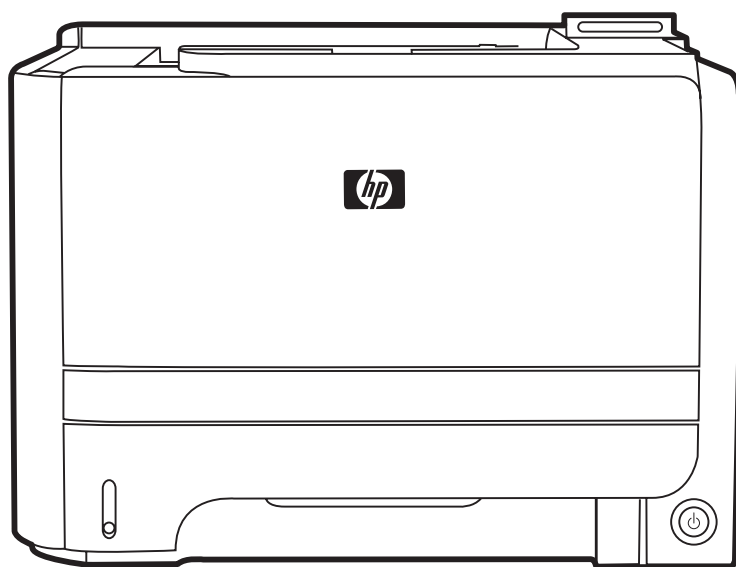


HP LaserJet P2050 Series Printer

User Guide



HP LaserJet P2050 Series Printer
User Guide



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1 Product basics

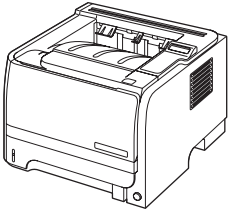
- [Product comparison](#)
- [Product features](#)
- [Product walkaround](#)

Product comparison

HP LaserJet P2050 Series models

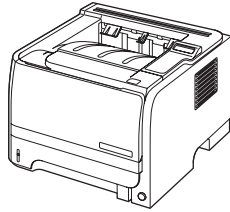
HP LaserJet P2055d printer

CE457A



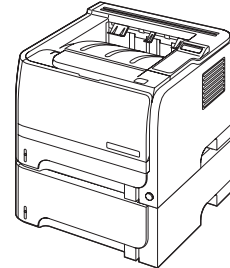
HP LaserJet P2055dn printer

CE459A



HP LaserJet P2055x printer

CE460A



-
- | | | |
|--|---|---|
| <ul style="list-style-type: none">• Prints up to 35 pages per minute (ppm) on Letter size paper and 33 ppm on A4 size paper• Contains 64 megabytes (MB) of random access memory (RAM) and is expandable to 320 MB.• HP print cartridge, rated for up to 2,300 pages• Tray 1 holds up to 50 sheets• Tray 2 holds up to 250 sheets• 125-sheet face-down output bin• Straight-through output path• 2-line control-panel display• Hi-speed USB 2.0 port• One open dual inline memory module (DIMM) slot | <p>Has the same features as the HP LaserJet P2055d model printer, plus the following:</p> <ul style="list-style-type: none">• HP Jetdirect Standard Gigabit Ethernet embedded print server• Contains 128 MB RAM and is expandable to 384 MB. | <p>Has the same features as the HP LaserJet P2055dn model printer, plus the following:</p> <ul style="list-style-type: none">• Additional 500-sheet tray (Tray 3) |
|--|---|---|
-

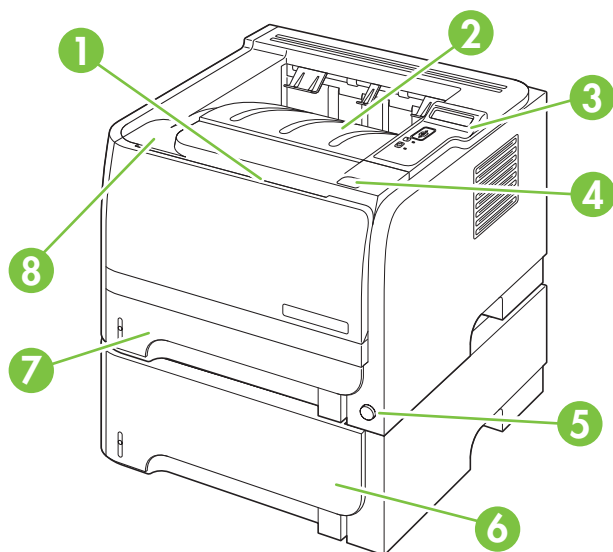
Product features

Feature	Description
Performance	<ul style="list-style-type: none">● 600 MHz processor
User interface	<ul style="list-style-type: none">● 2-line display● HP ToolboxFX software (a Web-based status and problem-solving tool)● Windows® and Macintosh printer drivers● Embedded Web server to access support and order supplies (for network-connected models only)
Printer drivers	<ul style="list-style-type: none">● HP PCL 5 Universal Print Driver for Windows (HP UPD PCL 5) (available for download from the Web)● HP PCL 6● HP postscript emulation Universal Print Driver for Windows (HP UPD PS) (available for download from the Web)● XPS (XML Paper Specification) Driver (available for download from the Web)
Resolution	<ul style="list-style-type: none">● FastRes 1200—produces 1200-dots-per-inch (dpi) print quality for fast, high-quality printing of business text and graphics● ProRes 1200—produces 1200-dpi printing for the best quality in line art and graphic images● 600 dpi—provides the fastest printing
Fonts	<ul style="list-style-type: none">● 45 internal scalable fonts available for PCL and 35 for HP UPD postscript emulation● 80 device-matching screen fonts in TrueType format available with the software solution
Accessories	<ul style="list-style-type: none">● HP 500-sheet input tray● HP Jetdirect external print server
Connectivity	<ul style="list-style-type: none">● Hi-Speed USB 2.0 connection● RJ.45 network connection (network models only)
Supplies	<ul style="list-style-type: none">● The supplies status page contains information about toner level, page count, and approximate pages remaining.● The product checks for an authentic HP print cartridge at installation.● Integration with HP Sure Supply Web site for easy replacement-cartridge reordering
Supported operating systems	<ul style="list-style-type: none">● Microsoft® Windows® 2000, Windows® Server 2003, Windows® XP, and Windows Vista™● Macintosh OS X V10.3, V10.4, V10.5, and later● Novell NetWare● Unix®● Linux● Citrix
Accessibility	<ul style="list-style-type: none">● The online user guide is compatible with text screen-readers.● The print cartridge can be installed and removed by using one hand.

Feature	Description
	<ul style="list-style-type: none">• All doors and covers can be opened by using one hand.• Paper can be loaded in Tray 1 by using one hand.

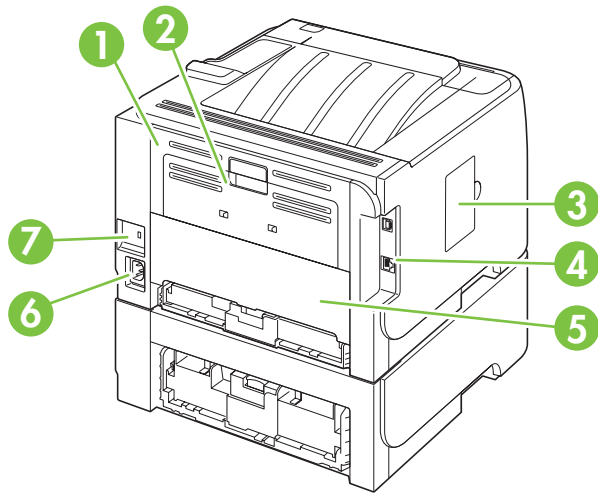
Product walkaround

Front view



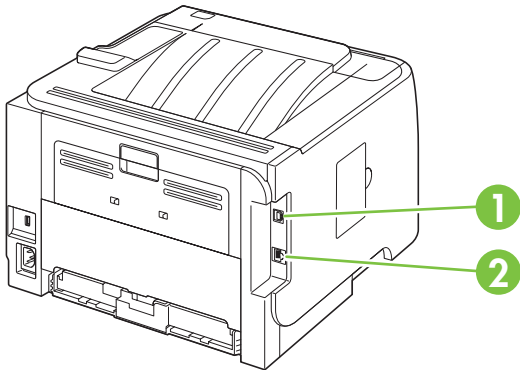
1	Tray 1 (pull to open)
2	Top output bin
3	Control panel
4	Print-cartridge-door release button
5	On/off switch
6	Optional Tray 3 (included with the HP LaserJet P2055x printer)
7	Tray 2
8	Print-cartridge door

Rear view



1	Jam-release door (pull the green handle to open)
2	Straight-through paper path (pull to open)
3	DIMM cover (provides access to the DIMM slot)
4	Interface ports
5	Rear duplex jam-release door
6	Power connection
7	Slot for a cable-type security lock

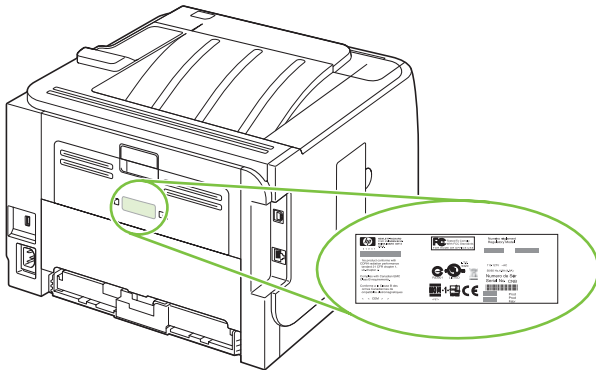
Interface ports



1	Hi-speed USB 2.0 connection, for connecting directly to a computer
2	RJ.45 network connection (network models only)

Model and serial-number label location

The label that contains the model and serial numbers is on the outside of the rear output (straight-through paper path).

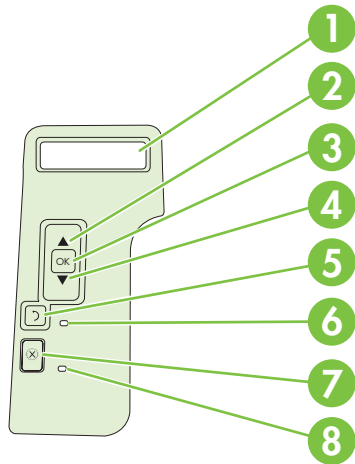


2 Control panel

- [Control-panel layout](#)
- [Use the control-panel menus](#)
- [Reports menu](#)
- [System setup menu](#)
- [Service menu](#)
- [Network config. menu](#)

Control-panel layout

Use the control panel to obtain product and job status information and to configure the product.



Number	Button or light	Function
1	Control-panel display	Shows status information, menus, and error messages
2	▲ Up arrow	Navigates to the next submenu or the next value in a menu selection list, moves the cursor forward a single position, or increases the value of numeric items
3	OK button	<ul style="list-style-type: none"> Saves the selected value for an item Performs the action that is associated with the item that is highlighted on the control-panel display Clears an error condition when the condition is clearable
4	▼ Down arrow	Navigates to the next item in the list, or decreases the value of numeric items
5	↶ Back button	Backs up one level in the menu tree or backs up one numeric entry
6	Ready light	<ul style="list-style-type: none"> On: The product is online and ready to accept data to print. Off: The product cannot accept data because it is offline (paused) or has experienced an error. Blinking: The product is processing a job.
7	⊗ Cancel button	Cancels the current print job
8	Error light	<ul style="list-style-type: none"> Off: The product is functioning without error. Blinking: Action is required. See the control-panel display.

Use the control-panel menus

To gain access to the control-panel menus, complete the steps below.

Use the menus

1. Press **OK**.
2. Press the down arrow ▼ or the up arrow ▲ to navigate the listings.
3. Press **OK** to select the appropriate option.
4. Press the back button ↶ to return to the previous level.

The following are the main menus.

Main menus	Reports
	System setup
	Service
	Network config.

Reports menu

Use the **Reports** menu to print reports that provide information about the product.

Menu item	Description
Demo page	Prints a page that demonstrates print quality.
Menu structure	Prints a map of the control-panel-menu layout. The active settings for each menu are listed.
Config report	Prints a list of all the product settings. Includes network information when the product is connected to a network.
Supplies status	Prints the status for the print cartridge, including the following information: <ul style="list-style-type: none">• Estimated pages remaining• Part number• Number of pages printed
Network report	Prints a list of all product network settings
Usage page	Prints a page that lists PCL 5 pages, PCL 6 pages, PS pages, pages that were jammed or mispicked in the product; and reports the page count
PCL font list	Prints a list of all the PCL 5 fonts that are installed
PS font list	Prints a list of all the PostScript (PS) fonts that are installed
PCL 6 font list	Prints a list of all the PCL 6 fonts that are installed
Service page	Prints the service report

System setup menu

Use this menu to establish basic product settings. The **System setup** menu has several sub-menus. Each is described in the following table.

Menu item	Sub-menu item	Sub-menu item	Description
Language			Select the language for the control-panel display messages and the product reports.
Quiet mode		On Off	Enable or disable quiet mode. When quiet mode is turned on, the product prints at a slower speed. The default setting is Off .
Paper setup	Def. paper size	A list of available paper sizes appears.	Select the size for printing internal reports or any print job that does not specify a size.
	Def. paper type	A list of available paper types appears.	Select the media type for printing internal reports or any print job that does not specify a type.
	Tray n NOTE: n = 1, 2, or 3	Paper type Paper size	Select the default size and type for the tray from the list of available sizes and types.
	Paper out action	Wait forever Override Cancel	Select how the product should react when a print job requires a size or type that is not available or when a specified tray is empty. Select Wait forever to make the product wait until you load the correct media and press OK . This is the default setting. Select Override to print on a different size or type after a specified delay. Select Cancel to automatically cancel the print job after a specified delay. If you select either Override or Cancel , the control panel prompts you to specify the number of seconds to delay. Press the up arrow ▲ to increase the time, up to 3600 seconds. Press the down arrow ▼ to decrease the time.
Print quality	Cartridge low	(1-20)	The percentage threshold determines when the product begins reporting low toner.
Print density	(1-5)		Select how much toner to apply to thicken edges and lines. The default setting is 3 .
Courier font	Regular Dark		Select a version of the Courier font. The default is Regular .
Display contrast	Medium Darker Darkest		Adjust the contrast of the LCD.

Menu item	Sub-menu item	Sub-menu item	Description
	Lightest		
	Lighter		

Service menu

Use this menu to restore default settings, clean the product, and activate special modes that affect print output.

Menu item	Description
Cleaning mode	<p>Use this option to clean the product if you see toner specks or other marks on the printed output. The cleaning process removes dust and excess toner from the paper path.</p> <p>When you select this item, the product prompts you to load plain paper in Tray 1 and then press OK to start the cleaning process. Wait until the process is complete. Discard the page that prints.</p>
USB speed	<p>Sets the USB speed to High or Full. For the product to actually operate at high speed, it must have high speed enabled and be connected to an EHCI host controller that is also operating at high speed. This menu item also does not reflect the current operating speed of the product.</p> <p>The default setting is High.</p>
Less paper curl	<p>If printed pages are consistently curled, use this option to set the product to a mode that reduces curl.</p> <p>The default setting is Off.</p>
Archive print	<p>If you are printing pages that will be stored for a long time, use this option to set the product to a mode that reduces toner smearing and dusting.</p> <p>The default setting is Off.</p>
Restore defaults	<p>Resets all customized settings to the factory default values.</p>

Network config. menu

Use this menu to establish network configuration settings.

Menu item	Description
CFG TCP/IP	<p>Access the TCP/IP menu and set TCP/IP protocol parameters.</p> <ul style="list-style-type: none">• BOOTP=YES* Enable IPv4 configuration by a BOOTP Server.• DHCP=YES* Enable IPv4 configuration by a DHCP Server. <p>If DHCP=YES* and the print server has a DHCP lease, you can configure the following DHCP settings:</p> <ul style="list-style-type: none">• RELEASE: Select whether to release (YES) or save (NO) the current lease.• RENEW: Select whether to renew (YES or NO) the lease. <p>AUTO IP=YES* Automatically assign a link-local IPv4 address in the form 169.254.x.x.</p> <p>If you specify BOOTP=NO*, DHCP=NO* and AUTO IP=NO*, you can manually set the following TCP/IPv4 parameters from the control panel:</p> <ul style="list-style-type: none">• Each byte of the IPv4 address (IP)• Subnet Mask (SM)• Syslog Server (LG)• Default Gateway (GW)• Idle Timeout period (default is 270 seconds, 0 disables the timeout) <p>CFG DNS 1: IPv4 address of a primary DNS server (one byte at a time).</p> <p>CFG DNS 2: IPv4 address of a secondary DNS server (one byte at a time).</p> <p>IPV6 = YES*: Enable IPv6 operation. Select NO to disable IPv6 operation.</p> <p>POLICY=RTR_AV/RTR_UN/ALWAYS: Set one of the following IPv6 addressing policies:</p> <ul style="list-style-type: none">• RTR_AV: (default) Stateful auto-configuration method is determined by a router. The router specifies whether the print server obtains its address, configuration information, or both from a DHCPv6 server.• RTR_UN: Attempt to obtain stateful configuration from a DHCPv6 server (when a router is not available).• ALWAYS: Always attempt to obtain stateful configuration from a DHCPv6 server (whether or not a router is available). <p>MANUAL= KEEP/DISABLE: Set the behavior of a manually configured IPv6 address detected on the print server.</p> <ul style="list-style-type: none">• KEEP (default): Maintain the address in an active state.• DISABLE: Maintain the address but in an inactive state. <p>Print an HP Jetdirect configuration page to verify your settings. (The print server can overwrite selected parameters with values that ensure proper operation.)</p>

Menu item	Description
WEB	<p>Embedded Web server accepts communications using HTTPS (Secure HTTP) only, or both HTTP and HTTPS.</p> <ul style="list-style-type: none"> ● HTTPS: Accept only HTTPS (print server appears as a secure site). ● HTTP/HTTPS: Accept either HTTP or HTTPS.
SECURITY	<p>Reset current security settings to factory defaults.</p> <ul style="list-style-type: none"> ● KEEP (default): Retain current security settings. ● RESET: Reset security settings to factory defaults.
FIREWALL	<p>Disable Firewall.</p> <ul style="list-style-type: none"> ● KEEP (default): Retain Firewall operation as configured. ● DISABLE: Disable Firewall operation.
PRINT	<p>Print a configuration page for the selected item.</p> <p>SECURITY: Print the current security settings.</p>
CFG LINK	<p>Manually configure the HP Jetdirect print server's network link.</p> <p>Set the link speed and communication mode. These must match the network. The available settings depend on the print server model.</p> <p>CAUTION: Changing the link setting can cause the loss of network communication with the print server.</p> <ul style="list-style-type: none"> ● AUTO (default): Use auto-negotiation to set the highest link speed and communication mode allowed. If auto-negotiation fails, either 100TX HALF or 10TX HALF is set depending on the detected link speed of the hub/switch port. (A 1000T half-duplex selection is not supported.) ● 10T HALF: 10 Mbps, half-duplex operation. ● 10T FULL: 10 Mbps, Full-duplex operation. ● 100TX HALF: 100 Mbps, half-duplex operation. ● 100TX FULL: 100 Mbps, full-duplex operation. ● 100TX AUTO: Limits auto-negotiation to a maximum link speed of 100 Mbps. ● 1000TX FULL: 1000 Mbps, full-duplex operation.

3 Software for Windows

- [Supported operating systems for Windows](#)
- [Supported printer drivers for Windows](#)
- [HP Universal Print Driver \(UPD\)](#)
- [Priority for print settings](#)
- [Change printer-driver settings for Windows](#)
- [Software installation types for Windows](#)
- [Remove software for Windows](#)
- [Supported utilities for Windows](#)
- [Supported network utilities for Windows](#)
- [Software for other operating systems](#)

Supported operating systems for Windows

The product supports the following Windows operating systems:

- Windows XP (32-bit and 64-bit)
- Windows Server 2003 (32-bit and 64-bit)
- Windows 2000 (driver only)
- Windows Vista (32-bit and 64-bit)

Supported printer drivers for Windows

- HP PCL 5 Universal Print Driver (HP UPD PCL 5) (available for download from the Web)
- HP PCL 6 (on the product CD)
- HP postscript emulation Universal Print Driver (HP UPD PS) (available for download from the Web)
- XPS (XML Paper Specification) driver (available for download from the Web)

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



NOTE: For more information about the UPD, see www.hp.com/go/upd.

HP Universal Print Driver (UPD)

The HP Universal Print Driver (UPD) for Windows is a single driver that gives you instant access to virtually any HP LaserJet product, from any location, without downloading separate drivers. It is built on proven HP print driver technology and has been tested thoroughly and used with many software programs. It is a powerful solution that performs consistently over time.

The HP UPD communicates directly with each HP product, gathers configuration information, and then customizes the user interface to show the product's unique, available features. It automatically enables features that are available for the product, such as two-sided printing and stapling, so you do not need to enable them manually.


For more information, go to www.hp.com/go/upd.

UPD installation modes

Traditional mode	<ul style="list-style-type: none">● Use this mode if you are installing the driver from a CD for a single computer.● When installed with this mode, UPD operates like traditional printer drivers.● If you use this mode, you must install UPD separately for each computer.
Dynamic mode	<ul style="list-style-type: none">● Use this mode if you are installing the driver for a mobile computer, so you can discover and print to HP products in any location.● Use this mode if you are installing UPD for a workgroup.● To use this mode, download UPD from the Internet. See www.hp.com/go/ upd.

Priority for print settings

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

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

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

Change printer-driver settings for Windows

Change the settings for all print jobs until the software program is closed	Change the default settings for all print jobs	Change the product configuration settings
<ol style="list-style-type: none">1. On the File menu in the software program, click Print.2. Select the driver, and then click Properties or Preferences.	<ol style="list-style-type: none">1. Windows XP and Windows Server 2003 (using the default Start menu view): Click Start, and then click Printers and Faxes.-or-Windows 2000, Windows XP, and Windows Server 2003 (using the Classic Start menu view): Click Start, click Settings, and then click Printers.-or-Windows Vista: Click Start, click Control Panel, and then in the category for Hardware and Sound click Printer.2. Right-click the driver icon, and then select Printing Preferences.	<ol style="list-style-type: none">1. Windows XP and Windows Server 2003 (using the default Start menu view): Click Start, and then click Printers and Faxes.-or-Windows 2000, Windows XP, and Windows Server 2003 (using the Classic Start menu view): Click Start, click Settings, and then click Printers.-or-Windows Vista: Click Start, click Control Panel, and then in the category for Hardware and Sound click Printer.2. Right-click the driver icon, and then select Properties.3. Click the Device Settings tab.

The steps can vary; this procedure is most common.

Software installation types for Windows

You can choose from the following types of software installations:

- **Basic Installation (Recommended).** Installs the minimum set of drivers and software. This installation type is recommended for network installations.
- **Full Installation.** Installs the full set of drivers and software, including status, alerting, and troubleshooting tools. This installation type is recommended for direct-connect installations.
- **Custom Installation.** Use this option to select which drivers to install and whether to install the internal fonts. This installation type is recommended for advanced users and system administrators.

