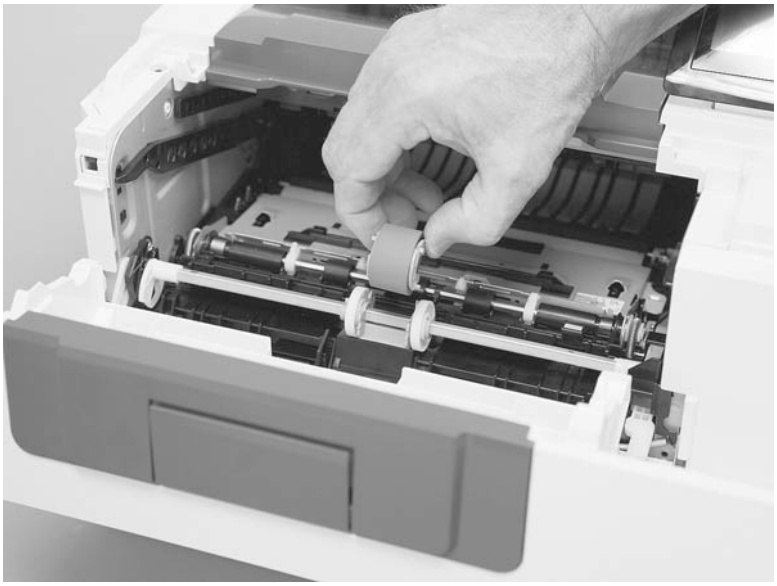
3. Remove the roller.

Figure 2-135 Remove the roller



Step 2: Remove the separation pad assembly

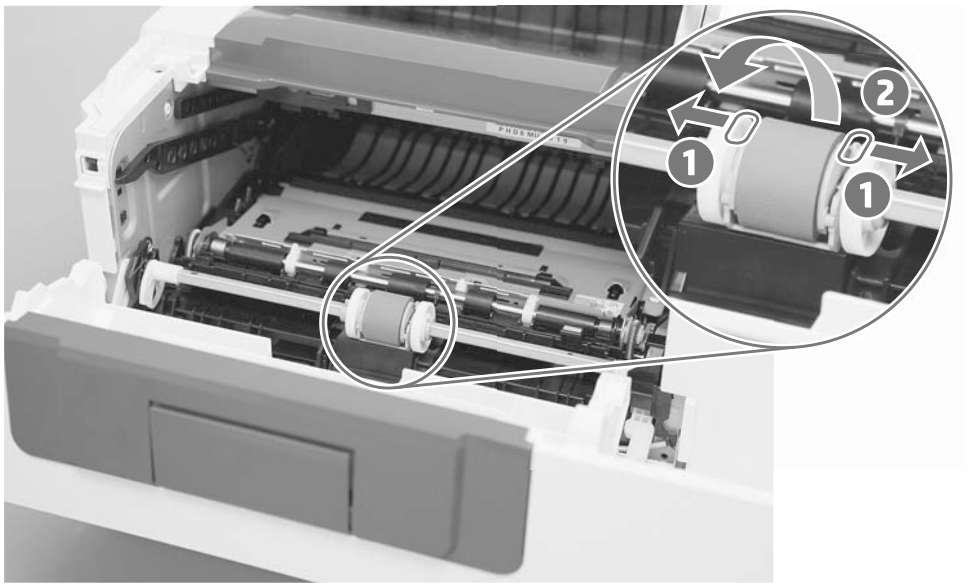
1. Open the toner-cartridge door.

Figure 2-136 Open the toner-cartridge door

2. Release two tabs between the roller collar and roller (callout 1), and then rotate the top of the roller out and away from the printer (callout 2).

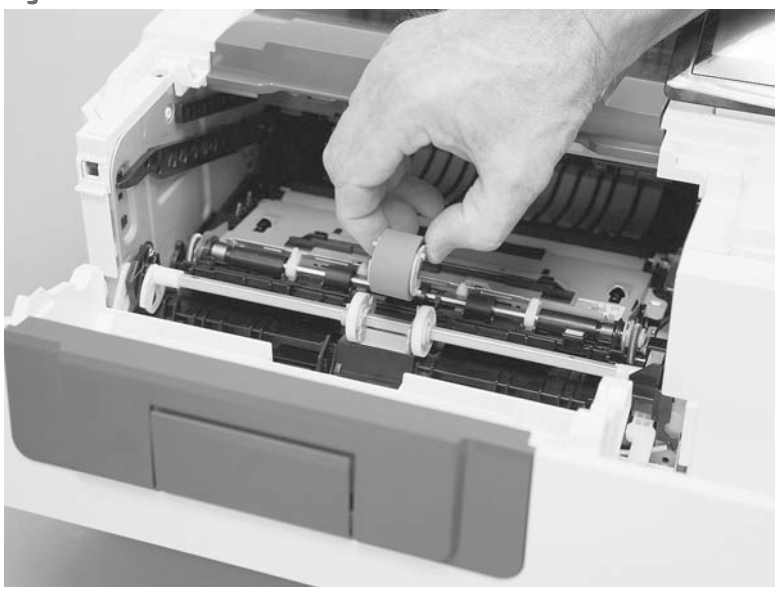
TIP: Pushing down on the top of the roller might make it easier to release the tabs.

Figure 2-137 Release two tabs



3. Remove the roller.

Figure 2-138 Remove the roller

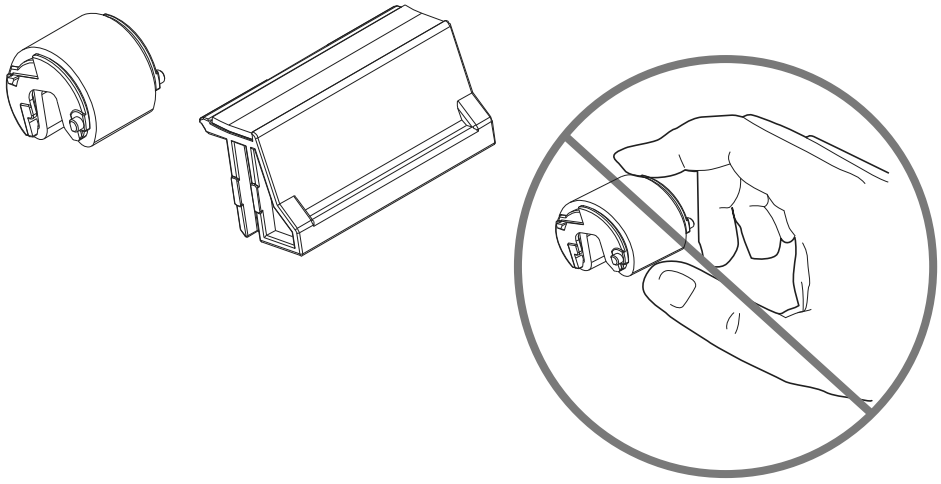


Step 3: Clean the Tray 1 roller and separation pad

▲ Use a damp, lint-free cloth to gently clean the rollers.

CAUTION: When handling the roller and pad, avoid touching the spongy surfaces. Skin oils and fingerprints on a roller surface can cause print-quality problems.

Figure 2-139 Clean the rollers and pad

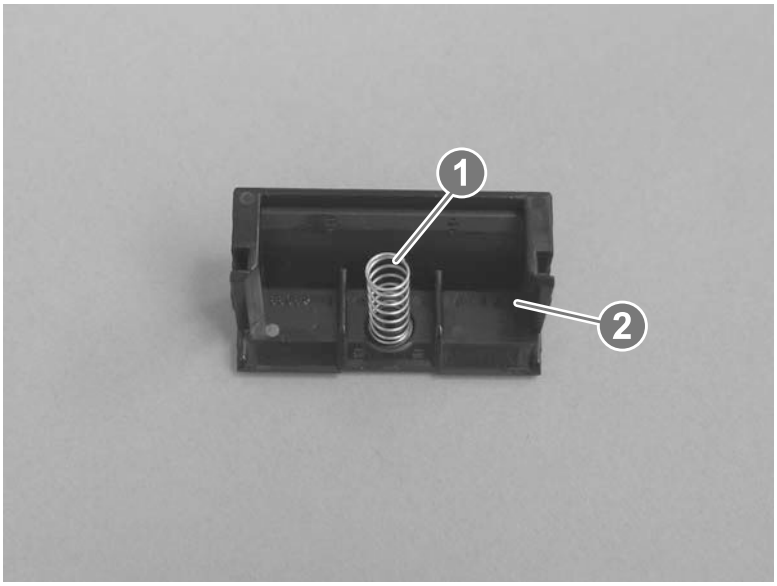


Step 4: Install the separation pad assembly

⚠ **CAUTION:** Do not touch the black rubber portion of the pad assembly. Skin oils on the pad can cause paper handling problems. HP recommends washing your hands before handling the assembly.

1. Install the spring (callout 1) from the discarded separation pad assembly (or use the one supplied in this kit) on to the replacement assembly (callout 2).

Figure 2-140 Install the spring



2. Align the slots in the assembly (callout 1) with the rails on the holder (callout 2).

Figure 2-141 Align the assembly with the holder

3. Install the pad assembly into the holder.

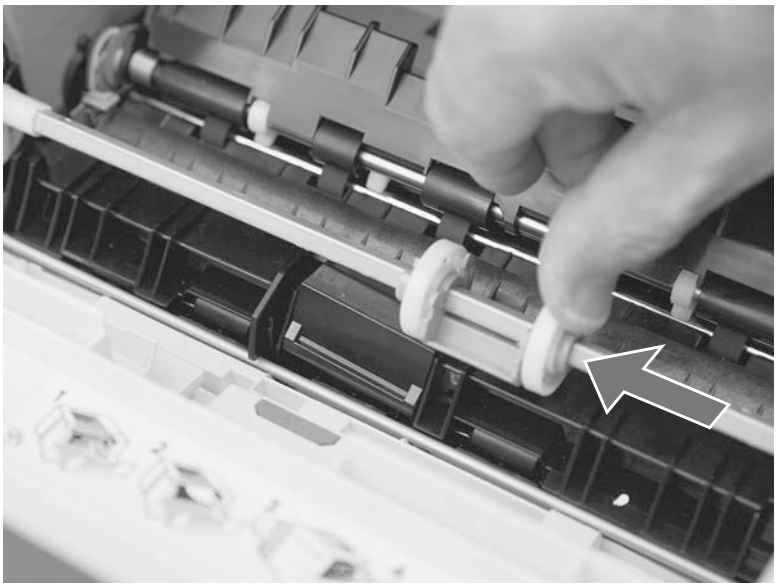
Reinstallation tip: The separation pad should freely move up and down on the spring when correctly installed. If the pad does not freely move, remove it, check the spring, and then reinstall it.

Figure 2-142 Install the pad assembly

4. Slide the roller carriage back to the center of the shaft (the locking tab snaps into place).

NOTE: Slightly depress the separation pad so that the roller carriage can slide over it.

Figure 2-143 Slide the roller carriage to the left



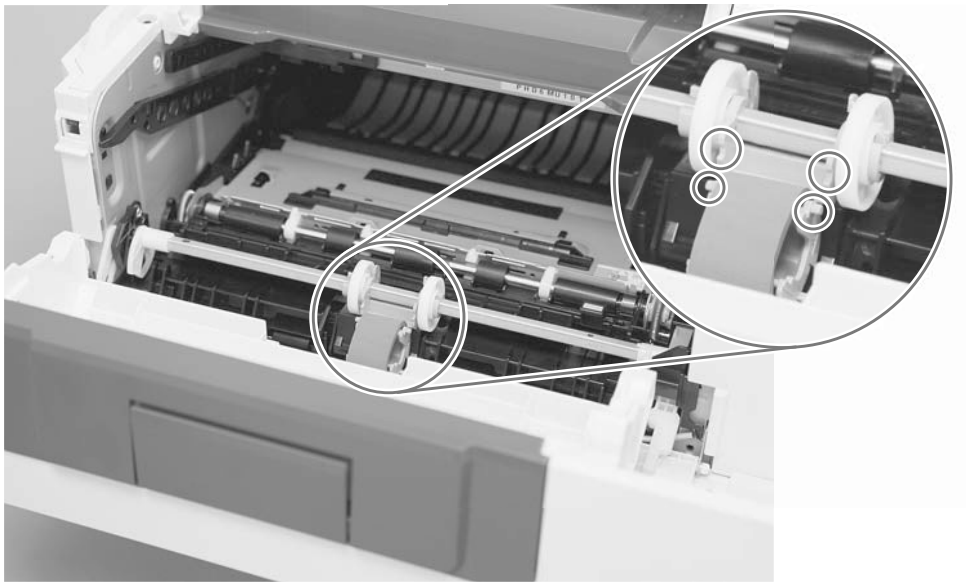
Step 5: Install the roller

CAUTION: Do not touch the gray spongy portion of the replacement roller. Skin oils on the roller can cause paper handling problems. HP recommends washing your hands before handling the assembly.

1. Place the pins on the under-side of the pickup roller in the slots on the holder, and then rotate the top of the roller up and toward the printer.

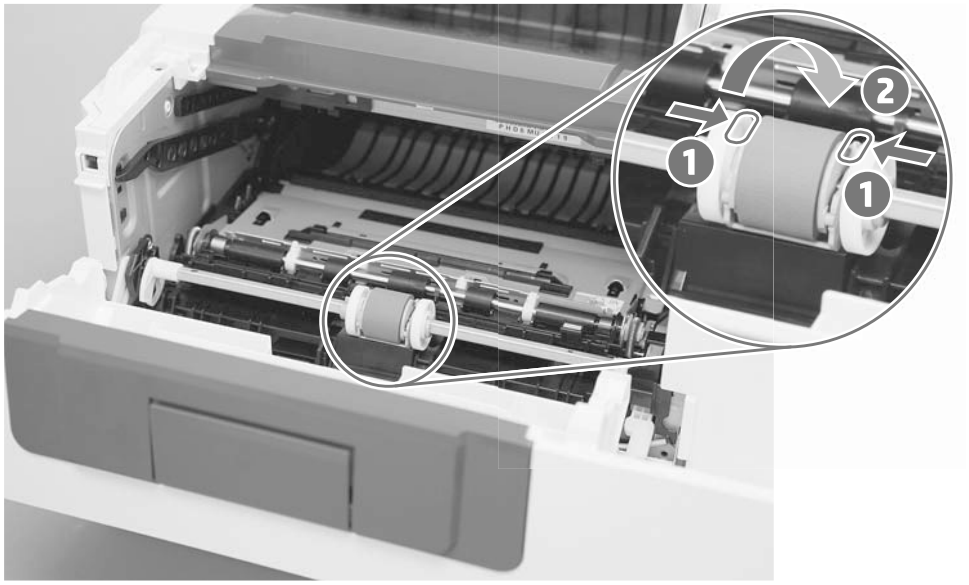
NOTE: In this step, you start with the roller upside down, and then rotate it up and into its final installed position.

Figure 2-144 Install the roller



2. Continue to rotate the top of the roller toward the printer until two tabs snap into place.

Figure 2-145 Engage two tabs



3. Close the toner-cartridge door.

NOTE: If the toner cartridge was removed, do not forget to reinstall it.

Figure 2-146 Close the toner-cartridge door

Clean the Tray 2-X rollers

NOTE: The figures in this section show the M506x and M527. However, the procedure is correct for all M506 models and the M501 printer.

Step 1: Remove the tray

1. Pull the tray straight out of the printer until it stops.

Figure 2-147 Pull the tray out until it stops

2. Lift the front of the tray, and then pull it out of the printer to remove it.

Figure 2-148 Release and remove the tray

Step 2: Remove the roller assembly

CAUTION: When handling the roller assembly, do not touch the gray spongy portion of the rollers. Skin oils on the rollers can cause paper handling problems. HP recommends washing your hands before handling the assembly.

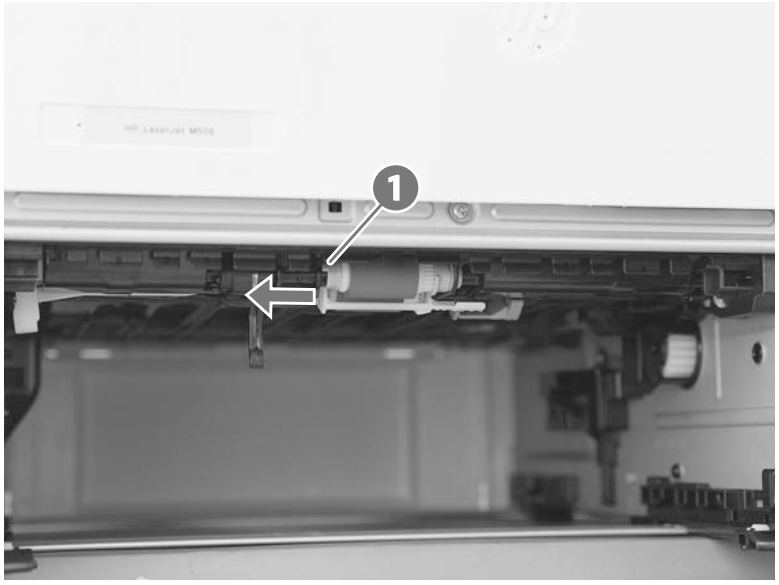
NOTE: The figures in this section show the M506 and M527 Tray 2. However, the procedure is correct for replacing the Tray 2 pickup and feed roller and separation roller assemblies in the M501, as well as the optional Tray 3, Tray 4, and Tray 5 accessories.

1. Look up into the tray cavity to locate the roller assembly.

Figure 2-149 Locate the roller assembly

2. Grasp the white tab on the roller holder (callout 1), and then slide the roller assembly to the left to compress the spring loaded shaft (callout 2).

Figure 2-150 Compress the spring-loaded shaft



3. With the spring loaded shaft depressed, rotate the right side of the roller assembly down and towards you to release it.

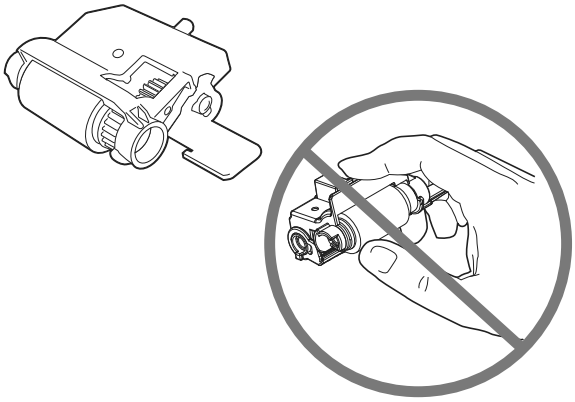
Figure 2-151 Remove the roller assembly

Step 3: Clean the Tray 2-X rollers

▲ Use a damp, lint-free cloth to gently clean the rollers.

⚠ **CAUTION:** When handling the rollers, avoid touching the spongy surfaces. Skin oils and fingerprints on a roller surface can cause print-quality problems.

Figure 2-152 Clean the rollers



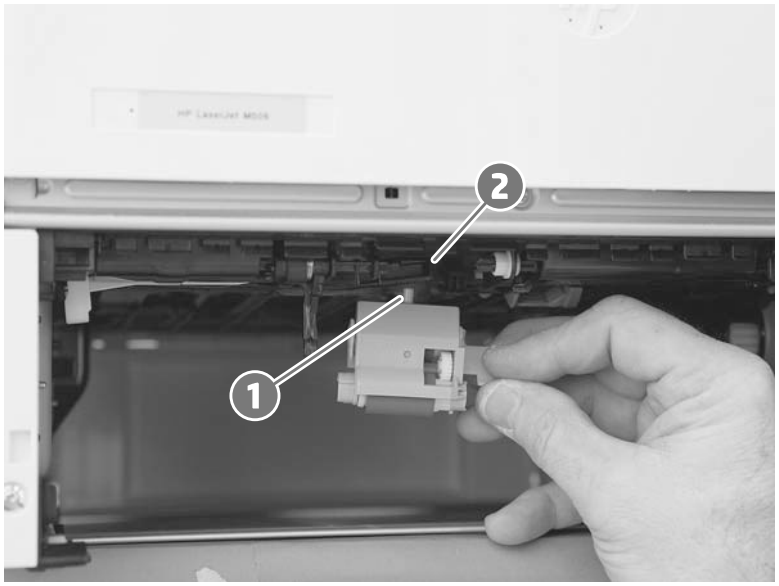
Step 4: Install the roller assembly

⚠ **CAUTION:** When handling the roller assembly, do not touch the gray spongy portion of the rollers. Skin oils on the rollers can cause paper handling problems. HP recommends washing your hands before handling the assembly.

NOTE: The figures in this section show the M506 and M527 Tray 2. However, the procedure is correct for replacing the Tray 2 pickup and feed roller and separation roller assemblies in the M501, as well as the optional Tray 3, Tray 4, and Tray 5 accessories.

1. When the assembly is installed, the actuator pin (callout 1) on the roller assembly must be installed in the slot (callout 2) in the actuator arm.

