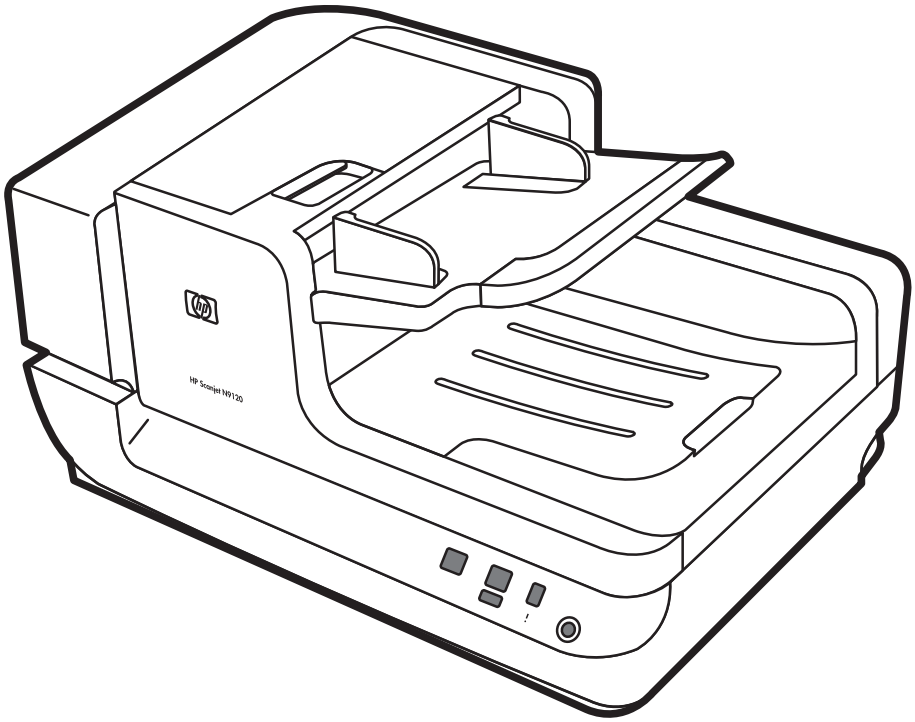
HP Scanjet N9120
HP Scanjet Enterprise Flow N9120

Service Manual



N9120

Service Manual

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Safety information

WARNING!

Potential Shock Hazard

Always follow basic safety precautions when using the product to reduce risk of injury from fire or electric shock.

Read and understand all instructions in the user guide.

Observe all warnings and instructions marked on the product.

Use only a grounded electrical outlet when connecting the product to a power source. If you do not know whether the outlet is grounded, check with a qualified electrician.

Do not touch the contacts on the end of any of the sockets on the product. Replace damaged cords immediately.

Unplug the product from wall outlets before cleaning.

Do not install or use the product near water or when you are wet.

Install the product securely on a stable surface.

Install the product in a protected location where no one can step on or trip over the power cord and where the power cord will not be damaged.

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1 Product basics

- Quick access to product information
- Product basics
- System requirements
- Paper handling

Quick access to product information

Use the following Web site to find information about the product:

- www.hp.com/support

Table 1-1 Product guides

Guide	Description
User Guide	The scanner User Guide is the primary source for scanner information. It provides information about using, maintaining, and troubleshooting the scanner. **View the User Guide in the installed (system) language** 1. Click **Start**. 2. Point to **Programs** or **All Programs**. 3. Point to **Scanjet**, and then point to **N9120**. 4. Click **User Guide**. **View the User Guide in a different language** 1. Insert the HP software CD that came with the scanner into the computer compact-disk drive. Wait for the installation dialog box to appear. 2. Click **View or print guides**. 3. Click a language for the User Guide.
HP Smart Document Scan software help	The HP Smart Document Scan software help explains how to use HP Smart Document Scan software features such as creating and editing profiles. 1. Double-click the **HP Smart Document Scan** icon on your computer desktop. 2. Click **Help** on the menu bar.
HP Scanner Tools Utility help	The HP Scanner Tools Utility help explains the scanner settings, information about scanner status and maintenance, and how to assign functionality to the scanner front-panel buttons. 1. Press the Tools button on the scanner front panel. 2. Click **Help** in HP Scanner Tools Utility dialog box (this dialog box appears on the computer that is connected to the N9120.

Product basics

Product features

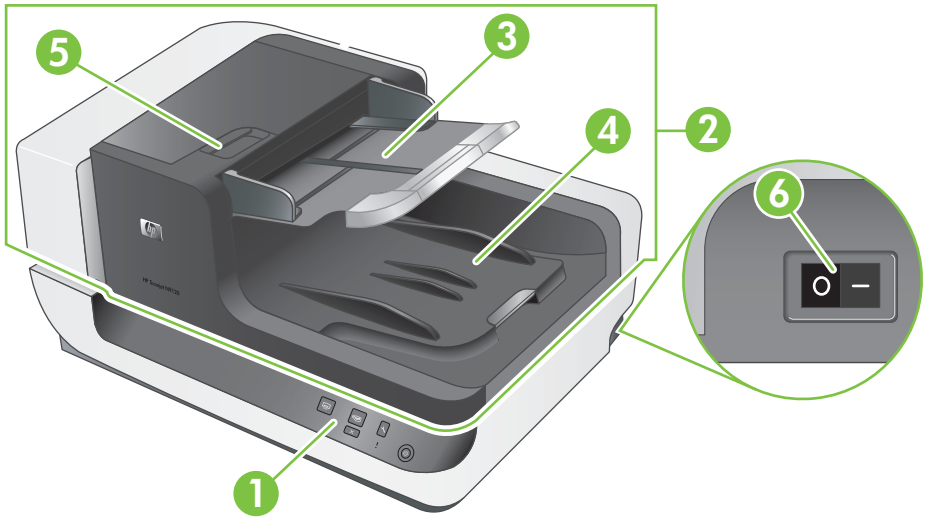
Table 1-2 Product specifications

Description	Specification
Scanner type	Scanner with ADF
Overall size	692 x 558 x 343 mm (27.3 x 22.0 x 13.5 in)
Weight	38.5 kg (85 lb)
Scanning element	Charge-coupled device (CCD)
Interface	USB 2.0 high speed (compatible with USB 1.1)
Optical resolution	600 x 600 dpi hardware
AC power	100–240 V~, 50/60 Hz, 1.8 A
Power consumption	For power consumption information, see the regulatory_supplement.htm file on the HP Scanning Software CD.
Energy information	To learn if your HP scanner is ENERGY STAR® qualified, go to www.hp.com, select your country/region, and then search on Energy Star.

Product walkaround

Front and right-side view

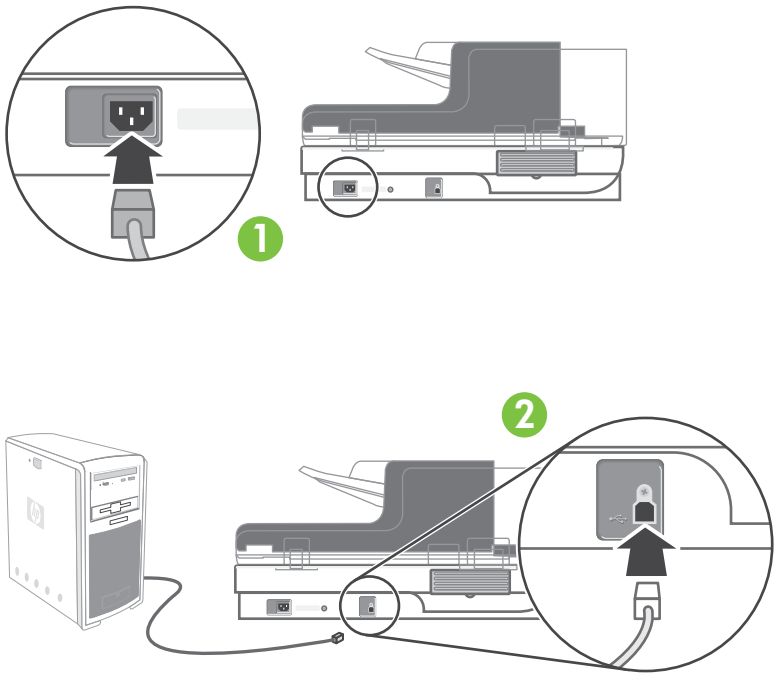
Figure 1-1 Front and right-side view



1	Front panel
2	ADF
3	ADF input tray
4	ADF output tray
5	Latch for opening the ADF jam door 1
6	Power switch

Back view

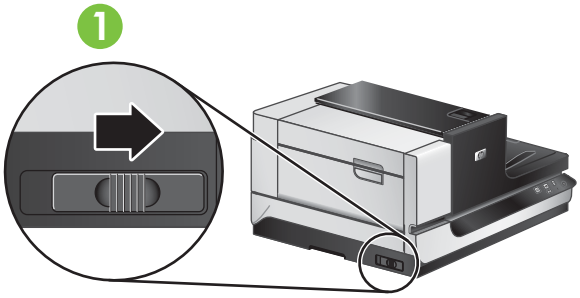
Figure 1-2 Back view



1	Power receptacle
2	USB port

Side view (left)

Figure 1-3 Side view (left)



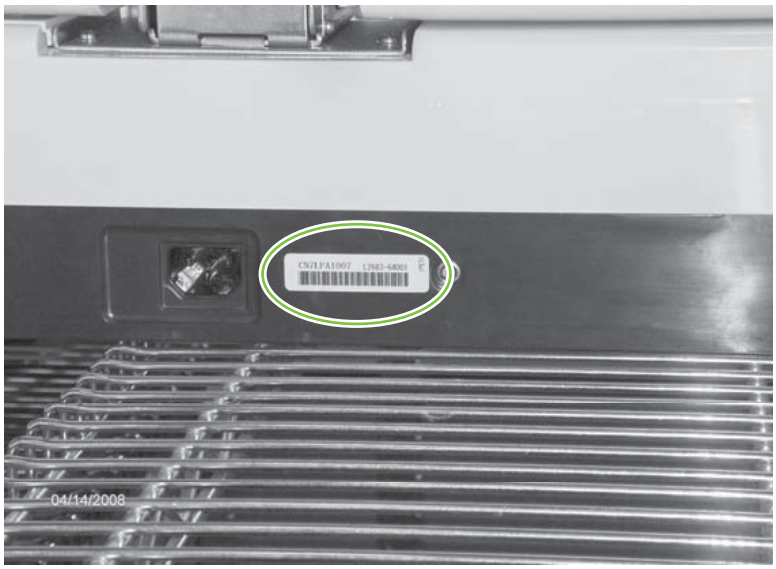
1	Scanner carriage lock

Model and serial numbers

The model and serial numbers are listed on identification labels located on the ADF and flatbed scanner.

Figure 1-4 Model and serial number (1 of 2)

Figure 1-5 Model and serial number (2 of 2)



NOTE: If the product is owned by the U.S. government, the ADF and flatbed scanner have a special serial-number designation. Replacement components for these products must have a similar serial-number designation.

Control-panel walkaround

Figure 1-6 Control-panel features

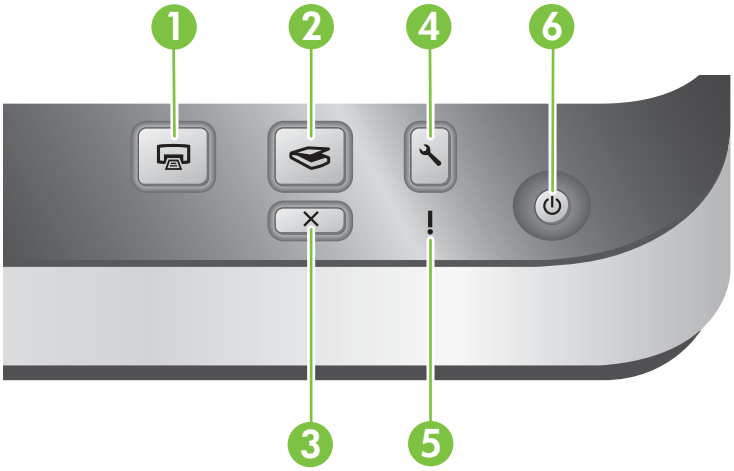


Table 1-3 Control-panel features

Item	Icon	Button name	Description
1		Copy	By default, print the number of copies currently configured in HP Document Copy. Alternatively, start the scanning software that is assigned to this button.
2		Scan	By default, start a scan that uses the HP Smart Document Scan software profile that is assigned to this button. Alternatively, start the scanning software that is assigned to this button.
3		Cancel	Cancel a scan or copy in progress.
4		Tools	Open the HP Scanner Tools Utility where you can do the following tasks: • Associate the scanner control-panel buttons with scanning software. • Configure the buttons on the scanner front panel. • Manage the imprinter. • View information about scanner settings, status, and maintenance.
5		Attention LED	The Attention LED provides status information about the scanner.
6		Power Save	Press the Power Save button to put the scanner in Power Save mode when you are not using the scanner. When you are ready to begin scanning again, press the Power Save button to wake up the scanner.

Supported product software

Supported operating systems

The product supports the following operating systems:

- Microsoft® Windows 2000
- Windows® XP Home/Professional
- Windows Vista®
- Linux 2.4 and 2.6 Kernel Available

Supported scanner drivers

The product supports the following scanner drivers:

- Twain
- ISIS
- WIA

Supported scanner-management software

HP Scanning Software CD

- HP Scanner Tools Utility
- HP Smart Document Scan
- Kofax VRS Pro
- Third-party document-management software

System requirements

The host computer must meet the minimum system hardware requirements to load and utilize the in-box software.

- Minimum system hardware requirements:
  - 1.4 GHz processor
  - 600 MB free hard disk space
  - USB 2.0 and higher
  - CD-ROM drive
  - 1024 x 768 SVGA monitor, 16-bit color
- HP recommends that the host computer system hardware meet the following requirements to assure the optimum performance of the scanner at the quoted speed specifications.

  Recommended system hardware requirements:
  - USB 1.1 and higher
  - CD-ROM drive
  - 1024 x 768 SVGA monitor, 16-bit color
  - 80 MB (drivers only)
  - 300 MB (minimum) free hard disk space
- For Microsoft Windows XP Home, Windows XP Professional or Windows 2000:
  - 1 GB RAM (recommended)
  - 256 MB RAM (minimum)
  - 500 MHz processor
  - Internet Explorer 6 and higher
- For Windows Vista:
  - 1 GB RAM (recommended)
  - 512 MB RAM (minimum)
  - 800 MHz processor
  - Microsoft Internet Explorer 7 and higher

Paper handling

ADF specifications

Table 1-4 ADF specifications

Description	Specification
Paper-tray capacity	200 sheets of 75 g/m^2 (20 lb)
Minimum paper size	70 x 148 mm (2.75 x 5.8 in)
Maximum paper size	300 x 864 mm (11.8 x 34 in)
Minimum paper weight	49 g/m^2 (13 lb)
Minimum paper weight	120 g/m^2 (32 lb)

Media specifications

The ADF supports the following widths, lengths, and weights of paper.

Table 1-5 Media specifications

Description	Specification
Width	70–300 mm (2.75–11.8 in)
Length	148–864 mm (5.8–34 in)
Weight	49–120 g/m^2 (13–32 lb)

NOTE: The ADF input tray supports up to 200 sheets of 75 g/m^2 (20 lb) paper.

Media to avoid

Scanning certain types of documents through the ADF might result in jams or damage to the document. HP recommends scanning these types of documents by using the scanner only:

- Wrinkled or creased documents
- Torn documents
- Carbon paper
- Extremely thin, translucent paper
- Photos
- Papers that are stuck together
- Curled documents
- Documents with paperclips or staples
- Coated paper
- Paper with adhesive notes or flags attached
- Overhead transparencies
- Paper with wet substances such as glue or correction fluid

2 Installation and configuration

- Prepare the site
- Unpack the device
- Install the software

Prepare the site

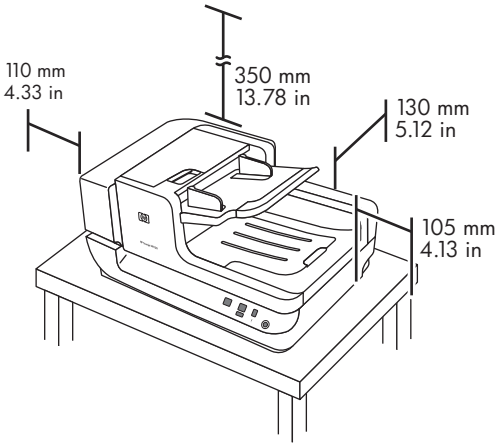
The scanner must be installed in a well-ventilated, dust-free area. Place the product on a sturdy, level surface.

For information about product specifications, see Specifications on page 369.

CAUTION: To avoid injury, use two people to unpack and lift the scanner.

Verify that there is enough clearance to use and maintain the scanner.

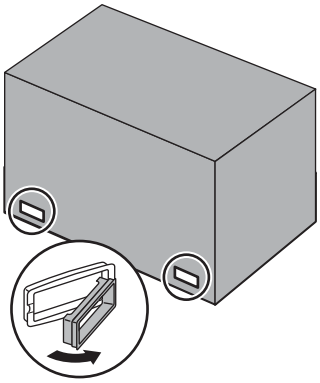
Figure 2-1 Site dimensions



Unpack the device

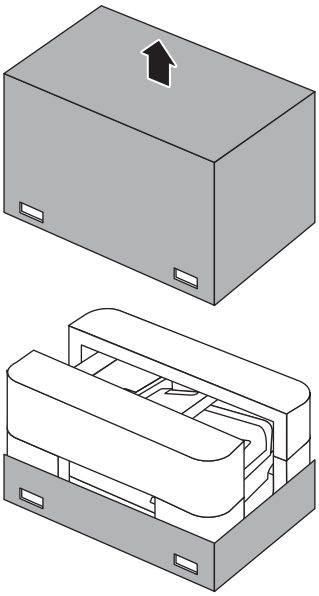
1. Unlock the box.

Figure 2-2 Unpack the device (1 of 9)



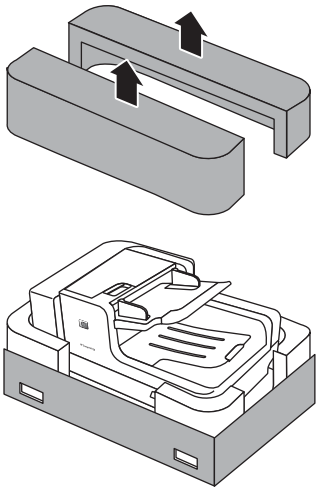
2. Remove the top of the box.

Figure 2-3 Unpack the device (2 of 9)



3. Remove the top packing material, and then remove all remaining packing material and tape from the outside of the ADF.

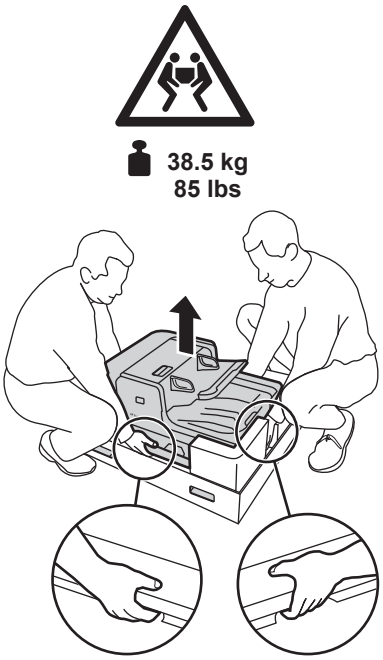
Figure 2-4 Unpack the device (3 of 9)



4. Remove the scanner from the box.

CAUTION: To avoid injury, use two people to lift the device from the box.

Figure 2-5 Unpack the device (4 of 9)



5. Take an inventory of the contents.

The following items should be included with each N9120 scanner.

NOTE: The contents might vary by country/region.

Figure 2-6 Unpack the device (5 of 9)

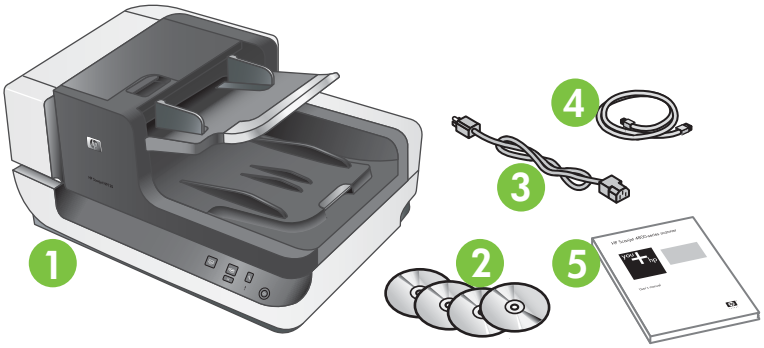
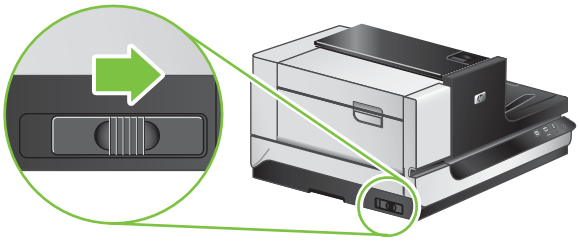


Table 2-1 Box contents

Item	Description
1	N9120 scanner
2	Scanning software CDs
3	Power cable
4	USB cable
5	Getting Started Guide

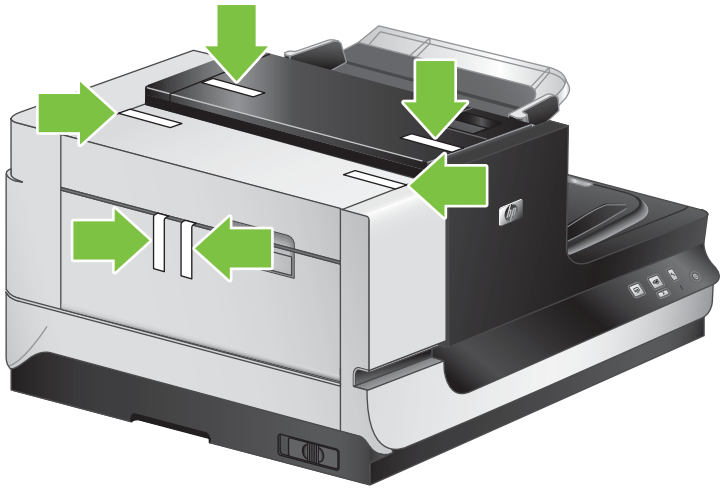
6. Place the product on a sturdy, level surface.
7. Release the carriage lock.

Figure 2-7 Unpack the device (6 of 9)



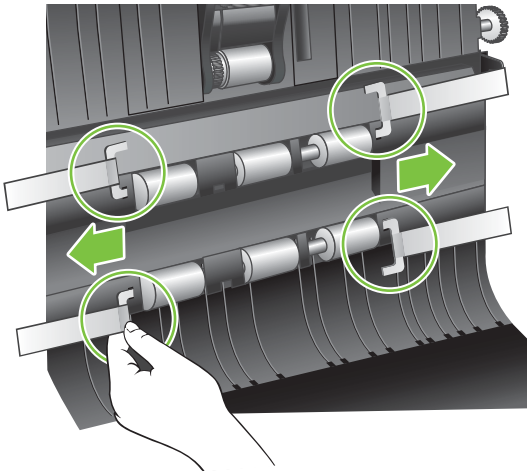
8. Remove the spacer tape from ADF jam door 1 and ADF jam door 2.

Figure 2-8 Unpack the device (7 of 9)



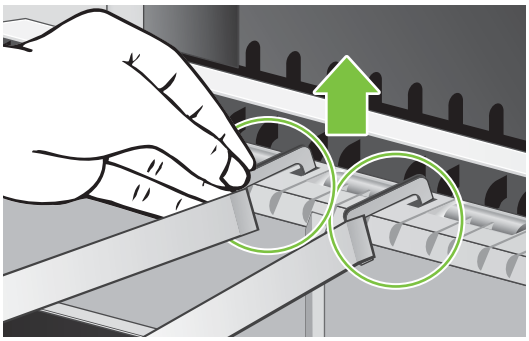
9. Open ADF jam door 1, and then remove the spacers.

Figure 2-9 Unpack the device (8 of 9)



10. Open ADF jam door 2, and then remove the spacers.

Figure 2-10 Unpack the device (9 of 9)



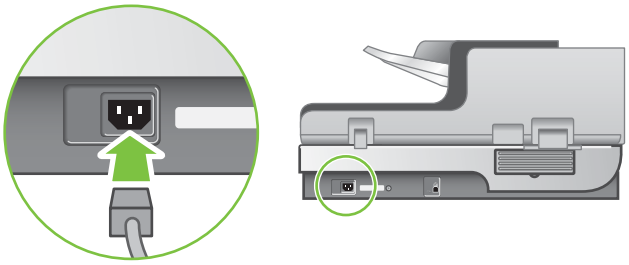
11. Remove any remaining packing material, and then close ADF jam door 1 and ADF jam door 2.

Install the software

CAUTION: Do not connect the USB cable until you are prompted during the software installation.

1. Decide what software to install.
   - If you will be using the scanner with document-management and scanning software that you already own, you only need to install the HP Scanjet utilities drivers and tools.
   - If you do not already have document-management and scanning software, you can use the software that is shipped with the scanner. Read the onscreen descriptions of the software during the installation to decide what software to install.
2. Insert the HP Scanning Software CD into the computer CD drive. Wait for the installation dialog box to appear.
3. Click **Install Software**, and then follow the instructions on the screen.
4. Use the power cable to connect the scanner to an electrical outlet.

Figure 2-11 Electrical connection

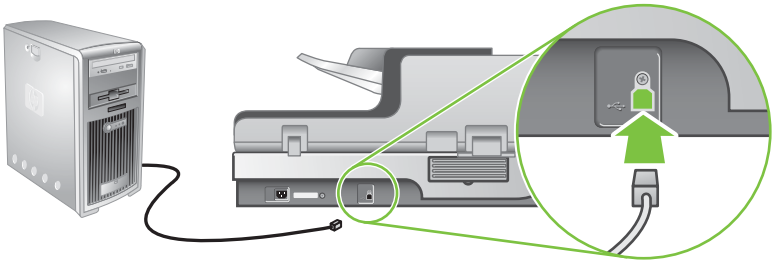


5. Use the USB cable that came with the scanner to connect the scanner to the computer.

CAUTION: Be sure that you install the HP scanning software before connecting the scanner to your computer with the USB cable.

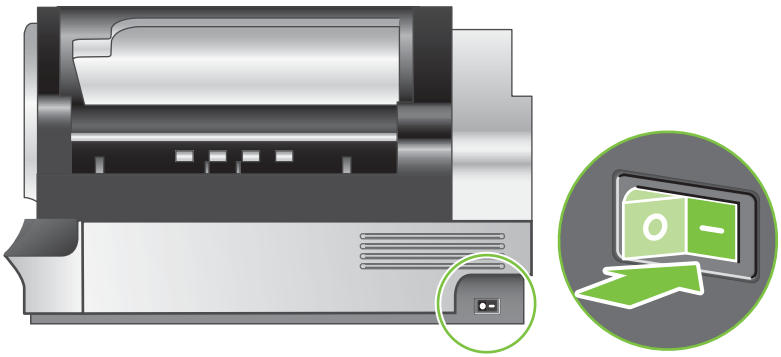
NOTE: HP recommends using a USB port on the back of the computer for a more reliable connection to the scanner.

Figure 2-12 USB connection



6. Press the power switch on the right side of the scanner to the on position.

Figure 2-13 Power switch



7. Test the installation. Place a single document page in the ADF, and then do one of the following:

   - If you installed the HP Smart Document Scan software, press the Scan button.
   - If you did not install the HP Smart Document Scan software, scan from the software that you intend to use for scanning.

   If the scan does not proceed as expected, uninstall and reinstall the HP Scanjet utilities, and then try scanning again. If reinstalling the utilities does not work, see the scanning software documentation for information on how to troubleshoot that program.

   For information on uninstalling and reinstalling the HP Scanjet utilities, see the product user guide.

3 Manage and maintain

- Manage supplies
- Clean the product

Manage supplies

HP Scanner Tools Utility scanner maintenance information

The **Maintenance** tab of the HP Scanner Tools Utility displays the scanner usage and maintenance history. You can use this tab to record scanner maintenance.

The **Imprinter** tab of the HP Scanner Tools Utility displays information about the scanner imprinter and the imprinter print cartridge. You can use this tab to record that the print cartridge has been replaced.

To open the HP Scanner Tools Utility, press the Tools button on the scanner front panel.

NOTE: For detailed information on using the HP Scanner Tools Utility, see the HP Scanner Tools Utility help.

Parts life expectancy

Table 3-1 Replacement guidelines

Item	Guideline	How to
ADF base reflector	The ADF base reflector needs to be replaced only if it is damaged or if you see vertical streaks on the scanned images. **NOTE:** Before you replace the white ADF base reflector, try cleaning the product. See Clean the product on page 23.	To replace the ADF base reflector, see ADF base reflector on page 45.
Pickup-roller assembly	The pickup-roller assembly needs to be replaced after 100,000 scans. **NOTE:** HP recommends that you clean the pickup roller every 50,000 pages. See Clean the product on page 23.	To replace the pickup-roller assembly, see Pickup-roller assembly on page 47.
Separation-pad assembly	The separation pad needs to be replaced after 100,000 scans.	To replace the separation-pad assembly, see Separation-pad assembly on page 50.
Imprinter cartridge	Replace the imprinter cartridge when it is out of ink.	To replace the imprinter cartridge, see Imprinter cartridge on page 42.
Fan filters	The fan filters should be replaced when a user-replaceable part is installed or when filters are damaged or worn from cleaning.	To replace a fan filter, see Fan filters on page 44.

Clean the product

During the scanning process, paper and dust particles can accumulate inside the product. Over time, this buildup can cause problems, such as specks or streaks on scanned documents.

Occasional cleaning of the product helps ensure high-quality scans. The amount of care necessary depends upon several factors, including the amount of use and the environment. You should perform routine cleaning as necessary.

Routine cleaning and maintenance should include cleaning the ADF, the scanner glass, and the fan filters.

Clean the exterior

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

Clean the ADF

NOTE: The customer should be advised to clean the ADF only when scanned documents show streaks, specks, or other signs of degradation that can be directly attributed to the scanning process.

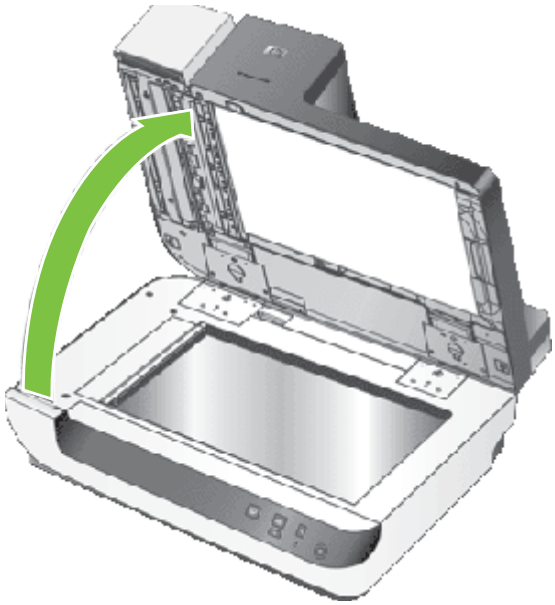
The ADF requires periodic maintenance depending on the amount of use and the type of paper that is fed through it. Clean the ADF under the following conditions:

- The ADF has trouble feeding documents.
- Vertical streaks appear in images scanned by the ADF.
- Scanned documents are dusty, dirty, or have pencil writing (graphite) on them.
- The environment is dusty.

Clean the ADF:

1. Press the power switch to the off position, and then disconnect the USB cable and power cable from the scanner.
2. Open the ADF.

Figure 3-1 Clean the ADF (1 of 5)



3. Clean the clear scanning strip on the scanner bed. Wipe the clear area with a clean, dry, lint-free cloth.

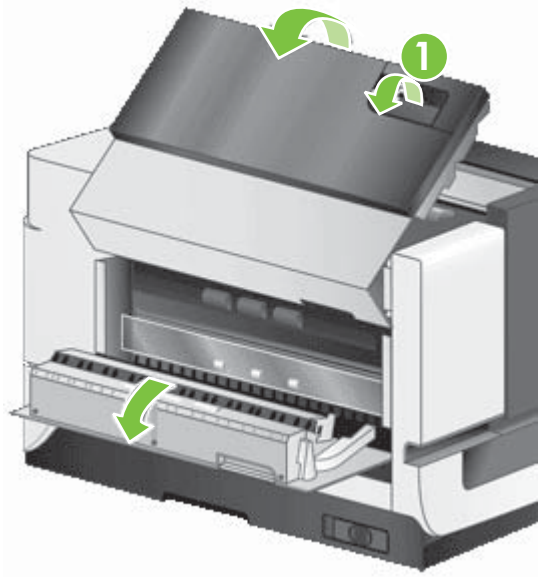
CAUTION: Use only glass cleaner to clean the scanning strip. Avoid cleaners that contain abrasives, acetone, benzene, or carbon tetrachloride, all of which can damage the scanner glass. Avoid isopropyl alcohol because it can leave streaks on the glass.

Do not spray the glass cleaner directly on the glass. If too much glass cleaner is applied, the cleaner could leak under the glass and damage the scanner.

Figure 3-2 Clean the ADF (2 of 5)

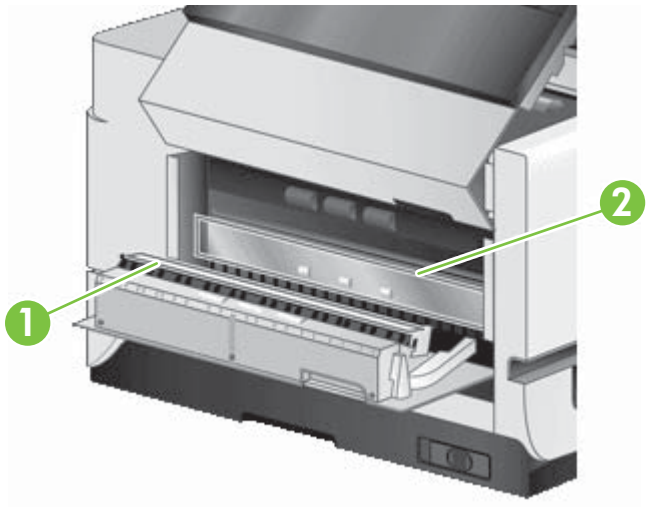
4. Close the ADF.
5. Open jam door 1 (callout 1) and jam door 2.

Figure 3-3 Clean the ADF (3 of 5)



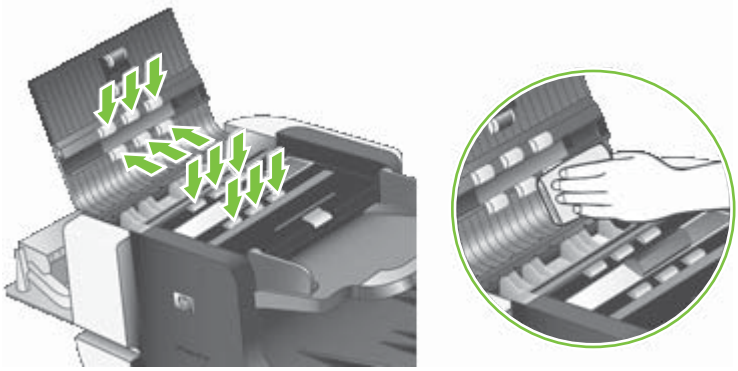
6. Locate the white strip (callout 1) on jam door 2 and the scan window (callout 2) inside the ADF, and then wipe both of these areas with a clean, dry, lint-free cloth.

Figure 3-4 Clean the ADF (4 of 5)



7. Wipe the rollers with a clean, damp, lint-free cloth.

Figure 3-5 Clean the ADF (5 of 5)



8. Wait several minutes for the rollers to dry, and then close jam door 1 and jam door 2.
9. Reconnect the USB cable and power cable to the scanner, and then press the power switch to the on position.

Clean the scanner glass

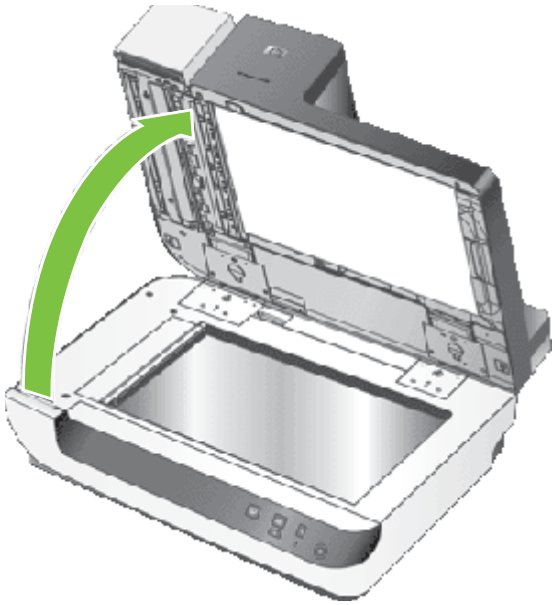
Clean the scanner glass under the following conditions:

- Streaks, scratches, or spots appear in images scanned from the scanner glass.
- Dusty or dirty documents have been scanned using the glass.
- The environment is dusty.

Clean the scanner glass:

1. Press the power switch to the off position, and then disconnect the USB cable and power cable from the scanner.
2. Open the ADF.

Figure 3-6 Clean the scanner glass



3. Clean the glass with a soft, lint-free cloth that has been sprayed with a mild glass cleaner.

CAUTION: Use only glass cleaner to clean the scanner glass. Avoid cleaners that contain abrasives, acetone, benzene, or carbon tetrachloride, all of which can damage the scanner glass. Avoid isopropyl alcohol because it can leave streaks on the glass.

Do not spray the glass cleaner directly on the glass. If too much glass cleaner is applied, the cleaner could leak under the glass and damage the scanner.

4. Dry the glass with a dry, soft, lint-free cloth.
5. Reconnect the USB cable and power cable to the scanner, and then press the power switch to the on position.

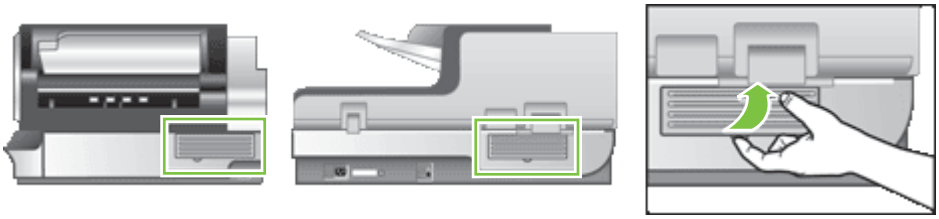
Clean the fan filters

The flatbed scanner includes two fan filters. These filters prevent dust and debris from entering the fans. If the scanner is in a dirty or dusty environment, clean the filters monthly.

NOTE: The ADF filter cover is not removable.

1. Press the power switch to the off position, and then disconnect the USB cable and power cable from the scanner.
2. Remove the filter cover.

Figure 3-7 Clean the scanner fan filters (1 of 2)

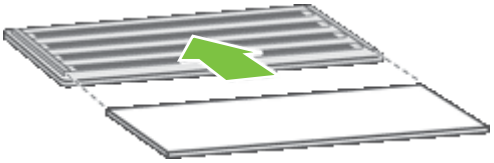


3. Clean the filter in one of the following ways:
   - Use compressed air to blow the debris off of the filter.
   - Use a vacuum to remove the debris from the filter.
   - Rinse the filter with water.
4. Inspect the filter cover. If it is dirty, use a clean, damp, lint-free cloth to remove the dirt.
5. Make sure that the filter and the filter cover are completely dry.

CAUTION: The filter *must* be completely dry before you reinstall it in the product and turn the power on. If the filter is damp, the fan could pull moisture into the product and cause damage to the product.

6. Place the clean, dry filter in the filter cover, and then replace the cover on the scanner.

Figure 3-8 Clean the scanner fan filters (2 of 2)



7. Reconnect the USB cable and power cable to the scanner, and then press the power switch to the on position.

4 Theory of operation

- Basic operation
- Modes and control-panel indicators
- Circuit board assemblies
- Fans
- ADF feed system
- Service block diagram

Basic operation

The N9120 consists of two main assemblies.

Table 4-1 Main assemblies

Name	Description
ADF	• ADF motor control circuitry • Media transport mechanism • Ultrasonic multi-pick detection • Imprinter • Optical assembly
Flatbed scanner	• Scanner control circuitry • System power supply • Control panel • Optical assembly

Modes and control-panel indicators

Table 4-2 Modes and control-panel indicators

Mode	Description
Power on	The period of time from when the power switch is turned on until the green LED illuminates the sleep button on the control panel.
Initialization/ Warm-up	The period of time after the power-on sequence or sleep mode wake-up event and before the scanner is ready to scan. During this time, the scanner and ADF initialization sequences are completed, the Cold Cathode Fluorescent Lamps (CCFL) are turned on and complete their warm up cycle, scanner and ADF calibration are completed, ADF motors are enabled, and sensor states are verified to ensure that no media is in the media transport path. This period of time is indicated by a slowly blinking green attention LED on the control panel.
Scan	The period of time immediately following the request for a scan, from either the ADF or the scanner. This period of time is indicated by a quickly blinking green attention LED on the control panel.
Sleep	This mode starts in either of the following ways: The user presses the sleep button on the control panel, or the scanner is not used for 15 minutes or longer. This period of time is indicated by an amber LED illumination of the sleep button on the control panel.
Error	The period of time in which the scanner is unable to complete the task it was directed to perform. This can be the result of a paper jam, communication error with the PC, or similar event. This period of time is indicated by a blinking amber attention LED illumination on the control panel.
Maintenance event	This mode is indicated by a solid amber attention LED illumination on the control panel and starts when a maintenance event is triggered (such as the need for separation pad replacement). Maintenance events occur during predefined intervals to help ensure that the scanner or ADF mechanisms continue to perform as specified.

Circuit board assemblies

Table 4-3 Circuit board assemblies

Location	Name	Description
ADF	ADF controller board	This board controls all of the ADF motor operation, including the background color solenoid, and sensor detection within the ADF mechanism. Additionally, it controls the firing timing of the imprinter ink cartridge. This board is composed of a Gate Array, an Analog to Digital Converter, and various motor control devices. It is located in the ADF assembly.
	CCD board	Composed of CCD, AFE, and various discrete devices. Located on the ADF optical carriage assembly. This board is not serviceable.
	Lamp inverter board	Used to control the CCFL lamps and heater wires. Located on the bottom of the ADF optical carriage assemblies. This board is not serviceable.
	Ultrasonic sensor transmitter board	Transmits the ultrasonic signal to the receiver on the other side of the media transportation path of the ADF assembly. Located on the bottom of the media transportation path in the ADF assembly.
	Ultrasonic sensor receiver board	Receives the ultrasonic signal from the transmitter on the other side of the media transportation path in the ADF assembly. Located on the top side of the media transportation path in the ADF assembly.
	Imprinter board	This board consists of the power transistors that are used to control the firing of the 12 ink nozzles on the imprinter ink cartridge. It is located in the ADF assembly.
Flatbed scanner	Scanner control board	This is the main board in the entire system, which is composed of the main control and image pipe ASIC, the JPEG compression chip, SRAM, SDRAM, Flash RAM, DDR2 Memory, FPGA (for sensor data reordering), LVDS receivers, DC/DC converters, etc. This board controls Analog Front End (AFE) and CCD timing and receives and processes the information from both of the optical heads in the scan system, performs all requested operations from the user, and transfers the output image data through the high speed USB interface to the attached Host PC. Located in the scanner assembly.
	Power supply	Supplies 5V and 24V outputs for all system operation. Located in the scanner assembly.
	Relay board	Cabling interface board between the scanner control board and the CCD board. Located on the scanner optical assembly and the control panel circuit board. This board is not serviceable.
	CCD board	Composed of CCD, AFE, and various discrete devices. Located on the optical carriage assembly. This board is not serviceable.
	Lamp inverter board	Used to control the CCFL lamps and heater wires. Located on the bottom of the optical carriage assemblies. This board is not serviceable.
	Control panel board	Communicates to the scanner control board through the microcontroller USB 1.1 interface, which passes through the relay board. This board consists of a microcontroller, Flash RAM, switches, and LEDs. Located on the front of the scanner assembly.

Fans

The N9120 system has four fans, each of which have failure detection algorithms included in the system firmware:

- ADF motor fan. See ADF motor fan on page 103.
- ADF carriage fan. See ADF carriage fan on page 104.
- Scanner carriage-motor fan. See Scanner carriage-motor fan on page 210.
- Scanner carriage fan. See Scanner carriage fan on page 213.

ADF feed system

Sensors

Figure 4-1 Sensors

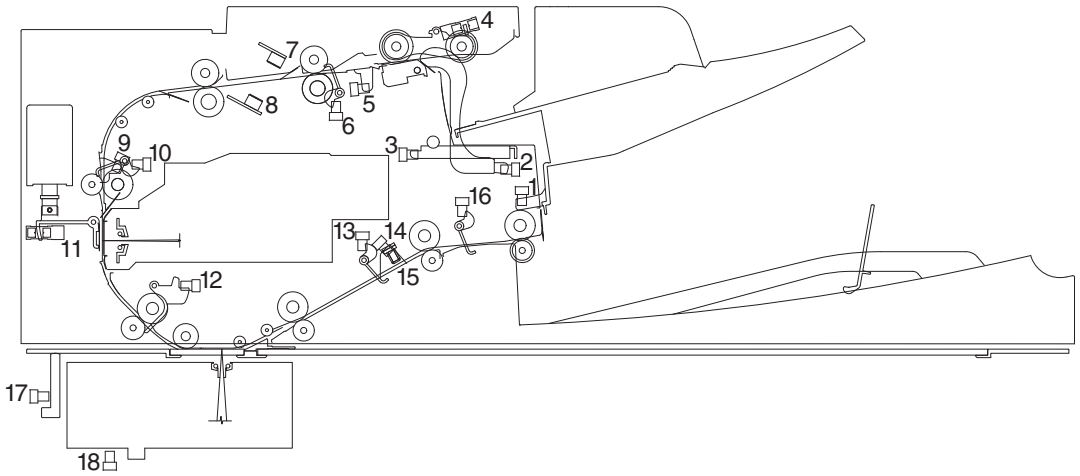
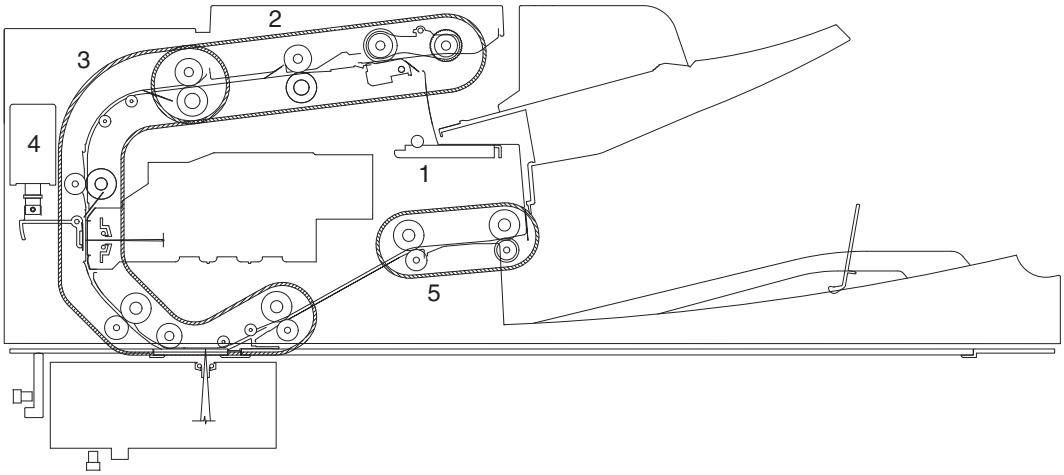


Table 4-4 Sensors

Item	Description
1	Input-tray sensor (open). See Input-tray sensor on page 134.
2	Paper-present sensor. See Paper-present sensor on page 144.
3	Elevator arm sensor. See Elevator arm sensor on page 142.
4	Pick-up roller sensor. See Pick-up roller sensor on page 140.
5	Jam door 1 sensor. See Jam door 1 sensor on page 146.
6	Registration sensor. See Registration sensor on page 145.
7	Upper multi-pick sensor PCA. See Upper multi-pick sensor PCA on page 124.
8	Lower multi-pick sensor PCA. See Lower multi-pick sensor PCA on page 126.
9	Jam door 2 sensor. See Jam door 2 sensor on page 147.
10	ADF scan position sensor. See ADF scan position sensor on page 151.
11	Background solenoid sensor. See Background solenoid sensor on page 143.
12	Flatbed scan position sensor. See Flatbed scan position sensor on page 135.
13	Exit 1 sensor. See Exit 1 sensor on page 138.
14	Jam door 3 sensor. See Jam door 3 sensor on page 148.
15	Imprinter paper-present sensor. See Imprinter paper-present sensor on page 149.
16	Exit 2 sensor. See Exit 2 sensor on page 139.
17	ADF open sensor (not serviceable).
18	Carriage home position sensor (not serviceable).

Motors

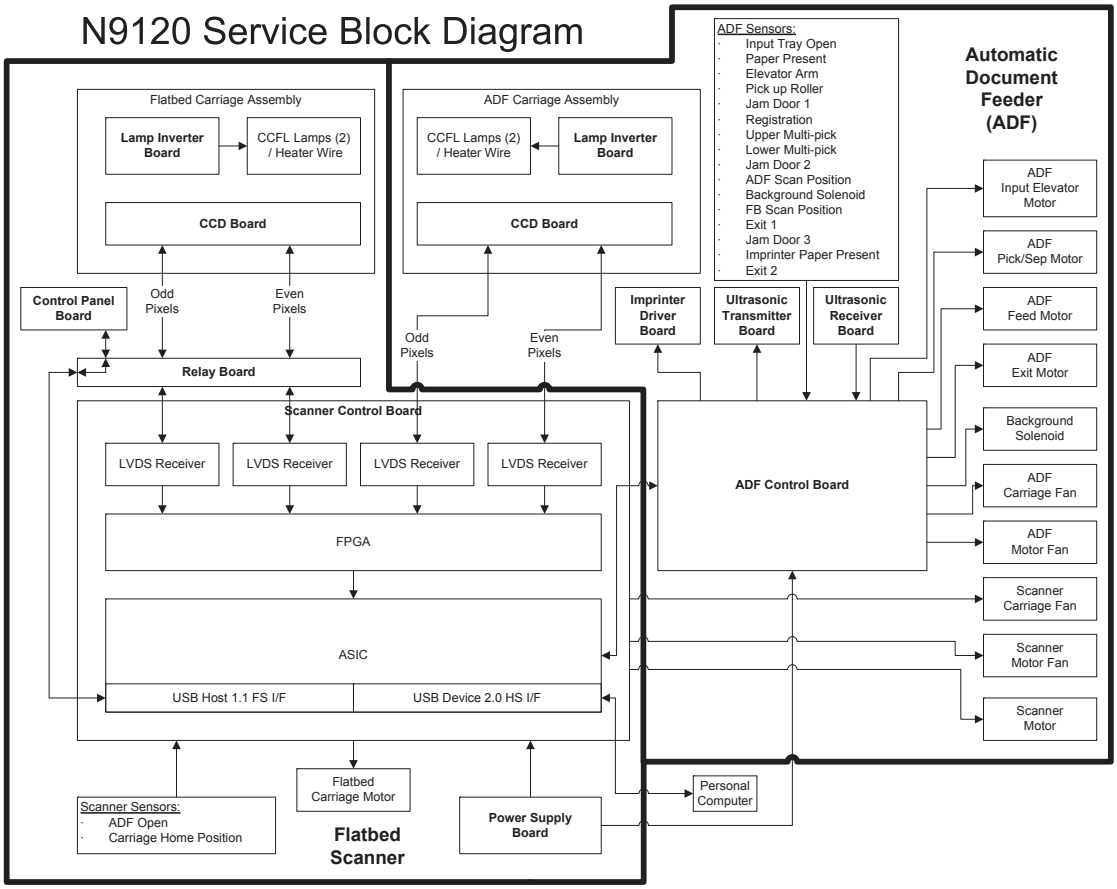
Figure 4-2 Motors



Item	Description
1	Driven by ADF input-tray lift-motor assembly. See ADF input-tray lift-motor assembly on page 105.
2	Driven by ADF pick-motor assembly. See ADF pick-motor assembly on page 118.
3	Driven by ADF feed-motor assembly. See ADF feed-motor assembly on page 111.
4	ADF background-solenoid assembly. See ADF background-solenoid assembly on page 201.
5	Driven by ADF exit-motor assembly. See ADF exit-motor assembly on page 107.

Service block diagram

Figure 4-3 Service block diagram



5 Removal and replacement

- Removal and replacement strategy
- User-replaceable parts
- External covers
- Automatic document feeder FRUs
- Flatbed scanner FRUs

Removal and replacement strategy

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

Replacing FRUs is generally the reverse of removal. Occasionally, notes and tips are included to provide directions for difficult or critical replacement procedures.

HP does *not* support repairing individual subassemblies or problem solving at the component level.

Note the length, diameter, color, type, and location of each screw. Be sure to return each screw to its original location during reassembly.

Incorrectly routed or loose wire harnesses can interfere with other internal components and can become damaged or broken. Frayed or pinched harness wires can be difficult to locate. When replacing wire harnesses, always use the provided wire loops, lance points, or wire-harness guides.

General cautions during removal and replacement

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

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

⚠ **CAUTION:** Do not bend or fold the flat flexible cables (FFCs) during removal or installation. Also, do not straighten folds in the FFCs. You *must* make sure that all FFCs are fully seated in their connectors. Failure to fully seat an FFC into a connector can cause a short circuit in a PCA.

Avoid pulling directly on wires to disconnect wire-harness connectors. Pull on the plastic body of a connector if possible to avoid damaging the connector wires.

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 screw hole becomes stripped, repair the screw hole or replace the affected assembly.

Electrostatic discharge

⚠ **CAUTION:** Some parts are sensitive to electrostatic discharge (ESD). Look for the ESD reminder when removing product 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.

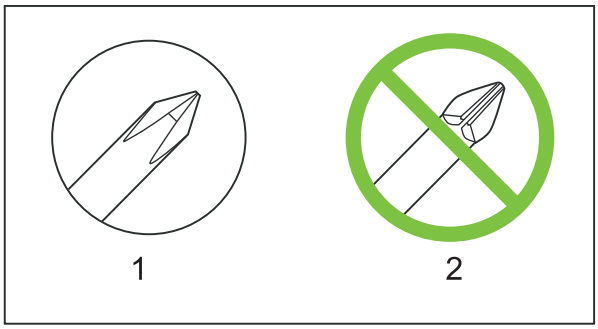
Protect the ESD-sensitive parts by placing them in ESD pouches when they are out of the product.

Required tools

- #2 Phillips screwdriver with a magnetic tip and a 152 mm (6.0 inch) shaft length
- Short #2 Phillips screwdriver with a magnetic tip and a 76 mm (3.0 inch) shaft length
- Small flat-blade screwdriver
- Needle-nose pliers
- ESD mat (if available; see the preceding ESD caution)
- Penlight (optional)

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 Phillips and pozidrive screwdriver comparison



Cleaning supplies

The scanner glass and ADF must be cleaned with appropriate supplies.

When cleaning the scanner glass, see Clean the scanner glass on page 27.

When cleaning the ADF, see Clean the ADF on page 24.

Screws and fasteners

Make sure that components are replaced with the correct screw type. Using the incorrect screw (for example, substituting a long screw for the correct shorter screw) can cause damage to the product or interfere with product operation. Do not intermix screws that are removed from one component with the screws that are removed from another component.

For a complete list of screws and fasteners, see Field replaceable units (FRUs) on page 295.

Before performing service

1. Turn off the power by using the power switch.
2. Unplug the power cable and interface cable(s).
3. Remove all media from the product.

4. Place the product on an ESD mat (if one is available). If an ESD workstation or mat is not available, ground yourself by touching the sheet-metal chassis *before* touching an ESD-sensitive part.
5. Remove the imprinter cartridge. See Imprinter cartridge on page 42.

After performing service

1. Clean the outside of the product with a damp cloth.
2. If the ADF had an imprinter cartridge installed, reinstall it. See Imprinter cartridge on page 42.
3. Replace media in the ADF input tray.
4. Plug in the power cable and interface cable(s).
5. Turn on the power by using the power switch, and then verify that the expected startup sounds occur.
6. Verify host computer and scanner connectivity.
7. Verify that the most recent firmware is installed by using the Scanner Tools Utility.
8. Verify NVRAM data and make changes as required.
9. Perform scan-quality tests:
    a. Perform a scan job from the ADF, and then verify that the output meets expectations.
    b. Perform a scan job from the glass, and then verify that the output meets expectations.
    c. Send a scan job from the host computer, and then verify that the output meets expectations.
10. If the imprinter cartridge was reinstalled, open the HP Scanner Tools Utility, click the **Imprinter** tab, and then click **Test imprinter**.

User-replaceable parts

- Imprinter cartridge
- Fan filters
- ADF base reflector
- Pickup-roller assembly
- Separation-pad assembly

Imprinter cartridge

1. Raise the ADF input tray until it clicks into place.

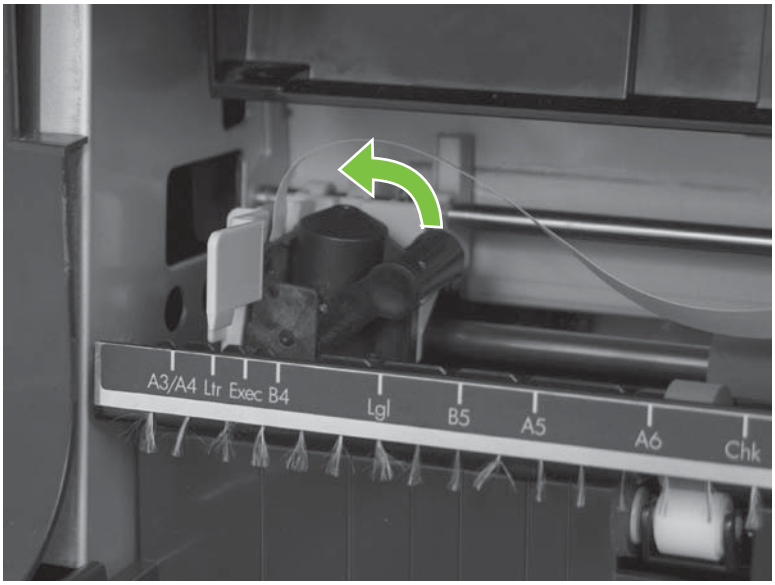
Figure 5-2 Remove the imprinter cartridge (1 of 4)

2. Lift the green lever on the imprinter carriage to disengage it from the page-size slot, and then slide the imprinter carriage completely to the left.

Figure 5-3 Remove the imprinter cartridge (2 of 4)

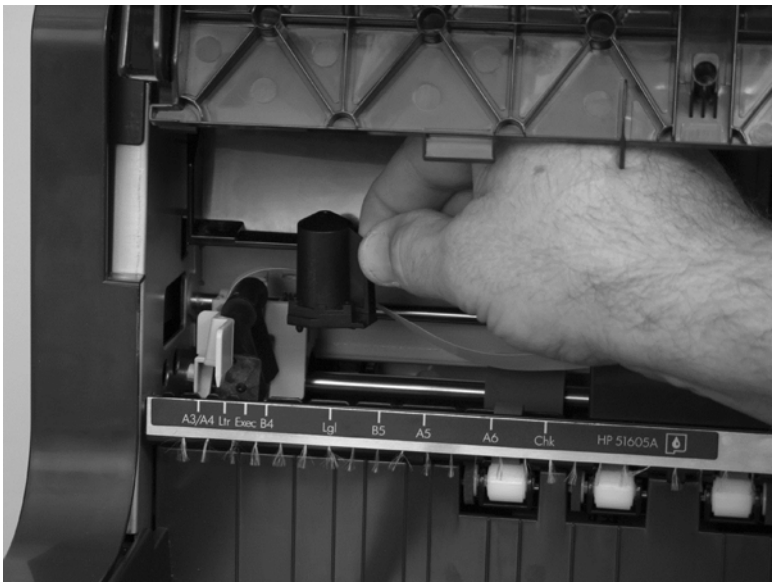
3. Raise the imprinter-cartridge latch.

Figure 5-4 Remove the imprinter cartridge (3 of 4)



4. Slide the cartridge to the right, and then remove it from the imprinter carriage.

Figure 5-5 Remove the imprinter cartridge (4 of 4)



Fan filters

NOTE: Fan filters are located behind the back-filter cover (shown in this procedure) and the right-filter cover. The back-upper cover does not contain a filter. Use this procedure to remove either of the fan-filter covers or fan filters.

1. Remove the fan-filter cover.

Figure 5-6 Remove the fan filter (1 of 2)

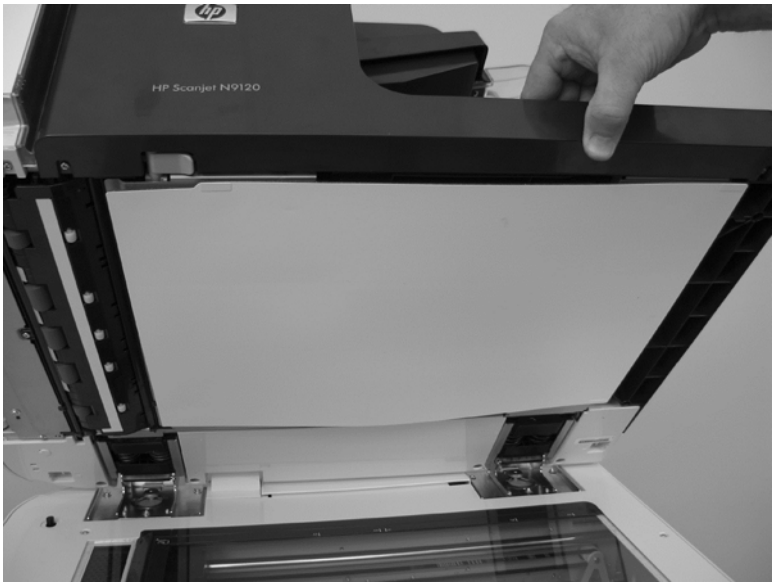
2. Rotate the fan-filter cover away from the product, and then remove the fan filter.

Figure 5-7 Remove the fan filter (2 of 2)

ADF base reflector

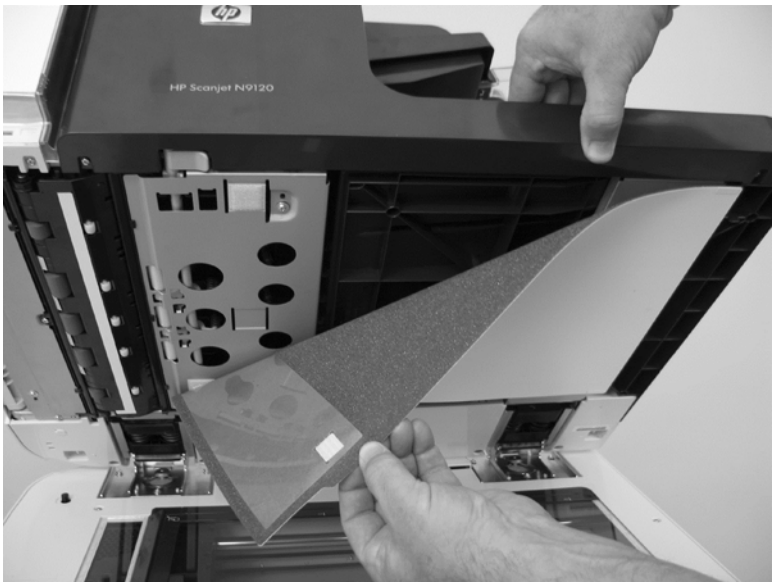
1. Open the ADF.

Figure 5-8 Remove the ADF base reflector (1 of 2)



2. Pull the ADF base reflector from the bottom of the ADF.

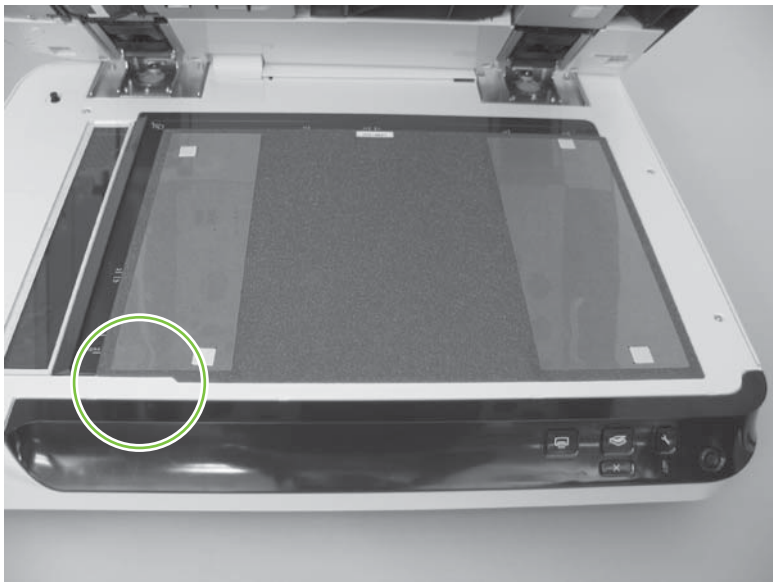
Figure 5-9 Remove the ADF base reflector (2 of 2)



Reinstall the ADF base reflector

Place the ADF base reflector on the scanner glass with the white adhesive squares facing up and the tab-like cutout toward the front, and then close the ADF.

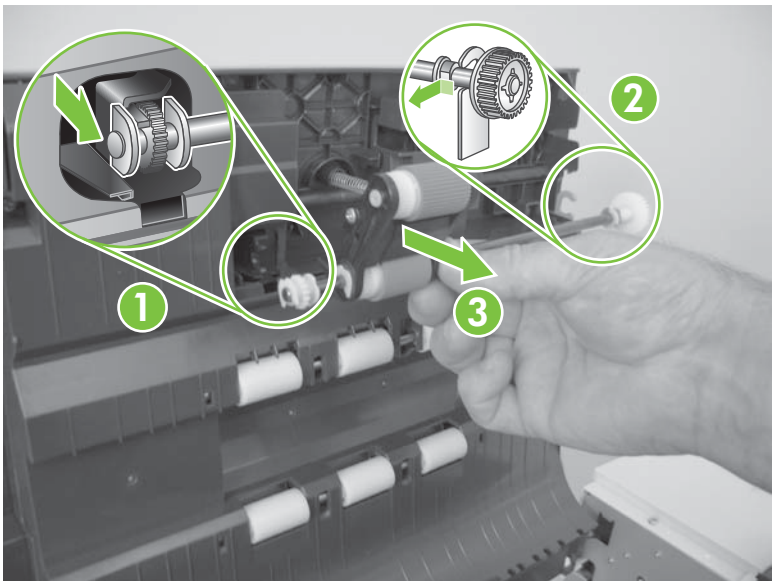
Figure 5-10 Reinstall the ADF base reflector



Pickup-roller assembly

1. Remove the pickup-roller cover. See Pickup-roller cover on page 190.
2. Pull the roller end of the shaft away from the product to disengage it (callout 1), slide the assembly toward the front of the product to release the drive-gear end of the shaft (callout 2), and then remove the pickup-roller assembly (callout 3).

Figure 5-11 Remove the pickup-roller assembly

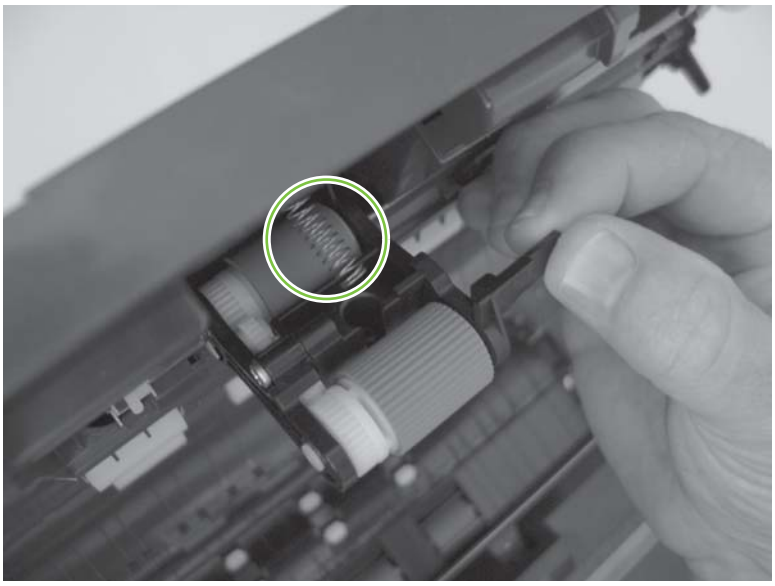


Reinstall the pickup-roller assembly

1. When you reinstall the pickup-roller assembly, make sure that the spring is correctly positioned between the pickup-roller assembly and the ADF jam door 1.

NOTE: Replace the pickup-roller spring if it is bent or damaged. See Pick-up roller spring on page 182.

Figure 5-12 Reinstall the pickup-roller assembly (1 of 2)

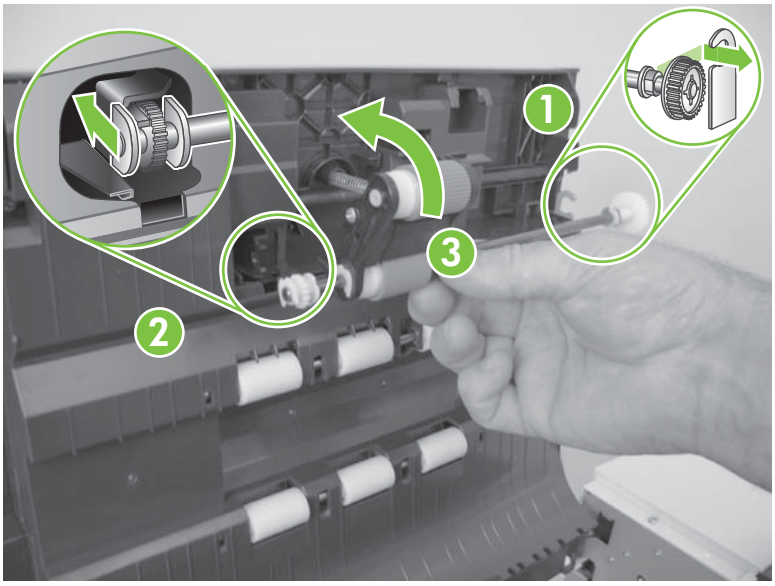


2. Install the drive-gear end of the shaft (callout 1) into the retainer, and then slide the assembly toward the back of the product.

   a. Push the roller end of the shaft into the retainer (callout 2).

   b. Rotate the assembly into place (callout 3).

Figure 5-13 Reinstall the pickup-roller assembly (2 of 2)

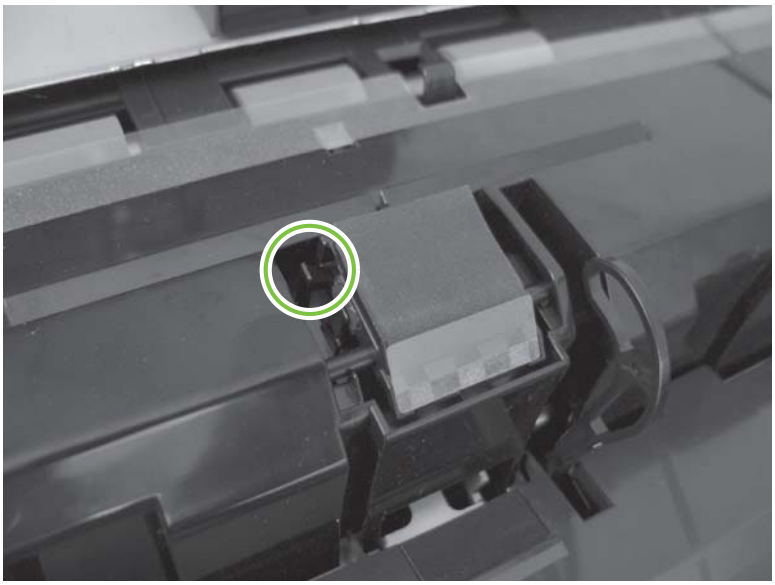


3. Replace the pickup-roller cover.

Separation-pad assembly

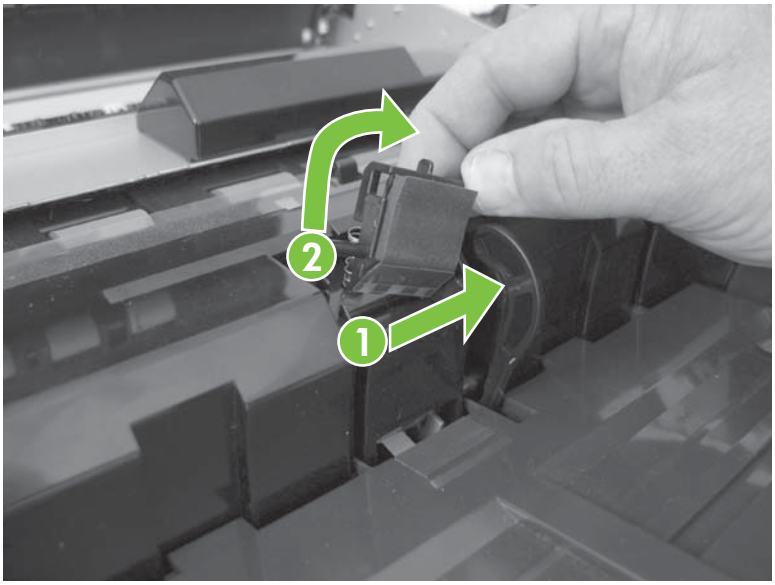
1. Release one tab.

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



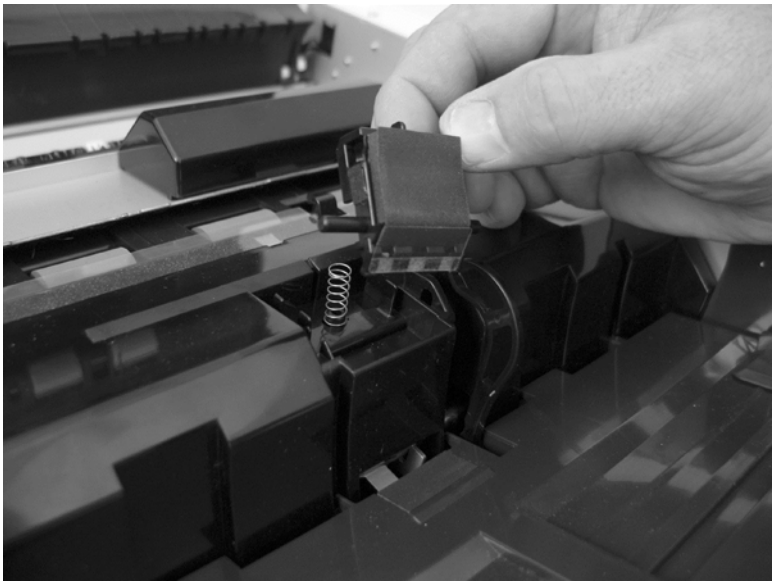
2. Slide the separation-pad assembly to the right (callout 1), and then rotate the separation-pad assembly toward the front of the product to release the left-side hinge pin (callout 2).

Figure 5-15 Remove the separation-pad assembly (2 of 3)



3. Remove the separation-pad assembly.

Figure 5-16 Remove the separation-pad assembly (3 of 3)

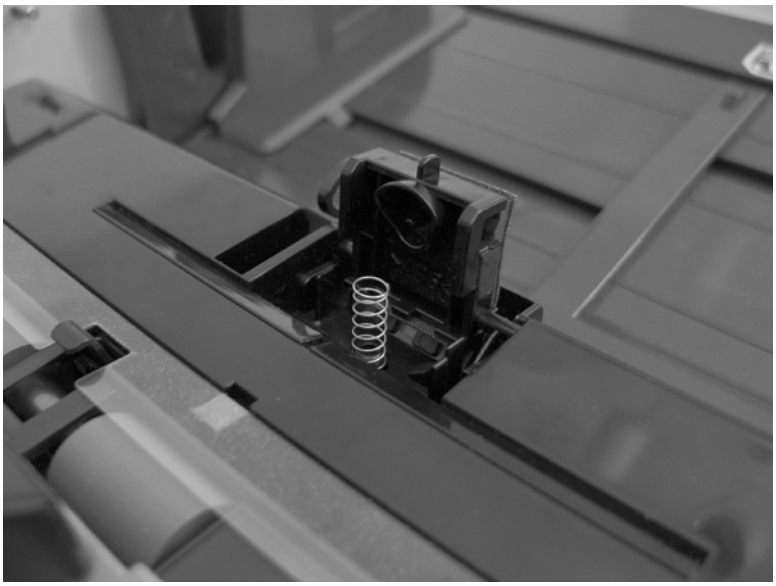


Reinstall the separation-pad assembly

When reinstalling the separation-pad assembly, make sure that the spring is correctly positioned under the assembly.

NOTE: Replace the separation-pad spring if it is bent or damaged. See Separation-pad spring on page 183.

Figure 5-17 Reinstall the separation-pad assembly



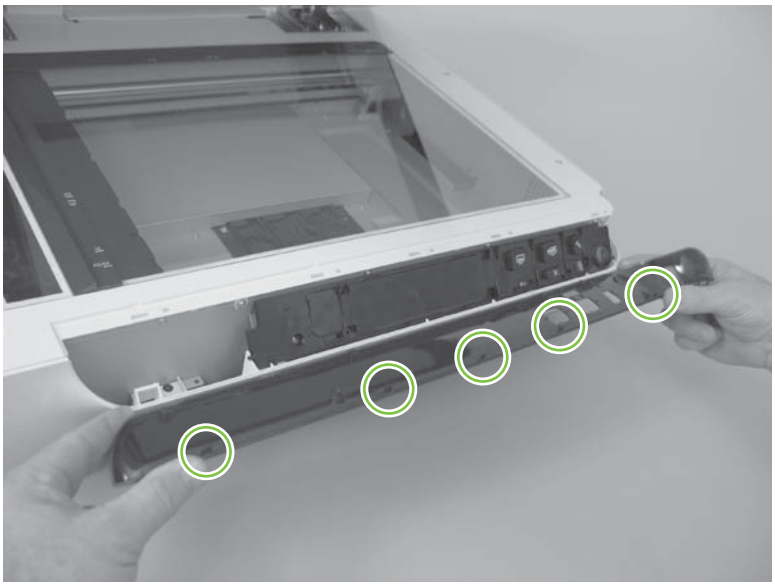
External covers

- Scanner control-panel cover
- Scanner back-filter cover
- Scanner right-filter cover
- ADF front cover
- ADF back cover
- Scanner back cover

Scanner control-panel cover

Release five tabs, and then rotate the front scanner control-panel cover away from the product to remove it.

Figure 5-18 Remove the scanner control-panel cover



Scanner back-filter cover

Remove the scanner back-filter cover. See Fan filters on page 44.

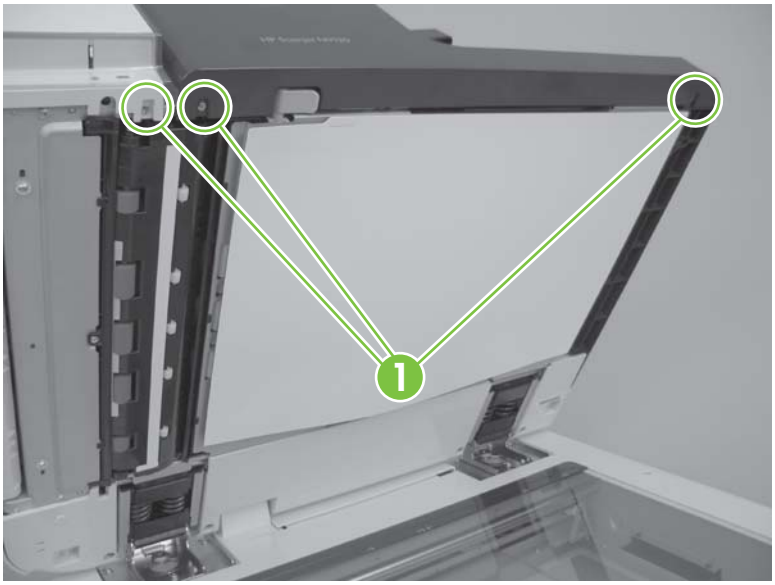
Scanner right-filter cover

Remove the scanner right-filter cover. See Fan filters on page 44.

ADF front cover

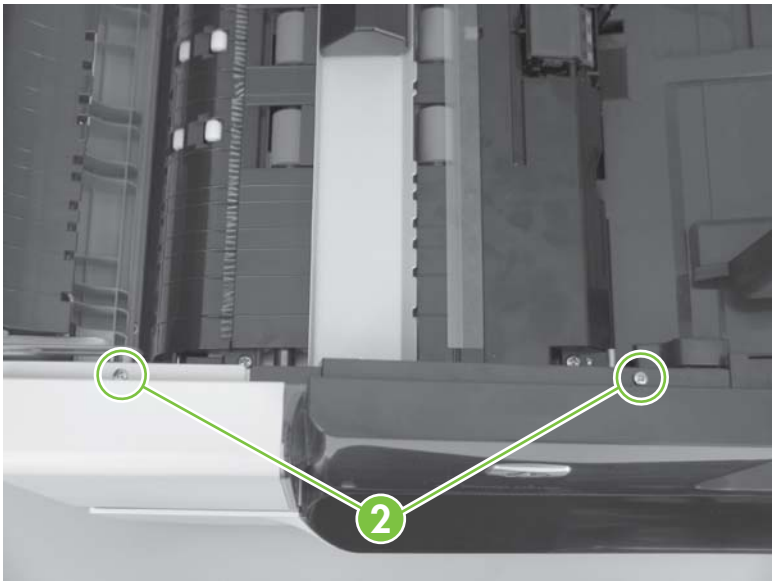
1. Open the ADF.
2. Remove three screws (callout 1).

Figure 5-19 Remove the ADF front cover (1 of 5)



3. Remove two screws (callout 2).

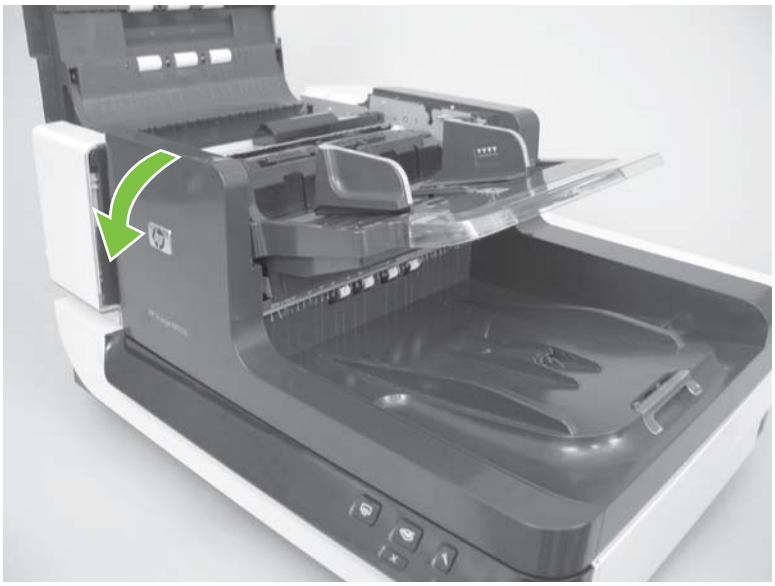
Figure 5-20 Remove the ADF front cover (2 of 5)



4. Rotate the top of the ADF front cover away from the ADF.

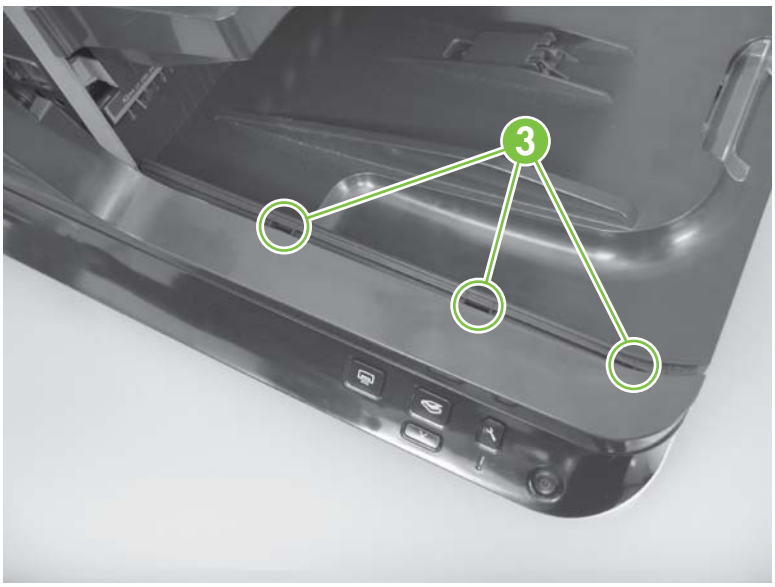
NOTE: Pull cover away from the ADF to create a small space between the cover and ADF.

Figure 5-21 Remove the ADF front cover (3 of 5)



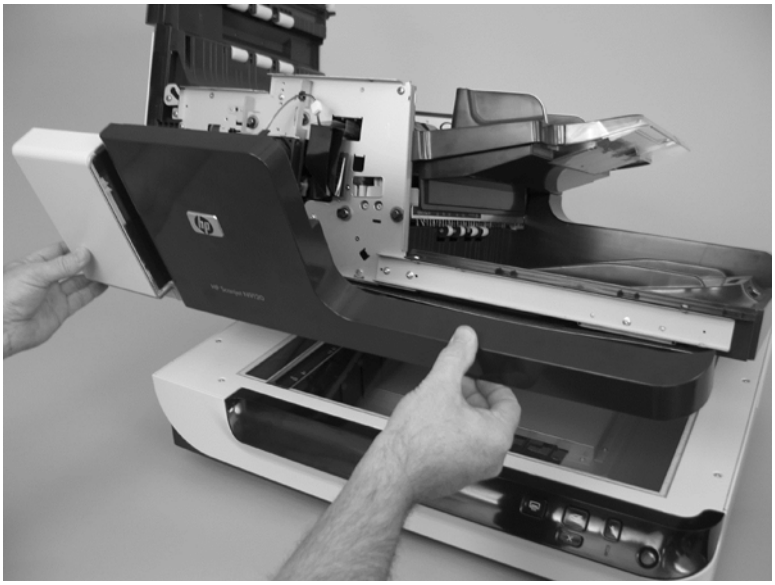
5. Release three tabs (callout 3).

Figure 5-22 Remove the ADF front cover (4 of 5)



6. Remove the ADF front cover.

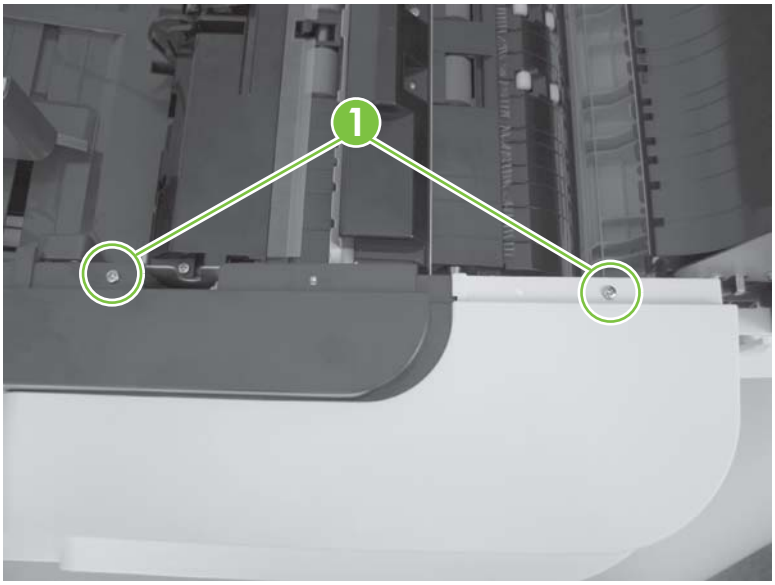
Figure 5-23 Remove the ADF front cover (5 of 5)



ADF back cover

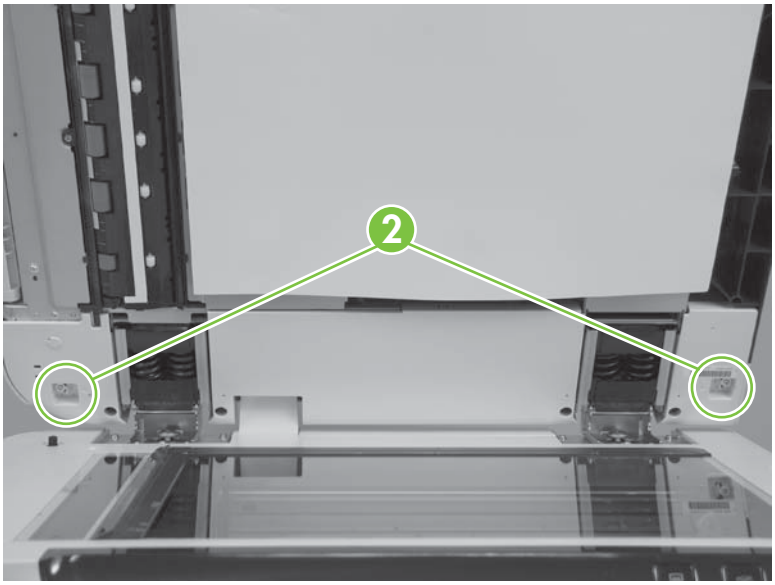
1. Open the ADF jam door 1.
2. Remove two screws (callout 1).

Figure 5-24 Remove the ADF back cover (1 of 3)



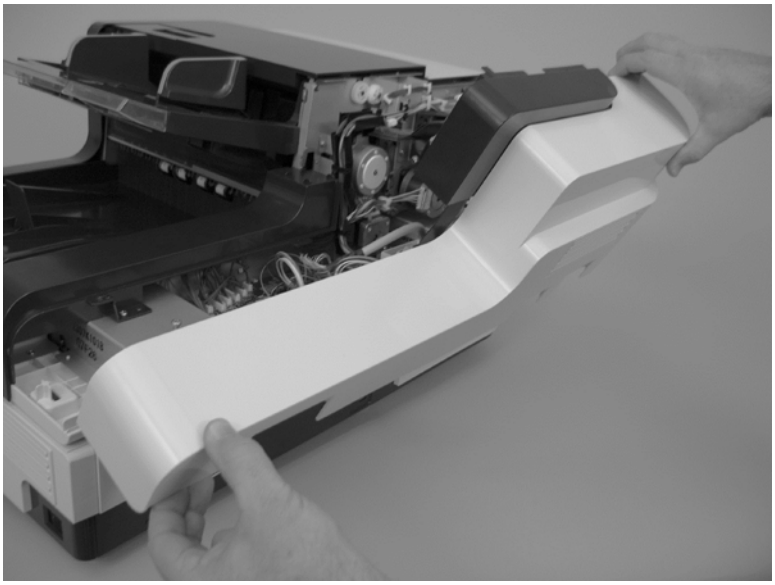
3. Remove two screws and two tabs (callout 2).

