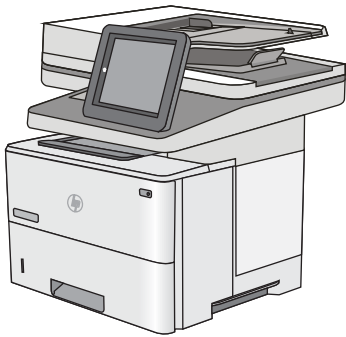


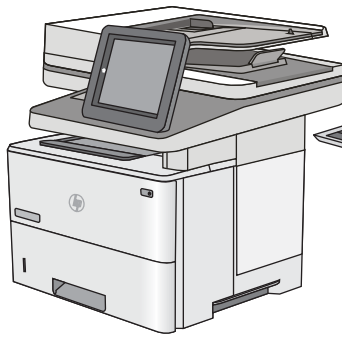


# LaserJet Pro M501 LaserJet Enterprise M506 LaserJet Enterprise MFP M527

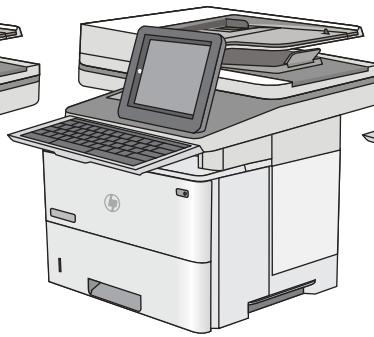
## Troubleshooting Manual



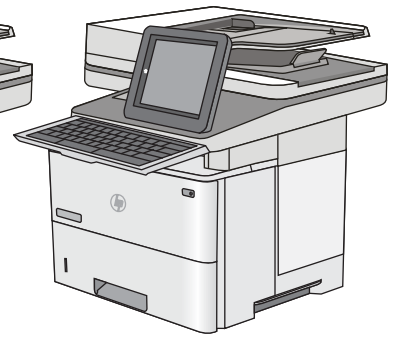
M527dn



M527f



M527c



M527z



M501n  
M506n



M501dn  
M506dn



M506x



[www.hp.com/support/ljM501](http://www.hp.com/support/ljM501)  
[www.hp.com/support/ljM506](http://www.hp.com/support/ljM506)  
[www.hp.com/support/ljM527MFP](http://www.hp.com/support/ljM527MFP)  
For printer part removal and part number  
information, see the Repair Manual.





**HP LaserJet Pro M501, HP LaserJet  
Enterprise M506, and LaserJet Enterprise  
MFP M527**

**Troubleshooting Manual**

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## Conventions used in this guide

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 **TIP:** Helpful hints or shortcuts.

**Reinstallation tip:** Reinstallation helpful hints, shortcuts, or considerations.

 **NOTE:** Information that explains a concept or how to complete a task.

 **IMPORTANT:** Information that help the user to avoid potential printer error conditions.

 **CAUTION:** Procedures that the user must follow to avoid losing data or damaging the printer.

 **WARNING!** Procedures that the user must follow to avoid personal injury, catastrophic loss of data, or extensive damage to the printer.

---



## For additional service and support information

HP service personnel, go to the Service Access Work Bench (SAW) at <http://h41302.www4.hp.com/km/saw/home.do>.

Channel partners, go to HP Channel Services Network (CNS) at <https://h30125.www3.hp.com/hpcsn>.

At these locations, find information on the following topics:

- Install and configure
- Printer specifications
- Up-to-date control panel message (CPMD) troubleshooting
- Solutions for printer issues and emerging issues
- Remove and replace part instructions and videos
- Service advisories
- Warranty and regulatory information

To access HP PartSurfer information from any mobile device, go to <http://partsurfermobile.hp.com/> or scan the Quick Response (QR) code below.







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---

# 1 Theory of operation

- [Related documentation and software](#)
- [Basic operation](#)
- [Formatter-control system](#)
- [Engine-control system](#)
- [Engine laser/scanner system](#)
- [Pickup, feed, and delivery system](#)
- [Input accessories](#)
- [Scanning and image capture system \(M527\)](#)
- [Document feeder system \(M527\)](#)
- [Fax functions and operation \(fax models only\)](#)

## Related documentation and software

HP service personnel, go to the Service Access Work Bench (SAW) at <http://h41302.www4.hp.com/km/saw/home.do>.

Channel partners, go to HP Channel Services Network (CSN) at <https://h30125.www3.hp.com/hpcsn>.



## Basic operation

The printer routes all high-level processes through the formatter, which stores font information, processes the print image, and communicates with the host computer.

The basic printer operation comprises the following systems:

- The engine-control system, which includes the high-voltage and low-voltage power supplies (HVPS and LVPS), fuser control circuits, and the DC controller printed circuit assembly (PCA)
- The laser/scanner system, which forms the latent image on the photosensitive drum
- The image-formation system, which transfers a toner image onto the paper
- The pickup, feed and delivery system, which uses a system of rollers and belts to transport the paper through the printer
- Accessory (optional paper feeder)

**Figure 1-1** Relationship between the main printer systems

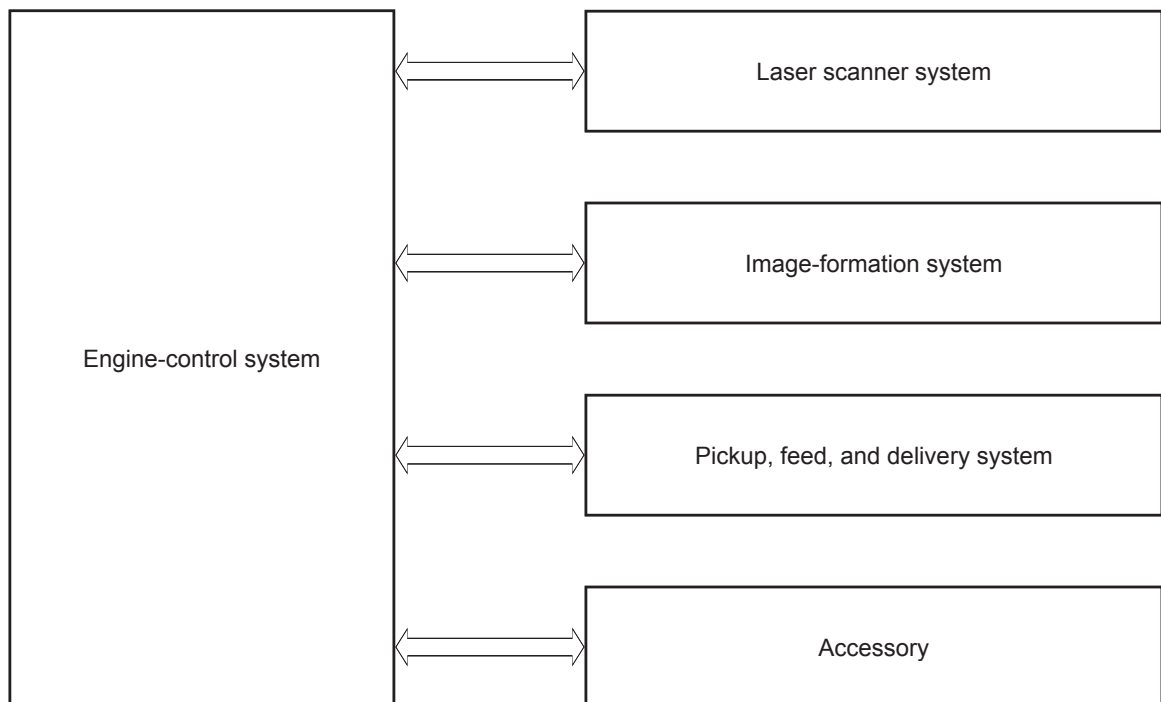
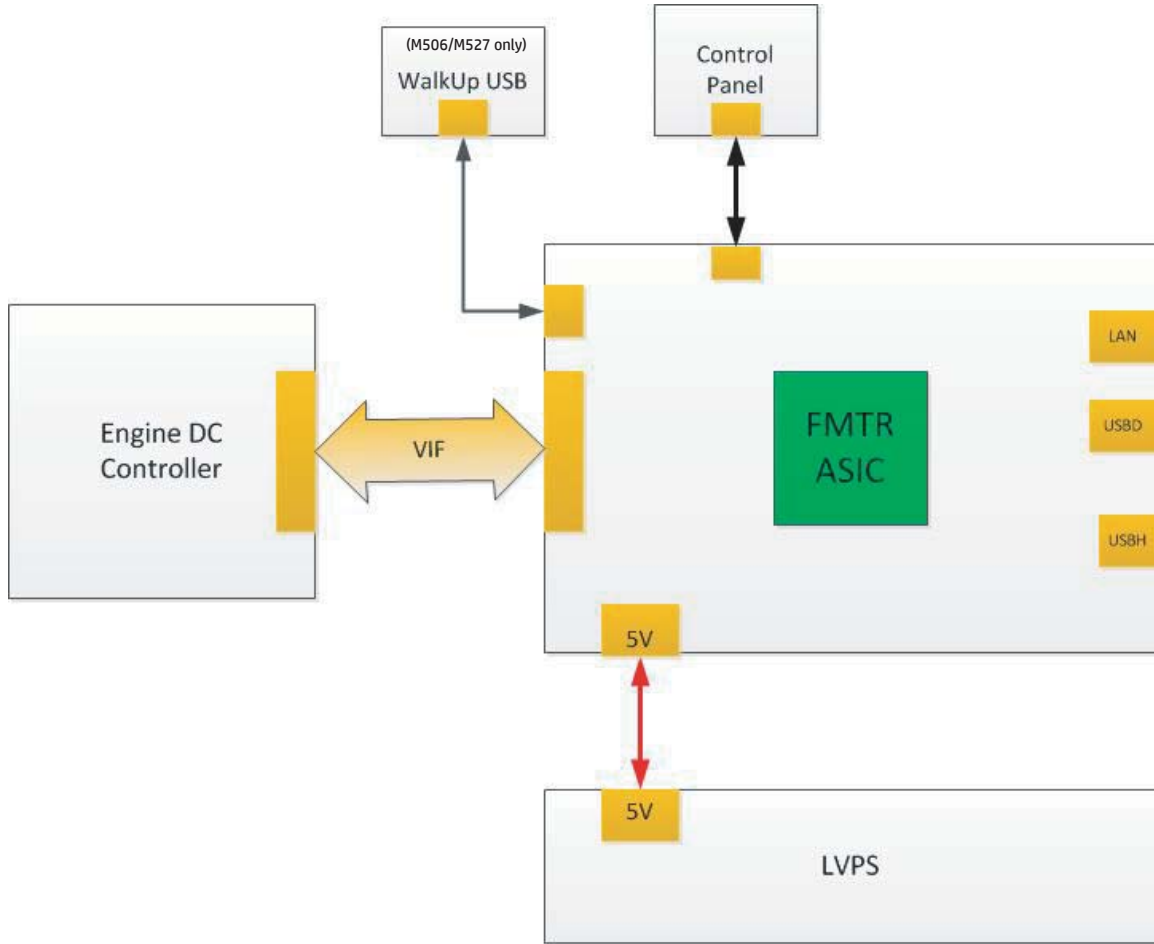


Figure 1-2 System block diagram



## Sequence of operation

The DC controller PCA controls the operating sequence, as described in the following table.

**Table 1-1 Sequence of operation**

| Period           | Duration  | Description   |
|------------------|---|---|
| Waiting          | From the time the power is turned on, the door is closed, or when the printer exits Sleep mode until the printer is ready for printing.   | <ul style="list-style-type: none"> <li>• Heats the fuser film in the fuser</li> <li>• Detects the toner cartridge</li> <li>• Rotates and stops each motor</li> <li>• Rotates and stops each fan</li> <li>• Cleans the transfer roller</li> </ul>  |
| Standby          | From the end of the waiting sequence, the last rotation until the formatter receives a print command, or until the printer is turned off. | <ul style="list-style-type: none"> <li>• Is in the Ready state</li> <li>• Enters Sleep mode if the formatter sends the sleep command</li> <li>• Rotates and stops each fan</li> </ul>   |
| Initial rotation | From the time the formatter receives a print command until the paper enters the paper path.   | <ul style="list-style-type: none"> <li>• Rotates each motor</li> <li>• Rotates each fan</li> <li>• Activates the high-voltage power supply (high-voltage bias)</li> <li>• Prepares the laser/scanner unit</li> <li>• Warms the fuser to the correct temperature</li> </ul>  |
| Printing         | From the time the first sheet of paper enters the paper path until the last sheet has passed through the fuser.                           | <ul style="list-style-type: none"> <li>• Forms the image on the photosensitive drums</li> <li>• Transfers the toner to the paper</li> <li>• Fuses the toner image onto the paper</li> </ul>   |
| Last rotation    | From the time the last sheet of paper exits the fuser until the motors stop rotating.   | <ul style="list-style-type: none"> <li>• Stops each motor</li> <li>• Stops each fan</li> <li>• Stops the high-voltage power supply (high-voltage bias)</li> <li>• Stops the laser/scanner unit</li> <li>• Turns the fuser heater off</li> <li>• If another print command is received, the printer enters the initial rotation period when the last rotation is complete.</li> </ul> |

## Formatter-control system

The formatter performs the following functions:

- Controls sleep mode
- Receives and processes print data from the various printer interfaces
- Monitors control panel functions and relaying printer status information through the control panel and the network or bi-directional interface
- Develops and coordinates data placement and timing with the DC controller PCA
- Stores font information
- Communicates with the host computer through the network or the bidirectional interface

The formatter receives a print job from the network or bidirectional interface and separates it into image information and instructions that control the printing process. The DC controller PCA synchronizes the image formation system with the paper input and output systems, and then signals the formatter to send the print image data.


## Sleep delay (M501)

When the printer is in sleep delay mode, the control-panel backlight is turned off, but the printer retains all printer settings, downloaded fonts, and macros. The default setting is a 5-minute idle time. This setting can be changed by using the control panel menus or the HP Embedded Web Server (EWS).

The printer exits sleep delay mode and enters the warm-up cycle when any of the following occurs.

- A print job, valid data, or a PML or PJJL command is received at the serial port.
- The control panel is touched (button press or touchscreen touch depending on model).
- A tray is opened.


---

 **TIP:** Error messages override the sleep delay message. The printer enters sleep mode at the appropriate time, but the error message continues to appear.

---

## Sleep mode (M506/M527)

---

 **NOTE:** In the [General Settings](#) menu (a submenu of the [Administration](#) menu), this item is termed [Sleep Timer Settings](#).

---

This feature conserves power after the printer has been idle for an adjustable period of time. When the printer is in Sleep mode, the printer retains all settings, downloaded fonts, and macros. The default setting is for Sleep mode to be enabled, and the printer enters Sleep mode after a 30-second idle time.

The printer firmware uses a combination of timers and Sleep settings to control when the printer enters a different state, as well as what states the printer will enter. The available states are listed below, in descending order, from using the most power to using the least power:

- **Active:** The printer control panel is fully illuminated. The power button light is illuminated.
- **Shallow sleep:** The printer control panel is dim and the content is grayed out, but is still readable. The power button light is illuminated.

- **Sleep:** The printer control panel is off (blacked out). The power button light blinks once every three seconds.
- **Deep sleep:** The printer control panel is off (blacked out). The power button light blinks once every three seconds. The control panel and power button appearance is the same in this state as the sleep state. However, the printer is drawing less than 1 watt of power in the deep sleep state (as opposed to 6 watts of power in the sleep state).
- **Off:** This state is entered by pressing the power button or removing power from the printer. The power button light is not illuminated.

The printer exits Sleep mode and enters the warm-up cycle when any of the following events occur:

- The printer receives a print job, valid data, or a PML or PJI command.
- A control-panel button is pressed or the touchscreen is touched.
- A cover or door is opened.
- The engine-test switch is pressed.
- A paper tray, other than Tray 1, is opened.



**NOTE:** If the printer is in the deep sleep state, opening a paper tray will not cause the printer to exit Sleep mode.



**NOTE:** Printer error messages override the Sleep message. The printer enters Sleep mode at the appropriate time, but the error message continues to appear.



**TIP:** When the printer is in Sleep mode, the sub-power supply is off and the low-voltage power supply is on.

## Auto On / Auto Off mode (M501)

1. On the printer control panel, press the **OK** button.
2. Open the following menus:
  - [System Setup](#)
  - [Energy Settings](#)
  - [Sleep/Auto Off After](#)
3. Use the arrow keys to select the time for the [Sleep/Auto Off](#) delay, and then press the **OK** button.

## Printer job language (PJI)

PJI is an integral part of printer configuration, in addition to the standard printer command language (PCL) and PostScript (PS). With standard cabling, the printer can use PJI to perform a variety of functions, such as these:

- **Two-way communication with the host computer through a network connection or a USB device port:** The printer can inform the host about the control-panel settings, and the control-panel settings can be changed from the host.
- **Dynamic I/O switching:** The printer uses this switching to be configured with a host on each I/O. The printer can receive data from more than one I/O simultaneously, until the I/O buffer is full. This can occur even when the printer is offline.

- **Context-sensitive switching:** The printer can automatically recognize the personality (PS or PCL) of each job and configure itself to serve that personality.
- **Isolation of print environment settings from one print job to the next:** For example, if a print job is sent to the printer in landscape mode, the subsequent print jobs print in landscape only if they are formatted for landscape printing.

## Printer management language (PML)

PML allows remote configuration of the printer and status read-back from the printer through the I/O ports.

## Control panel

The M501n and M501dn control panel is a 2-line backlit control panel display with numeric keypad and additional buttons for navigating control panel menus.

The M506n and M506dn control panel is a 4-line backlit control panel display with numeric keypad and additional buttons for navigating control panel menus. The M506x control panel is a 10.9 cm (4.3 in) full-color SVGA with infrared touchscreen and adjustable viewing angle.

The control panel for all of the M527 models is a 20.3 cm (8 in) full-color SVGA with infrared touchscreen and adjustable viewing angle.

## Easy-access USB port (M506/M527)

All models feature easy-access USB printing, for quickly printing files without sending them from a computer. The printer accepts standard USB flash drives in the USB port near the control panel. It supports the following types of files:

- .pdf
- .jpg
- .prn and .PRN
- .cht and .CHT
- .pxl
- .pcl and .PCL
- .ps and .PS
- .doc and .docx
- .ppt and .pptx

The USB port is disabled by default. Follow the instructions in the printer user guide to enable the USB port and print USB documents.

## Wireless (wireless models only)

The M506x and M527z models contain a wireless card to enable wireless direct printing over an 802.11b/g/n wireless connection.



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**NOTE:** This card does not enable the printer to connect to the network.

---

## Low end data model (LEDM) overview (M501)

The low-end data model (LEDM) provides one consistent data representation method and defines the dynamic and capabilities tickets shared between clients and devices, as well as the access protocol, event, security, and discovery methods.


## Advanced control language (ACL) overview (M501)

The advanced control language (ACL) is a language that supports printer control and firmware downloads in printers that support both PJL/PCL and host-based printing. Each sequence of ACL commands must be preceded by a unified exit command (UEL) and an @PJL ENTER LANGUAGE=ACL command. The ACL sequence is always followed by a UEL. Any number of commands can be placed between the UELs. The only exception to these rules is the download command. If a firmware download is done, the download command must be the last command in the sequence. It will not be followed by a UEL.

The firmware searches for the UEL sequence when parsing commands. However, while downloading binary data such as host-based code or NVRAM data the firmware suspends UEL parsing. To handle hosts that “disappear” during binary sequences, the firmware times out all ACL command sessions. If a timeout occurs during a non-download command sequence, it is treated as the receipt of a UEL. If a timeout occurs during firmware download, the printer resets.

## Near field communication (NFC; M506/M527)

The M506x and M527z models support NFC capabilities. NFC enables a connection between the printer and a mobile device, such as a smartphone or tablet, by touching the device to the NFC icon on the bottom of the control panel. Documents and images from the mobile device can then be printed through the wireless card on the printer.

 **NOTE:** The customer can purchase a NFC accessory and add this functionality to other M506/M527 models.

## CPU

The formatter incorporates a 1.2 GHz processor.

## Input/output (I/O)

The printer supports the following interfaces:


- Hi-Speed USB 2.0
- USB hosts
- 10/100/1000 Ethernet LAN connection with IPv4 and IPv6
- Fax PCA (fax models only)

 **NOTE:** The M527 includes a fax phone line connection.

- Easy-access USB printing (no computer required; M506/M527)
- HP near field communication (NFC) for printing from mobile devices (M506x and M527z models only)
- Wi-Fi Direct for printing from mobile devices (M506x and M527z models only)

## Memory

The formatter incorporates different types of memory and storage to store the printer firmware as well as print-job data and user settings.

 **NOTE:** M501 only: If the printer encounters a problem when managing available memory, a clearable warning message displays on the control panel.

## Firmware

For the M501, Memory on the formatter stores the firmware. A remote firmware upgrade process is used to overwrite and upgrade the firmware.

For the M506n, M506dn, M506x, and M527dn models, the embedded MultiMedia Card (eMMC) on the formatter stores the firmware. For the M527c/f and Flow M527z models, the high-performance hard disk stores the firmware. A firmware upgrade process is used to overwrite and upgrade the firmware. The upgrade can use a network connection (remote upgrade) or be accomplished by using a USB flash drive.

## Nonvolatile random access memory (NVRAM)

The printer uses NVRAM to store printer and user configuration settings. The contents of NVRAM are retained when the printer is turned off or disconnected.



## Random access memory (RAM)

The RAM on the formatter serves as a temporary storage area for printing and system operation.

## HP Memory Enhancement technology (MEt)

MEt effectively doubles the amount of standard memory through a variety of font- and data-compression methods.



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**NOTE:** MEt is available only when printing in printer command language (PCL) mode. It is not functional when printing in PostScript (PS) mode.

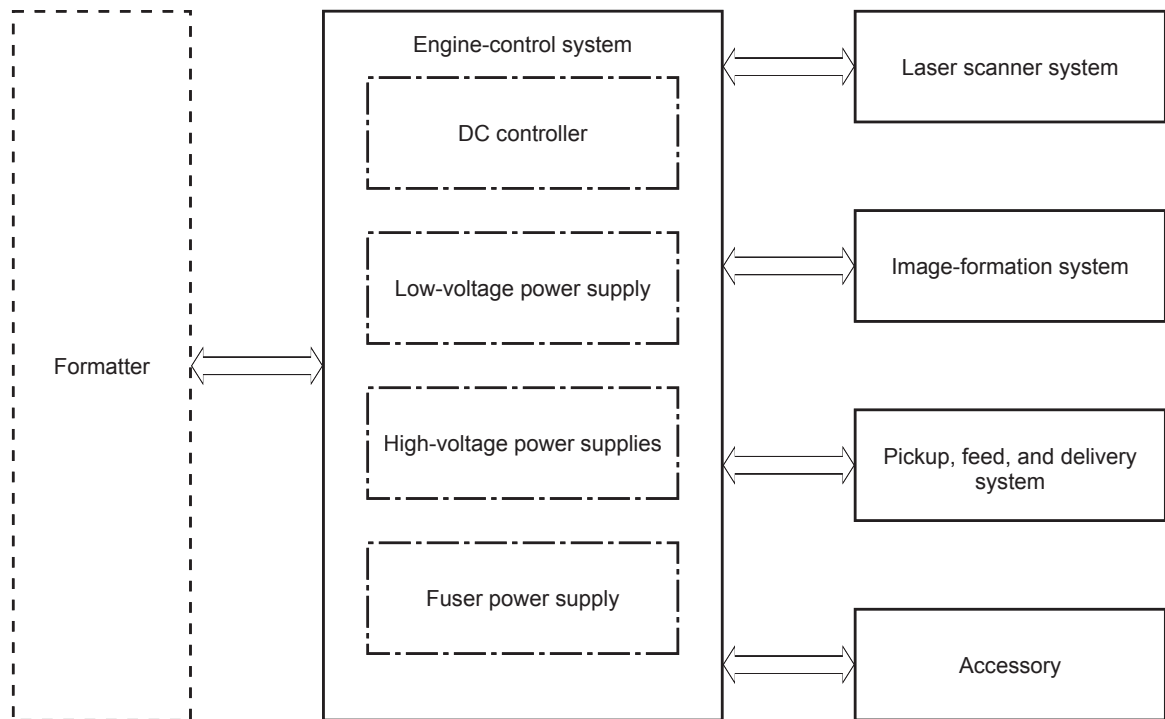
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## Engine-control system

The engine-control system receives commands from the formatter and interacts with the other main systems to coordinate all printer functions. The engine-control system consists of the following components:

- DC controller
- Low-voltage power supply
- High-voltage power supplies
- Fuser power supply

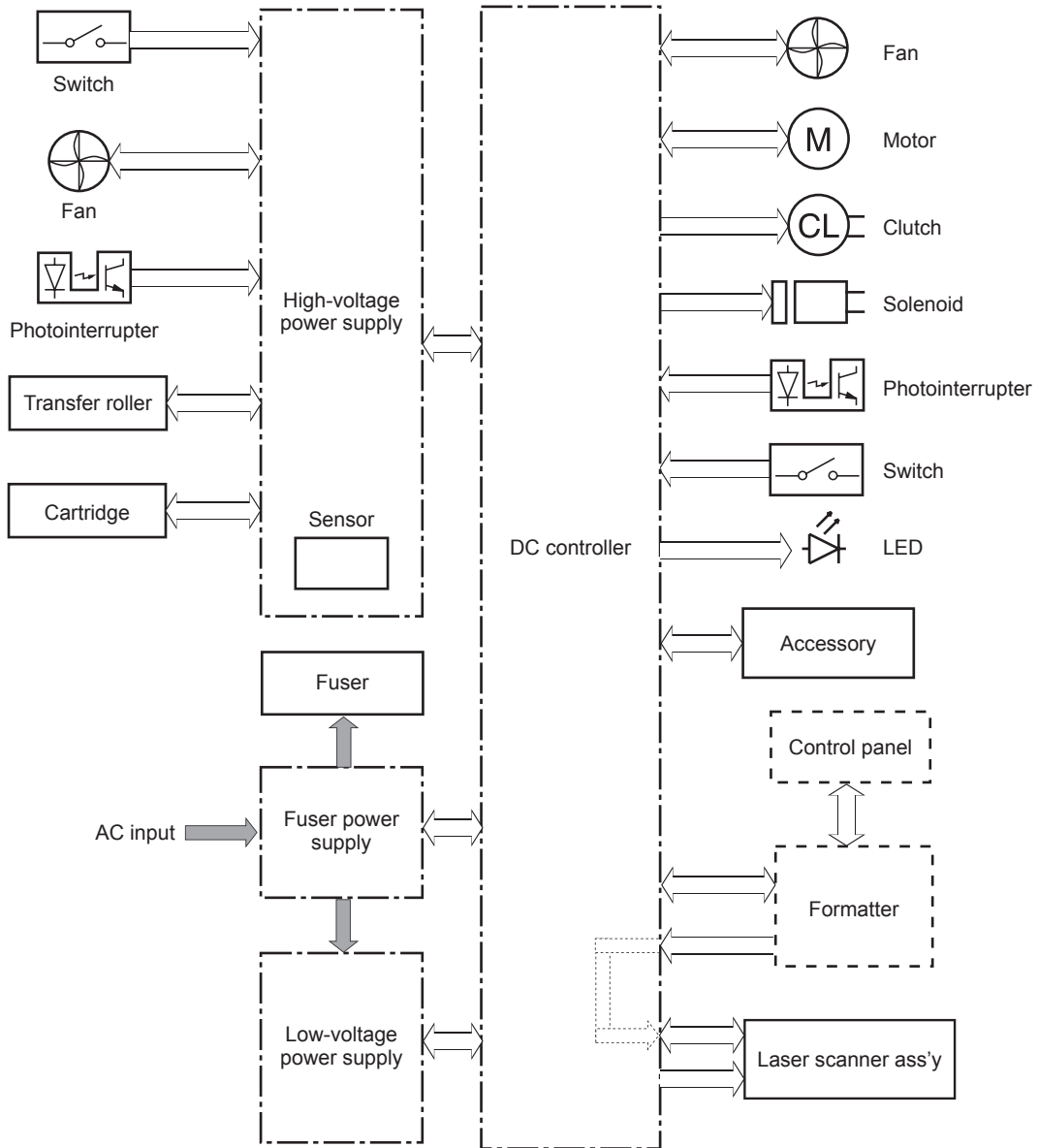
**Figure 1-3** Engine-control system



## DC controller

The DC controller controls the operation of the printer and its components. The DC controller starts the printer operation when the printer power is turned on and the power supply sends DC voltage to the DC controller. After the printer enters the standby period, the DC controller sends out various signals to operate motors, solenoids, and other printer components based on the print command and image data that the host computer sends.

**Figure 1-4** DC controller block diagram



## Motors

The printer has four motors. The motors drive the components in the paper-feed and image-formation systems.

The DC controller monitors the fuser motor and the scanner motor to determine if a motor has failed. It notifies the formatter when it encounters the following conditions:

- Startup failure: the motor does not reach a specified speed within a specified time from when the motor starts.
- Rotational failure: the rotational speed of the motor is not in the specified range for a specified time after the motor reaches a specified speed.

**Table 1-2 Motors**

| Abbreviation | Name          | Purpose   | Failure detection |
|--------------|---------------|---|-------------------|
| M1           | Fuser motor   | Drives the pressure roller and delivery roller; the pressurization and release of the pressure roller; and the engagement and disengagement of the primary and secondary transfer rollers | Yes               |
| M2           | Pickup motor  | Drives the Tray 1 pickup roller, the Tray 2 pickup and feed rollers, the registration roller, and the feed roller   | Yes               |
| M3           | Scanner motor | Drives the scanner mirror   | Yes               |
| M4           | Lifter motor  | Drives the Tray 2 lifter  | Yes               |

## Fans

The printer has two fans for preventing the temperature from rising in the printer and for cooling the printed pages.

The DC controller determines if there is a fan failure and notifies the formatter if a fan locks for a specified time from when the fan starts.

**Table 1-3 Fans**

| Abbreviation | Name     | Cooling area                                      | Type   | Speed     |
|--------------|----------|---|--------|-----------|
| FM1          | Main fan | Toner cartridge and laser scanner assembly        | Intake | Full      |
| FM2          | Sub fan  | Around the low-voltage power supply and formatter | Intake | Full/half |

## Solenoids

**Table 1-4 Solenoids**

| Component abbreviation | Component name                                  |
|------------------------|---|
| SL1                    | Tray 2 pickup solenoid                          |
| SL2                    | Tray 1 pickup solenoid                          |
| SL3                    | Duplex switchback solenoid (duplex models only) |

## Clutches

**Table 1-5 Clutches**

| Component abbreviation | Component name                               |
|------------------------|--|
| CL1                    | Duplex re-pickup clutch (duplex models only) |

## Switches

**Table 1-6 Switches**

| Component abbreviation | Component name          |
|------------------------|-------------------------|
| SW1                    | Power switch            |
| SW2                    | Cartridge door switch   |
| SW4                    | Tray 2 detection switch |
| SW5                    | Rear door switch        |
| SW201                  | Test print switch       |

## Photointerrupter sensors

**Table 1-7 Photointerrupter sensors**

| <b>Component abbreviation</b> | <b>Component name</b>                   |
|-------------------------------|---|
| PS1a                          | Media-width sensor                      |
| PS2b                          | Duplex feed sensor (duplex models only) |
| PS1                           | Tray 2 media out sensor                 |
| PS2                           | Top-of-page (TOP) sensor                |
| PS3                           | Tray 1 media-out sensor                 |
| PS4                           | Output bin media-full sensor            |
| PS11                          | Registration sensor                     |
| PS12                          | Media surface sensor                    |
| PS13                          | Fuser output sensor                     |

## Sensors

**Table 1-8 Sensors**

| <b>Component abbreviation</b> | <b>Component name</b> |
|-------------------------------|-----------------------|
| TH401                         | Environment sensor    |

## LEDs

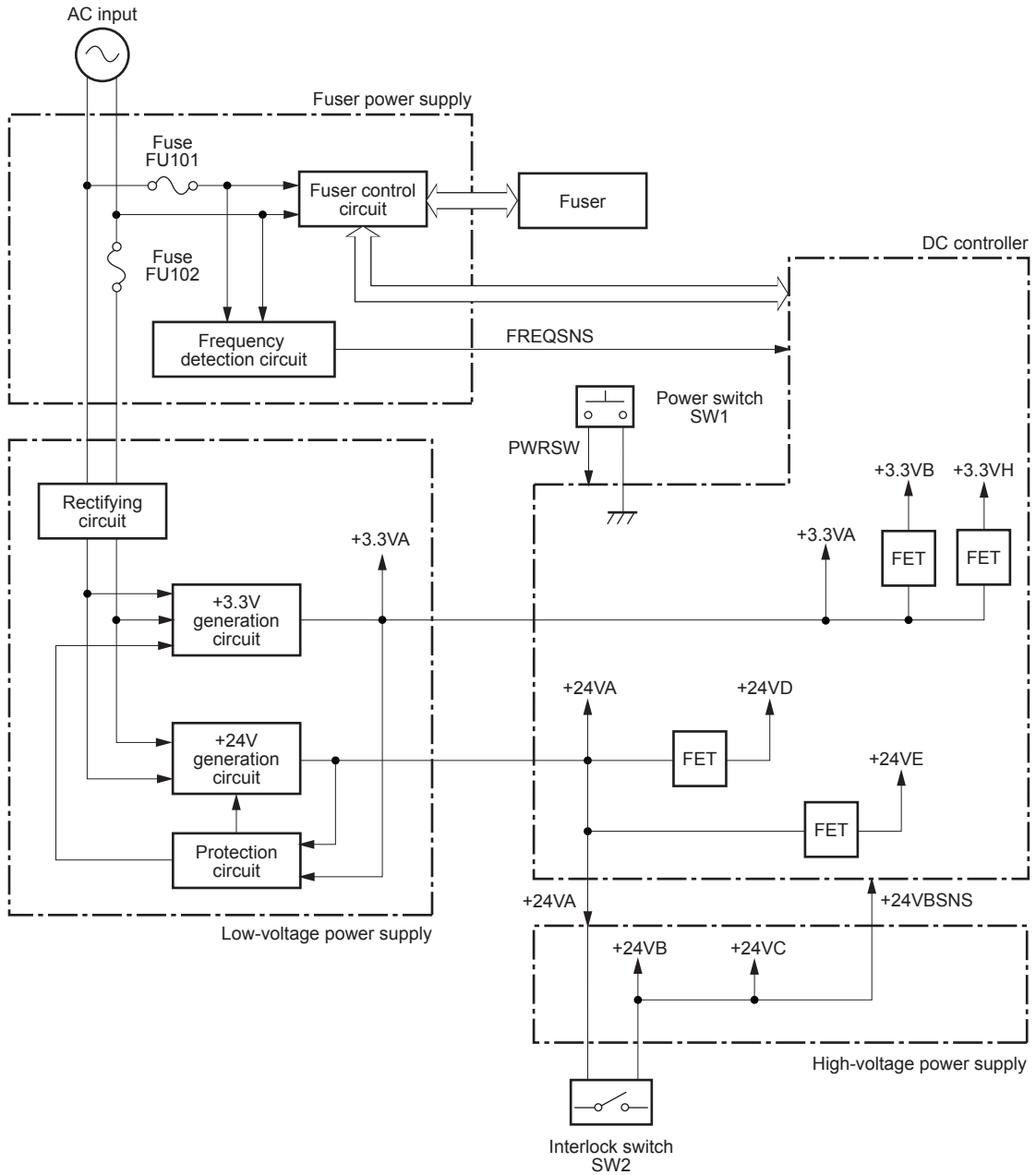
**Table 1-9 LEDs**

| <b>Component abbreviation</b> | <b>Component name</b> |
|-------------------------------|-----------------------|
| LED1                          | Power supply LED      |

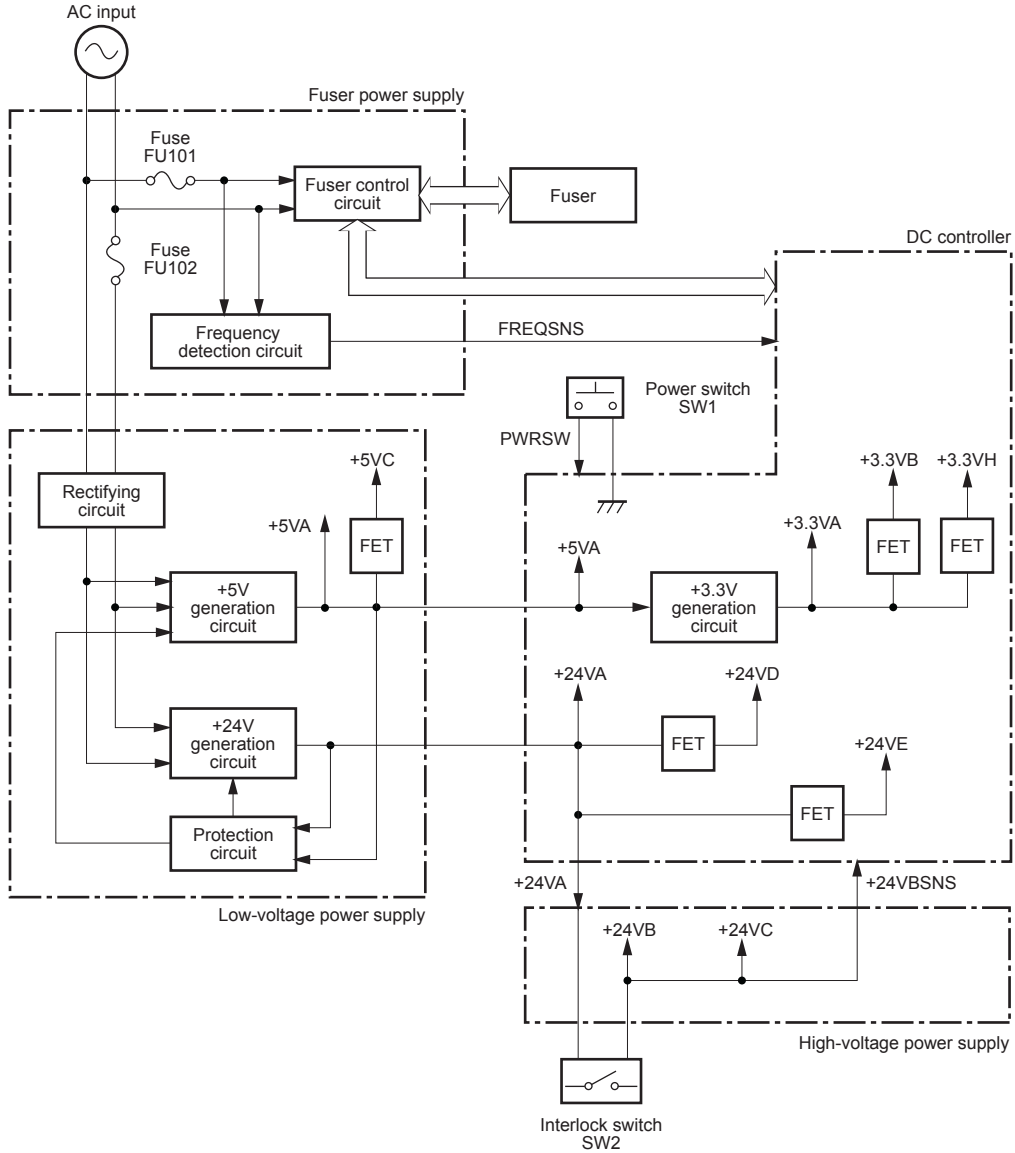
## Low-voltage power supply

The low-voltage power-supply (LVPS) circuit converts the AC power from the wall receptacle into the DC voltage that the printer components use.

**Figure 1-5** Low-voltage power-supply circuit (M501)



**Figure 1-6** Low-voltage power-supply circuit (M506/M527)





## Low-voltage power supply voltages description

The low-voltage power supply converts the AC power into two DC voltages, which it then subdivides, as described in the following table.

**Table 1-10** Converted DC voltages

| Main DC voltage | Sub-voltage                               | Behavior                                     |
|-----------------|---|--|
| +24 V           | +24 VA                                    | Constantly supplied                          |
|                 |   | Stopped during inactive OFF                  |
|                 |   | Becomes 4V during active OFF                 |
|                 | +24 VB                                    | Stopped when cartridge door is opened. (SW2) |
|                 |   | Stopped during active OFF or inactive OFF    |
|                 | +24 VC                                    | Stopped when cartridge door is opened. (SW2) |
|                 | Stopped during active OFF or inactive OFF |  |
|                 | +24 VD                                    | Constantly supplied                          |
|                 |   | Stopped during active OFF or inactive OFF    |
|                 | +24 VE (M527 only)                        | Constantly supplied                          |
|                 |   | Stopped during active OFF or inactive OFF    |
| +5 V            | +5 VA                                     | Constantly supplied                          |
|                 |   | Becomes 3.4V during inactive OFF             |
|                 | +5 VB                                     | Constantly supplied                          |
|                 |   | Stopped during active OFF or inactive OFF    |
|                 | +5 VC                                     | Constantly supplied                          |
|                 |   | Stopped during inactive OFF                  |
| +3.3 V          | +3.3 VA                                   | Constantly supplied                          |
|                 | +3.3 VB                                   | Constantly supplied                          |
|                 |   | Stopped during inactive OFF                  |
|                 | +3.3 VH                                   | Constantly supplied                          |
|                 | Stopped during inactive OFF               |  |
|                 |   | Supplied intermittently during inactive OFF  |

## Over-current/over-voltage protection

The low-voltage power supply automatically stops supplying the DC voltage to the printer components whenever it detects excessive current or abnormal voltage. The low-voltage power supply has a protective circuit against over-current and over-voltage to prevent failures in the power supply circuit.

**⚠ CAUTION:** If DC voltage is not being supplied from the low-voltage power supply, the protective function might be running. In this case, turn the power switch off and unplug the power cord.

Do not turn the power switch on until the root cause is found and corrected.

If the protective function is active, the DC controller notifies the formatter of a low-voltage power supply failure. In addition, the low-voltage power supply has two fuses to protect against over-current. If over-current flows into the AC line, the fuse stops the AC power.

## Safety

For personal safety, the printer interrupts +24VB and +24VC power when the cartridge door detection switch is turned off (see [Table 1-10 Converted DC voltages on page 19](#)), this stops DC power supply to the following load:

- High-voltage power supply (HVPS)

The remote switch control circuit turns on or off the printer power so that the AC power flows even the power switch is turned off. Unplug the printer power cord before disassembling the printer.

## Sleep mode operation (M506/M527)

Sleep mode conserves energy by stopping the power to several components when the printer is idle. If the DC controller detects voltage that is too high when the printer is in Sleep mode, it determines that the low-voltage power supply has failed, and it notifies the formatter.

## Low-voltage power supply failure detection (M506/M527)

The DC controller determines a low-voltage power supply failure and notifies the formatter when the low-voltage power supply does not supply +24 V.

## Low-voltage power supply functions

The printer has the following low-voltage power supply functions:

**Table 1-11 Low-voltage power supply functions**

| Function                                   | Supported feature |
|--|-------------------|
| Sleep mode                                 | No                |
| Power supply voltage detection             | No                |
| Automatic power OFF                        | No                |
| Automatic power ON/OFF                     | No                |
| Active OFF                                 | Yes               |
| Inactive OFF                               | Yes               |
| Network mode                               | No                |
| Power switch illumination                  | Yes               |
| Low-voltage power supply failure detection | Yes               |
| Power save mode                            | No                |
| Fast boot mode                             | Yes               |

## High-voltage power supply

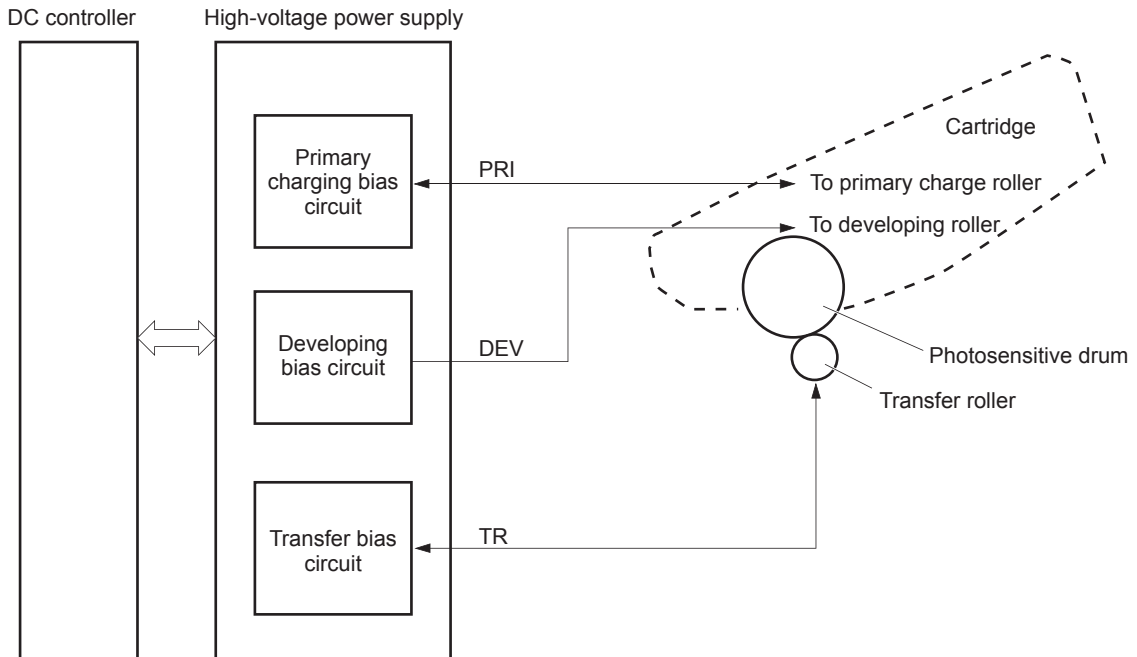
The DC controller controls the high-voltage power supply (HVPS) to generate biases. The high-voltage power supply delivers the high-voltage biases to the following components used to transfer toner during the image-formation process:

- Primary charging roller (in the toner cartridges)
- Developing roller (in the toner cartridges)
- Transfer roller
- Pressure roller

## High-voltage power supply circuits

The high-voltage power supply contains the following separate circuits.

**Figure 1-7** High-voltage power supply circuits



**Table 1-12** High-voltage power supply circuits

| Circuit                          | Description   |
|----------------------------------|---|
| Primary-charging-bias generation | The primary charging bias negatively charges the surface of the photosensitive drum to prepare for image formation. |
| Developing-bias generation       | The developing bias adheres toner to an electrostatic latent image formed on the photosensitive drum.               |
| Transfer-bias generation         | The primary transfer bias transfers the toner from the photosensitive drum onto the paper.                          |

## Fuser bias

The printer uses instant-on fusing. The fuser bias is DC positive for improved print quality. The fuser bias circuit is located in the high-voltage power supply.

## Fuser control

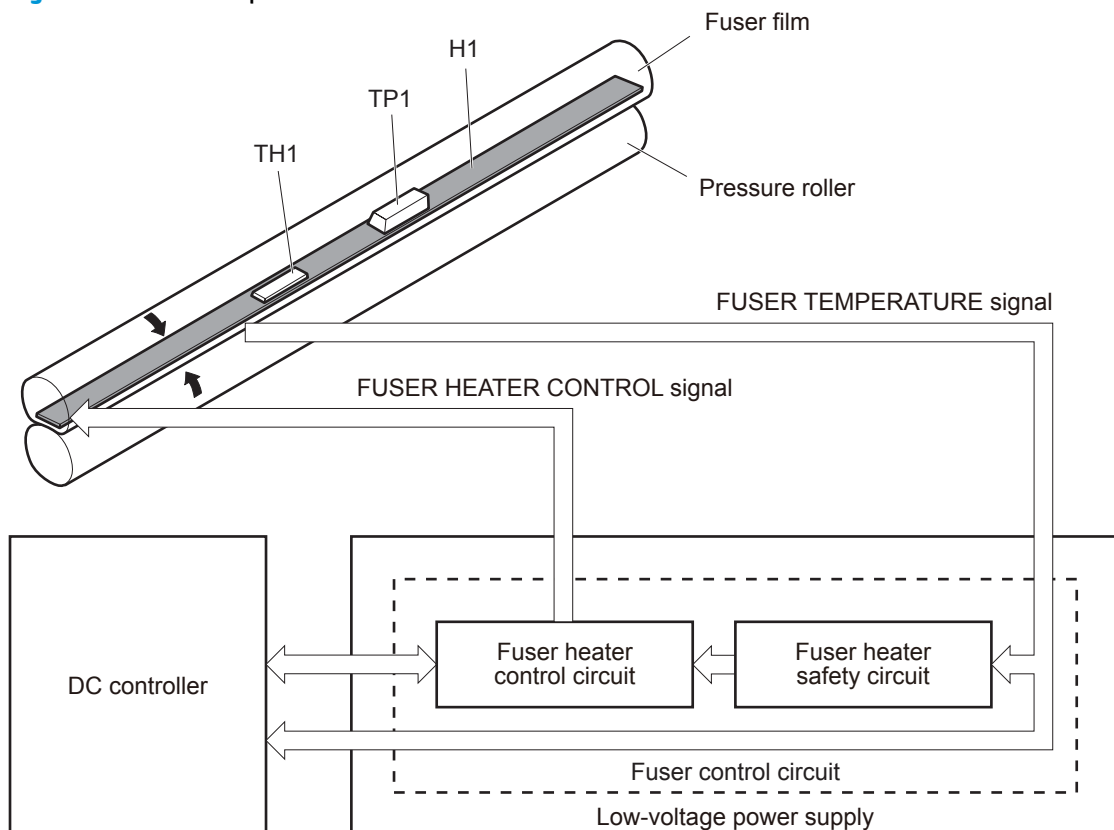
The DC controller and components in the fuser perform the following functions related to fuser operation:

- Control fuser temperature
- Detect fuser failures
- Prevent excessive temperature rise
- Detect remaining life in the fuser
- Determine if the correct fuser is installed

## Fuser circuits

The fuser heater control circuit and the fuser heater safety circuit control the fuser temperature according to commands from the DC controller. The fuser consists of the following major components:

**Figure 1-8** Fuser components



**Table 1-13** Fuser components

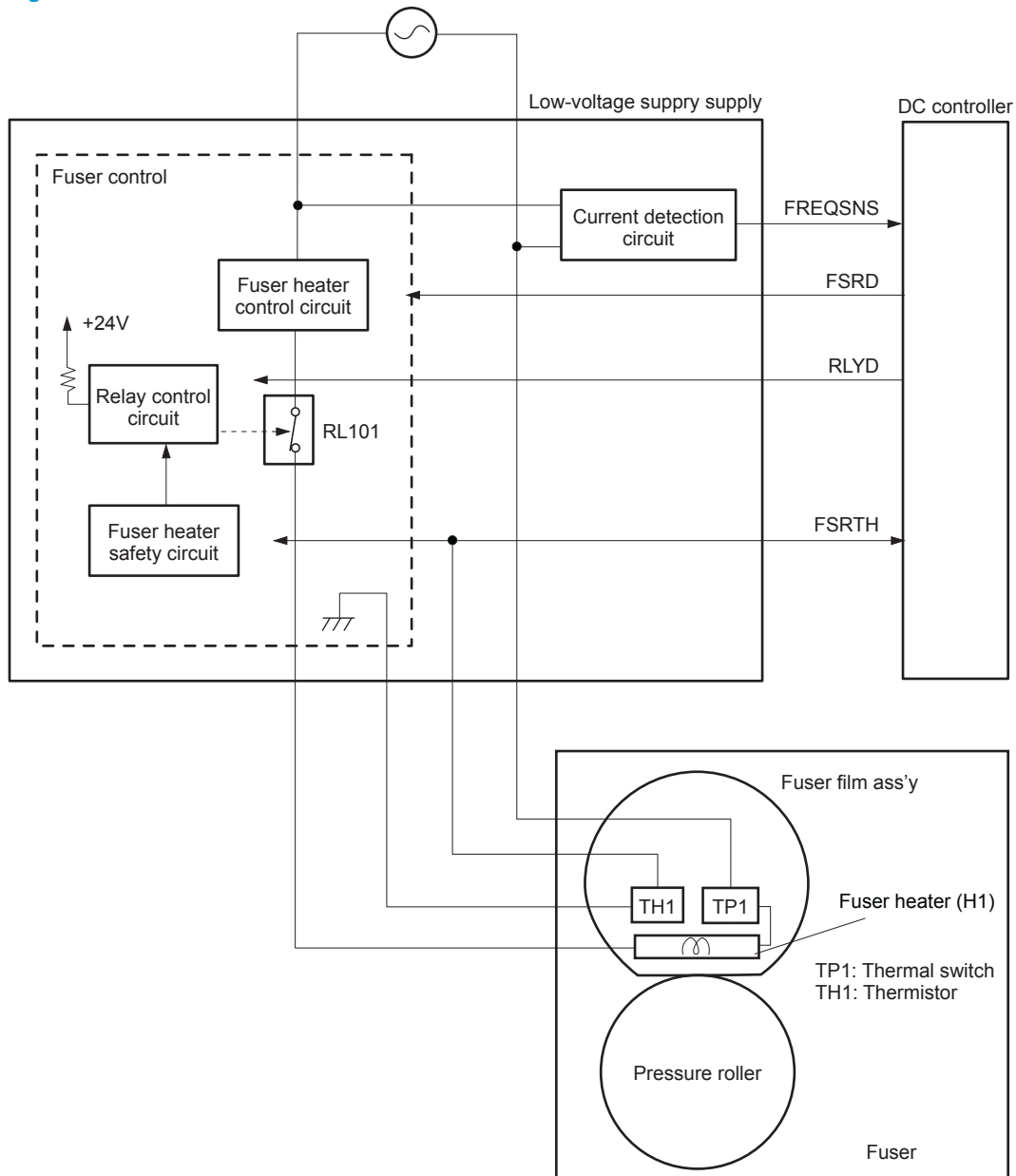
| Type of component | Abbreviation | Name              | Function                             |
|-------------------|--------------|-------------------|--------------------------------------|
| Heaters           | H1           | Fuser main heater | Heats the center of the fuser sleeve |

**Table 1-13 Fuser components (continued)**

| Type of component                | Abbreviation | Name            | Function  |
|----------------------------------|--------------|-----------------|---|
| Thermistors<br>(Contact type)    | TH1          | Main thermistor | Detects the center temperature of the fuser heater        |
| Thermal switch<br>(Contact type) | TP1          | Thermal switch  | Prevents an abnormal temperature rise in the fuser heater |

## Fuser control functions

**Figure 1-9 Fuser control**



The printer has the following fuser control functions.

**Table 1-14 Fuser control functions**

| Failure detection function                         | Supported feature |
|--|-------------------|
| Fuser temperature control                          | Yes               |
| Fuser failure detection                            | Yes               |
| Frequency detection circuit failure detection      | Yes               |
| Fuser pressure release mechanism failure detection | No                |
| Fuser type identification detection                | Yes               |
| Fuser presence detection                           | No                |
| Fuser life detection                               | Yes               |
| Relay failure detection                            | No                |
| Fuser roller cleaning                              | Yes               |

## Fuser heater protection

Fuser heater protection is a feature that detects excessive temperatures in the fuser and interrupts the power supply to the fuser heater.

The following three protective components prevent the fuser heater from excessive rising temperature:

- **DC controller:** When a thermistor or sub-thermistor detects a temperature above a certain threshold, the DC controller interrupts power to the specific heater.
- **Fuser-heater safety circuit:** The fuser heater safety circuit monitors the detected temperature of the sub thermistors.
- **Thermal switch:** If the temperature in the heaters is abnormally high, and the temperature in the thermostitch exceeds a specified value, the contact to the thermostitch breaks.

## Fuser unit life detection (M506/M527)

The fuser life is tracked by fuser rotations, and not by the number of pages printed. This is a more accurate tracking method since the fuser rotates for every print job. There will be variations in fuser life depending on customer usage. Customers who are running one and two page intermittent jobs with long pauses between each job might reach the fuser low message sooner due to the fuser rotating more times per page than it would for larger print jobs.

## Fuser identification (M506/M527)

The printer detects the type and presence of the fuser. The DC controller notifies the formatter when it fails to detect the type or presence of the fuser.



**NOTE:** This printer detects if a fuser of the correct voltage for the printer is installed. If a fuser of the incorrect voltage is installed, the DC controller notifies the formatter and an error message is displayed on the control panel.

## Engine laser/scanner system

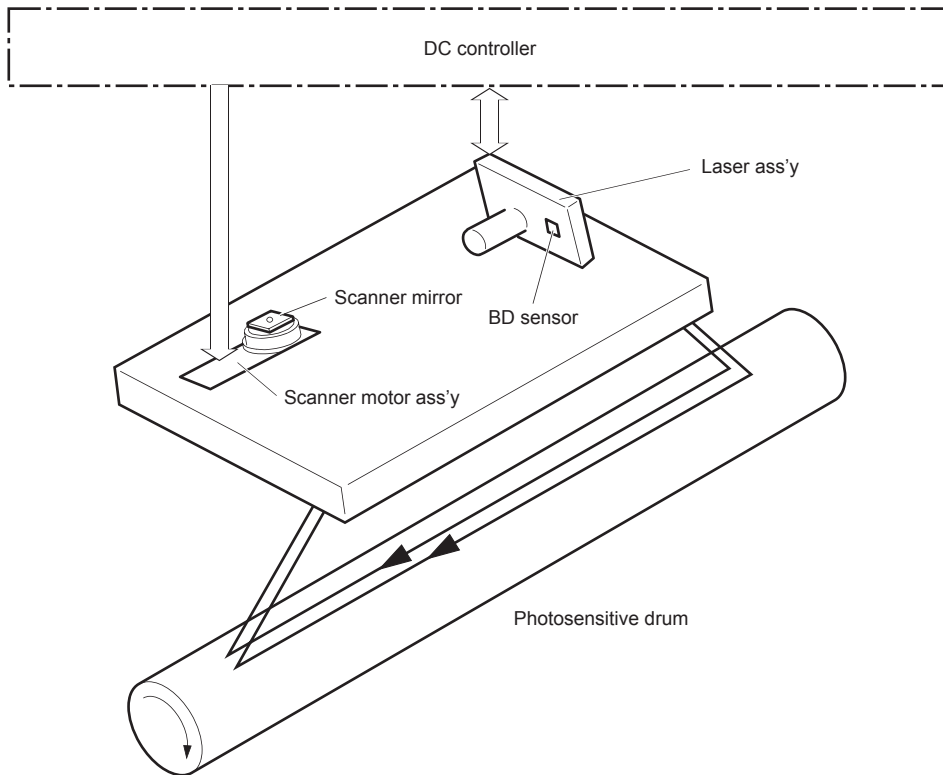
The laser/scanner system forms the latent electrostatic image on the photosensitive drums inside each of the toner cartridges.

The DC controller receives instructions from the formatter regarding the image of the page to be printed. The DC controller signals the lasers to emit light, and the laser beams pass through lenses and onto the scanner mirror, which rotates at a constant speed. The mirror reflects the beam onto the photosensitive drum in the pattern required for the image, exposing the surface of the drum so it can receive toner.

The main components of the laser/scanner system, which are controlled by signals sent from the DC controller, are:

- Laser assembly
- Scanner motor assembly
- Beam detect (BD) sensor
- Scanner mirror

**Figure 1-10** Laser/scanner system



## Laser/scanner failure detection

The DC controller determines an optical unit failure and notifies the formatter of the error status when any of the following occurs:

- **Beam detect (BD) failure detection:** The scan control board (SCB) does not detect the laser/scanner and/or the beam detect interval is outside a specified range during printing.
- **Laser/scanner motor startup failure:** The scanner motor does not reach a specified rotation frequency within a specified period of time from when the laser/scanner starts up.
- **Laser/scanner motor abnormal rotation:** The laser/scanner motor does not reach a specified rotational frequency within a specified period of time during a print operation.

## Safety

The laser/scanner assembly has a mechanical laser shutter. For the safety of users and service technicians, the laser shutter interrupts the optical path of the laser/scanner assembly when the top door is opened (SW101).



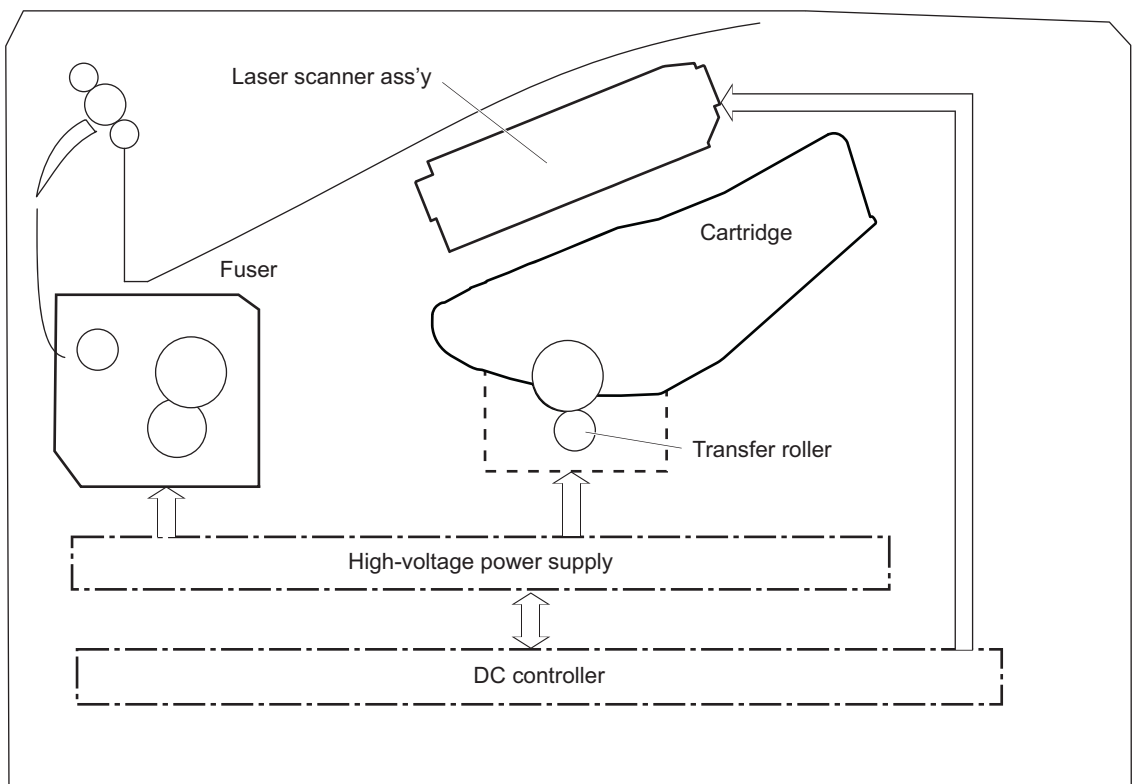
## Image-formation process

The image-formation system creates the printed image on the paper. The system consists of the following components:

- Toner cartridge
- Transfer roller
- Fuser
- Laser/scanner
- High-voltage power supply

The DC Controller controls the internal components of the image formation system (according to commands received from the formatter) to form the toner image on the photosensitive drum surface. The toner image is then transferred to the print media and fused.

**Figure 1-11** Image-formation system



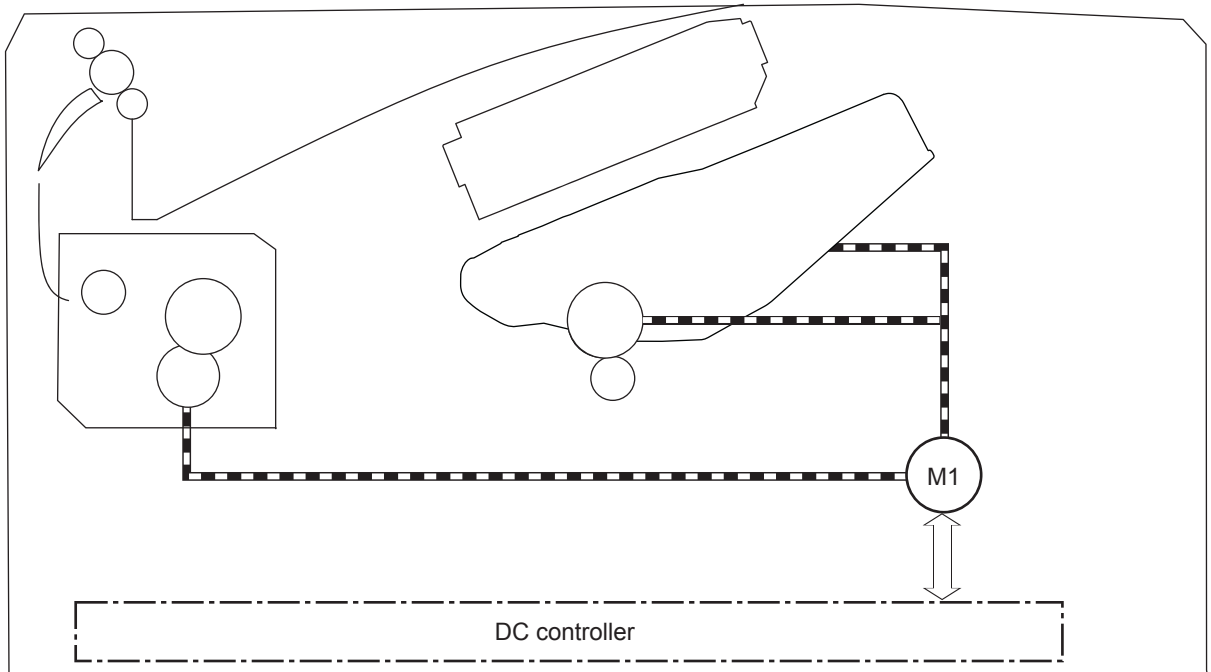
The fuser motor (M1) drives the following image formation components:

- Photosensitive drum
- Developing roller
- Primary charging roller (follows the photosensitive drum)
- Transfer roller (follows the photosensitive drum)

- Pressure roller
- Fuser film (follows the pressure roller)

 **NOTE:** The primary charging roller and developer roller are located in the toner cartridge.

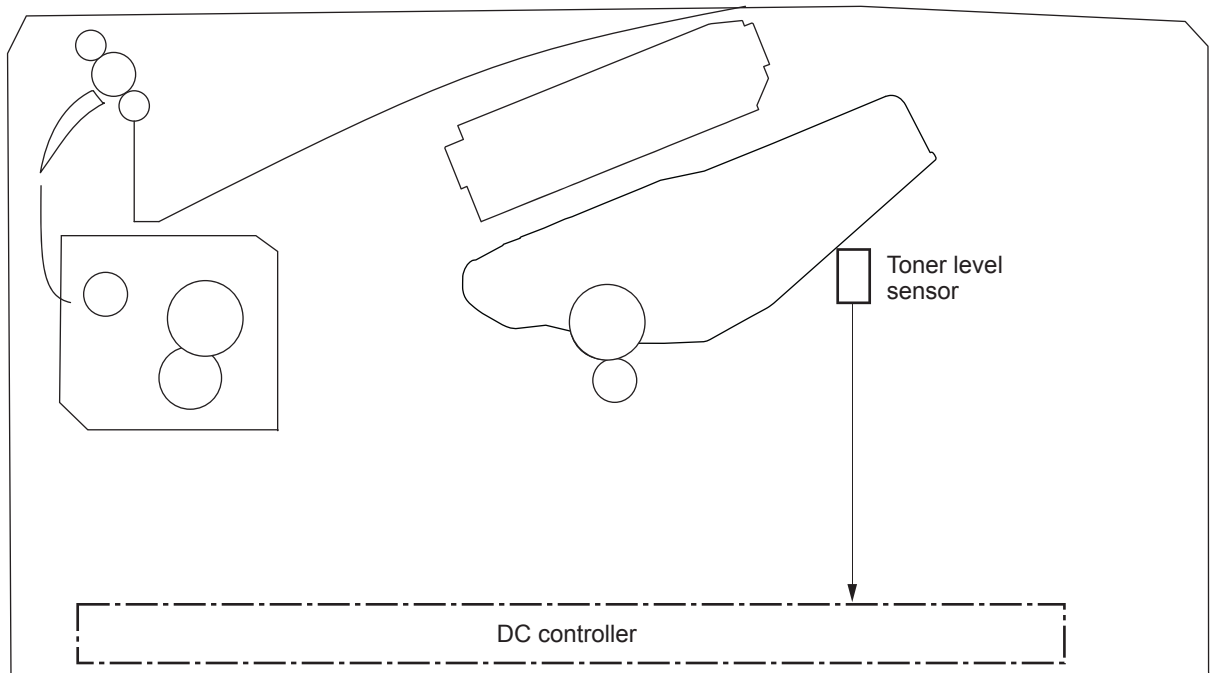
**Figure 1-12** Fuser motor



| Abbreviation | Component   |
|--------------|-------------|
| M1           | Fuser motor |

The following figure shows the location of the toner-level sensor.