Remove software for Windows

1. Click **Start**, and then click **All Programs**.
2. Click **HP**, and then click the product name.
3. Click the option to uninstall the product, and then follow the onscreen instructions to remove the software.

Supported utilities for Windows

HP ToolboxFX

HP ToolboxFX is a software program that you can use for the following tasks:

- Checking the product status
- Checking the supplies status and ordering supplies online
- Setting up alerts
- Setting up e-mail notification for certain product and supplies events
- Viewing and changing product settings
- Viewing product documentation
- Gaining access to troubleshooting and maintenance tools

You can view HP ToolboxFX when the product is directly connected to your computer or is connected to a network. To use HP ToolboxFX, perform a recommended software installation.

Supported network utilities for Windows

HP Web Jetadmin

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

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

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

Embedded Web server

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

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

The embedded Web server provides an interface to the device that anyone who has a network-connected computer and a standard Web browser can use. No special software is installed or configured, but you must have a supported Web browser on your computer. To gain access to the embedded Web server, type the IP address for the device in the address line of the browser. (To find the IP address, print a configuration page. For more information about printing a configuration page, see [Print the information pages on page 70](#).)

For a complete explanation of the features and functionality of the embedded Web server, see [Embedded Web server on page 77](#).

Software for other operating systems

OS	Software
UNIX	To download the HP UNIX modelscripts, follow these steps. <ol style="list-style-type: none">1. Go to www.hp.com, and click Software & Driver Download.2. Type the name of the product in the product name box.3. In the list of operating systems, click UNIX.4. Download the appropriate file or files.
Linux	For information, go to www.hp.com/go/linuxprinting .

4 Use the product with Macintosh


- [Software for Macintosh](#)
- [Use features in the Macintosh printer driver](#)

Software for Macintosh

Supported operating systems for Macintosh

The product supports the following Macintosh operating systems:

- Mac OS X V10.3, V10.4, V10.5, and later

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

Supported printer drivers for Macintosh

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


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

Remove software from Macintosh operating systems

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

Priority for print settings for Macintosh

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

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

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

Change printer-driver settings for Macintosh

Change the settings for all print jobs until the software program is closed	Change the default settings for all print jobs	Change the product configuration settings
<ol style="list-style-type: none">1. On the File menu, click Print.2. Change the settings that you want on the various menus.	<ol style="list-style-type: none">1. On the File menu, click Print.2. Change the settings that you want on the various menus.3. On the Presets menu, click Save as and type a name for the preset. <p>These settings are saved in the Presets menu. To use the new settings, you must select the saved preset option every time you open a program and print.</p>	<p>Mac OS X V10.3 or Mac OS X V10.4</p> <ol style="list-style-type: none">1. From the Apple menu, click System Preferences and then Print & Fax.2. Click Printer Setup.3. Click the Installable Options menu. <p>Mac OS X V10.5</p> <ol style="list-style-type: none">1. From the Apple menu, click System Preferences and then Print & Fax.2. Click Options & Supplies.3. Click the Driver menu.4. Select the driver from the list, and configure the installed options.

Supported utilities for Macintosh

Embedded Web server

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

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

The embedded Web server provides an interface to the device that anyone who has a network-connected computer and a standard Web browser can use. No special software is installed or configured, but you must have a supported Web browser on your computer. To gain access to the embedded Web server, type the IP address for the device in the address line of the browser. (To find the IP address, print a configuration page. For more information about printing a configuration page, see [Print the information pages on page 70](#).)

For a complete explanation of the features and functionality of the embedded Web server, see [Embedded Web server on page 77](#).

Use features in the Macintosh printer driver

Print

Create and use printing presets in Macintosh


Use printing presets to save the current printer driver settings for reuse.

Create a printing preset

1. On the **File** menu, click **Print**.
2. Select the driver.
3. Select the print settings.
4. In the **Presets** box, click **Save As...**, and type a name for the preset.
5. Click **OK**.

Use printing presets

1. On the **File** menu, click **Print**.
2. Select the driver.
3. In the **Presets** box, select the printing preset that you want to use.

 **NOTE:** To use printer-driver default settings, select **Standard**.

Resize documents or print on a custom paper size


You can scale a document to fit on a different size of paper.

1. On the **File** menu, click **Print**.
2. Open the **Paper Handling** menu.
3. In the area for **Destination Paper Size**, select **Scale to fit paper size**, and then select the size from the drop-down list.
4. If you want to use only paper that is smaller than the document, select **Scale down only**.

Print a cover page

You can print a separate cover page for your document that includes a message (such as “Confidential”).

1. On the **File** menu, click **Print**.
2. Select the driver.
3. Open the **Cover Page** menu, and then select whether to print the cover page **Before Document** or **After Document**.
4. In the **Cover Page Type** menu, select the message that you want to print on the cover page.

 **NOTE:** To print a blank cover page, select **Standard** as the **Cover Page Type**.

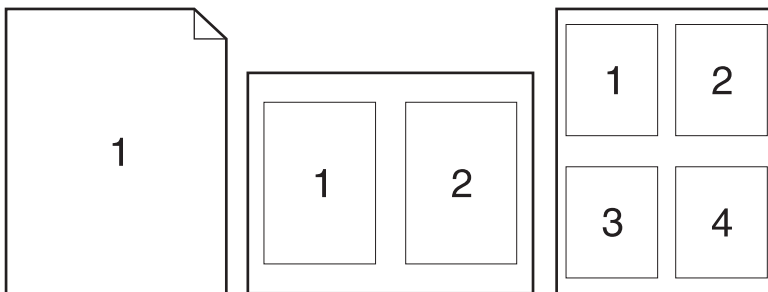
Use watermarks

A watermark is a notice, such as “Confidential,” that is printed in the background of each page of a document.

1. On the **File** menu, click **Print**.
2. Open the **Watermarks** menu.
3. Next to **Mode**, select the type of watermark to use. Select **Watermark** to print a semi-transparent message. Select **Overlay** to print a message that is not transparent.
4. Next to **Pages**, select whether to print the watermark on all pages or on the first page only.
5. Next to **Text**, select one of the standard messages, or select **Custom** and type a new message in the box.
6. Select options for the remaining settings.

Print multiple pages on one sheet of paper in Macintosh

You can print more than one page on a single sheet of paper. This feature provides a cost-effective way to print draft pages.

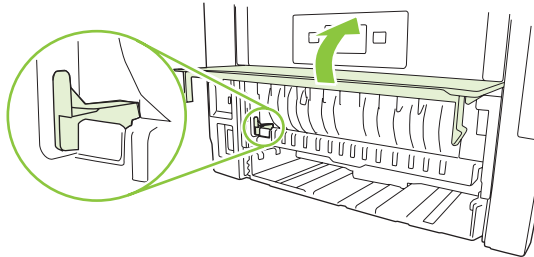


1. On the **File** menu, click **Print**.
2. Select the driver.
3. Open the **Layout** menu.
4. Next to **Pages per Sheet**, select the number of pages that you want to print on each sheet (1, 2, 4, 6, 9, or 16).
5. Next to **Layout Direction**, select the order and placement of the pages on the sheet.
6. Next to **Borders**, select the type of border to print around each page on the sheet.

Print on both sides of the page

Use automatic two-sided printing

1. Set the product for the correct width of paper that you are using. At the back of the product, lift the duplex jam-release door, and locate the blue paper-width selection lever.
 - **Letter and Legal-size paper:** Push the lever in.
 - **A4-size paper:** Pull the lever out.



2. Insert enough paper into one of the trays to accommodate the print job. If you are loading special paper such as letterhead, load it in one of the following ways:
 - For Tray 1, load the letterhead paper face-up with the top edge feeding into the product first.
 - For all other trays, load the letterhead paper face-down with the top edge at the front of the tray.
3. On the **File** menu, click **Print**.
4. Open the **Layout** menu.
5. Next to **Two-Sided**, select either **Long-Edge Binding** or **Short-Edge Binding**.
6. Click **Print**.

Print on both sides manually

1. Insert enough paper into one of the trays to accommodate the print job. If you are loading special paper such as letterhead, load it in one of the following ways:
 - For Tray 1, load the letterhead paper face-up with the top edge feeding into the product first.
 - For all other trays, load the letterhead paper face-down with the top edge at the front of the tray.
2. On the **File** menu, click **Print**.
3. On the **Finishing** menu, select **Manually Print on 2nd Side**.
4. Click **Print**. Follow the instructions in the pop-up window that appears on the computer screen before placing the output stack in Tray 1 for printing the second half.
5. Go to the product, and remove any blank paper that is in Tray 1.
6. Insert the printed stack face-up into Tray 1 with the top edge feeding into the product first. You *must* print the second side from Tray 1.
7. If prompted, press the appropriate control-panel button to continue.

Use the Services menu

If the product is connected to a network, use the **Services** menu to obtain product and supply-status information.

1. On the **File** menu, click **Print**.
2. Open the **Services** menu.
3. To open the embedded Web server and perform a maintenance task, do the following:
 - a. Select **Device Maintenance**.
 - b. Select a task from the drop-down list.
 - c. Click **Launch**.
4. To go to various support Web sites for this device, do the following:
 - a. Select **Services on the Web**.
 - b. Select **Internet Services**, and select an option from the drop-down list.
 - c. Click **Go!**.

5 Connectivity

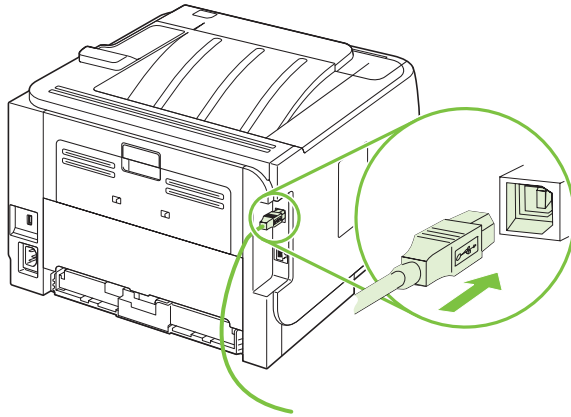
- [USB configuration](#)
- [Network configuration](#)

USB configuration

The product has a Hi-Speed USB 2.0 port. The USB cable can be a maximum of 2 meters (6 feet) long.

Connect the USB cable

Plug the USB cable into the product. Plug the other end of the USB cable into the computer.



- | | |
|---|----------------------|
| 1 | Type B USB port |
| 2 | Type B USB connector |

Network configuration

You might need to configure certain network parameters on the product. You can configure these parameters from the control panel, the embedded Web server, or for most networks, from the HP Web Jetadmin software.

Supported network protocols

The product supports the TCP/IP network protocol. It is the most widely used and accepted networking protocol. Many networking services utilize this protocol. This product also supports IPv4 and IPv6. The following tables list the networking services/protocols that are supported on the product.

Table 5-1 Printing

Service name	Description
port9100 (Direct Mode)	The default TCP/IP printing port on the HP Jetdirect print server, accessed by software such as HP Standard Port
Line printer daemon (LPD)	LPD provides line printer spooling services for TCP/IP systems. Use LPD services on the HP Jetdirect print server.
WS Print	Use the Microsoft Web Services for Devices (WSD) Print services supported on the HP Jetdirect print server.

Table 5-2 Network product discovery

Service name	Description
SLP (Service Location Protocol)	Device Discovery Protocol, used to help find and configure network devices. Used primarily by Microsoft-based software programs.
mDNS (multicast Domain Name Service - also known as "Rendezvous" or "Bonjour")	Device Discovery Protocol, used to help find and configure network devices. Used primarily by Apple Macintosh-based software programs.
WS Discovery	Allows Microsoft WS discovery protocols on the print server.
LLMNR (TCP/IP v6)	Indicates whether link local multicast name resolution (LLMNR) requests are responded to over IPv6.
NetBIOS over TCP/IP	Provides communication among applications on separate computers within a local area network. Because the programming interface runs through TCP/IP (NBT), each computer in the network has both a NetBIOS name and an IP address relevant to a host name (even though the two names might not be the same).
DNS Client	DNS domain name that the HP Jetdirect print server resides in (for example, support.hp.com).

Table 5-3 Messaging and management

Service name	Description
HTTP (hypertext transfer protocol)	Allows Web browsers to communicate with embedded Web server.
EWS (embedded Web server)	Allows a user to manage the product through a Web browser.

Table 5-3 Messaging and management (continued)

Service name	Description
SNMP (simple network management protocol)	Used by network programs for product management. SNMP V3 and standard MIB-II (Management Information Base) objects are supported.
Web Jetadmin (WJA)	Management application that provides controlled access to HP Jetdirect and printer features.
EPC	HP Easy Printer Care Software 2.0 (EPC 2.0) provides HP Web Jetadmin-type functions for small and micro businesses with up to 15 HP LaserJet products. EPC 2.0 delivers effortless laser printer upkeep and protection for your printing investment, as well as simple, consolidated supplies replenishment.

Table 5-4 IP addressing


Service name	Description
DHCP (dynamic host configuration protocol)	For Automatic IP address assignment. DHCP server provides the product with an IP address. Generally requires no user intervention for product to obtain IP address from a DHCP server.
BOOTP (bootstrap protocol)	For Automatic IP address assignment. BOOTP server provides the product with an IP address. Requires administrator to input the product MAC hardware address on BOOTP server in order for product to obtain an IP address from that server.
Auto IP	For Automatic IP address assignment. If neither a DHCP server nor a BOOTP server is present, this service allows the product to generate a unique IP address.
Manual IP	Manually configure the IP address on the print server using the printer control panel or the embedded Web server.
Telnet	Set configuration parameters by using the default IP address to create a Telnet connection from your system to the HP Jetdirect print server. Once configured, the print server saves the configuration when turned off and then turned on.
RARP	You can configure the print server to use RARP on UNIX and Linux systems. Use RARP to answer the print server's RARP request and supply the print server with the IP address. The RARP method allows you to only configure the IP address.
ARP/PING	You can configure an HP Jetdirect print server with an IP address using the <code>arp</code> command from a supported system. The workstation from which the configuration is made must be located on the same network segment as the HP Jetdirect print server.

Install the product on a network


In this configuration, the product is connected directly to the network and can be configured to allow all computers on the network to print directly to the product.

 **NOTE:** This mode is the recommended network configuration for the product.

1. Before turning on the product, connect the product directly to the network by inserting a network cable into the product network port.
2. Turn on the product, wait 2 minutes, and then use the control panel to print a configuration page.

 **NOTE:** Make sure that an IP address is listed on the configuration page before proceeding to the next step. If an IP address is not present, reprint the configuration page.

3. Insert the product CD into the computer. If the software installer does not start, navigate to the setup.exe file on the CD and double-click the file.
4. Follow the installer instructions.

 **NOTE:** When the installer prompts for a network address, provide the IP address listed on the configuration page that you printed before starting the installer program, or search for the product on the network.

5. Allow the installation process to complete.

Configure the network product

View or change network settings


You can use the embedded Web server to view or change IP configuration settings.

1. Print a configuration page, and locate the IP address.
 - If you are using IPv4, the IP address contains only digits. It has this format:
`xxx . xxx . xxx . xxx`
 - If you are using IPv6, the IP address is a hexadecimal combination of characters and digits. It has this format:
`xxxx : : xxx : xxxx : xxxx : xxxx`
2. Type the IP address into the address line of a Web browser to open the embedded Web server.
3. Click the **Networking** tab to obtain network information. You can change settings as needed.

Set or change the network password

Use the embedded Web server to set a network password or change an existing password.

1. Open the embedded Web server and click the **Networking** tab.
2. In the left-side pane, click **Authorization**.

 **NOTE:** If a password has previously been set, you are prompted to type the password. Type the password, and then click the **Apply** button.

3. Type the new password in the **Password** box and in the **Confirm Password** box.
4. At the bottom of the window, click the **Apply** button to save the password.

IP address


The product IP address can be set manually, or it can be configured automatically via DHCP, BootP, or AutoIP.

Automatic configuration

1. On the control panel, press **OK**.
2. Use the arrow buttons to select **Network config.**, and then press **OK**.
3. Use the arrow buttons to select either **BOOTP** or **DHCP**, and then press **OK**.
4. Use the arrow buttons to select **Yes**, and then press **OK**.

It may take several minutes before the automatic IP address is ready for use.

5. Use the **Back** or **Cancel** button to leave the **Network config.** menu.

 **NOTE:** Specific automatic IP modes (such as BOOTP, DHCP, or AutoIP) can be changed by using the embedded Web server or HP ToolboxFX only. If AutoIP is disabled, HP default IP (192.0.0.192) will automatically be enabled.


Manual configuration

1. On the control panel, press **OK**.
2. Use the arrow buttons to select **Network config.**, and then press **OK**.
3. Use the arrow buttons to select **CFG TCP/IP**, and then press **OK**.
4. Use the arrow buttons to select **BOOTP**, make sure the value is **No**, and then press **OK**.
5. Use the arrow buttons to select **DHCP**, make sure the value is **No**, and then press **OK**.
6. Use the arrow buttons to select **IP BYTE 1**, and then press **OK**.
7. Use the arrow buttons to change the value of **IP BYTE 1**, and then press **OK**.
8. Repeat steps 6 and 7 for **IP BYTE 2**, **IP BYTE 3**, and **IP BYTE 4**. Also, repeat steps 6 and 7 for the Subnet Mask (**SM BYTE 1**, **SM BYTE 2**, **SM BYTE 3**, **SM BYTE 4**) and Default Gateway (**GW BYTE 1**, **GW BYTE 2**, **GW BYTE 3**, **GW BYTE 4**).
9. Use the **Back** or **Cancel** button to leave the **Network config.** menu.


IPv4 and IPv6 settings

The IPv4 and IPv6 protocols can be configured manually. The IPv4 protocol can be set from HP ToolboxFX or from the product control panel. The IPv6 protocol can be set from the product control panel or the embedded Web server.

Link speed setting

 **NOTE:** Incorrect changes to the link speed setting might prevent the product from communicating with other network devices. For most situations, the product should be left in automatic mode. Changes can cause the product to power cycle. Changes should be made only while the product is idle.

1. On the control panel, press **OK**.
2. Use the arrow buttons to select **Network config.**, and then press **OK**.
3. Use the arrow buttons to select **CFG LINK**, and then press **OK**.
4. Use the arrow buttons to select **LINK**, and then press **OK**.
5. Use the arrow buttons to select one of the following settings.
 - **AUTO**
 - **10T HALF**
 - **10T FULL**
 - **100TX HALF**
 - **100TX FULL**
 - **100TX AUTO**
 - **1000TX FULL**

 **NOTE:** The setting must match with the network product to which you are connecting (a network hub, switch, gateway, router, or computer).

6 Paper and print media

- [Understand paper and print media use](#)
- [Supported paper and print media sizes](#)
- [Custom paper sizes](#)
- [Supported paper and print media types](#)
- [Tray and bin capacity](#)
- [Special paper or print media guidelines](#)
- [Load trays](#)
- [Configure trays](#)
- [Use paper output options](#)

Understand paper and print media use

This product supports a variety of paper and other print media in accordance with the guidelines in this user guide. Paper or print media that does not meet these guidelines might cause the following problems:

- Poor print quality
- Increased jams
- Premature wear on the product, requiring repair

For best results, use only HP-brand paper and print media designed for laser printers or multiuse. Do not use paper or print media made for inkjet printers. Hewlett-Packard Company cannot recommend the use of other brands of media because HP cannot control their quality.

It is possible for paper to meet all of the guidelines in this user guide and still not produce satisfactory results. This might be the result of improper handling, unacceptable temperature and/or humidity levels, or other variables over which Hewlett-Packard has no control.

△ **CAUTION:** Using paper or print media that does not meet Hewlett-Packard's specifications might cause problems for the product, requiring repair. This repair is not covered by the Hewlett-Packard warranty or service agreements.

Supported paper and print media sizes

This product supports a number of paper sizes, and it adapts to various media.

 **NOTE:** To obtain best results, select the correct paper size and type in the printer driver before printing.

Table 6-1 Supported paper and print media sizes

Size and dimensions	Tray 1	Tray 2	Optional 500-sheet Tray 3	Duplexer
Letter 216 x 279 mm (8.5 x 11 inches)	✓	✓	✓	✓
Legal 216 x 356 mm (8.5 x 14 inches)	✓	✓	✓	✓
A4 210 x 297 mm (8.27 x 11.69 inches)	✓	✓	✓	✓
A5 148 x 210 mm (5.83 x 8.27 inches)	✓	✓	✓	
A6 105 x 148 mm (4.1 x 5.8 inches)	✓	✓	✓	
B5 (JIS) 182 x 257 mm (7.17 x 10.12 inches)	✓	✓	✓	
Executive 184 x 267 mm (7.24 x 10.51 inches)	✓	✓	✓	
Postcard (JIS) 100 x 148 mm (3.9 x 5.8 inches)	✓			
Double Postcard (JIS) 148 x 200 mm (5.8 x 7.9 inches)	✓			
16K 184 x 260 mm (7.2 x 10.2 inches)	✓			
16K 195 x 270 mm (7.7 x 10.6 inches)	✓			
16K 197 x 273 mm (7.8 x 10.8 inches)	✓			
8.5 x 13 216 x 330 mm (8.5 x 13 inches)	✓	✓	✓	✓
Envelope Commercial #10 105 x 241 mm (4.13 x 9.49 inches)	✓			
Envelope B5 ISO	✓			

Table 6-1 Supported paper and print media sizes (continued)

Size and dimensions	Tray 1	Tray 2	Optional 500-sheet Tray 3	Duplexer
176 x 250 mm (6.7 x 9.8 inches)				
Envelope C5 ISO	✓			
162 x 229 mm (6.93 x 9.84 inches)				
Envelope DL ISO	✓			
110 x 220 mm (4.33 x 8.66 inches)				
Envelope Monarch	✓			
98 x 191 mm (3.9 x 7.5 inches)				
Custom	✓			
76 x 127 mm to 216 x 356 mm (3.0 x 5.0 inches to 8.5 x 14 inches)				

Custom paper sizes

This product supports a variety of custom paper sizes. Supported custom sizes are sizes that are within the minimum- and maximum-size guidelines for the product but are not listed in the supported paper sizes table. When using a supported custom size, specify the custom size in the print driver, and load the paper in a tray that supports custom sizes.

Supported paper and print media types

For a complete list of specific HP-brand paper that this product supports, go to www.hp.com/support/ljp2050series.

