer to “Laying the Unit on its Back” on page 8-4.

To remove the Pick Up Roller Shaft:

1. Release the lock and slide the shaft to the right.
2. Lift the latch on the cam to release it from the notch in the shaft.
3. Slide the cam and the bushing from the shaft, then remove the shaft from the Duplex Guide Housing, as shown below.



s3300mfp-122

Duplex Guide Housing (With Feed Roller)

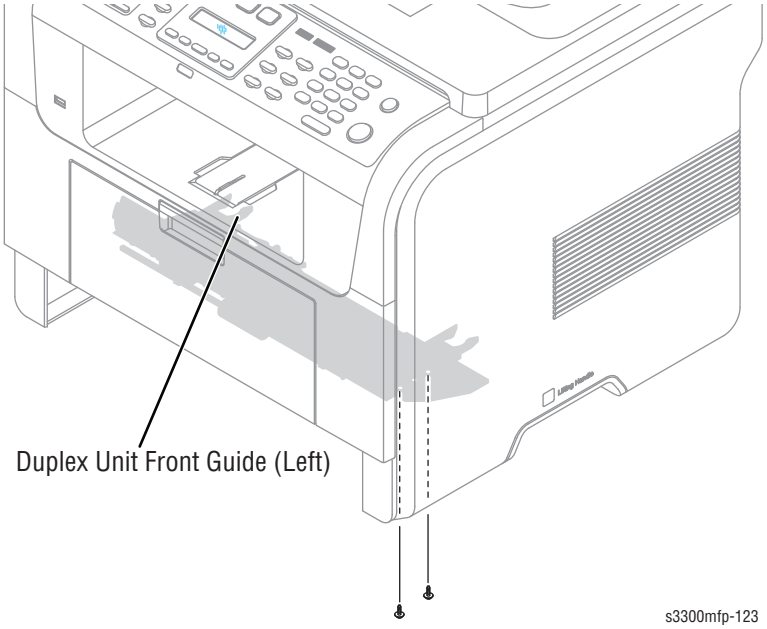
Note

To allow better access to the parts, lay the machine on its back. Refer to “Laying the Unit on its Back” on page 8-4.

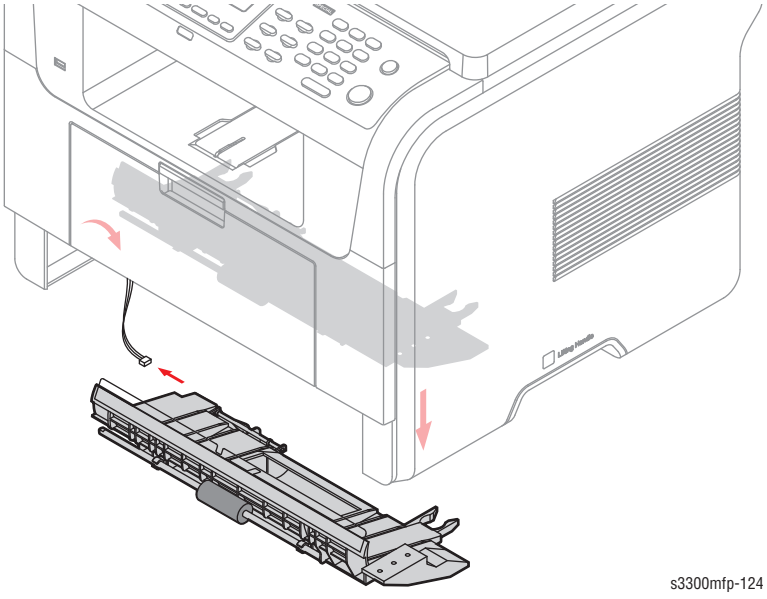
Before you remove the Duplex Guide Housing, you must remove:

- Duplex Unit (page 8-35)
- Pick Up Roller Shaft (page 8-37)

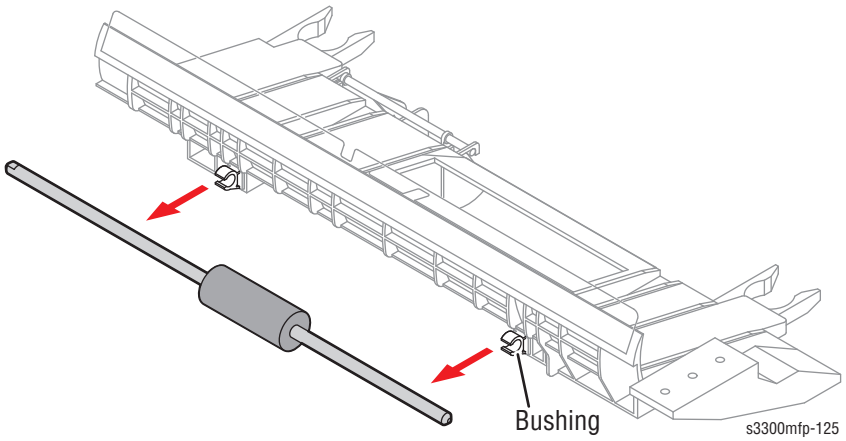
1. Remove the screw securing the white Duplex Unit front guide on the left side and remove the guide from the Duplex Guide Housing.
2. Remove the two screws securing the Duplex Guide Housing.



3. Unplug the one connector from the sensor (Photo Interrupter) and remove the Duplex Guide Housing (with Feed Roller), as shown below.



4. Pull the Feed Roller from the bushing.

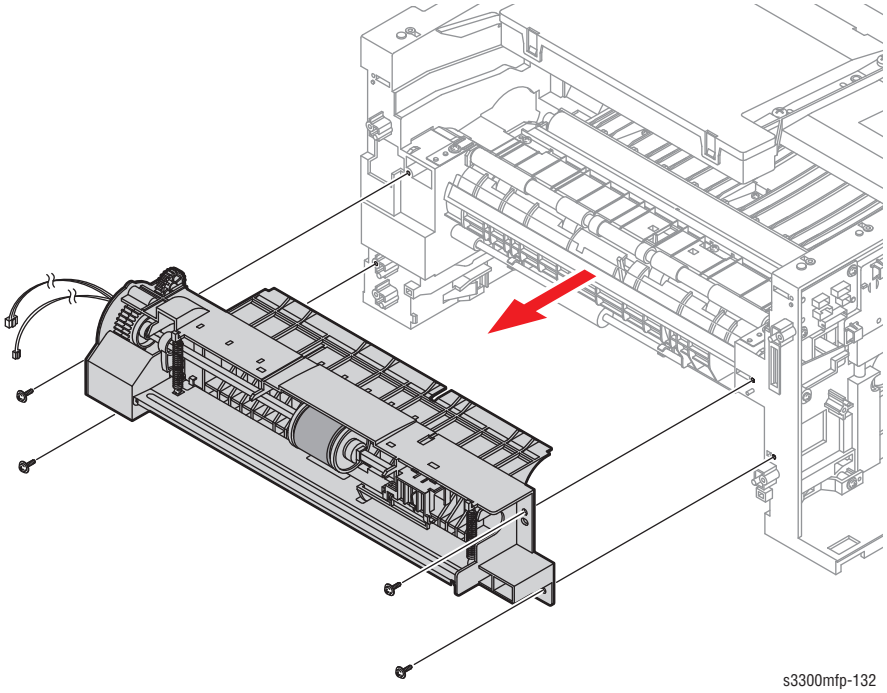


MPF Housing

Before you remove the MPF Housing, you must remove:

- Mid-Front Cover (page 8-34)

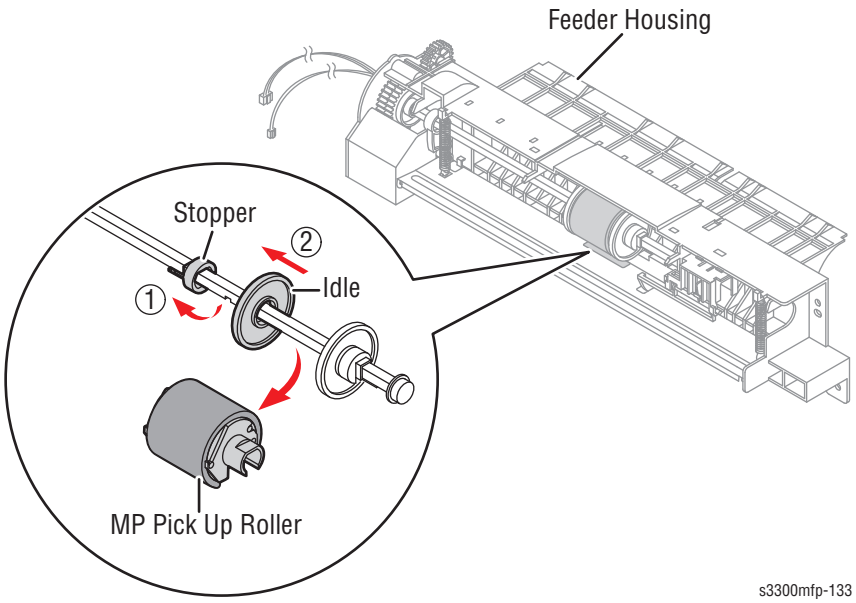
1. Remove the four screws securing the MPF Housing and remove it.



MP Pick Up Assembly

To remove the MP Pick Up Assembly:

1. Lift the latch attached to the left side Stopper and slide it to left.
2. Slide the left side Idle to the left and take out the MP Pick Up Assembly, as shown below.



Note

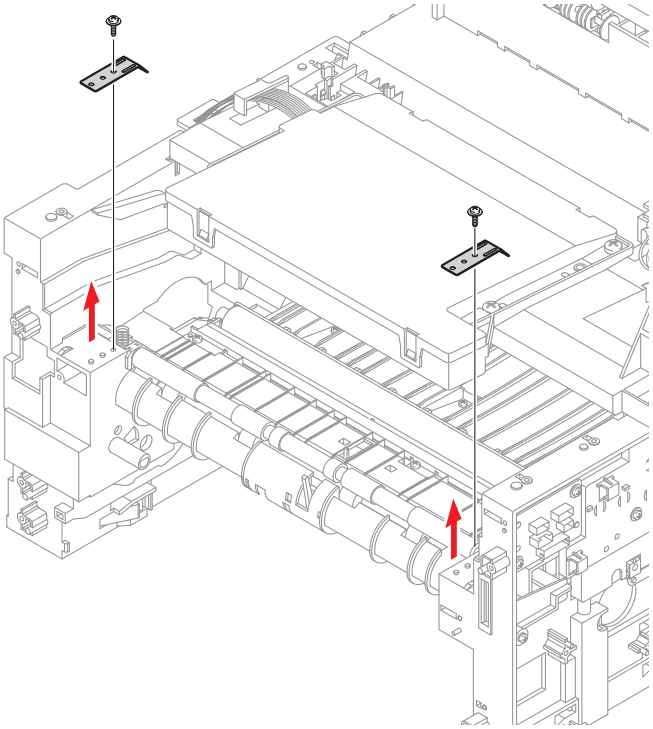
Do not grab the rubber part of the Feed1 Roller, it may cause a malfunction due to contamination.

Feed Roller Parts

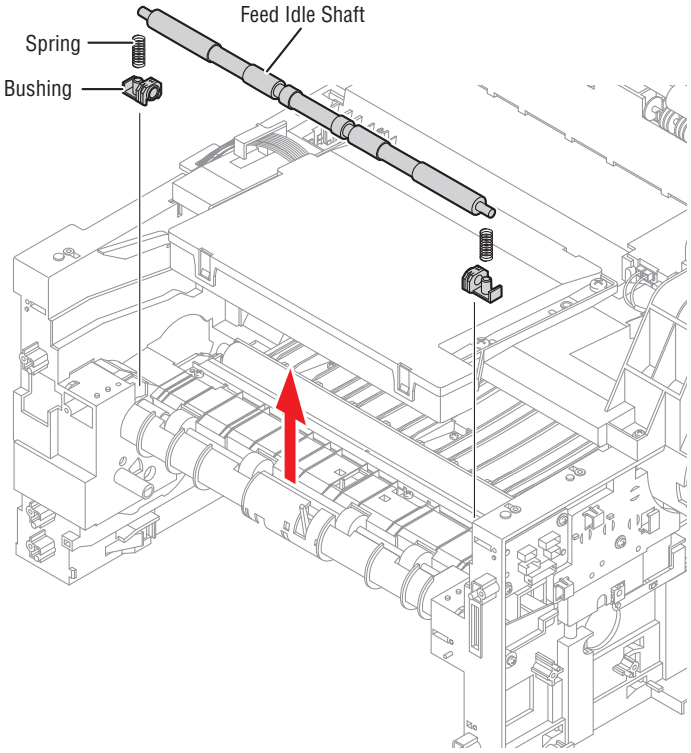
Before you remove the Feed Roller Parts, you must remove:

- Pick Up Roller Assembly (page 8-9)
- Duplex Guide Housing (page 8-38)
- Middle Cover Assembly (page 8-33)
- MPF Housing (page 8-39)

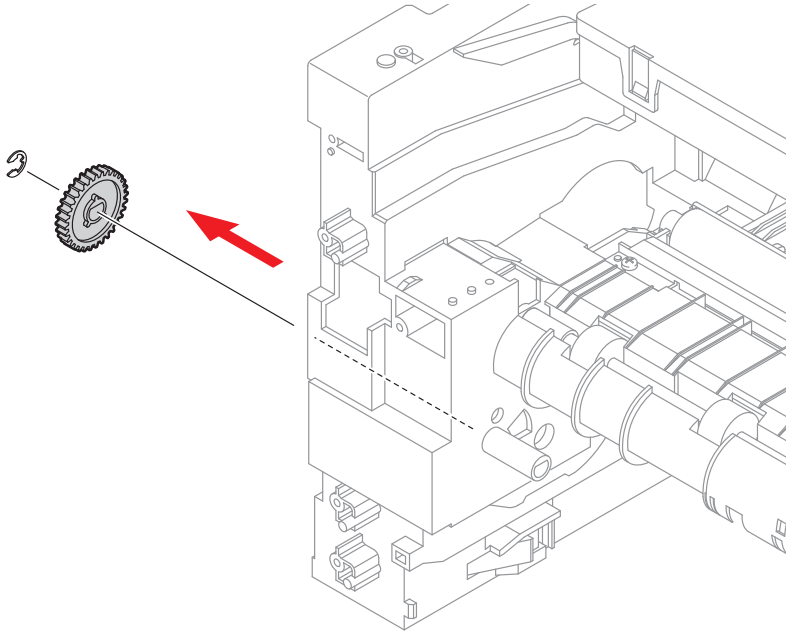
1. Remove the two screws securing the both side of the Plate Push Bushing and then remove the Guides.



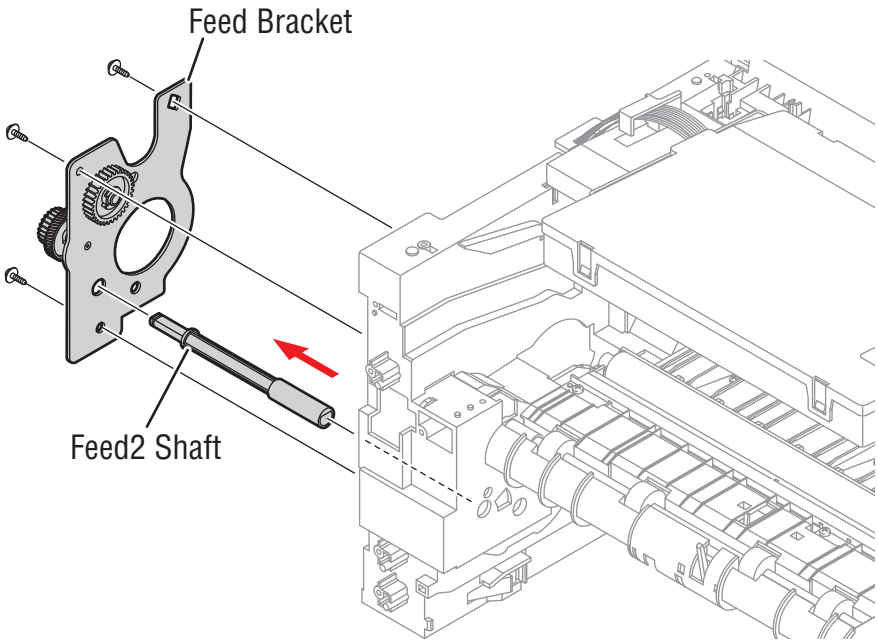
2. Pull up the Feed Idle Shaft and the Bushings (with Spring).



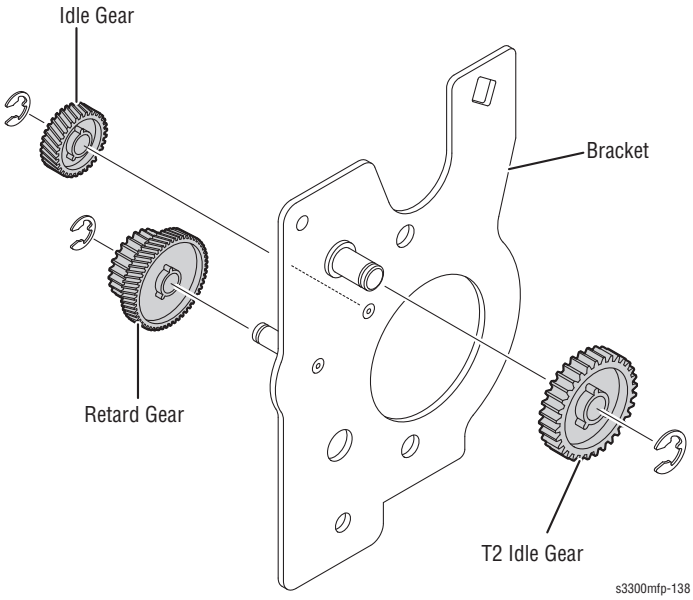
3. Release the E-Ring securing the Feed2 Gear and remove it.



4. Remove the three screws securing the Feed Bracket Unit and then remove the Feed Bracket Unit and Feed2 Shaft.



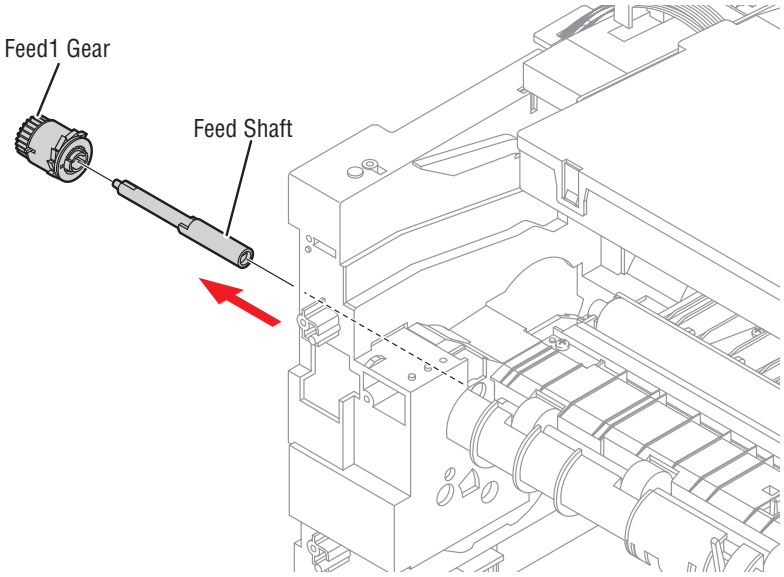
5. If necessary, release the three E-Rings securing the Gears (T2 Idle, Retard, Idle) and then remove the Gears from the Feed Bracket, as shown below.



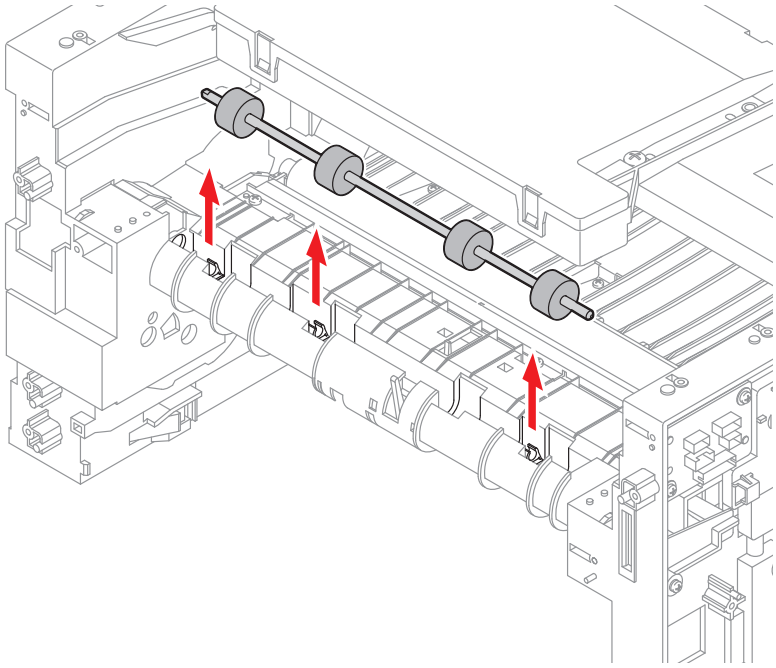
Note

Be aware of the E-Rings to ensure they are not lost.

6. Remove the Clutch Unit, as shown below.



7. Pull up the Feed1 Roller from the Bushing, as shown below.



Note

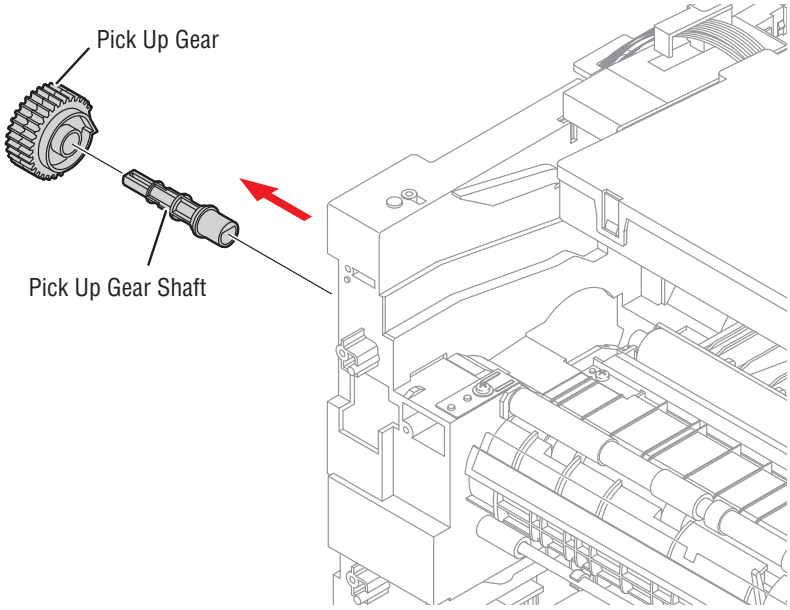
Do not grab the rubber part of the Feed1 Roller, it may cause a malfunction due to contamination.

Pick Up Gear Assembly & Solenoids

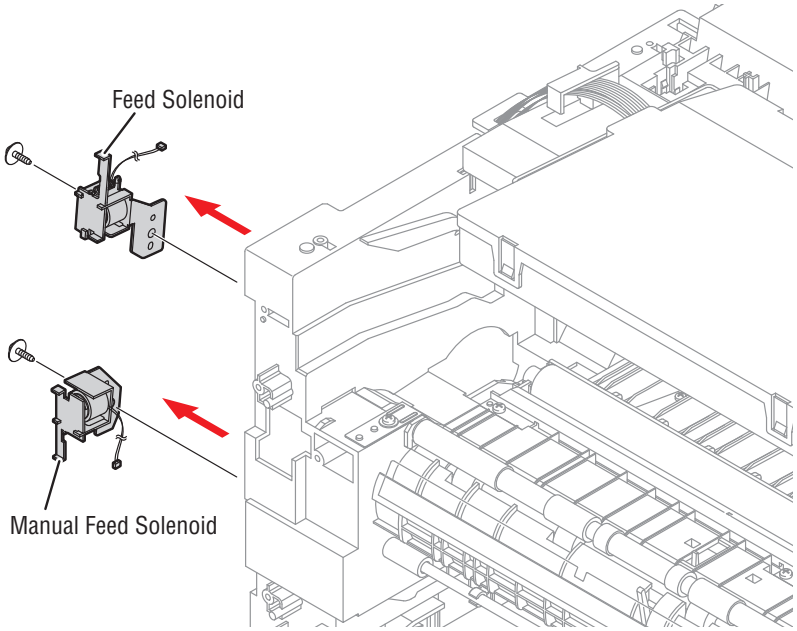
Before you remove the Pick Up Gear Assembly & Solenoids, you must remove:

- Duplex Guide Housing (page 8-38)
- Feed Bracket Unit (page 8-41)

1. Release the Pick Up Gear Assembly and Pick Up Gear Shaft, as shown below.



2. Remove the two screws securing the Manual Solenoid and Feed Solenoid and then remove the Solenoids, as shown below.

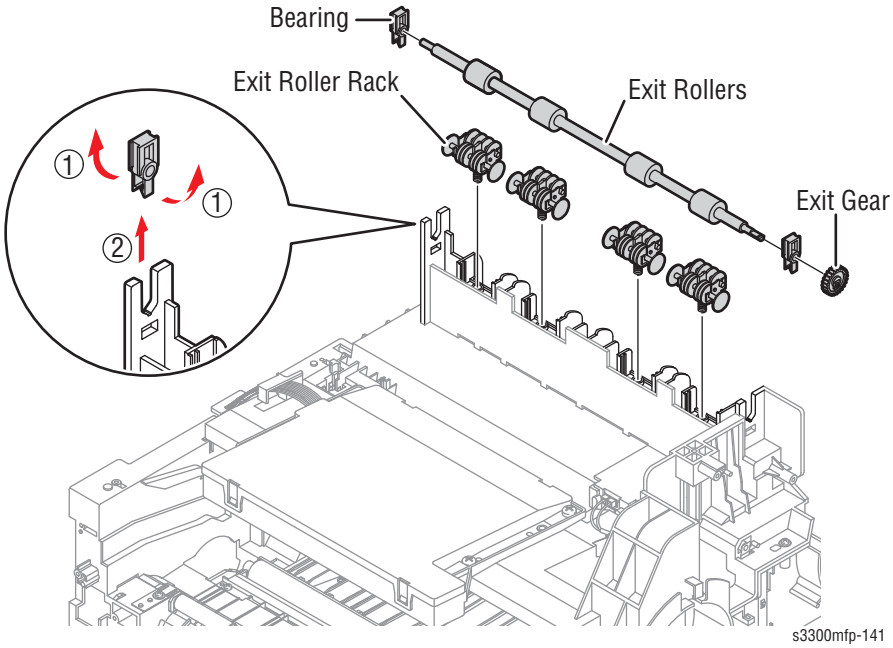


Exit Roller

Before you remove the Exit Roller, you must remove:

- Fuser Drive Assembly (page 8-66)
- Middle Cover Assembly (page 8-33)

1. Remove the Exit Gear, and release the Bearing at one end then remove the Roller Exit F/Down and Exit Roller Rack, as shown below.



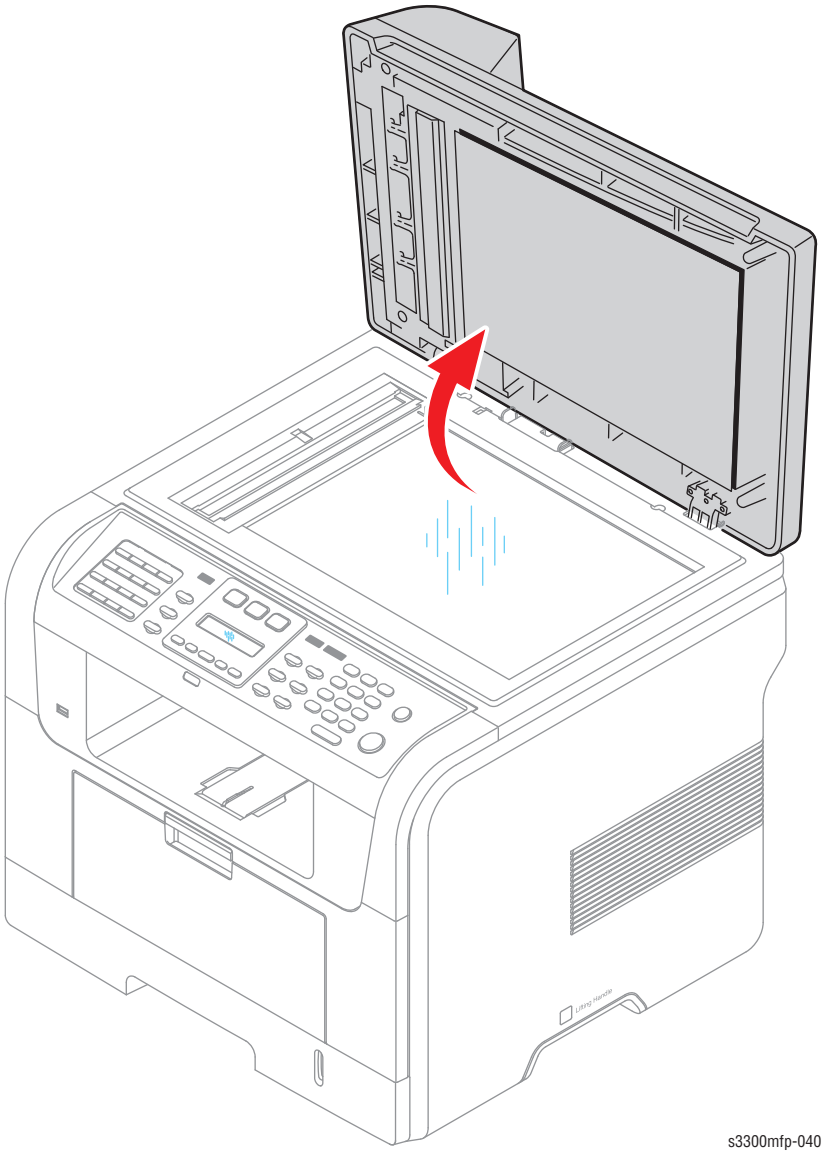
Note

Do not grab the rubber part of the Feed1 Roller, it may cause a malfunction due to a foreign object.

Scanner Assembly

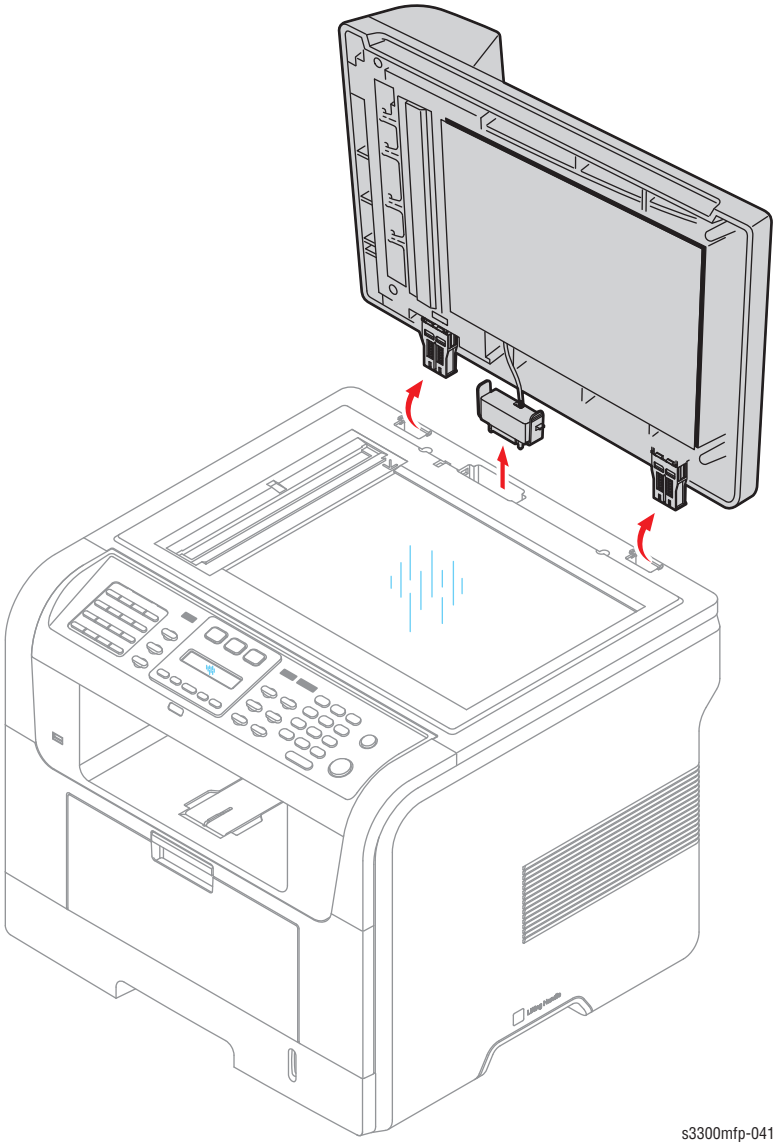
ADF Assembly

1. Open the ADF Assembly



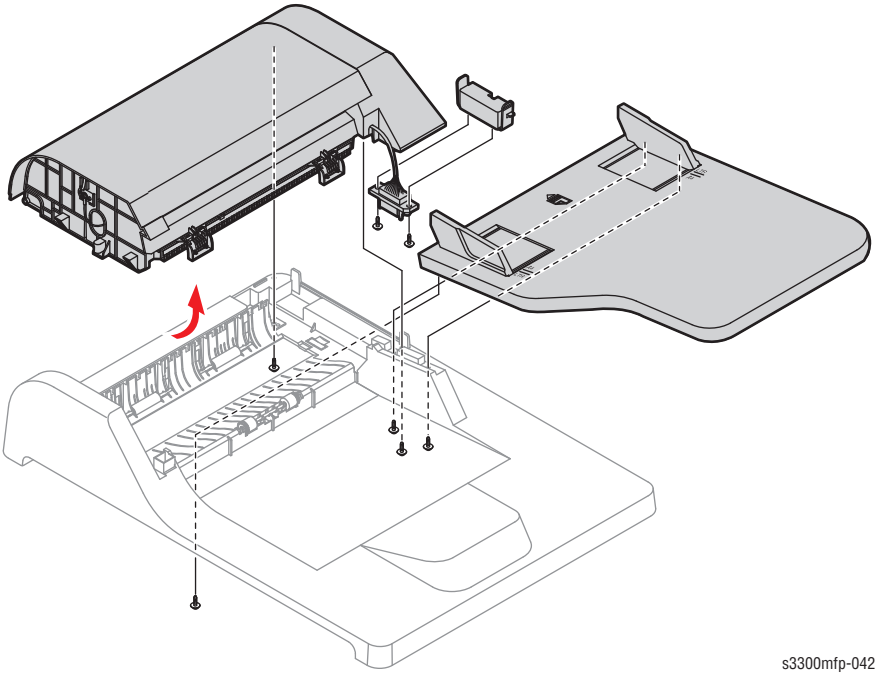
s3300mfp-040

2. First remove the ADF Harness from the Platen Assembly and then pull the ADF Assembly upward in the direction of arrow, as shown below.



s3300mfp-041

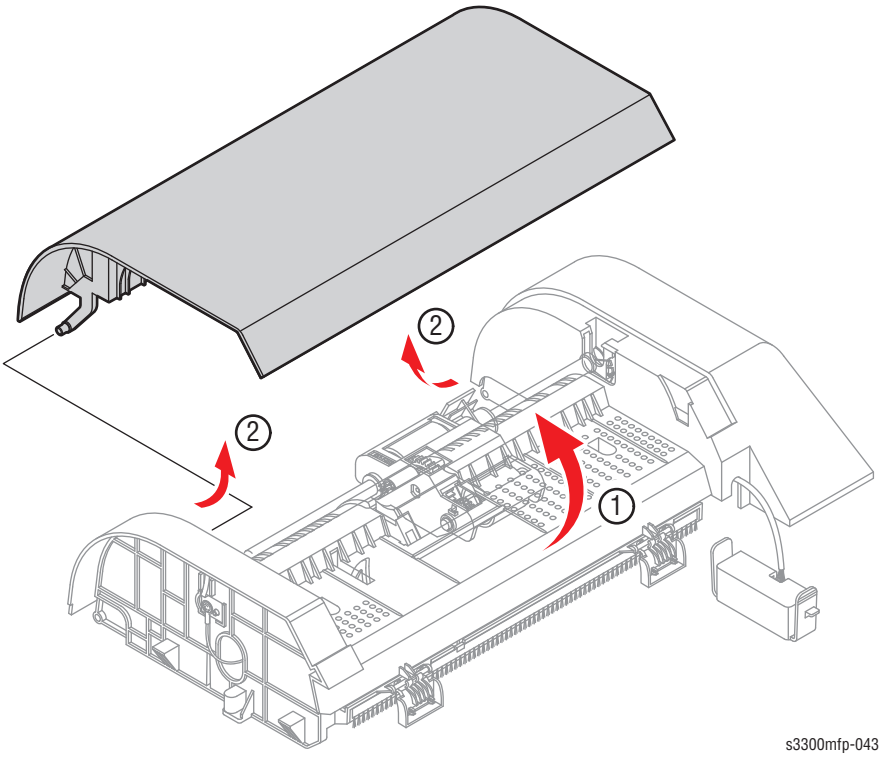
3. To remove the ADF Engine, first remove the seven screws securing the ADF Engine to the Platen Cover, then release the ADF Engine in the direction of the arrow, as shown below.



