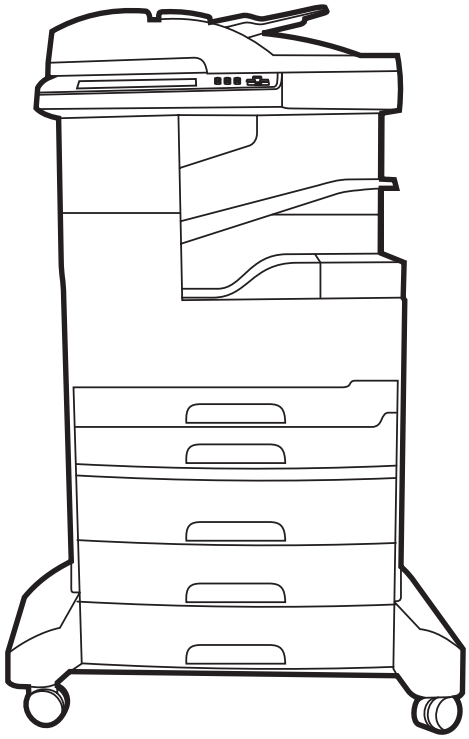
HP LaserJet M5039XS MFP Series printer

Service manual





HP LaserJet M5039XS Series MFP

Service Manual

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1 Basics

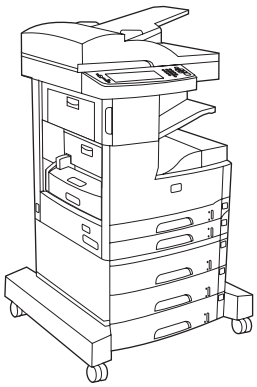
- Device comparison
- Features comparison
- Walkaround
- Device software

NOTE: The .PDF version of this manual supports the ability to add comments if you are using Adobe Acrobat Reader version 7.0, or higher. Use this feature to include updated information that comes out during the lifecycle of the device.

To add a comment to any page, click **Document**, click **Comments**, and then click **Add a Note**. Type the note in the message field that appears. You can click and drag the note to any place on the page.

Device comparison

HP LaserJet M5039XS MFP



- Prints up to 35 ppm.
- 256 MB of RAM, upgradable up to 512 MB
- 100-sheet multipurpose tray (tray 1) and two 250-sheet input trays (trays 2 and 3)
- 250-sheet output bin
- Hi-Speed USB 2.0 port and EIO slot
- HP Jetdirect full-featured embedded print server to connect to 10Base-T/100Base-TX networks
- Enhanced digital sending
- Flatbed scanner and 50-page ADF
- Automatic 2–sided (duplex) printing, receiving faxes, and copying.
- V.34 fax modem and 4-MB flash fax-storage memory.
- Three 500-sheet input trays (trays 4, 5, and 6)
- Automatic 30-page stapler with a 500-sheet output bin

Features comparison

Feature	Description
Performance	• 460 MHz processor
User interface	• HP Easy Select Control Panel with control-panel help • Windows® and Macintosh printer drivers • Embedded Web server
Printer drivers	• HP PCL 5e • HP PCL 6 • PostScript® 3 emulation
Resolution	• FastRes 1200—produces 1200-dots-per-inch (dpi) print quality for fast, high-quality printing of business text and graphics • ProRes 1200—produces 1200-dpi printing for the best quality in line art and graphic images
Storage features	• 40 gigabyte (GB) hard drive • Fonts, forms, and other macros • Job retention
Fonts	• 80 internal fonts available for both PCL and PostScript 3 emulation • 80 printer-matching screen fonts in TrueType format available with the software solution • Additional fonts can be added by installing a USB font card.
Accessories	• Fax capability • Integrated stand that contains three 500-sheet input trays. • Duplexer • Automatic 30-page stapler with a 500-sheet output bin • 100-pin 133 MHz dual inline memory modules (DIMMs)
Copying and sending	• Modes for text, graphics, and mixed text and graphics formats • A job-interrupt feature (at copy boundaries) • Multiple pages per sheet • Control-panel animations (for example, jam recovery) • E-mail compatibility • A sleep feature that saves energy • Automatic duplex (two-sided) scanning **NOTE:** An automatic duplex printing accessory is required for two-sided copying.

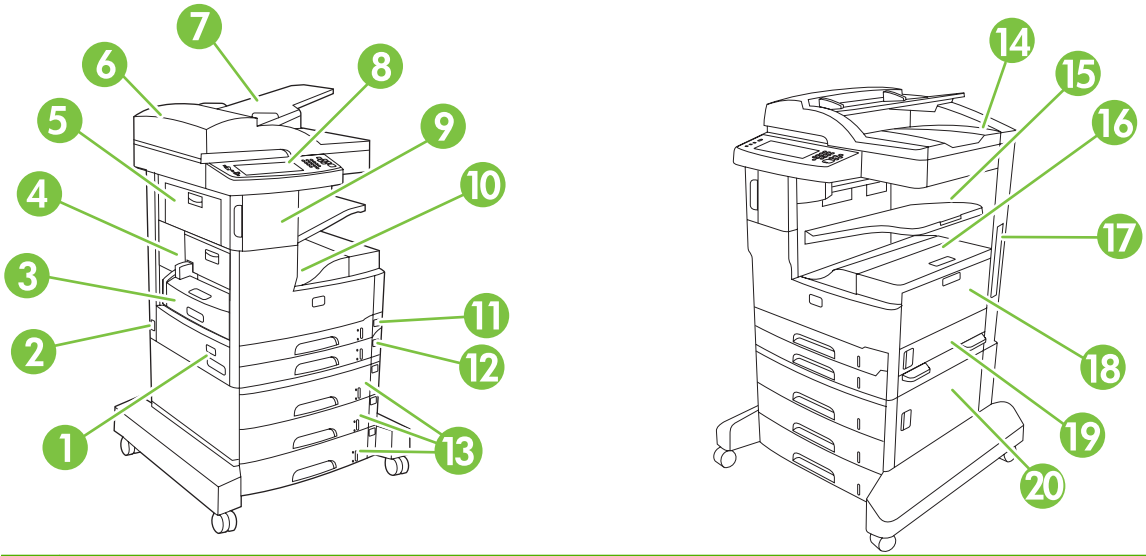
Feature	Description
Connectivity	• Hi-Speed USB 2.0 connection (one external host USB-A connector, one external-device USB-B connector, and two internal host USB-A connectors) • HP Jetdirect full-featured embedded print server • HP Web Jetadmin software • Enhanced input/output (EIO) slot • FIH connector
Environmental features	• Sleep delay setting • ENERGY STAR® qualified
Supplies	• The supplies status page contains information about toner level, page count, and estimated pages remaining. • The device checks for an authentic HP print cartridge at cartridge installation.
Accessibility	• The online user guide is compatible with text screen-readers. • The print cartridge can be installed and removed by using one hand. • All doors and covers can be opened by using one hand. • Media can be loaded into input trays by using one hand.

Walkaround

Device parts

Before using the device, familiarize yourself with the parts of the device.

Figure 1-1 HP LaserJet M5039XS MFP

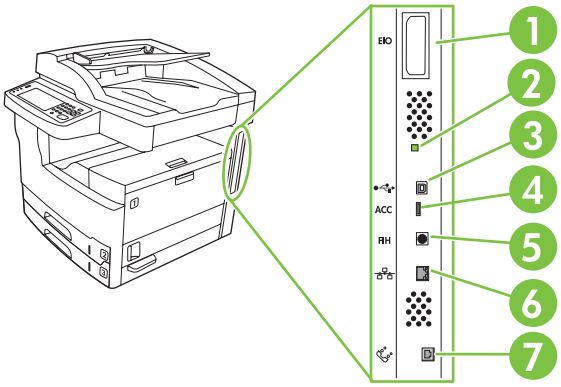


1	On/off switch
2	Power connection
3	Automatic duplexer
4	Jam access door (for access to printer jams)
5	Upper-left door
6	ADF top cover (for access to ADF jams)
7	ADF input tray (for fax/copy/scan documents)
8	Control panel
9	Automatic stapler
10	Output bin
11	Tray 2
12	Tray 3
13	Trays 4, 5, and 6
14	ADF output bin
15	Stapler output bin
16	Upper-right door (for access to the print cartridge)
17	Interface ports (see Interface ports on page 7)
18	Tray 1 (pull to open)

19	Right-side access door
20	Lower-right access door

Interface ports

The device has one EIO slot and three ports for connecting to a computer or a network.



1	EIO slot
2	"Heartbeat" LED
3	Hi-Speed USB 2.0 connection
4	USB accessory connection
5	Foreign interface harness (FIH) port
6	Network connection
7	Fax connection (for connecting to an optional analog fax accessory)

Device software

The printing-system software is only available for download from the Web. See the getting started guide for installation instructions.

The printing system includes software for end users and network administrators, and printer drivers for access to the features and communication with the computer.

NOTE: For a list of printer drivers and updated software, go to www.hp.com/go/ljm5039mfp_software.

Supported operating systems

The device supports the following operating systems:

Printer driver only

- Windows XP (32-bit and 64-bit)
- Windows Server 2003 (32-bit and 64-bit)
- Windows Vista (32-bit and 64-bit)
- Windows 7 (32-bit and 64-bit)
- Mac OS X V10.3, V10.4 and later
- Linux (Web only)
- UNIX model scripts (Web only)

NOTE: For Mac OS V10.4 and later, PPC and Intel Core Processor Macs are supported.

Supported printer drivers

Operating system	PCL 5	PCL 6	PS level 3 emulation
Windows	✔	✔	✔
Mac OS X V10.3 and later			✔
Linux			✔

Select the correct printer driver

Printer drivers allow you to gain access to the features of the device and allow the computer to communicate with the device (using a printer language).

The device uses the PCL 5, PCL 6, and PostScript 3 emulation printer description language (PDL) drivers.

- Use the PCL 6 printer driver for the best overall performance.
- Use the PCL 5 printer driver for general office printing.
- Use the PS driver for printing from PostScript-based programs, for compatibility with PostScript Level 3 needs, or for PS flash font support.

Operating system[1]	PCL 5	PCL 6	PS 3 emulation
Windows XP (32-bit)[2]	✔	✔	✔
Windows Vista (32-bit and 64-bit)	✔	✔	✔
Windows 7 (32-bit and 64-bit)	✔	✔	✔
Windows Server 2003 (32-bit)	✔	✔	✔
Windows Server 2003 (64-bit)	✔	✔	✔
Mac OS X V10.2 and later			✔

1 Not all features are available from all drivers or operating systems.

2 For Windows XP (64-bit), download the PCL 6 driver from www.hp.com/go/ljm5039mfp_software.

The printer drivers include online Help that has instructions for common printing tasks and also describes the buttons, checkboxes, and drop-down lists that are in the printer driver.

Universal printer drivers

The HP Universal Print Driver Series for Windows includes separate HP postscript level 3 emulation and HP PCL 5 versions of a single driver that provides access to almost any HP device while providing system administrator with tools to manage devices more effectively. For more information, go to www.hp.com/go/universalprintdriver.

Driver Autoconfiguration

The HP LaserJet PCL 5, PCL 6, and PS level 3 emulation drivers for Windows XP feature automatic discovery and driver configuration for device accessories at the time of installation. Some accessories that the Driver Autoconfiguration supports are the duplexing unit, optional paper trays, and dual inline memory modules (DIMMs).

Update Now

If you have modified the device configuration since installation, the driver can be automatically updated with the new configuration. In the **Properties** dialog box (see Open the printer drivers on page 11), on the **Device Settings** tab, click the **Update Now** button to update the driver.

HP Driver Configuration

HP Driver Configuration is a software architecture and set of tools that you can use to customize and distribute HP software in managed corporate printing environments. Using HP Driver Configuration, information technology (IT) administrators can configure the printing and default settings for HP printer drivers before installing the drivers in the network environment. For more information, see the *HP Driver Configuration Support Guide*, which is available at www.hp.com/go/dcu.

Priority for print settings

Changes to print settings are prioritized depending on where the changes are made:

NOTE: The names of commands and dialog boxes might vary depending on your software program.

- **Page Setup dialog box**: Click **Page Setup** or a similar command on the **File** menu of the program you are working in to open this dialog box. Settings changed here override settings changed anywhere else.
- **Print dialog box**: Click **Print**, **Print Setup**, or a similar command on the **File** menu of the program you are working in to open this dialog box. Settings changed in the **Print** dialog box have a lower priority and do *not* override changes made in the **Page Setup** dialog box.
- **Printer Properties dialog box (printer driver)**: Click **Properties** in the **Print** dialog box to open the printer driver. Settings changed in the **Printer Properties** dialog box do not override settings anywhere else in the printing software.
- **Default printer driver settings**: The default printer driver settings determine the settings used in all print jobs, *unless* settings are changed in the **Page Setup**, **Print**, or **Printer Properties** dialog boxes.
- **Printer control panel settings**: Settings changed at the printer control panel have a lower priority than changes made anywhere else.

Open the printer drivers

Operating System	To change the settings for all print jobs until the software program is closed	To change the default settings for all print jobs	To change the product configuration settings
Windows XP, and Server 2003	1. On the **File** menu in the software program, click **Print**. 2. Select the driver, and then click **Properties** or **Preferences**. The steps can vary; this procedure is most common.	1. Click **Start**, **Settings**, and then **Printers** or **Printers and Faxes**. 2. Right-click the driver icon, and then select **Printing Preferences**.	1. Click **Start**, **Settings**, and then **Printers** or **Printers and Faxes**. 2. Right-click the driver icon, and then select **Properties**. 3. Click the **Device Settings** tab.
Mac OS X V10.3 or later	1. On the **File** menu, click **Print**. 2. Change the settings that you want on the various pop-up menus.	1. On the **File** menu, click **Print**. 2. Change the settings that you want on the various pop-up menus. 3. On the **Presets** pop-up menu, click **Save as** and type a name for the preset. These settings are saved in the **Presets** menu. To use the new settings, you must select the saved preset option every time you open a program and print.	1. In the Finder, on the **Go** menu, click **Applications**. 2. Open **Utilities**, and then open **Printer Setup Utility** (Mac OS X V10.3 or Mac OS X V10.4). 3. Click the print queue. 4. On the **Printers** menu, click **Show Info**. 5. Click the **Installable Options** menu. **NOTE:** Configuration settings might not be available in Classic mode.

Software for Macintosh computers

The HP installer provides PostScript® Printer Description (PPD) files, Printer Dialog Extensions (PDEs), and the HP Printer Utility for use with Macintosh computers.

For network connections, use the embedded Web server (EWS) to configure the device. See Embedded Web server on page 13.

The printing system software includes the following components:

- **PostScript Printer Description (PPD) files**

  The PPDs, in combination with the Apple PostScript printer drivers, provide access to device features. Use the Apple PostScript printer driver that comes with the computer.

- **HP Printer Utility**

  Use the HP Printer Utility to set up device features that are not available in the printer driver:

  - Name the device.
  - Assign the device to a zone on the network.
  - Assign an internet protocol (IP) address to the device.
  - Download files and fonts.
  - Configure the device for IP or AppleTalk printing.

  You can use the HP Printer Utility when your device uses a universal serial bus (USB) cable or is connected to a TCP/IP-based network. For more information, see Use the HP Printer Utility for Macintosh on page 32.

NOTE: The HP Printer Utility is supported for Mac OS X V10.3 or later.

Remove software from Macintosh operating systems

To remove the software from a Macintosh computer, drag the PPD files to the trash can.

Utilities

The device is equipped with several utilities that make it easy to monitor and manage the device on a network.

HP Web Jetadmin

HP Web Jetadmin is a browser-based management tool for HP Jetdirect-connected printers within your intranet, and it should be be installed only on the network administrator's computer.

To download a current version of HP Web Jetadmin and for the latest list of supported host systems, visit www.hp.com/go/webjetadmin.

When installed on a host server, any client can gain access to HP Web Jetadmin by using a supported Web browser (such as Microsoft® Internet Explorer 4.x or Netscape Navigator 4.x or later) by navigating to the HP Web Jetadmin host.

Embedded Web server

The device is equipped with an embedded Web server, which provides access to information about device and network activities. This information appears in a Web browser, such as Microsoft Internet Explorer or Netscape Navigator.

The embedded Web server resides on the device. It is not loaded on a network server.

The embedded Web server provides an interface to the device that anyone who has a network-connected computer and a standard Web browser can use. No special software is installed or configured, but you must have a supported Web browser on your computer. To gain access to the embedded Web server, type the IP address for the device in the address line of the browser. (To find the IP address, print a configuration page. For more information about printing a configuration page, see Use information pages on page 74.)

For a complete explanation of the features and functionality of the embedded Web server, see Use the embedded Web server on page 28.

Send Fax Driver

If the MFP has a fax accessory installed, a Send Fax Driver is available. Go to www.hp.com/support/M5039mfp.

The Send Fax Driver is supported by the following operating systems:

- Windows 2000
- Windows XP
- Windows XP (64-bit)
- Windows Server 2003
- Windows Server 2003 (64-bit)

You can use the Send Fax Driver to send a fax from a personal computer to a network connected MFP.

Other components and utilities

Windows	Macintosh OS
• Software installer — automates the printing system installation	• PostScript Printer Description files (PPDs) — use with the Apple PostScript drivers that come with the Mac OS • The HP Printer Utility — change device settings, view status, and set up printer-event notification from a Mac. This utility is supported for Mac OS X V10.3 and later.

2 Installation and configuration

- Site requirements
- Operating environment
- I/O configuration
- Installing printer memory

Site requirements

Allow sufficient space around the device for access and ventilation. See Specifications on page 817 for the minimum space requirements.

Figure 2-1 MFP deminsions (1 of 3)

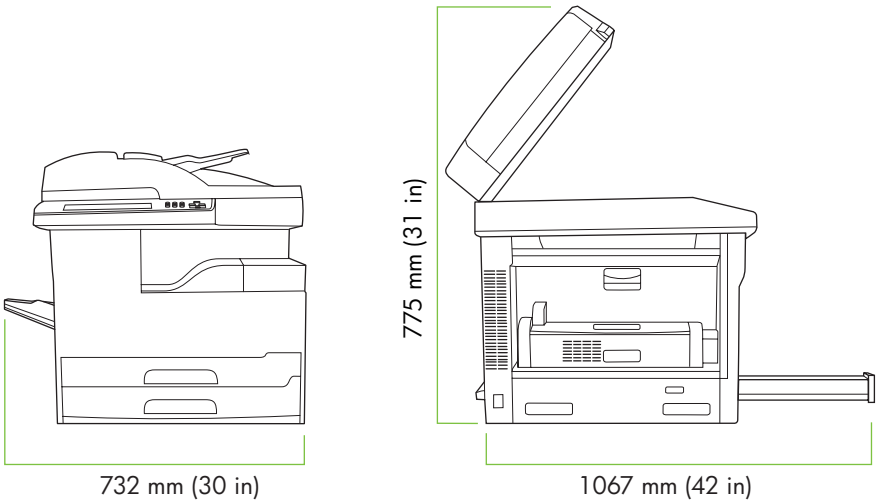


Figure 2-2 MFP deminsions (2 of 3)

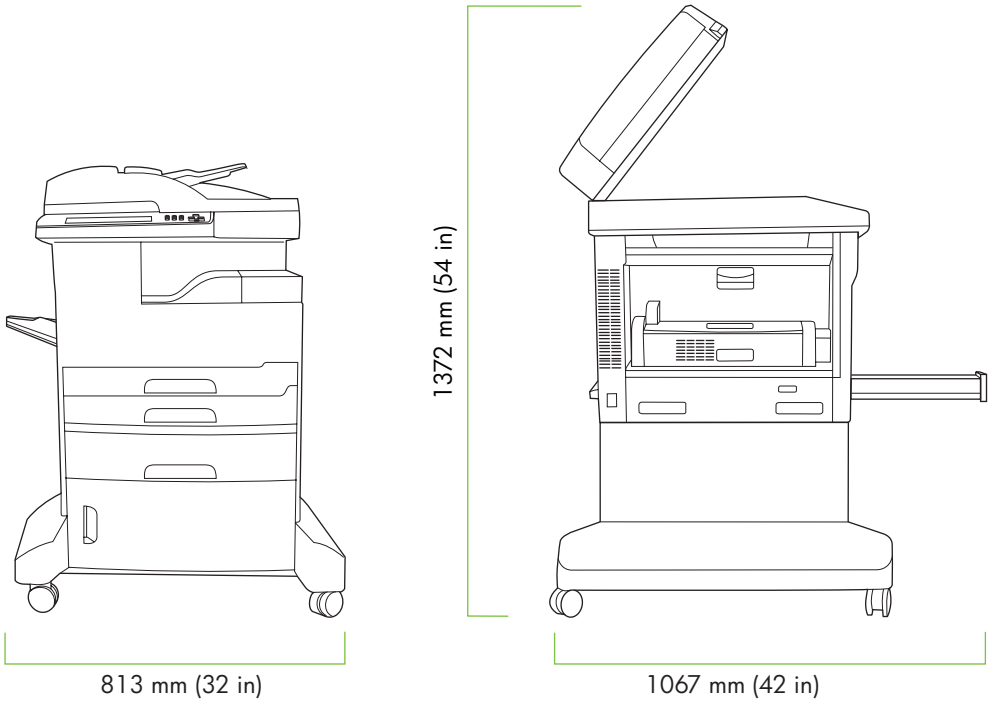
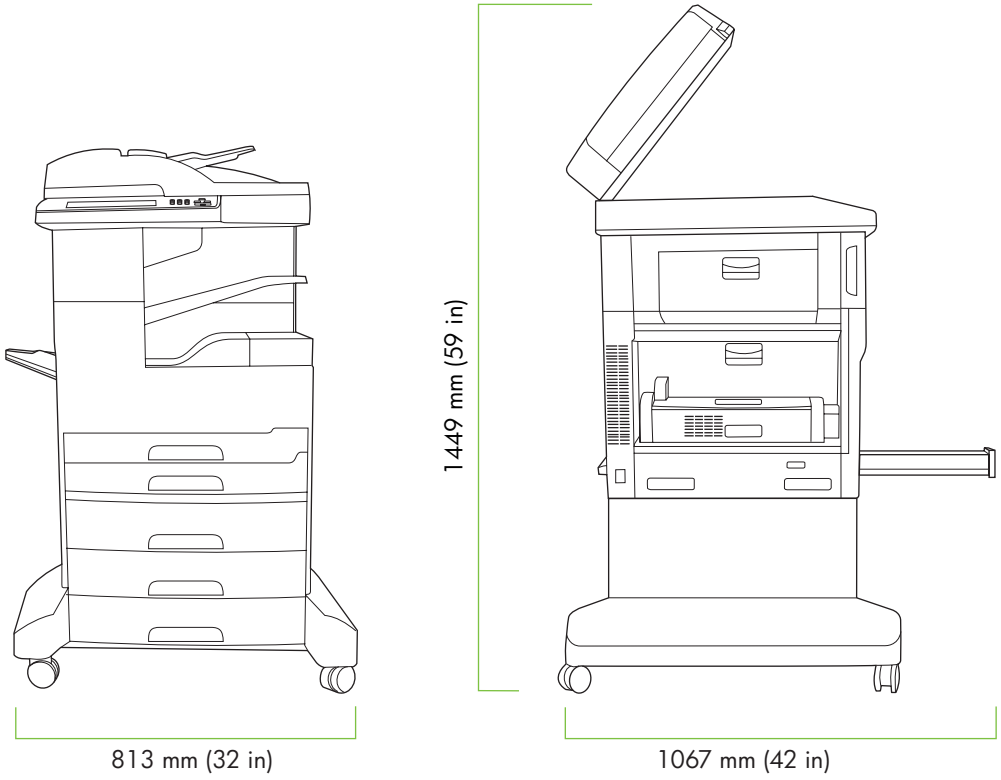


Figure 2-3 MFP deminsions (3 of 3)



Operating environment

Place the device on a sturdy, level surface in a well-ventilated area that meets the following environmental requirements:

- Allowed operating temperature: 15° to 32.5°C (59° to 90.5°F)

  Recommended operating temperature: 17.5° to 25°C (63° to 77°F)

- Storage/standby temperature: -20° to 40°C (-4° to 104°F)
- Allowed operating humidity: 10% to 80% relative humidity (no condensation)

  Recommended operating humidity: 30% to 70% relative humidity (no condensation)

- Altitude: 0 to 3100 meters (0 to 10,000 feet)
- Storage/standby humidity: 10% to 90% relative humidity (no condensation)
- Away from direct sunlight, open flames, and ammonia fumes

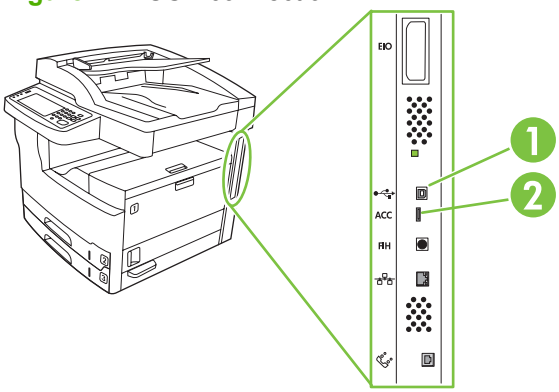
I/O configuration

- USB configuration
- Network configuration

USB configuration

This device supports a USB 2.0 connection.

Figure 2-4 USB connection



1	USB connector device (use for printing)
2	USB port host

Network configuration

You might need to configure certain network parameters on the device. You can configure these parameters in the following locations:

- Installation software
- Device control panel
- Embedded Web server
- Management software (HP Web Jetadmin or HP LaserJet Utility for Macintosh)

NOTE: For more information about using the embedded Web server, see Use the embedded Web server on page 28

For more information on supported networks and network configuration tools, see the *HP Jetdirect Print Server Administrator's Guide*. The guide comes with printers in which an HP Jetdirect print server is installed.

This section contains the following information about configuring network parameters:

- Configure TCP/IPv4 parameters
- Configure TCP/IPv6 parameters
- Disable network protocols (optional)
- HP Jetdirect EIO print servers

Configure TCP/IPv4 parameters

If your network doesn't provide automatic IP addressing through DHCP, BOOTP, RARP, or another method, you might need to enter the following parameters manually before you can print over the network:

- IP address (4 bytes)
- Subnet mask (4 bytes)
- Default gateway (4 bytes)

Set an IP address

You can view the current IP address of the device from the control-panel Home screen by touching Network Address.

Use the following procedure to change the IP address manually.

1. Scroll to and touch Administration.
2. Scroll to and touch Initial Setup.
3. Touch Networking and I/O.
4. Touch Embedded Jetdirect.
5. Touch TCP/IP.
6. Touch IPV4 Settings.
7. Touch Config Method.
8. Touch Manual.
9. Touch Save.
10. Touch Manual Settings.
11. Touch IP Address.
12. Touch the IP Address text box.
13. Use the touchscreen keypad to type the IP address.
14. Touch OK.
15. Touch Save.

Set the subnet mask

1. Scroll to and touch Administration.
2. Scroll to and touch Initial Setup.
3. Touch Networking and I/O.
4. Touch Embedded Jetdirect.
5. Touch TCP/IP.

6. Touch IPV4 Settings.
7. Touch Config Method.
8. Touch Manual.
9. Touch Save.
10. Touch Manual Settings.
11. Touch Subnet Mask.
12. Touch the Subnet Mask text box.
13. Use the touchscreen keypad to type the subnet mask.
14. Touch OK.
15. Touch Save.

Set the default gateway

1. Scroll to and touch Administration.
2. Scroll to and touch Initial Setup.
3. Touch Networking and I/O.
4. Touch Embedded Jetdirect.
5. Touch TCP/IP.
6. Touch IPV4 Settings.
7. Touch Config Method.
8. Touch Manual.
9. Touch Save.
10. Touch Manual Settings.
11. Touch Default Gateway.
12. Touch the Default Gateway text box.
13. Use the touchscreen keyboard to type the default gateway.
14. Touch OK.
15. Touch Save.

Configure TCP/IPv6 parameters

For information about configuring the device for a TCP/IPv6 network, see the HP Jetdirect Embedded Print Server Administrator's Guide.

Disable network protocols (optional)

By factory default, all supported network protocols are enabled. Disabling unused protocols has the following benefits:

- It decreases device-generated network traffic.
- It prevents unauthorized users from printing to the device.
- It provides only pertinent information on the configuration page.
- It allows the device control panel to display protocol-specific error and warning messages.

Disable IPX/SPX

NOTE: Do not disable this protocol in Windows-based systems that print to the printer through IPX/SPX.

1. Scroll to and touch Administration.
2. Scroll to and touch Initial Setup.
3. Touch Networking and I/O.
4. Touch Embedded Jetdirect.
5. Touch IPX/SPX.
6. Touch Enable.
7. Touch Off.
8. Touch Save.

Disable AppleTalk

1. Scroll to and touch Administration.
2. Scroll to and touch Initial Setup.
3. Touch Networking and I/O.
4. Touch Embedded Jetdirect.
5. Touch AppleTalk.
6. Touch Enable.
7. Touch Off.
8. Touch Save.

Disable DLC/LLC

1. Scroll to and touch Administration.
2. Scroll to and touch Initial Setup.
3. Touch Networking and I/O.
4. Touch Embedded Jetdirect.

5. Touch DLC/LLC.
6. Touch Enable.
7. Touch Off.
8. Touch Save.

HP Jetdirect EIO print servers

HP Jetdirect print servers (network cards) can be installed in the EIO slot. These cards support multiple network protocols and operating systems. HP Jetdirect print servers facilitate network management by allowing you to connect a printer directly to your network at any location. HP Jetdirect print servers also support the Simple Network Management Protocol (SNMP), which provides remote printer management and troubleshooting through the HP Web Jetadmin software.

NOTE: Configure the card through the control panel, the printer installation software, or HP Web Jetadmin. Refer to the HP Jetdirect print server documentation for more information.

Installing printer memory

You might want to add more printer memory to the printer if you often print complex graphics, print PostScript (PS) documents, or use many downloaded fonts. Added memory also gives you more flexibility in supporting job-storage features, such as quick copying.

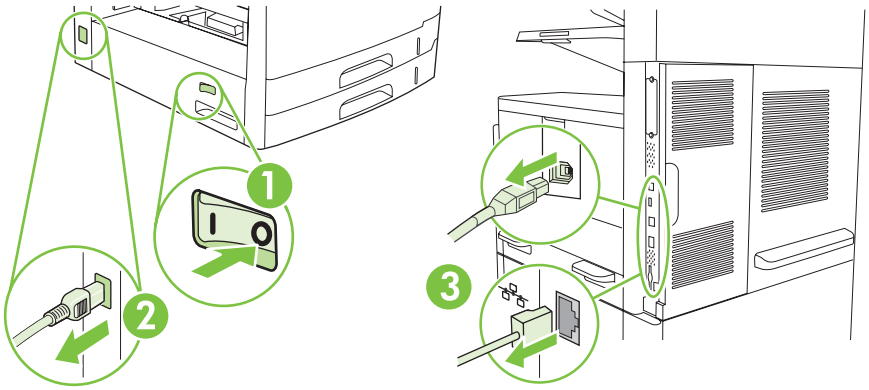
To install printer memory

△ **CAUTION:** Static electricity can damage DIMMs. When handling DIMMs, either wear an antistatic wrist strap, or frequently touch the surface of the DIMM antistatic package, and then touch bare metal on the printer.

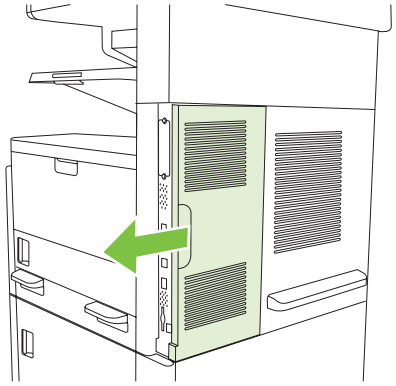
The HP LaserJet M5039XS Series MFP comes with one DIMM slot. If desired, you can replace a DIMM installed in the slot with a higher memory DIMM.

If you have not already done so, print a configuration page to find out how much memory is installed in the printer before adding more memory. See Use information pages on page 74.

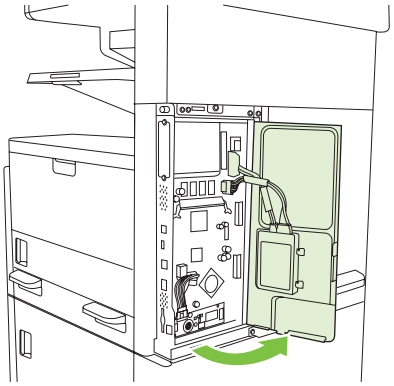
1. Turn off the device, and disconnect all of the cables.



2. At the back of the device, remove the formatter cover.



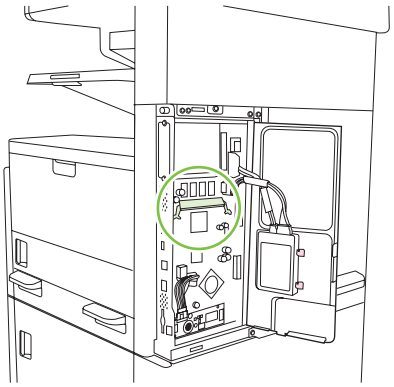
3. Open the formatter door.



4. Remove the DIMM from the antistatic package.

△ **CAUTION:** Static electricity can damage DIMMs. When handling DIMMs, either wear an antistatic wrist strap, or frequently touch the surface of the DIMM antistatic package, and then touch bare metal on the printer.

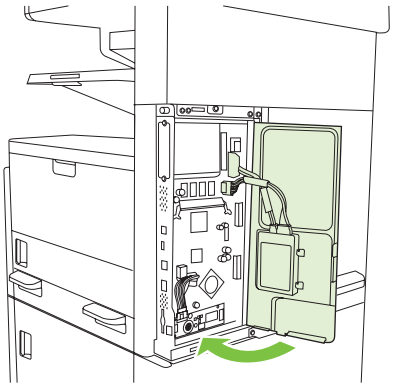
5. Hold the DIMM by the edges, and align the notches on the DIMM with the DIMM slot. (Check that the locks on each side of the DIMM slot are open.)



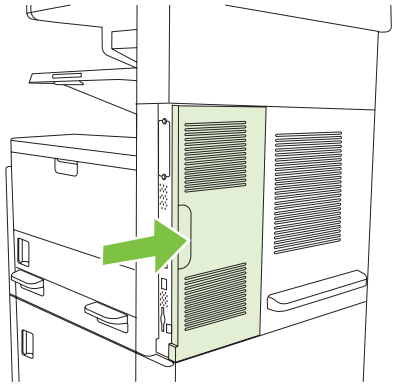
6. Press the DIMM straight into the slot, and press firmly. Make sure the locks on each side of the DIMM snap into place.

NOTE: To remove a DIMM, first release the locks.

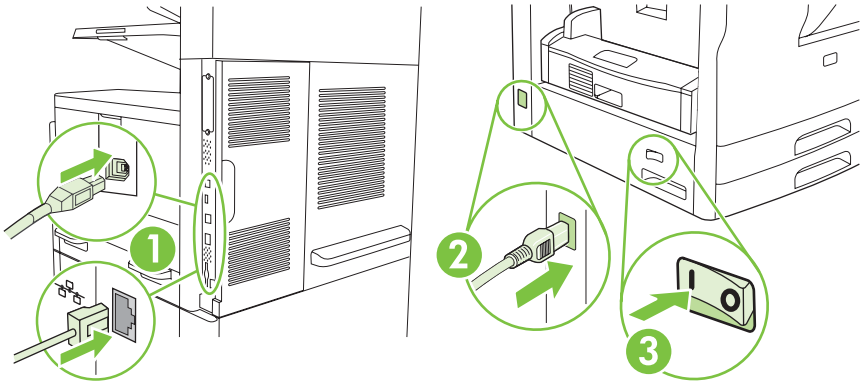
7. Close the formatter door.



8. Replace the formatter cover.



9. Reconnect the cables, and then turn on the device.



3 Manage and maintain the device

- Use the embedded Web server
- Use HP Web Jetadmin software
- Use the HP Printer Utility for Macintosh
- Use the Administration menu
- Configuring and verifying an IP address
- Remote firmware updates
- Manage supplies
- Replace supplies and parts
- Clean the device

Use the embedded Web server

NOTE: When the device is directly connected to a computer, use the HP Easy Printer Care software to view the device status.

- View device control status information
- Set the type of paper loaded in each tray
- Determine the remaining life on all supplies and order new ones
- View and change tray configurations
- View and change the device control panel menu configuration
- View and print internal pages
- Receive notification of device and supplies events
- View and change network configuration
- View support content that is specific to the current state of the device

When the device is connected to the network, the embedded Web server is automatically available. You can open the embedded Web server from Windows 95 and later.

To use the embedded Web server, you must have Microsoft Internet Explorer 4 and later or Netscape Navigator 4 and later. The embedded Web server works when the device is connected to an IP-based network. The embedded Web server does not support IPX-based or AppleTalk printer connections. You do not need Internet access to open and use the embedded Web server.

Open the embedded Web server by using a network connection

1. In a supported Web browser on your computer, type the device IP address or host name in the address/URL field. To find the IP address or host name, print a configuration page. See Use information pages on page 74.

   NOTE: After you open the URL, you can bookmark it so that you can return to it quickly in the future.

2. The embedded Web server has three tabs that contain settings and information about the device: the **Information** tab, the **Settings** tab, and the **Networking** tab. Click the tab that you want to view.

   See Embedded Web server sections on page 29 for more information about each tab.

Embedded Web server sections

Tab or section	Options
Information tab Provides device, status, and configuration information	• **Device Status**: Shows the device status and shows the life remaining of HP supplies, with 0% indicating that a supply is empty. The page also shows the type and size of print paper set for each tray. To change the default settings, click **Change Settings**. • **Configuration Page**: Shows the information found on the configuration page. • **Supplies Status**: Shows the life remaining of HP supplies, with 0% indicating that a supply is empty. This page also provides supplies part numbers. To order new supplies, contact your dealer. • **Event log**: Shows a list of all device events and errors. • **Usage page**: Shows a summary of the number of pages the device has printed, grouped by size and type. • **Device Information**: Shows the device network name, address, and model information. To change these entries, click **Device Information** on the **Settings** tab. • **Control Panel**: Shows messages from the device control panel, such as **Ready** or **Sleep mode on**. • **Print**: Allows you to send print jobs to the device.

Tab or section	Options
Settings tab Provides the ability to configure the device from your computer	• **Configure Device**: Allows you to configure device settings. This page contains the traditional menus found on devices using a control-panel display. • **E-mail Server**: Network only. Used in conjunction with the **Alerts** page to set up incoming and outgoing e-mail, as well as to set e-mail alerts. • **Alerts**: Network only. Allows you to set up to receive e-mail alerts for various device and supplies events. • **AutoSend**: Allows you to configure the device to send automated e-mails regarding device configuration and supplies to specific e-mail addresses. • **Security**: Allows you to set a password that must be entered to gain access to the **Settings** and **Networking** tabs. Use it to enable and disable certain features of the embedded Web server. • **Edit Other Links**: Allows you to add or customize a link to another Web site. This link is displayed in the **Other Links** area on all embedded Web server pages. • **Device Information**: Allows you to name the device and assign an asset number to it. Enter the name and e-mail address for the primary contact who will receive information about the device. • **Language**: Allows you to determine the language in which to display the embedded Web server information. • **Date & Time**: Allows time synchronization with a network time server. • **Wake Time**: Allows you to set or edit a wake time for the device. **NOTE:** The **Settings** tab can be password-protected. If this device is on a network, always consult with the system administrator before changing settings on this tab.
Networking tab Provides the ability to change network settings from your computer	Network administrators can use this tab to control network-related settings for the device when it is connected to an IP-based network. This tab does not appear if the device is directly connected to a computer, or if the device is connected to a network using anything other than an HP Jetdirect print server. **NOTE:** The **Networking** tab can be password-protected.

Use HP Web Jetadmin software

HP Web Jetadmin is a Web-based software solution for remotely installing, monitoring, and troubleshooting network-connected peripherals. The intuitive browser interface simplifies cross-platform management of a wide range of devices, including HP and non-HP devices. Management is proactive, allowing network administrators the ability to resolve issues before users are affected. Download this free, enhanced-management software at www.hp.com/go/webjetadmin_software.

To obtain plug-ins to HP Web Jetadmin, click **plug-ins**, and then click the **download** link that is next to the name of the plug-in that you want. The HP Web Jetadmin software can automatically notify you when new plug-ins are available. On the **Product Update** page, follow the directions to automatically connect to the HP Web site.

If installed on a host server, HP Web Jetadmin is available to any client through a supported Web browser, such as Microsoft Internet Explorer 6.0 for Windows or Netscape Navigator 7.1 for Linux. Browse to the HP Web Jetadmin host.

NOTE: Browsers must be Java™-enabled. Browsing from an Apple PC is not supported.

Use the HP Printer Utility for Macintosh

Use the HP Printer Utility to configure and maintain a printer from a Mac OS X computer.

Open the HP Printer Utility

Open the HP Printer Utility in Mac OS X V10.2.8

1. Open the Finder, and then click **Applications**.
2. Click **Library**, and then click **Printers**.
3. Click **hp**, and then click **Utilities**.
4. Double-click **HP Printer Selector** to open the HP Printer Selector.
5. Select the device that you want to configure, and then click **Utility**.

Open the HP Printer Utility in Mac OS X V10.3, V10.4 and later

1. In the Dock, click the **Printer Setup Utility** icon.

   NOTE: If the **Printer Setup Utility** icon does not appear in the Dock, open the Finder, click **Applications**, click **Utilities**, and then double-click **Printer Setup Utility**.

2. Select the device that you want to configure, and then click **Utility**.

HP Printer Utility features

The HP Printer Utility consists of pages that you open by clicking in the **Configuration Settings** list. The following table describes the tasks that you can perform from these pages.

Item	Description
Configuration Page	Prints a configuration page.
Supplies Status	Shows the device supplies status.
HP Support	Provides access to technical assistance, online supplies ordering, online registration, and recycling and return information.
File Upload	Transfers files from the computer to the device.
Upload Fonts	Transfers font files from the computer to the device.
Firmware Update	Transfers updated firmware files from the computer to the device.
Duplex Mode	Turns on the automatic two-sided printing mode.
Economode & Toner Density	Turns on the Economode setting to conserve toner, or adjusts toner density.
Resolution	Changes the resolution settings, including the REt setting.
Lock Resources	Locks or unlocks storage products, such as a hard disk.
Stored Jobs	Manages print jobs that are stored on the device hard disk.
Trays Configuration	Changes the default tray settings.
IP Settings	Changes the device network settings and provides access to the embedded Web server.
Bonjour Settings	Provides the ability to turn on or off Bonjour support or change the device service name that is listed on a network.
Additional Settings	Provides access to the embedded Web server.
E-mail Alerts	Configures the device to send e-mail notices for certain events.

Use the Administration menu

Use the Administration menu to set up default device behavior and other global settings, such as the language and the format for date and time.

Navigate the Administration menu

From the Home screen, touch Administration to open the menu structure. You might need to scroll to the bottom of the Home screen to see this feature.

The Administration menu has several sub-menus, which are listed on the left side of the screen. Touch the name of a menu to expand the structure. A plus sign (+) next to a menu name means that it contains sub-menus. Continue opening the structure until you reach the option that you want to configure. To return to the previous level, touch Back.

To exit the Administration menu, touch the Home button ( ) in the upper-left corner of the screen.

The device has built-in Help that explains each of the features that are available through the menus. Help is available for many menus on the right-hand side of the touchscreen. Or, to open the global Help system, touch the Help button ( ) in the upper-right corner of the screen.

The tables in the sections that follow indicate the overall structure of each menu.

Information menu

Table 3-1 Information menu

Menu item	Sub-menu item	Sub-menu item	Values	Description
Configuration/Status Pages	Administration Menu Map		Print (button)	Shows the basic structure of the Administration menu and current administration settings.
	Configuration Page		Print (button)	A set of configuration pages that show the current device settings.
	Supplies Status Page		Print (button)	Shows the status of supplies such as cartridges, maintenance kits, and staples.
	Usage Page		Print (button)	Shows information about the number of pages that have been printed on each paper type and size.
	File Directory		Print (button)	A directory page that contains information for any mass-storage devices, such as flash drives, memory cards, or hard disks, that are installed in this device.

Table 3-1 Information menu (continued)

Menu item	Sub-menu item	Sub-menu item	Values	Description
Fax Reports	Fax Activity Log		Print (button)	Contains a list of the faxes that have been sent from or received by this device.
	Fax Call Report	Fax Call Report	Print (button)	A detailed report of the last fax operation, either sent or received.
		Thumbnail on Report	Yes No (default)	Choose whether or not to include a thumbnail of the first page of the fax on the report.
		When to Print Report	Never auto print Print after any fax job Print after fax send jobs Print after any fax error (default) Print after send errors only Print after receive errors only	
	Billing Codes Report		Print	A list of billing codes that have been used for outgoing faxes. This report shows how many sent faxes were billed to each code.
	Blocked Fax List		Print	A list of phone numbers that are blocked from sending faxes to this device.
	Speed Dial List		Print	Shows the speed dials that have been set up for this device.
Sample Pages/Fonts	PCL Font List		Print	A list of printer control language (PCL) fonts that are currently available on the device.
	PS Font List		Print	A list of PostScript (PS) fonts that are currently available on the device.

Default Job Options menu

The Default Job Options menu contains the following sub-menus:

- Default Options for Originals
- Image adjustment
- Default Copy Options
- Default Fax Options
- Default E-mail Options
- Default Send To Folder Options
- Default Print Options

Default Options for Originals

This section describes default settings for originals that will be copied.

NOTE: Values shown with "(default)" are the factory-default values. Some menu items have no default.

Table 3-2 Default Options for Originals menu

Menu item	Values	Description
Paper Size	Select a paper size from the list.	Select the paper size that is most often used for copy or scan originals.
Number of Sides	1 (default)	Select whether copy or scan originals are most often single-sided or double-sided.
	2	
Orientation	Portrait (default)	Select the orientation that is most often used for copy or scan originals. Select Portrait if the short edge is at the top or select Landscape if the long edge is at the top.
	Landscape	
Optimize Text/Picture	Manually Adjust (default)	Use this setting to optimize the output for a particular type of original. You can optimize the output for text, pictures, or a mixture. If you select Manually Adjust, you can specify the mix of text and pictures that will most often be used.
	Text	
	Photograph	

Image adjustment

Table 3-3 Image adjustment

Menu item	Values	Description
Image Adjustment	Darkness	Use this setting to optimize the output for darker or lighter originals that you scan or copy.
	Background Cleanup	Increase the Background Cleanup setting to remove faint images from the background or to remove a light background color.
	Sharpness	Adjust the Sharpness setting to clarify or soften the image.

Default Copy Options

NOTE: Values shown with “(default)” are the factory-default values. Some menu items have no default.

Table 3-4 Default Copy Options menu

Menu item	Sub-menu item	Values	Description
Number of Copies		Type the number of copies. The factory default setting is 1.	Set the default number of copies for a copy job.
Number of Sides		1 (default) 2	Set the default number of sides for copies.
Staple/Collate	Staple	None (default) One left angled	Set up options for stapling and collating sets of copies. When you make multiple copies of a document, collating places the pages in the correct order, one set at a time, rather than placing all copies of each page next to each other.
	Collate	Off On (default)	
Output Bin		Standard output bin (default) Stacker bin	Select the default output bin, if applicable, for copies.
Edge-To-Edge		Normal (recommended) (default) Edge-To-Edge Output	If the original document is printed close to the edges, use the Edge-To-Edge feature to avoid shadows that can appear along the edges. Combine this feature with the Reduce/Enlarge feature to ensure that the entire page is printed on the copies.

Default Fax Options

NOTE: Values shown with "(default)" are the factory-default values. Some menu items have no default.

Table 3-5 Fax Send menu

Menu item	Sub-menu item	Values	Description
Resolution		Standard (100x200dpi) (default) Fine (200x200dpi) Superfine (300x300dpi)	Use this feature to set the resolution for sent documents. Higher resolution images have more dots per inch (dpi), so they show more detail. Lower resolution images have fewer dots per inch and show less detail, but the file size is smaller.
Fax Header		Prepend (default) Overlay	Use this feature to select the position of the fax header on the page. Select Prepend to print the fax header above the fax content and move the fax content down on the page. Select Overlay to print the fax header over the top of the fax content without moving the fax content down. Using this option could prevent a single-page fax from flowing onto another page.

Table 3-6 Fax Receive menu

Menu item	Values	Description
Forward Fax	Fax Forwarding Change PIN	To forward received faxes to another fax device, select Fax Forwarding and Custom. When you select this menu item for the fist time, you are prompted to set up a PIN. You will be prompted to enter that PIN every time you try to use this menu. This is the same PIN that is used to access the Fax Printing menu.
Stamp Received Faxes	Enabled Disabled (default)	Use this option to add the date, time, sender's phone number, and page number to each page of the faxes that this device receives.
Fit to Page	Enabled (default) Disabled	Use this feature to shrink faxes that are larger than Letter-size or A4-size so that they can fit onto a Letter-size or A4-size page. If it this feature set to Disabled, faxes larger than Letter or A4 will flow across multiple pages.
Fax Paper Tray	Select from the list of trays.	Select the tray that holds the size and type of paper that you want to use for incoming faxes.
Output Bin	Select from the list of output bins.	Select the default output bin, if applicable, to use for faxes.

Default E-mail Options

NOTE: Values shown with “(default)” are the factory-default values. Some menu items have no default.

Menu item	Values	Description
Document File Type	PDF (default) JPEG TIFF M-TIFF	Choose the file format for the e-mail.
Output Quality	High (large file) Medium (default) Low (small file)	Choosing higher quality for output increases the size of the output file.
Resolution	75 DPI 150 DPI (default) 200 DPI 300 DPI	Use this feature to select the resolution. Use a lower setting to create smaller files.
Color/Black	Color scan (default) Black/white scan	Specify whether the e-mail will be in black or in color.
TIFF Version	TIFF 6.0 (default) TIFF (Post 6.0)	Use this feature to specify the TIFF version to use when saving scanned files.

Default Send to Folder Options

NOTE: Values shown with "(default)" are the factory-default values. Some menu items have no default.

Menu item	Values	Description
Color/Black	Color scan Black/white scan (default)	Specify whether the file will be in black or in color.
Document File Type	PDF (default) M-TIFF TIFF JPEG	Choose the file format for the file.
TIFF version	TIFF 6.0 (default) TIFF (post 6.0)	Use this feature to specify the TIFF version to use when saving scanned files.
Output Quality	High (large file) Medium (default) Low (small file)	Choosing higher quality for output increases the size of the output file.
Resolution	75 DPI 150 DPI (default) 200 DPI 300 DPI	Use this feature to select the resolution. Use a lower setting to create smaller files.

Default Print Options

NOTE: Values shown with “(default)” are the factory-default values. Some menu items have no default.

Table 3-7 Default Print Options menu

Menu item	Sub-menu item	Values	Description
Copies Per Job		1 to 32,000	Use this feature to set the default number of copies for print jobs.
Default Paper Size		(List of supported sizes.)	Choose a paper size that will be used when the driver doe not specify a size.
Default Custom Paper Size	Unit of measure	Millimeters Inches	Configure the default paper size that is used when the user selects Custom as the paper size for a print job.
	X Dimension		Configure the width measurement for the Default Custom Paper Size.
	Y Dimension		Configure the height measurement for the Default Custom Paper Size.
Output Bin		Standard output bin (default) Stacker bin	Select the default output bin for print jobs.
Print Sides		1-sided (default) 2-sided	Use this feature to select whether print jobs should be single-sided or double-sided by default.
2-Sided Format		Book style Flip style	Use this feature to configure the default style for 2-sided print jobs. If Book style is selected, the back side of the page is printed the right way up. This option is for print jobs that are bound along the left edge. If Flip style is selected, the back side of the page is printed upside-down. This option is for print jobs that are bound along the top edge. **NOTE:** This option only appears if the 2-sided value is selected in the Print Sides sub-menu.

Time/Scheduling menu

NOTE: Values shown with "(default)" are the factory-default values. Some menu items have no default.

Table 3-8 Time/Scheduling menu

Menu item	Sub-menu item	Sub-menu item	Values	Description
Date/Time	Date Format		YYYY/MMM/DD (default) MMM/DD/YYYY DD/MMM/YYYY	Use this feature to set the current date and time, and to set the date format and time format that are used to time-stamp outgoing faxes.
	Date	Month Day Year		
	Time Format		12 hour (AM/PM) (default) 24 hour	
	Time	Hour Minute AM PM		
Sleep Delay			20 minutes 30 minutes (default) 45 minutes 1 hour (60 minutes) 90 minutes 2 hours 4 hours	Use this feature to select the time interval that the device should remain inactive before entering Sleep Mode.
Wake Time	Monday Tuesday Wednesday Thursday Friday Saturday Sunday		Off (default) Custom	Select Custom to set a wake time for each day of the week. The device exits sleep mode according to this schedule. Using a sleep schedule helps conserve energy and prepares the device for use so that users do not have to wait for it to warm up.

Table 3-8 Time/Scheduling menu (continued)

Menu item	Sub-menu item	Sub-menu item	Values	Description
Fax Printing	Fax Printing Mode		Store all received faxes Print all received faxes Use Fax Printing Schedule	If you have concerns about the security of private faxes, use this feature to store faxes rather than having them automatically print by creating a printing schedule. For the fax printing schedule, the control panel prompts you to select days and times to print faxes.
	Change PIN			Select Change PIN to change the PIN number that users must provide to print faxes.

Management menu

NOTE: Values shown with "(default)" are the factory-default values. Some menu items have no default.

Table 3-9 Management menu

Menu item	Sub-menu item	Values	Description
Stored Job Management	Quick Copy Job Storage Limit	Select the maximum number of jobs to store	Use this menu to view and manage any jobs that are stored on the device.
	Quick Copy Job Held Timeout	1 Hour 4 Hours 1 Day 1 Week	
Manage Supplies	Supply Low/Order Threshold	Select a value in the range.	Use this menu to carry out administrative supply management tasks such as changing the threshold when supplies should be ordered. **NOTE:** The Override at out setting allows the user to continue printing when the MFP detects a toner cartridge out or empty condition.
	Replace Black Cartridge	Stop at low Stop at out Override at out (default)	
Sleep mode		Disable Use Sleep Delay (default)	Use this feature to customize the sleep mode settings for this device. Select Use Sleep Delay to set the device to enter sleep mode after the delay that is specified in the Time/ Scheduling menu.

Initial Setup menu

The Initial Setup menu contains the sub-menus shown:

- Networking and I/O menu
- Fax Setup menu
- E-mail Setup menu
- Send setup menu

NOTE: Values shown with "(default)" are the factory-default values. Some menu items have no default.

Networking and I/O

Table 3-10 Networking and I/O

Menu item	Sub-menu item	Values	Description
I/O Timeout		Select a value in the range. The factory default setting is 15 seconds.	I/O timeout refers to the elapsed time before a print job fails. If the stream of data that the device receives for a print job gets interrupted, this setting indicates how long the device will wait before it reports that the job has failed.
Parallel Input **NOTE:** This item appears only if an EIO accessory is installed.	High Speed	No Yes (default)	Use the High Speed setting to configure the speed that the parallel port uses to communicate with the host.
	Advanced Functions	Enabled (default) Disabled	Use the Advanced Functions setting to enable or disable bidirectional parallel communication.
Embedded Jetdirect	See Table 3-11 Jetdirect menus on page 46 for the list of options.		
EIO <X> Jetdirect **NOTE:** This item appears only if an EIO accessory is installed.			

Table 3-11 Jetdirect menus

Menu item	Sub-menu item	Sub-menu item	Values and Description
TCP/IP	Enable		Off: Disable the TCP/IP protocol. On (default): Enable the TCP/IP protocol.
	Host Name		An alphanumeric string, up to 32 characters, used to identify the device. This name is listed on the HP Jetdirect configuration page. The default host name is NPIxxxxxx, where xxxxxx is the last six digits of the LAN hardware (MAC) address.

Table 3-11 Jetdirect menus (continued)

Menu item	Sub-menu item	Sub-menu item	Values and Description
	IPV4 Settings	Config Method	Specifies the method that TCP/IPv4 parameters will be configured on the HP Jetdirect print server. Bootp: Use BootP (Bootstrap Protocol) for automatic configuration from a BootP server. DHCP: Use DHCP (Dynamic Host Configuration Protocol) for automatic configuration from a DHCPv4 server. If selected and a DHCP lease exists, DHCP Release and DHCP Renew menus are available to set DHCP lease options. Auto IP: Use automatic link-local IPv4 addressing. An address in the form 169.254.x.x is assigned automatically. Manual: Use the Manual Settings menu to configure TCP/IPv4 parameters.
		DHCP Release	This menu appears if Config Method was set to DHCP and a DHCP lease for the print server exists. No (default): The current DHCP lease is saved. Yes: The current DHCP lease and the leased IP address are released.
		DHCP Renew	This menu appears if Config Method was set to DHCP and a DHCP lease for the print server exists. No (default): The print server does not request to renew the DHCP lease. Yes: The print server requests to renew the current DHCP lease.
		Manual Settings	(Available only if Config Method is set to Manual) Configure parameters directly from the printer control panel: IP Address: The unique IP address of the printer (n.n.n.n), where n is a value from 0 to 255. Subnet Mask: The subnet mask for the printer (m.m.m.m), where m is a value from 0 to 255. Syslog Server: The IP address of the syslog server used to receive and log syslog messages. Default Gateway: The IP address of the gateway or router used for communications with other networks. Idle Timeout: The time period, in seconds, after which an idle TCP print data connection is closed (default is 270 seconds, 0 disables the timeout).

Table 3-11 Jetdirect menus (continued)

Menu item	Sub-menu item	Sub-menu item	Values and Description
		Default IP	Specify the IP address to default to when the print server is unable to obtain an IP address from the network during a forced TCP/IP reconfiguration (for example, when manually configured to use BootP or DHCP). Auto IP: A link-local IP address 169.254.x.x is set. Legacy: The address 192.0.0.192 is set, consistent with older HP Jetdirect devices.
		Primary DNS	Specify the IP address (n.n.n.n) of a Primary DNS Server.
		Secondary DNS	Specify the IP address (n.n.n.n) of a Secondary Domain Name System (DNS) Server.
	IPV6 Settings	Enable	Use this item to enable or disable IPv6 operation on the print server. Off (default): IPv6 is disabled. On: IPv6 is enabled.
		Address	Use this item to manually configure an IPv6 address. Manual Settings: Use the Manual Settings menu to enable and manually configure a TCP/ IPv6 address.
		DHCPV6 Policy	Router Specified: The stateful auto-configuration method to be used by the print server is determined by a router. The router specifies whether the print server obtains its address, its configuration information, or both from a DHCPv6 server. Router Unavailable: If a router is not available, the print server should attempt to obtain its stateful configuration from a DHCPv6 server. Always: Whether or not a router is available, the print server always attempts to obtain its stateful configuration from a DHCPv6 server.
		Primary DNS	Use this item to specify an IPv6 address for a primary DNS server that the print server should use.
		Manual Settings	Use this item to manually set IPv6 addresses on the print server. Enable: Select this item and choose On to enable manual configuration, or Off to disable manual configuration. Address: Use this item to type a 32 hexadecimal digit IPv6 node address that uses the colon hexadecimal syntax.

Table 3-11 Jetdirect menus (continued)

Menu item	Sub-menu item	Sub-menu item	Values and Description
	Proxy Server		Specifies the proxy server to be used by embedded applications in the device. A proxy server is typically used by network clients for Internet access. It caches Web pages, and provides a degree of Internet security, for those clients. To specify a proxy server, enter its IPv4 address or fully-qualified domain name. The name can be up to 255 octets. For some networks, you may need to contact your Independent Service Provider (ISP) for the proxy server address.
	Proxy Port		Type the port number used by the proxy server for client support. The port number identifies the port reserved for proxy activity on your network, and can be a value from 0 to 65535.
IPX/SPX	Enable		Off: Disable the IPX/SPX protocol. On (default): Enable the IPX/SPX protocol.
	Frame Type		Selects the frame-type setting for your network. Auto: Automatically sets and limits the frame type to the first one detected. EN_8023, EN_II, EN_8022, and EN_SNAP: Frame-type selections for Ethernet networks.
AppleTalk	Enable		Off (default): Disable the AppleTalk protocol. On: Enable the AppleTalk protocol.
DLC/LLC	Enable		Off (default): Disable the DLC/LLC protocol. On: Enable the DLC/LLC protocol.

Table 3-11 Jetdirect menus (continued)

Menu item	Sub-menu item	Sub-menu item	Values and Description
Security	Print Sec Page		Yes: Prints a page that contains the current security settings on the HP Jetdirect print server. No (default): A security settings page is not printed.
	Secure Web		For configuration management, specify whether the embedded Web server will accept communications using HTTPS (Secure HTTP) only, or both HTTP and HTTPS. HTTPS Required: For secure, encrypted communications, only HTTPS access is accepted. The print server will appear as a secure site. HTTP/HTTPS optional: Access using either HTTP or HTTPS is permitted.
	IPsec or Firewall		Specify the IPsec or Firewall status on the print server. Keep: IPsec/Firewall status remains the same as currently configured. Disable: IPsec/Firewall operation on the print server is disabled.
	Reset Security		Specify whether the current security settings on the print server will be saved or reset to factory defaults. No: The current security settings are maintained. Yes: Security settings are reset to factory defaults.
Diagnostics	Embedded Test		This menu provides tests to help diagnose network hardware or TCP/IP network connection problems. Embedded tests help to identify whether a network fault is internal or external to the device. Use an embedded test to check hardware and communication paths on the print server. After you select and enable a test and set the execution time, you must select Execute to initiate the test. Depending on the execution time, a selected test runs continuously until either the device is turned off, or an error occurs and a diagnostic page is printed.
		LAN HW Test	**CAUTION:** Running this embedded test will erase your TCP/IP configuration. This test performs an internal loopback test. An internal loopback test will send and receive packets only on the internal network hardware. There are no external transmissions on your network. Select Yes to choose this test, or No to not choose it.
		HTTP Test	This test checks operation of HTTP by retrieving predefined pages from the device, and tests the embedded Web server. Select Yes to choose this test, or No to not choose it.

Table 3-11 Jetdirect menus (continued)

Menu item	Sub-menu item	Sub-menu item	Values and Description
		SNMP Test	This test checks operation of SNMP communications by accessing predefined SNMP objects on the device. Select Yes to choose this test, or No to not choose it.
		Select All Tests	Use this item to select all available embedded tests. Select Yes to choose all tests. Select No to select individual tests.
		Data Path Test	This test helps to identify data path and corruption problems on an HP postscript level 3 emulation device. It sends a predefined PS file to the device, However, the test is paperless; the file will not print. Select Yes to choose this test, or No to not choose it.
		Execution Time [H]	Use this item to specify the length of time (in hours) that an embedded test will be run. You can select a value from 1 to 60 hours. If you select zero (0), the test runs indefinitely until an error occurs or device is turned off. Data gathered from the HTTP, SNMP, and Data Path tests is printed after the tests have completed.
		Execute	No: Do not initiate the selected tests. Yes: Initiate the selected tests.
	Ping Test		This test is used to check network communications. This test sends link-level packets to a remote network host, then waits for an appropriate response. To run a ping test, set the following items:
		Dest Type	Specify whether the target device is an IPv4 or IPv6 node.
		Dest IP	IPV4: Type the IPv4 address. IPV6 : Type the IPv6 address.
		Packet Size	Specify the size of each packet, in bytes, to be sent to the remote host. The minimum is 64 (default) and the maximum is 2048.
		Timeout	Specify the length of time, in seconds, to wait for a response from the remote host. The default is 1 and the maximum is 100.
		Count	Specify the number of ping test packets to send for this test. Select a value from 1 to 100. To configure the test to run continuously, select 0.
		Print Results	If the ping test was not set for continuous operation, you can choose to print the test results. Select Yes to print results. If you select No (default), results are not printed.
		Execute	Specify whether to initiate the ping test. Select Yes to initiate the test, or No to not run the test.

Table 3-11 Jetdirect menus (continued)

Menu item	Sub-menu item	Sub-menu item	Values and Description
	Ping Results		Use this item to view the ping test status and results by using the control-panel display. You can select the following items:
		Packets Sent	Shows the number of packets (0 - 65535) sent to the remote host since the most recent test was initiated or completed.
		Packets Received	Shows the number of packets (0 - 65535) received from the remote host since the most recent test was initiated or completed.
		Percent Lost	Shows the percent of ping test packets that were sent with no response from the remote host since the most recent test was initiated or completed.
		RTT Min	Shows the minimum detected roundtrip- time (RTT), from 0 to 4096 milliseconds, for packet transmission and response.
		RTT Max	Shows the maximum detected roundtrip- time (RTT), from 0 to 4096 milliseconds, for packet transmission and response.
		RTT Average	Shows the average round-trip-time (RTT), from 0 to 4096 milliseconds, for packet transmission and response.
		Ping In Progress	Shows whether a ping test is in progress. Yes indicates a test in progress, and No indicates that a test completed or was not run.
		Refresh	When viewing the ping test results, this item updates the ping test data with current results. Select Yes to update the data, or No to maintain the existing data. However, a refresh automatically occurs when the menu times out or you manually return to the main menu.

Table 3-11 Jetdirect menus (continued)

Menu item	Sub-menu item	Sub-menu item	Values and Description
Link Speed			The link speed and communication mode of the print server must match the network. The available settings depend on the device and installed print server. Select one of the following link configuration settings: **CAUTION:** If you change the link setting, network communications with the print server and network device might be lost. Auto (default): The print server uses auto-negotiation to configure itself with the highest link speed and communication mode allowed. If auto-negotiation fails, either 100TX HALF or 10TX HALF is set depending on the detected link speed of the hub/switch port. (A 1000T half-duplex selection is not supported.) 10T Half: 10 Mbps, half-duplex operation. 10T Full: 10 Mbps, Full-duplex operation. 100TX Half: 100 Mbps, half-duplex operation. 100TX Full: 100 Mbps, full-duplex operation. 100TX Auto: Limits auto-negotiation to a maximum link speed of 100 Mbps. 1000TX Full: 1000 Mbps, full-duplex operation.
Print Protocols			Use this item to print a page that lists the configuration of the following protocols: IPX/SPX, Novell NetWare, AppleTalk, DLC/LLC.

Fax Setup

Table 3-12 Fax Setup menu

Menu item	Sub-menu item	Sub-menu item	Values	Description
Required Settings	Location		(Countries/regions listed)	Configure the settings that are legally required for outgoing faxes.
	Date/Time			
	Fax Header Information	Phone Number		
		Company Name		
PC Fax Send			Disabled Enabled (default)	Use this feature to enable or disable PC Fax Send. PC Fax Send enables users to send faxes through the device from their computers if they have the correct driver installed.

Table 3-12 Fax Setup menu (continued)

Menu item	Sub-menu item	Sub-menu item	Values	Description
Fax Send Settings	Fax Dial Volume		Off Medium (default) High	Use this feature to set the volume of the tones that you hear while the device dials the fax number.
	Error Correction Mode		Enabled (default) Disabled	When Error Correction Mode is enabled and an error occurs during fax transmission, the device sends or receives the error portion again.
	JBIG Compression		Disabled Enabled (default)	The JBIG Compression reduces fax-transmission time, which can result in lower phone charges. However, using JBIG Compression sometimes causes compatibility problems with older fax machines. If this occurs, turn off the JBIG Compression.
	Maximum Baud Rate		Select a value from the list.	Use this feature to set the maximum baud rate for receiving faxes. This can be used as a diagnostic tool for troubleshooting fax problems.
	Dialing Mode		Tone (default) Pulse	Select whether the device should use tone or pulse dialing.
	Redial On Busy		The range is between 0 and 9. The factory default is 3 times.	Type the number of times the device should attempt to redial if the line is busy.
	Redial On No Answer		Never (default) Once Twice	Use this feature to specify the number of times the device should attempt to dial if the recipient fax number does not answer. **NOTE:** Twice is available in locations other than the United States and Canada.
	Redial Interval		The range is between 1 and 5 minutes. The factory default is 5 minutes.	Use this feature to specify the number of minutes between dialing attempts if the recipient number is busy or not answering.
	Detect Dial Tone		Enabled Disabled (default)	Use this feature to specify whether the device should check for a dial tone before sending a fax.
	Dialing Prefix		Off (default) Custom	Use this feature to specify a prefix number that must be dialed when sending faxes from the device.
	Billing Codes		Off (default) Custom	When billing codes are enabled, a prompt appears that asks the user to enter the billing code for an outgoing fax.
		Minimum Length	The range is between 1 and 16 digits. The default is 1 digit.	

Table 3-12 Fax Setup menu (continued)

Menu item	Sub-menu item	Sub-menu item	Values	Description
Fax Receive Settings	Rings To Answer		The range varies by location. The factory default is 2 rings.	Use this feature to specify the number of rings that must occur before the fax modem answers.
	Ring Interval		Default (default) Custom	Use this feature to control the time between rings for incoming faxes.
	Ringer Volume		Off Low (default) High	Set the volume for the fax ring-tone.
	Blocked Fax Numbers	Add Blocked Numbers	Type the fax number to add.	Use this feature to add or delete numbers from the blocked fax list. The blocked fax list can contain up to 30 numbers. When the device receives a call from one of the blocked fax numbers, it deletes the incoming fax. It also logs the blocked fax in the activity log along with job-accounting information.
		Remove Blocked Numbers	Select a fax number to remove.	
		Clear All Blocked Numbers	No (default) Yes	

E-mail Setup

NOTE: To configure advanced e-mail settings, use the embedded Web server. For more information, see Use the embedded Web server on page 28.

Table 3-13 E-mail Setup menu

Menu item	Values	Description
Address Validation	On (default) Off	This option enables the device to check e-mail syntax when you type an e-mail address. Valid e-mail addresses require the "@" sign and a ".".
Find Send Gateways		Search the network for SMTP gateways that the device can use to send e-mail.
SMTP Gateway	Enter a value.	Specify the IP address of the SMTP gateway that is used to send e-mail from the device.
Test Send Gateway		Test the configured SMTP gateway to see if it is functional.

Send Setup menu

Table 3-14 Send Setup menu

Menu item	Values	Description
Replicate MFP	Enter a value (IP Address).	Copy the local Send settings from one device to another.
Allow Transfer to New DSS		Use this feature to allow the transfer of the device from one HP Digital Sending Software (DSS) server to another. HP DSS is a software package that handles digital sending tasks such as faxing, e-mail, and sending a scanned document to a network folder.
Allow Use of Digital Send Service		This feature allows you to configure the device for use with an HP Digital Sending Software (DSS) server.

Device Behavior menu

NOTE: Values shown with "(default)" are the factory-default values. Some menu items have no default.

Table 3-15 Device Behavior menu

Menu item	Sub-menu item	Sub-menu item	Values	Description
Language			Select the language from the list.	Use this feature to select a different language for control-panel messages. When you select a new language, the keyboard layout might also change.
Key Press Sound			On (default) Off	Use this feature to specify whether you hear a sound when you touch the screen or press buttons on the control panel.
Inactivity Timeout			Type a value between 10 and 300 seconds. The factory default is 60 seconds.	Use this feature to specify the amount of time that elapses between any activity on the control panel and the device resetting to the default settings.
Warning/Error Behavior	Clearable Warnings		On Job (default)	If this feature is enabled, a clearable warning appears on the control panel until the error is cleared.
	Continuable Events		Auto continue (10 seconds) (default) Touch OK to continue	Use this option to configure the device behavior when the device encounters certain errors.
	Jam Recovery		Auto (default) On Off	Use this feature to configure how the device handles pages that are lost during a jam.
Stapler/Stacker **NOTE:** This item appears only if a stapler/stacker is installed.	Staple		None One left angled	Use this feature to set stapling characteristics for the device.
	Staples Out		Continue (default) Stop	

Table 3-15 Device Behavior menu (continued)

Menu item	Sub-menu item	Sub-menu item	Values	Description
Tray Behavior	Use Requested Tray		Exclusively (default) First	Use this feature to control how the device handles jobs that have specified a specific input tray.
	Manually Feed Prompt		Always (default) Unless Loaded	Use this feature to indicate whether a prompt should appear when the type or size for a job does not match the specified tray and the device pulls from the multipurpose tray instead.
	PS Defer Media		Enabled (default) Disabled	Use this feature to choose either the PostScript (PS) or HP paper-handling model.
	Use Another Tray		Enabled (default) Disabled	Use this feature to turn on or off the control-panel prompt to select another tray when the specified tray is empty.
	Size/Type Prompt		Display Do not display (default)	Use this feature to control whether the tray configuration message appears whenever a tray is opened or closed.
	Duplex Blank Pages		Auto (default) Yes	Use this feature to control how the device handles two-sided jobs (duplexing).
	Image Rotation		Standard (default) Alternate	This option is available if the device does not have a finisher that requests rotation. Image Rotation allows users to put paper in the input tray using the same orientation, regardless of whether a finisher is installed. Select the Standard setting to match the loading orientation of other devices that have a finisher. Select the Alternate setting to use a different loading orientation that might work better with preprinted forms that are used on legacy products.

Table 3-15 Device Behavior menu (continued)

Menu item	Sub-menu item	Sub-menu item	Values	Description
General Copy Behavior	Scan Ahead		Enabled (default) Disabled	Use this feature to turn on no-wait scanning. With Scan Ahead enabled, the pages in the original document are scanned to disk and held until the device becomes available.
	Auto Print Interrupt		Enabled Disabled (default)	When this feature is enabled, copy jobs can interrupt print jobs that are set to print multiple copies. The copy job is inserted into the print queue at the end of one copy of the print job. After the copy job is complete, the device continues printing the remaining copies of the print job.
	Copy Interrupt		Enabled Disabled (default)	When this feature is enabled, a copy job that is currently printing can be interrupted when a new copy job is started. You are prompted to confirm that you want to interrupt the current job.
	Alternative Letterhead Mode		Enabled Disabled (default)	This feature allows the user to always load letterhead or preprinted sheets the same way for all copy jobs (regardless of whether the job is a one-sided or a two-sided copy job).
General Print Behavior	Override A4/Letter		No Yes (default)	Use this feature to print on letter-size paper when an A4 job is sent but no A4-size paper is loaded in the device (or to print on A4 paper when a letter-size job is sent but no letter-size paper is loaded). This option will also override A3 with ledger-size paper and ledger with A3-size paper.
	Manual Feed		Enabled Disabled (default)	When this feature is enabled, the user can select manual feed from the control panel as the paper source for a job.
	Courier Font		Regular (default) Dark	Use this feature to select which version of the Courier font you want to use.
	Wide A4		Enabled Disabled (default)	Use this feature to change the printable area of A4-size paper. If you enable this option, eighty 10-pitch characters can be printed on a single line of A4 paper.
	Print PS Errors		Enabled Disabled (default)	Use this feature to select whether a PostScript (PS) error page is printed when the device encounters a PS error.
	Print PDF Errors		Enabled Disabled (default)	Use this feature to select whether a PDF error page is printed when the device encounters a PDF error.
	Personality		Auto (default) PCL PDF PS	Select the printer language that the device should use. Normally you should not change the language. If you change the setting to a specific language, the device does not automatically switch from one language to another unless specific software commands are sent to the device.

Table 3-15 Device Behavior menu (continued)

Menu item	Sub-menu item	Sub-menu item	Values	Description
	PCL	Form Length	Type a value between 5 and 128 lines. The factory default is 60 lines.	PCL is a set of printer commands that Hewlett-Packard developed to provide access to printer features.
		Orientation	Portrait (default) Landscape	Select the orientation that is most often used for print jobs. Select Portrait if the short edge is at the top or select Landscape if the long edge is at the top.
		Font Source	Select the source from the list.	Use this feature to select the font source for the user-defined soft default font.
		Font Number	Type the font number. The range is between 0 and 999. The factory default is 0.	Use this feature to specify the font number for the user soft-default font using the source that is specified in the Font Source menu item. The device assigns a number to each font and lists it on the PCL font list (available from the Administration menu).
		Font Pitch	Type a value between 0.44 and 99.99. The factory default is 10.00.	If Font Source and Font Number indicate a contour font, then use this feature to select a default pitch (for a fixed-spaced font).
		Font Point Size	Type a value between 4.00 and 999.75. The factory default is 12.00.	If Font Source and Font Number indicate a contour font, then use this feature to select a default point size (for a proportional-spaced font).
		Symbol Set	PC-8 (default) (50 additional symbol sets from which to choose)	Use this feature to select any one of several available symbol sets from the control panel. A symbol set is a unique grouping of all the characters in a font.
		Append CR to LF	No (default) Yes	Use this feature to configure whether a carriage return (CR) is appended to each line feed (LF) encountered in backwards-compatible PCL jobs (pure text, no job control).
		Suppress Blank Pages	No (default) Yes	This option is for users who are generating their own PCL, which could include extra form feeds that would cause blank pages to be printed. When Yes is selected, form feeds are ignored if the page is blank.
		Media Source Mapping	Standard (default) Classic	Use this feature to select and maintain input trays by number when you are not using the device driver, or when the software program has no option for tray selection.

Print Quality menu

NOTE: Values shown with "(default)" are the factory-default values. Some menu items have no default.

Table 3-16 Print Quality menu

Menu item	Sub-menu item	Values	Description
Set Registration	Source	All trays Tray <X>: <contents> (choose a tray)	Use Set Registration to shift the margin alignment to center the image on the page from top to bottom and from left to right. You can also align the image on the front with the image printed on the back. Select the source input tray for printing the Set Registration page.
	Print Test Page	Print (button)	Print a test page for setting the registration. Follow the instructions that are printed on the page to adjust each tray.
	Adjust Tray <X>	Shift from -20 to 20 along the X or Y axes. 0 is the default.	Perform the alignment procedure for each tray. When it creates an image, the device *scans* across the page from side to side as the sheet *feeds* from top to bottom into the device.
Fuser Modes	<Paper Type>		Configure the fuser mode associated with each media type.
	Restore Modes	Restore (button)	Restore the fuser modes to the default settings.
Optimize	High Transfer	Normal (default) Increased	Optimize print engine parameters to get the best possible print quality for all jobs (in addition to specifying media type). • Set High Transfer to Increased if portions of the printed image appear to have too much toner. • Set Line Detail to On if printed lines or text is blurred. This reduces toner scatter. • Set More Separation 1 to On to reduce jams in the print cartridge during *simplex* printing. • Set More Separation 2 to On to reduce jams in the print cartridge during *duplex* printing.
	Line Detail	Off (default) On	
	More Separation 1	Off (default) On	
	More Separation 2	Off (default) On	
	Restore Optimize	Restore (button)	Reset all the Optimize parameters to the factory default settings.

Table 3-16 Print Quality menu (continued)

Menu item	Sub-menu item	Values	Description
Resolution		300 600 FastRes 1200 (default) ProRes 1200	Use this feature to select the print resolution. • 300: Produces draft print quality and can be used for compatibility with the HP LaserJet III family of printers. • 600: Produces high print quality and can be used for compatibility with the HP LaserJet 4 family of printers. • FastRes 1200: Produces 1200-dpi quality for fast, high-quality printing of business text and graphics. • ProRes 1200: Produces 1200-dpi quality for fast, high-quality printing of line art and graphic images **NOTE:** It is best to change the Resolution setting in the program or print driver (program and print driver settings override control-panel settings).
REt		Off Light Medium (default) Dark	Use the Resolution Enhancement technology (REt) setting to produce print with smooth angles, curves, and edges. REt does not affect print quality if the print resolution is set to FastRes 1200 or ProRes 1200. All other print resolutions benefit from REt. **NOTE:** It is best to change the REt setting in the program or print driver (program and print driver settings override control-panel settings).
Economode		Enabled Disabled (default)	Use Economode to use less toner per page. Selecting Enabled extends the life of the toner supply and reduces cost per page. However, it also reduces print quality. The printed image is lighter, but it is adequate for printing drafts or proofs. **NOTE:** It is best to enable the Economode setting in the program or print driver (program and print driver settings override control-panel settings). **CAUTION:** HP does not recommend full-time use of Economode. If Economode is used full-time, the toner supply might outlast the mechanical parts in the print cartridge.
Toner Density		Choose from a range of 1 to 5. 3 is the default.	Lighten or darken the print on the page by setting the Toner Density. Select a setting from 1 (light) to 5 (dark). The default setting of 3 produces the best results.

Table 3-16 Print Quality menu (continued)

Menu item	Sub-menu item	Values	Description
Calibration/Cleaning	Auto Cleaning	Enabled Disabled (default)	When auto-cleaning is on, the device prints a cleaning page when the page count reaches the value that is set in Cleaning Interval. This item requires that a duplexer to be installed. If a duplexer is not installed, use Create Cleaning Page and Process Cleaning Page to manually create and process the cleaning page.
	Cleaning Interval	1000 (default) 2000 5000 10000 20000	Set the interval when the cleaning page should be printed. The interval is measured by the number of pages printed.
	Auto Cleaning Size	Letter A4	Select the size of paper used for the cleaning page.
	Create Cleaning Page	Create (button)	Generate a page for cleaning excess toner off the pressure roller in the fuser. The page has instructions that guide you through the cleaning process. **NOTE:** Not available when an automatic duplexer is installed.
	Process Cleaning Page	Process (button)	Process the cleaning page that was created by using the Create Cleaning Page menu item. The process takes up to 2.5 minutes. If an automatic duplexer is installed, this item creates the cleaning page and processes it.

Troubleshooting menu

NOTE: Values shown with "(default)" are the factory-default values. Some menu items have no default.

Table 3-17 Troubleshooting menu

Menu item	Sub-menu item	Sub-menu item	Values	Description
Event Log			Print (button)	Use this feature to show the 50 most recent events in the event log. Touch Print to print the full event log.
Calibrate Scanner			Calibrate	Use this feature to compensate for offsets in the scanner imaging system (carriage head) for ADF and flatbed scans. You might need to calibrate the scanner if it is not capturing the correct sections of scanned documents. Follow the instructions that appear on the control-panel display to complete the calibration procedure.
Fax T.30 Trace	T.30 Report			Use this feature to print or configure the fax T.30 trace report. T.30 is the standard that specifies handshaking, protocols, and error correction between fax machines.
	When to Print Report		Never auto print (default) Print after any fax job Print after fax send jobs Print after any fax error Print after send errors only Print after receive errors only	
Fax Transmit Signal Loss			A value between 0 and 30. (default = 0)	Use this feature to set loss levels to compensate for phone line signal loss. Modifying this setting can cause the fax to stop functioning.
Fax V.34			Normal (default) Off	Use this feature to disable V.34 modulations if several fax failures have occurred or if phone line conditions require it.
Fax Speaker Mode			Normal (default) Diagnostic	This feature can be used by a technician to evaluate and diagnose fax issues by listening to the sounds of fax modulations. The factory default setting is Normal.

Table 3-17 Troubleshooting menu (continued)

Menu item	Sub-menu item	Sub-menu item	Values	Description
Paper Path Sensors				Use this item to display the status of the paper path sensors during a Paper Path Test. 1. Select Paper Path Test from the **Troubleshooting** menu. 2. Press the **Hide** button. 3. Select Paper Path Test from the **Troubleshooting** menu. Use the menus to define the source, destination, duplex, and number of copies options, and then select Print Test Page. 4. The paper path test page will print. At the same time, the status of the paper path sensors will appear on the control-panel display (0 = inactive; 1 = active). Use the following list to Identify the sensors that appear on the control-panel display. ◦ **A**: TOP sensor (SR5) ◦ **B**: LOOP sensor (SR4) ◦ **C**: fuser output sensor (SR6) ◦ **D**: FD output sensor (SR7) ◦ **E**: output tray bin full sensor (SR1) ◦ **F**: lower path sensor (SR14) ◦ **G**: duplex unit switchback sensor (duplexer SR2) ◦ **H**: duplex unit re-feed sensor (duplexer SR1) 5. Press Stop to exit the test.

Table 3-17 Troubleshooting menu (continued)

Menu item	Sub-menu item	Sub-menu item	Values	Description
Paper Path Test	Test Page		Print (button)	Generate a test page for testing the paper path. You can define the path that is used for the test by using the following options in order to test specific paper paths.
	Source		All trays Tray 1 Tray 2 (Additional trays are shown, if applicable.)	Specify whether the test page will be printed from all trays or from a specific tray.
	Destination		A list of output bins appears.	Select the output option for the test page. You can choose to send the test page to all output bins or only to a specific bin.
	Duplex		Off (default) On	Select whether the duplexer should be included in the Paper Path test.
	Copies		1 (default) 10 50 100 500	Select how many pages should be sent from the specified source as part of the Paper Path test.

Table 3-17 Troubleshooting menu (continued)

Menu item	Sub-menu item	Sub-menu item	Values	Description
Finishing Paper Path Test	Stapling	Finishing Options	Choose from a list of available options.	Test paper handling features for the finisher. Select the option that you want to test.
		Media Size	Letter Legal A4 Executive (JIS) 8.5 x 13	Select the paper size for the Finishing Paper Path Test.
		Media Type		Select the paper type for the Finishing Paper Path Test.
		Copies		Select the number of copies to include in the Finishing Paper Path Test. The default setting is 2 copies.
		Duplex	Off On	Select whether to use the duplexer in the Finishing Paper Path Test.
		Test Page	Print (button)	Print a test page to use for the Finishing Paper Path Test.
	Stacking	Media Size	Letter Legal A4 Executive (JIS) 8.5 x 13	Select the options that you want to use to test the stacker.
		Media Type	Select from a list of types.	Select the type of media to use for the Finishing Paper Path Test.
		Copies		Select the number of copies to include in the Finishing Paper Path Test. The default setting is 2 copies.
		Duplex	Off On	Select whether to use the duplexer in the Finishing Paper Path Test.
		Test Page	Print (button)	Print a test page to use for the Finishing Paper Path Test.

Table 3-17 Troubleshooting menu (continued)

Menu item	Sub-menu item	Sub-menu item	Values	Description
Manual Sensor Test				Test the device sensors and switches for correct operation. Each sensor is displayed on the control-panel screen, along with its status. Manually trip each sensor and watch for it to change on the screen. Press the Stop button to abort the test. Use the following list to Identify the sensors and switches that appear on the control-panel display. • **A**: TOP sensor (SR5) • **B**: LOOP sensor (SR4) • **C**: fuser output sensor (SR6) • **D**: FD output sensor (SR7) • **E**: output tray bin full sensor (SR1) • **F**: lower path sensor (SR14) • **G**: duplex unit switchback sensor (duplexer SR2) • **H**: duplex unit re-feed sensor (duplexer SR1) • **I**: Tray 1 media presence sensor (SR3) • **J**: Tray 2 media presence sensor (SR2) • **K**: Tray 3 media presence sensor (SR12) • **L**: Tray 4 media presence sensor (HCI SR1) • **M**: Tray 5 media presence sensor (HCI SR5) • **N**: Tray 6 media presence sensor (HCI SR7) • **O**: CRG (print cartridge door) switch • **P**: left door switch • **Q**: upper right door switch • **R**: lower right door switch • **S**: Tray 4 TOP sensor (HCI SR3) • **T**: Tray 5 TOP sensor (HCI SR4) • **U**: Tray 6 TOP sensor (HCI SR9) • **V**: Tray 2 media surface sensor • **W**: Tray 3 media surface sensor • **X**: Tray 4 media surface sensor (HCI SR1) • **Y**: Tray 5 media surface sensor (HCI SR5) • **Z**: Tray 6 media surface sensor (HCI SR7) • **a**: Tray 2 media size switches (all)

Table 3-17 Troubleshooting menu (continued)

Menu item	Sub-menu item	Sub-menu item	Values	Description
Component Test				Exercise individual parts independently to isolate noise, leaking, or other issues. To start the test, select one of the components. The test will run the number of times specified by the Repeat option. You might be prompted to remove parts from the device during the test. Press the Stop button to abort the test. Use the following list to identify the components that can be tested. • fuser motor • drum motor • laser/scanner motor • Tray 1 (MP) solenoid • Tray 2/3/4/5/6 pickup solenoids • duplex solenoid • Tray 4/5/6 pickup motors • duplex motor • repeat (you can set this text to run once, or continuously)
Print/Stop Test			Continuous value from 0 to 60,000 milliseconds. The default is 0 milliseconds.	Isolate faults by stopping the device during the print cycle and observing where in the process the image degrades. To run the test, specify a stop time and execute a Paper Path Test so that you can specify simplex, duplex, output destination, and multiple page printing. **NOTE:** This test starts counting when the page activates the TOP sensor (SR5) and therefore does not test the HCI. To test the HCI, you must print multiple pages from the HCI and formulate a strategic stop time. See Table 3-18 Print/stop test time values (simplex print jobs) on page 71 or Table 3-19 Print/stop test time values (duplex print jobs) on page 72 in this section to determine Print/Stop Test stop time values. **NOTE:** When this test is complete, any pages that are in the stapler/stacker will be ejected.

Table 3-17 Troubleshooting menu (continued)

Menu item	Sub-menu item	Sub-menu item	Values	Description

Scanner Tests				This menu item is used by a service technician to diagnose potential problems with the device scanner.
				
				Use the following list to Identify the components that can be tested.
				
				• lower lamp
				• sensors
				  ◦ ADF empty
				  ◦ register/deskew
				  ◦ top-of-page
				  ◦ ADF jam cover
				  ◦ ADF width
				  ◦ ADF length
				  ◦ flatbed cover
				  ◦ flatbed width
				  ◦ flatbed length
				• ADF input motor
				• ADF input reverse
				• flatbed motor
				• ADF read motor
				• ADF read motor reverse
				• ADF duplex solenoid
				• ADF LED indicator

Control Panel	LEDs			Use this feature to make sure the components of the control panel are functioning correctly.
	Display			
	Buttons			
	Touchscreen			

Table 3-18 Print/stop test time values (simplex print jobs)

Time value[1]	First page stop	Second page stop	Third page stop
0 ms	Leading edge at TOP sensor (SR5) **NOTE:** Opening the print-cartridge door pulls the sheet backward.	NA	NA

Table 3-18 Print/stop test time values (simplex print jobs) (continued)

Time value[1]	First page stop	Second page stop	Third page stop
1 ms	Leading edge about 20 mm (0.78 inch) past the TOP sensor (SR5)	NA	NA
1,000 ms	leading edge about 7 mm (0.27 inch) past fuser nip, 135 mm (5.31 inches) of page past the transfer roller	Leading edge about 65 mm (2.55 inches) away from the registration roller, trailing edge of the page about 38 mm (1.49 inches) away from leaving the HCI (start the job from Tray 5)	NA
2,000 ms	Leading edge about 170 mm (6.69 inches) past the fuser nip	Leading edge about 18 mm (0.70 inch) past the transfer roller	Trailing edge just leaving the HCI (start the job from Tray 5)
3,000 ms	leading edge about 154 mm (6.06 inches) past the standard face down exit rollers, trailing edge almost past the stapler diverter	Leading edge about 75 mm (2.95 inches) past the fuser nip, Trailing edge about 10 mm (0.39 inch) from the transfer roller	leading edge at the transfer roller

[1] Use these values for a simplex print stop test. See Table 3-17 Troubleshooting menu on page 65.

Table 3-19 Print/stop test time values (duplex print jobs)

Time value[1]	First page stop	Second page stop	Third page stop
0 ms	Leading edge at TOP sensor (SR5) **NOTE:** Opening the print-cartridge door pulls the sheet backward.	NA	NA
1 ms	Leading edge about 20 mm (0.78 inch) past the TOP sensor (SR5)	NA	NA
2,000 ms	Leading edge about 170 mm (6.69 inches) past the fuser nip, but not out far enough to move back toward the duplexer	Trailing edge just leaving the HCI (start the job from Tray 5)	NA
3,000 ms	Leading edge entering the duplexer, trailing edge about 60 mm (2.36 inches) past the standard face down exit rollers (just past the reverse point)	Leading edge about 30 mm (1.18 inches) past the top of the middle right door	NA
5,000 ms	Leading edge about 25 mm (0.98 inch) out of the duplexer with second side already printed ready to re-feed	Leading edge just prior to entering the fuser nip, trailing edge about 35 mm (1.37 inches) from the transfer roller (half the page contains toner)	Leading edge about 175 mm (6.88 inches) past the HCI (Tray 5) pick rollers, trailing edge still at the (HCI (Tray 5) pick rollers (start the job from Tray 5)
8,000 ms	Leading edge about 80 mm (3.14 inches) past the registration roller, second side already printed and fed from the duplexer	Leading edge about 60 mm (2.36 inches) into the duplexer, second side already printed and reversed	Leading edge about 175 mm (6.88 inches) past the HCI (Tray 5) pick rollers, trailing edge still at the (HCI (Tray 5) pick rollers (start the job from Tray 5)
10,000 ms	Both sides fused, trailing edge leaving the fuser area to delivery	First side fused, leading edge in the duplexer, and the trailing edge about 85 mm (3.34 inches) from the duplexer	leading edge about 55 mm (2.16 inches) past the transfer roller (for first past print)

Table 3-19 Print/stop test time values (duplex print jobs) (continued)

Time value[1]	First page stop	Second page stop	Third page stop
12,000 ms	Stops in stapler, then auto ejects	First pass fused (other blank), leading edge in duplexer, and the trailing edge about 95 mm (3.74 inches) from the duplexer	Leading edge entering the duplexer, trailing edge about 60 mm (2.36 inches) past the standard face down exit rollers (just past the reverse point)
15,000 ms	In the stapler output bin	Leading edge about 170 mm (6.69 inches) past the fuser nip, second side already printed	Leading edge about 85 mm (3.34 inches) out of the duplexer ready to re-feed, second side printed **NOTE:** A fourth page leading edge about 90 mm (3.54 inches) past the registration roller.

[1] Use these values for a duplex print/stop test.

Resets menu

Table 3-20 Resets menu

Menu item	Values	Description
Clear Local Address Book	Clear (button)	Use this feature to clear all addresses from the address books that are stored on the device.
Clear Fax Activity Log	Yes No (default)	Use this feature to clear all events from the Fax Activity Log.
Restore Factory Telecom Setting	Restore (button)	Use this option to restore the telephone-related settings that are in the Initial Setup menu to factory-default values.
Restore Factory Settings	Restore (button)	Use this feature to restore all device settings to their factory defaults.
Reset Supplies	New Maintenance Kit (Yes/No) New Document Feeder Kit (Yes/No)	Notify the device that a new maintenance kit or document feeder kit has been installed.

Service menu

Information about the Service menu is in the troubleshooting chapter of this manual. See Service menu on page 501.

Use information pages

From the control panel, print pages that give details about the device and its current configuration. The table below provides the instructions for printing the information pages.

Page description	How to print the page
Menu map Shows the control-panel menus and available settings.	1. From the Home screen, touch Administration. 2. Touch Information. 3. Touch Configuration/Status Pages. 4. Touch Administration Menu Map. 5. Touch Print. The content of the menu map varies, depending on the options currently installed in the device.
Configuration page Shows device settings and installed accessories.	1. From the Home screen, touch Administration. 2. Touch Information. 3. Touch Configuration/Status Pages. 4. Touch Configuration Page. 5. Touch Print. **NOTE:** If the device contains an HP Jetdirect print server or an optional hard disk drive, additional configuration pages print that provide information about those devices.

Page description	How to print the page
Supplies status page Shows print-cartridge toner levels.	1. From the Home screen, touch Administration. 2. Touch Information. 3. Touch Configuration/Status Pages. 4. Touch Supplies Status Page. 5. Touch Print. **NOTE:** If you are using non-HP supplies, the supplies status page might not show the remaining life for those supplies. For more information, see HP policy on non-HP print cartridges on page 89.
Usage page Shows a page count for each size of paper printed, the number of one-sided (simplexed) or two-sided (duplexed) pages, and the average percentage of coverage.	1. From the Home screen, touch Administration. 2. Touch Information. 3. Touch Configuration/Status Pages. 4. Touch Usage Page. 5. Touch Print.
File directory Contains information for any mass storage devices, such as flash drives, memory cards, or hard disks, that are installed in the device.	1. From the Home screen, touch Administration. 2. Touch Information. 3. Touch Configuration/Status Pages. 4. Touch File Directory. 5. Touch Print.

Page description	How to print the page
Fax reports Five reports show fax activity, fax calls, billing codes, blocked fax numbers, and speed-dial numbers. **NOTE:** Fax reports are available only on device models that have fax capabilties.	1. From the Home screen, touch Administration. 2. Touch Information. 3. Touch Fax Reports. 4. Touch one of the following buttons to print the corresponding report: ◦ Fax Activity Log ◦ Fax Call Report ◦ Billing Codes Report ◦ Blocked Fax List ◦ Speed Dial List 5. Touch Print. For more information, see the fax guide that came with the device.
Font lists Shows which fonts are currently installed in the device.	1. From the Home screen, touch Administration. 2. Touch Information. 3. Touch Sample Pages/Fonts. 4. Touch either PCL Font List or PS Font List. 5. Touch Print. **NOTE:** The font lists also show which fonts reside on a hard disk accessory or DIMM.

Configuring and verifying an IP address

You can configure TCP/IP addresses on an HP Jetdirect print serverthree ways:

- HP Web Jetadmin
- Embedded Web server
- Control panel

Identifying the TCP/IP address

Before configuring the TCP/IP addresses, first identify the currently assigned addresses. The system administrator or primary user is responsible for determining the TCP/IP address for a specific print server. If you are unsure what the TCP/IP address should be or if you are unfamiliar with using TCP/IP on a network, go to the HP Web site at www.hp.com. Click **Search** in the upper-left corner of the Web page and search for **TCP/IP Overview**.

Use automatic discovery

The MFP is equipped with an HP Jetdirect embedded print server. If a BootP or DHCP server is available during product installation, the print server is automatically assigned an IP address for use on the network. This occurs because the print server defaults to 192.0.0.192 (legacy default) or to 159.254.x.x (Auto IP) if the print server cannot obtain an IP address over the network from a BootP or DHCP server. The default that is assigned depends on the particular network (small/private or enterprise) by using sensing algorithms.

To determine the new IP address, print a configuration page and check the TCP/IP status and address.

Set up a dynamic host configuration protocol (DHCP)

When the product is turned on, the HP Jetdirect print server broadcasts DHCP requests. The DHCP automatically downloads an IP address from a network server. The DHCP servers maintain a fixed set of IP addresses and only loan an IP address to the print server. Consult the operating system documentation to set up a DHCP service on your network.

Verifying the TCP/IP configuration

Print a configuration page at the control panel. Check the TCP/IP status and the TCP/IP addresses. If the information is incorrect, check all hardware connections (cables, hubs, routers, or switches).

Changing an IP address

Use one of the following procedures to change the product TCP/IP address.

Change an IP address by using HP Web Jetadmin

Open HP Web Jetadmin. Type the TCP/IP address in the **Quick Device Search** field and click **Go**. At the top menu bar, use this procedure.

1. In the drop-down menu, click **Devices**.
2. In the drop-down menu, click **New Devices**. Click **Go**.
3. Click the column header of your choice (such as IP Address or Device Model) to arrange the list of available devices in ascending or descending order.

4. Highlight the product to configure, and click **Open Device**.
5. From the sub-menu at the top of the HP Web Jetadmin screen, click **Configuration**.
6. Click the network link located on the left side of the configuration screen.
7. Type the new IP information. You might need to scroll down for more options.
8. Click **Apply** to save the settings.
9. Click the **Refresh** button located next to the question mark on the right side of the screen.
10. Verify the IP information by clicking **Status Diagnostics** or by printing a configuration page.

Change an IP address by using the embedded Web server

The MFP has an embedded Web server that can be used to modify the TCP/IP parameters. In order to use the embedded Web server, the HP Jetdirect print server must have an IP address already configured. On a network, this is done automatically during initial product installation.

1. In a supported Web browser, type the current IP address of the HP Jetdirect print server as the URL. The **Device Status** page of the embedded Web server appears.
2. Click **Networking**. From this page, you can modify the MFP network configuration.

Change an IP address by using the control panel

You can manually configure or verify the IP address by using the control panel.

1. Touch Administrationand then touch Initial Setup.
2. Touch Networking and I/O and then touch Embedded Jetdirect.
3. Touch IPV4 Settings and then touch Manual.

> **NOTE:** The Manual option is available only if Config Method is set to Manual. For more information, see Use the Administration menu on page 34.

4. Touch IP Address and then follow the instructions on the display.
5. Touch Save to save the setting. Touch Cancel to exit the menu.

Remote firmware updates

Introduction

The HP LaserJet M5039XS Series MFP device features remote firmware update (RFU) capability. The method for downloading remote firmware updates from the Web site is similar to that used to download the latest printing-system software and print drivers.

The process for remotely upgrading firmware involves three steps:

1. Print a configuration page to see what version of firmware is currently installed on the device. Also, print a menu map to see what features are in this version of the firmware.
2. Go to the HP Web site and download the latest firmware to the computer.
3. Download the new firmware to the device. Print a new menu map to compare feature changes between the previous firmware and upgraded firmware.

Topics:

- Print the configuration page
- Downloading the new firmware from the HP Web site
- Downloading the new firmware to the device
- Troubleshooting firmware updates
- Remote firmware update by using FTP through a browser
- Remote firmware update by using FTP on a direct network connection
- Remote firmware update through a local MS Windows port
- Remote firmware update through a USB port
- Remote firmware update through an MS Windows network
- Remote firmware update for UNIX systems
- Remote firmware update by using the LPR command
- Remote firmware update through HP Web Jetadmin

Print the configuration page

To determine the current level of firmware, view the configuration page. To print a configuration page, follow these instructions.

1. Touch Administration.
2. Touch Information.
3. Touch Configuration/Status Pages.
4. Touch Configuration Page.
5. Touch Print.

Printing a menu map

Print a menu map before updating the firmware to see what features are available in the current firmware. Compare this menu map with a menu map printed after the firmware update to determine what features have been added or changed in the new firmware.

1. At the control panel, touch **Administration**.
2. Touch **Information**.
3. Touch **Configuration/Status Pages**.
4. Touch **Administration Menu Map**.
5. Touch **Print**.

Downloading the new firmware from the HP Web site

The remote firmware update (.RFU) file and an associated readme file are packaged together as a self-extracting .EXE file. For detailed instructions about how to download the .EXE file, go to the following URL:

www.hp.com/go/ljm5039mfp_software

The .EXE file consists of a readme file and the .RFU file.

For UNIX systems, the remote firmware update file is a .TAR file.

Downloading the new firmware to the device

For support information about downloading new firmware from the Web, go to www.hp.com/go/ljm5039mfp_software.

The device can receive an RFU update when in the **READY** state. The device waits for all of the I/O channels to become idle before performing the update.

NOTE: If the firmware update involves a change in the format of nonvolatile random-access memory (NVRAM), any menu settings that are changed from the default settings will return to default settings. The settings must be changed again if you want them to be different from the defaults. Examples of settings that are affected in this way are tray types, default symbol sets, and Web-access alerts.

The elapsed time for an update depends on the I/O transfer time, as well as the time that it takes for the device to reinitialize. The I/O transfer time depends on a number of things, including the speed of the host computer that is sending the update and the I/O method (network). The reinitialization time depends on the specific hardware configuration of the device, such as the number of EIO devices installed, the presence of external paper-handling devices, and the amount of memory that is installed.

Finally, any print jobs that are ahead of the RFU job in the queue are printed before the update is processed.

Use one of the methods described in the following sections to update the printer firmware.

Troubleshooting firmware updates

The following table lists the causes and results of interruptions to the firmware update.

Table 3-21 Troubleshooting a firmware update

Cause	Result
The job was cancelled from the control panel.	No update has occurred.
A break in the I/O stream occurred during send (for example, the USB cable was removed).	No update has occurred.
A power cycle occurred during the **RECEIVING UPGRADE** process.	No update has occurred.
A power cycle occurred during the **PERFORMING UPGRADE** process.	No update has occurred. Resend the update through a USB port.
A power cycle occurred during the **INITIALIZING** process.	The update has been completed.

Print jobs that are sent to the device while an update is in process do not interrupt the update.

All HP LaserJet devices leave the factory with the most recent firmware version installed. If a remote firmware update fails in an MS Windows operating system, the .RFU file must be resent.

If a remote firmware update fails in a Macintosh operating system, contact your dealer.

The following table lists possible reasons for the failure of a remote firmware update and the corrective action required for each situation.

Table 3-22 Troubleshooting a failed firmware update

Reason for firmware update failure	Corrective action
The .RFU file is corrupted.	The device recognizes that the file is corrupted and rejects the update. Download the file again and send the new file to the device.
The wrong device is contained in the .RFU file.	The device recognizes the printer mismatch and rejects the update. Download the correct file and send it to the device.
The upgrade was interrupted.	See Table 3-23 Update messages on page 81.
A flash hardware failure occurred.	Although it is extremely unlikely, the device might have a hardware failure. Contact your dealer to address the problem.

Three messages appear during a normal update process; others appear only if the update process fails.

Table 3-23 Update messages

Printer message	Explanation
RECEIVING UPGRADE	This message appears from the time the device recognizes the beginning of an .RFU update until the time the device has verified the validity and integrity of the .RFU update. **NOTE:** If the remote firmware update process is interrupted before the firmware is downloaded (while **RECEIVING UPGRADE** appears on the control-panel display), the firmware file must be sent again. No message appears on the device control panel to indicate that the update was interrupted.
PERFORMING UPGRADE	This message appears while the device is actually reprogramming the firmware. **NOTE:** If power is lost during the flash DIMM update (while **PERFORMING UPGRADE** appears on the control-panel display), the update is interrupted and the message **RESEND UPGRADE** appears on the control-panel display.

Table 3-23 Update messages (continued)

Printer message	Explanation
INITIALIZING	This message appears from the time the device has finished reprogramming the DIMM until the device reinitializes.
RESEND UPGRADE	This message appears (in English only) if the firmware update fails because the RFU process is interrupted. It can also occur if firmware for accessories (such as the duplex unit or an output device) becomes is corrupted. Perform another update by any means that is supported by the printer, regardless of the connection (network or USB).
RFU LOAD ERROR **SEND RFU UPGRADE** **ON USB PORT**	This message appears (in English only) if the firmware update fails because the print-engine firmware is corrupted. If this message appears, the update must now be sent only by a computer that is attached to the USB port of the device.

NOTE: To verify that the firmware update succeeded, print a new configuration page from the control panel and verify that the firmware date code on the configuration page has changed.

Remote firmware update by using FTP through a browser

Complete the following steps to update the printer firmware by using file transfer protocol (FTP) through a browser on MS Windows or Macintosh operating systems.

1. Make note of the TCP/IP address of the device on the EIO-Jetdirect page. The EIO-Jetdirect page is the second page of the configuration page printout. To print a configuration page, see Print the configuration page on page 79.
2. Open a browser window.
3. In the address line of the browser, type `ftp://<IPADDRESS>`, where <IPADDRESS> is the TCP/IP address of your device. For example, if the TCP/IP address is 192.168.0.90, type `FTP://192.168.0.90`
4. Press **Enter**.
5. Locate the downloaded .RFU file for the device.
6. Drag and drop the .RFU file onto the **PORT** icon or onto any open space in the browser window.

   If the **PORT1** icon does not appear as a folder name, use a Web browser to enable folder viewing for FTP sites. In Microsoft Internet Explorer, use the following procedure to enable the folder view.

   a. Select **Tools**, then select **Internet Options**, and then select the **Advanced** tab.

   b. Select the **Enable folder view for FTP sites**.

   c. Click **OK** to save the setting.
7. The download process begins and the firmware is updated on the device. This can take several minutes. Let the process finish without further interaction with the device or the computer. The messages described in the section Troubleshooting firmware updates on page 80 appear on the control panel.

NOTE: The device automatically turns off and then on again to activate the update; this can happen more than once. At the end of the update process, the **READY** message appears on the control panel. Do *not* turn off the device or interfere with the update until you see this message.

8. Print a configuration page and verify that the firmware version number matches the revision of the current update.

NOTE: Print a menu map to see what features are available in the current firmware. Compare with a menu map printed before the firmware update to determine what features have been added or changed in the new firmware.

To print a menu map from the device control panel, see Printing a menu map on page 80.

Remote firmware update by using FTP on a direct network connection

If the HP LaserJet M5039XS uses a direct network connection, use file transfer protocol (FTP) to update the firmware. Complete the following steps:

1. Make note of the TCP/IP address on the Embedded Jetdirect page. The Embedded Jetdirect page is the second page of the configuration page printout. To print a configuration page, see Print the configuration page on page 79.

   NOTE: Before connecting to the device, make sure that the device is not in Powersave mode. Also make sure that any error messages are cleared from the control-panel display.

2. Open a command window on the computer.
3. Type `ftp <TCP/IP printer ADDRESS>`. For example, if the TCP/IP address is 192.168.0.90, type `ftp 192.168.0.90`.
4. Press Enter on the keyboard.
5. When prompted for the user name, press Enter.
6. When prompted for the password, press Enter.
7. Type `bin` at the command prompt.
8. Press Enter. The message **200 Type set to I, Using binary mode to transfer files** appears in the command window.
9. Type `put <FILENAME>`, where <FILENAME> is the name of the .RFU file that was downloaded from the Web, including the path. For example, type `put C:\LJ\xxxxFW.RFU`, and then press Enter.

   NOTE: If the file name or path includes a space, you must enclose the file name or path in quotation marks. For example, type the following path:

   ```
   put "c:\My Documents\LJ\xxxxfw.rfu"
   ```

   The following series of messages appears in the command window:

   200 PORT command successful

   150 Opening BINARY mode data connection

   226 Ready

   226 Processing Job

226 Transfer complete

After these messages appear, a message containing transfer-speed information appears.

10. The download process begins and the firmware is updated on the device. This can take several minutes. Let the process finish without further interaction with the device or the computer. The messages described in the section Troubleshooting firmware updates on page 80 appear on the control panel.

NOTE: The device automatically turns off and then on again to activate the update; this can happen more than once. At the end of the update process, the **READY** message appears on the control panel. Do *not* turn off the device or interfere with the update until you see this message.

11. Print a configuration page and verify that the firmware revision number matches the revision of the current update.

12. At the command prompt, type `bye` to exit the FTP command.

13. At the command prompt, type `exit` to return to the MS Windows interface.

NOTE: Print a menu map to see what features are available in the current firmware. Compare this menu map with a menu map printed before the firmware update to determine what features have been added or changed in the new firmware.

To print a menu map from the device control panel, see Printing a menu map on page 80.

Remote firmware update through a local MS Windows port

If the device is connected through a local port (parallel), you can send the .RFU file directly to the device by using a `COPY` command from a command prompt or an MS-DOS window.

Windows NT 4.0, Windows 2000, Windows XP, Windows XP or Windows 2003

The .RFU file can be sent directly to the device by typing a **copy** command at a command prompt or in an MS-DOS window.

Windows NT 4.0 does not support the HP LaserJet M5039XS Series MFP driver, but it is possible to update the printer firmware in Windows NT 4.0.

1. At a command prompt, type `copy /b <FILENAME> <PORTNAME>` , where <FILENAME> is the name of the .RFU file (including the path) and <PORTNAME> is the name of the appropriate printer port (such as USB). For example, type the following:

```
C:\>copy /b c:\xxxxfw.rfu usb
```

NOTE: If the file name or path includes a space, enclose the file name or path in quotation marks. For example, type `C:\>copy /b "c:\My Documents\xxxxfw.rfu" usb`.

2. Press Enter on the keyboard.

3. The download process begins and the firmware is updated on the device. This can take several minutes. Let the process finish without further interaction with the device or the computer. The messages described in the section Troubleshooting firmware updates on page 80 appear on the control panel.

NOTE: The device automatically turns off and then on again to activate the update; this can happen more than once. At the end of the update process, the **READY** message appears on the control panel. Do *not* turn off the device or interfere with the update until you see this message.

4. Print a configuration page and verify that the firmware revision number matches the revision of the current update.

5. At the command prompt, type `exit` to close the command window.

NOTE: Print a menu map to see what features are available in the current firmware. Compare this menu map with a menu map printed before the firmware update to determine what features have been added or changed in the new firmware.

To print a menu map from the device control panel, see Printing a menu map on page 80.

Remote firmware update through a USB port

If the device is connected over a USB connection, follow these instructions:

1. From a command prompt or in an MS-DOS window, type `copy /b <FILENAME>\ \<COMPUTERNAME>\<SHARENAME>`, where <FILENAME> is the name of the .RFU file (including the path), <COMPUTERNAME> is the name of the computer from which the device is being shared, and <SHARENAME> is the device share name. For example, type the following:

   ```
   copy /b 3000fw.rfu\\your_computer\clj3000
   ```

   NOTE: If the file name or path includes a space, you must enclose the file name or path in quotation marks. For example, type `C:\>copy /b "c:\My Documents\xxxxfw.rfu" \ \your_computer\clj3000`

2. Press Enter on the keyboard. The messages described in the section Troubleshooting firmware updates on page 80 appear on the control panel. The message **1 file(s) copied** appears on the computer screen.

3. The download process begins and the firmware is updated on the device. This can take several minutes. Let the process finish without further interaction with the device or the computer. The messages described in the section Troubleshooting firmware updates on page 80 appear on the control panel.

   NOTE: The device automatically turns off and then on again to activate the update; this can happen more than once. At the end of the update process, the **READY** message appears on the control panel. Do *not* turn off the device or interfere with the update until you see this message.

4. Print a configuration page and verify that the firmware revision number matches the revision of the current update.

NOTE: Print a menu map to see what features are available in the current firmware. Compare this menu map with a menu map printed before the firmware update to determine what features have been added or changed in the new firmware.

To print a menu map from the device control panel, see Printing a menu map on page 80.

Remote firmware update through an MS Windows network

If the device is shared on an MS Windows network, follow these instructions:

1. From a command prompt or in an MS-DOS window, type `copy /b <FILENAME> \ \<COMPUTERNAME>\<SHARENAME>`, where <FILENAME> is the name of the .RFU file (including the path), <COMPUTERNAME> is the name of the computer from which the device is being shared, and <SHARENAME> is the device share name. For example, type the following:

   ```
   C:\>copy /b c:\xxxxfw.rfu \\your_server\your_computer
   ```

   NOTE: If the file name or path includes a space, you must enclose the file name or path in quotation marks. For example, type `C:\>copy /b "c:\My Documents\xxxxfw.rfu" \ \your_server\your_computer`

2. Press Enter on the keyboard. The messages described in the section Troubleshooting firmware updates on page 80 appear on the control panel. The message **1 file(s) copied** appears on the computer screen.

3. The download process begins and the firmware is updated on the device. This can take several minutes. Let the process finish without further interaction with the device or the computer. The messages described in the section Troubleshooting firmware updates on page 80 appear on the control panel.

   NOTE: The device automatically turns off and then on again to activate the update; this can happen more than once. At the end of the update process, the **READY** message appears on the control panel. Do *not* turn off the device or interfere with the update until you see this message.

4. Print a configuration page and verify that the firmware revision number matches the revision of the current update.

NOTE: Print a menu map to see what features are available in the current firmware. Compare this menu map with a menu map printed before the firmware update to determine what features have been added or changed in the new firmware.

To print a menu map from the device control panel, see Printing a menu map on page 80.

Remote firmware update for UNIX systems

For UNIX systems use the following procedure or any other command method that delivers the .TAR file to the device.

1. At the command prompt, type `cp /home/yourmachine/FILENAME /dev/parallel>`, where </home/yourmachine/FILENAME> is the location of the .TAR file.

2. The download process begins and the firmware is updated on the device. This can take several minutes. Let the process finish without further interaction with the device or the computer. The messages described in the section Troubleshooting firmware updates on page 80 appear on the control panel.

   NOTE: The device automatically turns off and then on again to activate the update; this can happen more than once. At the end of the update process, the **READY** message appears on the control panel. Do *not* turn off the device or interfere with the update until this message appears.

3. Print a configuration page and verify that the firmware revision number matches the revision of the current update.

NOTE: Print a menu map to see what features are available in the current firmware. Compare this menu map with a menu map printed before the firmware update to determine what features have been added or changed in the new firmware.

To print a menu map from the device control panel, see Printing a menu map on page 80.

Remote firmware update by using the LPR command

NOTE: This remote firmware update method is for use in Windows NT 4.0, Windows 2000, Windows XP, and Windows 2003.

Complete the following steps to update the firmware by using the LPR command.

1. From a command window, type `lpr -P <IPADDRESS> -S <IPADDRESS> -o l <FILENAME>` -OR- `lpr -S <IPADDRESS> -Pbinps <FILENAME>`, where <IPADDRESS> can be either the TCP/IP address or the hostname of the device, and where <FILENAME> is the filename of the .RFU file.

   NOTE: The parameter (-o l) consists of a lowercase "O", not a zero, and a lowercase "L", not the numeral 1. This parameter sets the transport protocol to binary mode.

2. Press Enter on the keyboard. The messages described in the section Troubleshooting firmware updates on page 80 appear on the control panel.

3. The download process begins and the firmware is updated on the device. This can take several minutes. Let the process finish without further interaction with the device or the computer.

   NOTE: The device automatically turns off and then on again to activate the update; this can happen more than once. At the end of the update process, the **READY** message appears on the control panel. Do *not* turn off the device or interfere with the update until you see this message.

4. Print a configuration page and verify that the firmware revision number matches the revision of the current update.

5. Type `exit` at the command prompt to close the command window.

NOTE: Print a menu map to see what features are available in the current firmware. Compare this menu map with a menu map printed before the firmware update to determine what features have been added or changed in the new firmware.

To print a menu map from the device control panel, see Printing a menu map on page 80.

Remote firmware update through HP Web Jetadmin

This procedure requires that HP Web Jetadmin V7.8 or later is installed on the computer. Complete the following steps to update a single device through HP Web Jetadmin after downloading the .RFU file from the HP Web site.

1. Start HP Web Jetadmin.

2. Type the TCP/IP address or IP host name of the device in the **Quick Device Find** field, and then click **Go**. The device Status window opens.

3. Open the **Device Management** folder in the drop-down list in the Navigation panel. Navigate to the **Device Lists** folder.

4. Expand the **Device Lists** folder and select **All Devices**. Locate the device that you want to update in the list of devices, and click to select it.

5. Locate the drop-down box for **Device Tools** in the upper-right corner of the window. Select **Update Printer Firmware** from the **choose action** list.
6. If the name of the .RFU file is not listed in the **All Available Images** dialog box, click **Browse** in the **Upload New Firmware Image** dialog box and navigate to the location of the .RFU file that you downloaded from the Web. If the filename is listed, select it.
7. Click **Upload** to move the .RFU file from your hard drive to the HP Web Jetadmin server.
8. Refresh the browser.
9. Select the .RFU file from the **Printer Firmware Update** drop-down menu.
10. Click **Update Firmware**. HP Web Jetadmin sends the selected .RFU file to the device.
11. The download process begins and the firmware is updated on the device. This can take several minutes. Let the process finish without further interaction with the device or the computer. The messages described in the section Troubleshooting firmware updates on page 80 appear on the control panel.

NOTE: The device automatically turns off and then on again to activate the update; this can happen more than once. At the end of the update process, the **READY** message appears on the control panel. Do *not* turn off the device or interfere with the update until you see this message.

12. Print a configuration page and verify that the firmware revision number matches the revision of the current update.

NOTE: Print a menu map to see what features are available in the current firmware. Compare this menu map with a menu map printed before the firmware update to determine what features have been added or changed in the new firmware.

To print a menu map from the device control panel, see Printing a menu map on page 80.

HP Web Jetadmin V7.8 and later can also be used to perform multiple or unattended installations. Complete the following steps for multiple or unattended installations.

1. Start HP Web Jetadmin.
2. Create a device group. A simple way to do this is to follow these steps:
   a. Click **Device Management**, and then click **All Devices**.
   b. Shift-click to select devices that are to be included in the group, and then click **OK**.
   c. When prompted, type a name for the new device group, and then click **OK**.
3. To modify several products in a group, click the group name, and then click **Open**.
4. The drop-down menu for **Device Group Tools** appears on the right side of the window. Scroll if necessary to view it.
5. In the **Device Group Tools** drop-down box, select an action. Type the appropriate information. Click **Return to Device Group** when finished.

Manage supplies

Using, storing, and monitoring the print cartridge can help ensure high-quality output.

Supplies life

The average cartridge yield is 15,000 pages in accordance with ISO/IEC 19752. Actual cartridge yield depends on specific use.

△ **CAUTION:** The Economode feature allows the device to use less toner per page. Selecting Economode extends the life of the toner supply and reduces the cost per page but reduces print quality. The printed image is lighter but is adequate for printing drafts or proofs. Hewlett-Packard does not recommend full-time use of Economode. If Economode is used full-time, the toner supply might outlast the mechanical parts in the print cartridge. If print quality begins to degrade under these circumstances, install a new print cartridge even if the print cartridge still contains toner.

Approximate print-cartridge replacement intervals

Print cartridge	Page count	Approximate time period[1]
Black	15,000 pages[2]	7.5 months

[1] Approximate life is based on 2,000 pages per month.

[2] Approximate average A4-/letter-size page count based on approximately 5% coverage.

To order supplies, contact your dealer.

Manage the print cartridge

Print-cartridge storage

Do not remove the print cartridge from its package until you are ready to use it.

△ **CAUTION:** To prevent damage to the print cartridge, do not expose it to light for more than a few minutes.

Use genuine HP print cartridges

When you use a genuine new HP print cartridge, you can obtain the following supplies information:

- Percentage of supplies remaining
- Estimated number of pages remaining
- Number of pages printed

HP policy on non-HP print cartridges

Hewlett-Packard Company cannot recommend the use of non-HP print cartridges, either new or remanufactured. Because they are not HP products, HP cannot influence their design or control their quality.

NOTE: Any damage caused by a non-HP print cartridge is not covered under the HP warranty and service agreements.

To install a new HP print cartridge, see Change the print cartridge on page 91. To recycle the used cartridge, follow the instructions included with the new cartridge.

Print-cartridge authentication

The device automatically authenticates the print cartridge when it is inserted into the device. During authentication, the device notifies you whether a cartridge is a genuine HP print cartridge.

If the device control-panel message states that this is not a genuine HP print cartridge and you believe you purchased an HP print cartridge, see HP fraud hotline and Web site on page 90.

HP fraud hotline and Web site

Call the HP fraud hotline (1-877-219-3183, toll-free in North America) or go to www.hp.com/go/anticounterfeit when you install an HP print cartridge and the control-panel message says the cartridge is non-HP. HP will help determine if the cartridge is genuine and take steps to resolve the problem.

Your print cartridge might not be a genuine HP print cartridge if you notice the following:

- You are experiencing a high number of problems with the print cartridge.
- The cartridge does not look like it usually does (for example, the orange pull tab is missing, or the packaging differs from HP packaging).

Replace supplies and parts

Carefully follow the guidelines in this section when replacing device supplies.

Supply replacement guidelines

To facilitate the replacement of supplies, keep the following guidelines in mind when setting up the device.

- Sufficient space is required above and in the front of the device for removing supplies.
- The device should be located on a flat, sturdy surface.

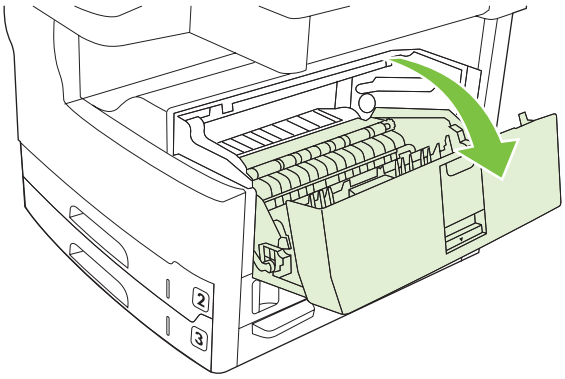
For instructions on installing supplies, contact your dealer..

NOTE: Hewlett-Packard recommends the use of HP products in this device. Use of non-HP products may cause problems requiring service that is not covered by the HP warranty or service agreements.

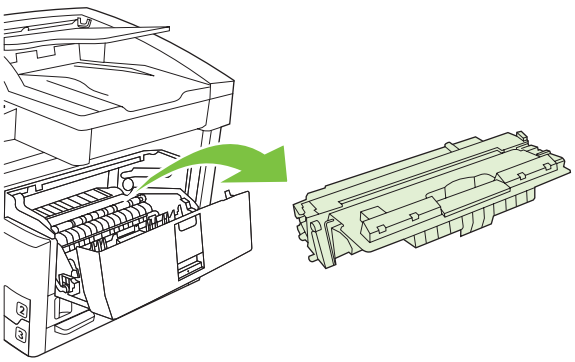
Change the print cartridge

When a print cartridge approaches the end of useful life, a message appears on the control panel recommending that you order a replacement. The device can continue to print with the current print cartridge until a message appears instructing you to replace the cartridge.

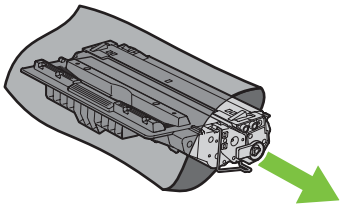
1. Open the upper-right door door.



2. Remove the used print cartridge from the device.

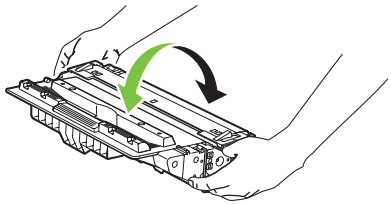


3. Remove the new print cartridge from the bag. Place the used print cartridge in the bag for recycling.

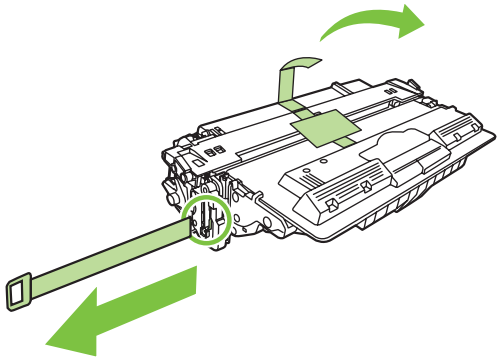


4. Grasp both sides of the print cartridge and distribute the toner by gently rocking the print cartridge.

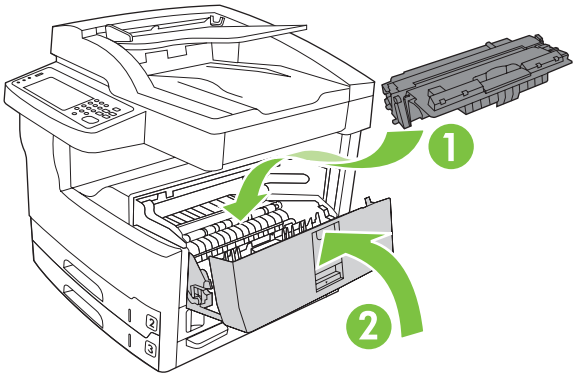
△ **CAUTION:** Do not touch the shutter or the surface of the roller.



5. Remove the shipping tape and the orange tab from the new print cartridge. Discard the shipping tape according to local regulations.



6. Align the print cartridge with the tracks inside the device, and, using the handle, insert the print cartridge until it is firmly seated, and then close the upper-right door.



After a short time, the control panel should display **Ready**.

7. Installation is complete. Place the used print cartridge in the box in which the new cartridge arrived. See the enclosed recycling guide for recycling instructions.

8. If you are using a non-HP print cartridge, check the device control panel for further instructions.

For additional help, contact your dealer..

Perform preventive maintenance

The device requires periodic maintenance to maintain optimum performance. A control-panel message alerts you when it is time to purchase the preventive maintenance kits. Separate maintenance procedures are required for the printer-portion of the device (the print engine) and for the automatic document feeder (ADF).

Preventive maintenance for the print engine

You should replace certain parts when a control-panel message alerts you to perform printer maintenance.

When page count approaches 200,000 pages printed, the device alerts you to order a maintenance kit. When the page count reaches 200,000, you can no longer clear the message and you must install the maintenance kit. To check the number of pages that the device has printed since new maintenance-kit components were installed, print either a configuration page or a supplies-status page.

The print-engine maintenance kit includes the following items:

- Fuser
- Rollers (transfer, feed, and separation)
- Separation pad
- Installation instructions
- Gloves
- Transfer roller removal tool (blue plastic hook)

Follow the instructions that come with the kit to install it.

NOTE: The maintenance kit is a consumable item and is not covered under the original warranty or under most extended warranties.

The ADF maintenance kit

When the device approaches 60,000 pages fed through the ADF, the device alerts you to order an ADF kit. This message appears approximately one month before the kit needs to be replaced. Order a new kit when this message appears. After feeding 60,000 pages through the ADF, the device alerts you to install the new ADF kit. Install the new kit at that time.

The ADF maintenance kit includes the following items:

- One pick-up roller assembly
- One separation pad
- An instruction sheet

Follow the instructions that come with the kit to install it.

Clean the device

During the printing process, paper, toner, and dust particles can accumulate inside the product. Over time, this buildup can cause print-quality problems, such as toner specks or smearing (see Image defect examples on page 471). This product has a cleaning mode that can correct and prevent these types of problems.

Clean the exterior

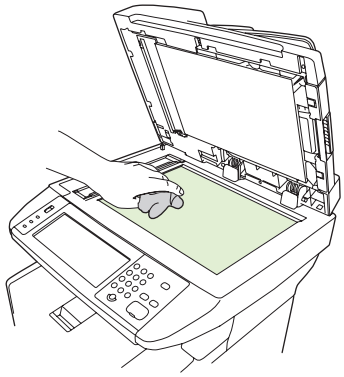
Use a soft, damp, lint-free cloth to wipe dust, smudges, and stains off of the exterior of the device.

Clean the scanner glass

Dirty glass, from fingerprints, smudges, hair, and so on, can cause jams and poor print quality, and can affect the accuracy of special features such as fit-to-page and copy.

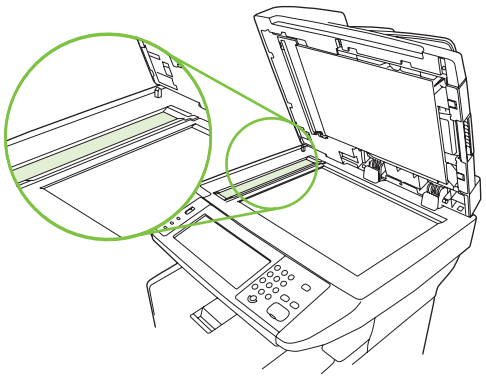
NOTE: If streaks or other defects appear only on copies produced using the automatic document feeder (ADF), clean the ADF glass (step 3). It is not necessary to clean the scanner glass.

1. Open the scanner lid.
2. Clean the glass by using a damp, lint-free cloth.



△ **CAUTION:** Do not use abrasives, acetone, benzene, ammonia, ethyl alcohol, or carbon tetrachloride on any part of the device; these can damage the device. Do not place liquids directly on the glass. They might seep under it and damage the device.

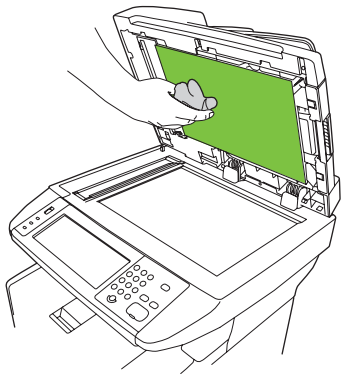
3. Clean the ADF glass by using a damp, lint-free cloth.



Clean the scanner lid backing

Minor debris can accumulate on the white document lid backing that is located underneath the scanner lid.

1. Open the scanner lid.
2. Clean the white document lid backing by using a soft cloth or sponge that has been moistened with a mild soap and warm water. Also, clean the scanner strip next to the ADF scanner glass.



3. Wash the backing gently to loosen debris; do not scrub the backing.
4. Dry the backing by using a chamois or soft cloth.

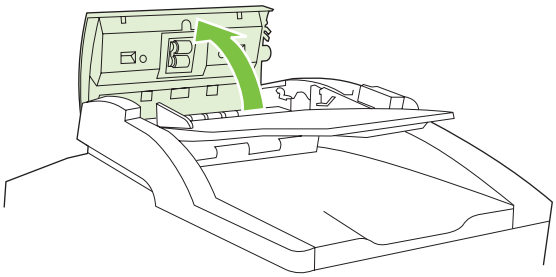
△ **CAUTION:** Do not use paper-based wipes because they might scratch the backing.

5. If this does not clean the backing well enough, repeat the previous steps and use isopropyl alcohol to dampen the cloth or sponge, and then wipe the backing thoroughly with a damp cloth to remove any residual alcohol.

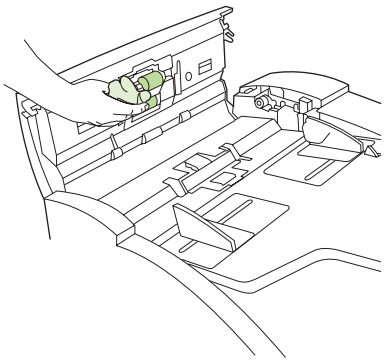
Clean the ADF

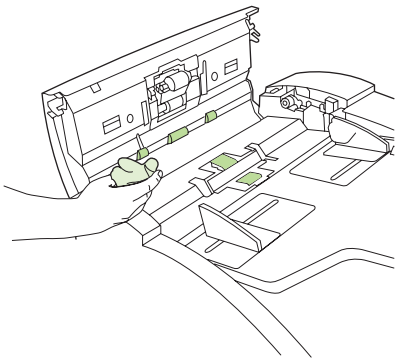
If the ADF has trouble feeding documents, clean the ADF pickup roller assembly.

1. Open the ADF jam cover.

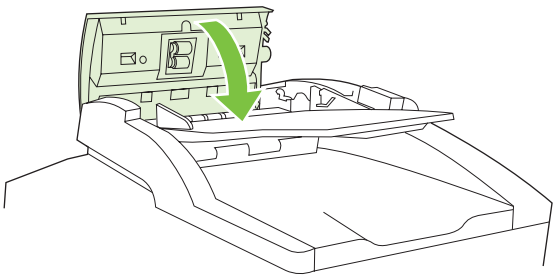


2. Wipe the ADF rollers and separation pad with a soft, dry cloth.





3. Close the ADF cover.



NOTE: If you are still experiencing jams in the ADF and the pickup rollers and separation pad appear worn, replace the rollers and pad.

Clean the print engine paper path

1. From the Home screen, touch Administration.
2. Touch Print Quality.
3. Touch Calibration/Cleaning.
4. Touch Create Cleaning Page.

   The device prints a cleaning page.
5. Follow the instructions printed on the cleaning page.

4 Theory of operation

- MFP system overview
- Print engine
- Duplexing unit
- 1 x 500-sheet and 3 x 500-sheet high-capacity input feeder
- Scanner component
- ADF
- Stapler/stacker component

MFP system overview

This chapter provides a functional overview of the systems, operational sequences, and components of the HP LaserJet M5039XS Series MFP.

- Print engine functions and operation
  - Engine control unit (ECU) system/power system
  - Laser/scanner system
  - Image-formation system
  - Paper-feed system (printer/product base) and document-feed system (document scanner)
- Duplexer functions and operation
- 1 x 500-sheet and 3 x 500-sheet high-capacity input (HCI) feeder
- Scanner and ADF functions and operation
- Stapler/stacker

Figure 4-1 MFP system block diagram

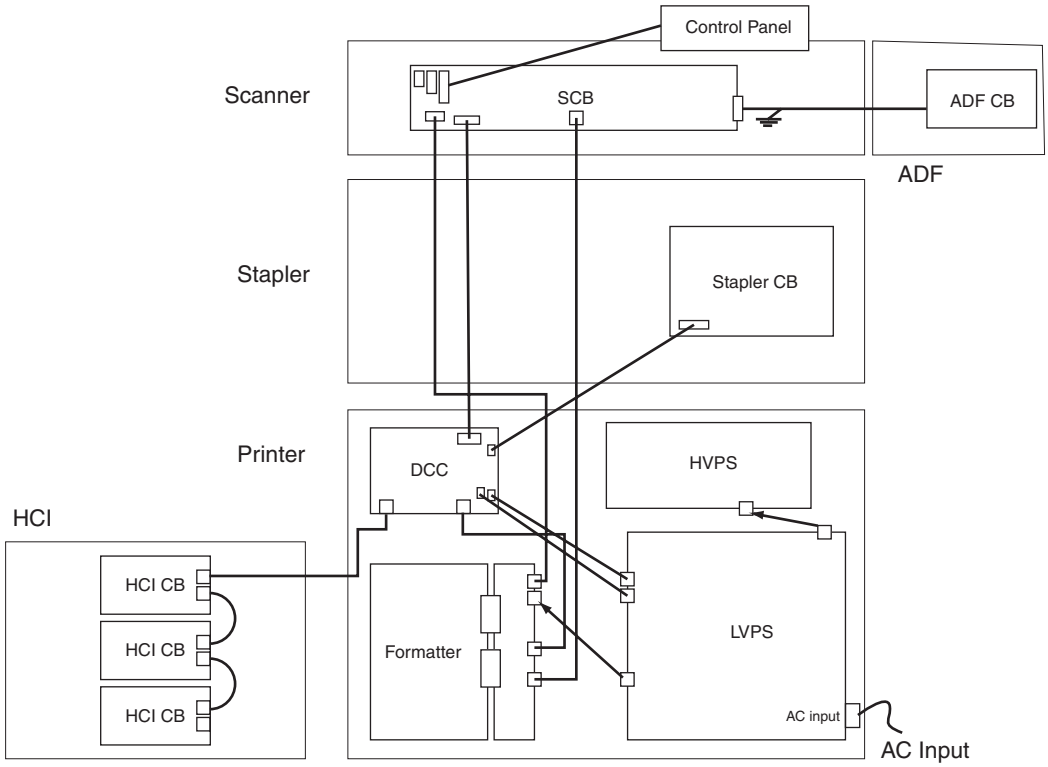


Table 4-1 DC controller connections

DC Controller	Connection to
J300	Low-voltage power-supply
J301	Low-voltage power supply
J311	HCI

Table 4-1 DC controller connections (continued)

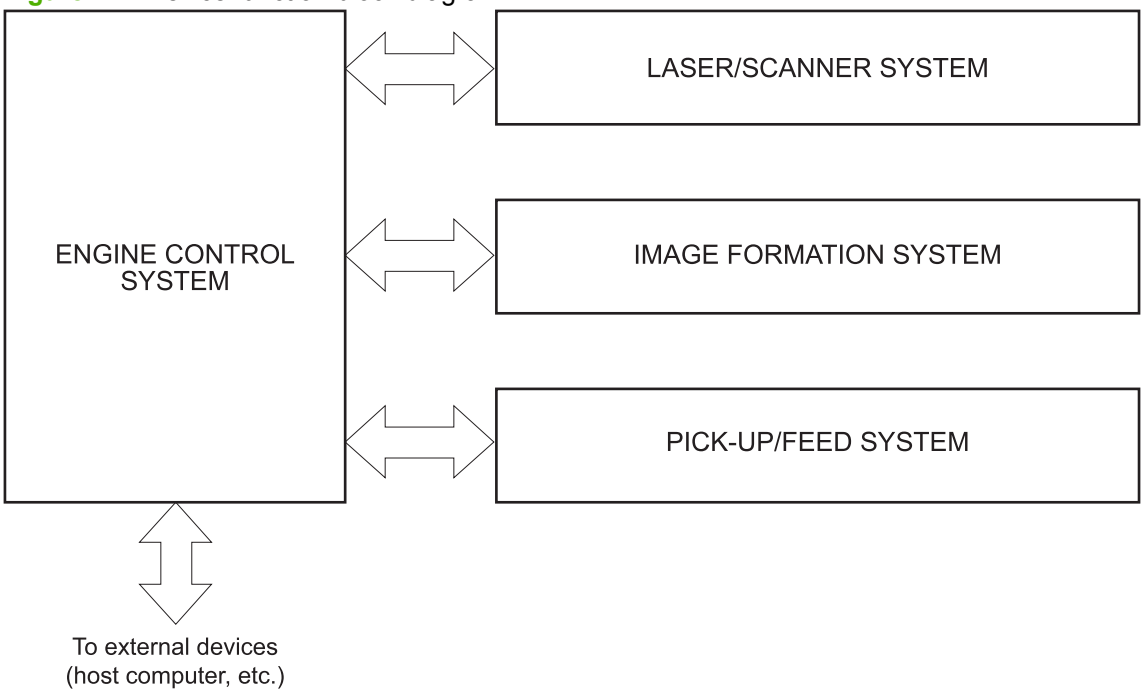
DC Controller	Connection to
J302	Stapler (J2100)
J303	Scanner control board (SCB)
J326	Formatter (upper FFC)

Table 4-2 Scanner controller board (SCB) connections

SCB connection	Connection to
Connector 1	Control panel
Connector 5	Formatter interconnect (flat cable)
Connector 6	Formatter interconnect
Connector 10	ADF control board

Print engine

Figure 4-2 Device function block diagram



Basic sequence of operation

The microprocessor (CPU) on the DC controller controls the operation sequence of the device. The following events take place during typical device operation.

Table 4-3 **Sequence of operation (engine)**

Period	Duration	Purpose	Remarks
WAIT period	From the time the power is turned on until the initial drive for the main motor is complete	Removes the charge that creates a potential difference from the drum surface, and adjusts the drum phase	Detects cartridge presence
STBY (Standby period)	From the end of the WAIT or LSTR period until either the print command is received from the formatter or the power is turned off	Maintains the printer in readiness for a print command and maintains the heater at a targeted temperature	
INTR (Initial rotation)	From the time the print command is received until the pickup solenoid is turned on	Prepares the photosensitive drum for printing and cleans the transfer charging roller	
PRINT	From the end of INTR period until the fuser paper sensor detects the trailing edge of paper	Forms the images on the photosensitive drum and transfers the toner image to the print media	
LSTR (Last rotation)	From the end of the PRINT period until the fuser motor stops rotating	Moves the last printed sheet out of the printer	The printer enters the INTR period as soon as the formatter sends another print command

Power-on sequence

The power-on sequence initializes the device and detects possible malfunctions or jams.

1. Power on
2. CPU initializes
3. Video interface communication starts
4. Residual paper check (detect paper presence via each sensor)
5. Receive formatter command
6. Initial drive for main motor
7. Initial drive for fuser heater
8. Initial drive for fuser motor
9. High-voltage control
10. Failure/abnormality check
11. Communicate with print cartridge memory tag

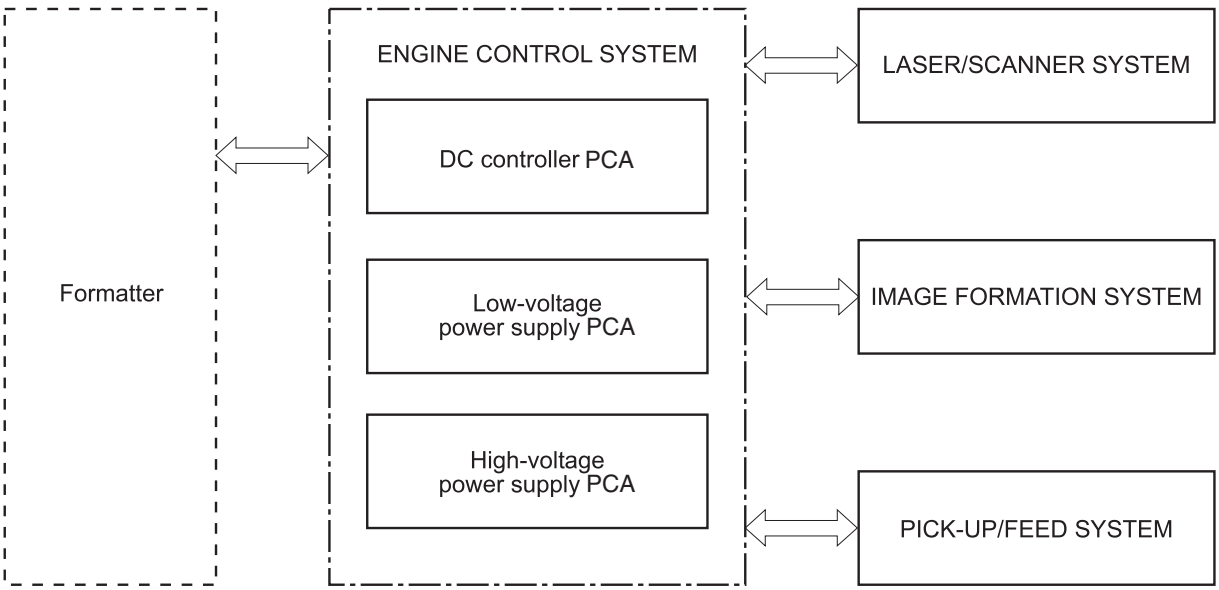
Engine control system

The engine control system coordinates all device functions and drives the other systems.

The engine control system contains these components:

- DC controller PCA
- High-voltage power supply PCA
- Low-voltage power supply unit

Figure 4-3 Engine control system

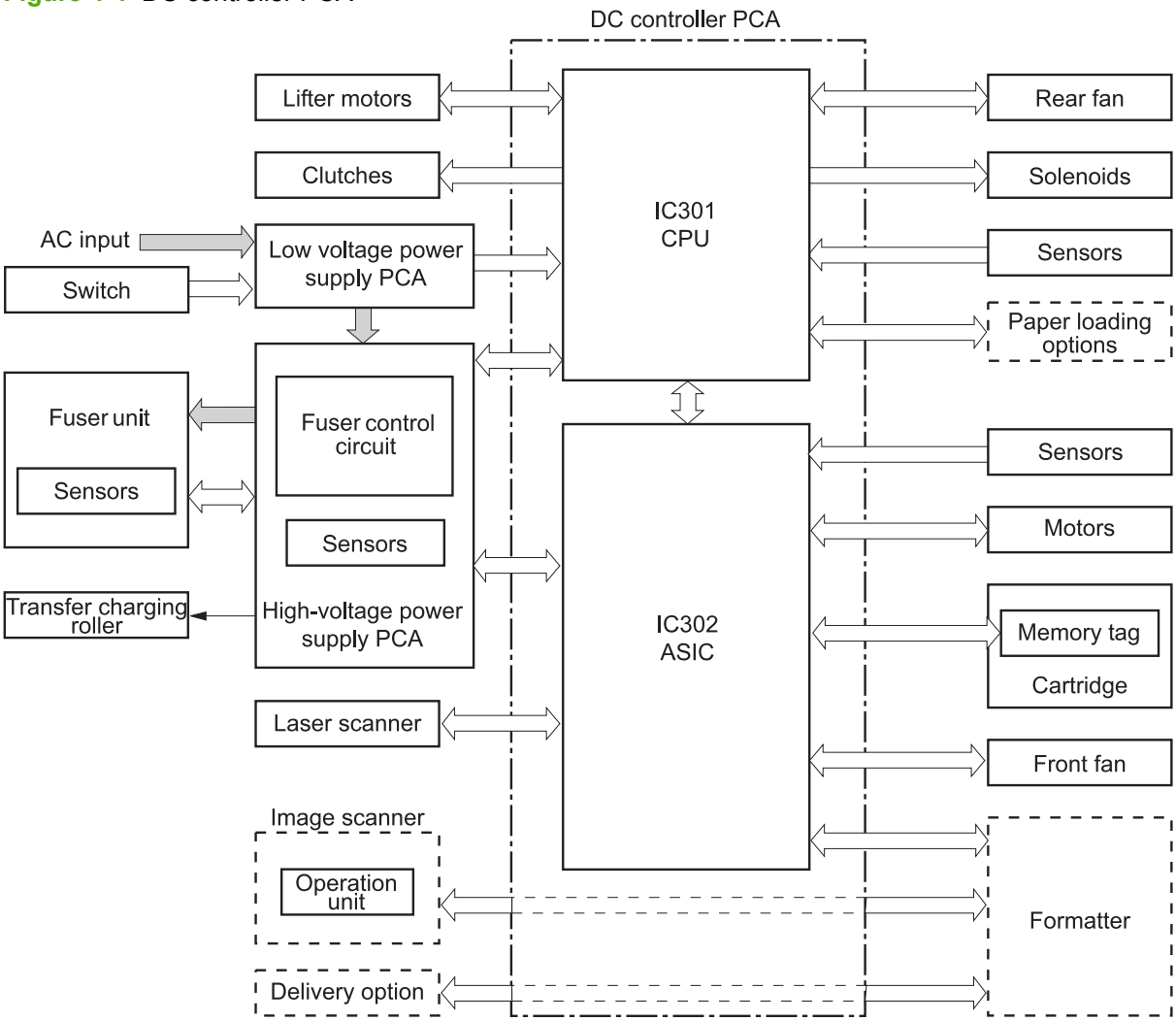


DC controller PCA

The DC controller PCA controls the sequence of operation.

1. Device is turned on.
2. Low-voltage power-supply PCA supplies power to the DC controller.
3. The DC controller CPU begins controlling the device operation.
4. The device enters STBY mode.
5. The CPU receives input from the formatter and sends the appropriate signals to drive each load.

Figure 4-4 DC controller PCA

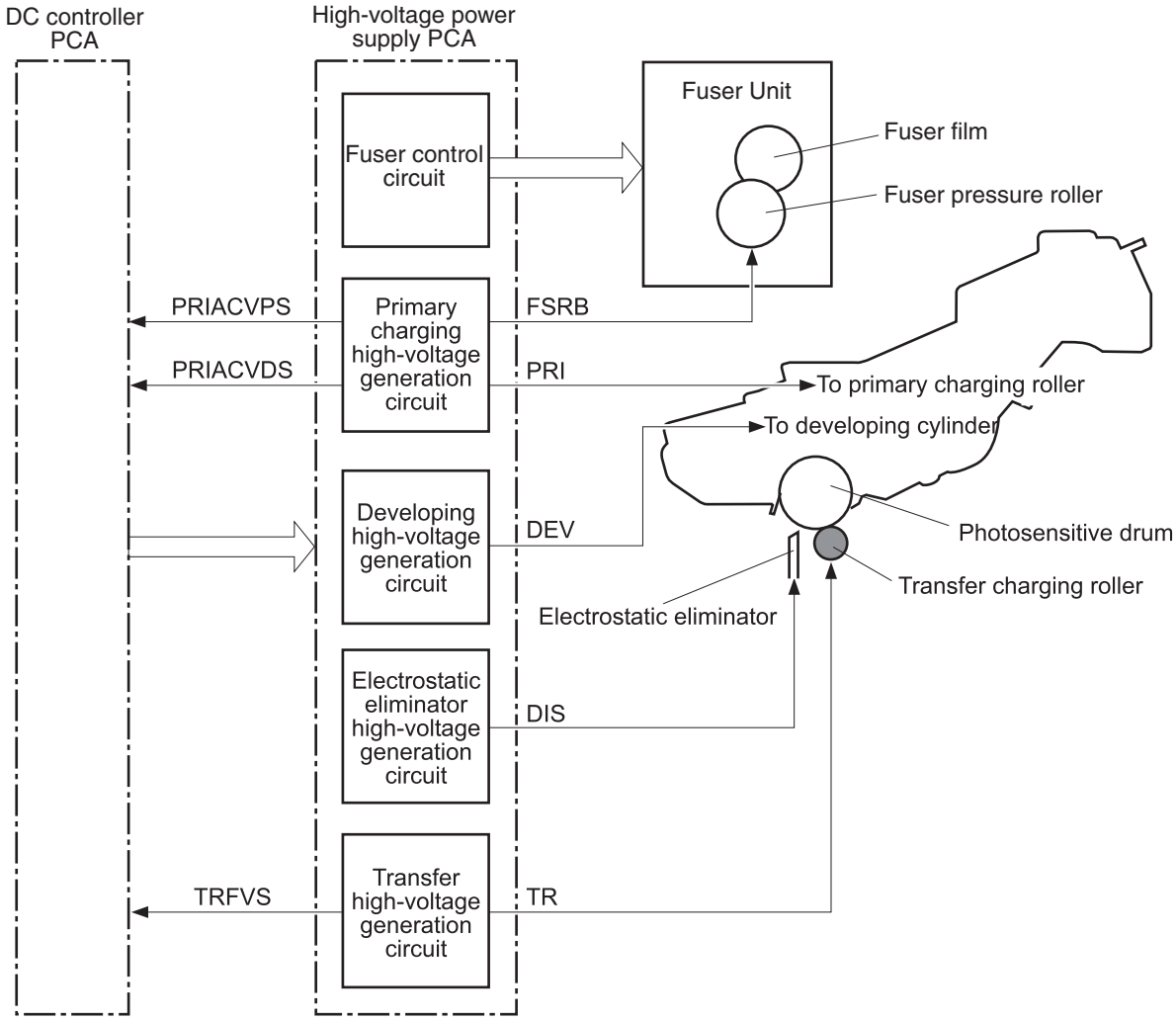


High-voltage power-supply PCA

The high-voltage power-supply PCA consists of four high-voltage generation circuits and a fuser control circuit. The DC controller controls the high-voltage power-supply PCA and enables it to generate high-voltage biases.

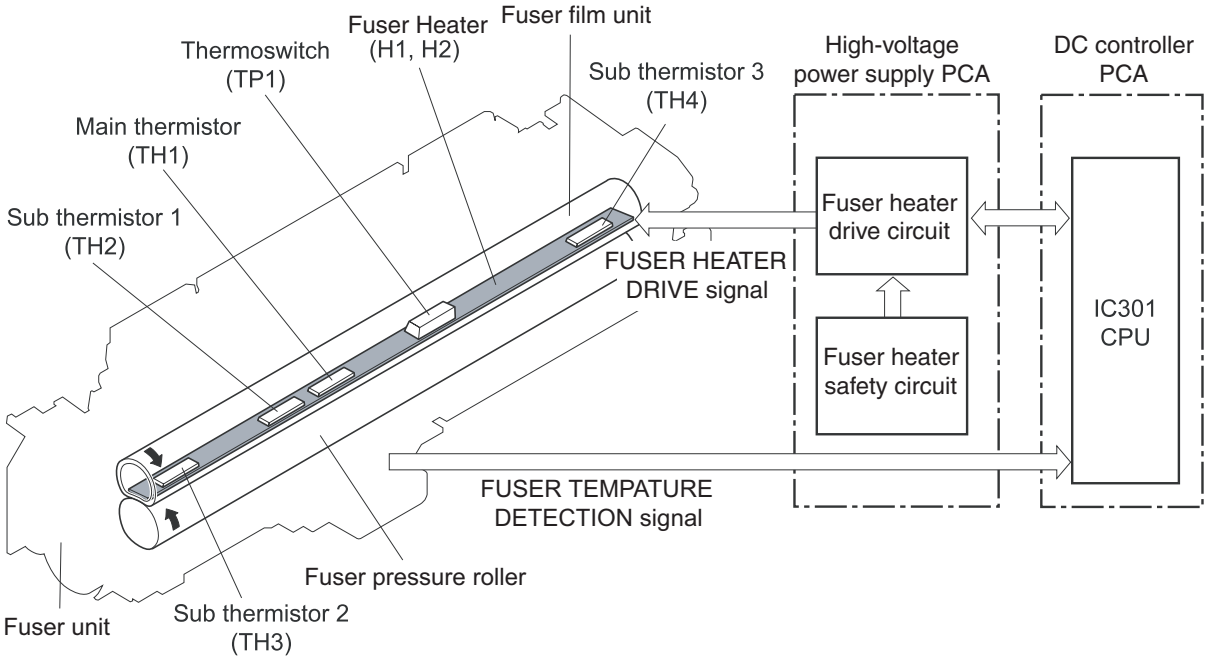
The generated biases are applied to the primary charging roller, developing cylinder, transfer charging roller, electrostatic eliminator, and fuser film.

Figure 4-5 High-voltage power-supply PCA block diagram



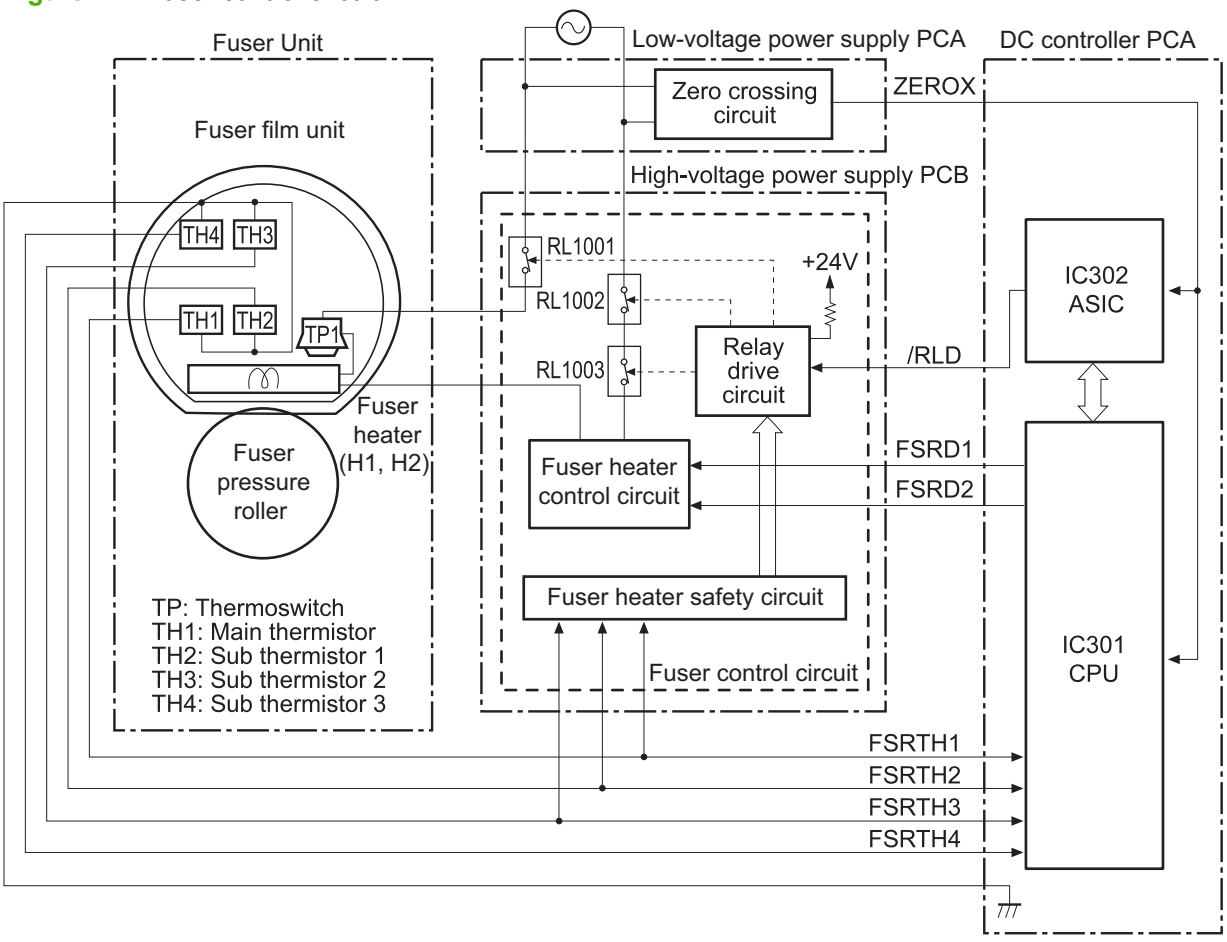
The fuser-control circuit controls the heater in the fuser unit according to commands from the DC controller. The HP LaserJet M5039XS Series MFP uses an on-demand fuser method.

Figure 4-6 Fuser unit



The fuser temperature control senses the surface temperature of the fuser heater and controls the fuser heater drive signals to maintain a targeted temperature.

Figure 4-7 Fuser control circuit



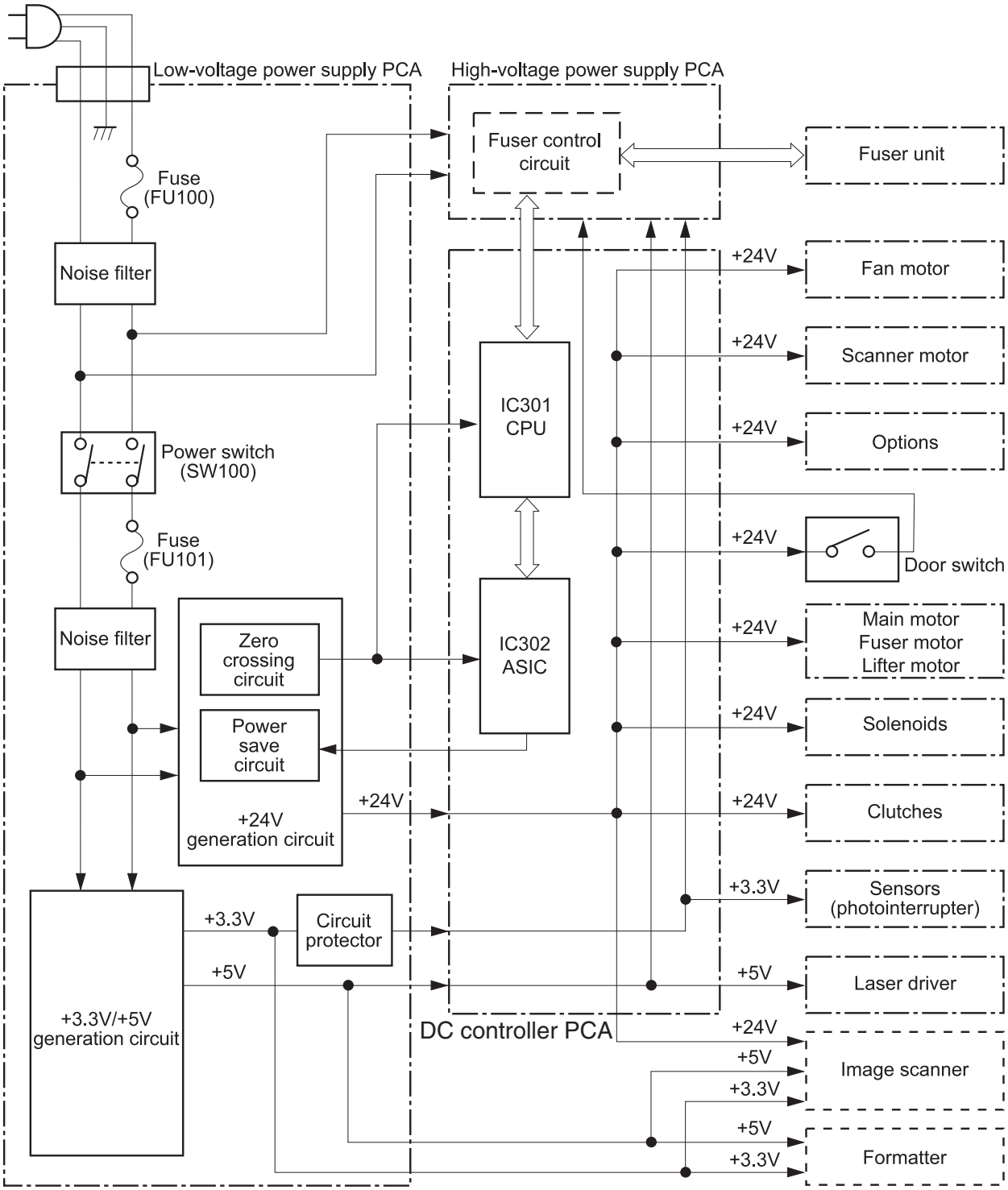
The fuser unit, with the CPU, the fuser-heater safety circuit, and a thermoswitch, protects the fuser heater from abnormal temperature increases.

The CPU provides fuser-unit-failure detection and notifies the formatter when a fuser-unit failure is detected.

Low-voltage power-supply PCA

The low-voltage power-supply PCA converts AC voltage from the electrical outlet to DC power and delivers it to each load in the device.

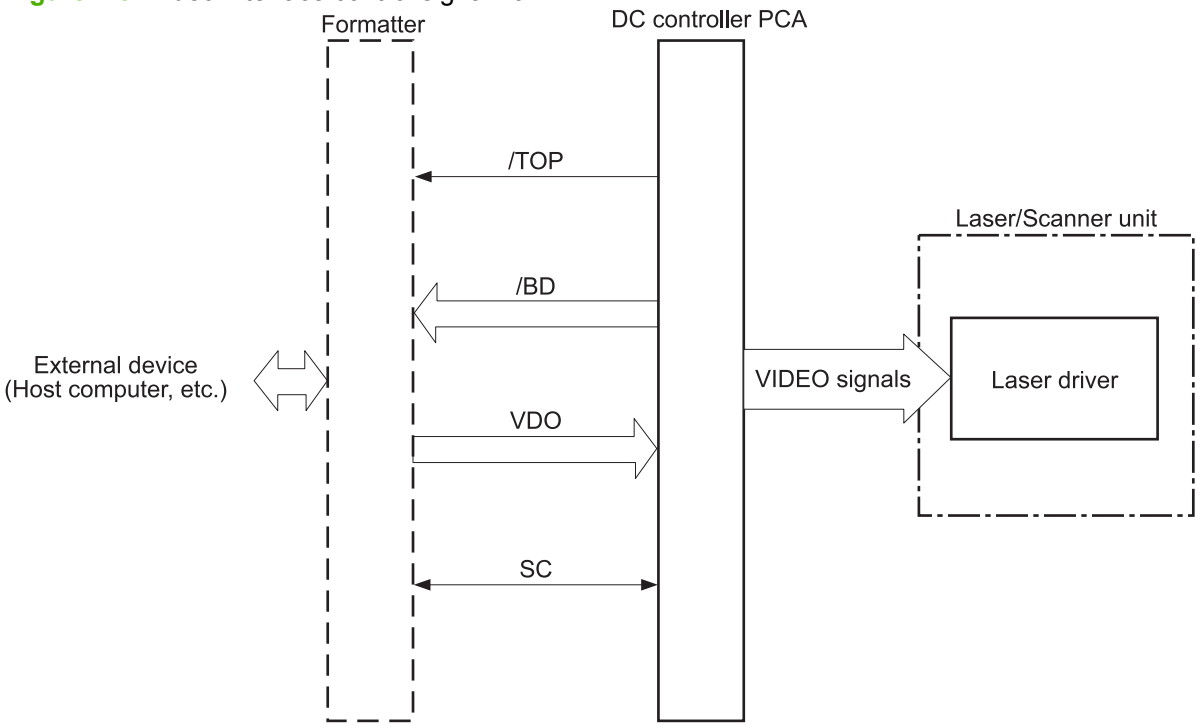
Figure 4-8 Low-voltage power-supply PCA block diagram



Video interface control

The video interface allows the formatter and DC controller to communicate. The formatter always monitors the device status by using the video interface. The formatter sends VIDEO signals to the laser driver via the video interface when the device is ready to function. The DC controller turns the laser driver on or off, depending on those signals.

Figure 4-9 Video interface control signal flow



Laser/scanner system

The formatter sends video signals to the DC controller, which controls the laser/scanner. When the laser/scanner system receives those signals, it converts them to latent images on the photosensitive drum.

Figure 4-10 Laser/scanner system

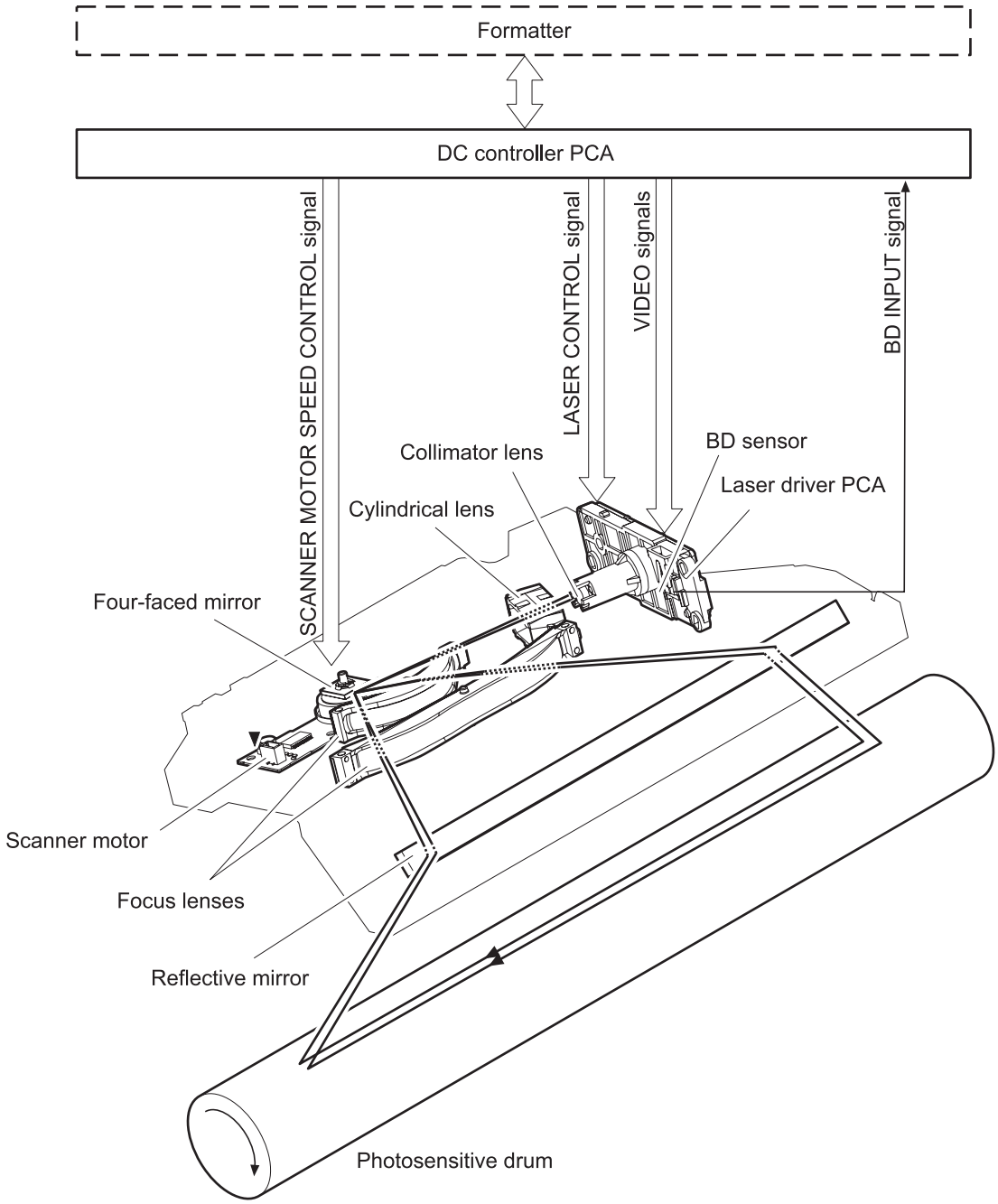


Image-formation system

Laser printing requires the interaction of several different technologies, including electronics, optics, and electrographics, to produce a printed page. Each process functions independently and must be coordinated with the other processes. Image formation consists of the following four processes:

The image-formation system, which forms a toner image on media, consists of several interdependent systems and processes:

- Electrostatic latent-image-formation system
- Developing
- Transfer system
- Fuser system
- Drum cleaning system

The printer includes one print cartridge that contains the toner that is used to create the image on the media.

Figure 4-11 Image-formation system

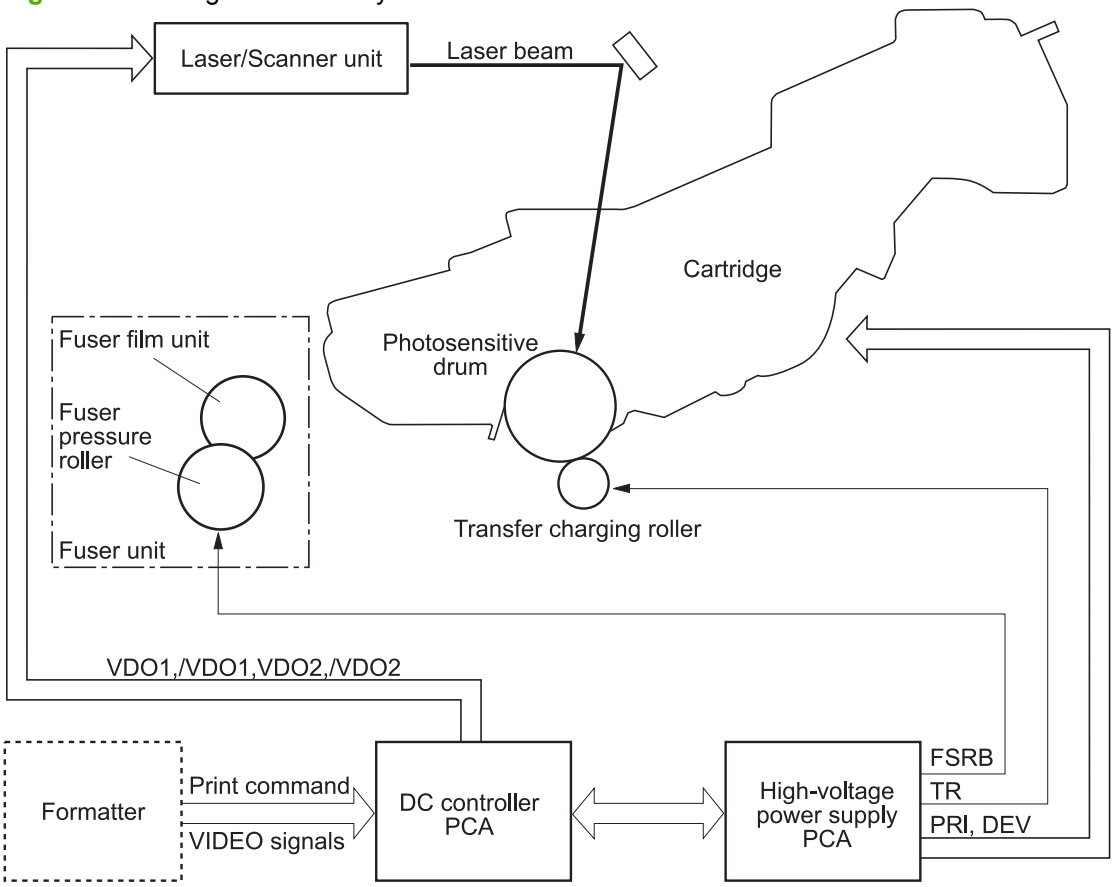
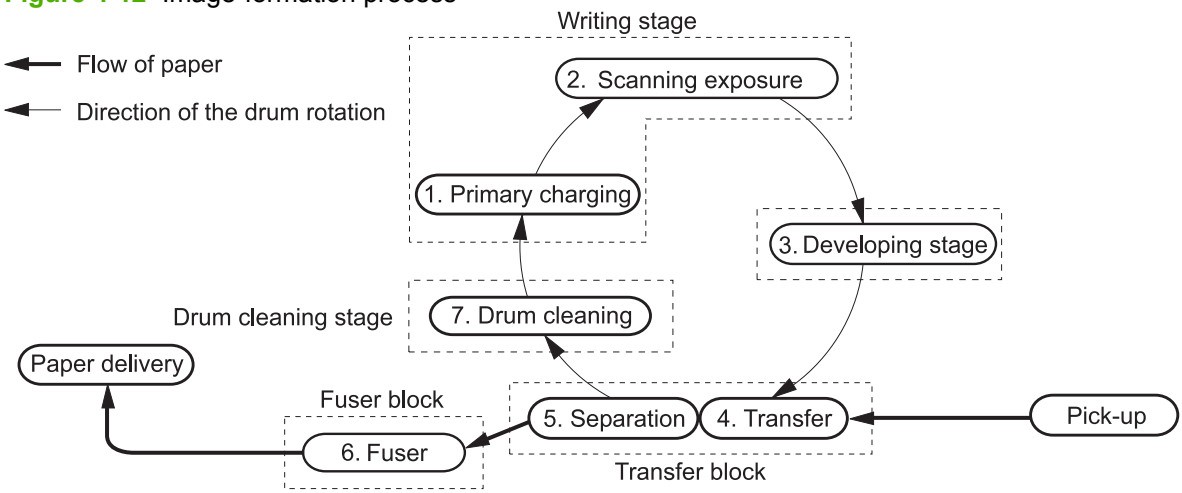


Figure 4-12 Image-formation process



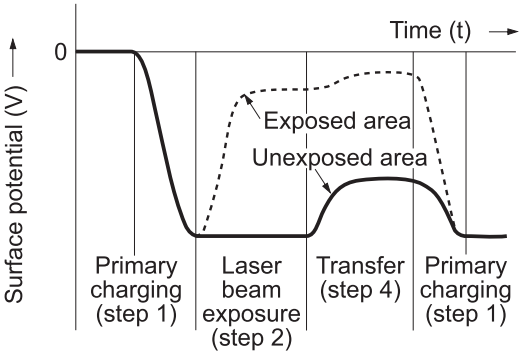
Electrostatic latent-image formation block

During the two steps that comprise this block, a negative charge is applied to the photosensitive drum to form a latent image, which is invisible.

Step 1: primary charging

A high-voltage DC bias is applied to the primary charging roller, which is made of conductive rubber and is in contact with the drum surface. As the roller moves across the drum, it applies the negative charge.

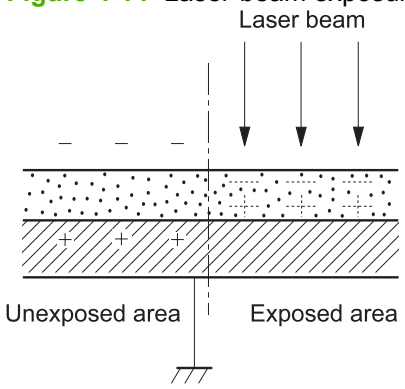
Figure 4-13 Primary charging



Step 2: laser-beam exposure

The laser beam scans the photosensitive drum to neutralize the negative charge on portions of the drum surface. An electrostatic latent image forms where the negative charge was neutralized.

Figure 4-14 Laser-beam exposure



Development block

The developing cylinder comes in contact with the photosensitive drum and deposits toner on the electrostatic latent image.

Step 3: developing

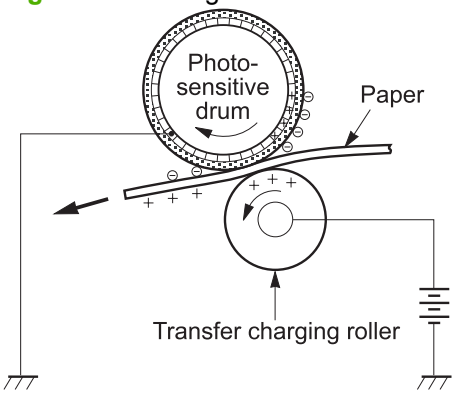
Toner acquires a negative charge from the friction that occurs when the developing cylinder rotates against the developing blade. When the negatively charged toner comes in contact with the drum, it adheres to the electrostatic latent image, which becomes visible.

Transfer block

Step 4: image transfer

The positively charged media is transferred over the photosensitive drum. As the media passes between the transfer roller and the drum, the transfer roller applies a positively DC bias to the media. The positively charged media attracts the negatively charged toner from the drum surface.

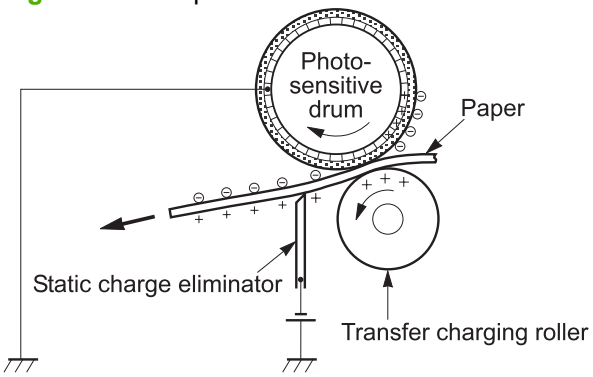
Figure 4-15 Image transfer



Step 5: separation from the drum

The elasticity of the print media causes it to separate from the drum surface. The sheet continues travelling through the printer. The static charge eliminator reduces static discharge.

Figure 4-16 Separation from the drum



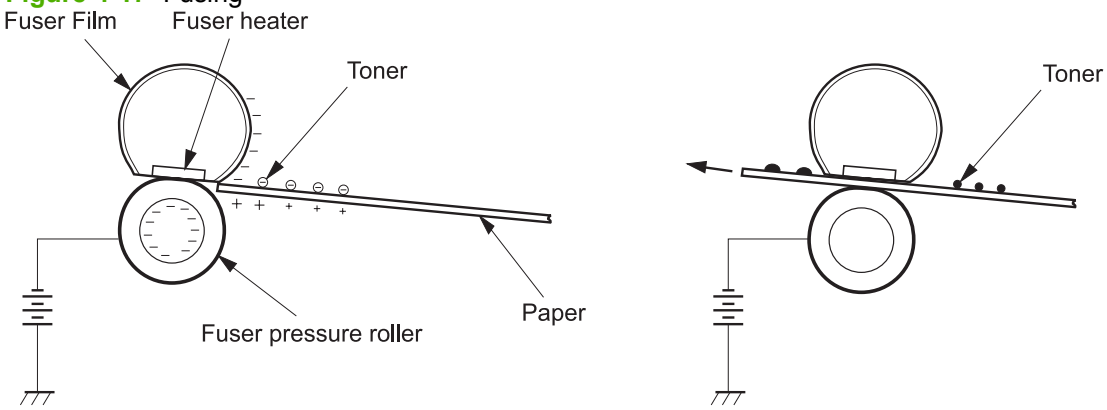
Fuser block

Until the fusing stage is complete, the image is not permanently affixed to the print media. The toner can be easily smudged until the heat and pressure of the fusing process fix the image to the sheet.

Step 6: fusing

The printer uses a ceramic heater to accomplish the on-demand fusing process. The heater has a low heat capacity, which results in a short warm-up period and yields energy savings.

Figure 4-17 Fusing



Drum-cleaning block

Not all of the toner is removed from the photosensitive drum during the transfer stage. During the cleaning stage, the residual (waste) toner and residual electrical charge is cleared from the drum surface to prepare the surface for the next latent-image formation.

Step 7: drum cleaning

The cleaning blade scrapes the residual toner off the surface of the photosensitive drum and deposits it in the waste-toner container. The drum is now clear and is ready for the next image-formation process.

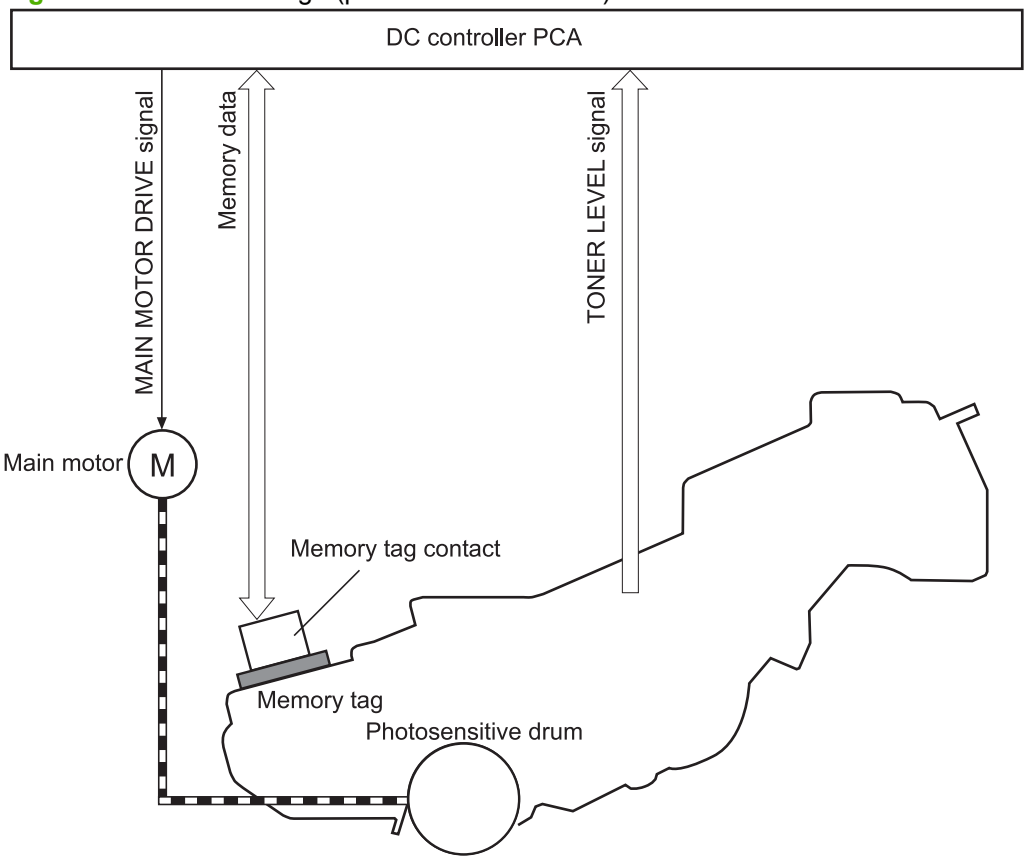
Print cartridge

This printer has one print cartridge that holds magnetic, single-component toner. The cartridge also contains a developing cylinder, toner-feed roller, and stirrer. The developer motor rotates these parts so that the print cartridge can deposit toner to form a visible image on the photosensitive drum.

The print cartridge in this printer includes the photosensitive drum, the primary charging roller, and the developing roller. The cartridge performs these functions:

- Memory-tag control
- Developing-roller engagement and disengagement control

Figure 4-18 Print cartridge (placeholder for 2–4–8)



Memory tag

A memory tag is a nonvolatile memory that is built into the print cartridge. The DC controller reads and writes data that is stored in the memory tag.

The DC controller reads data at the following times:

- When the power is turned on
- When someone closes the front cover
- When it receives a command from the formatter

The DC controller writes information at the following times:

- At a specified interval during printing
- When it receives a command from the formatter

When the read/write operation fails or the wrong data is read or written, the DC controller determines that an error has occurred and notifies the formatter of a cartridge-memory abnormality. Printing then stops.

The cartridge sensor (SR9) detects the presence of a cartridge. The high-voltage power-supply PCA also detects cartridge presence, and can detect the presence when the cartridge door is open and the power supply is interrupted. This ability enables procedures to appear on the control-panel display when a user is required to remove paper jams with the cartridge door open.

Pickup-and-feed-system

The pickup-and-feed system consists of three pickup sources (Tray 2, which is the upper cassette, Tray 3, which is the lower cassette, and Tray 1, the multipurpose tray) and one standard delivery destination (face-down output bin).

The multipurpose paper sensor (SR3) detects paper in the multipurpose tray. The upper cassette paper sensor (SR2) detects paper in Tray 2. The lower cassette paper sensor (SR12) detects paper in Tray 3.

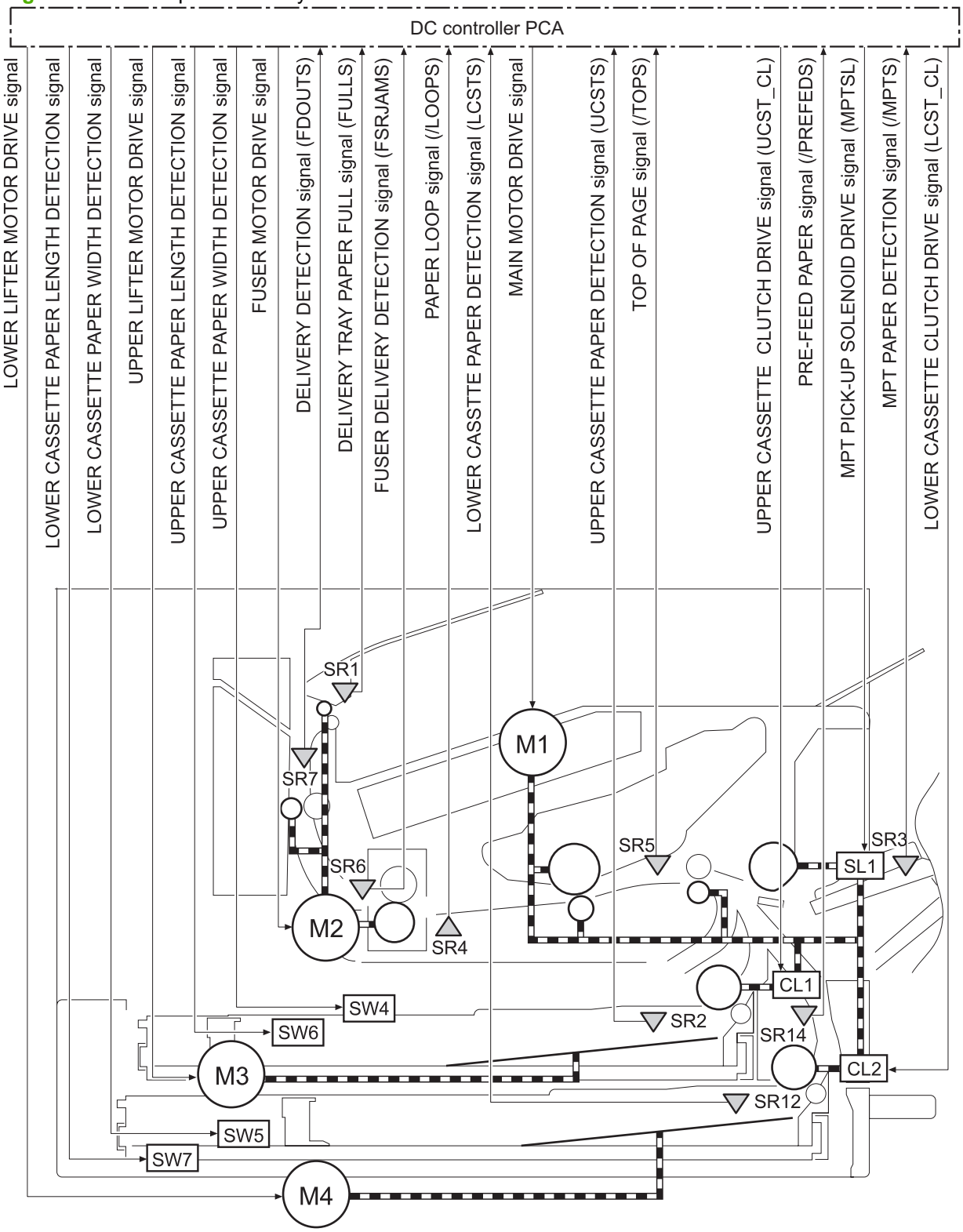
The DC controller controls the main motor, fuser motor, cassette pickup solenoid, and multipurpose pickup solenoid.

The six sensors are:

- top-of-page (SR5)
- pre-feed sensor (SR14)
- paper-loop sensor (SR4)
- fuser-delivery sensor (SR6)
- bin paper-full sensor (SR1)
- delivery media sensor (SR7)

If the media does not reach or pass each sensor within a specified period, the DC controller determines that a jam has occurred and alerts the formatter.

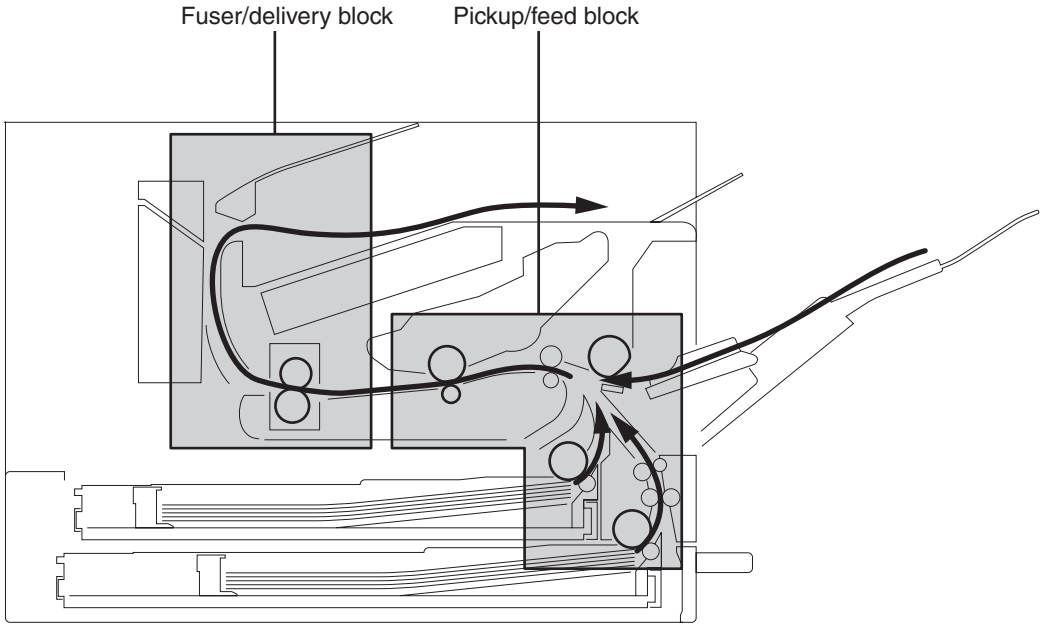
Figure 4-19 Pickup-and-feed-system



The pickup/feed system contains two blocks:

- Pickup/feed block (from the pickup source to the fuser unit entrance)
- Fuser/delivery block (from the fuser unit to the delivery source)

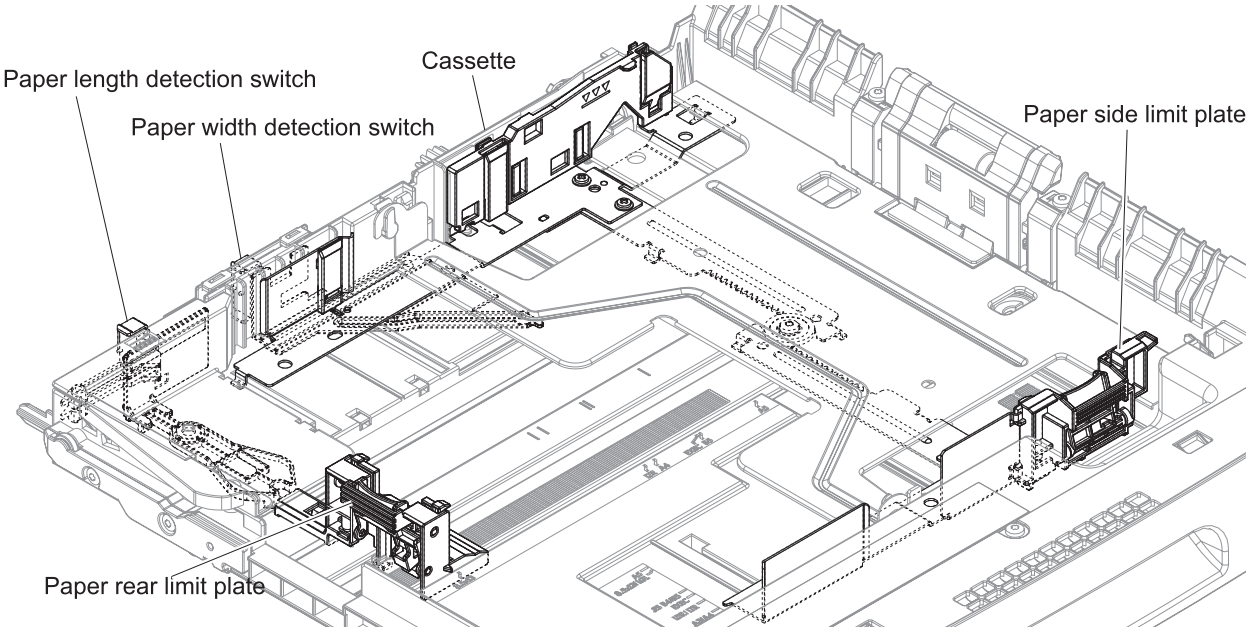
Figure 4-20 Pickup/feed system blocks

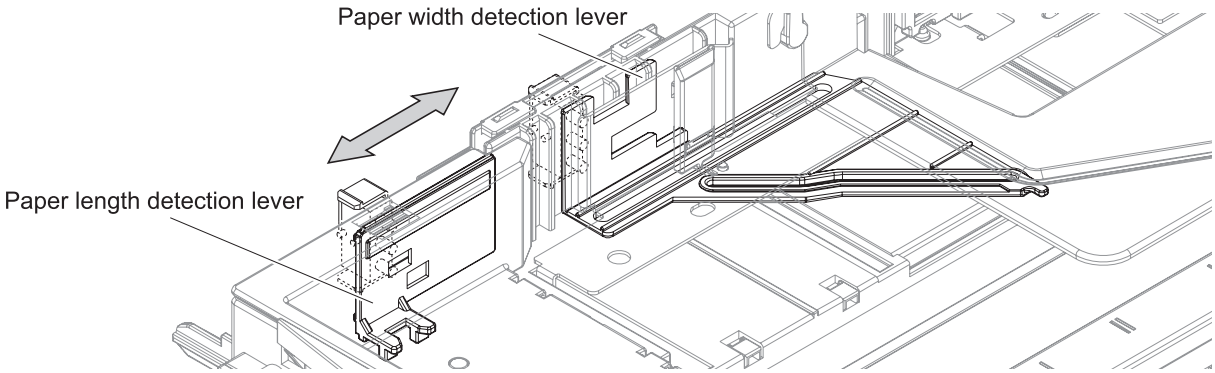


Cassette paper size and presence detection

The device detects the size of the paper that is loaded in the cassette and the presence of the cassette. The DC controller monitors the on/off status of the paper-width and paper-length detection switches. The switches are interlocked with the paper side and rear-limit plates. The switches are functioning when the cassette is installed. The DC controller detects the paper size and the cassette presence according to the switch status.