Paper type (control panel)	Paper type (printer driver)	Tray 1	Tray 2	Optional 500-sheet Tray 3	Duplexer
PLAIN 75–95 G	Plain	✓	✓	✓	✓
LIGHT 60-74 G	Light 60-74g	✓	✓	✓	✓
MID-WEIGHT	Mid-weight	✓	✓	✓	✓
HEAVY 111–130 G	Heavy 111–130g	✓	✓	✓	
EXTRA HEAVY 131–175 G	Extra heavy 131–175g	✓			
TRANSPARENCY	Monochrome Laser Transparency	✓	✓	✓	
LABELS	Labels	✓			
LETTERHEAD	Letterhead	✓	✓	✓	✓
PREPRINTED	Preprinted	✓	✓	✓	✓
PREPUNCHED	Prepunched	✓	✓	✓	✓
COLOR	Colored	✓	✓	✓	✓
ROUGH	Rough	✓	✓	✓	
BOND	Bond	✓	✓	✓	✓
RECYCLED	Recycled	✓	✓	✓	✓
ENVELOPE	Envelope	✓			

Tray and bin capacity

Tray or bin	Paper type	Specifications	Quantity
Tray 1	Paper	Range: 60 g/m ² (16 lb) bond to 200 g/m ² (54 lb) bond	Maximum stack height: 5 mm (0.3 inch) Equivalent to 50 sheets of 75 g/m ² (20 lb) bond
	Envelopes	Less than 60 g/m ² (16 lb) bond to 90 g/m ² (24 lb) bond	Up to 10 envelopes
	Labels	Maximum 0.23 mm (0.009 inch) thick	Maximum stack height: 5 mm (0.3 inch)
	Transparencies	Minimum 0.13 mm (0.005 inch) thick	Maximum stack height: 5 mm (0.3 inch)
Tray 2	Paper	Range: 60 g/m ² (16 lb) bond to 135 g/m ² (36 lb) bond	Equivalent to 250 sheets of 75 g/m ² (20 lb) bond Maximum stack height for A6 paper: 15 mm (0.59 inch)
	Transparencies	Minimum 0.13 mm (0.005 inch) thick	Maximum stack height: 26 mm (1.0 inch)
Optional 500-sheet Tray 3	Paper	Range: 60 g/m ² (16 lb) bond to 135 g/m ² (36 lb) bond	Equivalent to 500 sheets of 75 g/m ² (20 lb) bond Maximum stack height for A6 paper: 40 mm (1.6 inches)
	Transparencies	Minimum 0.13 mm (0.005 inch) thick	Maximum stack height: 54 mm (2.1 inches)
Standard top bin	Paper		Up to 125 sheets of 75 g/m ² (20 lb) bond

Special paper or print media guidelines

This product supports printing on special media. Use the following guidelines to obtain satisfactory results. When using special paper or print media, be sure to set the type and size in your print driver to obtain the best print results.

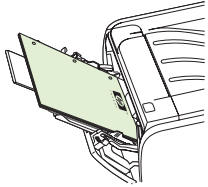
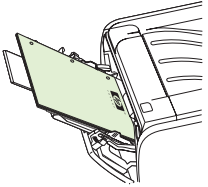
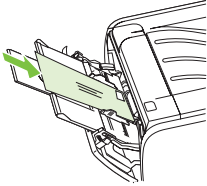
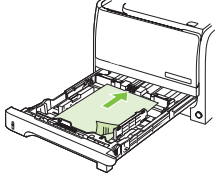
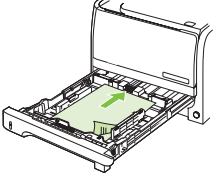
△ **CAUTION:** HP LaserJet printers use fusers to bond dry toner particles to the paper in very precise dots. HP laser paper is designed to withstand this extreme heat. Using inkjet paper not designed for this technology could damage your printer.

Media type	Do	Do not
Envelopes	<ul style="list-style-type: none"> • Store envelopes flat. • Use envelopes where the seam extends all the way to the corner of the envelope. • Use peel-off adhesive strips that are approved for use in laser printers. 	<ul style="list-style-type: none"> • Do not use envelopes that are wrinkled, nicked, stuck together, or otherwise damaged. • Do not use envelopes that have clasps, snaps, windows, or coated linings. • Do not use self-stick adhesives or other synthetic materials.
Labels	<ul style="list-style-type: none"> • Use only labels that have no exposed backing between them. • Use Labels that lie flat. • Use only full sheets of labels. 	<ul style="list-style-type: none"> • Do not use labels that have wrinkles or bubbles, or are damaged. • Do not print partial sheets of labels.
Transparencies	<ul style="list-style-type: none"> • Use only transparencies that are approved for use in laser printers. • Place transparencies on a flat surface after removing them from the product. 	<ul style="list-style-type: none"> • Do not use transparent print media not approved for laser printers.
Letterhead or preprinted forms	<ul style="list-style-type: none"> • Use only letterhead or forms approved for use in laser printers. 	<ul style="list-style-type: none"> • Do not use raised or metallic letterhead.
Heavy paper	<ul style="list-style-type: none"> • Use only heavy paper that is approved for use in laser printers and meets the weight specifications for this product. 	<ul style="list-style-type: none"> • Do not use paper that is heavier than the recommended media specification for this product unless it is HP paper that has been approved for use in this product.
Glossy or coated paper	<ul style="list-style-type: none"> • Use only glossy or coated paper that is approved for use in laser printers. 	<ul style="list-style-type: none"> • Do not use glossy or coated paper designed for use in inkjet products.

Load trays

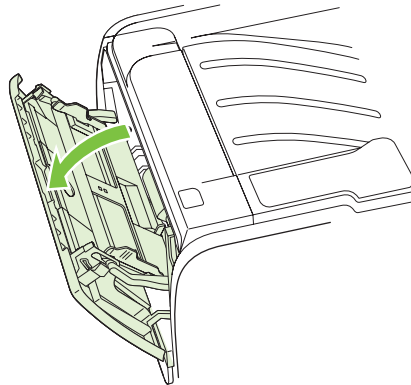
Paper orientation for loading trays

If you are using paper that requires a specific orientation, load it according to the information in the following table.

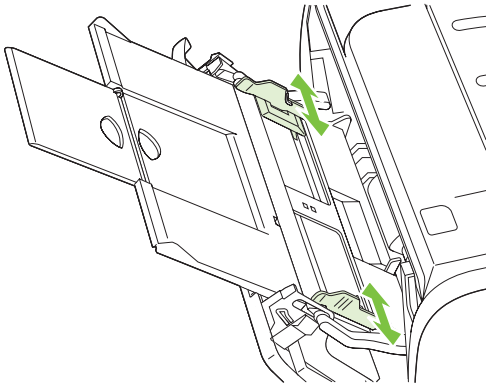
Tray	Single-sided printing	Duplex printing	Envelope printing
Tray 1	Face-up Top edge leading into the product 	Face-up Top edge leading into the product 	Front of envelope face-up Short edge with postage leading into the product 
All other trays	Face-down Top edge at the front of the tray 	Face-down Top edge at the front of the tray 	Use only Tray 1 for printing envelopes.

Tray 1

Tray 1 is accessed from the front of the printer. The printer prints from tray 1 before attempting to print from other trays.

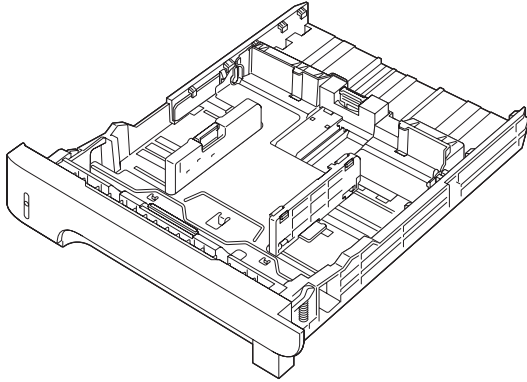



Media guides ensure that the media is correctly fed into the printer and that the print is not skewed (crooked on the media). When loading media, adjust the media guides to match the width of the media that you are using.



Tray 2 and optional Tray 3

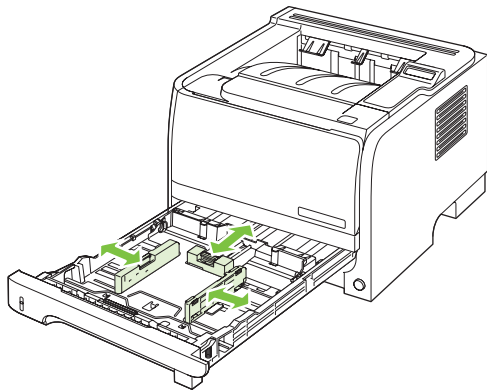
Media guides ensure that the media feeds correctly into the printer and that the print is not skewed. Tray 2 has side and rear media guides. When loading media, adjust the media guides to match the length and width of the media that you are using.



 **NOTE:** When you add new media, make sure that you remove all of the media from the input tray and straighten the stack of new media. This reduces jams by preventing multiple sheets of media from feeding through the printer at one time.

Load A6-size paper

When loading A6-size paper, adjust the length by sliding forward only the center panel of the rear media guide.



Manual feed

You can use manual feed when printing mixed media. For example, you can use manual feed to print an envelope, then a letter, then an envelope, and so on. Load envelopes in Tray 1 and load letterhead into Tray 2.

To print using manual feed, open the printer Properties or Printer Setup, and then select **Manual Feed (tray 1)** from the **Source Tray** drop-down list. After you have enabled manual feed, press the **OK** button to print.

Configure trays

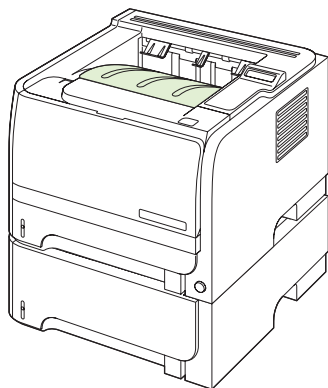
1. Press **OK**.
2. Press the down arrow ▼ to select **System setup**, and then press **OK**.
3. Press the down arrow ▼ to select **Paper setup**, and then press **OK**.
4. Press the down arrow ▼ to select the desired tray, and then press **OK**.
5. Press the down arrow ▼ to select **Paper type** or **Paper size**, and then press **OK**.
6. Press the down arrow ▼ to select the size or type.
7. Press **OK** to save the settings.

Use paper output options

The product has two output locations: the top (standard) output bin and the straight-through paper path (rear output).

Print to the top (standard) output bin

The top output bin collects paper face-down, in the correct order. The top output bin should be used for most print jobs, including transparencies. To use the top output bin, be sure that the rear output (straight-through paper path) is closed. To avoid jams, do not open or close the rear output while the product is printing.




Print to the straight-through paper path (rear output)

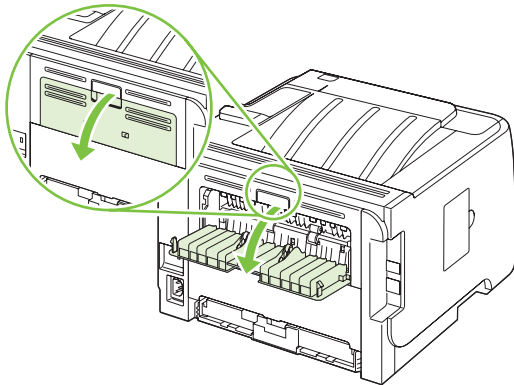
The product always uses the straight-through paper path if it is open. Paper exits face-up, with the last page on top (reverse order).

Printing from Tray 1 to the rear output provides the straightest path. Opening the straight-through paper path might improve performance with the following paper types:

- Envelopes
- Labels
- Small custom-size paper
- Postcards
- Paper heavier than 120 g/m² (32 lb)

To open the straight-through paper path, grasp the handle at the top of the rear door, and pull the door down.

 **NOTE:** Be sure to open the straight-through paper path, not the jam-release door.



7 Use product features

- [EconoMode](#)
- [Quiet mode](#)

EconoMode

This product has an EconoMode option for printing drafts of documents. Using EconoMode can use less toner and decrease the cost per page. However, using EconoMode can also reduce print quality.

HP does not recommend full-time use of EconoMode. If EconoMode is used full-time, the toner supply might outlast the mechanical parts in the print cartridge. If print quality begins to degrade under these circumstances, you will need to install a new print cartridge, even if there is toner supply remaining in the cartridge.

Enable or disable EconoMode in any of these ways:

- In the embedded Web server (network models only), open the **Settings** tab and select the **Configure Device** option. Navigate to the **Print Quality** submenu.
- In the Windows PCL printer driver, open the **Paper/Quality** tab, and select the **EconoMode** option.

Quiet mode

This product has a quiet mode that reduces noise during printing. When quiet mode is turned on, the product prints at a slower speed.

Follow these steps to enable quiet mode.

1. On the control panel, press **OK**.
2. Press the down arrow ▼ to select **System setup**, and then press **OK**.
3. Press the down arrow ▼ to select **Quiet mode**, and then press **OK**.
4. Press the down arrow ▼ to select **On**, and then press **OK**.

8 Print tasks

- [Cancel a print job](#)
- [Use features in the Windows printer driver](#)

Cancel a print job

You can stop a print request by using the control panel or by using the software program. For instructions about how to stop a print request from a computer on a network, see the online Help for the specific network software.

 **NOTE:** It can take some time for all printing to clear after you have canceled a print job.

Stop the current print job from the control panel

▲ Press the Cancel button  on the control panel.

Stop the current print job from the software program

When you send the print job, a dialog box appears briefly on the screen, giving you the option to cancel the print job.

If several requests have been sent to the product through your software, they might be waiting in a print queue (for example, in Windows Print Manager). See the software documentation for specific instructions about canceling a print request from the computer.

If a print job is waiting in a print queue or print spooler, delete the print job there.

1. **Windows XP and Windows Server 2003 (using the default Start menu view):** Click **Start**, click **Settings**, and then click **Printers and Faxes**.

-or-

Windows 2000, Windows XP, and Windows Server 2003 (using the Classic Start menu view): Click **Start**, click **Settings**, and then click **Printers**.

-or-

Windows Vista: Click **Start**, click **Control Panel**, and then in the category for **Hardware and Sound** click **Printer**.

2. In the list of printers, double-click the name of this product to open the print queue or spooler.
3. Select the print job that you want to cancel, and then press **Delete**.

Use features in the Windows printer driver

 **NOTE:** The following information is for the HP PCL 6 printer driver.

Open the printer driver

How do I	Steps to perform
Open the printer driver	On the File menu in the software program, click Print . Select the printer, and then click Properties or Preferences .
Get help for any printing option	Click the ? symbol in the upper-right corner of the printer driver, and then click any item in the printer driver. A pop-up message displays that provides information about the item. Or, click Help to open the online Help.

Use printing shortcuts

To perform the following tasks, open the printer driver and click the **Printing Shortcuts** tab.

 **NOTE:** In previous HP printer drivers, this feature was called **Quick Sets**.

How do I	Steps to perform
Use a printing shortcut	Select one of the shortcuts, and then click OK to print the job with the predefined settings.
Create a custom printing shortcut	a) Select an existing shortcut as a base. b) Select the print options for the new shortcut. c) Click Save As , type a name for the shortcut, and click OK .

Set paper and quality options

To perform the following tasks, open the printer driver and click the **Paper/Quality** tab.

How do I	Steps to perform
Select a page size	Select a size from the Paper size drop-down list.
Select a custom page size	a) Click Custom . The Custom Paper Size dialog box opens. b) Type a name for the custom size, specify the dimensions, and click OK .
Select a paper source	Select a tray from the Paper source drop-down list.
Select a paper type	Select a type from the Paper type drop-down list.
Print covers on different paper	a) In the Special pages area, click Covers or Print pages on different paper , and then click Settings . b) Select an option to print a blank or preprinted front cover, back cover, or both. Or, select an option to print the first or last page on different paper. c) Select options from the Paper source and Paper type drop-down lists, and then click Add . d) Click OK .
Print the first or last page on different paper	
Adjust the resolution of printed images	In the Print Quality area, select an option from the drop-down list. See the printer-driver online Help for information about each of the available options.
Select draft-quality printing	In the Print Quality area, click EconoMode .

Set document effects

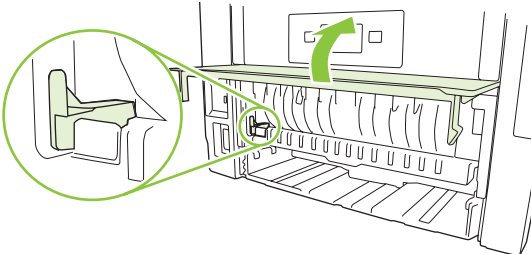
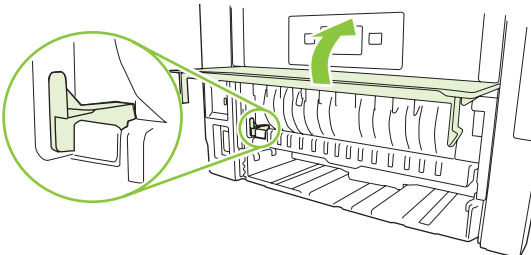
To perform the following tasks, open the printer driver and click the **Effects** tab.

How do I	Steps to perform
Scale a page to fit on a selected paper size	Click Print document on , and then select a size from the drop-down list.
Scale a page to be a percent of the actual size	Click % of actual size , and then type the percent or adjust the slider bar.
Print a watermark	a) Select a watermark from the Watermarks drop-down list. b) To print the watermark on the first page only, click First page only . Otherwise, the watermark is printed on each page.
Add or edit watermarks	a) In the Watermarks area, click Edit . The Watermark Details dialog box opens. b) Specify the settings for the watermark, and then click OK .

NOTE: The printer driver must be stored on your computer for this to work.

Set document finishing options

To perform the following tasks, open the printer driver and click the **Finishing** tab.

How do I	Steps to perform
Print on both sides (Duplex)	<ol style="list-style-type: none">1. Set the product for the correct width of paper that you are using. At the back of the product, lift the duplex jam-release door, and locate the blue paper-width selection lever.<ul style="list-style-type: none">◦ Letter and Legal-size paper: Push the lever in.◦ A4-size paper: Pull the lever out.2. Insert enough paper into one of the trays to accommodate the print job. If you are loading special paper such as letterhead, load it in one of the following ways:<ul style="list-style-type: none">◦ For Tray 1, load the letterhead paper face-up with the top edge feeding into the product first.◦ For all other trays, load the letterhead paper face-down with the top edge at the front of the tray.3. In the printer driver, click Print on both sides. If you will bind the document along the top edge, click Flip pages up.4. Click the OK button to print the job.
Print a booklet	<ol style="list-style-type: none">1. Set the product for the correct width of paper that you are using. At the back of the product, lift the duplex jam-release door, and locate the blue paper-width selection lever.<ul style="list-style-type: none">◦ Letter and Legal-size paper: Push the lever in.◦ A4-size paper: Pull the lever out.2. In the printer driver, click Print on both sides.

How do I	Steps to perform
	<ol style="list-style-type: none"> <li data-bbox="855 226 1437 306">3. In the Booklet layout drop-down list, click Left binding or Right binding. The Pages per sheet option automatically changes to 2 pages per sheet. <li data-bbox="855 331 1238 359">4. Click the OK button to print the job.
Print multiple pages per sheet	a) Select the number of pages per sheet from the Pages per sheet drop-down list. b) Select the correct options for Print page borders , Page order , and Orientation .
Select page orientation	a) In the Orientation area, click Portrait or Landscape . b) To print the page image upside down, click Rotate by 180 degrees .

Obtain support and product-status information

To perform the following tasks, open the printer driver and click the **Services** tab.

How do I	Steps to perform
Obtain support information for the product and order supplies online	In the Internet Services drop-down list, select a support option, and click Go!
Check the status of the product, including the level of supplies	Click the Device and Supplies Status icon. The Device Status page of the HP embedded Web server opens.

Set advanced printing options

To perform the following tasks, open the printer driver and click the **Advanced** tab.

How do I	Steps to perform
Select advanced printing options	In any of the sections, click a current setting to activate a drop-down list so you can change the setting.
Change the number of copies that are printed NOTE: If the software program that you are using does not provide a way to print a particular number of copies, you can change the number of copies in the driver. Changing this setting affects the number of copies for all print jobs. After your job has printed, restore this setting to the original value.	Open the Paper/Output section, and then enter the number of copies to print. If you select 2 or more copies, you can select the option to collate the pages.
Load letterhead or preprinted paper the same way for every job, whether printing on one or both sides of the page	a) Open the Document Options section, and then open the Printer Features section. b) In the Alternative Letterhead Mode drop-down list, select On . c) At the product, load the paper the same way you would for printing on both sides.
Change the order in which pages are printed	a) Open the Document Options section, and then open the Layout Options section. b) In the Page Order drop-down list, select Front to Back to print the pages in the same order as they are in the document, or select Back to Front to print the pages in the reverse order.

9 Manage and maintain the product

- [Print the information pages](#)
- [Use the HP ToolboxFX software](#)
- [Manage a network product](#)
- [Lock the product](#)
- [Manage supplies](#)
- [Replace supplies and parts](#)
- [Install memory](#)
- [Clean the product](#)

Print the information pages

From the product control panel, you can print information pages that give details about the product and its current configuration using the **Reports** menu.

Name of report	Description
Demo page	Prints a page that demonstrates print quality.
Menu structure	Prints the control-panel menu map that shows the layout and current settings for the control-panel menu items.
Config report	Prints the current product configuration.
Supplies status	Prints a supplies status page that shows the supplies levels for the product, an approximate number of pages remaining, cartridge-usage information, the serial number, a page count, and ordering information, when available.
Network Report	Prints a list of all product network settings.
Usage Page	Prints a page that shows a count of all paper sizes that have passed through the product, lists whether they were one-sided or two-sided, and shows a page count.
PCL Font List	Prints a PCL font list that shows all the PCL fonts that are currently available to the product.
PS font list	Prints a PS font list that shows all the PS fonts that are currently available to the product.
PCL 6 Font List	Prints a list of all the PCL6 fonts that are installed.
Service Page	Prints the service report.

Print the information pages

1. Press **OK**.
2. Press the down arrow ▼ to select **Reports**, and then press **OK**.
3. Press the down arrow ▼ to select the required report, and then press **OK** to print.

Use the HP ToolboxFX software

HP ToolboxFX is a program that you can use to complete the following tasks:

- Check the product status.
- Configure the product settings.
- View troubleshooting information.
- View online documentation.

You can view HP ToolboxFX when the product is directly connected to a computer or when it is connected to the network. You must perform the recommended full software installation to use HP ToolboxFX.

View HP ToolboxFX

Open HP ToolboxFX in one of these ways:

- In the Windows system tray or on your desktop, double-click the HP ToolboxFX icon.
- On the Windows **Start** menu, click **Programs** (or **All Programs** in Windows XP), click **HP**, click **HP LaserJet P2050 Series**, and then click **HP ToolboxFX**.

Status

The **Status** folder contains links to the following main pages:

- **Device status.** This page indicates product conditions such as a jam or an empty tray. After you correct a problem, click **Refresh status** to update the product status.
- **Supplies status.** View details such as the estimated percent of toner remaining in the print cartridge and the number of pages that have been printed with the current print cartridge. This page also has links for ordering supplies and for finding recycling information.
- **Device configuration.** View a detailed description of the current product configuration, including the amount of memory installed and whether optional trays are installed.
- **Network summary.** View a detailed description of the current network configuration, including the IP address and network status.
- **Print info pages.** Print the Configuration page and other information pages, such as the Supplies status page.
- **Event log.** View a history of product errors. The most recent error is listed first.

Event log

The Event log is a table that contains codes corresponding to error messages that have appeared on the product control-panel display, a brief description of each error, and the number of pages that printed when each error occurred. For more information about error messages, see [Interpret control-panel messages on page 102](#).

Alerts

The **Alerts** folder contains links to the following main pages:

- **Set up Status Alerts.** Set up the product to send you pop-up alerts for certain events, such as low toner levels.
- **Set up E-mail Alerts.** Set up the product to send you e-mail alerts for certain events, such as low toner levels.