Note

Take care to thread the ADF Harness through the Platen Cover.

4. Remove the Open Cover, as shown below.

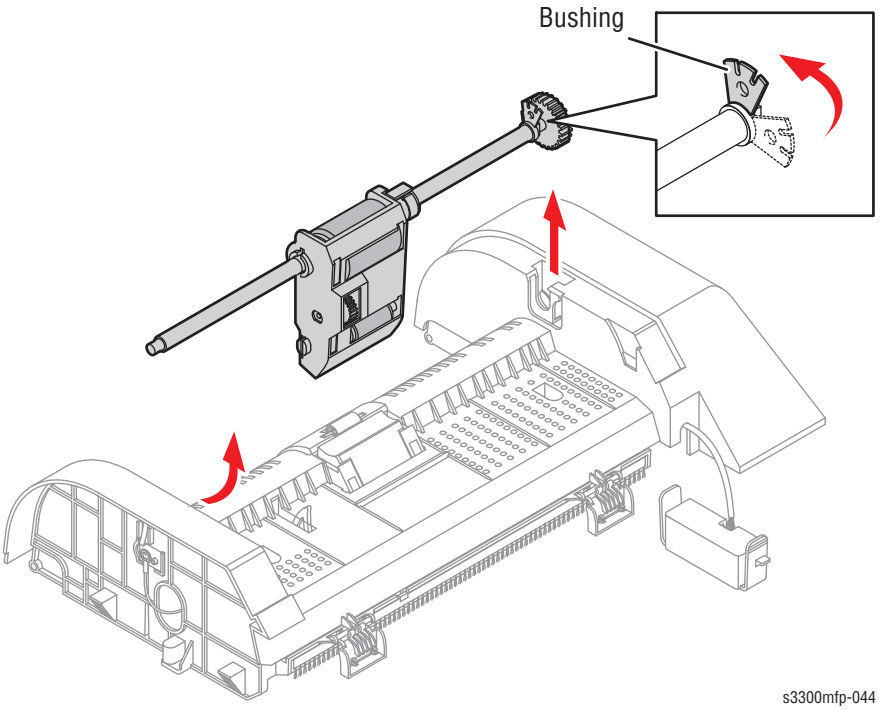


s3300mfp-043

Note

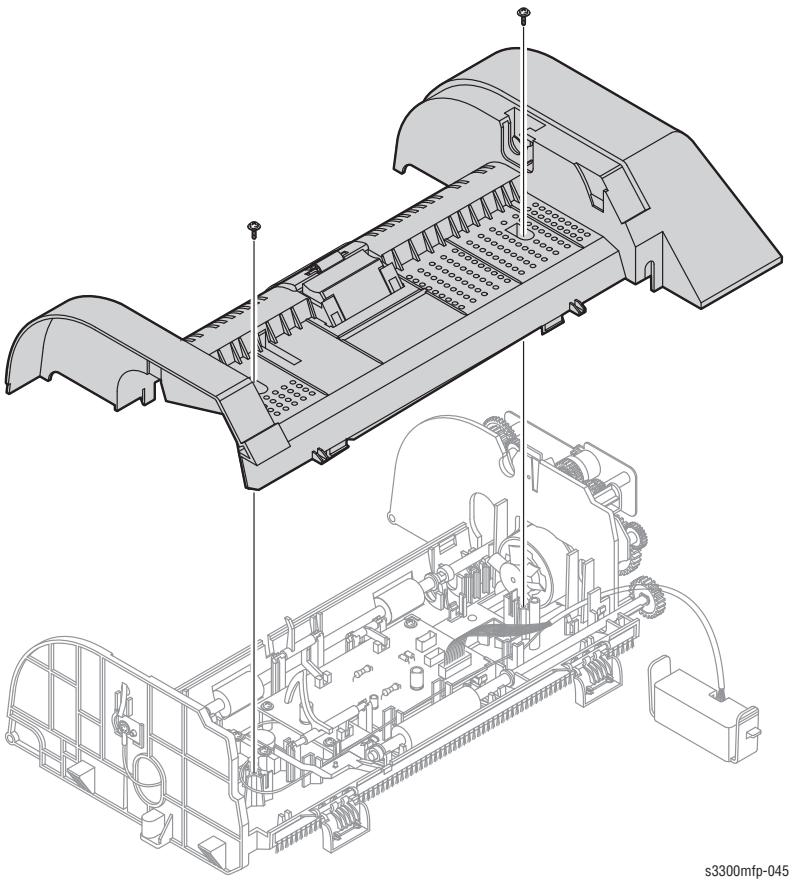
When working on the ADF Motor Assembly take care not to contaminate any of the rubber surfaces with grease.

5. Release the Bushing and rotate it until it reaches the slot, as shown below. Then lift the Pick Up Assembly out.



s3300mfp-044

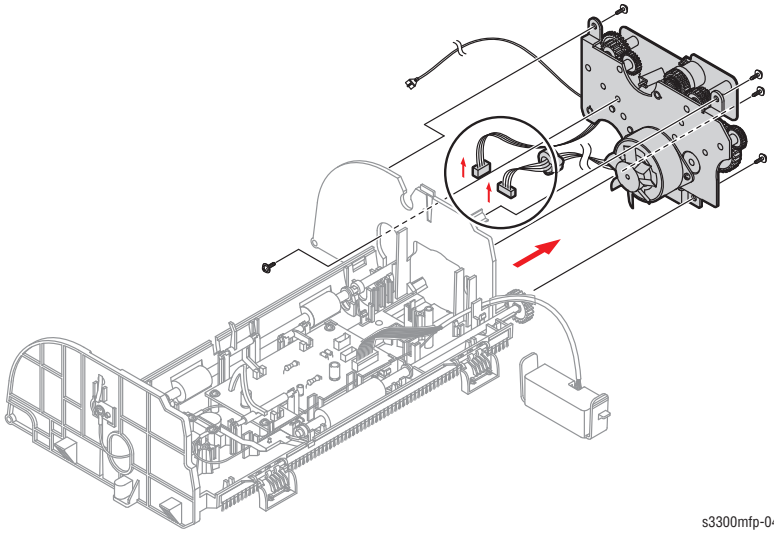
6. Remove the two screws securing the ADF Upper Cover and remove it, as shown below.



Note

Before removing the ADF Engine take great care to note the position of the Ferrite Core and the Motor Harness routing. When reinstalling the ADF Engine ensure that the Harness and Ferrite are properly routed and clear of the Motor Fan and White Bar Clip.

7. Unplug the two connector and remove four screws securing the ADF Motor Assembly and then remove the receptacle of the Ground Cable, as shown below. Then take out the ADF Motor Assembly.



Platen Assembly

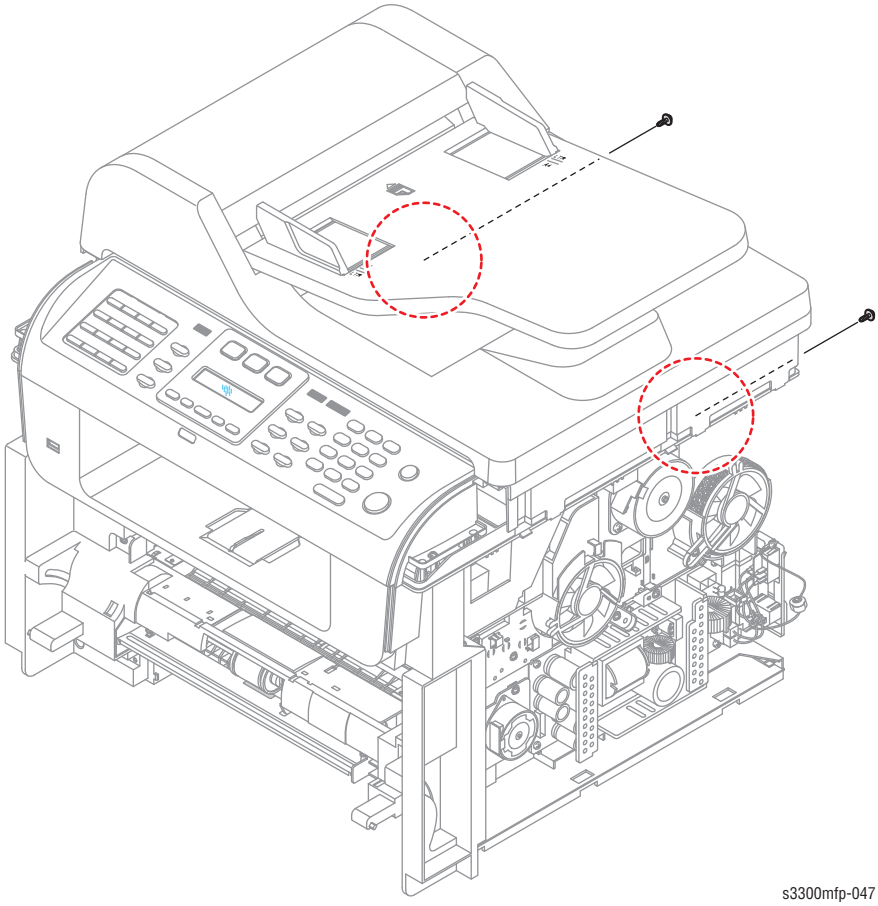
Before you remove the Platen Assembly, you must remove:

- Left Side Cover, Right (page 8-26)
- Control Panel (page 8-29)
- ADF Assembly (page 8-6)

Note

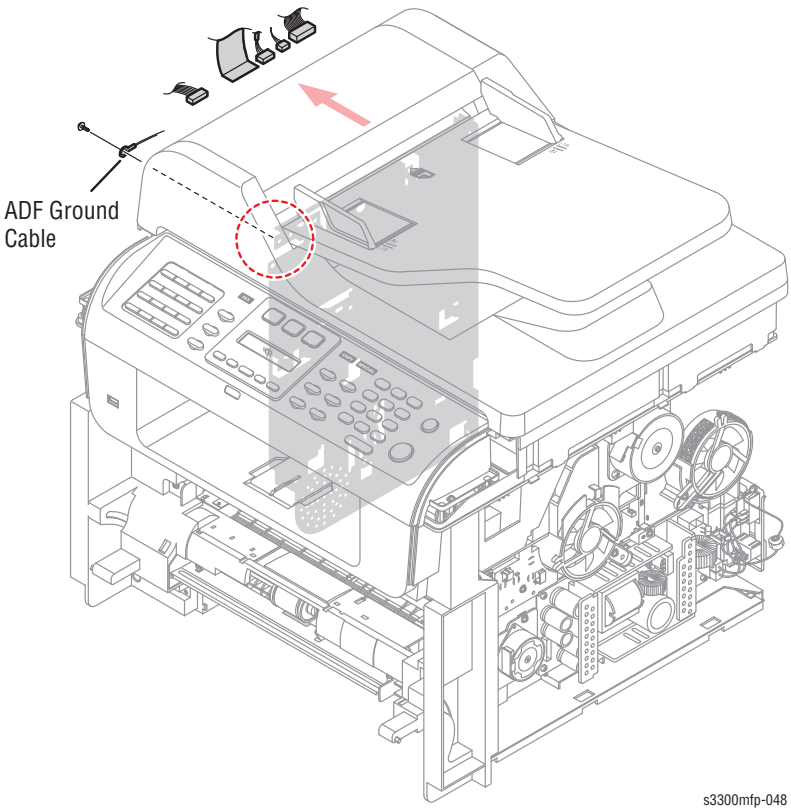
Remove the Control Panel only if you need to disassemble the scanner assembly. Leave the Control Panel in place if you are removing the Platen Assembly for access to other parts in the printer.

1. Remove the two screws securing the Platen Assembly, as shown below.

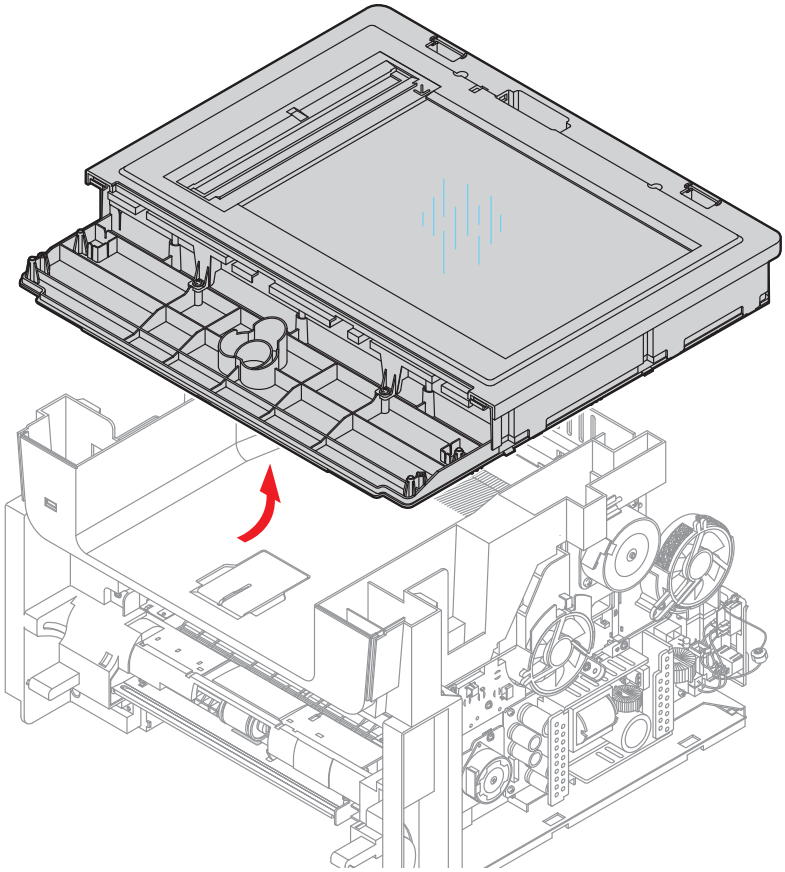


s3300mfp-047

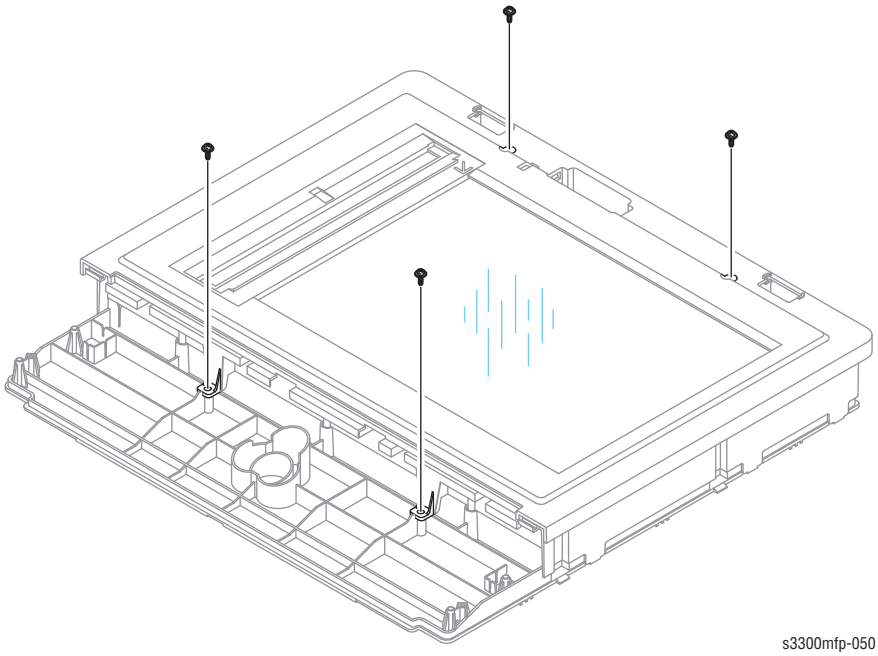
2. Remove the one screw securing the Ground Cable and unplug the four connectors and CCD Cable.



3. Lift the Platen Assembly in the direction of arrow, as shown below.

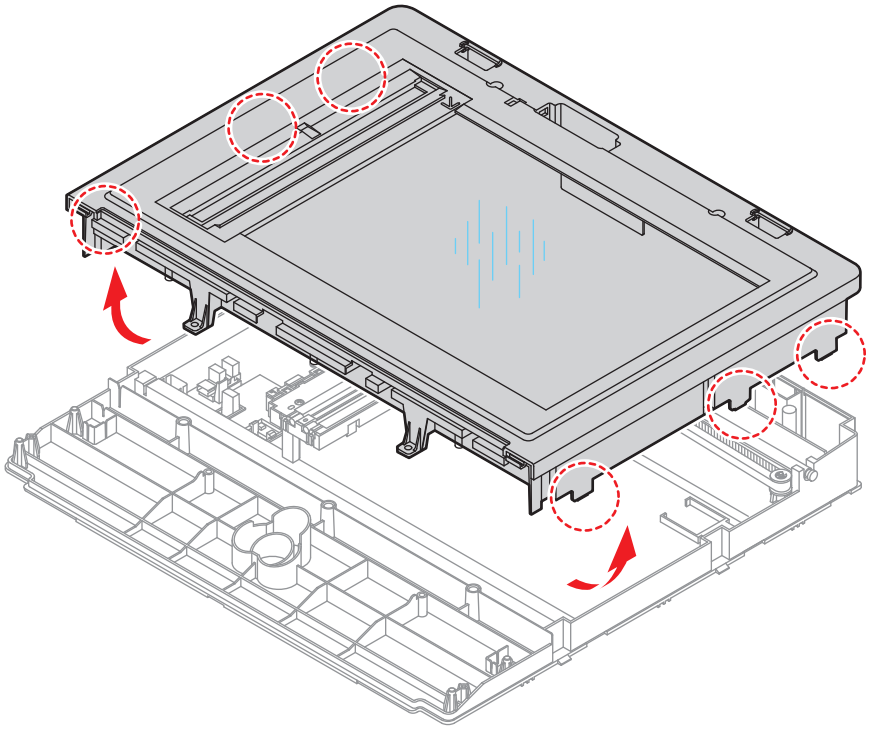


4. Remove the four screws securing the Scan Upper Cover.



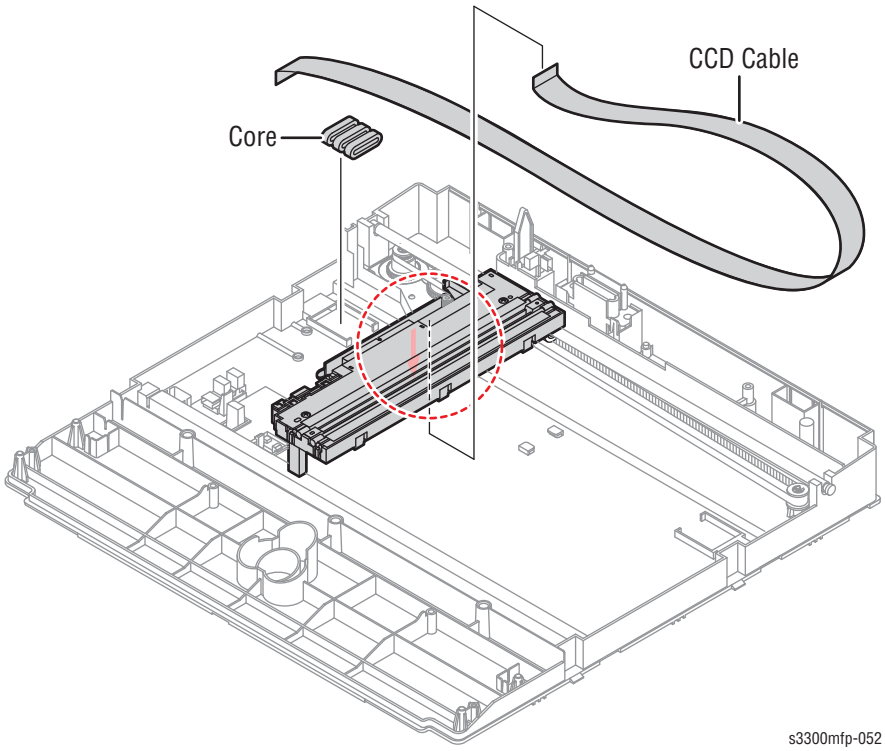
s3300mfp-050

5. Release the six hooks securing the Scan Upper Cover to the Scan Lower Cover and remove it, as shown below.



s3300mfp-051

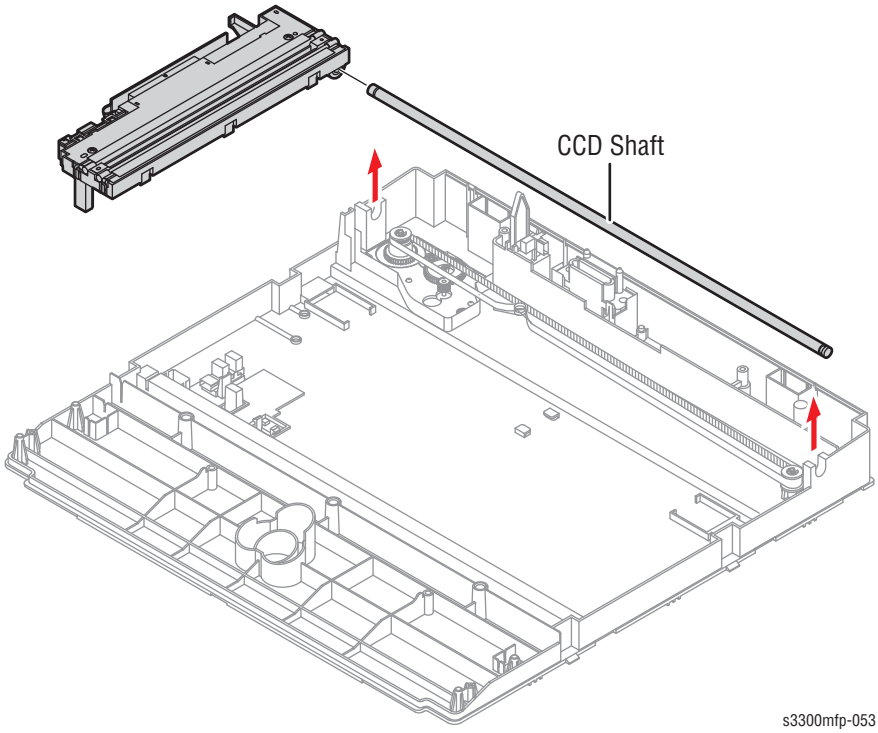
6. Remove the CCD Cable, as shown below.



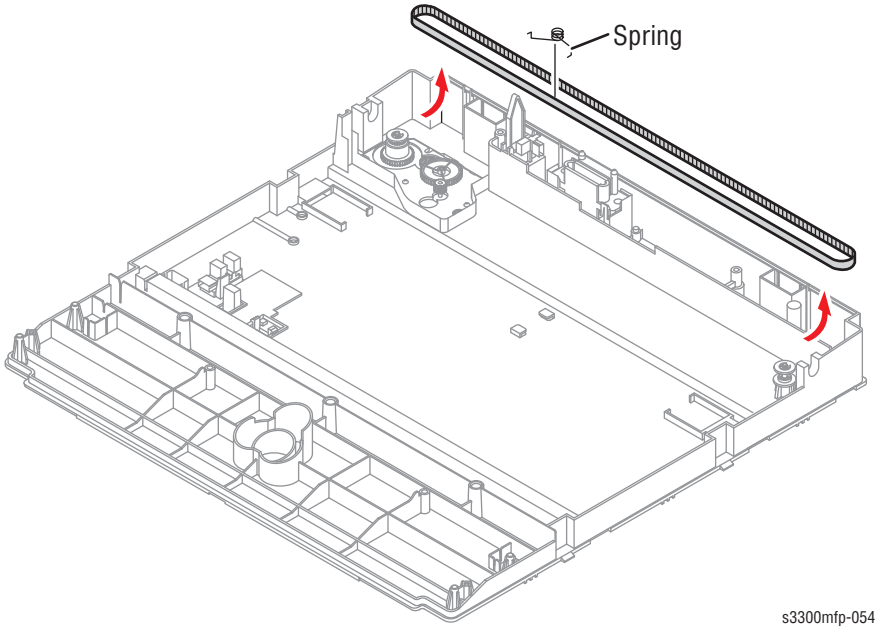
Note

Remove the CCD Cable connector vertically to avoid any pin damage.

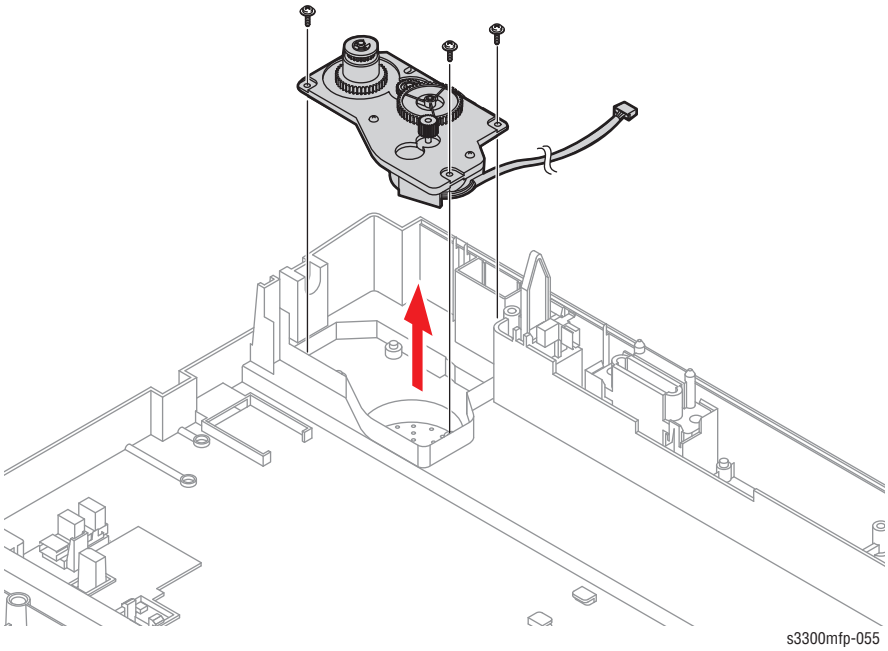
7. Pull up the CCD Shaft and take out the CCDM.



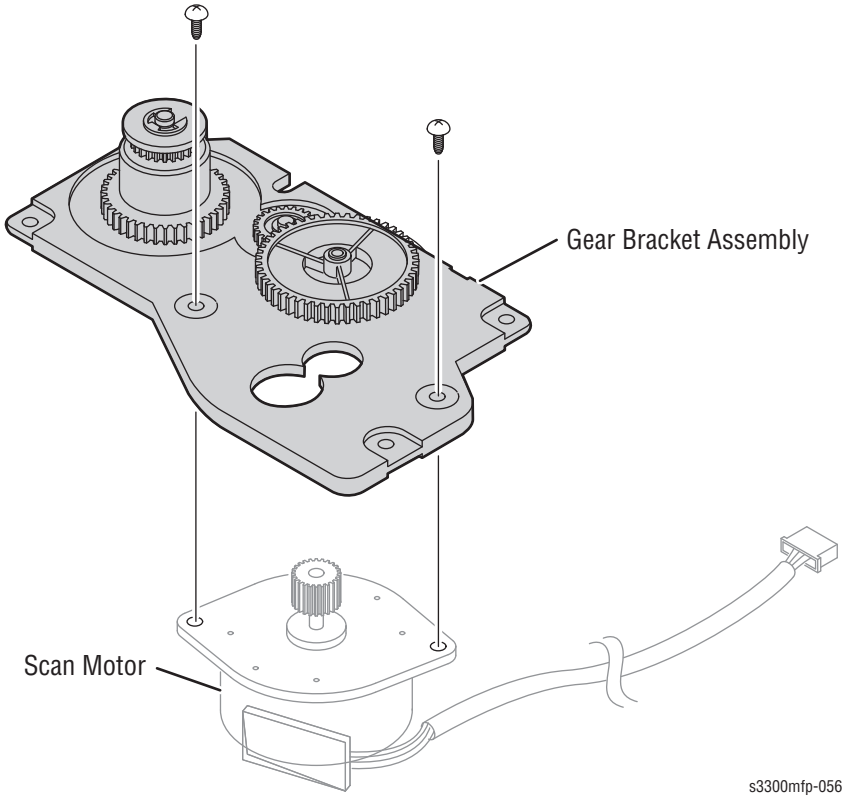
8. Squeeze the spring to release the tension in the Belt and lift from the pulleys, as shown below.



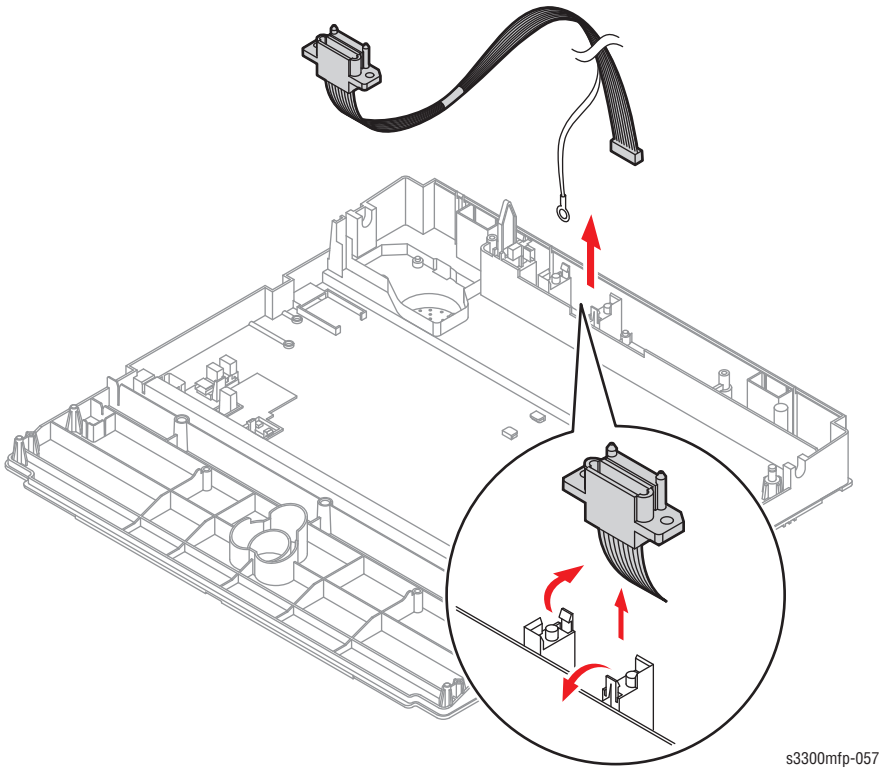
9. Remove the three screws securing the Scan Motor Assembly and remove it.



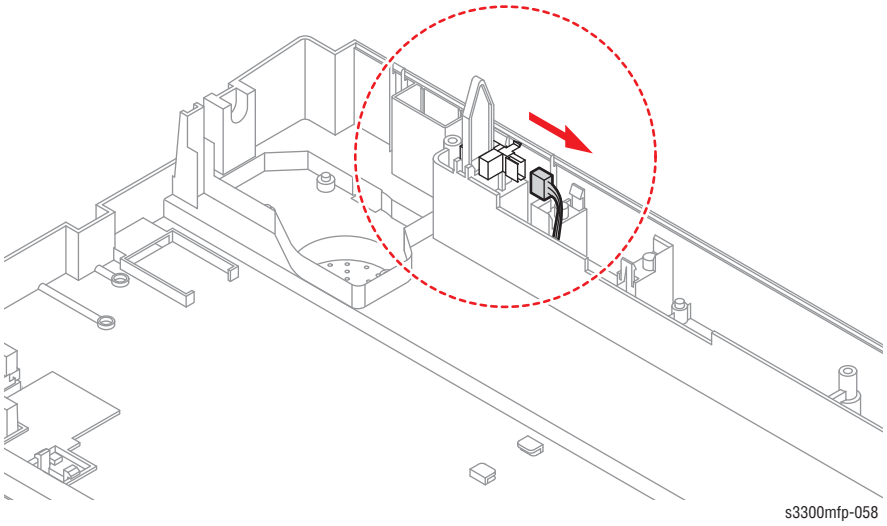
10. If necessary, remove the two screws securing the Scan Motor and remove it, as shown below.



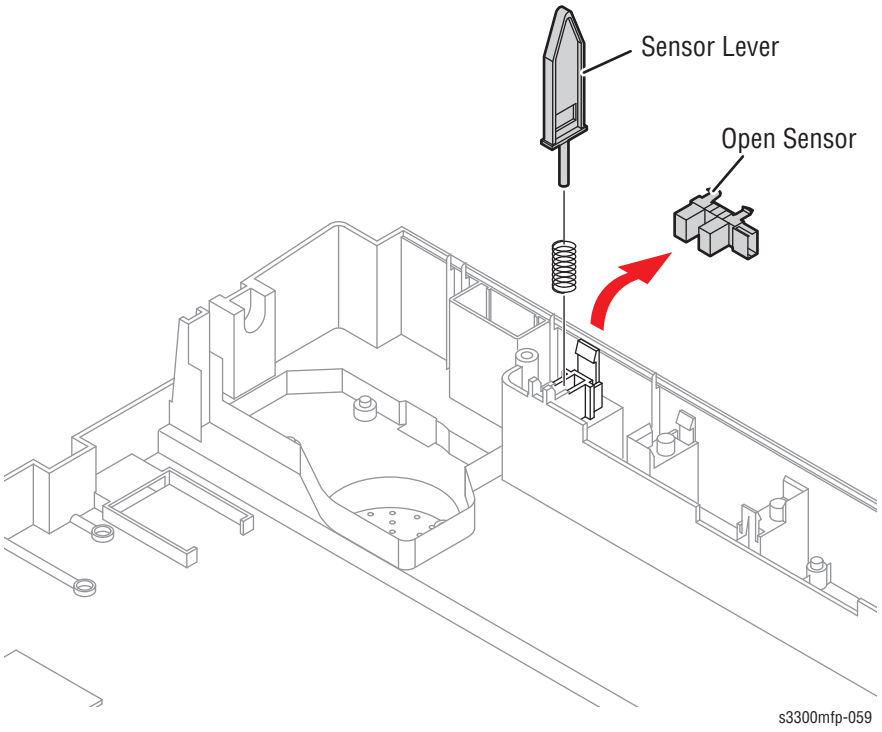
11. To remove the ADF Lower Harness, first unlatch the Hooks in the direction of arrow and then carefully release the ADF Lower Harness from the Scan Lower, as shown below.



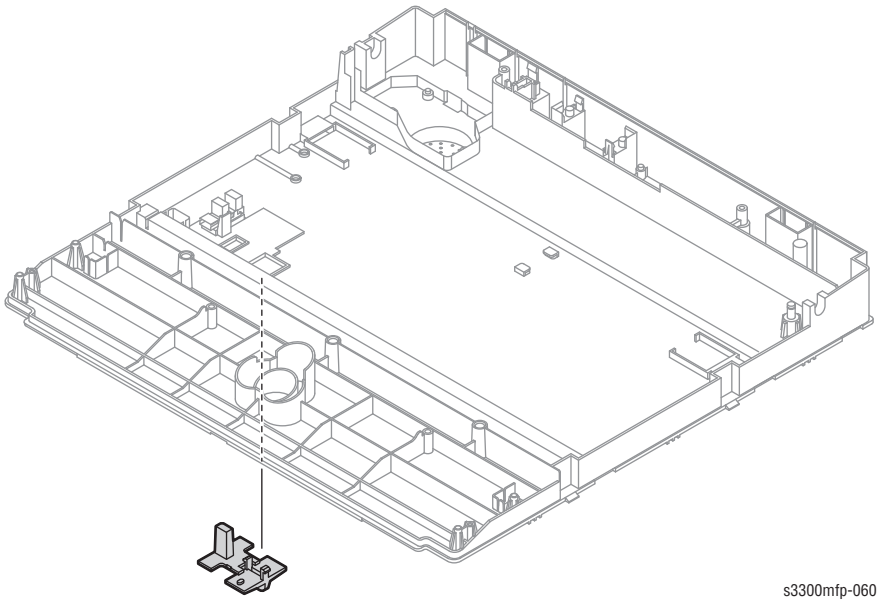
12. Unplug the connector from the Open Sensor Assembly.