Figure 5-25 Remove the ADF back cover (2 of 3)



4. Rotate the top of the cover away from the product to release it, and then remove the cover.

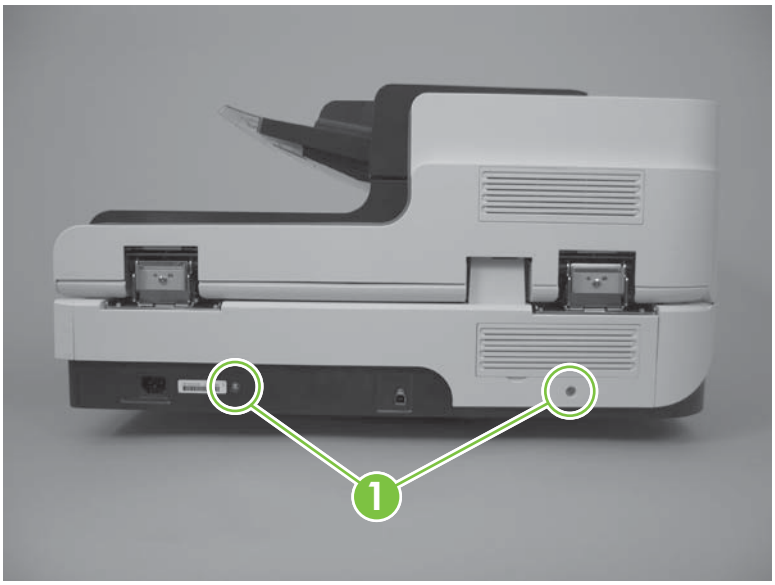
Figure 5-26 Remove the ADF back cover (3 of 3)



Scanner back cover

1. Remove two screws (callout 1).

Figure 5-27 Remove the scanner back cover (1 of 2)



2. Firmly pull the cover away from the product to remove it.

Figure 5-28 Remove the scanner back cover (2 of 2)

Automatic document feeder FRUs

- Automatic document feeder (ADF)
- ADF motor fan
- ADF carriage fan
- ADF input-tray lift-motor assembly
- ADF exit-motor assembly
- ADF feed-motor assembly
- ADF pick-motor assembly
- Upper multi-pick sensor PCA
- Lower multi-pick sensor PCA
- ADF controller PCA
- Imprinter PCA
- Input-tray sensor
- Flatbed scan position sensor
- Exit 1 sensor
- Exit 2 sensor
- Pick-up roller sensor
- Elevator arm sensor
- Background solenoid sensor
- Paper-present sensor
- Registration sensor
- Jam door 1 sensor
- Jam door 2 sensor
- Jam door 3 sensor
- Imprinter paper-present sensor
- ADF scan position sensor
- ADF bottom corner outer paper path guide
- ADF bottom corner inner paper path guide
- ADF cal-strip assembly

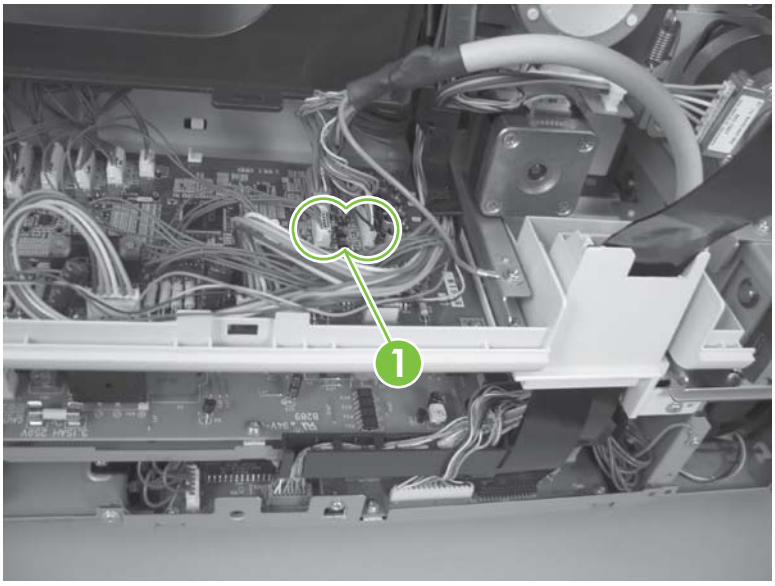
- ADF exit inner paper path guide
- ADF top corner inner paper path guide
- Lower multi-pick sensor cover
- Flatbed scan position sensor arm
- Exit 1 sensor arm
- Exit 2 sensor arm
- Paper-present-sensor arm
- Input-tray-elevator arm
- Registration sensor arm
- Scan position sensor arm
- Pick-up roller spring
- Separation-pad spring
- ADF input-tray assembly
- ADF output tray
- Pickup-roller cover
- ADF hinge limiters
- ADF jam door 3
- Paper present sensor and imprinter PCA holder
- ADF shingle wall
- A4 paper-stop
- ADF background-solenoid assembly
- Imprinter carriage and FFC

Automatic document feeder (ADF)

NOTE: Factory NVRAM data should be downloaded before the service call.

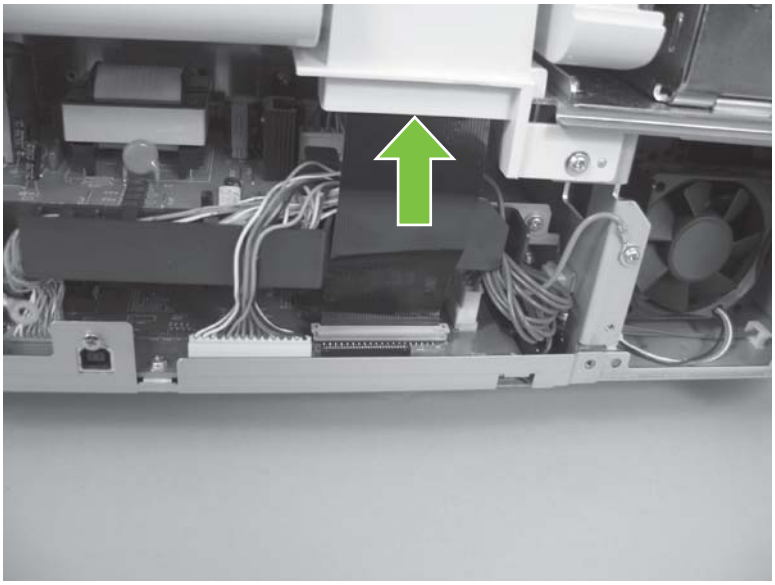
1. Remove the following components:
   - ADF back cover. See ADF back cover on page 58.
   - Scanner back cover. See Scanner back cover on page 60.
   - ADF hinge limiters. See ADF hinge limiters on page 192.
2. Remove two connectors (callout 1).

Figure 5-29 Remove the ADF (1 of 8)



3. Remove two FFC connectors, and then feed two FFCs through the wire guide.

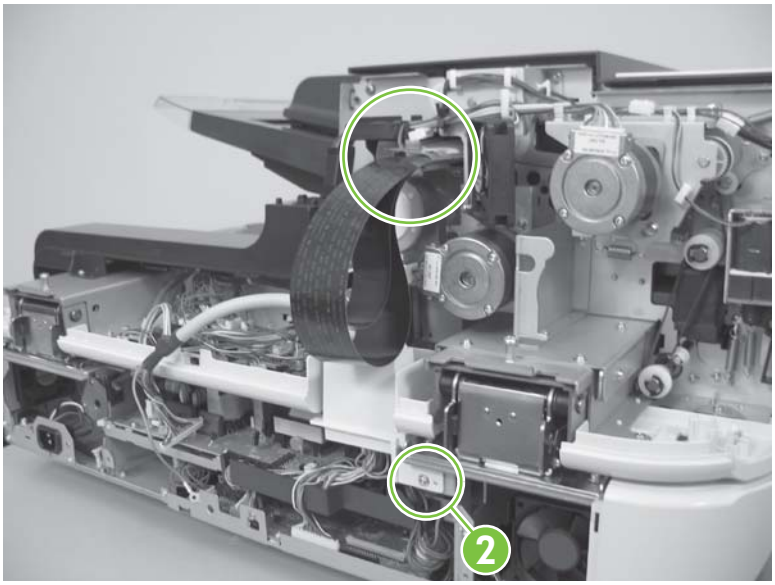
Figure 5-30 Remove the ADF (2 of 8)



4. Remove one screw (callout 2).

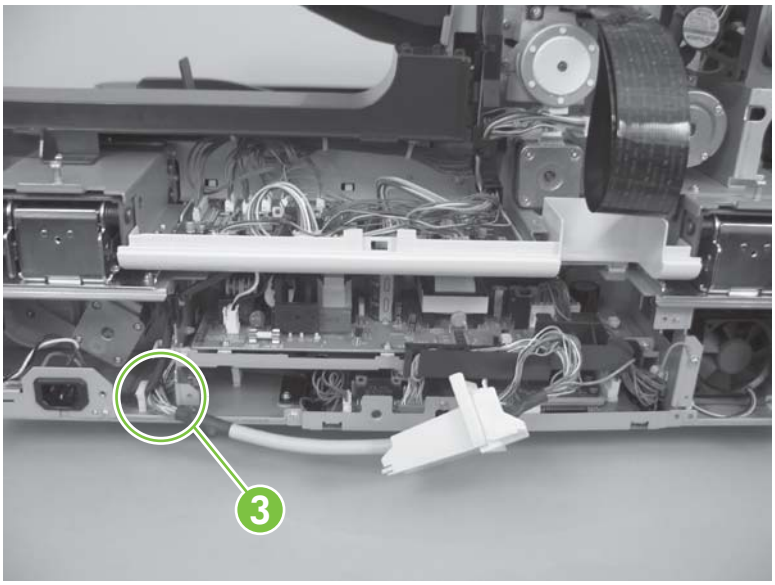
TIP: Place the loose ends of the two FFC connectors into the sleeve on the ADF to prevent them from being damaged when the ADF is removed.

Figure 5-31 Remove the ADF (3 of 8)



5. Remove the wire guide, and then place the two connectors under the power-feed cable in the scanner chassis (callout 3).

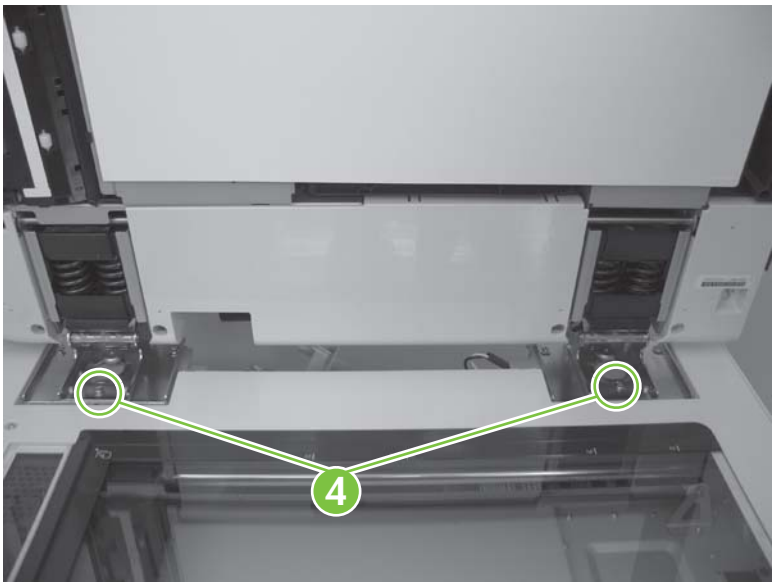
Figure 5-32 Remove the ADF (4 of 8)



6. Open the ADF, and then remove two screws (callout 4).

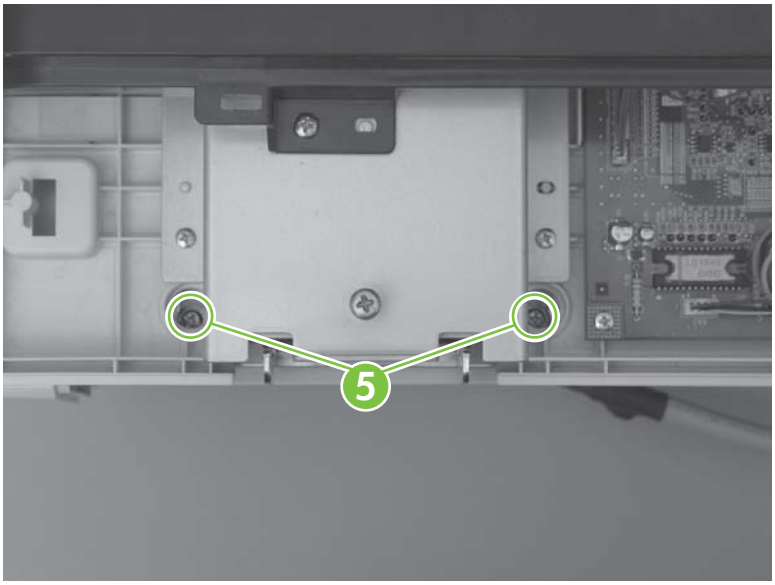
WARNING! The ADF is not restrained when opened and the hinge limiters are removed. The product can tip over if the ADF is opened too far.

Figure 5-33 Remove the ADF (5 of 8)



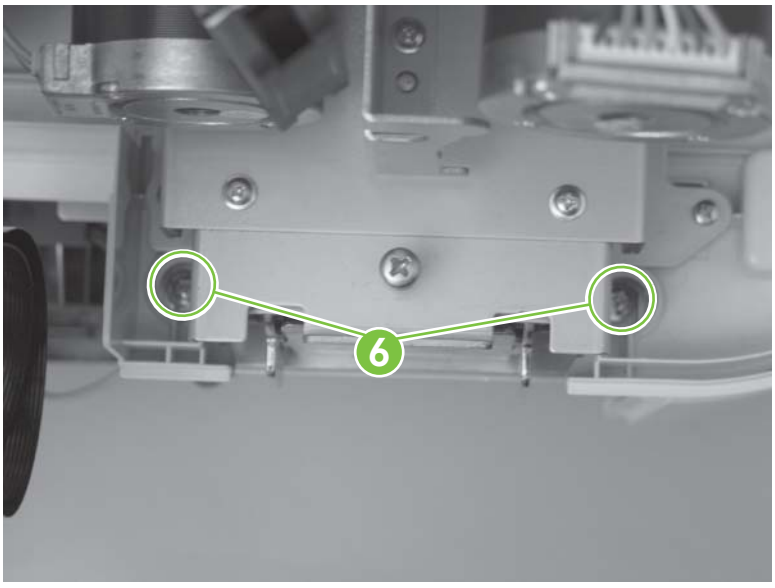
7. Close the ADF, and then remove two screws (callout 5).

Figure 5-34 Remove the ADF (6 of 8)



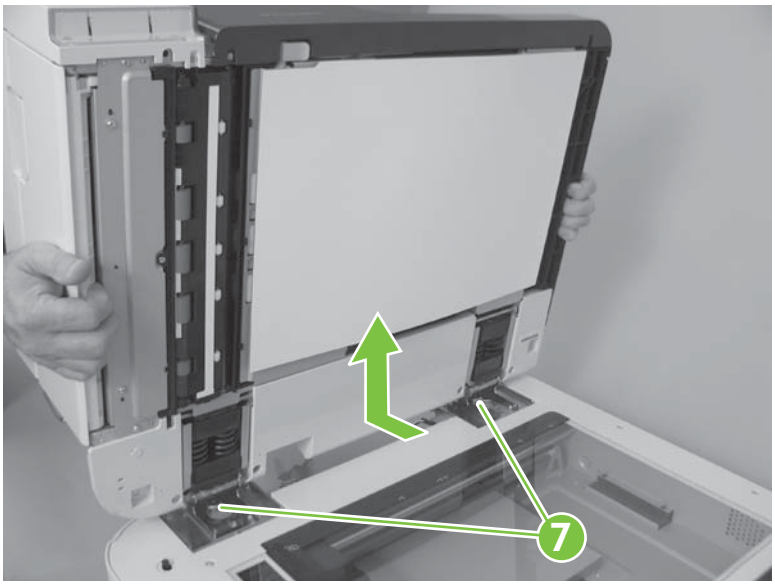
8. Remove two screws (callout 6).

Figure 5-35 Remove the ADF (7 of 8)



9. Slide the ADF toward the rear of the product to disengage the locator pins (callout 7), and then lift up on the ADF to remove it.

Figure 5-36 Remove the ADF (8 of 8)

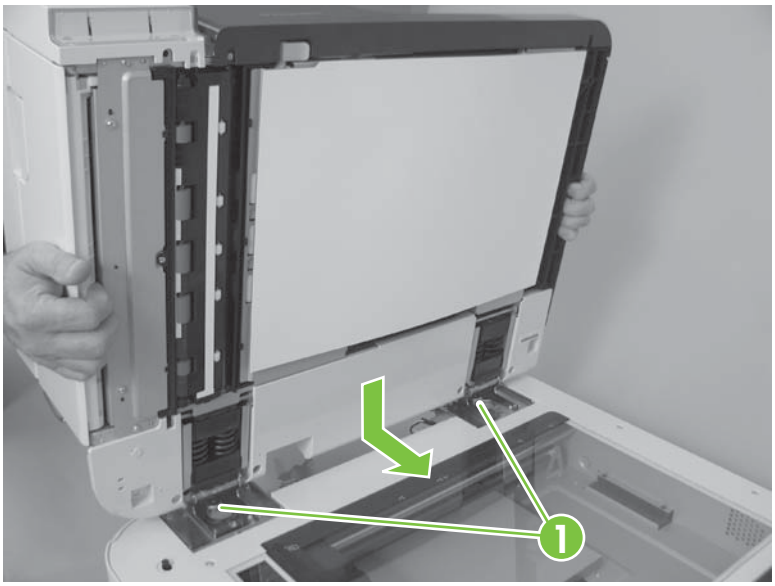


Reinstall the ADF

NOTE: Factory NVRAM data should be downloaded before the service call.

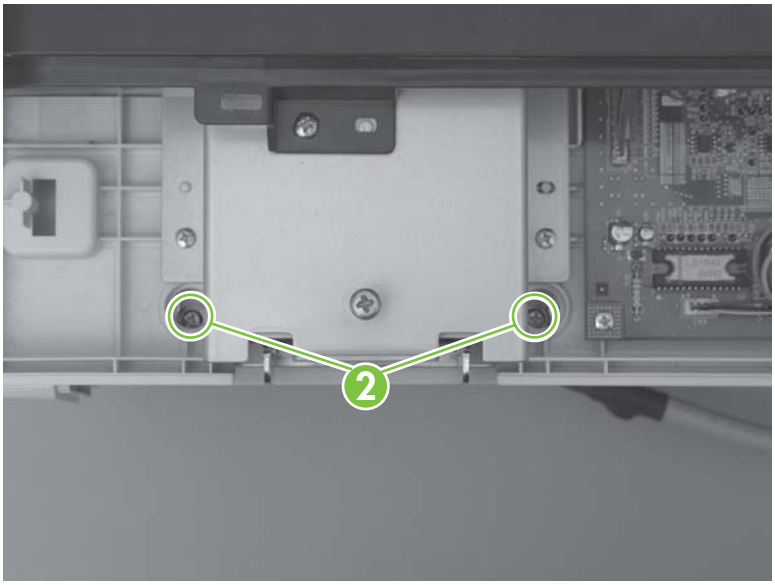
1. Place the ADF on the flatbed scanner, and then slide the ADF toward the front of the product to engage the locator pins (callout 1).

Figure 5-37 Reinstall the ADF (1 of 7)



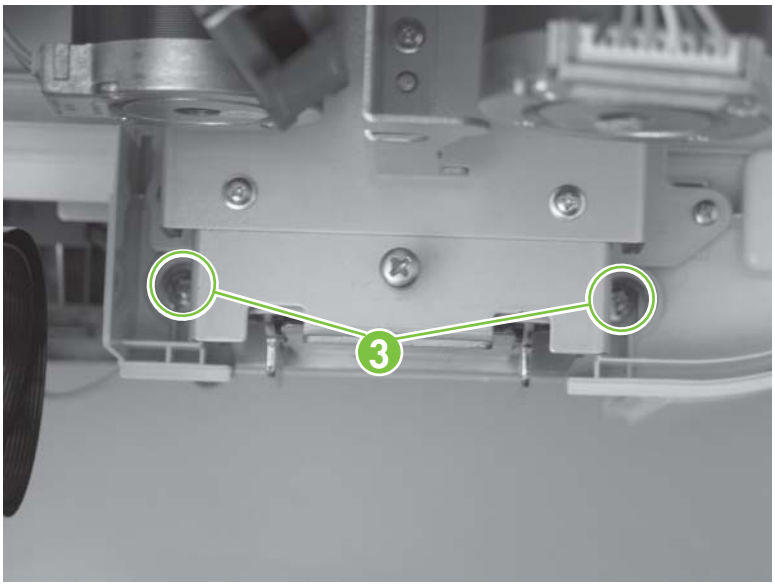
2. Close the ADF, and then install, *but do not tighten*, two screws (callout 2).

Figure 5-38 Reinstall the ADF (2 of 7)



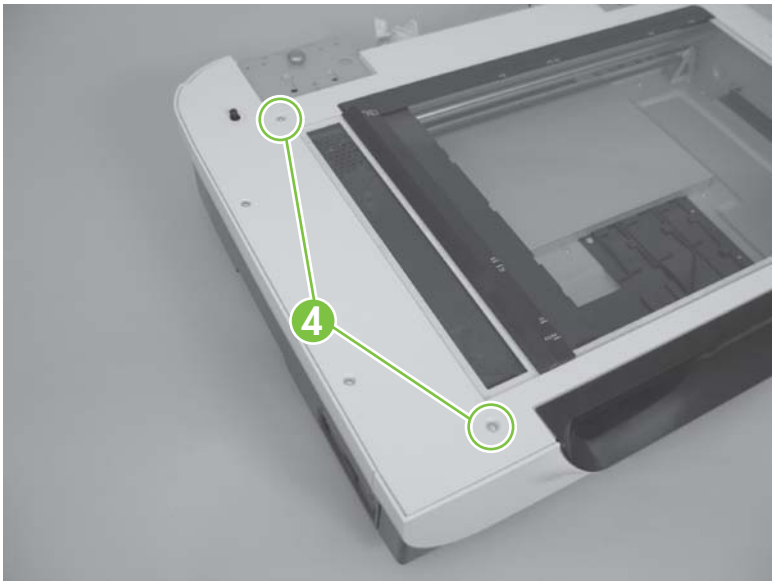
3. Install, *but do not tighten*, two screws (callout 3).

Figure 5-39 Reinstall the ADF (3 of 7)



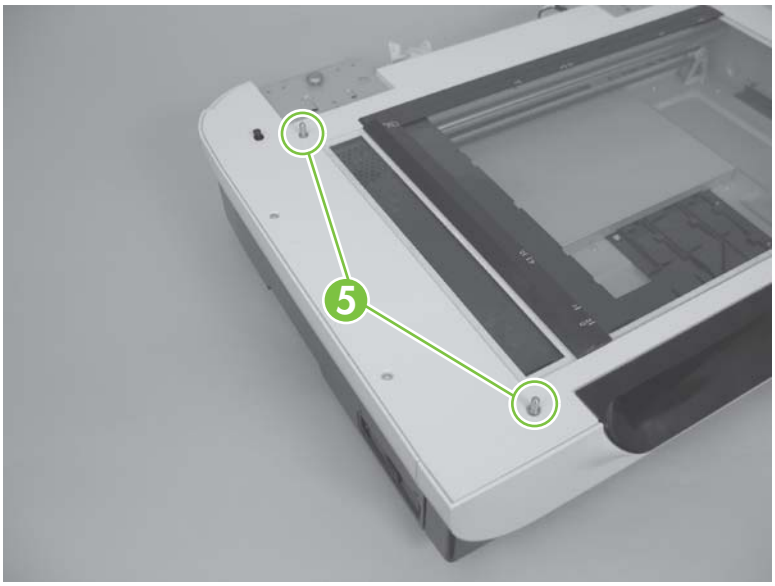
4. Remove two screws (callout 4).

Figure 5-40 Reinstall the ADF (4 of 7)



5. Install and hand tighten two alignment pins (callout 5).

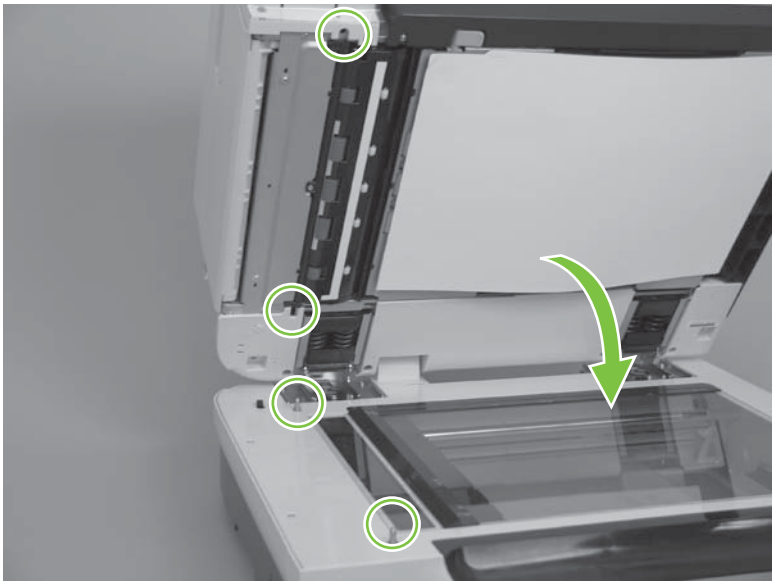
Figure 5-41 Reinstall the ADF (5 of 7)



6. Carefully close the ADF and adjust it as necessary so that the alignment pins fit into the holes in the ADF chassis.

CAUTION: Make sure that the ADF closes completely and is in full contact with the flatbed scanner.

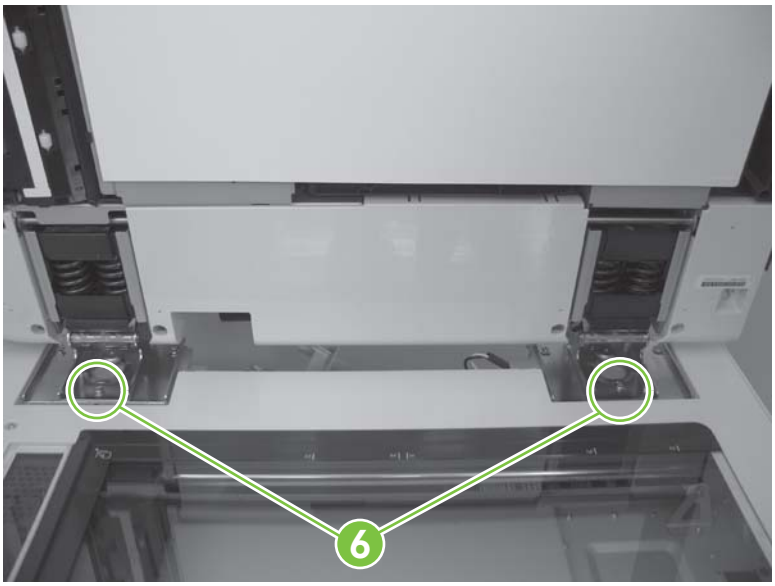
Figure 5-42 Reinstall the ADF (6 of 7)



7. Carefully open the ADF, and then Install, but *do not* fully tighten, two screws (callout 6).

WARNING! The ADF is not restrained when opened and the hinge limiters are removed. The product can tip over if the ADF is opened too far.

Figure 5-43 Reinstall the ADF (7 of 7)



8. Close the ADF and verify that it is correctly positioned on the alignment pins and the flatbed scanner. Adjust if necessary. See Figure 5-42 Reinstall the ADF (6 of 7) on page 70.

9. With the ADF in the closed position, fully tighten the four screws at the back of the product. See Figure 5-38 Reinstall the ADF (2 of 7) on page 68 and Figure 5-39 Reinstall the ADF (3 of 7) on page 68.
10. Open the ADF, and then fully tighten the remaining two screws. See Figure 5-43 Reinstall the ADF (7 of 7) on page 70.

WARNING! The ADF is not restrained when opened and the hinge limiters are removed. The product can tip over if the ADF is opened too far.

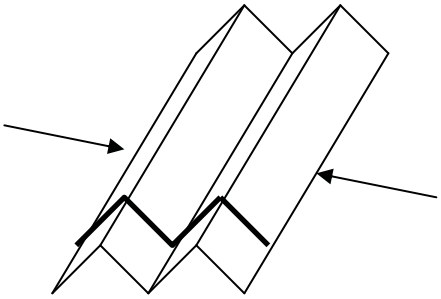
11. Reinstall the wire guide, reconnect the FFCs and wire-harness connectors, and then reinstall the hinge limiters.
12. Replace the scanner back cover. See Scanner back cover on page 60.
13. Adjust the height of the ADF. See ADF height adjustment on page 72.
14. Adjust the NVRAM data. See NVRAM data management on page 75.
15. Align the ADF. See Align the ADF on page 98.
16. Create the factory calibration data for ADF-A. See Create the factory calibration data for ADF-A on page 101.

ADF height adjustment

NOTE: Factory NVRAM data should be downloaded before the service call.

1. Remove the ADF back cover. See ADF back cover on page 58.
2. Fold the paper template (use 20# paper).

Figure 5-44 ADF height adjustment (1 of 6)



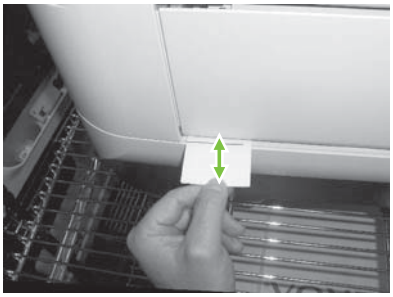
3. Open the ADF, place the folded shim between the ADF and flatbed scanner, with the back edge of the shim aligned with the back edge of jam door 2, and then close the ADF.

Figure 5-45 ADF height adjustment (2 of 6)

4. Slide the shim approximately 3.0 mm in and out of the product.

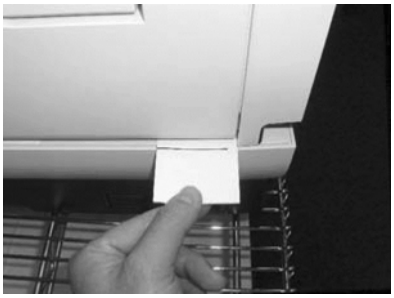
NOTE: The ADF should create a slight amount of resistance on the shim as it moves between the ADF and flatbed scanner.

Figure 5-46 ADF height adjustment (3 of 6)



5. Open the ADF, place the folded shim between the ADF and flatbed scanner with the left edge of the shim aligned with the front edge of jam door 2, and then close the ADF.

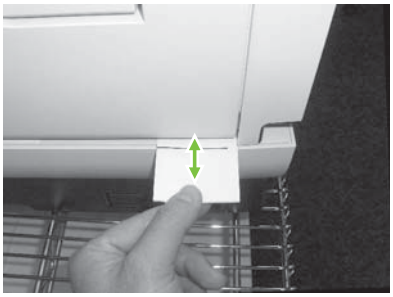
Figure 5-47 ADF height adjustment (4 of 6)



6. Slide the shim approximately 3.0 mm in and out of the product.

NOTE: The ADF should create a slight amount of resistance on the shim as it moves between the ADF and flatbed scanner.

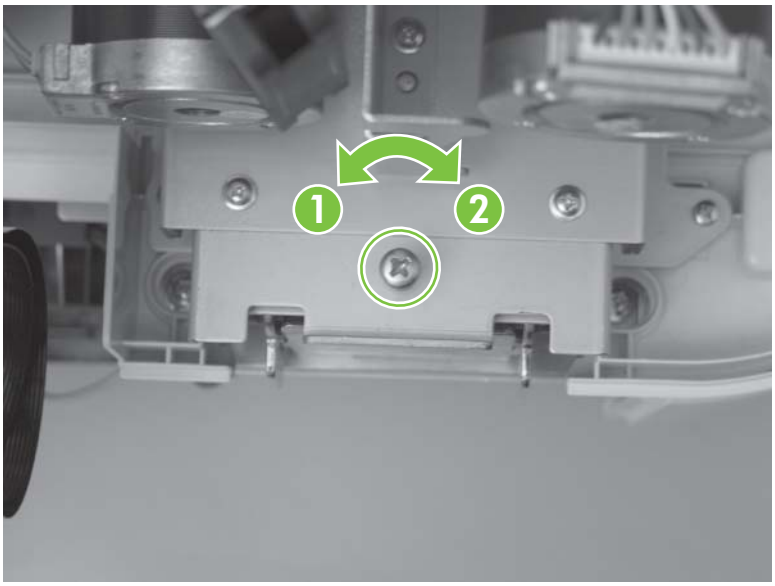
Figure 5-48 ADF height adjustment (5 of 6)



7. Turn the ADF height adjustment screw counterclockwise (callout 1) to adjust the height of the back edge or clockwise (callout 2) to adjust the height of the front edge of the ADF.

NOTE: Do not adjust the screw on the right-side hinge.

Figure 5-49 ADF height adjustment (6 of 6)



8. Replace the ADF back cover. See ADF back cover on page 58.

NVRAM data management

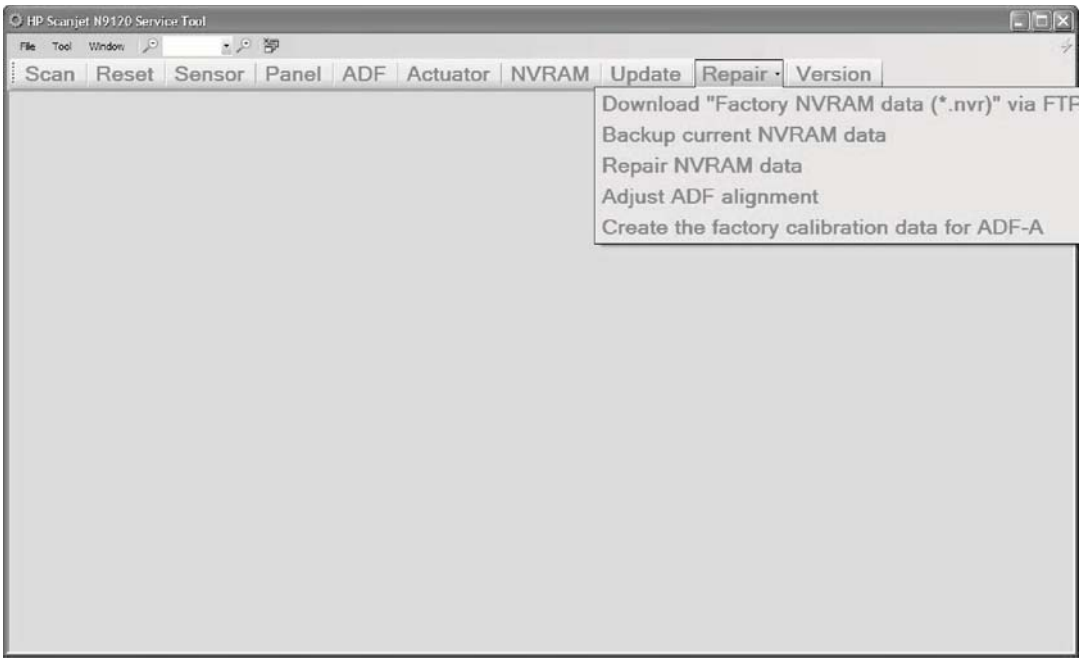
After replacing the ADF, ADF controller PCA, flatbed, or scanner controller PCA in the field, NVRAM data between the scanner controller PCA and the ADF controller PCA must be manipulated. The N9120 Service Tool provides tools to manage NVRAM Data, adjust the ADF alignment, and calibrate the calibration strip of a replacement ADF to an existing scanner controller PCA.

NOTE: Factory NVRAM data should be downloaded before the service call.

Repair menu

The following shows the selections available from the **Repair** menu:

Figure 5-50 Repair menu (1 of 11)



Repair menu options

The following provides descriptions and options available from the **Repair** menu:

Figure 5-51 Repair menu (2 of 11)

N9120 Service Tool Repair Tab Functions		
Function	**Description**	**Options**
Download "Factory NVRAM data (*.nvr)" via FTP site	When connected to the intranet, the tool will search the FTP site for the factory NVRAM data of the ADF or Flatbed's Serial number that is entered. It will then provide storage of the file to a default location on the computer hard drive (My Documents\N9120_ Calibration_Data). *Note: It is highly recommended that you download the factory calibration data for the unit you are going to service prior to going to the Customer's site.*	- Serial number entry (ADF or Flatbed) - FTP Site search methods - NVRAM data file (*.nvr) storage location * - accepting the default allows for ease of search by the tool later on
Backup current NVRAM data	It is always desirable to restore the current NVRAM values of the ADF and Flatbed whenever possible. This assures that current scan count, maintenance, and imprinter ink level readings are maintained. This option is only possible if the respective units NVRAM data is accessible. If not, the only other option is the download of the factory NVRAM data.	- NVRAM data file (*.nvr) storage location * - accepting the default allows for ease of search by the tool later on
Repair NVRAM data	This feature allows for the upload of previously stored NVRAM Data from the computer's hard drive to the NVRAM of the selected device. It also provides the ability to change certain NVRAM values as required by various repair scenarios. The selections to the right are provided as options. You must choose which option best fits the repair scenario. The tool searches the computers hard drive for the information base upon the option selected. It will recommend an alternative source option if it determines a better one is available.	***Replaced Units/Parts:*** - ADF Unit - FB Unit - ADF Circuit-board *(ADF Controller PCA)* - FB Circuit board *(FB Controller PCA)* ***NVRAM Data Backup File Source:*** - NVRAM Backup file for damaged unit - NVRAM Factory file for damaged unit - NVRAM Factory file for replacement
Adjust ADF Alingment	The removal and replacement of the ADF from the Flatbed requires numerous adjustment and alignment steps (ADF alingment to the FB base; ADF height adjustment; ADF calibration strip calibration to the FB, and ADF alingment adjustment. This features facilitates the adjustment of the ADF Alingment. It is accomplished via the use of an ADF alingment target that is fed through the ADF seven times. One for each of the seven native resolutions. The Service Tool will prompt the user to reinsert the target at the appropriate times.	- There are no options for this feature.
Create the factory calibration data for ADF-A	The replacement of an existing ADF on a replacement Flatbed or the assembly of a replacement ADF on an existing Flatbed necessitates the Calibration of the ADF Calibration Strip to the Flatbed. This is the last step performed in the ADF Removal and Replacement process, after all other steps have been completed. The Service Tool automates this process. When selected, the Tool will calibrate the Flatbed to the ADF Calibration strip for each of the native resolutions.	- There are no options for this feature.

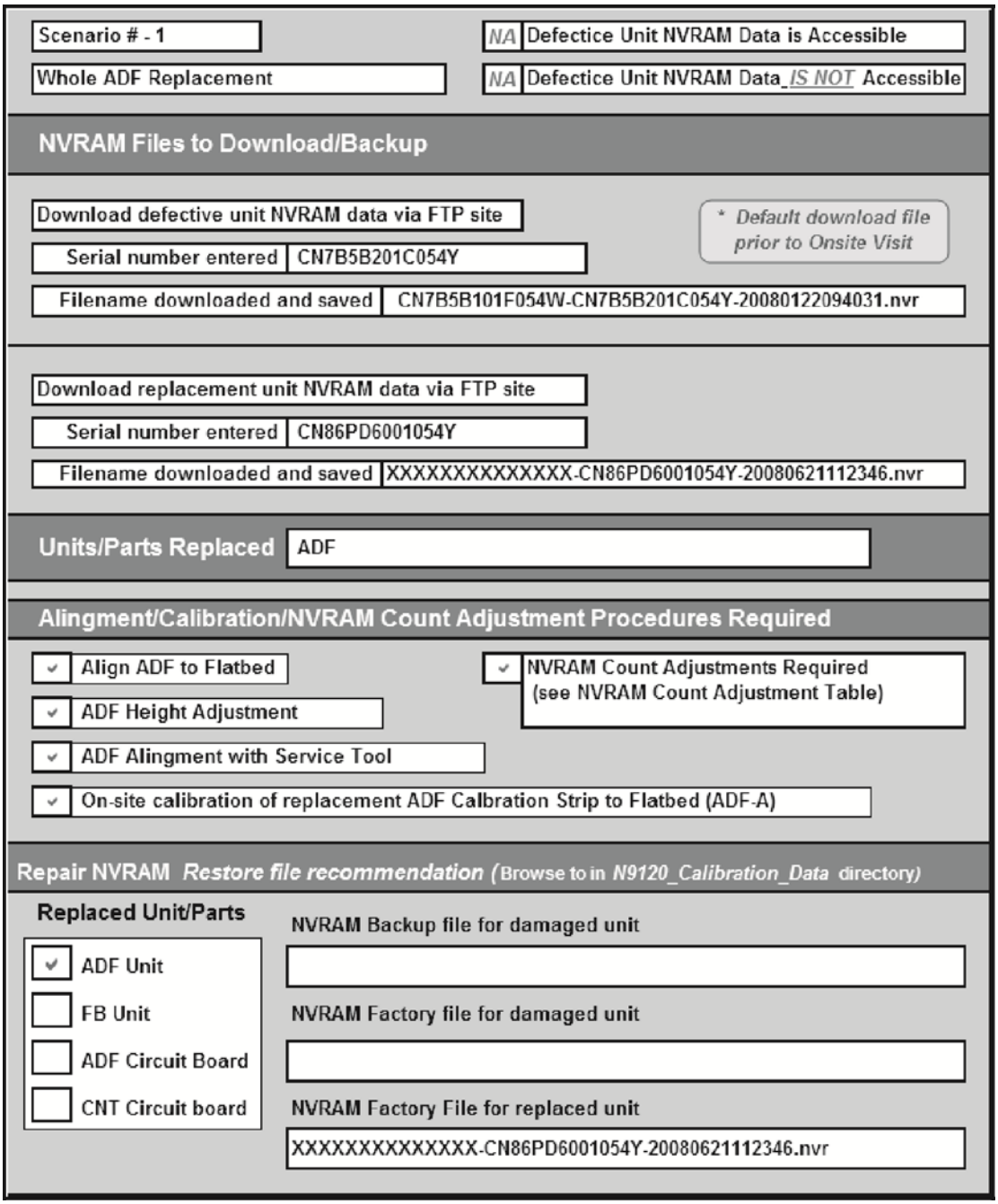
Replacement scenarios

The following seven scenarios provide data selection recommendations for ADF, flatbed scanner, whole-unit, and controller PCA replacement scenarios:

Scenario #1: Whole ADF replacement

Scenario #1 applies when replacing the whole ADF and NVRAM data is accessible.

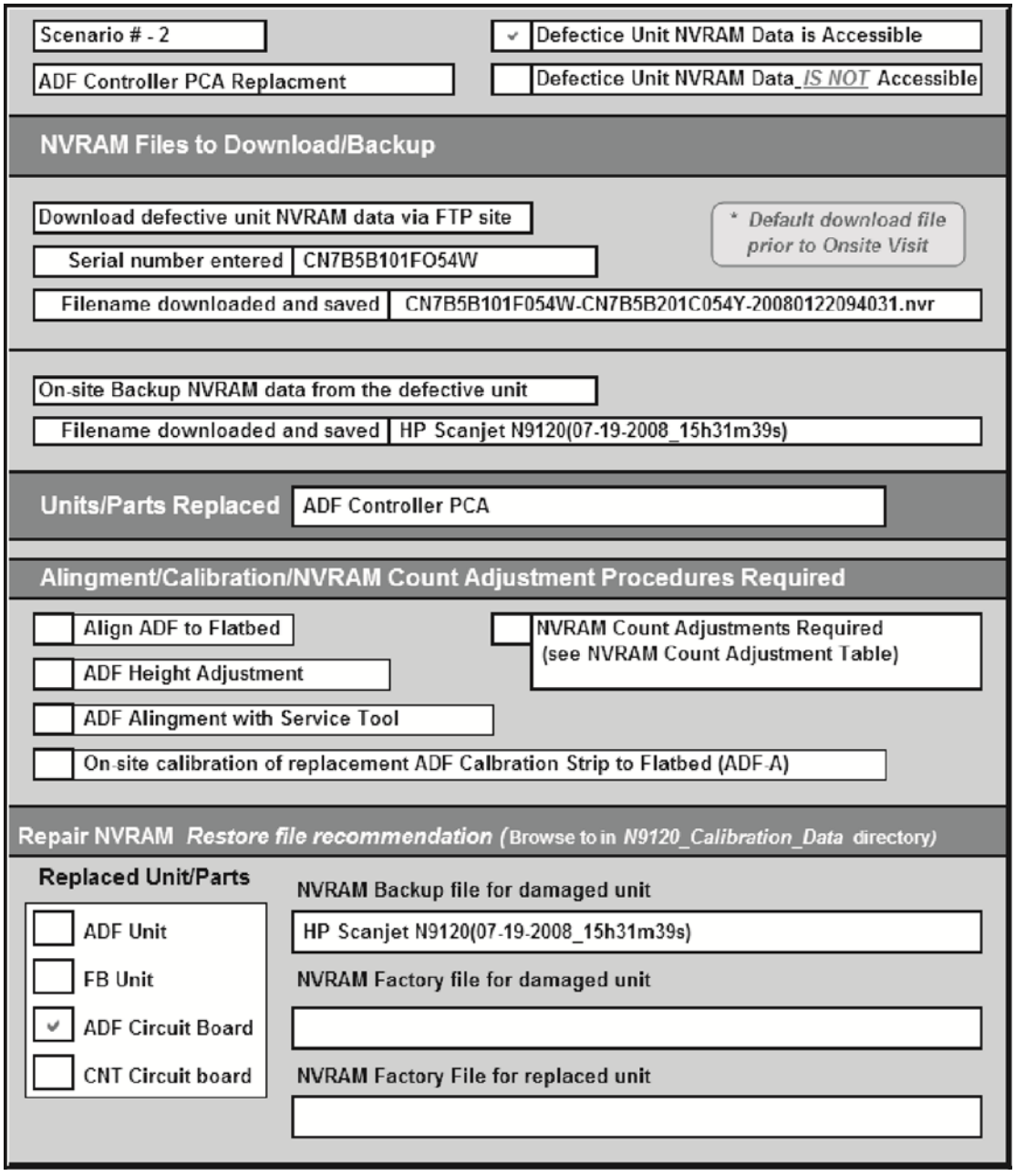
Figure 5-52 Replacement scenario #1 (3 of 11)



Scenario #2: ADF controller PCA replacement

Scenario #2 applies when replacing the ADF controller PCA and NVRAM data is accessible.

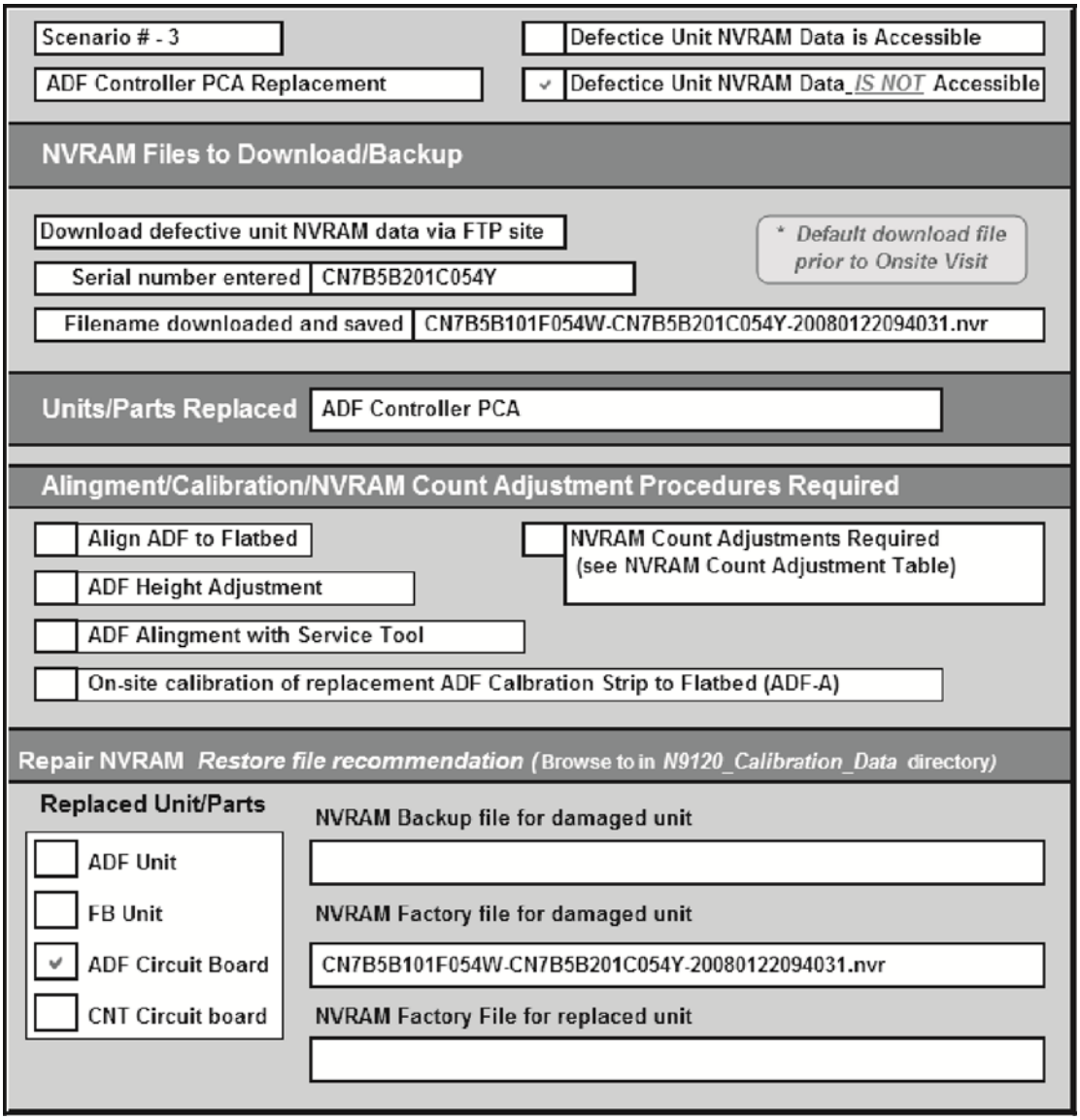
Figure 5-53 Replacement scenario #2 (4 of 11)



Scenario #3: ADF controller PCA replacement

Scenario #3 applies when replacing the ADF controller PCA and NVRAM data is not accessible.

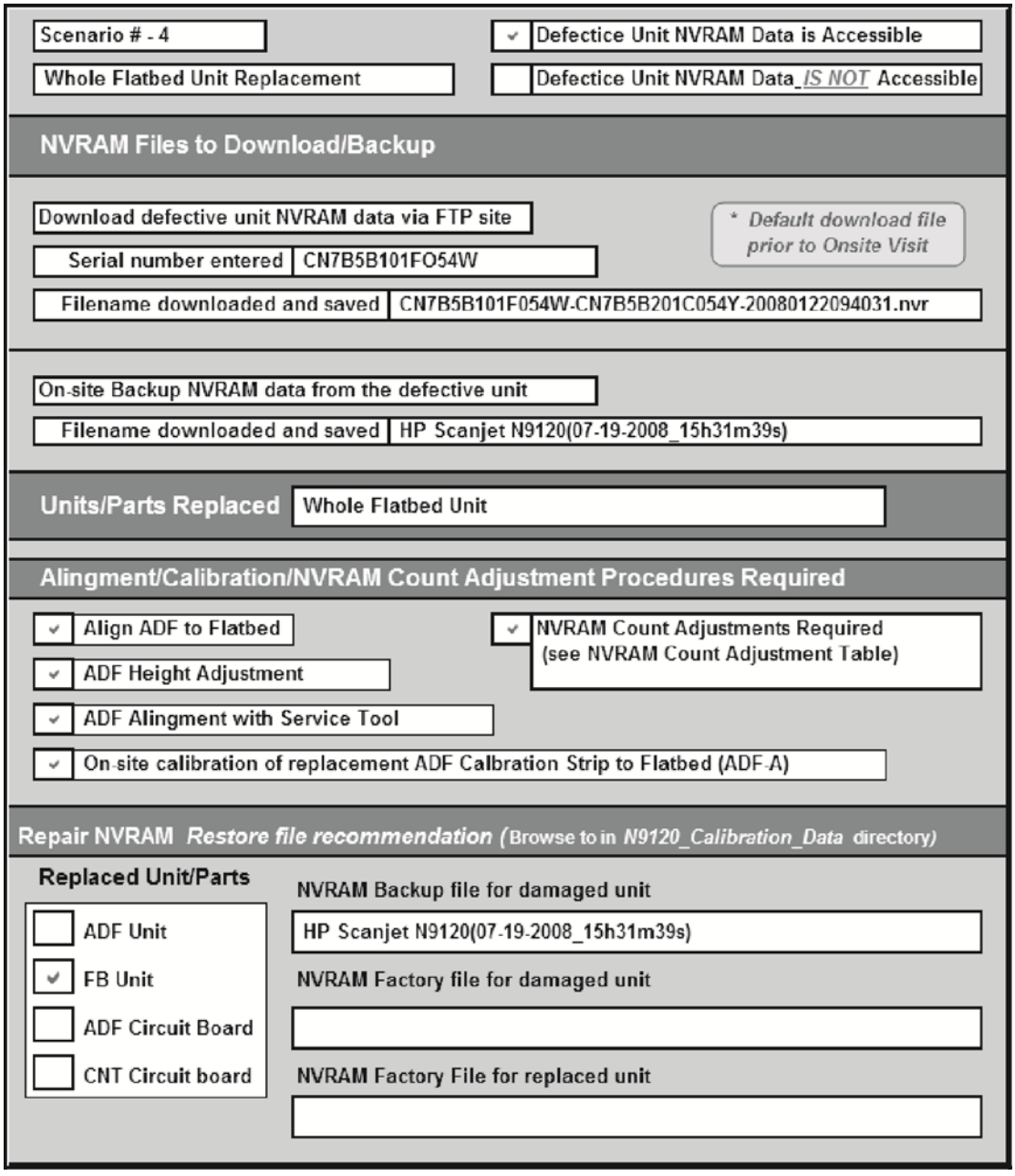
Figure 5-54 Replacement scenario #3 (5 of 11)



Scenario #4: Whole flatbed scanner replacement

Scenario #4 applies when replacing the whole flatbed scanner and NVRAM data is accessible.

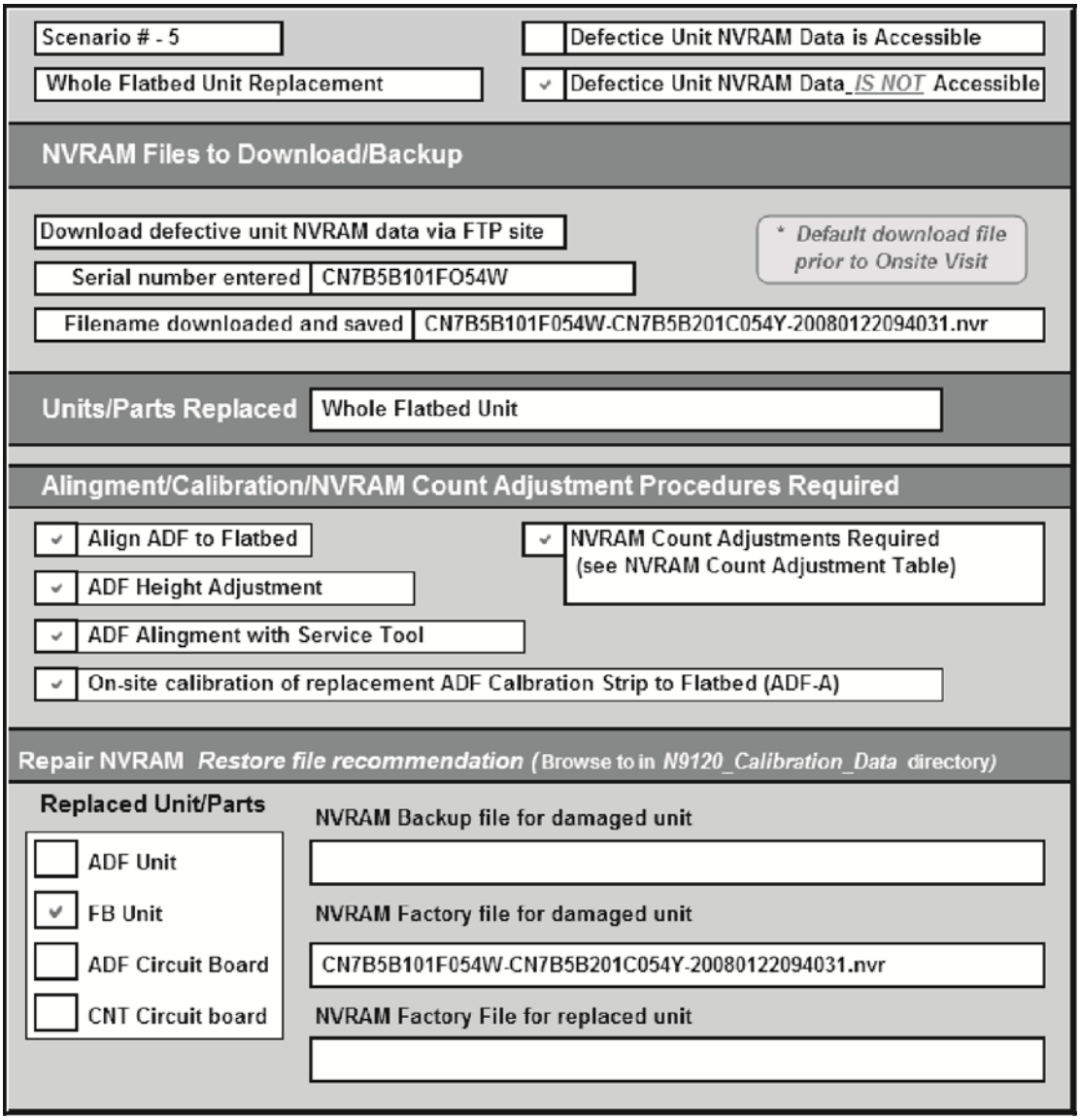
Figure 5-55 Replacement scenario #4 (6 of 7)



Scenario #5: Whole flatbed scanner replacement

Scenario #5 applies when replacing the whole flatbed scanner and NVRAM data is not accessible.

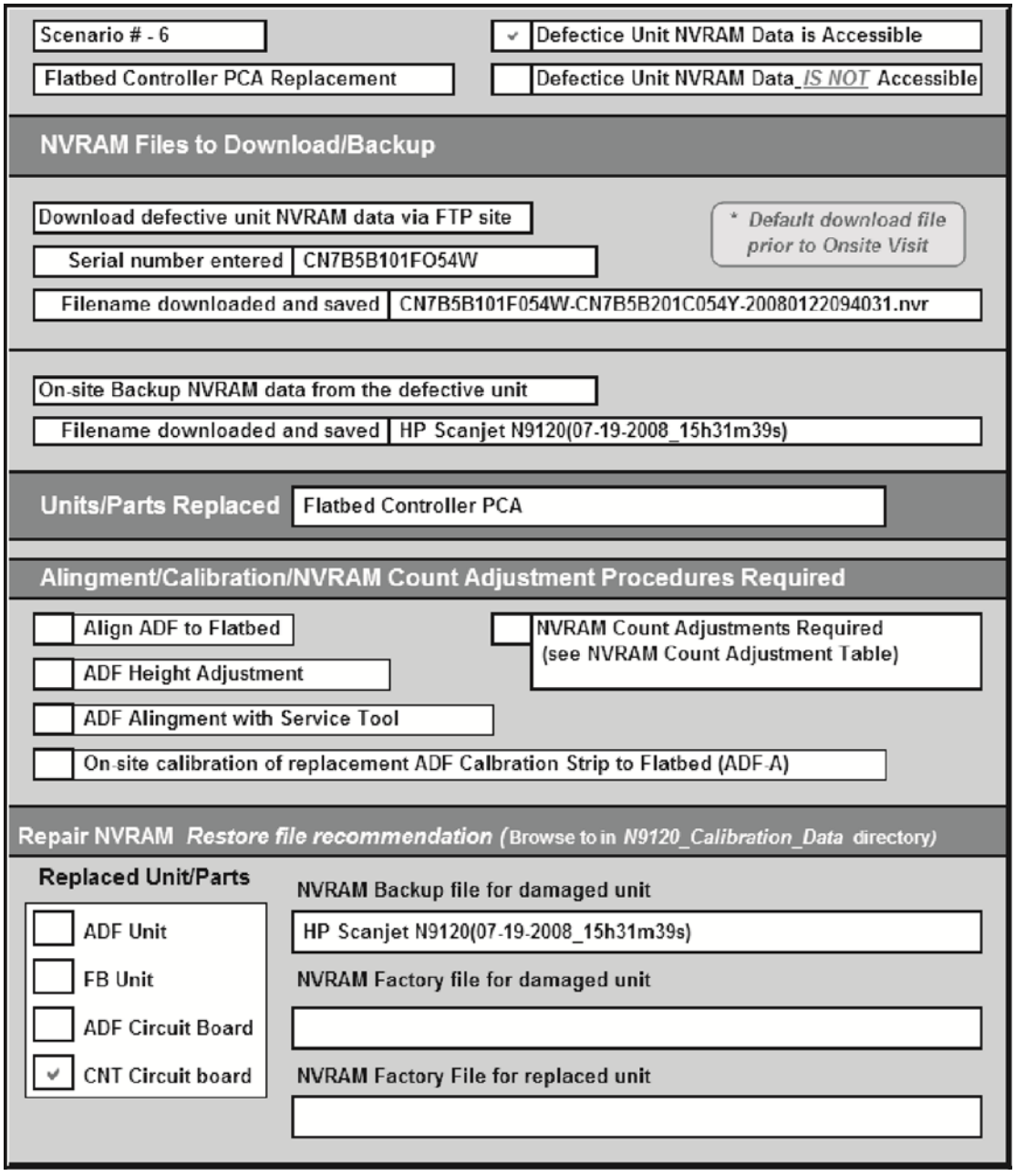
Figure 5-56 Replacement scenario #5 (7 of 11)



Scenario #6: Scanner controller PCA replacement

Scenario #6 applies when replacing the scanner controller PCA and NVRAM data is accessible.

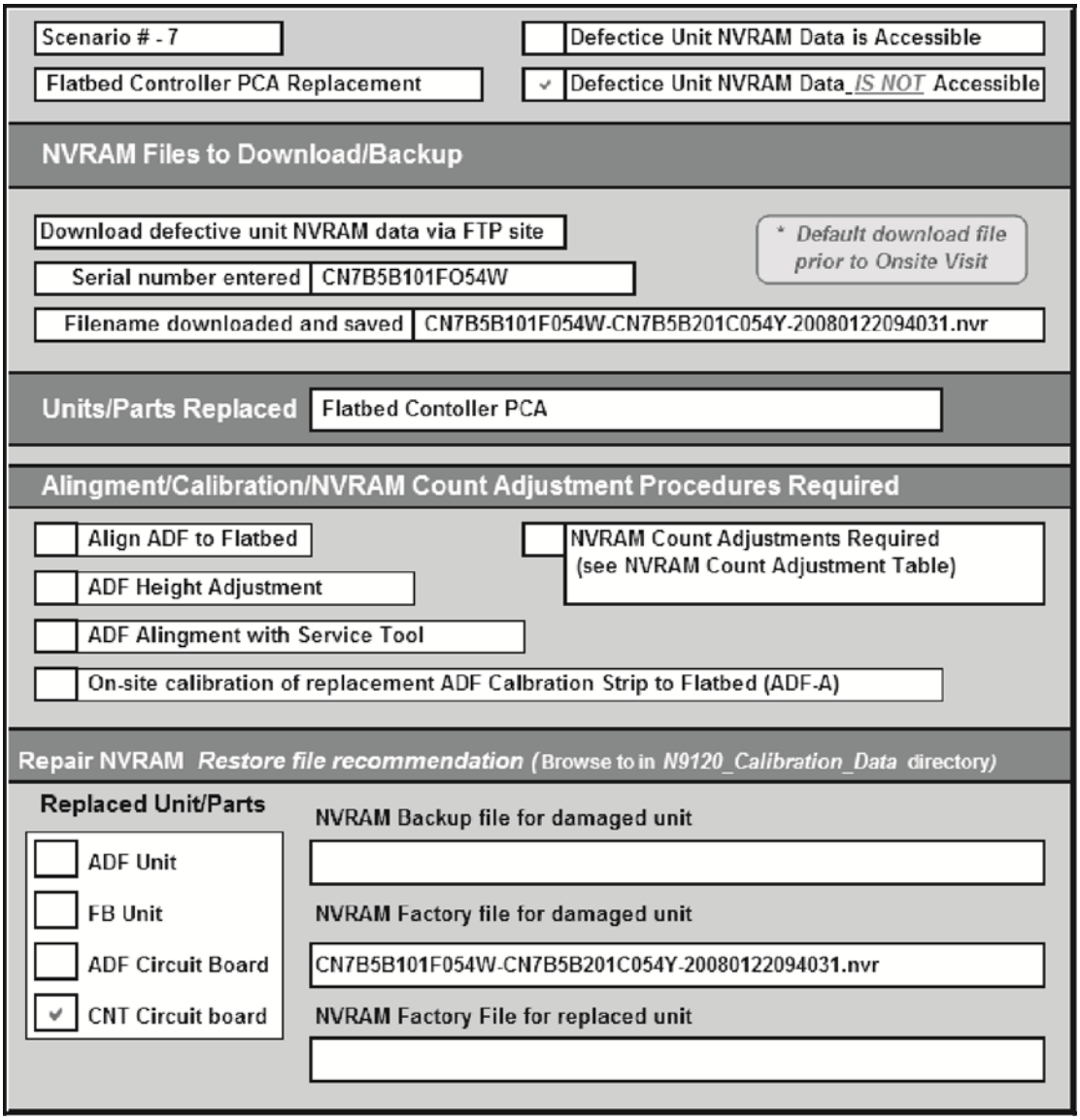
Figure 5-57 Replacement scenario #6 (8 of 11)



Scenario #7: Scanner controller PCA replacement

Scenario #7 applies when replacing the scanner controller PCA and NVRAM data is not accessible.

Figure 5-58 Replacement scenario #7 (9 of 11)



NVRAM data file examples

The following provides example NVRAM file names:

NOTE: The file name for a replacement flatbed shows "XXXXXXXXXXXXX" in place of the ADF file number since the ADF is not being replaced. The file name for a replacement ADF shows "XXXXXXXXXXXXX" in place of the flatbed file number since the flatbed is not being replaced.

Figure 5-59 Repair menu (10 of 11)

N9120 NVRAM File Type Examples		
FRU Type	**Serial Number:**	**Filename:**
Original Flatbed	CN7B5B101FO54W	CN7B5B101F054W-CN7B5B201C054Y-20080122094031.nvr
Original ADF	CN7B5B201C054Y	CN7B5B101F054W-CN7B5B201C054Y-20080122094031.nvr
Replacement Flatbed	CN85VD3001054X	CN85PD100H054W- XXXXXXXXXXXXXX -20080521185330.nvr
Replacement ADF	CN86PD600B054Y	XXXXXXXXXXXXXX-CN86PD600B054Y-20080621181552.nvr
Original Unit NVRAM Backup	CN7B5B101FO54W	HP Scanjet N9120(07-19-2008_15h31m39s)

NVRAM content adjustment

The following provides recommendations for adjusting NVRAM values for the following replacement scenarios:

- Scenario #1. See Scenario #1: Whole ADF replacement on page 77.
- Scenario #4. See Scenario #4: Whole flatbed scanner replacement on page 80.
- Scenario #5. See Scenario #5: Whole flatbed scanner replacement on page 81.

Figure 5-60 Repair menu (11 of 11)

Whole Unit Replacement Scenarios and NVRAM Count Adjustments Required			
Scenarios	#1	#4	#5
Whole Unit or Controller PCA Replacement	Whole ADF	Whole Flatbed Unit	Whole Flatbed Unit
Defective Unit NVRAM Data Accessible?	N/A	Yes	*No*
Adjustable NVRAM Content	**Recommended Value Adjustment**		
Number of Repairs	No Change	No Change	No Change
Flatbed Err 1 Scan Count	No Change	Clear	Clear
Flatbed Err 2 Scan Count	No Change	Clear	Clear
Flatbed Err 3 Scan Count	No Change	Clear	Clear
Scan Count (All scans ADF or FB)	No Change	Clear	Clear
Jam Error Count	Clear	No Change	No Change
Pick Error Count	Clear	No Change	No Change
ADF Page Count at Last Cleaning	Clear	No Change	No Change
ADF ERR1 Page Count	Clear	No Change	No Change
ADF ERR2 Page Count	Clear	No Change	No Change
ADF ERR3 Page Count	Clear	No Change	No Change
ADF Page Count at First Cleaning Message	Clear	No Change	No Change
ADF Page Count at First Roller Replacement Message	Clear	No Change	No Change
ADF Page Count at Separation pad Replacement	Clear	No Change	No Change
ADF Page Count at 1st Separation Pad Replacement Msg.	Clear	No Change	No Change
Imprinter Ink Cartridge Replacement Count	Clear	No Change	No Change
Number of times the ADF has been Cleaned	Clear	No Change	No Change
Number of times ADF Rollers has been replaced	Clear	No Change	No Change
Page Count	Clear	No Change	No Change
ADF ERR1 plus number of times occurred	Clear	No Change	No Change
ADF ERR2 plus number of times occurred	Clear	No Change	No Change
ADF ERR3 plus number of times occurred	Clear	No Change	No Change
Number of times ADF Separation pad has been replaced	Clear	No Change	No Change
Total number of batches	No Change	No Change	No Change
Average Pages in a day	No Change	No Change	No Change
Imprinter Total number of firing	No Change	No Change	No Change

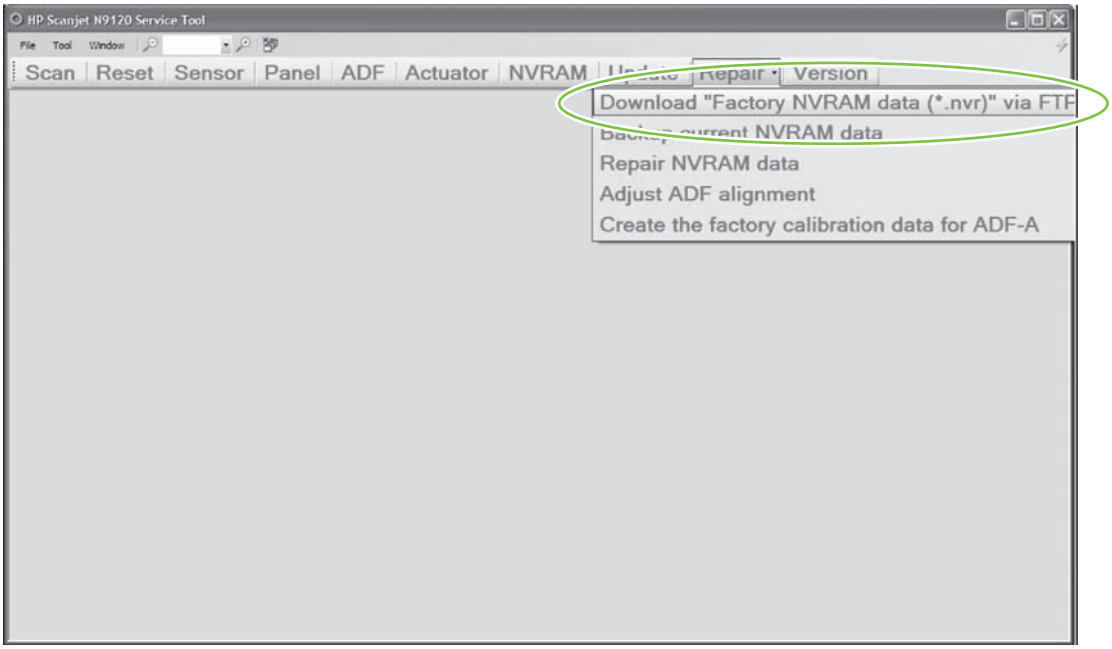
Download factory NVRAM data

NOTE: Factory NVRAM data should be downloaded before the service call.

WARNING! Do not make changes in the **Date items** dialog box.

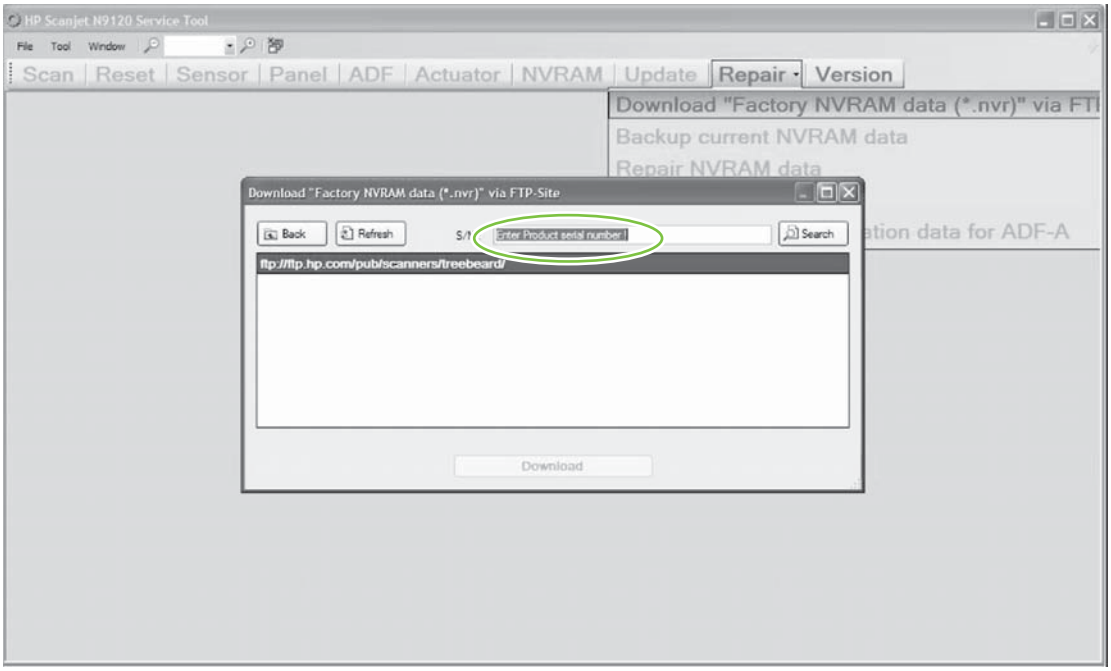
1. Click **Repair**, and then click **Download "Factory NVRAM data (*.nvr)" via FTP**.

Figure 5-61 Download factory NVRAM data (1 of 6)



2. Enter the unit serial number, and then click **Search**. See NVRAM data file examples on page 84.

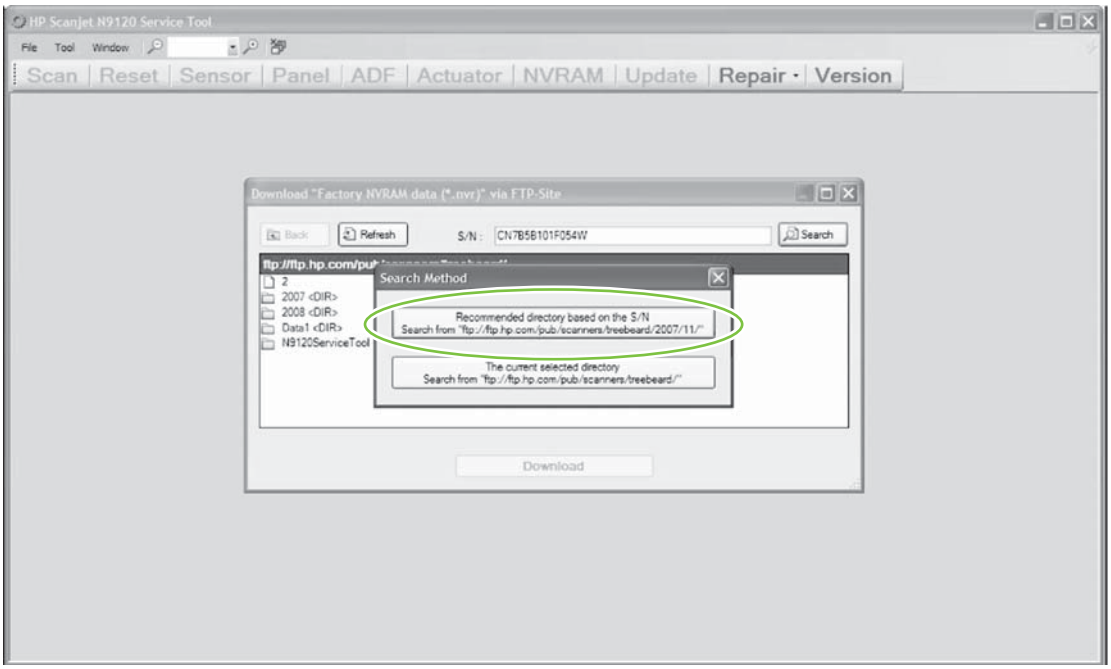
Figure 5-62 Download factory NVRAM data (2 of 6)



3. Click **Recommended directory based on the S/N**.

NOTE: Always choose this option to use the automatic search function.

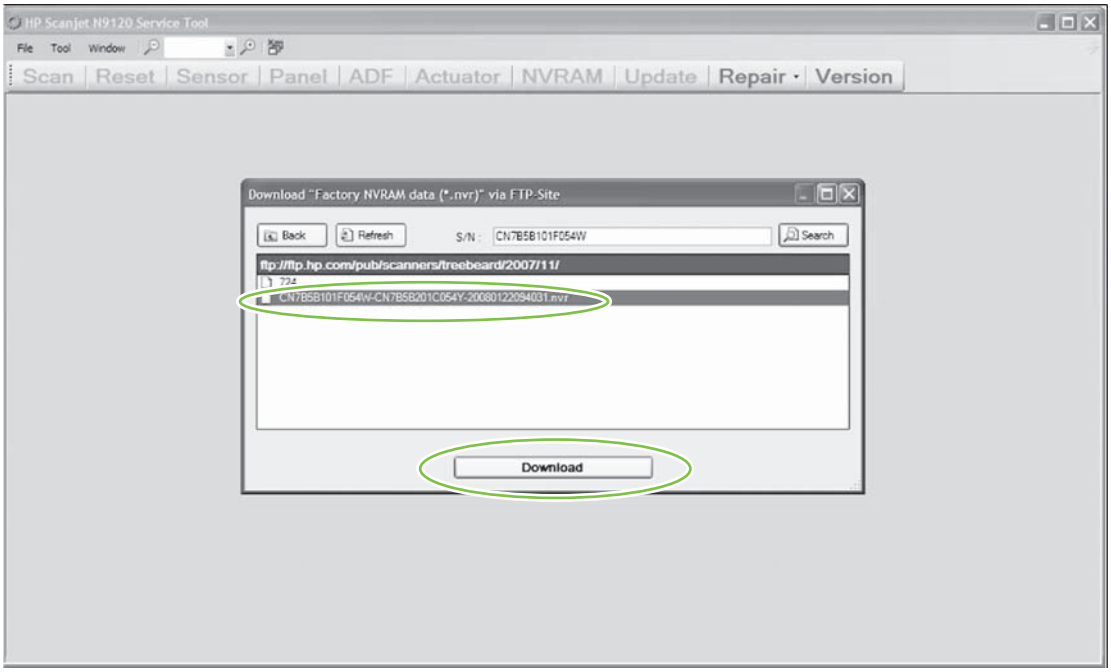
Figure 5-63 Download factory NVRAM data (3 of 6)



4. Verify the correct file has been found, and then click **Download**.

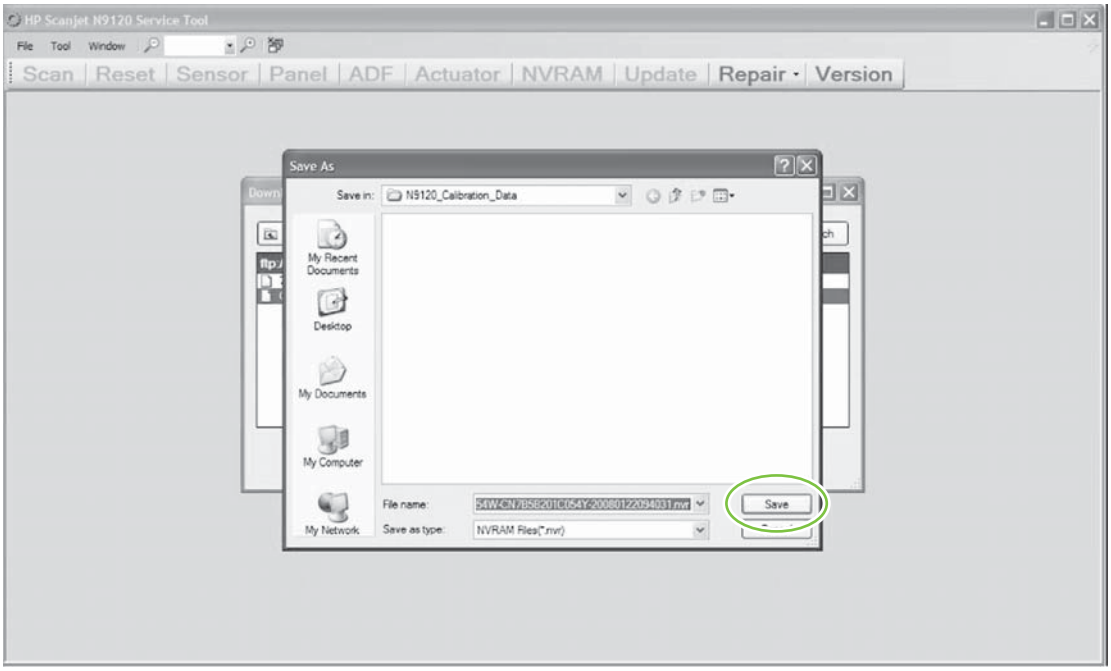
NOTE: Always use the default directory when downloading NVRAM files to the service computer.

Figure 5-64 Download factory NVRAM data (4 of 6)



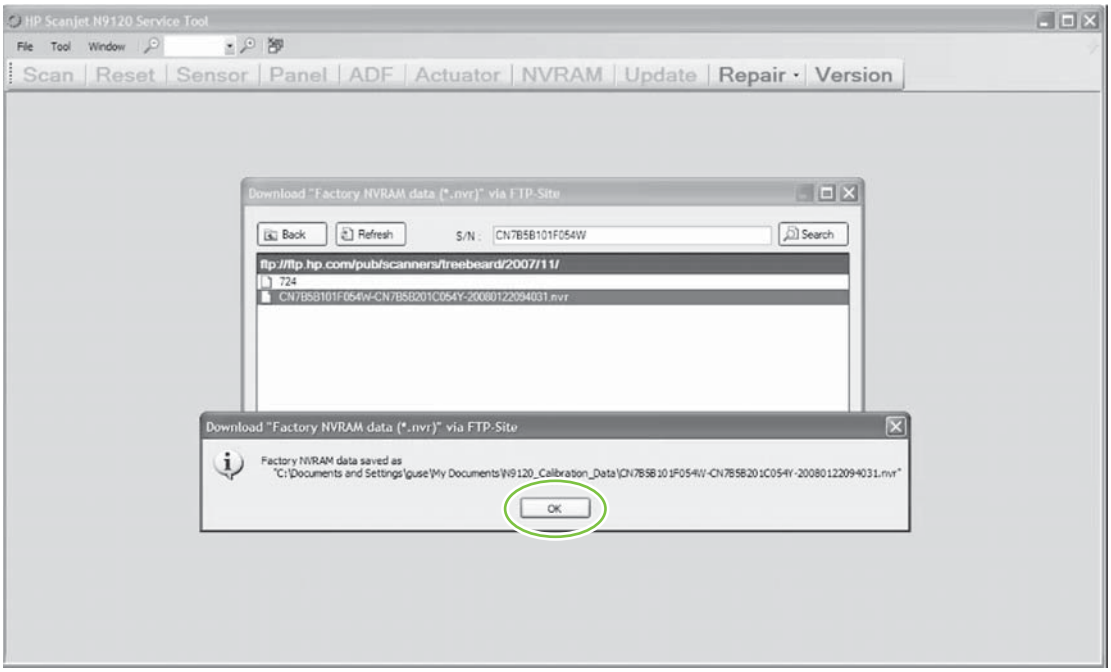
5. Verify the correct file has been found, and then click **Save**.

Figure 5-65 Download factory NVRAM data (5 of 6)



6. Click **OK**.

Figure 5-66 Download factory NVRAM data (6 of 6)

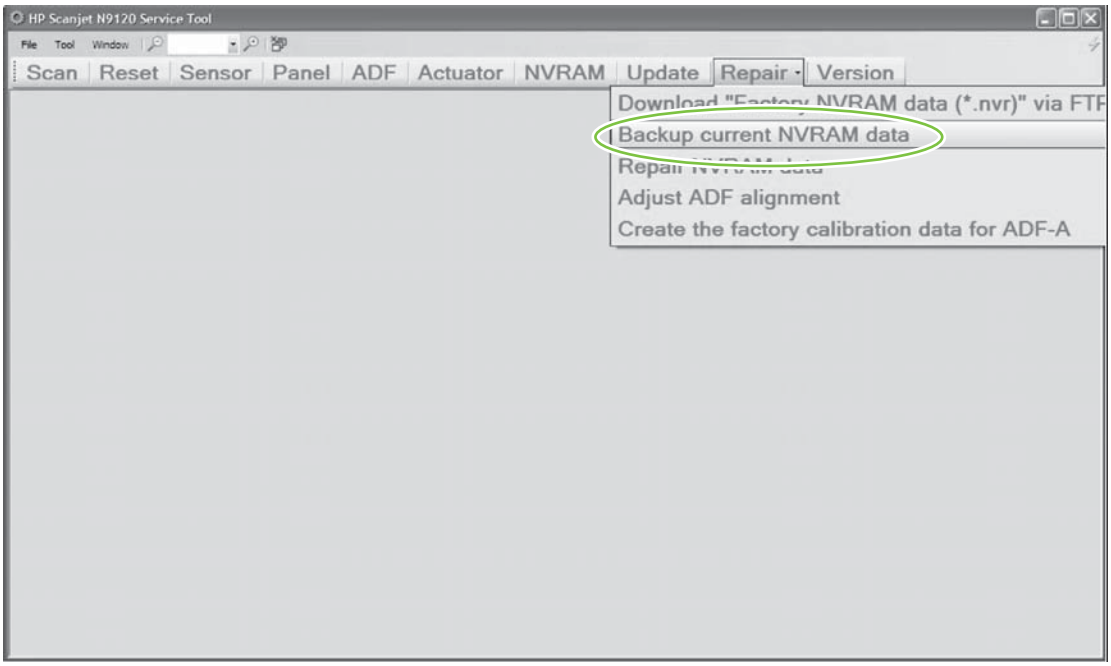


Backup current NVRAM data

NOTE: Factory NVRAM data should be downloaded before the service call.

1. Click **Repair**, and then click **Backup current NVRAM data**.

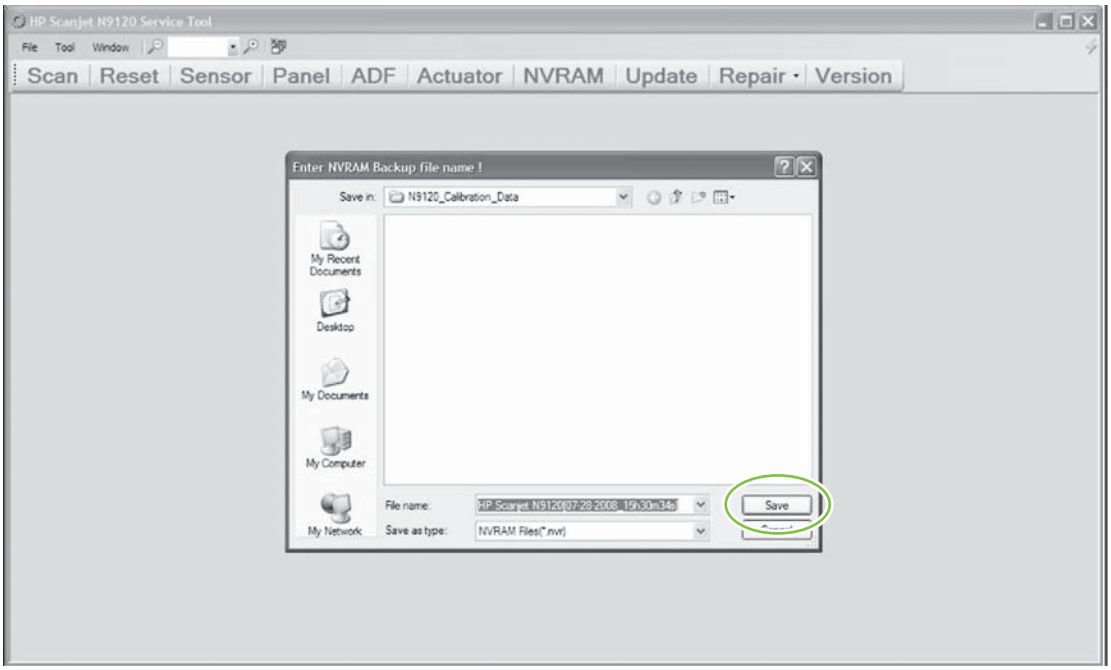
Figure 5-67 Backup current NVRAM data (1 of 3)



2. Click **Save**.

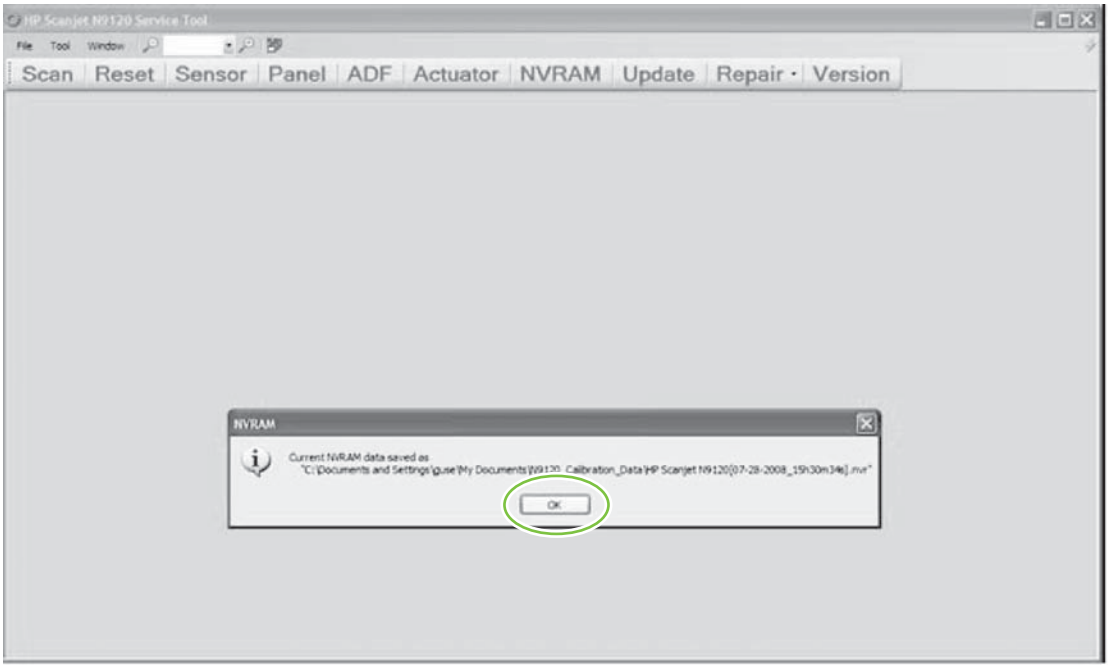
NOTE: Always use the default directory when downloading NVRAM files to the service computer.

Figure 5-68 Backup current NVRAM data (2 of 3)



3. Click **OK**.

Figure 5-69 Backup current NVRAM data (3 of 3)



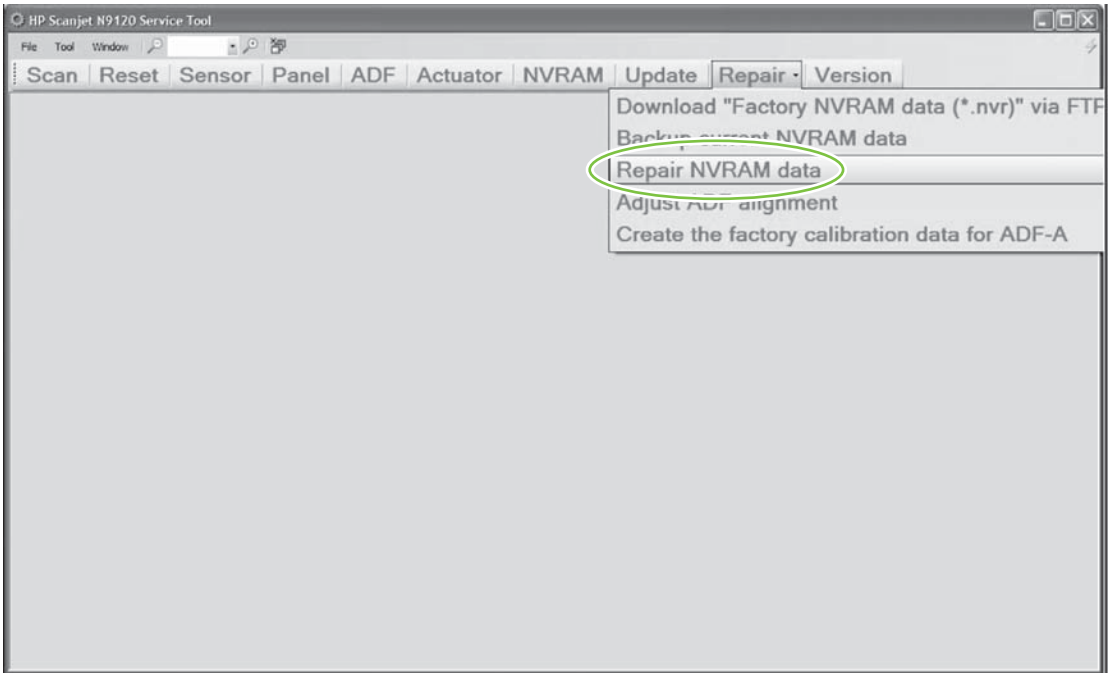
Repair NVRAM data

NOTE: Factory NVRAM data should be downloaded before the service call.

WARNING! Do not make changes in the **Date items** dialog box.