Figure 2-153 Check the pin on the assembly



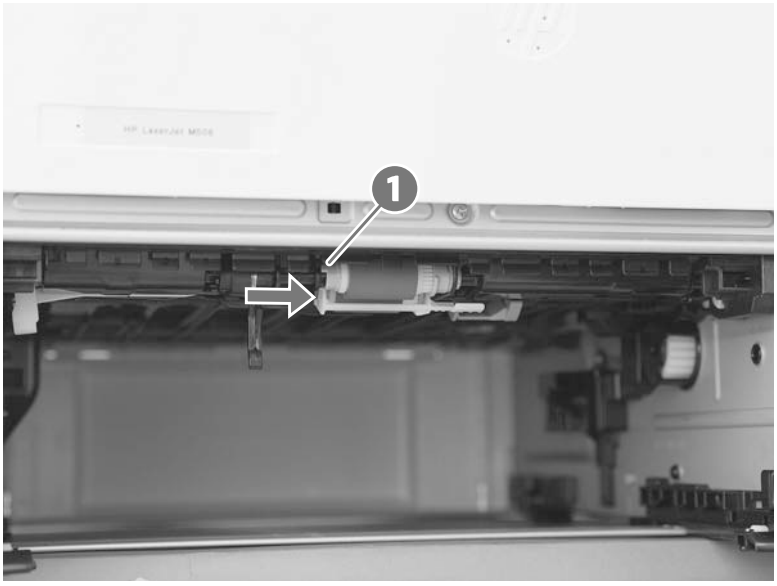
2. Position the left end of the assembly on the spring loaded shaft and push it left to compress the shaft (callout 1), keep the roller holder parallel to the underside of the printer, and then rotate the right end up and into the printer (callout 2).

Figure 2-154 Install the roller assembly

3. Slowly release the depressed spring loaded shaft to allow the right end of the roller assembly to engage with the right-side drive shaft.

   Make sure that the right side of the assembly is fully engaged with the right-side drive shaft.

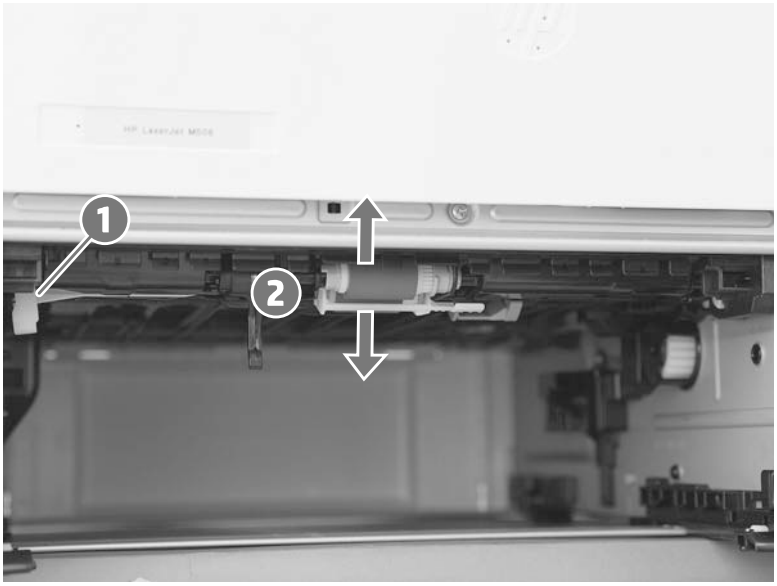
   Figure 2-155 Decompress the spring-loaded shaft



4. To check the installation, repeatedly push up and release, the tray actuator (callout 1) and observe the roller assembly. If the assembly is correctly installed, it moves up and down (callout 2).

NOTE: If the assembly does not properly move, remove it and then reinstall it, making sure that the pin on the assembly is installed in the slot in the actuator arm. See Figure 2-153 Check the pin on the assembly on page 515.

Figure 2-156 Check the installation



Step 5: Install the tray

1. With the tray at a slight angle, align the sides of the tray with the rails in the accessory, and then partially slide the tray into the printer.

Figure 2-157 Install the tray

2. Push the tray straight into the accessory to close it.

Figure 2-158 Close the tray

Solve paper handling problems

Printer feeds incorrect page size

Table 2-65 Printer feeds incorrect page size

Cause	Solution
The correct size paper is not loaded in the tray.	Load the correct size paper in the tray.
The correct size paper is not selected in the software program or printer driver.	Confirm that the settings in the software program and printer driver are correct, because the software program settings override the printer driver and control panel settings, and the printer driver settings override the control panel settings.
The correct size paper for the tray is not selected in the printer control panel.	From the control panel, select the correct size paper for the tray.
The paper size is not configured correctly for the tray.	Print a configuration page to determine the paper size for which the tray is configured.
The guides in the tray are not against the paper.	Verify that the paper guides are touching the paper.

Printer pulls from incorrect tray

Table 2-66 Printer pulls from incorrect tray

Cause	Solution
A driver for a different printer is in use.	Use a driver for this printer.
The specified tray is empty.	Load paper in the specified tray.
The paper size is not configured correctly for the input tray.	Print a configuration page or use the control panel to determine the paper size for which the tray is configured.
The guides in the tray are not against the paper.	Verify that the guides are touching the paper.

Printer will not duplex or duplexes incorrectly

Table 2-67 Printer will not duplex (print 2-sided jobs) or duplexes incorrectly

Cause	Solution
The duplex job is trying to use unsupported paper.	Verify that the paper is supported for duplex printing.
The printer driver is not set up for duplex printing.	Set up the printer driver to enable duplex printing.

Table 2-67 Printer will not duplex (print 2-sided jobs) or duplexes incorrectly (continued)

Cause	Solution
The first page is printing on the back of preprinted forms or letterhead.	Load preprinted forms and letterhead in Tray 1 with the letterhead or printed side down, with the top of the page leading into the printer. For Tray 2-X, load the paper printed side up with the top of the page toward the right of the printer.
The printer model does not support automatic 2-sided printing.	The printer model does not support automatic 2-sided printing.

Paper does not feed from Tray 2-X

Table 2-68 Paper does not feed from Tray 2-X

Cause	Solution
The correct size paper is not loaded.	Load the correct size paper.
The input tray is empty.	Load paper in the input tray.
The correct paper type for the input tray is not selected in the printer control panel.	From the printer control panel, select the correct paper type for the input tray. Trays configured for a paper type with a specific weight range will not match a print job that specifies an exact weight, even if the specified weight is within the weight range.
Paper from a previous jam has not been completely removed.	Open the printer and remove any paper in the paper path. Closely inspect the fuser area for jams.
None of the optional trays appear as input tray options.	The optional trays only display as available if they are installed. Verify that any optional trays are correctly installed. Verify that the printer driver has been configured to recognize the optional trays.
An optional tray is incorrectly installed.	Print a configuration page to confirm that the optional tray is installed. If not, verify that the tray is correctly attached to the printer.
The paper size is not configured correctly for the input tray.	Print a configuration page or use the control panel to determine the paper size for which the tray is configured.
The guides in the tray are not against the paper.	Verify that the guides are touching the paper.

Output is curled or wrinkled

Table 2-69 Output is curled or wrinkled

Cause	Solution
Paper does not meet the specifications for this printer.	Use only paper that meets the HP paper specifications for this printer.
The correct paper type for the input tray is not selected in the printer control panel.	From the printer control panel, select the correct paper type for the input tray. Trays configured for a paper type with a specific weight range will not match a print job that specifies an exact weight, even if the specified weight is within the weight range.
Paper is damaged or in poor condition.	Remove paper from the input tray and load paper that is in good condition.
The printer is operating in an excessively humid environment.	Verify that the printing environment is within humidity specifications.

Table 2-69 **Output is curled or wrinkled (continued)**

Cause	Solution
The print job consist of large, solid-filled areas.	Large, solid-filled areas can cause excessive curl. Try using a different pattern.
Paper used was not stored correctly and might have absorbed moisture.	Remove paper and replace it with paper from a fresh, unopened package.
Paper has poorly cut edges.	Remove paper, flex it, rotate it 180 degrees or turn it over, and then reload it into the input tray. Do not fan paper. If the problem persists, replace the paper.
The specific paper type was not configured for the tray or selected in the software.	Configure the software for the paper (see the software documentation). Configure the tray for the paper.
The paper has previously been used for a print job.	Do not re-use paper.

Printer does not pick up paper or misfeeds

Use the following procedures if the printer will not pick or misfeeds paper.

The printer does not pick up paper

If the printer does not pick up paper from the tray, try these solutions.

NOTE: Tray 1 and Tray 2 are optimal for paper pickup when using special paper or media other than 20lb plain paper. For Tray 1 and Tray 2 the printer increases the number of attempts to pick up a page, which increases the reliability of successfully picking the page from the tray and decreases the possibility of a mispick jam.

HP recommends using Tray 1 or Tray 2 if the printer is experiencing excessive or reoccurring jams from trays other than Tray 1 and Tray 2, or for print jobs that require media other than 20lb plain paper.

1. Open the printer and remove any jammed sheets of paper.
2. Load the tray with the correct size of paper for the job.
3. Make sure the paper size and type are set correctly on the printer control panel.
4. Make sure the paper guides in the tray are adjusted correctly for the size of paper. Adjust the guides to the appropriate indentation in the tray.
5. Check the printer control panel to see if the printer is waiting for an acknowledgment to the feed the paper manually prompt. Load paper, and continue.
6. The rollers above the tray might be contaminated. Clean the rollers with a lint-free cloth dampened with warm water.

The printer picks up multiple sheets of paper

If the printer picks up multiple sheets of paper from the tray, try these solutions.

1. Remove the stack of paper from the tray and flex it, rotate it 180 degrees, and flip it over. *Do not fan the paper*. Return the stack of paper to the tray.
2. Use only paper that meets HP specifications for this printer.
3. Use paper that is not wrinkled, folded, or damaged. If necessary, use paper from a different package.
4. Make sure the tray is not overfilled. If it is, remove the entire stack of paper from the tray, straighten the stack, and then return some of the paper to the tray.
5. Make sure the paper guides in the tray are adjusted correctly for the size of paper. Adjust the guides to the appropriate indentation in the tray.
6. Make sure the printing environment is within recommended specifications.

The document feeder jams, skews, or picks up multiple sheets of paper (M527)

- Check to see if there are areas on the page that might have had staples removed. This can cause jams and/or mispicks.
- The original might have something on it, such as staples or self-adhesive notes that must be removed.
- Check that all rollers are in place and correctly installed.
- Make sure that the top document-feeder cover is closed.
- The pages might not be placed correctly. Straighten the pages and adjust the paper guides to center the stack.
- The paper guides must be touching the sides of the paper stack to work correctly. Make sure that the paper stack is straight and the guides are against the paper stack.
- The document feeder input tray or output bin might contain more than the maximum number of pages. Make sure the paper stack fits below the guides in the input tray, and remove pages from the output bin.
- Verify that there are no pieces of paper, staples, paper clips, or other debris in the paper path.
- Clean the document-feeder rollers and the separation pad. Use compressed air or a clean, lint-free cloth moistened with warm water. If misfeeds still occur, replace the rollers.

Paper does not feed automatically

Table 2-70 Paper does not feed automatically

Cause	Solution
Manual feed is selected in the software program.	Load Tray 1 with paper, or, if the paper is loaded, press the OK button.
The correct size paper is not loaded.	Load the correct size paper.
The input tray is empty.	Load paper into the input tray.
Paper from a previous jam has not been completely removed.	Open the printer and remove any paper in the paper path.

Table 2-70 Paper does not feed automatically (continued)

Cause	Solution
The paper size is not configured correctly for the input tray.	Print a configuration page or use the control panel to determine the paper size for which the tray is configured.
The guides in the tray are not against the paper.	Verify that the rear and width paper guides are touching the paper.

Clear paper jams

- Paper path jam sensor locations
- Auto-navigation for clearing jams
- Experiencing frequent or recurring paper jams?
- Clear paper jams in the document feeder
- Clear paper jams in Tray 1
- Clear paper jams in Tray 2 and the 550-sheet trays
- Clear paper jams in the toner-cartridge area
- Clear paper jams in the rear door and the fuser area
- Clear paper jams in the output bin
- Clear paper jams in the duplexer
- Change jam recovery (M506/M527)

Paper path jam sensor locations

NOTE: Use the figures below to identify the locations of sensors where reoccurring jams are found.

Figure 2-159 Jam sensors

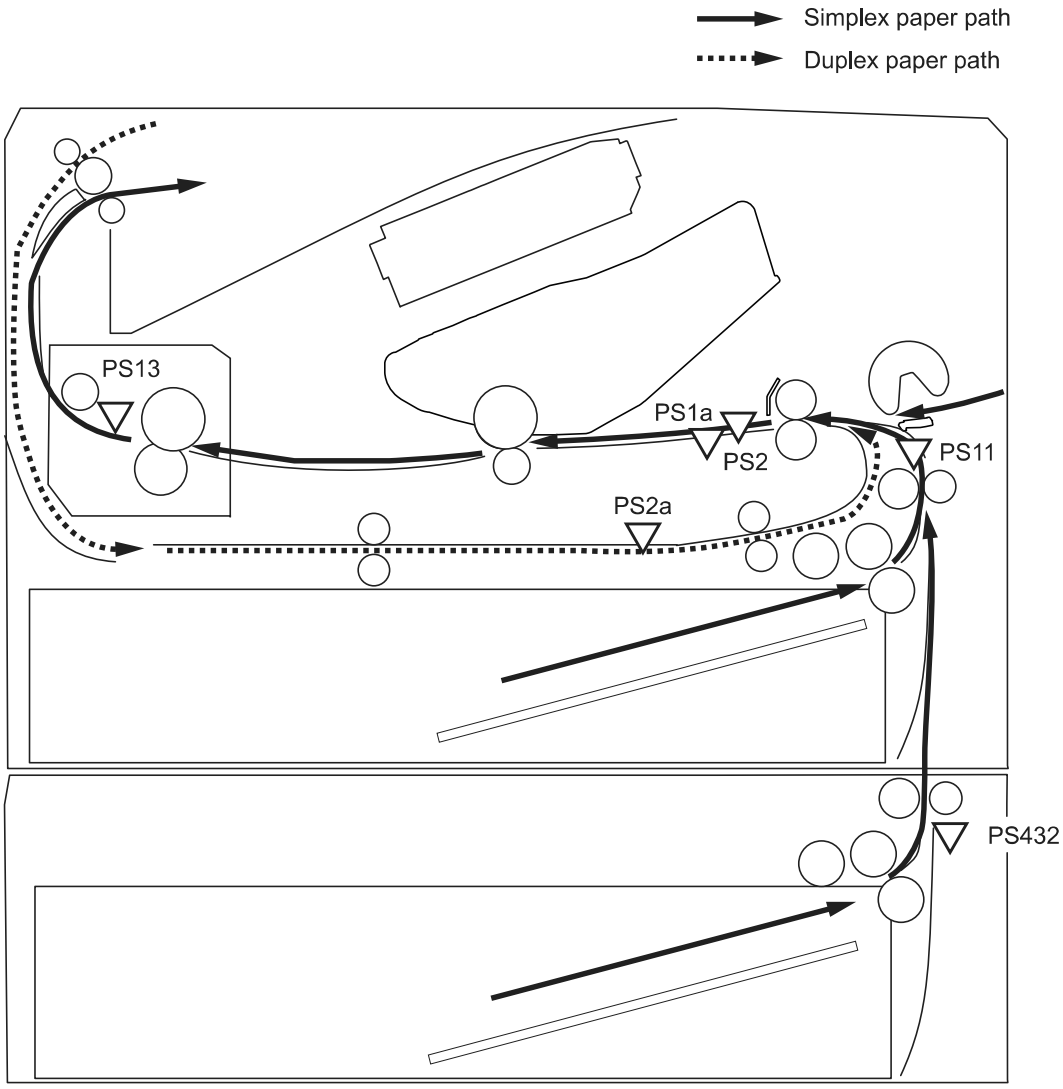


Table 2-71 Printer base jam sensors

Sensor	Description	Sensor	Description
SR2	TOP sensor	SR2a	Duplex feed sensor
SR1a	Media-width sensor	SR11	Registration sensor
SR13	Fuser output sensor	SR432	Paper feeder feed sensor

[1] Duplex models only.

[2] 550-sheet paper feeder accessory.

Auto-navigation for clearing jams

The auto-navigation feature assists you in clearing jams by providing step-by-step instructions on the control panel. When you complete a step, the product displays instructions for the next step until you have completed all steps in the procedure.

Experiencing frequent or recurring paper jams?

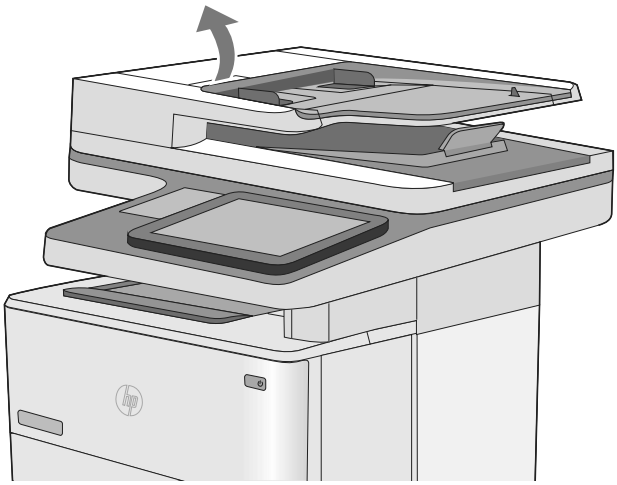
To reduce the number of paper jams, try these solutions.

1. Use only paper that meets HP specifications for this product.
2. Use paper that is not wrinkled, folded, or damaged. If necessary, use paper from a different package.
3. Use paper that has not previously been printed or copied on.
4. Make sure the tray is not overfilled. If it is, remove the entire stack of paper from the tray, straighten the stack, and then return some of the paper to the tray.
5. Make sure the paper guides in the tray are adjusted correctly for the size of paper. Adjust the guides so they are touching the paper stack without bending it.
6. Make sure that the tray is fully inserted in the product.
7. If you are printing on heavy, embossed, or perforated paper, use the manual feed feature and feed sheets one at a time.
8. Open the Trays menu on the product control panel. Verify that the tray is configured correctly for the paper type and size.
9. Make sure the printing environment is within recommended specifications.

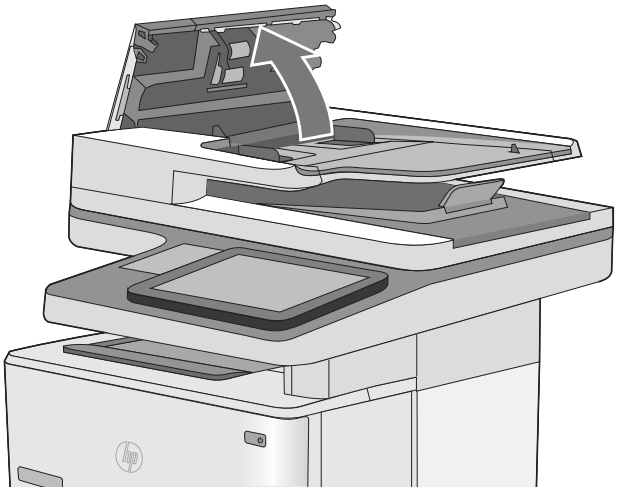
Clear paper jams in the document feeder

The following information describes how to clear paper jams in the document feeder. When a jam occurs, the control panel displays an animation that assists in clearing the jam.

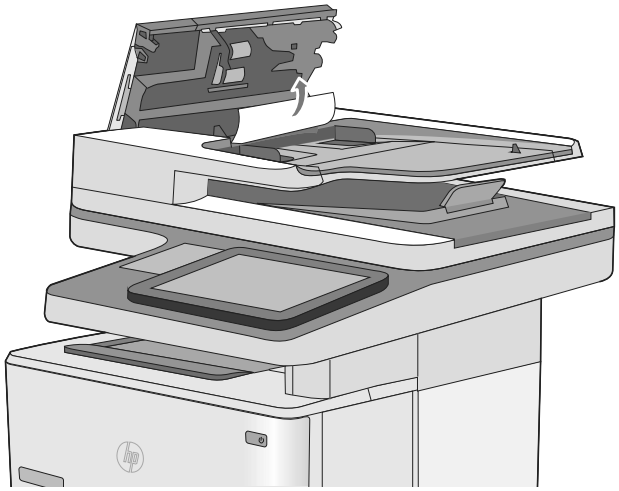
1. Lift the latch to release the document-feeder cover.



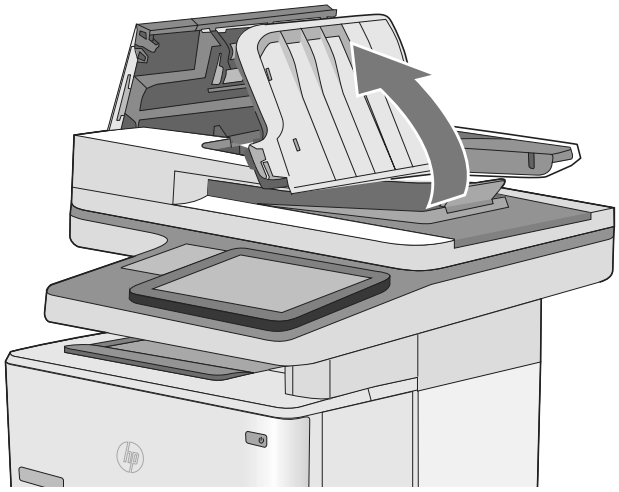
2. Open the document-feeder cover.