Figure 4-21 Paper size and cassette presence detection





Upper and lower cassette pickup mechanism

The device detects the presence of the upper and lower cassettes when they are installed correctly. Cassette presence is detected by one or both of the middle (Tray 2; SW6) or lower (Tray 3; SW7) switches being active. The cassette media sensor detects the type of media. When the upper and lower cassettes are correctly installed and contain the correct media type, the pickup operation begins.

The paper is at the pickup height position by the spring force and the lifting plate, which is pushed up by the lift-up motor operation.

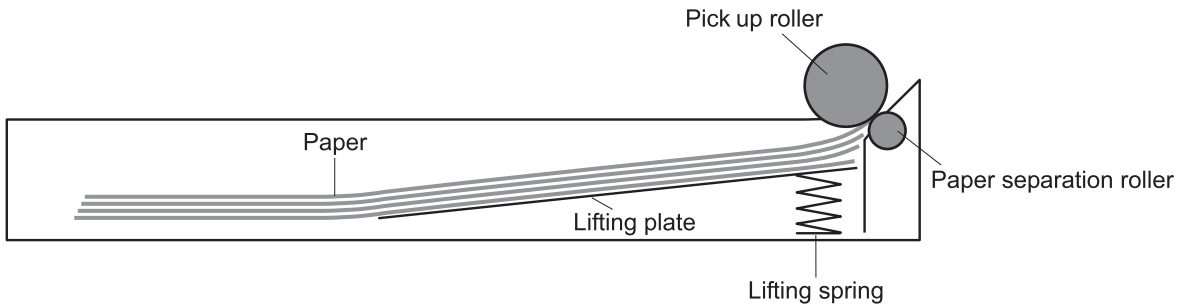
The cassette pickup roller rotation picks up one sheet of media at a time and feeds it to the device. A multiple-feed prevention mechanism removes multiple-fed media.

Cassette switches	**Paper length detection switch (upper SW6. lower SW7)**			
	SW (1, 0, 0)[1][2]	SW (1, 0, 1)[1][2]	SW (1, 1, 0)[1][2]	SW (1, 1, 1)[1][2]
Paper width detection switch (upper SW4, lower SW5)	A5 (long edge lead)	8.5 x 13	LGL	Cassette absent
SW (1, 1, 1)[1][2]	B5 (long edge lead)	Custom	B4	N/A
SW (0, 0, 1)[1][2]	EXE (long edge lead)	Custom	Custom	N/A
SW (1, 0, 0)[1][2]	LTR (long edge lead)	Custom	LDR	N/A
SW (0, 0, 0)[1][2]	A4 (long edge lead)	Custom	A3	N/A

[1] Switch status 1 = active. 0 = inactive

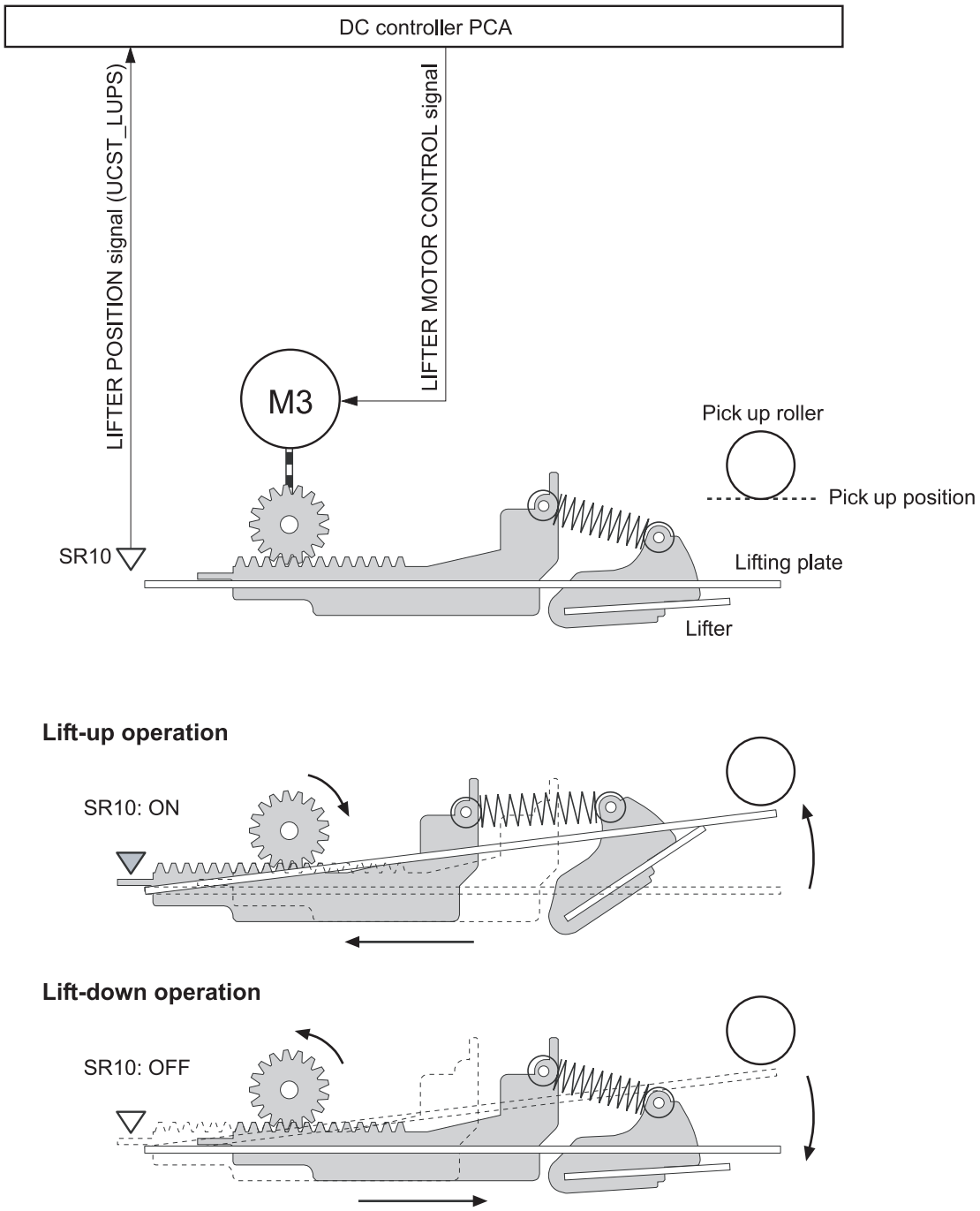
[2] (#, #, #) represents the top switch, middle switch, and bottom switch respectively.

Figure 4-22 Upper and lower cassette pickup mechanism



1. The DC controller receives a print command from the formatter, and then begins rotating the pickup-and-feed motor to bring the lifting plate to the pickup position.
2. The device performs the lift-up operation by monitoring the upper lifter position sensor (SR10) and the lower lifter position sensor (SR11) when the device is turned on, when the cassette is installed, or for each job.
3. The DC controller lifts down the lifting plate to the original position to prevent the leading edge of media from being folded. The device performs the lift-down operation by monitoring SR10 and SR11 when no job is requested for a specified time after the lift-up operation.

Figure 4-23 Upper cassette lifting operation



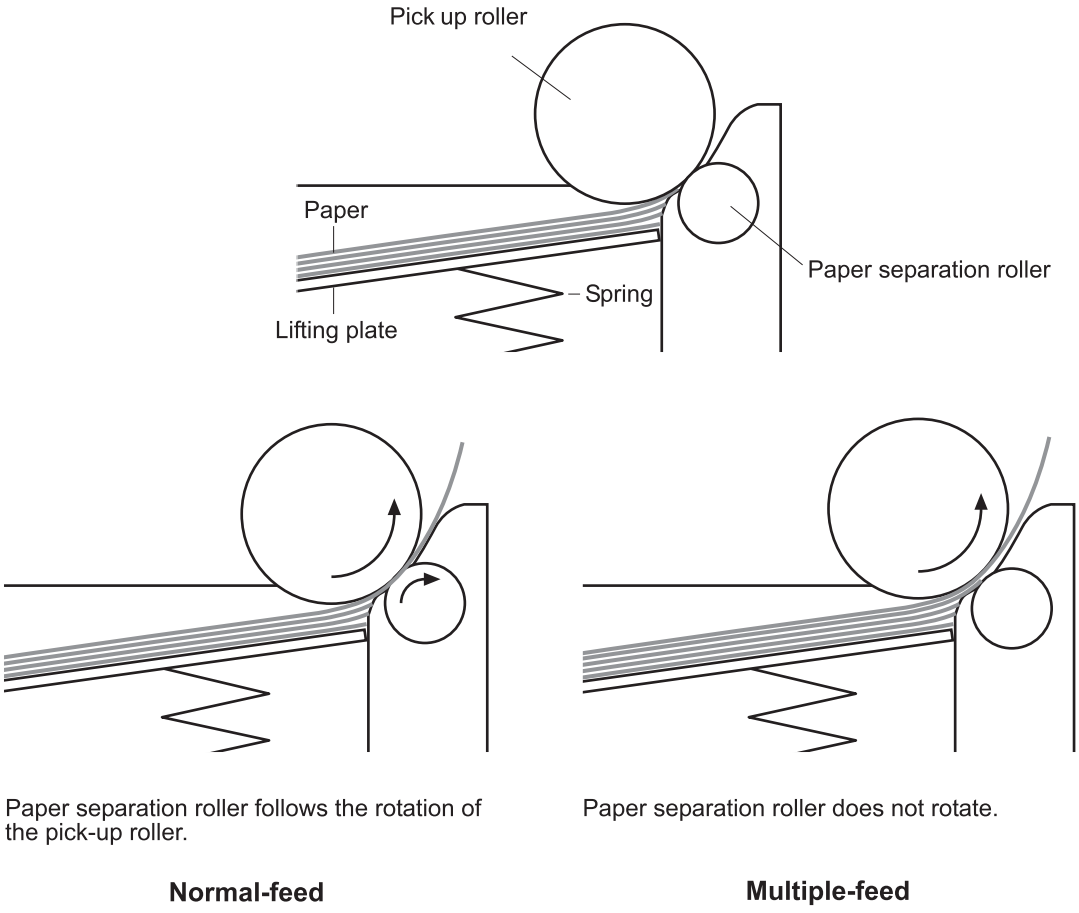
Multiple-feed prevention mechanism

The device uses a paper-separation roller method in Tray 2 and Tray 3 to prevent multiple sheets from entering the device. The paper separation roller follows the rotation of the pickup roller because the separation roller does not have its own driving force.

Under typical conditions, the separation roller is driven by the pickup roller through a sheet of paper. The separation roller rotates in the paper-feed direction.

When sheets of paper exist between the pickup roller and the separation roller, the pickup roller does not rotate the separation roller. A weak braking force is always applied to the separation roller so that the separation roller rotation is inhibited, and the weak rotational force of the pickup roller is not enough to rotate the separation roller. The multiple-feed paper cannot be fed to the printer.

Figure 4-24 Multiple feed prevention mechanism



Tray 1 (multipurpose tray) pickup mechanism

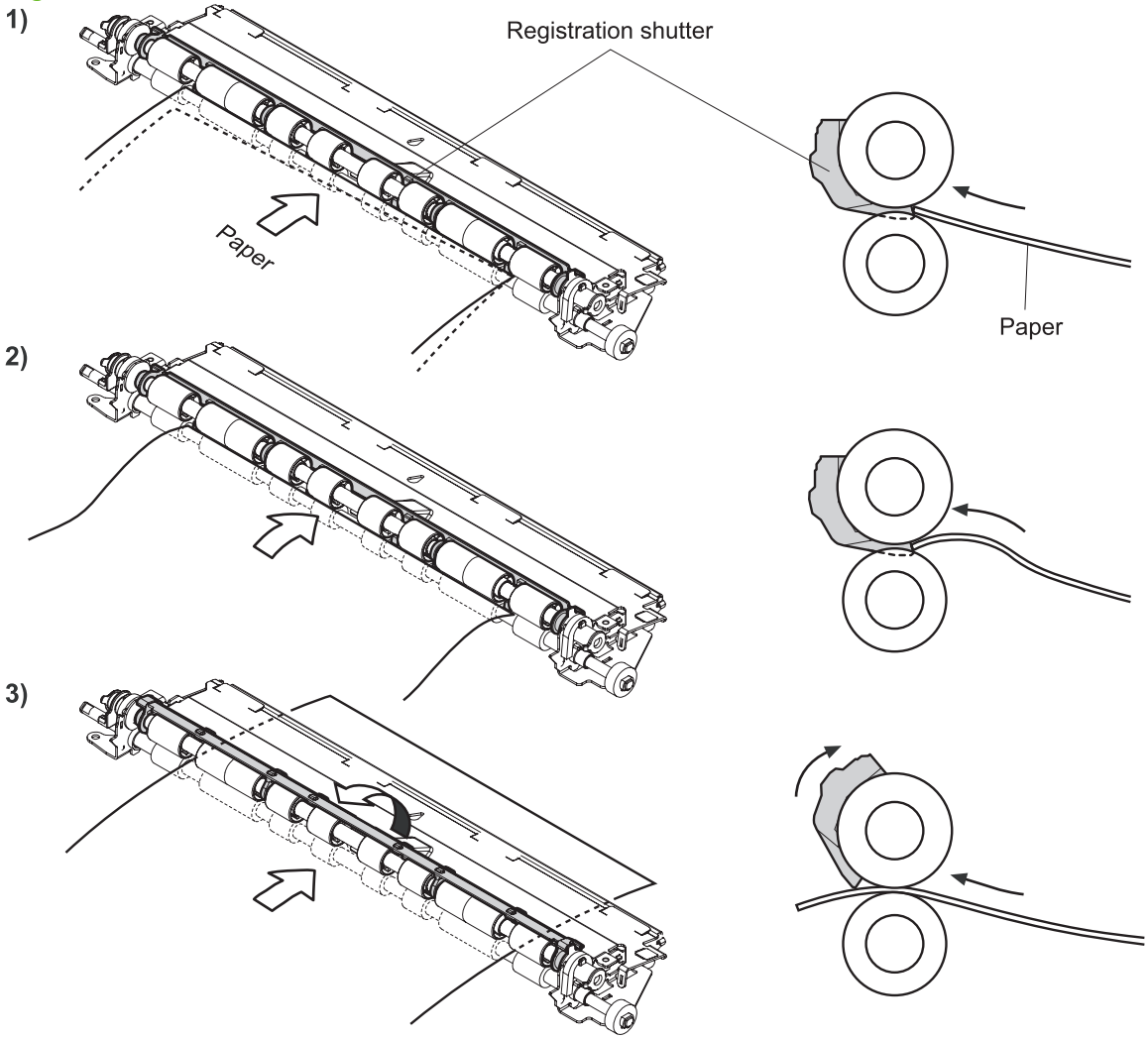
Tray 2 must be installed for Tray 1 (the multipurpose tray) to operate. The Tray 1 paper sensor detects whether media is present. The separation pad is equipped for the multiple-feed prevention from the tray. When Tray 1 is correctly installed and contains media, the pickup operation begins.

Skew-correction mechanism (registration)

This mechanism corrects the skew of paper that is fed to the device. The device uses a registration shutter method to avoid decreasing throughput. The skew-correction mechanism operates in the following sequence:

1. The leading edge of media encounters the registration shutter when the media is fed to the registration roller.
2. The media is warped because the shutter is not opened unless acted upon by an outside source. The feed roller keeps pushing the media toward the shutter.
3. The stiffness of the paper being warped lifts the registration shutter and the paper passes through the shutter. The skew-feed is corrected without decreasing the throughput.

Figure 4-25 Skew-correction mechanism



Fuser/delivery block

The fuser/delivery block is structured into two blocks: the fusing block, which fuses toner onto the media, and the delivery block, which delivers the fused media to the face-down bin. The fuser/delivery block operates as follows:

1. Media is fed to the fuser unit from the pickup feed block. The paper warp is adjusted here by the loop control. Different motors are used so the feed speed in the fuser unit differs from the feed speed in the pickup/feed block. Loop control prevents an image or paper transport defect by keeping within the specified paper warp before entering the fuser unit.
2. When the face-down bin becomes full, the delivery tray paper full sensor (SR1) detects the condition. When the DC controller determines that the face-down bin is full, it notifies the formatter.

Loop control

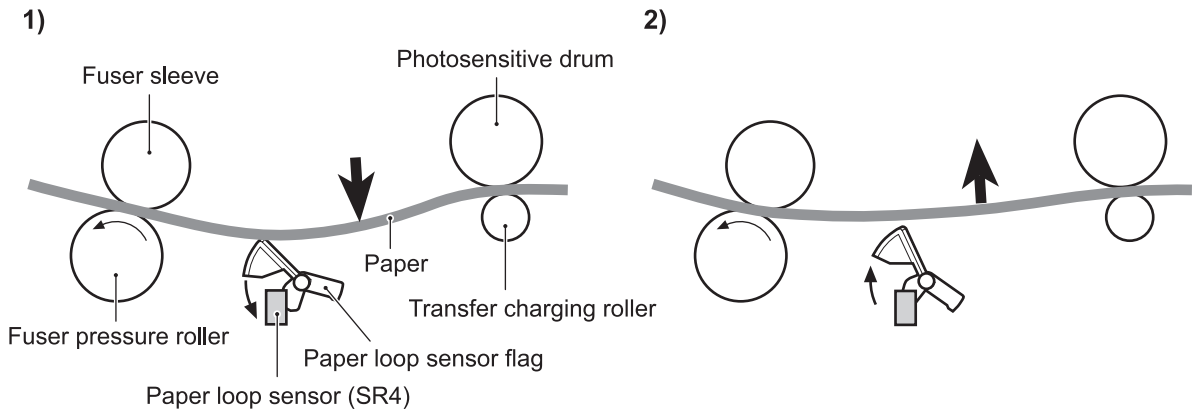
Loop control prevents image and paper transport defects by keeping within the specified paper warp between the transfer charging roller in the pickup/feed block and the fuser pressure roller.

The feed speeds of the fuser pressure roller and the transfer charging roller are not the same, resulting in these problems when media is fed to the fuser unit:

- When the rotational speed of the fuser pressure roller is slower than that of the transfer charging roller, the paper warp is increased. This can cause an image defect or a paper crease.
- When the rotational speed of the fuser pressure roller is slower than that of the transfer charging roller, the paper warp is decreased and image misregistration in the sub-scanning direction occurs.

To resolve these problems, the DC controller maintains the paper warp at a specified amount by monitoring the paper loop sensor (SR4) and changing the rotational speed of the fuser pressure roller according to the SR4 output signals.

Figure 4-26 Loop control mechanism



Jam detection

This device includes the following sensors for detecting paper:

- Delivery tray paper full (SR1)
- Paper loop (SR4)
- Top-of-page (SR5)
- Fixing delivery (SR6)
- Delivery (SR7)
- Pre-feed (SR14)

The CPU determines whether or not a paper jam exists by checking if paper is present at the sensor at the specified timing. The specified timing is stored in the CPU memory. If the CPU determines that a jam has occurred, it stops the device operation and notifies the formatter.

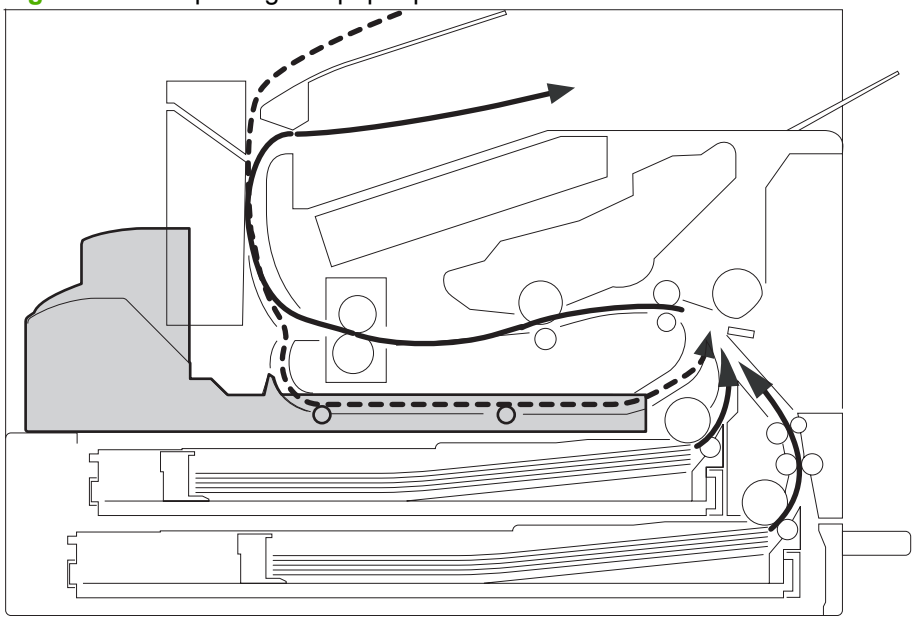
Jam type	Description	Specified timing (approximate)
Pickup delay	The device performs retry control to retrieve the pickup delay jam caused by the pickup sensor. When SR5 does not detect the media leading edge within the specified timing, the CPU executes the pickup operation twice under both cassette pickup and Tray 1 pickup operations. If SR5 still does not detect the media leading edge, the CPU notifies the formatter of a pickup delay jam.	T = 1.5 s (upper cassette) T = 2.8 s (lower cassette) T = 1.1 s
Pickup stationary	When SR5 continues detecting paper for the specified timing after the paper is originally detected, the CPU notifies the formatter of a pickup stationary jam.	T = 0.4 s
Fuser delivery delay	When SR6 does not detect paper within the specified timing after SR5 detects paper, the CPU notifies the formatter of a fuser delivery delay jam.	T = 1.5 s
Fuser stationary	When SR6 does not detect the media trailing edge within the specified timing after the SR5 detects the media leading edge, the CPU notifies the formatter of a fuser stationary jam.	T = 2.3 s
Fuser wrapping	When SR6 does not detect paper within the specified timing after it originally detects paper, the CPU notifies the formatter of a fuser wrapping jam.	T = 0.7 s
Door open	The CPU determines the door open jam when the cartridge door, face-up bin, or cassette is detected as open.	N/A

Jam type	Description	Specified timing (approximate)
Residual paper	The CPU notifies the formatter of a residual paper jam when any of the following sensors detect paper when the device is turned on, when the door is closed, or when automatic delivery is completed. • SR4 • SR5 • SR6 • SR7 • SR14 **NOTE:** The automatic delivery function delivers the residual paper automatically when the power is turned on or the door is closed. If SR5 detects paper during the INTR period, the CPU recognizes that there is residual paper inside the device and notifies the formatter and stops the device operation. Next, the CPU drives the motors and delivers the residual paper out of the device when the formatter sends an automatic delivery command.	
Delivery delay jam 1	When SR1 does not detect paper within the specified timing after SR5 detects the paper, the CPU notifies the formatter of a delivery delay jam 1. **NOTE:** This operation is not performed if the delivery bin paper-full sensor detects a full bin, if the job requires face-up bin delivery, or if the job requires duplexing delivery.	T = 2.7 s
Delivery delay jam 2	When SR7 does not detect paper within the specified timing after SR6 detects the paper, the CPU notifies the formatter of a delivery delay jam 2.	T = 0.9 s
Delivery stationary	When SR6 does not detect the media trailing edge within the specified timing after SR5 detected the media trailing edge, the CPU notifies the formatter of a delivery stationary jam.	T = 0.8 s

Duplexing unit

The optional duplexing unit is installed in the left side of the device. The duplexing unit reverses and feeds media for printing on both sides. It aligns the starting position of the main scan for the second-side printing when the formatter sends the appropriate command.

Figure 4-27 Duplexing unit paper path

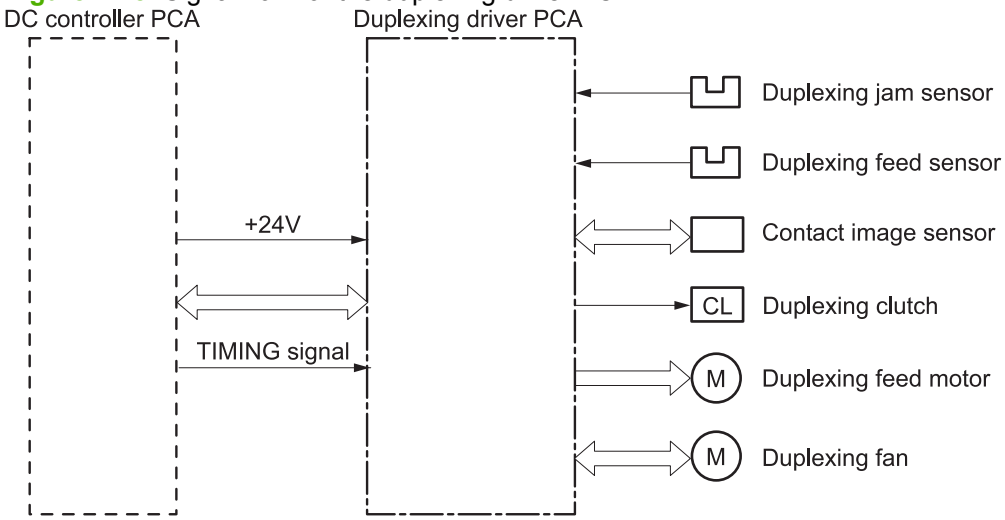


The duplexing driver PCA controls the duplexing unit. The PCA, which is a microcomputer (CPU), controls the operational sequence of the duplexing unit and the serial communication with the DC controller.

The DC controller sends commands to the PCA at specified timings. The PCA drives loads such as the motor and clutch. The PCA also returns status information to the DC controller. When the duplexing unit is installed, it (not the device engine) drives the delivery rollers regardless of simplex or duplex operation.

The print engine supplies 24 Vdc to the duplexing unit. The duplexing driver PCA generates the 3.3 Vdc for component devices such as sensors and ICs from the 24 Vdc.

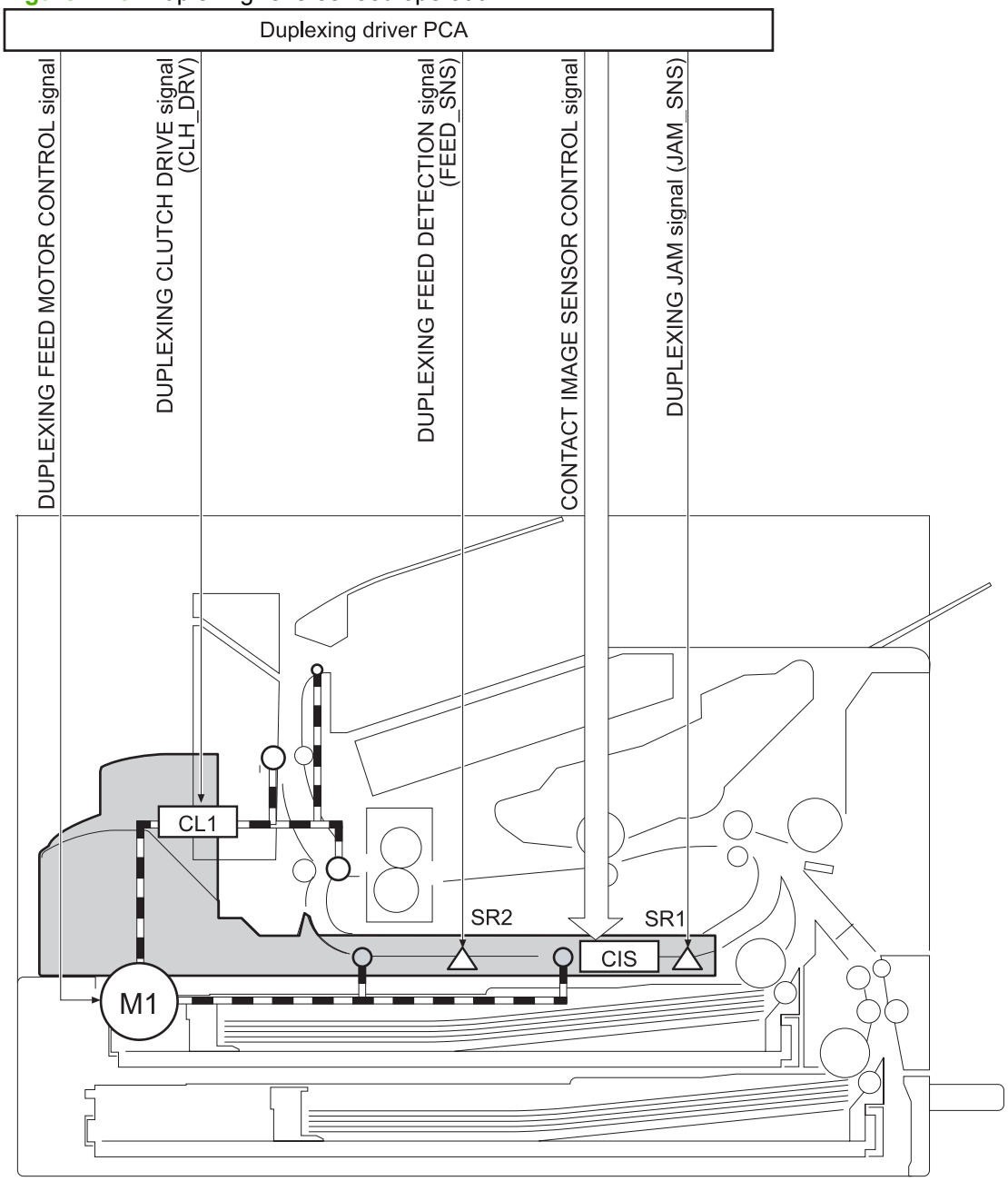
Figure 4-28 Signal flow for the duplexing driver PCA



Duplexing reverse/feed operation

The duplexing unit reverses the feed/delivery rollers in the device to print on both sides. The media that passed through the fuser unit reverses its feeding direction and is fed to the duplexing unit. The duplexing unit feeds the media and performs horizontal registration to align the starting position of the main scan for the second-side print. Then, the media is fed into the device engine unit again.

Figure 4-29 Duplexing reverse/feed operation



Duplexing feed operation

The duplexing driver PCA controls the duplexing reverse/feed operation. The reverse/feed sequence of operation follows:

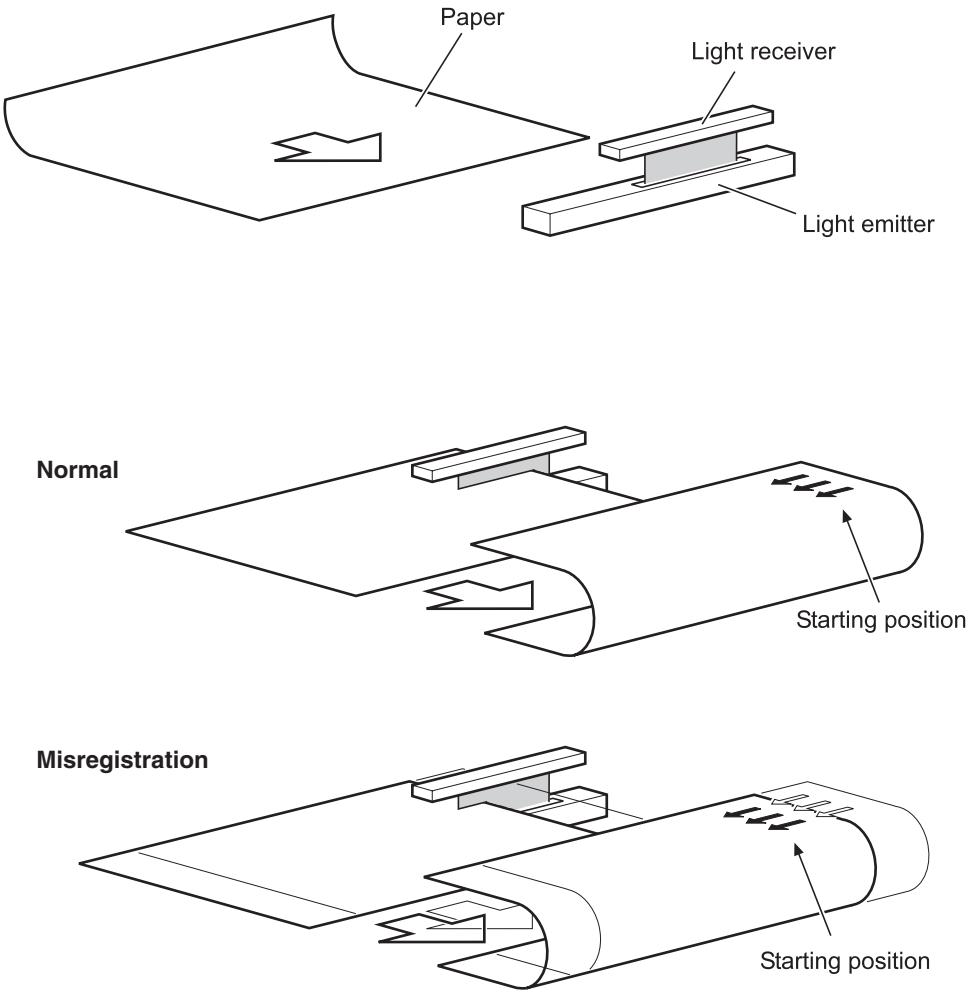
1. The media that is printed on one side passes through the fuser unit.
2. The DC controller sends the timing signal to the duplexing unit after the fusing delivery sensor (SR6) detects the trailing edge of the media.
3. The duplexing driver reverses the delivery roller after the specified time interval. The media is fed into the duplexing unit.
4. The horizontal registration function aligns the media to its starting position.
5. The media is fed into the device again.

Duplexing horizontal registration function

The horizontal registration function uses the contact image sensor (CIS) to align the starting position of the main scan for the second-side print.

The media fed into the duplexing unit passes between the light emitter and the light receiver of the CIS. The DC controller detects the misregistration amount on the right side of the media, and then sends this information to the formatter. The formatter changes the starting position of the main scan direction according to the information, and then sends the VIDEO signals to the DC controller.

Figure 4-30 Horizontal registration function



Duplexing unit jam detection

The duplexing unit provides the following paper-detection sensors to detect paper presence and normal paper-feed operation.

- Duplexing feed sensor (SR2)
- Duplexing jam sensor (SR1)
- Top-of-page sensor (SR5 in the device)

The duplexing driver CPU determines whether or not a paper jam exists by checking if paper is present at the sensor at the specified timing. The specified timing is stored in the CPU memory. If the CPU determines that a jam has occurred, it stops the duplexing feed operation and notifies the formatter.

Table 4-4 Duplexing unit jam detection

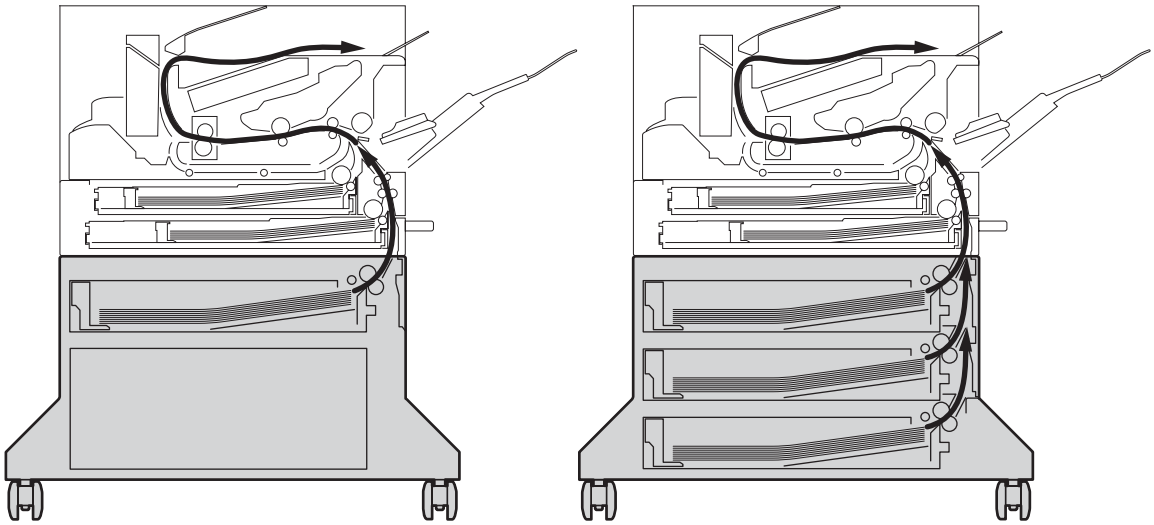
Jam type	Description	Specified timing (approximate)
Reversing delay	When SR2 does not detect paper within the specified timing after SR6 detects the media trailing edge, the CPU notifies the formatter of a reversing delay jam.	T = 1.1 s
Duplexing delay	When SR1 does not detect paper within the specified timing after SR2 detects the media leading edge, the CPU notifies the formatter of a duplexing delay jam.	T = 1.5 s
Duplexing pickup delay	When SR5 does not detect paper within the specified timing after the duplexing pickup operation begins, the CPU notifies the formatter of a duplexing pickup delay jam.	T = 3.3 s

Automatic delivery is available if either SR1 or SR2 detects paper before beginning the print operation.

1 x 500-sheet and 3 x 500-sheet high-capacity input feeder

The optional 1 x 500-sheet and 3 x 500-sheet high-capacity input (HCI) feeders are installed under the device. The HCI controls paper pickup and feeding to the entrance of the device.

Figure 4-31 HCI paper path



1 x 500-sheet HCI **3 x 500-sheet HCI**

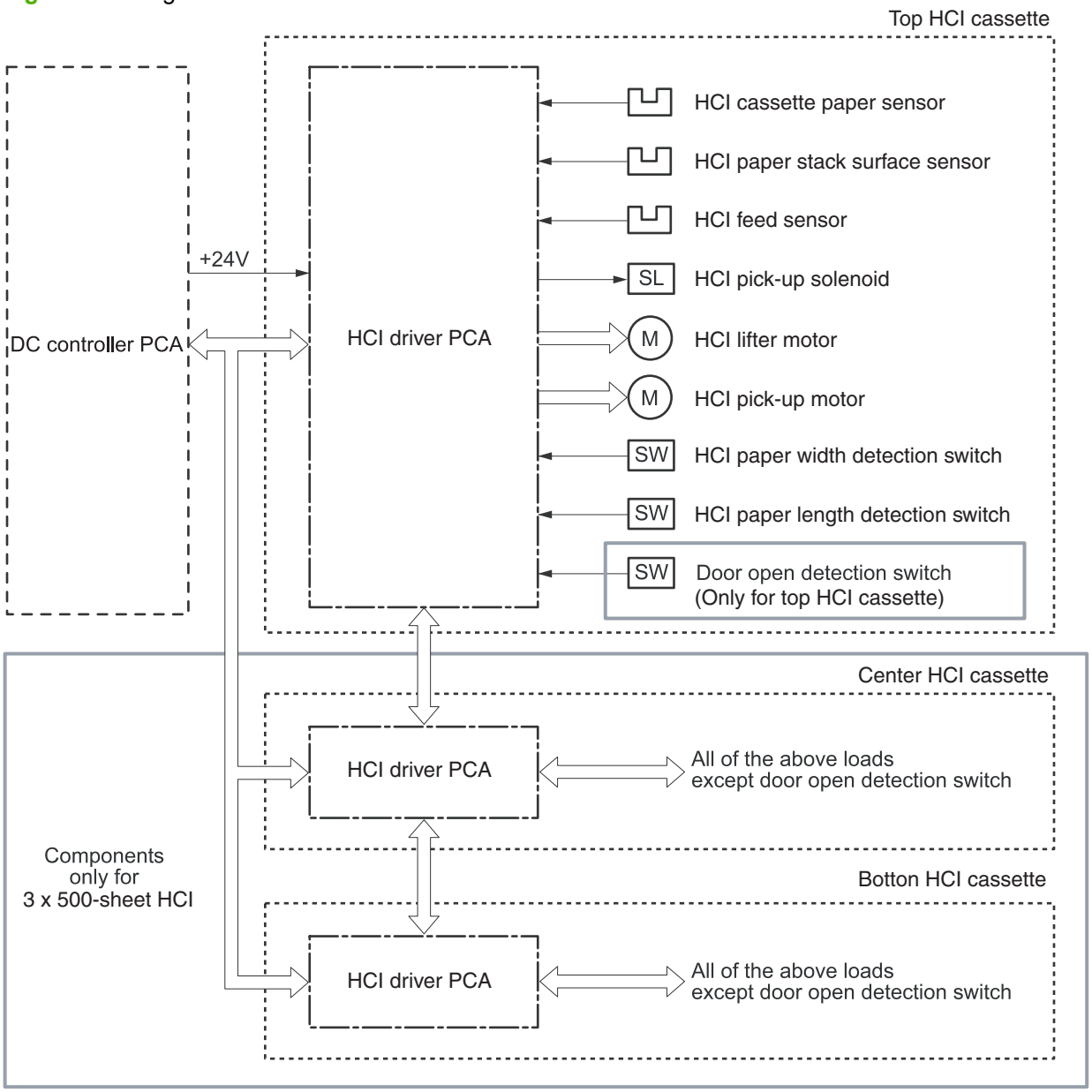
The HCI driver PCA controls the HCIs. The PCA CPU controls the operational sequence and the serial communication with the DC controller. The 1 x 500-sheet HCI has one PCA. The 3 x 500-sheet HCI has three identical PCAs.

The DC controller sends commands to the PCA at specified intervals. The PCA drives each load (for example, motors and solenoid). The PCA also returns status information to the DC controller.

The device supplies 24 Vdc to the HCI. The HCI driver PCA generates the 3.3 Vdc for component devices such as sensors and ICs from the 24 Vdc.

The DC controller commands the HCI driver PCA at the specified time.

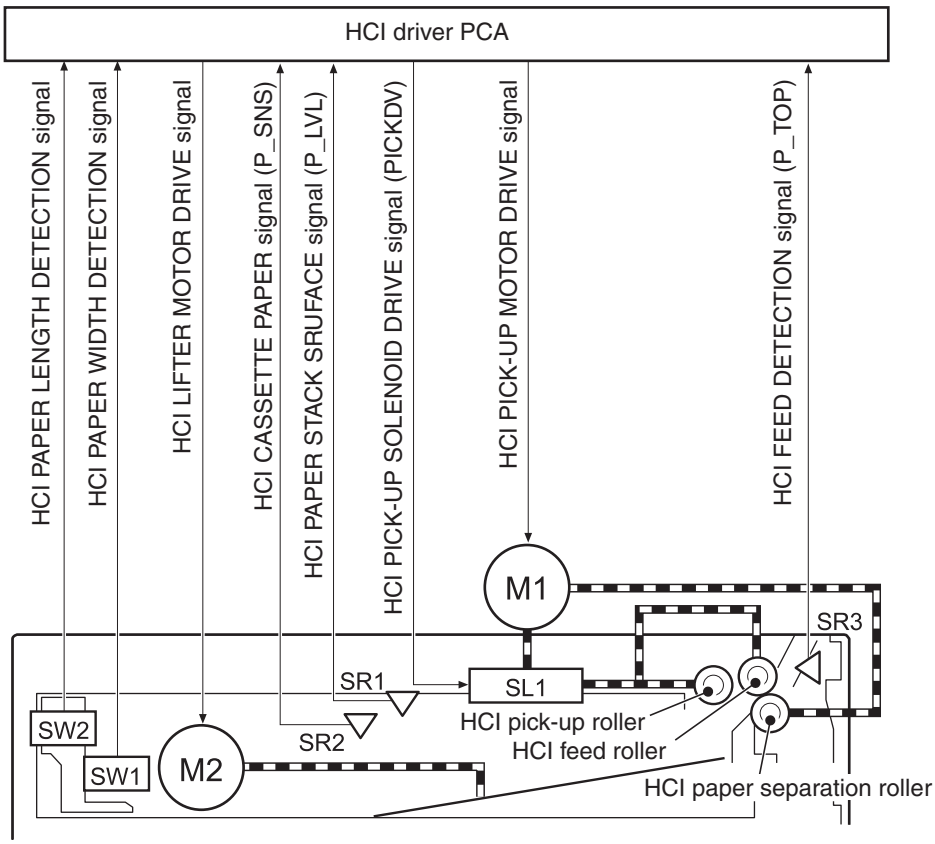
Figure 4-32 Signal flow of the HCI driver



Pickup/feed operation

The HCI operation picks up paper in the cassette one sheet at a time and feeds it to the device. This section describes the pickup/feed operation for the 1 x 500-sheet HCI and the top cassette of the 3 x 500-sheet HCI. The pickup/feed operation for the center and bottom cassettes of the 3 x 500-sheet HCI is the same as the top cassette.

Figure 4-33 HCI paper pickup/feed operation



- The DC controller operates the HCI driver PCA when it receives a print command from the formatter.
- The HCI driver PCA performs the pickup/feed operation for the HCI. The PCA picks up the paper and feeds it to the device entrance.

The following table lists the assigned electrical component codes for the 1 x 500-sheet HCI cassette and the 3 x 500-sheet HCI cassettes.

Table 4-5 HCI paper pickup/feed operation

Component name	1 x 500-sheet HCI cassette 3 x 500-sheet HCI top cassette	3 x 500-sheet HCI middle cassette	3 x 500-sheet HCI bottom cassette
HCI cassette paper sensor	SR2	SR6	SR8
HCI stack surface sensor	SR1	SR5	SR7
HCI feed detection sensor	SR3	SR4	SR9

Table 4-5 HCI paper pickup/feed operation (continued)

Component name	1 x 500-sheet HCI cassette 3 x 500-sheet HCI top cassette	3 x 500-sheet HCI middle cassette	3 x 500-sheet HCI bottom cassette
HCI pickup solenoid	SL1	SL2	SL3
HCI lifter motor	M2	M4	M6
HCI pickup motor	M1	M3	M5
HCI paper width detection switch	SW1	SW4	SW5
HCI paper length detection switch	SW2	SW3	SW6

NOTE: The HCI uses the same process as the device for detecting the paper size and the presence of the cassette.

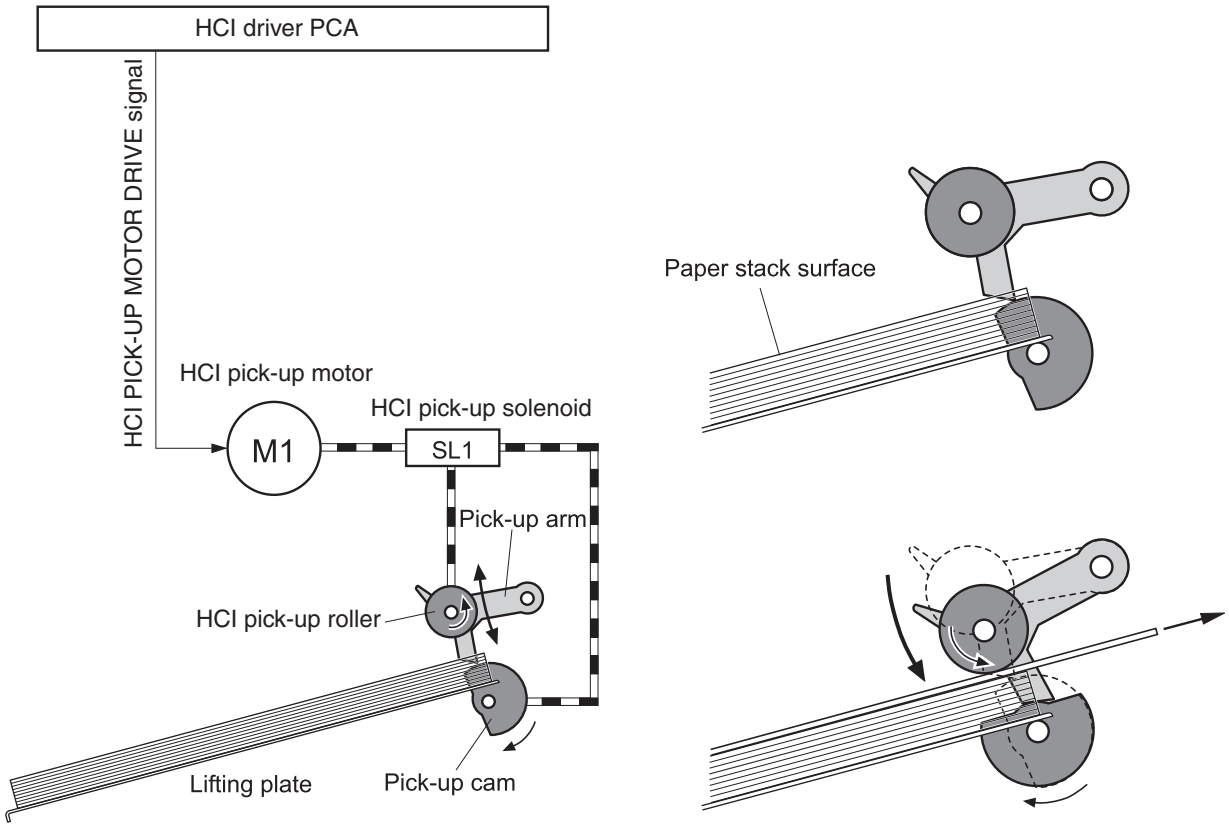
HCI pickup mechanism

A pickup-arm method provides high-speed paper pickup and high-volume printing. The rotating HCI pickup roller is pressed down to the paper stack surface to feed the paper one sheet at a time.

The HCI pickup roller is attached to the pickup arm, and the arm is typically held at the original position by the pickup cam. When the HCI pickup solenoid (SL1) is turned on, the pickup cam rotates and lowers the HCI pickup roller onto the paper surface.

The pickup operations for the 3 x 500-sheet HCI center and bottom cassettes are the same as for the top cassette.

Figure 4-34 HCI pickup mechanism



Lift-up operation

For stability, the lift-up operation maintains the position of the surface of the paper stack at the specified height.

The HCI driver PCA rotates the lifter motor (M2) and raises the lifting plate in which the paper stack is loaded. The PCA monitors the paper-stack surface sensor (SR1) when the device is turned on when the HCI cassette is installed, and during print operations.

The lift-up operations for the 3 x 500-sheet HCI center and bottom cassettes are the same as for the top.

The lift-up operation performs the following functions:

- Initial lift-up
- Lift-up during printing

The initial lift-up is performed when the cassette is installed and the paper stack surface stays in the bottom.

Under the following conditions, the HCI driver PCA continues driving M1 to lift the stack surface to the pickup position until SR1 detects the paper-stack surface:

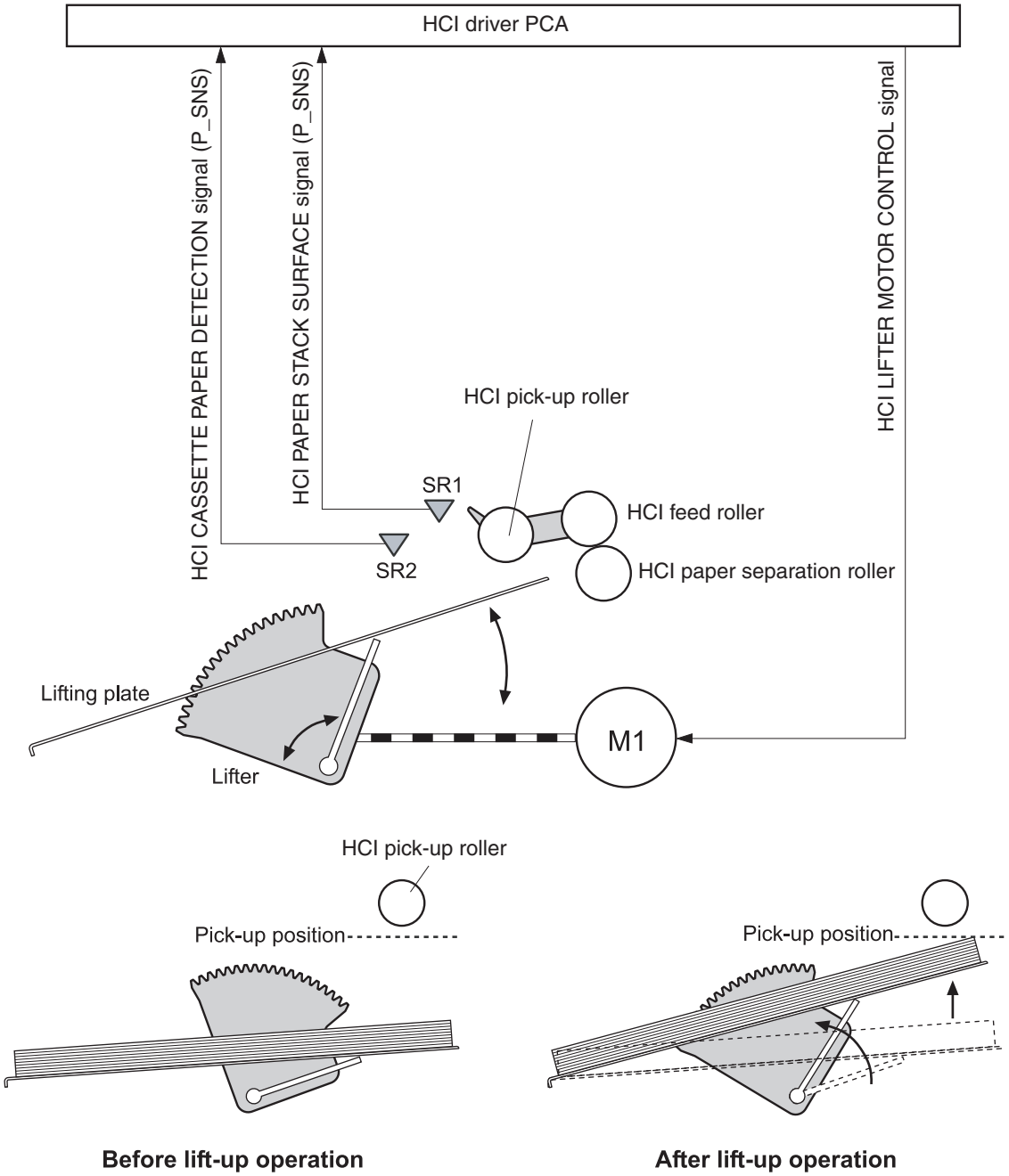
- SR1 detects no paper when the device is turned on.
- SR1 detects no paper when the HCI cassette is installed.

The HCI driver PCA recognizes that the paper is overloaded and stops the initial lift-up operation if SR1 detects the paper-stack surface when the cassette is installed.

The lift-up during printing is performed when paper consumption indicates that the stack level is reduced to a specified level. The HCI driver PCA drives M1 when SR1 detects no paper during a print operation and lifts the stack surface to the pickup position.

The CPU recognizes that the lift-up failed when SR1 does not detect the paper-stack surface even though the lift-up operation is performed for 8 seconds during a print operation.

Figure 4-35 Lift-up operation



Multiple-feed prevention mechanism

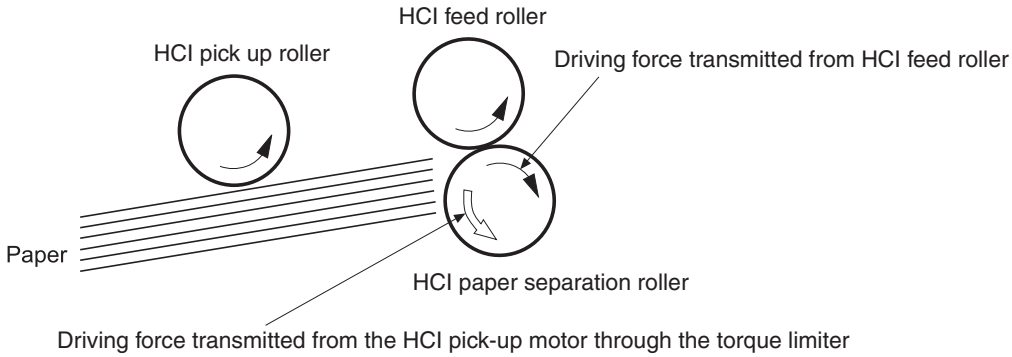
The paper-separation roller is used for each HCI cassette to prevent multiple-feeds.

Multiple-feed prevention enables the HCI paper separation roller to rotate in the same direction as the HCI feed roller. The paper-separation roller is imparted with a rotational force, which is transmitted through the torque limiter. If a multiple-feed occurs, the second paper is pushed back to the HCI cassette and only the top sheet of paper is fed into the device.

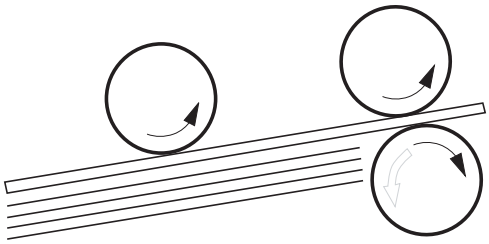
- Normal feed: The HCI paper-separation roller is imparted with a rotational force in the same direction as the HCI feed roller. Because the HCI paper-separation roller touches the HCI feed roller, driving torque from the HCI feed roller triggers the torque limiter. The torque limiter shuts down the rotational force from the HCI paper-separation roller. This causes the HCI paper-separation roller to follow the rotational direction of the HCI feed roller, in the opposite direction. When the paper is not multiple-fed, the driving force from the HCI feed roller transmits through the single paper and allows the HCI paper-separation roller to rotate in the opposite direction.
- Multiple feed: The rotational force of the HCI feed roller that is transmitted to the HCI paper-separation roller becomes weak because of a low friction between sheets. The torque limiter does

not function, and the HCI paper-separation roller rotates in the direction of the driver gear. Consequently, the multiple-fed paper is removed and pushed back to the HCI cassette.

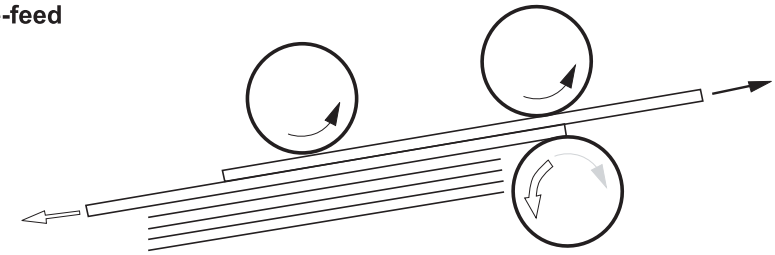
Figure 4-36 Multiple-feed prevention mechanism



Normal-feed



Multiple-feed



HCI jam detection

The following sensors are provided for HCI jam detection:

- HCI paper-feed sensors (SR3, SR4, and SR9)
- Top-of-page sensor (SR5 in the print engine)

The HCI performs retry control to retrieve the pickup delay jam that the pickup error caused.

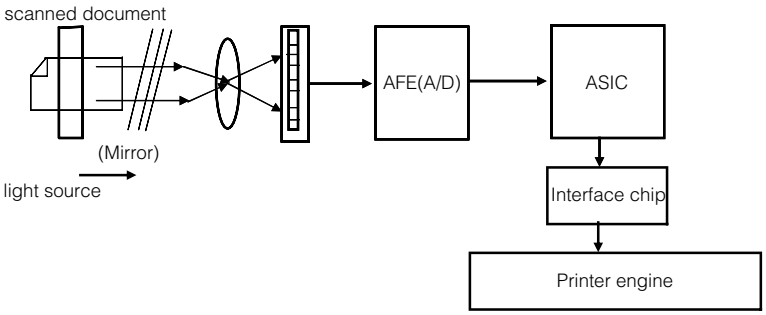
Jam type	Description	Specified timing (approximate)
Pickup delay jam 1	When SR5 does not detect the media leading edge within the specified timing after the SR3 detects the media leading edge, the CPU determines the pickup delay jam 1.	T = 3 s
Pickup delay jam 2	When SR3 does not detect the media leading edge within the specified timing after SR4 or SR9 detect the media leading edge, the CPU determines a pickup delay jam 2 for the center and bottom cassettes.	T = 1.5 s (center cassette) T = 3.0 s (bottom cassette)
Pickup delay jam 3	When SR4 or SR9 do not detect the media leading edge within the specified timing from when the pickup operation began, the HCI retries the pickup operations for the center or bottom cassette twice. When SR4 and SR9 still have not detected the media leading edge after the retries and after another specified timing, the CPU determines a pickup delay jam 3.	T = 1.5 s

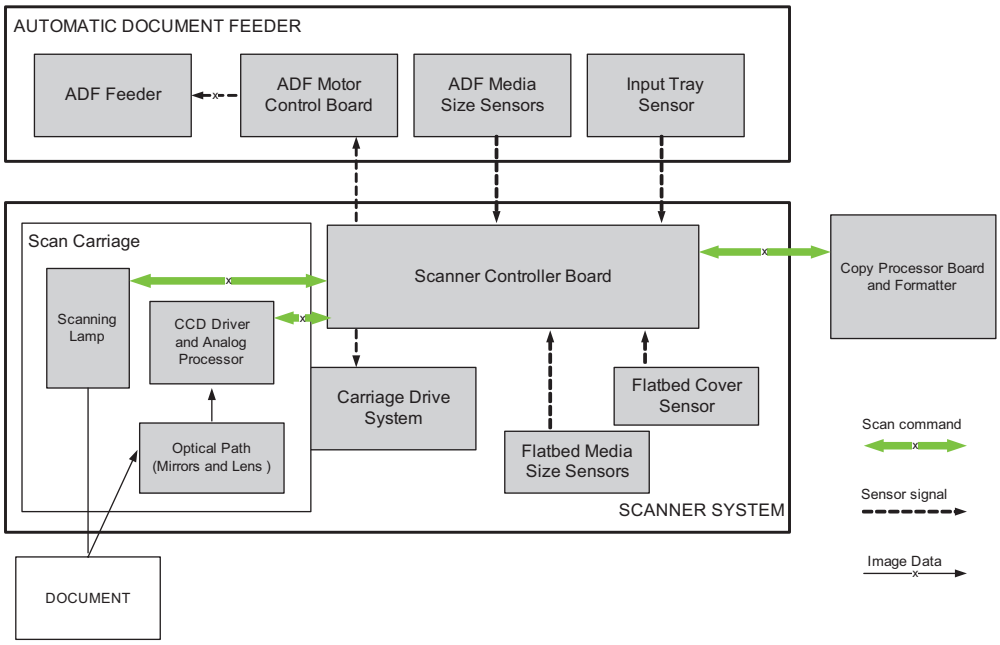
Automatic delivery is available if SR3, SR4, or SR9 detects paper before starting a print operation.

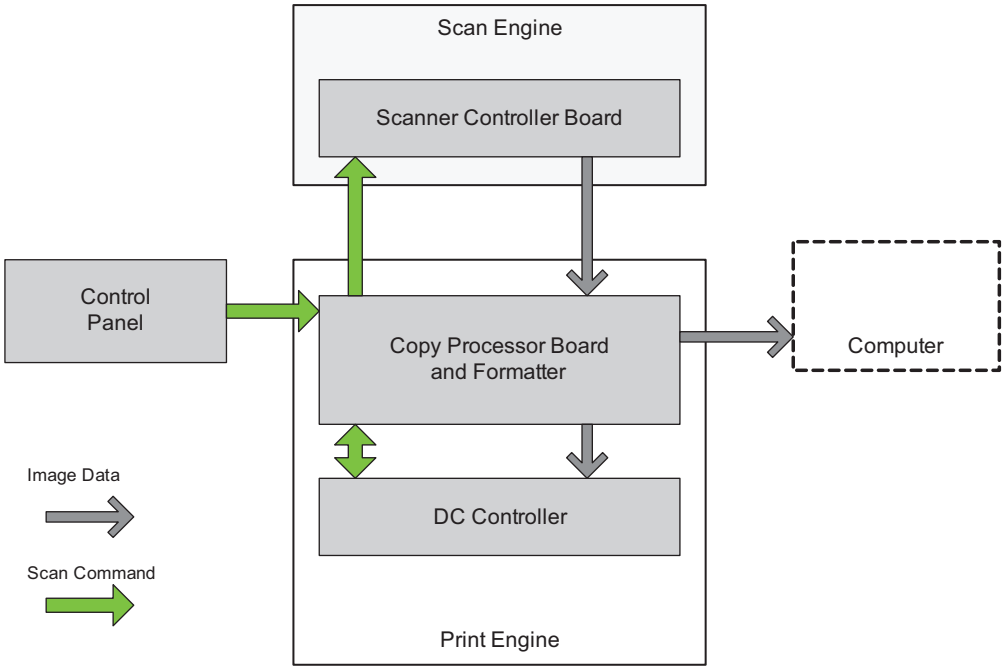
Scanner component

The bright and dark areas of a scanned document reflect different light values from the light source (CCFL), and the light emits through the lens in the scan head. When the CCD sensors receive the light, photoelectricity is produced according to the light strength. The CCD and CCB/B change the light into electricity, and then the CCD/B transmits the analog electrical signal through the R, G, B channels. The analog signal (R,G,B) is sent to the to the A/D converter, which converts the analog signals to digital signals. The ASIC reads the digital data produced by the A/D converter, and then processes the read data in the inner ASIC.

NOTE: The same optical system is used for the glass and ADF scans.





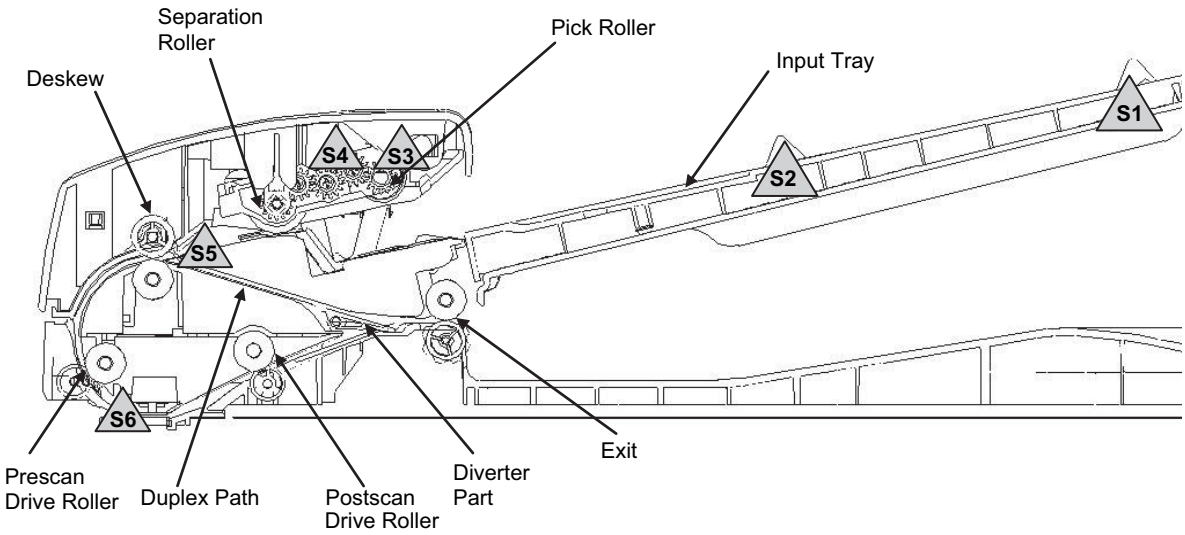

Scan Engine
Scanner Controller Board
Control Panel
Copy Processor Board and Formatter
Computer
DC Controller
Print Engine
Image Data
Scan Command

ADF

Input tray

Sensor-wide media (S1) and sensor long media (S2) is positioned at the input tray assembly. These sensors allow firmware to detect if A4 and Letter media sizes are positioned in portrait or landscape mode.

Figure 4-37 ADF operation



ADF simplex printing operation sequence

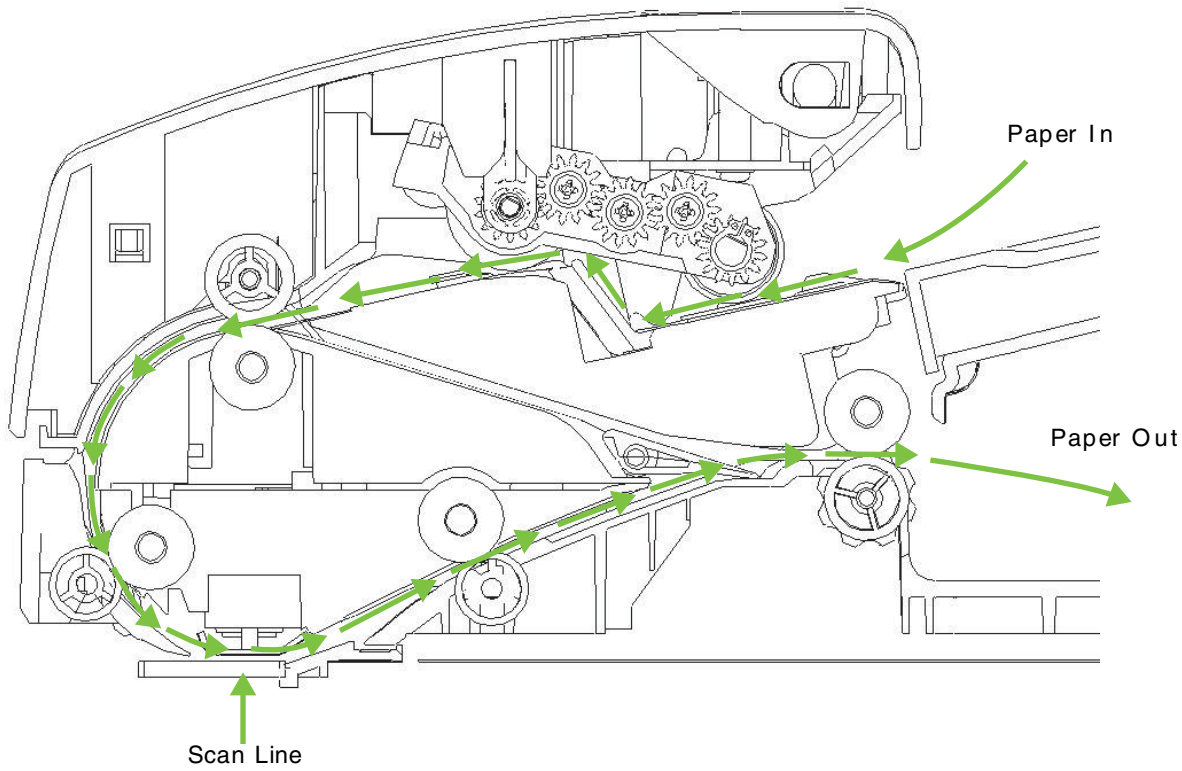
1. The sensor jam cover (S3) is interrupted when the jam cover is closed, and sensor media presence (S4) is interrupted when media is loaded on the input tray. 2. The feed motor rotates clockwise to lower the pick roller. A cutout on the gears on the side of the lid ensures the proper rotation distance. 3. The pick motor rotates counterclockwise to drive the pick roller to pick media. 4. Deskew sensor (S5) is interrupted when the leading edge of the media is driven past it, and the firmware registers the position of the leading edge of the media. 5. The leading edge of the media is driven into the nip point of the deskew drive roller and deskew pinch rollers. A preset amount of overdrive of media into this nip point is carried to create a buckle of media for pick skew correction.

6. The pick motor rotates clockwise to rotate the deskew drive roller to pull media into the prescan drive roller. 7. Following this, transmission gears for the pick and separator rollers disengage from the gear train. This allows the pick and separator rollers to free-wheel while media is pulled in by the deskew drive roller. 8. The feed motor rotates counterclockwise to drive the media into the prescan sensor (S6). 9. The firmware registers the position of the leading edge of the media while prescan sensor (S6) is activated. 10. The feed motor continues rotating counterclockwise to drive the leading edge of the media through the preset distance from sensor prescan (S6) to the scan zone.

11. When the media arrives, the scanner scans and retrieves data. 12. Sensor prescan (S6) is not interrupted when the trailing edge of the media passes it. 13. The firmware sequence registers the trailing edge of the media position. 14. The feed motor continues rotating counterclockwise to drive the media trailing edge through the preset distance from prescan sensor (S6) to the scan zone. 15. After this, the scanner finishes scanning and retrieving data. 16. The feed motor continues rotating counterclockwise to drive the trailing edge of the media past the scan zone. 17. The solenoid clamps the exit pinch rollers

with the exit drive rollers before the trailing edge of the media leaves the post-scan drive roller and exit pinch rollers. 18. The feed motor continues rotating counterclockwise to drive the media out of the ADF paper path via the exit pinch roller and exit drive-roller.

Figure 4-38 Simplex scanning document path



ADF duplex printing operation sequence

1. The sensor jam cover (S3) is interrupted when the jam cover is closed. The sensor media presence (S4) is interrupted when media is loaded on the input tray. 2. The feed motor rotates clockwise to lower the pick roller. A cutout on the gears on the side of the lid ensures the proper rotation distance. 3. The pick motor rotates counterclockwise to drive the pick roller to pick media. 4. Deskew sensor (S5) is interrupted when the leading edge of the media is driven past it, and the firmware registers the position of the leading edge of the media. 5. The leading edge of the media is driven into the nip point of the deskew drive roller and deskew pinch rollers. A preset amount of overdrive of media into this nip point is carried to create a buckle of media for pick skew correction.

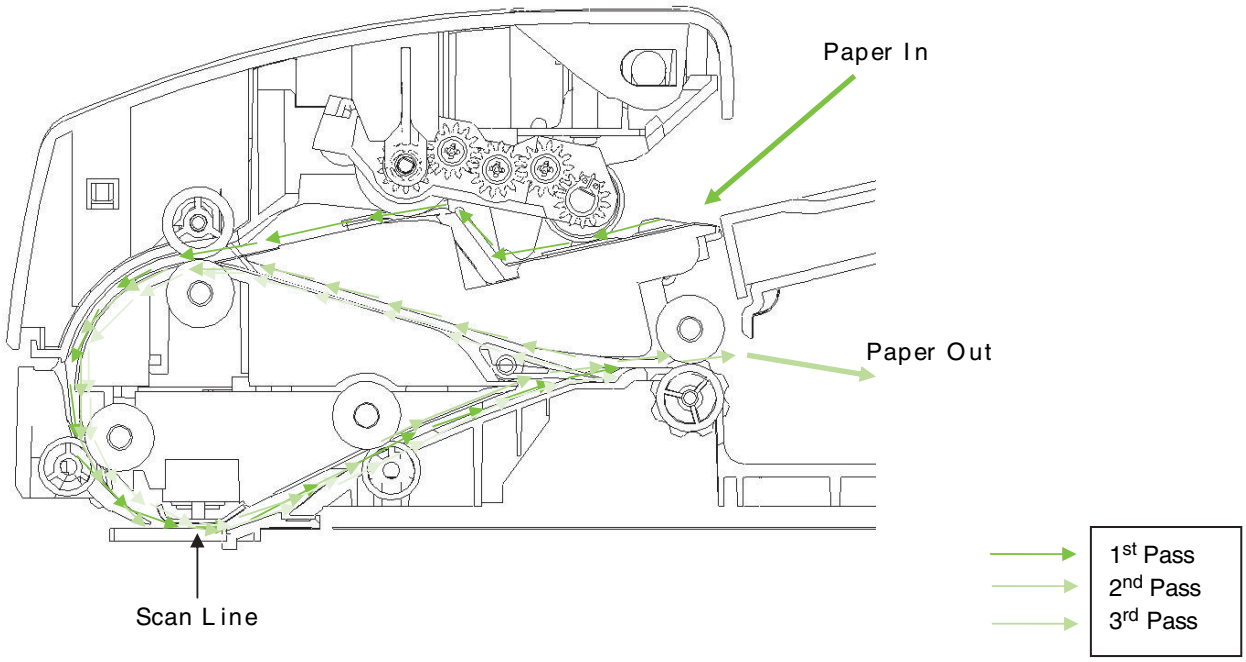
6. The pick motor rotates clockwise to rotate the deskew drive roller to pull media into the prescan drive roller. 7. Then, the pick and separator rollers transmission gears disengage from the gear train. This allows the pick and separator rollers to free-wheel while media is pulled in by the deskew drive roller. 8. The feed motor rotates counterclockwise to drive media into the prescan sensor (S6). 9. The firmware registers the position of the leading edge of the media while S6 is activated. 10. The feed motor continues rotating counterclockwise to drive the leading edge of the media through the preset distance from S6 to the scan zone.

11. When the media arrives, the scanner scans and retrieves data. (S6 is not interrupted when the trailing edge of the media passes it.) 12. The firmware sequence registers the trailing edge of the media position.

13. The feed motor continues rotating counterclockwise to drive the media trailing edge through the preset distance from S6 to the scan zone. 14. Then, the scanner finishes scanning and retrieving data.

15. The solenoid activates when the trailing edge of the media passes the scan zone by a predetermined, constant distance from the prescan sensor. This allows the exit pinch rollers to clamp the exit drive roller to drive the remaining media out of the scan zone and pass the diverter. 16. The feed motor rotates clockwise to drive media in a reverse direction. This moves media into the duplex path, the deskew drive roller, and deskew pinch rollers. 17. A preset amount of overdrive of media into the nip point is carried out to create a buckle for pick skew correction. 18. The solenoid activates when the trailing edge of media passes the scan zone. This allows the exit pinch rollers to clamp the exit drive roller to drive the remaining media out of the scan zone and pass the diverter.

Figure 4-39 Duplex scanning document path



Multifeed operation

1. The sensor jam cover (S3) is interrupted when the jam cover is closed. The sensor media presence (S4) is interrupted when media is loaded on the input tray. 2. The feed motor rotates clockwise to lower the pick roller. A cutout on the gears on the side of the lid ensures the proper rotation distance. 3. The pick motor rotates counterclockwise to drive the pick roller to pick media. 4. Deskew sensor (S5) is interrupted when the leading edge of the media is driven past it, and the firmware registers the position of the leading edge of the media. 5. The leading edge of the media is driven into the nip point of the deskew drive roller and deskew pinch rollers. A preset amount of overdrive of media into this nip point is carried to create a buckle of media for pick skew correction.

6. The pick motor rotates clockwise to rotate the deskew drive roller to pull media into the prescan drive roller. 7. Then, the transmission gears for the pick and separator rollers disengage from the gear train. This allows the pick and separator rollers to free-wheel while media is pulled in by the deskew drive roller. 8. The feed motor rotates counterclockwise to drive media into the prescan sensor (S6). 9. The firmware registers the position of the leading edge of the media while S6 is activated. 10. The feed motor

continues rotating counterclockwise to drive the leading edge of the media through the preset distance from S6 to the scan zone.

11. When the media arrives, the scanner scans and retrieves data. (S6 is not interrupted when the trailing edge of the media passes it.) 12. The firmware sequence registers the trailing edge of the media position. 13. The feed motor continues rotating counterclockwise to drive the media trailing edge through the preset distance from S6 to the scan zone. 14. Then, the scanner finishes scanning and retrieving data

15. The solenoid activates when the trailing edge of the media passes the scan zone by a predetermined, constant distance from the prescan sensor. This allows the exit pinch rollers to clamp the exit drive roller to drive the remaining media out of the scan zone and pass the diverter. 16. The feed motor rotates clockwise to drive media in a reverse direction. This moves media into the duplex path, the deskew drive roller, and the deskew pinch rollers. 17. A preset amount of overdrive of media into the nip point is carried out to create a buckle for pick skew correction. 18. The solenoid activates when the trailing edge of media passes the scan zone. This allows the exit pinch rollers to clamp the exit drive roller to drive the remaining media out of the scan zone and pass the diverter.

19. The continual triggering of sensor media presence (S4) allows the firmware to recognize that there are pages on the input tray. The S5 is uninterrupted when the trailing edge of the media passes it. 20. Then, the pick motor rotates counterclockwise to drive the pick roller to pick media.

End of a scan job operation

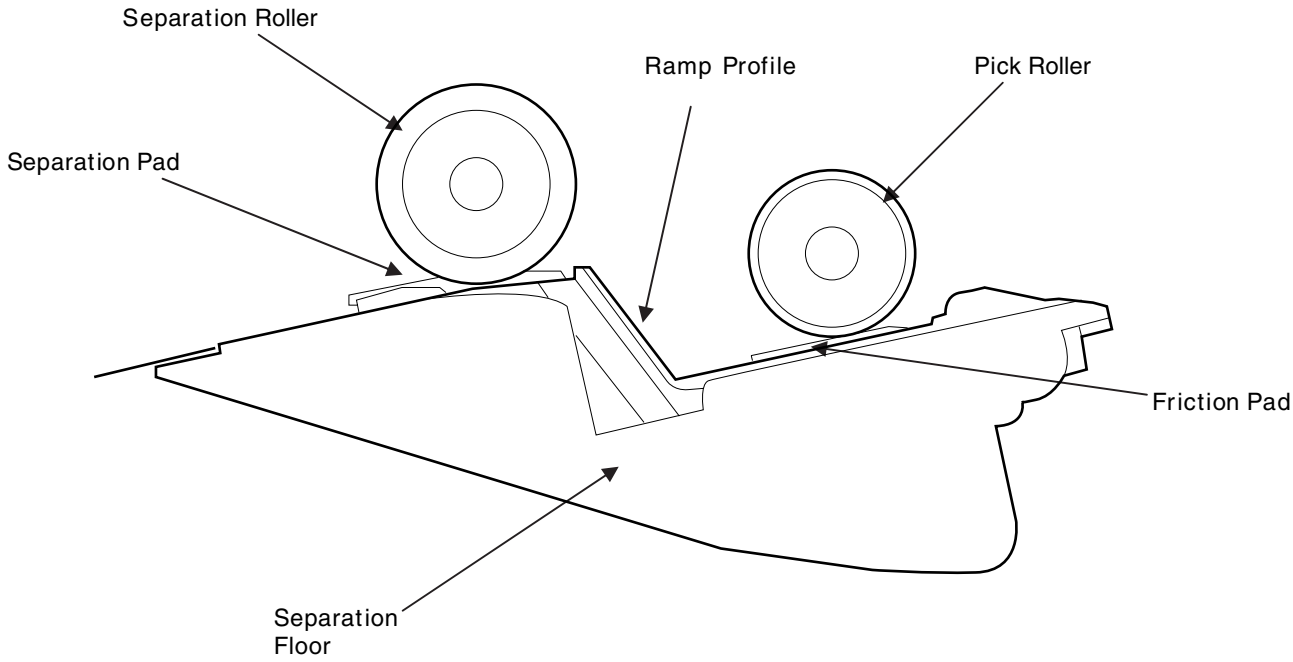
After performing the steps listed in multifeed operation, S4 is uninterrupted when no media exists in the input tray. The motor feed rotates clockwise to raise the pick roller. When the pick roller assembly rises, the media load stoppers crank down.

Paper pick and separation operation

The top sheet of media is picked by the pick roller, and an angled ramp profile is required to function as a barrier to prevent the remaining lower sheets from being picked together with the top sheet. If more

than one sheet of media is picked, the separator roller and separator pad work together to separate the lower sheet of media, allowing only the top sheet into the ADF.

Figure 4-40 ADF paper pick and separation



Deskew

The input tray's operation width adjustment ensures that the media is stacked neatly at the center of the input tray. It also ensures that the media is located parallel to the direction of travel into the ADF paper path. A deskew function is performed by buckling media to accumulate a media buffer to minimize skew caused by improper loading of media on the input tray. The leading edge of the media is parallel with the deskew drive rollers when entering the ADF paper path.

Stapler/stacker component

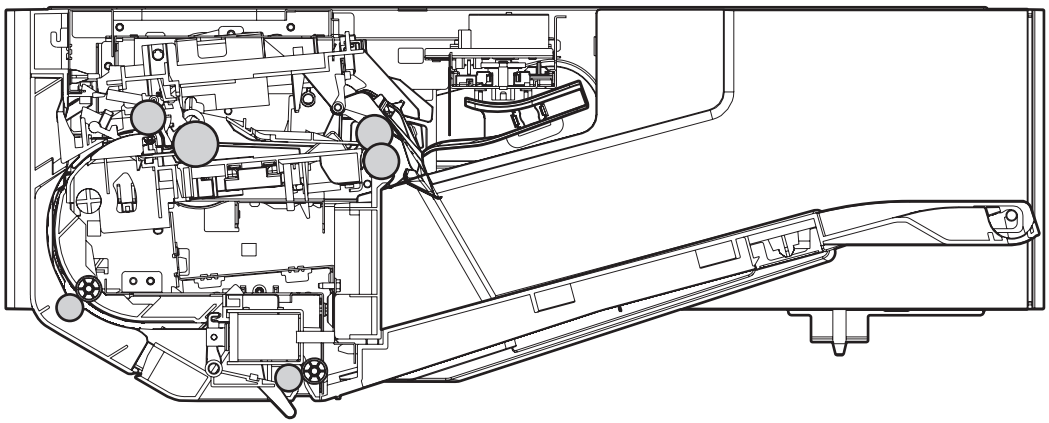
Overview

This section describes the staple stacker functions, the relationships between mechanisms and circuits, and the timing of operations. An active-high signal is indicated by "H" or by a signal name without a slash in front of it, such as "PSNS." An active-low signal is indicated by "L" or by a signal name with a slash in front of, such as "/SCNON." A signal that is "H" or has a name without a slash is active at the supply voltage level (indicating that the signal is being output), and inactive at ground level (indicating that the signal is not being output). A signal that is "L" or has a slash in front of its name is active at ground level, and inactive at the supply voltage level.

NOTE: The staple stacker has a microcomputer which cannot be checked. This manual does not discuss the microcomputer's operation.

Board circuit descriptions are limited to an outline using block diagrams. There are two types of circuit explanations. These include everything from the sensor to the input sections of the major circuit boards and everything from the output sections of the major circuit boards to the loads. These are explained with block diagrams according to the function.

Figure 4-41 Stapler/stacker



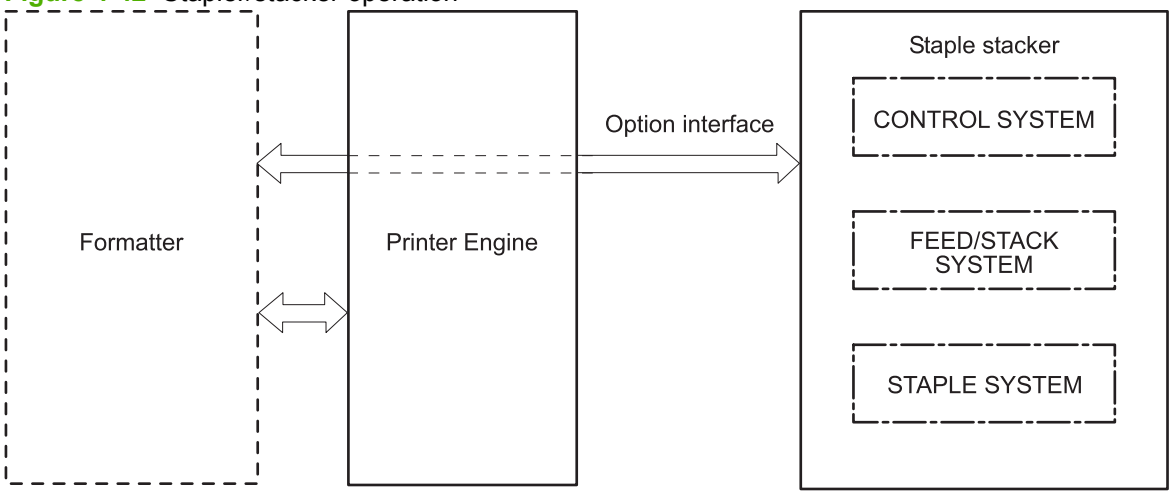
Basic operation

The staple stacker staples the printed paper that is fed through the printer and delivers it to the stacking tray.

The formatter controls the staple stacker. The formatter monitors the condition of the staple stacker using the option interface. The formatter signals the delivery command through the option interface when the staple stacker is ready for paper feed. When the signal is received, the staple stacker drives each load to deliver the paper. The functions of the staple stacker are broadly classified into three systems:

- Control system
- Feed/stack system
- Staple system

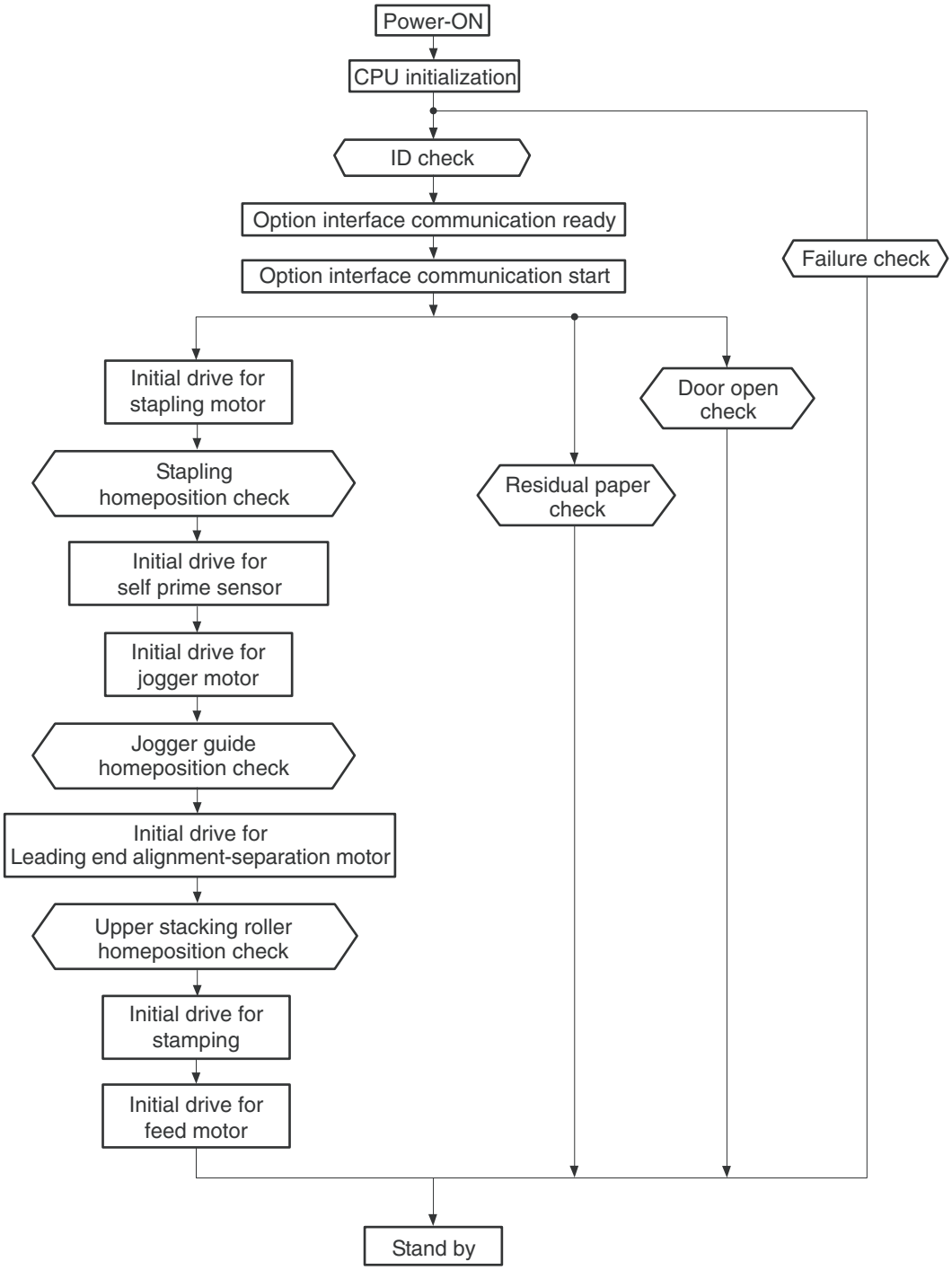
Figure 4-42 Stapler/stacker operation



Power ON sequence

The following figure shows the sequences of the staple stacker from power-ON until STBY period.

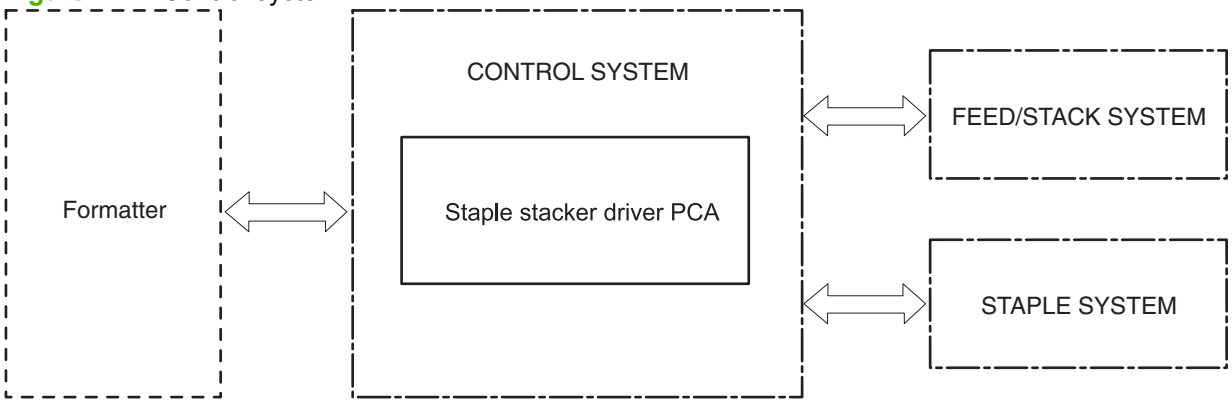
Figure 4-43 Power ON sequence



Control system

The control system controls the feed/stack system and the staple system according to the commands from the formatter. The control system consists of the staple stacker driver PCA. The staple stacker driver PCA that controls each load performs feed/stack and staple operations.

Figure 4-44 Control system

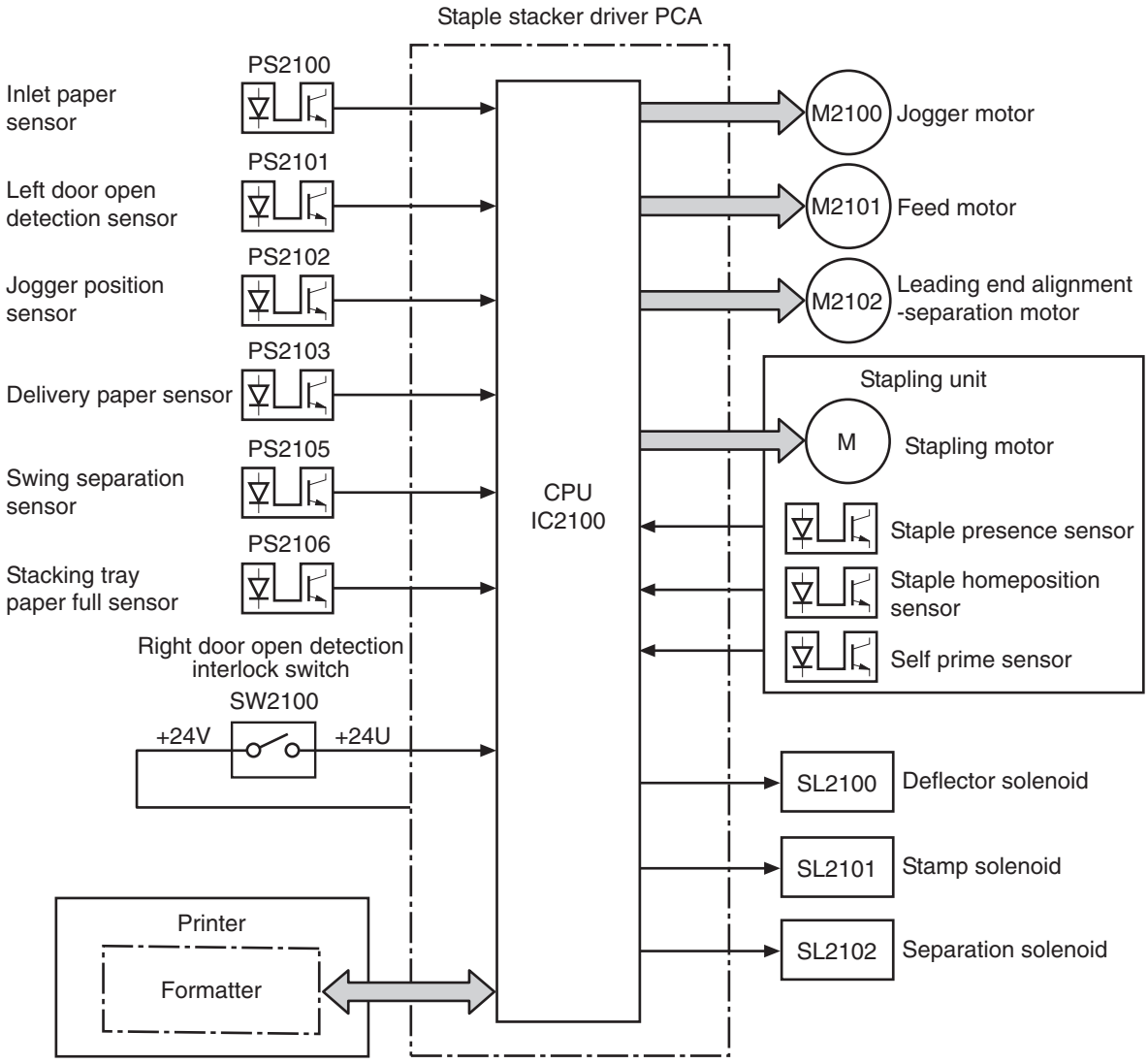


Staple stacker driver PCA

The staple stacker driver PCA controls the operational sequence for the staple stacker. The CPU in the staple stacker driver PCA controls the staple stacker driver PCA. The sequence of events include the following:

1. The printer is turned on.
2. The printer supplies DC power to the staple stacker driver PCA.
3. The CPU in the staple stacker driver PCA starts to control a staple stacker operation.
4. When the staple stacker enters STBY period, the CPU sends the signals to drive each load — such as the motors and solenoids — based on the command from the formatter.

Figure 4-45 Staple stacker driver PCA



Block operation

The CPU in the staple stacker driver PCA is a single-chip type with built-in ROM and RAM. It controls the following operations of the staple stacker according to the control programs stored in ROM:

- Staple stacker sequence
- Motors
- Solenoids
- Sensors/switch

Motor control circuit

The staple stacker has four motors for the paper feed, alignment, and stapling operation.

Table 4-6 Motor control circuit

Name	Purpose	Type	Failure detection
Jogger motor (M2100)	Shift jogger guide outward (clockwise) and inward (counter clockwise)	Stepping motor	Available
Feed motor (M2101)	Rotate feed roller and stacking roller	Stepping motor	Not available
Leading end alignment - separation motor (M2102)	Separate stacking roller (clockwise) and to rotate leading end alignment roller (counterclockwise)	Stepping motor	Available
Stapling motor	Staple (in stapling unit)	DC motor	Available

Jogger motor failure

The staple stacker driver PCA recognizes the jogger motor failure and notifies the formatter of error status when the jogger guide does not move from the specific position even if the staple stacker driver PCB rotates the jogger motor. There are two cases for the specific position:

- The jogger guide stays in the “home” position
- The jogger guide stays in another position from the beginning

Leading-end alignment separation motor failure

The staple stacker driver PCA recognizes the leading-end alignment separation motor failure. Then, it notifies the formatter of error status when the home position of the upper stacking roller is not detected for a specified time after the upper stacking roller separation has been operated.

Stapling motor failure

The staple stacker driver PCA recognizes the stapling motor failure and notifies the formatter of the error status. This occurs when the stapler home position is not detected during a second operation after 0.7 second from when the stapling motor starts to rotate during the initial drive or when recovering from the paper jam removal.

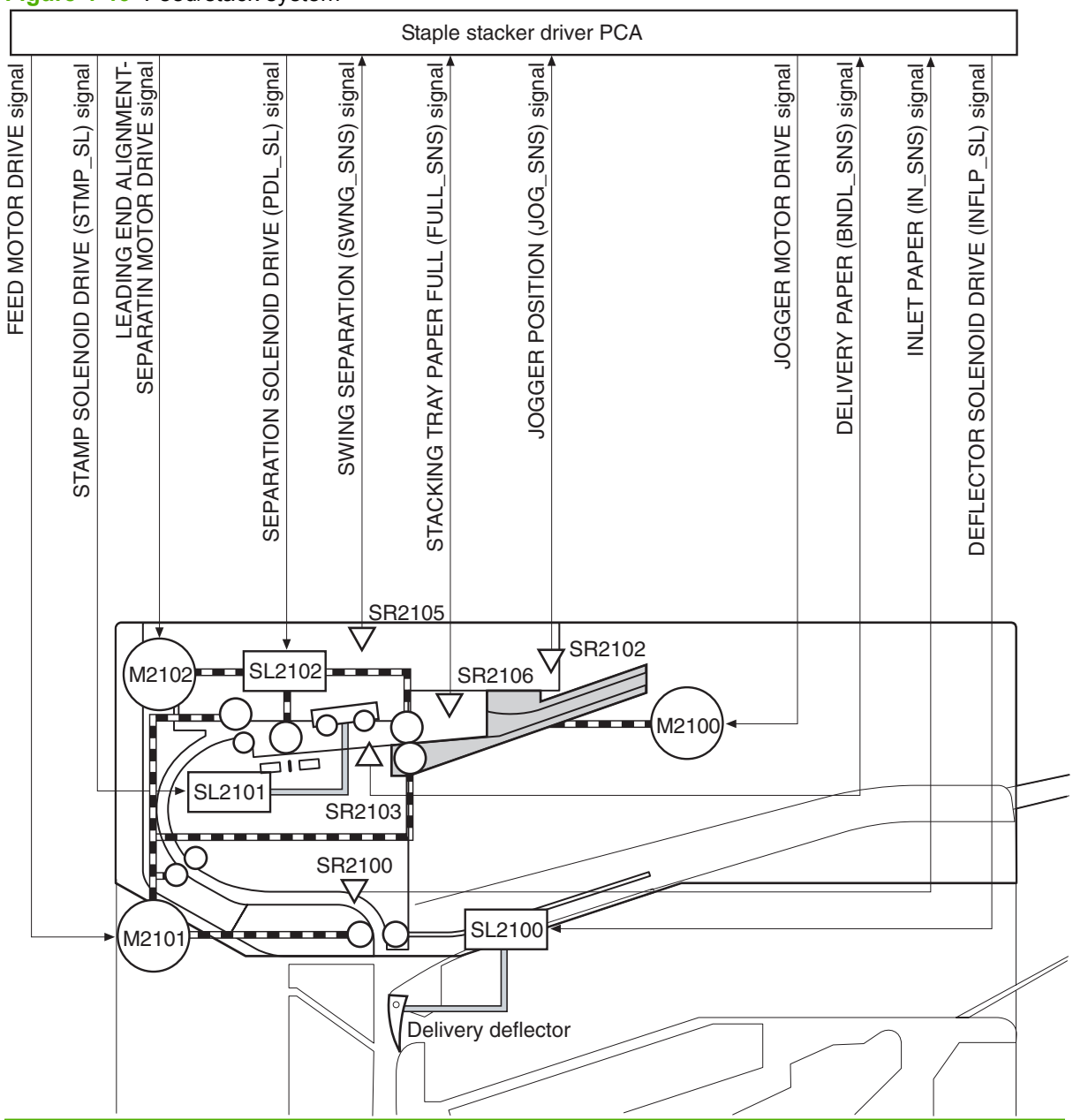
Feed/stack system

The feed/stack system feeds and delivers paper to the stacking tray. The feed/stack system consists of various rollers and guides. The staple stacker driver controls each motor and solenoid for the feed/stack operation. The feed/stack system in this staple stacker has five sensors that are used to detect the arrival and passage of the paper, as well as to detect home position of the upper stacking roller and the jogger guide. If the paper does not reach or pass the sensors within a specified time, the staple stacker driver PCA determines the paper jam and notifies the formatter.

The staple stacker has two modes:

- **Staple mode:** To staple the print paper and stack the pile on the stacking tray
- **Stacker mode:** To stack the print paper on the stacking tray without stapling

Figure 4-46 Feed/stack system



SR2100	Inlet paper sensor
SR2102	Jogger position sensor
SR2103	Delivery paper sensor
SR2105	Swing separation sensor
SR2106	Stacking tray paper full sensor

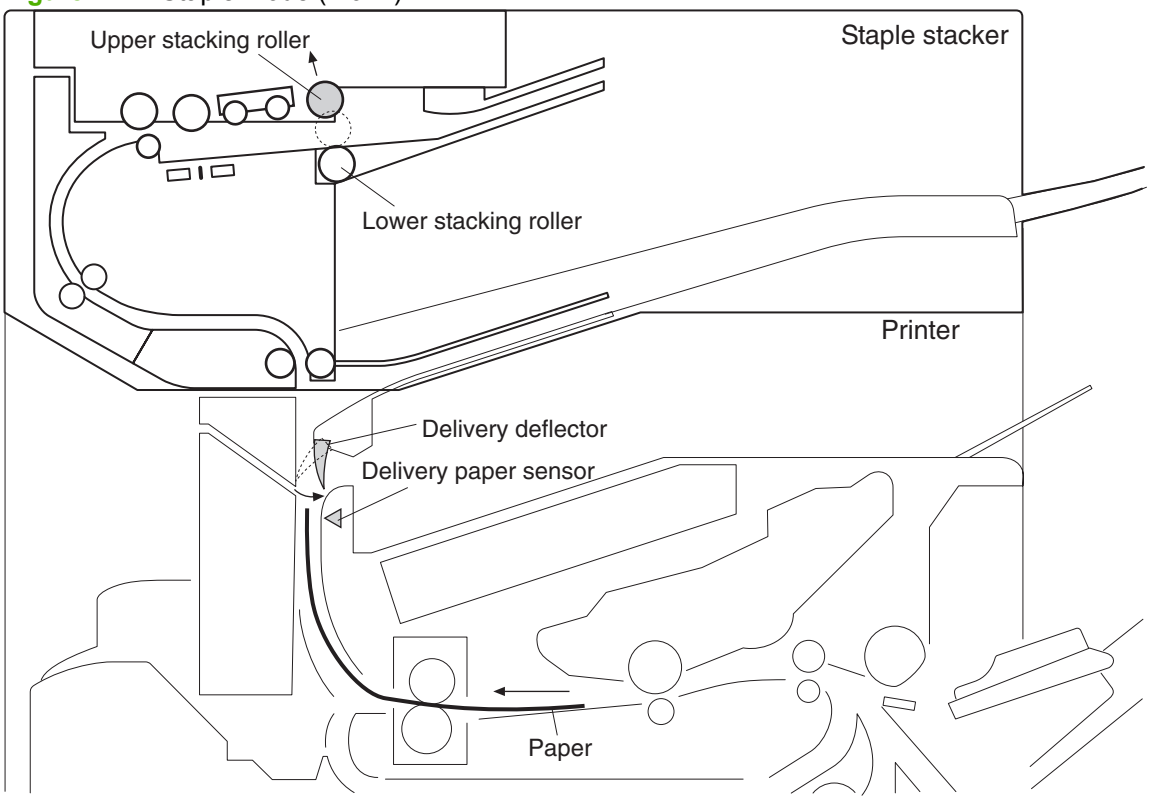
M2100	Jogger motor
M2101	Feed motor
M2102	Leading end alignment separation motor
SL2100	Deflector solenoid
SL2101	Stamp solenoid
SL2102	Separation solenoid

Staple mode

In the staple mode, the stack of paper is stapled and stacked on the stacking tray. The staple stacker performs each step on every sheet of paper and then staples the pile of paper. The paper feed operation for the staple mode includes the following steps:

1. The printer engine outputs the DELIVERY PAPER (/PDLV) signal to the formatter when the leading edge of paper reaches the delivery paper sensor.
2. When the formatter receives the /PDLV signal, it sends the delivery notice command to the staple stacker driver.
3. When the delivery notice command is received, the staple stacker driver turns on the deflector solenoid (SL2100) and allows the delivery deflector to switch the paper-proceeding direction. At the same time, the driver rotates the leading-end alignment separation motor (M2102) to separate the upper stacking roller from the lower stacking roller.

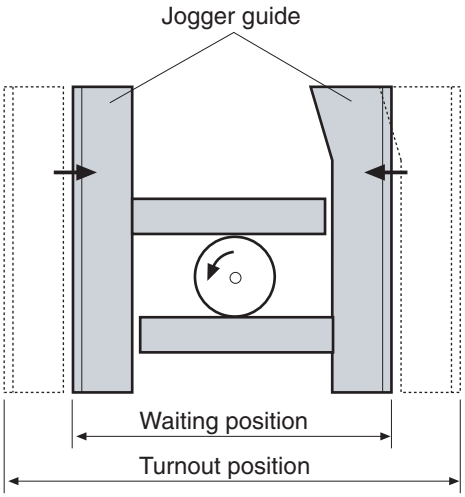
Figure 4-47 Staple mode (1 of 7)



4. The staple stacker driver causes the feed motor (M2101) to rotate the feed roller and the lower stacking roller after a specified interval from when the /PDLV signal has been received.

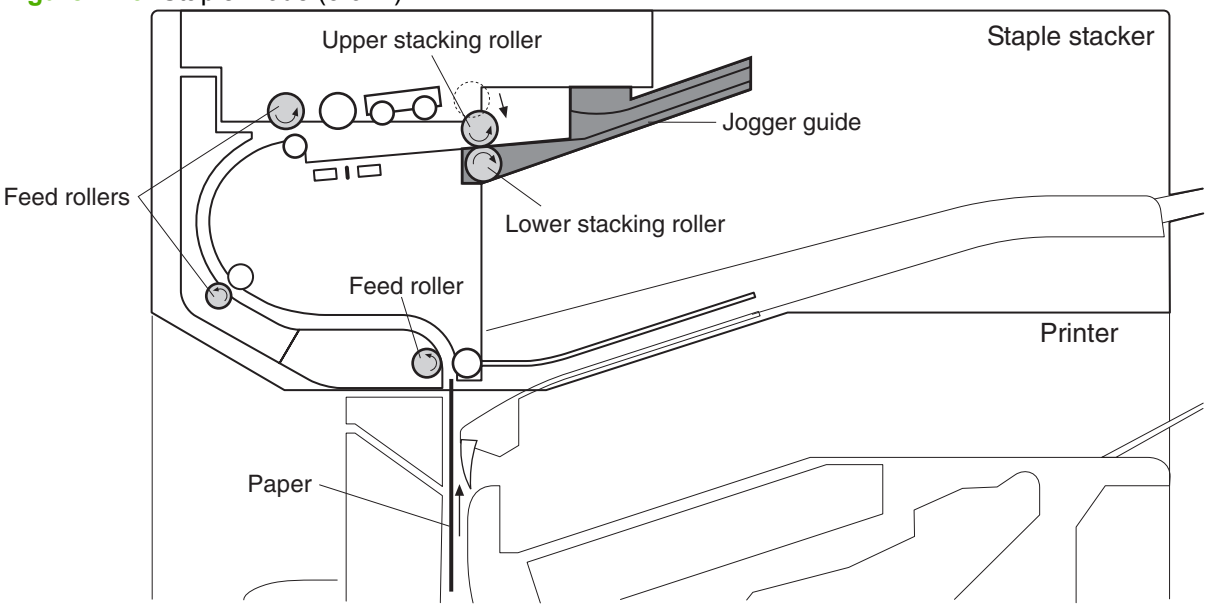
5. If the disengaging operation of the upper stacking roller is detected as normal, the staple stacker driver drives the jogger motor (M2100) and shifts the jogger guide to the waiting position from the turnout position.

Figure 4-48 Staple mode (2 of 7)



6. The staple stacker driver rotates the motor (M2102) to engage the upper and lower stacking rollers after the jogger guide has been shifted to the waiting position. The paper can then be fed to the jogger guide.

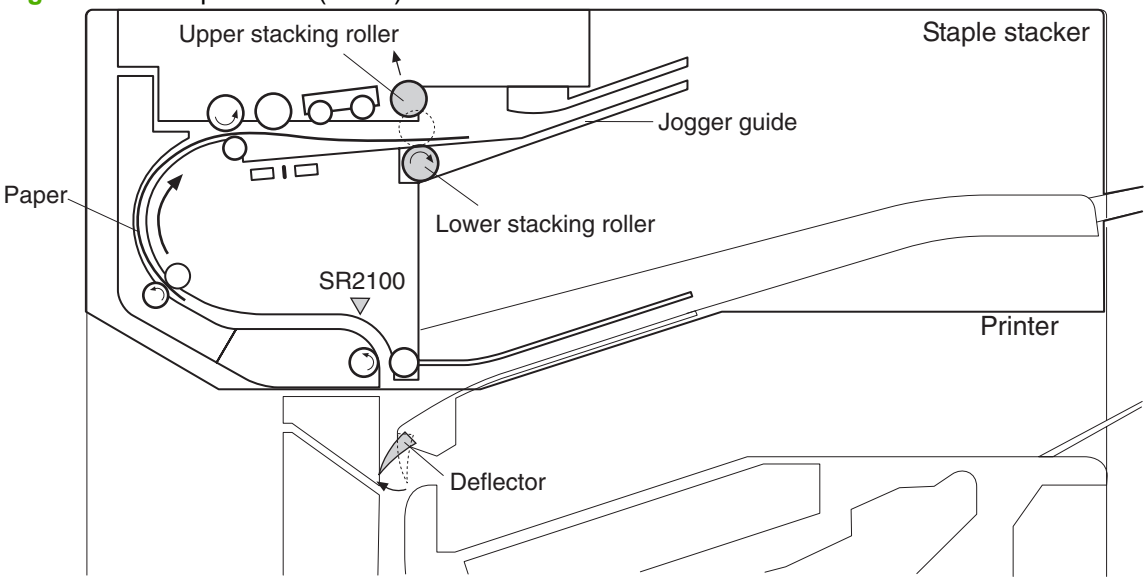
Figure 4-49 Staple mode (3 of 7)



7. The staple stacker driver rotates the motor (M2102) again to separate the upper stacking roller from the lower stacking roller after the paper reaches at the specified position on jogger guide.

8. After specified interval from when the leading edge of the paper reaches the inlet paper sensor (SR2100), the staple stacker driver turns the deflector solenoid (SL2100) OFF and returns the delivery deflector to its original position.

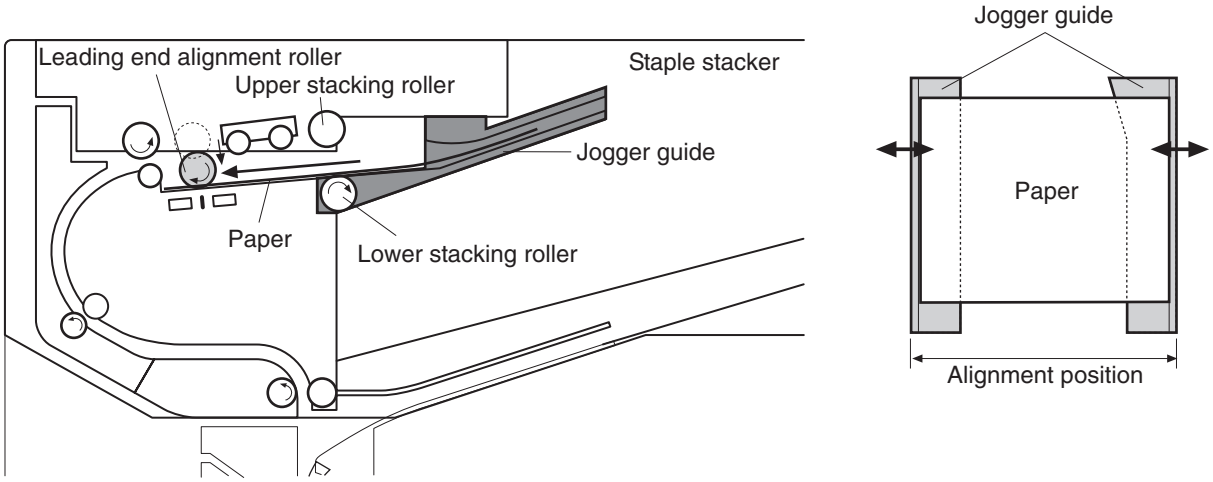
Figure 4-50 Staple mode (4 of 7)



9. When the paper is released from the stacking rollers, the staple stacker driver rotates the motor (M2100) for the jogger operation to align both sides of the paper.

10. The staple stacker driver reverses the motor (M2102) and turns the separation solenoid (SL2102) ON to lower the leading-end alignment roller. The jogger guide aligns both the leading ends and the sides of the paper.

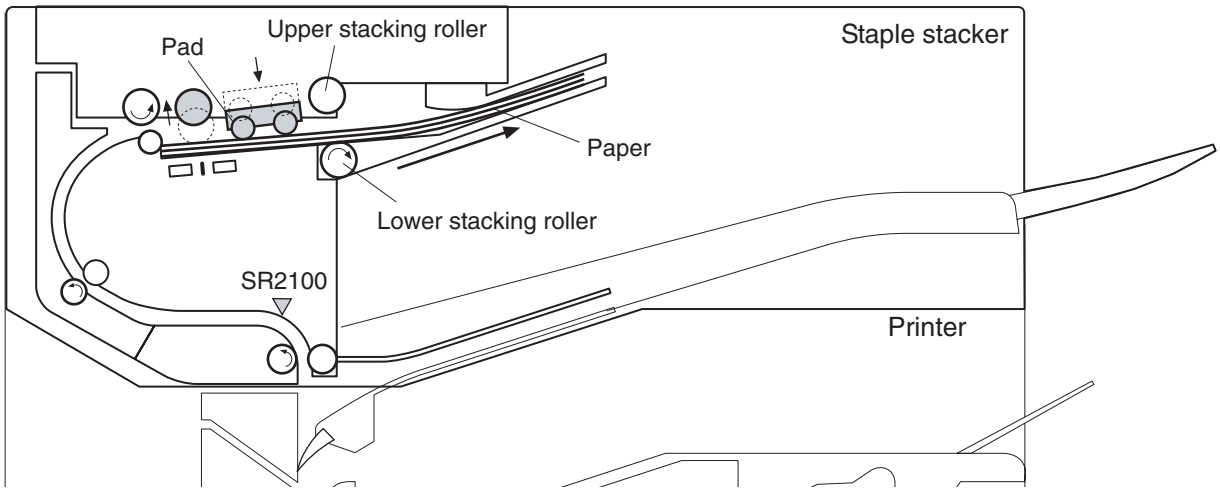
Figure 4-51 Staple mode (5 of 7)



11. The staple stacker driver repeats these steps until the last page is fed to the jogger guide.

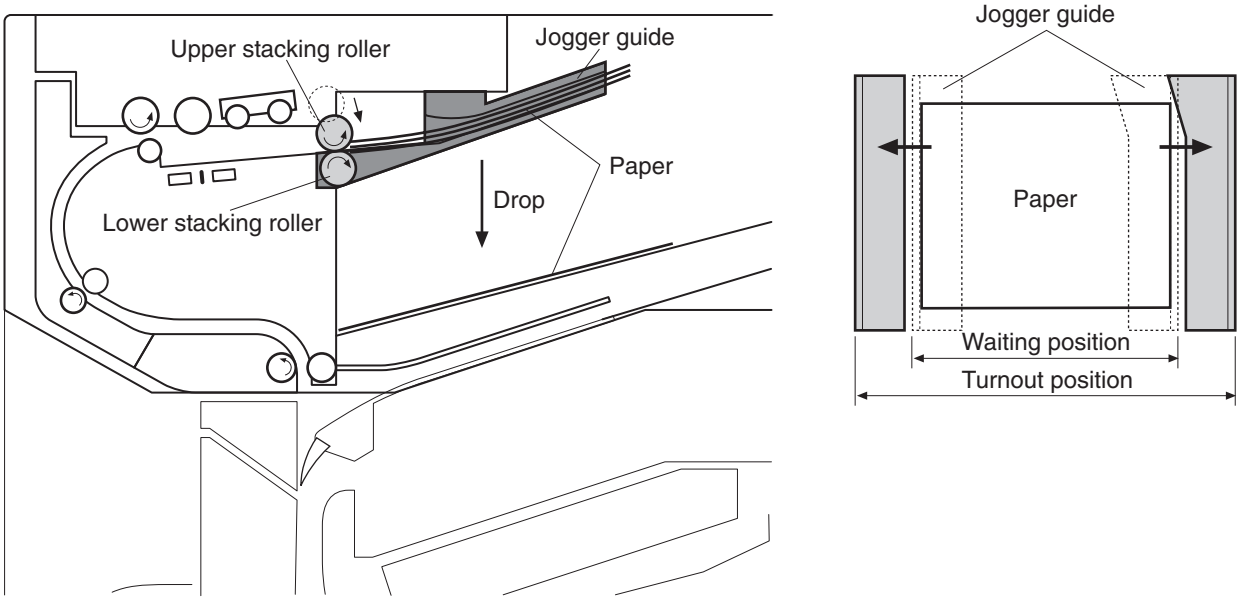
12. The staple stacker driver turns the stamp solenoid (SL2101) ON and clamps the pad against the paper by the pad pull-up control. This action positions the paper. At the same time, the jogger guide shifts to the waiting position, and the leading-end alignment roller shifts to the waiting position.

Figure 4-52 Staple mode (6 of 7)



13. The staple stacker driver performs the stapling operation.
14. After the stapling operation is complete, the staple stacker driver engages the upper and the lower stacking rollers.
15. The staple stacker driver rotates the upper and the lower stacking rollers and feeds the stapled pile of paper.
16. The staple stacker driver shifts the jogger guide to the turnout position. This allows the paper pile on the jogger guide to drop on the stacking tray.

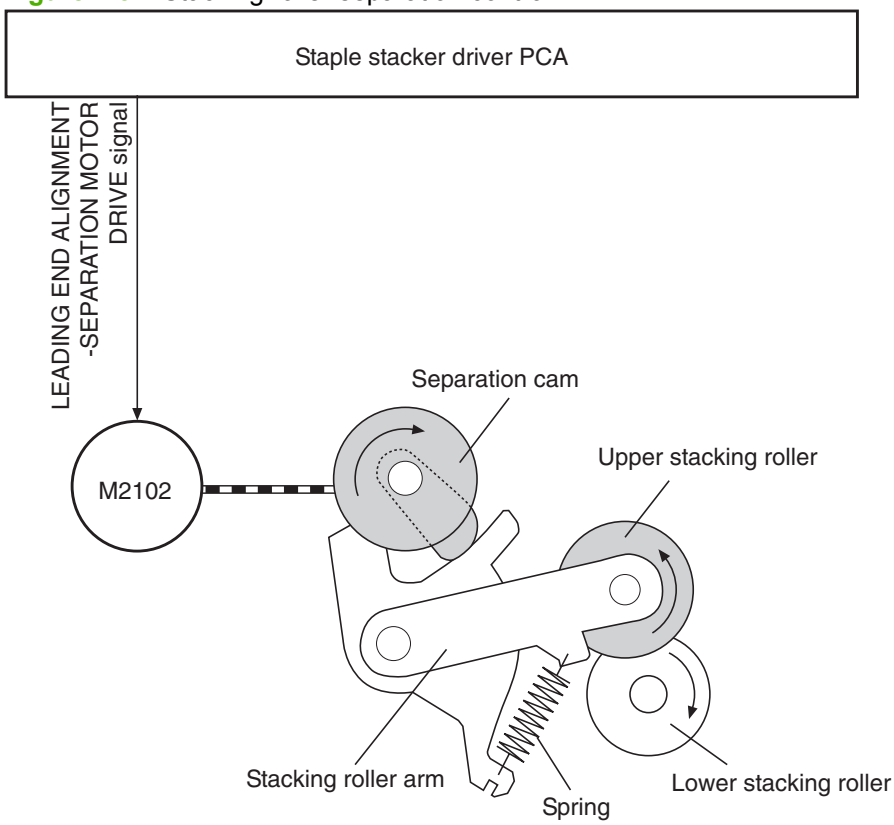
Figure 4-53 Staple mode (7 of 7)



Stacking roller separation control

The stacking roller separation control separates the upper stacking roller from the lower stacking roller to release the paper during the leading-end alignment and during the jogger operation. The staple stacker driver drives the leading end alignment separation motor (M2102) to perform this control. The stacking roller arm is attached to the upper stacking roller. As the motor (M2102) rotates, the upper stacking roller lifts up and down together with the cam by the cam rotation.

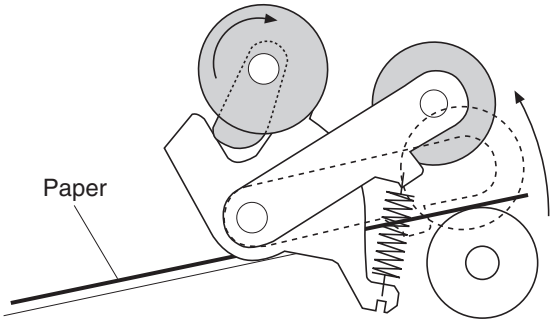
Figure 4-54 Stacking roller separation control



The process for the stacking roller separation control includes the following:

1. Before the control begins, the upper and the lower stacking rollers pressurize the paper by the spring.
2. The motor (M2102) rotation separates the stacking rollers.
3. The motor (M2102) makes the cam rotate to separate the stacking rollers.
4. As the cam rotates, the stacking roller arm is pushed up, and the upper stacking roller is pulled up from the paper.

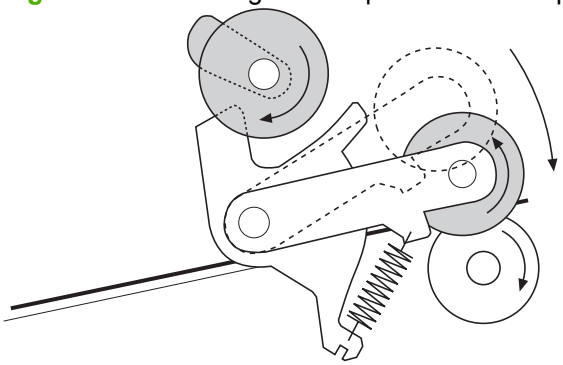
Figure 4-55 Stacking roller separation control process (1 of 2)



5. When the stacking rollers are engaged, the stacking roller arm is released by further cam rotation. This causes the stacking roller arm to lower. Then, the upper stacking roller touches the paper.

NOTE: The swing separation sensor detects the position of the stacking roller arm.

Figure 4-56 Stacking roller separation control process (2 of 2)



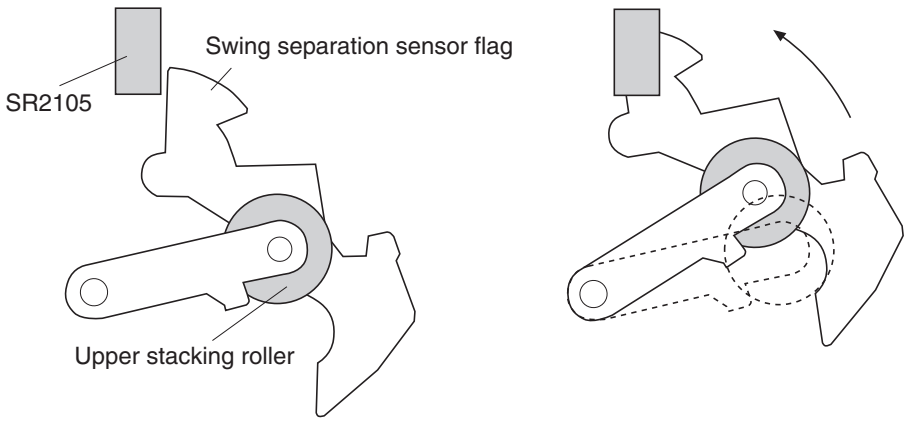
NOTE: The stacking roller control is also performed when the power switch is turned ON and at the start of the paper feed operation.

Stacking roller separation detection

The staple stacker detects the position of the upper stacking roller for operating the stacking roller separation control. This detection is performed by the staple stacker driver that is monitoring the SWING SEPARATION (SWNG_SNS) signal from the swing separation sensor (SR2105). There is a sensor flag moving together with the separation cam. When the stacking rollers are separated, the flag interrupts the sensor (SR2105). This brings the staple stacker driver determines that the stacking rollers are separated. Conversely, when the rollers are engaged, the flag does not interrupt the SR2105. This brings the driver determines that the rollers are engaged. During the stacking roller separation detection, the staple stacker driver rotates the leading-end alignment separation motor (M2102) for a specified period of time. If the SWNG_SNS signal does not change, the driver determines failure of the leading-end alignment separation motor, stops the loads, and notifies the formatter.

Figure 4-57 Stacking roller separation detection

<When stacking roller is engaged> **<When stacking roller is separated>**

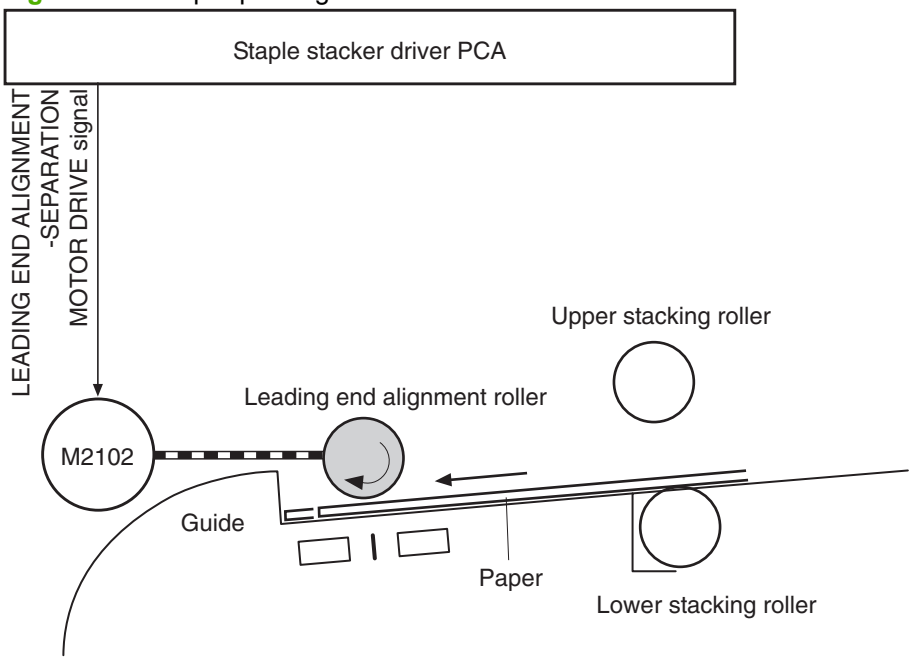


NOTE: The staple stacker driver rotates the motor (M2102) and performs the detection, even when the upper stacking roller is already at the separated position.

Paper pile alignment control

This sequential control aligns the leading-end of each paper. The staple stacker driver PCA controls the leading-end alignment separation motor (M2102) and rotates the leading end alignment roller.

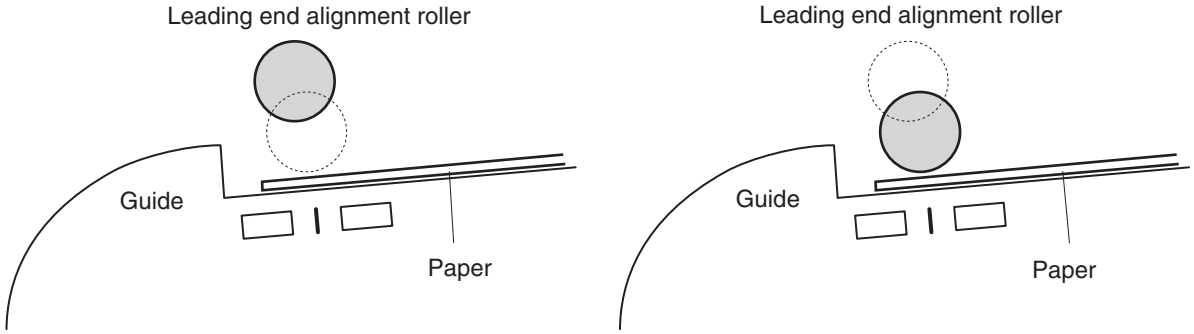
Figure 4-58 Paper pile alignment control



The leading-end alignment roller changes its shape easily because the inside is hollow. This feature enables the paper to be touched with wider contacting surface at the leading-end alignment control and improves the alignment performance.

1. Before the operation, the leading-end alignment roller stays at the waiting position.
2. When the alignment operation is started, the staple stacker driver turns the separation solenoid (SL2102) ON and shifts the leading-end alignment roller to the alignment position.

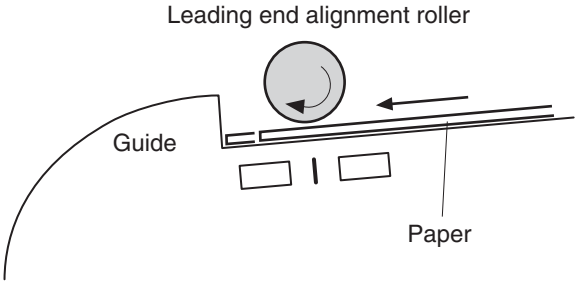
Figure 4-59 Paper pile alignment control process (1 of 2)



<Waiting position> **<Alignment position>**

3. At the same time, the staple stacker driver reverses the motor (M2102) and rotates the leading-end alignment roller for specified time. This allows the paper to be pushed against the guide wall.

Figure 4-60 Paper pile alignment control process (2 of 2)



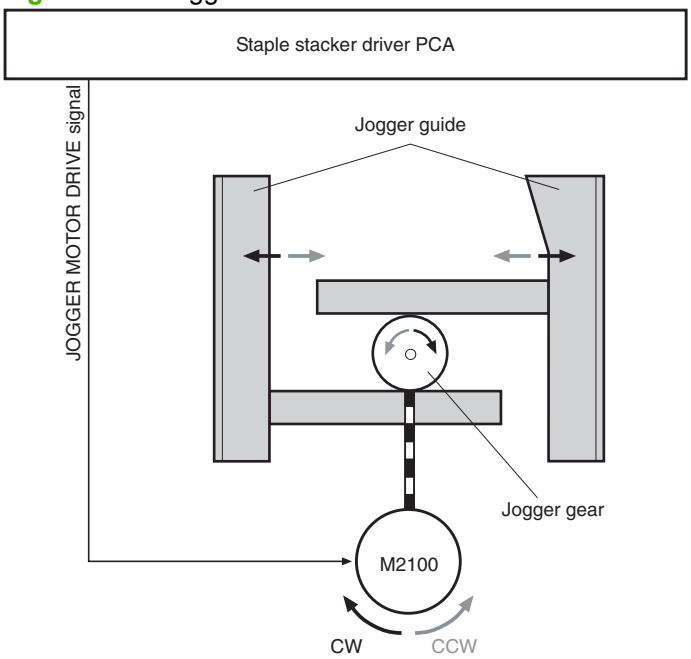
4. The staple stacker driver turns the solenoid (SL2102) OFF and the leading-end alignment roller stops at the waiting position after it has rotated for the specified time.

5. Steps 2–4 are applied to the next paper to ensure alignment of the paper stack.

Jogger control

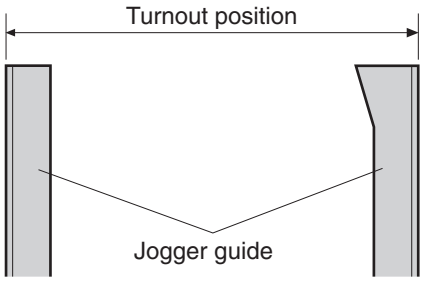
The jogger control aligns both sides of the paper pile. The staple stacker driver PCB controls the jogger motor (M2100) and shifts the jogger guide.

Figure 4-61 Jogger control



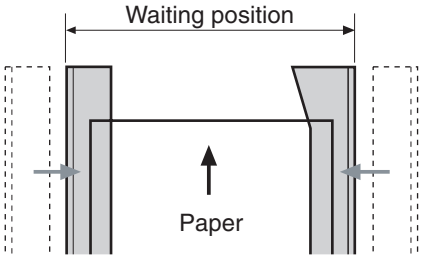
1. Before the operation, the jogger guide stays at the turnout position.

Figure 4-62 Jogger control process (1 of 4)



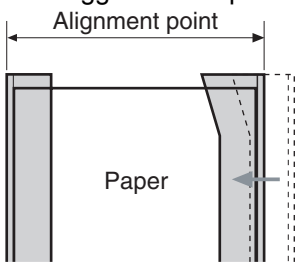
2. When paper feeding starts in staple mode, the staple stacker driver reverses the motor (M2100). When it detects that the upper stacking rollers are separated. Then the jogger guide shifts to the waiting position.

Figure 4-63 Jogger control process (2 of 4)



3. After a specified time from when the trailing edge of paper passes the inlet paper sensor (SR2100), the staple stacker driver reverses the motor (M2100) again and the jogger guide shifts to the alignment position. This aligns the side end of the paper pile. The driver also aligns the leading end of the paper pile.

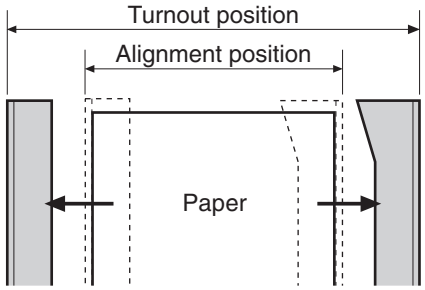
Figure 4-64 Jogger control process (3 of 4)



4. When the alignment is complete and the last sheet of paper is fed, the staple stacker driver staples the pile of paper.

5. The staple stacker driver rotates the motor (M2100) again and shifts the jogger guide to the turnout position. This allows the stapled paper pile on the jogger guide to drop on the stacking tray.

Figure 4-65 Jogger control process (4 of 4)

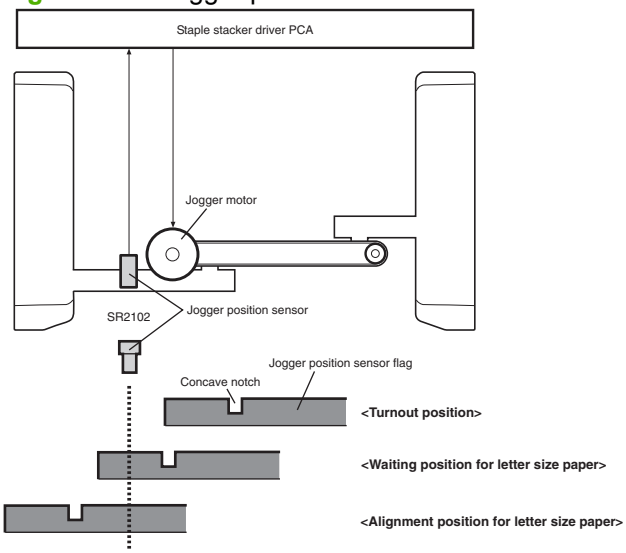


The staple stacker driver controls the turnout position for the jogger guide by monitoring with the jogger position sensor.

Jogger position control

The staple stacker controls the shifting position of the jogger guide. The position of the guide is detected by the staple stacker drier monitoring the JOGGER POSITION (JOG_SNS) signal from the jogger position sensor (SR2102). The jogger position sensor flag with a concave notch is attached to the jogger guide. The driver detects the position of the jogger guide by the SR2102 passing through the notch. The driver drives the jogger motor (M2100) for a specified time and shifts the jogger guide to the suitable position. While detecting the jogger turnout position, the staple stacker driver rotates the motor (M2100) for a specified time. If the JOG_SNS signal does not change, the driver determines the jogger motor failure, stops the controls, and notifies the formatter.

Figure 4-66 Jogger position control



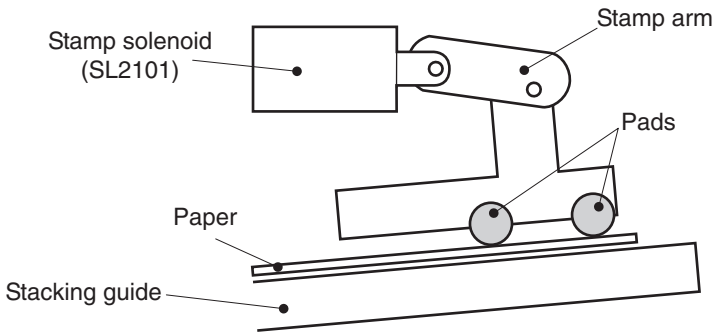
NOTE: The staple stacker driver rotates the motor (M2100) and performs the detection, even when the jogger guide is already at the turnout position.

Stamping control

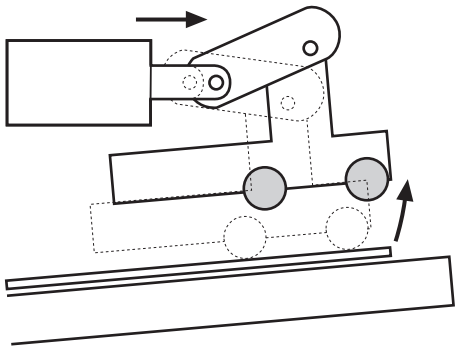
The stamping control holds the piles of paper on the jogger guide so subsequent pages do not push away the paper. The pad on the right part of the delivery guide moves up and down. This operation is performed by controlling the stamp solenoid (SL1102).

Figure 4-67 Stamping control

<Pad engaged>



<Pad pulled up>



1. After the alignment operation is complete, the staple stacker driver turns the solenoid (SL2101) ON and the pad holds the aligned paper pile.
2. After the stapling operation is complete, the staple stacker driver turns the solenoid (SL2101) OFF and releases the stapled pile of paper. Then the pile of paper is delivered to the stacking tray.

NOTE: Either the End of Job (EOJ) signal or End of Copy (EOC) signal determines if the page is the last sheet of the job. If it is the last sheet, either the EOJ or EOC signal is sent from the formatter.

Stacker mode

In the stacker mode, the paper is stacked on the stacking tray without being stapled.

1. The printer engine outputs the DELIVERY PAPER (/PDLV) signal to the formatter when the leading edge of paper reaches the delivery paper sensor.
2. The formatter sends the delivery notice command to the staple stacker driver when the /PDLV signal is received.
3. The staple stacker driver turns the deflector solenoid (SL2100) ON for a specified time and moves the delivery deflector inside the printer when it receives the delivery notice command.

4. At a specified time after the /PDLV signal was sent, the staple stacker driver drives the feed motor (M2101) and rotates the feed roller and the lower stacking roller. Through this process, the paper is fed into the staple stacker.

5. If the staple stacker driver does not receive the delivery notice command for the next print paper at this point, it stops the motor (M2101) rotation.

6. The paper passes through the stacking rollers and drops to the stacking tray.

Jam detection

The staple stacker has two paper detection sensors — inlet paper sensor (SR2100) and delivery paper sensor (SR2103) — to detect if the paper feed is operating correctly. The microcomputer (CPU) determines the paper jam by checking whether paper is present at the sensor or not at the checking timing. The checking timing is stored in the memory of the CPU. If the CPU determines a jam occurred, it stops the printing operation and notifies the formatter.

- Feed delay jam: The CPU determines the feed delay jam when the SR2103 does not detect the leading edge of paper within a specified time after the delivery notice command was input.
- Feed stationary jam: The CPU determines the feed stationary jam when the SR2100 does not detect the trailing edge of paper for a specified time after the SR2100 detects the leading edge of the paper.
- Stapled paper feed stationary jam: The CPU determines a stapled-paper feed stationary jam when the SR2103 does not detect the trailing edge of paper within a specified time after the stapling operation is complete and the feed motor (M2101) has started to drive.
- The CPU determines the delivery delay jam when the SR2103 does not detect the leading edge of paper for a specified time after the SR2100 detects the leading edge of paper.
- The CPU determines the residual paper jam when either the SR2100 or the SR2103 detects paper during the initial drive.

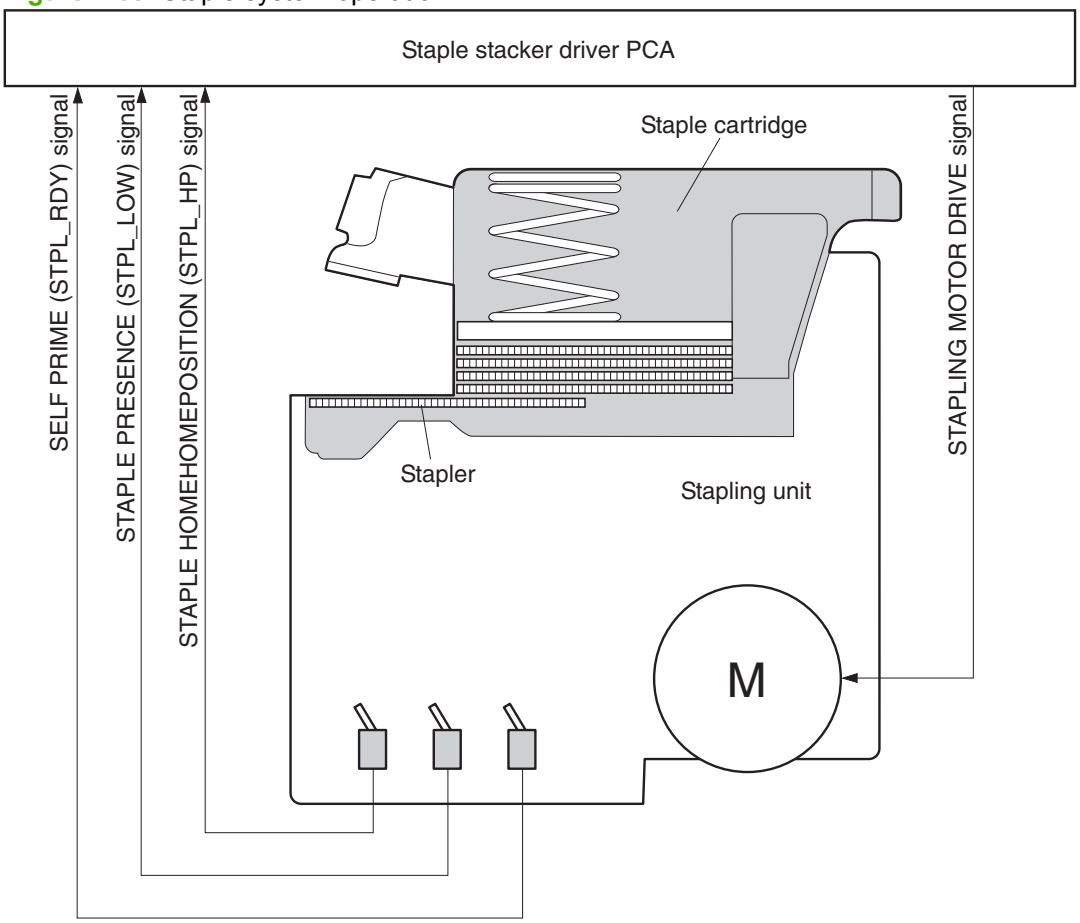
Staple system

The staple system's function is to staple the printed paper. The staple system consists of the staple cartridge and the stapling unit. The staple cartridge holds maximum of 5,000 staples. The stapling motor is installed in the stapling unit.

The stapling operation is performed by the staple stacker driver which controls the stapling motor. The stapling unit has three sensors to detect the condition of the stapling unit:

- Staple home position detection
- Staple self prime detection
- Staple level detection

Figure 4-68 Staple system operation



Staple home position detection

The staple stacker detects the staple home position. The staple stacker driver monitors the STAPLE HOMEPOSITION (STPL_HP) signal from the staple home position sensor. During this detection, the staple stacker driver rotates the stapling motor for a specified time. If the STPL_HP signal does not change from "H" to "L" to "H", the driver determines the stapling motor failure, stops the loads, and notifies the formatter.

NOTE: If the STPL_HP signal does not revert to "H" after changes from "H" to "L", the staple stacker driver reverses the stapling motor once. If the STPL_HP signal changes from "L" to "H" during reverse rotation, the staple stacker driver determines a staple jam and notifies the formatter.

Staple self prime detection

The staple stacker detects the staple self prime whenever replacing with a new staple cartridge. The staple stacker driver monitors the SELF PRIME (STPL_RDY) signal from the self prime sensor. This detection is activated when the staple stacker driver detects the STAPLE PRESENCE (STPL_LOW) signal "H" after it has detected the STPL_LOW signal "L" once. When the signal is detected as "H", it means that the staple cartridge is replaced. When the staple stacker driver detects the STPL_RDY signal "H", it performs the stapling operation until the STPL_RDY signal goes "L". However, if the STPL_RDY signal stays "H" after 11 repeated stapling operations, the staple stacker driver determines the self prime failure, stops the loads, and notifies the formatter.

Staple level detection

The staple stacker detects the remaining staple level. The staple stacker driver monitors the STAPLE PRESENCE (STPL_LOW) signal from the staple presence sensor. When the staple stacker driver detects the STPL_LOW signal "L", it determines that 20 staples remain and warns the formatter. Then, when 20 stapling operations have been performed, the staple stacker driver notifies the formatter of the staple out condition.

5 Removal and replacement

- Removal and replacement strategy
- User-replaceable parts
- ADF
- Scanner
- Stapler/stacker
- Print engine (base unit)
- High capacity input feeder

Removal and replacement strategy

Introduction

This chapter describes the removal and replacement of field-replaceable units (FRUs) only.

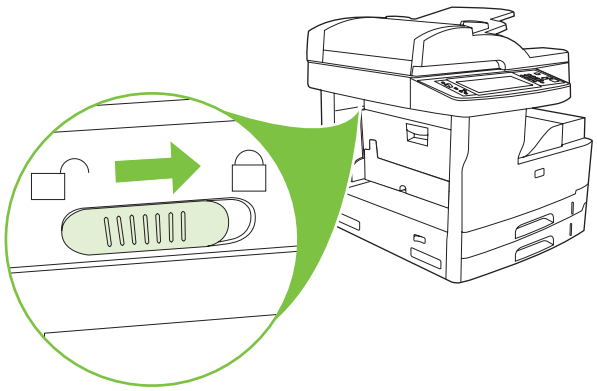
Replacing FRUs is generally the reverse of removal. Notes are included to provide directions for difficult or critical replacement procedures.

HP does not support repairing individual subassemblies or troubleshooting to the component level.

Never operate or service the printer with the protective cover removed from the laser/scanner assembly. The reflected beam, although invisible, can damage your eyes.

The sheet-metal parts can have sharp edges. Be careful when handling sheet-metal parts.

⚠ **WARNING!** Always engage the scanner lock before you remove the scanner assembly. The optic assembly is not captive and can be damaged when the scanner assembly is removed from the device.



△ **CAUTION:**

Some parts are sensitive to electrostatic discharge (ESD). Look for the ESD reminder when removing printer parts. Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, ground yourself by touching the sheet-metal chassis *before* touching an ESD-sensitive part.

Protect the ESD-sensitive parts by placing them in ESD pouches when they are out of the printer.

CAUTION: Do not bend or fold the flat flexible cables (FFCs) during removal or installation.

NOTE: To install a self-tapping screw, first turn it counterclockwise to align it with the existing thread pattern, and then carefully turn it clockwise to tighten. Do not overtighten. If a self-tapping screw-hole becomes stripped, repair the screw-hole or replace the affected assembly.

Required tools

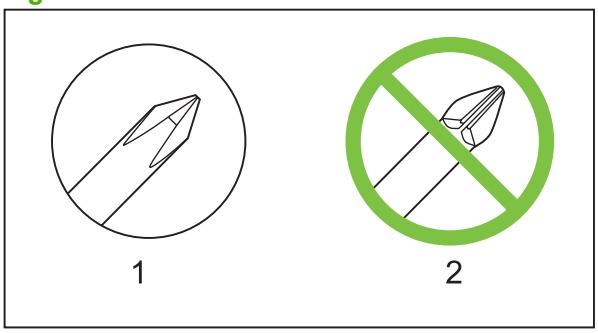
- #2 Phillips screwdriver with a magnetic tip and a 152-mm (6-inch) shaft length

NOTE: For the best fit, use a JIS #2 Phillips screwdriver for the stapler/stacker.

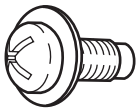
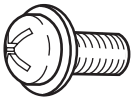
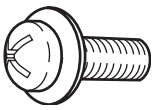
- Small, flat-blade screwdriver
- Needle-nose pliers
- ESD strap (if one is available)
- Penlight

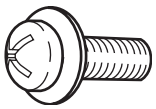
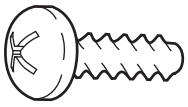
△ **CAUTION:** Always use a Phillips screwdriver (callout 1). Do not use a pozidrive screwdriver (callout 2) or any motorized screwdriver. These can damage screws or screw threads.

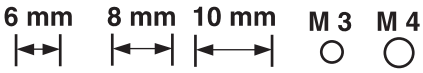
Figure 5-1 Screwdrivers



Types of screws

Illustration	Description	Size	Use
	Screw with washer	M3X8	Used to secure metal components to metal components (for example, a ground wire to the frame)
	Screw, RS	M3X6 M3X10	Used to secure metal to metal
	Screw, tapping	M3X6	
	Screw	M3X8	

	Screw	P3X8	
	Screw, tapping, truss head	M4X10	Used to secure anything to plastic



Service approach

The HP LaserJet M5039XS Series MFP use a field repair strategy. Defective parts are diagnosed and replaced at the Field Replaceable Unit (FRU) assembly level. Printer repair normally begins by using the printer internal diagnostics and the following two-step process:

1. Isolate the problem to the major system (for example, the network or server, or the printer).
2. Troubleshoot the problem by using the procedures in the troubleshooting chapter.

After you locate a faulty part, the printer can usually be repaired at the assembly level by replacing FRUs. Some mechanical assemblies might need to be repaired at the subassembly level. Hewlett-Packard Company does not support replacement of components on the printed circuit assembles.

Before performing service

⚠ **WARNING!** Turn the printer off, wait 5 seconds, and then remove the power cord before attempting to service the printer. *If this warning is not followed, severe injury and damage to the device can result.*The power must be on for certain functional checks during troubleshooting. However, the power supply should be disconnected during parts removal.

1. Remove all media.
2. Place the product on an ESD mat (if available). If an ESD workstation or mat is not available, ground yourself by touching the sheet-metal chassis *before* touching an ESD-sensitive part.
3. Remove the print cartridge.
4. Remove the trays.

After performing service

1. Reinstall the print cartridge.
2. Reinstall the trays.
3. Return all media to the trays.
4. Plug in the power cable and turn on the printer.

Parts removal order

If multiple components must be removed to gain access to an assembly, the first step of the removal procedure lists all of the components that must be removed to gain access to that assembly. Use these lists to determine which parts must be removed before removing other parts.

User-replaceable parts

The user replaces print cartridges as they are depleted. Additional instructions about other user-replaceable parts are provided in this section.

The printer tracks the amount of use on the customer-replaceable supplies by keeping a page count. The MFP prompts the user to replace certain items when a supply is depleted or a specific number of pages has been printed. The MFP uses an ADF maintenance kit and an engine maintenance kit.

The ADF maintenance kit consists of the ADF separation pad assembly and the pickup/feed roller assembly. The ADF maintenance kit is installed after sixty thousand (60K) pages have passed though the ADF.

The engine maintenance kit consists of the Tray 1/2/3 separation pad assemblies, Tray 1/2/3 pickup rollers, Tray 4/5/6 pickup and feed rollers, transfer roller, and a fuser. The engine maintenance kit is installed after two-hundred thousand (200K) pages have been printed from the MFP.

The procedures for replacing the components from these maintenance kits is described in this chapter.

Swapping print cartridges between printers might cause a misrepresentation of supply life values and is not recommended.

- Print cartridge
- ADF separation pad and pickup and feed roller assemblies (removal and replacement)
- Transfer roller
- Tray 1 pickup roller (multipurpose paper pickup roller)
- Tray 1 separation pad assembly (multipurpose pad assembly)
- Tray 2 and Tray 3 pickup rollers (paper pickup roller assembly)
- Tray 2 and Tray 3 separation pad assembly (separation block assembly)
- Tray 4, Tray 5, and Tray 6 pickup and feed rollers (paper feed roller assembly)
- Fuser
- Duplexer
- Formatter cover and cage
- Hard drive
- Fax PCA

Print cartridge

1. Open the print cartridge door.

Figure 5-2 Remove the print cartridge (1 of 2)



2. Grasp the print cartridge and pull it up and out of the device.

Figure 5-3 Remove the print cartridge (2 of 2)

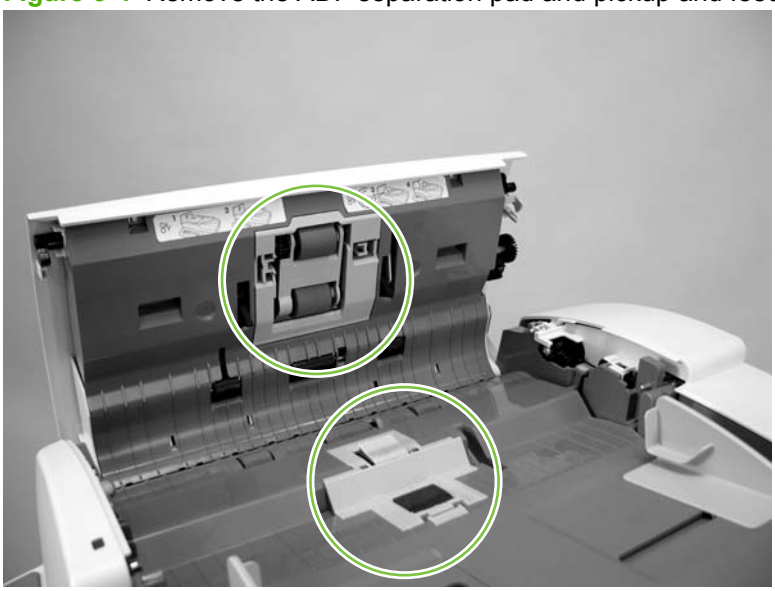


ADF separation pad and pickup and feed roller assemblies (removal and replacement)

NOTE: Always replace the ADF separation pad and pickup and feed roller assemblies at the same time.

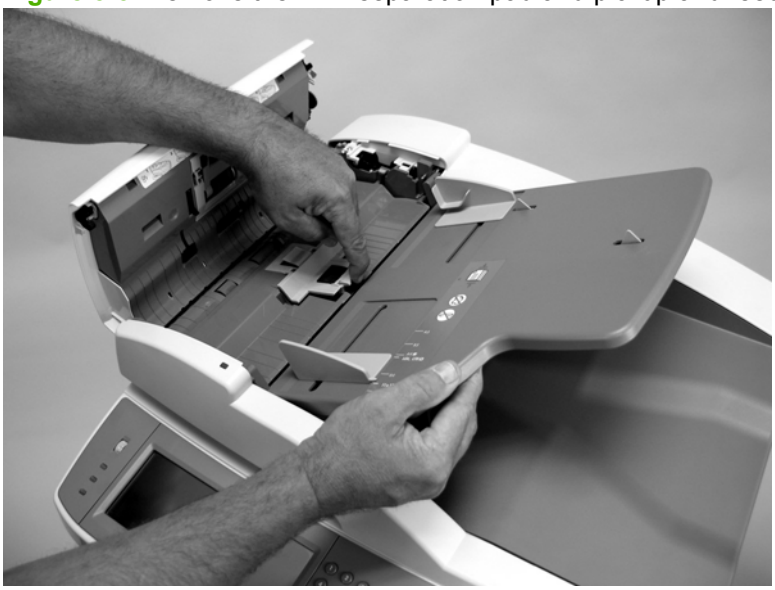
1. Open the ADF cover and locate the ADF separation pad and pickup and feed roller assemblies.

Figure 5-4 Remove the ADF separation pad and pickup and feed roller assemblies (1 of 5)



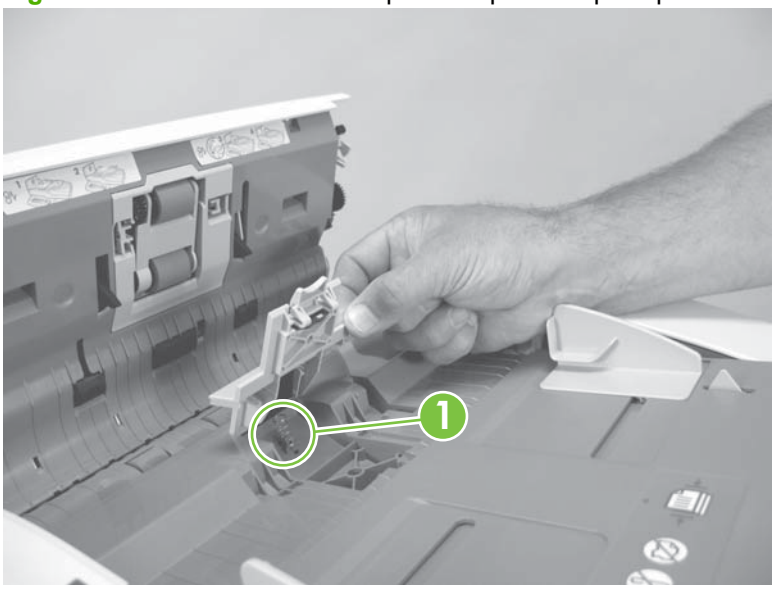
2. Slightly raise the ADF input tray, release the ADF separation pad assembly latch, and remove the assembly from the ADF.

Figure 5-5 Remove the ADF separation pad and pickup and feed roller assemblies (2 of 5)



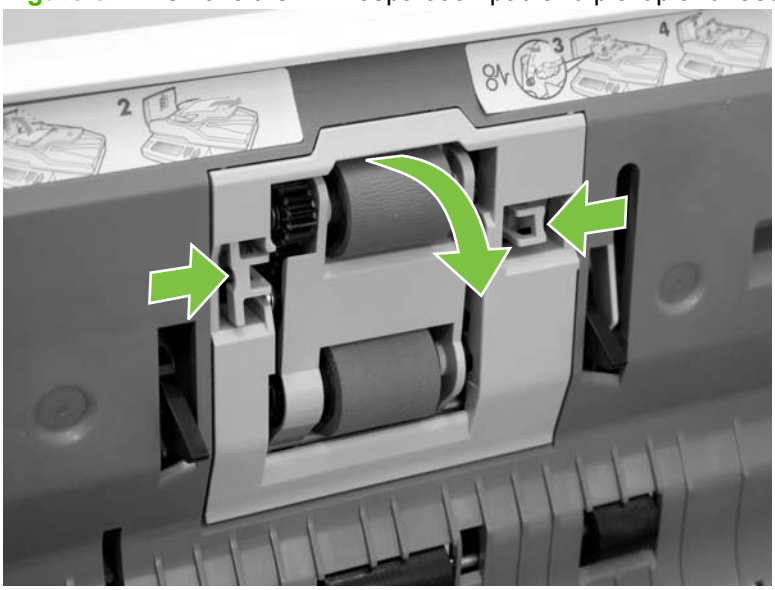
3. When the replacement separation pad assembly is installed, make sure that the spring is seated on the spring pedestal (callout 1) under the separation pad.

Figure 5-6 Remove the ADF separation pad and pickup and feed roller assemblies (3 of 5)



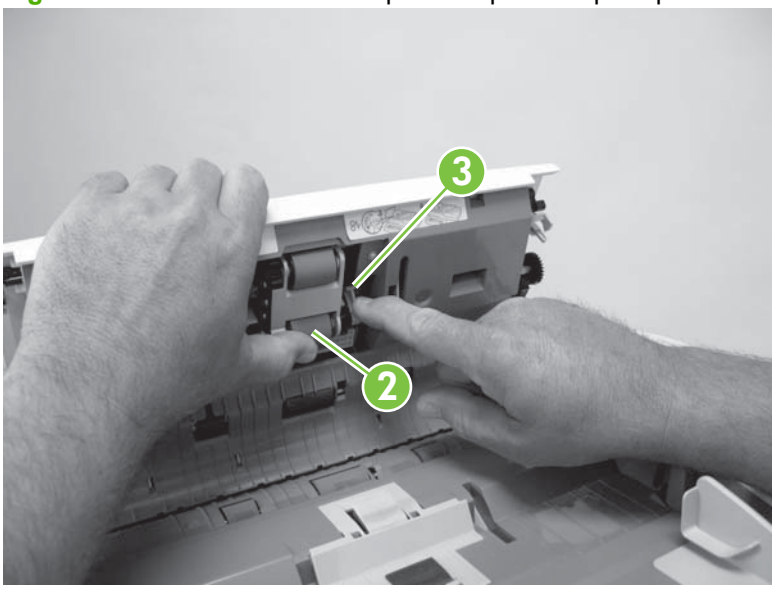
4. Release two locking tabs and rotate the pickup and feed roller assembly cover out and away from the ADF.

Figure 5-7 Remove the ADF separation pad and pickup and feed roller assemblies (4 of 5)



5. Slightly push in on the roller assembly (callout 2) and release the blue locking clip (callout 3). Remove the roller assembly from the ADF.

Figure 5-8 Remove the ADF separation pad and pickup and feed roller assemblies (5 of 5)



6. Reset the **Document Feeder Kit Count** counter.

   a. Access the Administration menu.

   b. Select Resets.

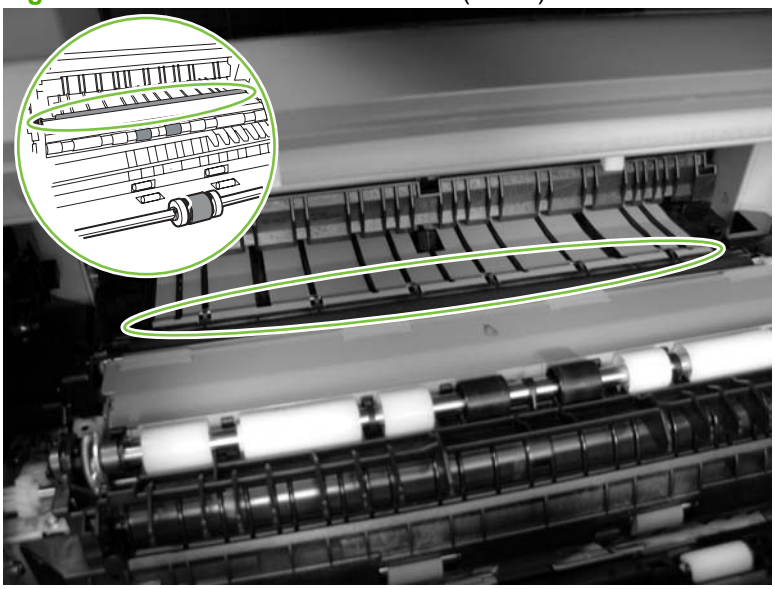
   c. Select Reset Supplies.

   d. Select New Document Feeder Kit.

Transfer roller

1. Open the print cartridge door and locate the transfer roller.

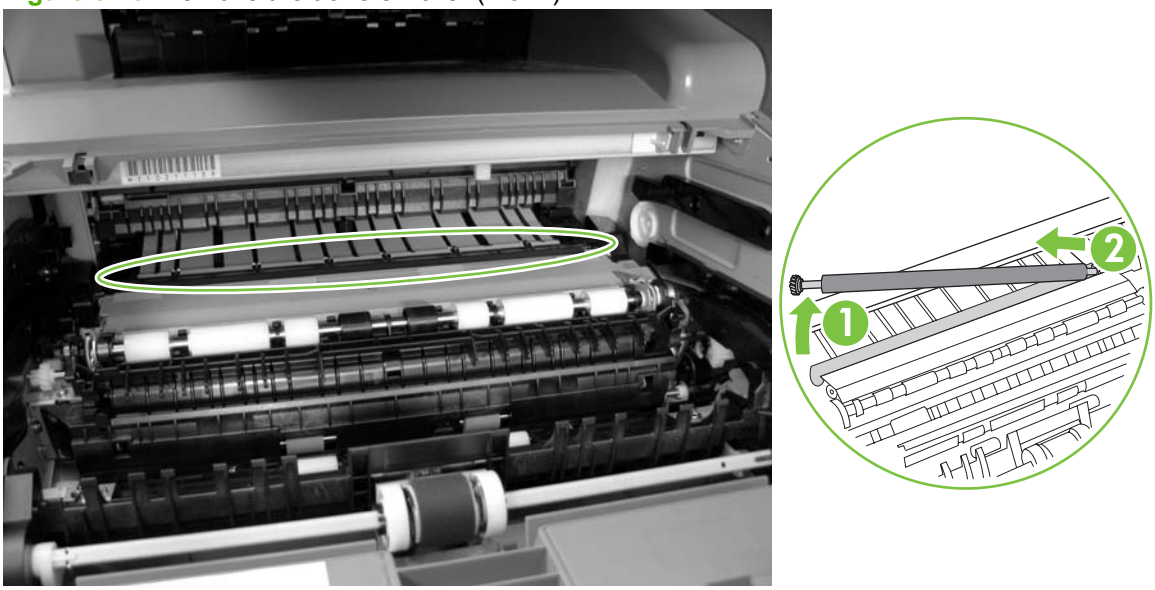
Figure 5-9 Remove the transfer roller (1 of 2)



2. Use a small flat-blade screw driver (or the blue plastic transfer roller hook tool provided in the engine maintenance kit) to lift up on the gear end of the roller and then rotate the roller up and away from the device and remove it.

TIP: When you install the replacement transfer roller, make sure that you remove the protective paper sleeve from the roller *after* the roller is installed.

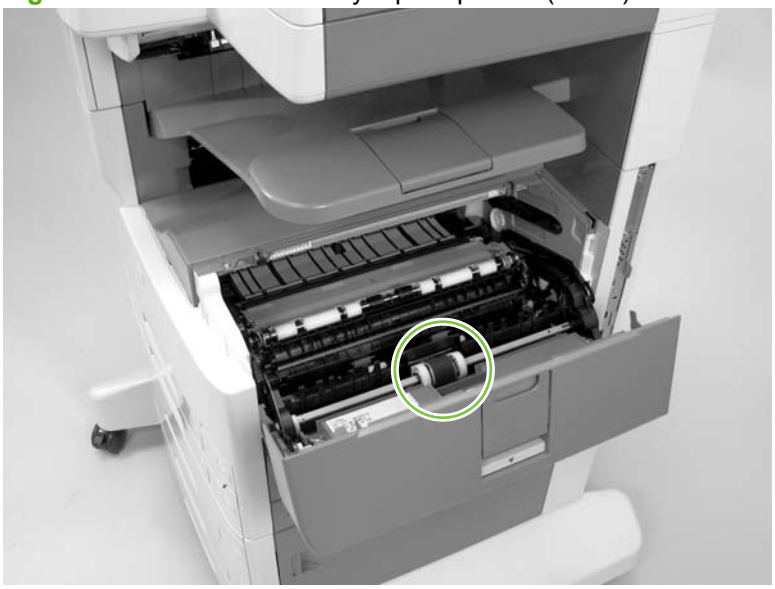
Figure 5-10 Remove the transfer roller (2 of 2)



Tray 1 pickup roller (multipurpose paper pickup roller)

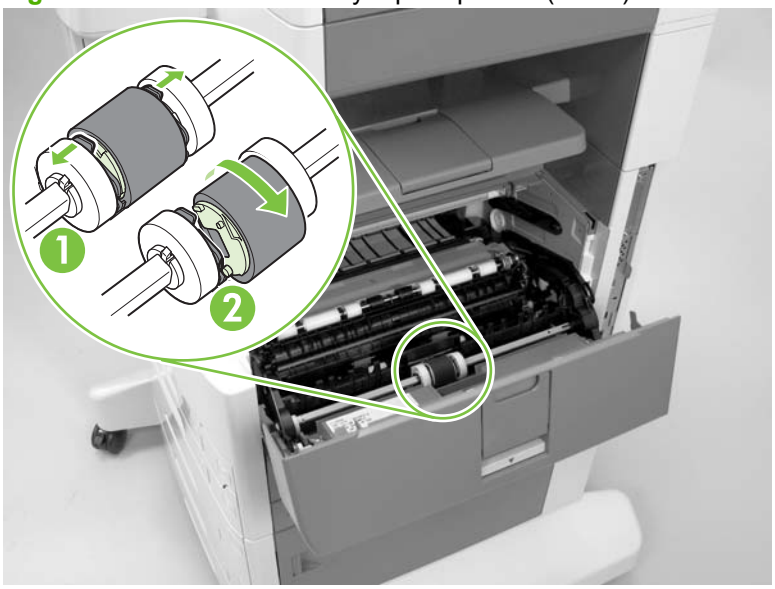
1. Open the print cartridge door and locate the Tray 1 pickup roller.

Figure 5-11 Remove the Tray 1 pickup roller (1 of 2)



2. Push out the two black tabs and rotate the roller away from the shaft to remove the roller.

Figure 5-12 Remove the Tray 1 pickup roller (2 of 2)



Tray 1 separation pad assembly (multipurpose pad assembly)

1. Open Tray 1.
2. Carefully pry the tray front retainer away from the tray arm and then pry the tray rear retainer (not shown) away from the tray arm.

TIP: When you reinstall the tray retainers, make sure that the inward facing pins are inserted in the mounting holes in the sliding media adjustment shelf (callout 1).

Figure 5-13 Remove the Tray 1 separation pad assembly (1 of 3; front retainer shown)



3. Raise the top portion of the tray, and then remove one screw.

CAUTION: Use a screwdriver with a magnetic tip so you do not drop this screw into the device.

Figure 5-14 Remove the Tray 1 separation pad assembly (2 of 3)



4. Carefully remove the Tray 1 separation pad assembly.

Figure 5-15 Remove the Tray 1 separation pad assembly (3 of 3)



Tray 2 and Tray 3 pickup rollers (paper pickup roller assembly)

1. Remove Tray 2 and Tray 3.

Figure 5-16 Remove the Tray 2 and Tray 3 pickup rollers (1 of 4)



2. Open the right door.

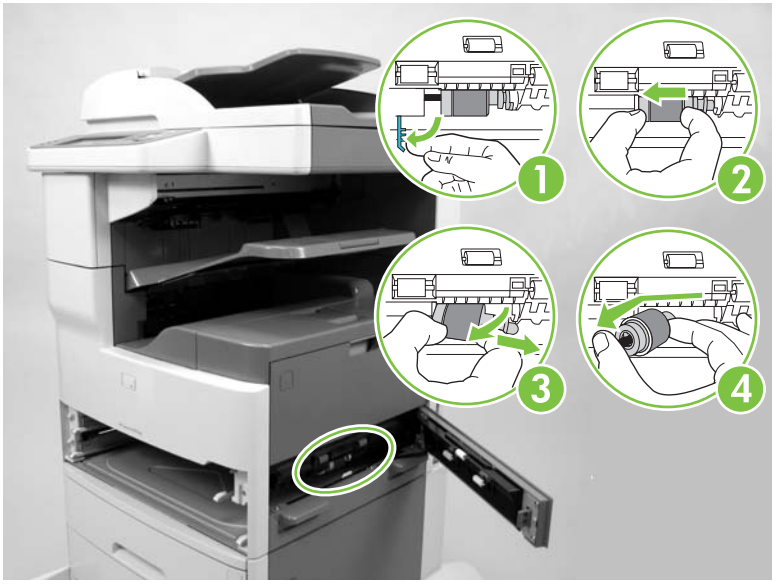
Figure 5-17 Remove the Tray 2 and Tray 3 pickup rollers (2 of 4)



3. Release the blue clip and slide the roller toward the front of the device. Rotate the rear of the roller away from the device and then remove the roller. Install the replacement roller.

NOTE: Installing the pickup rollers backwards will cause no-pick errors. Make sure that the black shaft on the roller faces the front of the MFP when the rollers are installed.

Figure 5-18 Remove the Tray 2 and Tray 3 pickup rollers (3 of 4)

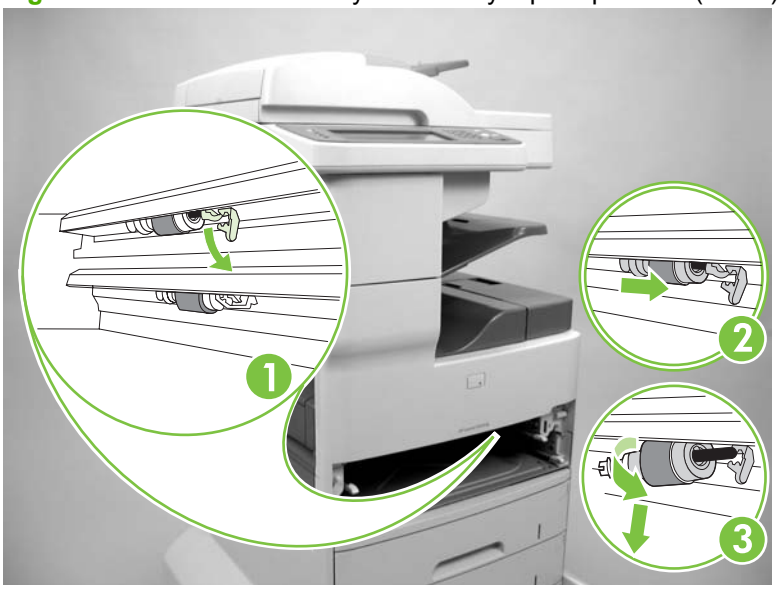


4. Reach up inside of the Tray 2 and Tray 3 cavity and release the blue latch on the upper pickup roller. Slide the roller toward the clip and then rotate the roller out and away from the device.

   Install the replacement roller.

NOTE: The lower pickup roller was replaced through the right door in the previous step.

Figure 5-19 Remove the Tray 2 and Tray 3 pickup rollers (4 of 4)

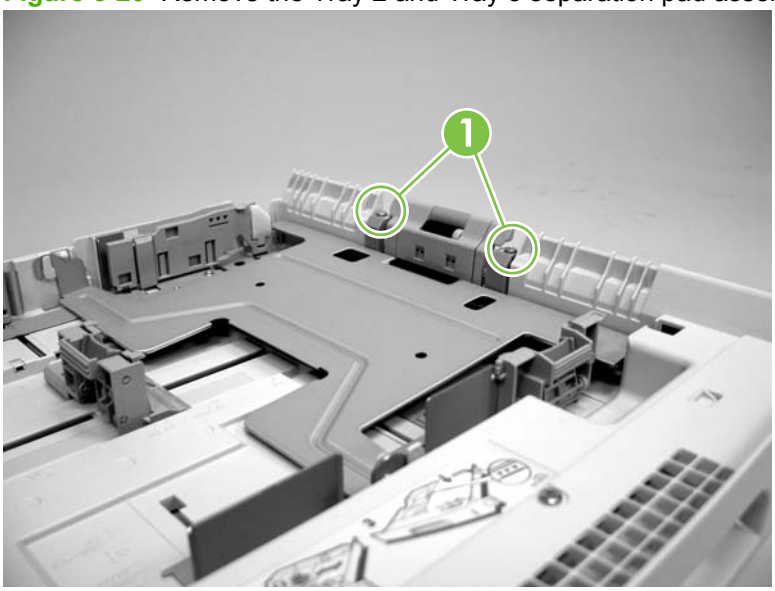


Tray 2 and Tray 3 separation pad assembly (separation block assembly)

1. Remove Tray 2 and Tray 3.
2. Remove two screws (callout 1).

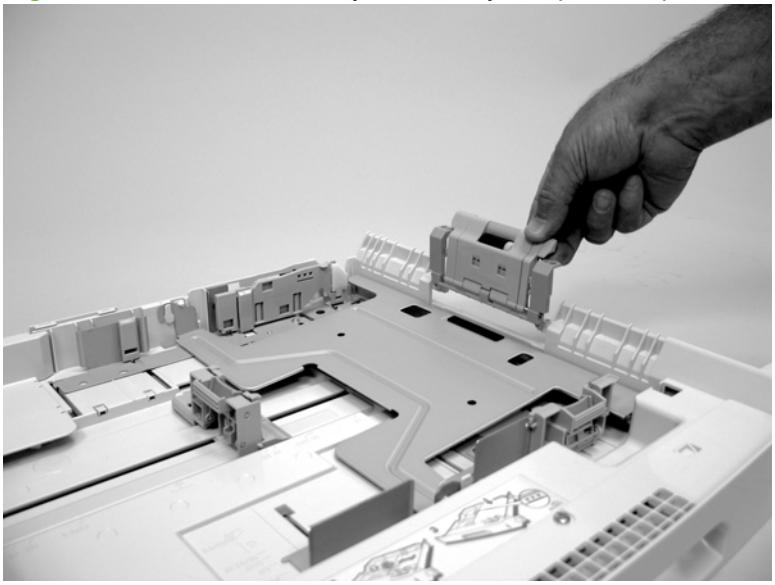
NOTE: Be careful during reinstallation. Make sure that you do not cross thread the plastic screw mounting holes when you reinstall these screws.

Figure 5-20 Remove the Tray 2 and Tray 3 separation pad assembly (1 of 2)



3. Lift up the separation pad to remove it.

Figure 5-21 Remove the Tray 2 and Tray 3 separation pad assembly (2 of 2)

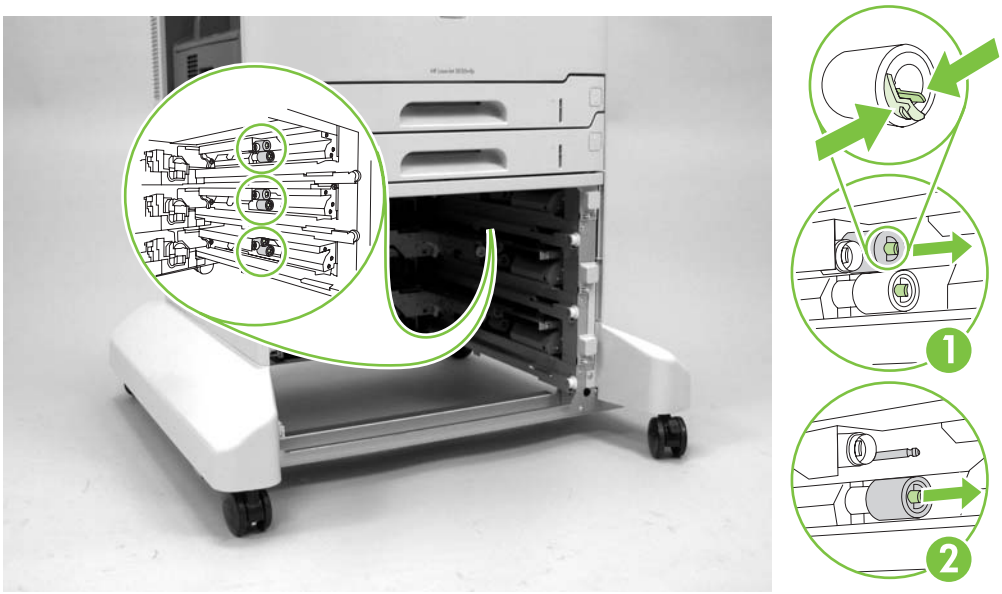


4. Repeat this procedure for the remaining tray.

Tray 4, Tray 5, and Tray 6 pickup and feed rollers (paper feed roller assembly)

1. Remove Tray 4, Tray 5, and Tray 6.
2. To remove a roller, pinch the tab and slide the roller toward the front of the device to remove it.

Figure 5-22 Remove the Tray 4, Tray 5, and Tray 6 pickup and feed rollers

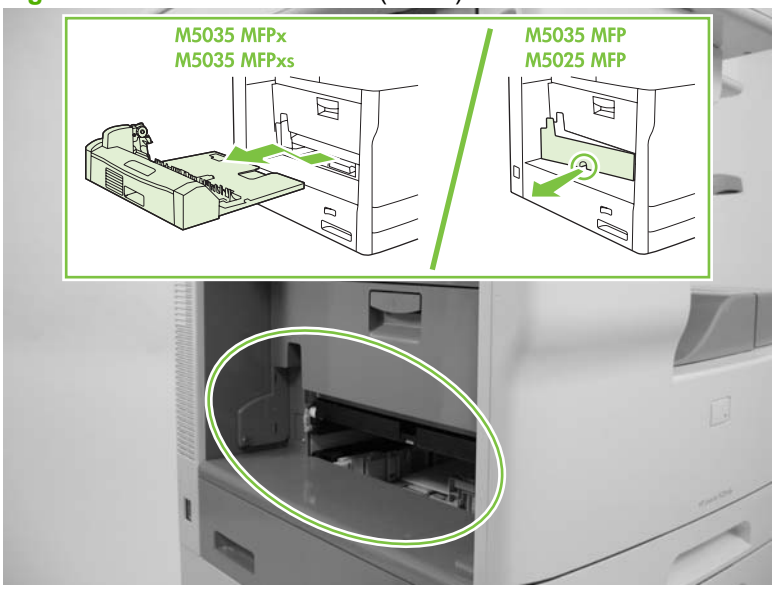


3. Repeat this procedure for the remaining rollers.

Fuser

1. Remove the duplexer or duplexer access cover.

Figure 5-23 Remove the fuser (1 of 6)



2. Open the fuser door.

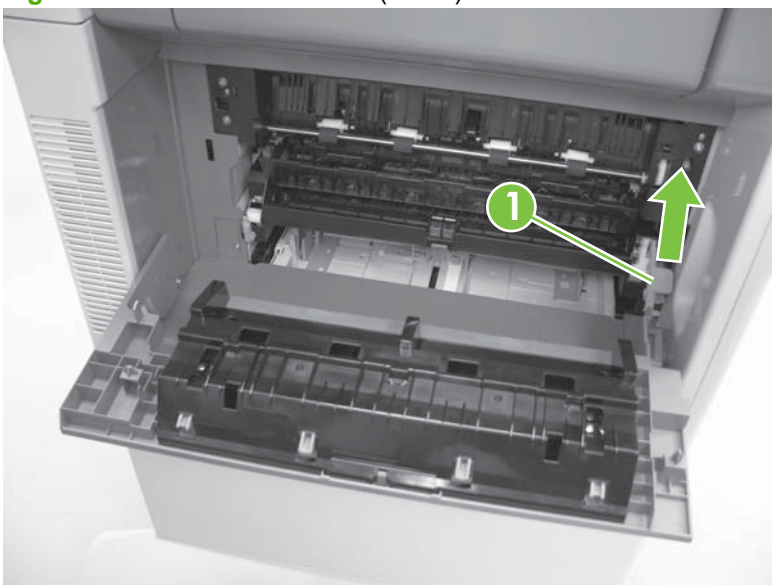
Figure 5-24 Remove the fuser (2 of 6)



3. Support the fuser door and pull up on the blue plastic door retainer (callout 1) to release it.

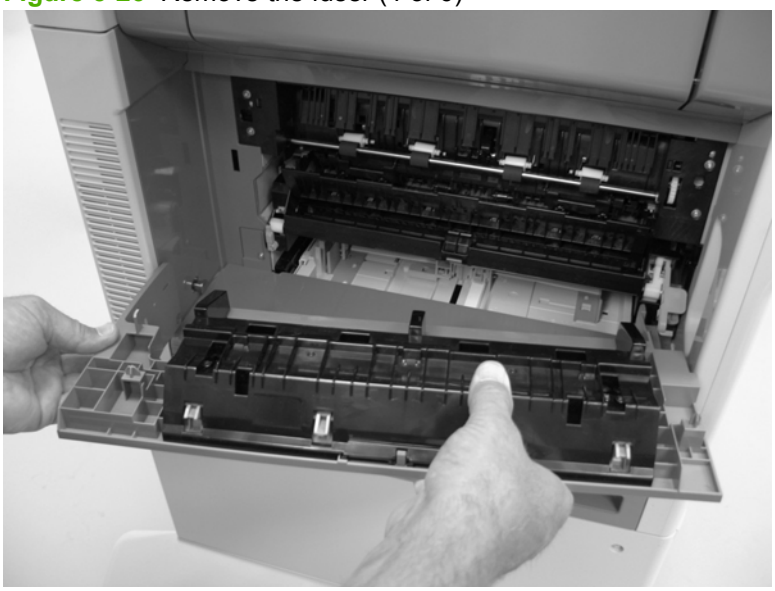
TIP: When the fuser door is reinstalled, forcibly close the door to engage the door retainer.

Figure 5-25 Remove the fuser (3 of 6)



4. Rotate the side of the fuser door nearest the back of the device away from the keyed hinge pin and remove the door.

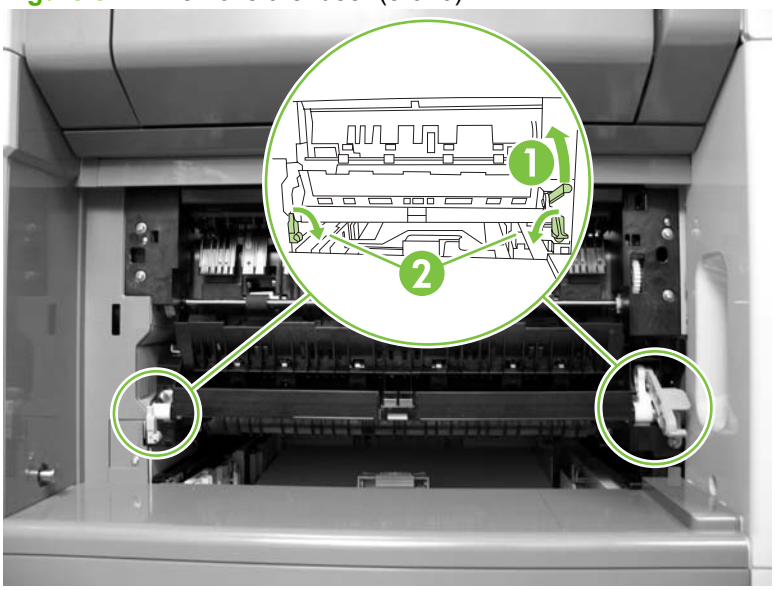
Figure 5-26 Remove the fuser (4 of 6)



5. Release the two latches and remove the pressure release assembly.

NOTE: You must reach behind the fuser door retainer to gain access to the latch nearest the front side of the device.

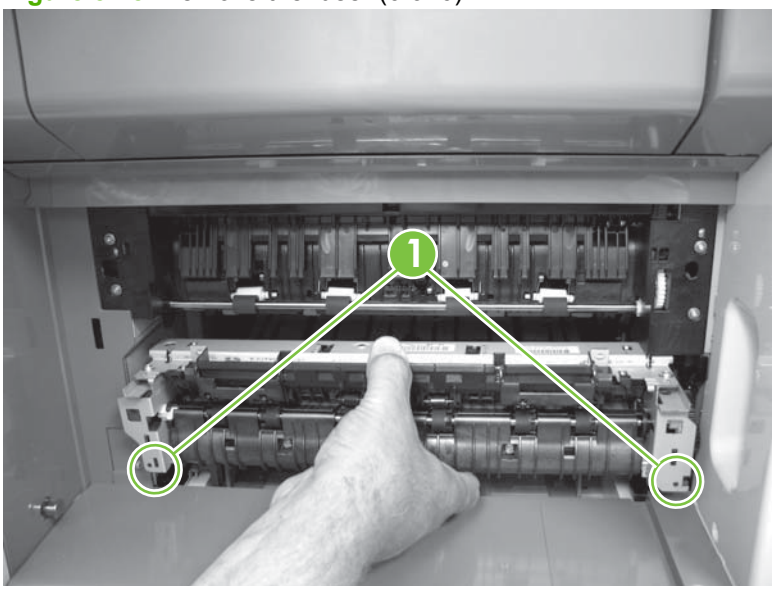
Figure 5-27 Remove the fuser (5 of 6)



6. Pull the fuser straight out of the device.

NOTE: When you install the replacement fuser, *do not* use screws to fasten the fuser bracket (callout 2) to the device chassis.

Figure 5-28 Remove the fuser (6 of 6)



Duplexer

1. At the left side of the printer, pull out the duplexer until it stops.
2. Lift up the duplexer and slightly pull it toward you to remove it.

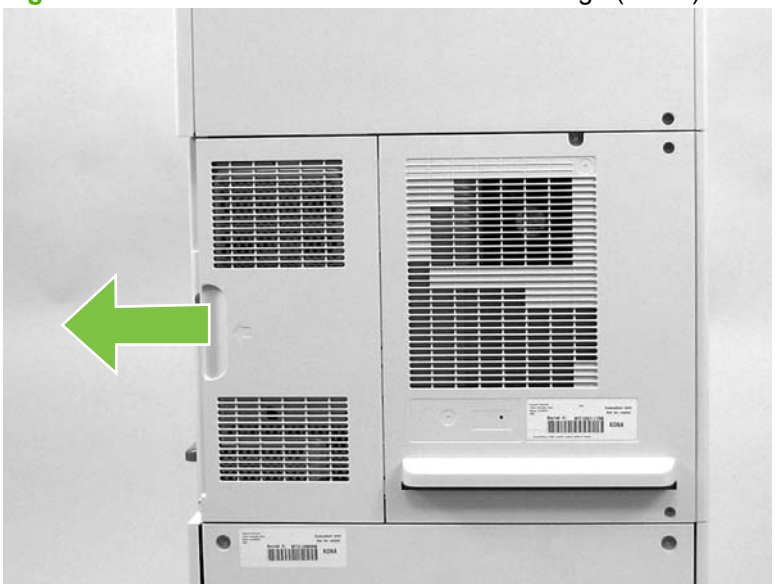
Figure 5-29 Remove the duplexer



Formatter cover and cage

1. Slide the formatter cover toward the right to remove it.

Figure 5-30 Remove the formatter cover and cage (1 of 3)



2. Remove two screws (callout 1).

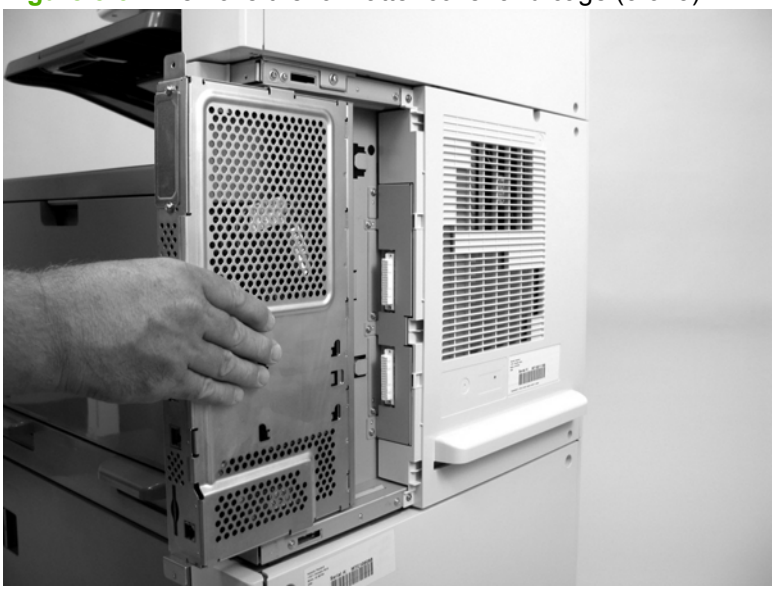
Figure 5-31 Remove the formatter cover and cage (2 of 3)



3. Pull the formatter cage straight out and away from the device.

TIP: You might need to open the formatter cage door and forcibly pull on the cage to dislodge it from the chassis.

Figure 5-32 Remove the formatter cover and cage (3 of 3)



4. To reinstall the formatter cage, align the front edge of the formatter (the edge with the interface ports) with the edge of the MFP, and then slide it straight back. Make sure that the formatter cage is fully seated (push firmly) onto the clips on the MFP chassis.

Figure 5-33 Reinstall the formatter cage



Hard drive

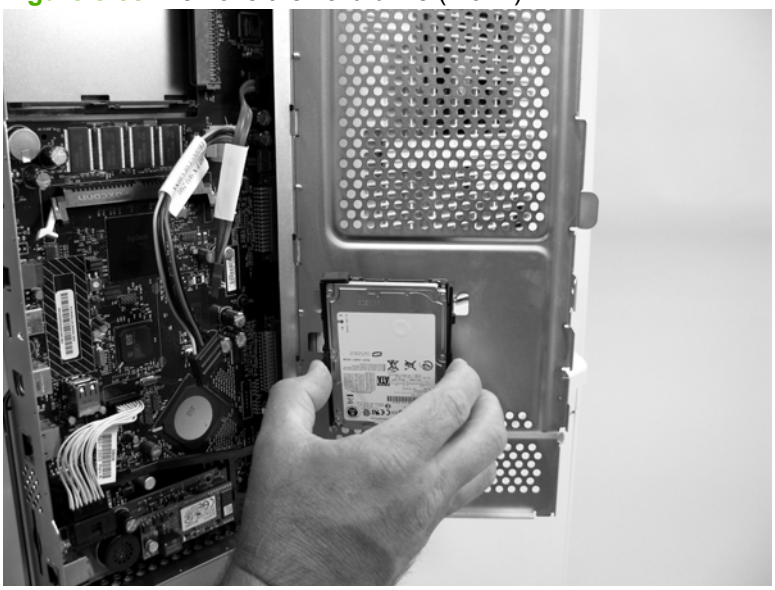
1. Remove the formatter cover. See Formatter cover and cage on page 195.
2. Open the formatter cage door and disconnect two connectors (callout 1).

