



# LaserJet Pro M101-M104, LaserJet Ultra M105-M106

## User Guide



M101-M106



[www.hp.com/support/ljM101](http://www.hp.com/support/ljM101)





# HP LaserJet Pro M101-M104, HP LaserJet Ultra M105-M106

User Guide

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# 1 Printer overview

- [Printer views](#)
- [Printer specifications](#)
- [Printer hardware setup and software installation](#)

## **For more information:**

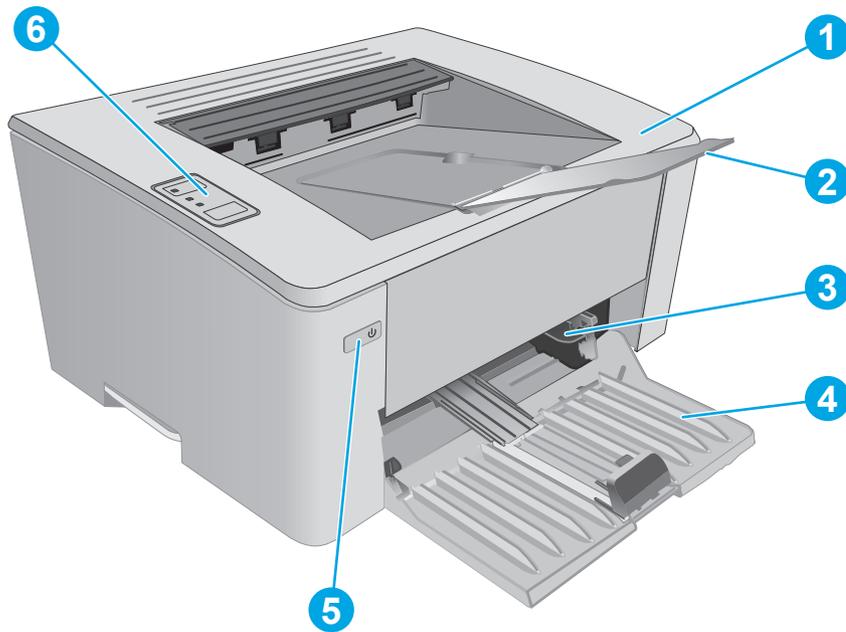
The following information is correct at the time of publication. For current information, see [www.hp.com/support/ljM101](http://www.hp.com/support/ljM101).

HP's all-inclusive help for the printer includes the following information:

- Install and configure
- Learn and use
- Solve problems
- Download software and firmware updates
- Join support forums
- Find warranty and regulatory information

# Printer views

## Printer front view

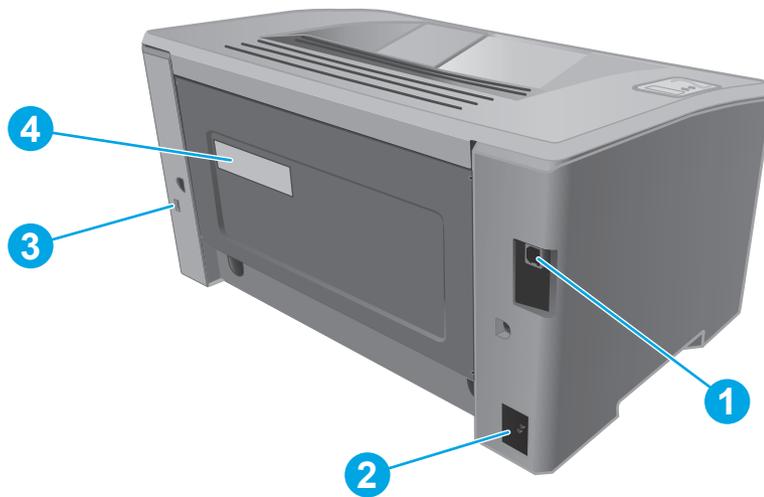


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1	Top cover (toner cartridge access) and output bin
2	Output bin extension
3	Priority input tray (M102w, M104w, M106w models only)
4	Input tray
5	Power button
6	Control panel

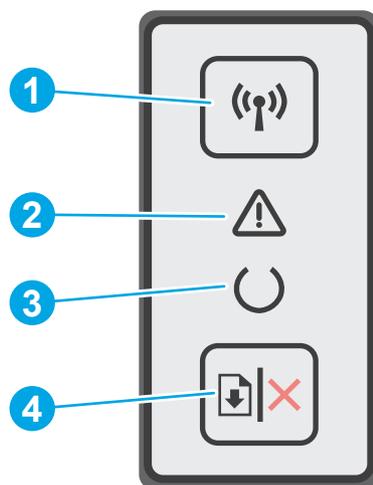
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## Printer back view



1	USB interface port
2	Power connection
3	Slot for cable-type security lock
4	Serial number and printer number label

## Control-panel view



1	Wireless button and LED (wireless models only)	<p>Press this button to turn the wireless feature on or off, or to configure a WiFi Direct connection.</p> <p>Press and hold this button to configure a WPS connection.</p> <p>If the wireless LED light is on, there is a stable wireless connection. If it is blinking, there is either a WPS or WiFi Direct configuration process in progress. If it is blinking rapidly, there is an issue with the wireless connection.</p>
2	Attention LED	<p>The Attention light blinks when the printer requires user attention, such as when the printer runs out of paper or a toner cartridge needs to be changed. If the light is on without blinking, the printer has experienced an error.</p>
3	Ready LED	<p>The Ready light is on when the printer is ready to print. It blinks when the printer is receiving print data or canceling a print job.</p>
4	Resume/Cancel button	<p>Press this button for the following actions:</p> <ul style="list-style-type: none"><li>• If the printer is currently processing a job, with Attention LED off and Ready LED blinking, press the button to cancel the print job.</li><li>• If the printer is in a error or prompt state, with Ready LED off and Attention LED blinking, press the button to clear the error and resume printing.</li><li>• In manual duplex mode, press this button to print the second side of the page.</li></ul>

# Printer specifications



**IMPORTANT:** The following specifications are correct at the time of publication, but they are subject to change. For current information, see [www.hp.com/support/ljM101](http://www.hp.com/support/ljM101).

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- [Technical specifications](#)
- [Supported operating systems](#)
- [Mobile printing solutions](#)
- [Printer dimensions](#)
- [Power consumption, electrical specifications, and acoustic emissions](#)
- [Operating-environment range](#)

## Technical specifications

See [www.hp.com/support/ljM101](http://www.hp.com/support/ljM101) for current information.

## Supported operating systems

The following information applies to the printer-specific Windows PCLmS and OS X print drivers.

**Windows:** The HP Software Installer installs the PCLm.S, PCLmS, or PCLm-S driver depending on the Windows operating system along with optional software when using the full software installer. See the software installation notes for more information.

**OS X:** Mac computers are supported with this printer. Download HP Easy Start either from the printer installation CD or from [123.hp.com](http://123.hp.com), and then use HP Easy Start to install the HP print driver and utility. See the software installation notes for more information.

1. Go to [123.hp.com](http://123.hp.com).
2. Follow the steps provided to download the printer software.

**Linux:** For information and print drivers for Linux, go to [hplipopensource.com/hplip-web/index.html](http://hplipopensource.com/hplip-web/index.html).

Operating system	Print driver installed	Notes
Windows® XP SP3 or later, 32-bit	The HP PCLm.S printer-specific print driver is installed for this operating system as part of the basic software installation. The basic installer installs the driver only.	Microsoft retired mainstream support for Windows XP in April 2009. HP will continue to provide best-effort support for the discontinued XP operating system.
Windows Vista®, 32-bit	The HP PCLm.S printer-specific print driver is installed for this operating system as part of the basic software installation. The basic installer installs the driver only.	
Windows Server 2003, SP2 or later, 32-bit	The HP PCLm.S printer-specific print driver is installed for this operating system as part of the basic software installation. The basic installer installs the driver only.	Microsoft retired mainstream support for Windows Server 2003 in July 2010. HP will continue to provide best-effort support for the discontinued Server 2003 operating system.
Windows Server 2003, R2, 32-bit	The HP PCLm.S printer-specific print driver is installed for this operating system as part of the basic software installation. The basic installer installs the driver only.	Microsoft retired mainstream support for Windows Server 2003 in July 2010. HP will continue to provide best-effort support for the discontinued Server 2003 operating system.
Windows 7, 32-bit and 64-bit	The HP PCLmS printer-specific print driver is installed for this operating system as part of the full software installation.	
Windows 8, 32-bit and 64-bit	The HP PCLmS printer-specific print driver is installed for this operating system as part of the basic software installation.	Windows 8 RT support is provided through Microsoft IN OS Version 4, 32-bit driver.
Windows 8.1, 32-bit and 64-bit	The HP PCLm-S printer-specific print driver is installed for this operating system as part of the basic software installation.	Windows 8.1 RT support is provided through Microsoft IN OS Version 4, 32-bit driver.
Windows 10, 32-bit and 64-bit	The HP PCLm-S printer-specific print driver is installed for this operating system as part of the basic software installation.	

Operating system	Print driver installed	Notes
Windows Server 2008, 32-bit and 64-bit	The HP PCLm.S printer-specific print driver is installed for this operating system as part of the basic software installation.	
Windows Server 2008, R2, 64-bit	The HP PCLmS printer-specific print driver is installed for this operating system as part of the basic software installation.	
Windows Server 2012, 64-bit	The HP PCLmS printer-specific print driver is installed for this operating system as part of the basic software installation.	
Windows Server 2012 R2, 64-bit	The HP PCLm-S printer-specific print driver is installed for this operating system as part of the basic software installation.	
OS X 10.9 Mavericks, OS X 10.10 Yosemite, and OS X 10.11 El Capitan	The OS X print driver and print utility are available for download from either the installation CD or <a href="http://123.hp.com">123.hp.com</a> .	<p>Download HP Easy Start either from the printer installation CD or from <a href="http://123.hp.com">123.hp.com</a>, and then use HP Easy Start to install the HP print driver and utility.</p> <ol style="list-style-type: none"> <li>1. Go to <a href="http://123.hp.com">123.hp.com</a>.</li> <li>2. Follow the steps provided to download the printer software.</li> </ol>

 **NOTE:** For a current list of supported operating systems, go to [www.hp.com/support/ljM101](http://www.hp.com/support/ljM101) for HP's all-inclusive help for the printer.

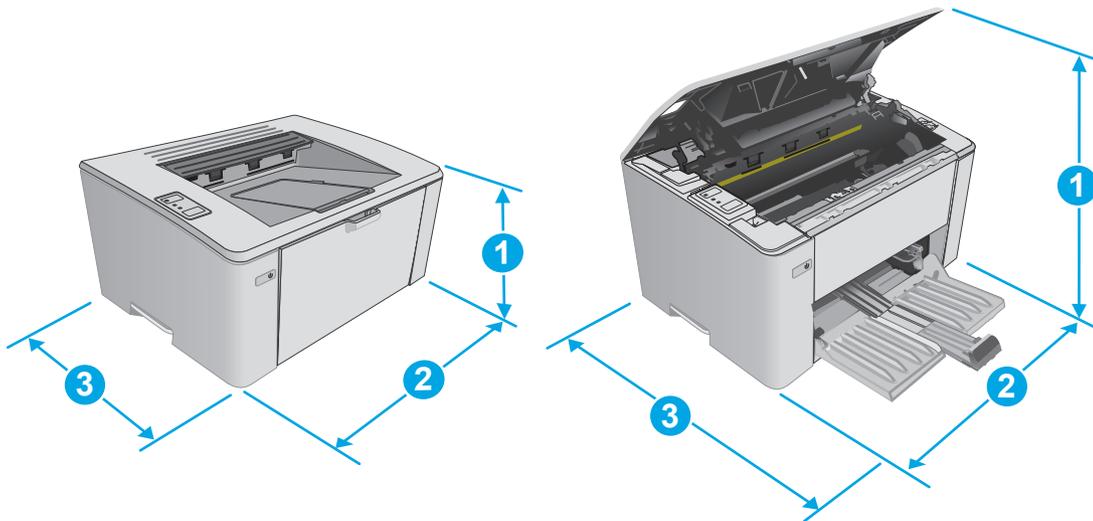
## Mobile printing solutions

HP offers multiple mobile and ePrint solutions to enable easy printing to an HP printer from a laptop, tablet, smartphone, or other mobile device. To see the full list and to determine the best choice, go to [www.hp.com/go/LaserJetMobilePrinting](http://www.hp.com/go/LaserJetMobilePrinting).

 **NOTE:** Update the printer firmware to ensure all mobile printing and ePrint capabilities are supported.

- Wi-Fi Direct (wireless models only)
- HP ePrint via email (Requires HP Web Services to be enabled and the printer to be registered with HP Connected)
- HP ePrint software
- Android Printing
- AirPrint

## Printer dimensions



	Printer fully closed	Printer fully open
1. Height	190.7 mm (7.5 in)	332.4 mm (13.1 in)
2. Width	364.7 mm (14.4 in)	364.7 mm (14.4 in)
3. Depth	247.8 mm (9.7 in)	467 mm (18.4 in)
Weight (with cartridges)	With CF217A/CF218A cartridge: 5.1 kg (11.24 lb) With CF233A cartridge: 5.26 kg (11.6 lb)	

## Power consumption, electrical specifications, and acoustic emissions

See [www.hp.com/support/ljM101](http://www.hp.com/support/ljM101) 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

Environment	Recommended	Allowed
Temperature	15° to 27°C (59° to 80.6°F)	15° to 30°C (59° to 86°F)
Relative humidity	20% to 70% relative humidity (RH), non-condensing	10% to 80% (RH), non-condensing

## Printer hardware setup and software installation

For basic setup instructions, see the Setup Poster and Getting Started Guide that came with the printer. For additional instructions, go to HP support on the Web.

Go to [www.hp.com/support/ljM101](http://www.hp.com/support/ljM101) for HP's all-inclusive help for the printer. Find the following support:

- Install and configure
- Learn and use
- Solve problems
- Download software and firmware updates
- Join support forums
- Find warranty and regulatory information



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## 2 Paper trays

- [Load the input tray](#)
- [Load the priority input tray \(wireless models only\)](#)
- [Load and print envelopes](#)

### For more information:

The following information is correct at the time of publication. For current information, see [www.hp.com/support/ljM101](http://www.hp.com/support/ljM101).

HP's all-inclusive help for the printer includes the following information:

- Install and configure
- Learn and use
- Solve problems
- Download software and firmware updates
- Join support forums
- Find warranty and regulatory information

# Load the input tray

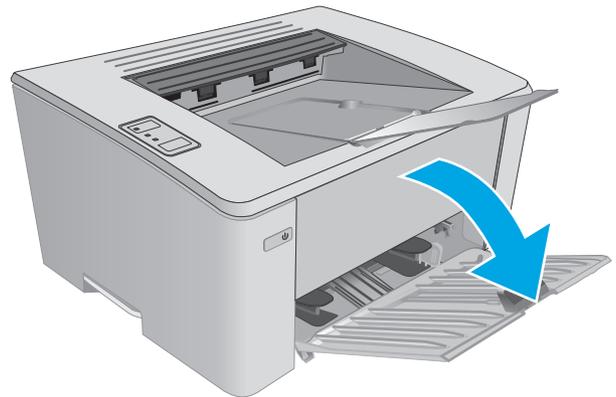
## Introduction

The following information describes how to load paper in the input tray. This tray holds up to 150 sheets of 75 g/m<sup>2</sup> (20 lb) paper.

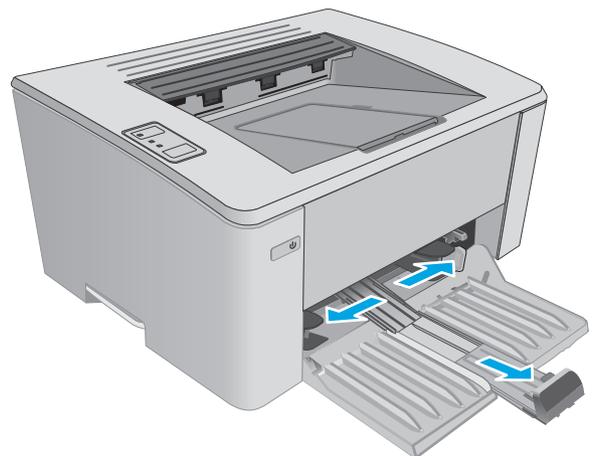
## Load paper into the input tray

 **NOTE:** When you add new paper, make sure that you remove all of the paper from the input tray and straighten the stack. Do not fan the paper. This reduces jams by preventing multiple sheets of paper from feeding through the product at one time.

1. If it is not already open, open the input tray.

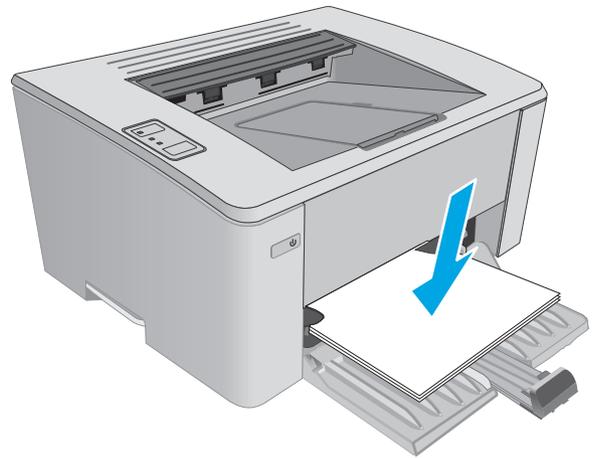


2. Adjust the paper width and length guides outward.

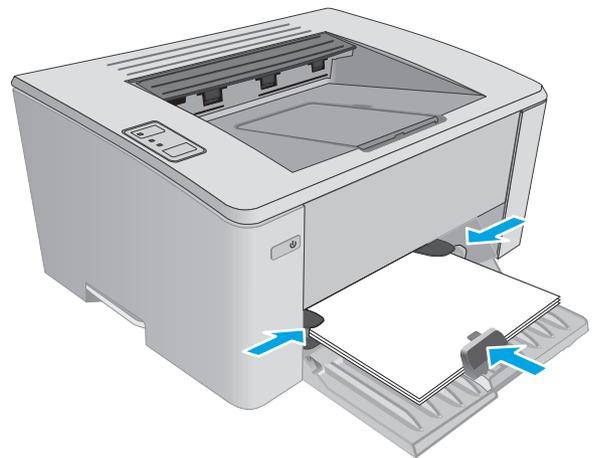


3. Load the paper face-up with the top forward in the input tray.

The orientation of the paper in the tray varies depending on the type of print job. For additional information, see the table below.