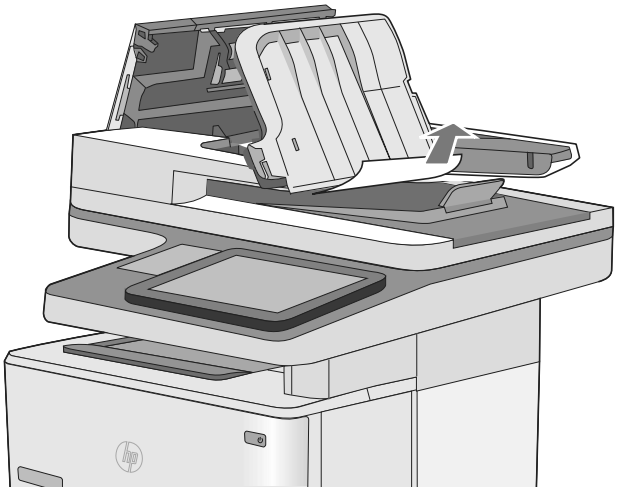
3. Remove any jammed paper.



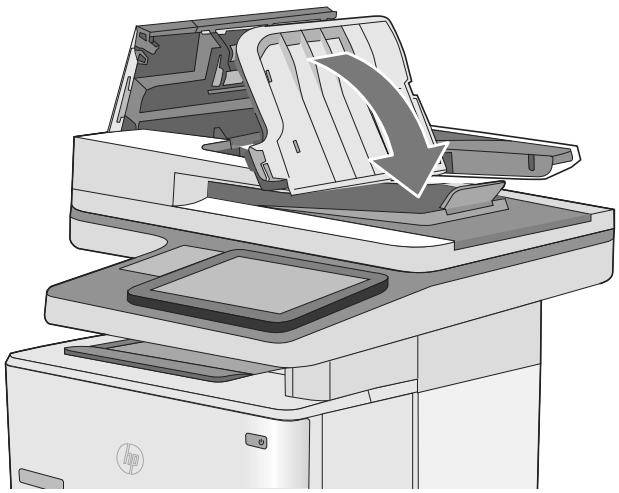
4. Lift the document-feeder input tray.



5. Remove any jammed paper.

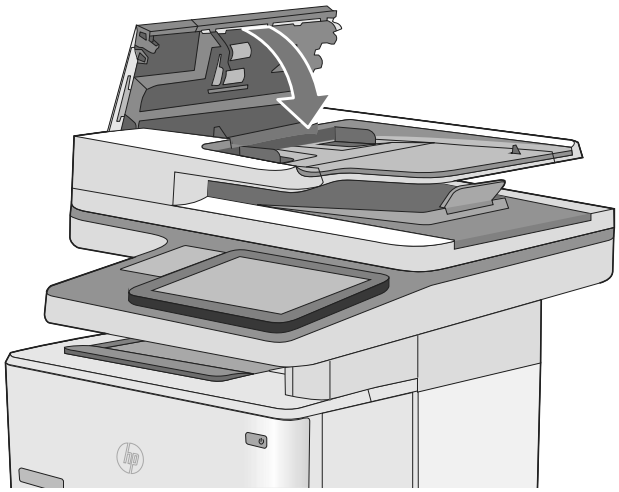


6. Lower the document-feeder input tray.



7. Close the document-feeder cover.

   NOTE: Verify that the latch on the top of the document-feeder cover is completely closed.



NOTE: To avoid jams, make sure the guides in the document-feeder input tray are adjusted against the document, without bending the document. To copy narrow documents, use the flatbed scanner. Remove all staples and paper clips from original documents.

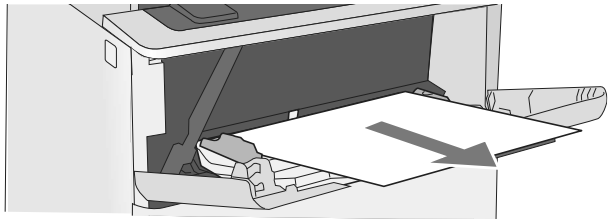
NOTE: Original documents that are printed on heavy, glossy paper can jam more frequently than originals that are printed on plain paper.

Clear paper jams in Tray 1

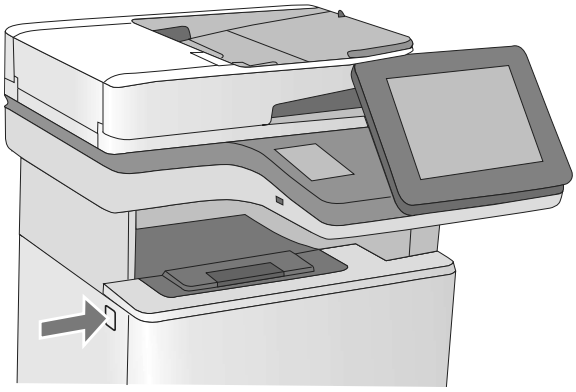
Use the following procedure to clear paper jams in Tray 1. When a jam occurs, the control panel displays an animation that assists in clearing the jam.

1. If most of the sheet of paper is visible in the tray, slowly pull the jammed paper out of the printer. Make sure that the entire sheet is removed. If it tears, continue with the following steps to find the remnants.

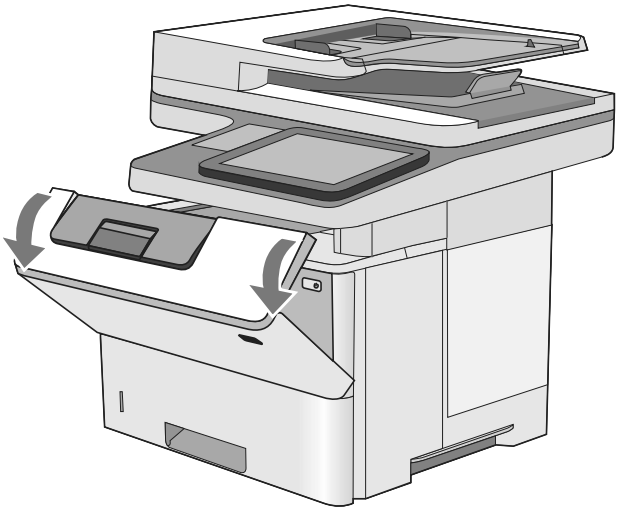
   If most of the sheet of paper has been pulled inside the printer, continue with the following steps.



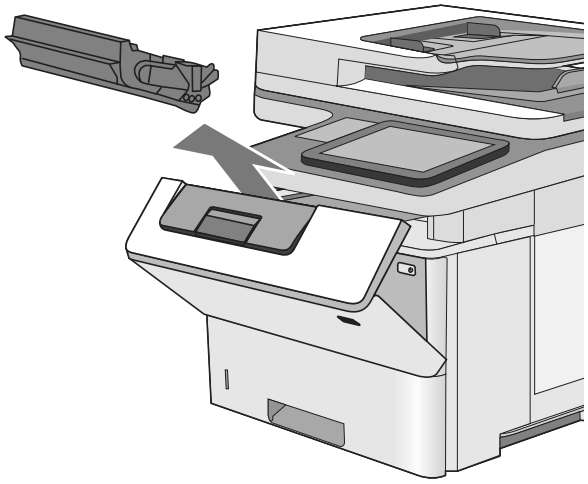
2. Press the top-cover-release button on the left side of the printer.



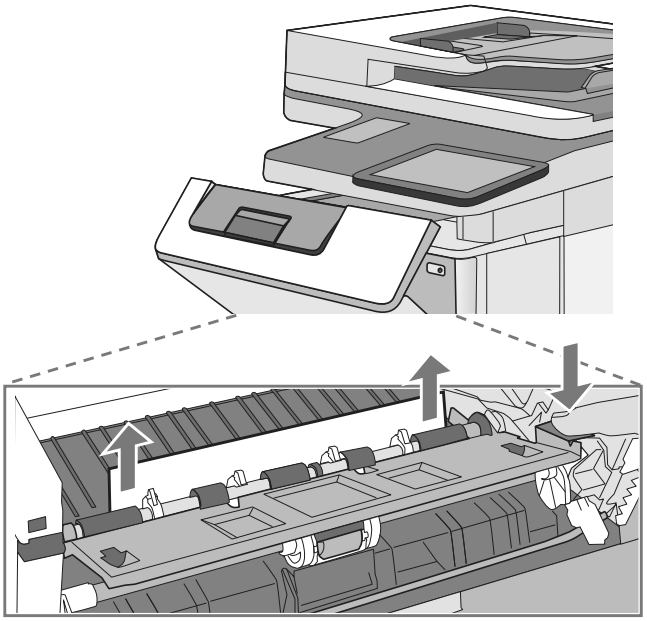
3. Open the front door.



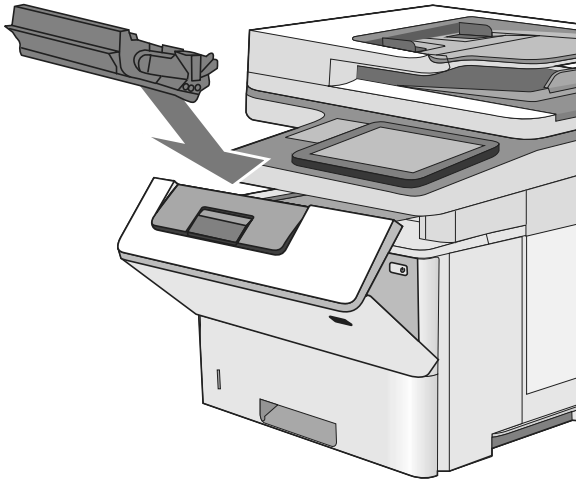
4. Remove the toner cartridge.



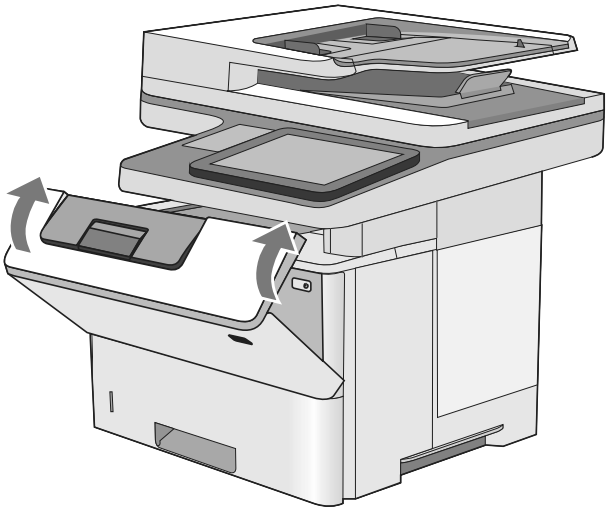
5. Lift the jam-access cover and slowly remove any jammed paper. Be careful not to tear the paper.



6. Reinsert the toner cartridge.



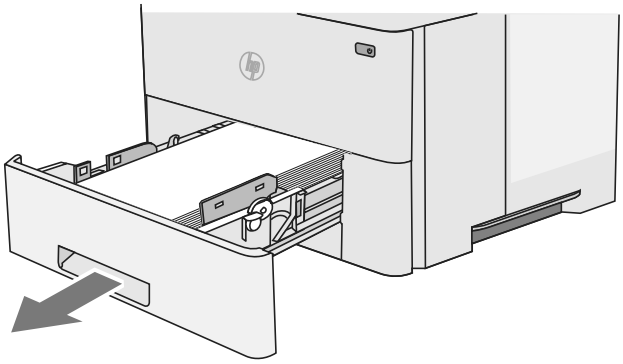
7. Close the front door.



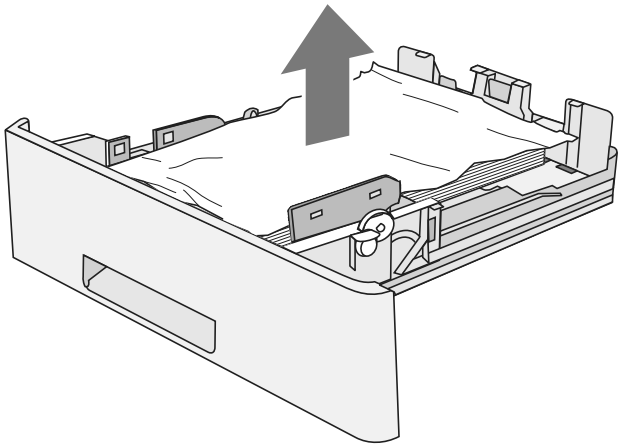
Clear paper jams in Tray 2 and the 550-sheet trays

Use the following procedure to check for paper in all possible jam locations related to Tray 2 and the 550-sheet trays. When a jam occurs, the control panel displays an animation that assists in clearing the jam.

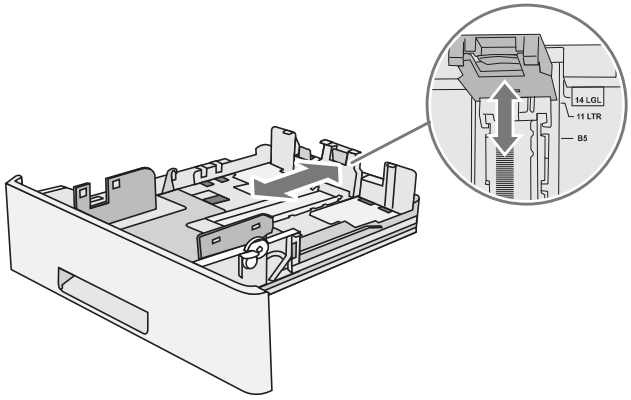
1. Remove the tray from the printer.



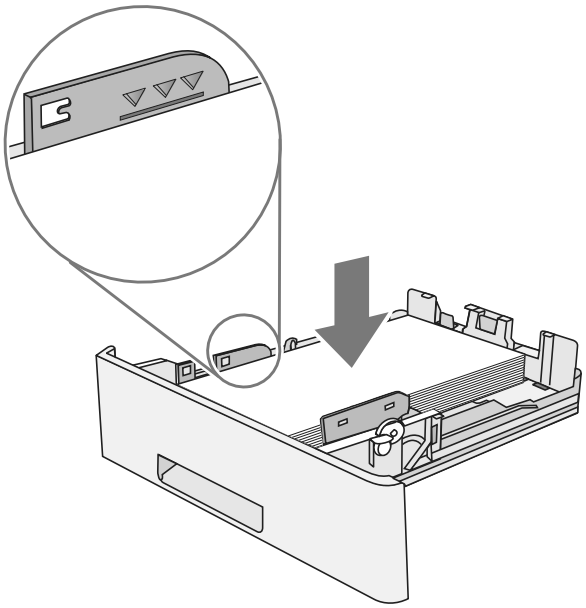
2. Remove the paper from the tray, and discard any damaged paper.



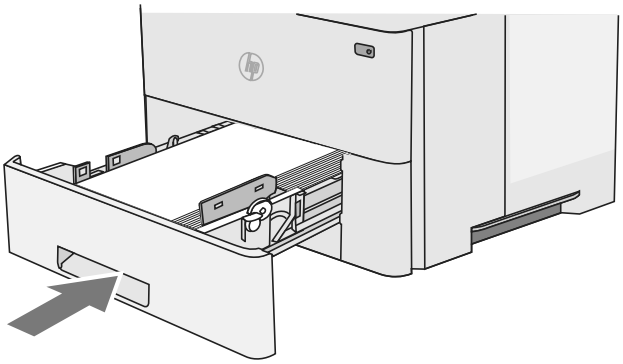
3. Verify that the rear paper guide is adjusted to the indentation for the correct paper size. If necessary, pinch the release and move the rear paper guide to the correct position. It should click into place.



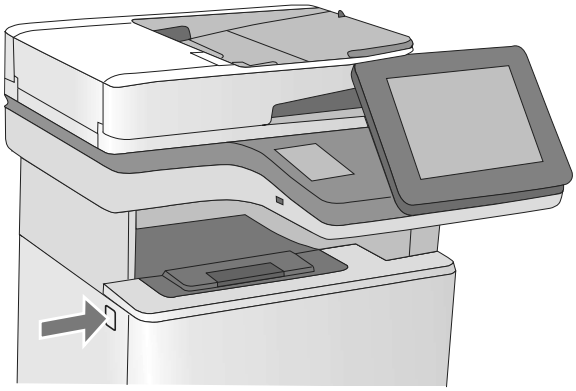
4. Load the paper into the tray. Make sure that the stack is flat at all four corners and that the top of the stack is below the maximum-height indicators.



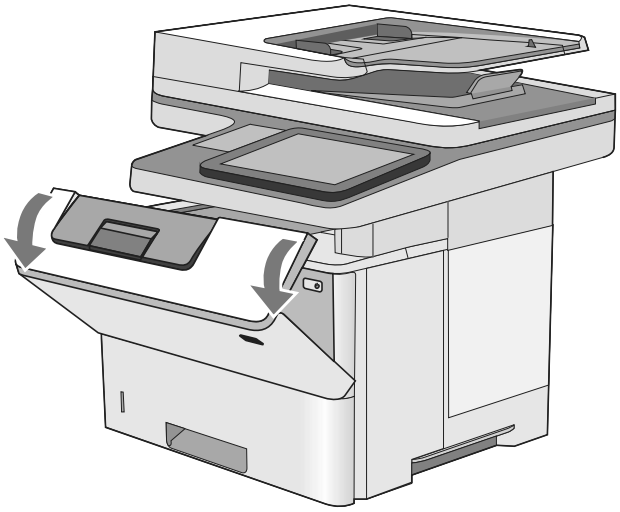
5. Reinsert and close the tray.



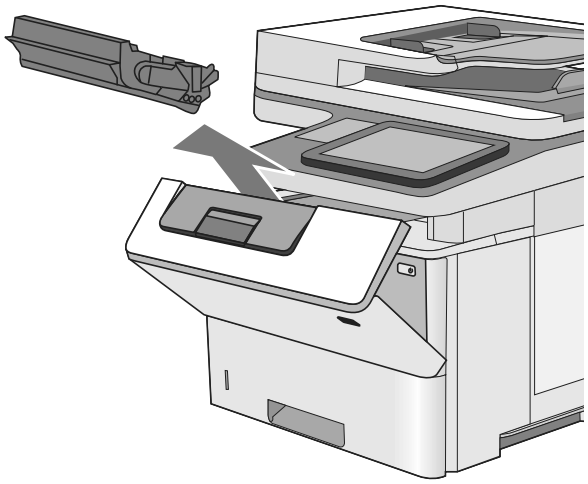
6. Press the top-cover-release button on the left side of the printer.



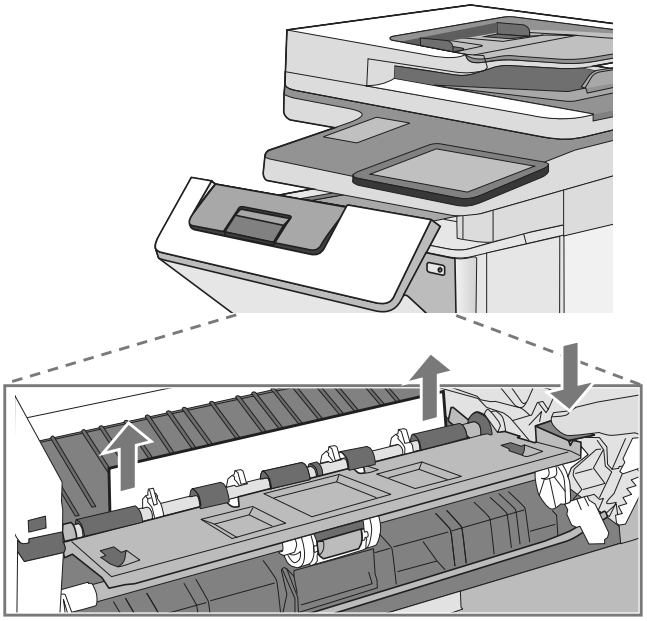
7. Open the front door.



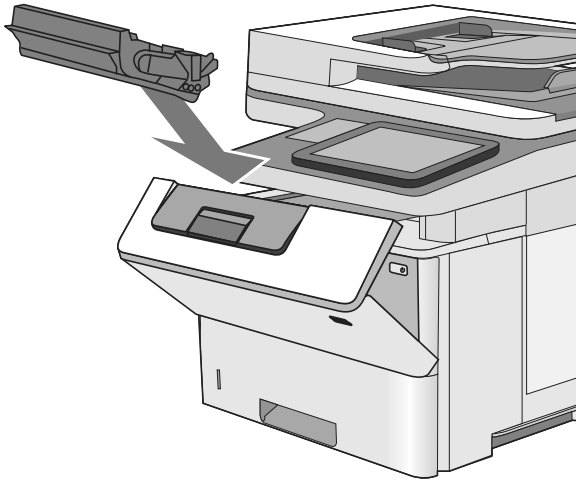
8. Remove the toner cartridge.



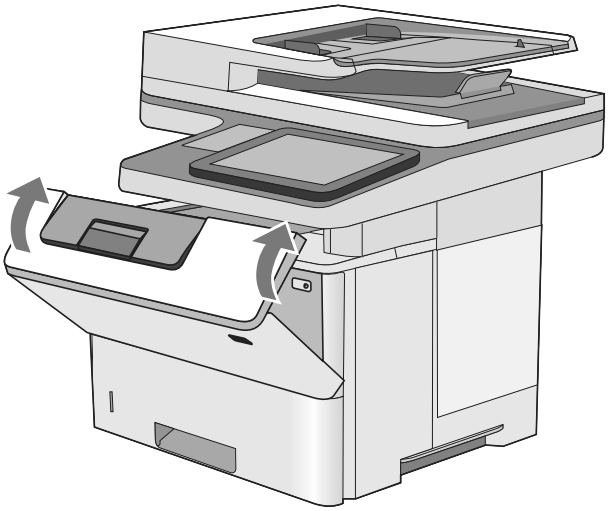
9. Lift the jam-access cover and slowly remove any jammed paper. Be careful not to tear the paper.