Figure 5-34 Remove the hard drive (1 of 2)



3. Push up on the hard drive to release it from the formatter cage door and remove the hard drive.

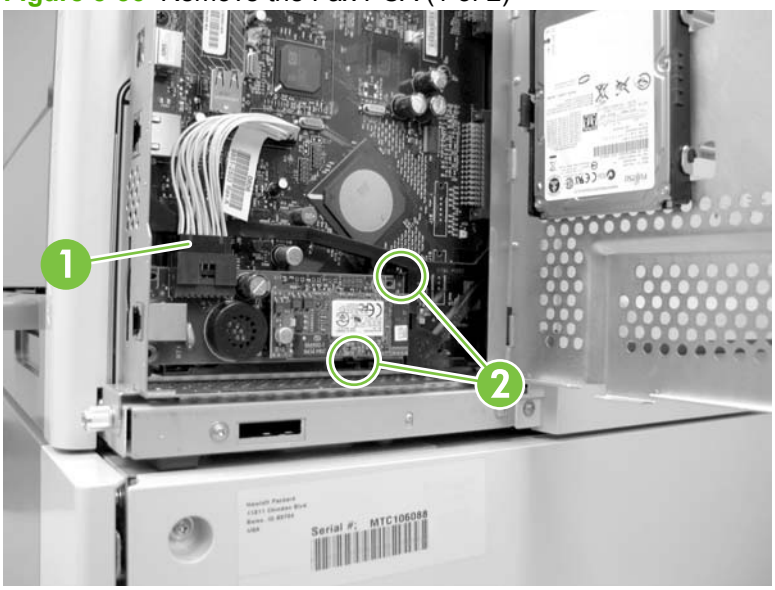
Figure 5-35 Remove the hard drive (2 of 2)



Fax PCA

1. Remove the formatter cover. See Formatter cover and cage on page 195.
2. Open the formatter cage door. Disconnect one connector (callout 1) and release two tabs (callout 2).

Figure 5-36 Remove the Fax PCA (1 of 2)



3. Carefully remove the Fax PCA from the device.

Figure 5-37 Remove the Fax PCA (2 of 2)



ADF

NOTE: For information about replacing the ADF pickup and feed rollers, and the ADF separation pad, see User-replaceable parts on page 178.

- ADF assembly
- ADF input tray sensors
- Separation floor assembly
- Diverter
- Jam cover
- Hinge assemblies
- Float assembly
- White backing
- Front end cover (cap)
- Rear end cover (cap)
- ADF PCA and wire harness
- Input tray

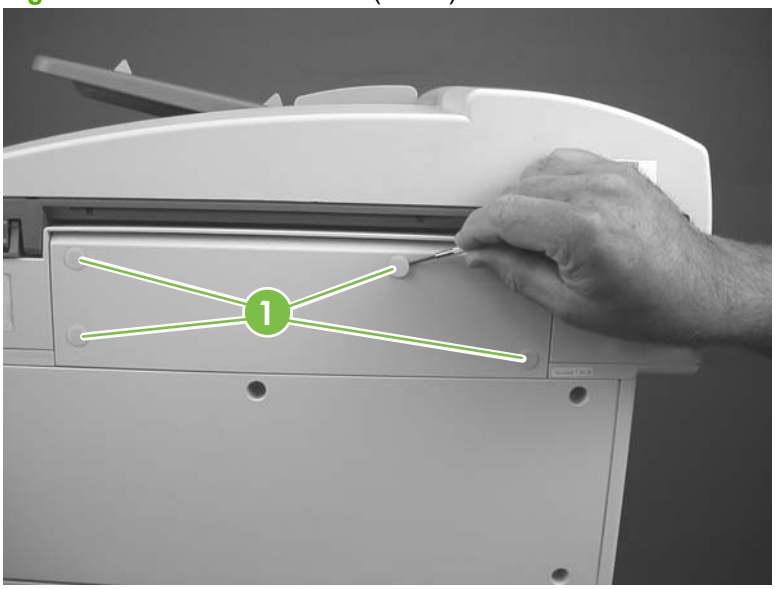


ADF assembly

1. Use a small flat-blade screwdriver to carefully remove four adhesive screw caps (callout 1).

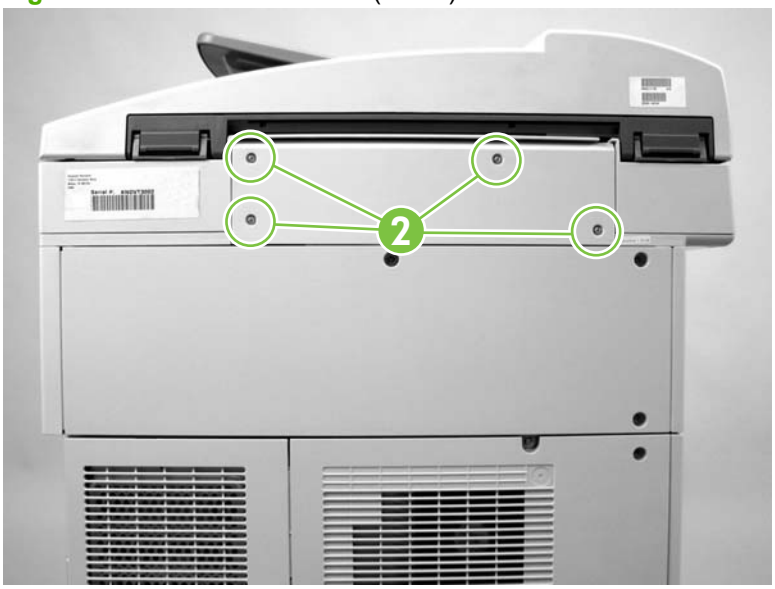
NOTE: Do not damage the caps when you remove them. Do not excessively handle the adhesive side of the caps. Skin oils will damage the adhesive on the back of the caps.

Figure 5-38 Remove the ADF (1 of 4)



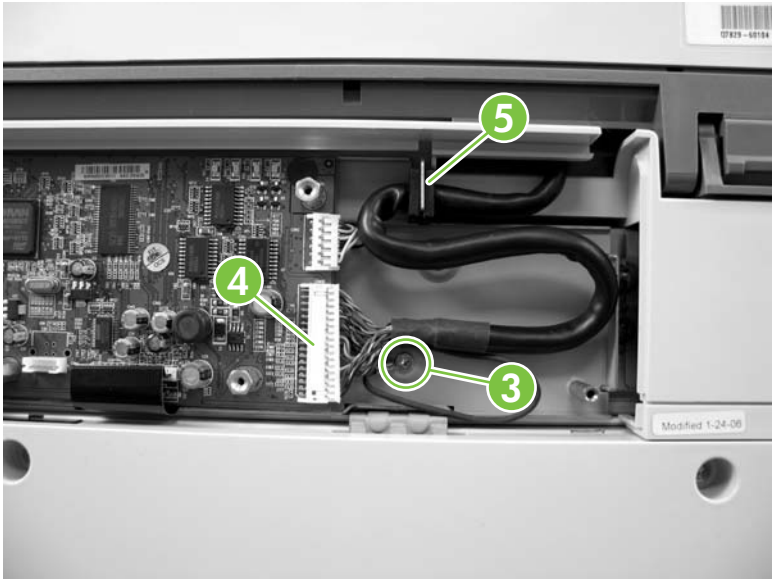
2. Remove four screws (callout 2) and remove the SCB cover.

Figure 5-39 Remove the ADF (2 of 4)



3. Remove one ground screw (callout 3) and disconnect one connector (callout 4). Slide the wire harness retainer (callout 5) out of the clip on the chassis.

Figure 5-40 Remove the ADF (3 of 4)



4. Lift the ADF up and off of the device.

NOTE: Be careful not to catch the ADF wire harness on the sharp edges of the plastic scanner covers.

Figure 5-41 Remove the ADF (4 of 4)



ADF input tray sensors

1. Open the ADF jam cover and raise the ADF input tray into the upright position. Remove two screws (callout 1) and carefully remove the input tray back plate (callout 2).

TIP: The grounding clip on the rear mounting screw is not captive. Do not lose this clip when the screw is removed.

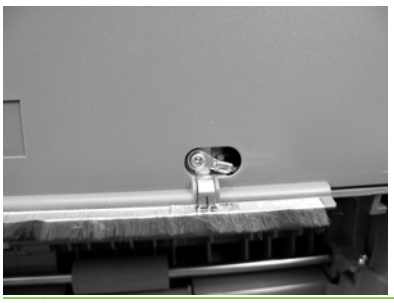
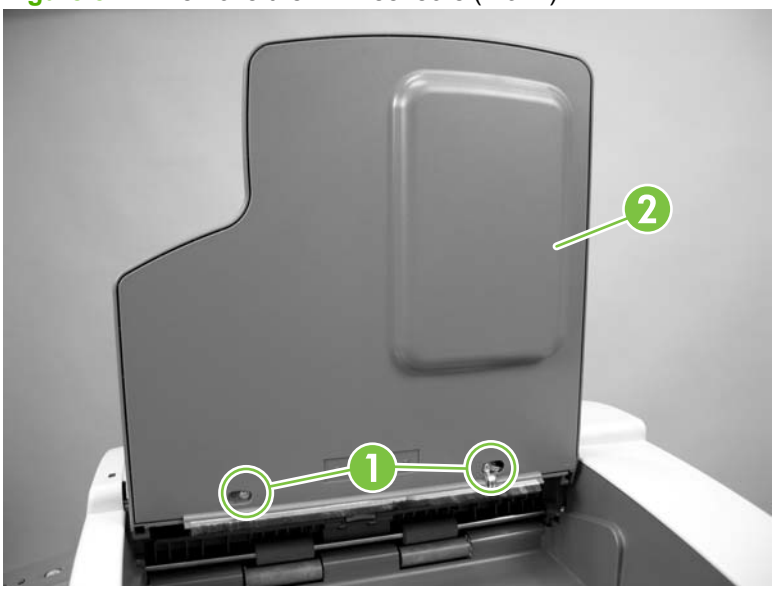
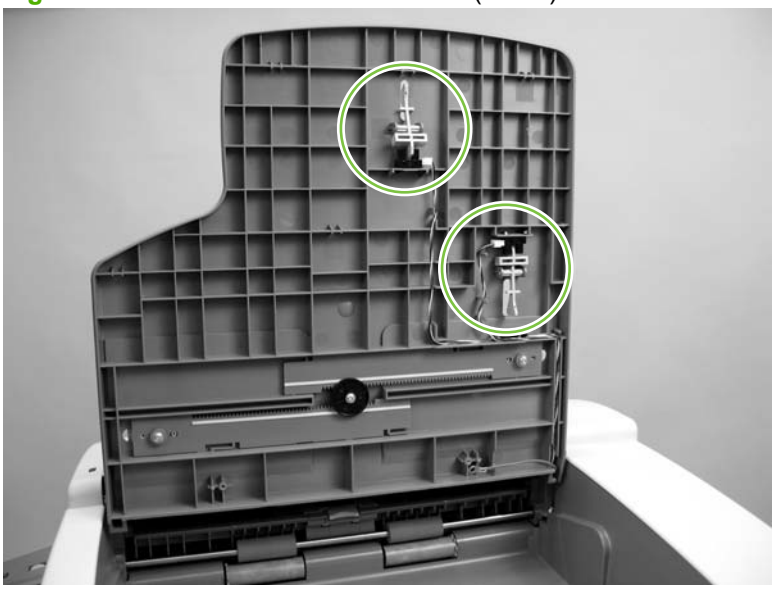


Figure 5-42 Remove the ADF sensors (1 of 2)



2. Disconnect the sensor connector and carefully remove the sensor. Repeat this step for the remaining sensor.

Figure 5-43 Remove the ADF sensors (2 of 2)



Separation floor assembly

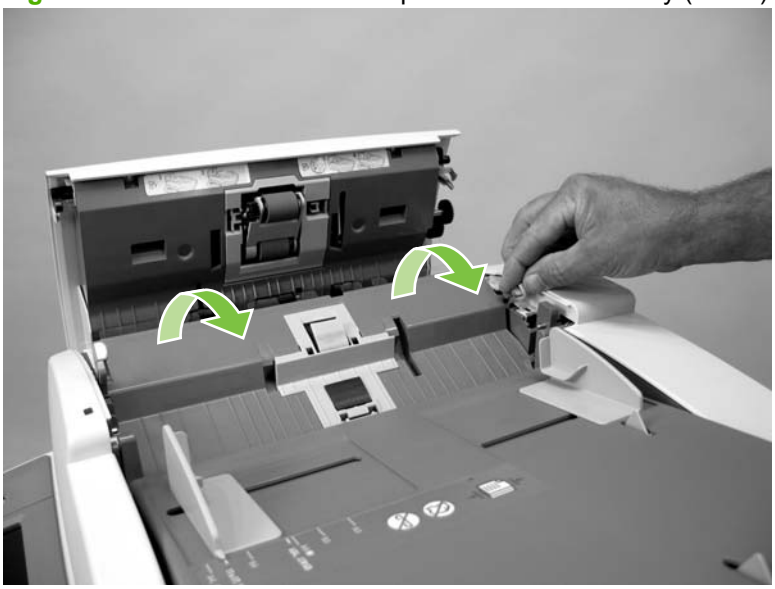
1. Open the ADF jam cover.

Figure 5-44 Remove the ADF separation floor assembly (1 of 4)



2. Rotate the separation floor assembly into the upright position.

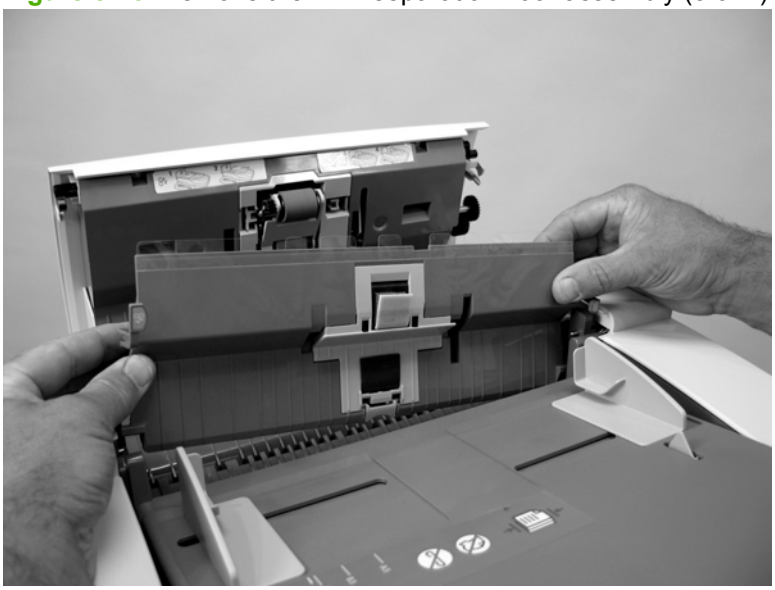
Figure 5-45 Remove the ADF separation floor assembly (2 of 4)



3. Lift up on the end of the separation floor assembly nearest the front of the device to release the keyed hinge pin.

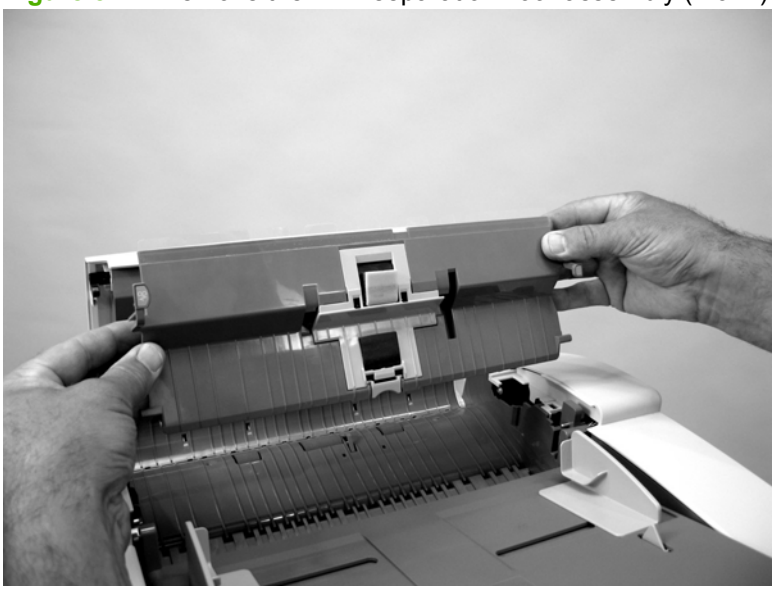
TIP: When you reinstall the separation floor assembly, make sure that the keyed hinge pin is fully seated in the ADF assembly.

Figure 5-46 Remove the ADF separation floor assembly (3 of 4)



4. Slide the separation floor assembly toward the front of the device to release the rear hinge pin and remove the assembly.

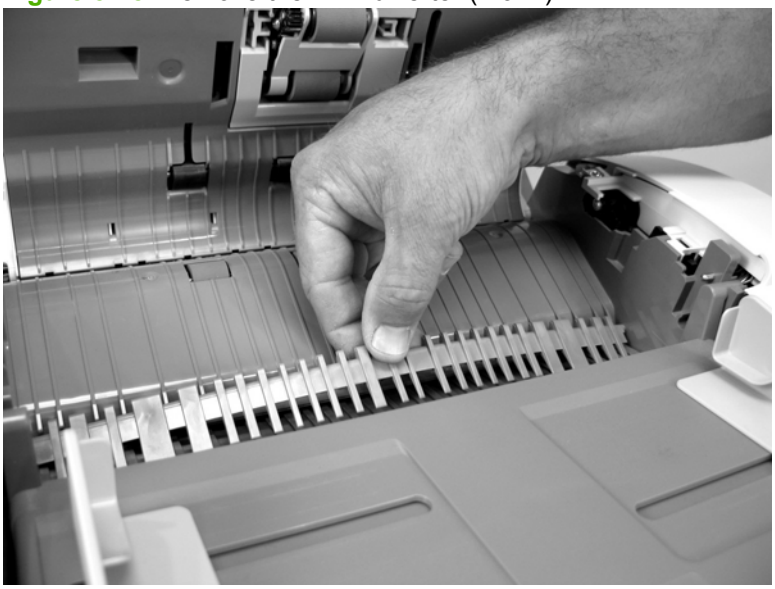
Figure 5-47 Remove the ADF separation floor assembly (4 of 4)



Diverter

1. Remove the ADF separation floor assembly. See Separation floor assembly on page 204.
2. Grasp the middle of the diverter and gently flex it up and away from the ADF.

Figure 5-48 Remove the ADF diverter (1 of 2)



3. Flex the diverter until you can release the pin nearest the front of the device and then remove the diverter.

Figure 5-49 Remove the ADF diverter (2 of 2)



Jam cover

1. Open the ADF jam cover.

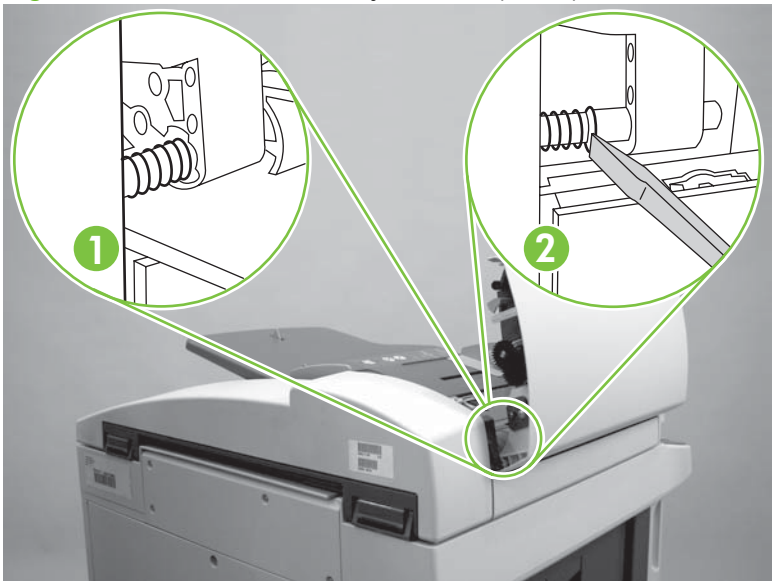
Figure 5-50 Remove the ADF jam cover (1 of 3)



2. Use a small flat-blade screw driver to rotate the retainer clip on the rear jam cover hinge pin until the groove in the shaft is exposed (callout 1). Place the tip of a small flat-blade screwdriver in the groove in the shaft and slide the shaft toward the back of the printer to release the cover (callout 2).

NOTE: Be careful not to damage the spring or dislodge the retainer clip. Slightly closing and opening the jam cover might make the shaft easier to move.

Figure 5-51 Remove the ADF jam cover (2 of 3)



3. Rotate the jam cover up and away from the ADF to remove it.

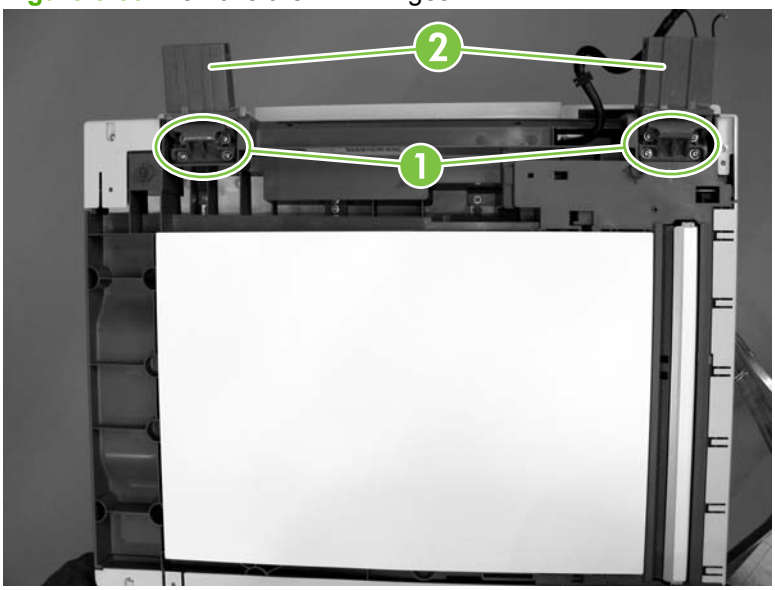
Figure 5-52 Remove the ADF jam cover (3 of 3)



Hinge assemblies

1. Remove the ADF and lay it upside down on a flat surface. See ADF assembly on page 200.
2. Remove eight screws (callout 1) and remove the ADF hinges (callout 2).

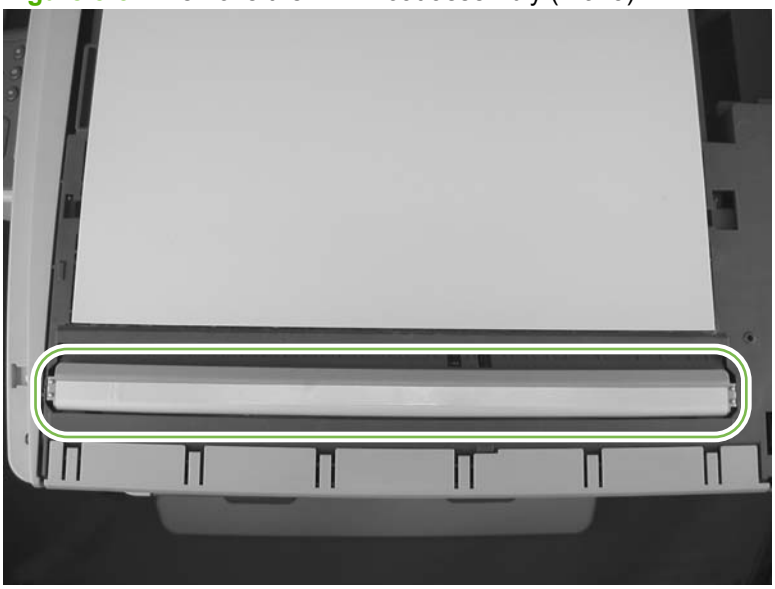
Figure 5-53 Remove the ADF hinges



Float assembly

1. Remove the ADF and lay it upside down on a flat surface. See ADF assembly on page 200.
2. Locate the float assembly.

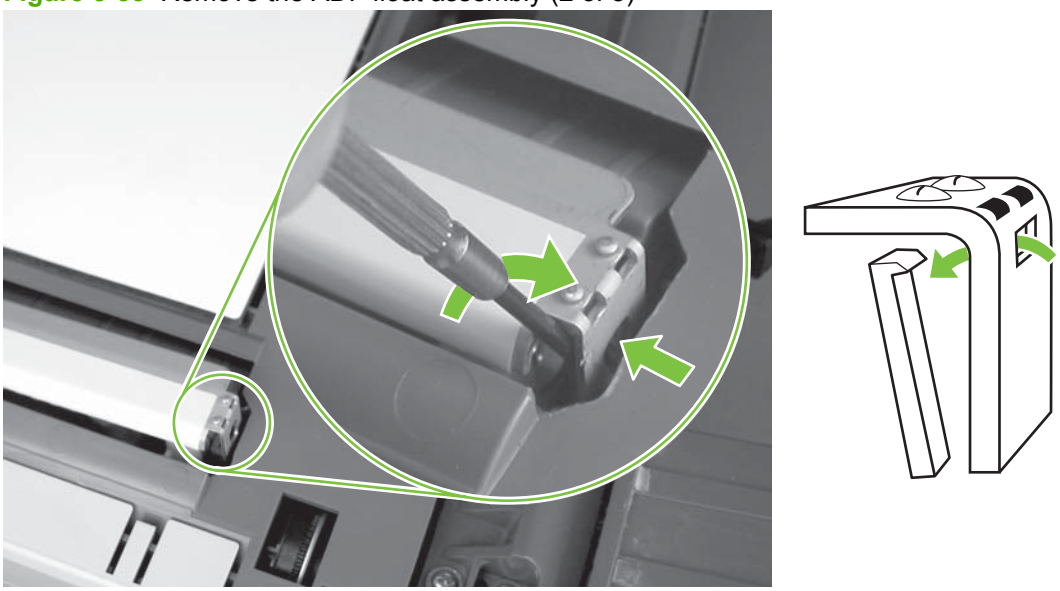
Figure 5-54 Remove the ADF float assembly (1 of 5)



3. Release one tab at the hinge end of the float assembly and carefully rotate the end of the assembly up and away from the ADF.

△ **CAUTION:** The springs behind the float assembly are not captive and can easily be lost. Always remove the ADF and place it upside down on a flat surface before you remove the float assembly.

Figure 5-55 Remove the ADF float assembly (2 of 5)



4. Release the tab at the opposite end of the float assembly and remove the assembly.

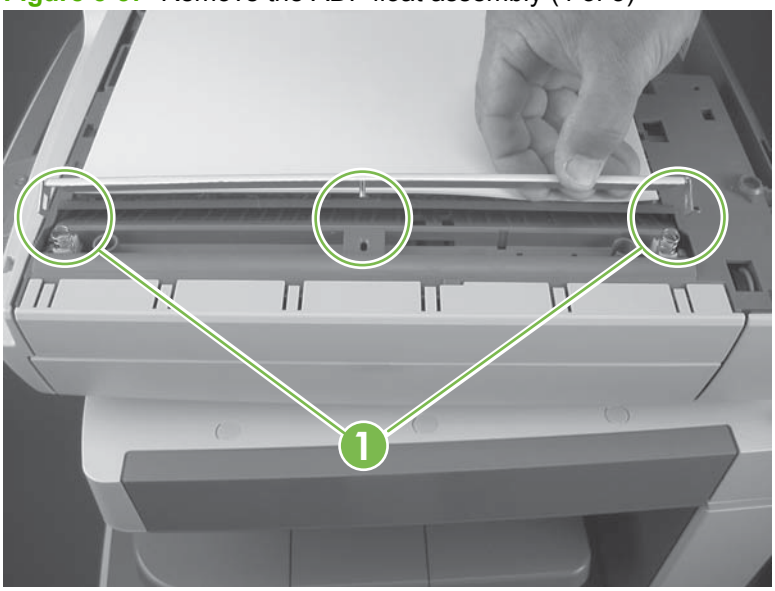
Figure 5-56 Remove the ADF float assembly (3 of 5)



5. Make sure that the springs are correctly seated in the spring holders (callout 1) when you reinstall the float assembly. The springs must be installed in the spring holders that are located closest to the locking tabs.

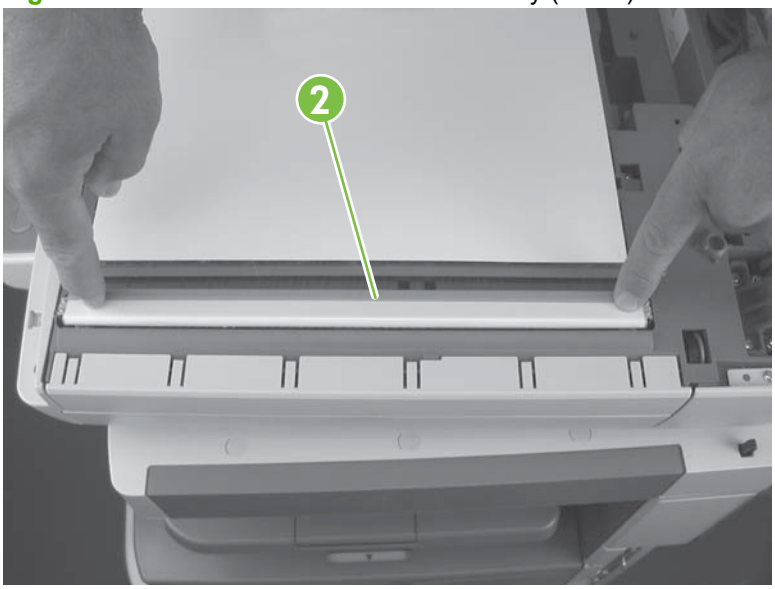
△ **CAUTION:** The pin on the bottom of the float must be placed in the hole in the ADF chassis. Make sure the pin is correctly positioned to prevent the float from being damaged when you press down on the float.

Figure 5-57 Remove the ADF float assembly (4 of 5)



6. Make sure that the metal strip (callout 2) along the edge of the float is next to the white backing when you reinstall the float. Push down on the float until the clips snap over the locking tabs at each end of the float.

Figure 5-58 Remove the ADF float assembly (5 of 5)



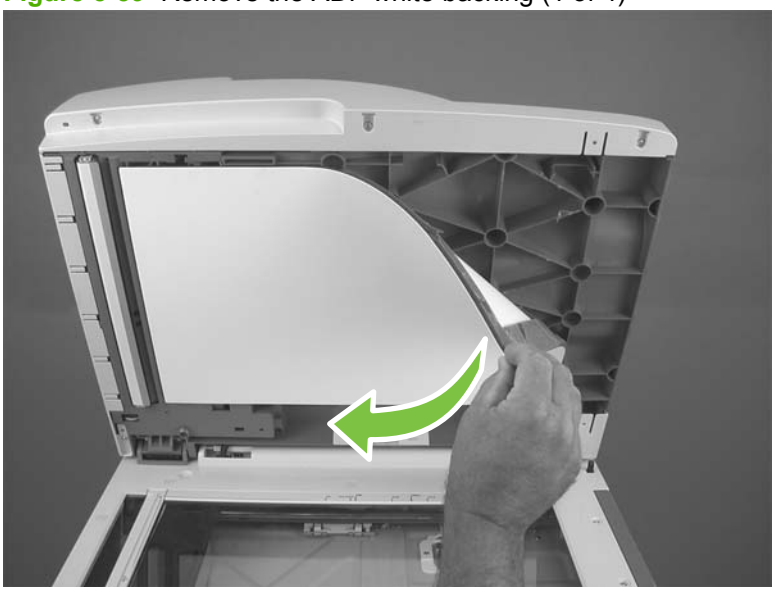
TIP: When the float assembly and springs are correctly reinstalled, the float should freely move up and down when you push on it with your finger.

White backing

1. Open the ADF.
2. Carefully pull the white backing off the ADF.

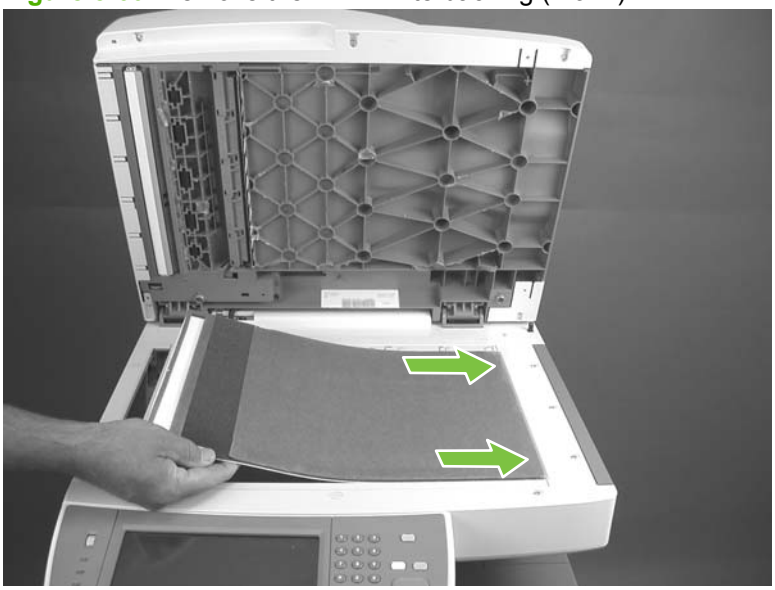
TIP: Make sure that you remove any small pieces of foam or adhesive left on the ADF after the backing is removed.

Figure 5-59 Remove the ADF white backing (1 of 4)



3. Remove the protective paper backing from the adhesive side of the replacement white backing.
4. Place the replacement backing on the scanner glass. Center the replacement backing on the glass.

Figure 5-60 Remove the ADF white backing (2 of 4)



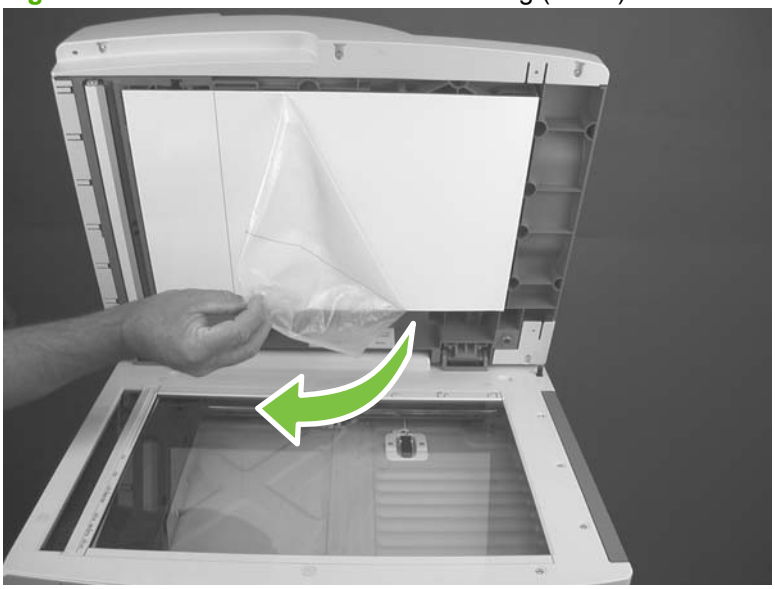
5. Close the ADF. Push down firmly to adhere the replacement backing to the ADF.

Figure 5-61 Remove the ADF white backing (3 of 4)



6. Open the ADF and carefully remove the protective plastic covering from the backing.

Figure 5-62 Remove the ADF white backing (4 of 4)

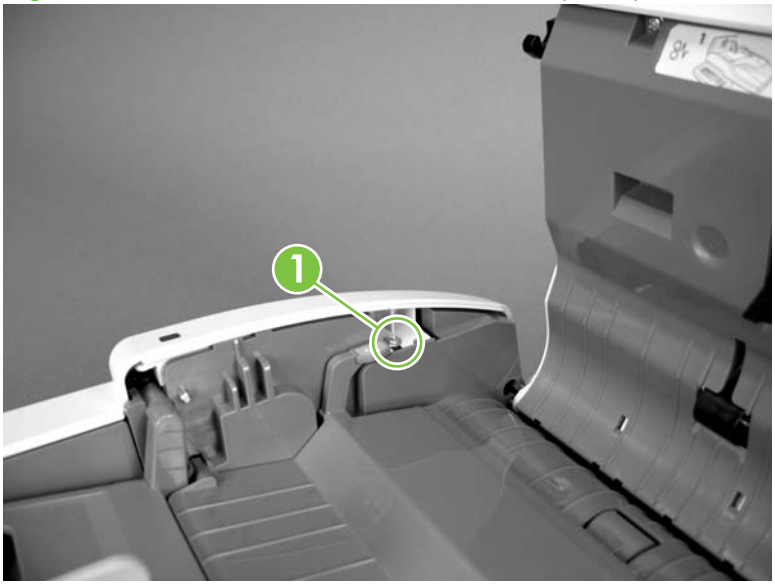


Front end cover (cap)

1. Remove the ADF. See ADF assembly on page 200.
2. Open the ADF jam cover and remove one screw (callout 1).

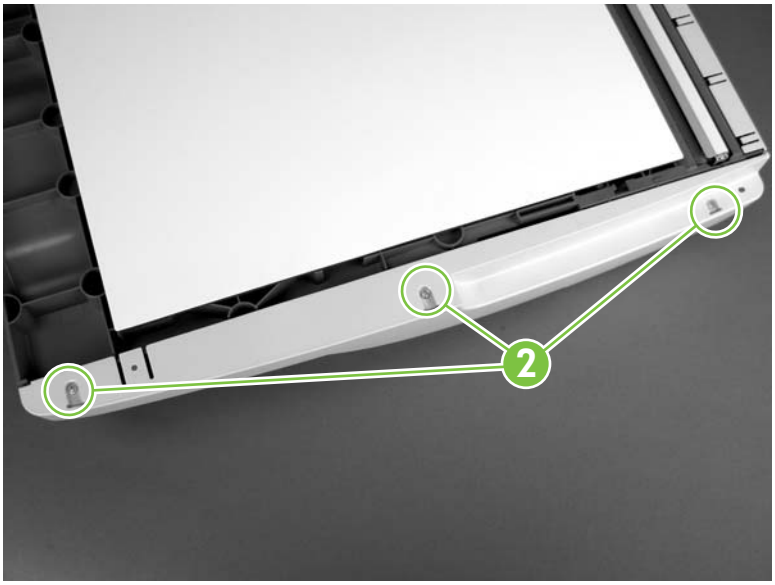
TIP: This screw has a star washer. Make sure that you use the correct screw when you reinstall the front end cover.

Figure 5-63 Remove the ADF front end cover (1 of 4)



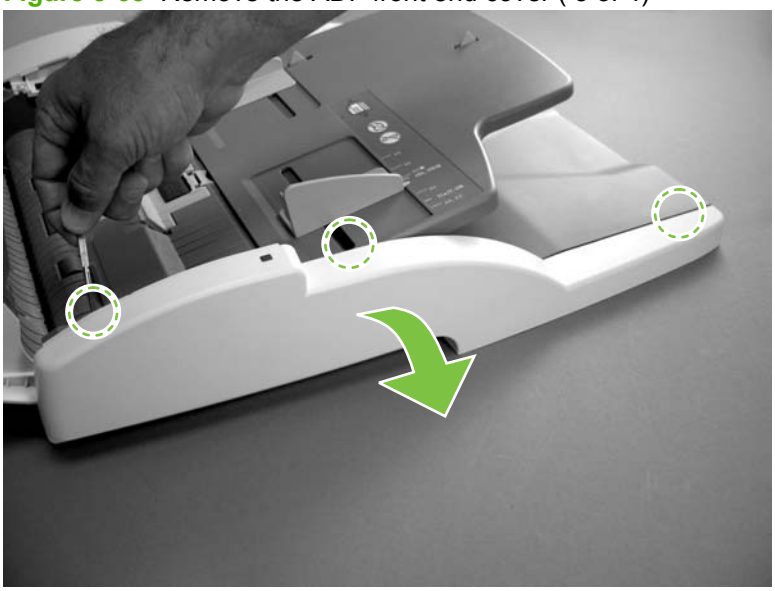
3. Turn the ADF over and remove three screws (callout 2).

Figure 5-64 Remove the ADF front end cover (2 of 4)



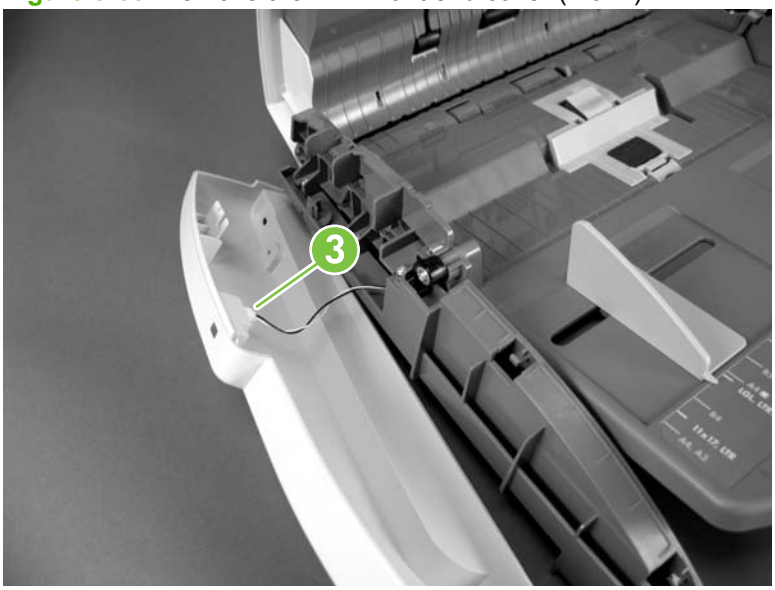
4. Use a small flat-blade screwdriver to carefully release three locking tabs.

Figure 5-65 Remove the ADF front end cover (3 of 4)



5. Carefully rotate the front end cover off and away from the ADF and disconnect one connector (callout 3).

Figure 5-66 Remove the ADF front end cover (4 of 4)

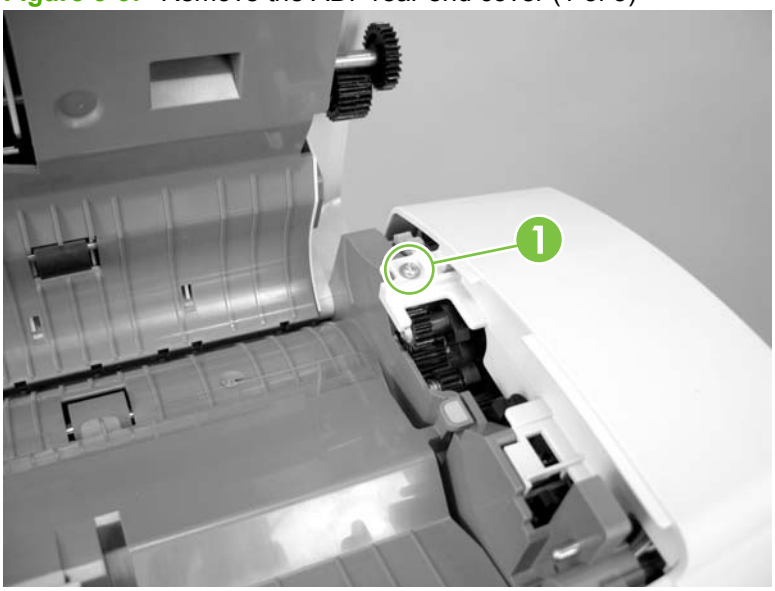


Rear end cover (cap)

1. Remove the ADF. See ADF assembly on page 200.
2. Open the ADF jam cover and remove one screw (callout 1).

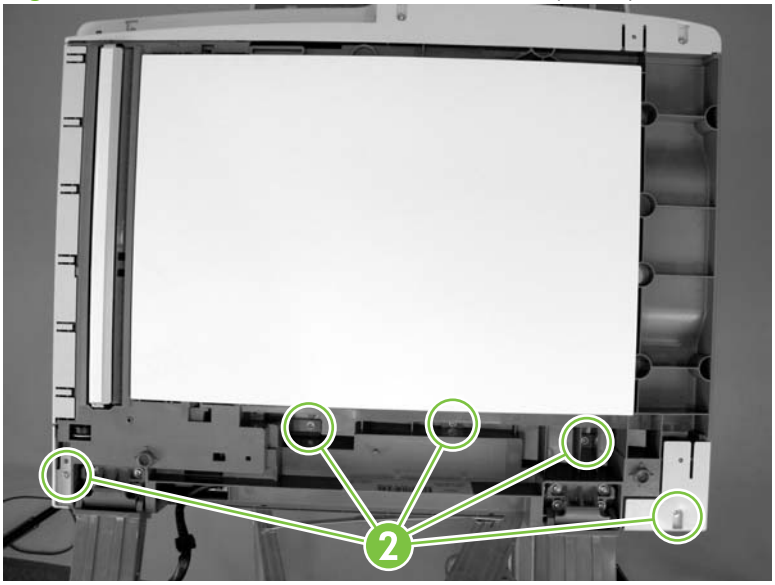
TIP: This screw has a star washer. Make sure that you use the correct screw when you reinstall the rear end cover.

Figure 5-67 Remove the ADF rear end cover (1 of 5)



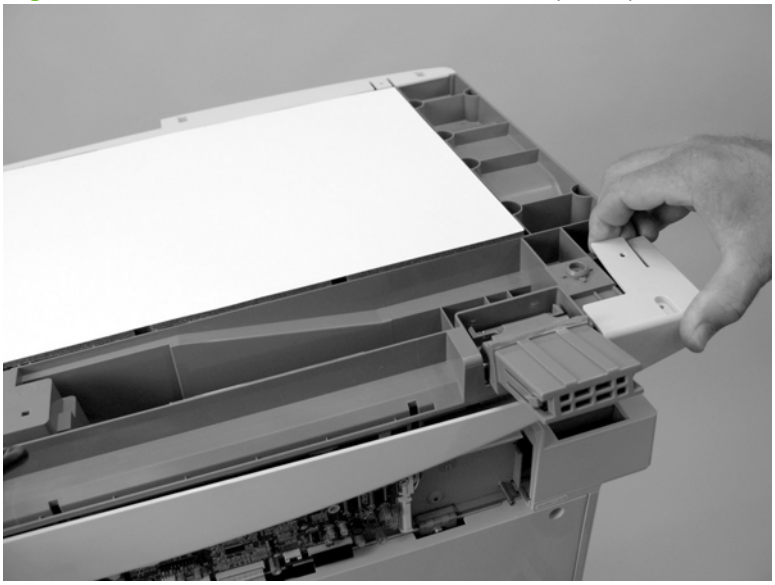
3. Turn the ADF over and remove five screws (callout 2).

Figure 5-68 Remove the ADF rear end cover (2 of 5)



4. Carefully pry the corner of the rear end cover off of the ADF.

Figure 5-69 Remove the ADF rear end cover (3 of 5)



5. Use a small flat-blade screwdriver to carefully pry the opposite corner of the rear end cap off of the ADF.

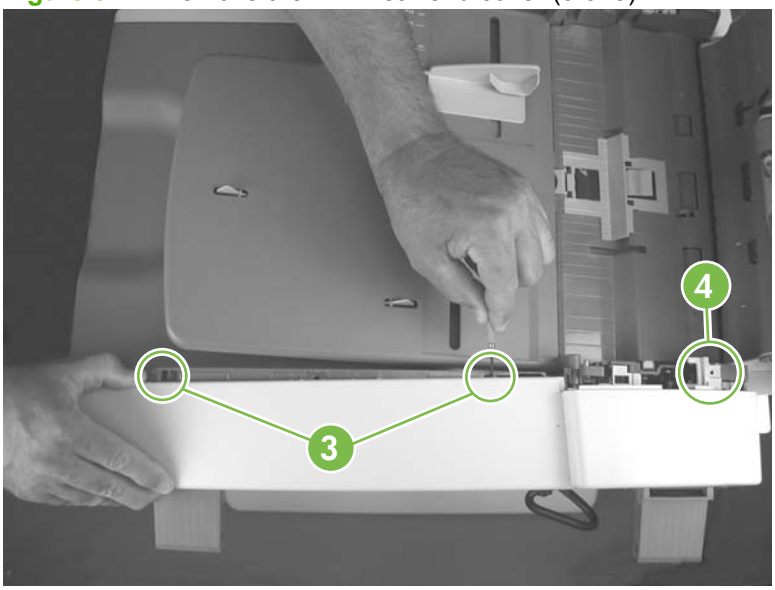
Figure 5-70 Remove the ADF rear end cover (4 of 5)



6. Carefully release two tabs (callout 3) along the top edge of the rear end cover and rotate the cover off and away from the ADF.

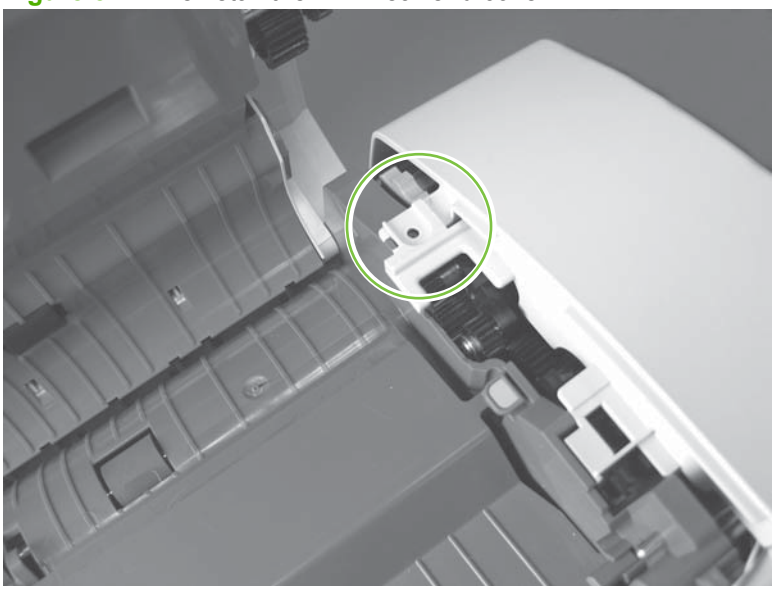
NOTE: Before you remove the cover, look at how the tab on the cover fits underneath the tab on the ADF chassis (callout 4). Make sure that you do not break the tabs when you remove the cover.

Figure 5-71 Remove the ADF rear end cover (5 of 5)



7. When you reinstall the ADF rear end cover, the tab on the cover near the ADF jam access door **must** be positioned under the tab on the ADF chassis.

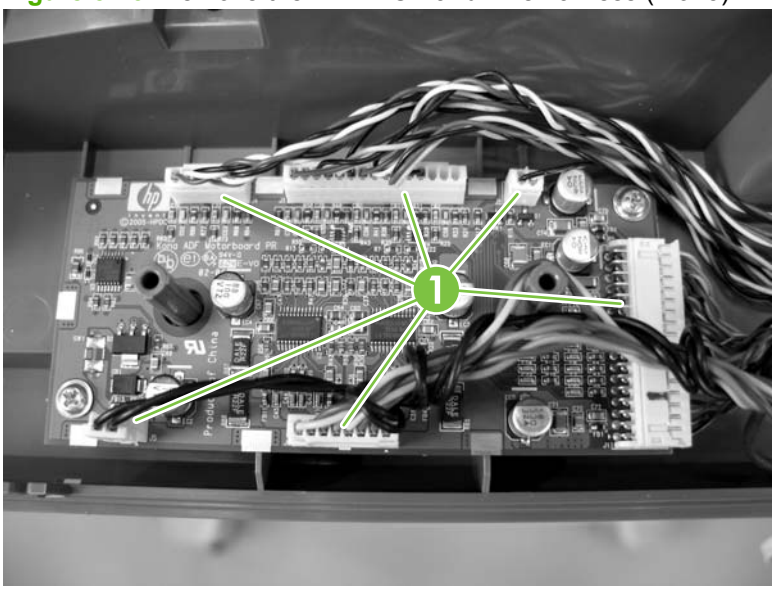
Figure 5-72 Reinstall the ADF rear end cover



ADF PCA and wire harness

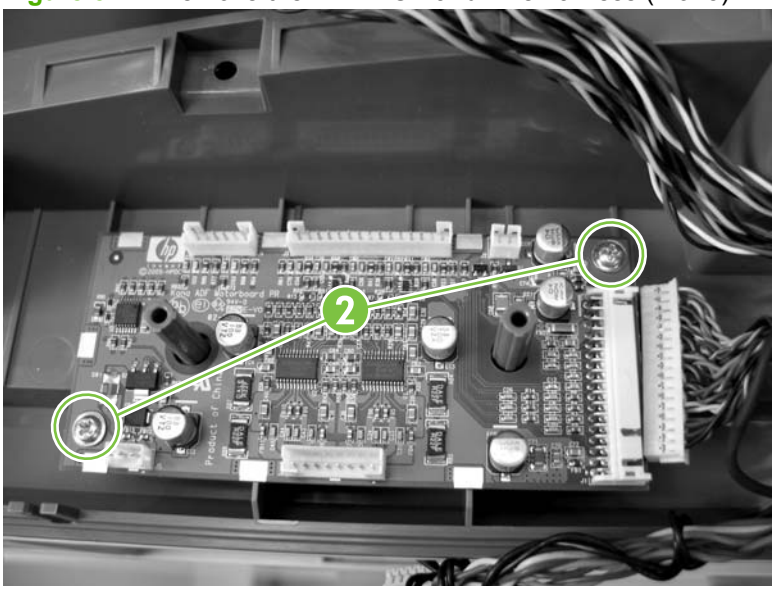
1. Remove the ADF rear end cap. See Rear end cover (cap) on page 217.
2. Disconnect six connectors (callout 1).

Figure 5-73 Remove the ADF PCA and wire harness (1 of 3)



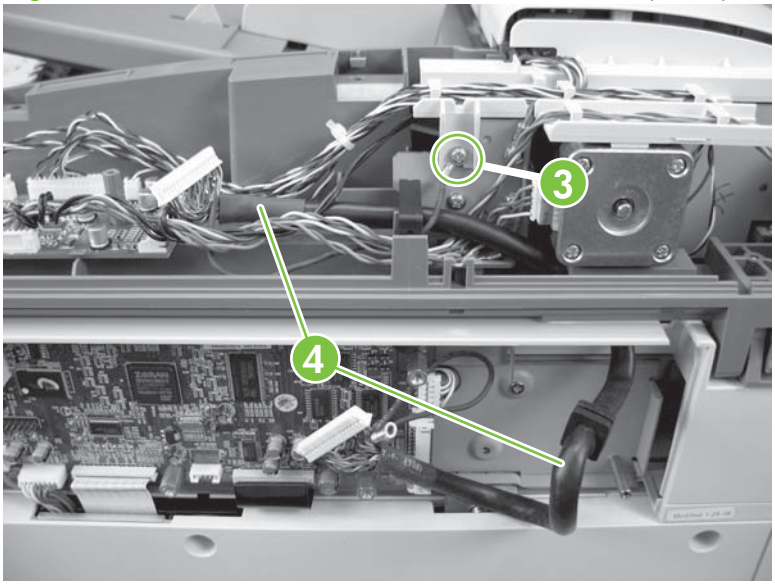
3. Remove two screws (callout 2) and remove the ADF PCA.

Figure 5-74 Remove the ADF PCA and wire harness (2 of 3)



4. Remove one ground screw (callout 3) and remove the ADF PCA wire harness (callout 4).

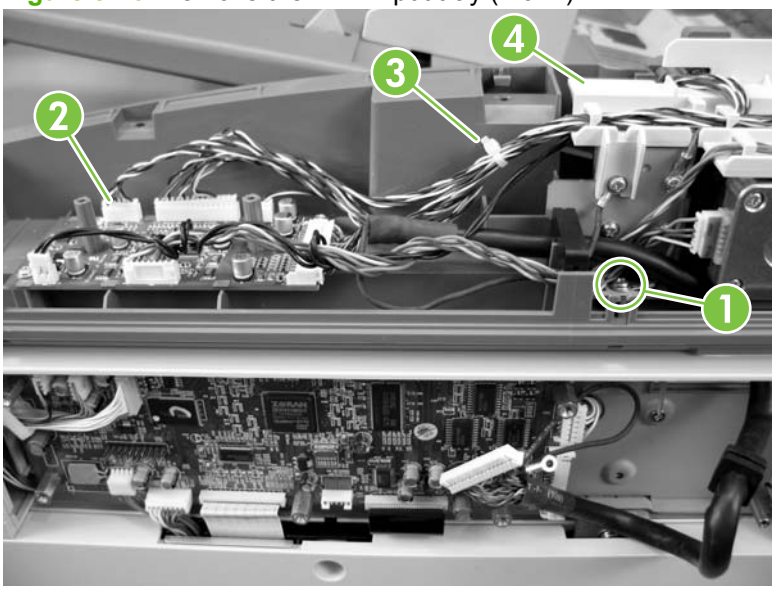
Figure 5-75 Remove the ADF PCA and wire harness (3 of 3)



Input tray

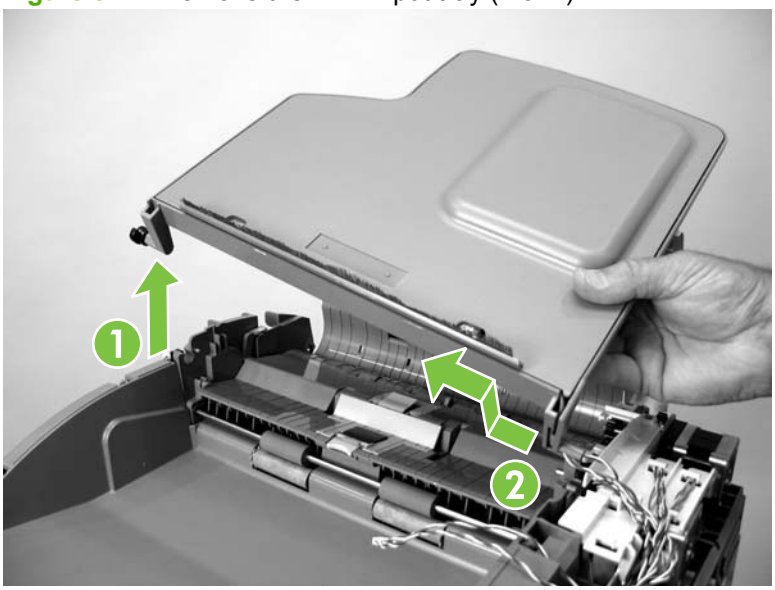
1. Remove the following components or assemblies:
   - ADF front end cap. See Front end cover (cap) on page 215.
   - ADF rear end cap. See Rear end cover (cap) on page 217.
2. Remove one ground screw (callout 1) and disconnect one connector (callout 2).
3. Clip one wire tie (callout 3) and release the ground cable and wire harness from the retainer (callout 4).

Figure 5-76 Remove the ADF input tray (1 of 2)



4. Rotate the input tray into the upright position and release the keyed hinge pin nearest the front of the ADF. Slide the tray toward the front of the ADF until the rear hinge pin clears the mounting hole and remove the input tray.

Figure 5-77 Remove the ADF input tray (2 of 2)



Scanner

- Control panel
- Scanner controller board (SCB) and cover
- Scanner assembly
- Glass assembly and top cover
- Optic assembly
- Page sensors
- Transmission assemblies and slide rail



Control panel

1. Raise the ADF.
2. Use a small flat-blade screwdriver to gently pry up the right and left control-panel overlays (callout 1) to remove them.

Figure 5-78 Remove the control panel (1 of 3)



3. Release two tabs (callout 2), and rotate the top of the control panel up and away from the device to release it from the device.

Figure 5-79 Remove the control panel (2 of 3)



4. Disconnect one connector and remove the control panel.

TIP: When you reinstall the control panel, make sure that the wire harness does not get pinched between the large ground spring and the bottom of the control panel.

Figure 5-80 Remove the control panel (3 of 3)

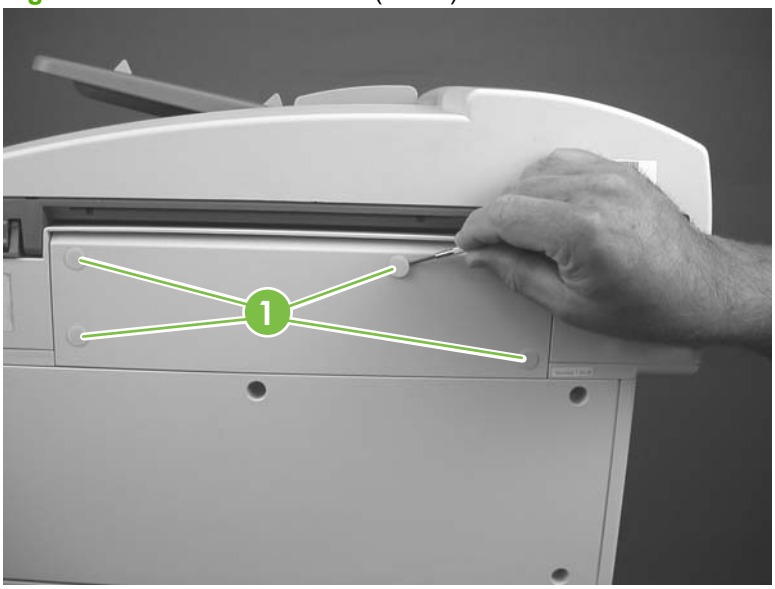


Scanner controller board (SCB) and cover

1. Use a small flat-blade screwdriver to carefully remove four adhesive caps (callout 1).

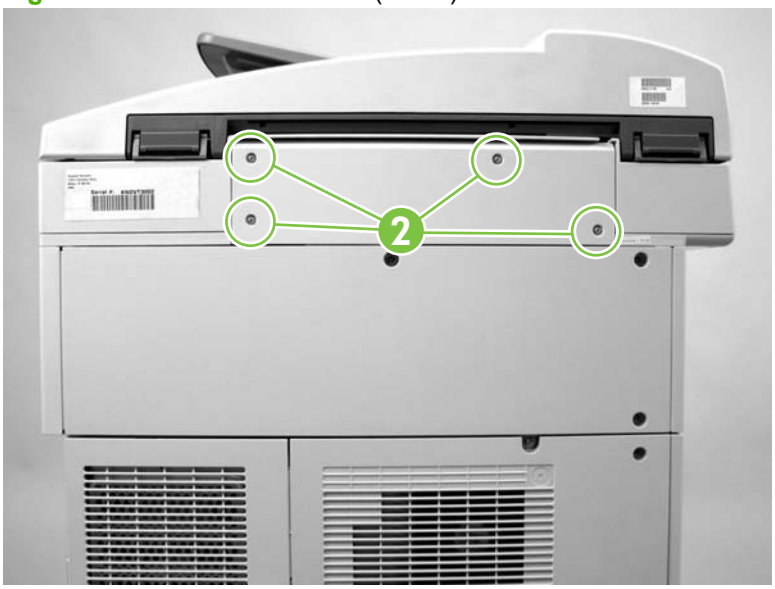
NOTE: Do not damage the caps when you remove them. Do not excessively handle the adhesive side of the caps. Skin oils will damage the adhesive on the back of the caps.

Figure 5-81 Remove the SCB (1 of 4)



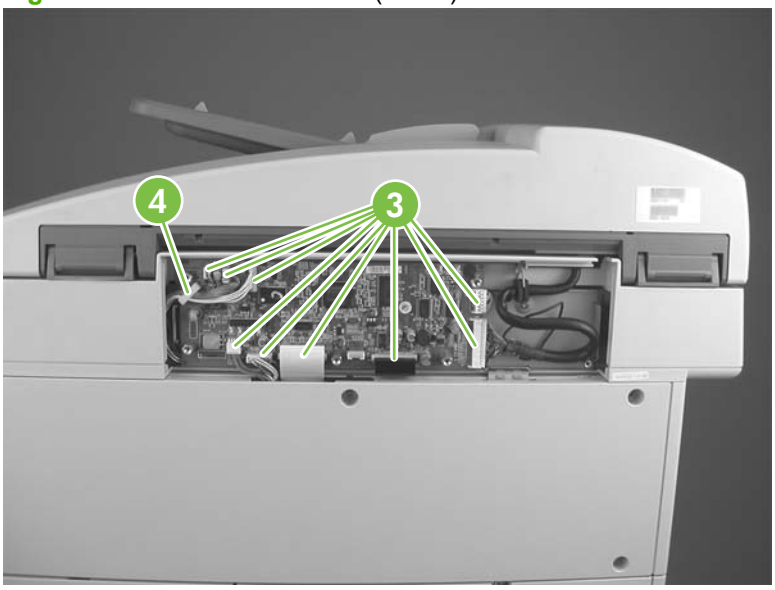
2. Remove four screws (callout 2) and remove the cover.

Figure 5-82 Remove the SCB (2 of 4)



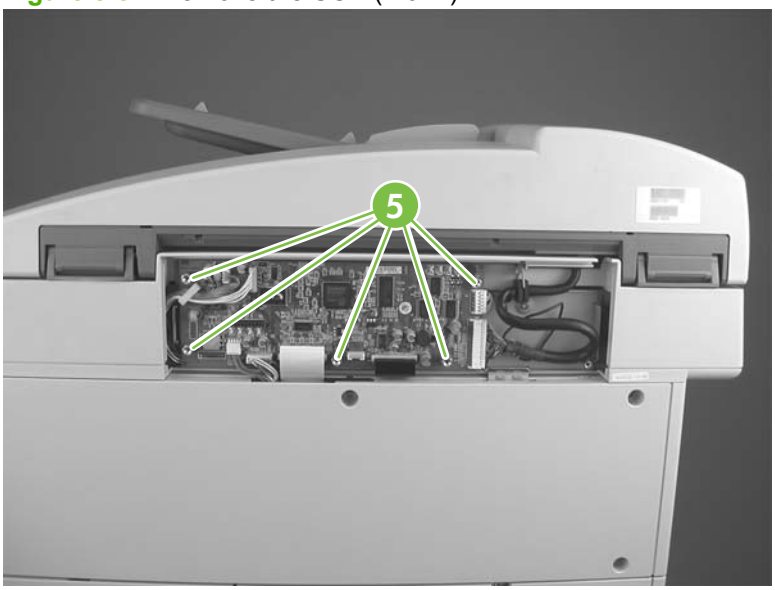
3. Disconnect nine connectors (callout 3; seven wire harness connectors and two FFCs). Release one wire harness retainer (callout 4).

Figure 5-83 Remove the SCB (3 of 4)



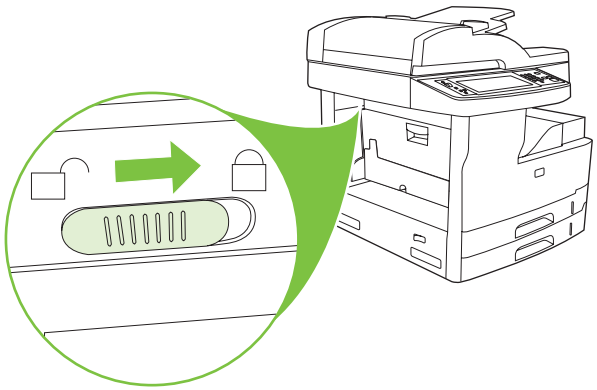
4. Remove five standoff screws (callout 5) and remove the SCB PCA.

Figure 5-84 Remove the SCB (4 of 4)



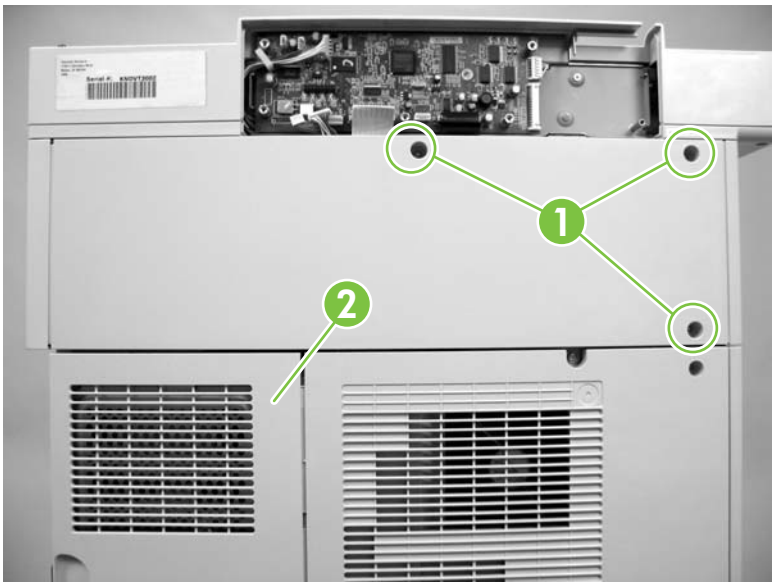
Scanner assembly

⚠ **WARNING!** Always engage the scanner lock before you remove the scanner assembly. The optic assembly is not captive and can be damaged when the scanner assembly is removed from the device.



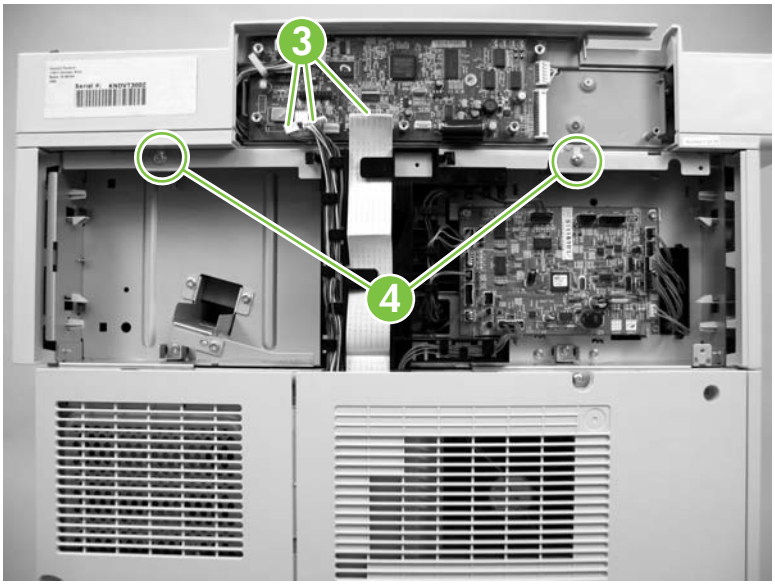
1. Remove the following components or assemblies:
   - ADF. See ADF assembly on page 200.
   - Control panel. See Control panel on page 224.
2. Remove three screws (callout 1) and the stapler back cover.

Figure 5-85 Remove the scanner (1 of 4)



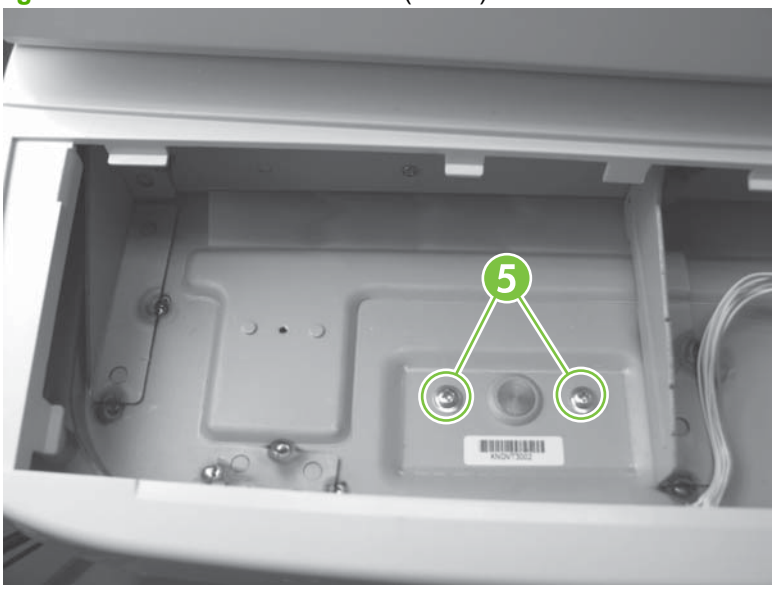
3. Disconnect three connectors (callout 3) and remove two screws (callout 4).

Figure 5-86 Remove the scanner (2 of 4)



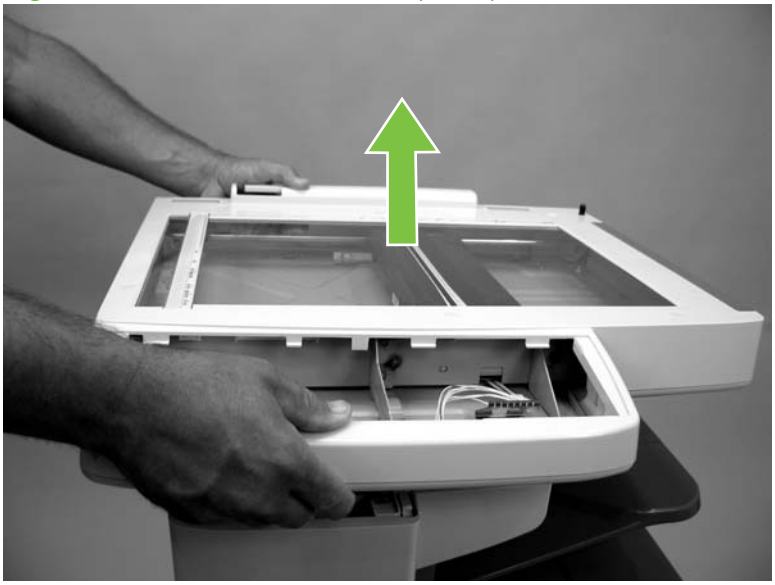
4. Remove two screws (callout 5).

Figure 5-87 Remove the scanner (3 of 4)



5. Lift the scanner up and off of the device to remove it.

Figure 5-88 Remove the scanner (4 of 4)



Glass assembly and top cover

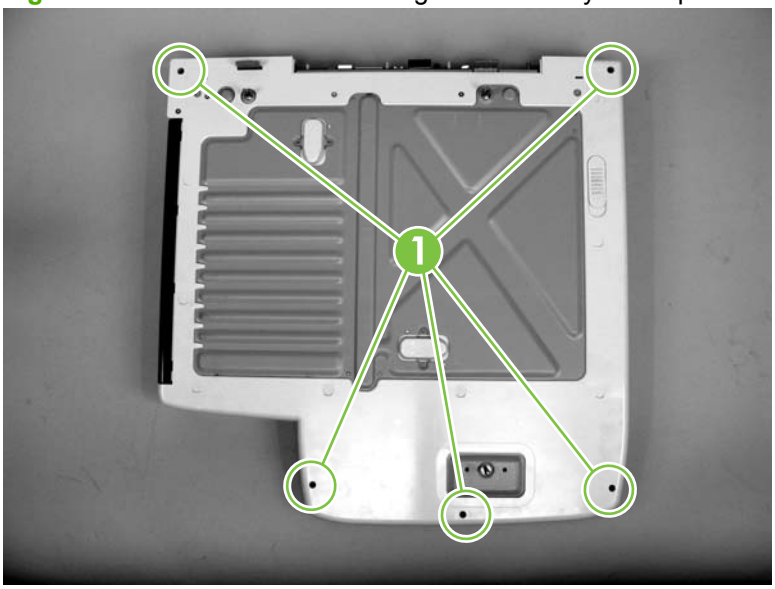
△ **CAUTION:** Handle the glass carefully. An adhesive strip connects the small ADF-scanner glass to the large flatbed glass. To prevent the glass assembly from separating, you *must* carefully handle the glass assembly.

To avoid print quality problems, make sure that you do not leave fingerprints on the underside of the glass assembly.

1. Remove the following components or assemblies:
   - ADF. See ADF assembly on page 200.
   - Scanner. See Scanner assembly on page 228.
2. Turn the scanner upside down and remove five black screws (callout 1).

△ **CAUTION:** These are self tapping screws. To install a self-tapping screw, first turn it counterclockwise to align it with the existing thread pattern, and then carefully turn it clockwise to tighten. Do not overtighten.

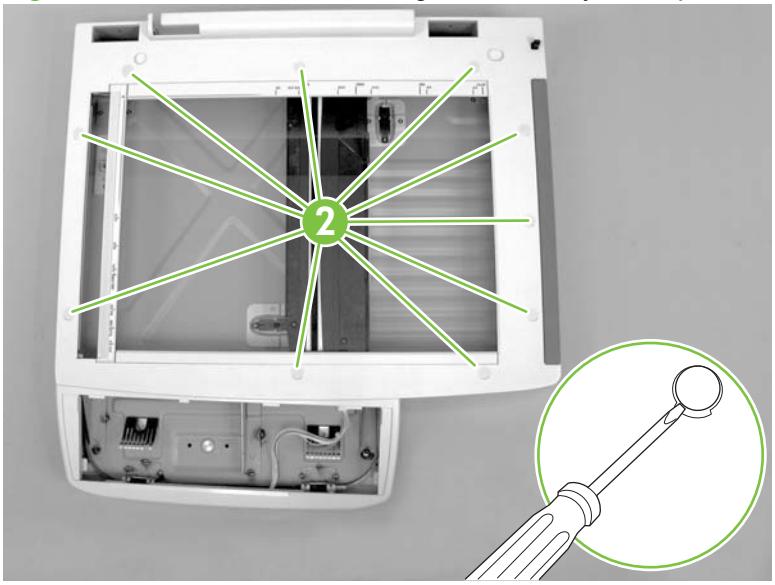
Figure 5-89 Remove the scanner glass assembly and top cover (1 of 7)



3. Turn the scanner glass-side up and use a small flat-blade screwdriver to carefully remove ten adhesive screw caps (callout 2) Remove the ten screws that are exposed when the caps are removed.

NOTE: Do not damage the caps when you remove them. Do not excessively handle the adhesive side of the caps. Skin oils will damage the adhesive on the back of the caps.

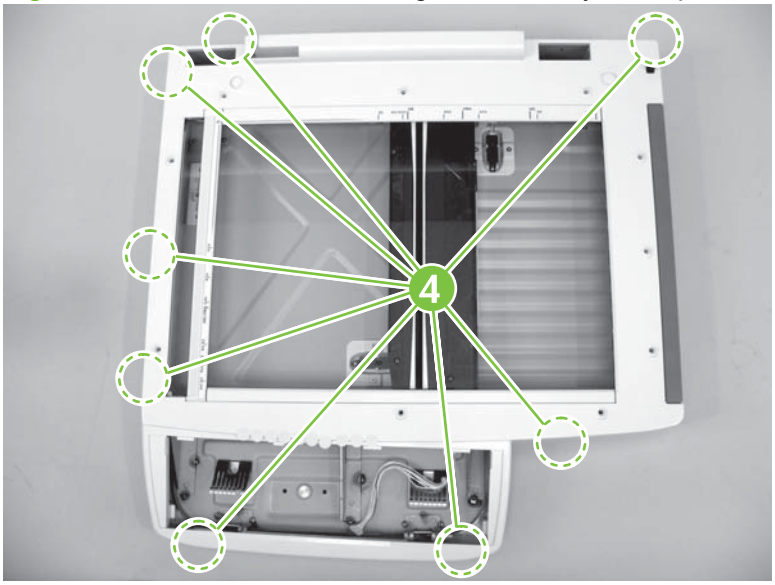
Figure 5-90 Remove the scanner glass assembly and top cover (2 of 7)



4. Use a small flat-blade screwdriver to release the remaining eight tabs (callout 4) around the outside edge of the scanner top cover.

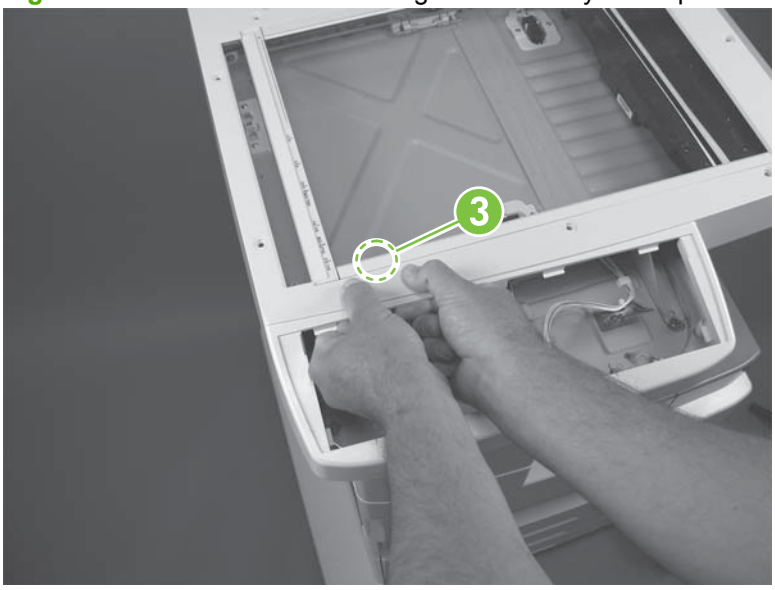
TIP: Release the outside edge top cover tabs by starting near the right hand corner of the scanner opening and working in a clockwise direction around the cover, and then releasing the inner tab.

Figure 5-91 Remove the scanner glass assembly and top cover (4 of 7)



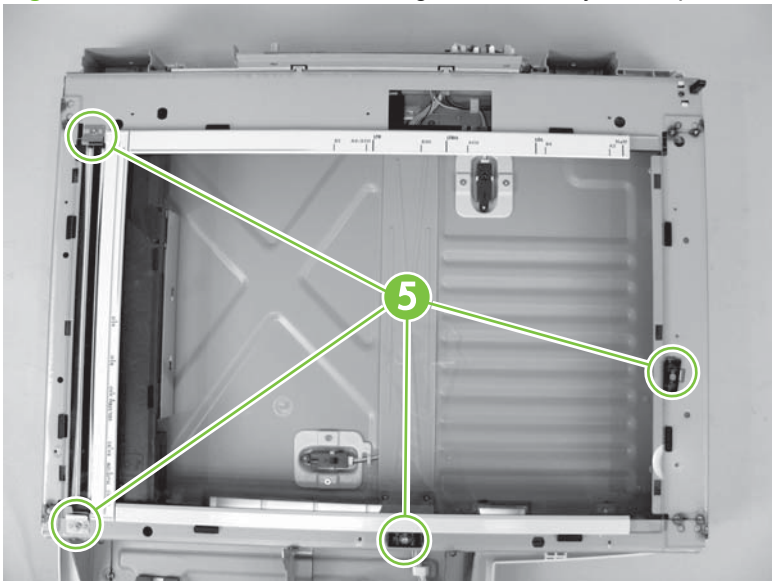
5. Grasp the top cover and gently twist the cover to release the one tab (callout 3) near the control panel cavity.

Figure 5-92 Remove the scanner glass assembly and top cover (3 of 7)



6. Remove four screws and four glass clips (callout 5).

Figure 5-93 Remove the scanner glass assembly and top cover (5 of 7)

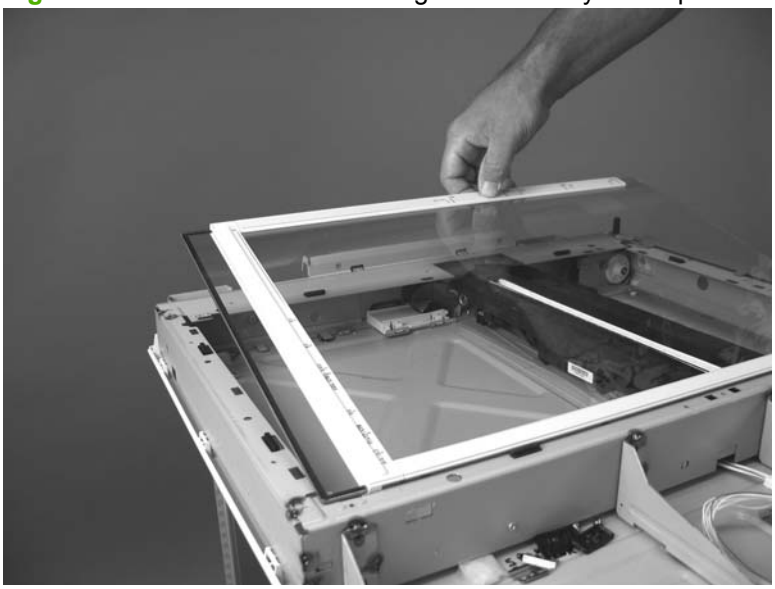


7. Carefully lift the glass off of the scanner.

△ **CAUTION:** Handle the glass carefully. An adhesive strip connects the small ADF-scanner glass to the large flatbed glass. To prevent the glass assembly from separating, you *must* carefully handle the glass assembly.

To avoid print quality problems, make sure that you do not leave fingerprints on the underside of the glass assembly.

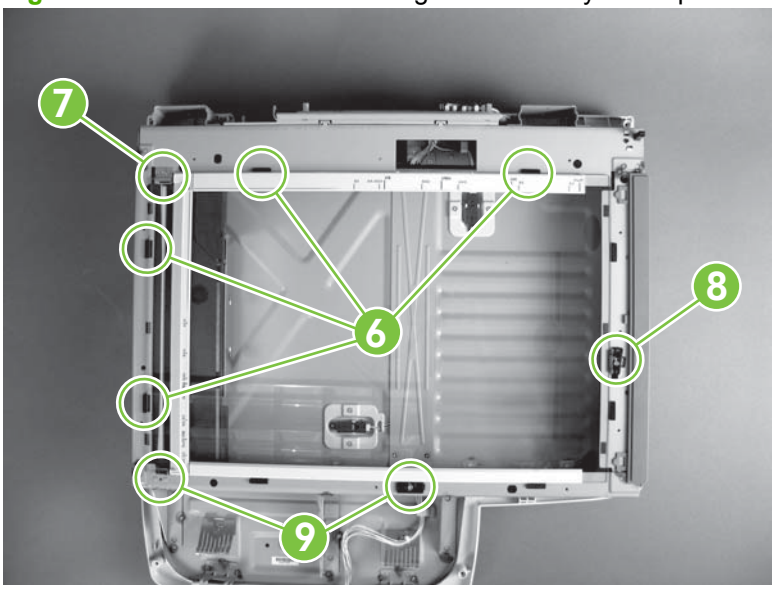
Figure 5-94 Remove the scanner glass assembly and top cover (6 of 7)



8. When you reinstall the assembly, register the glass against the top and left edge rubber cushions (callout 6). Reinstall and tighten the upper left clip and screw (callout 7). Reinstall the sliding glass clip tight against the glass and tighten the screw (callout 8). Reinstall and tighten the lower left and bottom clips and screws (callout 9).

△ **CAUTION:** To avoid print quality problems, make sure that you do not leave fingerprints on the underside of the glass assembly.

Figure 5-95 Remove the scanner glass assembly and top cover (7 of 7)

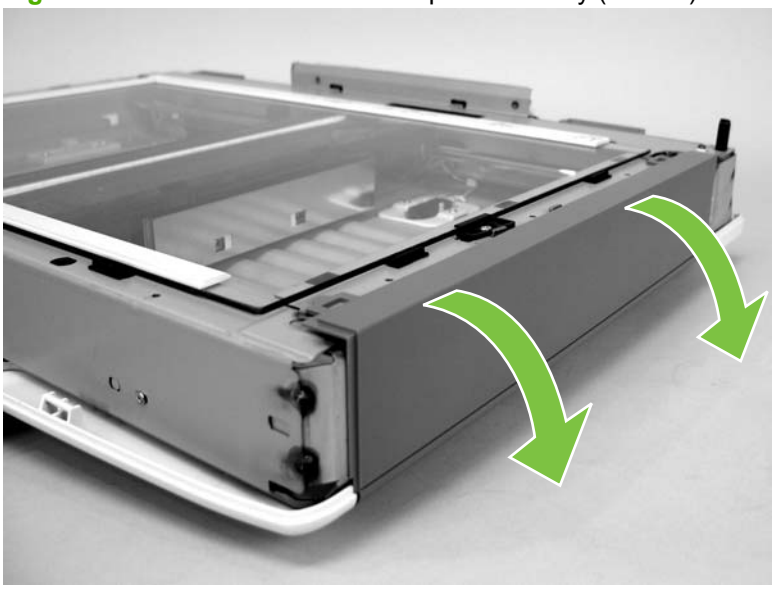


Optic assembly

△ **CAUTION:** Do *not* touch the lens, mirrors, or lamp when handling the optic assembly.

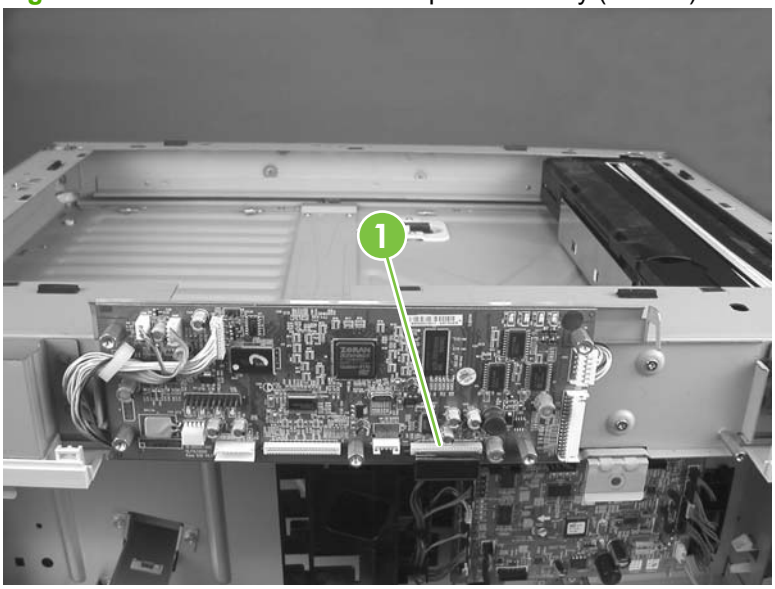
1. Remove the following components or assemblies:
   - ADF. See ADF assembly on page 200.
   - Scanner. See Scanner assembly on page 228.
   - Scanner glass assembly and top cover. See Glass assembly and top cover on page 231.
2. Rotate the scanner right cover away from the scanner to remove it.

Figure 5-96 Remove the scanner optic assembly (1 of 13)



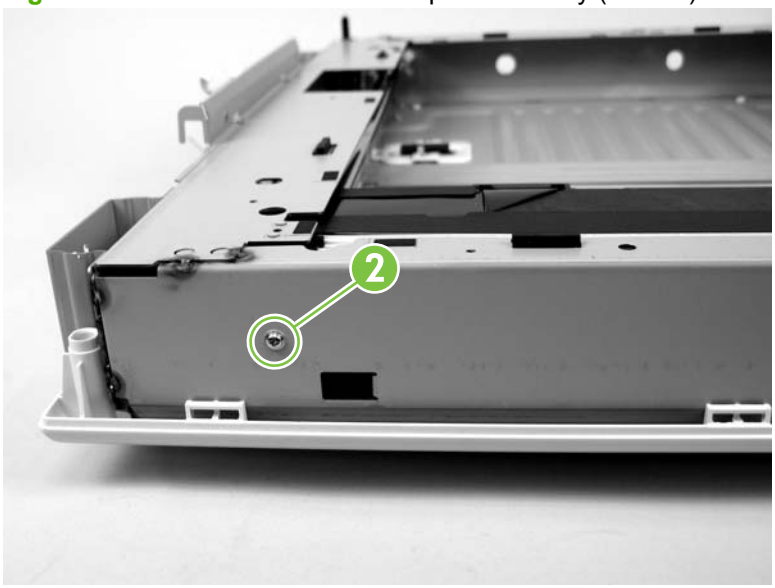
3. Disconnect one FFC (callout 1).

Figure 5-97 Remove the scanner optic assembly (2 of 13)



4. Remove one screw (callout 2) at the left side of the scanner assembly to release the optic assembly slide bar.

Figure 5-98 Remove the scanner optic assembly (3 of 13)

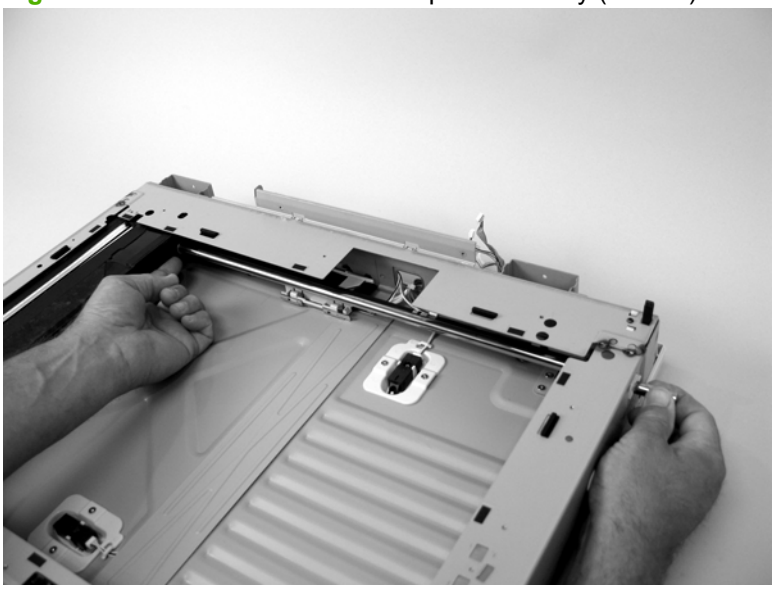


5. Unlock the scanner lock (the lock was engaged when the scanner was removed from the device). See the warning at the beginning of Scanner assembly on page 228.

6. Support the optic assembly and slightly move the shaft to the right.

△ **CAUTION:** Avoid touching the optic assembly scanner bulb. Skin oils can damage the bulb when it is in use and hot.

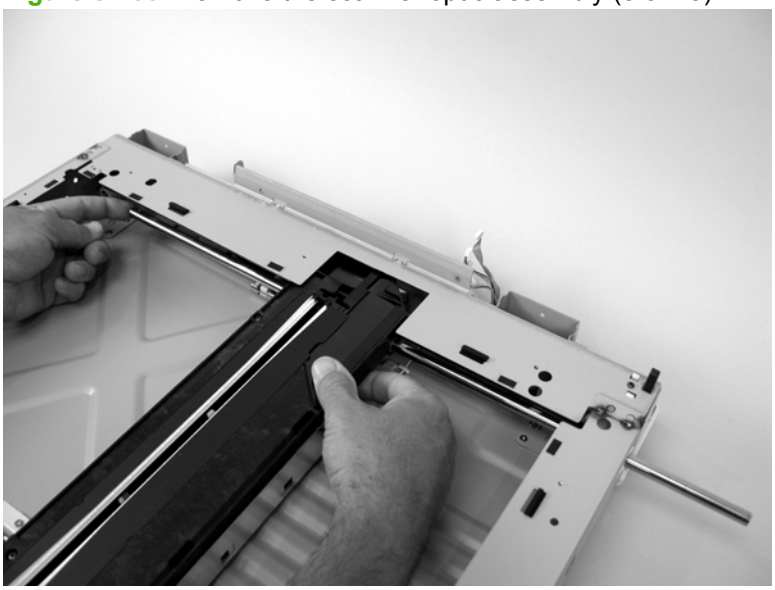
Figure 5-99 Remove the scanner optic assembly (4 of 13)



7. Carefully slide the optic assembly to the center of the flatbed and push the shaft out of the assembly and the flatbed.

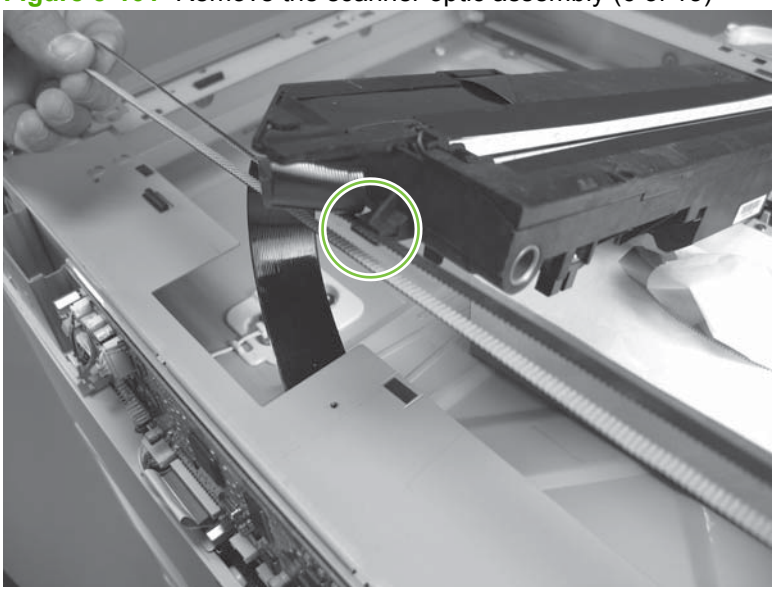
△ **CAUTION:** Avoid touching the optic assembly scanner bulb. Skin oils can damage the bulb when it is in use and hot.

Figure 5-100 Remove the scanner optic assembly (5 of 13)



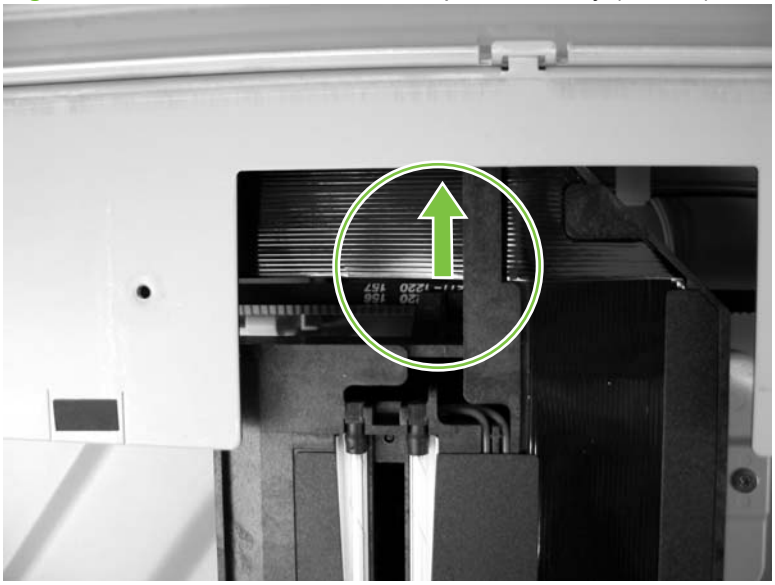
8. Figure 5-101 Remove the scanner optic assembly (6 of 13) on page 238 shows the optic assembly and drive belt removed from the scanner bed. Note how and where the drive belt engages the optic assembly. Proceed to the next step to release the drive belt from the optic assembly.

Figure 5-101 Remove the scanner optic assembly (6 of 13)



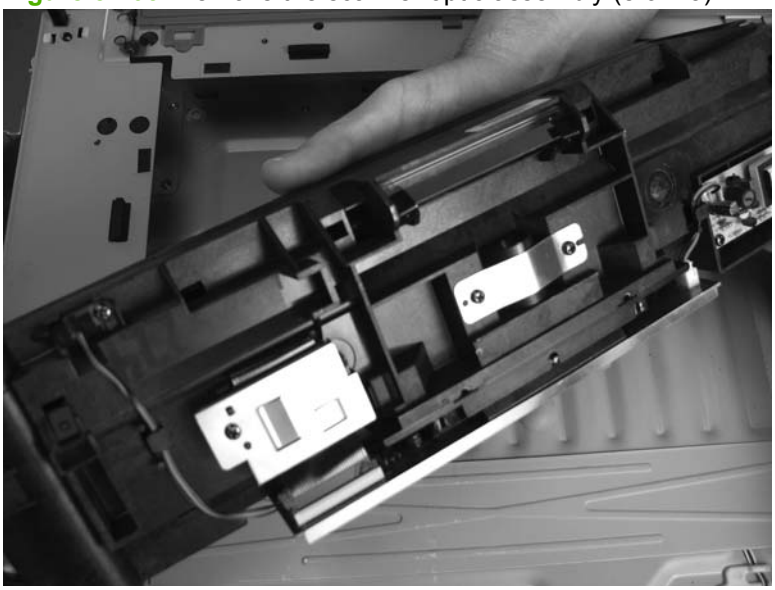
9. Use your finger to carefully disengage the drive belt from the optic assembly.

Figure 5-102 Remove the scanner optic assembly (7 of 13)



10. Figure 5-103 Remove the scanner optic assembly (8 of 13) on page 239 shows the optic assembly removed from the scanner bed. Note the location of components underneath the assembly. Do not touch these components. Proceed to the next step to remove the optic assembly.

Figure 5-103 Remove the scanner optic assembly (8 of 13)

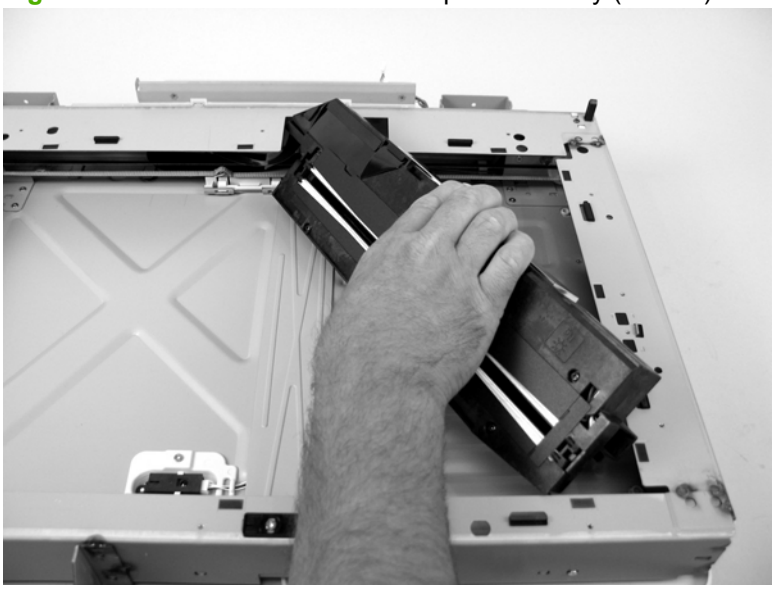


11. Grasp the optic assembly by the sides and carefully remove it from the scanner bed and place it on the scanner chassis.

△ **CAUTION:** Do *not* touch the lens, mirrors, lamp, or components underneath the assembly when handling the optic assembly.

The sheet-metal edges of the scanner chassis are sharp and can damage the optic assembly FFC.

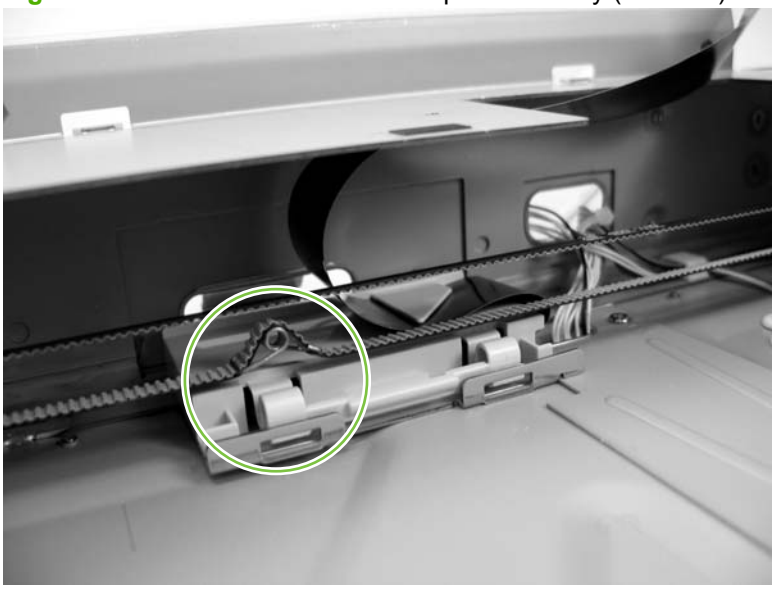
Figure 5-104 Remove the scanner optic assembly (9 of 13)



12. Before you proceed, note where the optic drive belt tension clip is positioned on the belt in relation to the plastic FFC retainer (remember, the optic assembly was previously centered in the scanner bed).

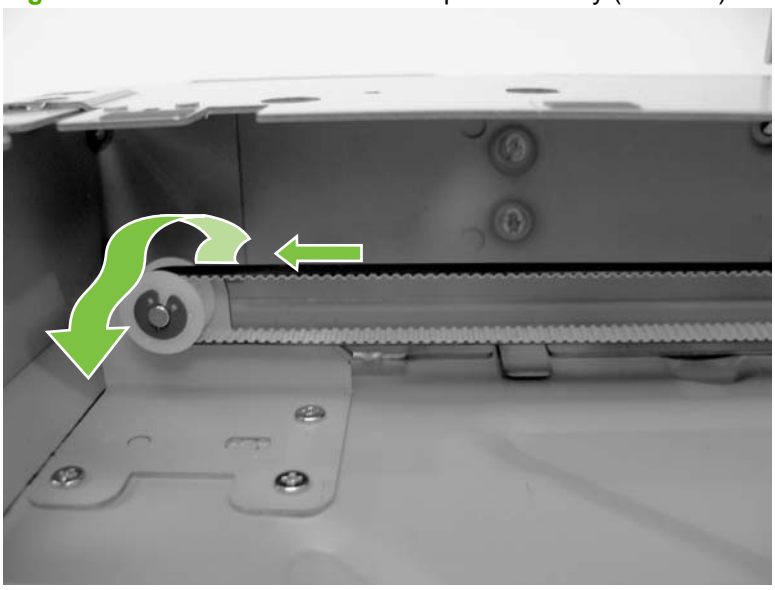
If the belt tension clip is not correctly positioned when the optic is reinstalled, it will interfere with the belt drive pulleys when the optic moves.

Figure 5-105 Remove the scanner optic assembly (10 of 13)



13. Grasp the left end of the scanner drive belt and carefully rotate the belt toward the left while you slip the belt over and off of the pulley.

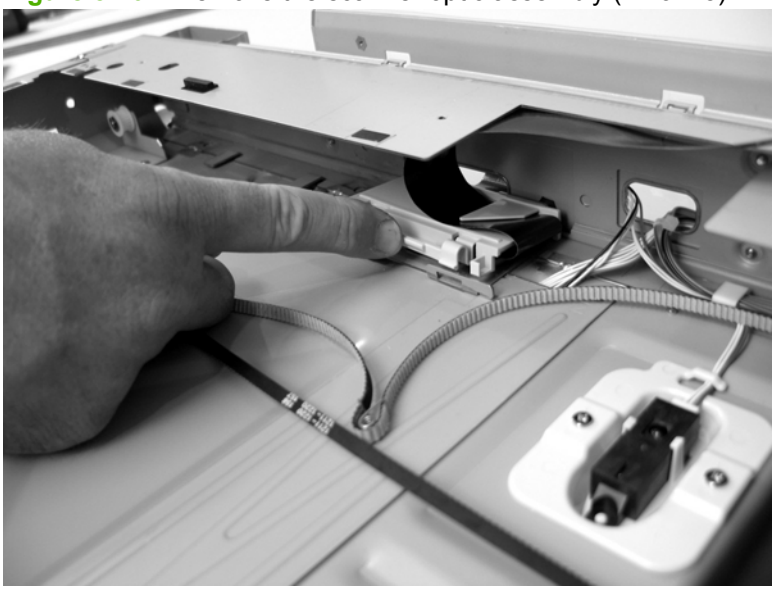
Figure 5-106 Remove the scanner optic assembly (11 of 13)



14. Release two tabs on the FFC retainer. Carefully pass the FFC through the opening in the scanner chassis (behind the PCA) into the scanner bed.

TIP: It might be easier to pass the FFC into the scanner bed if you remove the scanner PCA.

Figure 5-107 Remove the scanner optic assembly (12 of 13)



15. Carefully remove the FFC and retainer from the scanner bed. Remove the scanner optic assembly.

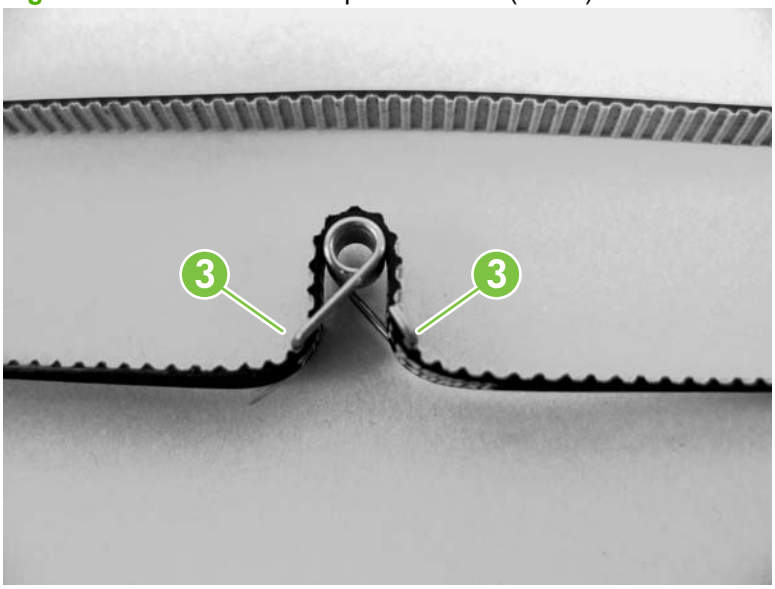
Figure 5-108 Remove the scanner optic assembly (13 of 13)



To reinstall the drive belt and optic assembly

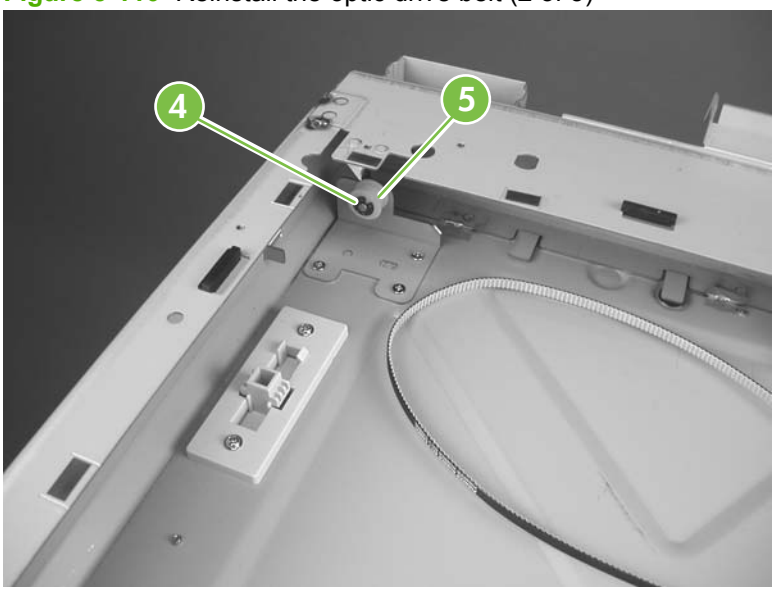
1. Make sure that the drive belt tension clip is correctly installed on the belt. The belt teeth must go over the barrel of the clip, and the two clip ends (callout 3) should hook over the edges of the drive belt.

Figure 5-109 Reinstall the optic drive belt (1 of 5)



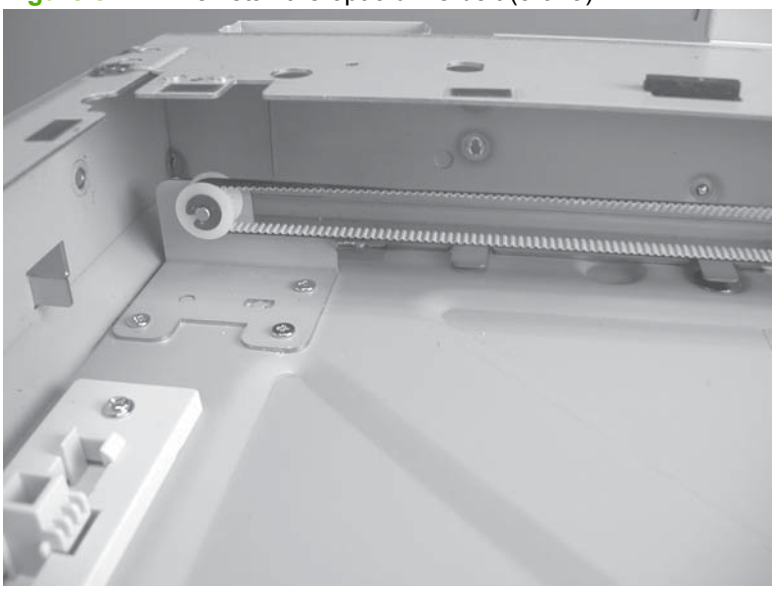
2. Remove one e-ring (callout 4) and the left side drive pulley (callout 5).

Figure 5-110 Reinstall the optic drive belt (2 of 5)



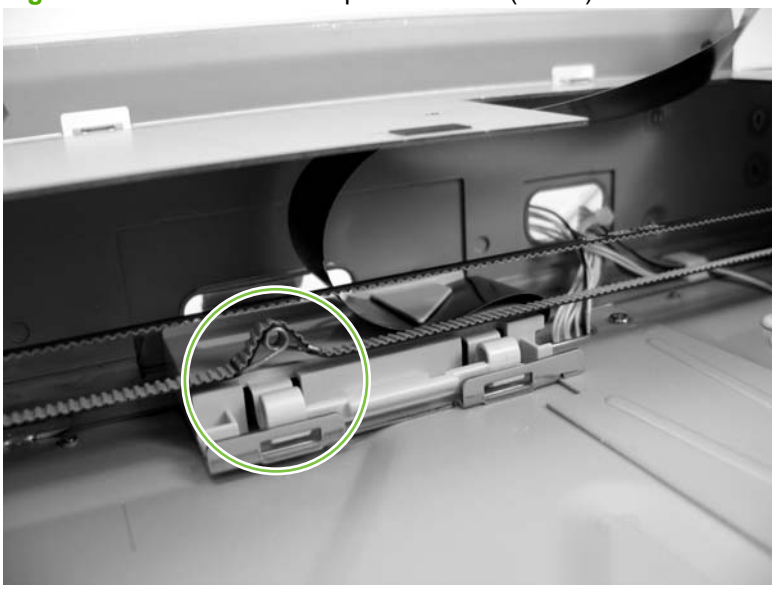
3. Position the belt on the pulley and then slip the pulley onto the shaft. Reinstall the e-ring to secure the pulley.

Figure 5-111 Reinstall the optic drive belt (3 of 5)



4. After the drive belt is reinstalled, make sure that the tension clip is correctly positioned in relation to the FFC retainer. If the clip is installed too far to the right or left of the position shown below, it will interfere with the optic drive pulleys when the optic assembly moves.

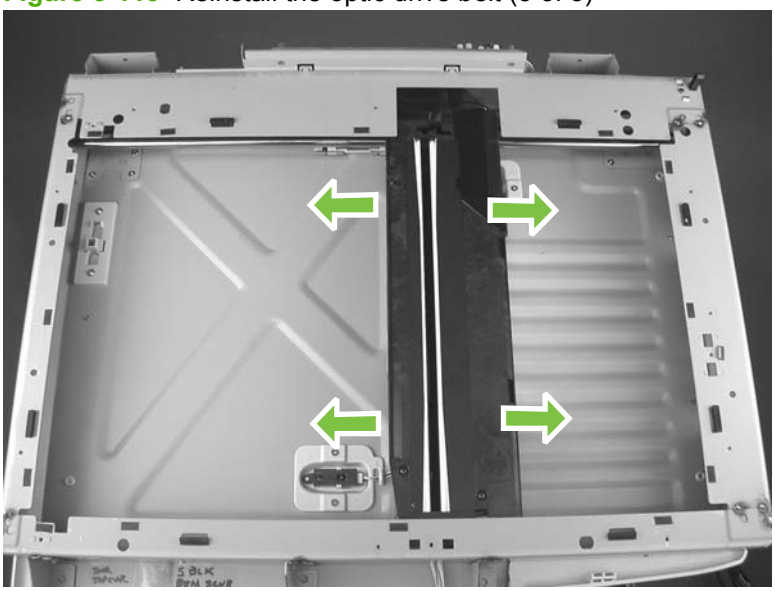
Figure 5-112 Reinstall the optic drive belt (4 of 5)



5. Install the optic assembly. Carefully slide the optic assembly back and forth in the scanner bed and make sure that the drive belt tension clip does not contact the drive pulleys at either end of the belt.

△ **CAUTION:** Do *not* touch the lens, mirrors, lamp, or components underneath the assembly when handling the optic assembly. Figure 5-103 Remove the scanner optic assembly (8 of 13) on page 239 shows the components underneath the assembly.

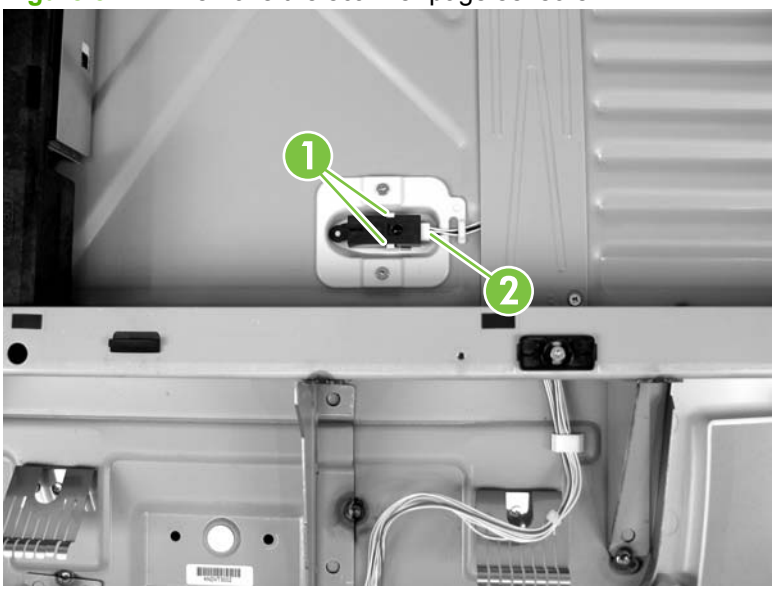
Figure 5-113 Reinstall the optic drive belt (5 of 5)



Page sensors

1. Remove the following components or assemblies:
   - ADF. See ADF assembly on page 200.
   - Scanner. See Scanner assembly on page 228.
   - Scanner glass assembly and top cover. See Glass assembly and top cover on page 231.
2. Release two tabs (callout 1) and disconnect one connector (callout 2) to remove the page sensor. Repeat this step for the remaining page sensor.

Figure 5-114 Remove the scanner page sensors

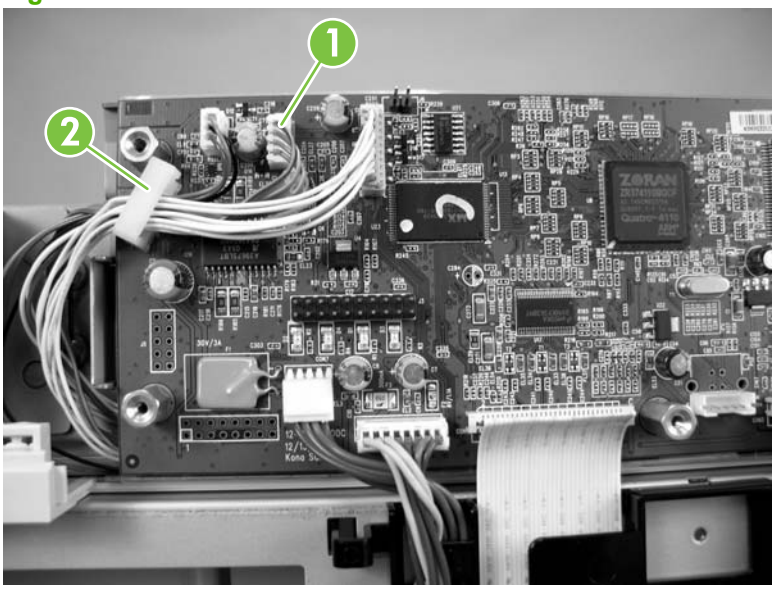


Transmission assemblies and slide rail

1. Remove the following components or assemblies:
   - ADF. See ADF assembly on page 200.
   - Scanner. See Scanner assembly on page 228.
   - Scanner glass assembly and top cover. See Glass assembly and top cover on page 231.
   - Scanner optic assembly. See Optic assembly on page 236.
2. Disconnect one connector (callout 1) and pass the transmission motor wire harness through the wire retainer (callout 2). Carefully pass the wire harness through the opening (behind the PCA) in the scanner chassis into the scanner bed.

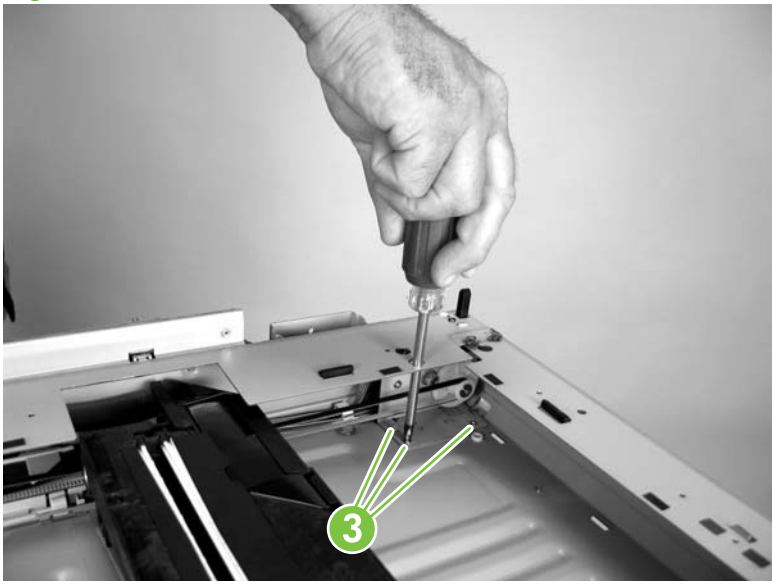
TIP: It might be easier to pass the wire harness into the scanner bed if you remove the scanner PCA.

Figure 5-115 Remove the scanner transmission assemblies and slide rail (1 of 5)



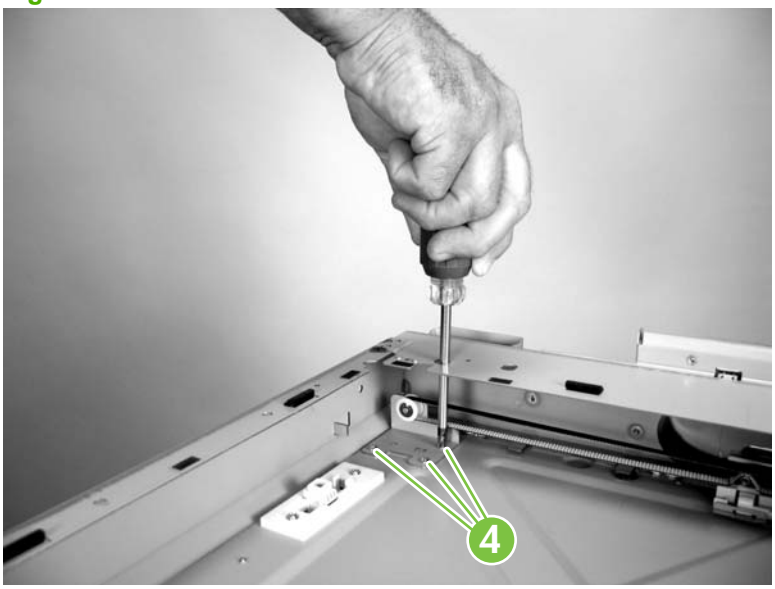
3. Remove three screws (callout 3) and remove the transmission assembly (and motor).

Figure 5-116 Remove the scanner transmission assemblies and slide rail (2 of 5)



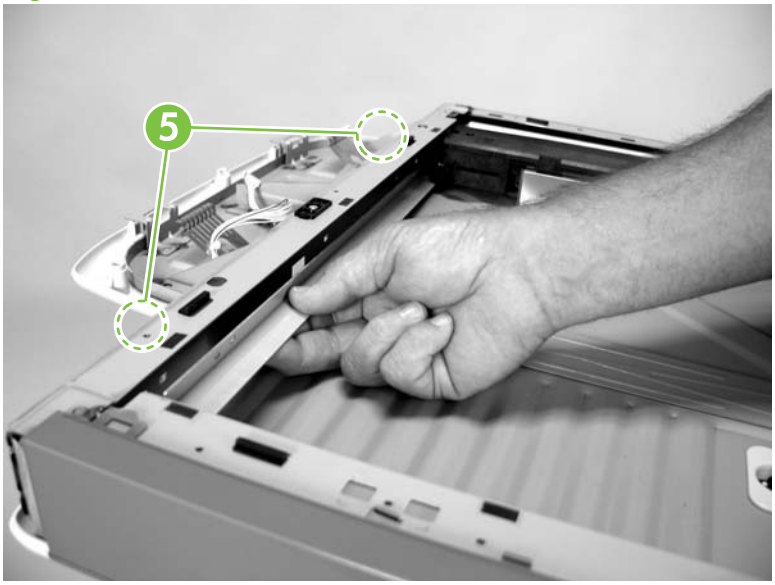
4. Remove three screws (callout 4) and remove the remaining transmission assembly.

Figure 5-117 Remove the scanner transmission assemblies and slide rail (3 of 5)



5. Remove two screws (callout 5).

Figure 5-118 Remove the scanner transmission assemblies and slide rail (4 of 5)



6. Remove the slide rail.

Figure 5-119 Remove the scanner transmission assemblies and slide rail (5 of 5)



Stapler/stacker

NOTE: For the best fit, use a JIS #2 Phillips screwdriver for the stapler/stacker.

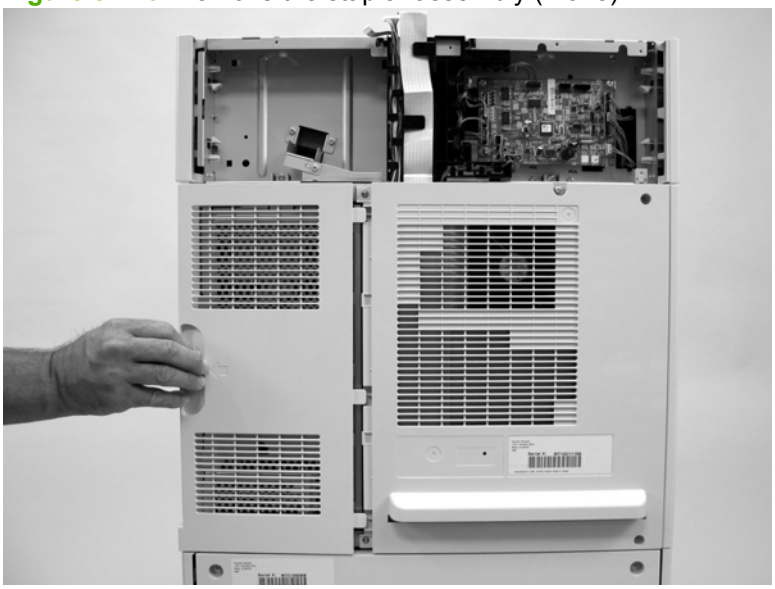
- Stapler/stacker assembly
- Stapler PCA
- Rear cover
- Left door
- Output bin
- Duplex cover
- Left cover
- Right and left rear covers
- Front door and stapler unit cover
- Output bin stay (support arm)
- Rear inner cover
- Stack cover
- Stapler unit
- Paper feed assembly (stapler)
- Alignment and jogger guide assembly
- Jogger guide unit
- Front door interlock switch



Stapler/stacker assembly

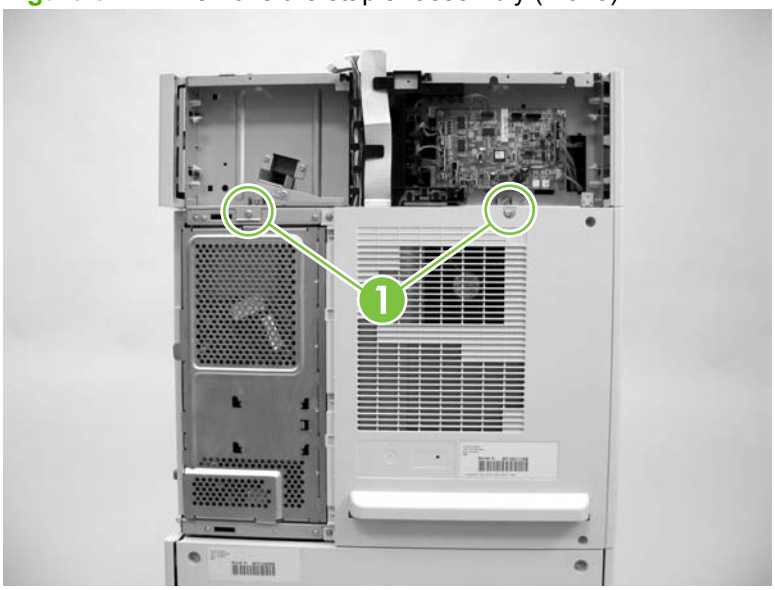
1. Remove the following components or assemblies:
   - ADF. See ADF assembly on page 200.
   - Scanner. See Scanner assembly on page 228.
2. Remove the formatter cover.

Figure 5-120 Remove the stapler assembly (1 of 5)



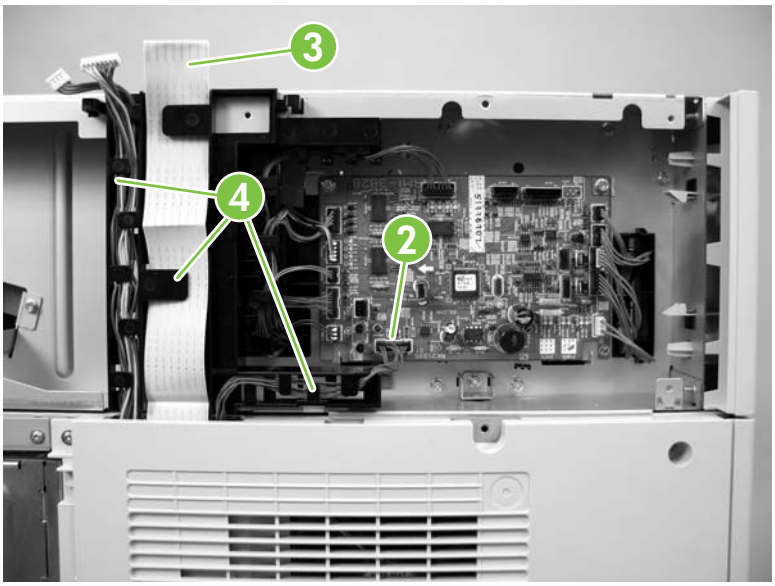
3. Remove two screws (callout 1).

Figure 5-121 Remove the stapler assembly (2 of 5)



4. Disconnect one connector (callout 2; J2100). Remove the FFC (callout 3) and the wire harnesses from the retainers (callout 4).

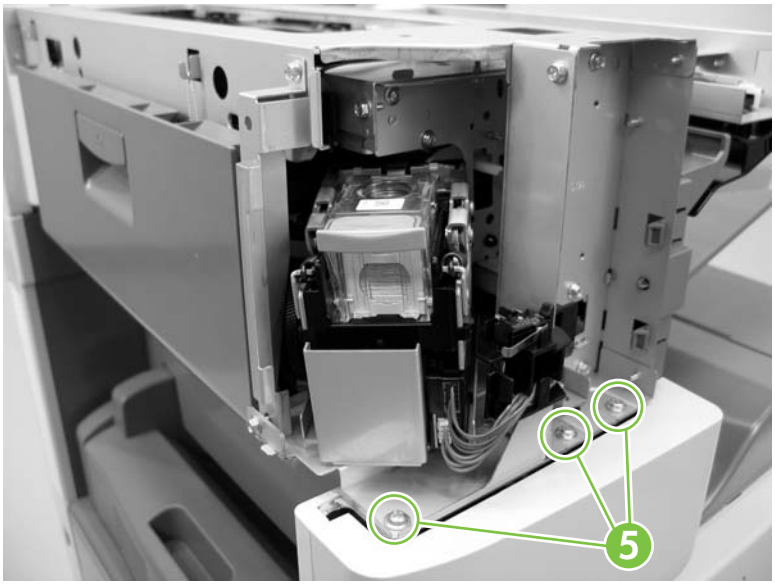
Figure 5-122 Remove the stapler assembly (3 of 5)



5. Open the stapler front door and remove three screws (callout 4).

NOTE: The stapler front door is shown removed in the figure below. Howerver, the door does not need to be removed to remove the stapler assembly.

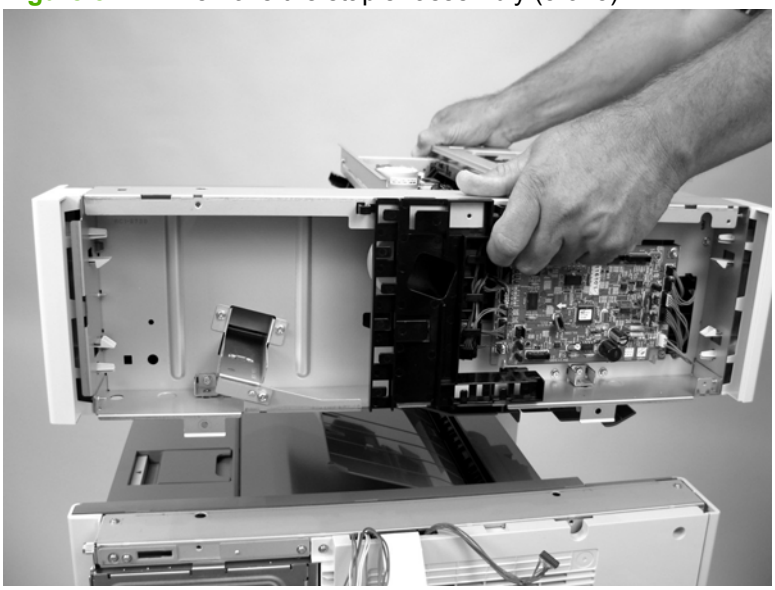
Figure 5-123 Remove the stapler assembly (4 of 5)



6. Lift the stapler assembly up and off the device.

△ **CAUTION:** Be careful; the sheet-metal edges of the stapler chassis are sharp. Do not lift the stapler assembly by grasping the output bin.

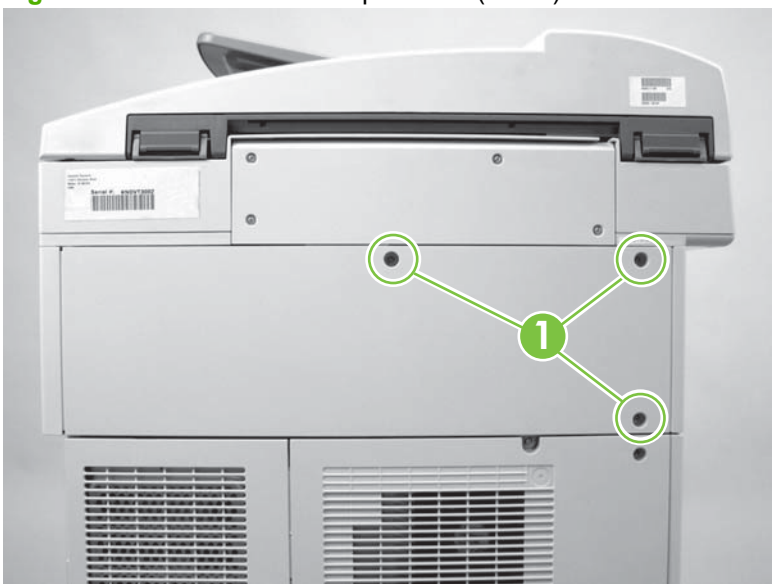
Figure 5-124 Remove the stapler assembly (5 of 5)



Stapler PCA

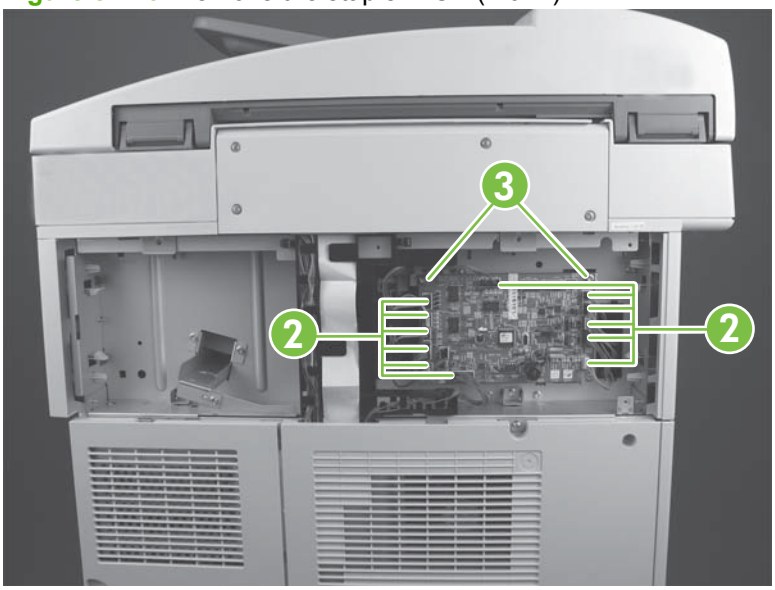
1. Remove three screws (callout 1) and the stapler back cover.

Figure 5-125 Remove the stapler PCA (1 of 2)



2. Disconnect twelve connectors (callout 2) and remove two screws (callout 3). Remove the stapler PCA.

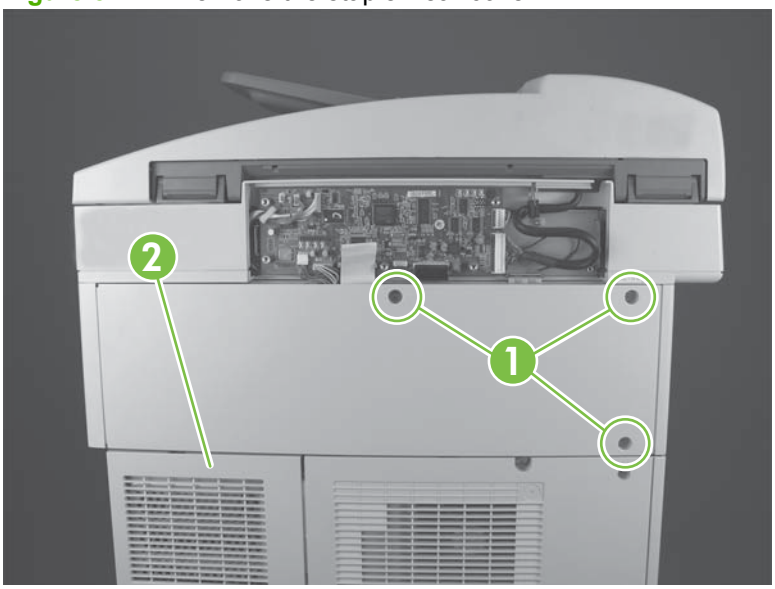
Figure 5-126 Remove the stapler PCA (2 of 2)



Rear cover

1. Remove three screws (callout 1).
2. Remove the rear cover (callout 2).

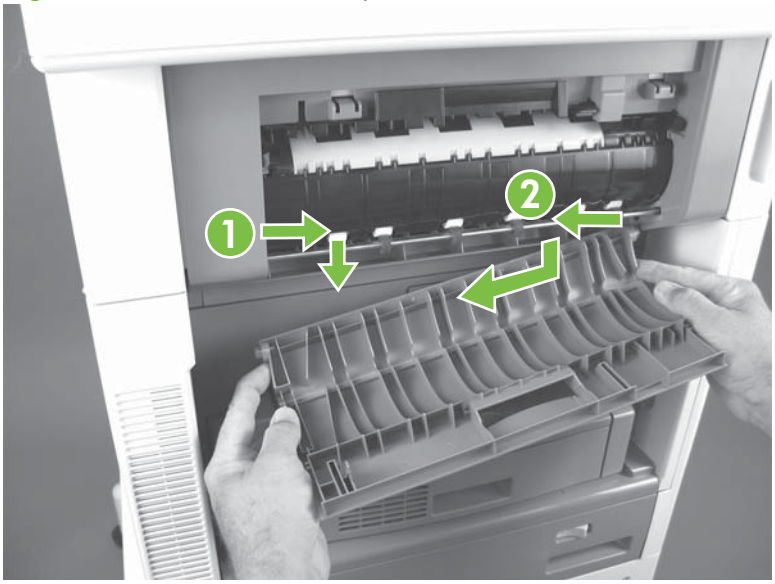
Figure 5-127 Remove the stapler rear cover



Left door

1. Open the left door.
2. Push in on the rear left door hinge pin to release it, and then rotate the end of the left door down and away from the stapler. Move the door toward the rear of the stapler to remove it.

Figure 5-128 Remove the stapler left door

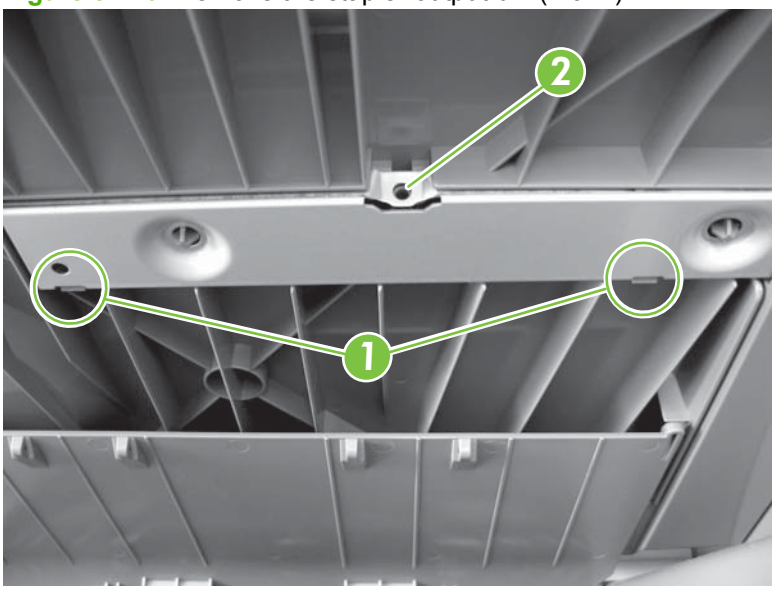


Output bin

1. From the right side of the MFP, look up under the output bin to locate the two locking tabs on the output tray stay. Release the tabs (callout 1) underneath the output bin and slightly raise the output bin.

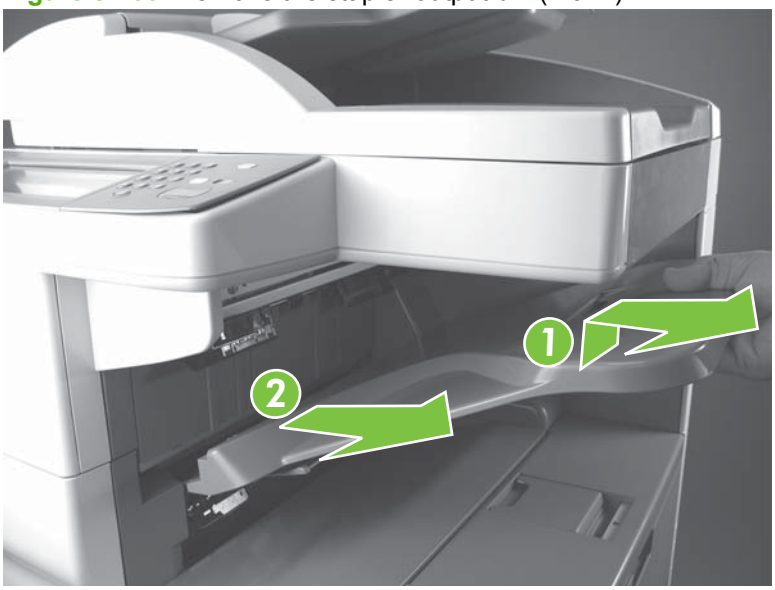
NOTE: A threaded screw hole (callout 2) exists in the output bin that is aligned with a hole in the output bin stay. There should not be a screw installed in this hole. Do not install a screw in this hole when the bin is reinstalled.

Figure 5-129 Remove the stapler output bin (1 of 2)



2. Pull the bin up and off, and then away from the stapler to remove it.

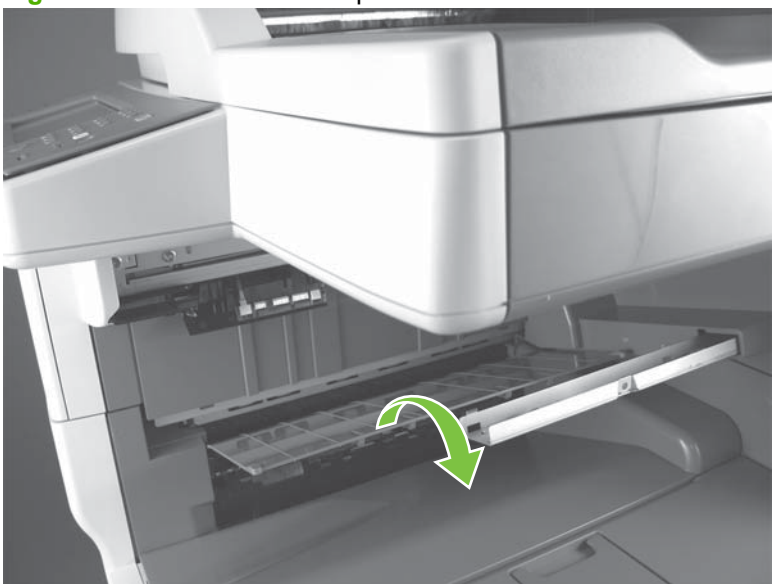
Figure 5-130 Remove the stapler output bin (2 of 2)



Duplex cover

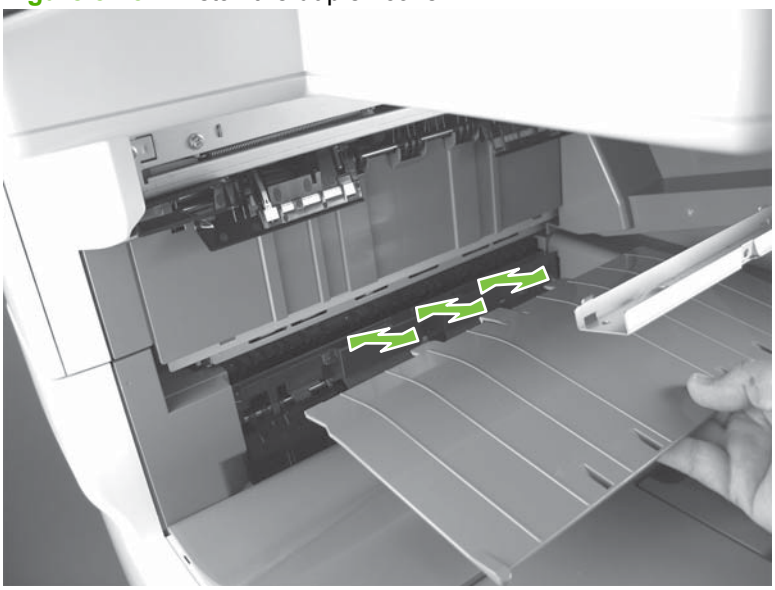
1. Grasp the duplex cover, and pull it out and away from the paper delivery assembly.

Figure 5-131 Remove the duplex cover



2. When you install the duplex cover, make sure that you align the three mounting tabs with the slots in the paper delivery assembly and push in until the cover is fully seated.

Figure 5-132 Install the duplex cover



Left cover

1. Use a small flat-blade screwdriver to release one tab on the front of the cover.

Figure 5-133 Remove the stapler left cover (2 of 3)



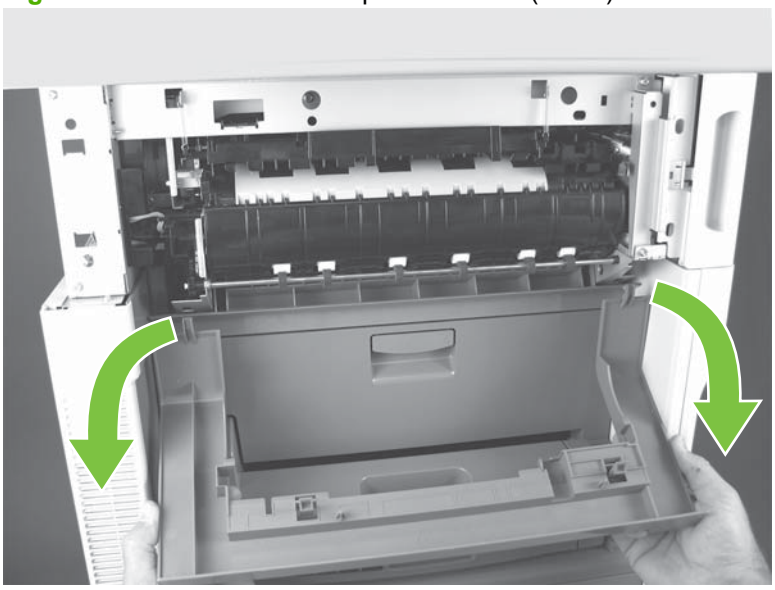
2. Open the left door and use a small flat-blade screwdriver to release one tab on the rear of the cover.

Figure 5-134 Remove the stapler left cover (1 of 3)



3. Lift up on the black plastic flap, and then rotate the cover away from the stapler and then remove the left cover.

Figure 5-135 Remove the stapler left cover (3 of 3)



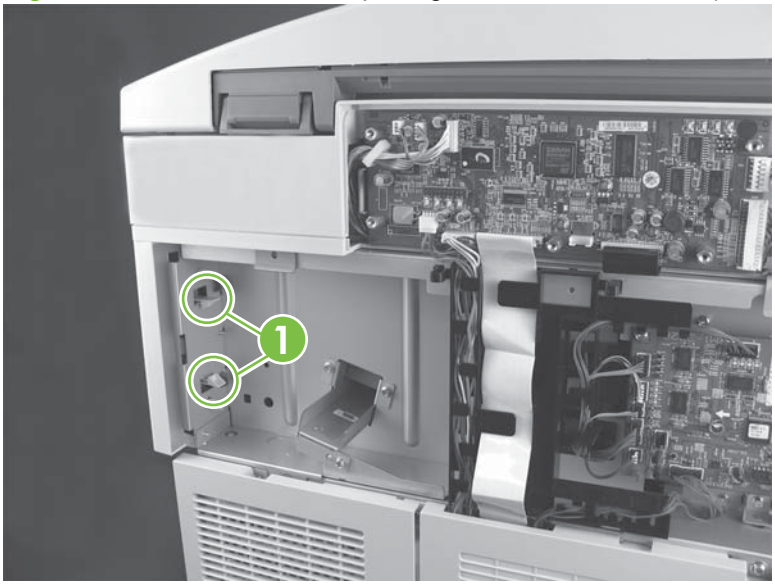
Right and left rear covers

1. Remove the following components or assemblies:
   - Stapler rear cover. See Rear cover on page 254.
   - Stapler left cover. See Left cover on page 258.

   NOTE: Only remove the left cover if the left rear cover will be removed. Do not remove the left cover if you are only removing the right rear cover.

2. Release two tabs (callout 1).

Figure 5-136 Remove the stapler right and left rear covers (1 of 4)



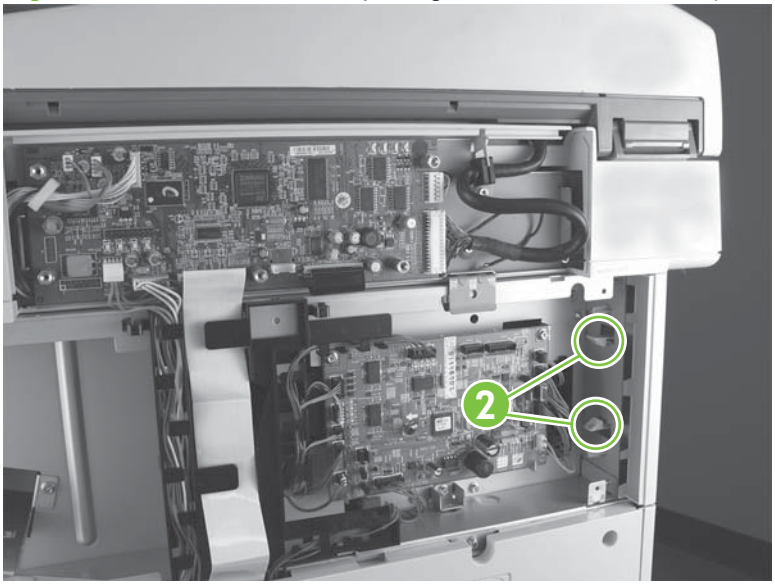
3. Remove the right rear cover.

Figure 5-137 Remove the stapler right and left rear covers (2 of 4)



4. Release two tabs (callout 2).

Figure 5-138 Remove the stapler right and left rear covers (3 of 4)



5. Remove the left rear cover.

Figure 5-139 Remove the stapler right and left rear covers (4 of 4)

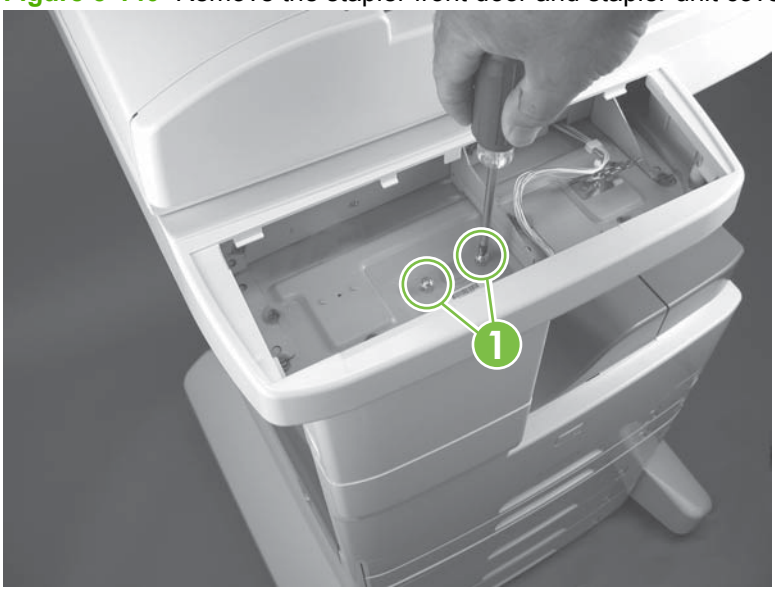


Front door and stapler unit cover

1. Remove the following components or assemblies:
   - Control panel. See Control panel on page 224.
   - Stapler left cover. See Left cover on page 258.
2. Loosen but do not remove two screws (callout 1).

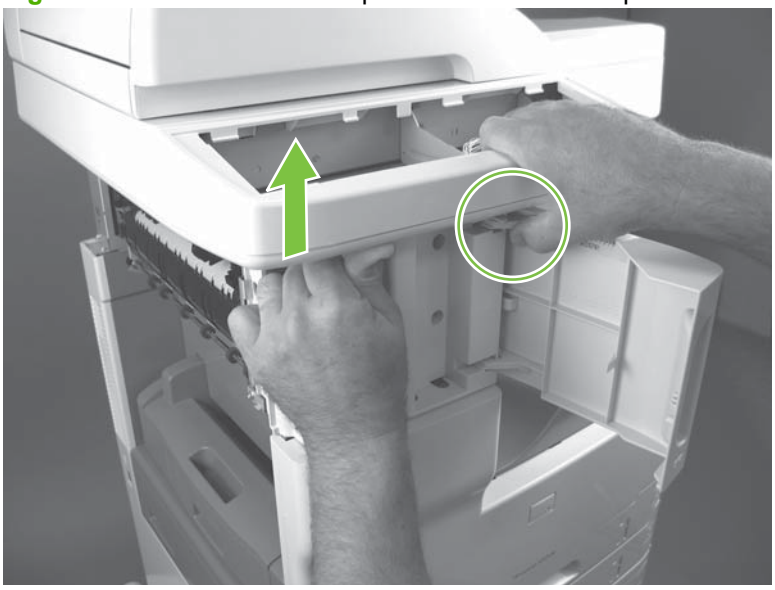
TIP: Loosening these two screws allows the scanner to be slightly raised when accessing the locking tab on the top of the stapler unit cover.

Figure 5-140 Remove the stapler front door and stapler unit cover (1 of 7)



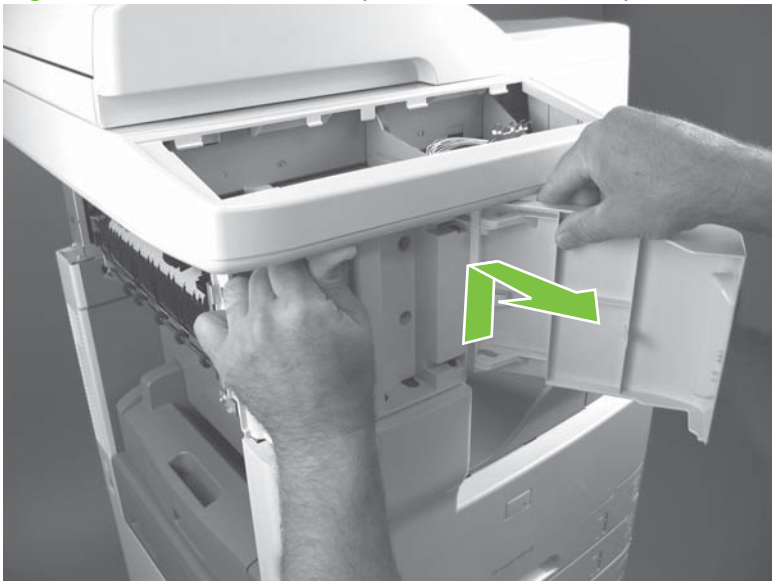
3. Open the front door and slightly lift up on the scanner assembly. Lift up on the door retainer tab to release it.

Figure 5-141 Remove the stapler front door and stapler unit cover (2 of 7)



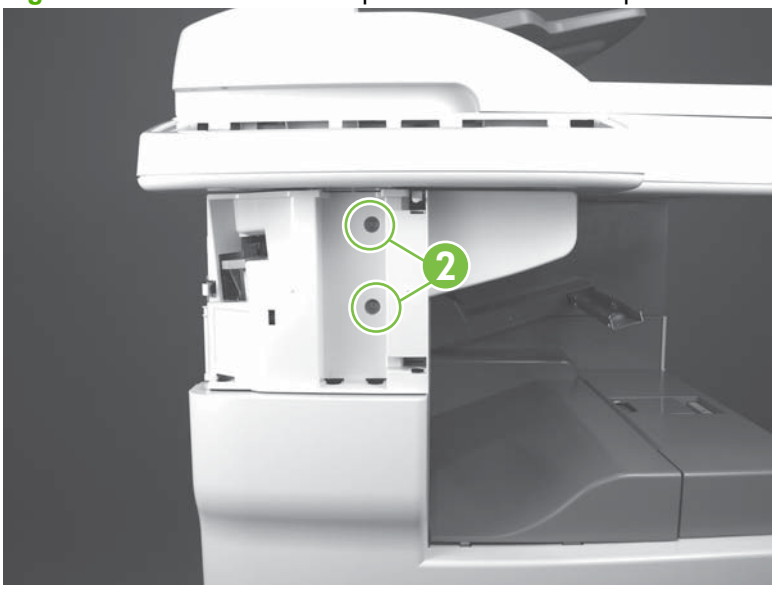
4. Lift up on the door to release the bottom hinge pin and then and remove the door.

Figure 5-142 Remove the stapler front door and stapler unit cover (3 of 7)



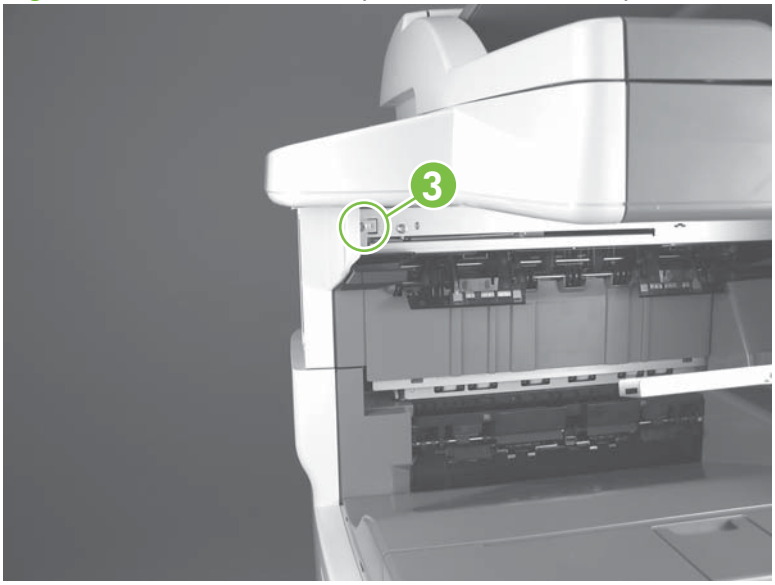
5. Remove two screws (callout 2).

Figure 5-143 Remove the stapler front door and stapler unit cover (4 of 7)



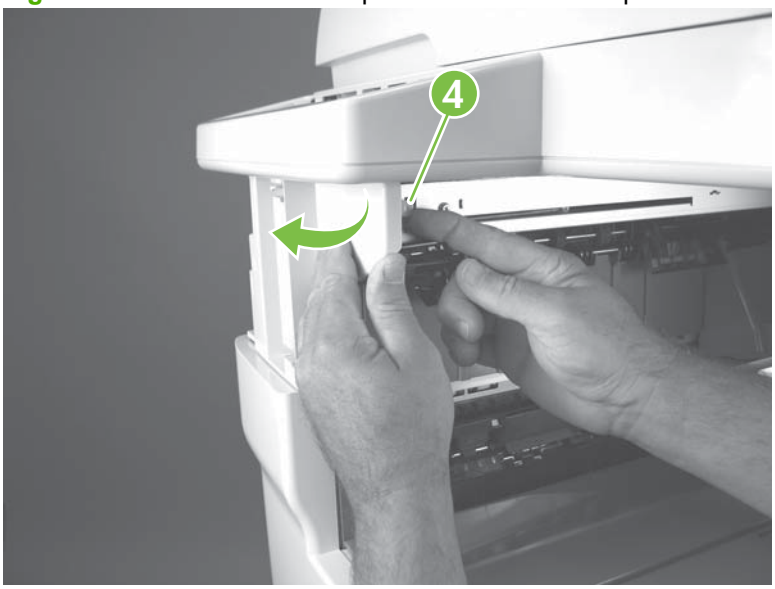
6. Remove one screw (callout 3) at the right-front corner of the stapler.

Figure 5-144 Remove the stapler front door and stapler unit cover (5 of 7)



7. Release one tab (callout 4) and rotate the cover away from the stapler.

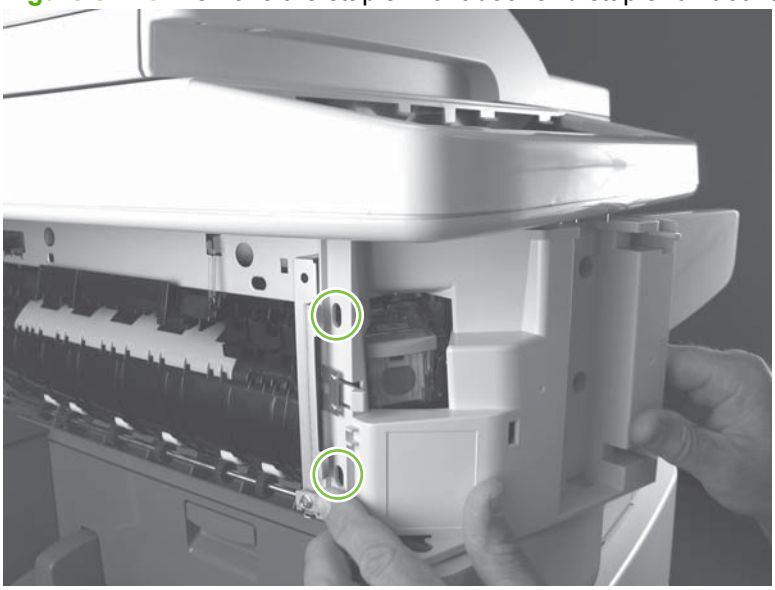
Figure 5-145 Remove the stapler front door and stapler unit cover (6 of 7)



8. Rotate the stapler unit cover off and away from the stapler.

NOTE: Be careful not to damage the cover by catching it on the tabs on the stapler chassis. When you reinstall the cover, make sure that the cover is correctly positioned behind these tabs.

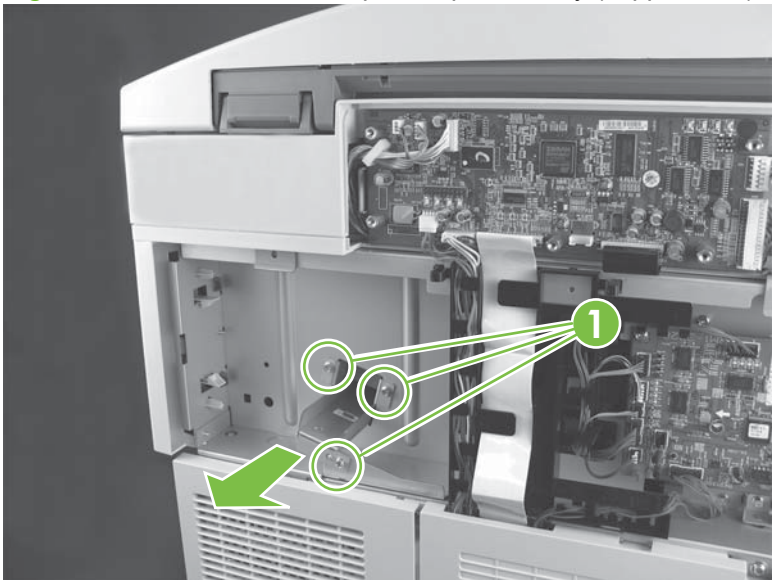
Figure 5-146 Remove the stapler front door and stapler unit cover (7 of 7)



Output bin stay (support arm)

1. Remove the following components or assemblies:
   - Stapler rear cover. See Rear cover on page 254.
   - Stapler output bin. See Output bin on page 256.
2. Remove three screws (callout 1) and slide the output bin stay (support arm) out of the stapler.

Figure 5-147 Remove the stapler output bin stay (support arm)



Rear inner cover

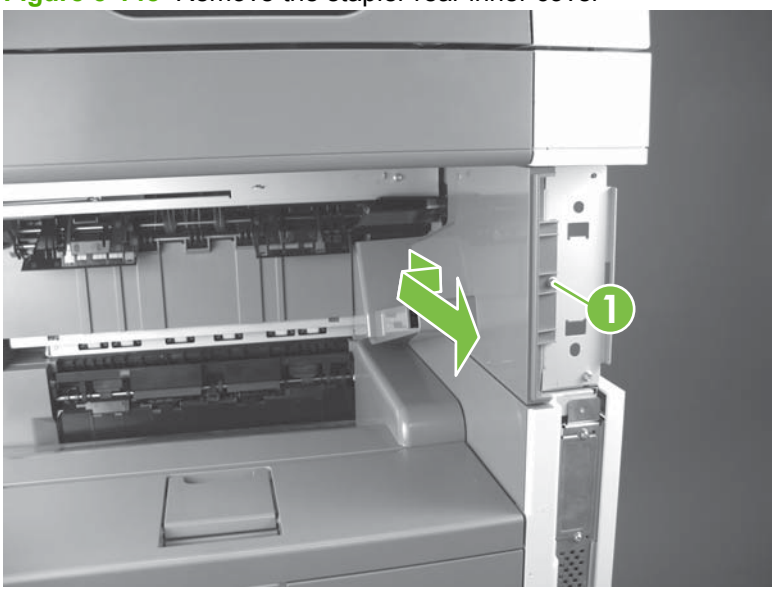
1. Remove the following components or assemblies:
   - Stapler rear cover. See Rear cover on page 254.
   - Stapler right rear cover. See Right and left rear covers on page 260.
   - Stapler output bin. See Output bin on page 256.
   - Stapler output bin stay (support arm). See Output bin stay (support arm) on page 266.
2. Remove one screw (callout 1) and slide the rear inner cover forward, out, and then away from the stapler to remove it.

△ **CAUTION:** Be careful not to damage the jogger guides or the flags on the flaps when you remove *or* install the rear inner cover.

Carefully move the flap out of the way when the cover is reinstalled.

TIP: To reinstall this cover you must remove the stack cover. See Stack cover on page 268.

Figure 5-148 Remove the stapler rear inner cover



Stack cover

1. Remove the following components or assemblies:
   - Stapler rear cover. See Rear cover on page 254.
   - Stapler right rear cover. See Right and left rear covers on page 260.
   - Stapler front door and stapler unit cover. See Front door and stapler unit cover on page 262.
   - Stapler output bin. See Output bin on page 256.
   - Stapler output bin stay (support arm). See Output bin stay (support arm) on page 266.
   - Stapler rear inner cover. See Rear inner cover on page 267.
2. Release two tabs (callout 1) and slide the stack cover forward, out, and then away from the device to remove it.

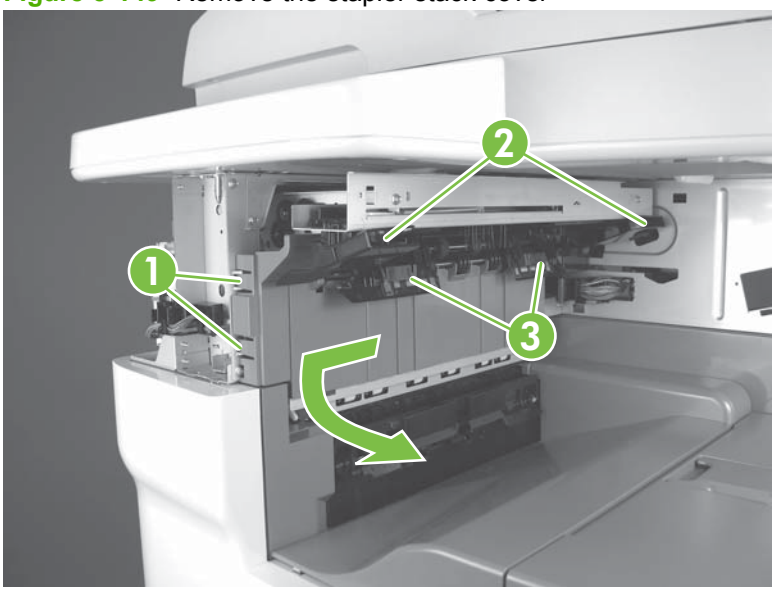
△ **CAUTION:** Be careful not to damage the jogger guides (callout 2) or the flags on the flaps (callout 3) when you remove *or* install the stack cover.

The stapler/stacker sheet-metal chassis has sharp edges. Be careful when you remove this cover.

NOTE: It might be easier to reinstall the stack cover if the jogger guides are repositioned to allow the flaps to be lifted. To move the jogger guides, grasp the *rear* most guide and gently pull it toward the front of the stapler assembly. **Do not** attempt to move the guides using the front most guide.

See Figure 5-160 Remove the stapler alignment and jogger guide assembly (5 of 6) on page 275 for information about moving the guides.

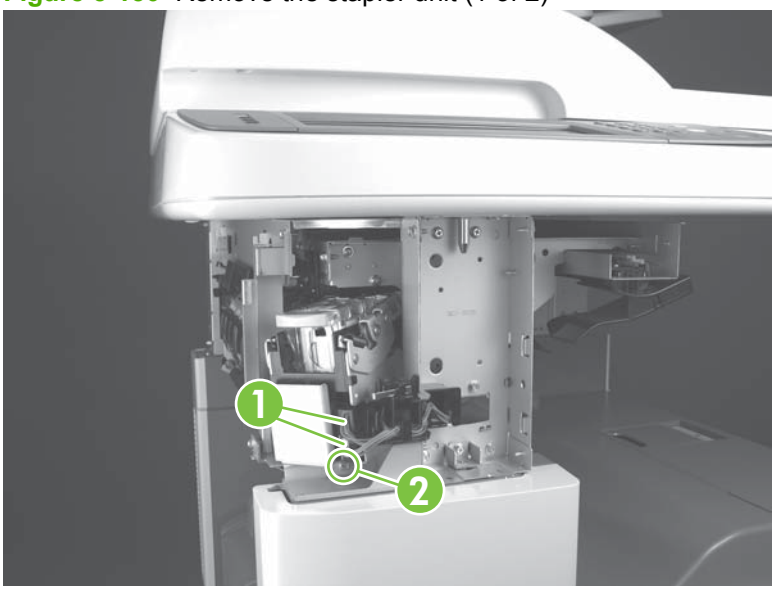
Figure 5-149 Remove the stapler stack cover



Stapler unit

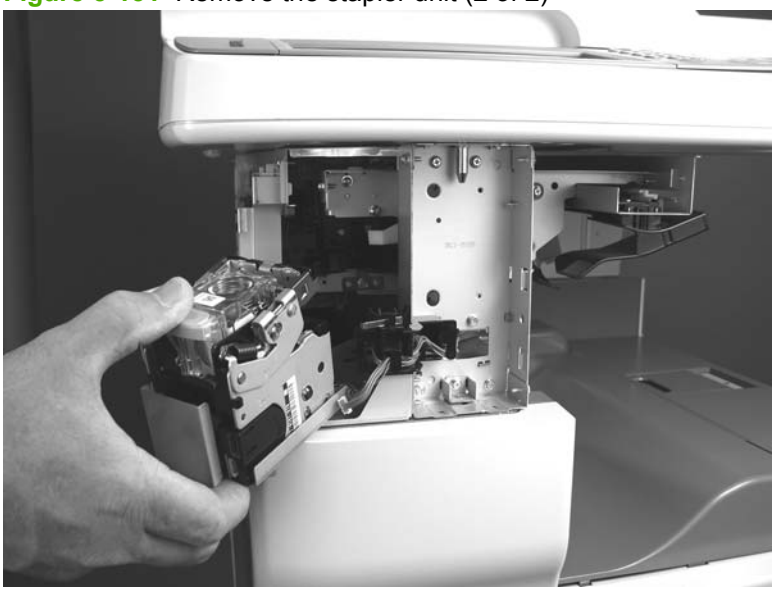
1. Remove the following components or assemblies:
   - ADF. See ADF assembly on page 200.
   - Scanner. See Scanner assembly on page 228.
   - Stapler left cover. See Left cover on page 258.
   - Stapler front door and stapler unit cover. See Front door and stapler unit cover on page 262.
2. Disconnect two connectors (callout 1) and remove one screw (callout 2).

Figure 5-150 Remove the stapler unit (1 of 2)



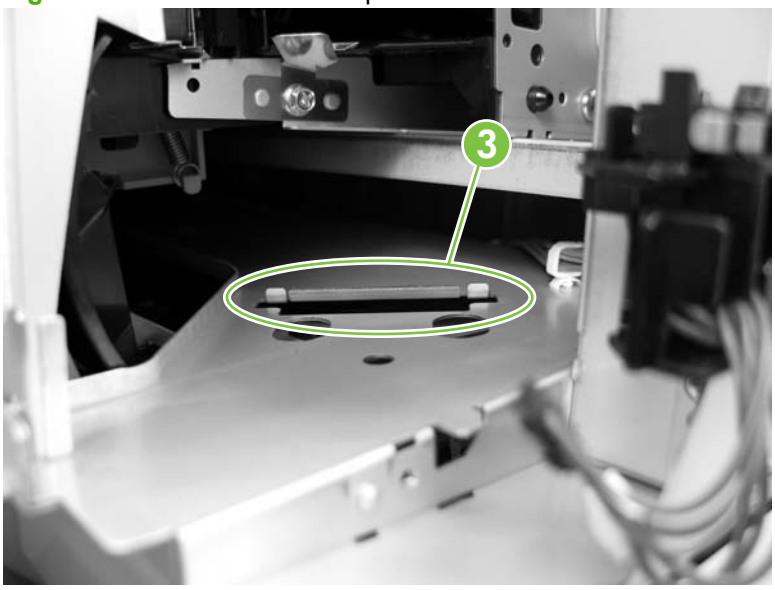
3. Slide the stapler unit out of the stapler chassis to remove it.

Figure 5-151 Remove the stapler unit (2 of 2)



4. When you reinstall the stapler unit, make sure the back edge of the unit is engaged in the slot in the stapler chassis (callout 3).

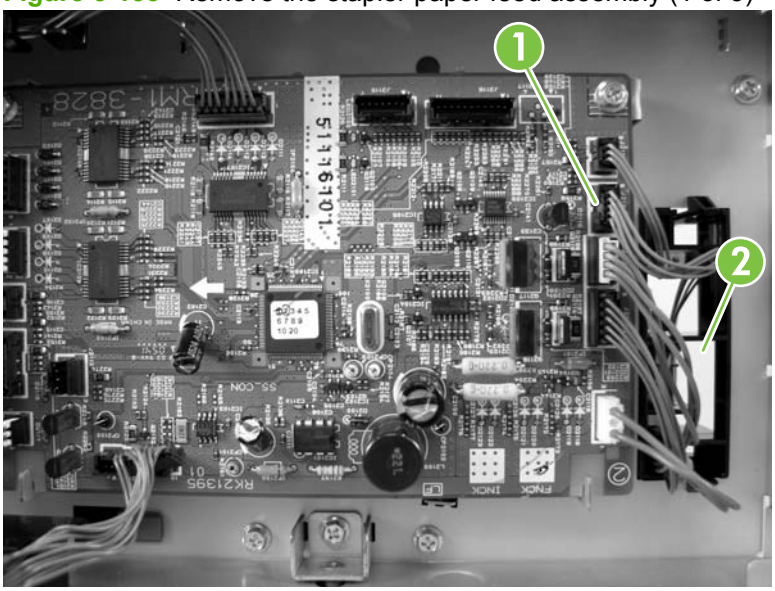
Figure 5-152 Reinstall the stapler unit



Paper feed assembly (stapler)

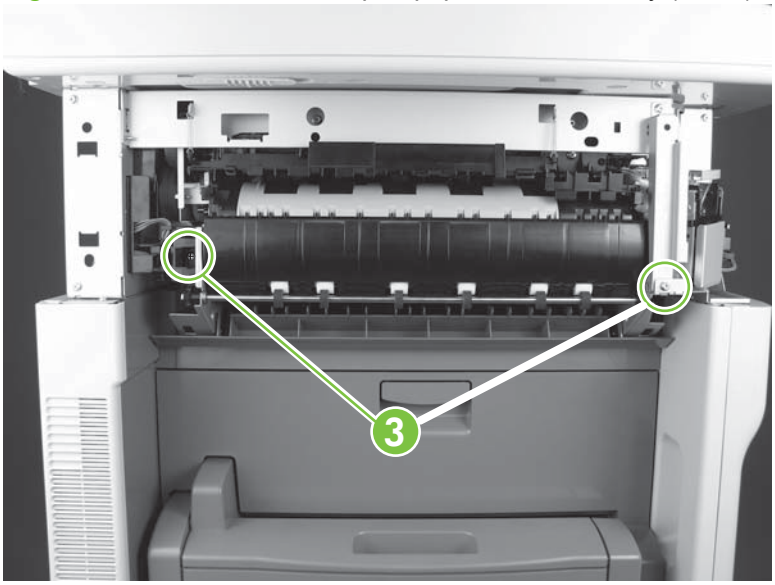
1. Remove the following components or assemblies:
   - Optional: ADF. See ADF assembly on page 200.
   - Optional: scanner. See Scanner assembly on page 228.
   - Stapler rear cover. See Rear cover on page 254.
   - Stapler left door. See Left door on page 255.
   - Stapler left cover. See Left cover on page 258.
   - Stapler left rear cover. See Right and left rear covers on page 260.
   - Stapler front door and stapler unit cover. See Front door and stapler unit cover on page 262.
   - Stapler unit. See Stapler unit on page 269.
2. Disconnect one connector (callout 1; J2104) from the stapler PCA and pass the wire harness through the hole in the stapler chassis (callout 2).

Figure 5-153 Remove the stapler paper feed assembly (1 of 3)



3. Remove two screws (callout 3).

Figure 5-154 Remove the stapler paper feed assembly (2 of 3)



4. Pull the paper feed assembly straight out and away from the stapler to remove it.

Figure 5-155 Remove the stapler paper feed assembly (3 of 3)



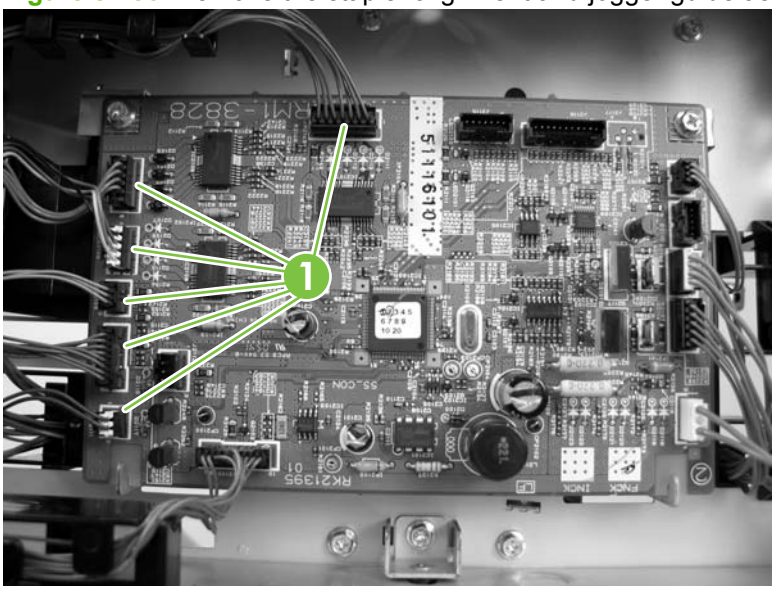
Alignment and jogger guide assembly

1. Remove the following components or assemblies:
   - Optional: ADF. See ADF assembly on page 200.
   - Optional: scanner. See Scanner assembly on page 228.
   - Stapler rear cover. See Rear cover on page 254.
   - Stapler left door. See Left door on page 255.

- Stapler left cover. See Left cover on page 258.
- Stapler left and right rear covers. See Right and left rear covers on page 260.
- Stapler front door and stapler unit cover. See Front door and stapler unit cover on page 262.
- Stapler unit. See Stapler unit on page 269.
- Stapler output bin. See Output bin on page 256.
- Stapler output bin stay. See Output bin stay (support arm) on page 266.
- Stapler rear inner cover. See Rear inner cover on page 267.
- Stapler stack cover. See Stack cover on page 268.
- Stapler paper feed unit. See Paper feed assembly (stapler) on page 271.

2. Disconnect six connectors (callout 1; J2106, J2107, J2108, J2109, J2110, J2111) and release the wire harnesses from the retainer.

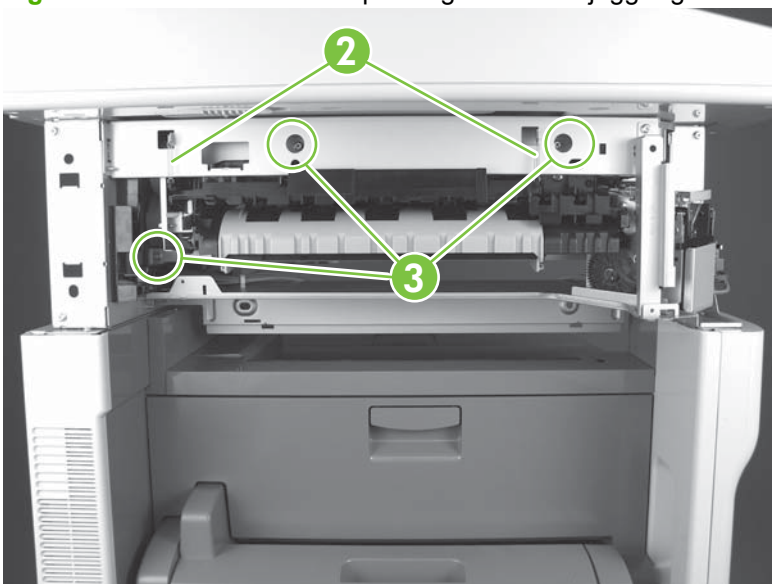
Figure 5-156 Remove the stapler alignment and jogger guide assembly (1 of 6)



3. Remove two springs (callout 2) and three screws (callout 3).

NOTE: The springs are not captive and can easily be lost.

Figure 5-157 Remove the stapler alignment and jogger guide assembly (2 of 6)



4. Remove one screw (callout 4).

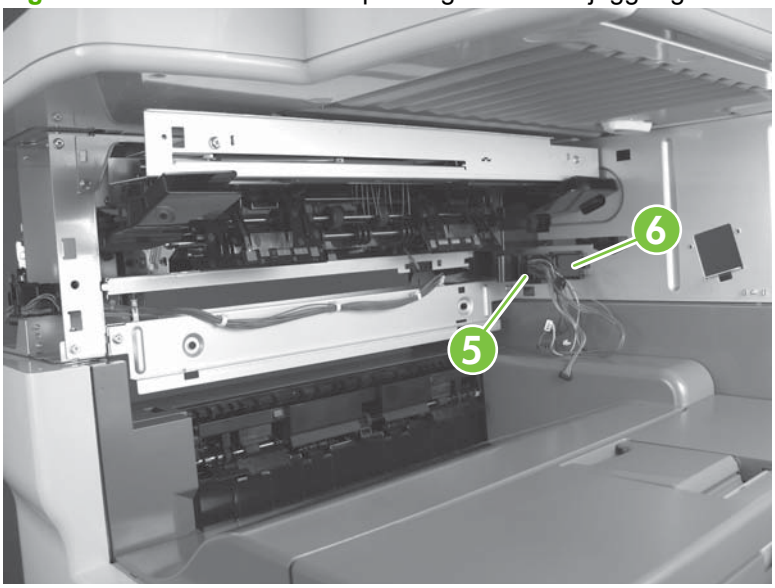
Figure 5-158 Remove the stapler alignment and jogger guide assembly (3 of 6)



5. Pull the wire harnesses through the opening in the stapler chassis and release the harnesses from the retainer (callout 5). Release one tab (callout 6) on the retainer.

NOTE: The retainer will be removed as a part of the alignment unit.

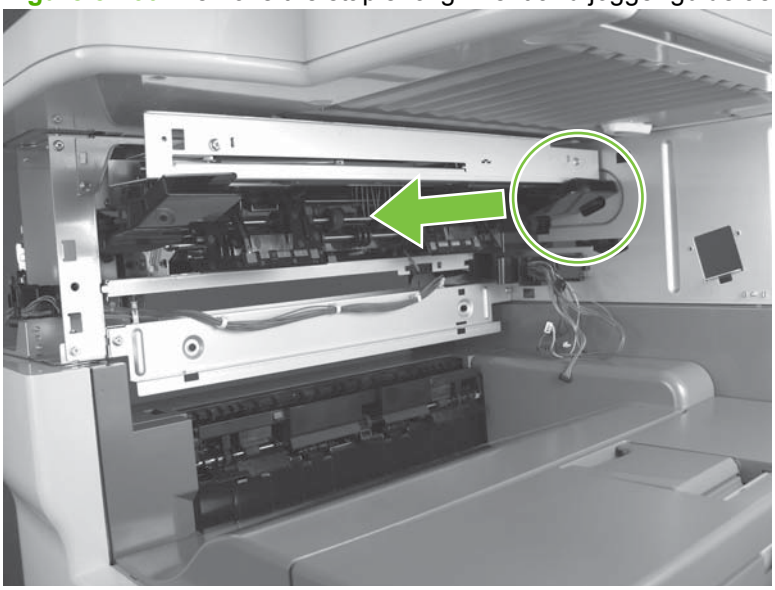
Figure 5-159 Remove the stapler alignment and jogger guide assembly (4 of 6)



6. Grasp the *rear* jogger guide and move it approximately 25.4 mm (1.0 inch) toward the front of the device (this moves both of the guides closer together and allows clearance between the rear guide and the stapler chassis).

CAUTION: Do **not** use the front jogger guide to move the jogger guides.

Figure 5-160 Remove the stapler alignment and jogger guide assembly (5 of 6)

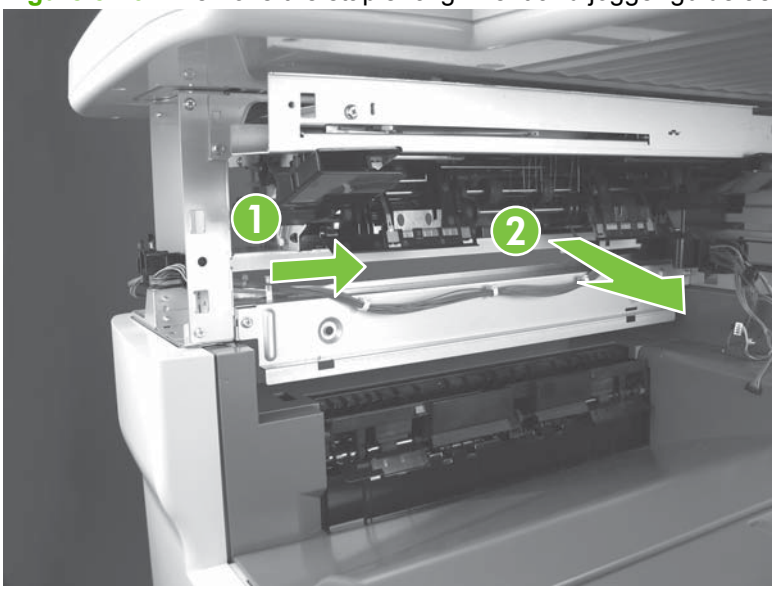


7. Carefully move the alignment and jogger guide assembly toward the back of the device and then to the right to remove it.

△ **CAUTION:** The alignment and jogger guide assembly contains fragile components (for example, the flaps and the jogger guides). Be very careful about where and how you grasp the assembly. Remove the assembly slowly so that you do not damage it.

TIP: It might be helpful to look at Figure 5-162 Install the stapler alignment and jogger guide assembly (1 of 5) on page 276 to see the jogger and guide assembly mounting slot in the stapler chassis.

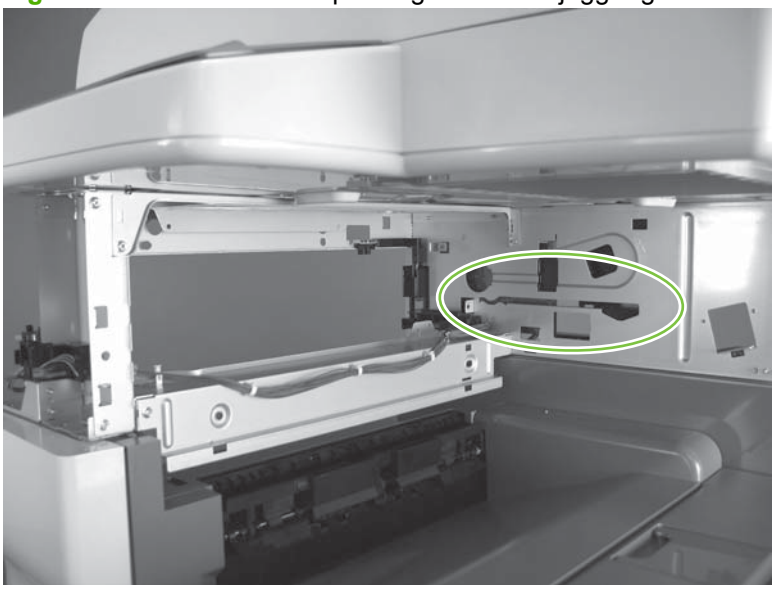
Figure 5-161 Remove the stapler alignment and jogger guide assembly (6 of 6)



Install the alignment and jogger guide assembly

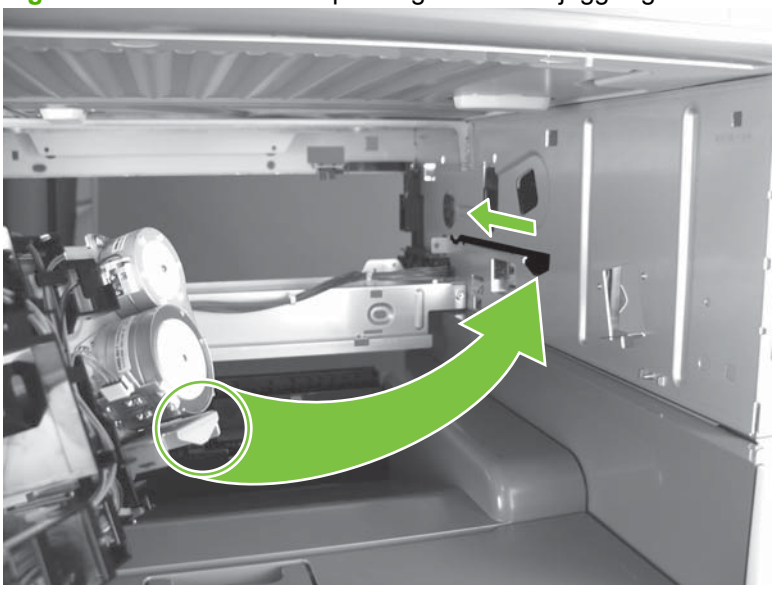
1. Before you begin, look at the stapler chassis and locate the slotted opening in the stapler chassis.

Figure 5-162 Install the stapler alignment and jogger guide assembly (1 of 5)



2. When you reinstall the alignment and jogger guide assembly, make sure that the flange on the unit is inserted in the slot in the stapler chassis . Then slide the assembly back into the stapler chassis.

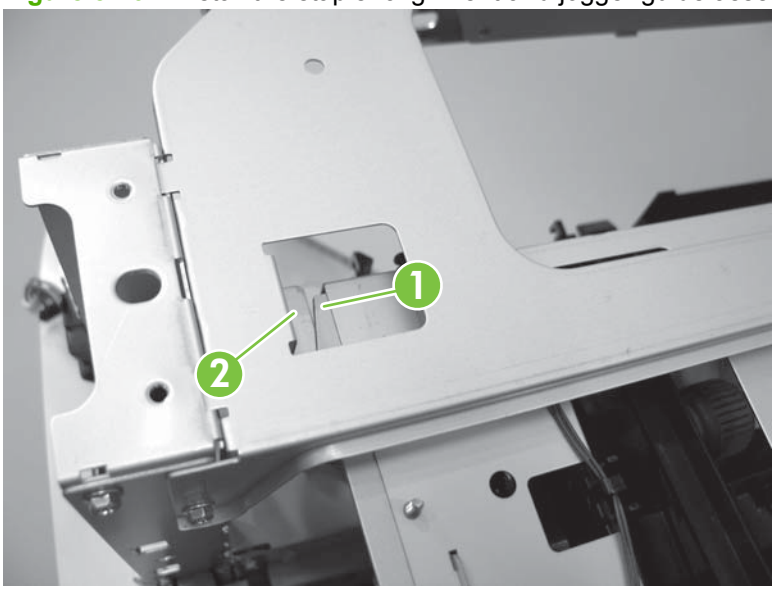
Figure 5-163 Install the stapler alignment and jogger guide assembly (2 of 5)



3. As you slide the alignment and jogger guide assembly into the stapler chassis, make sure that the assembly (callout 1) rests on top of the stapler chassis (callout 2).

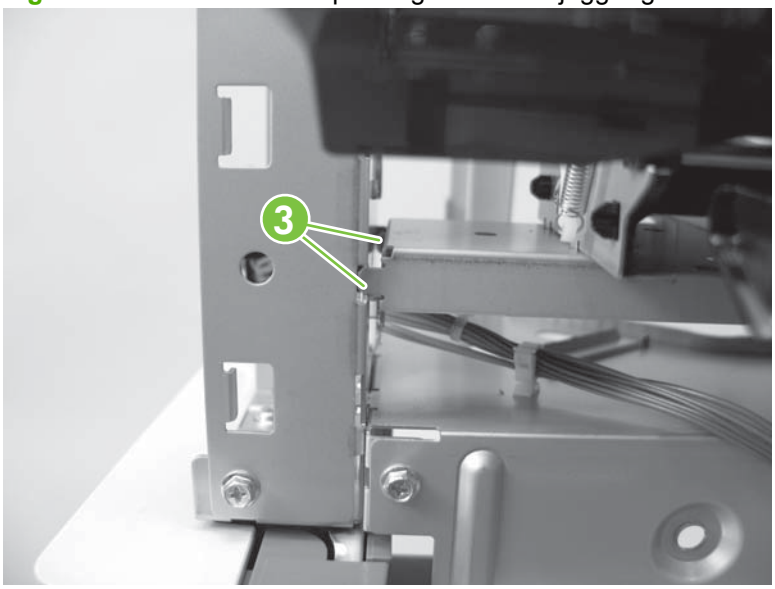
NOTE: The figure below shows the scanner removed for clarity. Look under the scanner at the stapler chassis to make sure that the assembly is correctly positioned on the chassis.

Figure 5-164 Install the stapler alignment and jogger guide assembly (3 of 5)



4. After the alignment and jogger guide assembly is reinstalled in the stapler chassis, make sure that the two tabs (callout 3) at the end of the assembly towards the front of the device are seated in the holes in the stapler chassis.