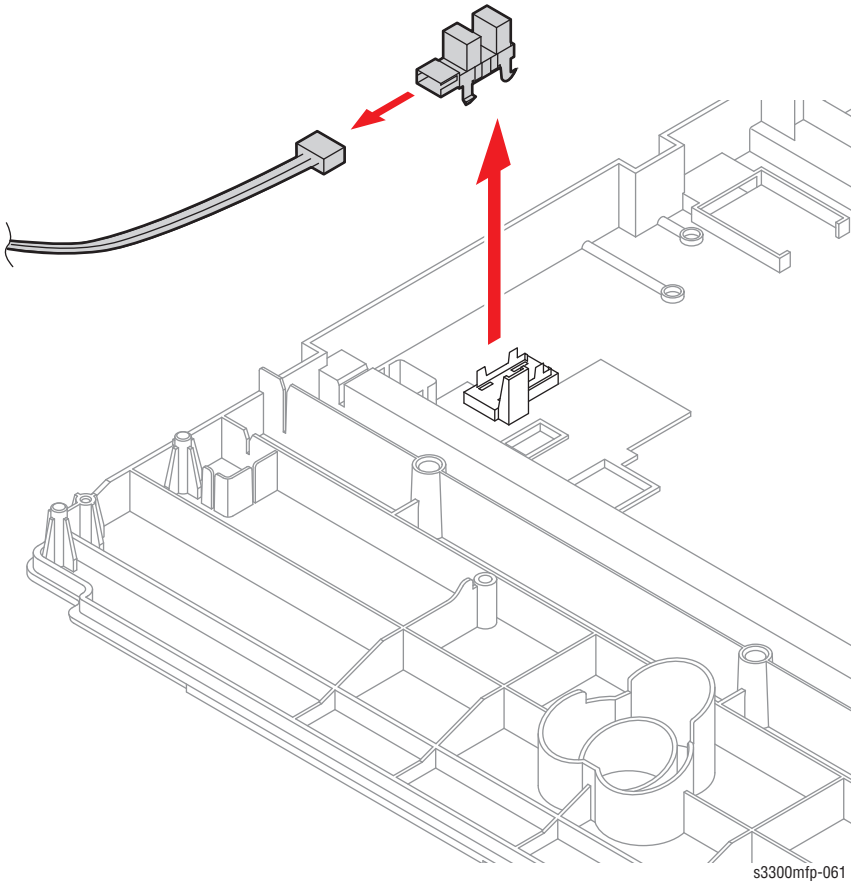
13. Unlatch the Open Sensor and remove it, as shown below.



14. Remove the CCD Holder.



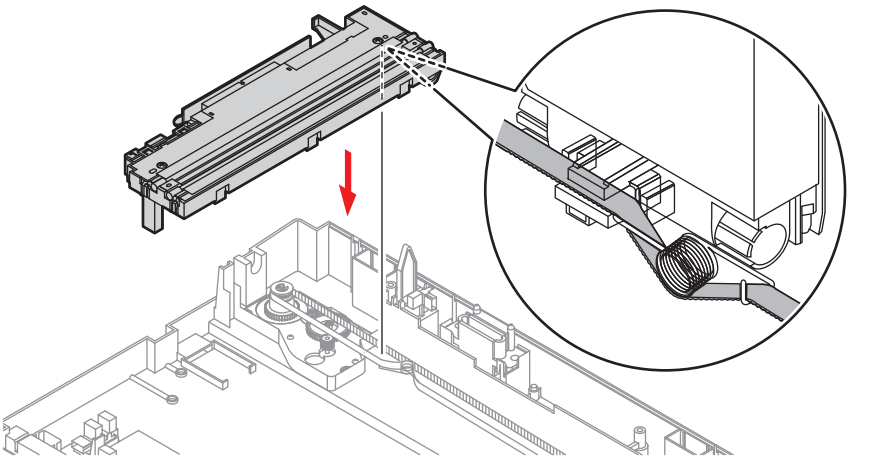
15. Unplug the Harness from the CCD Home Sensor and release the CCD Home Sensor, as shown below.



Caution

Reassembling CCDM

- When refitting the Scanner Belt and Belt Spring take care to relocate the tension spring as close to the right side of the CCDM as is possible, as shown below.
- When refitting the Scan Upper Cover take care to ensure that the Cover Open Switch is not trapped.



s3300mfp-031

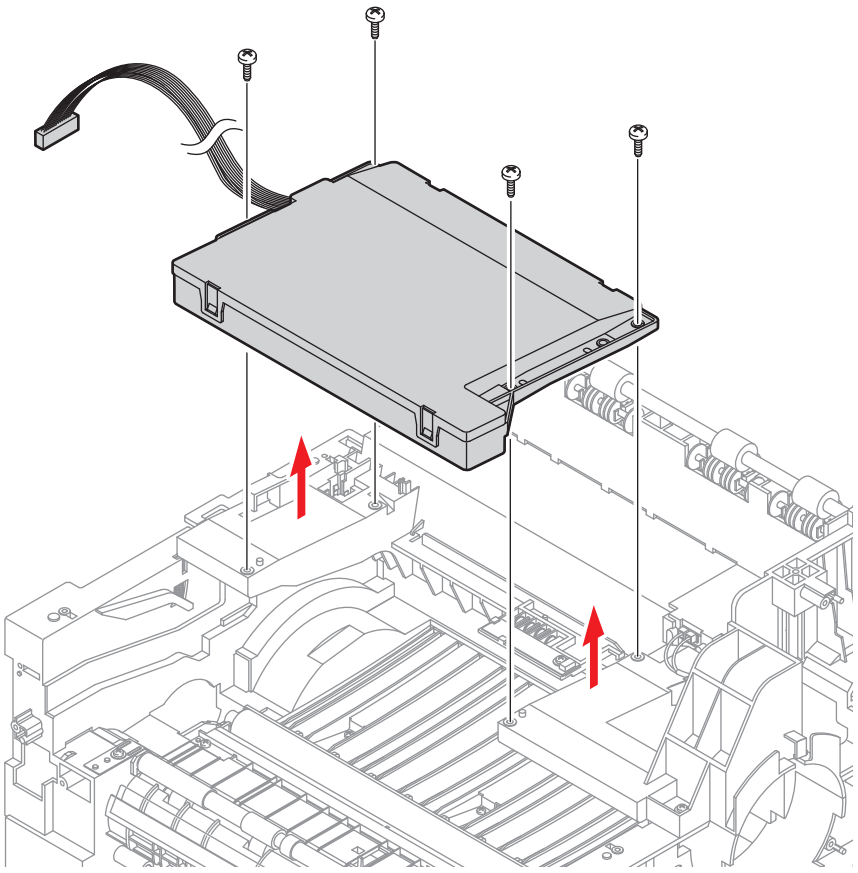
Xerographics

LSU

Before you remove the LSU, you must remove:

- Middle Cover Assembly (page 8-33)

1. Remove the four screws securing the LSU and remove it.



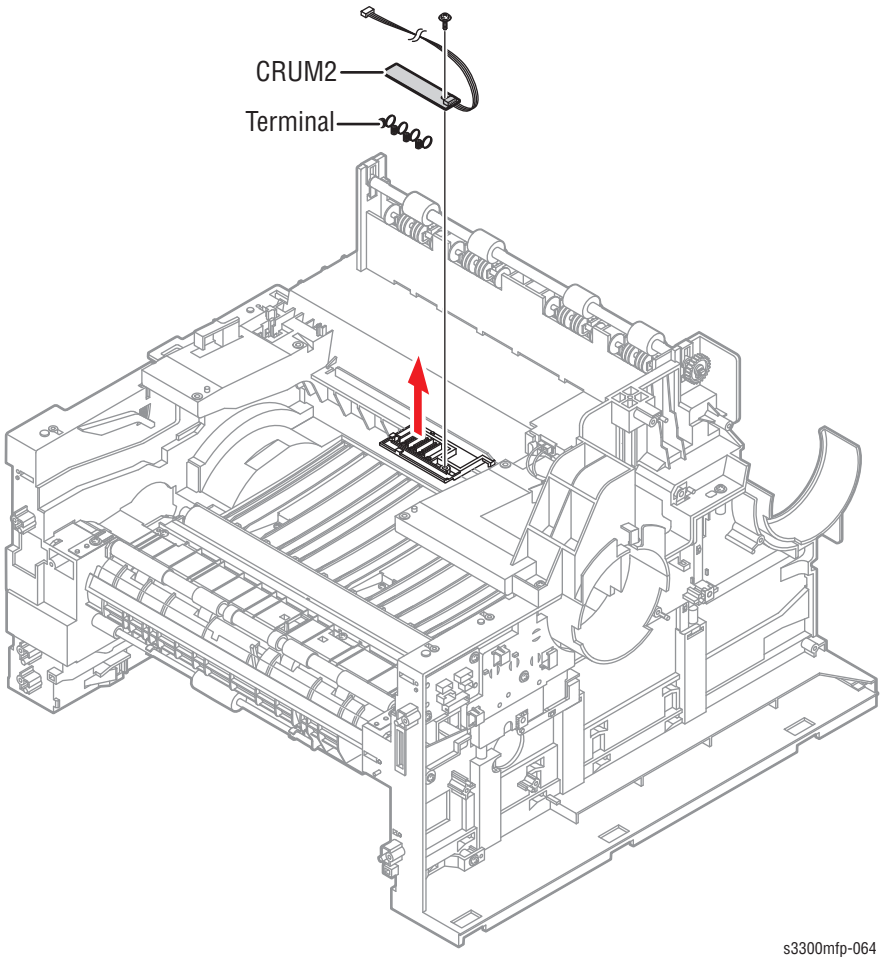
s3300mfp-144

CRUM2 PBA

Before you remove the CRUM2 PBA, you must remove:

- Middle Cover Assembly (page 8-33)
- LSU (page 8-61)

1. Remove the one screw securing the CRUM2 PBA and remove it and then release the four Terminals, as shown below.



Note

Be aware of the Terminals to ensure they are not lost.

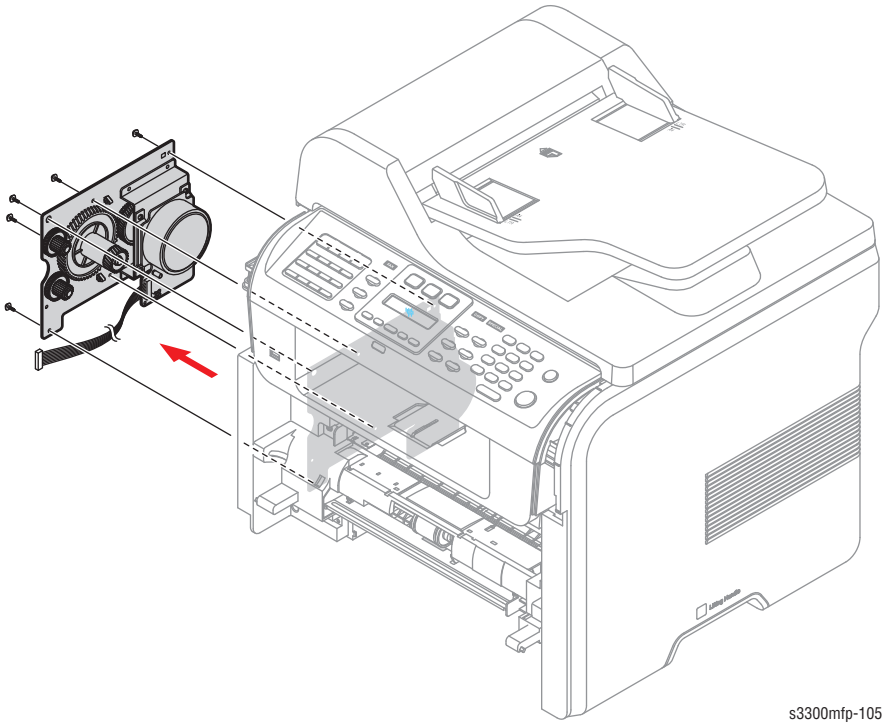
Drive

Drive Assembly

Before you remove the Drive Assembly, you must remove:

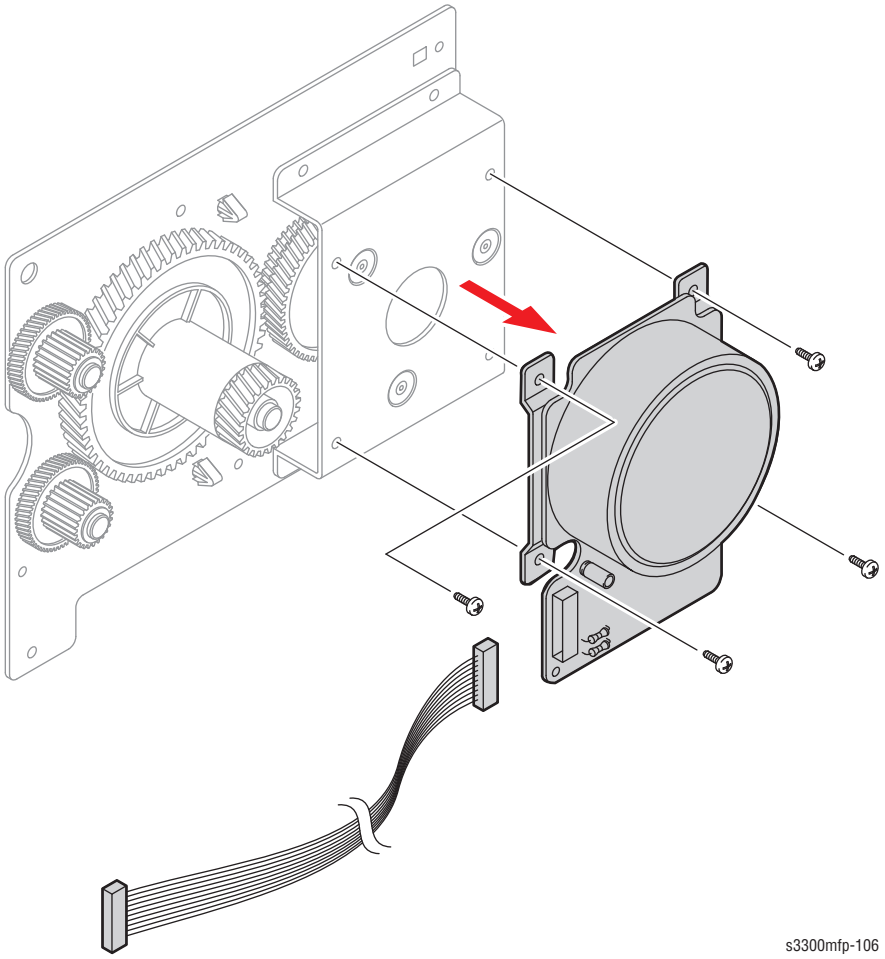
- Left Side Cover (page 8-26)
- Shield Controller Assembly (page 8-68)

1. Remove the five screws securing the Drive Assembly and remove it.



s3300mfp-105

2. If necessary, remove the four screws securing the BLDC Motor Assembly and remove it.



Note

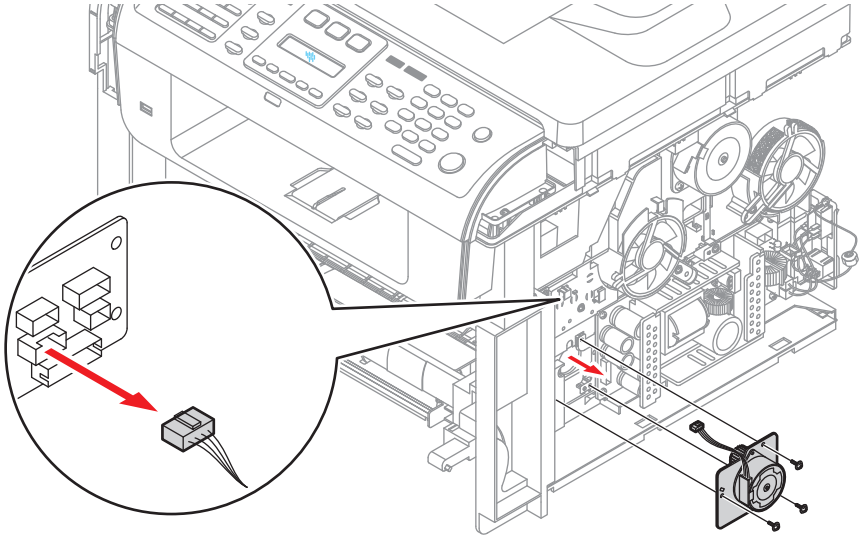
The Drive Assembly base plate has numbers stamped onto it corresponding to the 6 screws used to attach the plate to the frame. When reinstalling the Drive Assembly, tighten the screws in numerical order. Only screws numbered 1-5 are inserted at this stage. Screw 6 is installed when the Shield Controller Assembly is installed.

Duplex Drive Assembly

Before you remove the Duplex Drive Assembly, you must remove:

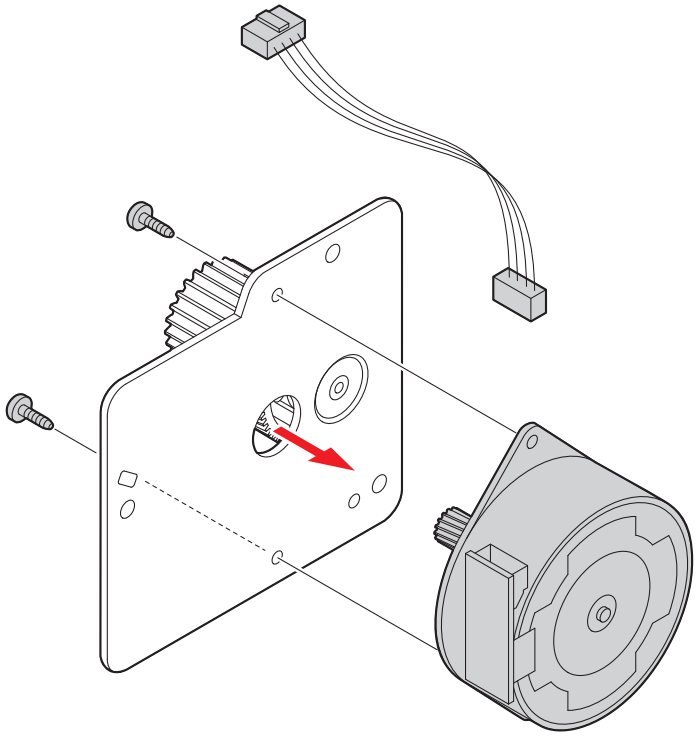
- Right Side Cover (page 8-26)

1. Unplug the connector from the Connection PBA. Remove the three screws securing the Duplex Drive Unit, and remove it.



s3300mfp-107

2. If necessary, remove the two screws securing the Duplex Motor and remove it.



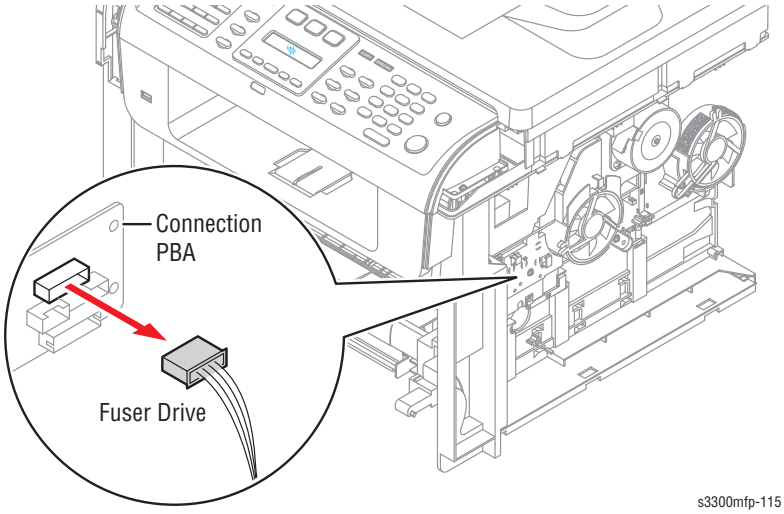
s3300mfp-108

Fuser Drive Assembly

Before you remove the Fuser Drive Assembly, you must remove:

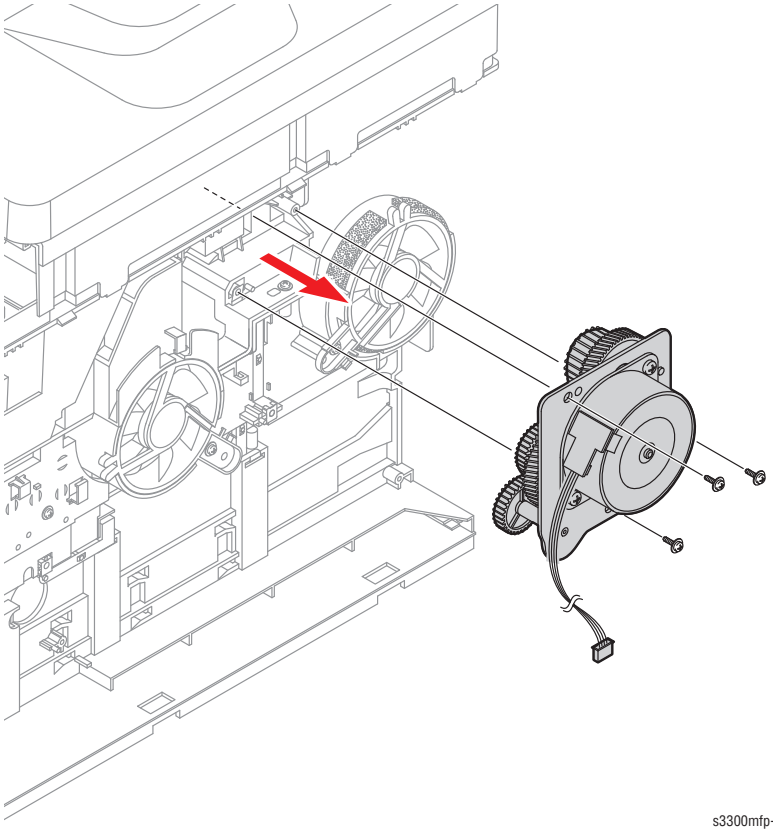
- Right Side Cover (page 8-26)

1. Unplug the cable from the connector on the step motor.



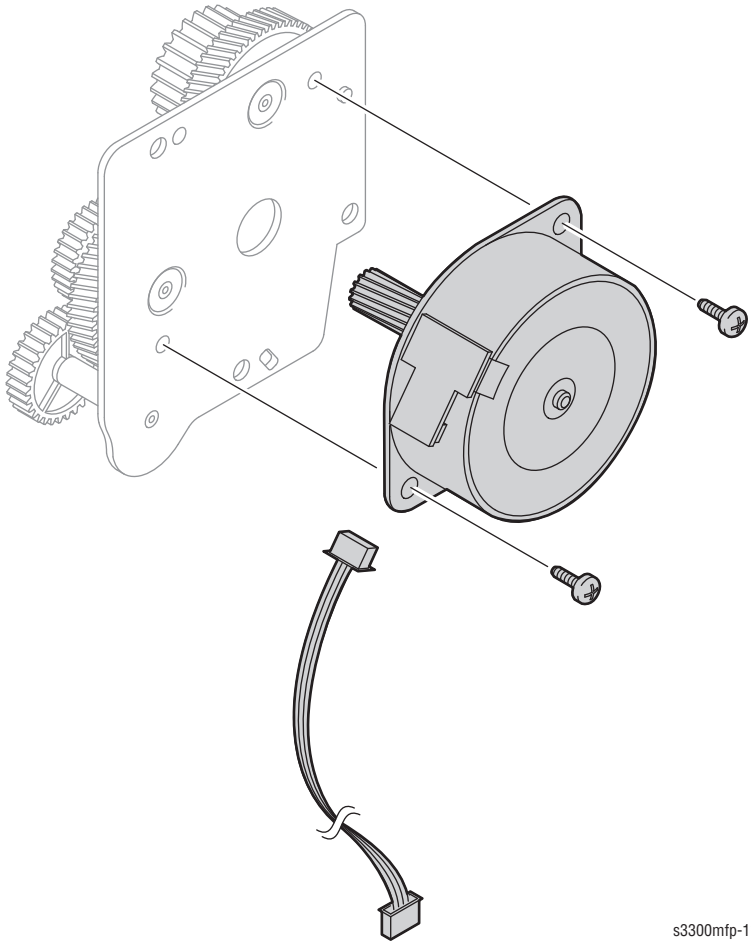
s3300mfp-115

2. Remove the three screws securing the Fuser Drive Assembly and remove it.



s3300mfp-116

3. If necessary, remove the two screws securing the Step Motor and remove it.



Electrical

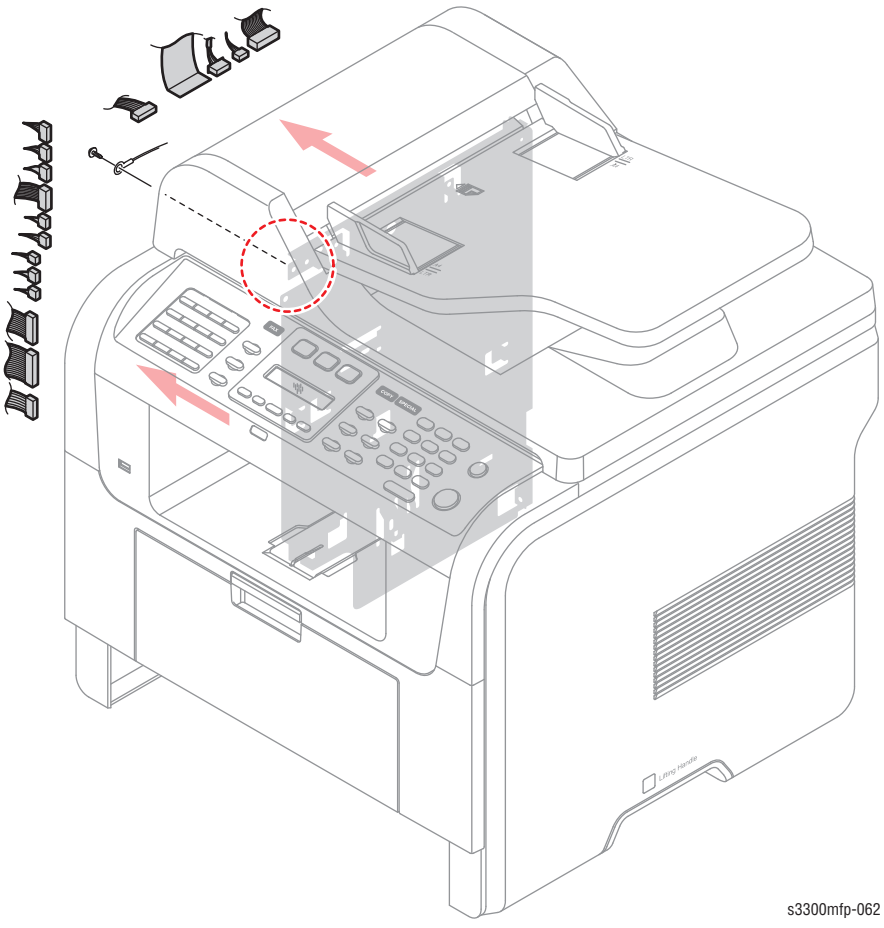
Control Board Shield Assembly

The Control Board Shield assembly consists of the Control Board, Fax/Modem board, and speaker, and the sheet-metal shield plate on which those parts are mounted. The individual parts can be removed without removing the entire assembly.

Before you remove the Control Board Shield Assembly, you must remove:

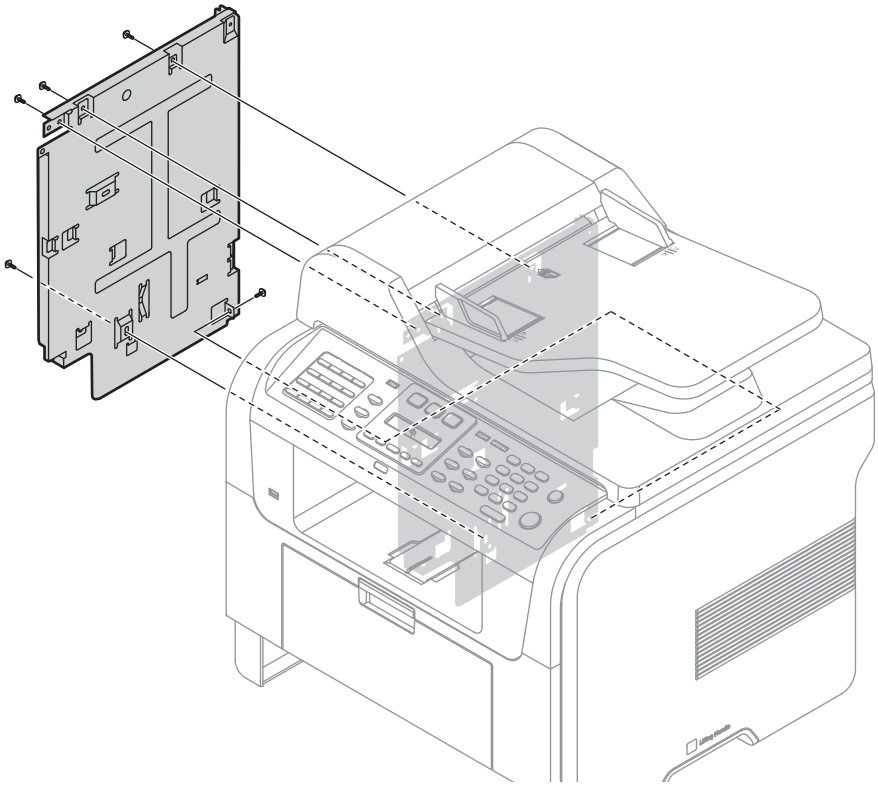
- Left Side Cover (page 8-26)

1. Unplug the all connectors and remove the one screw securing the Ground Cable. Refer to the diagram in the Control Board procedure on page 8-70.

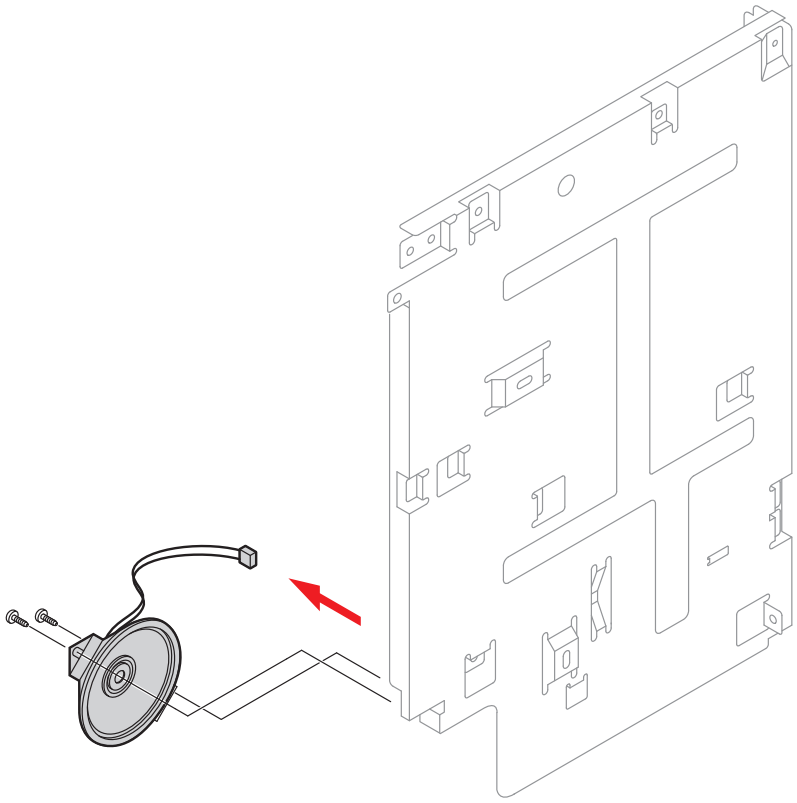


s3300mfp-062

2. Remove the five screws securing the Control Board Shield Assembly and remove it.



3. To remove the speaker, remove the two screws securing the Speaker to the shield and unplug the connector from the Modem PBA; remove the speaker.



Control Board

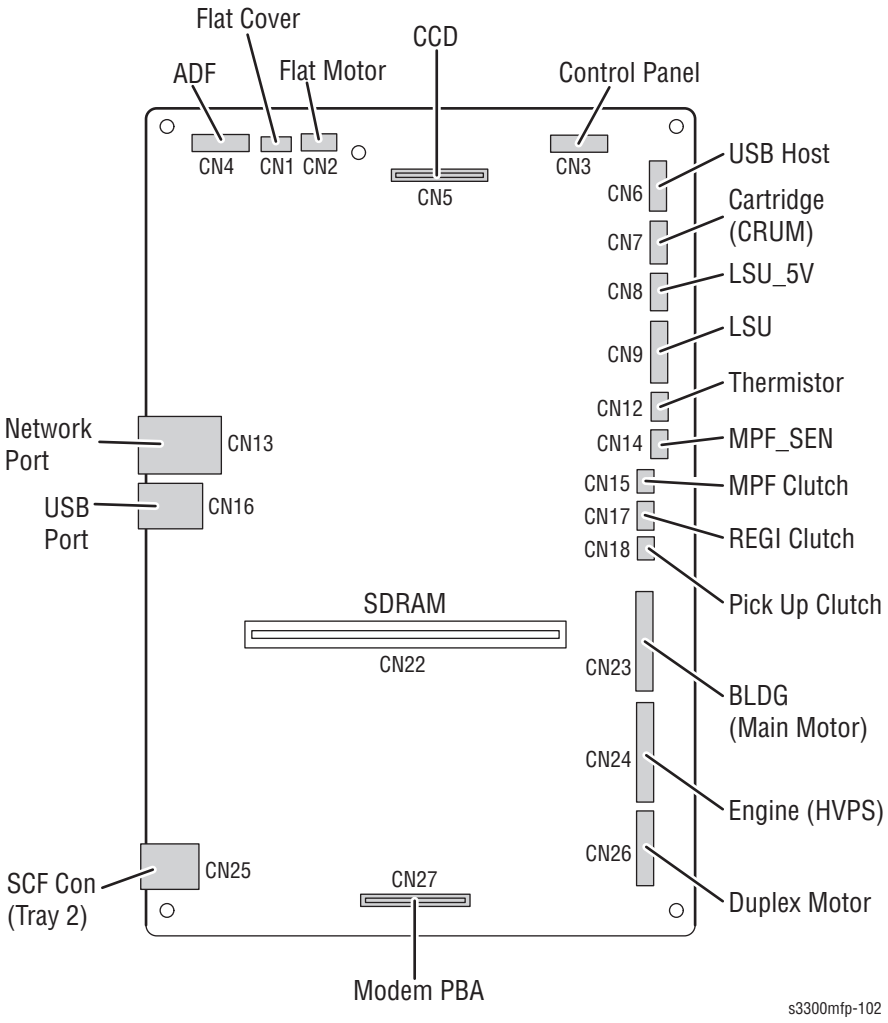
Note

When a new Control Board is installed in the machine, the machine serial number and page count stored on the board are lost and cannot be restored. If possible, print out the *Configuration Report* before removing the Control Board to be replaced.

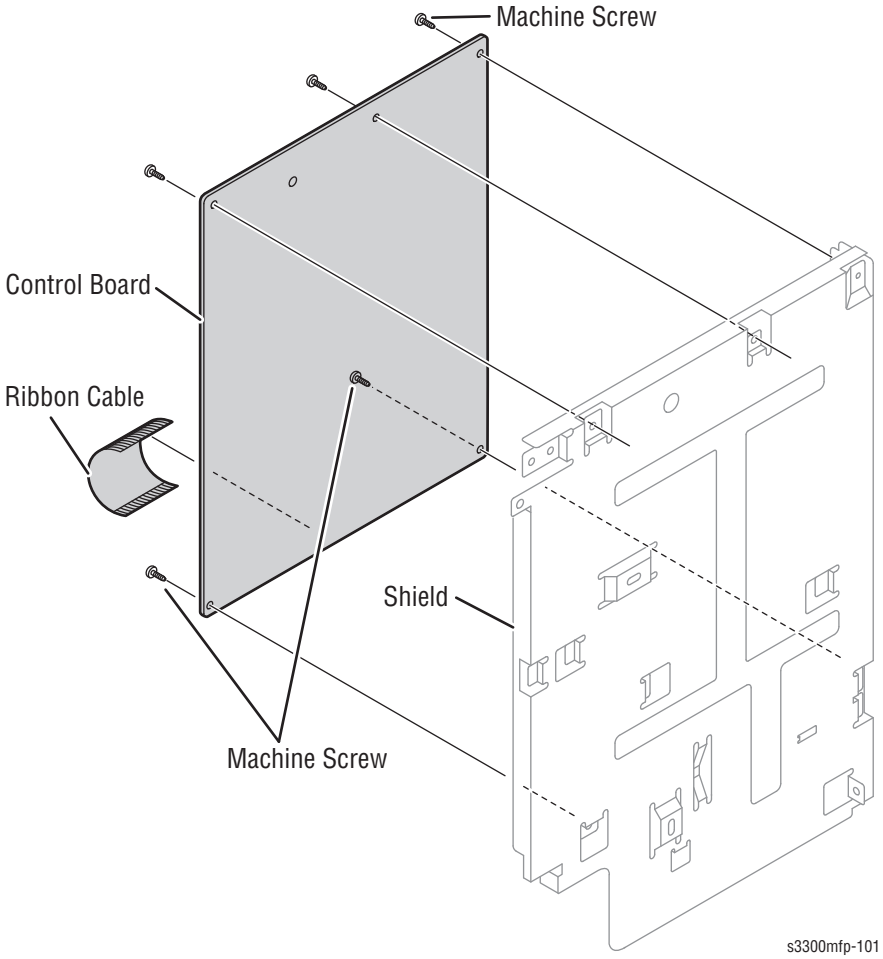
Before you remove the Control Board, you must remove:

- Left Side Cover (page 8-26)

1. Unplug all connectors from the Control Board. The Control Board connectors are located as shown below.



2. Remove the five screws securing the Control Board to the shield and unplug the Ribbon Cable and then remove the Control Board.