1. Click **Repair**, and then click **Repair NVRAM data**.

Figure 5-70 Repair NVRAM data (1 of 5)



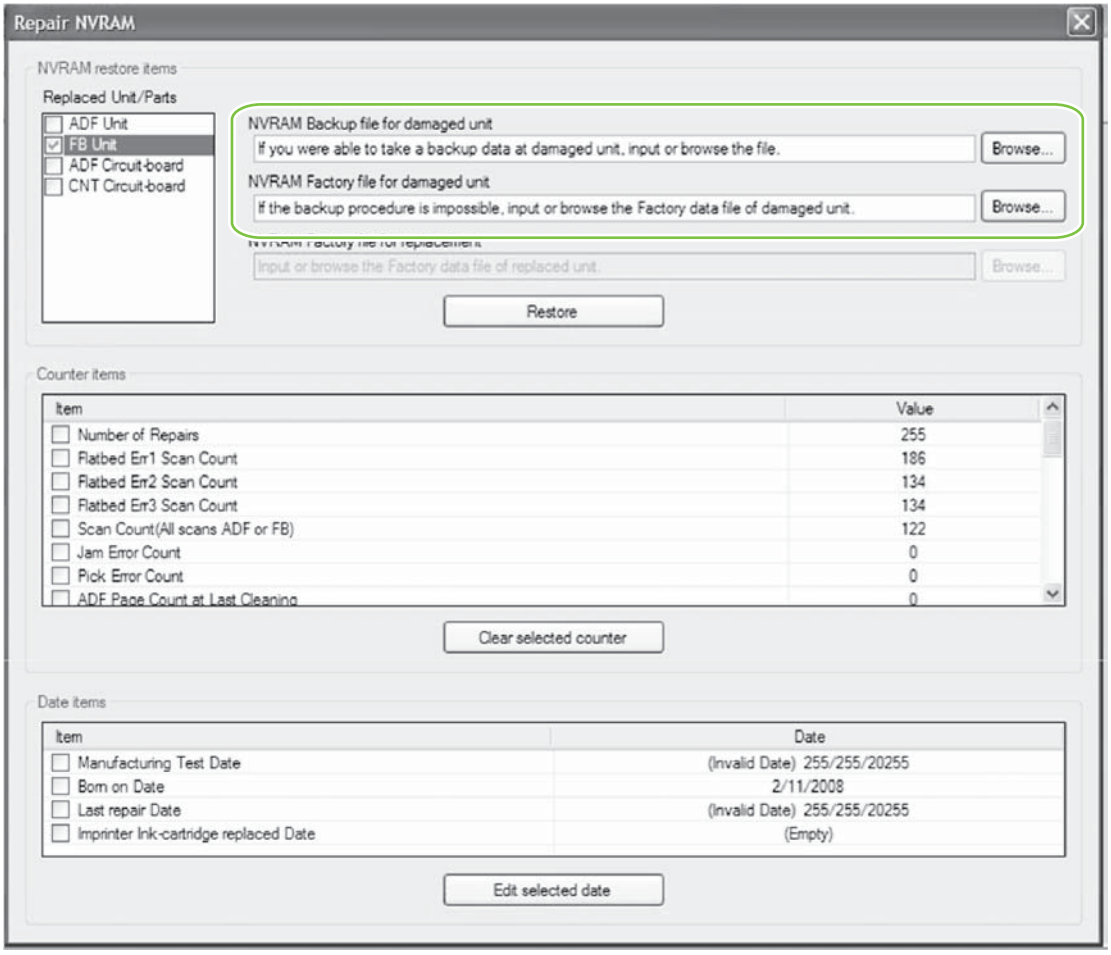
2. Select an option from **Replaced Unit/Parts** menu, and then click **Browse...**.

NOTE: Factory NVRAM data should be downloaded before the service call.

NOTE: In this procedure, **FB Unit** has been selected from the **Replaced Unit/Parts** menu for purposes of illustration. See Replacement scenarios on page 77 for options to choose for specific replacement scenarios.

NOTE: Always choose **NVRAM Backup file for damaged unit** if the NVRAM was backed up from the damaged unit. Choose **NVRAM Factory file for damaged unit** if the NVRAM was not backed up from the damaged unit.

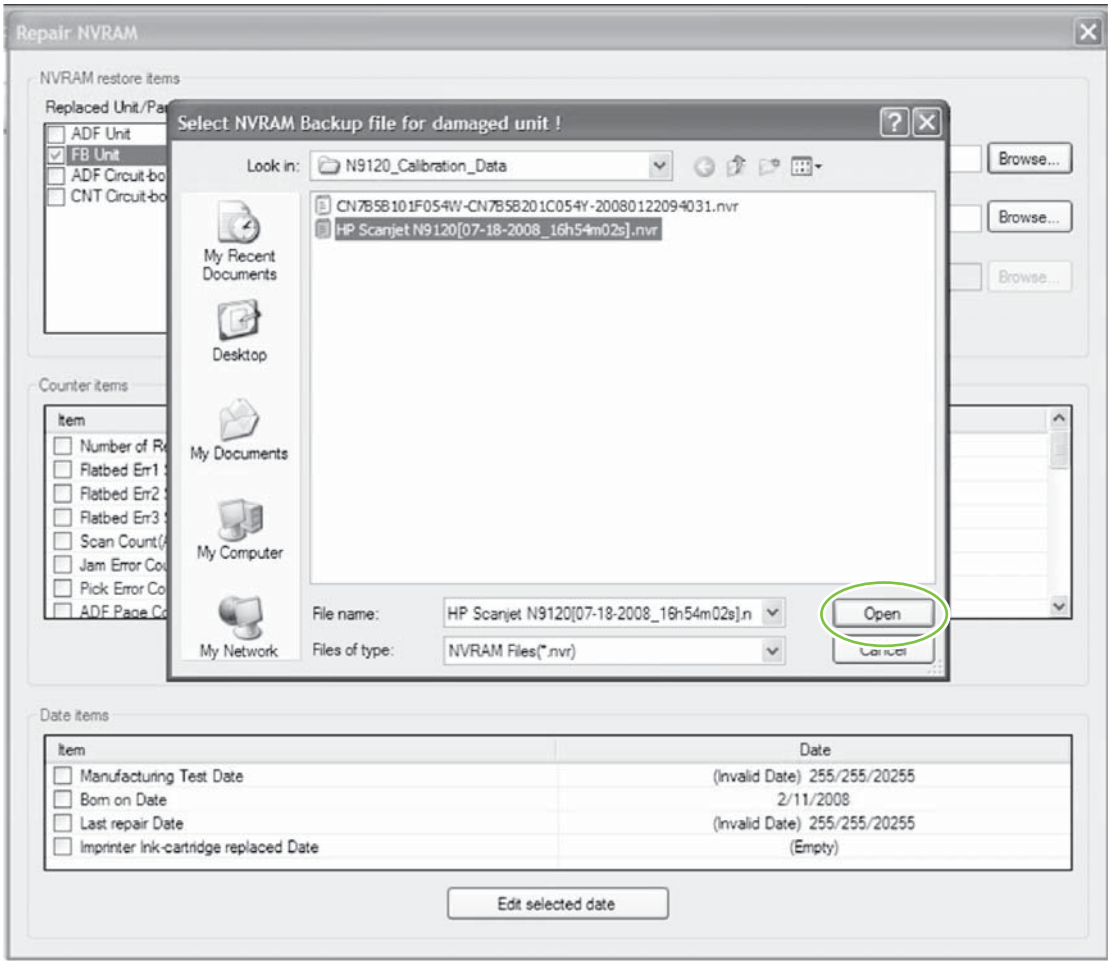
Figure 5-71 Repair NVRAM data (2 of 5)



3. Verify the correct file has been selected, and then click **Open**.

NOTE: Always use the default directory when downloading NVRAM files to the service computer.

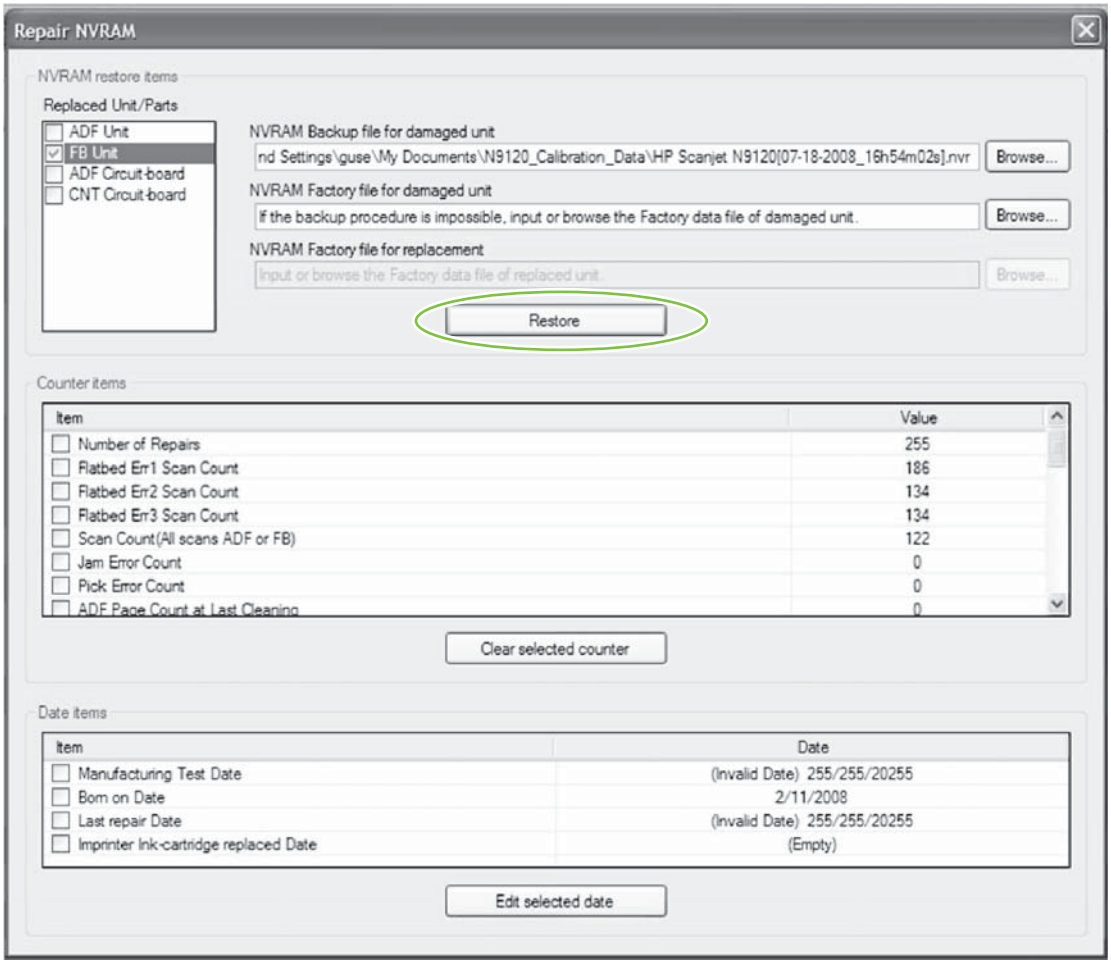
Figure 5-72 Repair NVRAM data (3 of 5)



4. Click **Restore**.

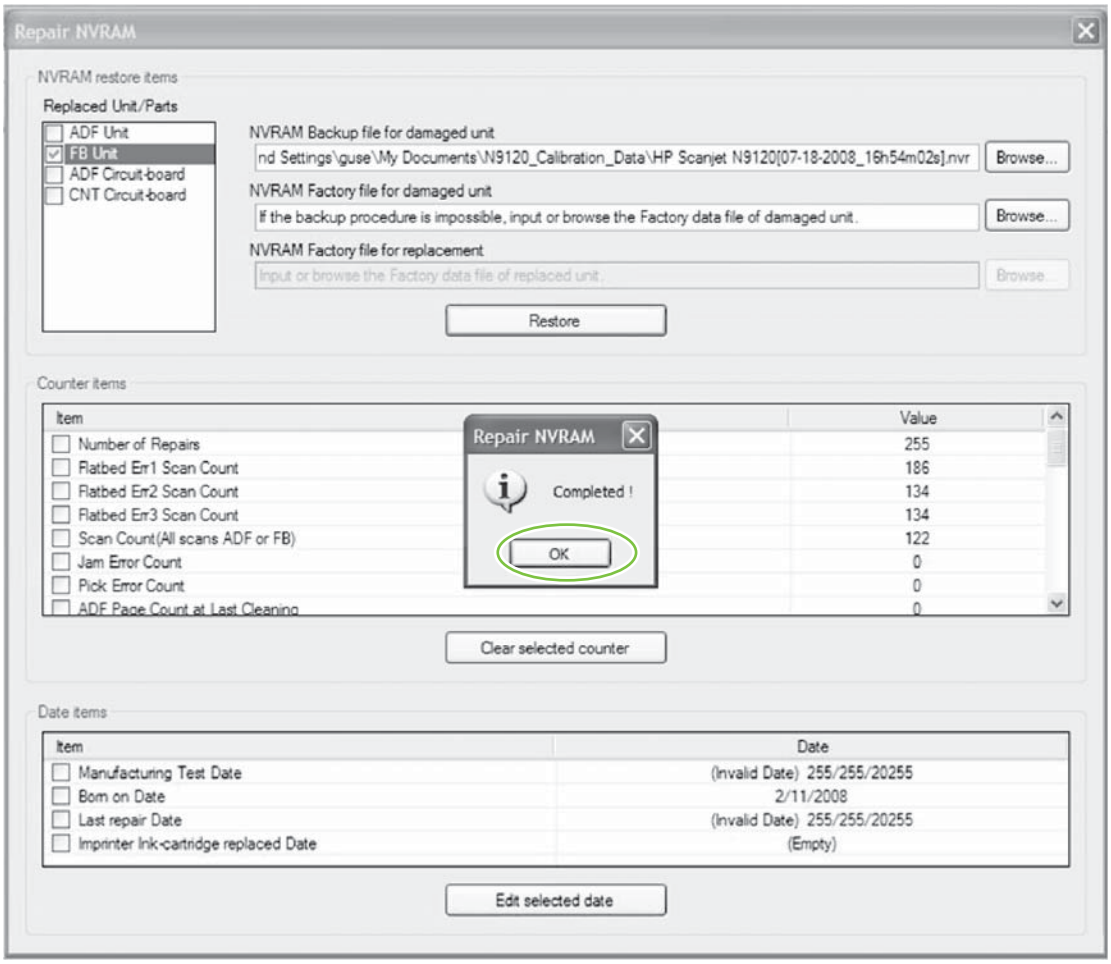
NOTE: The NVRAM backup file name will not be shown in the **NVRAM Backup file for damaged unit** or **NVRAM Factory file for damaged unit** file path dialog boxes.

Figure 5-73 Repair NVRAM data (4 of 5)



5. Click **OK**.

Figure 5-74 Repair NVRAM data (5 of 5)



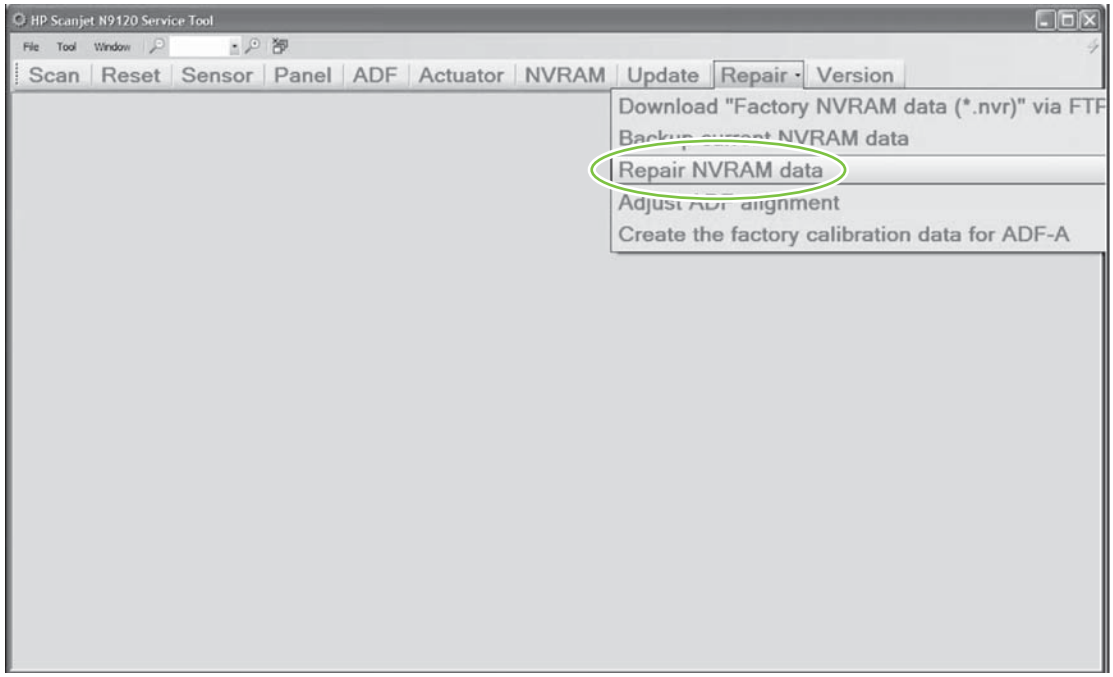
Adjust NVRAM counter items

NOTE: Factory NVRAM data should be downloaded before the service call.

WARNING! Do not make changes in the **Date items** dialog box.

1. Click **Repair**, and then click **Repair NVRAM data**.

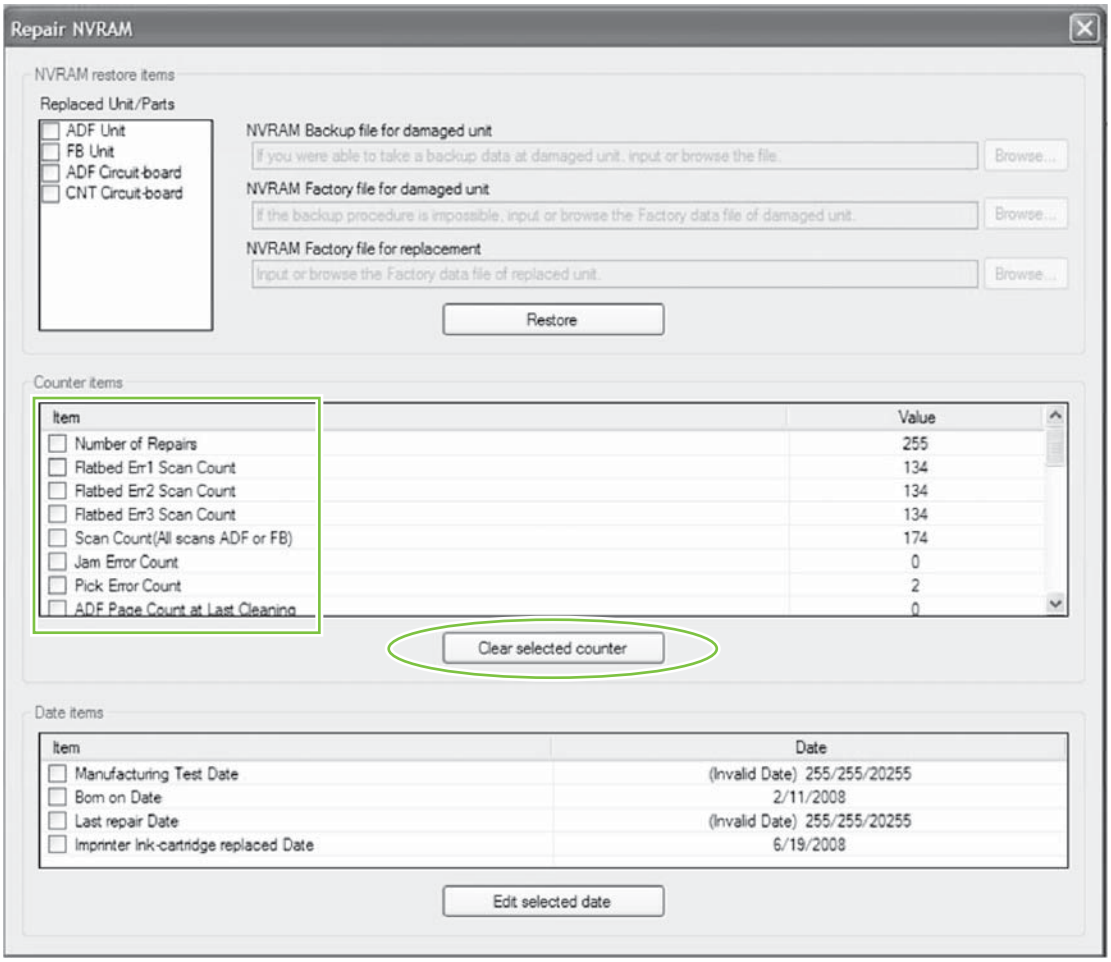
   Figure 5-75 Adjust NVRAM counter items (1 of 2)



2. Repair the NVRAM data. See Repair NVRAM data on page 91.

3. From the **Counter items** menu, select items to clear, and then click **Clear selected counter**.

Figure 5-76 Adjust NVRAM counter items (2 of 2)



Align the ADF

ADF alignment must be implemented after removing the ADF from the flatbed scanner.

NOTE: Factory NVRAM data should be downloaded before the service call.

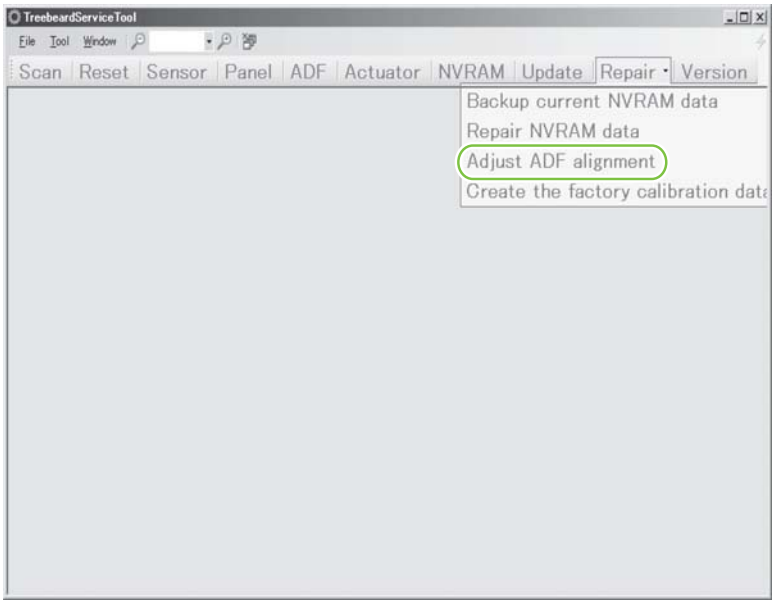
1. On an A4 size paper, print out the ADF alignment target. Place the alignment target in the ADF alignment input tray.

Figure 5-77 ADF alignment (1 of 6)

2. Open the N9120 Service Tool.

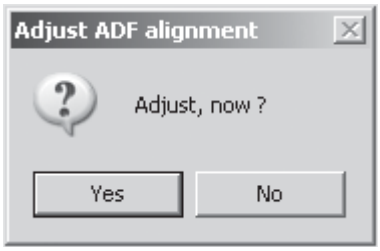
3. Click **Repair**, and then click **Adjust ADF alignment**.

Figure 5-78 ADF alignment (2 of 6)



4. Click **Yes**.

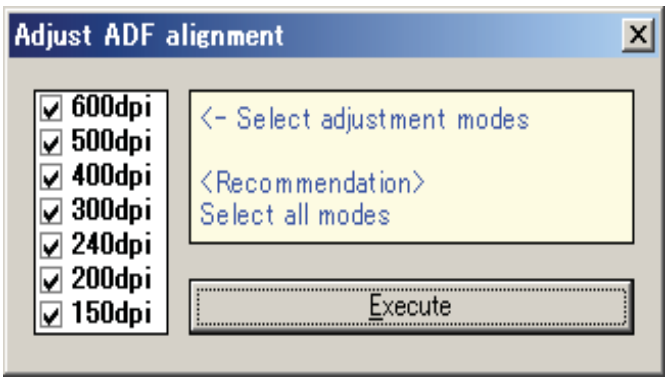
Figure 5-79 ADF alignment (3 of 6)



5. Select seven check boxes, and then click **Execute** to adjust the alignment for 600dpi.

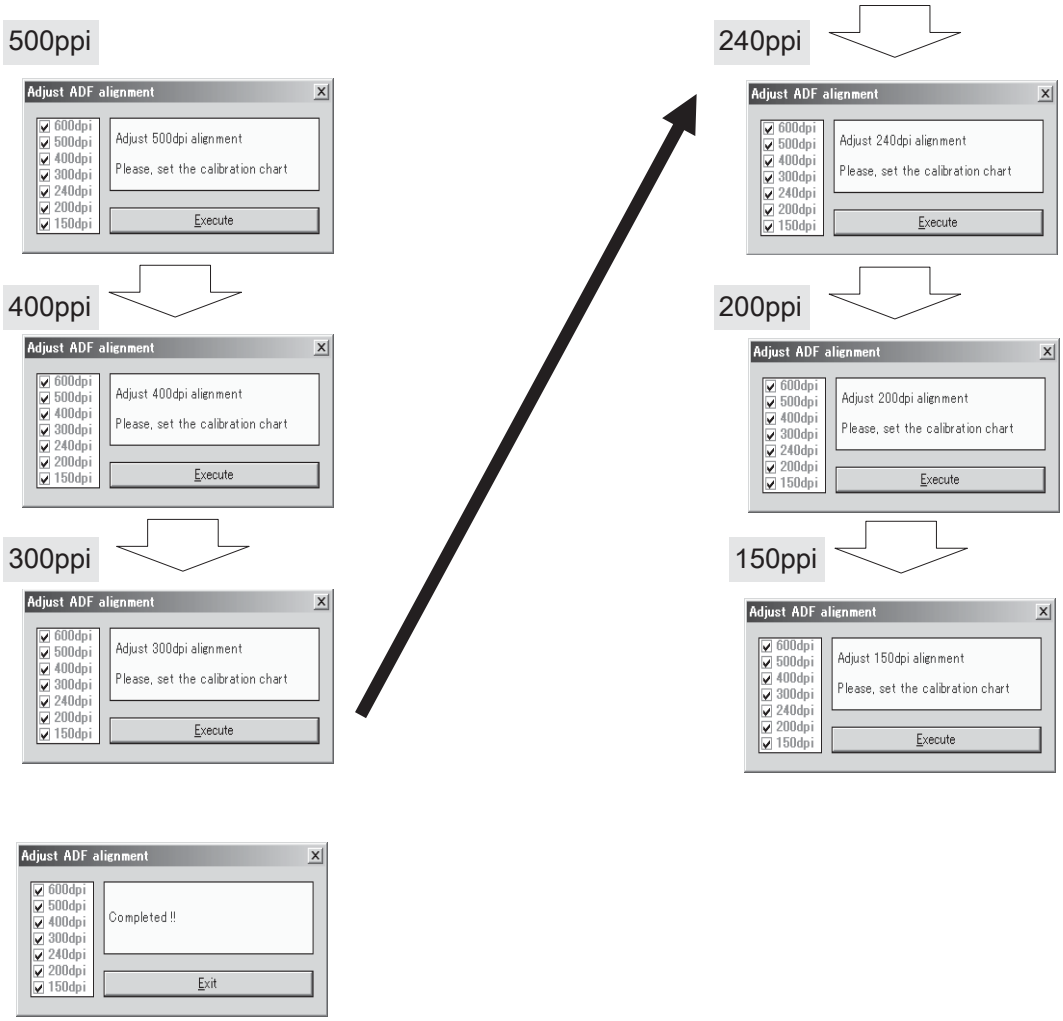
NOTE: When seven check boxes are selected, the product automatically adjusts alignment beginning with 600dpi.

Figure 5-80 ADF alignment (4 of 6)



6. Reinstall the alignment target, and then click **Execute**. Repeat this step until the 150dpi adjustment is accomplished.

Figure 5-81 ADF alignment (5 of 6)



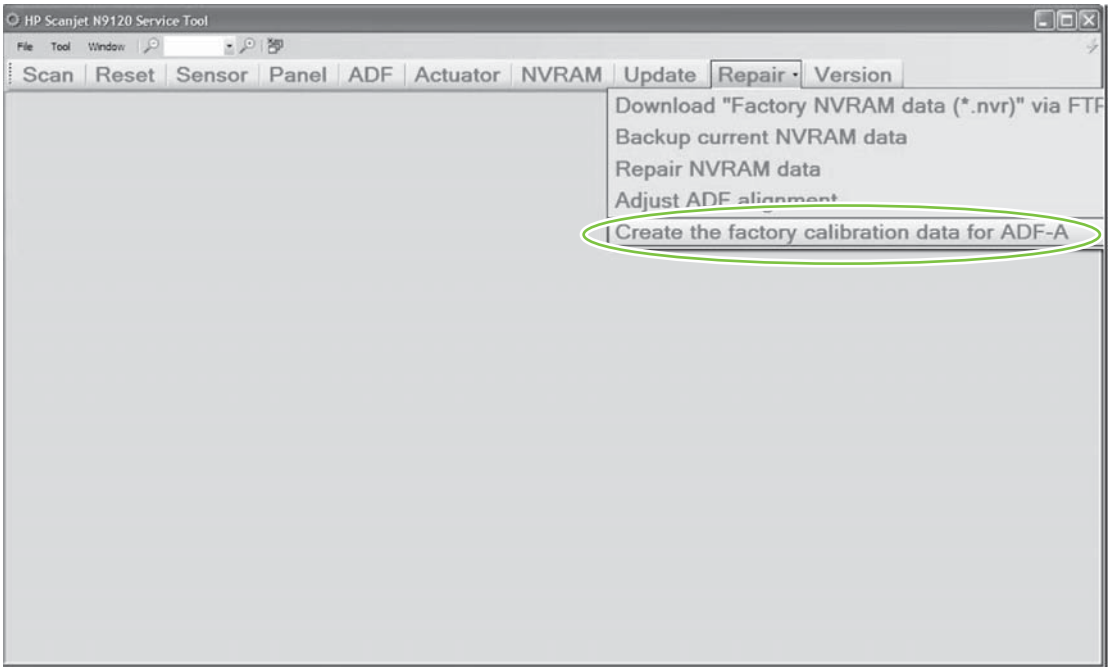
7. Click **Exit**.

Create the factory calibration data for ADF-A

NOTE: Factory NVRAM data should be downloaded before the service call.

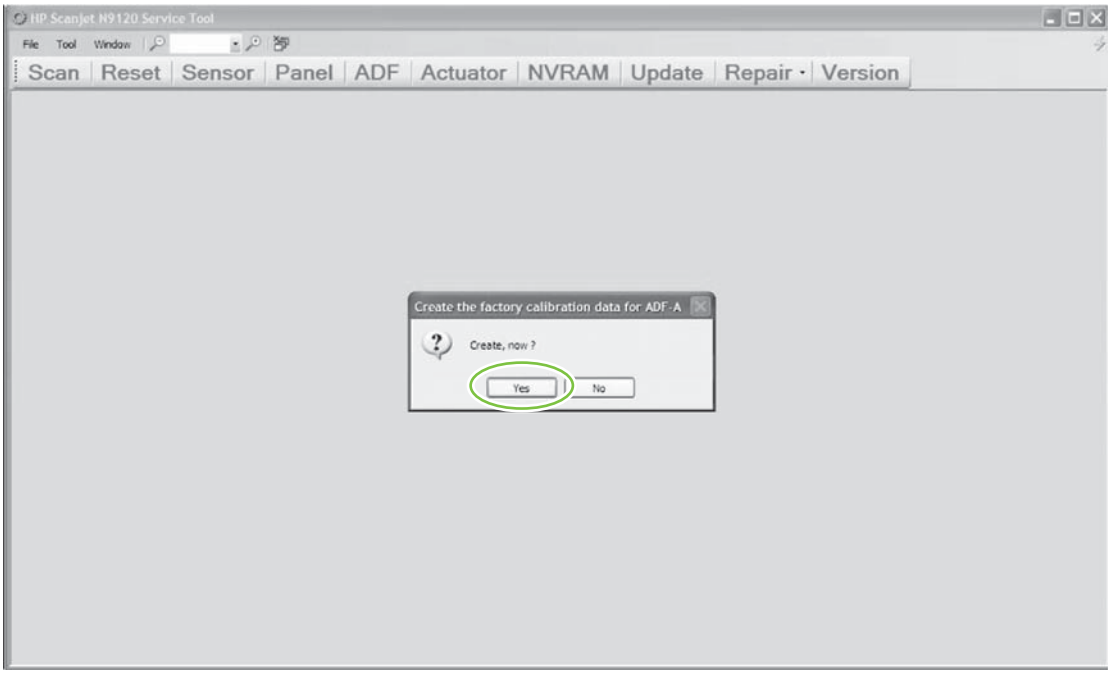
1. Click **Repair**, and then click **Create the factory calibration data for ADF-A**.

Figure 5-82 Create the factory calibration data for ADF-A (1 of 3)



2. Click **Yes** .

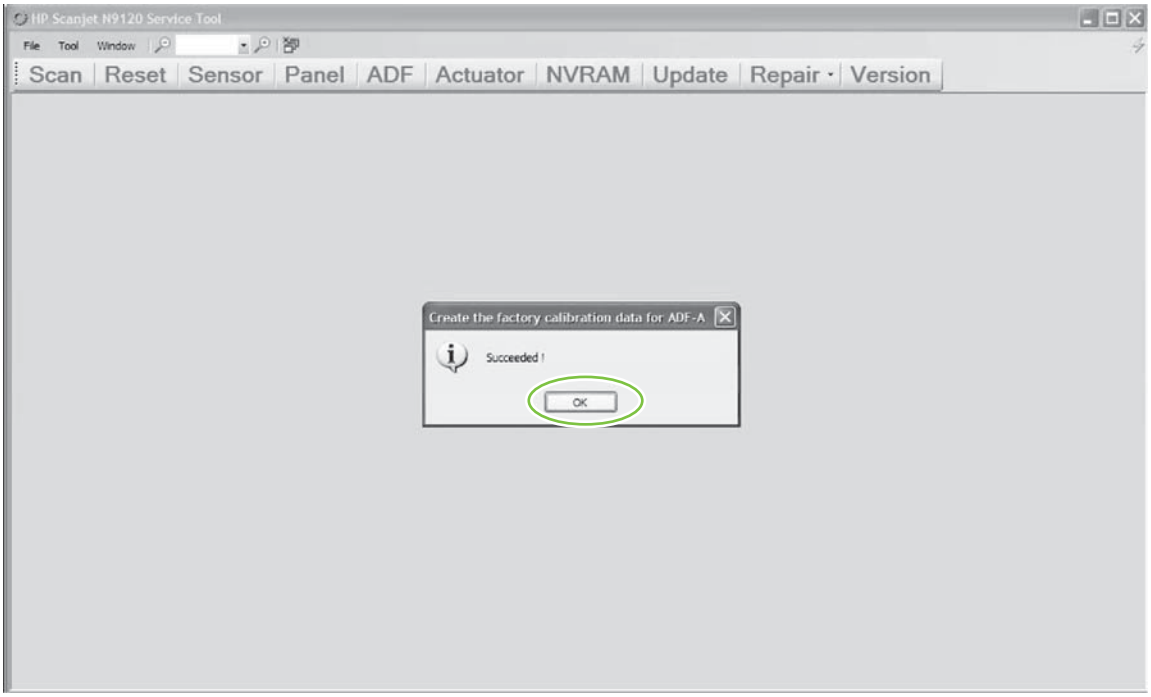
Figure 5-83 Create the factory calibration data for ADF-A (2 of 3)



NOTE: Two graphs will be displayed automatically as the Service Tool creates the factory calibration data.

3. Click **OK**.

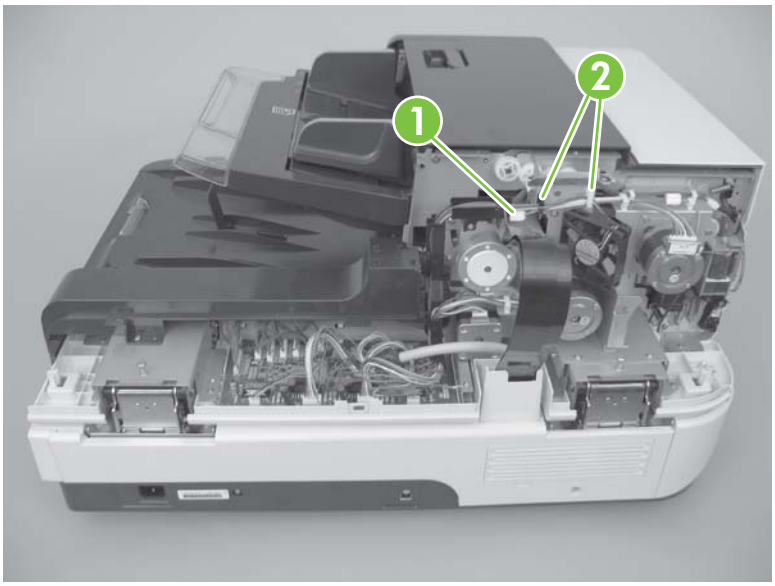
Figure 5-84 Create the factory calibration data for ADF-A (3 of 3)



ADF motor fan

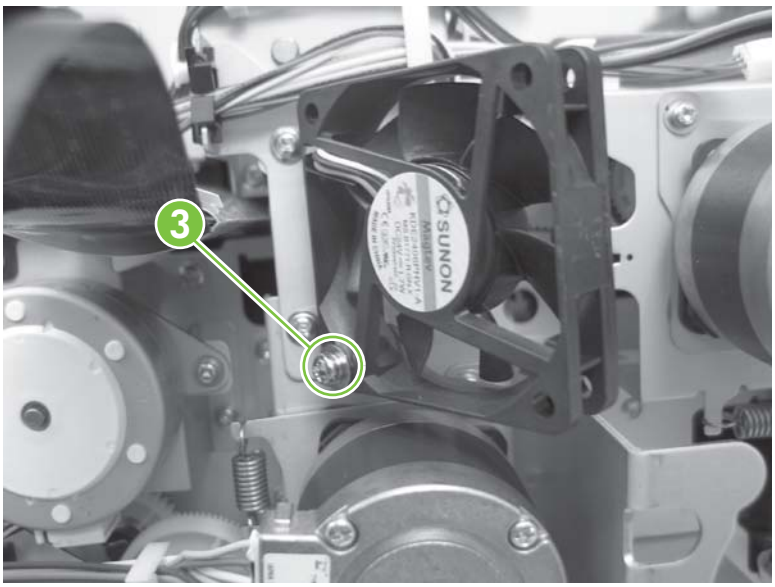
1. Remove the ADF back cover. See ADF back cover on page 58.
2. Disconnect one connector (callout 1), and then release the wire harness from the retainers (callout 2).

Figure 5-85 Remove the ADF motor fan (1 of 2)



3. Remove one screw (callout 3), and then remove the ADF motor fan.

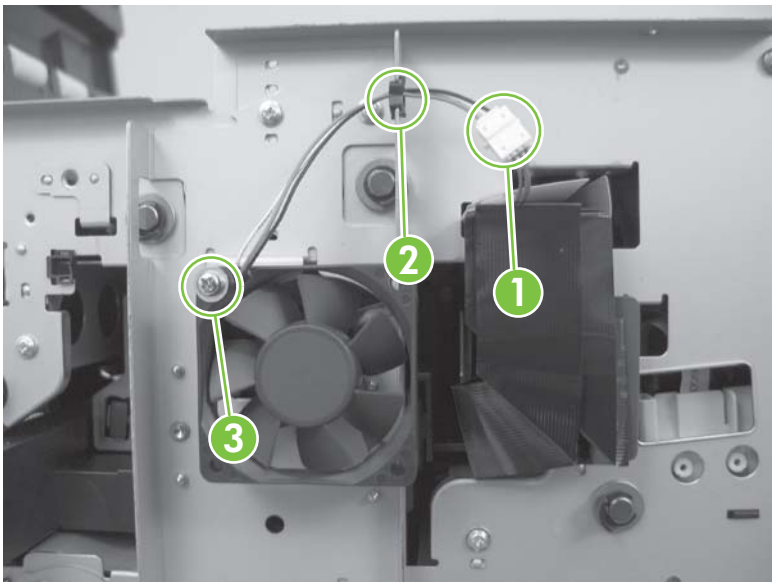
Figure 5-86 Remove the ADF motor fan (2 of 2)



ADF carriage fan

1. Remove the ADF front cover. See ADF front cover on page 55.
2. Disconnect one connector (callout 1), release the wire harness from the retainer (callout 2), and then remove one screw (callout 3).

Figure 5-87 Remove the ADF carriage fan



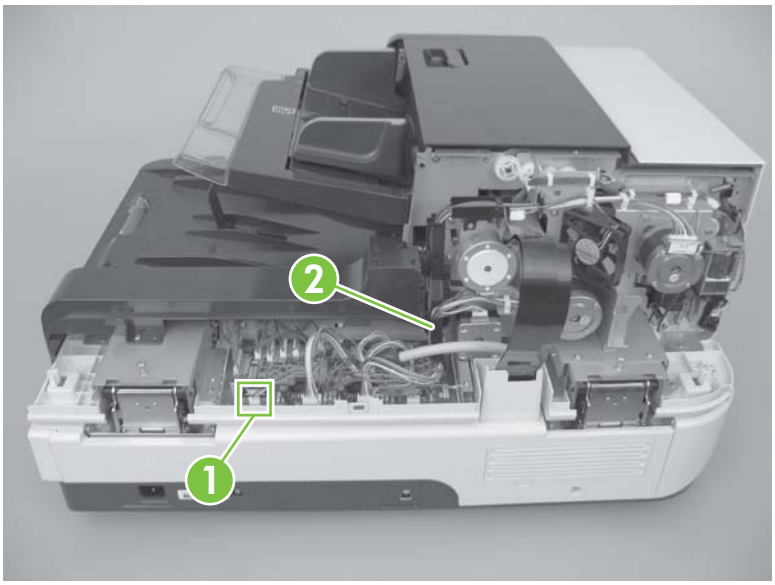
3. Remove the ADF carriage fan.

ADF input-tray lift-motor assembly

WARNING! When removing the ADF input-tray lift-motor assembly, do not bend, tear, pinch, stretch, or damage the two FFCs.

1. Remove the ADF back cover. See ADF back cover on page 58.
2. Disconnect one connector (callout 1), and then release the wire harness from the retainer (callout 2).

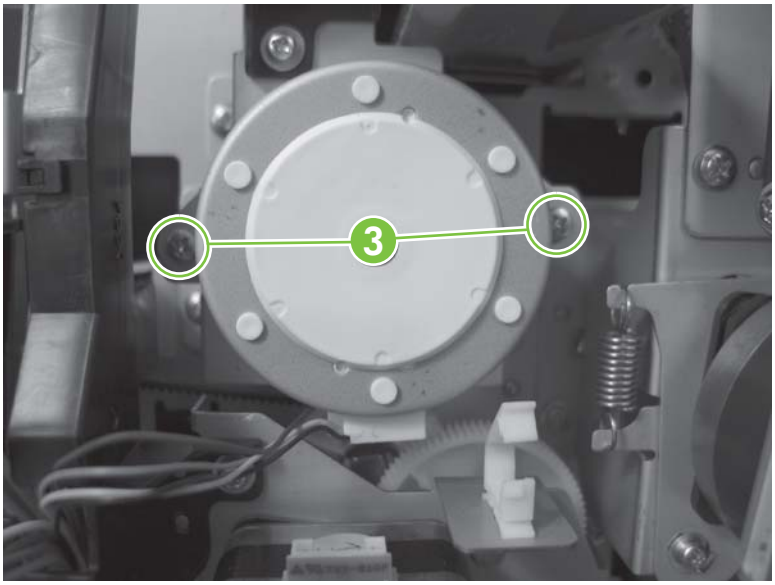
Figure 5-88 Remove the ADF input-tray lift-motor assembly (1 of 2)



3. Remove two screws (callout 3), and then remove the ADF input-tray lift-motor assembly.

NOTE: The cable harness does not terminate at the ADF input-tray lift-motor. Remove the CN9 connector on the ADF controller PCA to remove the ADF input-tray lift-motor. See Figure 5-88 Remove the ADF input-tray lift-motor assembly (1 of 2) on page 105.

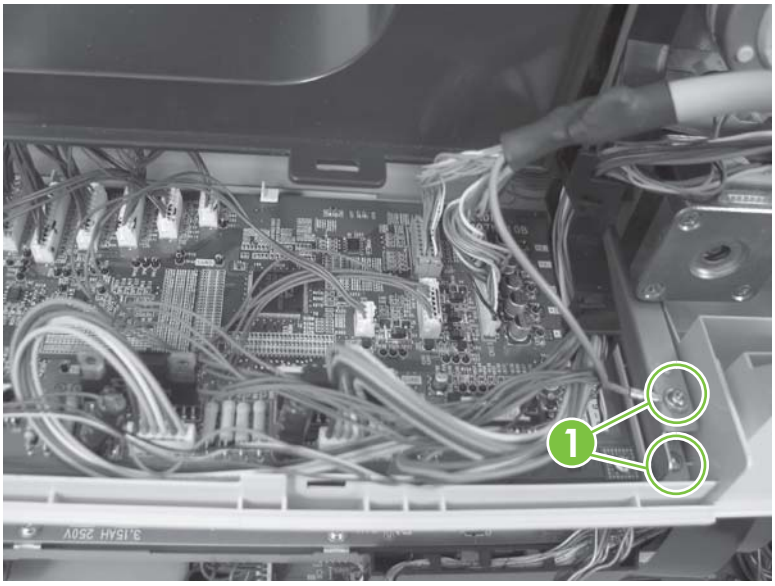
Figure 5-89 Remove the ADF input-tray lift-motor assembly (2 of 2)



ADF exit-motor assembly

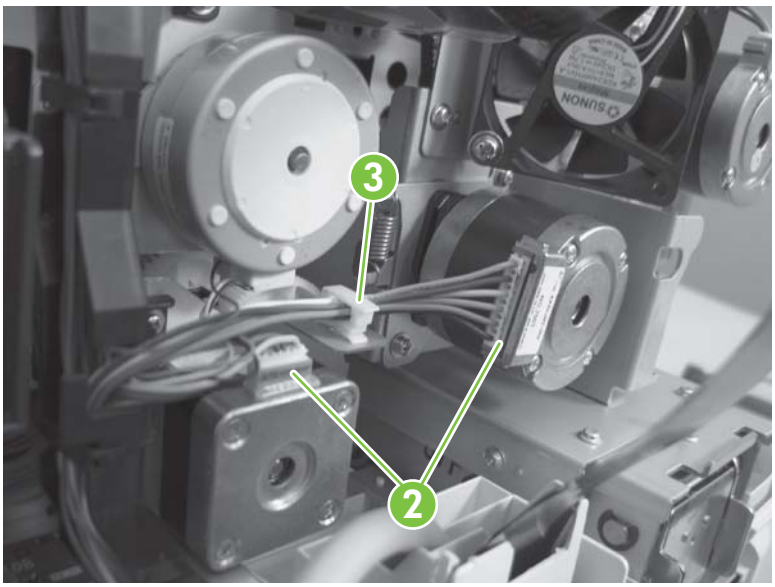
1. Remove the ADF back cover.
2. Remove two screws (callout 1).

Figure 5-90 Remove the ADF exit-motor assembly (1 of 7)



3. Disconnect two connectors (callout 2), and then release the wire harness from the retainer (callout 3).

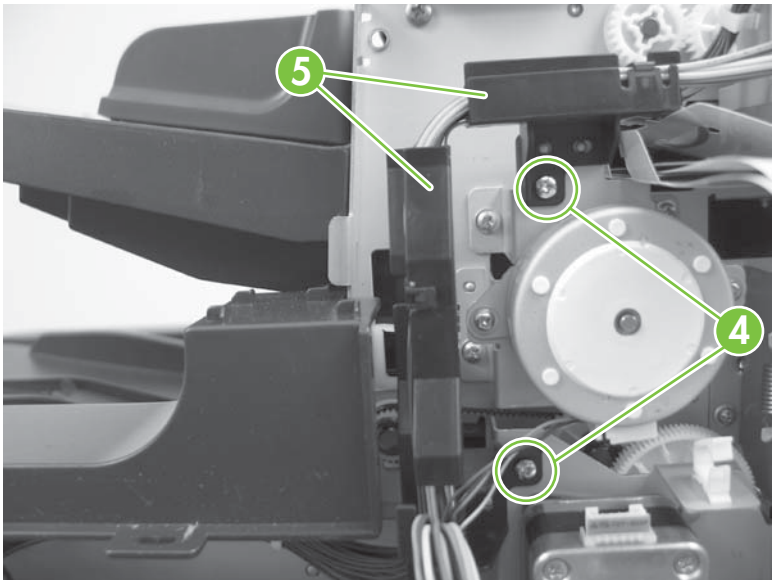
Figure 5-91 Remove the ADF exit-motor assembly (2 of 7)



4. Remove two screws (callout 4).

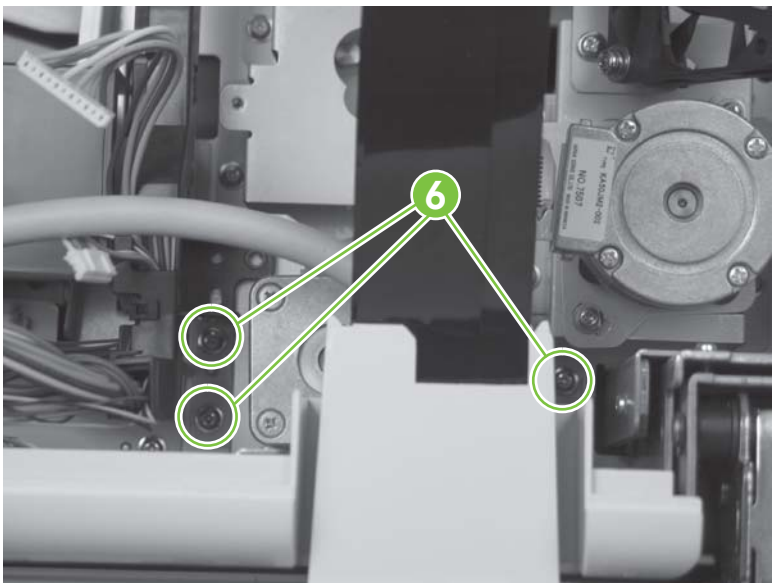
NOTE: This allows the wire retainer (callout 5) to be moved out of the way when the motor is removed.

Figure 5-92 Remove the ADF exit-motor assembly (3 of 7)



5. Remove three screws (callout 6).

Figure 5-93 Remove the ADF exit-motor assembly (4 of 7)

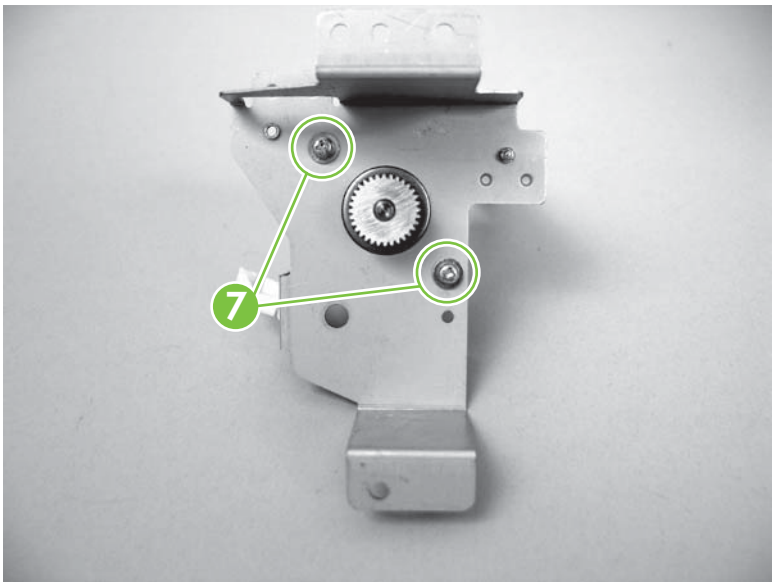


6. Remove the ADF exit-motor assembly.

Figure 5-94 Remove the ADF exit-motor assembly (5 of 7)

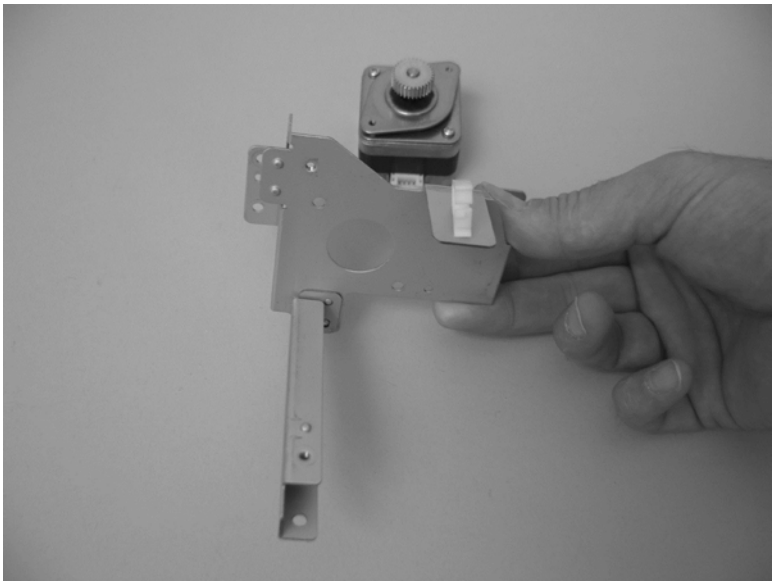
7. Remove two screws (callout 7).

Figure 5-95 Remove the ADF exit-motor assembly (6 of 7)



8. Remove the mounting bracket from the ADF exit-motor assembly.

Figure 5-96 Remove the ADF exit-motor assembly (7 of 7)



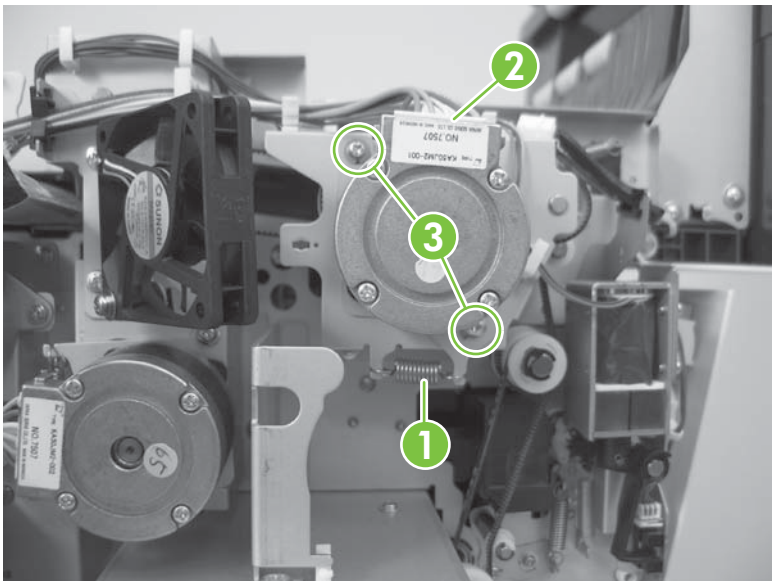
ADF feed-motor assembly

1. Remove the following components:
   - ADF back cover. See ADF back cover on page 58.
   - ADF motor fan. See ADF motor fan on page 103.

   TIP: You do not need to completely remove the fan. It might be easier to remove one screw, and then set the fan out of the way. See Figure 5-86 Remove the ADF motor fan (2 of 2) on page 103.

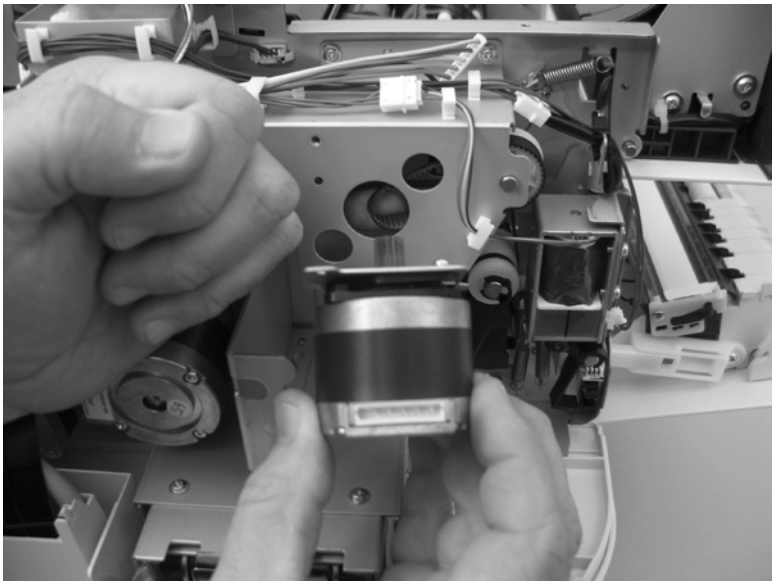
2. Remove one spring (callout 1), disconnect one connector (callout 2), and then remove two screws (callout 3).

Figure 5-97 Remove the ADF feed-motor assembly (1 of 4)



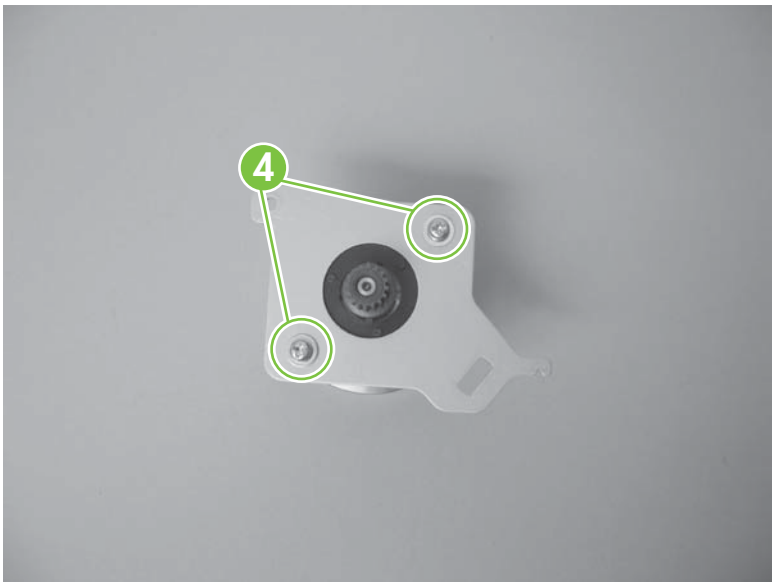
3. Remove the ADF feed-motor assembly.

Figure 5-98 Remove the ADF feed-motor assembly (2 of 4)



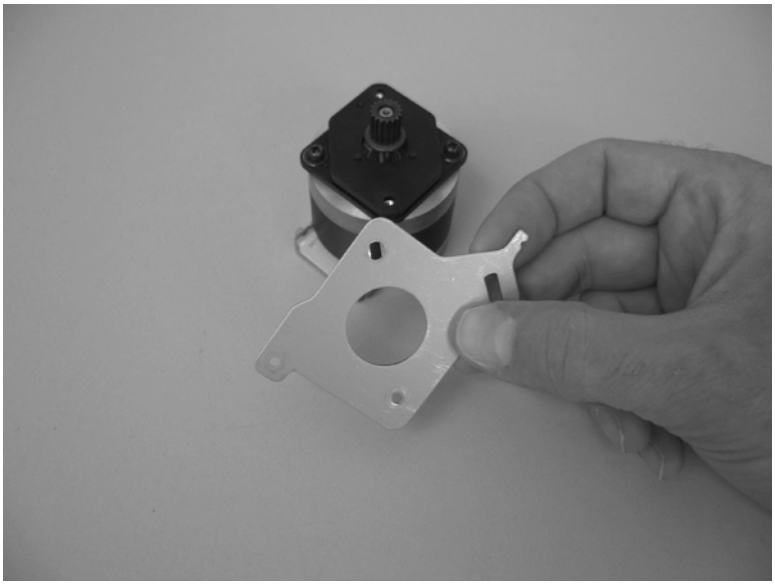
4. Remove two screws (callout 4).

Figure 5-99 Remove the ADF feed-motor assembly (3 of 4)



5. Remove the feed-motor mounting plate from the feed-motor assembly.

Figure 5-100 Remove the ADF feed-motor assembly (4 of 4)



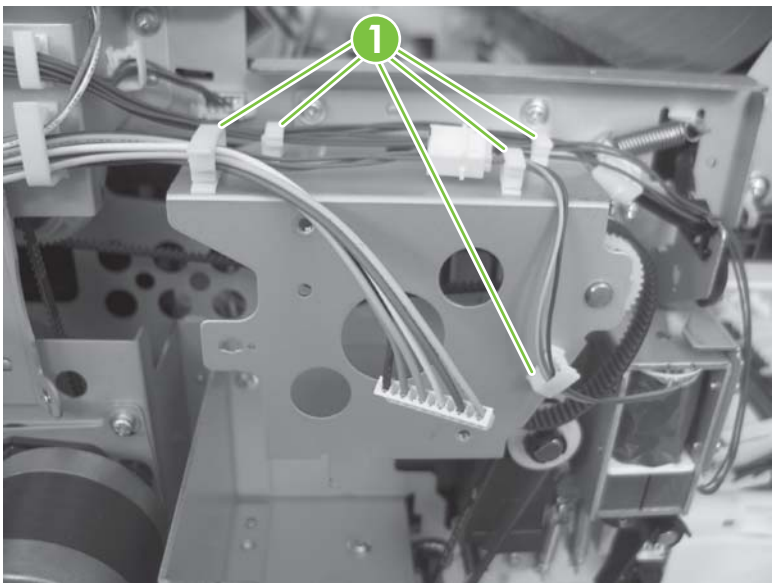
Reinstall the ADF feed-motor drive belt

The ADF feed-motor drive belt can become dislodged when the ADF feed-motor assembly is removed. Use this procedure to reinstall the belt if necessary.

NOTE: If the belt is correctly positioned on the drive gear, skip this procedure and proceed to Reinstall the ADF feed-motor assembly on page 115.

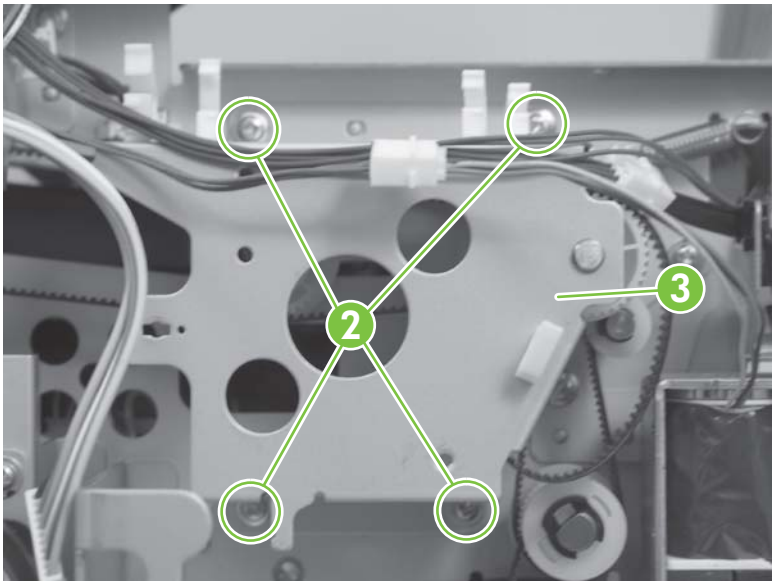
1. Release the wire harnesses from the retainers (callout 1).

Figure 5-101 Reinstall the ADF feed-motor drive belt (1 of 3)



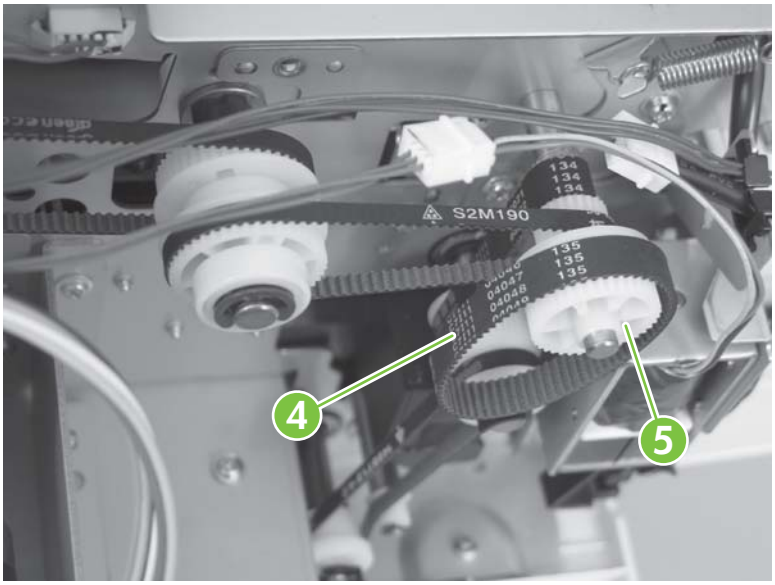
2. Remove four screws (callout 2), and then remove the sheet-metal motor bracket (callout 3).

Figure 5-102 Reinstall the ADF feed-motor drive belt (2 of 3)



3. Position the drive belt (callout 4) on the drive gear (callout 5).

Figure 5-103 Reinstall the ADF feed-motor drive belt (3 of 3)

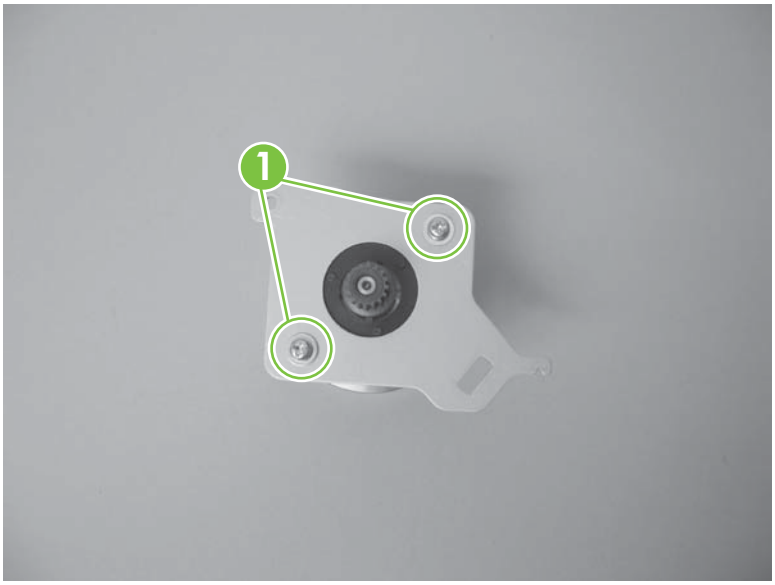


4. Reinstall the feed-motor bracket, and then restrain the wire harnesses with the retainers.

Reinstall the ADF feed-motor assembly

1. Reinstall two screws (callout 1).

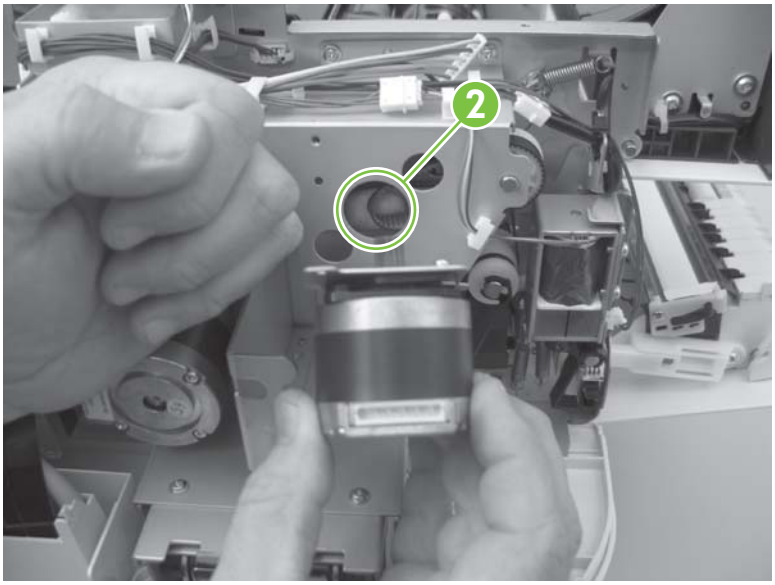
Figure 5-104 Reinstall the ADF feed-motor assembly (1 of 5)



2. Use your finger to pull on the feed-motor drive belt so that it loops back and can be seen through the feed-motor mounting hole in the chassis (callout 2).

NOTE: If the feed-motor drive belt slips off the drive gear, see Reinstall the ADF feed-motor drive belt on page 114.

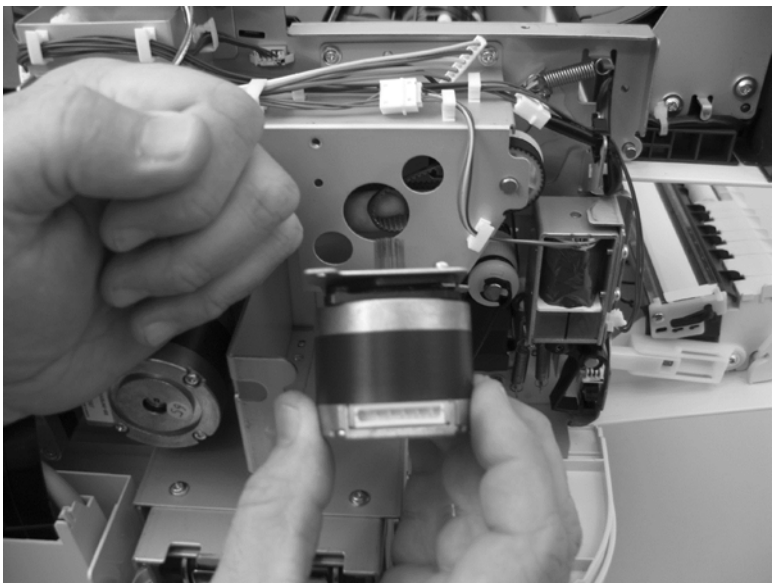
Figure 5-105 Reinstall the ADF feed-motor assembly (2 of 5)



3. Keep pressure on the belt, and then carefully slide the motor into the mounting hole in the chassis.

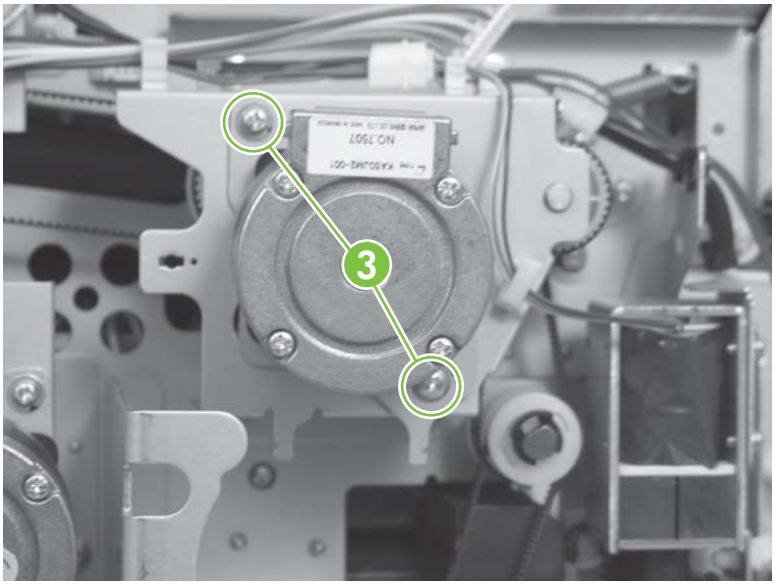
NOTE: Make sure that the motor-drive gear engages the inside of the drive-belt loop.

Figure 5-106 Reinstall the ADF feed-motor assembly (3 of 5)



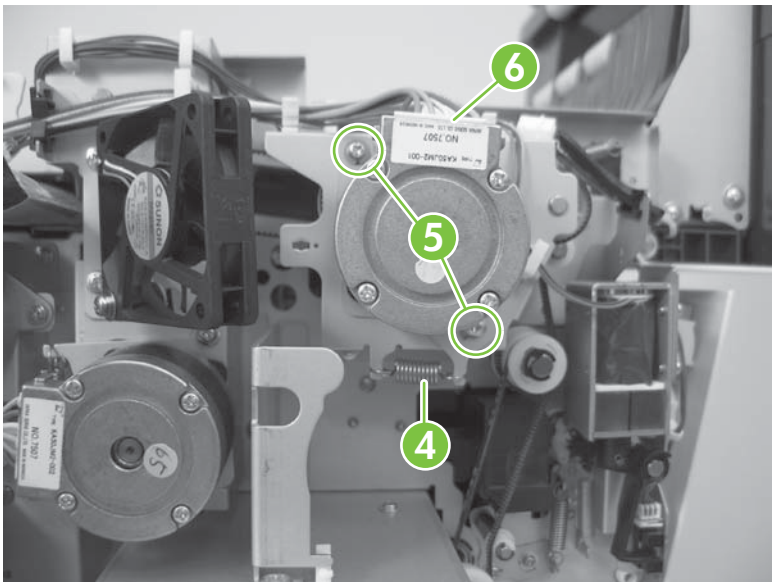
4. Install, but *do not* fully tighten, the two motor-mounting screws (callout 3).

Figure 5-107 Reinstall the ADF feed-motor assembly (4 of 5)



5. Install the motor-tension spring (callout 4), fully tighten the screws (callout 5), and then connect the connector (callout 6).

Figure 5-108 Reinstall the ADF feed-motor assembly (5 of 5)



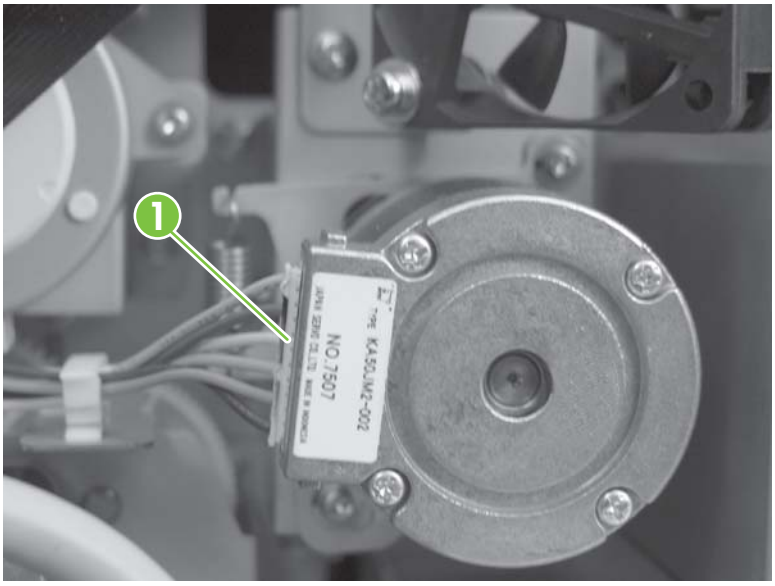
ADF pick-motor assembly

1. Remove the following components:
   - ADF back cover. See ADF back cover on page 58.
   - ADF motor fan. See ADF motor fan on page 103.

   TIP: You do not need to completely remove the fan. It might be easier to remove one screw, and then set the ADF motor fan out of the way. See Figure 5-86 Remove the ADF motor fan (2 of 2) on page 103.

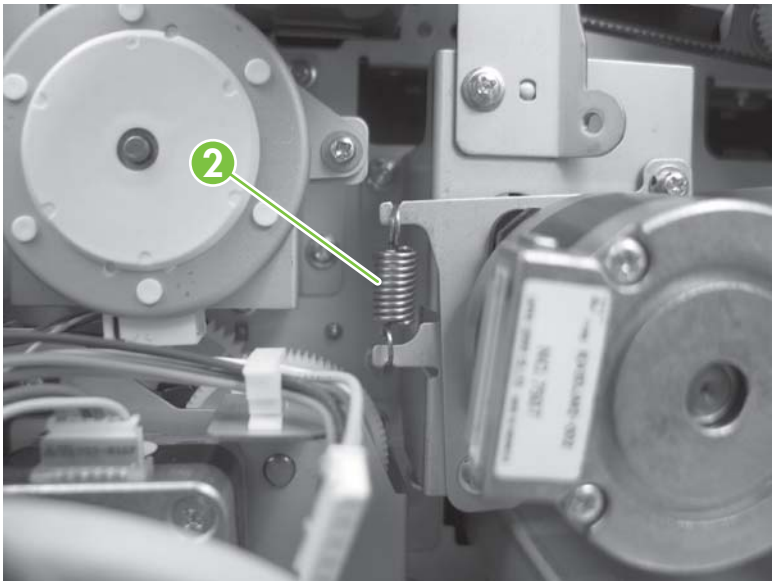
2. Disconnect one connector (callout 1).

Figure 5-109 Remove the ADF pick-motor assembly (1 of 5)



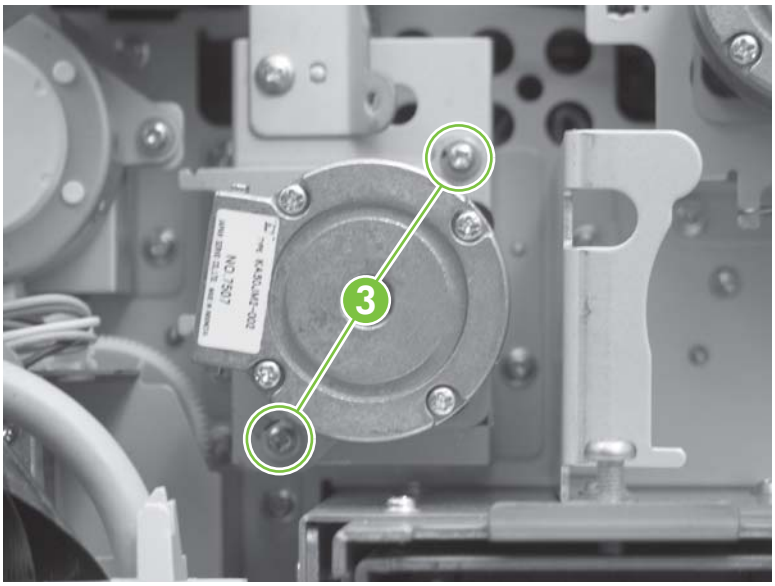
3. Remove one spring (callout 2).

Figure 5-110 Remove the ADF pick-motor assembly (2 of 5)



4. Remove two screws (callout 3), and then remove the ADF pick-motor assembly.

Figure 5-111 Remove the ADF pick-motor assembly (3 of 5)

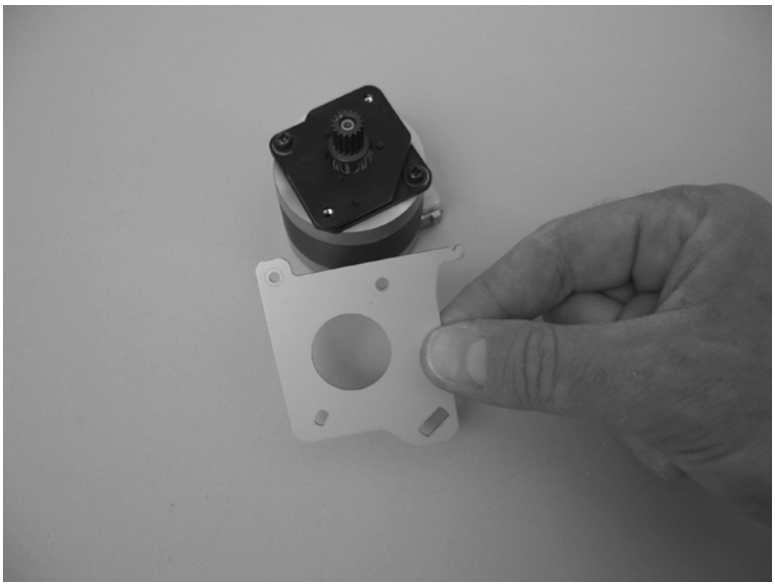


5. Remove two screws (callout 4).

Figure 5-112 Remove the ADF pick-motor assembly (4 of 5)

6. Remove the mounting plate from the ADF pick-motor assembly.

Figure 5-113 Remove the ADF pick-motor assembly (5 of 5)



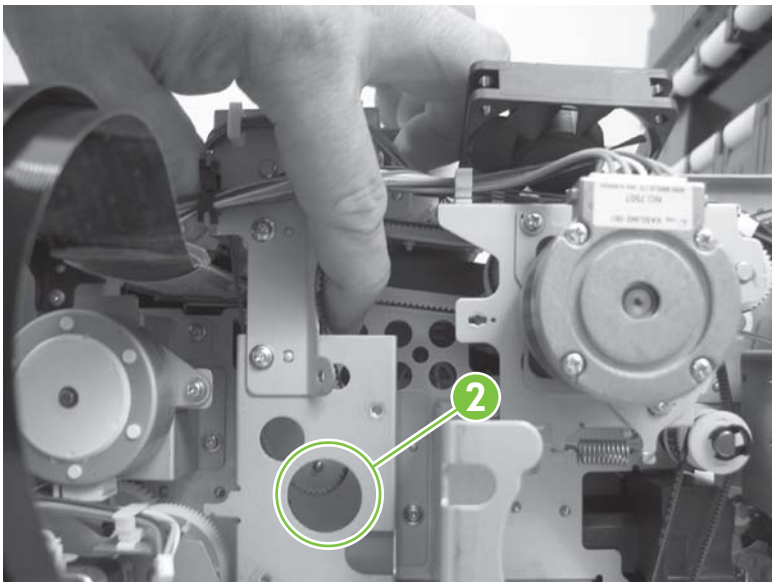
Reinstall the ADF pick-motor assembly

1. Reinstall two screws (callout 1).

Figure 5-114 Reinstall the ADF pick-motor assembly (1 of 5)

2. Use your finger to push the pick-motor drive belt down so that it loops down and can be seen through the pick-motor mounting hole in the chassis (callout 2).

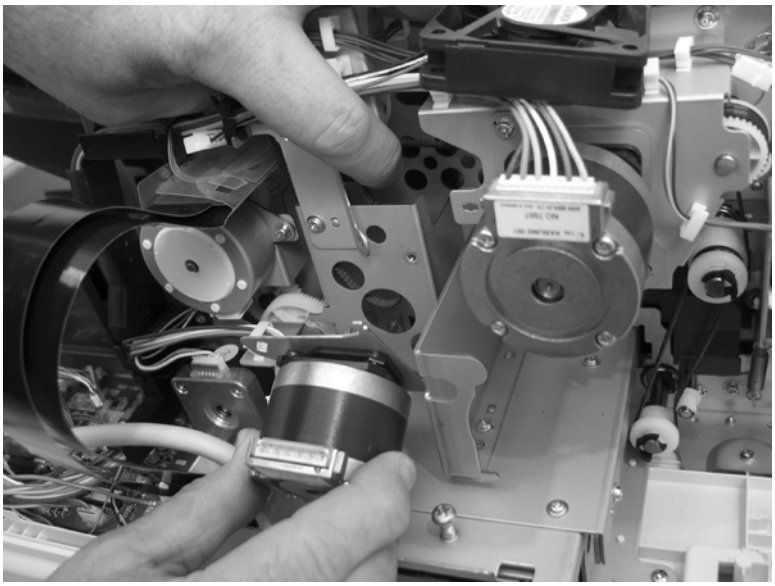
Figure 5-115 Reinstall the ADF pick-motor assembly (2 of 5)



3. Keep pressure on the belt, and then carefully slide the motor into the mounting hole in the chassis.

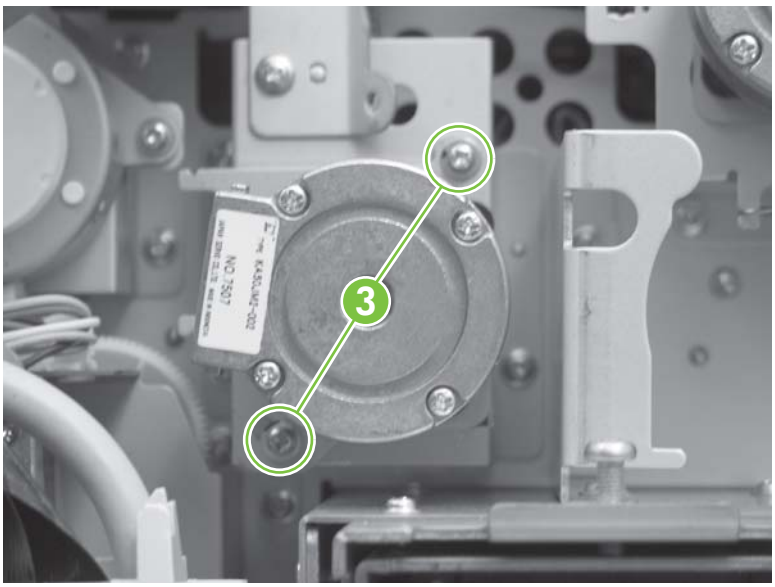
NOTE: Make sure that the motor-drive gear engages the inside of the drive-belt loop.

Figure 5-116 Reinstall the ADF pick-motor assembly (3 of 5)



4. Install, but *do not* fully tighten, the two motor-mounting screws (callout 3).

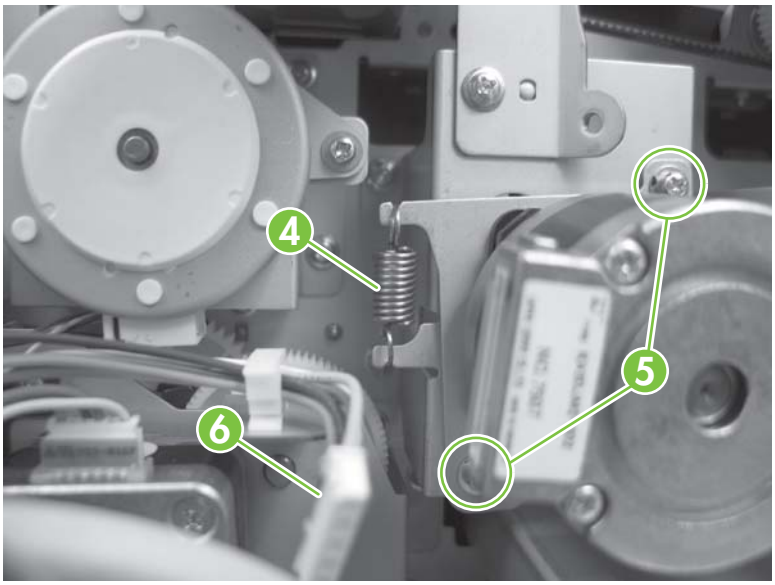
Figure 5-117 Reinstall the ADF pick-motor assembly (4 of 5)



NOTE: Check the position of the drive belt on the gears.

5. Install the motor-tension spring (callout 4), fully tighten the screws (callout 5), and then connect the connector (callout 6).

Figure 5-118 Reinstall the ADF pick-motor assembly (5 of 5)



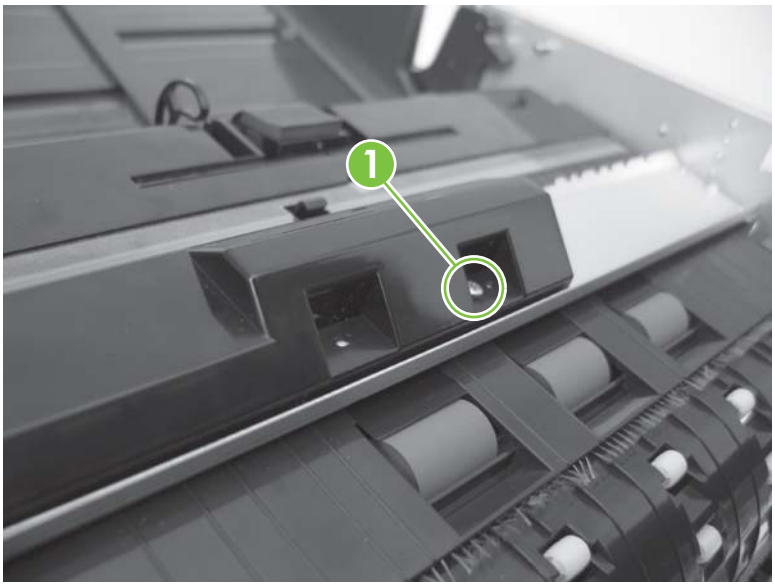
Upper multi-pick sensor PCA

⚠ **CAUTION:** Do not bend or fold the flat flexible cables (FFCs) during removal or installation. Also, do not straighten prefolds in the FFCs. You *must* make sure that all FFCs are fully seated in their connectors. Failure to fully seat an FFC into a connector can cause a short circuit in a PCA.

Some parts are sensitive to electrostatic discharge (ESD). 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.

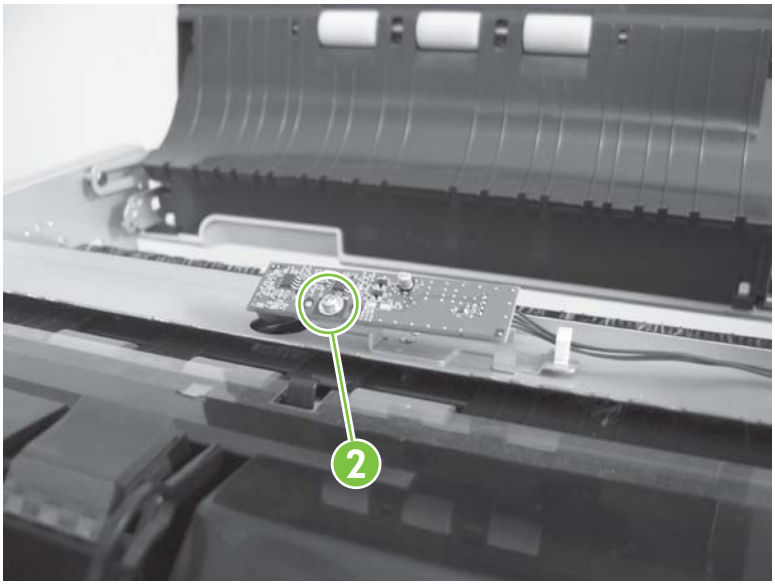
1. Open ADF jam door 1.
2. Remove one screw (callout 1).

Figure 5-119 Remove the upper multi-pick sensor PCA (1 of 3)



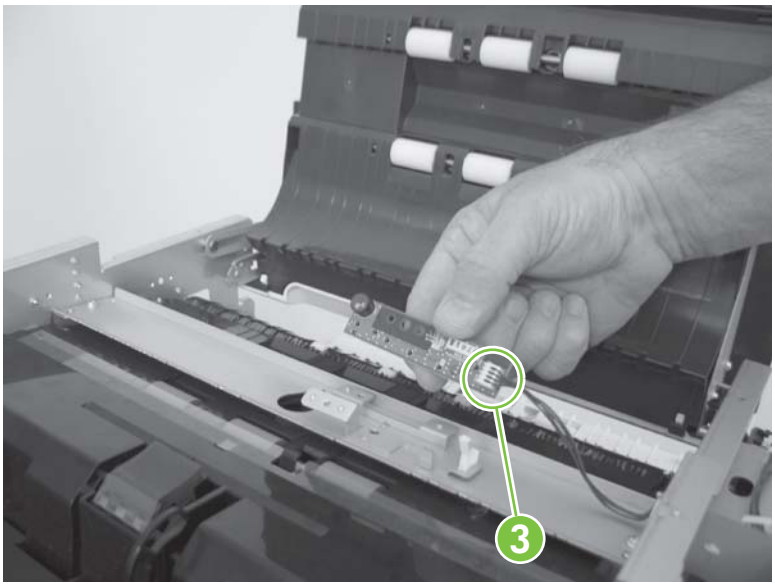
3. Remove one screw (callout 2).

Figure 5-120 Remove the upper multi-pick sensor PCA (2 of 3)



4. Disconnect one connector (callout 3), and then remove the upper multi-pick sensor PCA.

Figure 5-121 Remove the upper multi-pick sensor PCA (3 of 3)



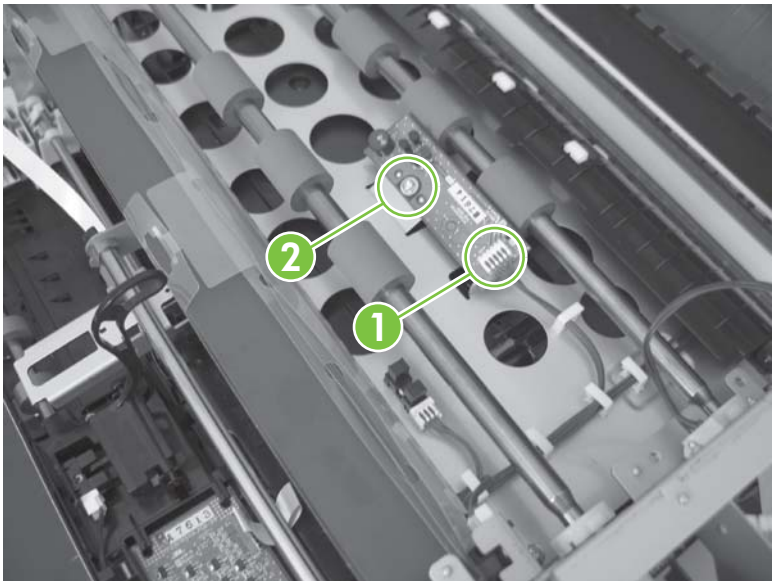
Lower multi-pick sensor PCA

CAUTION: Do not bend or fold the flat flexible cables (FFCs) during removal or installation. Also, do not straighten prefolds in the FFCs. You *must* make sure that all FFCs are fully seated in their connectors. Failure to fully seat an FFC into a connector can cause a short circuit in a PCA.

Some parts are sensitive to electrostatic discharge (ESD). 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.