Figure 5-165 Install the stapler alignment and jogger guide assembly (4 of 5)

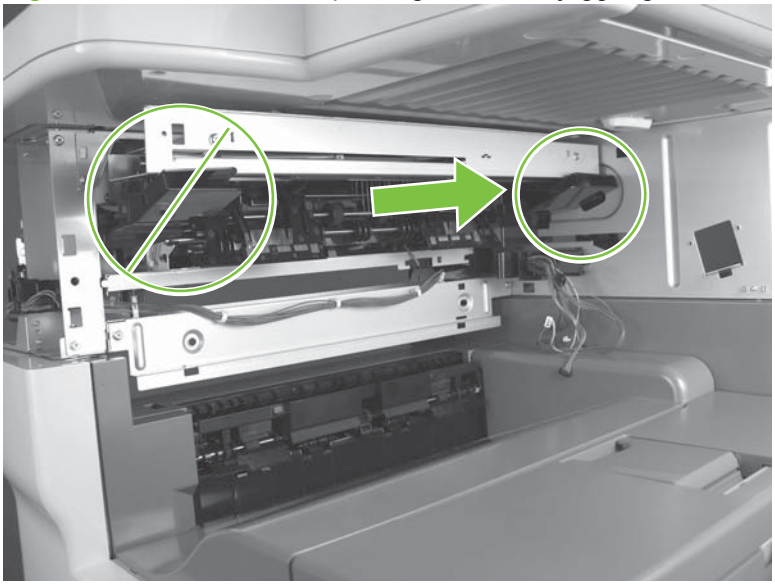


5. Clip the wire harness to the stapler chassis. Install the three mounting screws and two springs. Pass the wire harness through the opening in the chassis. Connect six connectors to the stapler PCA (J2106, J2107, J2108, J2109, J2110, J2111).

6. Grasp the *rear* jogger guide and move it outward (the guides should be aligned with the end of the jogger plate).

△ **CAUTION:** Do **not** use the front jogger guide to move the jogger guides.

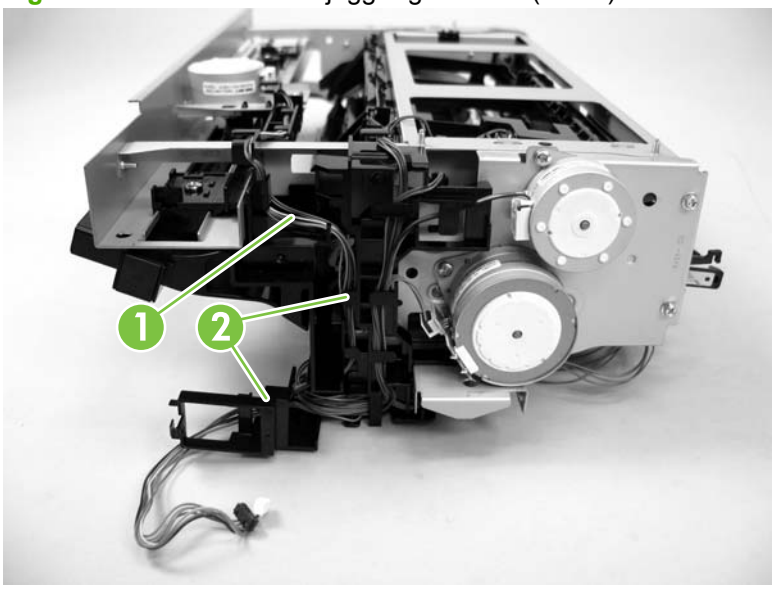
Figure 5-166 Install the stapler alignment and jogger guide assembly (5 of 5)



Jogger guide unit

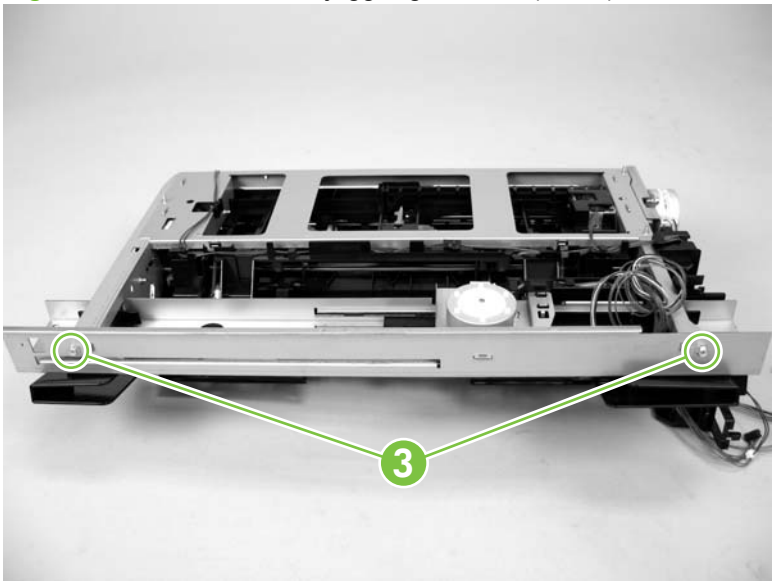
1. Remove the following components or assemblies:
   - Stapler rear cover. See Rear cover on page 254.
   - Stapler left door. See Left door on page 255.
   - Stapler left cover. See Left cover on page 258.
   - Stapler left and right rear covers. See Right and left rear covers on page 260.
   - Stapler front door and stapler unit cover. See Front door and stapler unit cover on page 262.
   - Stapler unit. See Stapler unit on page 269.
   - Stapler output bin. See Output bin on page 256.
   - Stapler output bin stay. See Output bin stay (support arm) on page 266.
   - Stapler rear inner cover. See Rear inner cover on page 267.
   - Stapler stack cover. See Stack cover on page 268.
   - Stapler paper feed unit. See Paper feed assembly (stapler) on page 271.
   - Stapler alignment and jogger guide assembly. See Alignment and jogger guide assembly on page 272.
2. Release the jogger guide unit wire harness (callout 1) from the retainer (callout 2).

Figure 5-167 Remove the jogger guide unit (1 of 3)



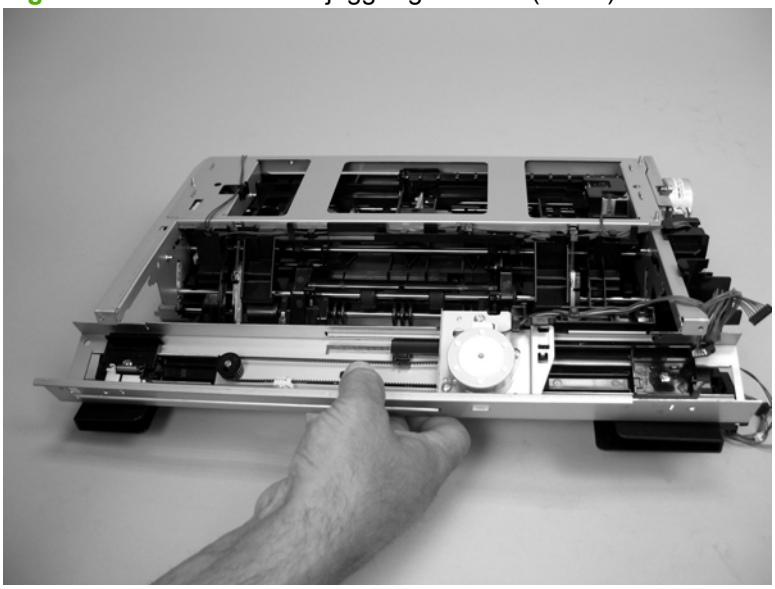
3. Remove two screws (callout 3).

Figure 5-168 Remove the jogger guide unit (2 of 3)



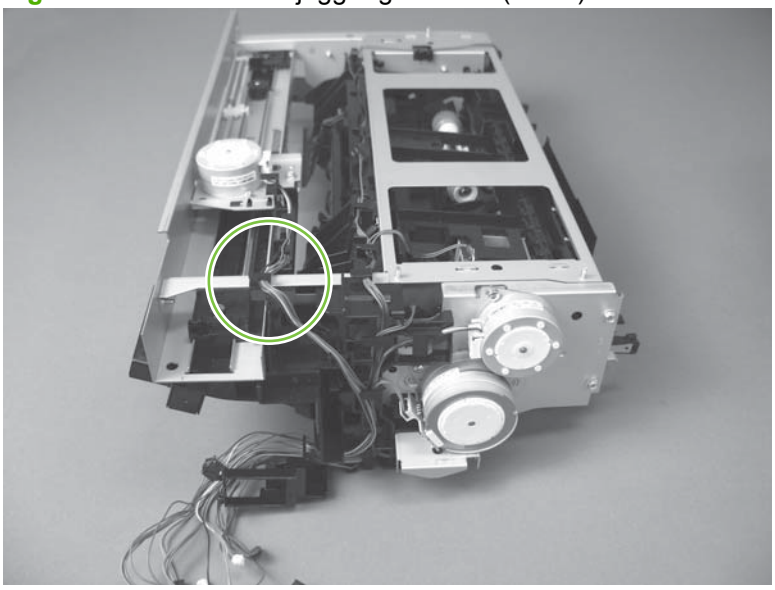
4. Remove the jogger guide unit.

Figure 5-169 Remove the jogger guide unit (3 of 3)



5. When you reinstall the jogger guide unit, make sure that the wire harness is placed *over* the arm of the alignment unit chassis.

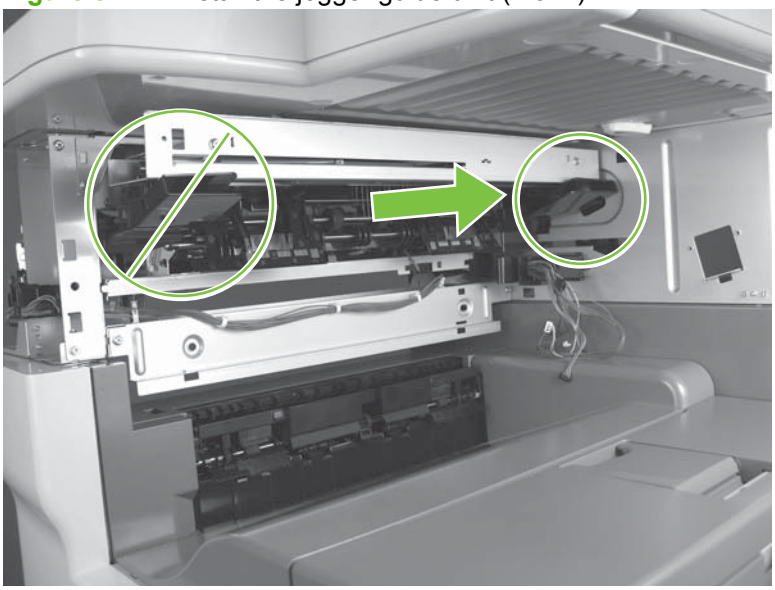
Figure 5-170 Install the jogger guide unit (1 of 2)



6. After installing the jogger guide unit, grasp the *rear* jogger guide and move it outward (the guides should be aligned with the end of the jogger plate).

△ **CAUTION:** Do **not** use the front jogger guide to move the jogger guides.

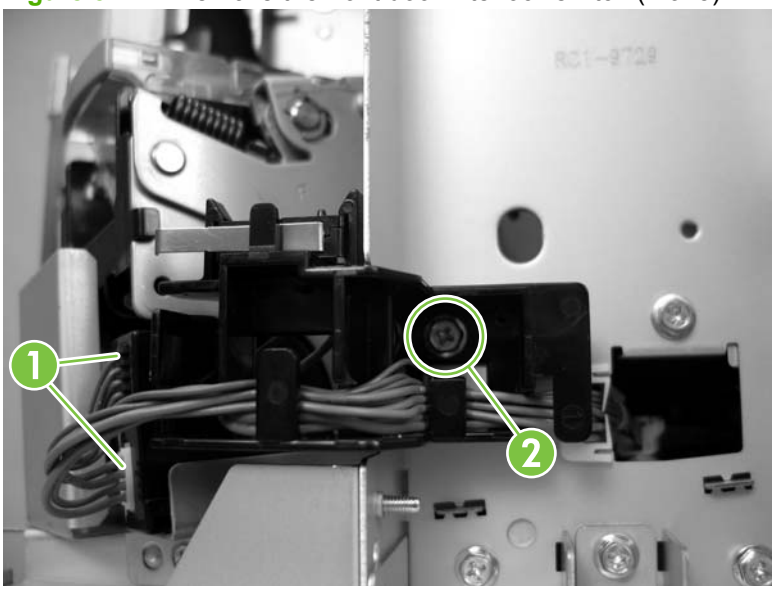
Figure 5-171 Install the jogger guide unit (2 of 2)



Front door interlock switch

1. Remove the following components or assemblies:
   - Stapler rear cover. See Rear cover on page 254.
   - Stapler left door. See Left door on page 255.
   - Stapler left cover. See Left cover on page 258.
   - Stapler left and right rear covers. See Right and left rear covers on page 260.
   - Stapler front door and stapler unit cover. See Front door and stapler unit cover on page 262.
   - Stapler output bin. See Output bin on page 256.
   - Stapler output bin stay. See Output bin stay (support arm) on page 266.
   - Stapler rear inner cover. See Rear inner cover on page 267.
   - Stapler stack cover. See Stack cover on page 268.
   - Stapler paper feed unit. See Paper feed assembly (stapler) on page 271.
   - Stapler alignment unit. See Alignment and jogger guide assembly on page 272.
2. Disconnect two connectors (callout 1) and remove one screw (callout 2).

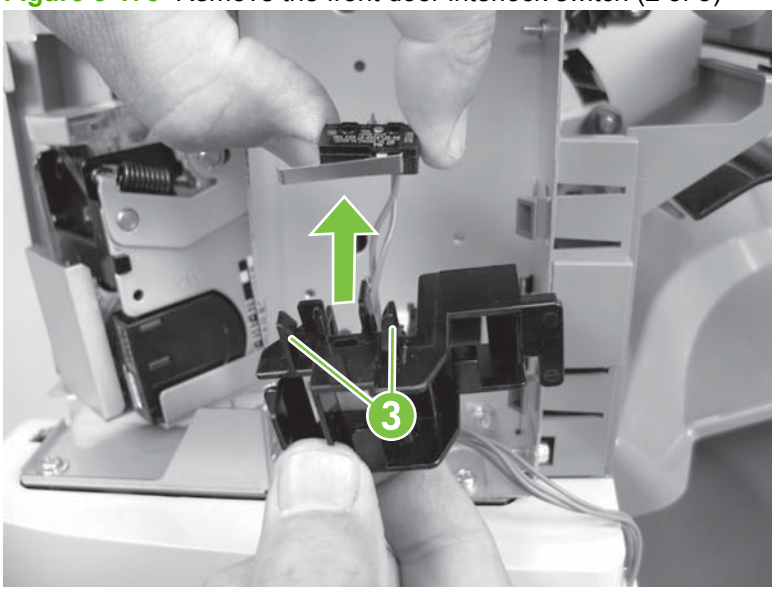
Figure 5-172 Remove the front door interlock switch (1 of 3)



3. Release the wire harnesses from the retainer and remove the retainer.

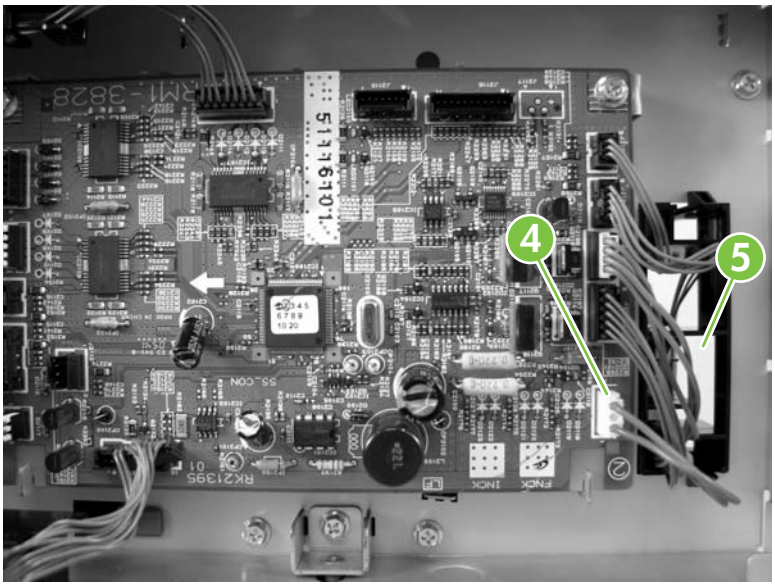
4. Release two tabs (callout 3) and remove the front door interlock switch.

Figure 5-173 Remove the front door interlock switch (2 of 3)



5. Disconnect one connector (callout 4; J2101) from the stapler PCA and pass the wire harness through the hole in the stapler chassis (callout 5).

Figure 5-174 Remove the front door interlock switch (3 of 3)



6. Remove the front door interlock switch.

Print engine (base unit)

NOTE: For information about replacing the Tray 1, Tray 2, and Tray 3 pickup and feed rollers, separation pads, and the engine fuser, see User-replaceable parts on page 178.

- Formatter cover
- Face-down cover
- Left door
- Left upper cover
- Rear cover
- Front cover
- Face-down side cover
- Top inner cover
- Front inner cover
- Right door
- Lower left cover
- Left rear cover
- Top cover
- Right rear inner cover
- Right rear cover
- Left rear inner cover
- Print cartridge door
- Registration assembly
- Fuser pressure release assembly
- Fuser
- Paper delivery assembly
- Paper feed assembly (base unit)
- Fuser fan
- Fuser motor
- Laser/scanner
- Low-voltage power supply assembly
- Interconnect PCA assembly
- High-voltage power supply

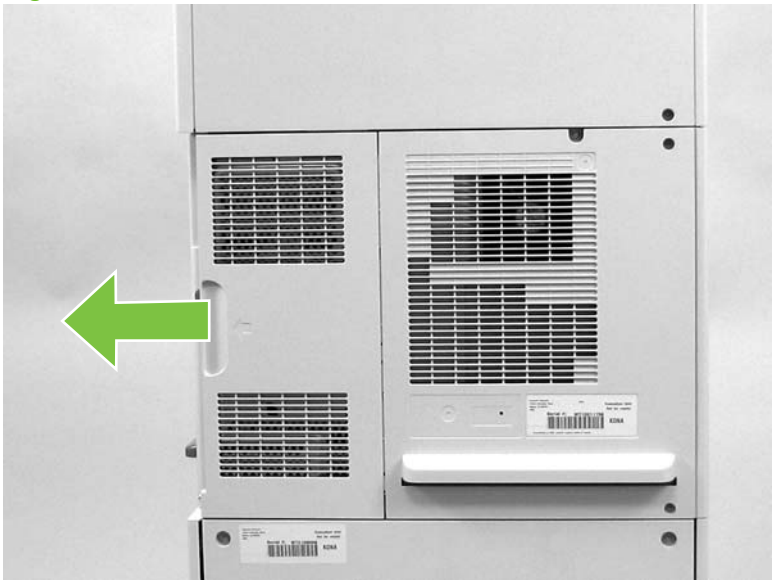
- Lifter drive assembly
- DC controller PCA
- Upper cassette pickup assembly
- Lower cassette drive assembly
- Main motor
- Lower cassette pickup assembly



Formatter cover

1. Slide the formatter cover toward the right.
2. Remove the formatter cover.

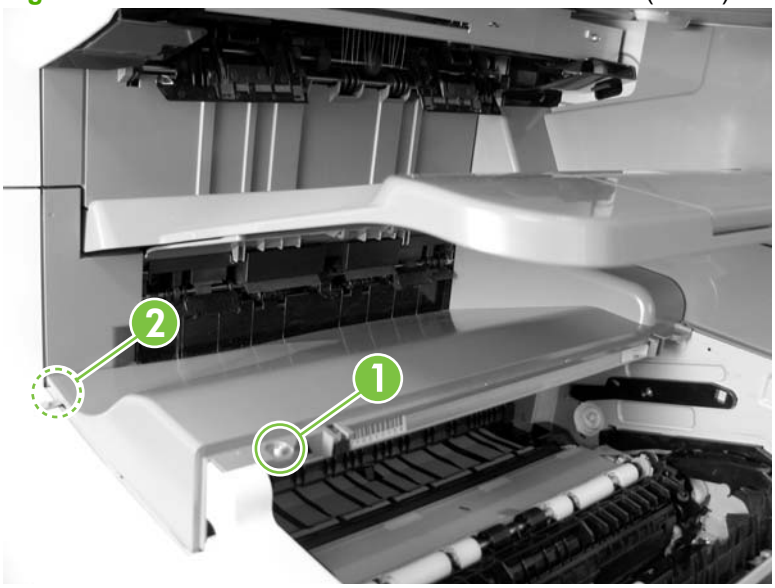
Figure 5-175 Remove the base unit formatter cover



Face-down cover

1. Open the print cartridge door and remove one screw (callout 1). Slightly lift up on the cover and release one tab (callout 2).

Figure 5-176 Remove the base unit face-down cover (1 of 2)



2. Remove the face-down cover.

△ **CAUTION:** Do not break off the face-down cover front locking tab.

Figure 5-177 Remove the base unit face-down cover (2 of 2)

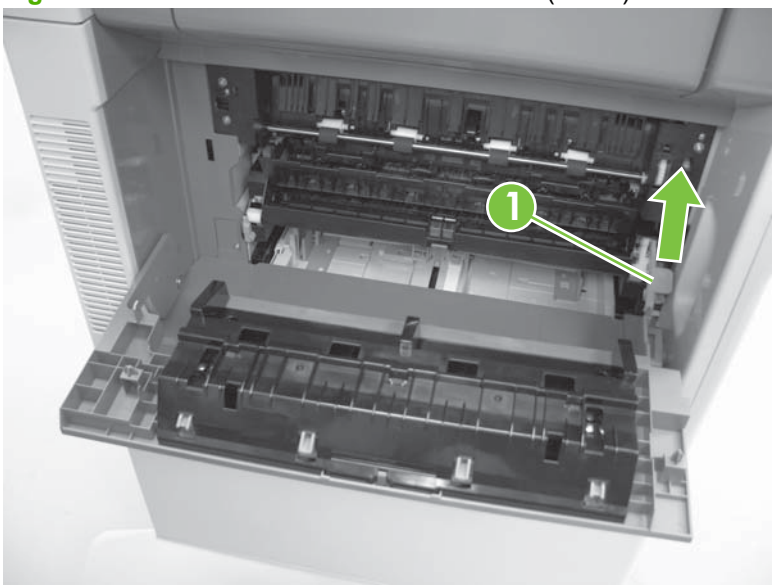


TIP: When you reinstall the face-down cover, make sure that the three tabs are properly inserted in the paper delivery assembly.

Left door

1. Open the left door and lift up on the blue door retainer arm to release it.

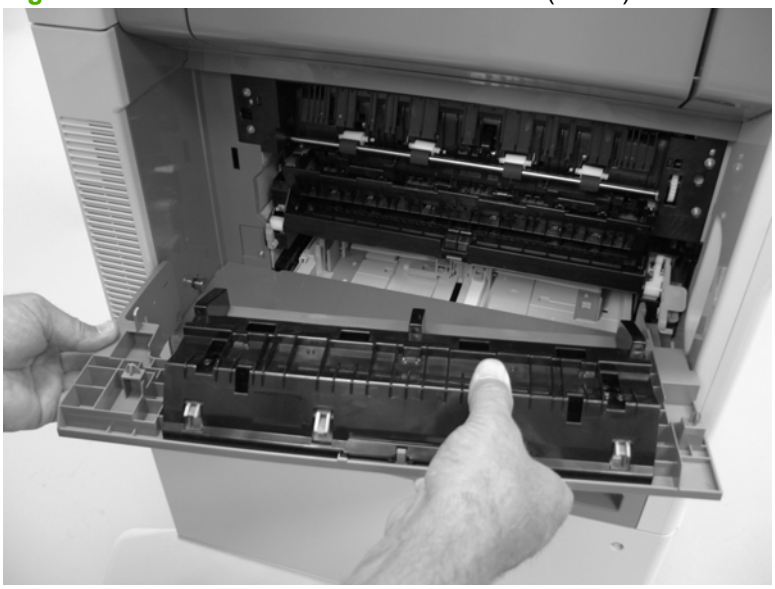
Figure 5-178 Remove the base unit left door (1 of 2)



2. Rotate the left door rear hinge slot away from the device and remove the door.

TIP: When you reinstall the left door, forcibly close the door to engage the door retainer arm. Open the door and verify that the retainer is engaged and properly working.

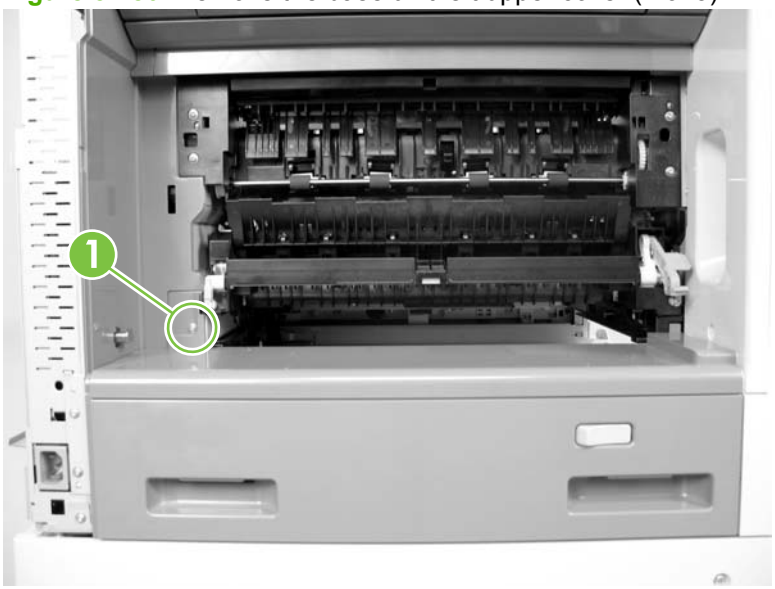
Figure 5-179 Remove the base unit left door (2 of 2)



Left upper cover

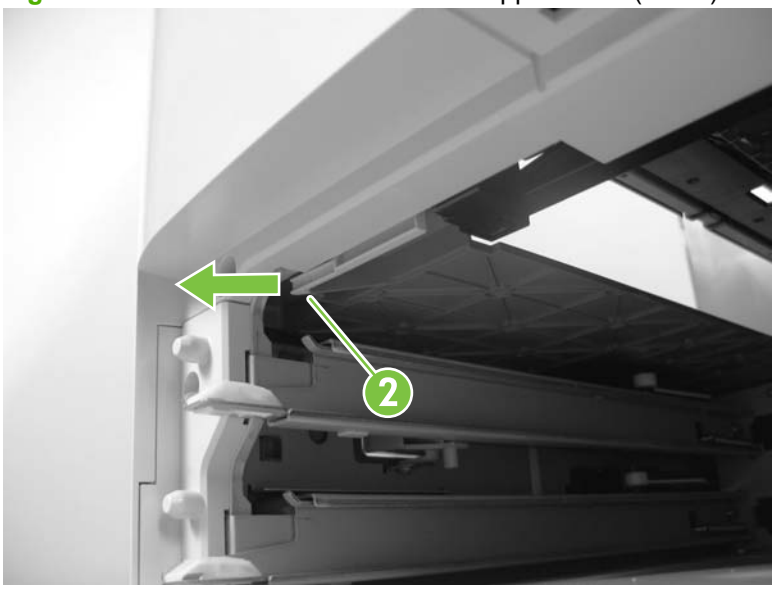
1. Remove the left door. See Left door on page 288.
2. Remove one screw (callout 1).

Figure 5-180 Remove the base unit left upper cover (1 of 3)



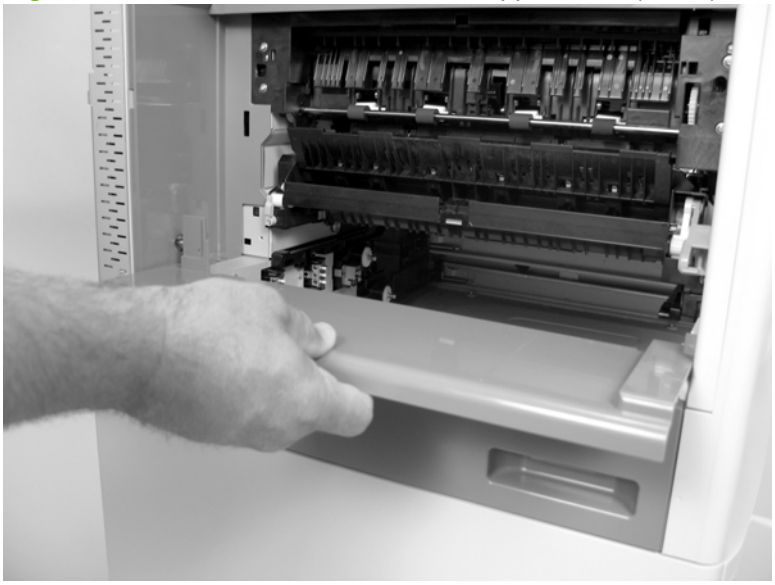
3. Remove Tray 2 and Tray 3.
4. Release one tab (callout 2).

Figure 5-181 Remove the base unit left upper cover (2 of 3)



5. Slide the left upper cover away from the device to remove it.

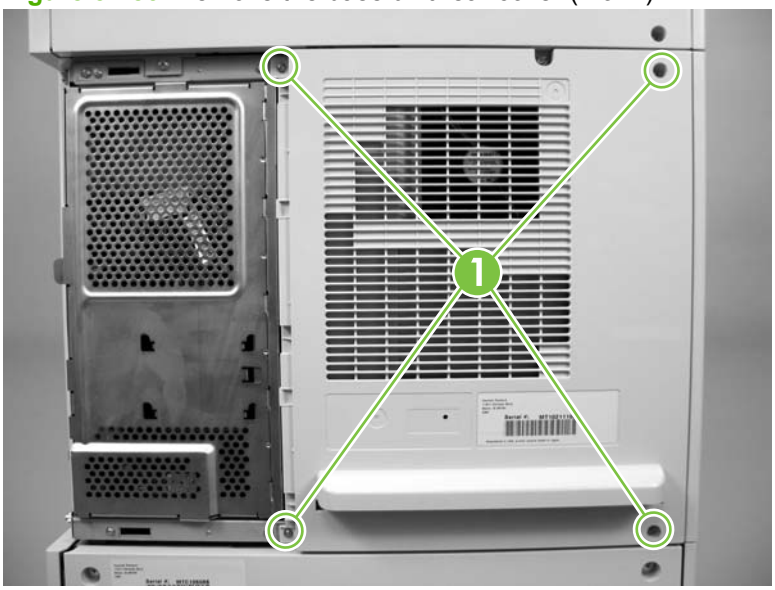
Figure 5-182 Remove the base unit left upper cover (3 of 3)



Rear cover

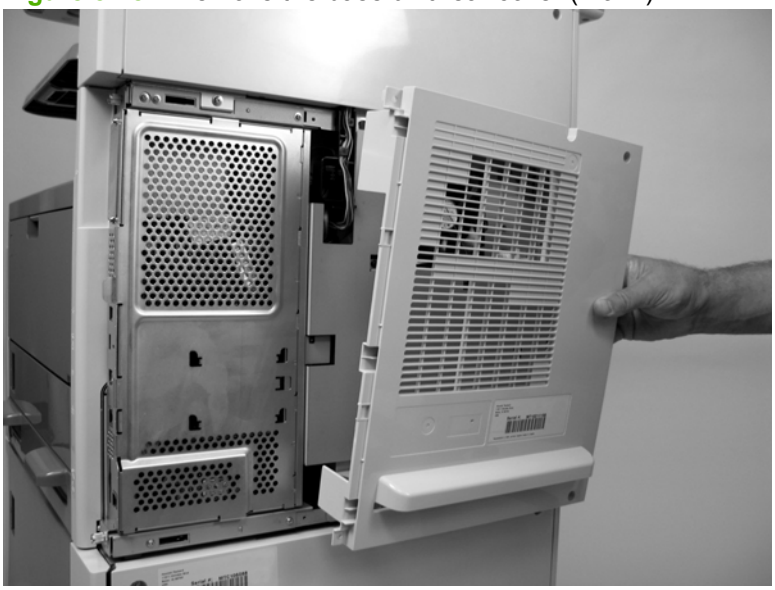
1. Remove the base unit formatter cover. See Formatter cover on page 286.
2. Remove four screws (callout 1).

Figure 5-183 Remove the base unit rear cover (1 of 2)



3. Remove the rear cover.

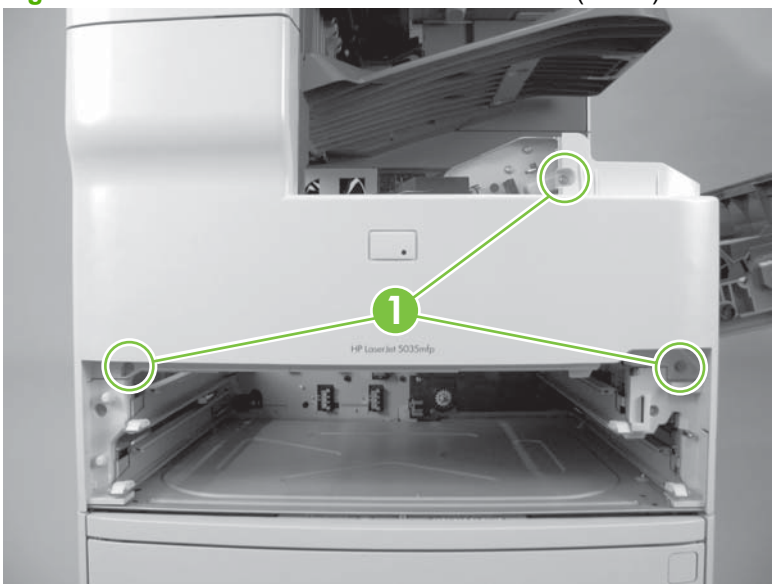
Figure 5-184 Remove the base unit rear cover (2 of 2)



Front cover

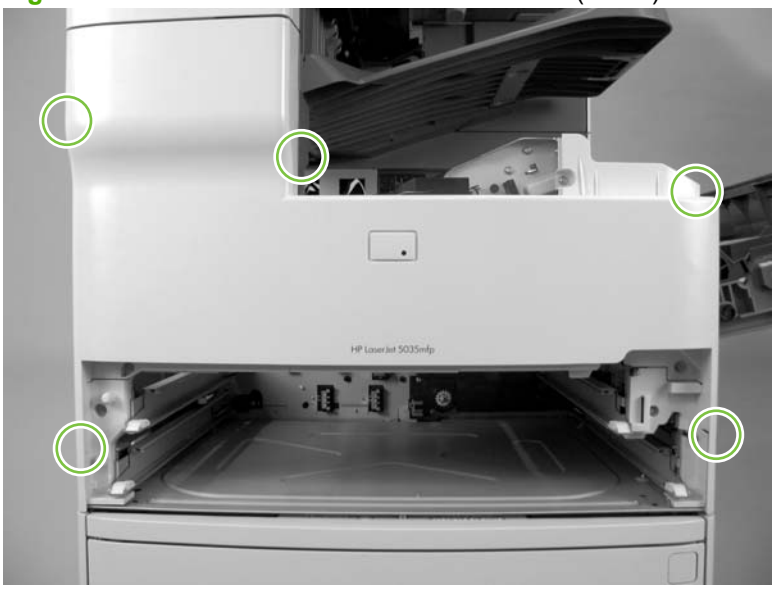
1. Remove the following components or assemblies:
   - Base unit face-down cover. See Face-down cover on page 287.
   - Base unit top cover. See Top cover on page 307.
2. Remove Tray 2 and Tray 3. Open the print cartridge door.
3. Remove three screws (callout 1).

Figure 5-185 Remove the base unit front cover (1 of 7)



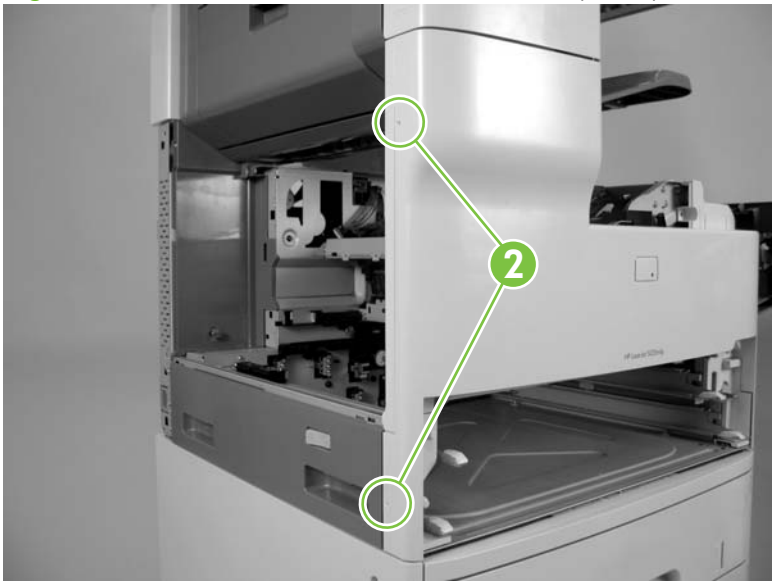
4. Before you begin, identify the locations of the five front cover locking tabs.

Figure 5-186 Remove the base unit front cover (2 of 7)



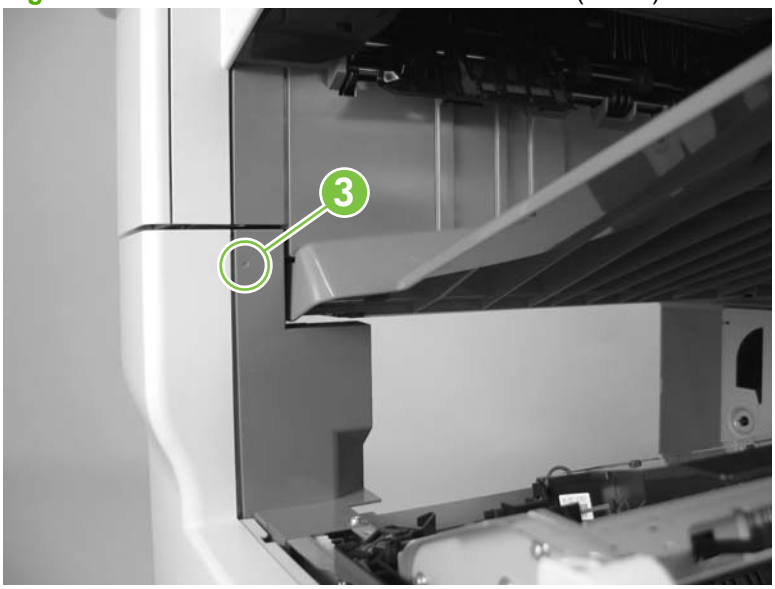
5. Release two tabs (callout 2).

Figure 5-187 Remove the base unit front cover (3 of 7)



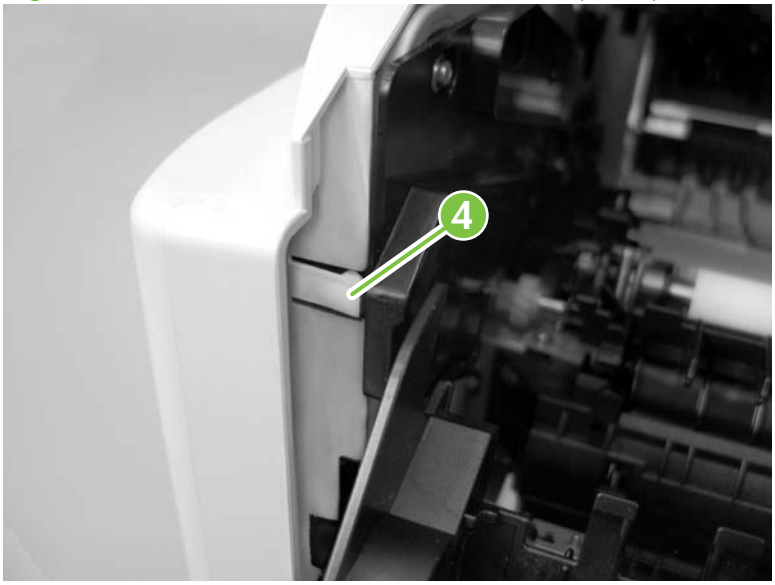
6. Release one tab (callout 3).

Figure 5-188 Remove the base unit front cover (4 of 7)



7. Release one tab (callout 4).

Figure 5-189 Remove the base unit front cover (5 of 7)



8. Release one tab (callout 5).

Figure 5-190 Remove the base unit front cover (6 of 7)



9. Remove the front cover.

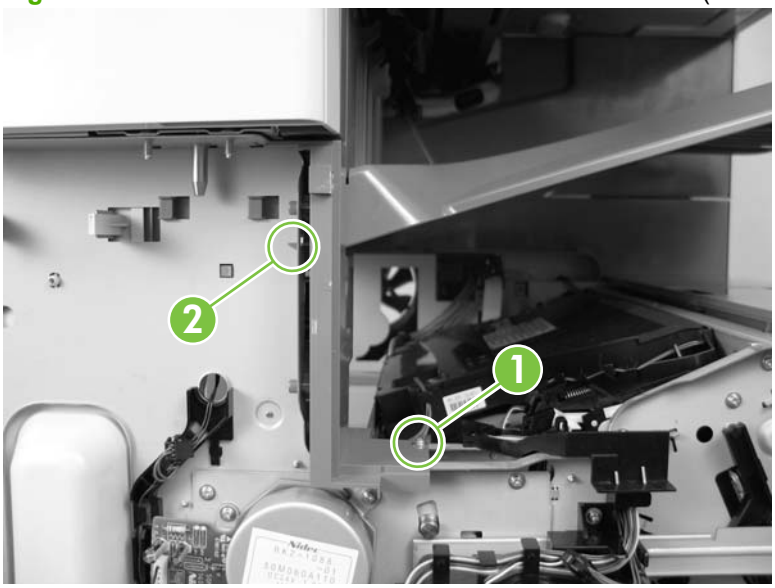
Figure 5-191 Remove the base unit front cover (7 of 7)



Face-down side cover

1. Remove the following components or assemblies:
   - Base unit face-down cover. See Face-down cover on page 287.
   - Base unit top cover. See .Top cover on page 307
   - Base unit front cover. See Front cover on page 292.
2. Remove one screw (callout 1) and release one tab (callout 2).

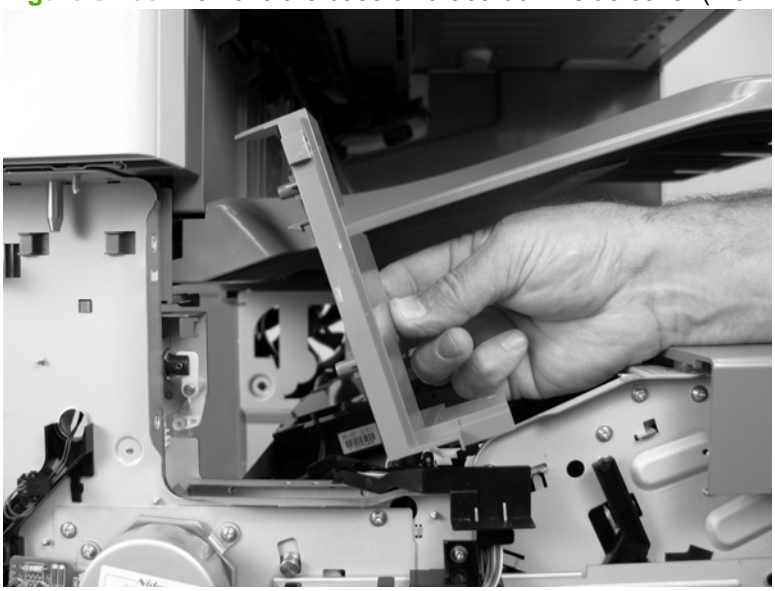
Figure 5-192 Remove the base unit face-down side cover (1 of 2)



3. Remove the face-down side cover.

TIP: It might be easier to remove this cover if you first remove the output bin. See Output bin on page 256.

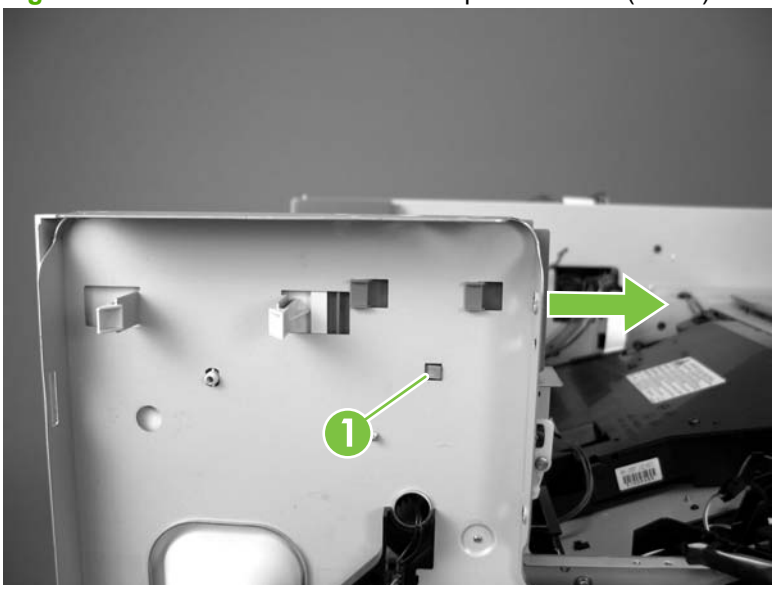
Figure 5-193 Remove the base unit face-down side cover (2 of 2)



Top inner cover

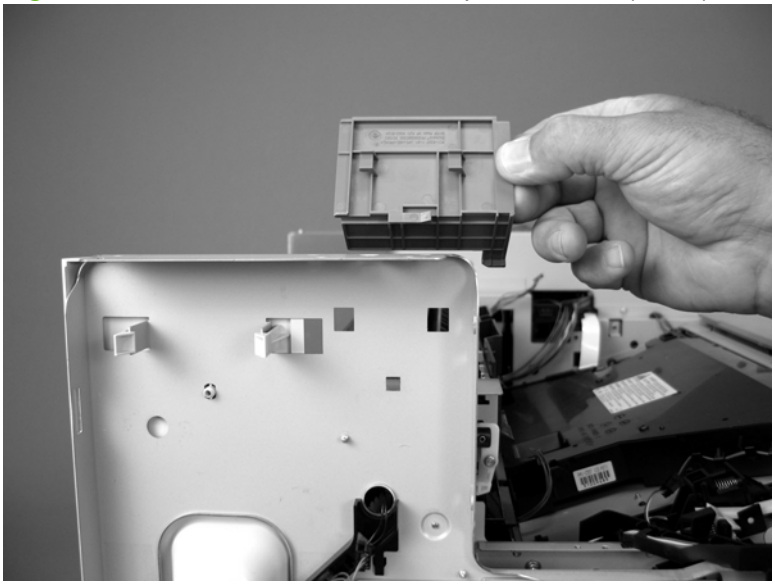
1. Remove the following components or assemblies:
   - ADF. See ADF assembly on page 200.
   - Scanner. See Scanner assembly on page 228.
   - Stapler. See Stapler/stacker assembly on page 250.
   - Base unit face-down cover. See Face-down cover on page 287.
   - Base unit top cover. See Top cover on page 307
   - Base unit front cover. See Front cover on page 292.
   - Base unit face-down side cover. See Face-down side cover on page 296.
2. Release one tab (callout 1) and slide the cover toward the right side of the device to release it.

Figure 5-194 Remove the base unit top inner cover (1 of 2)



3. Remove the top inner cover.

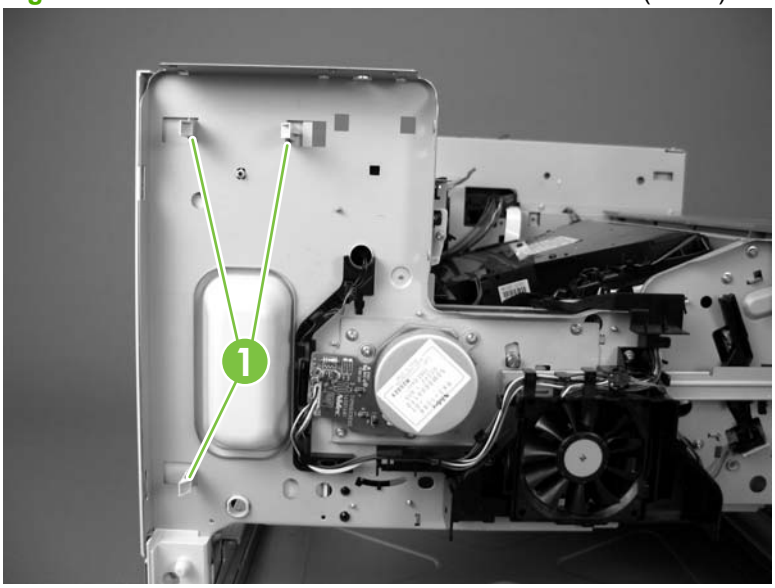
Figure 5-195 Remove the base unit top inner cover (2 of 2)



Front inner cover

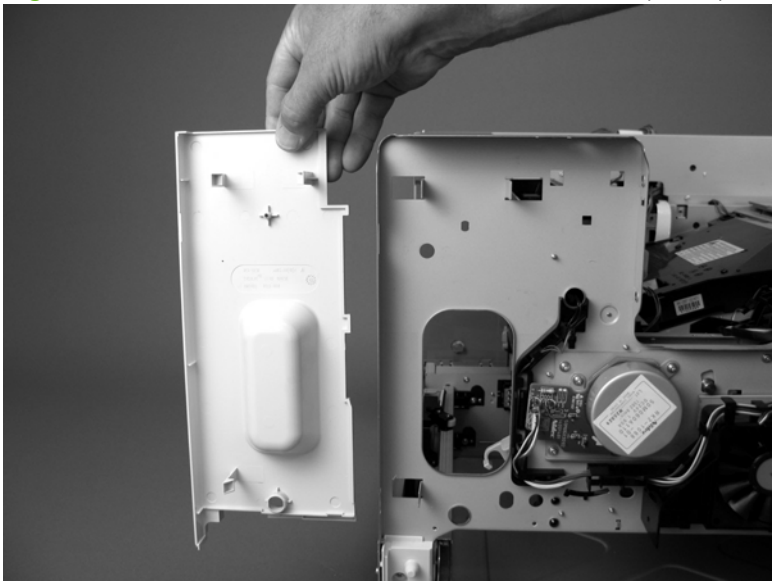
1. Remove the following components or assemblies:
   - ADF. See ADF assembly on page 200.
   - Scanner. See Scanner assembly on page 228.
   - Stapler/stacker. See Stapler/stacker assembly on page 250.
   - Pressure release assembly. See Fuser pressure release assembly on page 323.
   - Base unit face-down cover. See Face-down cover on page 287.
   - Base unit top cover. See Top cover on page 307
   - Base unit front cover. See Front cover on page 292.
   - Base unit face-down side cover. See Face-down side cover on page 296.
   - Base unit top inner cover. See Top inner cover on page 297.
2. Release three tabs (callout 1).

Figure 5-196 Remove the base unit front inner cover (1 of 2)



3. Remove the front inner cover.

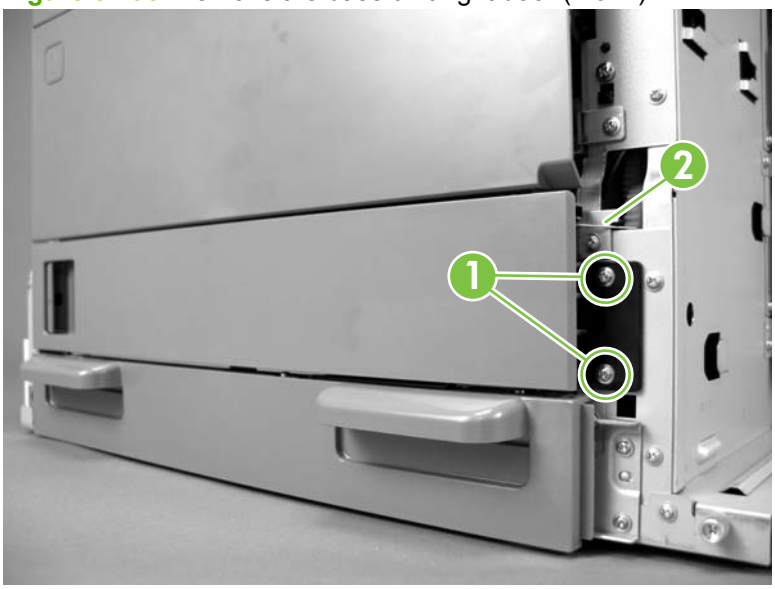
Figure 5-197 Remove the base unit front inner cover (2 of 2)



Right door

1. Remove the following components or assemblies:
   - ADF. See ADF assembly on page 200.
   - Scanner. See Scanner assembly on page 228.
   - Stapler/stacker. See Stapler/stacker assembly on page 250.
   - Base unit formatter cover. See Formatter cover on page 286.
   - Base unit top cover. See Top cover on page 307.
   - Base unit rear cover. See Right rear cover on page 310.
   - Base unit right rear inner cover. See Right rear inner cover on page 308.
   - Base unit right rear cover. See Right rear cover on page 310.
2. Remove two screws (callout 1) and release the spring (callout 2).

Figure 5-198 Remove the base unit right door (1 of 2)



3. Open the right door and move it slightly toward the front of the device.

4. Release the door retainer arm and remove the right door.

Figure 5-199 Remove the base unit right door (2 of 2)



5. Make sure that you correctly position the spring behind the lip on the device chassis when you reinstall the right door.

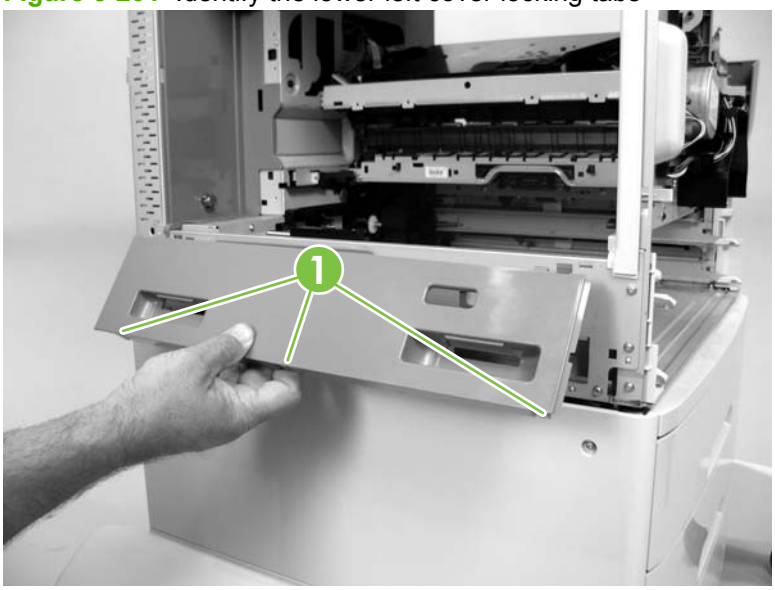
Figure 5-200 Install the base unit right door



Lower left cover

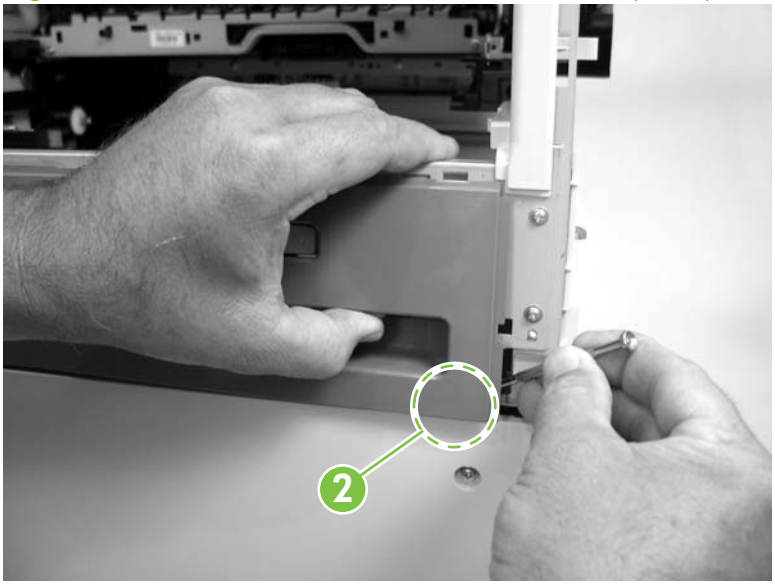
1. Remove the following components or assemblies:
   - Base unit formatter cover. See Formatter cover on page 286.
   - Base unit rear cover. See Rear cover on page 291.
   - Base unit left rear cover. See Left rear cover on page 306.
   - Base unit left door. See Left door on page 288.
   - Base unit left upper cover. See Left upper cover on page 289.
   - Base unit front cover. See Front cover on page 292.
2. Beforeyou begin this procedure, identify the location of the three locking tabs (callout 1) along the bottom edge of the lower left cover.

Figure 5-201 Identify the lower left cover locking tabs



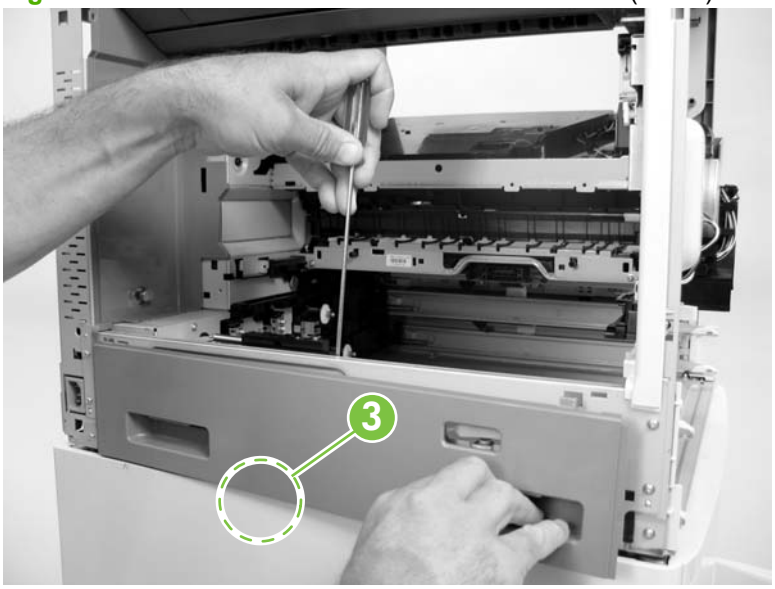
3. Release one tab (callout 2) at the bottom edge of the cover.

Figure 5-202 Remove the base unit lower left cover (1 of 4)



4. Use a long flat-blade screwdriver to release one tab (callout 3) at the bottom edge of the cover.

Figure 5-203 Remove the base unit lower left cover (2 of 4)



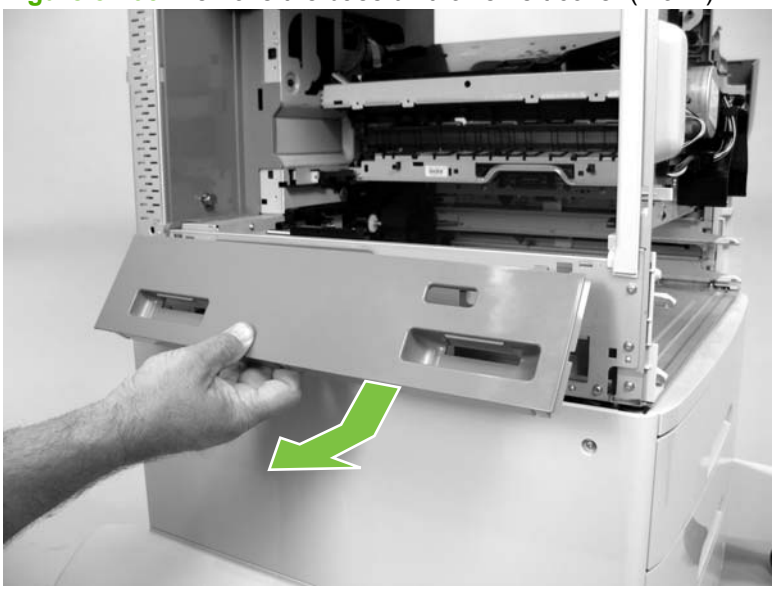
5. Use a long flat-blade screwdriver to release one tab at the bottom edge of the cover.

Figure 5-204 Remove the base unit lower left cover (3 of 4)



6. Rotate the bottom of the cover out and away from the device. Slightly lower the cover to release it and then remove the cover.

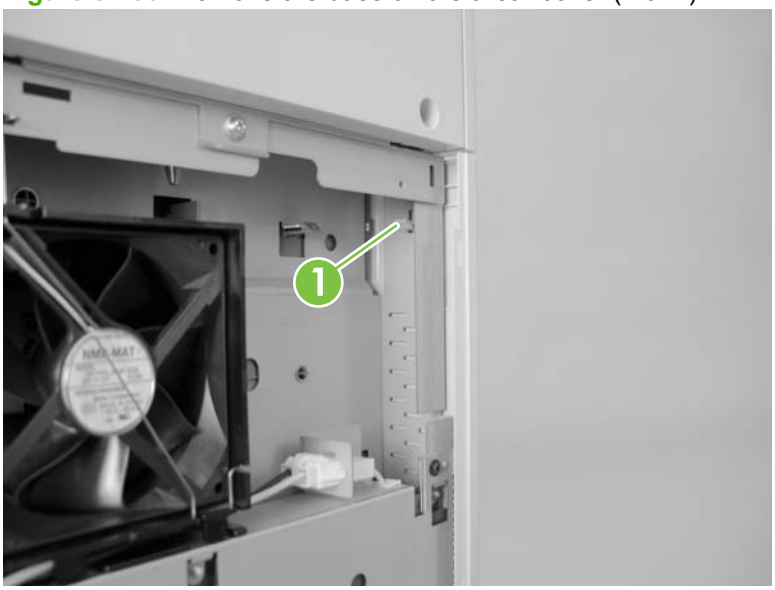
Figure 5-205 Remove the base unit lower left cover (4 of 4)



Left rear cover

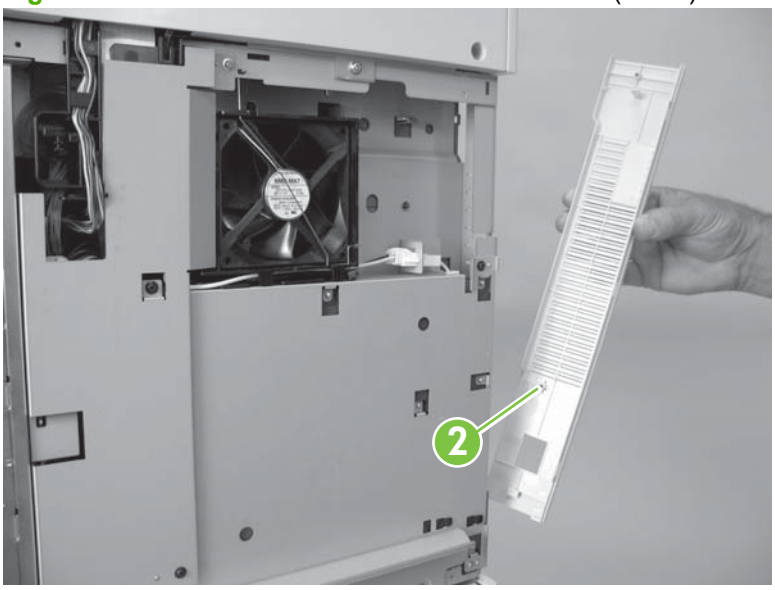
1. Remove the following components or assemblies:
   - Base unit formatter cover. See Formatter cover on page 286.
   - Base unit rear cover. See Rear cover on page 291.
2. Release one tab (callout 1)

Figure 5-206 Remove the base unit left rear cover (1 of 2)



3. Slightly flex the cover away from the MFP to release one pin (callout 2) and then slide the cover up to release it. Remove the left rear cover.

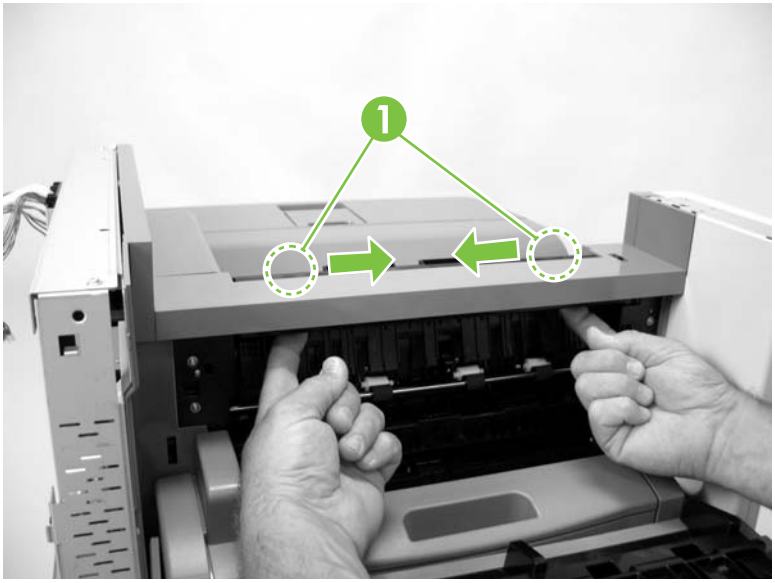
Figure 5-207 Remove the base unit left rear cover (2 of 2)



Top cover

1. Remove the following components or assemblies:
   - ADF. See ADF assembly on page 200.
   - Scanner. See Scanner assembly on page 228.
   - Stapler/stacker. See Stapler/stacker assembly on page 250.
   - Base unit face-down cover. See Face-down cover on page 287.
2. Release two tabs (callout 1) and remove the top cover.

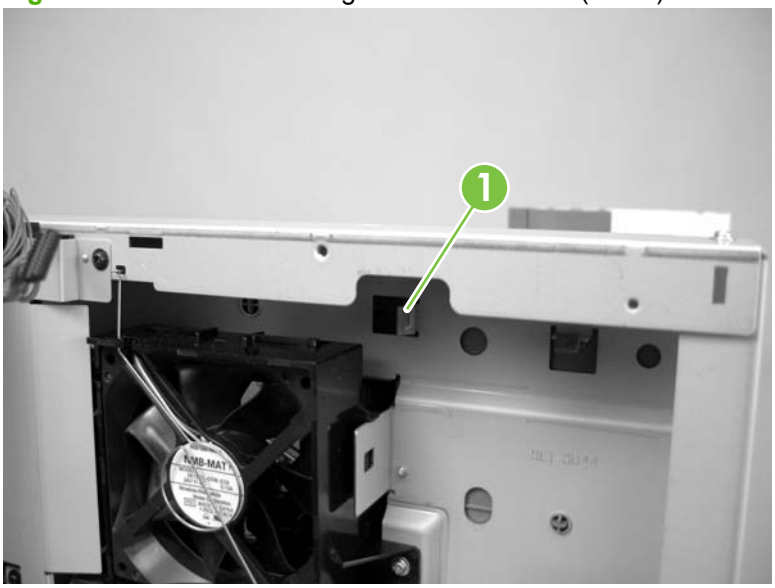
Figure 5-208 Remove the base unit top cover



Right rear inner cover

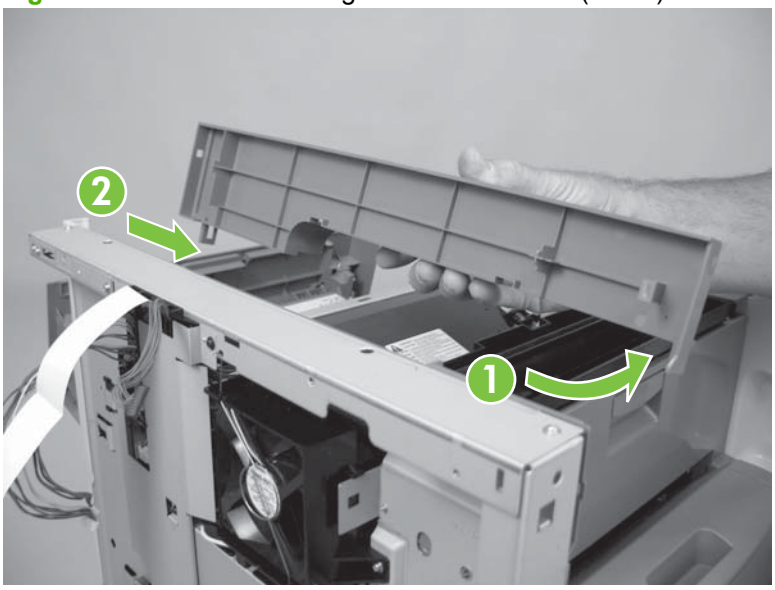
1. Remove the following components or assemblies:
   - ADF. See ADF assembly on page 200.
   - Scanner. See Scanner assembly on page 228.
   - Stapler/stacker. See Stapler/stacker assembly on page 250.
   - Base unit formatter cover. See Formatter cover on page 286.
   - Base unit rear cover. See Rear cover on page 291.
   - Base unit face-down cover. See Face-down cover on page 287.
   - Base unit top cover. See Top cover on page 307.
2. Release one tab (callout 1).

Figure 5-209 Remove the right rear inner cover (1 of 2)



3. Slightly rotate the end of the cover nearest the left door away from the device and then slide the cover toward the left door to release it. Remove the cover.

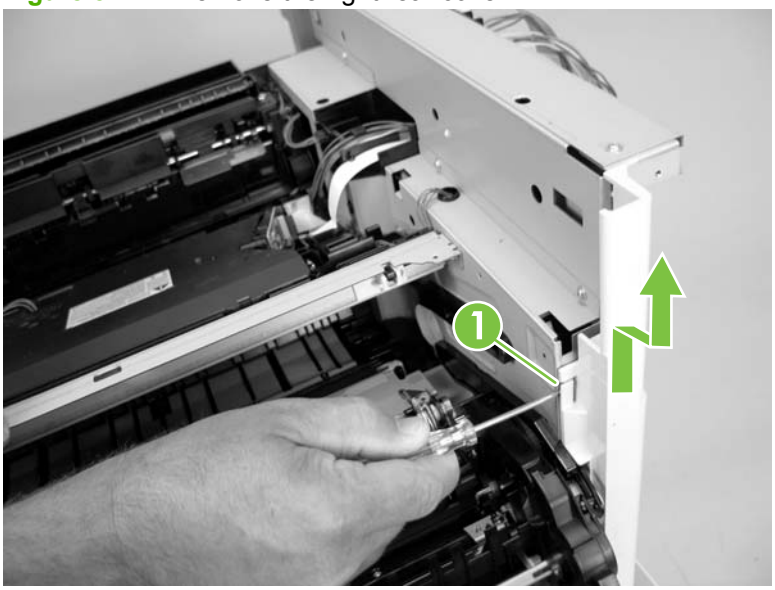
Figure 5-210 Remove the right rear inner cover (2 of 2)



Right rear cover

1. Remove the following components or assemblies:
   - ADF. See ADF assembly on page 200.
   - Scanner. See Scanner assembly on page 228.
   - Stapler/stacker. See Stapler/stacker assembly on page 250.
   - Base unit formatter cover. See Formatter cover on page 286.
   - Base unit rear cover. See Rear cover on page 291.
   - Base unit face-down cover. See Face-down cover on page 287.
   - Base unit top cover. See Top cover on page 307.
   - Base unit right rear inner cover. See Right rear inner cover on page 308.
2. Release one tab (callout 1) and lift the right rear cover up and off of the device.

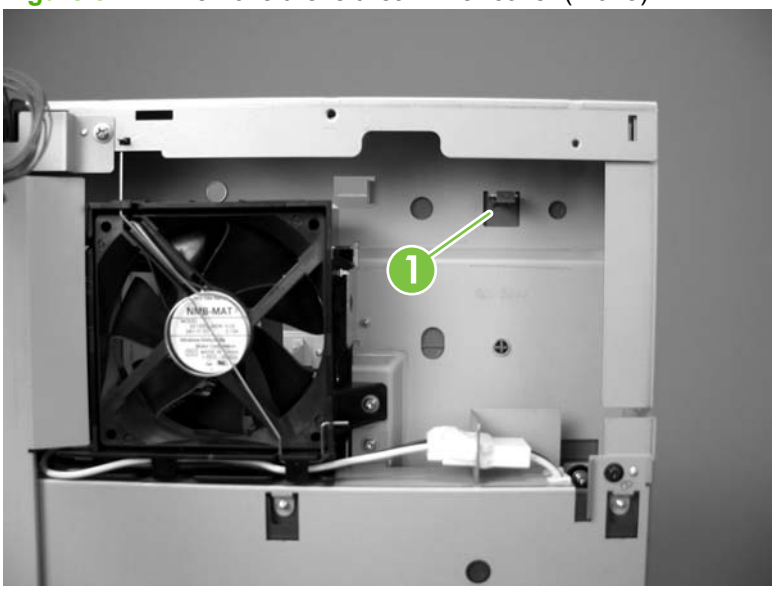
Figure 5-211 Remove the right rear cover



Left rear inner cover

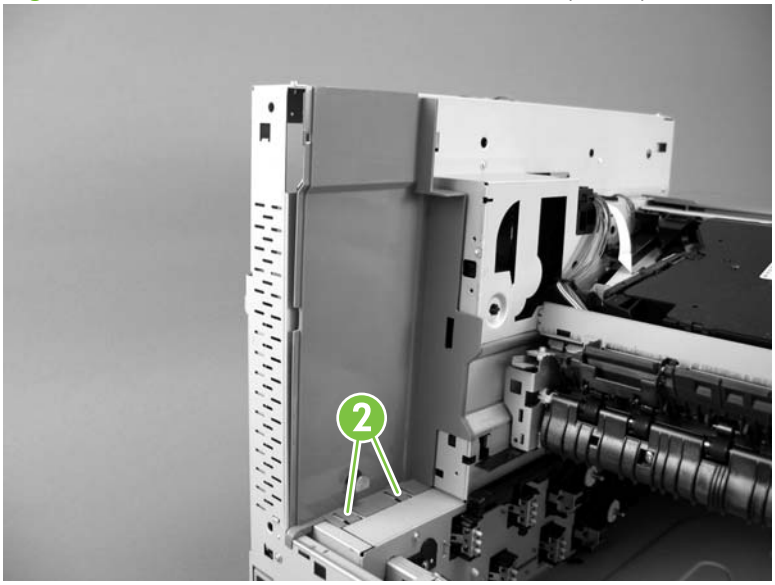
1. Remove the following components or assemblies:
   - ADF. See ADF assembly on page 200.
   - Scanner. See Scanner assembly on page 228.
   - Stapler. See Stapler/stacker assembly on page 250.
   - Base unit formatter cover. See Formatter cover on page 286.
   - Base unit face-down cover. See Face-down cover on page 287.
   - Base unit top cover. See Top cover on page 307.
   - Base unit rear cover. See Rear cover on page 291.
   - Base unit left rear cover. See Left rear cover on page 306.
   - Base unit right rear inner cover. See Right rear inner cover on page 308.
   - Pressure release assembly. See Fuser pressure release assembly on page 323.
   - Paper delivery assembly. See Paper delivery assembly on page 325.
2. Release one tab (callout 1).

Figure 5-212 Remove the left rear inner cover (1 of 3)



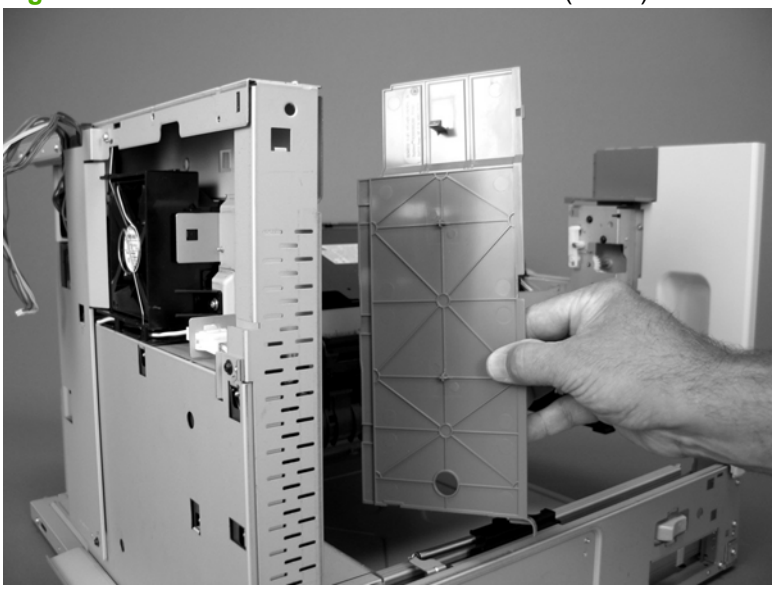
3. Release two tabs (callout 2).

Figure 5-213 Remove the left rear inner cover (2 of 3)



4. Remove the left rear inner cover.

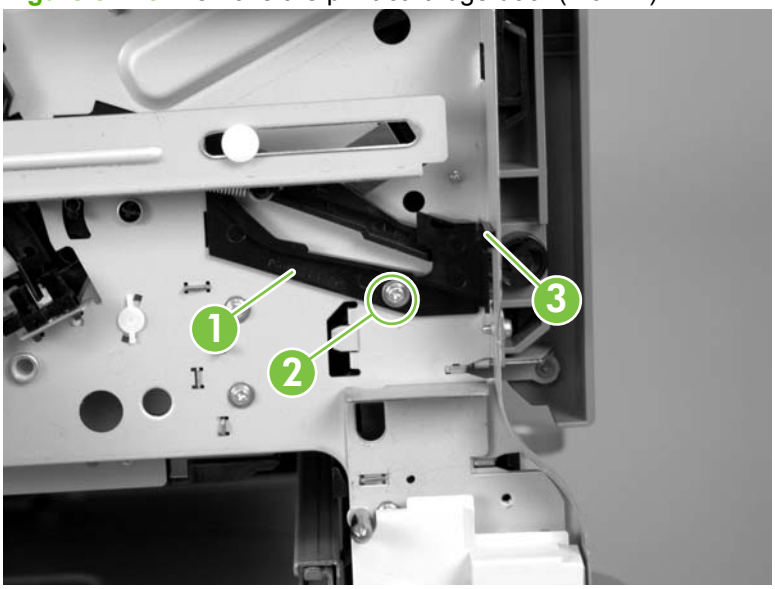
Figure 5-214 Remove the left rear inner cover (3 of 3)



Print cartridge door

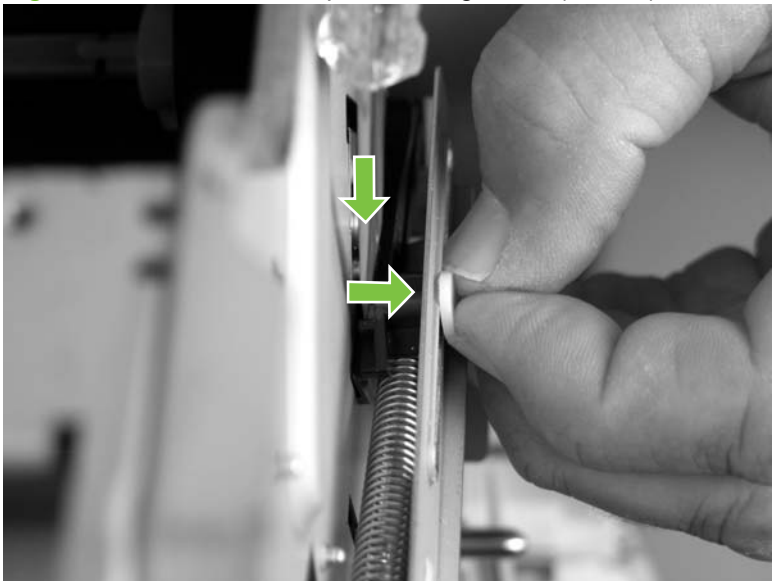
1. Remove the following components or assemblies:
   - ADF. See ADF assembly on page 200.
   - Scanner. See Scanner assembly on page 228.
   - Stapler/stacker. See Stapler/stacker assembly on page 250.
   - Base unit formatter cover and cage. See Formatter cover and cage on page 195.
   - Base unit rear cover. See Rear cover on page 291.
   - Base unit face-down cover. See Face-down cover on page 287.
   - Base unit top cover. See Top cover on page 307.
   - Base unit front cover. See Front cover on page 292.
   - Base unit left rear cover. See Left rear cover on page 306.
   - Base unit right rear cover. See Right rear cover on page 310.
   - Base unit right rear inner cover. See Right rear inner cover on page 308.
   - Base unit right door. See Right door on page 301.
   - Low voltage power supply. See Low-voltage power supply assembly on page 337.
   - Interconnect PCA assembly. See Interconnect PCA assembly on page 340.
   - Lower cassette drive unit. See Lower cassette drive assembly on page 357.
2. Locate the linkage guide (callout 1) on the front of the device. Remove one screw (callout 2) and release one tab (callout 3) to release the linkage guide. Remove the guide.

Figure 5-215 Remove the print cartridge door (1 of 12)



3. Use a small flat-blade screwdriver to release the locking tab on the white plastic linkage pin.

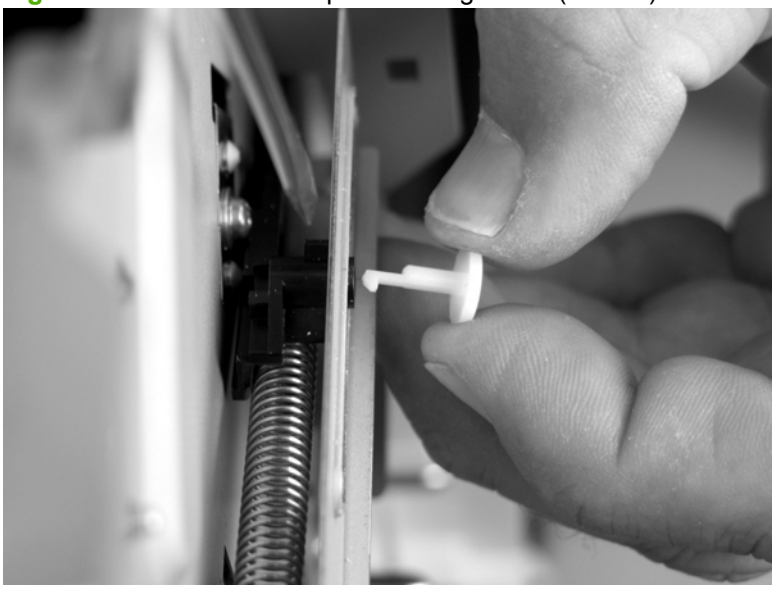
Figure 5-216 Remove the print cartridge door (2 of 12)



4. Carefully pull the linkage pin out and away from the door linkage.

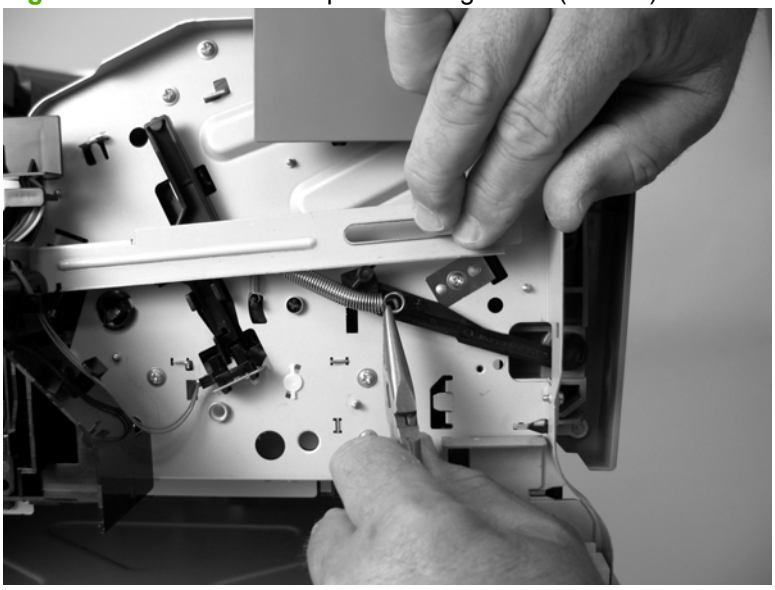
△ **CAUTION:** Be careful not to break the tab off of the pin.

Figure 5-217 Remove the print cartridge door (3 of 12)



5. Close the print cartridge door to release the tension on the linkage spring. Slightly raise the linkage arm and use a pair of needle-nose pliers to release the spring from the door linkage.

Figure 5-218 Remove the print cartridge door (4 of 12)

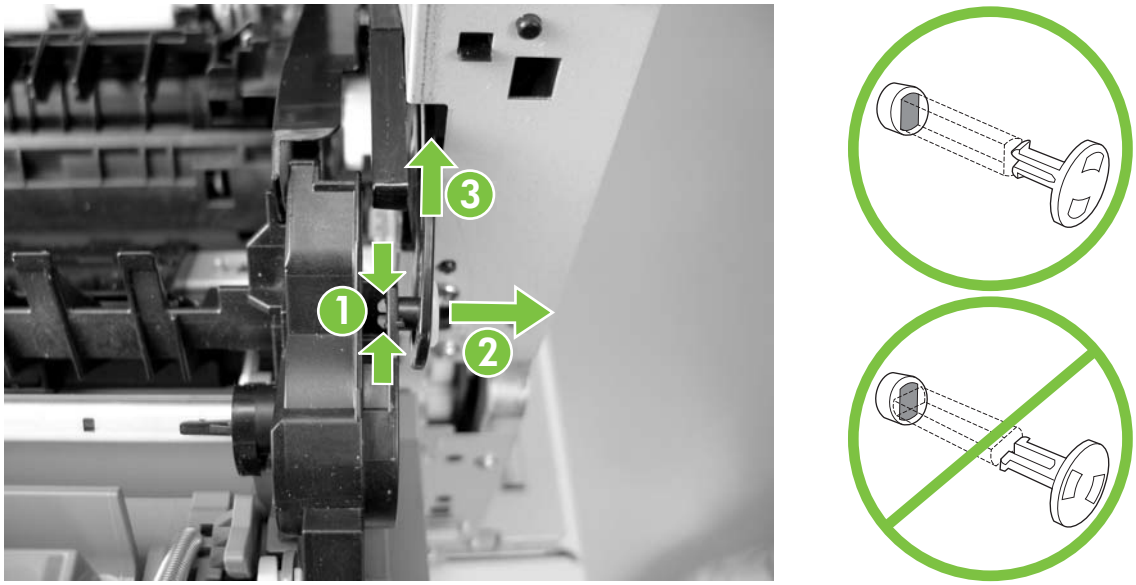


6. Open the print cartridge door and locate the door linkage at the back of the device. Use a pair of needle-nose pliers to squeeze the tabs on the white plastic linkage pin. Carefully pull the pin out and away from the linkage. Disengage the link arm (number three below) and let it **slowly** retract into the device chassis.

△ **CAUTION:** Be careful not to break the tabs off of the linkage pin.

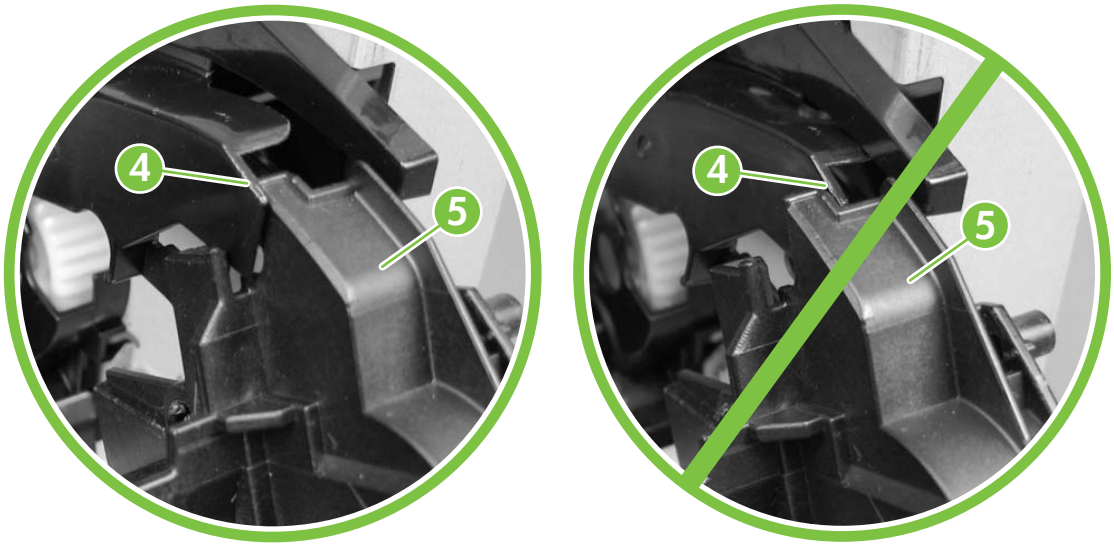
The link arm is connected to a tension spring behind the main motor assembly. The spring is not captive and can disengage from the link arm if the arm is allowed to uncontrollably retract into the chassis. To reattach this spring, you must remove the main motor assembly. See Main motor on page 358.

Figure 5-219 Remove the print cartridge door (5 of 12)



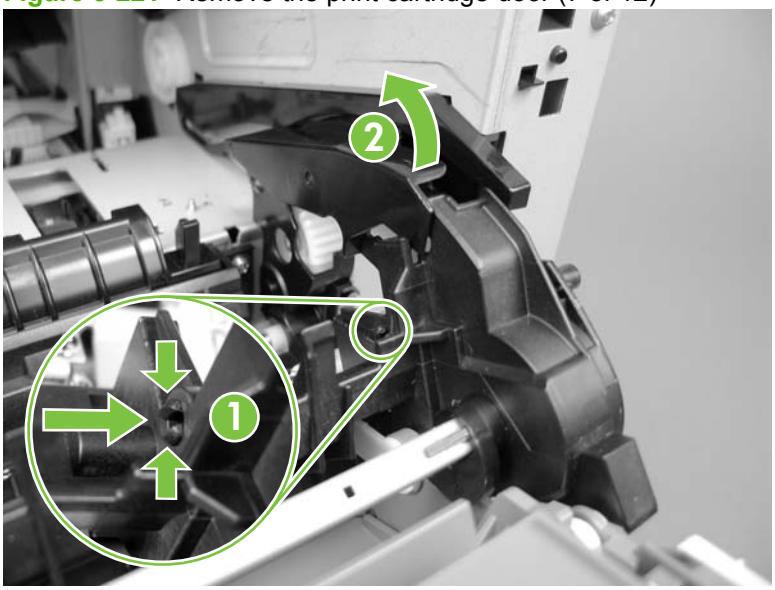
7. Before you proceed, note the position of the gear cover flange (callout 4) in relation to the door linkage (callout 5). The gear cover flange *must* be correctly positioned when the gear cover is reinstalled, or the print cartridge door will not properly close.

Figure 5-220 Remove the print cartridge door (6 of 12)



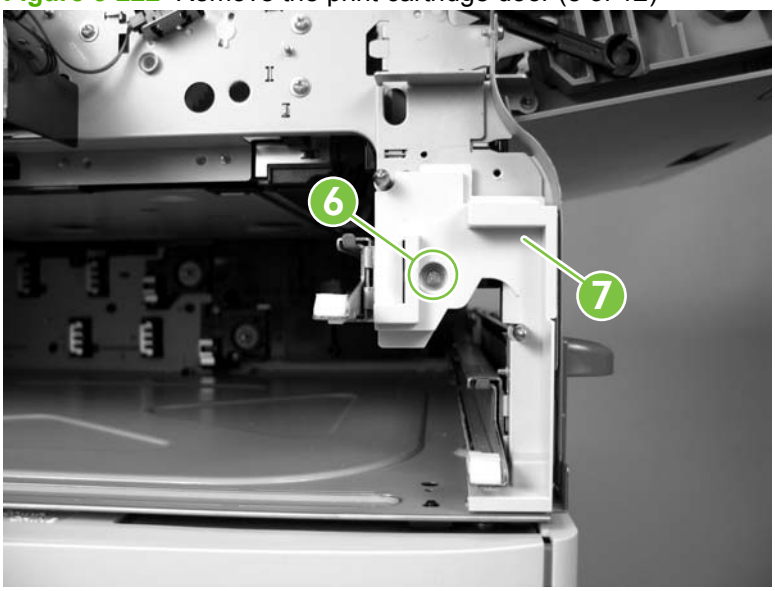
8. Use a pair of needle-nose pliers to squeeze the tabs on the black plastic gear cover retaining pin (1 below). Carefully push the pin in and then rotate the gear cover up and away from the linkage.

Figure 5-221 Remove the print cartridge door (7 of 12)



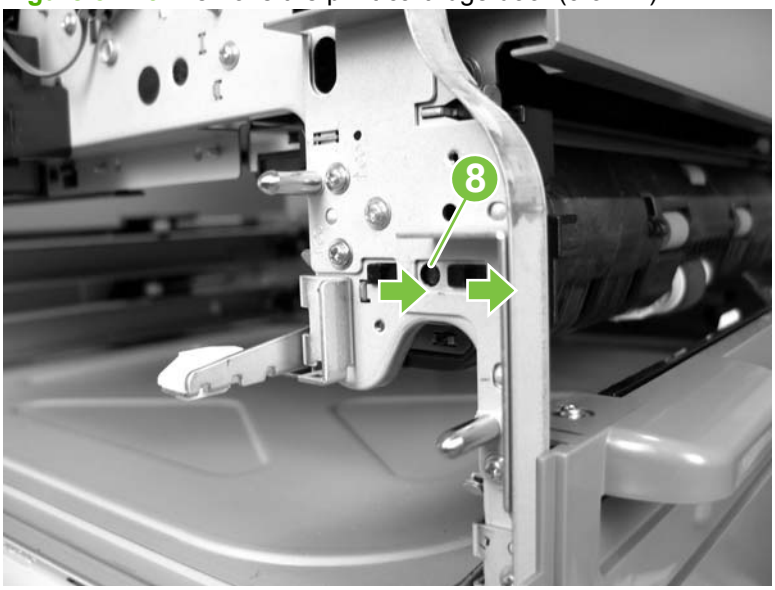
9. Remove one screw (callout 6) and the corner cover (callout 7).

Figure 5-222 Remove the print cartridge door (8 of 12)



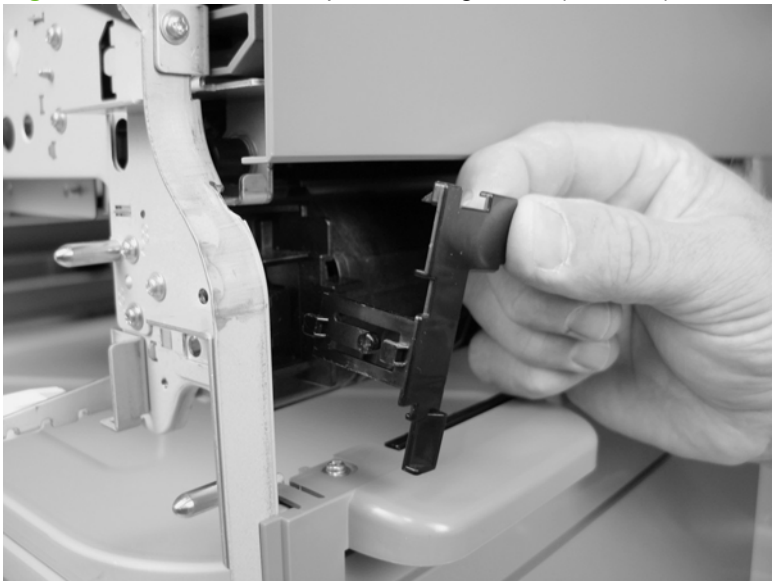
10. Push in on the locking pin (callout 8) and slide the inner cover locking tabs toward the right side of the device.

Figure 5-223 Remove the print cartridge door (9 of 12)



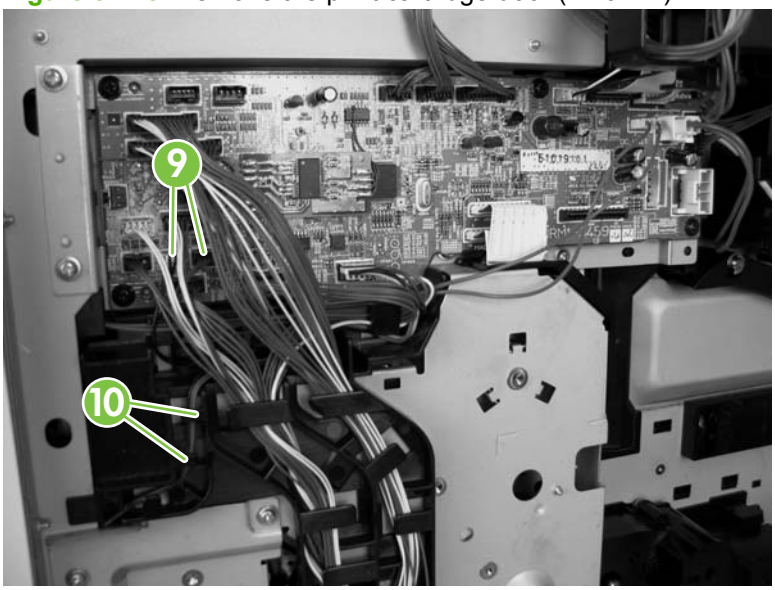
11. Remove the black plastic cover.

Figure 5-224 Remove the print cartridge door (10 of 12)



12. Disconnect two connectors (callout 9; J313 and J316) on the DC controller PCA and release the wire harnesses from the retainer (callout 10).

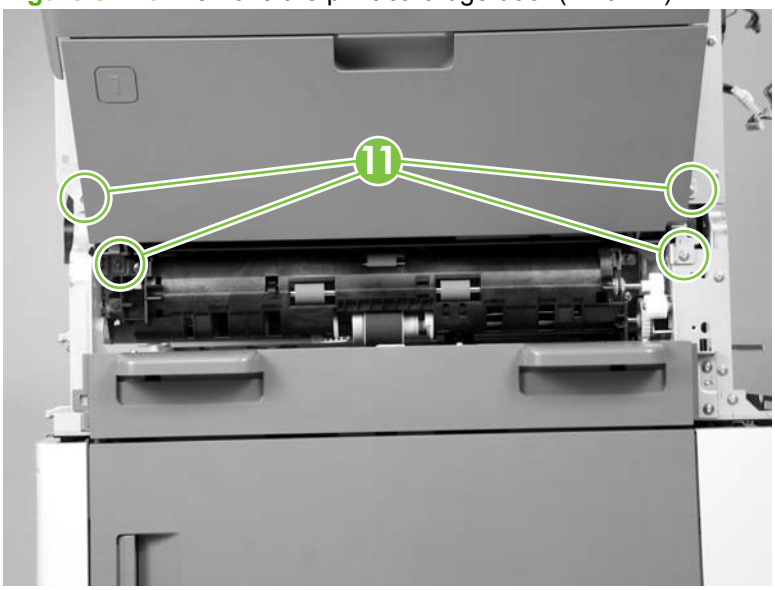
Figure 5-225 Remove the print cartridge door (11 of 12)



13. Remove four screws (callout 11) and carefully separate the print cartridge door from the device. Thread the wire harnesses through the hole in the chassis as you remove the print cartridge door.

TIP: When reinstalling the print cartridge door, make sure that you insert the front linkage through the hole in the chassis before reinstalling the four screws.

Figure 5-226 Remove the print cartridge door (12 of 12)



14. When you reinstall the door, make sure that the wire harness passes through the hole in the chassis with the plastic grommet and that the door linkage passes through the hole in the front of the chassis *before* installing the mounting screws. Figure 5-218 Remove the print cartridge door (4 of 12) on page 315 shows the door linkage installed correctly.

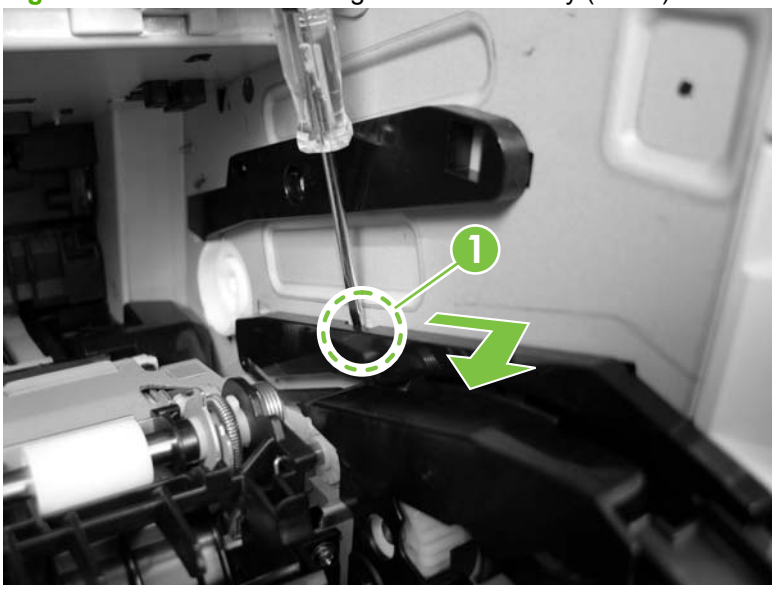
15. When you reinstall the door rear linkage pin, take note of the rectangular shape of the pin and mounting hole. Make sure that the pin is orientated correctly with the hole before you install it to prevent damage to the pin. Figure 5-219 Remove the print cartridge door (5 of 12) on page 315 shows the pin and hole orientation.

Registration assembly

1. Open the print cartridge door.
2. Use a small flat-blade screwdriver to release one tab (callout 1) and slide the guide slightly toward the print cartridge door and then away from the device to release it.

△ **CAUTION:** The tab on the guide lever is fragile and can easily be misshapen. Before you reinstall the guide, make sure that the tab is not bent in such a way that will prevent it from securely fastening the lever to the chassis.

Figure 5-227 Remove the registration assembly (1 of 5)



3. Carefully move the guide and gear cover forward and out of the way.

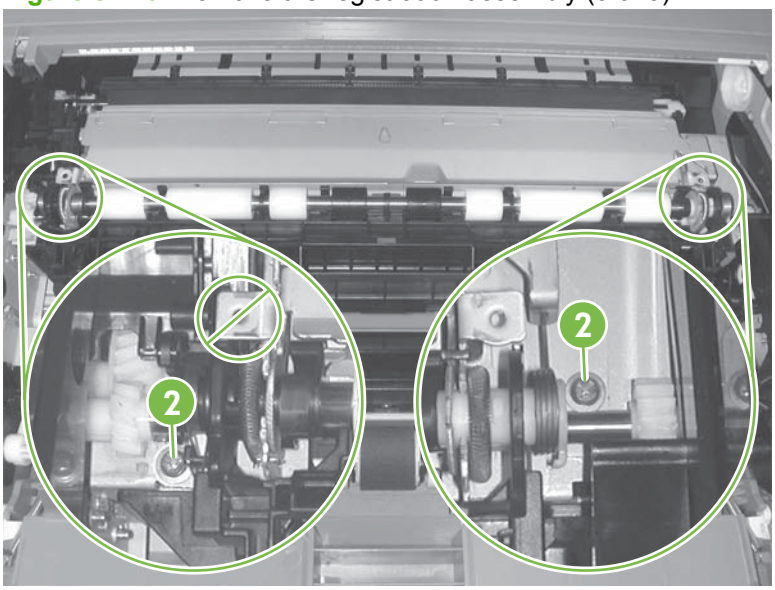
Figure 5-228 Remove the registration assembly (2 of 5)



4. Remove two screws (callout 2).

△ **CAUTION:** Be careful. Do not damage the black plastic spring retainer tab when you remove the screw toward the front of the MFP.

Figure 5-229 Remove the registration assembly (3 of 5)



5. Remove the registration assembly.

NOTE: The stapler output bin and duplex cover are shown removed for clarity. It is not necessary to remove the output bin and duplex cover to remove the registration assembly.

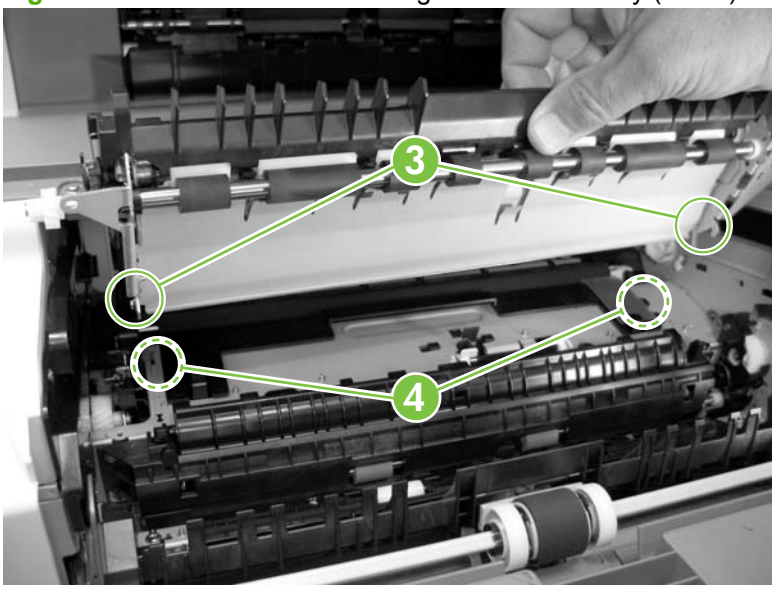
Figure 5-230 Remove the registration assembly (4 of 5)



6. When you reinstall the registration assembly, make sure that the hooks at the rear of the assembly (callout 3) are fully seated in the slots in the device chassis (callout 4). The registration assembly sheet metal will fit flush against the device chassis sheet metal when the assembly is correctly installed.

TIP: If the MFP has excessive jams or skew problems, make sure that the registration assembly installed correctly.

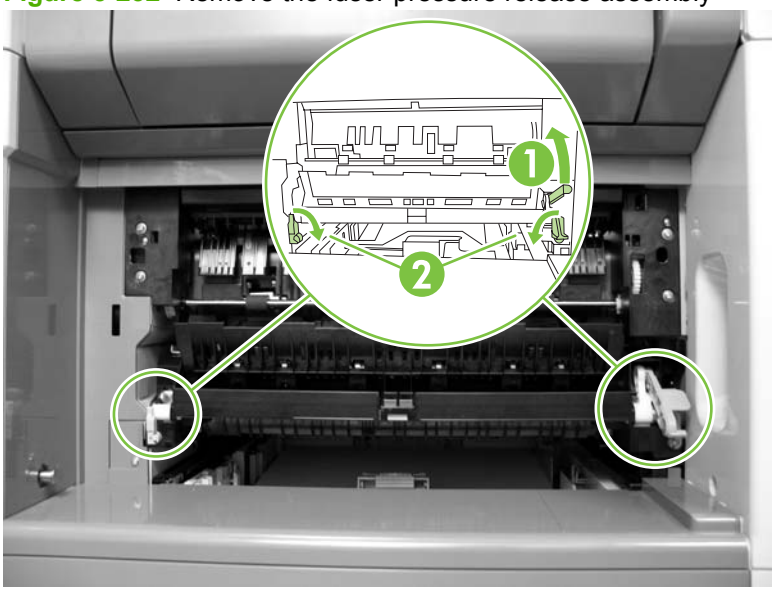
Figure 5-231 Remove the fuser registration assembly (5 of 5)



Fuser pressure release assembly

1. Remove the base unit left door. See Left door on page 288.
2. Lift the left door retainer arm up and then release two locking levers. Pull the fuser pressure release assembly straight out of the device to remove it.

Figure 5-232 Remove the fuser pressure release assembly

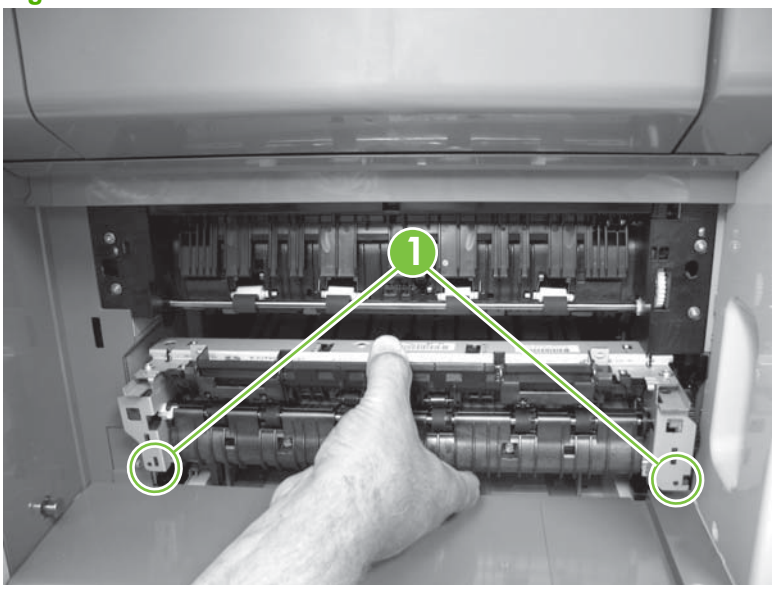


Fuser

1. Remove the following components or assemblies:
   - Base unit left door. See Left door on page 288.
   - Fuser pressure release assembly. See Fuser pressure release assembly on page 323.
2. Pull the fuser assembly straight out and away from the device to remove it.

NOTE: When the fuser is reinstalled, holes in the fuser assembly (callout 1) will align with threaded holes in the device chassis. Do *not* secure the fuser to the device by using screws in these holes.

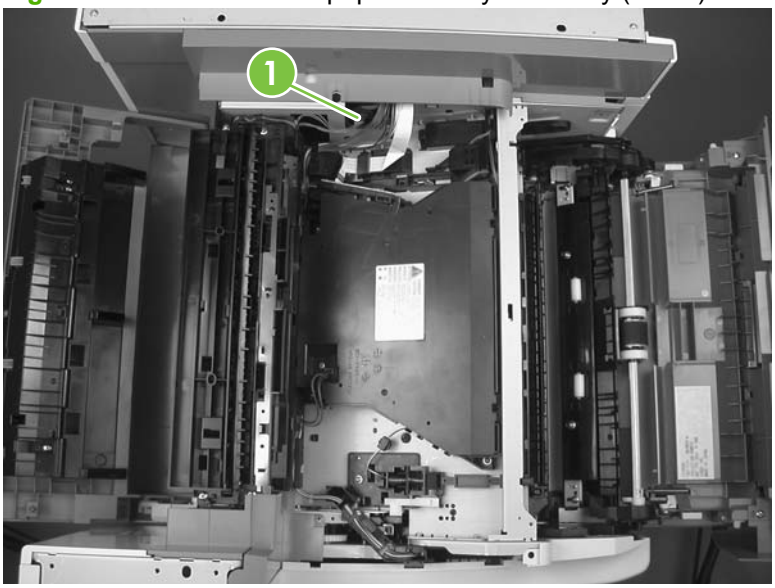
Figure 5-233 Remove the fuser



Paper delivery assembly

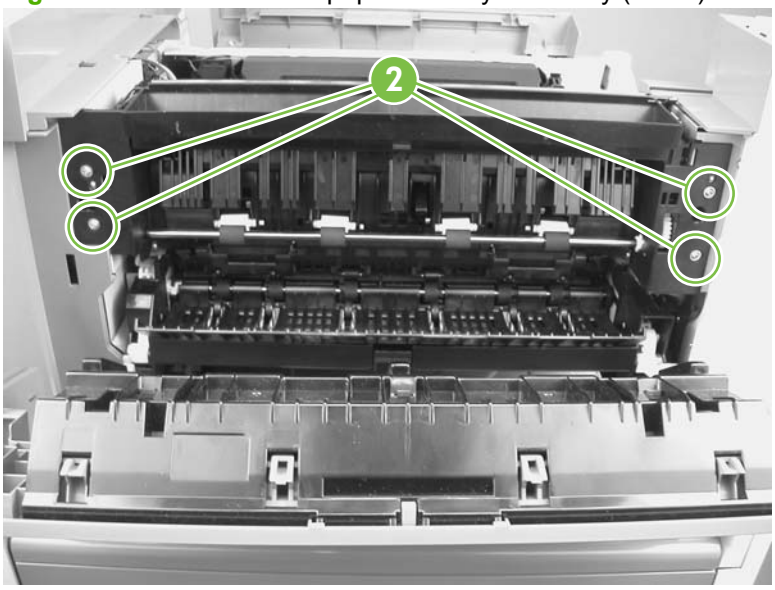
1. Remove the following components or assemblies:
   - ADF. See ADF assembly on page 200.
   - Scanner. See Scanner assembly on page 228.
   - Stapler/stacker. See Stapler/stacker assembly on page 250.
   - Base unit face-down cover. See Face-down cover on page 287.
   - Base unit top cover. See Top cover on page 307.
2. Disconnect one connector (callout 1).

Figure 5-234 Remove the paper delivery assembly (1 of 2)



3. Remove four screws (callout 2) and pull the paper delivery assembly straight out of the device to remove it.

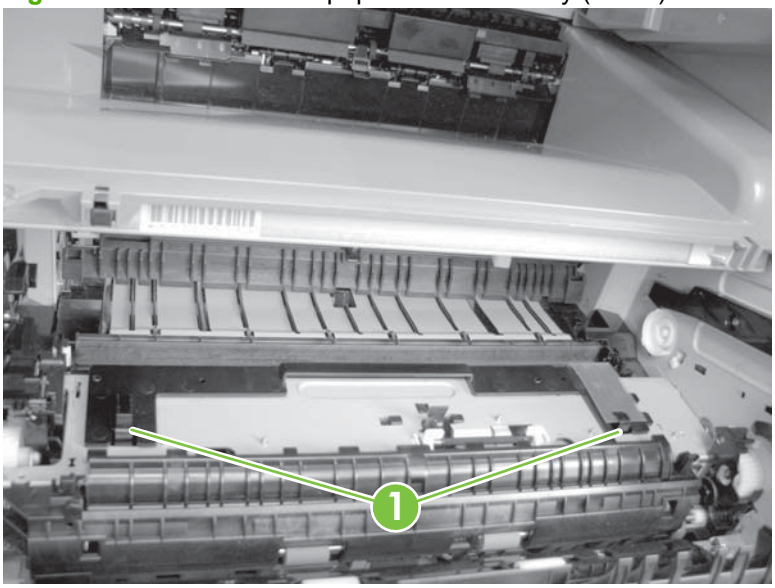
Figure 5-235 Remove the paper delivery assembly (2 of 2)



Paper feed assembly (base unit)

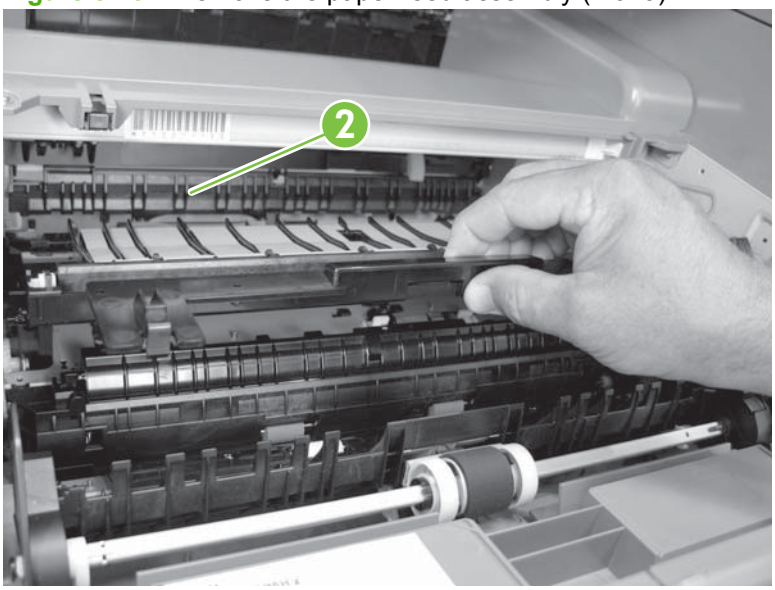
1. Remove the following components or assemblies:
   - Fuser. See Fuser on page 324.
   - Transfer roller. See Transfer roller on page 183
   - Registration assembly. See Registration assembly on page 320.
2. Release two tabs (callout 1).

Figure 5-236 Remove the paper feed assembly (1 of 3)



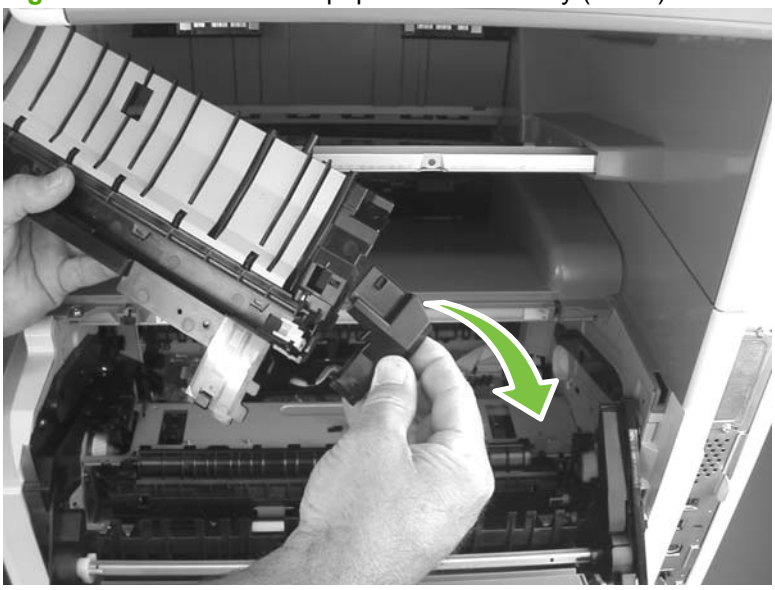
3. Lift up on the shutter (callout 2) and then carefully lift up on the paper feed assembly and slide it toward the rear of the device to release it. Remove the assembly.

Figure 5-237 Remove the paper feed assembly (2 of 3)



4. Remove the black plastic gear cover from the right side edge of the paper feed assembly by releasing the tab on the back side of the cover.

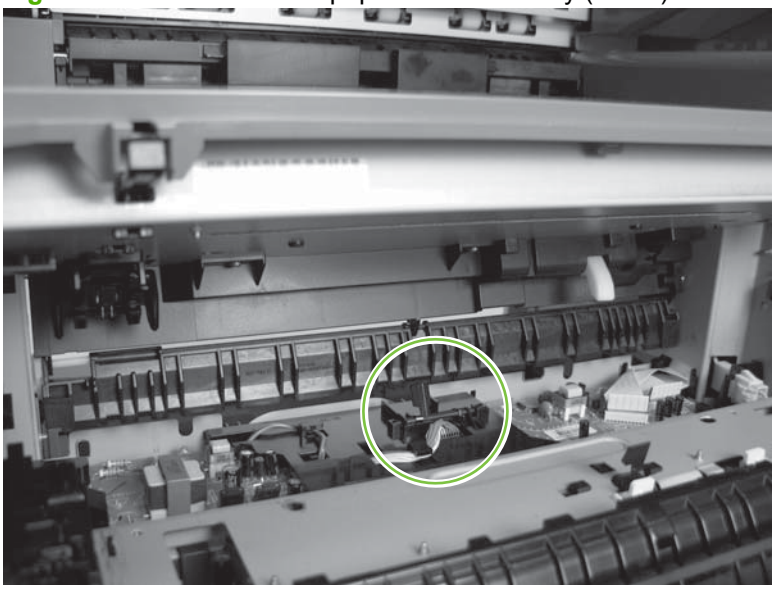
Figure 5-238 Remove the paper feed assembly (3 of 3)



Reinstall the paper feed assembly

1. *Be careful*. Do not damage or dislodge the loop sensor flag located on the high-voltage power supply when reinstalling the paper feed assembly.

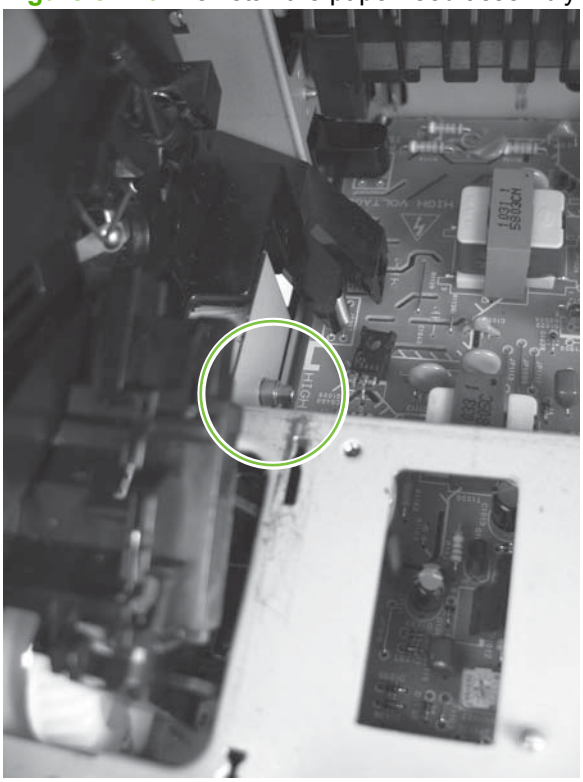
Figure 5-239 Reinstall the paper feed assembly (1 of 8)



2. Locate the pin on the MFP chassis below the drum ground. The slotted tab on the paper feed assembly, callout 2 in Figure 5-241 Reinstall the paper feed assembly (3 of 8) on page 329, must fit over this tab when the paper feed assembly is installed.

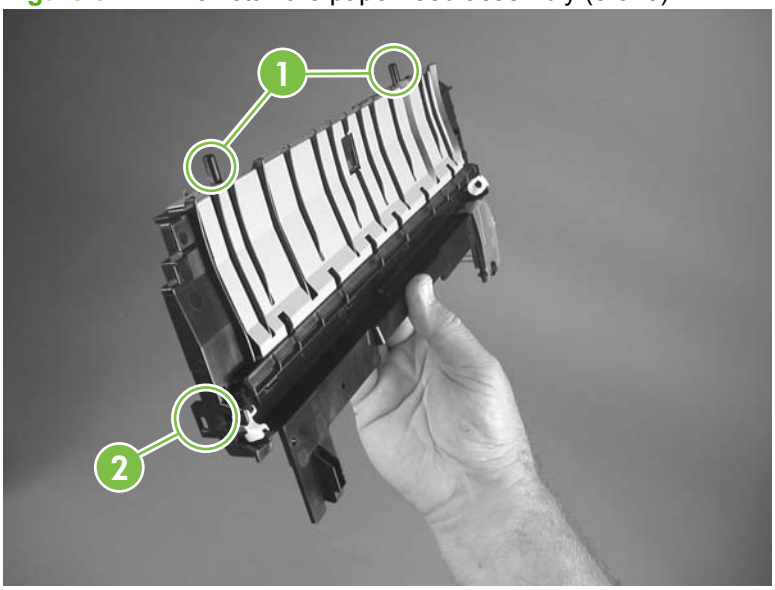
TIP: You might have to *carefully* flex the paper feed assembly to fit the slotted tab on the assembly over this pin.

Figure 5-240 Reinstall the paper feed assembly (2 of 8)



3. Note the location of two locator pins (callout 1) and one slotted tab (callout 2) on the paper feed assembly.

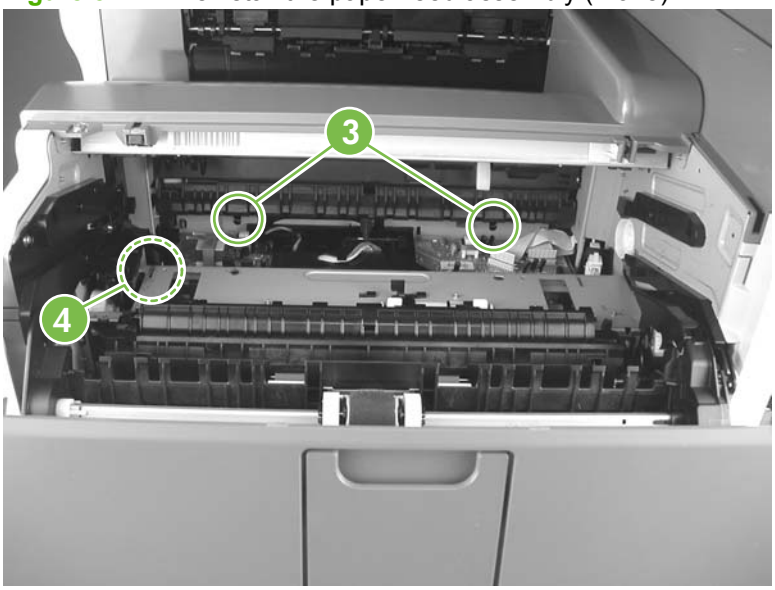
Figure 5-241 Reinstall the paper feed assembly (3 of 8)



4. When the paper feed assembly is reinstalled, the two locator pins must fit in the holes (callout 3) in the high-voltage power supply chassis.

   The slotted tab on the paper feed assembly must be positioned over the pin (callout 4) on the MFP chassis (below the drum ground). See Figure 5-240 Reinstall the paper feed assembly (2 of 8) on page 329 to locate this pin.

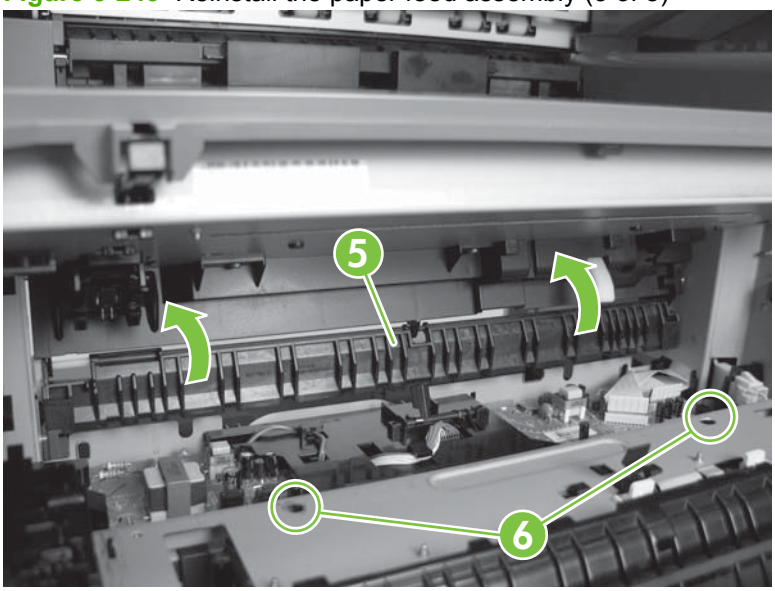
Figure 5-242 Reinstall the paper feed assembly (4 of 8)



5. Reach inside the device and carefully raise the shutter (callout 5).

   The assembly has two additional locator pins near the locking tabs that must be fully seated in the holes (callout 6) in the MFP chassis when the assembly is correctly installed.

Figure 5-243 Reinstall the paper feed assembly (5 of 8)



6. Position the corner of the paper feed assembly with the slotted tab down into the cavity to engage the pin. See callout 2 in Figure 5-241 Reinstall the paper feed assembly (3 of 8) on page 329 to locate the pin.

   Make sure that the four locator pins on the assembly fit into the holes in the high-voltage power supply and MFP chassis. Push down on the locking tabs to firmly seat them when the assembly is installed.

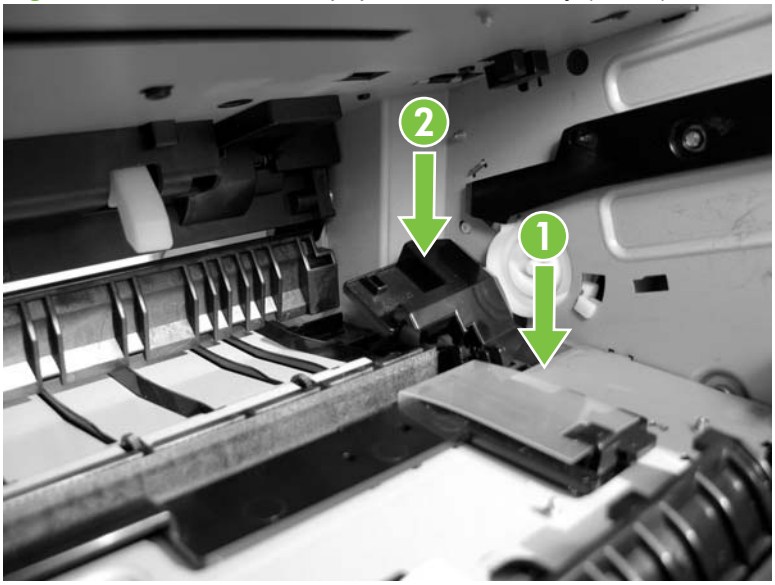
   TIP: Use your fingers to hold open the shutter as you install the assembly. See callout 5 in Figure 5-243 Reinstall the paper feed assembly (5 of 8) on page 330 to locate the shutter.

   Figure 5-244 Reinstall the paper feed assembly (6 of 8)

7. To reinstall the wire harness cover, position the front of the cover into the chassis and then push down on the rear of the cover to snap it into place.

   Figure 5-245 Reinstall the paper feed assembly (7 of 8)

8. Make sure that the wire cover is positioned correctly and is securely in place.

Figure 5-246 Reinstall the paper feed assembly (8 of 8)

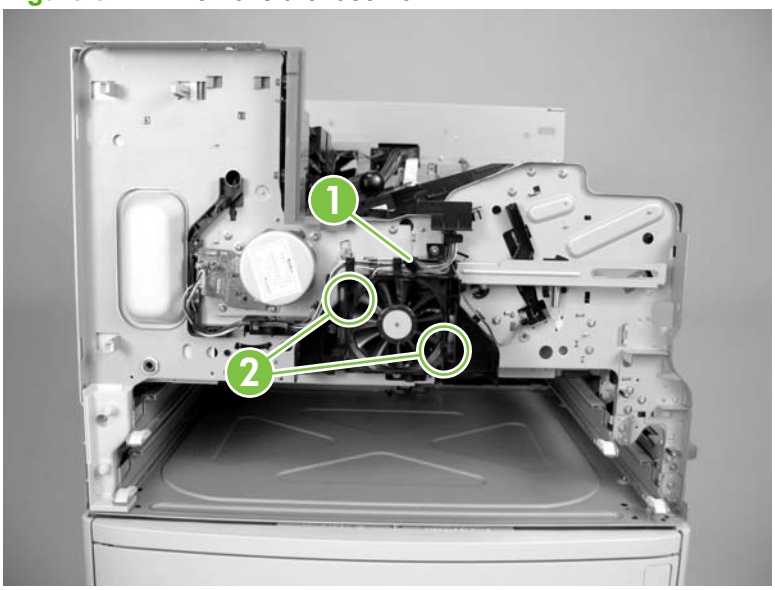


Fuser fan

1. Remove the following components or assemblies:
   - Base unit face-down cover. See Face-down cover on page 287.
   - Base unit top cover. See Top cover on page 307.
   - Base unit front cover. See Front cover on page 292.
2. Disconnect one connector (callout 1) and release two tabs (callout 2) to remove the fuser fan.

TIP: When you reinstall the fuser fan make sure that the wire harness is not pinched in the fan shroud. For proper air flow direction, make sure that the label on the fan hub faces *inward* toward the fuser.

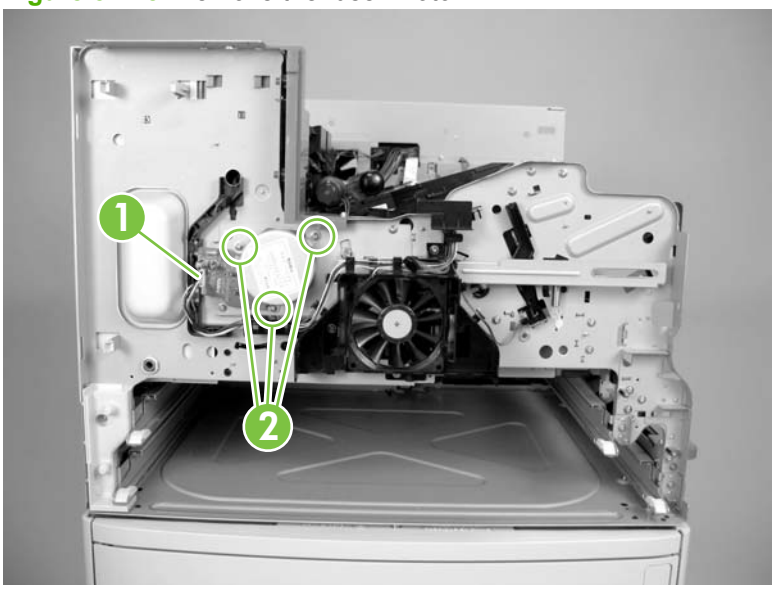
Figure 5-247 Remove the fuser fan



Fuser motor

1. Remove the following components or assemblies:
   - Base unit face-down cover. See Face-down cover on page 287.
   - Base unit top cover. See Top cover on page 307.
   - Base unit front cover. See Front cover on page 292.
2. Disconnect one connector (callout 1) and remove three screws (callout 2) to remove the fuser motor.

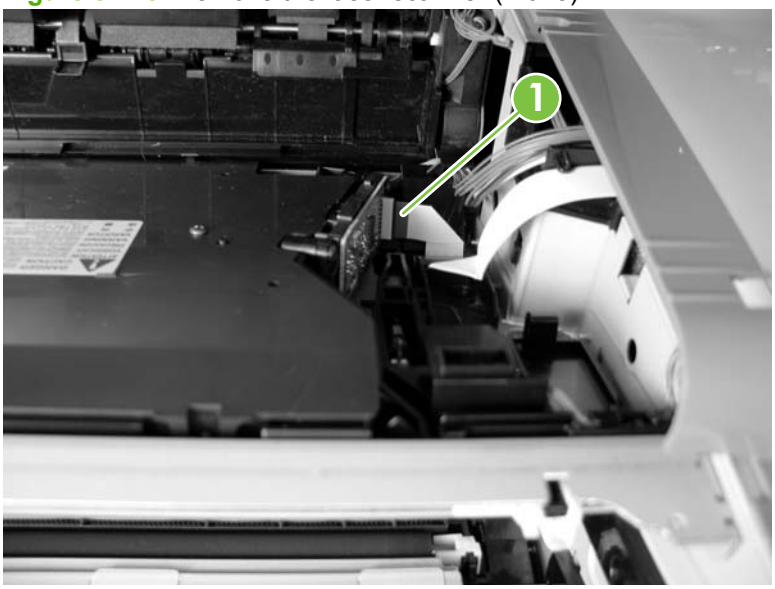
Figure 5-248 Remove the fuser motor



Laser/scanner

1. Remove the following components or assemblies:
   - Optional: ADF. See ADF assembly on page 200.
   - Optional: scanner. See Scanner assembly on page 228.
   - Optional: stapler. See Stapler/stacker assembly on page 250.
   - Optional: fuser pressure release assembly. See Fuser pressure release assembly on page 323.
   - Optional: fuser. See Fuser on page 324.
   - Optional: paper delivery assembly. See Paper delivery assembly on page 325.
   - Base unit face-down cover. See Face-down cover on page 287.
2. Disconnect one FFC (callout 1).

Figure 5-249 Remove the laser/scanner (1 of 3)



3. Disconnect one connector (callout 2) and release one wire harness (callout 3) from the retainers (callout 4).

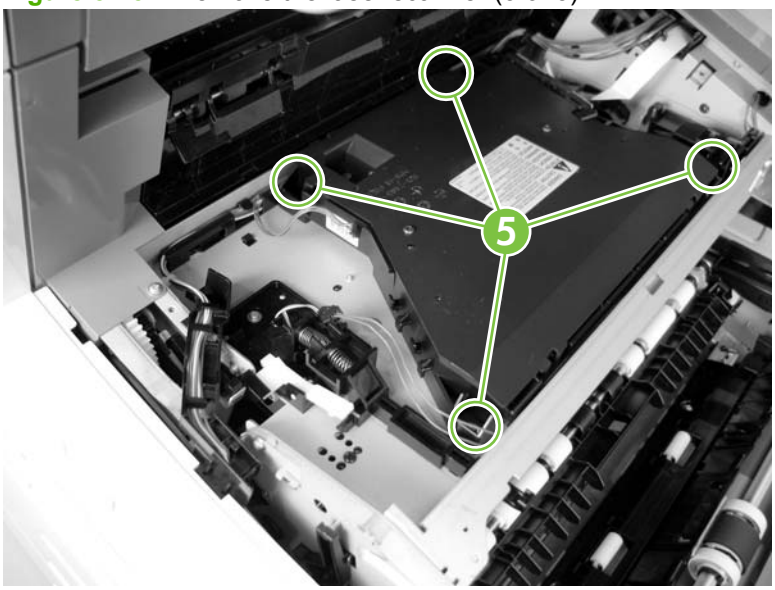
Figure 5-250 Remove the laser/scanner (2 of 3)



4. Remove four screws (callout 5) and remove the laser/scanner.

NOTE: If the optional assemblies were not removed in step one, you will need a short-shaft (38 mm [1.5 inches]) screwdriver to remove the screws.

Figure 5-251 Remove the laser/scanner (3 of 3)

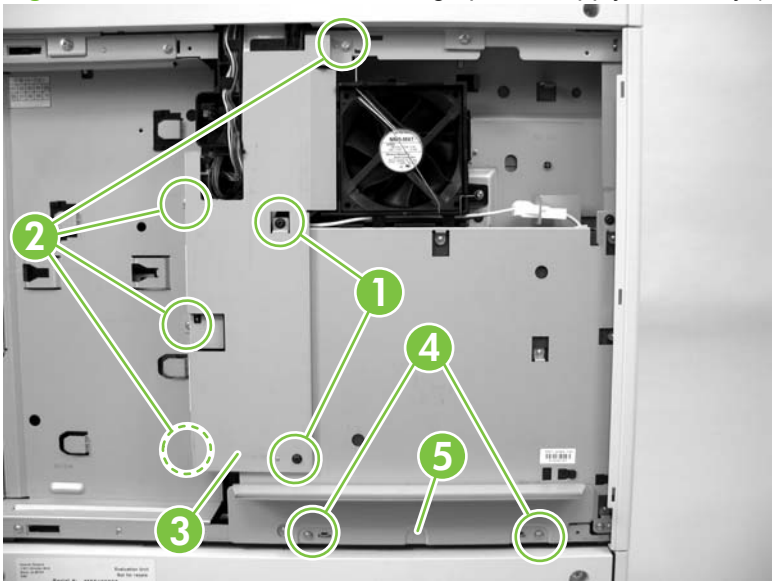


Low-voltage power supply assembly

1. Remove the following components or assemblies:
   - Formatter cover and cage. See Formatter cover and cage on page 195.
   - Base unit rear cover. See Rear cover on page 291.
   - Base unit left rear cover. See Left rear cover on page 306.
2. Remove two black screws (callout 1) and four silver screws (callout 2) and remove the sheet-metal shield (callout 3). Remove two screws (callout 4) and remove the sheet-metal lifting handle (callout 5).

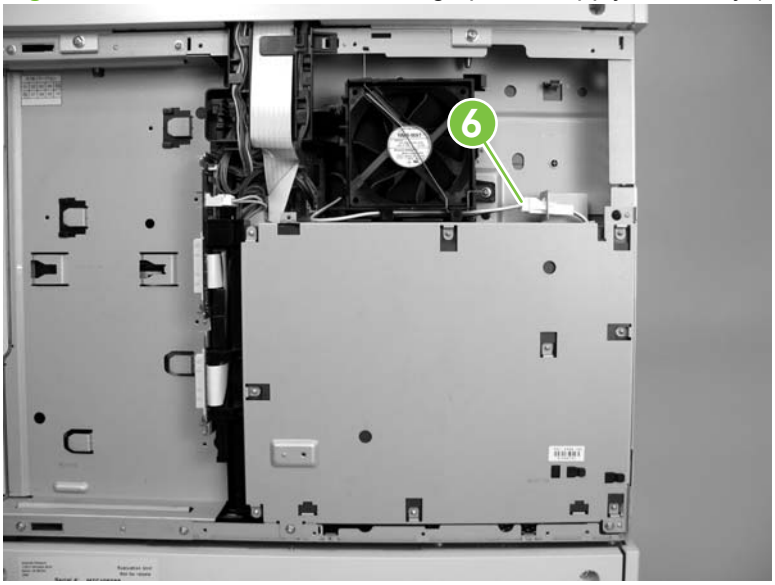
TIP: The chassis sheet metal is embossed with a star and arrow that mark the mounting holes that require black screws.

Figure 5-252 Remove the low-voltage power supply assembly (1 of 4)



3. Disconnect one connector (callout 6).

Figure 5-253 Remove the low-voltage power supply assembly (2 of 4)

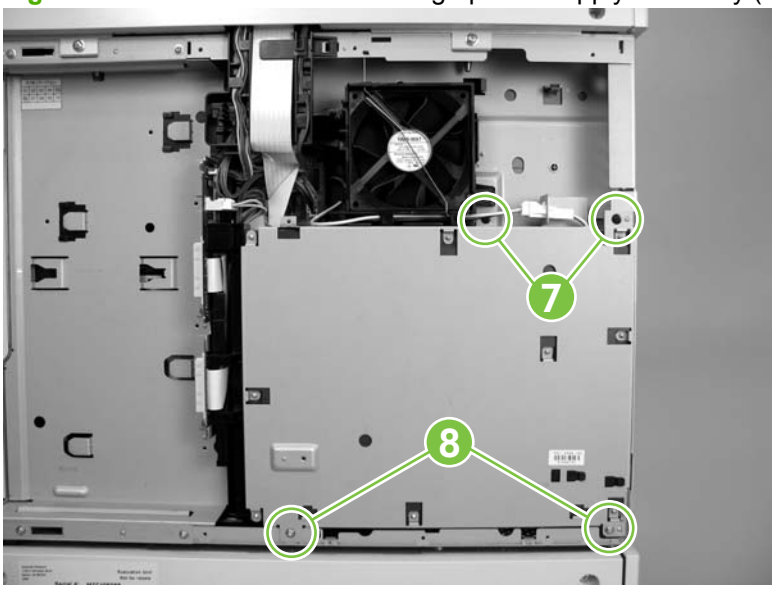


4. Remove two black screws (callout 7) and two silver screws (callout 8). Carefully separate the low-voltage power supply from the device.

△ **CAUTION:** Do *not* fully remove the low-voltage power supply from the device. The power supply wire-harness connectors are still connected.

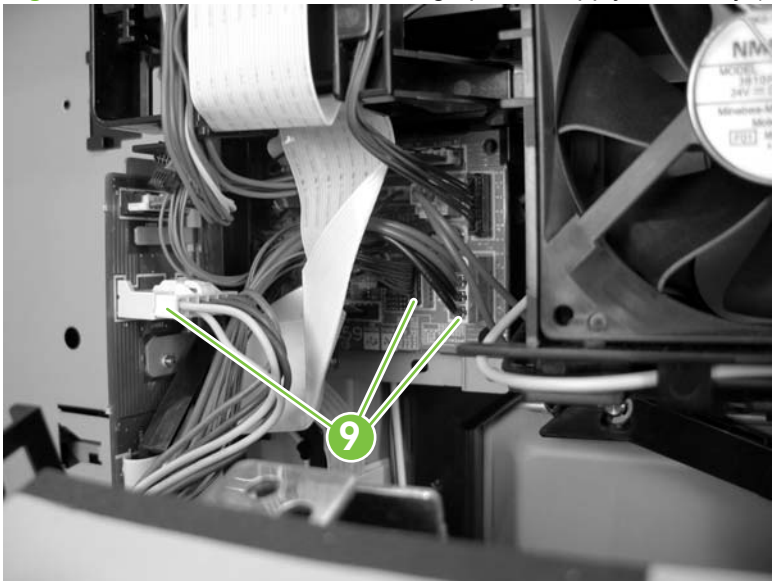
TIP: The chassis sheet metal is embossed with a star and arrow that mark the mounting holes that require black screws.

Figure 5-254 Remove the low-voltage power supply assembly (3 of 4)



5. Disconnect three connectors (callout 9) and remove the low-voltage power supply.

Figure 5-255 Remove the low-voltage power supply assembly (4 of 4)



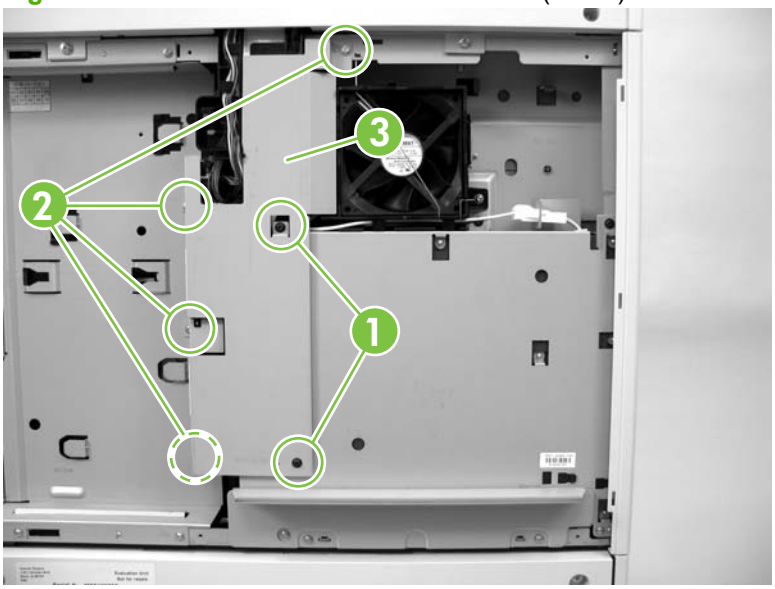
TIP: When you reinstall the low-voltage power supply, make sure that the power switch on the power supply PCA and the linkage on the MFP are both in the down position so that the external power switch will operate correctly.

Interconnect PCA assembly

1. Remove the following components or assemblies:
   - Formatter cover and cage. See Formatter cover and cage on page 195.
   - Base unit rear cover. See Rear cover on page 291.
   - Scanner back cover. See Scanner controller board (SCB) and cover on page 226.
   - Stapler back cover. See Rear cover on page 254.
2. Remove two black screws (callout 1) and four silver screws (callout 2). Remove the sheet-metal shield (callout 3).

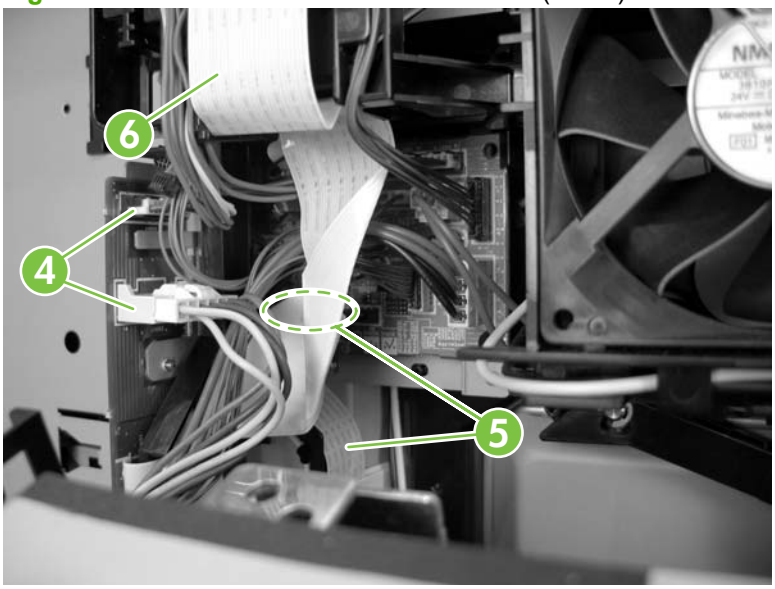
TIP: The chassis sheet metal is embossed with a star and arrow that mark the mounting holes that require black screws.

Figure 5-256 Remove the interconnect PCA (1 of 3)



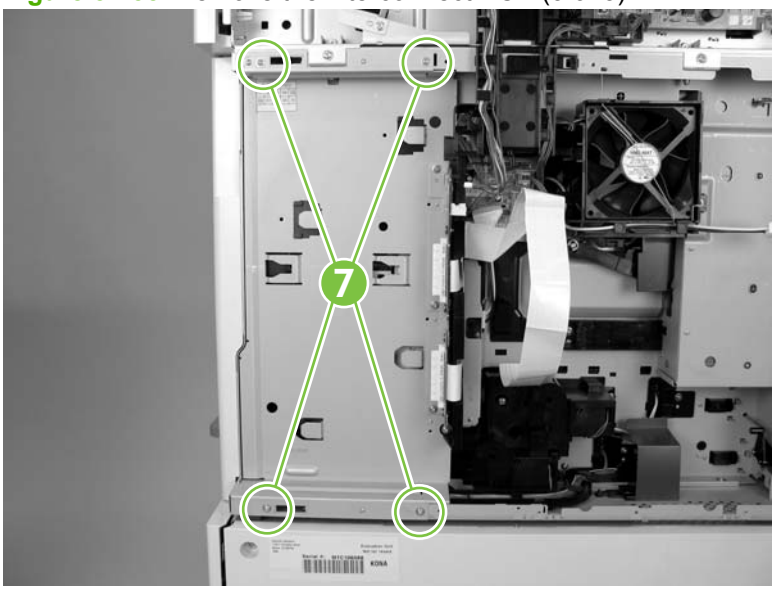
3. Disconnect two connectors (callout 4) and one FFC (callout 5) from the DC controller PCA. Release the FFC from the retainer (callout 6).

Figure 5-257 Remove the interconnect PCA (2 of 3)



4. Remove four screws (callout 7) and remove the interconnect PCA assembly.

Figure 5-258 Remove the interconnect PCA (3 of 3)



High-voltage power supply

1. Remove the following components or assemblies:
   - Base unit left door. See Left door on page 288
   - Fuser pressure release assembly. See Fuser pressure release assembly on page 323.
   - Fuser. See Fuser on page 324.
   - Transfer roller. See Transfer roller on page 183.
   - Registration assembly. See Registration assembly on page 320.
   - Paper feed assembly. See Paper feed assembly (base unit) on page 327.
2. Unplug the power cord from the MFP *and* the wall receptacle.
3. Disconnect two FFCs (callout 1) and one connector (callout 2).

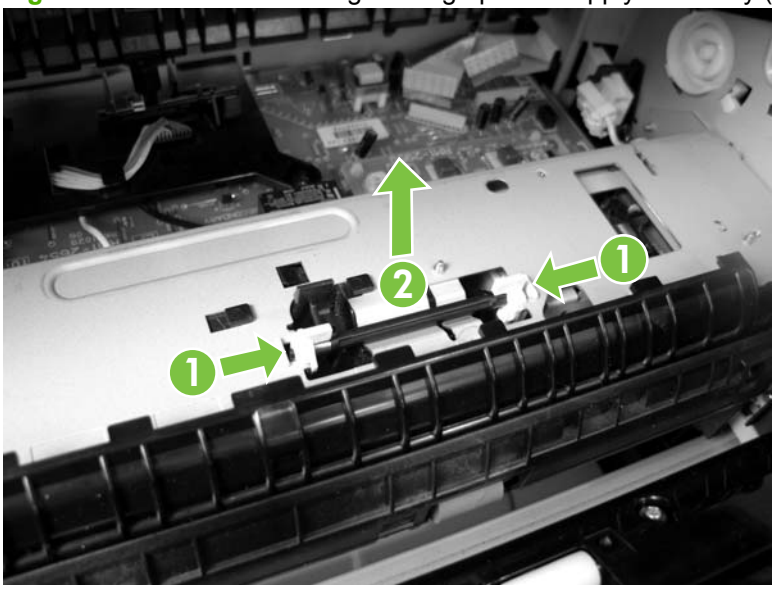
⚠ **WARNING!** You **must** unplug the power cord from the MFP *and* the wall receptacle. The danger of electrical shock exists from the connector (callout 2) when the power cord is connected to the MFP.

Figure 5-259 Remove the high-voltage power supply assembly (1 of 9)



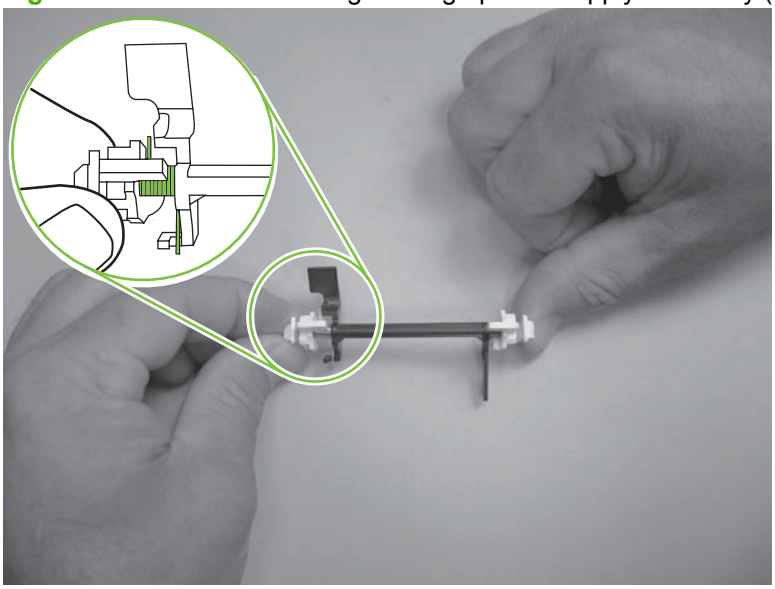
4. Release two bushing tabs to release the top-of-page sensor assembly (SR5). Grasp the assembly with both hands to prevent the assembly from separating when it is removed. Lift the assembly straight up and out of the power supply assembly.

Figure 5-260 Remove the high-voltage power supply assembly (2 of 9)



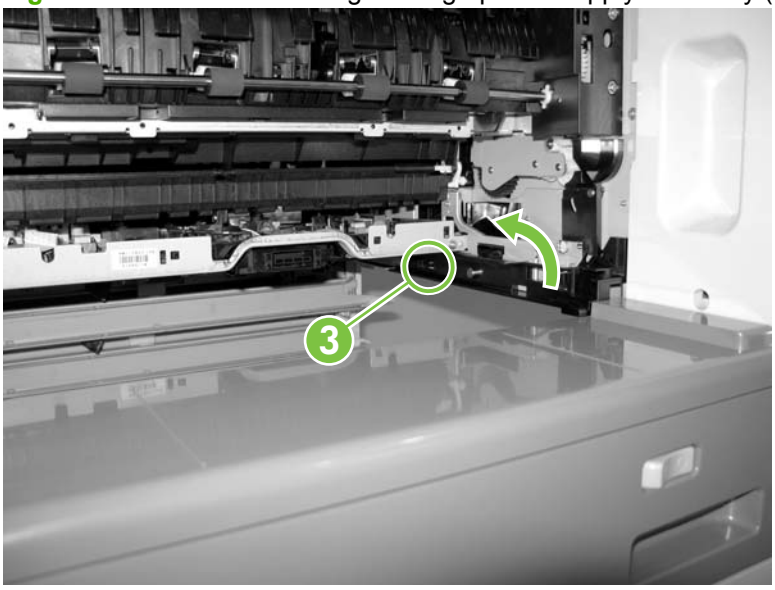
5. Note how the spring is installed on the sensor assembly. Carefully set the sensor assembly aside where it will not be disturbed. If you must reinstall the spring, make sure that the long leg of the spring rests on the flag, and that the hook end of the spring is positioned against the bushing.

Figure 5-261 Remove the high-voltage power supply assembly (3 of 9)



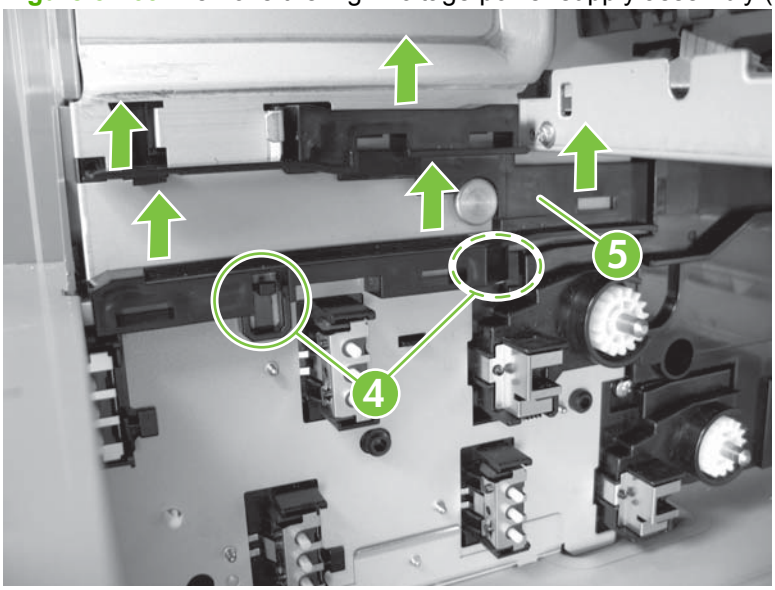
6. Release one tab (callout 3) and slightly pivot the front duplexer guide up to release it. Remove the front duplexer guide.

Figure 5-262 Remove the high-voltage power supply assembly (4 of 9)



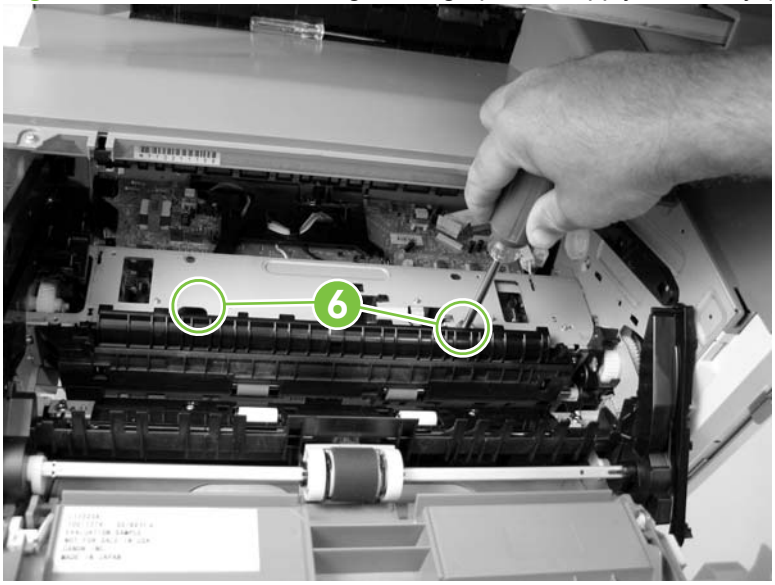
7. Release two tabs (callout 4) and slightly lift up on the rear duplexer guide (callout 5) to release it. Remove the rear duplexer guide.

Figure 5-263 Remove the high-voltage power supply assembly (5 of 9)



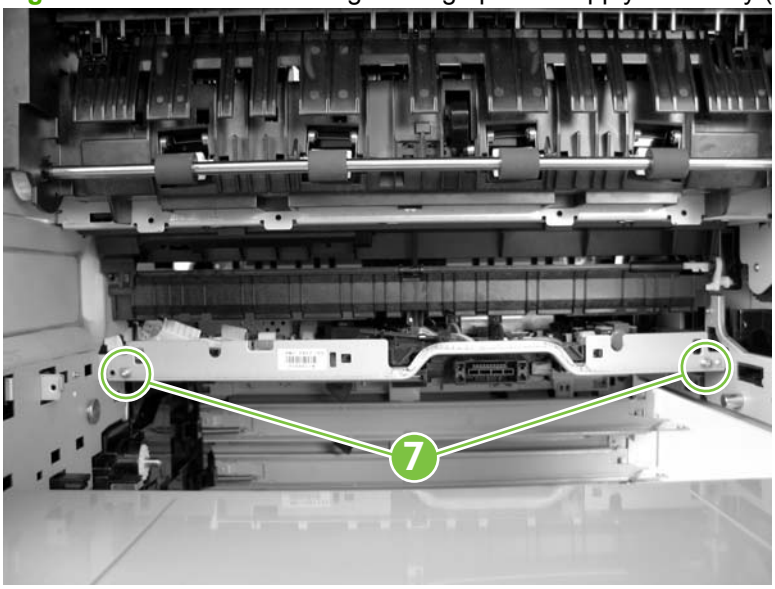
8. Remove two screws (callout 6).

Figure 5-264 Remove the high-voltage power supply assembly (6 of 9)



9. Remove two screws (callout 7).

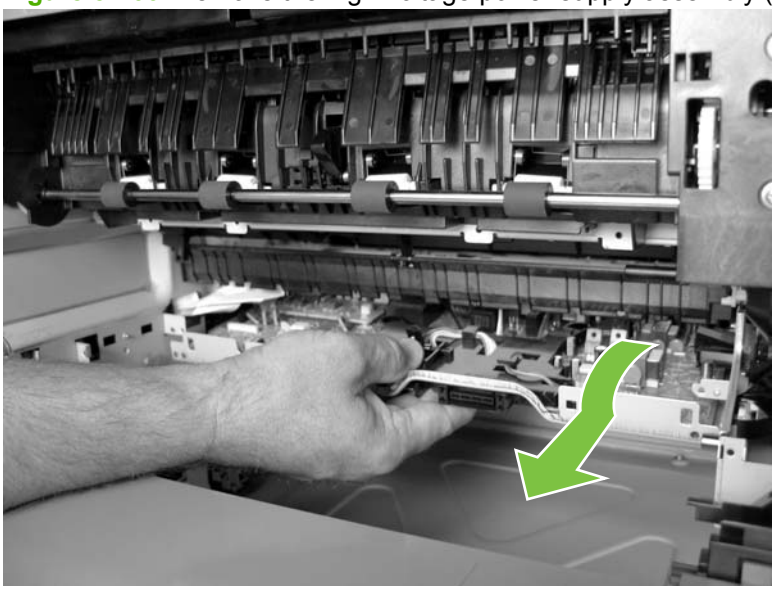
Figure 5-265 Remove the high-voltage power supply assembly (7 of 9)



10. Slightly rotate the high-voltage power supply down and then pull it straight out of the device. Make sure that you do not damage the loop sensor flag when you remove the high-voltage power supply.

TIP: Make sure that the high-voltage springs on the MFP chassis do not get folded over or damaged when you reinstall the power supply.

Figure 5-266 Remove the high-voltage power supply assembly (8 of 9)

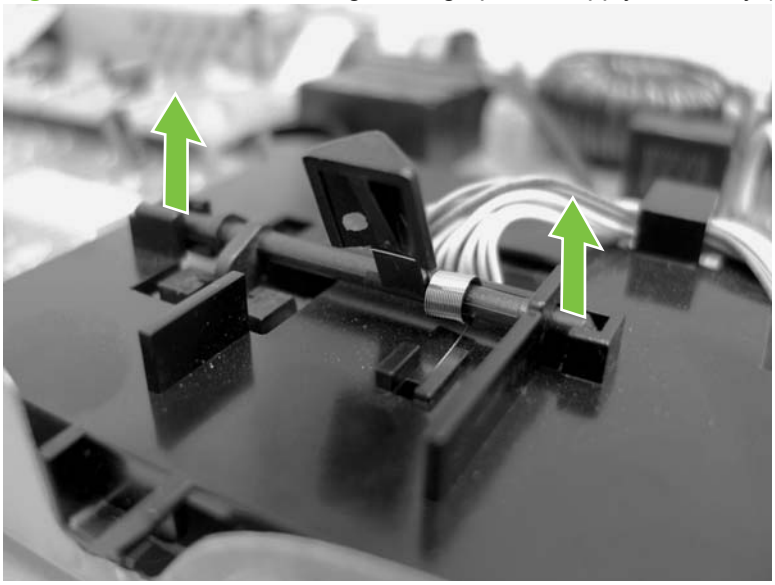


11. Remove the loop sensor assembly (SR4) from the power supply and install it on the replacement high-voltage power supply before you install it.

CAUTION: Note how the sensor flag and spring are installed *before* you remove the sensor assembly.

TIP: Make sure that the flag moves freely after you install the sensor assembly on the replacement power supply.

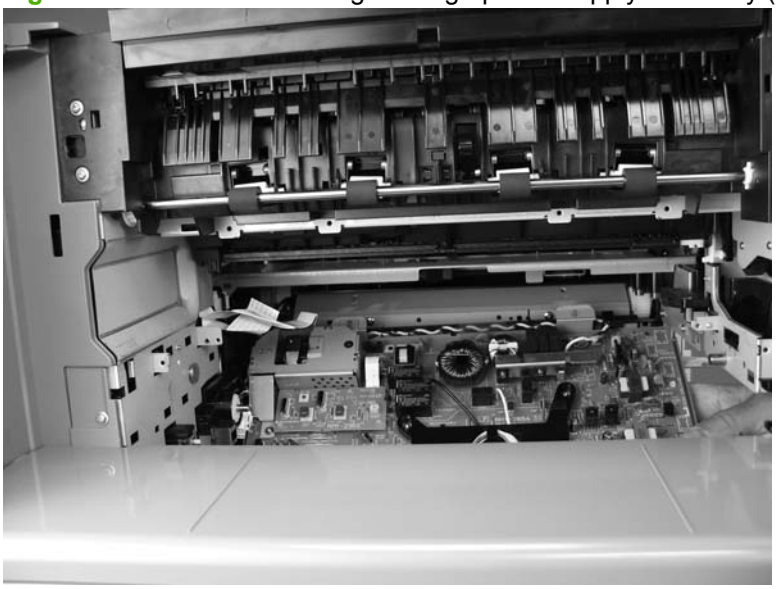
Figure 5-267 Remove the high-voltage power supply assembly (9 of 9)



12. It might be easier to reinstall the high-voltage power supply by reaching through the tray cavity and positioning the assembly at a steep angle to engage the assembly with the MFP chassis.

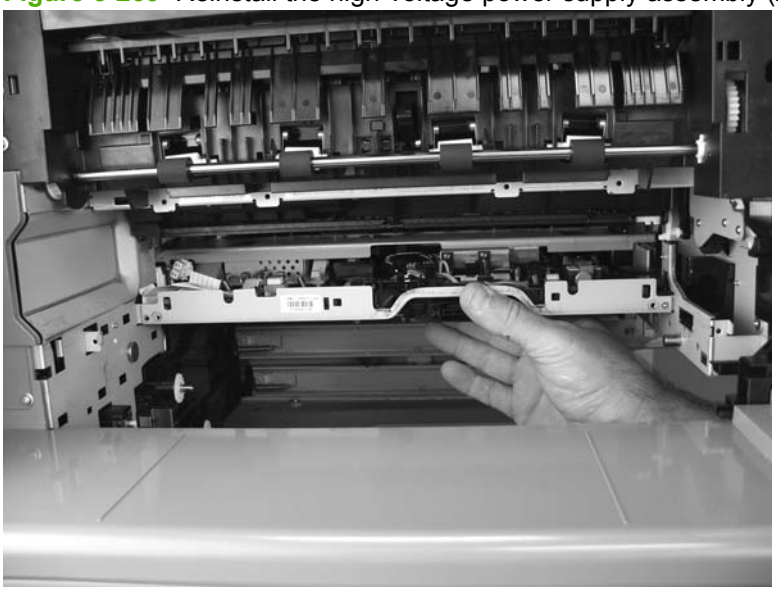
TIP: Look through the fuser cavity while positioning the assembly in the tray cavity.

Figure 5-268 Reinstall the high-voltage power supply assembly (1 of 3)



13. Rotate the high-voltage power supply up to install it.

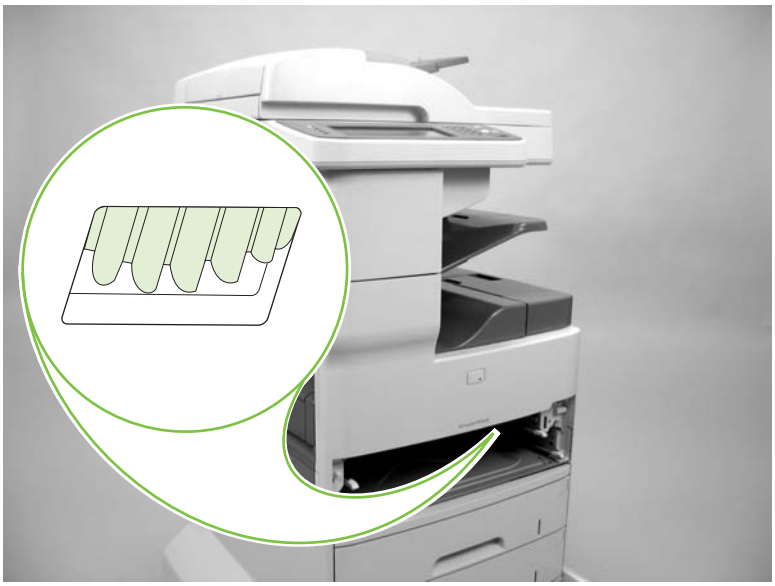
Figure 5-269 Reinstall the high-voltage power supply assembly (2 of 3)



14. After you install the replacement power supply, make sure that the drive gear rotates freely.

TIP: If the high-voltage power supply was not correctly seated when it was reinstalled, the high-voltage contact springs on the chassis might interfere with this gear. This can cause **13.42 Jam** or **66.12** error messages to appear on the control panel display when the device power is turned on after replacing the high-voltage power supply.

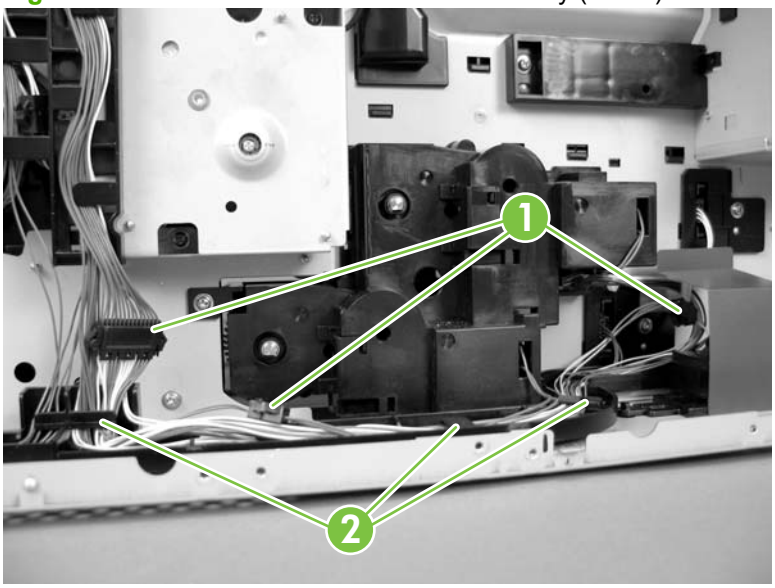
Figure 5-270 Reinstall the high-voltage power supply assembly (3 of 3)



Lifter drive assembly

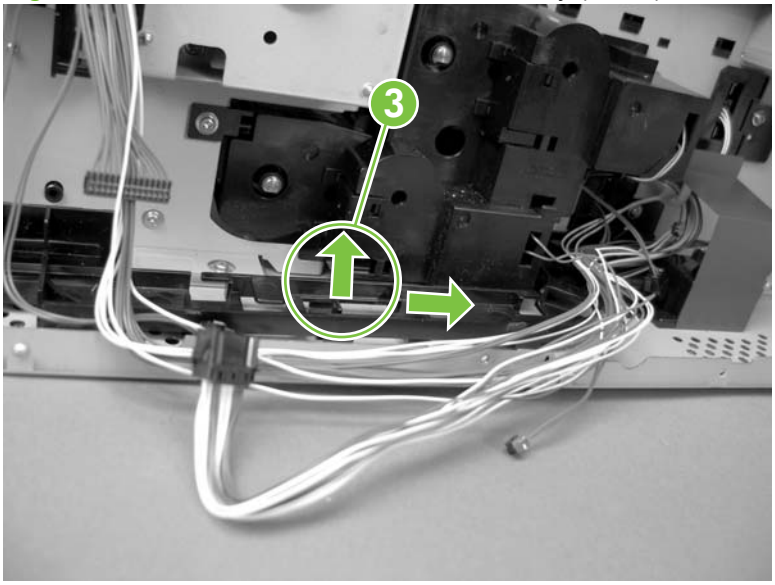
1. Remove the following components or assemblies:
   - ADF. See ADF assembly on page 200.
   - Scanner. See Scanner assembly on page 228.
   - Stapler/stacker. See Stapler/stacker assembly on page 250.
   - Formatter cover and cage. See Formatter cover and cage on page 195.
   - Base unit rear cover. See Rear cover on page 291.
   - Base unit top cover. See Top cover on page 307.
   - Base unit right rear cover. See Right rear cover on page 310.
   - Base unit right rear inner cover. See Right rear inner cover on page 308.
   - Interconnect PCA assembly. See Interconnect PCA assembly on page 340.
   - Low-voltage power supply. See Low-voltage power supply assembly on page 337.
2. Disconnect three connectors (callout 1) and release all of the wire harnesses from the retainer (callout 2).

Figure 5-271 Remove the lifter driver assembly (1 of 4)



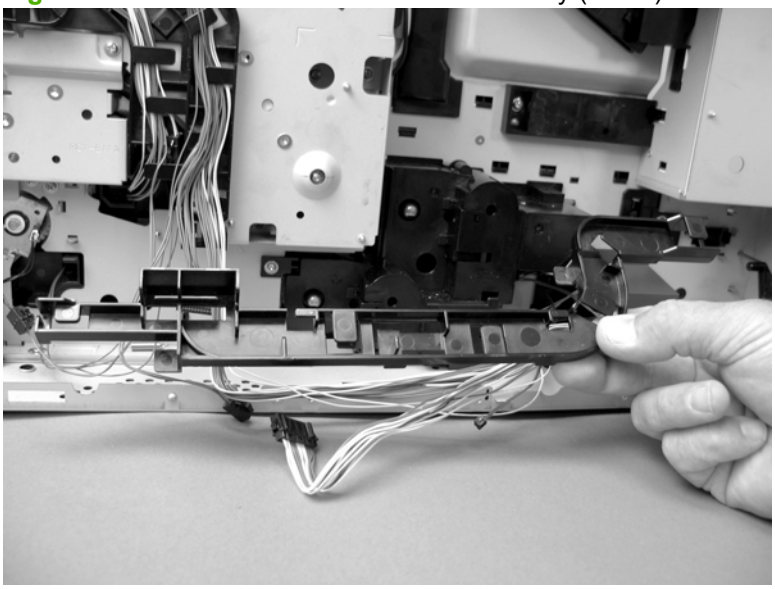
3. Release one tab (callout 3) and slide the retainer to the right.

Figure 5-272 Remove the lifter driver assembly (2 of 4)



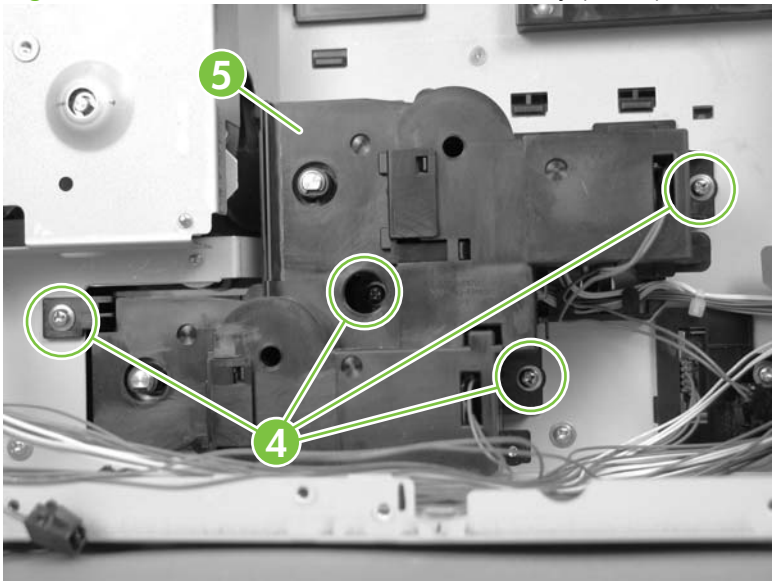
4. Remove the retainer.

Figure 5-273 Remove the lifter driver assembly (3 of 4)



5. Remove four screws (callout 4) and remove the lifter driver assembly (callout 5).

Figure 5-274 Remove the lifter driver assembly (4 of 4)

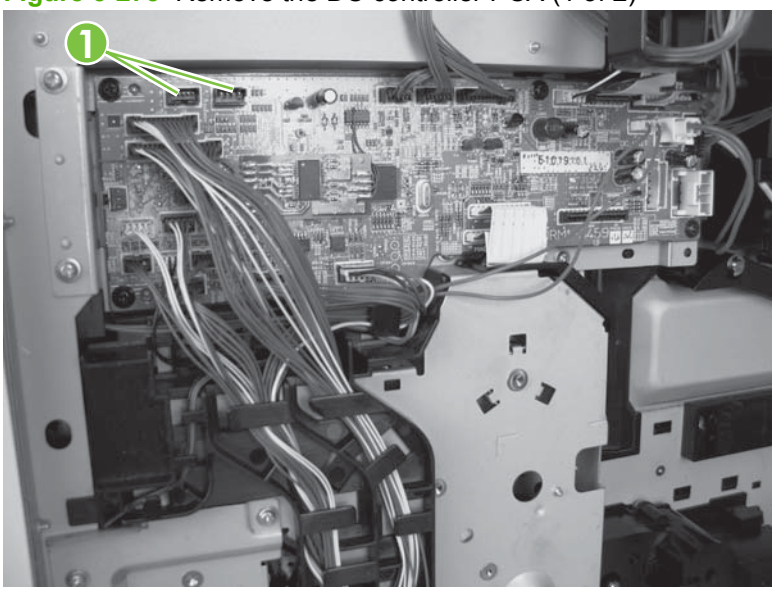


DC controller PCA

1. Remove the following components or assemblies:
   - ADF. See ADF assembly on page 200.
   - Scanner. See Scanner assembly on page 228.
   - Stapler/stacker. See Stapler/stacker assembly on page 250.
   - Formatter cover and cage. See Formatter cover and cage on page 195.
   - Base unit rear cover. See Rear cover on page 291.
   - Base unit top cover. See Top cover on page 307.
   - Base unit right rear cover. See Right rear cover on page 310.
   - Base unit right rear inner cover. See Right rear inner cover on page 308.
   - Interconnect PCA assembly. See Interconnect PCA assembly on page 340.
   - Low-voltage power supply. See Low-voltage power supply assembly on page 337.
2. Disconnect all of the connectors and the FFCs from the DC controller PCA (nineteen wire harness connectors and three FFCs).

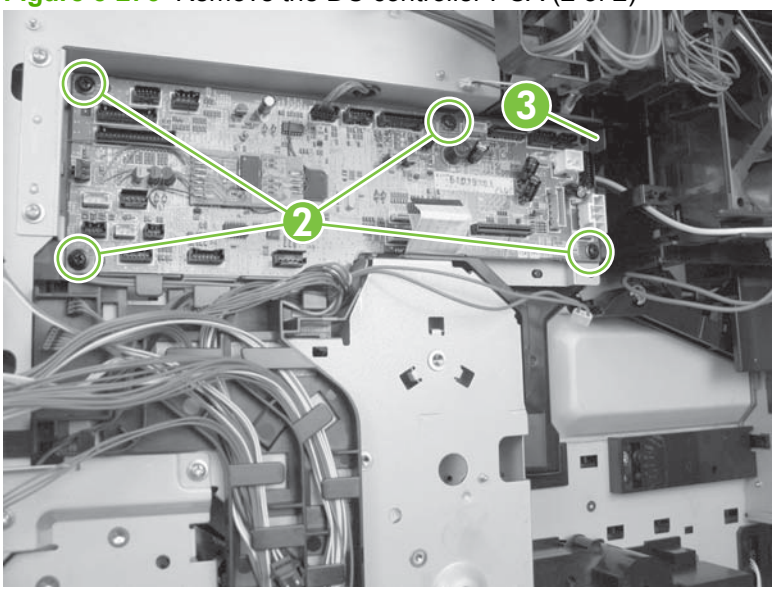
NOTE: Two connectors (callout 1; J322, J323) are empty.

Figure 5-275 Remove the DC controller PCA (1 of 2)



3. Remove four black screws (callout 2) and release one tab (callout 3).

Figure 5-276 Remove the DC controller PCA (2 of 2)

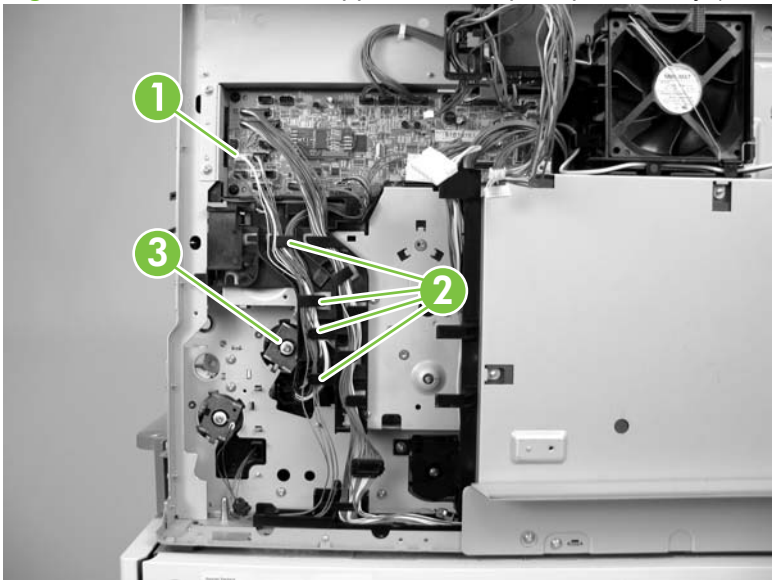


4. Use the diagram in the troubleshooting chapter of this manual to identify the connectors on the dc controller PCA. See DC controller PCA connectors (engine) on page 533.

Upper cassette pickup assembly

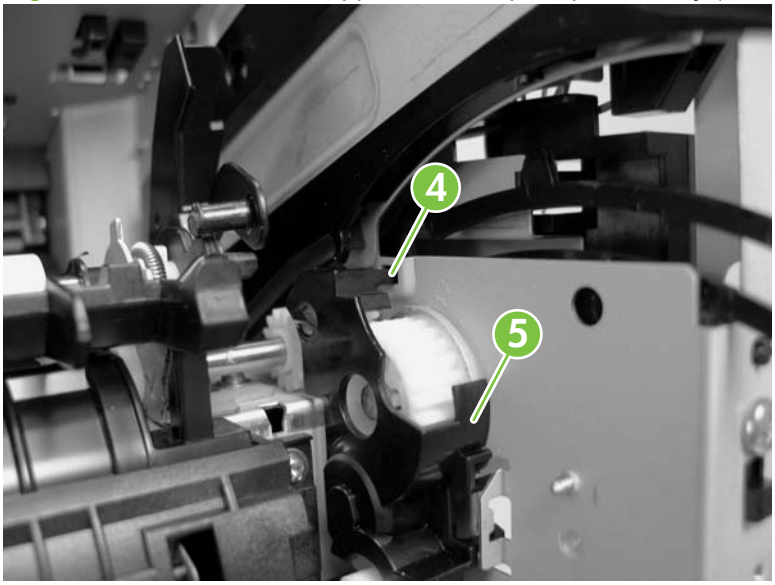
1. Remove the following components or assemblies:
   - ADF. See ADF assembly on page 200.
   - Scanner. See Scanner assembly on page 228.
   - Stapler/stacker. See Stapler/stacker assembly on page 250.
   - Base unit formatter cover. See Formatter cover on page 286.
   - Base unit rear cover. See Rear cover on page 291.
   - Base unit face-down cover. See Face-down cover on page 287.
   - Base unit top cover. See Top cover on page 307.
   - Base unit front cover. See Front cover on page 292.
   - Base unit left rear cover. See Left rear cover on page 306.
   - Base unit right rear cover. See Right rear cover on page 310.
   - Base unit right rear inner cover. See Right rear inner cover on page 308.
   - Base unit right door. See Right door on page 301.
   - Interconnect PCA assembly. See Interconnect PCA assembly on page 340.
   - Lower cassette drive assembly. See Lower cassette drive assembly on page 357.
   - Print cartridge door. See Print cartridge door on page 313.
2. Disconnect one connector (callout 1) and release the wire harness from the retainer (callout 2). Remove the retainer clip from the shaft and slide the upper cassette pickup assembly clutch (callout 3) off of the shaft and set it aside.

Figure 5-277 Remove the upper cassette pickup assembly (1 of 3)



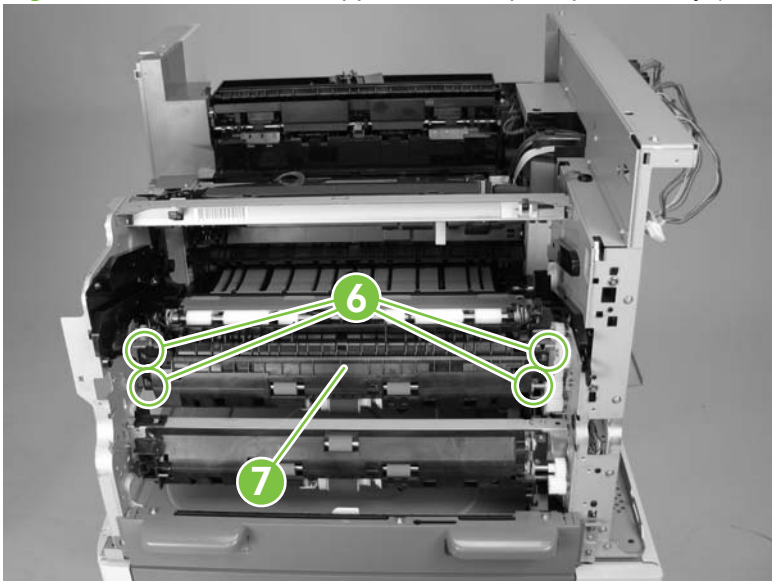
3. Release one tab (callout 4) and remove the gear cover (callout 5).

Figure 5-278 Remove the upper cassette pickup assembly (2 of 3)



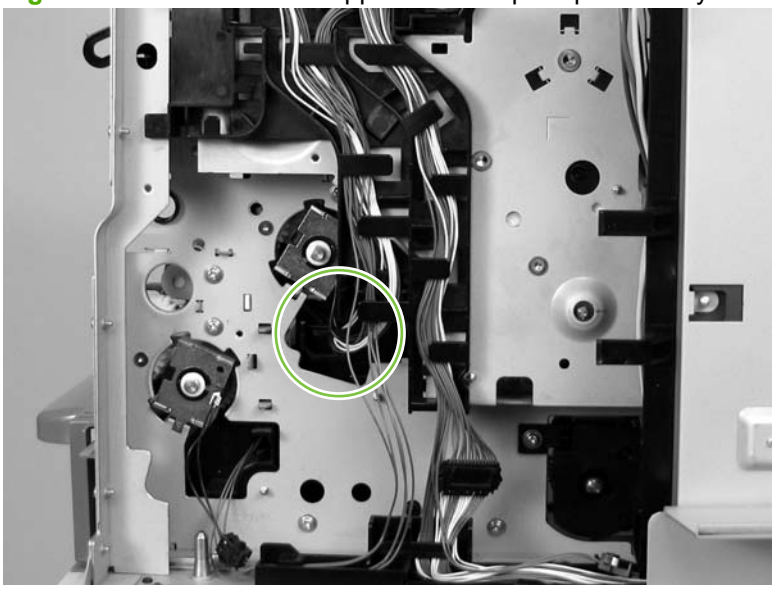
4. Remove four screws (callout 6) and separate the upper cassette pickup assembly (callout 7) from the device. Thread the wire harness through the hole in the chassis as you remove the upper cassette pickup assembly.

Figure 5-279 Remove the upper cassette pickup assembly (3 of 3)



5. When you reinstall the upper cassette pickup assembly, make sure that the wire harness is correctly placed in the retainer under the clutch. Verify that the wire harness does not interfere with the clutch.

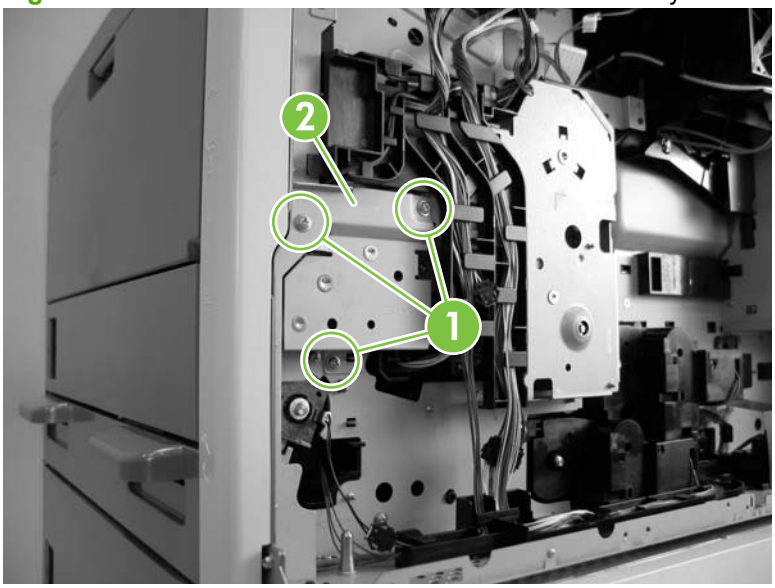
Figure 5-280 Reinstall the upper cassette pickup assembly



Lower cassette drive assembly

1. Remove the following components or assemblies:
   - Formatter cover and cage. See Formatter cover and cage on page 195.
   - Base unit rear cover. See Rear cover on page 291.
   - Interconnect PCA assembly. See Interconnect PCA assembly on page 340.
2. Remove three screws (callout 1) and remove the lower cassette drive assembly (callout 2).

Figure 5-281 Remove the lower cassette drive assembly

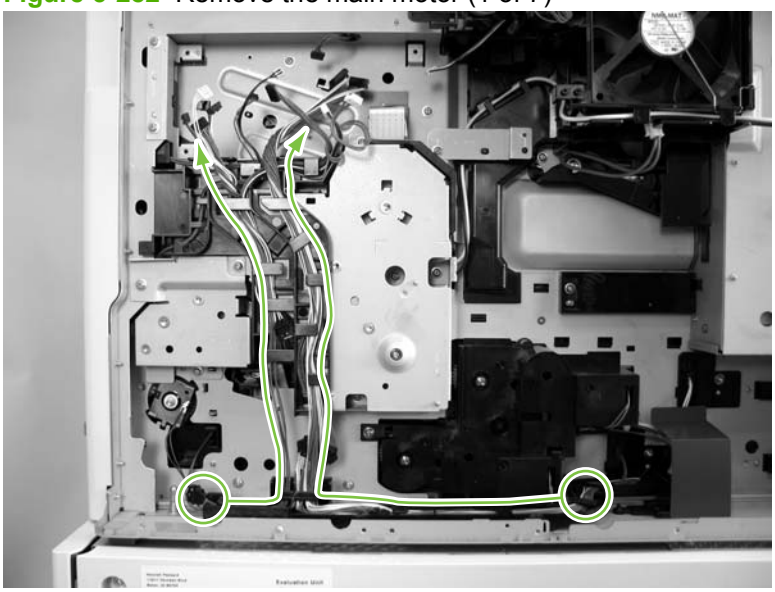


Main motor

1. Remove the following components or assemblies:
   - ADF. See ADF assembly on page 200.
   - Scanner. See Scanner assembly on page 228.
   - Stapler/stacker. See Stapler/stacker assembly on page 250.
   - Formatter cover and cage. See Formatter cover and cage on page 195.
   - Base unit rear cover. See Rear cover on page 291.
   - Base unit top cover. See Top cover on page 307.
   - Base unit right rear cover. See Right rear cover on page 310.
   - Base unit right rear inner cover. See Right rear inner cover on page 308.
   - Interconnect PCA assembly. See Interconnect PCA assembly on page 340.
   - Low-voltage power supply. See Low-voltage power supply assembly on page 337.
   - DC controller PCA. See DC controller PCA on page 352.
   - Lower cassette drive assembly. See Lower cassette drive assembly on page 357.
2. Before you begin this procedure, note the routing of the wire harness as shown in Figure 5-282 Remove the main motor (1 of 7) on page 358.

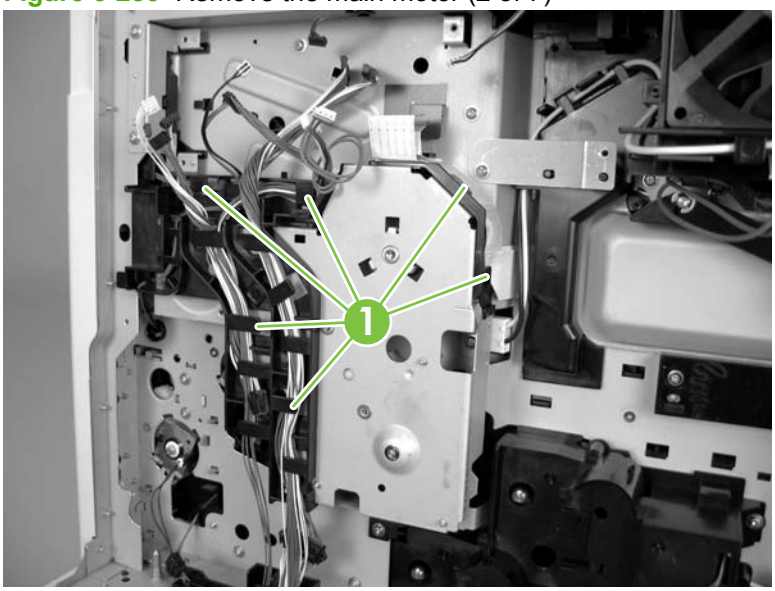
TIP: Reinstall wire harnesses originating from the lifter drive assembly area of the device into the retainer closest to the main drive assembly. Reinstall wire harnesses from the pickup assembly solenoid area into the retainer closest to the lower drive gear assembly.

Figure 5-282 Remove the main motor (1 of 7)



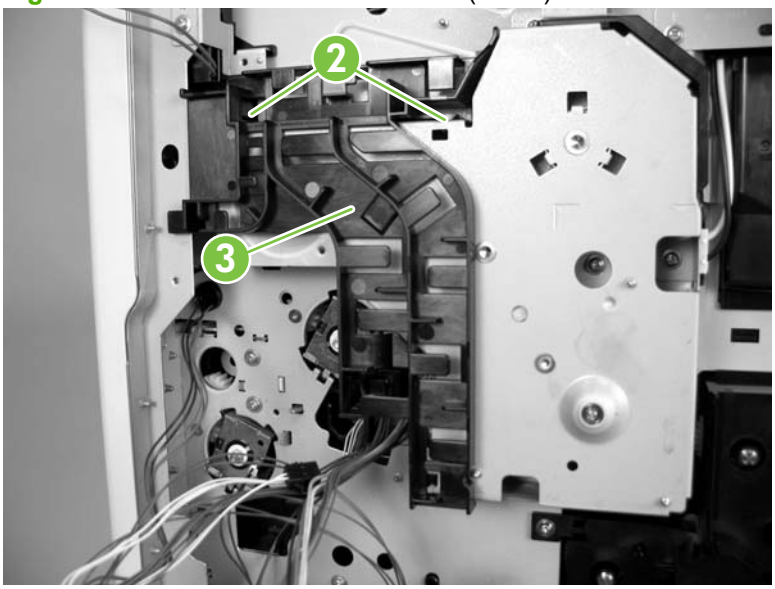
3. Release all of the wire harnesses from the retainer (callout 1).