4. Adjust the paper guides inward until they are snug against the paper.

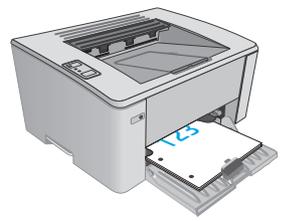


Paper type	Duplex mode	How to load paper
------------	-------------	-------------------

Preprinted or letterhead	1-sided printing or 2-sided printing	Face-up Top edge leading into the product
--------------------------	--------------------------------------	--



Prepunched	1-sided printing or 2-sided printing	Face-up Holes toward the left side of the product
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# Load the priority input tray (wireless models only)

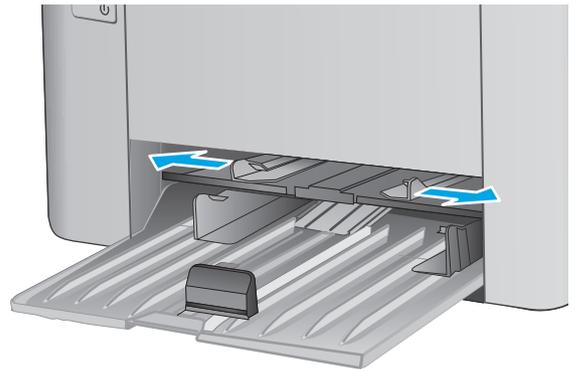
## Introduction

The following information describes how to load paper in the priority input tray. This tray holds up to 10 sheets of 75 g/m<sup>2</sup> (20 lb) paper.

## Load paper into the priority input tray

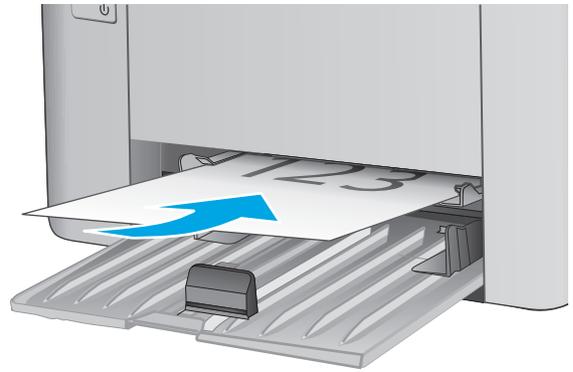
 **NOTE:** When you add new paper, make sure that you remove all of the paper from the input tray and straighten the stack. Do not fan the paper. This reduces jams by preventing multiple sheets of paper from feeding through the product at one time.

1. Adjust the paper width guides outward.

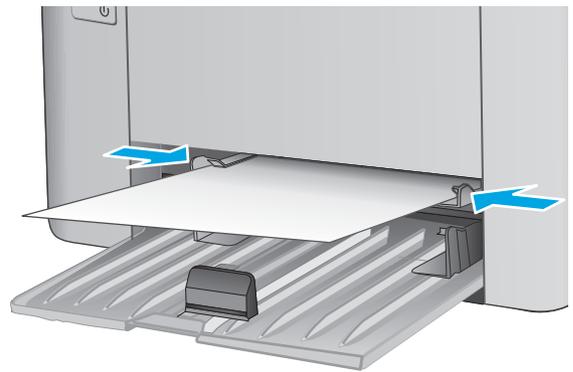


2. Load the paper face-up with the top forward in the input tray.

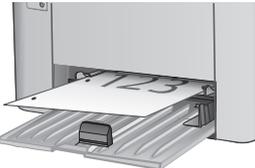
The orientation of the paper in the tray varies depending on the type of print job. For additional information, see the table below.



3. Adjust the paper guides until they are snug against the paper.



---

<b>Paper type</b>	<b>Duplex mode</b>	<b>How to load paper</b>
Preprinted or letterhead	1-sided printing or 2-sided printing	Face-up Top edge leading into the product
		
Prepunched	1-sided printing or 2-sided printing	Face-up Holes toward the left side of the product
		

---

# Load and print envelopes

## Introduction

The following information describes how to print and load envelopes. For the best performance, only 5 mm (.2 in) of envelopes (4 to 6 envelopes) should be loaded into the priority feed tray, and only 10 envelopes should be loaded into the input tray.

To print envelopes, follow these steps to select the correct settings in the print driver.

## Print envelopes

1. From the software program, select the **Print** option.
2. Select the printer from the list of printers, and then click or tap the **Properties** or **Preferences** button to open the print driver.

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 **NOTE:** The name of the button varies for different software programs.

 **NOTE:** To access these features from a Windows 8 or 8.1 Start screen, select **Devices**, select **Print**, and then select the printer.

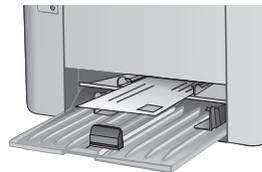
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3. Click or tap the **Paper/Quality** tab.
4. In the **Paper source** drop-down list, select the tray to be used.
5. In the **Media** drop-down list, select **Envelope**.
6. Click the **OK** button to close the **Document Properties** dialog box.
7. In the **Print** dialog box, click the **OK** button to print the job.

## Envelope orientation

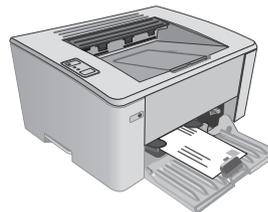
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Load envelopes in the priority feed tray face up, with the short, return address end leading into the printer.



---

Load envelopes in the input tray face up, with the short, return address end leading into the printer.



---

## 3 Supplies, accessories, and parts

- [Order supplies, accessories, and parts](#)
- [Configure the HP toner-cartridge-protection supply settings](#)
- [Replace the toner cartridge](#)

### For more information:

The following information is correct at the time of publication. For current information, see [www.hp.com/support/ljM101](http://www.hp.com/support/ljM101).

HP's all-inclusive help for the printer includes the following information:

- Install and configure
- Learn and use
- Solve problems
- Download software and firmware updates
- Join support forums
- Find warranty and regulatory information

# Order supplies, accessories, and parts

## Ordering

Order supplies and paper	<a href="http://www.hp.com/go/suresupply">www.hp.com/go/suresupply</a>
Order genuine HP parts or accessories	<a href="http://www.hp.com/buy/parts">www.hp.com/buy/parts</a>
Order through service or support providers	Contact an HP-authorized service or support provider.
Order using the HP Embedded Web Server (EWS)	To access, in a supported Web browser on the computer, enter the printer IP address or host name in the address/URL field. The EWS contains a link to the HP SureSupply Web site, which provides options for purchasing Original HP supplies.

## Supplies and accessories

Item	Description	Cartridge number	Part number
<b>Supplies</b>			
HP 17A Black Original LaserJet Toner Cartridge	Replacement black toner cartridge for M101-M102 models	17A	CF217A
HP 18A Black Original LaserJet Toner Cartridge	Replacement black toner cartridge for M103-M104 models	18A	CF218A
HP 19A Original LaserJet Imaging Drum	Replacement imaging drum for M101-M104 models	19A	CF219A
HP 33A Black Original LaserJet Toner Cartridge	Replacement black toner cartridge for M105-M106 models	33A	CF233A
HP 34A Original LaserJet Imaging Drum	Replacement imaging drum for M105-M106 models	34A	CF234A

## Customer self-repair parts

Customer Self-Repair (CSR) parts are available for many HP LaserJet printers to reduce repair time. More information about the CSR program and benefits can be found at [www.hp.com/go/csr-support](http://www.hp.com/go/csr-support) and [www.hp.com/go/csr-faq](http://www.hp.com/go/csr-faq).

Genuine HP replacement parts can be ordered at [www.hp.com/buy/parts](http://www.hp.com/buy/parts) or by contacting an HP-authorized service or support provider. When ordering, one of the following will be needed: part number, serial number (found on back of printer), product number, or printer name.

- Parts listed as **Mandatory** self-replacement are to be installed by customers, unless you are willing to pay HP service personnel to perform the repair. For these parts, on-site or return-to-depot support is not provided under the HP product warranty.
- Parts listed as **Optional** self-replacement can be installed by HP service personnel at your request for no additional charge during the printer warranty period.

<b>Item</b>	<b>Description</b>	<b>Self-replacement options</b>	<b>Part number</b>
Pickup roller	Replacement pickup roller for input tray	Mandatory	RL1-2593-000CN

# Configure the HP toner-cartridge-protection supply settings

- [Introduction](#)
- [Enable or disable the Cartridge Policy feature](#)
- [Enable or disable the Cartridge Protection feature](#)

## Introduction

Use HP Cartridge Policy and Cartridge Protection to control which cartridges are installed in the printer and protect the cartridges that are installed from theft.

- **Cartridge Policy:** This feature protects the printer from counterfeit toner cartridges by allowing only genuine HP cartridges to be used with the printer. Using genuine HP cartridges ensures the best possible print quality. When someone installs a cartridge that is not a genuine HP cartridge, the printer Attention and Toner lights blink, and the HP EWS displays a message that the cartridge is unauthorized and provides information explaining how to proceed.
- **Cartridge Protection:** This feature permanently associates toner cartridges with a specific printer, or fleet of printers, so they cannot be used in other printers. Protecting cartridges protects your investment. When this feature is enabled, if someone attempts to transfer a protected cartridge from the original printer into an unauthorized printer, that printer will not print with the protected cartridge. The printer control panel Attention and toner lights blink, and the HP EWS displays a message that the cartridge is protected and provides information explaining how to proceed.

---

 **CAUTION:** After enabling cartridge protection for the printer, all subsequent toner cartridges installed in the printer are automatically and *permanently* protected. To avoid protecting a new cartridge, disable the feature *before* installing the new cartridge.

---

Turning the feature off does not turn off protection for cartridges that are currently installed.

Both features are off by default. Follow these procedures to enable or disable them.

## Enable or disable the Cartridge Policy feature

### Use the HP Embedded Web Server (EWS) to enable the Cartridge Policy feature

1. Open the HP Embedded Web Server (EWS):

#### Direct-connected printers

- a. Open the HP Printer Assistant.
  - **Windows 8.1:** Click the down arrow in lower left corner of the **Start** screen, and then select the printer name.
  - **Windows 8:** Right-click an empty area on the **Start** screen, click **All Apps** on the app bar, and then select the printer name.
  - **Windows 7, Windows Vista, and Windows XP:** From the computer desktop, click **Start**, select **All Programs**, click **HP**, click the folder for the printer, select the icon with the printer's name, and then open **HP Printer Assistant**.
- b. In the HP Printer Assistant, select **Print**, and then select **HP Device Toolbox**.

### Network-connected printers

- a. Print a configuration page to determine the IP address or host name.
  - i. Press and hold the Resume/Cancel  button until the Ready  light begins blinking.
  - ii. Release the Resume/Cancel  button.
- b. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer configuration page. Press the **Enter** key on the computer keyboard. The EWS opens.

 <https://10.10.XXXXX/>



**NOTE:** If the web browser displays a message indicating that accessing the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

2. Click the **System** tab.
3. From the left navigation pane, select **Supply Settings**.
4. From the **Cartridge Policy** drop-down list, select **Authorized HP**.
5. Click the **Apply** button.

### Use the HP Embedded Web Server (EWS) to disable the Cartridge Policy feature

1. Open the HP Embedded Web Server (EWS):

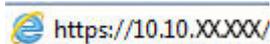
#### Direct-connected printers

- a. Open the HP Printer Assistant.
  - **Windows 8.1:** Click the down arrow in lower left corner of the **Start** screen, and then select the printer name.
  - **Windows 8:** Right-click an empty area on the **Start** screen, click **All Apps** on the app bar, and then select the printer name.
  - **Windows 7, Windows Vista, and Windows XP:** From the computer desktop, click **Start**, select **All Programs**, click **HP**, click the folder for the printer, select the icon with the printer's name, and then open **HP Printer Assistant**.
- b. In the HP Printer Assistant, select **Print**, and then select **HP Device Toolbox**.

#### Network-connected printers

- a. Print a configuration page to determine the IP address or host name.
  - i. Press and hold the Resume/Cancel  button until the Ready  light begins blinking.
  - ii. Release the Resume/Cancel  button.

- b. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer configuration page. Press the **Enter** key on the computer keyboard. The EWS opens.



 **NOTE:** If the web browser displays a message indicating that accessing the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

2. Click the **System** tab.
3. From the left navigation pane, select **Supply Settings**.
4. From the **Cartridge Policy** drop-down menu, select **Off**.
5. Click the **Apply** button.

## Troubleshoot Cartridge Policy HP EWS error messages

View the EWS **Device Status** page to see the error messages.

Error message	Description	Recommended action
10.30.0X Unauthorized <Color> Cartridge	The administrator has configured this printer to use only genuine HP supplies that are still under warranty. The cartridge must be replaced to continue printing.	<p>Replace the cartridge with a genuine HP toner cartridge.</p> <p>If you believe you purchased a genuine HP supply, visit <a href="http://www.hp.com/go/anticounterfeit">www.hp.com/go/anticounterfeit</a> to determine if the toner cartridge is a genuine HP cartridge, and learn what to do if it is not a genuine HP cartridge.</p>

## Enable or disable the Cartridge Protection feature

### Use the HP Embedded Web Server (EWS) to enable the Cartridge Protection feature

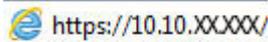
1. Open the HP Embedded Web Server (EWS):

#### Direct-connected printers

- a. Open the HP Printer Assistant.
  - **Windows 8.1:** Click the down arrow in lower left corner of the **Start** screen, and then select the printer name.
  - **Windows 8:** Right-click an empty area on the **Start** screen, click **All Apps** on the app bar, and then select the printer name.
  - **Windows 7, Windows Vista, and Windows XP:** From the computer desktop, click **Start**, select **All Programs**, click **HP**, click the folder for the printer, select the icon with the printer's name, and then open **HP Printer Assistant**.
- b. In the HP Printer Assistant, select **Print**, and then select **HP Device Toolbox**.

### Network-connected printers

- a. Print a configuration page to determine the IP address or host name.
  - i. Press and hold the Resume/Cancel  button until the Ready  light begins blinking.
  - ii. Release the Resume/Cancel  button.
- b. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer configuration page. Press the **Enter** key on the computer keyboard. The EWS opens.



**NOTE:** If the web browser displays a message indicating that accessing the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

2. Click the **System** tab.
3. From the left navigation pane, select **Supply Settings**.
4. From the **Cartridge Protection** drop-down list, select **Protect Cartridges**.
5. Click the **Apply** button.

 **CAUTION:** After enabling cartridge protection for the printer, all subsequent toner cartridges installed in the printer are automatically and *permanently* protected. To avoid protecting a new cartridge, disable the Cartridge Protection feature *before* installing the new cartridge.

Turning the feature off does not turn off protection for cartridges that are currently installed.

## Use the HP Embedded Web Server (EWS) to disable the Cartridge Protection feature

1. Open the HP Embedded Web Server (EWS):

### Direct-connected printers

- a. Open the HP Printer Assistant.
  - **Windows 8.1:** Click the down arrow in lower left corner of the **Start** screen, and then select the printer name.
  - **Windows 8:** Right-click an empty area on the **Start** screen, click **All Apps** on the app bar, and then select the printer name.
  - **Windows 7, Windows Vista, and Windows XP:** From the computer desktop, click **Start**, select **All Programs**, click **HP**, click the folder for the printer, select the icon with the printer's name, and then open **HP Printer Assistant**.
- b. In the HP Printer Assistant, select **Print**, and then select **HP Device Toolbox**.

### Network-connected printers

- a. Print a configuration page to determine the IP address or host name.

- i. Press and hold the Resume/Cancel  button until the Ready  light begins blinking.
  - ii. Release the Resume/Cancel  button.
- b. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer configuration page. Press the **Enter** key on the computer keyboard. The EWS opens.

 <https://10.10.XX.XXX/>

 **NOTE:** If the web browser displays a message indicating that accessing the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

2. Click the **System** tab.
3. From the left navigation pane, select **Supply Settings**.
4. From the **Cartridge Protection** drop-down list, select **Off**.
5. Click the **Apply** button.

## Troubleshoot Cartridge Protection HP EWS error messages

View the EWS **Device Status** page to see the error messages.

Error message	Description	Recommended action
10.57.0X Protected <Color> Cartridge	<p>The cartridge can only be used in the printer or fleet of printers that initially protected it using HP Cartridge Protection.</p> <p>The Cartridge Protection feature allows an administrator to restrict cartridges to work in only one printer or fleet of printers. The cartridge must be replaced to continue printing.</p>	Replace the cartridge with a new toner cartridge.

# Replace the toner cartridge

- [Introduction](#)
- [Toner-cartridge and imaging-drum information](#)
- [Replace the toner cartridge \(M101-M104 models\)](#)
- [Replace the toner cartridge \(M105-M106 models\)](#)
- [Replace the imaging drum \(M101-M104 models\)](#)
- [Replace the imaging drum \(M105-M106 models\)](#)

## Introduction

The following information provides details about the toner cartridge and imaging drum for the printer, and it includes instructions to replace them.

## Toner-cartridge and imaging-drum information

This printer indicates when the toner cartridge level is low and very low. The actual toner cartridge life remaining can vary. Consider having a replacement cartridge available to install when print quality is no longer acceptable.