10. Reinsert the toner cartridge.



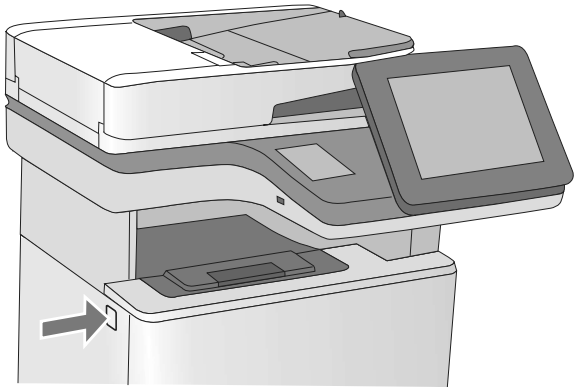
11. Close the front door.



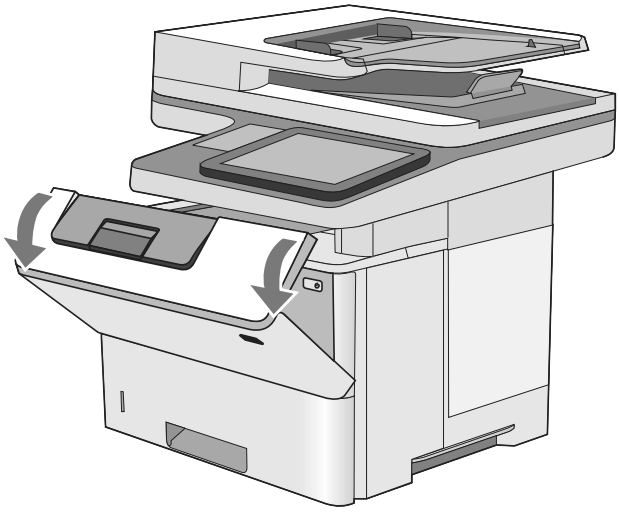
Clear paper jams in the toner-cartridge area

Use the following procedure to check for paper in all possible jam locations in the toner-cartridge area. When a jam occurs, the control panel displays an animation that assists in clearing the jam.

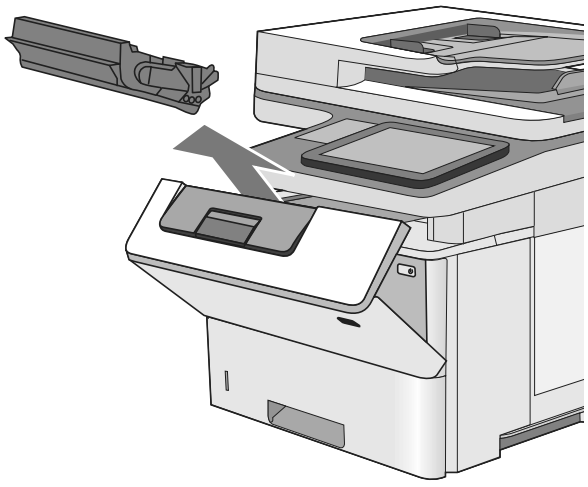
1. Press the top-cover-release button on the left side of the printer.



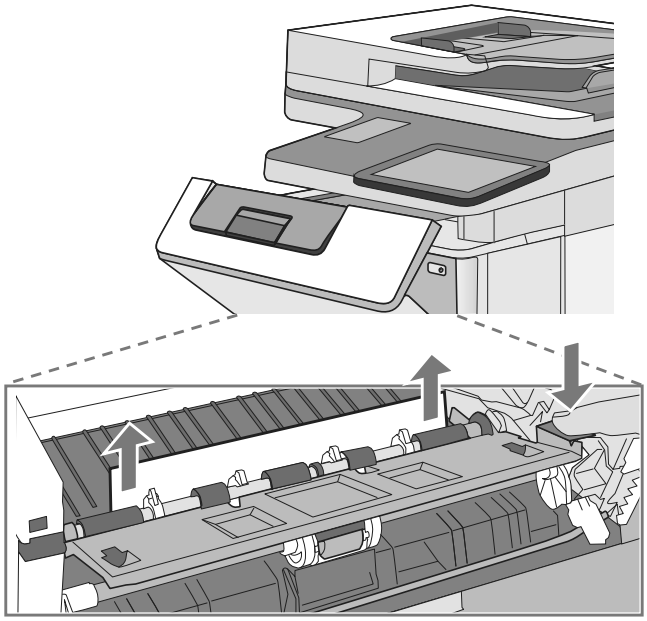
2. Open the front door.



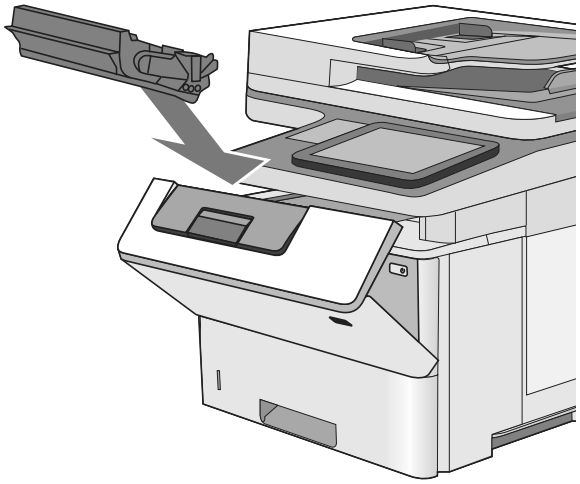
3. Remove the toner cartridge.



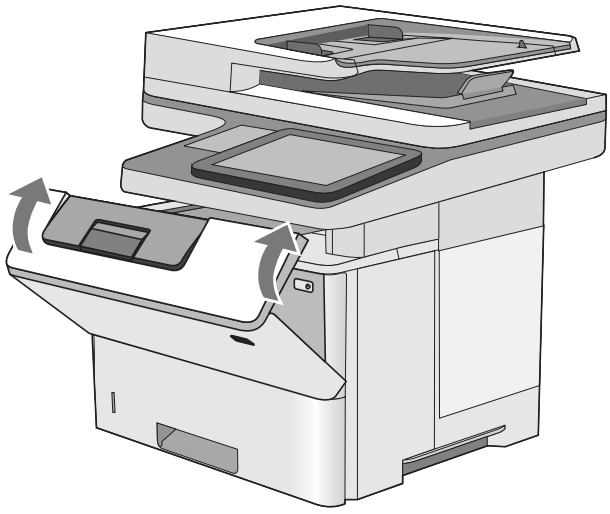
4. Lift the jam-access cover and slowly remove any jammed paper. Be careful not to tear the paper.



5. Reinsert the toner cartridge.



6. Close the front door.

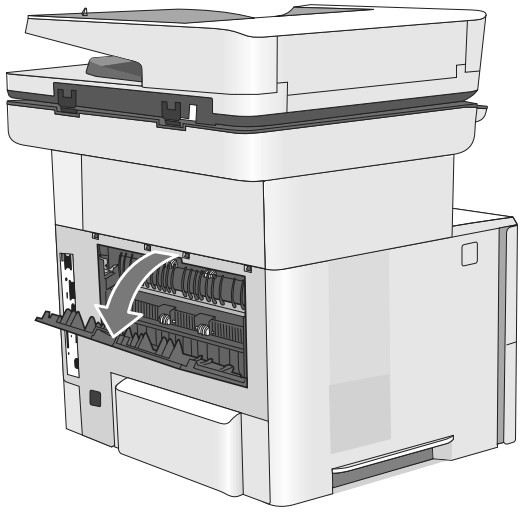


Clear paper jams in the rear door and the fuser area

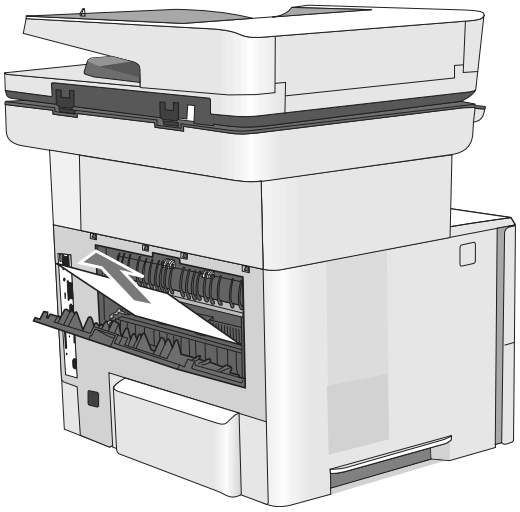
Use the following procedure to clear paper jams in the rear door and fuser area. When a jam occurs, the control panel displays an animation that assists in clearing the jam.

NOTE: The fuser is hot while the printer is in use. Wait for the fuser to cool before clearing jams.

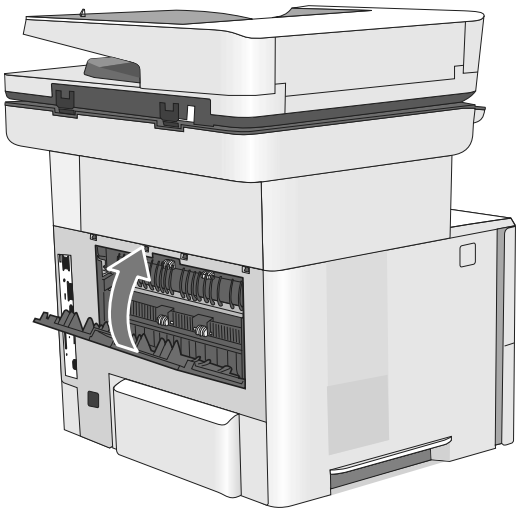
1. Open the rear door.



2. Remove any jammed paper.



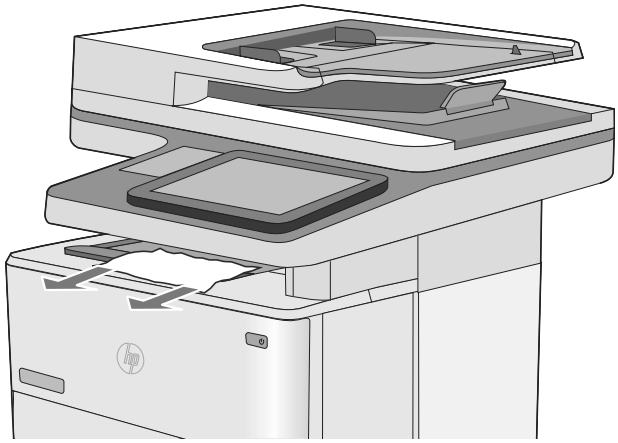
3. Close the rear door



Clear paper jams in the output bin

Use the following procedure to check for paper in all possible jam locations in the output bin. When a jam occurs, the control panel displays an animation that assists in clearing the jam.

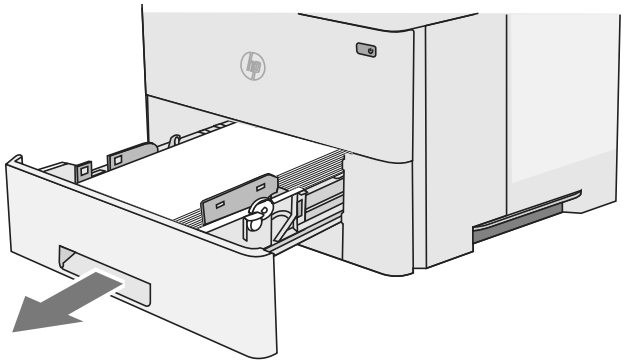
1. If paper is visible in the output bin, grasp the leading edge and remove it.



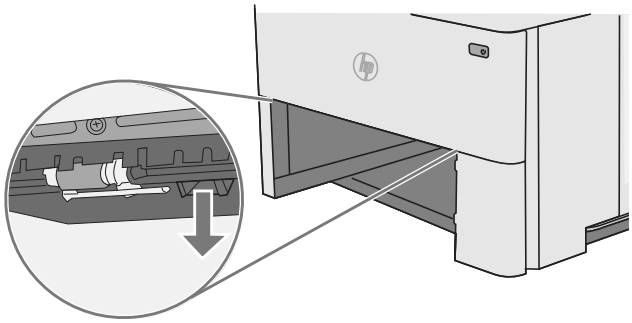
Clear paper jams in the duplexer

Use the following procedure to check for paper in all possible jam locations in the automatic duplexer. When a jam occurs, the control panel displays an animation that assists in clearing the jam.

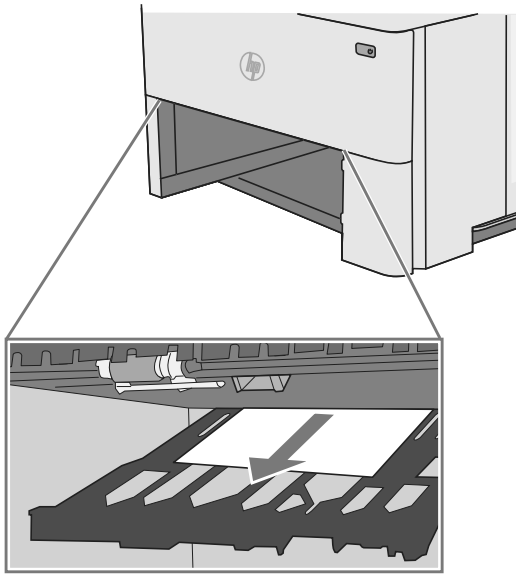
1. Remove Tray 2 from the printer.



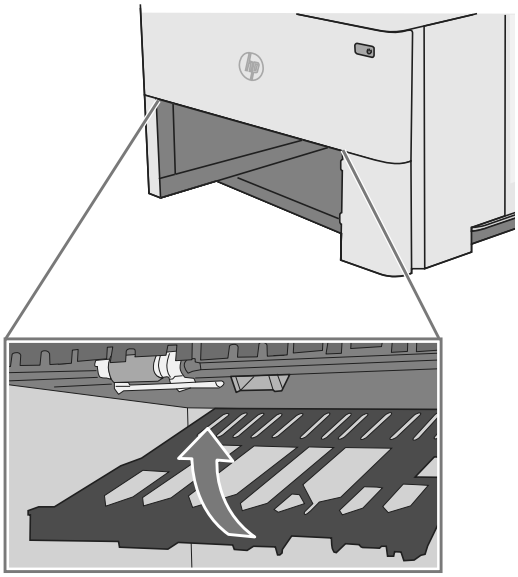
2. Pull forward on the green tab inside the tray area to release the duplex pan.



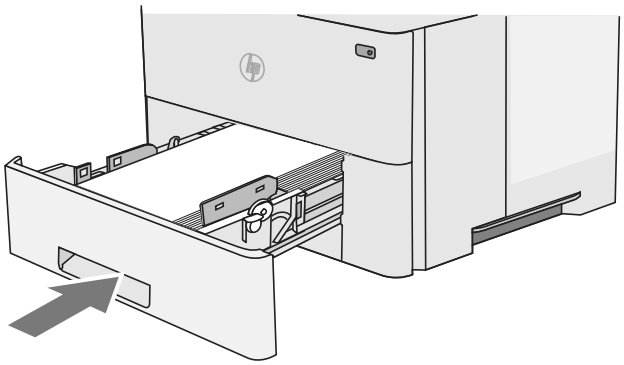
3. Remove any jammed paper.



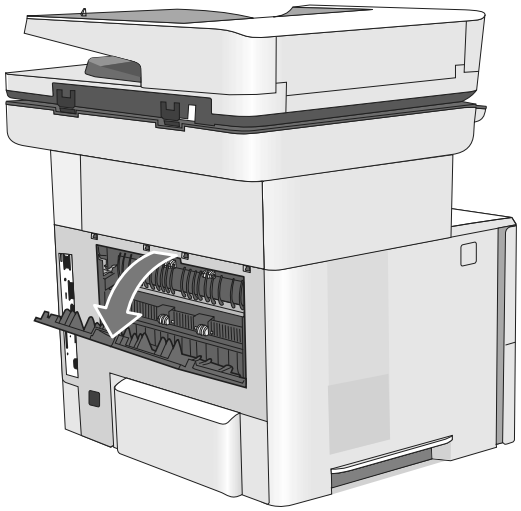
4. Close the duplex pan.



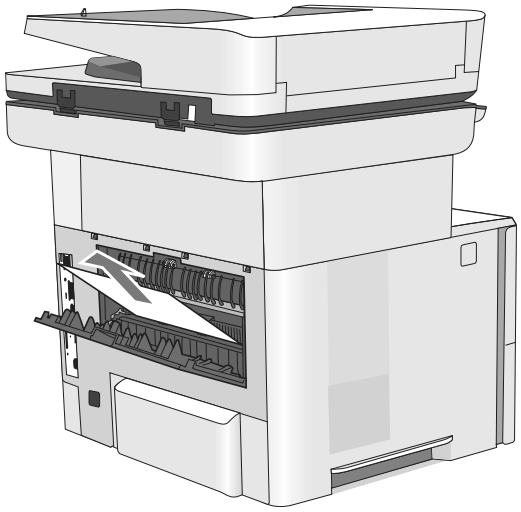
5. Reinsert and close the tray.



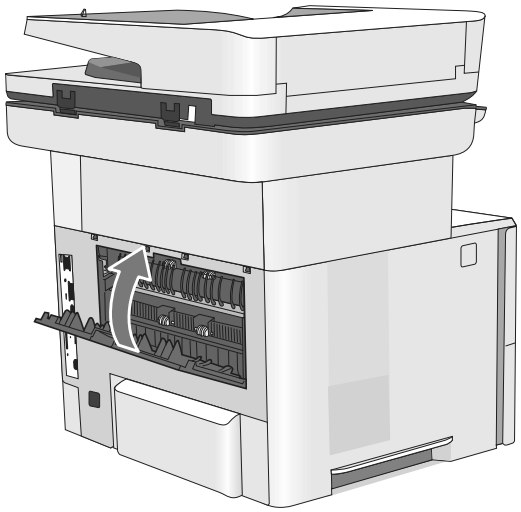
6. Open the rear door.



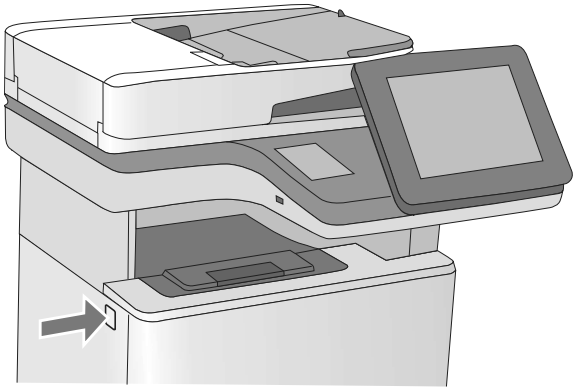
7. Remove any jammed paper.



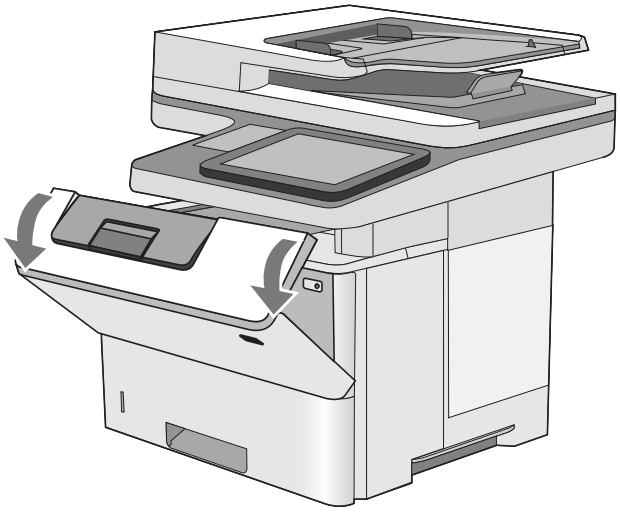
8. Close the rear door



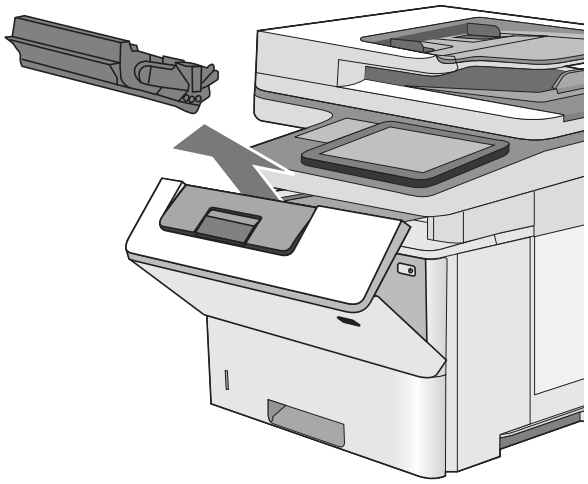
9. Press the top-cover-release button on the left side of the printer.