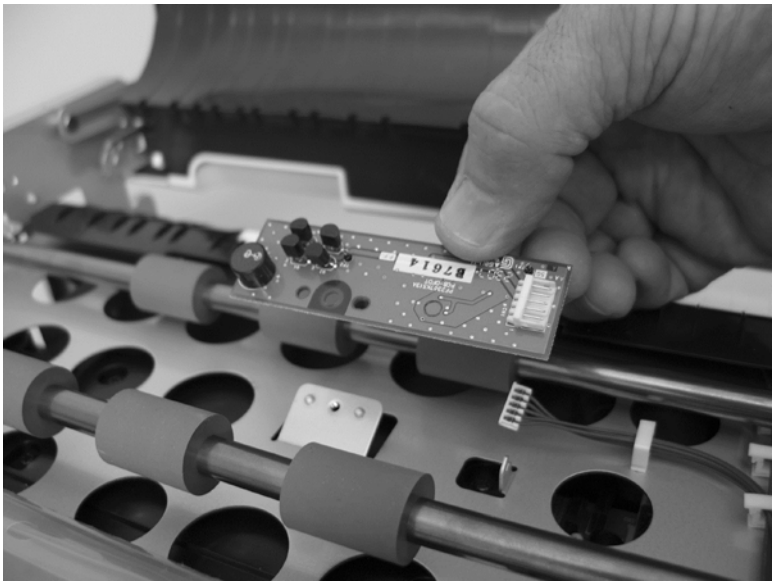
1. Remove the following components:
   - ADF input-tray assembly. See ADF input-tray assembly on page 184.
   - ADF shingle wall. See ADF shingle wall on page 197.
   - Upper multi-pick sensor PCA. See Upper multi-pick sensor PCA on page 124.
   - Lower multi-pick sensor cover. See Lower multi-pick sensor cover on page 166.
2. Remove one connector (callout 1) and one screw (callout 2).

Figure 5-122 Remove the lower multi-pick sensor PCA (1 of 2)



3. Remove the lower multi-pick sensor PCA.

Figure 5-123 Remove the lower multi-pick sensor PCA (2 of 2)



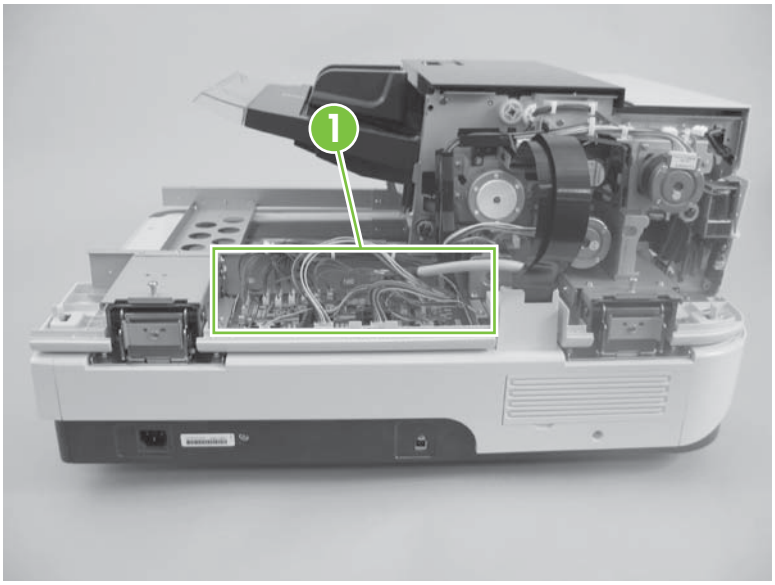
ADF controller PCA

NOTE: After replacing the ADF controller PCA, update the NVRAM data. See NVRAM data management on page 75.

CAUTION: Some parts are sensitive to electrostatic discharge (ESD). 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.

1. Remove the following components:
   - ADF back cover. See ADF back cover on page 58.
   - ADF output tray. See ADF output tray on page 186.
2. Disconnect all of the connectors on the ADF controller PCA (callout 1).

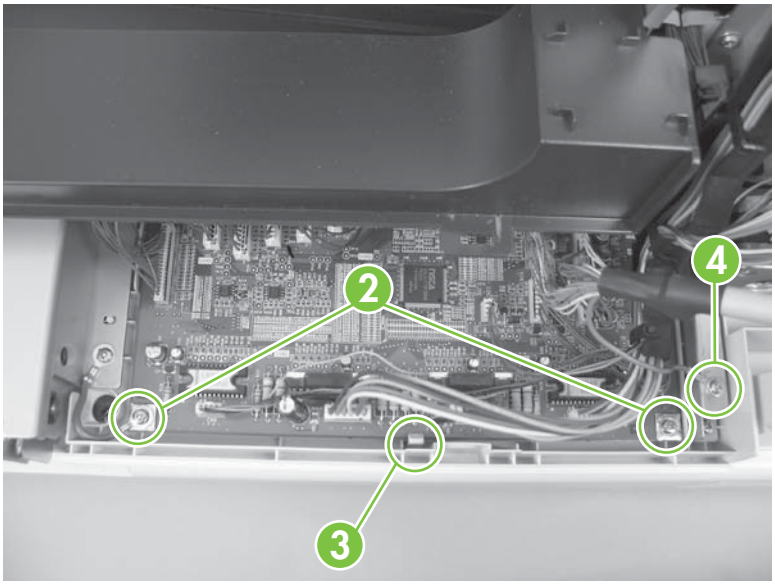
Figure 5-124 Remove the ADF controller PCA (1 of 2)



3. Remove two screws (callout 2), release one tab (callout 3), and then remove the ADF controller PCA.

NOTE: You might have to loosen one ground screw (callout 4) to move the ground-wire harness out of the way to remove the ADF controller PCA.

Figure 5-125 Remove the ADF controller PCA (2 of 2)



4. Update the NVRAM data. See NVRAM data management on page 75.

Imprinter PCA

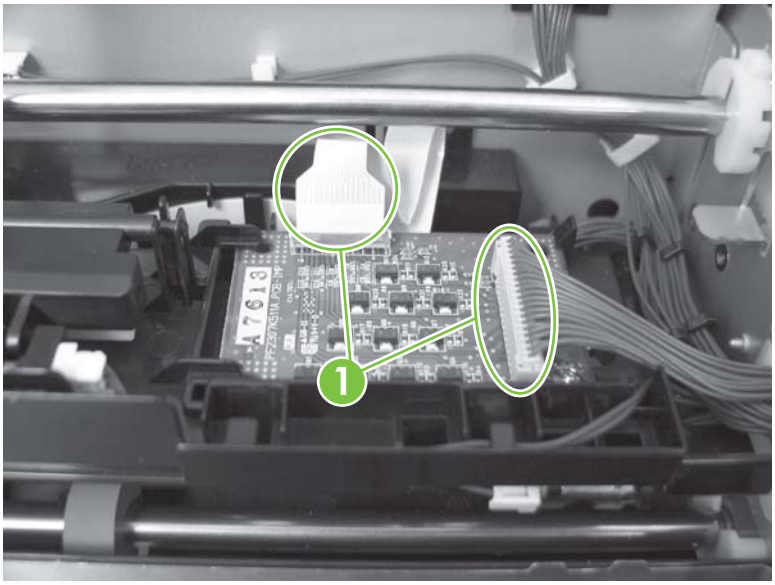
CAUTION: Do not bend or fold the flat flexible cables (FFCs) during removal or installation. Also, do not straighten prefolds in the FFCs. You *must* make sure that all FFCs are fully seated in their connectors. Failure to fully seat an FFC into a connector can cause a short circuit in a PCA.

Some parts are sensitive to electrostatic discharge (ESD). 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.

1. Remove the following components:
   - ADF back cover. See ADF back cover on page 58.
   - ADF front cover. See ADF front cover on page 55.
   - ADF input-tray assembly. See ADF input-tray assembly on page 184.
   - ADF shingle wall. See ADF shingle wall on page 197.
2. Remove one FFC and one connector (callout 1).

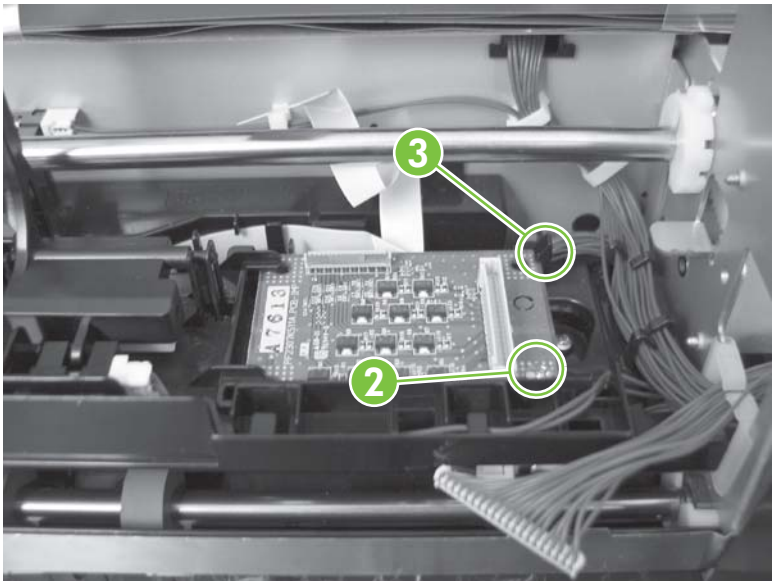
NOTE: To remove the FFC, move the connector lever to the up position.

Figure 5-126 Remove the imprinter PCA (1 of 2)



3. Remove one screw (callout 2) and one tab (callout 3).

Figure 5-127 Remove the imprinter PCA (2 of 2)

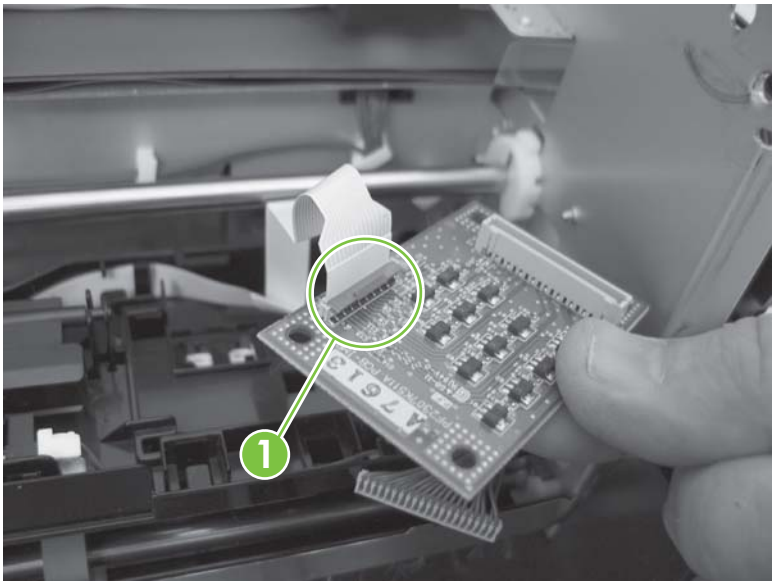


4. Remove the imprinter PCA.

Reinstall the imprinter PCA

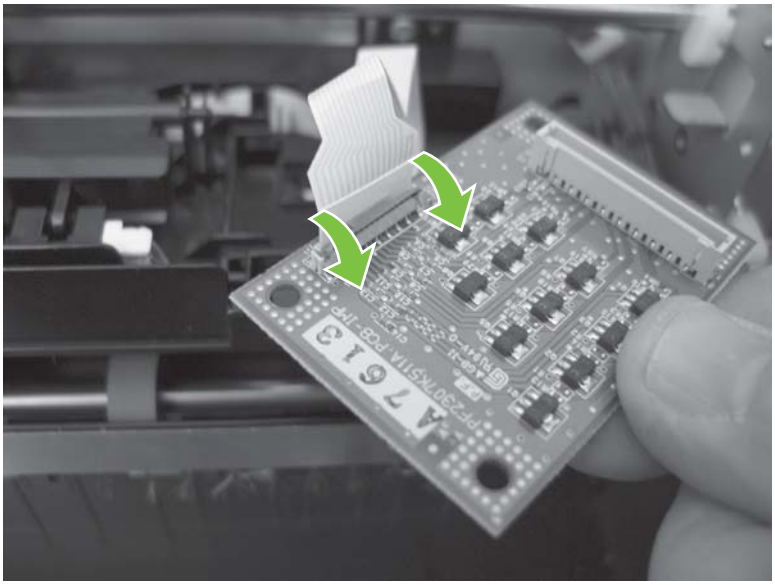
1. Insert the FFC into the connector (callout 1).

Figure 5-128 Reinstall the imprinter PCA (1 of 4)



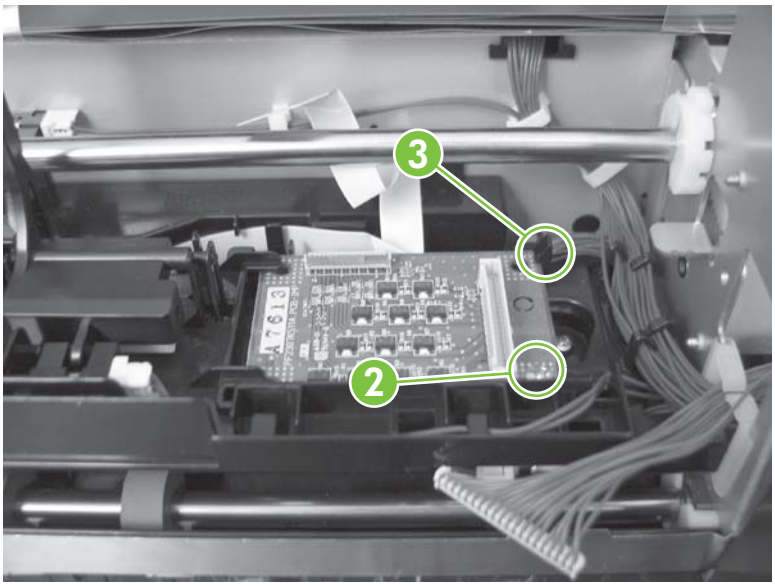
2. Move the connector lever to the down position.

Figure 5-129 Reinstall the imprinter PCA (2 of 4)



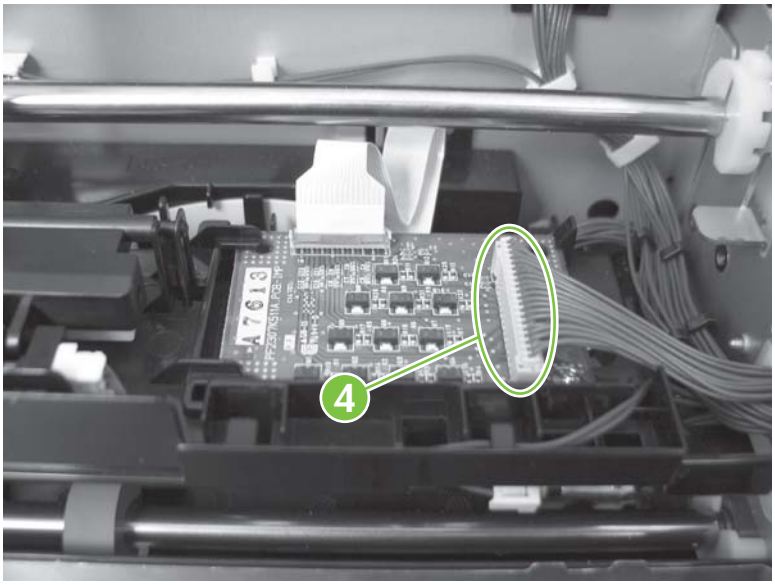
3. Reinstall one screw (callout 2) and one tab (callout 3).

Figure 5-130 Reinstall the imprinter PCA (3 of 4)



4. Reconnect one connector (callout 4).

Figure 5-131 Reinstall the imprinter PCA (4 of 4)



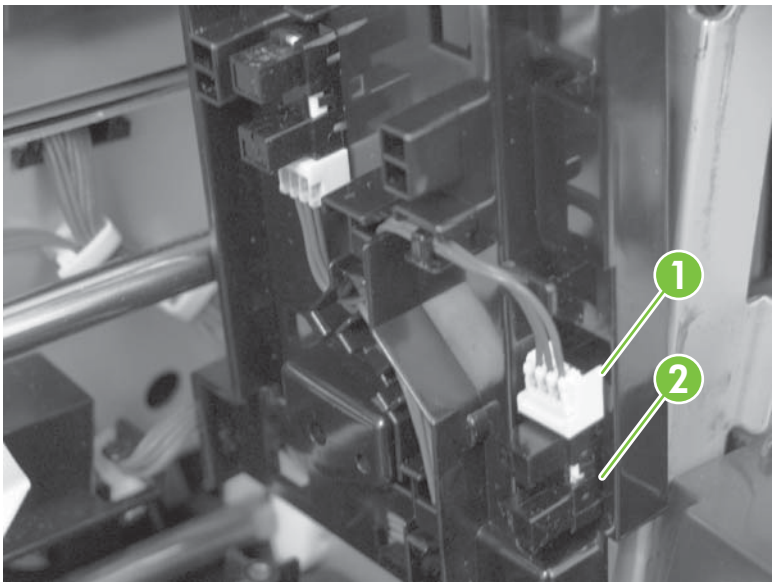
5. Reinstall the following components:

- ADF shingle wall. See ADF shingle wall on page 197.
- ADF input-tray assembly. See ADF input-tray assembly on page 184.
- ADF back cover. See ADF back cover on page 58.
- ADF front cover. See ADF front cover on page 55.

Input-tray sensor

1. Remove the following components:
   - ADF front cover. See ADF front cover on page 55.
   - ADF back cover. See ADF back cover on page 58.
   - ADF input-tray assembly. See ADF input-tray assembly on page 184.
   - ADF shingle wall. See ADF shingle wall on page 197.
   - Paper present sensor and imprinter PCA holder. See Paper present sensor and imprinter PCA holder on page 195.
2. Remove one connector (callout 1), and then remove the input-tray sensor (callout 2).

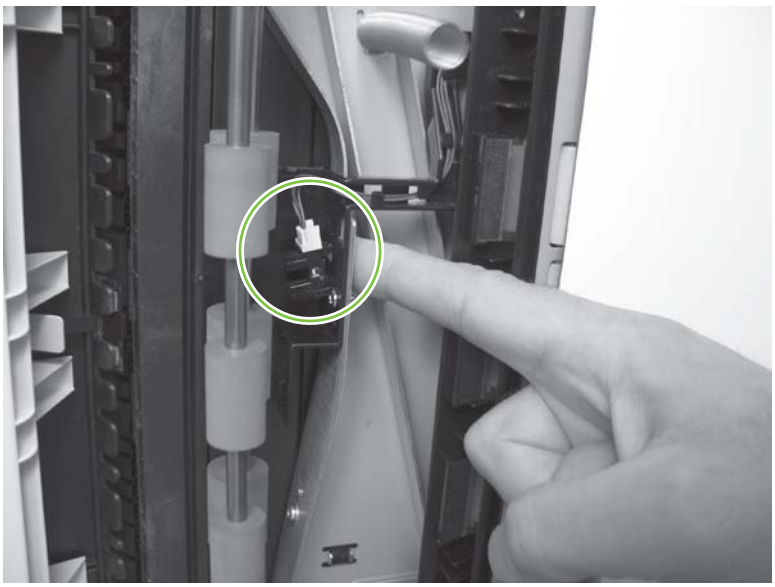
Figure 5-132 Remove the input-tray sensor



Flatbed scan position sensor

1. Remove the following components:
   - ADF front cover. See ADF front cover on page 55.
   - ADF bottom corner, outer paper path guide. See ADF bottom corner outer paper path guide on page 152.
   - ADF bottom corner, inner paper path guide. See ADF bottom corner inner paper path guide on page 154.
   - ADF cal-strip assembly. See ADF cal-strip assembly on page 155.
2. Remove one tab.

Figure 5-133 Remove the flatbed scan position sensor (1 of 2)



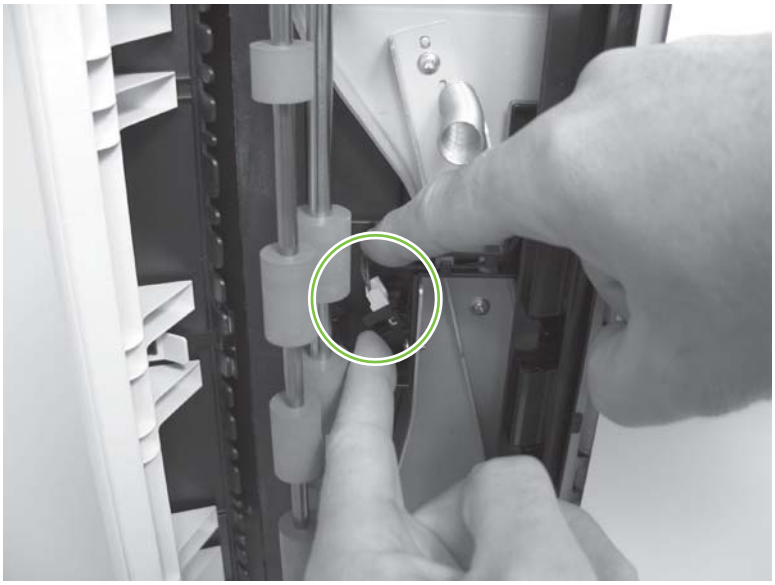
3. Remove the flatbed scan position sensor.

Figure 5-134 Remove the flatbed scan position sensor (2 of 2)

Reinstall the flatbed scan position sensor

1. Reinstall one connector, and then reinstall the flatbed scan position sensor.

Figure 5-135 Reinstall the flatbed scan position sensor



2. Reinstall the following components:

   - ADF cal-strip assembly. See ADF cal-strip assembly on page 155.
   - ADF bottom corner, inner paper path guide. See ADF bottom corner inner paper path guide on page 154.

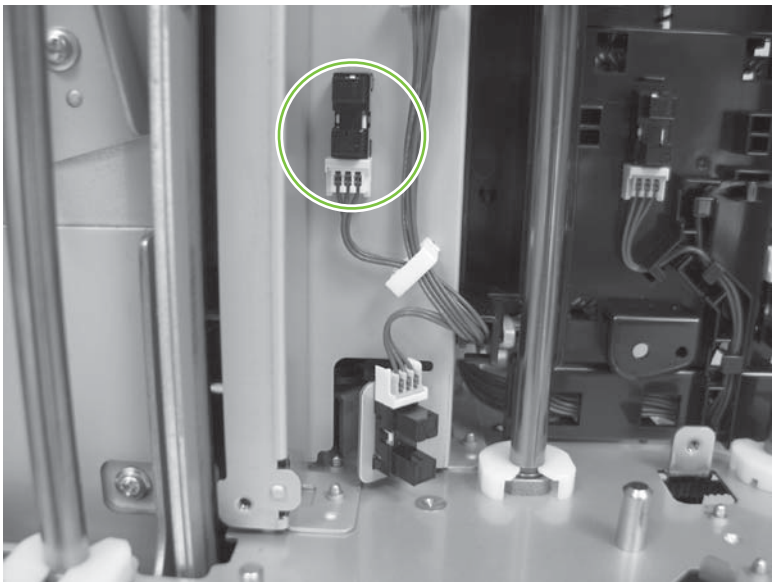
- ADF bottom corner, outer paper path guide. See ADF bottom corner outer paper path guide on page 152.
- ADF front cover. See ADF front cover on page 55.

Exit 1 sensor

1. Remove the following components:
   - ADF front cover. See ADF front cover on page 55.
   - ADF back cover. See Scanner back cover on page 60.

     WARNING! Place the back of the product against a wall after removing the scanner back cover. The ADF hinge springs could actuate and cause the product to flip over backward.
   - ADF input-tray assembly. See ADF input-tray assembly on page 184.
   - ADF output tray. See ADF output tray on page 186.
   - ADF shingle wall. See ADF shingle wall on page 197.
   - ADF bottom corner, outer paper path guide. See ADF bottom corner outer paper path guide on page 152.
   - ADF bottom corner, inner paper path guide. See ADF bottom corner inner paper path guide on page 154.
   - ADF cal-strip assembly. See ADF cal-strip assembly on page 155.
   - ADF exit inner paper path guide. See ADF exit inner paper path guide on page 162.
2. Remove one connector, and then remove the exit 1 sensor.

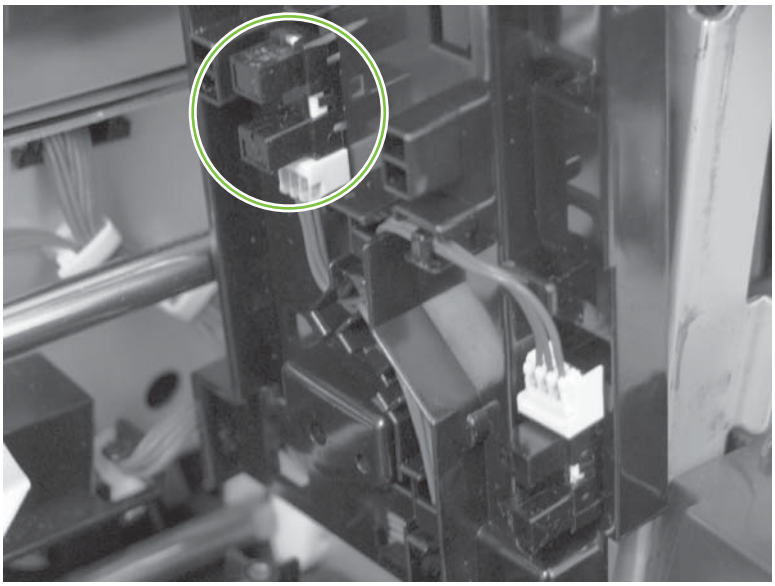
Figure 5-136 Remove the exit 1 sensor



Exit 2 sensor

1. Remove the following components:
   - ADF front cover. See ADF front cover on page 55.
   - ADF back cover. See ADF back cover on page 58.
   - ADF input-tray assembly. See ADF input-tray assembly on page 184.
   - ADF shingle wall. See ADF shingle wall on page 197.
   - Paper present sensor and imprinter PCA holder. See Paper present sensor and imprinter PCA holder on page 195.
2. Remove one connector, and then remove the exit 2 sensor.

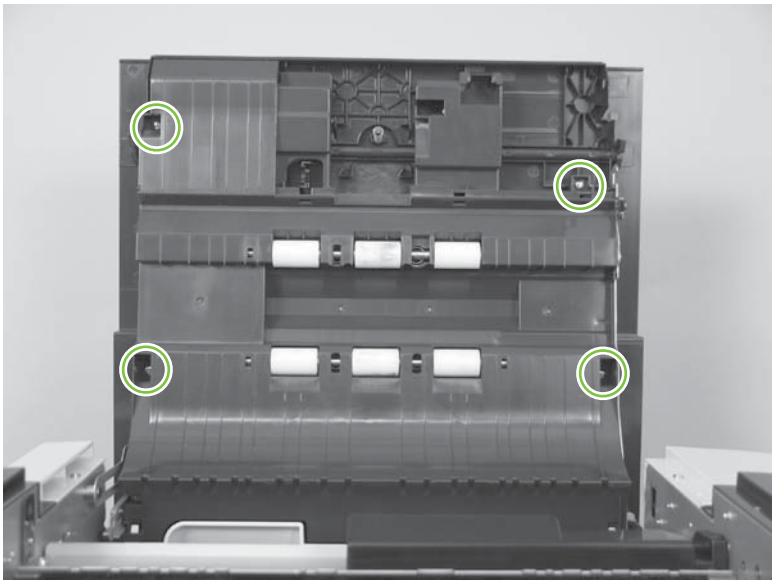
Figure 5-137 Remove the exit 2 sensor



Pick-up roller sensor

1. Remove the following components:
   - Pickup-roller cover. See Pickup-roller cover on page 190.
   - Pickup-roller assembly. See Pickup-roller assembly on page 47.
2. Remove four screws.

Figure 5-138 Remove the pick-up roller sensor (1 of 4)



3. Rotate the roller assembly away from the jam door 1 cover.

Figure 5-139 Remove the pick-up roller sensor (2 of 4)

4. Separate the roller assembly from the jam door 1 cover.

Figure 5-140 Remove the pick-up roller sensor (3 of 4)

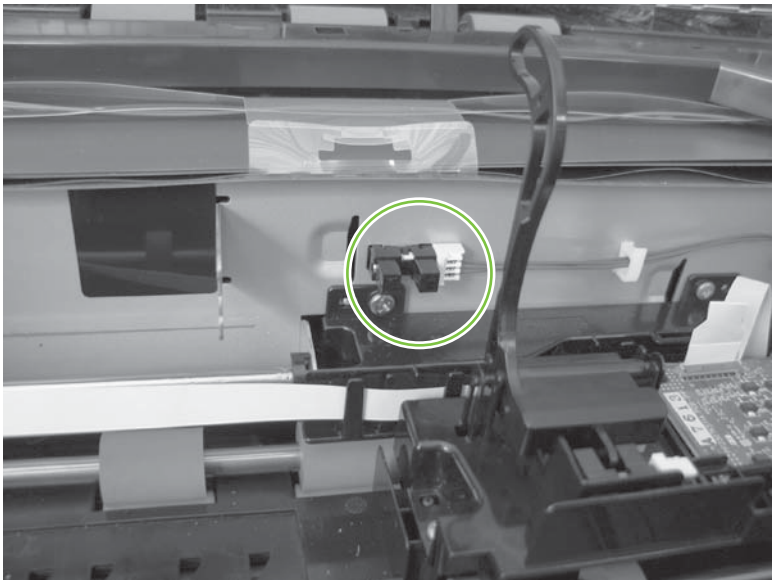
5. Remove the pick-up roller sensor.

Figure 5-141 Remove the pick-up roller sensor (4 of 4)

Elevator arm sensor

1. Remove the following components:
   - ADF front cover. See ADF front cover on page 55.
   - ADF back cover. ADF back cover on page 58.
   - ADF shingle wall. See ADF shingle wall on page 197.
   - ADF input-tray lift-motor assembly. See ADF input-tray lift-motor assembly on page 105.
   - Input-tray-elevator arm. See Input-tray-elevator arm on page 176.
2. Remove one connector, and then remove the elevator arm sensor.

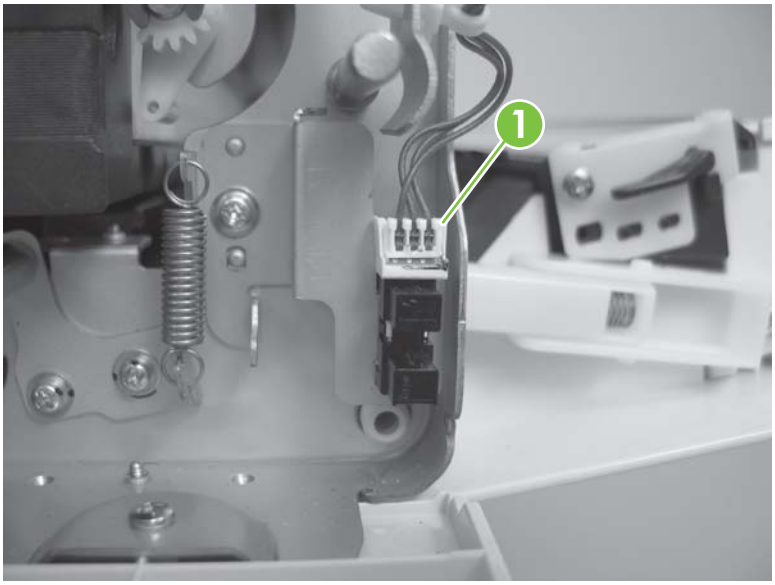
Figure 5-142 Remove the elevator arm sensor



Background solenoid sensor

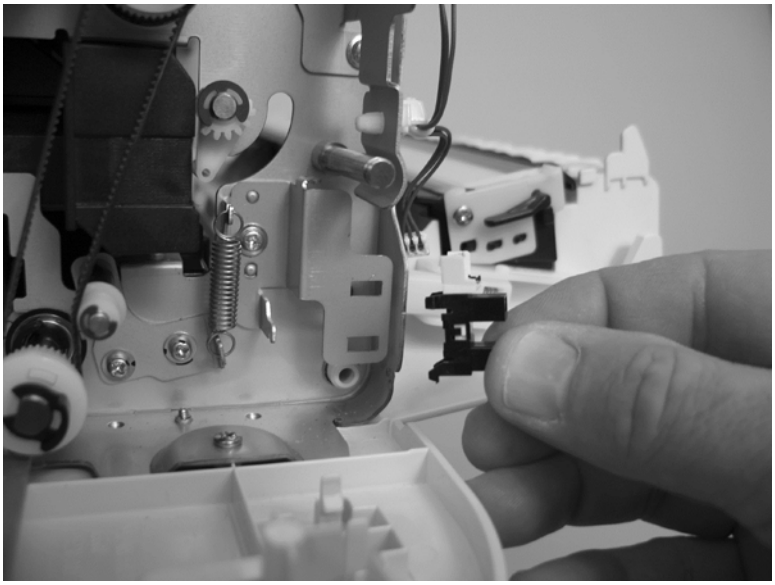
1. Remove the ADF back cover. See ADF back cover on page 58.
2. Disconnect one connector (callout 1).

Figure 5-143 Remove the background solenoid sensor (1 of 2)



3. Remove the background solenoid sensor.

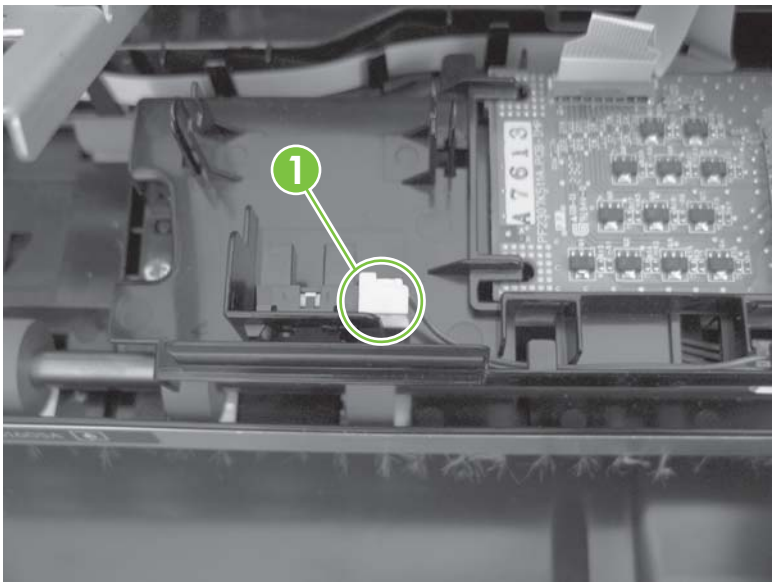
Figure 5-144 Remove the background solenoid sensor (2 of 2)



Paper-present sensor

1. Remove the following components:
   - ADF front cover. See ADF front cover on page 55.
   - ADF back cover. See ADF back cover on page 58.
   - Paper-present-sensor arm. See Paper-present-sensor arm on page 175.
2. Remove one connector (callout 1), and then remove the paper-present sensor.

Figure 5-145 Remove the paper-present sensor

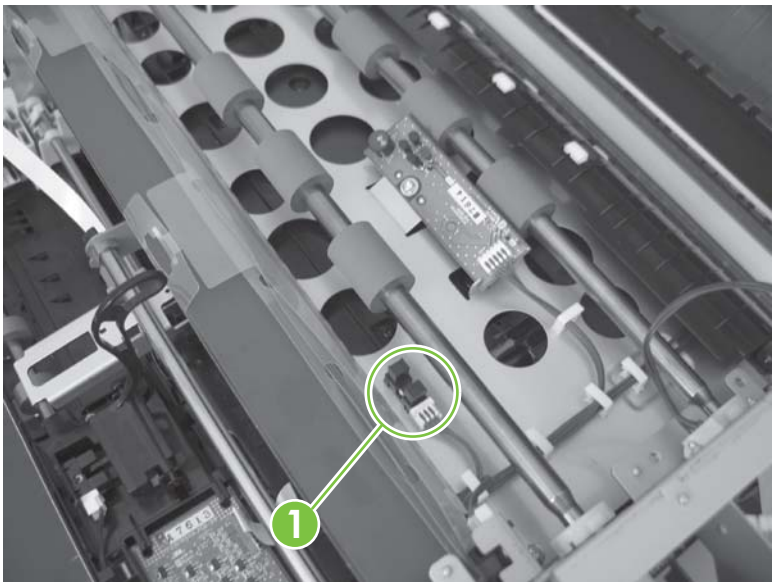


3. Remove the paper-present sensor.

Registration sensor

1. Remove the following components:
   - ADF front cover. See ADF front cover on page 55.
   - ADF back cover. See ADF back cover on page 58.
   - ADF input-tray assembly. See ADF input-tray assembly on page 184.
   - ADF shingle wall. See ADF shingle wall on page 197.
   - Upper multi-pick sensor PCA. See Upper multi-pick sensor PCA on page 124.
   - Lower multi-pick sensor cover. See Lower multi-pick sensor cover on page 166.
2. Remove one connector (callout 1), and then remove the registration sensor.

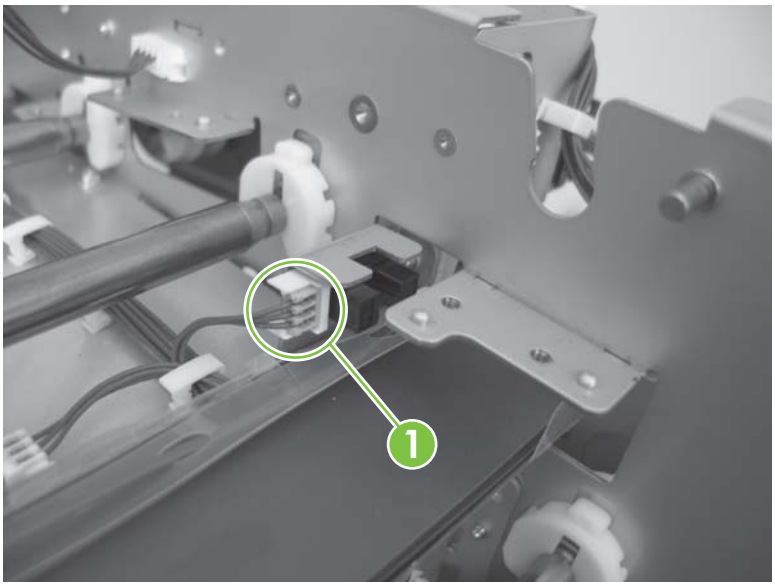
Figure 5-146 Remove the registration sensor



Jam door 1 sensor

1. Remove the following components:
   - ADF front cover. See ADF front cover on page 55.
   - ADF back cover. See ADF back cover on page 58.
   - ADF input-tray assembly. See ADF input-tray assembly on page 184.
   - ADF shingle wall. See ADF shingle wall on page 197.
   - Upper multi-pick sensor PCA. See Upper multi-pick sensor PCA on page 124.
   - Lower multi-pick sensor cover. See Lower multi-pick sensor cover on page 166.
2. Remove one connector (callout 1), and then remove the jam door 1 sensor.

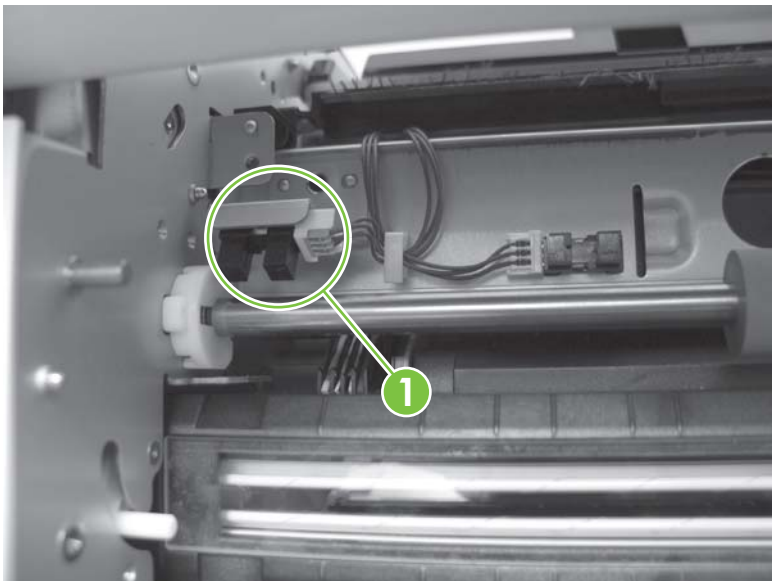
Figure 5-147 Remove the jam door 1 sensor



Jam door 2 sensor

1. Remove the ADF top corner inner paper path guide. See ADF top corner inner paper path guide on page 165.
2. Open ADF jam door 1 and ADF jam door 2.
3. Remove one connector (callout 1), and then remove the jam door 2 sensor.

Figure 5-148 Remove jam door 2 sensor

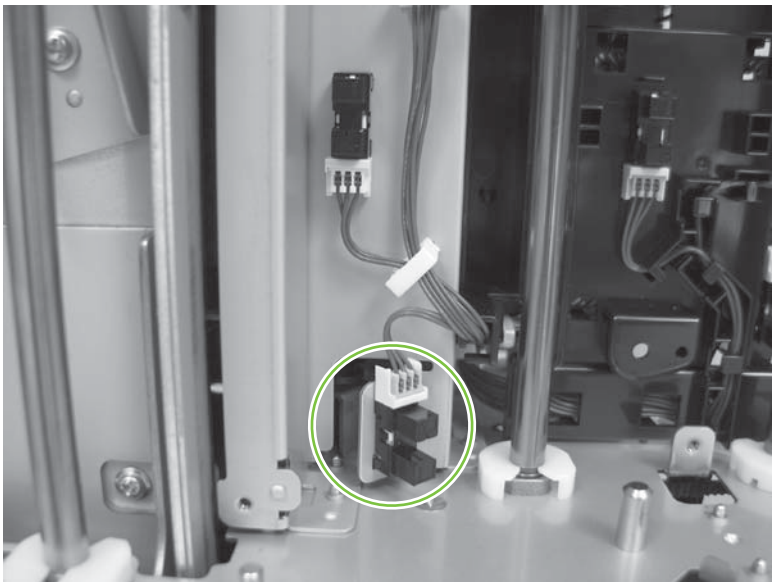


Jam door 3 sensor

1. Remove the following components:
   - ADF front cover. See ADF front cover on page 55.
   - ADF back cover. See Scanner back cover on page 60.

     WARNING! Place the back of the product against a wall after removing the scanner back cover. The ADF hinge springs could actuate and cause the product to flip over backward.
   - ADF input-tray assembly. See ADF input-tray assembly on page 184.
   - ADF output tray. See ADF output tray on page 186.
   - ADF shingle wall. See ADF shingle wall on page 197.
   - ADF bottom corner, outer paper path guide. See ADF bottom corner outer paper path guide on page 152.
   - ADF bottom corner, inner paper path guide. See ADF bottom corner inner paper path guide on page 154.
   - ADF cal-strip assembly. See ADF cal-strip assembly on page 155.
   - ADF exit inner paper path guide. See ADF exit inner paper path guide on page 162.
2. Remove one connector, and then remove the jam door 3 sensor.

Figure 5-149 Remove the jam door 3 sensor

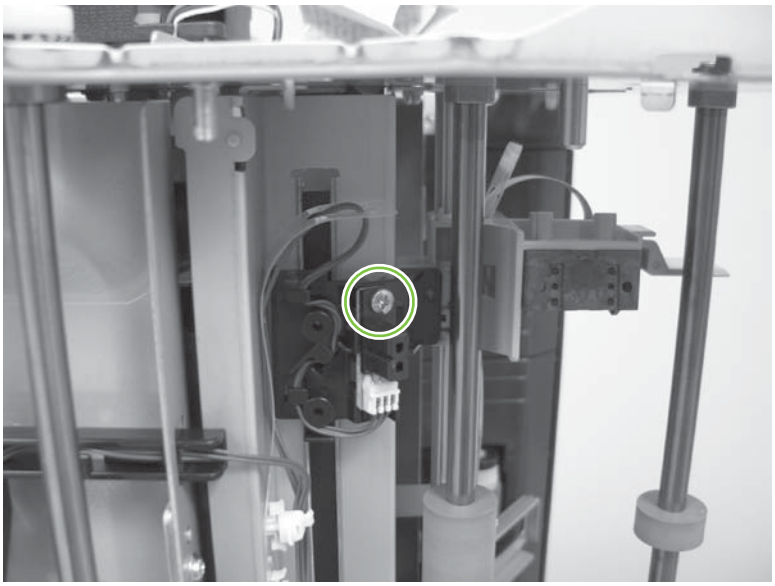


Imprinter paper-present sensor

1. Remove the following components:
   - ADF front cover. See ADF front cover on page 55.
   - ADF back cover. See Scanner back cover on page 60.

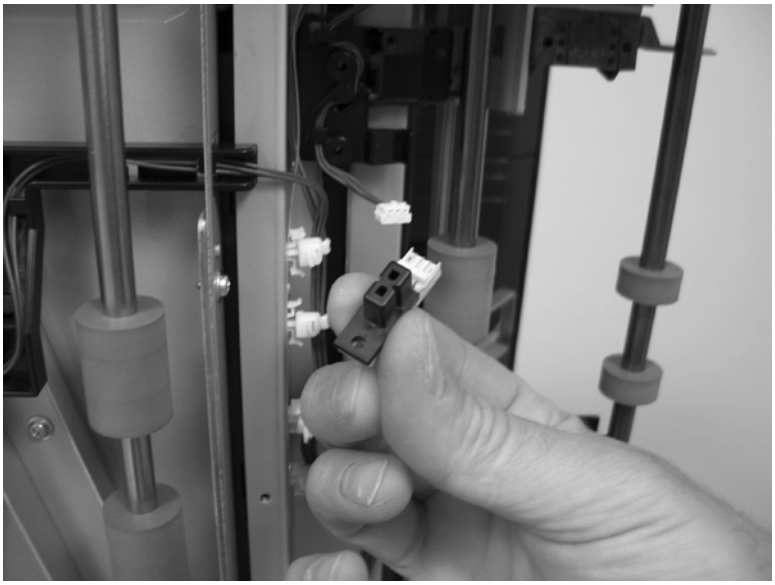
     ⚠ **WARNING!** Place the back of the product against a wall after removing the scanner back cover. The ADF hinge springs could actuate and cause the product to flip over backward.
   - ADF input-tray assembly. See ADF input-tray assembly on page 184.
   - ADF output tray. See ADF output tray on page 186.
   - ADF shingle wall. See ADF shingle wall on page 197.
   - ADF bottom corner, outer paper path guide. See ADF bottom corner outer paper path guide on page 152.
   - ADF bottom corner, inner paper path guide. See ADF bottom corner inner paper path guide on page 154.
   - ADF cal-strip assembly. See ADF cal-strip assembly on page 155.
   - ADF exit inner paper path guide. See ADF exit inner paper path guide on page 162.
2. Remove one screw.

Figure 5-150 Remove the imprinter paper-present sensor (1 of 2)



3. Remove the imprinter paper-present sensor.

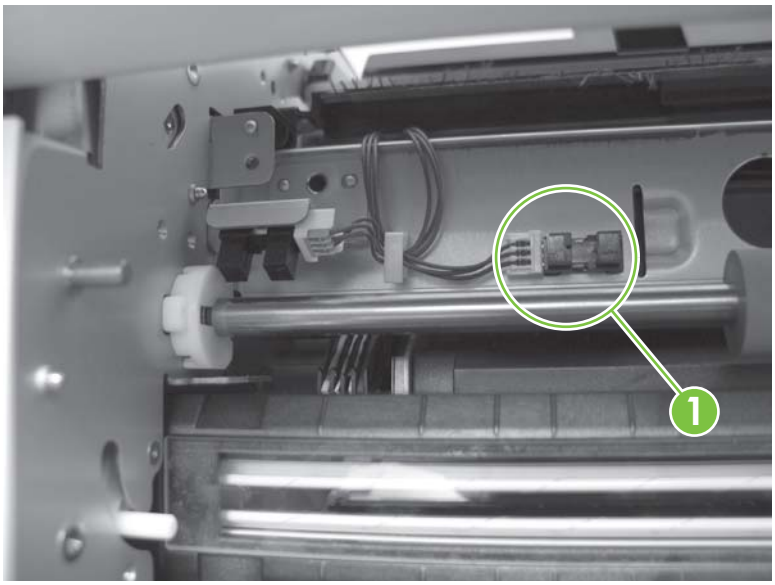
Figure 5-151 Remove the imprinter paper-present sensor (2 of 2)



ADF scan position sensor

1. Remove the ADF top corner inner paper path guide. See ADF top corner inner paper path guide on page 165.
2. Open ADF jam door 1 and ADF jam door 2.
3. Remove one connector (callout 1), and then remove the ADF scan position sensor.

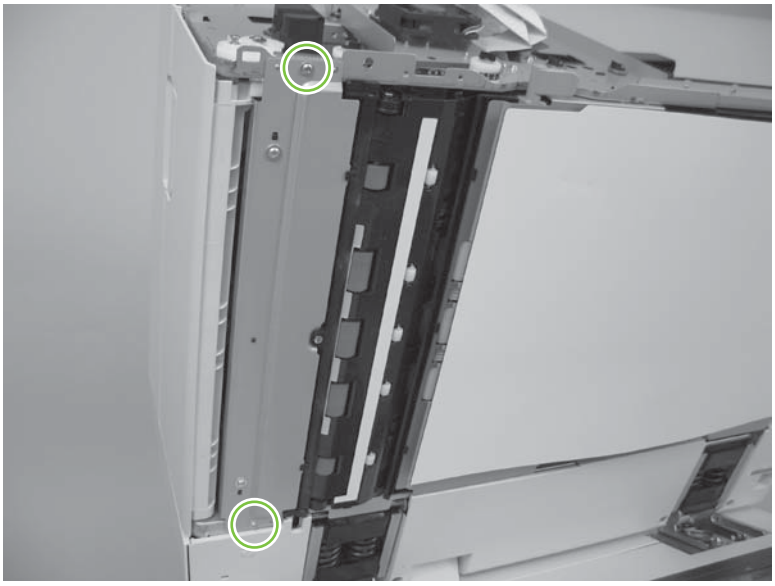
Figure 5-152 Remove the ADF scan position sensor



ADF bottom corner outer paper path guide

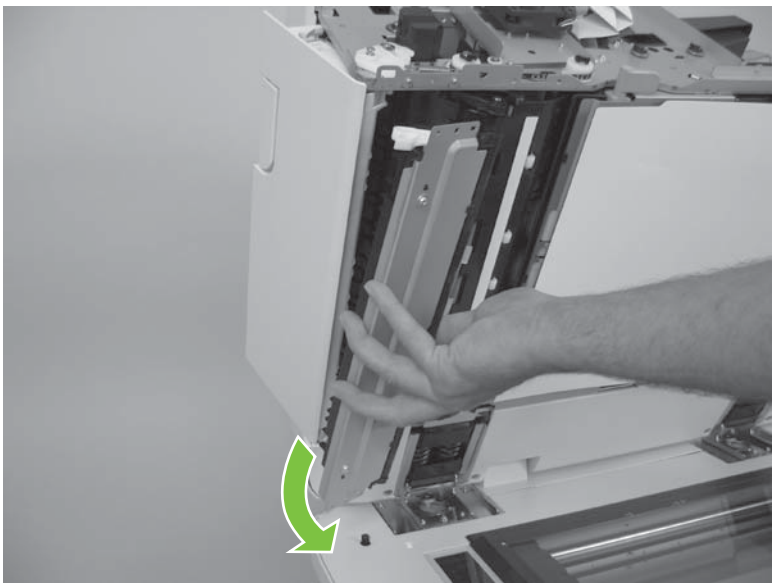
1. Remove the ADF front cover. See ADF front cover on page 55.
2. Remove two screws.

Figure 5-153 Remove the ADF bottom corner outer paper path guide (1 of 2)



3. Rotate the back end away from the ADF, and then remove the ADF bottom corner, outer paper path guide .

Figure 5-154 Remove the ADF bottom corner outer paper path guide (2 of 2)



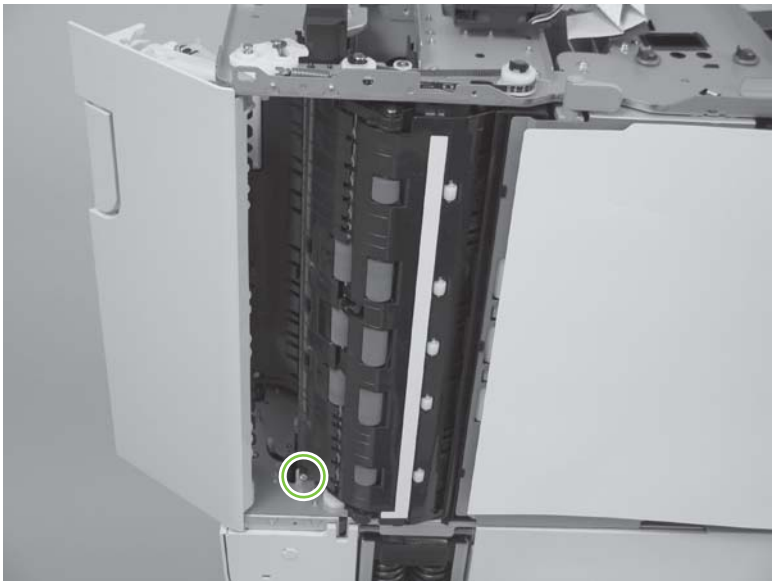
NOTE: When reinstalling the ADF bottom corner, outer paper path guide, slide the lever into the slot, rotate the back end toward the ADF until it is in position, and then reinstall two screws.

Figure 5-155 Reinstall the ADF bottom corner outer paper path guide

ADF bottom corner inner paper path guide

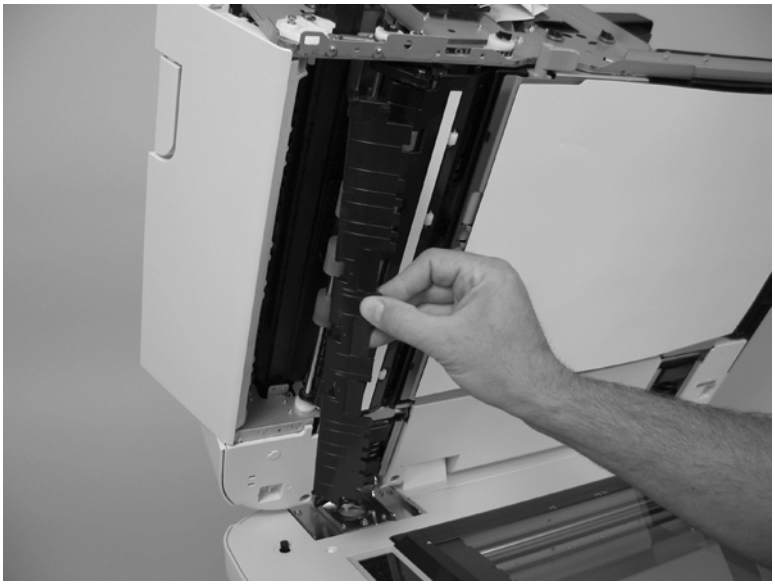
1. Remove the following components:
   - ADF front cover. See ADF front cover on page 55.
   - ADF bottom corner, outer paper path guide. See ADF bottom corner outer paper path guide on page 152.
2. Remove one screw.

Figure 5-156 Remove the ADF bottom corner inner paper path guide (1 of 2)



3. Remove the ADF bottom corner, inner paper path guide.

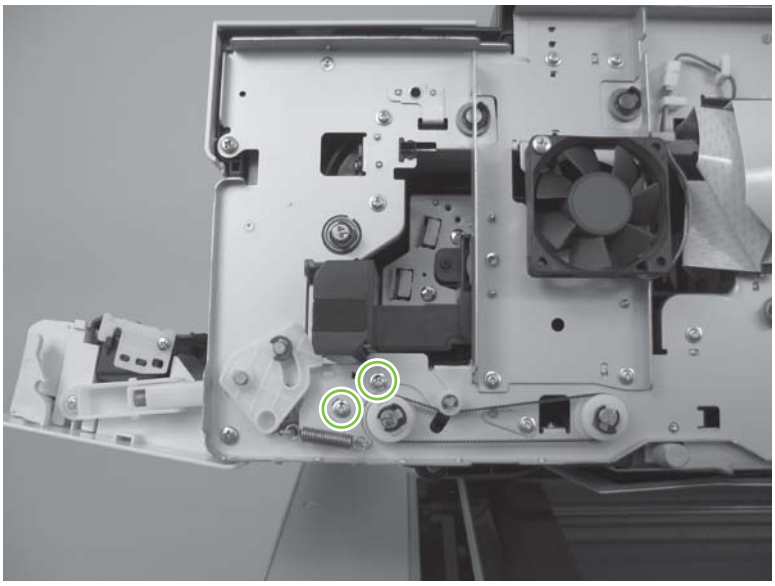
Figure 5-157 Remove the ADF bottom corner inner paper path guide (2 of 2)



ADF cal-strip assembly

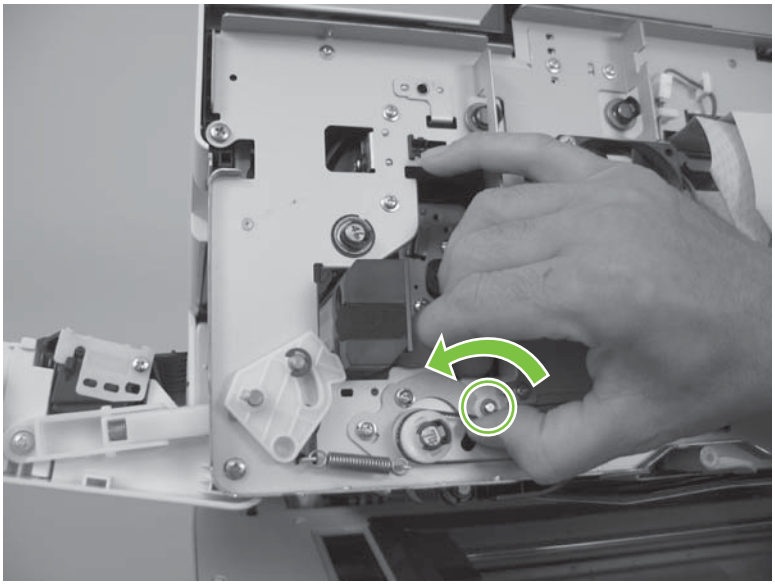
1. Remove the following components:
   - ADF front cover. See ADF front cover on page 55.
   - ADF bottom corner, outer paper path guide. See ADF bottom corner outer paper path guide on page 152.
   - ADF bottom corner, inner paper path guide. See ADF bottom corner inner paper path guide on page 154.
2. Loosen, *but do not remove*, two screws.

Figure 5-158 Remove the ADF cal-strip assembly (1 of 5)



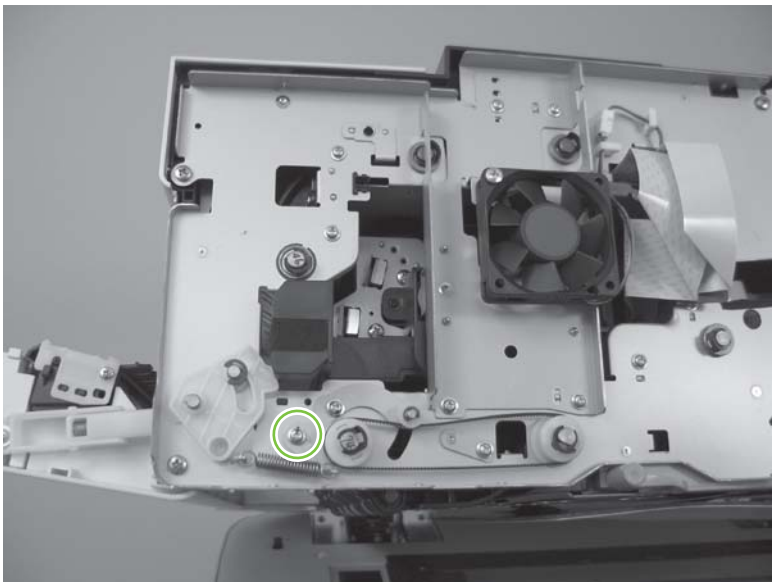
3. Rotate the belt tensioner and hold it in place.

Figure 5-159 Remove the ADF cal-strip assembly (2 of 5)



4. Tighten one screw, and then release the belt tensioner.

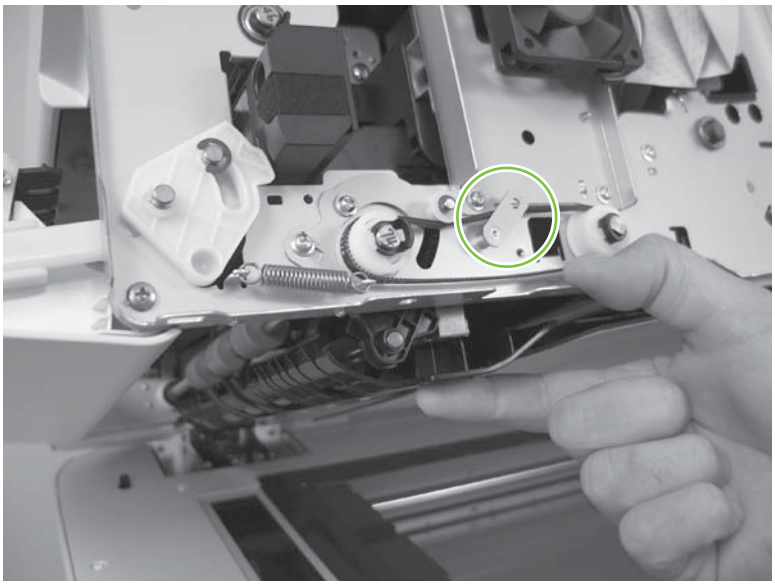
Figure 5-160 Remove the ADF cal-strip assembly (3 of 5)



NOTE: After tightening the screw and releasing the belt tensioner, the belt should be loose. If tension remains, repeat this step.

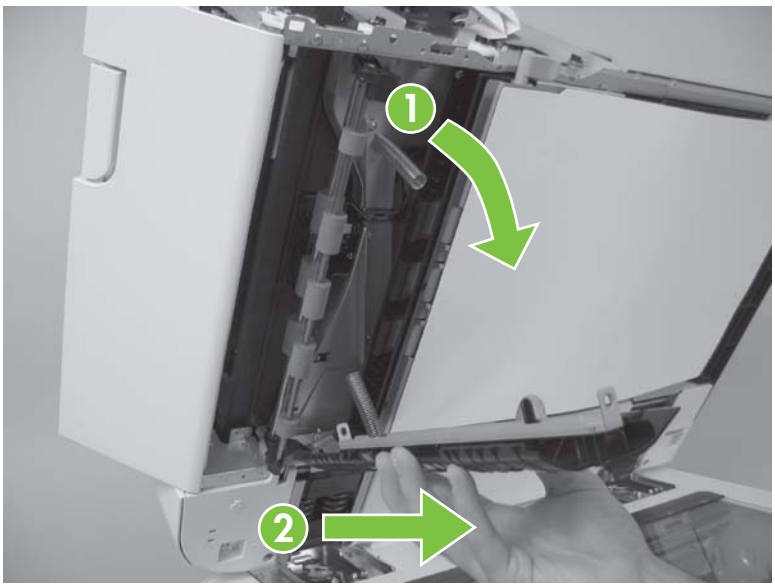
5. Hold the ADF cal-strip assembly in place, remove one screw, and then slide the cal-strip pin outward *but do not remove it*.

Figure 5-161 Remove the ADF cal-strip assembly (4 of 5)



6. Rotate the front of the cal-strip assembly away from the ADF (callout 1), and then remove the cal-strip assembly (callout 2).

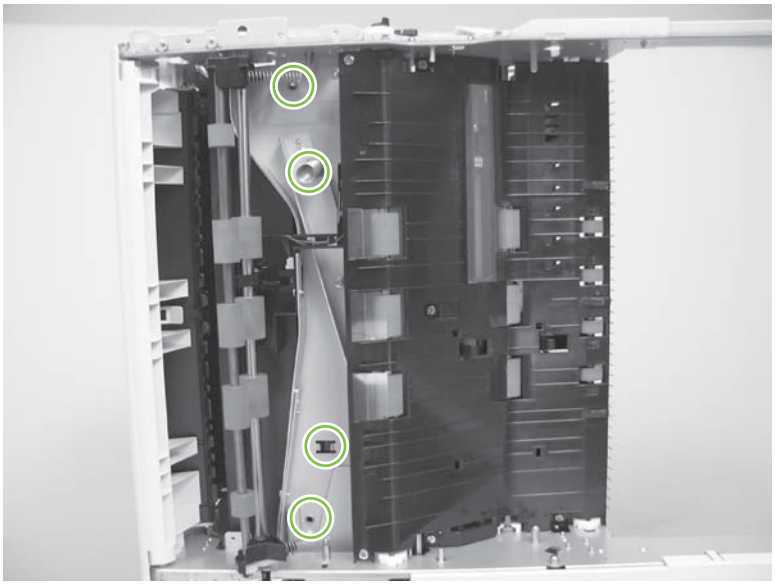
Figure 5-162 Remove the ADF cal-strip assembly (5 of 5)



Reinstall the cal-strip assembly

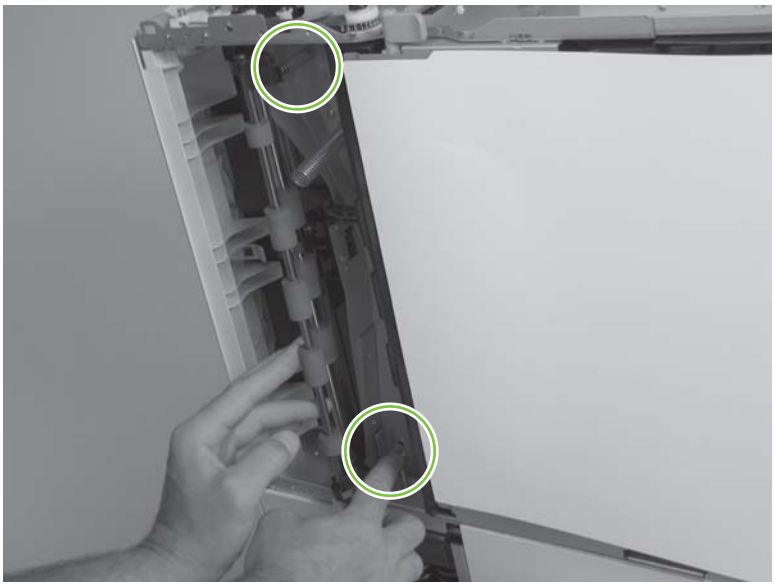
1. Locate the four spring mounting positions on the ADF.

Figure 5-163 Reinstall the ADF cal-strip assembly (1 of 7)



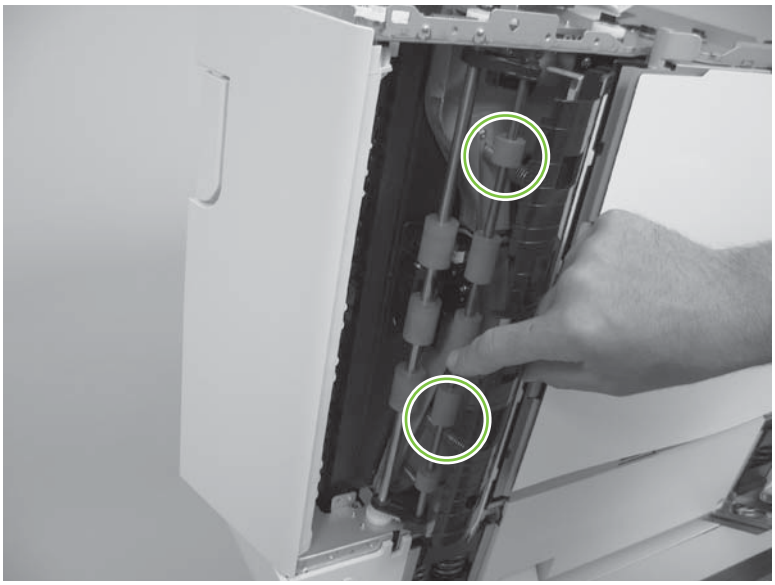
2. Rotate the roller shaft toward the ADF, place two small springs in position, and then hold the roller shaft in place.

Figure 5-164 Reinstall the ADF cal-strip assembly (2 of 7)



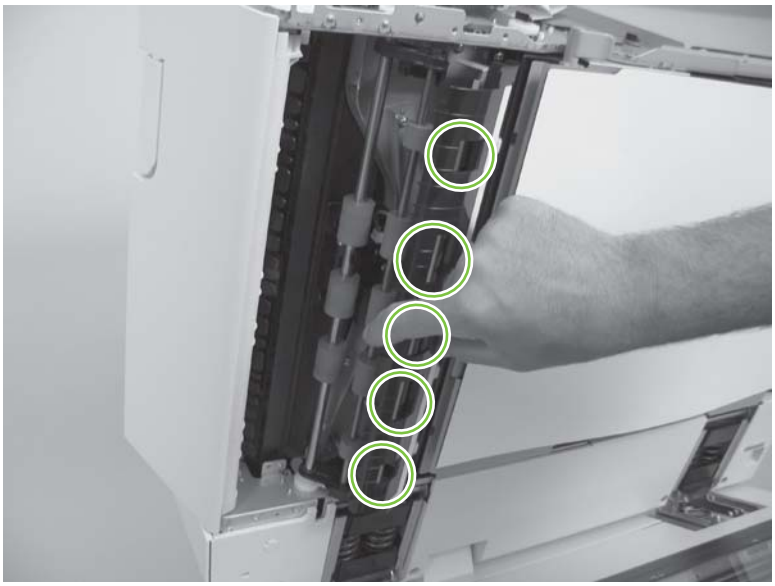
3. Slide the cal-strip assembly in position, place two large springs in position, and then hold the cal-strip assembly in place.

Figure 5-165 Reinstall the ADF cal-strip assembly (3 of 7)



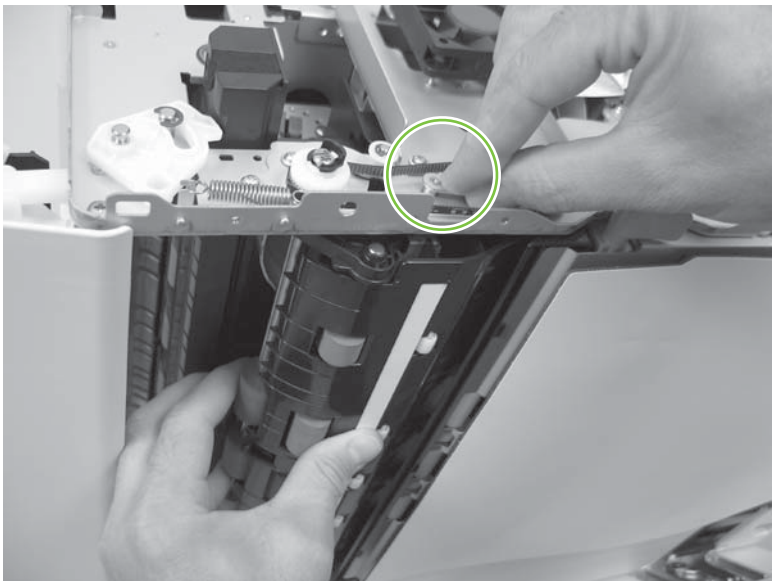
4. Rotate five rollers into five holes, and hold the cal-strip assembly in place.

Figure 5-166 Reinstall the ADF cal-strip assembly (4 of 7)



5. Hold the cal-strip assembly in place, push the cal-strip pin into position, and then reinstall one screw.

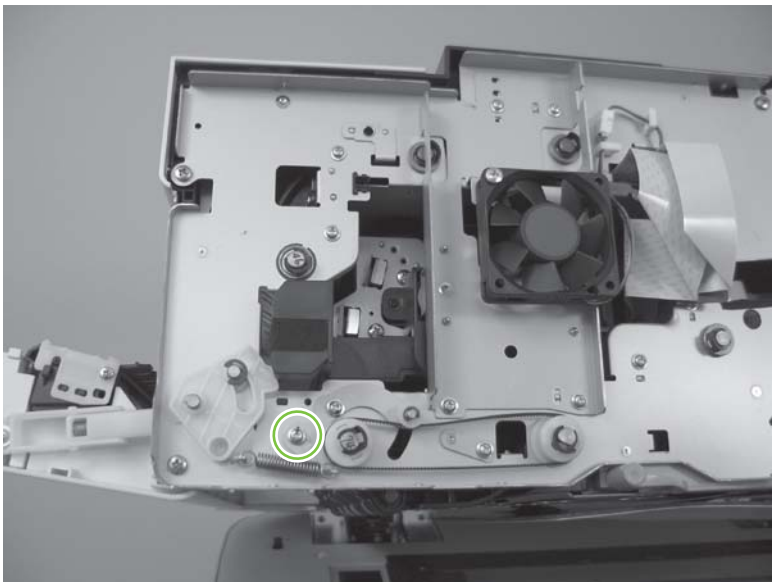
Figure 5-167 Reinstall the ADF cal-strip assembly (5 of 7)



NOTE: Check that all four springs are positioned correctly.

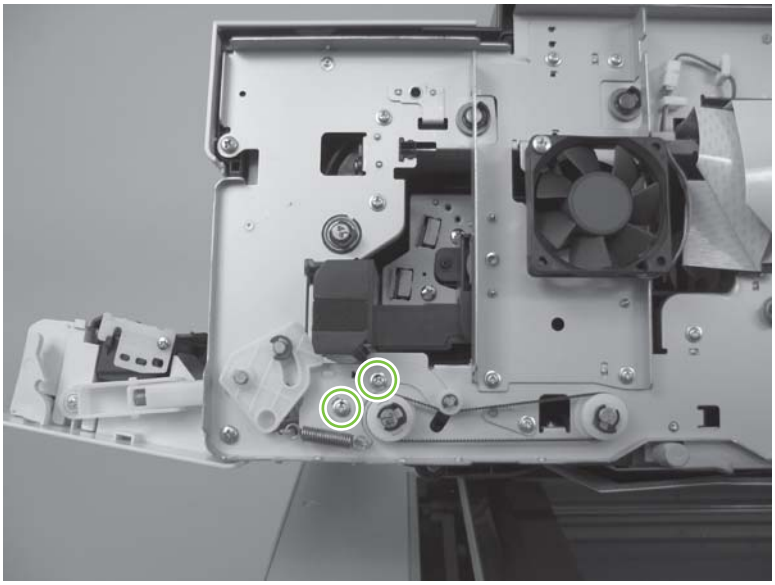
6. Loosen, *but do not remove*, one screw to allow the belt tensioner to spring back into place.

Figure 5-168 Reinstall the ADF cal-strip assembly (6 of 7)



7. Reinstall and tighten two screws.

Figure 5-169 Reinstall the ADF cal-strip assembly (7 of 7)



8. Reinstall the following components:

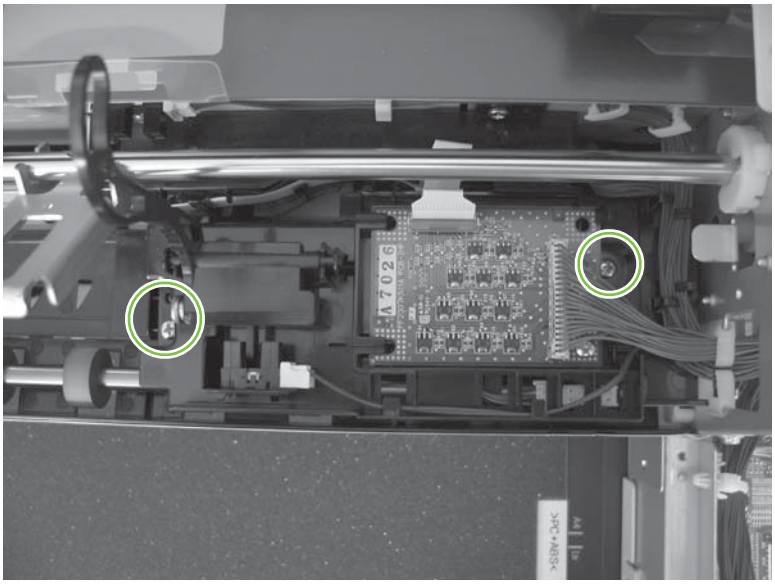
- ADF bottom corner, inner paper path guide. See ADF bottom corner inner paper path guide on page 154.
- ADF bottom corner, outer paper path guide. See ADF bottom corner outer paper path guide on page 152.
- ADF front cover. See ADF front cover on page 55.

ADF exit inner paper path guide

1. Remove the following components:
   - ADF front cover. See ADF front cover on page 55.
   - ADF back cover. See Scanner back cover on page 60.

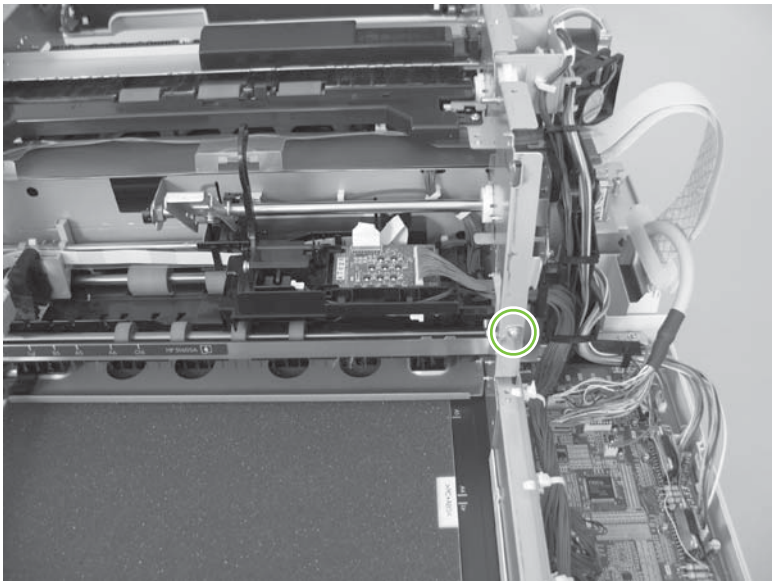
     WARNING! Place the back of the product against a wall after removing the scanner back cover. The ADF hinge springs could actuate and cause the product to flip over backward.
   - ADF input-tray assembly. See ADF input-tray assembly on page 184.
   - ADF output tray. See ADF output tray on page 186.
   - ADF shingle wall. See ADF shingle wall on page 197.
   - ADF bottom corner, outer paper path guide. See ADF bottom corner outer paper path guide on page 152.
   - ADF bottom corner, inner paper path guide. See ADF bottom corner inner paper path guide on page 154.
   - ADF cal-strip assembly. See ADF cal-strip assembly on page 155.
2. Remove two screws.

Figure 5-170 Remove the ADF exit inner paper path guide (1 of 4)



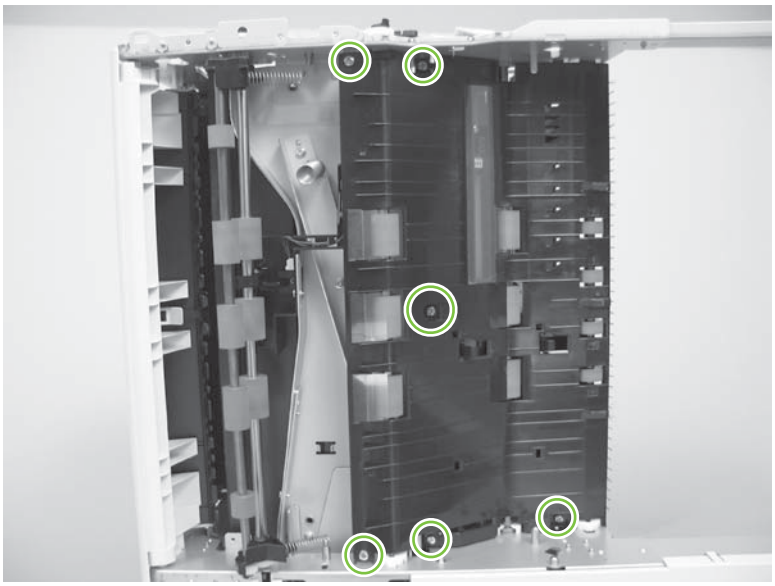
3. Remove one screw.

Figure 5-171 Remove the ADF exit inner paper path guide (2 of 4)



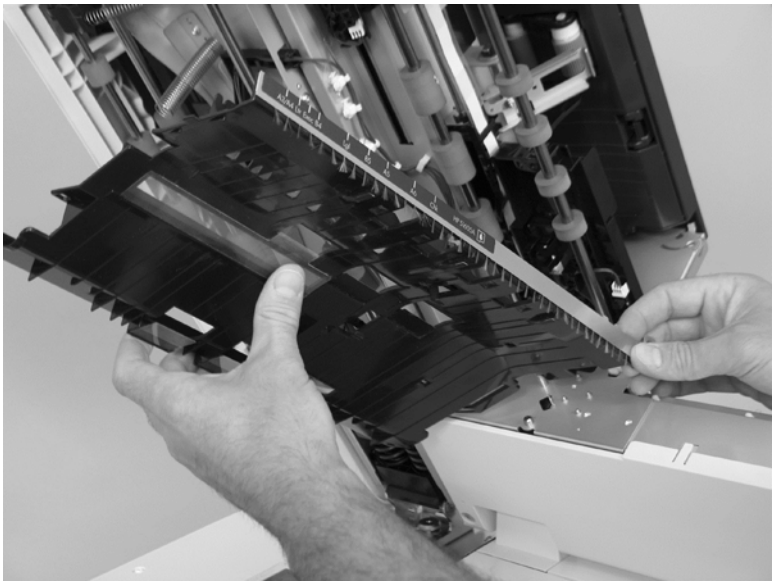
4. Remove six screws.

Figure 5-172 Remove the ADF exit inner paper path guide (3 of 4)



5. Remove the ADF exit inner paper path guide.

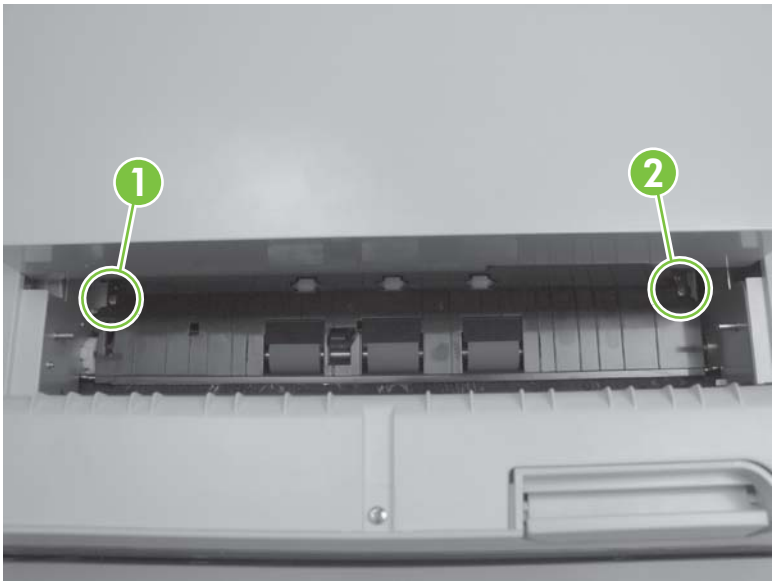
Figure 5-173 Remove the ADF exit inner paper path guide (4 of 4)



ADF top corner inner paper path guide

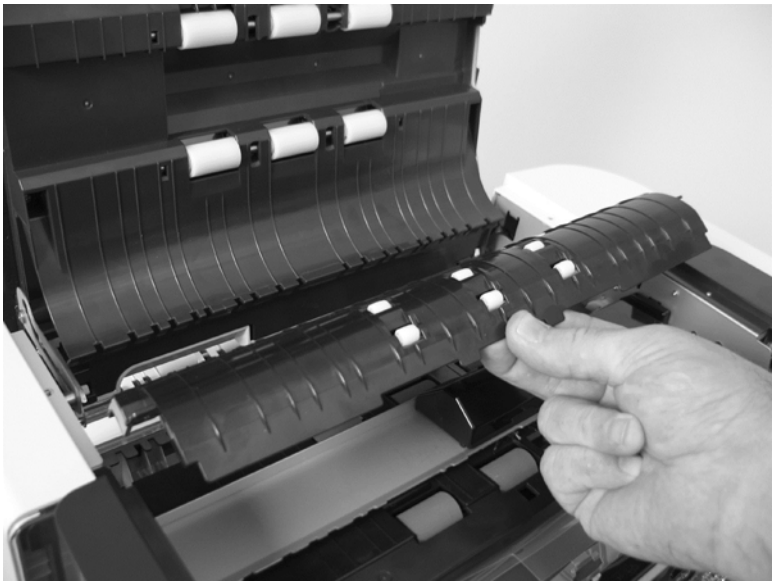
1. Open ADF jam door 1 and ADF jam door 2.
2. Remove one screw (callout 1) and one shoulder screw (callout 2).

Figure 5-174 Remove the ADF top corner inner paper path guide (1 of 2)



3. Remove the ADF top corner inner paper path guide.

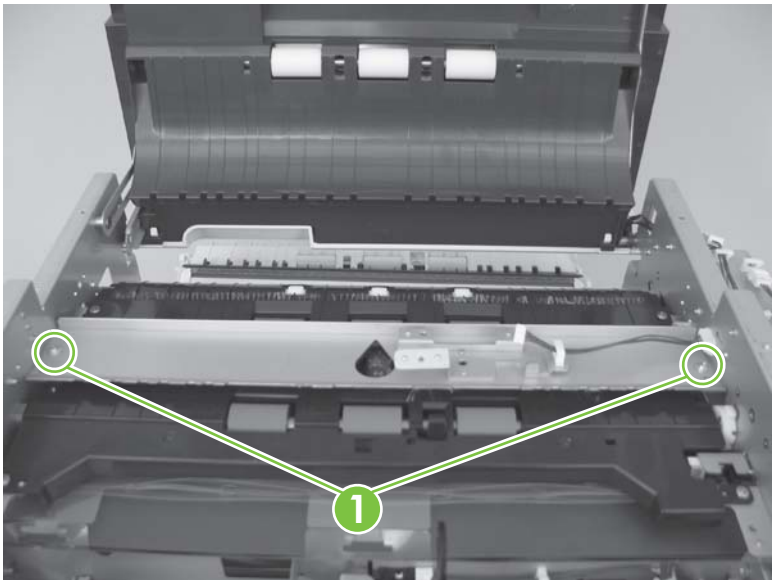
Figure 5-175 Remove the ADF top corner inner paper path guide (2 of 2)



Lower multi-pick sensor cover

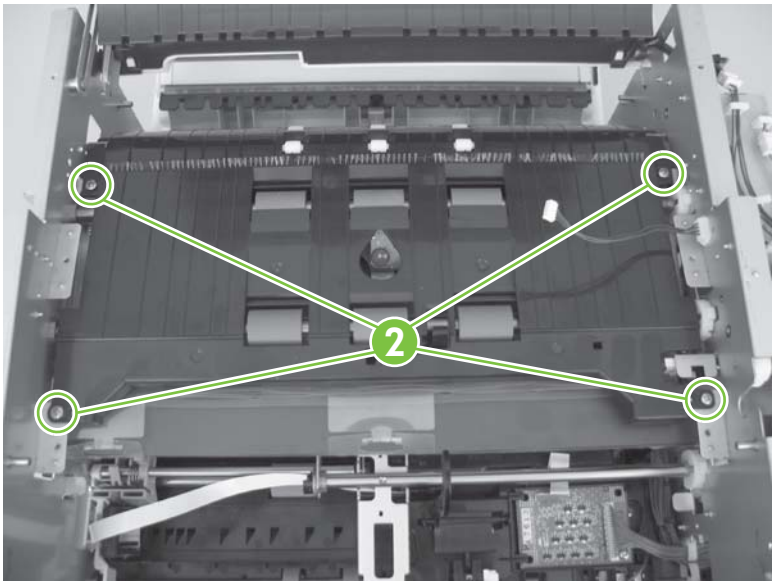
1. Remove the following components:
   - ADF front cover. See ADF front cover on page 55.
   - ADF back cover. See ADF back cover on page 58.
   - ADF input-tray assembly. See ADF input-tray assembly on page 184.
   - ADF shingle wall. See ADF shingle wall on page 197.
   - Upper multi-pick sensor PCA. See Upper multi-pick sensor PCA on page 124.
2. Remove two screws (callout 1) and the sheet metal.

Figure 5-176 Remove the lower multi-pick sensor cover (1 of 3)



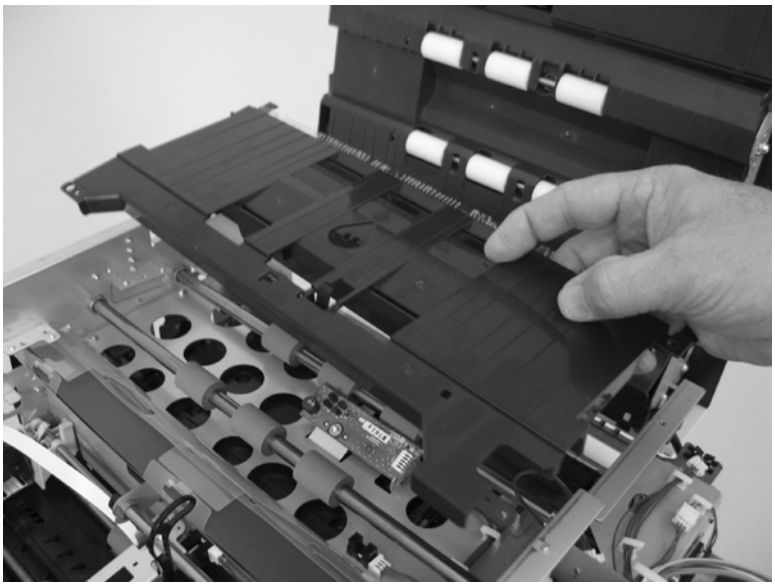
3. Remove four screws (callout 2).

Figure 5-177 Remove the lower multi-pick sensor cover (2 of 3)



4. Remove the upper feed-guide.

Figure 5-178 Remove the lower multi-pick sensor cover (3 of 3)



Flatbed scan position sensor arm

1. Remove the following components:
   - ADF front cover. See ADF front cover on page 55.
   - ADF bottom corner, outer paper path guide. See ADF bottom corner outer paper path guide on page 152.
   - ADF bottom corner, inner paper path guide. See ADF bottom corner inner paper path guide on page 154.
   - ADF cal-strip assembly. See ADF cal-strip assembly on page 155.
2. Remove two tabs.

Figure 5-179 Remove the flatbed scan position sensor arm (1 of 2)

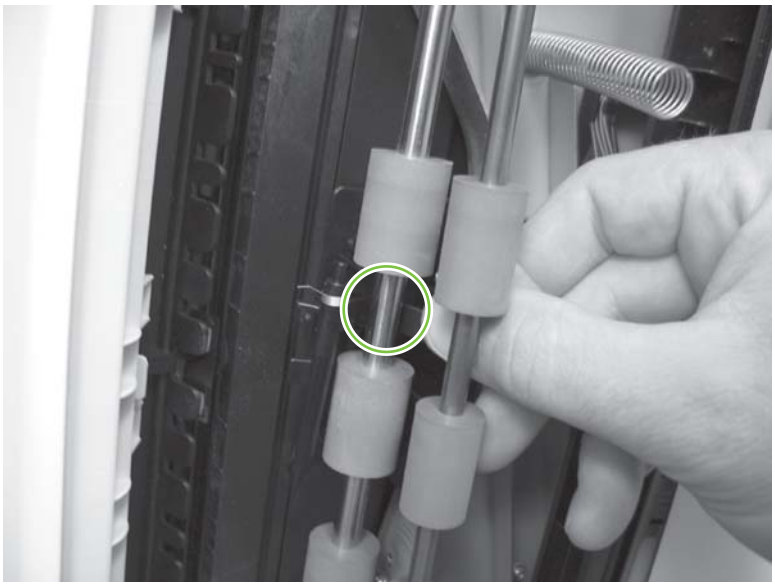
3. Rotate the flatbed scan position sensor arm over the roller shaft to remove it from the ADF.

Figure 5-180 Remove the flatbed scan position sensor arm (2 of 2)

Reinstall the flatbed scan position sensor arm

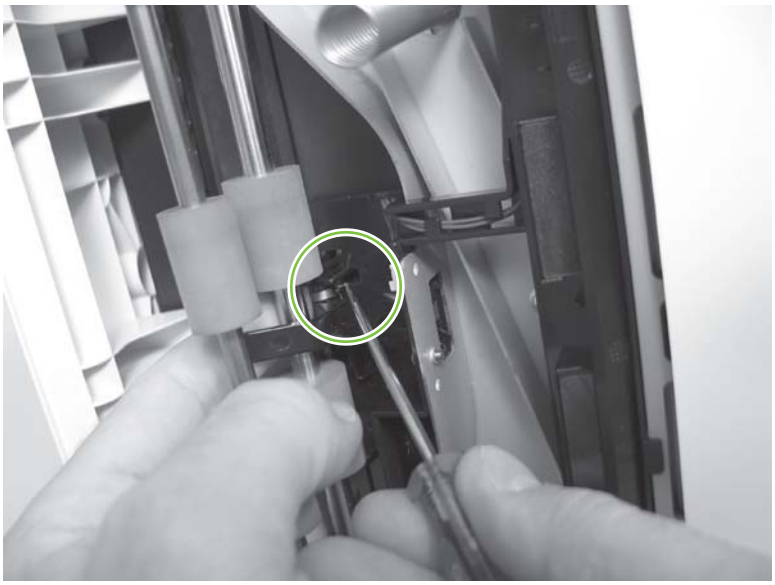
1. Check that the spring is correctly positioned, and then insert the flatbed scan position sensor arm over the roller shaft.