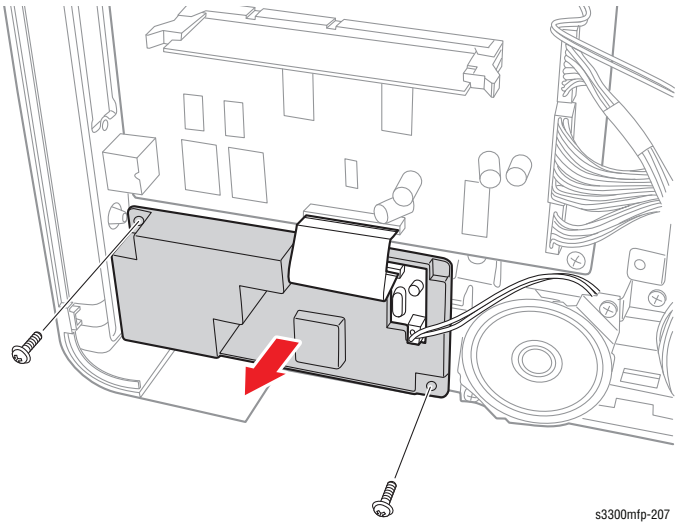


Fax/Modem Board

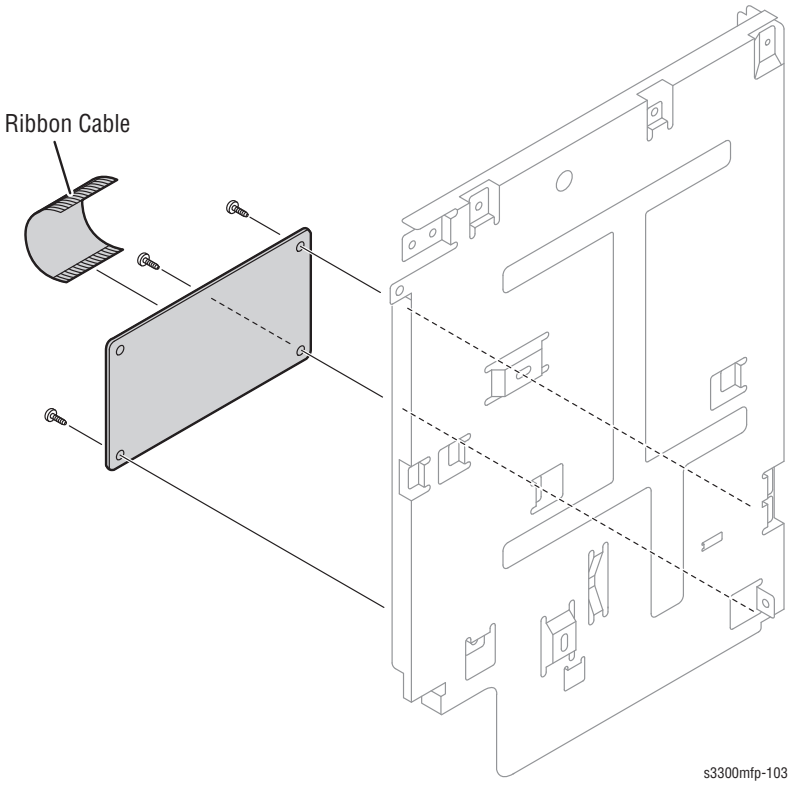
Before you remove the Fax/Modem Board, you must remove:

- Left Side Cover (page 8-26)

1. Unplug the Ribbon Cable and Speaker from the Fax/Modem board.
2. Remove the two machine screws (upper-left and lower-right) holding the Fax/Modem board cover and remove the cover.



3. Remove the remaining machine screw (lower-left) securing the board to the shield and remove the Fax/Modem board.

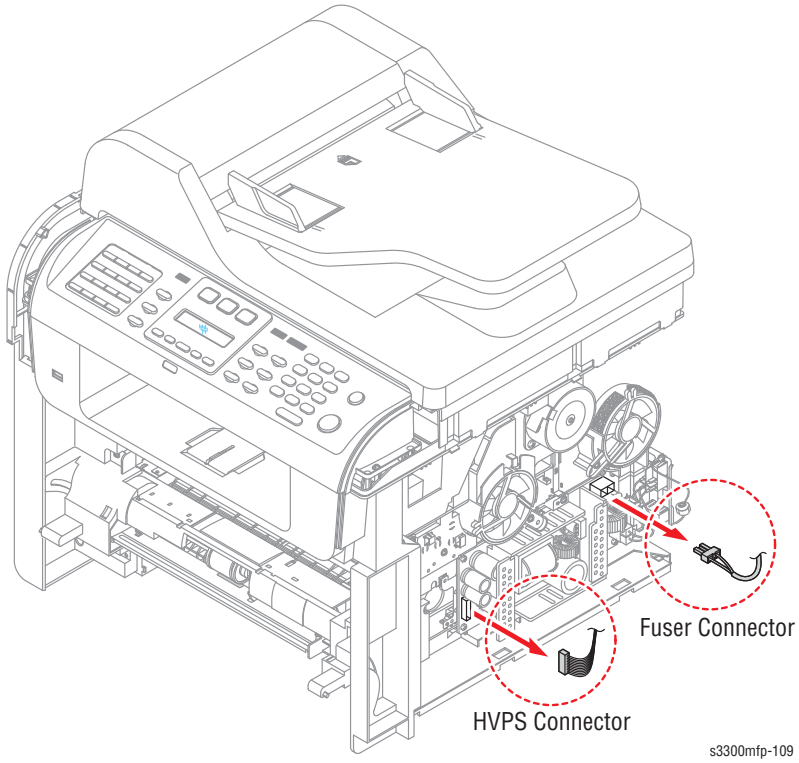


SMPS Shield Assembly

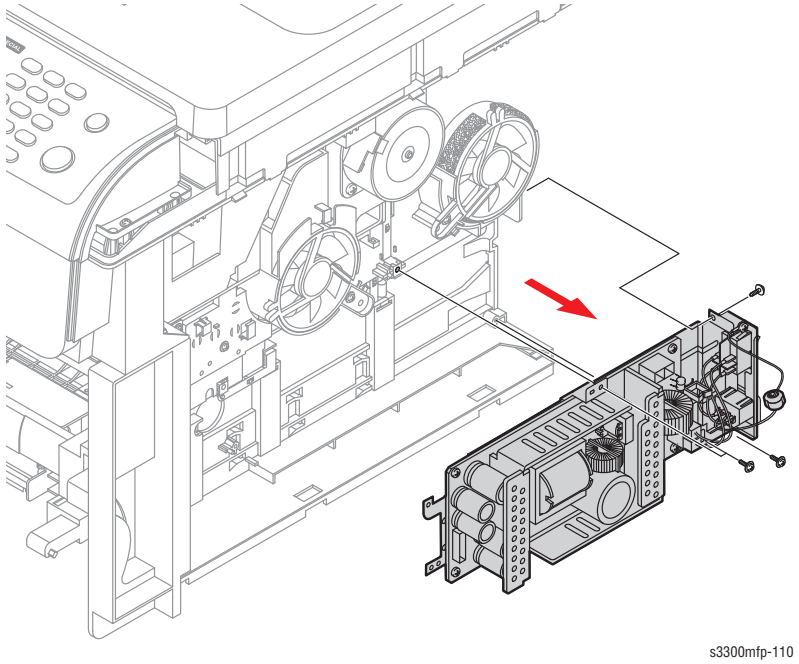
Before you remove the SMPS Shield Assembly, you must remove:

- Right Side Cover (page 8-26)

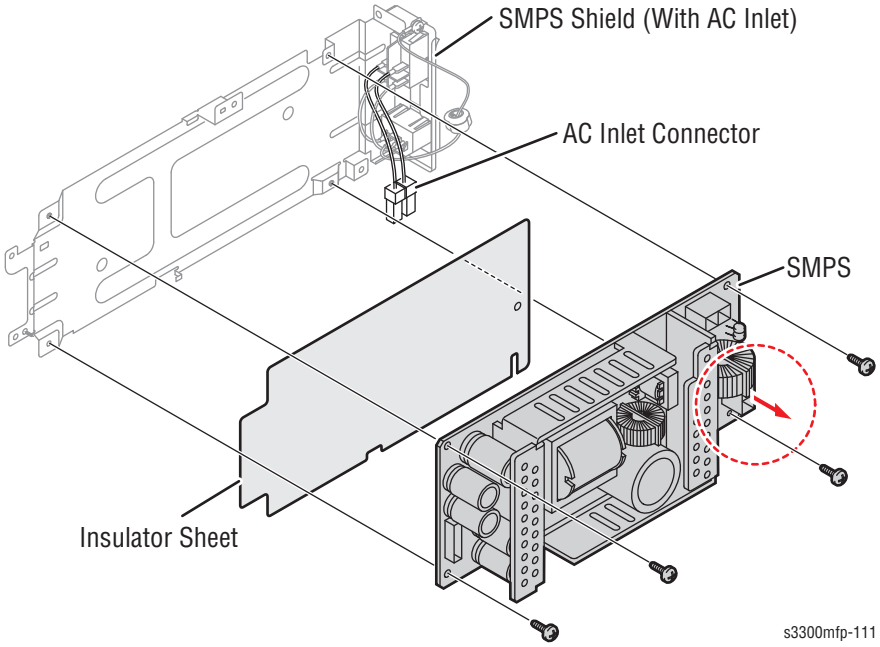
1. Unplug the two connectors (HVPS, Fuser).



2. Remove the three screws securing the SMPS Shield Assembly and remove it.



3. Unplug the connector (AC Inlet) and remove the four screws securing SMPS and remove it.

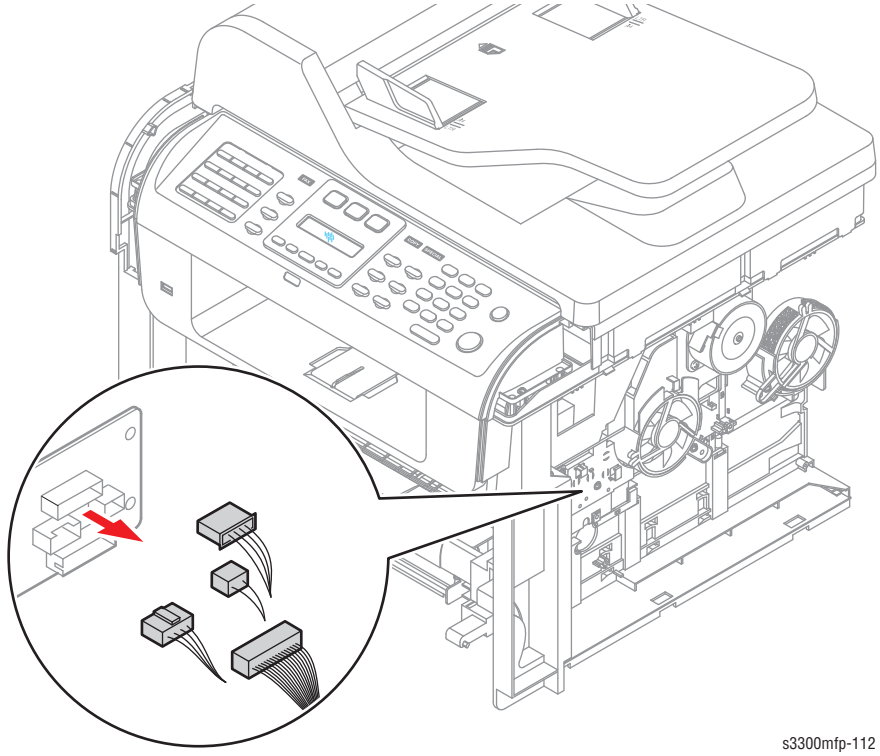


Connection PBA

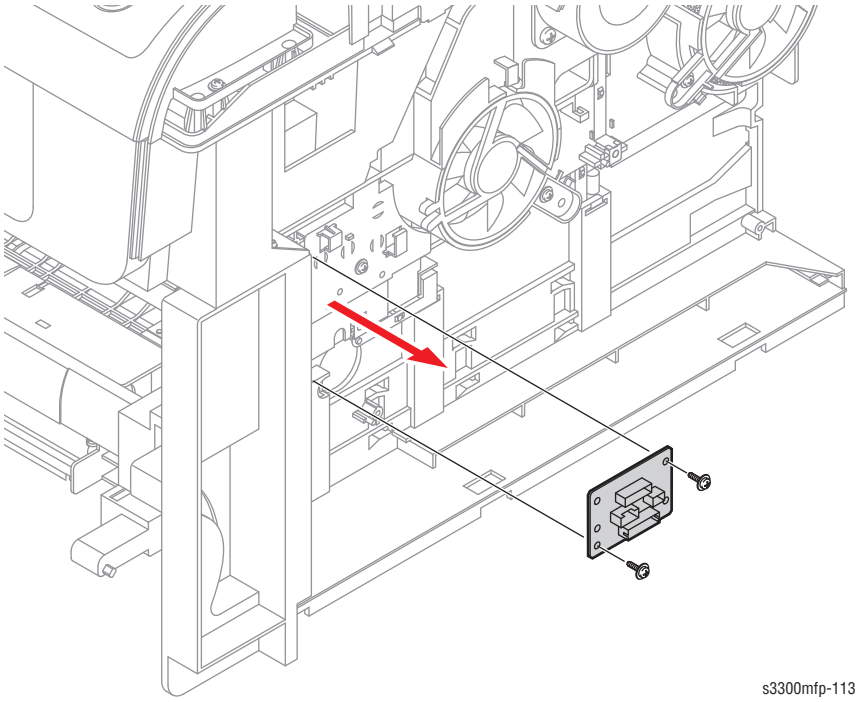
Before you remove the Connection PBA, you must remove:

- Right Side Cover (page 8-26)

1. Unplug the all connectors.

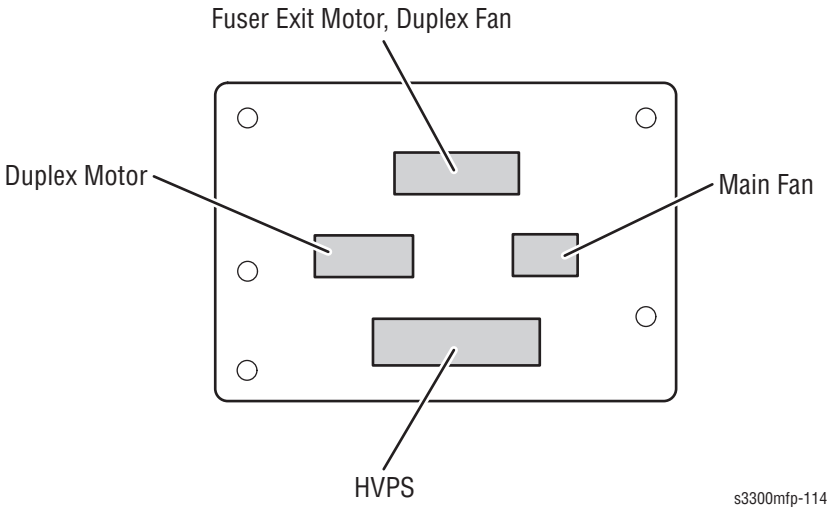


2. Remove the two screws securing the Connection PBA and remove it.



s3300mfp-113

3. The connectors are located, as shown below.



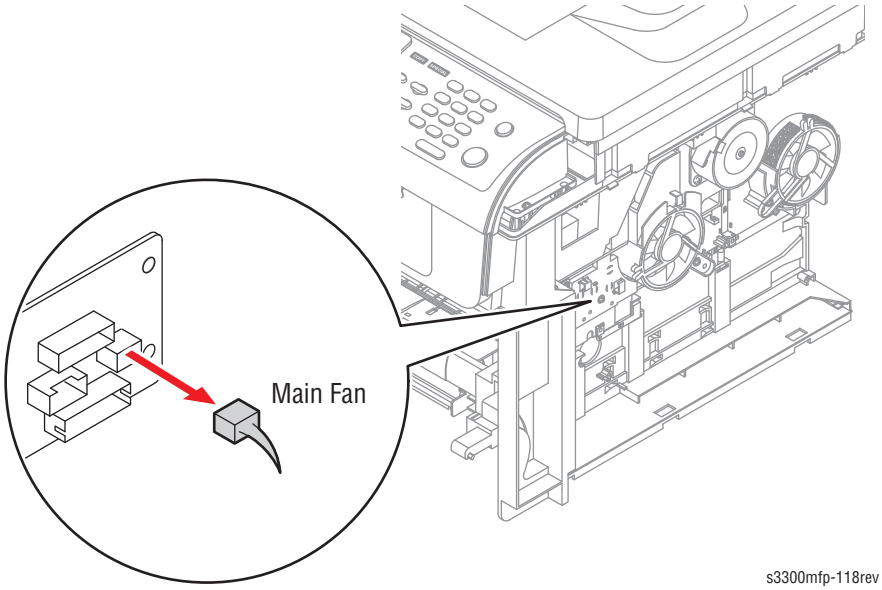
s3300mfp-114

Fans

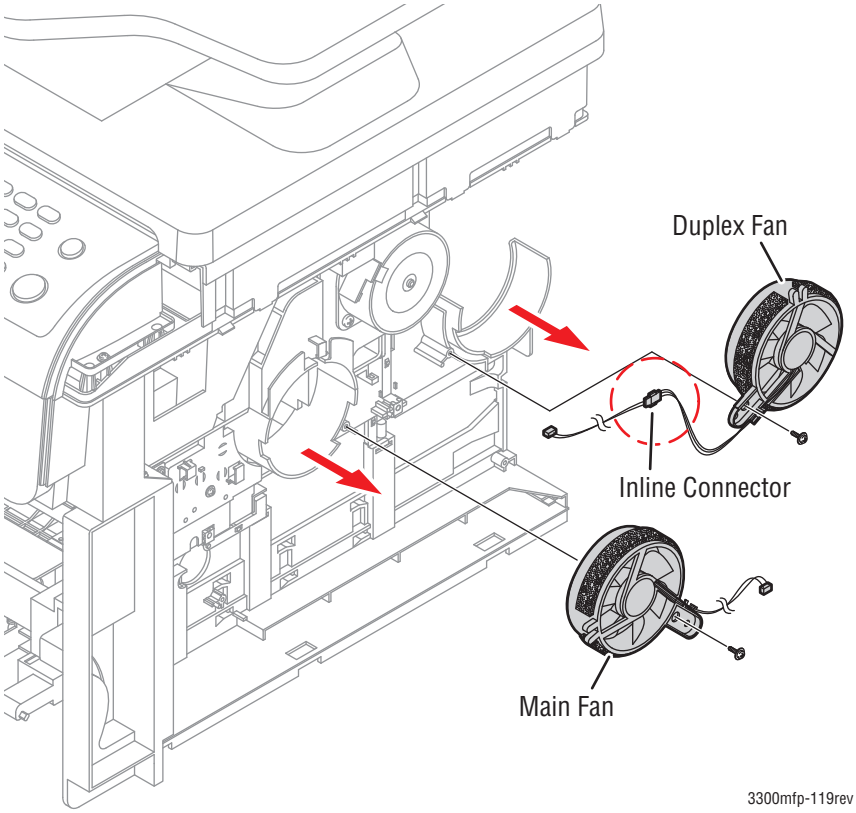
Before you remove the Fans, you must remove:

- Right Side Cover (page 8-26)

1. Unplug the Main Fan connector from the Connection PBA, as shown below.



2. Remove the screw for each fan, and pull the Main and Duplex Fans from the frame. While pulling the Duplex Fan, disconnect the cable at the inline connector.

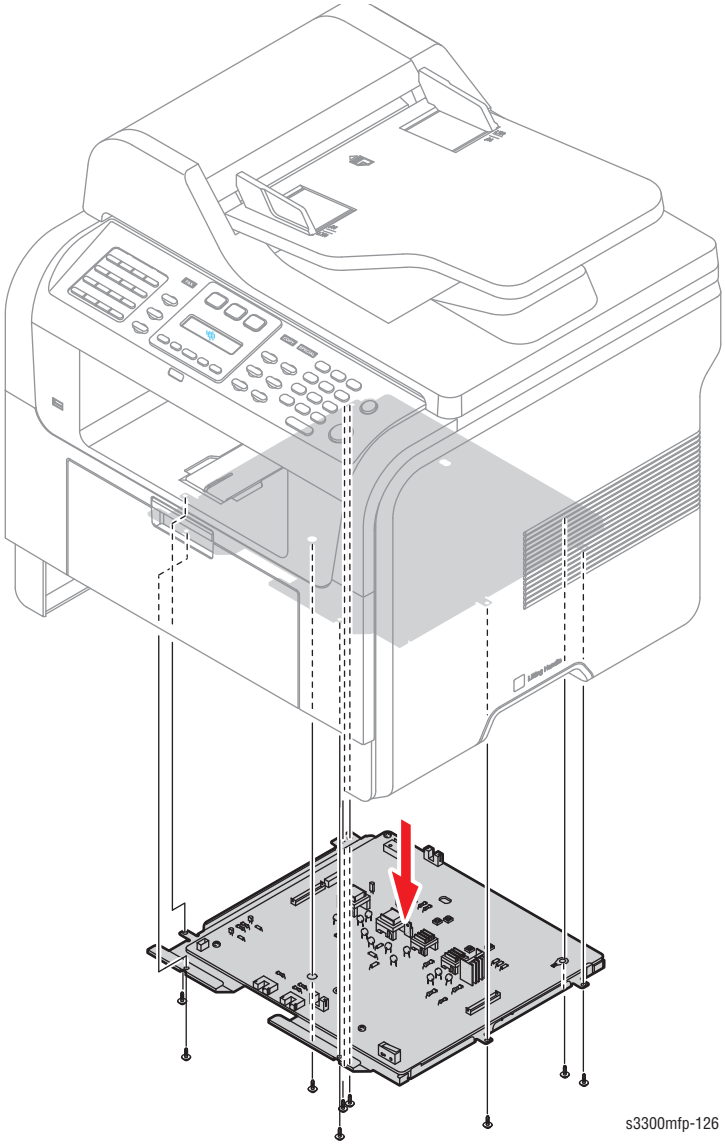


HVPS Housing

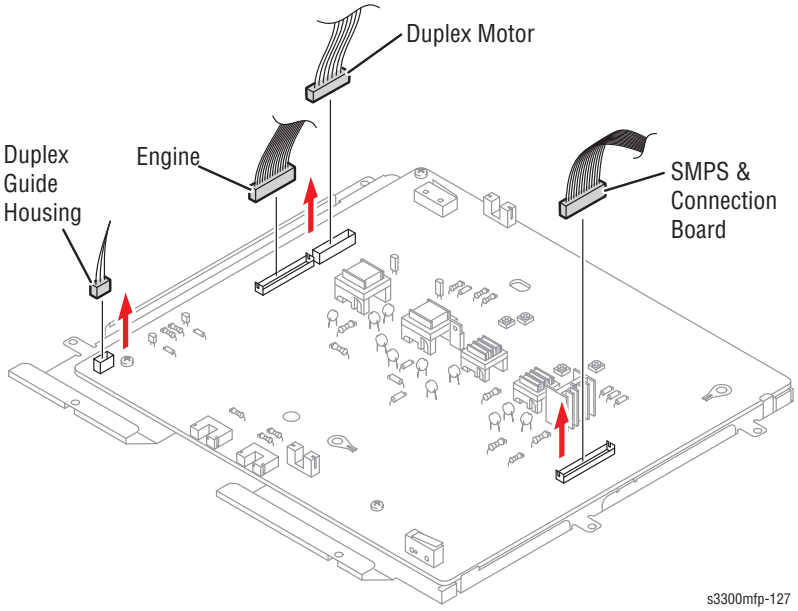
Before you remove the HVPS Housing, you must remove:

- Duplex Drive Assembly (page 8-65)
- Pick Up Roller Assembly (page 8-36)
- Duplex Guide Housing (page 8-38)

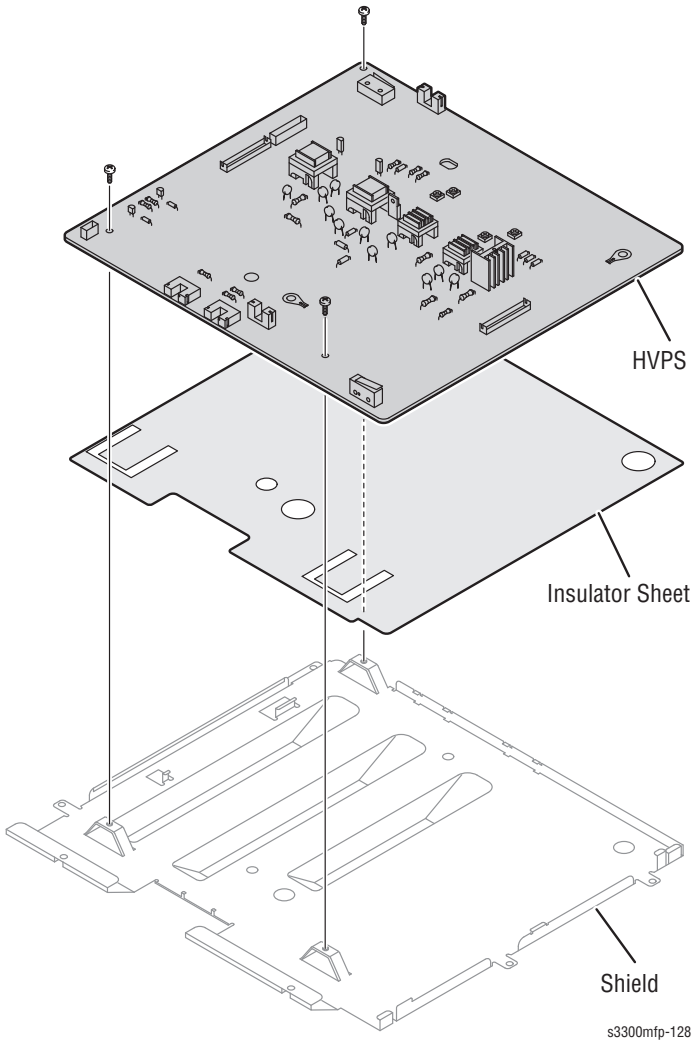
1. Remove the nine screws securing the HVPS Housing, as shown below.



2.Unplug the connector for the Connection PBA and SMPS first. Unplug the other connections.



3. If necessary, remove the three screws securing the HVPS and remove it.



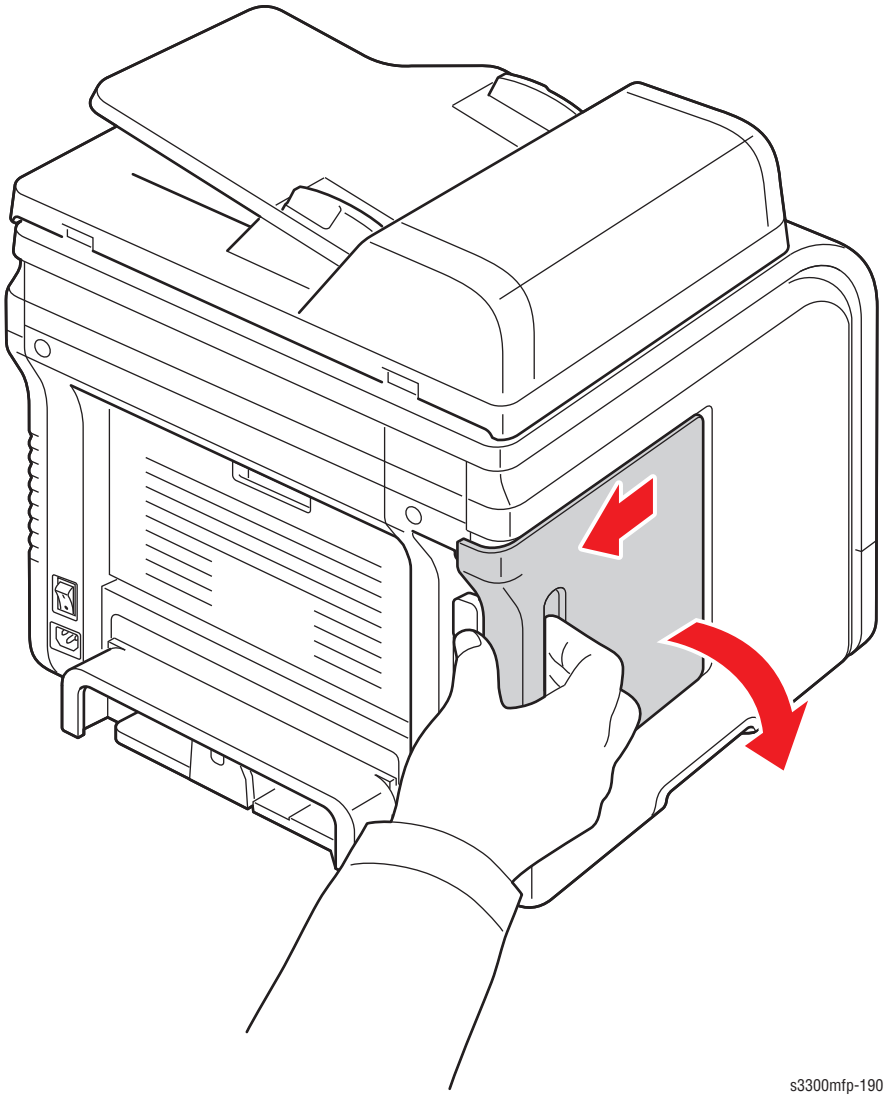
Options

Memory Card

Caution

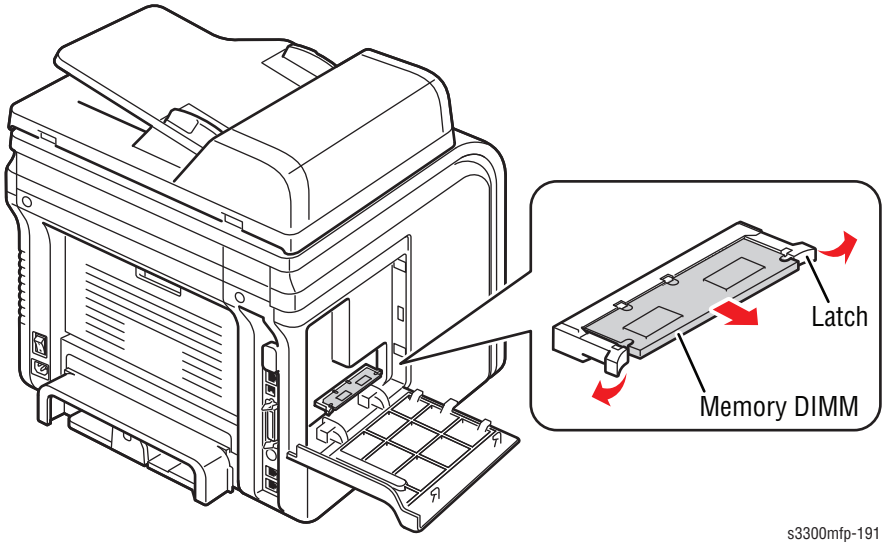
Be sure to wear proper ESD protection to prevent from damaging the Memory Card.

1. Turn the printer power Off.
2. Unplug all cables from the printer.
3. Slide the Control Board Cover to the rear to release the latches and swing the cover down to its open position.



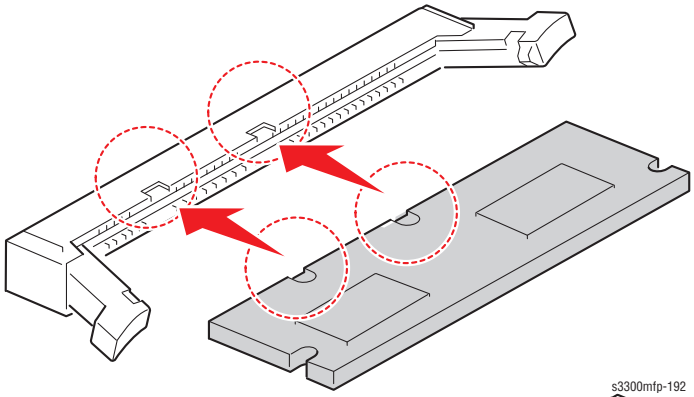
s3300mfp-190

4. Release the left and right latches securing the Memory Card and remove the Memory Card.

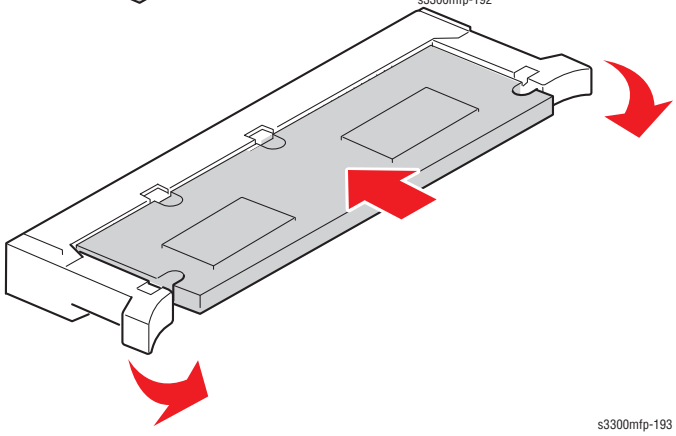


s3300mfp-191

5. When installing the Memory card, line up the notches in the card with the keys in the socket, plug the card into the socket, and close the left and right latches on the sides.



s3300mfp-192



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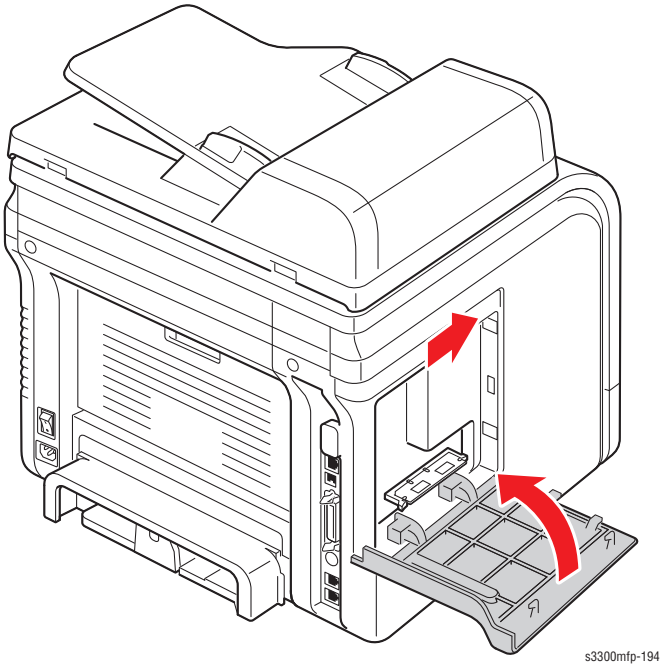
6. Swing the Control Board Cover up to the closed position and slide it forward to latch it.