Figure 5-283 Remove the main motor (2 of 7)



4. Release two tabs (callout 2) and remove the retainer (callout 3).

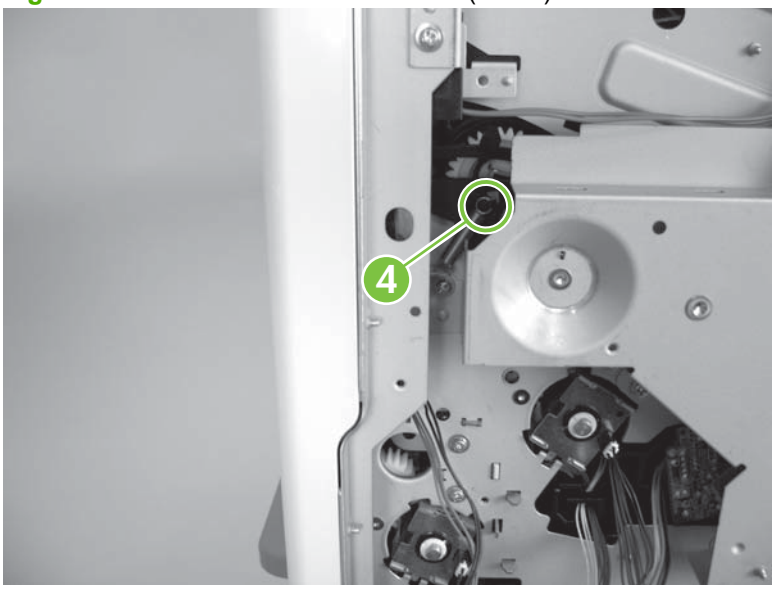
Figure 5-284 Remove the main motor (3 of 7)



5. Make sure that the print cartridge door is closed, and unhook one spring (callout 4).

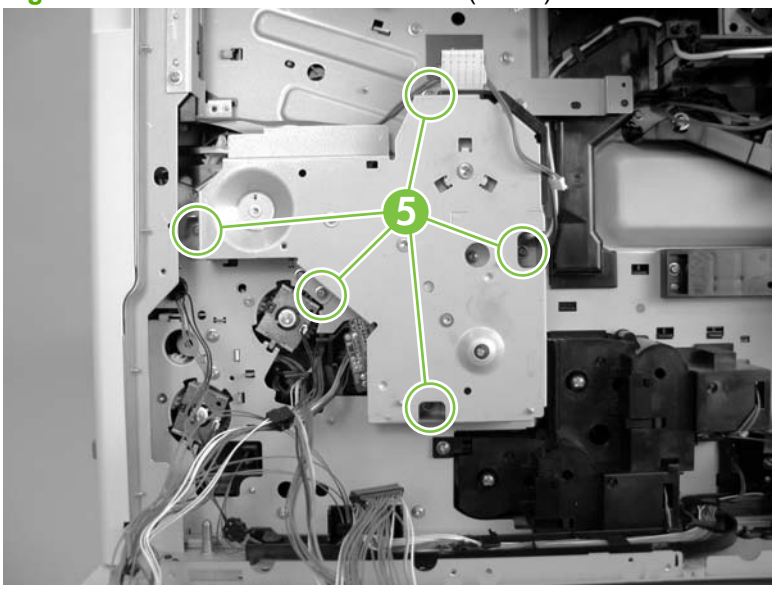
△ **CAUTION:** The spring is not captive and can be easily lost.

Figure 5-285 Remove the main motor (4 of 7)



6. Remove five screws (callout 5).

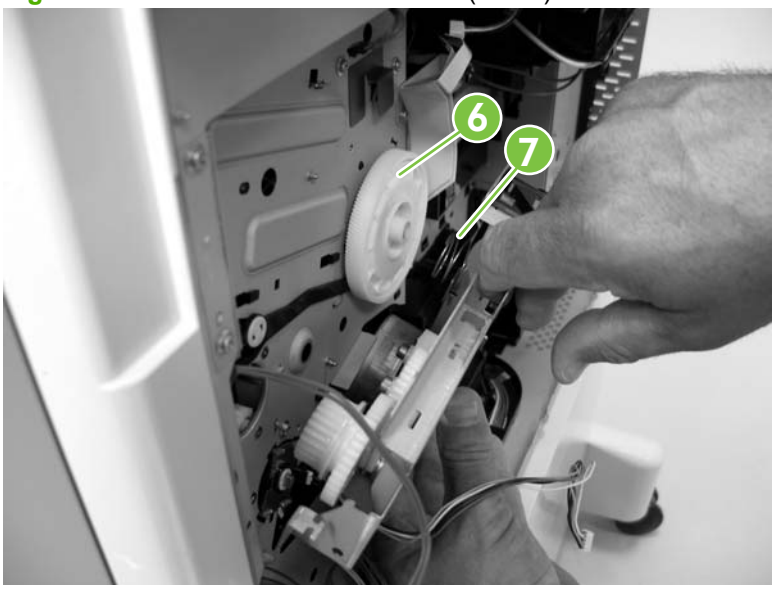
Figure 5-286 Remove the main motor (5 of 7)



7. Carefully rotate the top of the gear assembly away from the device chassis. The large gear (callout 6) and spring (callout 7) in the gear assembly are not captive.

TIP: Leave the gear installed on the device chassis and hold the spring with your finger.

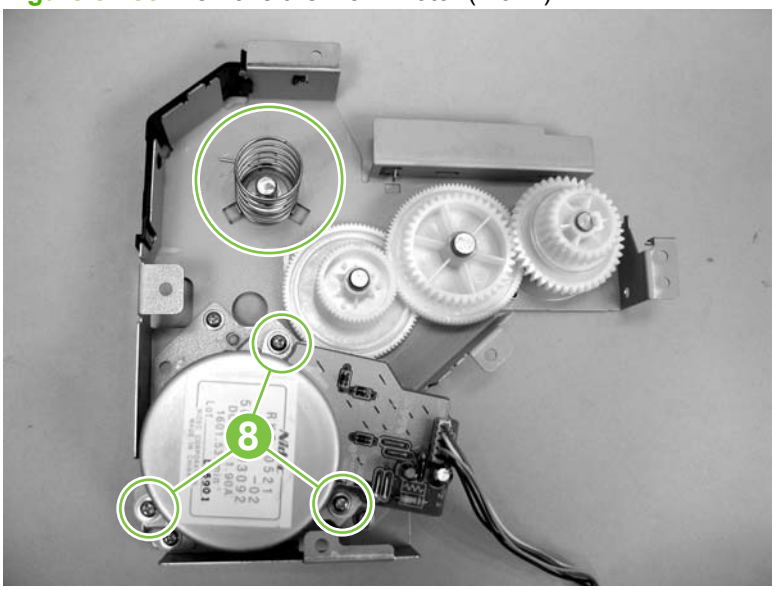
Figure 5-287 Remove the main motor (6 of 7)



8. Turn the gear assembly over, and remove three screws (callout 8). Remove the main motor.

NOTE: If the spring must be reinstalled, make sure that it is positioned on the inside of the tabs on the gear assembly. See Figure 5-288 Remove the main motor (7 of 7) on page 361.

Figure 5-288 Remove the main motor (7 of 7)



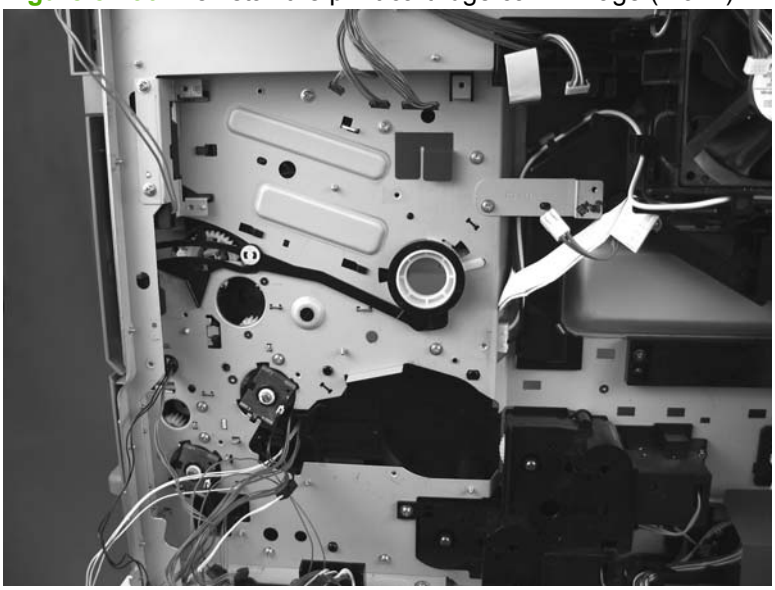
9. The print cartridge cam linkage is not captive and can become dislodged. To reinstall the linkage, close the print cartridge door and engage the tab on the cam linkage with the slotted hole in the door linkage arm.

Figure 5-289 Reinstall the print cartridge cam linkage (1 of 2)



10. Slip the large keyed end of the cam linkage over the print cartridge cam.

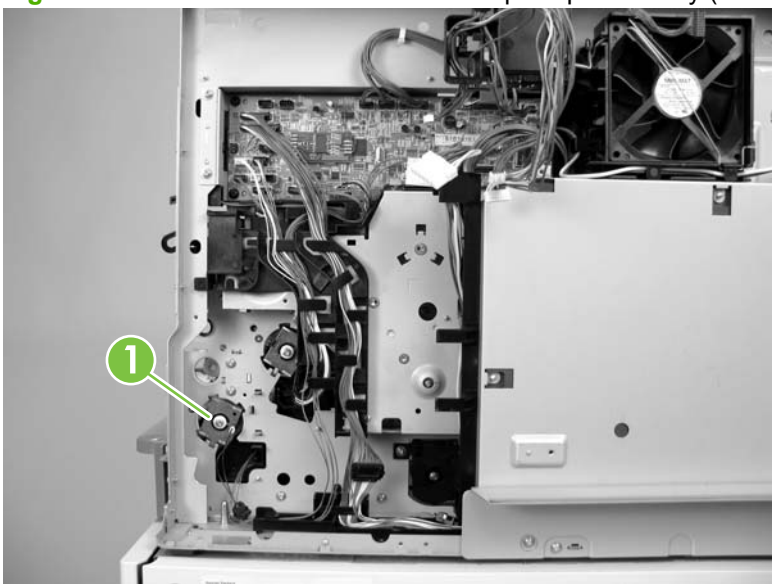
Figure 5-290 Reinstall the print cartridge cam linkage (2 of 2)



Lower cassette pickup assembly

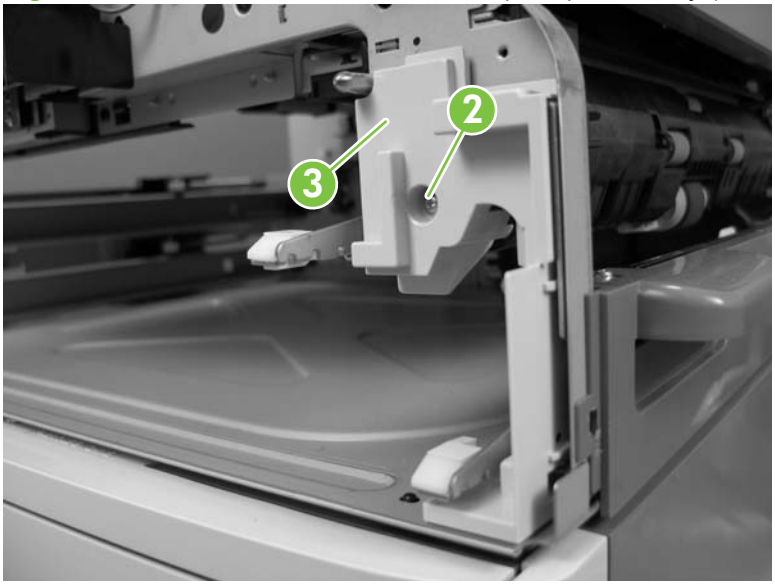
1. Remove the following components or assemblies:
   - ADF. See ADF assembly on page 200.
   - Scanner. See Scanner assembly on page 228.
   - Stapler/stacker. See Stapler/stacker assembly on page 250.
   - Formatter cover and cage. See Formatter cover and cage on page 195.
   - Base unit rear cover. See Rear cover on page 291.
   - Base unit front cover. See Front cover on page 292
   - Base unit top cover. See Top cover on page 307.
   - Base unit right rear cover. See Right rear cover on page 310.
   - Base unit right rear inner cover. See Right rear inner cover on page 308.
   - Interconnect PCA assembly. See Interconnect PCA assembly on page 340.
   - Low-voltage power supply. See Low-voltage power supply assembly on page 337.
   - Lower cassette drive assembly. See Lower cassette drive assembly on page 357.
2. Remove the retainer ring on the shaft and carefully pull the lower cassette pickup assembly clutch (callout 1) off of the shaft and set it aside.

Figure 5-291 Remove the lower cassette pickup assembly (1 of 5)



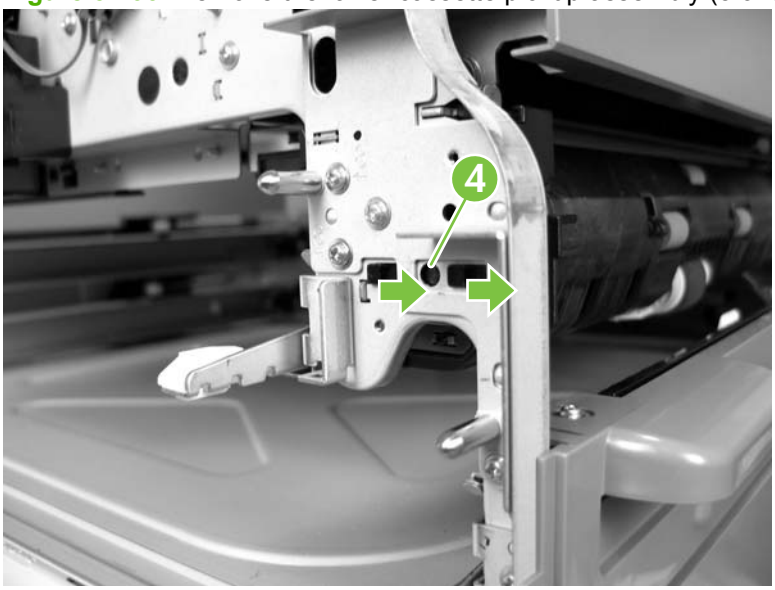
3. Remove one screw (callout 2) and the corner cover (callout 3).

Figure 5-292 Remove the lower cassette pickup assembly (2 of 5)



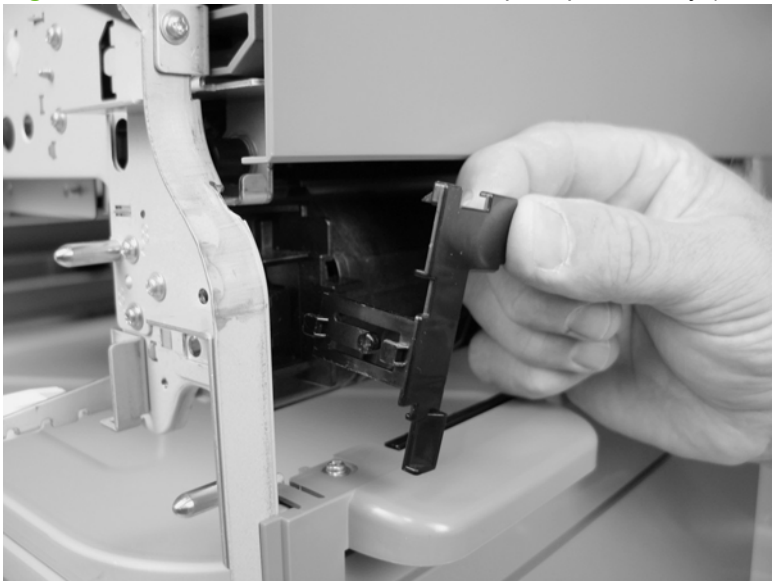
4. Push in on the locking pin (callout 4) and slide the inner cover locking tabs toward the right side of the device.

Figure 5-293 Remove the lower cassette pickup assembly (3 of 5)



5. Remove the black plastic cover.

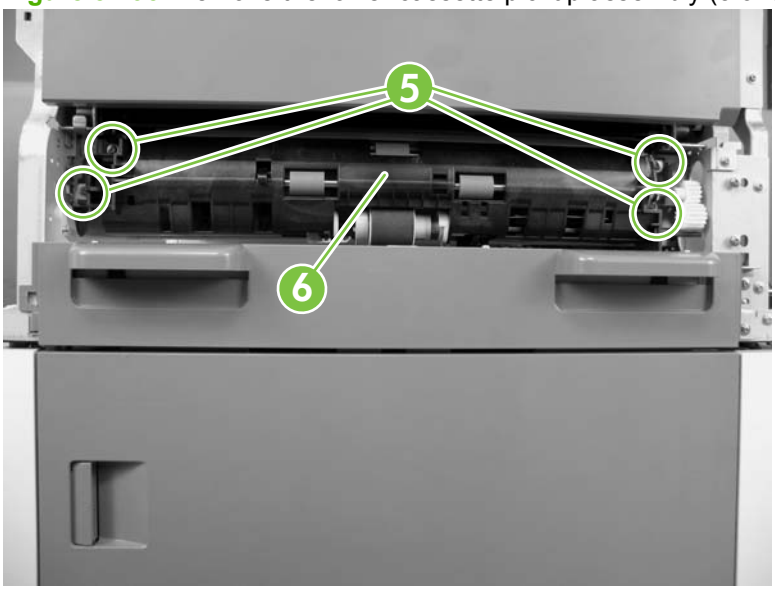
Figure 5-294 Remove the lower cassette pickup assembly (4 of 5)



6. Remove four screws (callout 5) and then remove the lower cassette pickup assembly (callout 6).

TIP: Be careful not to chafe the wire harness at the clutch end of the pickup assembly when the harness passes through the device chassis.

Figure 5-295 Remove the lower cassette pickup assembly (5 of 5)



High capacity input feeder

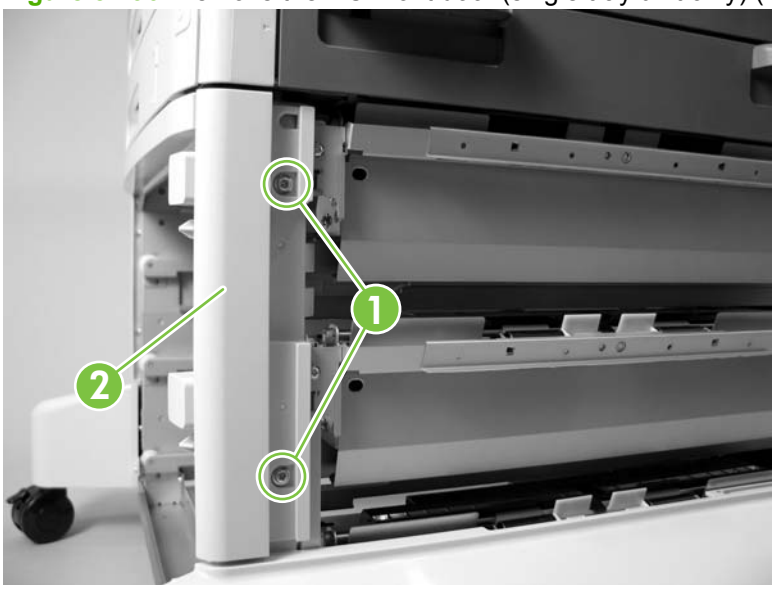
- Front door (single tray unit only)
- Right door
- Back cover
- Motor(s) and PCA(s)
- Paper pickup assemblies
- Right side tray rail(s)
- Left side tray rail(s)
- Lifter driver assembly



Front door (single tray unit only)

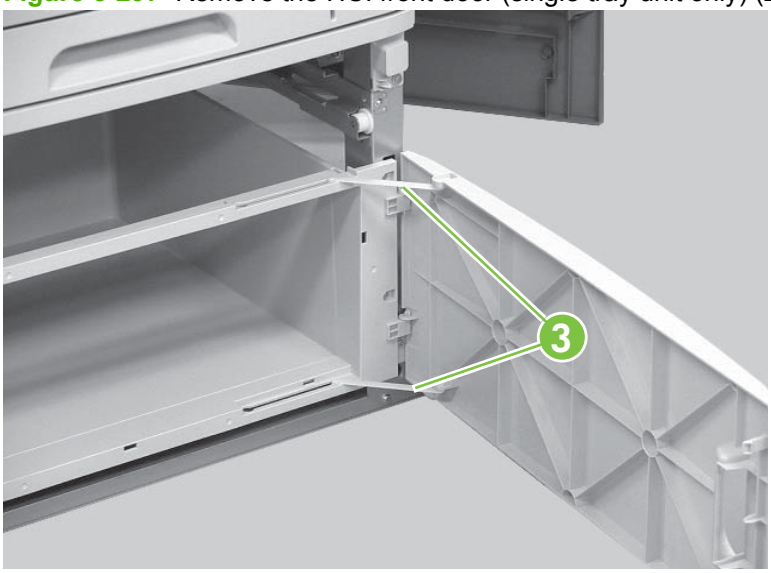
1. Remove Tray 3.
2. Open the right door and remove two screws (callout 1) and remove the right front cover (callout 2).

Figure 5-296 Remove the HCI front door (single tray unit only) (1 of 2)



3. Lift up on the front door to remove it. Release the door retainer arms (callout 3) and remove the door.

Figure 5-297 Remove the HCI front door (single tray unit only) (2 of 2)



Right door

1. Open the right door.

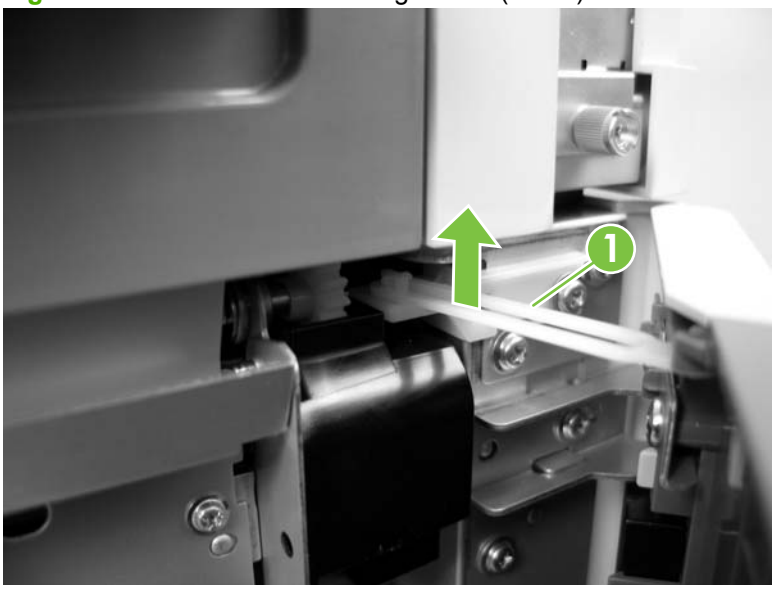
Figure 5-298 Remove the HCI right door (1 of 5)



2. Lift up on the door link (callout 1) to release it.

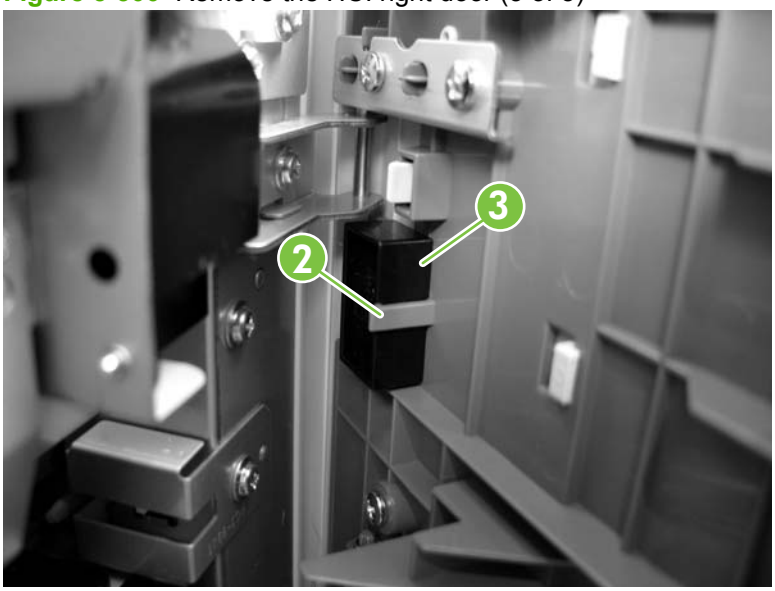
△ **CAUTION:** The door link is not captive and can easily be lost.

Figure 5-299 Remove the HCI right door (2 of 5)



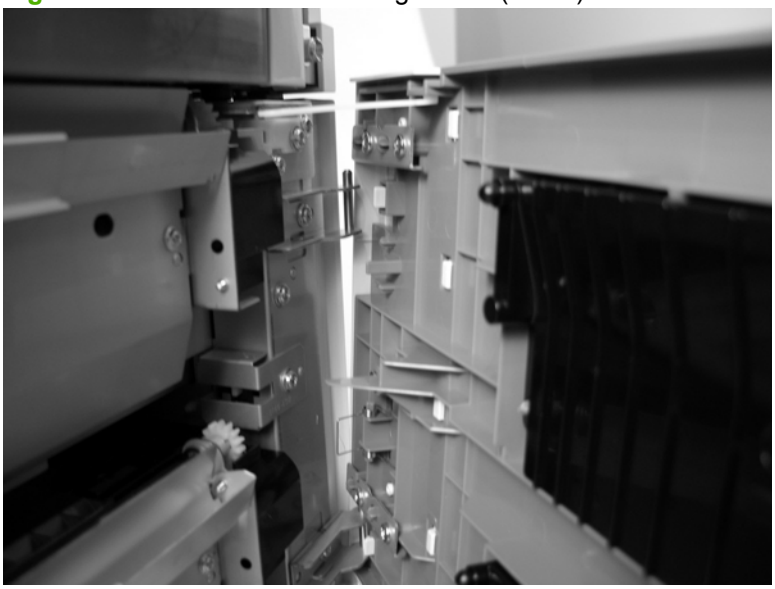
3. Release one tab (callout 2) and remove the black plastic door block (callout 3).

Figure 5-300 Remove the HCI right door (3 of 5)



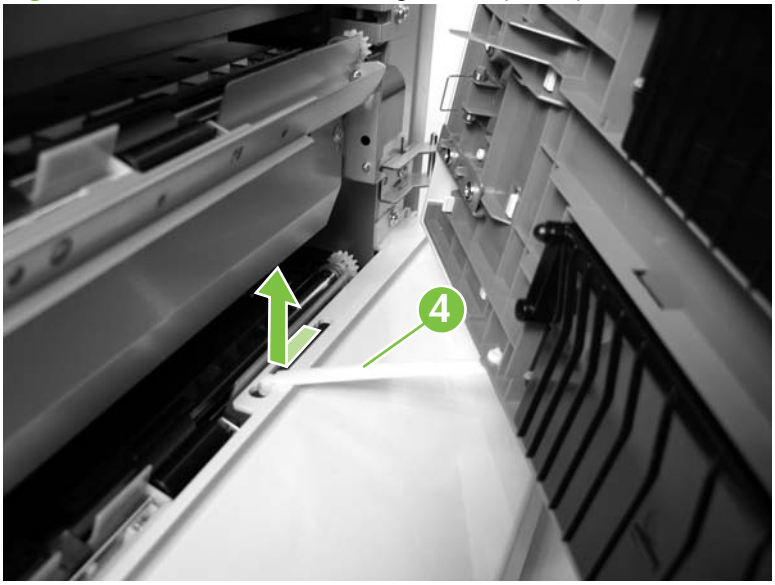
4. Lift the door up and off of the hinge pins.

Figure 5-301 Remove the HCI right door (4 of 5)



5. Move the door toward the front of the device and release the lower door retainer (callout 4).

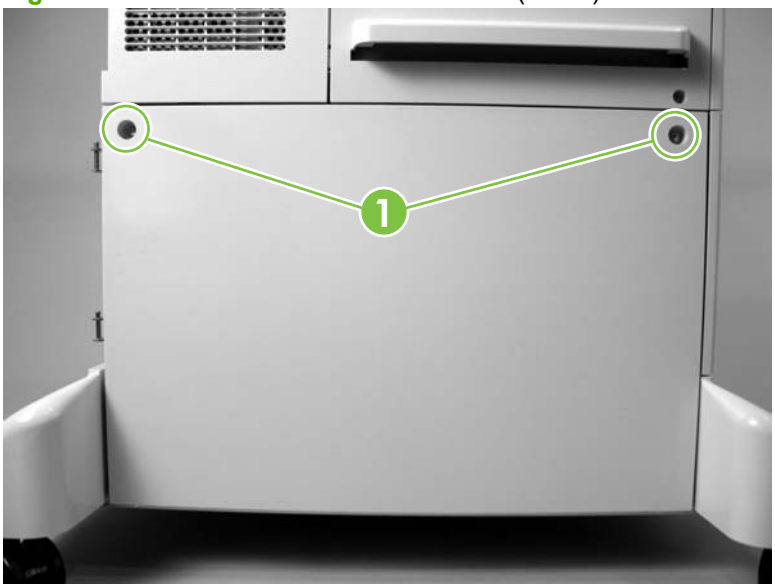
Figure 5-302 Remove the HCI right door (5 of 5)



Back cover

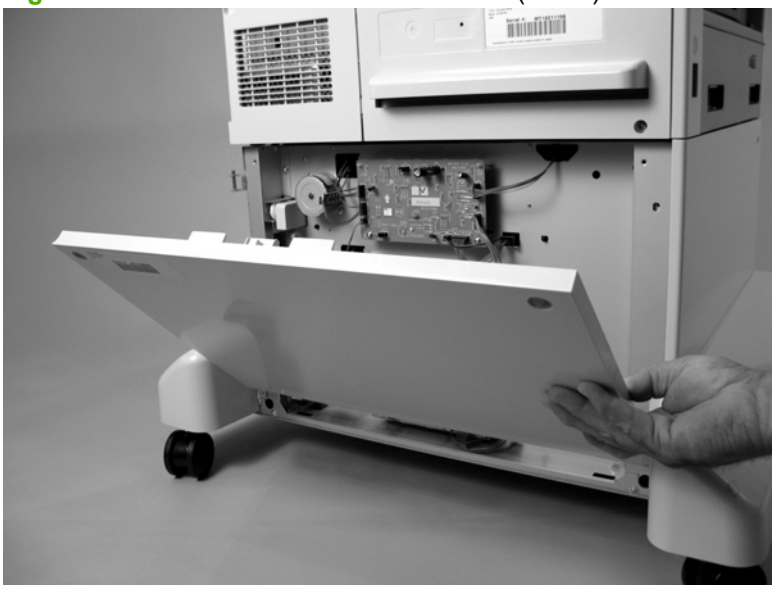
1. Remove two screws (callout 1).

Figure 5-303 Remove the HCI back cover (1 of 2)



2. Rotate the top of the cover away from the HCI and then remove the back cover.

Figure 5-304 Remove the HCI back cover (2 of 2)

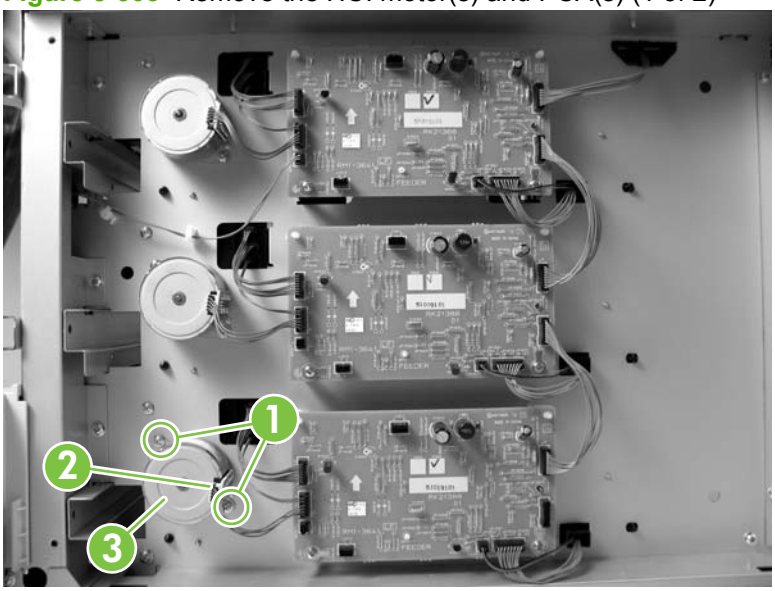


Motor(s) and PCA(s)

NOTE: The single tray HCI contains one motor and one PCA. The multi tray HCI contains three motors and three PCAs.

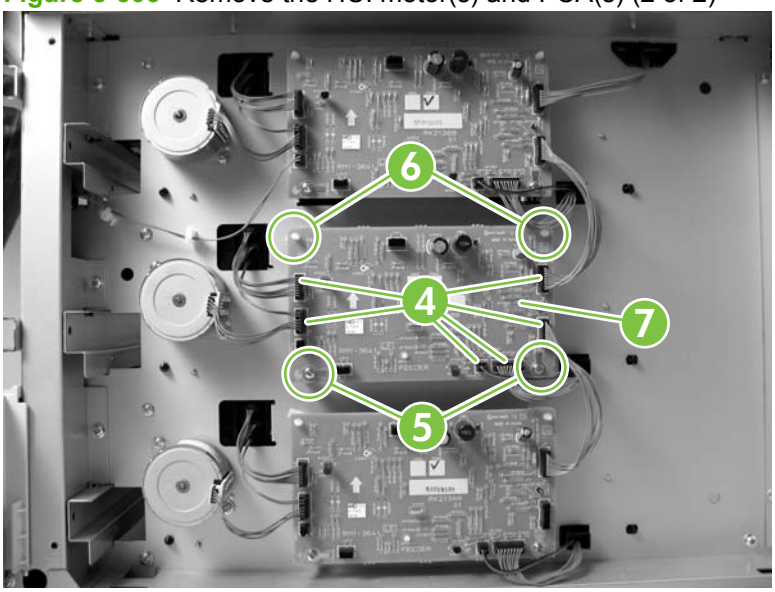
1. Remove the HCI back cover. See Back cover on page 371.
2. Remove two screws (callout 1) and disconnect one connector (callout 2). Remove the HCI motor (callout 3). Repeat this step for the remaining motors.

Figure 5-305 Remove the HCI motor(s) and PCA(s) (1 of 2)



3. Disconnect six connectors (callout 4) and remove two screws (callout 5). Use a pair of pliers to release the PCA standoffs (callout 6) and then remove the HCI PCA (callout 7). Repeat this step for the remaining PCAs.

Figure 5-306 Remove the HCI motor(s) and PCA(s) (2 of 2)

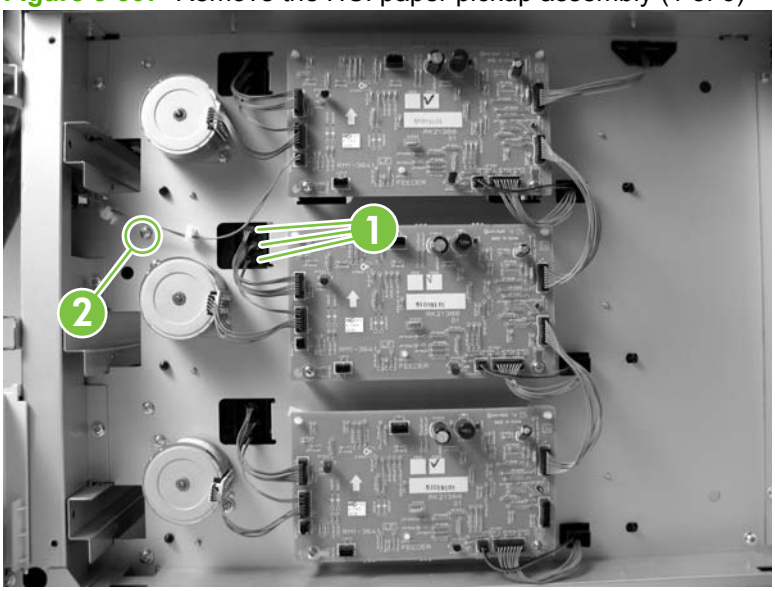


Paper pickup assemblies

NOTE: The single tray HCI contains one paper pickup assembly. The multi tray HCI contains three paper pickup assemblies.

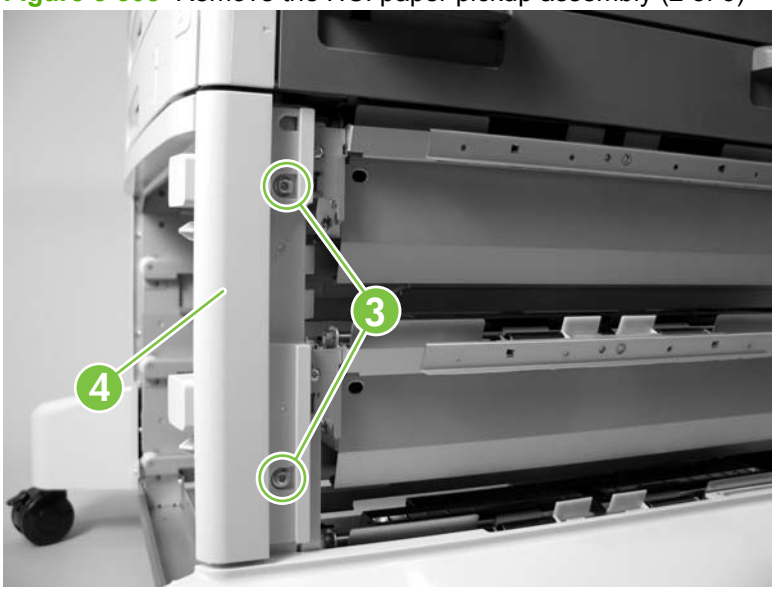
1. Remove the following components or assemblies:
   - HCI right door. See Right door on page 368.
   - HCI back cover. See Back cover on page 371.
2. Disconnect three connectors (callout 1) and remove one screw (callout 2).

Figure 5-307 Remove the HCI paper pickup assembly (1 of 6)



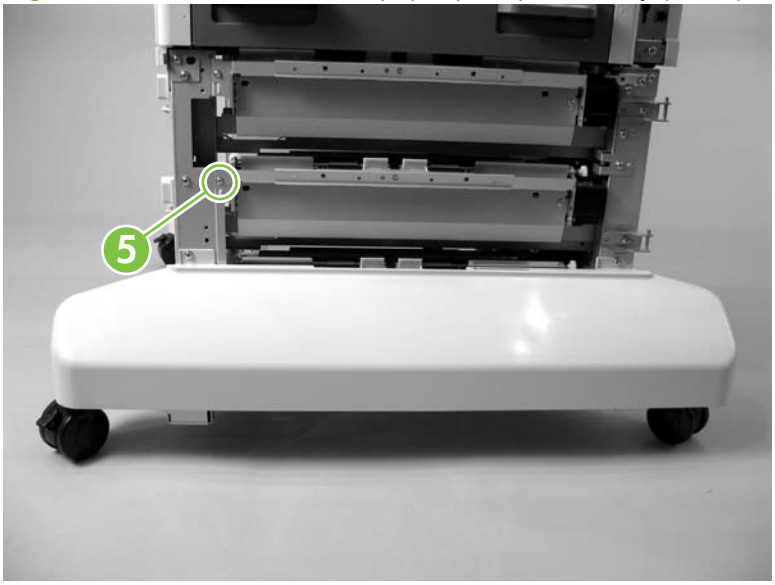
3. Remove two screws (callout 3) and remove the right front cover (callout 4).

Figure 5-308 Remove the HCI paper pickup assembly (2 of 6)



4. Remove one screw (callout 5).

Figure 5-309 Remove the HCI paper pickup assembly (3 of 6)



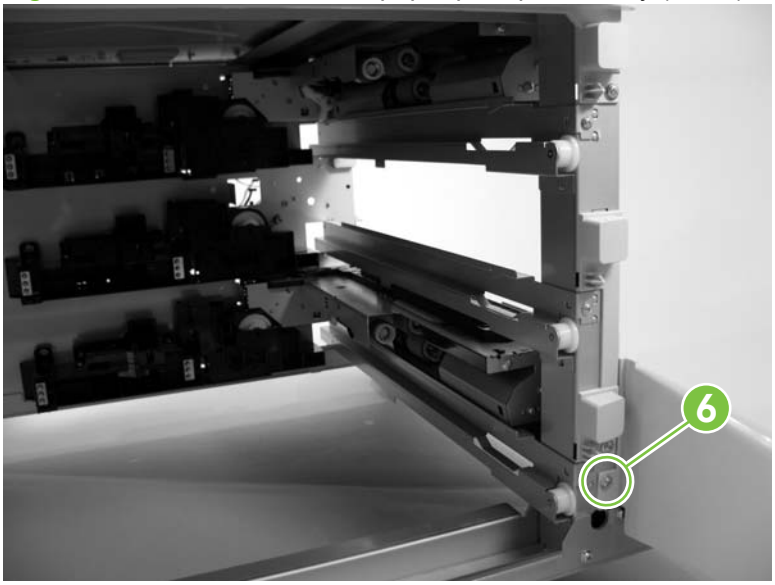
5. Remove the HCI paper pickup assembly.

Figure 5-310 Remove the HCI paper pickup assembly (4 of 6; middle paper pickup assembly shown)



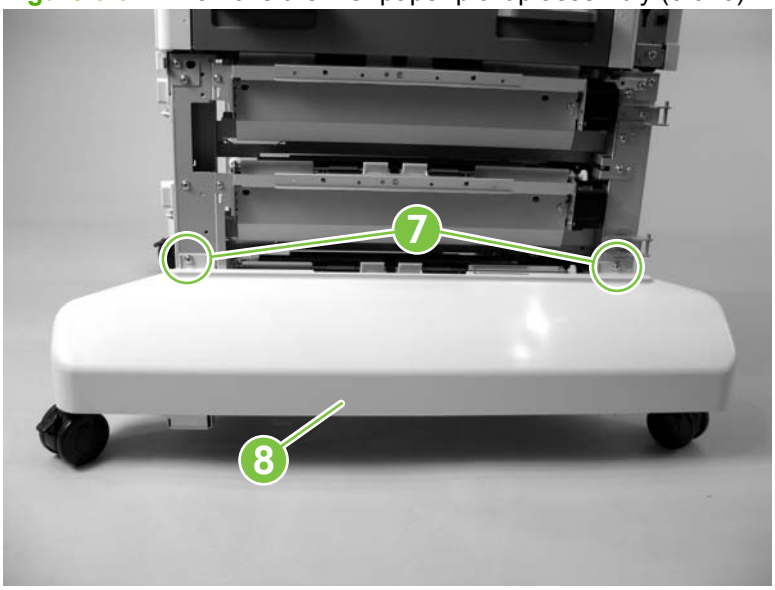
6. **To access the bottom paper pickup assembly**: Remove one screw (callout 6).

Figure 5-311 Remove the HCI paper pickup assembly (5 of 6)



7. **To access the bottom paper pickup assembly**: Remove two screws (callout 7) and remove the right lower cover (callout 8).

Figure 5-312 Remove the HCI paper pickup assembly (6 of 6)



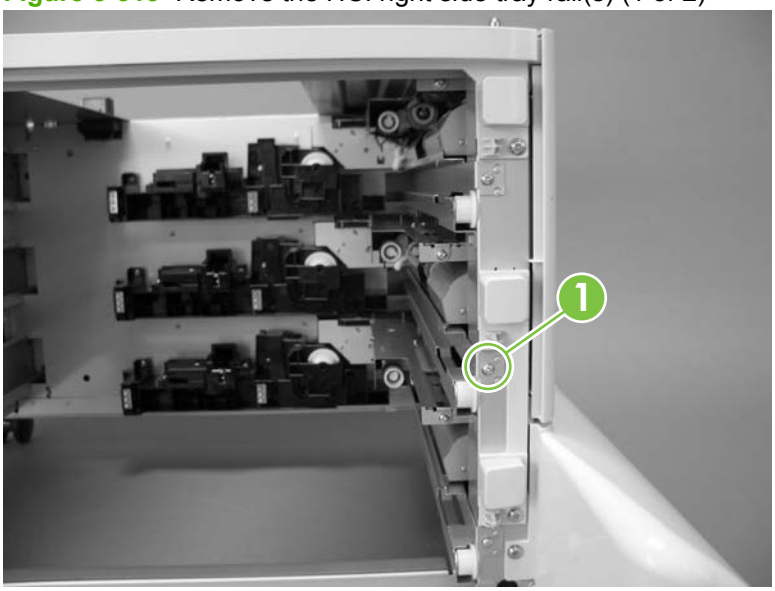
8. Repeat this procedure for the remaining HCI paper pickup units.

Right side tray rail(s)

NOTE: The single tray HCI contains one right side tray rail. The multi tray HCI contains three right side tray rails.

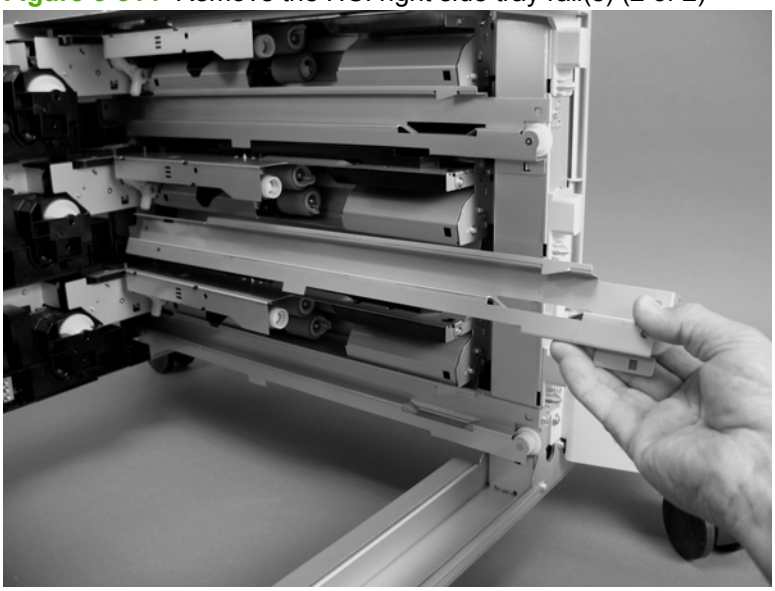
1. Remove the tray(s).
2. Remove one screw (callout 1).

Figure 5-313 Remove the HCI right side tray rail(s) (1 of 2)



3. Remove the HCI right side tray rail.

Figure 5-314 Remove the HCI right side tray rail(s) (2 of 2)



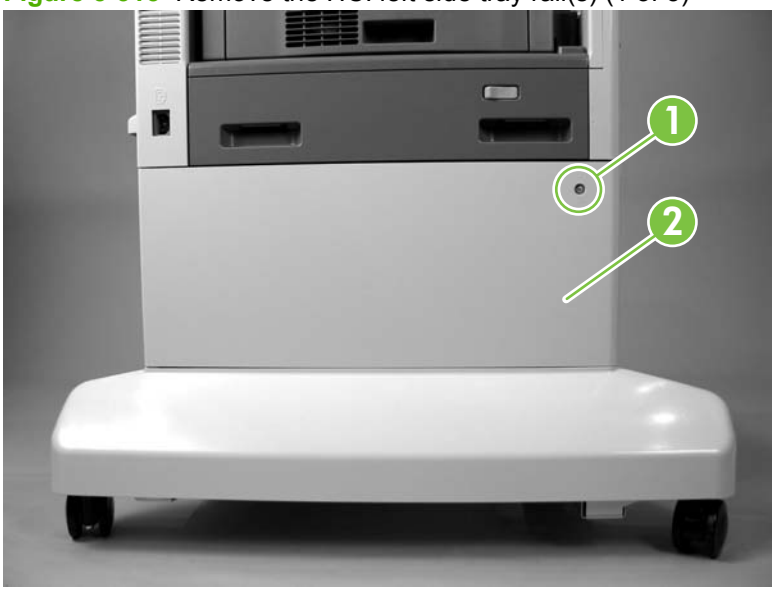
4. Repeat this procedure for the remaining HCI right side tray rails.

Left side tray rail(s)

NOTE: The single tray HCI contains one left side tray rail. The multi tray HCI contains three left side tray rails.

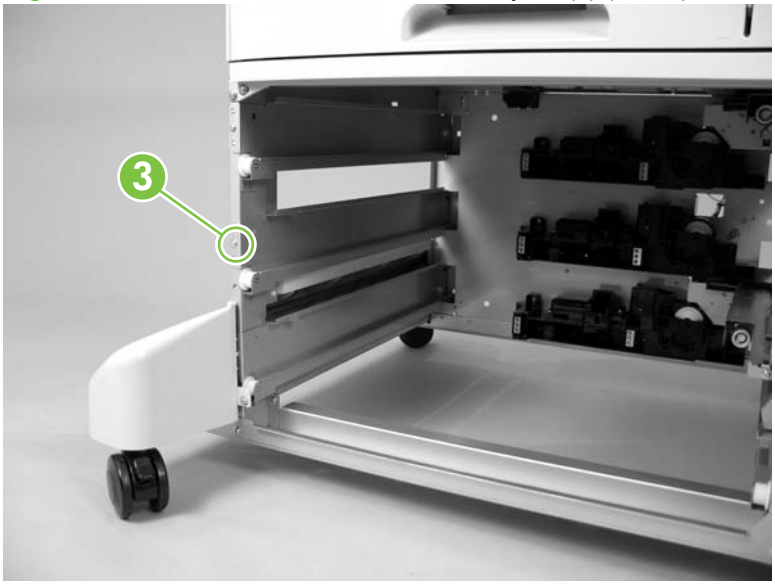
1. Remove the tray(s).
2. Remove one screw (callout 1) and then remove the left side cover (callout 2).

Figure 5-315 Remove the HCI left side tray rail(s) (1 of 3)



3. Remove one screw (callout 3).

Figure 5-316 Remove the HCI left side tray rail(s) (2 of 3)



4. Remove the HCI left side rail.

Figure 5-317 Remove the HCI left side tray rail(s) (3 of 3)

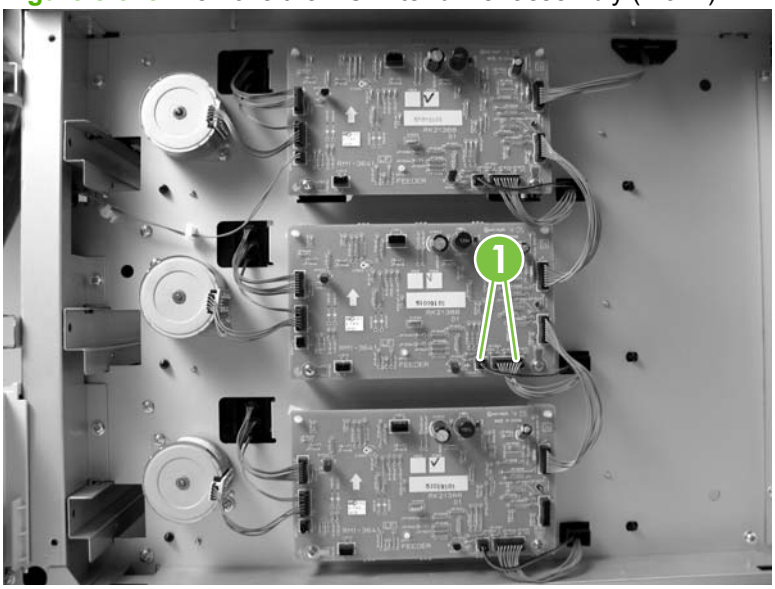


5. Repeat this procedure for the remaining HCI left side tray rails.

Lifter driver assembly

1. Remove the HCI back cover. See Back cover on page 371.
2. Disconnect two connectors (callout 1).

Figure 5-318 Remove the HCI lifter driver assembly (1 of 2)



3. Remove three screws (callout 2) and release one tab (callout 3). Remove the HCI lifter drive assembly (callout 4).

Figure 5-319 Remove the HCI lifter driver assembly (2 of 2)

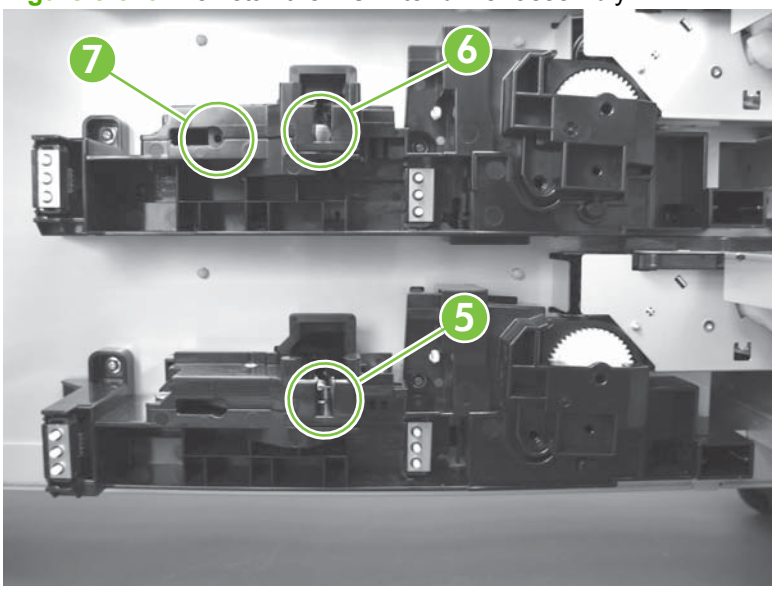


4. Repeat this procedure for the remaining HCI lifter drive assemblies.

5. When reinstalling the lifter driver assembly, make sure that the tray lock is in the unlocked position (callout 5). If the tray lock is in the locked position (callout 6), a tray cannot be fully inserted.

   To disengage the tray lock, use a flat-blade screwdriver to push in the bar (callout 7) on the lifter driver assembly.

Figure 5-320 Reinstall the HCI lifter driver assembly



6 Troubleshooting

This troubleshooting information is organized to help you resolve printing problems. Choose the general topic or type of problem from this list.

- Introduction
- Basic troubleshooting checklist
- Troubleshooting flowchart
- Control-panel message types
- Control-panel messages
- Replacement-parts configuration
- Guidelines for using paper
- Supported media weights and sizes
- Printing internal information pages
- Jam locations
- General paper-path and jam troubleshooting
- Common causes of repeating jams
- Solve general repeated jams
- Jam recovery
- Clear jams
- Clear staple jams
- Solving image-quality problems
- Troubleshooting communication interfaces
- Boot key sequences
- Service menu
- Troubleshooting menu
- Use the control panel
- Solve fax problems

- Solve e-mail problems
- Diagrams
- Known issues

Introduction

The information in this troubleshooting chapter is presented with the assumption that the reader has a basic understanding of the laser-printing process. Explanations of each mechanical assembly, printer systems, and the basic theory of operation are provided in Chapter 4 of this manual. Do not perform any of these troubleshooting processes without fully understanding the function of each mechanism.

This chapter contains the following sections:

- **Troubleshooting process** includes a pre-troubleshooting checklist and a troubleshooting flowchart. These tools contain information about common errors that can inhibit proper operation or create print quality problems. These tools also include recommendations for solving the cause of the error.
- **Control-panel messages** explain each control panel-display message and suggest recommendations for clearing the cause of each message. When the message indicates a failure for which the root cause is not obvious, use the error troubleshooting section and the troubleshooting tools section in this chapter to solve the problem.
- **Formatter light** provides information about whether the formatter is working properly.
- **Replacement parts configuration** provides information about replacing parts, such as stapler unit and the formatter.
- **Troubleshooting the paper path** provides techniques to solve feed problems. Explanations are provided about print media checks, troubleshooting jams, and the differences between jams caused by media and those caused by the device.
- **Troubleshooting the paper transport** provides information on how to troubleshoot problems with media feeding incorrectly.
- **Image-formation troubleshooting** suggests methods for solving print-quality problems.
- **Test pages** provides information about how to print test pages to determine if the engine and the formatter are functioning properly.
- **Image defects** provide information about image defects and how to identify the root cause of the problem.
- **Troubleshooting the interface** provides techniques for isolating communication problems to the device hardware, device configuration, network configuration, or software program.
- **Trougleshooting the control panel** provides procedures for printing a menu map from the control panel. It also describes the control-panel menus, the items within each menu, and the possible values for the menu items.
- **Troubleshooting tools** help isolate the cause of device failures. This section includes explanations of the device configuration page and the event log.
- **Diagnostics** provides instructions about how to gain access to and use the diagnostic tools that are incorporated into the device.
- **Engine resets** provides information about how to perform engine resets.

Basic troubleshooting checklist

If you are experiencing problems with the device, use the following checklist to identify the cause of the problem:

- Does the media meet HP specifications? See Supported media weights and sizes on page 440.
- Is the device connected to power?
- Is the device on?
- Is the device in the **Ready** state?
- Are all the necessary cables connected?
- Do any messages appear on the control panel?
- Are genuine HP supplies installed?
- Was a recently replaced print cartridge installed correctly, and was the pull-tab on the cartridge removed?

For additional information about installation and setup, see the Getting Started Guide.

If you cannot find solutions to printer problems in this guide, contact your dealer.

Factors that affect device performance

Several factors affect the time it takes to print a job:

- Maximum device speed, measured in pages per minute (ppm)
- The use of special paper (such as transparencies, heavy paper, and custom-size paper)
- Device processing and download time
- The complexity and size of graphics
- The speed of the computer that you are using
- The USB connection
- The device I/O configuration
- The network operating system and configuration (if applicable)
- Device personality (PCL or PS)

Troubleshooting flowchart

If the device is not responding correctly, use the flowchart to determine the problem. If the device does not pass a step, follow the corresponding troubleshooting suggestions.

Power-on self diagnostic tests

When the power is turned on, the MFP initiates several formatter self tests. During the self tests, the control-panel LEDs (Ready, Data, and Attention) will illuminate on and off.

When the self test are complete and the MFP is ready, all of the LEDs remain illuminated.

If during the self test the LEDs stop illuminating (in any combination of on and off states, see Table 6-1 Control-panel LED cycles on page 385) and the control panel is blank there might be a problem with the formatter. Try the following:

Table 6-1 Control-panel LED cycles

Cycle	Ready	Data	Attention
1	Off	Off	Off
2	On	Off	Off
3	Off	On	Off
4	On	On	Off
5	Off	Off	On
6	On	Off	On
7	Off	On	On

1. Turn the power off.
2. Remove the formatter, and then reinstall it. Make sure that the formatter is fully seated onto the connectors. See Formatter cover and cage on page 195 and Formatter cage does not properly seat on page 560.
3. If a memory DIMM is installed, remove it.
4. Make sure that the wire harness connectors at the control-panel display and the dc controller are fully seated.
5. Turn the power on.
6. If the problem persists, replace the formatter. See Formatter cover and cage on page 195.

NOTE: If the formatter successfully completes the power-on self diagnostic tests, it is very likely that the formatter hardware does not need to be replaced.

Step 1: Does READY appear on the control-panel display?

YES →	**Go to step 2.**
NO ↓	

The display is blank, and the printer fan is off.	The display is blank, but the printer fan is on.	The display is in the wrong language.	The display shows garbled or unfamiliar characters.	A message other than READY appears on the control-panel display.
• Turn the printer off and then on. • Check the power cord connections and the power switch. • Plug the printer into a different outlet. • Check that the ac power supplied to the printer is steady, and meets device specifications. See Specifications on page 817. Try testing the ac power with a known operating device. • Troubleshoot the low-voltage power supply. Make sure that all of the wire harness connections are fully seated between the LVPS and the engine.	• Press a device control-panel button to see if the printer responds. • Adjust the contrast dial on the control panel. • Turn the device off and then on. • Troubleshoot the control panel. Check the wire harness connectors at the control-panel and formatter. • Turn the device off, reseat the formatter, and then turn the device on.	• Scroll to and then touch **Administration** on the control panel display. Use ▲ or ▼ to scroll to **Device Behavior**. Touch **Device Behavior**, and then use ▲ or ▼ to scroll to **Language**. Touch **Language** to display a list of available control-panel display languages. Use ▲ or ▼ to scroll to the desired language. Touch the appropriate language name to select it. Touch **Save** to save the setting, or touch **Cancel** to exit the menu.	• Make sure that the appropriate language is selected at the device control panel. • Turn the device off and then on. • Make sure that the most recent firmware is being used. perform an RFU if necessary. • Check the wire harness connectors at the control panel and formatter.	• See the control panel message section in this chapter.

Step 2: Can you print a configuration page?

(See Printing internal information pages on page 443.)

YES →	**Go to step 3.**
NO ↓	

A configuration page does not print.	A blank page prints.	A message other than READY or PRINTING CONFIGURATION appears on the control-panel display.
• Check that all trays are correctly loaded, adjusted, and installed in the device. • Using the computer, check the print queue or print spooler to see if the device has been paused. If there are problems with the current print job, or if the device is paused, a configuration page will not print. (Press Stop and try step 2 in the troubleshooting flowchart again.)	• Check that the sealing tape does not remain on the print cartridge. (See the Getting Started Guide or the instructions that came with the print cartridge.) • The print cartridge might be empty. Install a new print cartridge. • See Solve print-quality problems on page 470.	• See the control panel message section in this chapter.

Step 3: Does the device copy?

YES→	Go to step 4.	
NO↓		
Poor print quality from the ADF.	**Media does not move smoothly through the ADF path.**	**Poor copy quality from the flatbed.**
• If the print quality from the internal tests and the copy from the flatbed were acceptable, clean the ADF and the ADF glass on the flatbed. • If the ADF is damaged, repair or replace the ADF. See ADF assembly on page 200.	• Make sure that the media meets HP specifications (if not, copy from the flatbed). • Clean the ADF pickup and feed rollers and separation pad. • If the problem persists, replace the ADF pickup and feed rollers. See ADF separation pad and pickup and feed roller assemblies (removal and replacement) on page 180. • If the problem persists, replace the ADF. See ADF assembly on page 200.	• If the print quality from the internal tests and the copy from the ADF were acceptable, clean the flatbed glass.

Step 4: Does the job print as expected?

YES →	Go to step 5.		
NO ↓			
Print is garbled, or only a portion of the page prints.	**Printing stops in the middle of the job.**	**Print speed is slower than expected.**	**A device control panel setting is not taking effect.**

• Check that you are using the correct printer driver. • The data file sent to the printer might be corrupt. To test, try printing it on another device (if possible), or try a different file or a different program. • Check the interface cable connections. Test the cable by trying it on another computer (if possible). • Replace the interface cable with a high-quality cable.	• You might have pressed Stop. • Check that the power to the device is steady, and that it meets device specifications.	• Simplify the print job.	• Check settings in the printer driver or program. (The printer driver and program settings override device control-panel settings.)
The print job is not formatted correctly.	**Paper is not fed correctly or is damaged.**	**There are print-quality problems.**	
• Check that you are using the correct printer driver. • Check the program settings. (See the program online Help.) • Try a different font. • Downloaded resources might have been lost. You might need to download them again.	• Make sure that the paper is loaded correctly and that the guides are not too tight or too loose against the stack. • If pages are wrinkled or curled, or if the image is skewed on the page, see Solving image-quality problems on page 470.	• Use the control panel to adjust the print resolution. • Use the control panel to check that REt is on. • See the control panel message section in this chapter.	

Step 5: Does the printer select media from the correct trays?

YES →	**For other problems, check the Contents, the Index, or the printer driver online Help.**
NO↓	

The device pulls paper from the wrong tray.	An optional tray is not working correctly.	A message other than READY appears on the printer control panel display.
• Make sure that you have selected the correct tray. • Make sure that trays are correctly configured for paper size and type. Print a configuration page to see current tray settings. • Make sure that the tray selection (Source) or Type in the printer driver or program is set correctly. (The printer driver and program settings override the printer control-panel settings.) • By default, paper loaded in Tray 1 will be printed first. If you do not want to print from Tray 1, remove any paper loaded in the tray.	• Print a configuration page to verify that the tray is installed correctly and is functional. • Make sure that the media is correctly loaded in the tray. • Configure the printer driver to recognize the installed tray. (See the printer driver online Help.) • Turn the device off and then on.	• See the control panel message section in this chapter.

Control-panel message types

Four types of control-panel messages indicate the status of or problems with the printer.

Message type	Description
Status messages	Status messages reflect the current state of the device. They inform you of normal device operation and require no interaction to clear them. They change as the state of the device changes. Whenever the device is ready, not busy, and has no pending warning messages, the status message Ready appears if the device is online.
Warning messages	Warning messages indicate data and print errors. These messages typically alternate with the Ready or status messages and remain until you touch OK. Some warning messages are clearable. If **Clearable Warnings** is set to **Job** on the printer **Device Behavior** menu, the next print job clears these messages.
Error messages	Error messages communicate that some action must be performed, such as adding paper or clearing a jam. Some error messages are auto-continuable. If **Auto Continue** is set on the menus, the printer will continue normal operation after the error message appears for 10 seconds. **NOTE:** Pressing any button during the 10-second auto-continuable error message overrides the auto-continue feature. For example, pressing Stop pauses printing and offers the option to cancel the print job.
Critical-error messages	Critical error messages indicate a device failure. Some of these messages can be cleared by turning the device off and then on. The **Auto Continue** setting does not affect these messages. If a critical error persists, service is required.

Control-panel messages

NOTE: For error messages or recommended actions in this section that describe checking or replacing a sensor, see the sensor tests in the control-panel Troubleshooting menu. See Use the Administration menu on page 34.

Table 6-2 Control-panel messages

Control panel message	Description	Recommended action
Bad optional tray connection	The print engine is no longer connected to the HCI.	Check the connector(s) (J1601A) on the HCI controller PCA(s). Also, check the floating connector between the engine (base unit) and the HCI.
Standard output bin full	The output bin is full.	1. Empty the bin to continue printing. 2. Make sure that the output bin sensor and sensor flag (SR2) are not damaged and are functioning correctly. 3. Make sure that the connector J310 on the dc controller is firmly seated.
10.32.00 - Unauthorized Supply	A supply has been installed that does not pass the authentication test for genuine HP supplies.	If you believe you purchased a genuine HP supply, go to www.hp.com/go/anticounterfeit. Repairs required as a result of using non-HP supplies or unauthorized supplies are not covered under warranty. HP cannot ensure the accuracy or the availability of certain features. To continue printing, touch **OK**.
10.XX.YY Supply memory error	The device cannot read or write to the print cartridge e-label, or the e-label is missing from the print cartridge. • XX = 00 e-label read/write error • XX = 10 e-label missing error • YY = 00 black cartridge	Remove and then reinstall the print cartridge, or install a new HP print cartridge. If the problem persists, perform the following check. 1. Note the position of the e-label on the print cartridge in the cartridge cavity. Remove the print cartridge. 2. Make sure that the reader element moves freely and the contact drops into place as the door is closed. 3. If you believe you purchased a genuine HP supply, visit us at www.hp.com/go/anticounterfeit. Repairs required as a result of using non-HP supplies or unauthorized supplies are not covered under warranty. HP cannot ensure the accuracy or the availability of certain features. 4. To continue printing, touch **OK**.
11.XX - Internal clock error To continue touch OK	The device real time clock has experienced an error. • XX = 01 battery failed • XX = 02 real time clock failed	Turn the MFP off, and then on. If the error persists, you might need to replace the formatter. See Formatter cover and cage on page 195.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
13.01.00 Jam in Tray 1	Input delay between Tray 1 and SR5 (top/registration sensor). Picked from Tray 1. Picked from Tray 1 but did not read SR5.	Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the Tray 1 input area on page 463). 1. Check to see that the media in Tray 1 is loaded correctly and that the size guides are set appropriately. 2. Check Tray 1 pick roller and separation pad for excessive wear or contamination. Replace if necessary. 3. Check for paper or other obstructions to the paper path in Tray 1, in the cartridge door area, and before the registration area. Replace the cartridge door assembly if problems are detected. 4. Check SR5 (top/registration sensor) and flag for correct mechanical functionality. repair or replace if necessary. 5. For SR5, check connector J319 on the dc controller. 6. Replace the HVPS (only if SR5 is suspected). 7. Replace the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
13.01.00 Jam inside lower right door **13.01.00 Jam inside middle right door**	Input delay between SR14 (pre-feed sensor) and SR5 (top/registration sensor). Picked from Tray 3. Leading edge passed SR14, but did not reach SR5. This message can also indicate a no-pick in Tray 3.	Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the Tray 2 and Tray 3 input area on page 463). 1. Check for paper or other obstructions in Tray 3 and the paper path between Tray 3 and the registration area. 2. Check the Tray 3 pick and separation rollers for excessive wear or contamination. Replace if necessary. 3. Check SR5 (top/registration sensor) and SR14 (pre-feed sensor) and flags for correct mechanical functionality. Repair or replace if necessary. 4. For SR5, check connector J319 on the dc controller. 5. For SR14, check connector J320 on the dc controller. 6. Replace the HVPS (only if SR5 is suspected). 7. Replace the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.
13.01.00 Jam inside middle right door	Input delay between HCI SR3 (Tray 4 feed-detect sensor) and SR5 (top/registration sensor) Leading edge passed HCI SR3 (Tray 4 feed-detect sensor). **NOTE:** This message can occur for media picked from Tray 4, Tray 5, or Tray 6. **NOTE:** This error can also be cause by a mispick in Tray 3.	Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the Tray 4/5/6 input areas on page 465). 1. Check for paper or other obstructions to the paper path between the output of the HCI and the registration area. 2. Check SR5 (top/registration sensor) and SR14 (pre-feed sensor) for correct mechanical functionality. Repair or replace if necessary. 3. Check connector J319 and J320 on the dc controller. 4. Replace the HVPS (only if SR5 is suspected). 5. Replace the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
13.01.00 Jam inside upper right door	Input delay between Tray 2 and SR5 (top/registration sensor). Picked from Tray 2. Picked from Tray 2 but did not reach SR5. This message can also indicate a no-pick in Tray 2.	Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the Tray 2 and Tray 3 input area on page 463). 1. Check for paper or other obstructions to the paper path in Tray 2 and before the registration area. 2. Check the Tray 2 pick and separation rollers for excessive wear or contamination. Replace if necessary. 3. Check SR5 (top/registration sensor) and flag for correct mechanical functionality. Repair or replace if necessary. 4. For SR5, check connector J319 on the dc controller. 5. Replace the HVPS (only if SR5 is suspected). 6. Replace the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.
13.01.00 Jam inside upper right door	Multi-pick jam in the area of Tray 1 and the print cartridge. **NOTE:** This message can also indicate a mispick.	Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the Tray 2 and Tray 3 input area on page 463). 1. Make sure that media is loaded correctly into Tray 1 and that the size guides are set correctly. 2. Check the Tray 1 pick roller and separation pad for excessive wear or contamination. Replace if necessary. 3. Check for paper or other obstructions to the paper path in Tray 1, in the cartridge door area, and before the registration area. Replace the cartridge door assembly if problems are detected. 4. Check SR5 (top/registration sensor) and the flag for correct mechanical functionality. Repair or replace if necessary. 5. For SR5, check connector J319 on the dc controller. 6. Replace the HVPS (only if SR5 is suspected). 7. Replace the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
13.02.00 Jam inside upper right door	Stay jam at SR5 (top/registration sensor). SR5 continues to detect media, after the media is originally detected, longer than specified.	Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the Tray 2 and Tray 3 input area on page 463). 1. Check for paper or other obstructions to the paper path in Tray 2 and before the registration area. 2. Check SR5 (top/registration sensor) and flag for correct mechanical functionality. Repair or replace if necessary. 3. Check connector J319 on the dc controller. 4. Replace the HVPS. 5. Replace the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.
13.03.00 Jam in Tray 4	Input delay from Tray 4 to HCI SR3 (Tray 4 feed-detect sensor). This is a mispick in Tray 4*.	Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the Tray 4/5/6 input areas on page 465). 1. Make sure that the customer is using supported media and that it is loaded correctly. 2. Check Tray 4 pick and separation rollers for contamination and correct mechanical functionality. Replace if necessary. 3. Check for paper or other obstructions to the paper path between Tray 4 and the top of the output of the HCI. 4. Check HCI SR3 (Tray 4 feed-detect sensor) and flag for correct mechanical functionality. Repair or replace if necessary. 5. Check connector J1506 on the HCI controller in Tray 4. 6. Check connector J312 on the dc controller. 7. Replace the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
13.03.00 Jam in Tray 5	Input delay from Tray 5 to HCI SR4 (Tray 5 feed-detect sensor). This is a mispick in Tray 5.	Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the Tray 4/5/6 input areas on page 465). 1. Make sure that the customer is using supported media and that it is loaded correctly. 2. Check Tray 5 pick and separation rollers for contamination and correct mechanical functionality. Replace if necessary. 3. Check for paper or other obstructions to the paper path between Tray 5 and the top of the output of the HCI. 4. Check HCI SR4 (Tray 5 feed-detect sensor) and flag for correct mechanical functionality. Repair or replace if necessary. 5. Check connector J1506 on the HCI controller in Tray 5. 6. Check connector J312 on the dc controller. 7. Replace the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
13.03.00 Jam in Tray 6	Input delay from Tray 6 to HCI SR9 (Tray 6 feed-detect sensor). This is a mispick in Tray 6.	Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the Tray 4/5/6 input areas on page 465). 1. Make sure that the customer is using supported media and that it is loaded correctly. 2. Check Tray 6 pick and separation rollers for contamination and correct mechanical functionality. Replace if necessary. 3. Check for paper or other obstructions to the paper path between Tray 6 and the top of the output of the HCI. 4. Check HCI SR9 (Tray 6 feed-detect sensor) and flag for correct mechanical functionality. Repair or replace if necessary. 5. Check connector J1506 on the HCI controller in Tray 6. 6. Check connector J312 on the dc controller. 7. Replace the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.
13.04.00	The page stayed at SR2 (duplexing-feed sensor) too long*.	Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the optional duplexer on page 459). 1. Remove the duplexer and check SR2 (duplexing-feed sensor) for correct mechanical functionality. Replace if necessary. 2. Check for paper or other obstructions to the paper path in the duplexer and between the fuser and the duplexer. 3. Check connector J1506 on the HCI controller in Tray 5. 4. Check the interface between the duplexer and the print engine. 5. Replace the duplexer. 6. Replace the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
13.05.00 Jam inside upper right door	The page did not reach SR6 (fuser-delivery sensor) when it should have.	Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the output path on page 457). 1. Check for paper or other obstructions to the paper path in the fuser and between the fuser and the registration area. 2. Check for paper in the fuser and for any damage to the fuser or its connections to the print engine. Replace the fuser if necessary. 3. Check SR6 (fuser-output sensor) for correct mechanical functionality. Replace if necessary. 4. Check SR4 (loop sensor) and SR5 (top/registration sensor) for correct mechanical functionality. Repair or replace flags if necessary. **NOTE:** The sensors are part of the HVPS. 5. Check connector J319 on the dc controller. 6. Replace the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.
13.06.00 Jam inside left door **13.06.00 Jam inside lower left door**	The page is jammed in the fuser. **NOTE:** The leading edge is between the fuser and the output area.	Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the output path on page 457). 1. Check for paper or other obstructions to the paper path between the fuser and the SR7 (delivery sensor). 2. Check for paper in the fuser and for any damage to the fuser or its connections to the print engine. Replace the fuser if necessary. 3. Check SR6 (fuser-output sensor) for correct mechanical functionality. Replace if necessary. 4. Check SR7 (delivery sensor) for correct mechanical functionality. Replace if necessary. 5. Check connector J310 on the dc controller. 6. Replace the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
13.09.00	The page did not reach the face-down-output-bin rollers*.	Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the output path on page 457). 1. Check for paper or other obstructions to the paper path between SR7 (delivery sensor) and SR1 (bin-full sensor). 2. Check for paper in the fuser and for any damage to the fuser or its connections to the print engine. Replace the fuser if necessary. 3. Check SR6 (fuser-output sensor) for correct mechanical functionality. Replace if necessary. 4. Check SR7 (delivery sensor) for correct mechanical functionality. Replace if necessary. 5. Check connector J310 on the dc controller. 6. Replace the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.
13.09.00 Jam inside left door **13.09.00 Jam inside lower left door**	Unexpected size in duplexer.	Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the optional duplexer on page 459). 1. Make sure that the duplexer supports the size of media in use. 2. Remove the duplexer and check SR1 (duplexer-jam sensor) for correct mechanical functionality. Replace if necessary. 3. Check for paper or other obstructions to the paper path in the duplexer and between the fuser and the duplexer. Also check the turnaround path between the fuser and the standard face-down output bin. 4. Check the interface between the duplexer and the print engine. 5. Check connector J311 on the dc controller. 6. Replace the duplexer. 7. Replace the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
13.0A.00	The page is jammed in the face-down-output-bin rollers.	Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the output path on page 457). 1. Check for paper or other obstructions to the paper path between SR7 (delivery sensor) and SR1 (bin-full sensor). 2. Check for paper in the fuser and for any damage to the fuser or its connections to the print engine. Replace the fuser if necessary. 3. Check SR1 (bin-full sensor) for correct mechanical functionality. Replace if necessary. 4. Check connector J310 on the dc controller. 5. Replace the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.
13.10.00 Jam inside left door **13.10.00 Jam inside lower left door**	The page from the turnaround path did not reach SR1 (duplexer-jam sensor).	Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the optional duplexer on page 459). 1. Remove the duplexer and check SR1 (duplexer-jam sensor) for correct mechanical functionality. Replace if necessary. 2. Check for paper or other obstructions to the paper path in the duplexer and between the fuser and the duplexer. Also check the turnaround path between the fuser and the standard face-down output bin. 3. Check the interface between the duplexer and the print engine. 4. Check connector J311 on the dc controller. 5. Replace the duplexer. 6. Replace the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
13.12.00 Jam inside duplexer	Duplexer refeed jam. The page did not reach SR2 (duplexer-refeed sensor).	Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the optional duplexer on page 459). 1. Remove the duplexer and check sensors SR1 (duplexer-jam sensor) and SR2 (duplexer-refeed sensor) for correct mechanical functionality. Replace if necessary. 2. Check for paper or other obstructions to the paper path in the duplexer and between the fuser and the duplexer. 3. Check the interface between the duplexer and the print engine. 4. Check connector J311 on the dc controller. 5. Replace the duplexer. 6. Replace the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.
13.12.07 Stapler jam inside front stapler door	Stapler jam. The stapler could not complete its cycle but was able to return to the home position.	1. Open the front door, remove the staple cartridge, and perform the following tasks: ◦ Lift the small tab at the green dot to release the staples. ◦ Remove any damaged staples. ◦ Lock the staple cartridge by pressing the small tab until it clicks into place. ◦ Reinstall the staple cartridge. 2. If the problem persists, install a new staple cartridge. 3. If, after installing a new staple cartridge, the problem perisists, remove the staple cartridge and perform the following tasks: ◦ Remove the front cover. ◦ Remove the stapler. ◦ Clear any loose or jammed staples from the stapler. ◦ Reinstall the stapler. 4. If the problem persists, replace the stapler. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
13.12.08 Jam in stacker bin area	Stapler jam. Stay jam in accumulator. SR2103 (delivery sensor) stayed activated too long. SR2103 is located in the paper path of the stapler/stacker at the exit rollers to the stacker-output bin. SR2103 is the exit sensor for the stapler/stacker and senses media-presence as media exits the stapler/stacker into the stacker-output bin.	1. Remove any media at the exit rollers of the stapler/stacker. 2. Open the upper left door and perform the following tasks: ◦ Remove any media from the paper path. ◦ Press down on the upper portion of the green guide and remove any media from between the green guide and the stapler/stacker exit rollers. ◦ Check the operation of SR2103 (delivery sensor) and the sensor flag. If the sensor or the sensor flag is not working, replace the stapler/stacker alignment assembly. 3. If, after performing the previous steps, the problem persists, replace the stapler/stacker control board. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.
13.12.09 Jam inside upper left door	Stapler jam. Stay jam in entry. SR2100 (inlet media sensor) stayed activated too long. SR2100 is located in the stapler/stacker feed assembly, sensing media entering the stapler/stacker.	1. Open the lower left door and remove any paper or obstructions in the paper path. 2. Remove the stapler/stacker feed assembly and perform the following tasks. ◦ Remove any media from SR2100. ◦ Check the operation of the sensor flag and sensor-flag spring and make sure that the flag does not block the sensor. If the flag or the spring is damaged, replace the stapler/stacker feed assembly. ◦ Clean SR2100 by blowing air gently into the sensing area. Check the sensor for correct mounting, cable connection, and alignment with the sensor flag. If the sensor is damaged or nor working, replace the sensor. ◦ Check operation of the drive gears and belts at the rear of the stapler/stacker feed assembly. Turning any of the gears should turn all of the rollers in the assembly. If the gears or belts are not working,

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
		replace the stapler/stacker feed assembly. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.
13.12.10 Jam inside upper left door	Stapler jam. Delay jam in entry. The page did not arrive at SR2100 (inlet media sensor) within the expected time. SR2100 is located in the stapler/stacker feed assembly, sensing media entering the stapler/stacker.	1. Open the lower left door and remove any paper or obstructions in the paper path. 2. Turn off the device, disconnect the sensor connection at J2104 on the stapler/stacker control board, and then turn the device back on. If **13.12.11** does *not* appear on the control-panel display after the device warms up, replace SR2100. 3. Open the upper left door. If media is jammed in this area, replace the stapler/stacker feed assembly. 4. Check the standard (lower) output bin to see whether media exited the device to the bin. Media exiting the device to the standard output bin indicates a flapper malfunction. ◦ If SL2100 (flapper solenoid) is not working, replace the stapler/stacker feed assembly. ◦ If the flapper is broken, replace the delivery assembly. ◦ If the SL2100 and the flapper are both working correctly, then the problem is in the stapler/stacker control board. Replace the board. 5. Open the lower left door. If media is jammed in this area, remove the stapler/stacker feed assembly without clearing the jam. After removing the assembly, observe the location of the leading edge of the media and then perform the following tasks: ◦ If the leading edge reached the entrance rollers of the feed assembly but stopped and jammed there, check operation of the drive gears and belts at the rear of the stapler/stacker feed assembly. Turning any of the gears should

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
		turn all of the rollers in the assembly. • If the gears or belts are not working, replace the stapler/stacker feed assembly. • If all rollers turn correctly, replace the alignment assembly. ◦ If the leading edge stopped at or stopped just past SR2100 (inlet media sensor), replace the stapler/stacker feed assembly. 6. If, after performing the previous steps, the problem persists, replace the stapler/stacker control board. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.
13.12.11 Jam inside upper left door	Stapler jam. Initial jam at entry. At power-on, media was detected at SR2100 (inlet media sensor). SR2100 is located in the stapler/stacker feed assembly. SR2100 senses media entering the stapler/stacker.	1. Open the upper left door and remove any media. 2. Open the lower left door and remove any media. 3. Check connection J2104 on the stapler/stacker control board. 4. Remove the stapler/stacker feed assembly and perform the following tasks. ◦ Remove any media from SR2100. ◦ Check the operation of the sensor flag and sensor-flag spring and make sure that the flag does not block the sensor. If the flag or the spring is damaged, replace the stapler/stacker feed assembly. ◦ Clean SR2100 by blowing air gently into the sensing area. Check the sensor for correct mounting, cable connection, and alignment with the sensor flag. If the sensor is damaged or nor working, replace the sensor. ◦ Check operation of the drive gears and belts at the rear of the stapler/stacker feed assembly. Turning any of the gears should turn all of the rollers in the assembly. If the gears or belts are not working,

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
		replace the stapler/stacker feed assembly. 5. If, after performing the previous steps, the problem persists, replace the stapler/stacker control board. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.
13.12.38 Jam inside upper left door	Delay jam at SR2103 (stapler/stacker delivery sensor). Media did not arrive at SR2103 within the expected time. SR2103 is located in the paper path of the stapler/stacker at the exit rollers to the stacker-output bin. SR2103 is the exit sensor for the stapler/stacker and senses media-presence as media exits the stapler/stacker into the stacker-output bin.	1. Open the upper left door and perform the following tasks: ◦ Remove any paper or obstructions in the paper path. ◦ Press down on the upper portion of the green guide and remove any media from between the green guide and the stapler/stacker exit rollers. 2. Make sure that the upper left door is mounted correctly at the bottom and that it closes securely at the top. If the door does not close correctly or if it shows signs of wear, replace the door. 3. Check the connection J2109 on the stapler/stacker control board. 4. Open the upper left door and observe the location of media in the paper path. ◦ If the media stopped at the set of rollers located near the bottom of the left side door, replace the stapler/stacker feed assembly. ◦ If the media stopped past the green guide, replace the stapler/stacker alignment unit. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.
13.12.42 Jam in stacker bin area	Stapler jam. Initial jam at exit. At power-on, media was detected at SR2103 (delivery sensor). SR2103 is located in the stapler/stacker at the exit rollers. SR2103 is the exit sensor for the stapler/stacker and senses media as the media exits the stapler/stacker into the stacker output bin.	1. Remove any media at the exit rollers of the stapler/stacker. 2. Open the upper left door and perform the following tasks: ◦ Remove any media from the paper path. ◦ Press down on the upper portion of the green guide and remove any media from between the green guide and the stapler/stacker exit rollers. ◦ Clean SR2100 by blowing air gently into the sensing area. Check the sensor for correct mounting,

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
		cable connection, and alignment with the sensor flag. If the sensor is damaged or nor working, replace the sensor. ◦ Check the operation of SR2103 (delivery sensor) and the sensor flag. If the sensor or the sensor flag is not working, replace the stapler/ stacker alignment assembly. 3. If, after performing the previous steps, the problem persists, replace the stapler/stacker control board. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.
13.13.00 Jam inside duplexer	Duplexer jam.	1. Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the optional duplexer on page 459). 2. Remove the duplexer and check sensors SR1 (duplexer-jam sensor) and SR2 (duplexer-refeed sensor) for correct mechanical functionality. Replace if necessary. 3. Check for paper or other obstructions to the paper path in the duplexer and between the fuser and the duplexer. Also check the turnaround path between the fuser and the standard face-down output bin. 4. Check the interface between the duplexer and the print engine. 5. Check connector J311 on the dc controller. 6. Replace the duplexer. 7. Replace the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
13.14.00 Jam inside duplexer	SR2 (duplexer refeed sensor) detected residual media.	1. Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the optional duplexer on page 459). 2. Remove the duplexer and check sensors SR1 (duplexer-jam sensor) and SR2 (duplexer-refeed sensor) for correct mechanical functionality. Replace if necessary. 3. Check for paper or other obstructions to the paper path in the duplexer and between the fuser and the duplexer. Also check the turnaround path between the fuser and the standard face-down output bin. 4. Check the interface between the duplexer and the print engine. 5. Check connector J311 on the dc controller. 6. Replace the duplexer. 7. Replace the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.
13.1C.00 Paper wrapped around fuser	Fuser wrap jam. SR6 (fuser-exit sensor) did not detect media within the specified time after it initially detected media.	1. Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the output path on page 457). 2. Remove the fuser and check for media at the input and output sides of the fuser. 3. Reinstall the fuser and process a cleaning page. 4. Check SR6 (fuser-output sensor) for correct mechanical functionality. Replace the fuser if necessary. 5. Check connectors J903, J901, and J902 on the HVPS. 6. Check connector J318 and J319 on the dc controller. 7. Replace the fuser. 8. Replace the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
13.20.00 Jam in <any> door	Residual jam. One of the sensors in the device detects the presence of media. The device attempts to clear the paper path before showing the message on the control-panel display.	Visually inspect all paper path sensors, particularly the sensors near the door indicated in the error message, for residual media or malfunctioning sensor flags. Remove any media, check the flags for correct operation, and then check the connections from the sensors to the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.
13.21.00 Door open jam	One of the doors was opened during printing, causing a jam. Pages in the paper path could not be cleared.	1. Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams on page 454). 2. Make sure that all doors on the device are closed correctly. 3. Check all door switches and mechanical activators for correct functionality. 4. Check all connectors to the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.
13.30.00 Jam in Tray 4	The leading edge of media from Tray 4 did not pass SR3 (Tray 4 feed-detect sensor). This is a mispick in Tray 4.	1. Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the Tray 4/5/6 input areas on page 465). 2. Check for paper or other obstructions in the HCI between Tray 4 and SR3. 3. Check Tray 4 pick and separation rollers for contamination and correct mechanical functionality. Replace if necessary. 4. Check HCI SR3 (Tray 4 feed-detect sensor) and flag for correct mechanical functionality. Repair or replace if necessary. 5. Check connector J1506 on the HCI control board in Tray 4. 6. Check connector J312 on the dc controller. 7. Replace the HCI control board in Tray 4 8. Replace the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
13.30.00 Jam inside lower right door	The leading edge of media from Tray 5 passed SR4 (Tray 5 feed-detect sensor) but did not pass SR3 (Tray 4 feed-detect sensor). **-Or-** The leading edge of media from Tray 6 passed SR9 (Tray 6 feed-detect sensor) but did not pass SR3 (Tray 4 feed-detect sensor).	1. Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the Tray 4/5/6 input areas on page 465). 2. Check for paper or other obstructions in the HCI between Tray 6 and SR3. 3. Check HCI sensors SR3, SR4, and SR9 and repair or replace them if necessary. 4. Check connector J1506 on the HCI control board of the tray in use at the time of the jam. 5. Check connector J312 on the dc controller. 6. Replace the HCI control board of the tray in use at the time of the jam. 7. Replace the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.
13.31.00	SR6 (fuser-exit sensor) did not detect media within the specified time after SR5 (top/ registration sensor) detected the leading edge*.	1. Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the output path on page 457). 2. Remove the fuser and check for media at the input and output sides of the fuser. 3. Check for paper or other obstructions in the paper path after the fuser. 4. Check SR6 (fuser-output sensor) for correct mechanical functionality. Replace if necessary. 5. Check connectors J903, J901, and J902 on the HVPS. 6. Check connector J318 and J319 on the dc controller. 7. Replace the fuser. 8. Replace the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
13.33.00	Output jam. Media did not arrive at SR7 (delivery sensor) within the specified time*.	1. Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the output path on page 457). 2. Check for paper or other obstructions between SR6 (fuser exit sensor) and SR7. 3. Check the fuser and the pressure-release assembly for correct seating and functionality. 4. Check SR6 and SR7 for correct mechanical functionality. Replace if necessary. 5. Check connector J310 on the dc controller. 6. Replace the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.
13.41.00 Jam inside left door **13.41.00 Jam inside lower left door**	Output jam. The leading edge of media passed SR7 (delivery sensor), but did not reach SR1 (output-bin-full sensor).	1. Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the output path on page 457). 2. Check for paper or other obstructions between SR7 and SR1. 3. Check SR7 and SR1 for correct mechanical functionality. Replace if necessary. 4. Check connector J310 on the dc controller. 5. Replace the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
13.42.00 Jam inside left door **13.42.00 Jam inside lower left door**	Output jam. The leading edge of media passed SR6 (fuser-exit sensor), but did not reach SR7 (delivery sensor).	1. Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the output path on page 457). 2. Check for paper or other obstructions between SR6 and SR7. 3. Check the fuser and the pressure-release assembly for correct seating and functionality. 4. Check SR6 and SR7 for correct mechanical functionality. Replace if necessary. 5. Check connector J310 on the dc controller. 6. Replace the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.
13.42.00 Jam inside left door **13.42.00 Jam inside lower left door**	Output jam. Media did not leave SR7 (delivery sensor).	1. Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the output path on page 457). 2. Check for paper or other obstructions on or around SR7. 3. Check the fuser and the pressure-release assembly for correct seating and functionality. 4. Check SR7 for correct mechanical functionality. Replace if necessary. 5. Check the duplexer for paper or other obstructions in the duplex path. Also check the duplexer for damage. If the duplexer is damaged, replace the duplexer. 6. Check connector J310 on the dc controller. 7. Replace the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
13.46.00 Jam inside left door **13.46.00 Jam inside lower left door**	Paper did not leave SR7 (output sensor).	1. Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the output path on page 457). 2. Check for paper or other obstructions in the paper path on or around SR7 (delivery sensor). 3. Verify that the fuser and the pressure release assembly are seated and operating correctly. 4. Verify that sensor SR7 is working correctly. Repair it or replace it if necessary. 5. If a duplexer is used, inspect the paper path to the duplexer for obstructions or damage. 6. Check connector J310 on the dc controller. 7. Replace the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.
13.90.00 Unprintable Jam	The media was too long for the duplexer.	Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the optional duplexer on page 459). 1. Make sure that the duplexer supports the size of media in use. 2. Remove the duplexer and check SR1 (duplexer-jam sensor) for correct mechanical functionality. Replace if necessary. 3. Check for paper or other obstructions to the paper path in the duplexer and between the fuser and the duplexer. Also check the turnaround path between the fuser and the standard face-down output bin. 4. Check the interface between the duplexer and the print engine. 5. Check connector J311 on the dc controller. 6. Replace the duplexer. 7. Replace the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
13.98.00 Jam inside upper right door	This might be a multi-pick jam in the Tray 1 and print-artridge areas, or it might be a pick error.	1. Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the output path on page 457). 2. Check to see that the media in Tray 1 is loaded correctly and that the size guides are set appropriately. 3. Check the Tray 1 pick roller and separation pad for excessive wear or contamination. Replace them if necessary. 4. Check for paper or other obstructions in the paper path in the Tray 1 and cartridge-door areas, and before the registration area. Replace the cartridge door assembly if problems are detected. 5. Check the SR5 (top/registration) sensor and flag for correct mechanical functionality. Repair or replace if necessary. 6. For SR 5, check connector J319 on the dc controller. 7. Replace the high-voltage power suppy (only if a problem with SR5 is suspected). 8. Replace the dc controller. 9. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
13.99.00 Jam inside left door **13.99.00 Jam inside lower left door**	Non-specific jam. This message might indicate a multi-feed jam in the fuser/output area.	1. Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams on page 454). 2. Make sure that the customer is using supported media and that it is loaded correctly. 3. Check the input trays for excessive wear or contamination to the pick and separation rollers and separation pad. Replace if necessary. 4. Check the entire paper path for paper or other obstructions. 5. Check all paper-path sensors and flags for correct mechanical functionality and good electrical connections to the dc controller. 6. Check the fuser and the pressure-release assembly for correct seating and functionality. 7. Replace the dc controller. **NOTE:** See also, General paper-path and jam troubleshooting on page 445.
20.X Insufficient memory To continue touch OK	The device received more data than can fit in the available memory. You might have tried to transfer too many macros, soft fonts, or complex graphics. • 20.1= internal ROM • 20.2 =Card slot • 20.3 =non removable hard disk • 20.4 = EIO disk • 20.5 = USB device or external device	Touch OK to print the transferred data (some data might be lost), and then simplify the print job or install additional memory.
21 Page too complex To continue touch OK	The page formatting process was not fast enough for the device.	Touch OK to print the transferred data. (Some data might be lost.) If this message appears often, simplify the print job.
22 EIO <X> buffer overflow To continue touch OK	Too much data was sent to the EIO card in the specified slot (X). An incorrect communications protocol might be in use.	Touch OK to print the transferred data. (Some data might be lost.)
22 Embedded I/O buffer overflow To continue touch OK	Too much data was sent to the embedded HP Jetdirect print server.	Touch OK to print the transferred data. (Some data might be lost.) 1. Turn the power off, and then on. 2. Check wire harness connectors.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
22 USB I/O buffer overflow To continue touch OK	Too much data was sent to the USB buffer.	Touch OK to clear the error message. (Data will be lost.) 1. Turn the power off, and then on. 2. Check wire harness connectors. 3. Try sending the print job from a different computer.
30.1.1	**Flatbed cover open** The scanner flatbed cover is open.	1. If the cover is open, close the cover. 2. If the cover is closed, check the cover sensor at the right rear of the scanner for correct mechanical functionality. 3. Check connector 9 on the scanner control board. 4. Replace the lid sensor assembly or replace the scanner.
30.1.15	Scanner initialization failed. Scanner control-board failure.	1. Turn the device off and then turn the device on. 2. Check the connections between the scanner control board and the formatter. 3. If the message persists, replace the scanner control board.
30.1.17	The scanner carriage is locked*.	1. Check the scanner lock to verify that it is in the unlocked position. 2. Turn the device off and then turn the device on. 3. Make sure that the optical unit moves freely and that it is attached to the belt. 4. Check the scanner motor connector at the SCB (connector 10). 5. Replace the SCB. If the message persists, replace the scanner.
30.1.18	An error occurred on the scanner control board PCA. The ASIC on the scanner control board has failed.	1. Turn the device off and then turn the device on. 2. Check with your dealer to find out if a remote firmware update (RFU) should correct the problem. If so, perform the RFU. 3. If the message persists, replace the scanner control board.
30.1.19	An error occurred at the scanner lamp.	1. Check the connections between the optical assembly and the scanner control board (connector 3). 2. If the message persists, replace the optical unit or replace the scanner.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
30.1.2	**Jam in document feeder** The ADF is jammed. **NOTE:** Appears as 30.01.02 on the event log.	1. Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the automatic document feeder (ADF) on page 454). 2. If the ADF continues to jam, make sure that the document meets media specifications for the ADF. 3. Open the ADF cover and inspect the paper path for damage or obstructions. 4. Check the pickup rollers and separation pad for excessive wear or contamination. Replace if necessary. 5. Check the ADF paper-path sensors for correct operation. 6. Check all connectors on the ADF control board and scanner control board for loose connections. 7. If, after performing all of the previous steps, the ADF continues to jam, replace the ADF.
30.1.22	A fatal hardware error occurred in the scanner.	1. Turn the device off and then turn the device on. 2. If the message persists, replace the scanner control board. 3. If the message persists, replace the scanner.
30.1.23	**Calibration failed** A scanner calibration error has occurred.	Check the target for correctness and re-run the scanner calibration.
30.1.24	**Document feeder cover open** The ADF jam-access door is open.	1. Clear the jam and close the ADF jam-access door. 2. Check the ADF cover sensor and the flag for correct mechanical functionality. 3. Check connector J3 on the ADF control board. 4. If the message persists, replace the ADF control board or replace the ADF.
30.1.25	A general error has occurred in the scanner or the ADF. Communication was lost between the scanner control board (SCB) and the formatter.	1. Turn the device off and then turn the device on. 2. If the message persists, check the ribbon cable between the scanner control board and the formatter for damage and correct seating. Replace the cable if necessary. 3. If the message persists, replace the scanner control board or replace the formatter.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
30.1.3	**Document feeder pick error** The ADF could not pick up the document. **NOTE:** Appears as 30.01.03 on the event log.	1. Clear the jam following the instructions on the control panel display or the instructions in this manual (see Clear jams from the automatic document feeder (ADF) on page 454). 2. If the ADF continues to jam, make sure that the document meets media specifications for the ADF. 3. Open the ADF cover and inspect the paper path for damage or obstructions. 4. Check the pickup rollers and separation pad for excessive wear or contamination. Replace if necessary.
30.1.34	Cable error or loss of communication with the formatter.	1. Turn the device off and then turn the device on. 2. Make sure that the ribbon cable between the scanner control board and the formatter is not damaged and is correctly seated. 3. Make sure that the hard disk drive on the formatter is connected correctly and that the hard disk is functioning correctly. 4. If the message persists, replace the scanner control board or replace the formatter.
30.1.36	Scanner firmware upgrade failed.	The device will automatically try to upgrade the firmware again the next time the device is turned on. Turn the MFP power off, and then on. Resend the RFU.
30.1.7	Communication error.	1. Turn the device off and then turn the device on. 2. Make sure that the ribbon cable between the scanner control board and the formatter is not damaged and is correctly seated.
30.1.8	Scanner optical unit position error.	1. Check the scanner lock to verify that it is in the unlocked position. 2. Turn the device off and then turn the device on. 3. Make sure that the optical unit moves freely and that it is attached to the belt. 4. Check the scanner motor connector at the scanner control board (connector 10). 5. If the message persists, replace the scanner.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
40 EIO <X> bad transmission To continue touch OK	The connection between the device and the EIO card in the specified slot has been broken.	Touch OK to clear the error message and continue printing. If the error persists, turn the power off and reseat the EIO device. Make sure that the network connections and configurations are correct.
40 Embedded I/O bad transmission To continue touch OK	A temporary printing error has occurred.	Turn the device off, and then turn the device on. Also, make sure that the network connections and configurations are correct. If the error persists, the embedded HP Jetdirect print server might be damaged. Replace the formatter. See Formatter cover and cage on page 195.
41.3 - Media too short (cannot send to face-down output bin)	The media is too short to print to the face-down bin	Resend the job as a single-side print job. Load longer media in the requested tray.
41.X Error To continue touch OK	A temporary printing error occurred. • 41.1 = unknown misprint error • 41.2 = beam-detect misprint error • 41.7 = feed-delay error • 41.8 = fuser over temperature error • 41.9 = signal-noise error	1. Touch OK to clear the error. If the error is not cleared, turn the device off, and then turn the device on. 2. For a 41.2 error, check the laser/scanner wire harness connectors from the scanner to the dc controller. If the error persists, replace the laser/scanner. See Laser/scanner on page 335. For a 41.8 error, check the fuser wire harness connectors. If the error persists, replace the fuser. See Fuser on page 324 3. If these errors become a frequent problem, replace the dc controller PCA. See DC controller PCA on page 352.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
49.XXXXX ERROR To continue turn off then on	A critical firmware error has occurred. This type of error can be caused by invalid print commands, corrupt data, or invalid firmware operations. **NOTE:** In many cases, turning the power off and then on will permanently clear most **49** errors. In some instances, electrical noise in the cable can corrupt data during transmission to the device. Other causes include poor-quality USB cables, poor connections, or specific software programs. Sometimes, the formatter is at fault, which is usually indicated by a **79 Error** message. **NOTE:** In most cases, replacing the formatter will not remedy repetitive **49** errors. Very rarely the formatter hardware may be faulty which will be indicated by a **79 Error** message.	1. Turn the MFP off, and then turn the MFP on. **NOTE:** Turning the power off and then on will clear most 49 errors. 2. Upgrade the firmware. 3. Try printing a job from a different software program. If the job prints, go back to the first program and try printing a different file. If the message appears only with a certain software program or print job, contact the software vendor for assistance. 4. Do the following: **a.** If the message persists when using different software programs and attempting specific print jobs, disconnect all of the cables that connect the MFP to the network or a computer. **b.** Turn the MFP off. **c.** Remove the DIMM. **d.** Remove any installed EIO devices. **e.** Turn the device on. **f.** If the error message disappears, reinstall the DIMM and EIO devices individually, making sure to turn the device power off and then on again as you install each device. **g.** Replace the component that caused the error message.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
50.X FUSER ERROR To continue turn off then on	A fuser error has occurred. • 50.1 = low fuser temperature • 50.2 = low fuser temperature during warm up • 50.3 = high fuser temperature • 50.4 = faulty fuser, power supply drive circuit • 50.5 = the wrong fuser is installed or no fuser is installed • 50.6 = open fuser, heating element broken • 50.7 = fuser pressure release malfunction • 50.8 = low fuser temperature • 50.9 = high fuser temperature	1. Turn the device off, and allow it to cool. 2. Verify that the correct model of fuser is installed. 3. Verify that the correct voltage fuser is installed. 4. Reinstall the fuser, and check the connection between the fuser and the high-voltage power supply. Replace the high-voltage power supply if the connector is damaged. 5. Replace the fuser. See Fuser on page 324. 6. Replace the dc controller PCA. See DC controller PCA on page 352. 7. Replace the high-voltage power supply. See High-voltage power supply on page 342.
51.XY ERROR To continue turn off then on	A temporary printing error has occurred. X = 1 beam detect error X = 2 laser error Y = 0 black laser	1. Turn the device off, and then turn the device on. 2. Reseat the connectors between the laser/scanner and the dc controller PCA (J801 and J321). 3. Make sure that the laser/scanner cartridge door interlock mechanism is correctly functioning. See Interlocks and linkages on page 549. 4. Replace the laser/scanner assembly. See Laser/scanner on page 335. 5. Replace the dc controller PCA. See DC controller PCA on page 352.
52.XY ERROR To continue turn off then on	A temporary printing error has occurred. • 52.00 = laser/scanner error • 52.10 = laser/scanner motor startup failure error • 52.20 = laser/scanner motor rotation speed error	1. Turn the device off, and then turn the device on. 2. Reseat the connectors between the laser/scanner and the dc controller PCA (J801 and J321). 3. Replace the laser/scanner assembly. See Laser/scanner on page 335. 4. Replace the dc controller PCA. See DC controller PCA on page 352.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
53.XY.ZZ CHECK RAM DIMM SLOT <X> To continue turn off then on	A problem exists with the device memory. The DIMM that caused the error will not be used. **X = device location** • 0 = onboard memory • 1 = slot 1 • 2 = slot 2 **Y = bank number (1 to 4)** • 0 = no useful bank number • 1 = bank 1 • 2 = bank 2 • 3 = bank 3 • 4 = bank 4 **ZZ = error code** • 01 = unsupported memory • 02= = recognized memory • 03 = under minimum memory • 04 = exceeded maximum memory limit • 05 = failed RAM test	You might need to reinstall or replace the DIMM. Turn the device off, and then replace the DIMM. See Installing printer memory on page 24. Make sure that you are using the correct DIMM for this device. See Chapter 7 for a list of supported DIMMs.
54.XX ERROR	A temporary printing error has occurred. **NOTE:** **54.XX ERROR** errors are usually related to toner and print cartridge sensor problems. **XX** • 18 = black toner level sensor malfunction	1. Turn the device off, and then turn the device on. 2. Reseat the print cartridge. 3. Make sure that you are not using a refilled HP print cartridge. 4. Replace the printer cartridge.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
55.XX DC CONTROLLER ERROR To continue turn off then on	The print engine is not communicating with the formatter. **XX** • 00 = communication error • 01 = dc controller memory error • 01 incoming parity error • 02 = outgoing parity order • 03 = no engine response • 04 = communications timeout • 06 = dc controller NVRAM abnormal read/write or not accessible **NOTE:** Check the Event log to distinguish between the two 55.01 errors above.	Turn the device off, and then turn the device on. Reseat all connectors on the dc controller and the formatter. Reseat the formatter. Find out if an applicable RFU is available. If it is, perform an RFU. If the error persists, replace the dc controller. See DC controller PCA on page 352. If the error persists, replace the formatter. See Formatter cover and cage on page 195.
56.XX ERROR To continue turn off then on	A temporary printing error has occurred. • 56.01 = unknown input device, selected media input unavailable • 56.02 = unknown output device, selected media output bin unavailable	1. Turn the device off, and then turn the device on. 2. For 56.01 errors, check the connections to the input device (optional 1 x 500- or 3 x 500-sheet feeder.) For 56.02 errors, check the connections to the optional stapler stacker. 3. Remove all non-HP paper-handling devices. 4. Perform a RFU.
57.XX ERROR To continue turn off then on	A temporary printing error has occurred. A fan has failed. • 57.01 = duplexer fan • 57.03 = fuser fan (front fan) • 57.04 = main fan (rear fan)	1. For a **57.01** error, make sure that the connector J311 on the dc controller is firmly seated. For a **57.03** error, make sure that the connector J309 on the dc controller and the intermediate connector J51 are firmly seated. For a 57.04 error, make sure that the connector J306 on the dc controller is firmly seated. 2. Check the connectors at the front or rear fan. Make sure that the fan blades can move freely. 3. Listen for the fans to operate while the device is initializing. 4. If a fan does not operate during the initialization sequence, replace it. You must replace the entire duplexer assembly for a failed duplexer fan. See Fuser fan on page 333 or Fuser fan on page 333.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
58.XX ERROR To continue turn off then on	A memory error has occurred. • 58.03 = dc controller PCA • 58.04 = power supply	Make sure that all of the dc controller and LVPS wire harness connectors are fully seated. For 58.3 errors, replace the dc controller PCA. See DC controller PCA on page 352. For 58.4 errors, replace the low-voltage power supply. See Low-voltage power supply assembly on page 337.
59.XY ERROR To continue turn off then on	A temporary printing error has occurred. **X** • 1 = main motor startup error • 2 = main motor rotation error • 3 = fuser motor rotation error • 4 = fuser motor startup error **Y** • 0 = black	1. Turn the device off, and then turn the device on. 2. Reseat the wire-harness on the dc controller PCA for the motor that is indicated. For the main motor, this is connector J315. For the fuser motor, this is connector J304. 3. Replace the motor. See Main motor on page 358 or Fuser motor on page 334. 4. Replace the dc controller PCA.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
60.XX Error	The specified tray has experienced an error while lifting the media. • 60.02 = first cassette, lift motor malfunction (Tray 2) • 60.03 = second cassette, lift motor malfunction (Tray 3) • 60.04 = third cassette, lift motor malfunction (Tray 4) • 60.05 = fourth cassette, lift motor malfunction (Tray 5) • 60.06 = fifth cassette, lift motor malfunction (Tray 6) • 60.07 = sixth cassette	1. Remove the indicated tray to see if the message changes. Also, make sure that all of the shipping tape or inserts have been removed. 2. Install the tray and listen carefully. You should be able to hear the paper stack being lifted. You can also watch the paper-level indicator on the front of the tray to see if it moves. 3. Make sure that the tray lift sensor flag is functioning correctly. Replace the tray if necessary. 4. For Tray 2 and Tray 3, verify that connector J324 on the dc controller PCA is firmly seated. This connector is for the Tray 2 and Tray 3 lift motors and sensor/switch assemblies. 5. For Trays 4, 5, or 6, verify that connector J1505 on the corresponding HCI PCA (one PCA for each tray) is firmly seated. Also check J1506 on the corresponding HCI PCA (sensor connector). Make sure to check the correct connector on the associated HCI PCA for the 3 x 500-sheet feeder. 6. If the lift motor for that tray is not functional, first verify that nothing is obstructing its movement. Replace the lifter driver assembly for the tray if necessary. See Lifter drive assembly on page 349 or Lifter driver assembly on page 379.
62 NO SYSTEM To continue turn off then on	A problem exists with the device firmware.	1. Turn the device off, and then turn the device on. 2. Upgrade the firmware. 3. Replace the formatter. See Formatter cover and cage on page 195.
64 ERROR To continue turn off then on	A scan buffer error occurred.	1. Turn the device off, and then turn the device on. 2. Make sure that the connectors at the laser/scanner and the dc controller (J321) are fully seated. 3. If the problem persists, perform an RFU.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
65.12.99 Output Accessory Disconnected	The optional stapler/stacker is disconnected.	Check the connector (J2100) on the stapler/stacker controller PCA. Check the connector (J302) on the dc controller. Check all of the connectors between the HCI PCA(s) and the engine. Check the J1502 connector on the HCI PCA (S).
66.00.15 External Device Failure Turn off, check connection, turn on	A external device error has occurred.	**TIP:** If the error occurred during a remote firmware upgrade (RFU) and the MFP lost communication with the external device, the message **Resend external accessory firmware** will display. Resend the RFU. 1. Turn the power off. 2. Check all of the connections on the dc controller PCA, optional staple/stacker PCA, and optional HCI PCA(s). 3. Turn the power on
66.12.XX Stapler/Stacker Failure	The optional stapler/stacker has failed. **XX** • 01 = communication error • 02 = jogger motor (home position could not be found) • 03 = stapler motor malfunction (stapler could not return to home position) • 23 = communication error • 33 = output roller (lift motor could not reach home position) • 35 = stapler malfunction (stapler self prime sensor did not activate) • 40 = communication error • 41 = communication error	Turn the power off and then on. Check all of the connectors on the staple stacker PCA. See Stapler PCA on page 253. Check the connectors between the staple stacker PCA and the dc controller (J302).

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
68.X Permanent Storage Full To Continue Touch OK	The device NVRAM is full. Some settings saved in the NVRAM might have been reset to the factory defaults. Printing can continue, but some unexpected functions might occur if an error occurred in permanent storage. • 68.0 = Onboard-NVRAM failure • 68.1 = Memory-DIMM or hard-disk failure	Touch OK to clear the message. If the message is not cleared, turn the device off, and then turn the device on. 1. For 68.0 errors, perform an NVRAM initialization. See High-level boot key sequences on page 497. 2. For 68.1 errors: a. Use the HP Web Jetadmin software to delete files from the hard disk. b. Turn the power off. Reseat the memory DIMM. Turn the power on. c. Reinitialize the hard disk. d. Replace the hard disk. See User-replaceable parts on page 178. e. Replace the formatter. See Formatter cover and cage on page 195.
68.X Permanent Storage Write Fail To Continue Touch OK	The device NVRAM is failing to write. Printing can continue, but some unexpected functions might occur if an error occurred in permanent storage. • 68.0 = Onboard-NVRAM failure • 68.1 = Memory-DIMM or hard-disk failure	Touch OK to clear the message. If the message is not cleared, turn the device off, and then turn the device on. 1. For 68.0 errors, perform an NVRAM initialization. See High-level boot key sequences on page 497. 2. For 68.1 errors: a. Use the HP Web Jetadmin software to delete files from the hard disk. b. Replace the formatter. See Formatter cover and cage on page 195. c. Reinitialize the hard disk. See Mid-level boot key sequences on page 497. d. Replace the hard disk. See User-replaceable parts on page 178.
68.X Storage error settings changed To continue touch OK	One or more device settings are invalid and have been reset to the factory-default settings. Printing can continue, but some unexpected functions might occur if an error occurred in permanent storage.	Touch OK to clear the message. If the message is not cleared, turn the device off, and then turn the device on. 1. Determine which settings have changed by printing a control-panel menu map. 2. Perform an NVRAM initialization. See High-level boot key sequences on page 497.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
69.X ERROR To continue turn off then on	A temporary printing error occurred.	1. Turn the device off, and then turn the device on. 2. Reseat the duplexer. 3. Check the connectors between the duplexer and the dc controller. 4. Replace the duplexer.
79.XXXX ERROR To continue turn off then on	A critical formatter hardware error occurred.	Turn the device off, and then turn the device on. 1. Remove and then reinstall the formatter. 2. Upgrade the firmware. 3. If necessary, replace the formatter. See Formatter cover and cage on page 195.
8X.YYYY EIO ERROR To continue turn off then on	The EIO accessory card has encountered a critical error, as specified by **YYYY**.	Turn the device off, and then turn the device on. 1. Turn the device off, reinstall the EIO accessory, and then turn the device on. 2. Perform an RFU. 3. Replace the EIO accessory.
8X.YYYY EMBEDDED JETDIRECT ERROR To continue turn off then on	The embedded HP Jetdirect print server has encountered a critical error, as specified by **YYYY**.	1. Turn the device off, and then turn the device on. 2. Perform an RFU. 3. Replace the EIO accessory.
Access denied menus locked	The control panel function that you are trying to use has been locked to prevent unauthorized access.	Contact the network administrator.
Action not currently available for Tray <X> Tray size cannot be any size/any custom	A duplexed (2-sided) document was requested from a tray that is set to **Any size** or **Any custom**. Duplexing is not allowed from a tray configured to **Any size** or **Any custom**.	1. Select another tray or reconfigure the tray. 2. Make sure that the sliding tray media guides are correctly functioning and positioned. 3. Make sure that the tray to engine mechanical interface is correctly functioning. 4. Check connectors J312 and J324 for trays 2/3 and J1503 for trays 4/5/6.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
ADF paper jam	There is a jam in the ADF.	Remove the jam. See Clear jams from the automatic document feeder (ADF) on page 454. If the problem persists, clean the ADF pickup and feed rollers and separation pad . If any of these components are worn or damaged replace them. See User-replaceable parts on page 178. Reseat the ADF connector on the SCB PCA.
Authentication Required	Authentication has been enabled for this feature or destination. A username and password are required.	Type the user name and password, or contact the network administrator.
Authentication Required To Use This Feature	A user name and password are required.	Type the user name and password, or contact the network administrator.
Bad duplexer connection	The duplex printing accessory is not connected correctly to the device.	1. Remove and reinstall the duplexer. 2. If this message persists, the connector between the duplexer and the dc controller (J311) might be damaged. Inspect the connector on the duplexer . If the connector is damaged, replace the duplexer. Turn the power off and then on after replacing the duplexer. 3. If the message still persists, replace the dc controller. See DC controller PCA on page 352
Binname full	The specified bin is full.	Remove the media from the bin.
Check The Glass And Remove Any Paper To Continue Press Start	Source documents are loaded in the ADF, but there might be media on the scanner glass.	Remove any media from the scanner glass and press Start to print the job.
Checking engine	The device is checking the engine.	No action necessary.
Checking paper path	The device is activating internal rollers to check for jams.	No action necessary.
Chosen personality not available To continue touch OK	A print job requested a language (personality) that is not available for this device. The job will not print and will be cleared from memory.	Print the job by using a printer driver for a different printer language, or add the requested language to the device (if possible). To see a list of available personalities, print a configuration page.
Cleaning . . .	The device is processing a cleaning page.	No action necessary.
Cleaning Disk X % Complete	The hard disk is being cleaned.	No action necessary.
Clearing paper path	The device jammed or the power was turned on and media was detected in the paper path. The device will automatically attempt to eject the media.	No action necessary.
Close left door	Printing will resume when the door is closed.	Close the left-side door.
Close lower left door	Printing will resume when the door is closed.	Close the lower left-side door.
Close lower right door	Printing will resume when the door is closed.	Close the lower right-side door.
Close middle right door	Printing will resume when the door is closed.	Close the middle right-side door.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
Close upper right door	Printing will resume when the door is closed.	Close the upper right-side door.
Code CRC Error	An error occurred during a firmware upgrade.	Resend the upgrade.
Digital send communication error	An error has occurred during a digital send task.	Contact the network administrator. Verify that the DigitalSend software is operating and that the DigitalSend software and the MFP are connected to the network.
Digital Send Server is not Responding Contact Administrator	The MFP cannot communicate with the DigitalSend server	Contact the network administrator. Verify that the DigitalSend software is operating and that the DigitalSend software and the MFP are connected to the network.
Document feeder cover open	The document feeder (ADF) cover is open.	Close the document feeder (ADF) cover. Follow the instructions in the onscreen dialog box. Make sure that the ADF cover and sensor and sensor flag are correctly functioning Make sure that connector J3 on the ADF controller PCA is firmly seated.
Document feeder empty	The document feeder (ADF) does not contain paper.	Load paper in the document feeder (ADF) input tray. Make sure that the media is fully inserted into the tray (the green LED should be illuminated indicating the media is loaded). Make sure that connector J3 on the ADF controller PCA is firmly seated.
Document feeder paper jam	Media is jammed in the document feeder (ADF).	1. Remove jammed media from the document feeder (ADF). Follow the instructions in the onscreen dialog box, or see Clear jams from the automatic document feeder (ADF) on page 454. 2. If any of the ADF components have been replaced recently, make sure that the components are correctly installed. 3. Make sure that the media meets HP specifications. 4. Make sure the media is not damaged, stapled, or torn. 5. Make sure that the J3 connector on the ADF controller PCA is fully seated. 6. Reseat the ADF connector on the SCB PCA. 7. If the problem persists, clean the ADF pickup and feed rollers and separation pad . If any of these components are worn or damaged replace them. See User-replaceable parts on page 178.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
Document feeder pick error	The document feeder (ADF) experienced an error while picking media.	Make sure that your original contains no more than 50 pages. Follow the instructions in the onscreen dialog box. Make sure that the media meets HP specifications. Make sure the media is not damaged, stapled, or torn. Make sure that the sliding ADF media guides are not pushed up against the stack too tightly. If the problem persists, clean the ADF pickup and feed rollers and separation pad. If any of these components are worn or damaged, replace them. See User-replaceable parts on page 178.
E-mail Gateway did not accept the job because the attachment was too large.	The scanned documents have exceeded the size limit of the server.	Send the job again using a lower resolution, smaller file size setting, or fewer pages. Reduce the size of the attachment. Contact the network administrator to enable sending the scanned documents by using multiple e-mails.
E-mail Gateway did not respond. Job failed.	A gateway has exceeded the time out value.	Validate the SMTP IP address. See Solve e-mail problems on page 516.
E-mail Gateway rejected the job because of the addressing information. Job failed.	One or more of the e-mail addresses is incorrect.	Send the job again with the correct addresses.
EIO X Disk Not Functional	The EIO device in the specified location (X) has failed.	Turn the device off, reseat the EIO device, and then turn the device on. Replace the EIO device.
EIO X Disk Spinning Up	The EIO device in the specified location (X) is being activated.	No action necessary.
Error executing Digital Send job. Job failed.	A digital send job has failed and cannot be delivered.	Try to send the job again.
Flash File Operation Failed	A device failure has occurred on one of the following devices: • ROM DISK • RAM DISK • CARD SLOT • INTERNAL DISK • EIO	Resend the file.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
Flash File System Full	A PJL file system write command was received but could not be executed because one of the following devices was full: • ROM DISK • RAM DISK • CARD SLOT • INTERNAL DISK • EIO	Resend the command.
Flatbed cover open	The Flatbed Cover (ADF) is Open.	Close the flatbed cover (ADF).
Folder list is full. To add a folder, you must first delete a folder.	The device limits the number of folders that can be established.	Delete an unused folder to add a new folder.
Genuine HP Cartridge Installed	This message briefly displays when a HP manufactured print cartridge is installed.	No action necessary. **TIP:** If a non-HP print cartridge was previously installed, a **10.40.00** error message will be written to the event log.
HP digital sending: delivery error	A digital send job has failed and cannot be delivered.	Send the job again.
Inflate Failure	A failure occurred during a firmware update.	Resend the update.
Initializing scanner	The scanner is initializing.	No action necessary.
Insert or close tray <XX>	The specified tray is missing or open.	1. Insert or close the specified tray to continue. 2. Check the tray for damaged guides or sensor flags. 3. Check the Tray 2 and Tray 3 lifter driver assemblies for damage. replace as necessary. See Lifter drive assembly on page 349. 4. Make sure that the J312 and J324 connectors on the dc controller are firmly seated. 5. Replace the dc controller. See DC controller PCA on page 352.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
Install black cartridge	The print cartridge has been removed or has been installed incorrectly.	1. Replace or reinstall the print cartridge correctly to continue printing. 2. Make sure that the print cartridge is firmly seated and that the contact points are clean. 3. Check the cartridge door switch flags for damage. Replace as necessary. Also check SR9 behind the front cover. 4. Make sure that the J305, J307, and J309 connectors on the dc controller are firmly seated. 5. Replace the dc controller. See DC controller PCA on page 352. 6. Replace the high-voltage power supply. See High-voltage power supply on page 342
Install fuser	The fuser is not installed or is not fully seated.	Make sure that the fuser is installed and fully seated. Remove and then reinstall the fuser. See Fuser on page 324. Make sure that the fuser to high-voltage power supply connectors are fully seated.
Insufficient memory to load fonts/data <device> To continue touch OK	The device does not have enough memory to load the data (for example, fonts or macros) from the location specified.	Touch OK to continue without this information. If the message persists, add more memory.
Jam in Document Feeder	Media is jammed in the document feeder (ADF).	1. Remove jammed media from the document feeder (ADF). Follow the instructions in the onscreen dialog box, or see Clear jams from the automatic document feeder (ADF) on page 454. 2. If any of the ADF components have been replaced recently, make sure that the components are correctly installed. 3. Make sure that the J3 connector on the ADF controller PCA is fully seated. 4. Reseat the ADF connector on the SCB PCA. 5. If the problem persists, clean the ADF pickup and feed rollers and separation pad . If any of these components are worn or damaged replace them. See User-replaceable parts on page 178.
LDAP server is not responding. Contact administrator.	The LDAP server has exceeded the time out value for an address request.	Verify the LDAP server address. See Solve e-mail problems on page 516. Contact the network administrator.
LED Is On	The device is processing a component test.	No action necessary.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
Load Tray 1: <type>, <size>	The tray is empty or configured for a different size than the size requested.	Follow the instructions in the onscreen dialog box. Make sure that the requested media is loaded correctly and the tray is configured for the requested media from the control panel. 1. Make sure that the Tray 1 paper sensor (SR3) is functioning correctly. Replace the sensor if necessary. This sensor is part of the cartridge door assembly. 2. Replace the dc controller. See DC controller PCA on page 352.
Load Tray 1: <type>, <size> To Continue, Touch OK	The MFP is waiting for Tray 1 to be loaded	Load Tray 1 with the specified media, and touch OK.
Load Tray 1: <type>, <size> To Use Another Tray, Touch OK	Tray 1 is not loaded, but another tray is configured and loaded with the requested media size and type.	Touch OK and follow the onscreen directions.
Load tray <XX> To use another tray, touch OK	The specified tray does not contain the specified media size.	Touch OK to use a tray that contains media of the correct size.
Load tray <XX>: <Type>, <Size> or **Load tray <XX>: <Type>, <Size> To Use Another Tray, Touch OK**	The device detected an unexpected paper size.	Load the requested tray with the specified size and type of media. If another tray is available, touch OK to use it. Touch **Hide** to remove this message and use other MFP features.
Load Tray XX: <type>, <size>	The requested tray is not loaded, but another tray is configured and loaded with the requested media size and type.	Touch OK and follow the onscreen directions.
Load Tray XX: <type>, <size> To Use Another Tray, Touch OK	The requested tray is not loaded, but another tray is configured and loaded with the requested media size and type.	Touch OK and follow the onscreen directions.
Manual feed output stack Then Touch OK to Print Second Sides	The first side of a manual duplex job has printed and is in the output bin.	Place the stack in the ADF and press OK to print the second side of the manual duplex job.
Manually feed: <type>, <size>	The specified job requires manual feed from Tray 1.	Load the requested media into Tray 1. To override the message, touch OK to use a type and size of media that is available in another tray.
Manually feed: <type>, <size> To Continue Touch OK	Media is loaded in Tray 1 for a manual feed job and the device is ready.	Touch OK to print the manual feed job.
Manually feed: <type>, <size> To Use Another Tray Touch OK	Tray 1 is not loaded, but another tray is configured and loaded with the requested media size and type.	Touch OK to print the manual feed job.
Moving solenoid To Exit Press Stop	The device is processing a component test.	Press stop to exit the component test.
Network connection required for digital sending. Contact administrator.	A digital-sending feature has been configured, but a network connection is not detected.	Verify the network connection. Contact the network administrator.
No Job to Cancel	The Stop button was pressed, but there was no job to cancel.	No action necessary.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
Non HP supply installed or **Non HP supply installed Economode disabled**	A non-HP supply or a refilled HP supply has been installed.	Follow the instructions in the onscreen dialog box. • If you are certain that the print cartridge is a genuine HP print cartridge, reseat the cartridge and then check the cartridge present sensor (SR9) connector J309 on the dc controller PCA. • Install a diferent print cartridge. • If the problem persists, replace the dc controller. See DC controller PCA on page 352.
Novell Login Required	Novell authentication has been enabled for this destination.	Enter Novell network credentials to access the copy and fax features.
Order black cartridge	The number of pages remaining for the print cartridge has reached the low threshold. The device was set to stop printing when a supply needs to be ordered.	Touch OK to continue printing until the print cartridge is out of toner. Make sure that the **Supply Low/Order Threshold** setting is correct or has been changed. From the control panel, select **Administration**, **Management**, **Manage Supplies**, and **Supply Low/Order Threshold**. Order a new print cartridge.
Order document feeder kit	The number of pages remaining for the ADF maintenance items has reached the low threshold.	Follow the instructions on the control-panel display, and then touch OK to return to the **Home** screen. Order and install a document feeder maintenance kit.
Order maintenance kit	The number of pages remaining for the engine maintenance items has reached the low threshold.	Follow the instructions on the control-panel display, and then touch OK to return to the **Home** screen. Order and install an engine maintenance kit.
Order staple cartridge	Fewer than 20 staples remain in the staple cartridge. Printing can continue.	Order a new staple cartridge.
Output bin <X> full	The specified output bin is full, and printing cannot continue.	1. Empty the bin to continue printing. 2. Make sure that the output bin sensor and sensor flag (SR2) are not damaged and are functioning correctly. 3. Make sure that the connector J310 on the dc controller is firmly seated.
Output paper path open	The stapler door is open and must be closed before printing can continue.	Make sure the staple cartridge is snapped into position and that the stapler door is closed.
Paper Wrapped Around Fuser	A jam has occurred because the paper has wrapped around the fuser.	Follow the instructions in the onscreen dialog box. See Clear jams on page 454.
Password or name is incorrect. Please enter correct login.	The user name or password was typed incorrectly.	Retype the user name and password.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
Performing Upgrade	A remote firmware upgrade (RFU) is in progress.	No action necessary.
PIN is incorrect. Please enter a 4-digit PIN.	The PIN format is incorrect.	Type the 4-digit PIN.
PIN is incorrect. Please re-enter PIN.	The PIN was typed incorrectly.	Retype the PIN.
Please turn device off and install hard disk.	The requested job requires a hard disk, but the device does not have a hard disk installed.	Turn the device off and install a hard disk. See User-replaceable parts on page 178.
Printing Engine Test . . .	The device is processing an engine test page.	No action necessary.
Reinsert duplexer To Continue Turn Off Then On	The duplexer has been removed and must be reinstalled.	Turn the power off, reinsert the duplexer in the device, and then turn the power on. Touch Hide to remove the message and use other MFP features. 1. Reseat the duplex connector (J311) on the dc controller. 2. Replace the duplexer.
Replace Black Cartridge	The print cartridge is out of toner and the **Replace Black Cartridge** setting is set to **Stop at out**.	Replace the print cartridge. See Change the print cartridge on page 91. Override the **Replace Black Cartridge** by using the control-panel **Management** menu.
Replace black cartridge To Continue Touch OK	The print cartridge is out of toner and the **Replace Black Cartridge** setting is set to **Stop at low**.	Touch **OK** to continue printing. Replace the print cartridge. See Change the print cartridge on page 91. Touch Hide to remove the message and use other MFP features.
Replace Document Feeder Kit	The number of pages remaining for the ADF maintenance items has reached the low threshold. The device was set to stop printing when a supply needs to be ordered. This message will reappear periodically until the maintenance kit items are replaced.	Follow the instructions on the control-panel display, and then touch OK to return to the **Home** screen. Install a document feeder maintenance kit. Touch **Administration**, scroll to and touch **Resets**. Touch **Clear Document Feeder Message**.
Replace maintenance kit	The number of pages remaining for the engine maintenance items has reached the low threshold. The device was set to stop printing when a supply needs to be ordered. This message will reappear periodically until the maintenance kit items are replaced. Touch **Administration**, scroll to and touch **Resets**. Touch **Clear Maintenance Message**.	Follow the instructions on the control-panel display, and then touch OK to return to the **Home** screen. Install a document feeder maintenance kit. Touch **Administration**, scroll to and touch **Resets**. Touch **Clear Maintenance Message**.
Replace Staple Cartridge	The stapler is out of staples.	Replace the staple cartridge.
Resend Stapler/Stacker Firmware	A problem occurred while updating the firmware for the stapler/stacker.	Send the upgrade again.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
RFU Load Error	An error occurred during a firmware update.	Resend the update.
Rotating motor To Exit Press Stop	The device is processing a component test.	Press **Stop** to exit the component test.
Sanitizing disk <X>% complete Do not power off	The hard disk is being cleaned.	1. Wait for the cleaning to be completed. 2. If the cleaning processes does not finish, turn the power off, and then on. 3. If the error persist, initialize the hard drive, or perform an RFU.
Scan carriage locked	The scanner carriage lock is engaged.	Turn the device off. Unlock the scanner cartridge lock underneath the scanner at the left side of the device. Turn the device on.
Scan Failure Press Start to rescan	The scan was unsuccessful and the document needs to be rescanned.	If necessary, reposition the document to rescan it, and then press Start.
Size mismatch in tray XX	The media loaded in the specified tray is longer or shorter in the feed direction than the size configured for the tray or is wider or narrower across the scan direction than the print job specifies. The specified tray(s) are not available for auto selection.	Reconfigure the tray size to match the loaded media. Select another tray with the correct size media for the print job.
SMTP gateway not responding	The SMTP gateway has exceeded a time out value.	Verify the e-mail server address. See Solve e-mail problems on page 516. Contact the network administrator.
Testing . . . please wait	The device is performing internal tests.	No action necessary.
The digital sending service at <IP Address> does not service this MFP. Contact administrator.	The device cannot communicate with the specified IP address.	Verify the IP address. Contact the network administrator.
The digital sending service must be upgraded to support this version of the MFP firmware. Contact administrator.	The digital sending service is not supported by the device firmware version that is currently installed.	Check the firmware version. Contact the network administrator.
The folder you have entered is not a valid folder.	The folder name was entered incorrectly, or the folder does not exist.	Re-enter the folder name correctly, or add the folder.
Too many pages in job to staple	The maximum number of sheets the stapler can staple is 30.	For print jobs that have more than 30 pages, staple them manually.
Tray X [type] [size]	This message displays when the tray is closed and the **Device Behavior** menu **Size/ Type** setting is set to **Display**.	No action necessary.
Tray X [type] [size] To Change touch Next To use touch OK	The current job specified a type or size that does not match the selected tray.	Touch Next to use another tray. Touch OK to use the selected tray. Touch Hide to remove the message and use other MFP features.
Tray X open	The specified tray is open.	Close the tray.

Table 6-2 Control-panel messages (continued)

Control panel message	Description	Recommended action
Unable to connect	A network connection is not detected.	To temporarily hide this message in order to fax or send to e-mail, touch Hide. Verify the network connection. Contact the network administrator. 1. If this error persists, check the connections between the engine and the scanner. 2. Replace the scanner. See Scanner assembly on page 228.
Unable to send	A network connection is not detected.	To temporarily hide this message in order to fax or send to e-mail, touch Hide. Verify the network connection. Contact the network administrator. 1. If this error persists, check the connections between the engine and the scanner. 2. Replace the scanner. See Scanner assembly on page 228.
Unsupported Data on [FS] DIMM in Slot <X> To Clear Touch OK	Data on the DIMM is not supported, even if the DIMM is correct for the device.	[FS] can be either ROM or FLASH. X represents the DIMM slot where the DIMM is installed. The DIMM might need to be replaced. Turn off the power before removing the DIMM. See Installing printer memory on page 24.
User name or password is incorrect. Please re-enter.	The user name or password was typed incorrectly.	Retype the user name and password.
User name, job name, or PIN is missing.	One or more of the required items has not been selected or typed.	Select the correct user name and job name, and type the correct PIN.
Waiting for tray XX to lift	A tray is lifting. XX indicates which tray is lifting.	No action necessary.
Warming up	The device was in sleep mode when a print job was sent or the touch screen was activated. Printing will resume when the device reaches the **Ready** state.	No action necessary.
Warming up scanner	The device is in the **Ready** state but the scanner needs to warm up.	No action necessary.

Replacement-parts configuration

Perform the procedures in this section when these parts are replaced:

- formatter and dc controller

  NOTE: Never replace the formatter and the dc controller at the same time. Configuration data might be lost if both components are replaced together.

- Formatter (new)
- dc controller (new or previously installed in another printer)

Formatter and dc controller

WARNING! Do *not* replace the formatter and the dc controller at the same time. If the formatter and the dc controller must both be replaced, install a replacement formatter first. Then turn the MFP power off and then on, before replacing the dc controller.

If the formatter and the dc controller need to be replaced, install a replacement formatter first. After replacing the formatter, turn the printer on. When **READY** appears on the control-panel display, wait at least five minutes before using the printer so that the printer configuration information can be restored from the DCC NVRAM to the NVRAM on the formatter.

Turn the printer off, replace the dc controller, and then turn on the printer. When **READY** appears on the control-panel display, wait at least five minutes before using the printer so that the printer configuration information can be restored from the formatter NVRAM to the DCC NVRAM.

Formatter (new)

The HP LaserJet M5039XS Series MFP printers store configuration information in the NVRAM memory. After replacing the formatter, turn on the printer. When **READY** appears on the control-panel display, wait at least five minutes before using the printer so that the printer configuration information can be restored from the DCC NVRAM to the formatter NVRAM.

DC controller (new or previously installed in another printer)

After replacing the dc controller, turn on the printer. When **READY** appears on the control-panel display, wait at least five minutes before using the printer so that the printer configuration information (such as pages counts and the serial number) can be restored from the formatter NVRAM to the DCC NVRAM.

Guidelines for using paper

For best results, make sure the paper is of good quality, and free of cuts, nicks, tears, spots, loose particles, dust, wrinkles, voids, and curled or bent edges.

If you are unsure what type of paper you are loading (such as bond or recycled), check the label on the package of paper.

The following problems with paper cause print quality deviations, jamming, or even damage to the printer.

Symptom	Problem with paper	Solution
Poor print quality or toner adhesion	The paper is too moist, too rough, too heavy, too smooth, or it is embossed or from a faulty paper lot.	Try another kind of paper, between 100 and 250 Sheffield, and with 4 to 6% moisture content.
Dropouts, jamming, curl	The paper has been stored incorrectly. The paper varies from side to side.	Store paper flat in its moisture-proof wrapping. Turn the paper over.
Excessive curl	The paper is too moist, has the wrong grain direction, or is of short-grain construction. The paper varies from side to side.	Use long-grain paper. Turn the paper over.
Jamming, damage to printer	The paper has cutouts or perforations.	Use paper that is free of cutouts or perforations.
Problems with feeding	The paper has ragged edges, or it is from a faulty paper lot. The paper varies from side to side. The paper is too moist, too rough, too heavy, or too smooth. The paper has the wrong grain direction, is of short-grain construction, or it is embossed.	Use high-quality paper that is made for laser printers. Turn the paper over. Try another kind of paper, between 100 and 250 Sheffield, and with 4 to 6% moisture content. Use long-grain paper.

NOTE: Do not use letterhead paper that is printed with low-temperature inks, such as those used in some types of thermography. Do not use raised or embossed letterhead. The printer uses heat and pressure to fuse toner to the paper. Make sure that any colored paper or preprinted forms use inks that are compatible with this fusing temperature (200°C, or 392°F, for 0.1 second).

CAUTION: Failure to follow these guidelines could cause jams or damage to the printer.

Supported media weights and sizes

This section contains information about the sizes, weights, and capacities of paper and other print media that each tray supports.

Table 6-3 Tray 1 specifications

Media type	Dimensions[1]	Weight	Capacity[2]
Paper	Minimum: 76 x 127 mm (3 x 5 inches) Maximum: 312 x 470 mm (12.25 x 18.5 inches)	60 to 199 g/m^2 (16 to 53 lb)	Up to 100 sheets of 60 to 120 g/m^2 (16 to 32 lb) paper. Fewer than 100 sheets of 120 to 199 g/m^2 (32 to 53 lb) paper (maximum stack height: 13 mm or 0.5 inch)
Transparencies and opaque film	Minimum: 76 x 127 mm (3 x 5 inches) Maximum: 312 x 470 mm (12.25 x 18.5 inches)	Thickness: 0.10 to 0.13 mm (4 to 5 mils)	Up to 13 mm (0.5 inch) stack height
Labels[3]	Minimum: 76 x 127 mm (3 x 5 inches) Maximum: 312 x 470 mm (12.25 x 18.5 inches)	Thickness: up to 0.23 mm (up to 9 mils)	Up to 13 mm (0.5 inch) stack height
Envelopes	Minimum: 76 x 127 mm (3 x 5 inches) Maximum: 312 x 470 mm (12.25 x 18.5 inches)	75 g/m^2 to 90 g/m^2 (20 to 24 lb)	Up to 10 envelopes

1 The device supports a wide range of standard and custom sizes of print media. Check the printer driver for supported sizes.

2 Capacity can vary depending on media weight and thickness, and environmental conditions.

3 Smoothness: 100 to 250 (Sheffield).

Table 6-4 Tray 2 specifications

Media type	Dimensions[1]	Weight	Capacity[2]
Paper	Minimum: 148 x 210 mm (5.83 x 8.27 inches) Maximum: 297 x 364 mm (11.7 x 14.33 inches)	60 to 120 g/m^2 (16 to 32 lb)	Up to 250 sheets

1 The device supports a wide range of standard and custom sizes of print media. Check the printer driver for supported sizes.

2 Capacity can vary depending on the media weight and thickness, and environmental conditions.

Table 6-5 Tray 3 specifications

Media type	Dimensions[1]	Weight	Capacity[2]
Paper	Minimum: 148 x 210 mm (5.83 x 8.27 inches) Maximum: 297 x 432 mm (11.7 x 17 inches)	60 to 120 g/m^2 (16 to 32 lb)	Up to 250 sheets

1 The device supports a wide range of standard and custom sizes of print media. Check the printer driver for supported sizes.

2 Capacity can vary depending on the media weight and thickness, and environmental conditions.

Table 6-6 Optional trays 4, 5, and 6 specifications

Media type	Dimensions[1]	Weight	Capacity[2]
Paper	Minimum: 148 x 210 mm (5.83 x 8.27 inches) Maximum: 297 x 432 mm (11.7 x 17 inches)	60 to 120 g/m^2 (16 to 32 lb)	Up to 500 sheets

1 The device supports a wide range of standard and custom sizes of print media. Check the printer driver for supported sizes.

2 Capacity can vary depending on the media weight and thickness, and environmental conditions.

Table 6-7 Specifications for automatic 2-sided printing

Trays	Dimensions[1]	Weight	Capacity[2]
Tray 1	Minimum: 148 x 210 mm (5.83 x 8.27 inches) Maximum: 297 x 432 mm (11.7 x 17 inches)	60 to 120 g/m^2 (16 to 32 lb)	Up to 100 sheets
Tray 2	Minimum: 148 x 210 mm (5.83 x 8.27 inches) Maximum: 297 x 364 mm (11.7 x 14.33 inches)	60 to 120 g/m^2 (16 to 32 lb)	Up to 250 sheets
Tray 3 and optional trays 4, 5, and 6	Minimum: 148 x 210 mm (5.83 x 8.27 inches) Maximum: 297 x 432 mm (11.7 x 17 inches)	60 to 120 g/m^2 (16 to 32 lb)	Tray 3: up to 250 sheets Optional trays 4, 5, and 6: up to 500 sheets

1 The device supports a wide range of standard and custom sizes of print media. Check the printer driver for supported sizes.

2 Capacity can vary depending on the media weight and thickness, and environmental conditions.

Table 6-8 Specifications for automatic stapling and stacking

Operation	Dimensions[1]	Weight	Output-bin capacity[2]
Automatic stapling	Standard sizes supported: • A4 (297 x 210 mm; 11.7 x 8.27 inch) • Letter (279 x 216 mm; 11 x 8.5 inch) **NOTE:** Automatic stapling is not supported for *rotated* A4- or letter-size media.	60 to 120 g/m^2 (16 to 32 lb)	Up to 500 sheets

Table 6-8 Specifications for automatic stapling and stacking (continued)

Operation	Dimensions[1]	Weight	Output-bin capacity[2]
Automatic stacking	Standard sizes supported: • A4 (297 x 210 mm; 11.7 x 8.27 inch) • Letter (279 x 216 mm; 11 x 8.5 inch) • B4-JIS (257 x 364 mm; 10.1 x 14.33 inch) • B5-JIS (257 x 182 mm; 10.1 x 7.2 inch) • Legal (216 x 356 mm; 8.5 x 14 inch) • Executive (267 x 184 mm; 10.5 x 7.25 inch) • A5 (210 x 148 mm; 8.27 x 5.83 inch) • Executive JIS (216 x 330 mm; 8.5 x 13 inch) • A3 (297 x 420 mm; 11.69 x 16.54 inch) • Ledger (279 x 432 mm; 11 x 17 inch) **NOTE:** Automatic stacking is not supported for *rotated* A4- or letter-size media.	60 to 120 g/m^2 (16 to 32 lb)	Up to 500 sheets

[1] The device supports a wide range of standard and custom sizes of print media. Check the printer driver for supported sizes.

[2] Capacity can vary depending on the media weight and thickness, and environmental conditions.

Table 6-9 Specifications for the automatic document feeder (ADF)

Media type	Dimensions[1]	Weight	Capacity[2]
Paper	Minimum: 138 x 210 mm (5.43 x 8.27 inches) Maximum: 279 x 432 mm (11 x 17 inches)	60 to 120 g/m^2 (16 to 32 lb)	Up to 50 pages **NOTE:** The automatic stapler can staple up to 30 sheets.

[1] The device supports a wide range of standard and custom sizes of print media. Check the printer driver for supported sizes.

[2] Capacity can vary depending on the media weight and thickness, and environmental conditions.

Printing internal information pages

Special pages within the memory of the printer can help you to diagnose and learn about problems with the MFP.

From the Home screen, touch **Administration**. Touch **Information**, and then touch **Configuration/ Status Pages**, **Fax Reports**, or **Sample pages/Fonts** to access the information pages.

The information pages include:

- **Administration menu map**

  The menu map shows the control-panel menus and available settings. The content of the menu map varies, depending on the options currently installed in the device.

- **Configuration page**

  The Configuration page lists many of the current settings and properties of the printer. If you have an HP Jetdirect print server or optional hard disk installed, additional pages print that list information about those devices.

- **Supplies status page**

  Use the Supplies status page to obtain information about the amount of life that remains in the print cartridge.

  NOTE: If you are using non-HP supplies, the Supplies status page might not show the remaining life for those supplies.

- **Usage page**

  The Usage page shows a page count for each size of paper printed, the number of one-sided (simplexed) or two-sided (duplexed) pages, and the average percent of coverage.

- **File directory**

  The file directory contains information for any mass storage devices, such as flash drives, memory cards, or hard disks that are installed in the device.

- **Fax reports**

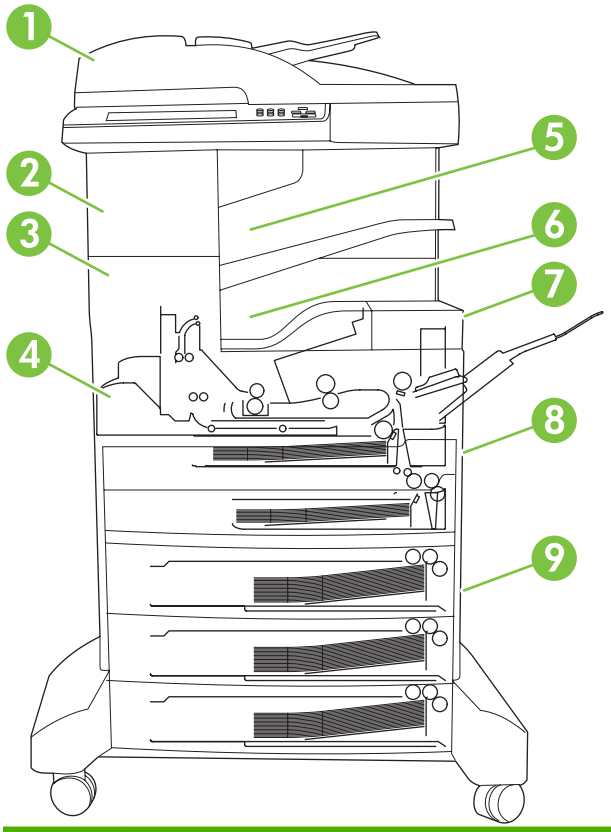
  Use the **Fax reports** control-panel menu to print pages that contain a fax activity log, fax call report, billing codes report, blocked fax numbers list, and speed dial lists.

- **Font list**

  You can print a list of installed fonts (PostScript of PCL) using the control panel.

Jam locations

Use this illustration to troubleshoot jams in the device. For instructions about clearing jams, see Clear jams on page 454.



1	ADF	See Clear jams from the automatic document feeder (ADF) on page 454.
2	Stapler/stacker	See Clear jams from the stapler/stacker on page 456 for media jams or see Clear staple jams on page 467 for staple jams.
3	Output path	See Clear jams from the output path on page 457.
4	Duplex path (for two-sided printing)	See Clear jams from the optional duplexer on page 459.
5	Stapler/stacker output bin	See Clear jams from the stapler/stacker on page 456.
6	Output bin	See Clear jams from the output path on page 457.
7	Print cartridge	See Clear jams from the print-cartridge area on page 461.
8	Input trays	See Clear jams from the Tray 1 input area on page 463 and Clear jams from the Tray 2 and Tray 3 input area on page 463.
9	Optional input trays	See Clear jams from the Tray 4/5/6 input areas on page 465.

General paper-path and jam troubleshooting

Use the following suggestions to isolate the cause of a problem. After identifying the cause, use the tables for a recommended solution.

NOTE: Use the paper-path test in the **Troubleshooting** menu to print pages when troubleshooting paper path issues.

- View or print the event log to determine if a particular jam error occurs more often than others. Try to identify a pattern.
- Make sure that the media meets HP specifications. See Supported media weights and sizes on page 440.
- Use the event log to determine the frequency of a particular jam. If a jam occurs repeatedly at approximately the same page count, consider it a single jam that the customer unsuccessfully tried to clear.
- Try printing from and to all available trays and bins to determine if the problem is isolated to one tray or bin.
- Print the job in simplex and duplex modes to determine if the problem occurs in a particular mode.
- Try printing on media from an unopened ream that has been stored correctly. If a jam does not occur, the customer's media might be causing the problem.
- If the jam occurs after the device is turned on, check the paper path for small, torn pieces of media. Also, check for broken sensors and flags, and check for loose or defective connections.
- If the media is torn, folded, or wrinkled, check the paper path for obstructions that could be causing the damage.
- Replace any non-HP supplies with genuine HP supplies.
- If necessary, tell the customer about proper media storage, correct loading technique, and printer operation. Make sure that the customer knows not to grab media in the output bin during duplex printing.

Paper-path checklist

- Make sure that the media is loaded correctly, and that all of the length and width guides are set correctly.
- Clean the device. Toner and media dust in the paper path can inhibit the free movement of media through the device and can block the sensors.
- Use the paper-path test in the **Troubleshooting** menu to vary the input selections of the device to determine if the problem is associated with a particular area of the printer.
- Check the condition of the pickup rollers and separation pads. Worn rollers or separation pads can cause multifeeds. Damaged input trays can cause misfeeds and multifeeds. Replace the tray if necessary.

- Defective paper-tray switches can cause jams by communicating the wrong paper size to the formatter.
- When cleaning the device and clearing jams, check that the paper path is clear. Scraps of media in the paper path can cause intermittent jams. Also, remove the fuser and carefully check it for debris from jams.

Jams in Tray 1

Table 6-10 Causes for jams in Tray 1

Cause	Solution
The pickup roller is dirty, worn, or damaged	Clean the pickup roller. If it is still dirty after cleaning, or if it is worn or damaged, replace the pickup roller. See User-replaceable parts on page 178. **NOTE:** Always replace the pickup roller and the separation pad at the same time. This roller is part of the engine maintenance kit.
The separation pad is defective	Clean the separation pad. If it is still dirty after cleaning, or if it is worn or damaged, replace the separation pad. See User-replaceable parts on page 178. **NOTE:** Always replace the pickup roller and the separation pad at the same time. This pad is part of the engine maintenance kit.

NOTE: These parts are included in the engine maintenance kit which should be installed by the user when two-hundred thousand (200K) pages have passed through the MFP. If you are experiencing poor MFP performace, check to see if an engine maintenance kit was installed at the correct interval.

Jams in Tray 2, or Tray 3

Table 6-11 Causes for jams in Tray 2, or Tray 3

Cause	Solution
The pickup roller is dirty, worn, or damaged	Clean the pickup roller. If it is still dirty after cleaning, or if it is worn or damaged, replace the pickup roller. See User-replaceable parts on page 178. **NOTE:** Always replace the pickup roller and the separation roller at the same time. This roller is part of the engine maintenance kit.
The separation roller is worn or damaged	Clean the separation roller. If it is still dirty after cleaning, or if it is worn or damaged, replace the separation roller. See User-replaceable parts on page 178. **NOTE:** Always replace the pickup roller and the separation roller at the same time. This roller is part of the engine maintenance kit.

NOTE: These parts are included in the engine maintenance kit which should be installed by the user when two-hundred thousand (200K) pages have passed through the MFP. If you are experiencing poor MFP performace, check to see if an engine maintenance kit was installed at the correct interval.

Jams in the optional high capacity input feeder

NOTE: The HP LaserJet M5039 MFP has three 500-sheet trays (Tray 4, Tray 5, Tray 6)

Table 6-12 Causes for jams in the optional HCI feeder

Cause	Solution
The pickup/feed rollers are dirty, worn, or damaged	Clean the pickup/feed rollers. If they are still dirty after cleaning, or if they are worn or damaged, replace the pickup/feed rollers. See User-replaceable parts on page 178. **NOTE:** There are two pickup rollers for each tray in the high capacity feeder. Always replace both of rollers for a tray at the same time. These rollers are part of the engine maintenance kit.

NOTE: These parts are included in the engine maintenance kit which should be installed by the user when two-hundred thousand (200K) pages have passed through the MFP. If you are experiencing poor MFP performace, check to see if an engine maintenance kit was installed at the correct interval.

Common causes of repeating jams

Table 6-13 General jam causes

Printer jams not related to a specific location.

Cause	Solution
The media does not meet specifications.	Use only media that meets HP specifications. See Supported media weights and sizes on page 440.
A component is installed incorrectly.	Verify that the print cartridge, duplexer, and fuser are correctly installed. If a repair part was installed in the device, verify that it was correctly installed. Check and see if it is time to install a ADF or engine maintenance kit.
An input tray is loaded incorrectly.	Remove any excess media from the input tray. Make sure that the stack is below the maximum stack height mark in the tray.
The media is skewed.	The input-tray guides are not adjusted correctly. Adjust them so they hold the stack firmly in place without bending it.
The media is binding or sticking together.	Remove the media, flex it, rotate it 180°, or flip it over. Reload the media into the input tray. **NOTE:** Do not fan paper, which creates static electricity and can cause paper to stick together.
The media is removed before it settles into the output bin.	Wait until the page completely settles in the output bin before removing it.
The media is in poor condition.	Replace the media.
The media has rough or jagged edges.	Replace the media.
The media is perforated or embossed.	Perforated or embossed media does not separate easily. Feed single sheets from Tray 1.
The media was not stored correctly.	Replace the media in the trays. Media should be stored in the original packaging in a controlled environment.

Table 6-14 ADF jams

Jams in the ADF.

Cause	Solution
The ADF pickup roller is not picking up the media.	Remove the top sheet of media. If the media is heavier than 120 g/m^2 (32 lb), it might not be picked from the tray. Use the scanner flatbed to print the job.
The ADF pickup and feed rollers or separation pad are dirty, worn, or damaged.	Clean the rollers and pad. If the rollers or pad are worn or damaged, replace the roller assembly. See User-replaceable parts on page 178. **NOTE:** Always replace the rollers and separation pad together. These components are part of the ADF maintenance kit.

Table 6-15 Tray 1 jams

Jams in the Tray 1 area.

Cause	Solution
The Tray 1 pickup roller is not picking up the media.	Remove the top sheet of media. If the media is heavier than 199 g/m^2 (53 lb), it might not be picked from the tray.
The Tray 1 pickup roller or separation pad is dirty, worn, or damaged.	Clean the roller and pad. If the roller or pad are worn or damaged, replace the roller and pad assembly. See User-replaceable parts on page 178. **NOTE:** Always replace the roller and separation pad together. These components are part of the engine maintenance kit.
The main motor has failed.	Replace the main motor. See Main motor on page 358.
The DC controller PCA has failed.	Replace the DC controller PCA. See DC controller PCA on page 352.

Table 6-16 Tray 2 and Tray 3 jams

Jams in the Tray 2 and Tray 3 area.

Cause	Solution
The Tray 2 pickup roller is not picking up the media.	Remove the top sheet of media. If the media is heavier than 120 g/m^2 (32 lb), it might not be picked from the tray.
The tray cassette is not installed correctly or is damaged.	Remove the tray and then reinstall it. Replace the cassette if necessary.
The tray pickup roller or separation pad is dirty, worn, or damaged.	Clean the roller and pad. If the roller or pad are worn or damaged, replace the roller and the pad. See User-replaceable parts on page 178. **NOTE:** Always replace the pickup roller and separation pad at the same time.
The base unit lifter drive assembly has failed.	Replace the base unit lifter drive assembly. See Lifter drive assembly on page 349.
The main motor has failed.	Replace the main motor. See Main motor on page 358.
The DC controller PCA has failed.	Replace the DC controller PCA. See DC controller PCA on page 352.

Table 6-17 Transfer and feed jams

Jams in the transfer and feed area.

Cause	Solution
The registration roller is dirty, worn, or damaged.	Clean the roller. If the roller is worn or damaged, replace the registration assembly. See Registration assembly on page 320.
The top-of-page sensor assembly (SR5) is not correctly operating.	Verify that the top-of-page sensor assembly (SR5) is correctly installed and can move freely.
The DC controller PCA has failed.	Replace the DC controller PCA. See DC controller PCA on page 352.

Table 6-18 Fuser and delivery jams

Jams in the fuser and delivery area.

Cause	Solution
Fuser is damaged.	Replace the fuser. See Fuser on page 324.
The fuser pressure release assembly rollers are dirty, worn, damaged, or not engaged.	Clean the rollers. If the fuser pressure release assembly is worn or damaged, replace the assembly. See Fuser pressure release assembly on page 323. Make sure that the cartridge door linkage is functioning properly so that the fuser drive will engage.
The paper delivery assembly rollers are dirty, worn, or damaged.	Clean the rollers. If the paper delivery assembly are worn or damaged, replace the assembly. See Paper feed assembly (base unit) on page 327
The DC controller PCA has failed.	Replace the DC controller PCA. See DC controller PCA on page 352.

Table 6-19 HCI feeder jams (Tray 4/5/6 jams)

Jams in the HCI feeder area.

Cause	Solution
The Tray 4/5/6 pickup/feed rollers are not picking up the media.	Use only media that meets HP specifications. Remove the top sheet of media. If the media is heavier than 120 g/m^2 (32 lb), it might not be picked from the tray.
The tray cassette is not installed correctly or is damaged.	Remove the tray and then reinstall it. Replace the cassette if necessary.
The tray pickup and feed rollers are dirty, worn, or damaged.	Clean the rollers. If the rollers are worn or damaged, replace the rollers. See User-replaceable parts on page 178. **NOTE:** Always replace the pickup and feed rollers at the same time.
The HCI lifter drive assembly or paper pickup assembly is damaged.	Replace the HCI lifter drive assembly or paper pickup assembly. See Lifter driver assembly on page 379 or Paper pickup assemblies on page 373.
The HCI feeder motor has failed.	Replace the HCI motor. See Motor(s) and PCA(s) on page 372.
The HCI feeder PCA has failed.	Replace the HCI PCA. See Motor(s) and PCA(s) on page 372.
The HCI lifter drive assembly is damaged.	Replace the HCI lifter drive assembly. Lifter driver assembly on page 379.
The DC controller PCA has failed.	Replace the DC controller PCA. See DC controller PCA on page 352.

Table 6-20 Duplexer jams

Jams in the duplexer area.

Cause	Solution
The duplexer is not correctly installed.	Remove the duplexer and then reinstall it. Make sure that the duplex sensor flags are not damaged and can move freely. Make sure that the wire harness connectors from the duplexer to engine, and from the engine to the dc controller are fully seated.

Table 6-21 Stapler/stacker jams

Jams in the stapler engine connection area.

Cause	Solution
The feed motor has failed.	Replace the alignment and jog guide assembly. See Alignment and jogger guide assembly on page 272.
The feed rollers are dirty, worn or damaged.	Clean the rollers. If the rollers are worn or damaged, replace the stapler paper feed assembly. See Paper feed assembly (stapler) on page 271.
The inlet paper sensor flag or spring is damaged.	Make sure that the spring is correctly installed and that the flag moves freely and is not damaged. If the spring or flag are damaged, replace the stapler paper feed assembly. See Paper feed assembly (stapler) on page 271.
The delivery deflector is damaged.	Replace the stapler paper feed assembly. See Paper feed assembly (stapler) on page 271.
The stapler PCA has failed.	Replace the stapler PCA. See Stapler PCA on page 253.

Jams in the stapler feed and stack area.

Cause	Solution
The stapler alignment and jog guide assembly has failed.	Replace the alignment and jog guide assembly. See Alignment and jogger guide assembly on page 272.
The stapler PCA has failed.	Replace the stapler PCA. See Stapler PCA on page 253.

Solve general repeated jams

If jams occur frequently, try the following actions:

- Check all the jam locations. A piece of media might be stuck somewhere in the device.
- Check that media is correctly loaded in the trays, that the trays are correctly adjusted for the loaded media size, and that the trays are not overfilled.
- Check that all trays and paper-handling accessories are completely inserted into the device. (If a tray is open during a print job, a jam might occur.)
- Check that all covers and doors are closed. (If a cover or door is opened during a print job, a jam might occur.)
- The sheets might be sticking together. Try bending the stack to separate each sheet. Do not fan the stack.
- If you are printing from Tray 1, try feeding fewer sheets of media at a time.
- If you are printing small sizes (such as index cards), make sure that the media is oriented correctly in the tray.
- Turn over the media stack in the tray. Also, try rotating the stack 180°.
- Try rotating media to feed through the device from a different orientation.
- Check the media quality. Do *not* use damaged or irregular media.
- Use only media that meets HP specifications.
- Do not use media that has already been used in a printer or copier. Do not print on both sides of envelopes, transparencies, vellum, or labels.
- Do not use media with staples or media that has had the staple removed. Staples can damage the device and can void the warranty.
- Make sure that the power supplied to the device is steady and meets specifications. See Specifications on page 817.
- Clean the device. See Clean the device on page 95.
- Make sure that the paper-path sensor flags can move freely.
- Make sure that the paper-path sensor wire harness connectors are firmly seated on the dc controller.

Jam recovery

The device has a jam-recovery feature that determines if the device will reprint jammed pages after the jam is cleared.

- **Auto** instructs the device to automatically turn jam recovery on when there is sufficient device memory available.
- **Off** instructs the device not to attempt to reprint jammed pages. This setting helps conserve device memory.
- **On** instructs the device to reprint any page that was involved in a paper jam after the jam has been cleared.

NOTE: During the recovery process, the device might reprint pages that were printed before the jam occurred. Be sure to remove any duplicated pages.

To improve print speed and increase memory resources, turn off jam recovery. Use the following procedure.

1. From the Home screen, touch Administration.
2. Touch Device Behavior.
3. Touch Warning/Error Behavior.
4. Touch Jam Recovery.
5. Touch Off.
6. Touch Save.

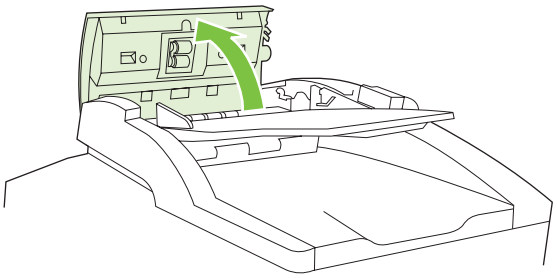
Clear jams

When clearing jams, be very careful not to tear the media. If a small piece of media remains in the device, it could cause additional jams.

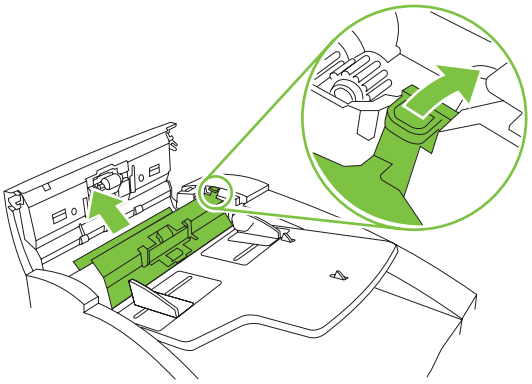
Clear jams from the automatic document feeder (ADF)

Occasionally, media becomes jammed during a fax, copy, or scan job. When this happens, the control-panel message **Jam in document feeder** alerts you to the jam. To clear the jam, follow the instructions on the onscreen dialog box or follow the steps below.

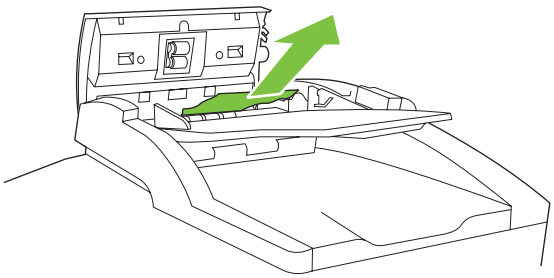
1. Open the ADF cover.



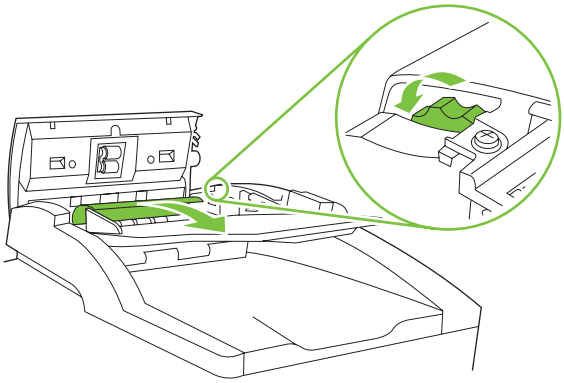
2. If you were copying two-sided documents, lift the green lever to open the reversing unit, and then remove any media from inside the reversing unit.



3. Gently try to remove the page without tearing it. Also pull paper from the ADF output bin. If you feel resistance, go to the next step.

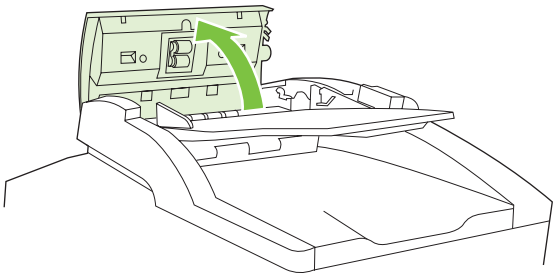


4. Turn the green wheel to advance the media out of the ADF.

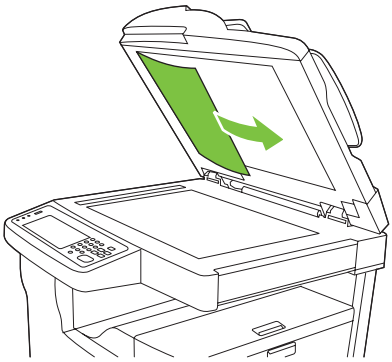


5. Close the ADF cover. If you were not able to remove all of the jammed media, continue to the next step.

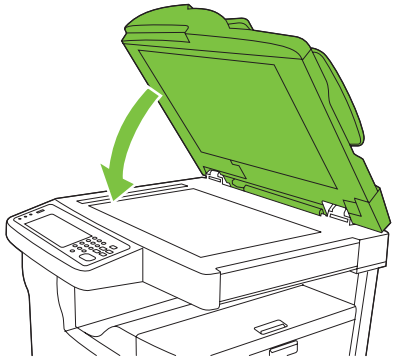
6. Open the ADF lid and gently loosen the media by using both hands.



7. When the media is free, gently pull it out in the direction shown.



8. Close the lid to the flatbed scanner.

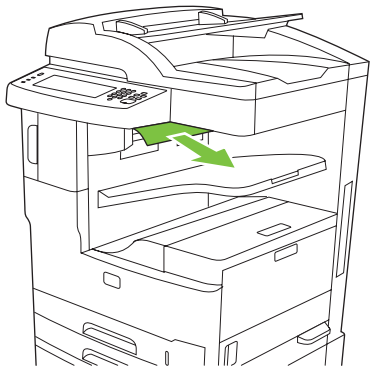


Clear jams from the stapler/stacker

A **13.12.YY** error message appears on the HP LaserJet M5039XS MFP control-panel display to indicate that a jam has occurred in the stapler/stacker. To clear the jam, follow the instructions on the onscreen dialog box or follow the steps below.

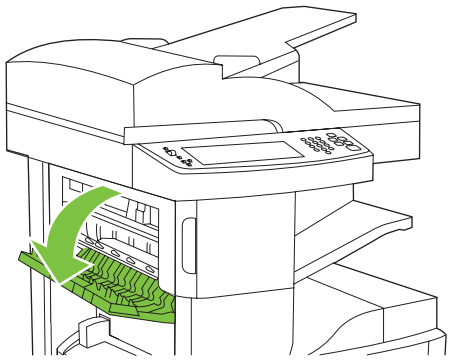
NOTE: For a complete list of jam error messages, see Table 6-2 Control-panel messages on page 391.

1. If most of the jammed media is visible exiting the device into the stapler/stacker output bin, grasp both sides of the media and slowly pull the media out of the device.

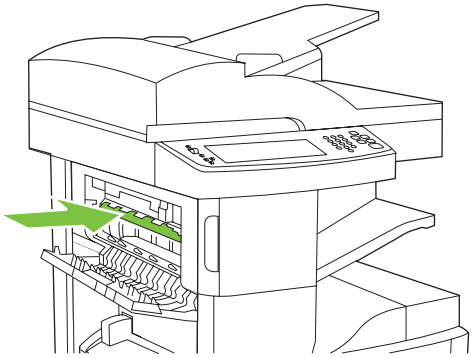


NOTE: If media is jammed in the stapler/stacker, but most of the media is still inside the device, it is better to remove it through upper-left door.

2. Open the upper-left door.



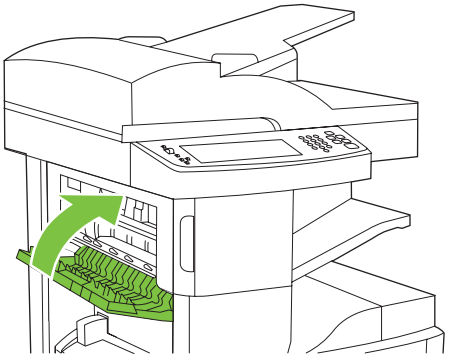
3. Press the green bar to release any jammed media and look for jammed media inside the device.



4. Grasp both sides of the media, and slowly pull the media out of the device.



5. Close the upper-left door door. Make sure that both sides of the door snap into place.



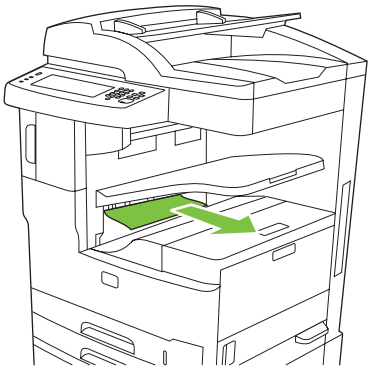
If a jam message persists, there is still media in the device. Look for media in other locations.

Clear jams from the output path

A **13.XX.YY** error message appears on the control-panel display to indicate that a jam has occurred in the output path. To clear the jam, follow the instructions on the onscreen dialog box or follow the steps below.

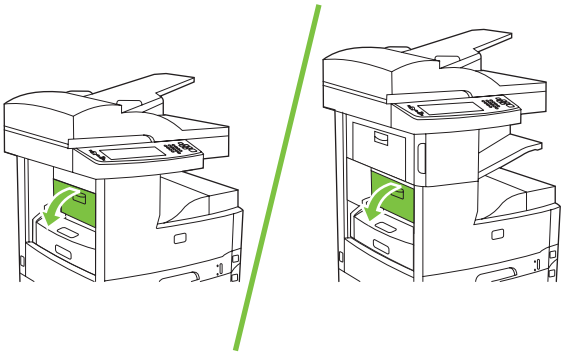
NOTE: For a complete list of jam error messages, see Table 6-2 Control-panel messages on page 391.

1. If most of the jammed media is visible exiting the device into the output bin, grasp both sides of the media and slowly pull the media out of the device.

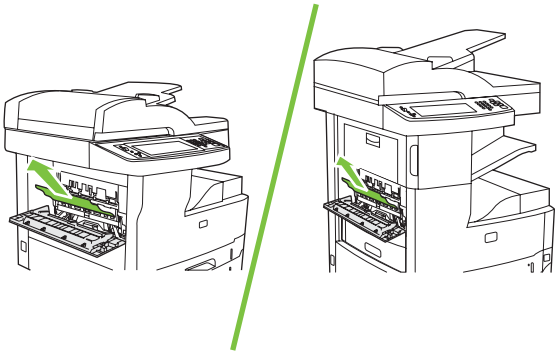


NOTE: If media is jammed in the output bin, but most of the media is still inside the device, it is better to remove it through jam-access door.

2. Open the jam-access door.

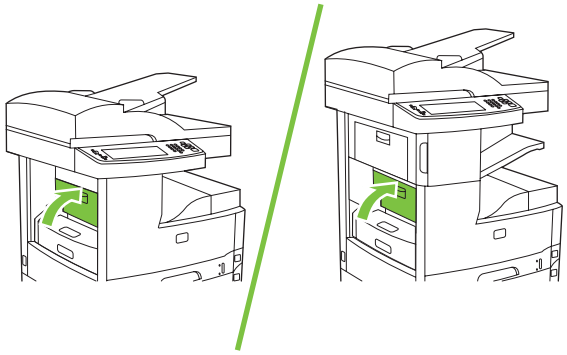


3. Grasp both sides of the media, and slowly pull the media out of the device. (There might be loose toner on the media. Be careful not to spill it on yourself or into the device.)



NOTE: If media is difficult to remove, try opening the upper-right door and removing the print cartridge to release pressure on the media.

4. Close the jam access door.



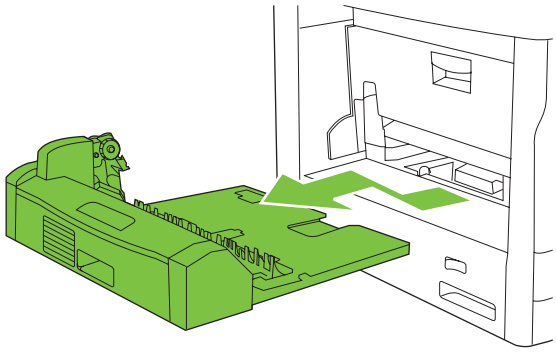
If a jam message persists, there is still media in the device. Look for media in other locations.

Clear jams from the optional duplexer

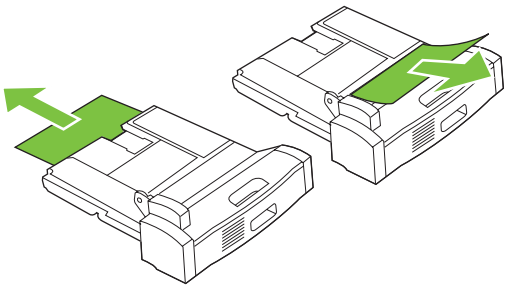
A **13.XX.YY** error message appears on the control-panel display to indicate that a jam has occurred in the duplexer. To clear the jam, follow the instructions on the onscreen dialog box or follow the steps below.

NOTE: For a complete list of jam error messages, see Table 6-2 Control-panel messages on page 391.

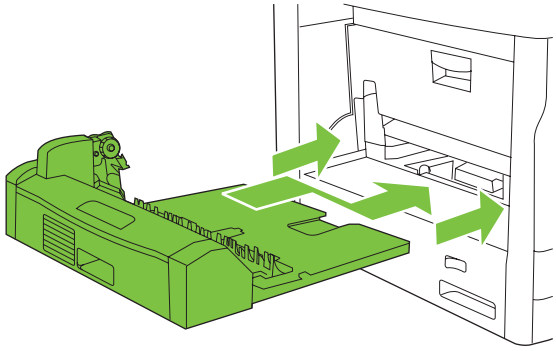
1. Remove the duplexer.



2. Remove any media from the duplexer.



3. Reinstall the duplexer.

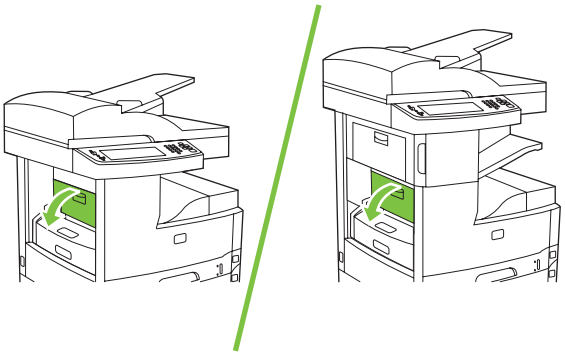


Clear jams from the print-cartridge area

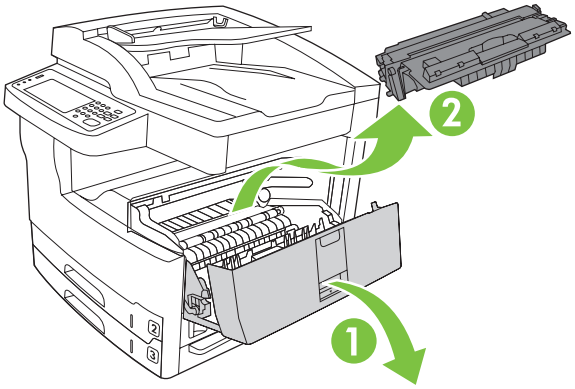
A **13.XX.YY** error message appears on the control-panel display to indicate that a jam has occurred in the print-cartridge area. To clear the jam, follow the instructions on the onscreen dialog box or follow the steps below.

NOTE: For a complete list of jam error messages, see Table 6-2 Control-panel messages on page 391.

1. Open the jam access door.

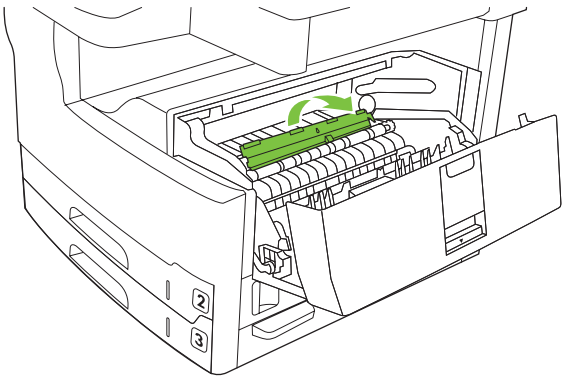


2. Open the upper-right door and remove the print cartridge.

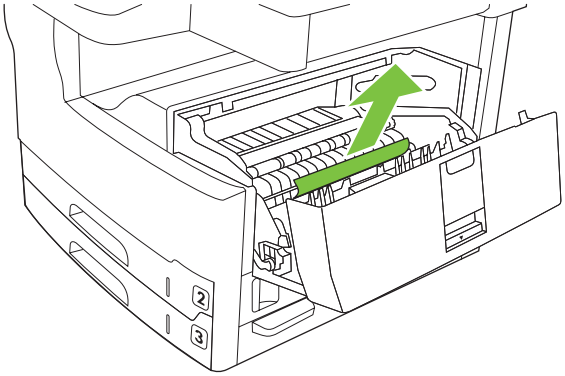


CAUTION: To prevent damage to the print cartridge, do not expose it to light for more than a few minutes.

3. Lift the metal plate inside the device.

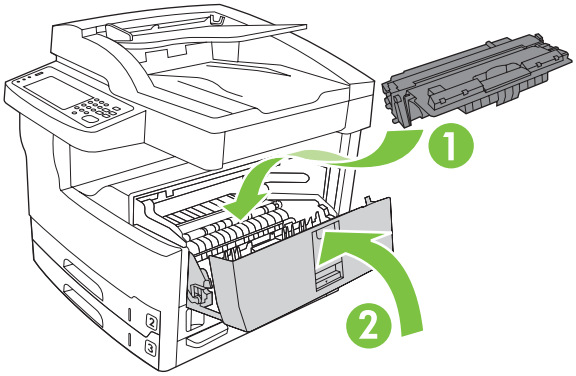


4. Slowly pull the media out of the device. Be careful to not tear the media.

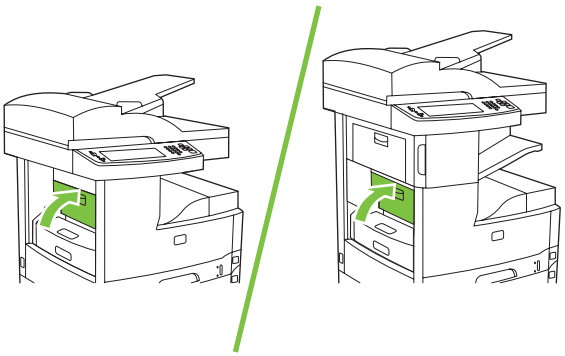


△ **CAUTION:** Avoid spilling loose toner. Use a dry, lint-free cloth, to clean any toner that might have fallen into the device. If loose toner falls into the device, it might cause temporary problems with print quality. Loose toner should clear from the paper path after a few pages are printed. If toner gets on your clothing, wipe it off with a dry cloth and wash clothing in cold water. (Hot water sets toner into fabric.)

5. Replace the print cartridge, and then close the upper-right door.



6. Close the jam access door.



If a jam message persists, there is still media in the device. Look for media in other locations.

Clear jams from the input-tray areas

Clear jams from the Tray 1 input area

A **13.XX.YY** error message appears on the control-panel display to indicate that a jam has occurred in the Tray 1 input area. To clear the jam, follow the instructions on the onscreen dialog box or follow the steps below.

NOTE: For a complete list of jam error messages, see Table 6-2 Control-panel messages on page 391.

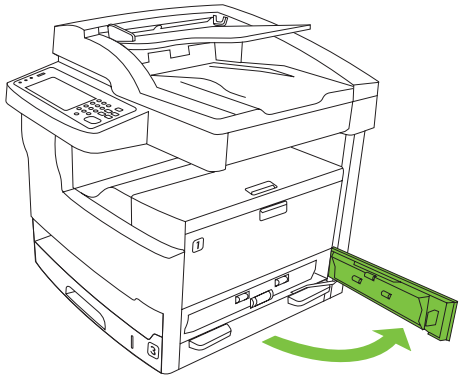
1. If the edge of the media is visible in the feed area, slowly pull it out of the device.
2. If the edge of the media is not visible, remove media from tray 1 and see Clear jams from the print-cartridge area on page 461.

Clear jams from the Tray 2 and Tray 3 input area

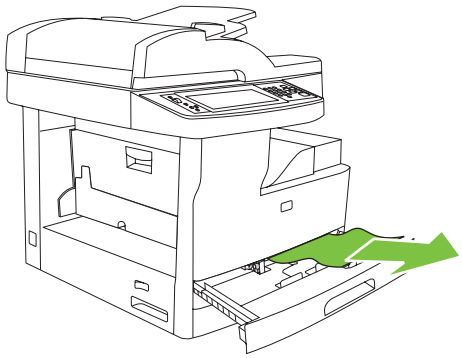
A **13.XX.YY** error message appears on the control-panel display to indicate that a jam has occurred in Tray 2 or Tray 3 input area. To clear the jam, follow the instructions on the onscreen dialog box or follow the steps below.

NOTE: For a complete list of jam error messages, see Table 6-2 Control-panel messages on page 391.

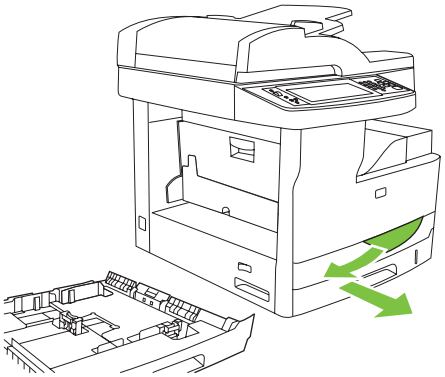
1. Open the right-side access door. If the jammed page is visible, gently pull it out of the device.



2. If you were not able to clear the jam by using the door, slide the tray out of the device, and remove any damaged paper from the tray.

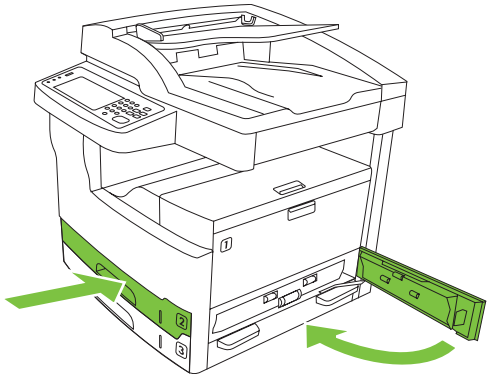


3. If the edge of the paper is visible in the feed area, slowly pull the paper toward the left side and then out of the device.



NOTE: Do not force the paper if it will not move easily. If the paper is stuck in a tray, try removing it through the tray above (if applicable) or through the print-cartridge area.

4. Close the door and slide the tray back into the device.



NOTE: Before replacing the tray, make sure the paper is flat in the tray at all four corners and below the tabs on the guides.

NOTE: If you were not able to clear the jam from the input area, paper might be jammed in the print-cartridge area. See Clear jams from the print-cartridge area on page 461.

If a jam message persists, there is still media in the device. Look for media in other locations.

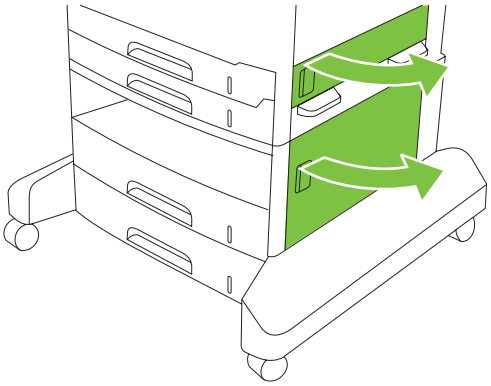
Clear jams from the Tray 4/5/6 input areas

A **13.XX.YY** error message appears on the control-panel display to indicate that a jam has occurred in the Tray 4/5/6 input areas. To clear the jam, follow the instructions on the onscreen dialog box or follow the steps below.

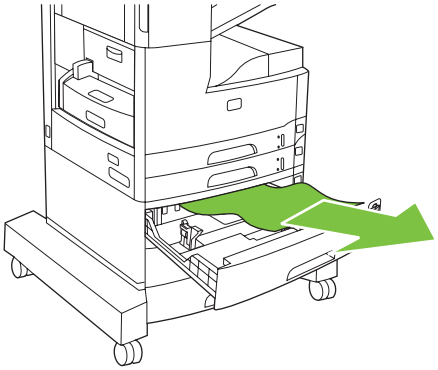
NOTE: For a complete list of jam error messages, see Table 6-2 Control-panel messages on page 391.

To clear jams in optional trays, follow the instructions on the onscreen dialog box or follow the steps below. The following control-panel messages alert you to jams in optional trays:

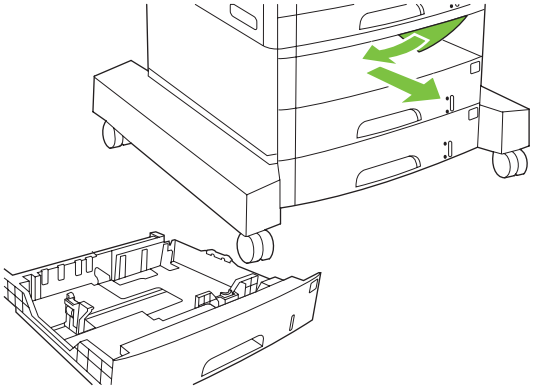
1. Open the right-side access door. If the jam is in Tray 5 or Tray 6, also open the lower-right access door. If the jammed page is visible, gently pull it out of the device.



2. If you were not able to clear the jam by using the doors, slide the tray out of the device, and remove any damaged paper from the tray.

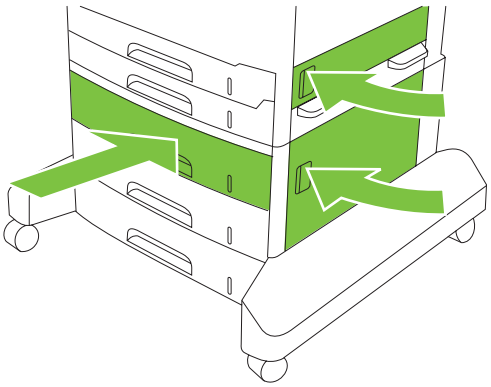


3. If the edge of the paper is visible in the feed area, slowly pull the paper toward the left side and out of the device.



NOTE: Do not force the paper if it will not move easily. If the paper is stuck in a tray, try removing it through the tray above (if applicable) or through the upper-right door.

4. Close the doors and slide the tray back into the device.



NOTE: Before replacing the tray, make sure the paper is flat in the tray at all four corners and below the tabs on the guides.

NOTE: If you were not able to clear the jam from the input area, paper might be jammed in the print-cartridge area. See Clear jams from the print-cartridge area on page 461.

If a jam message persists, there is still media in the device. Look for media in other locations.

Clear staple jams

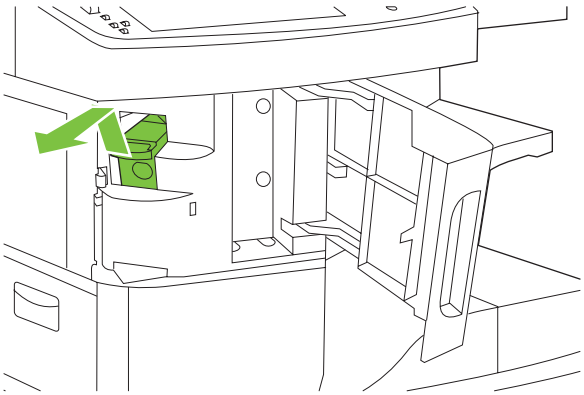
To reduce the risk of staple jams, make sure that you staple 30 or fewer pages of media (80 g/m^2 or 20 lb) at a time.

The control-panel message **13.XX.YY Stapler jam inside stapler door** on the HP LaserJet M5039XS MFP alerts you to a staple jam. To clear the jam, follow the instructions on the onscreen dialog box or follow the steps below.

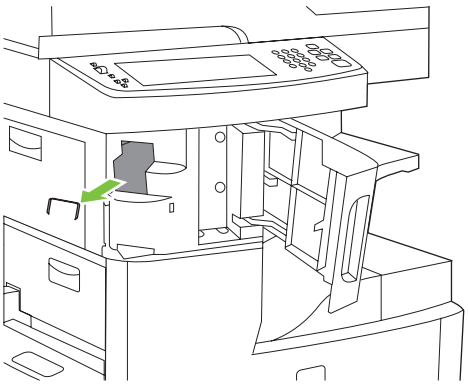
1. Open the stapler door.



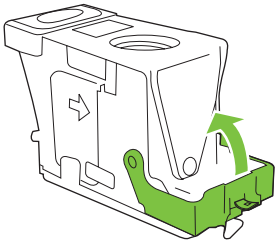
2. Lift up the green handle on the staple cartridge to dislodge it and then pull the cartridge out of the device.



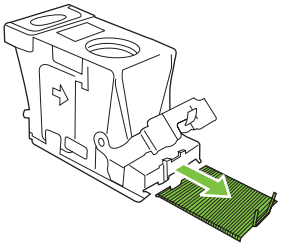
3. Clear any loose staples from the stapler and from the staple cassette.



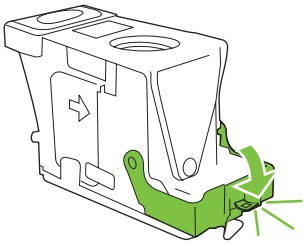
4. Lift up on the small lever at the back of the staple cartridge.



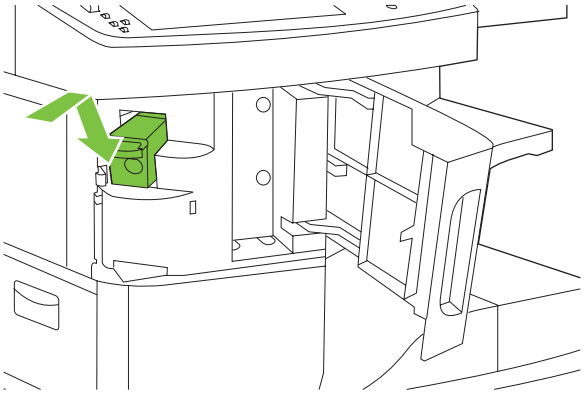
5. Remove the staples that protrude from the staple cartridge.



6. Close the lever at the back of the staple cartridge. Be sure that it snaps into place.



7. Insert the staple cartridge into the opening inside the stapler door and then press the green handle down.



8. Close the stapler door.



9. Test the stapler by printing or copying a staple job.

Repeat steps these steps, if necessary.

Solving image-quality problems

Image-quality issues can be print-quality problems or copy-quality problems. Copy-quality problems can be separated into ADF copy-quality problems and flatbed glass copy-quality problems. To identify a print-quality problem, try printing the job from the control panel. If the issue persists, it is probably a print-quality problem. If there is no longer a problem it is probably a copy-quality issue. To solve copy-image problems, see Solve copy-quality problems on page 489.

Solve print-quality problems

This section describes print-quality problems and what to do to correct them. Often print-quality problems can be handled easily by making sure that the device is correctly maintained, using print media that meets HP specifications, or running a cleaning page.

If the print- or copy-image defect can be isolated to a scan location, use the tables in this section to determine the type of defect (for example, blank pages or lines), and then identify the MFP component that is most likely to cause that type of defect.

Solve copy-quality problems

If the print- or copy-image defect can be isolated to a scan location, use the tables in this section to determine the type of defect (for example, blank pages or lines), and then identify the MFP component that is most likely to cause that type of defect.

The following are a few simple steps you can take to improve copy quality:

- Copy from the flatbed glass. This will produce a higher quality copy than from the ADF.
- Use quality originals.
- Load the media correctly. If the media is loaded incorrectly, it might skew, causing unclear images and problems with the OCR program.
- Use or make a carrier sheet to protect originals.

NOTE: Verify that the media meets HP specifications. See Supported media weights and sizes on page 440.

Print-quality problems associated with media

Some print-quality problems arise from the use of inappropriate media.

- Use media that meets HP specifications. See Supported media weights and sizes on page 440.
- The surface of the media is too smooth. Use media that meets HP specifications. See Supported media weights and sizes on page 440.
- The moisture content is uneven, too high, or too low. Use media from a different source or from an unopened ream.
- Some areas of the media reject toner. Use media from a different source or from an unopened ream.
- The letterhead you are using is printed on rough media. Use a smoother, xerographic media. If this solves your problem, ask the supplier of your letterhead to use media that meets the specifications for this device. See Supported media weights and sizes on page 440.
- The media is excessively rough. Use a smoother, xerographic media.

- The driver setting is incorrect.
- The media that you are using is too heavy for the media type setting that you selected, and the toner is not fusing to the media.

Print-quality problems associated with the environment

If the device is operating in excessively humid or dry conditions, verify that the printing environment is within specifications. See Operating environment on page 820.

Print-quality problems associated with jams

Make sure that all sheets are cleared from the paper path. See Clear jams on page 454.

- If the device recently jammed, print two to three pages to clean the device.
- If the sheets do not pass through the fuser and cause image defects on subsequent documents, print three pages to clean the device. If the problem persists, print and process a cleaning page. See Clean the device on page 95.

Image defect examples

Use the examples in the image-defect table that follows to determine which print-quality problem you are experiencing, and then see the corresponding reference pages to resolve the problem. These examples identify the most common print-quality problems.

NOTE: The illustrations in this section are for reference only. Your sample pages might look different than the ones shown here.

Table 6-22 Image defect examples

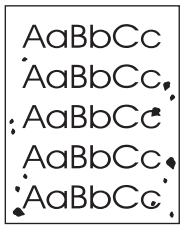
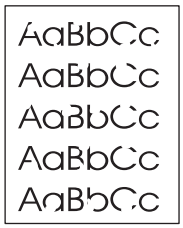
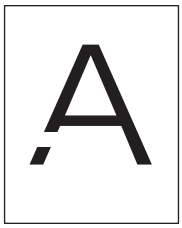
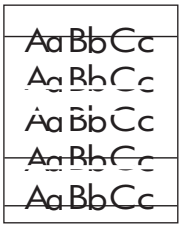
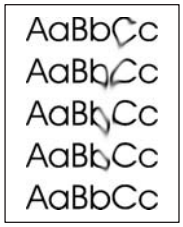
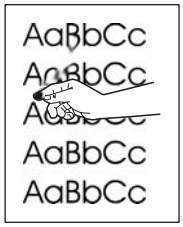
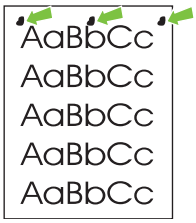
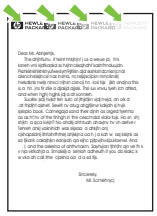
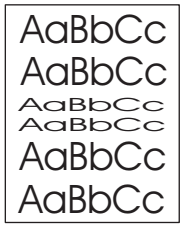
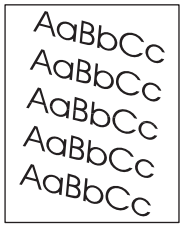
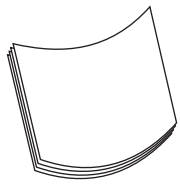
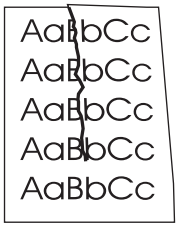
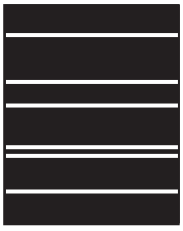
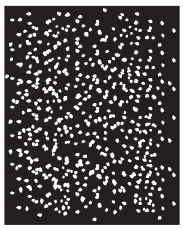
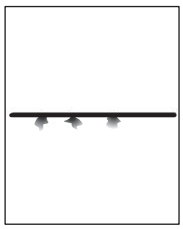
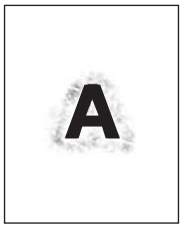
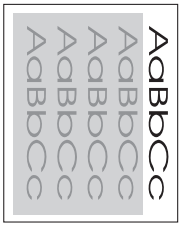
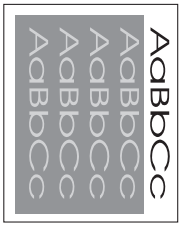
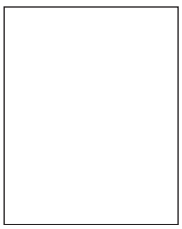
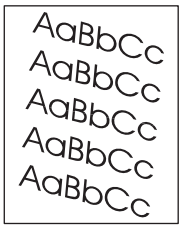
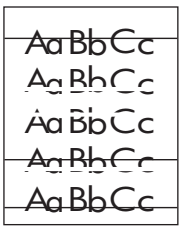
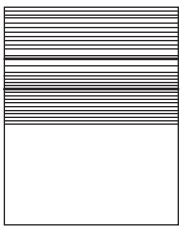
				
See Light print (partial page) on page 473	See Light print (entire page) on page 473	See Specks on page 475	See Dropouts on page 476	See Dropouts on page 476
				
See Dropouts on page 476	See Lines on page 478	See Gray background on page 478	See Toner smear on page 480	See Loose toner on page 480

Table 6-22 Image defect examples (continued)

				
See Repeating defects on page 482	See Repeating image on page 482	See Misformed characters on page 483	See Page skew on page 484	See Curl or wave on page 485
				
See Wrinkles or creases on page 485	See White lines on page 486	See Tire tracks on page 486	See White spots on black on page 487	See Scattered lines on page 487
				
See Blurred print on page 488	See Random image repetition on page 488 (dark)	See Random image repetition on page 488 (light)		

NOTE: These examples depict letter-size media that has passed through the device.