Set up Status Alerts

Use this to set up the product so that it sends alerts to your computer when jams, low levels of toner in HP print cartridges, a non-HP print cartridge in use, empty input trays, and specific error messages occur.


Select to receive a pop-up, a system tray icon, a desktop alert, or any combination of these. The pop-up and desktop alerts only appear when the product is printing from the computer on which you set up the alerts. Desktop alerts are only visible momentarily, and disappear automatically.

Change the **Cartridge low threshold** setting, which sets the toner level that causes a low toner alert, on the **System setup** page.

 **NOTE:** You must click **Apply** before your changes take effect.

Set up E-mail Alerts

Use this to configure up to two e-mail addresses to receive alerts when certain events occur. You can specify different events for each e-mail address. Use the information for the e-mail server that will send out the e-mail alert messages for the product.

 **NOTE:** You can only configure e-mail alerts to be sent from a server that does not require user authentication. If your e-mail server requires you to log in with a username and password, you cannot enable e-mail alerts.

NOTE: You must click **Apply** before your changes take effect.

Help

The **Help** folder contains links to the following main pages:

- **Troubleshooting.** View troubleshooting help topics, print troubleshooting pages, and clean the product.
- **Paper and Print Media.** Print information about how to obtain optimal results from your product using various types of paper and print media.
- **How do I?** Link to the user-guide index.
- **User Guide.** View information about the product usage, warranty, specifications, and support. The User Guide is available in both HTML and PDF format.

Device Settings

The **Device Settings** folder contains links to the following main pages:

- **Device Information.** View information such as the product description and a contact person.
- **Paper Handling.** Configure trays or change the product paper-handling settings, such as default paper size and default paper type.
- **Printing.** Change the default product print settings, such as number of copies and paper orientation.
- **PCL 5.** Change the PCL settings.
- **PostScript.** Change the PS settings.
- **Paper Types.** Change the mode settings for each media type, such as letterhead, prepunched, or glossy paper.
- **System Setup.** Change the system settings, such as jam recovery and auto-continue. Change the **Cartridge low threshold** setting, which sets the toner level that causes a low toner alert.
- **Troubleshooting.** Gain access to various procedures required to maintain the product.
- **Password.** Set a password to protect the device settings. Once a password is set, users will be prompted to enter the password before being allowed to change device settings. This password is the same as the embedded Web server password.

Device Information

The Device Information page stores data about your product for future reference. The information that you type in the fields on this page appears on the Configuration page. You can type any character in each of these fields.



NOTE: You must click **Apply** before your changes take effect.

Paper Handling

Use these options to configure your default settings. These are the same options that are available on the control-panel menus on the control panel. For more information, see [Use the control-panel menus on page 11](#).

The following options are available for handling print jobs when the product is out of media:

- Select **Wait for paper to be loaded**.
- Select **Cancel** from the **Paper out action** drop-down list to cancel the print job.
- Select **Override** from the **Paper out time** drop-down list to send the print job to another paper tray.

The **Paper out time** field specifies how long the product waits before acting on your selections. You can specify from 0 to 3600 seconds.

 **NOTE:** You must click **Apply** before your changes take effect.

Printing

Use these options to configure the settings for all print functions. These are the same options that are available on the control panel. For more information, see [Use the control-panel menus on page 11](#).

 **NOTE:** You must click **Apply** before your changes take effect.

PCL5c

Use these options to configure the settings when you are using the PCL print personality.

 **NOTE:** You must click **Apply** before your changes take effect.

PostScript

Use this option when you are using the PostScript print personality. When the **Print PostScript error** option is turned on, the PostScript error page automatically prints when PostScript errors occur.

 **NOTE:** You must click **Apply** before your changes take effect.

Print quality

Use the HP ToolboxFX print-quality options to improve the appearance of print jobs. These are the same options that are available on the product control panel. For more information, see [Use the control-panel menus on page 11](#).

The four options provided for controlling print quality are resolution, REt (Resolution Enhancement technology), print density, and EconoMode.

- **Resolution.** Select 600 resolution for average print jobs and Fast Res 1200 for higher-quality print jobs. Select ProRes 1200 for the highest-quality print job, but a longer printing time.
- **REt.** You can turn on REt, which HP provides for improved print quality.
- **Print density.** For increased print density, select a higher number. For decreased print density, select a lower number.
- **EconoMode.** Turn EconoMode on when you are printing average print jobs. EconoMode is a feature that allows the product to use less toner per page. Selecting this option might extend the

life of the toner supply and might reduce cost per page. However, it will also reduce print quality. The printed image is lighter, but it is adequate for printing drafts or proofs. HP does not recommend full-time use of EconoMode. If EconoMode is used full-time, it is possible that the toner supply will outlast the mechanical parts in the print cartridge. If print quality begins to degrade under these circumstances, you will need to install a new print cartridge, even if there is toner supply remaining in the cartridge.

 **NOTE:** You must click **Apply** before the changes take effect.

Paper Types

Use these options to configure print modes that correspond to the various media types. To reset all modes to factory default settings, select **Restore modes**.

 **NOTE:** You must click **Apply** before your changes take effect.

System Setup

Use these system settings to configure miscellaneous print settings. These settings are not available on the control panel.

 **NOTE:** You must click **Apply** before your changes take effect.

Troubleshooting

During the printing process, paper, toner and dust particles can accumulate inside the product. Over time, this buildup can cause print-quality problems such as toner specks or smearing. The HP ToolboxFX provides an easy method for cleaning the paper path. For more information, see [Clean the paper path on page 91](#).

Network Settings

The network administrator can use this tab to control the network-related settings for the product when it is connected to an IP-based network.

Shop for Supplies

This button, at the top of each page, links to a Web site where you can order replacement supplies. You must have Internet access to use this feature.

Other Links

This section contains links that connect you to the Internet. You must have Internet access in order to use any of these links. If you use a dial-up connection and did not connect when you first opened HP ToolboxFX, you must connect before you can visit these Web sites. Connecting might require that you close HP ToolboxFX and reopen it.

- **HP Instant Support.** Connects to the HP Instant Support Web site.
- **Support and Troubleshooting.** Connects to the support site for the product where you can search for help with a specific problem.
- **Product Registration.** Connects to the HP product registration Web site.

Manage a network product

Embedded Web server


The embedded Web server allows you to view product and network status and to manage printing functions from your computer. Use the embedded Web server for the following tasks:

- View product status information
- Determine the remaining life on all supplies and order new ones
- View and change the size and type of paper loaded in each tray
- View and change the product default configuration settings
- View and change network configuration

You do not need to install any software on the computer. Use one of these supported Web browsers:


- Internet Explorer 6.0 (and later)
- Netscape Navigator 7.0 (and later)
- Firefox 1.0 (and later)
- Mozilla 1.6 (and later)
- Opera 7.0 (and later)
- Safari 1.2 (and later)
- Konqueror 3.2 (and later)

The embedded Web server works when the product is connected to a TCP/IP-based network. The embedded Web server does not support IPX-based connections or direct USB connections.

 **NOTE:** You do not have to have Internet access to open and use the embedded Web server. However, if you click a link on any of the pages, you must have Internet access in order to go to the site associated with the link.

Open the embedded Web server

To open the embedded Web server, type the IP address or hostname of the product in the address field of a supported Web browser.

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

The embedded Web server has three tabs that contain settings and information about the product: the **Status** tab, the **Settings** tab, and the **Networking** tab.

Status tab

This tab provides information about product and supplies status, product and network configuration, and supplies reordering.

Settings tab

This tab allows you to configure the product from your computer. If this product is networked, consult with the network administrator before changing settings on this tab.

Networking tab

This tab allows the network administrator to control network-related settings for the product when it is connected to an IP-based network.

Links

Links are located in the upper-right part of the Status pages. You must have Internet access in order to use any of these links. If you use a dial-up connection and did not connect when you first opened the embedded Web server, you must connect before you can visit these Web sites. Connecting might require that you close the embedded Web server and reopen it.


- **Order Supplies.** Click this link to connect to the Sure Supply Web site and order genuine HP supplies from HP or a reseller of your choice.
- **Product Support.** Click this link to connect to the support site for the product. You can search for help regarding general topics.

Use HP Web Jetadmin software

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

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

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

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

Use security features

The product supports security standards and recommended protocols that help you keep the product secure, protect critical information on your network, and simplify the way you monitor and maintain the product.

For in-depth information about HP's secure imaging and printing solutions, visit www.hp.com/go/secureprinting. The site provides links to white papers and FAQ documents about security features.

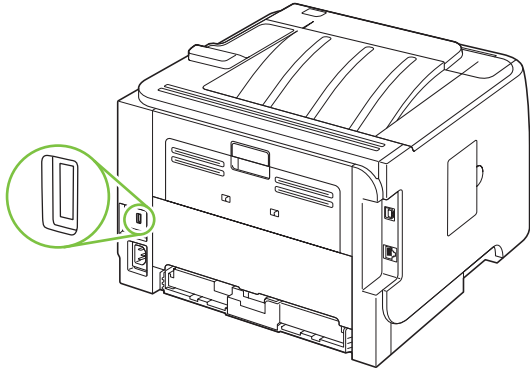
Secure the embedded Web server

You can configure the embedded Web server so that access to some tabs requires a password.

See [Set or change the network password on page 39](#).

Lock the product

The product has a slot that you can use to attach a cable-type security lock.



Manage supplies

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

Supplies life

For information regarding specific product yield, see www.hp.com/go/learnaboutsupplies.com.

To order supplies, see [Supplies and accessories on page 131](#).

Manage the print cartridge

Print-cartridge storage

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

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

Use genuine HP print cartridges

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

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

HP policy on non-HP print cartridges

Hewlett-Packard Company cannot recommend the use of non-HP print cartridges, either new or remanufactured.

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

To install a new HP print cartridge, see [Change the print cartridge on page 83](#). To recycle the used cartridge, follow the instructions included with the new cartridge.

Print-cartridge authentication

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

If the device control-panel message states that this is not a genuine HP print cartridge and you believe you purchased an HP print cartridge, see [HP fraud hotline and Web site on page 80](#).

HP fraud hotline and Web site

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

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


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

Replace supplies and parts

Supply replacement guidelines

Keep the following guidelines in mind when setting up the product.

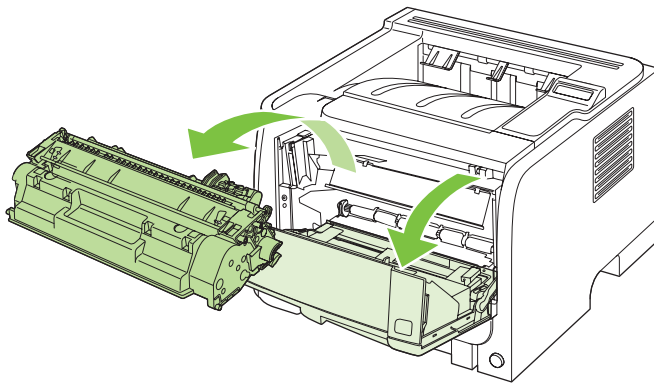
- Sufficient space is required above and in the front of the product for removing supplies.
- The product should be located on a flat, sturdy surface.

 **NOTE:** Hewlett-Packard recommends the use of HP supplies in this product. Use of non-HP supplies can cause problems requiring service that is not covered by the HP warranty or service agreements.

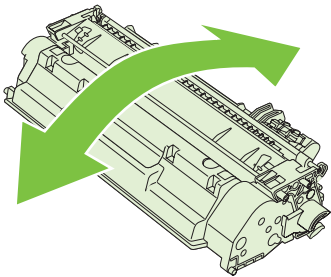
Redistribute toner


When toner is low, faded or light areas appear on the printed page. You might be able to temporarily improve print quality by redistributing the toner.

1. Push the button to open the print-cartridge door, and then remove the print cartridge.

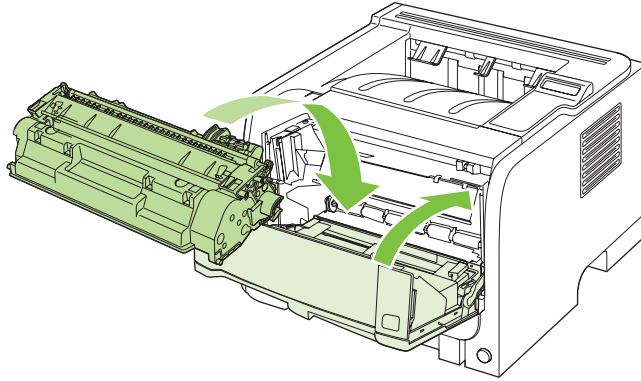


2. To redistribute the toner, gently rock the print cartridge from front to back.



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

3. Reinsert the print cartridge into the product, and then close the print-cartridge door.

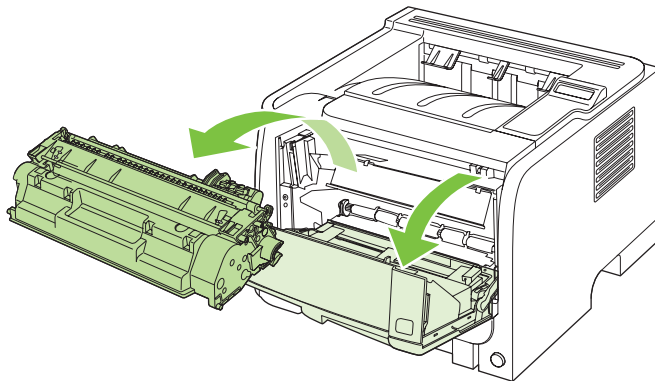


If the print is still light, install a new print cartridge.

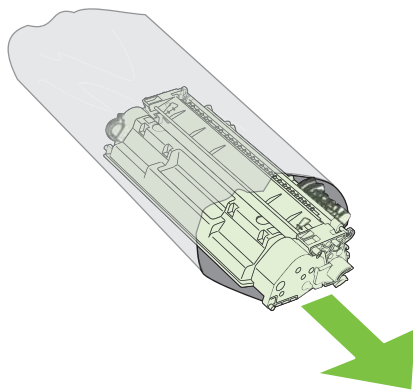
Change the print cartridge

When a print cartridge approaches the end of useful life, you are prompted to order a replacement. You can continue printing with the current cartridge until redistributing the toner no longer yields acceptable print quality.

1. Push the button to open the print-cartridge door, and then remove the print cartridge.

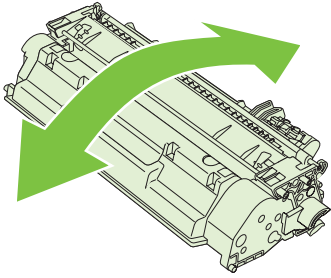


2. Remove the new print cartridge from the bag. Place the used print cartridge in the bag for recycling.

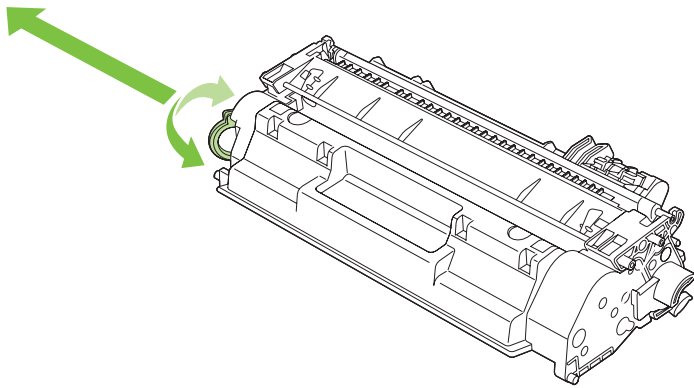


3. Grasp both sides of the print cartridge and distribute the toner by gently rocking the print cartridge.

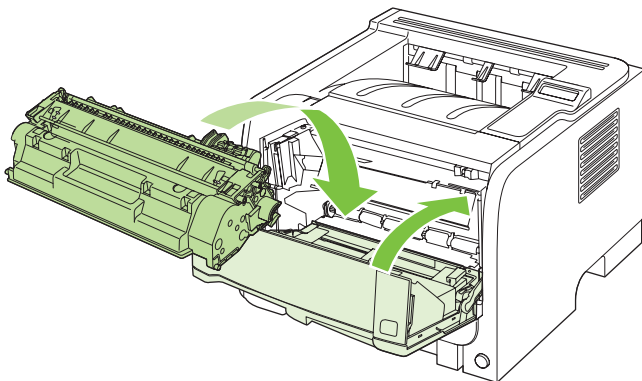
△ **CAUTION:** Do not touch the shutter or the surface of the roller.



4. Bend the tab on the left side of the cartridge until the tab breaks loose. Pull the tab until all the tape is removed from the cartridge. Place the tab and tape in the print-cartridge box to return for recycling.




5. Align the print cartridge with the tracks inside the product, insert the print cartridge until it is firmly seated, and then close the print-cartridge door.



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


For additional help, go to www.hp.com/support/ljp2050series.

Install memory

 **NOTE:** Single inline memory modules (SIMMs) used in previous HP LaserJet products are not compatible with the product.

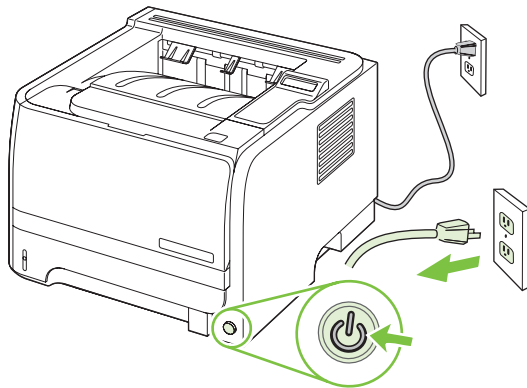
Install product memory

This product has one DIMM slot.

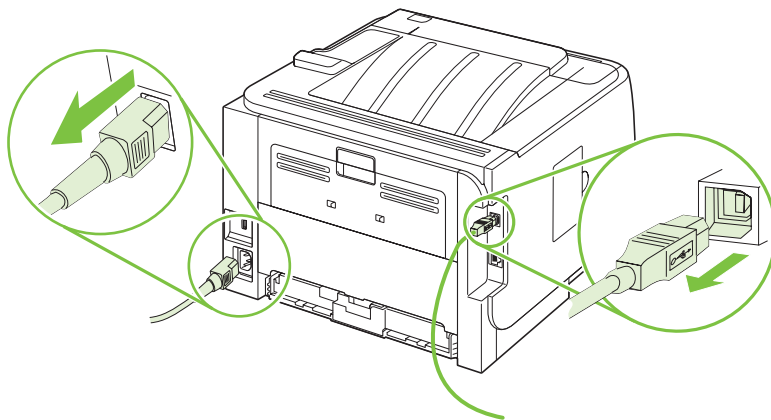
 **CAUTION:** Static electricity can damage DIMMs. When handling DIMMs, either wear an antistatic wrist strap or frequently touch the surface of the DIMM antistatic package, then touch bare metal on the product.

If you have not already done so, print a configuration page to find out how much memory is installed in the product before adding more memory. See [Print the information pages on page 70](#).

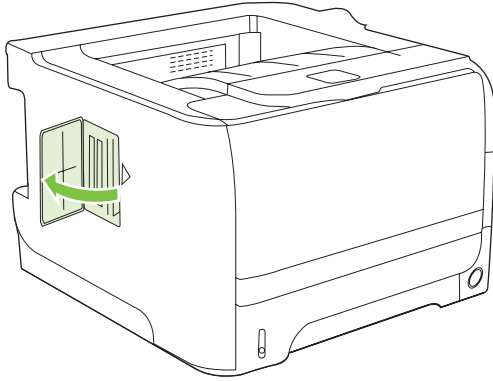
1. After the configuration page has printed, turn the product off and disconnect the power cord.



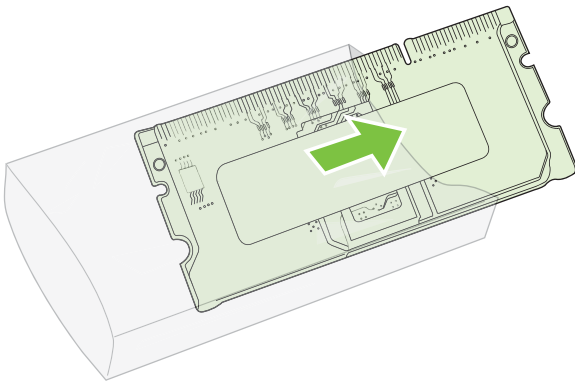
2. Disconnect all interface cables.



3. Open the DIMM-access door on the left side of the product.

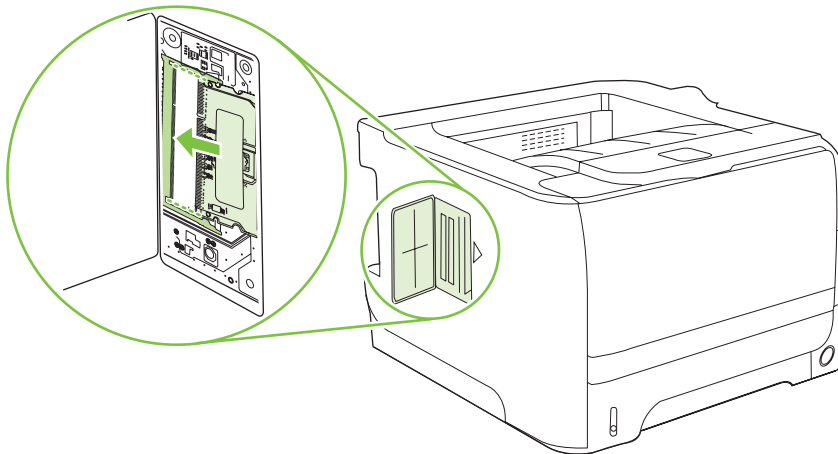


4. Remove the DIMM from the antistatic package.



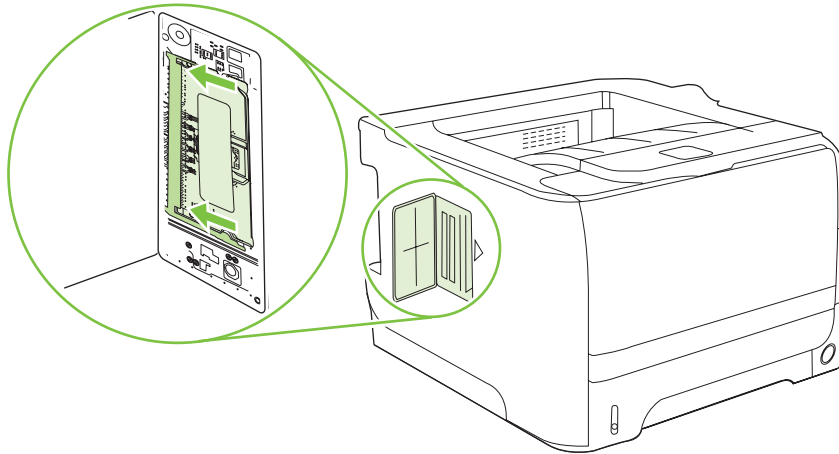
△ **CAUTION:** To reduce the possibility of damage caused by static electricity, always wear an electrostatic discharge (ESD) wrist strap or touch the surface of the antistatic package before handling DIMMs.