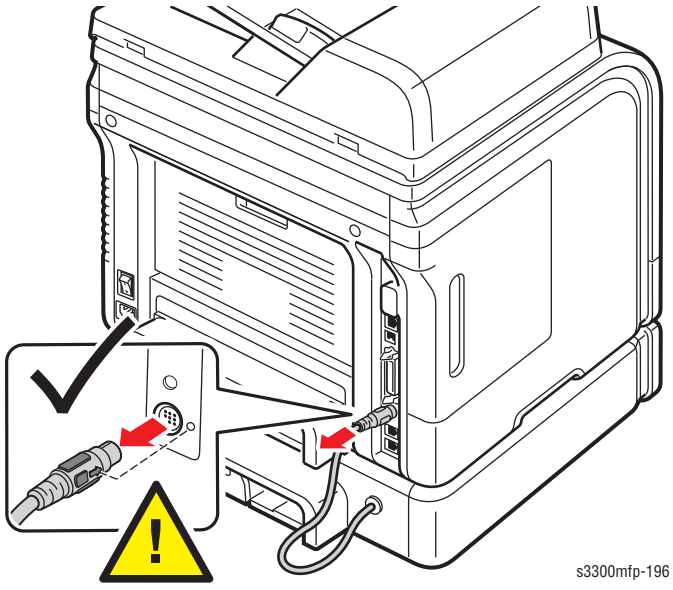


Optional 250-Sheet Feeder (PL1.1.18)

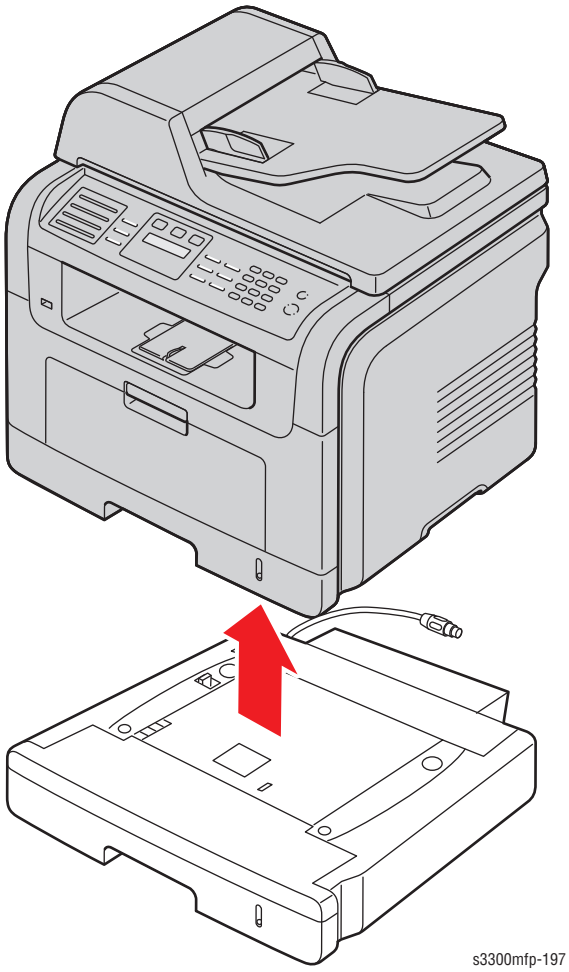
Caution

Use care when removing the printer from the Optional 250-Sheet Feeder.

1. Disconnect the Tray 2 cable.



2. Carefully lift the machine from the Optional 250-Sheet Feeder.



Parts List

In this chapter...

- Serial Number Format
- Using the Parts List
- Exploded Views and Parts Lists
- Xerox Supplies and Accessories

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 product

The serial number is found on a label located on the rear of the product.

The nine-digit serial number has the following format:

- **PPPSSSSSS**
- **PPP =** Three digit alphanumeric product code
- **SSSSSS =** Six digit numeric serial number based on the following table

Product Code	Product
NRB	3300MFP, 110 V Engine
NRX (DMO-E) NTA (DMO-W, Xerox Europe	3300MFP, 220 V Engine

The following table lists the serial number ranges by regional distribution:

Product	Starting Serial Number	Ending Serial Number
3300MFP, 110V Engine (N. America, DMO-W)	050501	080500
3300MFP, 220V Engine (DMO-E)	080501	130500
3300MFP, 220V Engine (DMO-W, Xerox Europe)	130501	160500

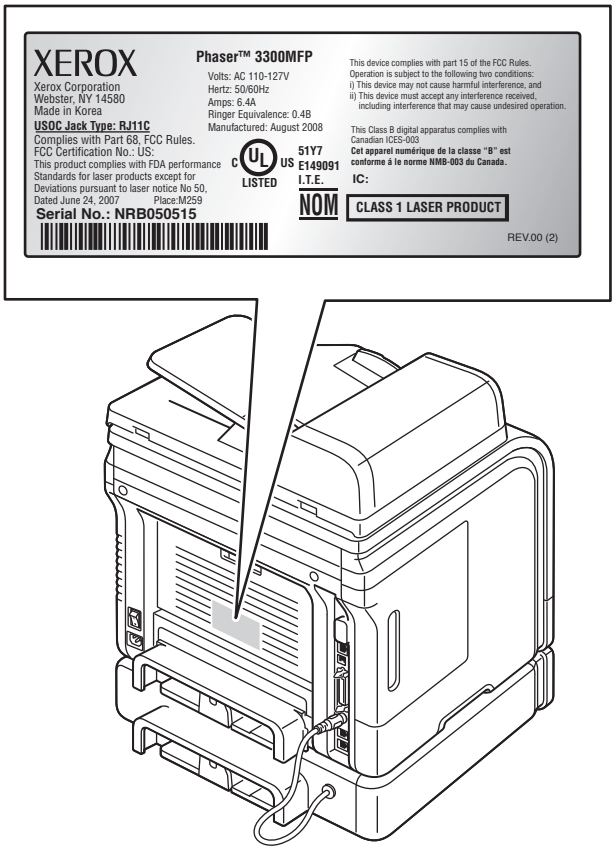
Example

NRB065603: Xerox Serial Number

NRB: Product Code for the Phaser 3300MFP, 110V product

065603 = Serial Number for 3300MFP

Serial Number Label and Location



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Using the Parts List

- **ID No.:** The callout number from the exploded part diagram.
- **Name/Description:** The name of the part to be ordered and the number of parts supplied per order.
- **Part Number:** The material part number used to order that specific part.
- Parts identified throughout this manual are referenced **PL#.#.#**; For example, PL3.1.10 means the part is item 10 of Parts List 3.1.
- 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.

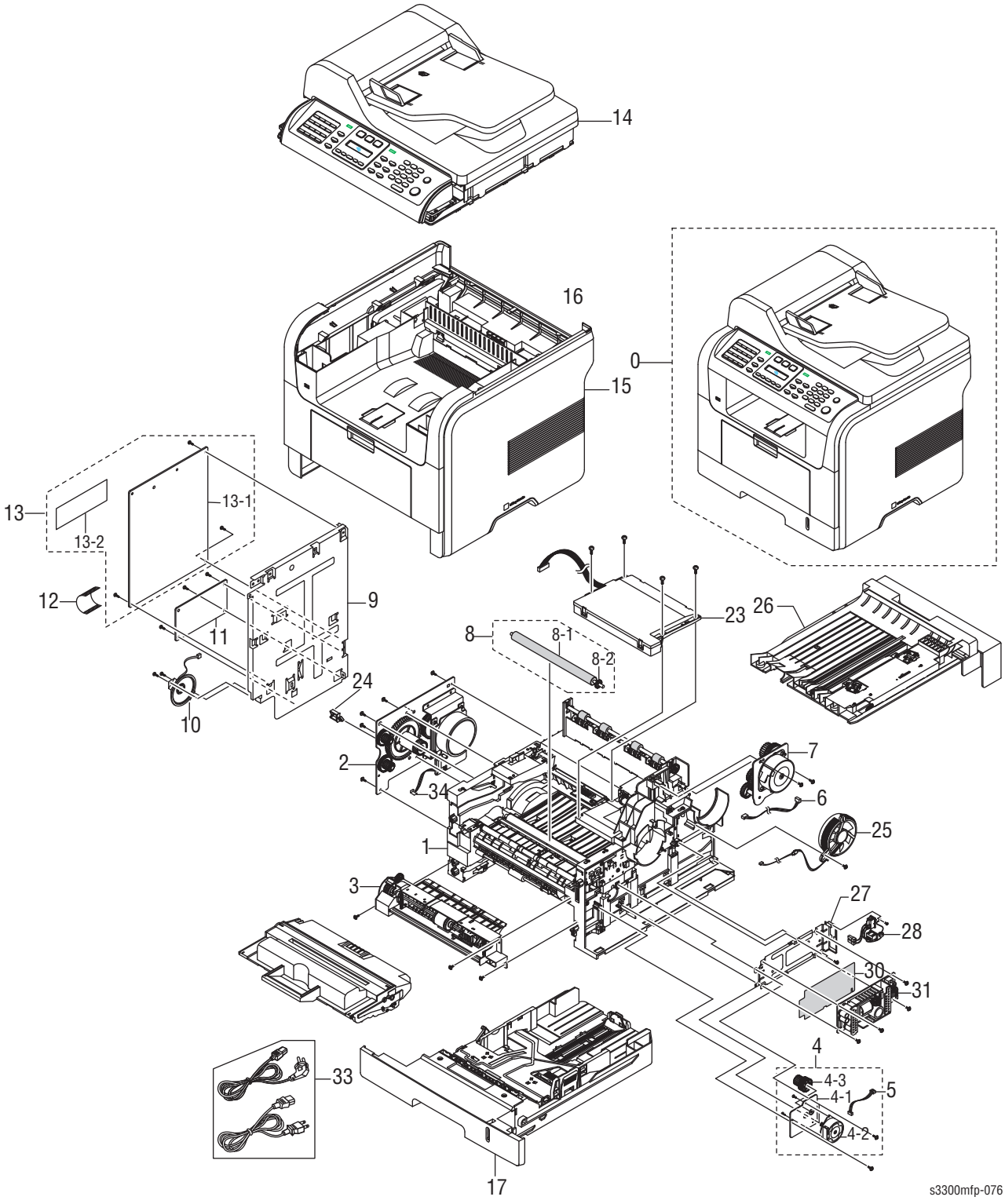
Note

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

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

Exploded Views and Parts Lists

Parts List 1.0 Main



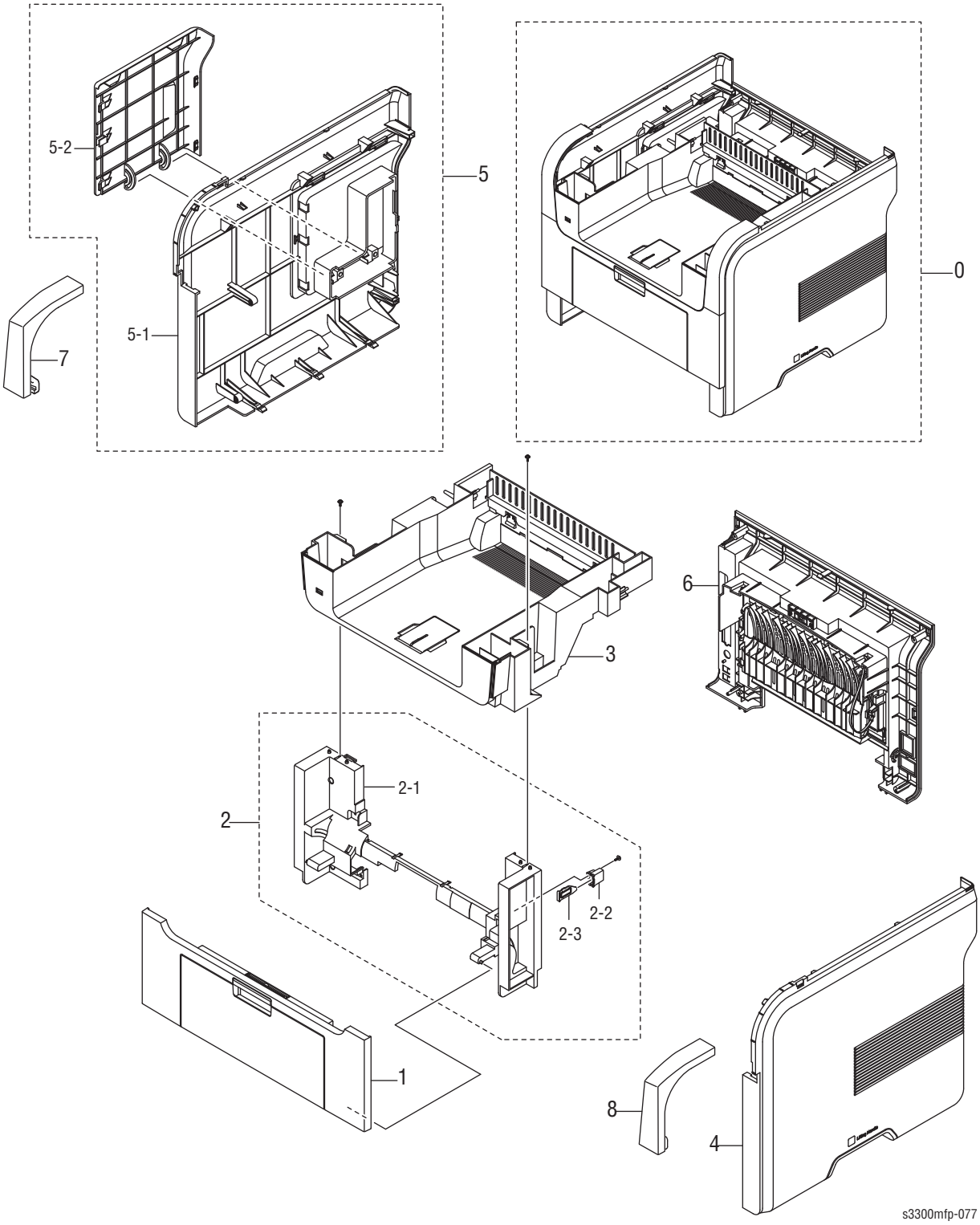
Parts List 1.0 Main

ID No.	Name/Description	Xerox Part Number
0	SET	N/A
1	ELA HOU-FRAME 110 V	—
1	ELA HOU-FRAME 220 V	—
2	ELA UNIT-MAIN DRIVE (“Parts List 8.0 Main Drive Assembly” on page 9-18)	007N01561
3	ELA HOU-MPF (“Parts List 9.0 MP Assembly” on page 9-19)	002N02627
4	ELA UNIT-DUPLEX DRIVE	—
4-1	BRACKET-P-GEAR DUP	—
4-2	MOTOR STEP-DUPLEX	—
4-3	GEAR-DUP RDCN 45/19	—
5	CBF HARNESS-DPX MTR	—
6	CBF HARNESS-ADF CLUT1	—
7	ELA HOU-FUSER DRIVE (“Parts List 7.0 Fuser Drive Assembly” on page 9-17)	007N01645
8	MEA-TRANSFER ROLLER	002N02628
8-1	ROLLER-TRANSFER	—
8-2	GEAR-TRANSFER	—
9	SHIELD-P-CONTROLLER	—
10	SPEAKER	—
11	PBA SUB-MODEM	140N63240
12	CBF HARNESS-ENGINE	—
13	ELA HOU-MAIN RAM DIMM	—
13-1	PBA MAIN-CONTROLLER (Control Board)	140N63350
13-2	PBA SUB-SDRAM	—
14	ELA HOU-SCAN 4IN1 (“Parts List 10.0 Scan Assembly” on page 9-21)	—
15	MEA-COVER	—
16	ELA UNIT-DEVE INITIAL	—
17	MEA UNIT-CASSETTE (“Parts List 15.0 Cassette Assembly” on page 9-32	050N00540
23	UNIT-LSU	122N00259
24	SADDLE	
25	FAN-DC	127N07485
26	MEA UNIT-DUPLEX	022N02381
27	SHIELD-P-SMPS	—
28	CBF HARNESS-AC INLET	—
29	CBF HARNESS-LSU S/W	—

Parts List 1.0 Main

ID No.	Name/Description	Xerox Part Number
30	SHEET-INSULATOR_SMPS	—
31	SMPS-PSP_TYPE3_V1 (110V)	105N02119
31	SMPS-PSP_TYPE3_V2 (220V)	105N02118
32	CBF HARNESS-PAPER EMP	—
33	CBF-POWER CORD; 110V CBF-POWER CORD; 220V	105N02072 117N01769
Replacement	BOX (P)-MAIN	—

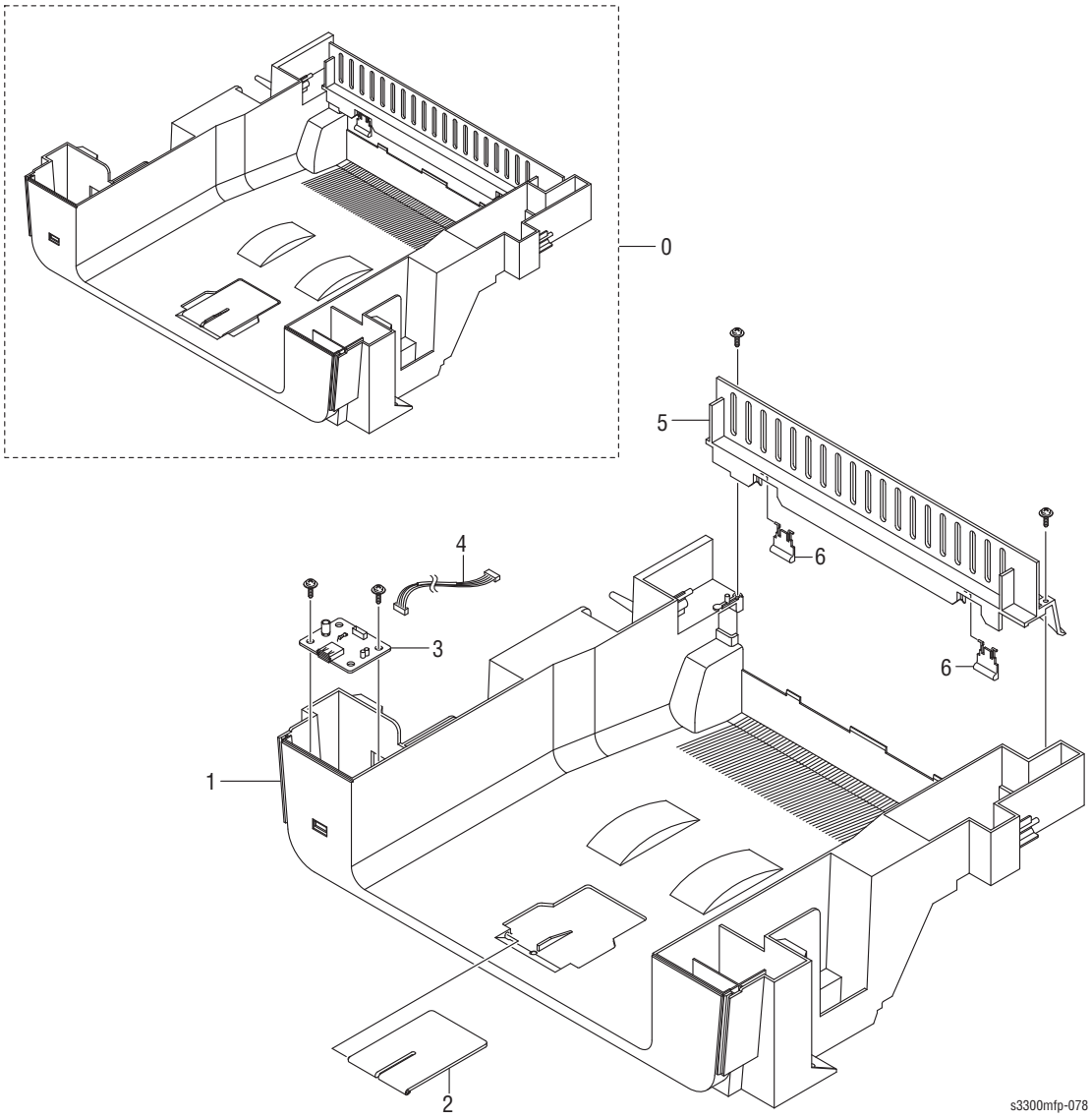
Parts List 2.0 Cover Assembly



Parts List 2.0 Cover Assembly

ID No.	Name/Description	Part Number
0	MEA-COVER	—
1	MEA-COVER FRONT	—
2	MEA-COVER MID FRONT (Mid-Front Cover)	002N02796
2-1	COVER-M_MID FRONT	—
2-2	CAP-M_SUB ACTUATOR	—
2-3	PMO-M-SUB ACTUATOR	—
3	ELA HOU-COVER MID	—
4	COVER-M_SIDE R (Right Side Cover)	002N02789
5	MEA-COVER SIDE L (Left Side Cover)	002N02790
5-1	COVER-M_SIDE L	—
5-2	COVER-M_DIMM (Control Board Cover)	—
6	MEA-COVER REAR (Rear Cover)	002N02791
7	COVER-M_LEFT UPPER (Left Upper Cover)	002N02798
8	COVER-M_RIGHT UPPER (Right Upper Cover	002N02797

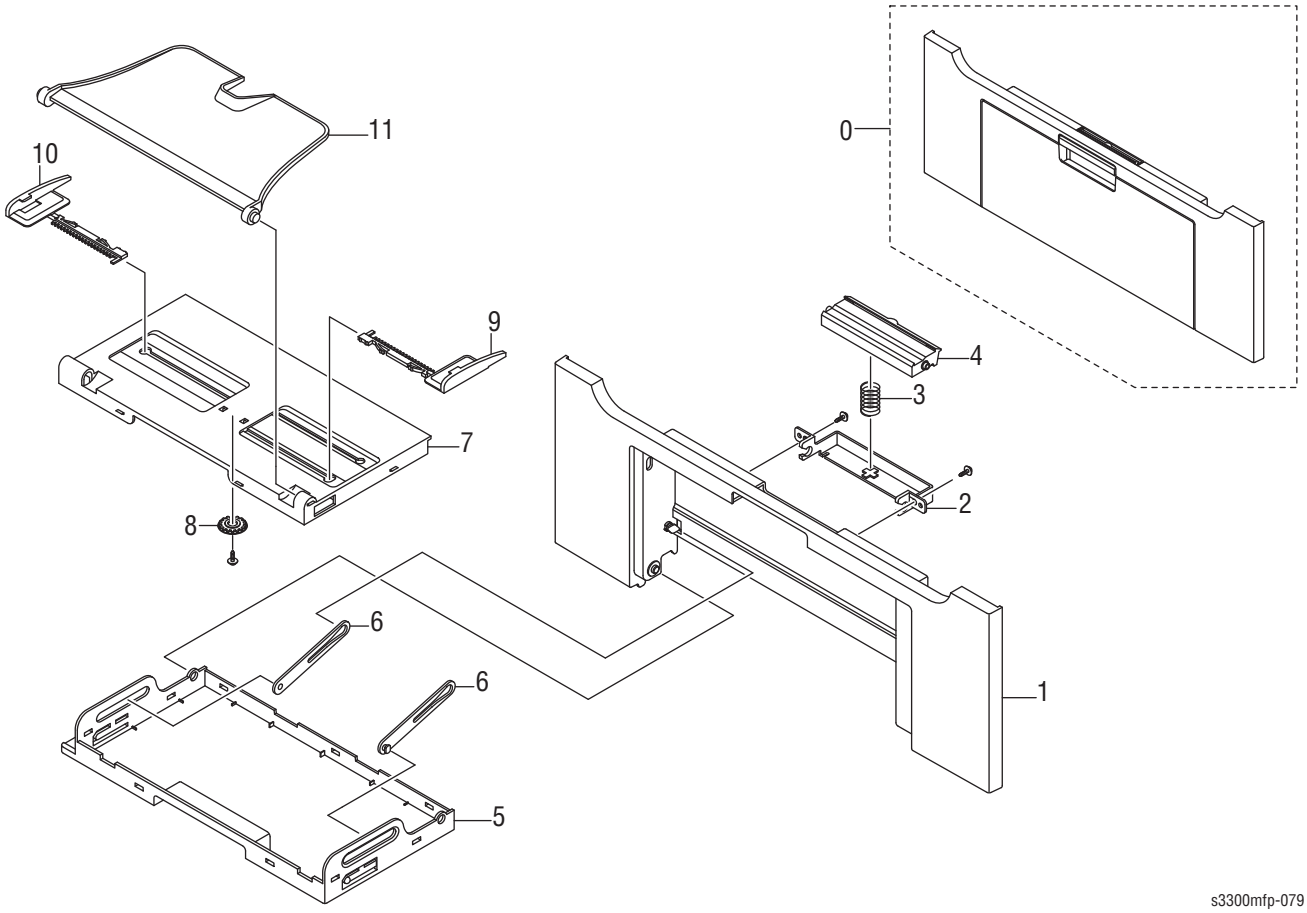
Parts List 3.0 Middle Cover Assembly



Parts List 3.0 Middle Cover Assembly

No.	Name/Description	Part Number
0	ELA HOU-COVER MID (includes items 1-6)	002N02794
1	COVER-M_MIDDLE	—
2	COVER-M_STACKER RX	—
3	PBA SUB-USB HOST	140N63106
4	CBF HARNESS-USB HOST	—
5	COVER-M_REAR UPPER	—
6	PMO-SUB STACKER	—

Parts List 4.0 Front Cover



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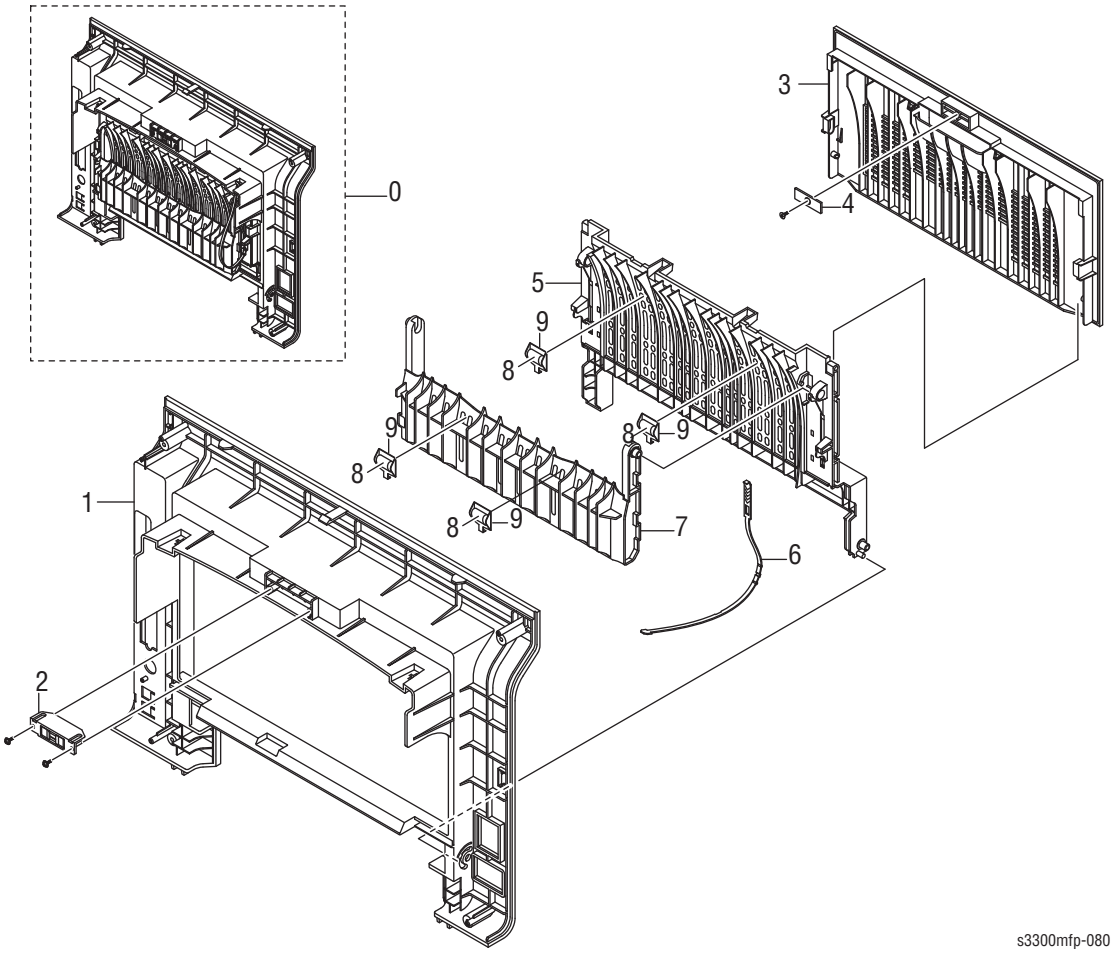
Parts List 4.0 Front Cover

ID No.	Name/Description	Part Number
0	MEA-COVER FRONT (includes items 1-11)	002N02795
1	COVER-M_FRONT	—
2	HOLDER-M_LOCKER	—
3	SPRING ETC-CIS (C2)	—
4	KNOB-M_LOCKER	—
5	TRAY-M-ASF_FOLDER	—
6	TRAY-M-LINK_MP	012N00536
7	TRAY-M-ASF_INPUT	—
8	GEAR-PINION	—
9	ADJUST-M_MP R	—
10	ADJUST-M_MP L	—
11	TRAY-M-ASF_INPUT UPPER	—

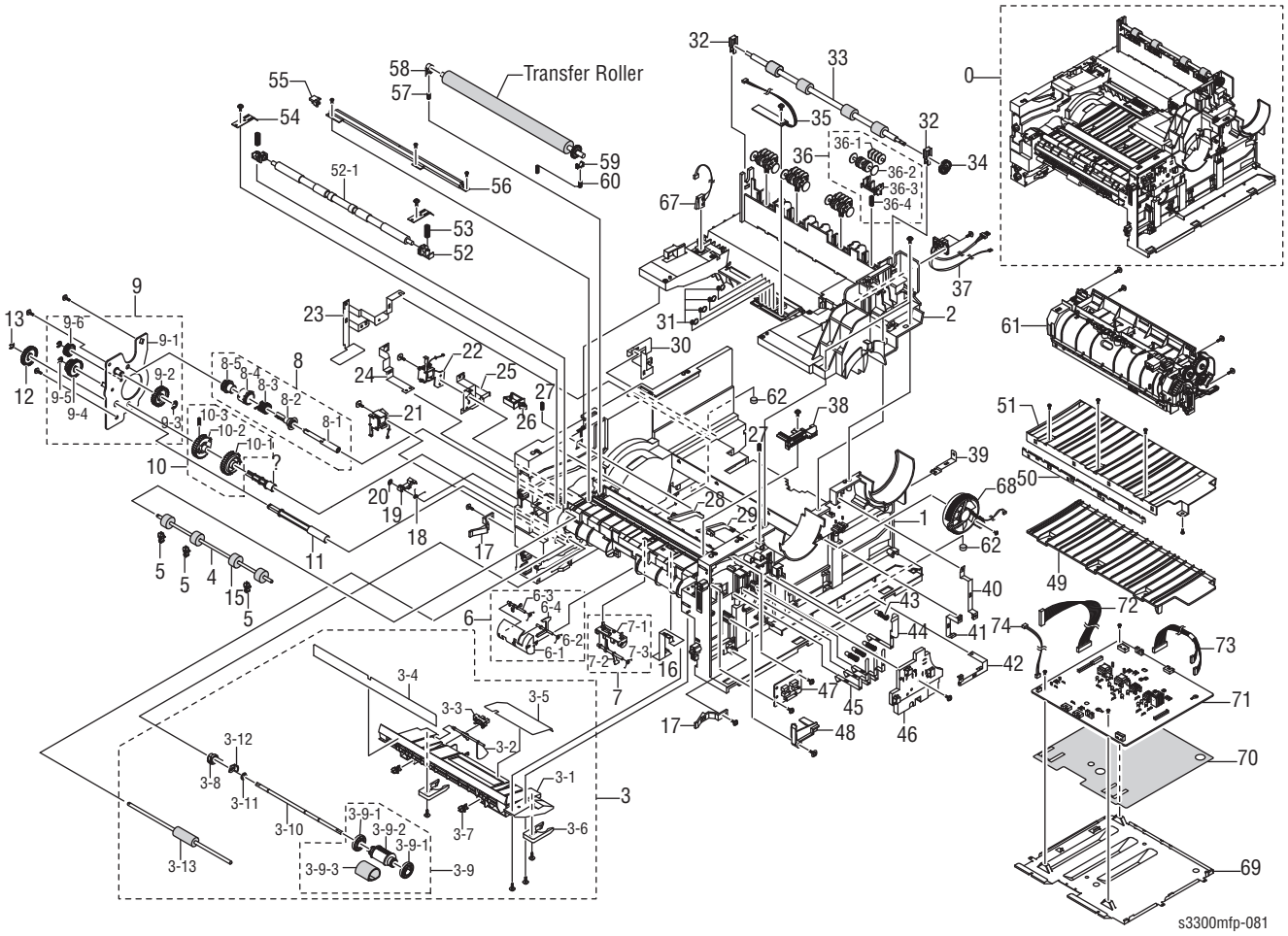
Parts List 5.0 Rear Cover Assembly



Parts List 5.0 Rear Cover Assembly

ID No.	Name/Description	Part Number
0	MEA-COVER REAR (includes items 1-9)	002N02791
1	COVER-M_REAR	—
2	MAGNET-CATCH DELL	—
3	COVER-M_FACE UP	—
4	PLATE-MAGNET CATCH	—
5	COVER-M STACKER REAR	—
6	STOPPER-M-STRAP	003N01045
7	GUIDE-OUTPUT FUSER	—
8	HOLDER-M-IDLE ROLLER	—
9	PMO-ROLLER UPPER DP	—

Parts List 6.0 Frame



Parts List 6.0 Frame

ID No.	Name/Description	Part Number
0	ELA HOU-FRAME 110 V	—
0	ELA HOU-FRAME 220 V	—
1	FRAME-M_BASE	—
2	FRAME-M_EXIT	—
3	ELA HOU-GUIDE DUP F	—
3-1	GUIDE-M_FRONT DUPLEX	—
3-2	LEVER-ACTUATOR EMPTY	011N00544
3-3	PHOTO-INTERRUPTER	—
3-4	SHEET-GUIDE DUP_OUT	—
3-5	SHEET-GUIDE FRONT DU	—
3-6	CAM-SHAFT PICK UP	—
3-7	PMO-BUSHING FEED	—

Parts List 6.0 Frame (continued)

ID No.	Name/Description	Part Number
3-8	FIXER-M_E RING 4PI	—
3-9	MEA-ROLLER PICK UP	022N02292
3-9-1	ROLLER-IDLE PICK UP	—
3-9-2	HOUSING-M_PICK UP	—
3-9-3	ROLLER-PICK UP	—
3-10	SHAFT-PICK UP	—
3-11	PMO-BUSHING_P/U, MP	—
3-12	CAM-CATCH	003N00867
3-13	ROLLER-FEED	022N02293
4	SHAFT-FEED IDLE	—
5	BUSH-M-FEED IDLE	—
6	FEED1 ASS'Y	—
6-1	HOLDER-M_ACT REGI	—
6-2	SPRING-TS	—
6-3	LEVER-M_ACTUATOR FEED	—
6-4	LEVER-M_ACTUATOR REGI	—
7	FEED2 ASS'Y	—
7-1	HOLDER-M_ACT FEED	—
7-2	LEVER-M_ACT DUP OUT	—
7-3	SPRING-TS	—
8	MEA UNIT-CLUTCH	005N01031
8-1	SHAFT-FEED	—
8-2	PMO-HUB CLUTCH	—
8-3	SPRING-TS	—
8-3	SPRING-TS	—
8-4	PMO-COLLAR_SPRING	—
8-5	GEAR-FEED 1	—
9	MEA UNIT-BRACKET FEED	—
9-1	BRACKET-P-FEED	—
9-2	GEAR-IDLE Z29 HELICAL	—
9-3	RING-E	—
9-4	GEAR-RETARD 39/19	—
9-5	RING-E	—
9-6	GEAR-T2 IDEL_Z27	—
10	MEA UNIT-GEAR PICK UP	—

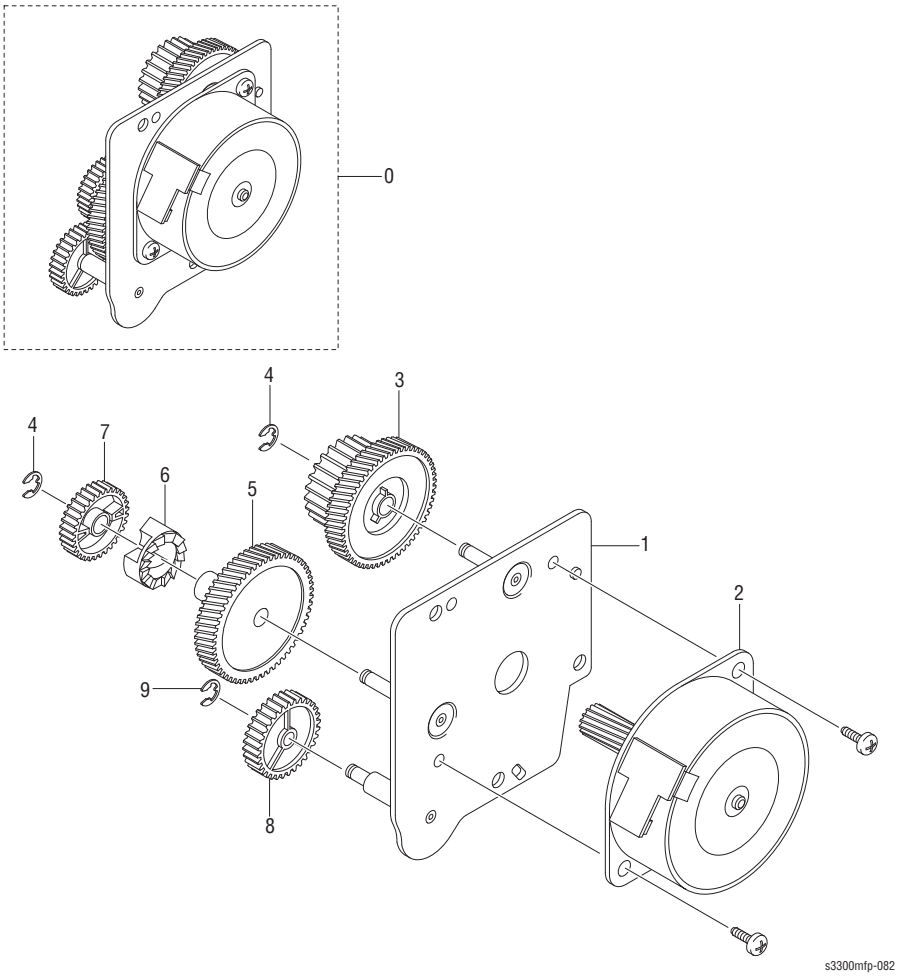
Parts List 6.0 Frame (continued)