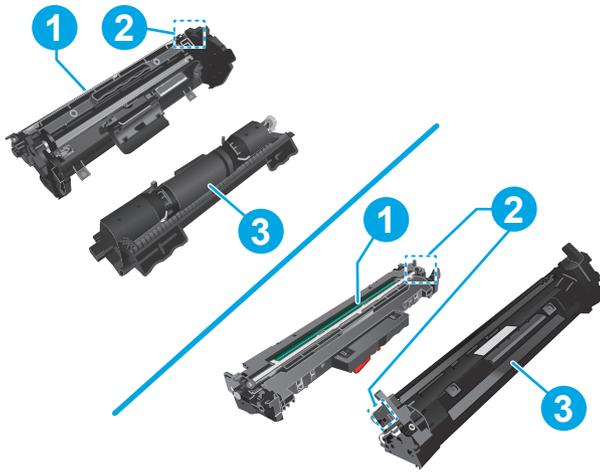
To purchase cartridges or check cartridge compatibility for the printer, go to HP SureSupply at [www.hp.com/go/suresupply](http://www.hp.com/go/suresupply). Scroll to the bottom of the page and verify that the country/region is correct.

Item	Description	Cartridge number	Part number
HP 17A Black Original LaserJet Toner Cartridge	Replacement black toner cartridge for M101-M102 models	17A	CF217A
HP 18A Black Original LaserJet Toner Cartridge	Replacement black toner cartridge for M103-M104 models	18A	CF218A
HP 19A Original LaserJet Imaging Drum	Replacement imaging drum for M101-M104 models	19A	CF219A
HP 33A Black Original LaserJet Toner Cartridge	Replacement black toner cartridge for M105-M106 models	33A	CF233A
HP 34A Original LaserJet Imaging Drum	Replacement imaging drum for M105-M106 models	34A	CF234A

Do not remove the toner cartridge from its package until it is time to replace it.

**CAUTION:** To prevent damage to the toner cartridge, do not expose it to light for more than a few minutes. Cover the green imaging drum if the toner cartridge must be removed from the printer for an extended period of time.

The following illustration shows the toner-cartridge and imaging-drum components.



1 Imaging drum

**CAUTION:** Do not touch the imaging drum. Fingerprints can cause print-quality problems.

2 Memory chip

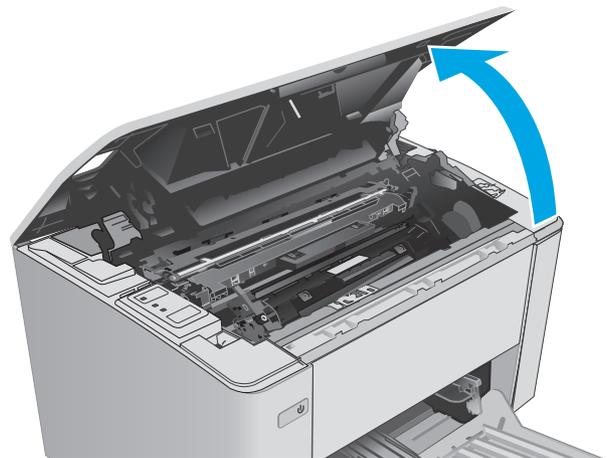
3 Toner cartridge

**CAUTION:** If toner gets on clothing, wipe it off by using a dry cloth and wash the clothes in cold water. Hot water sets toner into fabric.

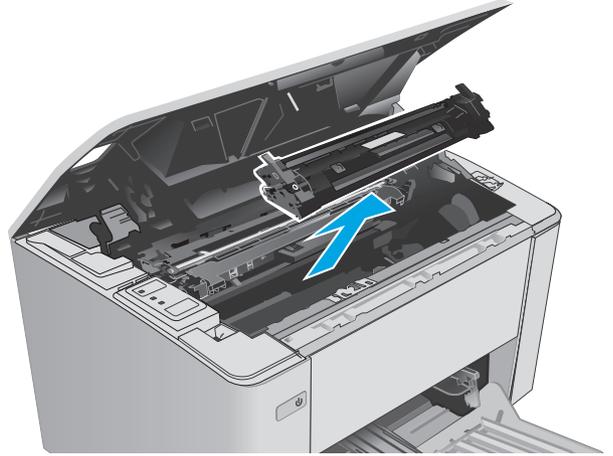
**NOTE:** Information about recycling used toner cartridges is in the toner-cartridge box.

## Replace the toner cartridge (M101-M104 models)

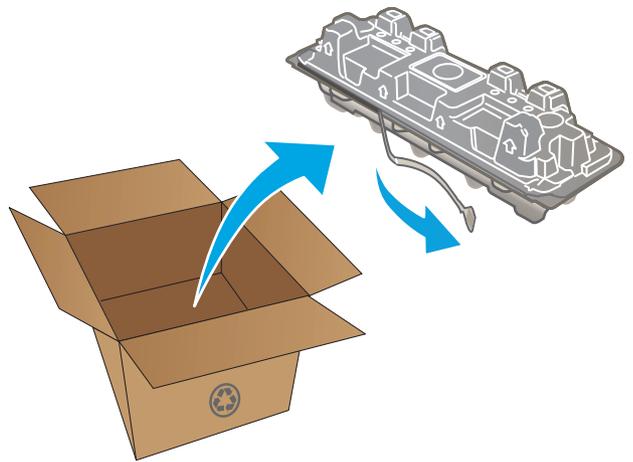
1. Open the top cover.



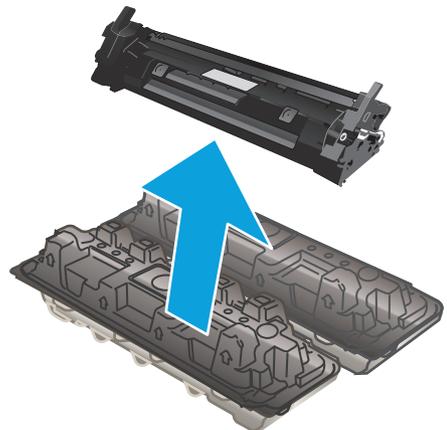
2. Remove the used toner cartridge from the printer.



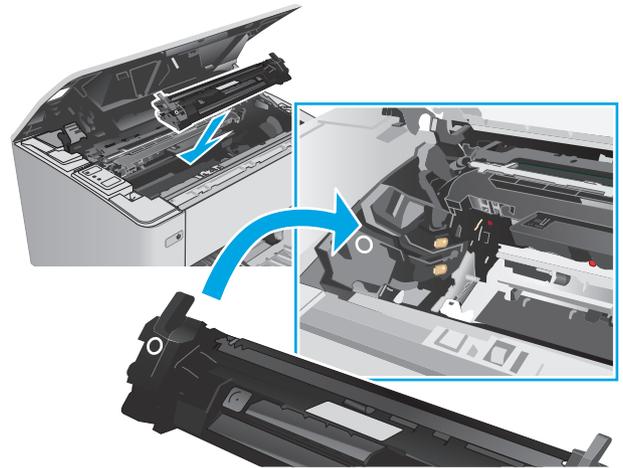
3. Remove the new toner cartridge package from the box, and then pull the release tab on the packaging.



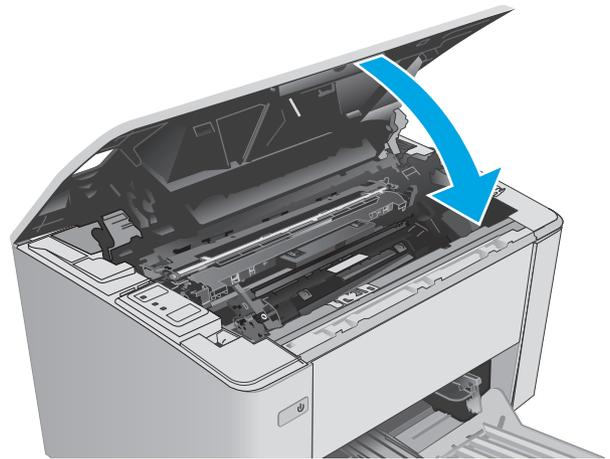
4. Remove the new toner cartridge from the opened packaging shell. Place the used toner cartridge in the shell for recycling.



5. Align the new toner cartridge with the tracks inside the printer, and install the new toner cartridge until it is firmly seated.

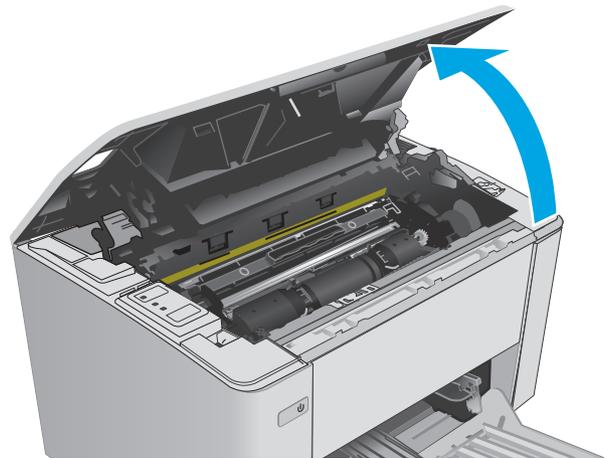


6. Close the top cover.

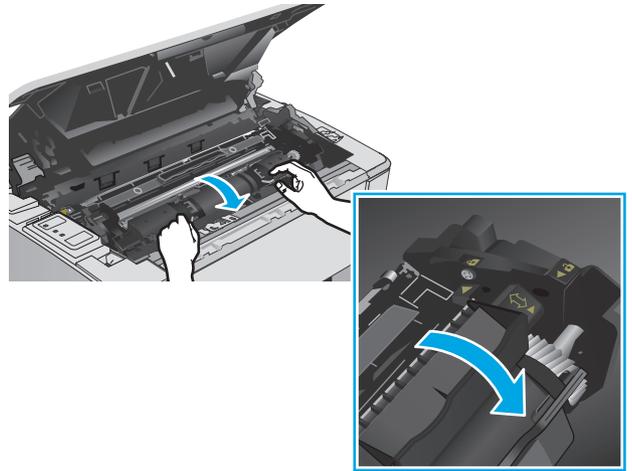


## Replace the toner cartridge (M105-M106 models)

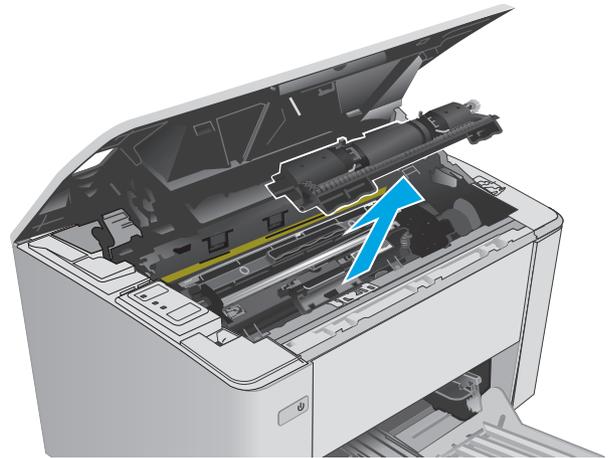
1. Open the top cover.



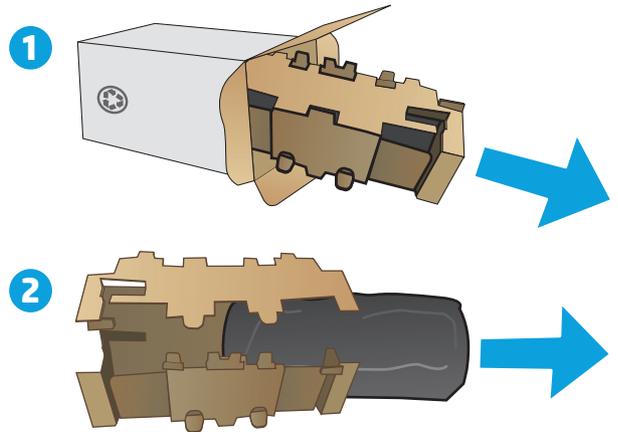
2. Rotate the used toner cartridge to the unlock position.



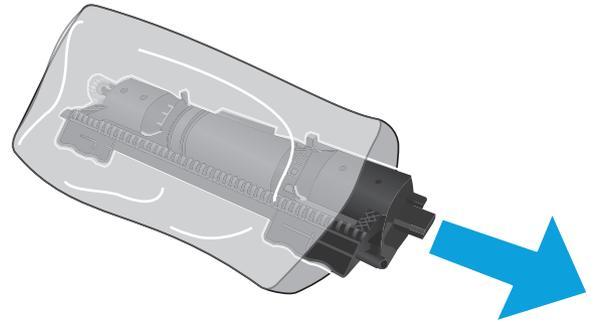
3. Remove the used toner cartridge from the printer.



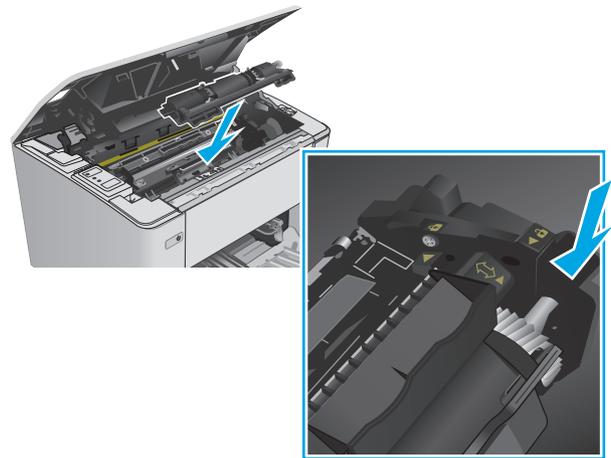
4. Remove the new toner cartridge package from the box, and then release the packaging.



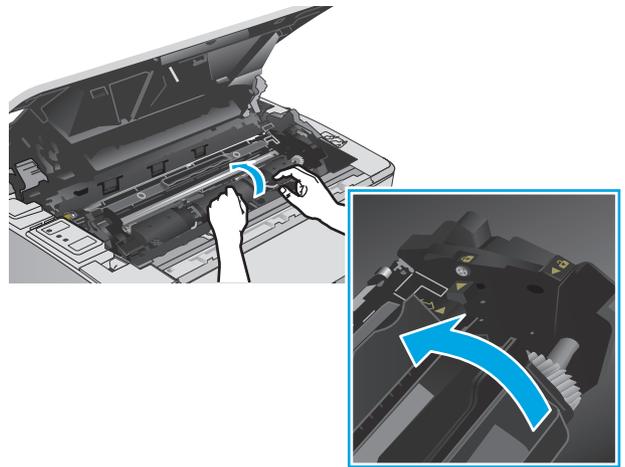
5. Remove the new toner cartridge package from the box, and then pull the cartridge from the protective bag.



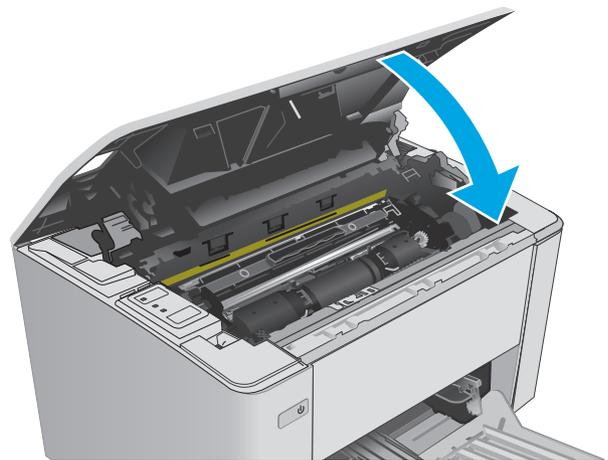
6. Align the arrow of new toner cartridge with the arrow of imaging drum, and put in the new toner cartridge.



7. Rotate the new toner cartridge to the lock position.

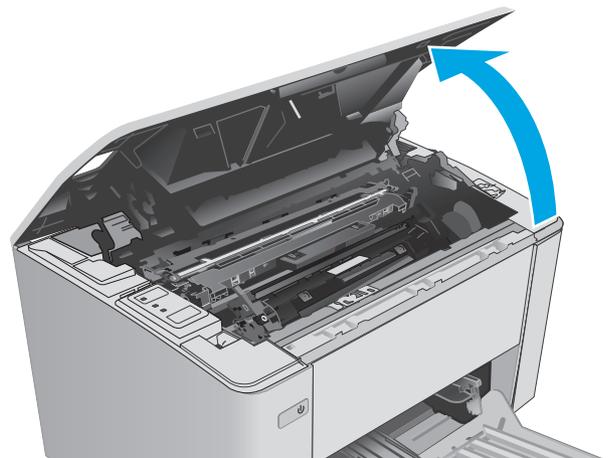


8. Close the top cover.

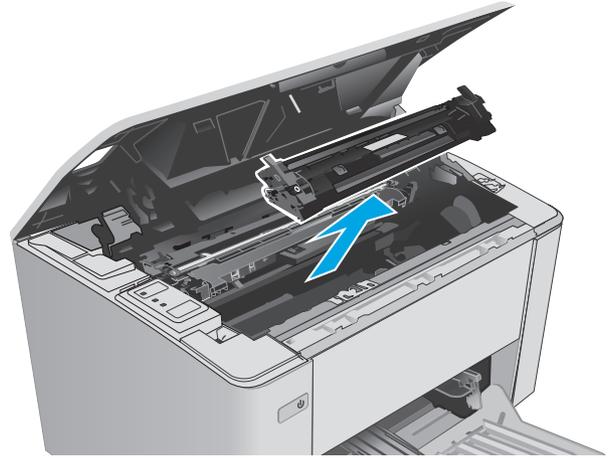


## Replace the imaging drum (M101-M104 models)

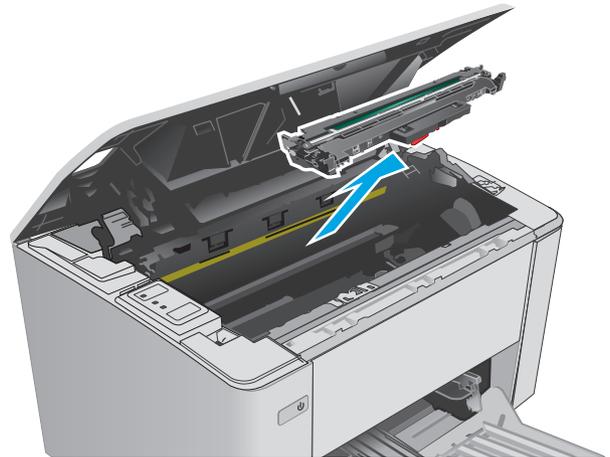
1. Open the top cover.