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

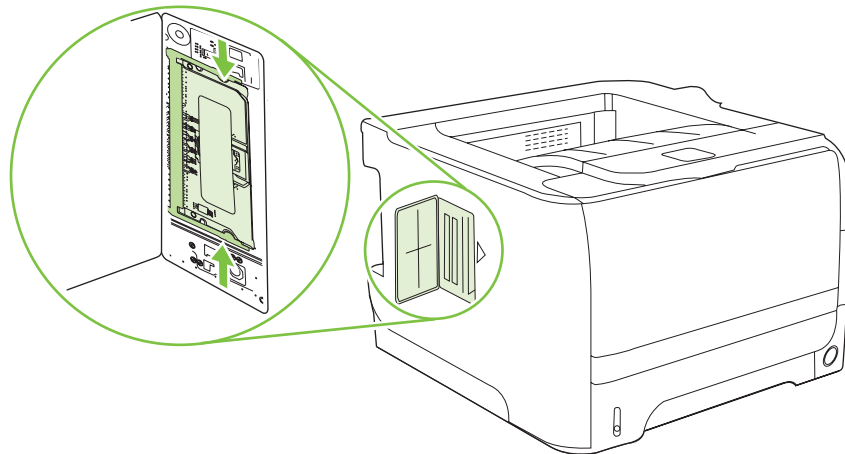


6. Hold the DIMM at a 45-degree angle, and then push the upper contacts of the DIMM firmly into the slot. Make sure that the locks on each side of the DIMM snap into place.

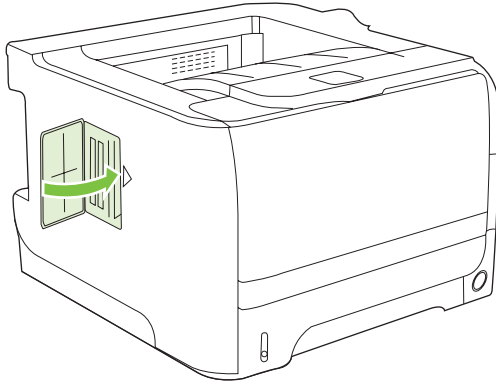
△ **CAUTION:** Pressing the DIMM straight down will damage the contact pins.



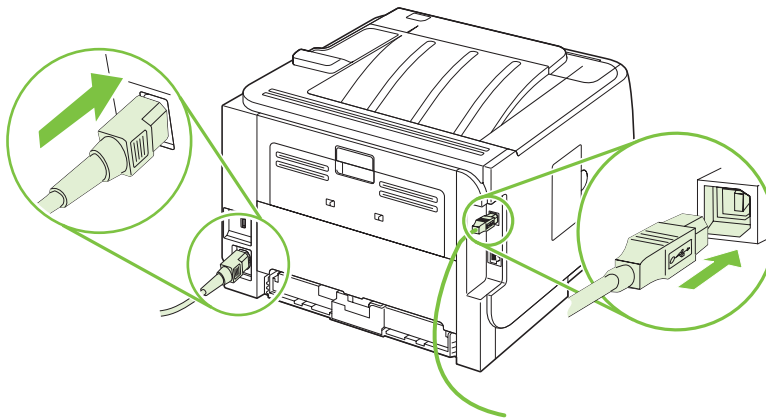
📄 **NOTE:** To remove a DIMM, first release the locks.



7. Close the access door, and press firmly until it snaps into place.



8. Reconnect the interface cables and the power cord.




9. Turn the product on.

Check DIMM installation

After installing the DIMM, make sure that the installation was successful.

1. Turn the product on. Check that the Ready light is illuminated after the product has gone through the startup sequence. If an error message appears, a DIMM might have been incorrectly installed. See [Interpret control-panel messages on page 102](#).
2. Print a configuration page (see [Print the information pages on page 70](#)).
3. Check the memory section on the configuration page and compare it to the configuration page that was printed before the memory installation. If the amount of memory has not increased, the DIMM might not be installed correctly, or the DIMM might be defective. Repeat the installation procedure. If necessary, install a different DIMM.


 **NOTE:** If you installed a product language (personality), check the "Installed Personalities and Options" section on the configuration page. This area should list the new product language.

Save resources (permanent resources)

Utilities or jobs that you download to the product sometimes include resources (for example, fonts, macros, or patterns). Resources that are internally marked as permanent remain in the product memory until you turn the product off.

Use the following guidelines if you use the page description language (PDL) ability to mark resources as permanent. For technical details, see an appropriate PDL reference for PCL or PS.

- Mark resources as permanent only when it is absolutely necessary that they remain in memory while the product is turned on.
- Send permanent resources to the product only at the beginning of a print job and not while the product is printing.

 **NOTE:** Overusing permanent resources or downloading them while the product is printing might affect product performance or the ability to print complex pages.

Enable memory for Windows

1. **Windows XP and Windows Server 2003 (using the default Start menu view):** Click **Start**, click **Settings**, and then click **Printers and Faxes**.

-or-

Windows 2000, Windows XP, and Windows Server 2003 (using the Classic Start menu view): Click **Start**, click **Settings**, and then click **Printers**.

-or-

Windows Vista: Click **Start**, click **Control Panel**, and then in the category for **Hardware and Sound** click **Printer**.

2. Right-click the driver icon, and then select **Properties**.
3. Click the **Device Settings** tab.
4. Expand the area for **Installable Options**.
5. Next to **Printer Memory**, select the total amount of memory that is installed.
6. Click **OK**.

Clean the product

Clean the outside of the printer with a clean, damp cloth when necessary.

△ **CAUTION:** Do not use ammonia-based cleaners on or around the printer.

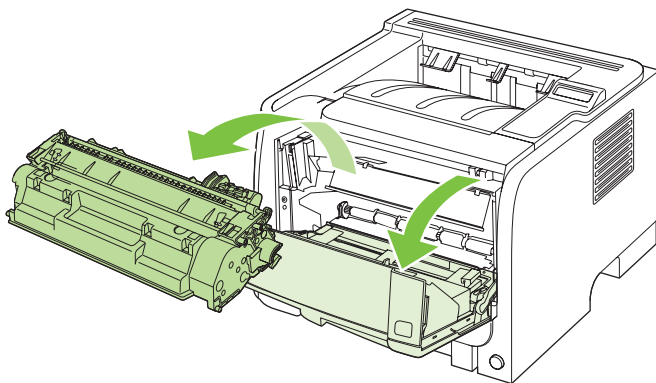
During the printing process, paper, toner, and dust particles can accumulate inside the printer. Over time, this buildup can cause print quality problems, such as toner specks or smearing, and paper jams. To correct and prevent these types of problems, you can clean the print cartridge area and the printer media path.

Clean the print-cartridge area

You do not need to clean the print-cartridge area often. However, cleaning this area can improve the quality of your printed sheets.

△ **WARNING!** To avoid injury, turn the product off, disconnect the power cord, and wait for the product to cool before cleaning it.

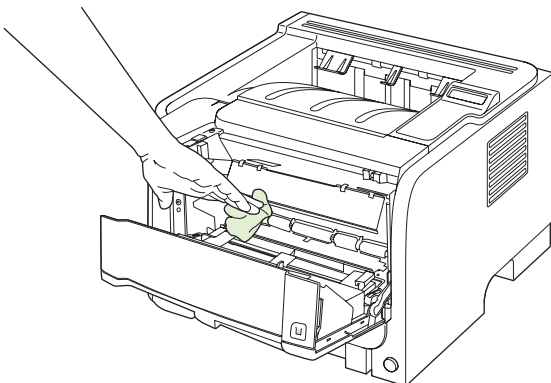
1. Open the print-cartridge door, and then remove the print cartridge.



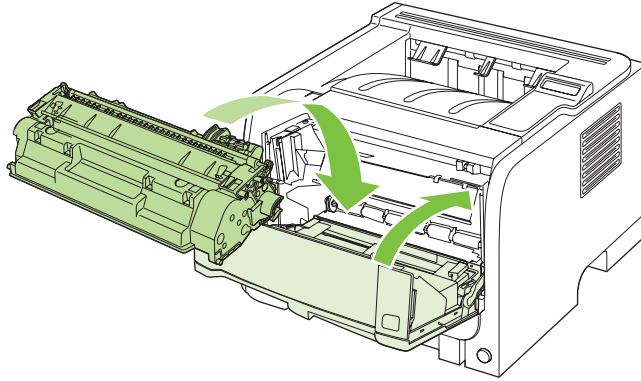
△ **CAUTION:** Do not touch the black sponge-transfer roller inside the product. Doing so can damage the product.

CAUTION: To prevent damage, do not expose the print cartridge to light. Cover it with a piece of paper.

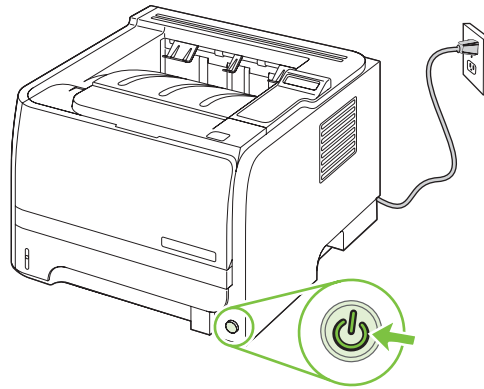
2. With a dry, lint-free cloth, wipe any residue from the media-path area and the print-cartridge cavity.



3. Replace the print cartridge, and close the print-cartridge door.



4. Reconnect the power cord, and turn the product on.



Clean the paper path

During the printing process, paper, toner, and dust particles can accumulate inside the product. Over time, this buildup can cause print-quality problems such as toner specks or smearing. This product has a cleaning mode that can correct and prevent these problems.

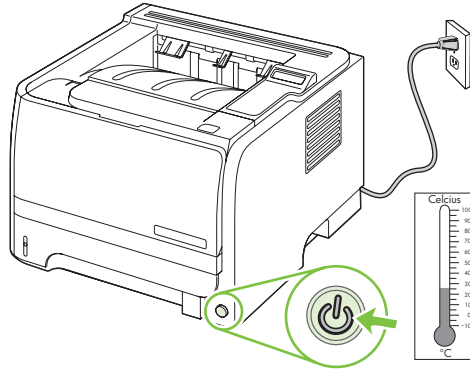
1. Open HP ToolboxFX. See [View HP ToolboxFX on page 71](#).
2. Click the **Device Settings** folder, and then click the **Troubleshooting** page.
3. In the area for **Cleaning Mode**, click **Start** to begin the cleaning process.

The product processes a single page, and then returns to the **Ready** state when the cleaning process is complete.

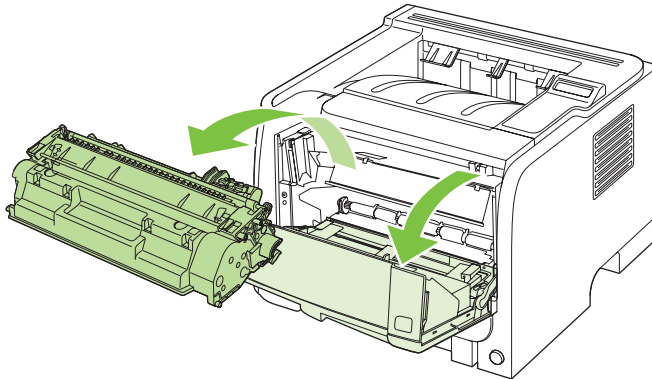
Clean the Tray 1 pickup roller

If the product is having trouble picking up paper from Tray 1, follow these instructions.

1. Turn the product off, disconnect the power cord, and wait for the product to cool.



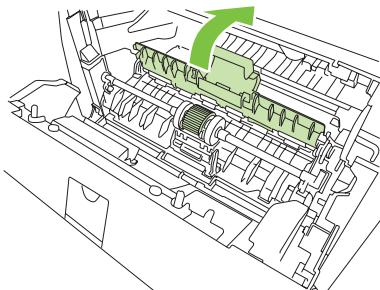
2. Push the button to open the print-cartridge door, and then remove the print cartridge.



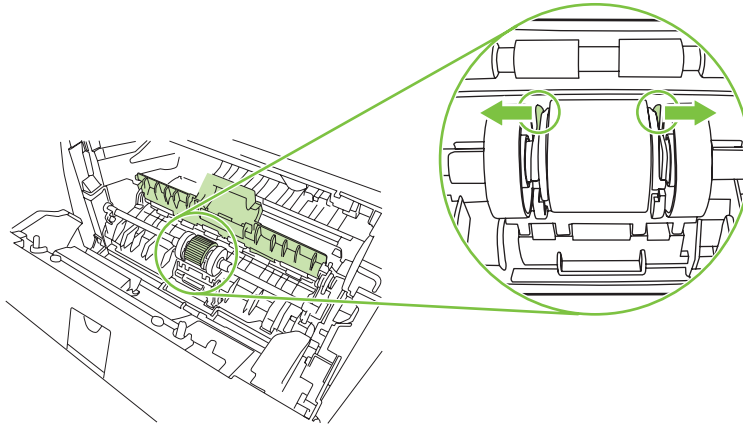
△ **CAUTION:** Do not touch the black sponge-transfer roller inside the product. Doing so can damage the product.

CAUTION: To prevent damage, do not expose the print cartridge to light. Cover it with a piece of paper.

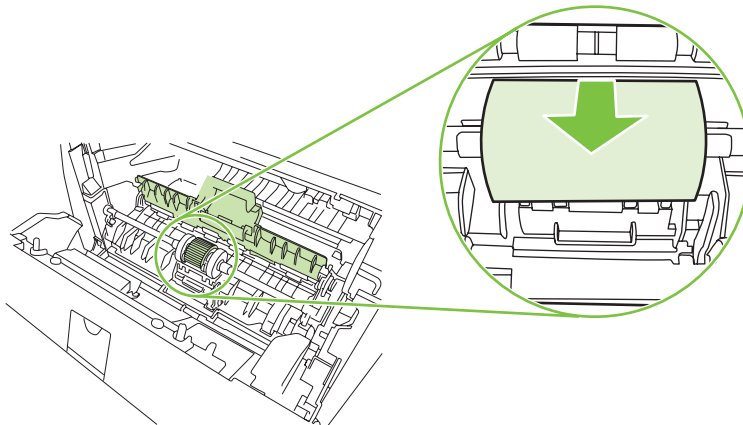
3. Lift the pickup roller cover.



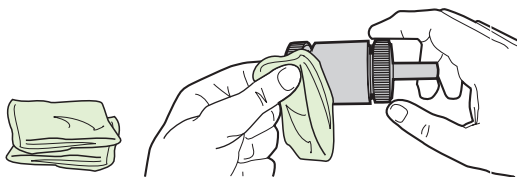
4. Press the two black retaining tabs outward until the pickup roller is released from its seat.




5. Remove the pickup roller from the product.

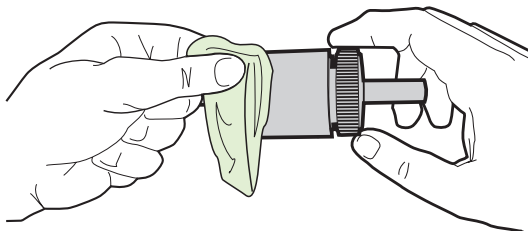


6. Dab a lint-free cloth in water, and scrub the roller.

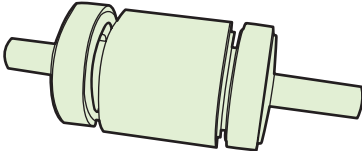


 **NOTE:** Do not touch the surface of the roller with bare fingers.

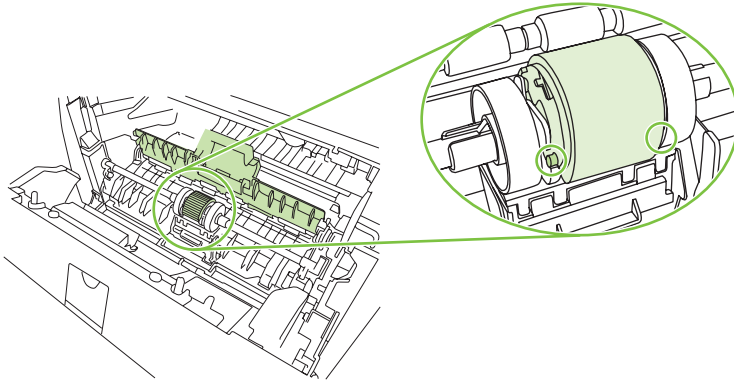
7. Using a dry, lint-free cloth, wipe the pickup roller to remove loosened dirt.



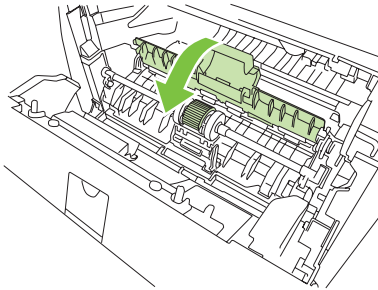
8. Allow the pickup roller to dry completely.



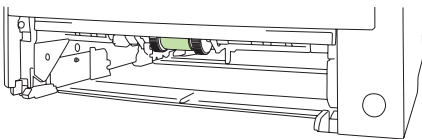
9. Line up the black retaining tabs in the product with the grooves in the pickup roller, and then press the pickup roller into the pickup roller seat until the retaining tabs click.



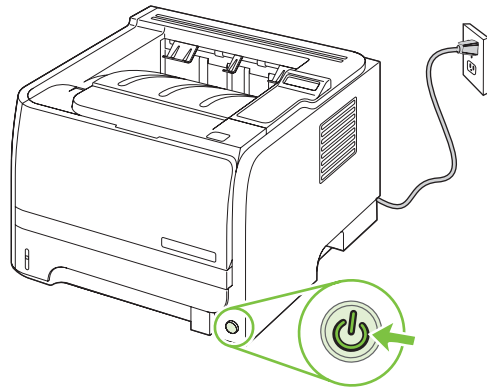
10. Close the pickup roller cover.



11. Reinstall the print cartridge, and close the print-cartridge door.



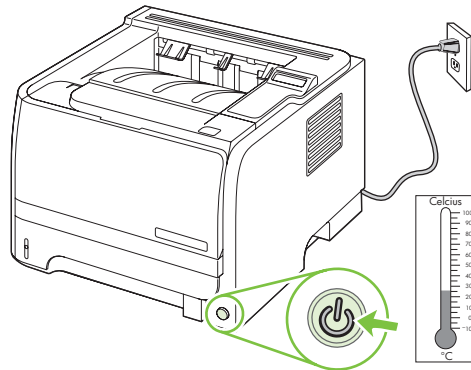
12. Reconnect the power cord, and turn the product on.



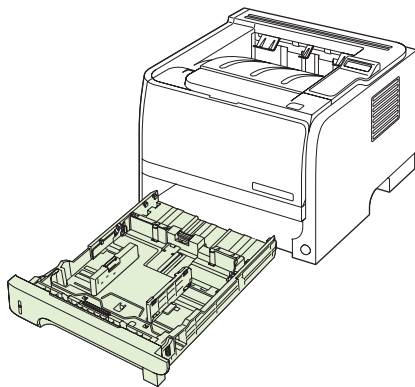
Clean the Tray 2 pickup roller

If the product is having trouble picking up paper from Tray 2, follow these instructions.

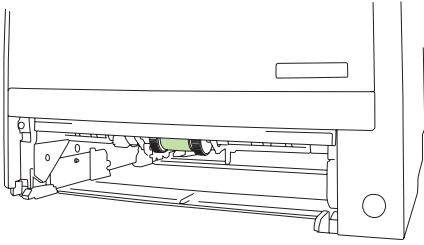
1. Turn the product off, disconnect the power cord and wait for the product to cool.



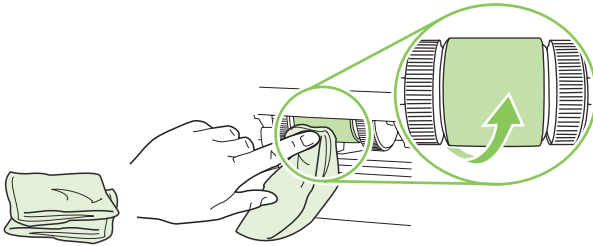
2. Remove Tray 2.




3. Inside the empty tray slot, locate the pickup roller on the top side, near the front of the product.

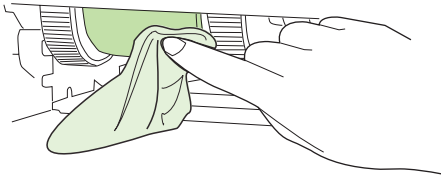


4. Dab a lint-free cloth in water, and then scrub the roller as you rotate it toward the back of the product.

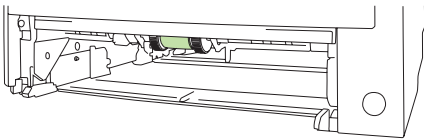


 **NOTE:** Do not touch the surface of the roller with bare fingers.

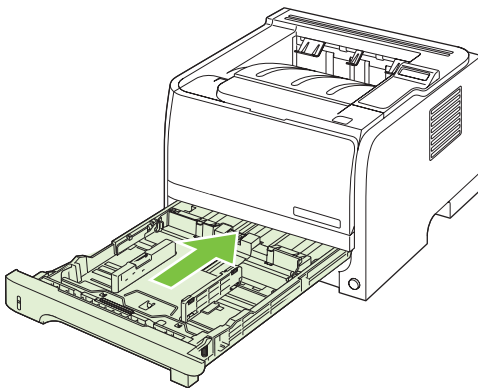
5. Using a dry, lint-free cloth, wipe the pickup roller to remove loosened dirt.



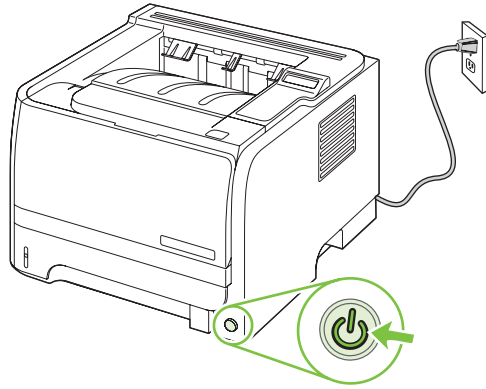
6. Allow the pickup roller to dry completely.



7. Replace Tray 2.



8. Reconnect the power cord, and turn the product on.



10 Solve problems

- [Solve general problems](#)
- [Restore factory settings](#)
- [Interpret control-panel messages](#)
- [Jams](#)
- [Solve print-quality problems](#)
- [Solve performance problems](#)
- [Solve connectivity problems](#)
- [Solve common Windows problems](#)
- [Solve common Macintosh problems](#)
- [Solve Linux problems](#)

Solve general problems

If the product is not responding correctly, complete the steps in the following checklist, in order. If the product does not pass a step, follow the corresponding troubleshooting suggestions. If a step resolves the problem, you can stop without performing the other steps on the checklist.