**Figure 1-13** Toner-level sensor

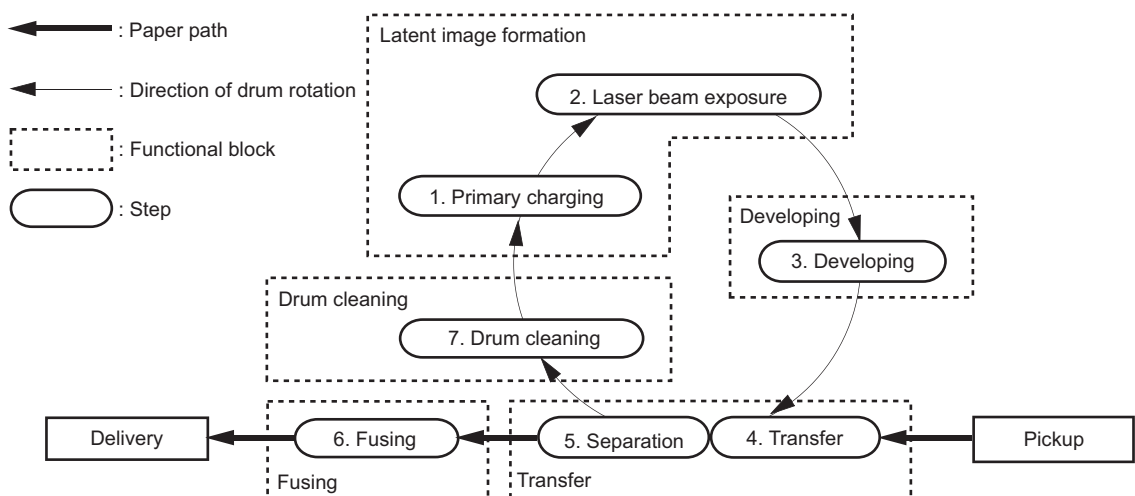


**Table 1-15** Sensors

| Abbreviation | Component          |
|--------------|--------------------|
| N/A          | Toner-level sensor |

The image-formation process consists of seven steps divided into five functional blocks.

**Figure 1-14** Image-formation process



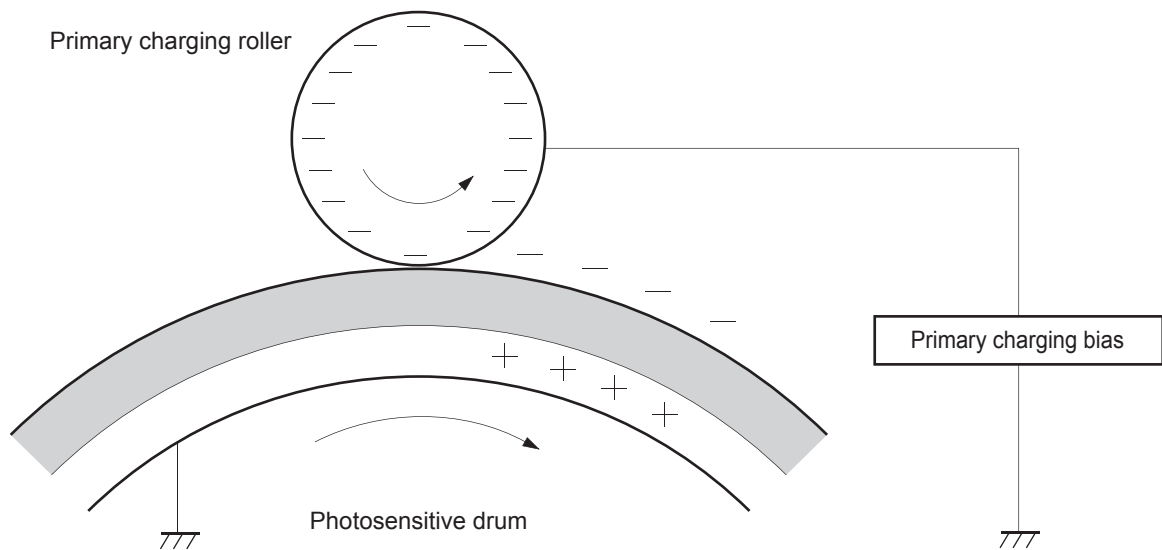
**Table 1-16 Image formation process**

| Functional block       | Steps                  | Description   |
|------------------------|------------------------|---|
| Latent image formation | 1. Primary charging    | An invisible latent image forms on the surface of the photosensitive drum.  |
|                        | 2. Laser-beam exposure |   |
| Development            | 3. Developing          | Toner adheres to the electrostatic latent image on the photosensitive drum. |
| Transfer               | 4. Transfer            | The toner image transfers to the paper.                                     |
|                        | 5. Separation          |   |
| Fusing                 | 6. Fusing              | The toner fuses to the paper to make a permanent image.                     |
| Drum cleaning          | 7. Drum cleaning       | Residual toner is removed from the drum.                                    |

### Step 1: Primary charging

The primary-charging roller contacts the photosensitive drum and charges the drum with negative potential.

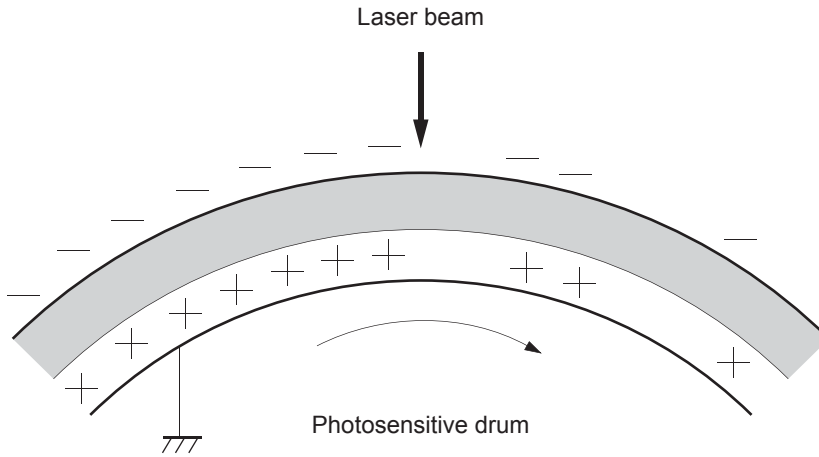
**Figure 1-15** Primary charging



## Step 2: Laser-beam exposure

The laser beam strikes the surface of the photosensitive drum in the areas where the image will form. The negative charge neutralizes in those areas, which are then ready to accept toner.

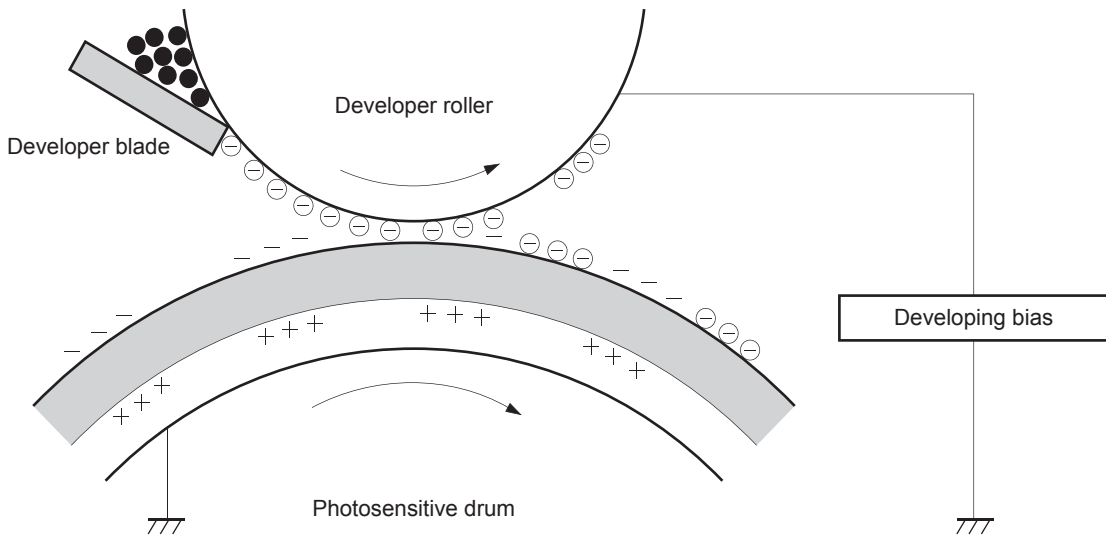
**Figure 1-16** Laser-beam exposure



## Step 3: Development

Toner acquires a negative charge as the developing cylinder contacts the developing blade. Because the negatively charged surface of the photosensitive drums have been neutralized where they have been struck by the laser beam, the toner adheres to those areas on the drums. The latent image becomes visible on the surface of each drum.

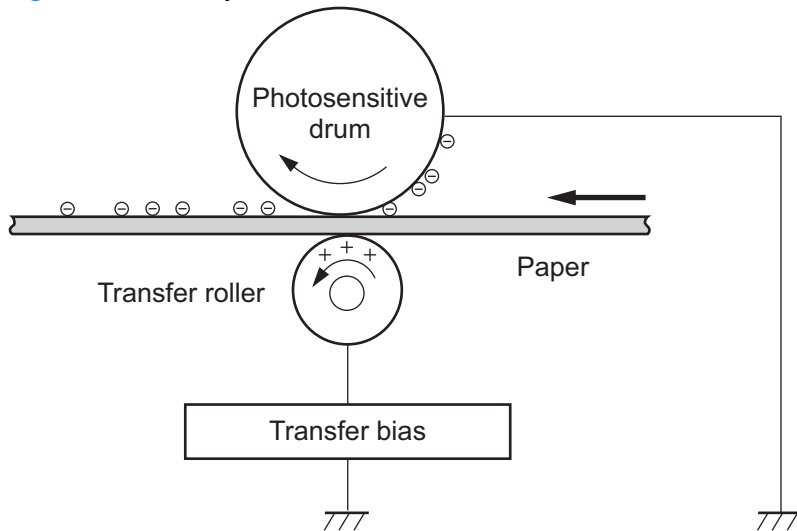
**Figure 1-17** Development



## Step 4: Transfer

The toner image on the photosensitive drum transfers to the paper. Transfer bias applied to the transfer roller attracts the negatively-charged toner to the paper.

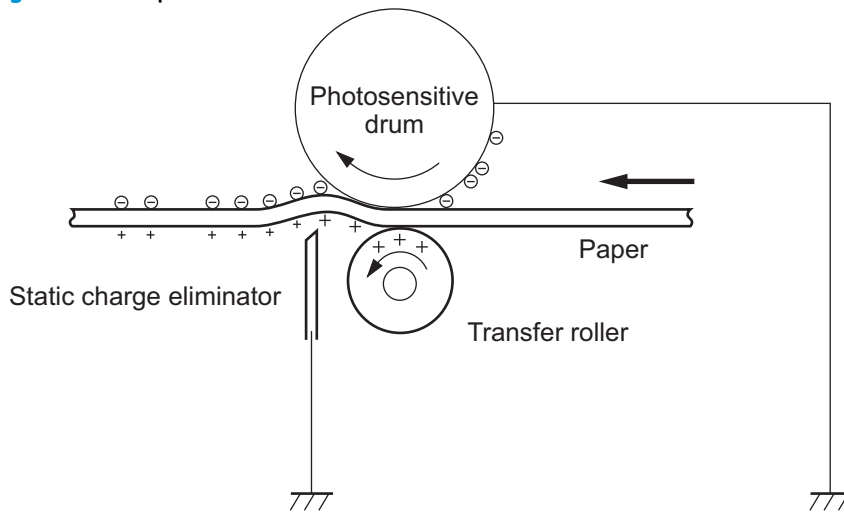
**Figure 1-18** Primary transfer



## Step 5: Separation

The elasticity of the paper and the curvature of the photosensitive drum cause the paper to separate from the photosensitive drum. The static-charge eliminator removes excess charge from the paper to make sure that the toner fuses correctly.

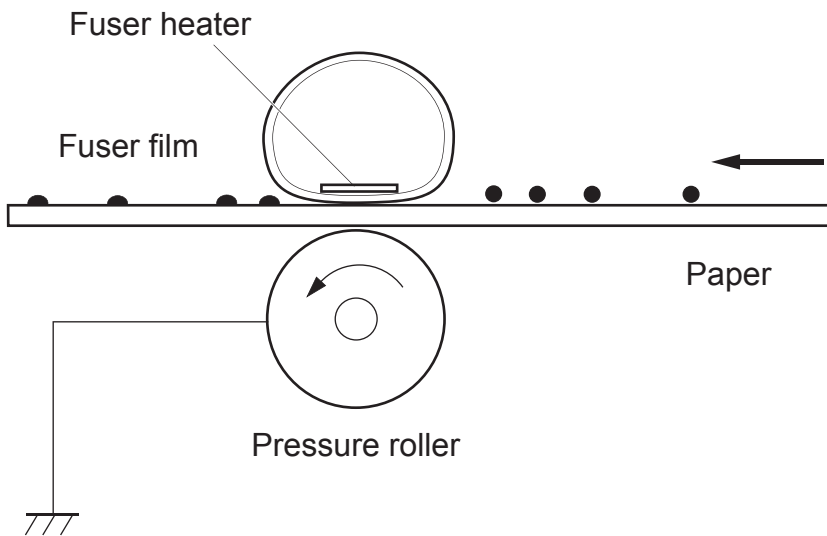
**Figure 1-19** Separation



## Step 6: Fusing

To create the permanent image, the paper passes through heated, pressurized rollers to melt the toner onto the page. Fusing bias is added to the pressure roller to improve the print quality.

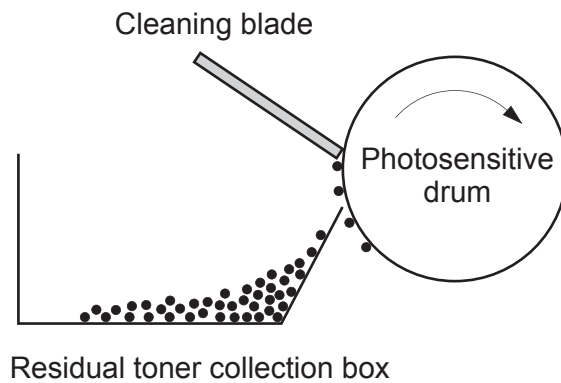
**Figure 1-20** Fusing



## Step 7: Drum cleaning

The cleaning blade scrapes the residual toner off the surface of the photosensitive drum, and toner is deposited in the toner-collection portion of the cartridge.

**Figure 1-21** ITB cleaning



## Toner cartridge

The printer has one toner cartridge.

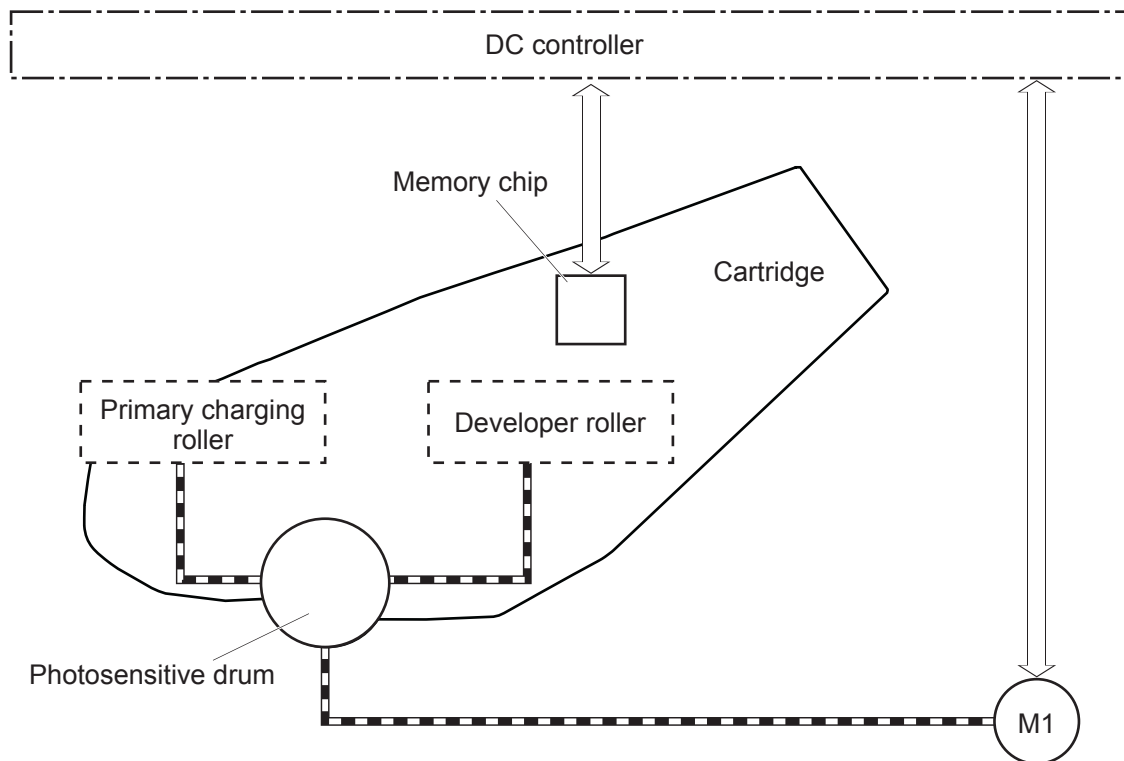
### Design

The toner cartridge is filled with toner and consists of the following components:

- Photosensitive drum
- Developer roller
- Primary-charging roller
- Memory chip

The DC controller rotates the drum motor to drive the photosensitive drum, developer roller, and the primary-charging roller.

**Figure 1-22** Toner cartridge system



**Table 1-17** Toner cartridge functions

| Function                                   | Supported feature              |
|--|--------------------------------|
| Toner cartridge presence detection         | Yes                            |
| Toner level detection                      | Yes                            |
| Toner cartridge life detection             | Yes                            |
| Toner cartridge mis-installation detection | Not applicable (one cartridge) |




**Table 1-17 Toner cartridge functions (continued)**

| Function          | Supported feature |
|-------------------|-------------------|
| Drum discharge    | No                |
| Transfer cleaning | Yes               |

## Memory chip

The memory chip is non-volatile memory that stores information about the usage of the toner cartridge and helps protect the customer from counterfeit cartridges. This chip is also used to detect the presence of a cartridge within the printer. The printer reads and writes the data in the memory chip.

 **NOTE:** The memory chip does not store any customer print, scan, copy, fax, or digital send information. The memory chip also supports the printer Jet Intelligence toner cartridge management functions.

## Toner seal

The toner cartridge seal is opened automatically when the toner cartridge is installed into the printer.

## Toner level and cartridge life detection

**Toner level detection:** The DC controller detects the remaining toner in the cartridge by the optical detection method and then notifies the formatter of the remaining toner level.

**Cartridge life detection:** Cartridge life detection is measured in two ways.

1. Toner level:
  - For the first 75% of cartridge life, toner level is measure through pixel counting by the DC controller. Once the level reaches 25%, the toner level sensor utilizes electrical properties to determine the amount of toner remaining.
2. Rotations of internal components (OPC and developer):
  - The DC controller monitors these two life parameters and reports them to the formatter as percent life remaining. End of cartridge life is determined by the lower value of the two.

## JetIntelligence

JetIntelligence supports two features for managing toner cartridges.

- The authentication feature allows customers to specify the use of only genuine HP toner cartridges in the printer.
- The anti-theft feature enables locking a cartridge to a specific printer or fleet of printers.

## Authentication

The genuine HP authentication feature allows a customer to specify that only genuine HP supplies can be used in a printer. If a non-HP or used supply is installed, the printer will not print. This feature is disabled by default, and can be enabled or disabled from the control panel or the Embedded Web Server (EWS).

If a genuine HP toner cartridge from another printer is moved to a printer with this feature enabled, the toner cartridge will authenticate and print, unless the toner cartridge has passed the low state. If the toner cartridge has passed the low state, an **Unauthorized Cartridge** message displays on the control panel.

If a non-HP toner cartridge is used in a printer with this feature enabled, the message **Unauthorized Cartridge** appears on the control-panel display.



**NOTE:** If a customer suspects they have a counterfeit cartridge, they should report it by going to [www.hp.com/go/anticounterfeit](http://www.hp.com/go/anticounterfeit) and selecting **Report now**.

The printer still functions normally.

## Anti-theft

The toner cartridge anti-theft feature allows a customer to configure the printer to automatically lock genuine HP toner cartridges to a specific printer or fleet of printers when they are installed. A locked toner cartridge will only work in the specified printer or fleet of printers. This feature prevents toner cartridges from being stolen and used in another printer, or from being moved from an authorized printer to an unauthorized printer. This feature is disabled by default, and can be enabled or disabled from the control panel, the Embedded Web Server (EWS), or Web Jetadmin.

When the anti-theft feature is enabled, the toner cartridge in a printer will only work in the specified printer or fleet of printers. If a locked toner cartridge is moved to another printer, the cartridge will not print and the message **Protected Cartridge** appears on the control-panel display.



**NOTE:** When a toner cartridge is locked to a specific printer or fleet of printers, it cannot be unlocked. This is a permanent operation.

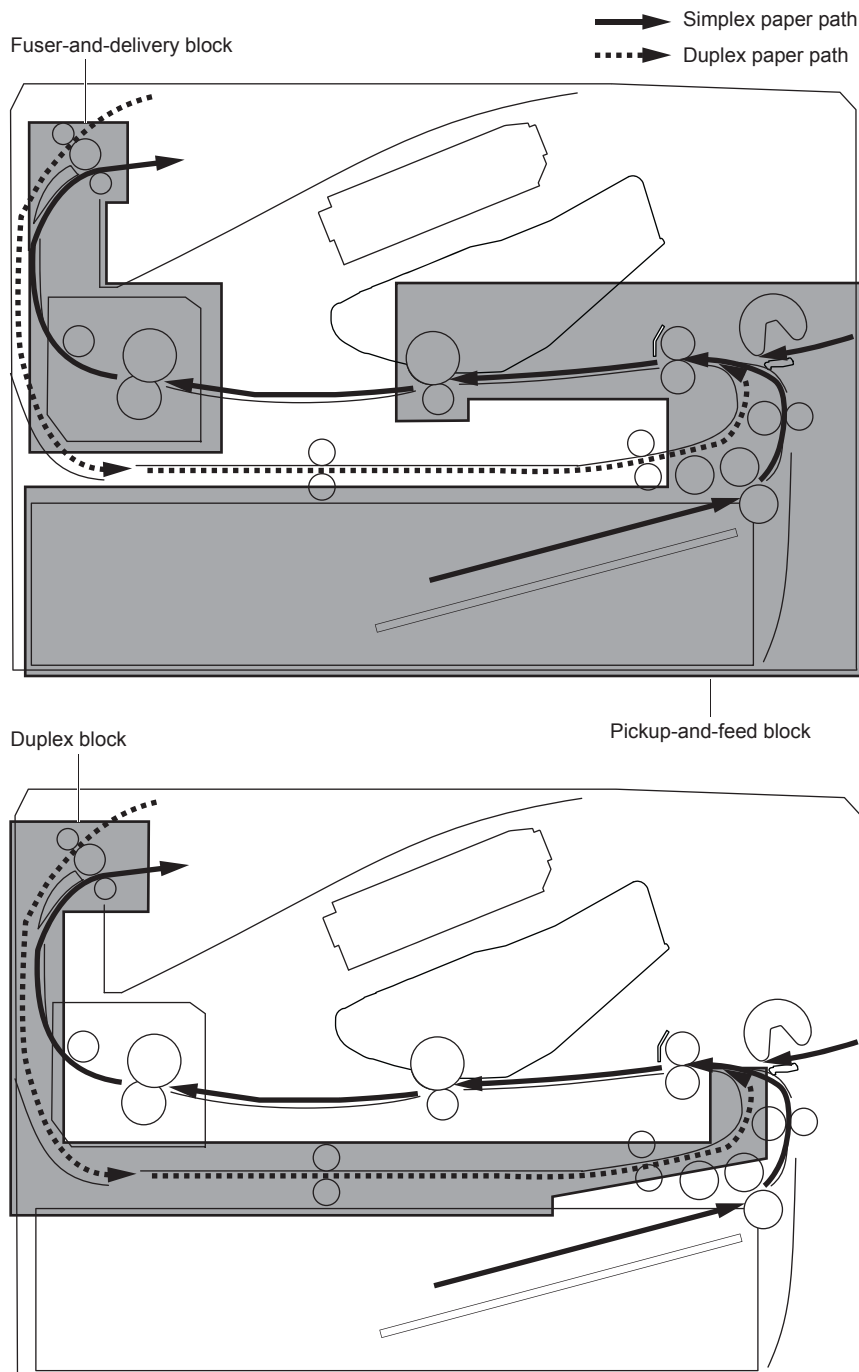
## Pickup, feed, and delivery system

The DC controller controls the pickup, feed, and delivery system according to commands from the formatter. The pickup, feed, and delivery system uses a series of rollers to move the paper through the printer.

The pickup, feed, and delivery system consists of the following three functional blocks. The DC controller controls each block to pick up, feed and deliver the paper.

- **Pickup-and-feed-block:** Controls the movement of the paper from each pickup source to the fuser inlet
- **Fuser-and-delivery-block:** Controls the movement of the paper from the fuser to the delivery destination
- **Duplex block:** Controls the movement of the paper from the duplex switchback unit to the duplex re-pickup unit (duplex models only)

**Figure 1-23** Pickup, feed, and delivery system



**Table 1-18** Pickup, feed and delivery system functions

| Function                        | Supported feature |
|---------------------------------|-------------------|
| Tray 2 media size detection     | No                |
| Tray 2 media presence detection | Yes               |
| Tray 2 media level detection    | No                |

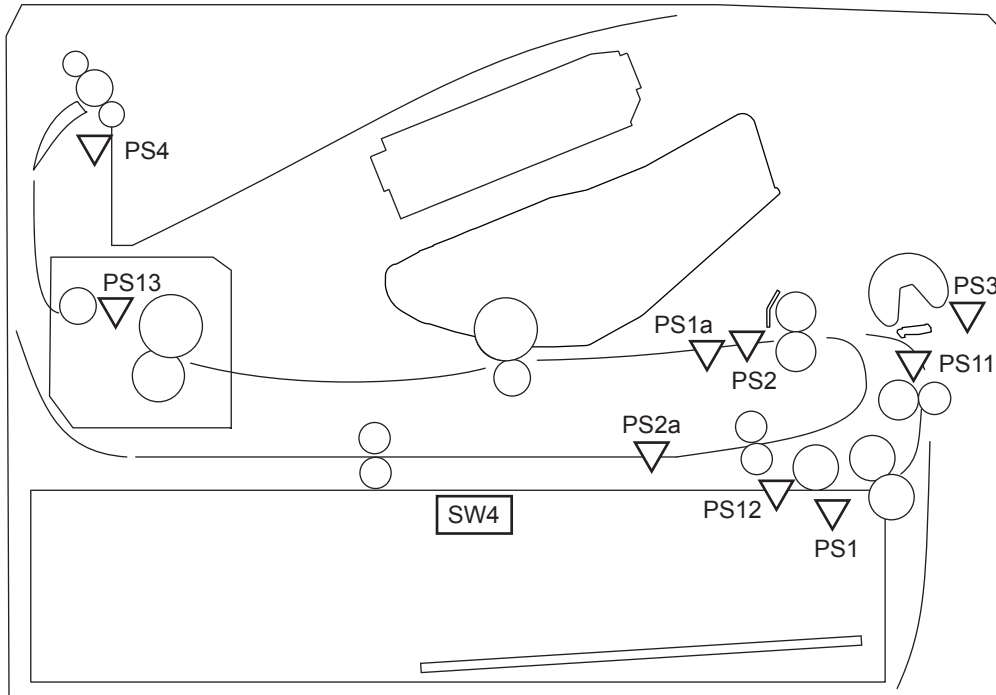
**Table 1-18 Pickup, feed and delivery system functions (continued)**

| <b>Function</b>                                | <b>Supported feature</b> |
|--|--------------------------|
| Tray 2 lift-down control                       | No                       |
| Tray 2 multiple-feed prevention mechanism      | Yes                      |
| Tray 1 media presence detection                | Yes                      |
| Tray 1 media width detection                   | No                       |
| Tray 1 last-media detection                    | No                       |
| Skew-feed prevention mechanism                 | Yes                      |
| Media detection                                | No                       |
| OHT detection                                  | No                       |
| Image leading edge positioning                 | Yes                      |
| Media length detection                         | Yes                      |
| Media width detection                          | Yes                      |
| Pressure roller pressure release control       | No                       |
| Output bin media-full detection                | Yes                      |
| Automatic delivery                             | Yes                      |
| Duplex switchback control (duplex models only) | Yes                      |
| Duplex feed control (duplex models only)       | Yes                      |

## Photo sensors and switches

The following figure shows the photo sensors and switches for the pickup, feed, and delivery system.

**Figure 1-24** Photo sensors and switches



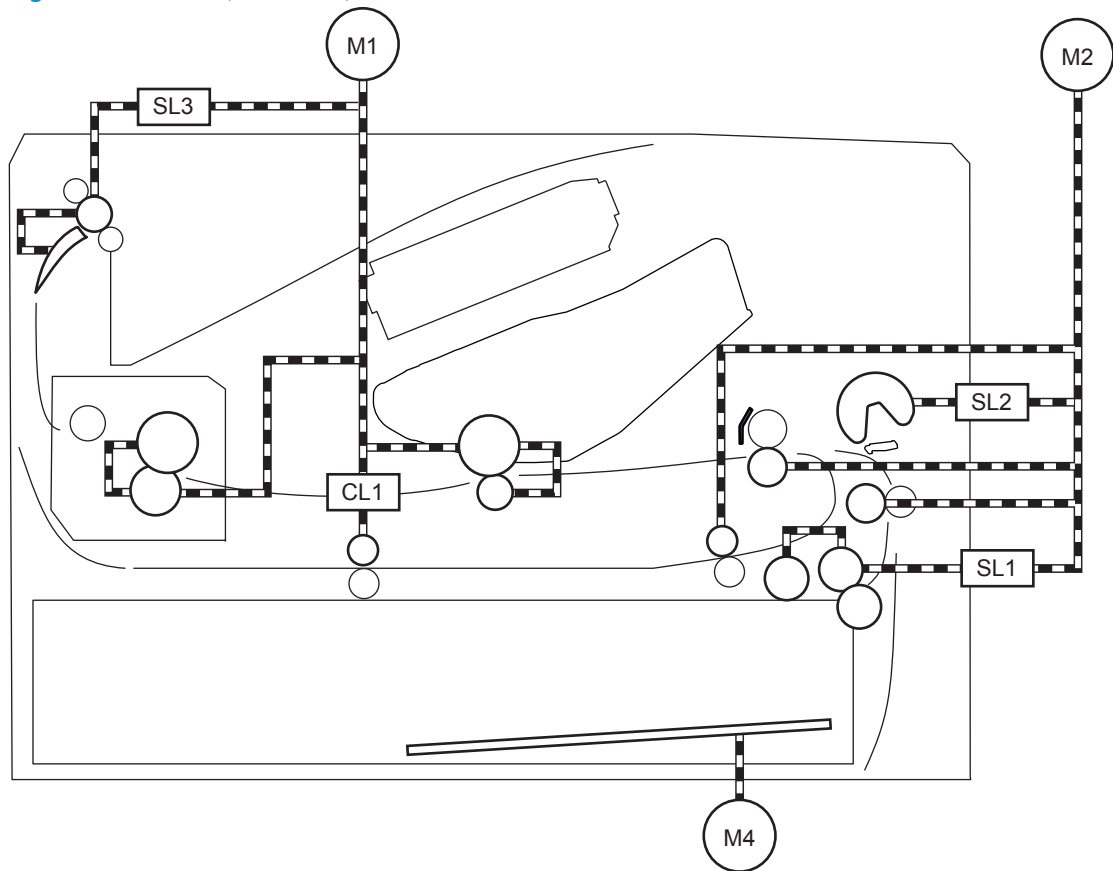
**Table 1-19** Photo sensors and switches

| Abbreviation | Component                               |
|--------------|---|
| PS1a         | Media width sensor                      |
| PS2b         | Duplex feed sensor (duplex models only) |
| PS1          | Tray 2 media out sensor                 |
| PS2          | TOP sensor                              |
| PS3          | Tray 1 media out sensor                 |
| PS4          | Output bin media-full sensor            |
| PS11         | Registration sensor                     |
| PS12         | Media surface sensor                    |
| PS13         | Fuser output sensor                     |
| SW4          | Tray 2 detection switch                 |

## Motors, clutches, and solenoids

The following figure shows the motors, clutches, and solenoids for the pickup, feed, and delivery system.

**Figure 1-25** Motors, solenoids, and clutches



**Table 1-20** Motors, solenoids, and clutches

| Abbreviation | Component                                       |
|--------------|---|
| M1           | Fuser motor                                     |
| M2           | Pickup motor                                    |
| M4           | Lifter motor                                    |
| SL1          | Tray 2 pickup solenoid                          |
| SL2          | Tray 1 pickup solenoid                          |
| SL3          | Duplex switchback solenoid (duplex models only) |
| CL1          | Duplex re-pickup clutch (duplex models only)    |

## Tray 1 (multipurpose)/Tray 2 (base printer)

Moving paper from Tray 1 and Tray 2 involves the interaction of multiple components within the printer. The following sections describe these processes.

### Tray 1 paper pickup and feed

The printer picks up one sheet of paper from Tray 1.

Following are the sequence of steps for the Tray 1 pickup operation.



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

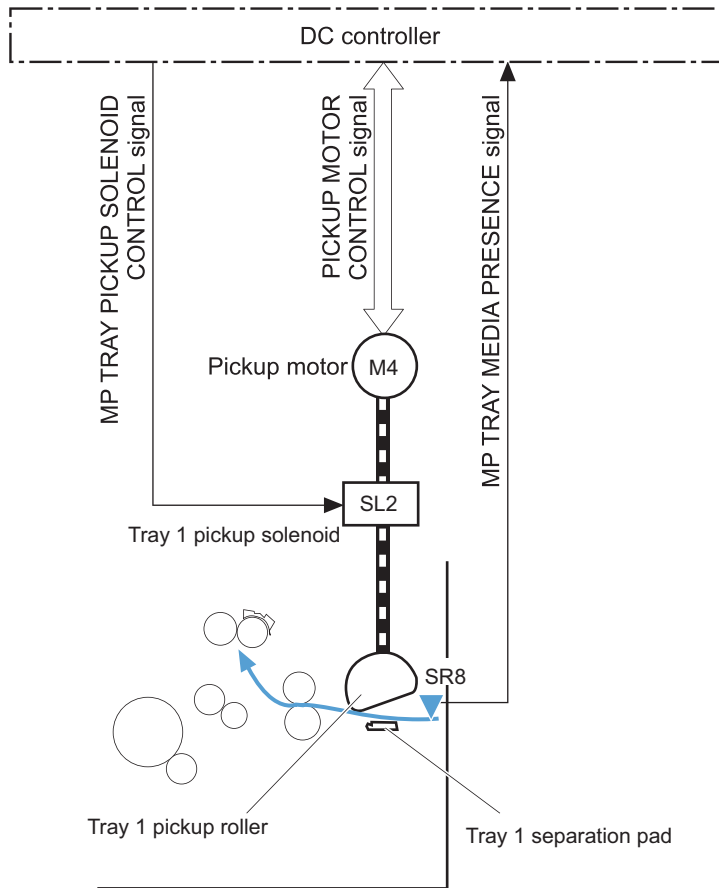
HP recommends using Tray 1 or Tray 2 if the printer is experiencing excessive or reoccurring jams from trays other than Tray 1 and Tray 2, or for print jobs that require media other than 20 lb plain paper.

Always use Tray 1 when printing envelopes or labels.

1. The pickup motor reverses when a print command is received from the formatter.
2. When the DC controller turns on the Tray 1 pickup solenoid, the Tray 1 pickup roller rotates and the lifting plate lifts.
3. As the lifting plate rises, the paper is picked up.
4. The Tray 1 separation pad removes any multiply-fed sheets, and one sheet is fed into the printer.

The Tray 1 media-out sensor (SR8) detects whether paper is present in Tray 1.

**Figure 1-26** Tray 1 pickup mechanism



### Tray 2 paper presence detection

The Tray 2 media-out sensor (SR12) detects the presence of paper in Tray 2.

The DC controller notifies the formatter when the Tray 2 media-out sensor detects that paper is absent.

### Tray 2 lift operation

The printer keeps the paper stack surface at the correct pickup position. The Tray 2 lift-up operation is performed under the following conditions:

- The printer is turned on
- Tray 2 is installed
- The paper stack surface in Tray 2 lowers

The operational sequence of the Tray 2 lift-up is as follows:

1. The lifter motor (M4) rotates and the lifter moves up.
2. When the Tray 2 media stack surface sensor 2 detects the stack surface of media, the lifter motor stops.
3. The lifter motor rotates again to lift the lifter when the Tray 2 media stack surface sensor 1 detects the stack surface and then lowers during printing.



When a Tray 2 media stack surface sensors does not detect the stack surface within a specified time period after the lifter motor starts rotating, the DC controller determines a lifter motor failure and notifies the formatter.

## Tray 2 paper pickup

Following are the sequence of steps for the Tray 2 pickup operation.



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

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

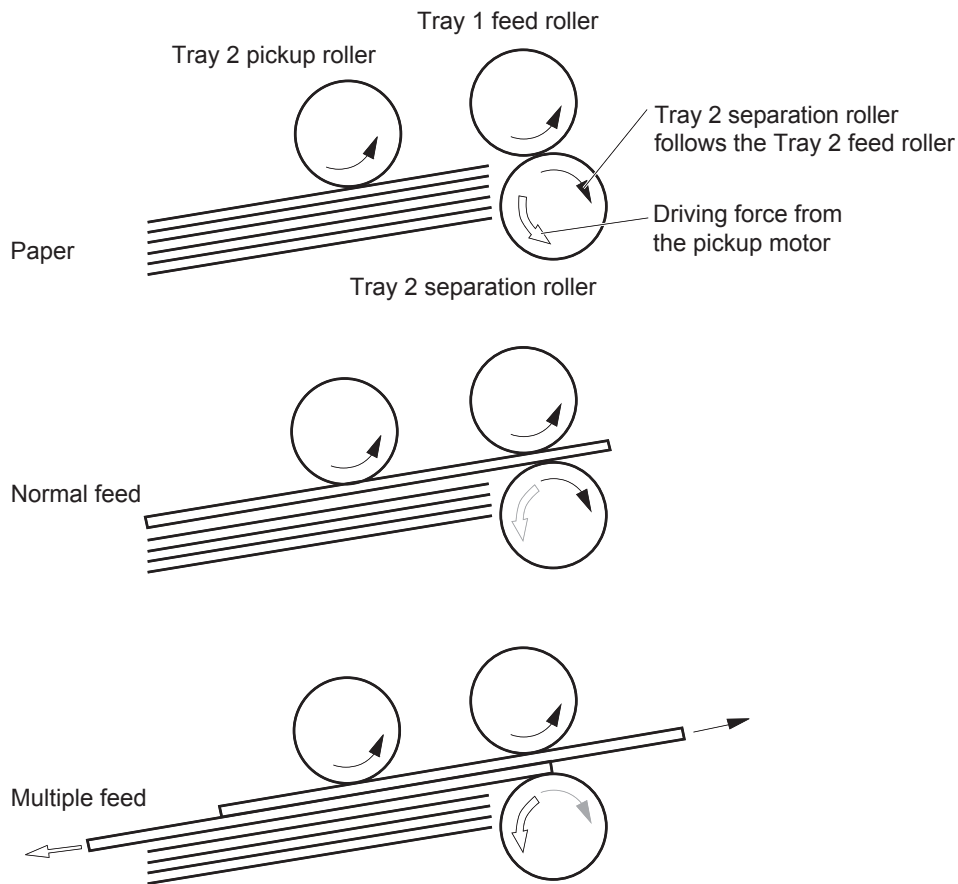
1. The printer is turned on or Tray 2 is inserted.
2. The tray lift-up operation raises the lifting plate so paper can be picked up.
3. The pickup motor rotates when a print command is received from the formatter.
4. The Tray 2 pickup roller and Tray 2 feed roller rotate.
5. The Tray 2 pickup solenoid turns on at a specified time.
6. The Tray 2 pickup cam rotates.
7. As the pickup arm lowers, the Tray 2 pickup roller touches the surface of the paper stack.
8. One sheet of paper feeds into the printer.

## Tray 2 multiple-feed prevention

The printer uses a separation roller method to prevent multiple sheets of print media from entering the paper path.

The separation roller overruns if just one sheet of paper is picked. If two or more sheets are picked, only the top sheet will be fed to registration and the multiply-fed sheets will be held at the pickup location by the separation roller. This printer does not have an actively-driven separation roller.

**Figure 1-27** Tray 2 multiple-feed prevention



### Tray 2 presence detection

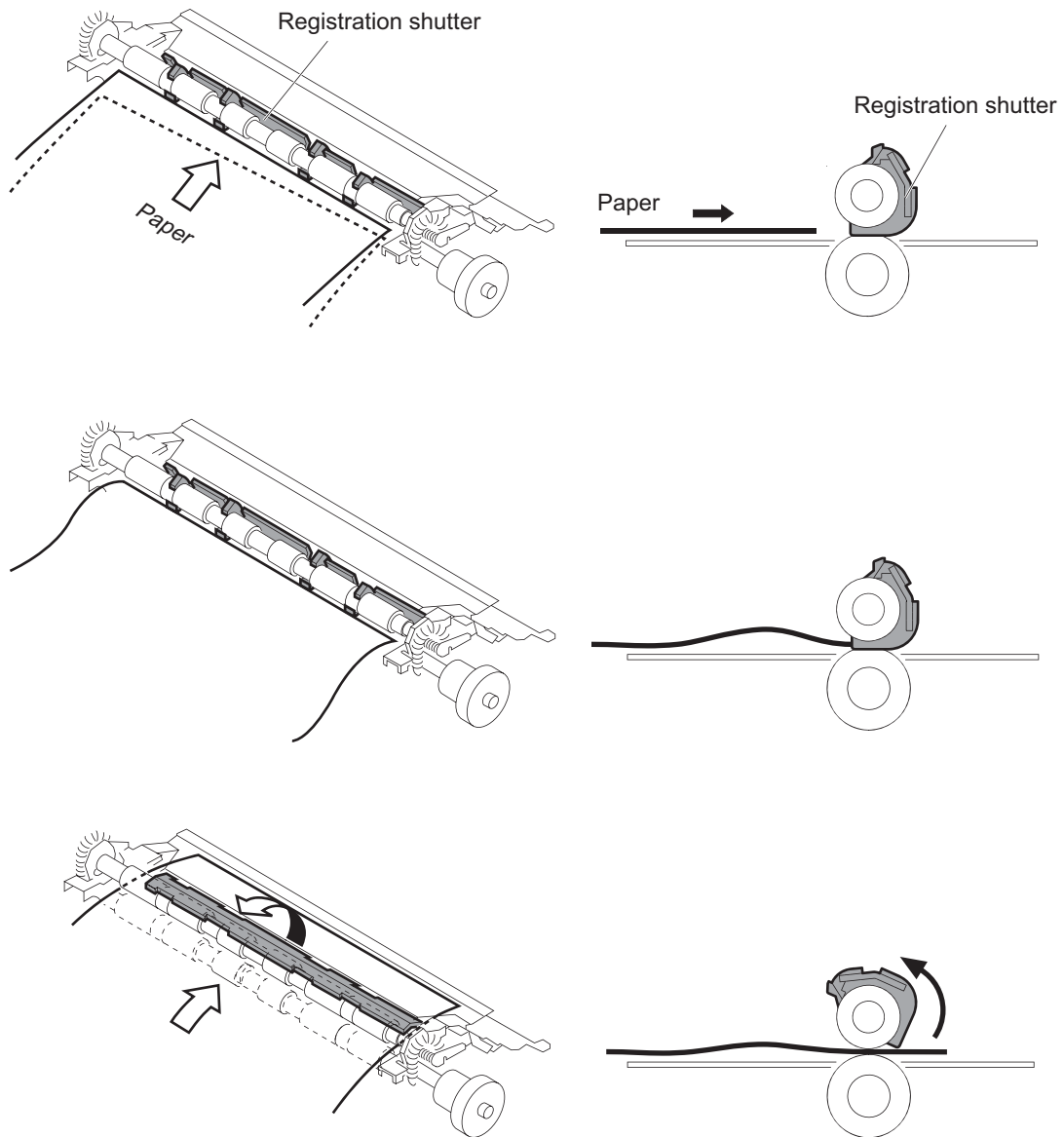
The Tray 2 presence sensor is in the lifter drive unit. The sensor detects the tray-presence sensor flag and determines whether Tray 2 is installed correctly.

### Tray 2 skew feed prevention

The printer can straighten the paper without slowing the feed operation.

1. The leading edge of paper strikes the registration shutter, and the leading edge is aligned with the shutter.
2. As the feed rollers keep pushing the paper, the paper warps.
3. When the force is great enough, the registration shutter rotates, and the paper passes through straightened.

**Figure 1-28** Skew-feed prevention



## Feed speed control

The DC controller adjusts the feed speed to improve the print quality depending on the paper type. The paper is fed at a specified speed according to the print mode designated by the formatter.

**Table 1-21** Print mode and feed speed

| Print mode    | Feed speed <sup>1</sup> | Media sensor detection |
|---------------|-------------------------|------------------------|
| Normal        | 1/1                     | Yes                    |
| Heavy media 1 | Pro                     | No                     |
| Heavy media 2 | 1/2                     | Yes                    |
| Heavy media 3 | 1/3                     | Yes                    |

**Table 1-21 Print mode and feed speed (continued)**

| Print mode         | Feed speed <sup>1</sup> | Media sensor detection |
|--------------------|-------------------------|------------------------|
| Light media 1      | 1/1                     | Yes                    |
| Light media 2      | 1/1                     | Yes                    |
| Light media 3      | 1/3                     | Yes                    |
| Glossy media 1     | 1/3                     | Yes                    |
| Glossy media 2     | 1/3                     | Yes                    |
| Glossy media 3     | 1/3                     | Yes                    |
| Glossy film        | 1/3                     | Yes                    |
| Envelope 1         | 1/2                     | No                     |
| OHT                | 1/3                     | Yes                    |
| Label              | 1/2                     | No                     |
| Designated media 1 | 1/2                     | No                     |
| Designated media 2 | 1/3                     | No                     |
| Designated media 3 | Pro                     | No                     |

<sup>1</sup> Feed speeds  
1/1 speed = 210 mm/s  
Pro speed = 174 mm/s  
1/2 speed = 105 mm/s  
1/3 speed = 70 mm/s

## Duplexing unit

When duplexing, the fuser motor (M1) reverses the paper and feeds it through the paper path to print the second side.

### Duplexing reverse and duplex feed control

The duplex reverse control reverses the paper after the first side is printed and feeds it to the duplex re-pickup position to print the second side of the page.

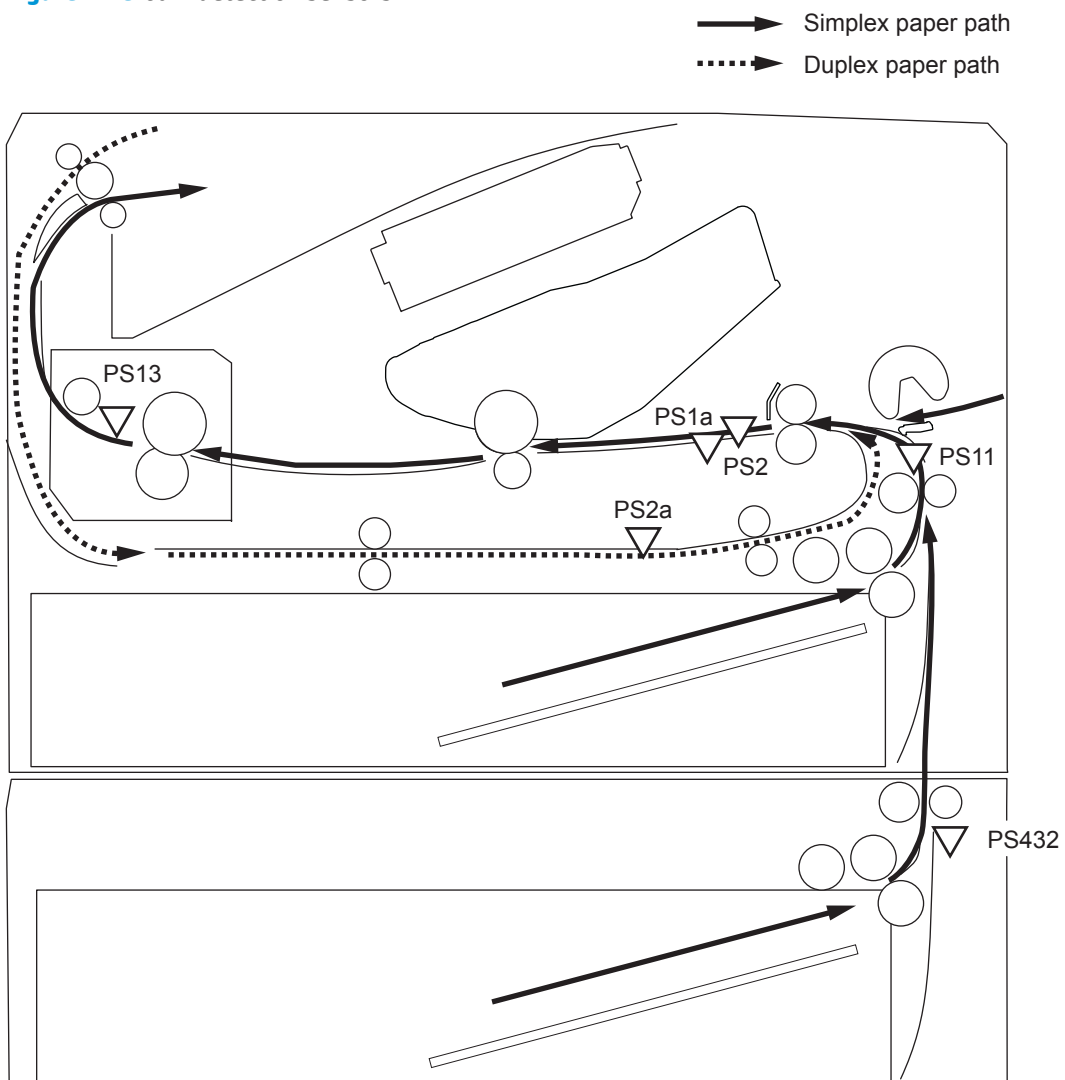
1. At a specified time after the first side of a page is printed, the fuser motor rotates, and the duplex reverse solenoid is turned on.
2. The duplex flapper moves, and the paper feeds to the duplex reverse unit.
3. After a specified period of time, the fuser motor reverses, and the paper feeds to the duplex feed unit.
4. The fuser motor and the pickup motor move the paper to the duplex re-pickup position.
5. The fuser motor and the duplex feed clutch stop, and the paper feed operation pauses.
6. After a specified period of time, the fuser motor rotates, and the duplex feed clutch is turned on. The paper is then picked up again.

## Jam detection/prevention

The printer uses the following sensors to detect the paper as it moves through the paper path and to report to the DC controller if the paper has jammed.

- Top of page (TOP) sensor (SR2)
- Media width sensor (SR1a)
- Fuser output sensor (SR13)
- Duplex feed sensor (SR2a)
- Registration sensor (SR11; M506/M527)
- Paper feeder feed sensor (SR432; M506/M527)

**Figure 1-29** Jam detection sensors




The printer determines that a jam has occurred if one of these sensors detects paper at an inappropriate time. The DC controller stops the print operation and notifies the formatter.

**Table 1-22 Jams that the printer detects**


| <b>Jam</b>                         | <b>Description</b>   |
|------------------------------------|--|
| Media input delay jam 1            | Media did not reach the registration sensor in time.   |
| Media input delay jam 2            | Media did not reach the source tray feed sensor in time.   |
| Media input delay jam 3            | Media did not reach the tray 3 feed sensor in time.  |
| Duplex re-feed jam 1               | Media did not reach the registration sensor in time.   |
| Media input stay jam 1             | Media remained at the registration sensor longer than legal-sized media should remain.                                 |
| Fuser delivery delay jam 1         | Media did not reach the fuser output sensor in time.   |
| Fuser delivery stay jam 1          | Media stayed at fuser output sensor longer than it should stay. Media is in duplex path.                               |
| Fuser delivery stay jam 2          | Media stayed at fuser output sensor longer than it should stay. Media is in simplex path.                              |
| Wrap jam 1                         | Media is first detected at fuser output sensor and then disappeared from the sensor before it should have disappeared. |
| Door open jam                      | A door is open while paper is moving through the printer.  |
| Residual Media in paper path jam 1 | Media detected in the paper path.  |

## Input accessories

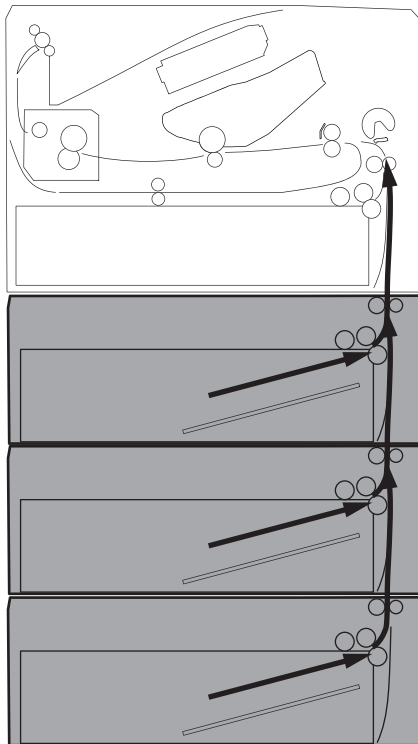
 **NOTE:** An optional 550-sheet paper feeder is available for this printer. The M506/M527 printers support up to three of these paper feeders at a time. The M501 printer supports one paper feeder.

### Tray 3-5

The 550-sheet paper feeder is installed under the printer. It picks up paper and feeds it into the printer.

 **NOTE:** The M501 printer supports one paper feeder. The M506/M527 printers support three paper feeders.

**Figure 1-30** 550-sheet paper feeder paper path



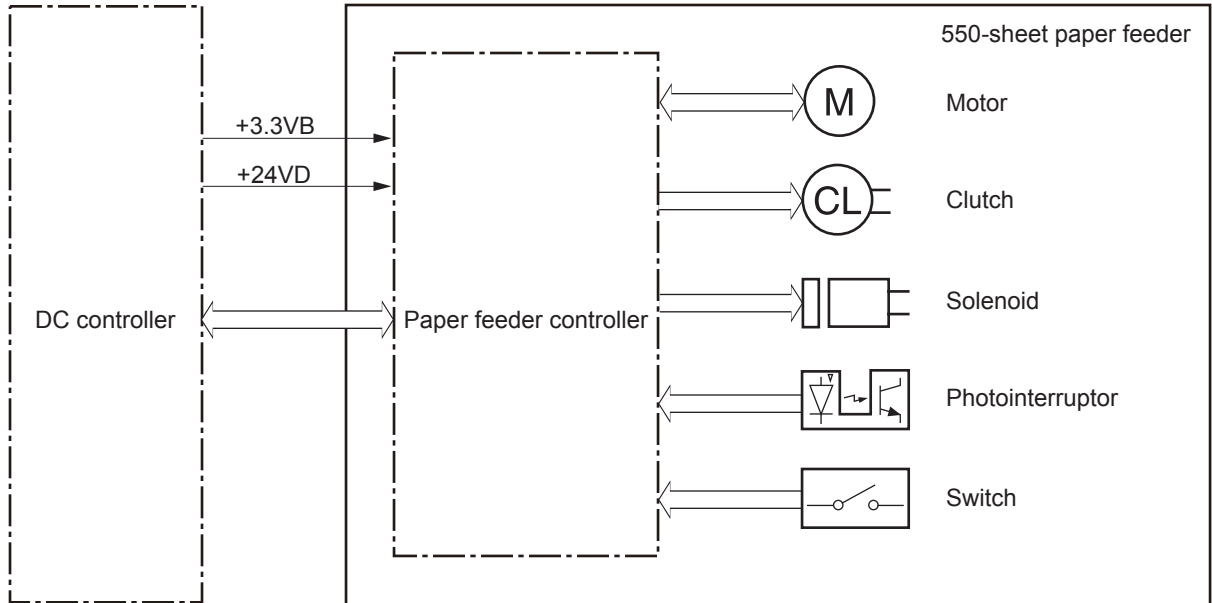
**Table 1-23** Tray 3 functions

| Function                               | Supported feature |
|--|-------------------|
| Cassette lift-up control               | Yes               |
| Cassette presence detection            | Yes               |
| Cassette media size detection          | No                |
| Cassette media stack surface detection | Yes               |
| Cassette media out detection           | Yes               |
| Cassette media level detection         | No                |
| Multiple-feed prevention               | Yes               |
| Automatic delivery                     | Yes               |

## Driver PCA

The paper feeder controller controls the operational sequence of the paper feeder.

**Figure 1-31** Tray 3-5 driver PCA



## Electrical components

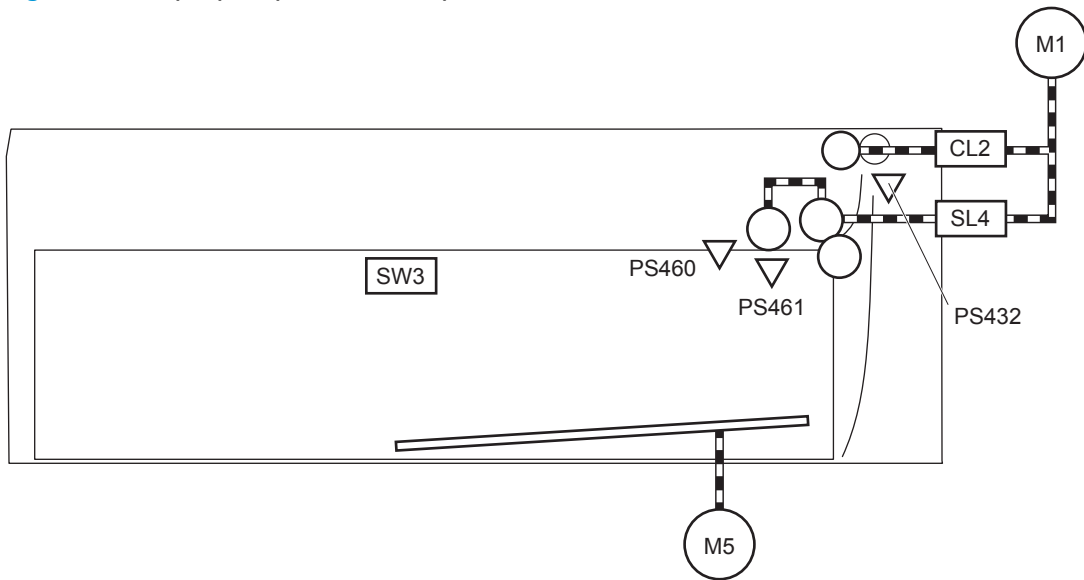
The 550-sheet paper feeder has one motor for lifting the tray and feeding paper.

| Component type   | Abbreviation | Component name             |
|------------------|--------------|----------------------------|
| Motor            | M5           | Optional tray lifter motor |
| Solenoid         | SL4          | Cassette pickup solenoid   |
| Clutch           | CL2          | Feed clutch                |
| Switch           | SW3          | Cassette detection switch  |
| Photointerrupter | PS460        | Media surface sensor       |
|                  | PS461        | Cassette media out sensor  |
|                  | PS432        | Feed sensor                |



## Paper pickup

**Figure 1-32** Paper pickup and feed components



The paper feeder contains several motors, solenoids, sensors, and switches, as described in the following table.

**Table 1-24** Paper pickup and feed components

| Component type | Abbreviation | Component name            |
|----------------|--------------|---------------------------|
| Motors         | M1           | Fuser motor               |
|                | M5           | Lifter motor              |
| Clutch         | CL2          | Feed clutch               |
| Solenoid       | SL4          | Cassette pickup solenoid  |
| Switches       | SW3          | Cassette detection switch |
| Sensors        | PS460        | Media surface sensor      |
|                | PS461        | Cassette media out sensor |
|                | PS432        | Feed sensor               |

## Multiple feed prevention

The Trays 3-5 multiple-feed prevention for the paper feeder is operated in the same way as that of Tray 2.

## Tray presence detection

The Trays 3-5 tray presence detection for the paper feeder is the same as that of Tray 2.

## Tray lift operation

The 550-sheet paper feeder keeps the paper stack surface at the correct pickup position. The tray lift operation occurs under the following conditions:

- The printer is turned on
- The tray is inserted
- The paper stack surface of the tray lowers

The sequence occurs as follows:

1. The feeder tray-lifting motor rotates and the lifter moves up.
2. When the paper-feeder media-stack-surface sensor detects the stack surface of the paper, the lifting motor stops.
3. The lifting motor rotates again to lift the lifter when the paper-feeder media-stack-surface sensor detects the stack surface, and then lowers during printing.

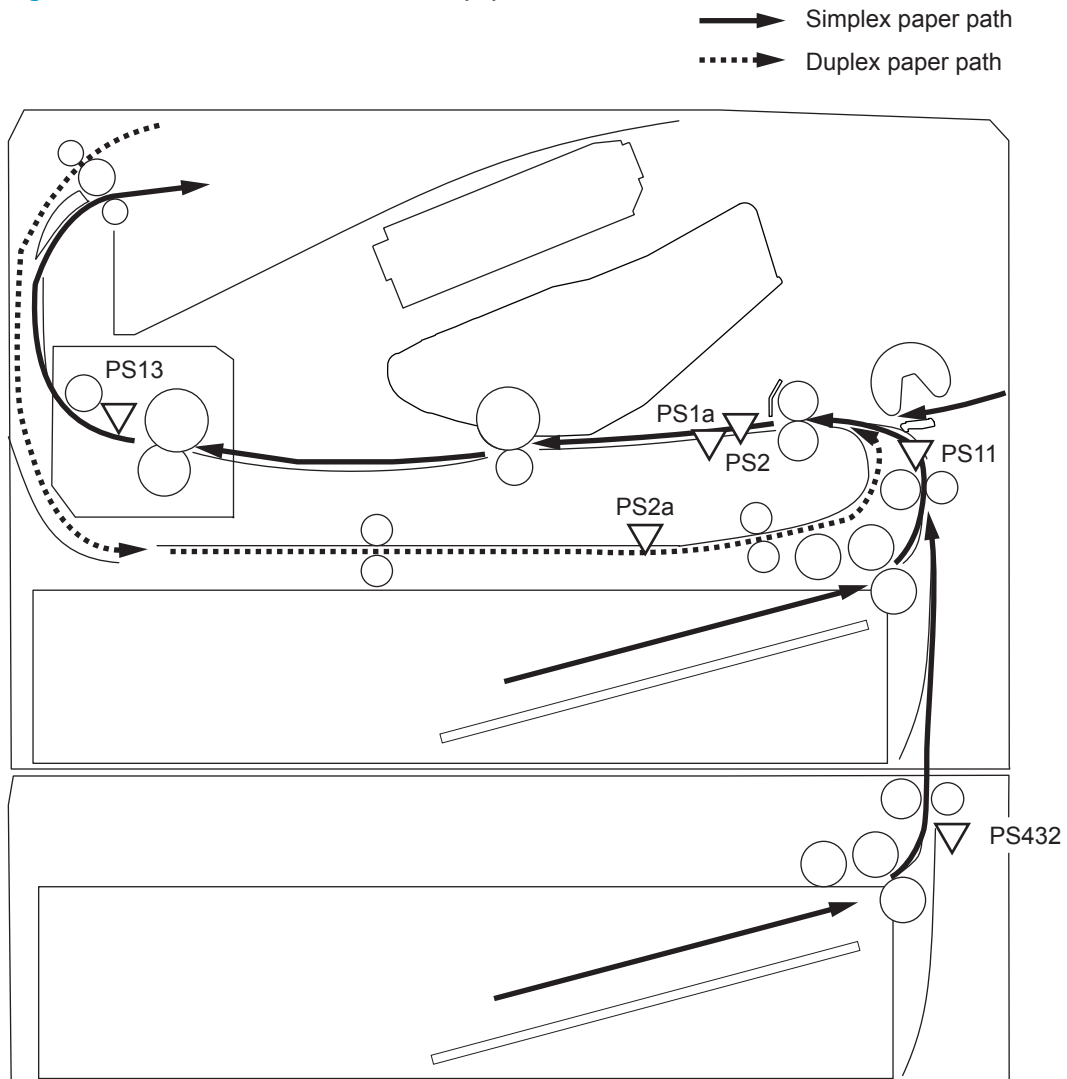
If a tray media-stack-surface sensor does not detect a stack surface within a specified period after the lifting motor starts rotating, the paper feeder driver determines that the lifting motor has failed and notifies the formatter through the DC controller.

The paper-feeder driver notifies the formatter if either of the paper-feeder media-stack-surface sensors fails to detect the stack surface within a specified period from when a lift-up operation starts.

## Jam detection

The 550-sheet paper feeder uses the paper feeder feed sensor (SR432) to detect the presence of paper and to check whether paper has jammed.