Figure 5-181 Reinstall the flatbed scan position sensor arm (1 of 3)



2. Push the flatbed scan position sensor arm over the roller shaft, reinstall one tab, and then reinstall the spring end.

Figure 5-182 Reinstall the flatbed scan position sensor arm (2 of 3)



3. Reinstall one tab.

Figure 5-183 Reinstall the flatbed scan position sensor arm (3 of 3)

4. Reinstall the following components:

   - ADF cal-strip assembly. See ADF cal-strip assembly on page 155.
   - ADF bottom corner, inner paper path guide. See ADF bottom corner inner paper path guide on page 154.

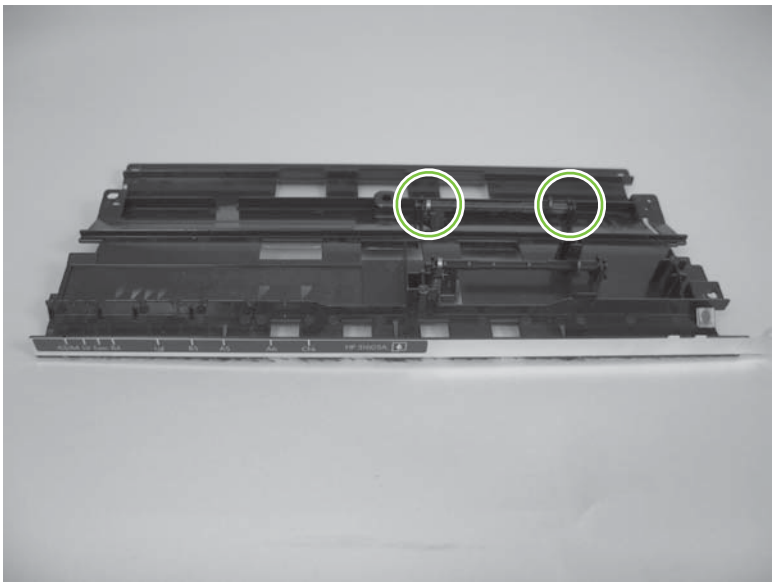
- ADF bottom corner, outer paper path guide. See ADF bottom corner outer paper path guide on page 152.
- ADF front cover. See ADF front cover on page 55.

Exit 1 sensor arm

1. Remove the following components:
   - ADF front cover. See ADF front cover on page 55.
   - ADF back cover. See Scanner back cover on page 60.

     WARNING! Place the back of the product against a wall after removing the scanner back cover. The ADF hinge springs could actuate and cause the product to flip over backward.
   - ADF input-tray assembly. See ADF input-tray assembly on page 184.
   - ADF output tray. See ADF output tray on page 186.
   - ADF shingle wall. See ADF shingle wall on page 197.
   - ADF bottom corner, outer paper path guide. See ADF bottom corner outer paper path guide on page 152.
   - ADF bottom corner, inner paper path guide. See ADF bottom corner inner paper path guide on page 154.
   - ADF cal-strip assembly. See ADF cal-strip assembly on page 155.
   - ADF exit inner paper path guide. See ADF exit inner paper path guide on page 162.
2. Remove two tabs, and then remove the exit 1 sensor arm.

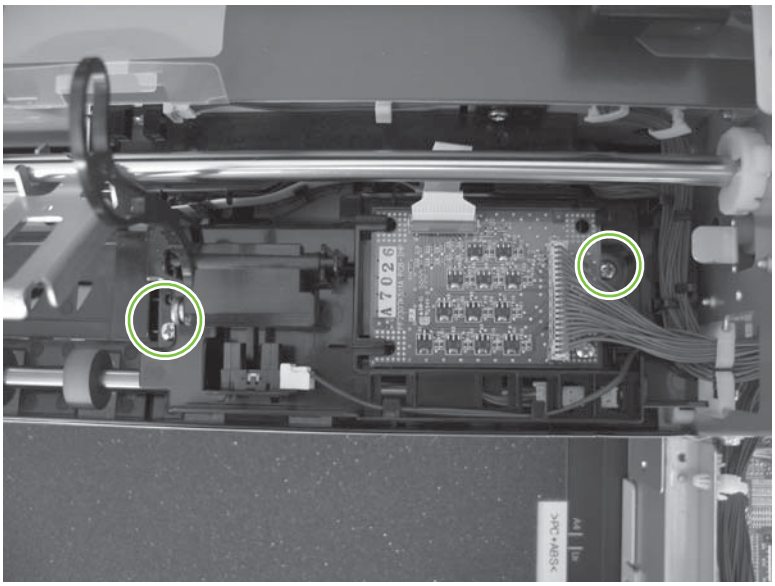
Figure 5-184 Remove the exit 1 sensor arm



Exit 2 sensor arm

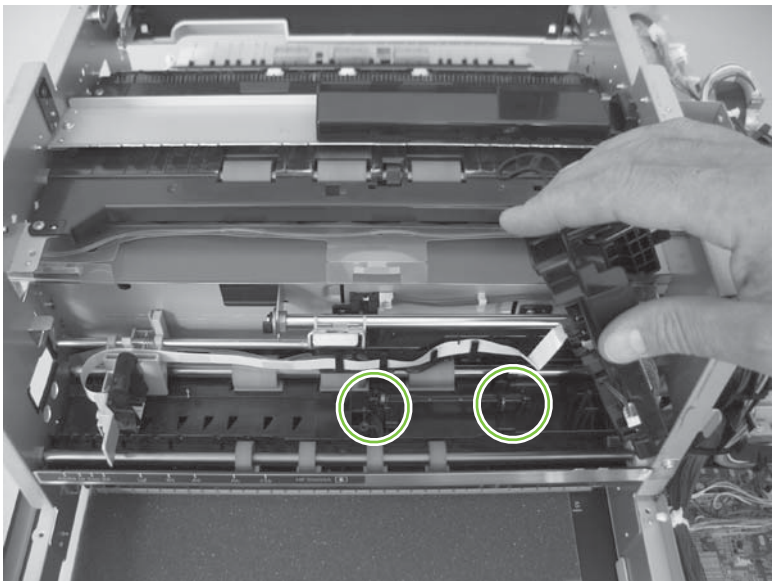
1. Remove the following components:
   - ADF front cover. See ADF front cover on page 55.
   - ADF back cover. See ADF back cover on page 58.
   - ADF input-tray assembly. See ADF input-tray assembly on page 184
   - ADF shingle wall. See ADF shingle wall on page 197.
2. Remove two screws.

Figure 5-185 Remove the exit 2 sensor arm (1 of 3)



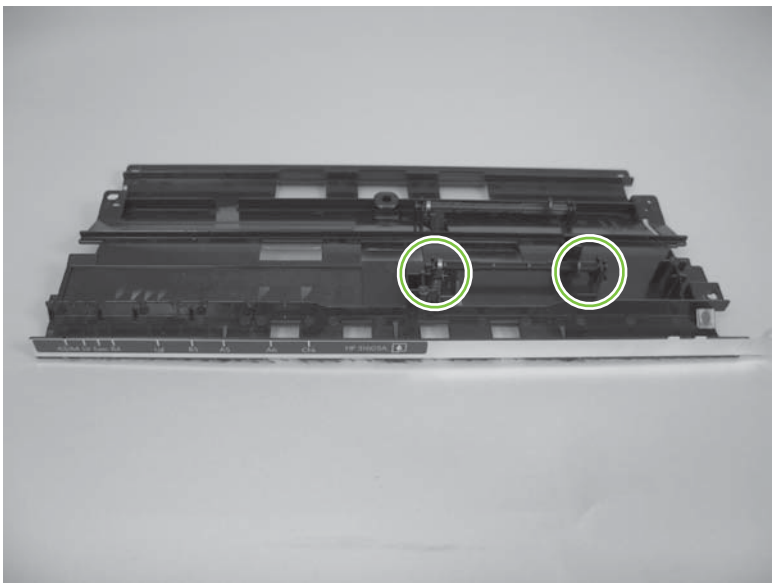
3. Rotate the paper present sensor and imprinter PCA holder, remove two tabs, and then remove the exit 2 sensor arm.

Figure 5-186 Remove the exit 2 sensor arm (2 of 3)



NOTE: The exit 2 sensor arm can also be accessed by removing the ADF exit inner paper path guide. See ADF exit inner paper path guide on page 162.

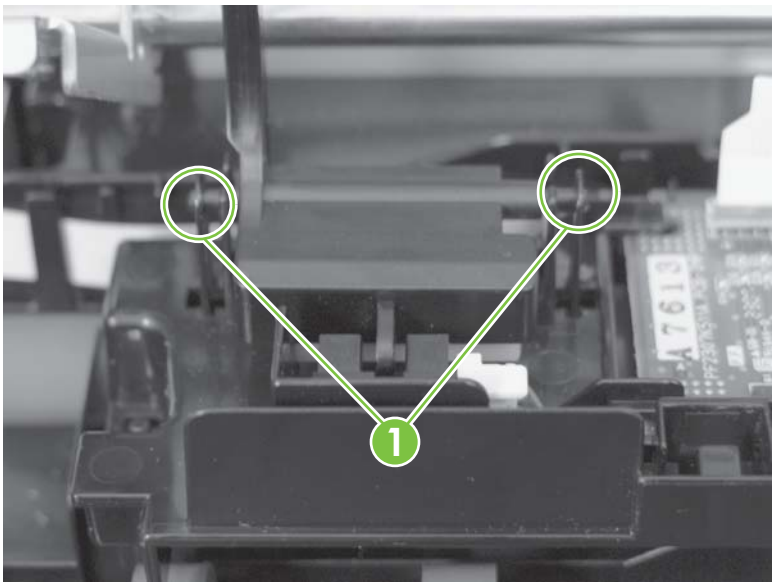
Figure 5-187 Remove the exit 2 sensor arm (3 of 3)



Paper-present-sensor arm

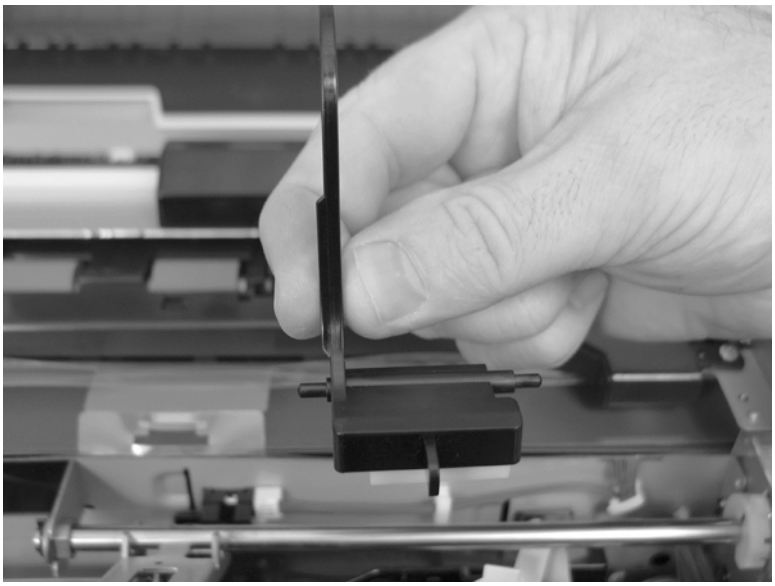
1. Remove the following components:
   - ADF front cover. See ADF front cover on page 55.
   - ADF back cover. See ADF back cover on page 58.
   - ADF input-tray assembly. See ADF input-tray assembly on page 184.
   - ADF shingle wall. See ADF shingle wall on page 197.
2. Remove two tabs (callout 1).

Figure 5-188 Remove the paper-present-sensor arm (1 of 2)



3. Remove the paper-present-sensor arm.

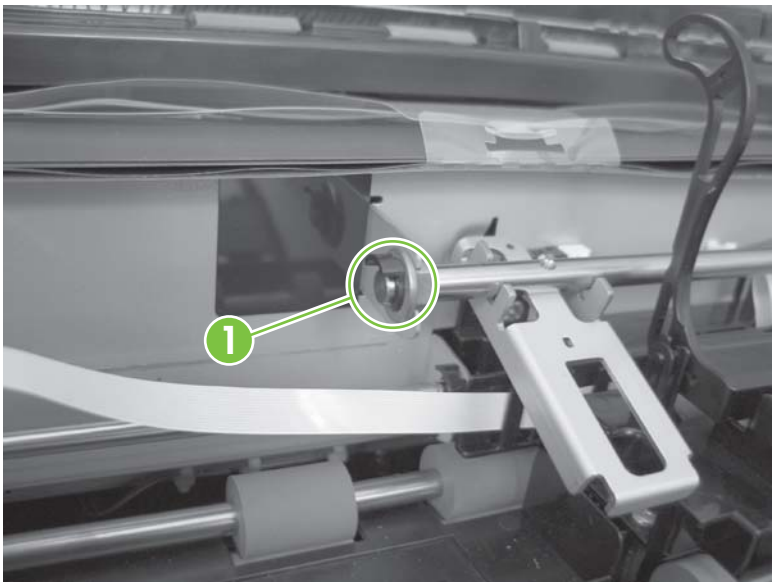
Figure 5-189 Remove the paper-present-sensor arm (2 of 2)



Input-tray-elevator arm

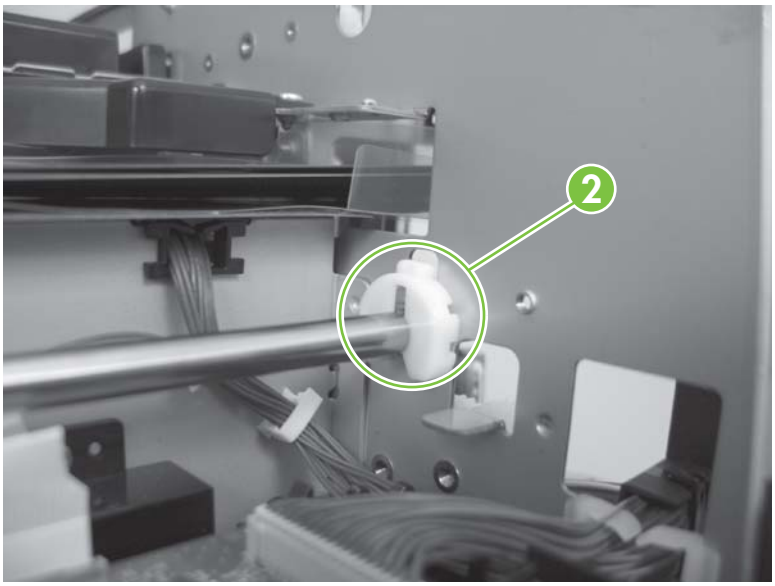
1. Remove the following components:
   - ADF back cover. See ADF back cover on page 58.
   - ADF front cover. See ADF front cover on page 55.
   - ADF shingle wall. See ADF shingle wall on page 197.
   - ADF input-tray lift-motor assembly. See ADF input-tray lift-motor assembly on page 105.
2. Remove one clip-bushing (callout 1).

Figure 5-190 Remove the input-tray-elevator arm (1 of 5)



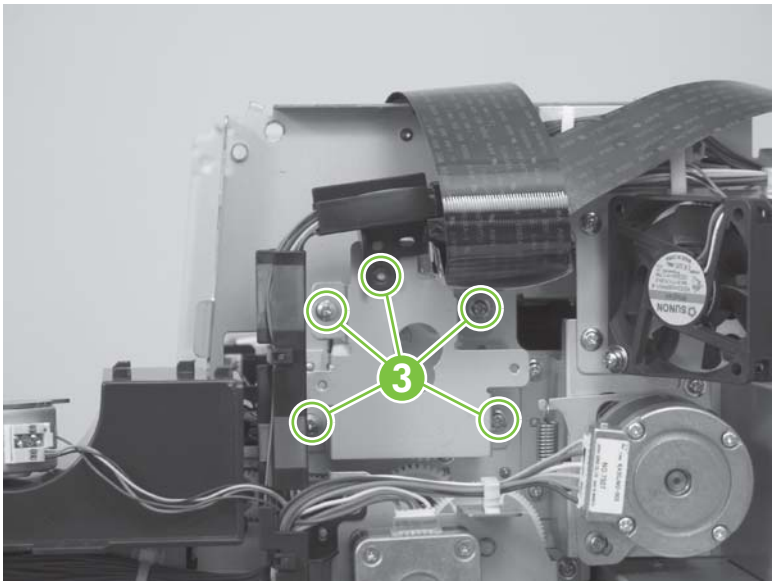
3. Remove one clip-bushing (callout 2).

Figure 5-191 Remove the input-tray-elevator arm (2 of 5)



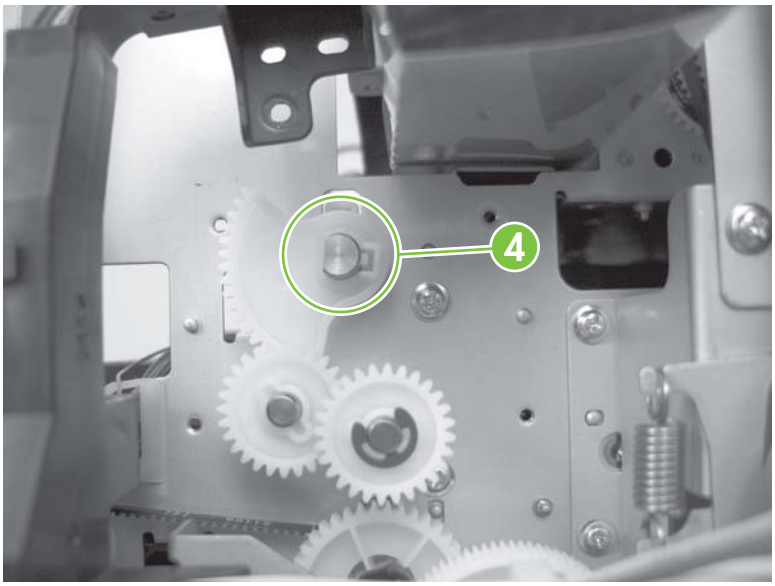
4. Remove five screws (callout 3).

Figure 5-192 Remove the input-tray-elevator arm (3 of 5)



5. Remove one cam-collar (callout 4).

Figure 5-193 Remove the input-tray-elevator arm (4 of 5)



6. Remove the input-tray-elevator arm.

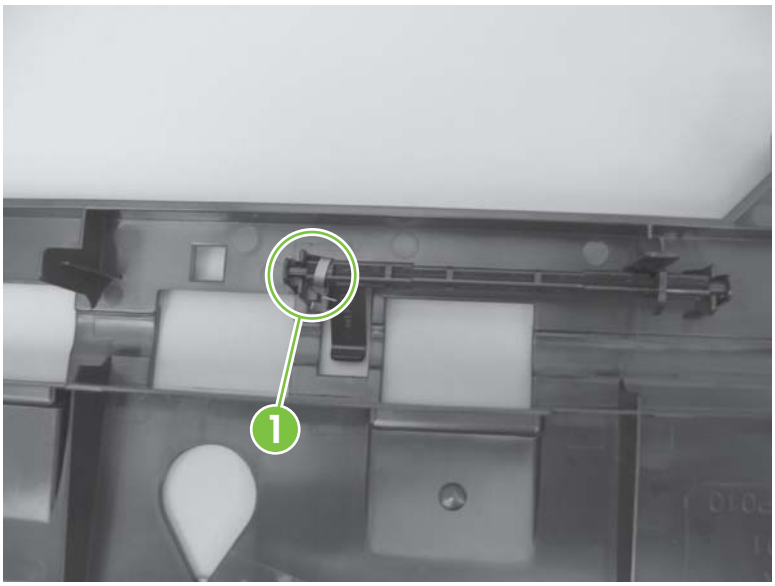
Figure 5-194 Remove the input-tray-elevator arm (5 of 5)

NOTE: When reinstalling the input-tray-elevator arm, align the gears so that the elevator arm is in the down position. When the tray is empty, the sensor should show active in the N9120 Service Tool.

Registration sensor arm

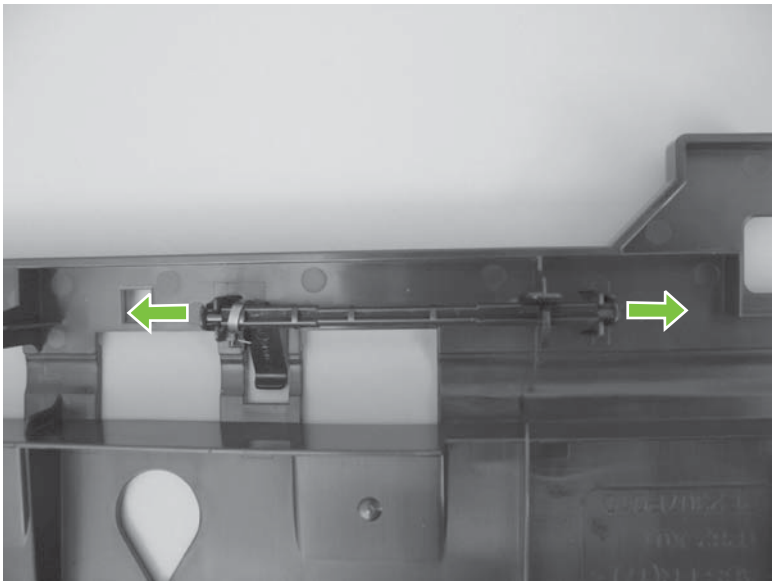
1. Remove the following components:
   - ADF front cover. See ADF front cover on page 55.
   - ADF back cover. See ADF back cover on page 58.
   - ADF input-tray assembly. See ADF input-tray assembly on page 184.
   - ADF shingle wall. See ADF shingle wall on page 197.
   - Upper multi-pick sensor PCA. See Upper multi-pick sensor PCA on page 124.
   - Lower multi-pick sensor cover. See Lower multi-pick sensor cover on page 166.
2. Take note of the location of the spring ends (callout 1) so that the spring can be correctly reinstalled.

Figure 5-195 Remove the registration sensor arm (1 of 2)



3. Release two tabs, and then remove the registration sensor arm.

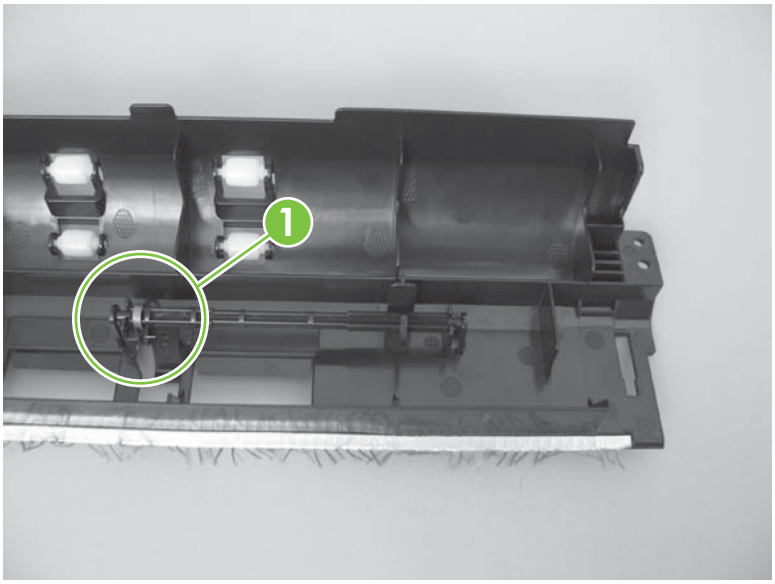
Figure 5-196 Remove the registration sensor arm (2 of 2)



Scan position sensor arm

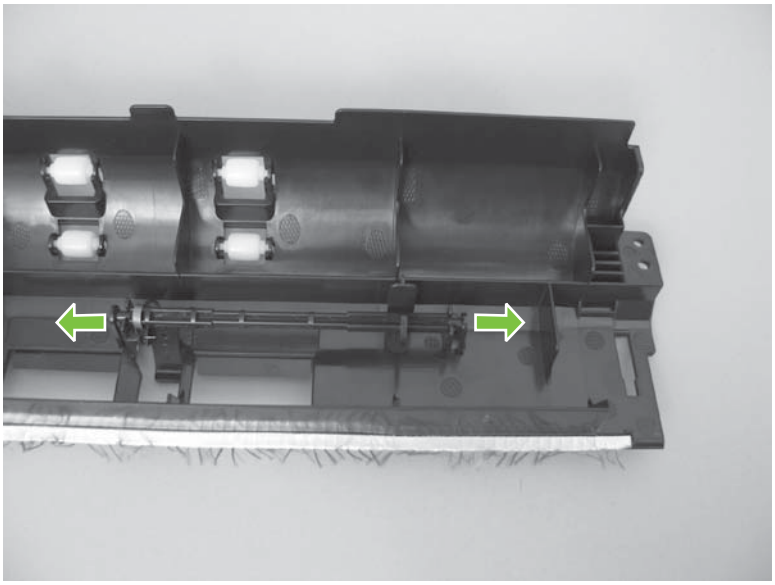
1. Remove the ADF top corner inner paper path guide. See ADF top corner inner paper path guide on page 165.
2. Take note of the location of the spring ends (callout 1) so that the spring can be correctly reinstalled.

Figure 5-197 Remove the scan position sensor arm (1 of 2)



3. Release two tabs, and then remove the scan position sensor arm.

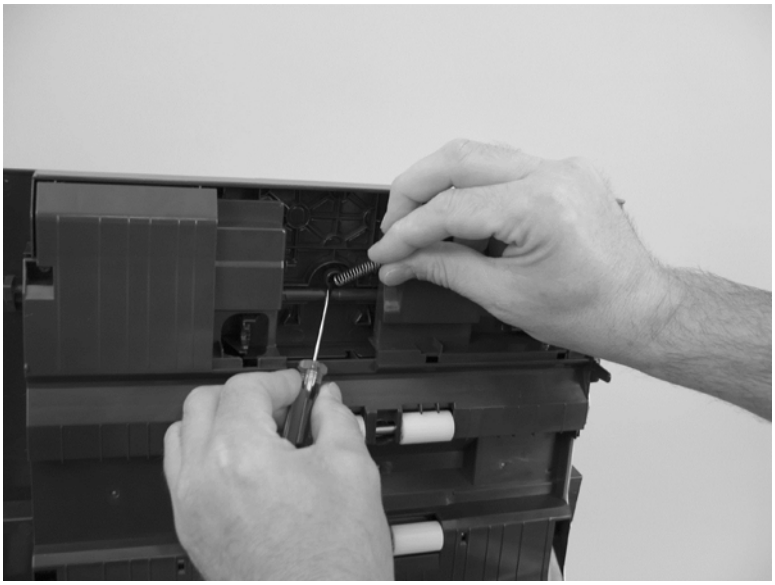
Figure 5-198 Remove the scan position sensor arm (2 of 2)



Pick-up roller spring

1. Remove the pickup-roller assembly. See Pickup-roller assembly on page 47.
2. Remove the pickup-roller spring.

Figure 5-199 Remove the pickup-roller spring



Separation-pad spring

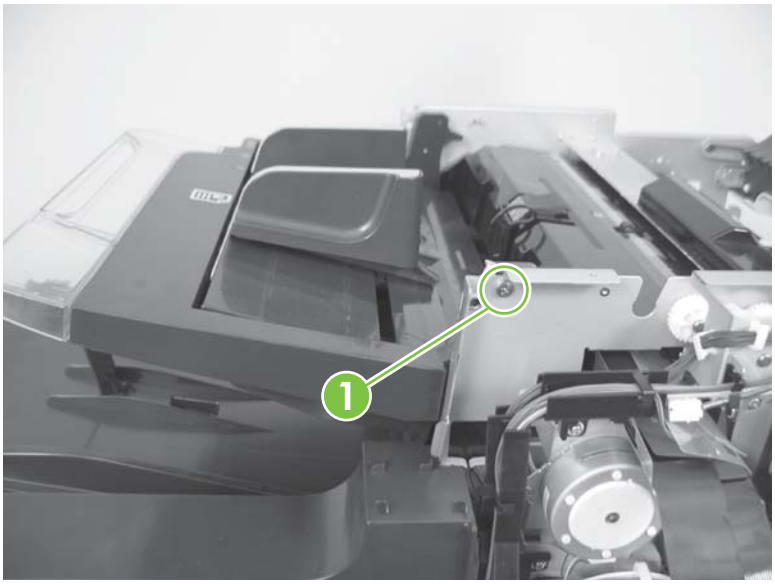
1. Remove the separation-pad assembly. See Separation-pad assembly on page 50.
2. Remove the separation-pad spring.

Figure 5-200 Remove the separation-pad spring

ADF input-tray assembly

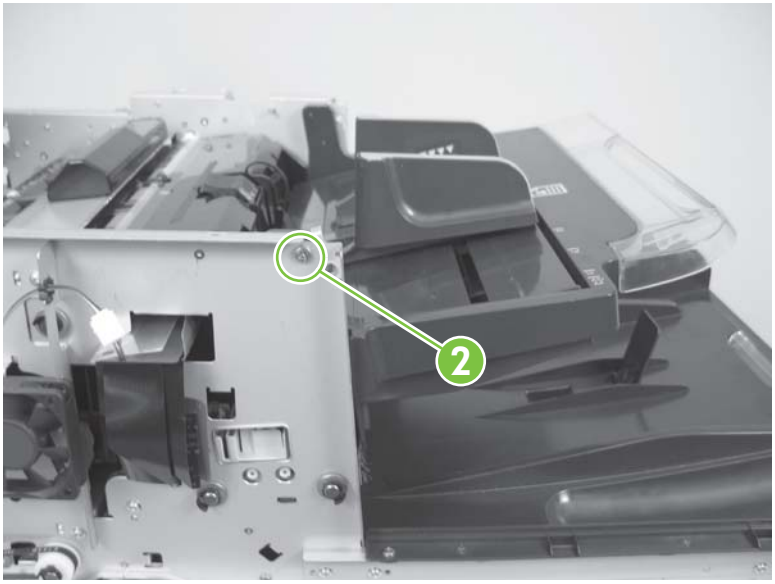
1. Remove the following components:
   - Remove the ADF back cover. See ADF back cover on page 58.
   - Remove the ADF front cover. See ADF front cover on page 55.
2. Remove one screw (callout 1).

Figure 5-201 Remove the ADF input-tray assembly (1 of 3)



3. Remove one screw (callout 2).

Figure 5-202 Remove the ADF input-tray assembly (2 of 3)



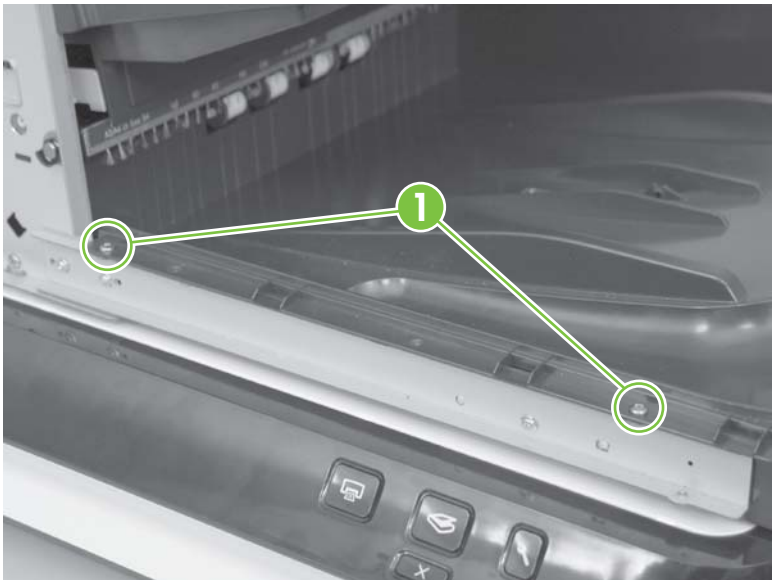
4. Remove the ADF input-tray assembly.

Figure 5-203 Remove the ADF input-tray assembly (3 of 3)

ADF output tray

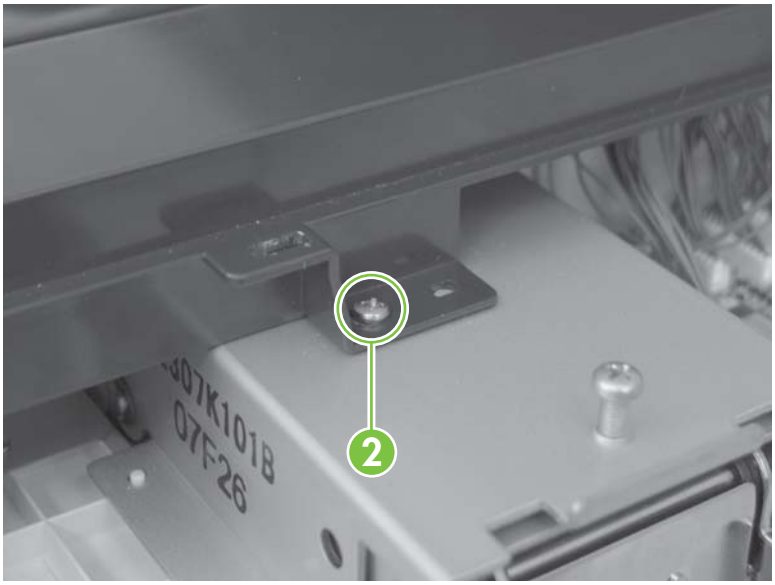
1. Remove the following components:
   - ADF front cover. See ADF front cover on page 55.
   - ADF back cover. See ADF back cover on page 58.
2. Remove two screws (callout 1).

Figure 5-204 Remove the ADF output tray (1 of 3)



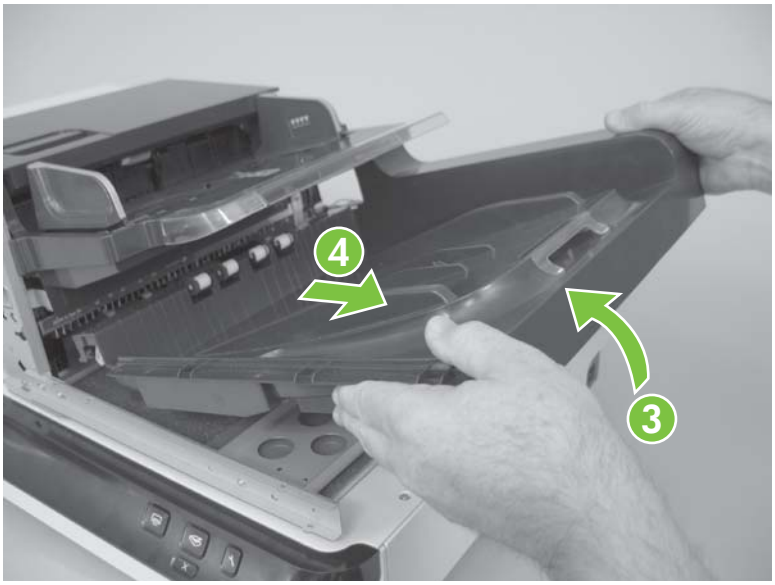
3. Remove one screw (callout 2).

Figure 5-205 Remove the ADF output tray (2 of 3)



4. Rotate the output tray up (callout 3), and then pull the output tray out (callout 4).

Figure 5-206 Remove the ADF output tray (3 of 3)



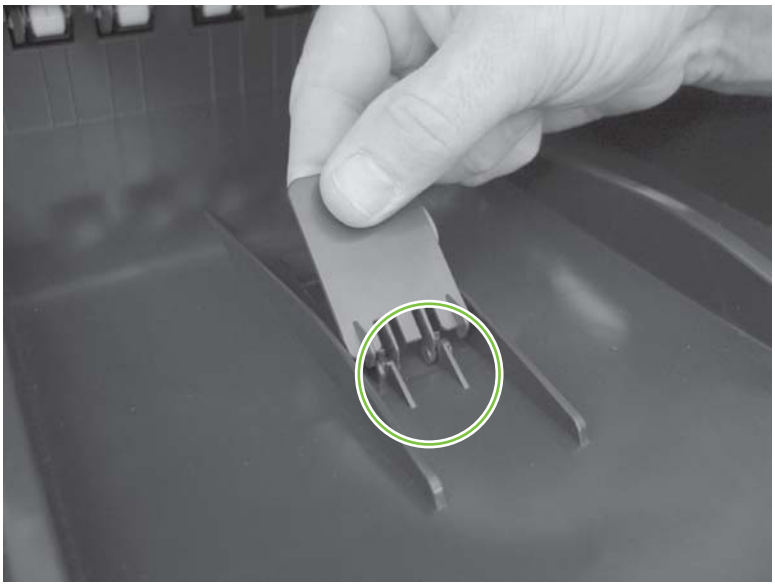
Reinstall the ADF output tray

1. Slide the output tray into the ADF.

Figure 5-207 Reinstall the ADF output tray (1 of 4)

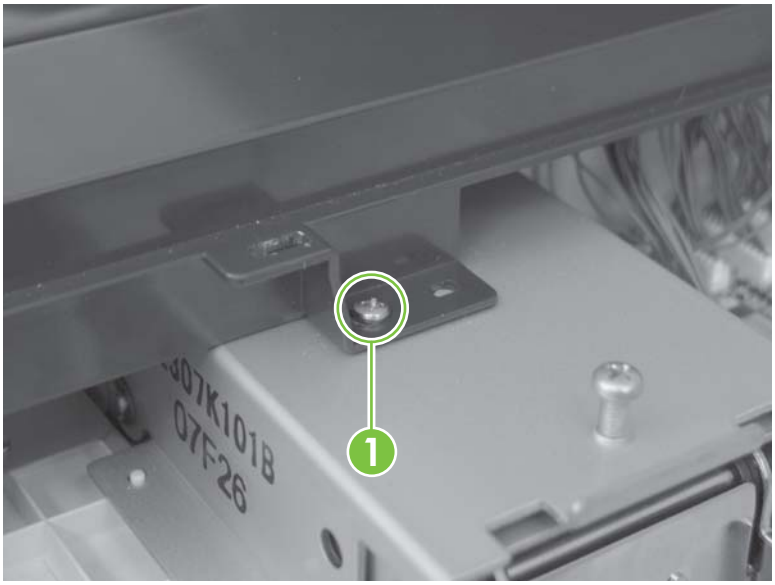
NOTE: If replacing the ADF output tray, remove the A4 paper-stop from the original ADF output tray, and then reinstall it in the replacement ADF output tray. See A4 paper-stop on page 200.

Figure 5-208 Reinstall the ADF output tray (2 of 4)



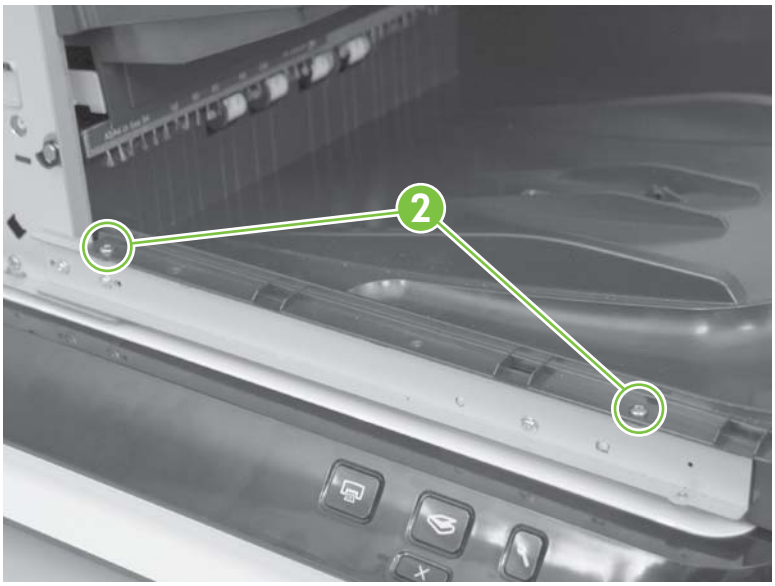
2. Reinstall one screw (callout 1).

Figure 5-209 Reinstall the ADF output tray (3 of 4)



3. Reinstall two screws (callout 2).

Figure 5-210 Reinstall the ADF output tray (4 of 4)



4. Reinstall the following components:

- ADF back cover. See ADF back cover on page 58.
- ADF front cover. See ADF front cover on page 55.

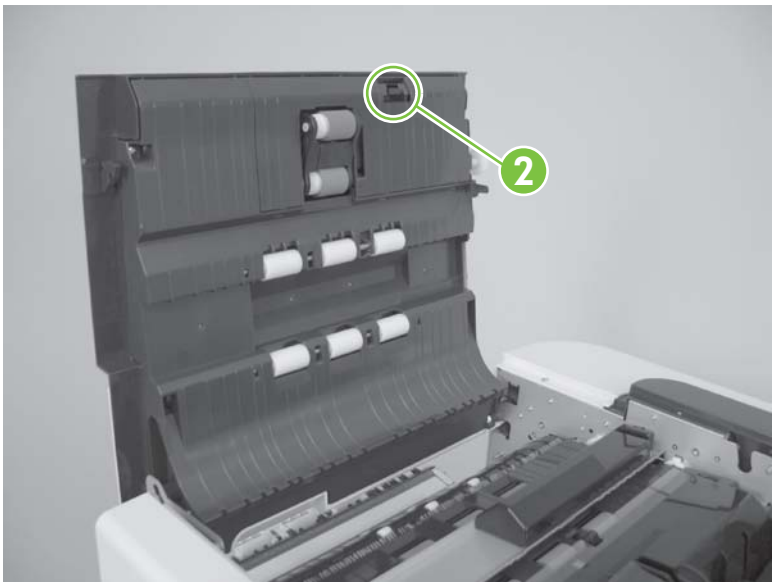
Pickup-roller cover

1. Open the ADF jam door 1 (callout 1).

Figure 5-211 Remove the pickup-roller cover (1 of 3)

2. Press the locking tab (callout 2) on the pickup-roller cover.

Figure 5-212 Remove the pickup-roller cover (2 of 3)



3. Rotate the top of the assembly away from the ADF, and then remove the pickup-roller cover.

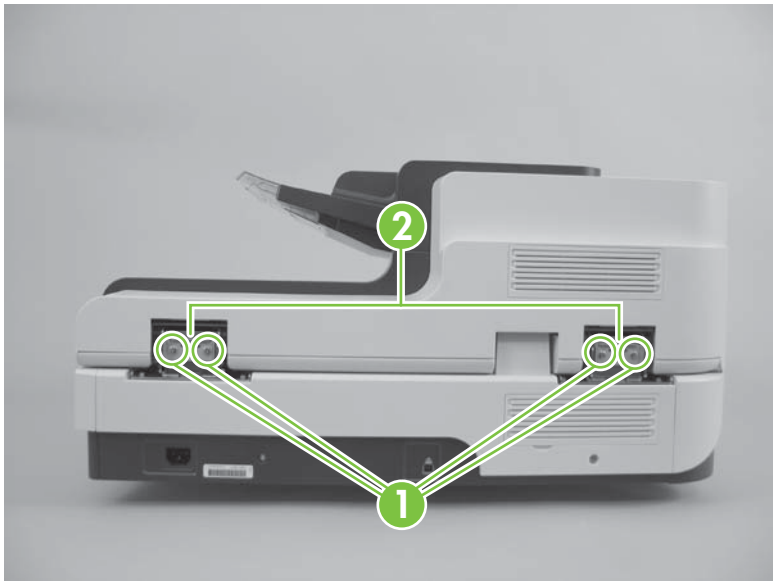
Figure 5-213 Remove the pickup-roller cover (3 of 3)

ADF hinge limiters

Remove four screws (callout 1), and then remove the ADF hinge limiters (callout 2).

⚠ **WARNING!** The ADF is not restrained when opened if the hinge limiters are removed. The product can tip over if the ADF is opened too far.

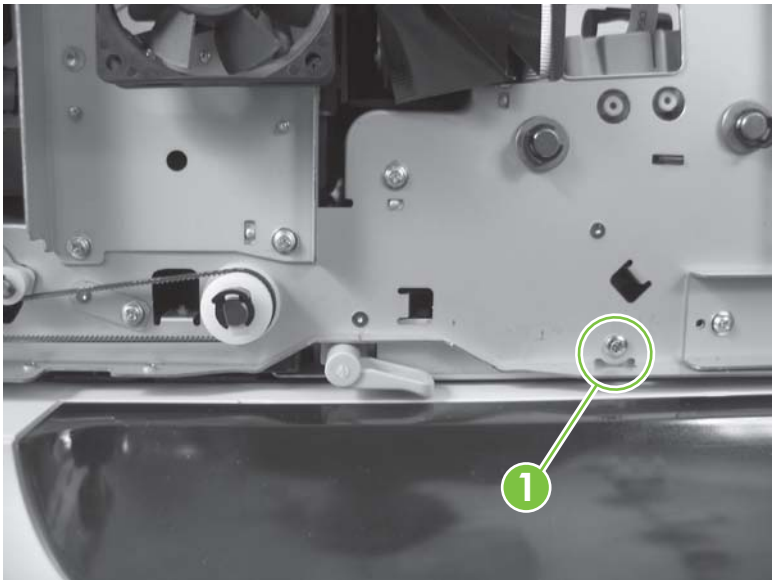
Figure 5-214 Remove the ADF hinge limiters



ADF jam door 3

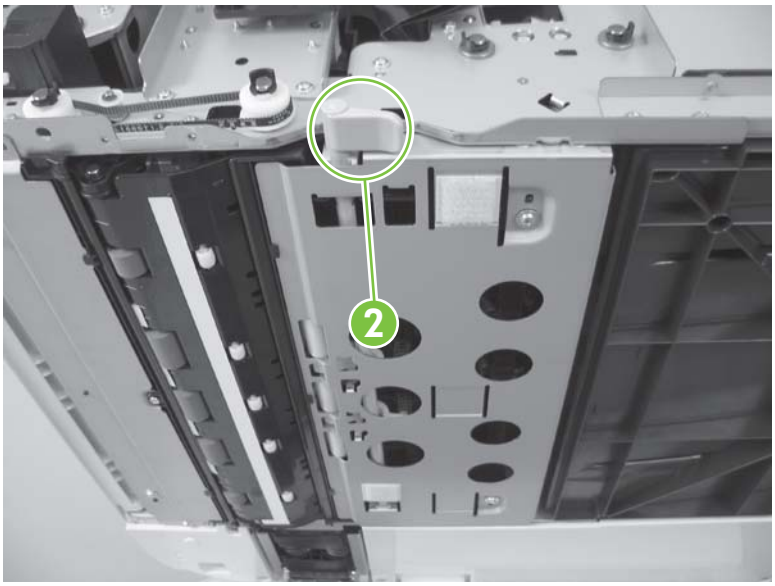
1. Remove the following components:
   - ADF front cover. See ADF front cover on page 55.
   - ADF base reflector. See ADF base reflector on page 45.
2. Remove one screw (callout 1).

Figure 5-215 Remove ADF jam door 3 (1 of 4)



3. Open the ADF.
4. Support the ADF jam door 3, and then turn the green handle (callout 2).

Figure 5-216 Remove ADF jam door 3 (2 of 4)

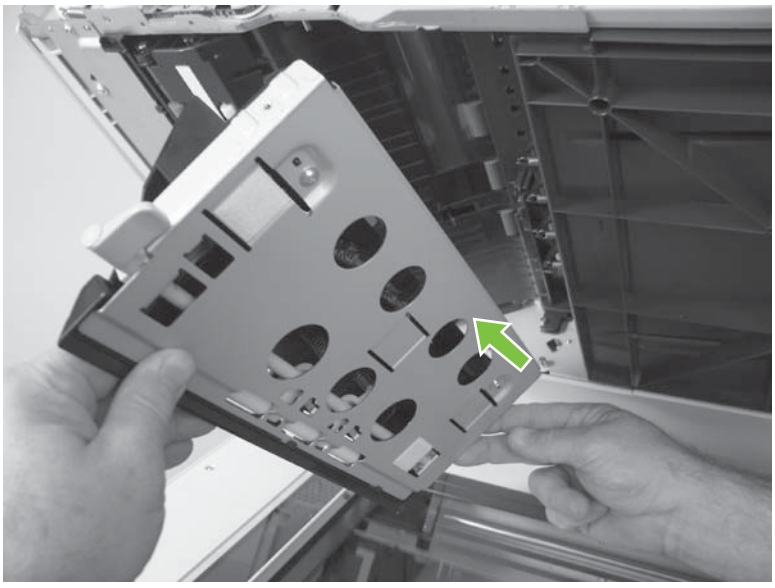


5. Rotate the loose side of the ADF jam door 3 toward the scanner glass.

Figure 5-217 Remove ADF jam door 3 (3 of 4)

6. Remove ADF jam door 3.

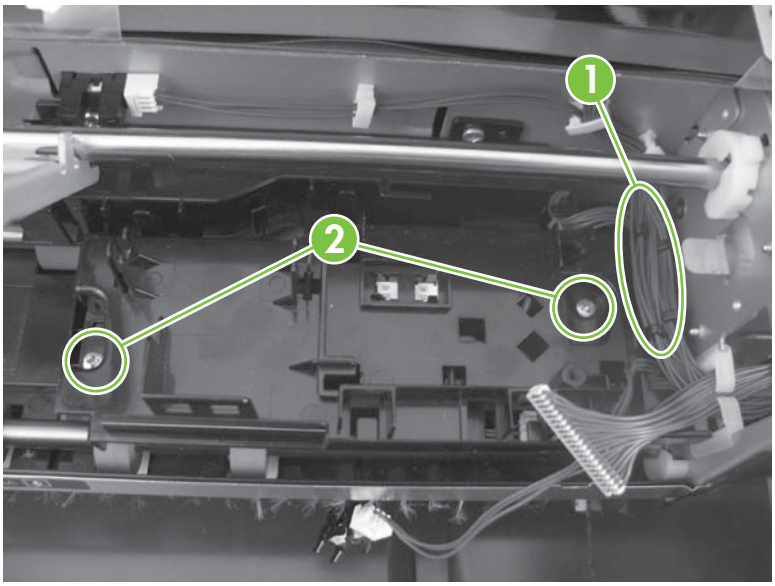
Figure 5-218 Remove ADF jam door 3 (4 of 4)



Paper present sensor and imprinter PCA holder

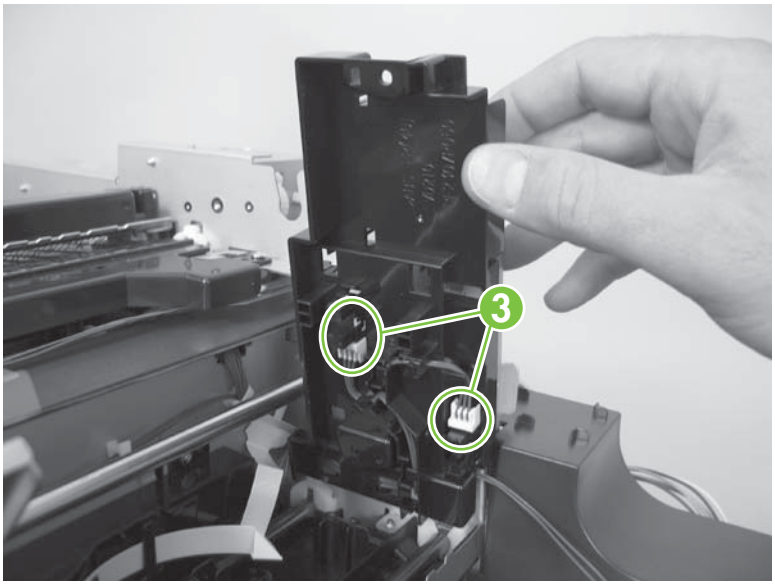
1. Remove the following components:
   - ADF front cover. See ADF front cover on page 55.
   - ADF back cover. See ADF back cover on page 58.
   - ADF input-tray assembly. See ADF input-tray assembly on page 184.
   - ADF shingle wall. See ADF shingle wall on page 197.
   - Paper-present-sensor arm. See Paper-present-sensor arm on page 175.
   - Imprinter paper-present sensor. See Imprinter paper-present sensor on page 149.
   - Imprinter PCA. See Imprinter PCA on page 130.
2. Remove wire retainers (callout 1) and two screws (callout 2).

Figure 5-219 Remove the paper present sensor and imprinter PCA holder (1 of 3)



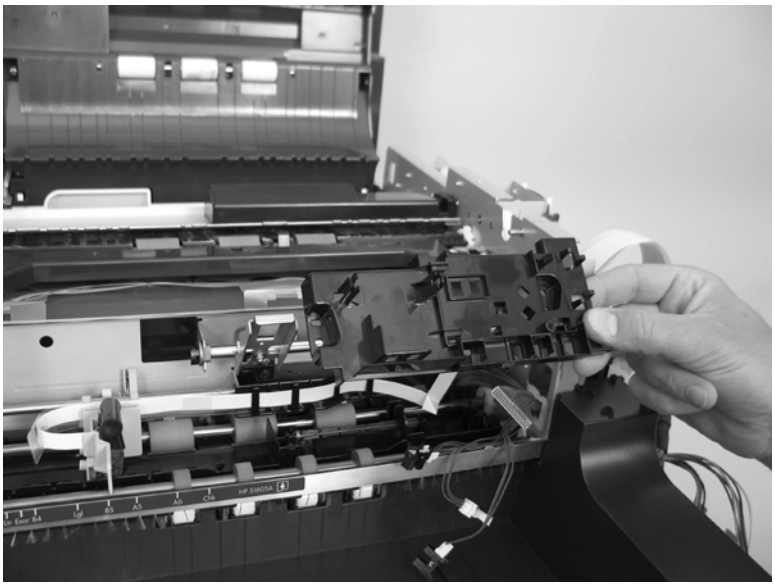
3. Remove two sensors (callout 3).

Figure 5-220 Remove the paper present sensor and imprinter PCA holder (2 of 3)



4. Remove the paper present sensor and imprinter PCA holder.

Figure 5-221 Remove the paper present sensor and imprinter PCA holder (3 of 3)

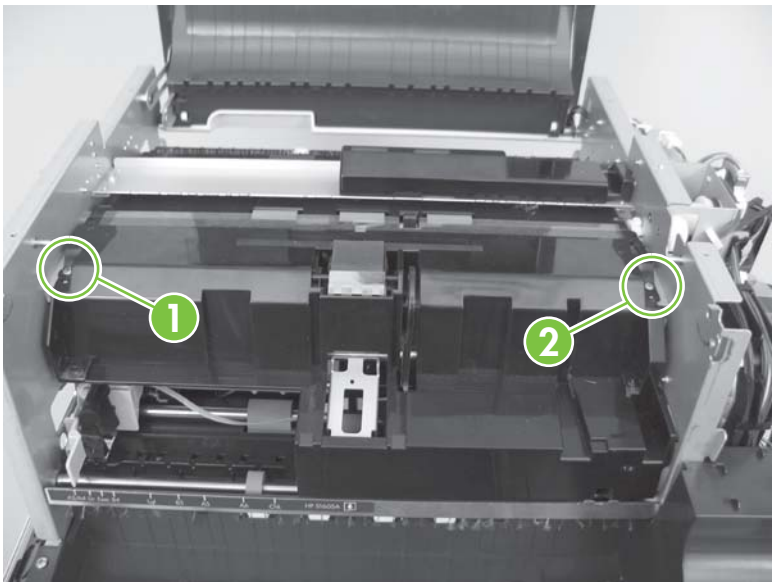


ADF shingle wall

1. Remove the following components:
   - ADF back cover. See ADF back cover on page 58.
   - ADF front cover. See ADF front cover on page 55.
   - ADF input-tray assembly. See ADF input-tray assembly on page 184.
2. Remove one screw (callout 1) and one shoulder screw (callout 2).

NOTE: When reinstalling the ADF shingle wall, make sure that the shoulder screw is installed in the correct location (callout 2) .

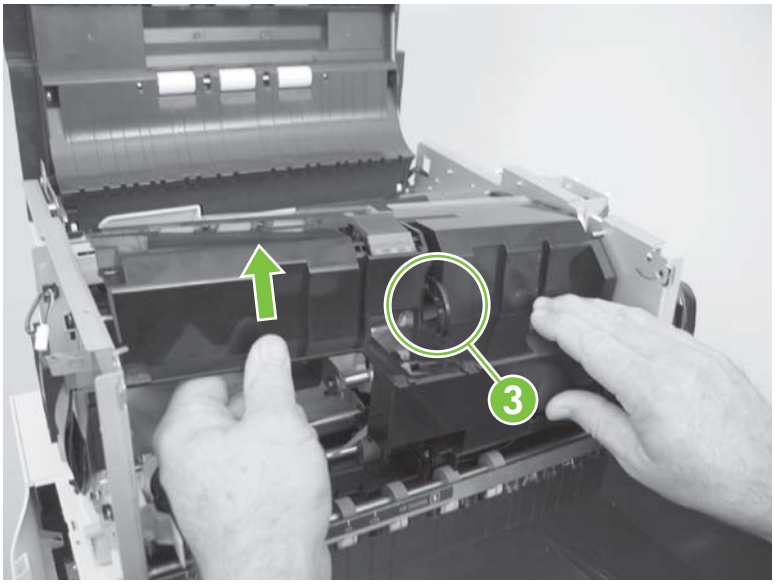
Figure 5-222 Remove the ADF shingle wall (1 of 4)



3. Lift up the ADF shingle wall.

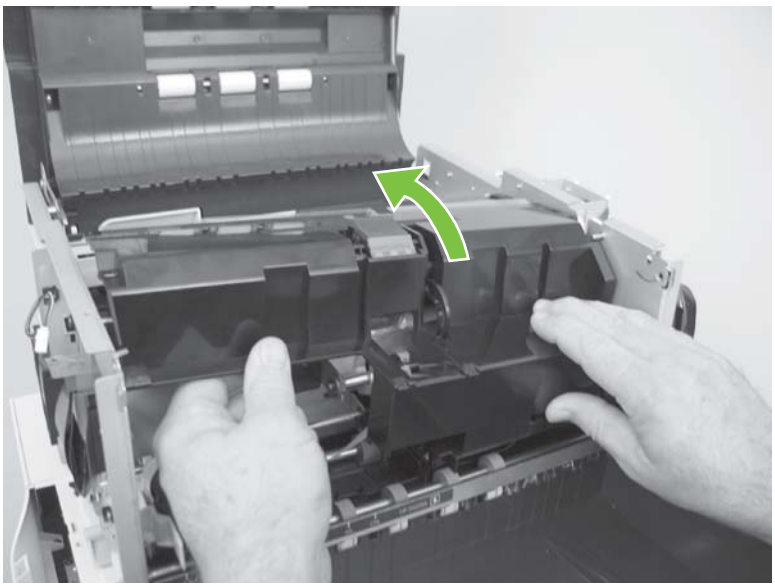
WARNING! Do not damage the paper-present-sensor arm (callout 3) when removing the ADF shingle wall.

Figure 5-223 Remove the ADF shingle wall (2 of 4)



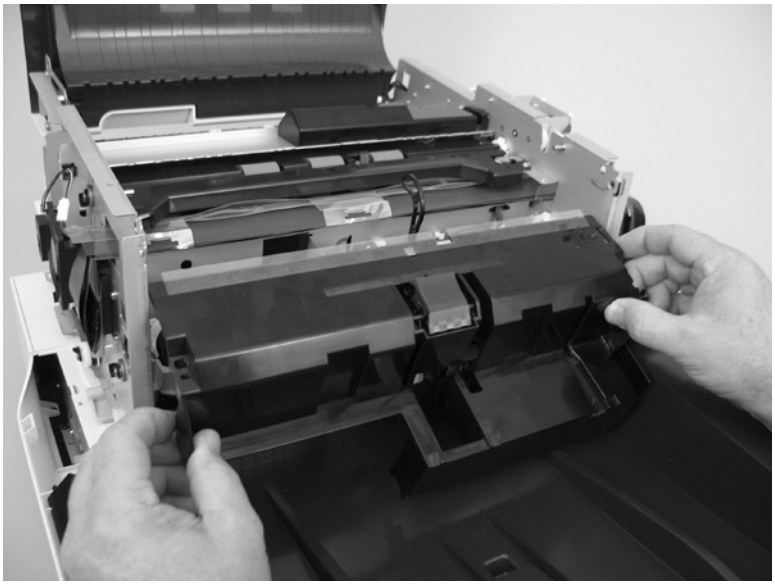
4. Rotate the ADF shingle wall toward jam door 1.

Figure 5-224 Remove the ADF shingle wall (3 of 4)



5. Remove the ADF shingle wall.

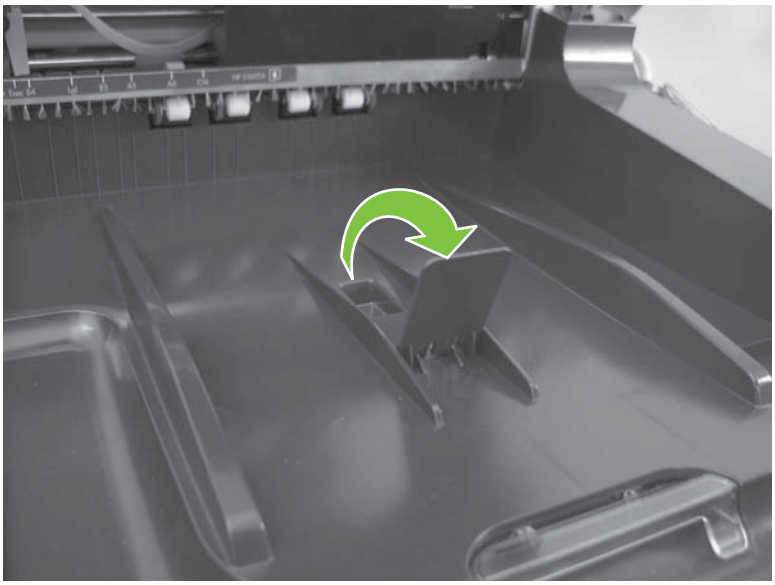
Figure 5-225 Remove the ADF shingle wall (4 of 4)



A4 paper-stop

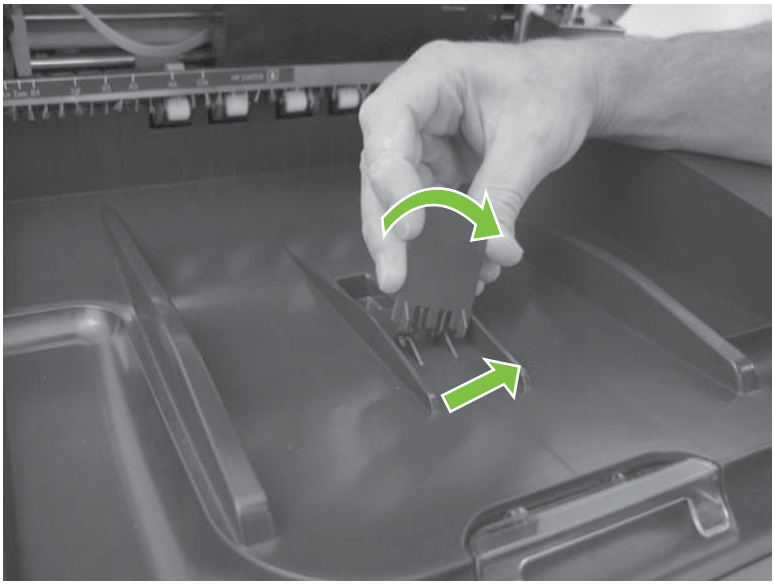
1. Move the A4 paper-stop to the upright position.

Figure 5-226 Remove the A4 paper-stop (1 of 2)



2. Move the bottom of the A4 paper-stop to the right, rotate the top of the A4 paper-stop down and to the right, and then remove the A4 paper-stop.

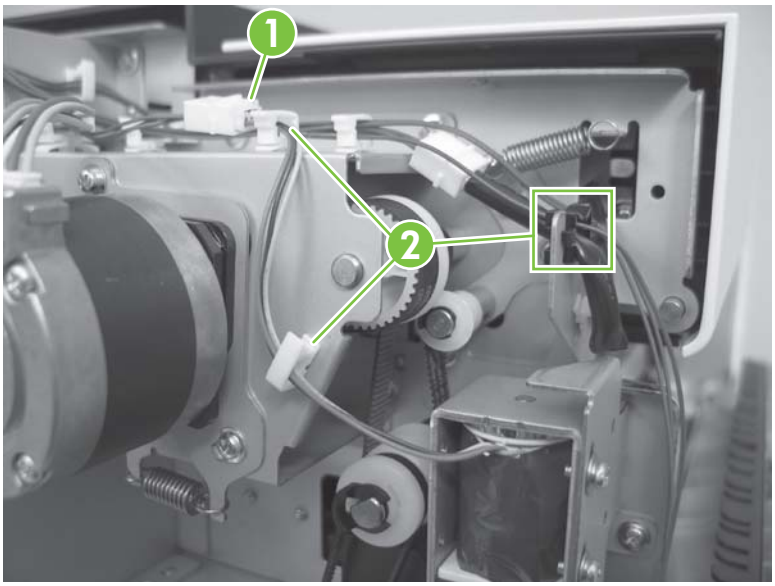
Figure 5-227 Remove the A4 paper-stop (2 of 2)



ADF background-solenoid assembly

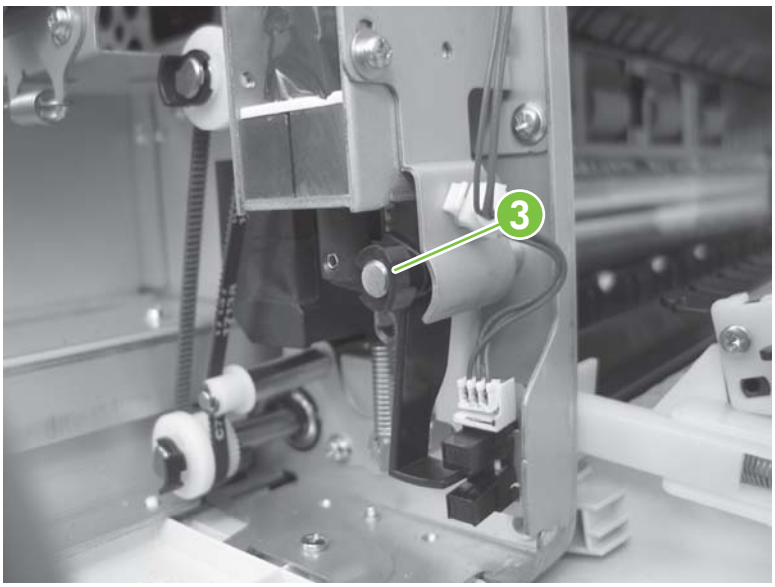
1. Remove the ADF back cover. See ADF back cover on page 58.
2. Disconnect one connector (callout 1), and then release the wire harnesses from three retainers (callout 2).

Figure 5-228 Remove the ADF background-solenoid assembly (1 of 5)



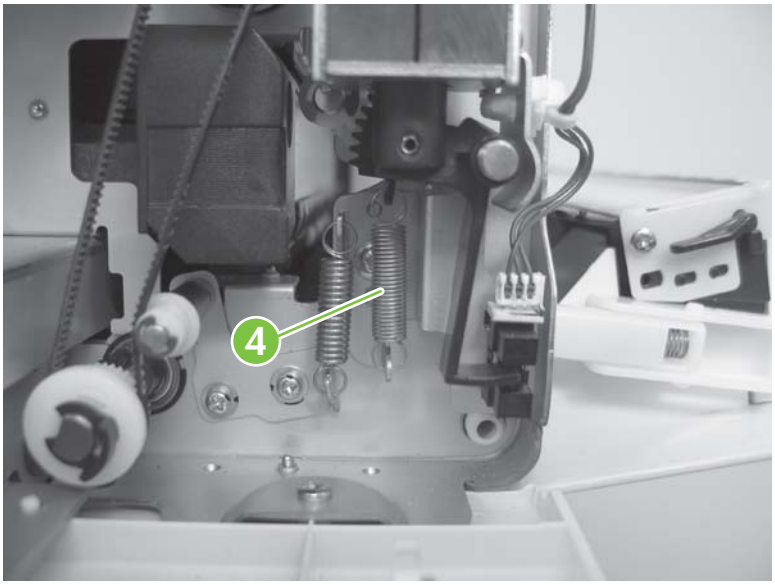
3. Remove one clip (callout 3).

Figure 5-229 Remove the ADF background-solenoid assembly (2 of 5)



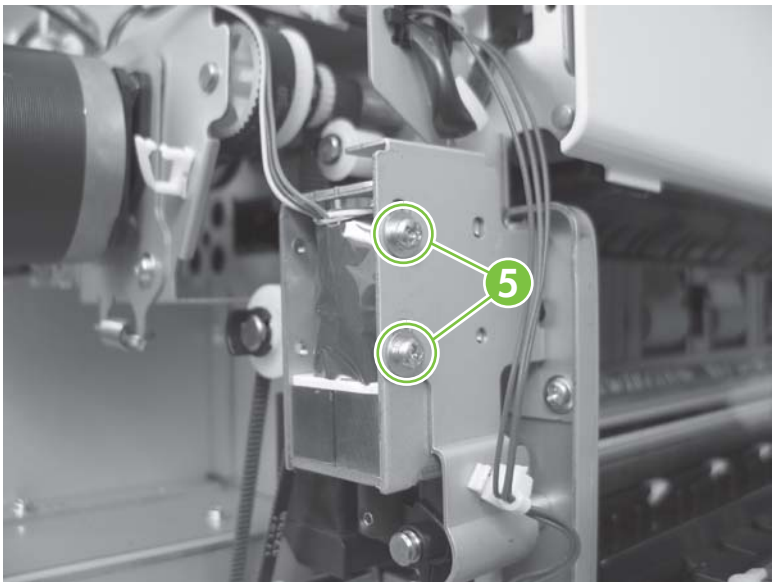
4. Remove one spring (callout 4).

Figure 5-230 Remove the ADF background-solenoid assembly (3 of 5)



5. Remove two screws (callout 5).

Figure 5-231 Remove the ADF background-solenoid assembly (4 of 5)



6. Remove the solenoid and flag.

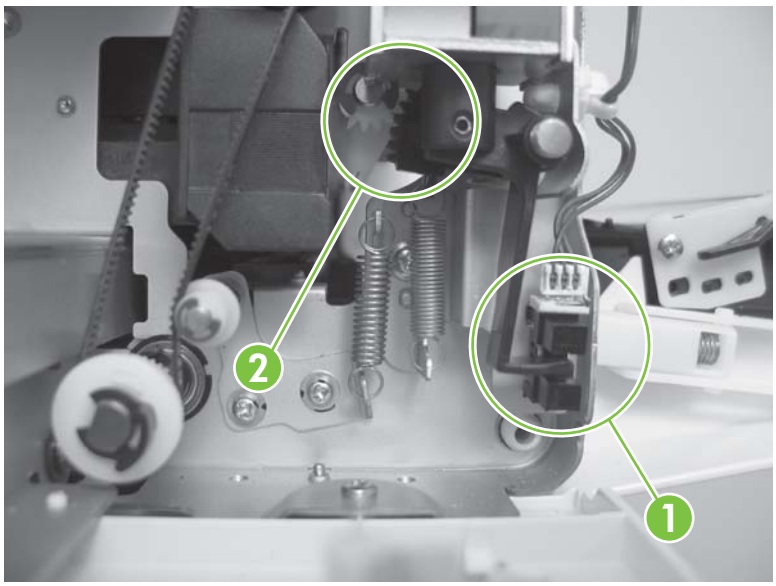
NOTE: If you are replacing the solenoid, you must install the flag on the replacement solenoid.

Figure 5-232 Remove the ADF background-solenoid assembly (5 of 5)

Reinstall the ADF background-solenoid assembly

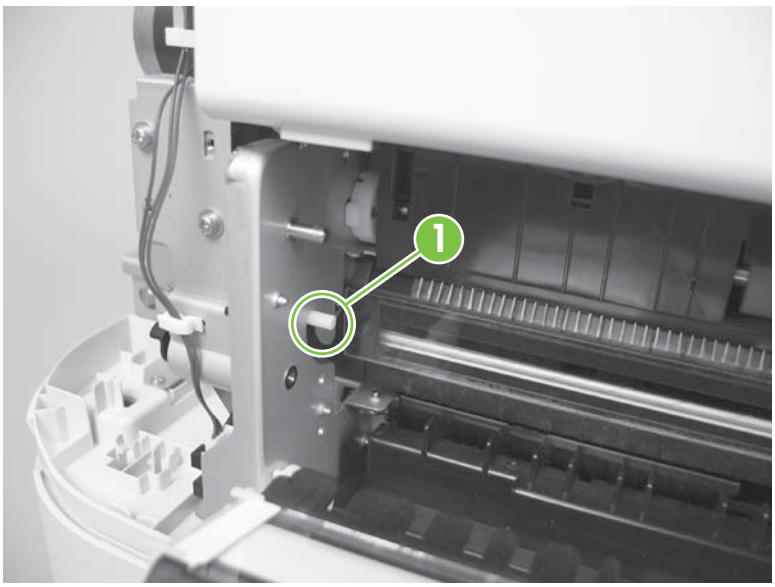
When you reinstall the solenoid and flag, make sure that the flag is correctly positioned in relationship to the sensor (callout 1). You can change the position of the flag by adjusting the position of the flag gear with the drive gear (callout 2).

Figure 5-233 Reinstall the ADF background-solenoid assembly (1 of 3



1. Open jam door 2, and then measure the distance between the top of the solenoid lever and the top of the slot (callout 1).

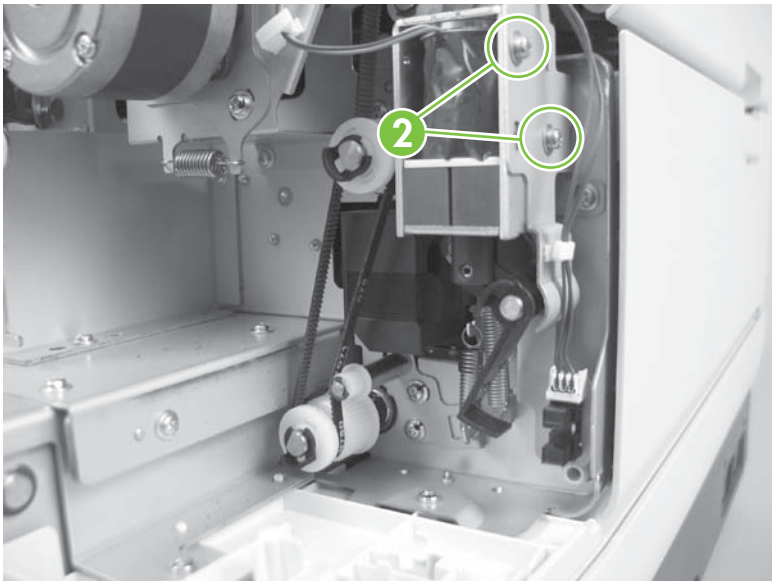
Figure 5-234 Reinstall the ADF background-solenoid assembly (1 of 3)



NOTE: The distance between the top of the solenoid lever and the top of the slot should be between 0.0 mm and 5.0 mm.

2. Install, *but do not tighten*, two screws (callout 2).

Figure 5-235 Reinstall the ADF background-solenoid assembly (3 of 3)

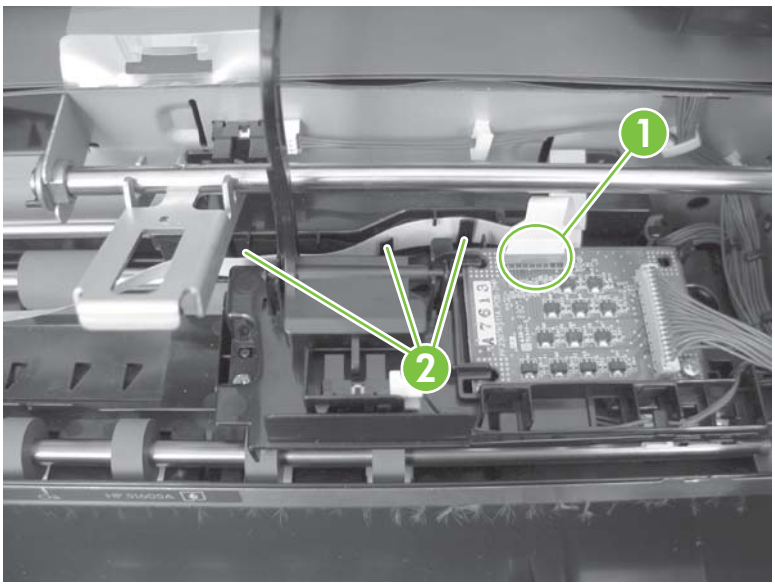


3. Slide the background-solenoid assembly up or down to adjust the distance between the top of the solenoid lever and the top of the slot:
   - Slide the background-solenoid assembly up if the distance between the top of the solenoid lever and the top of the slot is greater than 5.0 mm.
   - Slide the background-solenoid assembly down if the distance between the top of the solenoid lever and the top of the slot is 0.0 mm.
4. Tighten two screws, close jam door 2, and then replace the ADF back cover.

Imprinter carriage and FFC

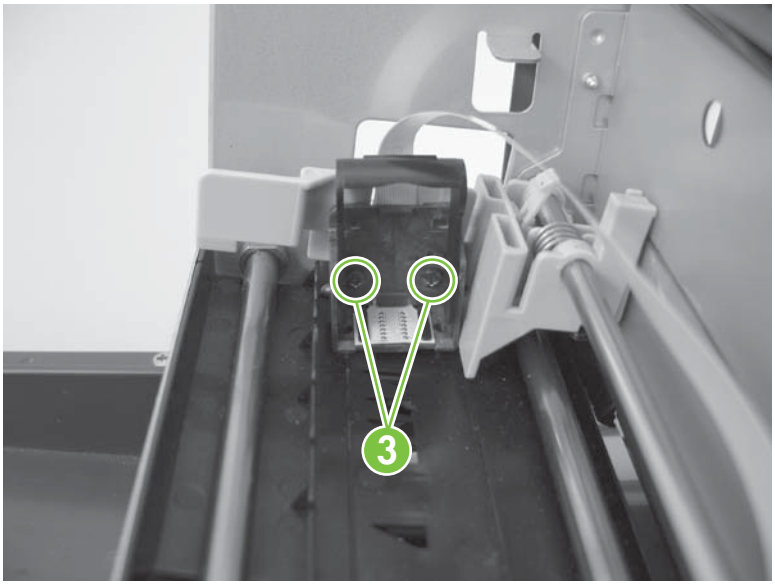
1. Remove the following components:
   - ADF front cover. See ADF front cover on page 55.
   - ADF back cover. See ADF back cover on page 58.
   - ADF input-tray assembly. See ADF input-tray assembly on page 184.
   - ADF shingle wall. See ADF shingle wall on page 197.
2. Disconnect the FFC by pressing down the connector lever (callout 1), and then release the FFC from three retainers (callout 2).

Figure 5-236 Imprinter carriage and FFC (1 of 3)



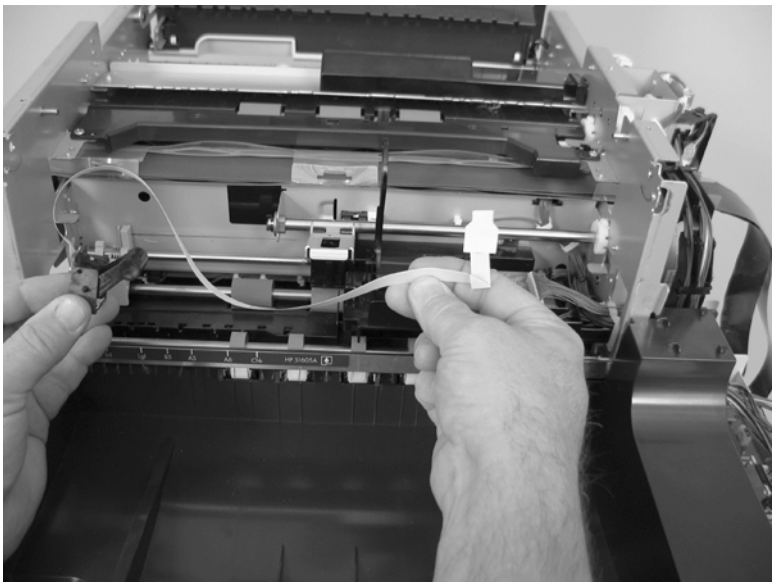
3. Remove two screws (callout 3).

Figure 5-237 Imprinter carriage and FFC (2 of 3)



4. Remove the imprinter carriage and FFC.

Figure 5-238 Imprinter carriage and FFC (3 of 3)



Flatbed scanner FRUs

- Flatbed
- Scanner carriage-motor fan
- Scanner carriage fan
- Scanner carriage motor
- Control-panel PCA
- Scanner controller PCA
- Power-supply PCA
- Scanner-glass assembly
- ADF power-cable assembly
- Carriage-motor cable
- Power switch and power receptacle assembly

Flatbed

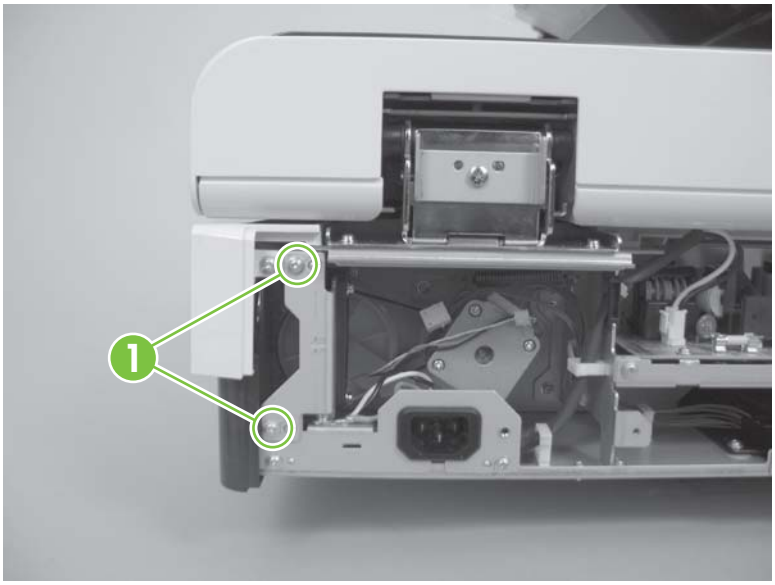
NOTE: Factory NVRAM data should be downloaded before the service call.

1. Remove the ADF. See Automatic document feeder (ADF) on page 63.
2. Remove the flatbed from the work space.
3. Install the ADF on the replacement flatbed, adjust ADF height, manage the NVRAM data, and calibrate the product. See Automatic document feeder (ADF) on page 63.

Scanner carriage-motor fan

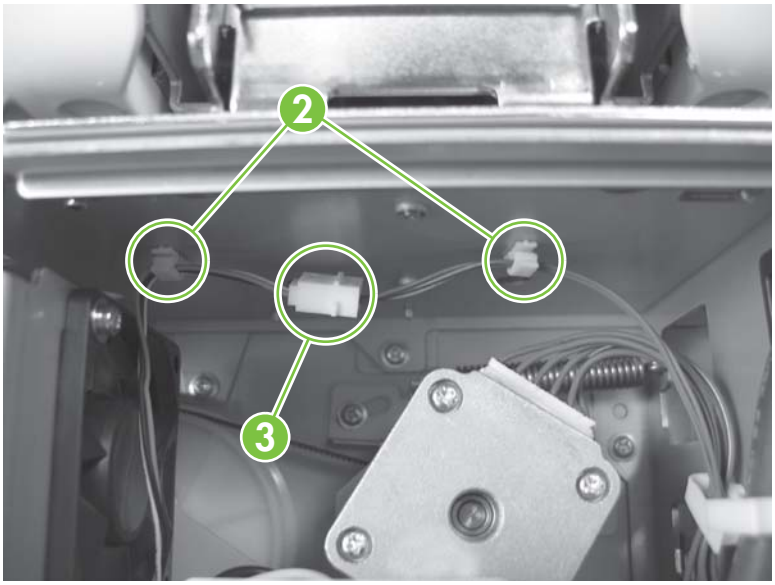
1. Remove the scanner back cover. See Scanner back cover on page 60.
2. Remove two screws (callout 1).

Figure 5-239 Remove the scanner carriage-motor fan (1 of 5)



3. Remove two retainers (callout 2) and one connector (callout 3).

Figure 5-240 Remove the scanner carriage-motor fan (2 of 5)

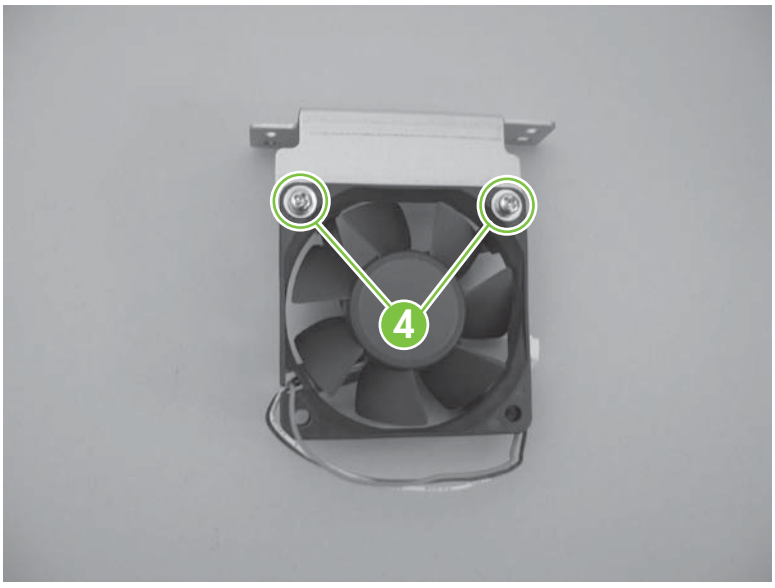


4. Remove the scanner carriage-motor fan.

Figure 5-241 Remove the scanner carriage-motor fan (3 of 5)

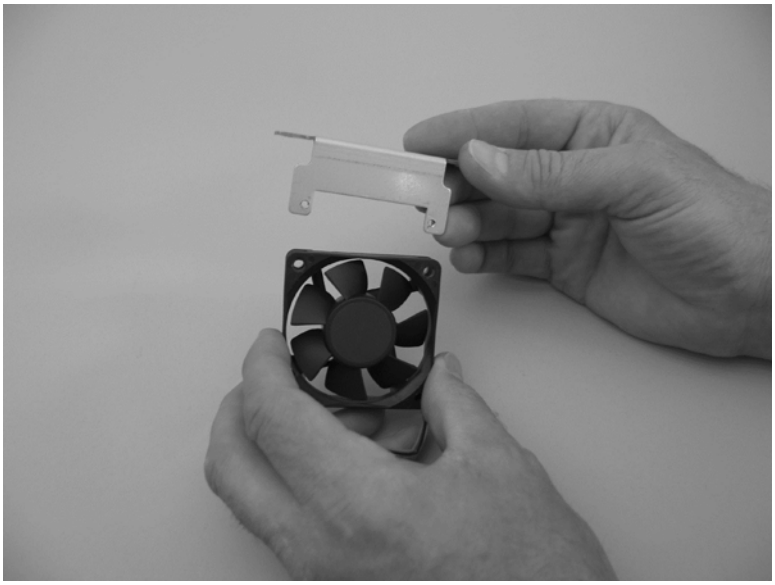
5. Remove two screws (callout 4), and then remove the scanner carriage-motor fan.

Figure 5-242 Remove the scanner carriage-motor fan (4 of 5)



6. Remove the mounting bracket from the scanner carriage-motor fan.

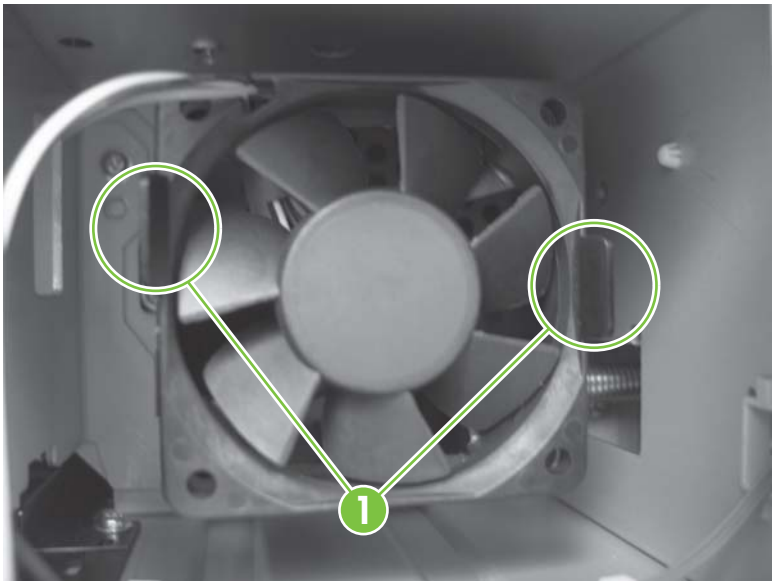
Figure 5-243 Remove the scanner carriage-motor fan (5 of 5)



Scanner carriage fan

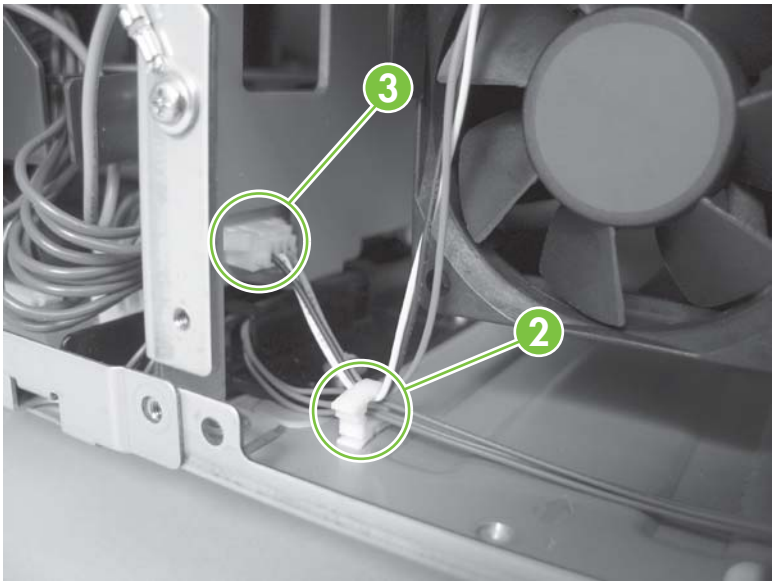
1. Remove the scanner back cover. See Scanner back cover on page 60.
2. Remove two tabs (callout 1).

Figure 5-244 Remove the scanner carriage fan (1 of 3)



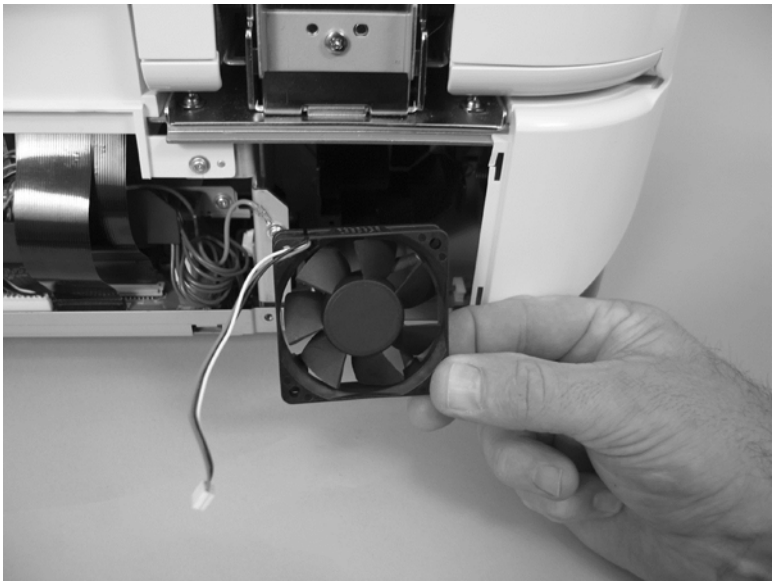
3. Remove one retainer (callout 2) and one connector (callout 3).