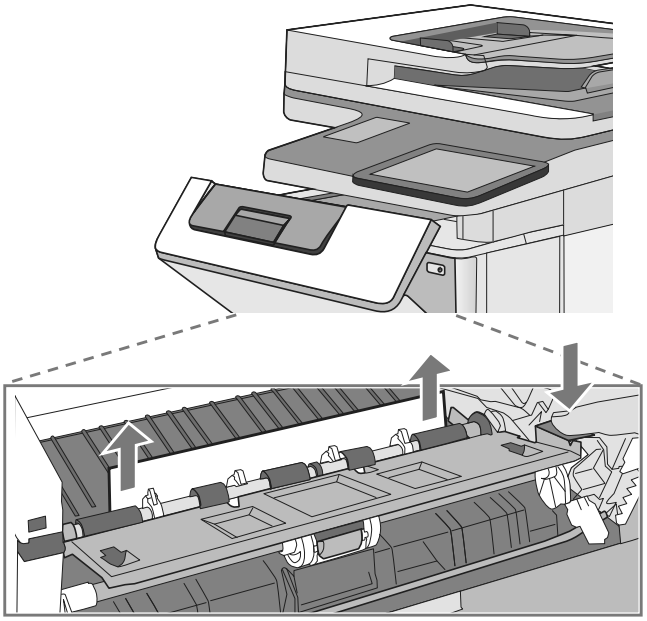
10. Open the front door.



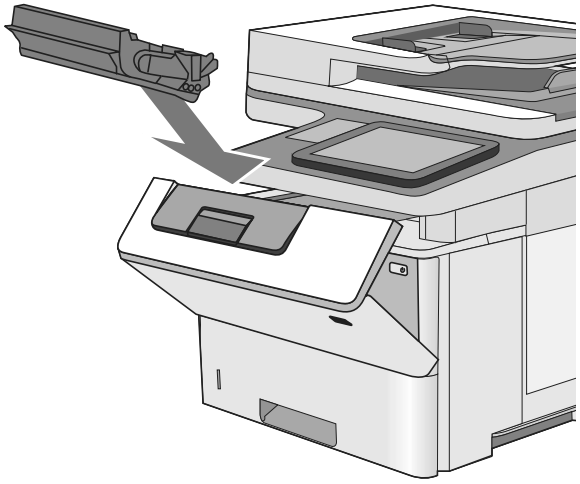
11. Remove the toner cartridge.



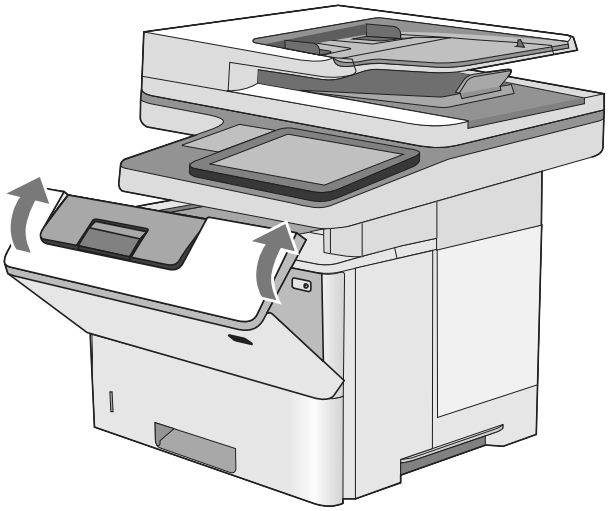
12. Lift the jam-access cover and slowly remove any jammed paper. Be careful not to tear the paper.



13. Reinsert the toner cartridge.



14. Close the front door.



Change jam recovery (M506/M527)

This printer provides a jam recovery feature that reprints jammed pages.

Change jam recovery from a touchscreen control panel

1. From the Home screen on the printer control panel, scroll to and touch the Administration button.
2. Open the General Settings menu, and then open the Jam Recovery menu.
3. Select one of the following options:
   - Automatic — The printer attempts to reprint jammed pages when sufficient memory is available. This is the default setting.
   - Off — The printer does not attempt to reprint jammed pages. Because no memory is used to store the most recent pages, performance is optimal.

     NOTE: Some pages can be lost if the printer runs out of paper while printing a duplex job with Jam Recovery set to Off.
   - On — The printer always reprints jammed pages. Additional memory is allocated to store the last few pages printed.

Change jam recovery from a LCD control panel

1. From the Home screen on the printer control panel, use the down arrow ▼ button to scroll to Administration, and then press the OK button.
2. Use the down arrow ▼ button to scroll to General Settings, and then press the OK button.
3. Use the down arrow ▼ button to scroll to Jam Recovery, and then press the OK button.
4. Use the down arrow ▼ button to scroll to an option, and then press the OK button to select it.
   - Automatic — The printer attempts to reprint jammed pages when sufficient memory is available. This is the default setting.
   - Off — The printer does not attempt to reprint jammed pages. Because no memory is used to store the most recent pages, performance is optimal.

     NOTE: Some pages can be lost if the printer runs out of paper while printing a duplex job with Jam Recovery set to Off.
   - On — The printer always reprints jammed pages. Additional memory is allocated to store the last few pages printed.

Solve performance problems

NOTE: Tray 1 and Tray 2 are optimal for paper pickup when using special paper or media other than 20lb plain paper. For Tray 1 and Tray 2 the printer increases the number of attempts to pickup a page, which increases the reliability of successfully picking the page from the tray and decreases the possibility of a mis-pick jam.

HP recommends using Tray 1 or Tray 2 if the printer is experiencing excessive or reoccurring jams from trays other than Tray 1 and Tray 2, or for print jobs that require media other than 20lb plain paper.

Factors affecting print performance

Table 2-72 Solve performance problems

Problem	Cause	Solution
Pages print but are totally blank.	The document might contain blank pages.	Check the original document to see if content is present on all of the pages.
	The printer might be malfunctioning.	To check the printer, print a Configuration page.
	Make sure that the printer is not feeding multiple pages (especially if very thin paper is used).	Make sure that the paper meets HP specifications for this printer. For a complete list of specific HP-brand paper that this printer supports, go to www.hp.com/support/ljM501, www.hp.com/support/ljM506, www.hp.com/support/ljM527MFP.
Pages print very slowly. **NOTE:** Some software programs process print jobs slowly.	Heavier paper types can slow the print job.	Print on a different type of paper.
	Complex pages can print slowly.	Proper fusing might require a slower print speed to ensure the best print quality.
	Large batches, narrow paper, and special paper such as gloss, transparency, cardstock, and HP Tough Paper can slow the print job.	Print in smaller batches, on a different type of paper, or on a different size of paper.
Pages did not print.	The printer might not be pulling paper correctly.	Make sure paper is loaded in the tray correctly.
	The paper is jamming in the printer.	Clear the jam.
	The USB cable might be defective or incorrectly connected.	• Disconnect the USB cable at both ends and reconnect it. • Try printing a job that has printed in the past. • Try using a different USB cable.

Table 2-72 Solve performance problems (continued)

Problem	Cause	Solution
	Other devices are running on the host computer.	The printer might not share a USB port. If an external hard drive or network switchbox is connected to the same port as the printer, the other device might be interfering with the printer. To connect and use the printer, disconnect the other device or use two USB ports on the host computer.
	The print job might not have arrived at the printer.	Check the printer status queue. Also, the Printing message should appear on the control panel display.

Print speeds

Print speed is the number of pages that print in one minute. Print speed depends on different engine-process speeds or operational pauses between printed pages during normal printer operation. Factors that determine the print speed of the printer include the following:

- Page formatting time

  The printer must pause for each page to be formatted before it prints. Complex pages take more time to format, resulting in reduced print speed. However, most jobs print at full engine speed.

- Media size

  Legal-size media reduces print speed because it is longer than the standard Letter- or A4–size media. A reduce print speed is used when printing on narrow media to prevent the edges of the fuser from overheating.

- Media mode

  Some media types require a reduced print speed to achieve maximum print quality on that media. For example, glossy, heavy, and specialty media (for example, envelopes or photos) require a reduced print speed. To maximize the print speed for special media types, make sure that the correct media type in the print driver is selected.

- Printer temperature

  To prevent printer damage, print speed is reduced if the printer reaches a specific internal temperature (thermal slow down). The starting temperature of the printer, ambient environment temperature, and the print job size effect the number of pages that can be printed before the printer reduces the print speed. Thermal slow down reduces print speed by printing four pages and then pausing for an amount of time before printing continues.

- Other print speed reduction factors

  Other factors (especially during large print jobs) that can cause reduced print speeds include:

  - Density control sequence; occurs every 150 pages and takes about 120 seconds

The printer does not print or it prints slowly

The printer does not print

If the printer does not print at all, try the following solutions.

1. Make sure the printer is turned on and that the control panel indicates it is ready.
   - If the control panel does not indicate the printer is ready, turn the printer off and then on again.
   - If the control panel indicates the printer is ready, try sending the job again.
2. If the control panel indicates the printer has an error, resolve the error and then try sending the job again.
3. Make sure the cables are all connected correctly. If the printer is connected to a network, check the following items:
   - Check the bottom LED next to the network connection on the printer. If the network is active, the light is green.
   - Make sure that a network cable and not a phone cord is used to connect to the network.
   - Make sure the network router, hub, or switch is turned on and that it is working correctly.
4. Install the HP software for the printer. Using generic printer drivers can cause delays clearing jobs from the print queue.
5. From the list of printers on your computer, right-click the name of this product, click **Properties**, and open the **Ports** tab.
   - If a network cable is used to connect to the network, make sure the printer name listed on the **Ports** tab matches the one on the printer configuration page.
   - If a USB cable is used, and the printer is connected to a wireless network, make sure the box is checked next to **Virtual printer port for USB**.
6. If a personal firewall system on the computer is used, it might be blocking communication with the printer. Try temporarily disabling the firewall to see if it is the source of the problem.
7. If the host computer or the printer is connected to a wireless network, low signal quality or interference might be delaying print jobs.

The printer prints slowly

The printer prints slowly

If the printer prints, but it seems slow, try the following solutions.

1. Make sure the computer meets the minimum specifications for this printer. For a list of specifications, go to this Web site: www.hp.com/support/ljM501, www.hp.com/support/ljM506, www.hp.com/support/ljM527MFP.
2. When the printer is configured to print on some paper types, such as heavy paper, the printer prints more slowly so it can correctly fuse the toner to the paper. If the paper type setting is not correct for the type of paper you are using, change the setting to the correct paper type.
3. If the host computer or the printer is connected to a wireless network, low signal quality or interference might be delaying print jobs.

Solve connectivity problems

- Solve USB connection problems
- Solve wired network problems

Solve USB connection problems

If you have connected the product directly to a computer, check the cable.

- Verify that the cable is connected to the computer and to the product.
- Verify that the cable is not longer than 2 m (6.65 ft). Try using a shorter cable.
- Verify that the cable is working correctly by connecting it to another product. Replace the cable if necessary.

Solve wired network problems

Introduction

Check the following items to verify that the printer is communicating with the network. Before beginning, print a configuration page from the printer control panel and locate the printer IP address that is listed on this page.

- Poor physical connection
- The computer is using the incorrect IP address for the printer
- The computer is unable to communicate with the printer
- The printer is using incorrect link and duplex settings for the network
- New software programs might be causing compatibility problems
- The computer or workstation might be set up incorrectly
- The printer is disabled, or other network settings are incorrect

NOTE: HP does not support peer-to-peer networking, as the feature is a function of Microsoft operating systems and not of the HP print drivers. For more information, go to Microsoft at www.microsoft.com.

Poor physical connection

1. Verify that the printer is attached to the correct network port using a cable of the correct length.
2. Verify that cable connections are secure.
3. Look at the network port connection on the back of the printer, and verify that the amber activity light and the green link-status light are lit.
4. If the problem continues, try a different cable or port on the hub.

The computer is using the incorrect IP address for the printer

1. Open the printer properties and click the **Ports** tab. Verify that the current IP address for the printer is selected. The printer IP address is listed on the printer configuration page.
2. If you installed the printer using the HP standard TCP/IP port, select the box labeled **Always print to this printer, even if its IP address changes**.
3. If you installed the printer using a Microsoft standard TCP/IP port, use the hostname instead of the IP address.
4. If the IP address is correct, delete the printer and then add it again.

The computer is unable to communicate with the printer

1. Test network communication by pinging the network.
   a. Open a command-line prompt on your computer.
      - For Windows, click **Start**, click **Run**, type `cmd`, and then press Enter.
      - For OS X, go to **Applications**, then **Utilities**, and open **Terminal**.
   b. Type `ping` followed by the IP address for your printer.
   c. If the window displays round-trip times, the network is working.
2. If the ping command failed, verify that the network hubs are on, and then verify that the network settings, the printer, and the computer are all configured for the same network.

The printer is using incorrect link and duplex settings for the network

HP recommends leaving these settings in automatic mode (the default setting). If you change these settings, you must also change them for your network.

New software programs might be causing compatibility problems

Verify that any new software programs are correctly installed and that they use the correct print driver.

The computer or workstation might be set up incorrectly

1. Check the network drivers, print drivers, and the network redirection settings.
2. Verify that the operating system is configured correctly.

The printer is disabled, or other network settings are incorrect

1. Review the configuration page to check the status of the network protocol. Enable it if necessary.
2. Reconfigure the network settings if necessary.

Service mode functions (M501)

Service menu

Use the control-panel Service menu to troubleshoot printer problems.

Service menu settings

The Service menu is used to adjust print settings, restore factory default settings, and clean the print paper path.

The following Service menu items are available:

- Cleaning Page—used to remove dust and toner from the print paper path.
- USB Speed—used to set the USB speed to high or full.
- Less Paper Curl—used to put the printer into a mode that reduces paper curl.
- Archive Print—used to put the printer into a mode that produces output less susceptible to toner smearing and dusting for preservation and archival.
- Firmware Date—used to display the product's firmware date code.
- Restore Defaults—used to reset all customer-accessible menu settings back to the factory default settings (except language) via the control panel or software.

  NOTE: This Service menu item does not reset factory-settable settings, including formatter number, page counts, factory paper settings, language, and so on.

- Signature Check—used to configure how the printer proceeds when a firmware upgrade file does not have a valid signature.
- LaserJet Update—used to manually update the firmware or to set up automatic firmware updates.

Restore the factory-set defaults

Restore the factory-set defaults from a LCD control panel (M501)

1. On the printer control panel, press the OK button to open the menus.
2. Open the following menus:
   - Service
   - Restore Defaults

   The printer automatically restarts.

Secondary service menu (M501)

Use the secondary service menu to print service-related reports and to run special tests. Customers do not have access to this menu.

Open the secondary service menu (M501)

Open the secondary service menu from a LCD control panel (M501)

1. Make sure the printer is in the Ready state.
2. From the printer control panel, press the setup button to open the main menu.
3. Press and the down arrow ▼ button, and then quickly press the Cancel ✕ button.
4. Press the setup button. The message **2ndary Service** appears on the control-panel display.
5. Press the OK button to open the **2ndary Service** menu.

NOTE: Use the arrow buttons to scroll though the **2ndary Service** menu.

Secondary service menu structure (M501)

Table 2-73 Secondary Service menu (M501)

Menu item	Sub-menu item	Description
Service Reports	Cont-Self Test	Print a continuous configuration page.
	Error Report	Print an error report.
	Extended key map	10-key pad values for job storage.
Speed		Use this item to toggle between high and low.
Default settings		Taylor system defaults (IT managed or self-managed).
Location	A list of available locations appears	This item sets certain printer parameters that are dependent on the location, such as the default paper size and the symbol set. Scroll to the appropriate location and select Yes to set the location. The printer automatically restarts after you change the location.
Line Frequency		This item allows the refresh rate of the touchscreen control panel to be changed between 50 and 60 Hz.
LED Test		This item allows the testing of the different LED Displays
Display Test		Use this test to verify that the LEDs and characters on the control-panel display function correctly. At the beginning of the test, each of the LEDs is turned on one-at-time. Press the OK button to continue to the next LED. After the LED test is complete, the character test begins by testing the pixels on each line. Then, each of the 255 characters is displayed in groups of 16. Press the OK button to continue to the next group of 16 characters. You can cancel the test at any time by pressing the Cancel ✕ button.
Button Test		Use this test to verify that the control-panel buttons function correctly. The display prompts you to press each button.

Table 2-73 Secondary Service menu (M501) (continued)

Menu item	Sub-menu item	Description
CP FW Version		This item shows the current date code of the firmware.
NAND Reset		This item allows the NAND to be reset.
Permanent Config		Allow or prevent the action to be performed.

Printer resets (M501)

NVRAM initialization (M501)

CAUTION: All HP Jetdirect settings are also reset. Be sure to print a configuration page before performing an NVRAM initialization. Make note of the IP address that is listed on the Jetdirect configuration page. You need to restore the IP address after performing an NVRAM initialization.

An NVRAM initialization erases all data stored in the unprotected NVRAM sections. Performing an NVRAM initialization resets the following settings and information:

- All menu settings are reset to factory default values.
- All localization settings, including language and country/region, are reset.

After performing an NVRAM initialization, reconfigure any computers that print to this printer so that the computers can recognize the printer.

1. Turn the printer off.
2. Simultaneously press and hold the up arrow ▲ button and the Cancel ✕ button. Keep these buttons depressed as you turn the printer on.
3. When the Permanent Storage Init. message appears on the display, release the buttons.
4. When the printer has finished the NVRAM initialization, it returns to the Ready state.

Service mode functions (M506/M527)

- Service menu (M506/M527)
- Printer resets (M506/M527)
- Format Disk and Partial Clean functions (M506/M527)

Service menu (M506/M527)

The Service menu is PIN-protected for added security. Only authorized service people have access to the Service menu. When selecting Service from the list of menus, the printer prompts the user to enter an eight-digit personal identification number (PIN).

NOTE: The printer automatically exits the Service menu after about one minute if no items are selected or changed.

Open the service menu from a touchscreen control panel (M527)

1. From the Home screen on the printer control panel, scroll to and touch the Device Maintenance button.
2. Open the Service menu.
3. On the sign-in screen, select Service Access Code from the drop-down list.
4. Enter the following service access code for the printer:
   - 10050615 (M506)
   - 11052715 (M527)

Open the service menu from a LCD control panel (M506)

1. From the Home screen on the printer control panel, use the down arrow ▼ button to scroll to Device Maintenance, and then press the OK button.
2. Use the down arrow ▼ button to scroll to Service, and then press the OK button to select it.
3. Use the down arrow ▼ button to scroll to Service Access Code, and then press the OK button to select it.
4. Enter the following service access code for the printer:

NOTE: After entering the PIN, press the OK button.

   - 10050615 (M506)
   - 11052715 (M527)

The following menu items appear in the Service menu:

Table 2-74 Service menu (M506/M527)

First level	Second level	Value	Description
Event Log	Print		Print or view the event log.
Clear Event Log	Clear		Use this item to clear the printer event log.

Table 2-74 Service menu (M506/M527) (continued)

First level	Second level	Value	Description
Cycle Counts	Total Engine Cycles		Set the page count that was stored in NVRAM prior to installing a new formatter.
	Refurbish Cycle Count		Use this item to record the page count when the printer was refurbished.
	Document (M527 only)		Total number of pages since the document feeder kit was replaced.
	Document Feeder Kit Interval (M527 only)		Use this item to set the interval that causes the printer to prompt the customer to replace document feeder maintenance kit.
	Clean Rollers Count (M527 only)		Total number of pages since the document feeder rollers were cleaned.
	Clean Rollers Interval (M527 only)		Use this item to set the interval that causes the printer to prompt the customer to clean the document feeder rollers and separation pad.
	ADF Count (M527 only)		Set the total pages fed through the document feeder.
	Flatbed Count (M527 only)		Set the total pages scanned from the flatbed.
	ADF Simplex Count (M527 only)		Set the total single-sided pages fed through the document feeder.
	ADF Duplex Count (M527 only)		Set the total two-sided pages fed through the document feeder.
	Copy Scan Count (M527 only)		Set the total copy pages that have been scanned.
	Send Scan Count (M527 only)		Set the number of scanned pages sent to email.
	Fax Scan Count **NOTE:** M527 fax models only.		Set the number of scanned pages that have been faxed.
	Copy Pages Count (M527 only)		Set the number of scanned pages that have been printed.

Table 2-74 Service menu (M506/M527) (continued)

First level	Second level	Value	Description
Scanner Settings (M527 only)	ADF Settings	Leading edge front Leading edge back Trailing edge front Trailing edge back Left side front Left side back	Set the calibration values. **WARNING!** Do not change these values unless instructed to do so.
	Glass Settings	Leading edge glass Left Side Glass	
Serial Number			Set the serial number.
Service ID			Use this item to show the date that the printer was first used on the control panel. This eliminates the need for users to keep paper receipts for proof of warranty.
Cold Reset Paper			When you perform a cold reset, the paper size that is stored in NVRAM is reset to the default factory setting. If you replace a formatter board in a country/region that uses A4 as the standard paper size, use this menu to reset the default paper size to A4. LETTER and A4 are the only available values.
Low Alerts		Enable Disable	Turn on (or off) low alerts (for supplies).
Reset Low Alerts	• Reset to level 1 • Reset to level 2 • Reset to level 3 • Set to non-HP managed mode		
PTT Test Mode **NOTE:** M527 fax models only.			Test the internal modem for the analog fax accessory.
	Hook Operations	Off Hook On Hook	
	Generate Random Data	Select a value from the list.	
	Generate DTMF Tone Burst	Select a value from the list.	
	Generate DTMF Continuous Tone	Select a value from the list.	