Table 6-23 Image defect examples (ADF)

				
See Blank page (ADF) on page 489	See Page skew (ADF) on page 489	See Horizontal lines (ADF) on page 490	See Image shifted (ADF) on page 490	See Unexpected Image (ADF) on page 490

NOTE: These examples depict letter-size media that has passed through the ADF.



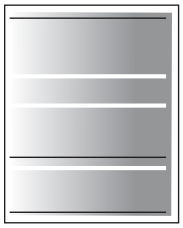
See Poor uniformity (flatbed) on page 490



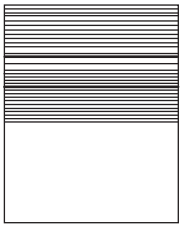
See Poor uniformity gradual (flatbed) on page 491



See Lamp inverter failure (flatbed) on page 491



See Streaks on page (flatbed) on page 491



See Unexpected results (flatbed) on page 491

NOTE: These examples depict letter-size media that has copied by using the flatbed glass.

Light print (partial page)



1. Make sure that the print cartridge is fully installed. The print-cartridge door should close completely when the cartridge is fully seated.
2. The toner level in the print cartridge might be low. Remove the cartridge and shake it to redistribute the toner. Replace the print cartridge.
3. The media might not meet HP specifications (for example, the media is too moist or too rough).
4. The transfer roller might be worn or damaged. Replace the transfer roller if necessary. See Transfer roller on page 183.

Light print (entire page)



1. The print cartridge is not installed correctly.

   Remove the print cartridge and then reinstall it. The cartridge door should close completely when the cartridge is fully seated.
2. EconoMode is on. EconoMode saves toner by reducing the dot density. The effect might appear to be a print-quality problem.

   Turn EconoMode off.

3. Open the Administration menu at the device control panel. Open the Print Quality menu and increase the Toner Density setting. See Print Quality menu on page 62.

4. The media does not meet specifications. The moisture content, conductivity, or surface finish might not work correctly with the electrophotographic process.

   Try using a different type of media.

5. The print cartridge might be almost empty. Replace the print cartridge.

6. The transfer roller is defective or is not installed correctly. If the transfer roller loses conductivity, it cannot pull toner from the drum effectively.

   Verify that the transfer roller is installed correctly. If the transfer roller is damaged, replace it.

7. The high-voltage connector contacts are dirty or damaged.

   The high-voltage connector contacts protrude into the print cartridge cavity. Clean the springs if they are dirty. Replace the springs if they are damaged or missing. To expose the contacts, release the protective cover (see Interlocks and linkages on page 549.

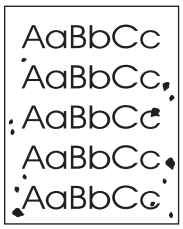
8. The laser/scanner shutter door is not opening correctly.

   Remove and reseat the print cartridge. Verify that the laser/scanner shutter door can open correctly. If necessary, replace the laser/scanner assembly. See Laser/scanner on page 335.

9. The high-voltage power supply is defective.

   Replace the high-voltage power supply is defective. See High-voltage power supply on page 342.

Specks



Specks might appear on a page after a jam has been cleared.

1. Print a few more pages to see if the problem corrects itself.
2. Clean the inside of the device and run a cleaning page. See Clean the device on page 95.
3. Turn over the stack of media in the tray. Also try rotating media 180 degrees.

   Check the media type and quality. Replace the media if it does not meet specifications, and advise the customer to use the HP-recommended media and to store it correctly.

   Try using a different type of media.
4. Check the print cartridge for leaks. If the print cartridge is leaking, replace it.
5. The fuser rollers are worn.

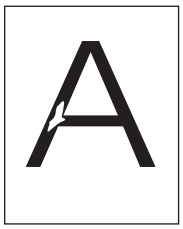
   Replace the fuser.
6. Poor contact exists between the static-eliminator teeth and the power supply.

   Clean the contacts, if they are dirty. If the problem persists after cleaning, or the contacts are damaged or deformed, replace them.
7. The transfer roller is deformed or has deteriorated.

   Replace the transfer roller if necessary. See Transfer roller on page 183.
8. The high-voltage power supply is defective.

   Replace the high-voltage power supply is defective. See High-voltage power supply on page 342.

Dropouts



1. The user is printing on the wrong side of the paper. The label on the ream of paper indicates which side to print on. The different surface properties of some papers might cause problems if the paper is loaded incorrectly.

   Check the arrow on the paper wrapper. From tray 1, the MFP prints on the side of the paper that faces up. From the other trays, the MFP prints on the side of the paper that faces down.

   Turn over the stack of paper in the tray. Also try rotating the stack 180 degrees. Do *not* fan the stack.

   Check the media type and quality. Replace the media If it does not meet specifications, and advise the customer to use the HP-recommended media and to store it correctly.

2. Make sure that the environmental specifications for the device are being met. See Operating environment on page 820.

3. If the media is rough, and the toner easily rubs off, open the Administration menu at the device control panel. Open the Print Quality menu, select Fuser Modes, and then select the media type you are using. See Print Quality menu on page 62.

4. Try using a smoother media.

5. The transparencies do not meet HP specifications.

   Use HP-approved transparencies for monochrome LaserJet printers.

6. The fuser roller is dirty and is lifting part of the image off of the paper.

   Process a cleaning page. Several pages might be required if the fuser is very dirty. Go to the Administration menu, Print Quality, Calibration menus, and select Process a Cleaning Page.

7. The toner-density setting is incorrect.

   Adjust the toner-density setting. Make sure that EconoMode is off.

8. The fuser setting is incorrect for the media type.

   Change the fuser setting See the Administration menu, Print Quality, Fuser Modes, and then select the type that best matches the media that you are using.

9. The transfer roller is damaged, has finger oils on its surface, or is dirty or worn.

   Clean the transfer roller by using a dry, lint-free cloth. Do not touch the transfer roller with your fingers. If the problem persists, replace the transfer roller.

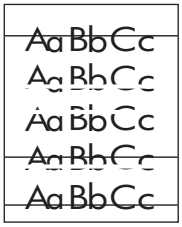
10. Poor high-voltage contact exists between the power supply and the print cartridge or transfer roller.

    Inspect the contacts and clean them if they are dirty. Replace them if they are damaged.

11. The high-voltage power supply is defective.

Replace the high-voltage power supply is defective. See High-voltage power supply on page 342.

Lines



1. Print a few more pages to see if the problem corrects itself.
2. Clean the inside of the device and then run a cleaning page. See Clean the device on page 95.
3. Replace the print cartridge.
4. The fuser roller is worn or dirty.

   Process a cleaning page. Several pages might be required the fuser is very dirty. If the problem persists, replace the fuser.
5. The static-eliminator teeth (just beyond the transfer roller) are contaminated or defective.

   Clean the static-eliminator teeth by using a small brush or compressed air. Replace the assembly if it is damaged.
6. Light is leaking into the MFP.

   Make sure that all of the covers are in place. Move the MFP away from windows that face the outdoors.

Gray background



1. Do not use media that has already been run through the device.

   Turn over the stack of media in the tray. Also try rotating the media 180 degrees.

   Check the media type and quality. Replace the media if it does not meet specifications, and advise the customer to use the HP-recommended media and to store it correctly.
2. The operating environment does not meet specifications.

   Make sure that the MFP is installed in an area that meets the environmental specifications.
3. Print a few more pages to see if the problem corrects itself.
4. The problem occurs during copying.

   In the Copy menu, select Image Adjustment, and then select Background Cleanup.
5. Open the Administration menu at the device control panel. On the Print Quality menu, increase the Toner Density setting. See Print Quality menu on page 62.

6. Make sure that the environmental specifications for the device are being met. See Operating environment on page 820.

7. Replace the print cartridge.

8. The high-transfer setting is wrong.

   Open the Administration menu at the device control panel. On the Print Quality menu, select the Increase option for the high transfer setting.

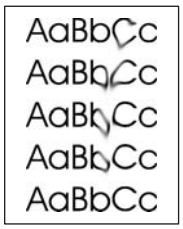
9. The high-voltage connector contacts are dirty or damaged.

   The high-voltage connector contacts protrude into the print cartridge cavity. Clean the springs if they are dirty. Replace the springs if they are damaged or missing. To expose the contacts, release the protective cover (see Interlocks and linkages on page 549.

10. The high-voltage power supply is defective.

    Replace the high-voltage power supply is defective. See High-voltage power supply on page 342.

Toner smear



1. Print a few more pages to see if the problem corrects itself.
2. Try using a different type of media.
3. Make sure that the environmental specifications for the device are being met. See Operating environment on page 820.
4. Clean the inside of the device and run a cleaning page. See Clean the device on page 95.
5. Replace the print cartridge.
6. The fuser roller is dirty.

   Process a cleaning page. Several pages might be required if the fuser is very dirty.
7. The static-eliminator teeth (just beyond the transfer roller) are contaminated or are not grounded, which allows a static charge to remain on the page.

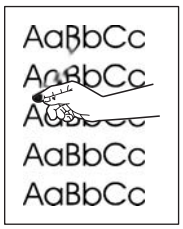
   Clean the static-eliminator teeth with a small brush or compressed air. Replace the assembly if it is damaged.
8. The fuser is defective. The print will smear if the fuser does not heat sufficiently to bond the toner to the paper.

   Replace the fuser.
9. The dc controller PCA is defective. The dc controller PCA regulates the fuser roller temperature.

   Replace the dc controller PCA.

Also see Loose toner on page 480.

Loose toner

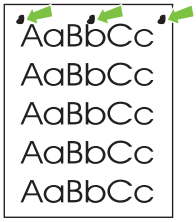


Loose toner, in this context, is defined as toner that can be rubbed off the page.

1. If media is heavy or rough, open the Administration menu at the device control panel. On the Print Quality submenu, select Fuser Modes, and then select the media type you are using.
2. If you have observed a rougher texture on one side of your media, try printing on the smoother side.

3. Make sure that the environmental specifications for the device are being met. See Operating environment on page 820.
4. Make sure that type and quality of the media you are using meet HP specifications.

Repeating defects



1. Print a few more pages to see if the problem corrects itself.
2. The print cartridge or fuser is damaged. The circumference of the photoconductive drum inside of the print cartridge is 96 mm (about 3.7 inches). If the defect repeats at this interval, the defect is associated with the drum.

   Repetitive defects caused by the fuser roller repeat at 94.0 mm (about 3.7 inches) Because the fuser roller is just 2 mm (0.07 inch) smaller than the photoconductive drum it can be difficult to distinguish defects that the photoconductive drum causes from those that the fuser roller causes.

   Inspect the drum for scratches or other damage. Replace the print cartridge for defects that repeat at 44 mm (1.7 inches) or 58 mm (2.3 inches).

   If the problem persists, and the defect repeats at the 75.0 mm (2.95 inches) or 94.0 mm (about 3.7 inches), replace the fuser.
3. Clean the inside of the device and then run a cleaning page. See Clean the device on page 95.
4. The rollers are dirty. A dirty roller in the paper path can cause a repetitive defect.

   Examine and clean (or replace) the rollers in the paper path.
5. Preprinted form paper is used.

   Some preprinted forms (for example, letterheads) use an ink that cannot withstand the high temperatures in the fuser. Check the media for type and quality. Replace the media, and advise the customer to use the HP-recommended media and to store it correctly.

Also see Repeating image on page 482.

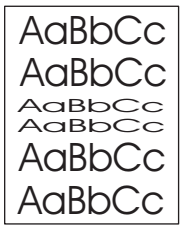
Repeating image



This type of defect might occur when using preprinted forms or a large quantity of narrow media.

1. Print a few more pages to see if the problem corrects itself.
2. Make sure that type and quality of the media you are using meet HP specifications.
3. If the distance between defects is 47 mm (1.9 in), 62 mm (2.4 in), or 96 mm (3.8 in), the print cartridge might need to be replaced.

Misformed characters



1. Print a few more pages to see if the problem corrects itself.
2. Make sure that the environmental specifications for the device are being met. See Operating environment on page 820.
3. Turn over the stack of media in the tray. Also try rotating media 180 degrees.

   Check the media type and quality. Replace the media if it does not meet specifications, and advise the customer to use the HP-recommended media and to store it correctly.
4. The operating environment does not meet specifications.

   Make sure that the MFP is installed in an area that meets the environmental specifications. .
5. The cables are not securely connected to the laser/scanner assembly.

   Reseat the cables that are connected to the laser/scanner assembly.
6. The cables are not securely connected to the dc controller PCA.

   Reseat the cables that are connected to the dc controller assembly.
7. The laser/scanner assembly is defective.

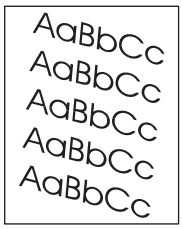
   Replace the laser/scanner assembly.
8. The gears are worn.

   Inspect the gears that drive the print cartridge and fuser. If any gears are worn, replace the defective assembly.
9. The main motor is defective.

   Replace the main motor.
10. The dc controller PCA is defective.

    Replace the dc controller PCA.

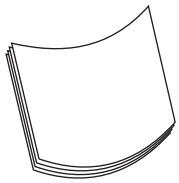
Page skew



1. Print a few more pages to see if the problem corrects itself.
2. Verify that no torn pieces of media are inside the device.
3. Make sure that media is loaded correctly and that all adjustments have been made. Make sure that the guides in the tray are not too tight or too loose against the media.
4. Turn over the stack in the tray. Also, try rotating the stack 180°.
5. Make sure that the type and quality of the media you are using meet HP specifications.
6. Make sure that the environmental specifications for the device are being met. (See Operating environment on page 820.)
7. Perform a tray alignment by opening the Administration menu at the device control panel. On the Print Quality submenu, touch Set Registration. Choose a tray under Source and then run a test page. For more information, see Print Quality menu on page 62.
8. The registration assembly is not installed correctly or is damaged.

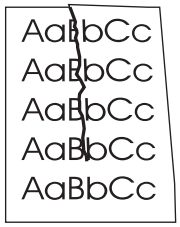
   Make sure that the registration assembly is installed correctly. If necessary, replace the registration assembly.

Curl or wave



1. Turn over the stack in the tray. Also, try rotating the stack 180°.
2. Make sure that the type and quality of the media you are using meet HP specifications.
3. Make sure that the environmental specifications for the device are being met. (See Operating environment on page 820.)
4. Try printing to a different output bin.
5. If media is lightweight and smooth, open the Administration menu at the device control panel. On the Print Quality submenu, touch Fuser Modes, and then select the media type you are using. Change the setting to Low, which helps reduce the heat in the fusing process.

Wrinkles or creases



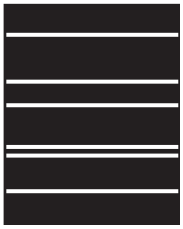
1. Print a few more pages to see if the problem corrects itself.
2. Make sure that the environmental specifications for the device are being met. See Operating environment on page 820.
3. Turn over the stack in the tray. Also, try rotating the stack 180°.
4. Make sure that media is loaded correctly and all adjustments have been made.
5. Make sure that the type and quality of the media you are using meet HP specifications.
6. If envelopes are creasing, try storing envelopes so that they lie flat.
7. An obstruction exists in the paper path.

   Check the paper path for debris.

   Check for damaged components that might be creasing the paper.

If the above actions do not improve wrinkles or creases, open the Administration menu at the device control panel. On the Print Quality submenu, select Fuser Modes, and then select the media type you are using. Change the setting to Low, which helps reduce the heat in the fusing process.

White lines



1. Print a few more pages to see if the problem corrects itself.
2. Make sure that the type and quality of the media you are using meet HP specifications.
3. Shake the print cartridge gently to redistribute the toner.

   If another print cartridge is available, try using that one to see if the problem goes away.

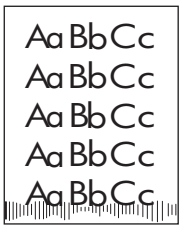
   Replace the print cartridge.
4. The laser path is dirty.

   Clean the laser path. Remove the laser/scanner assembly and check for dirt or other obstructions in the beam path.
5. The fuser is defective.

   Replace the fuser.
6. The mirror in the laser/scanner is dirty.

   Replace the laser/scanner assembly.

Tire tracks



This defect typically occurs when the print cartridge has far exceeded its rated life. For example, it occurs if you are printing a very large quantity of pages with very little toner coverage.

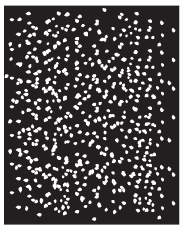
1. The paper path is contaminated or damaged.

   Process a cleaning page. If the problem persists, replace the fuser.

   Check the all of the tray feed rollers. Clean or replace the rollers as necessary.
2. Replace the print cartridge.
3. Reduce the number of pages that you print with very low toner coverage.
4. The print cartridge has passed its life expectancy.

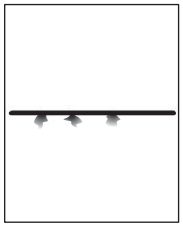
   This defect typically occurs when the print cartridge has far exceeded its rated life. For example, if you are printing a very large quantity of pages with very little toner coverage, toner might still remain in the print cartridge even though you have printed more than the rated life of the cartridge,

White spots on black



1. Print a few more pages to see if the problem corrects itself.
2. Make sure that the type and quality of the media you are using meet HP specifications.
3. Make sure that the environmental specifications for the device are being met. See Operating environment on page 820.
4. Replace the print cartridge.

Scattered lines



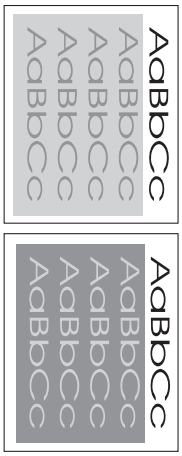
1. Make sure that the type and quality of the media you are using meet HP specifications.
2. Make sure that the environmental specifications for the device are being met. See Operating environment on page 820.
3. Turn over the stack in the tray. Also, try rotating the stack 180°.
4. Open the Administration menu at the device control panel. Open the Print Quality submenu and change the Toner Density setting. See Print Quality menu on page 62.
5. Open the Administration menu at the device control panel. On the Print Quality submenu, open Optimize and set Line Detail=On.
6. Open the Administration menu at the device control panel. On the Print Quality submenu, open Optimize and set High Transfer=Increased.

Blurred print



1. Make sure that the type and quality of the media you are using meet HP specifications.
2. Make sure that the environmental specifications for the device are being met. See Operating environment on page 820.
3. Turn over the stack in the tray. Also, try rotating the stack 180°.
4. Do not use media that already has been run through the device.
5. Decrease the toner density. Open the Administration menu at the device control panel. Open the Print Quality submenu and change the Toner Density setting. See Print Quality menu on page 62.
6. Open the Administration menu at the device control panel. On the Print Quality submenu, open Optimize and set High Transfer=On. See Print Quality menu on page 62.
7. Open the Administration menu at the device control panel. On the Print Quality submenu, open Optimize and set High Transfer=Increased.

Random image repetition



If an image that appears at the top of the page (in solid black) repeats further down the page (in a gray field), the toner might not have been completely erased from the last job. (The repeated image might be lighter or darker than the field it appears in.)

- Change the tone (darkness) of the field that the repeated image appears in.
- Change the order in which the images are printed. For example, have the lighter image at the top of the page, and the darker image farther down the page.
- From your software program, rotate the whole page 180° to print the lighter image first.

- If the defect occurs later in a print job, turn the device off for 10 minutes, and then turn it on to restart the print job.
- Replace the print cartridge.

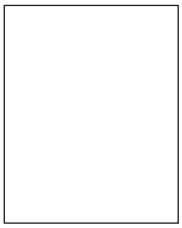
Solve copy-quality problems

ADF image-quality problems

First, verify that the scanner is scanning from the ADF and not the scanner glass. If it is scanning from the glass, you should be able to see the scanner lamp and optical head move the entire length of the glass. If no document is on the glass, a blank page is produced.

If the MFP is scanning from the ADF, continue with the following troubleshooting steps. If the MFP is scannin from the flatbed, see Flatbed glass image-quality problems on page 490.

Blank page (ADF)



1. The source document was not placed in the ADF input tray face-up.

   Verify that the source document is **face-up** in the ADF input tray.

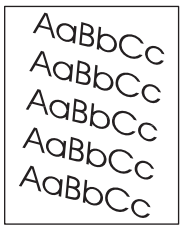
2. The source document was not detected in the ADF input tray.

   Remove and then reinsert the original page into the ADF, making sure that it is placed face-up.

3. A source document was not picked up when attempting to feed multiple documents.

   Inspect the ADF pickup and feed rollers and the ADF separation pad for damage. Clean the rollers if they are dirty. If the ADF separation pad or rollers are worn, replace them.

Page skew (ADF)



1. The scanner needs to be calibrated.

   Calibrate the scanner.

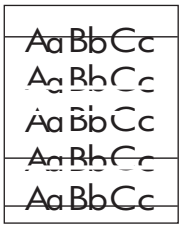
2. The ADF input tray guides are not adjusted correctly.

   Make sure the ADF input tray guides are adjusted so that they are lightly touching the sides of the paper stack.

3. A source document was not picked up when attempting to feed multiple documents.

Inspect the ADF pickup and feed rollers and the ADF separation pad for damage. Clean the rollers if they are dirty. If the ADF separation pad or rollers are worn, replace them.

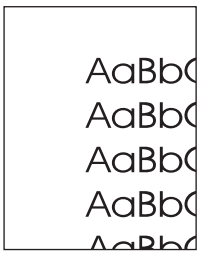
Horizontal lines (ADF)



The ADF step glass is dirty.

Clean the ADF small glass to the left of the flatbed. Even small dust particles can cause lines.

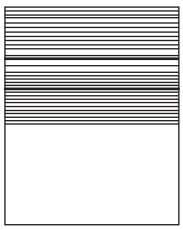
Image shifted (ADF)



An image that is shifted on the page horizontally, vertically, or both ways indicates that the scanner is incorrectly calibrated.

Calibrate the scanner.

Unexpected Image (ADF)



The copied image does not look like the original document.

Make sure that no media is on the flatbed glass from a previous copy job.

Flatbed glass image-quality problems

Poor uniformity (flatbed)



The ADF white backing is not uniformly pressing the original against the flatbed glass.

Check the ADF white baking for damage or warping. Replace the white backing if necessary. See White backing on page 213.

Poor uniformity gradual (flatbed)



The lamp inverter is producing uneven light output across the bulb.

Replace the scanner optic assembly or the entire scanner. See Optic assembly on page 236 or Scanner assembly on page 228.

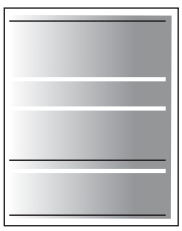
Lamp inverter failure (flatbed)



The lamp inverter is producing very low light output across the bulb.

Replace the scanner optic assembly or the entire scanner. See Optic assembly on page 236 or Scanner assembly on page 228.

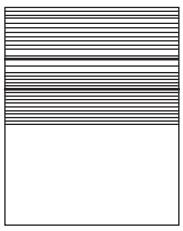
Streaks on page (flatbed)



The bulb is warming up to a stable state.

Replace the scanner optic assembly or the entire scanner. See Optic assembly on page 236 or Scanner assembly on page 228.

Unexpected results (flatbed)



The scanner controller board (SCB) has failed

Replace the scanner controller board (SCB). See Scanner controller board (SCB) and cover on page 226.

Solve copy problems

Media-handling problems

Problem	Cause	Solution
Poor print quality or toner adhesion	The paper is too moist, too rough, too heavy or too smooth, or it is embossed or from a faulty paper lot.	Try another kind of paper, between 100 and 250 Sheffield, 4 to 6% moisture content.
Dropouts, jamming, or curl	The paper has been stored incorrectly.	Store paper flat in its moisture-proof wrapping.
	The paper has variability from one side to the other.	Turn the paper over.
Excessive curl	The paper is too moist, has the wrong grain direction, or is of short-grain construction	Open the rear output bin, or use long-grain paper.
	The paper varies from side-to-side.	Turn the paper over.
Jamming, damage to device	The paper has cutouts or perforations.	Use paper that is free of cutouts or perforations.
Problems with feeding	The paper has ragged edges.	Use high-quality paper that is made for laser printers.
	The paper varies from side-to-side.	Turn the paper over.
	The paper is too moist, too rough, too heavy or too smooth, has the wrong grain direction, or is of short-grain construction or it is embossed or from a faulty paper lot.	• Try another kind of paper, between 100 and 250 Sheffield, 4 to 6% moisture content. • Use long-grain paper.
Print is crooked or misaligned on the page.	The media guides might be incorrectly adjusted.	Remove all media from the input tray, straighten the stack, and then load the media in the input tray again. Adjust the media guides to the width and length of the media that you are using and try printing again.
	The scanner might require a calibration.	Perform a tray alignment, and then calibrate the scanner. • Perform a tray alignment by opening the Administration menu at the device control panel. On the Print Quality submenu, touch Set Registration. Choose a tray under Source and then run a test page. For more information, see Print Quality menu on page 62. • See Calibrate the scanner on page 509 for information about calibrating the scanner.

Problem	Cause	Solution
More than one sheet feeds at one time.	The media tray might be overloaded.	Remove some of the media from the tray.
	The media might be wrinkled, folded, or damaged.	Verify that the media is not wrinkled, folded, or damaged. Try printing on media from a new or different package.
The device does not pull media from a media tray.	The device might be in manual feed mode.	• If **Manual Feed** appears on the control-panel display, press **OK** to print the job. • Verify that the device is not in manual feed mode, and then print your job again.
	The pickup roller might be dirty or damaged.	Replace the pickup roller for the tray. See User-replaceable parts on page 178.
	The paper-length adjustment control in the tray is set at a length that is greater than the media size.	Adjust the paper-length adjustment control to the correct length.

Performance problems

Problem	Cause	Solution
No copy came out.	The input tray might be empty.	Load media in the device.
	The original might have been loaded incorrectly.	Load the original correctly in the ADF or flatbed scanner.
Copies are blank.	The sealing tape might not have been removed from the print cartridge.	Remove the print cartridge from the device, pull out the sealing tape, and then reinstall the print cartridge.
	The original might have been loaded incorrectly.	Load the original correctly in the ADF or flatbed scanner.
	The media might not meet HP specifications.	Use media that meets HP specifications.
	The print-cartridge toner-level might be low.	Replace the print cartridge. See User-replaceable parts on page 178.
The wrong original was copied.	The ADF might be loaded.	Make sure that the ADF is empty.
Copies are reduced in size.	The device software settings might be set to reduce the scanned image.	See the device software Help for more information about changing the settings.

Troubleshooting communication interfaces

The following sections provide instructions for interface troubleshooting.

Check communications

NOTE: Communication problems are normally the customer's responsibility. Time spent attempting to resolve these problems might not be covered by the Hewlett-Packard product warranty. Refer the customer to the network administrator for assistance in troubleshooting network problems.

If the device is not connected directly to a Windows or MS-DOS-based host, see Troubleshooting the EIO on page 495.

CAUTION: HP LaserJet printers are not designed to work with mechanical switch-box products that do not have correct surge protection. These devices generate high transient voltages that cause permanent damage to the formatter. This circumstance is not covered by the Hewlett-Packard product warranty.

Troubleshooting the EIO

If the device contains an optional HP Jetdirect print server, and you cannot communicate with the device over the network, verify that the print server is operating. Print a configuration page (see Use information pages on page 74). If the Jetdirect card does not appear under "Installed personalities and options" on the configuration page, reseat or replace the Jetdirect EIO card. See the troubleshooting section of the *HP Jetdirect Print Server Software Administrators Guide.*

When the HP Jetdirect print server is installed correctly, print a Jetdirect page (this page automatically prints when a Jetdirect print server is installed and a configuration page is printed). See Use information pages on page 74. The Jetdirect page contains valuable network-related information about the device.

Jetdirect page

The following information is on the Jetdirect page.

- **HP Jetdirect Configuration** If the EIO Jetdirect card is installed correctly and the device completes its internal diagnostics, the **I/O CARD READY** status message prints. If communication is lost, an **I/O NOT READY** status message prints, followed by a two-digit error code. See the *HP Jetdirect Network Interface Configuration Guide* for further details and recommended action.
- **Network Statistics** This block indicates that network activity has been occurring. Bad packets, framing errors, unsendable packets, and collisions should be minimal. If a high percentage (greater than 1%) of these occur, contact the network administrator. All of the statistics are set to zero when the device is turned off.
- **TCP/IP** In this block, the default IP address is "192.0.0.192." You can operate the device by using this default address. The error message **ARP DUPLICATE ADDRESS** might appear in this block. This is an acceptable error code if the TCP/IP protocol is not being used. Check with the network administrator to determine the correct IP address for the device. To configure the device's IP address, go to the control panel EIO menu, select **CFG NETWORK=YES**, select **CFG TCP/IP=YES**, and then select **BOOTP=NO**.
- **Novell/NetWare** This block should state the name of the Novell printer server to which the device is connected. If the node name reads "NPI*xxxxxx*" (where *xxxxxx* = the last six digits of the EIO LAN address), the EIO card has not been configured for a Novell server. This could indicate that the card is operating under a protocol other than Novell. Check with the network administrator to determine what node name might be appropriate.

Boot key sequences

Boot key sequences are accessed while the device is initializing after the power is turned on. Service mode functions include the following functions:

- Low-level boot key sequences
  - **Select Language**
  - **Cold Reset**
  - **Embedded LAN Enable/Disable**
  - **New Document Feeder Kit**
  - **New Maintenance Kit**
- Mid-level boot key sequences
  - **Initialize Disks**
- High-level boot key sequences
  - **Skip Disk Load**
  - **NVRAM Initialization**
  - **Skip Calibration** (not used on this MFP)
- Engine test (formatter removed)
- Service ID (restoring and converting)
- Calibrate the scanner

Low-level boot key sequences

- **Select Language**

  Use this item to set the language that will appear on the control-panel display when the device completes a power-on initialization.

  NOTE: The language can also be set by using the control panel-menus. See Device Behavior menu on page 58.

- **Cold Reset**

  CAUTION: All HP Jetdirect settings are also reset. Be sure to print a configuration page before performing a cold reset. Make a note of the IP address that is listed on the Jetdirect page. You must restore the IP address after performing a cold reset.

  Use this item to unlock menus that have been previously locked and to set all control panel menu items (including EIO settings) back to the factory defaults. However, using this item *does not* clear the values in the **SERVICE** menu (such as the serial number and page counts).

  NOTE: Before performing a cold reset, print a menu map and a configuration page. See Use information pages on page 74. Use the information on the configuration page to reset any customer-set device configuration values that the cold reset procedure changes.

- **Embedded LAN Enable/Disable**

Use this item to initialize the device and the embedded Jetdirect function.

- **New Document Feeder Kit**

  Use this item to reset the page count and message when a new ADF maintenance kit has been installed.

- **New Maintenance Kit**

  Use this item to reset the page count and message when a new engine maintenance kit has been installed.

Access the low-level boot key sequences

1. Turn the off the device.
2. Turn the device on and immediately hold down the 6 button on the control-panel keypad as soon as the control-panel display backlight illuminates.
3. Continue to hold down the 6 button until all three control-panel LEDs remain illuminated. Release the 6 button.
4. Use the 3 button or the 9 button to scroll to the desired low-level service mode function.
5. Press 6 to select the desired low-level service mode function.
6. Use the 3 button or the 9 button to scroll to function options. Press 6 to select a function option setting.

Mid-level boot key sequences

- **Initialize Disks**

  Use this item to initialize the optional hard drive.

Access the mid-level boot key sequences

1. Turn off the device.
2. Turn the device on and immediately hold down the Start button on the control-panel keypad as soon as the control-panel display backlight illuminates.
3. Continue to hold down the Start button until all three control-panel LEDs remain illuminated. Release the Start button.
4. Press the 5 button to access the mid-level service mode function.
5. Press 6 to select the mid-level service mode function (**Initialize Disks**).

High-level boot key sequences

- **Skip Disk Load**

  Use this item to initialize the device without accessing the hard disk.

- **NVRAM Initialization**

△ **CAUTION:** Initializing the NVRAM resets the serial number, the event log, the page counts, and the EIO card (initializing the NVRAM resets **Service** menu values to factory defaults). Use the service menu to restore the serial number and page counts. Also reconfigure any computers that print to this device so that the computers can recognize the device. Initialize the NVRAM only when absolutely necessary. In most situations, use a cold reset rather than a NVRAM initialization to reset device settings (doing so will retain the values in the **Service** menu).

All HP Jetdirect settings will be lost. Be sure to print a configuration page before performing NVRAM initialization. Make a note of the IP address on the Jetdirect page that prints with the configuration page. You must restore the IP address after NVRAM initialization. See Configuring and verifying an IP address on page 77.

NOTE: Before performing a NVRAM initialization, print a menu map and a configuration page. See Use information pages on page 74. Use the information on the configuration page to reset any customer-set device configuration. Take special note of the *engine cycles count*, *maintenance count*, and the *serial number*.

If an HP LaserJet analog fax accessory 300 is installed, performing an NVRAM initialization can cause the MFP to violate local telephone regulations. Reset the language and country/region after performing NVRAM initialization. For more information, see the *HP LaserJet Analog Fax Accessory 300 Service Manual*.

Use this item to initialize the device NVRAM. NVRAM initialization resets the following settings and information:

- All menu settings are reset to factory values, including the fax header and company name.
- All faxes in memory are erased.
- All speed dials, group dials, and phone book entries are erased.
- All localization settings, including language and country/region, are reset.

- **Skip Calibration**

  This item has no function for this MFP.

Access the high-level boot key sequences

1. Turn off the device.
2. Turn the device on and immediately hold down the 9 button on the control-panel keypad as soon as the control-panel display backlight illuminates.
3. Continue to hold down the 9 button until all three control-panel LEDs remain illuminated. Release the 9 button.
4. Press the 3 button, and then press the Start button.
5. Use the 3 button or the 9 button to scroll to the desired high-level service mode function.
6. Press 6 to select the desired high-level service mode function.

Control-panel boot sequence calibration

If the control panel does not respond when touched, or if it responds erratically, you might need to align the touch screen. Use the procedure that follows:

1. Turn the power off.
2. Hold down the C and # buttons and turn the power on.
3. Release the C and # buttons when a small square appears in the upper-left portion of the control-panel display.
4. Use a small pointed device (for example, the tip of a pen) to touch the small square in the upper-left portion of the control-panel display. A second small square will appear in the lower-right portion of the control-panel display.

NOTE: The first square does not disappear when it is touched. Take care to not touch it a second time or the calibration procedure will fail.

5. Touch the small square in the lower-right portion of the control-panel display. When you do, the touch screen alignment is complete and the device returns to power-on initialization.

Engine test (formatter removed)

The engine-test-print page verifies that the print engine is functioning correctly. This test is very useful for isolating printer problems because the formatter is completely bypassed during an engine test. The engine-test-print page consists of a full page of horizontal lines across the entire printable area.

1. Turn the device off.
2. Remove the formatter. See Formatter cover on page 286.
3. Depress and hold down the engine test button.

TIP: Access the engine test button through the hole provided on the left side of the device. Use a straightened paper clip (about 70 mm [3 inches] in length) to depress the test button.

Figure 6-1 Engine test button location



4. Continue to depress the test button while the device initializes, until the face-down bin rollers begin to rotate. Release the test button.
5. Depress and then release the engine test button to begin the engine test.

Service menu

The Service menu is locked and requires a PIN for access. This menu is intended for use by authorized service personnel.

For the HP 5039XS MFP use the PIN, 11503906.

Accessing the service menu

NOTE: The device automatically exits the Service menu after about 1 minute if no items are selected or changed.

1. Touch Administration on the control-panel Home page.
2. Use ▼ to scroll to Service. Touch Service.
3. Touch the Service use only: text box near the center of the control-panel display. The touchscreen numeric keypad displays.
4. Touch the appropriate touchscreen numeric keypad buttons to enter the PIN (see the note at the begining of this section).
5. Touch OK to save the PIN or Cancel to exit the screen.
6. The PIN displays in the Service use only: text box as ********.
7. Touch OK to enter the **Service** menu or Cancel to exit the screen.

Service menu

- Clear Event Log

  Select this item to clear (reset to zero) the internal event log.

- Engine Cycles

  Select this item to set the total number of pages that have been printed to-date (appears on the configuration page). Typically this is required only when a new formatter is installed.

- Refurbish Page Count

  Select this item if you need to send the device for refurbishment. This page count is stored in memory so that the correct Service ID can be restored after the device is refurbished.

- Maintenance Kit Count

  Select this item to set the number of pages that have been printed since the last maintenance kit was installed or the total number of pages that have been printed on this device if a maintenance kit has not yet been installed (during the first 200,000 pages).

- Maintenance Kit Interval

  Select this item to specify the number of pages that can be printed before a **Perform Printer Maintenance** message appears on the control-panel display to indicate a maintenance kit is needed.

- Document Feeder Kit Count

Select this item to set the number of pages that have been printed since the last document feeder kit was installed or the total number of pages that have been printed on this device if a document feeder kit has not yet been installed (during the first 60,000 pages).

- Document Feeder Kit Interval

  Select this item to specify the number of pages (usually 60,000) that can be printed before a **Replace Document Feeder Kit** message appears on the control-panel display to indicate a maintenance kit is needed.

- ADF Count

  Select this item to set the total number of pages that have been fed through the ADF.

- Flatbed Count

  Select this item to set the total number of pages that have been scanned on the flatbed glass.

- ADF Simplex Count

  Select this item to set the total number of simplex pages that have been fed through the ADF.

- ADF Duplex Count

  Select this item to set the total number of duplex pages that have been fed through the ADF.

- Copy Scan Count

  Select this item to set the number of copy pages that have been scanned.

- Send Scan Count

  Select this item to set the number of scanned pages that have been sent to e-mail.

- Copy Pages Count

  Select this item to set the number of scanned pages that have been printed.

- Scanner Settings menu

NOTE: These settings are factory set. They are automatically optimized when a scanner calibration is performed. See Calibrate the scanner on page 509.

- ADF Settings

  Leading Edge Front: adjusts the time between when the pickup motor starts reverse rotating and when the CCD starts to read that the pickup motor is rotating.

  Leading Edge Back: adjusts the time between when the pickup motor starts reverse rotating and when the CCD starts to read that the pickup motor is rotating.

  Left Side Front: adjusts which CCD pixels are used on the CCD array in the flatbed optical assembly when the ADF is used to scan.

  Left Side Back: adjusts which CCD pixels are used on the CCD array in the flatbed optical assembly.

- Glass Settings

  Leading Edge Glass: adjusts the time between when the flatbed optical assembly carriage leaves the “home” position and when the CCD on the flatbed optical assembly starts to read that the flatbed optical assembly is moving.

  Left Side Glass: adjusts which CCD pixels are used on the CCD array in the flatbed optical assembly when scanning from the flatbed.

- Save Settings (writes modified calibration to memory)

- Restore Settings (sets calibration numbers to factory default; you should perform a scanner calibration after selecting this option)

- Serial Number

  Select this item to re-enter the serial number if you replace the formatter and the settings were not preserved.

- Service ID

  Select this item to specify the date that the device was first used, rather than the date when a replacement formatter was installed. See Service ID on page 503.

- Cold Paper Reset

  Select this item to reset the default paper size when you replace the formatter or restore factory settings.

Service ID

This information appears on the Configuration page (see Use information pages on page 74, which eliminates the need for customers to keep paper receipts for proof of the warranty.

Restoring the service ID

In the unlikely event that the service ID is lost, use this menu item to reset the value to the date that the device was first used. The date format is YYDDD. Use the following procedure to calculate the date.

1. To calculate YY, subtract 1990 from the calendar year. For instance, if the device was first used in 2002, calculate YY as follows: 2002 - 1990 = 12 (YY = 12).
2. To calculate DDD, use the following formula: 30 (calendar month - 1) + calendar day = DDD. If the calendar day is 31, use 30 instead. For instance, if the printer was first used on October 17, calculate DDD as follows:
   a. Subtract 1 from 10 (October is the tenth month of the year): 10 - 1 = 9.
   b. Multiply 9 by 30: 9 x 30 = 270.
   c. Add 17 to 270: 270 + 17 = 287 (DDD = 287).

Convert the service ID to an actual date

You can use the device service ID number to determine whether the device is still under warranty. Use the following procedure to convert the service ID into the installation date.

1. Add 1990 to YY to determine the actual year that the device was installed.
2. Divide DDD by 30 and add 1 to the quotient. The total is the month.
3. The remainder from the calculation in step 2 is the day of the month.

Using the Service ID 12287 as an example, the date conversion is as follows:

- 12 + 1990 = 2002, so the year is 2002.
- 287 divided by 30 = 9 with a remainder of 17. Add 1 to 9 to get 10 so the month is October.
- The remainder (from the calculation above) is 17, so that is the day of the month.
- The complete date is 17-October-2002.

A six-day grace period is built into the date system.

Troubleshooting menu

Use the troubleshooting menu to test to view recent MFP events, calibrate the scanner, and test MFP functionality.

Accessing the troubleshooting menu

NOTE: The device automatically exits the Service menu after about 1 minute if no items are selected or changed.

1. Touch Administration on the control-panel Home page.
2. Use ▼ to scroll to Troubleshooting. Touch Troubleshooting.
3. Use ▼ to scroll to the desired troubleshooting sub-menu item

Troubleshooting menu

- Event Log

  Use this feature to show the most recent events in the event log.

  At the control panel, scroll through the contents of the event log, which lists the 50 most recent events.

  Touch Print to print the full event log.

- Calibrate Scanner

  Use this item to calibrate the scanner. You might need to calibrate the scanner if it is not capturing the correct sections of scanned documents. Calibrate the scanner to compensate for offsets in the scanner-imaging system (carriage head) for ADF and flatbed scans. For more information, see Calibrate the scanner on page 509.

  Follow the instructions that appear on the control-panel display to complete the calibration procedure.

- FAX T.30 Trace

  Use this feature to print or configure the fax T.30 trace report. T.30 is the standard that specifies handshaking, protocols, and error correction between fax machines.

- FAX Transmit Signal Loss

  Use this feature to set loss levels to compensate for phone line signal loss.

  Set value between 0 and 30. (default = 0).

  For complete information about solving fax problems, see the *HP LaserJet Analog Fax Accessory 300 Service Manual*.

  △ **CAUTION:** Modifying this setting can cause the fax to stop functioning.

- FAX V.34

  Use this feature to disable V.34 modulations if several fax failures have occurred or if phone line conditions require it.

For complete information about solving fax problems, see the *HP LaserJet Analog Fax Accessory 300 Service Manual*.

- FAX Speaker Mode

  This feature can be used to evaluate and diagnose fax issues by listening to the sounds of fax modulations. The factory default setting is Normal.

  For complete information about solving fax problems, see the *HP LaserJet Analog Fax Accessory 300 Service Manual*.

- Paper Path Sensors

  Use this item to display the status of the paper path sensors during a Paper Path Test.

  Initiates a paper-path-sensor test. You can then open the menus to print internal pages (including the paper path test), set menu items, and send jobs from the computer. The sensors are updated as paper passes each sensor.

  On the control-panel display, each sensor is represented by a string of letters followed by a corresponding status for each sensor.

  1. Select Paper Path Test from the **Troubleshooting** menu.
  2. Press the **Hide** button.
  3. Select Paper Path Test from the **Troubleshooting** menu.
  4. Use the menus to define the source, destination, duplex, and number of copies options, and then select Print Test Page.
  5. The paper path test page will print. At the same time, the status of the paper path sensors will appear on the control-panel display (0 = inactive; 1 = active).

     Use the following list to Identify the sensors that appear on the control-panel display.

A: TOP sensor (SR5)	**E**: Output tray bin full sensor (SR1)
B: LOOP sensor (SR4)	**F**: Pre-feed pickup (SR14)
C: Fuser output sensor (SR6)	**G**: Duplex unit switchback sensor (duplexer SR1 [duplexer])
D: Face-down delivery sensor (SR7)	**H**: Duplex unit re-feed sensor (duplexer SR2 [duplexer]

  6. Press Stop to exit the test.

- Paper Path Test

  Generate a test page for testing the paper path. You can define the path that is used for the test by using the following options in order to test specific paper paths.

  Specify which paper paths are tested.

  Specify whether to print a test page from a specific tray or from all trays

  Specify which output bin to use during the paper path test.

  Specify if the duplexer is included when the test is performed.

  Specify how many sheets of paper from the specified source are sent when the test is performed.

- Finishing Paper Path Test

  Test paper handling features for the finisher.

  Select the paper size for the Finishing Paper Path Test.

  Select the paper type for the Finishing Paper Path Test.

  Select the number of copies to include in the Finishing Paper Path Test. The default setting is 2 copies.

  Select whether to use the duplexer in the Finishing Paper Path Test.

  Print a test page to use for the Finishing Paper Path Test.

  Select the options that you want to use to test the stapler/stacker.

  Select the type of media to use for the Finishing Paper Path Test.

  Print a test page to use for the Finishing Paper Path Test.

- Manual Sensor Test

  Tests the paper path sensors and switches for correct operation. During this test, the MFP is offline.

  On the control-panel display, each sensor is represented by a string of letters followed by a corresponding status for each sensor.

  Manually trip each sensor and watch for it to change on the screen. Press the Stop button to abort the test.

A: TOP sensor (SR5)	**Q**: Feed door sensor (SR13)
B: LOOP sensor (SR4)	**R**: HCI right door switch (SW7)
C: Fuser output sensor (SR6)	**S**: Tray 4 TOP sensor (HCI SR3)
D: Face-down delivery sensor (SR7)	**T**: Tray 5 TOP sensor (HCI SR4)
E: Output bin-full sensor (SR1)	**U**: Tray 6 TOP sensor (HCI SR9)
F: Lower path sensor (SR14)	**V**: Tray 2 media surface sensor (SR10)
G: Duplex switchback sensor (duplexer SR2)	**W**: Tray 3 media surface sensor (SR11)
H: Duplex re-feed sensor (duplexer SR1)	**X**: Tray 4 media surface sensor (HCI SR1)
I: Tray 1 media present sensor (SR3)	**Y**: Tray 5 media surface sensor (HCI SR5)
J: Tray 2 media present sensor (SR2)	**Z**: Tray 6 media surface sensor (HCI SR7)
K: Tray 3 media present sensor (SR12)	**a**: Tray 2 media size switches (all)
L: Tray 4 media present sensor (HCI SR2)	**b**: Tray 3 media size switches (all)
M: Tray 5 media present sensor (HCI SR6)	**c**: Tray 4 media size switches (all)
N: Tray 6 media present sensor (HCI SR8)	**d**: Tray 5 media size switches (all)
O: Right door open sensor (SR8)	**e**: Tray 6 media size switches (all)
P: Lower left door 24v interlock switch (SW1)	

- Component Test

Use the component test to exercise individual parts one-at-a-time, so that you can determine the cause of noise inside the MFP.

To start the test, select one of the components. The test will run the number of times specified by the Repeat option. You might be prompted to remove parts from the device during the test. Press the Stop button to abort the test.

Fuser motor	Duplex solenoid
Drum motor	Tray 4/5/6 pickup motors
Laser/scanner motor	Duplex motor
Tray 1 (MP) solenoid	Repeat (continuously run this test)
Tray 2/3/4/5/6 pickup solenoids	

- Print/Stop Test

Isolate faults by stopping the device during the print cycle and observing where in the process the image degrades. To run the test, specify a stop time and execute a Paper Path Test so that you can specify simplex, duplex, output destination, and multiple page printing.

NOTE: This test starts counting when the page activates the TOP sensor (SR5) and therefore does not test the HCI. To test the HCI, you must print multiple pages from the HCI and formulate a strategic stop time.

See Table 3-18 Print/stop test time values (simplex print jobs) on page 71 or Table 3-19 Print/stop test time values (duplex print jobs) on page 72 in this section to determine Print/Stop Test stop time values.

- Scanner Tests

Use this menu to diagnose potential problems with the MFP scanner.

Lower lamp	ADF read motor
Sensors ◦ ADF empty sensor ◦ Top-of-Page sensor ◦ Register/deskew sensor ◦ ADF width sensor ◦ ADF jam cover sensor ◦ ADF length sensor ◦ Flatbed cover sensor ◦ Flatbed width sensor ◦ Flatbed length sensor	ADF read motor reverse
ADF input motor	ADF duplex solenoid

ADF input reverse	ADF LED indicator
Flatbed motor	

- Control Panel

  Use this feature to make sure the components of the control panel are functioning correctly.

  You can turn each LED on and off independently to make sure that it is functioning correctly.

  You can display a test pattern on the control-panel display. If no test pattern appears, the display is not functioning correctly.

  You can press each hard key to make sure that it is functioning correctly.

  You can display a grid on the control-panel display. Touch each section of the grid to verify that it is sensitive to touch.

Calibrate the scanner

Calibrate the scanner to compensate for offsets in the scanner-imaging system (carriage head) for ADF and flatbed scans. Because of mechanical tolerances, the scanner's carriage head might not read the position of the image accurately. During the calibration procedure, scanner offset values are calculated and stored. The offset values are then used when producing scans so that the correct portion of the document is captured.

Scanner calibration should be carried out only if you notice offset problems with the scanned images. The scanner is calibrated before it leaves the factory. It only rarely needs to be calibrated again.

NOTE: Before calibrating the scanner, make sure that the print engine input paper trays have been correctly adjusted. From the control panel, select Administration, Print Quality, and Set Registration (see Use the Administration menu on page 34.

1. From the Home screen, touch Administration.
2. Touch Troubleshooting.
3. Touch Calibrate Scanner and then follow the instructions in the onscreen dialog box.

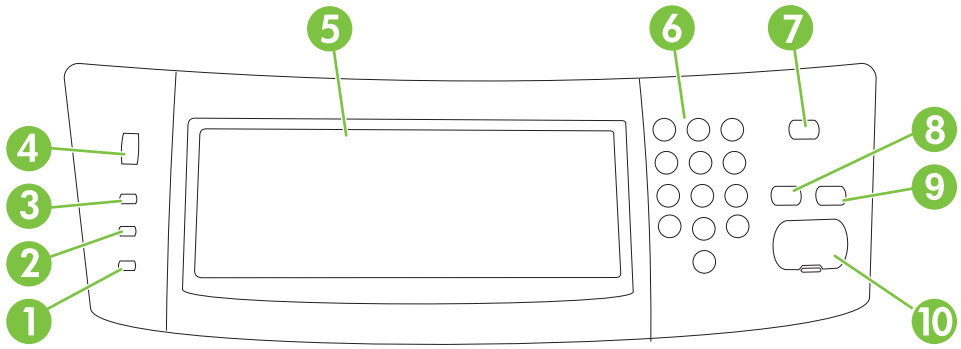
   The device starts the calibration process, and **Calibrating** appears on the touchscreen status line until the process is complete.

Use the control panel

The control panel has a VGA touchscreen that provides access to all device functions. Use the buttons and numeric keypad to control jobs and the device status. The LEDs indicate overall device status.

Control-panel layout

The control panel includes a touchscreen graphical display, job-control buttons, a numeric keypad, and three light-emitting diode (LED) status lights.

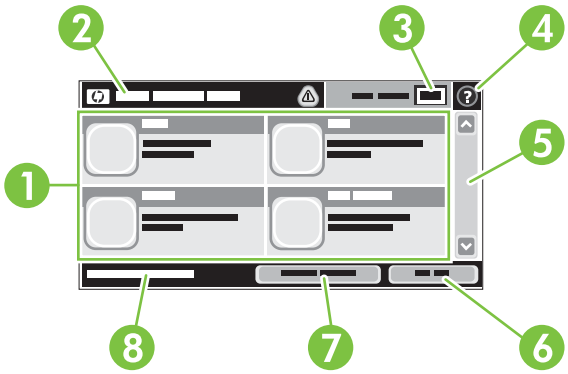


1	**Attention** light	The Attention light indicates that the device has a condition that requires intervention. Examples include an empty paper tray or an error message on the touchscreen.
2	**Data** light	The Data light indicates that the device is receiving data.
3	**Ready** light	The Ready light indicates that the device is ready to begin processing any job.
4	Brightness-adjustment dial	Turn the dial to control the brightness of the touchscreen.
5	Touchscreen graphical display	Use the touchscreen to open and set up all device functions.
6	Numeric keypad	Allows you to type numeric values for number of copies required and other numeric values.
7	Sleep button	If the device is inactive for a long period of time, it automatically enters a sleep mode. To place the device into sleep mode or to reactivate the device, press the Sleep button.
8	Reset button	Resets the job settings to factory or user-defined default values.
9	Stop button	Stops the active job. While stopped, the control panel shows the options for the stopped job (for example, if you press the Stop button while the device is processing a print job, the control panel message prompts you to cancel or resume the print job).
10	Start button	Begins a copy job, starts digital sending, or continues a job that has been interrupted.

Home screen

The home screen provides access to the device features, and it indicates the current status of the device.

NOTE: Depending on how the system administrator has configured the device, the features that appear on the home screen can vary.



1	Features	Depending on how the system administrator has configured the device, the features that appear in this area can include any of the following items: • Copy • Fax • E-mail • Secondary E-mail • Network Folder • Job Storage • Workflow • Supplies Status • Administration
2	Device status line	The status line provides information about the overall device status. Various buttons appear in this area, depending on the current status. For a description of each button that can appear in the status line, see Buttons on the touchscreen on page 512.
3	Copy count	The copy count box indicates the number of copies that the device is set to make.
4	Help button	Touch the Help button to open the embedded help system.
5	Scroll bar	Touch the up or down arrows on the scroll bar to see the complete list of available features.
6	Sign Out	Touch Sign Out to sign out of the device if you have signed in for access to restricted features. After you sign out, the device restores all options to the default settings.
7	Network Address	Touch Network Address to find information about the network connection.
8	Date and time	The current date and time appear here. The system administrator can select the format that the device uses to show the date and time, for example 12-hour format or 24-hour format.

Buttons on the touchscreen

The status line on the touchscreen provides information about the status of the device. Various buttons can appear in this area. The following table describes each button.

	**Home button**. Touch the home button to go to the Home screen from any other screen.
	**Start button**. Touch the Start button to begin the action for the feature that you are using. **NOTE:** The name of this button changes for each feature. For example, in the Copy feature, the button is named Start Copy.
	**Stop button**. If the device is processing a print or fax job, the Stop button appears instead of the Start button. Touch the Stop button to halt the current job. The device prompts you to cancel the job or to resume it.
	**Error button**. The error button appears whenever the device has an error that requires attention before it can continue. Touch the error button to see a message that describes the error. The message also has instructions for solving the problem.
	**Warning button**. The warning button appears when the device has a problem but can continue functioning. Touch the warning button to see a message that describes the problem. The message also has instructions for solving the problem.
	**Help button**. Touch the help button to open the built-in online Help system. For more information, see Control-panel help system on page 512.

Control-panel help system

The device has a built-in Help system that explains how to use each screen. To open the Help system, touch the Help button () in the upper-right corner of the screen.

For some screens, the Help system opens to a global menu where you can search for specific topics. You can browse through the menu structure by touching the buttons in the menu.

For screens that contain settings for individual jobs, the Help system opens to a topic that explains the options for that screen.

If the device alerts you of an error or warning, touch the error () or warning () button to open a message that describes the problem. The message also contains instructions to help solve the problem.

Solve fax problems

The following documents contain information about Fax operation and troubleshooting. Go to www.hp.com/go/mfpfaxaccessory.com to download these documents.

- *Fax User Guide*
- *Send Fax Driver User Guide*
- *Supplemental Fax Information*
- *Fax Support Guide* (available through the Channel Support Network [CSN])

Solve sending problems

Faxes quit during sending.

Cause	Solution
The fax machine to which you are sending might be malfunctioning.	Send the fax to another fax machine.
Your telephone line might not be working.	Disconnect the fax cable from the telephone jack, and then connect a telephone. Make a phone call to ensure that the telephone line is working.

The device fax is receiving faxes but is not sending them.

Cause	Solution
If the device is on a PBX system, the PBX system might be generating a dial tone that the fax cannot detect.	Disable the detect dial tone setting. See the fax guide for information about changing the setting.
There might be a poor telephone connection.	Resend the fax later.
The fax machine to which you are sending might be malfunctioning.	Send the fax to another fax machine.
Your telephone line might not be working.	Disconnect the fax cable from the telephone jack, and then connect a telephone. Make a phone call to ensure that the telephone line is working.

Outgoing fax calls keep dialing.

Cause	Solution
The fax automatically redials a fax number if either the Redial on Busy feature or the Redial on No Answer feature is enabled.	Disable the Redial on Busy and Redial on No Answer features. See the fax guide for information about changing the settings.

Faxes you send are not arriving at the receiving fax machine.

Cause	Solution
The receiving fax machine might be turned off or might have an error condition, such as being out of paper.	Call the recipient to make sure that the fax machine is turned on and ready to receive faxes.
A fax might be stored in memory because it is waiting to redial a busy number, or there are other jobs ahead of it waiting to be sent.	If a fax job is in memory for either of these reasons, an entry for the job appears in the fax log. Print the fax activity log (see the fax guide), and check the **Result** column for jobs with a **Pending** designation.

Solve receiving problems

Incoming fax calls are not being answered by the fax (no fax detected).

Cause	Solution
The rings-to-answer setting might not be set correctly.	Check the rings-to-answer setting. See the fax guide for information about changing the setting.
The telephone cord might not be connected properly, or the telephone cord is not working.	Check the installation. Make sure you are using the telephone cord that came with the device.
The telephone line might not be working.	Disconnect the fax cable from the telephone jack, and then connect a telephone. Make a phone call to ensure that the telephone line is working.
A voice-messaging service might be interfering with the ability to answer calls.	Do one of the following: • Discontinue the messaging service. • Get a telephone line dedicated to fax calls. • Decrease the rings-to-answer setting for the fax to a number less than the rings-to-answer for the voice mail. See the fax guide for information about changing the setting.

Faxes are transmitting or being received very slowly.

Cause	Solution
You might be sending or receiving a very complex fax, such as one with many graphics.	Complex faxes take longer to be sent or received.
The receiving fax machine might have a slow modem speed.	The device fax only sends the fax at the fastest modem speed the receiving fax machine can use.
The resolution at which the fax was sent or is being received is very high. A higher resolution typically results in better quality, but also requires a longer transmission time.	If you are receiving the fax, call and ask the sender to decrease the resolution and resend the fax. If you are sending, decrease the resolution or change the Page Content mode setting. See the fax guide for information about changing the settings.
A poor telephone-line connection is forcing the device fax and the sending or receiving fax machine to slow down the transmission to adjust for errors.	Cancel and resend the fax. Have the telephone company check the telephone line.

Faxes are not printing at the device.

Cause	Solution
There is no media in the input trays.	Load media. Any faxes received while the input trays are empty are stored and will print after the trays have been refilled.
The Schedule Printing of Faxes mode is enabled. Faxes will not print until it is disabled	Disable the Schedule Printing of Faxes mode. See the fax guide for information about changing the setting.
The device toner level is low, or it has run out of toner. The device stops printing as soon as it is low on toner or runs out of toner. Any faxes received are stored in memory and are printed after the toner has been replaced.	Replace the print cartridge.

Incoming fax calls are answered, but no fax is received.

Cause	Solution
If the fax call report or fax activity log show a communication error (17); this might be caused by incoming voice calls.	Make sure that the sender has the correct number for the fax phone line and voice line. Only use the fax phone line to send a fax.

Solve e-mail problems

If you are unable to send e-mails by using the digital-send feature, you might need to reconfigure the SMTP gateway address or the LDAP gateway address. Print a configuration page to find the current SMTP and LDAP gateway addresses. See Use information pages on page 74. Use the following procedures to check if the SMTP and LDAP gateway addresses are valid.

Validate the SMTP gateway address

NOTE: This procedure is for Windows operating systems.

1. Open an MS-DOS command prompt: click **Start**, click **Run**, and then type `cmd`.
2. Type `telnet` followed by the SMTP gateway address and then the number 25, which is the port over which the MFP is communicating. For example, type `telnet 123.123.123.123 25` where "123.123.123.123" represents the SMTP gateway address.
3. Press Enter. If the SMTP gateway address is *not* valid, the response contains the message `Could not open connection to the host on port 25: Connect Failed.`
4. If the SMTP gateway address is not valid, contact the network administrator.

Validate the LDAP gateway address

NOTE: This procedure is for Windows operating systems.

1. Open Windows Explorer. In the address bar, type `LDAP://` immediately followed by the LDAP gateway address. For example, type `LDAP://12.12.12.12` where "12.12.12.12" represents the LDAP gateway address.
2. Press Enter. If the LDAP gateway address is valid, the **Find People** dialog box opens.
3. If the LDAP gateway address is not valid, contact the network administrator.

Diagrams

- ADF
- Scanner
- Stapler/stacker
- Engine (base unit)
- High capacity input feeder
- Repetitive defect ruler
- Interlocks and linkages
- Print cartridge and MFP contacts

ADF

Sensors (ADF)

Figure 6-2 Sensors (ADF)

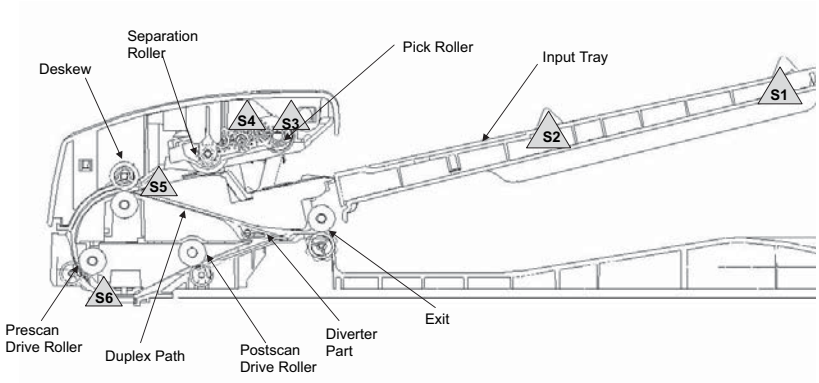
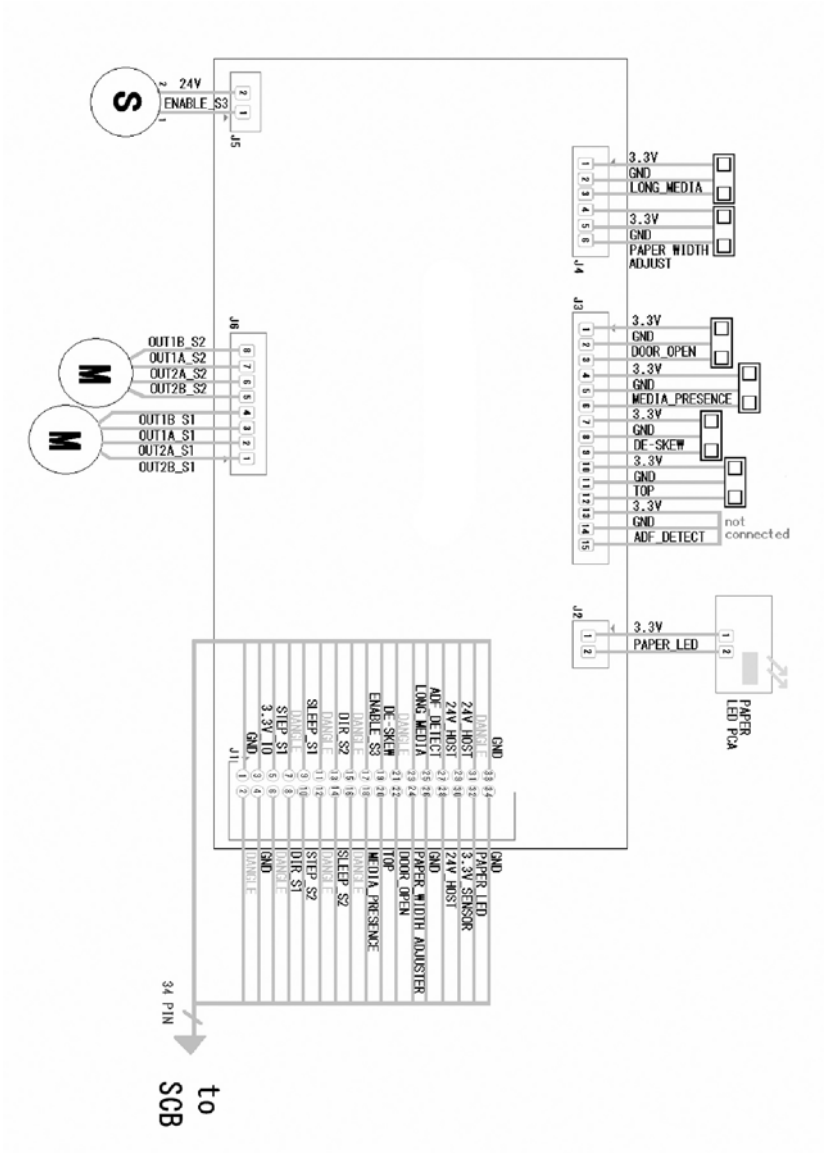


Table 6-24 Sensors (ADF)

S1	Length sensor
S2	Width sensor
S3	Cover closed sensor
S4	Media loaded
S5	De-skew sensor
S6	Pre-scan sensor

Wiring diagram (ADF)

Figure 6-3 Wiring diagram (ADF)



Scanner

Components (scanner)

Figure 6-4 Components (scanner)

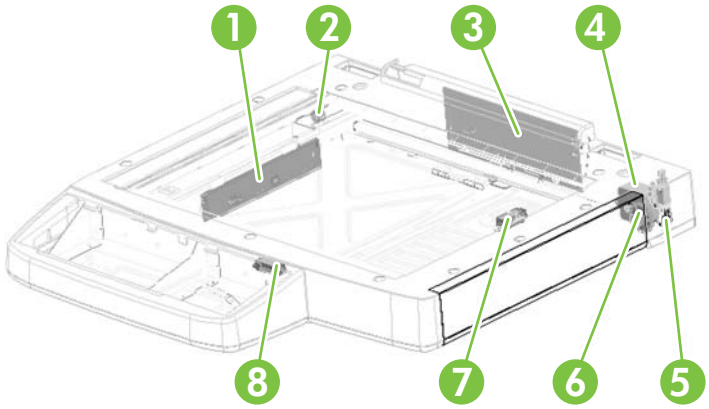
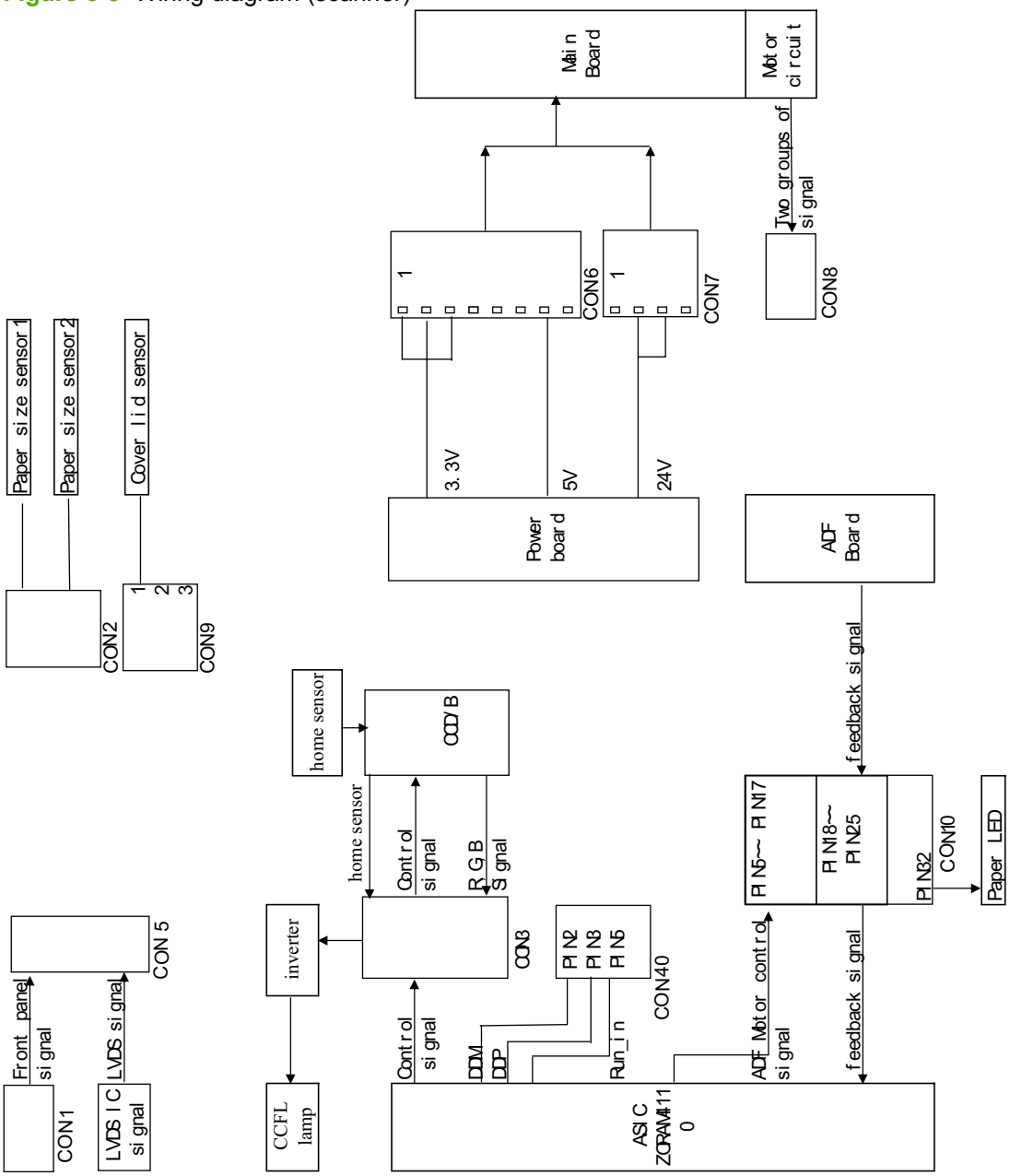


Table 6-25 Components (scanner)

1	CCD PCA
2	Idle pulley
3	Controller PCA
4	Motor, stepper
5	ADF sensor
6	Idle gear
7	Paper sensor 2
8	Paper sensor 1

Wiring diagram (scanner)

Figure 6-5 Wiring diagram (scanner)



Stapler/stacker

External panels and covers (stapler/stacker)

Figure 6-6 External covers and panels (stapler/stacker)

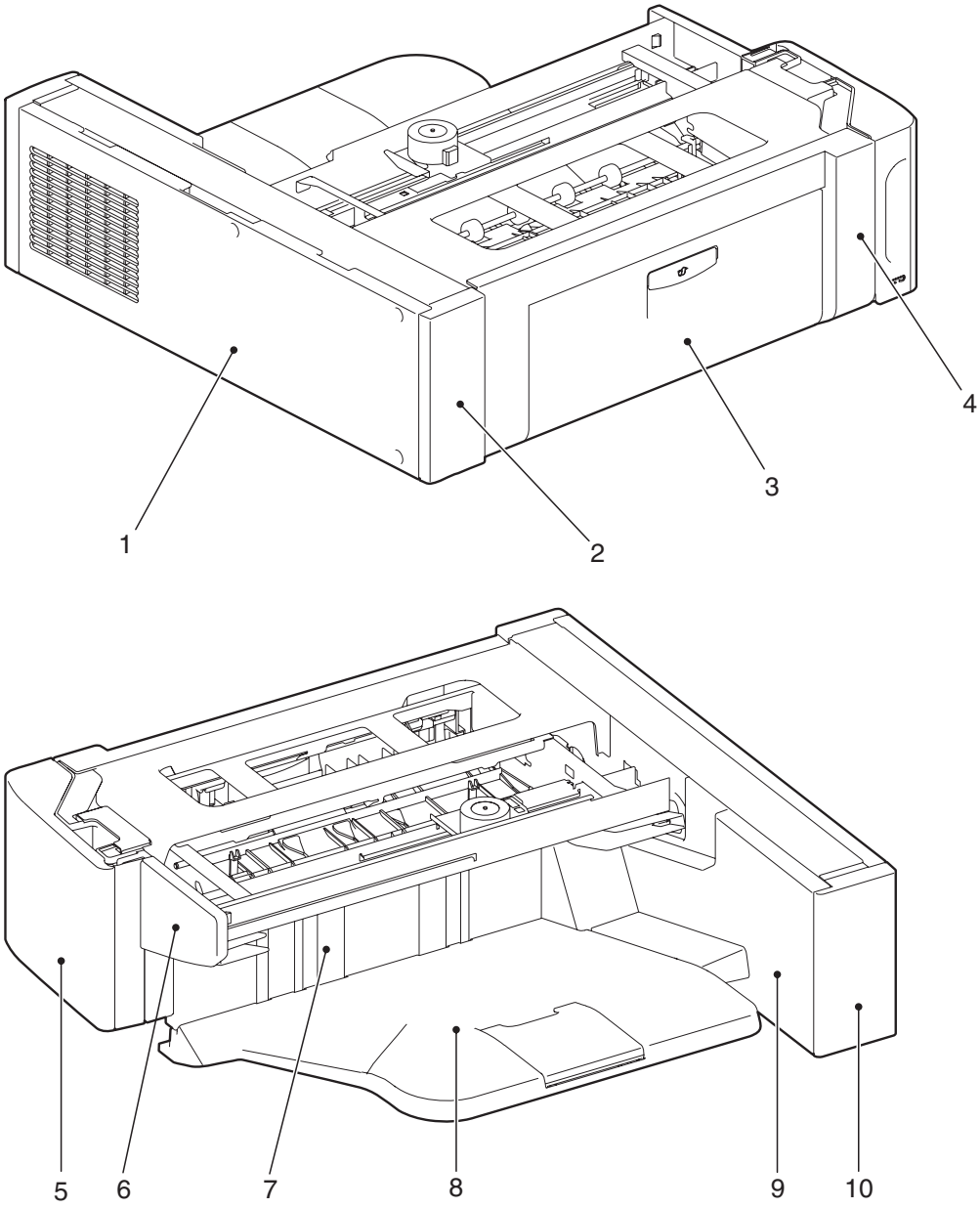


Table 6-26 External covers and panels (stapler/stacker)

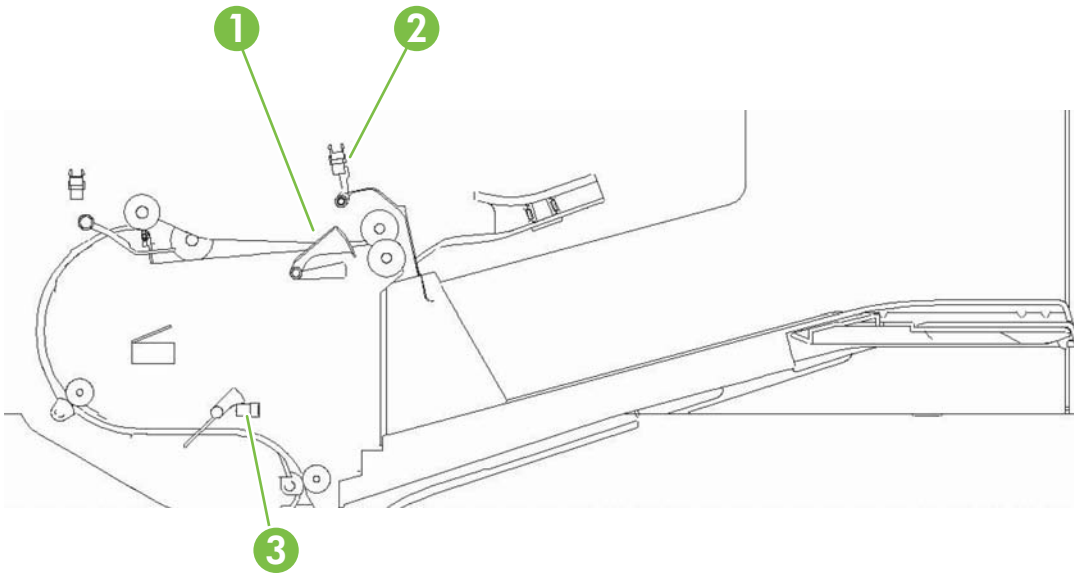
1	Rear cover
2	Rear left cover
3	Left door
4	Left cover

Table 6-26 External covers and panels (stapler/stacker) (continued)

5	Front door
6	Stapler cover assembly
7	Stack cover
8	Output bin
9	Rear-inner cover
10	Right-rear cover

Sensors (stapler/stacker)

Figure 6-7 Sensors (stapler/stacker)



1	Delivery sensor (SR2128)
2	Bin-full sensor (SR2131)
3	Input sensor (SR2100)

PCA (stapler/stacker)

Figure 6-8 PCA (stapler/stacker)

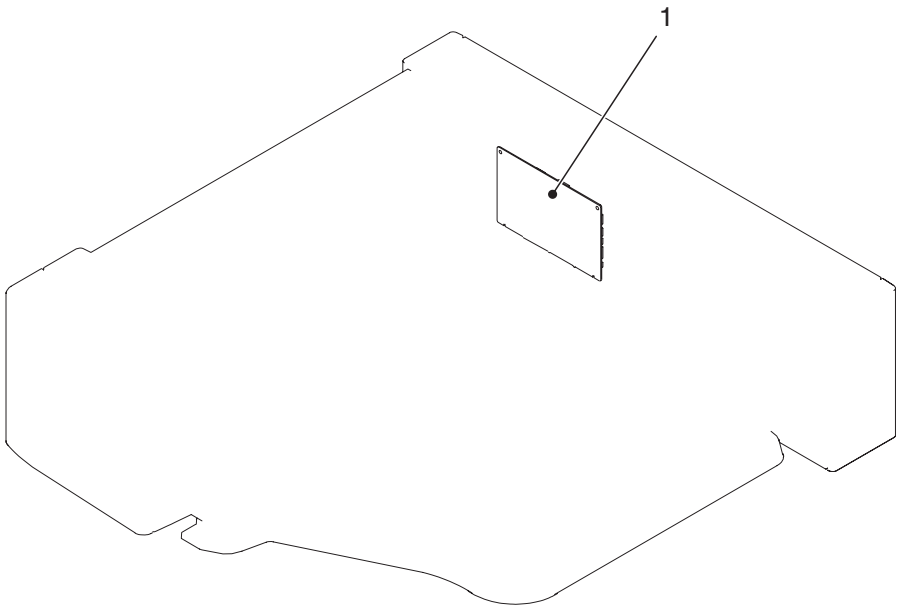
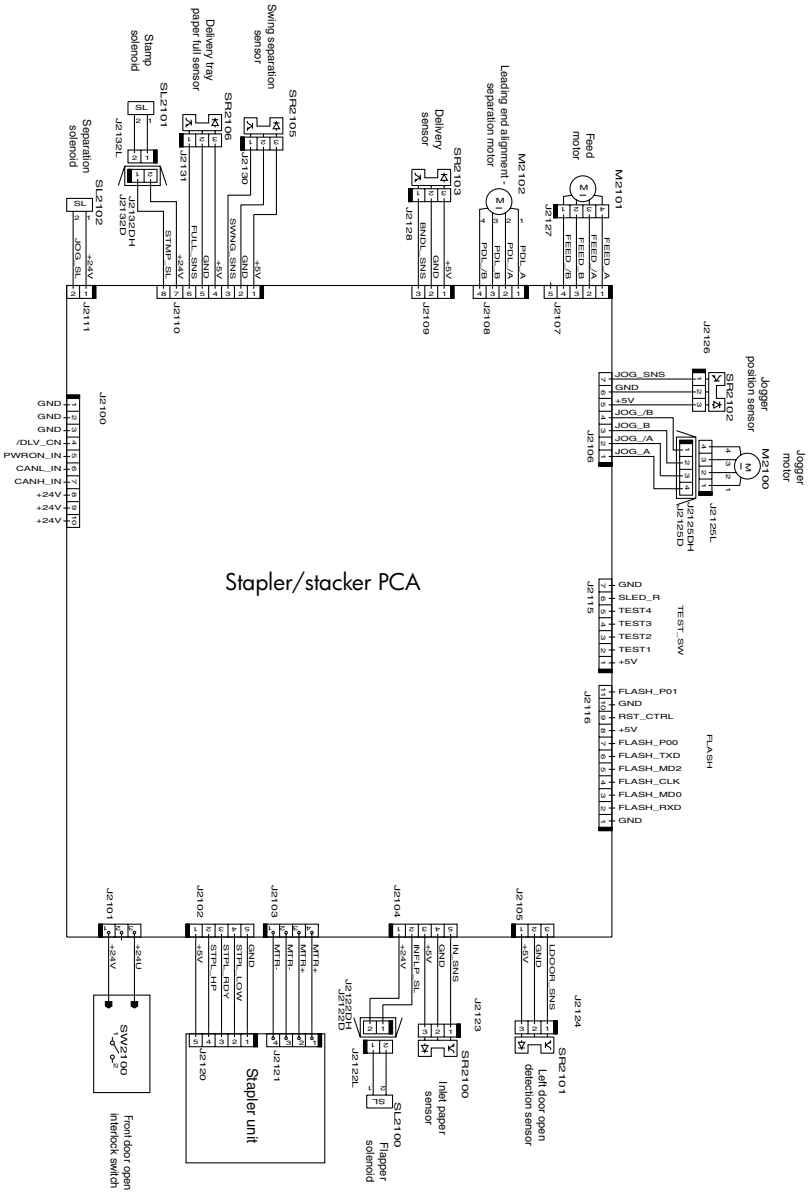


Table 6-27 PCA (stapler/stacker)

1	Stapler/stacker control PCA

Wiring diagram (stapler/stacker)

Figure 6-9 Wiring diagram (stapler/stacker)



Engine (base unit)

Engine (base unit)

Figure 6-10 Engine (base unit)

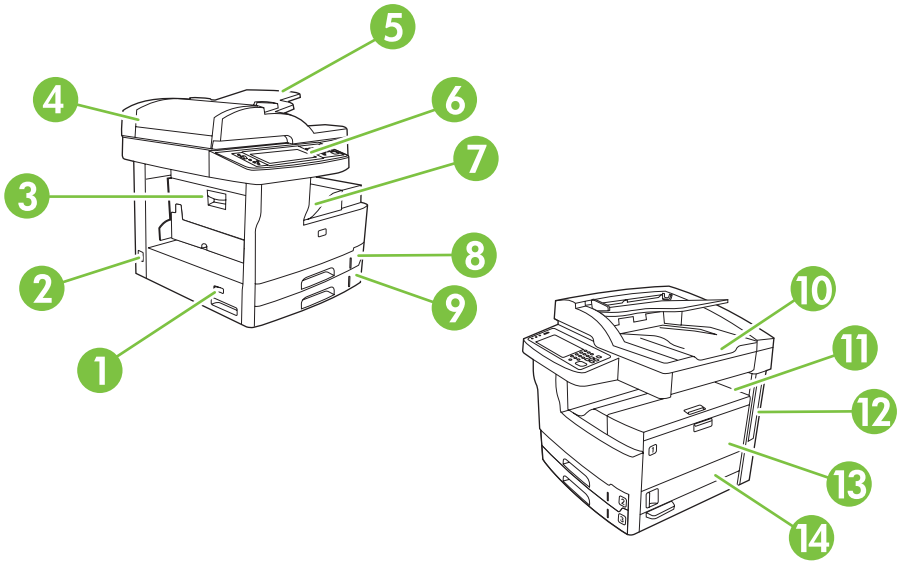


Table 6-28 Engine (base unit)

1	On/off switch
2	Power connection
3	Jam access door
4	ADF top cover (jam access)
5	ADF input tray
6	Control panel
7	Output bin
8	Tray 2
9	Tray 3
10	ADF output bin
11	Upper-right door
12	Interface ports
13	Tray 1
14	Right side access door

Interface connections (engine)

Figure 6-11 Engine interface connections (engine)

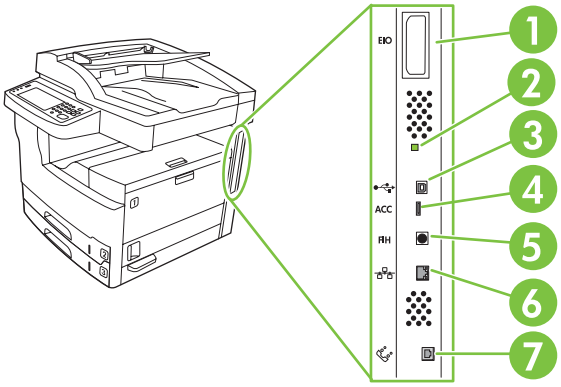


Table 6-29 Interface connections (engine)

1	EIO slot
2	Heartbeat LED
3	Hi-Speed 2.0 USB connection
4	Accessory
5	Foreign interface harness (FIH) port
6	Network connection
7	Fax connection

External panels and covers (engine)

Figure 6-12 Engine external panels and covers (engine)

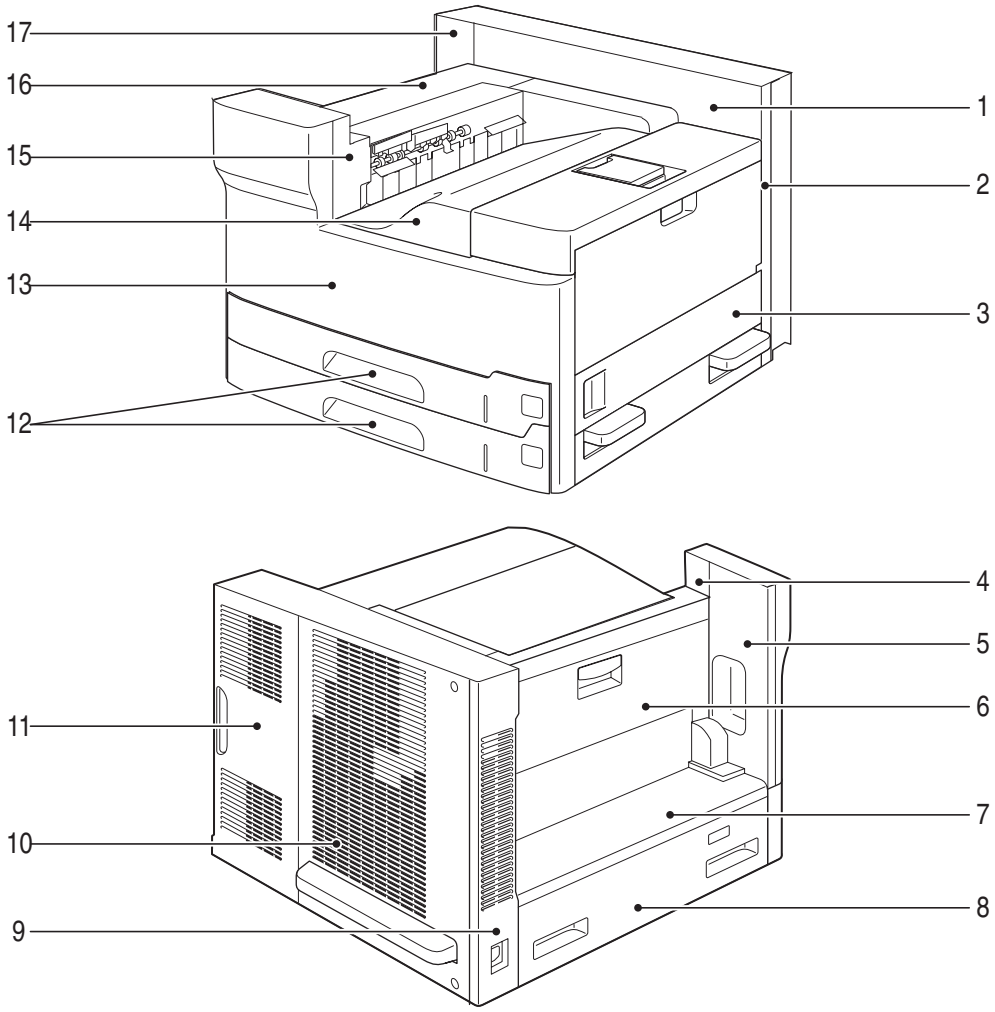


Table 6-30 External panels and covers (engine)

1	Right-inner cover
2	Right-rear cover
3	Right-door assembly
4	Top-inner cover
5	Front-inner cover
6	Left-door assembly
7	Left-upper cover
8	Left-lower cover
9	Left-rear cover
10	Rear cover

Table 6-30 External panels and covers (engine) (continued)

11	Formatter cover
12	Cassettes (Tray 2 and Tray 3)
13	Front cover
14	Face-down cover
15	Face-down side cover
16	Top cover
17	Left-rear inner cover

Major components (engine)

Figure 6-13 Engine major components (engine)

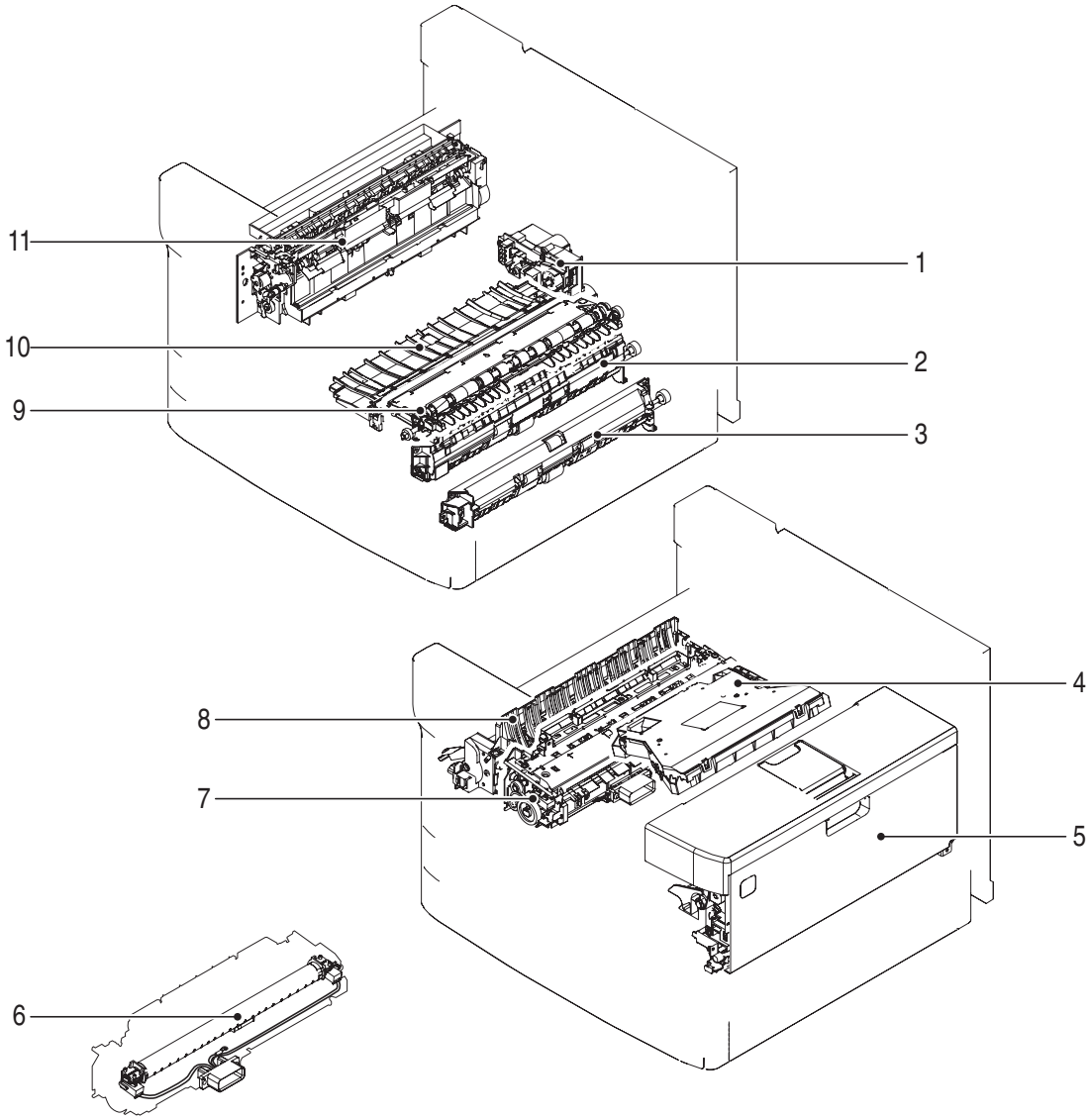


Table 6-31 Major components (engine)

1	Lifter drive assembly
2	Upper cassette (Tray 2) pickup assembly
3	Lower cassette (Tray 3) pickup assembly
4	Laser/scanner assembly
5	Tray 1 and print cartridge door assembly
6	Fuser film assembly (fuser shown removed from the engine)
7	Fuser (fuser shown installed in the engine)
8	Fuser-pressure release assembly

Table 6-31 Major components (engine) (continued)

9	Registration assembly
10	Paper feed assembly
11	Paper delivery assembly

Motors and fans (engine)

Figure 6-14 Engine motors and fans (engine)

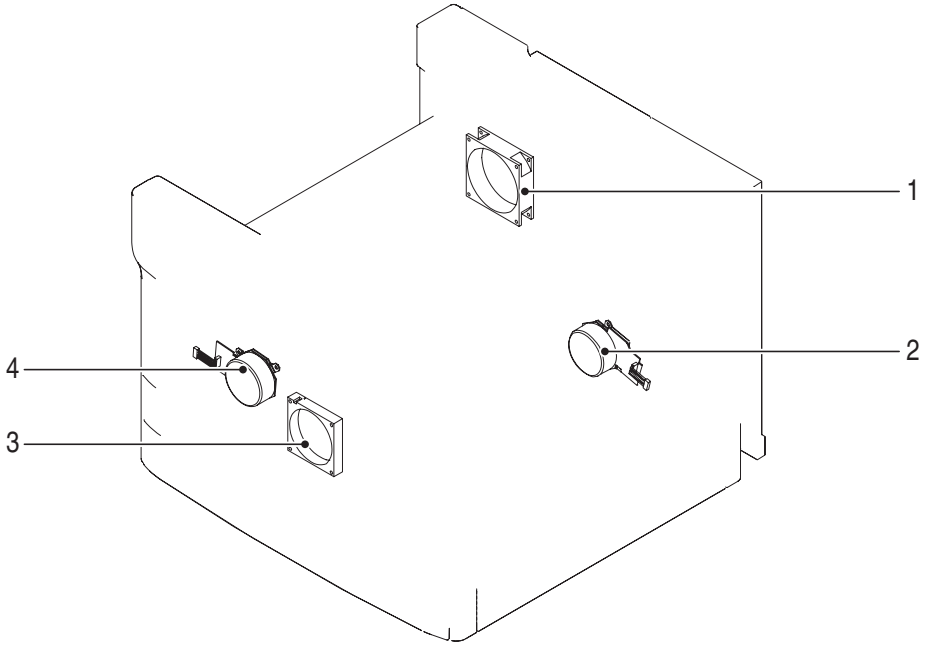


Table 6-32 Motors and fans (engine)

1	Rear fan (F1)
2	Main motor (M1)
3	Front fan (F2)
4	Fuser motor (M2)

PCAs (engine)

Figure 6-15 Engine PCAs (engine)

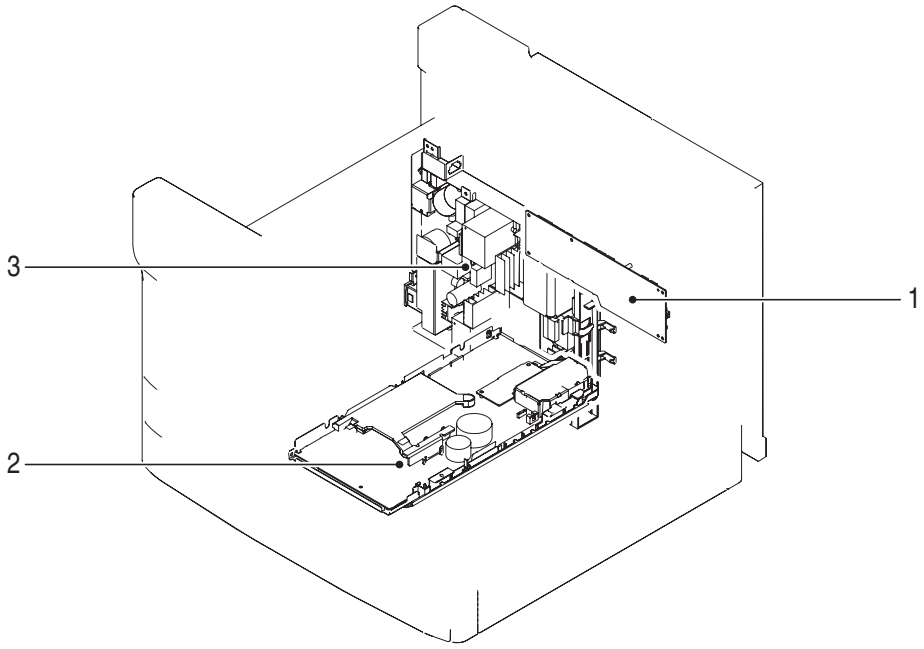


Table 6-33 PCAs (engine)

1	DC controller PCA
2	High-voltage power supply
3	Low-voltage power supply

Sensors and switches (engine)

Figure 6-16 Sensors and switches (engine)

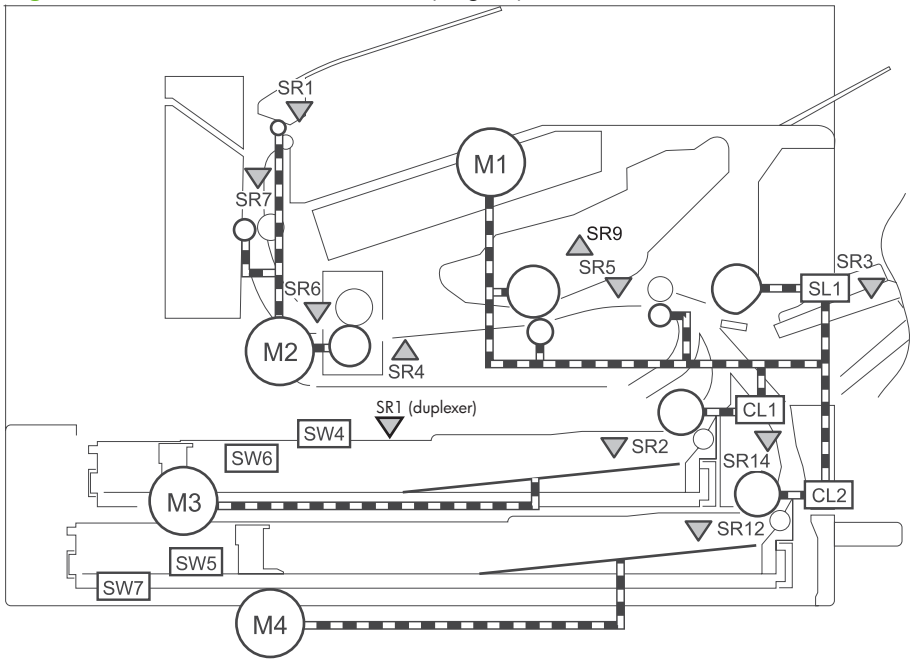


Table 6-34 Sensors and switches (engine)

SR1	Deliver-bin output-full sensor
SR1 (duplexer)	Switch back
SR2	Upper cassette (Tray 2) paper present sensor
SR3	Tray 1 (multipurpose) paper sensor
SR4	Paper loop sensor
SR5	Top-of-page sensor
SR6	Fuser delivery sensor
SR7	Delivery sensor
SR9	Print cartridge present sensor
SR12	Lower cassette (Tray 3) paper present sensor
SR14	Pre-feed sensor
SW4	Upper cassette (Tray 2) paper-width detection switch
SW5	Lower cassette (Tray 3) paper-width detection switch
SW6	Upper cassette (Tray 2) paper-length detection switch
SW7	Lower cassette (Tray 3) paper-length detection switch

Figure 6-17 Sensors and switches (engine; duplexer)

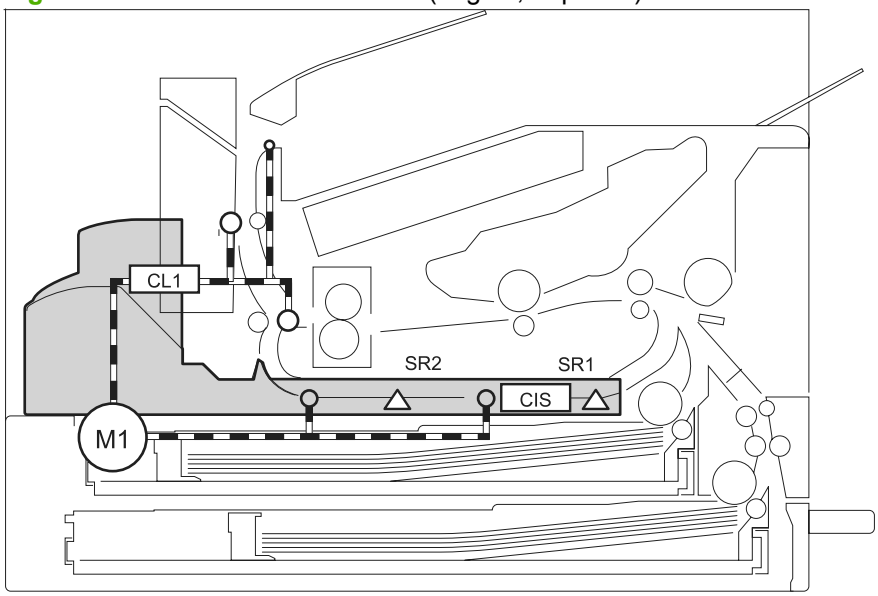


Table 6-35 Sensors and switches (engine; duplexer)

SR1	Duplexer jam sensor
SR2	Duplexer feed detection

DC controller PCA connectors (engine)

Figure 6-18 Engine dc controller PCA (engine)

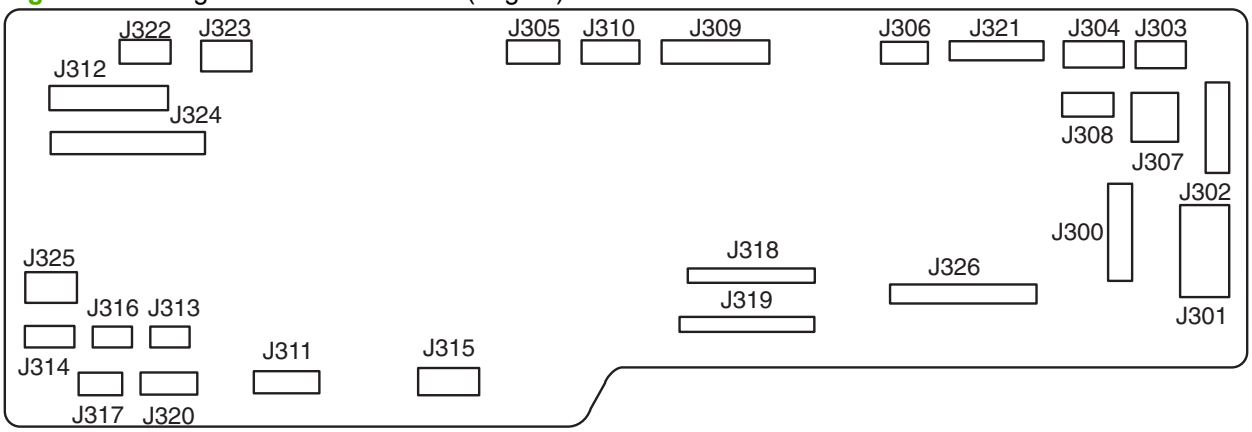


Table 6-36 Engine dc controller PCA (engine)

J300	Low-voltage power supply
J301	Low-voltage power supply
J302	Stapler/stacker (optional accessory)
J303	24v to SCB
J304	Fuser motor (M2)
J305	Memory tag Right-door open detection sensor (SR8)

Table 6-36 Engine dc controller PCA (engine) (continued)

J306	Rear fan (FM1)
J307	Interlock switch (SW1; 24v fuser door interlock)
J308	Interlock switch (SW2; 24v print cartridge door interlock)
J309	Cartridge-present sensor (SR9) Duplex solenoid (SL2) Front fan (FM2) Scanner motor (M5)
J310	Delivery sensor (SR7) Delivery-bin output-full sensor (SR1)
J311	Duplexer assembly
J312	HCI (optional accessory) Upper cassette (Tray 2) paper-length detection switch (SW6) Lower cassette (Tray 3) paper-length detection switch (SW7)
J313	Tray 1 paper sensor (multipurpose tray) (SR3)
J314	Upper cassette (Tray 2) paper sensor (SR2)
J315	Main motor (M1)
J316	Tray 1 pickup solenoid (SL1)
J317	Lower cassette (Tray 3) paper sensor (SR12)
J318	High-voltage power supply
J319	High-voltage power supply
J320	Feed-door open sensor (SR13) Pre-feed sensor (SR14)
J321	Laser/scanner PCA
J322	Empty
J323	Empty
J324	Upper cassette (Tray 2) paper-width detection switch (SW4) Lower cassette (Tray 3) paper-width detection switch (SW5) Upper lifter-drive (Tray 2) position sensor (SR10) Lower lifter-drive (Tray 3) position sensor (SR11) Upper lifter (Tray 2) motor (M3) Lower lifter (Tray 3) motor (M4)
J325	Upper cassette (Tray 2) clutch (CL1) Lower cassette (Tray 3) clutch (CL2)
J326	Formatter PCA

DC controller input/output signals (engine)

Figure 6-19 DC controller input/output signals (1 of 5) (engine)

Connector	Pin	Abbreviation	I/O	Logic	Signal name
J300	1				
	2	/PSTYP100	I	L	POWER SUPPLY DETECTION signal
	3	GND			
	4	/24RMT	O	L	24V CONTROL signal
	5	/ZEROX	I	Pulse	ZERO CROSSING signal
	6	PFCRMT	O	H	PFC OUTPUT COMMAND signal
	7	GND			
	8	+3.3V			
	9	GND			
	10	+5V			
	11	+5V			
J301	1	GND			
	2	GND			
	3	+24V			
	4	+24V			
J302	1	+24V			
	2	+24V			
	3	+24V			
	4	CAN_H	I/O	H	JET LINK COMMUNICATION signal
	5	CAN_L	I/O	H	JET LINK COMMUNICATION signal
	6	PWRON	O	H	DELIVERY OPTION RESET signal
	7	/DLV_CN	O	L	DELIVERY OPTION DETECTION signal
	8	GND			
	9	GND			
	10	GND			
J303	1	GND			
	2	+24V			
	3	+24V			
	4	GND			
J304	1	GND			
	2	/FMACC	O	L	FIXING MOTOR ACCELERATION signal
	3	/FMDEC	O	L	FIXING MOTOR DECELERATION signal
	4	/FMFGI	I	Pulse	FIXING MOTOR SPEED DETECTION signal
	5	+24VU			
J305	1	SNS3.3			
	2	GND			
	3	RIGHTDSNS	I	H	RIGHT DOOR OPEN DETECTION signal
	4	CLKA	O	Pulse	MEMORY TAG CLOCK signal
	5	CLKB	O	Pulse	MEMORY TAG CLOCK signal
J306	1	FAN1DR	O	H	REAR FAN DRIVE signal
	2	FAN2DR	I	H	REAR FAN LOCK signal
	3	GND			
J307	1	+24V			
	2	+24VU			

Figure 6-20 DC controller input/output signals (2 of 5) (engine)

Connector	Pin	Abbreviation	I/O	Logic	Signal name
J308	1	+24V			
	2	+24VR			
J309	1	+24V			
	2	/SMACC	O	L	SCANNER MOTOR ACCELERATION signal
	3	/SMDEC	O	L	SCANNER MOTOR DECELERATION signal
	4	GND			
	5	FAN2DR	O	H	FRONT FAN DRIVE signal
	6	FAN2LK	I	H	FRONT FAN LOCK signal
	7	GND			
	8	+24V			
	9	DELSL	O	H	DELIVERY PAPER signal
	10	SNS3.3			
	11	GND			
	12	/MFP_CRGS	I	L	CARTRIDGE DETECTION signal
J310	1	SNS3.3			
	2	GND			
	3	FULLS	I	H	DELIVERY TRAY PAPER FULL signal
	4	SNS3.3			
	5	GND			
	6	FDOUTSNS	I	H	FACE-DOWN DELIVERY PAPER signal
J311	1	/DPX_TMG	O	L	DUPLEXING UNIT TIMING signal
	2	DPX STS	I	H	DUPLEXING UNIT STATUS signal
	3	DPX CMD	O	H	DUPLEXING UNIT COMMAND signal
	4	DPX SCK	O	H	DUPLEXING UNIT CLOCK signal
	5	GND			
	6	+24V			
	7	+24V			
J312	1	/UCST SIZE3	I	L	UPPER CASSETTE PAPER LENGTH DETECTION signal
	2	GND			
	3	/UCST SIZE4	I	L	UPPER CASSETTE PAPER LENGTH DETECTION signal
	4	/LCST SIZE3	I	L	LOWER CASSETTE PAPER LENGTH DETECTION signal
	5	GND			
	6	/LCST SIZE4	I	L	LOWER CASSETTE PAPER LENGTH DETECTION signal
	7	IOP SCK	O	H	PAPER DECK CLOCK signal
	8	IOP CMD	O	H	PAPER DECK COMMAND signal
	9	IOP STS	I	H	PAPER DECK STATUS signal
	10	GND			
	11	GND			
	12	+24V			
	13	+24V			
J313	1	SNS3.3			
	2	GND			
	3	/MPTS	I	L	MPT PAPER DETECTION signal
J314	1	SNS3.3			
	2	GND			
	3	UCSTS	I	H	UPPER CASSETTE PAPER DETECTION signal
J315	1	PGND			
	2	/MMACC	O	L	MAIN MOTOR ACCELERATION signal

Figure 6-21 DC controller input/output signals (3 of 5) (engine)

Connector	Pin	Abbreviation	I/O	Logic	Signal name
	3	/MMDEC	O	L	MAIN MOTOR DECELERATION signal
	4	/MMFGI	I	Pulse	MAIN MOTOR SPEED DETECTION signal
	5	+24V			
J316	1	+24V			
	2	MPTSL	O	H	MPT PICK-UP SOLENOID DRIVE signal
J317	1	SNS3.3			
	2	GND			
	3	LCSTS	I	H	LOWER CASSETTE PAPER DETECTION signal
J318	1	PRIACVDS	I	Analog	PRIMARY CHARGING AC FEEDBACK signal
	2	PRIACVPS	I	Analog	PRIMARY CHARGING AC FEEDBACK signal
	3	DEVDCCNT	O	PWM	DEVELOPING DC BIAS CONTROL signal
	4	PRIACCLK	O	Pulse	PRIMARY CHARGING AC BIAS CLOCK signal
	5	PRIDCCNT	O	PWM	PRIMARY CHARGING DC BIAS CONTROL signal
	6	DEVACCLK	O	Pulse	DEVELOPING AC BIAS CLOCK signal
	7	PRIACCNT	O	PWM	PRIMARY CHARGING AC BIAS CONTROL signal
	8	/DEVACD	O	L	DEVELOPING AC BIAS DRIVE signal
	9	FSRTH4	I	Analog	SUB THERMISTOR 3 TEMPERATURE signal
	10	TONS1	I	Analog	TONER LEVEL signal
	11	FSRTH3	I	Analog	SUB THERMISTOR 2 TEMPERATURE signal
	12	TONS2	I	Analog	TONER LEVEL signal
	13	FSRTH2	I	Analog	SUB THERMISTOR 1 TEMPERATURE signal
	14	FSRD2	O	H	SUB HEATER DRIVE signal
	15	FSRTH1	I	Analog	MAIN THERMISTOR TEMPERATURE signal
	16	MTRSTOP	O	H	FIXING MOTOR DRIVE DETECTION signal
	17	FSRJAMS	I	H	FIXING DELIVERY DETECTION signal
	18	FSRD1	O	H	MAIN HEATER DRIVE signal
	19	FSRTHLOW	O	H	THERMISTOR SENSITIVITY SWITCH signal
	20	FSRCRST	O	H	FIXING HEATER CURRENT CIRCUIT RESET signal
	21	PGND			
J319	1	+24VR			
	2	+24VR			
	3	+24VR			
	4	+24VR			
	5	PGND			
	6	PGND			
	7	PGND			
	8	PGND			
	9	+3.3V			
	10	+3.3V			
	11	+5V			
	12	FSRCS	I	Analog	FIXING HEATER CURRENT DETECTION signal
	13	/LOOPS	I	L/H	PAPER LOOP signal (Large loop: L/Small loop: H)
	14	FSROVCS	I	H	OVERCURRENT DETECTION signal
	15	/DISCHBUP	O	L	ELECTROSTATIC ELIMINATOR BIAS SWITCH signal
	16	/TOPS	I	L	TOP OF PAGE signal
	17	/DISCHBD	O	L	ELECTROSTATIC ELIMINATOR BIAS DRIVE signal
	18	RLD	O	L	RELAY DRIVE signal
	19	HVTCLK	O	Pulse	HIGH-VOLTAGE POWER SUPPLY CONTROL signal

Figure 6-22 DC controller input/output signals (4 of 5) (engine)

Connector	Pin	Abbreviation	I/O	Logic	Signal name
	20	TRFCLK	O	Pulse	TRANSFER BIAS CLOCK signal
	21	TRFVCNT	O	PWM	TRANSFER BIAS CONTROL signal
	22	/TRFNBD	O	L	TRANSFER BIAS DRIVE signal
	23	TRFVS	I	Analog	TRANSFER CURRENT FEEDBACK signal
J320	1	SNS3.3			
	2	GND			
	3	/PREFEDS	I	L	PRE-FEED PAPER signal
	4	SNS3.3			
	5	GND			
	6	MFP_FEEDS	I	H	RIGHT DOOR OPEN DETECTION signal
J321	1	GND		-	
	2	/VDO2	O	L	VIDEO signal 2
	3	VDO2	O	H	VIDEO signal 2
	4	GND			
	5	CNT2	O	H	LASER CONTROL signal
	6	CNT1	O	H	LASER CONTROL signal
	7	CNT0	O	H	LASER CONTROL signal
	8	GND			
	9	/VDO1	O	L	VIDEO signal 1
	10	VDO1	O	H	VIDEO signal 1
	11	GND			
	12	GND			
	13	+5V			
	14	PDOUT	I	Analog	LASER LIGHT INTENSITY OUTPUT signal
	15	/BDI	I	L	BD INPUT signal
J322	1	MODEO			DEBUG signal
	2	MODE2			DEBUG signal
	3	P80			DEBUG signal
	4	P81			DEBUG signal
	5	FW_CLK			DEBUG signal
J323	1	+3.3V			
	2	RXD	I	H	DEBUG signal
	3	GND			
	4	TXD	O	H	DEBUG signal
J324	1	U_LMTRDR1	O	H	UPPER LIFTER MOTOR DRIVE signal 1
	2	U_LMTRDR2	O	H	UPPER LIFTER MOTOR DRIVE signal 2
	3	L_LMTRDR1	O	H	LOWER LIFTER MOTOR DRIVE signal 1
	4	L_LMTRDR2	O	H	LOWER LIFTER MOTOR DRIVE signal 2
	5	SNS3.3			
	6	GND			
	7	UCST_LUPS	I	H	UPPER CASSETTE LIFT-UP signal
	8	SNS3.3			
	9	GND			
	10	LCST_LUPS	I	H	LOWER CASSETTE LIFT-UP signal
	11	/UCST SIZE0	I	L	UPPER CASSETTE PAPER WIDTH DETECTION signal
	12	/UCST SIZE1	I	L	UPPER CASSETTE PAPER WIDTH DETECTION signal
	13	GND			
	14	/UCST SIZE2	I	L	UPPER CASSETTE PAPER WIDTH DETECTION signal

Figure 6-23 DC controller input/output signals (5 of 5) (engine)

Connector	Pin	Abbreviation	I/O	Logic	Signal name
	15	/LCST SIZE0	I	L	LOWER CASSETTE PAPER WIDTH DETECTION signal
	16	/LCST SIZE1	I	L	LOWER CASSETTE PAPER WIDTH DETECTION signal
	17	GND			
	18	/LCST SIZE2	I	L	LOWER CASSETTE PAPER WIDTH DETECTION signal
J325	1	+24V			
	2	UCST_CL	O	H	UPPER CASSETTE CLUTCH DRIVE signal
	3	+24V			
	4	LCST_CL	O	H	LOWER CASSETTE CLUTCH DRIVE signal
J326	1	GND	I	L	TEST PRINT signal
	2	GND			
	3	/VDO1	I	L	VIDEO signal 1
	4	VDO1	I	H	VIDEO signal 1
	5	GND			
	6	/VDO2	I	L	VIDEO signal 2
	7	VDO2	I	H	VIDEO signal 2
	8	GND			
	19	/BDO	O	L	BD OUTPUT signal
	10	GND			
	11	XSC	I/O	H	STATUS COMMAND signal
	12	XSCLK	I	H	SERIAL CLOCK signal
	13	GND			
	14	/CCRT	O	L	CONDITION CHANGE NOTIFY signal
	15	/TOPOUT	O	L	TOP signal
	16	/PFED	O	L	OPTION PICK-UP TIMING signal
	17	/PDLV	O	L	OPTION DELIVERY TIMING signal
	18	GND			
	19	CAN-H	I/O	H	JET LINK COMMUNICATION signal
	20	CAN-L	I/O	H	JET LINK COMMUNICATION signal
	21	PWRON	O	H	DELIVERY OPTION RESET signal
	22	GND			
	23	RXD	I	H	DEBUG signal
	24	TXD	O	H	DEBUG signal
	225	GND			

Wiring diagrams (engine)

Figure 6-24 Wiring diagram, engine (1 of 2) (engine)

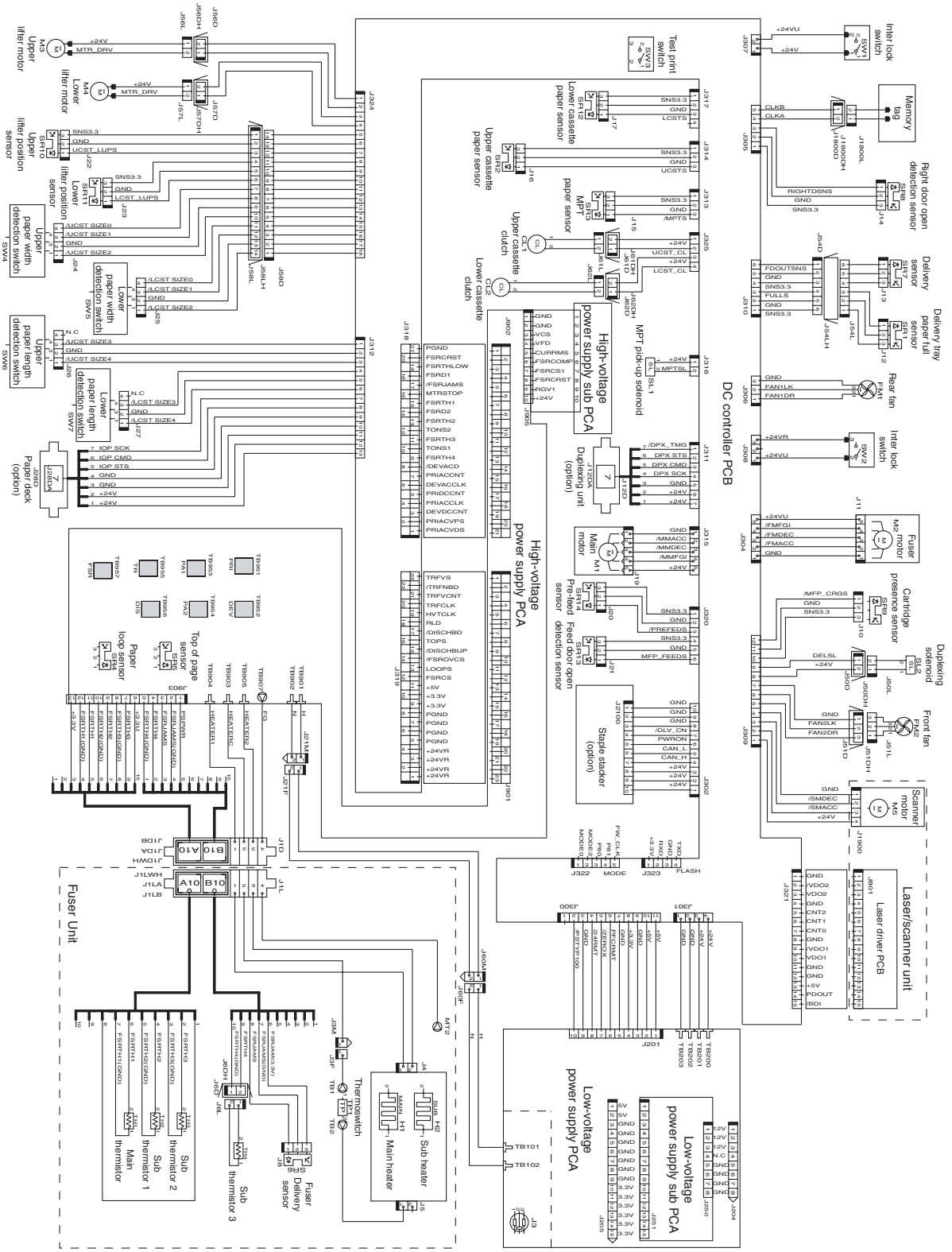
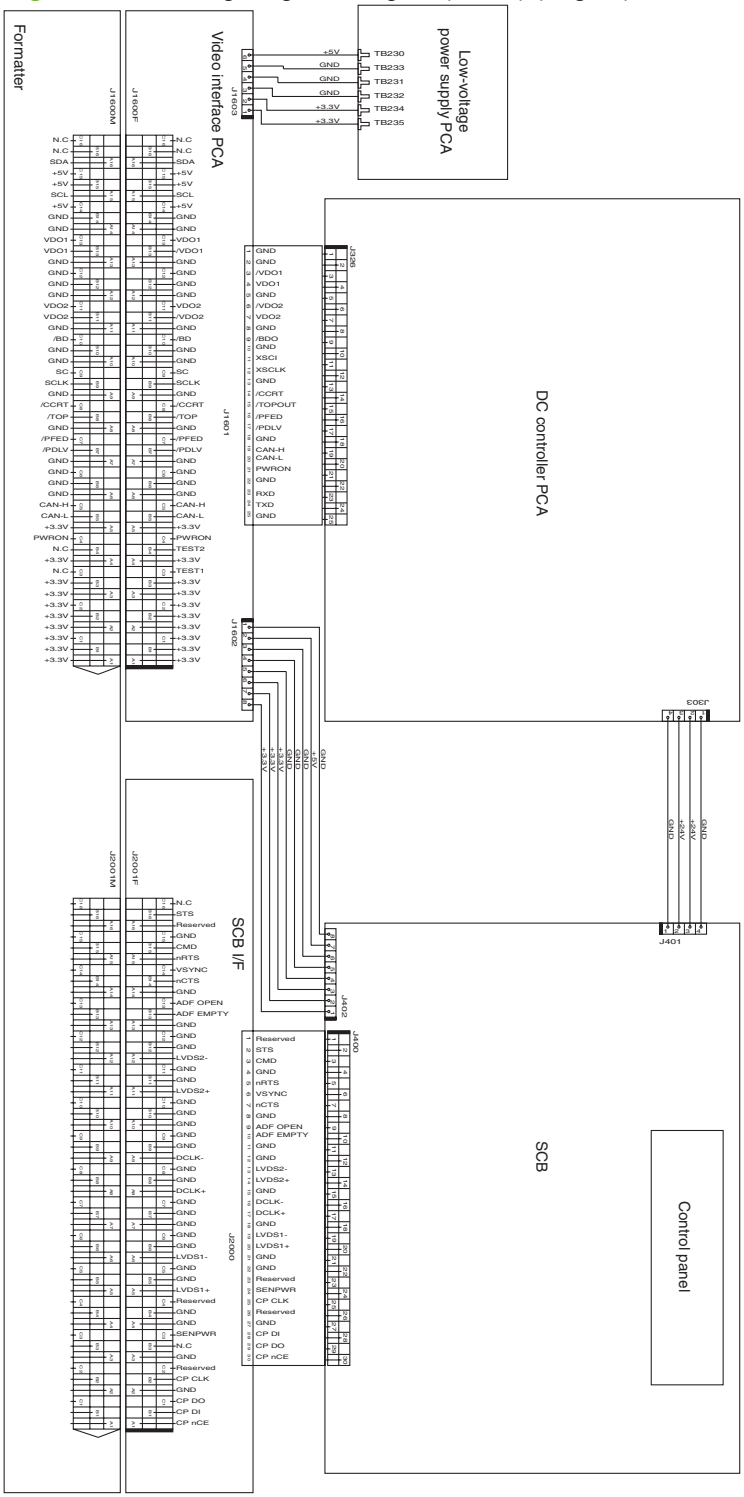
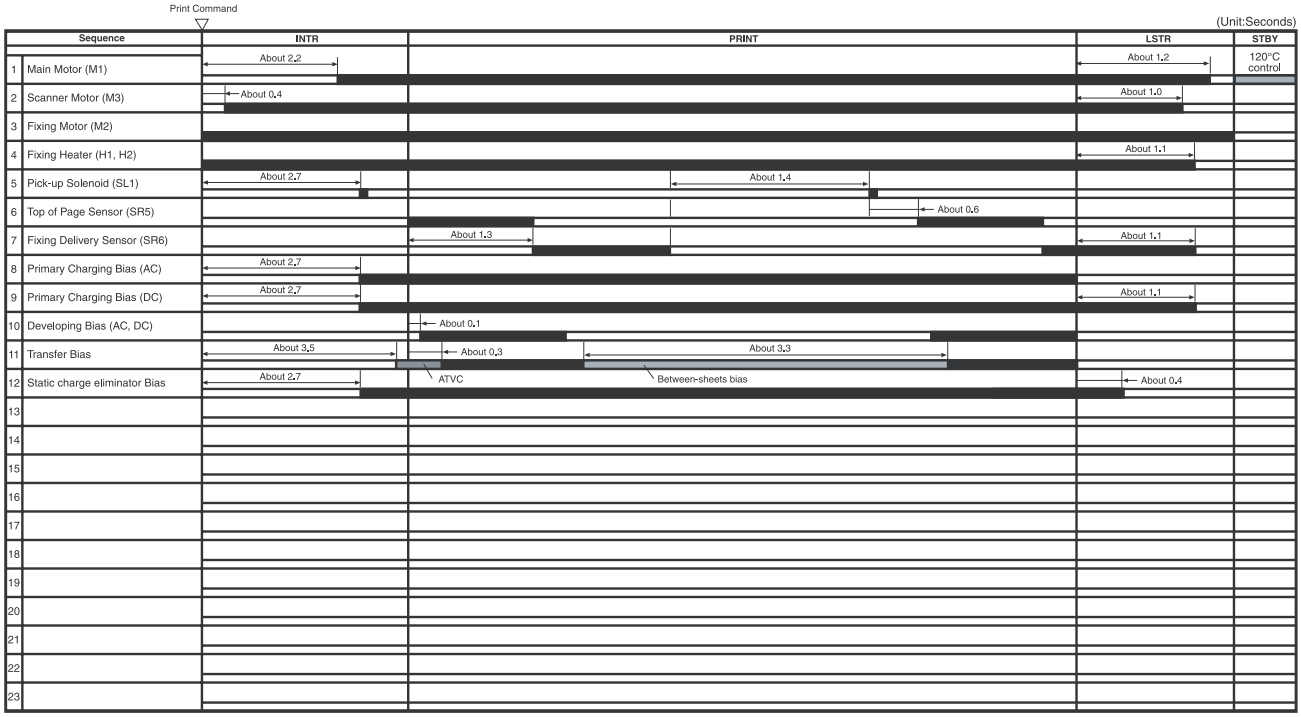


Figure 6-25 Wiring diagram, engine (2 of 2) (engine)



Timing diagram (engine)

Figure 6-26 Timing diagram (engine)



High capacity input feeder

External covers and panels (HCI)

Figure 6-27 External covers and panels (HCI)

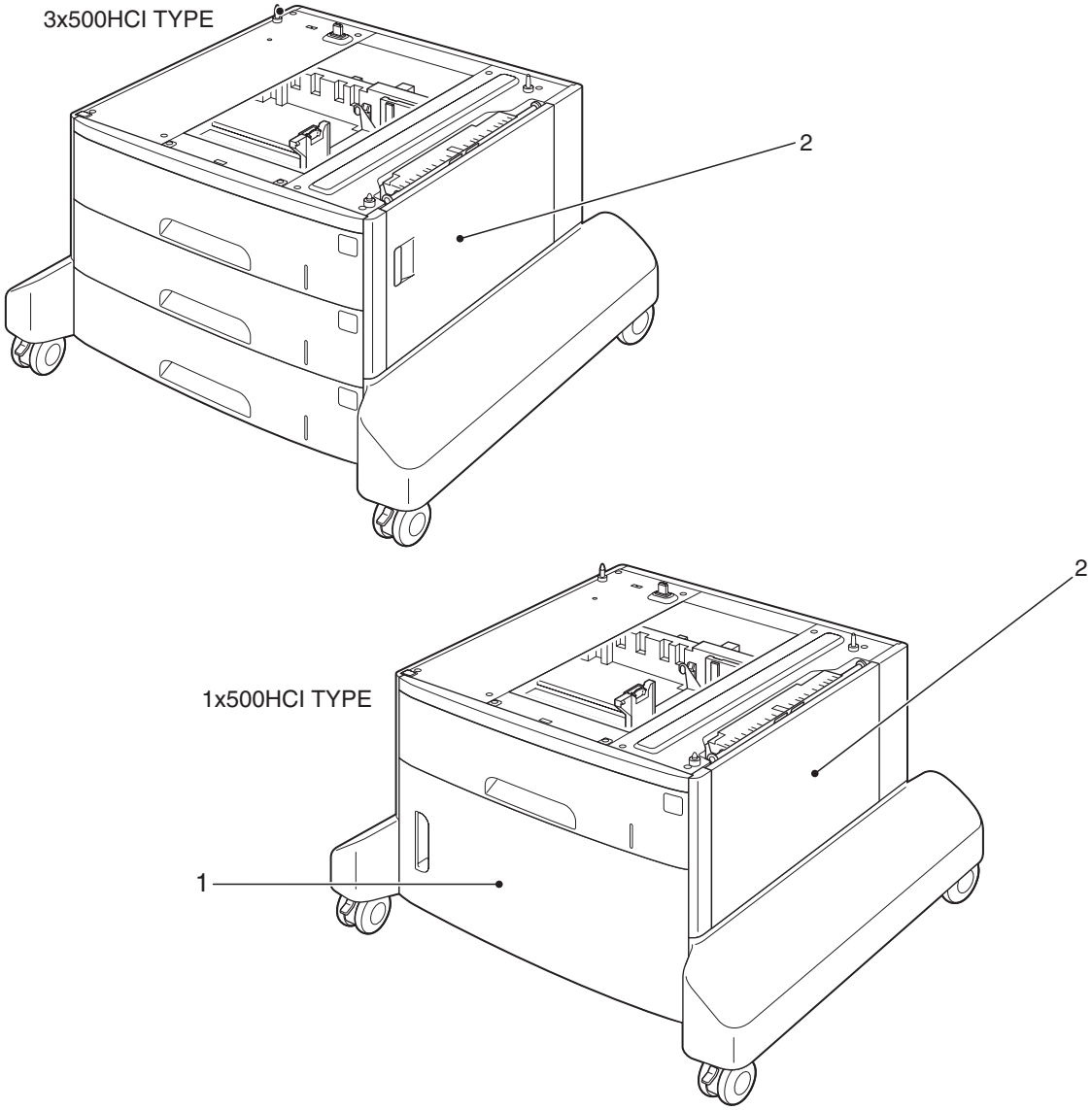


Table 6-37 External covers and panels (HCI)

1	Front door (1 X 500-sheet feeder only)
2	Right door assembly

Major components (HCI)

Figure 6-28 Major components (HCI)

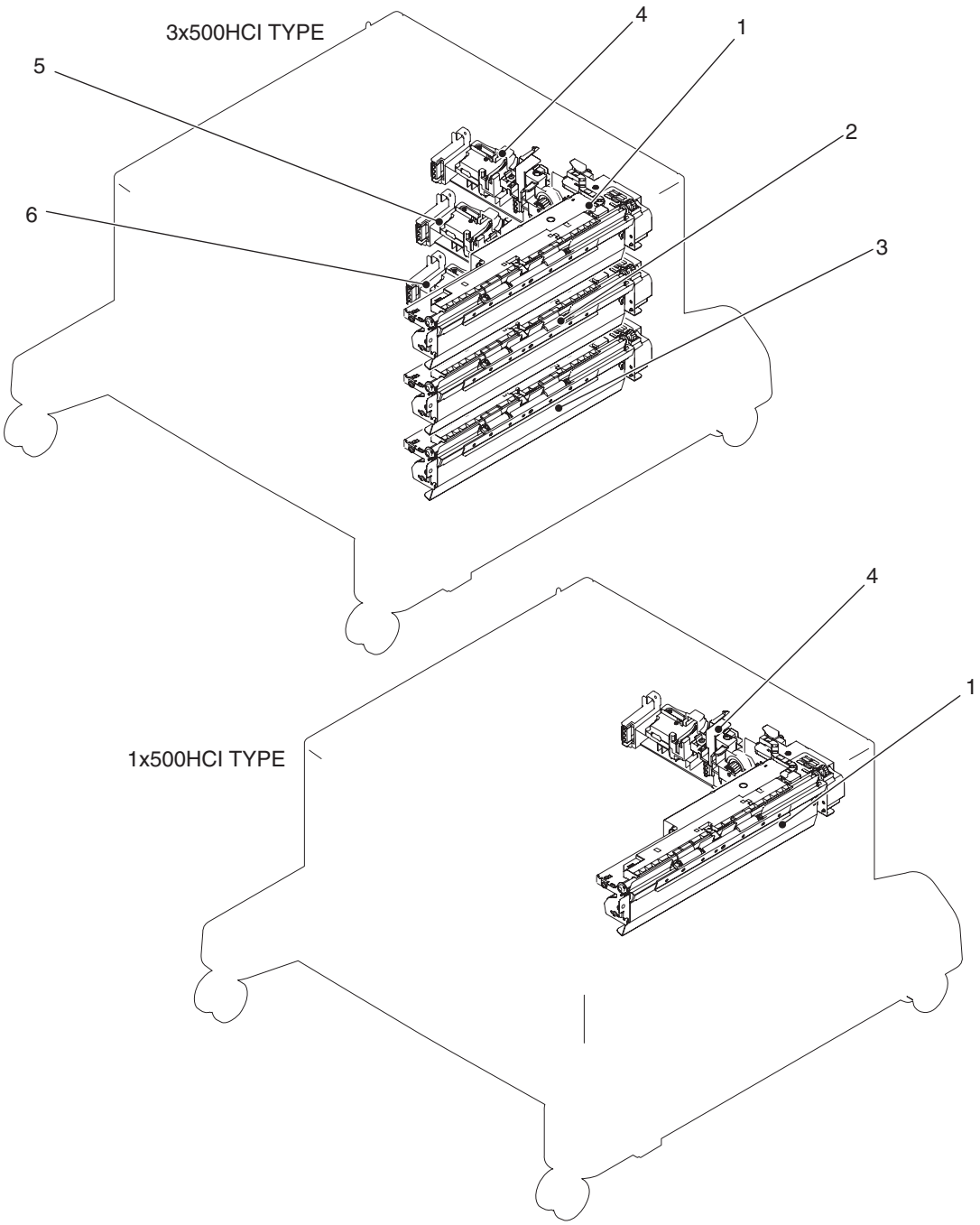


Table 6-38 Major components (HCI)

1	Tray 4 paper-pickup assembly
2	Tray 5 paper-pickup assembly (3 X 500-sheet feeder only)
3	Tray 6 paper-pickup assembly (3 X 500-sheet feeder only)
4	Tray 4 lifter-drive assembly

Table 6-38 Major components (HCI) (continued)

5	Tray 5 lifter-drive assembly (3 X 500-sheet feeder only)
6	Tray 6 lifter-drive assembly (3 X 500-sheet feeder only)

Motor(s) and PCA(s) (HCI)

Figure 6-29 Motor(s) and PCA(s) (HCI)

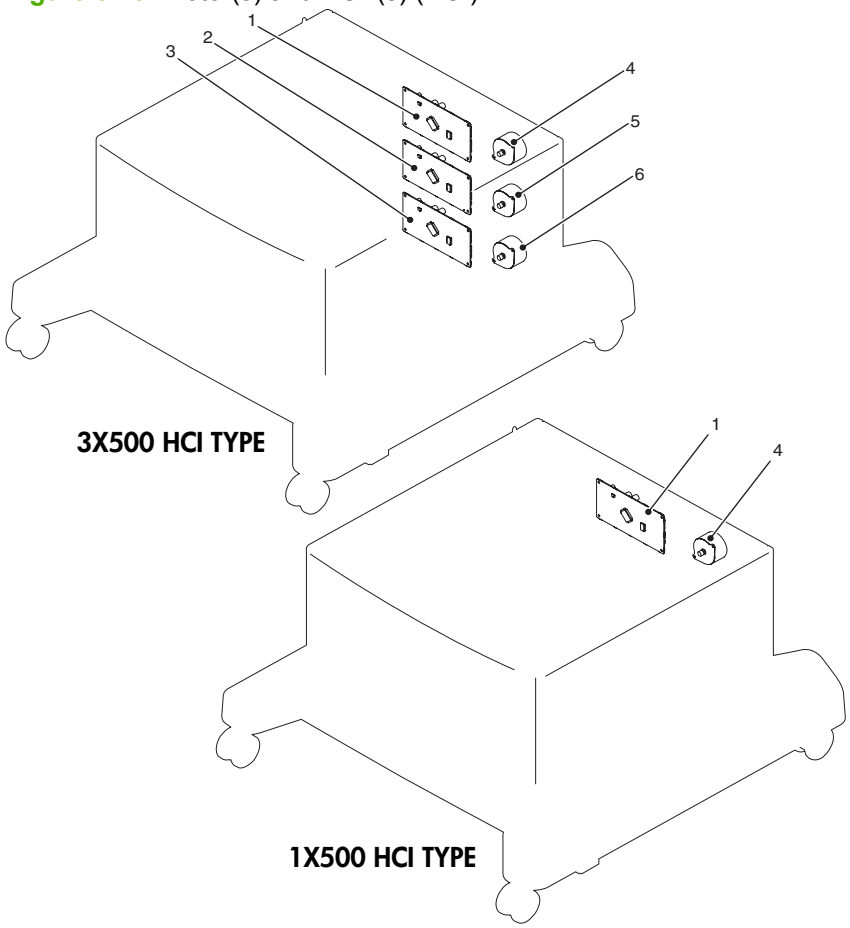


Table 6-39 Motor(s) and PCA(s) (HCI)

1	Tray 4 PCA
2	Tray 5 PCA (3 X 500-sheet feeder only)
3	Tray 6 PCA (3 X 500-sheet feeder only)
4	Tray 4 pickup motor
5	Tray 5 pickup motor (3 X 500-sheet feeder only)
6	Tray 6 pickup motor (3 X 500-sheet feeder only)

Sensors (HCI)

Figure 6-30 Sensors (HCI)

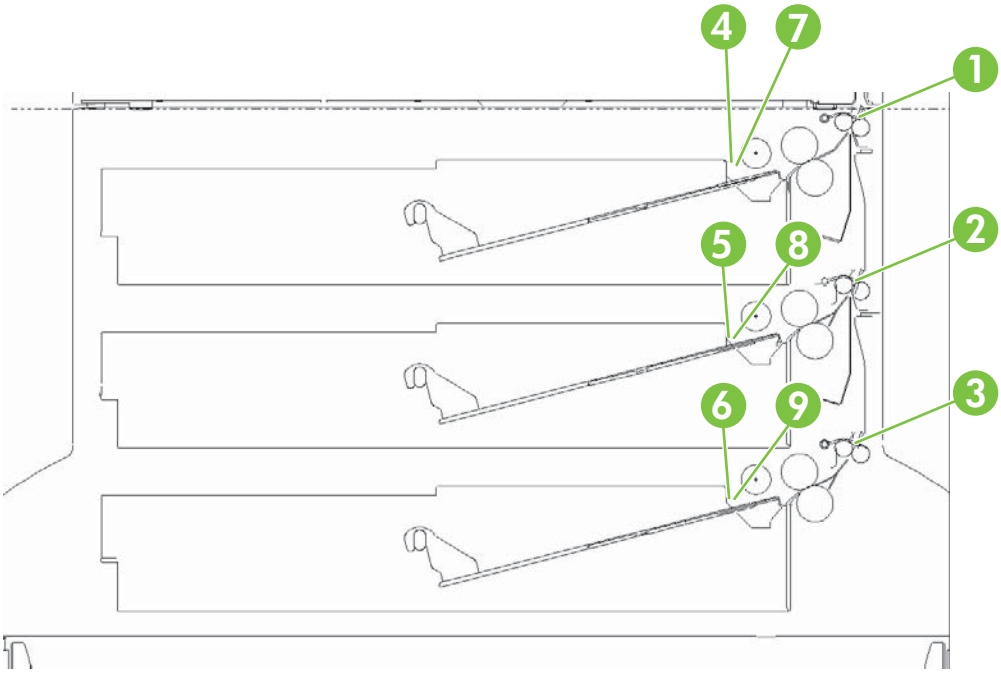


Table 6-40 Sensors (HCI)

1	Tray 4 top-of-page sensor (SR3)
2	Tray 5 top-of-page sensor (SR5)
3	Tray 6 top-of-page sensor (SR9)
4	Tray 4 PD paper sensor (SR2)
5	Tray 5 PD paper sensor (SR6)
6	Tray 6 PD paper sensor (SR7)
7	Tray 4 PD paper stack sensor (SR1)
8	Tray 5 PD paper stack sensor (SR5)
9	Tray 6 PD paper stack sensor (SR8)

Wiring diagrams (HCI)

Figure 6-31 Wiring diagram (HCI; 1 X 500-sheet feeder)

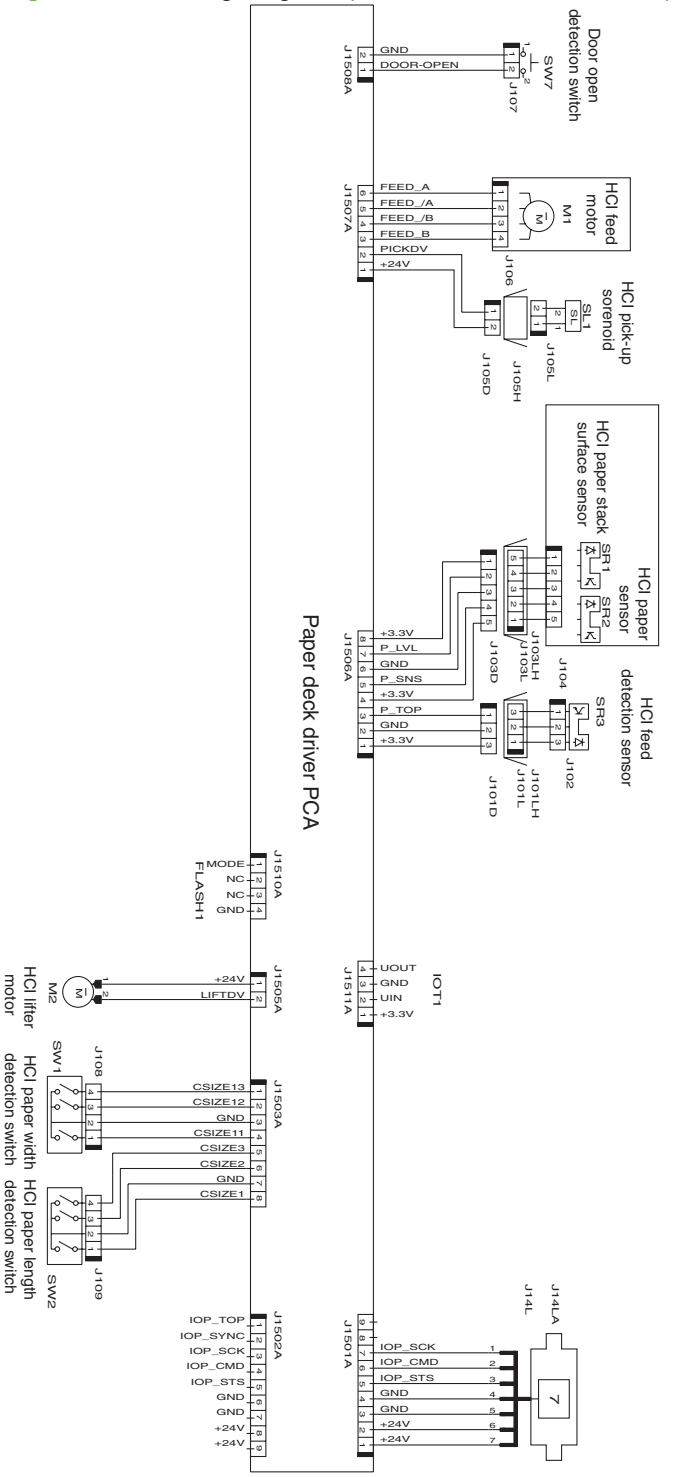
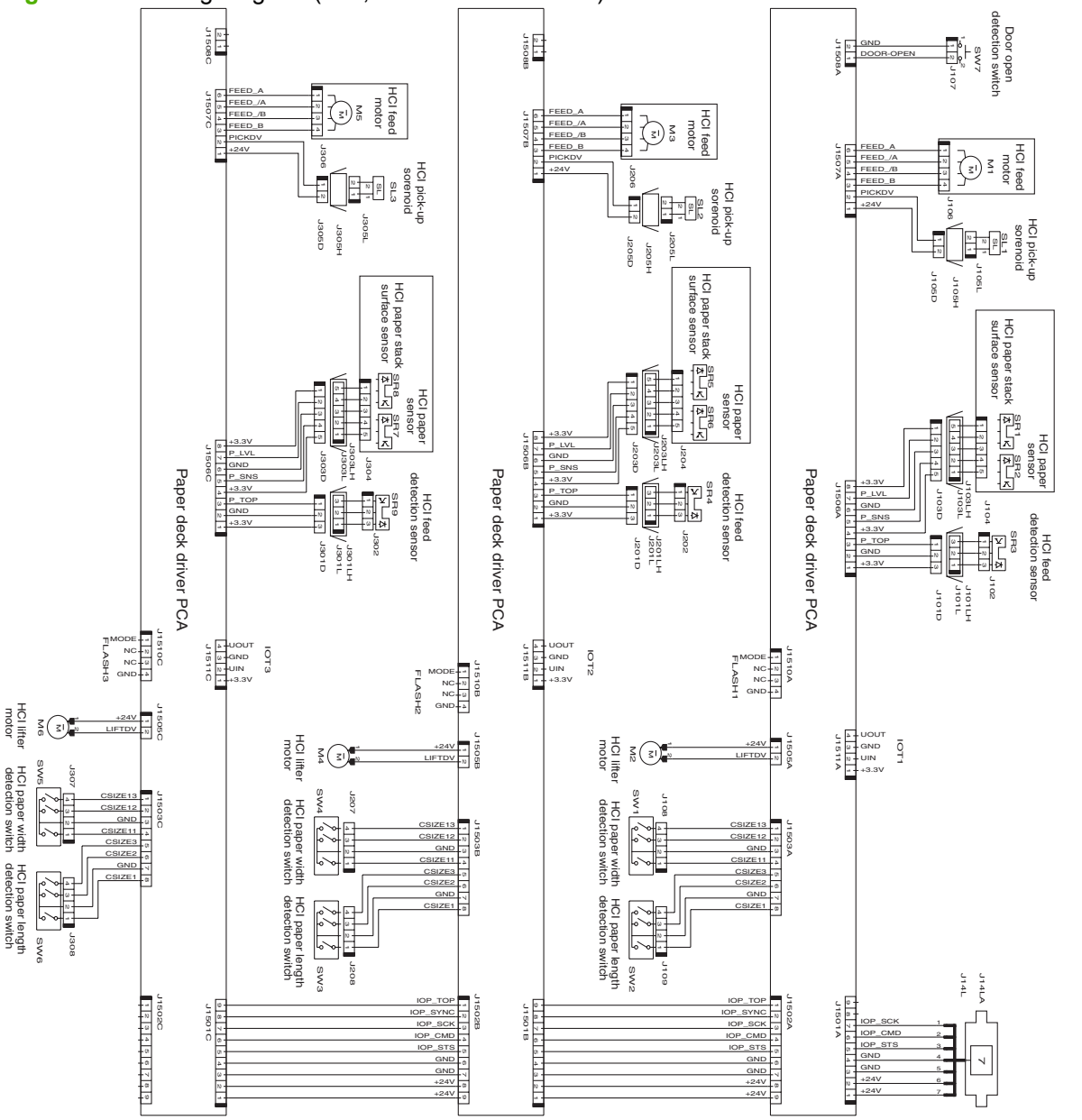


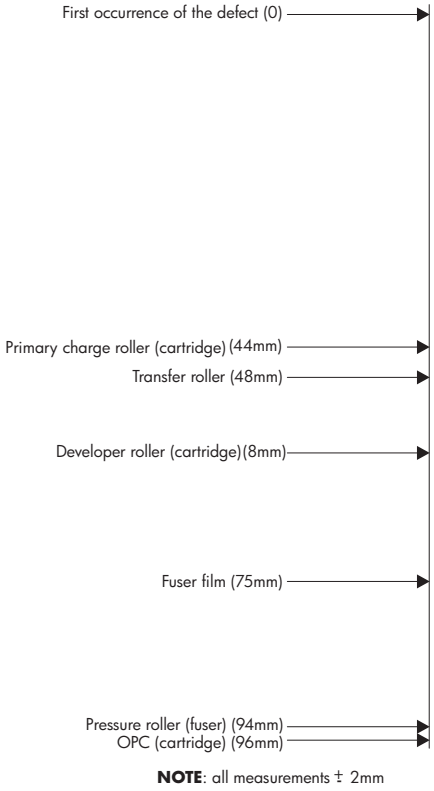
Figure 6-32 Wiring diagram (HCI; 3 x 500-sheet feeder)



Repetitive defect ruler

NOTE: The repetitive defect ruler below is for reference only. Printing this page does not ensure the accuracy of the ruler (for example, printing this page with a scale-to-fit printer driver setting).
HP recommends that you use a millimeter scale (ruler) to take an acute measurement of a repetitive defect. Then compare that measurement to the measurements on the ruler below.

Figure 6-33 Repetitive defect ruler



Interlocks and linkages

This section describes location and purpose of the interlocks and linkages on the MFP. If you have replaced a component and are experiencing errors, make sure that the interlocks and linkages for that component are functioning correctly.

Table 6-41 **Interlocks and linkages**

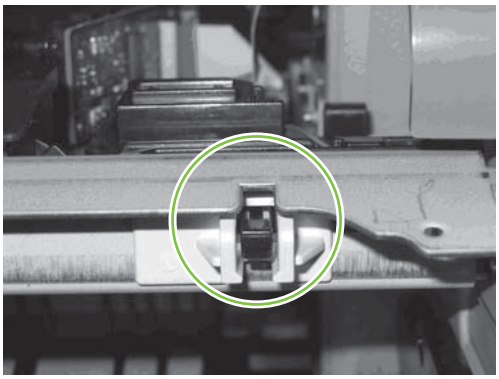
Interlock or linkage	Location	Purpose
Right-door open sensor (SR8) 	Cartridge door opening (rear)	Detects a right-door open condition. Interacts with the cartridge-opening linkage below.

Table 6-41 Interlocks and linkages (continued)

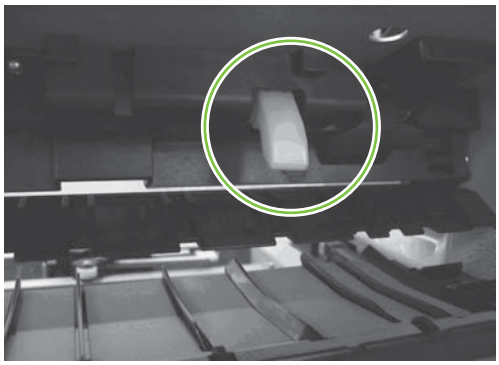
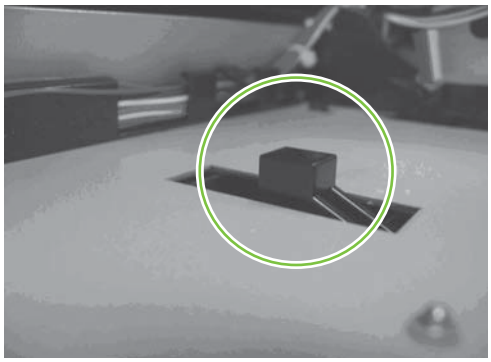
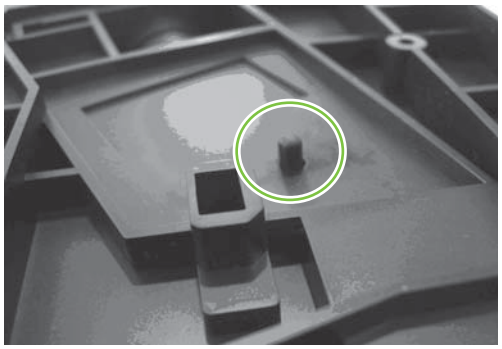
Interlock or linkage	Location	Purpose
Cartridge-opening linkage 	Cartridge cavity	When the cartridge is in place, this linkage causes the laser/scanner shutter linkage to open the laser/scanner shutter.
Laser/scanner shutter linkage 	Under the laser/scanner	Pushes up on the shutter pin under the laser/scanner.
Laser/scanner shutter pin 	On the bottom of the laser/scanner	Opens the laser/scanner shutter. The shutter is spring loaded and normally closed. When the cartridge is installed, the shutter will open.

Table 6-41 Interlocks and linkages (continued)

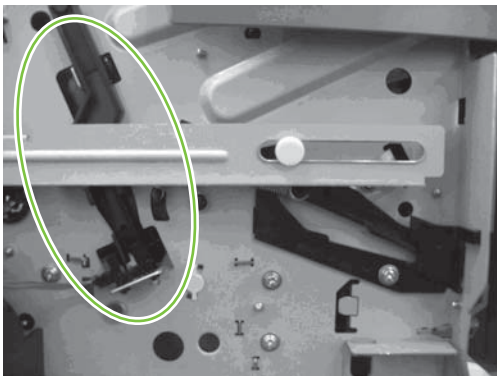
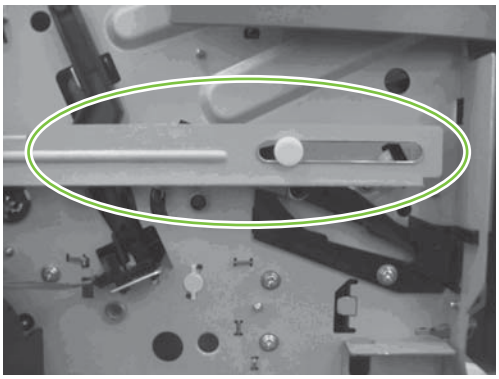
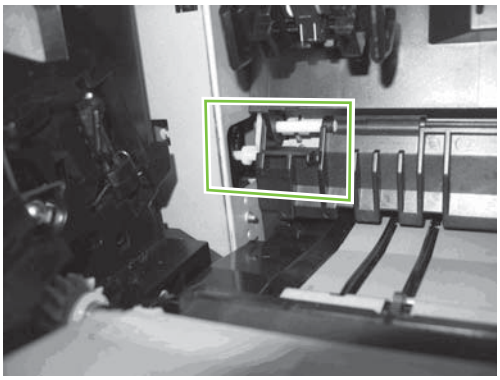
Interlock or linkage	Location	Purpose
Cartridge presence sensor (SR9) 	Behind the front cover	Detects an installed cartridge.
Fuser gate link (1) 	Behind the front cover	The fuser gate link (1) causes the fuser drive to disengage when the cartridge door is opened (this makes it easier to clear a fuser jam). It also delays the lift action of the cartridge memory tag to so that the tag can be written to before the cartridge is removed.
Fuser gate link (2) 	In front of the fuser	The fuser gate link (2) allows the fuser gate to drop when the cartridge is removed.

Table 6-41 Interlocks and linkages (continued)

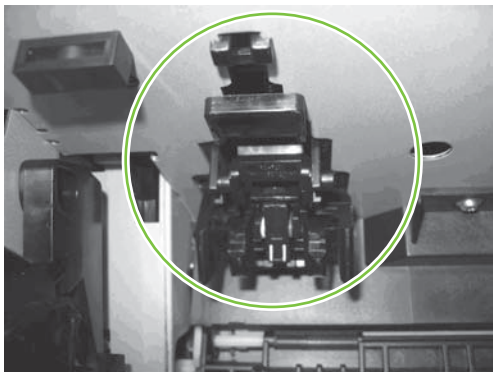
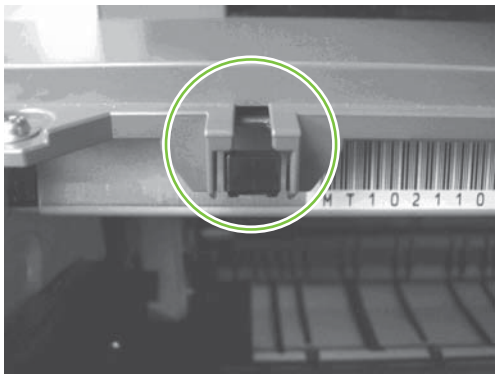
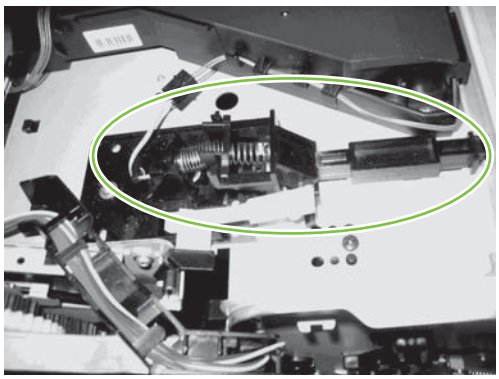
Interlock or linkage	Location	Purpose
Print cartridge memory tag linkage (1) 	Cartridge cavity	The print cartridge memory tag linkage (1) contains the print cartridge memory tag.
Print cartridge memory tag linkage (2) 	Top of the cartridge cavity	The print cartridge memory tag linkage (2) detects the opening or closing of the cartridge door so that the print cartridge memory tag linkage (1) can be raised or lowered.
Print cartridge door closed linkage 	Under the top cover	The print cartridge door closed linkage raises or lowers the print cartridge memory tag linkage (1) when the cartridge door is opened or closed.

Table 6-41 Interlocks and linkages (continued)

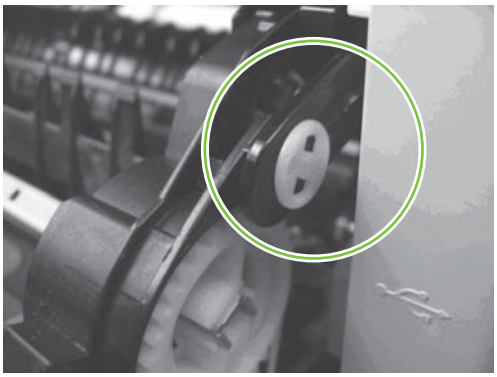
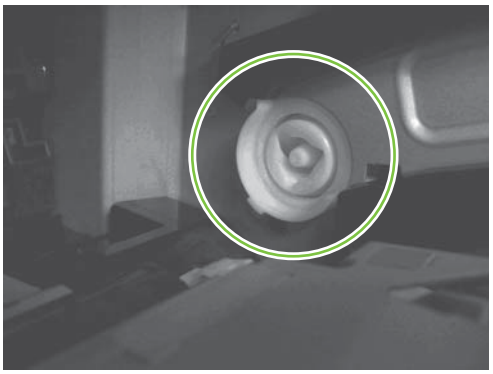
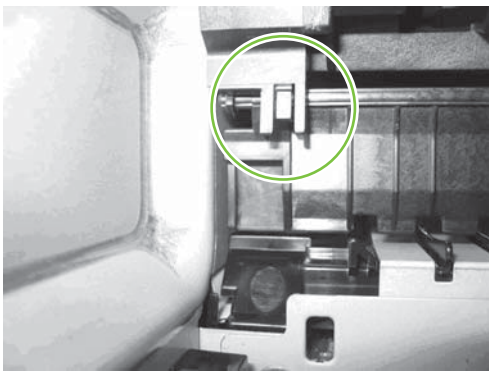
Interlock or linkage	Location	Purpose
Print cartridge drive linkage 	Rear side of the cartridge door	The print cartridge drive linkage engages the cartridge drive when the door is closed.
Print cartridge drive 	Rear side of the cartridge cavity	The print cartridge drive rotates the internal print cartridge components.
Fuser present linkage 	Behind the fuser on the fuser gate	The fuser present linkage enables or disables the 24vdc when the left door is closed or opened and the fuser is present.

Table 6-41 Interlocks and linkages (continued)

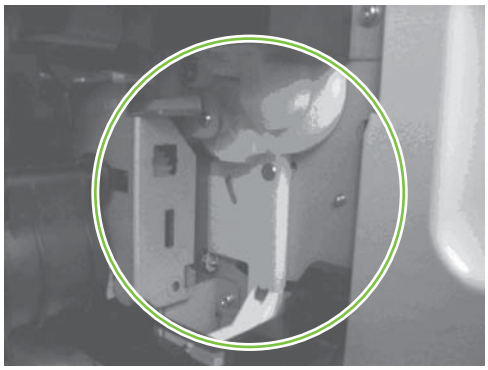
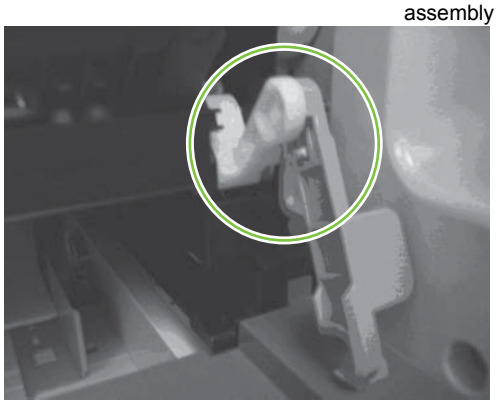
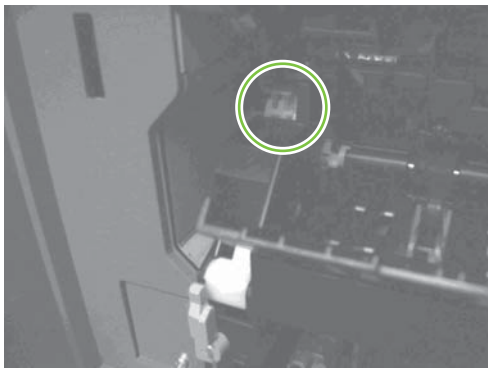
Interlock or linkage	Location	Purpose
Duplexer present linkage 	In the duplexer cavity	When the duplexer is installed, it drives the delivery rollers for simplex *and* duplex jobs. **NOTE:** This linkage will be black plastic. It is shown as white plastic in this illustration for clarity.
Fuser pressure release linkage 	Behind the left door in front of the diverter assembly	The fuser pressure release linkage actuates the fuser pressure release cam when the left door is opened.
Fuser pressure release cam 	Behind the left door at the front and rear of the fuser pressure release assembly.	When the fuser pressure release cam is actuated (by the user pressure release linkage), it releases the pressure in the fuser.

Table 6-41 Interlocks and linkages (continued)

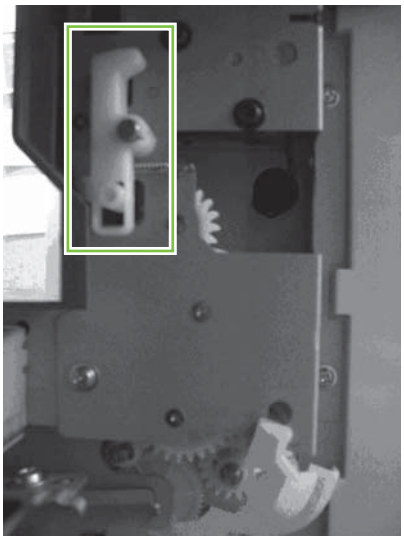
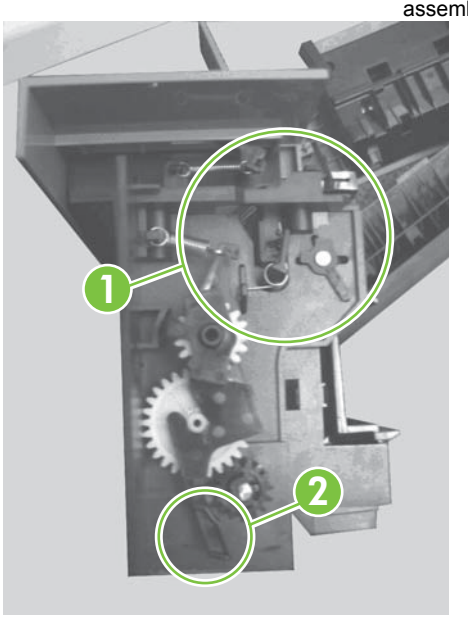
Interlock or linkage	Location	Purpose
Duplexer diverter linkage (1) 	On the front side of the MFP behind the paper delivery assembly	The duplexer diverter linkage (1) engages the diverter to send the page into the switchback shelf to be turned around before duplexing.
Duplexer diverter linkage (2) 	On the front side of the paper delivery assembly	The Duplexer diverter linkage (2) arm disengages the delivery gears. Diverter (callout 1) Duplex present (callout 2)

Table 6-41 Interlocks and linkages (continued)

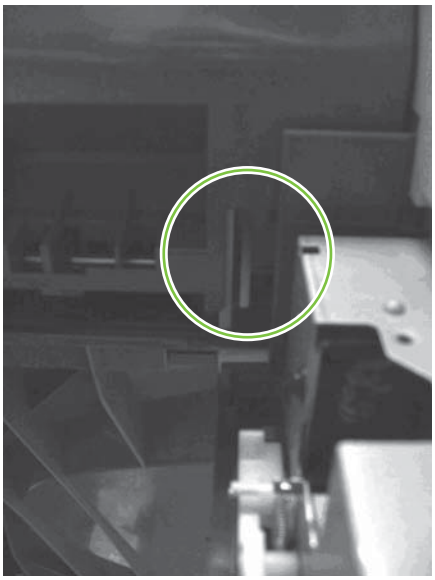
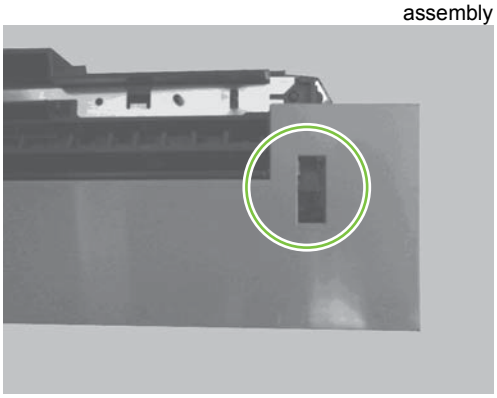
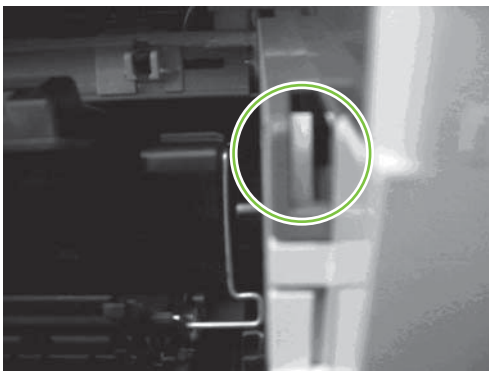
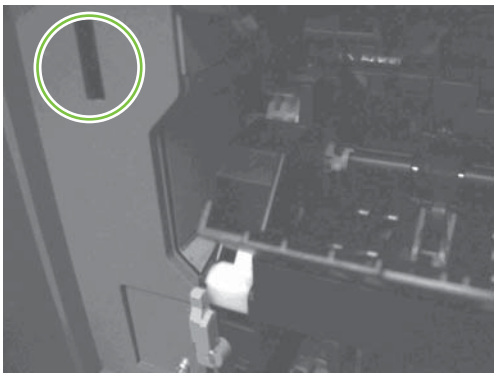
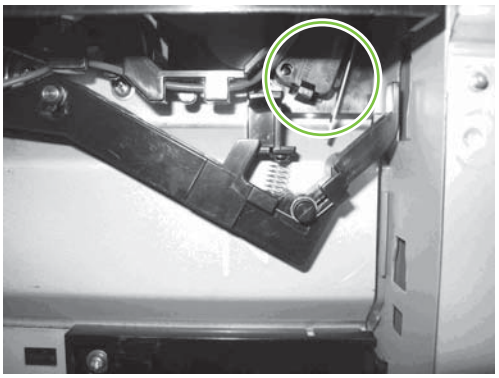
Interlock or linkage	Location	Purpose
Stapler/stacker diverter lever 	Bottom of the stapler/stacker at the front	The stapler/stacker diverter lever actuates a diverter in the paper delivery assembly to feed the page to the stapler/stacker.
Stapler/stacker diveter lever opening 	Top of the paper delivery (vertical feed) assembly	The stapler/stacker diverter lever passes through this opening.
24vdc interlock switch (SW2) 	Rear side of the cartridge door	Interrupts the 24vdc when the cartridge door is opened.

Table 6-41 Interlocks and linkages (continued)

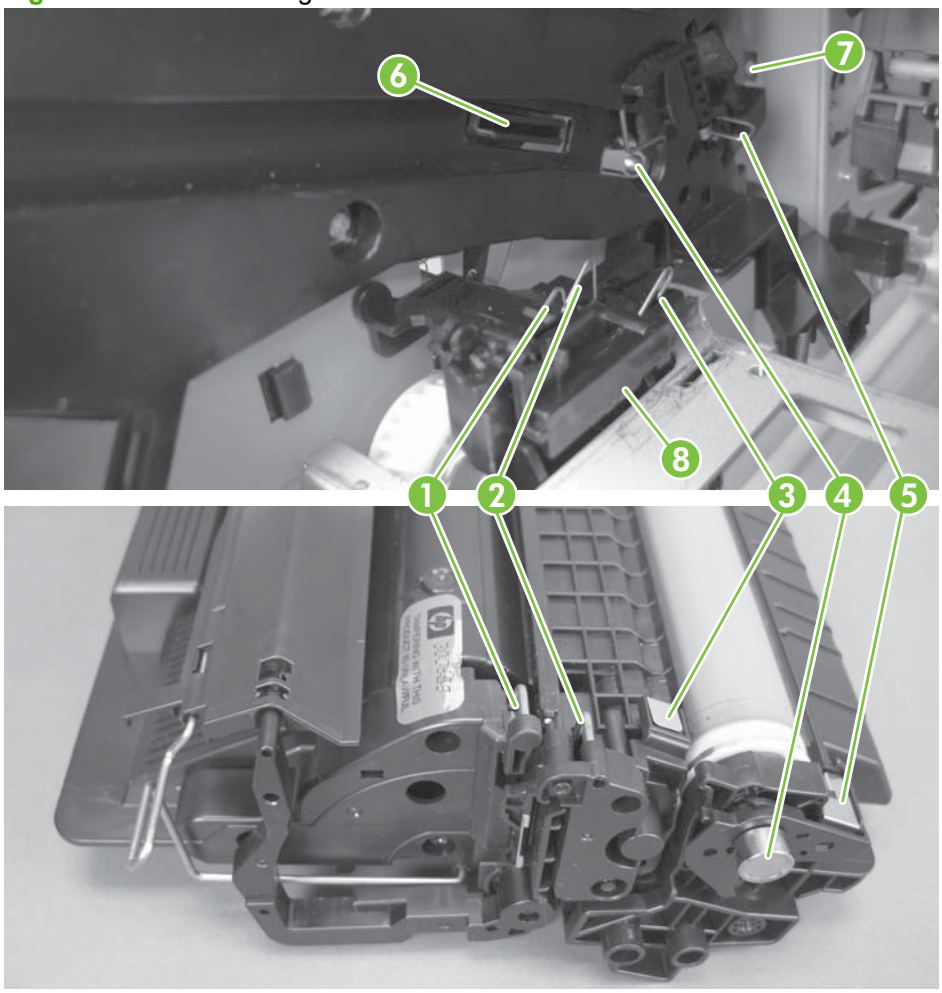
Interlock or linkage	Location	Purpose
24vdc interlock switch (SW1) opening 	Rear side of the left door	When the left door is opened, a flag releases the 24vdc interlock switch (SW2).
24vdc interlock switch (SW2) 	Rear side of the left door	Interrupts the 24vdc when the left door is opened.

Print cartridge and MFP contacts

This section describes location of the contacts on the print cartridge and the MFP.

NOTE: The print cartridge is shown upside down with the shutter in the open position.

Figure 6-34 Print cartridge and MFP contacts



item	Description
1	Toner level sensing (TONS1)
2	Toner level sensing (TONS2)
3	Developing roller
4	Drum ground
5	Primary charging roller
6	Bias contacts release lever (releases item 8 below when the cartridge is installed)
7	Bias contact release arm (rotates to expose the primary charging roller bias contact when the cartridge is installed)
8	Bias contacts cover

Known issues

This section describes known issues and solutions for the HP LaserJet M5039XS Series MFP devices. The following issues are described in this section:

- Control-panel ESD disruption
- Clearing a jam from the right (print cartridge) side
- Loading Tray 2/3/4/5 with letter or A4 media
- The stapler/stacker only staples letter and A4 media
- Formatter cage does not properly seat
- RFU with a SCB firmware upgrade
- RFU with a DC controller firmware update
- EIO device does not properly seat
- Print cartridge cannot be removed
- False left door open error message
- Dark or flickering control-panel display
- Fuser edge overheat slowdown

Control-panel ESD disruption

Electrostatic discharge (ESD) can cause the control-panel touch screen alignment to be lost. If the control panel does not respond when touched, or if it responds erratically, you might need to align the touch screen:

1. Turn the power off.
2. Hold down the C and # buttons and turn the power on.
3. Release the C and # buttons when a small square appears in the upper-left portion of the control-panel display.
4. Touch the small square in the upper-left portion of the control-panel display. A second small square will appear in the lower-right portion of the control-panel display.

> **NOTE:** The first square does not disappear when it is touched. Take care to not touch it a second time or the calibration procedure will fail.

5. Touch the small square in the lower-right portion of the control-panel display. When you do, the touch screen alignment is complete and the device returns to power-on initialization.
6. If the dispaly is erratic, make sure that the most recent firmware upgrade is installed.

Clearing a jam from the right (print cartridge) side

For jams that are cleared from the right (print cartridge) side, open the left door to release the fuser nip pressure to make it easier to remove the jam.

Loading Tray 2/3/4/5 with letter or A4 media

The MFP will detect letter or A4 media that is loaded with the short edge (rotated) leading as **TRAY X PLAIN A5**. The MFP does not auto-detect media of this size loaded in this orientation .

A **41. UNEXPECTED SIZE** error will result from media being loaded with the short edge first.

If you need to print on rotated letter- or A4-size media, you must select the appropriate size setting from the control-panel menus.

The stapler/stacker only staples letter and A4 media

The HP LaserJet M5039XS MFP does not support stapling of media sizes other than letter or A4.

Formatter cage does not properly seat

The connector between the formatter cage and the engine can flex and make it difficult to install the formatter cage.

To reinstall the formatter cage, align the front edge of the formatter (the edge with the interface ports) with the edge of the MFP, and then slide it straight back. Make sure that the formatter cage is fully seated (push firmly) onto the clips on the MFP chassis. See the formatter section in User-replaceable parts on page 178.

RFU with a SCB firmware upgrade

You will have to turn the MFP power off and then on after completing a RFU that included a SCB firmware update.

NOTE: Most standard RFUs for this MFP will not include the SCB upgrade.

RFU with a DC controller firmware update

If there is a power failure (or the power to the MFP is turned off) during a RFU that includes a DC controller firmware upgrade, a **Resend Upgrade** error message appears on the control-panel display, but the control-panel backlight will not illuminate.

Resend the RFU (make sure that the power to the MFP is not interrupted).

EIO device does not properly seat

You might have to move the EIO device back and forth while pushing it in to fully seat it.

Print cartridge cannot be removed

The linkage that engages the cartridge drive (on the rear side of the cartridge door) is secured with a small white plastic pin. If the pin becomes loose or is damaged, the linkage might not disengage the cartridge drive, and the cartridge cannot be removed.

Use a pair of needle-nose pliers to pull the linkage away from the MFP to disengage the cartridge drive. Replace the pin if needed. See Print cartridge door on page 313.

False left door open error message

The high-voltage lockout switch lever can become dislodged when the left door is closed, the fuser alienation assembly is replaced, or the MFP is bumped when the fuser is not completely seated. This will cause a false left door open error message to appear on the control-panel display.

Remove the LVPS (see Low-voltage power supply assembly on page 337) and the black plastic switch cover. Move the lever to the correct position on the switch actuator.

This problem might happen when a customer replaces the fuser during an engine maintenance kit procedure.

Dark or flickering control-panel display

- The control-panel display goes blank during a power-on sequence and then recovers
- The control-panel display flickers while a copy is being printed
- The control-panel display goes blank while a copy is being printed

The SCB cover is interfering with the engine-to-scanner FFC. Check and make sure that both ends of the cable are fully seated and not loose. Make sure that the FCC is properly routed and does not contact the cover when the cover is installed. If the FCC is properly routed, make sure that the most recent firmware upgrade is installed.

Fuser edge overheat slowdown

Print jobs that contain a very large number of pages can cause the MFP to initiate a slowdown until equilibrium edge heat in the fuser is achieved. It can take up to two minutes for the MFP to recover from this problem after the print job finishes.

7 Parts and diagrams

- Order parts, accessories, and supplies
- How to use the parts lists and diagrams
- Types of screws
- Related documentation and software
- Accessories, supplies, and whole unit components
- Automatic document feeder (whole unit)
- Front end cover (ADF)
- Hinges (ADF)
- Base assembly (ADF)
- Backbone assembly (ADF)
- Jam Cover (ADF)
- Pickup roller assembly (ADF)
- Separation pad assembly (ADF)
- Separation floor assembly (ADF)
- Scanner assembly base
- Carriage assembly (scanner; optical assembly)
- Scanner top assembly
- Scanner controller board (SCB) assembly
- Scanner lid sensor assembly
- Scanner transmission drive assembly
- Stapler/stacker assembly main body
- Paper feed assembly (stapler/stacker)
- Alignment and jogger assembly (stapler/stacker)
- Stapler assembly (stapler/stacker)
- Stapler/stacker PCA

- Print engine external covers and panels
- Cartridge door assembly (print engine)
- Internal components (print engine 1 of 3)
- Internal components (print engine; 2 of 3)
- Internal components (print engine; 3 of 3)
- Paper delivery assembly (print engine)
- Lifter drive assembly (print engine)
- Fuser drive assembly (print engine)
- Lower drive assembly (print engine)
- Upper cassette (print engine)
- Lower cassette (print engine)
- Upper cassette pickup assembly (print engine)
- Lower cassette pickup assembly (print engine)
- Registration assembly (print engine)
- Paper feed assembly (print engine)
- PCA assemblies (print engine)
- Fuser (print engine)
- Fuser pressure release assembly (print engine)
- High capacity input (HCI) 1X500 feeder main body
- High capacity input (HCI) 3X500 feeder main body
- Lifter drive assembly (HCI)
- Cassette (HCI)
- Paper pickup assembly (HCI)
- HCI PCA assemblies
- Alphabetical parts list
- Numerical parts list

Order parts, accessories, and supplies

To order parts, accessories, and supplies, contact your dealer.

How to use the parts lists and diagrams

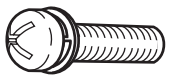
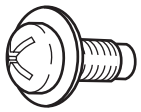
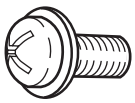
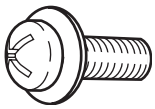
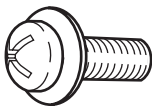
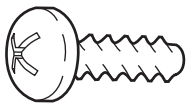
The figures in this chapter show the major subassemblies in the printer and their component parts. A parts list table follows each exploded-view assembly diagram. Each table lists the item number, the associated part number, and the description of each part. If a part is not listed in the table, then it is not a field replacement unit (FRU).

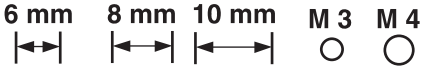
△ **CAUTION:** Be sure to order the correct part. When looking for part numbers for electrical components, pay careful attention to the voltage that is listed in the description column to ensure that the part number selected is for the correct printer model.

NOTE: In this manual, the abbreviation “PCA” stands for “printed circuit board assembly.” Components described as a PCA might consist of a single circuit board or a circuit board plus other parts, such as cables and sensors.

TIP: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Types of screws

Illustration	Description	Size	Use
	Screw w/washer	M3X8	Used to secure metal components to metal components (for example, a ground wire to the frame)
	Screw, RS	M3X6 M3X10	Used to secure metal to metal
	Screw, tapping	M3X6	
	Screw	M3X8	
	Screw	P-M3X8	
	Screw, tapping, truss head	M4X10	Used to secure anything to plastic



Related documentation and software

Table 7-1 Technical support Web sites

HP Customer Care Online Software drivers, support documentation, and answers to frequently asked questions	www.hp.com/go/support
HP Technical Training (North America) Classes and schedules	www.hp.com/go/resellertraining

Accessories, supplies, and whole unit components

Table 7-2 Accessories and supplies

Item	Part number	Service/exchange number	Description
Internal (EIO) connectivity	J7934A		HP Jetdirect 620n print server (10/100-TX Ethernet) accessory
1 X 500 HCI	Q7834A		High capacity feeder. One 500-sheet tray with a storage cabinet.
3 X 500 HCI	Q7835A		High capacity feeder. Three 500-sheet trays without a storage cabinet.
Duplexer **NOTE:** A minimum of an additional 64 MB is needed when adding a duplexer to the printer.	Q7549–67901		Optional accessory
Memory (DIMMs)	Q7713-67951		Synchronous 32 MB DDR SDRAM DIMM
	Q7714-67951		Synchronous 48 MB DDR SDRAM DIMM
	Q7715-67951		Synchronous 64 MB DDR SDRAM DIMM
	Q7718-67951		Synchronous 128 MB DDR SDRAM DIMM
	Q7719-67951		Synchronous 256 MB DDR SDRAM DIMM
	Q7720-67951		Synchronous 512 MB DDR SDRAM DIMM
Printer supplies	CD640C		Black print cartridge
Cables	C6518A		USB 2.0 printer cable (2-meter [6.5-feet] standard)
	C6520A		USB 2.0 printer cable (3-meter [9.8-feet] standard)
	92215S		Mac DIN-8 printer cable
	5851-2501		Hard disk drive cable SATA power
	5851-2502		Hard disk drive cable SATA data
	5851-2503		Fax to formatter cable

Table 7-2 Accessories and supplies (continued)

Item	Part number	Service/exchange number	Description
Power cord (1.9 meters [6.2 feet])	8121-0740		PWR-CORD OPT-903 3-COND 1.9-M-LG ROHS (US)
	8121-0964		PWR-CORD OPT-934 3-COND 1.9-M-LG ROHS (Taiwan)
	8121-0731		PWR-CORD OPT-902 3-COND 1.9-M-LG ROHS (Korea)
	8121-0943		PWR-CORD OPT-922 3-COND 1.9-M-LG ROHS (China)
	8121-0734		PWR-CORD OPT-927 3-COND 1.9-M-LG ROHS (Thailand)
	8121-0739		PWR-CORD OPT-900 3-COND 1.9-M-LG 5A ROHS (Hong Kong SAR)
	8121-0739		PWR-CORD OPT-900 3-COND 1.9-M-LG 5A ROHS (Australia)
	8121-0736		PWR-CORD OPT-918 3-COND 1.9-M-LG ROHS (Japan)
	8121-1004		PWR-CORD OPT-919 3-COND 1.9-M-LG ROHS (Israel)
	8121-1004		PWR-CORD OPT-919 3-COND 1.9-M-LG ROHS (UK)
	8121-0733		PWR-CORD OPT-912 3-COND 1.9-M-LG ROHS (Denmark)
	8121-0729		PWR-CORD OPT-920 3-COND 1.9-M-LG ROHS (Argentina)
	8121-0564		PWR-CORD OPT-923 3-COND 1.9-M-LG ROHS (India)
	8121-0737		PWR-CORD OPT-917 3-COND 1.9-M-LG ROHS (South Africa)

Table 7-2 Accessories and supplies (continued)

Item	Part number	Service/exchange number	Description
Power cords (continued)	8121-0731		PWR-CORD OPT-902 3-COND 1.9-M-LG ROHS (Europe English, Malaysia, Europe (EN, DE, FR, NL, ES, PT, IT), Euro (EN/SK/SL/HR/RO), Russia, Baltics (EN/KK/LT/LV/ET), Norway, Finland, Sweden, Czech/Hungary/Poland, Turkey, Greece, Vietnam, Mid East 220V)
	8121-0735		PWR-CORD OPT-921 3-COND 1.9-M-LG ROHS (South America)
	8121-0740		PWR-CORD OPT-903 3-COND 1.9-M-LG ROHS (Indonesia, Mid East, Mexico, Brasil, Canada)
	8121-0739		PWR-CORD OPT-900 3-COND 1.9-M-LG 5A ROHS (Asia Pacific, Mid East 220V UK cord)
	8121-0738		PWR-CORD OPT-906 3-COND 1.9-M-LG ROHS (Switzerland)
	8121-0734		PWR-CORD OPT-927 3-COND 1.9-M-LG ROHS (Philippines, Singapore, Mexico, Brasil)
	8121-0739		PWR-CORD OPT-900 3-COND 1.9-M-LG 5A ROHS (Philippines, Singapore)

Table 7-2 Accessories and supplies (continued)

Item	Part number	Service/exchange number	Description
Fax phone cord (3 meters [9.8 feet])	8121-0811		PHN-CORD OPT-501 US 3.0-M-LG ROHS(United States,Taiwan, China, Thailand, Japan, Argentina, India, European Union, South America, Indonesia, Malaysia, MiddleEast, Phillipines, Singapore, Mexico/Brazil, Canada, Russia, Bulgaria, Baltics, Vietnam)
	8120-8908		PHN-CORD OPT-516 KR 3.0-M-LG ROHS (Korea)
	8121-1042		PHN-CORD US 3.0-M-LG ROHS (Hong Kong SAR)
	8120-8907		PHN-CORD OPT-519 AU 3.0-M-LG ROHS (Australia)
	8120-8913		PHN-CORD OPT-517 IL 3.0-M-LG ROHS (Israel)
	8120-8921		PHN-CORD OPT-505 UK/ HK/NZ 3.0-M-LG ROHS (UK)
	8120-8911		PHN-CORD OPT-506 DK 3.0-M-LG ROHS (Denmark)
	8120-8922		PHN-CORD OPT-520 EE 3.0-M-LG ROHS (South Africa)
	8120-8912		PHN-CORD OPT-502 DE 3.0-M-LG ROHS (Denmark)
	8120-8915		PHN-CORD OPT-508 NL 3.0-M-LG ROHS (Netherlands)
	8120-8923		PHN-CORD OPT-504 FR 3.0-M-LG ROHS (France)
	8120-8914		PHN-CORD OPT-514 IT 3.0-M-LG ROHS (Southern Europe)
	8121-0844		PHN-CORD OPT-512 CH 3.0-M-LG ROHS (Switzerland)
	8120-8918		PHN-CORD OPT-511 SE 3.0-M-LG ROHS (NO, FI, SV)
	8920-8916		PHN-CORD OPT 510 (NORWAY, FINLAND) 3.0M-LG
	8120-8920		PHN-CORD OPT-507 TR 3.0-M-LG ROHS (Turkey/Greece)
	8120-8922		PHN-CORD OPT-520 EE 3.0-M-LG ROHS (SK, SL, HR, RO, CS, HU, PL)

Table 7-2 Accessories and supplies (continued)

Item	Part number	Service/exchange number	Description
Media	C2934A		50 sheets HP Color LaserJet Transparencies (letter)
	C2936A		50 sheets HP Color LaserJet Transparencies (A4)
	Q2419A		200 sheets HP LaserJet High Gloss paper (letter)
	C4179A		200 sheets HP LaserJet Soft Gloss paper (letter)
	C4179B		200 sheets HP LaserJet Soft Gloss paper (A4)
	Q6547A		200 sheets HP LaserJet High Gloss paper (A4)
	Q6548A		200 sheets HP LaserJet Soft Gloss paper (A3)
	Q1298A		HP LaserJet Tough paper (letter)
	Q1298B		HP LaserJet Tough paper (A4)
	HPU1132		HP Premium Choice LaserJet paper (letter)
	CHP410		HP Premium Choice LaserJet paper (A4)
	HPJ1124		HP LaserJet paper (letter)
	CHP310		HP LaserJet paper (A4)
Reference, service, and training materials	5851-1468		*HP LaserJet Printer Family Print Media Specification Guide*
	5021-0378		*PCL/PLJ Technical Reference Package* For downloadable versions, go to www.hp.com/support/lj5039. When connected, select **Manuals**.
ADF maintenance kit	Q7842-67902		Available as a service part.

Table 7-2 Accessories and supplies (continued)

Item	Part number	Service/exchange number	Description
Engine maintenance kit (110v)	Q7832–67901		Not available as a service part. Sold separately.
Engine maintenance kit (220v)	Q7833–67901		Not available as a service part. Sold separately.
Assembly, service, and training CD	Q7543-60112		CD based service and training information (English)
Service manual (this manual)	CE966-90930		Printed copy of this manual

Table 7-2 Accessories and supplies (continued)

Item	Part number	Service/exchange number	Description
Control-panel overlays	Q7829-60110		Control Panel Overlay Kit- EN
	Q7829-60125		Control Panel Overlay Kit- ZHTW
	Q7829-60127		Control Panel Overlay Kit- KO
	Q7829-60126		Control Panel Overlay Kit- ZHCN
	Q7829-60133		Control Panel Overlay Kit- TH
	Q7829-60128		Control Panel Overlay Kit- JA
	Q7829-60130		Control Panel Overlay Kit- HE
	Q7829-60120		Control Panel Overlay Kit- DA
	Q7829-60114		Control Panel Overlay Kit- ES
	Q7829-60111		Control Panel Overlay Kit- FR
	Q7829-60113		Control Panel Overlay Kit- DE
	Q7829-60115		Control Panel Overlay Kit- NL
	Q7829-60112		Control Panel Overlay Kit- IT
	Q7829-60116		Control Panel Overlay Kit- PT
	Q7829-60117		Control Panel Overlay Kit- NO
	Q7829-60118		Control Panel Overlay Kit- SV
	Q7829-60119		Control Panel Overlay Kit- FI
	Q7829-60132		Control Panel Overlay Kit- AR
	Q7829-60129		Control Panel Overlay Kit- TR
	Q7829-60131		Control Panel Overlay Kit- EL
	Q7829-60134		Control Panel Overlay Kit- RO
	Q7829-60135		Control Panel Overlay Kit- SK
	Q7829-60136		Control Panel Overlay Kit- SL
	Q7829-60137		Control Panel Overlay Kit- HR
	Q7829-60122		Control Panel Overlay Kit- RU
	Q7829-60121		Control Panel Overlay Kit- PL
	Q7829-60123		Control Panel Overlay Kit- CS
	Q7829-60124		Control Panel Overlay Kit- HU
Control-panel display	Q7829–60102		
Formatter PCA	Q7829-67933	Q7929-69001	
Hard drive	0950-4717		
ADF	Q7829-67901		
Scanner	Q7829-60159		

Table 7-2 Accessories and supplies (continued)

Item	Part number	Service/exchange number	Description
Stapler/stacker (500-sheet)	Not orderable		HP LaserJet M5039XS MFP
Stapler cartridge	C8085-60541		HP LaserJet M5039XS MFP
Duplexer	Q7549-67901		HP LaserJet M5039XS MFP
One tray cabinet	Q7834A		HP LaserJet M5039XS MFP (not available as a service part)
Three tray cabinet	Q7835A		HP LaserJet M5039XS MFP (not available as a service part)

Automatic document feeder (whole unit)

Figure 7-1 ADF

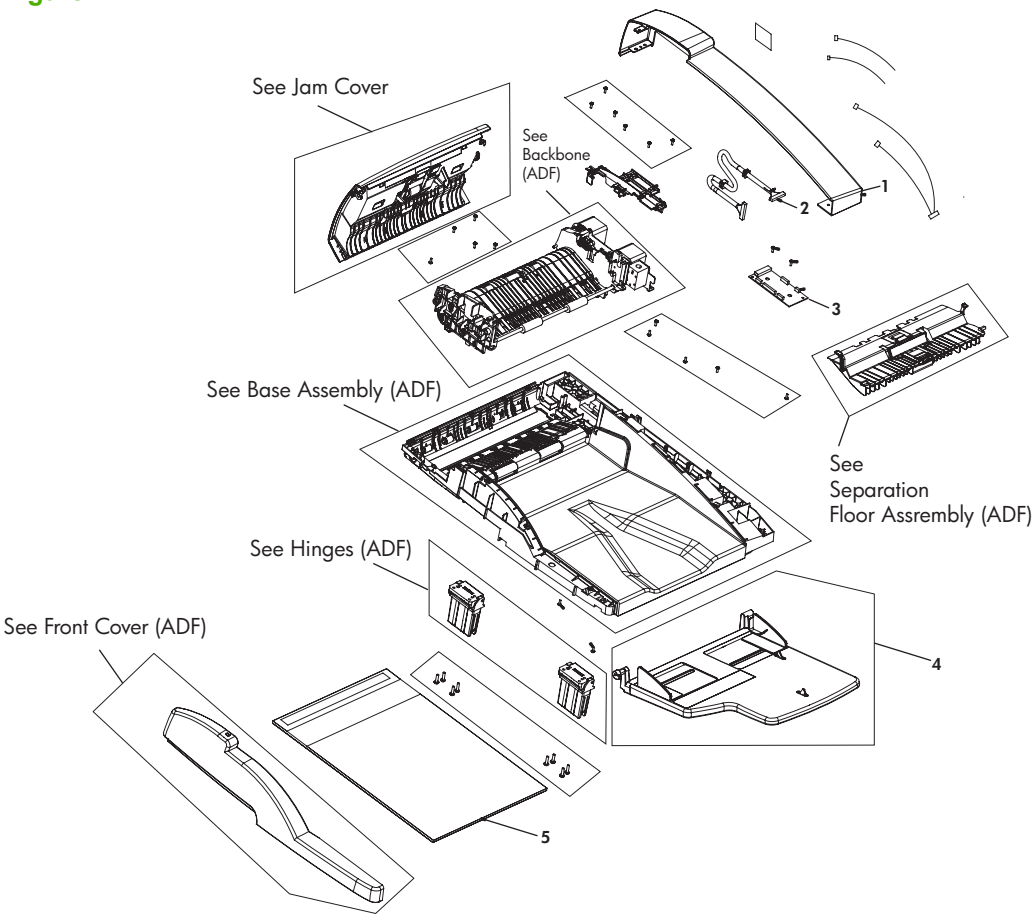


Table 7-3 ADF

Ref	Description	Part number	Qty
All	Automatic document feeder (ADF); whole unit	Q7829-67901	1
1	ADF endcap back	Q7829-67904	1
2	Cable, ADF to scanner	Q7829-67907	1
3	PCA motor assembly	Q7829-67903	1
4	ADF tray input assembly	Q7829-67912	1
5	ADF reflector foam (white backing)	Q7829-67909	1
Not shown	ADF flag sensor LS	Q7829-67913	1
Not shown	ADF photo interrupter with connector	Q7829-67914	1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Front end cover (ADF)

Figure 7-2 Front end cover (ADF)

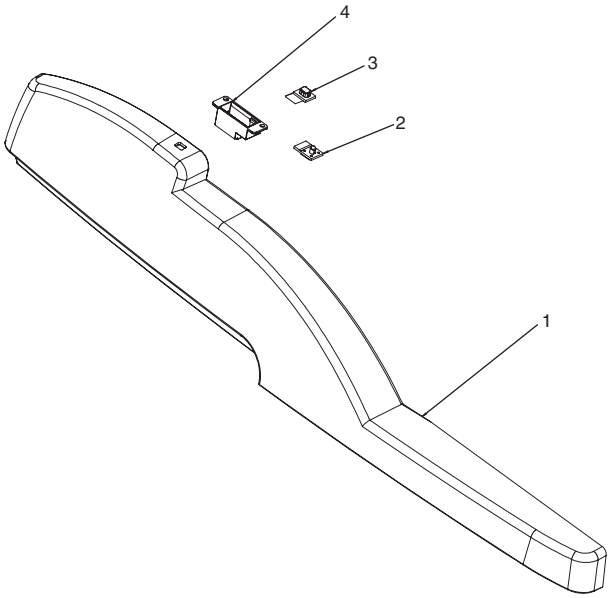


Table 7-4 Front end cover (ADF)

Ref	Description	Part number	Qty
All	ADF end cover (cap) front	Q7829–67905	1
1	ADF end cover (cap) front		1
2	Media LED		1
3	LED light pipe		1
4	LED housing		1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Hinges (ADF)

Figure 7-3 Hinges

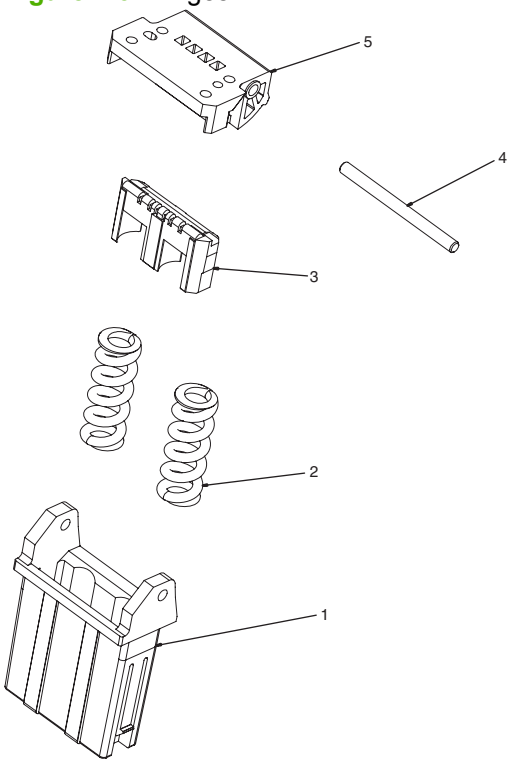


Table 7-5 Hinges

Ref	Description	Part number	Qty
All	ADF hinge assembly (two are required for the ADF)	Q7829–67916	1
1	Stem, hinge		1
2	Spring, hinge		1
3	Plunger, hinge		1
4	Pin, hinge		1
5	Profile, hinge		1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Base assembly (ADF)

Figure 7-4 Base assembly (ADF)

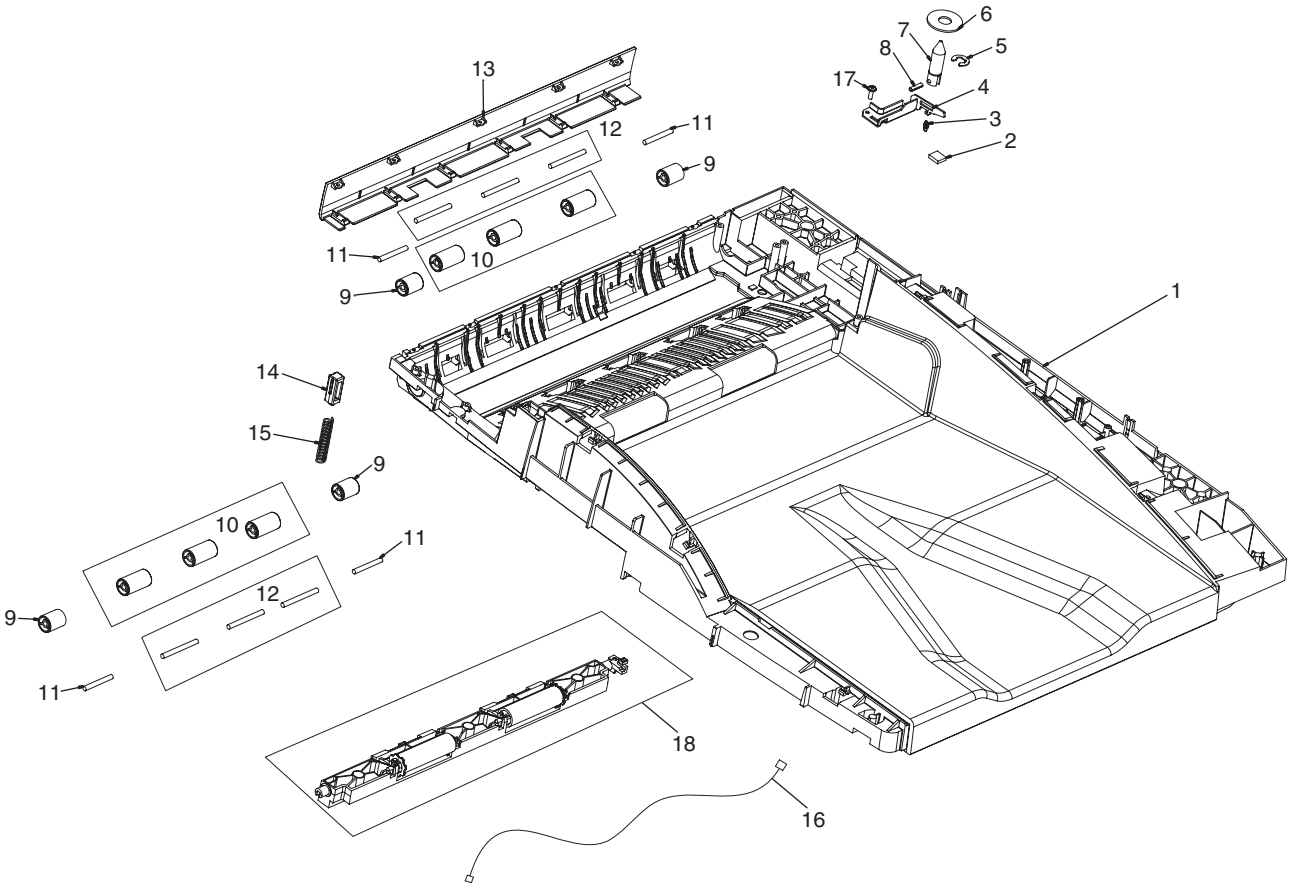


Table 7-6 Base assembly (ADF)

Ref	Description	Part number	Qty
1	Enclosure, base		1
2	Pad, solenoid		1
3	Spring, extension		1
4	Exit crank		1
5	E-clip		1
6	Damper solenoid		1
7	Solenoid		1
8	Pin 3X12 mm		1
9	Wheel, pinch		4
10	Wheel, pinch L		6
11	Spring, axle		4
12	Spring, axle L		6
13	Cover, left	Q7829–67906	1
14	Plunger, input tray		1
15	Spring, input tray		1
16	Cable, LED and media eject		1
17	Screw, M3X9 PT pan head phillips		1

[1] To order components (other than the left cover) for this assembly, you must order a replacement ADF (Q7829-67901).