**Figure 1-33** Jam detection (1x550-sheet paper feeder)




The 550-sheet paper feeder detects the following jams:

- **Media input delay jam 1 (550-sheet paper feeder):** Paper did not reach the registration sensor in time.
- **Media input delay jam 2 (550-sheet paper feeder):** Paper did not reach the source tray feed sensor in time.
- **Media input delay jam 3 (550-sheet paper feeder):** Paper did not reach the tray 3 feed sensor in time.
- **Pickup stationary jam (550-sheet paper feeder):** The feed sensor does not detect the trailing edge of paper within a specified time after the sensor detects the leading edge.
- **Residual paper jam (550-sheet paper feeder):** The feed sensor detects the presence of paper for a specified time during an automatic delivery operation.
- **Right door open jam (550-sheet paper feeder):** The right door open is detected during a paper feed operation.

## Scanning and image capture system (M527)

---

 **NOTE:** This section is for the M527 printer only.

Figures in this section might look slightly different from your printer, but they are correct for the M527 printer. All the information provided in this section is correct for this printer.

---

The scanner is a carriage-type platen scanner which includes the frame, glass, scan module, and a scan control board (SCB). The scanner has a sensor to detect legal-sized media and a switch to indicate when the document feeder is opened.

The document feeder and control panel are attached to the scanner. If the scanner fails, it can be replaced as a whole unit. The scanner replacement part does not include the document feeder, control panel, or SCB.

# Document feeder system (M527)



**NOTE:** This section is for the M527 printer only.

---

## Document feed system

This section describes the following:

- Sensors in the document feeder
- Document feeder paper path
- Simplex single-pass scanning
- Electronic duplexing (e-duplex) single-pass scanning
- Deskew operation
- Document feeder hinges

The printer supports single-pass electronic duplexing (e-duplex) copy jobs. Two separate scan modules scan the front-side and back-side of an e-duplex copy job page in a single pass through the document feeder.

For the WF class, this ADF supports a smart background which auto-crops and adjusts the image extents.

## Sensors in the document feeder

The document feeder contains the following sensors:

- **ADF paper present sensor:** Detects whether a document is present in the document feeder. If paper is present in the document feeder when copies are made, the printer scans the document using the document feeder. If no paper is present when copies are made, the printer scans the document using the scanner glass.
- **ADF Y (length) sensor:** Detects whether a legal-size original is present in the document feeder.
- **ADF jam cover sensor:** Detects whether the document feeder cover is open or closed.
- **ADF paper path deskew sensor:** Detects the top of the page as it enters the deskew rollers.
- **ADF paper path pick success sensor:** Detects a successful one page feed from the document feeder tray.

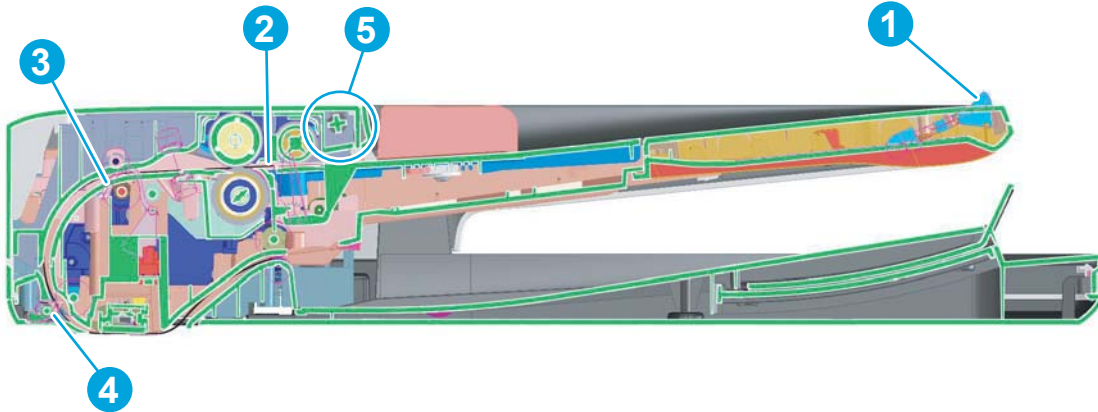


**NOTE:** This sensor uses ultrasonic sound to detect a multi-page paper feed.

---

- **Paper path sensor 1:** Detects the top of the page as it approaches the front-side scan module (document feeder glass).

**Figure 1-34** Document feeder sensors

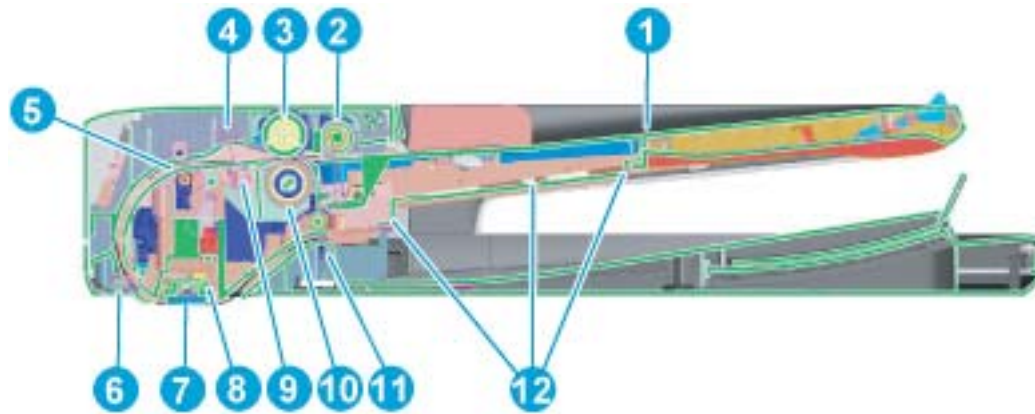


**Table 1-25** Document feeder sensors

| Item | Description   |
|------|---|
| 1    | ADF Y (length) sensor   |
| 2    | ADF paper present sensor  |
| 3    | ADF deskew sensor   |
| 4    | Paper path sensor 1   |
|      | <b>NOTE:</b> For an e-duplex copy job, this sensor is used to activate the front-side scan module (in the scanner base) and the front-side background selector (in the document feeder), if needed. |
| 5    | ADF jam cover sensor (open the jam access cover and insert a folded piece of paper to activate the flag)  |

## Document feeder paper path

**Figure 1-35** Document feeder paper path



**Table 1-26** Document feeder paper path

| Item | Description     | Item | Description   |
|------|-----------------|------|---|
| 1    | Input tray      | 7    | Front-side scan module  |
|      |                 |      | <b>NOTE:</b> This scan module (document feeder glass) is located in the scanner base. |
| 2    | Pre-pick roller | 8    | Back-side scan module   |

**Table 1-26 Document feeder paper path (continued)**

| Item | Description               | Item | Description                  |
|------|---------------------------|------|------------------------------|
| 3    | Pick roller               | 9    | ADF pick success transmitter |
| 4    | ADF pick success receiver | 10   | Separator roller             |
| 5    | Deskew drive roller       | 11   | Exit drive roller            |
| 6    | Prescan drive roller      | 12   | Lift plate                   |

## Document feeder simplex operation

Following is the basic sequence of operation for a document feeder simplex job.

1. The ADF jam cover sensor detects when the cover door is in the closed position.
2. The ADF paper present sensor activates when paper is loaded onto the input tray.
3. The feed motor rotates to raise the lift plate and starts to pick the loaded paper.
4. The ADF multi-pick (ultrasonic) sensor activates when the leading edge of the media is driven past the sensor. The printer firmware registers a successful pick operation.
5. The ADF paper path deskew activates when the leading edge of the paper passes it. The printer firmware registers the leading edge of the paper position.
6. The leading edge of the paper drives into the nip point of the deskew drive roller and the deskew pinch rollers. This creates a buckle of paper by the nip point for pick-skew correction.
7. The deskew motor rotates the deskew drive roller to pull the paper into the prescan drive roller.
8. The pick motor stops turning and allows both the pick and feed roller to turn freely while the paper is pulled in by the deskew drive roller.
9. The feed motor rotates to drive the paper into the prescan front-side sensor. The firmware registers the leading edge position of the paper as the multi-pick sensor activates.
10. The feed motor continues to rotate and drive the leading edge of the paper through the preset distance from the multi-pick sensor to the front-side scan zone. The scanner begins the scanning and data retrieval process.
11. The ADF multi-pick (ultrasonic) sensor deactivates when the trailing edge of the paper passes the sensor. The firmware registers the trailing edge of the paper position.
12. The feed motor continues to rotate and drive the trailing edge of the paper through the preset distance from the ADF multi-pick (ultrasonic) sensor to the front-side scan zone. The scanner ends the scanning and data retrieval process.
13. The feed motor continues to rotate and ejects the trailing edge of the paper into the output bin.
14. One of the following occurs:
  - If the copy job is complete, the ADF paper present sensor deactivates. The feed motor reverses rotation to raise the pick roller.
  - If the copy job is not complete, the ADF paper present sensor is active. The printer firmware detects additional pages in the input tray and the process repeats.

## Document feeder e-duplex operation

Following is the basic sequence of operation for a document feeder simplex job.



**NOTE:** For an e-duplex copy job, the background scan operation begins immediately after the simplex sequence of operation ends.

1. The feed motor continues to drive the paper until the leading edge activates the prescan back-side sensor. The printer firmware registers the position of the leading edge of the paper.
2. The feed motor continues to rotate to drive the leading edge of the paper through the preset distance from prescan back-side sensor to the back-side background selector scan zone. The back-side background scan module begins scanning and retrieval of the data.
3. The prescan back-side sensor deactivates when the trailing edge of the paper passes it. The printer firmware registers the trailing edge of the paper position.
4. The feed motor continues to rotate to drive the trailing edge of the paper edge past the back-side background selector scan zone.
5. The feed motor continues to rotate and ejects the trailing edge of the paper into the output bin.
6. One of the following occurs:
  - If the copy job is complete, the ADF paper present sensor deactivates. The feed motor reverses rotation to raise the pick roller.
  - If the copy job is not complete, the ADF paper present sensor is active. The printer firmware detects additional pages in the input tray and the process repeats.




## Deskew operation

Sliding side guides on the input tray make sure that the paper stack is correctly aligned at the center of the input tray when paper is loaded in the tray. The correct position of the loaded paper is parallel with the direction of travel into the document feeder paper path.

The document feeder further reduces paper skew due to improper loading of paper in the input tray by buckling the paper to create a paper buffer.

The document feeder aligns the leading edge of the paper parallel with the deskew drive rollers before it is driven further into the document feeder paper path.

 **NOTE:** If the page to be copied is smaller than the minimal sliding guide setting, do not use the document feeder for the copy job. Attempting to copy too small of a page using the document feeder can result in document feeder jams and/or damage to the original page. Instead, use the flatbed glass to copy the page.

**Figure 1-36** Deskew operation



## Document feeder hinges

The document feeder hinges allow positioning the assembly vertically above the scanner glass to accommodate the placement of books and other objects up to 25 mm (1.0 in) in height on the scanner glass. The document feeder still closes (the bottom of the ADF is kept parallel to the scanner glass) and allows the printer to operate.

The document feeder hinges provide height adjustment of 25 mm (1.0 in) when a maximum downward force of 4.5 kg (10 lb) is applied at the front edge of the assembly, with the fulcrum (such as the spine of a book) centered on the scanner glass and parallel to its long axis.

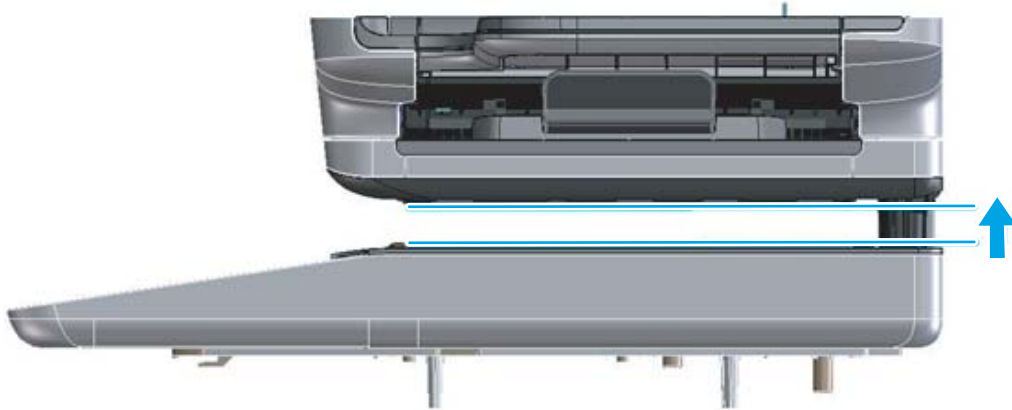
The document feeder will withstand a downward force of about 4.5 kg (10 lb) applied at the front edge center of the assembly—when the fulcrum (such as the spine of a book) is located anywhere on the scanner glass and parallel to its long axis—without breaking, deforming, detaching or experiencing performance degradation.

The document feeder hinges support the assembly in the open position and prevent the document feeder from suddenly closing in a damaging or loud manner.

The hinges can hold the document feeder static in all positions higher than 100 mm (3.93 in); measured at the front of the assembly. Less than 2.3 kg (5 lb) of force is required to open or close the document feeder.

The hinges allow the document feeder to open to an angle of between 60° and 80° from the horizontal position (this angle will not allow the printer to tip over).

**Figure 1-37** Document feeder open (book mode)



**Figure 1-38** Document feeder open (60° to 80°)



# Fax functions and operation (fax models only)

The following sections describe the printer fax capabilities.

## Computer and network security features

The printer can send and receive fax data over telephone lines that conform to public switch telephone network (PSTN) standards. The secure fax protocols make it impossible for computer viruses to be transferred from the telephone line to a computer or network.

The following printer features prevent virus transmission:

- No direct connection exists between the fax line and any devices that are connected to the USB or Ethernet ports.
- The internal firmware cannot be modified through the fax connection.
- All fax communications go through the fax subsystem, which does not use Internet data-exchange protocols.

## PSTN operation

The PSTN operates through a central office (CO) that generates a constant voltage on the TIP and RING wires (48 V, usually). A device goes on-hook by connecting impedance (such as 600 ohms for the U.S.) across the TIP and RING so that a line current can flow. The CO can detect this current and can send impulses like dial tones. The printer generates more signaling tones, such as dialing digits, to tell the CO how to connect the call. The printer can also detect tones, such as a busy tone from the CO that tell it how to behave.

When the call is finally connected, the CO behaves like a piece of wire connecting the sender and receiver. This is the period during which all of the fax signaling and data transfer occurs. When a call is completed, the circuit opens again and the line-current flow ceases, removing the CO connection from both the sender and the receiver.

On most phone systems, the TIP and RING signals appear on pins 3 and 4 of the RJ-11 modular jack (the one on the fax card, as defined in the common 6 wire RJ standard). These two signals do not have to be polarized because all of the equipment works with either TIP or RING on one pin and the other signal on the other pin. This means that cables of either polarity can interconnect and still work.

These basic functions of PSTN operation are assumed in the design of the fax subsystem. The printer generates and detects the signaling tones, currents, and data signals that are required to transmit and receive faxes using the PSTN.

## Receive faxes when you hear fax tones

In general, incoming faxes to the printer are automatically received. However, if other devices are connected to the same phone line, the printer might not be set to answer automatically.

If the printer is connected to a phone line that receives both fax and phone calls, and you hear fax tones when you answer the extension phone, receive the fax in one of two ways:

- If you are near the printer, press **Start Fax** on the control panel.
- Press 1-2-3 in sequence on the extension phone keypad, listen for fax transmission sounds, and then hang up.



**NOTE:** In order for the 1-2-3 sequence to work, the extension phone setting must be set to **On** in the **Fax Setup** menu.

## Distinctive ring function

Distinctive ring is a service that a telephone company provides. The distinctive ring service allows three phone numbers to be assigned to one phone line. Each phone number has a distinctive ring. The first phone number has a single ring, the second phone number has a double ring, and the third phone number has a triple ring.



**NOTE:** The printer has not been tested with all of the distinctive-ring services that telephone companies provide in all countries/regions. HP does not guarantee that the distinctive-ring function will operate correctly in all countries/regions. Contact the local phone service provider for assistance.

## Set up the distinctive ring function

1. Open the **Setup** menu.
2. Open the **Fax Menu** menu.
3. Select the **Basic Setup** menu.
4. Select the **Distinctive Ring** setting.
5. Use the arrow buttons to select one of the following options:
  - **All Rings** (default setting)
  - **Single**
  - **Double**
  - **Triple**
  - **Double and Triple**

## Fax by using voice over IP (VOIP) services

Voice over IP (VoIP) services provide normal telephone service, including long distance service through a broadband Internet connection. These services use packets to break up the voice signal on a telephone line and transmit it digitally to the receiver, where the packets are reassembled. The VoIP services are often not compatible with fax machines. The VoIP provider must state that the service supports fax over IP services.

Because the installation process varies, the VoIP service provider will have to assist in installing the printer fax component.

Although a fax might work on a VoIP network, it can fail when the following events occur:

- Internet traffic becomes heavy and packets are lost.
- Latency (the time it takes for a packet to travel from its point of origin to its point of destination) becomes excessive.

If you experience problems using the fax feature on a VoIP network, ensure that all of the printer cables and settings are correct. Configuring the **Fax Speed** setting to **Medium(V.17)** or **Slow(V.29)** can also improve your ability to send a fax over a VoIP network.

If you continue to have problems faxing, contact your VoIP provider.

## The fax subsystem

The formatter, fax card, firmware, and software all contribute to the fax functionality. The designs of the formatter and fax card, along with parameters in the firmware, determine the majority of the regulatory requirements for telephony on the printer.

The fax subsystem is designed to support V.34 fax transmission, low speeds (such as V.17 fax), and older fax machines.

## Fax card in the fax subsystem

Two versions of the fax card are used in the printer. One is used in the North American, South American, and Asian countries/regions. The other is used primarily in European countries/regions.

The fax card contains the modem chipset (DSP and CODEC) that controls the basic fax functions of tone generation and detection, along with channel control for fax transmissions. The CODEC and its associated circuitry act as the third-generation silicon data access arrangement (DAA) to comply with worldwide regulatory requirements.

The only difference between the two versions is that each version is compliant with the 2/4-wire phone jack system from the respective country/region.

## Safety isolation

The most important function of the fax card is the safety isolation between the high-voltage, transient-prone environment of the telephone network (TNV [telephone network voltage]) and the low-voltage analog and digital circuitry of the formatter (SELV [secondary extra-low voltage]). This safety isolation provides both customer safety and printer reliability in the telecom environment.

Any signals that cross the isolation barrier do so magnetically. The breakdown voltage rating of barrier-critical components is greater than 5 kV.

## Safety-protection circuitry

In addition to the safety barrier, the fax card protects against over-voltage and over-current events.

Telephone over-voltage events can be either differential mode or common mode. The event can be transient in nature (a lightning-induced surge or ESD) or continuous (a power line crossed with a phone line). The fax card protection circuitry provides margin against combinations of over-voltage and overcurrent events.

Common mode protection is provided by the selection of high-voltage-barrier critical components (transformer and relay). The safety barrier of the fax card PCB traces and the clearance between the fax card and surrounding components also contribute to common mode protection.

A voltage suppressor (a crowbar-type thyristor) provides differential protection. This device becomes low impedance at approximately 300 V differential, and crowbars to a low voltage. A series thermal switch works in conjunction with the crowbar for continuous telephone line events, such as crossed power lines.

All communications cross the isolation barrier magnetically. The breakdown voltage rating of barrier-critical components is greater than 5 kV.

## Data path

TIP and RING are the two-wire paths for all signals from the telephone network. All signaling and data information comes across them, including fax tones and fax data.

The telephone network uses DC current to determine the hook state of the telephone, so line current must be present during a call. The silicon DAA provides a DC holding circuit to keep the line current constant during a fax call.

The silicon DAA converts the analog signal to a digital signal for DSP processing, and also converts the digital signal to an analog signal for transmitting data through a telephone line.

The magnetically coupled signals that cross the isolation barrier go through either a transformer or a relay.

The DSP in the fax card communicates with the ASIC in the formatter using the high-speed serial interface.

## Hook state

Another magnetically coupled signal is the control signal that disconnects the downstream telephone devices (such as a phone or answering machine). A control signal originating on the DSP can change the relay state, causing the auxiliary jack (downstream jack) to be disconnected from the telephone circuit.

The printer takes control of calls that it recognizes as fax calls. If the printer does not directly pick up the call, it monitors incoming calls for the fax tone or for the user to direct it to receive a fax. This idle mode is also called eavesdropping. This mode is active when the printer is on-hook but current exists in the downstream phone line because another device is off-hook. During eavesdropping, the receive circuit is enabled but has a different gain from the current that is generated during normal fax transmissions.

The printer does not take control of the line unless it detects a fax tone or the user causes it to connect manually. This feature allows the user to make voice calls from a phone that is connected to the printer without being cut off if a fax is not being received.

## Downstream device detection

The line voltage monitoring module of the silicon DAA can detect the line state as well as the downstream device. It tells DSP via DIB that an active device (telephone, modem, or answering machine) is connected to the auxiliary port on the printer (the right side of the dual RJ-11 jack). The DSP uses the signal to ensure that the printer does not go off-hook (and disconnects a downstream call) until it has been authorized to do so (by a manual fax start or the detection of the appropriate tones).

## Hook switch control

In the silicon DAA the CODEC controls the hook switch directly. The CODEC is activated when it receives commands from the DSP. When the circuit is drawing DC current from the central office it is considered off-hook. When no DC current flows the state is considered on-hook.

## Ring detect

Ring detect is performed by the line voltage monitoring module of the silicon DAA, and is a combination of voltage levels and cadence (time on and time off). Both must be present to detect a valid ring. The CODEC works with DSP as well as the firmware to determine if an incoming signal is an answerable ring.

## Line current control

The DC current from the CO needs to have a path to flow from TIP to RING. The DC impedance emulation line modulator and DC terminations modules in the silicon DAA act as a DC holding circuit, and work with the firmware to achieve the voltage-current characteristic between TIP and RING. The impedance (the current-voltage characteristic) changes corresponding to certain special events, such as pulse dialing or when the printer goes on-hook.

## Billing or metering tone filters

Switzerland and Germany provide high-frequency AC signals on the phone line in order to bill customers.

A filter in a special fax cable (for certain countries/regions), can filter these signals. Because these billing signals are not used in the U.S., these filters are not present in the U.S. fax cable.

To obtain a special fax cable, contact your local telephone service provider.

## Fax page storage in flash memory

Fax pages are the electronic images of the document page. They can be created in any of three ways: scanned to be sent to another fax machine, generated to be sent by the computer, or received from a fax machine to be printed.

The printer stores all fax pages in flash memory automatically. After these pages are written into flash memory, they are stored until the pages are sent to another fax machine, printed on the printer, transmitted to the computer, or erased by the user.

These pages are stored in flash memory, which is the nonvolatile memory that can be repeatedly read from, written to, and erased. The printer has 8 MB of flash memory, of which 7.5 MB is available for fax storage. The remaining 0.5 MB is used for the file system and reclamation. Adding RAM does not affect the fax page storage because the printer does not use RAM for storing fax pages.

## Stored fax pages

The user can reprint stored fax receive pages in case of errors. For a fax send, the printer will resend the fax in case of errors. The printer will resend stored fax pages after a busy signal, communication error, no answer, or power failure. Other fax devices store fax pages in either normal RAM or short-term RAM. Normal RAM immediately loses its data when power is lost, while short-term RAM loses its data about 60 minutes after power failure. Flash memory maintains its data for years without any applied power.

## Advantages of flash memory storage

Fax pages that are stored in flash memory are persistent. They are not lost as a result of a power failure, no matter how long the power is off. Users can reprint faxes in case the print cartridge runs out of toner or the printer experiences other errors while printing faxes.

The printer also has scan-ahead functionality that makes use of flash memory. Scan-ahead automatically scans pages into flash memory before a fax job is sent. This allows the sender to pick up the original document immediately after it is scanned, eliminating the need to wait until the fax transmission is complete.

Because fax pages are stored in flash memory rather than RAM, more RAM is available to handle larger and more complicated copy and print jobs.





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## 2 Solve problems

- [For additional service and support information](#)
- [Solve problems checklist \(M501\)](#)
- [Solve problems checklist \(M506/M527\)](#)
- [Troubleshooting process](#)
- [Tools for troubleshooting](#)
- [Improve print quality](#)
- [Print quality troubleshooting guide](#)
- [Clean the printer](#)
- [Solve paper handling problems](#)
- [Clear paper jams](#)
- [Solve performance problems](#)
- [Solve connectivity problems](#)
- [Service mode functions \(M501\)](#)
- [Service mode functions \(M506/M527\)](#)
- [Firmware upgrades \(M501\)](#)
- [Firmware upgrades M506/M527\)](#)
- [Solve email problems \(M527\)](#)

## For additional service and support information

HP service personnel, go to the Service Access Work Bench (SAW) at <http://h41302.www4.hp.com/km/saw/home.do>.

Channel partners, go to HP Channel Services Network (CSN) at <https://h30125.www3.hp.com/hpcsn>.

- To access HP PartSurfer information from any mobile device, go to <http://partsurfermobile.hp.com/> or scan the Quick Response (QR) code below.



- Install and configure
- Printer specifications
- Up-to-date control panel message (CPMD) troubleshooting
- Solutions for printer issues and emerging issues
- Remove and replace part instructions and videos
- Service advisories
- Warranty and regulatory information

## Solve problems checklist (M501)

If the printer is not correctly functioning, complete the steps (in the order given) in the following checklist. If the printer fails a checklist step, follow the corresponding troubleshooting suggestions for that step. If a checklist step resolves the problem, skip the remaining checklist items.

1. Make sure that the printer is set up correctly.
  - a. Press the power button to turn on the printer or to deactivate the Auto-Off mode.
  - b. Check the power-cable connections.
  - c. Make sure that the line voltage is correct for the printer power configuration. See the label that is on the printer for voltage requirements. If you are using a power strip and its voltage is not within specifications, plug the printer directly into the wall. If it is already plugged into the wall, try a different outlet.
2. Check the cable connections.
  - a. Check the cable connection between the printer and the computer. 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: Make sure that the network light is lit. The network light is next to the network port on the back of the printer.

If the printer remains unable to connect to the network, uninstall and then reinstall the printer. If the error persists, contact a network administrator.
3. Check to see if any messages appear on the control panel.
4. Make sure that the paper you are using meets specifications.
5. Make sure that the paper is loaded correctly in the input tray.
6. Make sure that the printer software is installed correctly.
7. Verify that you have installed the printer driver for this printer, and that you are selecting this printer from the list of available printers.
8. Print a configuration page.
  - a. On the printer control panel, press the **OK** button.
  - b. Open the **Reports** menu.
  - c. Select **Configuration Report**.

### After printing the configuration page, check the following:

- a. If the page does not print, verify that the input tray contains paper and that the paper is properly loaded.
- b. Make sure that each toner cartridge is installed correctly.
- c. If the page jams in the printer, clear the jam.
- d. If the print quality is unacceptable, complete the following steps:

- Verify that the print settings are correct for the paper you are using.
  - Solve print-quality problems.
9. Print a small document from a different program that has printed 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 printer software installed.
  - b. Check the cable connection. Direct the printer to the correct port, or reinstall the software, selecting the connection type you are using.

## Print the menu map (M501)

To more easily navigate individual settings, print a report of the complete printer menus.

1. On the printer control panel, press the **OK** button.
2. Open the **Reports** menu.
3. Select **Menu Structure**.

## Print the service page (includes the event log) (M501)

Printing the service page provides a list of printer settings that might be helpful in the troubleshooting process, as well as the event log, which stores the last 10 error events that the printer experienced.

1. On the printer control panel, press the **OK** button.
2. Open the **Reports** menu.
3. Select the **Service Page** option to print the report.

The event log is located in the lower right-hand corner of the service page.

# Solve problems checklist (M506/M527)

- [Solve problems checklist](#)
- [Print menu map \(M506/M527\)](#)
- [Print current settings pages \(M506/M527\)](#)
- [Print event log \(M506/M527\)](#)
- [Pre-boot menu options \(M506/M527\)](#)

## Solve problems checklist

If the printer is not correctly functioning, complete the steps (in the order given) in the following checklist. If the printer fails a checklist step, follow the corresponding troubleshooting suggestions for that step. If a checklist step resolves the problem, skip the remaining checklist items.

1. If the control panel is blank or black, check the following before proceeding:
  - Check to make sure that the printer is not in Sleep mode (tap the touchscreen control panel or press a button on the LCD control panel).
  - Check the power cable.
  - Check that the power is turned on.
  - Make sure that the line voltage is correct for the printer power configuration. (See the label that is on the back of the printer for voltage requirements.) If a power strip is in use, and its voltage is not within specifications, connect the printer directly into the electrical outlet. If it is already connected into the outlet, try a different outlet.

If the control panel is not responding to touch (M506x and M527 models), or if it appears black or blank, try the following:



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**NOTE:** The following conditions indicate that the printer has frozen while in Sleep mode. Opening a door, tapping the control panel (touchscreen control panels), or pressing a control-panel button (LCD control panels) causes the printer to wake up from Sleep mode.

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- The control-panel home button LED is illuminated.
- The power-switch LED flashes once every three to five seconds.

- a. Turn the printer power off, and then on again.
- b. Verify that the control panel is correctly functioning by accessing the control panel diagnostics. See the Control-panel checks section of the printer Troubleshooting Manual.



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**TIP:** The LED on the formatter will blink if the control panel is not detected or the cables are not properly seated.

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If the control panel does not respond to the diagnostic button, try the following:

- Try printing from a host computer. Does the printer print a test page?
- Is the printer HP Embedded Web Server (EWS) accessible?

- Turn the power off.
  - Reseat the cable connections on the bottom of the control-panel assembly and the control-panel connectors at the formatter.
  - Turn the printer power on, and then check for functionality of the control-panel by tapping the touchscreen or pressing a button on the LCD control panel.
- c. Try upgrading the firmware. If the firmware upgrade fails to resolve the problem, and the printer still freezes while in Sleep mode, elevate the case after collecting the following info:
  - d. If the error persists, replace the control-panel assembly.
2. The control panel should indicate a **Ready**, **Paused**, or **Sleep mode on** status. If an error message displays, resolve the error.
    - Try using the Power-on checks section in the printer *Troubleshooting Manual* to solve the problem.
  3. For network connection errors, check the cables.
    - a. Check the network cable connections between the printer and the computer or network port. Make sure that the connections are secure.



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**NOTE:** The network LEDs should be illuminated and flashing.

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- b. Make sure that the cables are not faulty by trying different cables, if possible.
  - c. Check the network connection. Verify that the port is active.
4. Print a configuration page. If the printer is connected to a network, an HP Jetdirect page also prints.

#### Print a configuration page from a touchscreen control panel

- a. From the **Home** screen on the printer control panel, scroll to and touch the **Administration** button.
- b. Open the following menus:
  - **Reports**
  - **Configuration/Status Pages**
  - **Configuration Page**
- c. Touch **Configuration Page** to select it.



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**TIP:** Multiple report pages can be selected, and then printed together.

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- d. Touch the **Print** button to print the pages.

#### Print a configuration page from a LCD control panel


- a. From the **Home** screen on the printer control panel, use the ▼ to scroll to **Administration**, and then press the **OK** button.
- b. If necessary, use the down arrow ▼ button to scroll to **Reports**, and then press the **OK** button.
- c. If necessary, use the down arrow ▼ button to scroll to **Configuration/Status Pages**, and then press the **OK** button.

- d. Use the down arrow ▼ button to scroll to [Configuration page](#), and then press the **OK** button to select it.
  - e. Use the up arrow ▲ button to scroll to [Print](#), and then press the **OK** button to print the pages.
- 
-  **TIP:** Multiple report pages can be selected, and then printed together.
- 
- If the pages do not print, check that at least one tray contains paper.
- 
-  **TIP:** Make sure that the selected paper size and type meet HP specifications. Also open the **Trays** menu on the printer control panel and verify that the tray is configured correctly for the paper type and size.
- 
- If the page jams in the printer, follow the instructions on the control panel to clear the jam.
  - If the page does not print correctly, the problem is with the printer hardware.
  - If the page prints correctly, the printer hardware is working. The problem is with the host computer, with the print driver, or with the program.
5. Print a supplies status page and then check that the maintenance items below are not at their end-of-life.
- 
-  **TIP:** If a maintenance item needs to be replaced, order the part number provided below.
- 

#### Print a supplies status page from a touchscreen control panel

- a. From the Home screen on the printer control panel, scroll to and touch the [Administration](#) button.
- b. Open the following menus:
  - [Reports](#)
  - [Configuration/Status Pages](#)
  - [Supplies Status Page](#)
- c. Touch the [Print](#) button to print the page, and then check the maintenance items (listed below in this step).

---


 **TIP:** Multiple report pages can be selected, and then printed together.

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#### Print a supplies status page from a LCD control panel

- a. From the [Home](#) screen on the printer control panel, use the down arrow ▼ button to scroll to [Administration](#), and then press the **OK** button.
- b. If necessary, use the down arrow ▼ button to scroll to [Reports](#), and then press the **OK** button.
- c. If necessary, use the down arrow ▼ button to scroll to [Configuration/Status Pages](#), and then press the **OK** button.
- d. Use the down arrow ▼ button to scroll to [Supplies Status Page](#), and then press the **OK** button to select it.
- e. Use the up arrow ▲ button to scroll to [Print](#), and then press the **OK** button to print the page, and then check the maintenance items (listed below in this step).

---

 **TIP:** Multiple report pages can be selected, and then printed together.

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 **NOTE:** HP long-life consumables and maintenance kit life specifications are estimations. Actual individual life/yield during normal use varies depending on usage, environment, media, and other factors. Estimated life is not an implied guarantee or warrantable.

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- Fixing assembly (fuser); estimated life: 150,000 pages
    - RM2-5679-000 (110V)
    - RM2-5692-000 (220V)
  - Document feeder maintenance kit; estimated life: 150,000 pages
    - B5L52-67903
- 6.** Verify that the correct print driver for this printer is installed. Check the program to make sure that the print driver for this printer is used. The print driver is on the CD that came with the printer, or can be downloaded from this Web site: [www.hp.com/support/ljM501](http://www.hp.com/support/ljM501), [www.hp.com/support/ljM506](http://www.hp.com/support/ljM506), [www.hp.com/support/ljM527MFP](http://www.hp.com/support/ljM527MFP).
- 7.** Print a short document from a different program that has worked in the past. If this solution works, the problem is with the program. 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 printer software installed.
  - b.** If the printer is connected to the network, connect the printer directly to a host computer with a USB cable. Redirect the printer to the correct port, or reinstall the software (make sure to select the new connection type).




## Print menu map (M506/M527)

To more easily navigate individual settings, print a report of the complete [Administration](#) menu.

### Print the menu map from a touchscreen control panel

1. From the [Home](#) screen on the printer control panel, scroll to and touch the [Administration](#) button.
2. Open the following menus:
  - [Reports](#)
  - [Configuration/Status Pages](#)
3. Select the [Administration Menu Map](#) option.
4. Touch the [Print](#) button to print the report.

---


 **TIP:** Multiple report pages can be selected, and then printed together.

---

### Print the menu map from a LCD control panel

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

---

 **TIP:** Multiple report pages can be selected, and then printed together.

---


## Print current settings pages (M506/M527)

Printing the current settings page provides a map of the user configurable settings that might be helpful in the troubleshooting process.

### Print the current settings page from a touchscreen control panel

1. From the [Home](#) screen on the printer control panel, scroll to and touch the [Administration](#) button.
2. Open the following menus:
  - [Reports](#)
  - [Configuration/Status Pages](#)
3. Select the [Current Settings Page](#) option.
4. Touch the [Print](#) button to print the report.

---


 **TIP:** Multiple report pages can be selected, and then printed together.

---

### Print the current settings page from a LCD control panel

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

---

 **TIP:** Multiple report pages can be selected, and then printed together.

---

### Print event log (M506/M527)

Printing the event log might be helpful in the troubleshooting process. For more information, see the Interpret control-panel messages and event log entries section in the printer troubleshooting manual.

#### Print the event log from the Administration menu from a touchscreen control panel

1. From the [Home](#) screen on the printer control panel, scroll to and touch the [Administration](#) button.
2. Open the following menus:
  - [Troubleshooting](#)
  - [Event Log](#)
3. The event log displays on the screen. To print it, touch the [Print](#) button.

#### Print the event log from the Administration menu from a LCD control panel

1. From the [Home](#) screen on the printer control panel, use the down arrow ▼ button to scroll to [Administration](#), and then press the [OK](#) button.
2. Use the down arrow ▼ button to scroll to [Troubleshooting](#), and then press the [OK](#) button.
3. If necessary, use the down arrow ▼ button to scroll to [Print Event Log](#), and then press the [OK](#) button to print the page.

#### Print the event log from the Service menu from a touchscreen control panel

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

### Print the event log from the Service menu from a LCD control panel

1. From the [Home](#) screen on the printer control panel, use the down arrow ▼ button to scroll to [Device Maintenance](#), and then press the [OK](#) button.
2. Use the down arrow ▼ button to scroll to [Service](#), and then press the [OK](#) button.
3. On the sign-in screen, use the down arrow ▼ button to scroll to [Service Access Code](#) option and then press the [OK](#) button.
4. Enter the following service access code for the printer:
  - 10050615 (M506)
  - 11052715 (M527)
5. If necessary, use the down arrow ▼ button to scroll to [Print Event Log](#), and then press the [OK](#) button to print the page.

### Clear the event log from a touchscreen control panel

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

### Clear the event log from a LCD control panel

1. From the [Home](#) screen on the printer control panel, use the down arrow ▼ button to scroll to [Device Maintenance](#), and then press the [OK](#) button.
2. Use the down arrow ▼ button to scroll to [Service](#), and then press the [OK](#) button.
3. On the sign-in screen, use the down arrow ▼ button to scroll to [Service Access Code](#) option and then press the [OK](#) button.
4. Enter the following service access code for the printer:
  - 10050615 (M506)
  - 11052715 (M527)
5. If necessary, use the down arrow ▼ button to scroll to [Clear Event Log](#), and then press the [OK](#) button.

## Pre-boot menu options (M506/M527)

The **Pre-boot** menus are available prior to the printer initializing.

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

**TIP:** The Pre-boot menu can be remotely accessed by using a telnet network protocol to establish an administration connection to the printer. See [Remote Admin \(M506/M527\) on page 88](#).

### Open the Pre-boot menu from a touchscreen control panel

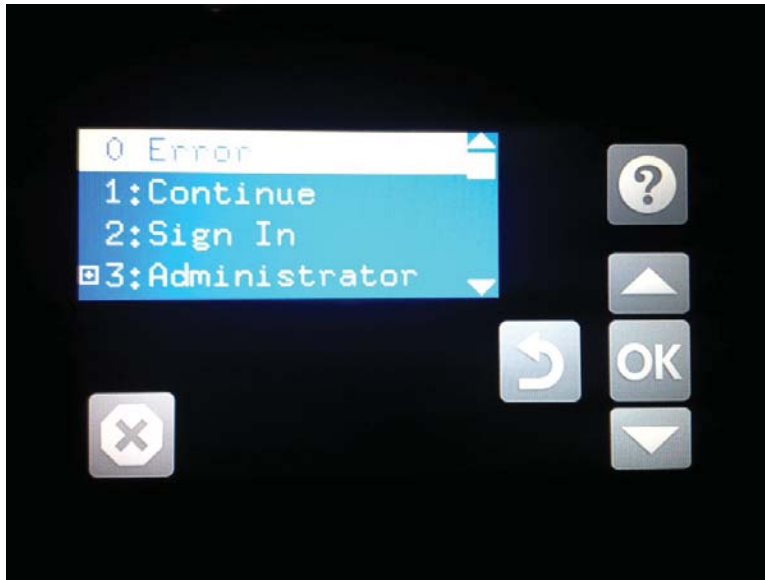
1. Touch the middle of the control-panel display when you see the 1/8 under the logo.

**Figure 2-1** Open the Pre-boot menu



2. On the **Pre-boot** menu screen, use the following buttons to navigate the tests.

**Figure 2-2** Pre-boot menu



Use this button to see more information about a selected item.



Use this button to scroll up through menu items.



Use this button to select a highlighted menu item.



Use this button to scroll down through menu items.



Use this button to go back to the previous menu.




Not used.



Use this button to exit a diagnostic test.

3. Use the arrow buttons on the touchscreen to navigate the **Pre-boot** menu.
4. Touch the **OK** button to select a menu item.

### Open the Pre-boot menu from a LCD control panel

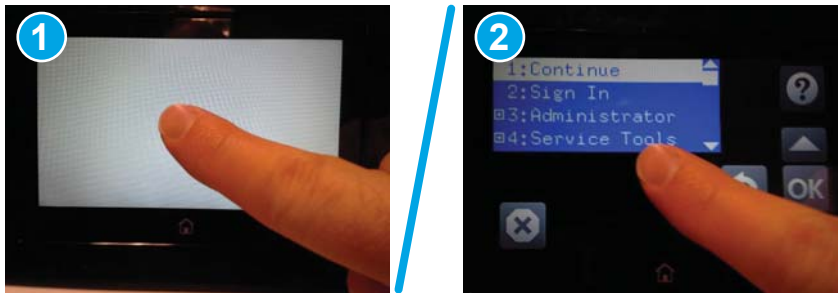
1. Press the **Cancel**  button when you see the **1/8** under the logo.
2. Use the arrow buttons on the control panel to navigate the **Pre-boot** menu.
3. Press the **OK** button to select a menu item.

### Cold reset using the Pre-boot menu from a touchscreen control panel

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

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

**Figure 2-3** Open the Pre-boot menu




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

 **NOTE:** The printer will initialize.


### Cold reset using the Pre-boot menu from a LCD control panel

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

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

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

 **NOTE:** The printer will initialize.

 **NOTE:** Some of the pre-boot options in the following tables are not supported by the current version of the printer firmware and are included for information only. Future versions of firmware will support these options.

**Table 2-1 Pre-boot menu options (1 of 7)**

| Menu option   | First level | Second level   | Third level | Description   |
|---------------|-------------|----------------|-------------|---|
| Continue      |             |                |             | <p>Selecting the <b>Continue</b> item exits the <b>Pre-boot</b> menu and continues the normal boot process.</p> <p>If a selection is not made in the initial menu within 30 seconds, the printer returns to a normal boot (the same as selecting <b>Continue</b>).</p> <p>If the user navigates to another menu, the timeout does not apply.</p>  |
| Sign In       |             |                |             | Enter the administrator PIN or service PIN if one is required to open the <b>Pre-boot</b> menu.   |
| Administrator |             |                |             | <p>This item navigates to the <b>Administrator</b> submenus.</p> <p>If authentication is required (and the user is not already signed in) the <b>Sign In</b> prompt displays. The user is required to sign in.</p>  |
|               | Download    | Network        |             | This item initiates a Pre-boot firmware download process. A USB Thumbdrive option will work on all FutureSmart printers. USB or Network connections are not currently supported.  |
|               |             | USB            |             |   |
|               |             | USB Thumbdrive |             |   |
| Format Disk   |             |                |             | <p>This item reinitializes the disk and cleans all disk partitions.</p> <p><b>CAUTION:</b> Selecting the <b>Format Disk</b> item removes <b>all</b> data.</p> <p>A delete confirmation prompt is <b>not</b> provided.</p> <p>The system is <b>not</b> bootable after this action and a <b>99.09.67</b> error displays on the control panel. A firmware download must be performed to return the system to a bootable state.</p> |

**Table 2-1 Pre-boot menu options (1 of 7) (continued)**

| Menu option | First level     | Second level | Third level | Description  |
|-------------|-----------------|--------------|-------------|--|
|             | Partial Clean   |              |             | <p>This item reinitializes the disk (removing all data except the firmware repository where the master firmware bundle is downloaded and saved).</p> <p><b>CAUTION:</b> Selecting the <a href="#">Partial Clean</a> item removes <b>all</b> data except the firmware repository. A delete confirmation prompt is <b>not</b> provided.</p> <p><b>CAUTION:</b> This procedure resets all printer configurations and settings to factory defaults (customer configurations and settings are lost).</p> <p>This allows a user to reformat the disk by removing the firmware image from the active directory without having to download new firmware code (printer remains bootable).</p> |
|             | Change Password |              |             | Select this item to set or change the administrator password.  |
|             | Clear Password  |              |             | <p>Select the <a href="#">Clear Password</a> item to remove a password from the <a href="#">Administrator</a> menu. Before the password is actually cleared, a message will be shown asking to confirm that the password should be cleared. Press the <b>OK</b> button to confirm the action.</p> <p>When the confirmation prompt displays, press the <b>OK</b> button to clear the password.</p>  |

**Table 2-2 Pre-boot menu options (2 of 7)**

| Menu option                  | First level | Second level   | Third level | Description  |
|------------------------------|-------------|----------------|-------------|--|
| Administrator<br>(continued) | Manage Disk | Clear disk     |             | Select the <a href="#">Clear disk</a> item to enable using an external device for job storage. Job storage is normally enabled only for the Boot device. This will be grayed out unless the <b>99.09.68</b> error is displayed.  |
|                              |             | Lock Disk      |             | <p>Select the <a href="#">Lock Disk</a> item to lock (mate) a new secure disk to this printer.</p> <p>The secure disk already locked to this printer will remain accessible to this printer. Use this function to have more than one encrypted disk accessible by the printer when using them interchangeably.</p> <p>The data stored on the secure disk locked to this printer always remains accessible to this printer.</p> |
|                              |             | Leave Unlocked |             | <p>Select the <a href="#">Leave Unlocked</a> item to use a new secure disk in an unlocked mode for a single service event. The secure disk that is already locked to this printer will remain accessible to this printer and uses the old disk's encryption password with the new disk.</p> <p>The secure disk that is already locked to this printer remains accessible to this printer.</p>                                  |



**Table 2-2 Pre-boot menu options (2 of 7) (continued)**

| Menu option | First level | Second level    | Third level  | Description   |
|-------------|-------------|-----------------|--------------|---|
|             |             | Clear Disk Pwd  |              | Select the <a href="#">Clear Disk Pwd</a> item to continue using the non-secure disk and clear the password associated with the yet-to-be installed secure disk.<br><br><b>CAUTION:</b> Data on the missing secure disk will be permanently inaccessible.   |
|             |             | Retain Password |              | Select the <a href="#">Retain Password</a> item to use the non-secure disk for this session only, and then search for the missing secure disk in future sessions.   |
|             |             | Boot Device     | Secure Erase | Select the <a href="#">Secure Erase</a> item to erase all of the data on the disk and unlock it if required.<br><br>This might take a long time.<br><br><b>NOTE:</b> The system will be unusable until the system files are reinstalled. The ATA secure-erase command is a one-pass overwrite, which erases the entire disk including firmware. The disk remains an encrypted disk. |
|             |             |                 | Erase/Unlock | Select the <a href="#">Erase/Unlock</a> item to cryptographically erase all data on the disk and unlock the disk to allow a user to gain access to it from any printer.<br><br><b>NOTE:</b> The system will be unusable until the system files are reinstalled. It erases the encryption key. The encryption key is erased, so the disk becomes a non-encrypted disk.               |
|             |             |                 | Get Status   | This item provides disk status information if any is available.   |

**Table 2-3 Pre-boot menu options (3 of 7)**

| Menu option                  | First level                | Second level    | Third level  | Description   |
|------------------------------|----------------------------|-----------------|--------------|---|
| Administrator<br>(continued) | Manage Disk<br>(continued) | Internal Device |              | Select the <a href="#">Internal Device</a> item to erase the internal device or get a status about the internal device.   |
|                              |                            |                 | Secure Erase | Select the <a href="#">Secure Erase</a> item to erase all of the data on the disk and unlock it if required.<br><br>This might take a long time.<br><br><b>NOTE:</b> The system will be unusable until the system files are reinstalled. The ATA secure-erase command erases the entire disk, including firmware. The disk remains an encrypted disk. |
|                              |                            |                 | Erase/Unlock | Select the <a href="#">Erase/Unlock</a> item to cryptographically erase all of the data on disk and unlock the disk to allow the user to gain access to it from any printer.<br><br><b>NOTE:</b> The system will be unusable until the system files are reinstalled. The HP High Performance Secure Hard Disk is erased.                              |
|                              |                            |                 | Get Status   | This item provides disk status information if any is available.   |
|                              |                            | External Device |              | Select the <a href="#">External Device</a> item to erase the external device or get status about the external device.   |

**Table 2-3 Pre-boot menu options (3 of 7) (continued)**

| Menu option | First level | Second level | Third level  | Description  |
|-------------|-------------|--------------|--------------|--|
|             |             |              | Secure Erase | Select the <a href="#">Secure Erase</a> item to erase all of the data on the disk and unlock it if required.<br><br>This might take a long time.<br><br><b>NOTE:</b> The system will be unusable until the system files are reinstalled.<br><br>The ATA secure-erase command erases the entire disk, including firmware. The disk remains an encrypted disk. |
|             |             |              | Erase/Unlock | Select the <a href="#">Erase/Unlock</a> item to cryptographically erase all of the data on disk and unlock the disk to allow a user to gain access to it from any printer.<br><br><b>NOTE:</b> The system will be unusable until the system files are reinstalled. The encryption key is erased, so the disk becomes a non-encrypted disk.                   |
|             |             |              | Get Status   | This item provides disk status information if any is available.  |

**Table 2-4 Pre-boot menu options (4 of 7)**

| Menu option                      | First level   | Second level     | Third level     | Description   |
|----------------------------------|---|------------------|-----------------|---|
| Administrator<br><br>(continued) | Configure LAN<br><br><b>NOTE:</b> This configuration is only active when the Pre-boot menu is open. | IP Mode [DHCP]   |                 | The network can be configured to obtain the network settings from a DHCP server or as static.<br><br>Use this item for automatic IP address acquisition from the DHCP server. |
|                                  |   | IP Mode [STATIC] |                 | Use this item to manually assign the network addresses.   |
|                                  |   |                  | IP Address      | Use this item to manually enter the IP addresses.   |
|                                  |   |                  | Subnet Mask     | Use this item to manually enter the subnet mask.  |
|                                  |   |                  | Default Gateway | Use this item to manually enter the default gateway.  |
|                                  |   |                  | Save            | Select the <a href="#">Save</a> item to save the manual settings.   |

**Table 2-5 Pre-boot menu options (5 of 7)**

| Menu option                      | First level     | Second level  | Third level | Description  |
|----------------------------------|-----------------|---------------|-------------|--|
| Administrator<br><br>(continued) | Startup Options |               |             | Select the <a href="#">Startup Options</a> item to specify options that can be set for the next time the printer is turned on and initializes to the <b>Ready</b> state.   |
|                                  |                 | Show Revision |             | <b>Not currently functional:</b> Select the <a href="#">Show Revision</a> item to allow the printer to initialize and show the firmware version when the printer reaches the <b>Ready</b> state.<br><br>Once the printer power is turned on the next time, the <a href="#">Show Revision</a> item is unchecked so that the firmware revision is not shown. |

**Table 2-5 Pre-boot menu options (5 of 7) (continued)**

| Menu option                  | First level                    | Second level           | Third level | Description  |
|------------------------------|--------------------------------|------------------------|-------------|--|
|                              |                                | Cold Reset             |             | Select the <a href="#">Cold Reset</a> item to clear the IP address and all customer settings. (This item also returns all settings to factory defaults.)<br><br><b>NOTE:</b> Items in the <a href="#">Service</a> menu are not reset.  |
|                              |                                | Skip Disk Load         |             | Select the <a href="#">Skip Disk Load</a> item to disable installed third-party applications.  |
|                              |                                | Skip Cal               |             | Select the <a href="#">Skip Cal</a> item to skip the printer calibration for the very next power-initialization cycle only.  |
|                              |                                | Lock Service           |             | <b>CAUTION:</b> Select the <a href="#">Lock Service</a> item to lock the <a href="#">Service</a> menu access (both in the <a href="#">Pre-boot</a> menu and the <a href="#">Device Maintenance</a> menu).<br><br>Service personnel must have the administrator remove the <a href="#">Lock Service</a> setting before they can open the <a href="#">Service</a> menu.  |
|                              |                                | Skip FSCK              |             | Select the <a href="#">Skip FSCK</a> item to disable Chkdisk/ScanVolume during startup.  |
| Administrator<br>(continued) | Startup Options<br>(continued) | First Power            |             | <b>Not currently functional:</b> This item allows the printer to initialize as if it is the first time it has been turned on.<br><br>For example, the user is prompted to configure first-time settings like date/time, language, and other settings.<br><br>Select this item so that it is enabled for the next time the printer power is turned on.<br><br>When the printer power is turned on the next time, this item is unchecked so that the pre-configured settings are used during configuration, and the first-time setting prompt is not used. |
|                              |                                | Embedded Jetdirect Off |             | Select the <a href="#">Embedded Jetdirect Off</a> item to disable the embedded HP Jetdirect.<br><br>By default this item is unchecked so that HP Jetdirect is always enabled.  |
|                              |                                | WiFi Accessory         |             | Select the <a href="#">WiFi Accessory</a> item to enable the wireless accessory.   |

**Table 2-6 Pre-boot menu options (6 of 7)**

| Menu option                  | First level | Second level | Third level | Description   |
|------------------------------|-------------|--------------|-------------|---|
| Administrator<br>(continued) | Diagnosics  |              |             | Diagnostic items are useful to diagnose hardware components and their interface connections. Use these items to troubleshoot specific hardware components, and the interface between them and other components. |
|                              |             | Memory       | Do Not Run  | Use the <a href="#">Do Not Run</a> item to exclude the <a href="#">Memory</a> diagnostic when executing multiple diagnostics.   |

**Table 2-6 Pre-boot menu options (6 of 7) (continued)**

| Menu option | First level  | Second level | Third level | Description  |
|-------------|--------------|--------------|-------------|--|
|             |              |              | Short       | Use the <b>Short</b> item to select a brief memory test.<br><br><b>NOTE:</b> This test requires about four minutes to execute.   |
|             |              |              | Long        | Use the <b>Long</b> item to select an extended memory test.<br><br><b>NOTE:</b> This test requires about twenty minutes to execute.  |
|             | Disk         |              | Do Not Run  | Use the <b>Do Not Run</b> item to exclude the <b>Disk</b> diagnostic when executing multiple diagnostics.  |
|             |              |              | Short       | Use the <b>Short</b> item to select a brief firmware self-test.<br><br><b>NOTE:</b> This test requires about two or three minutes to execute.  |
|             |              |              | Long        | Use the <b>Long</b> item to select an extended firmware self-test.<br><br><b>NOTE:</b> This test requires about sixty minutes to execute.  |
|             |              |              | Optimized   | Use the <b>Optimized</b> item to select a test that checks the active sectors on the disk.<br><br><b>NOTE:</b> This test requires about thirty minutes to execute.   |
|             |              |              | Raw         | Use the <b>Raw</b> item to select a test that checks every sector on the disk.<br><br><b>NOTE:</b> This test requires about fifty minutes to execute.  |
|             |              |              | Smart       | Use the <b>Smart</b> item to select a very brief test that checks the drive self-monitoring analysis and reporting technology (SMART) status—the drive detects and reports reliability indicators to help anticipate disk failures (SMART status). |
|             | CPB          |              |             | Use the <b>CPB</b> item to verify the integrity of the copy processor board (CPB) and the formatter PCA connections.   |
|             | Interconnect |              |             | Use the <b>Interconnect</b> item to verify the integrity of the interconnect PCA (ICB) and its connections.  |
|             | Run Selected |              |             | Select the <b>Run Selected</b> item to execute a selected test.<br><br><b>NOTE:</b> If more than one test is selected, they are executed in sequence.  |


**Table 2-7 Pre-boot menu options (7 of 7)**

| Menu option                  | First level    | Second level | Third level | Description  |
|------------------------------|----------------|--------------|-------------|--|
| Administrator<br>(continued) | Remote Admin   | Start Telnet |             | <p>The <a href="#">Remote Admin</a> item allows a service technician to access to the printer Pre-boot menu remotely, and to navigate the menu selections from a remote location.</p> <p><b>IMPORTANT:</b> A Remote Admin connection must be initiated by a person that is physically present at the printer.</p> <p>This person will also need to provide a randomly generated PIN to the remote service technician.</p> <p><b>NOTE:</b> For more information about using the <a href="#">Remote Admin</a> function, see <a href="#">Remote Admin (M506/M527) on page 88</a>.</p> |
|                              |                |              | Stop Telnet |  |
|                              |                |              | Refresh IP  |  |
|                              | System Triage  | Copy Logs    |             | <p>If the device will not boot to the <b>Ready</b> state, or the diagnostic log feature found in the <a href="#">Troubleshooting</a> menu is not accessible, then use the <a href="#">System Triage</a> item to copy the diagnostic logs to a USB flash drive at the next printer start up.</p> <p>The files can then be sent to HP to help diagnose the problem.</p>  |
|                              | Change Svc PWD |              |             | Use this item to change the <a href="#">Service</a> menu personal identification number (PIN).   |
|                              | Reset Svc PWD  |              |             | If the <a href="#">Service</a> menu personal identification number (PIN) has been changed. Use this item to reset it to the original PIN.  |
| Service Tools                | Reset Password |              |             | Use this item to reset the Pre-boot administrator password.  |
|                              | Subsystems     |              |             | For manufacturing use only. Do not change these values.  |
| Developer Tools              | Netexec        |              |             |  |

## Remote Admin (M506/M527)

The Remote Admin feature allows remote access the printer Pre-boot menu (BIOS environment). The printer functions as a telnet server which uses the telnet networking protocol to transmit text data. Any computer (with telnet installed and enabled) can function as the telnet client to remotely display and interact with the Pre-boot menu.

---

 **IMPORTANT:** While the Remote Admin function allows remote access the Pre-boot menu, for security reasons the Remote Admin connection must be initiated by a person that is physically present at the printer.

---

This section describes the following Remote Admin items.

- [Required software and network connection](#)
- [Connect a remote connection](#)
- [Disconnect a remote connection](#)

### Required software and network connection

Before using the Remote Admin feature, make sure that the telnet network protocol is installed, and enabled, on the remote telnet client computer.

---

 **NOTE:** This section describes enabling and configuring the telnet feature for computers using a Windows® operating system.

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HP recommends that the telnet client computer be a Windows based system, however, there are other operating systems that support the telnet network protocol. For information about enabling and configuring the telnet network protocol for other operating systems, see the owner's manual for that operating system.

---

## Telnet client

### Enable the Windows telnet client

All computers using the Windows operating system have the telnet client installed, however, the telnet client function might not be enabled by default.

 **NOTE:** The figures and menus in this section are for the Windows 7 Enterprise® operating system. Screens and menu selections might vary slightly for other operating systems.

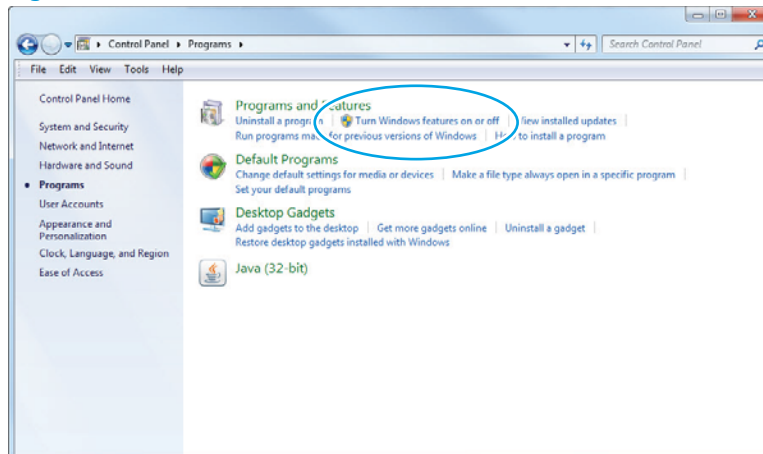
1. Use the **Start** menu to open the **Control Panel**, and then click the **Programs** item to select it.

**Figure 2-4** Open the Control Panel




2. Click the **Turn Windows features on or off** item to select it.

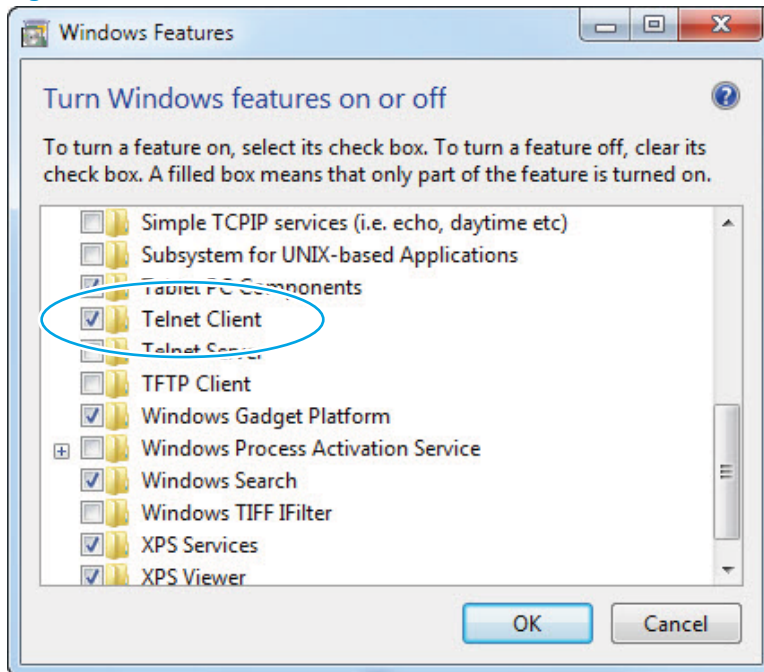
**Figure 2-5** Turn Windows features on or off



3. In the **Windows Features** box, scroll down to **Telnet Client**. If the check box is not checked, click the box to select it, and then click the **OK** button.

 **TIP:** If the check box is already checked then the telnet client function is already enabled. Click the **Cancel** button.

**Figure 2-6** Enable the telnet client feature



### Network connection


The remote telnet client computer must have direct network access to the printer for the Remote Admin function to operate. This means that the telnet client computer must be on the same network as the printer. The Remote Admin function cannot be accessed through a network firewall or other remote access network security programs.

If a private network is not accessible, ask the network administrator to set up a virtual private network (VPN) connection to the network.

### Connect a remote connection

#### Start the telnet server function at the printer

For security reasons the Remote Admin feature must be initiated by a person that is physically present at the printer. The following steps must be performed by a person that is physically present at the printer.

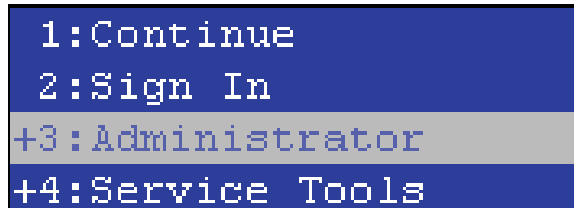
 **NOTE:** This person might need to sign in with an administrator or service password depending on how the printer is configured.

1. Turn the printer on.
2. The HP logo displays on the printer control panel. When a "1/8" with an underscore displays, touch the middle of the screen to open the **Pre-boot** menu.



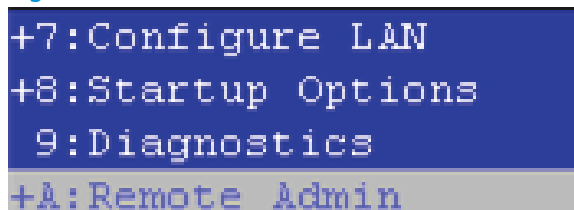
- Use the arrow buttons on the touchscreen to scroll down and highlight the **+3:Administrator** item, and then touch the **OK** button to select it.

**Figure 2-7** Select the +3:Administrator item



- Use the arrow buttons on the touchscreen to scroll down and highlight the **+A:Remote Admin** item, and then touch the **OK** button to select it.

**Figure 2-8** Select the +A:Remote Admin item



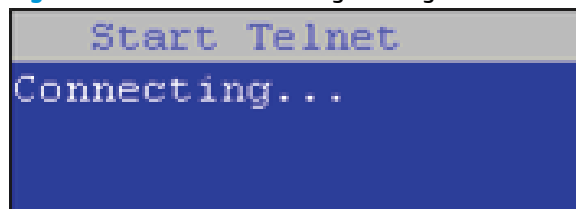
- Use the arrow buttons on the touchscreen to scroll down and highlight the **1:Start Telnet** item, and then touch the **OK** button to select it.

**Figure 2-9** Select the 1:Start Telnet item



- Do one of the following
  - If a connecting message displays briefly, go to step [7](#).

**Figure 2-10** Telnet connecting message



- If an error message displays, use the steps below to identify the problem.

**Figure 2-11** Telnet error message

```
Start Telnet
Unable to connect
Contact network
administrator.
```

- a. The printer network cable is not correctly connected.
  - b. The BIOS LAN settings are incorrect.
    - The printer should be configured to use a static IP address, but is configured to use DHCP instead.
    - The printer is configured to use a static IP address, but the IP address is incorrect.
  - c. The printer is correctly configured to use DHCP, but the DHCP server is not turned on or is malfunctioning.
7. When the printer telnet server function is initialized, the following screen appears. Use the information on this screen to connect the remote telnet client computer to the printer.



**NOTE:** The printer is now ready to receive remote telnet client commands.

- **IP:** The static or dynamically allocated IP address for the printer.
- **Port:** The standard telnet port (23).
- **Pin:** A randomly generated 4-digit personal identification number (PIN).

**Figure 2-12** Telnet server function initialized

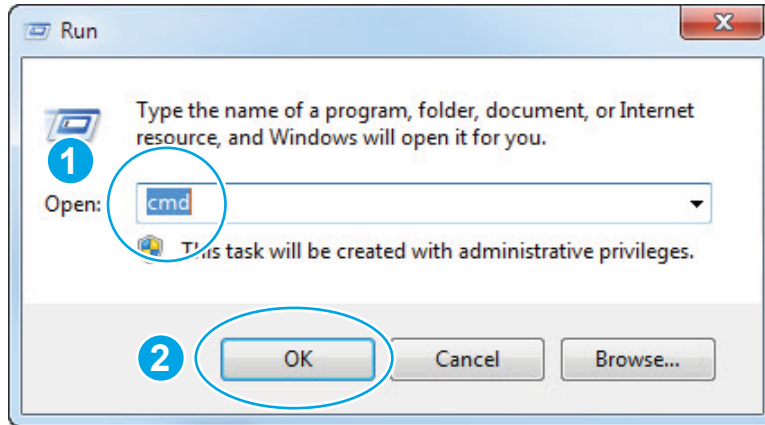
```
Start Telnet
IP: 16.88.109.66
Port: 23
Pin : 4031
```

### Start the telnet client function at the remote computer

The following steps establish a Remote Admin connection from a remote computer to the printer.

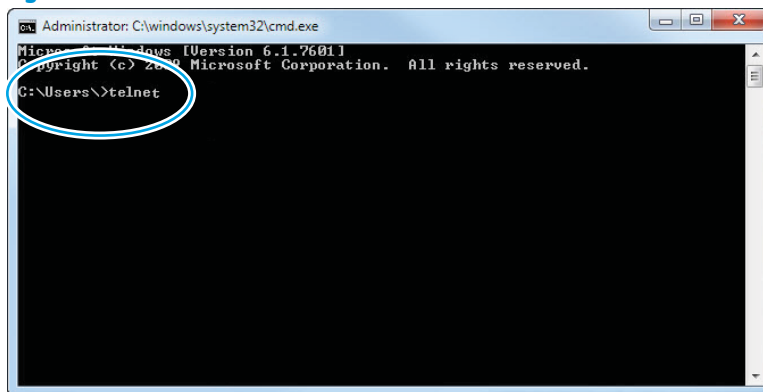
1. From the **Start** menu click **Run** to open a dialog box, type `cmd` in the **Open** field, and then click the **OK** button to open a Windows command window.