Table 2-74 Service menu (M506/M527) (continued)

First level	Second level	Value	Description
	Generate Pulse Burst	Select a value from the list.	
	Generate Tone Dial Number	Enter dial number.	
	Generate Pulse Dial Number	Enter dial number.	
	Generate Single Modem Tone	Range: 1100–2100 Hz Default = 2100 Hz	
	Line Measurements		
	Fax Transmit Signal Loss		
Test Support	Continuous Scan (M527 only)	2-sided Save to Disk	
	Continuous Copy (M527 only)	2-sided Save to Disk	
	Raw Scan (M527 only)	2-sided Mechanical Calibration	
	Continuous Print from USB		
	Automatic Calibrations (M527 only)	Disabled Enabled*	
	Runtime Configuration (M527 only)	Standard StandardEIC Workflow WorkflowEIC Reconfigure	

Printer resets (M506/M527)

Restore factory-set defaults (M506/M527)

NOTE: The printer restarts automatically after the reset operation completes.

Restore factory-set defaults from a touchscreen control panel (M527)

1. From the Home screen on the printer control panel, scroll to and touch the Administration button.
2. Open the following menus:

- General Settings
- Restore Factory Settings

3. A verification message advises that completing the reset function might result in loss of data. Touch the Reset button to complete the process.

Restore factory-set defaults from a LCD control panel (M506)

1. From the Home screen on the printer control panel, use the down arrow ▼ button to scroll to Administration, and then press the OK button.
2. Use the down arrow ▼ button to scroll to General Settings, and then press the OK button to select it.
3. Use the down arrow ▼ button to scroll to Restore Factory Settings, and then press the OK button to select it.
4. Use the down arrow ▼ button to scroll to Restore, and then press the OK button to select it.
5. A verification message advises that completing the reset function might result in loss of data. Touch the Reset button to complete the process.

Restore the service ID (M506/M527)

Restore the service ID

When replacing the formatter, the date is lost. Use this menu item to reset the date to the original date that the printer was first used. The date format is YYDDD. Use the following formula to calculate the dates:

1. To calculate YY, subtract 1990 from the calendar year. For instance, if the printer was first used in 2002, calculate YY as follows: 2002 - 1990 = 12. YY = 12.
2. Subtract 1 from 10 (October is the tenth month of the year): 10 - 1 = 9.
   - Multiply 9 by 30: 9 x 30 = 270 or add 17 to 270: 270 + 17 = 287. Thus, DDD = 287.

Convert the service ID to an actual date

Use the printer Service ID number to determine whether the printer is still under warranty. Use the following formula to convert the Service ID into the installation date as follows:

1. Add 1990 to YY to get the actual year that the printer was installed.
2. Divide DDD by 30. If there is a remainder, add 1 to the result. This is the month.
3. The remainder from the calculation in step 2 is the date.

Using the Service ID 12287 as an example, the date conversion is as follows:

1. 12 + 1990 = 2002, so the year is 2002.
2. 287 divided by 30 = 9 with a remainder of 17. Because there is a remainder, add 1 to 9 to get 10, which represents October.
3. The remainder in step 2 is 17, so that is the date.
4. The complete date is 17-October-2002.

NOTE: A six-day grace period is built into the date system.

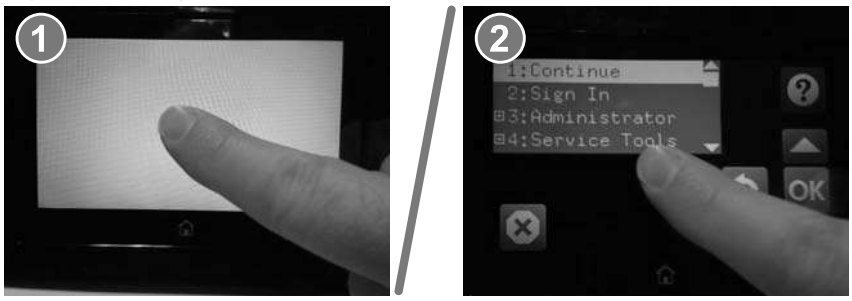
Printer cold reset (M506/M527)

Cold reset using the Pre-boot menu from a touchscreen control panel (M527)

CAUTION: This procedure resets all printer configurations and settings to factory defaults (customer configurations and settings are lost).

1. Touch the middle of the control-panel display when you see the 1/8 under the logo.

Figure 2-160 Open the Pre-boot menu



2. Use the down arrow ▼ button to highlight the +3:Administrator item, and then touch the OK button.
3. Use the down arrow ▼ button to highlight the +8:Startup Options item, and then touch the OK button.
4. Use the down arrow ▼ button to highlight the 2 Cold Reset item, and then touch the OK button to select it.
5. Touch the Home button to return to the main Pre-boot menu and highlight the 1:Continue item, and then touch the OK button.

NOTE: The printer will initialize.

Cold reset using the Pre-boot menu from a LCD control panel (M506)

CAUTION: This procedure resets all printer configurations and settings to factory defaults (customer configurations and settings are lost).

1. Press the Cancel button when you see the 1/8 under the logo.
2. Use the down arrow ▼ button to highlight the +3:Administrator item, and then press the OK button.
3. Use the down arrow ▼ button to highlight the +8:Startup Options item, and then press the OK button.
4. Use the down arrow ▼ button to highlight the 2 Cold Reset item, and then press the OK button to select it.
5. Touch the Home button to return to the main Pre-boot menu and highlight the 1:Continue item, and then touch the OK button.

NOTE: The printer will initialize.

Format Disk and Partial Clean functions (M506/M527)

NOTE: Only for printers with an optional hard-disk drive (HDD) installed).

Active and repository firmware locations

The firmware bundle consists of multiple parts. The main components are the Windows CE Operating System and the printer/peripheral firmware files.

There are two locations/partitions on the hard drive where the firmware components are stored:

- The Active, where the operating system and firmware currently are executing.
- The Repository, the recovery location.

If the Active location is damaged, or a Partial Clean was performed, the printer automatically copies over the OS and firmware files from the Repository location and the printer recovers.

If both the Active and Repository locations are damaged, or a Format Disk was performed, then both locations are gone and the error message **99.09.67** displays on the control-panel display. The user must upload the firmware to the printer in order for it to function again.

CAUTION: The Format Disk option performs a disk initialization for the entire disk. The operating system, firmware files, and third party files (among other files) will be completely lost. HP does not recommend this action.

Partial Clean

The Partial Clean option erases all partitions and data on the disk drive, except for the firmware repository where a backup copy of the firmware file is stored. This allows the disk drive to be reformatted without having to download a firmware upgrade file to return the printer to a bootable state.

Characteristics of a Partial Clean

- Customer-defined settings, third-party solutions, firmware files, and the operating system are deleted.
- Rebooting the printer restores the firmware files from the Repository location, but does not restore any customer-defined settings.
- For previous HP printers, a Hard Disk Initialization is similar to executing the Partial Clean function for this printer.

CAUTION: HP recommends backing-up printer configuration data before executing a Partial Clean to retain customer-defined settings (if needed). See the Backup/Restore item in the Device Maintenance menu.

Reasons for performing Partial Clean

- The printer continually boots up in an error state.

  NOTE: Try clearing the error prior to executing a Partial Clean.

- The printer will not respond to commands from the control panel.
- Executing the Partial Clean function is helpful for troubleshooting hard disk problems.

- To reset the printer by deleting all solutions and customer-defined settings.
- The printer default settings are not properly working.

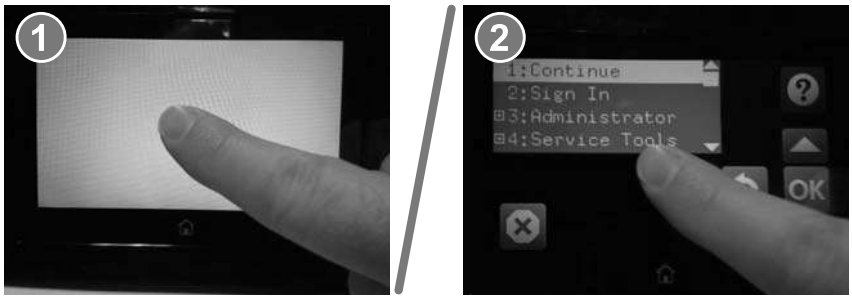
Execute a Partial Clean

Execute a Partial Clean from a touchscreen control panel

CAUTION: This procedure resets all printer configurations and settings to factory defaults (customer configurations and settings are lost).

1. Touch the middle of the control-panel display when you see the 1/8 under the logo.

   Figure 2-161 Open the Pre-boot menu

2. Use the down arrow ▼ button to highlight the +3:Administrator item, and then touch the OK button.
3. Use the down arrow ▼ button to highlight Partial Clean and then touch the OK button.
4. Touch the OK button again.
5. Touch the Home button to highlight Continue, and then touch the OK button.

NOTE: The printer initializes.

Execute a Partial Clean from a LCD control panel

CAUTION: This procedure resets all printer configurations and settings to factory defaults (customer configurations and settings are lost).

1. Press the Cancel button when you see the 1/8 under the logo.
2. Use the down arrow ▼ button to highlight the +3:Administrator item, and then press the OK button.
3. Use the down arrow▼ button to highlight Partial Clean and then press the OK button.
4. Press the OK button again.
5. Press the Home button to highlight Continue, and then press the OK button.

NOTE: The printer initializes.

Format Disk

The Format Disk option erases the entire disk drive.

CAUTION: After executing a Format Disk option, the printer is *not* bootable.

Characteristics of a Format Disk

- Customer-defined settings, third-party solutions, firmware files, and the operating system are deleted.

NOTE: Rebooting the printer *does not* restore the firmware files.

- Rebooting the printer restores the firmware files from the Repository location, but does not restore any customer-defined settings.
- After executing the Format Disk function, the message **99.09.67** displays on the control panel.
- After executing the Format Disk function, the printer firmware must be reloaded.

CAUTION: HP recommends not using the Format Disk option unless an error occurs and the solution in the printer service manual recommends this solution. After executing the Format Disk function, the printer is unusable.

HP recommends backing-up printer configuration data before executing a Format Disk to retain customer-defined settings (if needed). See the Backup/Restore item in the Device Maintenance menu.

Reasons for performing Format Disk

- The printer continually boots up in an error state.

NOTE: Try clearing the error prior to executing a Format Disk.

- The printer will not respond to commands from the control panel.
- Executing the Format Disk function is helpful for troubleshooting hard disk problems.
- To reset the printer by deleting all solutions and customer-defined settings.

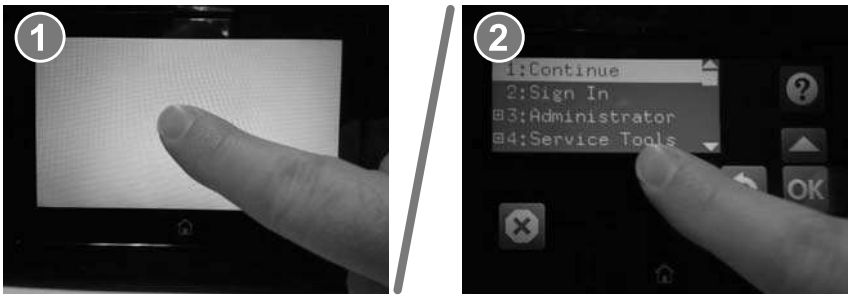
Execute a Format Disk

Execute a Format Disk from a touchscreen control panel

CAUTION: This procedure resets all printer configurations and settings to factory defaults (customer configurations and settings are lost).

1. Touch the middle of the control-panel display when you see the 1/8 under the logo.

Figure 2-162 Open the Pre-boot menu



2. Use the down arrow ▼ button to highlight the +3:Administrator item, and then touch the OK button.
3. Use the down arrow ▼ button to highlight Format Disk, and then touch the OK button.
4. Touch the OK button again.

NOTE: When the Format Disk operation is complete, reload the printer firmware.

Execute a Format Disk from a LCD control panel

CAUTION: This procedure resets all printer configurations and settings to factory defaults (customer configurations and settings are lost).

1. Press the Cancel button when you see the 1/8 under the logo.
2. Use the down arrow ▼ button to highlight the +3:Administrator item, and then press the OK button.
3. Use the down arrow ▼ button to highlight Format Disk, and then press the OK button.
4. Press the OK button again.

NOTE: When the Format Disk operation is complete, reload the printer firmware.

Firmware upgrades (M501)

HP offers periodic printer updates, new Web Services apps, and new features to existing Web Services apps. Follow these steps to update the firmware for a single printer. When you update the firmware, Web Service apps will update automatically.

There are two supported methods to perform a firmware update on this printer. Use only one of the following methods to update the printer firmware.

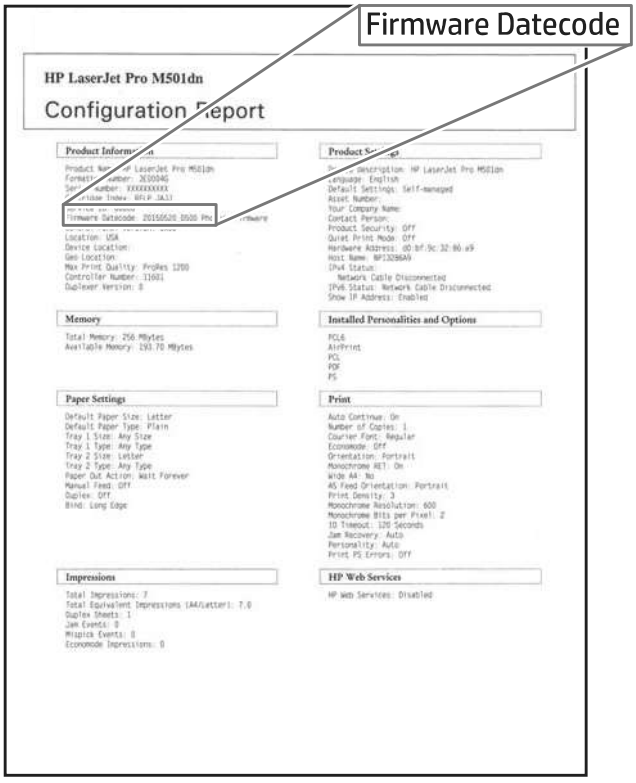
Determine the installed revision of firmware (M501)

NOTE: Print a configuration page to determine the installed revision of firmware.

Print the configuration page from a LCD control panel (M501)

1. On the printer control panel, press the OK button.
2. Open the Reports menu.
3. Select Configuration Report.

Figure 2-163 Configuration page firmware date code location (M501)



Method one: Update the firmware using the control panel (M501)

Use these steps to load the firmware from the control panel (for network-connected printers only), and/or set the printer to automatically load future firmware updates. For USB-connected printers, use method two.

1. Make sure the printer is connected to a wired (Ethernet) or wireless network with an active Internet connection.

NOTE: The printer must be connected to the internet to update the firmware via a network connection.

2. From the Home screen on the printer control panel, open the Setup menu.
   - For standard control panels, press the left or right arrow button.
3. Scroll to and open the Service menu, and then open the LaserJet Update menu.

NOTE: If the LaserJet Update option is not listed, use method two.

4. Check for updates.
   - For standard control panels, select **Check for Update**.

NOTE: The printer automatically checks for an update, and if a newer version is detected, the update process automatically starts.

5. Set the printer to automatically update the firmware when updates become available.

   From the Home screen on the printer control panel, open the Setup menu.
   - For standard control panels, press the left or right arrow button.

   Scroll to and open the Service menu, open the LaserJet Update menu, and then select the Manage Updates menu.

   Set the printer to automatically update the firmware.
   - For standard control panels, set the **Allow Updates** option to **YES**, and then set the **Automatic Check** option to **ON**.

Method two: Update the firmware using the Firmware Update Utility (M501)

Use these steps to manually download and install the Firmware Update Utility from HP.com.

NOTE: This method is the only firmware update option available for printers connected to the computer via a USB cable. It also works for printers connected to a network.

1. Go to www.hp.com/go/support, click the **Drivers & Software** link, type the printer name in the search field, press the ENTER button, and then select the printer from the list of search results.
2. Select the operating system.
3. Under the **Firmware** section, locate the **Firmware Update Utility**.
4. Click **Download**, click **Run**, and then click **Run** again.
5. When the utility launches, select the printer from the drop-down list, and then click **Send Firmware**.

NOTE: To print a configuration page to verify the installed firmware version before or after the update process, click **Print Config**.

6. Follow the on-screen instructions to complete the installation, and then click the **Exit** button to close the utility.

Firmware upgrades (M506/M527)

To download the most recent firmware upgrade for the printer, go to:

- In the US, go to www.hp.com/support/ljM501, www.hp.com/support/ljM506, www.hp.com/support/ljM527MFP.

  a. Select **Get drivers, Software, and Firmware**, and then select the appropriate product by name.

  NOTE: More than one printer model might be listed. Make sure to select the correct model so that the upgraded firmware supports all of the printer functions.

  b. Select the driver language and operating system.

  c. Locate the firmware download, and then select **Download**.

- Outside the U.S., go to www.hp.com/support.

  a. Select your country/region.

  b. Select **Drivers & Downloads**.

  c. Enter the product name in the **Find my product** dialogue box, and then select **Go**.

  TIP: Click on the **How do I find my product name/number?** link to see a short video on identifying the printer name and number.

  d. Select the appropriate product by name.

  NOTE: More than one printer model might be listed. Make sure to select the correct model so that the upgraded firmware supports all of the printer functions.

  e. Select the driver language and operating system.

  f. Locate the firmware download, and then select **Download**.

- Determine the installed revision of firmware (M506/M527)
- Perform a firmware upgrade (M506/M527)

Determine the installed revision of firmware (M506/M527)

NOTE: Print a configuration page to determine the installed revision of firmware.

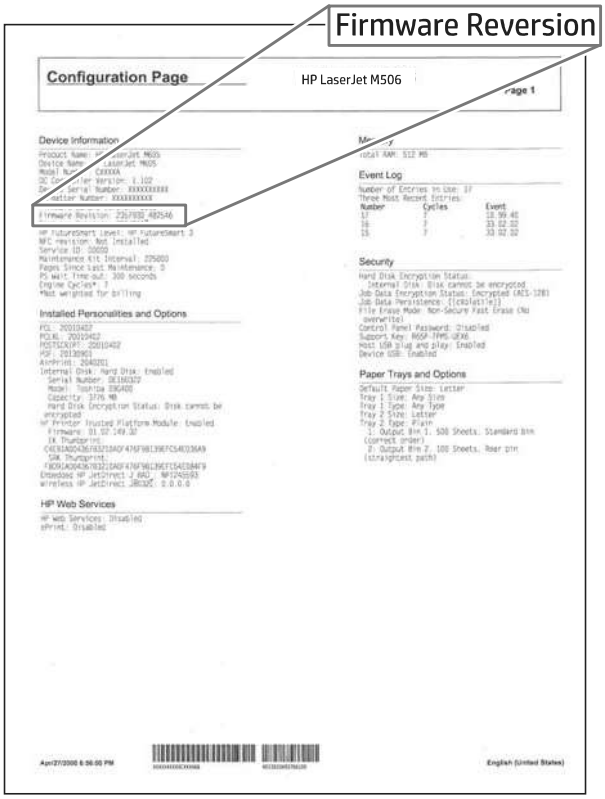
Print the configuration page from a touchscreen control panel (M527)

1. From the Home screen on the printer control panel, scroll to and touch the Administration button.
2. Open the following menus:
   - Reports
   - Configuration/Status Pages
3. Touch Configuration Page to select it.
4. Touch the Print button to print the pages.

Print the configuration page from a LCD control panel (M506)

1. From the Home screen on the printer control panel, use the down arrow ▼ button to scroll to Administration, and then press the OK button.
2. Open the following menus:
   - Reports
   - Configuration/Status Pages
3. Use the down arrow ▼ button to scroll to Configuration Page, and then press the OK button to select it.
4. Use the up arrow ▲ button to scroll to Print, and then press the OK button to print the pages.

Figure 2-164 Configuration page firmware version (M506/M527)



Perform a firmware upgrade (M506/M527)

The firmware bundle is a .bdl file. This file requires an interactive upgrade method. The traditional FTP, LPR or Port 9100 methods of upgrading are not available. Use one of the following methods to upgrade the firmware for this printer.

HP Embedded Web Server (M506/M527)

NOTE: The printer should be at the **Ready** state.

The firmware update might take 10 minutes or longer based on the input/output (I/O) transfer rates and the time it takes for the printer to reinitialize.

1. Open an Internet browser window.
2. Enter the printer IP address in the URL line.
3. Select the **Firmware Upgrade** link from the **General** tab or from the **Troubleshooting** tab.
4. Browse to the location that the firmware upgrade file was downloaded to, and then select the firmware file—the file has a .bdl file extension. Select the Install button to perform the upgrade.

   NOTE: Do not close the browser window OR interrupt communication until the HP Embedded Web Server (EWS) displays the confirmation page.

5. After the printer reinitializes, print a configuration page and verify that the latest firmware version has been installed.