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Backbone assembly (ADF)

Figure 7-5 Backbone assembly (ADF)

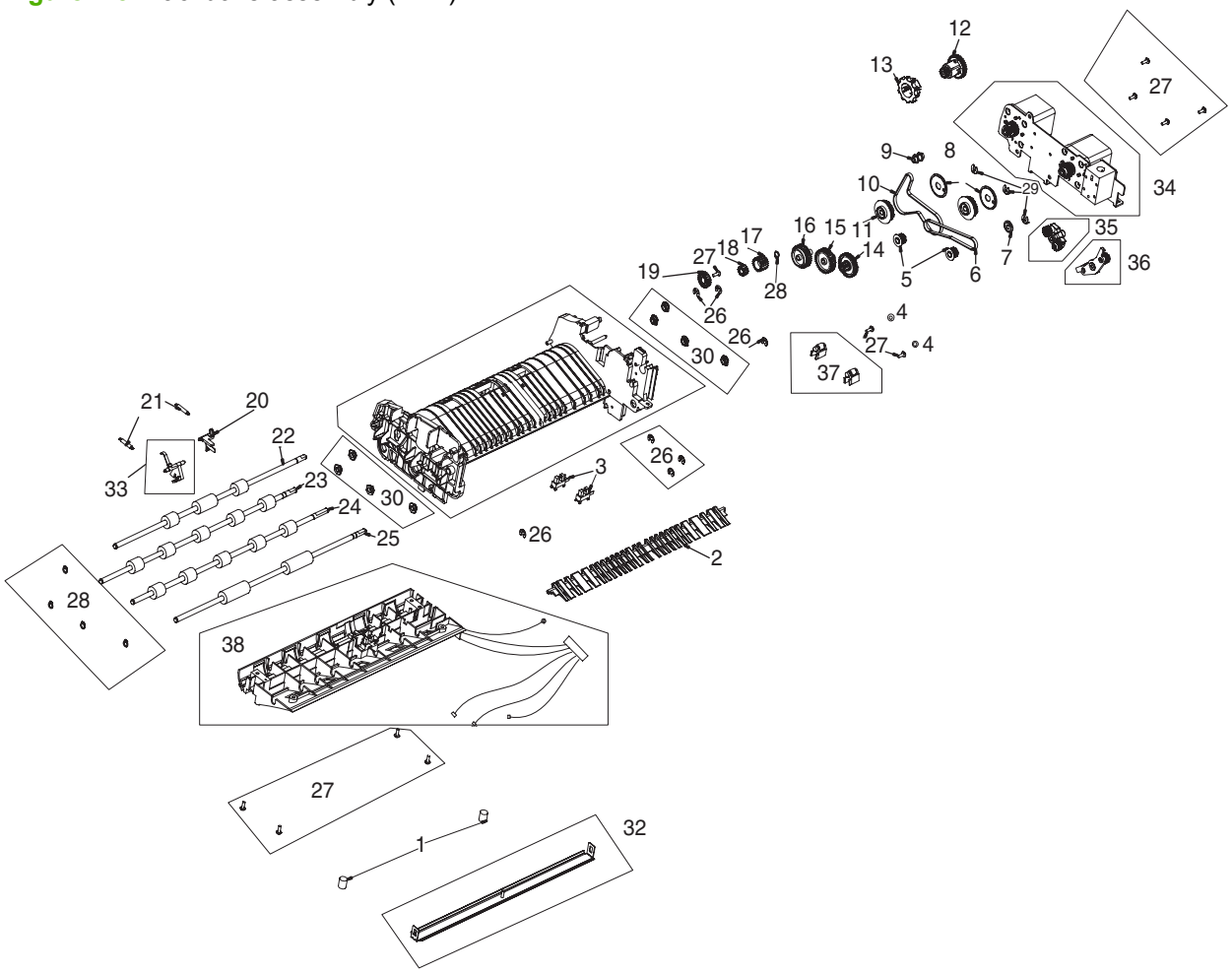


Table 7-7 Backbone assembly (ADF)

Ref	Description	Part number	Qty
1	Spring, float		2
2	ADF diverter	Q7829-67918	1
3	ADF photo interrupter w/connector	Q7829-67914	1
4	Washer, lock 3X5M with external tooth		2
5	Pulley, exit		1
6	Belt, exit		1
7	Retainer, belt exit pulley D1		1
8	Retainer, belt exit pulley D2		2
9	Pulley, belt		1
10	Belt, feed		1
11	Pulley, drive tire		2
12	Gear, 35T - 14T		1
13	Gear, 30T - 12T		1
14	Gear, 30T - 12T		1
15	Gear, 36T		1
16	Gear, 34T		1
17	Gear, 20T		1
18	Gear, deskew 14T		1
19	Gear, 22T		1
20	Flag, prescan		1
21	Spring, tension		2
22	Drivetrain assembly, deskew		1
23	Drivetrain assembly, prescan		1
24	Drivetrain assembly, post scan		1
25	Drivetrain assembly, exit		1
26	E-clip		7
27	Screw, M3X9 PT pan head phillips		11
28	Circle clip		5
29	Retainer STS		3
30	Bushing, feed shaft		8
31	Nyogel (55cc syringe)		1
32	ADF float assembly	Q7829-67917	1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Jam Cover (ADF)

Figure 7-6 Jam cover (ADF)

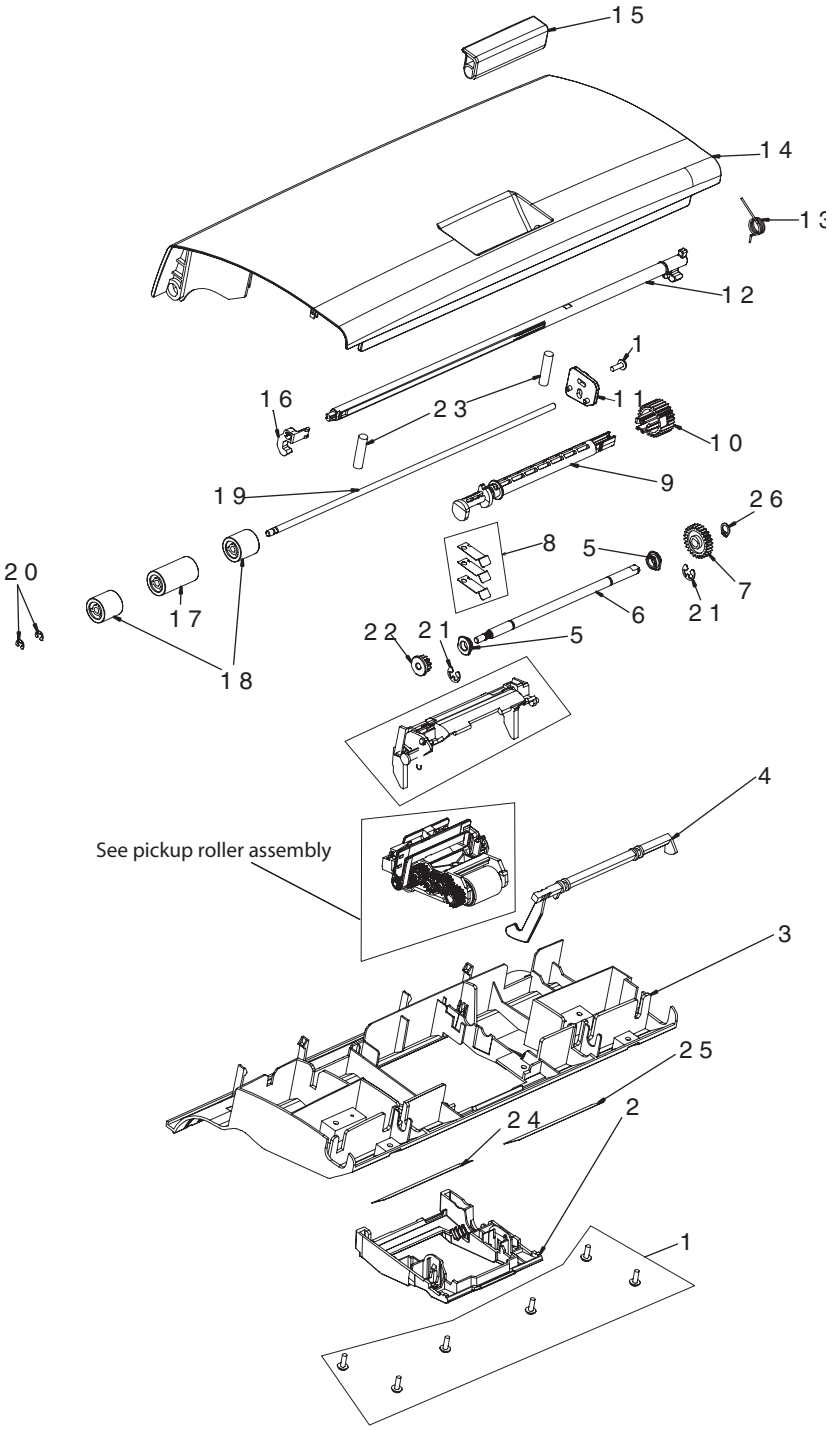


Table 7-8 Jam cover (ADF)

Ref	Description	Part number	Qty
All	ADF jam cover assembly	Q7829-67910	1
1	Screw, M3X9 PT pan head phillips #2		7
2	Cover ADF pickup roller	Q7829-67920	1
3	Cover, pick		1
4	Flag, media present sensor		1
5	Bushing, feed shaft		2
6	Shaft, pick		1
7	Gear, pick 26T		1
8	Spring, plate detent		3
9	Shaft, cam		1
10	Gear, camshaft 26T		1
11	Adjuster, deskew		1
12	Lock shaft, jam cover		1
13	Spring, jam cover latch		1
14	Cover, jam		1
15	Handle, jam cover		1
16	End cap, jam cover		1
17	Pinch, deskew center		1
18	Pinch, deskew right		2
19	Shaft, pinch deskew		1
20	E-clip (dia 3)		2
21	E-clip (dia 5)		2
22	Gear, pickshaft 12T		1
23	Spring, deskew		2
24	Label, pick roller replacement 1		1
25	Label, pick roller replacement 2		1
26	Circle clip		1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Pickup roller assembly (ADF)

Figure 7-7 Pickup roller assembly (ADF)

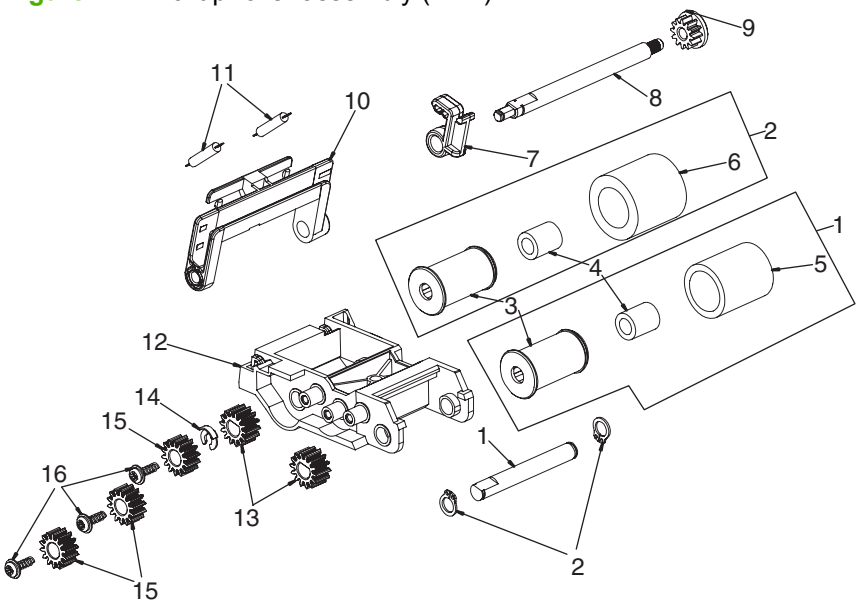


Table 7-9 Pickup roller assembly (ADF)

Ref	Description	Part number	Qty
All	ADF cover pickup roller (part of the ADF maintenance kit)	Q7842-67902	1
1	Shaft, pick		1
2	Circle clip		2
3	Hub, separation		2
4	Clutch, single direction		2
5	Tire, pick		1
6	Tire, separation		1
7	Latch, pickup		1
8	Shaft, pickup		1
9	Gear, pick shaft 12T		1
10	Body, slider		1
11	Spring, bias pick		2
12	Holder, pick		1
13	Gear, deskew 14T		2
14	Retainer STS		1
15	Gear, swing 14T		3
16	Screw, M3X9 PT pan head phillips #2		3

[1] The ADF pickup roller is part of the ADF maintenance kit (which also includes the ADF separation pad).

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Separation pad assembly (ADF)

Figure 7-8 Separation pad assembly (ADF)

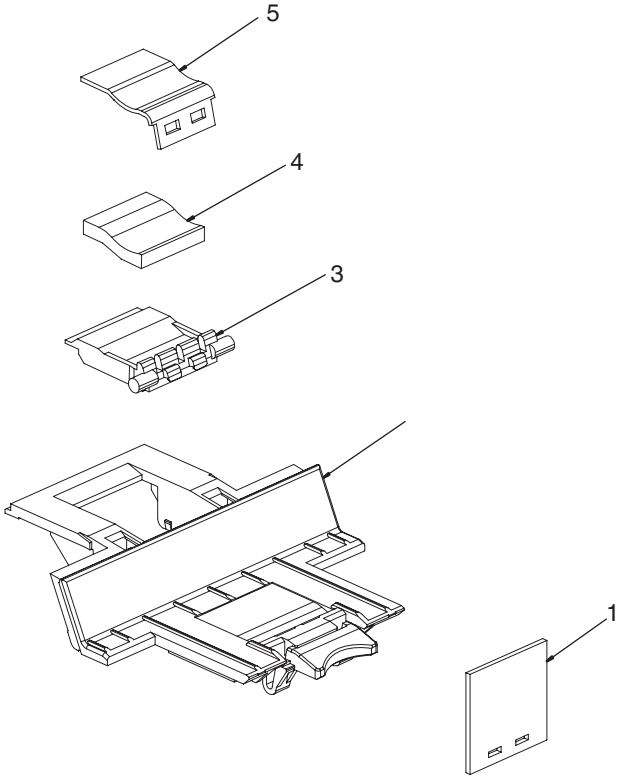


Table 7-10 Separation pad assembly (ADF)

Ref	Description	Part number	Qty
All	Separation pad assembly (part of the ADF maintenance kit)	Q7842-67902	1
1	Pad, friction		1
2	Base, separation		1
3	Base, separation pad		1
4	Foam separation		1
5	Pad, separation		1

[1] The ADF separation pad is part of the ADF maintenance kit (which also includes the ADF pickup roller).

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Separation floor assembly (ADF)

Figure 7-9 Separation floor assembly (ADF)

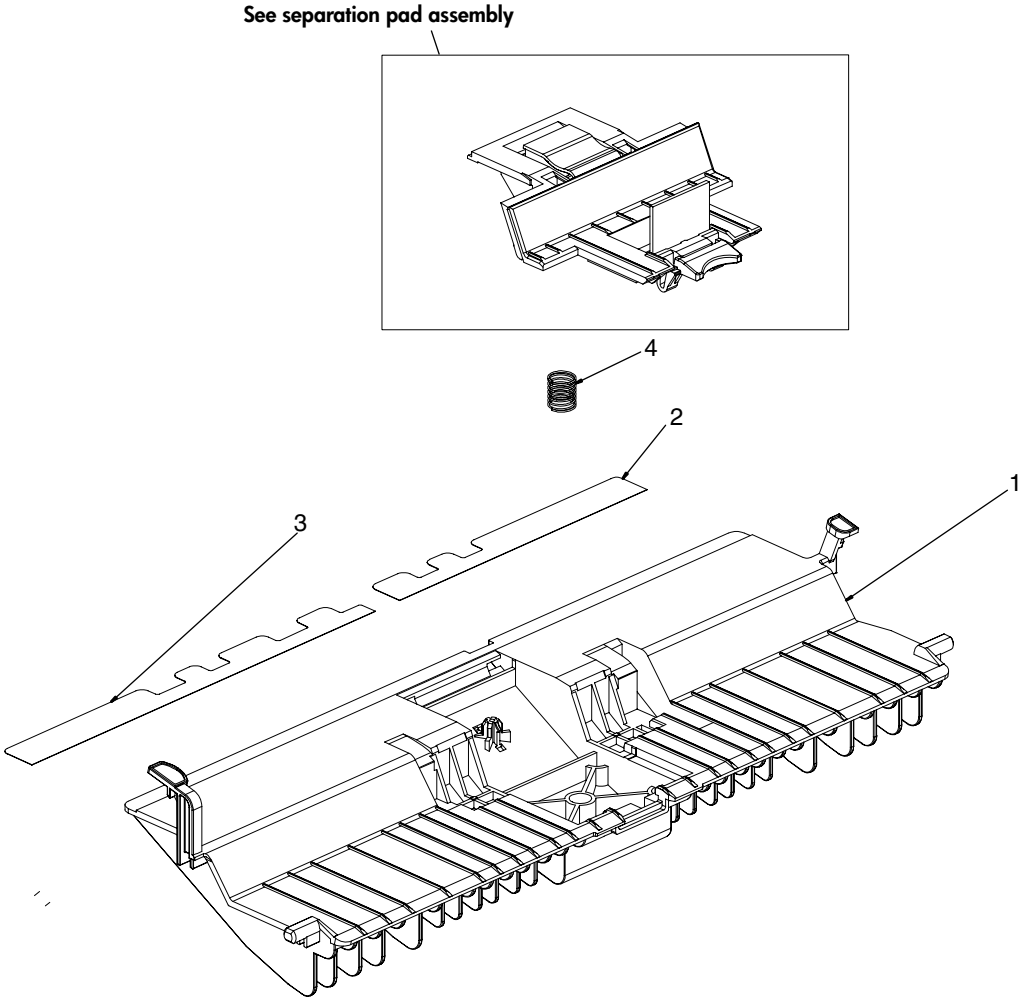


Table 7-11 Separation floor assembly (ADF)

Ref	Description	Part number	Qty
1	ADF separation floor assembly	Q7829-67909	1
2	Mylar, short separation right		1
3	Mylar, separation left		1
4	Spring, separation		1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Scanner assembly base

Figure 7-10 Scanner assembly base

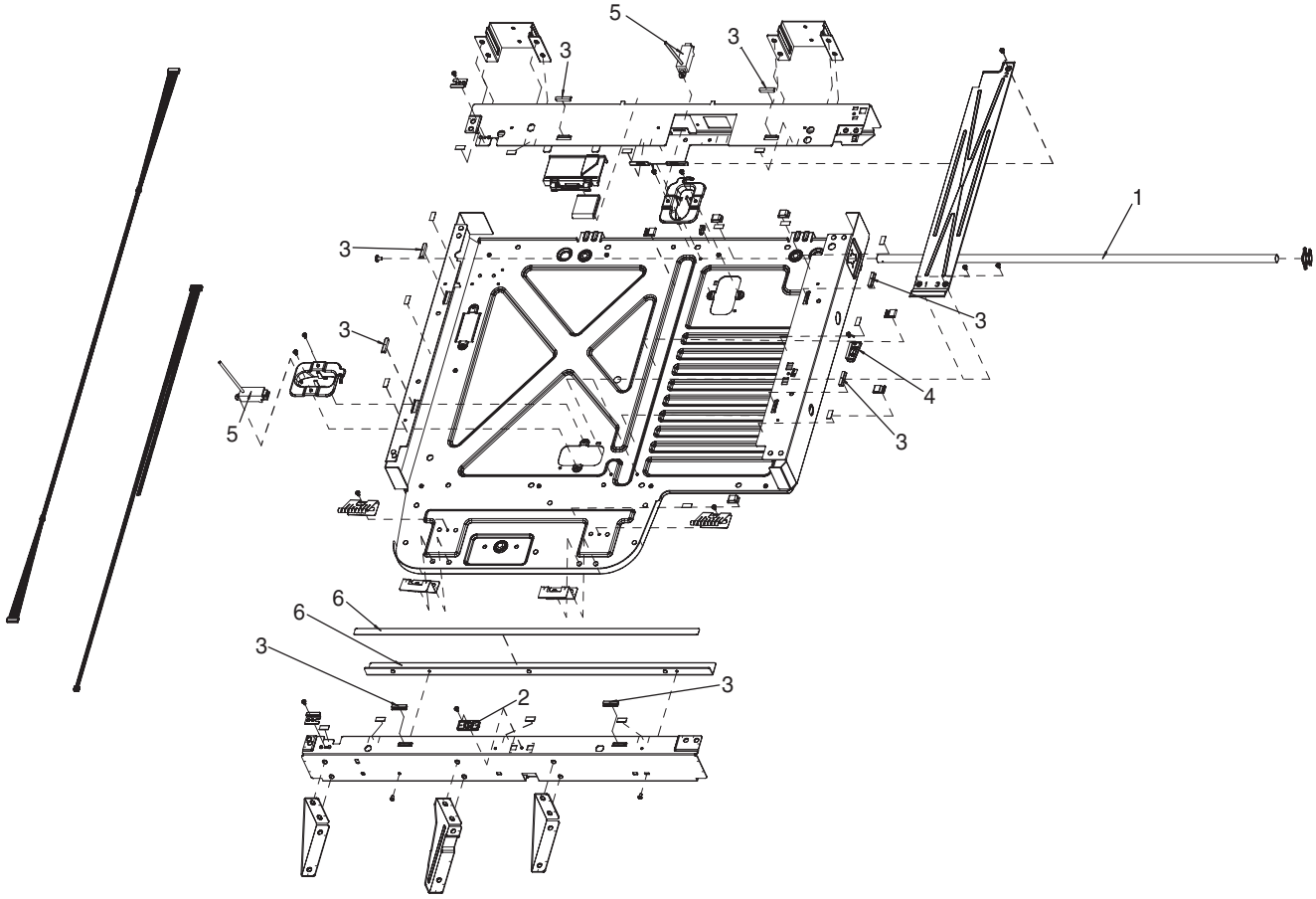


Table 7-12 Scanner assembly base

Ref	Description	Part number	Qty
All	Scanner	Q7829-60159	1
1	Rod	Q7829-60160	1
2	Guide, glass	Q7829-60157	1
3	Rubber, guide	Q7829-60162	8
4	Guide, glass	Q7829-60158	1
5	Sensor, paper	Q7829-60163	2
6	Rail and slide sheet assembly	Q7829-60164	1

TIP: To order a whole unit replacement scanner, see Accessories, supplies, and whole unit components on page 568.

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Carriage assembly (scanner; optical assembly)

Figure 7-11 Carriage assembly (scanner; optical assembly)

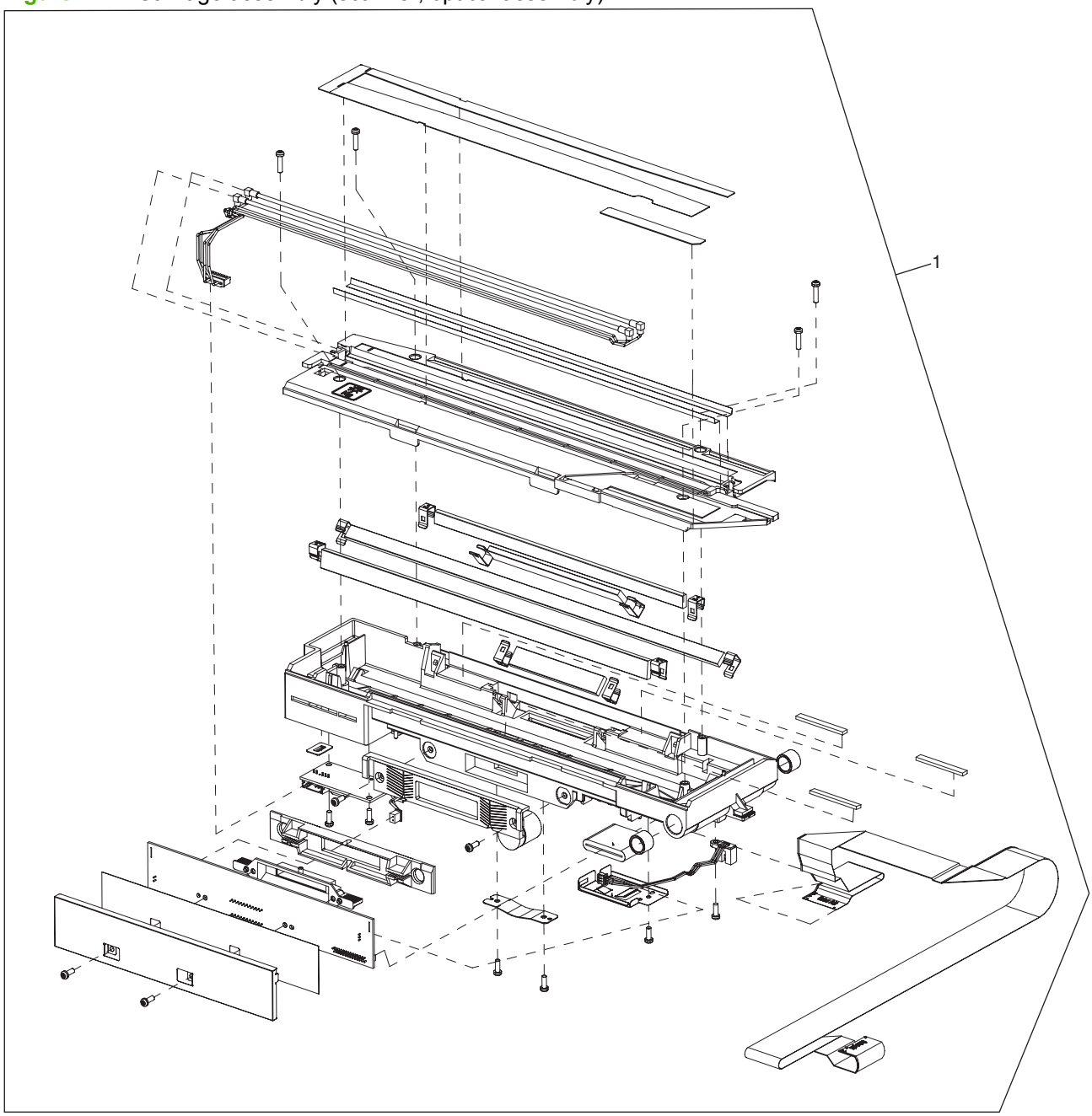


Table 7-13 Carriage assembly (scanner; optical assembly)

Ref	Description	Part number	Qty
1	Carriage assembly (optical assembly)	Q7829-60166	1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Scanner top assembly

Figure 7-12 Scanner top assembly

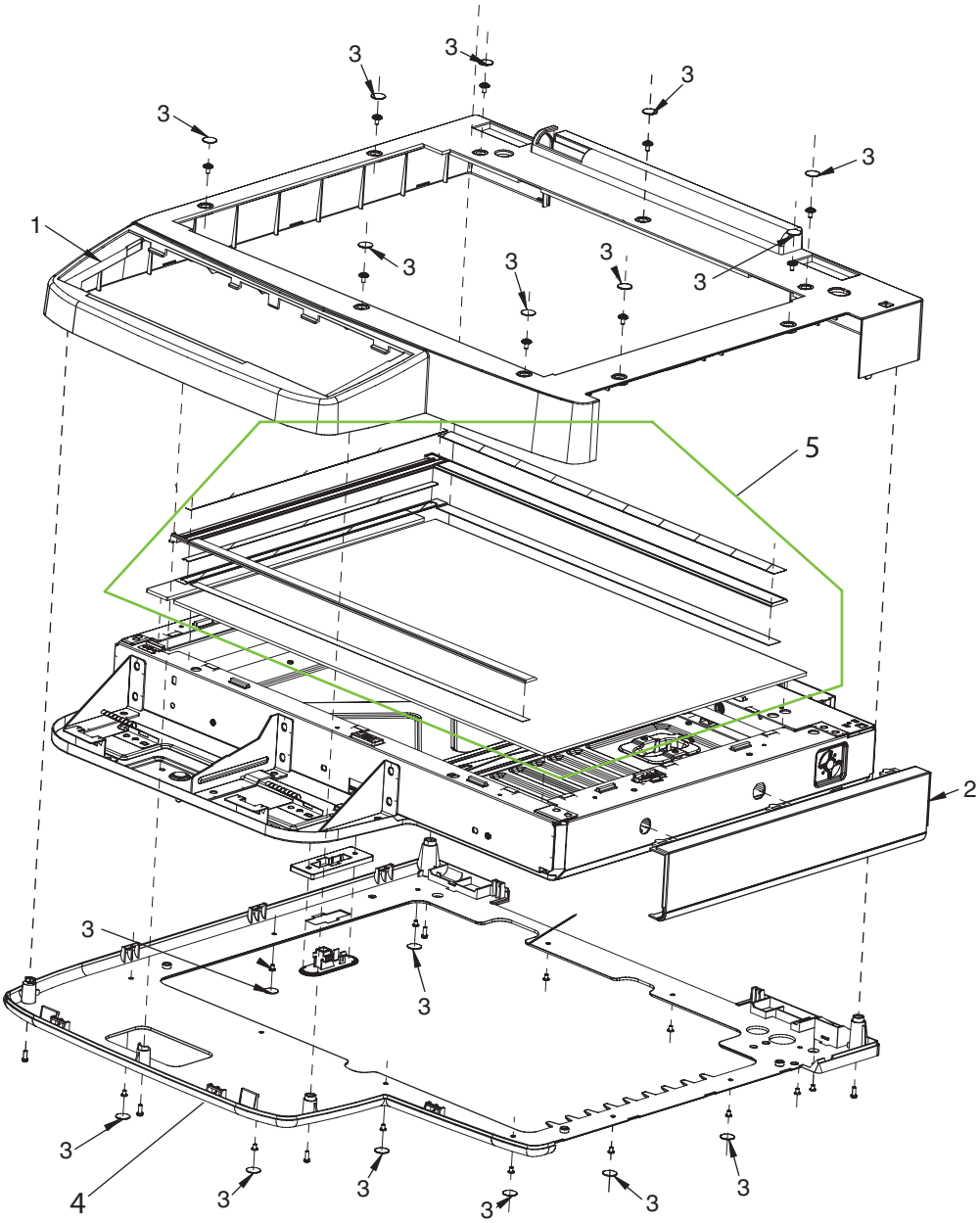


Table 7-14 Scanner top assembly

Ref	Description	Part number	Qty
1	Top cover	Q7829-60152	1
2	Right cover	Q7829-60153	1
3	Adhesive cover	Q7829-60144	1
4	Cover, bottom	Q7829-60154	1
5	Glass	Q7829-60143	1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Scanner controller board (SCB) assembly

Figure 7-13 Scanner controller board (SCB) assembly

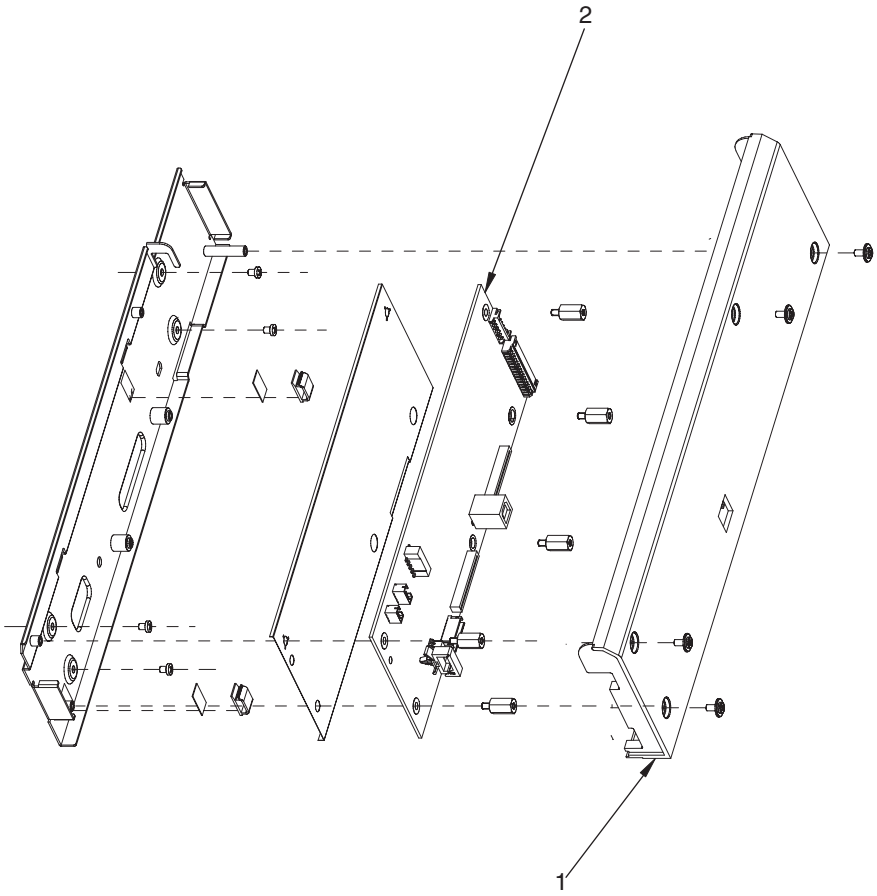


Table 7-15 Scanner controller board (SCB) assembly

Ref	Description	Part number	Qty
1	Cover, Scanner controller board (main board cover)	Q7829-60145	1
2	Scanner controller board PCA (main baord)	Q7829-60165	1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Scanner lid sensor assembly

Figure 7-14 Scanner lid sensor assembly

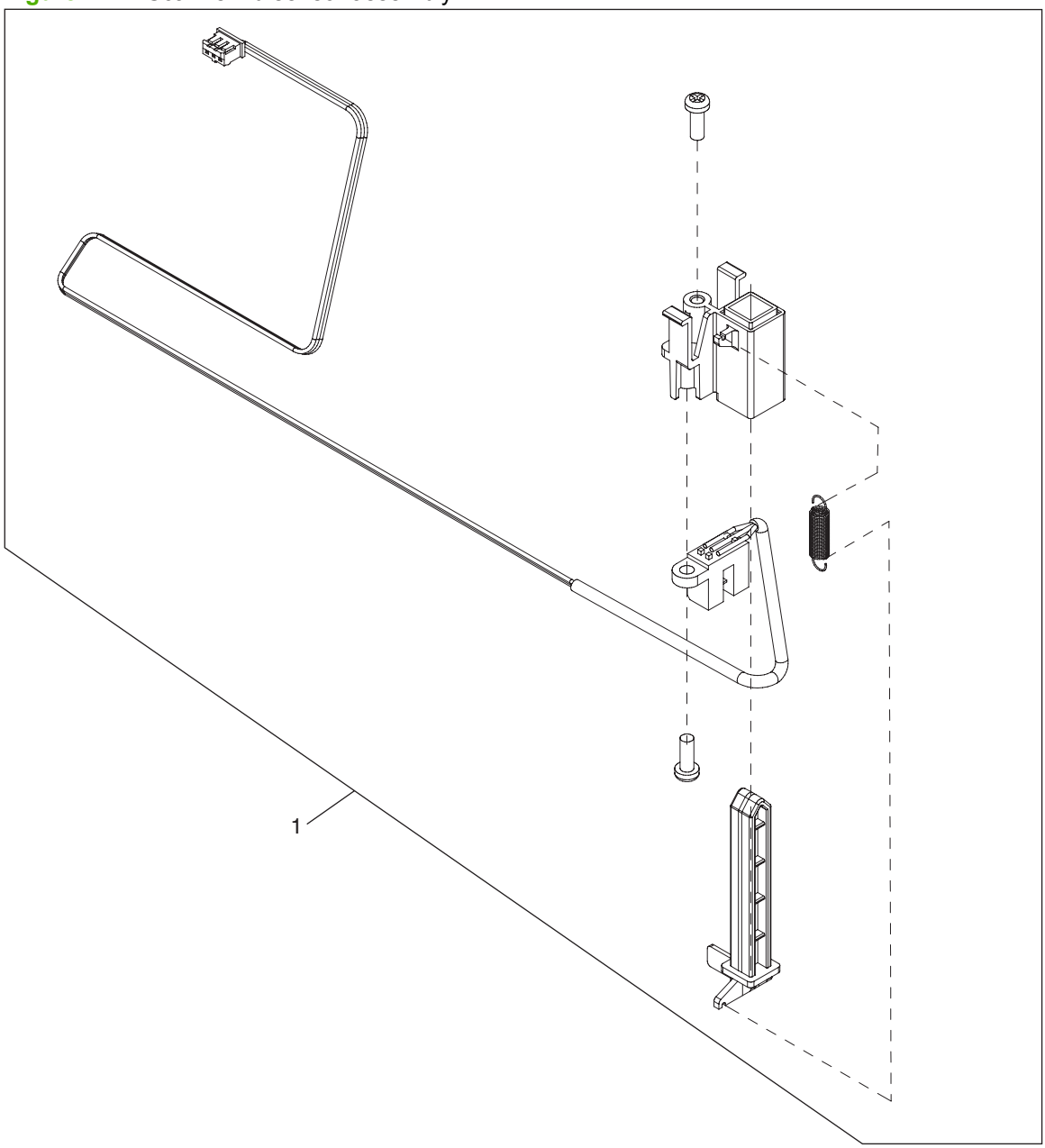


Table 7-16 Scanner lid sensor assembly

Ref	Description	Part number	Qty
1	Scanner lid sensor assembly	Q7829-60148	1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Scanner transmission drive assembly

Figure 7-15 Scanner transmission drive assembly

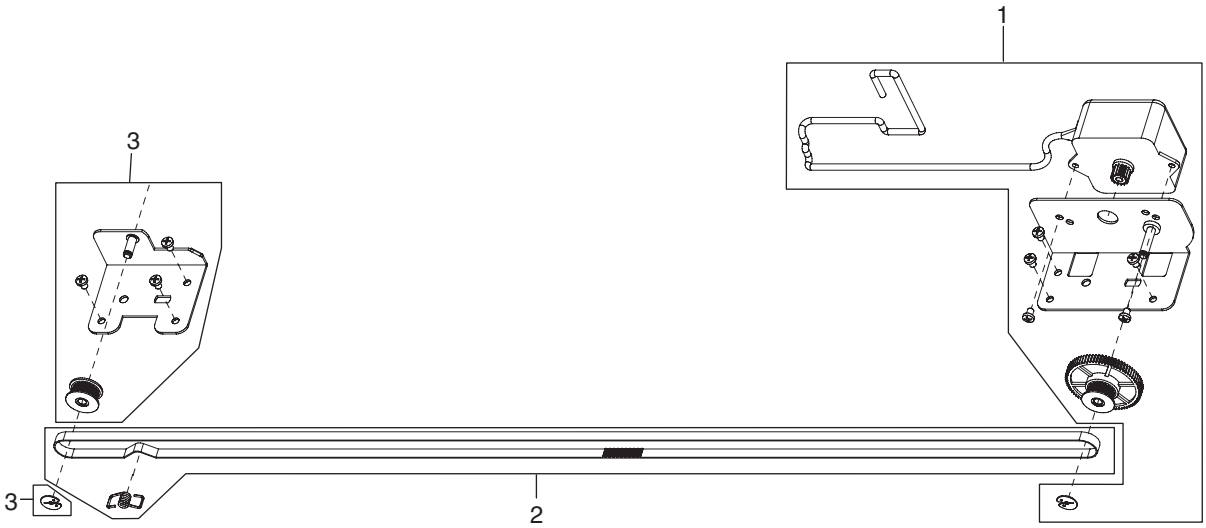


Table 7-17 Scanner transmission drive assembly

Ref	Description	Part number	Qty
1	Motor, transmission	Q7829-60149	1
2	Timing belt, transmission	Q7829-60150	1
3	Pulley, transmission	Q7829-60151	1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Stapler/stacker assembly main body

Figure 7-16 Main body (stapler/stacker)

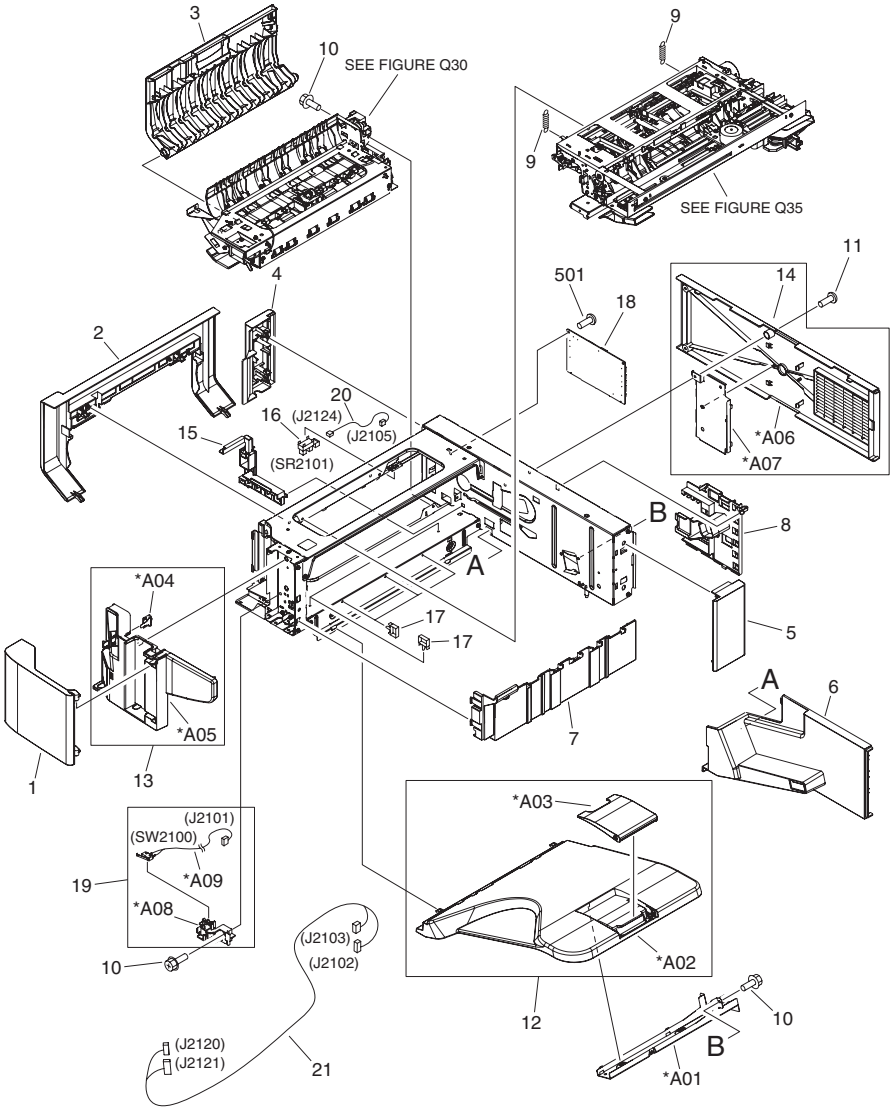


Table 7-18 Main body (stapler/stacker)

Ref	Description	Part number	Qty
All	Staple stacker	Not orderable	1
1	Door, front	RC1-9716-000CN	1
2	Cover, left	RC1-9718-000CN	1
3	Door, left	RC1-9719-000CN	1
4	Cover, rear left		1
5	Cover, rear right		1
6	Cover, rear inner		1
7	Cover, stack	RC1–9724–000	1
8	Guide, FFC	RC1-9767-000CN	1
9	Spring, tension	RU5-2731-000CN	2
10	Screw, RS, M3X8		29
11	Screw, D, MX6		3
12	Tray assembly	RM1-3093-000CN	1
13	Stapler cover assembly	RM1-3094-000CN	1
14	Rear cover assembly	RM1-3095-000CN	1
15	Guide, frame cable		1
16	Photo interrupter, TLP1243	WG8-5696-000CN	1
17	Saddle, wire		5
18	Staple stacker PCA assembly		1
19	Interlock assembly	RM1-3087-000CN	1
20	Cable, left door sensor		1
21	Cable, staple unit		1
501	Screw, TP, M3X8		2
A01	Cross member, tray		1
A02	Tray		1
A03	Tray, extension		1
A04	Support, front door	RC1-9725-000CN	1
A05	Cover, stapler		1
A06	Cover, rear		1
A07	Plate, front frame shield		1
A08	Holder, interlock switch		1
A09	Cable, front door switch		1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

TIP: To order a whole unit replacement stapler/stacker, see Accessories, supplies, and whole unit components on page 568.

Paper feed assembly (stapler/stacker)

Figure 7-17 Paper feed assembly (stapler/stacker)

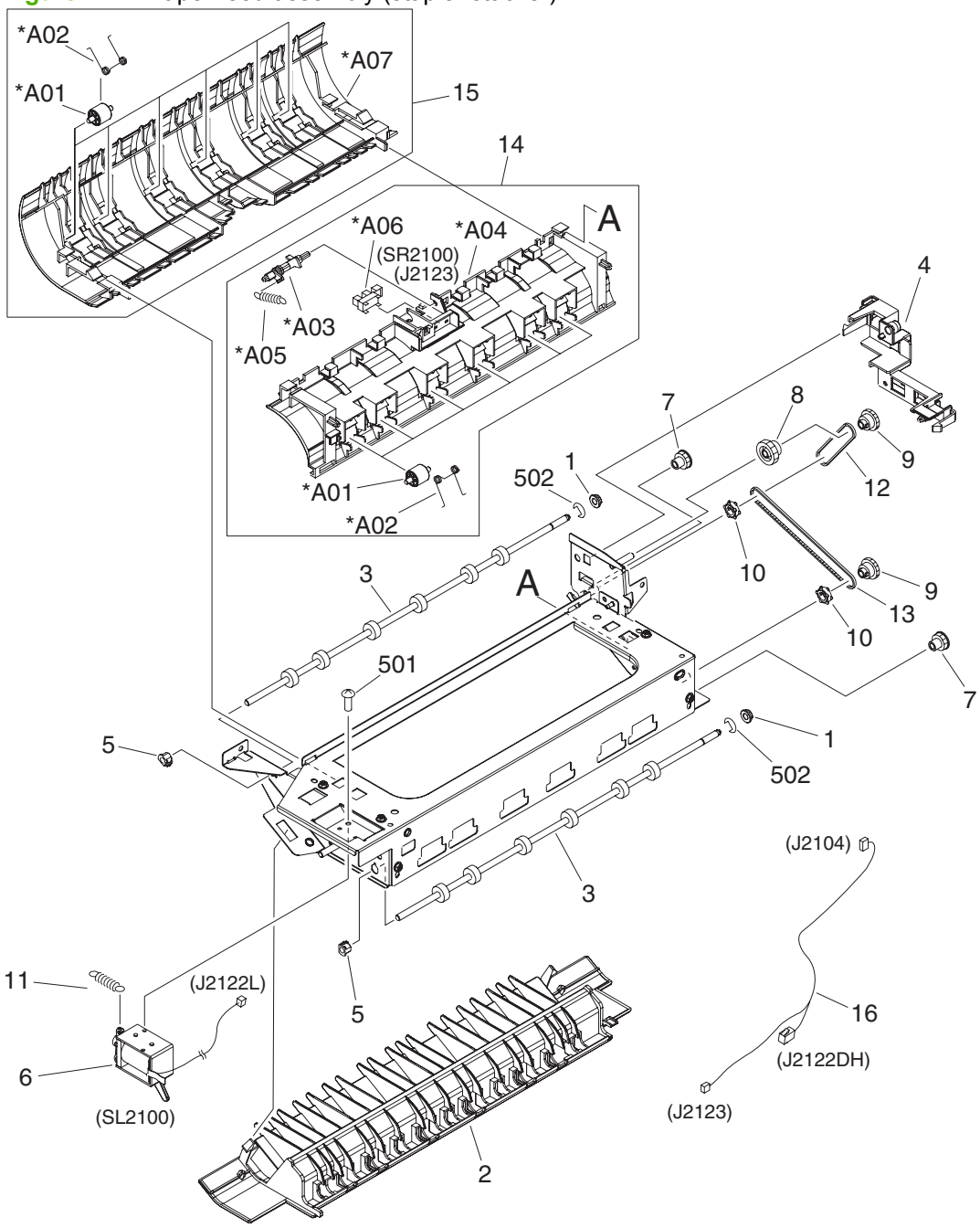


Table 7-19 Paper feed assembly (stapler/stacker)

Ref	Description	Part number	Qty
All	Paper feed assembly (stapler/stacker)	RM1-3088-000CN	1
1	Bushing		1
2	Guide, lower		1
3	Roller, paper feed		2
4	Guide, paper feed cable		1
5	Bushing		2
6	Solenoid, flapper		1
7	Gear, 21T		2
8	Gear, 18T		1
9	Gear, 27T		2
10	Pulley		2
11	Spring, compression		1
12	Belt, timing		1
13	Belt, timing		1
14	Upper guide assembly, 1		1
15	Upper guide assembly, 2		1
16	Cable, paper feed unit		1
501	Screw, TP, M3X4		2
502	Ring, E		2
A01	Roller, reserve		12
A02	Spring, torsion		12
A03	Flag, inlet sensor		1
A04	Guide, upper, 1		1
A05	Spring, tension		1
A06	Photo interrupter, TLP1243		1
A07	Guide, upper, 2		1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Alignment and jogger assembly (stapler/stacker)

Figure 7-18 Alignment/jogger assembly (stapler/stacker)

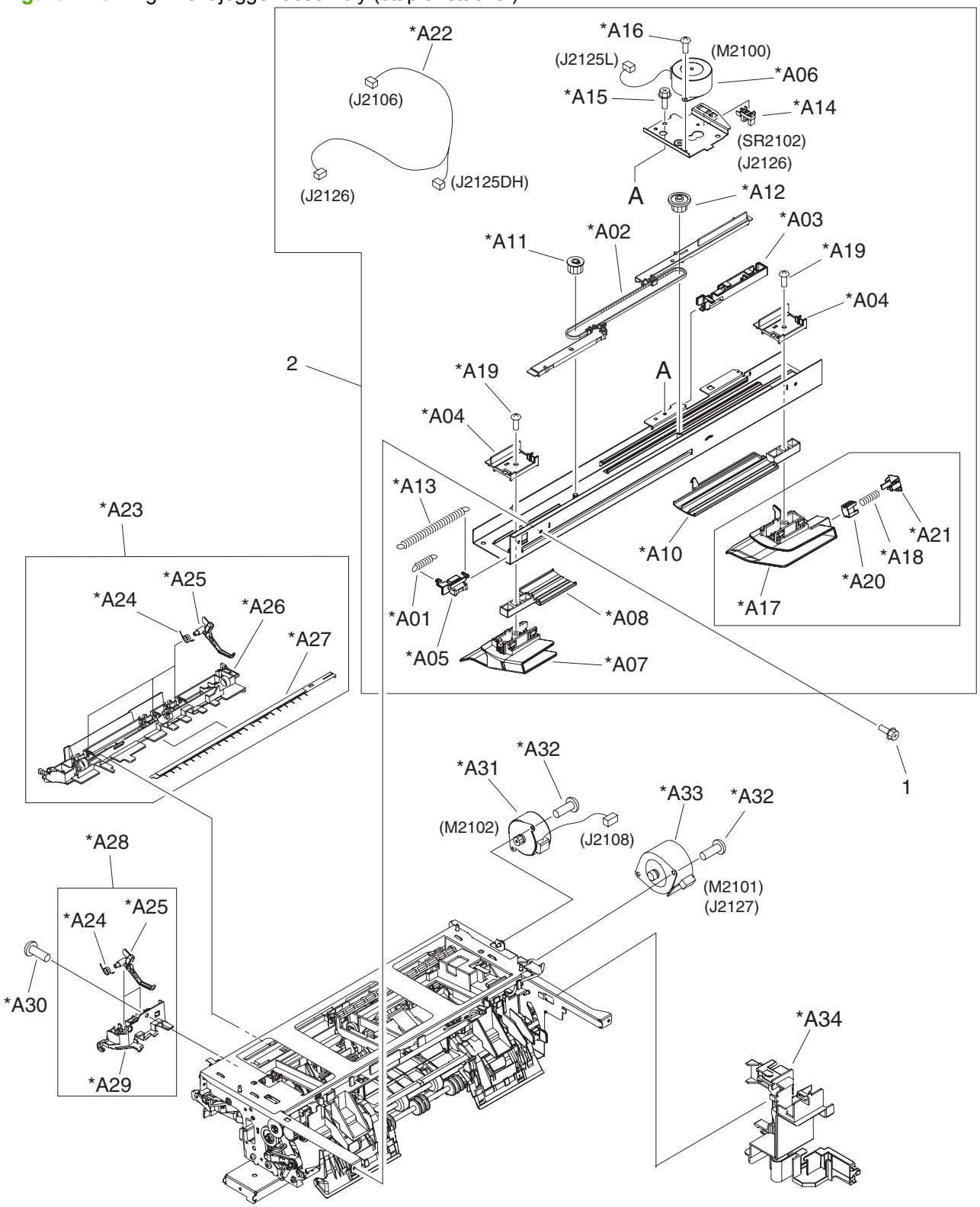


Table 7-20 Alignment and jogger assembly (stapler/stacker)

Ref	Description	Part number	Qty
All	Alignment and jogger assembly	RM1-3098-000CN	1
1	Screw, RS, M3X8	XA9-1386-000CN	3
2	Jog guide assembly	RM1-3099-000CN	1
A01	Spring, tension		1
A02	Jog guide belt assembly		1
A03	Guide, jog cable		1
A04	Cap, rail		2
A05	Guide, rail		1
A06	Motor, stepping, DC		1
A07	Guide, slide, front		1
A08	Cover, jog, front		1
A09	Slide guide rear assembly		1
A10	Cover, jog, rear		1
A11	Pulley, 26T		1
A12	Pulley/gear, 37T		1
A13	Spring, tension		1
A14	Photo interrupter, TLP1243		1
A15	Screw, RS, M3X8		1
A16	Screw, w/washer, M3X8		2
A17	Guide, slide, rear		1
A18	Spring, compression		1
A19	Screw, tapping, pan head, M4X10		2
A20	Guide, jog surface		1
A21	Stopper, surface guide		1
A22	Cable, jog unit		1
A23	Left guide assembly		1
A24	Spring, torsion		5
A25	Flag, retaining		1
A26	Guide, left		1
A27	Eliminator, static charge		1
A28	Left guide front assembly		1
A29	Guide, left, front		1
A30	Screw, tapping, pan head, M4X10		1
A31	Motor, stepping DC		1

Table 7-20 Alignment and jogger assembly (stapler/stacker) (continued)

Ref	Description	Part number	Qty
A32	Screw, w/washer, M3X8		4
A33	Motor, stepping DC		1
A34	Guide, stage cable		1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Stapler assembly (stapler/stacker)

Figure 7-19 Stapler assembly (stapler/stacker)

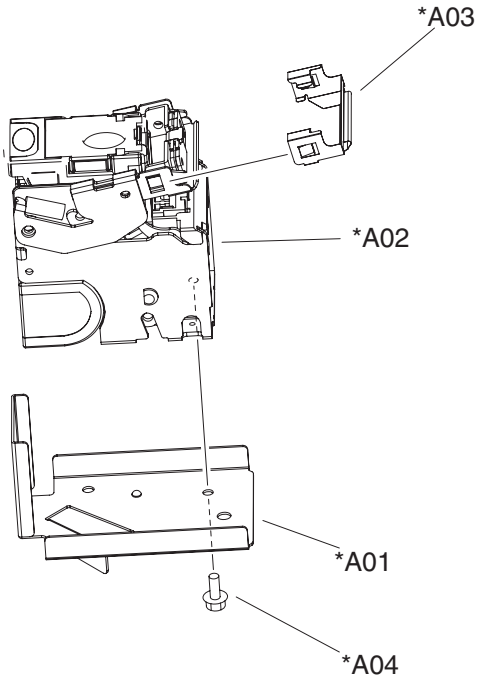


Table 7-21 Stapler assembly (stapler/stacker)

Ref	Description	Part number	Qty
All	Stapler assembly	RM1-3092-000CN	1
A01	Holder, stapler	RC1-9770-000CN	1
A02	Stapler, unit		
A03	Guide, clinch		
A04	Screw, RS, M3X8		

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Stapler/stacker PCA

Figure 7-20 Stapler/stacker PCA assembly

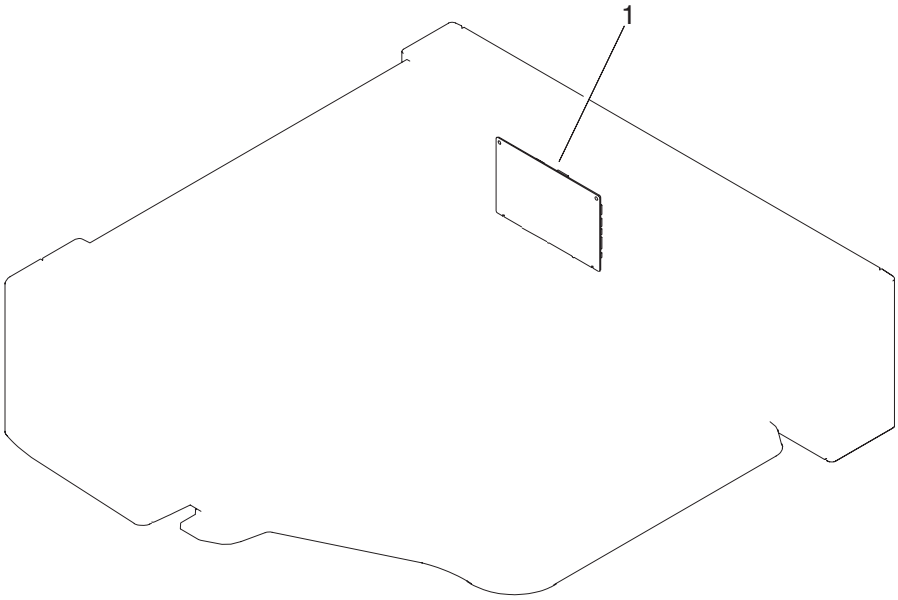


Table 7-22 Stapler/stacker PCA assembly

Ref	Description	Part number	Qty
All	Staple stacker PCA assembly	RM1-3828-000CN	1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Print engine external covers and panels

Figure 7-21 External panel and covers (print engine)

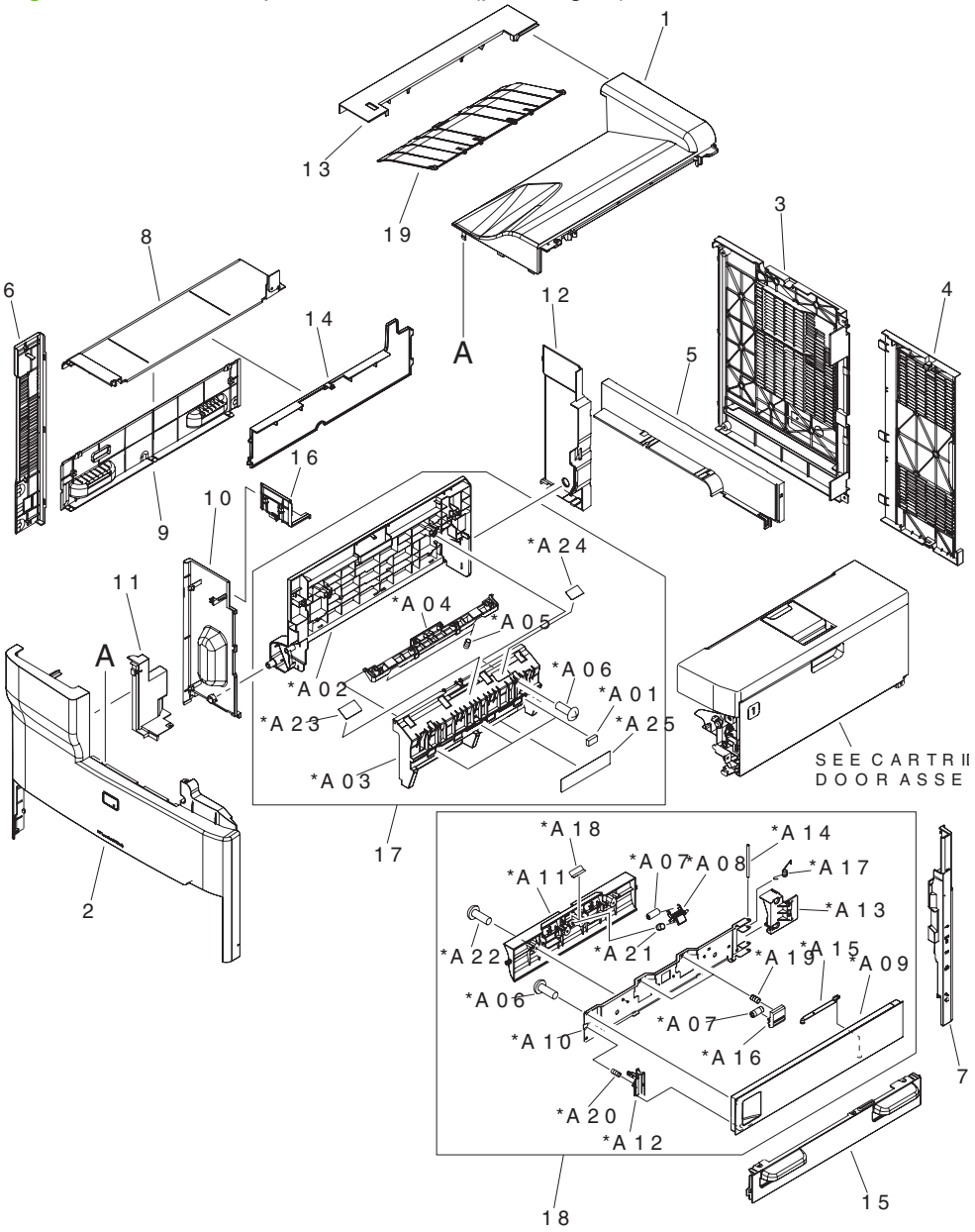


Table 7-23 External panels and covers (print engine)

Ref	Description	Part number	Qty
1	Cover, facedown, top	RC1-82220-000CN	1
2	Cover, front	RC1-8221-000CN	1
3	Cover, rear	RC1-8222-000CN	1
4	Cover, formatter	RC1-8223-000CN	1
5	Cover, rear inner, right		1
6	Cover, left, rear	RC1-8225-000CN	1
7	Cover, right, rear	RC1-8226-000CN	1
8	Cover, left, upper	RC1-8227-000CN	1
9	Cover, left, lower	RC1-8228-000CN	1
10	Cover, inner, front		1
11	Cover, facedown side	RC1-8231-000CN	1
12	Cover, rear inner, left		1
13	Cover, top	RC1-8233-000CN	1
14	Cover, duplexing blanking	RC1-8235-000CN	1
15	Cover, grip, right	RC1-8236-000CN	1
16	Cover, inner top	RC1-8327-000CN	1
17	Left door assembly	RM1-2990-000CN	1
18	Right door assembly	RM1-2991-000CN	1
19	Tray, sub	RC1-8137-000CN	1
A01	Pad, flapper		3
A02	Door, left		1
A03	Guide, facedown		1
A04	Handle, door, left		1
A05	Spring, compression		2
A06	Screw, tapping, truss head, M4X10		6
A07	Roller, idler		3
A08	Holder, paper re-pickup roller		1
A09	Door, right		1
A10	Cross member, door, right		1
A11	Guide, paper feed, lower		1
A12	Latch, door, right		1
A13	Hinge, door, right		1
A14	Shaft, door hinge, right		1
A15	Link, door, right		1

Table 7-23 External panels and covers (print engine) (continued)

Ref	Description	Part number	Qty
A16	Holder, roller, lower		2
A17	Spring, grounding		1
A18	Sheet, roller		1
A19	Spring, compression		2
A20	Spring, compression		1
A21	Spring, compression		1
A22	Screw, M3X8		4
A23	Label, door jam clearing, left		1
A24	Label, high temperature caution		1
A25	Label, high temperature caution		1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Cartridge door assembly (print engine)

Figure 7-22 Cartridge door assembly (print engine)

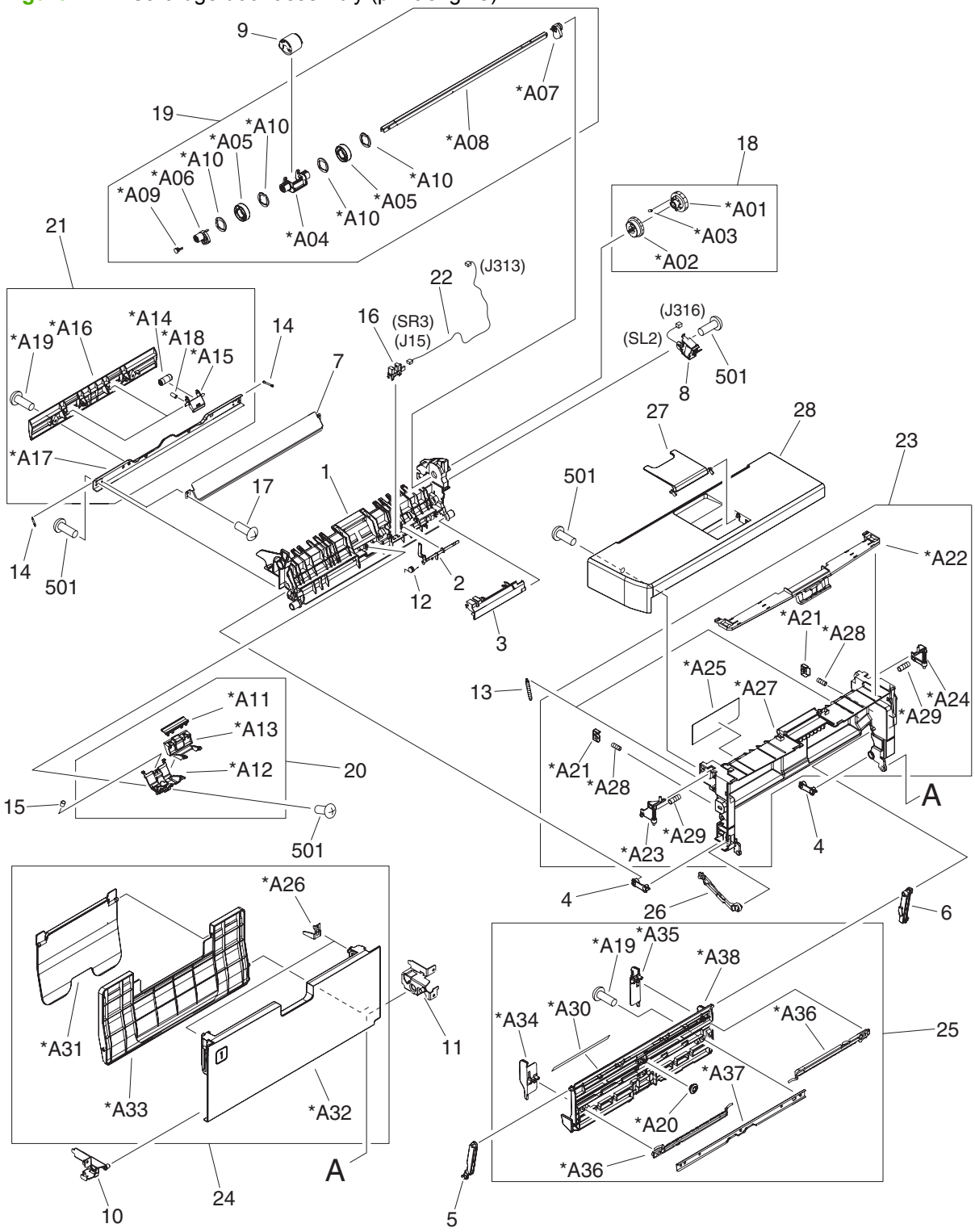


Table 7-24 Cartridge door assembly (print engine)

Ref	Description	Part number	Qty
	Cartridge door assembly	RM1-2984-000CN	1
1	Guide, paper feed		1
2	Lever, multipurpose sensor		1
3	Cover, sensor		1
4	Rod, main frame		2
5	Arm, multipurpose, left		1
6	Arm, multipurpose, right		1
7	Cover, roller holder		1
8	Solenoid		1
9	Roller, multipurpose paper pickup	RL1-0915-000CN	1
10	Hinge, cartridge door, front		1
11	Hinge, cartridge door, rear		1
12	Spring, torsion		1
13	Spring, tension	RU5-2548-000CN	2
14	Spring, tension		2
15	Spring, compression	RU5-2553-000CN	1
16	Photo interrupter, TLP1243	WG8-5696-000CN	1
17	Screw, D, M3X6		2
18	Pick gear assembly		1
19	Paper pickup shaft assembly		1
20	Multipurpose pad assembly	RM1-2462-000CN	1
21	Roller assembly		1
22	Cable, sensor		1
23	Cartridge door base assembly	RM1-2985-000CN	1
24	Multipurpose (Tray 1) cover assembly	RM1-2986-000CN	1
25	Multipurpose tray assembly		1
26	Stopper, cartridge door	RC1-8021-000CN	1
27	Tray, facedown extension		1
28	Cover, cartridge		1
501	Screw, tapping, truss head, M4X10		6
A01	Gear, 32T		1
A02	Gear, 32T		1
A03	Spring, compression		1
A04	Holder, multipurpose roller		1

Table 7-24 Cartridge door assembly (print engine) (continued)

Ref	Description	Part number	Qty
A05	Roller, multipurpose		2
A06	Cam, multipurpose, left		1
A07	Cam, multipurpose, right		1
A08	Shaft, multipurpose paper pickup		1
A09	Cap, conductive		1
A10	Weight, multipurpose roller		4
A11	Pad, separation		1
A12	Holder, multipurpose arm		1
A13	Arm, multipurpose pad		1
A14	Roller, idler		2
A15	Holder, roller		2
A16	Case, roller		1
A17	Cross member, roller		1
A18	Spring, compression		2
A19	Screw, D, M3X6		5
A20	Gear, 18T		1
A21	Button, frame pressure		2
A22	Lever, cartridge cover lock		1
A23	Lock, cartridge door, left		1
A24	Lock, cartridge door, right		1
A25	Label, jam clearing		1
A26	Spring, leaf		2
A27	Base, cartridge door		1
A28	Spring, compression		2
A29	Spring, compression		2
A30	Label, paper size indication		1
A31	Tray, extension		1
A32	Cover, multipurpose		1
A33	Tray, extension		1
A34	Plate, multipurpose limit, left		1
A35	Plate, multipurpose limit, right		1
A36	Rack, multipurpose		2
A37	Plate, reinforcement		1
A38	Pate, multipurpose, lifter		1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Internal components (print engine 1 of 3)

Figure 7-23 Internal components (1 of 3) (print engine)

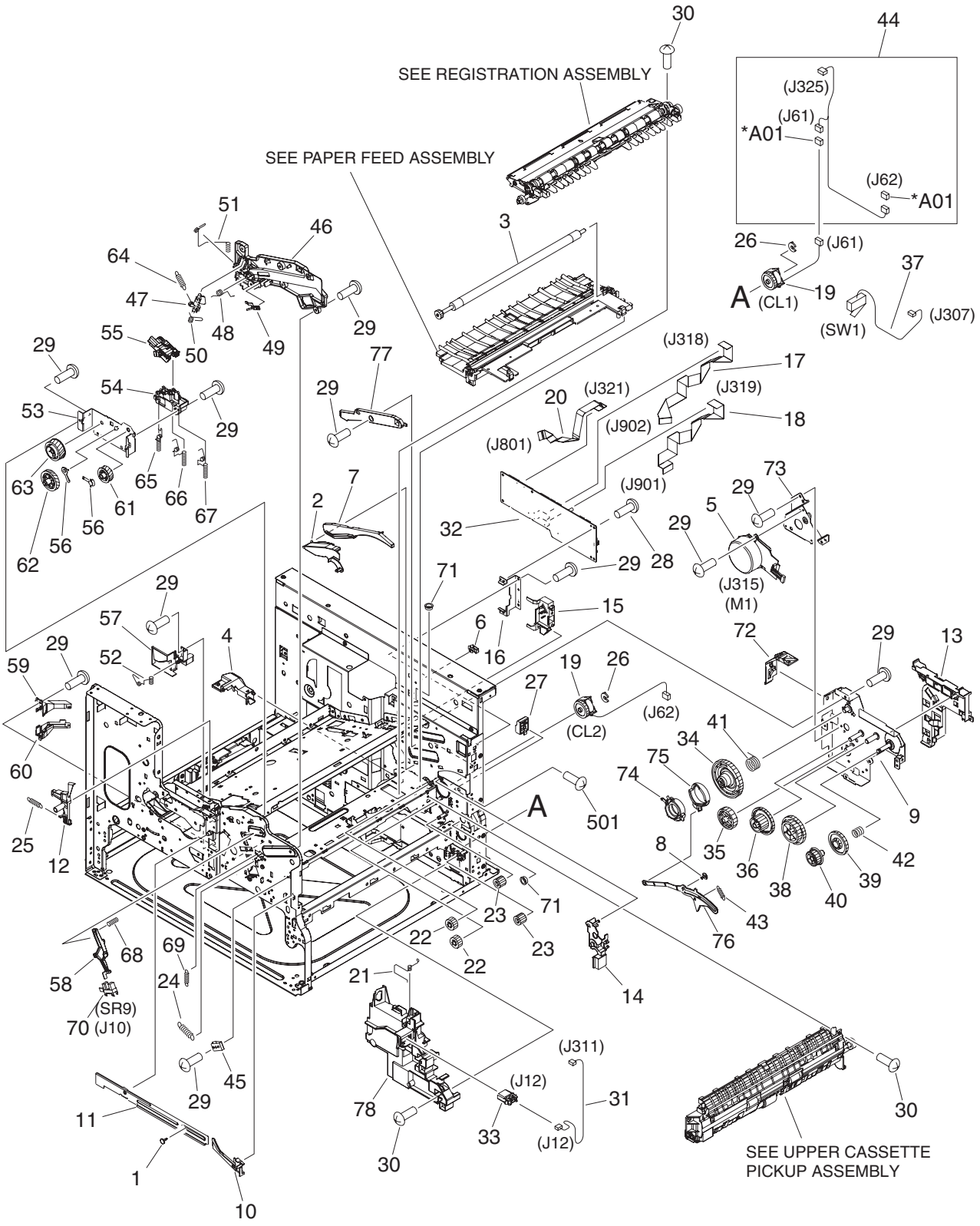


Table 7-25 Internal components (1 of 3) (print engine)

Ref	Description	Part number	Qty
1	Stopper, busing arm	RC1-3090-000CN	1
2	Cover, gear, right upper	RC1-7019-000CN	1
3	Roller, transfer	RM1-2485-000CN	1
4	Cap, paper feed guide	RC1-7141-000CN	1
5	Main motor assembly	RM1-2516-000CN	1
6	Clip, cable		1
7	Guide, cartridge, right lower	RC1-7286-000CN	1
8	Stopper, link	RC1-7288-000CN	1
9	Plate, gear	RL1-0951-000CN	1
10	Guide, cartridge door stopper	RC1-8022-000CN	1
11	Link, fuser drive release		1
12	Lever, fuser shutter	RC1-8032-000CN	1
13	Guide, cable		1
14	Cover, gear, rear	RC1-8164-000CN	1
15	Mount, interlock guide	RC1-8165-000CN	1
16	Support, DC controller		1
17	Cable, flexible flat, 21P	RK2-1053-000CN	1
18	Cable, flexible flat, 23P	RK2-1055-000CN	1
19	Clutch, electromagnetic	RK2-1281-000CN	2
20	Cable, flexible flat, 15P	RK2-1283-000CN	1
21	Spring, grounding	RC1-8052-000CN	1
22	Gear, 14T	RU5-0564-000CN	2
23	Gear, 15T	RU5-0553-000CN	2
24	Spring, tension	RU5-2660-000CN	1
25	Spring, tension	RU5-2663-000CN	1
26	Ring, E	RC1–8358–000CN	2
27	Holder, stopper		1
28	Screw, tap, M3X6		2
29	Screw, D, M3X6		122
30	Screw, M3X8		22
31	Cable, duplexing interface		1
32	DC controller PCA assembly	RM1-3459-000CN	1
33	Connector, drawer	VS1-7258-007CN	1
34	Gear, 133T	RU5-0546-000CN	1

Table 7-25 Internal components (1 of 3) (print engine) (continued)

Ref	Description	Part number	Qty
35	Gear, 73T	RU5-0547-000CN	1
36	Gear, 96T/52T	RU5-0548-000CN	1
37	Switch, fuser door	RM1-3474-000CN	1
38	Gear, 99T/40T	RU5-0549-000CN	1
39	Gear, 43T	RU5-0550-000CN	1
40	Gear, 26T	RU5-0551-000CN	1
41	Spring, compression	RU5-2630-000CN	1
42	Spring, compression	RU5-2631-000CN	1
43	Spring, tension	RU5-2632-000CN	1
44	Cable, feed clutch extension		1
45	Plate, grounding	RC1-7021-000CN	1
46	Guide, cartridge, left	RC1-7121-000CN	1
47	Paddle	RC1-7122-000CN	1
48	Spring, torsion	RC1-7123-000CN	1
49	Spring, grounding	RC1-7124-000CN	1
50	Spring, torsion	RC1-7125-000CN	1
51	Spring, compression	RC1-7126-000CN	1
52	Spring, compression	RC1-7127-000CN	1
53	Side plate, transfer drive	RC1-7129-000CN	1
54	Holder, contact	RC1-7241-000CN	1
55	Cover	RC1-7265-000CN	1
56	Bushing	RC1-7443-000CN	2
57	Holder, spring	RC1-8026-000CN	1
58	Arm, lock	RC1-8034-000CN	1
59	Duct, high-voltage, upper	RC1-8344-000CN	1
60	Duct, high-voltage, lower	RC1-8345-000CN	1
61	Gear, 25T	RU5-0537-000CN	1
62	Gear, 35T	RU5-0538-000CN	1
63	Gear, 33T	RU5-0539-000CN	
64	Spring, tension	RU5-2575-000CN	1
65	Spring, compression	RU5-2587-000CN	1
66	Spring, compression	RU5-2588-000CN	1
67	Spring, compression	RU5-2589-000CN	1
68	Spring, compression	RU5-2590-000CN	1
69	Spring, tension	RU5-2591-000CN	1

Table 7-25 Internal components (1 of 3) (print engine) (continued)

Ref	Description	Part number	Qty
70	Photo interrupter, TL1243	WG8-5696-000CN	1
71	Bushing		2
72	Guide, high voltage FFC		1
73	Plate, motor		1
74	Bushing	RC1-7283-000CN	1
75	Cam	RC1-7284-000CN	1
76	Lever, coupling	RC1-7285-000CN	1
77	Guide, cartridge, right upper	RC1-7287-000CN	1
78	Guide, rear	RC1-8046-000CN	1
501	Screw, tapping, truss head, M4X10	XB4-7401-005CN	2
A01	Connector, snap tight, BK		2

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Internal components (print engine; 2 of 3)

Figure 7-24 Internal components (2 of 3) (print engine)

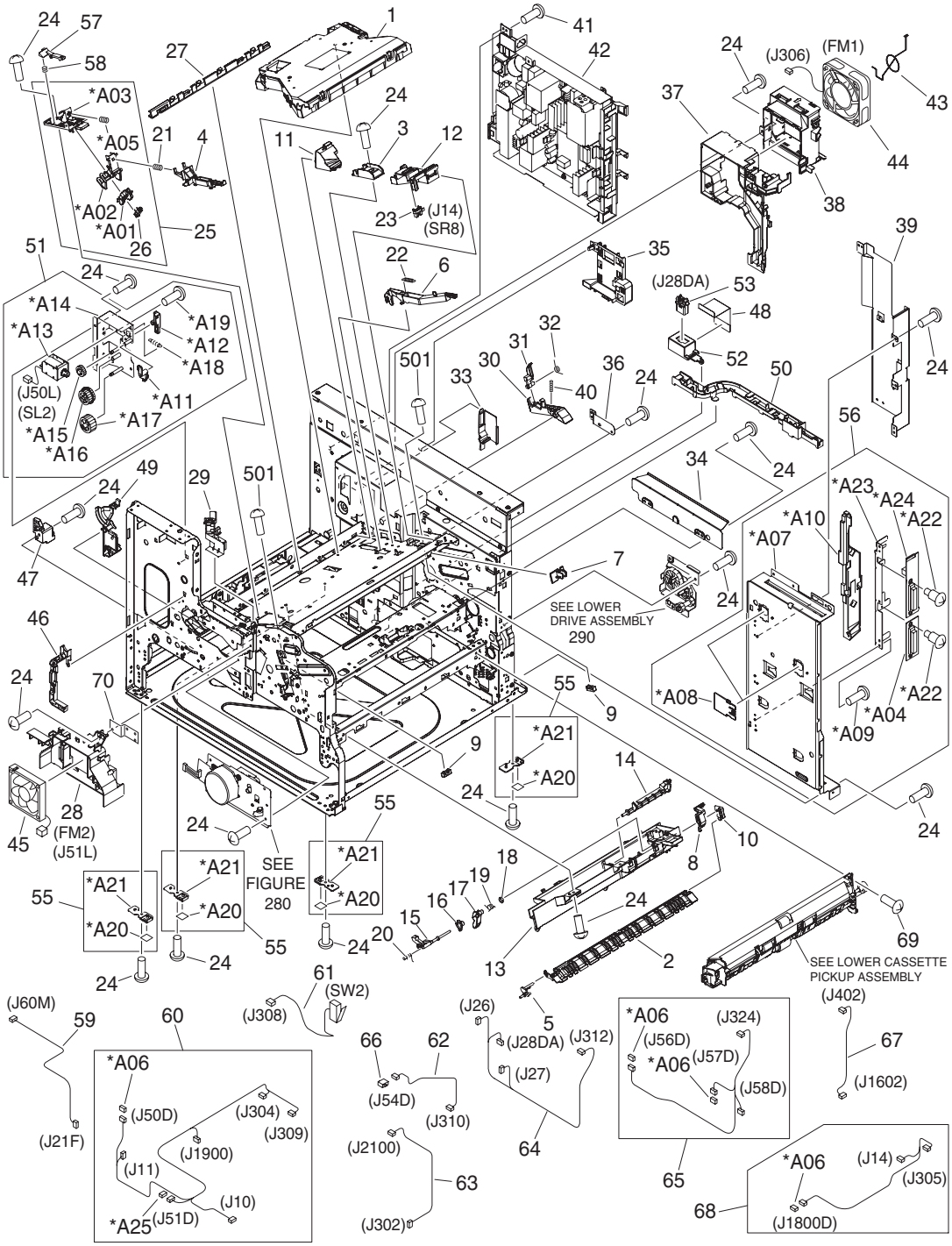


Table 7-26 Internal components (2 of 3) (print engine)

Ref	Description	Part number	Qty
1	Laser scanner assembly (print engine)	RM1-2555-000CN	1
2	Shutter, fuser	RC1-7163-000CN	1
3	Guide, laser FFC		1
4	Link, tag	RC1-7289-000CN	1
5	Shaft, fuser shutter	RC1-7436-000CN	1
6	Lever, shutter	RC1-7451-000CN	1
7	Cover, shutter lever		1
8	Link, fuser sensing, small	RC1-8058-000CN	1
9	Block, cartridge		2
10	Plate, scanner duct	RC1-8069-000CN	1
11	Duct, scanner		1
12	Guide, cable		1
13	Duct, scanner, lower	RC1-8328-000CN	1
14	Cam, shutter	RC1-8329-000CN	1
15	Lever, pushing	RC1-8330-000CN	1
16	Spacer, slide	RC1-8331-000CN	1
17	Cam, slide	RC1-8332-000CN	1
18	Ring, spacer	RC1-8333-000CN	1
19	Spring, torsion	RC1-8334-000CN	1
20	Spring, torsion	RC1-8335-000CN	1
21	Spring, compression	RU5-2633-000CN	1
22	Spring, tension	RU5-2651-000CN	2
23	Photo interrupter, TLP1243	WG8-5696-000CN	1
24	Screw, D, M3X6		13
25	Tag holder assembly	RM1-2999-000CN	1
26	Cable, memory contact		1
27	Guide, scanner cable		1
28	Holder, front fan		1
29	Guide, cable		1
30	Link, fuser sensing	RC1-8059-000CN	1
31	Lever, fuser sensing switch	RC1-8060-000CN	1
32	Spring, torsion	RC1-8078-000CN	1
33	Cover, interlock		1
34	Cross member, handle		1

Table 7-26 Internal components (2 of 3) (print engine) (continued)

Ref	Description	Part number	Qty
35	Guide, cable		1
36	Support, DC controller		1
37	Holder, rear fan		1
38	Holder, rear fan		1
39	Plate, FFC shield		1
40	Spring, compression	RU5-2683-000CN	1
41	Screw, tap, M3X6		4
42	Power supply assembly (110–127 V)	RM1-2994-000CN	1
42	Power supply assembly (220–240 V)	RM1-3006-000CN	1
43	Shield, rear fan grounding		1
44	Fan, rear	RK2-1284-000CN	1
45	Fan, front	RK2-1285-000CN	1
46	Guide, cable		1
47	Lock, pressure release, front	RC1-8039-000CN	1
48	Sheet, drawer protective		1
49	Lever, drive release	RC1-8075-000CN	1
50	Guide, cable		1
51	Paper delivery drive assembly	RM1-2962-000CN	1
52	Holder, floating connector		1
53	Connector, drawer	VS1-7258-0007CN	1
54	Clip, cable		1
55	Foot assembly		4
56	Connecting PCA assembly	RM1-2995-000CN	1
57	Lever, tag lock		1
58	Spring, compression		1
59	Cable, heater		1
60	Cable, multi-scanner		1
61	Switch, cartridge door	RM1-3471-000CN	1
62	Cable, facedown drive		1
63	Cable, delivery option		1
64	Cable, feeder		1
65	Cable, cassette lift		1
66	Connector, snap tight		1
67	Cable, scanner power		1
68	Cable, cartridge sensor		1

Table 7-26 Internal components (2 of 3) (print engine) (continued)

Ref	Description	Part number	Qty
69	Screw, M3X8		4
70	Plate, reinforcement		1
501	Screw, tap, binding head, M3X8		2
A01	Holder, connector		1
A02	Holder, connector		1
A03	Plate, tag holder		1
A04	IS connecting PCA assembly		1
A05	Spring, compression		1
A06	Connector, snap tight, BK		4
A07	Plate, formatter guide		1
A08	Plate, formatter guide cap		2
A09	Screw, D, M3X6		4
A10	Guide, flexible flat cable		1
A11	Link, duplexer flapper, 1		1
A12	Link, duplexer flapper, 2		1
A13	Solenoid		1
A14	Plate, paper delivery drive		1
A15	Gear, 18T		1
A16	Gear, 25T/25T		1
A17	Gear, 28T		1
A18	Spring, compression		1
A19	Screw, tap, M3X6		2
A20	Foot		4
A21	Support, foot		4
A22	Screw, stepped, M3		4
A23	Support, DINN board		1
A24	Video interface PCA assembly		1
A25	Connector, snap tight, BK		1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Internal components (print engine; 3 of 3)

Figure 7-25 Internal components (3 of 3) (print engine)

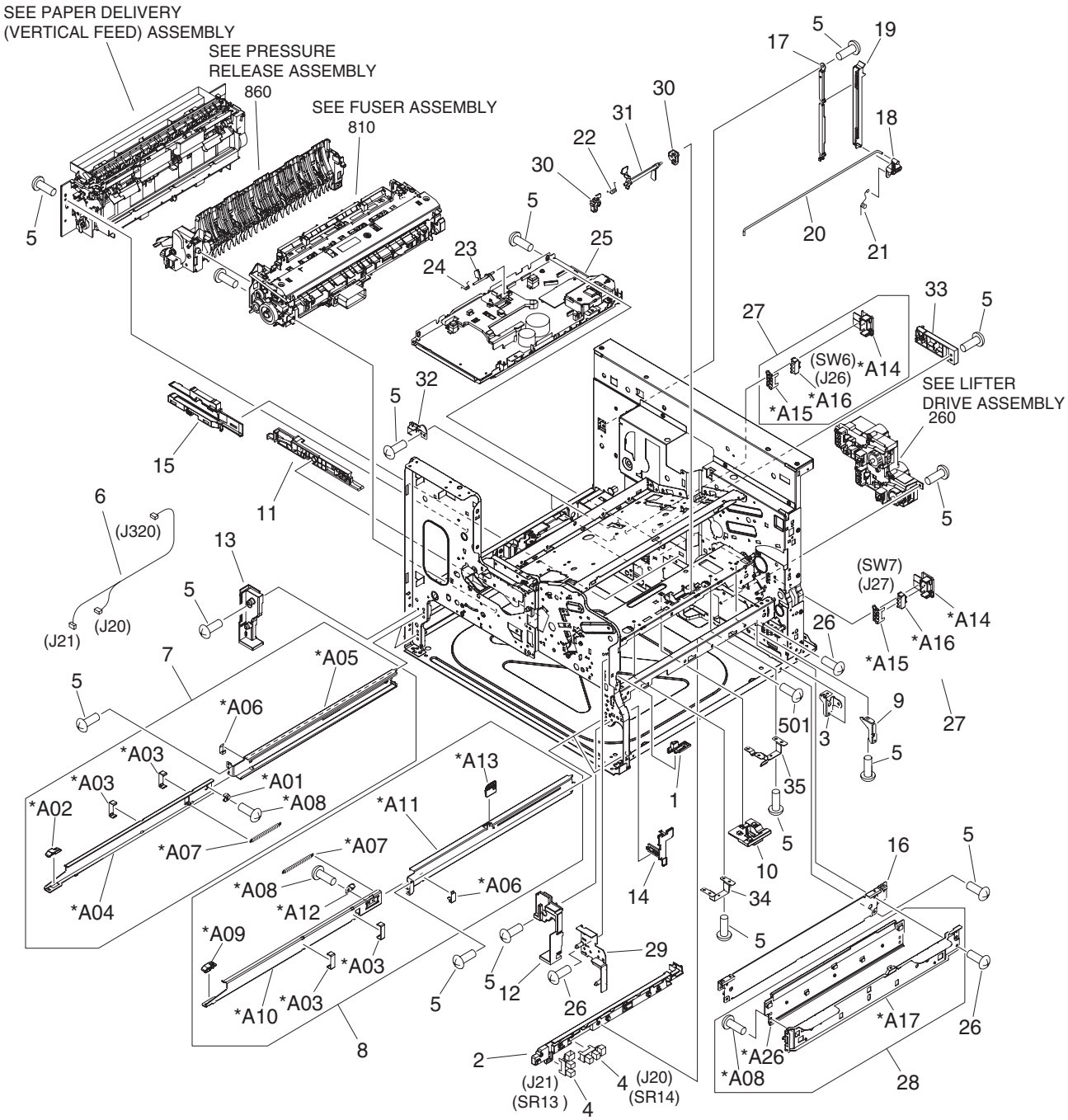


Table 7-27 Internal components (3 of 3) (print engine)

Ref	Description	Part number	Qty
1	Cam, pad return, upper		1
2	Holder, sensor		1
3	Plate, frame auxiliary		1
4	Photo interrupter, TLP1243	WG8-5696-000CN	2
5	Screw, D, M3X6		6
6	Cable, feed sensor		1
7	Left cassette rail assembly	RM1-2970-000CN	2
8	Right cassette rail assembly	RM1-2971-000CN	2
9	Plate, cross member auxiliary	RC1-7264-000CN	1
10	Holder, top sensor	RC1-7268-000CN	1
11	Guide, duplexer, front	RC1-8027-000CN	1
12	Holder, cassette, right front	RC1-8035-000CN	1
13	Holder, cassette, left front	RC1-8036-000CN	1
14	Cam, pad return, lower	RC1-8038-000CN	1
15	Guide, duplexer, rear	RC1-8048-000CN	1
16	Guide, path, lower		1
17	Holder, power supply link guide		1
18	Joint, power supply switch		1
19	Link, power supply switch		1
20	Rod, power switch		1
21	Spring, torsion		1
22	Spring, torsion	RU5-2596-000CN	1
23	Flag, loop sensor	RC1-7144-000CN	1
24	Spring, torsion	RC1-7145-000CN	1
25	High voltage power supply assembly (110–127 V)	RM1-2957-000CN	1
25	High voltage power supply assembly (220–240 V)	RM1-2958-000CN	1
26	Screw, M3X8		6
27	Back end sensor assembly	RM1-2968-000CN	2
28	Right lower handle assembly		1
29	Plate, cassette positioning		1
30	Bushing	RC1-7249-000CN	2
31	Flag, top sensor	RC1-7261-000CN	1
32	Holder, cassette, rear		2
33	Lock, pressure release, rear		1

Table 7-27 Internal components (3 of 3) (print engine) (continued)

Ref	Description	Part number	Qty
34	Support, high voltage, left		1
35	Support, high voltage, right		1
501	Screw, tapping, truss head, M4X10		3
A01	Stopper, extension rail		2
A02	Stopper, cassette, left		2
A03	Guide, extension rail		8
A04	Rail, inner, left		2
A05	Rail, outer, left		2
A06	Guide, outer rail		4
A07	Spring, tension		4
A08	Screw, D, M3X6		4
A09	Stopper, cassette, right		2
A10	Rail, inner, right		2
A11	Rail, outer, right		2
A12	Stopper, rail, right		2
A13	Plate, cam		2
A14	Block, sensor		2
A15	Spring, grounding		2
A16	Switch, push		2
A17	Guide, paper feed		1
A18	Cross member, grip		1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Paper delivery assembly (print engine)

Figure 7-26 Paper delivery assembly (print engine)

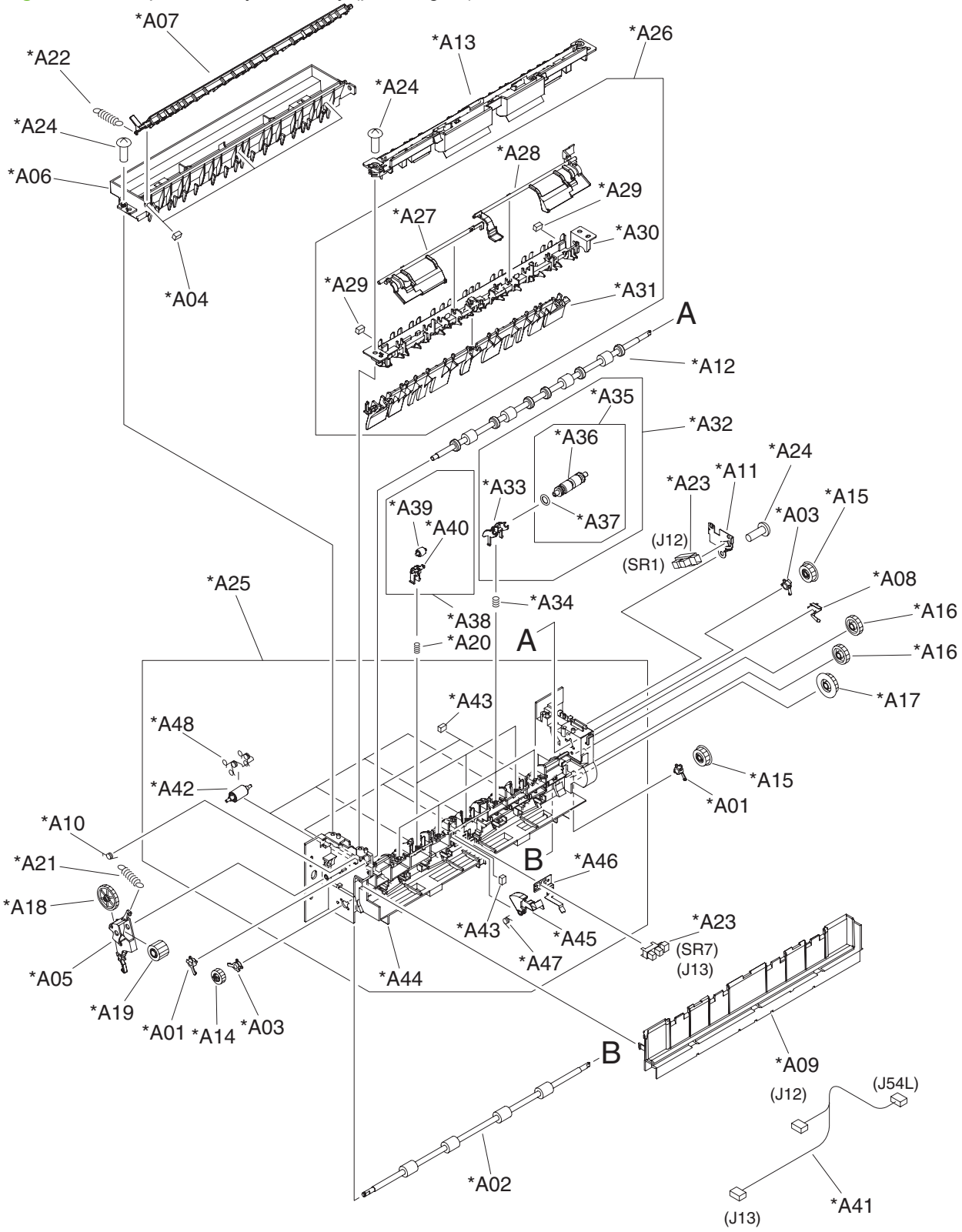


Table 7-28 Paper delivery assembly (print engine)

Ref	Description	Part number	Qty
All	Paper delivery assembly	RM1-2987-000CN	1
A01	Bushing		2
A02	Roller, paper delivery		1
A03	Bushing		2
A04	Pad, flapper		3
A05	Holder, duplexer pendulum		1
A06	Guide, interface		1
A07	Flapper, duplexer		1
A08	Plate, roller grounding		1
A09	Cover, facedown		1
A10	Spring, torsion		1
A11	Plate, sensor		1
A12	Roller, facedown		1
A13	Guide, sub		1
A14	Gear, 15T		1
A15	Gear, 15T		2
A16	Gear, 17T		2
A17	Gear, 18T		1
A18	Gear, 28T		1
A19	Gear, 17T		1
A20	Spring, compression		3
A21	Spring, tension		1
A22	Spring, tension		1
A23	Photo interrupter, TLP1243	WG8-5696-000CN	2
A24	Screw, tapping, truss head, M 4X10		5
A25	Facedown frame assembly		1
A26	Top guide assembly		1
A27	Flag, facedown		1
A28	Flag, paper full detect		1
A29	Pad, flapper		2
A30	Guide, top		1
A31	Flapper, duplexer facedown		1
A32	Facedown roller holder assembly		4
A33	Holder, facedown roller		4

Table 7-28 Paper delivery assembly (print engine) (continued)

Ref	Description	Part number	Qty
A34	Spring, compression		4
A35	Roller assembly		4
A36	Roller, paper delivery		4
A37	Ring, O		4
A38	Roller holder assembly		3
A39	Roller		1
A40	Holder, roller		1
A41	Cable, facedown assembly		1
A42	Roller, paper delivery		4
A43	Pad, flapper		4
A44	Frame, facedown		1
A45	Flag, paper delivery sensor		1
A46	Plate, ESD grounding		1
A47	Spring, torsion		1
A48	Spring, torsion		4

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Lifter drive assembly (print engine)

Figure 7-27 Lifter drive assembly (print engine)

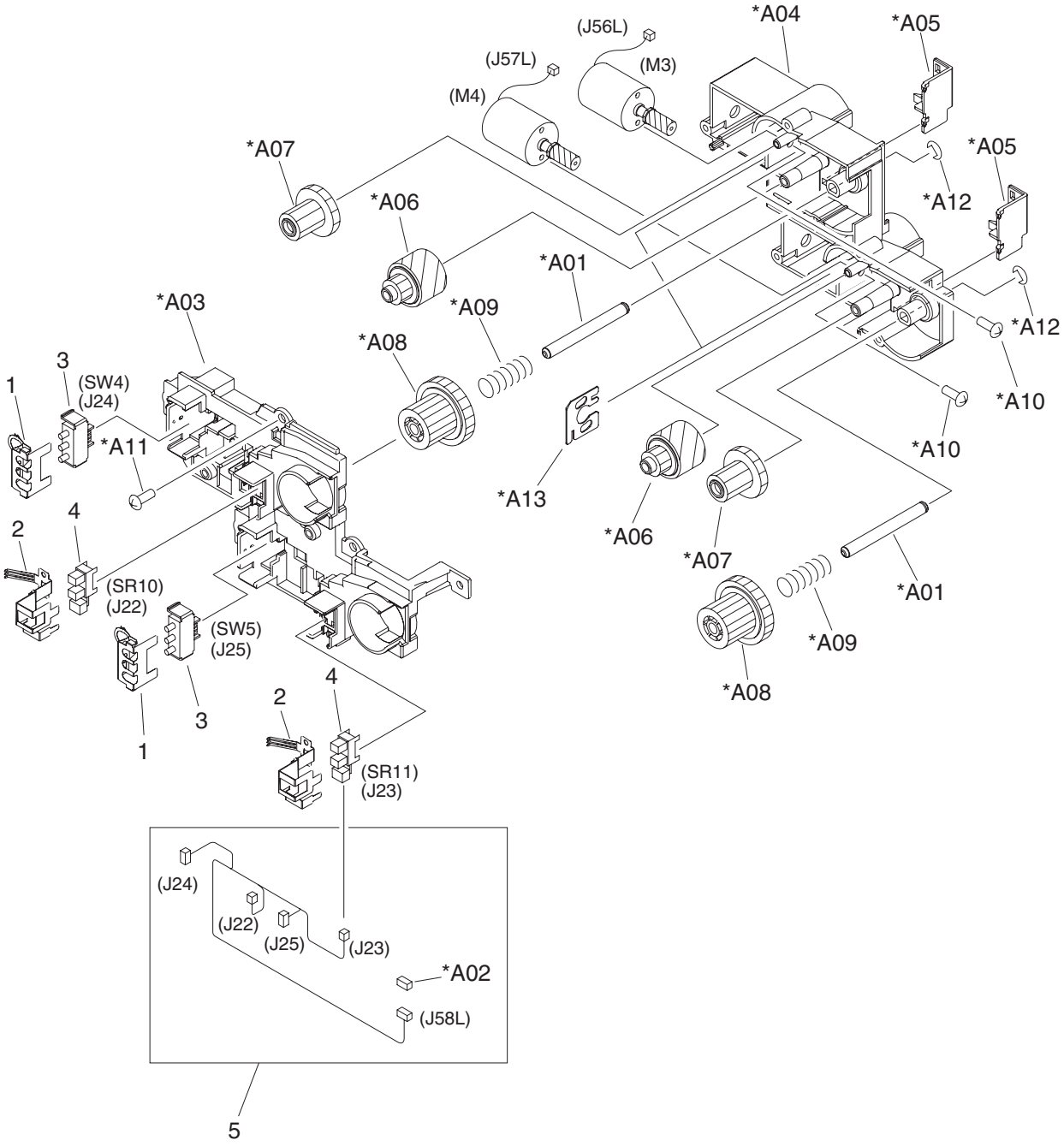


Table 7-29 Lifter drive assembly (print engine)

Ref	Description	Part number	Qty
All	Lifter drive assembly	RM1-2969-000CN	1
1	Spring, grounding		2
2	Plate, photosensor grounding		2
3	Switch, push		2
4	Photo interrupter, TLP1243	WG8-5696-000CN	2
5	Cable, cassette size		1
A01	Shaft, cassette input gear		2
A02	Connector, snap tight		1
A03	Box, gear, front		1
A04	Box, gear, rear		1
A05	Cover, gear box protective		2
A06	Gear, 39T/21T		2
A07	Gear, 43T/17T		2
A08	Gear, 43T/16T		2
A09	Spring, compression		2
A10	Screw, w/washer, M3X6		4
A11	Screw, tapping, truss head, M4X10		5
A12	Ring, E		2
A13	Plate, lifter		2

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Fuser drive assembly (print engine)

Figure 7-28 Fuser drive assembly (print engine)

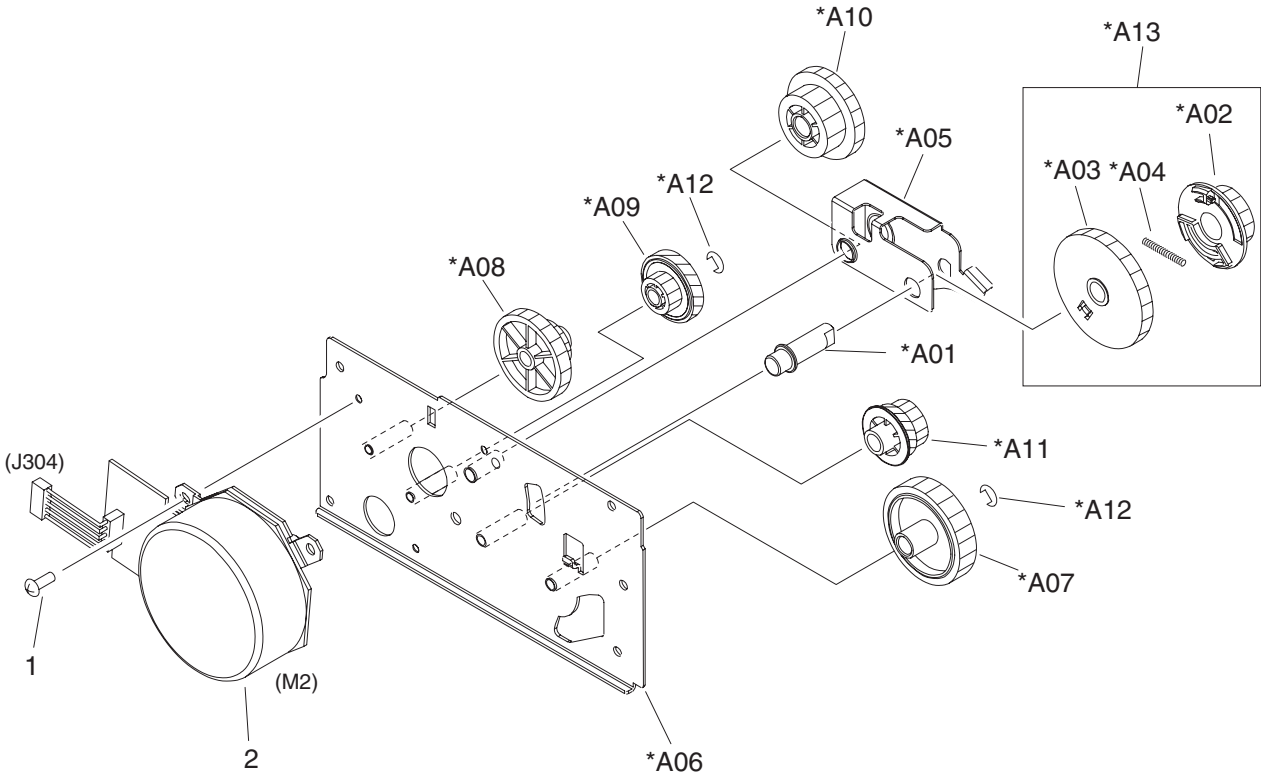


Table 7-30 Fuser drive assembly (print engine)

Ref	Description	Part number	Qty
All	Fuser drive assembly (print engine)	RM1-2963-000CN	1
1	Screw, D, M3X6		3
2	Fuser motor assembly	RM1-2538-000CN	1
A01	Shaft, fuser drive swing		1
A02	Gear, 17T		1
A03	Gear, 36T		1
A04	Spring, compression		1
A05	Plate, fuser drive swing		1
A06	Plate, fuser drive		1
A07	Gear, 31T		1
A08	Gear, 67T/17T		1
A09	Gear, 49T/27T		1
A10	Gear, 33T/19T		1
A11	Gear, 37T/16T		1
A12	Ring, E	XD9-0233-000CN	2
A13	Drive estrangement gear assembly		1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Lower drive assembly (print engine)

Figure 7-29 Lower drive assembly (print engine)

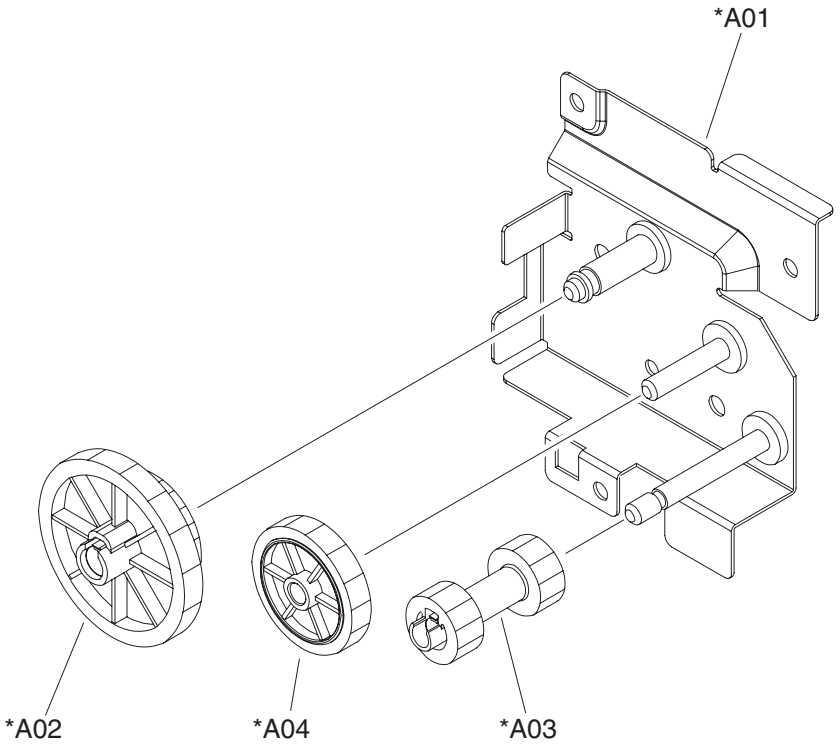


Table 7-31 Lower drive assembly (print engine)

Ref	Description	Part number	Qty
All	Lower drive assembly	RM1-2972-000CN	1
A01	Plate, drive, lower		1
A02	Gear, 43T/26T		1
A03	Gear, 14T/14T		1
A04	Gear, 29T		1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Upper cassette (print engine)

Figure 7-30 Upper cassette (print engine)

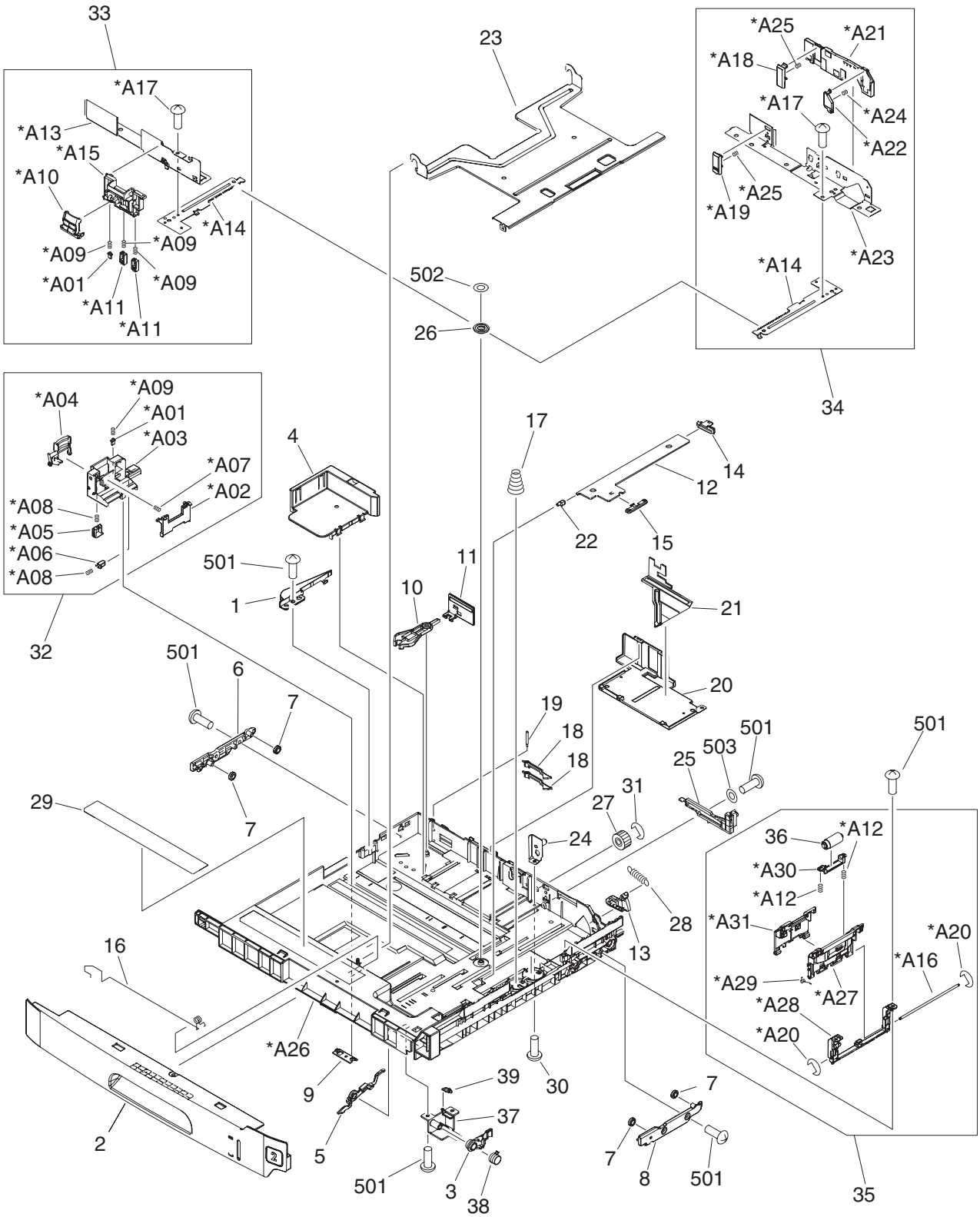


Table 7-32 Upper cassette (print engine)

Ref	Description	Part number	Qty
All	Upper cassette (engine)	RM1-2978-000CN	1
1	Guide, cassette lock		1
2	Cover, cassette, upper		1
3	Cam, remnant, upper		1
4	Cover, back end sensing, upper		1
5	Lever, remnant detect, upper		1
6	Rail, attachment, left		1
7	Roller, cassette rail		4
8	Rail, attachment, right		1
9	Slider, back end limit		1
10	Cam, back end sensing		1
11	Lever, back end sensing		1
12	Arm, lift		1
13	Cam, lift arm		1
14	Cap, lift arm cam		1
15	Slider, lifter arm		1
16	Spring, grounding		1
17	Spring, compression		2
18	Link, back end sensing switch		2
19	Shaft, back end sensing link		1
20	Cover, width sensing		1
21	Cam, width sensing		1
22	Bushing		1
23	Plate, lifter		1
24	Plate, cassette support		1
25	Rack, lifter		1
26	Gear, 14T		1
27	Gear, 17T		1
28	Spring, tension		1
29	Label, cassette control, UP		1
30	Screw, M3X8		1
31	Ring, E		1
32	Back end limit assembly		1
33	Front paper side end assembly		1

Table 7-32 Upper cassette (print engine) (continued)

Ref	Description	Part number	Qty
34	Rear paper side end assembly		1
35	Separation block assembly	RM1-2983-000CN	1
36	Separation roller assembly		1
37	Holder, remnant, upper		1
38	Spring, compression		1
39	Spring, tension		1
501	Screw, tapping, truss head, M4X10		11
502	Plain washer		1
503	Plain washer		2
A01	Block, side end size clicker		2
A02	Plate, back end limit		1
A03	Holder, back end limit		1
A04	Lever, back end limit lock		1
A05	Lock, back end limit		1
A06	Block, back end size clicker		1
A07	Spring, compression		1
A08	Spring, compression		2
A09	Spring, compression		4
A10	Lever, side		1
A11	Lock, side		2
A12	Spring, compression		2
A13	Guide, side, front		1
A14	Rack, side		2
A15	Holder, side guide, front		1
A16	Shaft, separation block		1
A17	Screw, D, M3X6		1
A18	Clamp, paper, middle		1
A19	Clamp, paper, rear		1
A20	Ring, E		2
A21	Holder, side guide, rear		1
A22	Clamp, paper, front		1
A23	Plate, paper side end, rear		1
A24	Spring, compression		1
A25	Spring, compression		2
A26	Body, cassette, upper		1

Table 7-32 Upper cassette (print engine) (continued)

Ref	Description	Part number	Qty
A27	Block, separation roller		1
A28	Holder, separation block		1
A29	Spring, torsion		1
A30	Base, separation roller		
A31	Cover, separation roller block		1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Lower cassette (print engine)

Figure 7-31 Lower cassette (print engine)

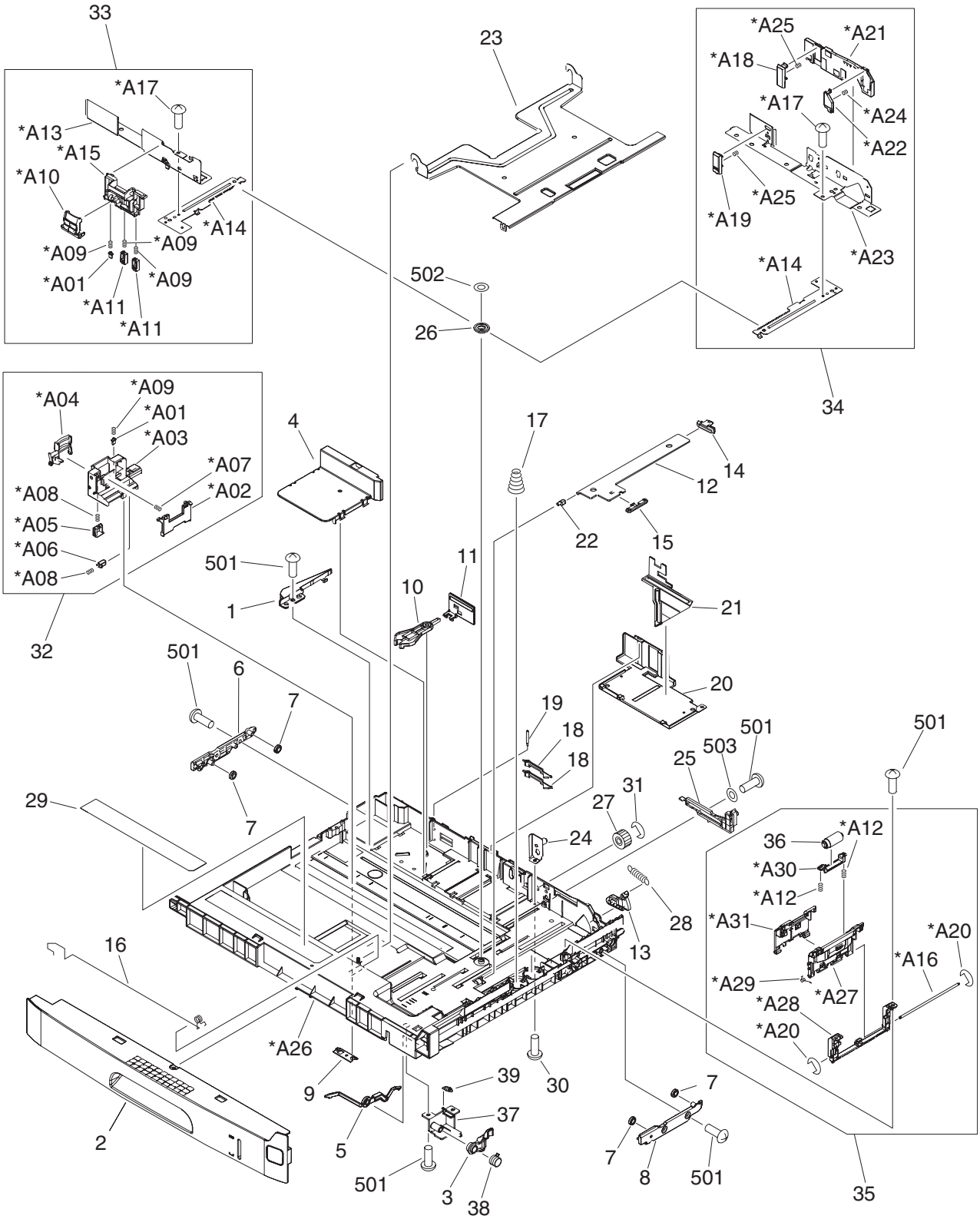


Table 7-33 Lower cassette (print engine)

Ref	Description	Part number	Qty
All	Lower cassette (engine)	RM1-2979-000CN	1
1	Guide, cassette lock		1
2	Cover, cassette, lower		1
3	Cam, remnant, lower		1
4	Cover, back end sensing		1
5	Lever, remnant detect, lower		1
6	Rail, attachment, left		1
7	Roller, cassette rail		4
8	Rail, attachment, right		1
9	Slider, back end limit		1
10	Cam, back end sensing		1
11	Lever, back end sensing		1
12	Arm, lift		1
13	Cam, lift arm		1
14	Cap, lift arm cam		1
15	Slider, lifter arm		1
16	Spring, grounding		1
17	Spring, compression		2
18	Link, back end sensing switch		2
19	Shaft, back end sensing link		1
20	Cover, width sensing		1
21	Cam, width sensing		1
22	Bushing		1
23	Plate, lifter		1
24	Plate, cassette support		1
25	Rack, lifter		1
26	Gear, 14T		1
27	Gear, 17T		1
28	Spring, tension		1
29	Label, cassette control, lower		1
30	Screw, M3X8		1
31	Ring, E		1
32	Back end limit assembly		1
33	Front paper side end assembly		1

Table 7-33 Lower cassette (print engine) (continued)

Ref	Description	Part number	Qty
34	Rear paper side end assembly		1
35	Separation block assembly	RM1-2983-000CN	1
36	Separation roller assembly		1
37	Holder, remnant, lower		1
38	Spring, compression		1
39	Spring, tension		1
501	Screw, tapping, truss head, M4X10		11
502	Plain washer		1
503	Plain washer		2
A01	Block, side end size clicker		2
A02	Plate, back end limit		1
A03	Holder, back end limit		1
A04	Lever, back end limit lock		1
A05	Lock, back end limit		1
A06	Block, back end size clicker		1
A07	Spring, compression		1
A08	Spring, compression		2
A09	Spring, compression		4
A10	Lever, side		1
A11	Lock, side		2
A12	Spring, compression		2
A13	Guide, side, front		1
A14	Rack, side		2
A15	Holder, side guide, front		1
A16	Shaft, separation block		1
A17	Screw, D, M3X6		1
A18	Clamp, paper, middle		1
A19	Clamp, paper, rear		1
A20	Ring, E		2
A21	Holder, side guide, rear		1
A22	Clamp, paper, front		1
A23	Plate, paper side end, rear		1
A24	Spring, compression		1
A25	Spring, compression		2
A26	Body, cassette, upper		1

Table 7-33 Lower cassette (print engine) (continued)

Ref	Description	Part number	Qty
A27	Block, separation roller		1
A28	Holder, separation block		1
A29	Spring, torsion		1
A30	Base, separation roller		
A31	Cover, separation roller block		1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Upper cassette pickup assembly (print engine)

Figure 7-32 Upper cassette pickup assembly (print engine)

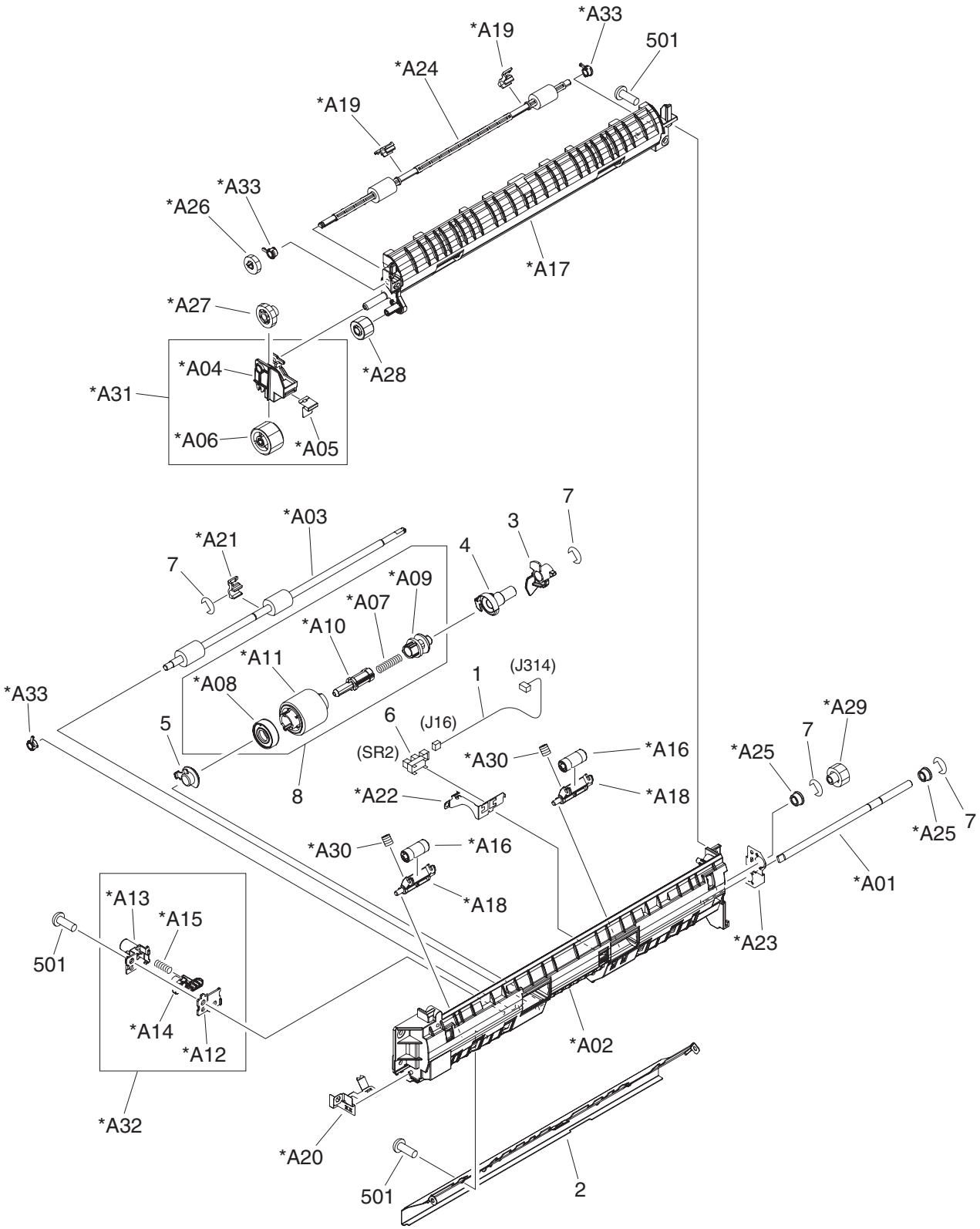


Table 7-34 Upper cassette pickup assembly (print engine)

Ref	Description	Part number	Qty
All	Upper cassette paper pickup assembly (engine)	RM1-2976-000CN	1
1	Cable, cassette sensor, upper		1
2	Guide, paper re-pick up		1
3	Lever, paper sensor		1
4	Bushing		1
5	Bushing		1
6	Photo interrupter, TLP1243	WG8-5696-000CN	1
7	Ring, E		4
8	Paper pickup roller assembly	RM1-2988-000CN	1
501	Screw, tapping, truss head, M4X10		6
A01	Shaft, paper pickup drive		1
A02	Frame, paper pickup, upper		1
A03	Shaft, roller, upper		1
A04	Arm, pendulum		1
A05	Spring, leaf		1
A06	Gear, 23T		1
A07	Spring, compression		1
A08	Cap, paper pickup, left		1
A09	Core, paper pickup roller		1
A10	Shaft, cassette slide		1
A11	Roller, cassette paper pickup		1
A12	Case, roller stopper		1
A13	Case, roller stopper		1
A14	Lever, roller stopper		1
A15	Spring, compression		1
A16	Roller, idler		2
A17	Guide, paper re-pickup, upper		1
A18	Holder, paper re-pickup roller		2
A19	Bushing		2
A20	Spring, grounding		1
A21	Bushing		1
A22	Plate, sensor grounding		1
A23	Plate, roller grounding, upper		1
A24	Roller, paper re-pickup		1

Table 7-34 Upper cassette pickup assembly (print engine) (continued)

Ref	Description	Part number	Qty
A25	Bushing		2
A26	Gear, 14T		1
A27	Gear, 19T		1
A28	Gear, 15T		1
A29	Gear, 16T		1
A30	Spring, compression		2
A31	Pendulum arm assembly		1
A32	Roller stopper assembly		1
A33	Bushing		3

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Lower cassette pickup assembly (print engine)

Figure 7-33 Lower cassette pickup assembly (print engine)

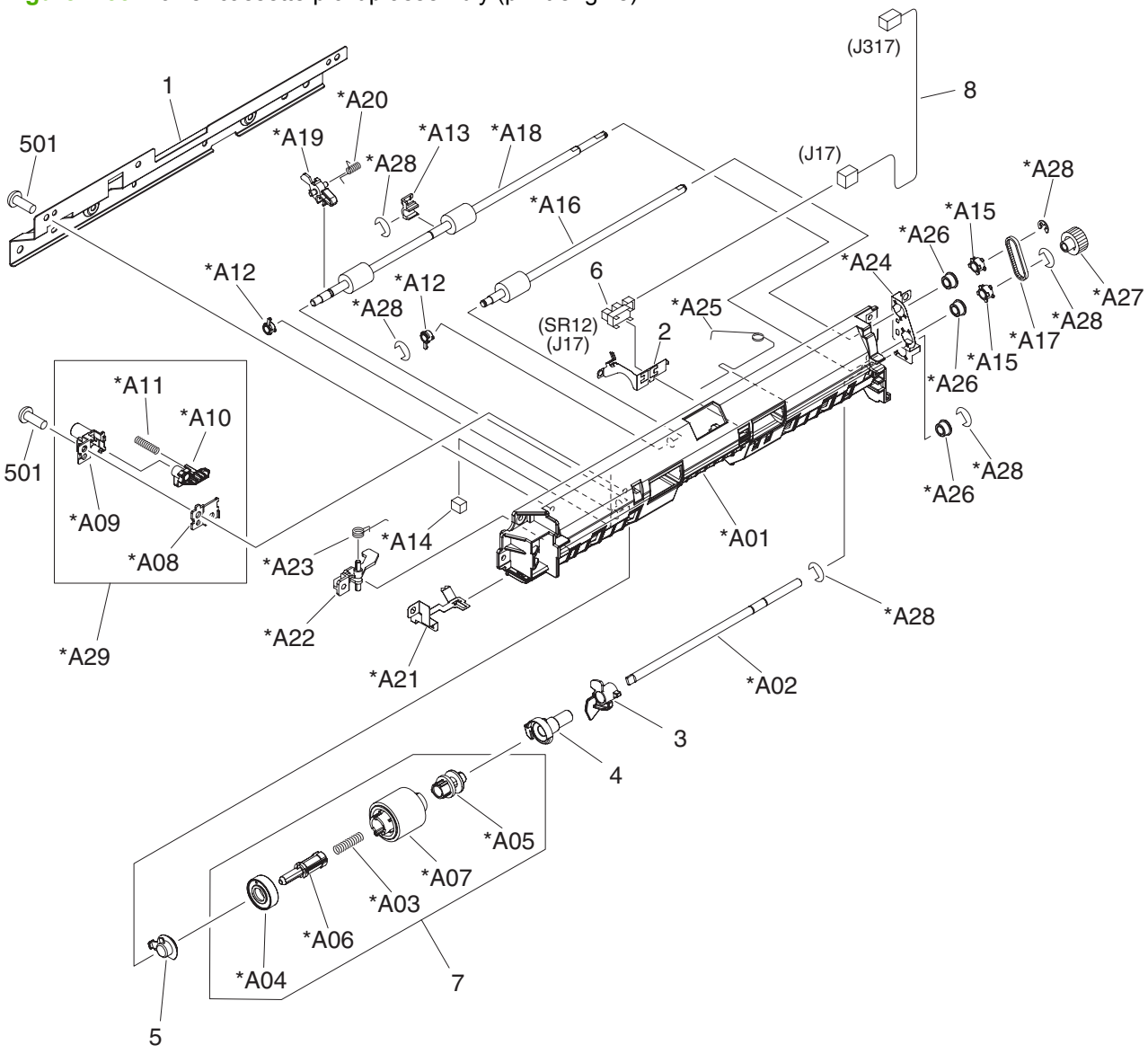


Table 7-35 Lower cassette pickup assembly (print engine)

Ref	Description	Part number	Qty
All	Lower cassette pickup assembly (engine)	RM1-2977-000CN	1
1	Support, frame, lower		1
2	Plate, sensor grounding		1
3	Lever, paper sensor		1
4	Bushing		1
5	Bushing		1
6	Photo interrupter, TLP1243	WG8-5696-000CN	1
7	Paper pickup roller assembly	RM1-2998-000CN	1
8	Cable, cassette sensor, lower		1
501	Screw, tapping, truss head, M4X10		6
A01	Frame, paper pickup, lower		1
A02	Shaft, paper pickup drive		1
A03	Spring, compression		1
A04	Cap, paper pickup, left		1
A05	Core, paper pickup roller		1
A06	Shaft, cassette slide		1
A07	Roller, cassette paper pickup		1
A08	Case, roller stopper		1
A09	Case, roller stopper		1
A10	Lever, roller stopper		1
A11	Spring, compression		1
A12	Bushing		2
A13	Bushing		1
A14	Pad, flapper		1
A15	Pulley		2
A16	Roller, paper feed, A5		1
A17	Belt, paper feed		1
A18	Roller, multipurpose, lower		1
A19	Flag, path sensor, lower		1
A20	Spring, torsion		1
A21	Plate, grounding lower		1
A22	Lever, cover sensing, right		1
A23	Spring, torsion		1
A24	Plate, roller grounding, lower		1

Table 7-35 Lower cassette pickup assembly (print engine) (continued)

Ref	Description	Part number	Qty
A25	Spring, grounding		1
A26	Bushing		3
A27	Gear, 16T		1
A28	Ring, E		6
A29	Roller stopper assembly		1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Registration assembly (print engine)

Figure 7-34 Registration assembly (print engine)

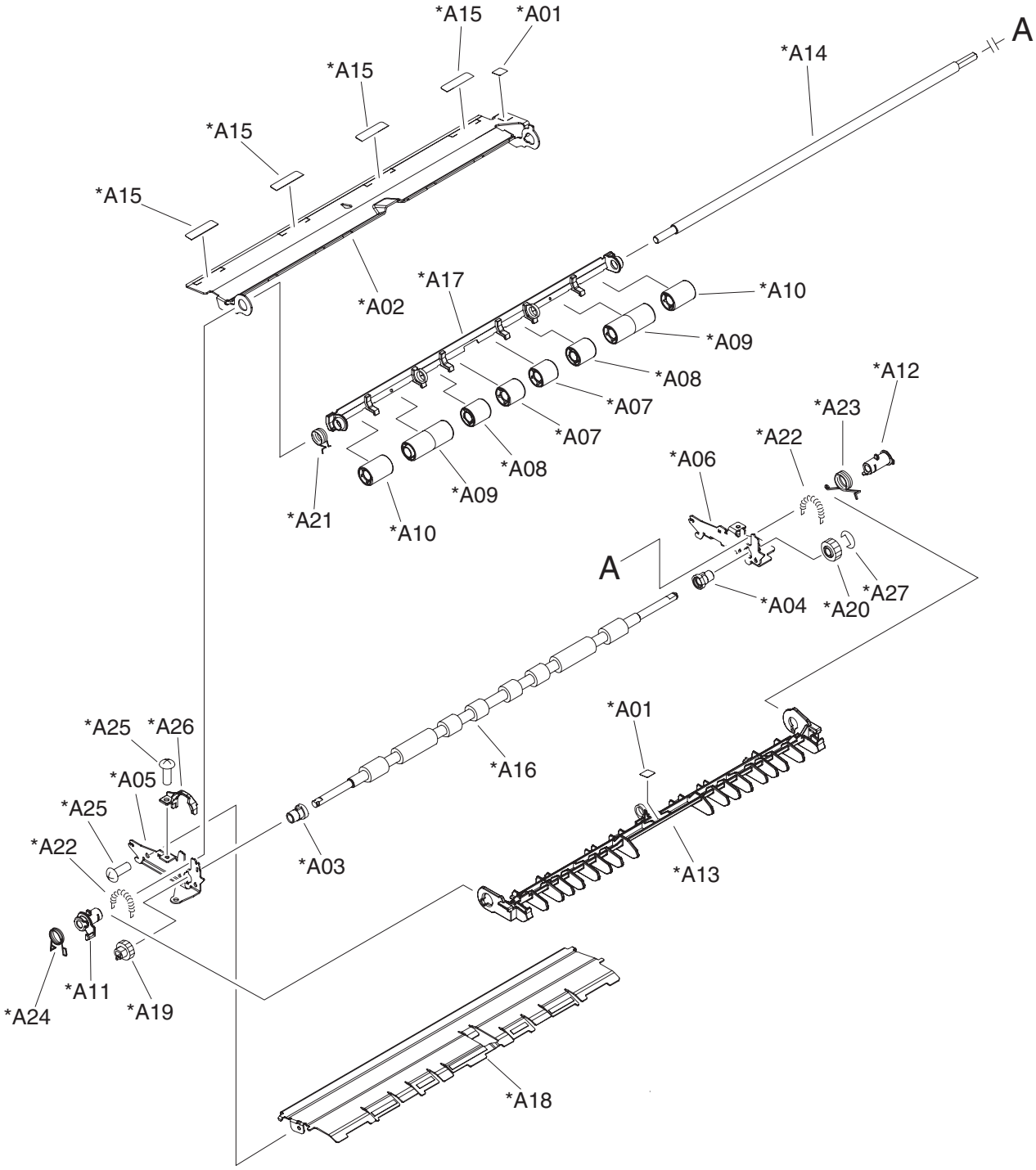


Table 7-36 Registration assembly (print engine)

Ref	Description	Part number	Qty
All	Registration assembly	RM1-3001-000CN	1
A01	Label, control position		2
A02	Guide, transfer, upper		1
A03	Bushing		1
A04	Bushing		1
A05	Side plate, registration, left		1
A06	Side plate, registration, right		1
A07	Roller, registration		2
A08	Roller, registration		2
A09	Roller, registration		2
A10	Roller, registration		2
A11	Bushing		1
A12	Bushing		1
A13	Guide, registration, upper		1
A14	Shaft, registration roller		1
A15	Sheet, transfer guide, upper		4
A16	Roller, registration		1
A17	Shutter, registration		1
A18	Guide, transfer, lower		1
A19	Gear, 12T		1
A20	Gear, 15T		1
A21	Spring, torsion		1
A22	Spring, tension		2
A23	Spring, torsion		1
A24	Spring, torsion		1
A25	Screw, D, M3X6		2
A26	Holder, registration		1
A27	Ring, E		1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Paper feed assembly (print engine)

Figure 7-35 Paper feed assembly (print engine)

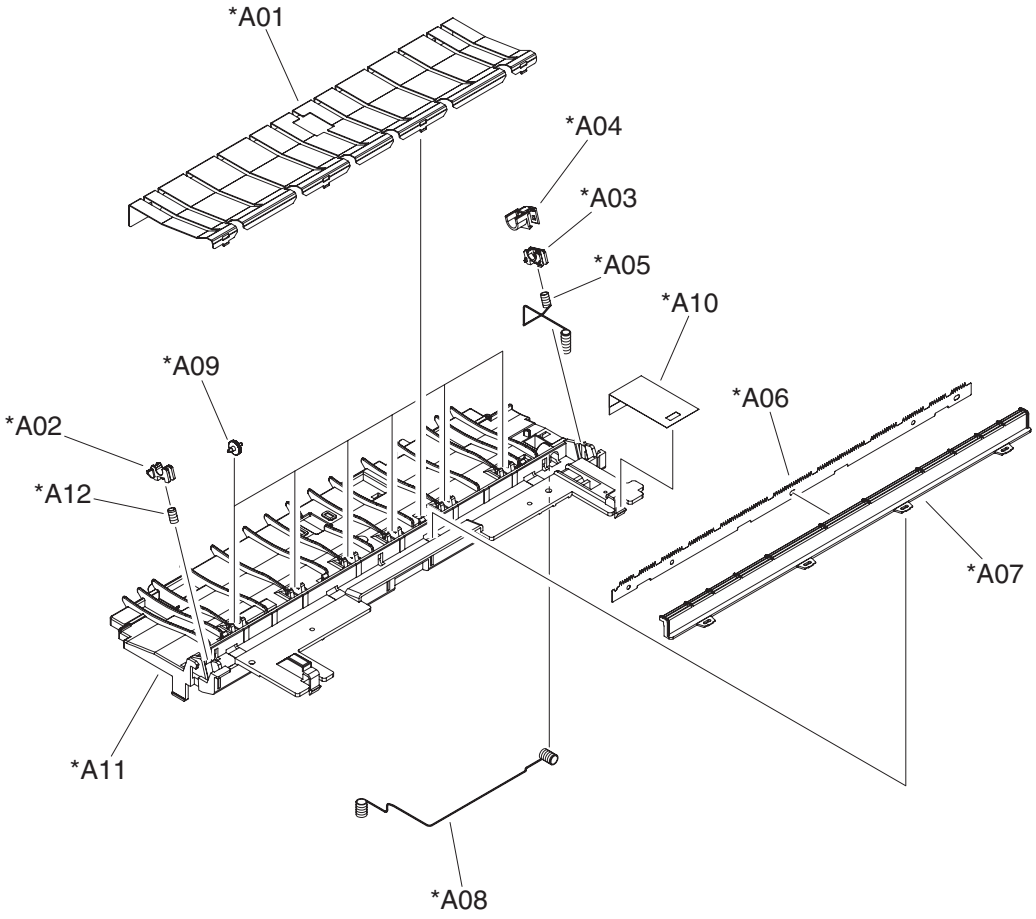


Table 7-37 Paper feed assembly (print engine)

Ref	Description	Part number	Qty
All	Paper feed assembly	RM1-3009-000CN	1
A01	Plate, paper feed		1
A02	Bushing		1
A03	Bushing		1
A04	Cover, transfer bushing, right		1
A05	Spring, compression		1
A06	Eliminator, static charge		1
A07	Cover, static charge eliminator		1
A08	Spring, compression		1
A09	Roller		6
A10	Sheet, transfer insulating		1
A11	Guide, paper feed		1
A12	Spring, compression		1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

PCA assemblies (print engine)

Figure 7-36 PCA assemblies (print engine)

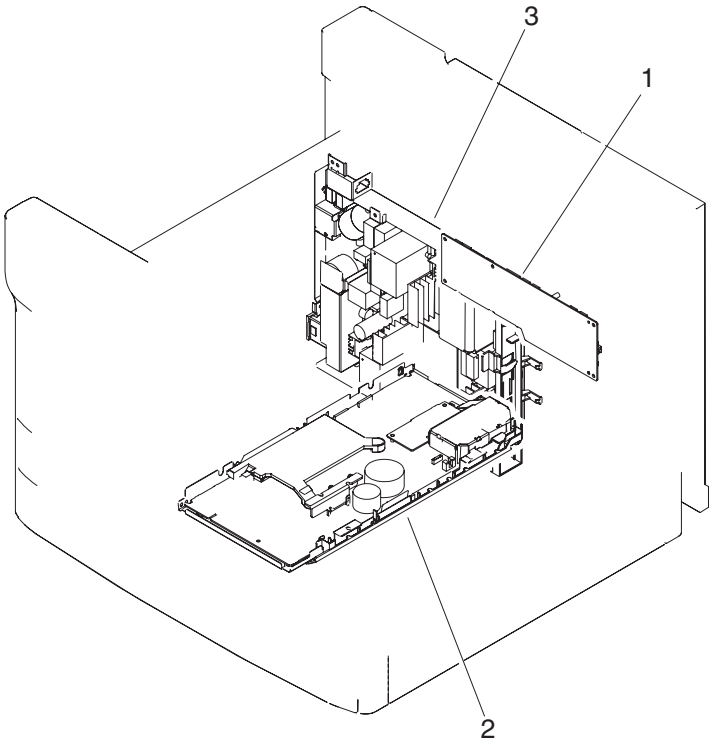


Table 7-38 PCA assemblies

Ref	Description	Part number	Qty
1	DC controller PCA assembly	RM1-3459-000CN	1
2	High-voltage PCA assembly (110V-127V)	RM1-2957-000CN	1
2	High-voltage PCA assembly (220V-240V)	RM1-2958-000CN	1
3	Low-voltage PCA assembly (110V-127V)	RM1-2994-000CN	1
3	Low-voltage PCA assembly (220V-240V)	RM1-3006-000CN	1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Fuser (print engine)

Figure 7-37 Fuser (print engine)

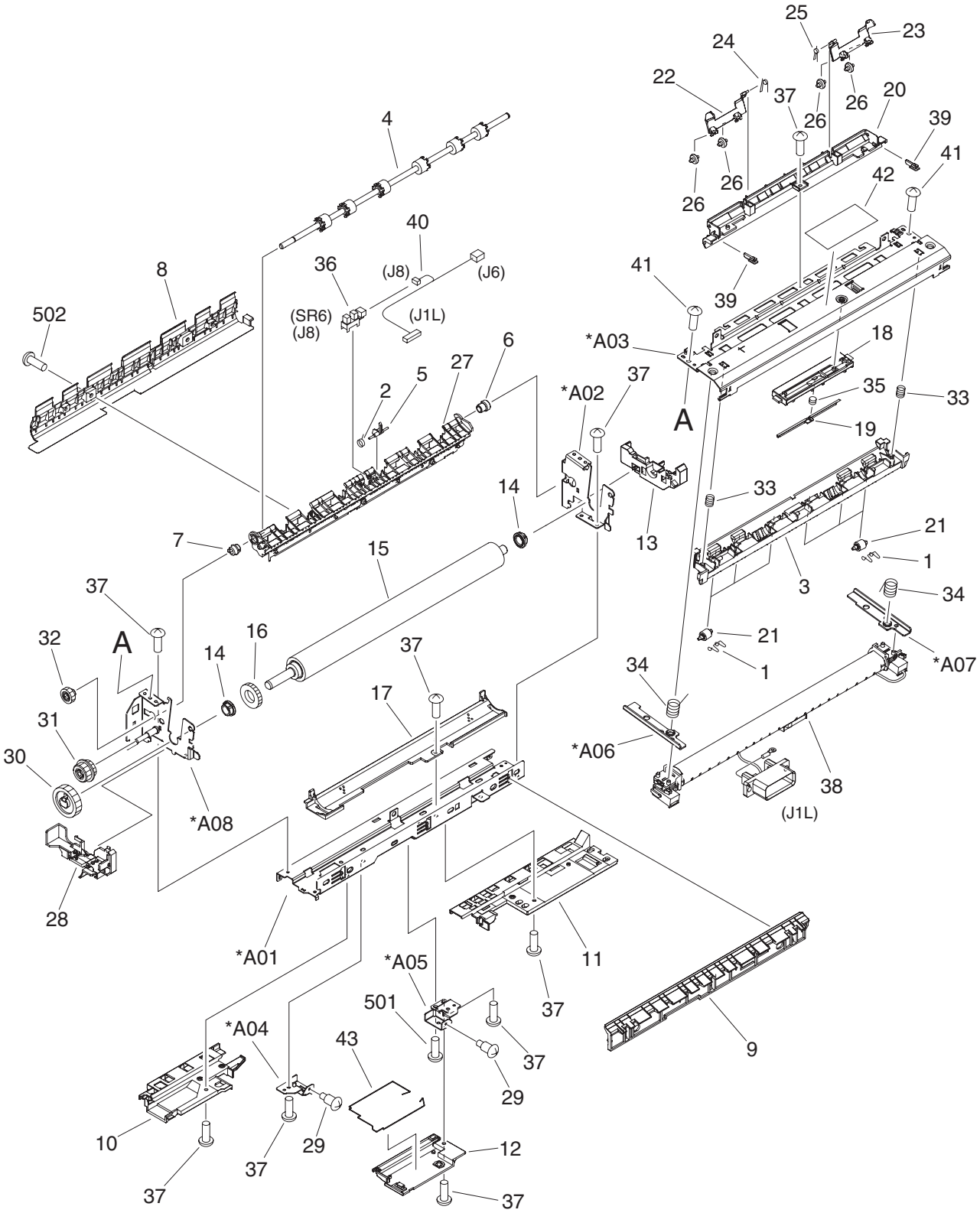


Table 7-39 Fuser (print engine)

Ref	Description	Part number	Qty
	Fuser assembly (110V-127V)	RM1-3007-000CN	1
	Fuser assembly (220V-240V)	RM1-3008-000CN	1
1	Spring, compression		6
2	Spring, torsion		1
3	Guide, separation, upper		1
4	Roller, face-up paper delivery		1
5	Lever, paper delivery sensor		1
6	Bushing		1
7	Bushing		1
8	Guide, reverse		1
9	Guide, fuser entrance		1
10	Holder, fuser cable		1
11	Holder, fuser cable		1
12	Cover, fuser drawer		1
13	Guide, fuser, right		1
14	Bushing		2
15	Roller, pressure		1
16	Ring, conductive rubber		1
17	Duct, fuser		1
18	Holder, wrap stopper		1
19	Arm, wrap stopper		1
20	Duct, separation, upper		1
21	Roller, face-up		6
22	Guide, flapper, left		1
23	Guide, flapper, right		1
24	Spring, torsion		1
25	Spring, torsion		1
26	Roller, flapper guide		4
27	Guide, separation, lower		1
28	Guide, fuser, left		1
29	Screw, stepped		2
30	Gear, 29T		1
31	Gear, 18T/16T		1
32	Gear, 16T		1

Table 7-39 Fuser (print engine) (continued)

Ref	Description	Part number	Qty
33	Spring, compression		2
34	Spring, compression		2
35	Spring, compression		1
36	IC, photo interrupter		1
37	Screw, D, M3X6		11
38	Film guide assembly		1
39	Rib, separation duct, upper		2
40	Cable, fuser DC		1
41	Screw, TP, M4X6		2
42	Label, high temperature caution		1
43	Cable, fuser drawer grounding		1
501	Screw, w/washer, M3X6		1
502	Screw, tapping, truss head, M4X10		2
A01	Frame, fuser, center		1
A02	Frame, fuser, right		1
A03	Plate, fuser pressure		1
A04	Cross member, fuser drawer, left		1
A05	Cross member, fuser drawer, right		1
A06	Plate, pressure release, left		1
A07	Plate, pressure release, right		1
A08	Frame, fuser, left		1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Fuser pressure release assembly (print engine)

Figure 7-38 Fuser pressure release assembly (print engine)

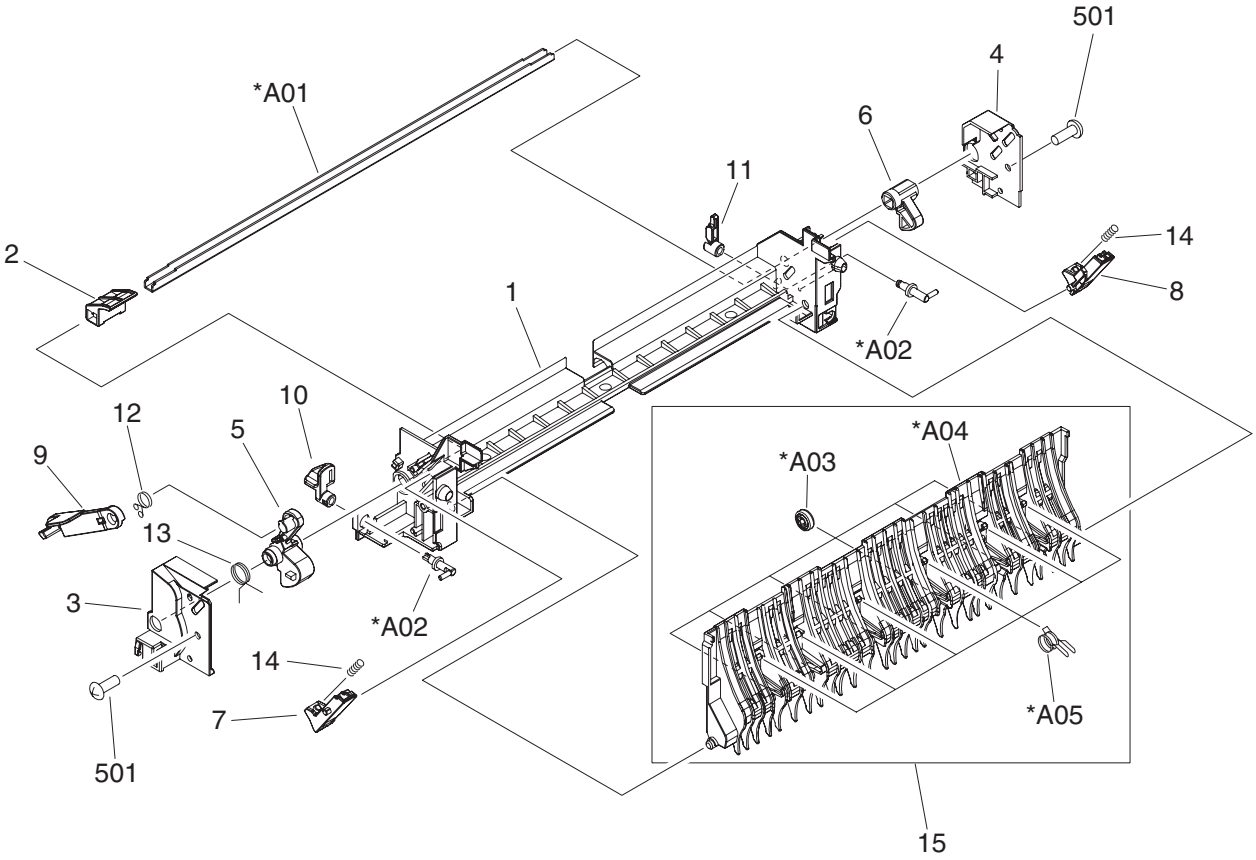


Table 7-40 Fuser pressure release assembly (print engine)

Ref	Description	Part number	Qty
All	Fuser pressure release assembly	RM1-2973-000CN	1
1	Frame, pressure release		1
2	Cam, intermediate guide		1
3	Plate, fixed, front		1
4	Plate, fixed, rear		1
5	Cam, pressure release, front		1
6	Cam, pressure release, rear		1
7	Arm, pressure release, front		1
8	Arm, pressure release, rear		1
9	Link, pressure release		1
10	Lever, front		1
11	Lever, rear		1
12	Spring, torsion		1
13	Spring, torsion		1
14	Spring, compression		2
15	Intermediate guide assembly		1
501	Screw, tapping, truss head, M4X10		2
A01	Shaft, pressure release		1
A02	Shaft, lock		1
A03	Roller		6
A04	Guide, intermediate		1
A05	Spring, torsion		6

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

High capacity input (HCI) 1X500 feeder main body

Figure 7-39 1X500 HCI main body

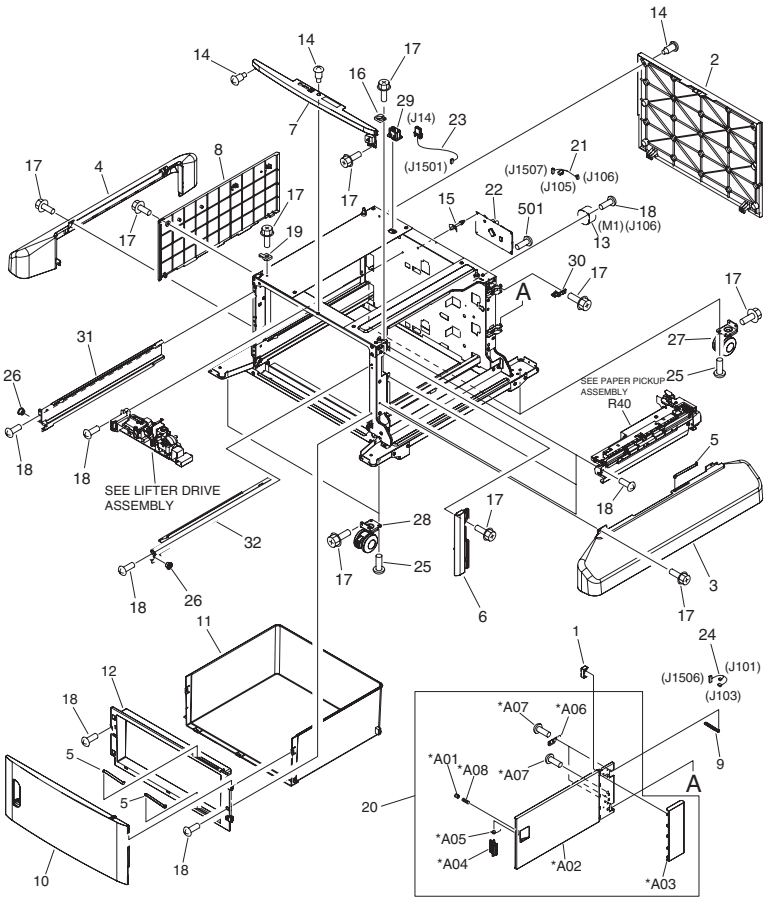


Table 7-41 1X500 HCI main body

Ref	Description	Part number	Qty
All	HCI main body		1
1	Stopper, right door	RC1-9882-000CN	1
2	Cover, rear	RC2-0151-000CN	1
3	Cover, right lower	RC2-0152-000CN	1
4	Cover, left lower	RC2-0153-000CN	1
5	Link, right door	RC2-0160-000CN	3
6	Cover, right front	RC2-0161-000CN	1
7	Cover, front upper	RC2-0162-000CN	1
8	Cover, left	RC2-0163-000CN	1
9	Link, right door, upper	RC2-0170-000CN	1
10	Door, stock	RC2-0181-000CN	1
11	Box, stock		1
12	Cover, stock box	RC2-0183-000CN	1
13	Motor, stepping, DC	RK2-1331-000CN	1
14	Screw, stepped		4
15	Support, PCA		2
16	Spacer, reinforcement, right		1
17	Screw, RS, M4X8		108
18	Screw, TP, M3X6		14
19	Spacer, reinforcement, left		1
20	Right door assembly	RM1-3825-000CN	1
21	Cable, paper pickup option		1
22	Paper feed PCA assembly	RM1-3641-000CN	1
23	Cable, power interface		1
24	Cable, multi-sensor		1
25	Screw, w/washer, M5X12		8
26	Roller, rail	RC1-9231-000CN	4
27	Caster, rear	RC1-9917-000CN	2
28	Caster, front	RC2-0134-000CN	2
29	Holder, drawer	RC2-0167-000CN	1
30	Stopper, right door link upper	RC2-0169-000CN	1
31	Rail, cassette, left	RL1-1391-000CN	2
32	Rail, cassette, right	RL1-1390-000CN	2
501	Screw, w/washer, M3X6		2

Table 7-41 1X500 HCI main body (continued)

Ref	Description	Part number	Qty
A01	Block, right door push		1
A02	Door, right		1
A03	Cover, right rear		1
A04	Latch, right door		1
A05	Spring, torsion		1
A06	Plate, hinge		2
A07	Screw		5
A08	Spring, compression		1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

High capacity input (HCI) 3X500 feeder main body

Figure 7-40 3X500 HCI main body

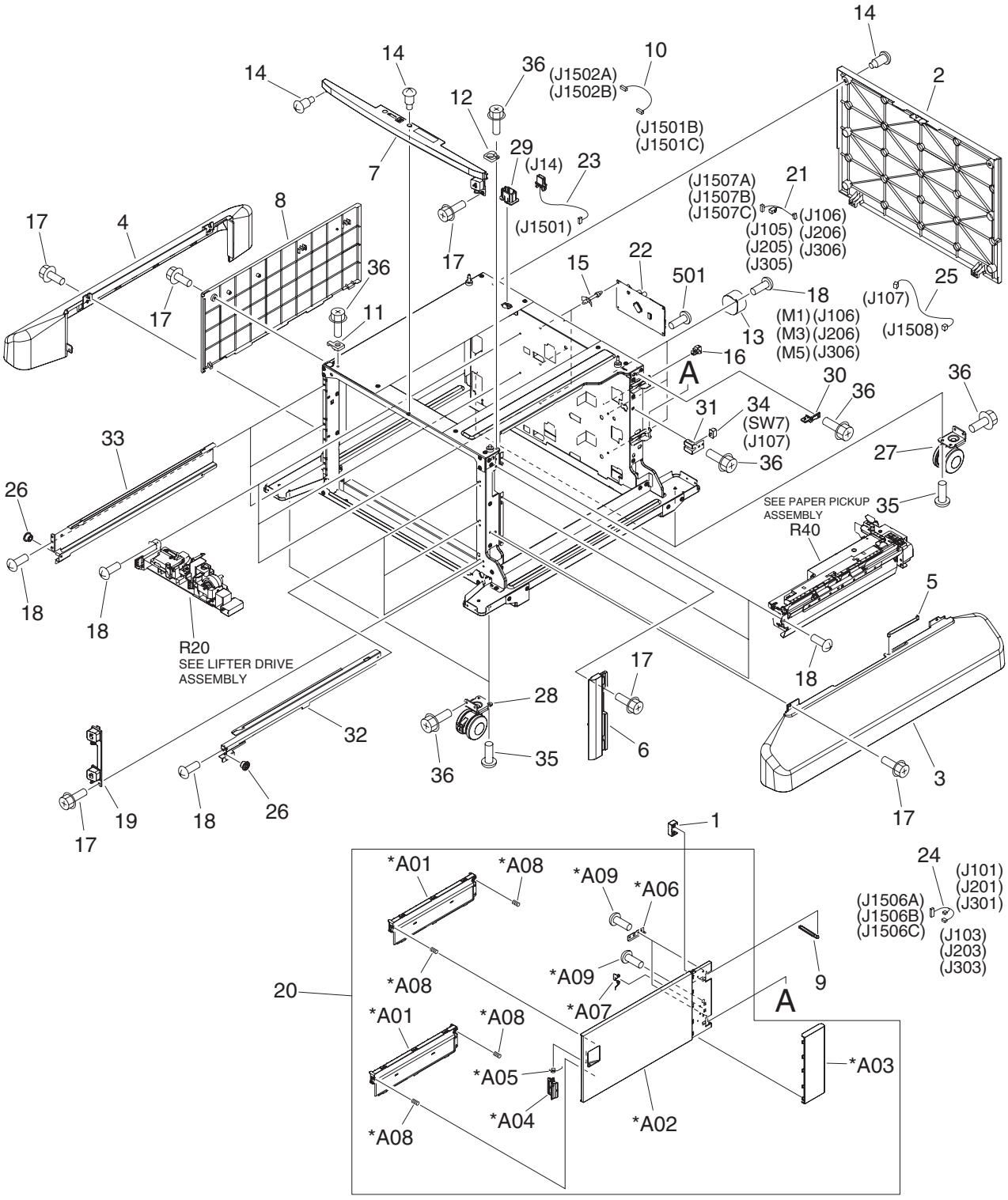


Table 7-42 3X500 HCI main body

Ref	Description	Part number	Qty
All	HCI main body		1
1	Stopper, right door	RC1-9882-000CN	1
2	Cover, rear	RC2-0151-000CN	1
3	Cover, right lower	RC2-0152-000CN	1
4	Cover, left lower	RC2-0153-000CN	1
5	Link, right door	RC2-0160-000CN	3
6	Cover, right front	RC2-0161-000CN	1
7	Cover, front upper	RC2-0162-000CN	1
8	Cover, left	RC2-0163-000CN	1
9	Link, right door, upper	RC2-0170-000CN	1
10	Cable, option interface		2
11	Spacer, reinforcement, left		1
12	Spacer, reinforcement, right		1
13	Motor, stepping, DC	RK2-1331-000CN	3
14	Screw, stepped		4
15	Support, PCA		6
16	Saddle, wire		1
17	Screw, RS, M4X8		11
18	Screw, TP, M3X6		27
19	Plate, number indication		1
20	Right door assembly	RM1-3824-000CN	1
21	Cable, paper pickup option		3
22	Paper feed PCA assembly	RM1-3641-000CN	3
23	Cable, power interface		1
24	Cable, multi-sensor		3
25	Cable, door open switch		1
26	Roller, rail	RC1-9231-000CN	6
27	Caster, rear	RC1-9917-000CN	2
28	Caster, front	RC2-0134-000CN	2
29	Holder, drawer	RC2-0167-000CN	1
30	Stopper, right door link upper	RC2-0169-000CN	1
31	Plate, switch cover		1
32	Rail, cassette, right	RL1-1390-000CN	3
33	Rail, cassette, left	RL1-1391-000CN	3

Table 7-42 3X500 HCI main body (continued)

Ref	Description	Part number	Qty
34	Switch, bottom	WC2-5512-000CN	1
35	Screw, w/washer, M5X12		8
36	Screw, w/washer, M5X12		3
501	Screw, w/washer, M3X6		6
A01	Guide, paper feed		2
A02	Door, right		1
A03	Cover, right rear		1
A04	Latch, right door		1
A05	Spring, torsion		1
A06	Plate, hinge		2
A07	Spring, torsion		1
A08	Spring, compression		4
A09	Screw		5

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Lifter drive assembly (HCI)

Figure 7-41 Lifter drive assembly (HCI)

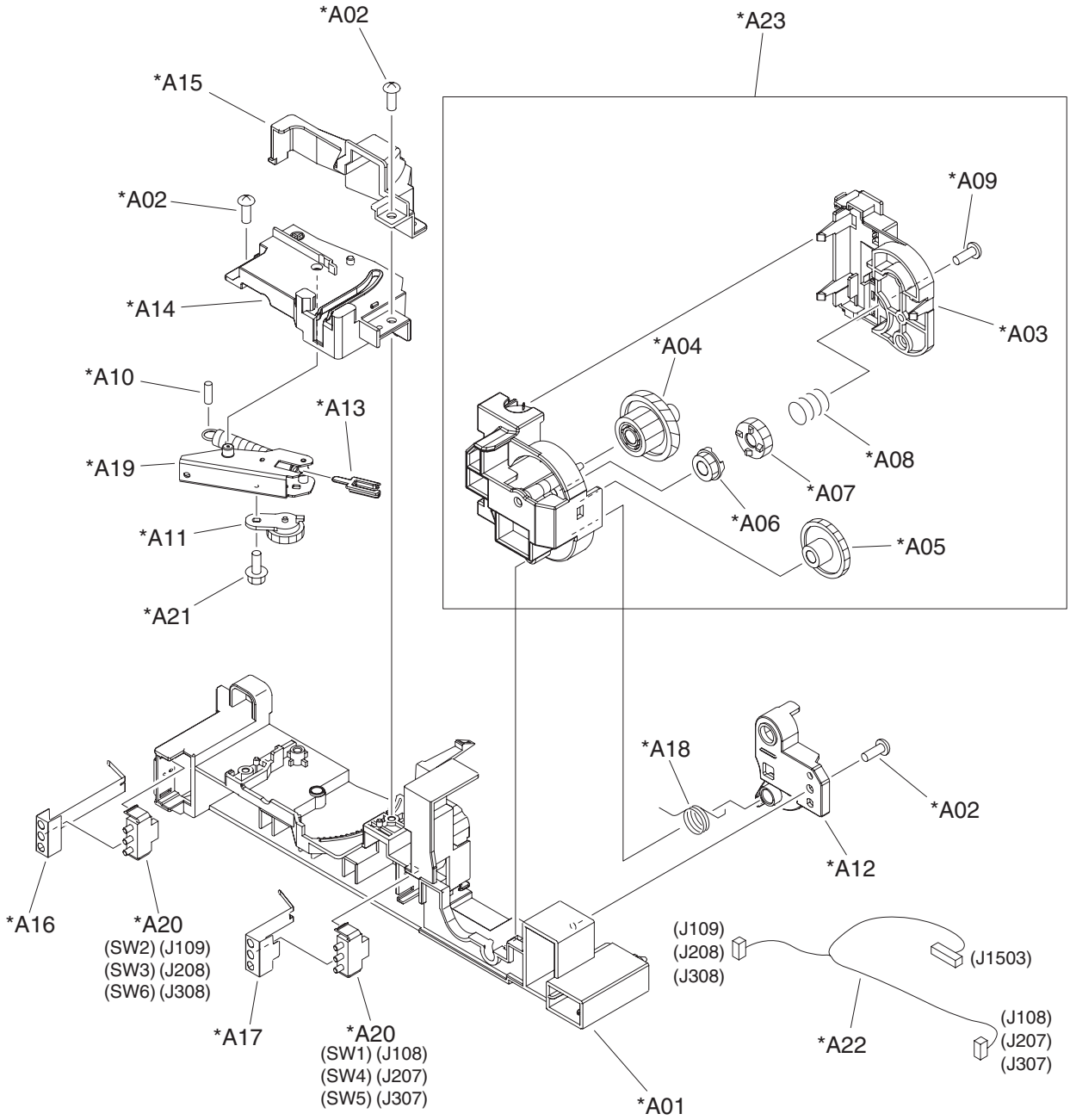


Table 7-43 Lifter drive assembly (HCI)

Ref	Description	Part number	Qty
All	Lifter drive assembly (1X500)	RM1-3819-000CN	1
All	Lifter drive assembly (3X500)	RM1-3819-000CN	3
A01	Base, lifter		1
A02	Screw		3
A04	Gear, 16T/46T		1
A05	Gear, 14T/53T		1
A06	Gear, 23T		1
A07	Gear, 33T		1
A08	Spring, compression		1
A09	Screw, w/washer, M3X6		2
A10	Pin, dowel		1
A11	Gear, 17T		1
A12	Stopper, lifter swing		1
A13	Hook		1
A14	Cover, lifter drive		1
A15	Cover, lifter drive, rear		1
A16	Spring, grounding		1
A17	Spring, grounding		1
A18	Spring, torsion		1
A19	Arm, toggle		1
A20	Switch, push		2
A21	Screw, RS, M3X8		1
A22	Cable, paper size sensor		1
A23	Lifter assembly		1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Cassette (HCI)

Figure 7-42 Cassette (HCI)

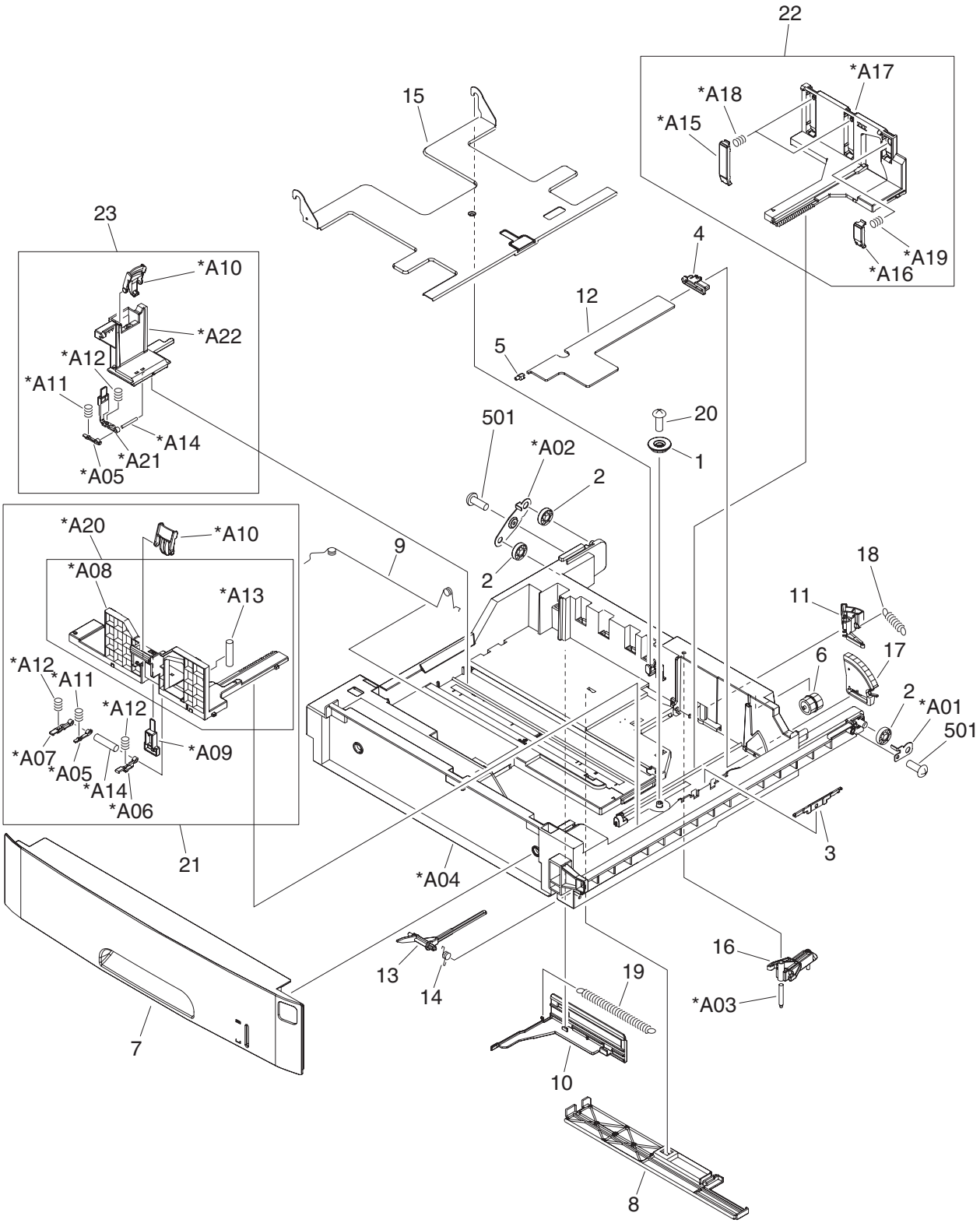


Table 7-44 Cassette (HCI)

Ref	Description	Part number	Qty
All	Cassette (1X500 HCI)	RM1-3815-000CN	1
All	Cassette (3X500 HCI)	RM1-3815-000CN	3
1	Gear, 20T		1
2	Roller, cassette		3
3	Guide, nip		1
4	Support, lifter arm, 1		1
5	Support, lifter arm, 2		1
6	Gear, 14T		1
7	Cover, cassette, front		1
8	Cover, back end sensor		1
9	Spring, grounding		1
10	Block, length sensor		1
11	Lever, paper width sensor		1
12	Arm, lifter		1
13	Arm, remnant indication		1
14	Spring, torsion		1
15	Plate, lifter		1
16	Arm, pin support lifter		1
17	Gear, 80T		1
18	Spring, tension		1
19	Spring, tension		1
20	Screw, B, M4X8		1
21	Paper side end front assembly		1
22	Paper side end rear assembly		1
23	Back end limit assembly		1
501	Screw		2
A01	Plate, roller, right		1
A02	Plate, roller, left		1
A03	Shaft, arm support		1
A04	Body, cassette		1
A05	Arm, size click		2
A06	Stopper, side, right		1
A07	Stopper, side, left		1
A08	Plate, paper side end		1

Table 7-44 Cassette (HCI) (continued)

Ref	Description	Part number	Qty
A09	Block, side release		1
A10	Knob, stopper release		2
A11	Spring, compression		2
A12	Spring, compression		3
A13	Pin, dowel		1
A14	Pin, dowel		2
A15	Guide, paper retaining, rear		2
A16	Guide, paper retaining, front		1
A17	Plate, paper side end		1
A18	Spring, compression		2
A19	Spring, compression		1
A20	Plate, paper side end		1
A21	Lifter, back end		1
A22	Plate, back end limit		1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Paper pickup assembly (HCI)

Figure 7-43 Paper pickup assembly (HCI)

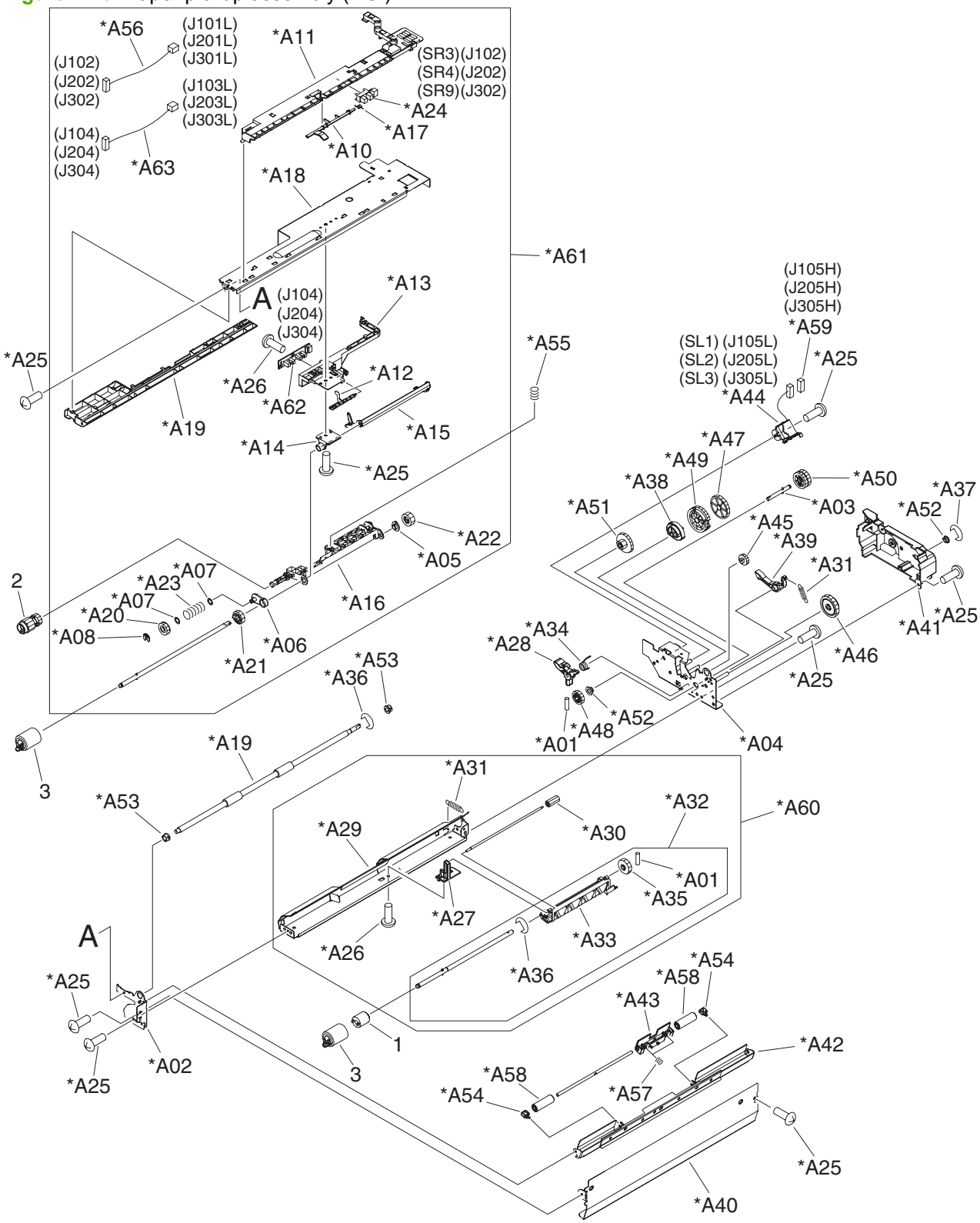


Table 7-45 Paper pickup assembly (HCI)

Ref	Description	Part number	Qty
All	Paper pickup assembly (1X500 HCI)	RM1-3821-000CN	1
All	Paper pickup assembly (3X500)	RM1-3821-000CN	3
1	Limiter, torque		1
2	Roller, pickup	RL1-1206-000CN	1
3	Paper feed roller assembly	RM1-0037-000N	2
A01	Pin, dowel		2
A02	Side plate, paper pickup fr.		1
A03	Shaft, retard link		1
A04	Side plate, pickup drive		1
A05	Bushing		1
A06	Plate, swing		1
A07	Slider, polyester		2
A08	Ring, retaining		1
A09	Guide, jam clearing		1
A10	Flag, jam sensor		1
A11	Guide, paper pickup upper		a
A12	Flag, paper yes/no sensor		1
A13	Holder, sheet sensor		1
A14	Holder, pick arm		1
A15	Flag, paper level sensor		1
A16	Arm, pick		1
A17	Spring, torsion		1
A18	Plate, paper pickup upper		1
A19	Roller, paper feed		1
A20	Gear, 14T		1
A21	Gear, 23T		1
A22	Gear, 17T		1
A23	Spring, compression		1
A24	Photo interrupter, TLP1243		1
A25	Screw, TP, M3X6		12
A26	Screw, tap, binding head, M3X8		2
A27	Plate, retard busing		1
A28	Lever, nip pressure release		1
A29	Guide, paper pickup lower		1

Table 7-45 Paper pickup assembly (HCI) (continued)

Ref	Description	Part number	Qty
A30	Gear, 14T		1
A31	Spring, tension		2
A32	Retard holder assembly		1
A33	Holder, retard		1
A34	Spring, torsion		1
A35	Gear, 37T		1
A36	Ring, E		2
A37	Ring, E		1
A38	Cam, pick		1
A39	Lever, trigger		1
A40	Guide, pickup vertical feed		1
A41	Cover, paper pickup gear		1
A42	Plate, feed roller mounting		1
A43	Arm, feed roller pressure		1
A44	Solenoid		1
A45	Gear, 14T		1
A46	Gear, 20T/33T		1
A47	Gear, 60T		1
A48	Gear, 33T		1
A49	Gear, 37T		1
A50	Gear, 24T/42T		1
A51	Gear, 21T/62T		1
A52	Bushing		2
A53	Bushing		2
A54	Bushing		2
A55	Spring, compression		1
A56	Cable, pickup opt. jam sensor		1
A57	Spring, compression		2
A58	Roller, paper feed		2
A59	Connector, snap tight, BK		1
A60	Paper pickup LW guide assembly		1
A61	Paper pickup UP plate assembly		1
A62	Option paper sensor PCA assembly		1
A63	Cable, OPT sensor PCA connect		1

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

HCI PCA assemblies

Figure 7-44 PCA assemblies

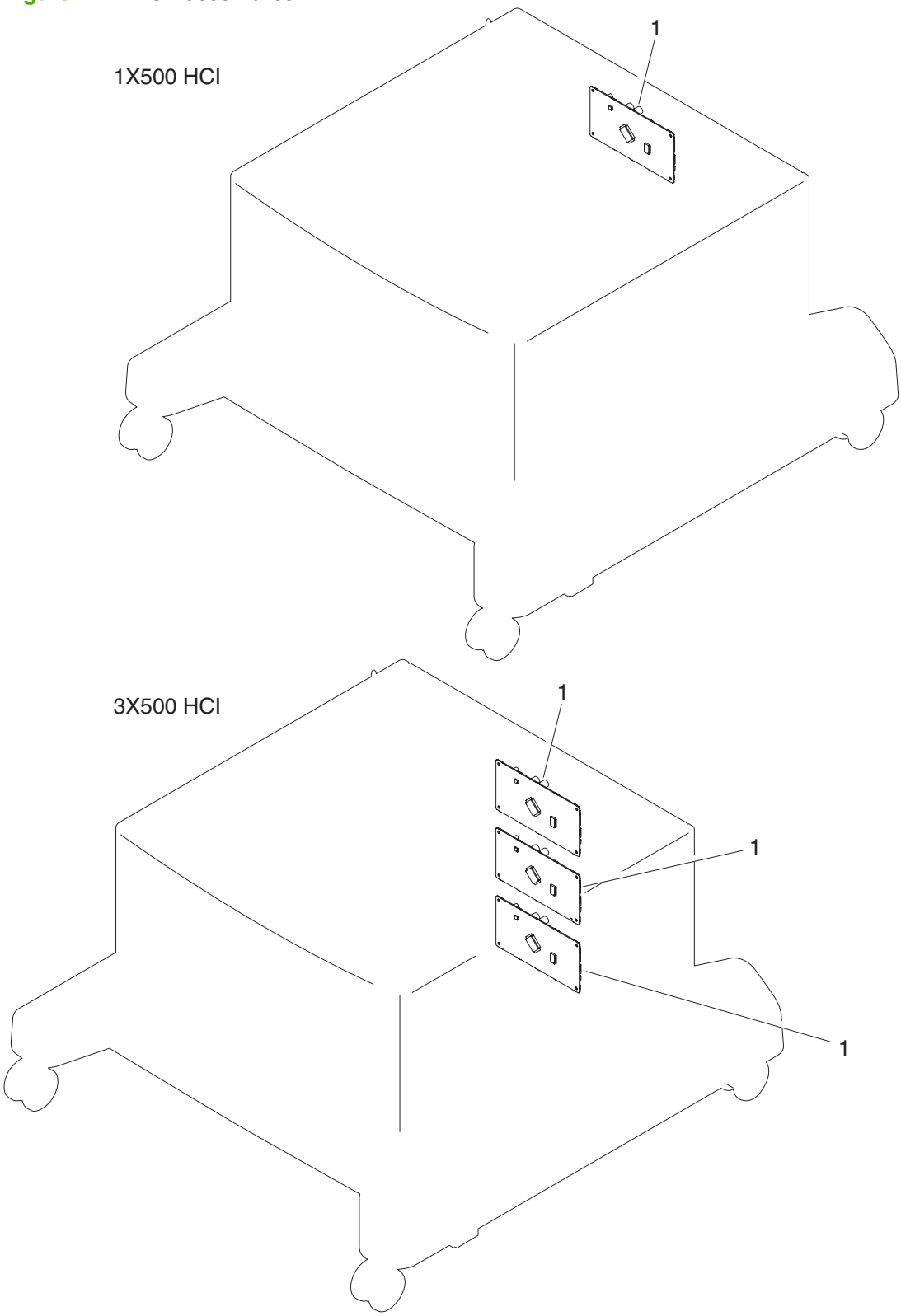


Table 7-46 PCA assemblies

Ref	Description	Part number	Qty
1	Paper feed PCA assembly (1X500 HCI)	RM1-3641-000CN	1
1	Paper feed PCA assembly (3X500 HCI)	RM1-3641-000CN	3

NOTE: Not all components listed in the parts tables can be ordered. If a component listed has an associated part number, then it is a field replaceable unit (FRU) and can be ordered. If the component does not have an associated part number, you must order the FRU that includes the desired component.