ID No.	Name/Description	Part Number
10-1	GEAR-PICK UP_INNER	—
10-2	GEAR-PICK UP_OUTER	—
10-3	SPRING-CS	—
11	SHAFT-M_FEED2	—
12	GEAR-FEED2 Z27	—
13	SPRING-ES	—
15	ROLLER-FEED ROLLER 1	022N02080
16	GROUND-P-EARTH TR	—
17	PMO-LOCKER CST	—
18	SPRING-TS	—
19	CAM-M-PICK_UP	—
20	RING-CS	—
21	SOLENOID-HB (MANUAL)	—
22	SOLENOID-FEED ROCKY2	—
23	GROUND-P-DRIVE	—
24	GROUND-P-PUSH BUSHING	—
25	GROUND-P-DRIVE2	—
26	CABLE CLAMP	—
27	SPRING ETC-GUIDE DEVE	—
28	PMO-PLATE GUIDE DEVE_L	—
29	PMO-PLATE GUIDE DEVE_R	—
30	GROUND-P-SHIELD	—
31	TERMINAL-P_CRUM	—
32	HOLDER-BEARING EXIT F/DOWN	—
33	MEA RACK-EXIT ROLLER	022N02081
34	ROLLER-EXIT F/DOWN	—
35	PBA SUB-TERMINAL	—
36	MEA RACK-EXIT ROLLER	—
36-1	PMO-ROLLER FD F	—
36-2	PMO-ROLLER FD R	—
36-3	PMO-HOLDER EXIT ROLL	—
36-4	SPRING ETC-EXIT ROLL FD	—
39	GROUND-P-FUSER	—
40	GROUND-P-MOTOR FUSER	—
41	GROUND-P-SHIELD SMPS	—

Parts List 6.0 Frame (continued)

ID No.	Name/Description	Part Number
42	GROUND-P-GUIDE TR	—
43	MEC-TERMINAL	—
43-1	SPRING ETC-HV APOLLO	—
43-2	IPR-TERMINAL	—
44	TERMINAL-P-HV CR	—
45	IPR-P-TERMINAL CON	—
46	HOUSING-M_TERMINAL	—
47	PBA SUB-CONNECTION	—
48	PMO-ACTUATOR CVR OPEN	—
49	GUIDE-TR RIB	—
50	PLATE-E_SAW	—
51	GUIDE-P-TR	—
52	BUSH-M-FEED IDLE	—
52-1	SHAFT-FEED IDLE	—
53	SPRING ETC-TR	—
54	PLATE-P-PUSH BUSHING	—
53	SPRING ETC-TR	—
54	PLATE-P-PUSH BUSHING	—
55	HOLDER-M-PTL R2	—
56	IPR-P-EARTH TRANSFER	—
57	SPRING ETC-TR L HAWK	—
58	BUSH-M-TR L	—
59	PMO-BUSHING_TR (L)	—
60	GROUND-P-EARTH TR	—
61	ELA UNIT-FUSER_110V (“Parts List 16.0 Fuser Assembly” on page 9-33)	126N00265
61	ELA UNIT-FUSER_220V (“Parts List 16.0 Fuser Assembly” on page 9-33)	126N00266
62	FOOT-BACK	—
67	HOLDER-M_ACT FEED	—
68	FAN-DC	127N07328
69	SHIELD-P-HVPS	—
70	SHEET-INSULATOR_HVPS	—
71	HVPS-ELBERT	105N02120
72	CBF HARNESS-DUPLEX	—
73	CBF HARNESS-SMPS	—

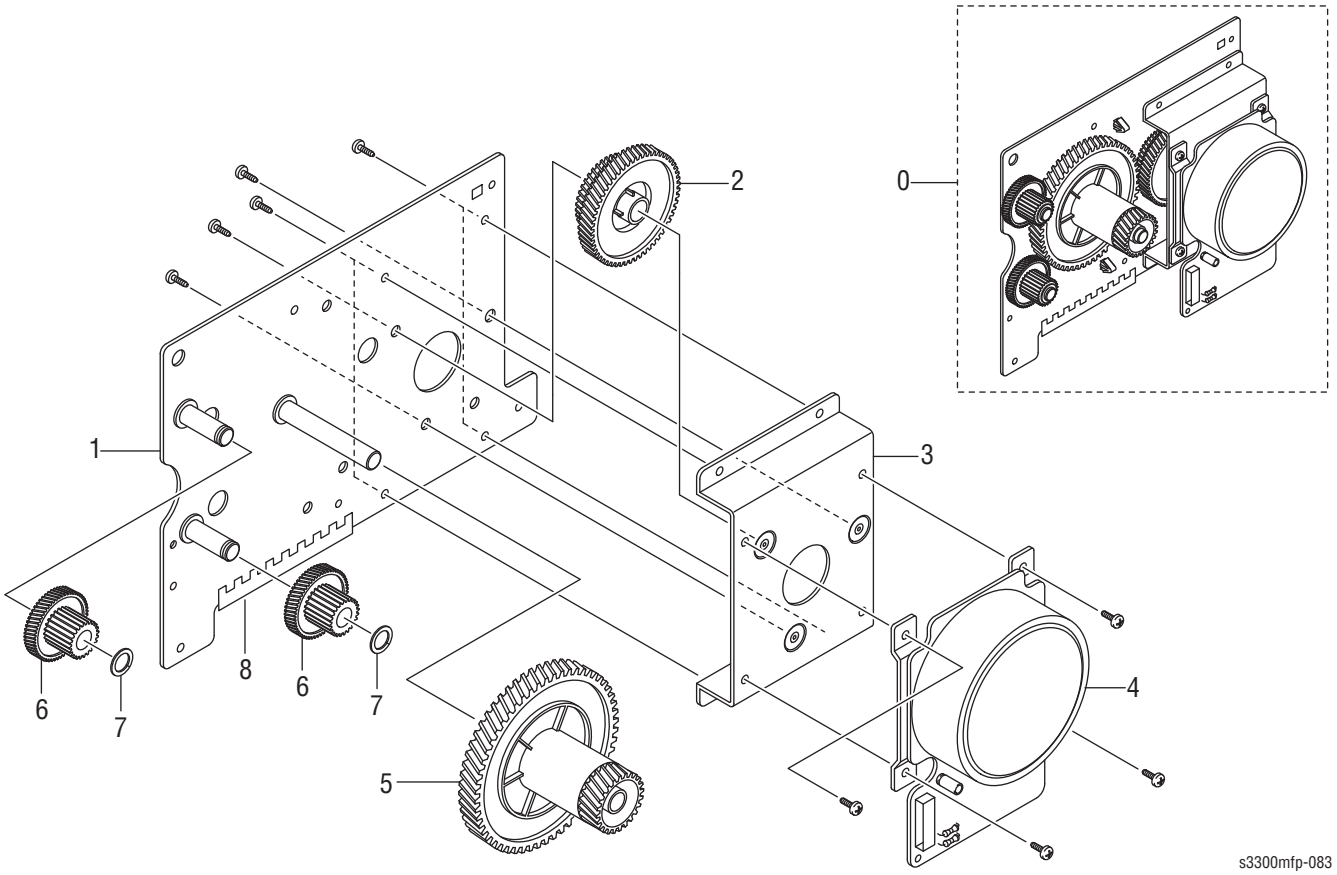
Parts List 7.0 Fuser Drive Assembly



Parts List 7.0 Fuser Drive Assembly

ID No.	Name/Description	Part Number
0	ELA HOU-FUSER DRIVE (includes items 1-9)	007N01645
1	BRACKET-P-FUSER EXIT	—
2	MOTOR STEP-MAIN	—
3	GEAR-EXIT RDCN 87/24	—
4	RING-E	—
5	GEAR-FUSER RDCN IN 95	—
6	GEAR-HUB CLUTCH	—
7	GEAR-RDCN FUSER OUT	—
8	GEAR-FUSER IDLE FR	—
9	RING-E	—

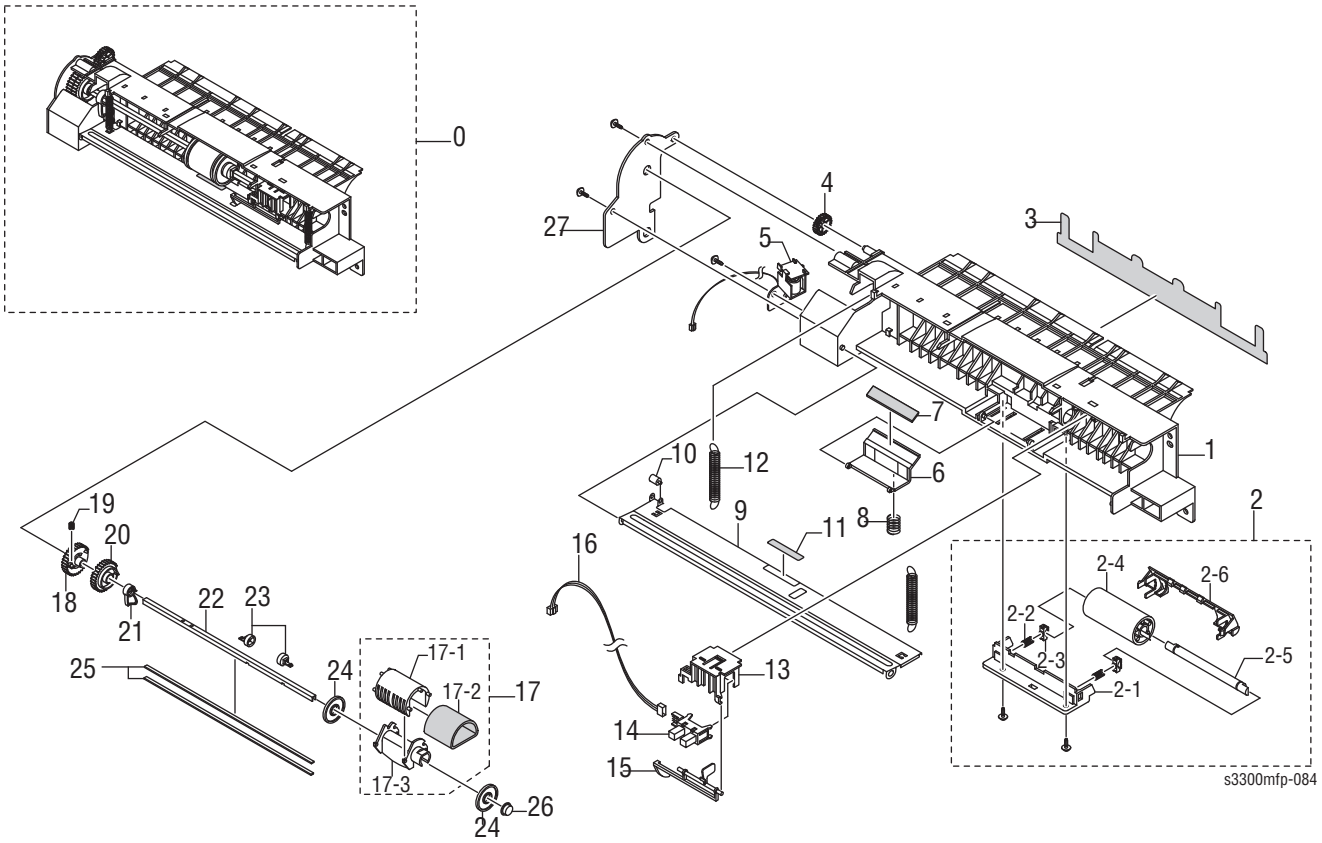
Parts List 8.0 Main Drive Assembly



Parts List 8.0 Main Drive Assembly

ID No.	Name/Description	Part Number
0	ELA UNIT-MAIN DRIVE	007N01561
1	BRACKET-P-GEAR MAIN	—
2	GEAR-OPC RDCN 93/61	—
3	BRACKET-P-MOTOR MAIN	—
4	MOTOR DC-BLDC MAIN	—
5	GEAR-OPC DRV 113/33	—
6	GEAR-FEED RDCN 55/18	—
7	WASHER-PLAIN	—
8	GASKET	—

Parts List 9.0 MP Assembly



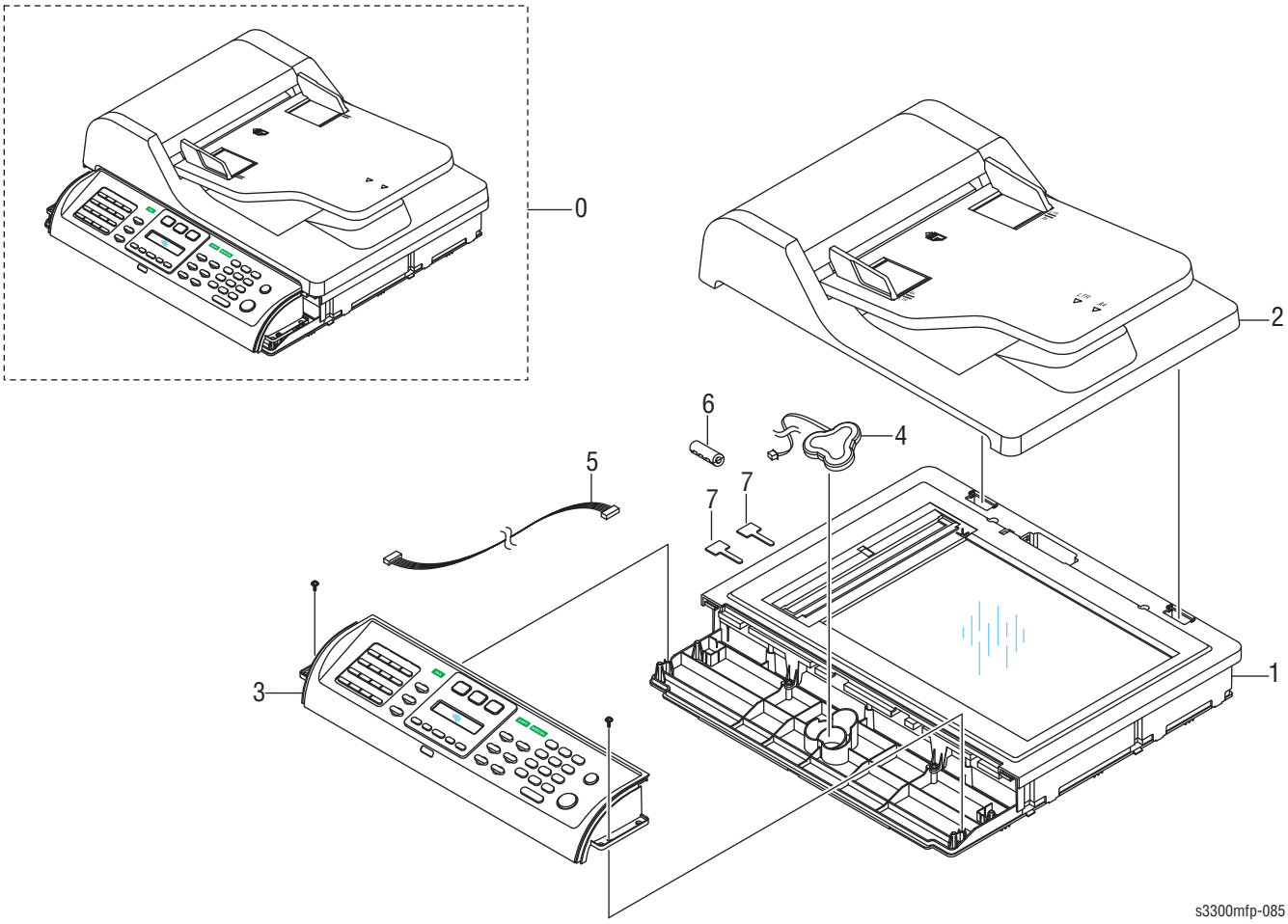
Parts List 9.0 MP Assembly

ID No.	Name/Description	Part Number
0	ELA HOU-MPF	002N02627
1	FRAME-M_MP	—
2	MEA-IDLE FEED	—
2-1	HOLDER-M_IDLE FEED	—
2-2	SPRING ETC-EXIT LOWER IDLE	—
2-3	HOLDER-M_SHAFT IDLE	—
2-4	ROLLER-IDLE FEED	—
2-5	SHAFT-IDLE FEED	—
2-6	COVER-M_IDLE FEED	—
3	SHEET-GUIDE MP	—
4	GEAR-IDLE 23	—
5	SOLENOID-MP	121N01075
6	HOLDER-M-PAD_MP	—
7	RPR-FRICTION PAD	019N00742
8	SPRING ETC-EXIT ROLL FD	—

Parts List 9.0 MP Assembly

ID No.	Name/Description	Part Number
9	PLATE-P-KNOCK UP_MP	—
10	PMO-ROLLER CAM.MP	—
11	RPR-PAD CASSETTE	—
12	SPRING-ES	—
13	HOLDER-M-SENSOR_MP	—
14	PHOTO-INTERRUPTER	—
15	PMO-M-ACT EMPTY MP	—
16	CBF HARNESS-MPF SEN	—
17	MEA-PICK UP_MP	130N01366
17-1	HOUSING-M_PICK UP_MP	—
17-2	RUBBER-PICK UP MP	—
17-3	HOUSING-M-PICK UP2_R2	—
18	GEAR-M-PICK UP_MP	—
19	SPRING ETC-EXIT LOWER IDLE	—
20	GEAR-M-HOLDER_MP	—
21	CAM-M_PICK UP MP	—
22	SHAFT-P-PICK_UP	—
23	STOPPER-M-PICK UP_R2	—
24	PMO-IDLE PICK_UP	—
25	SHAFT-P-CORE	—
26	BUSH-M-PICK_UP R	—
27	BRACKET-P-PICKUP_MP	—

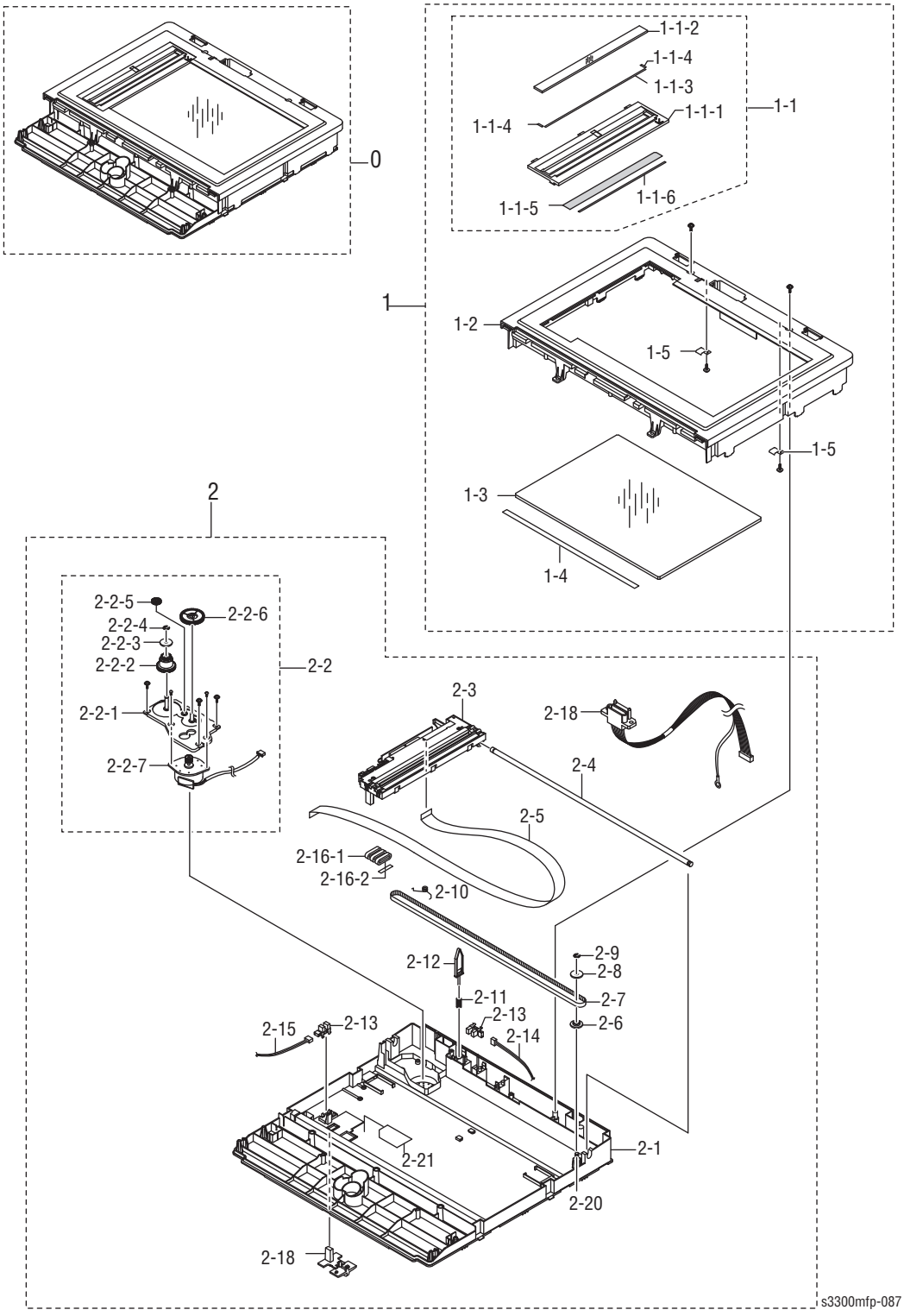
Parts List 10.0 Scan Assembly



Parts List 10.0 Scan Assembly

ID No.	Name/Description	Part Number
0	ELA HOU-SCAN 4IN1	—
1	ELA HOU-ADF LOWER	002N02792
2	ELA HOU-ADF	002N02793
3	ELA HOU-OPE 4IN1 (Control Panel)	002N02857
4	BATTERY-NIH (2ND)	105N02093
5	CBF HARNESS-OPE	—
6	CORE-FERRITE	—
7	CABLE CLAMP	—

Parts List 11.0 Platen Assembly



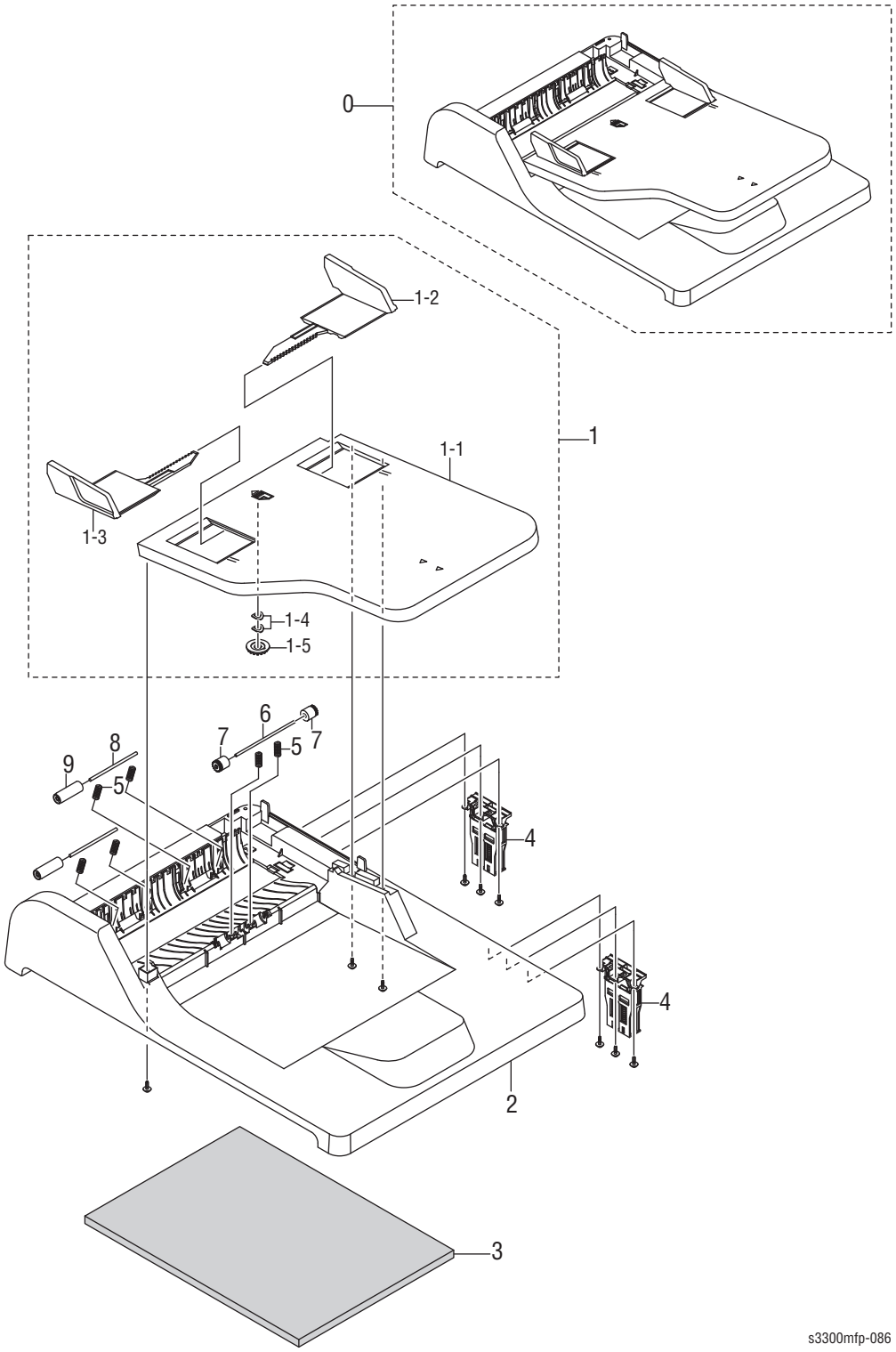
Parts List 11.0 Platen Assembly

ID No.	Name/Description	Part Number
0	ELA HOU-PLATEN	090N00166
1	MEA-SCAN UPPER	—
1-1	MEA UNIT-SCAN DUMMY	500N00108
1-1-1	COVER-M_SCAN DUMMY	—
1-1-2	MCT-GLASS ADF	—
1-1-3	TAPE-DOUBLE FACE	—
1-1-4	TAPE ETC-DOUBLE TAPE SMALL	—
1-1-5	LABEL (P)-SHADING	—
1-1-6	TAPE-DOUBLE FACE	—
1-2	COVER-M_SCAN UPPER	101N01410
1-3	GLASS-SCAN	057N00156
1-4	TAPE-DOUBLE FACE	—
1-5	IPR-HOLDER GLASS	—
2	ELA HOU-SCAN LOWER	109N00692
2-1	COVER-M_SCAN LOWER	—
2-2	ELA HOU-SCAN MOTOR	127N07530
2-2-1	BRACKET-SCAN MOTOR R2	—
2-2-2	GEAR-TIMING	—
2-2-3	PMO-HOLDER BELT	—
2-2-4	RING-E	—
2-2-5	GEAR-IDLE	—
2-2-6	GEAR-REDUCTION73/37	—
2-2-7	MOTOR STEP-SCAN	—
2-3	ELA HOU-CCDM_2905	101N01409
2-4	ICT-SHAFT CCD	—
2-5	CBF SIGNAL-CCD FFC	143N00017
2-6	PMO-PULLEY	—
2-7	BELT-TIMING GEAR	109N00542
2-9	RING-E	—
2-10	SPRING ETC-BELT	—
2-11	SPRING-CS	—
2-12	PMO-LEVER SENSOR	011N00473
2-13	PHOTO-INTERRUPTER	130N01274
2-14	CBF HARNESS-PLA_COVER	—
2-15	CBF HARNESS-ADF LOWER	—

Parts List 11.0 Platen Assembly

ID No.	Name/Description	Part Number
2-16-1	CORE-FERRITE	—
2-16-2	LABEL (R)-DOUBLE CORE	—
2-17	CBF HARNESS-OPE	—
2-18	HOLDER-M_CCD	—
2-19	CBF HARNESS-ADF UPPER	—

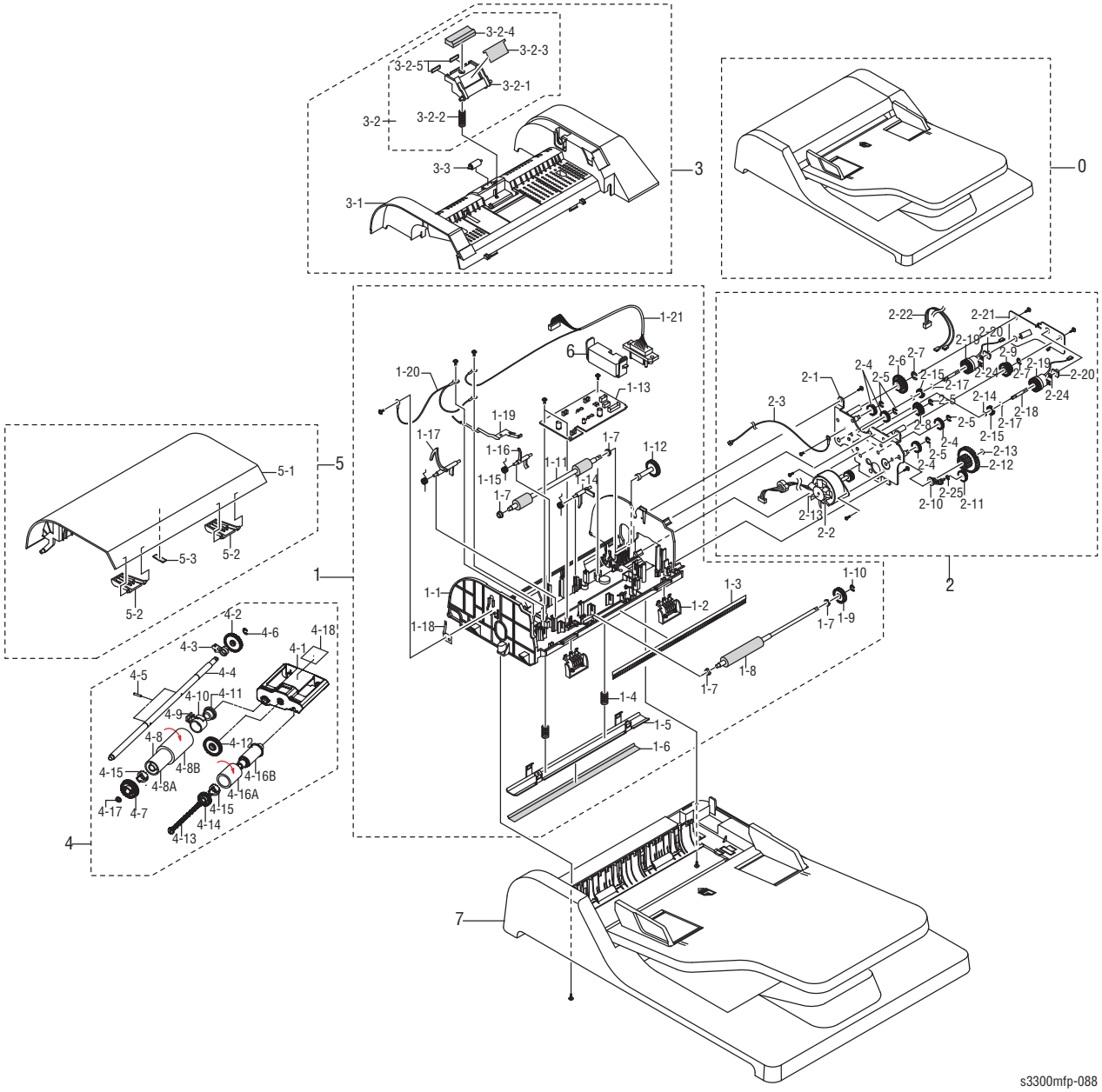
Parts List 12.0 Cover Platen Assembly



Parts List 12.0 Cover Platen Assembly

ID No.	Name/Description	Part Number
0	MEA-COVER PLATEN	—
1	MEA-TX STACKER	022N02311
1-1	COVER-M_STACKER TX	—
1-2	GUIDE-M_DOCU L	—
1-3	GUIDE-M_DOCU R	—
1-4	IPR-WASHER SPRING CU	—
1-5	GEAR-PINION	—
2	COVER-M_PLATEN	002N02651
3	SHEET-WHITE SPONGE	095N00274
4	MEA UNIT-HINGE	003N01018
5	SPRING ETC-FEED	009N01489
6	ICT-SHAFT PINCH	006N01218
7	PMO-ROLL PINCH	022N02014
8	SHAFT-IDLE FEED	006N01302
9	ROLLER-ADF FEED	022N02312

Parts List 13.0 ADF Assembly



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Parts List 13.0 ADF Assembly

ID No.	Name/Description	Part Number
0	ELA HOU-ADF	—
1	ELA HOU-ADF LOWER	—
1-1	COVER-M_ADF LOWER	—
1-2	GUIDE-STACKER SUB	—
1-3	MEC-BRUSH ANTISTATIC	—
1-4	SPRING ETC-WHITE BAR	—
1-5	BRACKET-P_WHITE_BAR	—

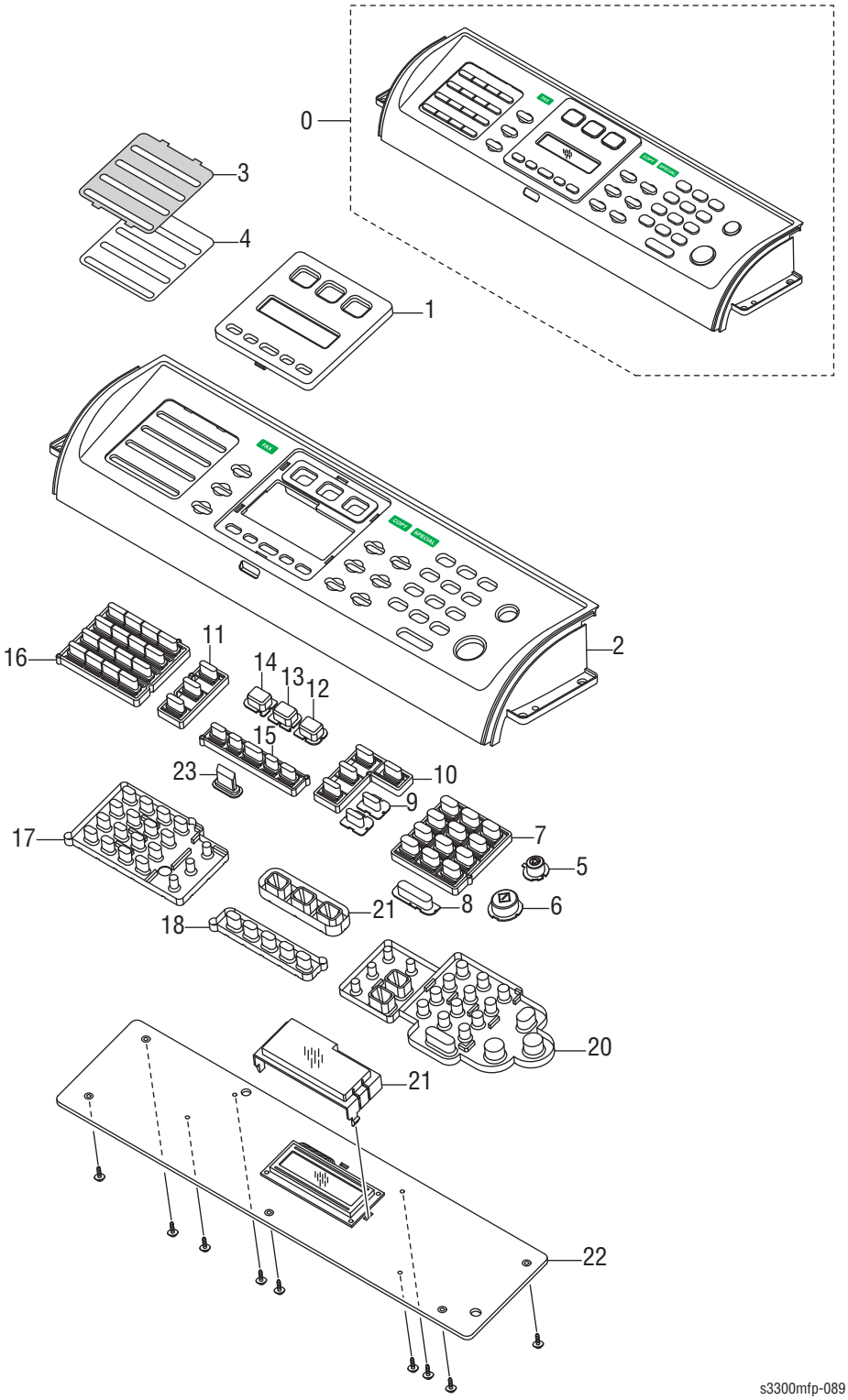
Parts List 13.0 ADF Assembly (continued)