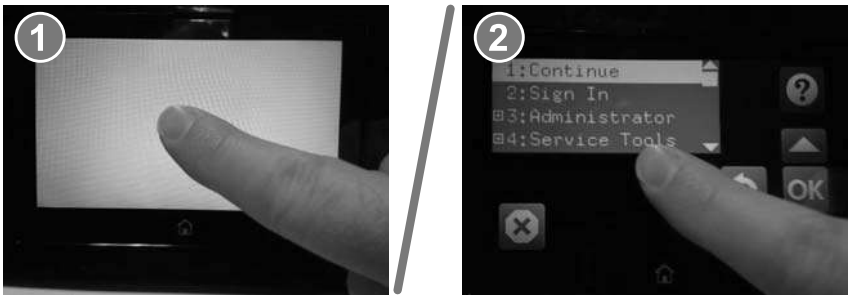
USB flash drive (Pre-boot menu) (M506/M527)

IMPORTANT: Only use this method of performing a firmware upgrade if the printer cannot initialize to the **Ready** state.

USB flash drive firmware (Pre-boot menu) update from a touchscreen control panel

1. Copy the .bdl file to a portable USB flash drive.
2. Touch the middle of the control-panel display when you see the 1/8 under the logo.

Figure 2-165 Open the Pre-boot menu



3. Touch the down arrow ▼ button to highlight +3 Administrator, and then touch the OK button.
4. If necessary, touch the down arrow ▼ button to highlight +1 Download, and then touch the OK button.
5. Insert the USB flash drive with the .bdl file on it into the USB port on the printer.

NOTE: If the error message No USB Thumbdrive Files Found displays on the control-panel display, try using a different portable storage device.

6. Touch the down arrow ▼ button to highlight USB Thumbdrive, and then touch the OK button.
7. Touch the down arrow ▼ button to highlight the .bdl file, and then touch the OK button.

NOTE: The upgrade process can take 10 minutes or longer to complete.

TIP: If there is more than one .bdl file on the storage device, make sure to select the correct file for this printer.

8. When the message Complete displays on the control-panel display, touch the ▼button several times until the message Continue displays.
9. Touch the OK button to begin the upgrade. When the upgrade is complete, the printer will initialize to the **Ready** state.
10. When the upgrade process is complete, print a configuration page and verify that the upgrade firmware version was installed.

USB flash drive firmware (Pre-boot menu) update from a LCD control panel

1. Press the Cancel button when you see the 1/8 under the logo.
2. Press the down arrow ▼ button to highlight +3 Administrator, and then press the OK button.
3. If necessary, press the down arrow ▼ button to highlight +1 Download, and then press the OK button.

4. Insert the USB flash drive with the .bdl file on it into the USB port on the printer.

NOTE: If the error message No USB Thumbdrive Files Found displays on the control-panel display, try using a different portable storage device.

5. Press the down arrow ▼ button to highlight USB Thumbdrive, and then press the OK button.

6. Press the down arrow ▼ button to highlight the .bdl file, and then press the OK button.

NOTE: The upgrade process can take 10 minutes or longer to complete.

TIP: If there is more than one .bdl file on the storage device, make sure to select the correct file for this printer.

7. When the message Complete displays on the control-panel display, turn the printer power off, and then on again.

8. When the upgrade process is complete, print a configuration page and verify that the upgrade firmware version was installed.

USB flash drive (control-panel menu) (M506/M527)

NOTE: USB flash drives that are not using a FAT32 format, or do not have a CD formatted partition, might not be recognized by the printer. If the printer does not recognize a USB flash drive, try using a different USB flash drive.

TIP: The USB port on the printer must be enabled. If it is disabled, use the Enable Retrieve from USB item in the General Settings menu to enable it.

USB flash drive firmware (control-panel menu) update from a touchscreen control panel

1. Copy the .bdl file to a portable USB flash drive.
2. Turn the printer on, and then wait until it reaches the **Ready** state.
3. From the Home screen on the printer control panel, scroll to and touch the Device Maintenance button.
4. Touch the USB Firmware Upgrade button.
5. Insert the USB flash drive with the .bdl file on it into the USB port on the printer.
6. Touch the .bdl file, and then touch the Upgrade button.

   TIP: If there is more than one .bdl file on the storage device, make sure to select the correct file for this printer.

7. Select one of the following options:
   - Upgrade

     NOTE: The upgrade process can take 10 minutes or longer to complete.

   - Re-install
   - Downgrade
8. When the upgrade is complete, the printer will initialize to the **Ready** state. Print a configuration page and verify that the upgrade firmware version was installed.

USB flash drive firmware (control-panel menu) update from a LCD control panel

1. From the Home screen on the printer control panel, use the down arrow ▼ button to scroll to Device Maintenance, and then press the OK button.
2. Open the following menus:
   - USB Firmware Upgrade
3. Insert the USB flash drive with the .bdl file on it into the USB port on the printer.
4. If necessary, use the down arrow ▼ button to scroll to the appropriate .bdl file, and then press the OK button to select.
5. Use the down arrow ▼ button to scroll to Upgrade, and then press the OK button to start the firmware upgrade.

   NOTE: If the firmware in the .bdl file on the portable USB storage device matches the installed firmware on the printer, Upgrade is replaced by Re-Install.

Solve email problems (M527)

If Scan to E-mail problems occur, try these solutions:

- Make sure this feature has been set up. If this feature has not been set up, use the setup wizard in the HP Device Toolbox (Windows) or HP Utility for Mac OS X software to set it up.
- Make sure the Scan to Email feature is enabled. If it has been disabled, enable the feature through the HP Device Toolbox (Windows) or HP Utility for Mac OS X software.
- Make sure that the printer is connected to a computer or to a network.

Cannot connect to the email server (M527)

- Make sure the SMTP or LDAP server name is correct. Check this setting with your system administrator or Internet Service Provider.
- If the printer cannot establish a secure connection to the SMTP or LDAP server, try without the secure connection or try a different server or port. Check this setting with your system administrator or Internet Service Provider.
- If the SMTP or LDAP server requires authentication, make sure a valid user name and password are used.
- If the SMTP or LDAP server uses an authentication method that is not supported, try a different server. Check this setting with your system administrator or Internet Service Provider.

Validate the SMTP gateway (Windows) (M527)

1. Open an MS-DOS command prompt: click **Start**, click **Run**, type `cmd`, and then press the Enter key.
2. In the command prompt window, type `telnet` followed by the SMTP gateway address and then the number 25, which is the port over which the printer is communicating. For example, type `telnet 123.123.123.123 25` where "123.123.123.123" represents the SMTP gateway address.
3. Press the Enter key. If the SMTP gateway address is not valid, the response contains the message **Could not open connection to the host on port 25: Connect Failed**.
4. If the SMTP gateway address is not valid, contact the network administrator.

Validate the LDAP gateway (Windows) (M527)

1. Open Windows Explorer. In the address bar, type `LDAP://` immediately followed by the LDAP gateway address. For example, type `LDAP://12.12.12.12` where "12.12.12.12" represents the LDAP gateway address.
2. Press the Enter key. If the LDAP gateway address is valid, the **Find People** dialog box opens.
3. If the LDAP gateway address is not valid, contact the network administrator.

A Printer specifications

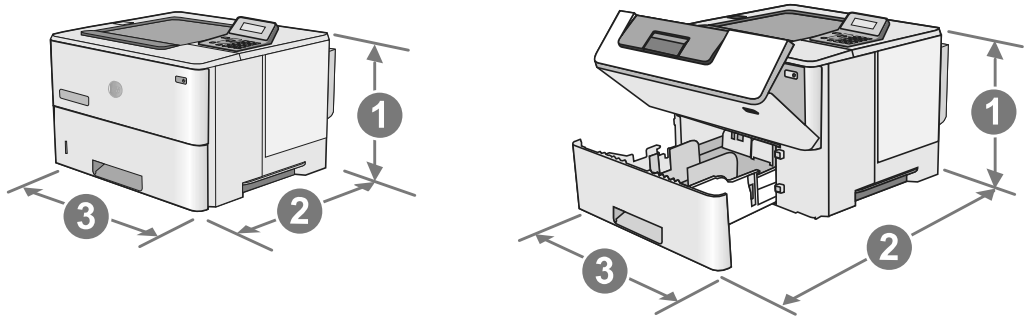
Printer dimensions

- HP LaserJet Enterprise M501 dimensions
- HP LaserJet Enterprise M506 dimensions
- HP LaserJet Enterprise MFP M527 dimensions

HP LaserJet Enterprise M501 dimensions

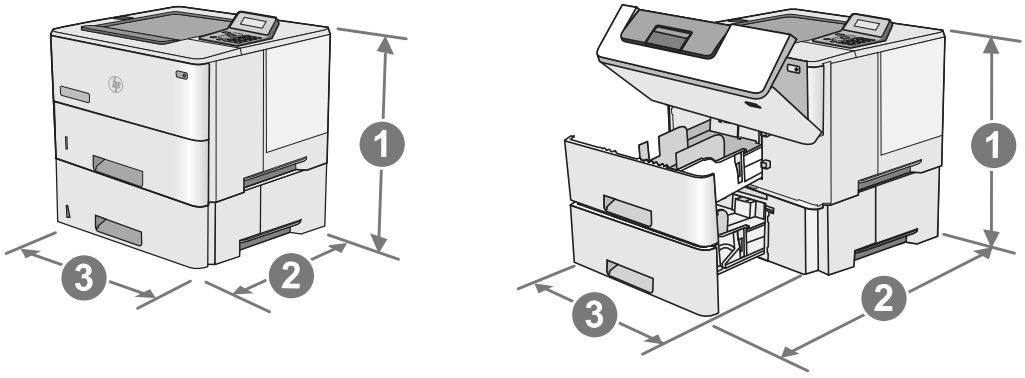
NOTE: An optional 550-sheet paper feeder is available for this printer. The M501 printer supports one paper feeder.

Figure A-1 Dimensions for the base printer



	Printer fully closed	Printer fully opened
1. Height	289 mm (11.4 in)	289 mm (11.4 in)
2. Depth	Tray 2 dust cover closed: 376 mm (14.8 in) Tray 2 dust cover open: 444 mm (17.5 in)	569 mm (22.4 in)
3. Width	410 mm (16.1 in)	410 mm (16.1 in)
Weight	11.6 kg (25.6 lb)	

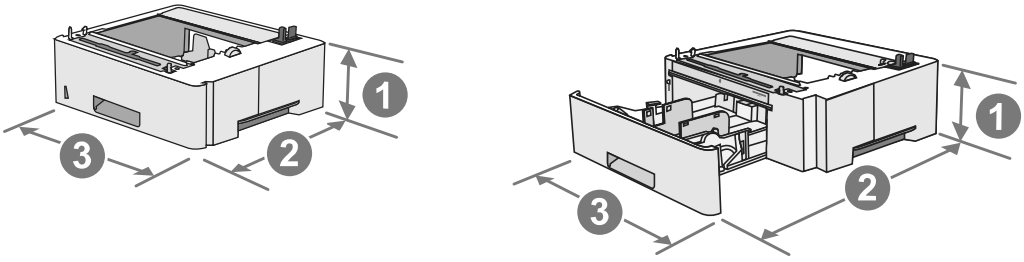
Figure A-2 Dimensions for the printer with the 1 x 550-sheet paper feeder



	Printer and accessories fully closed	Printer and accessories fully opened
1. Height	419 mm (16.5 in)	419 mm (16.5 in)
2. Depth	Tray 2 dust cover closed: 376 mm (14.8 in) Tray 2 dust cover open: 444 mm (17.5 in)	569 mm (22.4 in)
3. Width	410 mm (16.1 in)	410 mm (16.1 in)
Weight	15.4 kg (34 lb)	

[1] These values are subject to change. For current information, go to www.hp.com/support/ljM501, www.hp.com/support/ljM506, www.hp.com/support/ljM527MFP.

Figure A-3 Dimensions for the 1 x 550-sheet paper feeder

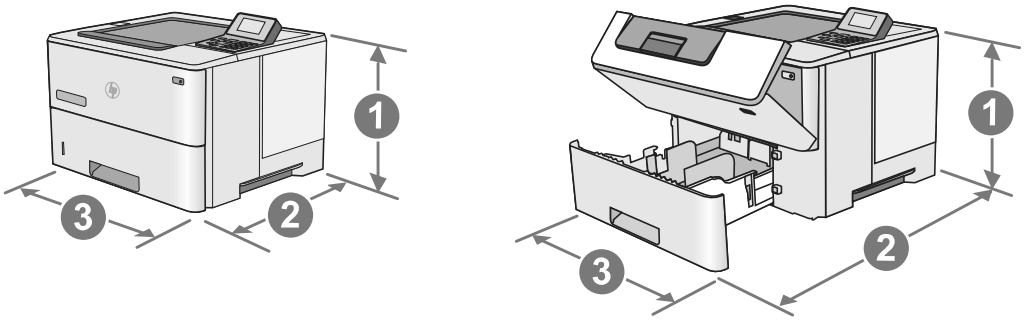


1. Height	130 mm (5.1 in)
2. Depth	Tray closed: 376 mm (14.8 in) Tray opened: 569 mm (22.4 in)
3. Width	410 mm (16.1 in)
Weight	3.8 kg (8.4 lb)

HP LaserJet Enterprise M506 dimensions

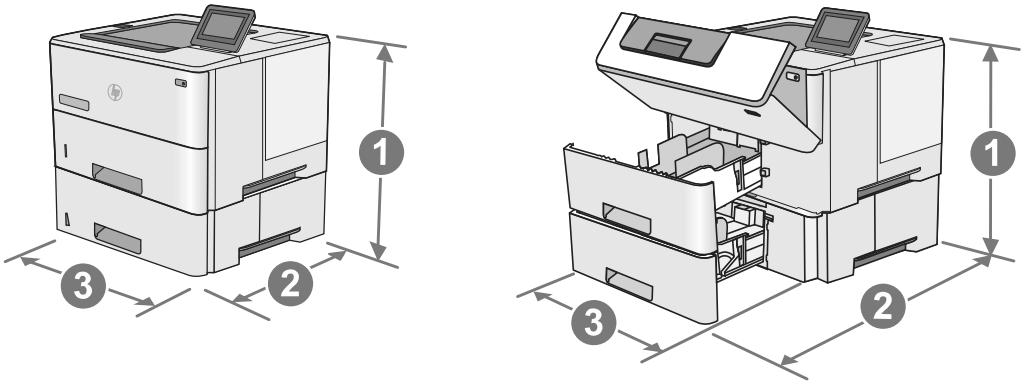
NOTE: An optional 550-sheet paper feeder is available for this printer. The M506 printer supports up to three of these paper feeders at a time.

Figure A-4 M506 dimensions for the n and dn models



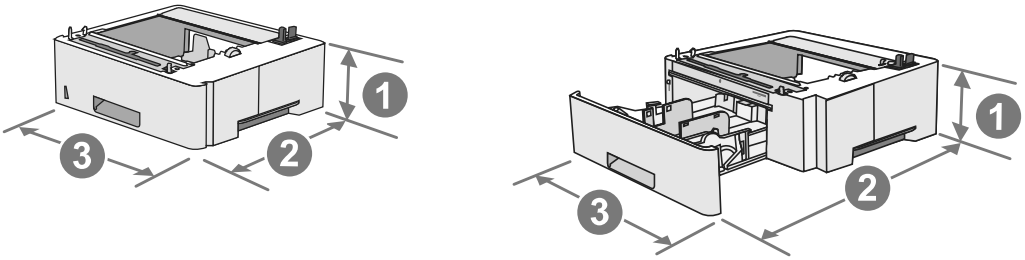
	Printer fully closed	Printer fully opened
1. Height	296 mm (11.7 in)	296 mm (11.7 in)
2. Depth	Tray 2 dust cover closed: 376 mm (14.8 in) Tray 2 dust cover open: 444 mm (17.5 in)	569 mm (22.4 in)
3. Width	410 mm (16.1 in)	410 mm (16.1 in)
Weight	12 kg (26.5 lb)	

Figure A-5 M506 dimensions for the x model



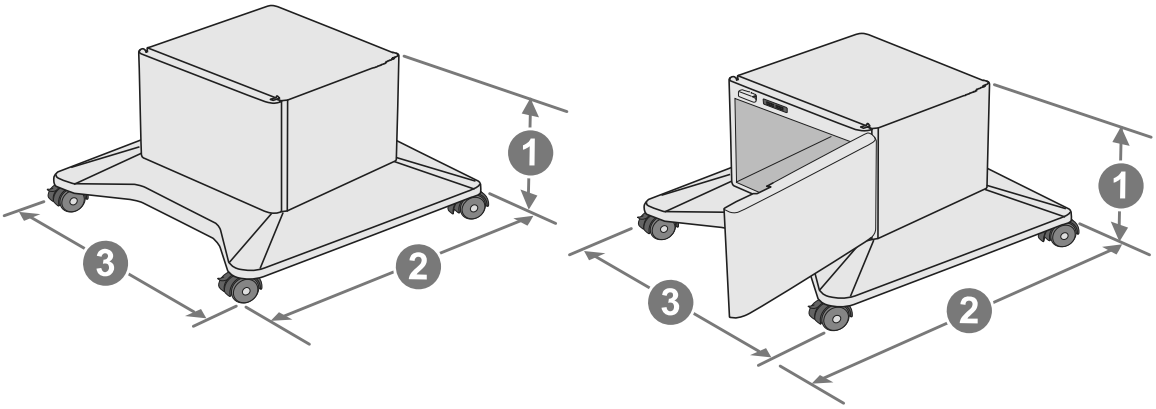
	Printer fully closed	Printer fully opened
1. Height	415 mm (16.3 in)	487 mm (19.2 in)
2. Depth	Tray 2 dust cover closed: 376 mm (14.8 in) Tray 2 dust cover open: 444 mm (17.5 in)	569 mm (22.4 in)
3. Width	410 mm (16.1 in)	410 mm (16.1 in)
Weight	13.4 kg (29.5 lb)	

Figure A-6 Dimensions for the 1 x 550-sheet paper feeder



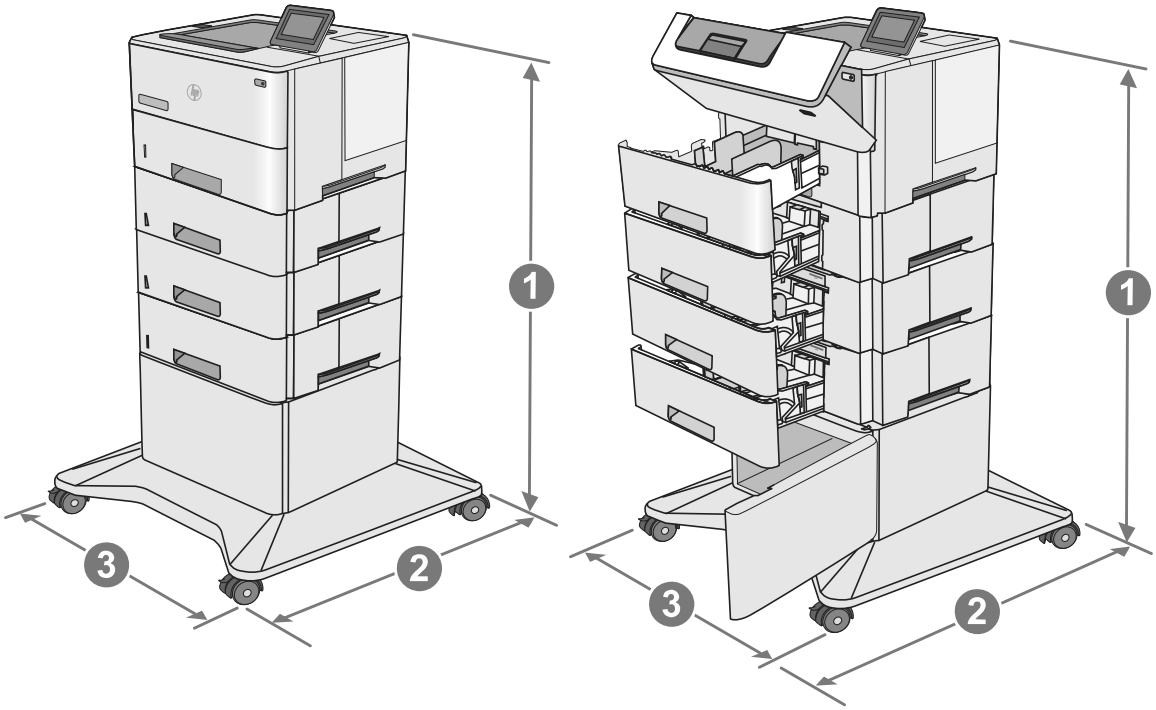
1. Height	130 mm (5.1 in)
2. Depth	Tray closed: 376 mm (14.8 in)
	Tray opened: 569 mm (22.4 in)
3. Width	410 mm (16.1 in)
Weight	1.4 kg (3 lb)

Figure A-7 Dimensions for the cabinet/stand



1. Height	381 mm (15.0 in)
2. Depth	Door closed: 632 mm (24.9 in)
	Door opened and rear castors rotated: 865 mm (34.0 in)
3. Width	Door closed: 600 mm (23.6 in)
	Door opened and rear castors rotated: 630 mm (24.8 in)
Weight	9.0 kg (20 lb)

Figure A-8 M506 dimensions for the printer with three 1 x 550-sheet paper feeders and the cabinet/stand



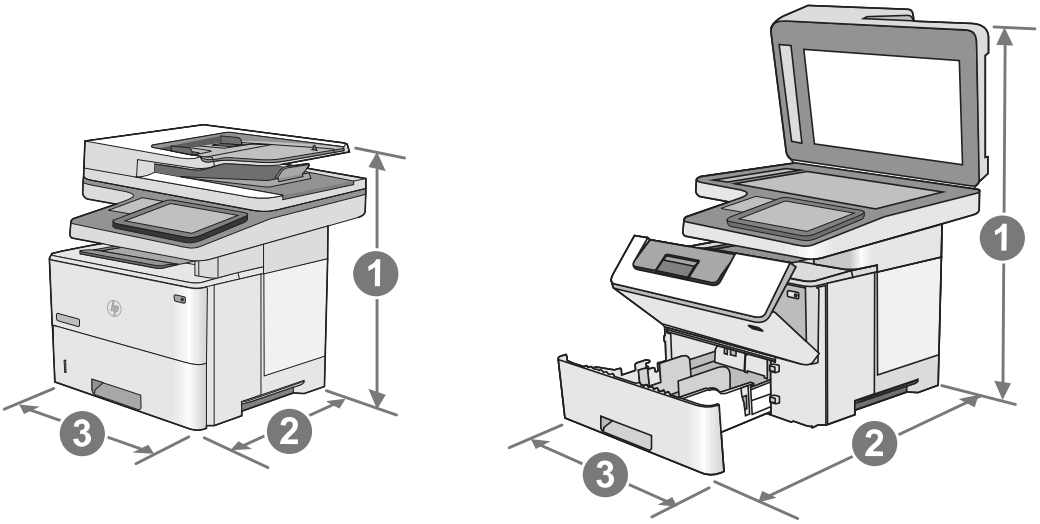
	Printer and accessories fully closed	Printer and accessories fully opened[1]
1. Height	1067 mm (42.0 in)	1067 mm (42.0 in)
2. Depth	632 mm (24.9 in)	865 mm (34.0 in)
3. Width	600 mm (23.6 in)	630 mm (24.8 in)
Weight	25.2 kg (55.5 lb)	

[1] Do not extend more than one paper tray at a time.