Figure 5-245 Remove the scanner carriage fan (2 of 3)



4. Remove the carriage fan.

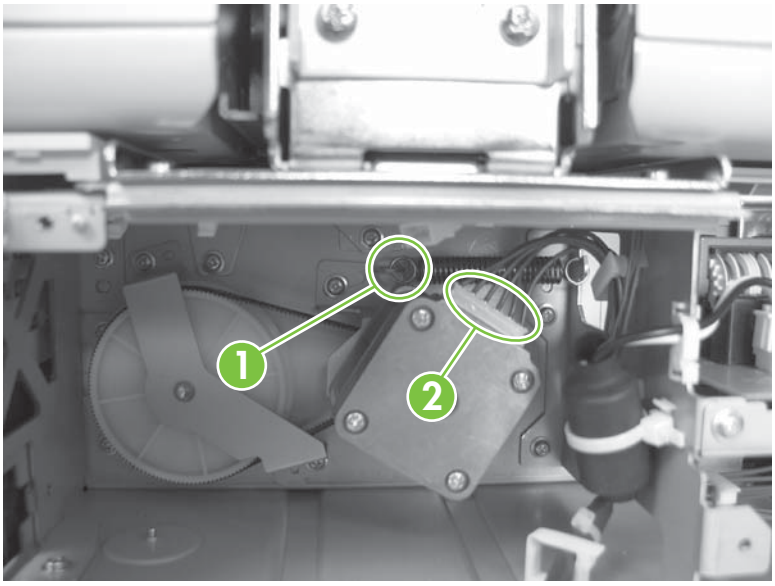
Figure 5-246 Remove the scanner carriage fan (3 of 3)



Scanner carriage motor

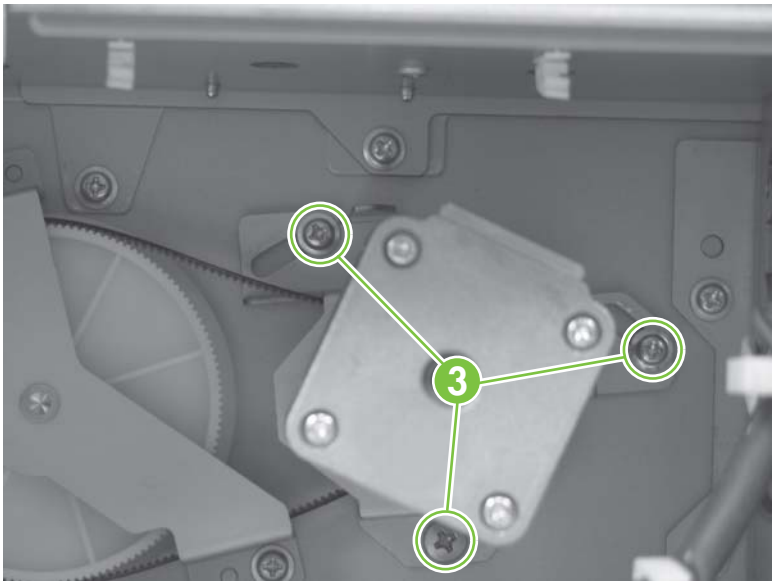
1. Remove the following components:
   - Scanner carriage-motor fan. See Scanner carriage-motor fan on page 210.
   - Power switch and power receptacle assembly. See Power switch and power receptacle assembly on page 231.
2. Remove one spring (callout 1) and one connector (callout 2).

Figure 5-247 Remove the scanner carriage motor (1 of 5)



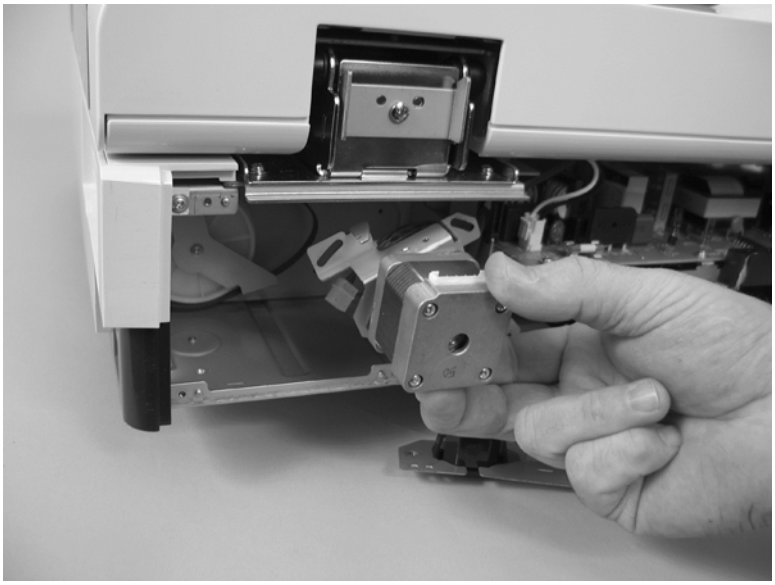
3. Remove three screws (callout 3).

Figure 5-248 Remove the scanner carriage motor (2 of 5)



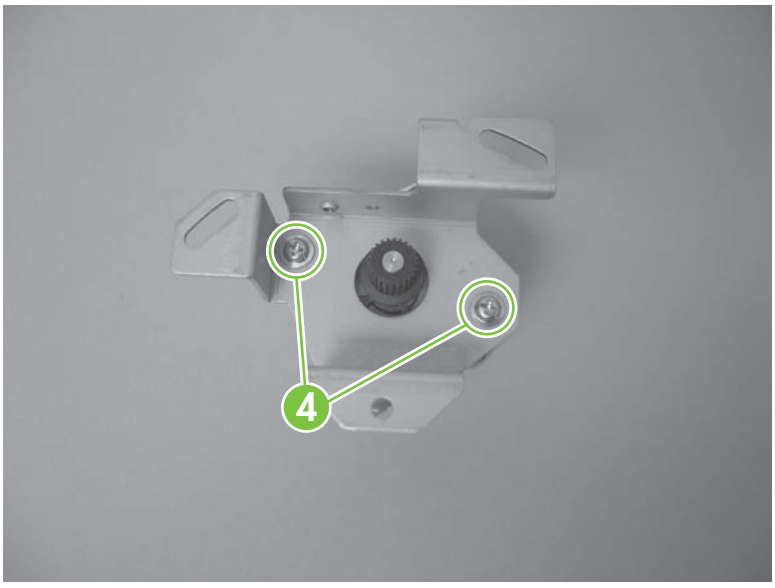
4. Remove the scanner carriage motor.

Figure 5-249 Remove the scanner carriage motor (3 of 5)



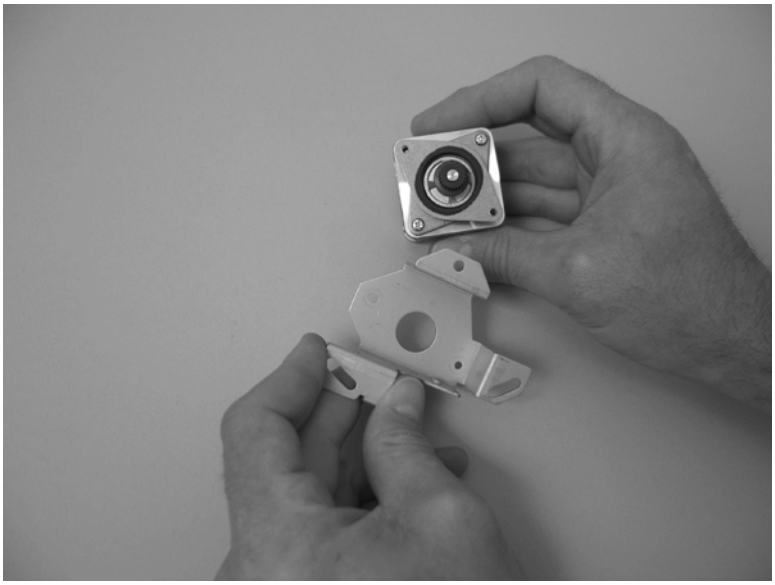
5. Remove two screws (callout 4).

Figure 5-250 Remove the scanner carriage motor (4 of 5)



6. Remove the mounting bracket from the scanner carriage motor.

Figure 5-251 Remove the scanner carriage motor (5 of 5)



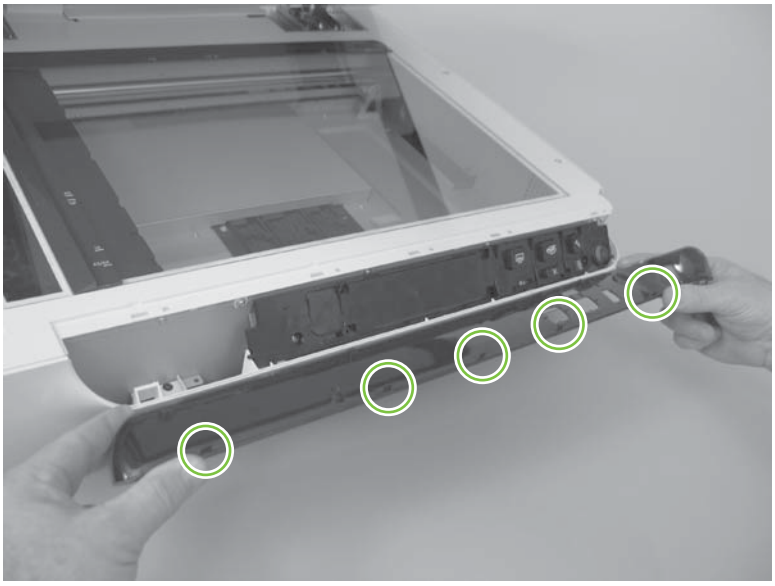
Control-panel PCA

CAUTION: Do not bend or fold the flat flexible cables (FFCs) during removal or installation. Also, do not straighten prefolds in the FFCs. You *must* make sure that all FFCs are fully seated in their connectors. Failure to fully seat an FFC into a connector can cause a short circuit in a PCA.

Some parts are sensitive to electrostatic discharge (ESD). 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.

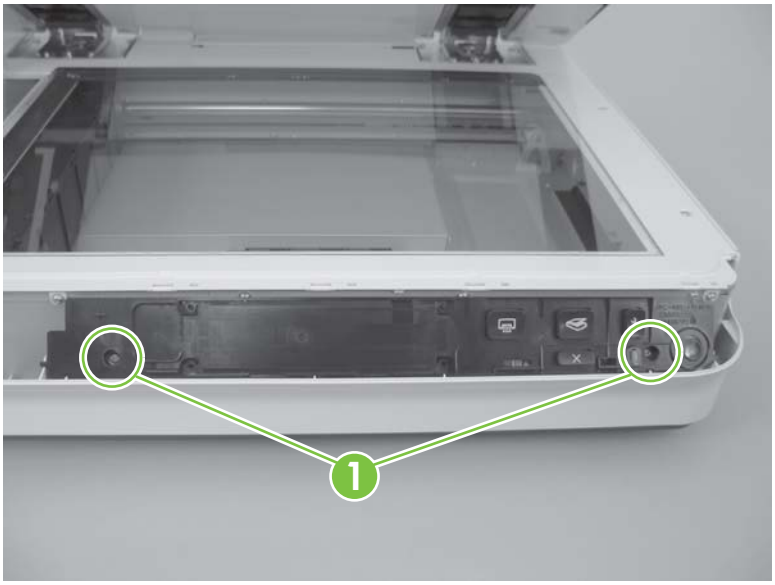
1. Release five tabs, and then rotate the front scanner control-panel cover away from the product to remove it.

Figure 5-252 Remove the control-panel PCA (1 of 3)



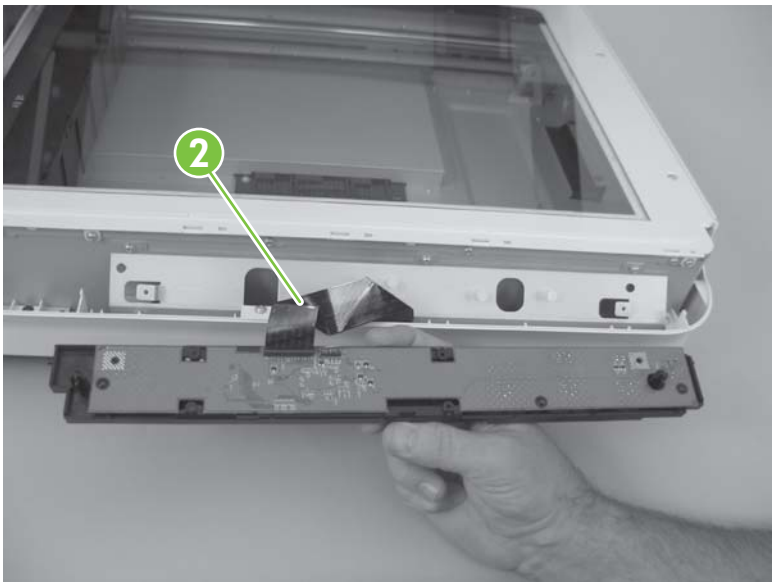
2. Remove two screws (callout 1).

Figure 5-253 Remove the control-panel PCA (2 of 3)



3. Remove the scanner control-panel PCA, and then disconnect one FFC (callout 2).

Figure 5-254 Remove the control-panel PCA (3 of 3)



Scanner controller PCA

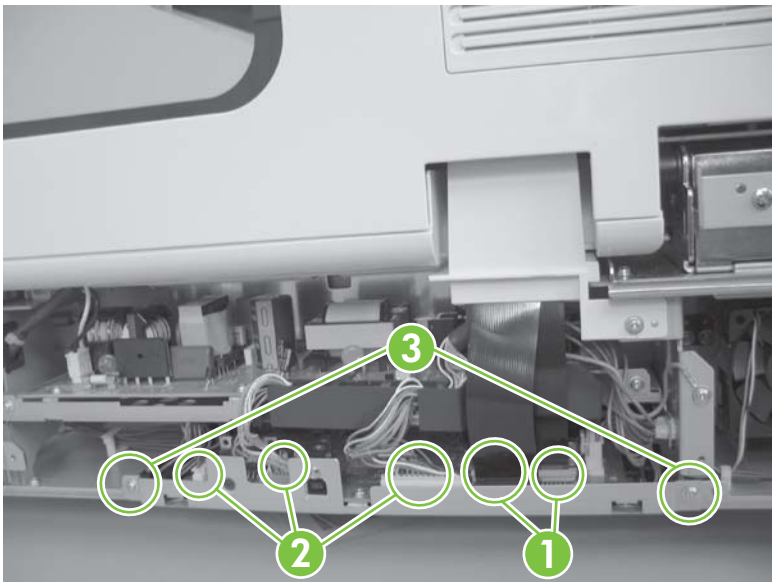
NOTE: After replacing the scanner controller PCA, update the NVRAM data. See NVRAM data management on page 75.

CAUTION: Do not bend or fold the flat flexible cables (FFCs) during removal or installation. Also, do not straighten prefolds in the FFCs. You *must* make sure that all FFCs are fully seated in their connectors. Failure to fully seat an FFC into a connector can cause a short circuit in a PCA.

Some parts are sensitive to electrostatic discharge (ESD). 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.

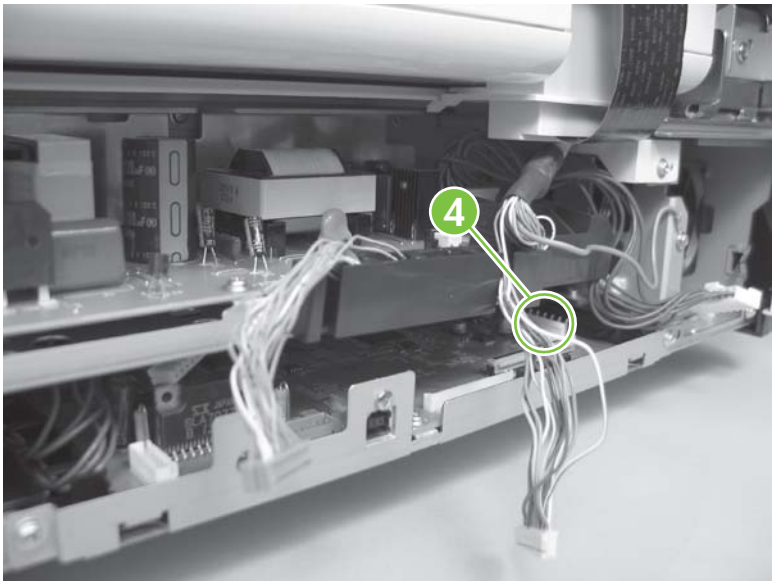
1. Remove the scanner back cover. See Scanner back cover on page 60.
2. Remove two FFCs (callout 1), three connectors (callout 2), and two screws (callout 3).

Figure 5-255 Remove the scanner controller PCA (1 of 4)



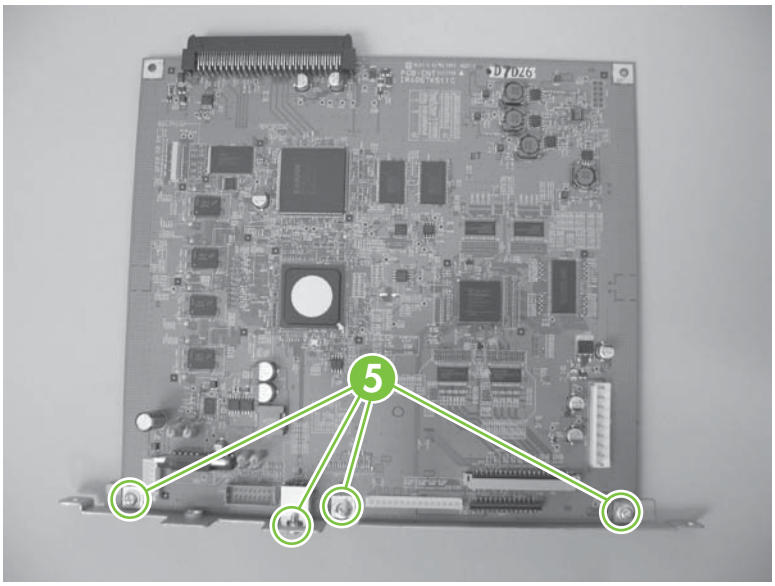
3. Pull the scanner controller PCA out partially and remove one connector (callout 4).

Figure 5-256 Remove the scanner controller PCA (2 of 4)



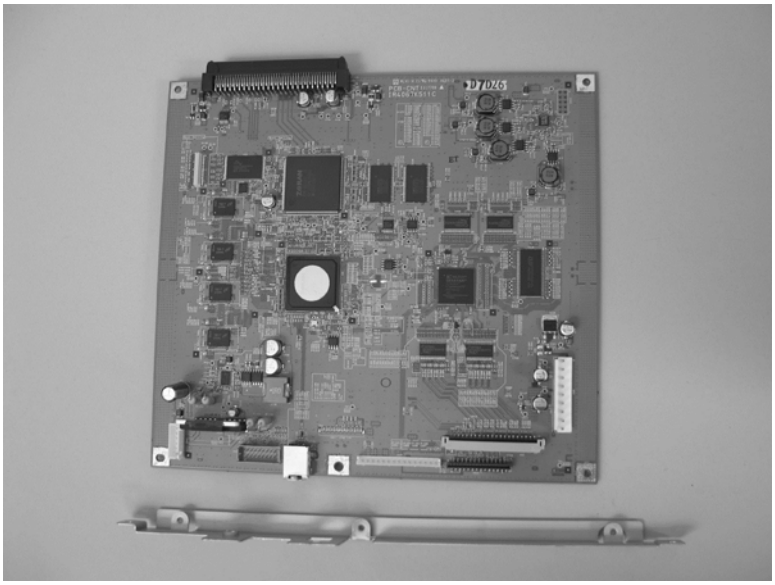
4. Remove the scanner controller PCA, and then remove four screws (callout 5).

Figure 5-257 Remove the scanner controller PCA (3 of 4)



5. Remove the mounting bracket from the scanner controller PCA.

Figure 5-258 Remove the scanner controller PCA (4 of 4)



6. Update the NVRAM data. See NVRAM data management on page 75.

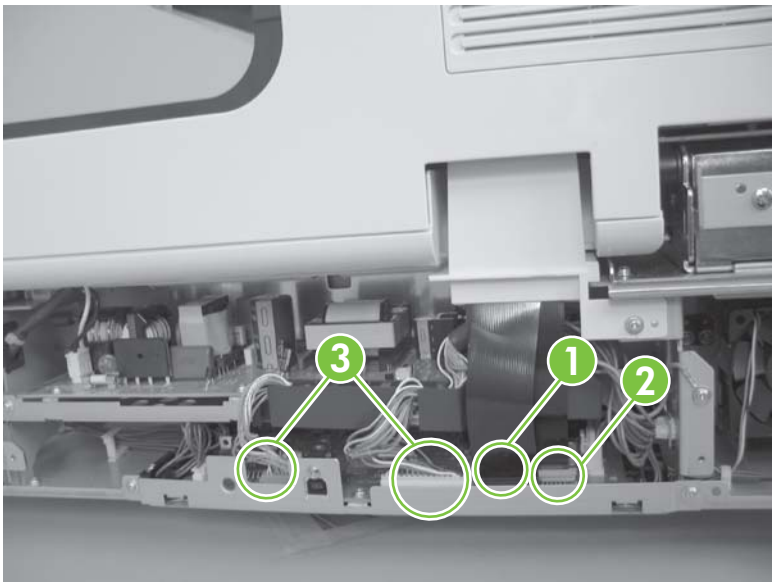
Power-supply PCA

⚠ **CAUTION:** Do not bend or fold the flat flexible cables (FFCs) during removal or installation. Also, do not straighten prefolds in the FFCs. You *must* make sure that all FFCs are fully seated in their connectors. Failure to fully seat an FFC into a connector can cause a short circuit in a PCA.

Some parts are sensitive to electrostatic discharge (ESD). 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.

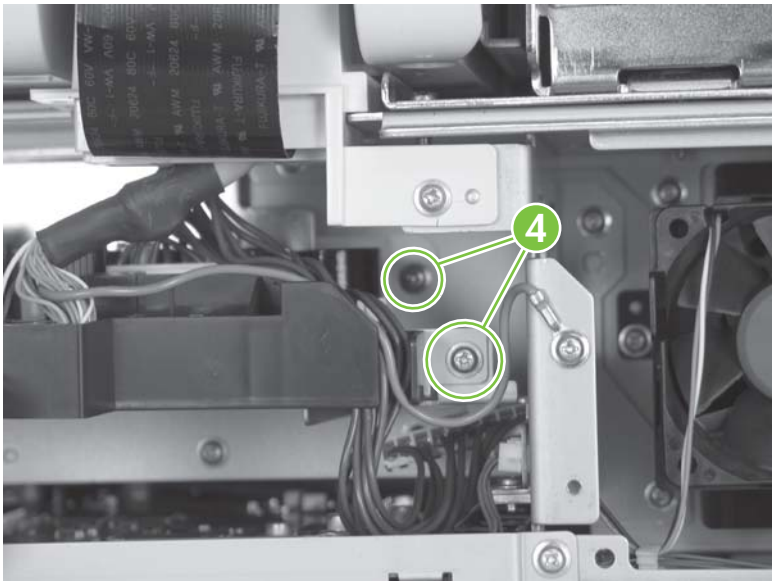
1. Remove the scanner back cover. See Scanner back cover on page 60.
2. Remove two FFCs (callout 1 and callout 2) and two connectors (callout 3).

Figure 5-259 Remove the power-supply PCA (1 of 6)



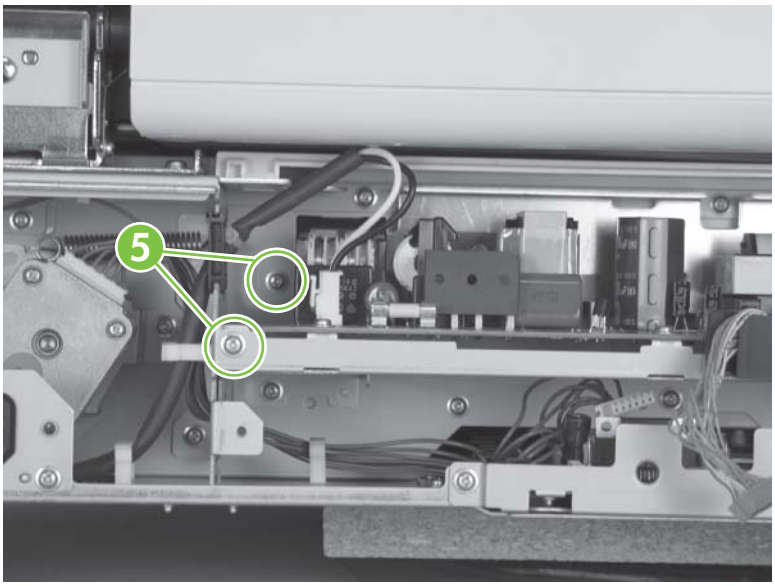
3. Remove two screws (callout 4).

Figure 5-260 Remove the power-supply PCA (2 of 6)



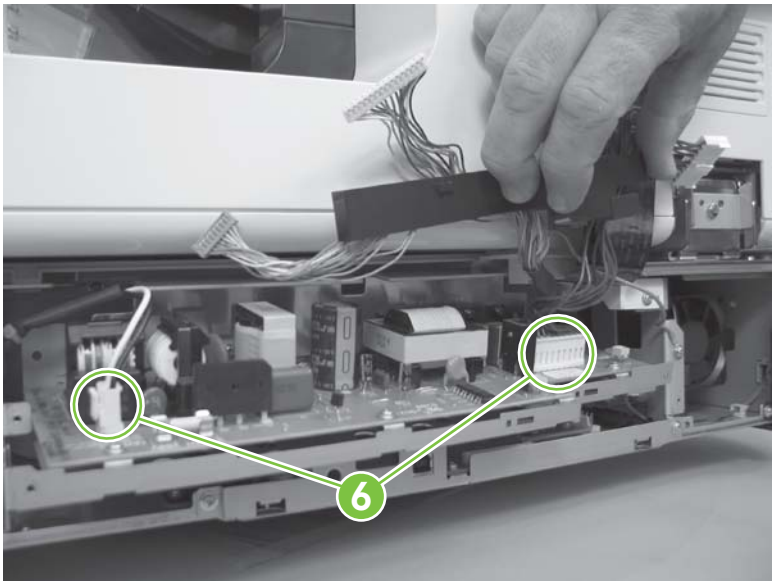
4. Remove two screws (callout 5).

Figure 5-261 Remove the power-supply PCA (3 of 6)



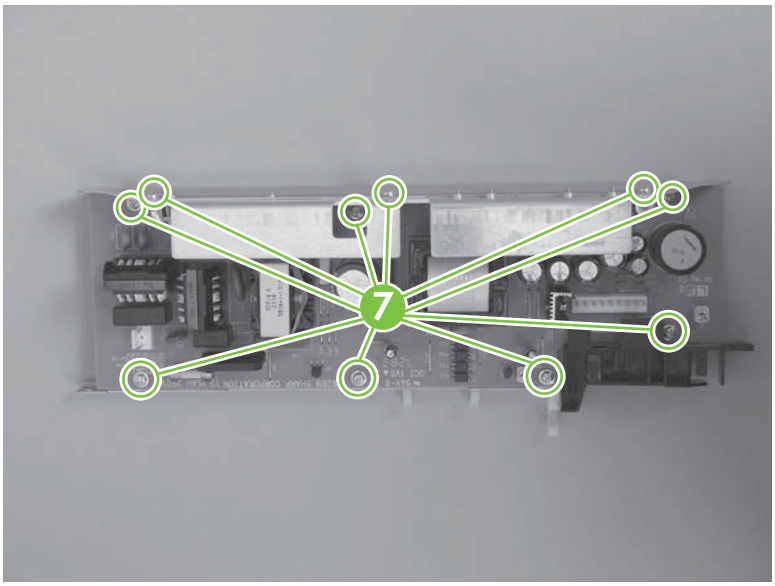
5. Remove two connectors (callout 6).

Figure 5-262 Remove the power-supply PCA (4 of 6)



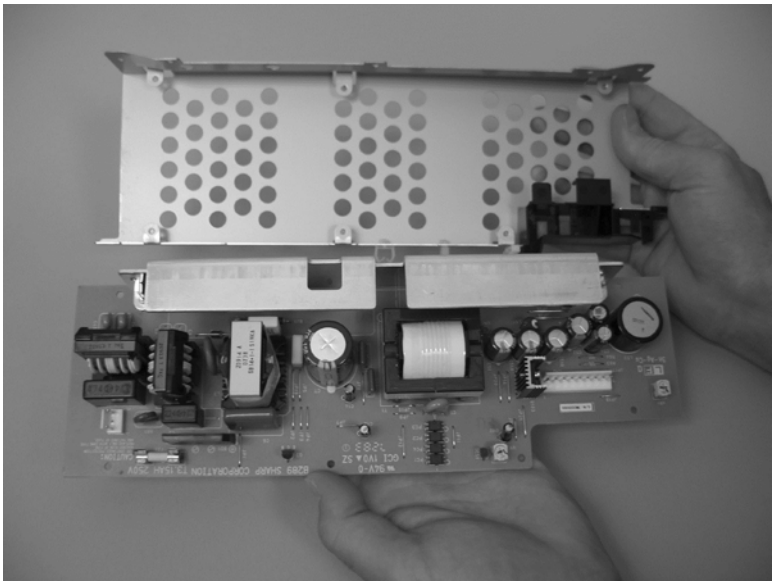
6. Remove the power-supply PCA, and then remove 10 screws (callout 7).

Figure 5-263 Remove the power-supply PCA (5 of 6)



7. Remove the heat sink from the power-supply PCA.

Figure 5-264 Remove the power-supply PCA (6 of 6)

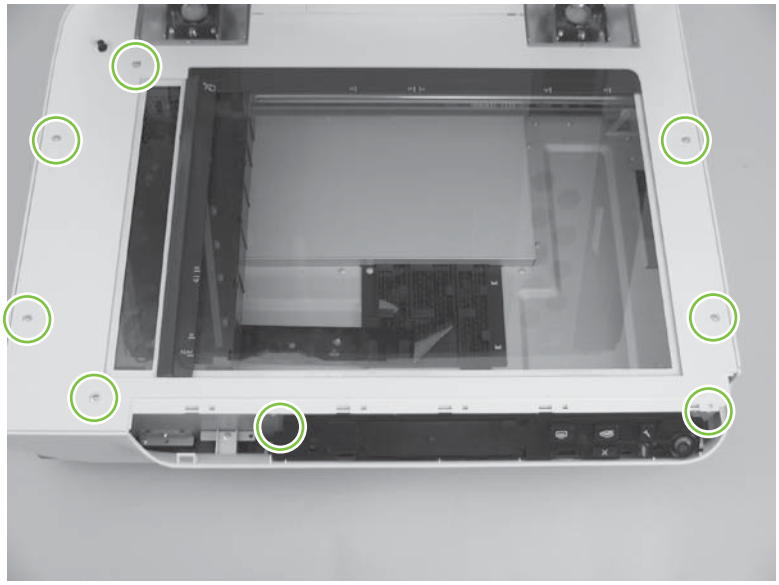


Scanner-glass assembly

⚠ **WARNING!** Remove the scanner-glass assembly only in a clean-room environment.

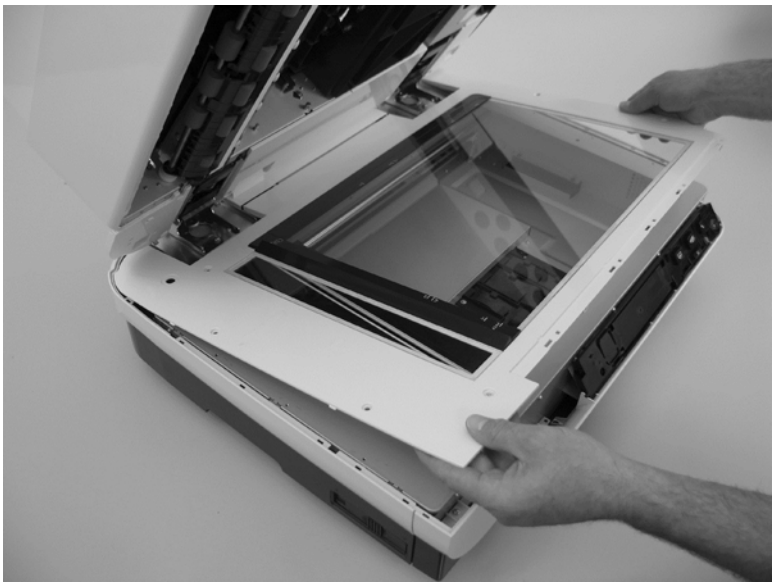
1. Verify that the work area is a clean-room environment.
2. Remove the control-panel cover. See Scanner control-panel cover on page 53.
3. Remove eight screws.

Figure 5-265 Remove the scanner-glass assembly (1 of 2)



4. Remove the scanner-glass assembly.

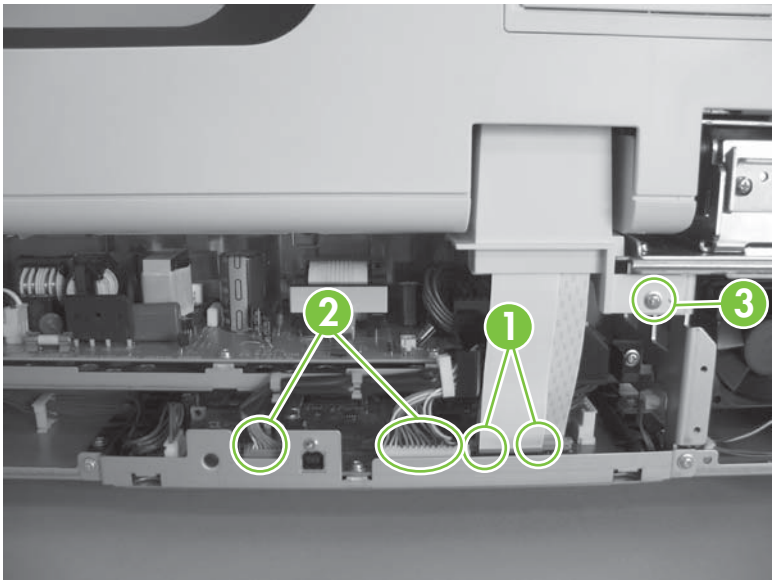
Figure 5-266 Remove the scanner-glass assembly (2 of 2)



ADF power-cable assembly

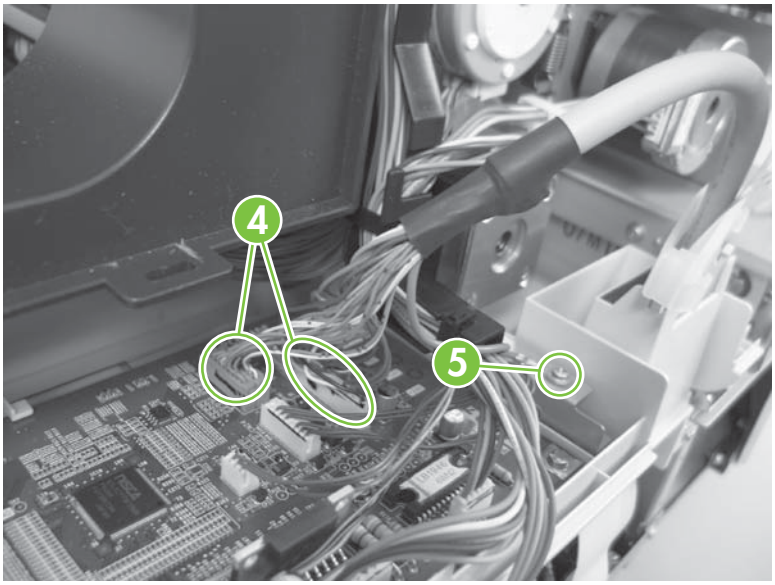
1. Remove the following components:
   - ADF back cover. See ADF back cover on page 58.
   - Scanner back cover. See Scanner back cover on page 60.
2. Remove two FFCs (callout 1), two connectors (callout 2), and one screw (callout 3).

Figure 5-267 Remove the ADF power-cable assembly (1 of 3)



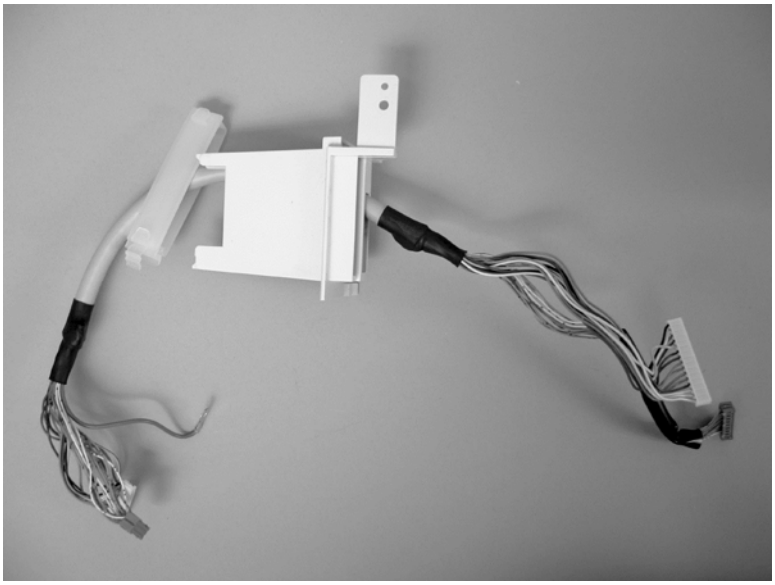
3. Remove two connectors (callout 4) and one screw (callout 5).

Figure 5-268 Remove the ADF power-cable assembly (2 of 3)



4. Remove the ADF power-cable assembly.

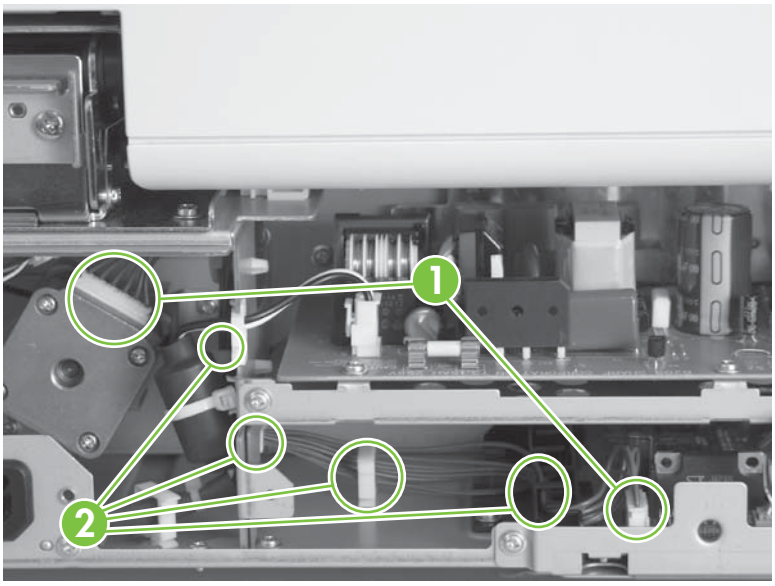
Figure 5-269 Remove the ADF power-cable assembly (3 of 3)



Carriage-motor cable

1. Remove the scanner back cover. See Scanner back cover on page 60.
2. Remove two connectors (callout 1) and four retainers (callout 2).

Figure 5-270 Remove the carriage-motor cable

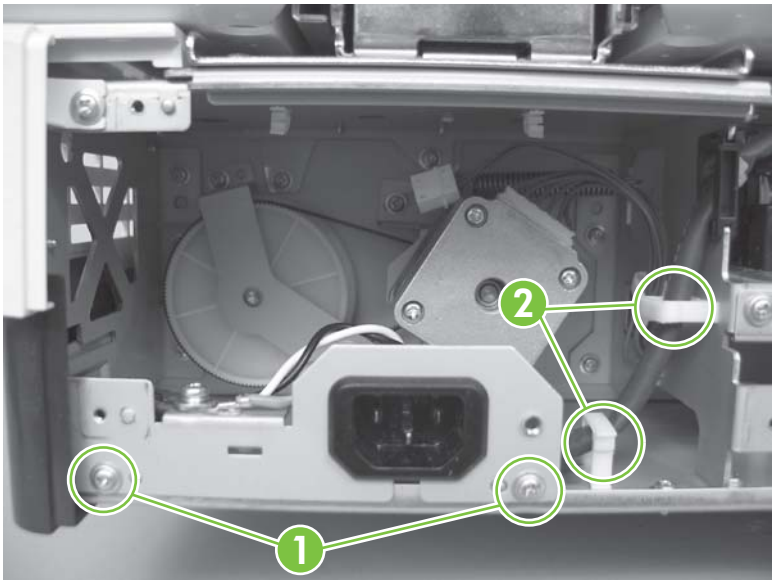


3. Remove the carriage-motor cable.

Power switch and power receptacle assembly

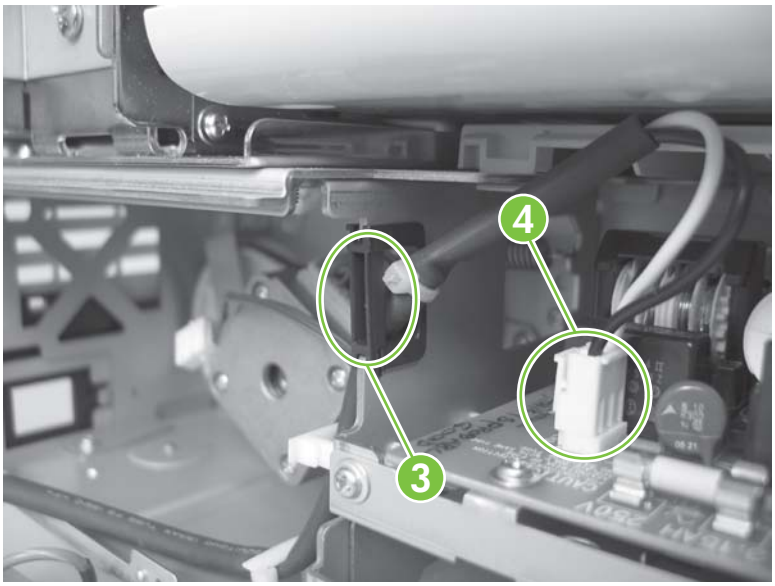
1. Remove the following components:
   - Scanner back cover. See Scanner back cover on page 60
   - Scanner carriage-motor fan. Scanner carriage-motor fan on page 210
2. Remove two screws (callout 1) and two retainers (callout 2).

Figure 5-271 Remove the power switch and power receptacle assembly (1 of 3)



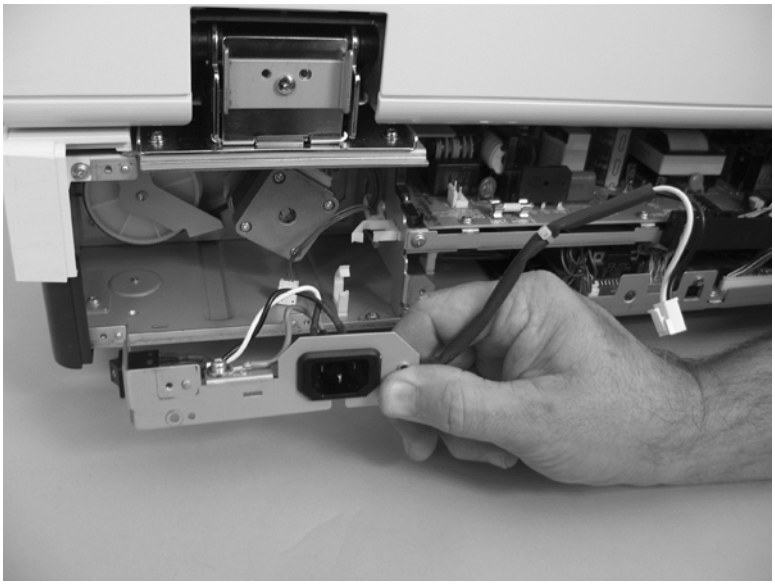
3. Remove one retainer (callout 3) and one connector (callout 4).

Figure 5-272 Remove the power switch and power receptacle assembly (2 of 3)



4. Remove the power switch and power receptacle assembly.

Figure 5-273 Remove the power switch and power receptacle assembly (3 of 3)



6 Solve problems

- Troubleshooting process
- Pre-troubleshooting checklist
- Basic troubleshooting checks
- Troubleshooting diagnostic software
- Computer-display error messages
- Solve paper-handling problems
- Solve image-quality problems
- Solve performance problems
- Solve connectivity problems

Troubleshooting process

The troubleshooting process includes gathering information from the customer, conducting basic troubleshooting routines, and identifying FRUs that could be the source of problems with a scanner.

- Use the pre-troubleshooting checklist to gather preliminary information from the customer.
- Use the basic troubleshooting checks to evaluate the condition of the scanner, to identify potential problems, and to reduce the number of steps that are required to fix problems.
- Use the troubleshooting service software to identify FRUs that could be the cause of problems and to select appropriate removal and replacement procedures.

Pre-troubleshooting checklist

The following checklist contains questions that you can ask the customer to help define any problem(s) quickly. For more information about product and media specifications, see Paper handling on page 10 and Media specifications on page 10.

Table 6-1 Initial troubleshooting checklist

Environment	• Is the product installed in a suitable environment? See Installation and configuration on page 13. • Is the product installed on a solid, level surface? • Is the supply voltage (from the wall receptacle) within ± 10% of the product's rated voltage (see Quick access to product information on page 2)? • Is the power cord fully seated into both the product and the electrical receptacle in the wall? • Is the product exposed to ammonia gas, such as that produced by diazo copiers or office-cleaning materials? **NOTE:** Diazo copiers produce ammonia gas as part of the coping processes. Ammonia gas can have an adverse affect on some product components (for example, the pickup roller). • Is the product exposed to direct sunlight?
Media	• Is suitable media used in the product? See Paper handling on page 10 and Media specifications on page 10. • Does the customer use only supported print media? • Is the media in good condition (no curl, folds, or other flaws)? • Is the source media stored correctly and within environmental limits?
ADF input tray	• Is the correct amount of source media loaded in the tray (not stacked above the arrows embossed in the tray)? • Is the media placed in the tray correctly? • Are the paper guides aligned with the stack?
Imprinter cartridge	• Is the imprinter cartridge installed correctly?
Doors	• Are the ADF jam doors closed?
Condensation	• Does condensation occur following a temperature change (particularly in winter following cold storage)? If so, wipe off the affected parts or leave the product on for 10 to 20 minutes, and then attempt to resume scanning. • Was an imprinter cartridge opened soon after it was moved from a cold room to a warm one? If so, allow the imprinter cartridge and the product to acclimate to room temperature for 1 to 2 hours.

Basic troubleshooting checks

Before beginning any troubleshooting procedure, check the following issues:

- Are supply items (for example, the imprinter cartridge, separation pad, and rollers) within their rated life? See Parts life expectancy on page 22.
- Can the expected startup sounds be heard when the product power is turned on?

NOTE: The customer is responsible for checking and maintaining supplies and for using supplies that are in good condition. The customer is responsible for imprinter-cartridge supplies and for replacing the pickup roller and separation pad.

Power-on checks

Scanner initialization or hardware problems

If the scanner does not work after installation or if the scanner has stopped working correctly, you might see a message on the computer screen that is similar to one of the following:

- **The scanner could not be initialized.**
- **The scanner could not be found.**
- **An internal error has occurred.**
- **The computer cannot communicate with the scanner.**

Turn on the power

When you turn on the power, if it does not make any sound or does not initialize, check the following items:

- Verify that the product is plugged directly into an active electrical outlet that has the correct voltage. Do not plug the product into a surge protector or power strip.
- Verify that the power switch is in the on position.
- Verify that the USB cable is correctly connected to the product and host computer.
    - Use the USB cable that was included with the scanner. Another USB cable might not be compatible with the scanner. See Service part numbers on page 293 for part number and specifications.
    - Make sure that the USB cable is securely connected between the scanner and the computer or USB hub. The trident icon on the USB cable faces up when the cable is properly connected to the scanner.
- Make sure that the control-panel FFC is connected correctly.
- Check the connectors on the power supply PCA and the scanner-controller PCA.

Use the following to identify or fix the problem:

- LED diagnostics (see LED diagnostics on page 238)
- USB connection (see Check the USB connection on page 239)
- HP Scanjet utilities (see Uninstall and then reinstall the HP Scanjet utilities on page 239)
- Control-panel buttons diagnostics (see Control-panel buttons on page 240)

LED diagnostics

The scanner has two LED lights on the front panel that indicate scanner functions and error conditions. The LED in the shape of an exclamation point (!) is the Attention LED, and the LED in the Power Save button is the Power LED. The table below explains how to interpret the indicator LEDs.

Figure 6-1 Control-panel LEDs

Table 6-2 Control-panel LEDs

LED indications	Scanner action or condition
The Attention LED quickly blinks amber, and the Power LED is lit with a steady green light.	Error condition—check your computer screen for an error message.
The Attention LED is lit with a steady amber light, and the Power LED is lit with a steady green light.	Attention condition—check your computer screen for a **Maintenance Recommended** message.
The Attention LED slowly blinks green, and the Power LED is lit with a steady green light.	The scanner is warming up.
The Power LED is lit with a steady, dim amber light.	The scanner is in Power Save mode.
The Power LED is lit with a steady green light.	The scanner is on and ready to scan.
The Attention LED blinks green at a medium speed, and the Power LED is lit with a steady green light.	The scanner is scanning an original.
Both LEDs are off.	There is no power to the scanner.

Check the USB connection

If the problem persists after verifying the control-panel LEDs, try the following:

1. Turn off the computer.
2. Do one of the following tasks:
   - If the USB cable is connected to a USB hub or a docking station for a laptop, disconnect the USB cable from the USB hub or the docking station, and then connect the USB cable directly to the computer.
   - If the USB cable is directly connected to the computer, plug it into another USB port on the computer.
   - Remove all other USB devices from the computer except for the keyboard and the mouse.
3. Press the power switch to the off position, wait 30 seconds, and then press the power switch to the on position.
4. Restart the computer.
5. After the computer has restarted, try using the scanner.
   - If the scanner works and you changed its USB connection, the communication problem might involve the USB hub, the docking station, a USB port, or another USB device. Leave the scanner directly connected to the computer. Try using the scanner after reconnecting each additional USB device, and disconnect any USB devices that prevent the scanner from working correctly.
   - If the scanner does not work, uninstall and then reinstall the HP Scanjet drivers and utilities.

Uninstall and then reinstall the HP Scanjet utilities

If checking the USB cable and USB connections did not solve the problem, the problem might have occurred because of an incomplete software installation. Try uninstalling and then reinstalling the HP Scanjet utilities.

1. Press the power switch to the off position, and then disconnect the USB cable and power cable from the scanner.
2. Use the **Add/Remove** tool (in Windows Vista®, the **Programs and Features** tool) from the **Control Panel** to uninstall the following items:
   - N9120 Document ISIS/TWAIN
   - N9120 Utilities
3. Restart the computer.

4. Use the HP Scanning Software CD that came with the scanner to reinstall the HP Scanjet drivers and tools.
5. Reconnect the USB cable and power cable to the scanner, and then press the power switch to the on position.

   After 30 seconds, the Power LED is lit with a steady green light and the Attention LED is off.

Control-panel buttons

Control-panel buttons diagnostics

After each of the following steps, press a button to see if the scanner is working correctly. If the problem persists, proceed with the next step.

1. Make sure that the **Disable front panel buttons** setting in the HP Scanner Tools Utility is cleared.
2. Check that the USB cable and the power cable are securely connected to the host computer and the scanner.
3. Turn off the scanner, wait 30 seconds, and then turn the scanner back on.
4. Restart your computer.
5. If the problem persists, the buttons might be disabled outside of the HP scanning software. Try the following:
   a. Open **Control Panel**, select **Scanners and Cameras**, and then select your scanner model from the list.
   b. Examine the buttons setting for your scanner and do one of the following:
      - **Windows 2000**: Make sure that the **Disable Device Events** option is not selected.
      - **Windows XP and Vista**: Make sure that the **Take No Action** option is not selected.

Locked control-panel buttons

To prevent buttons from being pushed accidentally, you can disable the buttons on the scanner front panel.

NOTE: When the buttons are disabled, you always start scans and copies from the computer using scanning software. You can still press the Cancel button on the scanner front panel to stop a scan or copy and the Power Save button to put the scanner into Power Save mode.

TIP: You must have administrative privileges on the computer to lock or unlock the control-panel buttons.

1. Open the HP Scanner Tools Utility.
2. On the Buttons tab, either select or clear the **Disable front panel buttons** check box to lock or unlock the buttons.

   -or-

   On the Buttons tab, clear the **Disable front panel buttons** check box to unlock the buttons.

Troubleshooting diagnostic software

Main screen

⚠ **WARNING!** Do not add, delete, or modify NVRAM values in the NVRAM dialog box. Doing so might render the product inoperable. See **NVRAM** dialog box on page 258.

You can download a copy of the N9120 Service Tool by going to the following FTP site: ftp.hp.com/pub/scanners/treebeard/. Once you have accessed the site, look for the folder titled N9120 Service Tool. Open it and copy the N9120 Service Tool.zip file to your Hard drive. Once downloaded, extract the files from the Win.Zip file you just downloaded. Open the Readme file and follow the instructions to install the N9120 Service Tool.

Open the N9120 Service Tool:

1. Click **Start** and then click **Programs**.
2. Click **N9120 Service Tool**.

Figure 6-2 Main screen

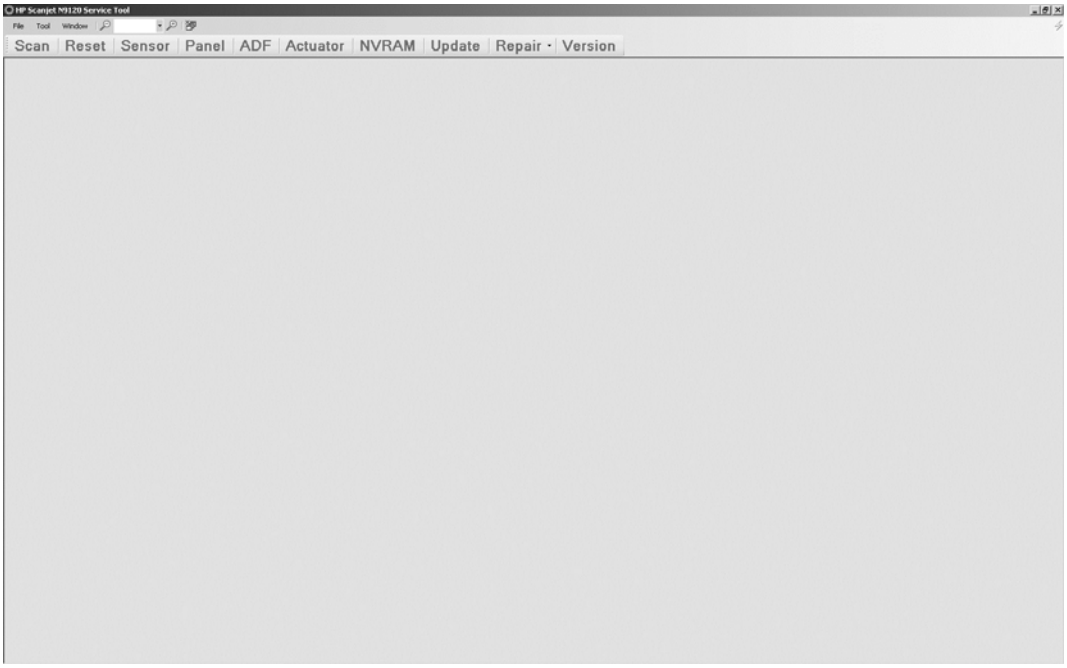


Table 6-3 Main screen

Item	Button description	Function
1	**Scan**	**Click Scan** to open the **Scan** dialog box. See **Scan** dialog box on page 244.
2	**Reset**	Click **Reset** to reset the scanner.
3	**Sensor**	Click **Sensor** to open the **Sensor check** dialog box. See **Sensor check** dialog box on page 246.

Table 6-3 Main screen (continued)

Item	Button description	Function
4	**Panel**	Click **Panel** to open the **Control panel check** dialog box. See **Control panel check** dialog box on page 251.
5	**ADF**	Click the **ADF** button to open the **ADF feed test** dialog box. See **ADF feed test** dialog box on page 253.
6	**Actuator**	Click **Actuator** to open the **Actuators** dialog box. See **Actuators** dialog box on page 255.
7	**NVRAM**	Click **NVRAM** to open the **NVRAM** dialog box. See **NVRAM** dialog box on page 258. **WARNING!** Do not add, delete, or modify NVRAM values. Doing so might render the product inoperable.
8	**Update**	Click **Update** to open the **Open** dialog box. See **Update** dialog box on page 260.
9	**Repair**	Click **Repair** to open the Repair menu. See **Repair** menu on page 261.
10	**Version**	Click **Version** to open the **Version information** dialog box. See **Version information** dialog box on page 262.

Scan dialog box

1. Open the N9120 Service Tool.
2. On the toolbar, click **Scan**.

Figure 6-3 Scan dialog box

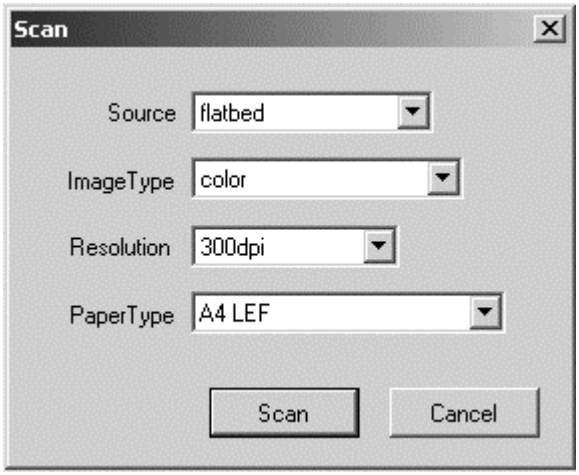


Table 6-4 Scan dialog box

Item	Description	Function
1	**Source** list	Click the **Source** list down arrow . • Select **Flatbed** to scan a document from the scanner glass. • Select **adf simplex** to scan a single-sided document from the ADF input tray. • Select **adf duplex** to scan a double-sided document from the ADF input tray.
2	**Image Type** list	Click the **Image Type** list down arrow . • Select **black/white** to scan a black and white document. • Select **grayscale** to scan a gray scale document. • Select **color** to scan a color document. • Select **jpeg@color** to scan a color image. • Select **jpeg@grayscale** to scan a gray scale image.

Table 6-4 Scan dialog box (continued)

Item	Description	Function
3	**Resolution** list	Click the **Resolution** list down arrow and select a resolution setting. • **75dpi** • **100dpi** • **150dpi** • **200dpi** • **240dpi** • **300dpi** • **400dpi** • **500dpi** • **600dpi**
4	**Paper Type** list	Click the **Paper Type** list down arrow to select a paper type. • **Ledger SEF** • **Letter LEF** • **Letter SEF** • **Legal SEF** • **Executive LEF** • **Executive SEF** • **A3 SEF** • **A4 LEF** • **A4 SEF** • **A5 LEF** • **A5 SEF** • **A6 SEF** • **B4 SEF** • **B5 LEF** • **B5 SEF**
5	**Scan** button	Click the **Scan** button to start the scan job.
6	**Cancel** button	Click the **Cancel** button to close the **Scan** dialog box.

Sensor check dialog box

1. Open the N9120 Service Tool.
2. On the toolbar, click **Sensor**.

The **Sensor check** dialog box contains two tabs:

- Sensor in motion
- Sensor

Figure 6-4 Sensor in motion tab

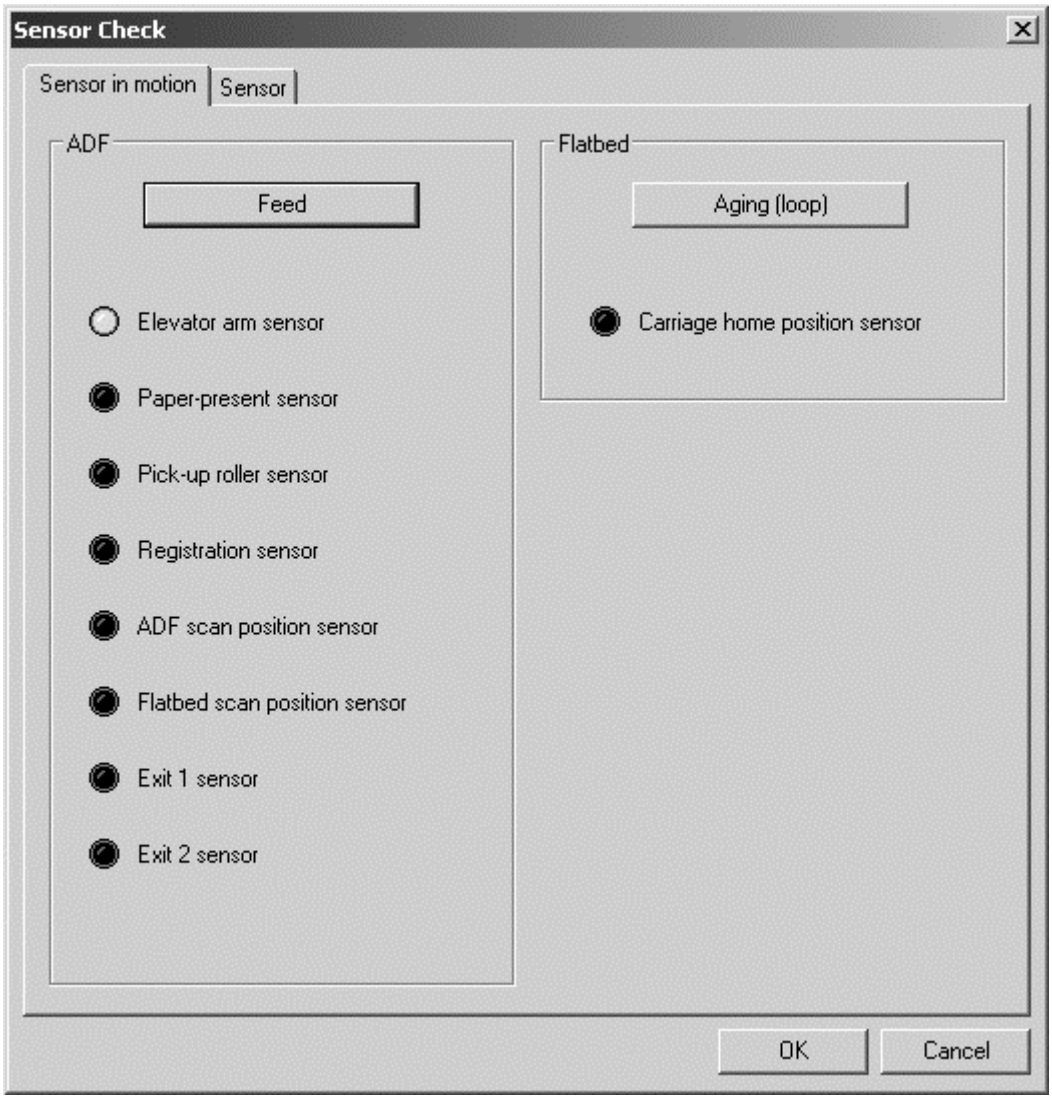


Table 6-5 Sensor in motion tab

Item	Description	Function
1	**Feed** button	Click the **Feed** button to scan a test document from the ADF.
2	**Elevator arm sensor** indicator	• Indicator is green (on) when the elevator arm is in the home (down) position. • Indicator is black (off) when the elevator arm is not in the home (down) position.

Table 6-5 Sensor in motion tab (continued)

Item	Description	Function
3	**Paper-present sensor** indicator	• Indicator is green (on) when the paper-present sensor detects paper in the ADF input tray. • Indicator is black (off) when the paper-present sensor does not detected paper in the ADF input tray.
4	**Pick-up roller sensor** indicator	• Indicator is green (on) when the pick-up roller sensor detects paper at the pick-up roller assembly. • Indicator is black (off) when the pick-up roller sensor does not detect paper at the pickup roller assembly.
5	**Registration sensor** indicator	• Indicator is green (on) when the registration sensor detects paper after the pickup roller assembly. • Indicator is black (off) when the registration sensor does not detect paper after the pickup roller assembly.
6	**ADF scan position sensor** indicator	• Indicator is green (on) when the ADF scan position sensor detects paper after the multi-pick sensors. • Indicator is black (off) when the ADF scan position sensor does not detect paper after the multi-pick sensors.
7	**Flatbed scan position sensor** indicator	• Indicator is green (on) when the scan position sensor detects paper after the ADF scan position sensor. • Indicator is black (off) when the scan position sensor does not detect paper after the ADF scan position sensor.
8	**Exit 1 sensor** indicator	• Indicator is green (on) when the exit 1 sensor detects paper after the scan position sensor. • Indicator is black (off) when the exit 1 sensor does not detect paper after the scan position sensor.
9	**Exit 2 sensor** indicator	• Indicator is green (on) when the exit 2 sensor detects paper after the exit 1 sensor. • Indicator is black (off) when the exit 2 sensor does not detect paper after the exit 1 sensor.
10	**Aging (loop)** button	Click the **Aging (loop)** button to test the carriage home position sensor.
11	**Carriage home position sensor** indicator	• Indicator is green (on) when the scanner carriage has reached the home position. • Indicator is black (off) when the scanner carriage has not reached the home position.
12	**OK** button	Click the **OK** button to close the **Sensor check** dialog box.
13	**Cancel** button	Click the **Cancel** button to close the **Sensor check** dialog box.

Figure 6-5 Sensor tab

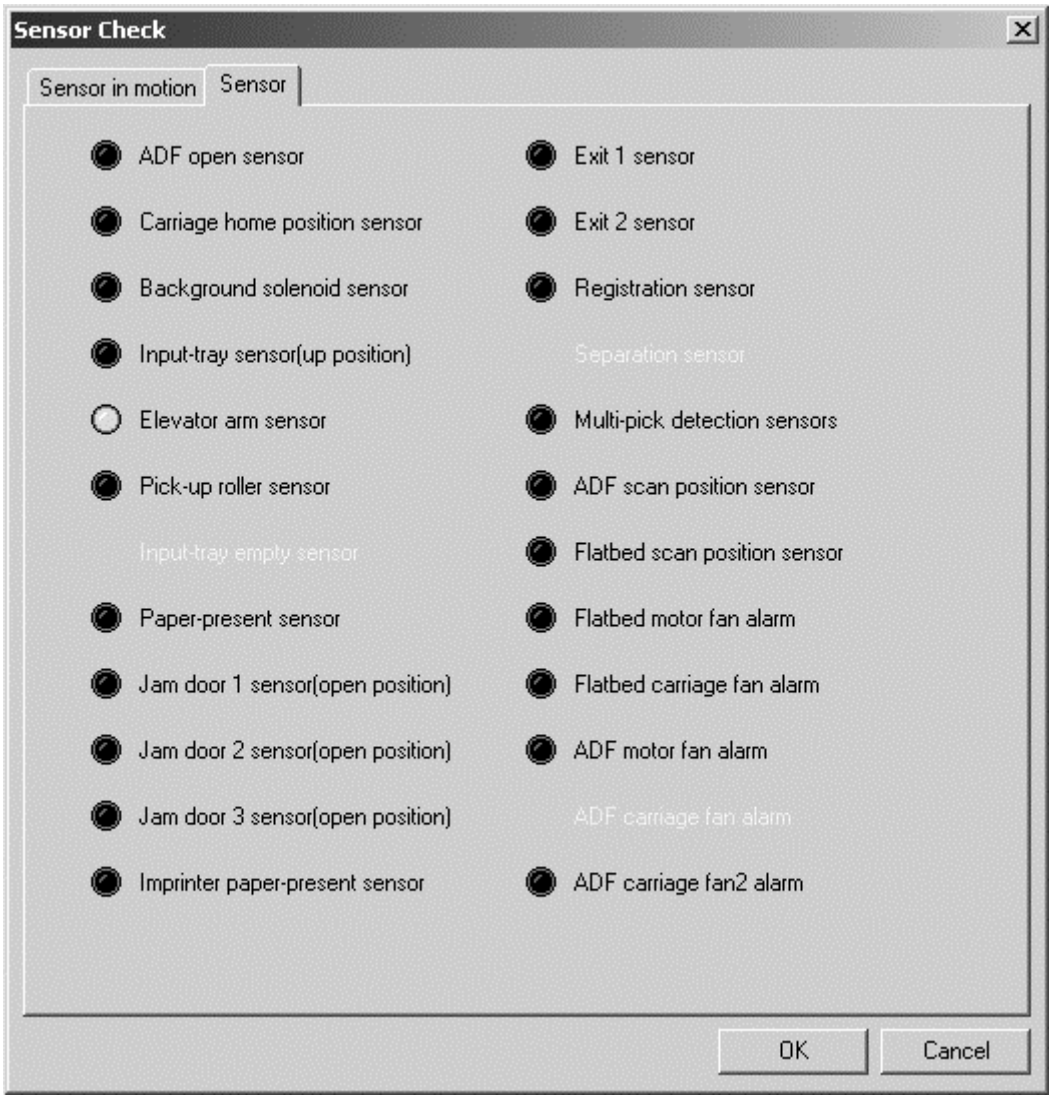


Table 6-6 Sensor tab

Item	Description	Function
1	**ADF open sensor** indicator	• Indicator is green (on) when the ADF is open. • Indicator is black (off) when the ADF is closed.
2	**Carriage home position sensor** indicator	• Indicator is green (on) when the when the scanner carriage has reached the home position. • Indicator is black (off) when the scanner carriage has not reached the home position.
3	**Background solenoid sensor** indicator	• Indicator is green (on) when the background is black. • Indicator is black (off) when the background is white.
4	**Input-tray sensor (up position)** indicator	• Indicator is green (on) when the input tray is not in the home position. • Indicator is black (off) when input tray is in the home (down) position.

Table 6-6 Sensor tab (continued)

Item	Description	Function
5	**Elevator arm sensor** indicator	• Indicator is green (on) when the elevator arm is in the home (down) position. • Indicator is black (off) when the elevator arm is not in the home (down) position.
6	**Pick-up roller sensor** indicator	• Indicator is green (on) when the pick-up roller sensor detects paper at the pick-up roller assembly. • Indicator is black (off) when the pick-up roller sensor does not detect paper at the pickup roller assembly.
8	**Paper-present sensor** indicator	• Indicator is green (on) when the paper-present sensor detects paper in the ADF input tray. • Indicator is black (off) when the paper-present sensor does not detected paper in the ADF input tray.
9	**Jam door 1 sensor** indicator	• Indicator is green (on) when jam door 1 is open. • Indicator is black (off) when jam door 1 is closed.
10	**Jam door 2 sensor** indicator	• Indicator is green (on) when jam door 2 is open. • Indicator is black (off) when jam door 2 is closed.
11	**Jam door 3 sensor** indicator	• Indicator is green (on) when jam door 3 is open. • Indicator is black (off) when jam door 3 is closed.
12	**Imprinter paper-present sensor** indicator	• Indicator is green (on) when the imprinter paper-present sensor detects paper at the imprinter. • Indicator is black (off) when the imprinter paper-present sensor does not detect paper at the imprinter.
13	**Exit 1 sensor** indicator	• Indicator is green (on) when the exit 1 sensor detects paper after the scan position sensor. • Indicator is black (off) when the exit 1 sensor does not detect paper after the scan position sensor.
14	**Exit 2 sensor** indicator	• Indicator is green (on) when the exit 2 sensor detects paper after the exit 1 sensor. • Indicator is black (off) when the exit 2 sensor does not detect paper after the exit 1 sensor.
15	**Registration sensor** indicator	• Indicator is green (on) when the registration sensor detects paper after the pickup roller assembly. • Indicator is black (off) when the registration sensor does not detect paper after the pickup roller assembly.
17	**Multi-pick detection sensor** indicator	• Indicator is green (on) when the multi-pick detection sensors detect two or more sheets moving through the paper path simultaneously. • Indicator is black (off) when either no paper is present in the paper path or only one sheet of paper is present in the paper path.
18	**ADF scan position sensor** indicator	• Indicator is green (on) when the ADF scan position sensor detects paper after the multi-pick sensors. • Indicator is black (off) when the ADF scan position sensor does not detect paper after the multi-pick sensors.

Table 6-6 Sensor tab (continued)

Item	Description	Function
19	**Flatbed scan position sensor** indicator	• Indicator is green (on) when the scan position sensor detects paper after the ADF scan position sensor. • Indicator is black (off) when the scan position sensor does not detect paper after the ADF scan position sensor.
20	**Flatbed motor fan alarm** indicator	• Indicator is green (on) when the fan is not operating. • Indicator is black (off) when the fan is operating.
21	**Flatbed carriage fan alarm** indicator	• Indicator is green (on) when the fan is not operating. • Indicator is black (off) when the fan is operating.
22	**ADF motor fan alarm** indicator	• Indicator is green (on) when the fan is not operating. • Indicator is black (off) when fan is operating.
24	**ADF carriage fan2 alarm** indicator	• Indicator is green (on) when the fan is not operating. • Indicator is black (off) when the fan is operating.
27	**OK** button	Click the **OK** button to close the **Sensor check** dialog box.
28	**Cancel** button	Click the **Cancel** button to close the **Sensor check** box.

Control panel check dialog box

1. Open the N9120 Service Tool.
2. On the toolbar, click **Panel**.

NOTE: When the Control panel check dialog box is open and any button, except the power button, is pressed on the control panel, the corresponding button will illuminate on the Control panel check dialog box. This is an effective way to check if control panel buttons are working properly.

Figure 6-6 Control panel check dialog box

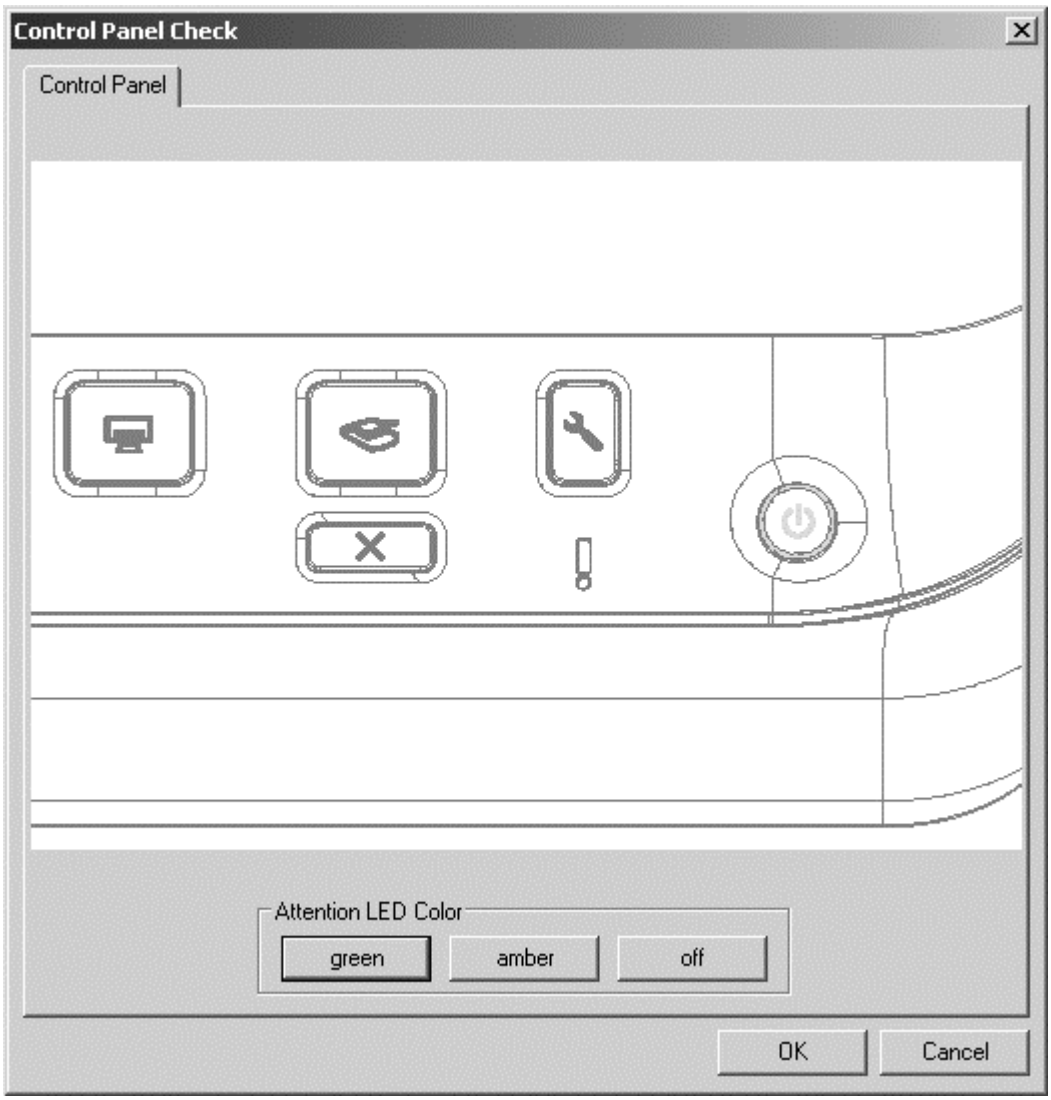


Table 6-7 Control panel check dialog box

Item	Description	Function
1	**Attention LED color** area	• Click the **green** button to change the **Attention LED** color to green. • Click the **amber** button to change the **Attention LED** color to amber. • Click the **off** button to turn off the **Attention LED**.
2	**OK** button	Click the **OK** button to close the **Control panel check** dialog box.
3	**Cancel** button	Click the **Cancel** button to close the **Control panel check** dialog box.

ADF feed test dialog box

1. Open the N9120 Service Tool.
2. On the toolbar, click **ADF**.

Figure 6-7 ADF feed test dialog box

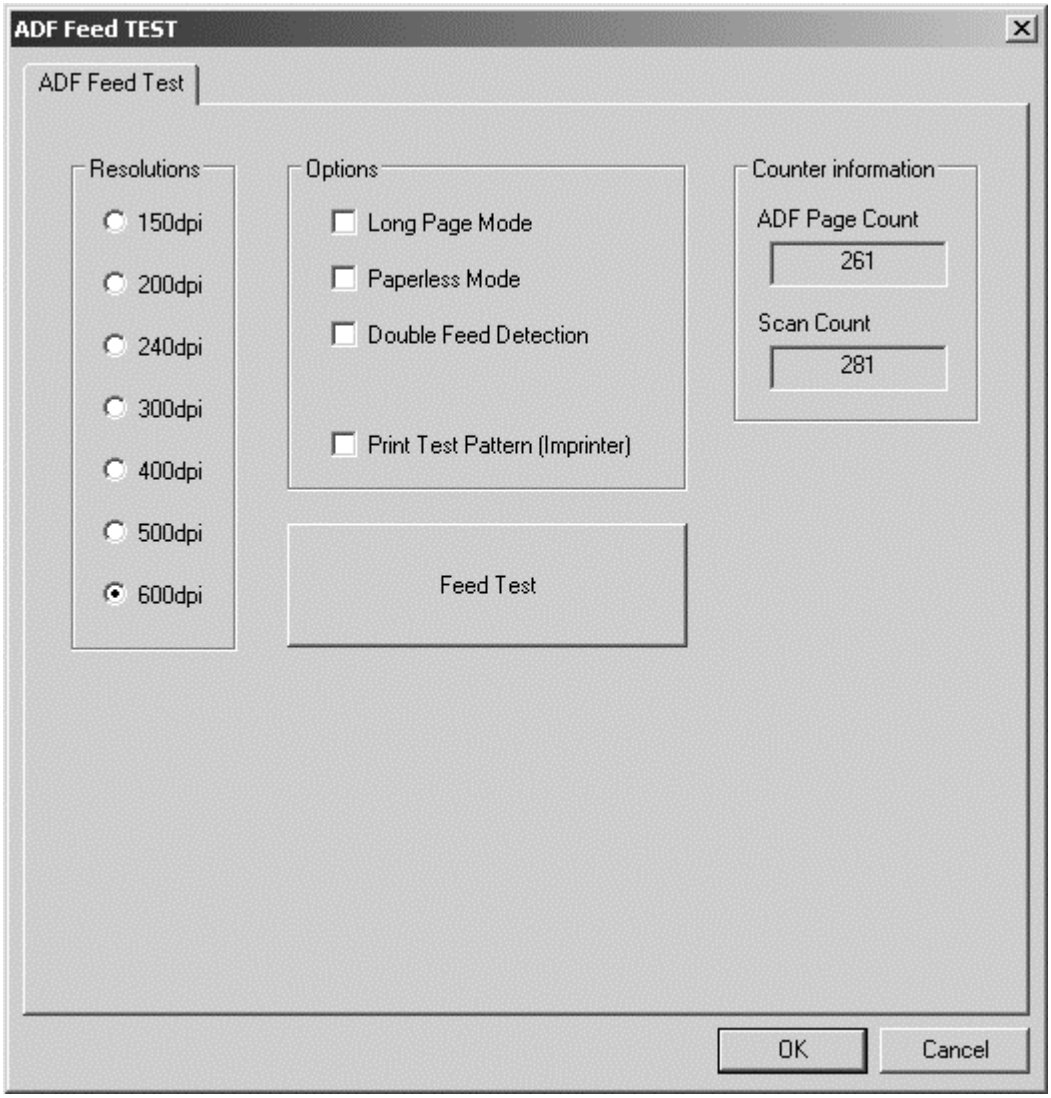


Table 6-8 ADF feed test dialog box

Item	Description	Function
1	**Resolutions** area	Select a resolution setting for an ADF feed test. • **150dpi** • **200dpi** • **240dpi** • **300dpi** • **400dpi** • **500dpi** • **600dpi**
2	**Options** area	Select options for an ADF feed test: • **Long Page Mode** • **Paperless Mode** • **Double Feed Detection Mode** • **Print Test Pattern (Imprinter)**
3	**Counter information** area	View page count and scan count information: • **ADF page count** • **Scan count**
4	**Feed Test** button	Click **Feed Test** to start a feed test from the ADF input tray after resolution and options are selected.
5	**OK** button	Click **OK** to close the **ADF feed test** dialog box.
6	**Cancel** button	Click **Cancel** to close the **ADF feed test** dialog box.

Actuators dialog box

1. Open the N9120 Service Tool.
2. On the toolbar, click **Actuator**.

Figure 6-8 Actuators dialog box

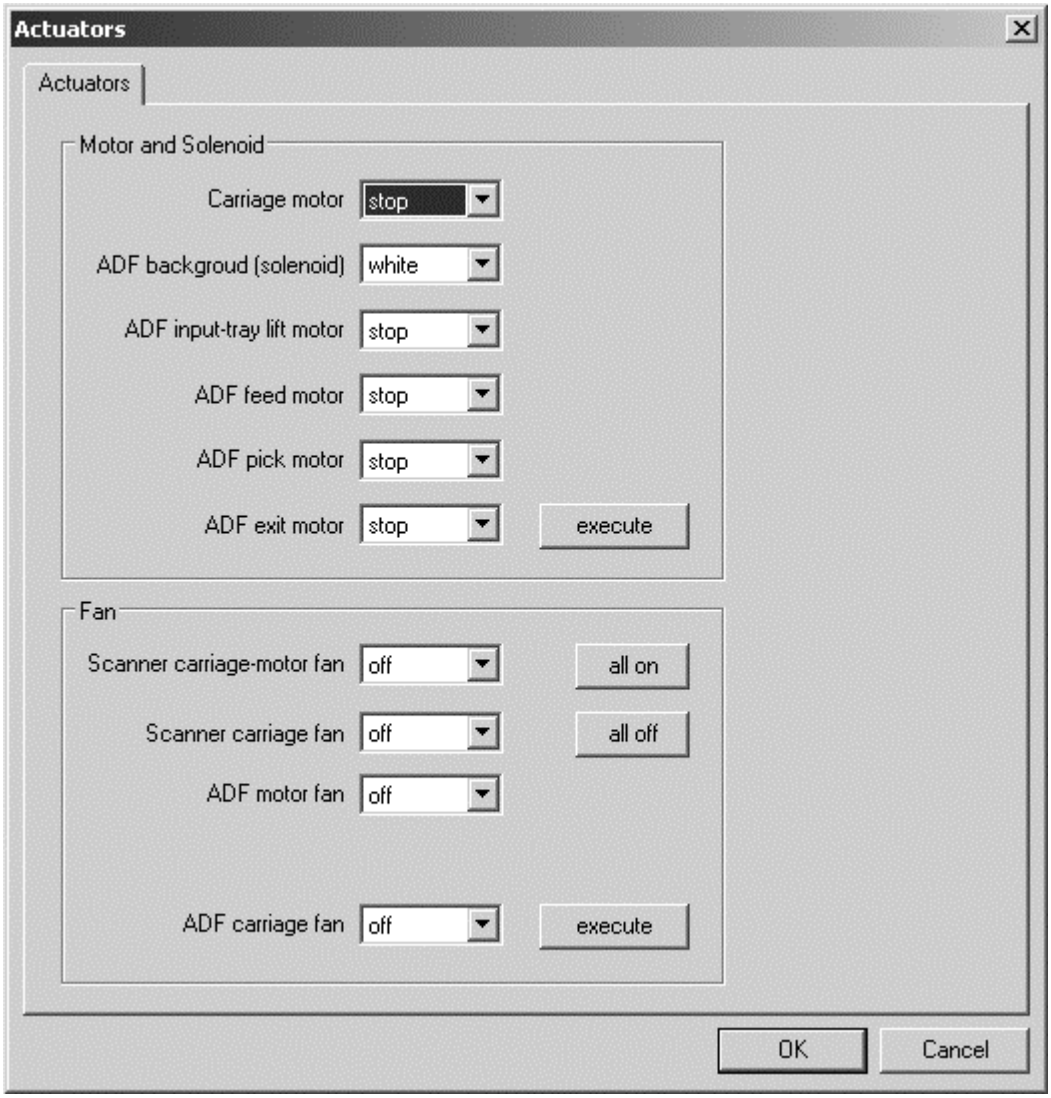


Table 6-9 Actuators dialog box

Item	Description	Function
1	**Motor and Solenoid** area	**1.** Select from the following options to diagnose motor or solenoid problems: ◦ Click the **Carriage motor** down arrow. • Select **aging** to activate the carriage motor. • Select **stop** to deactivate the carriage motor. ◦ Click the **ADF background (solenoid)** down arrow. • Select **black** to activate the ADF background solenoid and set the background to black. • Select **white** to activate the ADF background solenoid and set the background to white. ◦ Click the **ADF input-tray lift motor** down arrow. • Select **aging** to activate the lift motor. • Select **stop** to deactivate the lift motor. ◦ Click the **ADF feed motor** down arrow. • Select **rotation** to activate the feed motor. • Select **stop** to deactivate the feed motor. ◦ Click the **ADF pick motor** down arrow. • Select **cw** to activate the pickup motor in a clockwise direction. • Select **ccw** to activate the pickup motor in a counterclockwise direction. • Select **stop** to deactivate the feed motor. ◦ Click the **ADF exit motor** down arrow. • Select **rotation** to activate the feed motor. • Select **stop** to deactivate the feed motor. **2.** Click the **execute** button to activate selections.
2	**Fan** area	Click the **all on** button to turn on all fans or click the **all off** button to turn off all fans. The fans may also be selected individually. **1.** Select individual fans. ◦ Click the **Scanner carriage-motor fan** down arrow. • Select **on** to activate the motor fan. • Select **stop** to deactivate the motor fan. ◦ Click the **Scanner carriage fan** down arrow. • Select **on** to activate the carriage fan. • Select **stop** to deactivate the carriage fan.

Table 6-9 Actuators dialog box (continued)

Item	Description	Function
		◦ Click the **ADF motor fan** down arrow. • Select **on** to activate the ADF motor fan. • Select **stop** to deactivate the ADF motor fan. ◦ Click the **ADF carriage fan** down arrow. • Select **on** to activate the ADF carriage fan. • Select **stop** to deactivate the ADF carriage fan. **2.** Click the **execute** button to activate or deactivate selections.
5	**OK** button	Click the **OK** button to close the **Actuators** dialog box.
6	**Cancel** button	Click the **Cancel** button to close the **Actuators** dialog box.

NVRAM dialog box

⚠ **WARNING!** Do not add, delete, or modify NVRAM values. Doing so might render the product inoperable.

1. Open the N9120 Service Tool.
2. On the toolbar, click **NVRAM**.

   The **NVRAM** dialog box contains two tabs:

   - Get/SetNVRAMValue(String)
   - RAWWriteNVRAM/RAWReadNVRAM

⚠ **WARNING!** Do not add, delete, or modify NVRAM values. Doing so might render the product inoperable.

Figure 6-9 Get/SetNVRAMValue(String) tab

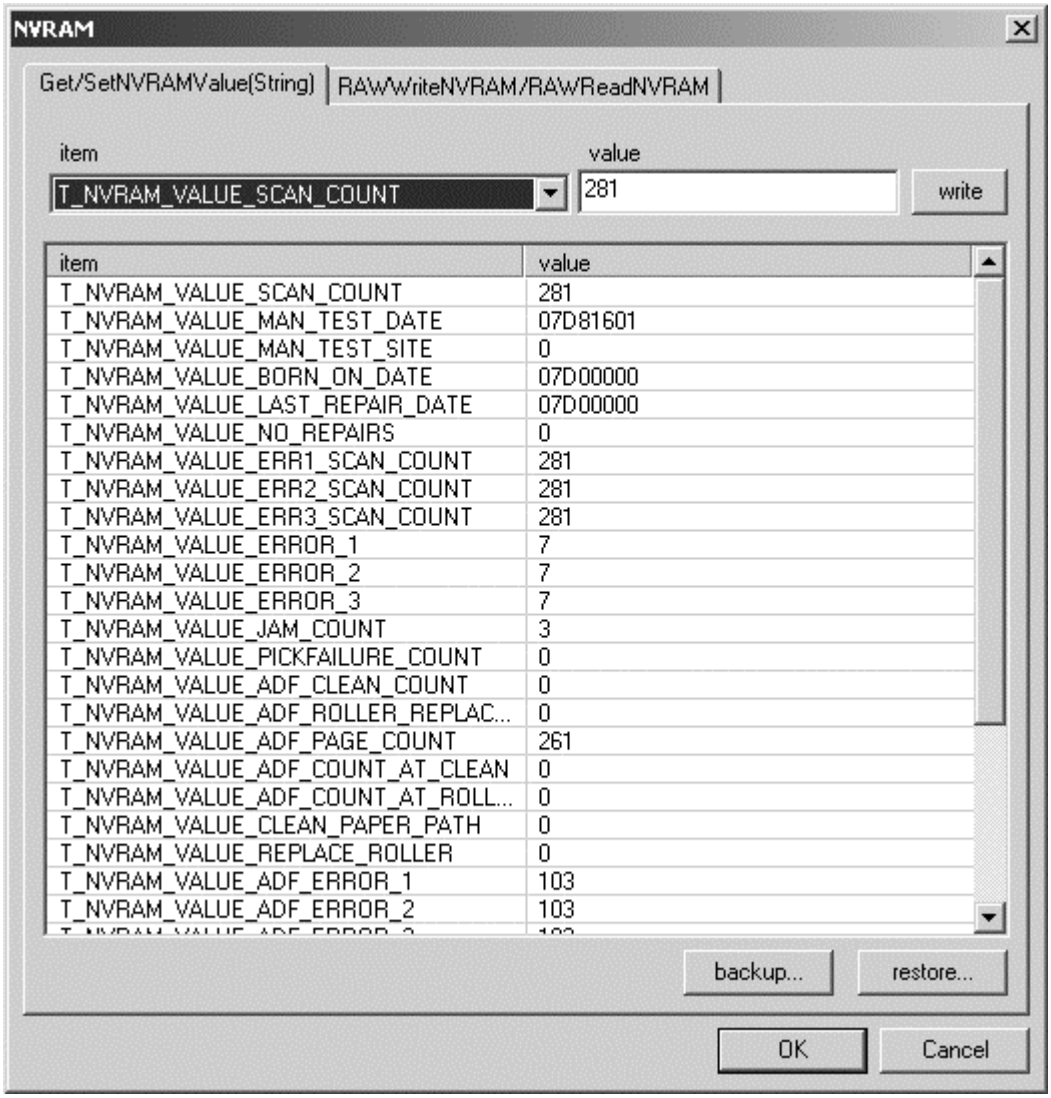
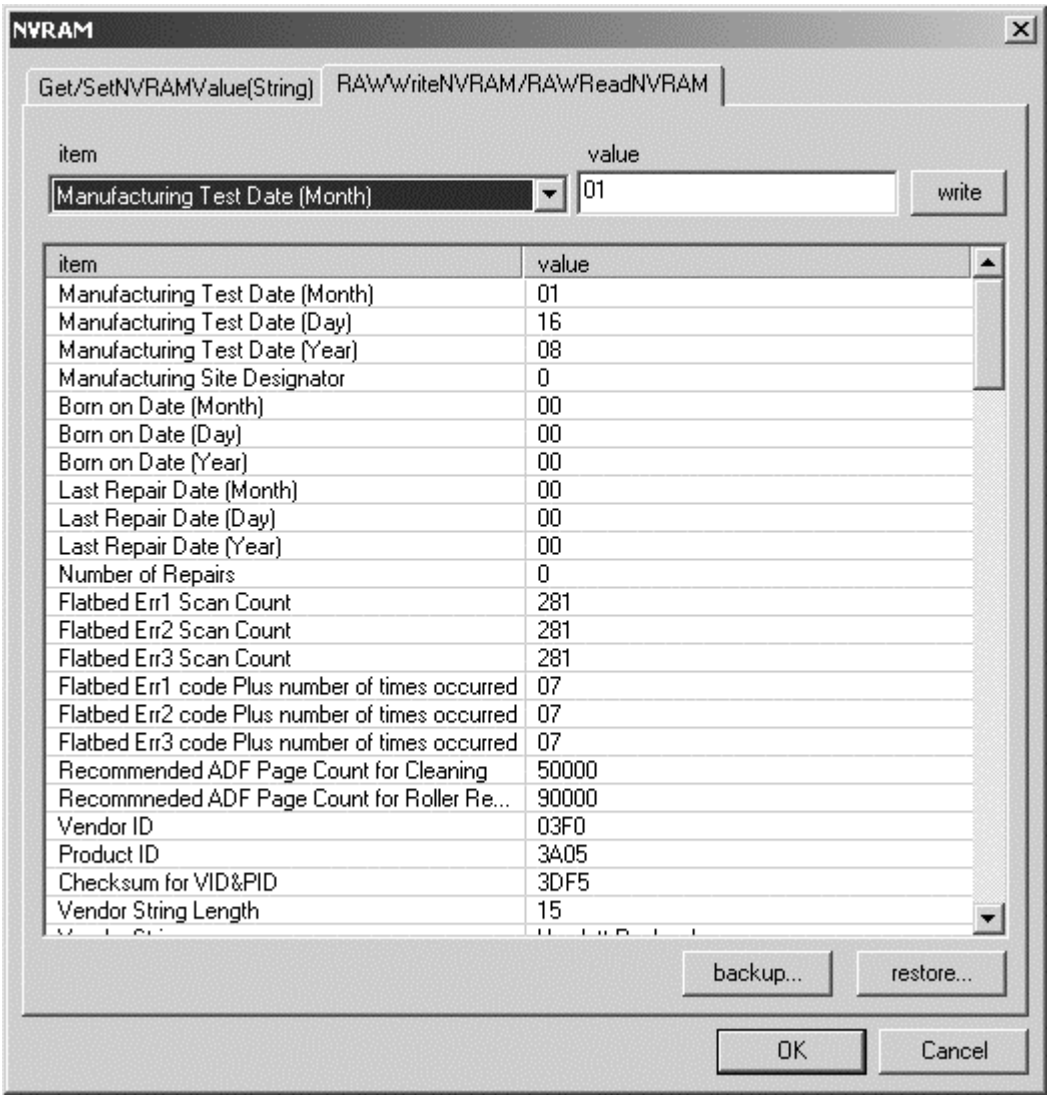


Figure 6-10 Get/SetNVRAMValue(String) tab



⚠ **WARNING!** Do not add, delete, or modify NVRAM values. Doing so might render the product inoperable.