**Figure 2-13** Open a command window





2. From any displayed directory, type `telnet` at the prompt, and then press the **Enter** key.

**Figure 2-14** Start a telnet session

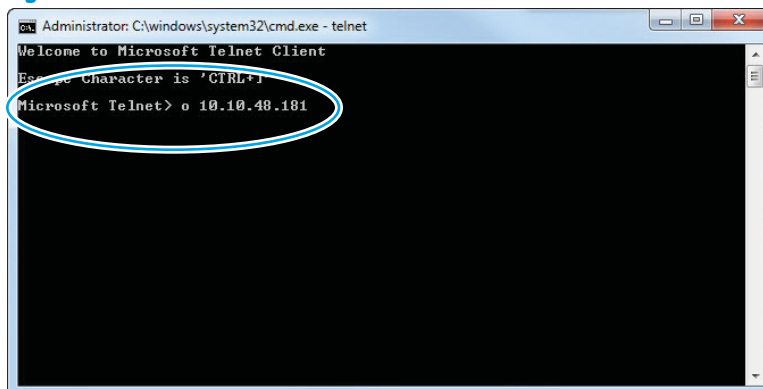


3. Type `<IP ADDRESS>` at the telnet prompt, and then press the **Enter** key.


 **NOTE:** For `<IP ADDRESS>`, substitute the IP address that was displayed in step 7 in [Start the telnet server function at the printer on page 90](#).

 **TIP:** If the telnet connection fails to establish a connection, the printer is probably behind a firewall or on a different network than the remote telnet client computer. See [Network connection on page 90](#).

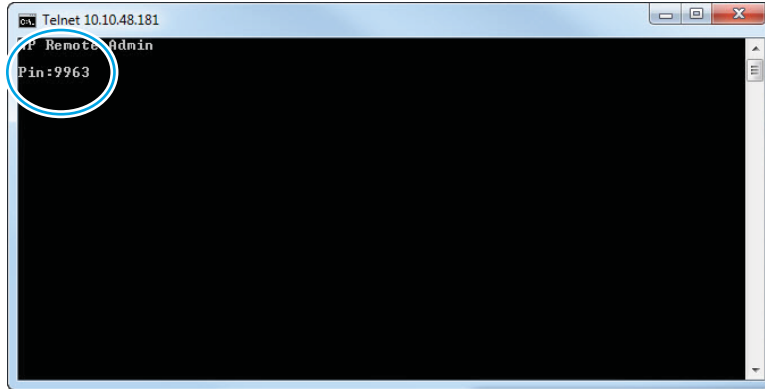
**Figure 2-15** Establish a telnet connection




4. Type the PIN that was displayed in step 7 in [Start the telnet server function at the printer on page 90](#) at the prompt, and then press the **Enter** key.

 **IMPORTANT:** Make sure to type the PIN correctly. After five incorrect PIN entries, the printer terminates the Remote Admin connection. The Remote Admin feature must be re-initiated at the printer. See [Start the telnet server function at the printer on page 90](#).

**Figure 2-16** Enter the PIN

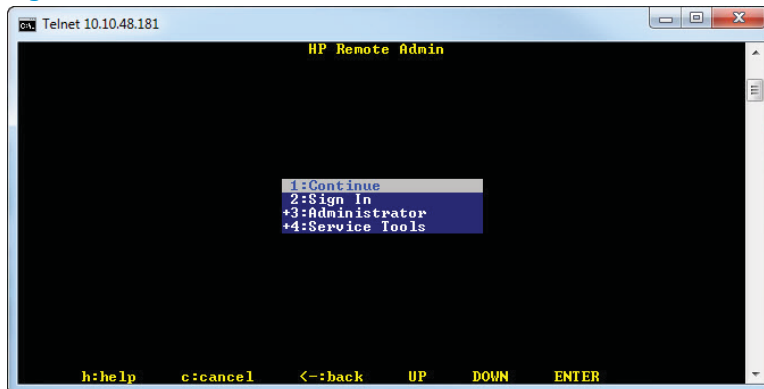


5. The following screen displays when the correct PIN is entered and the Remote Admin connection is successful. For information about the Pre-boot menu and options, see [Pre-boot menu options \(M506/M527\) on page 78](#).

 **NOTE:** Because a Remote Admin connection is an unsecure telnet network protocol connection, the following Pre-boot menu items are disabled for the remote telnet client computer.


- The **+3:Administrator** menu **4:Change Password** item.
- The **+3:Administrator** menu **5:Clear Password** item.
- The **+3:Administrator** menu **6:Disk Manage** item.

**Figure 2-17** Remote Admin window



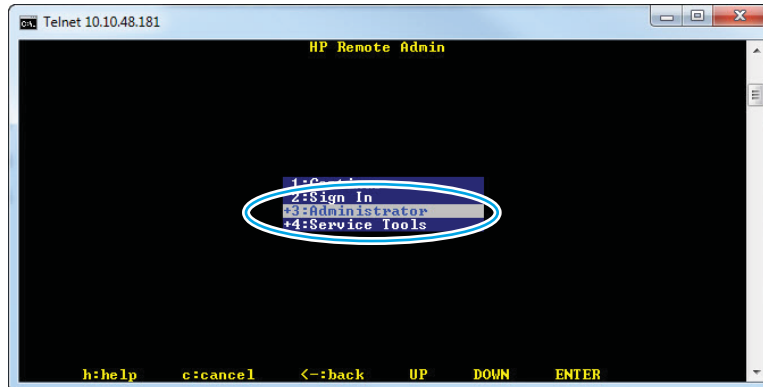
## Disconnect a remote connection

The Remote Admin connection can be terminated from the printer control panel or the remote telnet client computer.

 **NOTE:** The following procedure describes terminating a Remote Admin connection from the remote telnet client computer.

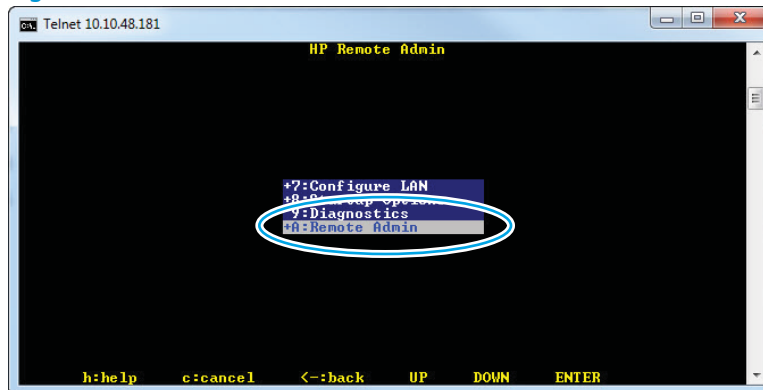
1. From the Pre-boot main menu, use the arrow buttons on the keyboard to scroll down to the **+3:Administrator** item, and then press the **Enter** key.

**Figure 2-18** Access the administrator menu




2. Use the arrow buttons on the keyboard to scroll down to the **+A:Remote Admin** item, and then press the **Enter** key.

**Figure 2-19** Access the remote admin menu

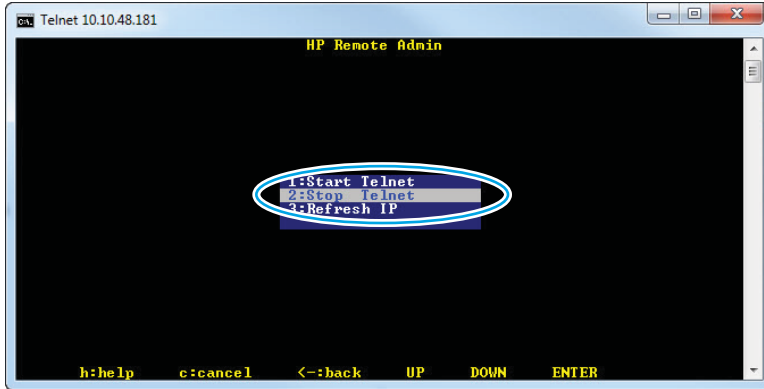


3. Use the arrow buttons on the keyboard to scroll down to the **2:Stop Telnet** item, and then press the **Enter** key. The Remote Admin connection between the printer and the remote telnet client computer terminates.

 **IMPORTANT:** The printer remains in the Pre-boot menu. Have the person that is physically present at the printer do the following:

- Touch the **Home** button to return to the main Pre-boot menu and highlight the **1:Continue** item, and then touch the **OK** button. The printer will continue to initialize.

**Figure 2-20** Terminate the telnet connection



# Troubleshooting process

- [Determine the problem source](#)
- [Power subsystem](#)
- [Control panel checks \(M501\)](#)
- [Control panel checks \(M506/M527\)](#)

## Determine the problem source

When the printer malfunctions or encounters an unexpected situation, the printer control panel alerts the user to the situation. This section contains a pre-troubleshooting checklist and a troubleshooting flow chart to filter out many possible causes of the problem. Use the pre-troubleshooting checklist to gather information about the problem from the customer. Use the troubleshooting flowchart to help diagnose the root cause of the problem. The remainder of this chapter provides steps for correcting problems.

- Use the pre-troubleshooting check list to gather information about the problem from the customer. See [Pre-troubleshooting checklist on page 97](#).
- Use the troubleshooting flowchart to pinpoint the root cause of hardware malfunctions. The flowchart provides guides to the section of this chapter that contain steps to correct the malfunction. See [Troubleshooting flowchart on page 98](#).

Before beginning any troubleshooting procedure, check the following issues:

- Are supply items within their rated life?
- Does the configuration page reveal any configuration errors?



**NOTE:** The customer is responsible for checking supplies and for using supplies that are in good condition.

## Pre-troubleshooting checklist

The following table includes basic questions to ask the customer to quickly help define the problem(s).

| General topic | Questions   |
|---------------|---|
| Environment   | <ul style="list-style-type: none"><li>• Is the printer installed on a solid, level surface (+/- 1°)?</li><li>• Is the power-supply voltage within <math>\pm 10</math> volts of the specified power source?</li><li>• Is the power-supply plug inserted in the printer and the wall outlet (not a surge protector)?</li><li>• Is the operating environment within the specified parameters?</li><li>• Is the printer exposed to ammonia gas, such as that produced by diazo copiers or office cleaning materials?<br/><br/><b>NOTE:</b> Diazo copiers produce ammonia gas as part of the copying processes. Ammonia gas (from cleaning supplies or a diazo copier) can have an adverse effect on some printer components (for example, the toner cartridge or cartridges OPC).</li><li>• Is the printer exposed to direct sunlight?</li><li>• Is the printer exposed to an air conditioning or heating vent that can cause temperature fluctuations?</li></ul> |

| General topic           | Questions   |
|-------------------------|---|
| Media                   | <ul style="list-style-type: none"> <li>Does the customer use only supported media?</li> <li>Is the media in good condition (no curls, folds, or distortion)?</li> <li>Is the media stored correctly and within environmental limits?</li> </ul>   |
| Input trays             | <ul style="list-style-type: none"> <li>Is the amount of media in the tray within specifications?</li> <li>Is the media correctly placed in the tray?</li> <li>Are the paper guides aligned with the stack (no gaps in the stack or excessive pressure causing the stack to bow)?</li> <li>Is the tray (or trays) correctly installed in the printer?</li> </ul>   |
| Toner cartridge         | <ul style="list-style-type: none"> <li>Is the toner cartridge (or cartridges) installed correctly?</li> </ul>   |
| Transfer unit and fuser | <ul style="list-style-type: none"> <li>Are the transfer unit and fuser installed correctly?</li> </ul> <p><b>NOTE:</b> For printers with an intermediate transfer belt (ITB), is the ITB installed correctly and fully seated. If a replacement ITB was installed, was all of the packing materials removed?</p>  |
| Covers                  | <ul style="list-style-type: none"> <li>Is the toner cartridge door closed?</li> </ul>   |
| Condensation            | <ul style="list-style-type: none"> <li>Does condensation occur following a temperature change (particularly in winter following cold storage)? If so, wipe affected parts dry or leave the printer on for 10 to 20 minutes.</li> <li>Was a toner cartridge (or cartridges) opened soon after being moved from a cold to a warm room? If so, allow the toner cartridge (or cartridges) to sit at room temperature for 1 to 2 hours.</li> </ul>                   |
| Miscellaneous           | <ul style="list-style-type: none"> <li>Check for and remove any non-HP components (toner cartridges, memory modules, and EIO cards) from the printer.</li> <li>Remove the printer from the network and ensure that the failure is associated with the printer before beginning troubleshooting.</li> <li>For any color print-quality issues (color printers only), calibrate the printer, and then print a diagnostics page to verify print quality.</li> </ul> |

## Troubleshooting flowchart

This flowchart highlights the general processes to follow to quickly isolate and solve printer hardware problems.

Each row depicts a major troubleshooting step. Follow a “yes” answer to a question to proceed to the next major step. A “no” answer indicates that more testing is needed. Go to the appropriate section in this chapter, and follow the instructions there. After completing the instructions, go to the next major step in this troubleshooting flowchart.

**Table 2-8 Troubleshooting flowchart**

|                             |  |  |
|-----------------------------|--|--|
| <b>1</b><br><b>Power on</b> | Is the printer on and does a readable message display? | Follow the power-on troubleshooting checks. See <a href="#">Power subsystem on page 99</a> . |
|                             | Yes ↓  | No →   |
|                             |  | After the control panel display is functional, see step 2.                                   |



**Table 2-8 Troubleshooting flowchart (continued)**

|   |  |      |   |
|---|--|------|---|
| <b>2</b><br><b>Control panel messages</b> | Does the message <b>Ready</b> display on the control panel?  |      | After the errors have been corrected, go to step 3.   |
|   | Yes ↓  | No → |   |
| <b>3</b><br><b>Event log</b>              | Open the <b>Troubleshooting</b> menu and print an event log to see the history of errors with this printer.      |      | If the event log does not print, check for error messages.<br><br>If paper jams inside the printer, see the jams section of the printer service manual.<br><br>If error messages display on the control panel when trying to print an event log, see the control panel message section of the printer troubleshooting service manual.<br><br>After successfully printing and evaluating the event log, see step 4.        |
|   | Does the event log print?  |      |   |
| <b>4</b><br><b>Information pages</b>      | Open the <b>Reports</b> menu and print the configuration pages to verify that all the accessories are installed. |      | If accessories that are installed are not listed on the configuration page, remove the accessory and reinstall it.<br><br>After evaluating the configuration pages, see step 5.   |
|   | Are all the accessories installed?   |      |   |
| <b>5</b><br><b>Print quality</b>          | Does the print quality meet the customer's requirements?   |      | Compare the images with the sample defects in the image defect tables. See the images defects table in the printer repair service manual.<br><br>After the print quality is acceptable, see step 6.   |
|   | Yes ↓  | No → |   |
| <b>6</b><br><b>Interface</b>              | Can the customer print successfully from the host computer?  |      | Verify that all I/O cables are connected correctly and that a valid IP address is listed on the HP Jetdirect configuration page.<br><br>If error messages display on the control panel when trying to print an event log, see the control-panel message section of the printer troubleshooting service manual.<br><br>When the customer can print from the host computer, this is the end of the troubleshooting process. |
|   | Yes. This is the end of the troubleshooting process.   | No → |   |

## Power subsystem

### Power-on checks

The basic printer functions should start up when the printer is connected into an electrical outlet and the power switch is pushed to the *on* position. If the printer does not start, use the information in this section to isolate and solve the problem.

If the control panel display remains blank, random patterns display, or asterisks remain on the control panel display, perform power-on checks to find the cause of the problem.



**NOTE:** For touchscreen control panel models, also try the control panel checks in the printer troubleshooting manual.

### Power-on troubleshooting overview

During normal operation, cooling fans begins to spin briefly after the printer power is turned on. Place a hand over the vents in the right- and left-side covers. Lean close to the printer to hear the fans operating. If the fan are operating, the dc side of the power supply is functioning.

If the fans are operating correctly, the next troubleshooting step is to isolate print engine, formatter, and control panel problems. Perform an engine test. If the formatter is damaged, it might interfere with the engine test. If the engine-test page does not print, try removing the formatter, and then performing the engine test again. If the engine test is then successful, the problem is almost certainly with the formatter, the control panel, or the cable that connects them.



---

**NOTE:** Depressing, and holding down, the test-page switch causes the printer to continually print test pages. Releasing the switch stops the test page continuous printing.

---

### Troubleshooting power on problems

1. Verify that power is available to the printer. If the printer is plugged into a surge protector or uninterruptible power supply (UPS), remove it, and then plug the printer directly into a known operating wall receptacle (make sure that the wall receptacle provides the correct voltage and current for the printer).

Unplug any other devices on the same circuit that the printer is using.

2. Try another known operating wall receptacle and a different power cord.
3. Listen for startup noises (for example, fans or motors) and look for illuminated lights on the control panel and formatter LEDs.



---

**NOTE:** Operational fans, motors, and control-panel lights indicate the following:

- AC power is present at the printer.
  - The power supply is providing either or both 24 Vdc and 5 Vdc voltages.
  - The DC controller microprocessor is functioning.
- 

4. Check the following:

- a. Turn the printer on, and then listen for startup noises. If normal startup noises are heard, go to step c below.

- b. If normal startup noises are not heard, turn the printer off, and then remove any installed accessories (for example, envelope feeders, paper feeders, or output accessories).

Turn the printer on, and then listen for startup noises. If normal startup noises are heard, the problem might be with one of the accessories.

- c. Turn the printer off and then remove the power connector from the formatter. Turn the printer on, and then use a small pointed object (like a paper clip) to depress the test-page switch located on the rear side of the printer (near the formatter).



---

**NOTE:** The test page can only use Tray 2 as the paper source, so make sure that paper is loaded in Tray 2.

---



- d. If the engine test page prints, the print engine is operating normally. Replace the formatter.



**NOTE: M506 (all) and M527dn models only:** If the engine test page does not print, turn the printer off, remove the embedded MultiMedia Card (eMMC), and then try the engine test again. If the page prints, the problem might be the eMMC.

- e. If after replacing the formatter normal startup noises are still not heard, replace the DC controller.



**NOTE:** If the error persists after replacing these assemblies, escalate the problem to the Global Business Unit (GBU).


### Troubleshooting a blank control panel

A blank control panel display can be caused by one or more of the following:

- No power to the printer.
  - Power supply has tripped (over-current/over-voltage/temperature issue).
  - Check the cables and connections on the formatter and at the control panel.
  - Faulty components installed on the formatter (for example, memory DIMM or disk drive).
  - Faulty control panel.
  - **M506 (all) and M527dn models only:** Make sure that the embedded MultiMedia Card (eMMC) PCA is fully seated.
  - For touchscreen models, use the control panel checks section in the printer troubleshooting manual to troubleshoot the control panel
1. Verify that power is available to the printer. If the printer is plugged into a surge protector or uninterruptible power supply (UPS), remove it, and then plug the printer directly into a known operating wall receptacle (make sure that the wall receptacle provides the correct voltage and current for the printer).
  2. Make sure that the power switch is in the *on* position.
  3. Make sure that the fans run briefly, which indicates that the power supply is operational.

4. Make sure that the control-panel display wire harness is connected.
5. Make sure that the formatter connectors are fully seated. Make sure the power switch is in the on position, and then verify that the heartbeat LED is blinking and that the connectivity LED is illuminated.
6. Remove any external solutions, and then try to turn the printer on again.
7. If the control panel display is blank, but the cooling fans run briefly after the printer power is turned on, try printing an engine-test page to determine whether the problem is with the control-panel display, formatter, or other printer assemblies.
  - a. Remove the formatter.
  - b. Use a small pointed object to depress the test-page switch located on the rear of the printer.

---


 **NOTE:** The test page can only use Tray 2 as the paper source, so make sure that paper is loaded in Tray 2.

---



- c. If the engine test page prints, the print engine is operating normally (a failed engine test print page does not necessarily indicate that the print engine or DC controller is defective).
  - d. Use the control-panel diagnostics to test the control panel. See the control panel checks section in the printer troubleshooting manual. If the error persists, proceed to step [8](#).
8. If the print engine appears to be correctly operating (the engine test page successfully printed) and the control panel is still blank, replace the power supply.
9. If after replacing the power supply normal startup noises and lights are still not present, replace the DC controller.





---

 **NOTE:** If the error persists after replacing these assemblies, escalate the problem to the Global Business Unit (GBU).

---

## Control panel checks (M501)

The printer includes diagnostic tests for the control panel. This mode allows for troubleshooting issues with the LEDs (2-line control panels), display, and the buttons.

1. Open the secondary service menu.
  - a. From the printer control panel, press the setup  button to open the main menu.
  - b. Press and the down arrow  button, and then quickly press the Cancel  button.
  - c. Press the setup  button. The message **2ndary Service** appears on the control-panel display.
  - d. Press the **OK** button to open the **2ndary Service** menu.



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

---

2. Select one of the following tests:
  - **LED test:** Test the LED lights on 2-line control panels. The touchscreen control panels do not have any LEDs.
  - **Display Test:** Test the control panel display.
  - **Button Test:** Test the control panel buttons.

## Control panel checks (M506/M527)

 **NOTE:** The printer includes a diagnostic test mode for the touchscreen control panels. Diagnostic tests are not available for the LCD control panel.

- [Control-panel diagnostics \(M506x and M527\)](#)
- [Control panel diagnostic flowcharts \(M506x and M527\)](#)

### Control-panel diagnostics (M506x and M527)

- [Touchscreen diagnostic mode \(M506x and M527\)](#)
- [Control-panel system diagnostics \(M506x and M527\)](#)

### Touchscreen diagnostic mode (M506x and M527)

Use the diagnostics in this section to test the control-panel hardware and embedded firmware. These tests are useful for checking control-panel functionality independent of the printer control-panel system diagnostics. To test the control panel using the system diagnostics, see [Control-panel system diagnostics \(M506x and M527\) on page 109](#).


1. **M506x only:** Locate the diagnostic-tests access button on the back of the control panel.

**Figure 2-21** Diagnostic-tests access button (M506x)



- M506x only:** Press the diagnostics-access button. Repeatedly pressing the button cycles through the available diagnostics.

 **NOTE:** A pen, pencil, or other small blunt object is needed to press the button.

 **TIP:** When pressed, the button illuminates green.

**Figure 2-22** Press the diagnostics-access button (M506x)



- M527 only:** Locate the diagnostic-tests access button on the back of the control panel.

**Figure 2-23** Diagnostic-tests access button (M527)




4. **M527 only:** Press the diagnostics-access button. Repeatedly pressing the button cycles through the available diagnostics.


**Figure 2-24** Press the diagnostics-access button (M527)



5. A yellow screen appears (after the first press of the button) indicating that the control-panel firmware is version A (a magenta screen indicates version B firmware).

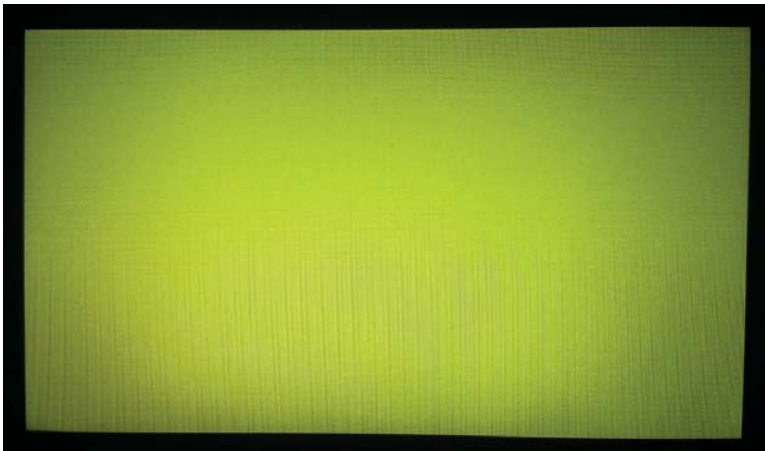
---

 **NOTE:** If a different color appears on the screen, contact your global business unit (GBU) to determine the firmware version.

 **TIP:** After 4 seconds of inactivity, the diagnostic mode times out and is exited.

---

**Figure 2-25** Control-panel version A yellow screen

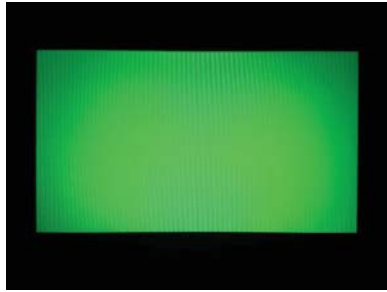


6. Touch the screen to cycle the screen through the following:
  - A red screen.





- A green screen.



- A blue screen.



- Five brightness levels of a white screen.



- A final black screen.

---

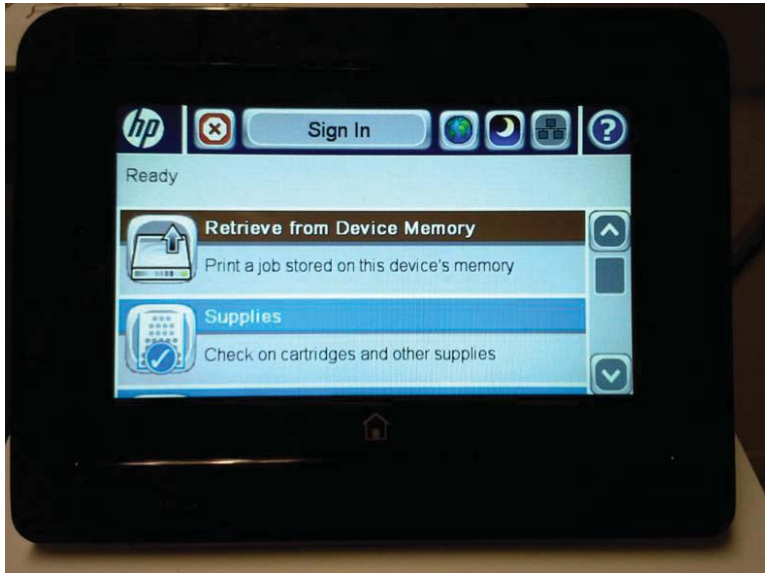
💡 **TIP:** When the final black screen displays, press the Home button to cycle through the diagnostic screens and test its functionality.

---



7. Pressing the diagnostic-tests button with the black screen displayed, exits the diagnostic mode.

**Figure 2-26** Exit the diagnostic mode



## Control-panel system diagnostics (M506x and M527)

Use the diagnostics in this section to test the control-panel hardware and display using the printer firmware system diagnostics.

- [Open the control-panel system diagnostic tests](#)
- [Screen test](#)
- [Touch test](#)
- [SoftKey test](#)
- [Backlight test](#)
- [Sound test](#)
- [Keyboard test \(M527c/z only\)](#)
- [Version](#)

### Open the control-panel system diagnostic tests

#### Open the control-panel system diagnostic tests from a touchscreen control panel

1. Turn the printer power off, and then on again.
2. Touch the middle of the control-panel display when you see the 1/8 under the logo.

**Figure 2-27** Open the Pre-boot menu



3. On the **Pre-boot** menu screen, use the following buttons to navigate the tests.

**Figure 2-28** Pre-boot menu



Use this button to see more information about a selected item.



Use this button to scroll up through menu items.



Use this button to select a highlighted menu item.



Use this button to scroll down through menu items.



Use this button to go back to the previous menu.



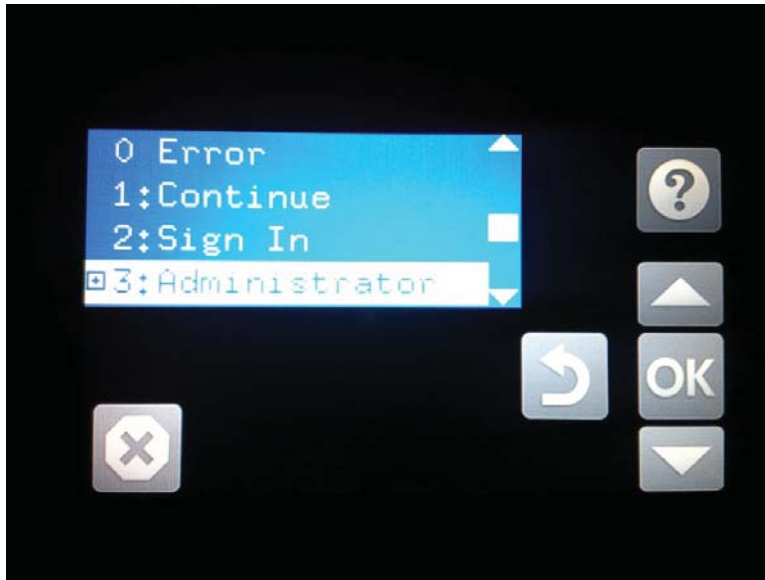
Not used.



Use this button to exit a diagnostic test.

4. Use the **down arrow ▼** button to scroll to **+3 Administration**, and then press the **OK** button to select it.

**Figure 2-29** Access the administration menu



5. Use the **down arrow ▼** button to scroll to **+E CP Diagnostics**, and then press the **OK** button to select it.

---

 **NOTE:** An administrator password might be required to continue.

---

**Figure 2-30** Access the diagnostics menu



## Screen test

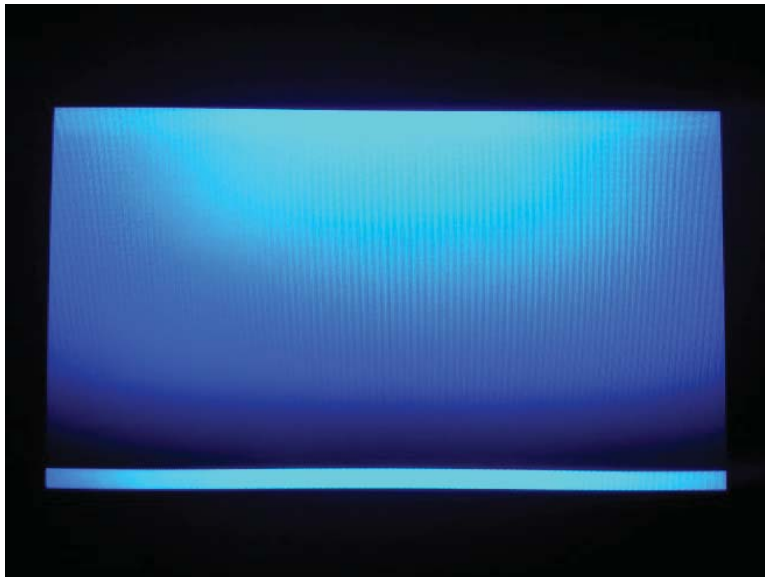
1. Open the control-panel system diagnostic tests. See [Open the control-panel system diagnostic tests on page 109](#).
2. With 1 Screen Test highlighted, press the OK button to select it.

**Figure 2-31** Open the screen test



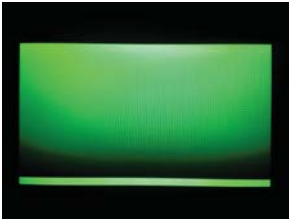
3. The blue vertical gradient screen appears.

**Figure 2-32** Blue vertical gradient screen

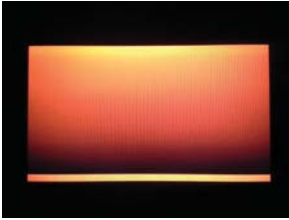


4. Touch the touchscreen to scroll through the remaining touchscreen test screens.

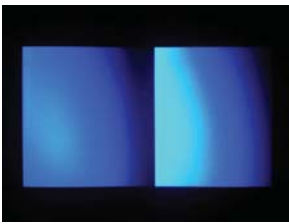
 **NOTE:** Touch the Home button to exit the test.



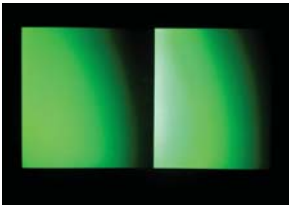
Green vertical gradient



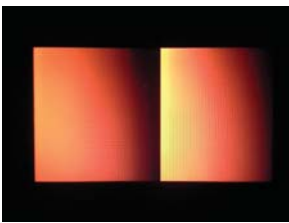
Red vertical gradient



Blue horizontal gradient



Green horizontal gradient



Red horizontal gradient



Blue with black horizontal interlaced

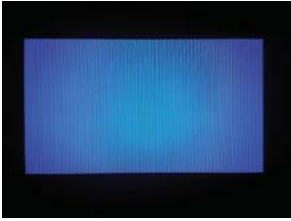


Green with black horizontal interlaced

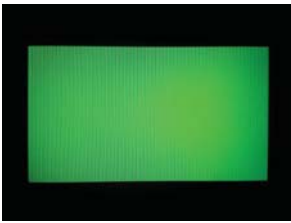
---



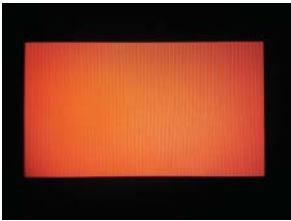
Red with black horizontal interlaced



Blue with black vertical interlaced



Green with black vertical interlaced



Red with black vertical interlaced



Black with white center



White with black center



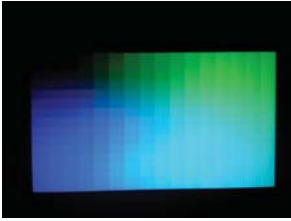
Checkerboard

---





Multicolor stripes



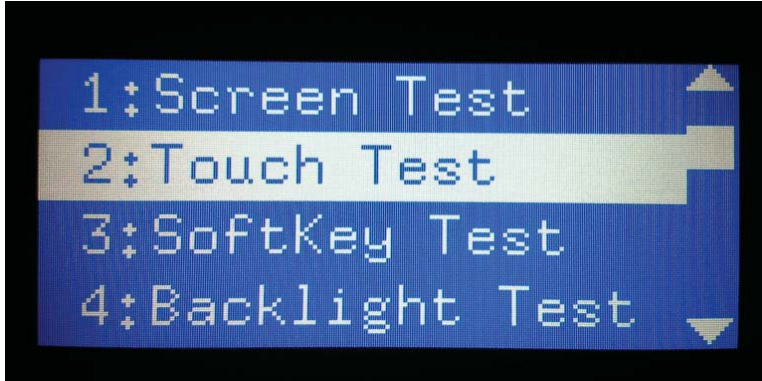
Blue green grid meshing

---

## Touch test

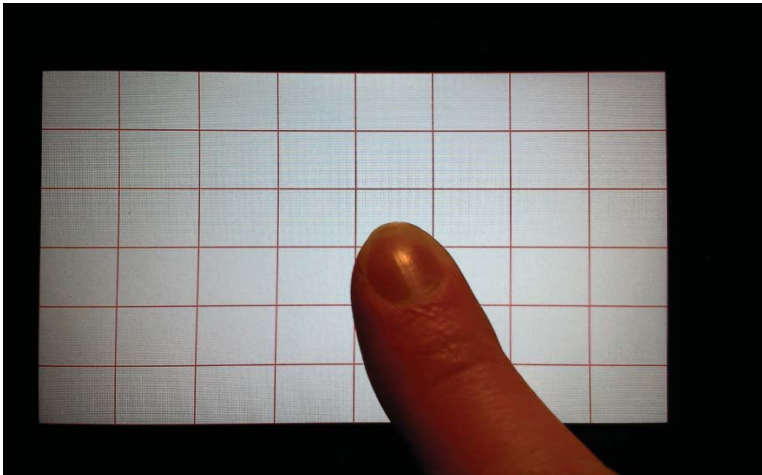
1. Open the control-panel system diagnostic tests. See [Open the control-panel system diagnostic tests on page 109](#).
2. Use the **down arrow** ▼ button to scroll to **2 Touch Test**, and then press the **OK** button to select it.

**Figure 2-33** Open the touch test



3. Use your finger to touch the white grid on the display.

**Figure 2-34** Touch the white grid

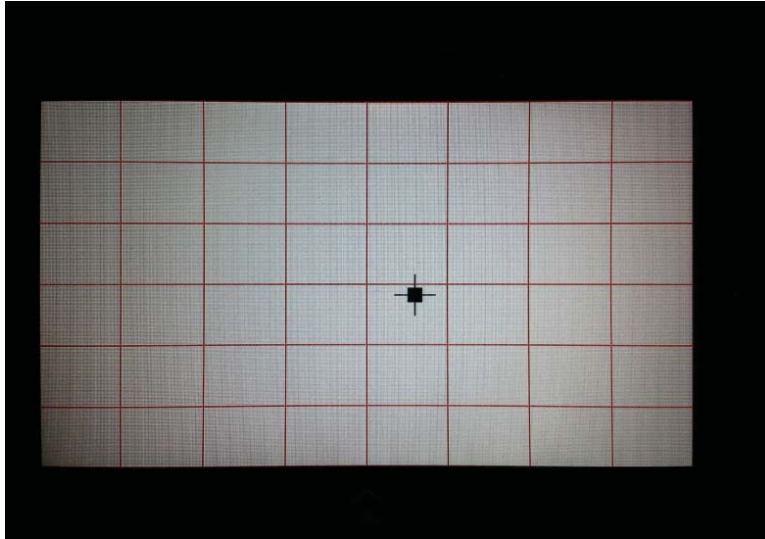


4. A mark appears on the grid where it was touched.

 **NOTE:** Touch the Home button to exit the test.

---

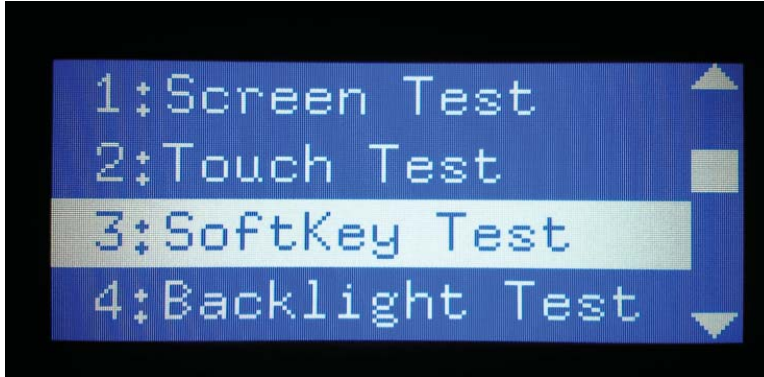
**Figure 2-35** Verify the mark



## SoftKey test

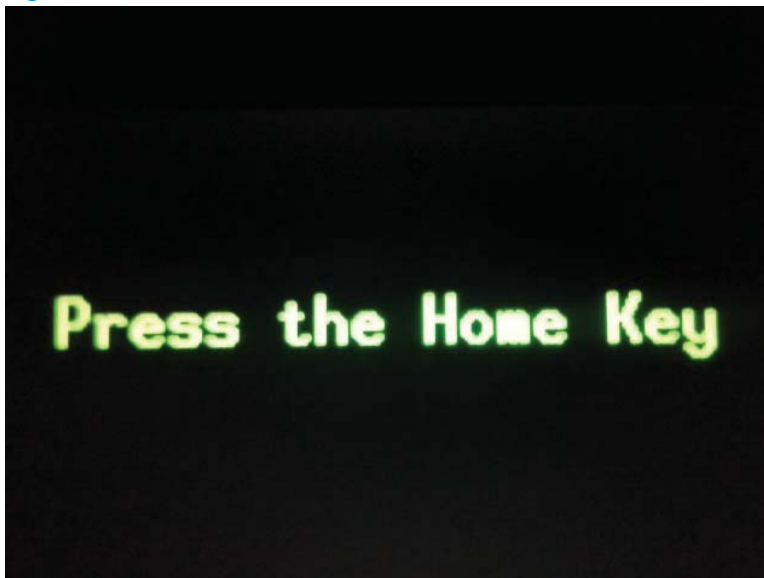
1. Open the control-panel system diagnostic tests. See [Open the control-panel system diagnostic tests on page 109](#).
2. Use the **down arrow ▼** button to scroll to **3 SoftKey Test**, and then press the **OK** button to select it.

**Figure 2-36** Open the softkey test




3. When prompted, touch the Home button.

**Figure 2-37** Touch the Home button



4. If the test is successful, the following screen appears on the display.

 **NOTE:** Touch the screen to exit the test.

---


**Figure 2-38** Successful test



## Backlight test

1. Open the control-panel system diagnostic tests. See [Open the control-panel system diagnostic tests on page 109](#).
2. Use the **down arrow ▼** button to scroll to **4 Backlight Test**, and then press the **OK** button to select it.  
After selecting the **4 Backlight Test**, the screen automatically dims, and then returns to full brightness.

---

 **NOTE:** Touch any key to exit the test.

---

**Figure 2-39** Open the backlight test




## Sound test

1. Open the control-panel system diagnostic tests. See [Open the control-panel system diagnostic tests on page 109](#).
2. Use the **down arrow ▼** button to scroll to **5 Sound Test**, and then press the **OK** button to select it.

After selecting the **5 Sound Test**, the printer emits a series of audible tones.

---


 **NOTE:** Touch any key to exit the test.

---

**Figure 2-40** Open the sound test



## Keyboard test (M527c/z only)

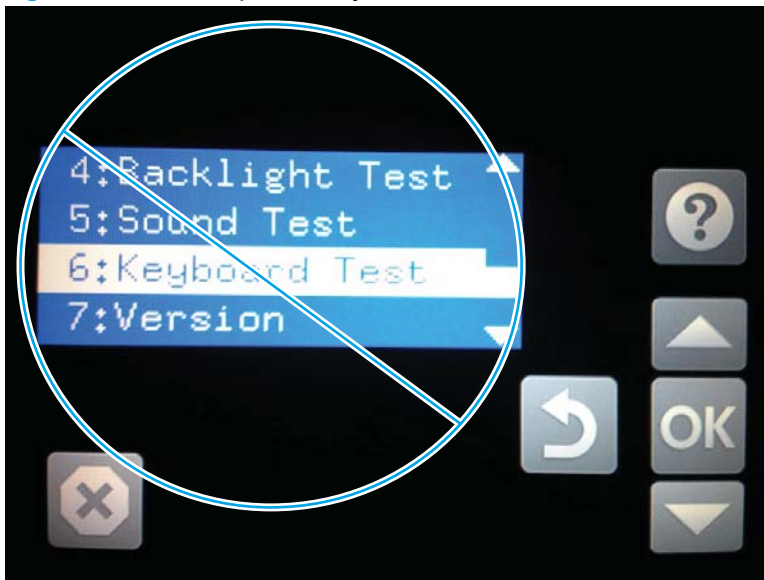
 **IMPORTANT:** The control-panel system diagnostic tests include a [6 Keyboard Test](#) item. This test is **not** valid for the M506x or M527dn/f printers, even though this option is present in the control-panel system diagnostic tests menu.

If the [6 Keyboard Test](#) is opened on the M506x or M527dn/f printers, the printer power must be turned off to exit the test.

HP does not recommend turning the printer power off during the control-panel system diagnostic tests.

1. Open the control-panel system diagnostic tests. See [Open the control-panel system diagnostic tests on page 109](#).
2. Use the [down arrow](#) ▼ button to scroll to [6 Keyboard Test](#), and then press the [OK](#) button to select it.

**Figure 2-41** Do not open the keyboard test




3. When prompted, touch the H key on the keyboard or the Home button to exit the test.



## Version

1. Open the control-panel system diagnostic tests. See [Open the control-panel system diagnostic tests on page 109](#).
2. Use the **down arrow ▼** button to scroll to **7 Version**, and then press the **OK** button to select it.

---

 **NOTE:** Touch any key to exit the test.

---

Select **7 Version** to view the following types of information:

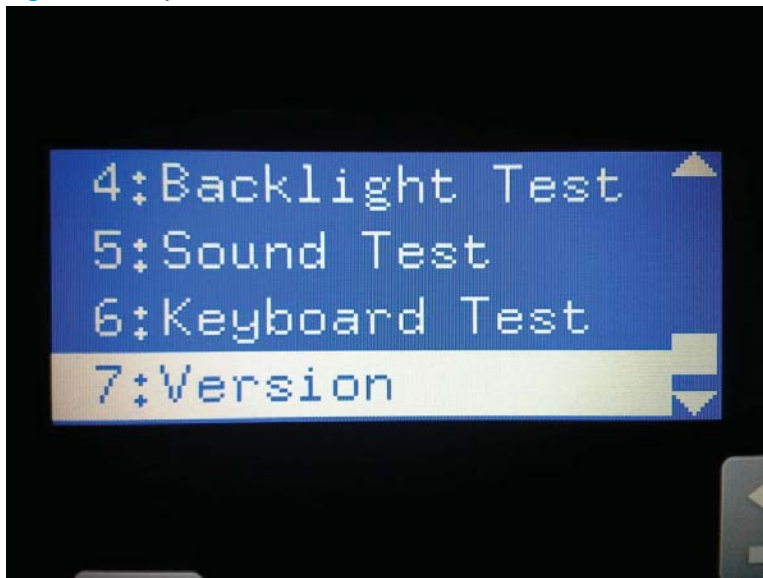
---

 **NOTE:** The following types of information are for the control panel only, not the printer.

---

- Panel ID
- Hardware (version)
- Firmware (version)
- KB Hw (version)
- KB Firm (version)
- LCD Vendor
- Touch Controller Version

**Figure 2-42** Open the sound test



## Control panel diagnostic flowcharts (M506x and M527)

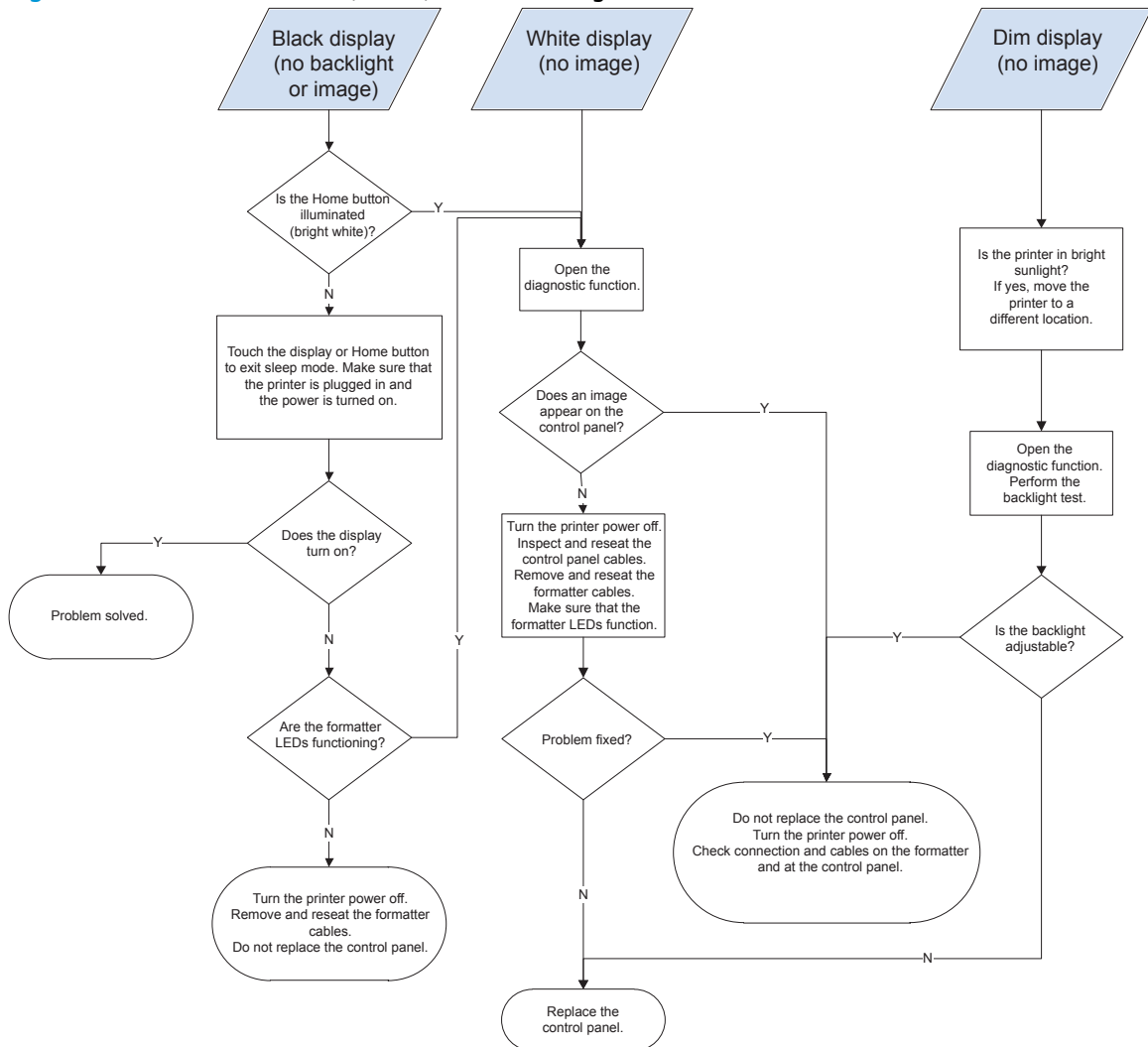
Use the flowcharts in this section to troubleshoot the following control panel problems.

- Touchscreen is blank, white, or dim (no image).
- Touchscreen is slow to respond or requires multiple presses to respond.
- Touchscreen has an unresponsive zone.
- No control panel sound.
- [Home](#) button is unresponsive.
- Hardware integration pocket (HIP) is not functioning (control panel functional).

## Touchscreen black, white, or dim (no image)

 **NOTE:** To open the diagnostic function, press the button on the back of the control panel.

**Figure 2-43** Touchscreen blank, white, or dim (no image)

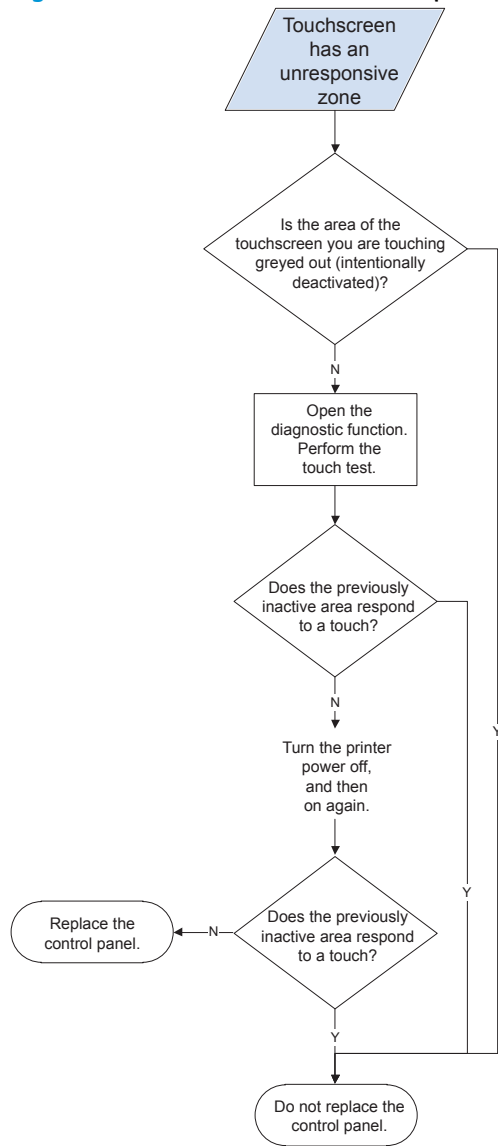


## Touchscreen has an unresponsive zone



**NOTE:** To open the diagnostic function, press the button on the back of the control panel.

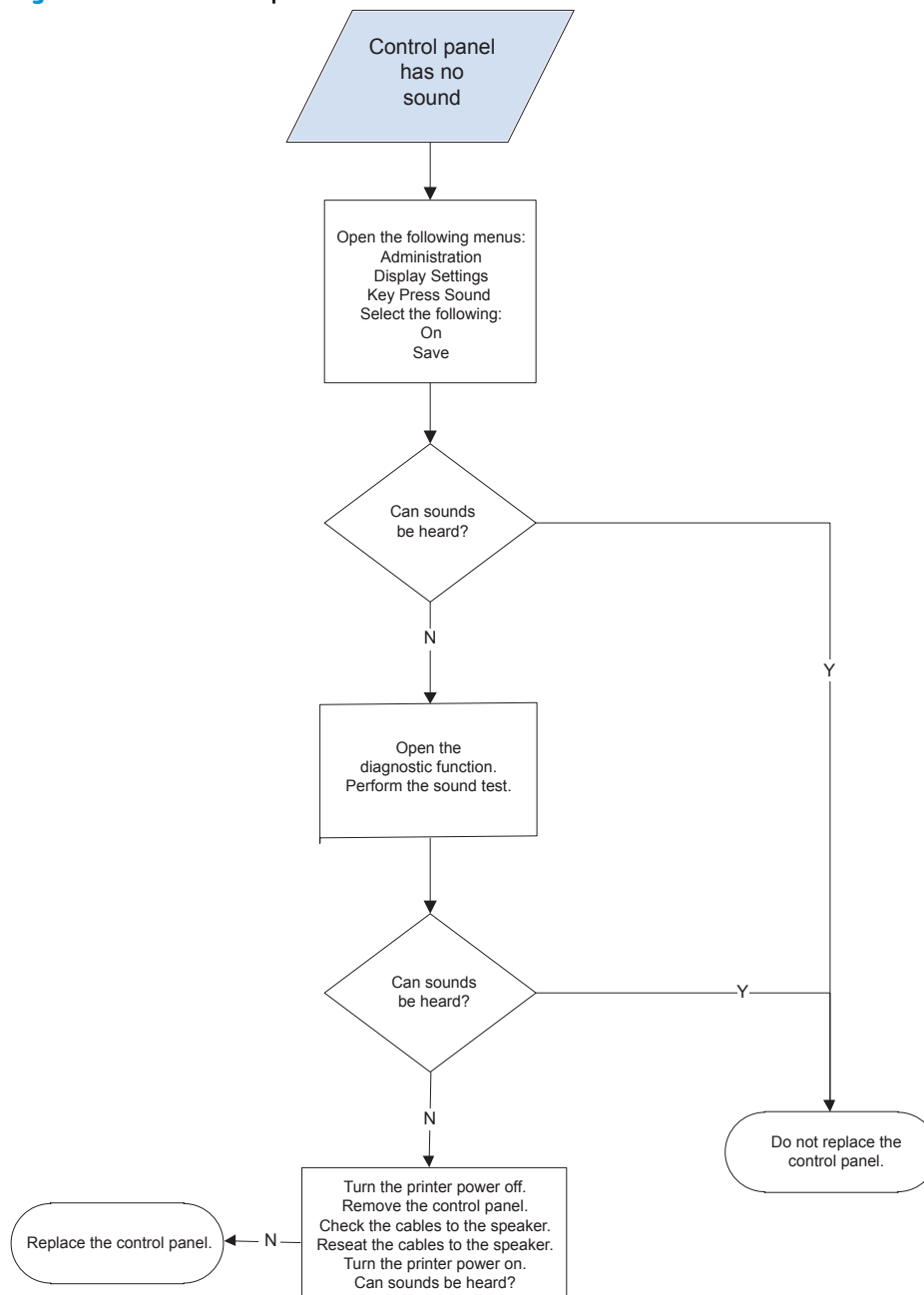
**Figure 2-44** Touchscreen has an unresponsive zone



## No control panel sound

 **NOTE:** To open the diagnostic function, press the button on the back of the control panel.

**Figure 2-45** No control panel sound

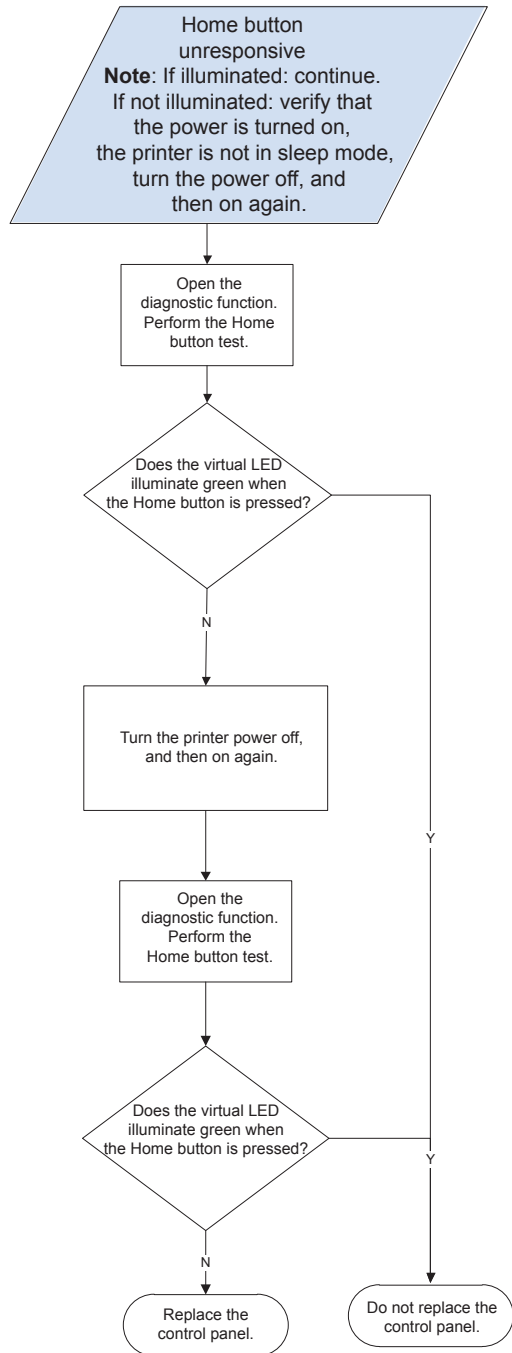


## Home button is unresponsive



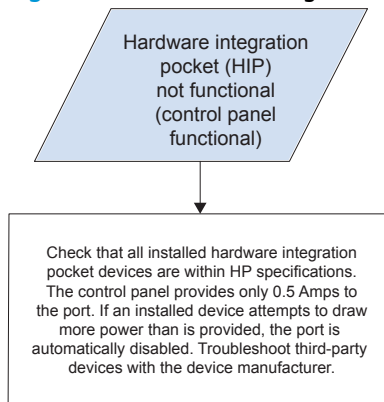
**NOTE:** To open the diagnostic function, press the button on the back of the control panel.

**Figure 2-46** Home button is unresponsive




## Hardware integration pocket (HIP) is not functioning (control panel functional)

**Figure 2-47** Hardware integration pocket (HIP) is not functioning (control panel functional)



# Tools for troubleshooting

 **NOTE:** This section describes tools that can help to solve printer problems.

- [Individual component diagnostics](#)
- [Diagrams](#)
- [Internal test and information pages](#)
- [Control panel menus \(M501\)](#)
- [Control-panel menus \(M506/M527\)](#)
- [Control panel message document \(CPMD\)](#)

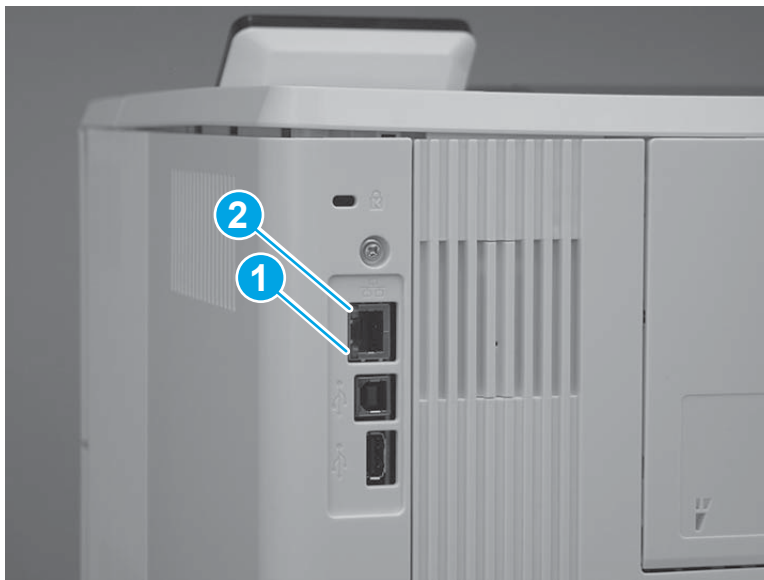
## Individual component diagnostics

### Tools for troubleshooting: LED diagnostics (M501)

LED, engine, and individual diagnostics can identify and troubleshoot printer problems.

#### Network port LEDs (M501)

The formatter has two network port LEDs. When the printer is connected to a properly working network through a network cable, the amber LED indicates network activity, and the green LED indicates the link status.



- 1 Link status LED (green)
- 2 Network activity LED (amber)

A blinking amber LED indicates network traffic. If the green LED is off, a link has failed. For link failures, check all of the network cable connections. In addition, you can try to manually configure the network card link speed setting by using the printer control panel.



1. On the printer control panel, press the **OK** button.
2. Open the following menus:
  - [Network Setup](#)
  - [Link Speed](#)
3. Select the appropriate link speed.

### M501 control panel LEDs

The state of the Ready light and Attention light on the printer signal the printer status. The following table outlines the possible control-panel light states.

| Printer state                                   | Ready light state | Attention light state |
|---|-------------------|-----------------------|
| Initializing                                    | Blinking          | Blinking              |
| Ready   | On                | Off                   |
| Receiving data/processing job or cancelling job | Blinking          | Off                   |
| Error message                                   | Off               | Blinking              |
| Fatal error (49 or 79 error) <sup>1</sup>       | On                | On                    |

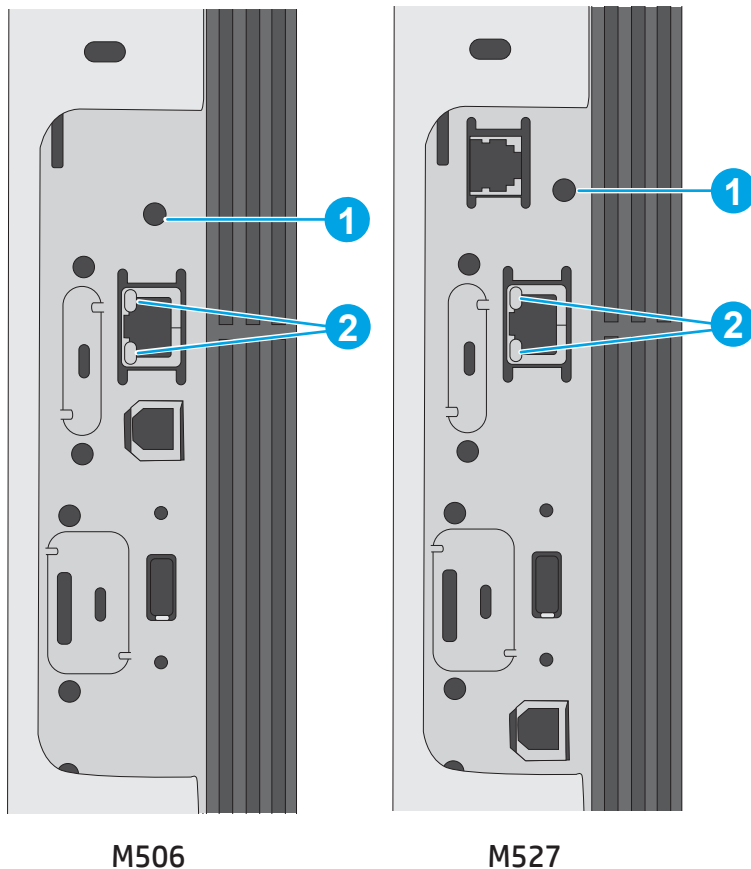
<sup>1</sup> The printer restarts after one of these errors occurs.

## Tools for troubleshooting: LED diagnostics (M506/M527)

LED, engine, and individual diagnostics can identify and troubleshoot printer problems.

### Understand lights on the formatter (M506/M527)

Three LEDs on the formatter indicate that the printer is functioning correctly.




- 
- |   |                   |
|---|-------------------|
| 1 | Heartbeat LED     |
| 2 | HP Jetdirect LEDs |
- 

### Heartbeat LED (M506/M527)

The heartbeat LED indicates that the formatter is functioning correctly. While the printer is initializing after it is turned on, the LED blinks rapidly, and then turns off. When the printer has finished the initialization sequence, the heartbeat LED pulses on and off.

The following list describes the heartbeat LED operation while the printer is executing the firmware boot process.

 **NOTE:** When the initialization process completes, the heartbeat LED should be illuminated solid green.

If after initialization, the heartbeat LED is not solid green, see [Table 2-9 Heartbeat LED, printer operational \(M506/M527\) on page 133](#).

- Green

- **Blinking:** The printer is correctly functioning.
- **Solid:** The FW has not yet booted.
- **Amber**
  - **Blinking:** The control panel is not detected.
  - **Solid:** The FFC between the formatter and DC controller is not connected or is damaged.
- **Red**
  - **Solid:** Valid SPI code; there is a problem releasing ASIC and running the BIOS  
Solid: BIOS initiates PROSAC to change the LED from red to green.  
Solid: PROSAC is not running (No ROM or SPI code).
  - **Blinking:** Valid SPI code not found.
- **Off:** No 5V or 3.3V PROSAC power.

The following table describes the heartbeat LED operation when the printer completes the firmware boot process and is in the **Ready** state.

**Table 2-9 Heartbeat LED, printer operational (M506/M527)**

| LED color | Description   |
|-----------|---|
| Green     | <ul style="list-style-type: none"> <li>● Normal operation               <ul style="list-style-type: none"> <li>◦ Formatter is operating normally</li> <li>◦ Firmware is operating normally</li> <li>◦ Control panel is connected</li> </ul> </li> </ul>   |
| Yellow    | <ul style="list-style-type: none"> <li>● Formatter cannot connect to the control panel               <ul style="list-style-type: none"> <li>◦ Check control panel connections</li> <li>◦ Verify control panel functionality</li> </ul> </li> </ul>  |
| Red       | <ul style="list-style-type: none"> <li>● Formatter error or failure               <ul style="list-style-type: none"> <li>◦ Serial peripheral interface (SPI) flash memory boot error</li> <li>◦ Power on self-test (formatter) failed</li> <li>◦ Diagnostic (formatter) failed</li> </ul> </li> </ul>   |
| Off       | <p><b>TIP:</b> The heartbeat LED is off if the power cable is disconnected, the printer power switch is in the off position, or the printer is in <a href="#">Sleep Mode</a>.</p> <ul style="list-style-type: none"> <li>● Firmware or system freeze               <ul style="list-style-type: none"> <li>◦ Check control panel for an error message</li> <li>◦ Control panel failure</li> </ul> </li> </ul> <p><b>NOTE:</b> This condition is not usually caused by a formatter failure. Turn the power off, and then on again. If the error persists, perform a firmware upgrade.</p> |

## HP Jetdirect LEDs (M506/M527)

The embedded HP Jetdirect print server has two LEDs. The yellow LED indicates network activity, and the green LED indicates the link status. A blinking yellow LED indicates network traffic. If the green LED is off, a link has failed.

For link failures, check all the network cable connections. In addition, try to manually configure the link settings on the embedded print server by using the printer control-panel menus.


1. From the [Home](#) screen on the printer control panel, scroll to and touch the [Administration](#) button.
2. Open the following menus:
  - [Network Settings](#)
  - [Embedded Jetdirect Menu](#)
  - [Link Speed](#)
3. Select the appropriate link speed, and then touch the [OK](#) button.