Troubleshooting checklist

1. Make sure the product Ready light is on. If no lights are on, complete these steps:
 - a. Check the power-cable connections.
 - b. Check that the power switch is on.
 - c. Make sure that the line voltage is correct for the product power configuration. (See the label that is on the back of the product for voltage requirements.) If you are using a power strip and its voltage is not within specifications, plug the product directly into the wall. If it is already plugged into the wall, try a different outlet.
 - d. If none of these measures restores power, contact HP Customer Care.
2. Check the cabling.
 - a. Check the cable connection between the product and the computer or network port. Make sure that the connection is secure.
 - b. Make sure that the cable itself is not faulty by using a different cable, if possible.
 - c. Check the network connection. See [Solve network problems on page 124](#).
3. Check to see if any messages appear on the control-panel display. If any error messages appear, see [Interpret control-panel messages on page 102](#).
4. Ensure that the paper that you are using meets specifications.
5. Print a configuration page. See [Print the information pages on page 70](#). If the product is connected to a network, an HP Jetdirect page also prints.
 - a. If the pages do not print, check that at least one tray contains paper.
 - b. If the page jams in the product, see [Clear jams on page 107](#).
6. If the configuration page prints, check the following items.
 - a. If the page does not print correctly, the problem is with the product hardware. Contact HP Customer Care.
 - b. If the page prints correctly, then the product hardware is working. The problem is with the computer you are using, with the printer driver, or with the program.
7. Select one of the following options:

Windows: Click **Start**, click **Settings**, and then click **Printers**, or **Printers and Faxes**. Double-click the name of the product.

-or-


Mac OS X: Open **Print Center** or **Printer Setup Utility**, and double-click the line for the product.

8. Verify that you have installed the printer driver for this product. Check the program to make sure that you are using the printer driver for this product.
9. Print a short document from a different program that has worked in the past. If this solution works, then the problem is with the program you are using. If this solution does not work (the document does not print) complete these steps:
 - a. Try printing the job from another computer that has the product software installed.
 - b. If you connected the product to the network, connect the product directly to a computer with a USB cable. Redirect the product to the correct port, or reinstall the software, selecting the new connection type that you are using.

Factors that affect product performance

Several factors affect the time it takes to print a job:

- Maximum product speed, measured in pages per minute (ppm)
- The use of special paper (such as transparencies, heavy paper, and custom-size paper)
- Product processing and download time
- The complexity and size of graphics
- The speed of the computer you are using
- The USB connection
- The printer I/O configuration
- The amount of memory installed in the product
- The network operating system and configuration (if applicable)

 **NOTE:** Although additional memory can improve how the product handles complex graphics and improve download times, it will not increase maximum product speed (ppm).

Restore factory settings

Use the **Restore defaults** menu to restore factory settings.

1. Press **OK**.
2. Press the down arrow ▼ to select **Service**, and then press **OK**.
3. Press the down arrow ▼ to select **Restore defaults**, and then press **OK**.

Interpret control-panel messages

The control-panel messages indicate the current product status or situations that might require action.


Control-panel messages appear temporarily and might require that you acknowledge the message by pressing **OK** to resume printing or by pressing **X** to cancel the job. With certain messages, the job might not finish printing or the print quality might be affected. If the message is related to printing and the auto-continue feature is on, the product will attempt to resume printing after the message has appeared for 10 seconds without acknowledgement.

For some messages, restarting the product might fix the problem. If a critical error persists, the product might require service.

Control-panel messages

Control-panel message	Description	Recommended action
10.X Supply memory error	The e-label for the print cartridge cannot be read or is missing.	Reinstall the print cartridge. Turn the product off and then on. If the problem is not solved, replace the cartridge. Press OK to override this error and continue to print. Supplies and status features are not available.
13.XX Jam in <location>	The product has detected a jam.	Clear the jam from the location indicated. The job should continue to print. If it does not, try reprinting the job. If the message persists, contact HP support. See Customer support on page 141 .
21.X Print failure Press [OK] If error repeats turn off then on	The product cannot process the page.	Press OK to continue printing the job, but output might be affected. If the error persists, turn the power off and then on. Resend the print job.
41.2 Engine error Press [OK]	The engine experienced an internal error.	Turn the product power off, wait at least 30 seconds, and then turn the product power on and wait for it to initialize. If you are using a surge protector, remove it. Plug the product directly into the wall socket. Turn the product power on. If the message persists, contact HP support. See Customer support on page 141 .
41.3 Unexpected size in tray x Load <SIZE> Press [OK]	The product has detected print media in the tray that does not match the configuration for the tray.	Load the correct media into the tray, or configure the tray for the size that you have loaded. See Load trays on page 50 .
49 Error Turn off then on	The product experienced an internal error.	Turn the product off, wait at least 30 seconds, and then turn the product on and wait for it to initialize.

Control-panel message	Description	Recommended action
		<p>If you are using a surge protector, remove it. Plug the product directly into the wall socket. Turn the product power on.</p> <p>If the message persists, contact HP support. See Customer support on page 141.</p>
50.X Fuser error Turn off then on	The product has experienced an error with the fuser.	<p>Turn the product power off, wait at least 30 seconds, and then turn the product power on and wait for it to initialize.</p> <p>Turn off the product, wait at least 25 minutes, and then turn on the product.</p> <p>If you are using a surge protector, remove it. Plug the product directly into the wall socket. Turn the product power on.</p> <p>If the message persists, contact HP support. See Customer support on page 141.</p>
51.XX Error Turn off then on	The product has experienced an internal hardware error.	<p>Turn the product power off, wait at least 30 seconds, and then turn the product power on and wait for it to initialize.</p> <p>If you are using a surge protector, remove it. Plug the product directly into the wall socket. Turn the product on.</p> <p>If the message persists, contact HP support. See Customer support on page 141.</p>
55.X Error Turn off then on	The product has experienced an internal error.	<p>Turn the product power off, wait at least 30 seconds, and then turn the product power on and wait for it to initialize.</p> <p>If you are using a surge protector, remove it. Plug the product directly into the wall socket. Turn the product power on.</p> <p>If the message persists, contact HP support. See Customer support on page 141.</p>
57 Fan error Turn off then on	The product has experienced a problem with its internal fan.	<p>Turn the product power off, wait at least 30 seconds, and then turn the product power on and wait for it to initialize.</p> <p>If you are using a surge protector, remove it. Plug the product directly into the wall socket. Turn the product power on.</p> <p>If the message persists, contact HP support. See Customer support on page 141.</p>
79 Error Turn off then on	The product has experienced an internal firmware error.	<p>Turn the product power off, wait at least 30 seconds, and then turn the product power on and wait for it to initialize.</p> <p>If you are using a surge protector, remove it. Plug the product directly into the wall socket. Turn the product power on.</p> <p>If the message persists, contact HP support. See Customer support on page 141.</p>

Control-panel message	Description	Recommended action
79 Service error Turn off then on	An incompatible DIMM is installed.	<ol style="list-style-type: none"> 1. Turn the product power off. 2. Install a DIMM that the product supports. See Supplies and accessories on page 131 for a list of supported DIMMs. See Install memory on page 85 for DIMM installation instructions. 3. Turn the product on. <p>If the message persists, contact HP support. See Customer support on page 141.</p>
Device error Press [OK]	An internal error occurred.	Press OK to resume the job.
Door open	The product door is open.	Close the door.
Genuine HP supply installed	A genuine HP supply was installed. This message will appear briefly after the supply is installed and then be replaced by the message Ready .	No action necessary.
Install black cartridge	The cartridge is either not installed or not correctly installed in the product.	Install the print cartridge. See Change the print cartridge on page 83 .
Load paper	The product is out of paper.	Load paper into a tray.
Load tray # <TYPE> <SIZE> Press [OK] for available media	A tray is configured for the media type and size that the print job is requesting, but that tray is empty.	Load the correct media into the tray, or press OK to use media in a different tray.
Load tray 1 plain <SIZE> Cleaning mode [OK] to start	The product is ready to process the cleaning operation.	Load Tray 1 with plain paper in the size indicated, and then press OK .
Load tray 1 <TYPE> <SIZE> Press [OK] for available media	No trays are configured for the media type and size that the print job is requesting.	Load the correct media into tray 1, or press OK to use media in a different tray.
Manual duplex Load tray x Press [OK]	The first side of a manual duplex job has printed, and the page needs to be loaded to process the second side.	Load the page in the indicated tray with the side to be printed face up, and the top of the page away from you and then press OK .
Manual feed <TYPE> <SIZE> Press [OK] for available media	The product is set for manual feed mode.	Press OK to clear the message <i>or</i> load the correct media into tray 1.
Memory is low Press [OK]	The product memory is almost full.	Press OK to finish the job, or press the Cancel button  to cancel the job. For information about increasing the product memory, see Install memory on page 85 .
Misprint Press [OK]	Print media has been delayed as it moves through the product.	Press OK to clear the message.
Non-HP supply installed	A non-HP supply is installed.	If you believe you purchased an HP supply, go to www.hp.com/go/anticounterfeit .

Control-panel message	Description	Recommended action
		Service or repairs that are required as a result of using non-HP supplies are not covered under HP warranty.
Order black cartridge Ready	The print cartridge is nearing the end of its useful life.	Order a new print cartridge. You can continue printing with the current print cartridge until redistributing the toner no longer yields acceptable print quality. See Supplies and accessories on page 131 for more information.
Output bin full Remove all paper from bin	The output bin is full.	Remove all paper from the bin.
Rear door open	The product rear door is open.	Close the door.
Remove shipping lock from black cartridge	A print cartridge shipping lock is installed.	Be sure that the print cartridge shipping lock has been removed.
Used cartridge in use	A refilled print cartridge was detected and accepted.	No action necessary.
Used cartridge installed To accept press [OK]	A refilled print cartridge is installed.	Press OK to continue.

Jams

Common causes of jams

Many jams are caused by using paper that does not meet HP specifications. For complete paper specifications for all HP LaserJet products, see the *HP LaserJet Printer Family Print Media Guide*. This guide is available at www.hp.com/support/ljpaperguide.

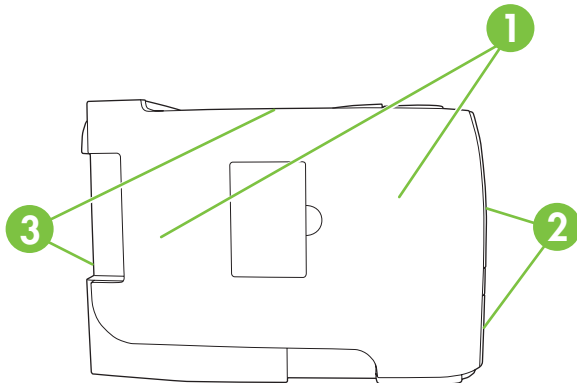
The product is jammed.¹

Cause	Solution
The paper does not meet specifications.	Use only paper that meets HP specifications. See Paper and print media on page 43 .
A component is installed incorrectly.	Verify that the print cartridge is correctly installed.
You are using paper that has already passed through a product or copier.	Do not use paper that has been previously printed on or copied.
A tray is loaded incorrectly.	Remove any excess paper from the tray. Make sure that the stack is below the maximum stack height mark in the tray. See Load trays on page 50 .
The paper is skewed.	The tray guides are not adjusted correctly. Adjust them so they hold the stack firmly in place without bending it.
The paper is binding or sticking together.	Remove the paper, flex it, rotate it 180°, or flip it over. Reload the paper into the tray. NOTE: Do not fan paper. Fanning can create static electricity, which can cause paper to stick together.
The paper is removed before it settles into the output bin.	Reset the product. Wait until the page completely settles in the output bin before removing it.
During two-sided printing, you removed the paper before the second side of the document was printed.	Reset the product and print the document again. Wait until the page completely settles in the output bin before removing it.
The paper is in poor condition.	Replace the paper.
The internal rollers from the tray are not picking up the paper.	Remove the top sheet of paper. If the paper is too heavy, it might not be picked from the tray.
The paper has rough or jagged edges.	Replace the paper.
The paper is perforated or embossed.	Perforated or embossed paper does not separate easily. Feed single sheets from Tray 1.
Product supply items have reached the end of their useful life.	Check the product control panel for messages prompting you to replace supplies, or print a supplies status page to verify the remaining life of the supplies. See Print the information pages on page 70 .
Paper was not stored correctly.	Replace the paper in the trays. Paper should be stored in the original packaging in a controlled environment.

¹ If the product continues to jam, contact HP Customer Support or your authorized HP service provider.

Jam locations

Jams can occur at the following locations in the product.



1	Internal areas
2	Input trays
3	Output bins

Clear jams

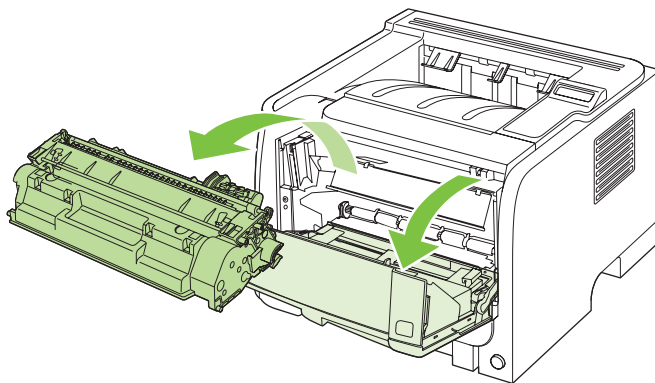
When clearing jams, be careful not to tear jammed paper. If a small piece of paper remains in the product, it could cause additional jams.

△ **CAUTION:** Before clearing jams, turn the product off and disconnect the power cord.

Internal areas

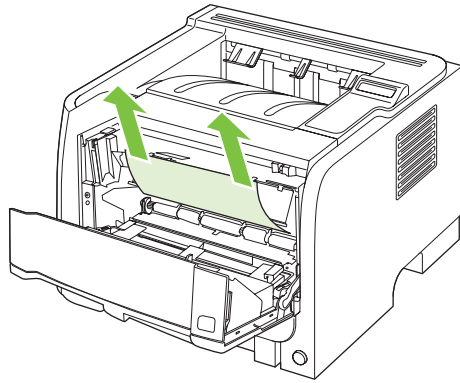
Print-cartridge area and paper path

1. Push the button to open the print-cartridge door, and then remove the print cartridge.

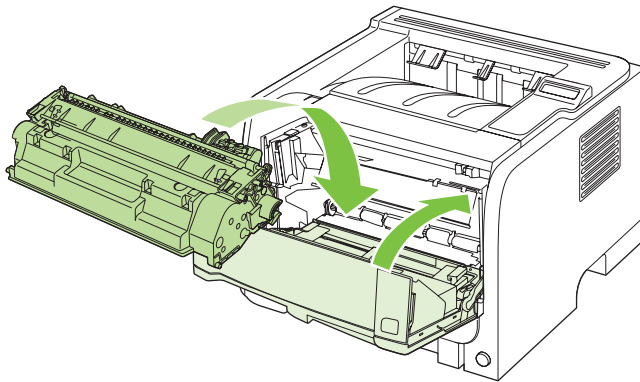


△ **CAUTION:** To prevent damage, do not expose the print cartridge to light. Cover it with a piece of paper.

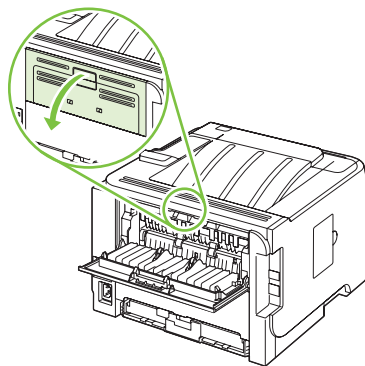
2. If jammed paper is visible, grasp it with both hands and slowly pull it out of the product.



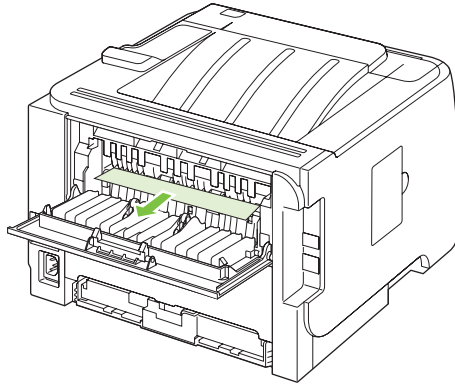
3. Replace the print-cartridge, and close the print-cartridge door.



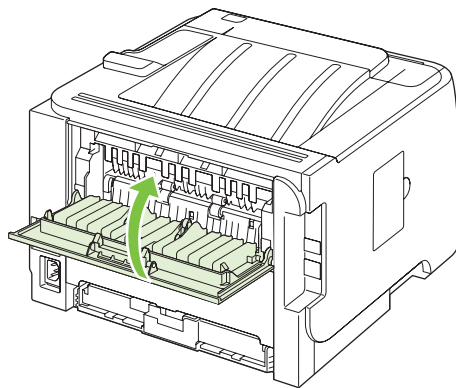
4. If no paper was jammed inside the print-cartridge door, open the jam-release door at the back of the product.



5. If jammed paper is visible, grasp it with both hands and slowly pull it out of the product.

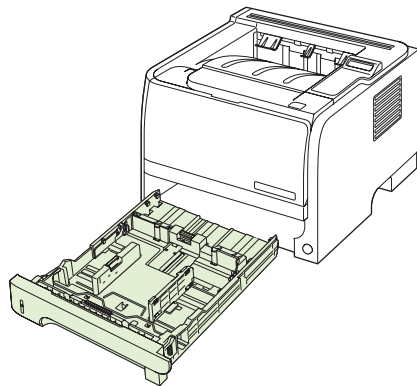


6. Close the jam-release door.

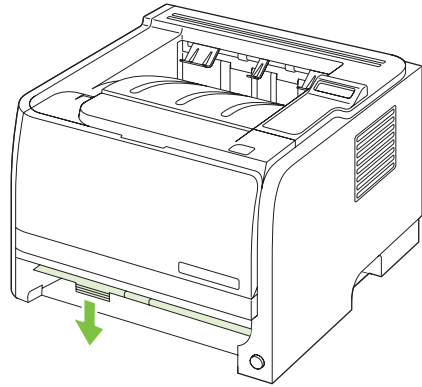


Duplex paper path

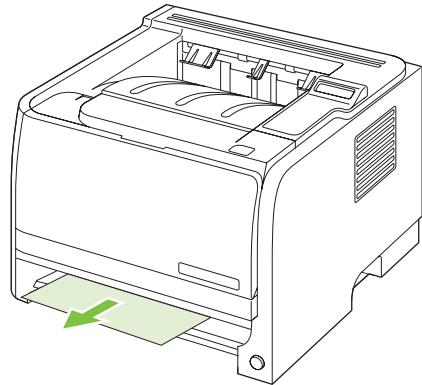
1. At the front of the product, remove Tray 2.



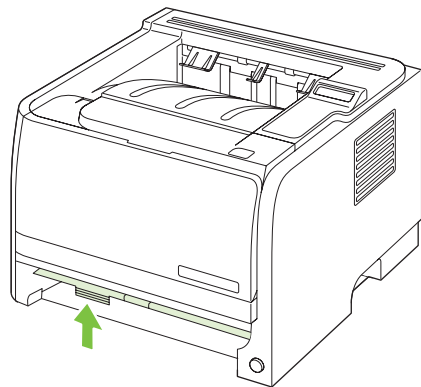
2. Push down on the green lever to release the duplex paper-path door on the front of the product.



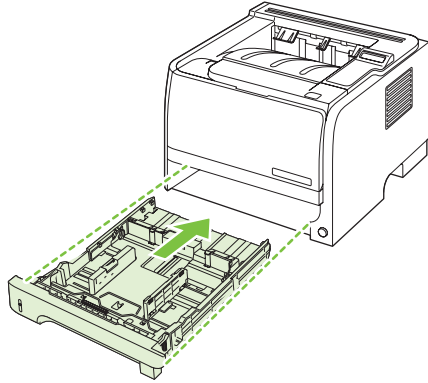
3. Check for jammed paper at the front of the product. With both hands, grasp the jammed paper and slowly pull it out of the product.



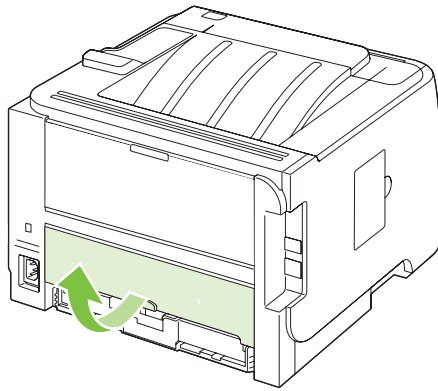
4. Push up on the duplex paper-path door to close it.



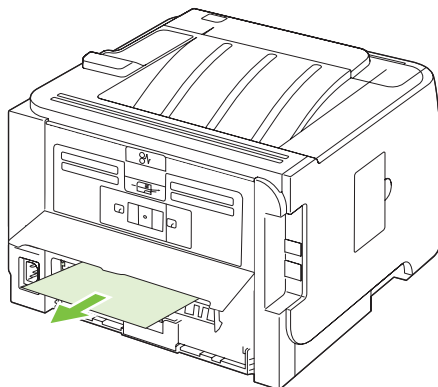
5. Replace Tray 2.



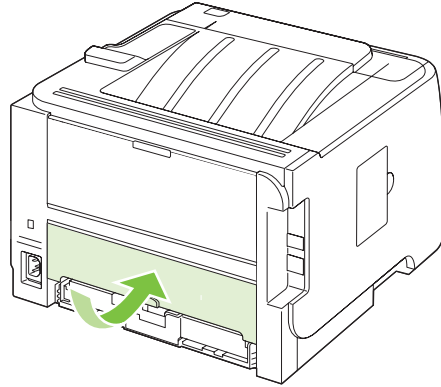
6. Open the duplex jam-release door on the back of the product.



7. Check for jammed paper at the back of the product. With both hands, grasp the jammed paper and slowly pull it out of the product.



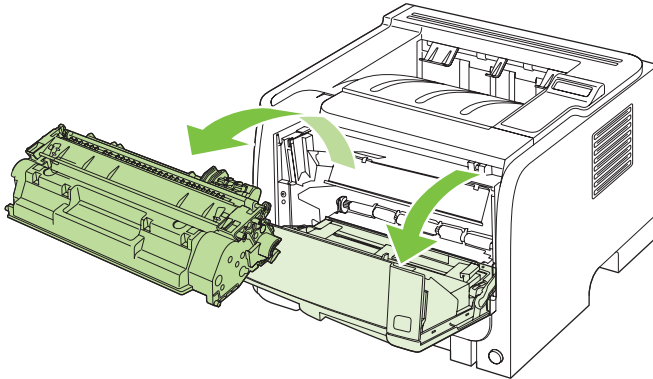
8. Close the jam-release door.