Update dialog box

1. Open the N9120 Service Tool.
2. On the toolbar, click **Update**.
3. Use the Update dialog box to update the product firmware.

Repair menu

1. Open the N9120 Service Tool.
2. On the toolbar, click **Repair**.

Figure 6-11 Repair menu

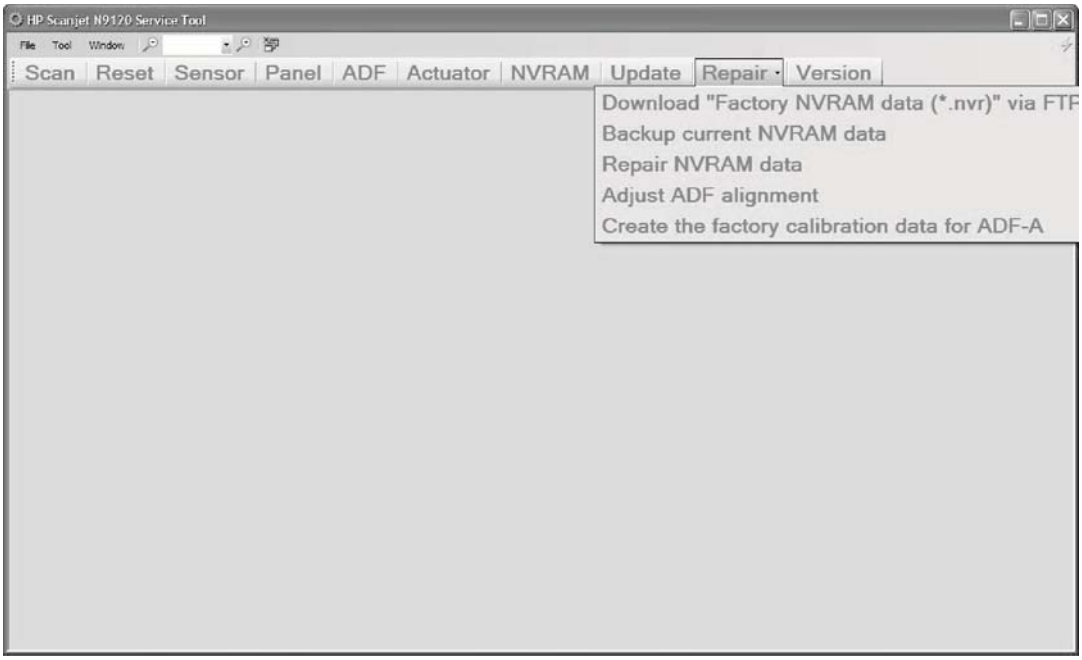


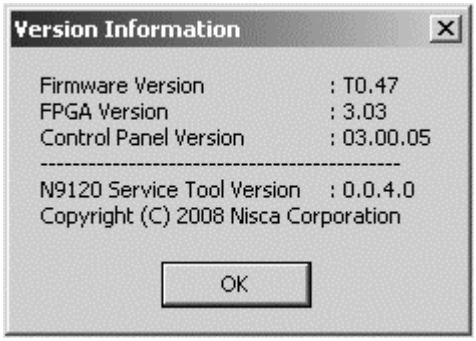
Table 6-10 Repair menu

Item	Description	Function
1	**Download "Factory NVRAM data (*.nvr)" via FTP**	Click **Download "Factory NVRAM data (*.nvr)" via FTP** to search the FTP site for the factory NVRAM data and then save it on the computer's hard drive. See Download factory NVRAM data on page 86.
2	**Backup current NVRAM data**	Click **Backup current NVRAM data** to restore the current NVRAM values of the ADF and flatbed. See Backup current NVRAM data on page 89.
3	**Repair NVRAM data**	Click **Repair NVRAM data** to upload of previously stored NVRAM data from the computer's hard drive to the NVRAM of the selected device and then change certain NVRAM values as required by various repair scenarios. See Repair NVRAM data on page 91.
4	**Adjust ADF alignment**	Click **Adjust ADF alignment** to adjust resolution settings. See Align the ADF on page 98.
5	**Create the factory calibration data for ADF-A**	Click **Create the factory calibration data for ADF-A** to adjust resolution settings. See Create the factory calibration data for ADF-A on page 101.

Version information dialog box

1. Open the N9120 Service Tool.
2. On the toolbar, click **Version**.

Figure 6-12 Version information dialog box



Diagrams

Component locator diagrams

Major components

Major components (1 of 3)

Figure 6-13 Major components (1 of 3)

Table 6-11 Major components (1 of 3)

Item	Description
1	ADF jam door 1
2	ADF
3	ADF input-tray assembly
4	ADF output tray
5	Scanner motor fan-filter cover
6	Control panel
7	Scanner base

Major components (2 of 3)

Figure 6-14 Major components (2 of 3)

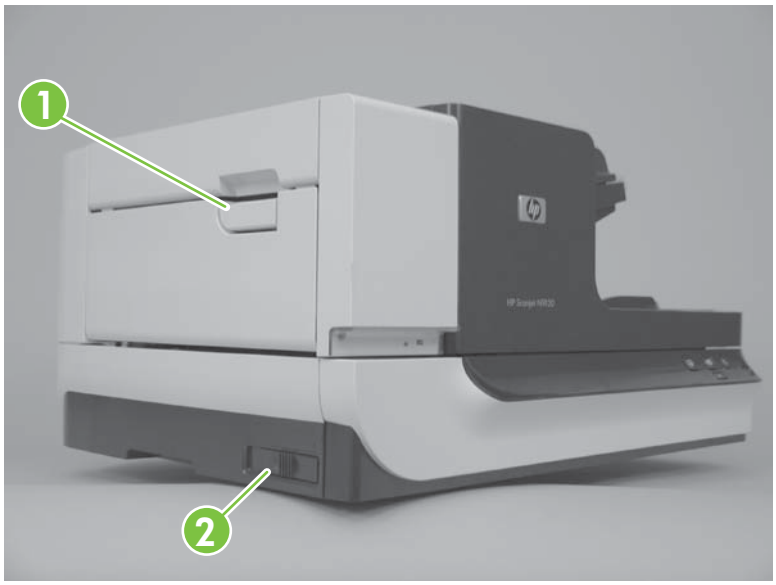


Table 6-12 Major components (2 of 3)

Item	Description
1	ADF jam door 2
2	Scanner optical-carriage lock

Major components (2 of 3)

Figure 6-15 Major components (3 of 3)

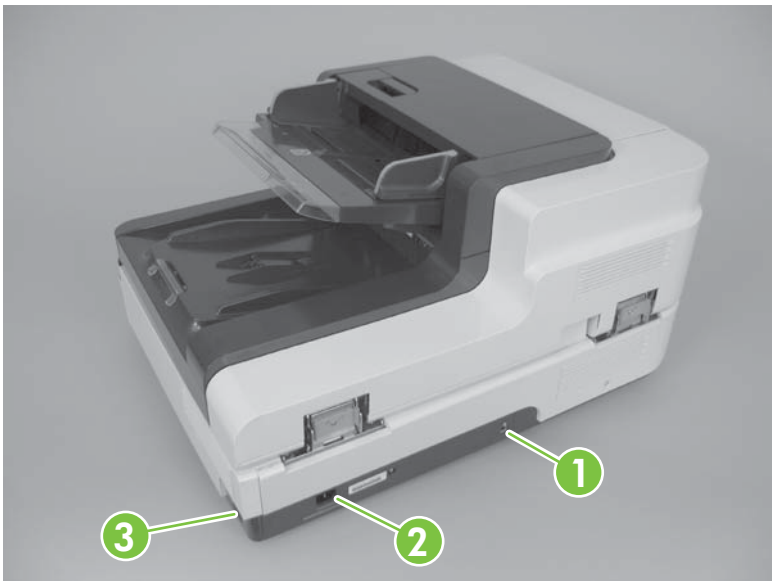


Table 6-13 Major components (3 of 3)

Item	Description
1	USB port
2	Power-cord receptacle
3	Power switch

ADF motors and fans

ADF motors and fans (1 of 2)

Figure 6-16 ADF motors and fans (1 of 2)

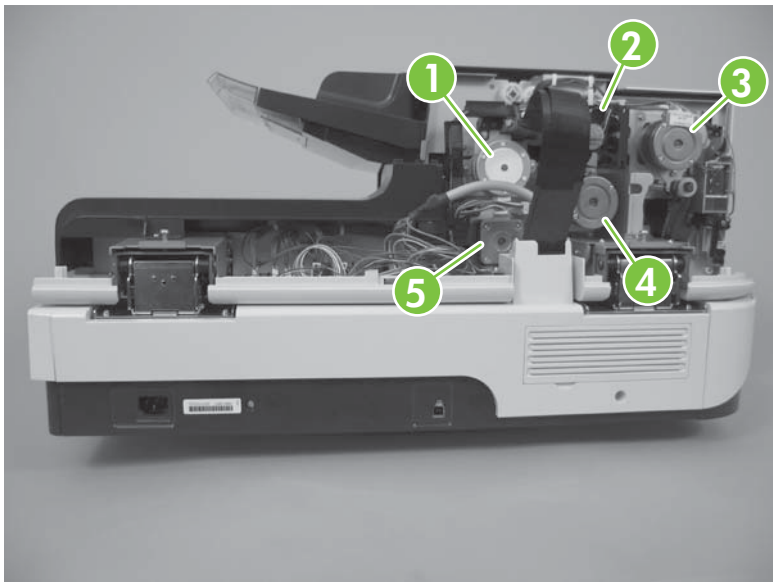


Table 6-14 ADF motors and fans (1 of 2)

item	Description
1	ADF input-tray lift-motor assembly
2	ADF motor fan
3	ADF feed-motor assembly
4	ADF pick-motor assembly
5	ADF exit-motor assembly

ADF motors and fans (2 of 2)

Figure 6-17 ADF motors and fans (2 of 2)

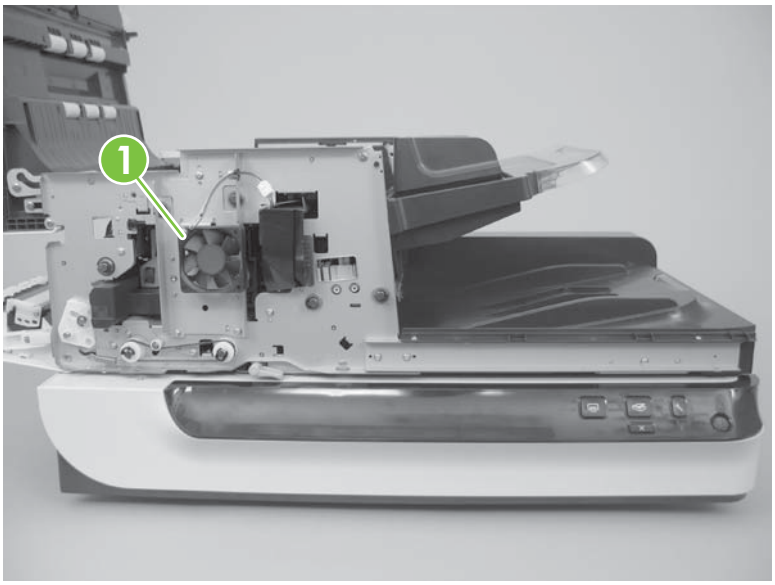


Table 6-15 ADF motors and fans (2 of 2)

Item	Description
1	ADF carriage fan

Scanner motors and fans

Table 6-16 Scanner motors and fans

Item	Description
Not shown	Scanner carriage-motor fan
Not shown	Scanner carriage fan
Not shown	Scanner carriage motor

Printed circuit assemblies

ADF PCAs

Figure 6-18 ADF PCAs

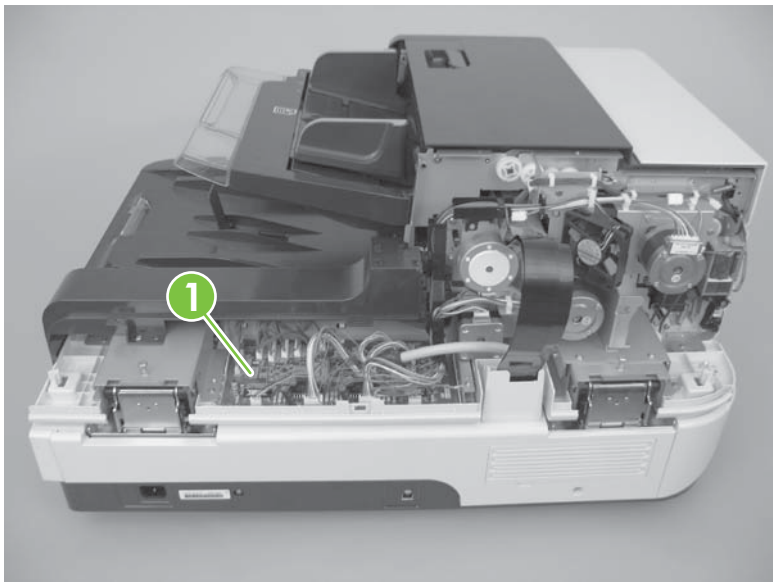


Table 6-17 ADF controller PCA

Item	Description
1	ADF controller PCA
Not shown	Imprinter PCA
Not shown	ADF upper- and lower-multipick sensor PCAs

Scanner PCAs

Figure 6-19 Scanner PCAs

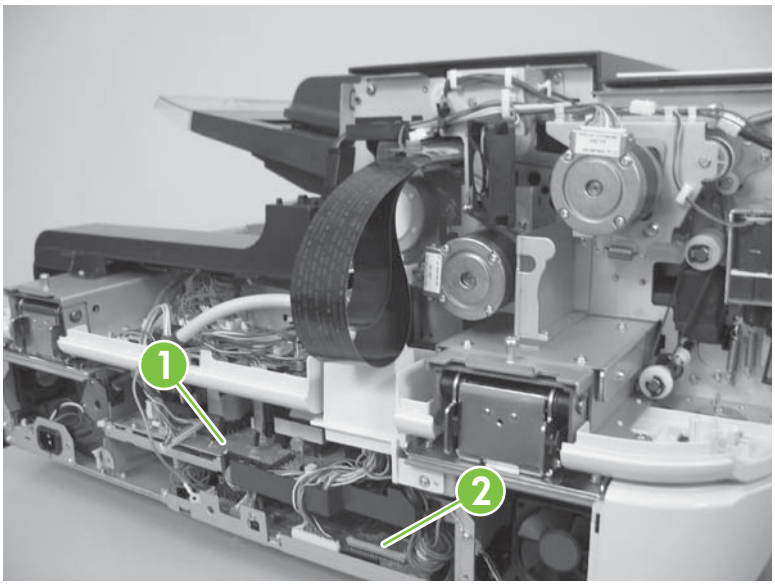


Table 6-18 Scanner PCAs

Item	Description
1	Scanner controller PCA
2	Power-supply PCA
Not shown	Control-panel PCA

Image-quality troubleshooting tools

Repetitive-image-defect ruler

Defects on product rollers can cause image defects to appear at regular intervals on the scanned page, corresponding to the circumference of the roller that is causing the defect. Measure the distance between defects that recur on a scanned page. Use the following table or the repetitive-defect ruler to determine which roller is causing the defect. To resolve the problem, try cleaning the roller first. If the roller remains dirty after cleaning or if it is damaged, replace the part that is indicated in Table 6-19 Repetitive defects on page 270.

NOTE: You can make a graphical repetitive-defect ruler by using these measurements. For the most accurate results, use a metric ruler.

Table 6-19 Repetitive defects

Component	Distance between defects
ADF pickup roller	## mm (#.# inches)
ADF feed rollers	## mm (#.# inches)
ADF separation pad	## mm (#.# inches)

Computer-display error messages

Error conditions can cause the product to display error messages on the host computer. Use the following table to find a solution to these problems.

Computer-display error messages

Table 6-20 ISIS driver communicated message

Control panel message	Description	Recommended action
A document feeder paper jam has been detected in the cleanout (-4725)	Not applicable	Check ADF paper-path for jams starting at input tray, then jam doors 1, 2, and 3 clear all jams. Review the thumbnails of the pages that have already been scanned in the **Scan Progress** window, reinsert any necessary pages into the input tray, and click **Scan More Pages**.
A document feeder paper jam has been detected in the input tray (-4723)	Not applicable	Check ADF paper-path for jams starting at input tray, then jam doors 1, 2, and 3 clear all jams. Review the thumbnails of the pages that have already been scanned in the **Scan Progress** window, reinsert any necessary pages into the input tray, and click **Scan More Pages**.
A document feeder paper jam has been detected in the output tray (-4724)	Not applicable	Check ADF paper-path for jams starting at input tray, then jam doors 1, 2, and 3 clear all jams. Review the thumbnails of the pages that have already been scanned in the **Scan Progress** window, reinsert any necessary pages into the input tray, and click **Scan More Pages**.
Can't talk to scanner	Not applicable	Check that USB connections are secure on both sides. Power cycle scanner and try operation again.
Imprinter is off paper. It is positioned incorrectly or it has reached the edge of the page. (-4729)	Not applicable	Reposition the imprinter cartridge and try scan again.
Multiple-page misfeed in ADF or scanned page is longer than expected. (-4726)	Not applicable	A page was longer than expected or multiple pages were picked. Ensure the correct paper size is specified in Profile Settings. Remove misfed pages from the output tray and ensure the pages are not stuck together. Return pages to the document feeder and click **Scan More Pages** to continue scanning..
No page was found in the feeder. (-4401)	Not applicable	Place paper in the input tray and try operation again or change scan parameters to scanning.

Table 6-20 ISIS driver communicated message (continued)

Control panel message	Description	Recommended action
Paper jammed in scanner; clear paper and continue. (-4426)	Not applicable	Check ADF paper-path for jams starting at input tray, then jam doors 1, 2, and 3 clear all jams. Review the thumbnails of the pages that have already been scanned in the **Scan Progress** window, reinsert any necessary pages into the input tray, and click **Scan More Pages**.
Problem with scanner transport mechanism	Not applicable	Power cycle scanner and attempt operation again. If this does not work, contact support.
Scanner cover is open. (-4429)	Not applicable	Lower ADF and try operation again.
Scanner door is open. (-4618)	Not applicable	Lower ADF and try operation again.
Scanner hardware problem	Not applicable	Check paper path for jams, power cycle, and tray scan again.
Scanner is busy	Not applicable	Wait one minute for scanner to become available again and reattempt scan. If this does not work, power cycle scanner and attempt operation again. If this does not work, contact support.
Scanner is not ready. (Power might have been cycled.)		Check that USB connections are secure on both sides. Power cycle scanner and try operation again.
Scanner is not responding	Not applicable	Check that USB connections are secure on both sides. Power cycle scanner and try operation again.
Scanner overheated	Not applicable	Power cycle scanner and attempt operation again. If this does not work, contact support.
The ADF cannot pick up the paper or it is jammed. Remove the paper and leaf through the stack. (-4722)	Not applicable	Check ADF paper-path for jams starting at input tray, then jam doors 1, 2, and 3 clear all jams. Review the thumbnails of the pages that have already been scanned in the **Scan Progress** window, reinsert any necessary pages into the input tray, and click **Scan More Pages**.
The imprinter ink level is low. Please replace the ink cartridge. (-4728)	Not applicable	Refer to the Setup and use the imprinter section of the N9120 User Guide for tips on Installing or replacing imprinter cartridges and imprinter maintenance.
The scanner carriage failed to return to its home position. (-4713)	Not applicable	Power cycle scanner and attempt operation again. If this does not work, contact support.
The scanner device failed its calibration. (-4715)	Not applicable	Power cycle scanner and attempt operation again. If this does not work, contact support.

Table 6-21 SDSS error message displayed

Control panel message	Description	Recommended action
A paper jam has occurred. Clear the jam, review the thumbnails of the pages that have already been scanned in the Scan Progress window, reinsert any necessary pages into the input tray, and click Scan More Pages.	Not applicable	Check ADF paper-path for jams starting at input tray, then jam doors 1, 2, and 3 clear all jams. Review the thumbnails of the pages that have already been scanned in the **Scan Progress** window, reinsert any necessary pages into the input tray, and click **Scan More Pages**.
A paper jam has occurred. Clear the jam, review the thumbnails of the pages that have already been scanned in the Scan Progress window, reinsert any necessary pages into the input tray, and click Scan More Pages.	Not applicable	Check ADF paper-path for jams starting at input tray, then jam doors 1, 2, and 3 clear all jams. Review the thumbnails of the pages that have already been scanned in the **Scan Progress** window, reinsert any necessary pages into the input tray, and click **Scan More Pages**.
A paper jam has occurred. Clear the jam, review the thumbnails of the pages that have already been scanned in the Scan Progress window, reinsert any necessary pages into the input tray, and click Scan More Pages.	Not applicable	Check ADF paper-path for jams starting at input tray, then jam doors 1, 2, and 3 clear all jams. Review the thumbnails of the pages that have already been scanned in the **Scan Progress** window, reinsert any necessary pages into the input tray, and click **Scan More Pages**.
A paper jam has occurred. Clear the jam, review the thumbnails of the pages that have already been scanned in the Scan Progress window, reinsert any necessary pages into the input tray, and click Scan More Pages.	Not applicable	Check ADF paper-path for jams starting at input tray, then jam doors 1, 2, and 3 clear all jams. Review the thumbnails of the pages that have already been scanned in the **Scan Progress** window, reinsert any necessary pages into the input tray, and click **Scan More Pages**.
A paper jam has occurred. Clear the jam, review the thumbnails of the pages that have already been scanned in the Scan Progress window, reinsert any necessary pages into the input tray, and click Scan More Pages.	Not applicable	Check ADF paper-path for jams starting at input tray, then jam doors 1, 2, and 3 clear all jams. Review the thumbnails of the pages that have already been scanned in the **Scan Progress** window, reinsert any necessary pages into the input tray, and click **Scan More Pages**.
Imprinter is off paper. It is positioned incorrectly or it has reached the edge of the page.	Not applicable	Reposition the imprinter cartridge and try scan again.
Multiple-page misfeed detected in scanner document feeder. A page was longer than expected or multiple pages were picked. Please ensure the correct paper size is specified in Profile Settings. Remove misfed pages from the output tray and ensure the pages are not stuck together. Return pages to the document feeder and click Scan More Pages to continue scanning.	Not applicable	A page was longer than expected or multiple pages were picked. Ensure the correct paper size is specified in Profile Settings. Remove misfed pages from the output tray and ensure the pages are not stuck together. Return pages to the document feeder and click **Scan More Pages** to continue scanning.

Table 6-21 SDSS error message displayed (continued)

Control panel message	Description	Recommended action
No memory available	Not applicable	Close unnecessary applications to free up usable memory and re-scan documents.
No page was found in the feeder	Not applicable	Place paper in the input tray and try operation again or change scan parameters to scanning.
Scanner busy	Not applicable	Wait one minute for scanner to become available again and reattempt scan. If this does not work, power cycle scanner and attempt operation again. If this does not work, contact support.
Scanner cover open	Not applicable	Lower ADF and try operation again.
Scanner cover open	Not applicable	Lower ADF and try operation again.
Scanner not connected	Not applicable	Check that USB connections are secure on both sides. Power cycle scanner and try operation again.
Scanner not connected	Not applicable	Check that USB connections are secure on both sides. Power cycle scanner and try operation again.
Scanner not ready	Not applicable	Check that USB connections are secure on both sides. Power cycle scanner and try operation again.
The imprinter ink level is low. Please replace the ink cartridge.	Not applicable	Refer to the Setup and use the imprinter section of the N9120 User Guide for tips on Installing or replacing imprinter cartridges and imprinter maintenance.
Unspecified scanner error	Not applicable	Check paper path for jams, power cycle, and tray scan again.
Unspecified scanner error	Not applicable	Power cycle scanner and attempt operation again. If this does not work, contact support.

Solve paper-handling problems

Jams

Common causes of jams

The product is jammed.

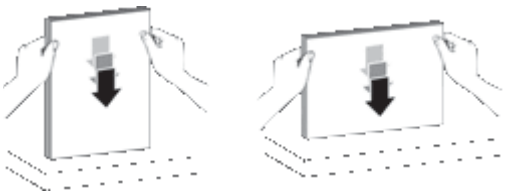
Cause	Solution
The source document does not meet specifications.	Make sure that the document to be scanned meets the ADF and media specifications. See Paper handling on page 10 and Media specifications on page 10.
A component is installed incorrectly.	Verify that the imprinter cartridge, the ADF pickup roller, and the ADF separation pad are correctly installed. If the product was recently serviced, make sure that any replaced or reinstalled components are correctly installed and that all wire-harness connectors and FFCs are fully seated at the PCA or component.
The ADF tray is loaded incorrectly.	Remove any excess paper from the tray. Make sure that the stack is below the maximum stack height mark in the tray. See Paper handling on page 10.
The source documents loaded in the ADF input tray are skewed.	The ADF tray guides are not adjusted correctly. Adjust them so that they hold the stack firmly in place without bending it.
The source documents are binding or sticking together.	Remove the documents and flex them to break any static charge in the stack. Reload the paper into the tray.
The source documents are in poor condition.	Make sure that the source documents are in good condition. If the documents are in poor condition, use the glass to scan the document. Photocopy the damaged page, and then add the photocopy to the input stack in the ADF input tray.
The internal pickup roller in the ADF is not picking up the source document.	Remove the top sheet of the stack. If the source document is too heavy, it might not be picked from the tray.
The source document is perforated or embossed.	Perforated or embossed documents do not separate easily. Use the scanner glass to scan the document.

Solve common ADF jams

You can use this procedure when a jam occurs during a multiple-page ADF scan job or when a jam occurs during a single-page ADF scan job.

1. At the scan destination, examine the scan output to determine which page was the last to be completely scanned.
2. Reload the unscanned pages in the ADF input tray. If any pages are damaged, do one of the following:
   - Photocopy the damaged page, and then add the photocopy to the input stack.
   - Scan the damaged page from the scanner glass.
   - Reprint the original document.
3. Prepare the stack as follows:
   a. Fan the stack of document pages to ensure that the pages do not stick together. Fan the edge that will be pointing into the feeder in one direction, and then fan that same edge in the opposite direction.

   b. Align the edges of the documents by tapping the bottom of the stack against the table top. Rotate the stack 90 degrees and repeat.

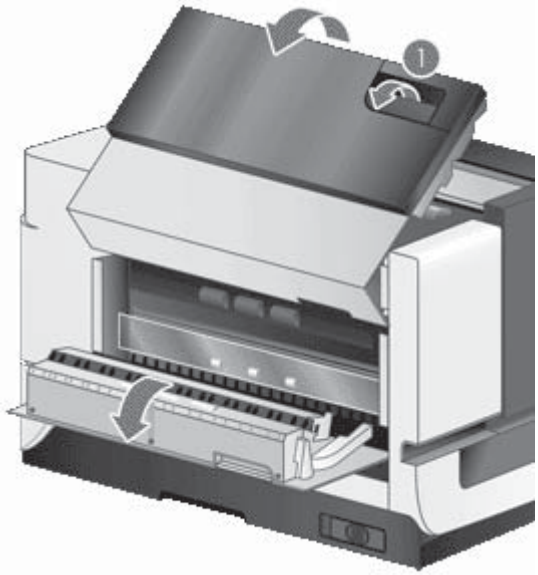


   c. Resume scanning.

Clear jams from the ADF

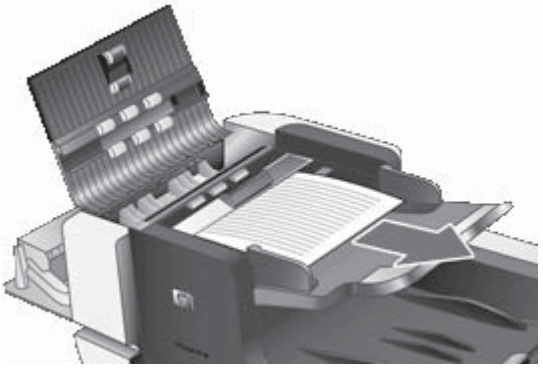
1. Remove any loose pages from the ADF input tray.
2. Lift the latch on top of the ADF to open the top and side ADF access doors (jam door 1 and jam door 2).

Figure 6-20 Clear jams from the ADF (1 of 5)



3. Remove any jammed pages from the ADF input tray.

Figure 6-21 Clear jams from the ADF (2 of 5)



4. Remove any jammed pages from inside the ADF.

Figure 6-22 Clear jams from the ADF (3 of 5)

5. Remove any jammed pages from the ADF output tray.

   Be careful not to dislodge or damage the imprinter cartridge or carriage.

Figure 6-23 Clear jams from the ADF (4 of 5)

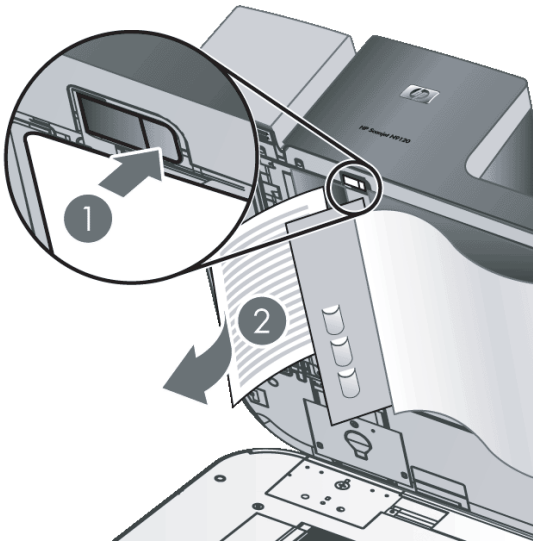
6. If the jammed page still cannot be removed, follow these steps:

   a. Open the ADF.

   b. Push the green tab toward the ADF to open ADF jam door 3. If the door does not open automatically, gently pry it open.

   c. Gently pull the page out of the ADF.

Figure 6-24 Clear jams from the ADF (5 of 5)



7. Close jam door 1 and jam door 2), and then close the ADF. If the jam occurred during a multiple-page ADF scan job, see Solve common ADF jams on page 276 for information about solving ADF jams.

The bottom of the scanned image is cut off

By default, the scanner can scan paper that is up to 420 mm (16.5 in) long. If the document is longer, the end of the document is not included in the scanned image. For more information about paper handling specifications, see Paper handling on page 10 and Media specifications on page 10.

Verify that you have specified an appropriate page size in the scanning software.

Scan extra long documents

By default, the ADF accepts a stack of originals up to 300 x 420 mm (11.8 x 16.5 in). You can choose to scan pages up to 300 x 864 mm (11.8 x 34 in) through the ADF.

Use the following procedure to enable long-page scans in an HP Smart Document Scan software profile.

Enable long-page scans in an HP Smart Document Scan software profile

1. Open the HP Smart Document Scan software.
2. Select a scan profile, and then click **Edit**.
3. On the **Scan** tab of the **Profile Settings** dialog box, click **Custom** in the **Size** drop-down list, and then type the actual page dimensions, up to 300 x 864 mm (11.8 x 34 in), in the **Width** and **Height** boxes.

NOTE: In other scanning software, the page-size settings are on the **Layout** tab of the ISIS or TWAIN **Advanced Settings** dialog box.

Some scanning and destination software (including the Kofax VirtualReScan driver) might not support all of the page sizes that the scanner accepts.

HP recommends scanning long pages individually at a resolution of 300 dpi or lower.

Disable misfeed (multipick) detection

The Misfeed (Multipick) Detection feature stops the scan or copy process if it senses that multiple pages are fed into the scanner at one time. This feature is enabled by default; however, you can disable it if you want.

Disable the misfeed (multipick) detection feature in an HP Smart Document Scan software profile

1. Open the HP Smart Document Scan software.
2. Select a scan profile, and then click **Edit**.

3. On the **Scan** tab of the **Profile Settings** dialog box, click **Advanced Settings**.
4. On the **More** tab of the **Properties** dialog box, clear the **Enable** check box.

NOTE: To disable the Misfeed (Multipick) Detection feature in another scanning software, navigate to the ISIS or TWAIN **Advanced Settings** dialog box. On the **More** tab, clear the **Enable** check box.

ADF does not feed paper

- The ADF access doors (jam door 1 and jam door 2) might not be securely latched. Open the ADF access doors, and then close the doors by pressing firmly.
- A problem with the ADF hardware might exist. Try the following:
  - **a.** Disconnect the USB cable and the power cable from the scanner. Check that the power cable is still connected to the power source.
  - **b.** Make sure that the ADF has at least one piece of paper in the input tray.
  - **c.** Reconnect the power cable to the scanner, and then turn the scanner on.
  - **d.** Try to scan another page through the ADF.

Solve image-quality problems

Image defects

These examples identify the most common image-quality problems. If you still have problems after trying the suggested solutions, contact HP customer support.

Table 6-22 Image defect examples

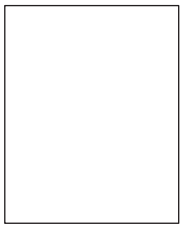
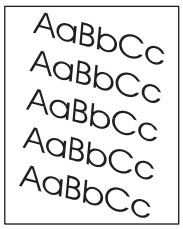
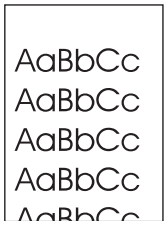
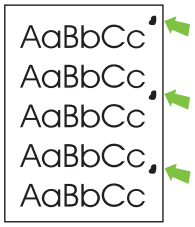
Problem	Image example	Solution
Scanned image is all black or all white.		• When scanning with the ADF, check the paper orientation. • When scanning from the scanner glass, make sure that the item you are trying to scan is placed face down on the glass and the ADF is closed.
Scanned image is skewed.		• When scanning with the ADF, make sure that the paper guides touch the edges of the original. Make sure that all documents are the same size. • When scanning from the scanner glass, straighten the original on the scanner glass, and then scan again.
Scanned image is cut off.		By default, the scanner can scan paper that is up to 420 mm (16.5 in) long. If the document is longer, the end of the document is not included in the scanned image. Verify that you have specified an appropriate page size in the scanning software. See The bottom of the scanned image is cut off on page 280.
Scanned image contains repetitive defects.		A component might be need dirty, damaged, or past its expected life. See Clean the ADF on page 24, Repetitive-image-defect ruler on page 270 , or Parts life expectancy on page 22.

Table 6-22 Image defect examples (continued)

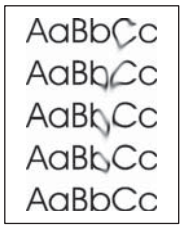
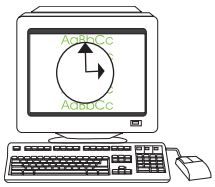
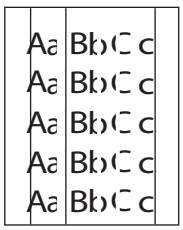
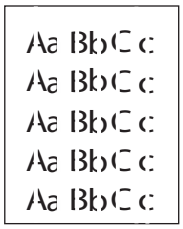
Problem	Image example	Solution
Scanner scans only one side of a double-sided page.		• For single-pass duplex scanning, scan pages through the ADF. • Select the **Duplex** setting in the scanning or copy software.
Scanned image is fuzzy.		For images scanned by using the ADF, check the following: **1.** Verify that the document original is not fuzzy. **2.** Check for any obstructions in the scanner paper path and make sure that the paper guides are positioned appropriately. Try another scan. **3.** If the scanned image is still of poor quality, clean the ADF. See Clean the ADF on page 24. For images scanned by using the scanner glass, check the following: **NOTE:** It is important that the item you scan comes in close contact with the scanner glass. **1.** Verify that the document original is not fuzzy. **2.** Check to see that the item is in full contact with the scanner glass. **3.** If the scanned image is still of poor quality, clean the scanner glass. See Clean the scanner glass on page 27.
Scanner is scanning items very slowly.		• If you are scanning to edit text, the optical character recognition (OCR) software program causes the scanner to scan more slowly, which is normal. Wait for the item to scan. • The resolution might be set too high. Reset the resolution to a lower level in the scanning software.
Scanned images contain streaks or scratches.		• Check that the originals are clean and unwrinkled. • Clean the ADF or the scanner glass. See Clean the ADF on page 24 or Clean the scanner glass on page 27. • Replace the separation pad and the feed roller. See Pickup-roller assembly on page 47 or Separation-pad assembly on page 50.

Table 6-22 Image defect examples (continued)

Problem	Image example	Solution
Vertical white stripes appear on the printed page.		• The destination printer might be out of toner or ink. Scan a different original to the same printer to see if the issue lies with the printer. • If the second original has the same problem, clean the ADF or the scanner glass. See Clean the ADF on page 24 or Clean the scanner glass on page 27.
Scanned image has poor contrast.		• Try filtering out color from the document. See Filter out color from a document (color dropout) on page 285. • Change the background color when using the ADF. See Set the background color for scans from the ADF on page 284.

Set the background color for scans from the ADF

When you scan from the ADF, you can choose a white or black background for the scan. When the scan background contrasts with the color at the outside edges of the document, the scanning software is better able to distinguish the edges of the scanned document. For example, use the black background to scan a document that is printed on white paper.

Select the scan background color in an HP Smart Document Scan software profile

1. Open the HP Smart Document Scan software.
2. Select a scan profile, and then click **Edit**.
3. On the **Scan** tab of the **Profile Settings** dialog box, click **Advanced Settings**.
4. On the **More** tab of the **Properties** dialog box, select a color from the **ADF Background** drop-down list.

NOTE: To set the scan background color in another scanning software, navigate to the ISIS or TWAIN **Advanced Settings** dialog box. On the **More** tab, select a color from the **ADF Background** drop-down list.

Filter out color from a document (color dropout)

You can filter out a dark background from the image content, for example black text on green paper or red instructions on a form. Removing colors from the scan reduces the scan file size. You can select to filter out a color channel (red, green, or blue) or up to three specific colors. For specific colors, the sensitivity setting controls how closely a scanned color must approximate the specified color.

Select colors to eliminate from a scan in an HP Smart Document Scan software profile

1. Open the HP Smart Document Scan software.
2. Select a scan profile, and then click **Edit**.
3. On the **Scan** tab of the **Profile Settings** dialog box, click **Advanced Settings**.
4. On the **Color Dropout** tab of the **Properties** dialog box, specify the color-dropout settings.

NOTE: For 24-bit color scans, you must select specific colors to be dropped out.

To filter out color in another scanning software, navigate to the ISIS or TWAIN **Advanced Settings** dialog box. On the **Color Dropout** tab, specify the color-dropout settings.

For more information about the color-dropout settings, see the online help for the scanning software that you are using.

Solve performance problems

Table 6-23 Solve performance problems

Problem	Solution
Scanner will not turn on.	Verify that power is being supplied to the scanner.
	The scanner power switch might be turned off. Be sure that the power switch located on the back of the scanner is turned on.
	The scanner might have been unplugged. Check to see that the power cable has not become disconnected from the scanner or unplugged from the power source.
Scanner is scanning items very slowly.	If you are scanning to edit text, the optical character recognition (OCR) software program causes the scanner to scan more slowly, which is normal. Wait for the item to scan.
	The resolution might be set too high. Reset the resolution to a lower level. Change the resolution in the scanning software.
Scanner lamp stays on. **NOTE:** The scanner lamp does not turn off when paper is in the ADF input tray.	The scanner lamp should time out and turn off automatically after a period of inactivity (about 15 minutes). If the scanner lamp remains on after a long period of inactivity, turn off the scanner, wait 30 seconds, and then turn the scanner back on. If the scanner lamp remains on after a long period of inactivity, turn off the scanner, wait 30 seconds, and then turn the scanner back on.
Scanner does not scan right away.	Make sure that the power switch on the right side of the scanner is turned on.
	If the scanner has not been used for a while, the scanner lamp might need to go through a warm-up period before scanning can begin. If the scanner lamp needs to warm up, it takes a moment after starting the software or pressing a scanner button for scanning to begin. **NOTE:** You can enable Instant Lamp On mode in the HP Scanner Tools Utility.
Scanner scans only one side of a double-sided page.	• For single-pass duplex scanning, scan pages through the ADF. • Select the **Duplex** setting in the scanning or copy software.
Scanned pages are out of order at the scan destination.	Insert a multiple-page document with the printed first page of the document facing up and with the top or left edge of the document pointing into the feeder.
Scanned pages are missing at the scan destination.	When the ADF is used, pages that stick together are scanned as one item. The hidden pages are not scanned. Enable Misfeed (Multipick) Detection to stop the scan or copy process if multiple pages are fed into the scanner at one time. See Disable misfeed (multipick) detection on page 280 (on the **More** tab, select the **Enable** check box).
Scan files are too large.	• Verify the scan resolution setting.

Table 6-23 Solve performance problems (continued)

Problem	Solution
	NOTE: Scanning at a higher resolution than necessary creates a larger file with no additional benefit. ◦ 200 dpi is sufficient for storing documents as images. ◦ For most fonts, 300 dpi is sufficient for using optical character recognition (OCR) to create editable text. ◦ For Asian fonts and small fonts, 400 dpi is the recommended resolution. • Color scans create larger files than black and white scans. • If you are scanning a large number of pages at one time, consider scanning fewer pages at a time to create more, smaller files. • Use the Kofax VirtualReScan software to process the scanned data. Kofax VirtualReScan compresses the data, which can result in a smaller file.
The imprinter is not printing or the print quality is poor. **NOTE:** To use the imprinter, load originals in the ADF. The imprinter cannot print on pages placed on the scanner glass.	If you reset the ink level in the HP Scanner Tools Utility the last time that you replaced the imprinter cartridge, you will receive imprinter status alerts when the ink level is running low. If you did not reset the ink level at the time that you replaced the ink cartridge, you might receive erroneous imprinter status alerts or the imprinter might run out of ink before the HP Scanner Tools Utility reports that the ink level is low. 1. Verify that the **Enable Imprinting** check box is selected in the scanning software. 2. If the imprinter ink is smearing or leaving blobs of ink on the paper, remove the print cartridge, and then gently wipe the copper contacts of the print cartridge with a clean, damp, lint-free cloth. Reinstall the imprinter cartridge, but do not reset the ink level in the HP Scanner Tools Utility. 3. Verify that the cartridge stall latch holds the imprinter cartridge firmly in place. See Imprinter cartridge on page 42. 4. Verify that the imprinter is positioned at one of the predefined locations that is inside the width of the paper as it is fed through the ADF. 5. Clean and test the imprinter. a. Press the Tools button on the scanner front panel to open the HP Scanner Tools Utility. Click the **Imprinter** tab, and then click **Clean Imprinter**. b. Make sure that the ADF has at least one piece of paper in the input tray. c. In the HP Scanner Tools Utility, click **Test Imprinter**. d. If the imprinter print quality is good, continue scanning. Otherwise, replace the imprinter cartridge.

Table 6-23 Solve performance problems (continued)

Problem	Solution
Control-panel buttons do not operate or behave unexpectedly. **NOTE:** The Scan and Copy button settings can be changed in the HP Scanner Tools Utility. You cannot change the settings for the Cancel, Tools, or **Power Save** buttons.	If the buttons do not function, see Control-panel buttons on page 240. If the control-panel buttons are behaving unexpectedly, try the following procedure: **NOTE:** After each step, press a button to see if it is working correctly. If the problem persists, proceed with the next step. 1. On the **Buttons** tab of the HP Scanner Tools Utility, determine the associations for the **Scanner Front Panel Buttons**. If necessary, change the software that is assigned to a button. 2. Verify that the expected program is installed on the computer by looking at the **Start** menu. If necessary, install the program. 3. If the problem persists, the buttons might be assigned outside of the HP Scanner Tools Utility. Try the following procedure: **a.** Open **Control Panel**, select **Scanners and Cameras**, and then select your scanner model from the list. **b.** Examine the buttons settings for your scanner. • Make sure that the **Start this program** option is selected and that the correct application is selected in the drop-down list. • Windows 2000: Make sure that the **Disable Device Events** option is not selected. • Windows XP and Vista: Make sure that the **Take No Action** option is not selected.
Wrong profile is used when the Scan button is pressed. **NOTE:** For information about assigning control-panel button functions, see your product user guide.	• If you are using the HP Smart Document Scan software, use the HP Scanner Tools Utility to determine which HP Smart Document Scan software profile is assigned to the Scan button. If necessary, reset the profile assigned to the button. **NOTE:** You can also assign an HP Smart Document Scan software profile to the Copy button. • If you are using other scanning software, see the online help for that program.

Solve connectivity problems

Solve direct-connect problems

If you have connected the product directly to a computer, check the USB cable.

- Verify that the cable is connected to the computer and to the product.
- Verify that the cable is not longer than 2 meters (6 feet). Replace the cable if necessary.
- Verify that the cable is working correctly by connecting it to another product. Replace the cable if necessary.
- For more information, see Check the USB connection on page 239.

7 Parts and diagrams

- Ordering parts and supplies
- Service part numbers
- How to use the parts diagrams and lists
- ADF components
- Flatbed scanner assemblies
- Alphabetical parts list
- Numerical parts list

Ordering parts and supplies

1. Visit the HP scanner support Web site at www.hp.com/support.
2. Select your country/region, and then select your language.
3. Enter the scanner model number, and then press **Enter**.

Service part numbers

N9120 documentation

Table 7-1 N9120 documentation

Part	Part number	Description
Getting Started Guide (includes setup poster and warranty information)	L2683-90009	English/Bahasa Ind/Thai
	L2683-90010	English/French/Spanish/Portuguese
	L2683-90011	German
	L2683-90012	German, Italian, French, Dutch
	L2683-90013	Spanish, Catalan, Portuguese, Greek, Polish
	L2683-90014	English, Arabic, French, Portuguese
	L2683-90015	Bulgarian, Croatian, Romanian, Slovenian
	L2683-90016	Turkish, Czech, Slovakian, Hungarian
	L2683-90017	Estonian, Lithuanian, Latvian, Hebrew, Russian
	L2683-90018	Swedish, Finnish, Norwegian, Danish
	L2683-90019	English/Simp Chinese
	L2683-90020	English/Trad Chinese/Korean

Imprinter cartridges

Table 7-2 Imprinter cartridges

Part	Part number	Description
Imprinter cartridge	HP 51604A	Black
	HP 51605B	Blue
	HP 51605R	Red

Power Cords

Table 7-3 Power cords

Part	Part number	Description
Power cord	8121-0740	PWR-CORD OPT-903 3-COND 1.9-M-LG (NA, Mexico)
	8121-0731	PWR-CORD OPT-902 3-COND 1.9-M-LG (Europe, Korean)
	8121-0733	PWR-CORD OPT-912 3-COND 1.9-M-LG (Denmark)
	8121-0739	PWR-CORD OPT-900 3-COND 1.9-M-LG 5A-FUS (UK, HK, Sing)
	8121-1004	PWR-CORD OPT-919 3-COND 1.9-M-LG ROHS (Israel)
	8121-0738	PWR-CORD OPT-906 3-COND 1.9-M-LG (Switzerland)
	8121-0737	PWR-CORD OPT-917 3-COND 1.9-M-LG (South Africa)
	8121-0964	PWR-CORD OPT-934 3-COND 1.9-M-LG ROHS (Taiwan)
	8121-0742	PWR-CORD-OPT-922 3-COND 1.9-M-LG (China)
	8121-0734	PWR-CORD OPT-927 3-COND 1.9-M-LG (Philippines/Thailand)
	8121-0837	PWR-CORD OPT-901 3-COND 1.9-M-LG (Australia)
	8121-0564	PWR-CORD OPT-923 3-COND 1.9-M-LG (India)
	8121-0729	PWR-CORD OPT-920 3-COND 1.9-M-LG (Argentina)
	8121-0735	PWR-CORD OPT-921 3-COND 1.9-M-LG (Chile)
	8121-1071	PWR-CORD OPT-940 3-COND 1.9-M-LG (Brazil)

Maintenance kits

Table 7-4 Maintenance kits

Part	Part number	Description
Package	L2683-00001	Carton - HP p/n: L2683-00001
	L2683-00002	Bottom Tray - HP p/n: L2683-00002
	L2683-60003	Cushion - Bottom Assy - HP p/n: L2683-60003
	L2683-60004	Cushion - Top Assy - HP p/n: L2683-60004
	L2683-80009	ADF tray pad - HP p/n: L2683-80009
	L2683-80008	Pad platen - HP p/n: L2683-80008
	9223-0831	Corru Clips - HP p/n: 9223-0831

Field replaceable units (FRUs)

Table 7-5 Field replaceable units (FRUs)

Location	Part number	Description
ADF	L2684-69001	Scanjet ENT Flow N9120 ADF only
ADF	PF2307-SVPNI	Entire ADF with ADF alignment pins / (preliminary) 6 unit per pallet
ADF	PF2307-GSPNI	Entire ADF with ADF alignment pins made in japan / (preliminary) 6 unit per pallet
ADF	PF2307K201NI	ADF alignment screws
ADF	PF2307K253NI	A4 paper-stop
ADF	PF2307K254NI	Pickup-roller cover
ADF	PF2307K202NI	ADF jam door 3
ADF	PF2307K203NI	ADF input-tray assembly
ADF	PF2307K204NI	Paper present and imprinter PCA holder
ADF	PF2307K205NI	Imprinter PCA
ADF	PF2307K206NI	Paper-present-sensor arm
ADF	PF2307K207NI	Input-tray-elevator arm and attachment screw
ADF	PF2307K208NI	ADF shingle wall with Mylar strip and separation pad and spring
ADF	PF2307K209NI	Lower multi-pick sensor cover
ADF	PF2307K210NI	ADF top corner inner paper path guide
ADF	PF2307K211NI	ADF bottom corner, inner paper path guide
ADF	PF2307K212NI	ADF bottom corner, outer paper path guide
ADF	PF2307K213NI	ADF exit inner paper path guide
ADF	PF2307K214NI	ADF front cover
ADF	PF2307K215NI	ADF back cover
ADF	PF2307K216NI	ADF output tray and cover
ADF	PF2307K217NI	ADF bottom cover
ADF	PF2307K218NI	ADF exit-motor assembly
ADF	PF2307K219NI	ADF input-tray lift-motor assembly
ADF	PF2307K220NI	ADF feed-motor assembly (includes pulley)
ADF	PF2307K221NI	ADF pick-motor assembly (includes pulley)
ADF	PF2307K222NI	ADF motor fan and ADF carriage fan
ADF	PF2307K223NI	ADF background-solenoid assembly

Table 7-5 Field replaceable units (FRUs) (continued)

Location	Part number	Description
ADF	PF2307K224NI	Upper multi-pick sensor PCA
ADF	PF2307K225NI	Lower multi-pick sensor PCA
ADF	PF2307K226NI	Sensor used in numerous ADF applications
ADF	PF2307K227NI	Imprinter carriage and FFC
ADF	PF2307K228NI	Imprinter paper-present sensor
ADF	PF2307K229NI	ADF controller PCA
ADF	PF2307K230NI	Exit 1 and Exit 2 sensor arms
ADF	PF2307K231NI	ADF carriage wide flex cable
ADF	PF2307K232NI	ADF carraige narrow flex cable
ADF	PF2307K233NI	Pickup-roller assembly
ADF	PF2307K234NI	Pick-up roller spring
ADF	PF2307K235NI	Separation-pad assembly
ADF	PF2307K236NI	Separation-pad spring
ADF	PF2307K237NI	ADF base reflector
ADF	PF2307K260NI	Flatbed scan position sensor arm
Scanner	L2683-69002	Scanjet ENT Flow N9120 w/ADF
Scanner	L2683-69003	Scanjet ENT Flow N9120 w/ADF China
Scanner	L2683-69005	Scanjet ENT Flow N9120 Base Only
Scanner	L2683-69004	Scanjet ENT Flow N9120 w/ADF US GOV
Scanner	IR4067-WSPNI	Scanner and ADF without any lower-level materials (i.e., power cords, manuals, CDs, USB cable) including ADF alignment pins. / (preliminary) 6 unit per pallet
Scanner	IR4067-SVPNI	Entire flatbed scanner with ADF alignment pins / (preliminary) 6 unit per pallet
Scanner	IR4067-GWSNI	G-SKU scanner and ADF without any lower-level materials (i.e., power cords, manuals, CDs, USB cable) including ADF alignment pins. / (preliminary) 6 unit per pallet
Scanner	IR4067-GSPNI	G-SKU entire flatbed scanner with ADF alignment pins / (preliminary) 6 unit per pallet
Scanner	PF2307K201NI	ADF alignment screws
Scanner	IR4067K201NI	Scanner control-panel cover
Scanner	IR4067K202NI	Control-panel PCA
Scanner	IR4067K203NI	Scanner back cover

Table 7-5 Field replaceable units (FRUs) (continued)

Location	Part number	Description
Scanner	IR4067K204NI	ADF power-cable assembly
Scanner	IR4067K205NI	Scanner controller PCA
Scanner	IR4067K206NI	Scanner carriage fan and motor fan
Scanner	IR4067K207NI	Scanner carriage motor
Scanner	IR4067K208NI	Carriage-motor cable
Scanner	IR4067K209NI	Power switch and power receptacle assembly
Scanner	IR4067K210NI	Power supply PCA
Scanner	IR4067K211NI	Fan filter
Scanner	IR4067K212NI	Scanner back-filter cover

How to use the parts diagrams and lists

The figures in this chapter show the major subassemblies in the product 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, it is not a FRU.

NOTE: If the product is owned by the U.S. government, the ADF and flatbed scanner have a special serial-number designation. Replacement components for these products must have a similar serial-number designation.

In this manual, the abbreviation “PCA” stands for “printed circuit-board assembly.” A component described as a PCA might consist of a single circuit board or a circuit board plus other parts, such as cables and sensors.

ADF components

Figure 7-1 ADF assemblies (1 of 14)

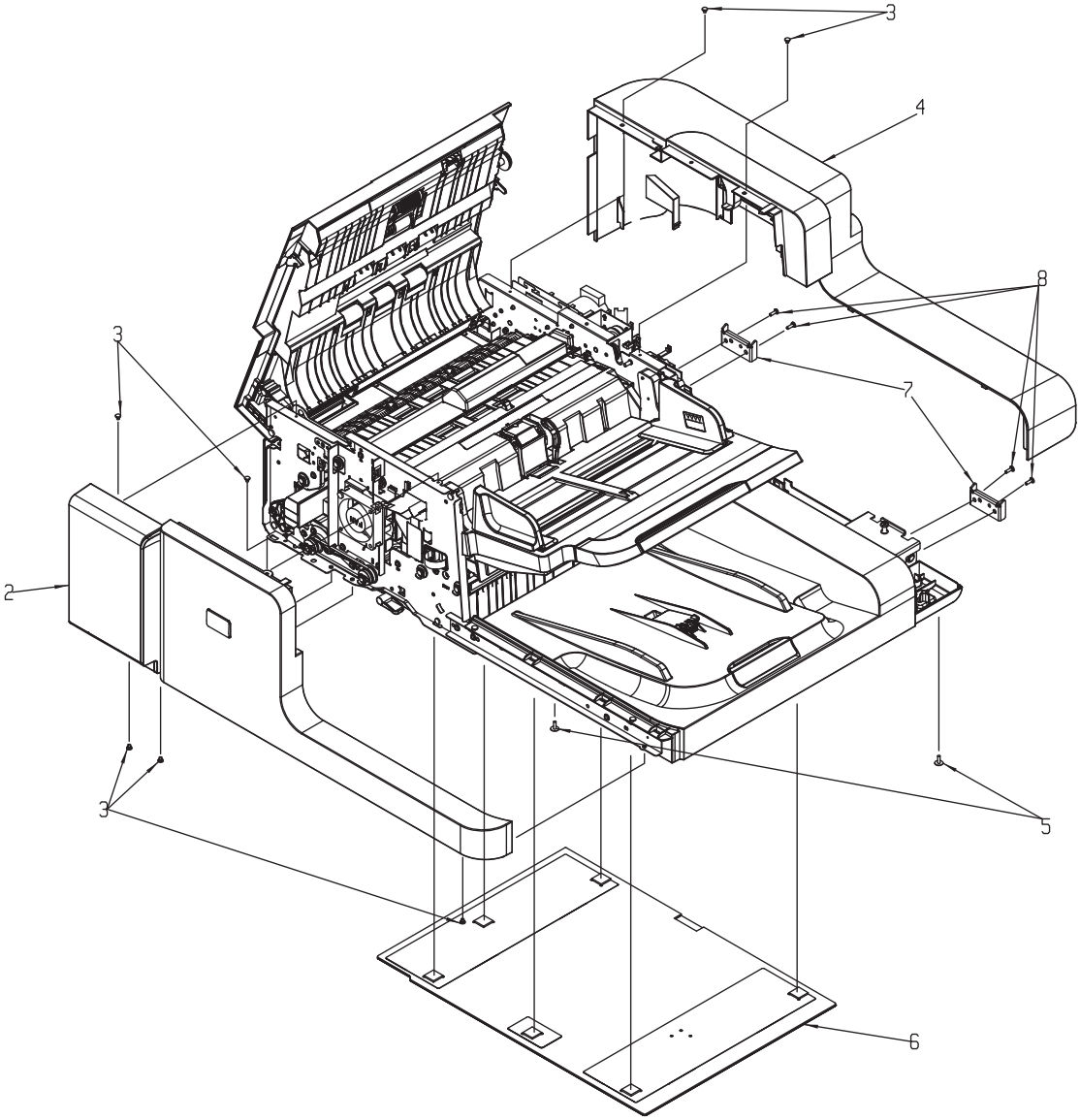


Table 7-6 ADF assemblies (1 of 14)

Ref	Description	Part number	Qty
2	ADF front cover	PF2307K214NI	1
3	Screw	PF2307K239NI	7
4	ADF back cover	PF2307K215NI	1
5	Screw	NS-SCR00084	2
6	ADF base reflector	PF2307K237NI	1
7	Hinge limiter	PF2307P147	2
8	Screw	040080FNBI	4

Figure 7-2 ADF assemblies (2 of 14)

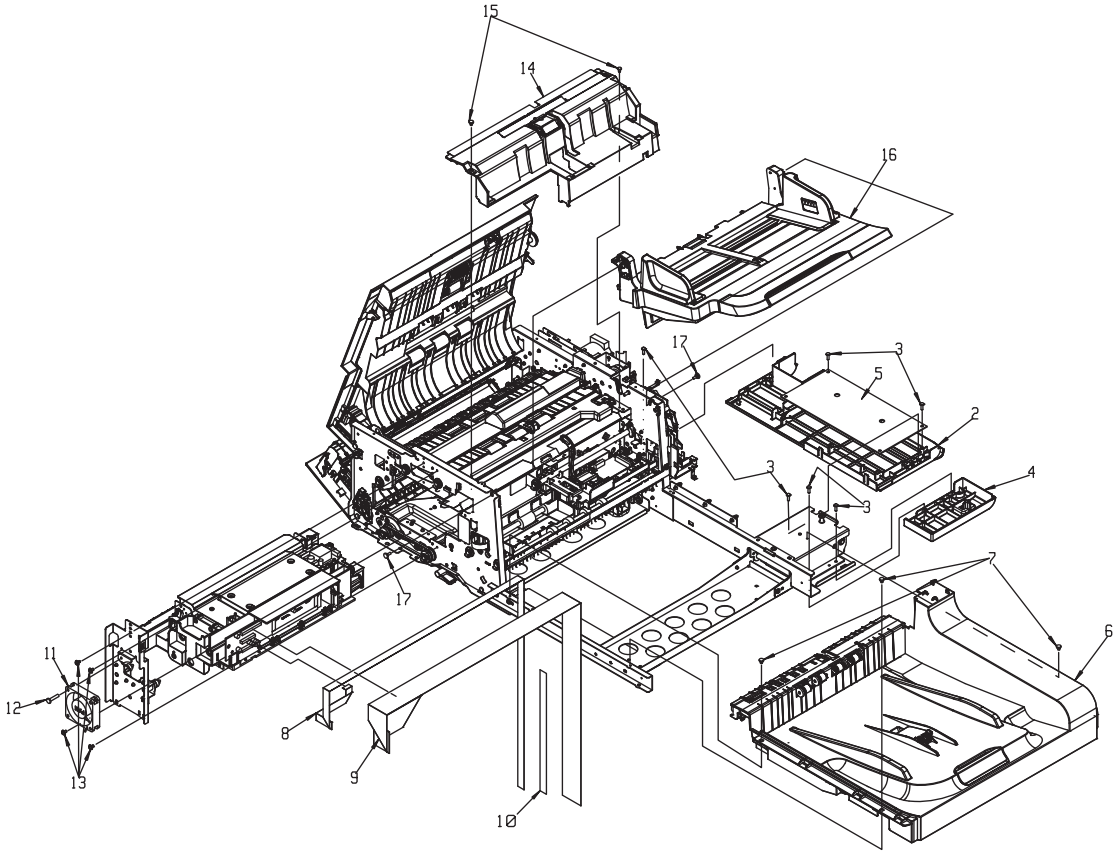


Table 7-7 ADF assemblies (2 of 14)

Ref	Description	Part number	Qty
2	Bottom cover	PF2307K217NI	1
3	Screw	PF2307K246A	6
5	ADF controller PCA	PF2307K229NI	1
6	ADF output tray	PF2307K216NI	1
7	Screw	PF2307K248NI	3
8	Flat flexible cable	PF2307K231NI	1
9	Flat flexible cable	PF2307K232NI	1
10	FFC separation shield	PF2307P392	1
11	ADF carriage fan	PF2307K222NI	1
12	Screw	PF2307K245NI	1
13	Screw	IR4067K214NI	4
14	ADF shingle wall	PF2307K208NI	1
15	Screw	IR4067K220NI	1
16	ADF input tray assembly	PF2307K203NI	1
17	Screw	PF2307K241NI	2

Figure 7-3 ADF assemblies (3 of 14)

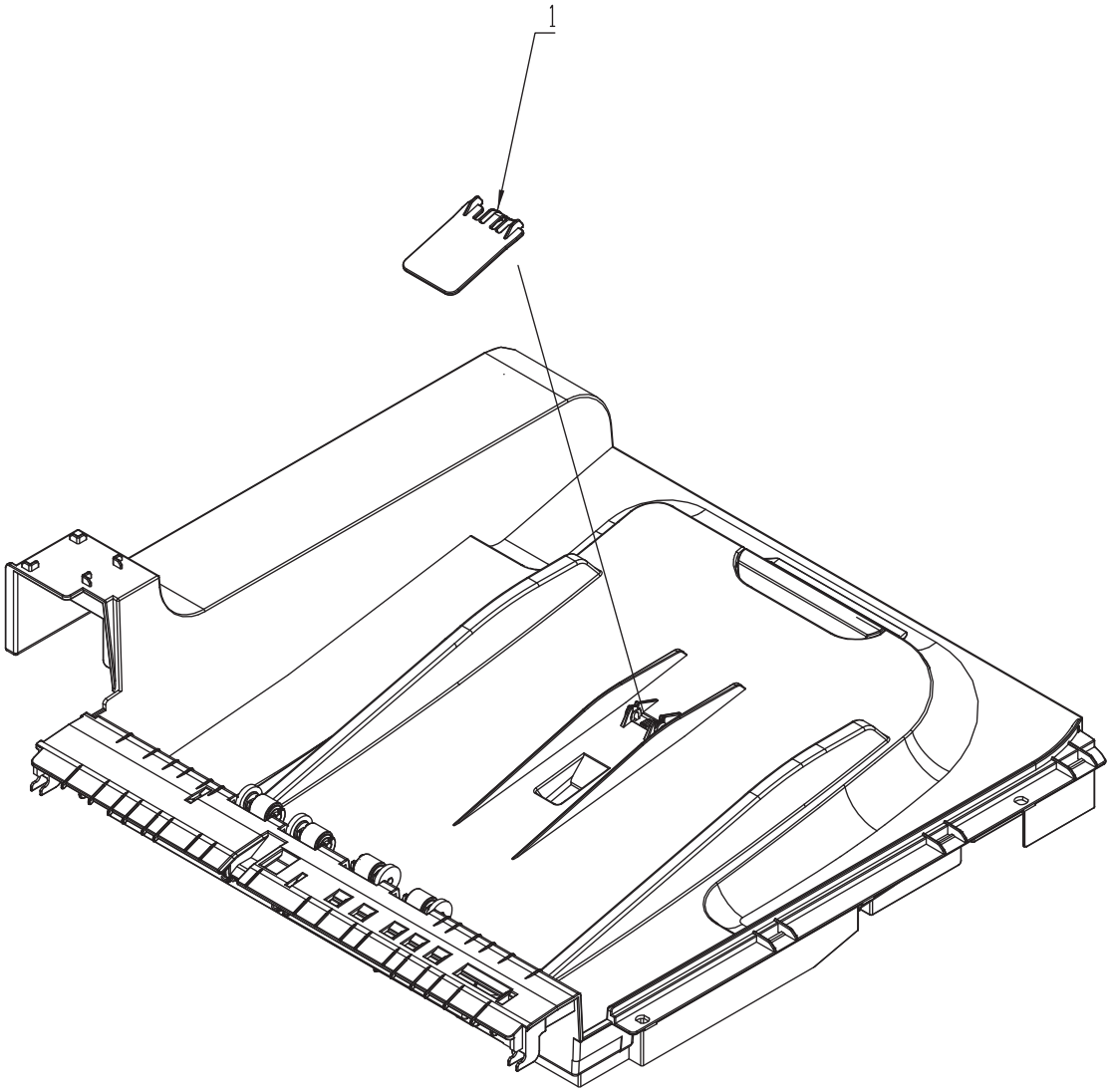


Table 7-8 ADF assemblies (3 of 14)

Ref	Description	Part number	Qty
1	A4 paper-stop	PF2307K253NI	1

Figure 7-4 ADF assemblies (4 of 14)

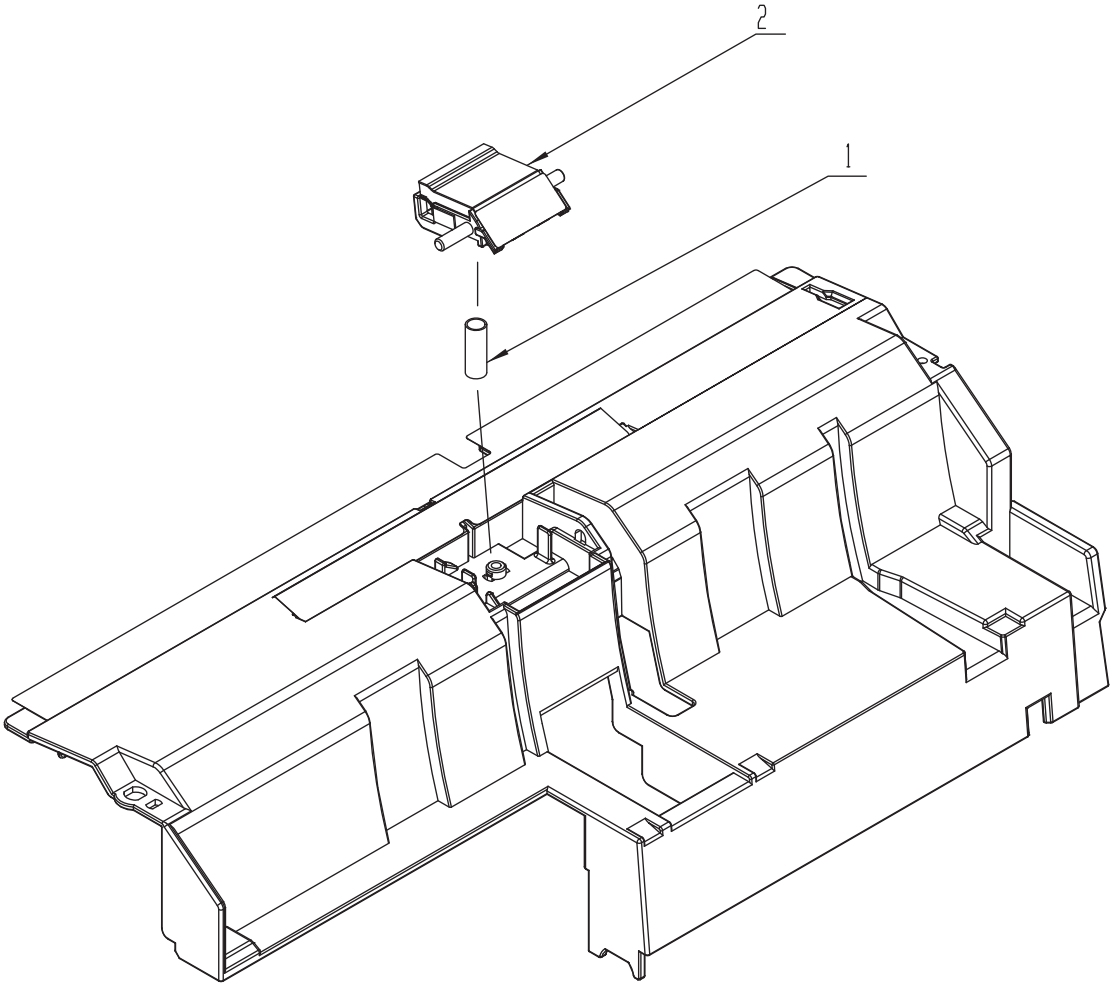


Table 7-9 ADF assemblies (4 of 14)

Ref	Description	Part number	Qty
1	Separation pad spring	PF2307K236NI	1
2	Separation pad assembly	PF2307K235NI	1

Figure 7-5 ADF assemblies (5 of 14)

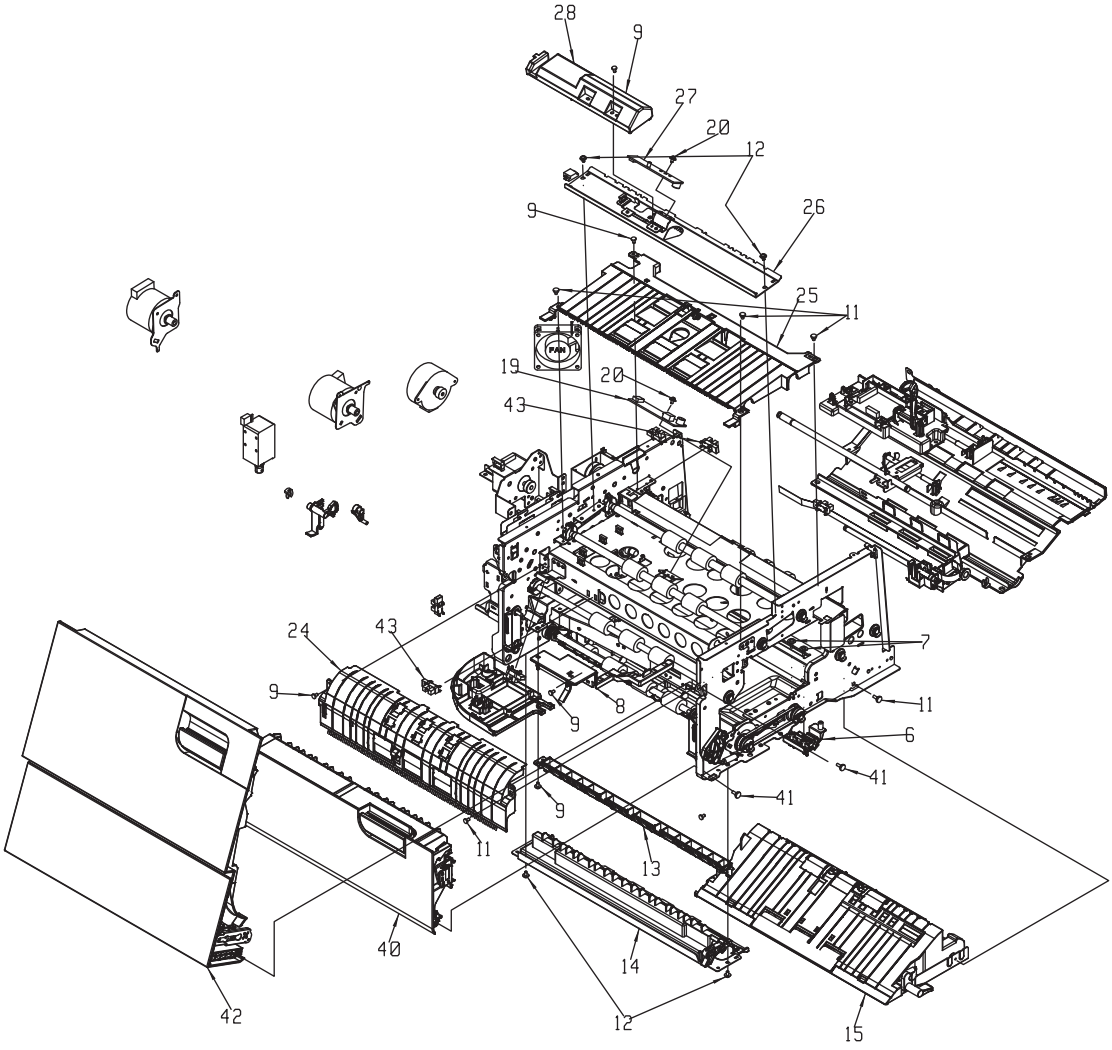


Table 7-10 ADF assemblies (5 of 14)

Ref	Description	Part number	Qty
6	Bracket	PF2307K010A	1
7	Screw	NS-SCR00084B	2
8	Flatbed scan position sensor bracket	PF2307K011	1
9	Screw	PF2307K239NI	6
11	Screw	PF2307K248A	8
12	Screw	IR4067K214NI	5
13	ADF bottom corner, inner paper path guide	PF2307K211NI	1
14	ADF bottom corner, outer paper path guide	PF2307K212NI	1
15	ADF jam door 3	PF2307K202NI	1
19	Lower multi-pick sensor PCA	PF2307K225NI	1
20	Screw	PF2307K239NI	1
24	ADF top corner inner paper path guide	PF2307K210NI	1
25	Lower multi-pick sensor cover	PF2307K209NI	1
26	Upper multi-pick sensor tray	PF2307K042	1
27	Upper multi-pick sensor PCA	PF2307K224NI	1
28	Upper multi-pick sensor cover	PF2307K240NI	1
28	Upper multipick sensor cover	PF2307P007	1
40	ADF jam door 2	PF2307K051	1
41	Screw	PF2307K241NI	2
42	ADF jam door 1	PF2307K058	1
43	Sensor	PF2307K226NI	4

Figure 7-6 ADF assemblies (6 of 14)

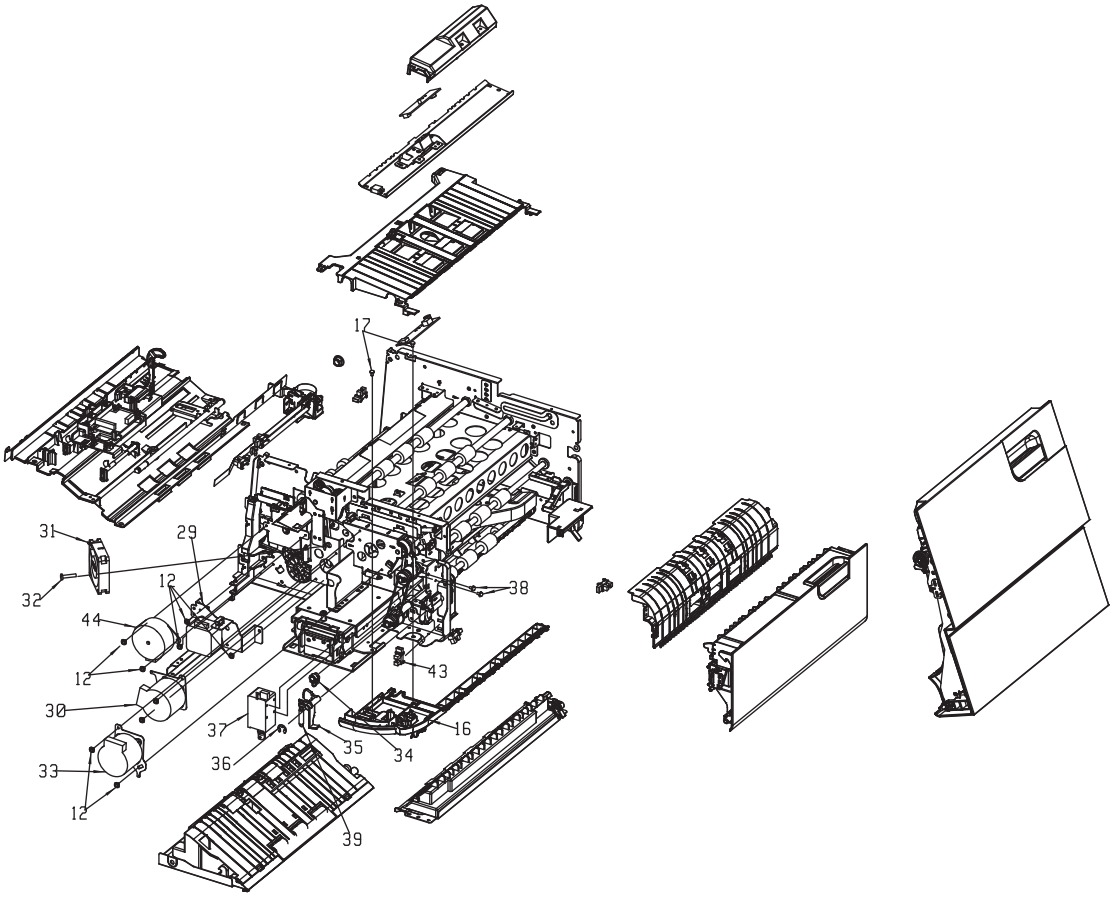


Table 7-11 ADF assemblies (6 of 14)

Ref	Description	Part number	Qty
12	Screw	IR4067K214NI	9
16	ADF bottom cover	PF2307K217NI	1
17	Screw	PF2307K246NI	2
29	ADF exit motor assembly	PF2307K218NI	1
30	ADF pick motor assembly	PF2307K221NI	1
31	ADF motor fan	PF2307K222NI	1
32	Screw	PF2307K245NI	1
33	ADF feed motor assembly	PF2307K220NI	1
34	Background solenoid assembly	PF2307K223NI	1
35	Background solenoid assembly	PF2307K223NI	1
36	Background solenoid assembly	PF2307K223NI	2
37	Background solenoid assembly	PF2307K223NI	1
38	Screws	PF2307K238NI	2
39	Background solenoid assembly spring	PF2307P350	1
43	Sensor	PF2307K226NI	4
44	ADF input-tray lift-motor assembly	PF2307K219NI	1

Figure 7-7 ADF assemblies (7 of 14)

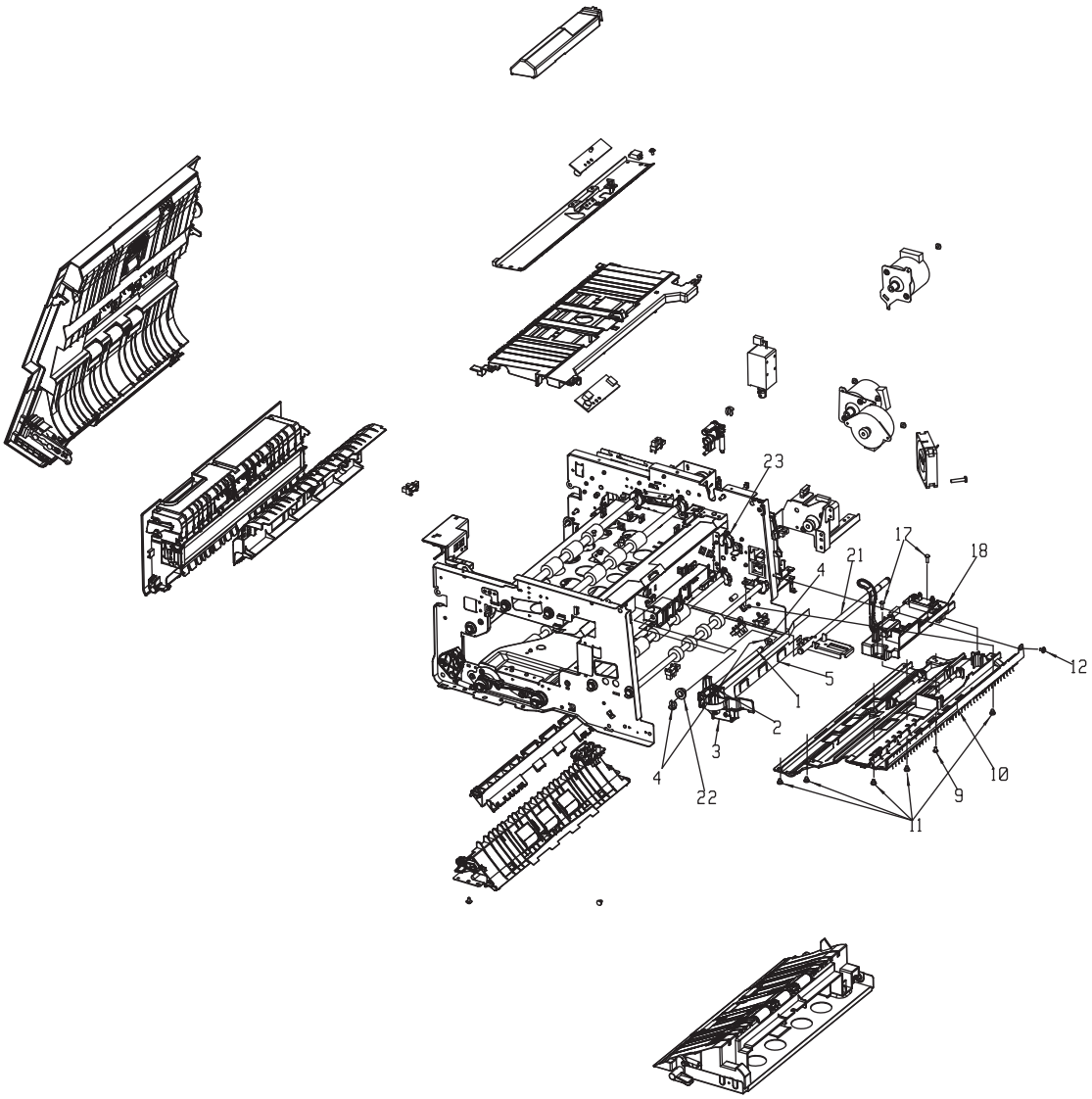


Table 7-12 ADF assemblies (7 of 14)

Ref	Description	Part number	Qty
1	Imprinter carriage rod	PF2307P229A	1
2	Imprinter cartridge holder clasp	PF2307P360A	1
3	Imprinter carriage frame and cable	PF2307K227NI	1
4	Clip	PF2307K250NI	2
5	Imprinter cable channel	PF2307P359C	1
10	ADF exit inner paper path guide	PF2307K213NI	1
17	Screw	NS-SCR00027	2
18	Paper present and imprinter PCA holder	PF2307K204NI	1
21	Input tray elevator arm	PF2307K207NI	1
22	Bushing	NS-MTL00017	2
23	Clip	PF2307K255NI	1

Figure 7-8 ADF assemblies (8 of 14)

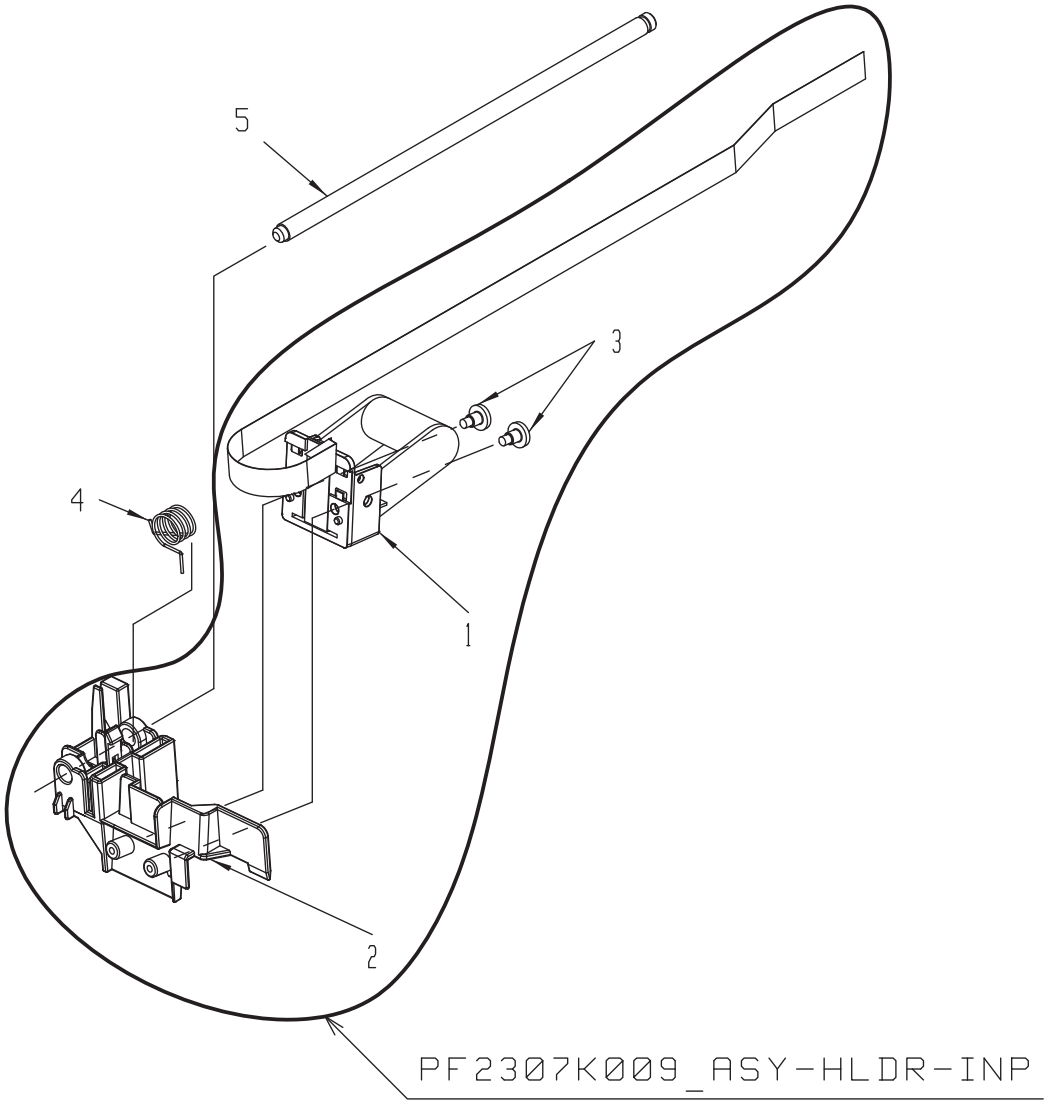


Table 7-13 ADF assemblies (8 of 14)

Ref	Description	Part number	Qty
1	Imprinter carriage latch	PF2307P680A	1
2	Imprinter carriage seat	PF2307P054B	2
3	Screw	026080FDBB	2
4	Spring	PF2307P360	1
5	Imprinter carriage guide	PF2307P229	1

Figure 7-9 ADF assemblies (9 of 14)

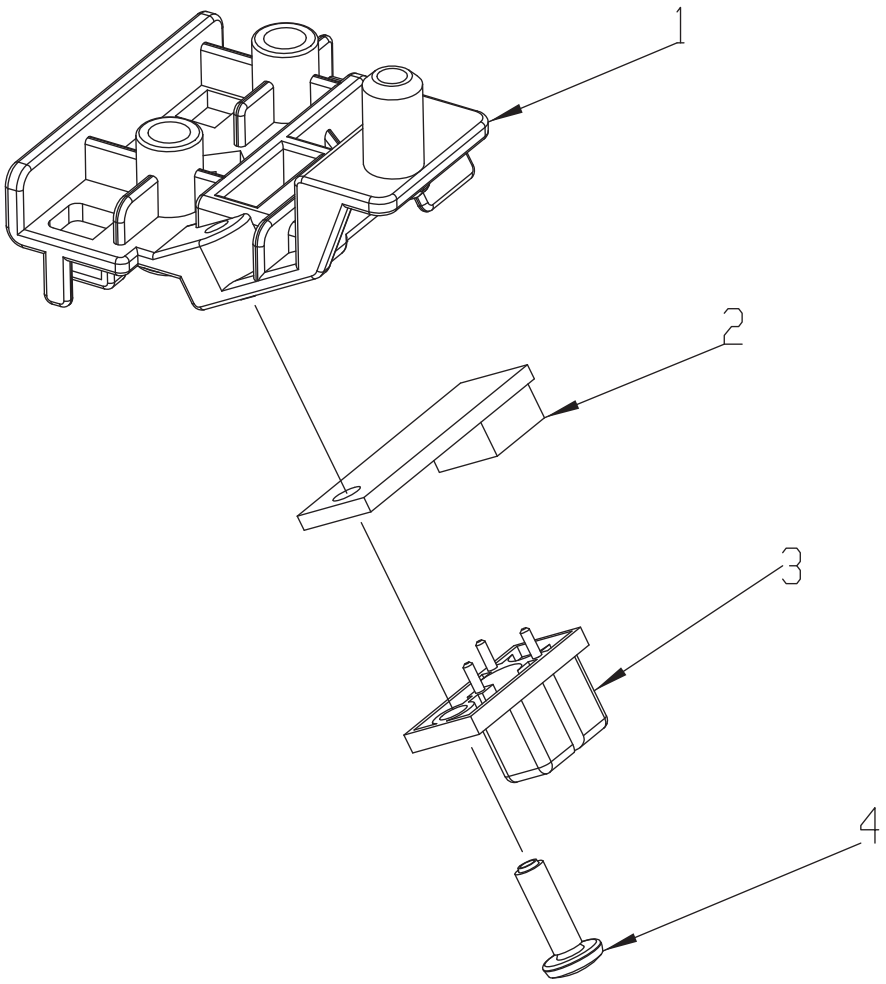


Table 7-14 ADF assemblies (9 of 14)

Ref	Description	Part number	Qty
1	Imprinter paper-present sensor holder	PF2307P055B	1
2	Imprinter sensor mount	PF2307K228NI	1
3	Imprinter paper-present sensor	PF2307K228NI	1
4	Screw	NS-SCR00027B	1

Figure 7-10 ADF assemblies (10 of 14)

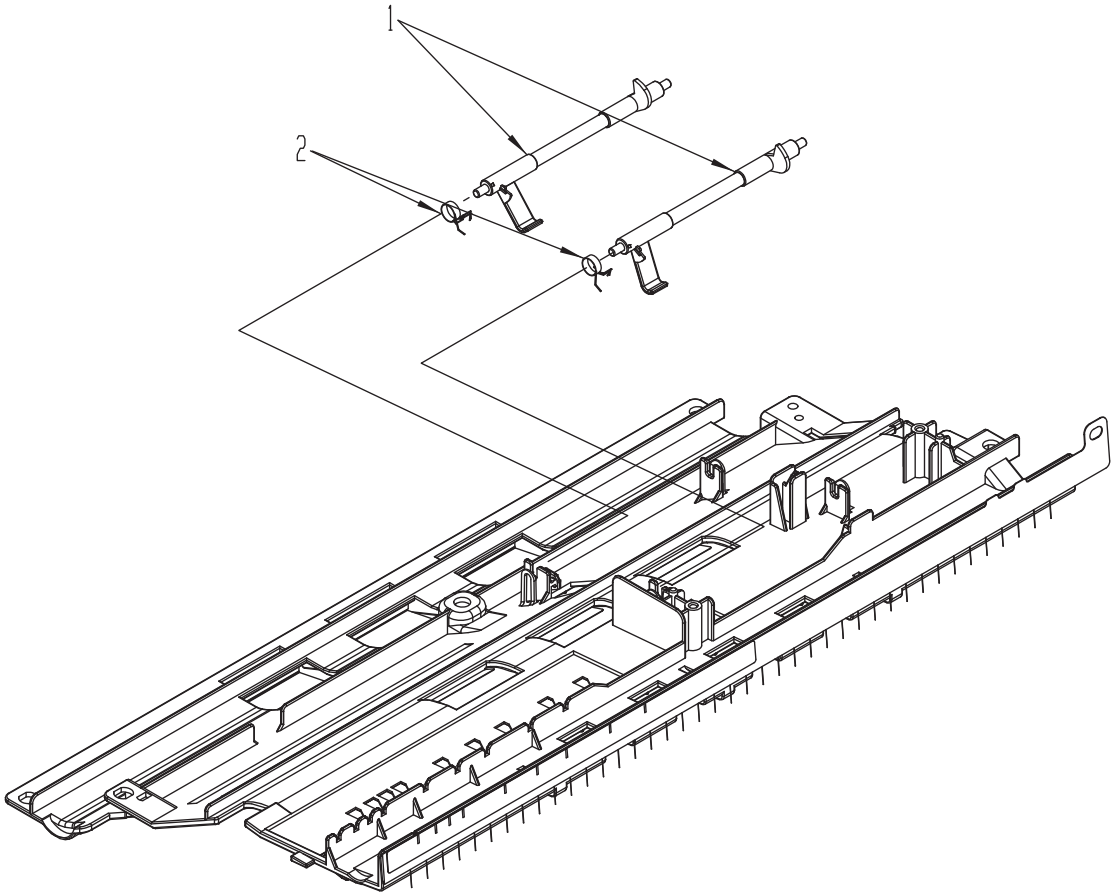


Table 7-15 ADF assemblies (10 of 14)