## Tools for troubleshooting: Engine diagnostics

The printer contains extensive internal engine diagnostics that help in troubleshooting print quality, paper path, noise, assembly, and timing issues.

### Engine test button

To verify that the printer engine is functioning, print an engine test page. Use a small pointed object to depress the test-page switch located on the rear side of the printer. The test page should have a series of lines that are parallel to the short end of the page. The test page can use only Tray 2 as the paper source, so make sure that paper is loaded in Tray 2.

 **NOTE:** Depressing, and holding down, the test-page switch causes the printer to continually print test pages. Releasing the switch stops the test page continuous printing.


**Figure 2-48** Engine test button



### Defeating interlocks

Different tests can be used to isolate different types of issues. For assembly or noise isolation, run the diagnostic test when the toner cartridge door or rear door is open.

Defeating the door interlocks allows observation of the paper pick operation (and view the page enter registration).

 **WARNING!** Be careful when performing printer diagnostics to avoid risk of injury. Only trained service personnel should open and run the diagnostics with a door open. Never touch any of the power supplies when the printer is turned on.

### Defeat the toner cartridge door interlock

1. Open the toner cartridge door.

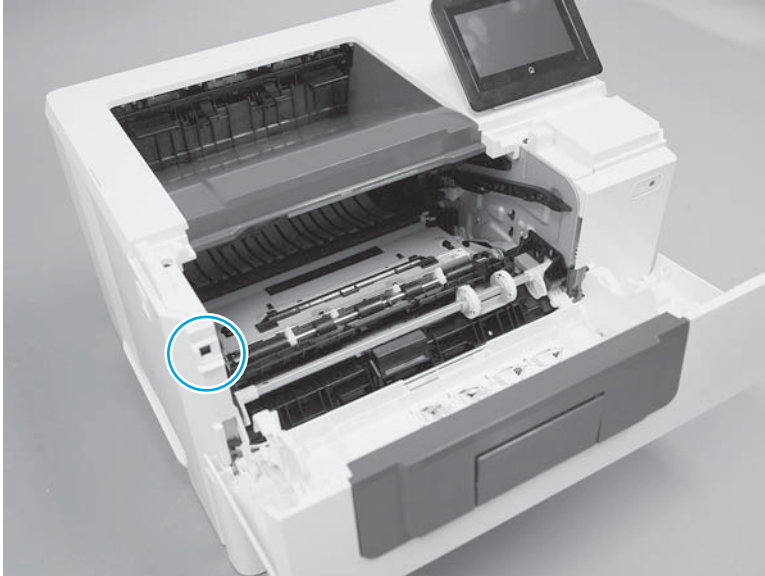
2. Insert a folded piece of paper into the slot.

---

**TIP:** Fold a stiff piece of paper, for example a business card or index card, into two 10 mm (.375 in) strips, and insert the strips into the slot for the cartridge door logic switches.

---

**Figure 2-49** Defeat the toner cartridge door interlock



#### Defeat the rear door interlock

1. Open the rear door.
2. Insert a folded piece of paper into the slot.

---

**TIP:** Fold a stiff piece of paper, for example a business card or index card, into two 10 mm (.375 in) strips, and insert the strips into the slot for the cartridge door logic switches.

---

**Figure 2-50** Defeat the rear door interlock



## Disable cartridge check (M506/M527)

Use this diagnostic test to print internal pages or send an external job to the printer when the toner cartridge is removed or exchanged. Supply errors are ignored while the printer is in this mode. When the printer is in this mode, access the troubleshooting menus and print internal pages (the print quality pages will be the most useful). This test can be used to isolate problems, such as noise, and to isolate print-quality problems that are related to the toner cartridge.



**NOTE:** Do not remove or exchange the toner cartridge until after beginning the disable cartridge check diagnostic.

### Disable cartridge check from a touchscreen control panel

1. From the [Home](#) screen on the printer control panel, scroll to and touch the [Administration](#) button.
2. Open the following menus:
  - [Troubleshooting](#)
  - [Diagnostic Tests](#)
  - [Disable Cartridge Check](#)

### Disable cartridge check from a LCD control panel

1. From the [Home](#) screen on the printer control panel, use the down arrow ▼ button to scroll to [Administration](#), and then press the [OK](#) button.
2. Use the down arrow ▼ button to scroll to [Troubleshooting](#), and then press the [OK](#) button.
3. Use the down arrow ▼ button to scroll to [Diagnostics](#), and then press the [OK](#) button.
4. Use the down arrow ▼ button to scroll to [Disable Cartridge Check](#), and then press the [OK](#) button to select it.

## Tools for troubleshooting: Paper path and sensor diagnostic tests (M506/M527)

- [Paper path test \(M506/M527\)](#)
- [Paper path sensors test \(M506/M527\)](#)
- [Manual sensor tests \(M506/M527\)](#)
- [Tray/bin manual sensor test \(M506/M527\)](#)

### Paper path test (M506/M527)

This diagnostic test generates one or more test pages. Use these pages to isolate the cause of jams.

To isolate a problem, specify which input tray to use, specify whether to use the duplex path (duplex models only), and specify the number of copies to print. Multiple copies can be printed to help isolate intermittent problems. The following options become available after beginning the diagnostic feature:

- **Print Test Page:** Run the paper-path test from the default settings: Tray 2, no duplex, and one copy. To specify other settings, scroll down the menu, and select the setting, and then scroll back up and select [Print Test Page](#) to start the test.
- **Source Tray:** Select Tray 1, Tray 2, or the optional tray.

- **Test Duplex Path:** Enable or disable two-sided printing from designated optional tray (depending on how many optional accessories are installed).
- **Number of Copies:** Set the numbers of copies to be printed; the choices are 1, 10, 50, 100, or 500.

#### Access the paper path test from a touchscreen control panel

1. From the **Home** screen on the printer control panel, scroll to and touch the **Administration** button.
2. Open the following menus:
  - **Troubleshooting**
  - **Diagnostic Tests**
  - **Paper Path Test**
3. Select the paper-path test options for the test.

#### Access the paper path test from a LCD control panel

1. From the **Home** screen on the printer control panel, use the down arrow ▼ button to scroll to **Administration**, and then press the **OK** button.
2. Use the down arrow ▼ button to scroll to **Troubleshooting**, and then press the **OK** button.
3. Use the down arrow ▼ button to scroll to **Diagnostic Tests**, and then press the **OK** button.
4. Use the down arrow ▼ button to scroll to **Paper Path Test**, and then press the **OK** button.

#### Paper path sensors test (M506/M527)

This test displays the status of each paper-path sensor and allows viewing of sensor status while printing internal pages.

#### Access the paper path sensors test from a touchscreen control panel

1. From the **Home** screen on the printer control panel, scroll to and touch the **Administration** button.
2. Open the following menus:
  - **Troubleshooting**
  - **Diagnostic Tests**
  - **Paper Path Sensors**
3. Touch **Start** to run the test.

#### Access the paper path sensors test from a LCD control panel

1. From the **Home** screen on the printer control panel, use the down arrow ▼ button to scroll to **Administration**, and then press the **OK** button.
2. Use the down arrow ▼ button to scroll to **Troubleshooting**, and then press the **OK** button.
3. Use the down arrow ▼ button to scroll to **Diagnostic Tests**, and then press the **OK** button.
4. Use the down arrow ▼ button to scroll to **Paper Path Sensors**, and then press the **OK** button.





**NOTE:** The menu list of sensors and switches for the [Paper path sensors test](#), [Manual Sensor Test](#), and the [Tray/Bin Manual Sensor Test](#) varies depending on which optional accessories are installed.

The tables in this section describe the sensor tests available with an optional 1x550-sheet paper feeder installed.

For trays other than Tray 1 or Tray 2, the tray number associated with a sensor or switch depends on the number of accessories installed.

**Table 2-10 Paper-path sensors diagnostic tests (M506/M527)**

| Sensor name                      | Sensor/Switch number | Replacement part number                          | Descriptions                 |
|----------------------------------|----------------------|--|------------------------------|
| Tray 3 feed sensor <sup>1</sup>  | PS8008               | F2A68-67909                                      | Optional paper feeder        |
| Prefeed sensor                   | PS102                | NA   | Not replaceable <sup>2</sup> |
| Top-of-Page (TOP) sensor         | PS215                | NA   | Not replaceable <sup>2</sup> |
| Paper width 3 sensor             | NA                   | NA   | Not replaceable <sup>2</sup> |
| Paper width 2 sensor             | NA                   | NA   | Not replaceable <sup>2</sup> |
| Paper width 1 sensor             | NA                   | NA   | Not replaceable <sup>2</sup> |
| Fuser output sensor              | PS2                  | RM2-5679-000CN (110 V)<br>RM2-5692-000CN (220 V) | Fuser                        |
| Duplexer refeed sensor           | PS502                | NA   | Not replaceable <sup>2</sup> |
| <b>NOTE:</b> Duplex models only. |                      |  |                              |
| Output bin full sensor           | PS4                  | NA   | Not replaceable <sup>2</sup> |

<sup>1</sup> Only appears if optional accessories are installed.

<sup>2</sup> Require whole unit replacement.

## Manual sensor tests (M506/M527)

The table in this section lists the sensors and switches available in the [Manual Sensor Test](#).

### Access the manual sensor test from a touchscreen control panel

The [Manual Sensor Test](#) screen shows the sensor number, sensor name (M506x and M527 only), sensor state (active or inactive), and the number of times the sensor has been toggled (activated).

1. From the [Home](#) screen on the printer control panel, scroll to and touch the [Administration](#) button.
2. Open the following menus:
  - [Troubleshooting](#)
  - [Diagnostic Tests](#)
  - [Manual Sensor Test](#)
3. Activate the desired sensor, and then check the control-panel display to verify the sensor state (active or inactive).



---

**NOTE:** Only the M605x and M606x control panel displays the [State](#) and [Toggle](#) descriptor.

---

- The [State](#) virtual LED next to the sensor number and sensor name (M506x and M527 only) illuminates green when the sensor is active.
- The [Toggle](#) virtual LED next to the sensor number and sensor name (M506x and M527 only) illuminates green after the sensor is activated and increments by one each time the sensor is interrupted (activated or deactivated).

For example, opening the front door increments the [SW501 Cartridge door Toggled](#) item count two times—once when the door is opened, and once when the door is closed.

4. Touch the [Reset Sensors](#) button to reset the [Toggle](#) count item.

**-or-**


Touch the [Cancel](#) button (M506x and M527 only) or the [Return](#) arrow button to exit the [Manual Sensor Test](#) screen and return to the [Diagnostic Tests](#) menu.

### Access the manual sensor test from a LCD control panel


1. From the [Home](#) screen on the printer control panel, use the down arrow ▼ button to scroll to [Administration](#), and then press the [OK](#) button.
2. Use the down arrow ▼ button to scroll to [Troubleshooting](#), and then press the [OK](#) button.
3. Use the down arrow ▼ button to scroll to [Diagnostic Tests](#), and then press the [OK](#) button.
4. Use the down arrow ▼ button to scroll to [Manual Sensor Test](#), and then press the [OK](#) button.
5. Activate the desired sensor, and then check the control-panel display to verify the sensor state (active or inactive).



---


**TIP:** Press the return arrow ↵ button to reset the sensor or press the [Cancel](#)  button to exit the test.

---

 **NOTE:** Only the M605x and M606x control panel displays the **State** and **Toggle** descriptor.

- The **State** virtual LED next to the sensor number and sensor name (M506x and M527 only) illuminates green when the sensor is active.
- The **Toggle** virtual LED next to the sensor number and sensor name (M506x and M527 only) illuminates green after the sensor is activated and increments by one each time the sensor is interrupted (activated or deactivated).

For example, opening the cartridge door increments the **SW501 Front door opening/closing Toggled** item count two times—once when the door is opened, and once when the door is closed.

 **NOTE:** The following table describes the sensor tests available with an optional 1x550-sheet paper feeder installed.

For trays other than Tray 1 or Tray 2, the tray number associated with a sensor or switch depends on the number and type of accessories installed.

**Table 2-11 Manual sensor diagnostic tests (M506/M527)**

| Sensor or switch                       | Replacement Part number                          | Description                  |
|--|--|------------------------------|
| SW501 Cartridge door sensor            | RK2-0534-000CN                                   | Microswitch (SW2)            |
| PS8008 Tray 3 feed sensor <sup>1</sup> | F2A68-67909                                      | 550-sheet paper feeder       |
| PS102 Prefeed sensor                   | NA   | Not replaceable <sup>2</sup> |
| PS215 Top-of-Page (TOP) sensor         | NA   | Not replaceable <sup>2</sup> |
| Paper width 3 sensor                   | NA   | Not replaceable <sup>2</sup> |
| Paper width 2 sensor                   | NA   | Not replaceable <sup>2</sup> |
| Paper width 1 sensor                   | NA   | Not replaceable <sup>2</sup> |
| PS2 Fuser output sensor                | RM2-5679-000CN (110 V)<br>RM2-5692-000CN (220 V) | Fuser                        |
| PS502 Duplexer refeed sensor           | NA   | Not replaceable <sup>2</sup> |
| <b>NOTE:</b> Duplex models only.       |  |                              |
| PS4 Output bin full sensor             | NA   | Not replaceable <sup>2</sup> |

<sup>1</sup> Only appears if optional accessories are installed.

<sup>2</sup> Requires whole unit replacement.

## Tray/bin manual sensor test (M506/M527)

The table in this section lists the sensors and switches available in the [Tray/Bin Manual Sensor Test](#).

### Access the tray/bin manual sensor test from a touchscreen control panel

The [Tray/Bin Manual Sensor Test](#) screen shows the sensor number, sensor name (M506x and M527 only), sensor state (active or inactive), and the number of times the sensor has been toggled (activated).

1. From the [Home](#) screen on the printer control panel, scroll to and touch the [Administration](#) button.
2. Open the following menus:
  - [Troubleshooting](#)
  - [Diagnostic Tests](#)
  - [Tray/Bin Manual Sensor Test](#)
3. Activate the desired sensor, and then check the control-panel display to verify the sensor state (active or inactive).



---

**NOTE:** Only the M506x and M527 control panel displays the [State](#) and [Toggle](#) descriptor.

---

- The [State](#) virtual LED next to the sensor number and sensor name (M506x and M527 only) illuminates green when the sensor is active.
- The [Toggle](#) virtual LED next to the sensor number and sensor name illuminates green after the sensor is activated and increments by one each time the sensor is interrupted (activated or deactivated).

For example, raising, and then releasing, the output bin full flag increments the [PS4 Output bin full Toggled](#) item count two times—once when the flag is raise, and once when it is released.

4. Touch the [Reset Sensors](#) button (M506x and M527 only) to reset the [Toggle](#) count item.

**-or-**


Touch the [Cancel](#) (M506x and M527) or the [Return](#) arrow button to exit the [Tray/Bin Manual Sensor Test](#) screen and return to the [Diagnostic Tests](#) menu.

### Access the tray/bin manual sensor test from a LCD control panel


1. From the [Home](#) screen on the printer control panel, use the down arrow ▼ button to scroll to [Administration](#), and then press the [OK](#) button.
2. Use the down arrow ▼ button to scroll to [Troubleshooting](#), and then press the [OK](#) button.
3. Use the down arrow ▼ button to scroll to [Diagnostic Tests](#), and then press the [OK](#) button.
4. Use the down arrow ▼ button to scroll to [Tray/Bin manual Sensor Test](#), and then press the [OK](#) button.
5. Activate the desired sensor, and then check the control-panel display to verify the sensor state (active or inactive).



---


**TIP:** Press the return arrow ↵ button to reset the sensor or press the [Cancel](#)  button to exit the test.

---

 **NOTE:** Only the M506x and M527 control panel displays the **State** and **Toggle** descriptor.

- The **State** virtual LED next to the sensor number and sensor name (M506x and M527 only) illuminates green when the sensor is active.
- The **Toggle** virtual LED next to the sensor number and sensor name (M506x and M527 only) illuminates green after the sensor is activated and increments by one each time the sensor is interrupted (activated or deactivated).

For example, raising, and then releasing, the output bin full flag increments the **PS4 Output bin full Toggled** item count two times—once when the flag is raise, and once when it is released.

 **NOTE:** The following table describes the sensor tests available with an optional 1x550-sheet paper feeder installed.

For trays other than Tray 1 or Tray 2, the tray number associated with a sensor or switch depends on the number and type of accessories installed.

**Table 2-12 Tray/bin manual sensors (M506/M527)**

| Sensor or switch name                        | Replacement part number | Descriptions                 |
|--|-------------------------|------------------------------|
| PS205 Tray 1 paper sensor                    | F2A68-67914             | Cartridge door assembly      |
| PS3 Tray 2 paper sensor                      | NA                      | Not replaceable <sup>2</sup> |
| PS451 Tray 3 paper sensor <sup>1</sup>       | F2A68-67909             | Optional paper feeder        |
| PS8008 Tray 3 paper feed sensor <sup>1</sup> | F2A68-67909             | Optional paper feeder        |
| PS1603 Tray 3 feed sensor <sup>1</sup>       | F2G68-67901             | Optional paper feeder        |
| PS4 Output bin full sensor                   | NA                      | Not replaceable <sup>2</sup> |

<sup>1</sup> Only appears if optional accessories are installed.

<sup>2</sup> Requires whole unit replacement.

## Tools for troubleshooting: Print/stop test (M506/M527)

Use this diagnostic test to isolate the cause of problems such as image-formation defects and jams within the engine. During this test, stop the paper anywhere along the printer paper path. The test can be programmed to stop printing internal pages or an external print job when the paper reaches a certain position. The test can also be programmed to stop from 0 to 60,000 ms. If the timer is set to a value that is greater than the job-print time, the printer can recover in one of two ways.

- After the print job is completed press **OK** button to return to the **Troubleshooting** menu before the timer times out.
- After the timer times out, touch the **Stop** button. Activate the door switch to restart the engine and return it to a normal state.

### Access the print/stop test from a touchscreen control panel

1. From the **Home** screen on the printer control panel, scroll to and touch the **Administration** button.
2. Open the following menus:
  - **Troubleshooting**
  - **Diagnostic Tests**
  - **Print/Stop Test**
3. Enter a range, and then touch the **OK** button.

### Access the print/stop test from a LCD control panel

1. From the **Home** screen on the printer control panel, use the down arrow ▼ button to scroll to **Administration**, and then press the **OK** button.
2. Use the down arrow ▼ button to scroll to **Troubleshooting**, and then press the **OK** button.
3. Use the down arrow ▼ button to scroll to **Diagnostic Test**, and then press the **OK** button.
4. Use the down arrow ▼ button to scroll to **Print/Stop Test**, and then press the **OK** button.


### Common print stop test timing millisecond (ms) stops

- **600 ms:** The page has passed the registration area and the leading edge is just short of entering the fuser. The image can be seen on the paper but has not fused. If the defect is visible then the cause might be the drum, transfer roller, or a roller prior to, or in, the registration area.
- **1200 ms:** The leading edge is about 18mm (0.71 in) into the top output bin. The image has gone through the fuser. If the defect was not visible prior to the fuser, and is visible after the fuser, then the fuser is the likely cause of the print quality defect. Inspect the fuser for damage, debris, or labels stuck to the fuser. Replace the fuser. Discuss media specifications and proper care of the fuser with the customer.

## Tools for troubleshooting: Component tests (M506/M527)

Use the procedure below to test various printer mechanical and electromechanical assemblies.


### Individual component diagnostics (special-mode test; M506/M527)

 **NOTE:** The following table describes the sensor tests available with an optional 1x550-sheet paper feeder installed.

For trays other than Tray 1 or Tray 2, the tray number associated with a sensor or switch depends on the number and type of accessories installed.

This test activates individual parts independently to isolate problems.

Each component test can be performed once or repeatedly. If the **Repeat** option is enabled from the drop-down menu, the test cycles the component on and off. This process continues for two minutes, and then the test terminates.


 **NOTE:** The cartridge door interlocks must be defeated to run the component tests. A control-panel display prompt appears to indicate removing the toner cartridge, during certain tests.

### Access the individual component diagnostics from a touchscreen control panel

1. From the **Home** screen on the printer control panel, scroll to and touch the **Administration** button.
2. Open the following menus:
  - **Troubleshooting**
  - **Diagnostic Tests**
  - **Component Test**
3. Select the component test options for the test.

### Access the individual component diagnostics from a LCD control panel

1. From the **Home** screen on the printer control panel, use the down arrow ▼ button to scroll to **Administration**, and then press the **OK** button.
2. Use the down arrow ▼ button to scroll to **Troubleshooting**, and then press the **OK** button.
3. Use the down arrow ▼ button to scroll to **Diagnostic Test**, and then press the **OK** button.
4. Use the down arrow ▼ button to scroll to **Component Test**, and then press the **OK** button.

 **NOTE:** The following table describes the sensor tests available with an optional 1x550-sheet paper feeder installed.

For trays other than Tray 1 or Tray 2, the tray number associated with a sensor or switch depends on the number and type of accessories installed.

**Table 2-13 Component test details (M506/M527)**

| Component test | Item tested | Comments                       |
|----------------|-------------|--------------------------------|
| Fuser motor    | M1          | Activates the specified motor. |

**Table 2-13 Component test details (M506/M527) (continued)**

| Component test                      | Item tested | Comments  |
|-------------------------------------|-------------|---|
| Pickup motor                        | M2          | Activates the specified motor.  |
| Tray 1 Pickup Solenoid              | SL2         | Activates the specified solenoid.   |
| Tray 2 Pickup Solenoid              | SL1         | Activates the specified solenoid.   |
| Tray 3 Pickup Solenoid <sup>1</sup> |             | Activates the specified solenoid.   |
| Duplex switchback solenoid          | SL3         | Activates the specified solenoid.   |
| <b>NOTE:</b> Duplex models only.    |             |   |
| Optional Clutch Drive               |             | Activates the specified clutch/drive.   |
| Repick Clutch                       | CL1         | Activates the specified clutch.   |
| <b>NOTE:</b> Duplex models only.    |             |   |
| Laser Scanner Motor                 | M3          | Activates the specified motor.  |
| Repeat                              | NA          | Choose <b>Off</b> to execute the test once.<br>Choose <b>On</b> to execute the test continuously. |

<sup>1</sup> Only appears if an optional 550-sheet paper feeder accessory is installed.



## Tools for troubleshooting: Scanner tests (M527)

Use these diagnostic tests to manually test the document feeder and scanner sensors.

### Scanner tests (M527)

This section lists the sensors available in the [Scanner Tests](#).

### Document feeder and image scanner sensor replacement parts

If a document feeder or image scanner sensor fails, replace the following assemblies:

- Document feeder sensors
  - Document feeder whole unit kit Enterprise printers; 5851-6568



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**NOTE:** Includes the white backing kit.

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- Document feeder whole unit kit Work Flow printers; 5851-6569



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**NOTE:** Includes the white backing kit.

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- Scanner sub assembly (SSA) kit; F2A76-67909



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**NOTE:** Includes the white backing kit.

---

### Use the scanner tests

The [Scanner Tests](#) screen shows the sensor name, sensor state (active or inactive), and the number of times the sensor has been toggled (activated).

1. From the [Home](#) screen on the printer control panel, scroll to and touch the [Administration](#) button.
2. Open the following menus:
  - [Troubleshooting](#)
  - [Diagnostic Tests](#)
  - [Scanner Tests](#)
  - [Sensors](#)
3. Touch the sensor name on the [Scanner Tests](#) screen to display a sensor location graphic on the control-panel display.
4. Activate the desired sensor, and then check the control-panel display to verify the sensor state (active or inactive).
  - The [State](#) virtual LED next to the sensor number and sensor name illuminates green when the sensor is active.
  - The [Toggle](#) virtual LED next to the sensor number and sensor name illuminates green after the sensor is activated and increments by one each time the sensor is interrupted (activated or deactivated).

For example, opening the flatbed cover increments the [Flatbed cover Toggle](#) item count two times—once when the door is opened, and once when the door is closed.

5. Touch the [Reset Sensors](#) button to reset the [Toggle](#) count item.

**-or-**

Touch the [Cancel](#) button to exit the [Scanner Tests](#) screen, and then touch the [Cancel](#) button again to return to the [Diagnostic Tests](#) menu.

#### Scanner tests sensors

- [ADF paper present](#)
- [ADF Y \(length\)](#)
- [ADF jam cover](#)
- [ADF paper path deskew](#)
- [ADF paper path pick success](#)
- [Paper path sensor 1 \(unreachable\)](#)
- [Paper path sensor 2 \(unreachable\)](#)
- [Flatbed Y \(length\)](#)
- [Flatbed cover](#)

## Diagrams

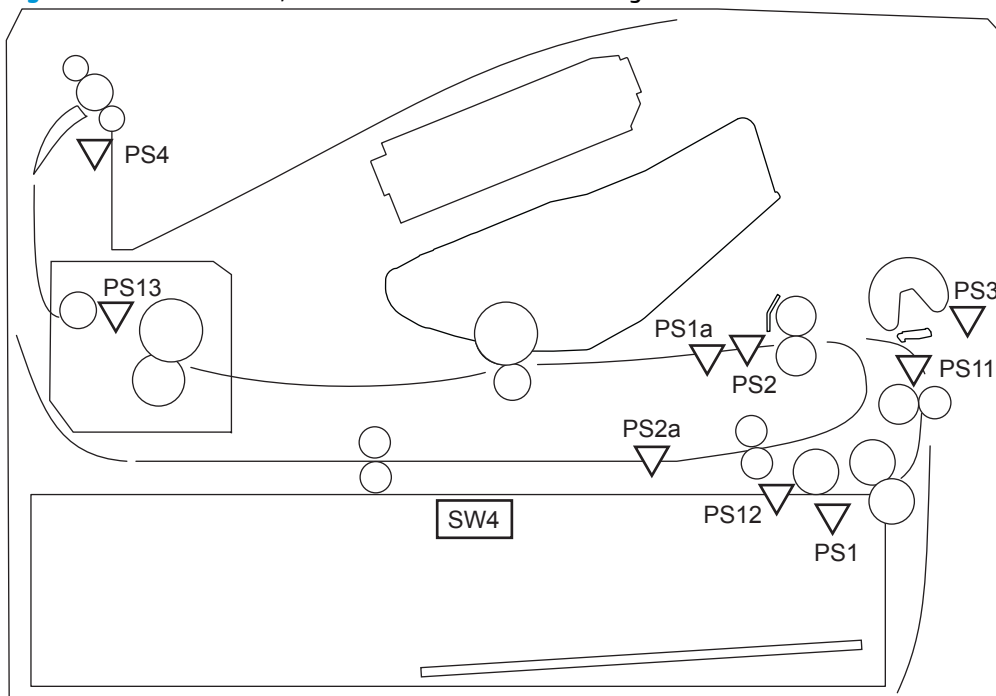
Use the diagrams in this section to identify printer components.

### Diagrams: Block diagrams

Use the diagrams in this section to identify printer sensors, switches, and assemblies.

#### Sensors and switches

**Figure 2-51** Printer base, sensors and switches block diagram

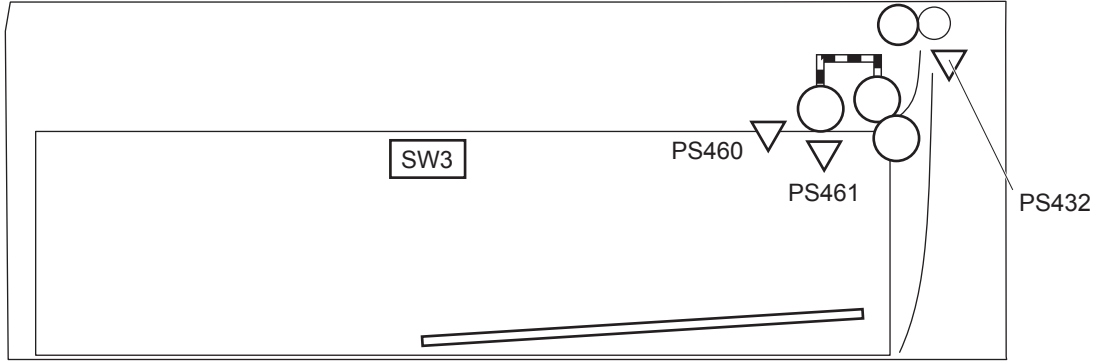


**Table 2-14** Printer base, sensors and switches block diagram

| Sensor | Description  | Sensor | Description                  |
|--------|--|--------|------------------------------|
| SR1a   | Media width sensor   | SR4    | Output bin media-full sensor |
| SR2b   | Duplex feed sensor   | SR11   | Registration sensor          |
| SR1    | Cassette media out sensor                                    | SR12   | Prefeed sensor               |
| SR2    | Top-of-Page (TOP) sensor                                     | SR13   | Fuser output sensor          |
| SR3    | Tray 1 (multipurpose tray) media out and registration sensor | SW4    | Cassette detection switch    |

<sup>1</sup> Duplex models only.

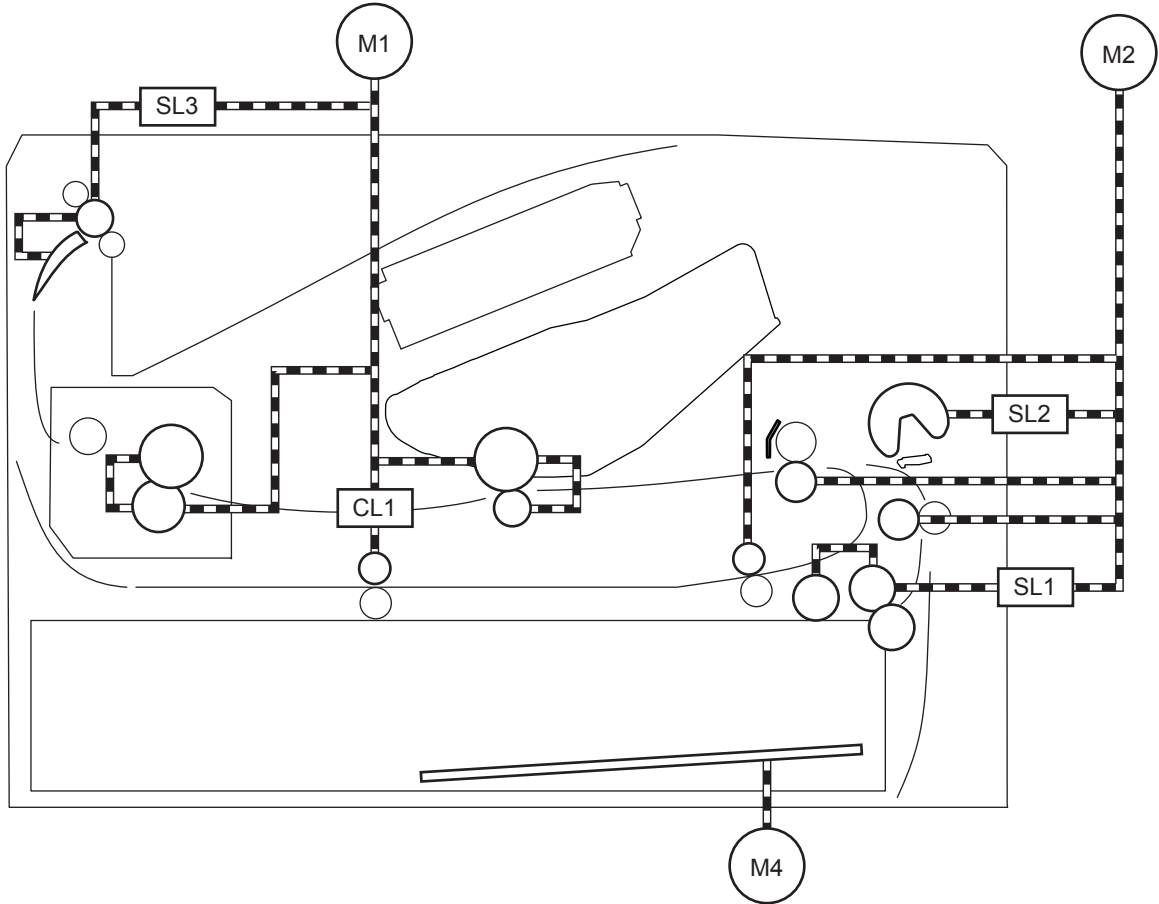
**Figure 2-52** 1x550-sheet paper feeder, sensors and switches block diagram



**Table 2-15** 1x500-sheet paper feeder, sensors and switches block diagram

| Sensor | Description               |
|--------|---------------------------|
| PS460  | Media surface sensor      |
| PS461  | Cassette media out sensor |
| PS432  | Feed sensor               |
| SW3    | Cassette detection switch |

**Figure 2-53** Printer base, motors, clutches, and solenoids block diagram

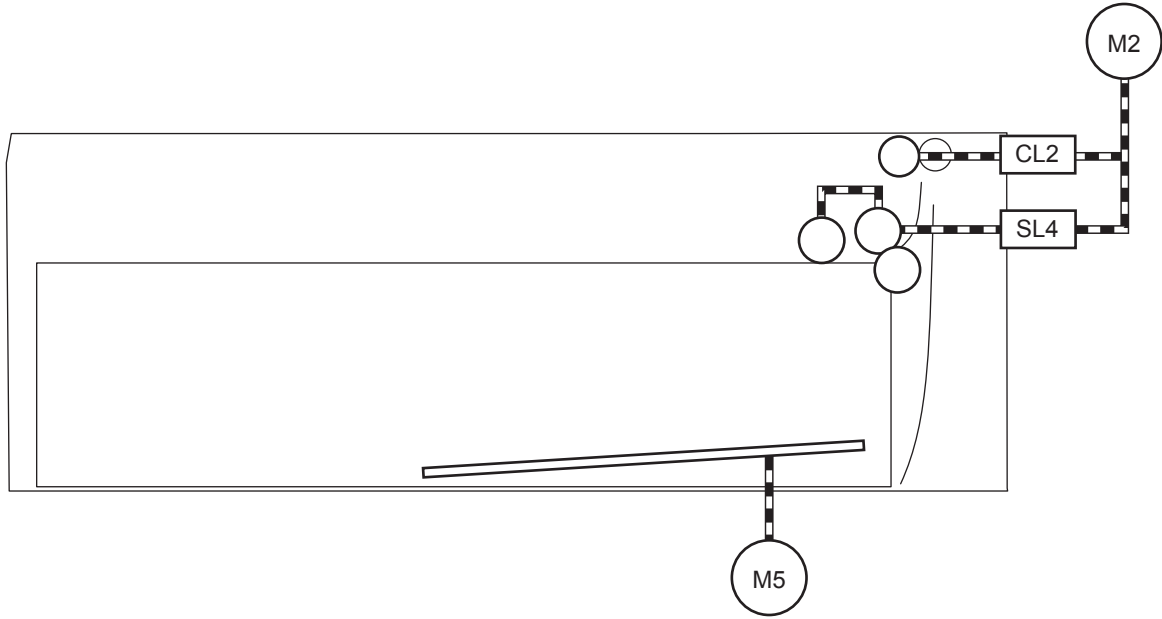


**Table 2-16** Printer base, motors, clutches, and solenoids block diagram

| Item | Description                 |
|------|-----------------------------|
| M1   | Fuser motor                 |
| M2   | Pickup motor                |
| M4   | Lifter motor                |
| SL1  | Cassette pickup solenoid    |
| SL2  | Tray 1 (MP) pickup solenoid |
| SL3  | Duplex switchback solenoid  |
| CL1  | Duplex re-pickup clutch     |

<sup>1</sup> Duplex models only.

**Figure 2-54** 1x550-sheet paper feeder, motors, clutches, and solenoids block diagram

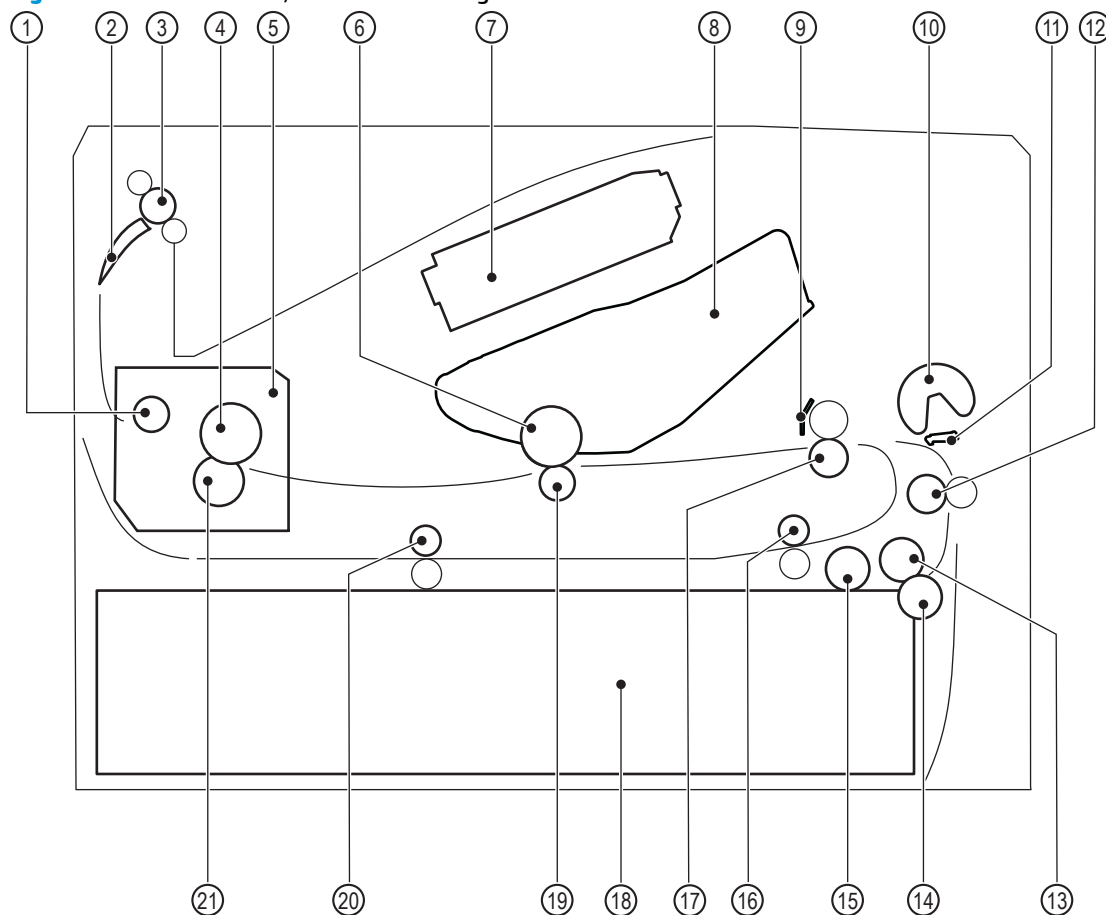


**Table 2-17** 1x550-sheet paper feeder, motors clutches, and solenoids block diagram

| Item | Description                          |
|------|--------------------------------------|
| M2   | Fuser motor (located in the printer) |
| M5   | Lifter motor                         |
| CL2  | Feed clutch                          |
| SL4  | Cassette pickup solenoid             |

## Cross section diagrams

**Figure 2-55** Printer base, cross section diagram

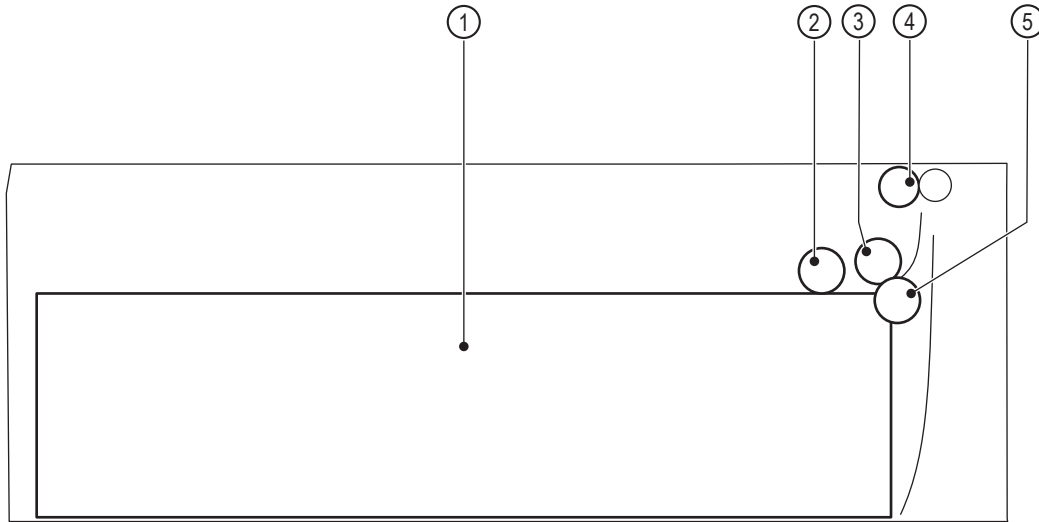


**Table 2-18** Printer base, cross section diagram

| Item | Description                     | Item | Description              |
|------|---------------------------------|------|--------------------------|
| 1    | Fuser output roller             | 12   | Feed roller              |
| 2    | Duplex flapper                  | 13   | Tray 2 feed roller       |
| 3    | Output roller                   | 14   | Tray 2 separation roller |
| 4    | Fuser film                      | 15   | Tray 2 pickup roller     |
| 5    | Fuser                           | 16   | Duplex re-pickup roller  |
| 6    | Photosensitive drum             | 17   | Registration roller      |
| 7    | Laser/scanner assembly          | 18   | Cassette                 |
| 8    | Toner cartridge                 | 19   | Transfer roller          |
| 9    | Registration shutter            | 20   | Duplex feed roller       |
| 10   | Tray 1 (MP) tray pickup roller  | 21   | Pressure roller          |
| 11   | Tray 1 (MP) tray separation pad |      |                          |

<sup>1</sup> Duplex models only.

**Figure 2-56** 1x550-sheet paper feeder, cross section diagram



**Table 2-19** 1x550-sheet paper feeder, cross section diagram

| Item | Description                |
|------|----------------------------|
| 1    | Cassette                   |
| 2    | Cassette pickup roller     |
| 3    | Cassette feed roller       |
| 4    | Feed roller                |
| 5    | Cassette separation roller |



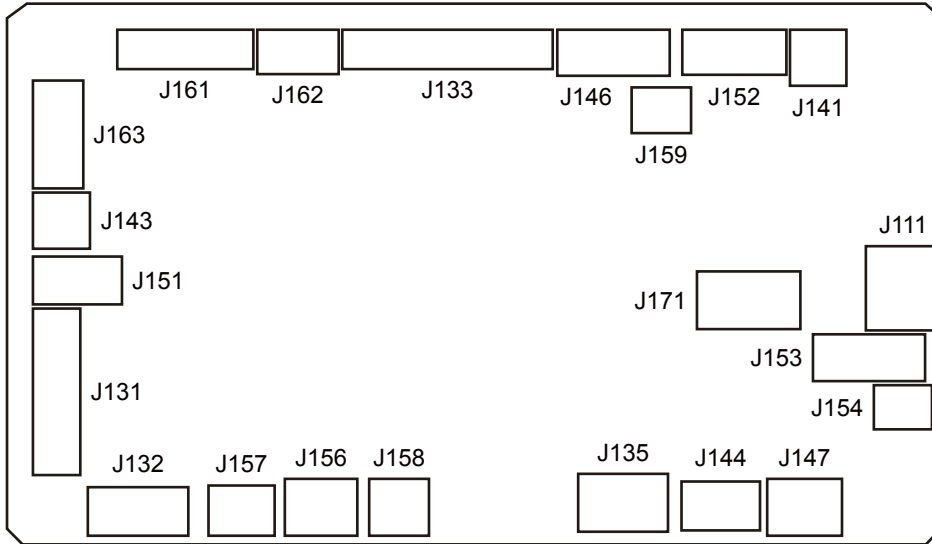
## Diagrams: Printed circuit assembly (PCA) connector locations

Use the diagrams in this section to identify printer PCA connector locations.

### DC controller connections

Each of the connections on the DC controller PCA is indicated in the following figure.

**Figure 2-57** DC controller PCA connectors



**Table 2-20** DC controller connectors

| Item | Description                                    | Item | Description  |
|------|--|------|--|
| J111 | Not used                                       | J152 | Output bin media-full sensor (PS4)<br>Fuser output sensor (PS13)<br>Thermistor (YH401) |
| J131 | Low-voltage power supply (LVPS)<br>Power LED   | J153 | Paper feeder   |
| J132 | Fuser power supply (FPS)                       | J154 | Duplex re-pickup clutch (CL1)  |
| J133 | High-voltage power supply (HVPS)               | J156 | Media surface sensor (PS12)  |
| J135 | Low-voltage power supply (LVPS)                | J157 | Registration sensor (PS11)   |
| J141 | Duplex switchback solenoid (SL3)               | J158 | Cassette detection switch (SW4)  |
| J143 | Tray 1 (MP) tray pickup solenoid (SL2)         | J159 | Rear door switch (SW5)   |
| J144 | Lifter motor<br>Cassette pickup solenoid (SL1) | J161 | Laser/scanner assembly   |
| J146 | Fuser motor (M1)                               | J162 | Laser/scanner motor  |
| J147 | Sub fan (FM2)                                  | J163 | Formatter  |

**Table 2-20 DC controller connectors (continued)**

| <b>Item</b> | <b>Description</b>             | <b>Item</b> | <b>Description</b> |
|-------------|--------------------------------|-------------|--------------------|
| J151        | Media width sensor (PS1a)      | J171        | Pickup motor (M2)  |
|             | Duplex feed sensor (PS2b)      |             |                    |
|             | Top-of-Page (TOP) sensor (PS2) |             |                    |

<sup>1</sup> Duplex models only.

## Formatter PCA (M501)

Figure 2-58 Formatter PCA M501

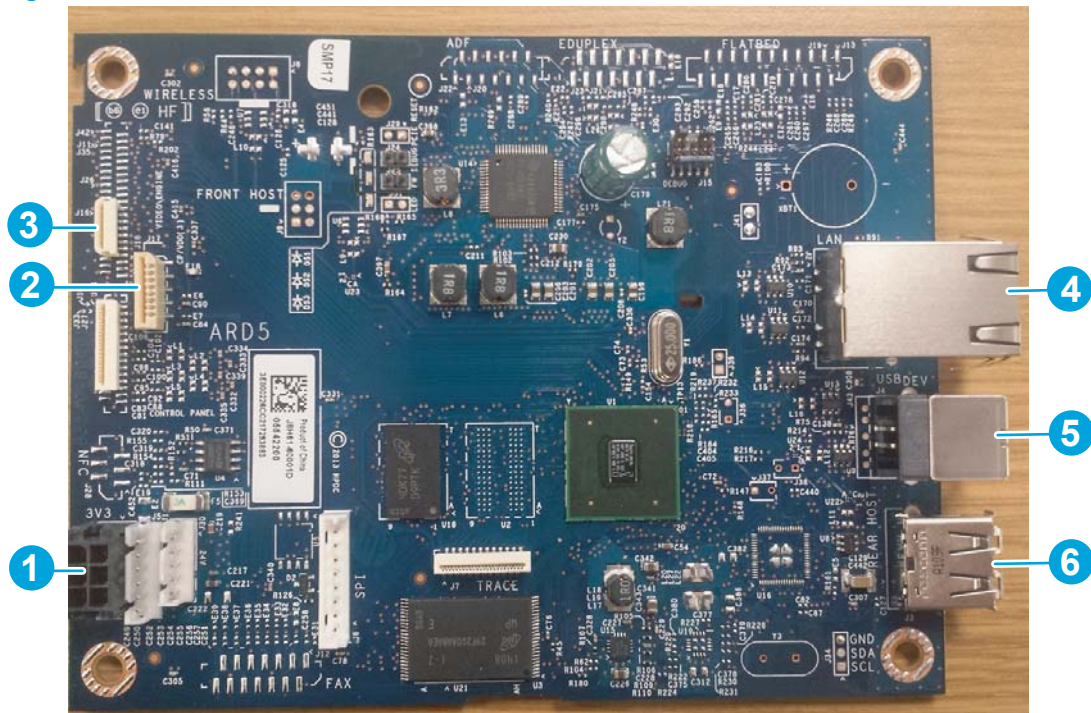


Table 2-21 Formatter PCA M501

| Item | Description   | Item | Description              |
|------|---------------|------|--------------------------|
| 1    | Control panel | 4    | Local area network (LAN) |
| 2    | Engine        | 5    | USB device               |
| 3    | Power supply  | 6    | USB host                 |

## Formatter PCA (M506)

Figure 2-59 Formatter PCA (M506)

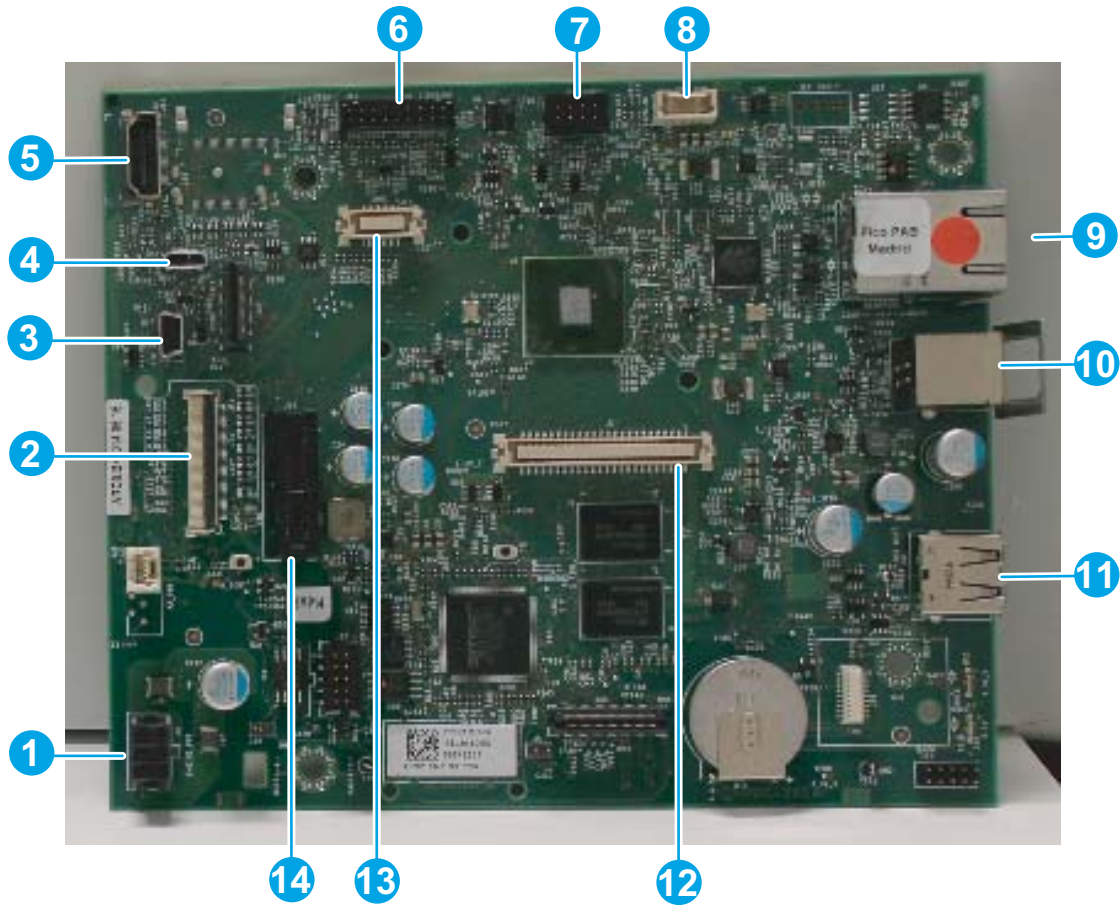


Table 2-22 Formatter PCA M506

| Item | Description                       | Item | Description                       |
|------|-----------------------------------|------|-----------------------------------|
| 1    | Power                             | 8    | IOD                               |
| 2    | Engine I/F                        | 9    | Local area network (LAN)          |
| 3    | Hardware integration pocket (HIP) | 10   | USB device                        |
| 4    | Easy-access USB                   | 11   | USB host                          |
| 5    | Control panel HDMI                | 12   | Dual in-line memory module (DIMM) |
| 6    | Control panel sideband            | 13   | embedded MultiMedia Card (eMMC)   |
| 7    | Wireless                          | 14   | Hard-disk drive (HDD) riser       |

## Formatter PCA (M527)

Figure 2-60 Formatter PCA M527

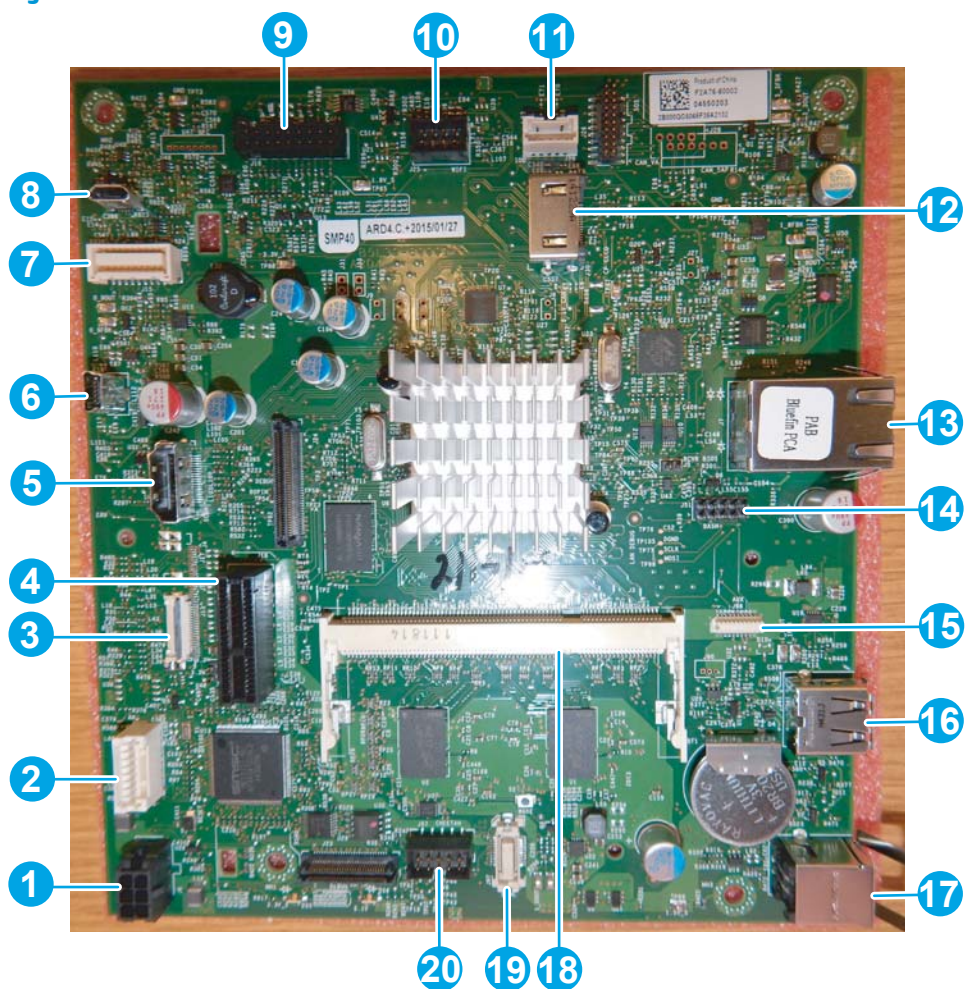


Table 2-23 Formatter PCA M527

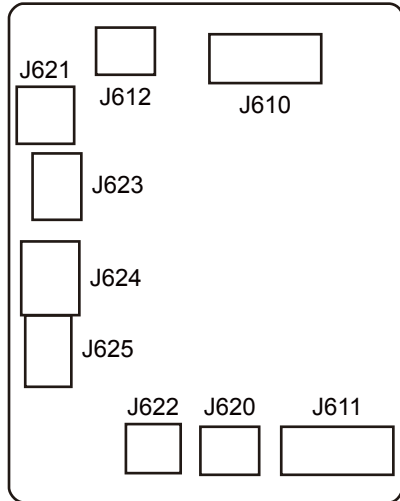
| Item | Description                       | Item | Description                       |
|------|-----------------------------------|------|-----------------------------------|
| 1    | Power                             | 11   | NVRAM                             |
| 2    | Accessible architecture           | 12   | Control panel HDMI                |
| 3    | Engine and video control          | 13   | Local area network (LAN)          |
| 4    | Hard-disk drive (HDD) riser       | 14   | BASH                              |
| 5    | Scanner HDMI                      | 15   | Auxiliary                         |
| 6    | Hardware integration pocket (HIP) | 16   | USB host                          |
| 7    | Fax                               | 17   | USB device                        |
| 8    | Easy-access USB                   | 18   | Dual in-line memory module (DIMM) |
| 9    | Control panel sideband            | 19   | embedded MultiMedia Card (eMMC)   |
| 10   | Wireless                          | 20   | Debug port                        |

**NOTE:** Only the M527 dn uses the eMMC.

## 1x550-sheet paper feeder controller PCA connections

Each of the connections on the 1x550-sheet paper feeder controller PCA is indicated in the following figure.

**Figure 2-61** 1x550-sheet paper feeder controller PCA connectors



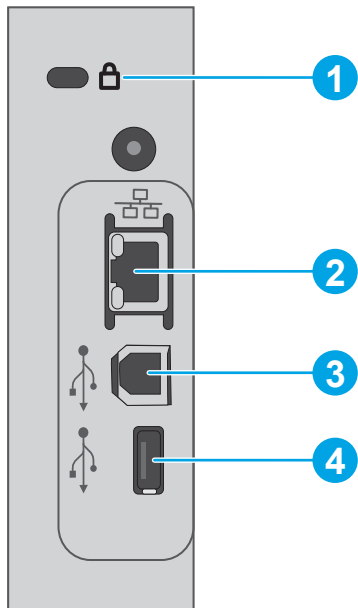
**Table 2-24** 1x550-sheet paper feeder controller PCA connectors

| Item | Description                     | Item | Description                       |
|------|---------------------------------|------|-----------------------------------|
| J610 | Printer                         | J622 | Lifter motor (M5)                 |
| J611 | Paper feeder                    | J623 | Media surface sensor (PS460)      |
| J612 | Cassette detection switch (SW3) | J624 | Feed sensor (PS432)               |
| J620 | Lifter motor (M5)               | J625 | Cassette media out sensor (PS461) |
| J621 | Cassette pickup solenoid (SL4)  |      |                                   |

## Diagrams: External plug and port locations

Use the following figure to locate and identify the printer external port locations.

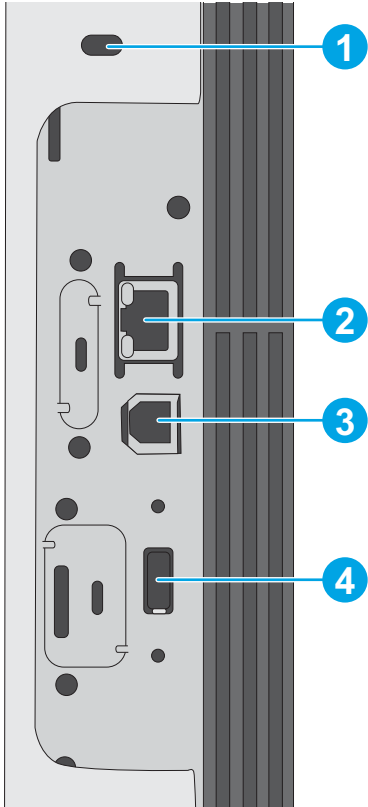
**Figure 2-62** External plug and port locations (M501)



**Table 2-25** External plug and port locations (M501)

| Item | Description   |
|------|---|
| 1    | Slot for a cable-type security lock   |
| 2    | Local area network (LAN) Ethernet (RJ-45) network port                        |
| 3    | Hi-Speed USB 2.0 printing port  |
| 4    | USB port for job storage feature (requires a 16 GB or larger USB flash drive) |

**Figure 2-63** External plug and port locations (M506)



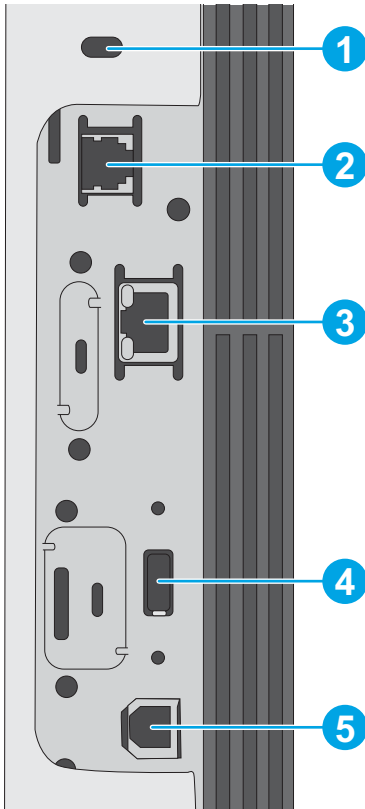
**Table 2-26** External plug and port locations (M506)

| Item | Description   |
|------|---|
| 1    | Slot for a cable-type security lock                                       |
| 2    | Local area network (LAN) Ethernet (RJ-45) network port                    |
| 3    | Hi-Speed USB 2.0 printing port  |
| 4    | USB port for connecting external USB devices (this port might be covered) |

**NOTE:** For easy-access USB printing, use the USB port on the top cover.



**Figure 2-64** External plug and port locations (M527)



**Table 2-27** External plug and port locations (M527)

| Item | Description  |
|------|--|
| 1    | Slot for a cable-type security lock  |
| 2    | Fax port (f and z models only)   |
| 3    | Local area network (LAN) Ethernet (RJ-45) network port   |
| 4    | USB port for connecting external USB devices (this port might be covered)<br><b>NOTE:</b> For easy-access USB printing, use the USB port on the top cover. |
| 5    | Hi-Speed USB 2.0 printing port   |

## Diagrams: Locations of major assemblies

Use the figure in this section to identify and locate major components and assemblies in the printer.