Alphabetical parts list

Table 7-47 Alphabetical parts list

Description	Part number	Table and page
ADF cover pickup roller (part of the ADF maintenance kit)	Q7842-67902	Pickup roller assembly (ADF) on page 591
ADF diverter	Q7829-67918	Backbone assembly (ADF) on page 585
ADF end cover (cap) front	Q7829–67905	Front end cover (ADF) on page 579
ADF end cover (cap) front		Front end cover (ADF) on page 579
ADF endcap back	Q7829-67904	ADF on page 577
ADF flag sensor LS	Q7829-67913	ADF on page 577
ADF float assembly	Q7829-67917	Backbone assembly (ADF) on page 585
ADF hinge assembly (two are required for the ADF)	Q7829–67916	Hinges on page 581
ADF jam cover assembly	Q7829-67910	Jam cover (ADF) on page 589
ADF photo interrupter w/connector	Q7829-67914	Backbone assembly (ADF) on page 585
ADF photo interrupter with connector	Q7829-67914	ADF on page 577
ADF reflector foam (white backing)	Q7829-67909	ADF on page 577
ADF separation floor assembly	Q7829-67909	Separation floor assembly (ADF) on page 595
ADF tray input assembly	Q7829-67912	ADF on page 577
Adhesive cover	Q7829-60144	Scanner top assembly on page 601
Adjuster, deskew		Jam cover (ADF) on page 589
Alignment and jogger assembly	RM1-3098-000CN	Alignment and jogger assembly (stapler/stacker) on page 615
Arm, feed roller pressure		Paper pickup assembly (HCI) on page 695
Arm, lift		Upper cassette (print engine) on page 653
Arm, lift		Lower cassette (print engine) on page 657
Arm, lifter		Cassette (HCI) on page 691
Arm, lock	RC1-8034-000CN	Internal components (1 of 3) (print engine) on page 631
Arm, multipurpose pad		Cartridge door assembly (print engine) on page 627
Arm, multipurpose, left		Cartridge door assembly (print engine) on page 627

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Arm, multipurpose, right		Cartridge door assembly (print engine) on page 627
Arm, pendulum		Upper cassette pickup assembly (print engine) on page 661
Arm, pick		Paper pickup assembly (HCI) on page 695
Arm, pin support lifter		Cassette (HCI) on page 691
Arm, pressure release, front		Fuser pressure release assembly (print engine) on page 679
Arm, pressure release, rear		Fuser pressure release assembly (print engine) on page 679
Arm, remnant indication		Cassette (HCI) on page 691
Arm, size click		Cassette (HCI) on page 691
Arm, toggle		Lifter drive assembly (HCI) on page 689
Arm, wrap stopper		Fuser (print engine) on page 675
Automatic document feeder (ADF); whole unit	Q7829-67901	ADF on page 577
Back end limit assembly		Upper cassette (print engine) on page 653
Back end limit assembly		Lower cassette (print engine) on page 657
Back end limit assembly		Cassette (HCI) on page 691
Back end sensor assembly	RM1-2968-000CN	Internal components (3 of 3) (print engine) on page 639
Base, cartridge door		Cartridge door assembly (print engine) on page 627
Base, lifter		Lifter drive assembly (HCI) on page 689
Base, separation		Separation pad assembly (ADF) on page 593
Base, separation pad		Separation pad assembly (ADF) on page 593
Base, separation roller		Upper cassette (print engine) on page 653
Base, separation roller		Lower cassette (print engine) on page 657
Belt, exit		Backbone assembly (ADF) on page 585
Belt, feed		Backbone assembly (ADF) on page 585

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Belt, paper feed		Lower cassette pickup assembly (print engine) on page 665
Belt, timing		Paper feed assembly (stapler/ stacker) on page 613
Belt, timing		Paper feed assembly (stapler/ stacker) on page 613
Block, back end size clicker		Upper cassette (print engine) on page 653
Block, back end size clicker		Lower cassette (print engine) on page 657
Block, cartridge		Internal components (2 of 3) (print engine) on page 635
Block, length sensor		Cassette (HCI) on page 691
Block, right door push		1X500 HCI main body on page 681
Block, sensor		Internal components (3 of 3) (print engine) on page 639
Block, separation roller		Upper cassette (print engine) on page 653
Block, separation roller		Lower cassette (print engine) on page 657
Block, side end size clicker		Upper cassette (print engine) on page 653
Block, side end size clicker		Lower cassette (print engine) on page 657
Block, side release		Cassette (HCI) on page 691
Body, cassette		Cassette (HCI) on page 691
Body, cassette, upper		Upper cassette (print engine) on page 653
Body, cassette, upper		Lower cassette (print engine) on page 657
Body, slider		Pickup roller assembly (ADF) on page 591
Box, gear, front		Lifter drive assembly (print engine) on page 647
Box, gear, rear		Lifter drive assembly (print engine) on page 647
Box, stock		1X500 HCI main body on page 681
Bushing		Paper feed assembly (stapler/ stacker) on page 613
Bushing		Paper feed assembly (stapler/ stacker) on page 613

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Bushing	RC1-7443-000CN	Internal components (1 of 3) (print engine) on page 631
Bushing		Internal components (1 of 3) (print engine) on page 631
Bushing	RC1-7283-000CN	Internal components (1 of 3) (print engine) on page 631
Bushing	RC1-7249-000CN	Internal components (3 of 3) (print engine) on page 639
Bushing		Paper delivery assembly (print engine) on page 643
Bushing		Paper delivery assembly (print engine) on page 643
Bushing		Upper cassette (print engine) on page 653
Bushing		Lower cassette (print engine) on page 657
Bushing		Upper cassette pickup assembly (print engine) on page 661
Bushing		Upper cassette pickup assembly (print engine) on page 661
Bushing		Upper cassette pickup assembly (print engine) on page 661
Bushing		Upper cassette pickup assembly (print engine) on page 661
Bushing		Upper cassette pickup assembly (print engine) on page 661
Bushing		Upper cassette pickup assembly (print engine) on page 661
Bushing		Lower cassette pickup assembly (print engine) on page 665
Bushing		Lower cassette pickup assembly (print engine) on page 665
Bushing		Lower cassette pickup assembly (print engine) on page 665
Bushing		Lower cassette pickup assembly (print engine) on page 665

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Bushing		Lower cassette pickup assembly (print engine) on page 665
Bushing		Registration assembly (print engine) on page 669
Bushing		Registration assembly (print engine) on page 669
Bushing		Registration assembly (print engine) on page 669
Bushing		Registration assembly (print engine) on page 669
Bushing		Paper feed assembly (print engine) on page 671
Bushing		Paper feed assembly (print engine) on page 671
Bushing		Fuser (print engine) on page 675
Bushing		Fuser (print engine) on page 675
Bushing		Fuser (print engine) on page 675
Bushing		Paper pickup assembly (HCI) on page 695
Bushing		Paper pickup assembly (HCI) on page 695
Bushing		Paper pickup assembly (HCI) on page 695
Bushing		Paper pickup assembly (HCI) on page 695
Bushing, feed shaft		Backbone assembly (ADF) on page 585
Bushing, feed shaft		Jam cover (ADF) on page 589
Button, frame pressure		Cartridge door assembly (print engine) on page 627
Cable, ADF to scanner	Q7829-67907	ADF on page 577
Cable, cartridge sensor		Internal components (2 of 3) (print engine) on page 635
Cable, cassette lift		Internal components (2 of 3) (print engine) on page 635
Cable, cassette sensor, lower		Lower cassette pickup assembly (print engine) on page 665
Cable, cassette sensor, upper		Upper cassette pickup assembly (print engine) on page 661

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Cable, cassette size		Lifter drive assembly (print engine) on page 647
Cable, delivery option		Internal components (2 of 3) (print engine) on page 635
Cable, door open switch		3X500 HCI main body on page 685
Cable, duplexing interface		Internal components (1 of 3) (print engine) on page 631
Cable, facedown assembly		Paper delivery assembly (print engine) on page 643
Cable, facedown drive		Internal components (2 of 3) (print engine) on page 635
Cable, feed clutch extension		Internal components (1 of 3) (print engine) on page 631
Cable, feed sensor		Internal components (3 of 3) (print engine) on page 639
Cable, feeder		Internal components (2 of 3) (print engine) on page 635
Cable, flexible flat, 15P	RK2-1283-000CN	Internal components (1 of 3) (print engine) on page 631
Cable, flexible flat, 21P	RK2-1053-000CN	Internal components (1 of 3) (print engine) on page 631
Cable, flexible flat, 23P	RK2-1055-000CN	Internal components (1 of 3) (print engine) on page 631
Cable, front door switch		Main body (stapler/stacker) on page 609
Cable, fuser DC		Fuser (print engine) on page 675
Cable, fuser drawer grounding		Fuser (print engine) on page 675
Cable, heater		Internal components (2 of 3) (print engine) on page 635
Cable, jog unit		Alignment and jogger assembly (stapler/stacker) on page 615
Cable, LED and media eject		Base assembly (ADF) on page 583
Cable, left door sensor		Main body (stapler/stacker) on page 609
Cable, memory contact		Internal components (2 of 3) (print engine) on page 635
Cable, multi-scanner		Internal components (2 of 3) (print engine) on page 635
Cable, multi-sensor		1X500 HCI main body on page 681

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Cable, multi-sensor		3X500 HCI main body on page 685
Cable, OPT sensor PCA connect		Paper pickup assembly (HCI) on page 695
Cable, option interface		3X500 HCI main body on page 685
Cable, paper feed unit		Paper feed assembly (stapler/ stacker) on page 613
Cable, paper pickup option		1X500 HCI main body on page 681
Cable, paper pickup option		3X500 HCI main body on page 685
Cable, paper size sensor		Lifter drive assembly (HCI) on page 689
Cable, pickup opt. jam sensor		Paper pickup assembly (HCI) on page 695
Cable, power interface		1X500 HCI main body on page 681
Cable, power interface		3X500 HCI main body on page 685
Cable, scanner power		Internal components (2 of 3) (print engine) on page 635
Cable, sensor		Cartridge door assembly (print engine) on page 627
Cable, staple unit		Main body (stapler/stacker) on page 609
Cam	RC1-7284-000CN	Internal components (1 of 3) (print engine) on page 631
Cam, back end sensing		Upper cassette (print engine) on page 653
Cam, back end sensing		Lower cassette (print engine) on page 657
Cam, intermediate guide		Fuser pressure release assembly (print engine) on page 679
Cam, lift arm		Upper cassette (print engine) on page 653
Cam, lift arm		Lower cassette (print engine) on page 657
Cam, multipurpose, left		Cartridge door assembly (print engine) on page 627
Cam, multipurpose, right		Cartridge door assembly (print engine) on page 627
Cam, pad return, lower	RC1-8038-000CN	Internal components (3 of 3) (print engine) on page 639

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Cam, pad return, upper		Internal components (3 of 3) (print engine) on page 639
Cam, pick		Paper pickup assembly (HCI) on page 695
Cam, pressure release, front		Fuser pressure release assembly (print engine) on page 679
Cam, pressure release, rear		Fuser pressure release assembly (print engine) on page 679
Cam, remnant, lower		Lower cassette (print engine) on page 657
Cam, remnant, upper		Upper cassette (print engine) on page 653
Cam, shutter	RC1-8329-000CN	Internal components (2 of 3) (print engine) on page 635
Cam, slide	RC1-8332-000CN	Internal components (2 of 3) (print engine) on page 635
Cam, width sensing		Upper cassette (print engine) on page 653
Cam, width sensing		Lower cassette (print engine) on page 657
Cap, conductive		Cartridge door assembly (print engine) on page 627
Cap, lift arm cam		Upper cassette (print engine) on page 653
Cap, lift arm cam		Lower cassette (print engine) on page 657
Cap, paper feed guide	RC1-7141-000CN	Internal components (1 of 3) (print engine) on page 631
Cap, paper pickup, left		Upper cassette pickup assembly (print engine) on page 661
Cap, paper pickup, left		Lower cassette pickup assembly (print engine) on page 665
Cap, rail		Alignment and jogger assembly (stapler/stacker) on page 615
Carriage assembly (optical assembly)	Q7829-60166	Carriage assembly (scanner; optical assembly) on page 599
Cartridge door assembly	RM1-2984-000CN	Cartridge door assembly (print engine) on page 627
Cartridge door base assembly	RM1-2985-000CN	Cartridge door assembly (print engine) on page 627
Case, roller		Cartridge door assembly (print engine) on page 627

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Case, roller stopper		Upper cassette pickup assembly (print engine) on page 661
Case, roller stopper		Upper cassette pickup assembly (print engine) on page 661
Case, roller stopper		Lower cassette pickup assembly (print engine) on page 665
Case, roller stopper		Lower cassette pickup assembly (print engine) on page 665
Cassette (1X500 HCI)	RM1-3815-000CN	Cassette (HCI) on page 691
Cassette (3X500 HCI)	RM1-3815-000CN	Cassette (HCI) on page 691
Caster, front	RC2-0134-000CN	1X500 HCI main body on page 681
Caster, front	RC2-0134-000CN	3X500 HCI main body on page 685
Caster, rear	RC1-9917-000CN	1X500 HCI main body on page 681
Caster, rear	RC1-9917-000CN	3X500 HCI main body on page 685
Circle clip		Backbone assembly (ADF) on page 585
Circle clip		Jam cover (ADF) on page 589
Circle clip		Pickup roller assembly (ADF) on page 591
Clamp, paper, front		Upper cassette (print engine) on page 653
Clamp, paper, front		Lower cassette (print engine) on page 657
Clamp, paper, middle		Upper cassette (print engine) on page 653
Clamp, paper, middle		Lower cassette (print engine) on page 657
Clamp, paper, rear		Upper cassette (print engine) on page 653
Clamp, paper, rear		Lower cassette (print engine) on page 657
Clip, cable		Internal components (1 of 3) (print engine) on page 631
Clip, cable		Internal components (2 of 3) (print engine) on page 635
Clutch, electromagnetic	RK2-1281-000CN	Internal components (1 of 3) (print engine) on page 631

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Clutch, single direction		Pickup roller assembly (ADF) on page 591
Connecting PCA assembly	RM1-2995-000CN	Internal components (2 of 3) (print engine) on page 635
Connector, drawer	VS1-7258-007CN	Internal components (1 of 3) (print engine) on page 631
Connector, drawer	VS1-7258-0007CN	Internal components (2 of 3) (print engine) on page 635
Connector, snap tight		Internal components (2 of 3) (print engine) on page 635
Connector, snap tight		Lifter drive assembly (print engine) on page 647
Connector, snap tight, BK		Internal components (1 of 3) (print engine) on page 631
Connector, snap tight, BK		Internal components (2 of 3) (print engine) on page 635
Connector, snap tight, BK		Internal components (2 of 3) (print engine) on page 635
Connector, snap tight, BK		Paper pickup assembly (HCI) on page 695
Core, paper pickup roller		Upper cassette pickup assembly (print engine) on page 661
Core, paper pickup roller		Lower cassette pickup assembly (print engine) on page 665
Cover	RC1-7265-000CN	Internal components (1 of 3) (print engine) on page 631
Cover ADF pickup roller	Q7829-67920	Jam cover (ADF) on page 589
Cover, back end sensing		Lower cassette (print engine) on page 657
Cover, back end sensing, upper		Upper cassette (print engine) on page 653
Cover, back end sensor		Cassette (HCI) on page 691
Cover, bottom	Q7829-60154	Scanner top assembly on page 601
Cover, cartridge		Cartridge door assembly (print engine) on page 627
Cover, cassette, front		Cassette (HCI) on page 691
Cover, cassette, lower		Lower cassette (print engine) on page 657
Cover, cassette, upper		Upper cassette (print engine) on page 653

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Cover, duplexing blanking	RC1-8235-000CN	External panels and covers (print engine) on page 623
Cover, facedown		Paper delivery assembly (print engine) on page 643
Cover, facedown side	RC1-8231-000CN	External panels and covers (print engine) on page 623
Cover, facedown, top	RC1-82220-000CN	External panels and covers (print engine) on page 623
Cover, formatter	RC1-8223-000CN	External panels and covers (print engine) on page 623
Cover, front	RC1-8221-000CN	External panels and covers (print engine) on page 623
Cover, front upper	RC2-0162-000CN	1X500 HCI main body on page 681
Cover, front upper	RC2-0162-000CN	3X500 HCI main body on page 685
Cover, fuser drawer		Fuser (print engine) on page 675
Cover, gear box protective		Lifter drive assembly (print engine) on page 647
Cover, gear, rear	RC1-8164-000CN	Internal components (1 of 3) (print engine) on page 631
Cover, gear, right upper	RC1-7019-000CN	Internal components (1 of 3) (print engine) on page 631
Cover, grip, right	RC1-8236-000CN	External panels and covers (print engine) on page 623
Cover, inner top	RC1-8327-000CN	External panels and covers (print engine) on page 623
Cover, inner, front		External panels and covers (print engine) on page 623
Cover, interlock		Internal components (2 of 3) (print engine) on page 635
Cover, jam		Jam cover (ADF) on page 589
Cover, jog, front		Alignment and jogger assembly (stapler/stacker) on page 615
Cover, jog, rear		Alignment and jogger assembly (stapler/stacker) on page 615
Cover, left	Q7829–67906	Base assembly (ADF) on page 583
Cover, left	RC1-9718-000CN	Main body (stapler/stacker) on page 609
Cover, left	RC2-0163-000CN	1X500 HCI main body on page 681

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Cover, left	RC2-0163-000CN	3X500 HCI main body on page 685
Cover, left lower	RC2-0153-000CN	1X500 HCI main body on page 681
Cover, left lower	RC2-0153-000CN	3X500 HCI main body on page 685
Cover, left, lower	RC1-8228-000CN	External panels and covers (print engine) on page 623
Cover, left, rear	RC1-8225-000CN	External panels and covers (print engine) on page 623
Cover, left, upper	RC1-8227-000CN	External panels and covers (print engine) on page 623
Cover, lifter drive		Lifter drive assembly (HCI) on page 689
Cover, lifter drive, rear		Lifter drive assembly (HCI) on page 689
Cover, multipurpose		Cartridge door assembly (print engine) on page 627
Cover, paper pickup gear		Paper pickup assembly (HCI) on page 695
Cover, pick		Jam cover (ADF) on page 589
Cover, rear		Main body (stapler/stacker) on page 609
Cover, rear	RC1-8222-000CN	External panels and covers (print engine) on page 623
Cover, rear	RC2-0151-000CN	1X500 HCI main body on page 681
Cover, rear	RC2-0151-000CN	3X500 HCI main body on page 685
Cover, rear inner		Main body (stapler/stacker) on page 609
Cover, rear inner, left		External panels and covers (print engine) on page 623
Cover, rear inner, right		External panels and covers (print engine) on page 623
Cover, rear left		Main body (stapler/stacker) on page 609
Cover, rear right		Main body (stapler/stacker) on page 609
Cover, right front	RC2-0161-000CN	1X500 HCI main body on page 681
Cover, right front	RC2-0161-000CN	3X500 HCI main body on page 685

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Cover, right lower	RC2-0152-000CN	1X500 HCI main body on page 681
Cover, right lower	RC2-0152-000CN	3X500 HCI main body on page 685
Cover, right rear		1X500 HCI main body on page 681
Cover, right rear		3X500 HCI main body on page 685
Cover, right, rear	RC1-8226-000CN	External panels and covers (print engine) on page 623
Cover, roller holder		Cartridge door assembly (print engine) on page 627
Cover, Scanner controller board (main board cover)	Q7829-60145	Scanner controller board (SCB) assembly on page 603
Cover, sensor		Cartridge door assembly (print engine) on page 627
Cover, separation roller block		Upper cassette (print engine) on page 653
Cover, separation roller block		Lower cassette (print engine) on page 657
Cover, shutter lever		Internal components (2 of 3) (print engine) on page 635
Cover, stack	RC1–9724–000	Main body (stapler/stacker) on page 609
Cover, stapler		Main body (stapler/stacker) on page 609
Cover, static charge eliminator		Paper feed assembly (print engine) on page 671
Cover, stock box	RC2-0183-000CN	1X500 HCI main body on page 681
Cover, top	RC1-8233-000CN	External panels and covers (print engine) on page 623
Cover, transfer bushing, right		Paper feed assembly (print engine) on page 671
Cover, width sensing		Upper cassette (print engine) on page 653
Cover, width sensing		Lower cassette (print engine) on page 657
Cross member, door, right		External panels and covers (print engine) on page 623
Cross member, fuser drawer, left		Fuser (print engine) on page 675
Cross member, fuser drawer, right		Fuser (print engine) on page 675

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Cross member, grip		Internal components (3 of 3) (print engine) on page 639
Cross member, handle		Internal components (2 of 3) (print engine) on page 635
Cross member, roller		Cartridge door assembly (print engine) on page 627
Cross member, tray		Main body (stapler/stacker) on page 609
Damper solenoid		Base assembly (ADF) on page 583
DC controller PCA assembly	RM1-3459-000CN	Internal components (1 of 3) (print engine) on page 631
DC controller PCA assembly	RM1-3459-000CN	PCA assemblies on page 673
Door, front	RC1-9716-000CN	Main body (stapler/stacker) on page 609
Door, left	RC1-9719-000CN	Main body (stapler/stacker) on page 609
Door, left		External panels and covers (print engine) on page 623
Door, right		External panels and covers (print engine) on page 623
Door, right		1X500 HCI main body on page 681
Door, right		3X500 HCI main body on page 685
Door, stock	RC2-0181-000CN	1X500 HCI main body on page 681
Drive estrangement gear assembly		Fuser drive assembly (print engine) on page 649
Drivetrain assembly, deskew		Backbone assembly (ADF) on page 585
Drivetrain assembly, exit		Backbone assembly (ADF) on page 585
Drivetrain assembly, post scan		Backbone assembly (ADF) on page 585
Drivetrain assembly, prescan		Backbone assembly (ADF) on page 585
Duct, fuser		Fuser (print engine) on page 675
Duct, high-voltage, lower	RC1-8345-000CN	Internal components (1 of 3) (print engine) on page 631
Duct, high-voltage, upper	RC1-8344-000CN	Internal components (1 of 3) (print engine) on page 631

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Duct, scanner		Internal components (2 of 3) (print engine) on page 635
Duct, scanner, lower	RC1-8328-000CN	Internal components (2 of 3) (print engine) on page 635
Duct, separation, upper		Fuser (print engine) on page 675
E-clip		Base assembly (ADF) on page 583
E-clip		Backbone assembly (ADF) on page 585
E-clip (dia 3)		Jam cover (ADF) on page 589
E-clip (dia 5)		Jam cover (ADF) on page 589
Eliminator, static charge		Alignment and jogger assembly (stapler/stacker) on page 615
Eliminator, static charge		Paper feed assembly (print engine) on page 671
Enclosure, base		Base assembly (ADF) on page 583
End cap, jam cover		Jam cover (ADF) on page 589
Exit crank		Base assembly (ADF) on page 583
Facedown frame assembly		Paper delivery assembly (print engine) on page 643
Facedown roller holder assembly		Paper delivery assembly (print engine) on page 643
Fan, front	RK2-1285-000CN	Internal components (2 of 3) (print engine) on page 635
Fan, rear	RK2-1284-000CN	Internal components (2 of 3) (print engine) on page 635
Film guide assembly		Fuser (print engine) on page 675
Flag, facedown		Paper delivery assembly (print engine) on page 643
Flag, inlet sensor		Paper feed assembly (stapler/stacker) on page 613
Flag, jam sensor		Paper pickup assembly (HCI) on page 695
Flag, loop sensor	RC1-7144-000CN	Internal components (3 of 3) (print engine) on page 639
Flag, media present sensor		Jam cover (ADF) on page 589
Flag, paper delivery sensor		Paper delivery assembly (print engine) on page 643

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Flag, paper full detect		Paper delivery assembly (print engine) on page 643
Flag, paper level sensor		Paper pickup assembly (HCI) on page 695
Flag, paper yes/no sensor		Paper pickup assembly (HCI) on page 695
Flag, path sensor, lower		Lower cassette pickup assembly (print engine) on page 665
Flag, prescan		Backbone assembly (ADF) on page 585
Flag, retaining		Alignment and jogger assembly (stapler/stacker) on page 615
Flag, top sensor	RC1-7261-000CN	Internal components (3 of 3) (print engine) on page 639
Flapper, duplexer		Paper delivery assembly (print engine) on page 643
Flapper, duplexer facedown		Paper delivery assembly (print engine) on page 643
Foam separation		Separation pad assembly (ADF) on page 593
Foot		Internal components (2 of 3) (print engine) on page 635
Foot assembly		Internal components (2 of 3) (print engine) on page 635
Frame, facedown		Paper delivery assembly (print engine) on page 643
Frame, fuser, center		Fuser (print engine) on page 675
Frame, fuser, left		Fuser (print engine) on page 675
Frame, fuser, right		Fuser (print engine) on page 675
Frame, paper pickup, lower		Lower cassette pickup assembly (print engine) on page 665
Frame, paper pickup, upper		Upper cassette pickup assembly (print engine) on page 661
Frame, pressure release		Fuser pressure release assembly (print engine) on page 679
Front paper side end assembly		Upper cassette (print engine) on page 653
Front paper side end assembly		Lower cassette (print engine) on page 657

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Fuser assembly (110V-127V)	RM1-3007-000CN	Fuser (print engine) on page 675
Fuser assembly (220V-240V)	RM1-3008-000CN	Fuser (print engine) on page 675
Fuser drive assembly (print engine)	RM1-2963-000CN	Fuser drive assembly (print engine) on page 649
Fuser motor assembly	RM1-2538-000CN	Fuser drive assembly (print engine) on page 649
Fuser pressure release assembly	RM1-2973-000CN	Fuser pressure release assembly (print engine) on page 679
Gear, 12T		Registration assembly (print engine) on page 669
Gear, 133T	RU5-0546-000CN	Internal components (1 of 3) (print engine) on page 631
Gear, 14T	RU5-0564-000CN	Internal components (1 of 3) (print engine) on page 631
Gear, 14T		Upper cassette (print engine) on page 653
Gear, 14T		Lower cassette (print engine) on page 657
Gear, 14T		Upper cassette pickup assembly (print engine) on page 661
Gear, 14T		Cassette (HCI) on page 691
Gear, 14T		Paper pickup assembly (HCI) on page 695
Gear, 14T		Paper pickup assembly (HCI) on page 695
Gear, 14T		Paper pickup assembly (HCI) on page 695
Gear, 14T/14T		Lower drive assembly (print engine) on page 651
Gear, 14T/53T		Lifter drive assembly (HCI) on page 689
Gear, 15T	RU5-0553-000CN	Internal components (1 of 3) (print engine) on page 631
Gear, 15T		Paper delivery assembly (print engine) on page 643
Gear, 15T		Paper delivery assembly (print engine) on page 643
Gear, 15T		Upper cassette pickup assembly (print engine) on page 661

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Gear, 15T		Registration assembly (print engine) on page 669
Gear, 16T		Upper cassette pickup assembly (print engine) on page 661
Gear, 16T		Lower cassette pickup assembly (print engine) on page 665
Gear, 16T		Fuser (print engine) on page 675
Gear, 16T/46T		Lifter drive assembly (HCI) on page 689
Gear, 17T		Paper delivery assembly (print engine) on page 643
Gear, 17T		Paper delivery assembly (print engine) on page 643
Gear, 17T		Fuser drive assembly (print engine) on page 649
Gear, 17T		Upper cassette (print engine) on page 653
Gear, 17T		Lower cassette (print engine) on page 657
Gear, 17T		Lifter drive assembly (HCI) on page 689
Gear, 17T		Paper pickup assembly (HCI) on page 695
Gear, 18T		Paper feed assembly (stapler/ stacker) on page 613
Gear, 18T		Cartridge door assembly (print engine) on page 627
Gear, 18T		Internal components (2 of 3) (print engine) on page 635
Gear, 18T		Paper delivery assembly (print engine) on page 643
Gear, 18T/16T		Fuser (print engine) on page 675
Gear, 19T		Upper cassette pickup assembly (print engine) on page 661
Gear, 20T		Backbone assembly (ADF) on page 585
Gear, 20T		Cassette (HCI) on page 691
Gear, 20T/33T		Paper pickup assembly (HCI) on page 695

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Gear, 21T		Paper feed assembly (stapler/ stacker) on page 613
Gear, 21T/62T		Paper pickup assembly (HCI) on page 695
Gear, 22T		Backbone assembly (ADF) on page 585
Gear, 23T		Upper cassette pickup assembly (print engine) on page 661
Gear, 23T		Lifter drive assembly (HCI) on page 689
Gear, 23T		Paper pickup assembly (HCI) on page 695
Gear, 24T/42T		Paper pickup assembly (HCI) on page 695
Gear, 25T	RU5-0537-000CN	Internal components (1 of 3) (print engine) on page 631
Gear, 25T/25T		Internal components (2 of 3) (print engine) on page 635
Gear, 26T	RU5-0551-000CN	Internal components (1 of 3) (print engine) on page 631
Gear, 27T		Paper feed assembly (stapler/ stacker) on page 613
Gear, 28T		Internal components (2 of 3) (print engine) on page 635
Gear, 28T		Paper delivery assembly (print engine) on page 643
Gear, 29T		Lower drive assembly (print engine) on page 651
Gear, 29T		Fuser (print engine) on page 675
Gear, 30T - 12T		Backbone assembly (ADF) on page 585
Gear, 30T - 12T		Backbone assembly (ADF) on page 585
Gear, 31T		Fuser drive assembly (print engine) on page 649
Gear, 32T		Cartridge door assembly (print engine) on page 627
Gear, 32T		Cartridge door assembly (print engine) on page 627
Gear, 33T	RU5-0539-000CN	Internal components (1 of 3) (print engine) on page 631
Gear, 33T		Lifter drive assembly (HCI) on page 689

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Gear, 33T		Paper pickup assembly (HCI) on page 695
Gear, 33T/19T		Fuser drive assembly (print engine) on page 649
Gear, 34T		Backbone assembly (ADF) on page 585
Gear, 35T	RU5-0538-000CN	Internal components (1 of 3) (print engine) on page 631
Gear, 35T - 14T		Backbone assembly (ADF) on page 585
Gear, 36T		Backbone assembly (ADF) on page 585
Gear, 36T		Fuser drive assembly (print engine) on page 649
Gear, 37T		Paper pickup assembly (HCI) on page 695
Gear, 37T		Paper pickup assembly (HCI) on page 695
Gear, 37T/16T		Fuser drive assembly (print engine) on page 649
Gear, 39T/21T		Lifter drive assembly (print engine) on page 647
Gear, 43T	RU5-0550-000CN	Internal components (1 of 3) (print engine) on page 631
Gear, 43T/16T		Lifter drive assembly (print engine) on page 647
Gear, 43T/17T		Lifter drive assembly (print engine) on page 647
Gear, 43T/26T		Lower drive assembly (print engine) on page 651
Gear, 49T/27T		Fuser drive assembly (print engine) on page 649
Gear, 60T		Paper pickup assembly (HCI) on page 695
Gear, 67T/17T		Fuser drive assembly (print engine) on page 649
Gear, 73T	RU5-0547-000CN	Internal components (1 of 3) (print engine) on page 631
Gear, 80T		Cassette (HCI) on page 691
Gear, 96T/52T	RU5-0548-000CN	Internal components (1 of 3) (print engine) on page 631
Gear, 99T/40T	RU5-0549-000CN	Internal components (1 of 3) (print engine) on page 631
Gear, camshaft 26T		Jam cover (ADF) on page 589

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Gear, deskew 14T		Backbone assembly (ADF) on page 585
Gear, deskew 14T		Pickup roller assembly (ADF) on page 591
Gear, pick 26T		Jam cover (ADF) on page 589
Gear, pick shaft 12T		Pickup roller assembly (ADF) on page 591
Gear, pickshaft 12T		Jam cover (ADF) on page 589
Gear, swing 14T		Pickup roller assembly (ADF) on page 591
Glass	Q7829-60143	Scanner top assembly on page 601
Guide, cable		Internal components (1 of 3) (print engine) on page 631
Guide, cable		Internal components (2 of 3) (print engine) on page 635
Guide, cable		Internal components (2 of 3) (print engine) on page 635
Guide, cable		Internal components (2 of 3) (print engine) on page 635
Guide, cable		Internal components (2 of 3) (print engine) on page 635
Guide, cable		Internal components (2 of 3) (print engine) on page 635
Guide, cartridge door stopper	RC1-8022-000CN	Internal components (1 of 3) (print engine) on page 631
Guide, cartridge, left	RC1-7121-000CN	Internal components (1 of 3) (print engine) on page 631
Guide, cartridge, right lower	RC1-7286-000CN	Internal components (1 of 3) (print engine) on page 631
Guide, cartridge, right upper	RC1-7287-000CN	Internal components (1 of 3) (print engine) on page 631
Guide, cassette lock		Upper cassette (print engine) on page 653
Guide, cassette lock		Lower cassette (print engine) on page 657
Guide, clinch		Stapler assembly (stapler/ stacker) on page 619
Guide, duplexer, front	RC1-8027-000CN	Internal components (3 of 3) (print engine) on page 639
Guide, duplexer, rear	RC1-8048-000CN	Internal components (3 of 3) (print engine) on page 639
Guide, extension rail		Internal components (3 of 3) (print engine) on page 639

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Guide, facedown		External panels and covers (print engine) on page 623
Guide, FFC	RC1-9767-000CN	Main body (stapler/stacker) on page 609
Guide, flapper, left		Fuser (print engine) on page 675
Guide, flapper, right		Fuser (print engine) on page 675
Guide, flexible flat cable		Internal components (2 of 3) (print engine) on page 635
Guide, frame cable		Main body (stapler/stacker) on page 609
Guide, fuser entrance		Fuser (print engine) on page 675
Guide, fuser, left		Fuser (print engine) on page 675
Guide, fuser, right		Fuser (print engine) on page 675
Guide, glass	Q7829-60157	Scanner assembly base on page 597
Guide, glass	Q7829-60158	Scanner assembly base on page 597
Guide, high voltage FFC		Internal components (1 of 3) (print engine) on page 631
Guide, interface		Paper delivery assembly (print engine) on page 643
Guide, intermediate		Fuser pressure release assembly (print engine) on page 679
Guide, jam clearing		Paper pickup assembly (HCI) on page 695
Guide, jog cable		Alignment and jogger assembly (stapler/stacker) on page 615
Guide, jog surface		Alignment and jogger assembly (stapler/stacker) on page 615
Guide, laser FFC		Internal components (2 of 3) (print engine) on page 635
Guide, left		Alignment and jogger assembly (stapler/stacker) on page 615
Guide, left, front		Alignment and jogger assembly (stapler/stacker) on page 615
Guide, lower		Paper feed assembly (stapler/stacker) on page 613
Guide, nip		Cassette (HCI) on page 691

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Guide, outer rail		Internal components (3 of 3) (print engine) on page 639
Guide, paper feed		Cartridge door assembly (print engine) on page 627
Guide, paper feed		Internal components (3 of 3) (print engine) on page 639
Guide, paper feed		Paper feed assembly (print engine) on page 671
Guide, paper feed		3X500 HCI main body on page 685
Guide, paper feed cable		Paper feed assembly (stapler/ stacker) on page 613
Guide, paper feed, lower		External panels and covers (print engine) on page 623
Guide, paper pickup lower		Paper pickup assembly (HCI) on page 695
Guide, paper pickup upper		Paper pickup assembly (HCI) on page 695
Guide, paper re-pick up		Upper cassette pickup assembly (print engine) on page 661
Guide, paper re-pickup, upper		Upper cassette pickup assembly (print engine) on page 661
Guide, paper retaining, front		Cassette (HCI) on page 691
Guide, paper retaining, rear		Cassette (HCI) on page 691
Guide, path, lower		Internal components (3 of 3) (print engine) on page 639
Guide, pickup vertical feed		Paper pickup assembly (HCI) on page 695
Guide, rail		Alignment and jogger assembly (stapler/stacker) on page 615
Guide, rear	RC1-8046-000CN	Internal components (1 of 3) (print engine) on page 631
Guide, registration, upper		Registration assembly (print engine) on page 669
Guide, reverse		Fuser (print engine) on page 675
Guide, scanner cable		Internal components (2 of 3) (print engine) on page 635
Guide, separation, lower		Fuser (print engine) on page 675
Guide, separation, upper		Fuser (print engine) on page 675

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Guide, side, front		Upper cassette (print engine) on page 653
Guide, side, front		Lower cassette (print engine) on page 657
Guide, slide, front		Alignment and jogger assembly (stapler/stacker) on page 615
Guide, slide, rear		Alignment and jogger assembly (stapler/stacker) on page 615
Guide, stage cable		Alignment and jogger assembly (stapler/stacker) on page 615
Guide, sub		Paper delivery assembly (print engine) on page 643
Guide, top		Paper delivery assembly (print engine) on page 643
Guide, transfer, lower		Registration assembly (print engine) on page 669
Guide, transfer, upper		Registration assembly (print engine) on page 669
Guide, upper, 1		Paper feed assembly (stapler/stacker) on page 613
Guide, upper, 2		Paper feed assembly (stapler/stacker) on page 613
Handle, door, left		External panels and covers (print engine) on page 623
Handle, jam cover		Jam cover (ADF) on page 589
HCI main body		1X500 HCI main body on page 681
HCI main body		3X500 HCI main body on page 685
High voltage power supply assembly (110–127 V)	RM1-2957-000CN	Internal components (3 of 3) (print engine) on page 639
High voltage power supply assembly (220–240 V)	RM1-2958-000CN	Internal components (3 of 3) (print engine) on page 639
High-voltage PCA assembly (110V-127V)	RM1-2957-000CN	PCA assemblies on page 673
High-voltage PCA assembly (220V-240V)	RM1-2958-000CN	PCA assemblies on page 673
Hinge, cartridge door, front		Cartridge door assembly (print engine) on page 627
Hinge, cartridge door, rear		Cartridge door assembly (print engine) on page 627
Hinge, door, right		External panels and covers (print engine) on page 623
Holder, back end limit		Upper cassette (print engine) on page 653

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Holder, back end limit		Lower cassette (print engine) on page 657
Holder, cassette, left front	RC1-8036-000CN	Internal components (3 of 3) (print engine) on page 639
Holder, cassette, rear		Internal components (3 of 3) (print engine) on page 639
Holder, cassette, right front	RC1-8035-000CN	Internal components (3 of 3) (print engine) on page 639
Holder, connector		Internal components (2 of 3) (print engine) on page 635
Holder, connector		Internal components (2 of 3) (print engine) on page 635
Holder, contact	RC1-7241-000CN	Internal components (1 of 3) (print engine) on page 631
Holder, drawer	RC2-0167-000CN	1X500 HCI main body on page 681
Holder, drawer	RC2-0167-000CN	3X500 HCI main body on page 685
Holder, duplexer pendulum		Paper delivery assembly (print engine) on page 643
Holder, facedown roller		Paper delivery assembly (print engine) on page 643
Holder, floating connector		Internal components (2 of 3) (print engine) on page 635
Holder, front fan		Internal components (2 of 3) (print engine) on page 635
Holder, fuser cable		Fuser (print engine) on page 675
Holder, fuser cable		Fuser (print engine) on page 675
Holder, interlock switch		Main body (stapler/stacker) on page 609
Holder, multipurpose arm		Cartridge door assembly (print engine) on page 627
Holder, multipurpose roller		Cartridge door assembly (print engine) on page 627
Holder, paper re-pickup roller		External panels and covers (print engine) on page 623
Holder, paper re-pickup roller		Upper cassette pickup assembly (print engine) on page 661
Holder, pick		Pickup roller assembly (ADF) on page 591
Holder, pick arm		Paper pickup assembly (HCI) on page 695

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Holder, power supply link guide		Internal components (3 of 3) (print engine) on page 639
Holder, rear fan		Internal components (2 of 3) (print engine) on page 635
Holder, rear fan		Internal components (2 of 3) (print engine) on page 635
Holder, registration		Registration assembly (print engine) on page 669
Holder, remnant, lower		Lower cassette (print engine) on page 657
Holder, remnant, upper		Upper cassette (print engine) on page 653
Holder, retard		Paper pickup assembly (HCI) on page 695
Holder, roller		Cartridge door assembly (print engine) on page 627
Holder, roller		Paper delivery assembly (print engine) on page 643
Holder, roller, lower		External panels and covers (print engine) on page 623
Holder, sensor		Internal components (3 of 3) (print engine) on page 639
Holder, separation block		Upper cassette (print engine) on page 653
Holder, separation block		Lower cassette (print engine) on page 657
Holder, sheet sensor		Paper pickup assembly (HCI) on page 695
Holder, side guide, front		Upper cassette (print engine) on page 653
Holder, side guide, front		Lower cassette (print engine) on page 657
Holder, side guide, rear		Upper cassette (print engine) on page 653
Holder, side guide, rear		Lower cassette (print engine) on page 657
Holder, spring	RC1-8026-000CN	Internal components (1 of 3) (print engine) on page 631
Holder, stapler	RC1-9770-000CN	Stapler assembly (stapler/ stacker) on page 619
Holder, stopper		Internal components (1 of 3) (print engine) on page 631
Holder, top sensor	RC1-7268-000CN	Internal components (3 of 3) (print engine) on page 639

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Holder, wrap stopper		Fuser (print engine) on page 675
Hook		Lifter drive assembly (HCI) on page 689
Hub, separation		Pickup roller assembly (ADF) on page 591
IC, photo interrupter		Fuser (print engine) on page 675
Interlock assembly	RM1-3087-000CN	Main body (stapler/stacker) on page 609
Intermediate guide assembly		Fuser pressure release assembly (print engine) on page 679
IS connecting PCA assembly		Internal components (2 of 3) (print engine) on page 635
Jog guide assembly	RM1-3099-000CN	Alignment and jogger assembly (stapler/stacker) on page 615
Jog guide belt assembly		Alignment and jogger assembly (stapler/stacker) on page 615
Joint, power supply switch		Internal components (3 of 3) (print engine) on page 639
Knob, stopper release		Cassette (HCI) on page 691
Label, cassette control, lower		Lower cassette (print engine) on page 657
Label, cassette control, UP		Upper cassette (print engine) on page 653
Label, control position		Registration assembly (print engine) on page 669
Label, door jam clearing, left		External panels and covers (print engine) on page 623
Label, high temperature caution		External panels and covers (print engine) on page 623
Label, high temperature caution		External panels and covers (print engine) on page 623
Label, high temperature caution		Fuser (print engine) on page 675
Label, jam clearing		Cartridge door assembly (print engine) on page 627
Label, paper size indication		Cartridge door assembly (print engine) on page 627
Label, pick roller replacement 1		Jam cover (ADF) on page 589
Label, pick roller replacement 2		Jam cover (ADF) on page 589
Laser scanner assembly (print engine)	RM1-2555-000CN	Internal components (2 of 3) (print engine) on page 635

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Latch, door, right		External panels and covers (print engine) on page 623
Latch, pickup		Pickup roller assembly (ADF) on page 591
Latch, right door		1X500 HCI main body on page 681
Latch, right door		3X500 HCI main body on page 685
LED housing		Front end cover (ADF) on page 579
LED light pipe		Front end cover (ADF) on page 579
Left cassette rail assembly	RM1-2970-000CN	Internal components (3 of 3) (print engine) on page 639
Left door assembly	RM1-2990-000CN	External panels and covers (print engine) on page 623
Left guide assembly		Alignment and jogger assembly (stapler/stacker) on page 615
Left guide front assembly		Alignment and jogger assembly (stapler/stacker) on page 615
Lever, back end limit lock		Upper cassette (print engine) on page 653
Lever, back end limit lock		Lower cassette (print engine) on page 657
Lever, back end sensing		Upper cassette (print engine) on page 653
Lever, back end sensing		Lower cassette (print engine) on page 657
Lever, cartridge cover lock		Cartridge door assembly (print engine) on page 627
Lever, coupling	RC1-7285-000CN	Internal components (1 of 3) (print engine) on page 631
Lever, cover sensing, right		Lower cassette pickup assembly (print engine) on page 665
Lever, drive release	RC1-8075-000CN	Internal components (2 of 3) (print engine) on page 635
Lever, front		Fuser pressure release assembly (print engine) on page 679
Lever, fuser sensing switch	RC1-8060-000CN	Internal components (2 of 3) (print engine) on page 635
Lever, fuser shutter	RC1-8032-000CN	Internal components (1 of 3) (print engine) on page 631

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Lever, multipurpose sensor		Cartridge door assembly (print engine) on page 627
Lever, nip pressure release		Paper pickup assembly (HCI) on page 695
Lever, paper delivery sensor		Fuser (print engine) on page 675
Lever, paper sensor		Upper cassette pickup assembly (print engine) on page 661
Lever, paper sensor		Lower cassette pickup assembly (print engine) on page 665
Lever, paper width sensor		Cassette (HCI) on page 691
Lever, pushing	RC1-8330-000CN	Internal components (2 of 3) (print engine) on page 635
Lever, rear		Fuser pressure release assembly (print engine) on page 679
Lever, remnant detect, lower		Lower cassette (print engine) on page 657
Lever, remnant detect, upper		Upper cassette (print engine) on page 653
Lever, roller stopper		Upper cassette pickup assembly (print engine) on page 661
Lever, roller stopper		Lower cassette pickup assembly (print engine) on page 665
Lever, shutter	RC1-7451-000CN	Internal components (2 of 3) (print engine) on page 635
Lever, side		Upper cassette (print engine) on page 653
Lever, side		Lower cassette (print engine) on page 657
Lever, tag lock		Internal components (2 of 3) (print engine) on page 635
Lever, trigger		Paper pickup assembly (HCI) on page 695
Lifter assembly		Lifter drive assembly (HCI) on page 689
Lifter drive assembly	RM1-2969-000CN	Lifter drive assembly (print engine) on page 647
Lifter drive assembly (1X500)	RM1-3819-000CN	Lifter drive assembly (HCI) on page 689
Lifter drive assembly (3X500)	RM1-3819-000CN	Lifter drive assembly (HCI) on page 689

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Lifter, back end		Cassette (HCI) on page 691
Limiter, torque		Paper pickup assembly (HCI) on page 695
Link, back end sensing switch		Upper cassette (print engine) on page 653
Link, back end sensing switch		Lower cassette (print engine) on page 657
Link, door, right		External panels and covers (print engine) on page 623
Link, duplexer flapper, 1		Internal components (2 of 3) (print engine) on page 635
Link, duplexer flapper, 2		Internal components (2 of 3) (print engine) on page 635
Link, fuser drive release		Internal components (1 of 3) (print engine) on page 631
Link, fuser sensing	RC1-8059-000CN	Internal components (2 of 3) (print engine) on page 635
Link, fuser sensing, small	RC1-8058-000CN	Internal components (2 of 3) (print engine) on page 635
Link, power supply switch		Internal components (3 of 3) (print engine) on page 639
Link, pressure release		Fuser pressure release assembly (print engine) on page 679
Link, right door	RC2-0160-000CN	1X500 HCI main body on page 681
Link, right door	RC2-0160-000CN	3X500 HCI main body on page 685
Link, right door, upper	RC2-0170-000CN	1X500 HCI main body on page 681
Link, right door, upper	RC2-0170-000CN	3X500 HCI main body on page 685
Link, tag	RC1-7289-000CN	Internal components (2 of 3) (print engine) on page 635
Lock shaft, jam cover		Jam cover (ADF) on page 589
Lock, back end limit		Upper cassette (print engine) on page 653
Lock, back end limit		Lower cassette (print engine) on page 657
Lock, cartridge door, left		Cartridge door assembly (print engine) on page 627
Lock, cartridge door, right		Cartridge door assembly (print engine) on page 627

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Lock, pressure release, front	RC1-8039-000CN	Internal components (2 of 3) (print engine) on page 635
Lock, pressure release, rear		Internal components (3 of 3) (print engine) on page 639
Lock, side		Upper cassette (print engine) on page 653
Lock, side		Lower cassette (print engine) on page 657
Low-voltage PCA assembly (110V-127V)	RM1-2994-000CN	PCA assemblies on page 673
Low-voltage PCA assembly (220V-240V)	RM1-3006-000CN	PCA assemblies on page 673
Lower cassette (engine)	RM1-2979-000CN	Lower cassette (print engine) on page 657
Lower cassette pickup assembly (engine)	RM1-2977-000CN	Lower cassette pickup assembly (print engine) on page 665
Lower drive assembly	RM1-2972-000CN	Lower drive assembly (print engine) on page 651
Main motor assembly	RM1-2516-000CN	Internal components (1 of 3) (print engine) on page 631
Media LED		Front end cover (ADF) on page 579
Motor, stepping DC		Alignment and jogger assembly (stapler/stacker) on page 615
Motor, stepping DC		Alignment and jogger assembly (stapler/stacker) on page 615
Motor, stepping, DC		Alignment and jogger assembly (stapler/stacker) on page 615
Motor, stepping, DC	RK2-1331-000CN	1X500 HCI main body on page 681
Motor, stepping, DC	RK2-1331-000CN	3X500 HCI main body on page 685
Motor, transmission	Q7829-60149	Scanner transmission drive assembly on page 607
Mount, interlock guide	RC1-8165-000CN	Internal components (1 of 3) (print engine) on page 631
Multipurpose (Tray 1) cover assembly	RM1-2986-000CN	Cartridge door assembly (print engine) on page 627
Multipurpose pad assembly	RM1-2462-000CN	Cartridge door assembly (print engine) on page 627
Multipurpose tray assembly		Cartridge door assembly (print engine) on page 627
Mylar, separation left		Separation floor assembly (ADF) on page 595

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Mylar, short separation right		Separation floor assembly (ADF) on page 595
Nyogel (55cc syringe)		Backbone assembly (ADF) on page 585
Option paper sensor PCA assembly		Paper pickup assembly (HCI) on page 695
Pad, flapper		External panels and covers (print engine) on page 623
Pad, flapper		Paper delivery assembly (print engine) on page 643
Pad, flapper		Paper delivery assembly (print engine) on page 643
Pad, flapper		Paper delivery assembly (print engine) on page 643
Pad, flapper		Lower cassette pickup assembly (print engine) on page 665
Pad, friction		Separation pad assembly (ADF) on page 593
Pad, separation		Separation pad assembly (ADF) on page 593
Pad, separation		Cartridge door assembly (print engine) on page 627
Pad, solenoid		Base assembly (ADF) on page 583
Paddle	RC1-7122-000CN	Internal components (1 of 3) (print engine) on page 631
Paper delivery assembly	RM1-2987-000CN	Paper delivery assembly (print engine) on page 643
Paper delivery drive assembly	RM1-2962-000CN	Internal components (2 of 3) (print engine) on page 635
Paper feed assembly	RM1-3009-000CN	Paper feed assembly (print engine) on page 671
Paper feed assembly (stapler/stacker)	RM1-3088-000CN	Paper feed assembly (stapler/stacker) on page 613
Paper feed PCA assembly	RM1-3641-000CN	1X500 HCI main body on page 681
Paper feed PCA assembly	RM1-3641-000CN	3X500 HCI main body on page 685
Paper feed PCA assembly (1X500 HCI)	RM1-3641-000CN	PCA assemblies on page 699
Paper feed PCA assembly (3X500 HCI)	RM1-3641-000CN	PCA assemblies on page 699
Paper feed roller assembly	RM1-0037-000N	Paper pickup assembly (HCI) on page 695

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Paper pickup assembly (1X500 HCI)	RM1-3821-000CN	Paper pickup assembly (HCI) on page 695
Paper pickup assembly (3X500)	RM1-3821-000CN	Paper pickup assembly (HCI) on page 695
Paper pickup LW guide assembly		Paper pickup assembly (HCI) on page 695
Paper pickup roller assembly	RM1-2988-000CN	Upper cassette pickup assembly (print engine) on page 661
Paper pickup roller assembly	RM1-2998-000CN	Lower cassette pickup assembly (print engine) on page 665
Paper pickup shaft assembly		Cartridge door assembly (print engine) on page 627
Paper pickup UP plate assembly		Paper pickup assembly (HCI) on page 695
Paper side end front assembly		Cassette (HCI) on page 691
Paper side end rear assembly		Cassette (HCI) on page 691
Pate, multipurpose, lifter		Cartridge door assembly (print engine) on page 627
PCA motor assembly	Q7829-67903	ADF on page 577
Pendulum arm assembly		Upper cassette pickup assembly (print engine) on page 661
Photo interrupter, TL1243	WG8-5696-000CN	Internal components (1 of 3) (print engine) on page 631
Photo interrupter, TLP1243	WG8-5696-000CN	Main body (stapler/stacker) on page 609
Photo interrupter, TLP1243		Paper feed assembly (stapler/stacker) on page 613
Photo interrupter, TLP1243		Alignment and jogger assembly (stapler/stacker) on page 615
Photo interrupter, TLP1243	WG8-5696-000CN	Cartridge door assembly (print engine) on page 627
Photo interrupter, TLP1243	WG8-5696-000CN	Internal components (2 of 3) (print engine) on page 635
Photo interrupter, TLP1243	WG8-5696-000CN	Internal components (3 of 3) (print engine) on page 639
Photo interrupter, TLP1243	WG8-5696-000CN	Paper delivery assembly (print engine) on page 643
Photo interrupter, TLP1243	WG8-5696-000CN	Lifter drive assembly (print engine) on page 647
Photo interrupter, TLP1243	WG8-5696-000CN	Upper cassette pickup assembly (print engine) on page 661

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Photo interrupter, TLP1243	WG8-5696-000CN	Lower cassette pickup assembly (print engine) on page 665
Photo interrupter, TLP1243		Paper pickup assembly (HCI) on page 695
Pick gear assembly		Cartridge door assembly (print engine) on page 627
Pin 3X12 mm		Base assembly (ADF) on page 583
Pin, dowel		Lifter drive assembly (HCI) on page 689
Pin, dowel		Cassette (HCI) on page 691
Pin, dowel		Cassette (HCI) on page 691
Pin, dowel		Paper pickup assembly (HCI) on page 695
Pin, hinge		Hinges on page 581
Pinch, deskew center		Jam cover (ADF) on page 589
Pinch, deskew right		Jam cover (ADF) on page 589
Plain washer		Upper cassette (print engine) on page 653
Plain washer		Upper cassette (print engine) on page 653
Plain washer		Lower cassette (print engine) on page 657
Plain washer		Lower cassette (print engine) on page 657
Plate, back end limit		Upper cassette (print engine) on page 653
Plate, back end limit		Lower cassette (print engine) on page 657
Plate, back end limit		Cassette (HCI) on page 691
Plate, cam		Internal components (3 of 3) (print engine) on page 639
Plate, cassette positioning		Internal components (3 of 3) (print engine) on page 639
Plate, cassette support		Upper cassette (print engine) on page 653
Plate, cassette support		Lower cassette (print engine) on page 657
Plate, cross member auxiliary	RC1-7264-000CN	Internal components (3 of 3) (print engine) on page 639
Plate, drive, lower		Lower drive assembly (print engine) on page 651

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Plate, ESD grounding		Paper delivery assembly (print engine) on page 643
Plate, feed roller mounting		Paper pickup assembly (HCI) on page 695
Plate, FFC shield		Internal components (2 of 3) (print engine) on page 635
Plate, fixed, front		Fuser pressure release assembly (print engine) on page 679
Plate, fixed, rear		Fuser pressure release assembly (print engine) on page 679
Plate, formatter guide		Internal components (2 of 3) (print engine) on page 635
Plate, formatter guide cap		Internal components (2 of 3) (print engine) on page 635
Plate, frame auxiliary		Internal components (3 of 3) (print engine) on page 639
Plate, front frame shield		Main body (stapler/stacker) on page 609
Plate, fuser drive		Fuser drive assembly (print engine) on page 649
Plate, fuser drive swing		Fuser drive assembly (print engine) on page 649
Plate, fuser pressure		Fuser (print engine) on page 675
Plate, gear	RL1-0951-000CN	Internal components (1 of 3) (print engine) on page 631
Plate, grounding	RC1-7021-000CN	Internal components (1 of 3) (print engine) on page 631
Plate, grounding lower		Lower cassette pickup assembly (print engine) on page 665
Plate, hinge		1X500 HCI main body on page 681
Plate, hinge		3X500 HCI main body on page 685
Plate, lifter		Lifter drive assembly (print engine) on page 647
Plate, lifter		Upper cassette (print engine) on page 653
Plate, lifter		Lower cassette (print engine) on page 657
Plate, lifter		Cassette (HCI) on page 691

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Plate, motor		Internal components (1 of 3) (print engine) on page 631
Plate, multipurpose limit, left		Cartridge door assembly (print engine) on page 627
Plate, multipurpose limit, right		Cartridge door assembly (print engine) on page 627
Plate, number indication		3X500 HCI main body on page 685
Plate, paper delivery drive		Internal components (2 of 3) (print engine) on page 635
Plate, paper feed		Paper feed assembly (print engine) on page 671
Plate, paper pickup upper		Paper pickup assembly (HCI) on page 695
Plate, paper side end		Cassette (HCI) on page 691
Plate, paper side end		Cassette (HCI) on page 691
Plate, paper side end		Cassette (HCI) on page 691
Plate, paper side end, rear		Upper cassette (print engine) on page 653
Plate, paper side end, rear		Lower cassette (print engine) on page 657
Plate, photosensor grounding		Lifter drive assembly (print engine) on page 647
Plate, pressure release, left		Fuser (print engine) on page 675
Plate, pressure release, right		Fuser (print engine) on page 675
Plate, reinforcement		Cartridge door assembly (print engine) on page 627
Plate, reinforcement		Internal components (2 of 3) (print engine) on page 635
Plate, retard busing		Paper pickup assembly (HCI) on page 695
Plate, roller grounding		Paper delivery assembly (print engine) on page 643
Plate, roller grounding, lower		Lower cassette pickup assembly (print engine) on page 665
Plate, roller grounding, upper		Upper cassette pickup assembly (print engine) on page 661
Plate, roller, left		Cassette (HCI) on page 691
Plate, roller, right		Cassette (HCI) on page 691

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Plate, scanner duct	RC1-8069-000CN	Internal components (2 of 3) (print engine) on page 635
Plate, sensor		Paper delivery assembly (print engine) on page 643
Plate, sensor grounding		Upper cassette pickup assembly (print engine) on page 661
Plate, sensor grounding		Lower cassette pickup assembly (print engine) on page 665
Plate, swing		Paper pickup assembly (HCI) on page 695
Plate, switch cover		3X500 HCI main body on page 685
Plate, tag holder		Internal components (2 of 3) (print engine) on page 635
Plunger, hinge		Hinges on page 581
Plunger, input tray		Base assembly (ADF) on page 583
Power supply assembly (110–127 V)	RM1-2994-000CN	Internal components (2 of 3) (print engine) on page 635
Power supply assembly (220–240 V)	RM1-3006-000CN	Internal components (2 of 3) (print engine) on page 635
Profile, hinge		Hinges on page 581
Pulley		Paper feed assembly (stapler/stacker) on page 613
Pulley		Lower cassette pickup assembly (print engine) on page 665
Pulley, 26T		Alignment and jogger assembly (stapler/stacker) on page 615
Pulley, belt		Backbone assembly (ADF) on page 585
Pulley, drive tire		Backbone assembly (ADF) on page 585
Pulley, exit		Backbone assembly (ADF) on page 585
Pulley, transmission	Q7829-60151	Scanner transmission drive assembly on page 607
Pulley/gear, 37T		Alignment and jogger assembly (stapler/stacker) on page 615
Rack, lifter		Upper cassette (print engine) on page 653
Rack, lifter		Lower cassette (print engine) on page 657

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Rack, multipurpose		Cartridge door assembly (print engine) on page 627
Rack, side		Upper cassette (print engine) on page 653
Rack, side		Lower cassette (print engine) on page 657
Rail and slide sheet assembly	Q7829-60164	Scanner assembly base on page 597
Rail, attachment, left		Upper cassette (print engine) on page 653
Rail, attachment, left		Lower cassette (print engine) on page 657
Rail, attachment, right		Upper cassette (print engine) on page 653
Rail, attachment, right		Lower cassette (print engine) on page 657
Rail, cassette, left	RL1-1391-000CN	1X500 HCI main body on page 681
Rail, cassette, left	RL1-1391-000CN	3X500 HCI main body on page 685
Rail, cassette, right	RL1-1390-000CN	1X500 HCI main body on page 681
Rail, cassette, right	RL1-1390-000CN	3X500 HCI main body on page 685
Rail, inner, left		Internal components (3 of 3) (print engine) on page 639
Rail, inner, right		Internal components (3 of 3) (print engine) on page 639
Rail, outer, left		Internal components (3 of 3) (print engine) on page 639
Rail, outer, right		Internal components (3 of 3) (print engine) on page 639
Rear cover assembly	RM1-3095-000CN	Main body (stapler/stacker) on page 609
Rear paper side end assembly		Upper cassette (print engine) on page 653
Rear paper side end assembly		Lower cassette (print engine) on page 657
Registration assembly	RM1-3001-000CN	Registration assembly (print engine) on page 669
Retainer STS		Backbone assembly (ADF) on page 585
Retainer STS		Pickup roller assembly (ADF) on page 591

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Retainer, belt exit pulley D1		Backbone assembly (ADF) on page 585
Retainer, belt exit pulley D2		Backbone assembly (ADF) on page 585
Retard holder assembly		Paper pickup assembly (HCI) on page 695
Rib, separation duct, upper		Fuser (print engine) on page 675
Right cassette rail assembly	RM1-2971-000CN	Internal components (3 of 3) (print engine) on page 639
Right cover	Q7829-60153	Scanner top assembly on page 601
Right door assembly	RM1-2991-000CN	External panels and covers (print engine) on page 623
Right door assembly	RM1-3825-000CN	1X500 HCI main body on page 681
Right door assembly	RM1-3824-000CN	3X500 HCI main body on page 685
Right lower handle assembly		Internal components (3 of 3) (print engine) on page 639
Ring, conductive rubber		Fuser (print engine) on page 675
Ring, E		Paper feed assembly (stapler/ stacker) on page 613
Ring, E	RC1–8358–000CN	Internal components (1 of 3) (print engine) on page 631
Ring, E		Lifter drive assembly (print engine) on page 647
Ring, E	XD9-0233-000CN	Fuser drive assembly (print engine) on page 649
Ring, E		Upper cassette (print engine) on page 653
Ring, E		Upper cassette (print engine) on page 653
Ring, E		Lower cassette (print engine) on page 657
Ring, E		Lower cassette (print engine) on page 657
Ring, E		Upper cassette pickup assembly (print engine) on page 661
Ring, E		Lower cassette pickup assembly (print engine) on page 665

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Ring, E		Registration assembly (print engine) on page 669
Ring, E		Paper pickup assembly (HCI) on page 695
Ring, E		Paper pickup assembly (HCI) on page 695
Ring, O		Paper delivery assembly (print engine) on page 643
Ring, retaining		Paper pickup assembly (HCI) on page 695
Ring, spacer	RC1-8333-000CN	Internal components (2 of 3) (print engine) on page 635
Rod	Q7829-60160	Scanner assembly base on page 597
Rod, main frame		Cartridge door assembly (print engine) on page 627
Rod, power switch		Internal components (3 of 3) (print engine) on page 639
Roller		Paper delivery assembly (print engine) on page 643
Roller		Paper feed assembly (print engine) on page 671
Roller		Fuser pressure release assembly (print engine) on page 679
Roller assembly		Cartridge door assembly (print engine) on page 627
Roller assembly		Paper delivery assembly (print engine) on page 643
Roller holder assembly		Paper delivery assembly (print engine) on page 643
Roller stopper assembly		Upper cassette pickup assembly (print engine) on page 661
Roller stopper assembly		Lower cassette pickup assembly (print engine) on page 665
Roller, cassette		Cassette (HCI) on page 691
Roller, cassette paper pickup		Upper cassette pickup assembly (print engine) on page 661
Roller, cassette paper pickup		Lower cassette pickup assembly (print engine) on page 665
Roller, cassette rail		Upper cassette (print engine) on page 653

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Roller, cassette rail		Lower cassette (print engine) on page 657
Roller, face-up		Fuser (print engine) on page 675
Roller, face-up paper delivery		Fuser (print engine) on page 675
Roller, facedown		Paper delivery assembly (print engine) on page 643
Roller, flapper guide		Fuser (print engine) on page 675
Roller, idler		External panels and covers (print engine) on page 623
Roller, idler		Cartridge door assembly (print engine) on page 627
Roller, idler		Upper cassette pickup assembly (print engine) on page 661
Roller, multipurpose		Cartridge door assembly (print engine) on page 627
Roller, multipurpose paper pickup	RL1-0915-000CN	Cartridge door assembly (print engine) on page 627
Roller, multipurpose, lower		Lower cassette pickup assembly (print engine) on page 665
Roller, paper delivery		Paper delivery assembly (print engine) on page 643
Roller, paper delivery		Paper delivery assembly (print engine) on page 643
Roller, paper delivery		Paper delivery assembly (print engine) on page 643
Roller, paper feed		Paper feed assembly (stapler/ stacker) on page 613
Roller, paper feed		Paper pickup assembly (HCI) on page 695
Roller, paper feed		Paper pickup assembly (HCI) on page 695
Roller, paper feed, A5		Lower cassette pickup assembly (print engine) on page 665
Roller, paper re-pickup		Upper cassette pickup assembly (print engine) on page 661
Roller, pickup	RL1-1206-000CN	Paper pickup assembly (HCI) on page 695
Roller, pressure		Fuser (print engine) on page 675

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Roller, rail	RC1-9231-000CN	1X500 HCI main body on page 681
Roller, rail	RC1-9231-000CN	3X500 HCI main body on page 685
Roller, registration		Registration assembly (print engine) on page 669
Roller, registration		Registration assembly (print engine) on page 669
Roller, registration		Registration assembly (print engine) on page 669
Roller, registration		Registration assembly (print engine) on page 669
Roller, registration		Registration assembly (print engine) on page 669
Roller, reserve		Paper feed assembly (stapler/ stacker) on page 613
Roller, transfer	RM1-2485-000CN	Internal components (1 of 3) (print engine) on page 631
Rubber, guide	Q7829-60162	Scanner assembly base on page 597
Saddle, wire		Main body (stapler/stacker) on page 609
Saddle, wire		3X500 HCI main body on page 685
Scanner	Q7829-60159	Scanner assembly base on page 597
Scanner controller board PCA (main baord)	Q7829-60165	Scanner controller board (SCB) assembly on page 603
Scanner lid sensor assembly	Q7829-60148	Scanner lid sensor assembly on page 605
Screw		1X500 HCI main body on page 681
Screw		3X500 HCI main body on page 685
Screw		Lifter drive assembly (HCI) on page 689
Screw		Cassette (HCI) on page 691
Screw, B, M4X8		Cassette (HCI) on page 691
Screw, D, M3X6		Cartridge door assembly (print engine) on page 627
Screw, D, M3X6		Cartridge door assembly (print engine) on page 627
Screw, D, M3X6		Internal components (1 of 3) (print engine) on page 631

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Screw, D, M3X6		Internal components (2 of 3) (print engine) on page 635
Screw, D, M3X6		Internal components (2 of 3) (print engine) on page 635
Screw, D, M3X6		Internal components (3 of 3) (print engine) on page 639
Screw, D, M3X6		Internal components (3 of 3) (print engine) on page 639
Screw, D, M3X6		Fuser drive assembly (print engine) on page 649
Screw, D, M3X6		Upper cassette (print engine) on page 653
Screw, D, M3X6		Lower cassette (print engine) on page 657
Screw, D, M3X6		Registration assembly (print engine) on page 669
Screw, D, M3X6		Fuser (print engine) on page 675
Screw, D, MX6		Main body (stapler/stacker) on page 609
Screw, M3X8		External panels and covers (print engine) on page 623
Screw, M3X8		Internal components (1 of 3) (print engine) on page 631
Screw, M3X8		Internal components (2 of 3) (print engine) on page 635
Screw, M3X8		Internal components (3 of 3) (print engine) on page 639
Screw, M3X8		Upper cassette (print engine) on page 653
Screw, M3X8		Lower cassette (print engine) on page 657
Screw, M3X9 PT pan head phillips		Base assembly (ADF) on page 583
Screw, M3X9 PT pan head phillips		Backbone assembly (ADF) on page 585
Screw, M3X9 PT pan head phillips #2		Jam cover (ADF) on page 589
Screw, M3X9 PT pan head phillips #2		Pickup roller assembly (ADF) on page 591
Screw, RS, M3X8		Main body (stapler/stacker) on page 609
Screw, RS, M3X8	XA9-1386-000CN	Alignment and jogger assembly (stapler/stacker) on page 615

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Screw, RS, M3X8		Alignment and jogger assembly (stapler/stacker) on page 615
Screw, RS, M3X8		Stapler assembly (stapler/stacker) on page 619
Screw, RS, M3X8		Lifter drive assembly (HCI) on page 689
Screw, RS, M4X8		1X500 HCI main body on page 681
Screw, RS, M4X8		3X500 HCI main body on page 685
Screw, stepped		Fuser (print engine) on page 675
Screw, stepped		1X500 HCI main body on page 681
Screw, stepped		3X500 HCI main body on page 685
Screw, stepped, M3		Internal components (2 of 3) (print engine) on page 635
Screw, tap, binding head, M3X8		Internal components (2 of 3) (print engine) on page 635
Screw, tap, binding head, M3X8		Paper pickup assembly (HCI) on page 695
Screw, tap, M3X6		Internal components (1 of 3) (print engine) on page 631
Screw, tap, M3X6		Internal components (2 of 3) (print engine) on page 635
Screw, tap, M3X6		Internal components (2 of 3) (print engine) on page 635
Screw, tapping, pan head, M4X10		Alignment and jogger assembly (stapler/stacker) on page 615
Screw, tapping, pan head, M4X10		Alignment and jogger assembly (stapler/stacker) on page 615
Screw, tapping, truss head, M 4X10		Paper delivery assembly (print engine) on page 643
Screw, tapping, truss head, M4X10		External panels and covers (print engine) on page 623
Screw, tapping, truss head, M4X10		Cartridge door assembly (print engine) on page 627
Screw, tapping, truss head, M4X10	XB4-7401-005CN	Internal components (1 of 3) (print engine) on page 631
Screw, tapping, truss head, M4X10		Internal components (3 of 3) (print engine) on page 639
Screw, tapping, truss head, M4X10		Lifter drive assembly (print engine) on page 647

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Screw, tapping, truss head, M4X10		Upper cassette (print engine) on page 653
Screw, tapping, truss head, M4X10		Lower cassette (print engine) on page 657
Screw, tapping, truss head, M4X10		Upper cassette pickup assembly (print engine) on page 661
Screw, tapping, truss head, M4X10		Lower cassette pickup assembly (print engine) on page 665
Screw, tapping, truss head, M4X10		Fuser (print engine) on page 675
Screw, tapping, truss head, M4X10		Fuser pressure release assembly (print engine) on page 679
Screw, TP, M3X4		Paper feed assembly (stapler/ stacker) on page 613
Screw, TP, M3X6		1X500 HCI main body on page 681
Screw, TP, M3X6		3X500 HCI main body on page 685
Screw, TP, M3X6		Paper pickup assembly (HCI) on page 695
Screw, TP, M3X8		Main body (stapler/stacker) on page 609
Screw, TP, M4X6		Fuser (print engine) on page 675
Screw, w/washer, M3X6		Lifter drive assembly (print engine) on page 647
Screw, w/washer, M3X6		Fuser (print engine) on page 675
Screw, w/washer, M3X6		1X500 HCI main body on page 681
Screw, w/washer, M3X6		3X500 HCI main body on page 685
Screw, w/washer, M3X6		Lifter drive assembly (HCI) on page 689
Screw, w/washer, M3X8		Alignment and jogger assembly (stapler/stacker) on page 615
Screw, w/washer, M3X8		Alignment and jogger assembly (stapler/stacker) on page 615
Screw, w/washer, M5X12		1X500 HCI main body on page 681
Screw, w/washer, M5X12		3X500 HCI main body on page 685

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Screw, w/washer, M5X12		3X500 HCI main body on page 685
Sensor, paper	Q7829-60163	Scanner assembly base on page 597
Separation block assembly	RM1-2983-000CN	Upper cassette (print engine) on page 653
Separation block assembly	RM1-2983-000CN	Lower cassette (print engine) on page 657
Separation pad assembly (part of the ADF maintenance kit)	Q7842-67902	Separation pad assembly (ADF) on page 593
Separation roller assembly		Upper cassette (print engine) on page 653
Separation roller assembly		Lower cassette (print engine) on page 657
Shaft, arm support		Cassette (HCI) on page 691
Shaft, back end sensing link		Upper cassette (print engine) on page 653
Shaft, back end sensing link		Lower cassette (print engine) on page 657
Shaft, cam		Jam cover (ADF) on page 589
Shaft, cassette input gear		Lifter drive assembly (print engine) on page 647
Shaft, cassette slide		Upper cassette pickup assembly (print engine) on page 661
Shaft, cassette slide		Lower cassette pickup assembly (print engine) on page 665
Shaft, door hinge, right		External panels and covers (print engine) on page 623
Shaft, fuser drive swing		Fuser drive assembly (print engine) on page 649
Shaft, fuser shutter	RC1-7436-000CN	Internal components (2 of 3) (print engine) on page 635
Shaft, lock		Fuser pressure release assembly (print engine) on page 679
Shaft, multipurpose paper pickup		Cartridge door assembly (print engine) on page 627
Shaft, paper pickup drive		Upper cassette pickup assembly (print engine) on page 661
Shaft, paper pickup drive		Lower cassette pickup assembly (print engine) on page 665

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Shaft, pick		Jam cover (ADF) on page 589
Shaft, pick		Pickup roller assembly (ADF) on page 591
Shaft, pickup		Pickup roller assembly (ADF) on page 591
Shaft, pinch deskew		Jam cover (ADF) on page 589
Shaft, pressure release		Fuser pressure release assembly (print engine) on page 679
Shaft, registration roller		Registration assembly (print engine) on page 669
Shaft, retard link		Paper pickup assembly (HCI) on page 695
Shaft, roller, upper		Upper cassette pickup assembly (print engine) on page 661
Shaft, separation block		Upper cassette (print engine) on page 653
Shaft, separation block		Lower cassette (print engine) on page 657
Sheet, drawer protective		Internal components (2 of 3) (print engine) on page 635
Sheet, roller		External panels and covers (print engine) on page 623
Sheet, transfer guide, upper		Registration assembly (print engine) on page 669
Sheet, transfer insulating		Paper feed assembly (print engine) on page 671
Shield, rear fan grounding		Internal components (2 of 3) (print engine) on page 635
Shutter, fuser	RC1-7163-000CN	Internal components (2 of 3) (print engine) on page 635
Shutter, registration		Registration assembly (print engine) on page 669
Side plate, paper pickup fr.		Paper pickup assembly (HCI) on page 695
Side plate, pickup drive		Paper pickup assembly (HCI) on page 695
Side plate, registration, left		Registration assembly (print engine) on page 669
Side plate, registration, right		Registration assembly (print engine) on page 669
Side plate, transfer drive	RC1-7129-000CN	Internal components (1 of 3) (print engine) on page 631

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Slide guide rear assembly		Alignment and jogger assembly (stapler/stacker) on page 615
Slider, back end limit		Upper cassette (print engine) on page 653
Slider, back end limit		Lower cassette (print engine) on page 657
Slider, lifter arm		Upper cassette (print engine) on page 653
Slider, lifter arm		Lower cassette (print engine) on page 657
Slider, polyester		Paper pickup assembly (HCI) on page 695
Solenoid		Base assembly (ADF) on page 583
Solenoid		Cartridge door assembly (print engine) on page 627
Solenoid		Internal components (2 of 3) (print engine) on page 635
Solenoid		Paper pickup assembly (HCI) on page 695
Solenoid, flapper		Paper feed assembly (stapler/stacker) on page 613
Spacer, reinforcement, left		1X500 HCI main body on page 681
Spacer, reinforcement, left		3X500 HCI main body on page 685
Spacer, reinforcement, right		1X500 HCI main body on page 681
Spacer, reinforcement, right		3X500 HCI main body on page 685
Spacer, slide	RC1-8331-000CN	Internal components (2 of 3) (print engine) on page 635
Spring, axle		Base assembly (ADF) on page 583
Spring, axle L		Base assembly (ADF) on page 583
Spring, bias pick		Pickup roller assembly (ADF) on page 591
Spring, compression		Paper feed assembly (stapler/stacker) on page 613
Spring, compression		Alignment and jogger assembly (stapler/stacker) on page 615
Spring, compression		External panels and covers (print engine) on page 623

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Spring, compression		External panels and covers (print engine) on page 623
Spring, compression		External panels and covers (print engine) on page 623
Spring, compression		External panels and covers (print engine) on page 623
Spring, compression	RU5-2553-000CN	Cartridge door assembly (print engine) on page 627
Spring, compression		Cartridge door assembly (print engine) on page 627
Spring, compression		Cartridge door assembly (print engine) on page 627
Spring, compression		Cartridge door assembly (print engine) on page 627
Spring, compression		Cartridge door assembly (print engine) on page 627
Spring, compression	RU5-2630-000CN	Internal components (1 of 3) (print engine) on page 631
Spring, compression	RU5-2631-000CN	Internal components (1 of 3) (print engine) on page 631
Spring, compression	RC1-7126-000CN	Internal components (1 of 3) (print engine) on page 631
Spring, compression	RC1-7127-000CN	Internal components (1 of 3) (print engine) on page 631
Spring, compression	RU5-2587-000CN	Internal components (1 of 3) (print engine) on page 631
Spring, compression	RU5-2588-000CN	Internal components (1 of 3) (print engine) on page 631
Spring, compression	RU5-2589-000CN	Internal components (1 of 3) (print engine) on page 631
Spring, compression	RU5-2590-000CN	Internal components (1 of 3) (print engine) on page 631
Spring, compression	RU5-2633-000CN	Internal components (2 of 3) (print engine) on page 635
Spring, compression	RU5-2683-000CN	Internal components (2 of 3) (print engine) on page 635
Spring, compression		Internal components (2 of 3) (print engine) on page 635
Spring, compression		Internal components (2 of 3) (print engine) on page 635
Spring, compression		Internal components (2 of 3) (print engine) on page 635
Spring, compression		Paper delivery assembly (print engine) on page 643

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Spring, compression		Paper delivery assembly (print engine) on page 643
Spring, compression		Lifter drive assembly (print engine) on page 647
Spring, compression		Fuser drive assembly (print engine) on page 649
Spring, compression		Upper cassette (print engine) on page 653
Spring, compression		Upper cassette (print engine) on page 653
Spring, compression		Upper cassette (print engine) on page 653
Spring, compression		Upper cassette (print engine) on page 653
Spring, compression		Upper cassette (print engine) on page 653
Spring, compression		Upper cassette (print engine) on page 653
Spring, compression		Upper cassette (print engine) on page 653
Spring, compression		Upper cassette (print engine) on page 653
Spring, compression		Upper cassette (print engine) on page 653
Spring, compression		Lower cassette (print engine) on page 657
Spring, compression		Lower cassette (print engine) on page 657
Spring, compression		Lower cassette (print engine) on page 657
Spring, compression		Lower cassette (print engine) on page 657
Spring, compression		Lower cassette (print engine) on page 657
Spring, compression		Lower cassette (print engine) on page 657
Spring, compression		Lower cassette (print engine) on page 657
Spring, compression		Lower cassette (print engine) on page 657
Spring, compression		Upper cassette pickup assembly (print engine) on page 661
Spring, compression		Upper cassette pickup assembly (print engine) on page 661

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Spring, compression		Upper cassette pickup assembly (print engine) on page 661
Spring, compression		Lower cassette pickup assembly (print engine) on page 665
Spring, compression		Lower cassette pickup assembly (print engine) on page 665
Spring, compression		Paper feed assembly (print engine) on page 671
Spring, compression		Paper feed assembly (print engine) on page 671
Spring, compression		Paper feed assembly (print engine) on page 671
Spring, compression		Fuser (print engine) on page 675
Spring, compression		Fuser (print engine) on page 675
Spring, compression		Fuser (print engine) on page 675
Spring, compression		Fuser (print engine) on page 675
Spring, compression		Fuser pressure release assembly (print engine) on page 679
Spring, compression		1X500 HCI main body on page 681
Spring, compression		3X500 HCI main body on page 685
Spring, compression		Lifter drive assembly (HCI) on page 689
Spring, compression		Cassette (HCI) on page 691
Spring, compression		Cassette (HCI) on page 691
Spring, compression		Cassette (HCI) on page 691
Spring, compression		Cassette (HCI) on page 691
Spring, compression		Paper pickup assembly (HCI) on page 695
Spring, compression		Paper pickup assembly (HCI) on page 695
Spring, compression		Paper pickup assembly (HCI) on page 695
Spring, deskew		Jam cover (ADF) on page 589

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Spring, extension		Base assembly (ADF) on page 583
Spring, float		Backbone assembly (ADF) on page 585
Spring, grounding		External panels and covers (print engine) on page 623
Spring, grounding	RC1-8052-000CN	Internal components (1 of 3) (print engine) on page 631
Spring, grounding	RC1-7124-000CN	Internal components (1 of 3) (print engine) on page 631
Spring, grounding		Internal components (3 of 3) (print engine) on page 639
Spring, grounding		Lifter drive assembly (print engine) on page 647
Spring, grounding		Upper cassette (print engine) on page 653
Spring, grounding		Lower cassette (print engine) on page 657
Spring, grounding		Upper cassette pickup assembly (print engine) on page 661
Spring, grounding		Lower cassette pickup assembly (print engine) on page 665
Spring, grounding		Lifter drive assembly (HCI) on page 689
Spring, grounding		Lifter drive assembly (HCI) on page 689
Spring, grounding		Cassette (HCI) on page 691
Spring, hinge		Hinges on page 581
Spring, input tray		Base assembly (ADF) on page 583
Spring, jam cover latch		Jam cover (ADF) on page 589
Spring, leaf		Cartridge door assembly (print engine) on page 627
Spring, leaf		Upper cassette pickup assembly (print engine) on page 661
Spring, plate detent		Jam cover (ADF) on page 589
Spring, separation		Separation floor assembly (ADF) on page 595
Spring, tension		Backbone assembly (ADF) on page 585

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Spring, tension	RU5-2731-000CN	Main body (stapler/stacker) on page 609
Spring, tension		Paper feed assembly (stapler/stacker) on page 613
Spring, tension		Alignment and jogger assembly (stapler/stacker) on page 615
Spring, tension		Alignment and jogger assembly (stapler/stacker) on page 615
Spring, tension	RU5-2548-000CN	Cartridge door assembly (print engine) on page 627
Spring, tension		Cartridge door assembly (print engine) on page 627
Spring, tension	RU5-2660-000CN	Internal components (1 of 3) (print engine) on page 631
Spring, tension	RU5-2663-000CN	Internal components (1 of 3) (print engine) on page 631
Spring, tension	RU5-2632-000CN	Internal components (1 of 3) (print engine) on page 631
Spring, tension	RU5-2575-000CN	Internal components (1 of 3) (print engine) on page 631
Spring, tension	RU5-2591-000CN	Internal components (1 of 3) (print engine) on page 631
Spring, tension	RU5-2651-000CN	Internal components (2 of 3) (print engine) on page 635
Spring, tension		Internal components (3 of 3) (print engine) on page 639
Spring, tension		Paper delivery assembly (print engine) on page 643
Spring, tension		Paper delivery assembly (print engine) on page 643
Spring, tension		Upper cassette (print engine) on page 653
Spring, tension		Upper cassette (print engine) on page 653
Spring, tension		Lower cassette (print engine) on page 657
Spring, tension		Lower cassette (print engine) on page 657
Spring, tension		Registration assembly (print engine) on page 669
Spring, tension		Cassette (HCI) on page 691
Spring, tension		Cassette (HCI) on page 691
Spring, tension		Paper pickup assembly (HCI) on page 695

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Spring, torsion		Paper feed assembly (stapler/ stacker) on page 613
Spring, torsion		Alignment and jogger assembly (stapler/stacker) on page 615
Spring, torsion		Cartridge door assembly (print engine) on page 627
Spring, torsion	RC1-7123-000CN	Internal components (1 of 3) (print engine) on page 631
Spring, torsion	RC1-7125-000CN	Internal components (1 of 3) (print engine) on page 631
Spring, torsion	RC1-8334-000CN	Internal components (2 of 3) (print engine) on page 635
Spring, torsion	RC1-8335-000CN	Internal components (2 of 3) (print engine) on page 635
Spring, torsion	RC1-8078-000CN	Internal components (2 of 3) (print engine) on page 635
Spring, torsion		Internal components (3 of 3) (print engine) on page 639
Spring, torsion	RU5-2596-000CN	Internal components (3 of 3) (print engine) on page 639
Spring, torsion	RC1-7145-000CN	Internal components (3 of 3) (print engine) on page 639
Spring, torsion		Paper delivery assembly (print engine) on page 643
Spring, torsion		Paper delivery assembly (print engine) on page 643
Spring, torsion		Paper delivery assembly (print engine) on page 643
Spring, torsion		Upper cassette (print engine) on page 653
Spring, torsion		Lower cassette (print engine) on page 657
Spring, torsion		Lower cassette pickup assembly (print engine) on page 665
Spring, torsion		Lower cassette pickup assembly (print engine) on page 665
Spring, torsion		Registration assembly (print engine) on page 669
Spring, torsion		Registration assembly (print engine) on page 669
Spring, torsion		Registration assembly (print engine) on page 669

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Spring, torsion		Fuser (print engine) on page 675
Spring, torsion		Fuser (print engine) on page 675
Spring, torsion		Fuser (print engine) on page 675
Spring, torsion		Fuser pressure release assembly (print engine) on page 679
Spring, torsion		Fuser pressure release assembly (print engine) on page 679
Spring, torsion		Fuser pressure release assembly (print engine) on page 679
Spring, torsion		1X500 HCI main body on page 681
Spring, torsion		3X500 HCI main body on page 685
Spring, torsion		3X500 HCI main body on page 685
Spring, torsion		Lifter drive assembly (HCI) on page 689
Spring, torsion		Cassette (HCI) on page 691
Spring, torsion		Paper pickup assembly (HCI) on page 695
Spring, torsion		Paper pickup assembly (HCI) on page 695
Staple stacker	Not orderable	Main body (stapler/stacker) on page 609
Staple stacker PCA assembly		Main body (stapler/stacker) on page 609
Staple stacker PCA assembly	RM1-3828-000CN	Stapler/stacker PCA assembly on page 621
Stapler assembly	RM1-3092-000CN	Stapler assembly (stapler/stacker) on page 619
Stapler cover assembly	RM1-3094-000CN	Main body (stapler/stacker) on page 609
Stapler, unit		Stapler assembly (stapler/stacker) on page 619
Stem, hinge		Hinges on page 581
Stopper, busing arm	RC1-3090-000CN	Internal components (1 of 3) (print engine) on page 631
Stopper, cartridge door	RC1-8021-000CN	Cartridge door assembly (print engine) on page 627

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Stopper, cassette, left		Internal components (3 of 3) (print engine) on page 639
Stopper, cassette, right		Internal components (3 of 3) (print engine) on page 639
Stopper, extension rail		Internal components (3 of 3) (print engine) on page 639
Stopper, lifter swing		Lifter drive assembly (HCI) on page 689
Stopper, link	RC1-7288-000CN	Internal components (1 of 3) (print engine) on page 631
Stopper, rail, right		Internal components (3 of 3) (print engine) on page 639
Stopper, right door	RC1-9882-000CN	1X500 HCI main body on page 681
Stopper, right door	RC1-9882-000CN	3X500 HCI main body on page 685
Stopper, right door link upper	RC2-0169-000CN	1X500 HCI main body on page 681
Stopper, right door link upper	RC2-0169-000CN	3X500 HCI main body on page 685
Stopper, side, left		Cassette (HCI) on page 691
Stopper, side, right		Cassette (HCI) on page 691
Stopper, surface guide		Alignment and jogger assembly (stapler/stacker) on page 615
Support, DC controller		Internal components (1 of 3) (print engine) on page 631
Support, DC controller		Internal components (2 of 3) (print engine) on page 635
Support, DINN board		Internal components (2 of 3) (print engine) on page 635
Support, foot		Internal components (2 of 3) (print engine) on page 635
Support, frame, lower		Lower cassette pickup assembly (print engine) on page 665
Support, front door	RC1-9725-000CN	Main body (stapler/stacker) on page 609
Support, high voltage, left		Internal components (3 of 3) (print engine) on page 639
Support, high voltage, right		Internal components (3 of 3) (print engine) on page 639
Support, lifter arm, 1		Cassette (HCI) on page 691
Support, lifter arm, 2		Cassette (HCI) on page 691

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Support, PCA		1X500 HCI main body on page 681
Support, PCA		3X500 HCI main body on page 685
Switch, bottom	WC2-5512-000CN	3X500 HCI main body on page 685
Switch, cartridge door	RM1-3471-000CN	Internal components (2 of 3) (print engine) on page 635
Switch, fuser door	RM1-3474-000CN	Internal components (1 of 3) (print engine) on page 631
Switch, push		Internal components (3 of 3) (print engine) on page 639
Switch, push		Lifter drive assembly (print engine) on page 647
Switch, push		Lifter drive assembly (HCI) on page 689
Tag holder assembly	RM1-2999-000CN	Internal components (2 of 3) (print engine) on page 635
Timing belt, transmission	Q7829-60150	Scanner transmission drive assembly on page 607
Tire, pick		Pickup roller assembly (ADF) on page 591
Tire, separation		Pickup roller assembly (ADF) on page 591
Top cover	Q7829-60152	Scanner top assembly on page 601
Top guide assembly		Paper delivery assembly (print engine) on page 643
Tray		Main body (stapler/stacker) on page 609
Tray assembly	RM1-3093-000CN	Main body (stapler/stacker) on page 609
Tray, extension		Main body (stapler/stacker) on page 609
Tray, extension		Cartridge door assembly (print engine) on page 627
Tray, extension		Cartridge door assembly (print engine) on page 627
Tray, facedown extension		Cartridge door assembly (print engine) on page 627
Tray, sub	RC1-8137-000CN	External panels and covers (print engine) on page 623
Upper cassette (engine)	RM1-2978-000CN	Upper cassette (print engine) on page 653

Table 7-47 Alphabetical parts list (continued)

Description	Part number	Table and page
Upper cassette paper pickup assembly (engine)	RM1-2976-000CN	Upper cassette pickup assembly (print engine) on page 661
Upper guide assembly, 1		Paper feed assembly (stapler/ stacker) on page 613
Upper guide assembly, 2		Paper feed assembly (stapler/ stacker) on page 613
Video interface PCA assembly		Internal components (2 of 3) (print engine) on page 635
Washer, lock 3X5M with external tooth		Backbone assembly (ADF) on page 585
Weight, multipurpose roller		Cartridge door assembly (print engine) on page 627
Wheel, pinch		Base assembly (ADF) on page 583
Wheel, pinch L		Base assembly (ADF) on page 583

Numerical parts list

Table 7-48 Numerical parts list

Part number	Description	Table and page
	ADF end cover (cap) front	Front end cover (ADF) on page 579
	Media LED	Front end cover (ADF) on page 579
	LED light pipe	Front end cover (ADF) on page 579
	LED housing	Front end cover (ADF) on page 579
	Stem, hinge	Hinges on page 581
	Spring, hinge	Hinges on page 581
	Plunger, hinge	Hinges on page 581
	Pin, hinge	Hinges on page 581
	Profile, hinge	Hinges on page 581
	Enclosure, base	Base assembly (ADF) on page 583
	Pad, solenoid	Base assembly (ADF) on page 583
	Spring, extension	Base assembly (ADF) on page 583
	Exit crank	Base assembly (ADF) on page 583
	E-clip	Base assembly (ADF) on page 583
	Damper solenoid	Base assembly (ADF) on page 583
	Solenoid	Base assembly (ADF) on page 583
	Pin 3X12 mm	Base assembly (ADF) on page 583
	Wheel, pinch	Base assembly (ADF) on page 583
	Wheel, pinch L	Base assembly (ADF) on page 583
	Spring, axle	Base assembly (ADF) on page 583
	Spring, axle L	Base assembly (ADF) on page 583
	Plunger, input tray	Base assembly (ADF) on page 583

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Spring, input tray	Base assembly (ADF) on page 583
	Cable, LED and media eject	Base assembly (ADF) on page 583
	Screw, M3X9 PT pan head phillips	Base assembly (ADF) on page 583
	Spring, float	Backbone assembly (ADF) on page 585
	Washer, lock 3X5M with external tooth	Backbone assembly (ADF) on page 585
	Pulley, exit	Backbone assembly (ADF) on page 585
	Belt, exit	Backbone assembly (ADF) on page 585
	Retainer, belt exit pulley D1	Backbone assembly (ADF) on page 585
	Retainer, belt exit pulley D2	Backbone assembly (ADF) on page 585
	Pulley, belt	Backbone assembly (ADF) on page 585
	Belt, feed	Backbone assembly (ADF) on page 585
	Pulley, drive tire	Backbone assembly (ADF) on page 585
	Gear, 35T - 14T	Backbone assembly (ADF) on page 585
	Gear, 30T - 12T	Backbone assembly (ADF) on page 585
	Gear, 30T - 12T	Backbone assembly (ADF) on page 585
	Gear, 36T	Backbone assembly (ADF) on page 585
	Gear, 34T	Backbone assembly (ADF) on page 585
	Gear, 20T	Backbone assembly (ADF) on page 585
	Gear, deskew 14T	Backbone assembly (ADF) on page 585
	Gear, 22T	Backbone assembly (ADF) on page 585
	Flag, prescan	Backbone assembly (ADF) on page 585
	Spring, tension	Backbone assembly (ADF) on page 585

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Drivetrain assembly, deskew	Backbone assembly (ADF) on page 585
	Drivetrain assembly, prescan	Backbone assembly (ADF) on page 585
	Drivetrain assembly, post scan	Backbone assembly (ADF) on page 585
	Drivetrain assembly, exit	Backbone assembly (ADF) on page 585
	E-clip	Backbone assembly (ADF) on page 585
	Screw, M3X9 PT pan head phillips	Backbone assembly (ADF) on page 585
	Circle clip	Backbone assembly (ADF) on page 585
	Retainer STS	Backbone assembly (ADF) on page 585
	Bushing, feed shaft	Backbone assembly (ADF) on page 585
	Nyogel (55cc syringe)	Backbone assembly (ADF) on page 585
	Screw, M3X9 PT pan head phillips #2	Jam cover (ADF) on page 589
	Cover, pick	Jam cover (ADF) on page 589
	Flag, media present sensor	Jam cover (ADF) on page 589
	Bushing, feed shaft	Jam cover (ADF) on page 589
	Shaft, pick	Jam cover (ADF) on page 589
	Gear, pick 26T	Jam cover (ADF) on page 589
	Spring, plate detent	Jam cover (ADF) on page 589
	Shaft, cam	Jam cover (ADF) on page 589
	Gear, camshaft 26T	Jam cover (ADF) on page 589
	Adjuster, deskew	Jam cover (ADF) on page 589
	Lock shaft, jam cover	Jam cover (ADF) on page 589
	Spring, jam cover latch	Jam cover (ADF) on page 589
	Cover, jam	Jam cover (ADF) on page 589
	Handle, jam cover	Jam cover (ADF) on page 589
	End cap, jam cover	Jam cover (ADF) on page 589
	Pinch, deskew center	Jam cover (ADF) on page 589
	Pinch, deskew right	Jam cover (ADF) on page 589
	Shaft, pinch deskew	Jam cover (ADF) on page 589
	E-clip (dia 3)	Jam cover (ADF) on page 589

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	E-clip (dia 5)	Jam cover (ADF) on page 589
	Gear, pickshaft 12T	Jam cover (ADF) on page 589
	Spring, deskew	Jam cover (ADF) on page 589
	Label, pick roller replacement 1	Jam cover (ADF) on page 589
	Label, pick roller replacement 2	Jam cover (ADF) on page 589
	Circle clip	Jam cover (ADF) on page 589
	Shaft, pick	Pickup roller assembly (ADF) on page 591
	Circle clip	Pickup roller assembly (ADF) on page 591
	Hub, separation	Pickup roller assembly (ADF) on page 591
	Clutch, single direction	Pickup roller assembly (ADF) on page 591
	Tire, pick	Pickup roller assembly (ADF) on page 591
	Tire, separation	Pickup roller assembly (ADF) on page 591
	Latch, pickup	Pickup roller assembly (ADF) on page 591
	Shaft, pickup	Pickup roller assembly (ADF) on page 591
	Gear, pick shaft 12T	Pickup roller assembly (ADF) on page 591
	Body, slider	Pickup roller assembly (ADF) on page 591
	Spring, bias pick	Pickup roller assembly (ADF) on page 591
	Holder, pick	Pickup roller assembly (ADF) on page 591
	Gear, deskew 14T	Pickup roller assembly (ADF) on page 591
	Retainer STS	Pickup roller assembly (ADF) on page 591
	Gear, swing 14T	Pickup roller assembly (ADF) on page 591
	Screw, M3X9 PT pan head phillips #2	Pickup roller assembly (ADF) on page 591
	Pad, friction	Separation pad assembly (ADF) on page 593
	Base, separation	Separation pad assembly (ADF) on page 593

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Base, separation pad	Separation pad assembly (ADF) on page 593
	Foam separation	Separation pad assembly (ADF) on page 593
	Pad, separation	Separation pad assembly (ADF) on page 593
	Mylar, short separation right	Separation floor assembly (ADF) on page 595
	Mylar, separation left	Separation floor assembly (ADF) on page 595
	Spring, separation	Separation floor assembly (ADF) on page 595
	Cover, rear left	Main body (stapler/stacker) on page 609
	Cover, rear right	Main body (stapler/stacker) on page 609
	Cover, rear inner	Main body (stapler/stacker) on page 609
	Screw, RS, M3X8	Main body (stapler/stacker) on page 609
	Screw, D, MX6	Main body (stapler/stacker) on page 609
	Guide, frame cable	Main body (stapler/stacker) on page 609
	Saddle, wire	Main body (stapler/stacker) on page 609
	Staple stacker PCA assembly	Main body (stapler/stacker) on page 609
	Cable, left door sensor	Main body (stapler/stacker) on page 609
	Cable, staple unit	Main body (stapler/stacker) on page 609
	Screw, TP, M3X8	Main body (stapler/stacker) on page 609
	Cross member, tray	Main body (stapler/stacker) on page 609
	Tray	Main body (stapler/stacker) on page 609
	Tray, extension	Main body (stapler/stacker) on page 609
	Cover, stapler	Main body (stapler/stacker) on page 609
	Cover, rear	Main body (stapler/stacker) on page 609

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Plate, front frame shield	Main body (stapler/stacker) on page 609
	Holder, interlock switch	Main body (stapler/stacker) on page 609
	Cable, front door switch	Main body (stapler/stacker) on page 609
	Bushing	Paper feed assembly (stapler/stacker) on page 613
	Guide, lower	Paper feed assembly (stapler/stacker) on page 613
	Roller, paper feed	Paper feed assembly (stapler/stacker) on page 613
	Guide, paper feed cable	Paper feed assembly (stapler/stacker) on page 613
	Bushing	Paper feed assembly (stapler/stacker) on page 613
	Solenoid, flapper	Paper feed assembly (stapler/stacker) on page 613
	Gear, 21T	Paper feed assembly (stapler/stacker) on page 613
	Gear, 18T	Paper feed assembly (stapler/stacker) on page 613
	Gear, 27T	Paper feed assembly (stapler/stacker) on page 613
	Pulley	Paper feed assembly (stapler/stacker) on page 613
	Spring, compression	Paper feed assembly (stapler/stacker) on page 613
	Belt, timing	Paper feed assembly (stapler/stacker) on page 613
	Belt, timing	Paper feed assembly (stapler/stacker) on page 613
	Upper guide assembly, 1	Paper feed assembly (stapler/stacker) on page 613
	Upper guide assembly, 2	Paper feed assembly (stapler/stacker) on page 613
	Cable, paper feed unit	Paper feed assembly (stapler/stacker) on page 613
	Screw, TP, M3X4	Paper feed assembly (stapler/stacker) on page 613
	Ring, E	Paper feed assembly (stapler/stacker) on page 613
	Roller, reserve	Paper feed assembly (stapler/stacker) on page 613

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Spring, torsion	Paper feed assembly (stapler/stacker) on page 613
	Flag, inlet sensor	Paper feed assembly (stapler/stacker) on page 613
	Guide, upper, 1	Paper feed assembly (stapler/stacker) on page 613
	Spring, tension	Paper feed assembly (stapler/stacker) on page 613
	Photo interrupter, TLP1243	Paper feed assembly (stapler/stacker) on page 613
	Guide, upper, 2	Paper feed assembly (stapler/stacker) on page 613
	Spring, tension	Alignment and jogger assembly (stapler/stacker) on page 615
	Jog guide belt assembly	Alignment and jogger assembly (stapler/stacker) on page 615
	Guide, jog cable	Alignment and jogger assembly (stapler/stacker) on page 615
	Cap, rail	Alignment and jogger assembly (stapler/stacker) on page 615
	Guide, rail	Alignment and jogger assembly (stapler/stacker) on page 615
	Motor, stepping, DC	Alignment and jogger assembly (stapler/stacker) on page 615
	Guide, slide, front	Alignment and jogger assembly (stapler/stacker) on page 615
	Cover, jog, front	Alignment and jogger assembly (stapler/stacker) on page 615
	Slide guide rear assembly	Alignment and jogger assembly (stapler/stacker) on page 615
	Cover, jog, rear	Alignment and jogger assembly (stapler/stacker) on page 615
	Pulley, 26T	Alignment and jogger assembly (stapler/stacker) on page 615
	Pulley/gear, 37T	Alignment and jogger assembly (stapler/stacker) on page 615
	Spring, tension	Alignment and jogger assembly (stapler/stacker) on page 615
	Photo interrupter, TLP1243	Alignment and jogger assembly (stapler/stacker) on page 615
	Screw, RS, M3X8	Alignment and jogger assembly (stapler/stacker) on page 615
	Screw, w/washer, M3X8	Alignment and jogger assembly (stapler/stacker) on page 615

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Guide, slide, rear	Alignment and jogger assembly (stapler/stacker) on page 615
	Spring, compression	Alignment and jogger assembly (stapler/stacker) on page 615
	Screw, tapping, pan head, M4X10	Alignment and jogger assembly (stapler/stacker) on page 615
	Guide, jog surface	Alignment and jogger assembly (stapler/stacker) on page 615
	Stopper, surface guide	Alignment and jogger assembly (stapler/stacker) on page 615
	Cable, jog unit	Alignment and jogger assembly (stapler/stacker) on page 615
	Left guide assembly	Alignment and jogger assembly (stapler/stacker) on page 615
	Spring, torsion	Alignment and jogger assembly (stapler/stacker) on page 615
	Flag, retaining	Alignment and jogger assembly (stapler/stacker) on page 615
	Guide, left	Alignment and jogger assembly (stapler/stacker) on page 615
	Eliminator, static charge	Alignment and jogger assembly (stapler/stacker) on page 615
	Left guide front assembly	Alignment and jogger assembly (stapler/stacker) on page 615
	Guide, left, front	Alignment and jogger assembly (stapler/stacker) on page 615
	Screw, tapping, pan head, M4X10	Alignment and jogger assembly (stapler/stacker) on page 615
	Motor, stepping DC	Alignment and jogger assembly (stapler/stacker) on page 615
	Screw, w/washer, M3X8	Alignment and jogger assembly (stapler/stacker) on page 615
	Motor, stepping DC	Alignment and jogger assembly (stapler/stacker) on page 615
	Guide, stage cable	Alignment and jogger assembly (stapler/stacker) on page 615
	Stapler, unit	Stapler assembly (stapler/stacker) on page 619
	Guide, clinch	Stapler assembly (stapler/stacker) on page 619
	Screw, RS, M3X8	Stapler assembly (stapler/stacker) on page 619
	Cover, rear inner, right	External panels and covers (print engine) on page 623

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Cover, inner, front	External panels and covers (print engine) on page 623
	Cover, rear inner, left	External panels and covers (print engine) on page 623
	Pad, flapper	External panels and covers (print engine) on page 623
	Door, left	External panels and covers (print engine) on page 623
	Guide, facedown	External panels and covers (print engine) on page 623
	Handle, door, left	External panels and covers (print engine) on page 623
	Spring, compression	External panels and covers (print engine) on page 623
	Screw, tapping, truss head, M4X10	External panels and covers (print engine) on page 623
	Roller, idler	External panels and covers (print engine) on page 623
	Holder, paper re-pickup roller	External panels and covers (print engine) on page 623
	Door, right	External panels and covers (print engine) on page 623
	Cross member, door, right	External panels and covers (print engine) on page 623
	Guide, paper feed, lower	External panels and covers (print engine) on page 623
	Latch, door, right	External panels and covers (print engine) on page 623
	Hinge, door, right	External panels and covers (print engine) on page 623
	Shaft, door hinge, right	External panels and covers (print engine) on page 623
	Link, door, right	External panels and covers (print engine) on page 623
	Holder, roller, lower	External panels and covers (print engine) on page 623
	Spring, grounding	External panels and covers (print engine) on page 623
	Sheet, roller	External panels and covers (print engine) on page 623
	Spring, compression	External panels and covers (print engine) on page 623
	Spring, compression	External panels and covers (print engine) on page 623

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Spring, compression	External panels and covers (print engine) on page 623
	Screw, M3X8	External panels and covers (print engine) on page 623
	Label, door jam clearing, left	External panels and covers (print engine) on page 623
	Label, high temperature caution	External panels and covers (print engine) on page 623
	Label, high temperature caution	External panels and covers (print engine) on page 623
	Guide, paper feed	Cartridge door assembly (print engine) on page 627
	Lever, multipurpose sensor	Cartridge door assembly (print engine) on page 627
	Cover, sensor	Cartridge door assembly (print engine) on page 627
	Rod, main frame	Cartridge door assembly (print engine) on page 627
	Arm, multipurpose, left	Cartridge door assembly (print engine) on page 627
	Arm, multipurpose, right	Cartridge door assembly (print engine) on page 627
	Cover, roller holder	Cartridge door assembly (print engine) on page 627
	Solenoid	Cartridge door assembly (print engine) on page 627
	Hinge, cartridge door, front	Cartridge door assembly (print engine) on page 627
	Hinge, cartridge door, rear	Cartridge door assembly (print engine) on page 627
	Spring, torsion	Cartridge door assembly (print engine) on page 627
	Spring, tension	Cartridge door assembly (print engine) on page 627
	Screw, D, M3X6	Cartridge door assembly (print engine) on page 627
	Pick gear assembly	Cartridge door assembly (print engine) on page 627
	Paper pickup shaft assembly	Cartridge door assembly (print engine) on page 627
	Roller assembly	Cartridge door assembly (print engine) on page 627
	Cable, sensor	Cartridge door assembly (print engine) on page 627

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Multipurpose tray assembly	Cartridge door assembly (print engine) on page 627
	Tray, facedown extension	Cartridge door assembly (print engine) on page 627
	Cover, cartridge	Cartridge door assembly (print engine) on page 627
	Screw, tapping, truss head, M4X10	Cartridge door assembly (print engine) on page 627
	Gear, 32T	Cartridge door assembly (print engine) on page 627
	Gear, 32T	Cartridge door assembly (print engine) on page 627
	Spring, compression	Cartridge door assembly (print engine) on page 627
	Holder, multipurpose roller	Cartridge door assembly (print engine) on page 627
	Roller, multipurpose	Cartridge door assembly (print engine) on page 627
	Cam, multipurpose, left	Cartridge door assembly (print engine) on page 627
	Cam, multipurpose, right	Cartridge door assembly (print engine) on page 627
	Shaft, multipurpose paper pickup	Cartridge door assembly (print engine) on page 627
	Cap, conductive	Cartridge door assembly (print engine) on page 627
	Weight, multipurpose roller	Cartridge door assembly (print engine) on page 627
	Pad, separation	Cartridge door assembly (print engine) on page 627
	Holder, multipurpose arm	Cartridge door assembly (print engine) on page 627
	Arm, multipurpose pad	Cartridge door assembly (print engine) on page 627
	Roller, idler	Cartridge door assembly (print engine) on page 627
	Holder, roller	Cartridge door assembly (print engine) on page 627
	Case, roller	Cartridge door assembly (print engine) on page 627
	Cross member, roller	Cartridge door assembly (print engine) on page 627
	Spring, compression	Cartridge door assembly (print engine) on page 627

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Screw, D, M3X6	Cartridge door assembly (print engine) on page 627
	Gear, 18T	Cartridge door assembly (print engine) on page 627
	Button, frame pressure	Cartridge door assembly (print engine) on page 627
	Lever, cartridge cover lock	Cartridge door assembly (print engine) on page 627
	Lock, cartridge door, left	Cartridge door assembly (print engine) on page 627
	Lock, cartridge door, right	Cartridge door assembly (print engine) on page 627
	Label, jam clearing	Cartridge door assembly (print engine) on page 627
	Spring, leaf	Cartridge door assembly (print engine) on page 627
	Base, cartridge door	Cartridge door assembly (print engine) on page 627
	Spring, compression	Cartridge door assembly (print engine) on page 627
	Spring, compression	Cartridge door assembly (print engine) on page 627
	Label, paper size indication	Cartridge door assembly (print engine) on page 627
	Tray, extension	Cartridge door assembly (print engine) on page 627
	Cover, multipurpose	Cartridge door assembly (print engine) on page 627
	Tray, extension	Cartridge door assembly (print engine) on page 627
	Plate, multipurpose limit, left	Cartridge door assembly (print engine) on page 627
	Plate, multipurpose limit, right	Cartridge door assembly (print engine) on page 627
	Rack, multipurpose	Cartridge door assembly (print engine) on page 627
	Plate, reinforcement	Cartridge door assembly (print engine) on page 627
	Pate, multipurpose, lifter	Cartridge door assembly (print engine) on page 627
	Clip, cable	Internal components (1 of 3) (print engine) on page 631
	Link, fuser drive release	Internal components (1 of 3) (print engine) on page 631

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Guide, cable	Internal components (1 of 3) (print engine) on page 631
	Support, DC controller	Internal components (1 of 3) (print engine) on page 631
	Holder, stopper	Internal components (1 of 3) (print engine) on page 631
	Screw, tap, M3X6	Internal components (1 of 3) (print engine) on page 631
	Screw, D, M3X6	Internal components (1 of 3) (print engine) on page 631
	Screw, M3X8	Internal components (1 of 3) (print engine) on page 631
	Cable, duplexing interface	Internal components (1 of 3) (print engine) on page 631
	Cable, feed clutch extension	Internal components (1 of 3) (print engine) on page 631
	Bushing	Internal components (1 of 3) (print engine) on page 631
	Guide, high voltage FFC	Internal components (1 of 3) (print engine) on page 631
	Plate, motor	Internal components (1 of 3) (print engine) on page 631
	Connector, snap tight, BK	Internal components (1 of 3) (print engine) on page 631
	Guide, laser FFC	Internal components (2 of 3) (print engine) on page 635
	Cover, shutter lever	Internal components (2 of 3) (print engine) on page 635
	Block, cartridge	Internal components (2 of 3) (print engine) on page 635
	Duct, scanner	Internal components (2 of 3) (print engine) on page 635
	Guide, cable	Internal components (2 of 3) (print engine) on page 635
	Screw, D, M3X6	Internal components (2 of 3) (print engine) on page 635
	Cable, memory contact	Internal components (2 of 3) (print engine) on page 635
	Guide, scanner cable	Internal components (2 of 3) (print engine) on page 635
	Holder, front fan	Internal components (2 of 3) (print engine) on page 635
	Guide, cable	Internal components (2 of 3) (print engine) on page 635

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Cover, interlock	Internal components (2 of 3) (print engine) on page 635
	Cross member, handle	Internal components (2 of 3) (print engine) on page 635
	Guide, cable	Internal components (2 of 3) (print engine) on page 635
	Support, DC controller	Internal components (2 of 3) (print engine) on page 635
	Holder, rear fan	Internal components (2 of 3) (print engine) on page 635
	Holder, rear fan	Internal components (2 of 3) (print engine) on page 635
	Plate, FFC shield	Internal components (2 of 3) (print engine) on page 635
	Screw, tap, M3X6	Internal components (2 of 3) (print engine) on page 635
	Shield, rear fan grounding	Internal components (2 of 3) (print engine) on page 635
	Guide, cable	Internal components (2 of 3) (print engine) on page 635
	Sheet, drawer protective	Internal components (2 of 3) (print engine) on page 635
	Guide, cable	Internal components (2 of 3) (print engine) on page 635
	Holder, floating connector	Internal components (2 of 3) (print engine) on page 635
	Clip, cable	Internal components (2 of 3) (print engine) on page 635
	Foot assembly	Internal components (2 of 3) (print engine) on page 635
	Lever, tag lock	Internal components (2 of 3) (print engine) on page 635
	Spring, compression	Internal components (2 of 3) (print engine) on page 635
	Cable, heater	Internal components (2 of 3) (print engine) on page 635
	Cable, multi-scanner	Internal components (2 of 3) (print engine) on page 635
	Cable, facedown drive	Internal components (2 of 3) (print engine) on page 635
	Cable, delivery option	Internal components (2 of 3) (print engine) on page 635
	Cable, feeder	Internal components (2 of 3) (print engine) on page 635

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Cable, cassette lift	Internal components (2 of 3) (print engine) on page 635
	Connector, snap tight	Internal components (2 of 3) (print engine) on page 635
	Cable, scanner power	Internal components (2 of 3) (print engine) on page 635
	Cable, cartridge sensor	Internal components (2 of 3) (print engine) on page 635
	Screw, M3X8	Internal components (2 of 3) (print engine) on page 635
	Plate, reinforcement	Internal components (2 of 3) (print engine) on page 635
	Screw, tap, binding head, M3X8	Internal components (2 of 3) (print engine) on page 635
	Holder, connector	Internal components (2 of 3) (print engine) on page 635
	Holder, connector	Internal components (2 of 3) (print engine) on page 635
	Plate, tag holder	Internal components (2 of 3) (print engine) on page 635
	IS connecting PCA assembly	Internal components (2 of 3) (print engine) on page 635
	Spring, compression	Internal components (2 of 3) (print engine) on page 635
	Connector, snap tight, BK	Internal components (2 of 3) (print engine) on page 635
	Plate, formatter guide	Internal components (2 of 3) (print engine) on page 635
	Plate, formatter guide cap	Internal components (2 of 3) (print engine) on page 635
	Screw, D, M3X6	Internal components (2 of 3) (print engine) on page 635
	Guide, flexible flat cable	Internal components (2 of 3) (print engine) on page 635
	Link, duplexer flapper, 1	Internal components (2 of 3) (print engine) on page 635
	Link, duplexer flapper, 2	Internal components (2 of 3) (print engine) on page 635
	Solenoid	Internal components (2 of 3) (print engine) on page 635
	Plate, paper delivery drive	Internal components (2 of 3) (print engine) on page 635
	Gear, 18T	Internal components (2 of 3) (print engine) on page 635

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Gear, 25T/25T	Internal components (2 of 3) (print engine) on page 635
	Gear, 28T	Internal components (2 of 3) (print engine) on page 635
	Spring, compression	Internal components (2 of 3) (print engine) on page 635
	Screw, tap, M3X6	Internal components (2 of 3) (print engine) on page 635
	Foot	Internal components (2 of 3) (print engine) on page 635
	Support, foot	Internal components (2 of 3) (print engine) on page 635
	Screw, stepped, M3	Internal components (2 of 3) (print engine) on page 635
	Support, DINN board	Internal components (2 of 3) (print engine) on page 635
	Video interface PCA assembly	Internal components (2 of 3) (print engine) on page 635
	Connector, snap tight, BK	Internal components (2 of 3) (print engine) on page 635
	Cam, pad return, upper	Internal components (3 of 3) (print engine) on page 639
	Holder, sensor	Internal components (3 of 3) (print engine) on page 639
	Plate, frame auxiliary	Internal components (3 of 3) (print engine) on page 639
	Screw, D, M3X6	Internal components (3 of 3) (print engine) on page 639
	Cable, feed sensor	Internal components (3 of 3) (print engine) on page 639
	Guide, path, lower	Internal components (3 of 3) (print engine) on page 639
	Holder, power supply link guide	Internal components (3 of 3) (print engine) on page 639
	Joint, power supply switch	Internal components (3 of 3) (print engine) on page 639
	Link, power supply switch	Internal components (3 of 3) (print engine) on page 639
	Rod, power switch	Internal components (3 of 3) (print engine) on page 639
	Spring, torsion	Internal components (3 of 3) (print engine) on page 639
	Screw, M3X8	Internal components (3 of 3) (print engine) on page 639

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Right lower handle assembly	Internal components (3 of 3) (print engine) on page 639
	Plate, cassette positioning	Internal components (3 of 3) (print engine) on page 639
	Holder, cassette, rear	Internal components (3 of 3) (print engine) on page 639
	Lock, pressure release, rear	Internal components (3 of 3) (print engine) on page 639
	Support, high voltage, left	Internal components (3 of 3) (print engine) on page 639
	Support, high voltage, right	Internal components (3 of 3) (print engine) on page 639
	Screw, tapping, truss head, M4X10	Internal components (3 of 3) (print engine) on page 639
	Stopper, extension rail	Internal components (3 of 3) (print engine) on page 639
	Stopper, cassette, left	Internal components (3 of 3) (print engine) on page 639
	Guide, extension rail	Internal components (3 of 3) (print engine) on page 639
	Rail, inner, left	Internal components (3 of 3) (print engine) on page 639
	Rail, outer, left	Internal components (3 of 3) (print engine) on page 639
	Guide, outer rail	Internal components (3 of 3) (print engine) on page 639
	Spring, tension	Internal components (3 of 3) (print engine) on page 639
	Screw, D, M3X6	Internal components (3 of 3) (print engine) on page 639
	Stopper, cassette, right	Internal components (3 of 3) (print engine) on page 639
	Rail, inner, right	Internal components (3 of 3) (print engine) on page 639
	Rail, outer, right	Internal components (3 of 3) (print engine) on page 639
	Stopper, rail, right	Internal components (3 of 3) (print engine) on page 639
	Plate, cam	Internal components (3 of 3) (print engine) on page 639
	Block, sensor	Internal components (3 of 3) (print engine) on page 639
	Spring, grounding	Internal components (3 of 3) (print engine) on page 639

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Switch, push	Internal components (3 of 3) (print engine) on page 639
	Guide, paper feed	Internal components (3 of 3) (print engine) on page 639
	Cross member, grip	Internal components (3 of 3) (print engine) on page 639
	Bushing	Paper delivery assembly (print engine) on page 643
	Roller, paper delivery	Paper delivery assembly (print engine) on page 643
	Bushing	Paper delivery assembly (print engine) on page 643
	Pad, flapper	Paper delivery assembly (print engine) on page 643
	Holder, duplexer pendulum	Paper delivery assembly (print engine) on page 643
	Guide, interface	Paper delivery assembly (print engine) on page 643
	Flapper, duplexer	Paper delivery assembly (print engine) on page 643
	Plate, roller grounding	Paper delivery assembly (print engine) on page 643
	Cover, facedown	Paper delivery assembly (print engine) on page 643
	Spring, torsion	Paper delivery assembly (print engine) on page 643
	Plate, sensor	Paper delivery assembly (print engine) on page 643
	Roller, facedown	Paper delivery assembly (print engine) on page 643
	Guide, sub	Paper delivery assembly (print engine) on page 643
	Gear, 15T	Paper delivery assembly (print engine) on page 643
	Gear, 15T	Paper delivery assembly (print engine) on page 643
	Gear, 17T	Paper delivery assembly (print engine) on page 643
	Gear, 18T	Paper delivery assembly (print engine) on page 643
	Gear, 28T	Paper delivery assembly (print engine) on page 643
	Gear, 17T	Paper delivery assembly (print engine) on page 643

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Spring, compression	Paper delivery assembly (print engine) on page 643
	Spring, tension	Paper delivery assembly (print engine) on page 643
	Spring, tension	Paper delivery assembly (print engine) on page 643
	Screw, tapping, truss head, M 4X10	Paper delivery assembly (print engine) on page 643
	Facedown frame assembly	Paper delivery assembly (print engine) on page 643
	Top guide assembly	Paper delivery assembly (print engine) on page 643
	Flag, facedown	Paper delivery assembly (print engine) on page 643
	Flag, paper full detect	Paper delivery assembly (print engine) on page 643
	Pad, flapper	Paper delivery assembly (print engine) on page 643
	Guide, top	Paper delivery assembly (print engine) on page 643
	Flapper, duplexer facedown	Paper delivery assembly (print engine) on page 643
	Facedown roller holder assembly	Paper delivery assembly (print engine) on page 643
	Holder, facedown roller	Paper delivery assembly (print engine) on page 643
	Spring, compression	Paper delivery assembly (print engine) on page 643
	Roller assembly	Paper delivery assembly (print engine) on page 643
	Roller, paper delivery	Paper delivery assembly (print engine) on page 643
	Ring, O	Paper delivery assembly (print engine) on page 643
	Roller holder assembly	Paper delivery assembly (print engine) on page 643
	Roller	Paper delivery assembly (print engine) on page 643
	Holder, roller	Paper delivery assembly (print engine) on page 643
	Cable, facedown assembly	Paper delivery assembly (print engine) on page 643
	Roller, paper delivery	Paper delivery assembly (print engine) on page 643

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Pad, flapper	Paper delivery assembly (print engine) on page 643
	Frame, facedown	Paper delivery assembly (print engine) on page 643
	Flag, paper delivery sensor	Paper delivery assembly (print engine) on page 643
	Plate, ESD grounding	Paper delivery assembly (print engine) on page 643
	Spring, torsion	Paper delivery assembly (print engine) on page 643
	Spring, torsion	Paper delivery assembly (print engine) on page 643
	Spring, grounding	Lifter drive assembly (print engine) on page 647
	Plate, photosensor grounding	Lifter drive assembly (print engine) on page 647
	Switch, push	Lifter drive assembly (print engine) on page 647
	Cable, cassette size	Lifter drive assembly (print engine) on page 647
	Shaft, cassette input gear	Lifter drive assembly (print engine) on page 647
	Connector, snap tight	Lifter drive assembly (print engine) on page 647
	Box, gear, front	Lifter drive assembly (print engine) on page 647
	Box, gear, rear	Lifter drive assembly (print engine) on page 647
	Cover, gear box protective	Lifter drive assembly (print engine) on page 647
	Gear, 39T/21T	Lifter drive assembly (print engine) on page 647
	Gear, 43T/17T	Lifter drive assembly (print engine) on page 647
	Gear, 43T/16T	Lifter drive assembly (print engine) on page 647
	Spring, compression	Lifter drive assembly (print engine) on page 647
	Screw, w/washer, M3X6	Lifter drive assembly (print engine) on page 647
	Screw, tapping, truss head, M4X10	Lifter drive assembly (print engine) on page 647
	Ring, E	Lifter drive assembly (print engine) on page 647

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Plate, lifter	Lifter drive assembly (print engine) on page 647
	Screw, D, M3X6	Fuser drive assembly (print engine) on page 649
	Shaft, fuser drive swing	Fuser drive assembly (print engine) on page 649
	Gear, 17T	Fuser drive assembly (print engine) on page 649
	Gear, 36T	Fuser drive assembly (print engine) on page 649
	Spring, compression	Fuser drive assembly (print engine) on page 649
	Plate, fuser drive swing	Fuser drive assembly (print engine) on page 649
	Plate, fuser drive	Fuser drive assembly (print engine) on page 649
	Gear, 31T	Fuser drive assembly (print engine) on page 649
	Gear, 67T/17T	Fuser drive assembly (print engine) on page 649
	Gear, 49T/27T	Fuser drive assembly (print engine) on page 649
	Gear, 33T/19T	Fuser drive assembly (print engine) on page 649
	Gear, 37T/16T	Fuser drive assembly (print engine) on page 649
	Drive estrangement gear assembly	Fuser drive assembly (print engine) on page 649
	Plate, drive, lower	Lower drive assembly (print engine) on page 651
	Gear, 43T/26T	Lower drive assembly (print engine) on page 651
	Gear, 14T/14T	Lower drive assembly (print engine) on page 651
	Gear, 29T	Lower drive assembly (print engine) on page 651
	Guide, cassette lock	Upper cassette (print engine) on page 653
	Cover, cassette, upper	Upper cassette (print engine) on page 653
	Cam, remnant, upper	Upper cassette (print engine) on page 653
	Cover, back end sensing, upper	Upper cassette (print engine) on page 653

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Lever, remnant detect, upper	Upper cassette (print engine) on page 653
	Rail, attachment, left	Upper cassette (print engine) on page 653
	Roller, cassette rail	Upper cassette (print engine) on page 653
	Rail, attachment, right	Upper cassette (print engine) on page 653
	Slider, back end limit	Upper cassette (print engine) on page 653
	Cam, back end sensing	Upper cassette (print engine) on page 653
	Lever, back end sensing	Upper cassette (print engine) on page 653
	Arm, lift	Upper cassette (print engine) on page 653
	Cam, lift arm	Upper cassette (print engine) on page 653
	Cap, lift arm cam	Upper cassette (print engine) on page 653
	Slider, lifter arm	Upper cassette (print engine) on page 653
	Spring, grounding	Upper cassette (print engine) on page 653
	Spring, compression	Upper cassette (print engine) on page 653
	Link, back end sensing switch	Upper cassette (print engine) on page 653
	Shaft, back end sensing link	Upper cassette (print engine) on page 653
	Cover, width sensing	Upper cassette (print engine) on page 653
	Cam, width sensing	Upper cassette (print engine) on page 653
	Bushing	Upper cassette (print engine) on page 653
	Plate, lifter	Upper cassette (print engine) on page 653
	Plate, cassette support	Upper cassette (print engine) on page 653
	Rack, lifter	Upper cassette (print engine) on page 653
	Gear, 14T	Upper cassette (print engine) on page 653

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Gear, 17T	Upper cassette (print engine) on page 653
	Spring, tension	Upper cassette (print engine) on page 653
	Label, cassette control, UP	Upper cassette (print engine) on page 653
	Screw, M3X8	Upper cassette (print engine) on page 653
	Ring, E	Upper cassette (print engine) on page 653
	Back end limit assembly	Upper cassette (print engine) on page 653
	Front paper side end assembly	Upper cassette (print engine) on page 653
	Rear paper side end assembly	Upper cassette (print engine) on page 653
	Separation roller assembly	Upper cassette (print engine) on page 653
	Holder, remnant, upper	Upper cassette (print engine) on page 653
	Spring, compression	Upper cassette (print engine) on page 653
	Spring, tension	Upper cassette (print engine) on page 653
	Screw, tapping, truss head, M4X10	Upper cassette (print engine) on page 653
	Plain washer	Upper cassette (print engine) on page 653
	Plain washer	Upper cassette (print engine) on page 653
	Block, side end size clicker	Upper cassette (print engine) on page 653
	Plate, back end limit	Upper cassette (print engine) on page 653
	Holder, back end limit	Upper cassette (print engine) on page 653
	Lever, back end limit lock	Upper cassette (print engine) on page 653
	Lock, back end limit	Upper cassette (print engine) on page 653
	Block, back end size clicker	Upper cassette (print engine) on page 653
	Spring, compression	Upper cassette (print engine) on page 653

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Spring, compression	Upper cassette (print engine) on page 653
	Spring, compression	Upper cassette (print engine) on page 653
	Lever, side	Upper cassette (print engine) on page 653
	Lock, side	Upper cassette (print engine) on page 653
	Spring, compression	Upper cassette (print engine) on page 653
	Guide, side, front	Upper cassette (print engine) on page 653
	Rack, side	Upper cassette (print engine) on page 653
	Holder, side guide, front	Upper cassette (print engine) on page 653
	Shaft, separation block	Upper cassette (print engine) on page 653
	Screw, D, M3X6	Upper cassette (print engine) on page 653
	Clamp, paper, middle	Upper cassette (print engine) on page 653
	Clamp, paper, rear	Upper cassette (print engine) on page 653
	Ring, E	Upper cassette (print engine) on page 653
	Holder, side guide, rear	Upper cassette (print engine) on page 653
	Clamp, paper, front	Upper cassette (print engine) on page 653
	Plate, paper side end, rear	Upper cassette (print engine) on page 653
	Spring, compression	Upper cassette (print engine) on page 653
	Spring, compression	Upper cassette (print engine) on page 653
	Body, cassette, upper	Upper cassette (print engine) on page 653
	Block, separation roller	Upper cassette (print engine) on page 653
	Holder, separation block	Upper cassette (print engine) on page 653
	Spring, torsion	Upper cassette (print engine) on page 653

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Base, separation roller	Upper cassette (print engine) on page 653
	Cover, separation roller block	Upper cassette (print engine) on page 653
	Guide, cassette lock	Lower cassette (print engine) on page 657
	Cover, cassette, lower	Lower cassette (print engine) on page 657
	Cam, remnant, lower	Lower cassette (print engine) on page 657
	Cover, back end sensing	Lower cassette (print engine) on page 657
	Lever, remnant detect, lower	Lower cassette (print engine) on page 657
	Rail, attachment, left	Lower cassette (print engine) on page 657
	Roller, cassette rail	Lower cassette (print engine) on page 657
	Rail, attachment, right	Lower cassette (print engine) on page 657
	Slider, back end limit	Lower cassette (print engine) on page 657
	Cam, back end sensing	Lower cassette (print engine) on page 657
	Lever, back end sensing	Lower cassette (print engine) on page 657
	Arm, lift	Lower cassette (print engine) on page 657
	Cam, lift arm	Lower cassette (print engine) on page 657
	Cap, lift arm cam	Lower cassette (print engine) on page 657
	Slider, lifter arm	Lower cassette (print engine) on page 657
	Spring, grounding	Lower cassette (print engine) on page 657
	Spring, compression	Lower cassette (print engine) on page 657
	Link, back end sensing switch	Lower cassette (print engine) on page 657
	Shaft, back end sensing link	Lower cassette (print engine) on page 657
	Cover, width sensing	Lower cassette (print engine) on page 657

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Cam, width sensing	Lower cassette (print engine) on page 657
	Bushing	Lower cassette (print engine) on page 657
	Plate, lifter	Lower cassette (print engine) on page 657
	Plate, cassette support	Lower cassette (print engine) on page 657
	Rack, lifter	Lower cassette (print engine) on page 657
	Gear, 14T	Lower cassette (print engine) on page 657
	Gear, 17T	Lower cassette (print engine) on page 657
	Spring, tension	Lower cassette (print engine) on page 657
	Label, cassette control, lower	Lower cassette (print engine) on page 657
	Screw, M3X8	Lower cassette (print engine) on page 657
	Ring, E	Lower cassette (print engine) on page 657
	Back end limit assembly	Lower cassette (print engine) on page 657
	Front paper side end assembly	Lower cassette (print engine) on page 657
	Rear paper side end assembly	Lower cassette (print engine) on page 657
	Separation roller assembly	Lower cassette (print engine) on page 657
	Holder, remnant, lower	Lower cassette (print engine) on page 657
	Spring, compression	Lower cassette (print engine) on page 657
	Spring, tension	Lower cassette (print engine) on page 657
	Screw, tapping, truss head, M4X10	Lower cassette (print engine) on page 657
	Plain washer	Lower cassette (print engine) on page 657
	Plain washer	Lower cassette (print engine) on page 657
	Block, side end size clicker	Lower cassette (print engine) on page 657

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Plate, back end limit	Lower cassette (print engine) on page 657
	Holder, back end limit	Lower cassette (print engine) on page 657
	Lever, back end limit lock	Lower cassette (print engine) on page 657
	Lock, back end limit	Lower cassette (print engine) on page 657
	Block, back end size clicker	Lower cassette (print engine) on page 657
	Spring, compression	Lower cassette (print engine) on page 657
	Spring, compression	Lower cassette (print engine) on page 657
	Spring, compression	Lower cassette (print engine) on page 657
	Lever, side	Lower cassette (print engine) on page 657
	Lock, side	Lower cassette (print engine) on page 657
	Spring, compression	Lower cassette (print engine) on page 657
	Guide, side, front	Lower cassette (print engine) on page 657
	Rack, side	Lower cassette (print engine) on page 657
	Holder, side guide, front	Lower cassette (print engine) on page 657
	Shaft, separation block	Lower cassette (print engine) on page 657
	Screw, D, M3X6	Lower cassette (print engine) on page 657
	Clamp, paper, middle	Lower cassette (print engine) on page 657
	Clamp, paper, rear	Lower cassette (print engine) on page 657
	Ring, E	Lower cassette (print engine) on page 657
	Holder, side guide, rear	Lower cassette (print engine) on page 657
	Clamp, paper, front	Lower cassette (print engine) on page 657
	Plate, paper side end, rear	Lower cassette (print engine) on page 657

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Spring, compression	Lower cassette (print engine) on page 657
	Spring, compression	Lower cassette (print engine) on page 657
	Body, cassette, upper	Lower cassette (print engine) on page 657
	Block, separation roller	Lower cassette (print engine) on page 657
	Holder, separation block	Lower cassette (print engine) on page 657
	Spring, torsion	Lower cassette (print engine) on page 657
	Base, separation roller	Lower cassette (print engine) on page 657
	Cover, separation roller block	Lower cassette (print engine) on page 657
	Cable, cassette sensor, upper	Upper cassette pickup assembly (print engine) on page 661
	Guide, paper re-pick up	Upper cassette pickup assembly (print engine) on page 661
	Lever, paper sensor	Upper cassette pickup assembly (print engine) on page 661
	Bushing	Upper cassette pickup assembly (print engine) on page 661
	Bushing	Upper cassette pickup assembly (print engine) on page 661
	Ring, E	Upper cassette pickup assembly (print engine) on page 661
	Screw, tapping, truss head, M4X10	Upper cassette pickup assembly (print engine) on page 661
	Shaft, paper pickup drive	Upper cassette pickup assembly (print engine) on page 661
	Frame, paper pickup, upper	Upper cassette pickup assembly (print engine) on page 661
	Shaft, roller, upper	Upper cassette pickup assembly (print engine) on page 661

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Arm, pendulum	Upper cassette pickup assembly (print engine) on page 661
	Spring, leaf	Upper cassette pickup assembly (print engine) on page 661
	Gear, 23T	Upper cassette pickup assembly (print engine) on page 661
	Spring, compression	Upper cassette pickup assembly (print engine) on page 661
	Cap, paper pickup, left	Upper cassette pickup assembly (print engine) on page 661
	Core, paper pickup roller	Upper cassette pickup assembly (print engine) on page 661
	Shaft, cassette slide	Upper cassette pickup assembly (print engine) on page 661
	Roller, cassette paper pickup	Upper cassette pickup assembly (print engine) on page 661
	Case, roller stopper	Upper cassette pickup assembly (print engine) on page 661
	Case, roller stopper	Upper cassette pickup assembly (print engine) on page 661
	Lever, roller stopper	Upper cassette pickup assembly (print engine) on page 661
	Spring, compression	Upper cassette pickup assembly (print engine) on page 661
	Roller, idler	Upper cassette pickup assembly (print engine) on page 661
	Guide, paper re-pickup, upper	Upper cassette pickup assembly (print engine) on page 661
	Holder, paper re-pickup roller	Upper cassette pickup assembly (print engine) on page 661
	Bushing	Upper cassette pickup assembly (print engine) on page 661

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Spring, grounding	Upper cassette pickup assembly (print engine) on page 661
	Bushing	Upper cassette pickup assembly (print engine) on page 661
	Plate, sensor grounding	Upper cassette pickup assembly (print engine) on page 661
	Plate, roller grounding, upper	Upper cassette pickup assembly (print engine) on page 661
	Roller, paper re-pickup	Upper cassette pickup assembly (print engine) on page 661
	Bushing	Upper cassette pickup assembly (print engine) on page 661
	Gear, 14T	Upper cassette pickup assembly (print engine) on page 661
	Gear, 19T	Upper cassette pickup assembly (print engine) on page 661
	Gear, 15T	Upper cassette pickup assembly (print engine) on page 661
	Gear, 16T	Upper cassette pickup assembly (print engine) on page 661
	Spring, compression	Upper cassette pickup assembly (print engine) on page 661
	Pendulum arm assembly	Upper cassette pickup assembly (print engine) on page 661
	Roller stopper assembly	Upper cassette pickup assembly (print engine) on page 661
	Bushing	Upper cassette pickup assembly (print engine) on page 661
	Support, frame, lower	Lower cassette pickup assembly (print engine) on page 665
	Plate, sensor grounding	Lower cassette pickup assembly (print engine) on page 665

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Lever, paper sensor	Lower cassette pickup assembly (print engine) on page 665
	Bushing	Lower cassette pickup assembly (print engine) on page 665
	Bushing	Lower cassette pickup assembly (print engine) on page 665
	Cable, cassette sensor, lower	Lower cassette pickup assembly (print engine) on page 665
	Screw, tapping, truss head, M4X10	Lower cassette pickup assembly (print engine) on page 665
	Frame, paper pickup, lower	Lower cassette pickup assembly (print engine) on page 665
	Shaft, paper pickup drive	Lower cassette pickup assembly (print engine) on page 665
	Spring, compression	Lower cassette pickup assembly (print engine) on page 665
	Cap, paper pickup, left	Lower cassette pickup assembly (print engine) on page 665
	Core, paper pickup roller	Lower cassette pickup assembly (print engine) on page 665
	Shaft, cassette slide	Lower cassette pickup assembly (print engine) on page 665
	Roller, cassette paper pickup	Lower cassette pickup assembly (print engine) on page 665
	Case, roller stopper	Lower cassette pickup assembly (print engine) on page 665
	Case, roller stopper	Lower cassette pickup assembly (print engine) on page 665
	Lever, roller stopper	Lower cassette pickup assembly (print engine) on page 665
	Spring, compression	Lower cassette pickup assembly (print engine) on page 665

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Bushing	Lower cassette pickup assembly (print engine) on page 665
	Bushing	Lower cassette pickup assembly (print engine) on page 665
	Pad, flapper	Lower cassette pickup assembly (print engine) on page 665
	Pulley	Lower cassette pickup assembly (print engine) on page 665
	Roller, paper feed, A5	Lower cassette pickup assembly (print engine) on page 665
	Belt, paper feed	Lower cassette pickup assembly (print engine) on page 665
	Roller, multipurpose, lower	Lower cassette pickup assembly (print engine) on page 665
	Flag, path sensor, lower	Lower cassette pickup assembly (print engine) on page 665
	Spring, torsion	Lower cassette pickup assembly (print engine) on page 665
	Plate, grounding lower	Lower cassette pickup assembly (print engine) on page 665
	Lever, cover sensing, right	Lower cassette pickup assembly (print engine) on page 665
	Spring, torsion	Lower cassette pickup assembly (print engine) on page 665
	Plate, roller grounding, lower	Lower cassette pickup assembly (print engine) on page 665
	Spring, grounding	Lower cassette pickup assembly (print engine) on page 665
	Bushing	Lower cassette pickup assembly (print engine) on page 665
	Gear, 16T	Lower cassette pickup assembly (print engine) on page 665

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Ring, E	Lower cassette pickup assembly (print engine) on page 665
	Roller stopper assembly	Lower cassette pickup assembly (print engine) on page 665
	Label, control position	Registration assembly (print engine) on page 669
	Guide, transfer, upper	Registration assembly (print engine) on page 669
	Bushing	Registration assembly (print engine) on page 669
	Bushing	Registration assembly (print engine) on page 669
	Side plate, registration, left	Registration assembly (print engine) on page 669
	Side plate, registration, right	Registration assembly (print engine) on page 669
	Roller, registration	Registration assembly (print engine) on page 669
	Roller, registration	Registration assembly (print engine) on page 669
	Roller, registration	Registration assembly (print engine) on page 669
	Roller, registration	Registration assembly (print engine) on page 669
	Bushing	Registration assembly (print engine) on page 669
	Bushing	Registration assembly (print engine) on page 669
	Guide, registration, upper	Registration assembly (print engine) on page 669
	Shaft, registration roller	Registration assembly (print engine) on page 669
	Sheet, transfer guide, upper	Registration assembly (print engine) on page 669
	Roller, registration	Registration assembly (print engine) on page 669
	Shutter, registration	Registration assembly (print engine) on page 669
	Guide, transfer, lower	Registration assembly (print engine) on page 669
	Gear, 12T	Registration assembly (print engine) on page 669

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Gear, 15T	Registration assembly (print engine) on page 669
	Spring, torsion	Registration assembly (print engine) on page 669
	Spring, tension	Registration assembly (print engine) on page 669
	Spring, torsion	Registration assembly (print engine) on page 669
	Spring, torsion	Registration assembly (print engine) on page 669
	Screw, D, M3X6	Registration assembly (print engine) on page 669
	Holder, registration	Registration assembly (print engine) on page 669
	Ring, E	Registration assembly (print engine) on page 669
	Plate, paper feed	Paper feed assembly (print engine) on page 671
	Bushing	Paper feed assembly (print engine) on page 671
	Bushing	Paper feed assembly (print engine) on page 671
	Cover, transfer bushing, right	Paper feed assembly (print engine) on page 671
	Spring, compression	Paper feed assembly (print engine) on page 671
	Eliminator, static charge	Paper feed assembly (print engine) on page 671
	Cover, static charge eliminator	Paper feed assembly (print engine) on page 671
	Spring, compression	Paper feed assembly (print engine) on page 671
	Roller	Paper feed assembly (print engine) on page 671
	Sheet, transfer insulating	Paper feed assembly (print engine) on page 671
	Guide, paper feed	Paper feed assembly (print engine) on page 671
	Spring, compression	Paper feed assembly (print engine) on page 671
	Spring, compression	Fuser (print engine) on page 675
	Spring, torsion	Fuser (print engine) on page 675

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Guide, separation, upper	Fuser (print engine) on page 675
	Roller, face-up paper delivery	Fuser (print engine) on page 675
	Lever, paper delivery sensor	Fuser (print engine) on page 675
	Bushing	Fuser (print engine) on page 675
	Bushing	Fuser (print engine) on page 675
	Guide, reverse	Fuser (print engine) on page 675
	Guide, fuser entrance	Fuser (print engine) on page 675
	Holder, fuser cable	Fuser (print engine) on page 675
	Holder, fuser cable	Fuser (print engine) on page 675
	Cover, fuser drawer	Fuser (print engine) on page 675
	Guide, fuser, right	Fuser (print engine) on page 675
	Bushing	Fuser (print engine) on page 675
	Roller, pressure	Fuser (print engine) on page 675
	Ring, conductive rubber	Fuser (print engine) on page 675
	Duct, fuser	Fuser (print engine) on page 675
	Holder, wrap stopper	Fuser (print engine) on page 675
	Arm, wrap stopper	Fuser (print engine) on page 675
	Duct, separation, upper	Fuser (print engine) on page 675
	Roller, face-up	Fuser (print engine) on page 675
	Guide, flapper, left	Fuser (print engine) on page 675
	Guide, flapper, right	Fuser (print engine) on page 675
	Spring, torsion	Fuser (print engine) on page 675

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Spring, torsion	Fuser (print engine) on page 675
	Roller, flapper guide	Fuser (print engine) on page 675
	Guide, separation, lower	Fuser (print engine) on page 675
	Guide, fuser, left	Fuser (print engine) on page 675
	Screw, stepped	Fuser (print engine) on page 675
	Gear, 29T	Fuser (print engine) on page 675
	Gear, 18T/16T	Fuser (print engine) on page 675
	Gear, 16T	Fuser (print engine) on page 675
	Spring, compression	Fuser (print engine) on page 675
	Spring, compression	Fuser (print engine) on page 675
	Spring, compression	Fuser (print engine) on page 675
	IC, photo interrupter	Fuser (print engine) on page 675
	Screw, D, M3X6	Fuser (print engine) on page 675
	Film guide assembly	Fuser (print engine) on page 675
	Rib, separation duct, upper	Fuser (print engine) on page 675
	Cable, fuser DC	Fuser (print engine) on page 675
	Screw, TP, M4X6	Fuser (print engine) on page 675
	Label, high temperature caution	Fuser (print engine) on page 675
	Cable, fuser drawer grounding	Fuser (print engine) on page 675
	Screw, w/washer, M3X6	Fuser (print engine) on page 675
	Screw, tapping, truss head, M4X10	Fuser (print engine) on page 675
	Frame, fuser, center	Fuser (print engine) on page 675

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Frame, fuser, right	Fuser (print engine) on page 675
	Plate, fuser pressure	Fuser (print engine) on page 675
	Cross member, fuser drawer, left	Fuser (print engine) on page 675
	Cross member, fuser drawer, right	Fuser (print engine) on page 675
	Plate, pressure release, left	Fuser (print engine) on page 675
	Plate, pressure release, right	Fuser (print engine) on page 675
	Frame, fuser, left	Fuser (print engine) on page 675
	Frame, pressure release	Fuser pressure release assembly (print engine) on page 679
	Cam, intermediate guide	Fuser pressure release assembly (print engine) on page 679
	Plate, fixed, front	Fuser pressure release assembly (print engine) on page 679
	Plate, fixed, rear	Fuser pressure release assembly (print engine) on page 679
	Cam, pressure release, front	Fuser pressure release assembly (print engine) on page 679
	Cam, pressure release, rear	Fuser pressure release assembly (print engine) on page 679
	Arm, pressure release, front	Fuser pressure release assembly (print engine) on page 679
	Arm, pressure release, rear	Fuser pressure release assembly (print engine) on page 679
	Link, pressure release	Fuser pressure release assembly (print engine) on page 679
	Lever, front	Fuser pressure release assembly (print engine) on page 679
	Lever, rear	Fuser pressure release assembly (print engine) on page 679

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Spring, torsion	Fuser pressure release assembly (print engine) on page 679
	Spring, torsion	Fuser pressure release assembly (print engine) on page 679
	Spring, compression	Fuser pressure release assembly (print engine) on page 679
	Intermediate guide assembly	Fuser pressure release assembly (print engine) on page 679
	Screw, tapping, truss head, M4X10	Fuser pressure release assembly (print engine) on page 679
	Shaft, pressure release	Fuser pressure release assembly (print engine) on page 679
	Shaft, lock	Fuser pressure release assembly (print engine) on page 679
	Roller	Fuser pressure release assembly (print engine) on page 679
	Guide, intermediate	Fuser pressure release assembly (print engine) on page 679
	Spring, torsion	Fuser pressure release assembly (print engine) on page 679
	HCI main body	1X500 HCI main body on page 681
	Box, stock	1X500 HCI main body on page 681
	Screw, stepped	1X500 HCI main body on page 681
	Support, PCA	1X500 HCI main body on page 681
	Spacer, reinforcement, right	1X500 HCI main body on page 681
	Screw, RS, M4X8	1X500 HCI main body on page 681
	Screw, TP, M3X6	1X500 HCI main body on page 681
	Spacer, reinforcement, left	1X500 HCI main body on page 681

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Cable, paper pickup option	1X500 HCI main body on page 681
	Cable, power interface	1X500 HCI main body on page 681
	Cable, multi-sensor	1X500 HCI main body on page 681
	Screw, w/washer, M5X12	1X500 HCI main body on page 681
	Screw, w/washer, M3X6	1X500 HCI main body on page 681
	Block, right door push	1X500 HCI main body on page 681
	Door, right	1X500 HCI main body on page 681
	Cover, right rear	1X500 HCI main body on page 681
	Latch, right door	1X500 HCI main body on page 681
	Spring, torsion	1X500 HCI main body on page 681
	Plate, hinge	1X500 HCI main body on page 681
	Screw	1X500 HCI main body on page 681
	Spring, compression	1X500 HCI main body on page 681
	HCI main body	3X500 HCI main body on page 685
	Cable, option interface	3X500 HCI main body on page 685
	Spacer, reinforcement, left	3X500 HCI main body on page 685
	Spacer, reinforcement, right	3X500 HCI main body on page 685
	Screw, stepped	3X500 HCI main body on page 685
	Support, PCA	3X500 HCI main body on page 685
	Saddle, wire	3X500 HCI main body on page 685
	Screw, RS, M4X8	3X500 HCI main body on page 685
	Screw, TP, M3X6	3X500 HCI main body on page 685

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Plate, number indication	3X500 HCI main body on page 685
	Cable, paper pickup option	3X500 HCI main body on page 685
	Cable, power interface	3X500 HCI main body on page 685
	Cable, multi-sensor	3X500 HCI main body on page 685
	Cable, door open switch	3X500 HCI main body on page 685
	Plate, switch cover	3X500 HCI main body on page 685
	Screw, w/washer, M5X12	3X500 HCI main body on page 685
	Screw, w/washer, M5X12	3X500 HCI main body on page 685
	Screw, w/washer, M3X6	3X500 HCI main body on page 685
	Guide, paper feed	3X500 HCI main body on page 685
	Door, right	3X500 HCI main body on page 685
	Cover, right rear	3X500 HCI main body on page 685
	Latch, right door	3X500 HCI main body on page 685
	Spring, torsion	3X500 HCI main body on page 685
	Plate, hinge	3X500 HCI main body on page 685
	Spring, torsion	3X500 HCI main body on page 685
	Spring, compression	3X500 HCI main body on page 685
	Screw	3X500 HCI main body on page 685
	Base, lifter	Lifter drive assembly (HCI) on page 689
	Screw	Lifter drive assembly (HCI) on page 689
	Gear, 16T/46T	Lifter drive assembly (HCI) on page 689
	Gear, 14T/53T	Lifter drive assembly (HCI) on page 689

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Gear, 23T	Lifter drive assembly (HCI) on page 689
	Gear, 33T	Lifter drive assembly (HCI) on page 689
	Spring, compression	Lifter drive assembly (HCI) on page 689
	Screw, w/washer, M3X6	Lifter drive assembly (HCI) on page 689
	Pin, dowel	Lifter drive assembly (HCI) on page 689
	Gear, 17T	Lifter drive assembly (HCI) on page 689
	Stopper, lifter swing	Lifter drive assembly (HCI) on page 689
	Hook	Lifter drive assembly (HCI) on page 689
	Cover, lifter drive	Lifter drive assembly (HCI) on page 689
	Cover, lifter drive, rear	Lifter drive assembly (HCI) on page 689
	Spring, grounding	Lifter drive assembly (HCI) on page 689
	Spring, grounding	Lifter drive assembly (HCI) on page 689
	Spring, torsion	Lifter drive assembly (HCI) on page 689
	Arm, toggle	Lifter drive assembly (HCI) on page 689
	Switch, push	Lifter drive assembly (HCI) on page 689
	Screw, RS, M3X8	Lifter drive assembly (HCI) on page 689
	Cable, paper size sensor	Lifter drive assembly (HCI) on page 689
	Lifter assembly	Lifter drive assembly (HCI) on page 689
	Gear, 20T	Cassette (HCI) on page 691
	Roller, cassette	Cassette (HCI) on page 691
	Guide, nip	Cassette (HCI) on page 691
	Support, lifter arm, 1	Cassette (HCI) on page 691
	Support, lifter arm, 2	Cassette (HCI) on page 691
	Gear, 14T	Cassette (HCI) on page 691

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Cover, cassette, front	Cassette (HCI) on page 691
	Cover, back end sensor	Cassette (HCI) on page 691
	Spring, grounding	Cassette (HCI) on page 691
	Block, length sensor	Cassette (HCI) on page 691
	Lever, paper width sensor	Cassette (HCI) on page 691
	Arm, lifter	Cassette (HCI) on page 691
	Arm, remnant indication	Cassette (HCI) on page 691
	Spring, torsion	Cassette (HCI) on page 691
	Plate, lifter	Cassette (HCI) on page 691
	Arm, pin support lifter	Cassette (HCI) on page 691
	Gear, 80T	Cassette (HCI) on page 691
	Spring, tension	Cassette (HCI) on page 691
	Spring, tension	Cassette (HCI) on page 691
	Screw, B, M4X8	Cassette (HCI) on page 691
	Paper side end front assembly	Cassette (HCI) on page 691
	Paper side end rear assembly	Cassette (HCI) on page 691
	Back end limit assembly	Cassette (HCI) on page 691
	Screw	Cassette (HCI) on page 691
	Plate, roller, right	Cassette (HCI) on page 691
	Plate, roller, left	Cassette (HCI) on page 691
	Shaft, arm support	Cassette (HCI) on page 691
	Body, cassette	Cassette (HCI) on page 691
	Arm, size click	Cassette (HCI) on page 691
	Stopper, side, right	Cassette (HCI) on page 691
	Stopper, side, left	Cassette (HCI) on page 691
	Plate, paper side end	Cassette (HCI) on page 691
	Block, side release	Cassette (HCI) on page 691
	Knob, stopper release	Cassette (HCI) on page 691
	Spring, compression	Cassette (HCI) on page 691
	Spring, compression	Cassette (HCI) on page 691
	Pin, dowel	Cassette (HCI) on page 691
	Pin, dowel	Cassette (HCI) on page 691
	Guide, paper retaining, rear	Cassette (HCI) on page 691
	Guide, paper retaining, front	Cassette (HCI) on page 691

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Plate, paper side end	Cassette (HCI) on page 691
	Spring, compression	Cassette (HCI) on page 691
	Spring, compression	Cassette (HCI) on page 691
	Plate, paper side end	Cassette (HCI) on page 691
	Lifter, back end	Cassette (HCI) on page 691
	Plate, back end limit	Cassette (HCI) on page 691
	Limiter, torque	Paper pickup assembly (HCI) on page 695
	Pin, dowel	Paper pickup assembly (HCI) on page 695
	Side plate, paper pickup fr.	Paper pickup assembly (HCI) on page 695
	Shaft, retard link	Paper pickup assembly (HCI) on page 695
	Side plate, pickup drive	Paper pickup assembly (HCI) on page 695
	Bushing	Paper pickup assembly (HCI) on page 695
	Plate, swing	Paper pickup assembly (HCI) on page 695
	Slider, polyester	Paper pickup assembly (HCI) on page 695
	Ring, retaining	Paper pickup assembly (HCI) on page 695
	Guide, jam clearing	Paper pickup assembly (HCI) on page 695
	Flag, jam sensor	Paper pickup assembly (HCI) on page 695
	Guide, paper pickup upper	Paper pickup assembly (HCI) on page 695
	Flag, paper yes/no sensor	Paper pickup assembly (HCI) on page 695
	Holder, sheet sensor	Paper pickup assembly (HCI) on page 695
	Holder, pick arm	Paper pickup assembly (HCI) on page 695
	Flag, paper level sensor	Paper pickup assembly (HCI) on page 695
	Arm, pick	Paper pickup assembly (HCI) on page 695
	Spring, torsion	Paper pickup assembly (HCI) on page 695

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Plate, paper pickup upper	Paper pickup assembly (HCI) on page 695
	Roller, paper feed	Paper pickup assembly (HCI) on page 695
	Gear, 14T	Paper pickup assembly (HCI) on page 695
	Gear, 23T	Paper pickup assembly (HCI) on page 695
	Gear, 17T	Paper pickup assembly (HCI) on page 695
	Spring, compression	Paper pickup assembly (HCI) on page 695
	Photo interrupter, TLP1243	Paper pickup assembly (HCI) on page 695
	Screw, TP, M3X6	Paper pickup assembly (HCI) on page 695
	Screw, tap, binding head, M3X8	Paper pickup assembly (HCI) on page 695
	Plate, retard busing	Paper pickup assembly (HCI) on page 695
	Lever, nip pressure release	Paper pickup assembly (HCI) on page 695
	Guide, paper pickup lower	Paper pickup assembly (HCI) on page 695
	Gear, 14T	Paper pickup assembly (HCI) on page 695
	Spring, tension	Paper pickup assembly (HCI) on page 695
	Retard holder assembly	Paper pickup assembly (HCI) on page 695
	Holder, retard	Paper pickup assembly (HCI) on page 695
	Spring, torsion	Paper pickup assembly (HCI) on page 695
	Gear, 37T	Paper pickup assembly (HCI) on page 695
	Ring, E	Paper pickup assembly (HCI) on page 695
	Ring, E	Paper pickup assembly (HCI) on page 695
	Cam, pick	Paper pickup assembly (HCI) on page 695
	Lever, trigger	Paper pickup assembly (HCI) on page 695

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Guide, pickup vertical feed	Paper pickup assembly (HCI) on page 695
	Cover, paper pickup gear	Paper pickup assembly (HCI) on page 695
	Plate, feed roller mounting	Paper pickup assembly (HCI) on page 695
	Arm, feed roller pressure	Paper pickup assembly (HCI) on page 695
	Solenoid	Paper pickup assembly (HCI) on page 695
	Gear, 14T	Paper pickup assembly (HCI) on page 695
	Gear, 20T/33T	Paper pickup assembly (HCI) on page 695
	Gear, 60T	Paper pickup assembly (HCI) on page 695
	Gear, 33T	Paper pickup assembly (HCI) on page 695
	Gear, 37T	Paper pickup assembly (HCI) on page 695
	Gear, 24T/42T	Paper pickup assembly (HCI) on page 695
	Gear, 21T/62T	Paper pickup assembly (HCI) on page 695
	Bushing	Paper pickup assembly (HCI) on page 695
	Bushing	Paper pickup assembly (HCI) on page 695
	Bushing	Paper pickup assembly (HCI) on page 695
	Spring, compression	Paper pickup assembly (HCI) on page 695
	Cable, pickup opt. jam sensor	Paper pickup assembly (HCI) on page 695
	Spring, compression	Paper pickup assembly (HCI) on page 695
	Roller, paper feed	Paper pickup assembly (HCI) on page 695
	Connector, snap tight, BK	Paper pickup assembly (HCI) on page 695
	Paper pickup LW guide assembly	Paper pickup assembly (HCI) on page 695
	Paper pickup UP plate assembly	Paper pickup assembly (HCI) on page 695

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
	Option paper sensor PCA assembly	Paper pickup assembly (HCI) on page 695
	Cable, OPT sensor PCA connect	Paper pickup assembly (HCI) on page 695
Not orderable	Staple stacker	Main body (stapler/stacker) on page 609
Q7829-60143	Glass	Scanner top assembly on page 601
Q7829-60144	Adhesive cover	Scanner top assembly on page 601
Q7829-60145	Cover, Scanner controller board (main board cover)	Scanner controller board (SCB) assembly on page 603
Q7829-60148	Scanner lid sensor assembly	Scanner lid sensor assembly on page 605
Q7829-60149	Motor, transmission	Scanner transmission drive assembly on page 607
Q7829-60150	Timing belt, transmission	Scanner transmission drive assembly on page 607
Q7829-60151	Pulley, transmission	Scanner transmission drive assembly on page 607
Q7829-60152	Top cover	Scanner top assembly on page 601
Q7829-60153	Right cover	Scanner top assembly on page 601
Q7829-60154	Cover, bottom	Scanner top assembly on page 601
Q7829-60157	Guide, glass	Scanner assembly base on page 597
Q7829-60158	Guide, glass	Scanner assembly base on page 597
Q7829-60159	Scanner	Scanner assembly base on page 597
Q7829-60160	Rod	Scanner assembly base on page 597
Q7829-60162	Rubber, guide	Scanner assembly base on page 597
Q7829-60163	Sensor, paper	Scanner assembly base on page 597
Q7829-60164	Rail and slide sheet assembly	Scanner assembly base on page 597
Q7829-60165	Scanner controller board PCA (main baord)	Scanner controller board (SCB) assembly on page 603
Q7829-60166	Carriage assembly (optical assembly)	Carriage assembly (scanner; optical assembly) on page 599

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
Q7829-67901	Automatic document feeder (ADF); whole unit	ADF on page 577
Q7829-67903	PCA motor assembly	ADF on page 577
Q7829-67904	ADF endcap back	ADF on page 577
Q7829-67907	Cable, ADF to scanner	ADF on page 577
Q7829-67909	ADF reflector foam (white backing)	ADF on page 577
Q7829-67909	ADF separation floor assembly	Separation floor assembly (ADF) on page 595
Q7829-67910	ADF jam cover assembly	Jam cover (ADF) on page 589
Q7829-67912	ADF tray input assembly	ADF on page 577
Q7829-67913	ADF flag sensor LS	ADF on page 577
Q7829-67914	ADF photo interrupter with connector	ADF on page 577
Q7829-67914	ADF photo interrupter w/connector	Backbone assembly (ADF) on page 585
Q7829-67917	ADF float assembly	Backbone assembly (ADF) on page 585
Q7829-67918	ADF diverter	Backbone assembly (ADF) on page 585
Q7829-67920	Cover ADF pickup roller	Jam cover (ADF) on page 589
Q7829–67905	ADF end cover (cap) front	Front end cover (ADF) on page 579
Q7829–67906	Cover, left	Base assembly (ADF) on page 583
Q7829–67916	ADF hinge assembly (two are required for the ADF)	Hinges on page 581
Q7842-67902	ADF cover pickup roller (part of the ADF maintenance kit)	Pickup roller assembly (ADF) on page 591
Q7842-67902	Separation pad assembly (part of the ADF maintenance kit)	Separation pad assembly (ADF) on page 593
RC1-3090-000CN	Stopper, busing arm	Internal components (1 of 3) (print engine) on page 631
RC1-7019-000CN	Cover, gear, right upper	Internal components (1 of 3) (print engine) on page 631
RC1-7021-000CN	Plate, grounding	Internal components (1 of 3) (print engine) on page 631
RC1-7121-000CN	Guide, cartridge, left	Internal components (1 of 3) (print engine) on page 631
RC1-7122-000CN	Paddle	Internal components (1 of 3) (print engine) on page 631
RC1-7123-000CN	Spring, torsion	Internal components (1 of 3) (print engine) on page 631
RC1-7124-000CN	Spring, grounding	Internal components (1 of 3) (print engine) on page 631

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
RC1-7125-000CN	Spring, torsion	Internal components (1 of 3) (print engine) on page 631
RC1-7126-000CN	Spring, compression	Internal components (1 of 3) (print engine) on page 631
RC1-7127-000CN	Spring, compression	Internal components (1 of 3) (print engine) on page 631
RC1-7129-000CN	Side plate, transfer drive	Internal components (1 of 3) (print engine) on page 631
RC1-7141-000CN	Cap, paper feed guide	Internal components (1 of 3) (print engine) on page 631
RC1-7144-000CN	Flag, loop sensor	Internal components (3 of 3) (print engine) on page 639
RC1-7145-000CN	Spring, torsion	Internal components (3 of 3) (print engine) on page 639
RC1-7163-000CN	Shutter, fuser	Internal components (2 of 3) (print engine) on page 635
RC1-7241-000CN	Holder, contact	Internal components (1 of 3) (print engine) on page 631
RC1-7249-000CN	Bushing	Internal components (3 of 3) (print engine) on page 639
RC1-7261-000CN	Flag, top sensor	Internal components (3 of 3) (print engine) on page 639
RC1-7264-000CN	Plate, cross member auxiliary	Internal components (3 of 3) (print engine) on page 639
RC1-7265-000CN	Cover	Internal components (1 of 3) (print engine) on page 631
RC1-7268-000CN	Holder, top sensor	Internal components (3 of 3) (print engine) on page 639
RC1-7283-000CN	Bushing	Internal components (1 of 3) (print engine) on page 631
RC1-7284-000CN	Cam	Internal components (1 of 3) (print engine) on page 631
RC1-7285-000CN	Lever, coupling	Internal components (1 of 3) (print engine) on page 631
RC1-7286-000CN	Guide, cartridge, right lower	Internal components (1 of 3) (print engine) on page 631
RC1-7287-000CN	Guide, cartridge, right upper	Internal components (1 of 3) (print engine) on page 631
RC1-7288-000CN	Stopper, link	Internal components (1 of 3) (print engine) on page 631
RC1-7289-000CN	Link, tag	Internal components (2 of 3) (print engine) on page 635
RC1-7436-000CN	Shaft, fuser shutter	Internal components (2 of 3) (print engine) on page 635

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
RC1-7443-000CN	Bushing	Internal components (1 of 3) (print engine) on page 631
RC1-7451-000CN	Lever, shutter	Internal components (2 of 3) (print engine) on page 635
RC1-8021-000CN	Stopper, cartridge door	Cartridge door assembly (print engine) on page 627
RC1-8022-000CN	Guide, cartridge door stopper	Internal components (1 of 3) (print engine) on page 631
RC1-8026-000CN	Holder, spring	Internal components (1 of 3) (print engine) on page 631
RC1-8027-000CN	Guide, duplexer, front	Internal components (3 of 3) (print engine) on page 639
RC1-8032-000CN	Lever, fuser shutter	Internal components (1 of 3) (print engine) on page 631
RC1-8034-000CN	Arm, lock	Internal components (1 of 3) (print engine) on page 631
RC1-8035-000CN	Holder, cassette, right front	Internal components (3 of 3) (print engine) on page 639
RC1-8036-000CN	Holder, cassette, left front	Internal components (3 of 3) (print engine) on page 639
RC1-8038-000CN	Cam, pad return, lower	Internal components (3 of 3) (print engine) on page 639
RC1-8039-000CN	Lock, pressure release, front	Internal components (2 of 3) (print engine) on page 635
RC1-8046-000CN	Guide, rear	Internal components (1 of 3) (print engine) on page 631
RC1-8048-000CN	Guide, duplexer, rear	Internal components (3 of 3) (print engine) on page 639
RC1-8052-000CN	Spring, grounding	Internal components (1 of 3) (print engine) on page 631
RC1-8058-000CN	Link, fuser sensing, small	Internal components (2 of 3) (print engine) on page 635
RC1-8059-000CN	Link, fuser sensing	Internal components (2 of 3) (print engine) on page 635
RC1-8060-000CN	Lever, fuser sensing switch	Internal components (2 of 3) (print engine) on page 635
RC1-8069-000CN	Plate, scanner duct	Internal components (2 of 3) (print engine) on page 635
RC1-8075-000CN	Lever, drive release	Internal components (2 of 3) (print engine) on page 635
RC1-8078-000CN	Spring, torsion	Internal components (2 of 3) (print engine) on page 635
RC1-8137-000CN	Tray, sub	External panels and covers (print engine) on page 623

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
RC1-8164-000CN	Cover, gear, rear	Internal components (1 of 3) (print engine) on page 631
RC1-8165-000CN	Mount, interlock guide	Internal components (1 of 3) (print engine) on page 631
RC1-8221-000CN	Cover, front	External panels and covers (print engine) on page 623
RC1-8222-000CN	Cover, rear	External panels and covers (print engine) on page 623
RC1-82220-000CN	Cover, facedown, top	External panels and covers (print engine) on page 623
RC1-8223-000CN	Cover, formatter	External panels and covers (print engine) on page 623
RC1-8225-000CN	Cover, left, rear	External panels and covers (print engine) on page 623
RC1-8226-000CN	Cover, right, rear	External panels and covers (print engine) on page 623
RC1-8227-000CN	Cover, left, upper	External panels and covers (print engine) on page 623
RC1-8228-000CN	Cover, left, lower	External panels and covers (print engine) on page 623
RC1-8231-000CN	Cover, facedown side	External panels and covers (print engine) on page 623
RC1-8233-000CN	Cover, top	External panels and covers (print engine) on page 623
RC1-8235-000CN	Cover, duplexing blanking	External panels and covers (print engine) on page 623
RC1-8236-000CN	Cover, grip, right	External panels and covers (print engine) on page 623
RC1-8327-000CN	Cover, inner top	External panels and covers (print engine) on page 623
RC1-8328-000CN	Duct, scanner, lower	Internal components (2 of 3) (print engine) on page 635
RC1-8329-000CN	Cam, shutter	Internal components (2 of 3) (print engine) on page 635
RC1-8330-000CN	Lever, pushing	Internal components (2 of 3) (print engine) on page 635
RC1-8331-000CN	Spacer, slide	Internal components (2 of 3) (print engine) on page 635
RC1-8332-000CN	Cam, slide	Internal components (2 of 3) (print engine) on page 635
RC1-8333-000CN	Ring, spacer	Internal components (2 of 3) (print engine) on page 635
RC1-8334-000CN	Spring, torsion	Internal components (2 of 3) (print engine) on page 635

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
RC1-8335-000CN	Spring, torsion	Internal components (2 of 3) (print engine) on page 635
RC1-8344-000CN	Duct, high-voltage, upper	Internal components (1 of 3) (print engine) on page 631
RC1-8345-000CN	Duct, high-voltage, lower	Internal components (1 of 3) (print engine) on page 631
RC1-9231-000CN	Roller, rail	1X500 HCI main body on page 681
RC1-9231-000CN	Roller, rail	3X500 HCI main body on page 685
RC1-9716-000CN	Door, front	Main body (stapler/stacker) on page 609
RC1-9718-000CN	Cover, left	Main body (stapler/stacker) on page 609
RC1-9719-000CN	Door, left	Main body (stapler/stacker) on page 609
RC1-9725-000CN	Support, front door	Main body (stapler/stacker) on page 609
RC1-9767-000CN	Guide, FFC	Main body (stapler/stacker) on page 609
RC1-9770-000CN	Holder, stapler	Stapler assembly (stapler/stacker) on page 619
RC1-9882-000CN	Stopper, right door	1X500 HCI main body on page 681
RC1-9882-000CN	Stopper, right door	3X500 HCI main body on page 685
RC1-9917-000CN	Caster, rear	1X500 HCI main body on page 681
RC1-9917-000CN	Caster, rear	3X500 HCI main body on page 685
RC1–8358–000CN	Ring, E	Internal components (1 of 3) (print engine) on page 631
RC1–9724–000	Cover, stack	Main body (stapler/stacker) on page 609
RC2-0134-000CN	Caster, front	1X500 HCI main body on page 681
RC2-0134-000CN	Caster, front	3X500 HCI main body on page 685
RC2-0151-000CN	Cover, rear	1X500 HCI main body on page 681
RC2-0151-000CN	Cover, rear	3X500 HCI main body on page 685
RC2-0152-000CN	Cover, right lower	1X500 HCI main body on page 681

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
RC2-0152-000CN	Cover, right lower	3X500 HCI main body on page 685
RC2-0153-000CN	Cover, left lower	1X500 HCI main body on page 681
RC2-0153-000CN	Cover, left lower	3X500 HCI main body on page 685
RC2-0160-000CN	Link, right door	1X500 HCI main body on page 681
RC2-0160-000CN	Link, right door	3X500 HCI main body on page 685
RC2-0161-000CN	Cover, right front	1X500 HCI main body on page 681
RC2-0161-000CN	Cover, right front	3X500 HCI main body on page 685
RC2-0162-000CN	Cover, front upper	1X500 HCI main body on page 681
RC2-0162-000CN	Cover, front upper	3X500 HCI main body on page 685
RC2-0163-000CN	Cover, left	1X500 HCI main body on page 681
RC2-0163-000CN	Cover, left	3X500 HCI main body on page 685
RC2-0167-000CN	Holder, drawer	1X500 HCI main body on page 681
RC2-0167-000CN	Holder, drawer	3X500 HCI main body on page 685
RC2-0169-000CN	Stopper, right door link upper	1X500 HCI main body on page 681
RC2-0169-000CN	Stopper, right door link upper	3X500 HCI main body on page 685
RC2-0170-000CN	Link, right door, upper	1X500 HCI main body on page 681
RC2-0170-000CN	Link, right door, upper	3X500 HCI main body on page 685
RC2-0181-000CN	Door, stock	1X500 HCI main body on page 681
RC2-0183-000CN	Cover, stock box	1X500 HCI main body on page 681
RK2-1053-000CN	Cable, flexible flat, 21P	Internal components (1 of 3) (print engine) on page 631
RK2-1055-000CN	Cable, flexible flat, 23P	Internal components (1 of 3) (print engine) on page 631
RK2-1281-000CN	Clutch, electromagnetic	Internal components (1 of 3) (print engine) on page 631

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
RK2-1283-000CN	Cable, flexible flat, 15P	Internal components (1 of 3) (print engine) on page 631
RK2-1284-000CN	Fan, rear	Internal components (2 of 3) (print engine) on page 635
RK2-1285-000CN	Fan, front	Internal components (2 of 3) (print engine) on page 635
RK2-1331-000CN	Motor, stepping, DC	1X500 HCI main body on page 681
RK2-1331-000CN	Motor, stepping, DC	3X500 HCI main body on page 685
RL1-0915-000CN	Roller, multipurpose paper pickup	Cartridge door assembly (print engine) on page 627
RL1-0951-000CN	Plate, gear	Internal components (1 of 3) (print engine) on page 631
RL1-1206-000CN	Roller, pickup	Paper pickup assembly (HCI) on page 695
RL1-1390-000CN	Rail, cassette, right	1X500 HCI main body on page 681
RL1-1390-000CN	Rail, cassette, right	3X500 HCI main body on page 685
RL1-1391-000CN	Rail, cassette, left	1X500 HCI main body on page 681
RL1-1391-000CN	Rail, cassette, left	3X500 HCI main body on page 685
RM1-0037-000N	Paper feed roller assembly	Paper pickup assembly (HCI) on page 695
RM1-2462-000CN	Multipurpose pad assembly	Cartridge door assembly (print engine) on page 627
RM1-2485-000CN	Roller, transfer	Internal components (1 of 3) (print engine) on page 631
RM1-2516-000CN	Main motor assembly	Internal components (1 of 3) (print engine) on page 631
RM1-2538-000CN	Fuser motor assembly	Fuser drive assembly (print engine) on page 649
RM1-2555-000CN	Laser scanner assembly (print engine)	Internal components (2 of 3) (print engine) on page 635
RM1-2957-000CN	High voltage power supply assembly (110–127 V)	Internal components (3 of 3) (print engine) on page 639
RM1-2957-000CN	High-voltage PCA assembly (110V-127V)	PCA assemblies on page 673
RM1-2958-000CN	High voltage power supply assembly (220–240 V)	Internal components (3 of 3) (print engine) on page 639
RM1-2958-000CN	High-voltage PCA assembly (220V-240V)	PCA assemblies on page 673
RM1-2962-000CN	Paper delivery drive assembly	Internal components (2 of 3) (print engine) on page 635

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
RM1-2963-000CN	Fuser drive assembly (print engine)	Fuser drive assembly (print engine) on page 649
RM1-2968-000CN	Back end sensor assembly	Internal components (3 of 3) (print engine) on page 639
RM1-2969-000CN	Lifter drive assembly	Lifter drive assembly (print engine) on page 647
RM1-2970-000CN	Left cassette rail assembly	Internal components (3 of 3) (print engine) on page 639
RM1-2971-000CN	Right cassette rail assembly	Internal components (3 of 3) (print engine) on page 639
RM1-2972-000CN	Lower drive assembly	Lower drive assembly (print engine) on page 651
RM1-2973-000CN	Fuser pressure release assembly	Fuser pressure release assembly (print engine) on page 679
RM1-2976-000CN	Upper cassette paper pickup assembly (engine)	Upper cassette pickup assembly (print engine) on page 661
RM1-2977-000CN	Lower cassette pickup assembly (engine)	Lower cassette pickup assembly (print engine) on page 665
RM1-2978-000CN	Upper cassette (engine)	Upper cassette (print engine) on page 653
RM1-2979-000CN	Lower cassette (engine)	Lower cassette (print engine) on page 657
RM1-2983-000CN	Separation block assembly	Upper cassette (print engine) on page 653
RM1-2983-000CN	Separation block assembly	Lower cassette (print engine) on page 657
RM1-2984-000CN	Cartridge door assembly	Cartridge door assembly (print engine) on page 627
RM1-2985-000CN	Cartridge door base assembly	Cartridge door assembly (print engine) on page 627
RM1-2986-000CN	Multipurpose (Tray 1) cover assembly	Cartridge door assembly (print engine) on page 627
RM1-2987-000CN	Paper delivery assembly	Paper delivery assembly (print engine) on page 643
RM1-2988-000CN	Paper pickup roller assembly	Upper cassette pickup assembly (print engine) on page 661
RM1-2990-000CN	Left door assembly	External panels and covers (print engine) on page 623
RM1-2991-000CN	Right door assembly	External panels and covers (print engine) on page 623
RM1-2994-000CN	Power supply assembly (110–127 V)	Internal components (2 of 3) (print engine) on page 635

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
RM1-2994-000CN	Low-voltage PCA assembly (110V-127V)	PCA assemblies on page 673
RM1-2995-000CN	Connecting PCA assembly	Internal components (2 of 3) (print engine) on page 635
RM1-2998-000CN	Paper pickup roller assembly	Lower cassette pickup assembly (print engine) on page 665
RM1-2999-000CN	Tag holder assembly	Internal components (2 of 3) (print engine) on page 635
RM1-3001-000CN	Registration assembly	Registration assembly (print engine) on page 669
RM1-3006-000CN	Power supply assembly (220–240 V)	Internal components (2 of 3) (print engine) on page 635
RM1-3006-000CN	Low-voltage PCA assembly (220V-240V)	PCA assemblies on page 673
RM1-3007-000CN	Fuser assembly (110V-127V)	Fuser (print engine) on page 675
RM1-3008-000CN	Fuser assembly (220V-240V)	Fuser (print engine) on page 675
RM1-3009-000CN	Paper feed assembly	Paper feed assembly (print engine) on page 671
RM1-3087-000CN	Interlock assembly	Main body (stapler/stacker) on page 609
RM1-3088-000CN	Paper feed assembly (stapler/stacker)	Paper feed assembly (stapler/stacker) on page 613
RM1-3092-000CN	Stapler assembly	Stapler assembly (stapler/stacker) on page 619
RM1-3093-000CN	Tray assembly	Main body (stapler/stacker) on page 609
RM1-3094-000CN	Stapler cover assembly	Main body (stapler/stacker) on page 609
RM1-3095-000CN	Rear cover assembly	Main body (stapler/stacker) on page 609
RM1-3098-000CN	Alignment and jogger assembly	Alignment and jogger assembly (stapler/stacker) on page 615
RM1-3099-000CN	Jog guide assembly	Alignment and jogger assembly (stapler/stacker) on page 615
RM1-3459-000CN	DC controller PCA assembly	Internal components (1 of 3) (print engine) on page 631
RM1-3459-000CN	DC controller PCA assembly	PCA assemblies on page 673
RM1-3471-000CN	Switch, cartridge door	Internal components (2 of 3) (print engine) on page 635
RM1-3474-000CN	Switch, fuser door	Internal components (1 of 3) (print engine) on page 631
RM1-3641-000CN	Paper feed PCA assembly	1X500 HCI main body on page 681

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
RM1-3641-000CN	Paper feed PCA assembly	3X500 HCI main body on page 685
RM1-3641-000CN	Paper feed PCA assembly (1X500 HCI)	PCA assemblies on page 699
RM1-3641-000CN	Paper feed PCA assembly (3X500 HCI)	PCA assemblies on page 699
RM1-3815-000CN	Cassette (1X500 HCI)	Cassette (HCI) on page 691
RM1-3815-000CN	Cassette (3X500 HCI)	Cassette (HCI) on page 691
RM1-3819-000CN	Lifter drive assembly (1X500)	Lifter drive assembly (HCI) on page 689
RM1-3819-000CN	Lifter drive assembly (3X500)	Lifter drive assembly (HCI) on page 689
RM1-3821-000CN	Paper pickup assembly (1X500 HCI)	Paper pickup assembly (HCI) on page 695
RM1-3821-000CN	Paper pickup assembly (3X500)	Paper pickup assembly (HCI) on page 695
RM1-3824-000CN	Right door assembly	3X500 HCI main body on page 685
RM1-3825-000CN	Right door assembly	1X500 HCI main body on page 681
RM1-3828-000CN	Staple stacker PCA assembly	Stapler/stacker PCA assembly on page 621
RU5-0537-000CN	Gear, 25T	Internal components (1 of 3) (print engine) on page 631
RU5-0538-000CN	Gear, 35T	Internal components (1 of 3) (print engine) on page 631
RU5-0539-000CN	Gear, 33T	Internal components (1 of 3) (print engine) on page 631
RU5-0546-000CN	Gear, 133T	Internal components (1 of 3) (print engine) on page 631
RU5-0547-000CN	Gear, 73T	Internal components (1 of 3) (print engine) on page 631
RU5-0548-000CN	Gear, 96T/52T	Internal components (1 of 3) (print engine) on page 631
RU5-0549-000CN	Gear, 99T/40T	Internal components (1 of 3) (print engine) on page 631
RU5-0550-000CN	Gear, 43T	Internal components (1 of 3) (print engine) on page 631
RU5-0551-000CN	Gear, 26T	Internal components (1 of 3) (print engine) on page 631
RU5-0553-000CN	Gear, 15T	Internal components (1 of 3) (print engine) on page 631
RU5-0564-000CN	Gear, 14T	Internal components (1 of 3) (print engine) on page 631

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
RU5-2548-000CN	Spring, tension	Cartridge door assembly (print engine) on page 627
RU5-2553-000CN	Spring, compression	Cartridge door assembly (print engine) on page 627
RU5-2575-000CN	Spring, tension	Internal components (1 of 3) (print engine) on page 631
RU5-2587-000CN	Spring, compression	Internal components (1 of 3) (print engine) on page 631
RU5-2588-000CN	Spring, compression	Internal components (1 of 3) (print engine) on page 631
RU5-2589-000CN	Spring, compression	Internal components (1 of 3) (print engine) on page 631
RU5-2590-000CN	Spring, compression	Internal components (1 of 3) (print engine) on page 631
RU5-2591-000CN	Spring, tension	Internal components (1 of 3) (print engine) on page 631
RU5-2596-000CN	Spring, torsion	Internal components (3 of 3) (print engine) on page 639
RU5-2630-000CN	Spring, compression	Internal components (1 of 3) (print engine) on page 631
RU5-2631-000CN	Spring, compression	Internal components (1 of 3) (print engine) on page 631
RU5-2632-000CN	Spring, tension	Internal components (1 of 3) (print engine) on page 631
RU5-2633-000CN	Spring, compression	Internal components (2 of 3) (print engine) on page 635
RU5-2651-000CN	Spring, tension	Internal components (2 of 3) (print engine) on page 635
RU5-2660-000CN	Spring, tension	Internal components (1 of 3) (print engine) on page 631
RU5-2663-000CN	Spring, tension	Internal components (1 of 3) (print engine) on page 631
RU5-2683-000CN	Spring, compression	Internal components (2 of 3) (print engine) on page 635
RU5-2731-000CN	Spring, tension	Main body (stapler/stacker) on page 609
VS1-7258-0007CN	Connector, drawer	Internal components (2 of 3) (print engine) on page 635
VS1-7258-007CN	Connector, drawer	Internal components (1 of 3) (print engine) on page 631
WC2-5512-000CN	Switch, bottom	3X500 HCI main body on page 685
WG8-5696-000CN	Photo interrupter, TLP1243	Main body (stapler/stacker) on page 609

Table 7-48 Numerical parts list (continued)

Part number	Description	Table and page
WG8-5696-000CN	Photo interrupter, TLP1243	Cartridge door assembly (print engine) on page 627
WG8-5696-000CN	Photo interrupter, TL1243	Internal components (1 of 3) (print engine) on page 631
WG8-5696-000CN	Photo interrupter, TLP1243	Internal components (2 of 3) (print engine) on page 635
WG8-5696-000CN	Photo interrupter, TLP1243	Internal components (3 of 3) (print engine) on page 639
WG8-5696-000CN	Photo interrupter, TLP1243	Paper delivery assembly (print engine) on page 643
WG8-5696-000CN	Photo interrupter, TLP1243	Lifter drive assembly (print engine) on page 647
WG8-5696-000CN	Photo interrupter, TLP1243	Upper cassette pickup assembly (print engine) on page 661
WG8-5696-000CN	Photo interrupter, TLP1243	Lower cassette pickup assembly (print engine) on page 665
XA9-1386-000CN	Screw, RS, M3X8	Alignment and jogger assembly (stapler/stacker) on page 615
XB4-7401-005CN	Screw, tapping, truss head, M4X10	Internal components (1 of 3) (print engine) on page 631
XD9-0233-000CN	Ring, E	Fuser drive assembly (print engine) on page 649

A Specifications

- Physical specifications
- Electrical specifications
- Acoustic emissions
- Operating environment

Physical specifications

Table A-1 Dimensions

Model	Height	Depth	Width	Weight[1]
HP LaserJet M5039XS MFP	1,194 mm (47 in)	762 mm (30 in)	737 mm (29 in)	97 kg (213 lb)

[1] Without print cartridge

Table A-2 Dimensions with all doors and trays fully opened

Model	Height	Depth	Width
HP LaserJet M5039XS MFP	1,499 mm (59 in)	1,067 mm (42 in)	1,016 mm (40 in)

Electrical specifications

⚠ **WARNING!** Power requirements are based on the country/region where the device is sold. Do not convert operating voltages. This can damage the device and void the product warranty.

Table A-3 Power requirements

Specification	110-volt models	220-volt models
Power requirements	100 to 127 Vac 50/60 Hz	220 to 240 Vac 50/60 Hz
Rated current	8.0 Amps	4.5 Amps
Minimum recommended circuit capacity	15 Amps	8 Amps

Table A-4 Power consumption (average, in watts)[1]

Model	Printing[2]	Copying	Ready or standby[3],[4]	Sleep[5]	Off
HP LaserJet M5039XS MFP	< 615 W[7]	615 W	75 W	21 W	0.01 W

1 Values subject to change. See www.hp.com/support/M5039mfp for current information.

2 Power numbers are the highest values measured, using all standard voltages.

3 Default time from Ready mode to Sleep = 30 minutes.

4 Heat dissipation in Ready mode = 37.5 BTU/hour.

5 Recovery time from Sleep to start of printing = less than 8.5 seconds.

6 Print speed is 25 ppm.

7 Print speed is 35 ppm.

Acoustic emissions

Table A-5 Sound power and pressure level[1,2]

Sound power level	Declared per ISO 9296
Printing[3]	L_{WAd}= 6.6 Bels (A) [66 dB(A)]
Ready	Essentially Inaudible
Sound pressure level	Declared per ISO 9296
Printing[3]	L_{pAm}=54 dB (A)
Ready	Essentially Inaudible

1 Values subject to change. See www.hp.com/support/M5039mfp for current information.

2 Configuration tested: HP LaserJet M5039 XS MFP, simplex printing, A4-size paper.

3 Print speed is 35 ppm.

Operating environment

Table A-6 Necessary conditions

Environmental condition	Recommended[1]	Allowed[1]	Storage/standby
Temperature (printer and print cartridge)	17° to 25°C (63° to 77°F)	15° to 32.5°C (59° to 89°F)	-20° to 40°C (-4° to 104°F)
Relative humidity	30% to 70%	10% to 80%	10% to 90%
Altitude	N/A	0 to 3100 meters (0 to 10,000 feet)	N/A

1 HP recommends that you operate the device within the recommended temperature and relative humidity ranges. The device will operate within the allowed ranges, but this can increase the possibility of image quality problems and jams because of changes to media under these conditions.

B Product warranty statements

- Hewlett-Packard limited warranty statement

Hewlett-Packard limited warranty statement

HP PRODUCT	DURATION OF LIMITED WARRANTY
HP LaserJet M5039XS	90-day parts-only limited warranty to dealer

HP warrants to the initial purchaser that HP hardware and accessories will be free from defects in materials and workmanship after the date of purchase, for the period specified above. If HP receives notice of such defects during the warranty period, HP will, at its option, either provide component parts or replace entire products which prove to be defective. Replacement parts or products may be either new or equivalent in performance to new.

These replacement parts or products must be installed by an HP qualified service technician. HP may replace the entire product only if, in HP's discretion, service history, diagnosis and troubleshooting indicate that replacement is warranted. This warranty is limited to replacement parts only. Cost of labor is not covered under this warranty.

HP warrants to you that HP software will not fail to execute its programming instructions after the date of purchase, for the period specified above, due to defects in material and workmanship when properly installed and used. If HP receives notice of such defects during the warranty period, HP will replace software which does not execute its programming instructions due to such defects.

HP does not warrant that the operation of HP products will be uninterrupted or error free.

HP products may contain remanufactured parts equivalent to new in performance or may have been subject to incidental use.

Warranty does not apply to defects resulting from (a) improper or inadequate maintenance or calibration, (b) software, interfacing, parts or supplies not supplied by HP, (c) unauthorized modification or misuse, (d) operation outside of the published environmental specifications for the product, or (e) improper site preparation or maintenance.

TO THE EXTENT ALLOWED BY LOCAL LAW, THE ABOVE WARRANTIES ARE EXCLUSIVE AND NO OTHER WARRANTY OR CONDITION, WHETHER WRITTEN OR ORAL, IS EXPRESSED OR IMPLIED AND HP SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY, SATISFACTORY QUALITY, AND FITNESS FOR A PARTICULAR PURPOSE.

Some countries/regions, states or provinces do not allow limitations on the duration of an implied warranty, so the above limitation or exclusion might not apply to you. This warranty gives you specific legal rights and you might also have other rights that vary from country/region to country/region, state to state, or province to province.

HP's limited warranty is valid in any country/region or locality where HP has a support presence for this product and where HP has marketed this product. The level of warranty service you receive may vary according to local standards. HP will not alter form, fit or function of the product to make it operate in a country/region for which it was never intended to function for legal or regulatory reasons.

TO THE EXTENT ALLOWED BY LOCAL LAW, THE REMEDIES IN THIS WARRANTY STATEMENT ARE YOUR SOLE AND EXCLUSIVE REMEDIES. EXCEPT AS INDICATED ABOVE, IN NO EVENT WILL HP OR ITS SUPPLIERS BE LIABLE FOR LOSS OF DATA OR FOR DIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOST PROFIT OR DATA), OR OTHER DAMAGE, WHETHER BASED IN CONTRACT, TORT, OR OTHERWISE. Some countries/regions, states or provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

THE WARRANTY TERMS CONTAINED IN THIS STATEMENT, EXCEPT TO THE EXTENT LAWFULLY PERMITTED, DO NOT EXCLUDE, RESTRICT OR MODIFY AND ARE IN ADDITION TO THE MANDATORY STATUTORY RIGHTS APPLICABLE TO THE SALE OF THIS PRODUCT TO YOU.

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Edition 1, 02/2009

C Regulatory information

This section contains the following regulatory information:

- FCC regulations
- Environmental product stewardship program
- Telecom statement
- Declaration of conformity
- Safety statements

FCC regulations

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the 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 this equipment is not installed and used in accordance with the 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 receiving antenna.
- Increase separation between equipment and receiver.
- Connect equipment to an outlet on a circuit different from that to which the receiver is located.
- Consult your dealer or an experienced radio/TV technician.

NOTE: Any changes or modifications to the printer that are not expressly approved by HP could void the user's authority to operate this equipment.

Use of a shielded interface cable is required to comply with the Class A limits of Part 15 of FCC rules.

Environmental product stewardship program

Protecting the environment

Hewlett-Packard Company is committed to providing quality products in an environmentally sound manner. This product has been designed with several attributes to minimize impacts on our environment.

Ozone production

This product generates no appreciable ozone gas (O_3).

Power consumption

Power usage drops significantly while in Ready and Sleep modes, which saves natural resources and saves money without affecting the high performance of this product. This product qualifies for ENERGY STAR® (Version 3.0), which is a voluntary program to encourage the development of energy-efficient office products.



ENERGY STAR® and the ENERGY STAR mark are U.S. registered marks. As an ENERGY STAR partner, Hewlett-Packard Company has determined that this product meets ENERGY STAR Guidelines for energy efficiency. For more information, see www.energystar.gov.

Toner consumption

Economode uses significantly less toner, which might extend the life of the print cartridge.

Paper use

This device's manual/optional automatic duplex feature (two-sided printing) and N-up printing (multiple pages printed on one page) capability can reduce paper usage and the resulting demands on natural resources.

Plastics

Plastic parts over 25 grams are marked according to international standards that enhance the ability to identify plastics for recycling purposes at the end of the product's life.

HP LaserJet print supplies

It's easy to return and recycle your empty HP LaserJet print cartridges—free of charge—with HP Planet Partners. HP is committed to providing inventive, high-quality products and services that are environmentally sound, from product design and manufacturing to distribution, operation and recycling processes. We ensure your returned HP LaserJet print cartridges are recycled properly, processing them to recover valuable plastics and metals for new products and diverting millions of tons of waste from landfills. Since this cartridge is being recycled and used in new materials, it will not be returned to you. Your empty HP LaserJet print cartridges are recycled responsibly when you participate in the HP Planet Partners program. Thank you for being environmentally responsible!

In many countries/regions, this product's printing supplies (for example, print cartridges) can be returned to HP through the HP Printing Supplies Returns and Recycling Program. An easy-to-use and free take back program is available in more than 35 countries/regions. Multilingual program information and instructions are included in every new HP LaserJet print cartridge and supplies package.

HP print supplies returns and recycling program information

Since 1992, HP has offered HP LaserJet supplies return and recycling free of charge. In 2004, HP Planet Partners for LaserJet Supplies was available in 85% of the world market where HP LaserJet supplies are sold. Postage-paid and pre-addressed labels are included within the instruction guide in most HP LaserJet print cartridge boxes. Labels and bulk boxes are also available through the Web site: www.hp.com/recycle.

Use the label to return empty, original HP LaserJet print cartridges only. Please do not use this label for non-HP cartridges, refilled or remanufactured cartridges, or warranty returns. Printing supplies or other objects inadvertently sent to the HP Planet Partners program cannot be returned.

More than 10 million HP LaserJet print cartridges were recycled globally in 2004 through the HP Planet Partners supplies recycling program. This record number represents 26 million pounds of print cartridge materials diverted from landfills. Worldwide, in 2004, HP recycled an average of 59% of the print cartridge by weight consisting primarily of plastic and metals. Plastics and metals are used to make new products such as HP products, plastic trays, and spools. The remaining materials are disposed of in an environmentally responsible manner.

- **U.S. returns.** For a more environmentally responsible return of used cartridges and supplies, HP encourages the use of bulk returns. Simply bundle two or more cartridges together and use the single, pre-paid, pre-addressed UPS label that is supplied in the package. For more information in the U.S., call 1-800-340-2445 or visit the HP Web site at www.hp.com/recycle.
- **Non-U.S. returns.** Non-U.S. customers should visit the www.hp.com/recycle Web site for further information regarding availability of the HP Supplies Returns and Recycling Program.

Paper

This product is capable of using recycled papers when the paper meets the guidelines outlined in the *HP LaserJet Printer Family Print Media Guide*. This product is suitable for the use of recycled paper according to EN12281:2002.

Material restrictions

This HP product contains mercury in the fluorescent lamp of the scanner and/or control panel liquid crystal display that may require special handling at end-of-life.

This HP product contains a battery that might require special handling at end-of-life. The batteries contained in or supplied by Hewlett-Packard for this product include the following:

HP LaserJet M5039XS Series MFP device	
Type	Carbon monofluoride lithium battery BR1632
Weight	1.5 g
Location	On formatter board
User-removable	No

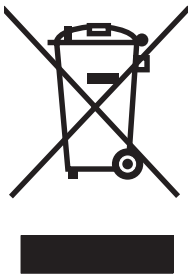




廢電池請回收

For recycling information, you can go to www.hp.com/recycle, or contact your local authorities or the Electronics Industries Alliance: www.eiae.org.

Disposal of waste equipment by users in private households in the European Union



This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

Material Safety Data Sheet (MSDS)

Material Safety Data Sheets (MSDS) for supplies containing chemical substances (for example, toner) can be obtained by contacting the HP Web site at www.hp.com/go/msds or www.hp.com/hpinfo/community/environment/productinfo/safety.

For more information

To obtain information about these environmental topics:

- Product environmental profile sheet for this and many related HP products
- HP's commitment to the environment
- HP's environmental management system
- HP's end-of-life product return and recycling program
- Material Safety Data Sheets

Visit www.hp.com/go/environment or www.hp.com/hpinfo/globalcitizenship/environment.

Telecom statement

The HP LaserJet M5039XS MFP models have the HP LaserJet Analog Fax Accessory 300 already installed to provide communication to the public switch telephone network (PSTN) for fax functionality. See the *HP LaserJet Analog Fax Accessory 300 User Guide* for all regulatory approval information and regulatory notices associated with the fax functionality and that device.

Declaration of conformity

Declaration of Conformity
according to ISO/IEC Guide 22 and EN 45014

Manufacturer's Name:	Hewlett-Packard Company
Manufacturer's Address:	11311 Chinden Boulevard, Boise, Idaho 83714-1021, USA
declares, that the product	
Product Name:	HP LaserJet M5039 Series
Accessories[5]:	Q7549A – Optional Duplexer Q7834A – Optional 1x500 Sheet Cabinet Q7835A – Optional 3x500 Sheet Cabinet Q7604A – Optional Stapler/Stacker BOISB-0308-00 – Fax Module
Regulatory Model Number[3]:	BOISB-0502-01
Product Options:	All
Print Cartridge	CD640C

conforms to the following Product Specifications:

Safety:	IEC 60950-1:2001 / EN60950-1: 2001 IEC 60825-1:1993 +A1 +A2 / EN 60825-1:1994 +A11 +A2 (Class 1 Laser/LED Product) GB4943-2001
EMC:	CISPR22:2005 / EN 55022:2006 - Class A[1, 3] EN 61000-3-2:2006 EN 61000-3-3:1995 +A1 +A2 EN 55024:1998 +A1 +A2 FCC Title 47 CFR, Part 15 Class A / ICES-003, Issue 4 GB9254-1998, GB17625.1-2003
TELECOM:	TBR-21:1998; EG 201 121:1998

Supplementary Information:

The product herewith complies with the requirements of the EMC Directive 89/336/EEC and the Low Voltage Directive 73/23/EEC, the R&TTE Directive 1999/5/EC (Annex II) and carries the CE-Marking accordingly.

1) The product was tested in a typical configuration with Hewlett-Packard Personal Computer Systems.

2) This Device complies with Part 15 of the FCC Rules. Operation is subject to the following two Conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

3) For regulatory purposes, this product is assigned a Regulatory model number. This number should not be confused with the product name or the product number(s).

4) The product meets the requirements of EN55022 & CNS13438 Class A in which case the following applies: “Warning – This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures”.

5) All worldwide modular approvals for analog fax accessory obtained by Hewlett-Packard under the regulatory model number BOISB-0308-00 incorporate the Multi-Tech Systems MT5634SMI Socket Modem Module.

Boise, Idaho , USA

11 May, 2006

For regulatory topics only:

Australia Contact:	Product Regulations Manager, Hewlett-Packard Australia Ltd., 31-41 Joseph Street, Blackburn, Victoria 3130, Australia
European Contact:	Your Local Hewlett-Packard Sales and Service Office or Hewlett-Packard GmbH, Department HQ-TRE / Standards Europe, Herrenberger Strasse 140, , D-71034, Böblingen, (FAX: +49-7031-14-3143)
USA Contact:	Product Regulations Manager, Hewlett-Packard Company, PO Box 15, Mail Stop 160, Boise, ID 83707-0015, , (Phone: 208-396-6000)

Safety statements

Laser safety

The Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration has implemented regulations for laser products manufactured since August 1, 1976. Compliance is mandatory for products marketed in the United States. The device is certified as a “Class 1” laser product under the U.S. Department of Health and Human Services (DHHS) Radiation Performance Standard according to the Radiation Control for Health and Safety Act of 1968. Since radiation emitted inside the device is completely confined within protective housings and external covers, the laser beam cannot escape during any phase of normal user operation.

⚠ **WARNING!** Using controls, making adjustments, or performing procedures other than those specified in this user guide may result in exposure to hazardous radiation.

Canadian DOC regulations

Complies with Canadian EMC Class A requirements.

« Conforme à la classe A des normes canadiennes de compatibilité électromagnétiques. « CEM ». »

VCCI statement (Japan)

この装置は、情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準に基づくクラスＡ情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

EMI statement (Korea)

사용시 안내문 (A급 기기)

이 기기는 업무용으로 전자파장해검정을 받은 기기이오니, 만약 잘못 구입하셨을 때에는 구입한 곳에서 비업무용으로 교환하시기 바랍니다.

EMI statement (Taiwan)

警告使用者：

這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

Laser statement for Finland

Luokan 1 laserlaite

Klass 1 Laser Apparat

HP LaserJet M5039XS, laserkirjoitin on käyttäjän kannalta turvallinen luokan 1 laserlaite. Normaalissa käytössä kirjoittimen suojakotelointi estää lasersäteen pääsyn laitteen ulkopuolelle. Laitteen turvallisuusluokka on määritetty standardin EN 60825-1 (1994) mukaisesti.

VAROITUS !

Laitteen käyttäminen muulla kuin käyttöohjeessa mainitulla tavalla saattaa altistaa käyttäjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING !

Om apparaten används på annat sätt än i bruksanvisning specificerats, kan användaren utsättas för osynlig laserstrålning, som överskrider gränsen för laserklass 1.

HUOLTO

HP LaserJet M5039XS - kirjoittimen sisällä ei ole käyttäjän huollettavissa olevia kohteita. Laitteen saa avata ja huoltaa ainoastaan sen huoltamiseen koulutettu henkilö. Tällaiseksi huoltotoimenpiteeksi ei katsota väriainekasetin vaihtamista, paperiradan puhdistusta tai muita käyttäjän käsikirjassa lueteltuja, käyttäjän tehtäväksi tarkoitettuja ylläpitotoimia, jotka voidaan suorittaa ilman erikoistyökaluja.

VARO !

Mikäli kirjoittimen suojakotelo avataan, olet alttiina näkymättömällelasersäteilylle laitteen ollessa toiminnassa. Älä katso säteeseen.

VARNING !

Om laserprinterns skyddshölje öppnas då apparaten är i funktion, utsättas användaren för osynlig laserstrålning. Betrakta ej strålen. Tiedot laitteessa käytettävän laserdiodin säteilyominaisuuksista: Aallonpituus 775-795 nm Teho 5 m W Luokan 3B laser.

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