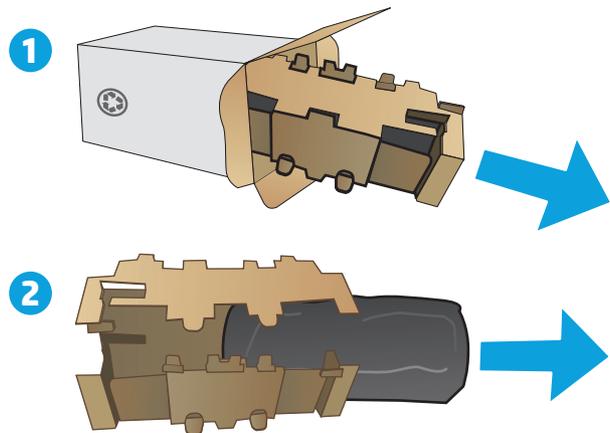
2. Temporarily remove the toner cartridge from the printer.



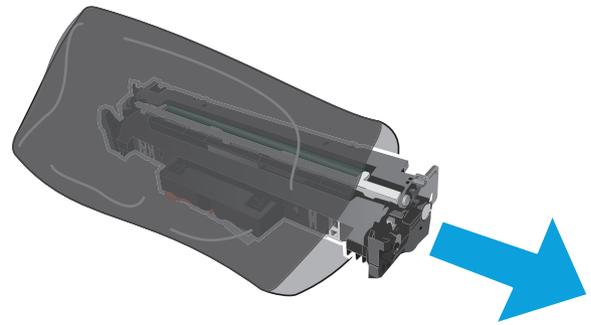
3. Remove the used imaging drum from the printer.



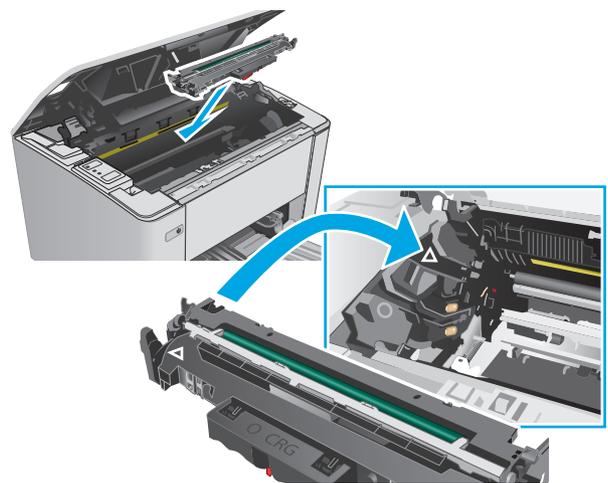
4. Remove the new imaging-drum package from the box, and then release the packaging.



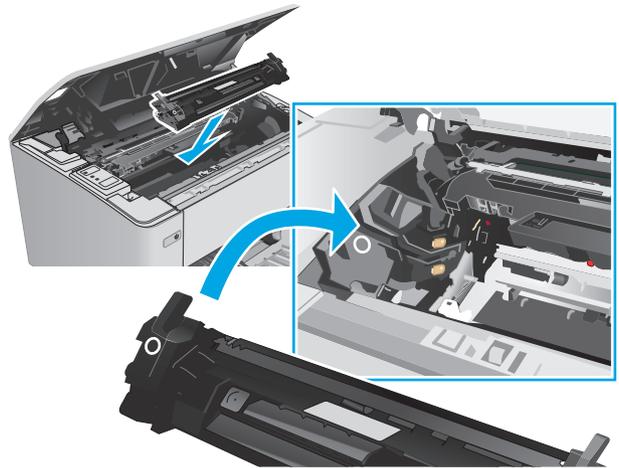
5. Remove the new imaging drum package from the box, and then pull the drum from the protective bag.



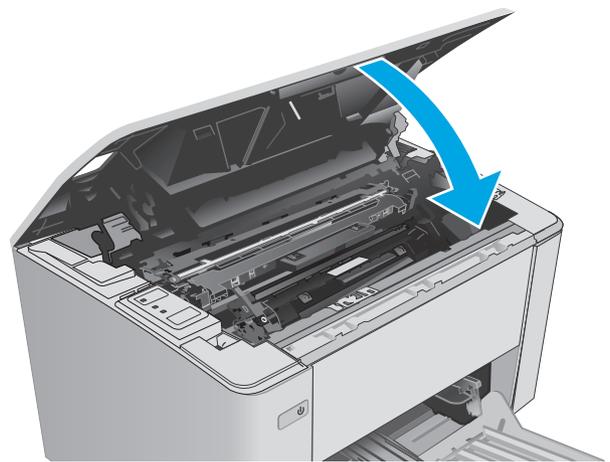
6. Align the new imaging drum with the tracks inside the printer, and install the new imaging drum until it is firmly seated.



7. Reinstall the temporarily removed toner cartridge.

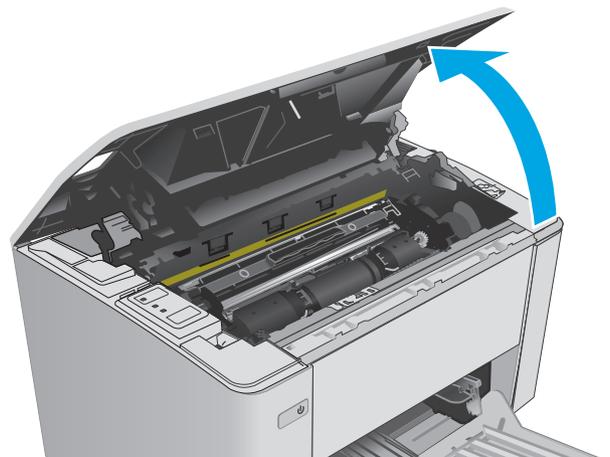


8. Close the top cover.



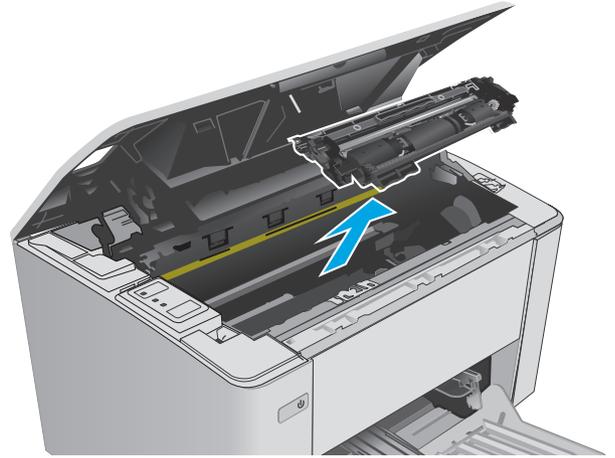
## Replace the imaging drum (M105-M106 models)

1. Open the top cover.

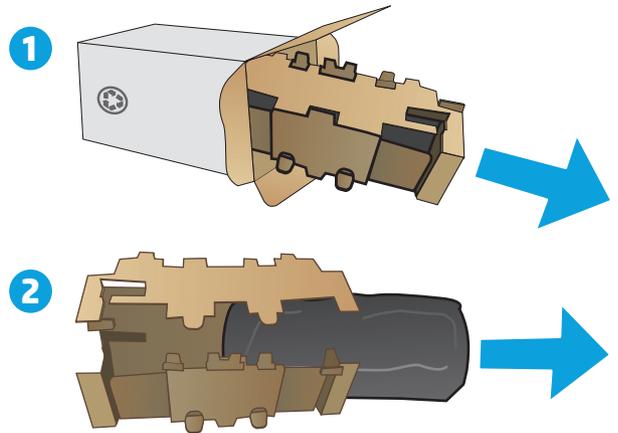


2. Remove the used imaging drum (including the used toner cartridge) from the printer.

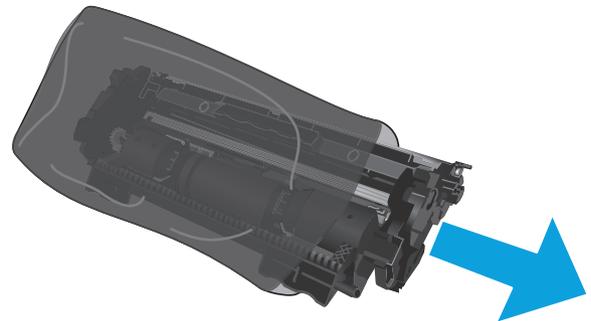
**NOTE:** The toner cartridge is also "very low", and it should be replaced at this time.



3. Remove the new imaging drum and toner cartridge package from the box, and then release the packaging.

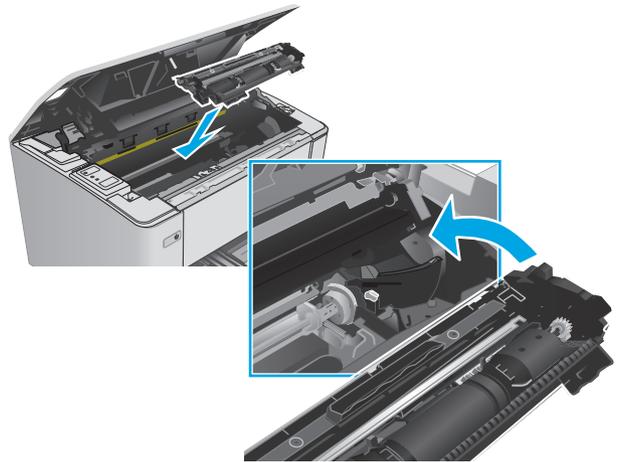


4. Remove the new imaging drum and toner cartridge from the protective bag.

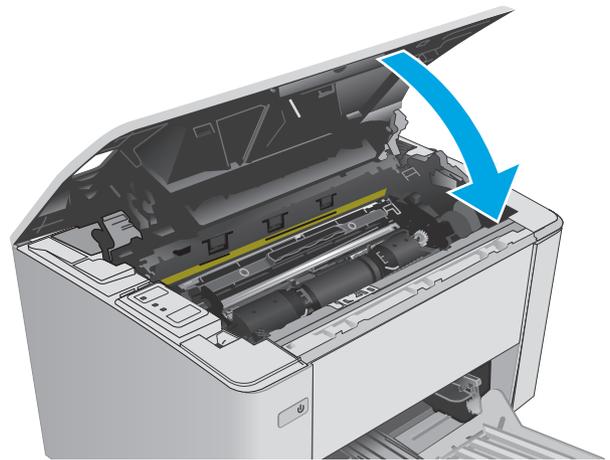


5. Align the new imaging drum and toner cartridge with the tracks inside the printer, and install the new supply until it is firmly seated.

**NOTE:** A new toner cartridge, ready for use, is attached to the new imaging drum.



6. Close the top cover.



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# 4 Print

- [Print tasks \(Windows\)](#)
- [Print tasks \(OS X\)](#)
- [Mobile printing](#)

## For more information:

The following information is correct at the time of publication. For current information, see [www.hp.com/support/ljM101](http://www.hp.com/support/ljM101).

HP's all-inclusive help for the printer includes the following information:

- Install and configure
- Learn and use
- Solve problems
- Download software and firmware updates
- Join support forums
- Find warranty and regulatory information

# Print tasks (Windows)

## How to print (Windows)

The following procedure describes the basic printing process for Windows.

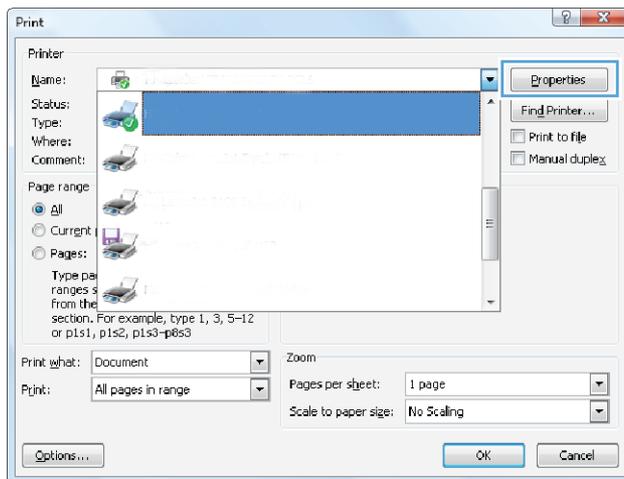
1. From the software program, select the **Print** option.
2. Select the printer from the list of printers. To change settings, click or tap the **Properties** or **Preferences** button to open the print driver.

 **NOTE:** The name of the button varies for different software programs.

 **NOTE:** To access these features from a Windows 8 or 8.1 Start screen app, select **Devices**, select **Print**, and then select the printer.

 **NOTE:** For more information, click the Help (?) button in the print driver.

 **NOTE:** The print driver might look different than what is shown here, but the steps are the same.



3. Click or tap the tabs in the print driver to configure the available options.
4. Click or tap the **OK** button to return to the **Print** dialog box. Select the number of copies to print from this screen.
5. Click or tap the **OK** button to print the job.

## Manually print on both sides (Windows)

Use this procedure for printers that do not have an automatic duplexer installed or to print on paper that the duplexer does not support.

1. From the software program, select the **Print** option.
2. Select the printer from the list of printers, and then click or tap the **Properties** or **Preferences** button to open the print driver.

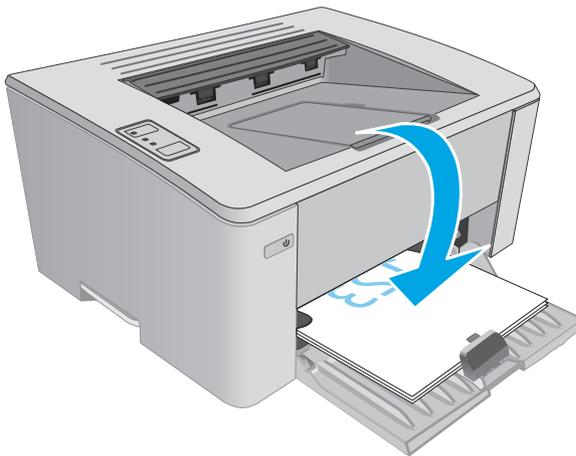
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 **NOTE:** The name of the button varies for different software programs.

 **NOTE:** To access these features from a Windows 8 or 8.1 Start screen app, select **Devices**, select **Print**, and then select the printer.

---

3. Click the **Layout** tab.
4. Select the appropriate duplex option from the **Print on Both Sides Manually** drop-down list, and then click the **OK** button.
5. In the **Print** dialog box, click the **OK** button to print the job. The printer will print the first side of all the pages in the document first.
6. Retrieve the printed stack from the output bin, and place it with the printed-side facing down, top edge first in the input tray.



7. At the computer, click the **OK** button to print the second side of the job.

## Print multiple pages per sheet (Windows)

1. From the software program, select the **Print** option.
2. Select the printer from the list of printers, and then click or tap the **Properties** or **Preferences** button to open the print driver.

---

 **NOTE:** The name of the button varies for different software programs.

 **NOTE:** To access these features from a Windows 8 or 8.1 Start screen app, select **Devices**, select **Print**, and then select the printer.

---

3. Click or tap the **Layout** tab.
4. Select the correct **Orientation** option from the drop-down list.
5. Select the correct number of pages per sheet from the **Pages per sheet** drop-down list, and then click or tap the **Advanced** button.
6. Select the correct **Pages per Sheet Layout** option from the drop-down list.
7. Select the correct **Page Borders** option from the drop-down list, click or tap the **OK** button to close the **Advanced Options** dialog box, and then click or tap the **OK** button to close the **Properties** or **Preferences** dialog box.
8. In the **Print** dialog box, click the **OK** button to print the job.

## Select the paper type (Windows)

1. From the software program, select the **Print** option.
2. Select the printer from the list of printers, and then click or tap the **Properties** or **Preferences** button to open the print driver.



**NOTE:** The name of the button varies for different software programs.



**NOTE:** To access these features from a Windows 8 or 8.1 Start screen app, select **Devices**, select **Print**, and then select the printer.

---

3. Click or tap the **Printing Shortcuts** tab.
4. From the **Paper Type** drop-down list, select the correct paper type, and then click or tap the **OK** button to close the **Properties** or **Preferences** dialog box.
5. In the **Print** dialog box, click the **OK** button to print the job.

## Additional print tasks

Go to [www.hp.com/support/ljM101](http://www.hp.com/support/ljM101).

Instructions are available for performing specific print tasks, such as the following:

- Select the paper size
- Select the page orientation
- Create a booklet
- Select the quality settings

# Print tasks (OS X)

## How to print (OS X)

The following procedure describes the basic printing process for OS X.

1. Click the **File** menu, and then click the **Print** option.
2. Select the printer.
3. Click **Show Details** or **Copies & Pages**, and then select other menus to adjust the print settings.



---

**NOTE:** The name of the item varies for different software programs.

---

4. Click the **Print** button.

## Manually print on both sides (OS X)



---

**NOTE:** This feature is available if you install the HP print driver. It might not be available if you are using AirPrint.

---

1. Click the **File** menu, and then click the **Print** option.
2. Select the printer.
3. Click **Show Details** or **Copies & Pages**, and then click the **Manual Duplex** menu.



---

**NOTE:** The name of the item varies for different software programs.

---

4. Click the **Manual Duplex** box, and select a binding option.
5. Click the **Print** button.
6. Go to the printer, and remove any blank paper that is in Tray 1.
7. Retrieve the printed stack from the output bin and place it with the printed-side facing down in the input tray.
8. At the computer, click the **Continue** button to print the second side of the job.

## Print multiple pages per sheet (OS X)

1. Click the **File** menu, and then click the **Print** option.
2. Select the printer.
3. Click **Show Details** or **Copies & Pages**, and then click the **Layout** menu.



---

**NOTE:** The name of the item varies for different software programs.

---

4. From the **Pages per Sheet** drop-down list, select the number of pages that you want to print on each sheet.
5. In the **Layout Direction** area, select the order and placement of the pages on the sheet.
6. From the **Borders** menu, select the type of border to print around each page on the sheet.
7. Click the **Print** button.

## Select the paper type (OS X)

1. Click the **File** menu, and then click the **Print** option.
2. Select the printer.
3. Open the menus drop-down list or click **Show Details**, and then click the **Finishing** menu.