ID No.	Name/Description	Part Number
1-6	PPR-WHITE BAR SHEET	—
1-7	PMO-BUSH	—
1-8	ROLLER-EXIT	—
1-9	GEAR-AGITATOR-2	—
1-10	RING-C	—
1-11	ROLLER-DRIVE	—
1-12	SHAFT-M-FEED GEAR 38	—
1-13	PBA SUB-ADF	—
1-14	PMO-ACTUATOR SCAN SENSOR	—
1-15	SPRING ETC-TORSION DOC (CC2-F)	—
1-16	PMO-ACTUATOR REGI SENSOR	—
1-17	PMO-ACT EMPTY ADF	—
1-18	IPR-GROUND_ROLLER	—
1-19	GROUND-P-ADF R2	—
1-20	CBF HARNESS-ADF R GND	—
1-21	CBF HARNESS-ADF CLUT1	—
2	ELA HOU-ADF MOTOR	127N07593
2-1	BRACKET-P-GEAR H	—
2-2	MOTOR STEP-ADF	—
2-3	CBF HARNESS-ADF GND	—
2-4	GEAR-IDLE 35 ADF	—
2-5	RING-E	—
2-6	GEAR-40/21	—
2-7	RING-E	—
2-8	GEAR-24	—
2-9	GEAR-40/21 ADF	—
2-10	LINK-M_SWING	—
2-11	GEAR-SWING 31/20 ADF	—
2-12	GEAR-58/25 ADF	—
2-13	RING-E	—
2-14	IPR-WASHER WAVE	—
2-15	GEAR-SWING 31/20 ADF	—
2-17	WASHER-PLAIN	—
2-18	SHAFT-REGI	—
2-19	IMPELLER-ADF	—

Parts List 13.0 ADF Assembly (continued)

ID No.	Name/Description	Part Number
2-20	BUSH-6_D	—
3	MEA-ADF UPPER	002N02647
3-1	COVER-M_ADF UPPER	—
3-2	MEA UNIT-HOLDER ADF	019N00928
3-2-1	HOLDER-M_PAD ADF	—
3-2-3	SHEET-ADF HOLDER	—
3-2-4	RMO-ADF RUBBER	019N00566
3-2-5	DAMPER-PAD ADF_R2	—
3-3	ROLLER-M-ADF IDLE	—
4	MEA UNIT-PICKUP	130N01500
4-1	PMO-COVER ADF	—
4-2	GEAR-ADF 38	—
4-3	STOPPER-M_PICKUP ADF	—
4-4	SHAFT-ADF PICKUP	—
4-5	ICT-PIN ADF	—
4-6	WASHER-PLAIN	—
4-7	PMO-COVER ADF	—
4-8	MEC-PICK UP ROLLER ASSY	—
4-8A	PMO-SLEEVE PICK UP	—
4-8B	RMO-PICKUP ROLLER	—
4-9	PMO-ADF COLAR	—
4-10	SPRING ETC-CLUTCH	—
4-11	PMO-ADF CLUTCH	—
4-12	GEAR-ADF IDLE 34	—
4-13	PMO-SHAFT PICK UP	—
4-14	GEAR-PICK UP 26	—
4-15	PMO-PICK UP CLUTCH SUB	—
4-16	MEC-ADF ROLLER ASSY	—
4-16A	RMO-ADF ROLLER	—
4-16B	PMO-SLEEVE ADF	—
4-17	RING-C	—
5	MEA-COVER OPEN	002N02646
5-1	COVER-M_ADF OPEN	—
5-2	PMO-GUIDE PAPER	—
5-3	DAMPER-PAD ADF_R2	—

Parts List 14.0 Control Panel (OPE Unit)



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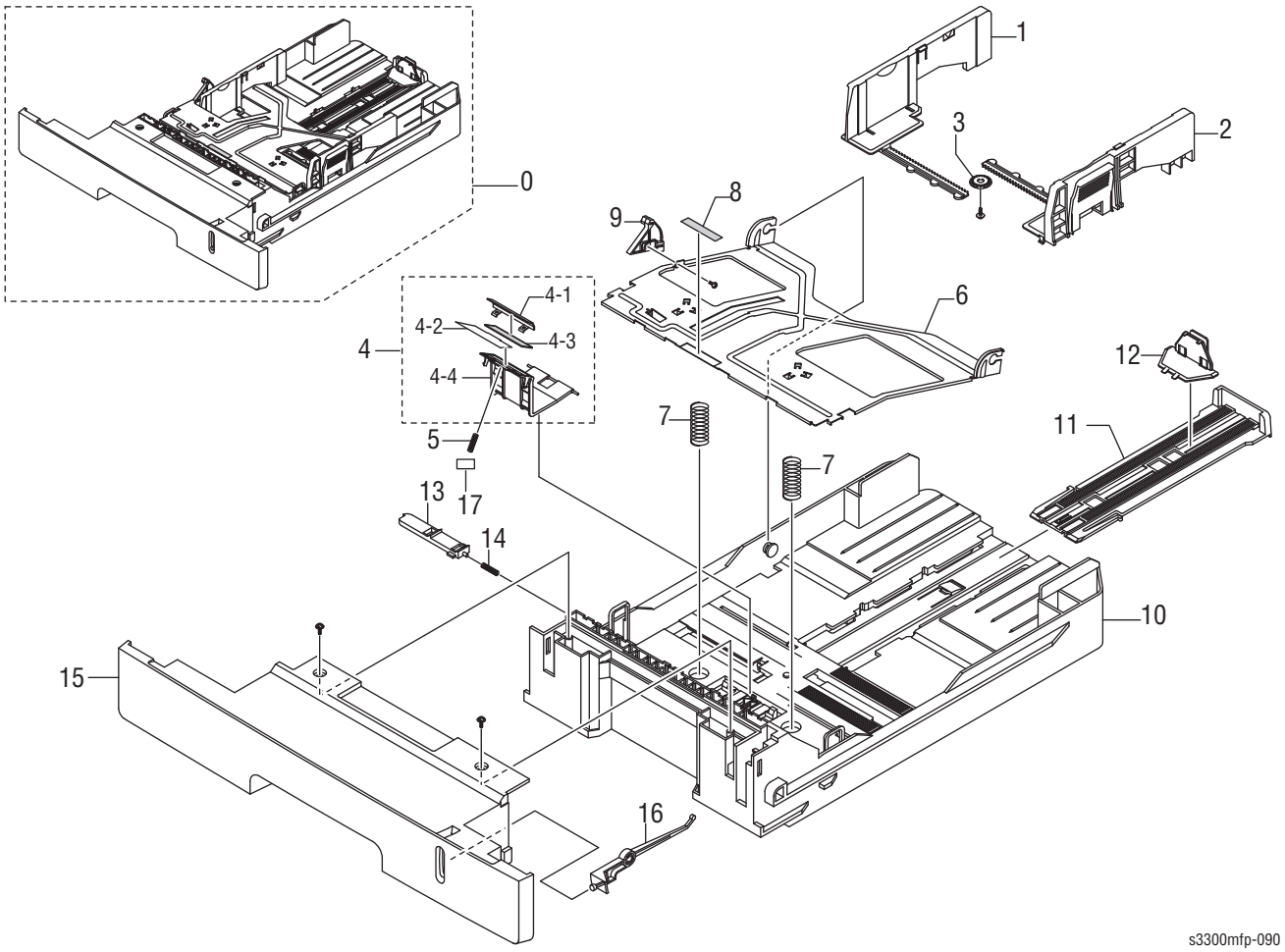
Parts List 14.0 Control Panel (OPE Unit)

ID No.	Name/Description	Part Number
0	ELA HOU-OPE 4IN1 (Control Panel)	002N02857
1	COVER-M_NEVI	—
2	COVER-M_OPE 4IN1 MONO	—
3	SHEET-ONETOUCH	—
4	LABEL-ONETOUCH	—
5	KEY-M_STOP CLEAR	—
6	KEY-M_START BLACK	—
7	KEY-M_TEL	—
8	KEY-M_ON HOOK	—
9	KEY-M_BLACK	—
10	KEY-M_COPY	—
11	KEY-M_FAX	—
12	KEY-M_MODE SCAN	—
13	KEY-M_MODE COPY	—
14	KEY-M_MODE FAX	—
15	KEY-M_MENU	—
16	KEY-M_ONETOUCH	—
17	RUBBER-ONETOUCH	—
18	RUBBER-MENU	—
19	RUBBER-MODE	—
20	RUBBER-TEL_COPY	—
21	COVER-M_LCD	—
22	PBA SUB-OPE	140N63351
23	LENS LED-M_STATUS	—

Parts List 15.0 Cassette Assembly



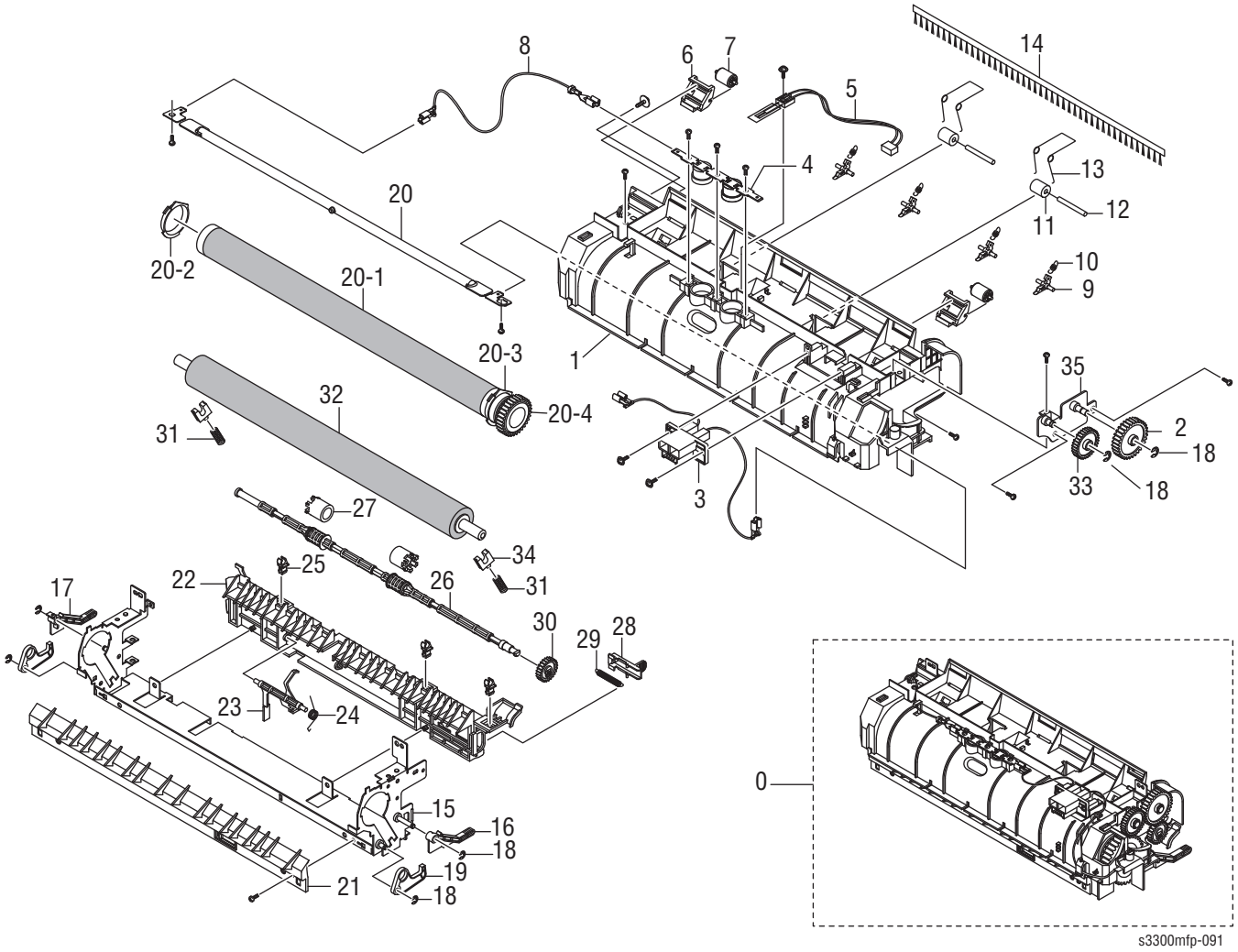
Parts List 15.0 Cassette Assembly

ID No.	Name/Description	Part Number
0	MEA UNIT-CASSETTE	—
1	ADJUST-M-CASSETTE_L	—
2	ADJUST-M-CASSETTE_R	—
3	GEAR-PINION	—
4	MEA UNIT-HOLDER PAD	—
4-1	HOLDER-M-PAD	—
4-2	SHEET-HOLDER PAD R2	—
4-3	IPR-PLATE PAD	—
4-4	RPR-FRICTION PAD	—
5	SPRING ETC-EXIT ROLL FD	—
6	PLATE-P-KNOCK_UP	—
7	SPRING-CS	—

Parts List 15.0 Cassette Assembly

ID No.	Name/Description	Part Number
8	RPR-PAD CASSETTE	—
9	CAM-M-KNOCK UP	—
10	FRAME-M_CASSETTE	—
11	GUIDE-M-EXTENSION L2	—
12	PMO-EXTENSION SMALL	—
13	PMO-PLATE_LOCKER	—
14	SPRING ETC-LOCKER, PLATE	—
15	COVER-M_SUB CST	—
16	INDICATOR-M_CASSETTE	—

Parts List 16.0 Fuser Assembly



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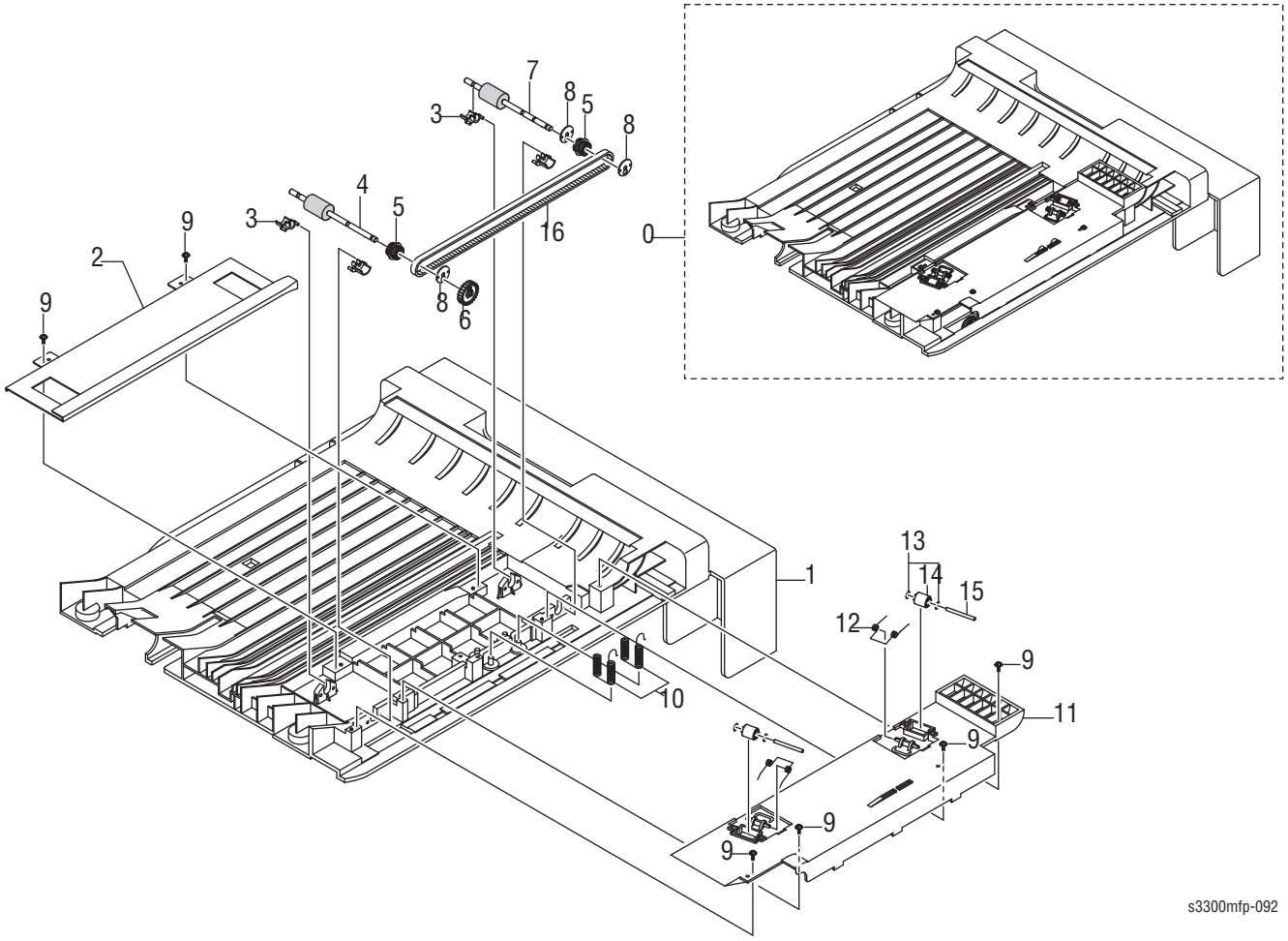
Parts List 16.0 Fuser Assembly

ID No.	Name/Description	Part Number
0	FUSER UNIT 220V REP 4 (includes items 1-42)	126N00266
0	FUSER UNIT 110V REP 4 (includes items 1-42)	126N00265
1	FUSER COVER	—
2	IDLE 23 GEAR	—
3	FUSER HARNESS CONNECTOR	—
4	THERMOSTAT	130N01490
5	THERMISTOR	130N01489
6	IDLE ROLLER HOLDER	—
7	IDLE UPPER ROLLER	—
8	REC HARNESS	—
9	STRIPPER FINGER	—
10	FINGER STRIPPER SPRING	—
11	RUBBER EXIT_F/UP	—
12	PEX ROLLER F/UP	—
13	SPRING-TS	—
14	ANTISTATIC BRUSH	—
15	FUSER FRAME	—
16	RIGHT JAM LINK LEVER	—
17	LEFT JAM LINK LEVER	—
18	E-CLIP	—
19	JAM LINK HOLDER	—
20	HALOGEN LAMP 110V	122N00260
20	HALOGEN LAMP 220V	122N00261
20-1	HEAT ROLLER	022N02371
20-2	HEAT ROLLER LEFT BUSH	—
20-3	HEAT ROLLER RIGHT BUSH	—
20-4	HEAT ROLLER GEAR	—
21	INPUT GUIDE	—
22	REAR GUIDE	—
23	EXIT SENSOR ACTUATOR	—
24	ACTUATOR SPRING	—
25	PMO BUSHING TX	—
26	EXIT F/UP SHAFT	—
27	IDLE F/UP	—
28	REAR GUIDE SPRING COVER	—

Parts List 16.0 Fuser Assembly

ID No.	Name/Description	Part Number
29	SPRING-ES	—
30	EXIT GEAR	—
31	SPRING-CS	—
32	PRESSURE ROLLER	022N02295
33	IDLE 33 GEAR	—
34	PRESSURE BEARING	—
35	IDLE GEAR BRACKET	—

Parts List 17.0 Duplex Unit (Optional)



Parts List 17.0 Duplex Unit (Optional)

ID No.	Name/Description	Part Number
0	MEA UNIT-DUPLEX (includes items 1-16)	098N02194
1	FRAME-M_DUP	050N00521
2	GUIDE-M_DUMMY	—
3	BUSH-M-FEED, DUP	—
4	ELA UNIT-ROLLER_DUP2	—
5	PULLEY-18-DUP	—
6	GEAR-EXIT F/DOWN	—
7	ELA UNIT-ROLLER_DUP	—
8	PULLEY-M-18-DUMMY_DUP	—
9	SCREW-TAPTITE	—
10	TERMINAL-P-GND DUP	—
11	GUIDE-M_UPPER DUP	—
12	SPRING-TS	—
13	PCT-SILP WASHER	—
14	ROLLER-M-IDLE_ DUP	—
15	SHAFT-IDLE ROLL, DUP	—
16	BELT-TIMING	—

Xerox Supplies and Accessories

Description	Part Number
Accessory Kit (NA/DMOW)	650N05376
Accessory Kit (DMO-E)	650N05377
Accessory Kit (DMO-W / XE)	650N05378

Parts List Reference	Description	Part Number
PL1.8	Transfer Roller (50K)	002N02628
PL16.0	FUSER UNIT 220V REP 4	126N00266
	FUSER UNIT 110V REP 4	126N00265
N/A	Standard Capacity Print Cartridge - 4K	106R1411
	High Capacity Print Cartridge - 8K	106R1412

Parts List Reference	Description	Part Number
N/A	256 MB DDR2 Memory (1x 256 MB)	097S03761
N/A	Optional 250-Sheet Feeder	097N01693

Parts List Reference	Description	Part Number
PL 1.33	CBF-Power Cord, 110V	105N02072
PL 1.33	CBF-Power Cord, 220V	117N01769

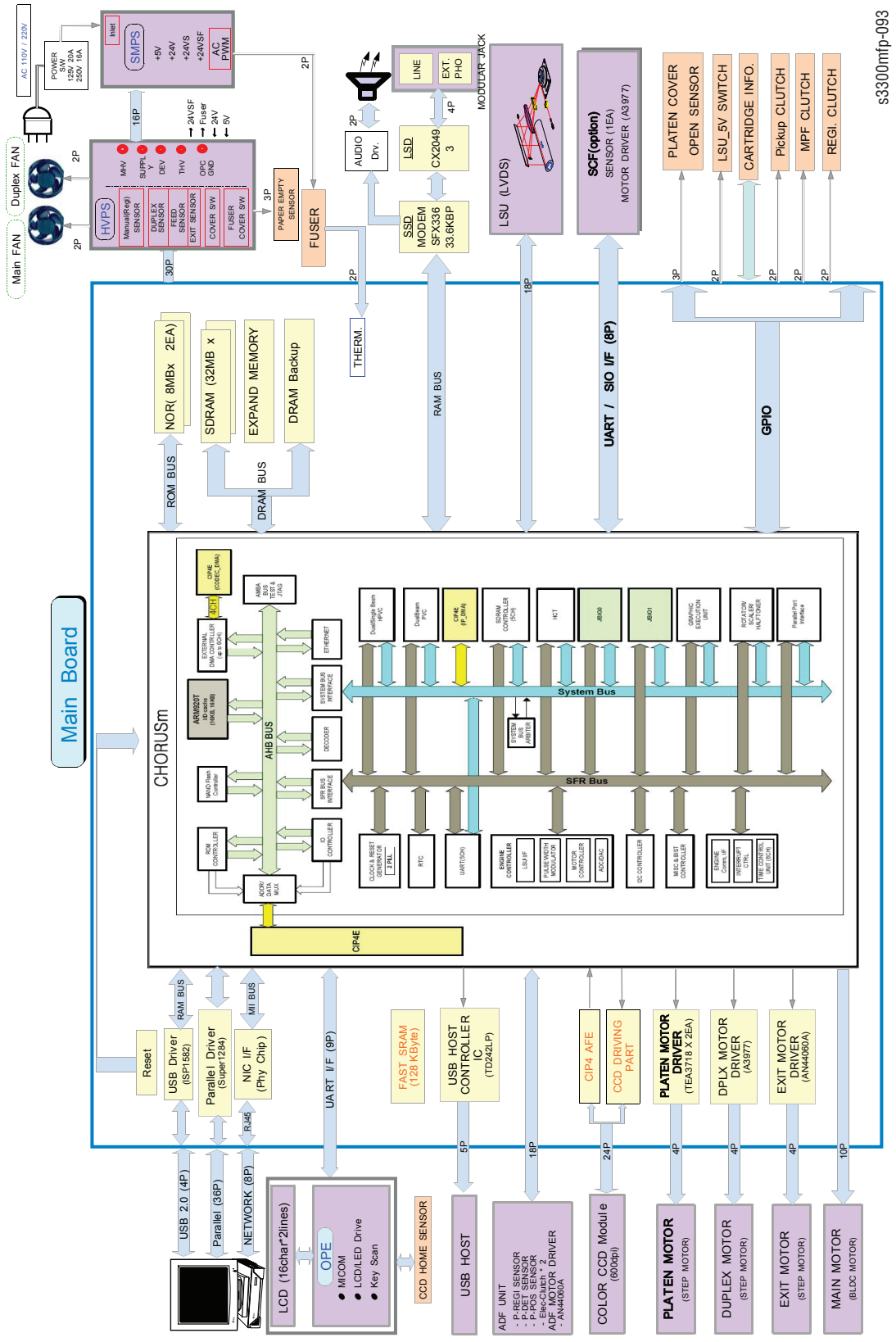
Description	Part Number
CUSHION-EPP-TOP	095N00376
CUSHION-BOTTOM	095N00377
CUSHION-MAIN D	095N00378
BOX-MAIN	095N00379
CBF INTERFACE-USB	117N01313
FAX LINE CORD - RJ11	117N01769
Toner Vacuum	003-1496-00

Wiring Diagrams

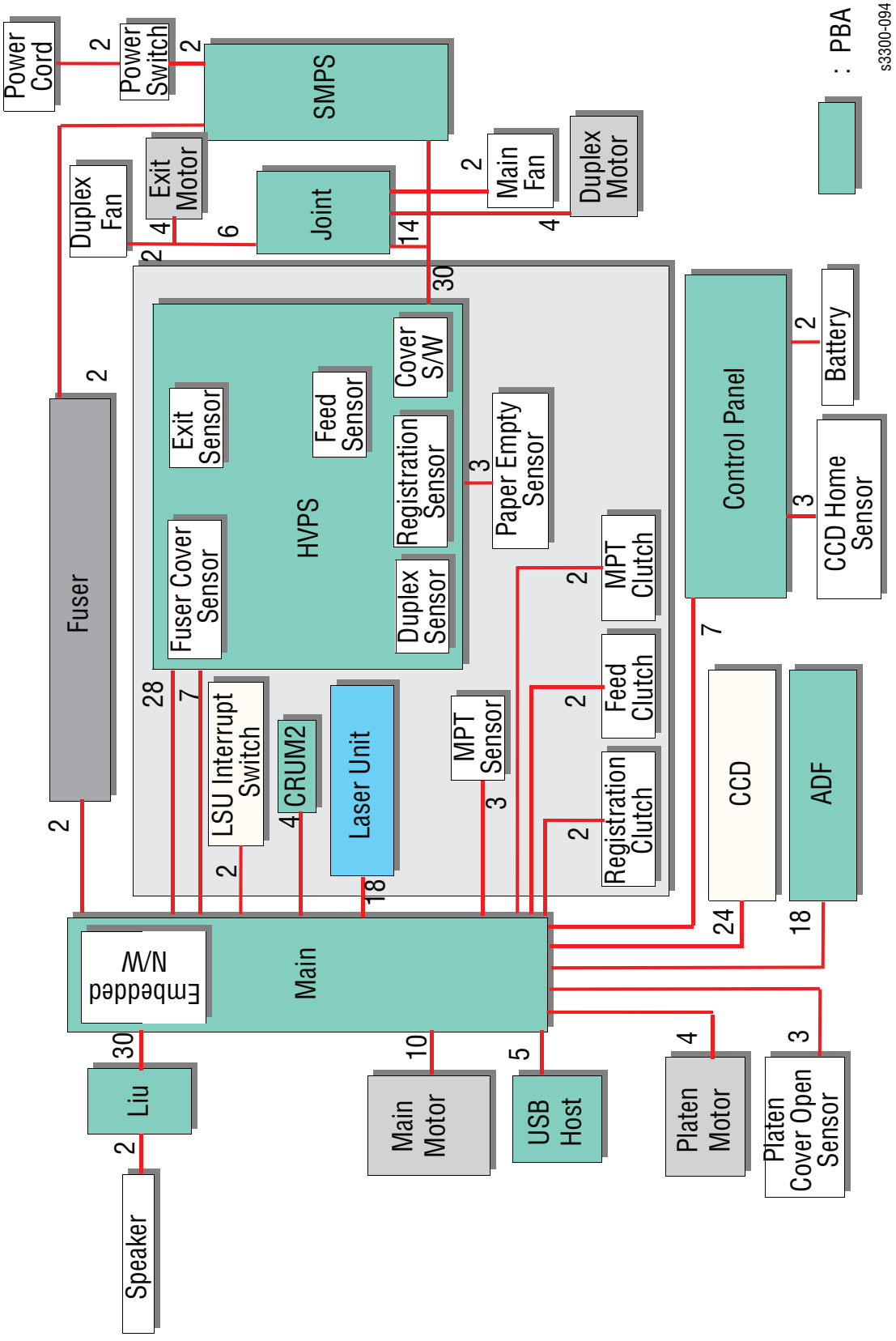
- Block Diagram
- WD 2 Connection Diagram
- WD 3 Power Signal
- Interconnection Diagrams