Input trays

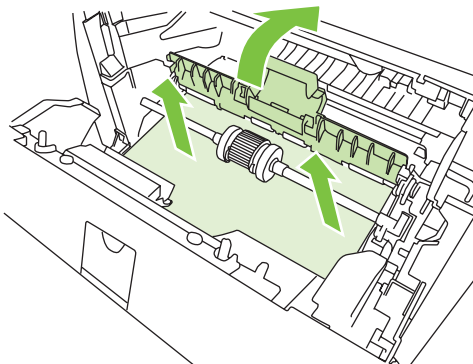
Tray 1

1. Push the button to open the print-cartridge door, and then remove the print cartridge.

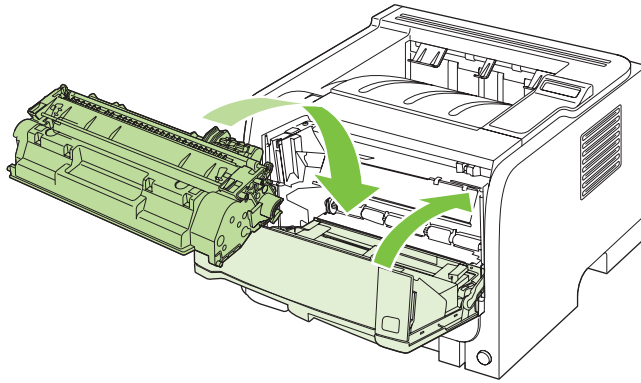


△ **CAUTION:** To prevent damage, do not expose the print cartridge to light. Cover it with a piece of paper.

2. Lift the Tray 1 roller cover, grasp the jammed paper, and slowly pull it out of the product.

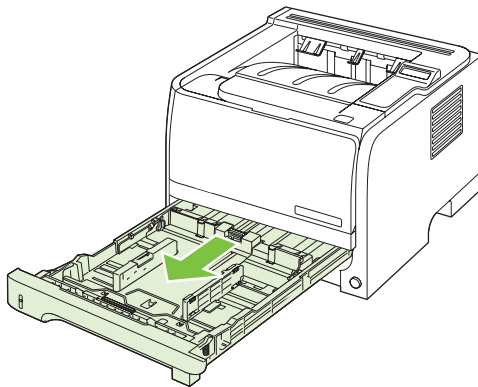


3. Replace the print-cartridge, and close the print-cartridge door.

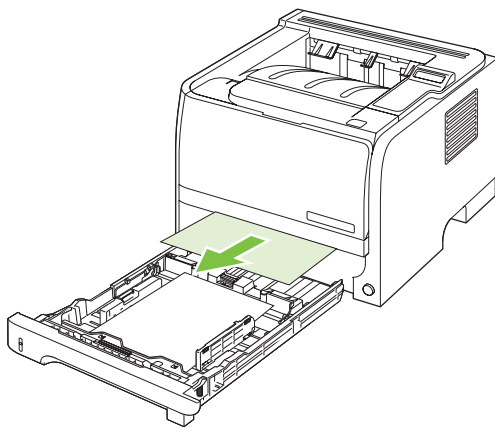


Tray 2

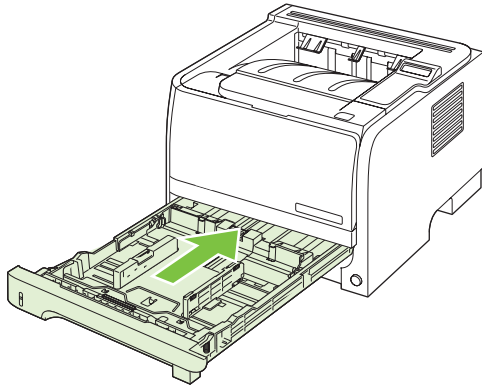
1. Open the tray.



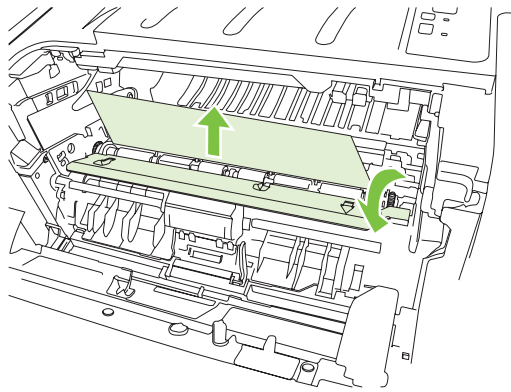
2. With both hands, grasp the jammed paper and slowly pull it out of the product.



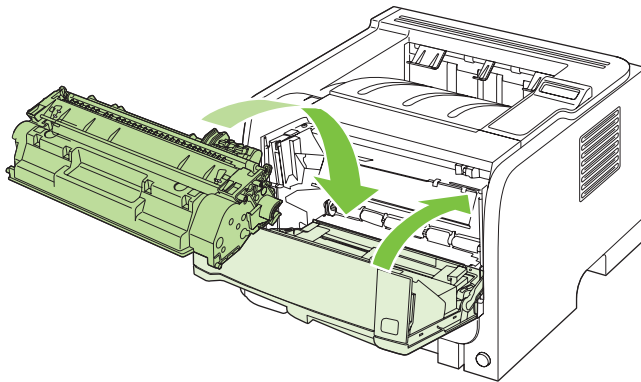
3. Close the tray.



4. If no jammed paper is visible in the tray area, open the print-cartridge door, remove the print cartridge, and pull down the upper media guide. With both hands, grasp the jammed paper and slowly pull it out of the product.

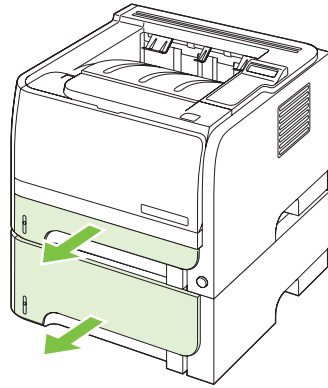


5. Replace the print-cartridge, and close the print-cartridge door.

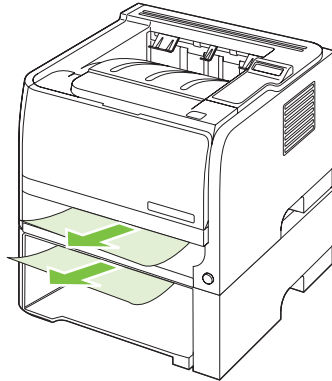


Tray 3

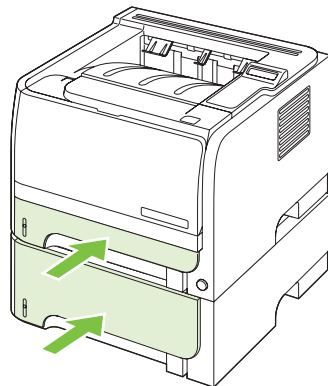
1. Remove Tray 2 and Tray 3.



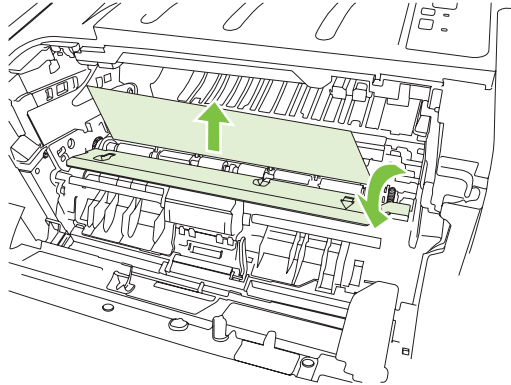
2. With both hands, grasp the jammed paper and slowly pull it out of the product.



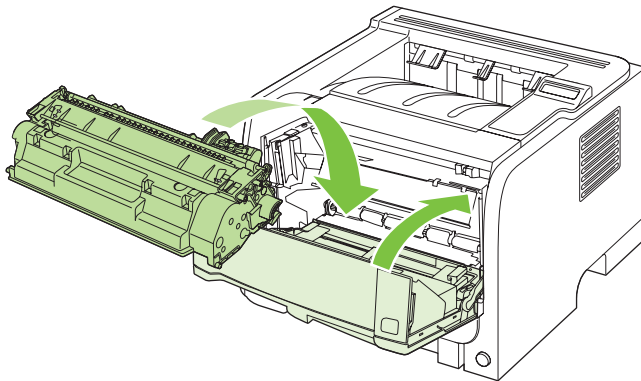
3. Replace the trays.



4. If no jammed paper is visible in the tray area, open the print-cartridge door, remove the print cartridge, and pull down the upper media guide. With both hands, grasp the jammed paper and slowly pull it out of the product.



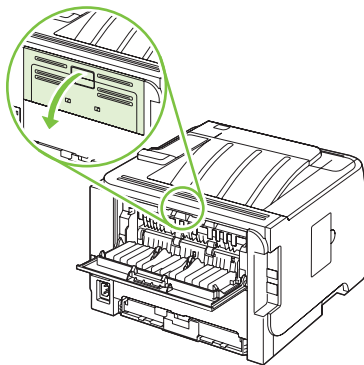
5. Replace the print-cartridge, and close the print-cartridge door.



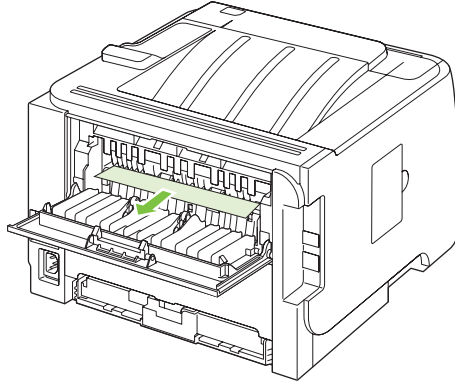
Output bins

△ **CAUTION:** To avoid damaging the product, do not attempt to clear a jam in the top output bin by pulling the paper straight out.

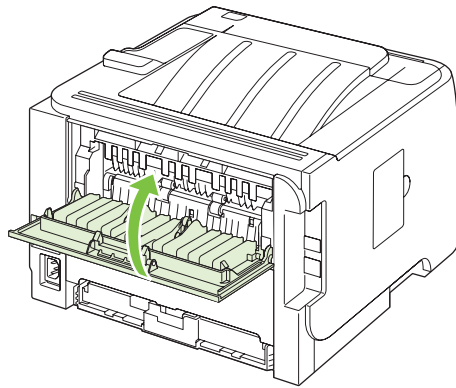
1. At the back of the product, open the jam-release door.



2. With both hands, grasp the jammed paper and slowly pull it out of the product.



3. Close the jam-release door.



Solve print-quality problems

You can prevent most print-quality problems by following these guidelines.

- Configure the trays for the correct paper-type setting. See [Configure trays on page 54](#).
- Use paper that meets HP specifications. See [Paper and print media on page 43](#).
- Clean the product as necessary. See [Clean the paper path on page 91](#).

Print-quality problems associated with paper

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

- The surface of the paper is too smooth.
- The moisture content of the paper is uneven, too high, or too low. Use paper from a different source or from an unopened ream.
- Some areas of the paper reject toner. Use paper from a different source or from an unopened ream.
- The letterhead you are using is printed on rough paper. Use a smoother, xerographic paper. If this solves your problem, ask the supplier of your letterhead to use paper that meets HP specifications.
- The paper is excessively rough. Use a smoother, xerographic paper.
- The paper is too heavy for the paper-type setting that you selected, so the toner is not fusing to the paper.

For complete paper specifications for all HP LaserJet products, see the *HP LaserJet Printer Family Print Media Guide*. This guide is available at www.hp.com/support/ljpaperguide.

Print-quality problems associated with the environment

If the product is operating in excessively humid or dry conditions, verify that the printing environment is within specifications. See [Operating environment on page 146](#).


Print-quality problems associated with jams

Make sure that all sheets are cleared from the paper path.

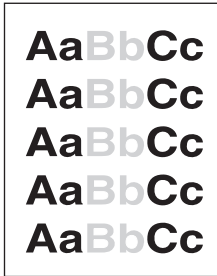
- If the product recently jammed, print two to three pages to clean the paper path.
- If the sheets do not pass through the fuser and cause image defects on subsequent documents, print two to three pages to clean the paper path. If the problem persists, print and process a cleaning page. See [Clean the paper path on page 91](#).

Image defect examples

This section provides information about identifying and correcting print defects.

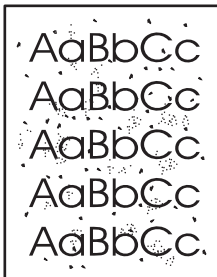
 **NOTE:** If these steps do not correct the problem, contact an HP-authorized dealer or service representative.

Light print or faded



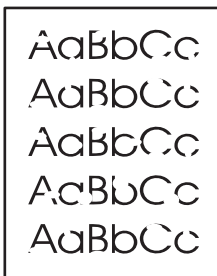
- The print cartridge is nearing end of life.
- Redistribute the toner to extend the life.
- The media might not meet Hewlett-Packard's media specifications (for example, the media is too moist or too rough).
- If the whole page is light, the print density adjustment is too light or EconoMode might be turned on. Adjust the print density, and disable EconoMode in the printer Properties.

Toner specks



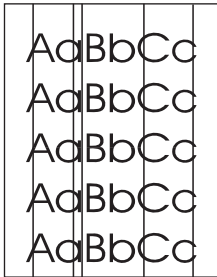
- The media might not meet Hewlett-Packard's media specifications (for example, the media is too moist or too rough).
- The printer might need to be cleaned.
- The print cartridge might be defective.

Dropouts



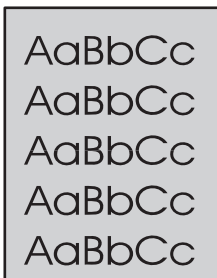
- A single sheet of media might be defective. Try reprinting the job.
- The media moisture content is uneven or the media has moist spots on its surface. Try printing with new media.
- The media lot is bad. The manufacturing processes can cause some areas to reject toner. Try a different type or brand of media.
- The print cartridge might be defective.

Vertical lines



The photosensitive drum inside the print cartridge has probably been scratched. Install a new HP print cartridge.

Gray background



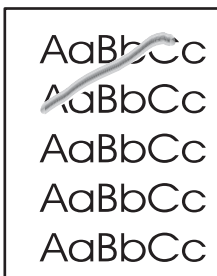
- Change the media to a lighter basis weight.
- Check the printer's environment. Very dry (low humidity) conditions can increase the amount of background shading.
- The density setting might be too high. Adjust the density setting.
- Install a new HP print cartridge.

Toner smear



- If toner smears appear on the leading edge of the media, the media guides might be dirty. Wipe the media guides with a dry, lint-free cloth.
- Check the media type and quality.
- The fuser temperature might be too low. In your printer driver, make sure the appropriate media type is selected.
- Try installing a new HP print cartridge.

Loose toner



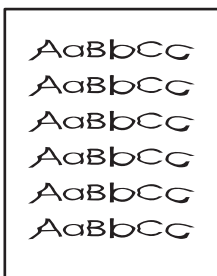
- The fuser temperature might be too low. In your printer driver, make sure the appropriate media type is selected.
- Clean the inside of the printer.
- Check the media type and quality.
- In your printer driver, make sure the appropriate media type is selected.
- Plug the printer directly into an AC outlet instead of into a power strip.

Vertical repetitive defects



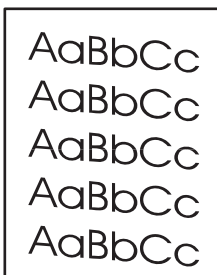
- The print cartridge might be damaged. If a repetitive mark occurs at the same spot on the page, install a new HP print cartridge.
- The internal parts might have toner on them. If the defects occur on the back of the page, the problem will probably correct itself after a few more printed pages.
- In your printer driver, make sure the appropriate media type is selected.

Misformed characters



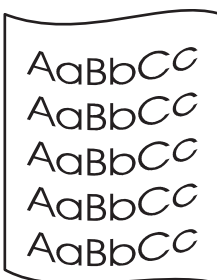
- If characters are improperly formed, producing hollow images, the media stock might be too slick. Try a different media.
- If characters are improperly formed, producing a wavy effect, the printer might need service. Print a configuration page. If the characters are improperly formed, contact an HP-authorized dealer or service representative.

Page skew



- Make sure that the media is loaded correctly and the media guides are not too tight or too loose against the media stack.
- The input bin might be too full.
- Check the media type and quality.

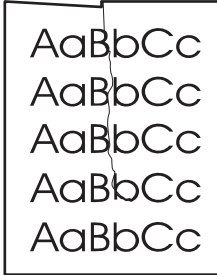
Curl or wave



- Check the media type and quality. Both high temperature and high humidity cause media to curl.
- The media might have been in the input tray too long. Turn over the stack of media in the tray. Also, try rotating the media 180° in the input tray.
- Open the straight-through output door and try printing straight through.
- The fuser temperature might be too high. In your printer driver, make sure the appropriate media type is selected. If the problem persists, select a media type that uses a

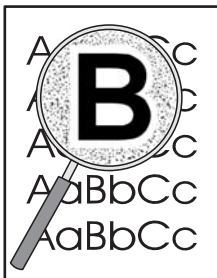
lower fuser temperature, such as transparencies or light media.

Wrinkles or creases



- Make sure that media is loaded properly.
 - Check the media type and quality.
 - Open the straight-through output door and try printing straight through.
 - Turn over the stack of media in the tray. Also, try rotating the media 180° in the input tray.
 - For envelopes, this can be caused by air pockets inside the envelope. Remove the envelope, flatten the envelope, and try printing again.
-

Toner scatter outline



- If large amounts of toner have scattered around the characters, the media might be resisting the toner. (A small amount of toner scatter is normal for laser printing.) Try a different media type.
 - Turn over the stack of media in the tray.
 - Use media that is designed for laser printers.
-

Solve performance problems

Problem	Cause	Solution
Pages print but are totally blank.	The sealing tape might still be in the print cartridges.	Verify that the sealing tape has been completely removed from the print cartridges.
	The document might contain blank pages.	Check the document that you are printing to see if content appears on all of the pages.
	The product might be malfunctioning.	To check the product, print a Configuration page.
Pages print very slowly.	Heavier paper types can slow the print job.	Print on a different type of paper.
	Complex pages can print slowly.	Proper fusing may require a slower print speed to ensure the best print quality.
Pages did not print.	The product might not be pulling paper correctly.	Make sure paper is loaded in the tray correctly.
	The paper is jamming in the product.	Clear the jam. See Jams on page 106 .
	The USB cable might be defective or incorrectly connected.	<ul style="list-style-type: none"> ● Disconnect the USB cable at both ends and reconnect it. ● Try printing a job that has printed in the past. ● Try using a different USB cable.
	Other devices are running on your computer.	The product might not share a USB port. If you have an external hard drive or network switchbox that is connected to the same port as the product, the other device might be interfering. To connect and use the product, you must disconnect the other device or you must use two USB ports on the computer.

Solve connectivity problems

Solve direct-connect problems

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

- Verify that the cable is connected to the computer and to the product.
- Verify that the cable is not longer than 2 meters (6 feet). Replace the cable if necessary.
- Verify that the cable is working correctly by connecting it to another product. Replace the cable if necessary.

Solve network problems

Check the following items to verify that the product is communicating with the network. Before beginning, print a configuration page. See [Print the information pages on page 70](#).

1. Are there any physical connection problems between the workstation or file server and the product?

Verify that the network cabling, connections, and router configurations are correct. Verify that the network cable lengths meet network specifications.

2. Are your network cables connected properly?

Make sure that the product is attached to the network using the appropriate port and cable. Check each cable connection to make sure it is secure and in the right place. If the problem continues, try a different cable or ports on the hub or transceiver. The amber activity light and the green link status light next to the port connection on the back of the product should be lit.

3. Are the link speed and duplex settings set correctly?

Hewlett-Packard recommends leaving this setting in automatic mode (the default setting). See [Link speed setting on page 41](#).

4. Can you "ping" the product?

Use the command prompt to ping the product from your computer. For example:

```
ping 192.168.45.39
```

Ensure that the ping displays round-trip times.

If you are able to ping the product, verify that the IP address configuration for the product is correct on the computer. If it is correct, delete and then add the product again.

If the ping command failed, verify that the network hubs are on, and then verify that the network settings, the product, and the computer are all configured for the same network.

5. Have any software applications been added to the network?

Make sure they are compatible and that they are installed correctly with the correct printer drivers.

6. Are other users able to print?

The problem may be workstation-specific. Check the workstation network drivers, printer drivers, and redirection (capture in Novell NetWare).

7. If other users are able to print, are they using the same network operating system?

Check your system for proper network operating system setup.

8. Is your protocol enabled?

Check the status of your protocol on the Configuration page. You can also use the embedded Web server to check the status of other protocols. See [Embedded Web server on page 77](#).

9. Does the product appear in HP Web Jetadmin or other management application?

- Verify network settings on the Network configuration page.
- Confirm the network settings for the product using the product control panel (for products with control panels).

Solve common Windows problems

Error message:


"General Protection FaultException OE"

"Spool32"

"Illegal Operation"

Cause	Solution
	Close all software programs, restart Windows, and try again.
	Select a different printer driver. You can usually do this from a software program.
	Delete all temp files from the Temp subdirectory. You can determine the name of the directory by editing the AUTOEXEC.BAT file and looking for the statement "Set Temp =". The name after this statement is the temp directory. It is usually C:\TEMP by default, but can be redefined.
	See the Microsoft Windows documentation that came with your computer for more information about Windows error messages.

Solve common Macintosh problems

 **NOTE:** Setup for USB and IP printing is performed through the Desktop Printer Utility. The product will *not* appear in the Chooser.

The printer driver is not listed in Print Center.

Cause	Solution
The product software might not have been installed or was installed incorrectly.	Make sure that the PPD file is in the following hard drive folder: Library/Printers/PPDs/Contents/Resources/ <lang>.lproj , where "<lang>" represents the two-letter language code for the language that you are using. If necessary, reinstall the software. See the getting started guide for instructions.
The Postscript Printer Description (PPD) file is corrupt.	Delete the PPD file from the following hard drive folder: Library/Printers/PPDs/Contents/Resources/ <lang>.lproj , where "<lang>" represents the two-letter language code for the language that you are using. Reinstall the software. See the getting started guide for instructions.

The product name, IP address, or Rendezvous host name does not appear in the printer list box in the print center.

Cause	Solution
The product might not be ready.	Make sure that the cables are connected correctly, the product is on, and the ready light is on. If you are connecting through a USB or Ethernet hub, try connecting directly to the computer or use a different port.
The wrong connection type might be selected.	Make sure that USB, IP Printing, or Rendezvous is selected, depending on the type of connection that exists between the product and the computer.
The wrong product name, IP address, or Rendezvous host name is being used.	Check the product name, IP address, or Rendezvous host name by printing a configuration page. See Print the information pages on page 70 . Verify that the name, IP address, or Rendezvous host name on the configuration page matches the product name, IP address, or Rendezvous host name in the Print Center.
The interface cable might be defective or of poor quality.	Replace the interface cable. Make sure to use a high-quality cable.

The printer driver does not automatically set up your selected product in Print Center.

Cause	Solution
The product might not be ready.	Make sure that the cables are connected correctly, the product is on, and the ready light is on. If you are connecting through a USB or Ethernet hub, try connecting directly to the computer or use a different port.
The product software might not have been installed or was installed incorrectly.	Make sure that the PPD file is in the following hard drive folder: Library/Printers/PPDs/Contents/Resources/ <lang>.lproj

The printer driver does not automatically set up your selected product in Print Center.

Cause	Solution
	, where “<lang>” represents the two-letter language code for the language that you are using. If necessary, reinstall the software. See the getting started guide for instructions.
The Postscript Printer Description (PPD) file is corrupt.	Delete the PPD file from the following hard drive folder: Library/Printers/PPDs/Contents/Resources/ <lang>.lproj , where “<lang>” represents the two-letter language code for the language that you are using. Reinstall the software. See the getting started guide for instructions.
The product might not be ready.	Make sure that the cables are connected correctly, the product is on, and the ready light is on. If you are connecting through a USB or Ethernet hub, try connecting directly to the computer or use a different port.
The interface cable might be defective or of poor quality.	Replace the interface cable. Make sure to use a high-quality cable.