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**NOTE:** The name of the item varies for different software programs.

4. Select a type from the **Media-type** drop-down list.
5. Click the **Print** button.

## Additional print tasks

Go to [www.hp.com/support/ljM101](http://www.hp.com/support/ljM101).

Instructions are available for performing specific print tasks, such as the following:

- Select the paper size
- Select the page orientation
- Create a booklet
- Select the quality settings

# Mobile printing

## Introduction

HP offers multiple mobile and ePrint solutions to enable easy printing to an HP printer from a laptop, tablet, smartphone, or other mobile device. To see the full list and to determine the best choice, go to [www.hp.com/go/LaserJetMobilePrinting](http://www.hp.com/go/LaserJetMobilePrinting).

 **NOTE:** Update the printer firmware to ensure all mobile printing and ePrint capabilities are supported.

- [Wi-Fi Direct \(wireless models only\)](#)
- [HP ePrint via email](#)
- [HP ePrint software](#)
- [AirPrint](#)
- [Android embedded printing](#)

## Wi-Fi Direct (wireless models only)

Wi-Fi Direct enables printing from a wireless mobile device without requiring a connection to a network or the Internet.

 **NOTE:** Not all mobile operating systems are currently supported by Wi-Fi Direct.

 **NOTE:** For non-Wi-Fi Direct capable mobile devices, the Wi-Fi Direct connection only enables printing. After using Wi-Fi Direct to print, you must reconnect to a local network in order to access the Internet.

To access the printer Wi-Fi Direct connection, complete the following steps:

1. On the mobile device, open the **Wi-Fi** menu or **Wi-Fi Direct** menu.
2. From the list of available networks, select the printer name.

 **NOTE:** If the printer name does not display, you might be out of range of the Wi-Fi Direct signal. Move the device closer to the printer.

3. If prompted, enter the Wi-Fi Direct password, or press the Wireless (⌘) button on the printer control panel.

 **NOTE:** If you do not know the password, it is listed on the printer configuration page. To print the page, press and hold the Resume/Cancel  button until the Ready  light begins blinking, and then release the Resume/Cancel  button.

 **NOTE:** For Android devices that support Wi-Fi Direct, if the connection method is set to **Automatic**, the connection will occur automatically, without a password prompt. If the connection method is set to **Manual**, you will need to either press the Wireless (⌘) button, or provide a personal identification number (PIN) from an automatically printed PIN code page as a password.

4. Open the document, and then select the **Print** option.

 **NOTE:** If the mobile device does not support printing, install the HP ePrint mobile app.

5. Select the printer from the list of available printers, and then select **Print**.
6. After the print job is complete, some mobile devices need to be reconnected to the local network.

The following devices and computer operating systems support **Wi-Fi Direct**:

- Android 4.0 and later tablets and phones with the HP Print Service or Mopria mobile printing plugin installed
- Most Windows 8.1 computers, tablets, and laptops that have the HP print driver installed

The following devices and computer operating systems do not support **Wi-Fi Direct**, but can print to a printer that does:

- Apple iPhone and iPad
- Mac computers running OS X

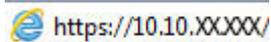
For more information on Wi-Fi Direct printing, go to [www.hp.com/go/wirelessprinting](http://www.hp.com/go/wirelessprinting).

Wi-Fi Direct capabilities can be enabled or disabled from the printer's control panel.

## Enable or disable Wi-Fi Direct

Wi-Fi Direct capabilities must be enabled first from the printer EWS.

1. Print a configuration page to determine the IP address or host name.
  - a. Press and hold the Resume/Cancel  button until the Ready  light begins blinking.
  - b. Release the Resume/Cancel  button.
2. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer configuration page. Press the **Enter** key on the computer keyboard. The EWS opens.



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 **NOTE:** If the web browser displays a message indicating that accessing the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

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3. Click the **Networking** tab.
4. Select the **Wi-Fi Direct Setup** page, select the **On** option, and then click **Apply**.

---

 **NOTE:** In environments where more than one model of the same printer is installed, it might be helpful to provide each printer a unique Wi-Fi Direct name for easier printer identification for Wi-Fi Direct printing.

---

## Change the printer Wi-Fi Direct name

Follow this procedure to change the printer Wi-Fi Direct name using the HP Embedded Web Server (EWS):

### Step one: Open the HP Embedded Web Server

1. Print a configuration page to determine the IP address or host name.

- a. Press and hold the Resume/Cancel  button until the Ready  light begins blinking.
  - b. Release the Resume/Cancel  button.
2. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer configuration page. Press the **Enter** key on the computer keyboard. The EWS opens.

 <https://10.10.XXXXX/>

 **NOTE:** If the web browser displays a message indicating that accessing the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

### Step two: Change the Wi-Fi Direct name

1. Click the **Networking** tab.
2. On the left navigation pane, click the **Wi-Fi Direct Setup** link.
3. In the **Wi-Fi Direct Name** field, enter the new name.
4. Click **Apply**.

## HP ePrint via email

Use HP ePrint to print documents by sending them as an email attachment to the printer's email address from any email enabled device.

To use HP ePrint, the printer must meet these requirements:

- The printer must be connected to a wired or wireless network and have Internet access.
- HP Web Services must be enabled on the printer, and the printer must be registered with HP Connected.

Follow this procedure to enable HP Web Services and register with HP Connected:

1. Print a configuration page to determine the IP address or host name.
  - a. Press and hold the Resume/Cancel  button until the Ready  light begins blinking.
  - b. Release the Resume/Cancel  button.
2. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the configuration page. Press the **Enter** key on the computer keyboard. The EWS opens.

 <https://10.10.XXXXX/>

 **NOTE:** If the web browser displays a message indicating that accessing the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

3. Click the **HP Web Services** tab, and then click **Enable**. The printer enables Web Services, and then prints an information page.

The information page contains the printer code necessary to register the HP printer at HP Connected.

4. Go to [www.hpconnected.com](http://www.hpconnected.com) to create an HP ePrint account and complete the setup process.

## HP ePrint software

The HP ePrint software makes it easy to print from a Windows or Mac desktop or laptop computer to any HP ePrint-capable printer. This software makes it easy to find HP ePrint-enabled printers that are registered to your HP Connected account. The target HP printer can be located in the office or at locations across the globe.

- **Windows:** After installing the software, open the **Print** option from within your application, and then select **HP ePrint** from the installed printers list. Click the **Properties** button to configure print options.
- **OS X:** After installing the software, select **File, Print**, and then select the arrow next to **PDF** (in the bottom left of the driver screen). Select **HP ePrint**.

For Windows, the HP ePrint software supports TCP/IP printing to local network printers on the network (LAN or WAN) to products that support UPD PostScript®.

Windows and OS X both support IPP printing to LAN or WAN network-connected products that support ePCL.

Windows and OS X also both support printing PDF documents to public print locations and printing using HP ePrint via email through the cloud.

Go to [www.hp.com/go/eprintsoftware](http://www.hp.com/go/eprintsoftware) for drivers and information.

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 **NOTE:** For Windows, the name of the HP ePrint Software print driver is HP ePrint + JetAdvantage.

 **NOTE:** The HP ePrint software is a PDF workflow utility for OS X, and is not technically a print driver.

 **NOTE:** HP ePrint Software does not support USB printing.

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## AirPrint

Direct printing using Apple's AirPrint is supported for iOS and from Mac computers running OS X 10.7 Lion and newer. Use AirPrint to print directly to the printer from an iPad, iPhone (3GS or later), or iPod touch (third generation or later) in the following mobile applications:

- Mail
- Photos
- Safari
- iBooks
- Select third-party applications

To use AirPrint, the printer must be connected to the same network (sub-net) as the Apple device. For more information about using AirPrint and about which HP printers are compatible with AirPrint, go to [www.hp.com/go/LaserJetMobilePrinting](http://www.hp.com/go/LaserJetMobilePrinting).

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 **NOTE:** Before using AirPrint with a USB connection, verify the version number. AirPrint versions 1.3 and earlier do not support USB connections.

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## Android embedded printing

HP's built-in print solution for Android and Kindle enables mobile devices to automatically find and print to HP printers that are either on a network or within wireless range for Wi-Fi Direct printing.

The printer must be connected to the same network (sub-net) as the Android device.

The print solution is built into the many versions of the operating system.



**NOTE:** If printing is not available on your device, go to the [Google Play > Android apps](#) and install the HP Print Service Plugin.

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For more information on how to use Android embedded printing and which Android devices are supported, go to [www.hp.com/go/LaserJetMobilePrinting](http://www.hp.com/go/LaserJetMobilePrinting).



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# 5 Manage the printer

- [Change the printer connection type \(Windows\)](#)
- [Advanced configuration with HP Embedded Web Server \(EWS\) and HP Device Toolbox \(Windows\)](#)
- [Advanced configuration with HP Utility for OS X](#)
- [Configure IP network settings](#)
- [Printer security features](#)
- [Energy-conservation settings](#)
- [Update the firmware](#)

## For more information:

The following information is correct at the time of publication. For current information, see [www.hp.com/support/ljM101](http://www.hp.com/support/ljM101).

HP's all-inclusive help for the printer includes the following information:

- Install and configure
- Learn and use
- Solve problems
- Download software and firmware updates
- Join support forums
- Find warranty and regulatory information

## Change the printer connection type (Windows)

If you are already using the printer and you wish to change the way it is connected, use the **Device Setup & Software** shortcut on your computer desktop to change the connection. For example, connect the new printer to the computer using a USB or network connection, or change the connection from a USB to a wireless connection.

# Advanced configuration with HP Embedded Web Server (EWS) and HP Device Toolbox (Windows)

Use the HP Embedded Web Server to manage printing functions from a computer instead of the printer control panel.

- View printer status information
- Determine the remaining life for all supplies and order new ones
- View and change tray configurations
- View and change the printer control-panel menu configuration
- View and print internal pages
- Receive notification of printer and supplies events
- View and change network configuration

The HP Embedded Web Server works when the printer is connected to an IP-based network. The HP Embedded Web Server does not support IPX-based printer connections. Internet access is not needed to open and use the HP Embedded Web Server.

When the printer is connected to the network, the HP Embedded Web Server is automatically available.

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 **NOTE:** HP Device Toolbox is software used to connect to the HP Embedded Web Server when the printer is connected to a computer via USB. It is available only if a full installation was performed when the printer was installed on a computer. Depending on how the printer is connected, some features might not be available.

 **NOTE:** The HP Embedded Web Server is not accessible beyond the network firewall.

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## Method one: Open the HP Embedded Web Server (EWS) from the Start menu

1. Open the HP Printer Assistant.
  - **Windows 8.1:** Click the down arrow in lower left corner of the **Start** screen, and then select the printer name.
  - **Windows 8:** Right-click an empty area on the **Start** screen, click **All Apps** on the app bar, and then select the printer name.
  - **Windows 7, Windows Vista, and Windows XP:** From the computer desktop, click **Start**, select **All Programs**, click **HP**, click the folder for the printer, select the icon with the printer's name, and then open **HP Printer Assistant**.
2. In the HP Printer Assistant, select **Print**, and then select **HP Device Toolbox**.

## Method two: Open the HP Embedded Web Server (EWS) from a web browser

1. Print a configuration page to determine the IP address or host name.
  - a. Press and hold the Resume/Cancel  button until the Ready  light begins blinking.
  - b. Release the Resume/Cancel  button.

- Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer configuration page. Press the **Enter** key on the computer keyboard. The EWS opens.

 <https://10.10.XX.XXX/>



**NOTE:** If the web browser displays a message indicating that accessing the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

Tab or section	Description
<p><b>Home tab</b></p> <p>Provides printer, status, and configuration information.</p>	<ul style="list-style-type: none"> <li>• <b>Device Status:</b> Shows the printer status and shows the approximate percent life remaining of HP supplies.</li> <li>• <b>Supplies Status:</b> Shows the approximate percent life remaining of HP supplies. Actual supply life remaining can vary. Consider having a replacement supply available to install when print quality is no longer acceptable. The supply does not need to be replaced unless the print quality is no longer acceptable.</li> <li>• <b>Device Configuration:</b> Shows the information found on the printer configuration page.</li> <li>• <b>Network Summary:</b> Shows the information found on the printer network configuration page.</li> <li>• <b>Reports:</b> Print the configuration and supplies status pages that the printer generates.</li> <li>• <b>Event Log:</b> Shows a list of all printer events and errors.</li> </ul>
<p><b>System tab</b></p> <p>Provides the ability to configure the printer from your computer.</p>	<ul style="list-style-type: none"> <li>• <b>Device Information:</b> Provides basic printer and company information.</li> <li>• <b>Paper Setup:</b> Change the default paper-handling settings for the printer.</li> <li>• <b>Print Quality:</b> Change the default print-quality settings for the printer.</li> <li>• <b>Energy Settings:</b> Change the default times for entering Sleep/Auto Off mode or automatic shut down.</li> <li>• <b>Paper Types:</b> Configure print modes that correspond to the paper types that the printer accepts.</li> <li>• <b>System Setup:</b> Change the system defaults for the printer.</li> <li>• <b>Supply Settings:</b> Change the settings for <b>Cartridge is low</b> alerts and other supplies information.</li> <li>• <b>Service:</b> Perform the cleaning procedure on the printer.</li> <li>• <b>Save and Restore:</b> Save the current settings for the printer to a file on the computer. Use this file to load the same settings onto another printer or to restore these settings to this printer at a later time.</li> <li>• <b>Administration:</b> Set or change the printer password. Enable or disable printer features.</li> </ul> <p><b>NOTE:</b> The <b>System</b> tab can be password-protected. If this printer is on a network, always consult with the administrator before changing settings on this tab.</p>
<p><b>Print tab</b></p> <p>Provides the ability to change default print settings from your computer.</p>	<ul style="list-style-type: none"> <li>• <b>Printing:</b> Change the default printer print settings, such as number of copies and paper orientation. These are the same options that are available on the control panel.</li> </ul>

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Tab or section	Description
<b>Networking tab</b> (Network-connected printers only)  Provides the ability to change network settings from your computer.	Network administrators can use this tab to control network-related settings for the printer when it is connected to an IP-based network. It also allows the network administrator to set up Wi-Fi Direct functionality. This tab does not appear if the printer is directly connected to a computer.
<b>HP Web Services tab</b> (Network-connected printers only)	Use this tab to set up and use various Web tools with the printer.

---

# Advanced configuration with HP Utility for OS X

Use the HP Utility to check printer status or to view or change printer settings from a computer.

You can use the HP Utility when the printer is connected with a USB cable or is connected to a TCP/IP-based network.

## Open HP Utility

1. At the computer, open the **Applications** folder.
2. Select **HP**, and then select **HP Utility**.

## HP Utility features

The HP Utility toolbar includes these items:

- **Devices:** Click this button to show or hide Mac products found by the HP Utility.
- **All Settings:** Click this button to return to the HP Utility main view.
- **HP Support:** Click this button to open a browser and go to the HP support website.
- **Supplies:** Click this button to open the HP SureSupply website.
- **Registration:** Click this button to open the HP registration website.
- **Recycling:** Click this button to open the HP Planet Partners Recycling Program website.

HP Utility consists of pages that you open by clicking in the **All Settings** list. The following table describes the tasks that you can perform with HP Utility.

Item	Description
<b>Supplies Status</b>	Show the printer supplies status and gain access to links for ordering supplies online.
<b>Device Information</b>	Show information about the currently selected printer, including the printer Service ID (if assigned), the firmware version (FW Version), the Serial Number, and the IP address.
<b>Commands</b>	Send special characters or print commands to the printer after the print job.  <b>NOTE:</b> This option is available only after you open the <b>View</b> menu and select the <b>Show Advanced Options</b> item.
<b>File Upload</b>	Transfer files from the computer to the printer. You can upload the following types of files: <ul style="list-style-type: none"><li>◦ HP LaserJet printer command language (.PRN)</li><li>◦ Portable document format (.PDF)</li><li>◦ Postscript (.PS)</li><li>◦ Text (.TXT)</li></ul>
<b>Power Management</b>	Configure the printer economy settings.
<b>Update Firmware</b>	Transfer a firmware update file to the printer.  <b>NOTE:</b> This option is available only after you open the <b>View</b> menu and select the <b>Show Advanced Options</b> item.

Item	Description
<b>HP Connected</b>	Access the HP Connected website.
<b>Message Center</b>	Display error events that have occurred with the printer.
<b>Network Settings</b> (Network-connected printers only)	Configure the network settings, such as the IPv4 settings, IPv6 settings, Bonjour settings, and other settings.
<b>Supplies Management</b>	Configure how the printer should behave when supplies are nearing the end of their estimated life.
<b>Trays Configuration</b>	Change paper size and type for each of the trays.
<b>Additional Settings</b>	Open the HP Embedded Web Server (EWS) for the printer.
<b>Proxy Server Settings</b>	Configure a proxy server for the printer.

**NOTE:** USB connections are not supported.

# Configure IP network settings

- [Introduction](#)
- [Printer sharing disclaimer](#)
- [View or change network settings](#)
- [Rename the printer on a network](#)
- [Manually configure IPv4 TCP/IP parameters](#)
- [Link speed setting](#)

## Introduction

Use the following sections to configure the printer network settings.

## Printer sharing disclaimer

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. Go to Microsoft at [www.microsoft.com](http://www.microsoft.com).

## View or change network settings

Use the HP Embedded Web Server to view or change IP configuration settings.

1. Open the HP Embedded Web Server (EWS):
  - a. Print a configuration page to determine the IP address or host name.
    - i. Press and hold the Resume/Cancel  button until the Ready  light begins blinking.
    - ii. Release the Resume/Cancel  button.
  - b. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer configuration page. Press the **Enter** key on the computer keyboard. The EWS opens.

 <https://10.10.XX.XXX/>

 **NOTE:** If the web browser displays a message indicating that accessing the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

2. Click the **Networking** tab to obtain network information. Change settings as needed.

## Rename the printer on a network

To rename the printer on a network so that it can be uniquely identified, use the HP Embedded Web Server.