Chapter 10

Block Diagram

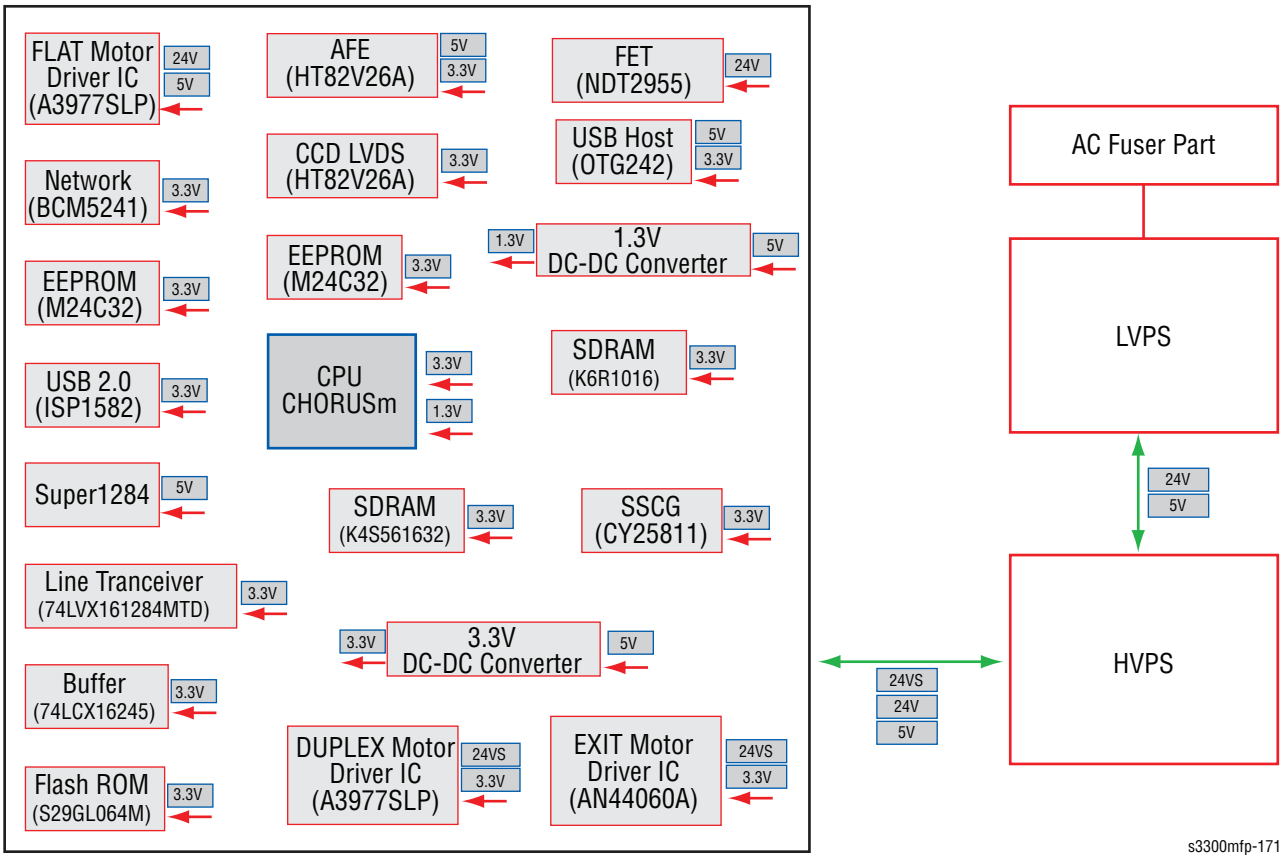


WD 2 Connection Diagram

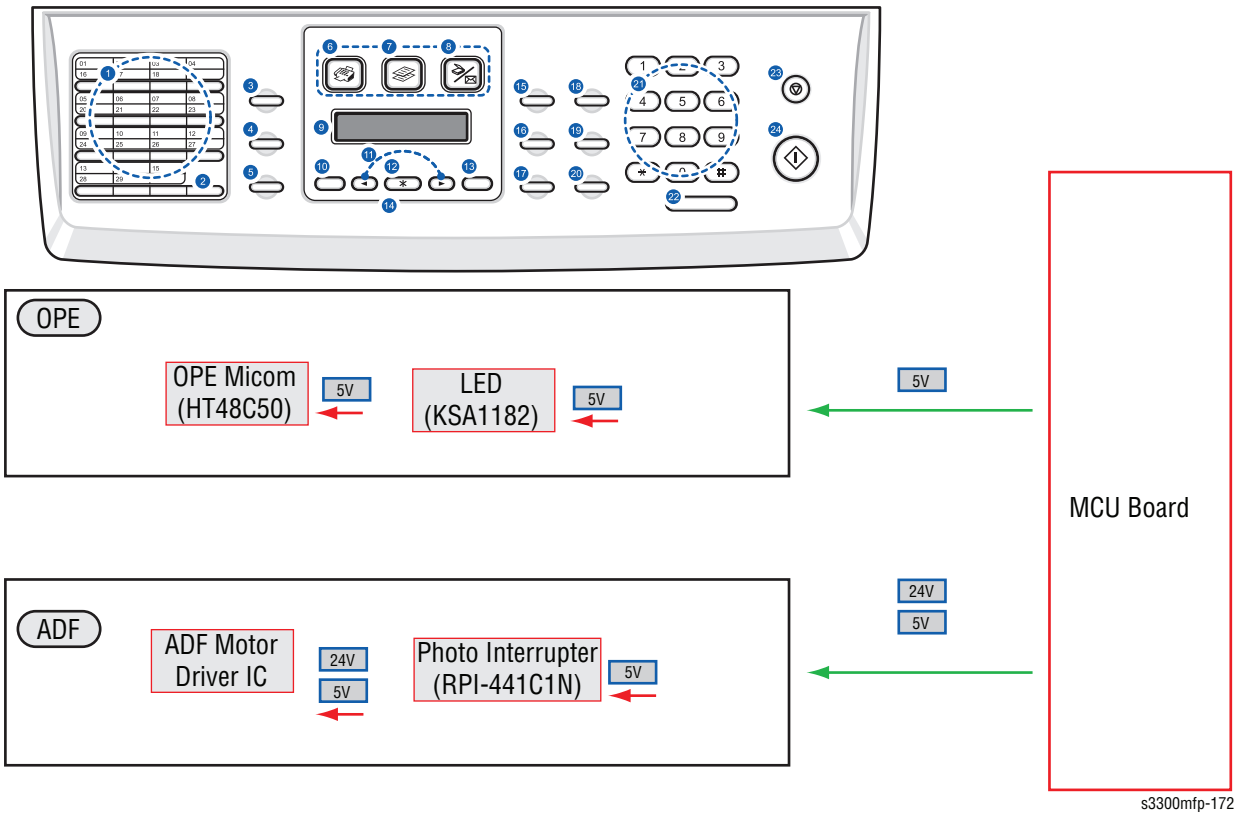


WD 3 Power Signal

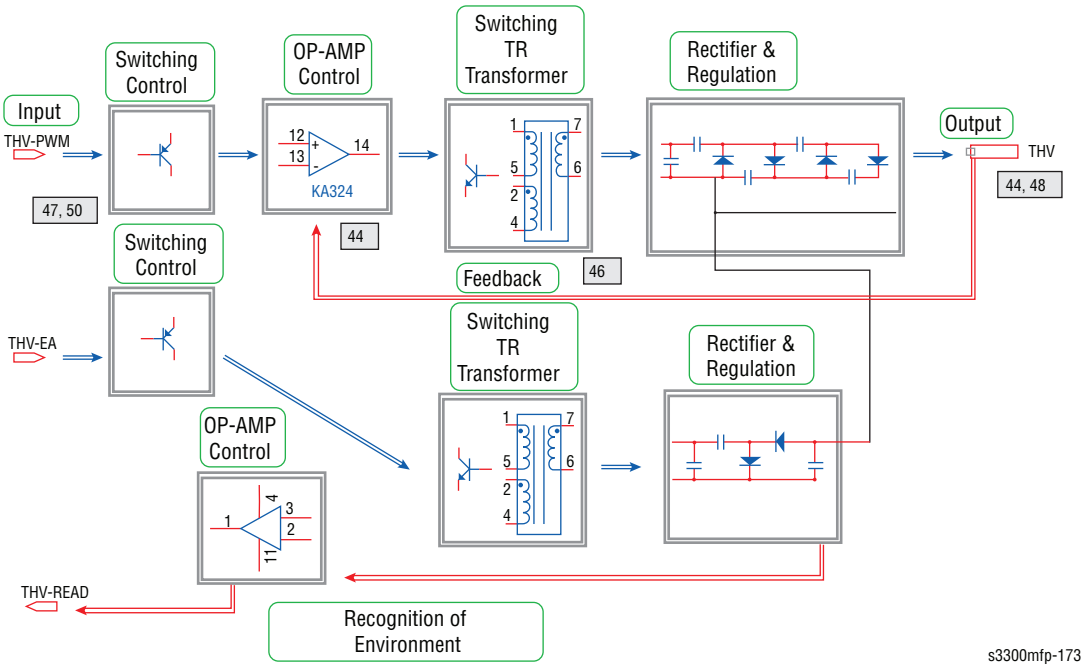
Control Board Power signal



OPE/ADF Power signal



HVPS/Voltage map



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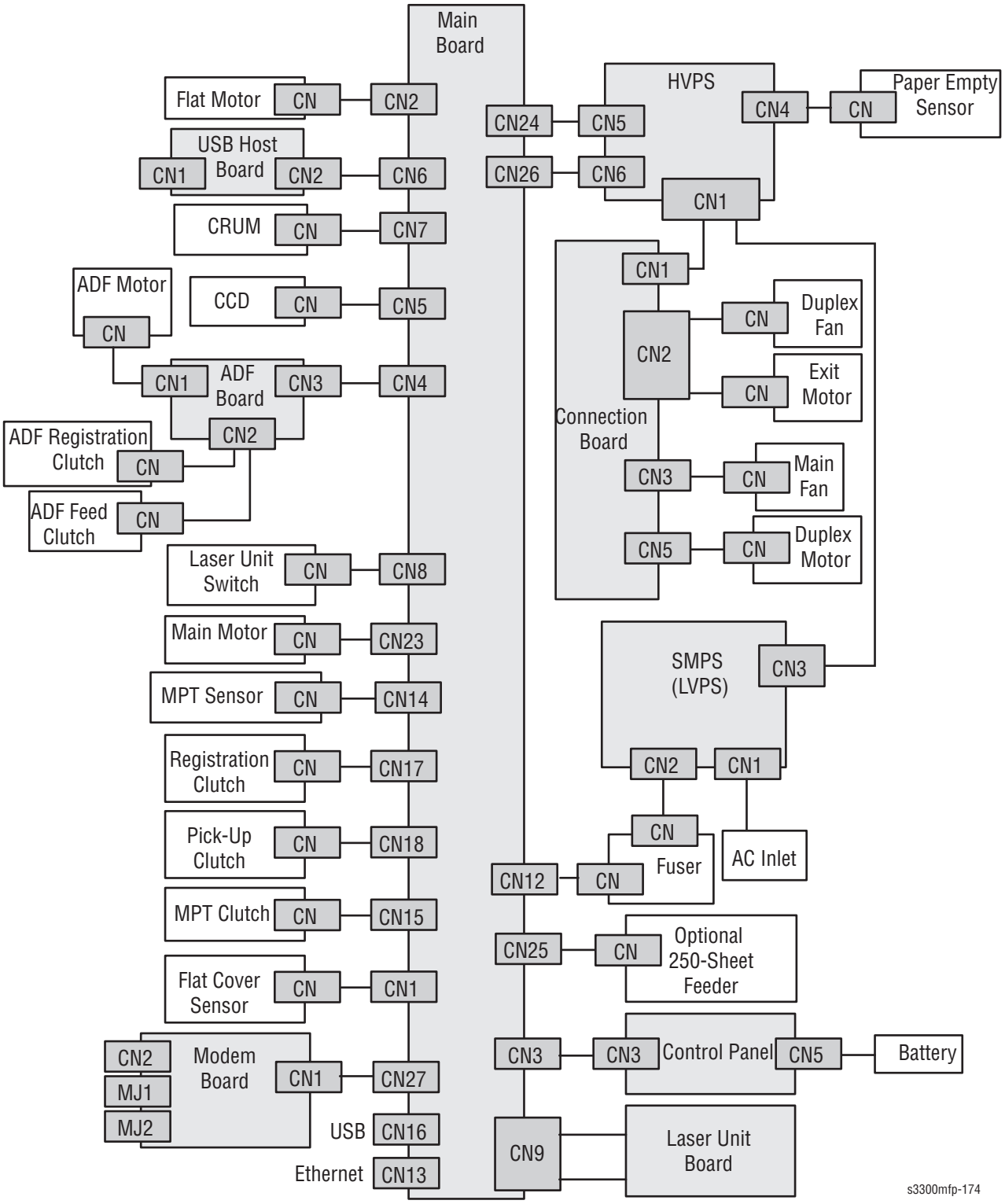
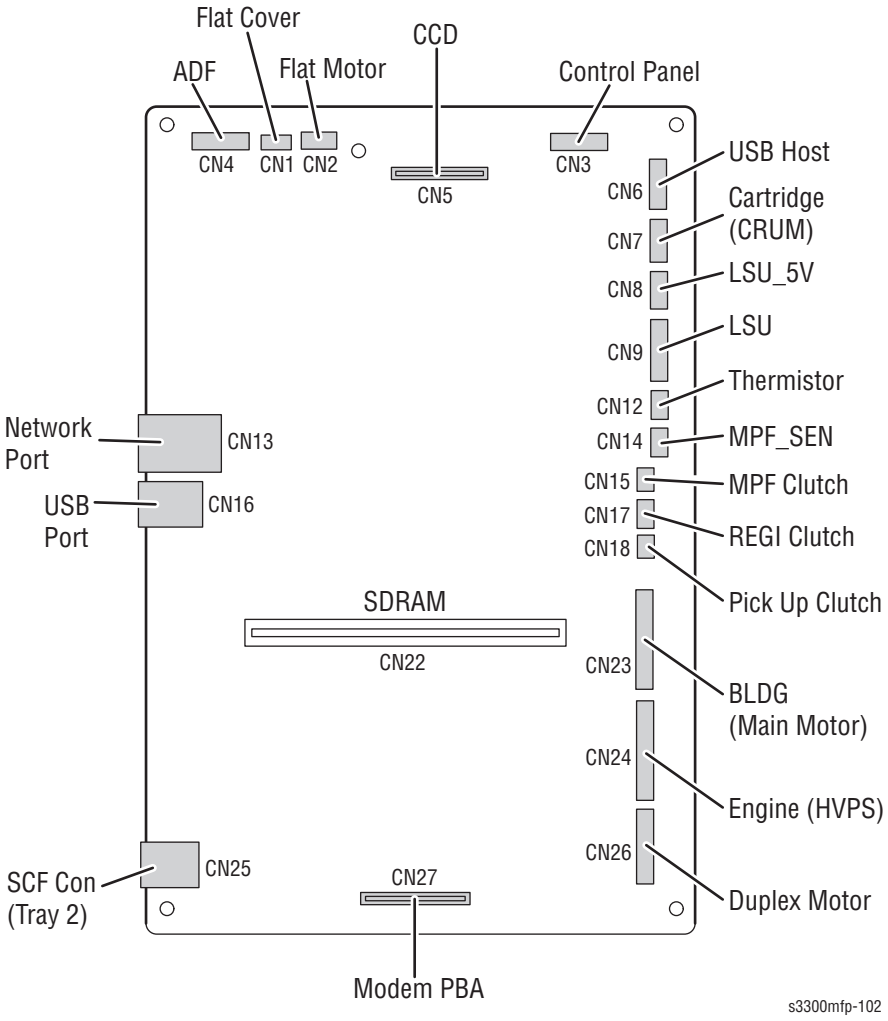
Interconnection Diagrams

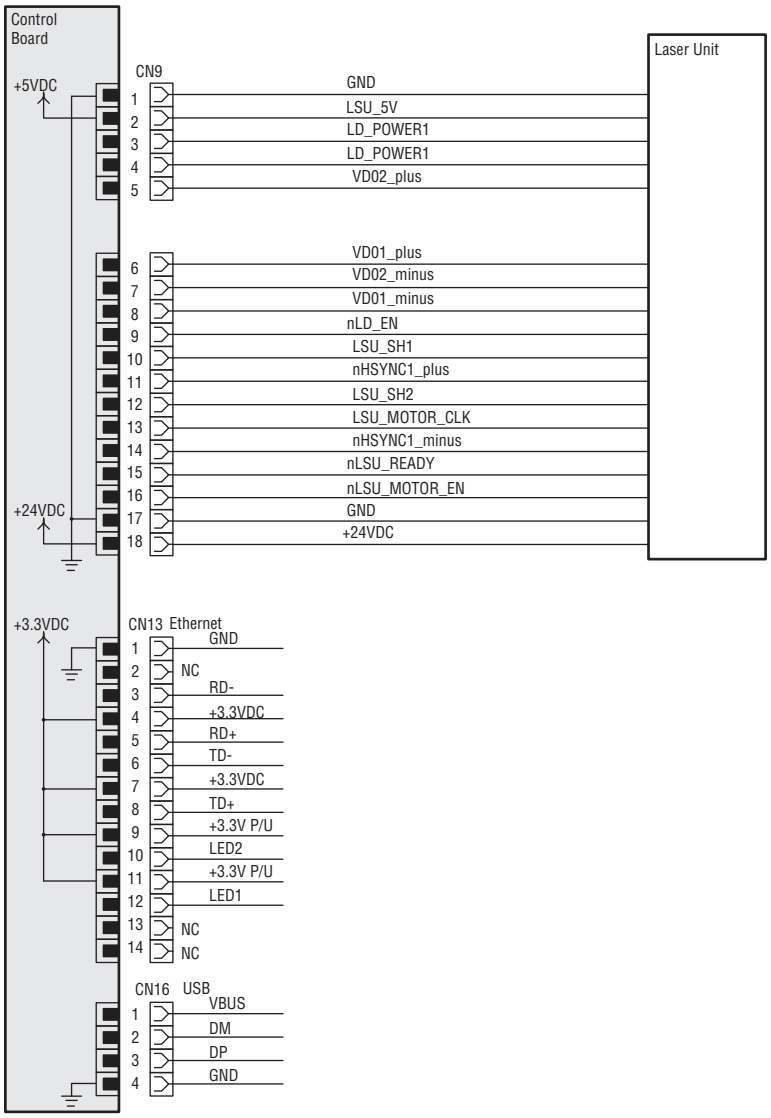
Block Diagram



Control Board Connector Locations

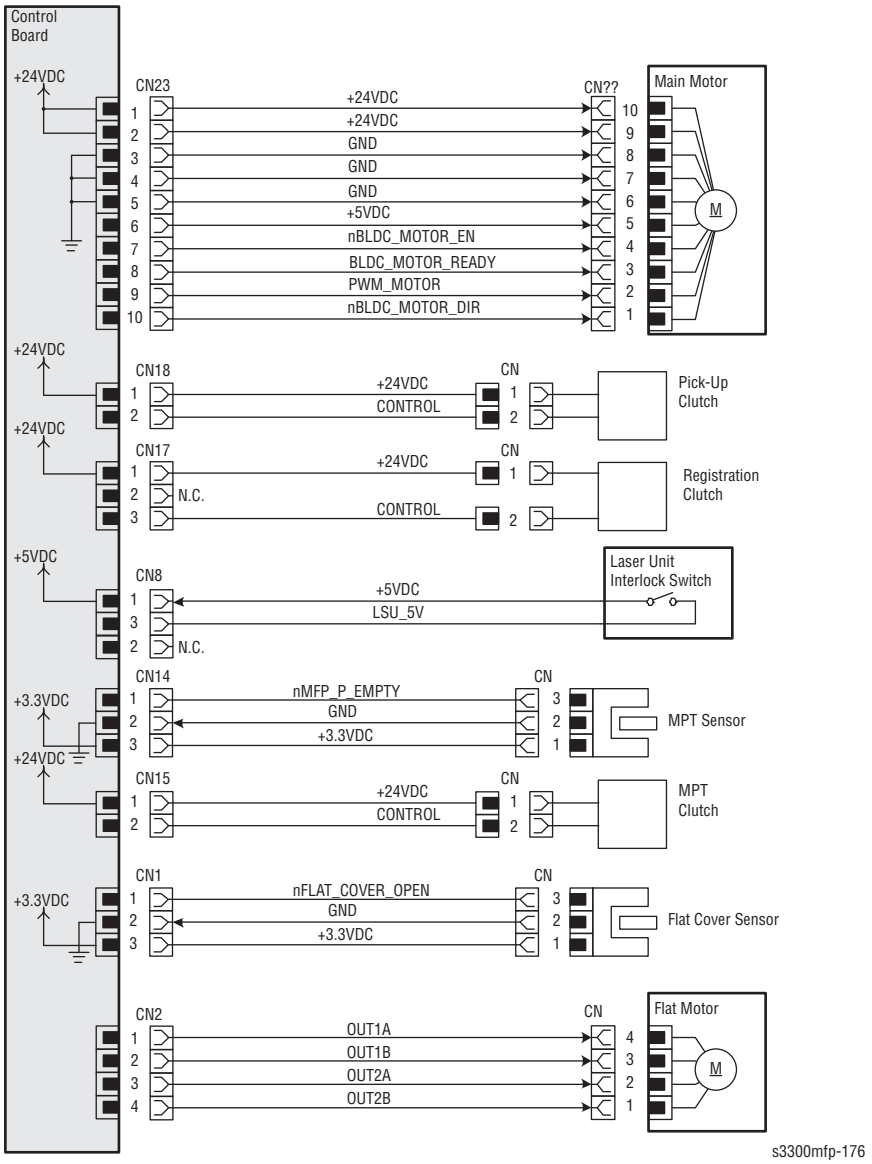


Control Board to Laser Unit, Ethernet, USB



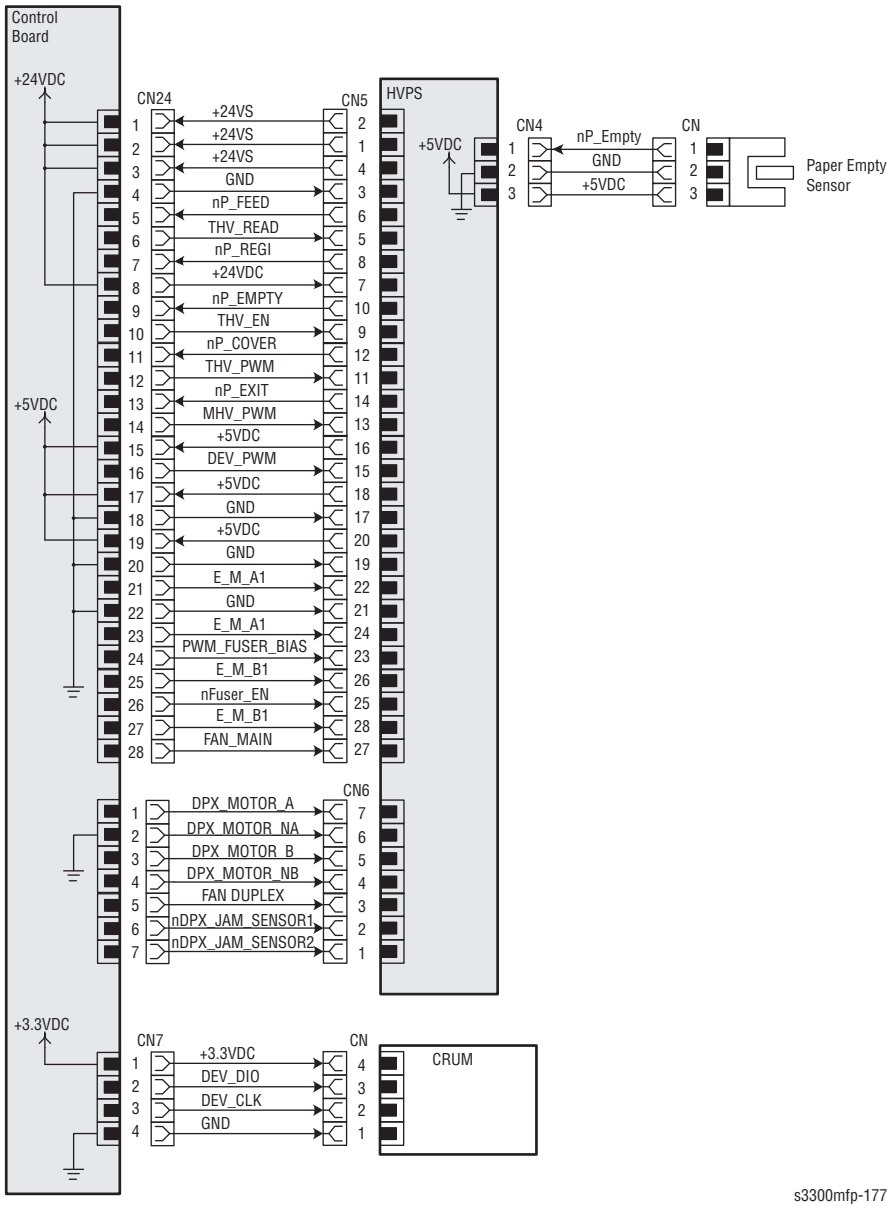
s3300mfp-175

Control Board to Main and Flat Motors, Clutches, Sensors, Laser Interlock



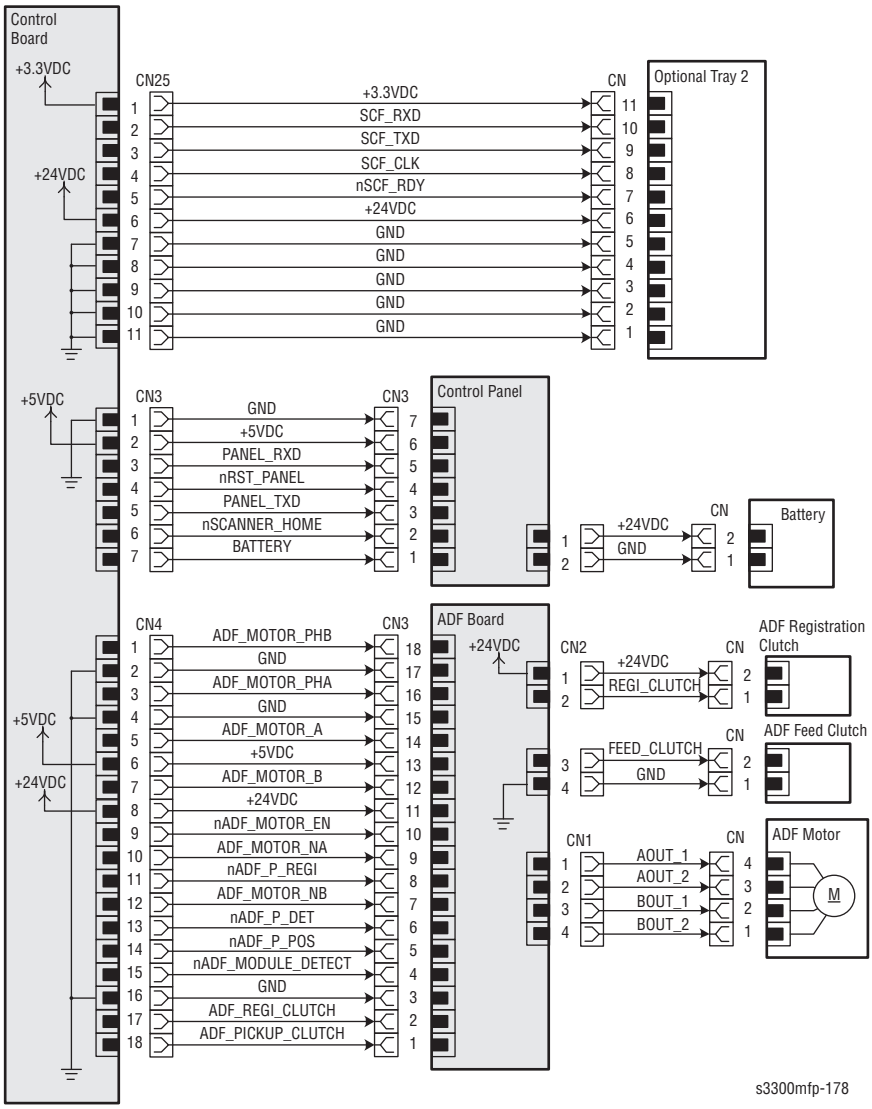
s3300mfp-176

Control Board to HVPS, CRUM, Paper Empty Sensor

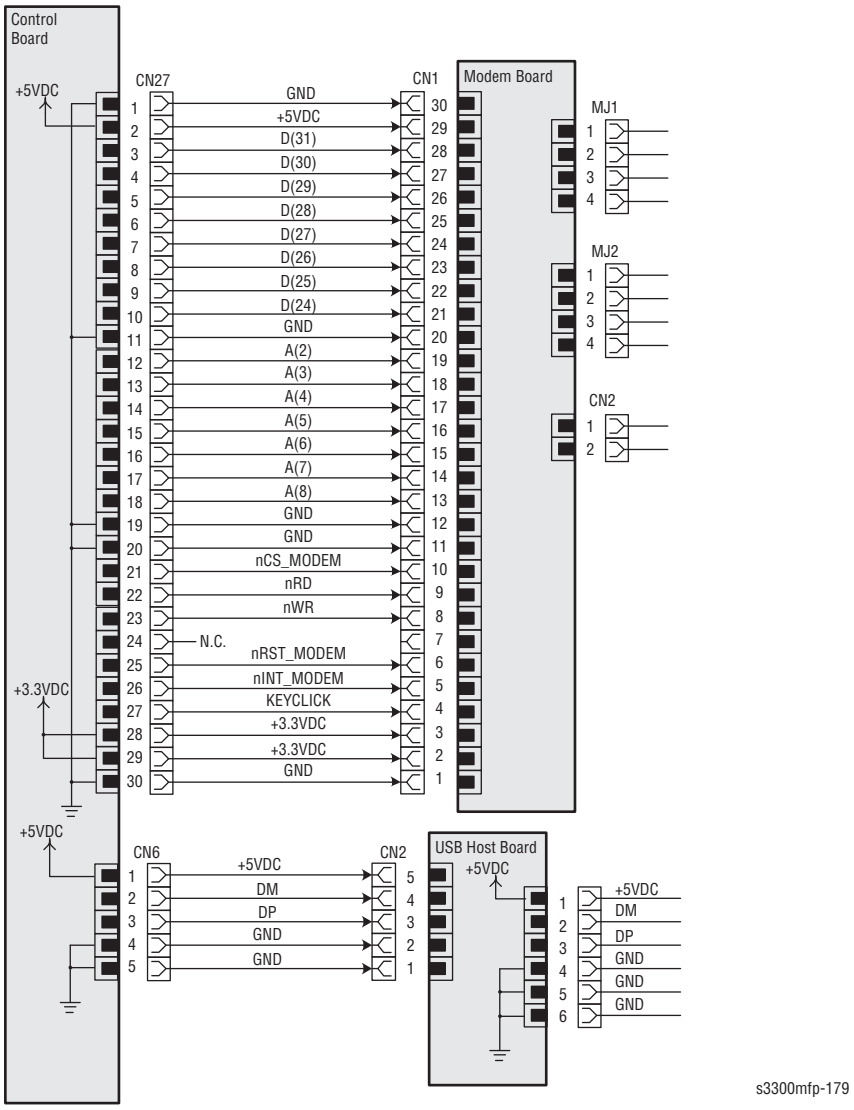


s3300mfp-177

Control Board to Opt. Tray, Control Panel, ADF Board

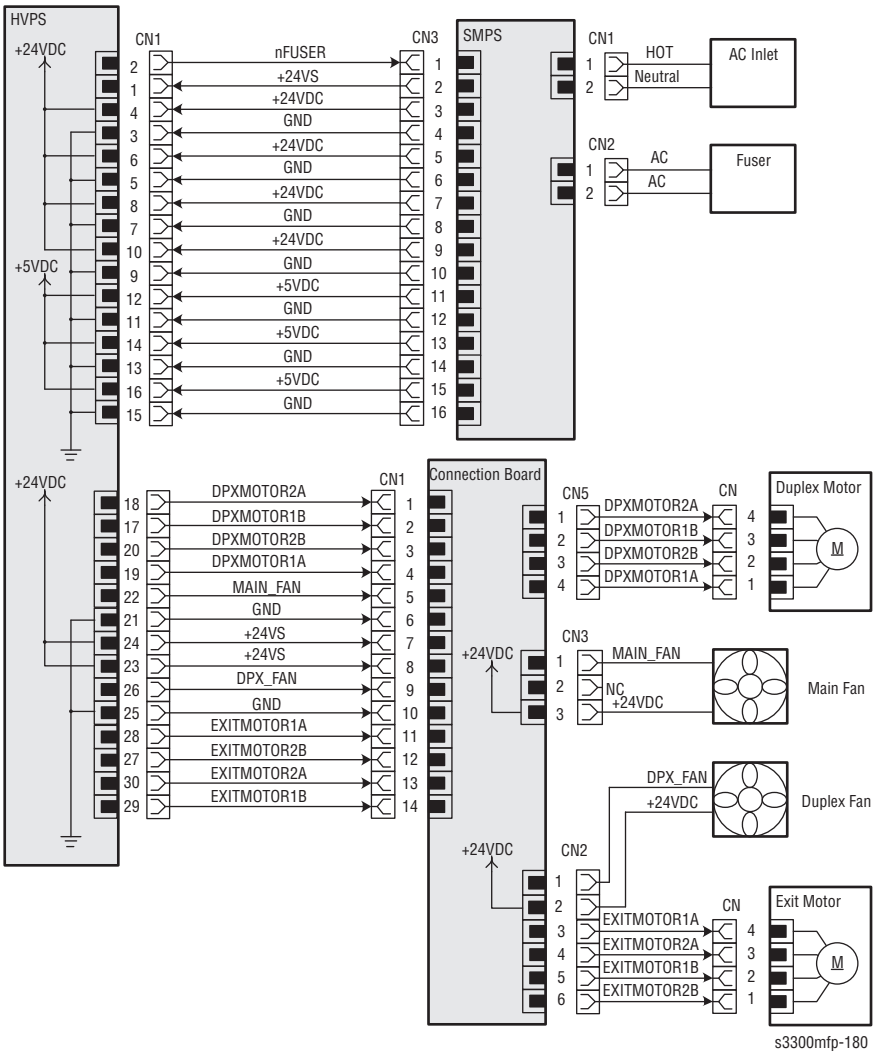


Control Board to Modem Board, USB Host Board

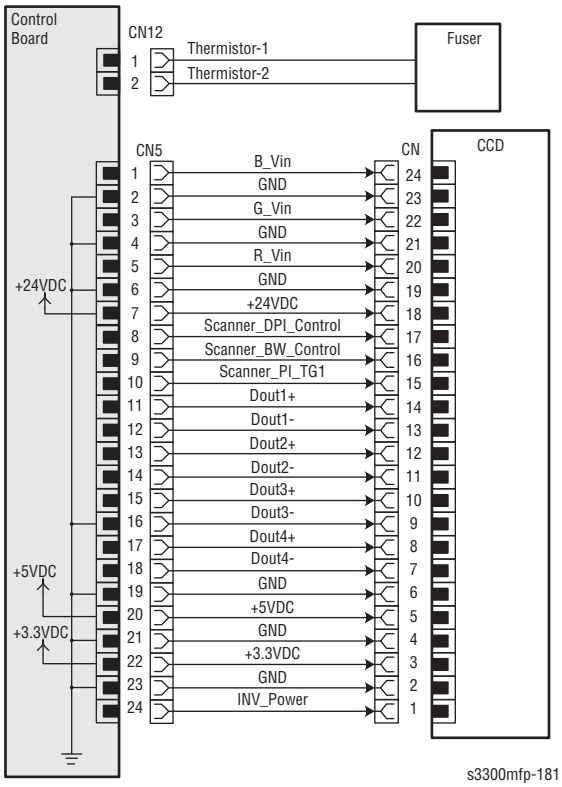


s3300mfp-179

SMPS to HVPS, HVPS to Connection Board (Motors, Fans)



Control Board to Fuser, CCD

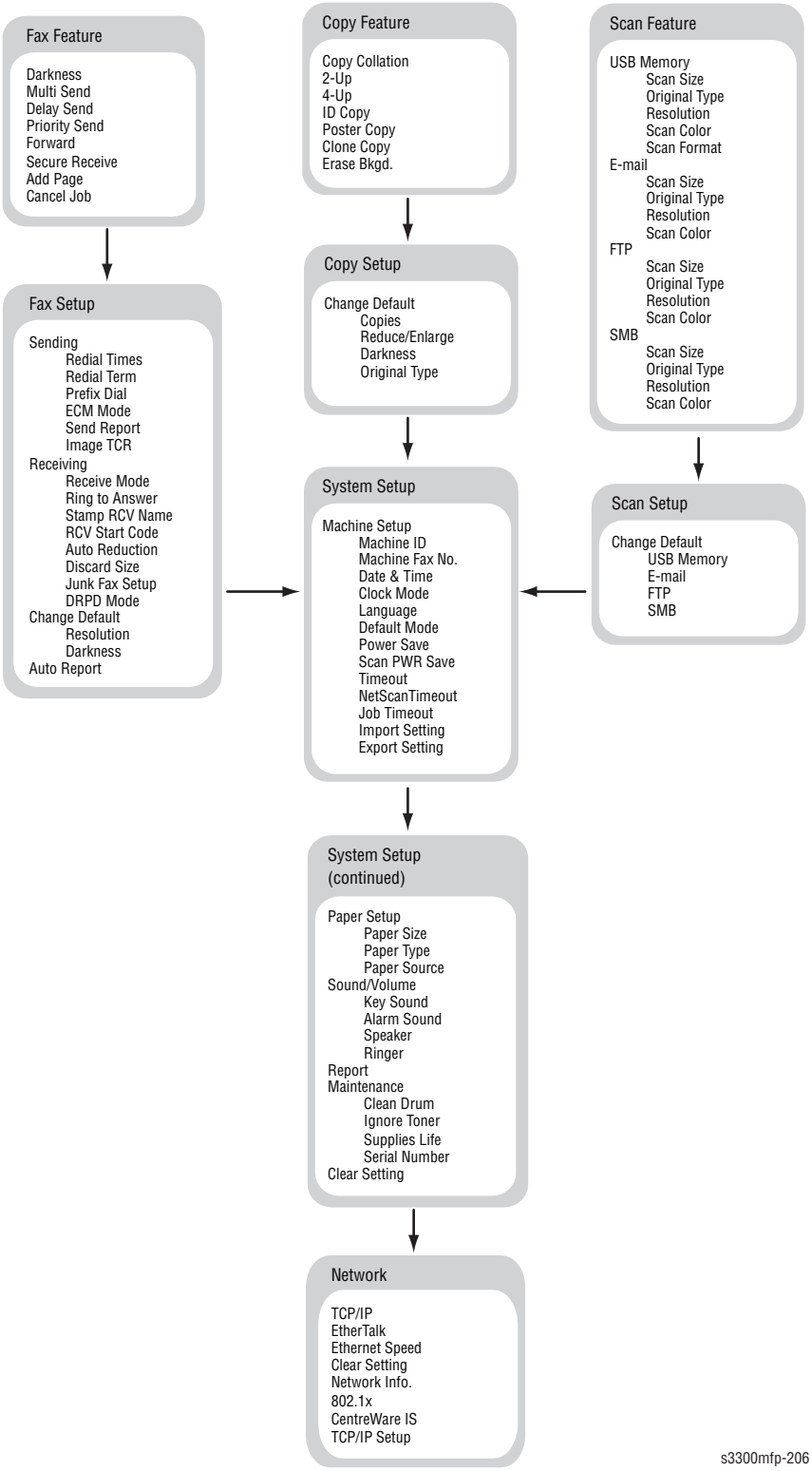


Appendix

Contents...

Appendix A

Phaser 3300MFP Menu Map



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.
AMPV	Average Monthly Print Volume
ASIC	Application Specific Integrated Circuit
ASSY	Assembly
ATM	Adobe Type Manager
BIOS	Basic Input Output System
BLDC	Brush-Less Direct Current
BOOTP	Boot Parameter Protocol
BSD	Block Schematic Diagram
BTM	Bottom
CAM	Cam Shaft
CCD	Charged Coupled Device (Photoelectric Converter)
CD	Circuit Diagram
CD	Compact Disc
CLT	Clutch
CMOS	Complementary Metal Oxide Semiconductor
CN	Connector
CON	Connector
CPU	Central Processing Unit
CRU	Customer Replaceable Unit
CRUM	Customer Replaceable Unit Meter/Memory
CST	Cassette
CUPS	Common Unix Printing System
dB	Decibel
dbA	decibel ampere
dBM	decibel milliwatt
DC	Direct Current is type of power for printer components. Machine converts AC power from power source to DC power.
DCU	Diagnostic Control Unit
DDR2 DIMM	Double Data Rate Dual In-Line Memory Module
DEVE	Developer

Acronym	Description
DHCP	Dynamic Host Configuration Protocol
DIMM	Dual In-line Memory Module
DPI	Dot Per Inch
DRAM	Dynamic Random Access Memory
DRV	Drive
DUP	Duplex
Duplex	2-sided printing
DVM	Digital Voltmeter
EC	European Community
EEC	European Economic Community
ECP	Enhanced Capability Port
EEPROM	Electrically Erasable Programmable Read-Only Memory
EMI	Electro Magnetic Interference
EP	electrophotographic
EPP	Enhanced Parallel Port
EOM	End of Message
ESA	Electric Static Attachment
ESD	Electrostatic Discharge. A transfer of charge between bodies at different electrostactic potential.
FCC	Federal Communications Commission
FCOT	First Copy Out Time
FDR	Feeder
FE	Field Engineer
FPOT	First Print Output Time
FR/FRNT	Front
FRU	Field Replaceable Unit
F/W	Firmware
GB	Giga Byte
GDI	graphics device interface
GND	Ground
HARN	Harness
HCF	High-Capacity Feeder
HBP	Host Based Printing
HDD	Hard Disk Drive
HOU	Housing
HUM	Humidity
HVPS	High-Voltage Power Supply

Acronym	Description
Hz	Hertz (cycles per second)
IC	Integrated Circuit
IEC	International Electrotechnical Commission
I/F	Interface
I/O	Input and Output
IDE	Intelligent Drive electronics or Imbedded Drive Electronics
IEEE	Institute of Electrical and Electronics Engineers. Inc.
IP	Image Processor
IPA	Isopropyl Alcohol
IPM	Image Per Minute
IPP	Internet Printing Protocol
IQ	Image Quality
KB	Kilo Byte
LAN	Local Area Network
LBP	Laser Beam Printer
LCD	Liquid Crystal Display
LD	Laser Diode
LED	Light Emitting Diode
LEF	Long-Edge Feed
LSU	Laser Scanning Unit
LTR	Letter Size Paper (8.5 x 11 inches)
LVPS	Low-Voltage Power Supply
MAC	Media Access Control
MB	Mega Byte
MFP	Multi-Functional Product
MHz	Mega Hertz
MM	Millimeters
MOT	Motor
MPT	Multi-Purpose Tray
NVM	Non-Volatile Memory
NVRAM	Non-Volatile Random Access Memory
OHP	Overhead Paper (Transparency)
OPC	Organic Photo Conductor
OPT	Optional
OS	Operating System
PBA	Printed Board Assembly

Acronym	Description
PC	Personal Computer
PCB	Printed Circuit Board
PCL	Printer Command Language
PDL	Page Description Language
P/J	Plug Jack (electrical connections)
PJL	Printer Job Language
PL	Parts List
PPD	PostScript Printer Description
PPM	Pages Per Minute
PPS	Pulses Per Second
PS	PostScript
PTL	Pre-Transfer Lamp
PV	Print Volume Management
PWBA	Printed Wiring Board Assembly
PWM	Pulse Width Modulation
RAM	Random Access Memory
RH	Relative Humidity
RLS	Release
ROM	Read-Only Memory
ROS	Raster Output Scanner - Laser Unit
SCF	Second Cassette Feeder
SEF	Short-Edge Feed
SMPS	Switching Mode Power Supply
SNR	Sensor
SOL	Solenoid
SOS	Start of Scan
SPOOL	Simultaneous Peripheral Operations Online
STS	Soft Touch Sensor
SW	Switch
SYNC	Synchronous or Synchronization
TBD	To Be Determined
THV	Transfer High Voltage
TNR	Toner
UI	User Interface
USB	Universal Serial Bus

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