### Main assemblies (printer base)

Figure 2-65 Main assemblies

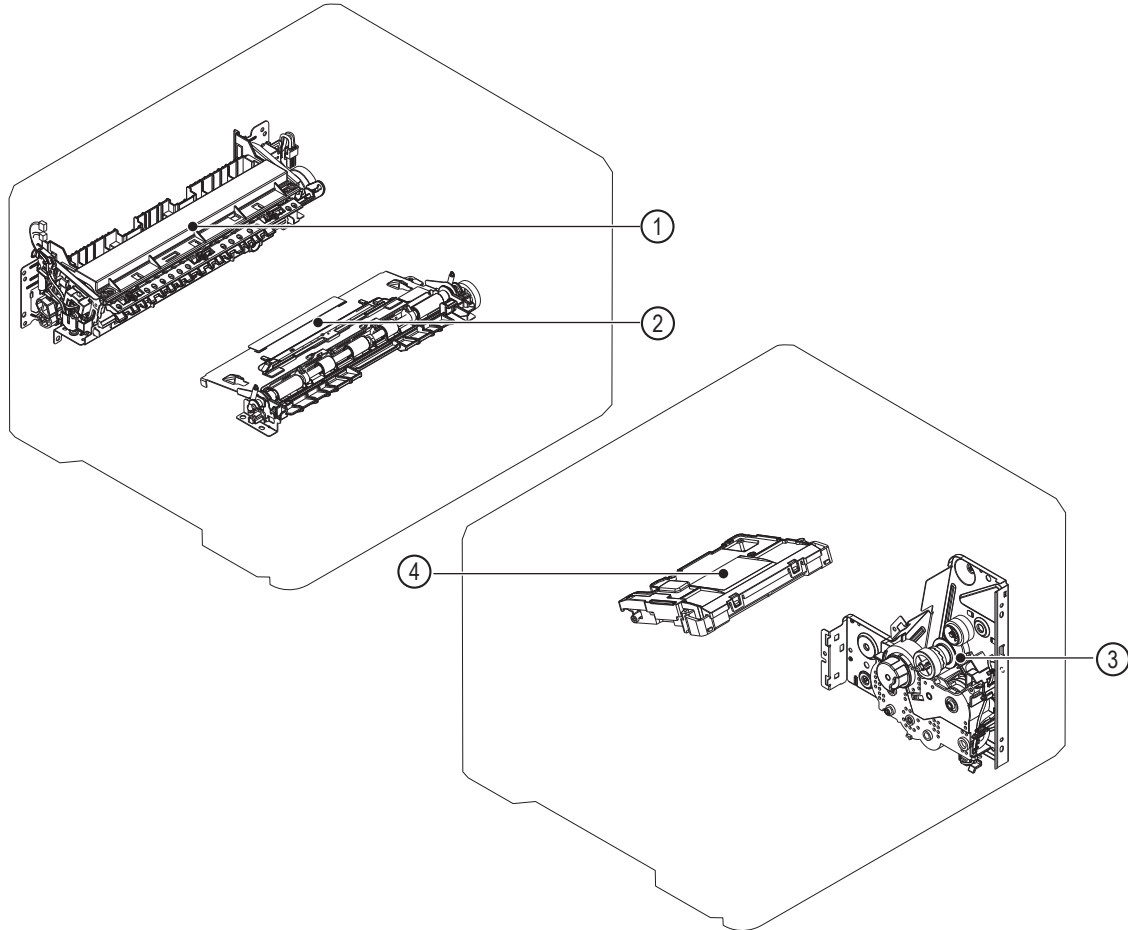


Table 2-28 Main assemblies (printer base)

| Item | Description            |
|------|------------------------|
| 1    | Fuser                  |
| 2    | Registration assembly  |
| 3    | Feed drive assembly    |
| 4    | Laser/scanner assembly |

## Rollers and pads (printer base)

Figure 2-66 Rollers and pads (printer base)

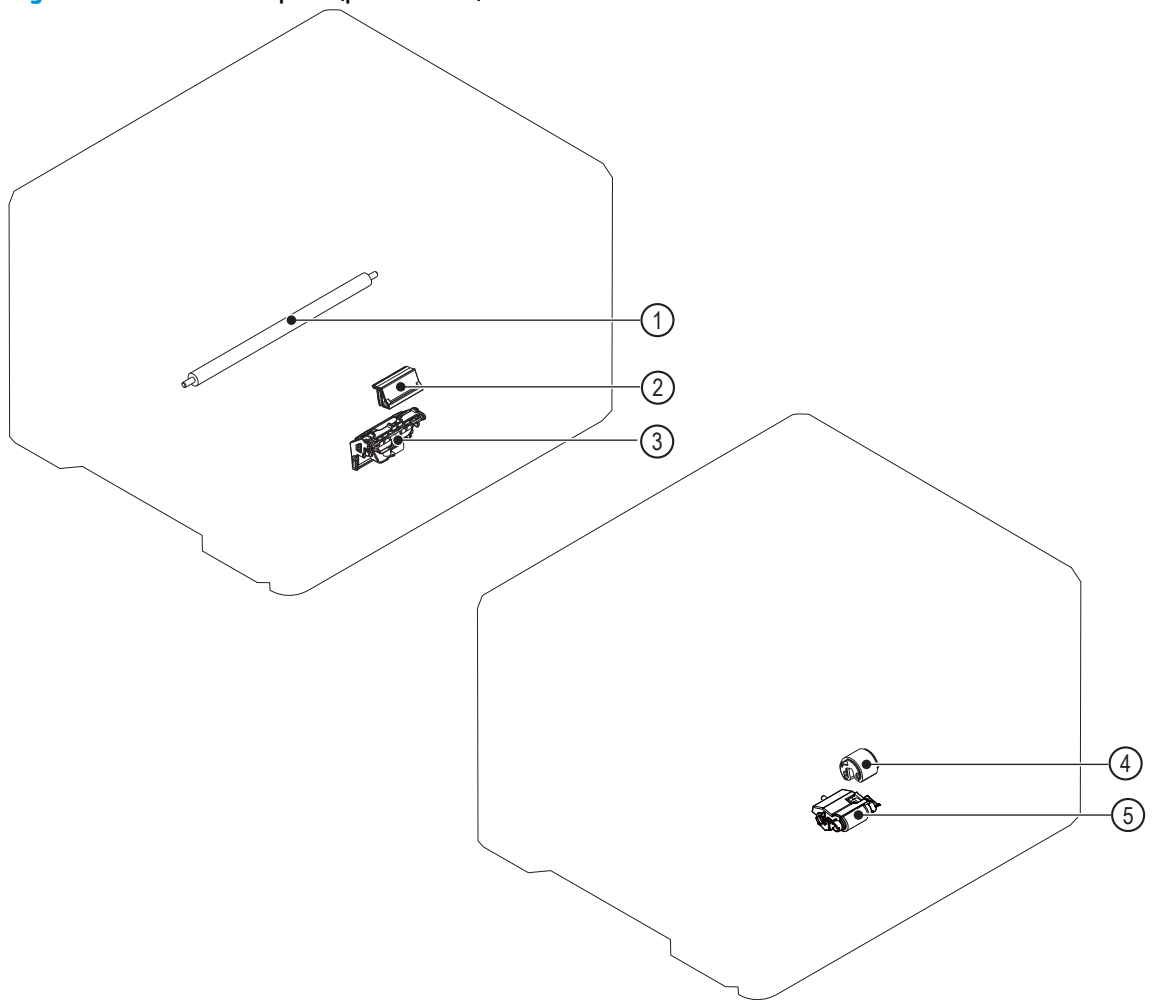


Table 2-29 Rollers and pads (printer base)

| Item | Description                       |
|------|-----------------------------------|
| 1    | Transfer roller                   |
| 2    | Tray 1 separation pad assembly    |
| 3    | Tray 2 separation roller assembly |
| 4    | Tray 1 pickup roller              |
| 5    | Tray 2 pickup roller assembly     |

## Motor and fans

Figure 2-67 Motor and fans

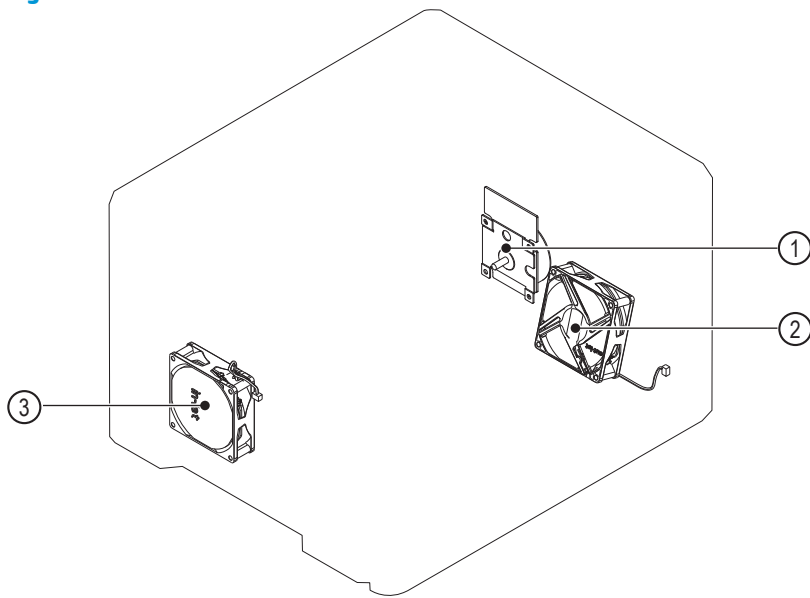
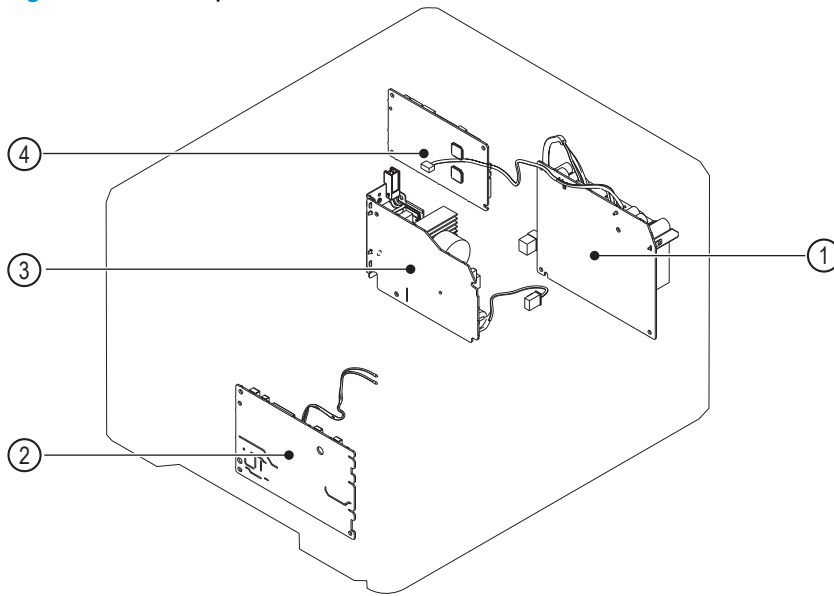


Table 2-30 Motor and fans

| Item | Description      |
|------|------------------|
| 1    | Fuser motor (M1) |
| 2    | Main fan (FM1)   |
| 3    | Sub fan (FM2)    |

## Printed circuit assemblies (PCAs; printer base)

**Figure 2-68** PCAs (printer base)

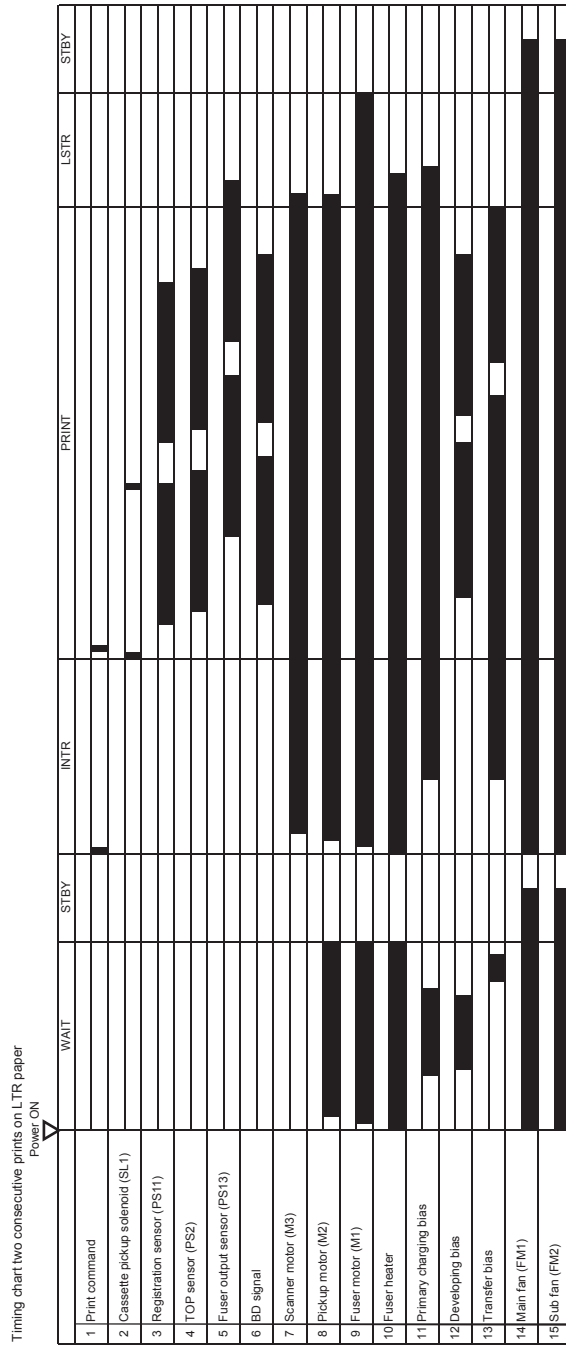


**Table 2-31** PCAs (printer base)

| Item | Description                      |
|------|----------------------------------|
| 1    | Low-voltage power supply (LVPS)  |
| 2    | High-voltage power supply (HVPS) |
| 3    | Fuser power supply (FPS)         |
| 4    | DC controller PCA                |

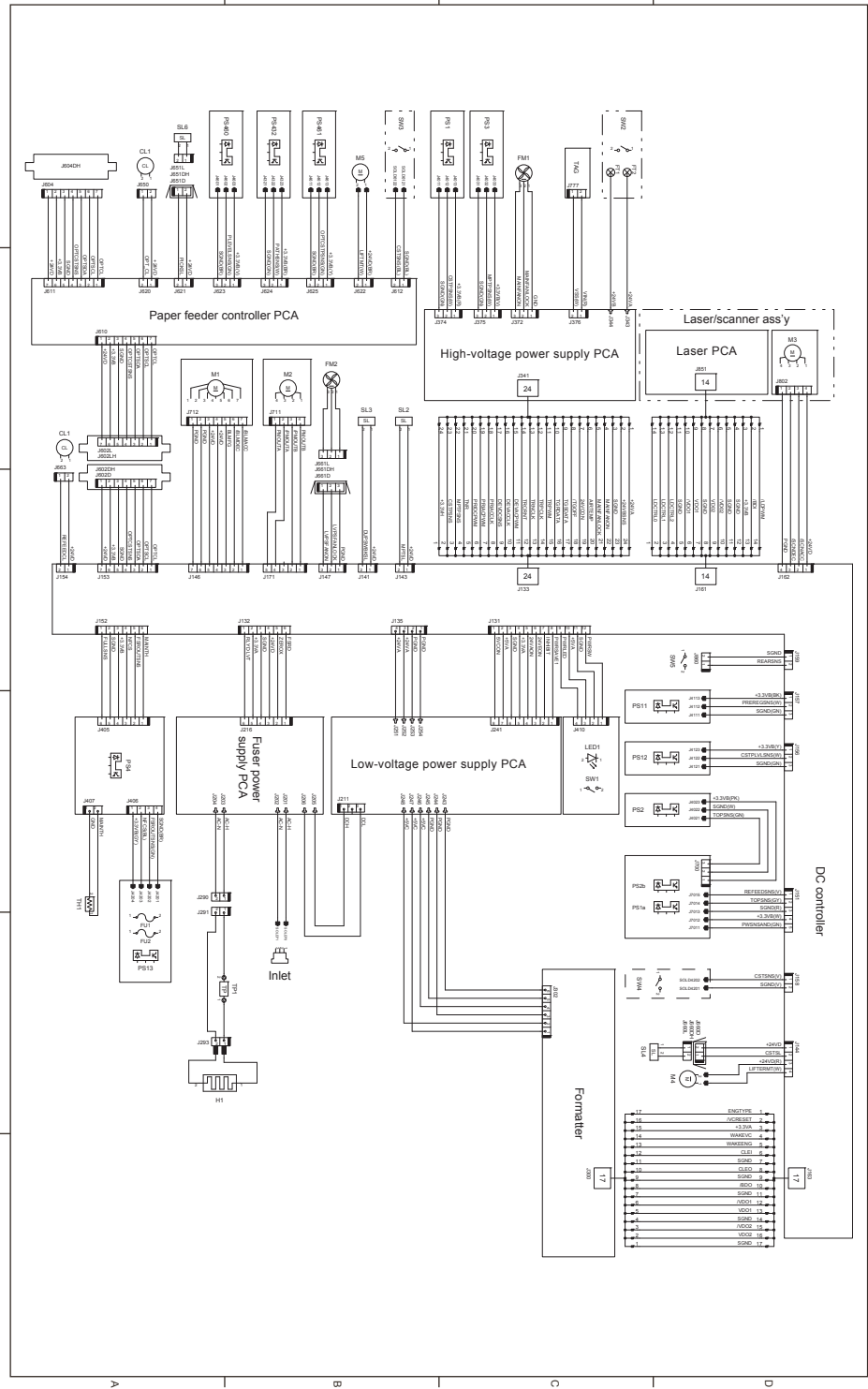
# Diagrams: General timing chart

Figure 2-69 General timing chart

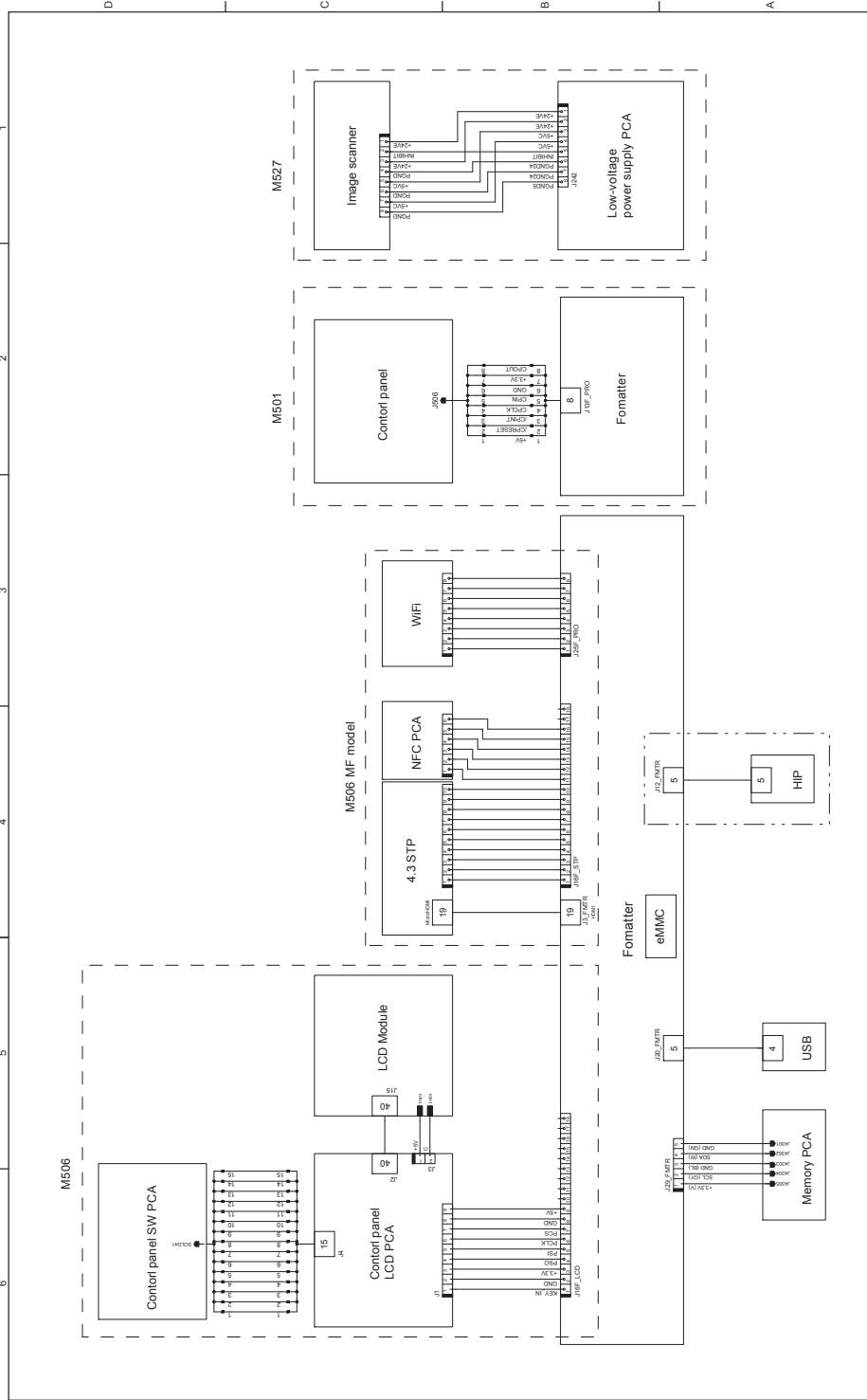


# Diagrams: General circuit diagrams

Figure 2-70 General circuit diagram for the printer base (1 of 2)



**Figure 2-71** General circuit diagram for the printer base (2 of 2)





## Internal test and information pages

### Print a configuration page



**NOTE:** Depending on the model, up to three pages print when printing a configuration page. In addition to the main configuration page, the HP embedded Jetdirect configuration and the wireless pages print.

---

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

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

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

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

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

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

**Figure 2-72** Configuration report (M501)

## HP LaserJet Pro M501dn

### Configuration Report

**1** **Product Information**

Product Name: HP LaserJet Pro M501dn  
 Formatter Number: 3E0004G  
 Serial Number: XXXXXXXXX  
 Cartridge Index: RFLP JAJJ  
 Service ID: 00000  
 Firmware Datecode: 20150520\_0500 Phoenix Firmware  
 Control Panel Version: 0x00  
 Location: USA  
 Device Location:  
 Geo Location:  
 Max Print Quality: ProRes 1200  
 Controller Number: 11601  
 Duplexer Version: 0

**5** **Product Settings**

Device Description: HP LaserJet Pro M501dn  
 Language: English  
 Default Settings: Self-managed  
 Asset Number:  
 Your Company Name:  
 Contact Person:  
 Product Security: Off  
 Quiet Print Mode: Off  
 Hardware Address: 00:bf:9c:32:86:a9  
 Host Name: NP13286A9  
 IPv4 Status:  
     Network Cable Disconnected  
 IPv6 Status: Network Cable Disconnected  
 Show IP Address: Enabled

**2** **Memory**

Total Memory: 256 MBytes  
 Available Memory: 193.70 MBytes

**6** **Installed Personalities and Options**

PCL6  
 AirPrint  
 PCL  
 PDF  
 PS

**3** **Paper Settings**

Default Paper Size: Letter  
 Default Paper Type: Plain  
 Tray 1 Size: Any Size  
 Tray 1 Type: Any Type  
 Tray 2 Size: Letter  
 Tray 2 Type: Any Type  
 Paper Out Action: Wait Forever  
 Manual Feed: Off  
 Duplex: Off  
 Bind: Long Edge

**7** **Print**

Auto Continue: On  
 Number of Copies: 1  
 Courier Font: Regular  
 EconoMode: Off  
 Orientation: Portrait  
 Monochrome RET: On  
 Wide A4: No  
 A5 Feed Orientation: Portrait  
 Print Density: 3  
 Monochrome Resolution: 600  
 Monochrome Bits per Pixel: 2  
 IO Timeout: 120 Seconds  
 Jam Recovery: Auto  
 Personality: Auto  
 Print PS Errors: Off

**4** **Impressions**

Total Impressions: 7  
 Total Equivalent Impressions (A4/Letter): 7.0  
 Duplex Sheets: 1  
 Jam Events: 0  
 Mispick Events: 0  
 Economode Impressions: 0

**8** **HP Web Services**

HP Web Services: Disabled

**Table 2-32** Configuration page (M501)

| Item | Description         | Item | Description                         |
|------|---------------------|------|-------------------------------------|
| 1    | Product information | 5    | Product settings                    |
| 2    | Memory              | 6    | Installed personalities and options |
| 3    | Paper settings      | 7    | Print                               |
| 4    | Impressions         | 8    | HP Web services                     |

**Figure 2-73** Configuration page (M506/M527)

**Configuration Page**
HP LaserJet M506
Page 1

**1** Device Information

Product Name: HP LaserJet M605  
 Device Name: HP LaserJet M605  
 Model Number: CXXXXA  
 DC Controller Version: 1.102  
 Device Serial Number: XXXXXXXXXX  
 Formatter Number: XXXXXXXXXX  
 Firmware Bundle Version: Beta  
 Firmware Revision: 235/930 482546  
 Firmware Datecode: 20140617  
 HP FutureSmart Level: HP FutureSmart 3  
 NFC revision: Not Installed  
 Service ID: 00000  
 Maintenance Kit Interval: 225000  
 Pages Since Last Maintenance: 0  
 PS wait Time-out: 300 seconds  
 Engine Cycles\*: 7  
 \*Not weighted for billing

**2** Installed Personalities and Options

PCL: 20010402  
 PCLXL: 20010402  
 POSTSCRIPT: 20010402  
 PDF: 20130901  
 AirPrint: 2040201  
 Internal Disk: Hard Disk: Enabled  
 Serial Number: DE160322  
 Model: Toshiba 09G400  
 Capacity: 3776 MB  
 Hard Disk Encryption Status: Disk cannot be encrypted  
 HP Printer Trusted Platform Module: Enabled  
 Firmware: 01.02.149.32  
 EK Thumbprint:  
 CAE91A0436783210A0F476F98139EFC54E036A9  
 SRK Thumbprint:  
 F8D91A0436783210A0F476F98139EFC54E084F9  
 Embedded HP JetDirect J.BAD: NP1245593  
 Wireless HP JetDirect J8032E: 0.0.0.0

**3** HP Web Services

HP Web Services: Disabled  
 ePrint: Disabled

**4** Memory

Total RAM: 512 MB

**5** Event Log

Number of Entries in Use: 17  
 Three Most Recent Entries:


| Number | Cycles | Event    |
|--------|--------|----------|
| 17     | 7      | 10:99:40 |
| 16     | 7      | 33:02:02 |
| 15     | 7      | 33:02:02 |

**6** Security

Hard Disk Encryption Status:  
 Internal Disk: Disk cannot be encrypted  
 Job Data Encryption Status: Encrypted (AES-128)  
 Job Data Persistence: [[[violatle]]]  
 File Erase Mode: Non-Secure Fast Erase (No overwrite)  
 Control Panel Password: Disabled  
 Support Key: 805F-79MS-UEXG  
 Host USB plug and play: Enabled  
 Device USB: Enabled

**7** Paper Trays and Options

Default Paper Size: Letter  
 Tray 1 Size: Any Size  
 Tray 1 Type: Any Type  
 Tray 2 Size: Letter  
 Tray 2 Type: Plain  
 1: Output Bin 1, 500 Sheets, Standard bin (correct order)  
 2: Output Bin 2, 100 Sheets, Rear bin (straightest path)

April 27, 2000 6:56:00 PM

English (United States)

**Table 2-33** Configuration page (M506/M527)

| Item | Description                         | Item | Description             |
|------|-------------------------------------|------|-------------------------|
| 1    | Device information                  | 5    | Event log               |
| 2    | Installed personalities and options | 6    | Security                |
| 3    | HP Web services                     | 7    | Paper trays and options |
| 4    | Memory                              |      |                         |

## HP embedded Jetdirect page (M506/M527)

The second configuration page is the HP embedded Jetdirect page, which contains the following information:  
Always make sure the status line under the general information line indicates "**HP embedded Jetdirect page.**"

**Figure 2-74** HP embedded Jetdirect page (M506/M527)

```
Embedded Jetdirect Page HP LaserJet M506 Page 1

----- General Information -----
Status: I/O Card Initializing
Model Number: J8032E
Hardware Address: 6CC217245593
Firmware Version: JD124s00215
Port Config: Unknown
Auto Negotiation: On
Manufacturing ID: 5107510700****-M
Build Date: 06/16/2014 06:09:50
WS Registration: Not Registered

ePrint: Not Applicable
Email: Not Applicable

----- Security Settings -----
IPsec: Disabled
Secure Web: HTTPS Required
Cert Expires: 2005-01-17 02:14 UTC
SNMP Versions: 1,2
SNMP Get Only Name: Not Specified
SNMP Get Only Name: Not Specified/Default
Access List: Not Specified
Admin Password: Not Specified
Announcement Agent: Success
FIPS: Disabled

----- Network Statistics -----
Total Packets Received: 0
Unicast Packets Received: 0
Bad Packets Received: 0
Framing Errors Received: 0
Total Packets Transmitted: 0
Unsendable Packets: 0
Transmit Collisions: 0
Transmit Late Collisions: 0
Last Wake:
00000F00000000000000000000000000
00000000000000000000000000000000
00000000000000000000000000000002

----- TCP/IP -----
IPv4: Enabled
IPv6: Enabled
Host Name: NP1245593
IPv4 Domain Name: Not Specified
IPv6 Domain Name: Not Specified
Primary DNS Server: Not Specified
Secondary DNS Server: Not Specified
DNS(IPv6): Not Specified
Not Specified
Not Specified
WINS Server: Not Specified
TCP Idle Timeout: 90 sec

----- IPv4 -----
Status: Initializing
IP Address: 0.0.0.0
Subnet Mask: 0.0.0.0
Default Gateway: 0.0.0.0
Config By: Not Configured
BOOTP/DHCP Server: 0.0.0.0
TFTP Server: 0.0.0.0
Bonjour Service Name: Not Specified

----- IPv6 -----
Status: Ready
Link-Local: Not Configured
Stateless: Not Configured
DHCPv6: Not Configured
Manual: Not Configured

Apr/27/2000 6:56:00 PM English (United States)
```

| Item | Description  |
|------|--|
| 1    | <b>General Information</b> indicates the printer status, model number, hardware firmware version, port select, port configuration, auto negotiation, manufacturing identification, and manufactured date.                                  |
| 4    | <b>Security Settings</b> information   |
| 3    | <b>Network Statistics</b> indicates the total packets received, unicast packets received, bad packets received, framing errors received, total packets transmitted, unsendable packets, transmit collisions, and transmit late collisions. |
| 4    | <b>TCP/IP</b> information, including the IP address  |
| 5    | <b>IPv4</b> information  |
| 6    | <b>IPv6</b> information  |

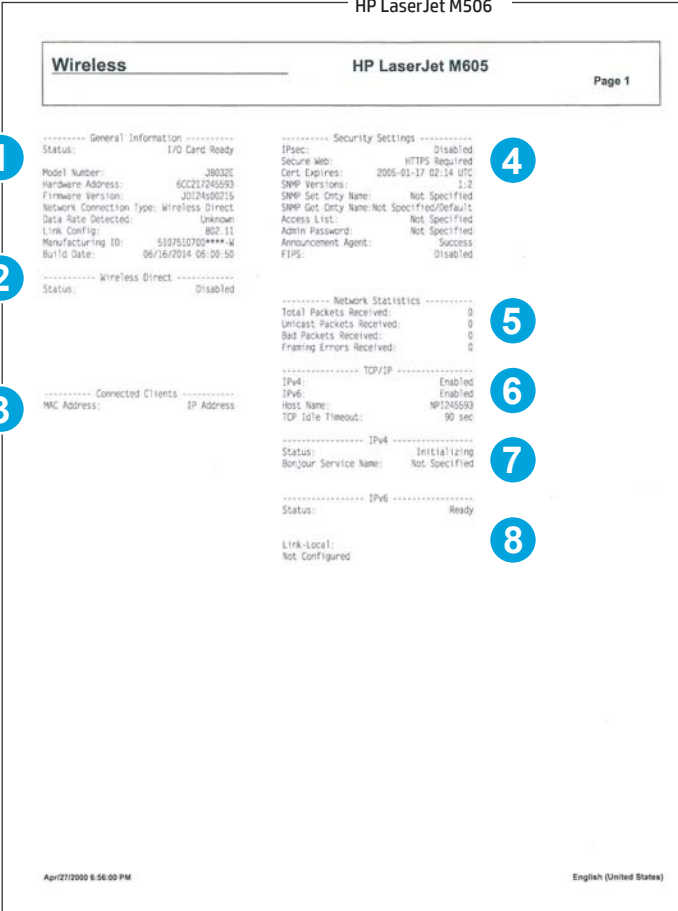
## Wireless page (M506/M527)

The third configuration page is the wireless page, which contains the following information:

 **NOTE:** Wireless models only.

Always make sure the status line under the general information line indicates "**I/O Card Ready.**"

**Figure 2-75** Wireless page (M506/M527)



```
HP LaserJet M506
-----
Wireless HP LaserJet M605 Page 1
-----
----- General Information -----
Status: I/O Card Ready
Model Number: J8632C
Hardware Address: 6CC21245593
Firmware Version: JD12450215
Network Connection Type: Wireless Direct
Data Rate Detected: Unknown
Link Config: 802.11
Manufacturing ID: S107510700****J4
Build Date: 06/16/2014 06:00:50

----- Security Settings -----
IPsec: Disabled
Secure Wic: HTTPS Required
Cert. Expires: 2005-01-17 02:14 UTC
SNMP Versions: 1,2
SNMP Set Only Name: Not Specified
SNMP Get Only Name: Not Specified/Default
Access List: Not Specified
Admin Password: Not Specified
Announcement Agent: Success
FIPS: Disabled

----- Wireless Direct -----
Status: Disabled

----- Connected Clients -----
MAC Address: IP Address

----- Network Statistics -----
Total Packets Received: 0
Unicast Packets Received: 0
Bad Packets Received: 0
Framing Errors Received: 0

----- TCP/IP -----
IPv4: Enabled
IPv6: Enabled
Host Name: NP1245593
TCP Idle Timeout: 90 sec

----- IPv4 -----
Status: Initializing
Bonjour Service Name: Not Specified

----- IPv6 -----
Status: Ready

Link-Local:
Not Configured

Apr27/2000 8:56:00 PM English (United States)
```

| Item | Description  |
|------|--|
| 1    | <b>General Information</b> indicates the printer status, model number, hardware firmware version, port select, port configuration, auto negotiation, manufacturing identification, and manufactured date.                                  |
| 2    | <b>Wireless Direct</b> indicates the wireless function status.   |
| 3    | <b>Connected Clients</b> indicates the MAC or IP address of connected clients.   |
| 4    | <b>Security Settings</b> information   |
| 5    | <b>Network Statistics</b> indicates the total packets received, unicast packets received, bad packets received, framing errors received, total packets transmitted, unsendable packets, transmit collisions, and transmit late collisions. |
| 6    | <b>TCP/IP</b> information, including the IP address.   |
| 7    | <b>IPv4</b> information.   |
| 8    | <b>IPv6</b> information.   |

## Finding important information on the configuration pages

Certain information, such as the firmware date codes, the IP address, and the email gateways, is especially helpful while servicing the printer. This information is on the various configuration pages.

**Table 2-36 Important information on the configuration pages**

| Type of information  | Specific information  | Configuration page   |
|--|---|--|
| <b>Firmware date codes</b><br><br>When performing a remote firmware upgrade procedure, all of these firmware components are upgraded.  | DC controller (M506/M527)<br><br><b>NOTE:</b> For the M501 printer, the DC controller version is listed as the controller number under product information on the configuration page. | Look on the main configuration page, under "Device Information."   |
|  | Firmware datecode<br><br><b>NOTE:</b> For the M501 printer, open the main menus, select the <b>Service</b> menu, and then select <b>Firmware Datecode</b> .                           | Look on the main configuration page, under "Product Information" (M501) or "Device Information" (M506/M527).   |
|  | HP embedded Jetdirect firmware version (M506/M527)  | Look on the HP embedded Jetdirect page, under "General Information."   |
| <b>Accessories and internal storage</b><br><br>All optional devices that are installed on the printer should be listed on the main configuration page.<br><br>In addition, separate pages print for the optional paper handling devices and the fax accessory (M506/M527). These pages list more-detailed information for those devices. | Embedded HP Jetdirect (M506/M527)   | Look on the main configuration page, under "Installed Personalities and Options." Shows model and ID.  |
|  | Total RAM   | Look on the main configuration page, under "Memory."   |
| Additional 550-sheet feeders   | Additional 550-sheet feeders  | Look on the main configuration page, under "Paper Trays and Options" (M506/M527)   |
| <b>Engine cycles and event logs</b><br><br>Total page counts and maintenance kit counts are important for ongoing printer maintenance.<br><br>The configuration page lists only the three most recent errors. To see a list of the 50 most recent errors, print an event log from the <a href="#">Diagnostics</a> menu.                  | Engine cycles   | Look on the main configuration page, under "Impressions" (M501) or "Device Information" (M506/M527).   |
|  | Event-log information (M506/M527)   | Event-log information  |
| Error report information (M501)  | Error-log information   | Open the <b>2ndary Service</b> menu, select <b>Service Reports</b> , and then select <b>Error Report</b> . Press the <b>OK</b> button to print the report.<br><br><b>NOTE:</b> This report can also be printed using the HP Embedded Web Server (EWS). |

## Print a fuser test page (M506/M527)

Use the fuser test page to evaluate problems with fuser print quality.

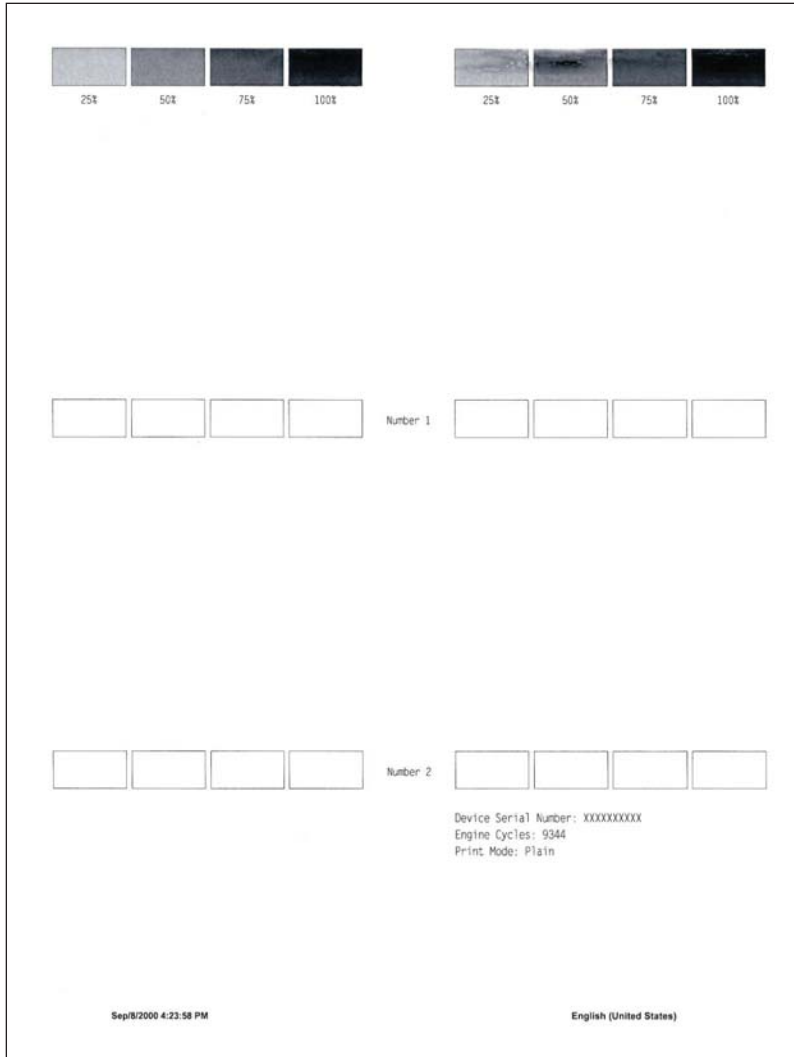
### Print a fuser test page from a touchscreen control panel

1. From the [Home](#) screen on the printer control panel, scroll to and touch the [Administration](#) button.
2. Open the following menus:
  - [Troubleshooting](#)
  - [Print Quality Pages](#)
  - [Fuser Test Page](#)
3. Touch the [Print](#) button.

### Print a fuser test page from a LCD control panel

1. From the [Home](#) screen on the printer control panel, use the down arrow ▼ button to scroll to [Administration](#), and then press the [OK](#) button.
2. Use the arrow down ▼ button to scroll to [Troubleshooting](#), and then press the [OK](#) button.
3. If necessary, use the arrow down ▼ button to scroll to [Print Quality Pages](#), and then press the [OK](#) button to start the calibration process.
4. If necessary, use the down arrow ▼ button to scroll to [Fuser Test Page](#), and then press the [OK](#) button to print the page.

**Figure 2-76** Fuser test page (M506/M527)





## Advanced configuration with HP Embedded Web Server (EWS) and HP Device Toolbox (Windows) (M501)


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


- View printer status information
- Determine the remaining life for all supplies and order new ones
- View and change tray configurations (paper types and sizes)
- View and print internal pages
- View and change network configuration

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

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

---

 **NOTE:** HP Device Toolbox is available only if you performed a full installation when you installed the printer. Depending on how the printer is connected, some features might not be available.

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





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

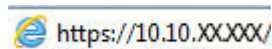
1. Click the **Start** button, and then click the **Programs** item.
2. Click your HP printer group, and then click the **HP Device Toolbox** item.

### Open the HP Embedded Web Server (EWS) from a Web browser

1. **2-line control panels:** On the printer control panel, press the **OK** button. Open the **Network Setup** menu, and then select **Show IP Address** to display the IP address or host name.

**Touchscreen control panels:** From the Home screen on the printer control panel, touch the Connection Information  /  button, and then touch the **Network Connected**  button or the **Network Wi-Fi ON**  button to display the IP address or host name.

2. Open a Web browser, and in the address line, type the IP address or host name exactly as it displays on the printer control panel. Press the **Enter** key on the computer keyboard. The EWS opens.



---

 **NOTE:** If the Web browser displays a **There is a problem with this website's security certificate** message when attempting to open the EWS, click **Continue to this website (not recommended)**.

Choosing **Continue to this website (not recommended)** will not harm the computer while navigating within the EWS for the HP printer.


---

| Tab or section   | Description   |
|--|---|
| <p><b>Home tab</b></p> <p>Provides printer, status, and configuration information.</p>                   | <ul style="list-style-type: none"> <li>• <b>Device Status:</b> Shows the printer status and shows the approximate percent life remaining of HP supplies.</li> <li>• <b>Supplies Status:</b> Shows the approximate percent life remaining of HP supplies. Actual supply life remaining can vary. Consider having a replacement supply available to install when print quality is no longer acceptable. The supply does not need to be replaced unless the print quality is no longer acceptable.</li> <li>• <b>Device Configuration:</b> Shows the information found on the printer configuration page.</li> <li>• <b>Network Summary:</b> Shows the information found on the printer network configuration page.</li> <li>• <b>Reports:</b> Print the configuration and supplies status pages that the printer generates.</li> <li>• <b>Event Log:</b> Shows a list of all printer events and errors.</li> </ul>  |
| <p><b>System tab</b></p> <p>Provides the ability to configure the printer from your computer.</p>        | <ul style="list-style-type: none"> <li>• <b>Device Information:</b> Provides basic printer and company information.</li> <li>• <b>Paper Setup:</b> Change the default paper-handling settings for the printer.</li> <li>• <b>Print Quality:</b> Change the default print-quality settings for the printer.</li> <li>• <b>EcoSMART Console:</b> Change the default times for entering Sleep mode or Auto Power Down mode. Configure which events cause the printer to wake.</li> <li>• <b>Paper Types:</b> Configure print modes that correspond to the paper types that the printer accepts.</li> <li>• <b>System Setup:</b> Change the system defaults for the printer.</li> <li>• <b>Service:</b> Perform the cleaning procedure on the printer.</li> <li>• <b>Save and Restore:</b> Save the current settings for the printer to a file on the computer. Use this file to load the same settings onto another printer or to restore these settings to this printer at a later time.</li> <li>• <b>Administration:</b> Set or change the printer password. Enable or disable printer features.</li> </ul> <p><b>NOTE:</b> The <b>System</b> tab can be password-protected. If this printer is on a network, always consult with the administrator before changing settings on this tab.</p> |
| <p><b>Print tab</b></p> <p>Provides the ability to change default print settings from your computer.</p> | <ul style="list-style-type: none"> <li>• <b>Printing:</b> Change the default print settings, such as number of copies and paper orientation. These are the same options that are available on the control panel.</li> <li>• <b>PCL5c:</b> View and change the PCL5c settings.</li> <li>• <b>PostScript:</b> Turn off or on the <b>Print PS Errors</b> feature.</li> </ul>   |
| <p><b>Fax tab</b></p> <p>(Fax models only)</p>   | <ul style="list-style-type: none"> <li>• <b>Receive Options:</b> Configure how the printer handles incoming faxes.</li> <li>• <b>Phone Book:</b> Add or delete entries in the fax phone book.</li> <li>• <b>Junk Fax List:</b> Set fax numbers to block from sending faxes to the printer.</li> <li>• <b>Fax Activity Log:</b> Review recent fax activity for the printer.</li> </ul>   |

| Tab or section  | Description  |
|---|--|
| <b>Scan tab</b><br><br>(MFP models only)  | Configure the <a href="#">Scan to Network Folder</a> and <a href="#">Scan to E-mail</a> features. <ul style="list-style-type: none"> <li>• <b>Network Folder Setup:</b> Configure folders on the network to which the printer can save a scanned file.</li> <li>• <b>Scan to E-mail Setup:</b> Begin the process to set up the <a href="#">Scan to E-mail</a> feature.</li> <li>• <b>Outgoing E-mail Profiles:</b> Set an email address that will appear as the “from” address for all emails sent from the printer. Configure the SMTP Server information.</li> <li>• <b>E-mail Address Book:</b> Add or delete entries in the email address book.</li> <li>• <b>E-mail Options:</b> Configure a default subject line and body text. Configure default scan settings for emails.</li> </ul> |
| <b>Networking tab</b><br><br>(Network-connected printers only)<br><br>Provides the ability to change network settings from your computer. | Network administrators can use this tab to control network-related settings for the printer when it is connected to an IP-based network. It also allows the network administrator to set up Wireless Direct functionality. This tab does not appear if the printer is directly connected to a computer.  |
| <b>HP Web Services tab</b>  | Use this tab to set up and use various Web tools with the printer.   |

## Control panel menus (M501)

### Setup menu

To open this menu, either press the **OK** button (2-line control panels) or touch the **Setup**  button (touchscreen control panels). The following sub menus are available:

- [HP Web Services menu \(M501\)](#)
- [Reports menu \(M501\)](#)
- [System Setup menu \(M501\)](#)
- [Service menu \(M501\)](#)
- [Network Setup menu \(M501\)](#)
- [Quick Forms menu \(M501\)](#)

### HP Web Services menu (M501)

**Table 2-37 HP Web Services menu (M501)**

| Menu item                           | Description   |
|-------------------------------------|---|
| <a href="#">Enable Web Services</a> | Use <a href="#">Enable Web Services</a> to set up Web Services on the printer.<br><b>NOTE:</b> You must be connected to a network to enable HP Web Services.  |
| <a href="#">Proxy Settings</a>      | The <a href="#">Proxy Settings</a> sub-menu includes the following: <ul style="list-style-type: none"><li>• <a href="#">Proxy Server</a></li><li>• <a href="#">Proxy Port</a></li><li>• <a href="#">Username</a></li><li>• <a href="#">Password</a></li></ul> |

## Reports menu (M501)

**Table 2-38 Reports menu (M501)**

| Menu item            | Description   |
|----------------------|---|
| Demo Page            | Prints a page that demonstrates print quality.  |
| Menu Structure       | Prints a control-panel menu layout map.   |
| Configuration Report | Prints a list of the printer settings.  |
| Supplies Status      | Prints the toner cartridge status. Includes the following information: <ul style="list-style-type: none"><li>• Approximate pages remaining</li><li>• Supply level</li><li>• Serial number</li><li>• Number of pages printed</li><li>• First install date</li><li>• Last used date</li></ul> |
| Network Summary      | Displays status for: <ul style="list-style-type: none"><li>• Network hardware configuration</li><li>• Enabled features</li><li>• TCP/IP and SNMP information</li><li>• Network statistics</li></ul>   |
| Usage Page           | Displays the number of pages printed by the printer. (Specific items reported are model dependent.)   |
| PCL Font List        | Prints a list of all installed PCL 5 fonts.   |
| PS Font List         | Prints a list of all installed PS fonts.  |
| PCL6 Font List       | Prints a list of all installed PCL 6 fonts.   |
| Service Page         | Prints the service page.<br><br>The service page includes information about supported paper types, and other settings that are not included on the configuration page. It also includes the event log.  |
| Print Quality Page   | Prints a page that helps solve problems with print quality.   |
| Default Info Page    | Prints a page that shows the default settings for the LaserJet Update feature.  |

## System Setup menu (M501)

In the following table, items that have an asterisk (\*) indicate the factory default setting.

**Table 2-39 System Setup menu (M501)**

| Menu item        | Sub-menu item  | Sub-menu item  | Description   |
|------------------|--|--|---|
| Language         | (List of available control-panel display languages.) |  | Sets the language in which the control panel displays messages and printer reports.   |
| Paper Setup      | Default Paper Size                                   | Letter   | Sets the size for printing internal reports or any print job that does not specify a size.<br><br><b>NOTE:</b> The default setting is determined by the choice of location during the initial printer setup.  |
|                  |  | A4   |   |
|                  |  | Legal  |   |
|                  | Default Paper Type                                   | Lists available paper types.   | Sets the type for printing internal reports or any print job that does not specify a type.  |
|                  | Tray 1   | Paper Type   | Configures the size and type for the tray.  |
|                  |  | Paper Size   |   |
|                  | Tray 2   | Paper Type   | Configures the size and type for the tray.  |
| Paper Size       |  |  |   |
| Tray 3           | Paper Type   | Configures the size and type for the tray.   |   |
|                  | Paper Size   |  |   |
| Paper Out Action | Wait forever*  | Determines how the printer reacts when a print job requires a paper size or type that is unavailable or when the tray is empty. <ul style="list-style-type: none"> <li>• <b>Wait forever:</b> The printer waits until you load the correct paper.</li> <li>• <b>Override:</b> Print on a different size paper after a specified delay.</li> <li>• <b>Cancel:</b> Automatically cancel the print job after a specified delay.</li> <li>• If you select either the <b>Override</b> or <b>Cancel</b> item, the control panel prompts you for the number of seconds to delay.</li> </ul> |   |
|                  | Cancel   |  |   |
|                  | Override   |  |   |
| Print Quality    | Adjust Alignment                                     | Print Test Page  | Shifts the margin alignment to center the image on the page from top to bottom, and left to right. You can also align the image that is printed on the front with the image that is printed on the back. Allows for one-sided and two-sided printing alignment.<br><br><b>Print Test Page:</b> Prints a test page that shows the current registration settings. |
|                  |  |  |   |

**Table 2-39 System Setup menu (M501) (continued)**

| Menu item                    | Sub-menu item                   | Sub-menu item   | Description   |
|------------------------------|---------------------------------|---|---|
| Print Quality<br>(continued) | Adjust Alignment<br>(continued) | Adjust Tray 1   | <ul style="list-style-type: none"> <li><b>X1 Shift:</b> Registration of the image on the paper from side to side, as the paper lies in the tray. For duplex models, this side is the second side (back) of the paper.</li> <li><b>X2 Shift:</b> Registration of the image on the paper from side to side, as the paper lies in the tray, for the first side (front) of a duplexed page. This item appears only on duplex models.</li> </ul> <p><b>NOTE:</b> Set <b>X1 Shift</b> first.</p> <ul style="list-style-type: none"> <li><b>Y Shift:</b> Registration of the image on the paper from top to bottom as the paper lies in the tray.</li> </ul> |
|                              |                                 | Adjust Tray 2   | <ul style="list-style-type: none"> <li><b>X1 Shift:</b> Registration of the image on the paper from side to side, as the paper lies in the tray. For duplex models, this side is the second side (back) of the paper.</li> <li><b>X2 Shift:</b> Registration of the image on the paper from side to side, as the paper lies in the tray, for the first side (front) of a duplexed page. This item appears only on duplex models.</li> </ul> <p><b>NOTE:</b> Set <b>X1 Shift</b> first.</p> <ul style="list-style-type: none"> <li><b>Y Shift:</b> Registration of the image on the paper from top to bottom as the paper lies in the tray.</li> </ul> |
| Energy Settings              | Sleep/Auto Off After            | 5 minutes*  | Specifies the amount of idle time before the printer enters sleep mode.   |
|                              |                                 | 1 Minute  |   |
|                              |                                 | 1 Hour  |   |
| 30 Minutes                   |                                 |   |   |
| 15 Minutes                   |                                 |   |   |
| Shut Down After              | Never                           | Set the amount of elapsed time before the printer turns itself off.                             |   |
|                              | 30 Minutes                      |   |   |
|                              | 1 Hour                          |   |   |
|                              | 2 Hours                         |   |   |
|                              | 4 Hours                         |   |   |
|                              | 8 Hours                         |   |   |
|                              | 24 Hours                        |   |   |
| Delay Shut Down              | No Delay                        | Select whether or not the printer delays shutting down after the user presses the power button. |   |
|                              | When Ports Are Active           |   |   |
|                              |                                 |   | <p><b>No Delay:</b> The printer shuts down immediately.</p> <p><b>When Ports Are Active:</b> The printer waits until there is no I/O port activity before shutting down.</p>  |

**Table 2-39 System Setup menu (M501) (continued)**

| Menu item            | Sub-menu item      | Sub-menu item                   | Description  |
|----------------------|--------------------|---------------------------------|--|
| Supply Settings      | Black Cartridge    | Very Low Setting                | <p><b>Stop:</b> The printer stops printing until you replace the print cartridge.</p> <p><b>Prompt*:</b> The printer stops printing and prompts you to replace the print cartridge. You can acknowledge the prompt and continue printing.</p> <p><b>Continue:</b> The printer alerts you that the print cartridge is very low, but it continues printing.</p>  |
|                      |                    | Low Threshold                   | Enter a percentage for the low threshold setting.  |
|                      | Store Usage Data   |                                 | Select where to store the printer's usage data, either on the supplies or not on the supplies.   |
|                      | Cartridge Policy   | <p>Off</p> <p>Authorized HP</p> | Use the <b>Cartridge Policy</b> feature to allow only genuine HP cartridges to be used with this printer. When someone attempts to install a cartridge that is not a genuine HP cartridge, the printer control panel displays a message informing that the cartridge is unauthorized, and it displays information explaining how to proceed.   |
| Cartridge Protection | Protect Cartridges |                                 | <p>Use the <b>Cartridge Protection</b> feature to permanently associate toner cartridges with a specific printer so they cannot be used in other printers. When someone attempts to transfer a protected cartridge from the original printer into another printer, that printer will not print. The printer control panel displays a message informing that the cartridge is protected, and it displays information explaining how to proceed.</p> <p>After selecting <b>Protect Cartridges</b>, when the printer prompts to confirm, select <b>Continue</b> to enable the feature.</p> <p><b>NOTE:</b> After enabling cartridge protection for the printer, all subsequent toner cartridges installed in the printer are automatically and <i>permanently</i> protected. To avoid protecting a new cartridge, disable the feature before installing the new cartridge. To disable the feature, select <b>Cancel</b> rather than <b>Continue</b> in this step.</p> |
| Administration       | Product Security   | <p>On</p> <p>Off</p>            | Set the printer-security feature. If you select the <b>On</b> setting, you must set a password.  |
|                      | Manage Stored Jobs | Quick Copy                      | <p>The number of copies sent are printed immediately, and then that number of copies is printed anytime the stored job is retrieved.</p> <ul style="list-style-type: none"> <li>• Job type: temporary</li> <li>• Job deleted after printing: no</li> <li>• PIN protection: no</li> </ul>   |



**Table 2-39 System Setup menu (M501) (continued)**

| Menu item        | Sub-menu item | Sub-menu item  | Description   |
|------------------|---------------|----------------|---|
|                  |               | Proof and Hold | <p>The first copy is printed immediately. Additional copies are printed by using the printer control panel.</p> <p>For example, ten copies are sent to the printer. One copy prints immediately. Nine copies are printed anytime the stored job is retrieved. The job is deleted after all copies are printed.</p> <ul style="list-style-type: none"><li>• Job type: temporary</li><li>• Job deleted after printing: yes</li><li>• PIN protection: no</li></ul> |
|                  |               | Personal Job   | <p>The job is stored in the printer memory until it is printed, and then the job is automatically deleted.</p> <ul style="list-style-type: none"><li>• Job type: temporary</li><li>• Job deleted after printing: yes</li><li>• PIN protection: yes (optional)</li></ul>   |
|                  |               | Stored Job     | <p>The job is stored in the printer memory until it is printed, and then the job is manually deleted, or deleted after a predetermined retention time period.</p> <ul style="list-style-type: none"><li>• Job type: standard</li><li>• Job deleted after printing: no</li><li>• PIN protection: yes (optional)</li></ul>  |
| Inactivity Timer |               |                | Set the amount of time that passes before a given menu or item will close due to printer inactivity.  |
| Courier Font     | Regular*      |                | Set Courier font values.  |
|                  | Dark          |                |   |

## Service menu (M501)

In the following table, items that have an asterisk (\*) indicate the factory default setting.

**Table 2-40 Service menu (M501)**

| Menu item         | Sub-menu item         | Sub-menu item         | Description  |
|-------------------|-----------------------|-----------------------|--|
| Cleaning Page     |                       |                       | <p>Cleans the printer when specks or other marks appear on printed output. The cleaning process removes dust and excess toner from the paper path.</p> <p>When selected, the printer prompts you to load plain Letter or A4 paper in Tray 1. Touch the <b>OK</b> button to begin the cleaning process. Wait until the process completes. Discard the page that prints.</p> |
| USB Speed         | High*                 |                       | Sets the USB speed for the USB connection to the computer. For the printer 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 does not reflect the current operating speed of the printer.  |
|                   | Full                  |                       |  |
| Less Paper Curl   | On                    |                       | When printed pages are consistently curled, this option sets the printer to a mode that reduces curl.  |
|                   | Off*                  |                       |  |
| Archive Print     | On                    |                       | When printing pages that will be stored for a long time, this option sets the printer to a mode that reduces toner smearing and dusting.   |
|                   | Off*                  |                       |  |
| Firmware Datecode |                       |                       | Displays the current firmware datecode.  |
| Restore Defaults  |                       |                       | Sets all settings to the factory default values.   |
| Signature Check   | Cancel if Invalid*    |                       | Validates HP firmware downloads.   |
|                   | Prompt if Invalid     |                       |  |
| LaserJet Update   | Check for Updates Now | Install Now           | Check for printer firmware updates.  |
|                   |                       | Remind Me Later       |  |
|                   |                       | Skip this Update      |  |
|                   | Manage Updates        | Allow Downgrade       | Manage how the printer handles firmware updates.   |
|                   |                       | Check Automatically   |  |
|                   |                       | Prompt Before Install |  |
|                   |                       | Allow Updates         |  |
| SMTP Comm. Report |                       |                       | The <b>SMTP Communication Report</b> contains the SMTP communication to and from the printer from the last Scan to E-mail job.   |

## Network Setup menu (M501)

In the following table, items that have an asterisk (\*) indicate the factory default setting.

**Table 2-41 Network Setup menu (M501)**

| Menu item          | Sub-menu item       | Description  |
|--------------------|---------------------|--|
| Google Cloud Print | Print Claim Sheet   | Press OK to send printer capabilities and model number to Google and print a sheet of registration instructions from Google.   |
|                    | Proxy Settings      | Enter proxy information.<br><br>Proxy Server<br><br>Proxy Port<br><br>Username<br><br>Password   |
| IPv4 Config Method | DHCP                | The printer automatically configures all the TCP/IP settings via DHCP, BootP or AutoIP.<br><br><b>Manual:</b> You can manually configure the IP address, subnet mask, and default gateway. The control panel prompts you to specify values for each address section. As each address is completed, the printer prompts for address confirmation before moving to the next one. After all three addresses are set, the network reinitializes. |
|                    | BOOTP               |  |
|                    | Auto IP             |  |
|                    | Manual              |  |
| Auto Crossover     | On                  | This item is used when you are connecting the printer directly to a personal computer using an Ethernet cable (you might have to set this to <b>On</b> or <b>Off</b> depending on the computer being used).  |
|                    | Off                 |  |
| Network Services   | IPv4                | Enable or disable the IPv4 and IPv6 protocols. By default, each protocol is enabled.   |
|                    | IPv6                |  |
| Link Speed         | Automatic*          | Sets the link speed manually if needed.  |
|                    | 10T Full            | After setting the link speed, the printer automatically restarts.  |
|                    | 10T Half            |  |
|                    | 100TX Full          |  |
|                    | 100TX Half          |  |
|                    | 1000T Full          |  |
| Security           | Product Security    | Enable printer security. If turned on, the printer prompts you to set a password. After it is set, the password will be needed to change printer settings.   |
|                    | HTTPS Enforcement   | An encrypted communication and secure identification of a network web server. Only enabled if the printer is password protected.   |
|                    | Firewall            | Enable, disable, or reset the printer firewall.  |
|                    | Access Control List | Enable, disable, or reset the network access control list.   |
|                    | Reset All Security  | Reset the security settings to the factory-set default values.   |
| Restore Defaults   |                     | Resets all network configurations to their factory defaults.   |

## Quick Forms menu (M501)

**Table 2-42 Quick Forms menu**

| <b>Menu item</b> | <b>Sub-menu item</b> | <b>Description</b>   |
|------------------|----------------------|--|
| Notebook Paper   | Narrow Rule          | Prints pages that have preprinted lines.                   |
|                  | Wide Rule            |  |
|                  | Child Rule           |  |
| Graph Paper      | 1/8 inch             | Prints pages that have preprinted graph lines.             |
|                  | 5 mm                 |  |
| Checklist        | 1-Column             | Prints pages that have preprinted lines with check boxes.  |
|                  | 2-Column             |  |
| Music Paper      | Portrait             | Prints pages that have preprinted lines for writing music. |
|                  | Landscape            |  |

## Function specific menus (M501)

- [Apps \(M501\)](#)
- [Jobs \(M501\)](#)
- [Supplies Status \(M501\)](#)

### Apps (M501)

Use the [Apps](#) menu to install HP Web Services applications.

### Jobs (M501)

Use the [Jobs](#) menu to manage stored jobs. Requires a USB 2.0 storage device with at least 16 GB free space to be installed in the rear host USB port.

### Supplies Status (M501)

Use the [Supplies Status](#) menu to print a supplies status page. Press [Report](#).

## Control-panel menus (M506/M527)

### Administration menu (M506/M527)

You can perform basic printer setup by using the [Administration](#) menu. Use the HP Embedded Web Server for more advanced printer setup. To open the HP Embedded Web Server, enter the printer IP address or host name in the address bar of a Web browser.



**NOTE:** Where applicable, the M527 printer displays a [View](#) button.

- [Reports menu \(M506/M527\)](#)
- [General Settings menu \(M506/M527\)](#)
- [Copy Settings menu \(M527\)](#)
- [Scan/Digital Send Settings menu \(M527\)](#)
- [Fax Settings menu \(M527\)](#)
- [General Print Settings menu \(M506/M527\)](#)
- [Default Print Options menu \(M506/M527\)](#)
- [Display Settings menu \(M506/M527\)](#)
- [Manage Supplies menu \(M506/M527\)](#)
- [Manage Trays menu \(M506/M527\)](#)
- [Network Settings menu \(M506/M527\)](#)
- [Troubleshooting menu \(M506/M527\)](#)

### Reports menu (M506/M527)

**To display:** At the printer control panel, select the [Administration](#) menu, and then select the [Reports](#) menu.



**NOTE:** For the M506x and M527 models, use the [Print](#) button to print the report.

For all other models, use the up arrow ▲ button or down arrow ▼ button to highlight the report, and then press the [OK](#) button. Then use the up arrow ▲ button to highlight [Print](#), and then press the [OK](#) button to print the report.

In the following table, asterisks (\*) indicate the factory default setting.

**Table 2-43 Reports menu (M506/M527)**

| First level                | Second level            | Values                | Description  |
|----------------------------|-------------------------|-----------------------|--|
| Configuration/Status Pages | Administration Menu Map | <a href="#">Print</a> | Shows a map of the entire <a href="#">Administration</a> menu and the selected values for each setting.  |
|                            | Current Settings Page   | <a href="#">Print</a> | Print a summary of the current settings for the printer. This might be helpful if you plan to make changes and need a record of the present configuration. |

**Table 2-43 Reports menu (M506/M527) (continued)**

| First level                    | Second level             | Values | Description   |
|--------------------------------|--------------------------|--------|---|
|                                | Configuration Page       | Print  | Shows the printer settings and installed accessories.   |
|                                | Supplies Status Page     | Print  | Shows the approximate remaining life for the supplies; reports statistics on total number of pages and jobs processed, serial number, page counts, and maintenance information.<br><br>HP provides approximations of the remaining life for the supplies as a customer convenience. The actual remaining supply levels might be different than the approximations provided. |
|                                | Usage Page               | Print  | Shows a count of all paper sizes that have passed through the printer; lists whether they were simplex or duplex, and reports the page count.   |
|                                | File Directory Page      | Print  | Shows the file name and folder name for files that are stored in the printer memory.  |
|                                | Web Services Status Page | Print  | Shows the detected Web Services for the printer.  |
| Fax Reports<br>Fax models only | Fax Activity Log         | Print  | Contains a list of the faxes that have been sent from or received by this printer.  |
|                                | Billing Codes Report     | Print  | Provides a list of billing codes that have been used for outgoing faxes. This report shows how many sent faxes were billed to each code.  |
|                                | Blocked Fax List         | Print  | A list of phone numbers that are blocked from sending faxes to this printer.  |
|                                | Speed Dial List          | Print  | Shows the speed dials that have been set up for this printer.   |
|                                | Fax Call Report          | Print  | A detailed report of the last fax operation, either sent or received.   |
| Other Pages                    | PCL Font List            | Print  | Prints the available PCL fonts.   |
|                                | PS Font List             | Print  | Prints the available PS fonts.  |

## General Settings menu (M506/M527)

**To display:** At the printer control panel, select the [Administration](#) menu, and then select the [General Settings](#) menu.

In the following table, asterisks (\*) indicate the factory default setting.

**Table 2-44 General Settings menu (M506/M527)**

| First level        | Second level                    | Third level                 | Fourth level                         | Values                                  | Description  |  |   |
|--------------------|---------------------------------|-----------------------------|--------------------------------------|---|--|--|---|
| Date/Time Settings | Date/Time Format                | Date Format                 |                                      | DD/MMM/YYYY                             | Use the <a href="#">Date/Time Settings</a> menu to specify the date and time and to configure date/time settings.  |  |   |
|                    |                                 |                             |                                      | MMM/DD/YYYY                             |  |  |   |
|                    |                                 | YYYY/MMM/DD                 |                                      |   |  |  |   |
|                    |                                 | Time Format                 |                                      | 12 hour (AM/PM)                         | Select the format that the printer uses to show the date and time, for example 12-hour format or 24-hour format.   |  |   |
|                    |                                 |                             | 24 hours                             |   |  |  |   |
|                    | Date/Time                       | Time Zone                   |                                      | Select the time zone from a list.       |  |  |   |
|                    |                                 | Date                        |                                      | Select the date from a pop-up calendar. |  |  |   |
|                    |                                 | Time                        |                                      | Select the time from a pop-up keypad.   |  |  |   |
|                    |                                 | Adjust for Daylight Savings |                                      | Checkbox                                | If you are in an area that uses daylight savings time, select the <a href="#">Adjust for Daylight Savings</a> box. |  |   |
|                    | Energy Settings<br>M527 printer | Sleep Schedule              | A list of scheduled events displays. |   | + (Add)  | Use to configure the printer to automatically wake up or go to sleep at specific times on specific days. Using this feature saves energy.<br><br><b>NOTE:</b> You must configure the date and time settings before you can use this feature. |   |
|                    |                                 |                             |                                      | Edit                                    |  |  |   |
|                    |                                 |                             |                                      | Delete                                  |  |  |   |
|                    |                                 |                             |                                      | Event Type                              | Wake   |  | Select whether to add or edit a <a href="#">Wake</a> event or a <a href="#">Sleep</a> event, and then select the time and the days for the wake or sleep event. |
|                    |                                 |                             |                                      |   | Sleep  |  |   |
|                    |                                 |                             |                                      | Event Time                              |  |  |   |
|                    | Event Days                      |                             | Select days of the week from a list. |   |  |  |   |



**Table 2-44 General Settings menu (M506/M527) (continued)**

| First level                     | Second level                 | Third level               | Fourth level | Values   | Description  |
|---------------------------------|------------------------------|---------------------------|--------------|--|--|
|                                 | Sleep Timer Settings         | Sleep Mode/Auto Off After |              | Range: 1 to 120 minutes<br>Default = 60 minutes  | Set the number of minutes after which the printer enters Sleep or Auto Off mode. Use the arrow buttons on the control panel to increase or decrease the number of minutes. |
|                                 | Wake/Auto On to These Events |                           |              | All Events*<br>Network port<br>Power button only |  |
| Energy Settings<br>M506 printer | Sleep Timer Settings         | Sleep/Auto Off Timer      |              | Enabled*<br>Disabled                             | Enable or disable the printer sleep or auto off function.  |
|                                 |                              | Sleep Mode/Auto Off After |              | Range: 1 to 120 minutes<br>Default = 60 minutes  | Set the number of minutes after which the printer enters Sleep or Auto Off mode. Use the arrow buttons on the control panel to increase or decrease the number of minutes. |

**Table 2-44 General Settings menu (M506/M527) (continued)**

| First level   | Second level       | Third level     | Fourth level    | Values | Description  |
|---------------|--------------------|-----------------|-----------------|--------|--|
| Print Quality | Image Registration | Adjust Tray <X> | Print Test Page |        | <p>Shift the margin alignment to center the image on the page from top to bottom and from left to right. You can also align the image on the front with the image printed on the back.</p> <p>Use the <a href="#">Adjust Tray &lt;X&gt;</a> menu to adjust the registration settings for each tray. Before adjusting these values, print a registration test page. It provides alignment guides in the X and Y directions so you can determine which adjustments are necessary. You can adjust values for X1 Shift, X2 Shift, Y1 Shift, and Y2 Shift.</p> <p>Use the <a href="#">Print Test Page</a> option to print a page to test the image registration. It provides alignment guides in the X and Y directions so you can determine which adjustments are necessary.</p> |

**Table 2-44 General Settings menu (M506/M527) (continued)**

| First level | Second level       | Third level  | Fourth level    | Values   | Description  |
|-------------|--------------------|--|-----------------|--|--|
|             |                    |  | X1 Shift        | -5.00 mm to 5.00 mm                                  | <p>The direction that is perpendicular to the way the paper passes through the printer is referred to as X. This is also known as the scan direction. X1 is the scan direction for a single-sided page or for the second side of a two-sided page. X2 is the scan direction for the first side of a two-sided page.</p> <p>The direction that the paper feeds through the printer is referred to as Y. Y1 is the feed direction for a single-sided page or for the second side of a two-sided page. Y2 is the feed direction for the first side of a two-sided page.</p> |
|             |                    |  | Y1 Shift        |  |  |
|             |                    |  | X2 Shift        |  |  |
|             |                    |  | Y2 Shift        |  |  |
|             | Adjust Paper Types | Select from a list of paper types that the printer supports. The available options are the same for each paper type. | Print Mode      | Select from a list of print modes.                   | Changing the <b>Print Mode</b> setting is usually the first thing to try to resolve print-quality problems. Problems can include toner not sticking well to the page, a faint image of the page repeated on the same or following page, incorrect gloss level, etc.  |
|             |                    |  | Resistance Mode | Normal<br>Up<br>Down                                 | Use this setting to correct print quality problems in low-humidity environments and highly resistive paper. Use the <b>Up</b> option to solve print quality problems that are related to poor toner-transfer. Use the <b>Down</b> option in the event that small, “pin-hole” defects occur.  |
|             |                    |  | Paper Curl Mode | Normal*<br>Alternate 1<br>Alternate 2<br>Alternate 3 | Use this setting to reduce paper curl in print jobs.   |

**Table 2-44 General Settings menu (M506/M527) (continued)**

| First level | Second level  | Third level              | Fourth level | Values  | Description   |
|-------------|---------------|--------------------------|--------------|---|---|
|             | Optimize      | Environment<br>M527 only |              | Normal*<br>Low Temp   | Enable if the printer is operating in a low temperature environment and you are having problems with print quality such as blisters in the printed image. |
|             |               | Line Detail<br>M506 only |              | Normal*<br>Alternate 1<br>Off   | Use this setting if you have scattered lines in printed pages.  |
|             |               | Restore Optimize         |              |   | Use to return all the settings in the Optimize menu to the factory-default values.  |
|             | Resolution    |                          |              | 300 x 300 dpi* (M527 only)<br>600 x 600 dpi*<br>FastRes 1200<br>ProRes 1200     | Sets the resolution at which the printer prints.  |
|             | REt           |                          |              | On<br>Off   | Use this setting to enable or disable Resolution Enhancement technology (REt), which produces smoother angles, curves, and edges.                         |
|             | Economode     |                          |              | On<br>Off   | Use this setting to enable or disable the Economode feature, which conserves toner.   |
|             | Toner density |                          |              | Lighter print (M527)<br>Darker print (M527)<br>Range: 1 to 5 (M506; default: 3) |   |

**Table 2-44 General Settings menu (M506/M527) (continued)**

| First level        | Second level                | Third level | Fourth level | Values                                       | Description   |
|--------------------|-----------------------------|-------------|--------------|--|---|
| Jam Recovery       |                             |             |              | Auto*<br>Off<br>On                           | <p>This printer provides a jam recovery feature that reprints jammed pages. Select one of the following options:</p> <p><b>Auto:</b> The printer attempts to reprint jammed pages when sufficient memory is available. This is the default setting.</p> <p><b>Off:</b> The printer does not attempt to reprint jammed pages. Because no memory is used to store the most recent pages, performance is optimal.</p> <p><b>NOTE:</b> When using this option, if the printer runs out of paper and the job is being printed on both sides, some pages can be lost.</p> <p><b>On:</b> The printer always reprints jammed pages. Additional memory is allocated to store the last few pages printed. This might cause overall performance to suffer.</p> |
| Auto Recovery      |                             |             |              | Enabled<br>Disabled*                         | <p>The printer attempts to reprint jammed pages when sufficient memory is available. This is the default setting.</p>   |
| Manage Stored Jobs | Sort Stored Jobs By         |             |              | Job Name*<br>Date                            | <p>This option allows you list the jobs either Alphabetically or Chronologically.</p>   |
|                    | Quick Copy Job Held Timeout |             |              | Off*<br>1 Hour<br>4 Hours<br>1 Day<br>1 Week | <p>Sets a maximum storage-time limit for stored Quick Copy and Proof and Hold jobs. If a stored job is not printed during this period, it is deleted.</p>   |

**Table 2-44 General Settings menu (M506/M527) (continued)**

| First level              | Second level                 | Third level | Fourth level | Values   | Description   |
|--------------------------|------------------------------|-------------|--------------|--|---|
|                          | Quick Copy Job Storage Limit |             |              | 1-100<br>Default = 32  | Configure global settings for jobs that are stored in the printer memory.<br><br>The <a href="#">Quick Copy Job Storage Limit</a> feature specifies the number of Quick Copy and Proof and Hold jobs that can be stored on the printer. The maximum allowed value is 100. |
|                          | Default Folder Name          |             |              |  | Type the name for the stored jobs folder that is accessible to all users.   |
| Enable Retrieve from USB |                              |             |              | Enabled<br>Disabled*   | Enables the printer to open a file from a USB drive.  |
| Hold Off Print Job       |                              |             |              | Enabled*<br>Disabled   | Enable this feature if you want to prevent print jobs from starting while a user is initiating a copy job from the control panel. Held print jobs start printing after the copy job is finished, provided that no other copy job is in the print queue.                   |
| Restore Factory Settings |                              |             |              | <a href="#">Address Book</a> (M527 only)<br><a href="#">Copy</a> (M527 only)<br><a href="#">Digital Send</a> (M527 only)<br><a href="#">E-mail</a> (M527 only)<br><a href="#">Fax</a> (M527 only)<br><a href="#">General</a> (M527 only)<br><a href="#">Print</a> (M527 only)<br><a href="#">Security</a> (M527 only)<br><a href="#">Cancel</a> (M506 only)<br><a href="#">Reset</a> (M506 only) | Use to restore all printer settings to their factory defaults.  |

## Copy Settings menu (M527)

**To display:** At the printer control panel, select the [Administration](#) menu, and then select the [Copy Settings](#) menu.