1. Open the HP Embedded Web Server (EWS):
  - a. Print a configuration page to determine the IP address or host name.

- i. Press and hold the Resume/Cancel  button until the Ready  light begins blinking.
  - ii. Release the Resume/Cancel  button.
- b. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer configuration page. Press the **Enter** key on the computer keyboard. The EWS opens.

 <https://10.10.XXXXX/>

 **NOTE:** If the web browser displays a message indicating that accessing the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

2. Open the **System** tab.
3. On the **Device Information** page, the default printer name is in the **Device Description** field. You can change this name to uniquely identify this printer.

 **NOTE:** Completing the other fields on this page is optional.

4. Click the **Apply** button to save the changes.

## Manually configure IPv4 TCP/IP parameters

Use the EWS to manually set an IPv4 address, subnet mask, and default gateway.

1. Open the HP Embedded Web Server (EWS):
  - a. Print a configuration page to determine the IP address or host name.
    - i. Press and hold the Resume/Cancel  button until the Ready  light begins blinking.
    - ii. Release the Resume/Cancel  button.
  - b. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer configuration page. Press the **Enter** key on the computer keyboard. The EWS opens.

 <https://10.10.XXXXX/>

 **NOTE:** If the web browser displays a message indicating that accessing the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

2. On the **Networking** tab, click the **IPv4 Config Method** in the left navigation pane.
3. From the **IP Preferred Address Method** drop-down, select **Manual**, and then edit the IPv4 configuration settings.
4. Click the **Apply** button.

## Link speed setting

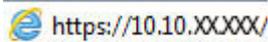
 **NOTE:** This information applies only to Ethernet networks. It does not apply to wireless networks.

The link speed and communication mode of the print server must match the network hub. For most situations, leave the printer in automatic mode. Incorrect changes to the link speed settings might prevent the printer from communicating with other network devices.

 **NOTE:** The printer setting must match the setting for the network device (a network hub, switch, gateway, router, or computer).

 **NOTE:** Making changes to these settings causes the printer to turn off and then on. Make changes only when the printer is idle.

1. Open the HP Embedded Web Server (EWS):
  - a. Print a configuration page to determine the IP address or host name.
    - i. Press and hold the Resume/Cancel  button until the Ready  light begins blinking.
    - ii. Release the Resume/Cancel  button.
  - b. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer configuration page. Press the **Enter** key on the computer keyboard. The EWS opens.

 <https://10.10.XX.XXX/>

 **NOTE:** If the web browser displays a message indicating that accessing the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

2. Click the **Networking** tab.
3. In the **Link Speed** area, select one of the following options:
  - **Automatic:** The print server automatically configures itself for the highest link speed and communication mode allowed on the network.
  - **10T Full:** 10 megabytes per second (Mbps), full-duplex operation
  - **10T Half:** 10 Mbps, half-duplex operation
  - **100TX Full:** 100 Mbps, full-duplex operation
  - **100TX Half:** 100 Mbps, half-duplex operation
  - **1000T Full:** 1000 Mbps, full-duplex operation
4. Click the **Apply** button. The printer turns off and then on.

# Printer security features

## Introduction

The printer includes several security features to restrict who has access to configuration settings, to secure data, and to prevent access to valuable hardware components.

- [Assign or change the system password using the HP Embedded Web Server](#)
- [Lock the formatter](#)

## Assign or change the system password using the HP Embedded Web Server

Assign an administrator password for access to the printer and the HP Embedded Web Server so that unauthorized users cannot change the printer settings.

1. Open the HP Embedded Web Server (EWS):

### Direct-connected printers

- a. Open the HP Printer Assistant.
  - **Windows 8.1:** Click the down arrow in lower left corner of the **Start** screen, and then select the printer name.
  - **Windows 8:** Right-click an empty area on the **Start** screen, click **All Apps** on the app bar, and then select the printer name.
  - **Windows 7, Windows Vista, and Windows XP:** From the computer desktop, click **Start**, select **All Programs**, click **HP**, click the folder for the printer, select the icon with the printer's name, and then open **HP Printer Assistant**.
- b. In the HP Printer Assistant, select **Print**, and then select **HP Device Toolbox**.

### Network-connected printers

- a. Print a configuration page to determine the IP address or host name.
  - i. Press and hold the Resume/Cancel  button until the Ready  light begins blinking.
  - ii. Release the Resume/Cancel  button.
- b. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer configuration page. Press the **Enter** key on the computer keyboard. The EWS opens.

 <https://10.10.XXXXX/>

 **NOTE:** If the web browser displays a message indicating that accessing the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

2. On the **System** tab, click the **Administration** link in the left navigation pane.
3. In the area labeled **Product Security**, enter the password in the **Password** field.

4. Re-enter the password in the **Confirm Password** field.
5. Click the **Apply** button.



**NOTE:** Make note of the password and store it in a safe place.

---

## Lock the formatter

The formatter has a slot that you can use to attach a security cable. Locking the formatter prevents someone from removing valuable components from it.

# Energy-conservation settings

- [Introduction](#)
- [Print with EconoMode](#)
- [Set the Sleep/Auto Off After Inactivity setting](#)
- [Set the Shut Down After Inactivity delay and configure the printer to use 1 watt or less of power](#)
- [Set the Delay Shut Down setting](#)

## Introduction

The printer includes several economy features to conserve energy and supplies.

## Print with EconoMode

This printer has an EconoMode option for printing drafts of documents. Using EconoMode can use less toner. However, using EconoMode can also reduce print quality.

HP does not recommend the full-time use of EconoMode. If EconoMode is used full-time, the toner supply might outlast the mechanical parts in the toner cartridge. If print quality begins to degrade and is no longer acceptable, consider replacing the toner cartridge.



**NOTE:** If this option is not available in your print driver, you can set it using the HP Embedded Web Server.

1. From the software program, select the **Print** option.
2. Select the printer, and then click the **Properties** or **Preferences** button.
3. Click the **Paper/Quality** tab.
4. Click the **EconoMode** option.

## Set the Sleep/Auto Off After Inactivity setting

Use the EWS to set the amount of idle time before the printer enters sleep mode.

Complete the following procedure to change the Sleep/Auto Off After setting:

1. Open the HP Embedded Web Server (EWS):

### Direct-connected printers

- a. Open the HP Printer Assistant.
  - **Windows 8.1:** Click the down arrow in lower left corner of the **Start** screen, and then select the printer name.
  - **Windows 8:** Right-click an empty area on the **Start** screen, click **All Apps** on the app bar, and then select the printer name.
  - **Windows 7, Windows Vista, and Windows XP:** From the computer desktop, click **Start**, select **All Programs**, click **HP**, click the folder for the printer, select the icon with the printer's name, and then open **HP Printer Assistant**.
- b. In the HP Printer Assistant, select **Print**, and then select **HP Device Toolbox**.

### Network-connected printers

- a. Print a configuration page to determine the IP address or host name.
  - i. Press and hold the Resume/Cancel  button until the Ready  light begins blinking.
  - ii. Release the Resume/Cancel  button.
- b. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer configuration page. Press the **Enter** key on the computer keyboard. The EWS opens.

 <https://10.10.XXXXX/>

 **NOTE:** If the web browser displays a message indicating that accessing the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

2. Click the **System** tab, and then select the **Energy Settings** page.
3. From the **Sleep/Auto Off After Inactivity** drop-down, select the time for the delay.
4. Click the **Apply** button.

## Set the Shut Down After Inactivity delay and configure the printer to use 1 watt or less of power

Use the EWS to set the amount of time before the printer shuts down.

 **NOTE:** After the printer shuts down, the power consumption is 1 watt or less.

Complete the following procedure to change the Shut Down After Delay setting:

1. Open the HP Embedded Web Server (EWS):

### Direct-connected printers

- a. Open the HP Printer Assistant.
  - **Windows 8.1:** Click the down arrow in lower left corner of the **Start** screen, and then select the printer name.
  - **Windows 8:** Right-click an empty area on the **Start** screen, click **All Apps** on the app bar, and then select the printer name.
  - **Windows 7, Windows Vista, and Windows XP:** From the computer desktop, click **Start**, select **All Programs**, click **HP**, click the folder for the printer, select the icon with the printer's name, and then open **HP Printer Assistant**.
- b. In the HP Printer Assistant, select **Print**, and then select **HP Device Toolbox**.

### Network-connected printers

- a. Print a configuration page to determine the IP address or host name.

- i. Press and hold the Resume/Cancel  button until the Ready  light begins blinking.
  - ii. Release the Resume/Cancel  button.
- b. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer configuration page. Press the **Enter** key on the computer keyboard. The EWS opens.

 <https://10.10.XXXXX/>

 **NOTE:** If the web browser displays a message indicating that accessing the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

2. Click the **System** tab, and then select the **Energy Settings** page.
3. From the **Shut Down After Inactivity** drop-down, select the time for the delay.

 **NOTE:** The default value is **4 hours**.

4. Click the **Apply** button.

## Set the Delay Shut Down setting

Use the EWS to select whether or not the printer delays shutting down after the power button is pressed.

Complete the following procedure to change the Delay Shut Down setting:

1. Open the HP Embedded Web Server (EWS):

### Direct-connected printers

- a. Open the HP Printer Assistant.
  - **Windows 8.1:** Click the down arrow in lower left corner of the **Start** screen, and then select the printer name.
  - **Windows 8:** Right-click an empty area on the **Start** screen, click **All Apps** on the app bar, and then select the printer name.
  - **Windows 7, Windows Vista, and Windows XP:** From the computer desktop, click **Start**, select **All Programs**, click **HP**, click the folder for the printer, select the icon with the printer's name, and then open **HP Printer Assistant**.
- b. In the HP Printer Assistant, select **Print**, and then select **HP Device Toolbox**.

### Network-connected printers

- a. Print a configuration page to determine the IP address or host name.
  - i. Press and hold the Resume/Cancel  button until the Ready  light begins blinking.
  - ii. Release the Resume/Cancel  button.



# Update the firmware

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

## Update the firmware using the Firmware Update Utility

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.

 **NOTE:** You must have a print driver installed in order to use this method.

---

1. Go to [www.hp.com/support](http://www.hp.com/support), select your country/region language, click the **Get software and drivers** 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.



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## 6 Solve problems

- [Customer support](#)
- [Interpret control-panel light patterns](#)
- [Restore the factory-set defaults](#)
- [A “Cartridge is low” or “Cartridge is very low” message displays on the HP EWS](#)
- [Solve paper feed or jam problems](#)
- [Clear paper jams](#)
- [Improve print quality](#)
- [Solve wired network problems](#)
- [Solve wireless network problems](#)

### For more information:

The following information is correct at the time of publication. For current information, see [www.hp.com/support/ljM101](http://www.hp.com/support/ljM101).

HP's all-inclusive help for the printer includes the following information:

- Install and configure
- Learn and use
- Solve problems
- Download software and firmware updates
- Join support forums
- Find warranty and regulatory information

## Customer support

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Get telephone support for your country/region	Country/region phone numbers are on the flyer that was in the box with the printer or at <a href="http://www.hp.com/support/">www.hp.com/support/</a> .
Have the printer name, serial number, date of purchase, and problem description ready	
Get 24-hour Internet support, and download software utilities and drivers	<a href="http://www.hp.com/support/ljM101">www.hp.com/support/ljM101</a>
Order additional HP service or maintenance agreements	<a href="http://www.hp.com/go/carepack">www.hp.com/go/carepack</a>
Register the printer	<a href="http://www.register.hp.com">www.register.hp.com</a>

---

# Interpret control-panel light patterns

If the printer requires attention, an error code appears on the control-panel display.

**Table 6-1 Status-light legend**

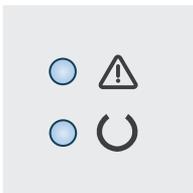
	Symbol for "light off"
	Symbol for "light on"
	Symbol for "light blinking"

**Table 6-2 Control-panel light patterns**

Light status	State of the printer	Action
	The printer is in manual-feed mode.	Load the correct paper type and size into the input tray. Press the Resume/Cancel  button to continue.
	The printer is processing a manual duplex job.	Load the pages into the input tray to print the second sides. Press the Resume/Cancel  button to continue.
	The input tray is empty.	Load the tray.
	A door is open.	Verify that the toner-cartridge door is fully closed.
	The printer has failed to pick up a sheet of paper to process a print job.	Verify that paper is correctly loaded, and then press the Resume/Cancel  button to continue.
	Paper is jammed in the printer.	Check for jams in the input tray, the output bin, and the toner cartridge area. Clear the jam. Press the Resume/Cancel  button to continue.
	The toner cartridge or imaging drum is missing or incorrectly installed.	Verify that all supplies are in place and installed correctly.
	The toner cartridge or imaging drum is very low.	Replace the toner cartridge or imaging drum.
	Multiple supplies are very low.	Replace the supplies.
	The toner cartridge or imaging drum is incompatible with the printer, possibly due to a missing or damaged memory chip.	Replace the toner cartridge or image drum.
Multiple supplies are incompatible with the printer, possibly due to a missing or damaged memory chip.	Replace the supplies.	
The toner cartridge or imaging drum has been protected on another printer.	Replace the toner cartridge or imaging drum.	
Multiple supplies have been protected on another printer.	Replace the supplies.	

**Table 6-2 Control-panel light patterns (continued)**

Light status	State of the printer	Action
	The printer has detected an unauthorized toner cartridge or imaging drum.	Replace the toner cartridge or imaging drum.
	The printer has detected multiple unauthorized supplies.	Replace the supplies.
	The cartridge sensor has experienced an error.	Replace the toner cartridge.
	The loaded paper is not the size needed for the print job.	Replace the paper, or press the Resume/Cancel  button to continue with the size currently loaded.
	The printer has experienced a general engine error.	Press the Resume/Cancel  button to continue.  If the error repeats, turn off the printer. Wait 30 seconds, and then turn on the printer.
	Incorrect firmware has been loaded.	Press the Resume/Cancel  button to continue, Load the correct firmware.
	The printer has experienced a bad code signature.	Press the Resume/Cancel  button to accept the signature.
	The printer has experienced an engine cable error.	Press the Resume/Cancel  button to continue.  If the error persists, contact HP customer support.
	The printer has experienced a control-panel cable error.	Press the Resume/Cancel  button to continue.  If the error persists, contact HP customer support.
The Attention and Ready lights are on.	The printer has experienced a fatal error from which it cannot recover.	<ol style="list-style-type: none"> <li>1. Turn off the printer or disconnect the power cord from the printer.</li> <li>2. Wait 30 seconds, and then turn on the printer or reconnect the power cord to the printer.</li> <li>3. Wait for the printer to initialize.</li> </ol> <p>If the error persists, contact HP customer support.</p>



# Restore the factory-set defaults

Restoring the factory-set defaults returns all of the printer and network settings to the factory defaults. It will not reset the page count, tray size, or language. To restore the printer to the factory-default settings, follow these steps.

---

 **CAUTION:** Restoring the factory-set defaults returns all of the settings to the factory defaults, and it also deletes any pages that are stored in the memory.

---

1. Open the HP Embedded Web Server (EWS):

## Direct-connected printers

- a. Open the HP Printer Assistant.
  - **Windows 8.1:** Click the down arrow in lower left corner of the **Start** screen, and then select the printer name.
  - **Windows 8:** Right-click an empty area on the **Start** screen, click **All Apps** on the app bar, and then select the printer name.
  - **Windows 7, Windows Vista, and Windows XP:** From the computer desktop, click **Start**, select **All Programs**, click **HP**, click the folder for the printer, select the icon with the printer's name, and then open **HP Printer Assistant**.
- b. In the HP Printer Assistant, select **Print**, and then select **HP Device Toolbox**.

## Network-connected printers

- a. Print a configuration page to determine the IP address or host name.
  - i. Press and hold the Resume/Cancel  button until the Ready  light begins blinking.
  - ii. Release the Resume/Cancel  button.
- b. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer configuration page. Press the **Enter** key on the computer keyboard. The EWS opens.

 <https://10.10.XXXXX/>

 **NOTE:** If the web browser displays a message indicating that accessing the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

---

2. On the **System** tab, click **Save and Restore** in the left navigation pane.
3. In the **Restore Defaults** area, click the **Restore defaults** button.

The printer automatically restarts.

# A “Cartridge is low” or “Cartridge is very low” message displays on the HP EWS

**Cartridge is low:** The printer EWS indicates when a cartridge level is low. Actual cartridge life remaining may vary. Consider having a replacement available to install when print quality is no longer acceptable. The cartridge does not need to be replaced now.

**Cartridge is very low:** The printer EWS indicates when the cartridge level is very low. Actual cartridge life remaining may vary. Consider having a replacement available to install when print quality is no longer acceptable. The cartridge does not need to be replaced now unless the print quality is no longer acceptable.

Once an HP cartridge has reached **Very Low**, HP’s Premium Protection Warranty on that cartridge has ended.



**NOTE:** The cartridge must be replaced when the printer indicates that the cartridge is very low for HP 33A Black Original LaserJet Toner Cartridge and HP 34A Original LaserJet Imaging Drum.

## Change the “Very Low” settings

You can change the way the printer reacts when supplies reach the Very Low state. You do not have to re-establish these settings when you install a new cartridge.



**NOTE:** The “Very Low” setting cannot be changed for HP 33A Black Original LaserJet Toner Cartridge and HP 34A Original LaserJet Imaging Drum.

1. Open the HP Embedded Web Server (EWS):

### Direct-connected printers

- a. Open the HP Printer Assistant.
  - **Windows 8.1:** Click the down arrow in lower left corner of the **Start** screen, and then select the printer name.
  - **Windows 8:** Right-click an empty area on the **Start** screen, click **All Apps** on the app bar, and then select the printer name.
  - **Windows 7, Windows Vista, and Windows XP:** From the computer desktop, click **Start**, select **All Programs**, click **HP**, click the folder for the printer, select the icon with the printer’s name, and then open **HP Printer Assistant**.
- b. In the HP Printer Assistant, select **Print**, and then select **HP Device Toolbox**.

### Network-connected printers

- a. Print a configuration page to determine the IP address or host name.
  - i. Press and hold the Resume/Cancel  button until the Ready  light begins blinking.
  - ii. Release the Resume/Cancel  button.

- b. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer configuration page. Press the **Enter** key on the computer keyboard. The EWS opens.