A print job was not sent to the product that you wanted.

Cause	Solution
The print queue might be stopped.	Restart the print queue. Open print monitor and select Start Jobs .
The wrong product name or IP address is being used. Another product with the same or similar name, IP address, or Rendezvous host name might have received your print job.	Check the product name, IP address, or Rendezvous host name by printing a configuration page. See Print the information pages on page 70 . Verify that the name, IP address, or Rendezvous host name on the configuration page matches the product name, IP address, or Rendezvous host name in the Print Center.

An encapsulated PostScript (EPS) file does not print with the correct fonts.

Cause	Solution
This problem occurs with some programs.	<ul style="list-style-type: none">Try downloading the fonts that are contained in the EPS file to the product before printing.Send the file in ASCII format instead of binary encoding.

You are unable to print from a third-party USB card.

Cause	Solution
This error occurs when the software for USB devices is not installed.	When adding a third-party USB card, you might need the Apple USB Adapter Card Support software. The most current version of this software is available from the Apple Web site.

When connected with a USB cable, the product does not appear in the Macintosh Print Center after the driver is selected.

Cause	Solution
This problem is caused by either a software or a hardware component.	<p>Software problem-solving</p> <ul style="list-style-type: none">● Check that your Macintosh supports USB.● Verify that you are using a Macintosh operating system that this product supports.● Ensure that your Macintosh has the appropriate USB software from Apple. <p>Hardware problem-solving</p> <ul style="list-style-type: none">● Check that the product is turned on.● Verify that the USB cable is connected correctly.● Check that you are using the appropriate high-speed USB cable.● Ensure that you do not have too many USB devices drawing power from the chain. Disconnect all of the devices from the chain, and connect the cable directly to the USB port on the host computer.● Check to see if more than two nonpowered USB hubs are connected in a row on the chain. Disconnect all of the devices from the chain and connect the cable directly to the USB port on the host computer. <p>NOTE: The iMac keyboard is a nonpowered USB hub.</p>

Solve Linux problems

For information about Linux problem solving, go to the HP Linux support Web site: www.hp.com/go/linuxprinting.

A Supplies and accessories

- Order parts, accessories, and supplies
- Part numbers

Order parts, accessories, and supplies

Several methods are available for ordering parts, supplies, and accessories.

Order directly from HP

You can obtain the following items directly from HP:

- **Replacement parts:** To order replacement parts in the U.S., go to www.hp.com/go/hpparts. Outside the United States, order parts by contacting your local authorized HP service center.
- **Supplies and accessories:** To order supplies in the U.S., go to www.hp.com/go/ljsupplies. To order supplies worldwide, go to www.hp.com/ghp/buyonline.html. To order accessories, go to www.hp.com/support/ljp2050series.

Order through service or support providers

To order a part or accessory, contact an HP-authorized service or support provider.

Order directly through the HP ToolboxFX software

HP ToolboxFX software is a product management tool designed to make product configuration, monitoring, supplies ordering, troubleshooting, and updating as simple and efficient as possible. For more information about HP ToolboxFX software, see [Use the HP ToolboxFX software on page 71](#).

Part numbers

The following list of accessories was current at the time of printing. Ordering information and availability of the accessories might change during the life of the product.

Paper-handling accessories

Item	Description	Part number
Optional 500-sheet tray and feeder unit	Optional tray to increase paper capacity.	CE464A

Print cartridges

Item	Description	Part number
HP LaserJet print cartridge	Standard-capacity cartridge	CE505A
	High-capacity cartridge	CE505X

Memory

Item	Description	Part number
44 x 32-pin DDR2 memory DIMM (dual inline memory module)	32 MB	CB420A
	64 MB	CB421A
Boosts the ability of the product to handle large or complex print jobs.	128 MB	CB422A
	256 MB	CB423A

Cables and interfaces

Item	Description	Part number
HP Jetdirect external print server accessories	HP Jetdirect en1700	J7942G
	HP Jetdirect en3700	J7942G
	HP Jetdirect ew2400 USB wireless print server	J7951G
	HP Jetdirect 175x	J6035G
	HP USB network print adapter	Q6275A (worldwide)
	HP wireless printing upgrade kit	Q6236A (North America) Q6259A (Europe, Middle East, Africa, and Asia-Pacific countries/regions)
USB cable	2-meter A to B cable	C6518A

B Service and support

- [Hewlett-Packard limited warranty statement](#)
- [Print cartridge limited warranty statement](#)
- [End User License Agreement](#)
- [Customer self-repair warranty service](#)
- [Customer support](#)
- [HP maintenance agreements](#)

Hewlett-Packard limited warranty statement

HP PRODUCT	DURATION OF LIMITED WARRANTY
HP LaserJet P2055d, P2055dn, P2055x	One year from date of purchase

HP warrants to you, the end-user customer, that HP hardware and accessories will be free from defects in materials and workmanship after the date of purchase, for the period specified above. If HP receives notice of such defects during the warranty period, HP will, at its option, either repair or replace products which prove to be defective. Replacement products may be either new or equivalent in performance to new.

HP warrants to you that HP software will not fail to execute its programming instructions after the date of purchase, for the period specified above, due to defects in material and workmanship when properly installed and used. If HP receives notice of such defects during the warranty period, HP will replace software which does not execute its programming instructions due to such defects.

HP does not warrant that the operation of HP products will be uninterrupted or error free. If HP is unable, within a reasonable time, to repair or replace any product to a condition as warranted, you will be entitled to a refund of the purchase price upon prompt return of the product.

HP products may contain remanufactured parts equivalent to new in performance or may have been subject to incidental use.

Warranty does not apply to defects resulting from (a) improper or inadequate maintenance or calibration, (b) software, interfacing, parts or supplies not supplied by HP, (c) unauthorized modification or misuse, (d) operation outside of the published environmental specifications for the product, or (e) improper site preparation or maintenance.

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Print cartridge limited warranty statement

This HP product is warranted to be free from defects in materials and workmanship.

This warranty does not apply to products that (a) have been refilled, refurbished, remanufactured or tampered with in any way, (b) experience problems resulting from misuse, improper storage, or operation outside of the published environmental specifications for the printer product or (c) exhibit wear from ordinary use.

To obtain warranty service, please return the product to place of purchase (with a written description of the problem and print samples) or contact HP customer support. At HP's option, HP will either replace products that prove to be defective or refund your purchase price.

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Rev. 11/06

Customer self-repair warranty service

HP products are designed with many Customer Self Repair (CSR) parts to minimize repair time and allow for greater flexibility in performing defective parts replacement. If during the diagnosis period, HP identifies that the repair can be accomplished by the use of a CSR part, HP will ship that part directly to you for replacement. There are two categories of CSR parts: 1) Parts for which customer self repair is mandatory. If you request HP to replace these parts, you will be charged for the travel and labor costs of this service. 2) Parts for which customer self repair is optional. These parts are also designed for Customer Self Repair. If, however, you require that HP replace them for you, this may be done at no additional charge under the type of warranty service designated for your product.

Based on availability and where geography permits, CSR parts will be shipped for next business day delivery. Same-day or four-hour delivery may be offered at an additional charge where geography permits. If assistance is required, you can call the HP Technical Support Center and a technician will help you over the phone. HP specifies in the materials shipped with a replacement CSR part whether a defective part must be returned to HP. In cases where it is required to return the defective part to HP, you must ship the defective part back to HP within a defined period of time, normally five (5) business days. The defective part must be returned with the associated documentation in the provided shipping material. Failure to return the defective part may result in HP billing you for the replacement. With a customer self repair, HP will pay all shipping and part return costs and determine the courier/carrier to be used.

Customer support

Get telephone support, free during your warranty period, for your country/region

Country/region phone numbers are on the flyer that was in the box with your product or at www.hp.com/support/.

Have the product name, serial number, date of purchase, and problem description ready.

Get 24-hour Internet support

www.hp.com/support/ljp2050series

Get support for products used with a Macintosh computer

www.hp.com/go/macosex

Download software utilities, drivers, and electronic information

www.hp.com/go/ljp2050series_software

Order supplies and paper

www.hp.com/go/suresupply

Order genuine HP parts or accessories

www.hp.com/buy/parts

Order additional HP service or maintenance agreements

www.hp.com/go/carepack

HP maintenance agreements

HP has several types of maintenance agreements that meet a wide range of support needs. Maintenance agreements are not part of the standard warranty. Support services may vary by area. Check with your local HP dealer to determine the services available to you.

On-site service agreements

To provide you with the level of support best suited to your needs, HP has on-site service agreements with a selection of response times.

Next-day on-site service

This agreement provides support by the next working day following a service request. Extended coverage hours and extended travel beyond HP's designated service zones are available on most on-site agreements (for additional charges).

Weekly (volume) on-site service

This agreement provides scheduled weekly on-site visits for organizations with many HP products. This agreement is designated for sites using 25 or more workstation products, including devices, plotters, computers, and disk drives.

Repack the product

If HP Customer Care determines that your product needs to be returned to HP for repair, follow these steps to repack the product before shipping it.

-
- △ **CAUTION:** Shipping damage as a result of inadequate packing is the customer's responsibility.
-
1. Remove and retain any DIMMs cards that you have purchased and installed in the device. Do not remove the DIMM that came with the device.
 - △ **CAUTION:** Static electricity can damage DIMMs. When handling DIMMs, either wear an antistatic wrist strap, or frequently touch the surface of the DIMM antistatic package and then touch bare metal on the device. To remove the DIMMs, see [Install memory on page 85](#).
 2. Remove and retain the print cartridge.
 - △ **CAUTION:** It is *extremely important* to remove the print cartridge before shipping the product. A print cartridge that remains in the product during shipping can leak and cover the product engine and other parts with toner.

To prevent damage to the print cartridge, avoid touching the roller on it, and store the print cartridge in its original packing material or so that it is not exposed to light.
 3. Remove and retain the power cable, interface cable, and optional accessories.
 4. If possible, include print samples and 50 to 100 sheets of paper or other print media that did not print correctly.
 5. In the U.S., call HP Customer Care to request new packing material. In other areas, use the original packing material, if possible. Hewlett-Packard recommends insuring the equipment for shipment.

Extended warranty

HP Support provides coverage for the HP hardware product and all HP-supplied internal components. The hardware maintenance covers a 1- to 3-year period from date of the HP product purchase. The customer must purchase HP Support within the stated factory warranty. For more information, contact the HP Customer Care Service and Support group.

C Specifications

- [Physical specifications](#)
- [Power consumption and acoustic emissions](#)
- [Operating environment](#)

Physical specifications

Table C-1 Product dimensions and weights

Product model	Height	Depth	Width	Weight
HP LaserJet P2050 Series d model	268 mm (10.6 in)	368 mm (14.5 in)	360 mm (14.2 in)	10.6 kg (23.4 lb)
HP LaserJet P2050 Series dn model	268 mm (10.6 in)	368 mm (14.5 in)	360 mm (14.2 in)	10.6 kg (23.4 lb)
HP LaserJet P2050 Series x model	405 mm (15.9 in)	368 mm (14.5 in)	360 mm (14.2 in)	14.7 kg (32.4 lb)
Optional 500-sheet feeder	140 mm (5.5 in)	368 mm (14.5 in)	360 mm (14.2 in)	4.1 kg (9.0 lb)

Table C-2 Product dimensions with all doors and trays fully opened

Product model	Height	Depth	Width
HP LaserJet P2050 Series d model	268 mm (10.6 in)	455 mm (17.9 in)	360 mm (14.2 in)
HP LaserJet P2050 Series dn model	268 mm (10.6 in)	455 mm (17.9 in)	360 mm (14.2 in)
HP LaserJet P2050 Series x model	405 mm (15.9 in)	455 mm (17.9 in)	360 mm (14.2 in)

Power consumption and acoustic emissions

See www.hp.com/go/ljp2050/regulatory for current information.

Operating environment

Table C-3 Necessary conditions

Environmental condition	Printing	Storage/standby
Temperature (product and print cartridge)	7.5° to 32.5°C (45.5° to 90.5°F)	0° to 35°C (32° to 95°F)
Relative humidity	10% to 80%	10% to 90%


D Regulatory information

- [FCC regulations](#)
- [Environmental product stewardship program](#)
- [Declaration of conformity](#)
- [Safety statements](#)

FCC regulations

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

- Reorient or relocate the receiving antenna.
- Increase separation between equipment and receiver.
- Connect equipment to an outlet on a circuit different from that to which the receiver is located.
- Consult your dealer or an experienced radio/TV technician.

 **NOTE:** Any changes or modifications to the printer that are not expressly approved by HP could void the user's authority to operate this equipment.

Use of a shielded interface cable is required to comply with the Class B limits of Part 15 of FCC rules.

Environmental product stewardship program

Protecting the environment

Hewlett-Packard Company is committed to providing quality products in an environmentally sound manner. This product has been designed with several attributes to minimize impacts on our environment.

Ozone production

This product generates no appreciable ozone gas (O₃).

Power consumption

Power usage drops significantly while in Ready mode, which saves natural resources and saves money without affecting the high performance of this product. To determine the ENERGY STAR® qualification status for this product, see the Product Data Sheet or Specifications Sheet. Qualified products are also listed at:

www.hp.com/go/energystar

Toner consumption

EconoMode uses less toner, which might extend the life of the print cartridge.

Paper use

This product's optional automatic duplex feature (two-sided printing) and N-up printing (multiple pages printed on one page) capability can reduce paper usage and the resulting demands on natural resources.


Plastics

Plastic parts over 25 grams are marked according to international standards that enhance the ability to identify plastics for recycling purposes at the end of the product's life.

HP LaserJet print supplies

It's easy to return and recycle your empty HP LaserJet print cartridges—free of charge—with HP Planet Partners. Multilingual program information and instructions are included in every new HP LaserJet print cartridge and supplies package. You help reduce the toll on the environment further when you return multiple cartridges together rather than separately.

HP is committed to providing inventive, high-quality products and services that are environmentally sound, from product design and manufacturing to distribution, customer use, and recycling. When you participate in the HP Planet Partners program, we ensure your HP LaserJet print cartridges are recycled properly, processing them to recover plastics and metals for new products and diverting millions of tons of waste from landfills. Please note that the cartridge will not be returned to you. Thank you for being environmentally responsible!

 **NOTE:** Use the return label to return original HP LaserJet print cartridges only. Please do not use this label for HP inkjet cartridges, non-HP cartridges, refilled or remanufactured cartridges, or warranty returns. For information about recycling your HP inkjet cartridges, please go to www.hp.com/recycle.

Return and recycling instructions

United States and Puerto Rico

The enclosed label in the HP LaserJet toner cartridge box is for the return and recycling of one or more HP LaserJet print cartridges after use. Please follow the applicable instructions below.

Multiple returns (more than one cartridge)

1. Package each HP LaserJet print cartridge in its original box and bag.
2. Tape the boxes together using strapping or packaging tape. The package can weigh up to 31 kg (70 lb).
3. Use a single pre-paid shipping label.

OR

1. Use your own suitable box, or request a free bulk collection box from www.hp.com/recycle or 1-800-340-2445 (holds up to 31 kg (70 lb) of HP LaserJet print cartridges).
2. Use a single pre-paid shipping label.

Single returns

1. Package the HP LaserJet print cartridge in its original bag and box.
2. Place the shipping label on the front of the box.

Shipping

For all HP LaserJet print cartridge recycling returns, give the package to UPS during your next delivery or pickup, or take it to an authorized UPS drop-off center. For the location of your local UPS drop-off center, call 1-800-PICKUPS or visit www.ups.com. If you are returning via USPS label, give the package to a U.S. Postal Service carrier or drop off at a U.S. Postal Service Office. For more information, or to order additional labels or boxes for bulk returns, visit www.hp.com/recycle or call 1-800-340-2445. Requested UPS pickup will be charged normal pickup rates. Information subject to change without notice.

Non-U.S. returns

To participate in HP Planet Partners return and recycling program, just follow the simple directions in the recycling guide (found inside the packaging of your new product supply item) or visit www.hp.com/recycle. Select your country/region for information on how to return your HP LaserJet printing supplies.

Paper

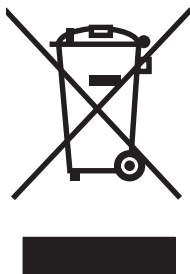
This product is capable of using recycled papers when the paper meets the guidelines outlined in the *HP LaserJet Printer Family Print Media Guide*. This product is suitable for the use of recycled paper according to EN12281:2002.

Material restrictions

This HP product does not contain added mercury.

This HP product does not contain a battery.

Disposal of waste equipment by users in private households in the European Union



This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

Material Safety Data Sheet (MSDS)

Material Safety Data Sheets (MSDS) for supplies containing chemical substances (for example, toner) can be obtained by accessing the HP Web site at www.hp.com/go/msds or www.hp.com/hpinfo/community/environment/productinfo/safety.

For more information

To obtain information about these environmental topics:

- Product environmental profile sheet for this and many related HP products
- HP's commitment to the environment
- HP's environmental management system
- HP's end-of-life product return and recycling program
- Material Safety Data Sheets

Visit www.hp.com/go/environment or www.hp.com/hpinfo/globalcitizenship/environment.

Declaration of conformity

Declaration of conformity

Declaration of Conformity

according to ISO/IEC 17050-1 and EN 17050-1, DoC#: BOISB-0801-00-rel.1.0

Manufacturer's Name: Hewlett-Packard Company
Manufacturer's Address: 11311 Chinden Boulevard,
Boise, Idaho 83714-1021, USA

declares, that the product

Product Name: HP LaserJet P2050 Series

Regulatory Model Number²⁾: BOISB-0801-00

Product Options: Including CE464A — Optional 500-sheet input tray
ALL


Print Cartridges: CE505A, CE505X

conforms to the following Product Specifications:

Safety: IEC 60950-1:2001 / EN60950-1: 2001 +A11
IEC 60825-1:1993 +A1 +A2 / EN 60825-1:1994 +A1 +A2 (Class 1 Laser/LED Product)
GB4943-2001

EMC: CISPR22:2005 / EN 55022:2006 - Class B¹⁾
EN 61000-3-2:2000 +A2
EN 61000-3-3:1995 +A1
EN 55024:1998 +A1 +A2
FCC Title 47 CFR, Part 15 Class B / ICES-003, Issue 4
GB9254-1998, GB17625.1-2003

Supplementary Information:

The product herewith complies with the requirements of the EMC Directive 2004/108/EC and the Low Voltage Directive 2006/95/EC, and carries the CE-Marking  accordingly.

This Device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

1) The product was tested in a typical configuration with Hewlett-Packard Personal Computer Systems.

2) For regulatory purposes, this product is assigned a Regulatory model number. This number should not be confused with the marketing name or the product number(s).

Boise, Idaho , USA

October 22, 2007

For regulatory topics only:

European Contact: Your Local Hewlett-Packard Sales and Service Office or Hewlett-Packard GmbH, Department HQ-TRE / Standards Europe., Herrenberger Strasse 140, , D-71034, Böblingen, (FAX: +49-7031-14-3143), <http://www.hp.com/go/certificates>

USA Contact: Product Regulations Manager, Hewlett-Packard Company,, PO Box 15, Mail Stop 160, Boise, ID 83707-0015, , (Phone: 208-396-6000)

Safety statements

Laser safety

The Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration has implemented regulations for laser products manufactured since August 1, 1976. Compliance is mandatory for products marketed in the United States. The device is certified as a "Class 1" laser product under the U.S. Department of Health and Human Services (DHHS) Radiation Performance Standard according to the Radiation Control for Health and Safety Act of 1968. Since radiation emitted inside the device is completely confined within protective housings and external covers, the laser beam cannot escape during any phase of normal user operation.

△ **WARNING!** Using controls, making adjustments, or performing procedures other than those specified in this user guide may result in exposure to hazardous radiation.

Canadian DOC regulations

Complies with Canadian EMC Class B requirements.

« Conforme à la classe B des normes canadiennes de compatibilité électromagnétiques. « CEM ». »

VCCI statement (Japan)

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。
取扱説明書に従って正しい取り扱いをして下さい。

Power cord statement (Japan)

製品には、同梱された電源コードをお使い下さい。
同梱された電源コードは、他の製品では使用出来ません。

EMI statement (Korea)

B급 기기 (가정용 정보통신기기)
이 기기는 가정용으로 전자파적합등록을 한 기기로서
주거지역에서는 물론 모든지역에서 사용할 수 있습니다.

Laser statement for Finland

Luokan 1 laserlaite

Klass 1 Laser Apparat

HP LaserJet P2055d, P2055dn, P2055x , laserkirjoitin on käyttäjän kannalta turvallinen luokan 1 laserlaite. Normaalisissa käytöissä kirjoittimen suojakotelointi estää lasersäteen pääsyn laitteen ulkopuolelle. Laitteen turvallisuusluokka on määritetty standardin EN 60825-1 (1994) mukaisesti.

VAROITUS !

Laitteen käyttäminen muulla kuin käyttöohjeessa mainitulla tavalla saattaa altistaa käyttäjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

WARNING !

Om apparaten används på annat sätt än i bruksanvisning specificerats, kan användaren utsättas för osynlig laserstrålning, som överskrider gränsen för laserklass 1.

HUOLTO

HP LaserJet P2055d, P2055dn, P2055x - kirjoittimen sisällä ei ole käyttäjän huollettavissa olevia kohteita. Laitteen saa avata ja huoltaa ainoastaan sen huoltamiseen koulutettu henkilö. Tällaiseksi huoltotoimenpiteeksi ei katsota väriainekasetin vaihtamista, paperiradan puhdistusta tai muita käyttäjän käsikirjassa lueteltuja, käyttäjän tehtäväksi tarkoitettuja ylläpitotoimia, jotka voidaan suorittaa ilman erikoistyökaluja.

VARO !

Mikäli kirjoittimen suojakotelo avataan, olet alttiina näkymättömälle lasersäteilylle laitteen ollessa toiminnassa. Älä katso säteeseen.

WARNING !

Om laserprinterns skyddshölje öppnas då apparaten är i funktion, utsättas användaren för osynlig laserstrålning. Betrakta ej strålen. Tiedot laitteessa käytettävän laserdiodin säteilyominaisuuksista: Aallonpituus 775-795 nm Teho 5 m W Luokan 3B laser.

Substances Table (China)

有毒有害物质表

根据中国电子信息产品污染控制管理办法的要求而出台

部件名称	有毒有害物质和元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
打印引擎	X	0	X	X	0	0
控制面板	0	0	0	0	0	0
塑料外壳	0	0	0	0	0	0
格式化板组件	X	0	0	0	0	0
碳粉盒	X	0	0	0	0	0

3043

0：表示在此部件所用的所有同类材料中，所含的此有毒或有害物质均低于 SJ/T11363-2006 的限制要求。

X：表示在此部件所用的所有同类材料中，至少一种所含的此有毒或有害物质高于 SJ/T11363-2006 的限制要求。

注：引用的“环保使用期限”是根据在正常温度和湿度条件下操作使用产品而确定的。

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