In the following table, asterisks (\*) indicate the factory default setting.

**Table 2-45 Copy Settings menu (M527)**

| First level | Second level | Third level | Values  | Description   |
|-------------|--------------|-------------|---|---|
| Copies      |              |             | 1–9999<br>Default = 1   | Configure the default options for copy jobs. If the user does not specify the job options when creating the job, the default options are used.  |
| Sides       |              |             | 1-sided original, 1-sided output*<br>2-sided original, 2-sided output<br>1-sided original, 2-sided output<br>2-sided original, 1-sided output | Use to indicate whether the original document is printed on one or both sides, and whether the copies should be printed on one or both sides. For example, select 1-sided original, 2-sided output when the original is printed on one side, but you want to make two-sided copies. |
|             | Orientation  | Portrait*   |   | Specify portrait or landscape orientation and select the way the second sides are printed.<br><br>Portrait orientation means the short edge of the page is along the top.   |
|             |              | Landscape   |   | Landscape orientation means the long edge of the page is along the top.   |

**Table 2-45 Copy Settings menu (M527) (continued)**

| First level | Second level | Third level    | Values  | Description   |
|-------------|--------------|----------------|---|---|
|             |              | 2-Sided Format | <p>Book-style</p> <p>Flip-style</p> <p>Book-style original; Flip-style copy</p> <p>Flip-style original; Book-style copy</p> | <p>If you are making two-sided copies, select a 2-sided format option.</p> <p><b>Book-style:</b> The back side of the original is printed right-side-up, and the back side of the copy is printed the same way. Use this option for originals and copies that are bound along the left edge.</p> <p><b>Flip-style:</b> The back side of the original is printed upside-down, and the back side of the copy is printed the same way. Use this option for originals and copies that are to be bound along the top edge.</p> <p><b>Book-style original; Flip-style copy:</b> The back side of the original is printed right-side-up, but the back side of the copy is printed upside-down. Use this option when the original is bound along the left edge, but you want the copies to be bound along the top edge.</p> <p><b>Flip-style original; Book-style copy:</b> The back side of the original is printed upside-down, but the back side of the copy is printed right-side-up. Use this option when the original is bound along the top edge, but you want the copies to be bound along the left edge.</p> |



**Table 2-45 Copy Settings menu (M527) (continued)**

| First level      | Second level         | Third level | Values  | Description  |
|------------------|----------------------|-------------|---|--|
| Collate          |                      |             | <p>Collate on (Sets in page order)*</p> <p>Collate off (Pages grouped)</p>                                    | <p>If you are making more than one copy, select the <a href="#">Collate on (Sets in page order)</a> option to assemble the pages in the correct order in each set of copies.</p> <p>Select the <a href="#">Collate off (Pages grouped)</a> option to group the same pages together. For example, if you are making five copies of an original document that has two pages, all five first pages would be grouped together and all five second pages would be grouped together.</p> |
| Reduce/Enlarge   | Schedule             |             | <p>Auto*</p> <p>100%</p> <p>75%</p> <p>50%</p> <p>125%</p> <p>150%</p> <p>200%</p> <p>Range X-Y (25-400%)</p> | <p>Use to scale the size of the document up or down. Select one of the predefined percentages, or select the <a href="#">Schedule</a> field and type a percentage between 25 and 400. The <a href="#">Auto</a> option automatically scales the image to fit the paper size in the tray.</p> <p><b>NOTE:</b> To reduce the image, select a scaling percentage that is less than 100. To enlarge the image, select a scaling percentage that is greater than 100.</p>                |
|                  | Auto Include Margins |             |   | <p>The printer reduces the image slightly to fit the entire scanned image within the printable area on the page.</p>   |
| Paper Selection  |                      |             | <p>Manually feed</p> <p>Automatic</p> <p>Tray 1: [Type], [Size]</p> <p>Tray &lt;X&gt;: [Type], [Size]</p>     | <p>For the best color and image quality, select the appropriate paper type from the control panel menu or from the print driver.</p>   |
| Image Adjustment | Darkness             |             | <p>Select a value using the slide bar, or touch <a href="#">Automatic</a>.</p>                                | <p>Use to improve the overall quality of the copy.</p> <p>Adjust the <a href="#">Darkness</a> setting to increase or decrease the amount of white and black in the colors.</p>   |

**Table 2-45 Copy Settings menu (M527) (continued)**

| First level         | Second level       | Third level | Values   | Description   |
|---------------------|--------------------|-------------|--|---|
|                     | Contrast           |             | Select a value using the slide bar, or touch <a href="#">Automatic</a> . | Adjust the <a href="#">Contrast</a> setting to increase or decrease the difference between the lightest and darkest color on the page.  |
|                     | Background Cleanup |             | Select a value using the slide bar, or touch <a href="#">Automatic</a> . | Adjust the <a href="#">Background Cleanup</a> setting if you are having trouble copying a faint image.  |
|                     | Sharpness          |             | Select a value using the slide bar, or touch <a href="#">Automatic</a> . | Adjust the <a href="#">Sharpness</a> setting to clarify or soften the image. For example, increasing the sharpness could make text appear crisper, but decreasing it could make photographs appear smoother.  |
|                     | Default            |             |  | Select this to make the selected <a href="#">Image Adjustment</a> setting the default value.  |
| Content Orientation | Orientation        |             | <a href="#">Portrait*</a><br><a href="#">Landscape</a>                   | For some features to work correctly, you must specify the way the content of the original document is placed on the page. Portrait orientation means the short edge of the page is along the top. Landscape orientation means the long edge of the page is along the top. |

**Table 2-45 Copy Settings menu (M527) (continued)**

| First level           | Second level     | Third level | Values   | Description   |
|-----------------------|------------------|-------------|--|---|
|                       | 2-Sided Format   |             | Book-style<br>Flip-style<br>Book-style original; Flip-style copy<br>Flip-style original; Book-style copy | <p>If you are making two-sided copies, select a 2-sided format option.</p> <p><b>Book-style:</b> The back side of the original is printed right-side-up, and the back side of the copy is printed the same way. Use this option for originals and copies that are bound along the left edge.</p> <p><b>Flip-style:</b> The back side of the original is printed upside-down, and the back side of the copy is printed the same way. Use this option for originals and copies that are to be bound along the top edge.</p> <p><b>Book-style original; Flip-style copy:</b> The back side of the original is printed right-side-up, but the back side of the copy is printed upside-down. Use this option when the original is bound along the left edge, but you want the copies to be bound along the top edge.</p> <p><b>Flip-style original; Book-style copy:</b> The back side of the original is printed upside-down, but the back side of the copy is printed right-side-up. Use this option when the original is bound along the top edge, but you want the copies to be bound along the left edge.</p> |
|                       |                  |             |  | <p>Automatic</p> <p>Standard Bin Correct Order</p> <p>Rear Bin Straightest Path</p>   |
| Optimize Text/Picture | Manually adjust* |             | Optimize For slider  | Use this setting to optimize the output for a particular type of content.   |

**Table 2-45 Copy Settings menu (M527) (continued)**

| First level     | Second level     | Third level | Values   | Description  |
|-----------------|------------------|-------------|--|--|
|                 |                  |             | Text   | <p><b>Manually adjust:</b> Use to manually optimize the setting for each document.</p> <p><b>Printed picture:</b> Use for line drawings and preprinted images, such as magazine clippings or pages from books. If you see bands of irregular color or intensity on copies, try selecting the <b>Printed picture</b> setting to improve the quality.</p> <p><b>Photograph:</b> Use for photographic prints.</p> |
|                 |                  |             | Printed picture  |  |
|                 |                  |             | Photograph   |  |
| Pages per Sheet |                  |             | One (1)  | <p>Copies multiple pages onto one sheet of paper.</p> <p><b>NOTE:</b> Before using this screen, use the <b>Content Orientation</b> screen to describe the original document orientation.</p>   |
|                 |                  |             | Two (2)  |  |
|                 |                  |             | Four (4)   |  |
|                 | Page Order       |             | Right, then down                                       | <p>If you are printing four pages per sheet, select the page order. To print the pages in rows, select the <b>Right, then down</b> option. To print the pages in columns, select the <b>Down, then right</b> option.</p>   |
|                 |                  |             | Down, then right                                       |  |
|                 | Add Page Borders |             |  | <p>If you are printing two or more pages per sheet and you want to print a border around each page, select the <b>Add Page Borders</b> option.</p>   |
| Original Size   |                  |             | Select from a list of sizes that the printer supports. | Describes the page size of the original document.  |
| Booklet Format  | Booklet          |             | Booklet off  | <p>Use to copy two or more pages onto one sheet of paper so you can fold the sheets in the center to form a booklet. The printer arranges the pages in the correct order. For example, if the original document has eight pages, the printer prints pages 1 and 8 on the same sheet.</p>   |
|                 |                  |             | Booklet on   |  |

**Table 2-45 Copy Settings menu (M527) (continued)**

| First level  | Second level         | Third level | Values                                       | Description   |
|--------------|----------------------|-------------|--|---|
|              | Original Sides       |             | 1-sided<br>2-sided                           | Select the <b>1-sided</b> option if the original document is printed on only one side.<br><br>Select the <b>2-sided</b> option if the original document is printed on two sides.  |
|              | Borders on Each Page |             |  | To print a border around each page, select the <b>Borders on Each Page</b> option.  |
| Edge-to-Edge |                      |             | Normal (recommended)*<br>Edge-to-Edge output | Use to avoid shadows that can appear along the edges of copies when the original document is printed close to the edges. Combine with the <b>Reduce/Enlarge</b> feature to ensure that the entire page is printed on the copies. When the <b>Edge-to-Edge</b> feature is turned on, the printer minimizes margins and prints as close to the edge of the paper as possible. |
| Job Build    |                      |             | Job Build off*<br>Job Build on               | Use to combine several original documents into one job. Also use this feature to scan an original document that has more pages than the document feeder can accommodate at one time. The printer temporarily saves all the scanned images. After you have scanned all the pages for the job, touch the <b>Finish</b> option to finish the job.                              |

## Scan/Digital Send Settings menu (M527)

**To display:** At the printer control panel, select the [Administration](#) menu, and then select the [Scan/Digital Send Settings](#) menu.

In the following table, asterisks (\*) indicate the factory default setting.

**Table 2-46 Scan/Digital Send Settings menu (M527)**

| First level   | Second level                     | Third level         | Fourth level | Values | Description   |
|---|----------------------------------|---------------------|--------------|--------|---|
| E-mail Settings   | E-mail Setup                     | E-mail Setup Wizard |              |        | Use to configure settings that apply to sending documents through email or saving documents to a folder on the network or on a USB multi-drive.   |
| Default Save to Network Folder Options  | <b>NOTE:</b> Email Settings only |                     |              |        |   |
| Default Save to USB Options   |                                  |                     |              |        |   |
| <b>NOTE:</b> The same options are available for each of these features, except where noted. |                                  |                     |              |        | The <a href="#">E-mail Setup Wizard</a> feature configures the printer to send scanned images as email attachments. To open the printer HP Embedded Web Server and set up the email notification server, enter the printer IP address into a Web browser. |

**Table 2-46 Scan/Digital Send Settings menu (M527) (continued)**

| First level | Second level        | Third level       | Fourth level | Values   | Description   |
|-------------|---------------------|-------------------|--------------|--|---|
|             | Default Job Options | Image Preview     |              | <a href="#">Make optional*</a><br><a href="#">Require preview</a><br><a href="#">Disable preview</a> | <p>Defines the default job options for each function. If you do not specify the job options when creating the job, the default options are used. For complete setup, go to the HP Embedded Web Server by typing the IP address of the printer into a Web browser.</p> <p>Use the <a href="#">Image Preview</a> feature to scan a document and display a preview before completing the job. Select whether this feature is available on the printer.</p> <p><a href="#">Make optional:</a> The feature is optional, depending on the user who is signed in.</p> <p><a href="#">Require preview</a><br/>Previews are required for all users.</p> <p><a href="#">Disable preview:</a><br/>Previews are disabled for all users.</p> |
|             |                     | Default File Name |              |  | <p>The printer is shipped with a factory default file name of [Untitled] for any scanned files that are sent or saved. Use this feature to specify a different default file name. If you are saving a file to a network folder or USB storage device and a file with the default file name already exists, a number is appended to the file name, for example, [Untitled]001.</p>   |

**Table 2-46 Scan/Digital Send Settings menu (M527) (continued)**

| First level | Second level | Third level        | Fourth level | Values                            | Description   |
|-------------|--------------|--------------------|--------------|-----------------------------------|---|
|             |              | Document File Type |              | Select from a list of file types. | <p><b>PDF</b> provides the best overall image and text quality.</p> <p><b>JPEG</b> is a good choice for most graphics. Most computers have a browser that can view .JPEG files. This file type produces one file per page.</p> <p><b>TIFF</b> is a standard file format that many graphics programs support. This file type produces one file per page.</p> <p><b>MTIFF</b>: stands for multi-page TIFF. This file type saves multiple scanned pages in a single file.</p> <p><b>XPS</b> (XML Paper Specification) creates an XAML file that preserves the original formatting of the document and supports color graphics and embedded fonts.</p> <p><b>NOTE:</b> OCR file types are not supported on this printer unless attached to DSS.</p> |



**Table 2-46 Scan/Digital Send Settings menu (M527) (continued)**

| First level | Second level | Third level           | Fourth level | Values  | Description  |
|-------------|--------------|-----------------------|--------------|---|--|
|             |              | Optimize Text/Picture |              | Manually adjust*<br>Text<br>Printed picture<br>Photograph | <p>Use to optimize the output for a particular type of content. You can optimize the output for text, printed pictures, or a mixture.</p> <p><b>Manually adjust:</b> Use to manually optimize the setting for text or for pictures.</p> <p><b>Text:</b> Use to optimize the text portion of the copy when text and/or pictures are on the original.</p> <p><b>Printed picture:</b> Use for line drawings and preprinted images, such as magazine clippings or pages from books.</p> <p><b>Photograph:</b> Best suited for making copies of printed pictures.</p> |
|             |              | Output Quality        |              | High (large file)<br>Medium*<br>Low (small file)          | <p>Use to select the quality for the output. Higher-quality images require a larger file size than lower-quality images. Larger files take more time to send, and some recipients might have trouble receiving larger files.</p>   |
|             |              | Original Sides        |              | 1-sided<br>2-sided  | <p>Use to describe the layout for each side of the original document. First select whether the original document is printed on one side or both sides. Then touch the <b>Orientation</b> setting to indicate whether the original has portrait or landscape orientation. If it is printed on both sides, also select the 2-sided format that matches the original document.</p>  |

**Table 2-46 Scan/Digital Send Settings menu (M527) (continued)**

| First level | Second level | Third level | Fourth level   | Values   | Description  |
|-------------|--------------|-------------|----------------|--|--|
|             |              |             | Orientation    | Automatically detect<br>Portrait*<br>Landscape | For some features to work correctly, you must specify the way the content of the original document is placed on the page. Portrait orientation means the short edge of the page is along the top. Landscape orientation means the long edge of the page is along the top. In the <b>Orientation</b> area, select whether the original document has a portrait or landscape orientation.  |
|             |              |             | 2-Sided Format | Book-style<br>Flip-style                       | <p><b>Book-style:</b> The back side of the original is printed right-side-up, and the back side of the copy is printed the same way. Use this option for originals and copies that are bound along the left edge.</p> <p><b>Flip-style:</b> The back side of the original is printed upside-down, and the back side of the copy is printed the same way. Use this option for originals and copies that are to be bound along the top edge.</p> |

**Table 2-46 Scan/Digital Send Settings menu (M527) (continued)**

| First level | Second level | Third level         | Fourth level   | Values  | Description  |
|-------------|--------------|---------------------|----------------|---|--|
|             |              | Resolution          |                | 400 dpi<br>300 dpi<br>200 dpi<br>150 dpi*<br>75 dpi | Sets the resolution for sent documents. Higher resolution images have more dots per inch (dpi), so they show more detail. Lower resolution images have fewer dots per inch and show less detail, but the file size is smaller. Some file types, for example a file that will be processed with OCR, require a specific resolution. When these file types are selected, the <a href="#">Resolution</a> setting might automatically change to a valid value. |
|             |              | Content Orientation | Orientation    | Auto Detect<br>Portrait*<br>Landscape               | For some features to work correctly, you must specify the way the content of the original document is placed on the page. Portrait orientation means the short edge of the page is along the top. Landscape orientation means the long edge of the page is along the top. In the Orientation area, select whether the original document has a portrait or landscape orientation.   |
|             |              |                     | 2-Sided Format | Book-style*<br>Flip-style                           | Use to configure the default style for 2-sided print jobs. If the <a href="#">Book-style</a> option is selected, the back side of the page is printed the right way up. This option is for print jobs that are bound along the left edge. If the <a href="#">Flip-style</a> option is selected, the back side of the page is printed upside-down. This option is for print jobs that are bound along the top edge.   |

**Table 2-46 Scan/Digital Send Settings menu (M527) (continued)**

| First level | Second level | Third level   | Fourth level      | Values  | Description   |
|-------------|--------------|---------------|-------------------|---|---|
|             |              | Color/Black   |                   | Automatically detect*<br>Color<br>Black/Gray<br>Black                   | Use to enable or disable color scanning.<br><br>Automatically detect: Automatically scans documents in color if at least one page has color.<br><br>Color: Scans documents in color.<br><br>Black/Gray: Scans documents in grayscale.<br><br>Black: Scans documents in black and white with a compressed file size. |
|             |              | Original Size |                   | Select from a list of supported sizes.                                  | Use to describe the page size of the original document.   |
|             |              | Notification  |                   | Do not notify*<br>Notify when job completes<br>Notify only if job fails | Configure to receive notification about the status of a sent document.<br><br>Do not notify: Turns off this feature.<br><br>Notify when job completes: Select to receive notification for this job only.  |
|             |              |               |                   | Print<br>E-mail   | Notify only if job fails: Select to receive notification only if the job is not sent successfully.<br><br>Print: Select to print the notification at this printer.  |
|             |              |               | Include Thumbnail |   | <b>NOTE:</b> When sending an analog fax, select <b>Include Thumbnail</b> to receive a thumbnail image of the first page of the fax in your notification.  |

**Table 2-46 Scan/Digital Send Settings menu (M527) (continued)**

| First level | Second level | Third level      | Fourth level                | Values | Description   |
|-------------|--------------|------------------|-----------------------------|--------|---|
|             |              |                  | Notification E-mail address |        | <b>E-mail:</b> Select to receive the notification in an email. Touch the text box following <b>Email Address</b> , and then type the email address for the notification.                            |
|             |              | Image Adjustment | Darkness                    |        | Use to improve the overall quality of the copy.<br><br>Adjust the <b>Darkness</b> setting to increase or decrease the amount of white and black in the colors.                                      |
|             |              |                  | Contrast                    |        | Adjust the <b>Contrast</b> setting to increase or decrease the difference between the lightest and darkest color on the page.   |
|             |              |                  | Background Cleanup          |        | Adjust the <b>Background Cleanup</b> setting if you are having trouble copying a faint image.   |
|             |              |                  | Sharpness                   |        | Adjust the <b>Sharpness</b> setting to clarify or soften the image. For example, increasing the sharpness could make text appear crisper, but decreasing it could make photographs appear smoother. |
|             |              |                  | Automatic Tone              |        |   |
|             |              |                  | Default                     |        | Select this to make the selected <b>Image Adjustment</b> setting the default value.   |

**Table 2-46 Scan/Digital Send Settings menu (M527) (continued)**

| First level | Second level | Third level            | Fourth level | Values  | Description  |
|-------------|--------------|------------------------|--------------|---|--|
|             |              | Job Build              |              | Job Build off*<br>Job Build on                    | Use to combine several original documents into one job. Also use to scan an original document that has more pages than the document feeder can accommodate at one time. The printer temporarily saves all the scanned images. After you have scanned all the pages for the job, touch <b>Finish</b> to finish the job. |
|             |              | Cropping Options       |              | Do not crop*<br>Crop to content                   | Use this menu item to automatically crop the scan for digital sending. Use the <b>Crop to content</b> option to scan the smallest possible area that has detectable content.   |
|             |              | Erase Edges            |              | Use Inches<br>Back side erase<br>Front side erase | Use this menu item to remove blemishes, such as dark borders or staple marks, by cleaning the specified edges of the scanned image. In each of the text boxes enter the measurements, in millimeters or inches, for how much of the top edge, bottom edge, left edge, and right edge to clean.                         |
|             |              | Blank Page Suppression |              | Disabled*<br>Enabled                              | Use to prevent blank pages in the original document from being included in the output document.  |

**Table 2-46 Scan/Digital Send Settings menu (M527) (continued)**

| First level                | Second level  | Third level | Fourth level | Values               | Description  |
|----------------------------|---|-------------|--------------|----------------------|--|
| Digital Send Service Setup | Allow Usage of Digital Sending Software (DSS) Server        |             |              | Enabled*<br>Disabled | Configure how the printer interacts with the HP Digital Sending Software (DSS) server. HP DSS handles digital sending tasks, such as faxing, emailing, and sending scanned documents to a network folder or USB storage device.<br><br>Use the <a href="#">Allow Usage of Digital Sending Software (DSS) Server</a> option to configure the printer to use HP DSS. |
|                            | Allow Transfer to New Digital Sending Software (DSS) Server |             |              | Enabled*<br>Disabled | Use the <a href="#">Allow Transfer to New Digital Sending Software (DSS) Server</a> option to specify whether DSS management of a printer is transferable to a different DSS.  |

## Fax Settings menu (M527)

**To display:** At the printer control panel, select the [Administration](#) menu, and then select the [Fax Settings](#) menu.

In the following table, asterisks (\*) indicate the factory default setting.

**Table 2-47 Fax Settings menu (M527)**

| First level       | Second level   | Third level          | Fourth level          | Values                               | Description  |
|-------------------|----------------|----------------------|-----------------------|--------------------------------------|--|
| Fax Send Settings | Fax Send Setup | Fax Setup Wizard     |                       |                                      | Configure settings for sending faxes from the printer.<br><br>Use the <a href="#">Fax Setup Wizard</a> feature to set up options for faxing.<br><br><b>NOTE:</b> To set up LAN fax or Internet fax, use the HP Embedded Web Server. To open the HP Embedded Web Server, type the printer network address into a Web browser. To configure the fax features, select the <b>Fax</b> tab. |
|                   |                | Fax Dialing Settings | Fax Dial Volume       | Off<br>Low*<br>High                  | These settings control how the fax modem dials the outgoing fax number when faxes are sent.  |
|                   |                |                      | Dialing Mode          | Tone*<br>Pulse                       |  |
|                   |                |                      | Redial Interval       | 1 – 5 Minutes<br>Default = 5 minutes |  |
|                   |                |                      | <b>Fax Send Speed</b> | Fast*<br>Medium<br>Slow              |  |
|                   |                |                      | Dialing Prefix        |                                      |  |
|                   |                |                      | Detect Dial Tone      |                                      |  |
|                   |                |                      | Redial on Error       | Range: 0 – 9<br>Default = 2          |  |
|                   |                |                      | Redial on No Answer   | Range: 0 – 2<br>Default = 0          |  |
|                   |                |                      | Redial on Busy        | Range: 0 – 9<br>Default = 3          |  |



**Table 2-47 Fax Settings menu (M527) (continued)**

| First level | Second level | Third level               | Fourth level                   | Values               | Description  |
|-------------|--------------|---------------------------|--------------------------------|----------------------|--|
|             |              | General Fax Send Settings | Fax Number Confirmation        | Enabled<br>Disabled* | If this feature is enabled, you must enter the fax number twice.   |
|             |              |                           | PC Fax Send                    | Enabled*<br>Disabled | Enables users who have the correct driver installed to send faxes through the printer from their computers.  |
|             |              |                           | JBIG Compression               | Enabled*<br>Disabled | The JBIG compression reduces fax-transmission time, which can result in lower phone charges. However, using JBIG compression sometimes causes compatibility problems with older fax machines. If this occurs, turn off the JBIG compression. |
|             |              |                           | Error Correction Mode          | Enabled*<br>Disabled | When error-correction mode is enabled and an error occurs during fax transmission, the printer sends or receives the error portion again.  |
|             |              |                           | Fax Header                     | Prepend*<br>Overlay  | Use to prepend or overlay the fax header page.   |
|             |              |                           | Fax Number Speed Dial Matching | Enabled<br>Disabled* | Use this item to match the fax number that you type to numbers that are saved as a speed dial.   |

**Table 2-47 Fax Settings menu (M527) (continued)**

| First level | Second level | Third level   | Fourth level                      | Values                       | Description  |
|-------------|--------------|---------------|-----------------------------------|------------------------------|--|
|             |              | Billing Codes | Enable Billing Codes              | Off<br>On*                   | <p>When billing codes are enabled, a prompt displays that asks the user to enter the billing code for an outgoing fax. This prompt does not appear if the <a href="#">Allow users to edit billing codes</a> check box is not checked.</p> <p>You can also use the billing codes report in the <a href="#">Reports</a> menu to view the list of the billing codes that have been used for faxes that have been sent from the printer. The list is grouped by billing code and also shows fax details. This feature can be used for billing or usage tracking.</p> |
|             |              |               | Default Billing Code              |                              | Specify a default billing code for faxing. If you specify a default billing code, this code displays in the <a href="#">Billing Code</a> field when the user sends an outgoing fax. If this field is blank, no default billing code is provided for the user.  |
|             |              |               | Minimum Length                    | Range: 1 – 16<br>Default = 1 | Specify the required length of the billing code. Billing codes can be between 1 and 16 characters long.  |
|             |              |               | Allow users to edit billing codes | Off<br>On*                   |  |

**Table 2-47 Fax Settings menu (M527) (continued)**

| First level | Second level        | Third level    | Fourth level | Values  | Description   |
|-------------|---------------------|----------------|--------------|---|---|
|             | Default Job Options | Image Preview  |              | <a href="#">Make optional*</a><br><a href="#">Require preview</a><br><a href="#">Disable preview</a>                        | <p>Use the <a href="#">Image Preview</a> feature to scan a document and display a preview before completing the job. Select whether this feature is available on the printer.</p> <p><a href="#">Make optional</a>: The feature is optional, depending on the user who is signed in.</p> <p><a href="#">Require preview</a><br/>Previews are required for all users.</p> <p><a href="#">Disable preview</a>:<br/>Previews are disabled for all users.</p> |
|             |                     | Resolution     |              | <a href="#">Standard (100 x 200dpi)*</a><br><a href="#">Fine (200 x 200dpi)</a><br><a href="#">Superfine (300 x 300dpi)</a> | <p>Select the resolution for outgoing faxes. If you increase the resolution, faxes might be clearer but they could transmit more slowly. Some file types, for example a file that will be processed with OCR, require a specific resolution. When these file types are selected, the <a href="#">Resolution</a> setting might be automatically changed to a valid value.</p>  |
|             |                     | Original Sides |              | <a href="#">1-sided*</a><br><a href="#">2-sided</a>   | <p>Use to describe the layout for each side of the original document. First select whether the original document is printed on one side or both sides. Then touch the <a href="#">Orientation</a> setting to indicate whether the original has portrait or landscape orientation. If it is printed on both sides, also select the 2-sided format that matches the original document.</p>  |

**Table 2-47 Fax Settings menu (M527) (continued)**

| First level | Second level | Third level  | Fourth level   | Values  | Description  |
|-------------|--------------|--------------|----------------|---|--|
|             |              |              | Orientation    | Portrait*<br>Landscape  | <p>For some features to work correctly, you must specify the way the content of the original document is placed on the page.</p> <p><b>Portrait:</b> This setting means the short edge of the page is along the top.</p> <p><b>Landscape:</b> This setting means the long edge of the page is along the top.</p>   |
|             |              |              | 2-Sided Format | Book-style*<br>Flip-style   | <p><b>Book-style:</b> The back side of the original is printed right-side-up, and the back side of the copy is printed the same way. Use this option for originals and copies that are bound along the left edge.</p> <p><b>Flip-style:</b> The back side of the original is printed upside-down, and the back side of the copy is printed the same way. Use this option for originals and copies that are to be bound along the top edge.</p> |
|             |              | Notification |                | Do not notify*<br>Notify when job completes<br>Notify only if job fails | <p>Use to receive notification about the status of a sent document.</p> <p><b>Do not notify:</b> Turns off this feature.</p> <p><b>Notify when job completes:</b> Select to receive notification for this job only.</p> <p><b>Notify only if job fails:</b> Select to receive notification only if the job is not sent successfully.</p>   |

**Table 2-47 Fax Settings menu (M527) (continued)**

| First level | Second level        | Third level | Fourth level                | Values      | Description  |
|-------------|---------------------|-------------|-----------------------------|-------------|--|
|             |                     |             |                             | Print       | Print: Select to print the notification at this printer.   |
|             |                     |             |                             | E-mail      | E-mail: Select to receive the notification in an email. Touch the text box following <a href="#">Email Address</a> , and then enter the email address for the notification.  |
|             |                     |             | Include Thumbnail           |             | When sending an analog fax, select <a href="#">Include Thumbnail</a> to receive a thumbnail image of the first page of the fax in your notification.   |
|             |                     |             | Notification E-mail address |             | Provide the email address that will receive notifications.   |
|             | Content Orientation | Orientation |                             | Portrait*   | For some features to work correctly, you must specify the way the content of the original document is placed on the page.<br><br>Portrait: This setting means the short edge of the page is along the top.<br><br>Landscape: This setting means the long edge of the page is along the top.  |
|             |                     |             |                             | Landscape   |  |
|             |                     |             | 2-Sided Format              | Book-style* | Use to configure the default style for 2-sided print jobs. If the <a href="#">Book-style</a> option is selected, the back side of the page is printed the right way up. This option is for print jobs that are bound along the left edge. If the <a href="#">Flip-style</a> option is selected, the back side of the page is printed upside-down. This option is for print jobs that are bound along the top edge. |
|             |                     |             |                             | Flip-style  |  |

**Table 2-47 Fax Settings menu (M527) (continued)**

| First level | Second level | Third level      | Fourth level       | Values   | Description   |
|-------------|--------------|------------------|--------------------|--|---|
|             |              | Original Size    |                    | Select from a list of sizes that the printer supports. | Use to describe the page size of the original document.   |
|             |              | Image Adjustment | Darkness           |  | Use to improve the overall quality of the copy.<br><br>Adjust the <b>Darkness</b> setting to increase or decrease the amount of white and black in the colors.                                      |
|             |              |                  | Contrast           |  | Adjust the <b>Contrast</b> setting to increase or decrease the difference between the lightest and darkest color on the page.   |
|             |              |                  | Background Cleanup |  | Adjust the <b>Background Cleanup</b> setting if you are having trouble copying a faint image.   |
|             |              |                  | Sharpness          |  | Adjust the <b>Sharpness</b> setting to clarify or soften the image. For example, increasing the sharpness could make text appear crisper, but decreasing it could make photographs appear smoother. |
|             |              |                  | Automatic Tone     |  | The printer automatically adjusts the <b>Darkness</b> , <b>Contrast</b> , and <b>Background Cleanup</b> settings to the most appropriate for the scanned document.                                  |
|             |              |                  | Default            |  | Select this to make the selected <b>Image Adjustment</b> setting the default value.   |

**Table 2-47 Fax Settings menu (M527) (continued)**

| First level          | Second level      | Third level            | Fourth level     | Values  | Description  |
|----------------------|-------------------|------------------------|------------------|---|--|
|                      |                   | Optimize Text/Picture  | Manually adjust* | Optimize For<br>Text<br>Printed picture<br>Photograph | Optimizes the output for a particular type of content. You can optimize the output for text, printed pictures, or a mixture.<br><br><b>Manually adjust:</b> Use to manually optimize the setting for text or for pictures.<br><br><b>Text:</b> Use to optimize the text portion of the copy where text and/or pictures are on the original.<br><br><b>Printed picture:</b> Use for line drawings and preprinted images, such as magazine clippings or pages from books.<br><br><b>Photograph:</b> Best suited for making copies of printed pictures. |
|                      |                   | Job Build              |                  | Job Build off*<br>Job Build on                        | Use to divide a complex job into smaller segments. This is useful when you are copying or scanning an original document that has more pages than the document feeder can hold, or when you want to combine pages that have different sizes into one job. You can use either the glass or the document feeder to scan the original documents.   |
|                      |                   | Blank Page Suppression |                  | Disabled*<br>Enabled                                  | Prevents blank pages in the original document from being included in the output document.  |
| Fax Receive Settings | Fax Receive Setup | Ringer Volume          |                  | Off<br>Low*<br>High                                   | Use to configure settings for receiving faxes.   |

**Table 2-47 Fax Settings menu (M527) (continued)**

| First level | Second level          | Third level  | Fourth level                      | Values   | Description  |
|-------------|-----------------------|--|-----------------------------------|--|--|
|             |                       | Rings To Answer  |                                   | Range: 1–6<br>Default = 1  |  |
|             |                       | Fax Send Speed   |                                   | Fast*<br>Medium<br>Slow  |  |
|             |                       | Ring Interval  |                                   | Range: 220–600 ms<br>Default = 600 ms                                  |  |
|             |                       | Ring Frequency   |                                   | Range: 1–200<br>Default = 68hz   |  |
|             | Fax Printing Schedule |  |                                   | Always store faxes<br>Always print faxes*<br>Use Fax Printing Schedule | If you have concerns about the security of private faxes, use this feature to store faxes rather than having them automatically print. Select Incoming Fax Options, and then you can choose to always store faxes, always print them, or you can set up a schedule for each day of the week. |
|             |                       | Schedule   | Add (plus sign)<br>Edit<br>Delete | Print incoming faxes<br>Store incoming faxes<br>Time<br>Event Days     | If you are using a fax printing schedule, use this menu to configure when to print faxes.  |
|             |                       | Touch this to set up a fax printing schedule if you selected the Use Fax Printing Schedule option. |                                   |  |  |



**Table 2-47 Fax Settings menu (M527) (continued)**

| First level | Second level        | Third level         | Fourth level | Values | Description  |
|-------------|---------------------|---------------------|--------------|--------|--|
|             | Blocked Fax Numbers | Fax Number to Block |              |        | <p>The blocked fax list can contain up to 30 numbers. When the printer receives a call from one of the blocked fax numbers, it deletes the incoming fax. It also logs the blocked fax in the activity log along with job-accounting information.</p> <p>Add blocked numbers: Enter a fax number into the <a href="#">Fax Number to Block</a> field, and then touch the arrow button to add a new number to the blocked fax list.</p> <p>To remove blocked numbers: Select a number and touch the <a href="#">Delete</a> button to delete it from the blocked fax list.</p> <p>To clear all blocked numbers: Touch the <a href="#">Delete All</a> button to clear all of the numbers from the blocked fax list.</p> <p>You can also use the <a href="#">Blocked Fax List</a> report in the <a href="#">Information</a> menu to view the list of the fax numbers that have been blocked on this printer.</p> |

**Table 2-47 Fax Settings menu (M527) (continued)**

| First level | Second level        | Third level          | Fourth level                | Values  | Description   |
|-------------|---------------------|----------------------|-----------------------------|---|---|
|             | Default Job Options | Notification         |                             | Do not notify*<br>Notify when job completes<br>Notify only if job fails | Configure to receive notification about the status of a sent document.<br><br><b>Do not notify:</b> Turns off this feature.<br><br><b>Notify when job completes:</b> Select to receive notification for this job only.<br><br><b>Notify only if job fails:</b> Select to receive notification only if the job is not sent successfully. |
|             |                     |                      |                             | Print<br>E-mail*  | <b>E-mail:</b> Select to receive the notification in an email. Touch the text box following <b>Email Address</b> , and then enter the email address for the notification.   |
|             |                     |                      | Include Thumbnail           |   | <b>NOTE:</b> When sending an analog fax, select <b>Include Thumbnail</b> to receive a thumbnail image of the first page of the fax in your notification.  |
|             |                     |                      | Notification E-mail address |   |   |
|             |                     | Stamp Received Faxes |                             | Enabled<br>Disabled*  | Use this option to add the date, time, sender's phone number, and page number to each page of the faxes that this printer receives.   |
|             |                     | Fit to Page          |                             | Enabled*<br>Disabled  | Use to shrink faxes that are larger than Letter-size or A4-size so that they can fit onto a Letter-size or A4-size page. If this feature set to <b>Disabled</b> , faxes larger than Letter or A4 will flow across multiple pages.   |

**Table 2-47 Fax Settings menu (M527) (continued)**

| First level    | Second level                  | Third level                | Fourth level | Values                           | Description   |
|----------------|-------------------------------|----------------------------|--------------|----------------------------------|---|
|                |                               | Paper Selection            |              | Automatic*                       |   |
|                |                               |                            |              | Select from a list of the trays. |   |
|                |                               | Sides                      |              | 1-sided*                         | Use to describe the layout for each side of the original document. First select whether the original document is printed on one side or both sides. Then touch the <a href="#">Orientation</a> setting to indicate whether the original has portrait or landscape orientation. If it is printed on both sides, also select the <a href="#">2-sided</a> format that matches the original document. |
|                |                               |                            |              | 2-sided                          |   |
| Fax Forwarding | Enable Billing Codes          |                            |              | Disabled*                        | Use to forward received faxes to another fax machine.   |
|                |                               |                            |              | Enabled                          |   |
|                |                               | Type of Fax Job to Forward |              | All faxes                        |   |
|                |                               |                            |              | Sent faxes                       |   |
|                |                               |                            |              | Received faxes                   |   |
|                |                               | Fax Forwarding Number      |              |                                  |   |
|                | <b>Clear Fax Activity Log</b> |                            |              |                                  | Clears all events from the <a href="#">Fax Activity Log</a> list.   |

## General Print Settings menu (M506/M527)

**To display:** At the printer control panel, select the [Administration](#) menu, and then select the [General Print Settings](#) menu.

In the following table, asterisks (\*) indicate the factory default setting.

**Table 2-48 General Print Settings menu (M506/M527)**

| First level      | Second level | Values                         | Description   |
|------------------|--------------|--------------------------------|---|
| Manual Feed      |              | Enabled                        | Use to enable or disable the manual-feed feature, which allows the user to feed paper into the printer by hand. When this feature is enabled, the user can select manual feed from the control panel as the paper source for a job. If a tray is not specified as part of a job, manual feed is selected.     |
|                  |              | Disabled*                      |   |
| Courier Font     |              | Regular*                       | Select which version of the Courier font you want to use. The factory default setting is <a href="#">Regular</a> , which uses an average stroke width. The <a href="#">Dark</a> setting can be used if a heavier Courier font is needed.  |
|                  |              | Dark                           |   |
| Wide A4          |              | Enabled                        | Changes the printable area of A4-size paper. If you enable this option, eighty 10-pitch characters can be printed on a single line of A4 paper.   |
|                  |              | Disabled*                      |   |
| Print PS Errors  |              | Enabled                        | Use this feature to select whether a PostScript (PS) error page is printed when the printer encounters a PS error.  |
|                  |              | Disabled*                      |   |
| Print PDF Errors |              | Enabled                        | Selects whether a PDF error page is printed when the printer encounters a PDF error.  |
|                  |              | Disabled*                      |   |
| Personality      |              | Auto*                          | Configures the default print language or personality for the printer. Normally you should not change the printer language. If you change the setting to a specific printer language, the printer does not automatically switch from one language to another unless specific software commands are sent to it. |
|                  |              | PCL                            |   |
|                  |              | POSTSCRIPT                     |   |
|                  |              | PDF                            |   |
| PCL              | Form Length  | Range: 5 – 128<br>Default = 60 | Controls the PCL print-command options. PCL is a set of printer commands that HP developed to provide access to printer features.<br><br>Use the <a href="#">Form Length</a> feature to select the user-soft default vertical form length.  |

**Table 2-48 General Print Settings menu (M506/M527) (continued)**

| First level | Second level    | Values                                  | Description  |
|-------------|-----------------|---|--|
|             | Orientation     | Portrait*<br>Landscape                  | Select the orientation that is most often used for copy or scan originals. Select the <b>Portrait</b> option if the short edge is at the top or select the <b>Landscape</b> option if the long edge is at the top.   |
|             | Font Source     | Internal*                               | Selects the font source for the user-soft default font. The list of available options varies depending on the installed printer options.   |
|             | Font Number     | Range: 0 – 110<br>Default = 0           | Specifies the font number for the user-soft default font using the source that is specified in the <b>Font Source</b> menu. The printer assigns a number to each font and lists it on the PCL font list. The font number displays in the Font # column of the printout.  |
|             | Font Pitch      | Range: 0.44 – 99.99<br>Default = 10     | If the <b>Font Source</b> option and the <b>Font Number</b> setting indicate a contour font, then use this feature to select a default pitch (for a fixed-spaced font).  |
|             | Font Point Size | Range: 4.00 – 999.75<br>Default = 12.00 | If the <b>Font Source</b> option and the <b>Font Number</b> setting indicate a contour font, then use this feature to select a default point size (for a proportional-spaced font).  |
|             | Symbol Set      | Select from a list of symbol sets.      | Select any one of several available symbol sets from the control panel. A symbol set is a unique grouping of all the characters in a font. The factory default value for this option is PC-8. Either PC-8 or PC-850 are recommended for line-draw characters.  |
|             | Append CR to LF | No*<br>Yes                              | Configure whether a carriage return (CR) is appended to each line feed (LF) encountered in backwards-compatible PCL jobs (pure text, no job control). Select <b>Yes</b> to append the carriage return. The default setting is <b>No</b> . Some environments, such as UNIX, indicate a new line by using only the line-feed control code. This option allows the user to append the required carriage return to each line feed. |

**Table 2-48 General Print Settings menu (M506/M527) (continued)**

| First level | Second level         | Values               | Description  |
|-------------|----------------------|----------------------|--|
|             | Suppress Blank Pages | No*<br>Yes           | This option is for users who are generating their own PCL, which could include extra form feeds that would cause blank pages to be printed. When the Yes option is selected, form feeds are ignored if the page is blank.  |
|             | Media Source Mapping | Standard*<br>Classic | Use to select and maintain input trays by number when you are not using the printer driver, or when the software program has no option for tray selection. The following options are available:<br><br><b>Standard:</b> Tray numbering is based on newer HP LaserJet models.<br><br><b>Classic:</b> Tray numbering is based on HP LaserJet 4 and older models. |

## Default Print Options menu (M506/M527)

**To display:** At the printer control panel, select the [Administration](#) menu, and then select the [Default Print Options](#) menu.

 **NOTE:** For the M506x and M527 models, use the [Print](#) button to print the report.

For all other models, use the up arrow ▲ button or down arrow ▼ button to highlight the report, and then press the [OK](#) button. Then use the up arrow ▲ button to highlight [Print](#), and then press the [OK](#) button. to print the report.

In the following table, asterisks (\*) indicate the factory default setting.

**Table 2-49 Default Print Options menu (M506/M527)**

| First level               | Second level | Values   | Description   |
|---------------------------|--------------|--|---|
| Number of Copies          |              | Range: 1–32000<br>Default = 1                          | Sets the default number of copies for a copy job. This default applies when the <a href="#">Copy</a> function or the <a href="#">Quick Copy</a> function is initiated from the printer Home screen.   |
| Default Paper Size        |              | Select from a list of sizes that the printer supports. | Configures the default paper size used for print jobs.  |
| Default Custom Paper Size | X Dimension  | Range: 3–8.5 inches<br>Default = 8.5 inches            | Configures the default paper size that is used when the user selects <b>Custom</b> as the paper size for a print job.   |
|                           | Y Dimension  | Range: 5–14 inches<br>Default = 14 inches              |   |
|                           | Use Inches   | Enabled*<br>Disabled                                   |   |
| Sides                     |              | 1-sided*<br>2-sided                                    | Use to indicate whether the original document is printed on one or both sides, and whether the copies should be printed on one or both sides. For example, select the <a href="#">1-sided original, 2-sided output</a> option when the original is printed on one side, but you want to make two-sided copies.<br><br>Select the <a href="#">Orientation</a> setting to specify portrait or landscape orientation and to select the way the second sides are printed. |


**Table 2-49 Default Print Options menu (M506/M527) (continued)**

| First level    | Second level | Values                                       | Description  |
|----------------|--------------|--|--|
| 2-Sided Format |              | Book-style*<br>Flip-style                    | Configures the default style for 2-sided print jobs. If the <b>Book-style</b> option is selected, the back side of the page is printed the right way up. This option is for print jobs that are bound along the left edge. If the <b>Flip-style</b> option is selected, the back side of the page is printed upside-down. This option is for print jobs that are bound along the top edge. |
| Edge-to-Edge   |              | Normal (recommended)*<br>Edge-to-Edge output | Use to avoid shadows that can appear along the edges of copies when the original document is printed close to the edges.   |



## Display Settings menu (M506/M527)

**To display:** At the printer control panel, select the [Administration](#) menu, and then select the [Display Settings](#) menu.

 **NOTE:** For the M506x and M527 models, use the [Print](#) button to print the report.

For all other models, use the up arrow ▲ button or down arrow ▼ button to highlight the report, and then press the [OK](#) button. Then use the up arrow ▲ button to highlight [Print](#), and then press the [OK](#) button. to print the report.

In the following table, asterisks (\*) indicate the factory default setting.

**Table 2-50 Display Settings menu (M506/M527)**

| First level                            | Second level                    | Values  | Description   |
|--|---------------------------------|---|---|
| <a href="#">Display Brightness</a>     |                                 | Range: -10 to 10<br>The default value is 0.   | Use to specify the intensity of the LCD control-panel display.  |
| <a href="#">Key Press Sound</a>        |                                 | <a href="#">On</a> *  | Use to specify whether you hear a sound when you touch the screen or press buttons on the control panel.  |
| M527 only                              |                                 | <a href="#">Off</a>   |   |
| <a href="#">Language Settings</a>      | <a href="#">Language</a>        | Select from a list of languages that the printer supports.                                | Use to select a different language for control-panel messages and specify the default keyboard layout. When you select a new language, the keyboard layout automatically changes to match the factory default for the selected language.                                    |
|  | <a href="#">Keyboard Layout</a> | Each language has a default keyboard layout. To change it, select from a list of layouts. | Select the default keyboard layout that matches the language you want to use.   |
|  | M527 only                       |   |   |
| <a href="#">How to Connect Button</a>  |                                 | <a href="#">Display</a> *   | Use this menu item to display or hide the <a href="#">How to Connect Button</a> on the Home screen.   |
| M527 only                              |                                 | <a href="#">Hide</a>  |   |
| <a href="#">Network Address Button</a> |                                 | <a href="#">Display</a> *   | Use this menu item to display or hide the IP address on the Home screen.  |
| M506 only                              |                                 | <a href="#">Hide</a>  |   |
| <a href="#">Date and Time</a>          |                                 | <a href="#">Show Date and Time</a> *  | Select whether to display or hide the date and time on the control panel Home screen.   |
| M527 only                              |                                 | <a href="#">Hide Date and Time</a>  |   |
| <a href="#">Inactivity Timeout</a>     |                                 | Range: 10 – 300 seconds<br>Default = 60 seconds   | Specifies the amount of time that elapses between any activity on the control panel and when the printer resets to the default settings. When the timeout expires, the control-panel display returns to the Home menu, and any user signed in to the printer is signed out. |

**Table 2-50 Display Settings menu (M506/M527) (continued)**

| First level        | Second level | Values                      | Description   |
|--------------------|--------------|-----------------------------|---|
| Clearable Warnings |              | On                          | Use this feature to set the period that a clearable warning displays on the control panel. If the <a href="#">On</a> setting is selected, clearable warnings appear until the <a href="#">Clearable Warnings</a> button is pressed. If the <a href="#">Job</a> setting is selected, clearable warnings stay on the display during the job that generated the warning and disappear from the display when the next job starts. |
|                    |              | Job*                        |   |
| Continuable Events |              | Auto-continue (10 seconds)* | Use this option to configure the printer behavior when the printer encounters certain errors. If the <a href="#">Auto-continue (10 seconds)</a> option is selected, the job will continue after 10 seconds. If the <a href="#">Touch OK to continue</a> option is selected, the job will stop and require the user to press the <a href="#">OK</a> button before continuing.  |
|                    |              | Touch OK to continue        |   |

## Manage Supplies menu (M506/M527)

**To display:** At the printer control panel, select the [Administration](#) menu, and then select the [Manage Supplies](#) menu.

In the following table, asterisks (\*) indicate the factory default setting.

**Table 2-51 Manage Supplies menu (M506/M527)**

| First level     | Second level                     | Third level            | Fourth level | Values  | Description   |
|-----------------|----------------------------------|------------------------|--------------|---|---|
| Supplies Status |                                  |                        |              | Print<br><br>View (M506x and M527 only)         |   |
| Supply Settings | Black Cartridge                  | Low Threshold Settings |              | 1-100%<br><br>Default = 10%                     | Set the estimated percentage at which the printer notifies you when the toner cartridge is very low.  |
|                 |                                  | Very Low Settings      |              | Stop<br><br>Prompt to continue*<br><br>Continue | Specifies how the printer notifies you when the toner cartridge is very low.<br><br><b>Stop:</b> The printer stops until you replace the toner cartridge.<br><br><b>Prompt to continue:</b> The printer stops and prompts you to replace the toner cartridge. You can acknowledge the prompt and continue printing.<br><br><b>Continue:</b> The printer alerts you that a toner cartridge is very low, but it continues printing. |
|                 | Document Feeder Kit<br>M527 only | Low Threshold Settings |              | 1-100%<br><br>Default = 10%                     | Set the percentage at which the printer notifies you when a document feeder kit is needed.  |

**Table 2-51 Manage Supplies menu (M506/M527) (continued)**

| First level | Second level                 | Third level            | Fourth level | Values                                  | Description   |
|-------------|------------------------------|------------------------|--------------|---|---|
|             |                              | Very Low Settings      |              | Stop<br>Prompt to continue*<br>Continue | <p>Configure how the printer responds when the document feeder kit is reaching the end of its estimated life.</p> <p><b>Stop:</b> The printer stops until you replace the document feeder kit.</p> <p><b>Prompt to continue:</b> The printer stops and prompts you to replace the document feeder kit. You can acknowledge the prompt and continue printing</p> <p><b>Continue:</b> The printer alerts you that the document feeder kit is very low, but it continues printing.</p> |
|             | Maintenance Kit<br>M506 only | Low Threshold Settings |              | 1-100%<br>Default = 10%                 | <p>Set the percentage at which the printer notifies you when the maintenance kit is needed.</p>   |
|             |                              | Very Low Settings      |              | Stop<br>Prompt to continue*<br>Continue | <p>Configure how the printer responds when the maintenance kit is reaching the end of its estimated life.</p> <p><b>Stop:</b> The printer stops until you replace the maintenance kit.</p> <p><b>Prompt to continue:</b> The printer stops and prompts you to replace the maintenance kit. You can acknowledge the prompt and continue printing</p> <p><b>Continue:</b> The printer alerts you that the maintenance kit is very low, but it continues printing.</p>                 |
|             | Fuser Kit                    | Low Threshold Settings |              | 1-100%<br>Default = 10%                 | <p>Set the estimated percentage at which the printer notifies you when the fuser is low.</p>  |

**Table 2-51 Manage Supplies menu (M506/M527) (continued)**

| First level     | Second level   | Third level       | Fourth level | Values                                  | Description  |
|-----------------|--|-------------------|--------------|---|--|
|                 |  | Very Low Settings |              | Stop<br>Prompt to continue*<br>Continue | <p>Configure how the printer responds when the fuser is reaching the end of its estimated life.</p> <p><b>Stop:</b> The printer stops until you replace the fuser.</p> <p><b>Prompt to continue:</b> The printer stops and prompts you to replace the fuser. You can acknowledge the prompt and continue printing.</p> <p><b>Continue:</b> The printer alerts you that the fuser is very low, but it continues printing.</p> |
|                 | Store Usage Data   |                   |              | On supplies<br>Not on supplies          | <p>The <b>Store Usage Data</b> menu provides a way to suppress the toner cartridges from storing most of the information gathered exclusively for the purpose of understanding the usage of the printer. Select the <b>On supplies</b> setting to store the data on the toner cartridge memory chip. Select the <b>Not on supplies</b> setting to suppress the information from being stored on the memory chip.</p>         |
| Supply Messages |  | Low Message       |              | On*<br>Off                              | <p>Use to configure whether a message displays on the control panel when supplies are getting low, but have not yet reached the low threshold.</p>   |
| Reset Supplies  | New Document Feeder Kit (M527 only)<br>New Maintenance Kit (M506 only) |                   |              | Reset<br>Cancel                         | <p>Select this option if you have installed a new document feeder kit (M527) or maintenance kit (M506).</p>  |

## Manage Trays menu (M506/M527)

**To display:** At the printer control panel, select the [Administration](#) menu, and then select the [Manage Trays](#) menu.

In the following table, asterisks (\*) indicate the factory default setting.

**Table 2-52 Manage Trays menu (M506/M527)**

| First level          | Values                     | Description   |
|----------------------|----------------------------|---|
| Use Requested Tray   | Exclusively*<br>First      | Controls how the printer handles jobs that have specified a specific input tray. Two options are available:<br><br><b>Exclusively:</b> The printer never selects a different tray when the user has indicated that a specific tray should be used, even if that tray is empty.<br><br><b>First:</b> The printer pulls from another tray if the specified tray is empty, even though the user specifically indicated a tray for the job.   |
| Manually Feed Prompt | Always*<br>Unless loaded   | Indicate whether a prompt should appear when the type or size for a job does not match the specified tray and the printer pulls from the multipurpose tray instead. Two options are available:<br><br><b>Always:</b> A prompt always displays before using the multipurpose tray.<br><br><b>Unless loaded:</b> A message displays only if the multipurpose tray is empty.   |
| Size/Type Prompt     | Display*<br>Do not display | Controls whether the tray configuration message displays whenever a tray is closed. Two options are available:<br><br><b>Display:</b> Shows the tray configuration message when a tray is closed. The user is able to configure the tray settings directly from this message.<br><br><b>Do not display:</b> Prevents the tray configuration message from automatically appearing.   |
| Use Another Tray     | Enabled*<br>Disabled       | Use to turn on or off the control-panel prompt to select another tray when the specified tray is empty. Two options are available:<br><br><b>Enabled:</b> When this option is selected, the user is prompted either to add paper to the selected tray or to choose a different tray.<br><br><b>Disabled:</b> When this option is selected, the user is not given the option of selecting a different tray. The printer prompts the user to add paper to the tray that was initially selected. |

**Table 2-52 Manage Trays menu (M506/M527) (continued)**

| First level                 | Values               | Description  |
|-----------------------------|----------------------|--|
| Alternative Letterhead Mode | Disabled*<br>Enabled | Use to load letterhead or preprinted paper into the tray the same way for all print jobs, whether you are printing to one side of the sheet or to both sides of the sheet. When this option is selected, load the paper as you would for printing on both sides. See the user documentation that came with the printer for instructions about loading letterhead for printing on both sides. When this option is selected, the printer speed slows to the speed required for printing on both sides. |
| Duplex Blank Pages          | Auto*<br>Yes         | Control how the printer handles two-sided jobs (duplexing). Two options are available:<br><br><b>Auto:</b> Enables Smart Duplexing, which instructs the printer not to process blank pages.<br><br><b>Yes:</b> Disables Smart Duplexing and forces the duplexer to flip the sheet of paper even if it is printed on only one side. This might be preferable for certain jobs that use paper types such as letterhead or prepunched paper.  |
| Override A4/Letter          | Yes*<br>No           | Prints on letter-size paper when an A4 job is sent but no A4-size paper is loaded in the printer (or to print on A4 paper when a letter-size job is sent but no letter-size paper is loaded). This option will also override A3 with ledger-size paper and ledger with A3-size paper.  |

## Network Settings menu (M506/M527)

**To display:** At the printer control panel, select the [Administration](#) menu, and then select the [Network Settings](#) menu.

In the following table, asterisks (\*) indicate the factory default setting.