 <https://10.10.XXXXX/>



**NOTE:** If the web browser displays a message indicating that accessing the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

2. Select the **System** tab, and then select **Supply Settings**.
3. Select one of the following options:
  - Select the **Continue** option to set the printer to alert you that the toner cartridge is very low, but to continue printing.
  - Select the **Stop** option to set the printer to stop printing until you replace the cartridge.
  - Select the **Prompt** option to set the printer to stop printing and prompt you to replace the cartridge. You can acknowledge the prompt and continue printing. A customer configurable option on this printer is "Prompt to Remind Me in 100 pages, 200 pages, 300 pages, 400 pages, or never." This option is provided as a customer convenience and is not an indication these pages will have acceptable print quality.

## Order supplies

Order supplies and paper	<a href="http://www.hp.com/go/suresupply">www.hp.com/go/suresupply</a>
Order through service or support providers	Contact an HP-authorized service or support provider.
Order using the HP Embedded Web Server (EWS)	To access, in a supported web browser on your computer, enter the printer IP address or host name in the address/URL field. The EWS contains a link to the HP SureSupply website, which provides options for purchasing Original HP supplies.

## Solve paper feed or jam problems

If the printer has recurring problems with paper feeding or with jams, use the following information to reduce the number of occurrences.

### The printer does not pick up paper

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

1. Open the printer and remove any jammed sheets of paper.
2. Load the tray with the correct size of paper for your 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 you to acknowledge a prompt to feed the paper manually. Load paper, and continue.
6. The pickup roller and separation pad might be contaminated.

### 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.

### Frequent or recurring paper jams

Follow these steps to solve problems with frequent paper jams. If the first step does not resolve the problem continue with the next step until you have resolved the problem.

1. If paper has jammed in the printer, clear the jam and then print a configuration page to test the printer.
2. Check that the tray is configured for the correct paper size and type on the printer control panel. Adjust paper settings if necessary.
3. Turn the printer off, wait 30 seconds, and then turn it on again.
4. Print a cleaning page to remove excess toner from inside the printer.
  - a. Open the HP Printer Assistant.

- **Windows 8.1:** Click the down arrow in lower left corner of the **Start** screen, and then select the printer name.
  - **Windows 8:** Right-click an empty area on the **Start** screen, click **All Apps** on the app bar, and then select the printer name.
  - **Windows 7, Windows Vista, and Windows XP:** From the computer desktop, click **Start**, select **All Programs**, click **HP**, click the folder for the printer, select the icon with the printer's name, and then open **HP Printer Assistant**.
- b. In the HP Printer Assistant, select **Print**, and then select **HP Device Toolbox**.
  - c. On the **Systems** tab, click **Service**.
  - d. In the **Cleaning Mode** area, click **Start** to begin the cleaning process.
5. Print a configuration page to test the printer.
    - a. Press and hold the Resume/Cancel  button until the Ready  light begins blinking.
    - b. Release the Resume/Cancel  button.

If none of these steps resolves the problem, the printer might need service. Contact HP customer support.

## Prevent paper jams

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

1. Use only paper that meets HP specifications for this printer.
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. If you are printing on heavy, embossed, or perforated paper, use the manual feed feature and feed sheets one at a time.
7. Verify that the tray is configured correctly for the paper type and size.
8. Make sure the printing environment is within recommended specifications.

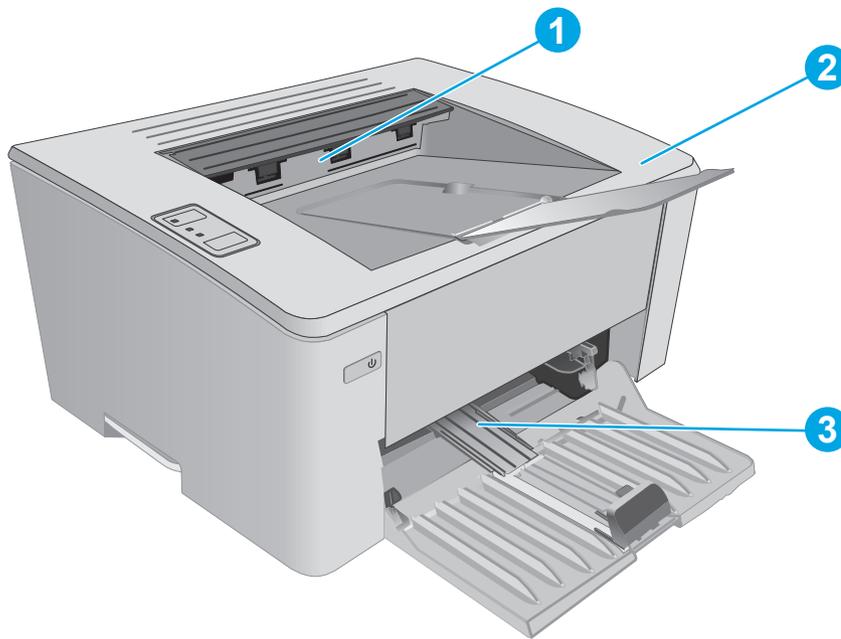
# Clear paper jams

## Introduction

The following information includes instructions for clearing paper jams from the product.

- [Paper jam locations](#)
- [Experiencing frequent or recurring paper jams?](#)
- [Clear paper jams in the input tray](#)
- [Clear paper jams in the toner-cartridge area](#)
- [Clear paper jams in the output bin](#)

## Paper jam locations



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1	Output bin
2	Toner cartridge area
3	Main input tray or priority input tray (wireless models only)

---

## Experiencing frequent or recurring paper jams?

Follow these steps to solve problems with frequent paper jams. If the first step does not resolve the problem continue with the next step until you have resolved the problem.

1. If paper has jammed in the printer, clear the jam and then print a configuration page to test the printer.
2. Check that the tray is configured for the correct paper size and type in the HP Embedded Web Server (EWS). Adjust paper settings if necessary.
  - a. Open the HP Embedded Web Server (EWS):

### Direct-connected printers

- i. Open the HP Printer Assistant.
  - **Windows 8.1:** Click the down arrow in lower left corner of the **Start** screen, and then select the printer name.
  - **Windows 8:** Right-click an empty area on the **Start** screen, click **All Apps** on the app bar, and then select the printer name.
  - **Windows 7, Windows Vista, and Windows XP:** From the computer desktop, click **Start**, select **All Programs**, click **HP**, click the folder for the printer, select the icon with the printer's name, and then open **HP Printer Assistant**.
- ii. In the HP Printer Assistant, select **Print**, and then select **HP Device Toolbox**.

### Network-connected printers

- i. Print a configuration page to determine the IP address or host name.
  1. Press and hold the Resume/Cancel  button until the Ready  light begins blinking.
  2. Release the Resume/Cancel  button.
- ii. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer configuration page. Press the **Enter** key on the computer keyboard. The EWS opens.

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 <https://10.10.XXXX/>

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 **NOTE:** If the web browser displays a message indicating that accessing the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

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- b. Click the **System** tab, and then click the **Paper Setup** page.
  - c. Select the type of paper that is in the tray.
  - d. Select the size of paper that is in the tray.
3. Turn the printer off, wait 30 seconds, and then turn it on again.
  4. Print a cleaning page to remove excess toner from inside the printer.
    - a. Open the HP Printer Assistant.

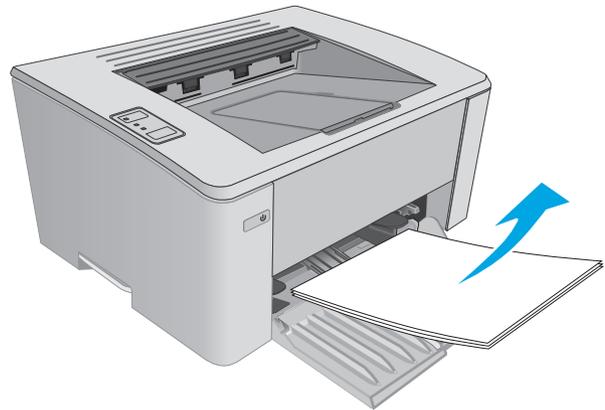
- **Windows 8.1:** Click the down arrow in lower left corner of the **Start** screen, and then select the printer name.
  - **Windows 8:** Right-click an empty area on the **Start** screen, click **All Apps** on the app bar, and then select the printer name.
  - **Windows 7, Windows Vista, and Windows XP:** From the computer desktop, click **Start**, select **All Programs**, click **HP**, click the folder for the printer, select the icon with the printer's name, and then open **HP Printer Assistant**.
- b. In the HP Printer Assistant, select **Print**, and then select **HP Device Toolbox**.
  - c. On the **Systems** tab, click **Service**.
  - d. In the **Cleaning Mode** area, click **Start** to begin the cleaning process.
5. Print a configuration page to test the printer.
- a. Press and hold the Resume/Cancel  button until the Ready  light begins blinking.
  - b. Release the Resume/Cancel  button.

If none of these steps resolves the problem, the printer might need service. Contact HP customer support.

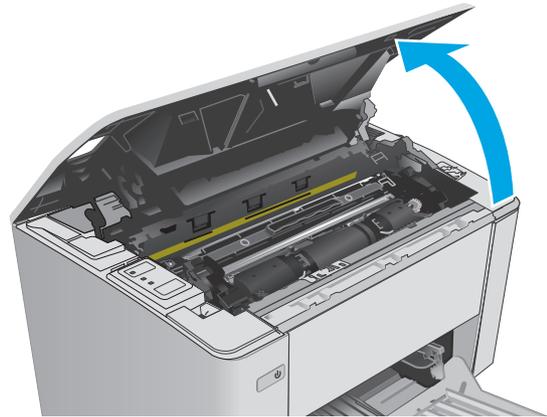
## Clear paper jams in the input tray

When a jam occurs, the Attention  light blinks repeatedly on the printer control panel.

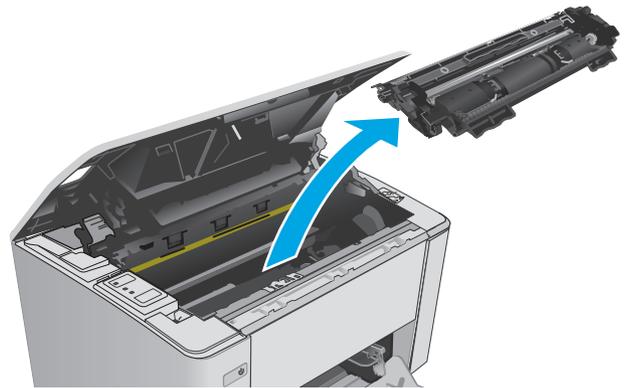
1. Remove any loose paper from the input tray.



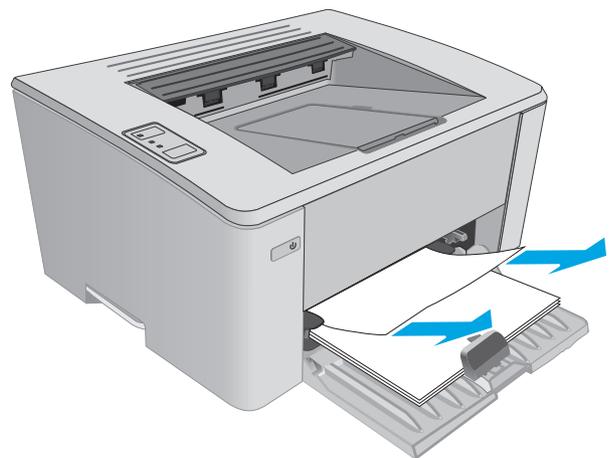
2. Open the top cover.



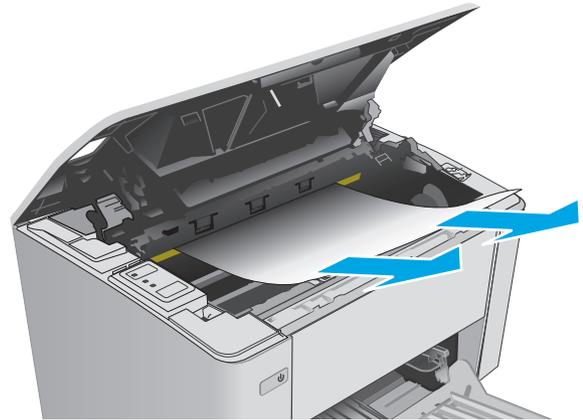
3. Remove the toner cartridge and imaging drum.
  - **M101-M105 models:** Remove the toner cartridge first, and then remove the imaging drum.
  - **M106 models:** Remove the toner cartridge and imaging drum as one unit.



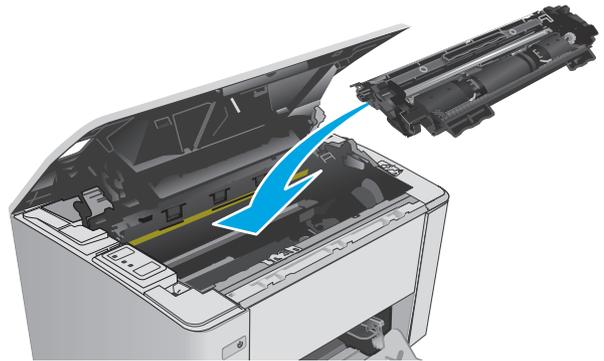
4. Remove any visible jammed paper in the input tray area. Use both hands to remove jammed paper to avoid tearing the paper.



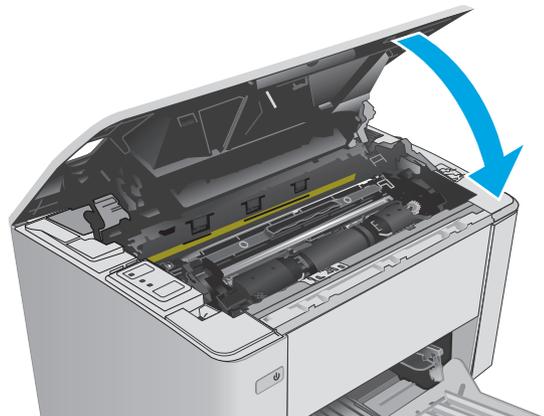
5. Remove any jammed paper from the toner-cartridge area. Use both hands to remove jammed paper to avoid tearing the paper.



6. Reinsert the imaging drum and toner cartridge.
- **M101-M105 models:** Install the imaging drum first, and then install the toner cartridge .
  - **M106 models:** Install the toner cartridge and imaging drum as one unit.



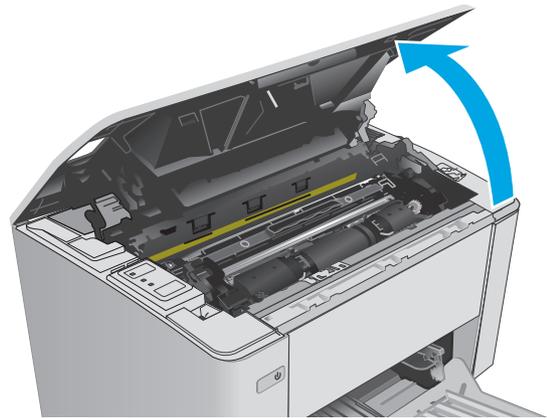
7. Close the top cover.



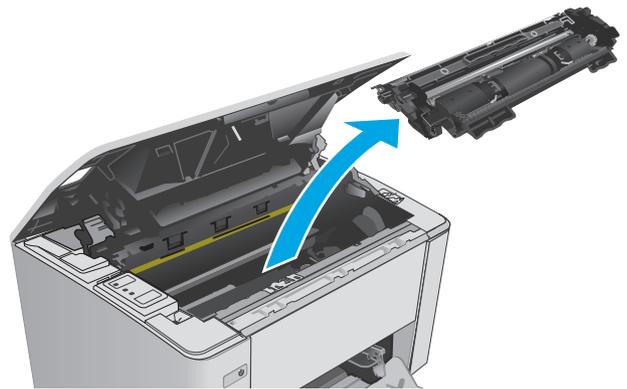
## Clear paper jams in the toner-cartridge area

When a jam occurs, the Attention  light blinks repeatedly on the printer control panel.

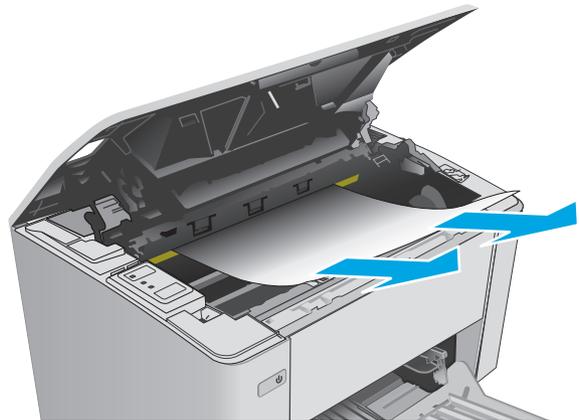
1. Open the top cover.



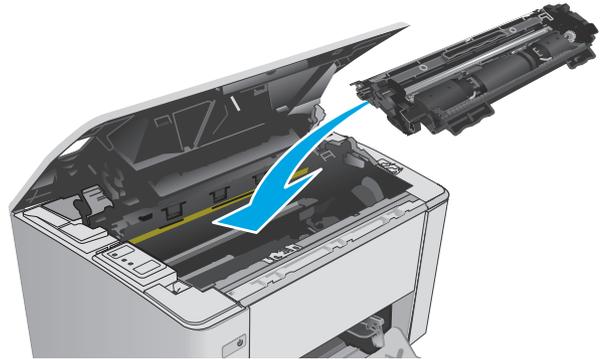
2. Remove the toner cartridge and imaging drum.
  - **M101-M105 models:** Remove the toner cartridge first, and then remove the imaging drum.
  - **M106 models:** Remove the toner cartridge and imaging drum as one unit.