HP LaserJet Enterprise MFP M527 dimensions

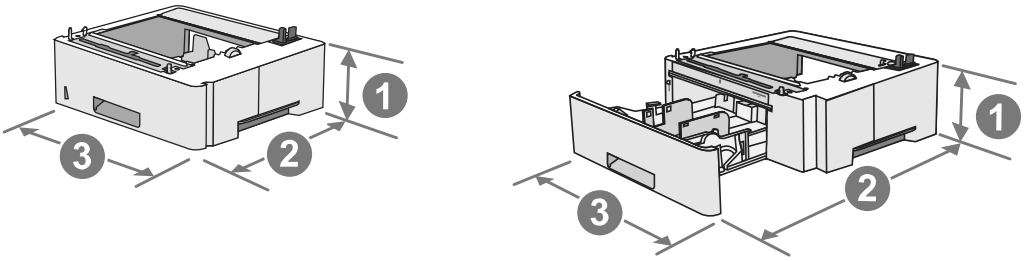
NOTE: An optional 550-sheet paper feeder is available for this printer. The M527 printer supports up to three of these paper feeders at a time.

Figure A-9 M527 dimensions for the dn, f, and z models



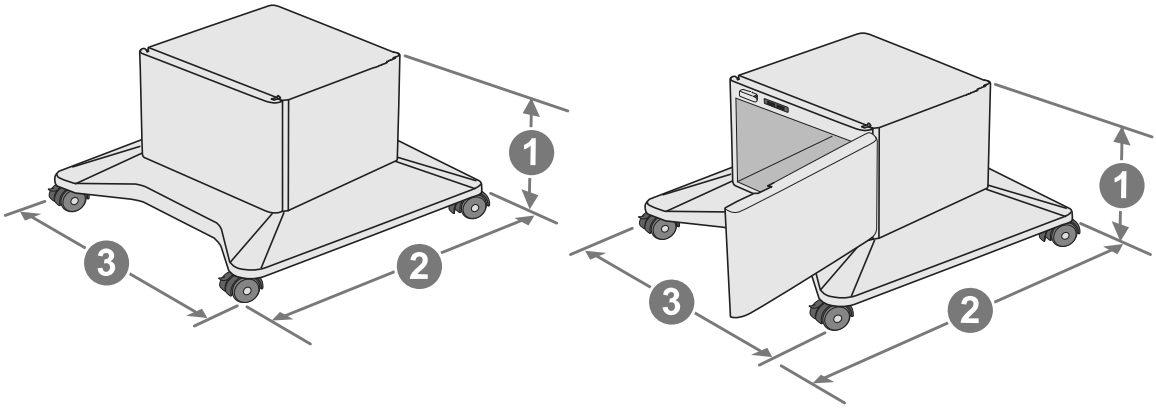
	Printer fully closed	Printer fully opened
1. Height	497 mm (19.6 in)	750 mm (29.5 in)
2. Depth	Tray 2 dust cover closed: 496 mm (19.5 in) Tray 2 dust cover open: 559 mm (22.0 in)	674 mm (26.5 in)
3. Width	482 mm (19.0 in)	482 mm (19.0 in)
Weight	23 kg (50.8 lb)	

Figure A-10 Dimensions for the 1 x 550-sheet paper feeder



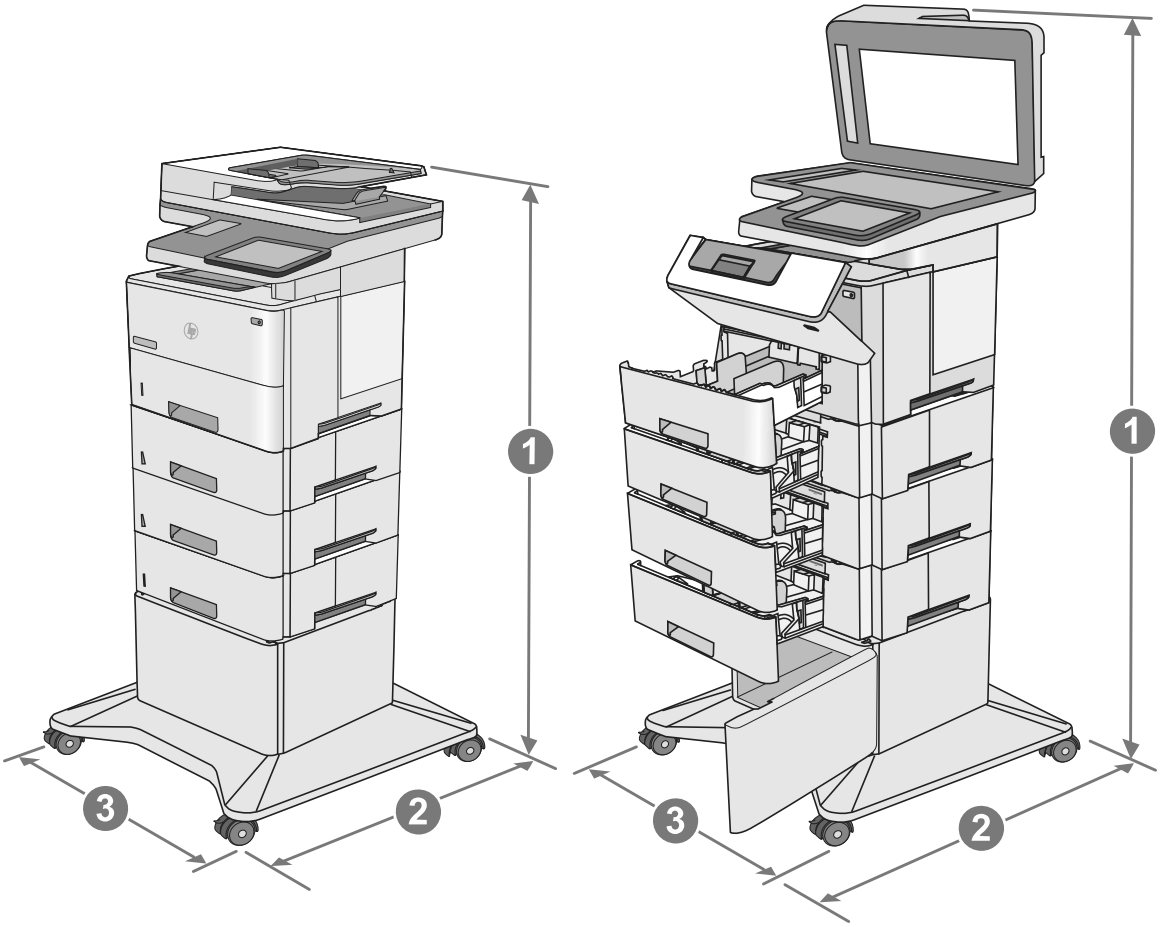
1. Height	130 mm (5.1 in)
2. Depth	Tray closed: 376 mm (14.8 in) Tray opened: 569 mm (22.4 in)
3. Width	410 mm (16.1 in)
Weight	1.4 kg (3 lb)

Figure A-11 Dimensions for the cabinet/stand



1. Height	381 mm (15.0 in)
2. Depth	Door closed: 632 mm (24.9 in) Door opened and rear castors rotated: 865 mm (34.0 in)
3. Width	Door closed: 600 mm (23.6 in) Door opened and rear castors rotated: 630 mm (24.8 in)
Weight	9.0 kg (20 lb)

Figure A-12 M527 dimensions for the printer with three 1 x 550-sheet paper feeders and the cabinet/stand



	Printer and accessories fully closed	Printer and accessories fully opened[1]
1. Height	1268 mm (49.9 in)	1521 mm (59.9 in)
2. Depth	632 mm (24.9 in)	865 mm (34.0 in)
3. Width	600 mm (23.6 in)	630 mm (24.8 in)
Weight	36.2 kg (79.8 lb)	

[1] Do not extend more than one paper tray at a time.

Printer space requirements

HP recommends that the following distances be added to the printer dimensions provided in this chapter to make sure there is sufficient space to open doors and covers, and to provide proper ventilation. See HP LaserJet Enterprise M506 dimensions on page 580or HP LaserJet Enterprise MFP M527 dimensions on page 583.

- From the left-side or right-side of the printer to an obstruction, add:
  - 430 mm (17 in)
- From the front-side of the printer to an obstruction, add:
  - 610 mm (24 in)
- From the back-side of the printer to an obstruction, add:
  - 460 mm (18 in)

Power consumption, electrical specifications, and acoustic emissions

See www.hp.com/support/www.hp.com/support/ljM501, www.hp.com/support/www.hp.com/support/ljM506, www.hp.com/support/ljM527MFP for current information.

⚠ **CAUTION:** Power requirements are based on the country/region where the printer is sold. Do not convert operating voltages. This will damage the printer and void the printer warranty.

Operating-environment range

Table A-1 Operating-environment specifications[1]

Environment	Recommended	Allowed
Temperature	17° to 25°C (62.6° to 77°F)	15° to 30°C (59° to 86°F)
Relative humidity	30% to 70% relative humidity (RH)	10% to 80% RH
Altitude	Not applicable	0 to 3000 m (0 to 9,842 ft)

[1] These values are subject to change. For current information, go to www.hp.com/support/ljM501, www.hp.com/support/ljM506, www.hp.com/support/ljM527MFP.

Certificate of Volatility

Figure A-13 Certificate of Volatility (1 of 2; M501)

Hewlett-Packard Certificate of Volatility		
Model: HP LaserJet Pro M501	Part Number: J8H60A=M501n J8H61A=M501dn	Address: HP Development Company 11311 Chinden Blvd Boise, ID 83714

Volatile Memory

Does the device contain volatile memory (Memory whose contents are lost when power is removed)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (SRAM, DRAM, etc):	Size:	User Modifiable:	Function:	Steps to clear memory:
	256MB	☐ Yes ☒ No	Used for temporary storage during the processing of jobs and for applications running on the OS.	When the printer is powered OFF, the memory is erased.
Type (SRAM, DRAM, etc):	Size:	User Modifiable:	Function:	Steps to clear memory:
	256MB	☐ Yes ☒ No	Used for temporary storage during the processing of jobs and for applications running on the OS.	When the printer is powered OFF, the memory is erased. .
Type (SRAM, DRAM, etc):	Size:	User Modifiable: ☐ Yes ☐ No	Function:	Steps to clear memory:

Non-Volatile Memory

Does the device contain non-volatile memory (Memory whose contents are retained when power is removed)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (Flash, EEPROM, etc):	Size:	User Modifiable:	Function:	Steps to clear memory:
	2GB	☐ Yes ☒ No	Device Firmware	
Type (Flash, EEPROM, etc):	Size:	User Modifiable: ☐ Yes ☐ No	Function:	Steps to clear memory:
Type (Flash, EEPROM, etc):	Size:	User Modifiable: ☐ Yes ☐ No	Function:	Steps to clear memory:

Mass Storage

Does the device contain mass storage memory (Hard Disk Drive, Tape Backup)?
☐ Yes ☒ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (HDD, Tape, etc):	Size:	User Modifiable: ☐ Yes ☐ No	Function:	Steps to clear memory:
Type (HDD, Tape, etc):	Size:	User Modifiable: ☐ Yes ☐ No	Function:	Steps to clear memory:

USB

Does the item accept USB input and if so, for what purpose (i.e Print Jobs, device firmware updates, scan upload)?
☐ Yes ☒ No If Yes please describe below

The front USB host can accept print jobs, scan uploads, photos and can be used to upload printer firmware.

Can any data other than scan upload be sent to the USB device)?
☒ Yes ☐ No If Yes please describe below

Rear USB host when configured will accept stored jobs, encrypted files stored and deleted by user.

Figure A-14 Certificate of Volatility (2 of 2; M501)

RF/RFID	
Does the item use RF or RFID for receive or transmit of any data including remote diagnostics. (e.g. Cellular phone, Bluetooth) ☐ Yes ☐ No If Yes please describe below	
Purpose: Wireless Information string	
Frequency:	Bandwidth:
Modulation:	Effective Radiate Power (ERP):
Specifications:	

Other Transmission Capabilities	
Does the device employ any other methods of non-wired access to transmit or receive any data whatsoever (e.g. anything other than standard hard wired TCP/IP, direct USB, or parallel connections)? ☐ Yes ☒ No If Yes please describe below:	
Purpose:	
Frequency:	Bandwidth:
Modulation:	Effective Radiate Power (ERP):
Specifications:	

Other Capabilities
Does the device employ any other method of communications such as a Modem to transmit or receive any data whatsoever? ☐ Yes ☒ No If Yes please describe below:
Purpose:
Specifications

Figure A-15 Certificate of Volatility (1 of 2; M506)

HP Certificate of Volatility		
Model: LaserJet Enterprise M604, M605, M606	Part Number: M06n = F2A68A M506dn = F2A69A M506x = F2A70A	Address: HP Development Company 11311 Chinden Blvd Boise, ID 83714

Volatile Memory				
Does the device contain volatile memory (Memory whose contents are lost when power is removed)? ☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below				
Type (SRAM, DRAM, etc): DRAM	Size: 512MB	User Modifiable: ☐ Yes ☒ No	Function: Operation system and print buffer	Steps to clear memory: There are no steps to clear this data.
Type (SRAM, DRAM, etc):	Size:	User Modifiable: ☐ Yes ☐ No	Function:	Steps to clear memory:
Type (SRAM, DRAM, etc):	Size:	User Modifiable: ☐ Yes ☐ No	Function:	Steps to clear memory:

Non-Volatile Memory				
Does the device contain non-volatile memory (Memory whose contents are retained when power is removed)? ☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below				
Type (Flash, EEPROM, etc): EEPROM	Size: 32KB	User Modifiable: ☐ Yes ☒ No	Function: Store customer setting data for backup/restore	Steps to clear memory: There are no steps to clear this data.
Type (Flash, EEPROM, etc): SPI	Size: 4MB	User Modifiable: ☐ Yes ☒ No	Function: BIOS	Steps to clear memory: There are no steps to clear this data.
Type (Flash, EEPROM, etc): None	Size:	User Modifiable: ☐ Yes ☐ No	Function:	Steps to clear memory:

Mass Storage				
Does the device contain mass storage memory (Hard Disk Drive, Tape Backup)? ☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below				
Type (HDD, Tape, etc): eMMC	Size: 4GB	User Modifiable: ☒ Yes ☐ No	Function: OS and user data	Steps to clear memory: Firmware update
Type (HDD, Tape, etc): HDD	Size: 320GB	User Modifiable: ☒ Yes ☐ No	Function: OS and user data	Steps to clear memory: Firmware update

USB
Does the item accept USB input and if so, for what purpose (i.e Print Jobs, device firmware updates, scan upload)? ☒ Yes ☐ No If Yes please describe below
Walk-up USB print
Can any data other than scan upload be sent to the USB device)? ☐ Yes ☒ No If Yes please describe below

Figure A-16 Certificate of Volatility (2 of 2; M506)

RF/RFID	
Does the item use RF or RFID for receive or transmit of any data including remote diagnostics. (e.g. Cellular phone, Bluetooth) ☐ Yes ☒ No If Yes please describe below	
Purpose	
Frequency:)	Bandwidth:
Modulation:	Effective Radiate Power (ERP):
Specifications:	

Other Transmission Capabilities	
Does the device employ any other methods of non-wired access to transmit or receive any data whatsoever (e.g. anything other than standard hard wired TCP/IP, direct USB, or parallel connections)? ☒ Yes ☐ No If Yes please describe below:	
Purpose: Wireless direct print.	
Frequency: 2.4Ghz	Bandwidth:
Modulation:	Effective Radiate Power (ERP:
Specifications: 802.11 b/g/n	

Other Capabilities
Does the device employ any other method of communications such as a Modem to transmit or receive any data whatsoever? ☒ Yes ☐ No If Yes please describe below:
Purpose: NFC; to support tap to print only
Specifications: NFC Tag Type 4 ISO 14443B

Author Information			
Name:	Title: Security Technical Marketing Engineer	Email:	Business Unit: IPG
			Date Prepared: 06/29/15

Figure A-17 Certificate of Volatility (1 of 2; M527)

HP Certificate of Volatility		
Model: LaserJet Enterprise M604, M605, M606	Part Number: M527dn = F2A76A M527f = F2A77A M527z = F2A78A	Address: HP Development Company 11311 Chinden Blvd Boise, ID 83714

Volatile Memory

Does the device contain volatile memory (Memory whose contents are lost when power is removed)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (SRAM, DRAM, etc):	Size:	User Modifiable:	Function:	Steps to clear memory:
DRAM	1792MB	☐ Yes ☒ No	Operation system and print buffer	There are no steps to clear this data.
Type (SRAM, DRAM, etc):	Size:	User Modifiable: ☐ Yes ☐ No	Function:	Steps to clear memory:
Type (SRAM, DRAM, etc):	Size:	User Modifiable: ☐ Yes ☐ No	Function:	Steps to clear memory:

Non-Volatile Memory

Does the device contain non-volatile memory (Memory whose contents are retained when power is removed)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (Flash, EEPROM, etc):	Size:	User Modifiable:	Function:	Steps to clear memory:
EEPROM	32KB	☐ Yes ☒ No	Store customer setting data for backup/restore	There are no steps to clear this data.
Type (Flash, EEPROM, etc): SPI	Size: 4MB	User Modifiable: ☐ Yes ☒ No	Function: BIOS	Steps to clear memory: There are no steps to clear this data.
Type (Flash, EEPROM, etc): None	Size:	User Modifiable: ☐ Yes ☐ No	Function:	Steps to clear memory:

Mass Storage

Does the device contain mass storage memory (Hard Disk Drive, Tape Backup)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (HDD, Tape, etc):	Size:	User Modifiable:	Function:	Steps to clear memory:
eMMC	16GB	☒ Yes ☐ No	OS and user data	Firmware update
Type (HDD, Tape, etc): HDD	Size: 320GB	User Modifiable: ☒ Yes ☐ No	Function: OS and user data	Steps to clear memory: Firmware update

USB

Does the item accept USB input and if so, for what purpose (i.e Print Jobs, device firmware updates, scan upload)?
☒ Yes ☐ No If Yes please describe below

Walk-up USB print

Can any data other than scan upload be sent to the USB device)?
☐ Yes ☒ No If Yes please describe below

Figure A-18 Certificate of Volatility (2 of 2; M527)

RF/RFID	
Does the item use RF or RFID for receive or transmit of any data including remote diagnostics. (e.g. Cellular phone, Bluetooth) ☐ Yes ☒ No If Yes please describe below	
Purpose	
Frequency:)	Bandwidth:
Modulation:	Effective Radiate Power (ERP):
Specifications:	

Other Transmission Capabilities	
Does the device employ any other methods of non-wired access to transmit or receive any data whatsoever (e.g. anything other than standard hard wired TCP/IP, direct USB, or parallel connections)? ☒ Yes ☐ No If Yes please describe below:	
Purpose: Wireless direct print.	
Frequency: 2.4Ghz	Bandwidth:
Modulation:	Effective Radiate Power (ERP:
Specifications: 802.11 b/g/n	

Other Capabilities
Does the device employ any other method of communications such as a Modem to transmit or receive any data whatsoever? ☒ Yes ☐ No If Yes please describe below:
Purpose: NFC; to support tap to print only
Specifications: NFC Tag Type 4 ISO 14443B

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			Date Prepared: 06/29/15

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