Ref	Description	Part number	Qty
1	Sensor arm	PF2307K230NI	2
2	Spring	PF2261P310C1	2

Figure 7-11 ADF assemblies (11 of 14)

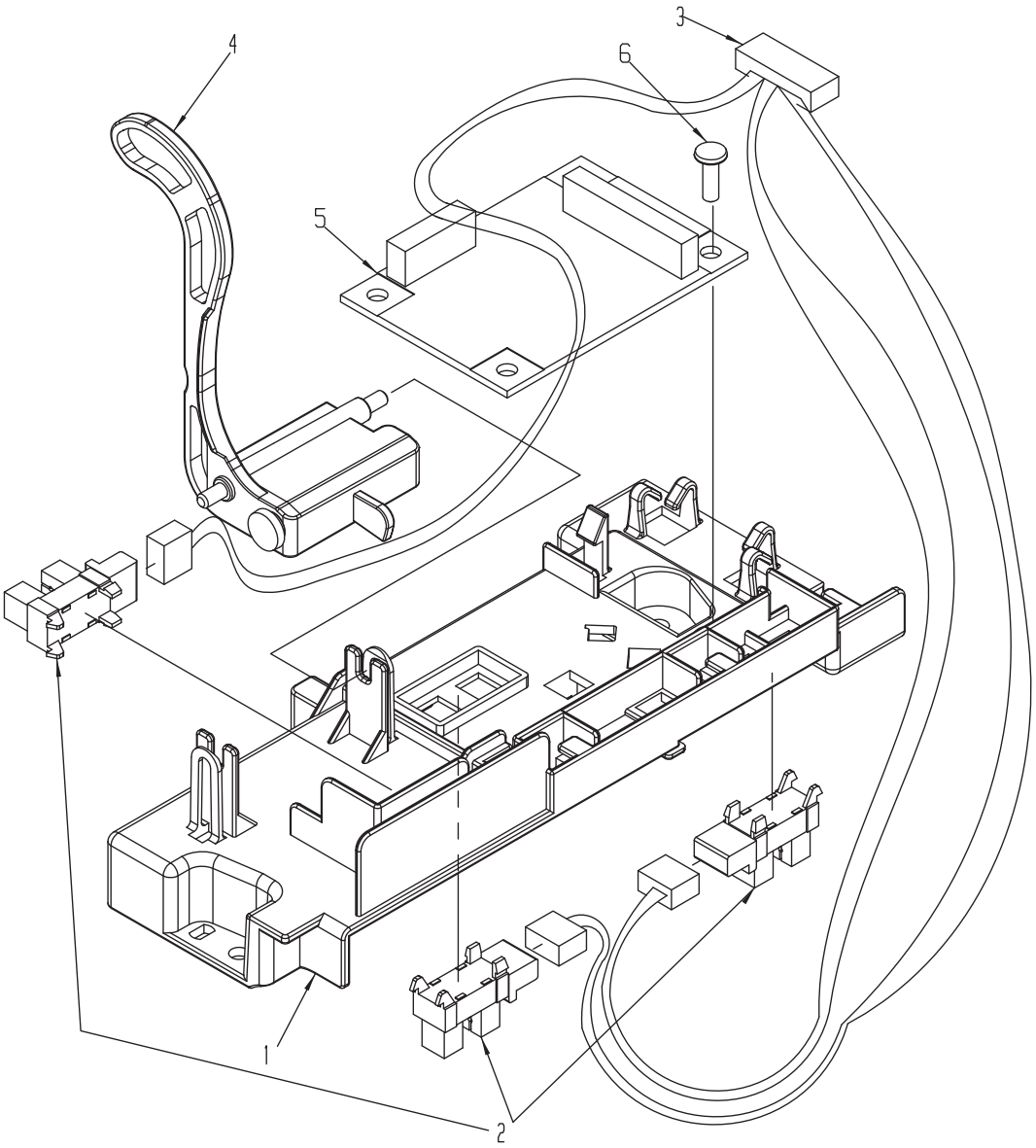


Table 7-16 ADF assemblies (11 of 14)

Ref	Description	Part number	Qty
1	Paper presence sensor and imprinter PCA holder	PF2307K204NI	1
2	Sensor	PF2307K226NI	3
3	Flat flexible cable	PF2307K627	1
4	Paper-present-sensor arm	PF2307K206NI	1
5	Imprinter PCA	PF2307K205NI	1
6	Screw	-	1

Figure 7-12 ADF assemblies (12 of 14)

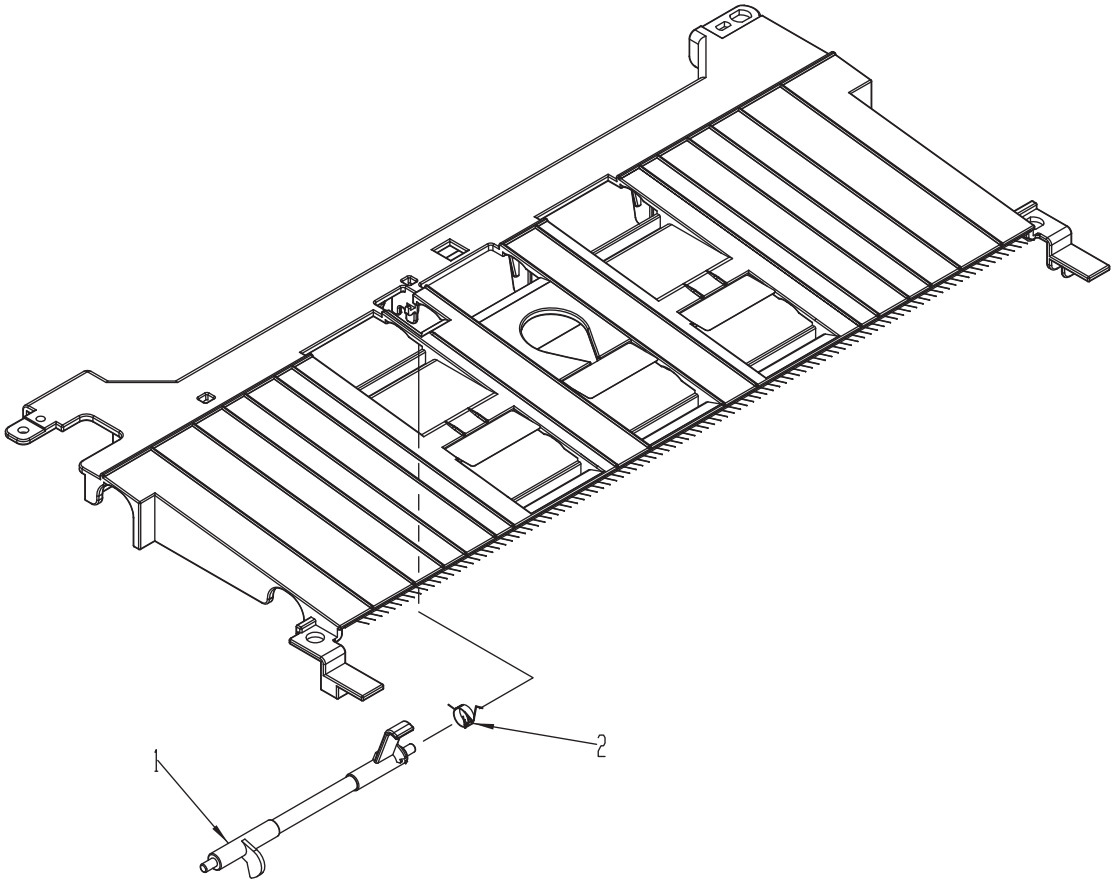


Table 7-17 ADF assemblies (12 of 14)

Ref	Description	Part number	Qty
1	Registration sensor arm	PF2307K230NI	1
2	Spring	PF2261P310	1

Figure 7-13 ADF assemblies (13 of 14)

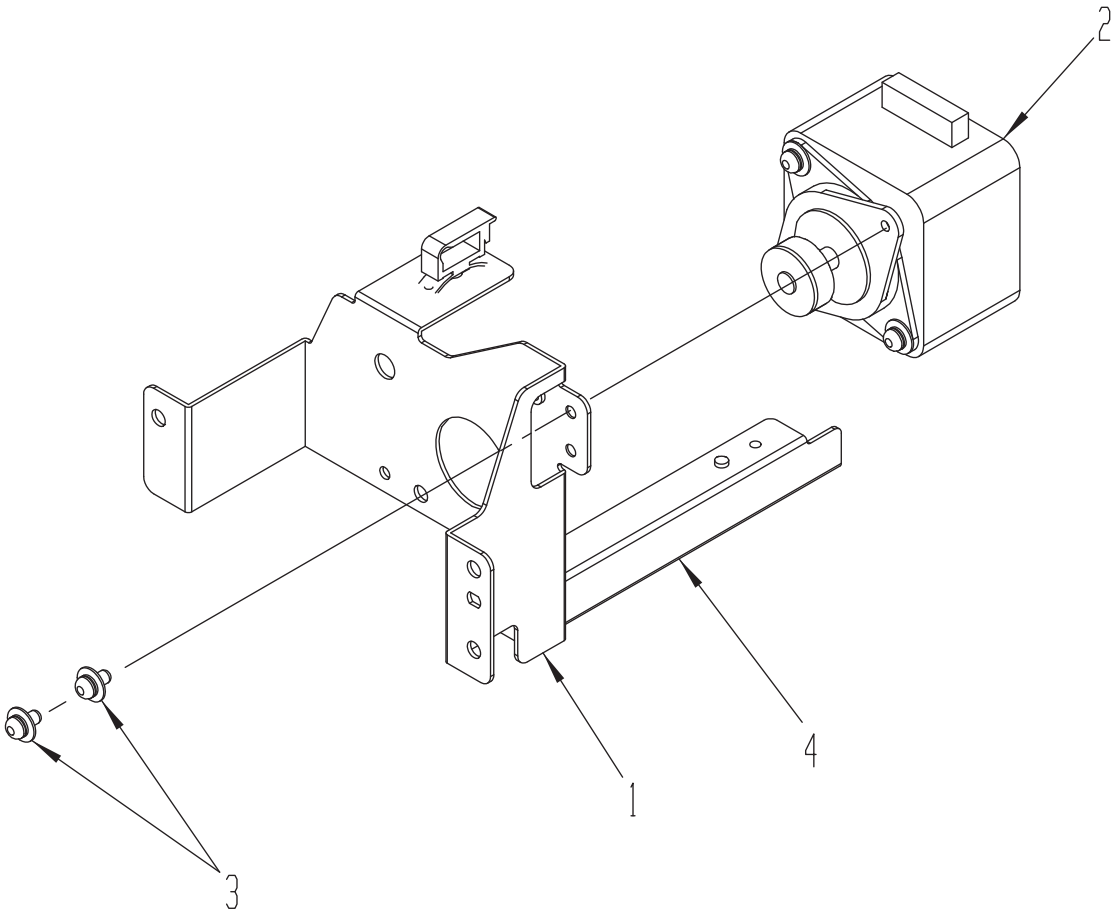


Table 7-18 ADF assemblies (13 of 14)

Ref	Description	Part number	Qty
1	Mounting bracket	PF2307P132	1
2	ADF exit motor	PF2307K218NI	1
3	Screw	PF2307K239NI	2
4	Mounting bracket	PF2307P132	1

Figure 7-14 ADF assemblies (14 of 14)

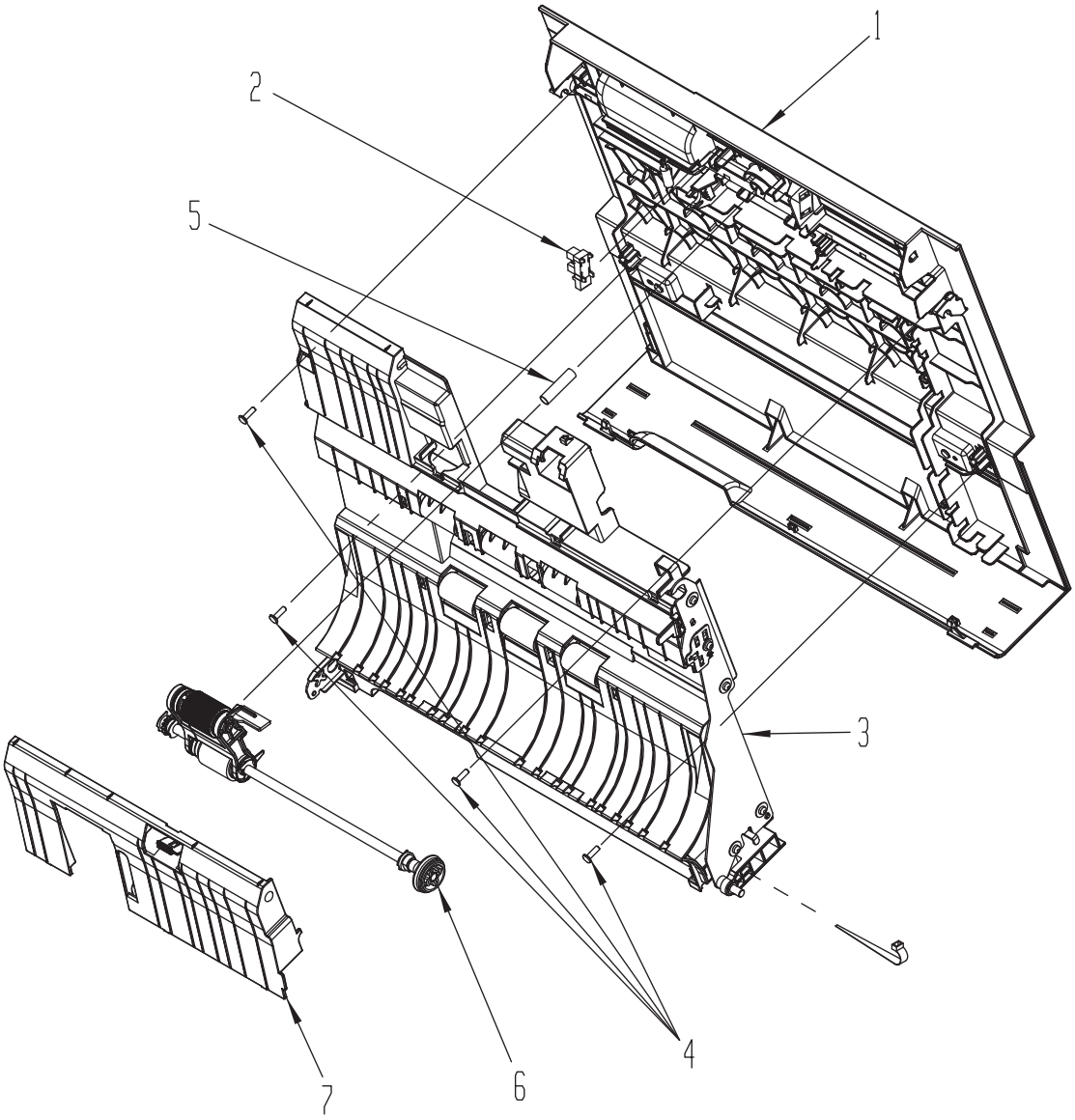


Table 7-19 ADF assemblies (14 of 14)

Ref	Description	Part number	Qty
1	Jam door 2 top cover	PF2307K059A	1
2	Sensor	PF2307K226NI	1
3	Jam door 2 bottom cover	PF2307K062A	1
4	Screw	NS-SCR00027B	4
5	Pick-up roller spring	PF2307K234NI	1
6	Pickup-roller assembly	PF2307K233NI	1
7	Pickup-roller cover	PF2307K254NI	1

Flatbed scanner assemblies

Figure 7-15 Flatbed scanner assemblies (1 of 9)

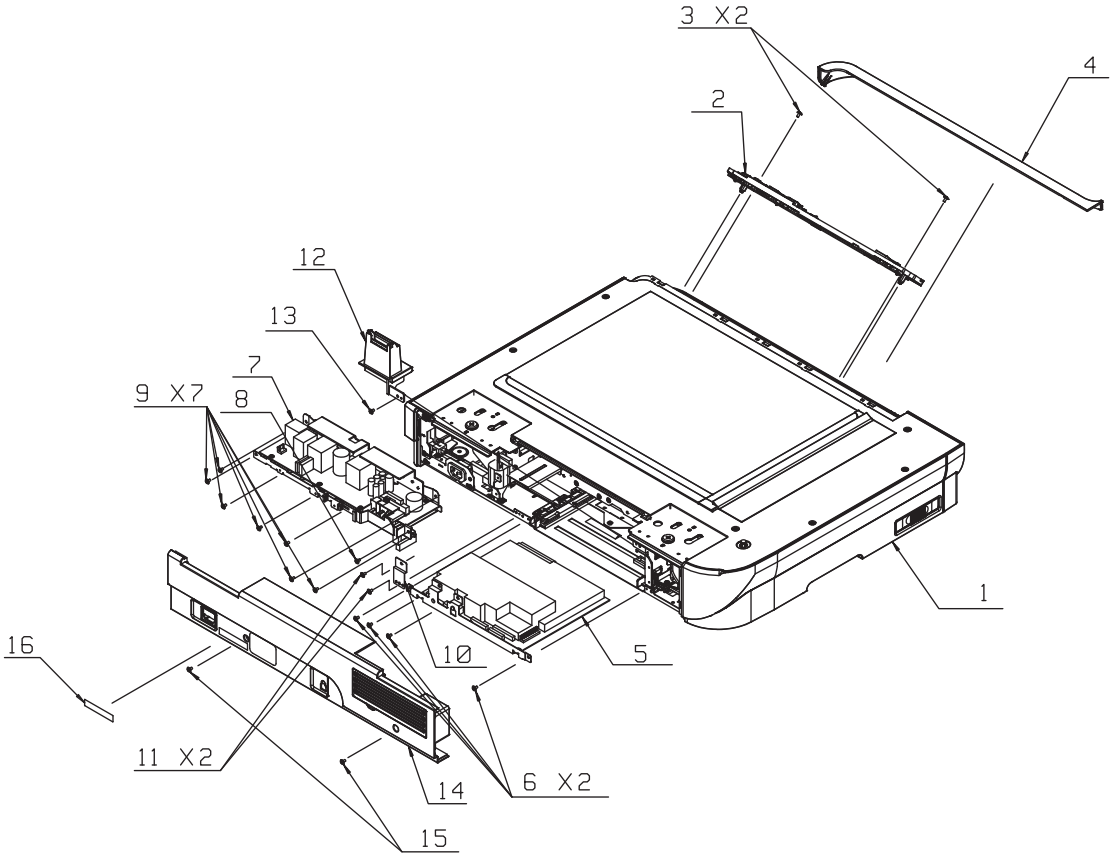


Table 7-20 Flatbed scanner assemblies (1 of 9)

Ref	Description	Part number	Qty
1	Scanner right side cover	IR4067K061	1
2	Scanner control panel PCA	IR4067K202NI	1
3	Screw	IR4067K218NI/ IR4067K232NI	2
4	Scanner control panel cover	IR4067K201NI	1
5	Scanner controller PCA	IR4067K205NI	1
6	Screw	IR4067K220NI/ IR4067K234NI	4
7	Power-supply PCA	IR4067K210NI	1
8	Screw	IR4067K214NI/ IR4067K228NI	1
9	Screw	IR4067K220NI/ IR4067K234NI	7
10	Bracket	IR4067P141	1
11	Screw	IR4067K220NI/ IR4067K234NI	2
12	ADF cable duct	IR4067K204NI	1
13	Screw	IR4067K214NI/ IR4067K228NI	1
14	Scanner back cover	IR4067K203NI	1
15	Screw	IR4067K214NI/ IR4067K228NI	2
16	Label	IR4067P410	1

Figure 7-16 Flatbed scanner assemblies (2 of 9)

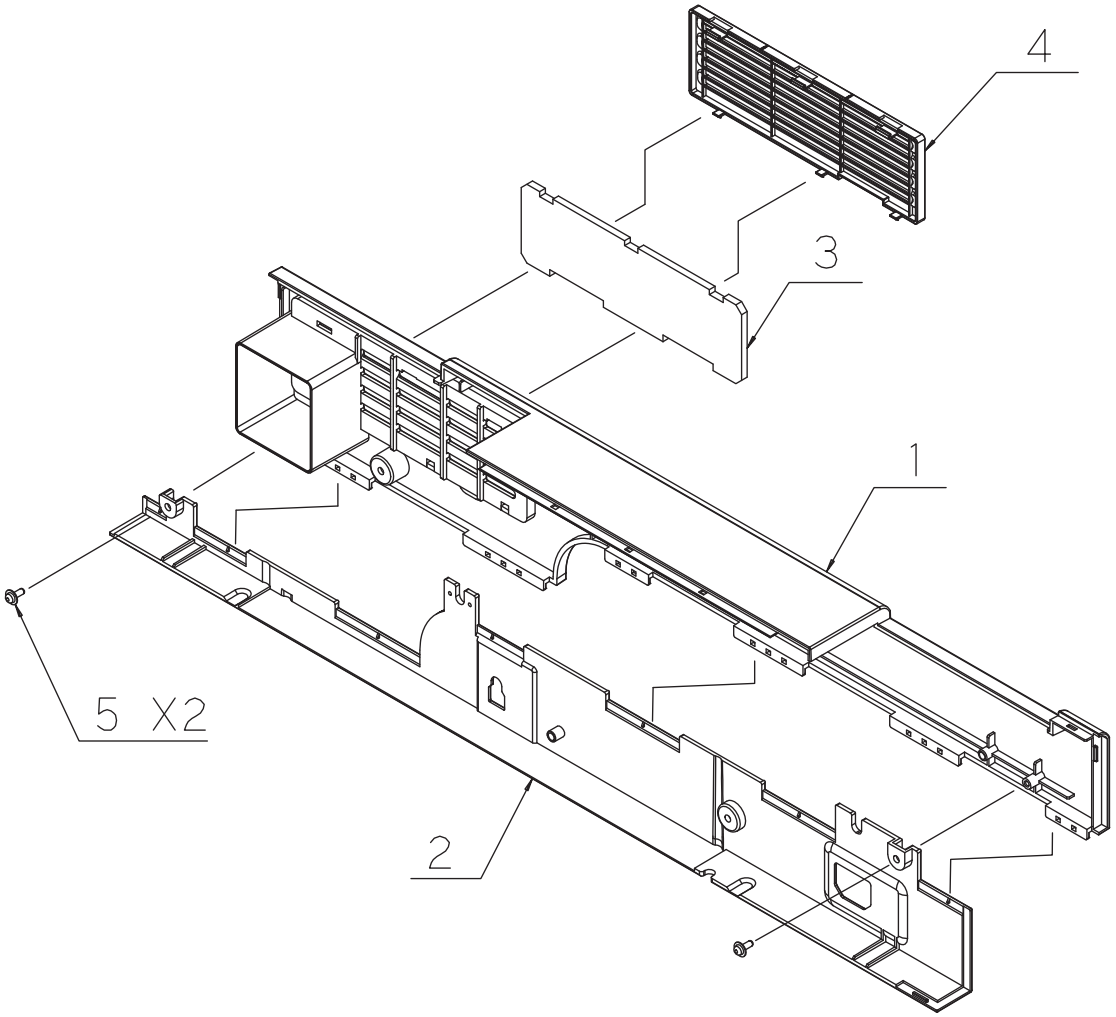


Table 7-21 Flatbed scanner assemblies (2 of 9)

Ref	Description	Part number	Qty
1	Cover MT	IR4067P012	1
2	Cover bottom MT	IR4067P016	1
3	Filter	IR4067K211NI	1
4	Scanner back-filter cover	IR4067K212NI	1
5	Screw	IR4067K213NI/ IR4067K235NI	2

Figure 7-17 Flatbed scanner assemblies (3 of 9)

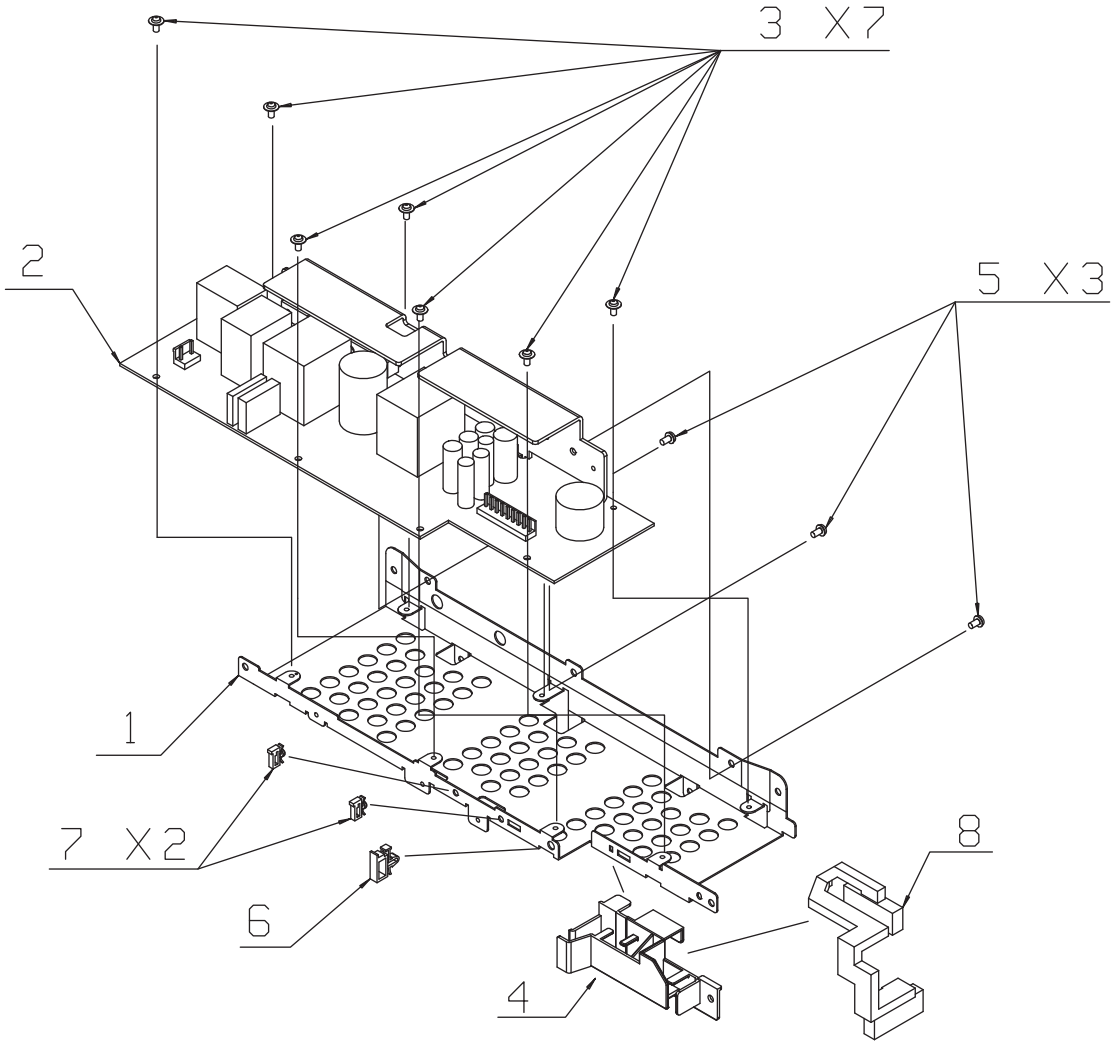


Table 7-22 Flatbed scanner assemblies (3 of 9)

Ref	Description	Part number	Qty
1	Bracket	IR4067P131	1
2	Power-supply PCA	IR4067K210NI	1
3	Screw	IR4067K214NI/ IR4067K228NI	7
4	Duct	IR4067P027	1
5	Screw	IR4067K220NI/ IR4067K234NI	3
6	Clip	E450001208	1
7	Clip	E450000575	2
8	Bracket	IR4067K612	1

Figure 7-18 Flatbed scanner assemblies (4 of 9)

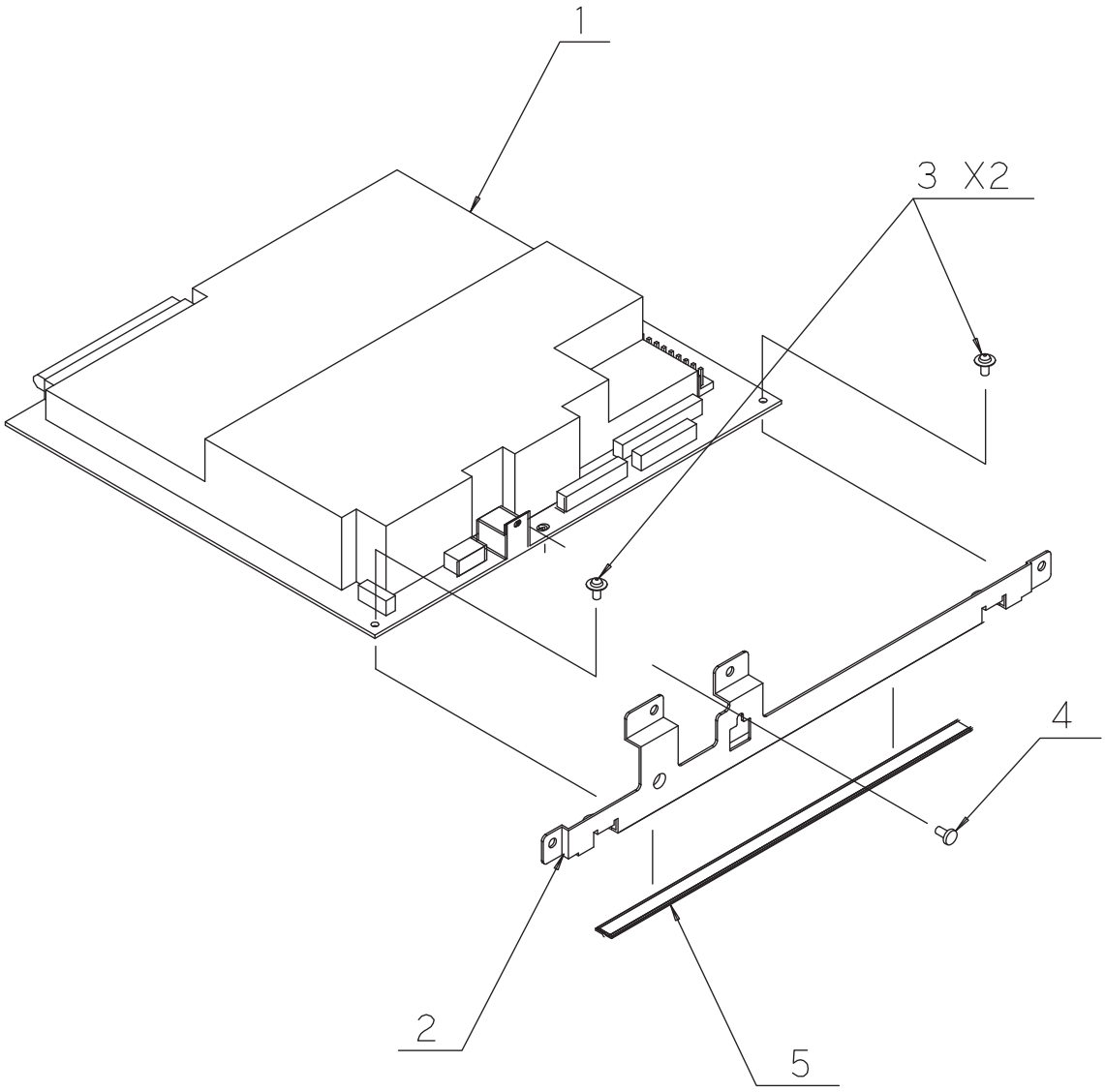


Table 7-23 Flatbed scanner assemblies (4 of 9)

Ref	Description	Part number	Qty
1	Scanner controller PCA	IR4067K205NI	1
2	Bracket	IR4067P127	1
3	Screw	IR4067K214NI/ IR4067K228NI	2
4	Screw	030060FNBI	1
5	STGP	IR4067P368	1

Figure 7-19 Flatbed scanner assemblies (5 of 9)

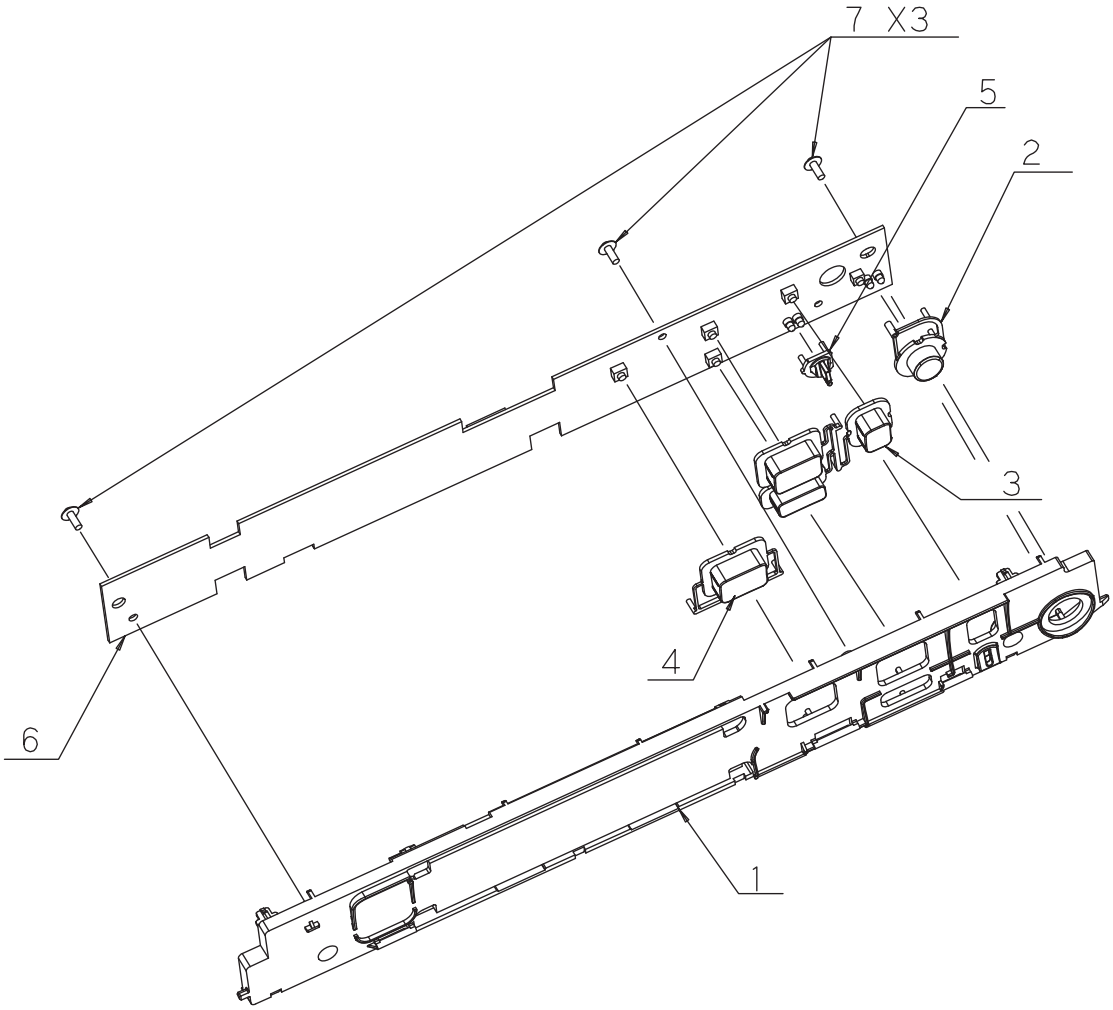


Table 7-24 Flatbed scanner assemblies (5 of 9)

Ref	Description	Part number	Qty
1	GID-PCB	IR4067P044	1
2	SW-DC	IR4067P034	1
3	SW-GO	IR4067P035	1
4	SW-COPY2	IR4067P046	1
5	GID-LED	IR4067P047	1
6	ASY-PBA-PANEL	IR4067K505	1
7	Screw	IR4067K213NI/ IR4067K235NI	3

Figure 7-20 Flatbed scanner assemblies (6 of 9)

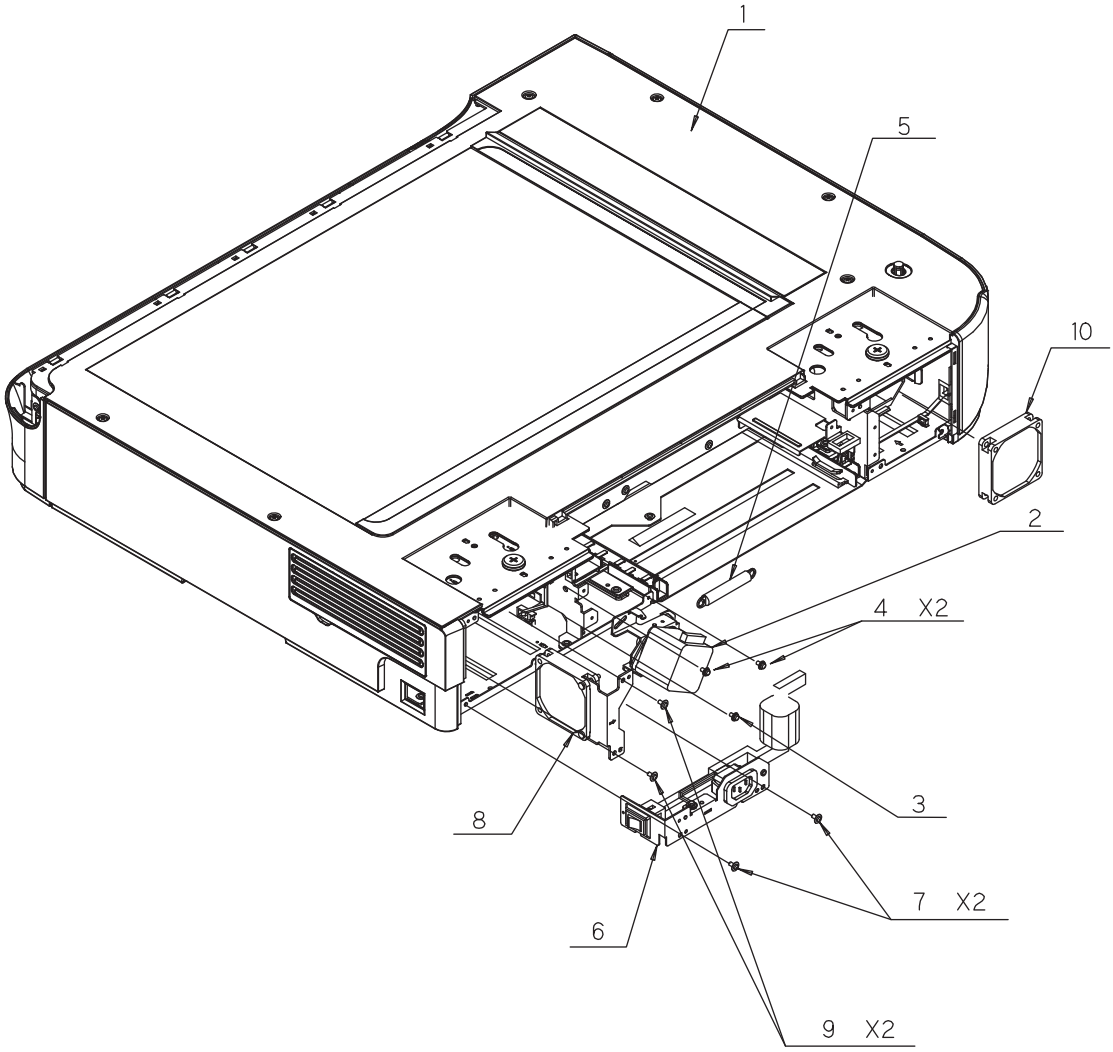


Table 7-25 Flatbed scanner assemblies (6 of 9)

Ref	Description	Part number	Qty
1	FB-UNIT	IR4067K--	1
2	ASY-BKT-MOT	IR4067K052	2
3	Screw	NS-SCR00201	1
4	Screw	IR4067K214NI/ IR4067K228NI	2
5	SP-T-080-656-29662	IR4067P311	1
6	Power switch and power receptacle assembly	IR4067K209NI	1
7	Screw	IR4067K220NI/ IR4067K234NI	2
8	Scanner carriage-motor fan	IR4067K206NI	1
9	Screw	IR4067K220NI/ IR4067K234NI	2
10	Flatbed carriage fan	IR4067K206NI	1

Figure 7-21 Flatbed scanner assemblies (7 of 9)

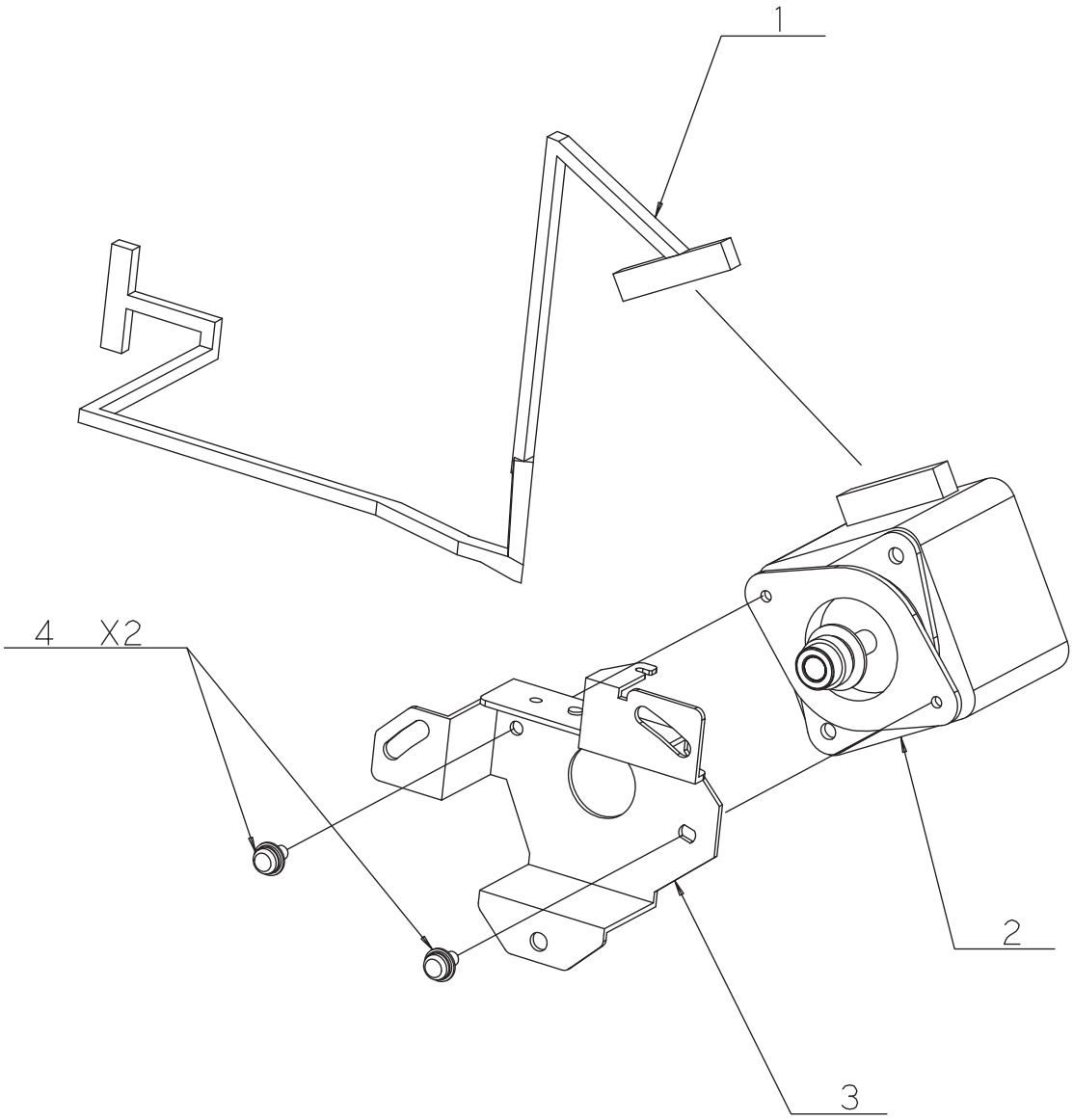


Table 7-26 Flatbed scanner assemblies (7 of 9)

Ref	Description	Part number	Qty
1	Scanner carriage motor cable	IR4067K208NI	1
2	Scanner carriage motor	IR4067K207NI	1
3	Bracket	IR4067P119	1
4	Screw	IR4067K214NI/ IR4067K228NI	2

Figure 7-22 Flatbed scanner assemblies (8 of 9)

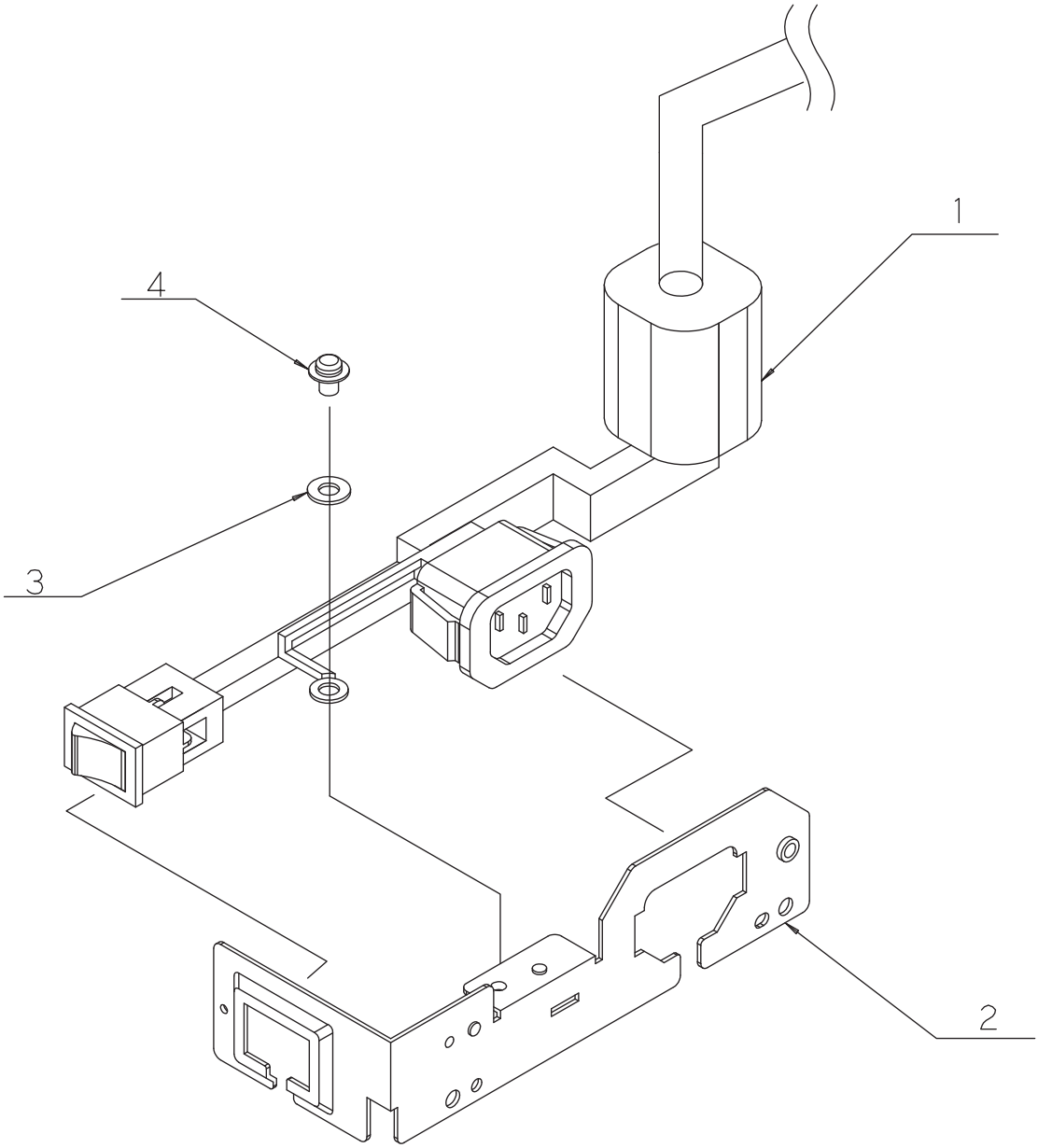


Table 7-27 Flatbed scanner assemblies (8 of 9)

Ref	Description	Part number	Qty
1	ASM-ACIN	IR4067K610	1
2	PLT-INL	IR4067P130	1
3	Washer	IR4067K217NI/ IR4067K231NI	1
4	Screw	IR4067K216NI/ IR4067K230NI	1

Figure 7-23 Flatbed scanner assemblies (9 of 9)

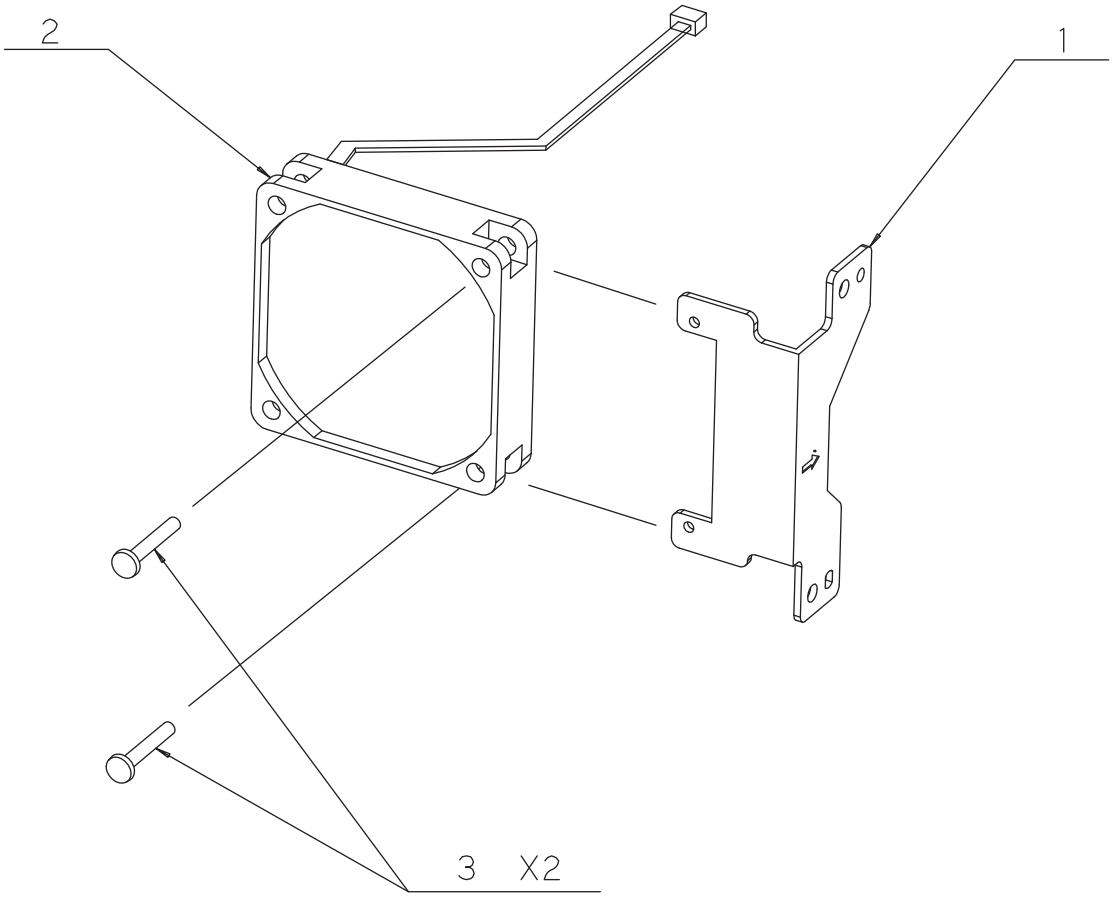


Table 7-28 Flatbed scanner assemblies (9 of 9)

Ref	Description	Part number	Qty
1	Bracket	IR4067P129	1
2	Flatbed carriage fan	IR4067K206NI	1
3	Screw	IR4067K219NI/ IR4067K233NI	2

Alphabetical parts list

Table 7-29 Alphabetical parts list

Description	Part number	Table and page
A4 paper-stop	PF2307K253NI	ADF assemblies (3 of 14) on page 303
ADF back cover	PF2307K215NI	ADF assemblies (1 of 14) on page 299
ADF base reflector	PF2307K237NI	ADF assemblies (1 of 14) on page 299
ADF bottom corner, inner paper path guide	PF2307K211NI	ADF assemblies (5 of 14) on page 307
ADF bottom corner, outer paper path guide	PF2307K212NI	ADF assemblies (5 of 14) on page 307
ADF bottom cover	PF2307K217NI	ADF assemblies (6 of 14) on page 309
ADF cable duct	IR4067K204NI	Flatbed scanner assemblies (1 of 9) on page 327
ADF carriage fan	PF2307K222NI	ADF assemblies (2 of 14) on page 301
ADF controller PCA	PF2307K229NI	ADF assemblies (2 of 14) on page 301
ADF exit inner paper path guide	PF2307K213NI	ADF assemblies (7 of 14) on page 311
ADF exit motor	PF2307K218NI	ADF assemblies (13 of 14) on page 323
ADF exit motor assembly	PF2307K218NI	ADF assemblies (6 of 14) on page 309
ADF feed motor assembly	PF2307K220NI	ADF assemblies (6 of 14) on page 309
ADF front cover	PF2307K214NI	ADF assemblies (1 of 14) on page 299
ADF input tray assembly	PF2307K203NI	ADF assemblies (2 of 14) on page 301
ADF input-tray lift-motor assembly	PF2307K219NI	ADF assemblies (6 of 14) on page 309
ADF jam door 1	PF2307K058	ADF assemblies (5 of 14) on page 307
ADF jam door 2	PF2307K051	ADF assemblies (5 of 14) on page 307
ADF jam door 3	PF2307K202NI	ADF assemblies (5 of 14) on page 307

Table 7-29 Alphabetical parts list (continued)

Description	Part number	Table and page
ADF motor fan	PF2307K222NI	ADF assemblies (6 of 14) on page 309
ADF output tray	PF2307K216NI	ADF assemblies (2 of 14) on page 301
ADF pick motor assembly	PF2307K221NI	ADF assemblies (6 of 14) on page 309
ADF shingle wall	PF2307K208NI	ADF assemblies (2 of 14) on page 301
ADF top corner inner paper path guide	PF2307K210NI	ADF assemblies (5 of 14) on page 307
ASM-ACIN	IR4067K610	Flatbed scanner assemblies (8 of 9) on page 341
ASY-BKT-MOT	IR4067K052	Flatbed scanner assemblies (6 of 9) on page 337
ASY-PBA-PANEL	IR4067K505	Flatbed scanner assemblies (5 of 9) on page 335
Background solenoid assembly	PF2307K223NI	ADF assemblies (6 of 14) on page 309
Background solenoid assembly	PF2307K223NI	ADF assemblies (6 of 14) on page 309
Background solenoid assembly	PF2307K223NI	ADF assemblies (6 of 14) on page 309
Background solenoid assembly	PF2307K223NI	ADF assemblies (6 of 14) on page 309
Background solenoid assembly spring	PF2307P350	ADF assemblies (6 of 14) on page 309
Bottom cover	PF2307K217NI	ADF assemblies (2 of 14) on page 301
Bracket	PF2307K010A	ADF assemblies (5 of 14) on page 307
Bracket	IR4067P141	Flatbed scanner assemblies (1 of 9) on page 327
Bracket	IR4067P131	Flatbed scanner assemblies (3 of 9) on page 331
Bracket	IR4067K612	Flatbed scanner assemblies (3 of 9) on page 331
Bracket	IR4067P127	Flatbed scanner assemblies (4 of 9) on page 333
Bracket	IR4067P119	Flatbed scanner assemblies (7 of 9) on page 339

Table 7-29 Alphabetical parts list (continued)

Description	Part number	Table and page
Bracket	IR4067P129	Flatbed scanner assemblies (9 of 9) on page 343
Bushing	NS-MTL00017	ADF assemblies (7 of 14) on page 311
Clip	PF2307K250NI	ADF assemblies (7 of 14) on page 311
Clip	PF2307K255NI	ADF assemblies (7 of 14) on page 311
Clip	E450001208	Flatbed scanner assemblies (3 of 9) on page 331
Clip	E450000575	Flatbed scanner assemblies (3 of 9) on page 331
Cover bottom MT	IR4067P016	Flatbed scanner assemblies (2 of 9) on page 329
Cover MT	IR4067P012	Flatbed scanner assemblies (2 of 9) on page 329
Duct	IR4067P027	Flatbed scanner assemblies (3 of 9) on page 331
FB-UNIT	IR4067K--	Flatbed scanner assemblies (6 of 9) on page 337
FFC separation shield	PF2307P392	ADF assemblies (2 of 14) on page 301
Filter	IR4067K211NI	Flatbed scanner assemblies (2 of 9) on page 329
Flat flexible cable	PF2307K231NI	ADF assemblies (2 of 14) on page 301
Flat flexible cable	PF2307K232NI	ADF assemblies (2 of 14) on page 301
Flat flexible cable	PF2307K627	ADF assemblies (11 of 14) on page 319
Flatbed carriage fan	IR4067K206NI	Flatbed scanner assemblies (6 of 9) on page 337
Flatbed carriage fan	IR4067K206NI	Flatbed scanner assemblies (9 of 9) on page 343
Flatbed scan position sensor bracket	PF2307K011	ADF assemblies (5 of 14) on page 307
GID-LED	IR4067P047	Flatbed scanner assemblies (5 of 9) on page 335
GID-PCB	IR4067P044	Flatbed scanner assemblies (5 of 9) on page 335

Table 7-29 Alphabetical parts list (continued)

Description	Part number	Table and page
Hinge limiter	PF2307P147	ADF assemblies (1 of 14) on page 299
Imprinter cable channel	PF2307P359C	ADF assemblies (7 of 14) on page 311
Imprinter carriage frame and cable	PF2307K227NI	ADF assemblies (7 of 14) on page 311
Imprinter carriage guide	PF2307P229	ADF assemblies (8 of 14) on page 313
Imprinter carriage latch	PF2307P680A	ADF assemblies (8 of 14) on page 313
Imprinter carriage rod	PF2307P229A	ADF assemblies (7 of 14) on page 311
Imprinter carriage seat	PF2307P054B	ADF assemblies (8 of 14) on page 313
Imprinter cartridge holder clasp	PF2307P360A	ADF assemblies (7 of 14) on page 311
Imprinter paper-present sensor	PF2307K228NI	ADF assemblies (9 of 14) on page 315
Imprinter paper-present sensor holder	PF2307P055B	ADF assemblies (9 of 14) on page 315
Imprinter PCA	PF2307K205NI	ADF assemblies (11 of 14) on page 319
Imprinter sensor mount	PF2307K228NI	ADF assemblies (9 of 14) on page 315
Input tray elevator arm	PF2307K207NI	ADF assemblies (7 of 14) on page 311
Jam door 2 bottom cover	PF2307K062A	ADF assemblies (14 of 14) on page 325
Jam door 2 top cover	PF2307K059A	ADF assemblies (14 of 14) on page 325
Label	IR4067P410	Flatbed scanner assemblies (1 of 9) on page 327
Lower multi-pick sensor cover	PF2307K209NI	ADF assemblies (5 of 14) on page 307
Lower multi-pick sensor PCA	PF2307K225NI	ADF assemblies (5 of 14) on page 307
Mounting bracket	PF2307P132	ADF assemblies (13 of 14) on page 323
Mounting bracket	PF2307P132	ADF assemblies (13 of 14) on page 323

Table 7-29 Alphabetical parts list (continued)

Description	Part number	Table and page
Paper presence sensor and imprinter PCA holder	PF2307K204NI	ADF assemblies (11 of 14) on page 319
Paper present and imprinter PCA holder	PF2307K204NI	ADF assemblies (7 of 14) on page 311
Paper-present-sensor arm	PF2307K206NI	ADF assemblies (11 of 14) on page 319
Pick-up roller spring	PF2307K234NI	ADF assemblies (14 of 14) on page 325
Pickup-roller assembly	PF2307K233NI	ADF assemblies (14 of 14) on page 325
Pickup-roller cover	PF2307K254NI	ADF assemblies (14 of 14) on page 325
PLT-INL	IR4067P130	Flatbed scanner assemblies (8 of 9) on page 341
Power switch and power receptacle assembly	IR4067K209NI	Flatbed scanner assemblies (6 of 9) on page 337
Power-supply PCA	IR4067K210NI	Flatbed scanner assemblies (1 of 9) on page 327
Power-supply PCA	IR4067K210NI	Flatbed scanner assemblies (3 of 9) on page 331
Registration sensor arm	PF2307K230NI	ADF assemblies (12 of 14) on page 321
Scanner back cover	IR4067K203NI	Flatbed scanner assemblies (1 of 9) on page 327
Scanner back-filter cover	IR4067K212NI	Flatbed scanner assemblies (2 of 9) on page 329
Scanner carriage motor	IR4067K207NI	Flatbed scanner assemblies (7 of 9) on page 339
Scanner carriage motor cable	IR4067K208NI	Flatbed scanner assemblies (7 of 9) on page 339
Scanner carriage-motor fan	IR4067K206NI	Flatbed scanner assemblies (6 of 9) on page 337
Scanner control panel cover	IR4067K201NI	Flatbed scanner assemblies (1 of 9) on page 327
Scanner control panel PCA	IR4067K202NI	Flatbed scanner assemblies (1 of 9) on page 327
Scanner controller PCA	IR4067K205NI	Flatbed scanner assemblies (1 of 9) on page 327
Scanner controller PCA	IR4067K205NI	Flatbed scanner assemblies (4 of 9) on page 333

Table 7-29 Alphabetical parts list (continued)

Description	Part number	Table and page
Scanner right side cover	IR4067K061	Flatbed scanner assemblies (1 of 9) on page 327
Screw	PF2307K239NI	ADF assemblies (1 of 14) on page 299
Screw	NS-SCR00084	ADF assemblies (1 of 14) on page 299
Screw	040080FNBI	ADF assemblies (1 of 14) on page 299
Screw	PF2307K246A	ADF assemblies (2 of 14) on page 301
Screw	PF2307K248NI	ADF assemblies (2 of 14) on page 301
Screw	PF2307K245NI	ADF assemblies (2 of 14) on page 301
Screw	IR4067K214NI	ADF assemblies (2 of 14) on page 301
Screw	IR4067K220NI	ADF assemblies (2 of 14) on page 301
Screw	PF2307K241NI	ADF assemblies (2 of 14) on page 301
Screw	NS-SCR00084B	ADF assemblies (5 of 14) on page 307
Screw	PF2307K239NI	ADF assemblies (5 of 14) on page 307
Screw	PF2307K248A	ADF assemblies (5 of 14) on page 307
Screw	IR4067K214NI	ADF assemblies (5 of 14) on page 307
Screw	PF2307K239NI	ADF assemblies (5 of 14) on page 307
Screw	PF2307K241NI	ADF assemblies (5 of 14) on page 307
Screw	IR4067K214NI	ADF assemblies (6 of 14) on page 309
Screw	PF2307K246NI	ADF assemblies (6 of 14) on page 309
Screw	PF2307K245NI	ADF assemblies (6 of 14) on page 309
Screw	NS-SCR00027	ADF assemblies (7 of 14) on page 311

Table 7-29 Alphabetical parts list (continued)

Description	Part number	Table and page
Screw	026080FDBB	ADF assemblies (8 of 14) on page 313
Screw	NS-SCR00027B	ADF assemblies (9 of 14) on page 315
Screw	-	ADF assemblies (11 of 14) on page 319
Screw	PF2307K239NI	ADF assemblies (13 of 14) on page 323
Screw	NS-SCR00027B	ADF assemblies (14 of 14) on page 325
Screw	IR4067K218NI/ IR4067K232NI	Flatbed scanner assemblies (1 of 9) on page 327
Screw	IR4067K220NI/ IR4067K234NI	Flatbed scanner assemblies (1 of 9) on page 327
Screw	IR4067K214NI/ IR4067K228NI	Flatbed scanner assemblies (1 of 9) on page 327
Screw	IR4067K220NI/ IR4067K234NI	Flatbed scanner assemblies (1 of 9) on page 327
Screw	IR4067K220NI/ IR4067K234NI	Flatbed scanner assemblies (1 of 9) on page 327
Screw	IR4067K214NI/ IR4067K228NI	Flatbed scanner assemblies (1 of 9) on page 327
Screw	IR4067K214NI/ IR4067K228NI	Flatbed scanner assemblies (1 of 9) on page 327
Screw	IR4067K213NI/ IR4067K235NI	Flatbed scanner assemblies (2 of 9) on page 329
Screw	IR4067K214NI/ IR4067K228NI	Flatbed scanner assemblies (3 of 9) on page 331
Screw	IR4067K220NI/ IR4067K234NI	Flatbed scanner assemblies (3 of 9) on page 331
Screw	IR4067K214NI/ IR4067K228NI	Flatbed scanner assemblies (4 of 9) on page 333
Screw	030060FNBI	Flatbed scanner assemblies (4 of 9) on page 333
Screw	IR4067K213NI/ IR4067K235NI	Flatbed scanner assemblies (5 of 9) on page 335
Screw	NS-SCR00201	Flatbed scanner assemblies (6 of 9) on page 337
Screw	IR4067K214NI/ IR4067K228NI	Flatbed scanner assemblies (6 of 9) on page 337

Table 7-29 Alphabetical parts list (continued)

Description	Part number	Table and page
Screw	IR4067K220NI/ IR4067K234NI	Flatbed scanner assemblies (6 of 9) on page 337
Screw	IR4067K220NI/ IR4067K234NI	Flatbed scanner assemblies (6 of 9) on page 337
Screw	IR4067K214NI/ IR4067K228NI	Flatbed scanner assemblies (7 of 9) on page 339
Screw	IR4067K216NI/ IR4067K230NI	Flatbed scanner assemblies (8 of 9) on page 341
Screw	IR4067K219NI/ IR4067K233NI	Flatbed scanner assemblies (9 of 9) on page 343
Screws	PF2307K238NI	ADF assemblies (6 of 14) on page 309
Sensor	PF2307K226NI	ADF assemblies (5 of 14) on page 307
Sensor	PF2307K226NI	ADF assemblies (6 of 14) on page 309
Sensor	PF2307K226NI	ADF assemblies (11 of 14) on page 319
Sensor	PF2307K226NI	ADF assemblies (14 of 14) on page 325
Sensor arm	PF2307K230NI	ADF assemblies (10 of 14) on page 317
Separation pad assembly	PF2307K235NI	ADF assemblies (4 of 14) on page 305
Separation pad spring	PF2307K236NI	ADF assemblies (4 of 14) on page 305
SP-T-080-656-29662	IR4067P311	Flatbed scanner assemblies (6 of 9) on page 337
Spring	PF2307P360	ADF assemblies (8 of 14) on page 313
Spring	PF2261P310C1	ADF assemblies (10 of 14) on page 317
Spring	PF2261P310	ADF assemblies (12 of 14) on page 321
STGP	IR4067P368	Flatbed scanner assemblies (4 of 9) on page 333
SW-COPY2	IR4067P046	Flatbed scanner assemblies (5 of 9) on page 335
SW-DC	IR4067P034	Flatbed scanner assemblies (5 of 9) on page 335

Table 7-29 Alphabetical parts list (continued)

Description	Part number	Table and page
SW-GO	IR4067P035	Flatbed scanner assemblies (5 of 9) on page 335
Upper multi-pick sensor cover	PF2307K240NI	ADF assemblies (5 of 14) on page 307
Upper multi-pick sensor PCA	PF2307K224NI	ADF assemblies (5 of 14) on page 307
Upper multi-pick sensor tray	PF2307K042	ADF assemblies (5 of 14) on page 307
Upper multipick sensor cover	PF2307P007	ADF assemblies (5 of 14) on page 307
Washer	IR4067K217NI/ IR4067K231NI	Flatbed scanner assemblies (8 of 9) on page 341

Numerical parts list

Table 7-30 Numerical parts list

Part number	Description	Table and page
-	Screw	ADF assemblies (11 of 14) on page 319
026080FDBB	Screw	ADF assemblies (8 of 14) on page 313
030060FNBI	Screw	Flatbed scanner assemblies (4 of 9) on page 333
040080FNBI	Screw	ADF assemblies (1 of 14) on page 299
E450000575	Clip	Flatbed scanner assemblies (3 of 9) on page 331
E450001208	Clip	Flatbed scanner assemblies (3 of 9) on page 331
IR4067K---	FB-UNIT	Flatbed scanner assemblies (6 of 9) on page 337
IR4067K052	ASY-BKT-MOT	Flatbed scanner assemblies (6 of 9) on page 337
IR4067K061	Scanner right side cover	Flatbed scanner assemblies (1 of 9) on page 327
IR4067K201NI	Scanner control panel cover	Flatbed scanner assemblies (1 of 9) on page 327
IR4067K202NI	Scanner control panel PCA	Flatbed scanner assemblies (1 of 9) on page 327
IR4067K203NI	Scanner back cover	Flatbed scanner assemblies (1 of 9) on page 327
IR4067K204NI	ADF cable duct	Flatbed scanner assemblies (1 of 9) on page 327
IR4067K205NI	Scanner controller PCA	Flatbed scanner assemblies (1 of 9) on page 327
IR4067K205NI	Scanner controller PCA	Flatbed scanner assemblies (4 of 9) on page 333
IR4067K206NI	Scanner carriage-motor fan	Flatbed scanner assemblies (6 of 9) on page 337
IR4067K206NI	Flatbed carriage fan	Flatbed scanner assemblies (6 of 9) on page 337
IR4067K206NI	Flatbed carriage fan	Flatbed scanner assemblies (9 of 9) on page 343
IR4067K207NI	Scanner carriage motor	Flatbed scanner assemblies (7 of 9) on page 339

Table 7-30 Numerical parts list (continued)

Part number	Description	Table and page
IR4067K208NI	Scanner carriage motor cable	Flatbed scanner assemblies (7 of 9) on page 339
IR4067K209NI	Power switch and power receptacle assembly	Flatbed scanner assemblies (6 of 9) on page 337
IR4067K210NI	Power-supply PCA	Flatbed scanner assemblies (1 of 9) on page 327
IR4067K210NI	Power-supply PCA	Flatbed scanner assemblies (3 of 9) on page 331
IR4067K211NI	Filter	Flatbed scanner assemblies (2 of 9) on page 329
IR4067K212NI	Scanner back-filter cover	Flatbed scanner assemblies (2 of 9) on page 329
IR4067K213NI/ IR4067K235NI	Screw	Flatbed scanner assemblies (2 of 9) on page 329
IR4067K213NI/ IR4067K235NI	Screw	Flatbed scanner assemblies (5 of 9) on page 335
IR4067K214NI	Screw	ADF assemblies (2 of 14) on page 301
IR4067K214NI	Screw	ADF assemblies (5 of 14) on page 307
IR4067K214NI	Screw	ADF assemblies (6 of 14) on page 309
IR4067K214NI/ IR4067K228NI	Screw	Flatbed scanner assemblies (1 of 9) on page 327
IR4067K214NI/ IR4067K228NI	Screw	Flatbed scanner assemblies (1 of 9) on page 327
IR4067K214NI/ IR4067K228NI	Screw	Flatbed scanner assemblies (1 of 9) on page 327
IR4067K214NI/ IR4067K228NI	Screw	Flatbed scanner assemblies (3 of 9) on page 331
IR4067K214NI/ IR4067K228NI	Screw	Flatbed scanner assemblies (4 of 9) on page 333
IR4067K214NI/ IR4067K228NI	Screw	Flatbed scanner assemblies (6 of 9) on page 337
IR4067K214NI/ IR4067K228NI	Screw	Flatbed scanner assemblies (7 of 9) on page 339
IR4067K216NI/ IR4067K230NI	Screw	Flatbed scanner assemblies (8 of 9) on page 341
IR4067K217NI/ IR4067K231NI	Washer	Flatbed scanner assemblies (8 of 9) on page 341

Table 7-30 Numerical parts list (continued)

Part number	Description	Table and page
IR4067K218NI/ IR4067K232NI	Screw	Flatbed scanner assemblies (1 of 9) on page 327
IR4067K219NI/ IR4067K233NI	Screw	Flatbed scanner assemblies (9 of 9) on page 343
IR4067K220NI	Screw	ADF assemblies (2 of 14) on page 301
IR4067K220NI/ IR4067K234NI	Screw	Flatbed scanner assemblies (1 of 9) on page 327
IR4067K220NI/ IR4067K234NI	Screw	Flatbed scanner assemblies (1 of 9) on page 327
IR4067K220NI/ IR4067K234NI	Screw	Flatbed scanner assemblies (1 of 9) on page 327
IR4067K220NI/ IR4067K234NI	Screw	Flatbed scanner assemblies (3 of 9) on page 331
IR4067K220NI/ IR4067K234NI	Screw	Flatbed scanner assemblies (6 of 9) on page 337
IR4067K220NI/ IR4067K234NI	Screw	Flatbed scanner assemblies (6 of 9) on page 337
IR4067K505	ASY-PBA-PANEL	Flatbed scanner assemblies (5 of 9) on page 335
IR4067K610	ASM-ACIN	Flatbed scanner assemblies (8 of 9) on page 341
IR4067K612	Bracket	Flatbed scanner assemblies (3 of 9) on page 331
IR4067P012	Cover MT	Flatbed scanner assemblies (2 of 9) on page 329
IR4067P016	Cover bottom MT	Flatbed scanner assemblies (2 of 9) on page 329
IR4067P027	Duct	Flatbed scanner assemblies (3 of 9) on page 331
IR4067P034	SW-DC	Flatbed scanner assemblies (5 of 9) on page 335
IR4067P035	SW-GO	Flatbed scanner assemblies (5 of 9) on page 335
IR4067P044	GID-PCB	Flatbed scanner assemblies (5 of 9) on page 335
IR4067P046	SW-COPY2	Flatbed scanner assemblies (5 of 9) on page 335
IR4067P047	GID-LED	Flatbed scanner assemblies (5 of 9) on page 335

Table 7-30 Numerical parts list (continued)

Part number	Description	Table and page
IR4067P119	Bracket	Flatbed scanner assemblies (7 of 9) on page 339
IR4067P127	Bracket	Flatbed scanner assemblies (4 of 9) on page 333
IR4067P129	Bracket	Flatbed scanner assemblies (9 of 9) on page 343
IR4067P130	PLT-INL	Flatbed scanner assemblies (8 of 9) on page 341
IR4067P131	Bracket	Flatbed scanner assemblies (3 of 9) on page 331
IR4067P141	Bracket	Flatbed scanner assemblies (1 of 9) on page 327
IR4067P311	SP-T-080-656-29662	Flatbed scanner assemblies (6 of 9) on page 337
IR4067P368	STGP	Flatbed scanner assemblies (4 of 9) on page 333
IR4067P410	Label	Flatbed scanner assemblies (1 of 9) on page 327
NS-MTL00017	Bushing	ADF assemblies (7 of 14) on page 311
NS-SCR00027	Screw	ADF assemblies (7 of 14) on page 311
NS-SCR00027B	Screw	ADF assemblies (9 of 14) on page 315
NS-SCR00027B	Screw	ADF assemblies (14 of 14) on page 325
NS-SCR00084	Screw	ADF assemblies (1 of 14) on page 299
NS-SCR00084B	Screw	ADF assemblies (5 of 14) on page 307
NS-SCR00201	Screw	Flatbed scanner assemblies (6 of 9) on page 337
PF2261P310	Spring	ADF assemblies (12 of 14) on page 321
PF2261P310C1	Spring	ADF assemblies (10 of 14) on page 317
PF2307K010A	Bracket	ADF assemblies (5 of 14) on page 307
PF2307K011	Flatbed scan position sensor bracket	ADF assemblies (5 of 14) on page 307

Table 7-30 Numerical parts list (continued)

Part number	Description	Table and page
PF2307K042	Upper multi-pick sensor tray	ADF assemblies (5 of 14) on page 307
PF2307K051	ADF jam door 2	ADF assemblies (5 of 14) on page 307
PF2307K058	ADF jam door 1	ADF assemblies (5 of 14) on page 307
PF2307K059A	Jam door 2 top cover	ADF assemblies (14 of 14) on page 325
PF2307K062A	Jam door 2 bottom cover	ADF assemblies (14 of 14) on page 325
PF2307K202NI	ADF jam door 3	ADF assemblies (5 of 14) on page 307
PF2307K203NI	ADF input tray assembly	ADF assemblies (2 of 14) on page 301
PF2307K204NI	Paper present and imprinter PCA holder	ADF assemblies (7 of 14) on page 311
PF2307K204NI	Paper presence sensor and imprinter PCA holder	ADF assemblies (11 of 14) on page 319
PF2307K205NI	Imprinter PCA	ADF assemblies (11 of 14) on page 319
PF2307K206NI	Paper-present-sensor arm	ADF assemblies (11 of 14) on page 319
PF2307K207NI	Input tray elevator arm	ADF assemblies (7 of 14) on page 311
PF2307K208NI	ADF shingle wall	ADF assemblies (2 of 14) on page 301
PF2307K209NI	Lower multi-pick sensor cover	ADF assemblies (5 of 14) on page 307
PF2307K210NI	ADF top corner inner paper path guide	ADF assemblies (5 of 14) on page 307
PF2307K211NI	ADF bottom corner, inner paper path guide	ADF assemblies (5 of 14) on page 307
PF2307K212NI	ADF bottom corner, outer paper path guide	ADF assemblies (5 of 14) on page 307
PF2307K213NI	ADF exit inner paper path guide	ADF assemblies (7 of 14) on page 311
PF2307K214NI	ADF front cover	ADF assemblies (1 of 14) on page 299
PF2307K215NI	ADF back cover	ADF assemblies (1 of 14) on page 299

Table 7-30 Numerical parts list (continued)

Part number	Description	Table and page
PF2307K216NI	ADF output tray	ADF assemblies (2 of 14) on page 301
PF2307K217NI	Bottom cover	ADF assemblies (2 of 14) on page 301
PF2307K217NI	ADF bottom cover	ADF assemblies (6 of 14) on page 309
PF2307K218NI	ADF exit motor assembly	ADF assemblies (6 of 14) on page 309
PF2307K218NI	ADF exit motor	ADF assemblies (13 of 14) on page 323
PF2307K219NI	ADF input-tray lift-motor assembly	ADF assemblies (6 of 14) on page 309
PF2307K220NI	ADF feed motor assembly	ADF assemblies (6 of 14) on page 309
PF2307K221NI	ADF pick motor assembly	ADF assemblies (6 of 14) on page 309
PF2307K222NI	ADF carriage fan	ADF assemblies (2 of 14) on page 301
PF2307K222NI	ADF motor fan	ADF assemblies (6 of 14) on page 309
PF2307K223NI	Background solenoid assembly	ADF assemblies (6 of 14) on page 309
PF2307K223NI	Background solenoid assembly	ADF assemblies (6 of 14) on page 309
PF2307K223NI	Background solenoid assembly	ADF assemblies (6 of 14) on page 309
PF2307K223NI	Background solenoid assembly	ADF assemblies (6 of 14) on page 309
PF2307K224NI	Upper multi-pick sensor PCA	ADF assemblies (5 of 14) on page 307
PF2307K225NI	Lower multi-pick sensor PCA	ADF assemblies (5 of 14) on page 307
PF2307K226NI	Sensor	ADF assemblies (5 of 14) on page 307
PF2307K226NI	Sensor	ADF assemblies (6 of 14) on page 309
PF2307K226NI	Sensor	ADF assemblies (11 of 14) on page 319
PF2307K226NI	Sensor	ADF assemblies (14 of 14) on page 325

Table 7-30 Numerical parts list (continued)

Part number	Description	Table and page
PF2307K227NI	Imprinter carriage frame and cable	ADF assemblies (7 of 14) on page 311
PF2307K228NI	Imprinter sensor mount	ADF assemblies (9 of 14) on page 315
PF2307K228NI	Imprinter paper-present sensor	ADF assemblies (9 of 14) on page 315
PF2307K229NI	ADF controller PCA	ADF assemblies (2 of 14) on page 301
PF2307K230NI	Sensor arm	ADF assemblies (10 of 14) on page 317
PF2307K230NI	Registration sensor arm	ADF assemblies (12 of 14) on page 321
PF2307K231NI	Flat flexible cable	ADF assemblies (2 of 14) on page 301
PF2307K232NI	Flat flexible cable	ADF assemblies (2 of 14) on page 301
PF2307K233NI	Pickup-roller assembly	ADF assemblies (14 of 14) on page 325
PF2307K234NI	Pick-up roller spring	ADF assemblies (14 of 14) on page 325
PF2307K235NI	Separation pad assembly	ADF assemblies (4 of 14) on page 305
PF2307K236NI	Separation pad spring	ADF assemblies (4 of 14) on page 305
PF2307K237NI	ADF base reflector	ADF assemblies (1 of 14) on page 299
PF2307K238NI	Screws	ADF assemblies (6 of 14) on page 309
PF2307K239NI	Screw	ADF assemblies (1 of 14) on page 299
PF2307K239NI	Screw	ADF assemblies (5 of 14) on page 307
PF2307K239NI	Screw	ADF assemblies (5 of 14) on page 307
PF2307K239NI	Screw	ADF assemblies (13 of 14) on page 323
PF2307K240NI	Upper multi-pick sensor cover	ADF assemblies (5 of 14) on page 307
PF2307K241NI	Screw	ADF assemblies (2 of 14) on page 301

Table 7-30 Numerical parts list (continued)

Part number	Description	Table and page
PF2307K241NI	Screw	ADF assemblies (5 of 14) on page 307
PF2307K245NI	Screw	ADF assemblies (2 of 14) on page 301
PF2307K245NI	Screw	ADF assemblies (6 of 14) on page 309
PF2307K246A	Screw	ADF assemblies (2 of 14) on page 301
PF2307K246NI	Screw	ADF assemblies (6 of 14) on page 309
PF2307K248A	Screw	ADF assemblies (5 of 14) on page 307
PF2307K248NI	Screw	ADF assemblies (2 of 14) on page 301
PF2307K250NI	Clip	ADF assemblies (7 of 14) on page 311
PF2307K253NI	A4 paper-stop	ADF assemblies (3 of 14) on page 303
PF2307K254NI	Pickup-roller cover	ADF assemblies (14 of 14) on page 325
PF2307K255NI	Clip	ADF assemblies (7 of 14) on page 311
PF2307K627	Flat flexible cable	ADF assemblies (11 of 14) on page 319
PF2307P007	Upper multipick sensor cover	ADF assemblies (5 of 14) on page 307
PF2307P054B	Imprinter carriage seat	ADF assemblies (8 of 14) on page 313
PF2307P055B	Imprinter paper-present sensor holder	ADF assemblies (9 of 14) on page 315
PF2307P132	Mounting bracket	ADF assemblies (13 of 14) on page 323
PF2307P132	Mounting bracket	ADF assemblies (13 of 14) on page 323
PF2307P147	Hinge limiter	ADF assemblies (1 of 14) on page 299
PF2307P229	Imprinter carriage guide	ADF assemblies (8 of 14) on page 313
PF2307P229A	Imprinter carriage rod	ADF assemblies (7 of 14) on page 311

Table 7-30 Numerical parts list (continued)

Part number	Description	Table and page
PF2307P350	Background solenoid assembly spring	ADF assemblies (6 of 14) on page 309
PF2307P359C	Imprinter cable channel	ADF assemblies (7 of 14) on page 311
PF2307P360	Spring	ADF assemblies (8 of 14) on page 313
PF2307P360A	Imprinter cartridge holder clasp	ADF assemblies (7 of 14) on page 311
PF2307P392	FFC separation shield	ADF assemblies (2 of 14) on page 301
PF2307P680A	Imprinter carriage latch	ADF assemblies (8 of 14) on page 313

A Service and support

Hewlett-Packard limited warranty statement

HP PRODUCT	DURATION OF LIMITED WARRANTY
HP Scanjet N9120/Scanjet Enterprise Flow N9120	One year

HP warrants to you, the end-user customer, 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 repair or replace products which prove to be defective. Replacement products may be either new or equivalent in performance to new.

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. If HP is unable, within a reasonable time, to repair or replace any product to a condition as warranted, you will be entitled to a refund of the purchase price upon prompt return of the product.

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.

Customer self repair warranty service

HP products are designed with many Customer Self Repair (CSR) parts to minimize repair time and allow for greater flexibility in performing defective parts replacement. If during the diagnosis period, HP identifies that the repair can be accomplished by the use of a CSR part, HP will ship that part directly to you for replacement. There are two categories of CSR parts: 1) Parts for which customer self repair is mandatory. If you request HP to replace these parts, you will be charged for the travel and labor costs of this service. 2) Parts for which customer self repair is optional. These parts are also designed for Customer Self Repair. If, however, you require that HP replace them for you, this may be done at no additional charge under the type of warranty service designated for your product.

Based on availability and where geography permits, CSR parts will be shipped for next business day delivery. Same-day or four-hour delivery may be offered at an additional charge where geography permits. If assistance is required, you can call the HP Technical Support Center and a technician will help you over the phone. HP specifies in the materials shipped with a replacement CSR part whether a defective part must be returned to HP. In cases where it is required to return the defective part to HP, you must ship the defective part back to HP within a defined period of time, normally five (5) business days. The defective part must be returned with the associated documentation in the provided shipping material. Failure to return the defective part may result in HP billing you for the replacement. With a customer self repair, HP will pay all shipping and part return costs and determine the courier/carrier to be used.

Repack the product

If your product needs to be moved, shipped to another location, or returned to HP, perform the following procedure to repack it.

⚠ **CAUTION:** Shipping damage as a result of inadequate packing is the customer's responsibility. The product must remain upright during shipment.

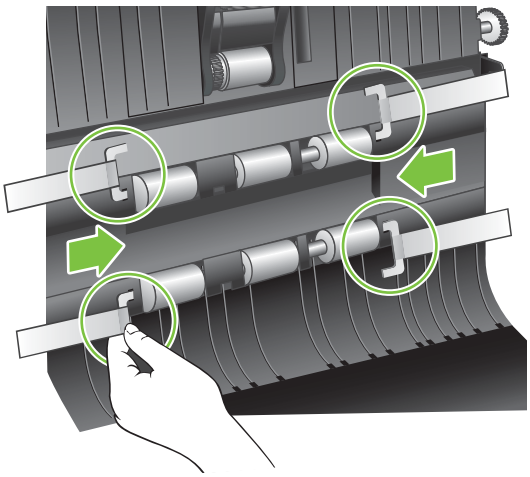
Repack the product

⚠ **CAUTION:** It is *extremely important* to remove the imprinter cartridge before shipping the product. An imprinter cartridge left in the product during shipping can leak and entirely cover the product with toner.

To prevent damage to the imprinter cartridge, store it in the original packing material.

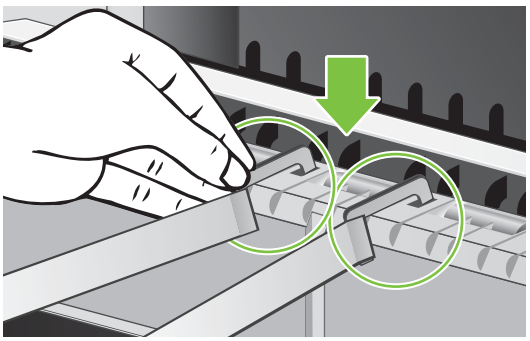
1. Remove the imprinter cartridge and ship separately.
2. Insert four spacers in jam door 1.

Figure A-1 Repack the product (1 of 3)



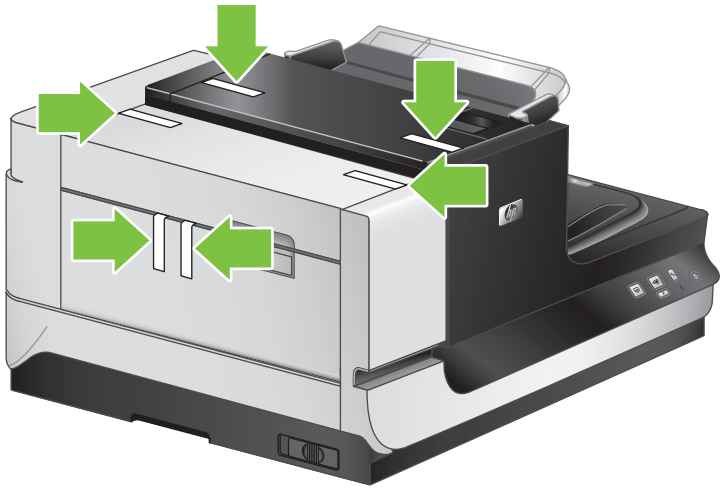
3. Insert two spacers in jam door 2.

Figure A-2 Repack the product (2 of 3)



4. Attach the spacer tape to the outside of the ADF.

Figure A-3 Repack the product (3 of 3)



5. Lock the optical scanner carriage.

6. Pack the product.

NOTE: Use the original shipping container and packing material, if possible. If you have already disposed of the packing material, contact a local mailing service for information about repacking the product. HP recommends insuring the product for shipment.

B Specifications

- Physical specifications
- Electrical specifications
- Acoustic emissions
- Power consumption specifications
- Environmental specifications

Physical specifications

Table B-1 Physical specifications

Height	Depth	Width	Weight
342.9 mm	693.4 mm	558.8 mm	38.5 kg
(13.50 inches)	(27.3 inches)	(22.0 inches)	(85 lb)

Electrical specifications

Table B-2 Electrical specifications

Power requirements	100-240 V
	50/60 Hz
Minimum recommended circuit capacity	1.8 Amp

⚠ **WARNING!** Power requirements are based on the country/region where the device is sold. Do not convert operating voltages. This will damage the digital sender and void the product warranty.

Acoustic emissions

Table B-3 N9120[1,2]

Sound power level	Declared per ISO 9296
Scanning[3]	L_{WAd} = #6.# Bels (A) [##dB (A)]
Ready	L_{WAd} = Inaudible
Sound pressure level: bystander position	**Declared per ISO 9296**
Scanning (## ppm)[3]	L_{pAm} = ## dB (A)
Ready	L_{pAm} = Inaudible

1 Values are based on preliminary data, see www.hp.com/support for current information.
2 Configuration tested: N9120 using the ADF.
3 N9120 speed is 50 ppm (ADF scanning ; Letter/A4 size).

Power consumption specifications

For power consumption information, see the regulatory_supplement.htm file on the HP Scanning Software CD.

Environmental specifications

Table B-4 Environmental specifications

	Operating	Storage
Temperature	10° to 35°C (50° to 95°F)	-40° to 60°C (-40° to 140°F)
Relative humidity	15% to 80% non-condensing	15% to 85%

⚠ **CAUTION:** The operating environment should be stable, with no abrupt changes in temperature or humidity that might damage the device. If you move the device from a cold environment to a warm one, wait about 2 hours before using it.

C Regulatory information

- Regulatory Model Identification Number
- Materials disposal
- Disposal of waste equipment by users in private households in the European Union
- Country/region specific statements

Regulatory Model Identification Number

For regulatory identification purposes your product is assigned a Regulatory Model Number. The Regulatory Model Number for your product is FCLSD-0705. This regulatory number should not be confused with the marketing names HP Scanjet N9120 or HP Scanjet Enterprise Flow N9120 (L2683A). Additional regulatory information about your scanner can be found on the regulatory_supplement.htm file on the HP Scanning Software CD.

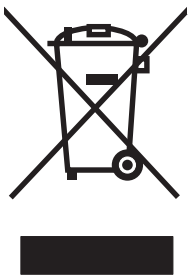
Materials disposal

This HP product contains the following materials that might require special handling at end of life:

- Mercury in the fluorescent lamp in the scanner and/or transparent materials adapter

Disposal of this material can be regulated because of environmental considerations. For disposal or recycling information, please contact your local authorities or the Electronic Industries Alliance (EIA) at 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.

Country/region specific statements

Korean regulatory

사용자 안내문(B급 기기)
이 기기는 비업무용으로 전자파 적합 등록을 받은 기기로서, 주거지역에서는 물론 모든 지역에서 사용할 수 있습니다.

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