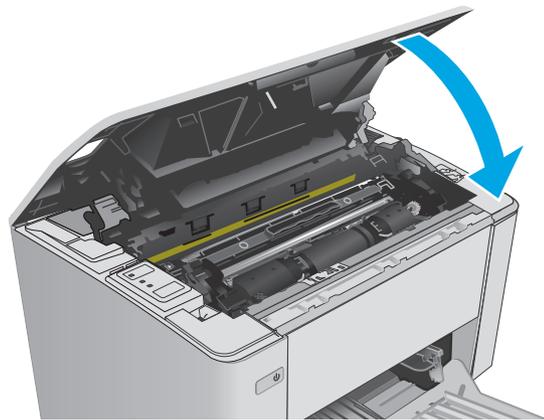
3. Remove any jammed paper from the toner-cartridge area. Use both hands to remove jammed paper to avoid tearing the paper.



4. Reinsert the imaging drum and toner cartridge.
  - **M101-M105 models:** Install the imaging drum first, and then install the toner cartridge .
  - **M106 models:** Install the toner cartridge and imaging drum as one unit.



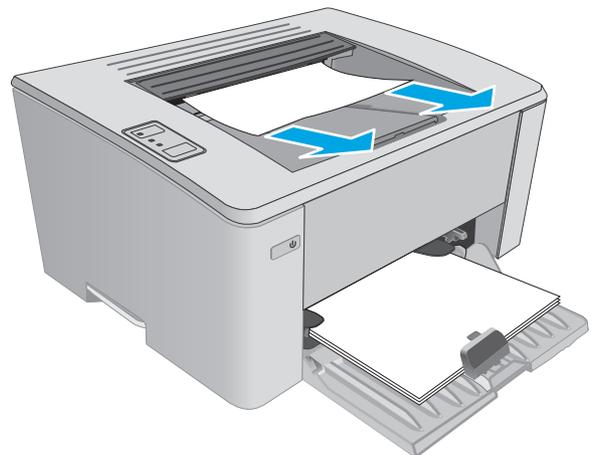
5. Close the top cover.



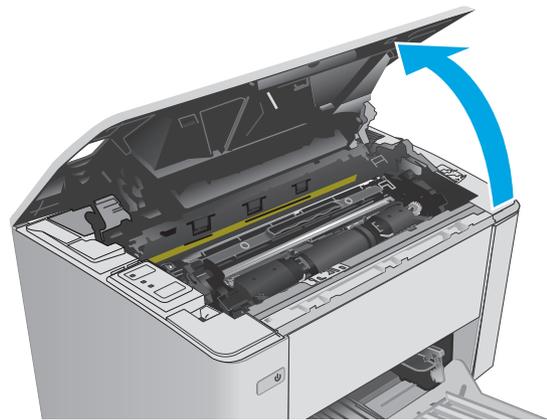
## Clear paper jams in the output bin

When a jam occurs, the Attention  light blinks repeatedly on the printer control panel.

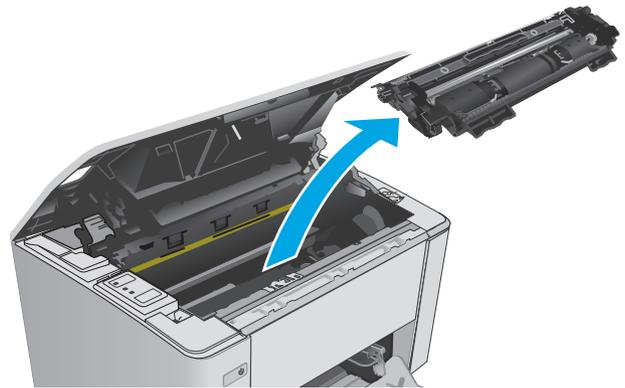
1. Remove any visible jammed paper from the output bin area. Use both hands to remove jammed paper to avoid tearing the paper.



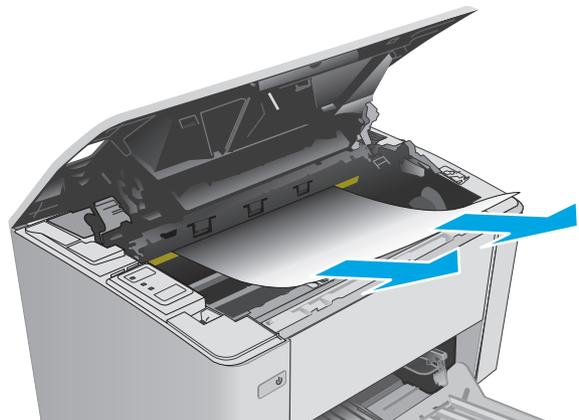
2. Open the top cover.



3. Remove the toner cartridge and imaging drum.
  - **M101-M105 models:** Remove the print cartridge first, and then remove the imaging drum.
  - **M106 models:** Remove the toner cartridge and imaging drum as one unit.

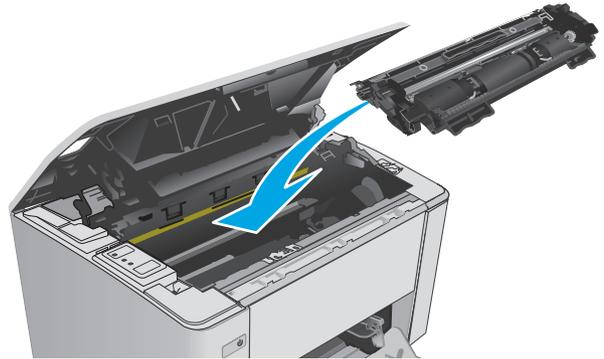


4. Remove any jammed paper from the toner-cartridge area.

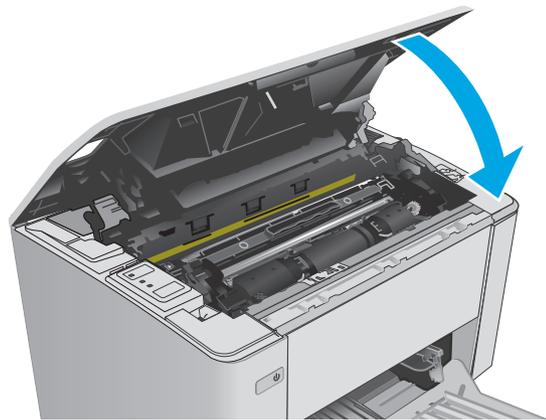


5. Reinsert the imaging drum and toner cartridge.

- **M101-M105 models:** Install the imaging drum first, and then install the toner cartridge .
- **M106 models:** Install the toner cartridge and imaging drum as one unit.



6. Close the top cover.



# Improve print quality

## Introduction

If the printer is having print-quality problems, try the following solutions in the order presented to resolve the issue.

## Print from a different software program

Try printing from a different software program. If the page prints correctly, the problem is with the software program from which you were printing.

## Check the paper-type setting for the print job

Check the paper type setting when printing from a software program and the printed pages have smears, fuzzy or dark print, curled paper, scattered dots of toner, loose toner, or small areas of missing toner.

### Check the paper type setting (Windows)

1. From the software program, select the **Print** option.
2. Select the printer, and then click the **Properties** or **Preferences** button.
3. Click the **Paper/Quality** tab.
4. From the **Media:** drop-down list, select the correct paper type.
5. Click the **OK** button to close the **Document Properties** dialog box. In the **Print** dialog, click the **OK** button to print the job.

### Check the paper type setting (OS X)

1. Click the **File** menu, and then click the **Print** option.
2. In the **Printer** menu, select the printer.
3. By default, the print driver displays the **Copies & Pages** menu. Open the menus drop-down list, and then click the **Finishing** menu.
4. Select a type from the **Media-type** drop-down list.
5. Click the **Print** button.

## Check toner-cartridge status

Check the supplies status page for the following information:

- Estimated percentage of cartridge life remaining
- Approximate pages remaining
- Part numbers for HP toner cartridges
- Number of pages printed

The printer prints the supplies status page when it prints the configuration page.

1. Press and hold the Resume/Cancel  button until the Ready  light begins blinking.
2. Release the Resume/Cancel  button.

## Clean the printer

### Print a cleaning page

1. Open the HP Printer Assistant.
  - **Windows 8.1:** Click the down arrow in lower left corner of the **Start** screen, and then select the printer name.
  - **Windows 8:** Right-click an empty area on the **Start** screen, click **All Apps** on the app bar, and then select the printer name.
  - **Windows 7, Windows Vista, and Windows XP:** From the computer desktop, click **Start**, select **All Programs**, click **HP**, click the folder for the printer, select the icon with the printer's name, and then open **HP Printer Assistant**.
2. In the HP Printer Assistant, select **Print**, and then select **HP Device Toolbox**.
3. On the **Systems** tab, click **Service**.
4. In the **Cleaning Mode** area, click **Start** to begin the cleaning process.

## Visually inspect the toner cartridge

Follow these steps to inspect each toner cartridge.

1. Remove the toner cartridge from the printer.
2. Check the memory chip for damage.
3. Examine the surface of the green imaging drum.

---

 **CAUTION:** Do not touch the imaging drum. Fingerprints on the imaging drum can cause print-quality problems.

---

4. If you see any scratches, fingerprints, or other damage on the imaging drum, replace the toner cartridge.
5. Reinstall the toner cartridge, and print a few pages to see if the problem has resolved.

## Check paper and the printing environment

### Step one: Use paper that meets HP specifications

Some print-quality problems arise from using paper that does not meet HP specifications.

- Always use a paper type and weight that this printer supports.
- Use paper that is of good quality and free of cuts, nicks, tears, spots, loose particles, dust, wrinkles, voids, staples, and curled or bent edges.
- Use paper that has not been previously printed on.

- Use paper that does not contain metallic material, such as glitter.
- Use paper that is designed for use in laser printers. Do not use paper that is designed only for use in Inkjet printers.
- Use paper that is not too rough. Using smoother paper generally results in better print quality.

## Step two: Check the environment

The environment can directly affect print quality and is a common cause for print-quality or paper-feeding issues. Try the following solutions:

- Move the printer away from drafty locations, such as open windows or doors, or air-conditioning vents.
- Make sure the printer is not exposed to temperatures or humidity outside of printer specifications.
- Do not place the printer in a confined space, such as a cabinet.
- Place the printer on a sturdy, level surface.
- Remove anything that is blocking the vents on the printer. The printer requires good air flow on all sides, including the top.
- Protect the printer from airborne debris, dust, steam, grease, or other elements that can leave residue inside the printer.

## Check the EconoMode settings

HP does not recommend the full-time use of EconoMode. If EconoMode is used full-time, the toner supply might outlast the mechanical parts in the toner cartridge. If print quality begins to degrade and is no longer acceptable, consider replacing the toner cartridge.



**NOTE:** This feature is available with the PCL 6 print driver for Windows. If you are not using that driver, you can enable the feature by using the HP Embedded Web Server.

Follow these steps if the entire page is too dark or too light.

1. From the software program, select the **Print** option.
2. Select the printer, and then click the **Properties** or **Preferences** button.
3. Click the **Paper/Quality** tab, and then locate the **Quality Settings** area.
  - If the entire page is too dark, select the **EconoMode** setting.
  - If the entire page is too light, select the **FastRes 1200** setting.
4. Click the **OK** button to close the **Document Properties** dialog box. In the **Print** dialog, click the **OK** button to print the job.

## Adjust print density

Complete the following steps to adjust the print density.

1. Open the HP Embedded Web Server (EWS):

### Direct-connected printers

- a. Open the HP Printer Assistant.

- **Windows 8.1:** Click the down arrow in lower left corner of the **Start** screen, and then select the printer name.
  - **Windows 8:** Right-click an empty area on the **Start** screen, click **All Apps** on the app bar, and then select the printer name.
  - **Windows 7, Windows Vista, and Windows XP:** From the computer desktop, click **Start**, select **All Programs**, click **HP**, click the folder for the printer, select the icon with the printer's name, and then open **HP Printer Assistant**.
- b. In the HP Printer Assistant, select **Print**, and then select **HP Device Toolbox**.

### Network-connected printers

- a. Print a configuration page to determine the IP address or host name.
- i. Press and hold the Resume/Cancel  button until the Ready  light begins blinking.
  - ii. Release the Resume/Cancel  button.
- b. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer configuration page. Press the **Enter** key on the computer keyboard. The EWS opens.

 <https://10.10.XX.XXX/>

---

 **NOTE:** If the web browser displays a message indicating that accessing the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

---

2. Click the **System** tab, select the **Print Quality** page, and then select the **Print Density** option.
3. From the **Print Density:** drop-down, select the correct density setting.

---

 **NOTE:** The default print density setting is **3**.

---

- 1 (Light)
  - 2
  - 3
  - 4
  - 5 (Dark)
4. Click **Apply**.

# 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 speed 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](http://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 speed 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.

# Solve wireless network problems

- [Introduction](#)
- [Wireless connectivity checklist](#)
- [The printer does not print after the wireless configuration completes](#)
- [The printer does not print, and the computer has a third-party firewall installed](#)
- [The wireless connection does not work after moving the wireless router or printer](#)
- [Cannot connect more computers to the wireless printer](#)
- [The wireless printer loses communication when connected to a VPN](#)
- [The network does not appear in the wireless networks list](#)
- [The wireless network is not functioning](#)
- [Perform a wireless network diagnostic test](#)
- [Reduce interference on a wireless network](#)

## Introduction

Use the troubleshooting information to help resolve issues.



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**NOTE:** To determine if Wi-Fi Direct printing is enabled on the printer, print a configuration page.

---

## Wireless connectivity checklist

- Verify that the network cable is not connected.
- Verify that the printer and the wireless router are turned on and have power. Also make sure that the wireless radio in the printer is turned on.
- Verify that the service set identifier (SSID) is correct. Print a configuration page to determine the SSID. If you are not sure the SSID is correct, run the wireless setup again.
- With secured networks, verify that the security information is correct. If the security information is incorrect, run the wireless setup again.
- If the wireless network is working correctly, try accessing other computers on the wireless network. If the network has Internet access, try connecting to the Internet over a wireless connection.
- Verify that the encryption method (AES or TKIP) is the same for the printer as it is for the wireless access point (on networks using WPA security).
- Verify that the printer is within the range of the wireless network. For most networks, the printer must be within 30 m (100 ft) of the wireless access point (wireless router).
- Verify that obstacles do not block the wireless signal. Remove any large metal objects between the access point and the printer. Make sure poles, walls, or support columns containing metal or concrete do not separate the printer and wireless access point.
- Verify that the printer is located away from electronic devices that might interfere with the wireless signal. Many devices can interfere with the wireless signal including motors, cordless phones, security system cameras, other wireless networks, and some Bluetooth devices.

- Verify that the print driver is installed on the computer.
- Verify that you have selected the correct printer port.
- Verify that the computer and printer connect to the same wireless network.
- For OS X, verify that the wireless router supports Bonjour.

## **The printer does not print after the wireless configuration completes**

1. Make sure that the printer is turned on and in the ready state.
2. Turn off any third-party firewalls on your computer.
3. Make sure that the wireless network is working correctly.
4. Make sure that your computer is working correctly. If necessary, restart the computer.
5. Verify that you can open the printer HP Embedded Web Server from a computer on the network.

## **The printer does not print, and the computer has a third-party firewall installed**

1. Update the firewall with the most recent update available from the manufacturer.
2. If programs request firewall access when you install the printer or try to print, make sure you allow the programs to run.
3. Temporarily turn off the firewall, and then install the wireless printer on the computer. Enable the firewall when you have completed the wireless installation.

## **The wireless connection does not work after moving the wireless router or printer**

1. Make sure that the router or printer connects to the same network that your computer connects to.
2. Print a configuration page.
3. Compare the service set identifier (SSID) on the configuration page to the SSID in the printer configuration for the computer.
4. If the numbers are not the same, the devices are not connecting to the same network. Reconfigure the wireless setup for the printer.

## **Cannot connect more computers to the wireless printer**

1. Make sure that the other computers are within the wireless range and that no obstacles block the signal. For most networks, the wireless range is within 30 m (100 ft) of the wireless access point.
2. Make sure that the printer is turned on and in the ready state.
3. Make sure there are not more than 5 concurrent Wi-Fi Direct users.
4. Turn off any third-party firewalls on your computer.
5. Make sure that the wireless network is working correctly.
6. Make sure that your computer is working correctly. If necessary, restart the computer.

## The wireless printer loses communication when connected to a VPN

- Typically, you cannot connect to a VPN and other networks at the same time.

## The network does not appear in the wireless networks list

- Make sure the wireless router is turned on and has power.
- The network might be hidden. However, you can still connect to a hidden network.

## The wireless network is not functioning

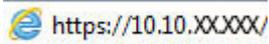
1. Make sure that the network cable is not connected.
2. To verify if the network has lost communication, try connecting other devices to the network.
3. Test network communication by pinging the network.
  - a. Open a command-line prompt on your computer.
    - For Windows, click **Start**, click **Run**, type `cmd`, and then press **Enter**.
    - For OS X, go to **Applications**, then **Utilities**, and open **Terminal**.
  - b. Type `ping` followed by the router IP address.
  - c. If the window displays round-trip times, the network is working.
4. Make sure that the router or printer connects to the same network that the computer connects to.
  - a. Print a configuration page.
  - b. Compare the service set identifier (SSID) on the configuration report to the SSID in the printer configuration for the computer.
  - c. If the numbers are not the same, the devices are not connecting to the same network. Reconfigure the wireless setup for the printer.

## Perform a wireless network diagnostic test

From the printer control panel, you can run a diagnostic test that provides information about the wireless network settings.

1. Open the HP Embedded Web Server (EWS):
  - a. Print a configuration page to determine the IP address or host name.
    - i. Press and hold the Resume/Cancel  button until the Ready  light begins blinking.
    - ii. Release the Resume/Cancel  button.

- b. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer configuration page. Press the **Enter** key on the computer keyboard. The EWS opens.



 **NOTE:** If the web browser displays a message indicating that accessing the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

2. Select the **Networking** tab.
3. On the **Wireless Configuration** page, verify that the On option is selected.
4. Click the **Print Test Report** button to print a test page that shows test results.

## Reduce interference on a wireless network

The following tips can reduce interference in a wireless network:

- Keep the wireless devices away from large metal objects, such as filing cabinets, and other electromagnetic devices, such as microwaves and cordless telephones. These objects can disrupt radio signals.
- Keep the wireless devices away from large masonry structures and other building structures. These objects can absorb radio waves and lower signal strength.
- Position the wireless router in a central location in line of sight with the wireless printers on the network.

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