**Table 2-53 Network Settings menu (M506/M527)**

| First level             | Values   | Description   |
|-------------------------|--|---|
| I/O Timeout             | Range: 5 – 300 sec<br>Default = 15   | Use to set the I/O timeout period in seconds. I/O timeout refers to the elapsed time before a print job fails. If the stream of data that the printer receives for a print job gets interrupted, this setting indicates how long the printer will wait before it reports that the job has failed. |
| Embedded Jetdirect Menu | See <a href="#">Table 2-54 Embedded Jetdirect Menu (M506/M527)</a> on page 242 for details. These menus have the same structure. If an additional HP Jetdirect network card is installed in the EIO slot, then both menus are available. |   |

**Table 2-54 Embedded Jetdirect Menu (M506/M527)**

| First level | Second level     | Third level | Fourth level | Values   | Description  |
|-------------|------------------|-------------|--------------|--|--|
| Information | Print Sec Report |             |              | Yes<br>No*   | <b>Yes:</b> Prints a page that contains the current security settings on the HP Jetdirect print server.<br><b>No:</b> A security settings page is not printed.   |
| TCP/IP      | Enable           |             |              | On*<br>Off   | <b>On:</b> Enable the TCP/IP protocol.<br><b>Off:</b> Disable the TCP/IP protocol.   |
|             | Host Name        |             |              | Use the arrow buttons to edit the host name.<br><b>NPXXXXXX*</b> | An alphanumeric string, up to 32 characters, used to identify the printer. This name is listed on the HP Jetdirect configuration page. The default host name is NPxxxxxx, where xxxxxx is the last six digits of the LAN hardware (MAC) address. |



**Table 2-54 Embedded Jetdirect Menu (M506/M527) (continued)**

| First level | Second level  | Third level   | Fourth level                    | Values  | Description  |
|-------------|---------------|---|---------------------------------|---|--|
|             | IPv4 Settings | Config Method   |                                 | <a href="#">Bootp</a><br><a href="#">DHCP*</a><br><a href="#">Auto IP</a><br><a href="#">Manual</a> | <p>Specifies the method that TCP/IPv4 parameters will be configured on the HP Jetdirect print server.</p> <p><a href="#">Bootp</a> (Bootstrap Protocol): Use for automatic configuration from a BootP server.</p> <p><a href="#">DHCP</a> (Dynamic Host Configuration Protocol): Use for automatic configuration from a DHCPv4 server. If selected and a DHCP lease exists, the <a href="#">DHCP Release</a> menu and the <a href="#">DHCP Renew</a> menu are available to set DHCP lease options.</p> <p><a href="#">Auto IP</a>: Use for automatic link-local IPv4 addressing. An address in the form 169.254.x.x is assigned automatically.</p> <p>If you set this option to the <a href="#">Manual</a> setting, use the <a href="#">Manual Settings</a> menu to configure TCP/IPv4 parameters.</p> |
|             |               | <a href="#">Manual Settings</a><br><b>NOTE:</b> This menu is available only if you select the <a href="#">Manual</a> option under the <a href="#">Config Method</a> menu. | <a href="#">IP Address</a>      | Enter the address.  | (Available only if the <a href="#">Config Method</a> option is set to the <a href="#">Manual</a> option.) Configure parameters directly from the printer control panel:  |
|             |               |   | <a href="#">Subnet Mask</a>     | Enter the address.  |  |
|             |               |   | <a href="#">Default Gateway</a> | Enter the address.  |  |

**Table 2-54 Embedded Jetdirect Menu (M506/M527) (continued)**

| First level | Second level  | Third level   | Fourth level    | Values   | Description  |
|-------------|---------------|---------------|-----------------|--|--|
|             |               | Default IP    |                 | Auto IP*<br>Legacy                               | Specify the IP address to default to when the print server is unable to obtain an IP address from the network during a forced TCP/IP reconfiguration (for example, when manually configured to use BootP or DHCP).<br><br><b>NOTE:</b> This feature assigns a static IP address that might interfere with a managed network.<br><br><b>Auto IP:</b> A link-local IP address 169.254.x.x is set.<br><br><b>Legacy:</b> The address 192.0.0.192 is set, consistent with older HP Jetdirect products. |
|             |               | Primary DNS   |                 | Range: 0 – 255<br>Default = <b>xxx.xxx.xx.xx</b> | Specify the IP address (n.n.n.n) of a Primary Domain Name System (DNS) Server.   |
|             |               | Secondary DNS |                 | Range: 0 – 255<br>Default = <b>0.0.0.0</b>       | Specify the IP address (n.n.n.n) of a Secondary DNS Server.  |
|             | IPv6 Settings | Enable        |                 | Off<br>On*                                       | Use this item to enable or disable IPv6 operation on the print server.<br><br><b>Off:</b> IPv6 is disabled.<br><b>On:</b> IPv6 is enabled.   |
|             |               | Address       | Manual Settings | Enable<br>Address                                | Use this item to enable and manually configure a TCP/IPv6 address.   |

**Table 2-54 Embedded Jetdirect Menu (M506/M527) (continued)**

| First level | Second level | Third level   | Fourth level | Values  | Description  |
|-------------|--------------|---------------|--------------|---|--|
|             |              | DHCPv6 Policy |              | Router Specified<br>Router Unavailable*<br>Always | <p><b>Router Specified:</b> The stateful auto-configuration method to be used by the print server is determined by a router. The router specifies whether the print server obtains its address, its configuration information, or both from a DHCPv6 server.</p> <p><b>Router Unavailable:</b> If a router is not available, the print server should attempt to obtain its stateful configuration from a DHCPv6 server.</p> <p><b>Always:</b> Whether a router is available, the print server always attempts to obtain its stateful configuration from a DHCPv6 server.</p> |
|             |              | Primary DNS   |              |   |  |
|             |              | Secondary DNS |              |   |  |
|             | Proxy Server |               |              | Select from a provided list.                      | <p>Specifies the proxy server to be used by embedded applications in the printer. A proxy server is typically used by network clients for Internet access. It caches Web pages, and provides a degree of Internet security, for those clients.</p> <p>To specify a proxy server, enter its IPv4 address or fully-qualified domain name. The name can be up to 255 octets.</p> <p>For some networks, you might need to contact your Internet Service Provider (ISP) for the proxy server address.</p>   |

**Table 2-54 Embedded Jetdirect Menu (M506/M527) (continued)**

| First level | Second level | Third level | Fourth level | Values  | Description   |
|-------------|--------------|-------------|--------------|---|---|
|             | Proxy Port   |             |              | Default = <b>0080</b>                           | Enter the port number used by the proxy server for client support. The port number identifies the port reserved for proxy activity on your network, and can be a value from 0 to 65535.   |
|             | Idle Timeout |             |              | Default = <b>0270</b>                           | The time period, in seconds, after which an idle TCP print data connection is closed (default is 270 seconds, 0 disables the timeout).  |
| Security    | Secure Web   |             |              | <b>HTTPS Required*</b><br><b>HTTPS Optional</b> | For configuration management, specify whether the HP Embedded Web Server will accept communications using HTTPS (Secure HTTP) only, or both HTTP and HTTPS.<br><br><b>HTTPS Required:</b> For secure, encrypted communications, only HTTPS access is accepted. The print server will appear as a secure site. |
|             | IPSEC        |             |              | <b>Keep</b><br><b>Disable*</b>                  | Specify the IPsec status on the print server.<br><br><b>Keep:</b> IPsec status remains the same as currently configured.<br><br><b>Disable:</b> IPsec operation on the print server is disabled.  |
|             | 802.1X       |             |              | <b>Reset</b><br><b>Keep*</b>                    | Specify whether the 802.1X settings on the print server are reset to the factory defaults.<br><br><b>Reset:</b> The 802.1X settings are reset to the factory defaults.<br><br><b>Keep:</b> The current 802.1X settings are maintained.  |

**Table 2-54 Embedded Jetdirect Menu (M506/M527) (continued)**

| First level | Second level   | Third level | Fourth level | Values     | Description  |
|-------------|----------------|-------------|--------------|------------|--|
|             | Reset Security |             |              | Yes<br>No* | <p>Specify whether the current security settings on the print server will be saved or reset to factory defaults.</p> <p><b>Yes:</b> Security settings are reset to factory defaults.</p> <p><b>No:</b> The current security settings are maintained.</p>   |
| Diagnostics | Embedded Tests | LAN HW Test |              | Yes<br>No* | <p>Provides tests to help diagnose network hardware or TCP/IP network connection problems.</p> <p>Embedded tests help to identify whether a network fault is internal or external to the printer. Use an embedded test to check hardware and communication paths on the print server. After you select and enable a test and set the execution time, you must select the <b>Execute</b> option to initiate the test.</p> <p>Depending on the execution time, a selected test runs continuously until either the printer is turned off, or an error occurs and a diagnostic page is printed.</p> <p><b>CAUTION:</b> Running this embedded test will erase your TCP/IP configuration.</p> <p>This test performs an internal loopback test. An internal loopback test will send and receive packets only on the internal network hardware. There are no external transmissions on your network.</p> |

**Table 2-54 Embedded Jetdirect Menu (M506/M527) (continued)**

| First level | Second level | Third level      | Fourth level | Values     | Description   |
|-------------|--------------|------------------|--------------|------------|---|
|             |              | HTTP Test        |              | Yes<br>No* | <p>This test checks operation of HTTP by retrieving predefined pages from the printer, and tests the HP Embedded Web Server.</p> <p>Select the <b>Yes</b> option to choose this test, or the <b>No</b> option to not choose it.</p>   |
|             |              | SNMP Test        |              | Yes<br>No* | <p>This test checks operation of SNMP communications by accessing predefined SNMP objects on the printer.</p> <p>Select the <b>Yes</b> option to choose this test, or the <b>No</b> option to not choose it.</p>  |
|             |              | Data Path Test   |              | Yes<br>No* | <p>This test helps to identify data path and corruption problems on an HP postscript level 3 emulation printer. It sends a predefined PS file to the printer. However, the test is paperless; the file will not print.</p> <p>Select the <b>Yes</b> option to choose this test, or the <b>No</b> option to not choose it.</p> |
|             |              | Select All Tests |              | Yes<br>No* | <p>Use this item to select all available embedded tests.</p> <p>Select the <b>Yes</b> option to choose all tests. Select the <b>No</b> option to select individual tests.</p>   |

**Table 2-54 Embedded Jetdirect Menu (M506/M527) (continued)**

| First level | Second level | Third level        | Fourth level | Values  | Description  |
|-------------|--------------|--------------------|--------------|---|--|
|             |              | Execution Time [H] |              | Range: 1 – 24 hours<br>Default = 1 hour       | Specify the length of time (in hours) that an embedded test will be run. If you select zero (0), the test runs indefinitely until an error occurs or the printer is turned off.<br><br>Data gathered from the HTTP, SNMP, and Data Path tests is printed after the tests have completed. |
|             |              | Execute            |              | No*<br>Yes                                    | No: Do not initiate the selected tests.<br><br>Yes: Initiate the selected tests.   |
|             | Ping Test    | Dest Type          |              | IPv4<br>IPv6                                  | This test is used to check network communications. This test sends link-level packets to a remote network host, then waits for an appropriate response. To run a ping test, set the following items:<br><br>Dest Type<br><br>Specify whether the target printer is an IPv4 or IPv6 node. |
|             |              | Dest IPv4          |              | Range: 0 – 255<br>Default = <b>127.0.0.1</b>  | Enter the IPv4 address.  |
|             |              | Dest IPv6          |              | Select from a provided list.<br>Default = ::1 | Enter the IPv6 address.  |
|             |              | Packet Size        |              | Default = <b>64</b>                           | Specify the size of each packet, in bytes, to be sent to the remote host. The minimum is 64 (default) and the maximum is 2048.   |
|             |              | Timeout            |              | Default = <b>001</b>                          | Specify the length of time, in seconds, to wait for a response from the remote host. The maximum is 100.   |

**Table 2-54 Embedded Jetdirect Menu (M506/M527) (continued)**

| First level | Second level | Third level      | Fourth level | Values                 | Description   |
|-------------|--------------|------------------|--------------|------------------------|---|
|             |              | Count            |              | Default = <b>004</b>   | Specify the number of ping test packets to send for this test. Select a value from 0 to 100. To configure the test to run continuously, select 0.             |
|             |              | Print Results    |              | Yes<br>No*             |   |
|             |              | Execute          |              | Yes<br>No*             | No: Do not initiate the selected tests.<br>Yes: Initiate the selected tests.  |
|             | Ping Results | Packets Sent     |              | Default = <b>00000</b> | Shows the number of packets (0 - 65535) sent to the remote host since the most recent test was initiated or completed.  |
|             |              | Packets Received |              | Default = <b>00000</b> | Shows the number of packets (0 - 65535) received from the remote host since the most recent test was initiated or completed. The default is 0.                |
|             |              | Percent Lost     |              | Default = <b>000</b>   | Shows the percent (0 to 100) of ping test packets that were sent with no response from the remote host since the most recent test was initiated or completed. |
|             |              | RTT Min          |              | Default = <b>0000</b>  | Shows the minimum detected roundtrip-time (RTT), from 0 to 4096 milliseconds, for packet transmission and response.   |
|             |              | RTT Max          |              | Default = <b>0000</b>  | Shows the maximum detected roundtrip-time (RTT), from 0 to 4096 milliseconds, for packet transmission and response.   |
|             |              | RTT Average      |              | Default = <b>0000</b>  | Shows the average round-trip-time (RTT), from 0 to 4096 milliseconds, for packet transmission and response.   |



**Table 2-54 Embedded Jetdirect Menu (M506/M527) (continued)**

| First level | Second level | Third level      | Fourth level | Values     | Description  |
|-------------|--------------|------------------|--------------|------------|--|
|             |              | Ping In Progress |              | Yes<br>No* | Shows whether a ping test is in progress. <b>Yes</b> Indicates a test in progress. <b>No</b> Indicates that a test completed or was not run.   |
|             |              | Refresh          |              | Yes<br>No* | When viewing the ping test results, this item upgrades the ping test data with current results. Select the <b>Yes</b> option to upgrade the data, or the <b>No</b> option to maintain the existing data. However, a refresh automatically occurs when the menu times out or you manually return to the main menu.  |
| Link Speed  |              |                  |              | Auto*      | <p>The link speed and communication mode of the print server must match the network. The available settings depend on the printer and installed print server. Select one of the following link configuration settings:</p> <p><b>CAUTION:</b> If you change the link setting, network communications with the print server and network printer might be lost.</p> <p>The print server uses auto-negotiation to configure itself with the highest link speed and communication mode allowed. If auto-negotiation fails, either the <b>100TX Half</b> feature or the <b>10T Half</b> feature is set depending on the detected link speed of the hub/switch port. (A 1000T half-duplex selection is not supported.)</p> |

**Table 2-54 Embedded Jetdirect Menu (M506/M527) (continued)**

| First level | Second level | Third level | Fourth level | Values     | Description  |
|-------------|--------------|-------------|--------------|------------|--|
|             |              |             |              | 10T Half   | 10 Mbps, half-duplex operation.                              |
|             |              |             |              | 10T Full   | 10 Mbps, full-duplex operation.                              |
|             |              |             |              | 10T Auto   | 100 Mbps, half-duplex operation.                             |
|             |              |             |              | 100TX Half | 100 Mbps, full-duplex operation.                             |
|             |              |             |              | 100TX Full | Limits auto-negotiation to a maximum link speed of 100 Mbps. |
|             |              |             |              | 100TX Auto | 1000 Mbps, full-duplex operation.                            |

## Troubleshooting menu (M506/M527)

**To display:** At the printer control panel, select the [Administration](#) menu, and then select the [Troubleshooting](#) menu.

In the following table, asterisks (\*) indicate the factory default setting.

**Table 2-55 Troubleshooting (M506/M527)**

| First level           | Second level   | Third level          | Fourth level | Values  | Description  |
|-----------------------|----------------|----------------------|--------------|---|--|
| Event Log             |                |                      |              | Print   | Prints the 50 most recent events in the Event Log. For each event, the printed log shows the error number, page count, error code, and description or personality.                                     |
| M527 printer          |                |                      |              |   |  |
| Event Log             |                |                      |              |   | Prints the 50 most recent events in the Event Log. For each event, the printed log shows the error number, page count, error code, and description or personality.                                     |
| M506 printer          |                |                      |              |   |  |
| Paper Path Page       |                |                      |              | View (M506x and M527 only)<br>Print   | Shows how many pages were printed from each tray.  |
| Fax (Fax models only) | Fax T.30 Trace | Print T.30 Report    |              | Print   | Use to print or configure the fax T.30 trace report. T.30 is the standard that specifies handshaking, protocols, and error correction between fax machines.  |
|                       |                | When to Print Report |              | Never automatically print*<br>Print after every fax<br>Print only after fax send jobs<br>Print after any fax error<br>Print only after fax send errors<br>Print only after fax receive errors | Configure the T.30 report to print after certain events. You can choose to print the report after every fax job, every fax job sent, every fax job received, every send error, or every receive error. |

**Table 2-55 Troubleshooting (M506/M527) (continued)**

| First level         | Second level          | Third level                               | Fourth level | Values                                     | Description   |
|---------------------|-----------------------|---|--------------|--|---|
|                     | Fax V.34              |   |              | Normal*<br>Off                             | Use to disable V.34 modulations if several fax failures have occurred or if phone line conditions require it.   |
|                     | Fax Speaker Mode      |   |              | Normal*<br>Diagnostic                      | Used by a technician to evaluate and diagnose fax issues by listening to the sounds of fax modulations  |
|                     | Fax Log Entries       |   |              | On<br>Off*                                 | The standard fax log includes basic information such as the time and whether the fax was successful. The detailed fax log shows the intermediate results of the redial process not shown in the standard fax log. |
| Print Quality Pages | Print Fuser Test Page |   |              | Print                                      | Use to print pages that help you resolve problems with print quality.   |
| Diagnostic Tests    | Paper Path Sensors    |   |              | Select from a list of the printer sensors. | Initiates a test of the paper path sensors.   |
|                     | Paper Path Test       | Print Test Page                           |              |  |   |
|                     |                       | Source Tray                               |              | Select from a list of the available trays. | Generates a test page for testing paper handling features. You can define the path that is used for the test in order to test specific paper paths  |
|                     |                       | Test Duplex Path<br>( Duplex models only) |              | Off*<br>On                                 |   |
|                     |                       | Number of Copies                          |              | Range: 1–500<br>Default = 1                | Sets the default number of copies for a copy job. This default applies when the Copy or Quick Copy function is initiated from the printer Home screen. The factory default setting is 1.                          |

**Table 2-55 Troubleshooting (M506/M527) (continued)**

| First level | Second level                | Third level | Fourth level | Values  | Description  |
|-------------|-----------------------------|-------------|--------------|---|--|
|             | Manual Sensor Test          |             |              | Select from a list of available components<br><br>Reset | Test the printer sensors and switches for correct operation. Each sensor is displayed on the control-panel screen, along with its status. Manually trip each sensor and watch for it to change on the screen. Press the <b>Stop</b> button to abort the test.  |
|             | Tray/Bin Manual Sensor Test |             |              | Select from a list of available components<br><br>Reset | Test the printer sensors and switches for correct operation. Each sensor is displayed on the control-panel screen, along with its status. Manually trip each sensor and watch for it to change on the screen. Press the <b>Stop</b> button to abort the test.  |
|             | Component Test              |             |              | Select from a list of available components.             | Use to exercise individual parts independently to isolate noise, leaking, or other issues. To start the test, select one of the components. The test will run the number of times specified by the <b>Repeat</b> option. You might be prompted to remove parts from the printer during the test. Press the <b>Stop</b> button to abort the test. |
|             | Print/Stop Test             |             |              |   | Specify the length of time in milliseconds (0-60,000).   |
|             | Continuous Scan (M527 only) |             |              | 2-sided   |  |
|             | Scanner Tests (M527 only)   |             |              | Sensors   |  |

**Table 2-55 Troubleshooting (M506/M527) (continued)**

| First level              | Second level | Third level | Fourth level | Values                               | Description   |
|--------------------------|--------------|-------------|--------------|--------------------------------------|---|
| Retrieve Diagnostic Data |              |             |              | Create device data file              | Create files that contain information about the printer that can help identify the cause of problems. |
|                          |              |             |              | Create zipped debug information file |   |
|                          |              |             |              | Include crash dump files             |   |
|                          |              |             |              | Clean up debug information           |   |
|                          |              |             |              | Send to E-mail                       |   |
|                          |              |             |              | Export to USB                        |   |
| Generate Debug Data      |              |             |              | Start                                |   |

## Device Maintenance menu (M506/M527)

- [Backup/Restore menu \(M506/M527\)](#)
- [Calibration/Cleaning menu \(M506/M527\)](#)
- [USB Firmware Upgrade menu \(M506/M527\)](#)
- [Service menu \(M506/M527\)](#)

### Backup/Restore menu (M506/M527)

**To display:** At the printer control panel, select the [Device Maintenance](#) menu, and then select the [Backup/Restore](#) menu.

In the following table, asterisks (\*) indicate the factory default setting.

**Table 2-56 Backup/Restore menu (M506/M527)**

| First level  | Second level             | Third level          | Values  | Description |
|--------------|--------------------------|----------------------|---|-------------|
| Backup Data  | Enable Scheduled Backups | Backup Time          | Enter a time                                      |             |
|              |                          | Days Between Backups | Enter the number of days                          |             |
|              | Backup Now               |                      |   |             |
|              | Export Last Backup       |                      |   |             |
| Restore Data |                          |                      | Insert a USB drive that contains the backup file. |             |

### Calibration/Cleaning menu (M506/M527)

**To display:** At the printer control panel, select the [Device Maintenance](#) menu, and then select the [Calibration/Cleaning](#) menu.

In the following table, asterisks (\*) indicate the factory default setting.

**Table 2-57 Calibration/Cleaning menu (M527)**

| First level                                   | Second level      | Values                                    | Description   |
|---|-------------------|---|---|
| Cleaning Settings                             | Auto Cleaning     | Off*<br>On                                | Use to select the <a href="#">Auto Cleaning</a> menu or the <a href="#">Cleaning Interval</a> menu.   |
|   | Cleaning Interval | Select from a list of cleaning intervals. | Use to set the interval when the cleaning page should be printed. The interval is measured by the number of pages printed.  |
|   | Cleaning Size     | Select from a list of support sizes.      | Select the paper size to use for the cleaning page.   |
|   | OK                |   | Select <b>OK</b> to save the settings and exit the menu.  |
|   | Cancel            |   |   |
| Cleaning Page                                 |                   | Print<br>Cancel                           | Use to process the cleaning page that was created by using the <a href="#">Create Cleaning Page</a> menu. The process takes up to 1.5 minutes.  |
| Calibrate Scanner<br>(M527 only)              | Next<br>Cancel    |   | Touch <b>Next</b> to calibrate the device scanner. Messages on the control-panel display will lead you through the calibration process.   |
| Clean Rollers<br>(M527 only)                  |                   | Reset<br>Cancel                           | <a href="#">Maintenance History</a> screen is view only. There are two options: the <a href="#">Reset</a> option to reset the page count, or the <a href="#">Cancel</a> option to go back to the previous screen. |
| Clean Document Feeder Settings<br>(M527 only) | Clean Rollers     | Range: 0 – 100%<br>Default = 10%          | Configure cleaning settings for the document feeder.  |
|   | Very Low Settings | Stop<br>Prompt*<br>Continue               |   |
|   | Save              |   |   |
|   | Cancel            |   |   |
|   |                   |   |   |

### USB Firmware Upgrade menu (M506/M527)

**To display:** At the printer control panel, select the [Device Maintenance](#) menu, and then select the [USB Firmware Upgrade](#) menu.

Insert a USB storage device with a firmware upgrade bundle into the USB port, and follow the on-screen instructions.

### Service menu (M506/M527)

**To display:** At the printer control panel, select the [Device Maintenance](#) menu, and then select the [Service](#) menu.

The [Service](#) menu is locked and requires a PIN for access. This menu is intended for use by authorized service personnel. See the Service mode function section in the printer troubleshooting manual.



## Control panel message document (CPMD)

### Control-panel message types

The control-panel messages and event code entries indicate the current printer status or situations that might require action.



**NOTE:** Event log errors do not appear on the control-panel display. Open the event log to view or print the event log errors.

A control-panel message displays temporarily and might require the user to acknowledge the message by touching the **OK** button to resume printing or by touching the **Stop** button 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 printer will attempt to resume printing after the message has appeared for 10 seconds without acknowledgement.

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

### Control-panel messages and event log entries (M501)



**NOTE:** Some of the messages in the following sections only appear in the event log.



**TIP:** Some control-panel messages and event log entries refer to a specific printer sensor or switch in the recommended action to solve the problem. See the diagrams in the clear jams section of the printer troubleshooting manual for sensor and switch locations.

### 49.XX.YY Error Messages


#### 49 Error, Turn off then on

##### Description

The product has experienced an internal embedded software error. Under most conditions, the product automatically restarts.

##### Recommended action

1. Reset the printer:
  - a. Turn off the power by using the power switch, and then wait at least 30 seconds.
  - b. Turn on the power and wait for the product to initialize.
2. If you are using a surge protector:
  - a. Power off the printer.
  - b. Remove the surge protector.
  - c. Plug the product directly into the wall socket and turn the product power on.
3. If the error persists, disconnect any network or USB cables and power cycle. If the product returns to Ready, check the FW version and update if a newer version is available.
4. If the error persists, print a [Service Page](#) from the [Reports](#) menu. Also, print an [Error Report](#) from the [2ndary Service Menu](#). On the Service Page, look at the xxxx portion of the 49.xxxx errors listed:

- If the numbers are all or mostly different, then power quality is a possible problem; try a different wall socket.
  - If the xxxx portion of 49.xxxx contain repeats of the same numbers or groups of numbers, then check the 2ndary Service Error Report printed earlier for indications of a failure in a particular area. The report may indicate whether the error is caused by a network problem or a problem with the job.
5. If the error persists, replace the product.
- 
-  **NOTE:** If the 49 Error is caused by the network or a specific file, do not replace the product; it will not resolve the issue. Instead, attempt to isolate the issue in a way that demonstrates the error is caused by something in the environment.
- 
6. If the error persists after product replacement, escalate to Level 3 so that Technical Marketing has visibility to the problem.

## 50.XX fuser errors

### 50.XX Fuser Error, Turn off then on

#### Description

The product has experienced an internal fuser hardware error:

- **50.00** = Generic Fuser error
- **50.10** = Low Fuser temperature error
- **50.11** = High sub thermistor area 3 fuser error
- **50.12** = Low sub thermistor area 3 fuser error
- **50.20** = Slow fuser error
- **50.30** = High fuser temperature error
- **50.40** = Fuser drive circuit error
- **50.70** = Fuser open error
- **50.80** = Low sub thermistor fuser error
- **50.90** = High sub thermistor fuser error

#### Recommended action

1. Reset the product:
  - a. Turn off the power by using the power switch, and then wait at least 30 seconds.
  - b. Turn on the power and wait for the product to initialize.
2. If you are using a surge protector:
  - a. Power off the product.
  - b. Remove the surge protector.
  - c. Plug the product directly into the wall socket and turn the product power on.

3. If the error persists, replace the Fusing Assembly:

|                       |                |
|-----------------------|----------------|
| FUSER ASSEMBLY (110v) | RM2-5679-000CN |
| FUSER ASSEMBLY (220v) | RM2-5692-000CN |

4. If the error persists, replace the product.

## 51.XX Laser Errors

### 51.XX Laser Error, Turn off then on

#### Description

An error with the laser/scanner assembly has occurred in the product.

- **51.00** = Laser error
- **51.20** = Black laser scanner error
- **51.30** = Laser error

#### Recommended action

1. Reset the printer:
  - a. Turn off the power by using the power switch, and then wait at least 30 seconds.
  - b. Turn on the power and wait for the product to initialize.
2. If you are using a surge protector:
  - a. Power off the printer.
  - b. Remove the surge protector.
  - c. Plug the product directly into the wall socket and turn the product power on.
3. If the error persists, replace the product.

## 55.XXXX Error Messages

### 55.XXXX Error, Turn off then on

#### Description

The product has experienced an error with one of the internal sensors.

- **55.0** = DC controller communication error
- **55.0601** = DC controller NVRAM data error
- **55.0602** = DC controller NVRAM access error
- **55.1** = DC controller memory error
- **55.3** = Engine communication error

### Recommended action

1. Reset the printer:
  - a. Turn off the power by using the power switch, and then wait at least 30 seconds.
  - b. Turn on the power and wait for the product to initialize.
2. If you are using a surge protector:
  - a. Power off the printer.
  - b. Remove the surge protector.
  - c. Plug the product directly into the wall socket and turn the product power on.
3. If the error persists, replace the DC Controller PCB Assembly:

|  |                |
|--|----------------|
| DC CONTROLLER PCB ASSEMBLY (SIMPLEX MODEL) | RM2-8710-000CN |
| DC CONTROLLER PCB ASSEMBLY (DUPLEX MODEL)  | RM2-7950-000CN |

4. If the error persists, replace the product.

## 57.XX Error Messages

### 57 Fan Error, Turn off then on

#### Description

The product has experienced an error with its internal fan.

- **57.01** = Fan 1 error

#### Recommended action

1. Reset the printer:
  - a. Turn off the power by using the power switch, and then wait at least 30 seconds.
  - b. Turn on the power and wait for the product to initialize.
2. If you are using a surge protector:
  - a. Power off the printer.
  - b. Remove the surge protector.
  - c. Plug the product directly into the wall socket and turn the product power on.
3. If the error persists, replace the internal cooling fan (HP Part #: RK2-8068-000CN).
4. If the error persists, replace the product.

## 58.XX Error Messages

### 58.XX Error, Turn off then on

#### Description

The product has experienced an error with the low voltage power supply.

- **58.04** = Low voltage power supply malfunction

#### Recommended action

1. Reset the printer:
  - a. Turn off the power by using the power switch, and then wait at least 30 seconds.
  - b. Turn on the power and wait for the product to initialize.
2. If you are using a surge protector:
  - a. Power off the printer.
  - b. Remove the surge protector.
  - c. Plug the product directly into the wall socket and turn the product power on.
3. Check the voltage label on the back of the product. If the product is rated 220V and is plugged into a 110V outlet, this error might occur. In most cases, no damage is caused to the product. If a power transformer is used to convert 220V power to 110V, verify that the transformer power rating is sufficient to operate the product.
4. If the error persists, replace the Low Voltage Power Supply PCB Assembly:

---

|   |                |
|---|----------------|
| L.V.POWER SUPPLY PCB ASSEMBLY<br>(110v) | RM2-7941-000CN |
|---|----------------|

---

|   |                |
|---|----------------|
| L.V.POWER SUPPLY PCB ASSEMBLY<br>(220v) | RM2-7942-000CN |
|---|----------------|

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5. If the error persists, replace the product.

## 59.XX Error Messages

### 59.XX Error, Turn off then on

#### Description

The product has experienced an error with the internal motor.

#### Recommended action

1. Reset the printer:
  - a. Turn off the power by using the power switch, and then wait at least 30 seconds.
  - b. Turn on the power and wait for the product to initialize.
2. If you are using a surge protector:

- a. Power off the printer.
  - b. Remove the surge protector.
  - c. Plug the product directly into the wall socket and turn the product power on.
3. If the error persists, replace the Main Motor Assembly (HP Part #: RM2-8684-000CN).

## 79 Errors

### 79 Error, Turn off then on

#### Description

The product has experienced an internal firmware error. Under most conditions, the product automatically restarts.

#### Recommended action

1. Reset the printer:
  - a. Turn off the power by using the power switch, and then wait at least 30 seconds.
  - b. Turn on the power and wait for the product to initialize.
2. If you are using a surge protector:
  - a. Power off the printer.
  - b. Remove the surge protector.
  - c. Plug the product directly into the wall socket and turn the product power on.
3. If the error is intermittent, attempt to isolate the issue to something specific in the customers environment.



**NOTE:** If the 79 Error is caused by the network or a specific file, do not replace the product; it will not resolve the issue. Instead, attempt to isolate the issue in a way that demonstrates the error is caused by something in the environment.

4. If the error is persistent, replace the Formatter PCA:

|                |                        |             |
|----------------|------------------------|-------------|
| M501n          | Formatter PCB Assembly | J8H60-67901 |
| M501n (CHINA)  | Formatter PCB Assembly | J8H60-67902 |
| M501dn         | Formatter PCB Assembly | J8H61-67901 |
| M501dn (CHINA) | Formatter PCB Assembly | J8H61-67902 |

5. If the error persists, replace the product.
6. If the error persists after product replacement, escalate to Level 3 so that Technical Marketing has visibility to the problem.

## Alpha Error Messages

### <COLOR> cartridge is low.

#### Description

The indicated toner cartridge is nearing the end of its useful life.

#### Recommended action

Printing can continue, but consider having a replacement supply on hand.

### <COLOR> cartridge is very low.

#### Description

The indicated toner cartridge is at the end of its useful life. A customer configurable option on this product is "Prompt to Remind Me in 100 pages, 200 pages, 300 pages, 400 pages, or never." This option is provided as a customer convenience and is not an indication these pages will have acceptable print quality.

#### Recommended action

To ensure optimal print quality, HP recommends replacing the toner cartridge at this point. You can continue printing until you notice a decrease in print quality. Actual cartridge life might vary. Once an HP supply has reached Very Low, HP's Premium Protection Warranty on that supply has ended. All print defects or cartridge failures incurred when an HP supply is used in Continue at very low mode will not be considered to be defects in materials or workmanship in the supply under the HP Print Cartridge Warranty Statement.

## Cleaning.

#### Description

The product periodically performs a cleaning procedure to maintain the best print quality.

#### Recommended action

Wait for the cleaning process to finish.

## Device error. Press [OK] to continue.

#### Description

Paper has been delayed as it moves through the product.

#### Recommended action

Press the **OK** button to clear the message.

To avoid this problem, try the following solutions:

1. Adjust the paper guides in the tray. Ensure the front paper guide is pushing the paper against the back edge of the tray.
2. Use paper that meets HP specifications. Store paper unopened in its original packaging.
3. Use the product in an area that meets the environmental specifications for this product.

### Device is busy. Try again later.

#### Description

The product is currently in use.

#### Recommended action

1. Wait for the product to finish the current job, or to finish initializing.
2. Turn the product off, then on, to see whether it comes to a **Ready** state.
3. Restore the device to the factory default settings. ([Setup Menu](#) -> [Service Menu](#) -> [Restore Defaults](#))
4. If the issue persists, upgrade to the latest firmware version.

### Door is open.

#### Description

The products front door is open.

#### Recommended action

Close the door.

### Engine cable connection issue. Contact HP service. Press [OK] to continue.

#### Description

The print engine cable diagnostics did not pass due to a cable issue.

#### Recommended action

Press **OK** to continue to use the device for scanning and faxing, but printing will not be functional. Either replace the product or send to HP service.

### Genuine HP supply installed.

#### Description

A genuine HP supply was just installed.

#### Recommended action

No action necessary.

### Install <COLOR> cartridge.

#### Description

The indicated toner cartridge is missing or not seated correctly.

#### Recommended action

Remove and reinstall the indicated supply.



### **Jam in output bin. Open rear door and clear jam.**

#### **Description**

A paper jam occurred in the output bin area of the printer.

#### **Recommended action**

1. Follow the instructions on the control panel to clear the jammed media.
2. If the issue persists:
  - a. Use paper that meets HP specifications. Store paper unopened in its original packaging.
  - b. Use the product in an area that meets the environmental specifications for this product.

### **Jam in Tray 1. Clear jam and then press [OK].**

#### **Description**

A paper jam occurred while printing from the Tray 1 slot.

#### **Recommended action**

1. Follow the instructions on the control panel to clear the jammed media.
2. If the issue persists:
  - a. Adjust the side paper guides in the tray 1 slot. Allow the printer to pull the media in when inserted in the Tray 1 slot.
  - b. Use paper that meets HP specifications. Store paper unopened in its original packaging.
  - c. Use the product in an area that meets the environmental specifications for this product.
3. If the issue persists, check the pick-up rollers for wear or damage and replace if necessary.

### **Jam in Tray 2. Clear jam and then press [OK].**

#### **Description**

A paper jam occurred while printing from Tray 2.

#### **Recommended action**

1. Follow the instructions on the control panel to clear the jammed media.
2. If the issue persists:
  - a. Adjust the paper guides in the tray. Ensure the front paper guide is pushing the paper against the back edge of the tray.
  - b. Use paper that meets HP specifications. Store paper unopened in its original packaging.
  - c. Use the product in an area that meets the environmental specifications for this product.
3. If the issue persists, replace the Tray 2 Paper Pick-up Roller (HP Part #: RM2-5741-000CN).

### Jam in Tray 3, Clear jam and then press [OK]

#### Description

The product has detected a jam in Tray 3.

#### Recommended action

1. Follow the instructions on the control panel to clear the jammed media.
2. If the issue persists:
  - a. Adjust the paper guides in the tray. Ensure the front paper guide is pushing the paper against the back edge of the tray.
  - b. Use paper that meets HP specifications. Store paper unopened in its original packaging.
  - c. Use the product in an area that meets the environmental specifications for this product.
3. If the issue persists, replace the Optional Tray 3 Paper Pick-up Roller (HP Part #: RM2-5741-000CN).

### Load paper

#### Description

The tray is empty.

#### Recommended action

Load paper in the tray.

### Load tray <X> Press [OK] for available media

#### Description

The tray is empty.

#### Recommended action

Load paper into the tray to continue printing. Press the OK button to select a different tray.

### Load tray 1. Press [OK] to continue.

#### Description

The tray is empty.

#### Recommended action

Load paper into the tray and press **OK** to continue printing.

### Load tray 1 <TYPE>, <SIZE>. Press [OK] to continue.

#### Description

The tray is not configured for the paper type and size that the print job is requesting.

#### Recommended action

Load the correct paper into Tray 1 and press **OK** to continue printing.

**Load tray 1. Plain, <SIZE> / Cleaning mode. Press [OK] to start.**

**Description**

The product is ready to process the cleaning operation.

**Recommended action**

Load Tray 1 with plain paper in the size indicated, and then press the **OK** button.

**Manual Duplex. Load Tray <#>. Press [OK] to continue.**

**Description**

The first side of a manual duplex job has printed, and the page needs to be loaded to process the second side.

**Recommended action**

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 the **OK** button.

**Memory is low. Press [OK] to continue.**

**Description**

The product memory is almost full.

**Recommended action**

Press the **OK** button to finish the job, or touch the Cancel button to cancel the job. Break the job into smaller jobs that contain fewer pages.

**Non-HP supply installed.**

**Description**

A non-HP supply has been installed.

**Recommended action**

No action necessary.



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**NOTE:** If customer believes they purchased a new genuine HP supply, direct them to [www.hp.com/go/anticounterfeit](http://www.hp.com/go/anticounterfeit) to verify.



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**NOTE:** Service or repairs that are required as a result of using unsupported supplies is not covered under HP warranty.

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**Print failure, press [OK]. If error repeats, turn off then on.**

**Description**

The product cannot process the page.

**Recommended action**

Press the **OK** button 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.

### Protected <COLOR> cartridge.

#### Description

A previously protected cartridge was installed in a printer other than the one that initiated the cartridge protection.

#### Recommended action

The cartridge can only be used in the product or fleet of products that initially protected it using Cartridge Protection.

Install a new or unprotected supply.

### Rear door open.

#### Description

The products rear door is open.

#### Recommended action

Close the door.

### Replace <COLOR>.

#### Description

The indicated toner cartridge is at the end of its useful life, and the product is customer-configured to stop printing when it reaches the very low state.

#### Recommended action

Replace the indicated cartridge or change the [Very Low Setting](#) for the supply to something other than [Stop](#).



**NOTE:** To ensure optimal print quality, HP recommends replacing the toner cartridge at this point. You can continue printing (if [Very Low Setting](#) is set to something other than [Stop](#)) until you notice a decrease in print quality. Actual cartridge life might vary. Once an HP supply has reached **Very Low**, HP's Premium Protection Warranty on that supply has ended. All print defects or cartridge failures incurred when an HP supply is used in [Continue](#) at very low mode will not be considered to be defects in materials or workmanship in the supply under the HP Print Cartridge Warranty Statement.

### Supply memory error.

#### Description

There is an error with one of the installed cartridges. 'X' indicates the color of the cartridge.

(X=0: Black, X=1: Cyan, X=2: Magenta, X=3: Yellow)

- **10.000X** (Event Code) — cartridge memory error
- **10.010X** (Event Code) — cartridge memory error
- **10.020X** (Event Code) — cartridge memory error
- **10.030X** (Event Code) — cartridge memory error
- **10.100X** (Event Code) — cartridge memory chip is missing

**Recommended action**

1. Reset the product:
  - a. Turn off the power by using the power switch, and then wait at least 30 seconds.
  - b. Turn on the power and wait for the product to initialize.
2. If the error persists, check the event-log messages to identify the specific cartridge at fault.
3. Verify the indicated cartridge is HP genuine.
4. If the error persists, replace the cartridge.
5. If the error persists, replace the product.

**Unauthorized <COLOR> cartridge.****Description**

The administrator has configured this product to use only genuine HP supplies. The product has determined there is a supply not meeting this criteria

**Recommended action**

Change the [Cartridge Policy](#) to **Off** or replace the cartridge to continue printing.



**NOTE:** If customer believes they purchased a new genuine HP supply, direct them to [www.hp.com/go/anticounterfeit](http://www.hp.com/go/anticounterfeit) to verify.



**NOTE:** Service or repairs that are required as a result of using unsupported supplies is not covered under HP warranty.

**Unexpected size in Tray <#>. Load <SIZE>. Press [OK] to continue.****Description**

The product has detected paper in the indicated tray that does not match the configuration for the tray.

**Recommended action**

Load the correct paper into the tray, or configure the tray for the size that you have loaded and press **OK** to continue printing.

**Used or counterfeit <COLOR> cartridge in use.****Description**

The indicated cartridge is used or counterfeit.

**Recommended action**

No action necessary.



**NOTE:** If customer believes they purchased a new genuine HP supply, direct them to [www.hp.com/go/anticounterfeit](http://www.hp.com/go/anticounterfeit) to verify.



**NOTE:** Service or repairs that are required as a result of using unsupported supplies is not covered under HP warranty.

Used or counterfeit <COLOR> cartridge is installed. Press [OK] to continue.

### Description

The indicated cartridge is used or counterfeit.

### Recommended action

Replace the indicated cartridge with a new genuine HP supply or press **OK** to continue using the installed cartridge.

## Event-log messages

The following product events do not produce a message that appears on the control panel. Instead, they are recorded in the event log. To print the event log, open the secondary service menu, select **Service Reports**, and then select **Error Report**.

**Table 2-58** Event-log messages (X=0: black cartridge)

| Event code  | Description                             |
|-------------|---|
| 10.000X     | Cartridge memory error                  |
| 10.010X     | Cartridge memory error                  |
| 10.020X     | Cartridge memory error                  |
| 10.030X     | Cartridge memory error                  |
| 10.100X     | Cartridge memory chip is missing        |
| 10.300X     | Unauthorized cartridge                  |
| 10.310X     | Non-HP supply in use                    |
| 10.330X     | Used or counterfeit cartridge in use    |
| 10.350X     | Incompatible supply                     |
| 10.400X     | All installed cartridges are genuine HP |
| 10.410X     | Unsupported supply                      |
| 10.700X     | Printing past very low                  |
| 13.0000     | Paper jam                               |
| 20.0000     | Memory out in print                     |
| 20.0003     | Memory out in photo                     |
| 21.0000     | Page punt                               |
| 25.0000     | SMTP error                              |
| 41.2000     | Beam detect malfunction                 |
| 41.3000     | Unexpected size                         |
| 49.<line #> | Firmware asserts                        |
| 50.0000     | Fuser error                             |
| 50.1000     | Low fuser temperature error             |
| 50.1100     | High subthermistor area 3 fuser error   |

**Table 2-58 Event-log messages (X=0: black cartridge) (continued)**

| <b>Event code</b> | <b>Description</b>                                  |
|-------------------|---|
| 50.1200           | Low subthermistor area 3 fuser error                |
| 50.2000           | Slow fuser error                                    |
| 50.3000           | High fuser temperature error                        |
| 50.4000           | Fuser drive circuit error                           |
| 50.7000           | Fuser open error                                    |
| 50.8000           | Low subthermistor fuser error                       |
| 50.9000           | High subthermistor fuser error                      |
| 51.0000           | Beam detect or laser error                          |
| 54.0100           | Environmental sensor error                          |
| 54.0600           | Density sensor error                                |
| 54.1000           | Black drum phase control sensor error               |
| 54.1100           | Black density out of range                          |
| 54.1200           | Black density measurement abnormality               |
| 54.1599           | Black CPR pattern can't be read                     |
| 54.1800           | Black toner level sensor error                      |
| 54.1900           | Bad TOP sensor                                      |
| 54.2000           | Carousel rotation error                             |
| 54.2100           | BD error  |
| 54.2500           | TOP sensor error                                    |
| 54.2800           | Density sensor or CPR contamination warning (54.1C) |
| 55.0000           | Engine internal communication error                 |
| 55.0005           | Hardware memory error                               |
| 55.0601           | DC controller NVRAM data error                      |
| 55.0602           | DC controller NVRAM access error                    |
| 55.1000           | DC controller memory error                          |
| 55.3000           | Engine/ formatter communication error               |
| 55.4000           | Engine communication timeout error                  |
| 55.9028           | DC controller NVRAM restore                         |
| 56.0100           | Illegal input                                       |
| 57.0000           | Fan motor error                                     |
| 57.0100           | Fan motor error                                     |
| 57.0200           | Fan error   |
| 57.0600           | Fan motor error                                     |

**Table 2-58 Event-log messages (X=0: black cartridge) (continued)**

| <b>Event code</b> | <b>Description</b>  |
|-------------------|---|
| 58.0400           | Low voltage power supply error                                    |
| 59.0160           | Main motor rotation error (59.A0)                                 |
| 59.0192           | Developer motor rotation error (59.C0)                            |
| 59.0240           | Transfer alienation failure (59.F0)                               |
| 59.3000           | Fuser motor startup error   |
| 59.4000           | Fuser motor error   |
| 59.5000           | Image drum motor startup error- black                             |
| 59.6000           | Image drum motor rotation error- black                            |
| 59.7000           | Black developer motor startup error                               |
| 59.8000           | Black developer motor rotation error                              |
| 59.9000           | ETB motor start error   |
| 59.9900           | T2 Clutch error   |
| 65.1200           | External device operation error (65.12XX)                         |
| 66.1200           | External device critical error (66.12XX)                          |
| 66.0015           | External device communication error                               |
| 79.0000           | 79 service, firmware exception                                    |
| 79.0001           | 79 service, firmware ASIC fault                                   |
| 90.1101           | The cable from the print engine to the formatter is not connected |
| 95.0001           | A thermal event has occurred                                      |
| 99.0028           | Download error - bad signature accepted                           |
| 99.0029           | Download error - bad signature canceled                           |



## Control-panel messages and event log entries (M506/M527)

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**NOTE:** Some of the messages in the following sections only appear in the event log.



**TIP:** Some control-panel messages and event log entries refer to a specific printer sensor or switch in the recommended action to solve the problem. See the diagrams in the clear jams section of the printer troubleshooting manual for sensor and switch locations.

---

### 10.XX.YZ Error Messages

#### 10.00.00 e-Label Memory Error

##### Description

The printer is unable to read the cartridge data.

This message indicates that the printer cannot read or write to the e-label of the toner cartridge.

This error can cause the supplies status feature to be disabled.

##### Recommended action

1. Remove, and then reinstall the indicated print cartridge.
2. If the error reappears, turn the power off, and then on.
3. Check the cartridge memory tag. If it is damaged, replace the cartridge.
4. If the error persists, replace the indicated print cartridge.

#### 10.00.10 e-Label Missing Memory Error

##### Description

The printer is unable to detect the e-label.

This message indicates that the printer has determined that the e-label is missing.

This error can cause the supplies status feature to be disabled.

##### Recommended action

1. Remove and the reinstall the indicated print cartridge.
2. If the message displays again, turn the printer off then on.
3. Check the cartridge memory tag. If it is damaged, replace the cartridge.
4. If the error persists, replace the indicated print cartridge.

#### 10.00.15 Install <supply>

##### Description

The indicated supply has been removed or installed incorrectly.

**10.00.15** (event code) Black Toner cartridge

**Recommended action**

Replace or install the indicated supply.

See the parts chapter in the service manual for the correct supply or kit part number.

**10.00.33 Used Supply In Use****Description**

A used supply is installed in the printer (end of life).

**10.00.33** (event code) Black toner cartridge

**Recommended action**

No action necessary.

If you believe this is a genuine HP supply, go to [www.hp.com/go/anticounterfeit](http://www.hp.com/go/anticounterfeit).

Using a cartridge that is near its end-of-life can cause this event code.

**10.00.34 Used supply in use****Description**

The print cartridge is used.

**10.00.34** (event code) Black toner cartridge

**Recommended action**

If you believe this is a genuine HP supply, go to [www.hp.com/go/anticounterfeit](http://www.hp.com/go/anticounterfeit).



---

**NOTE:** Removing a cartridge from one printer and then installing it in a different printer (for testing functionality) will cause this event code.

---

**10.00.35 Incompatible supply in use****Description**

An incompatible cartridge is in use.

**10.00.35** (event code) Black toner cartridge

**Recommended action**

Install the correct HP print cartridge for this printer.



---

**NOTE:** The toner cartridge is not compatible with the printer.

---

**10.00.40 Genuine HP supplies installed****Description**

A genuine HP print cartridge has been installed.

**10.00.40** (event code) Black toner cartridge

**Recommended action**

No action necessary.

**10.00.41 Unsupported Supply in Use****Description**

The installed toner cartridge is for a different printer.

**10.00.41** (event code) Black toner cartridge

**Recommended action**

Remove the toner cartridge, and then install the correct cartridge for this printer.

See the parts chapter in the service manual for the correct cartridge part number.


**10.00.60 Black cartridge low****Description**

The black cartridge is low.

**Recommended action**

If print quality is no longer acceptable, replace the print cartridge.

---

 **TIP:** Advise the customer that HP recommends that they have replacement supplies available to install when the print quality is no longer acceptable.

---


**10.00.69 Black cartridge very low****Description**

The black cartridge is very low.

**Recommended action**

If print quality is no longer acceptable, replace the print cartridge.

---

 **TIP:** Advise the customer that HP recommends that they have replacement supplies available to install when the print quality is no longer acceptable.

---

**10.00.70 Printing past very low****Description**

The printer indicates when a supply level is very low. The actual remaining toner cartridge life might vary.

You do not need to replace the toner cartridge at this time unless print quality is no longer acceptable. After an HP supply has reached the very low threshold, the HP premium protection warranty ends.

**10.00.70** (event code) Black toner cartridge

**Recommended action**

If print quality is no longer acceptable, the customer must order and pay for a replacement toner cartridge.

See the parts chapter in the service manual for the correct cartridge part number. Advise the customer that HP recommends that they have replacement supplies available to install when the print quality is no longer acceptable.

#### 10.00.91 Cartridge motor stall

##### Description

Cartridge motor stall.

##### Recommended action

Replace the toner cartridge.

#### 10.23.15 Install <supply>

##### Description

The indicated supply has been removed or installed incorrectly.

**10.23.15** (event code) Fuser kit

##### Recommended action

Replace or install the indicated supply.

See the parts chapter in the service manual for the correct supply or kit part number.

#### 10.23.35 Incompatible <supply>


##### Description

The indicated supply is not compatible with this printer.

**10.23.35** (event code) Fuser kit

##### Recommended action

---


 **CAUTION:** The fuser might be hot. Be careful when removing the fuser.

---

Install a supply that is designed for this printer.

See the parts chapter in the service manual for the correct supply part number.

---

 **TIP:** Advise the customer that HP recommends that they have replacement supplies available to install when the print quality is no longer acceptable.

---

#### 10.23.60

##### Description

The printer indicates when fuser kit is very low. The actual remaining fuse kit life might vary.

You do not need to replace the fuser kit at this time unless print quality is no longer acceptable.

---


 **NOTE:** After an HP supply has reached the very low threshold, the HP premium protection warranty ends.

---

**Recommended action**

If print quality is no longer acceptable, replace the fuser kit. See the parts chapter in the service manual for the fuser kit part number.

---

 **TIP:** Advise the customer that HP recommends that they have replacement supplies available to install when the print quality is no longer acceptable.


---

**10.23.70 printing past very low****Description**

The printer indicates when the fuser kit is very low. The actual remaining fuse kit life might vary.

**10.23.70** (event code) Fuser kit

---


 **NOTE:** After an HP supply has reached the very low threshold, the HP premium protection warranty ends.

---

**Recommended action**

If print quality is no longer acceptable, the customer must order and pay for a replacement fuser assembly (fuser kit).

---

 **TIP:** Advise the customer that HP recommends that they have replacement supplies available to install when the print quality is no longer acceptable.

---

**11.XX.YZ Error Messages****11.00.01 or 11.00.02 Internal clock error****Description**

The printer real time clock has experienced an error.

01=dead clock

02=dead real time clock

**Recommended action**

1. Whenever the printer is turned off and then turned on again, set the time and date on the control panel.
2. If the error persists, remove and reinstall the formatter making sure it is seated properly.
3. Replace the formatter.

**13.XX.YZ Error Messages****13.00.00****Description**

Generic jam event code.

**Recommended action**

Check the printer for a jam. See the clear jams section in the service manual.

### 13.00.EE

#### **Description**

Unknown door open.

#### **Recommended action**

Make sure that all of the doors and covers are closed.

### 13.A2.D2

#### **Description**

Tray 2 media feed jam.

This jam occurs when the media does not reach the pre-feed sensor (SR11) in the designated amount of time after the start of media pickup from Tray 2.

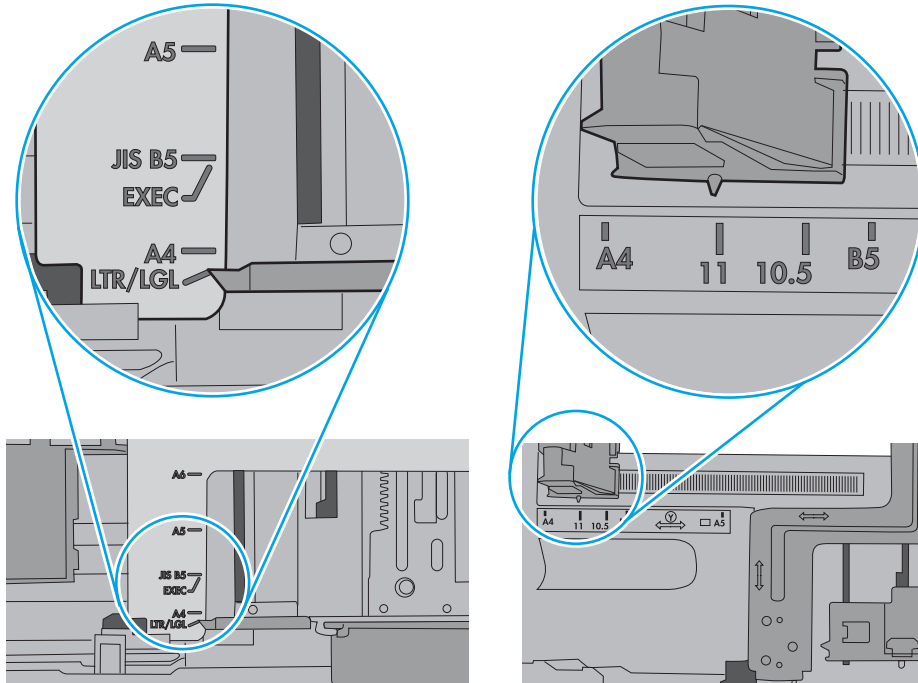
This is a no-pick jam from tray 2.

#### **Recommended action**

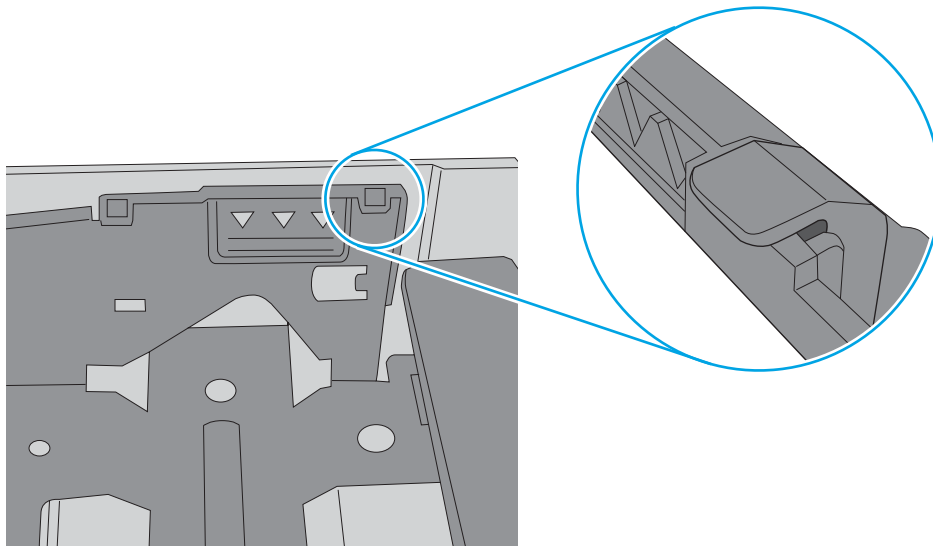
1. Verify the customer has followed steps for clearing jams on control panel.
2. Open Tray 2, remove any jammed paper, and then close the tray.
3. Open and close the upper TOP cover to allow the printer to attempt to clear the jam.

4. Remove the paper from the tray and check that the paper tray size guides are properly set and that the tray is not over filled with paper.

**Figure 2-77** Paper Tray guides



**Figure 2-78** Paper Tray overflow guide



5. Make sure that the Tray 2 pickup, feed, and separation roller are installed correctly and show no damage or wear.
6. Clean or replace the pickup/feed rollers as needed.  
Use a damp, lint-free cloth to gently clean the rollers.
7. Verify that the media in use meets the printers specifications.
8. Open the following menus:

- **Administration**
- **Troubleshooting**
- **Diagnostic Tests**

9. Run the Tray 2 pickup/feed motor drive test to verify that the feed motor is functioning correctly. If it is not, replace the pickup assembly.
10. Test SR11 using the Tray/Bin Manual sensor test to verify that the sensor is functioning correctly.
11. If either of the previous steps fail, elevate the issue to HP for possible printer replacement.



---

**NOTE:** On-site technicians should check the following connections on the DC Controller before elevating the issue. (J157–SR11) (J110 and J144 — Tray 2 feed drive assy and solenoid)

---

### 13.A2.FF

#### **Description**

Residual Media Jam in Tray 2.

This jam occurs when residual media is detected at the Tray 2 feed sensor (SR11).

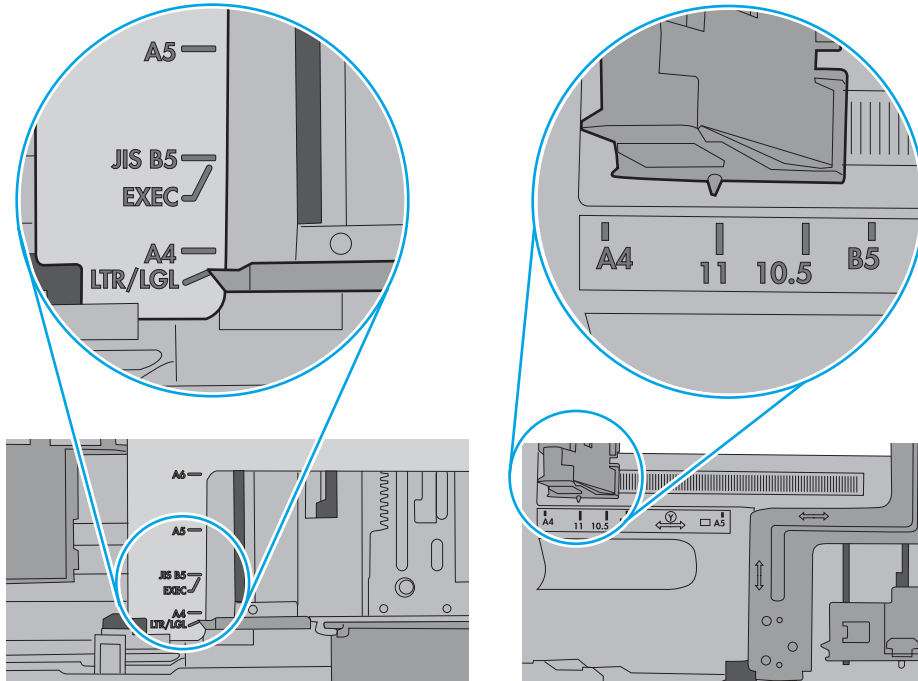
#### **Recommended action**

1. Open Tray 2, remove any jammed paper, and then close the tray.
2. Open and close the upper right door to allow the printer to attempt to clear the jam.

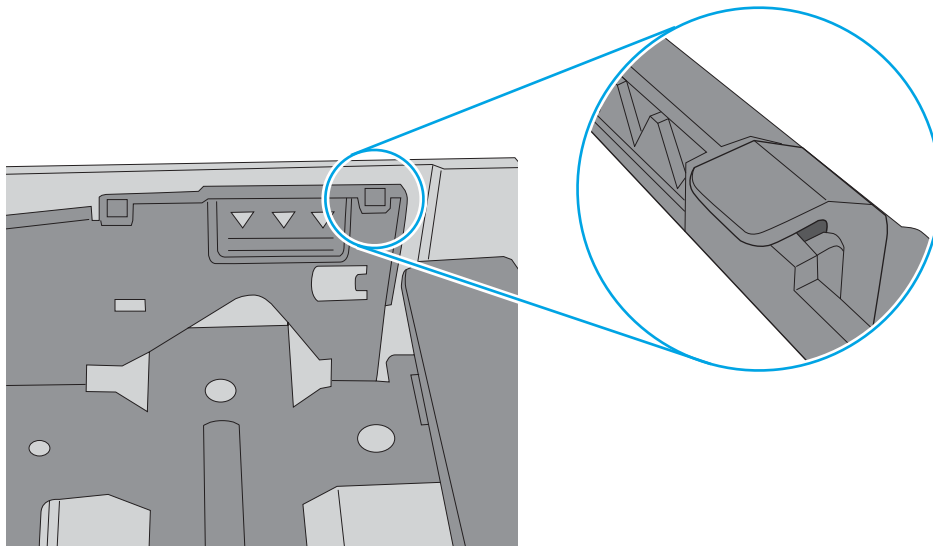


3. Remove the paper from the tray and check that the paper tray size guides are properly set and that the tray is not over filled with paper.

**Figure 2-79** Paper Tray guides



**Figure 2-80** Paper Tray overflow guide



4. Make sure that the Tray 2 pickup, feed, and separation roller are installed correctly and show no damage or wear.
5. Clean or replace the pickup/feed rollers as needed.  
Use a damp, lint-free cloth to gently clean the rollers.
6. Check the connectors at the sensor, feed motor, and the DC controller PCA.
7. Open the following menus:

- **Administration**
  - **Troubleshooting**
  - **Diagnostic Tests**
8. Test SR11 using the Tray/Bin Manual sensor test to verify that the sensors are functioning correctly.
  9. Run the Tray 2 pickup/feed motor drive test to verify that the feed motor is functioning correctly (listen for the motor to activate). If it is not, replace the pickup assembly.
  10. If either of the previous steps fail, elevate the issue to HP for possible printer replacement.



**NOTE:** On-site technicians should check the following connections on the DC Controller before elevating the issue.

(J157–SR11) (J110 and J144) — Tray 2 feed drive assembly and solenoid.

### 13.A3.FF

#### **Description**

Residual Media Jam in Tray 3.

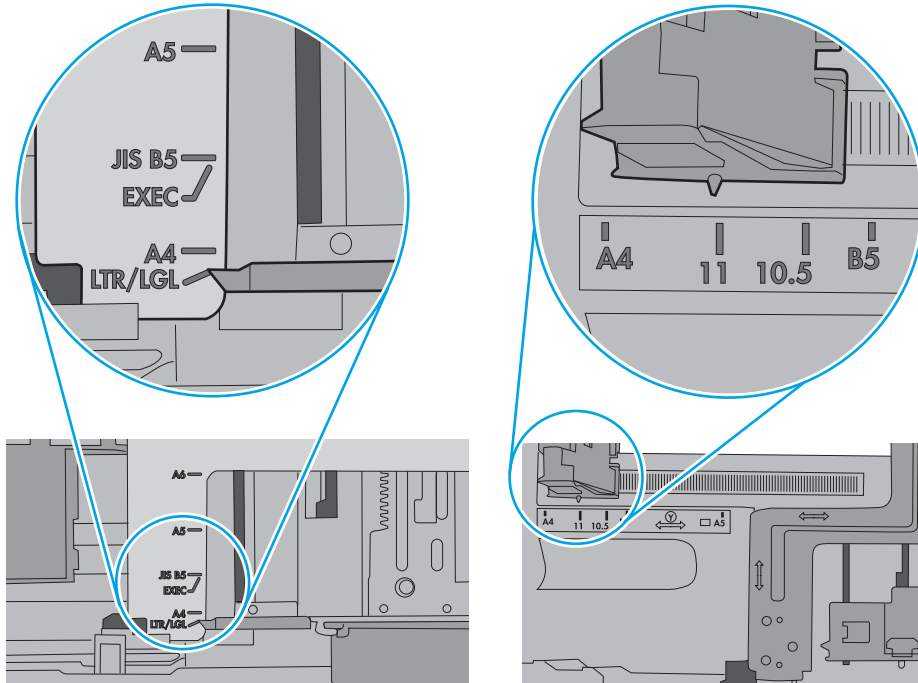
This jam occurs when residual media is detected at the Tray 3 feed sensor (PS432).

#### **Recommended action**

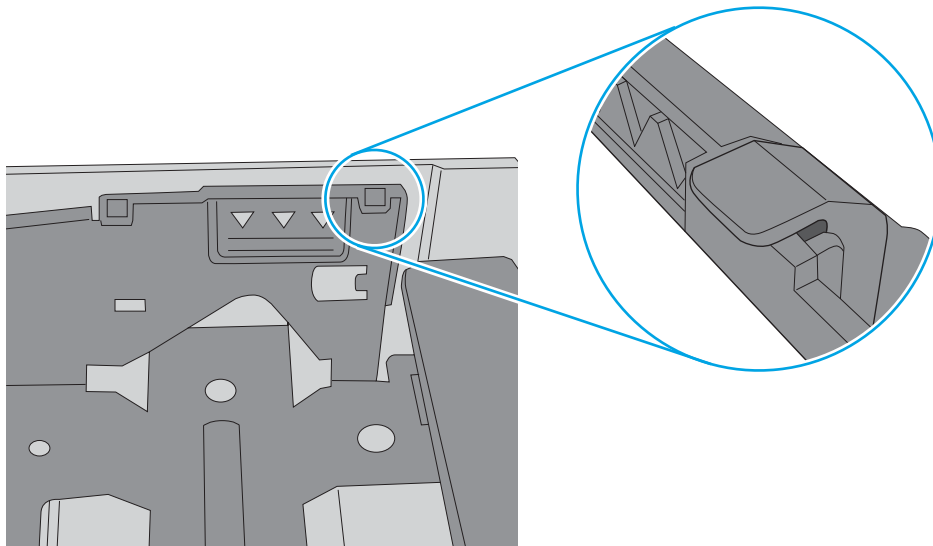
1. Open Tray 3, remove any jammed paper, and then close the tray.
2. Open and close the upper right door to allow the printer to attempt to clear the jam.

3. Remove the paper from the tray and check that the paper tray size guides are properly set and that the tray is not over filled with paper.

**Figure 2-81** Paper Tray guides



**Figure 2-82** Paper Tray overflow guide



4. Make sure that the Tray 3 pickup, feed, and separation roller are installed correctly and show no damage or wear.
5. Clean or replace the pickup/feed rollers as needed.  
Use a damp, lint-free cloth to gently clean the rollers.
6. Check the connectors at the sensor, feed motor, and the DC controller PCA.
7. Open the following menus:

- **Administration**
  - **Troubleshooting**
  - **Diagnostic Tests**
8. Test PS432 using the Tray/Bin Manual sensor test to verify that the sensors are functioning correctly.
  9. Run the Tray 3 pickup/feed motor drive test to verify that the feed motor is functioning correctly (listen for the motor to activate). If it is not, replace the optional paper feeder.
  10. If either of the previous steps fail, elevate the issue to HP for possible printer replacement.



**NOTE:** On-site technicians should check ALL connections on the Paper feed controller PCA before elevating the issue.

---

### 13.A4.FF

#### **Description**

Residual Media Jam in Tray 4.

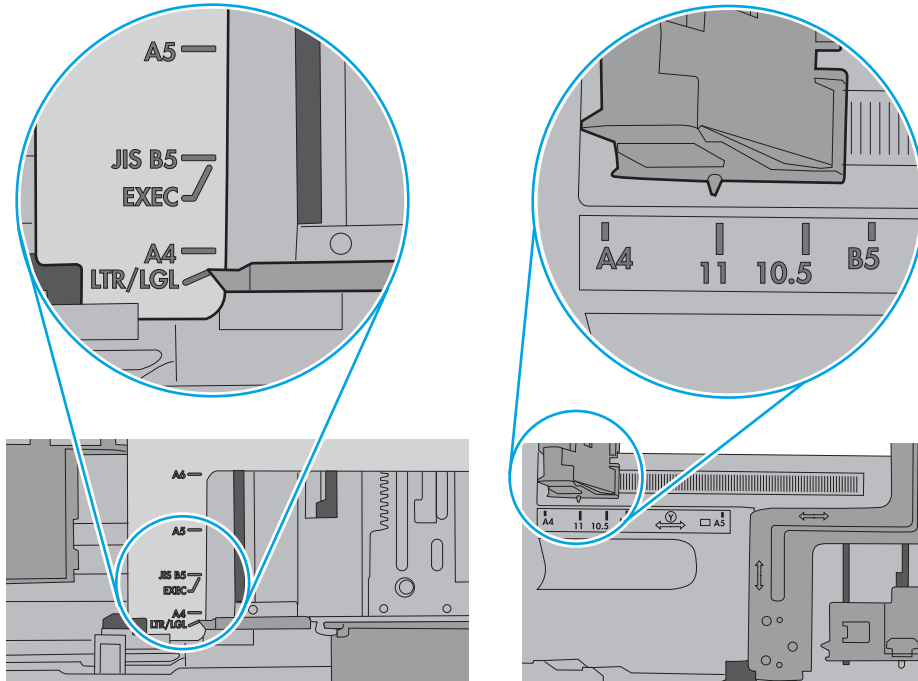
This jam occurs when residual media is detected at the Tray 4 feed sensor (PS432).

#### **Recommended action**

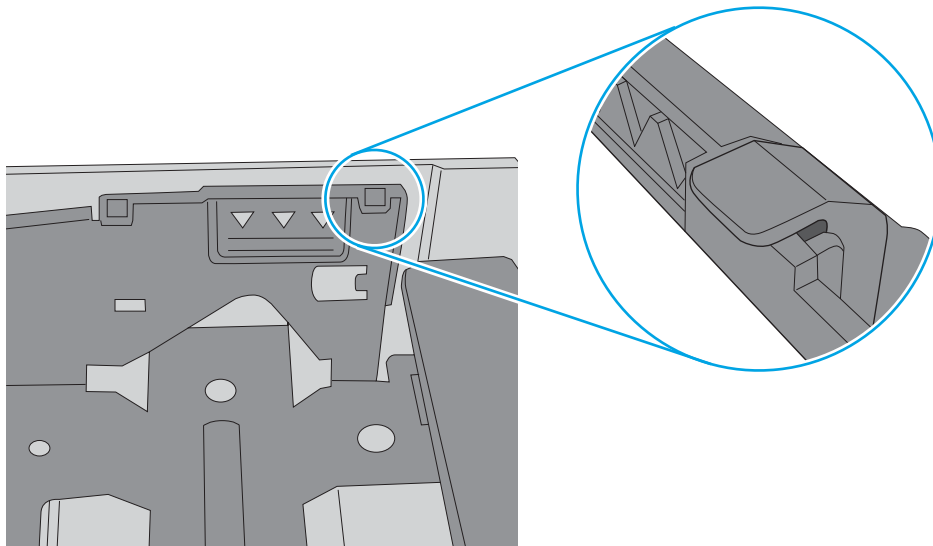
1. Open Tray 4, remove any jammed paper, and then close the tray.
2. Open and close the upper right door to allow the printer to attempt to clear the jam.

3. Remove the paper from the tray and check that the paper tray size guides are properly set and that the tray is not over filled with paper.

**Figure 2-83** Paper Tray guides



**Figure 2-84** Paper Tray overflow guide



4. Make sure that the Tray 4 pickup, feed, and separation roller are installed correctly and show no damage or wear.
5. Clean or replace the pickup/feed rollers as needed.  
Use a damp, lint-free cloth to gently clean the rollers.
6. Check the connectors at the sensor, feed motor, and the DC controller PCA.
7. Open the following menus:

- **Administration**
  - **Troubleshooting**
  - **Diagnostic Tests**
8. Test PS432 using the Tray/Bin Manual sensor test to verify that the sensors are functioning correctly.
  9. Run the Tray 4 pickup/feed motor drive test to verify that the feed motor is functioning correctly (listen for the motor to activate). If it is not, replace the optional paper feeder assembly.
  10. If either of the previous steps fail, elevate the issue to HP for possible printer replacement.



**NOTE:** On-site technicians should check ALL connections on the Paper feed controller PCA before elevating the issue.

---

### 13.A5.FF

#### **Description**

Residual Media Jam in Tray 5.

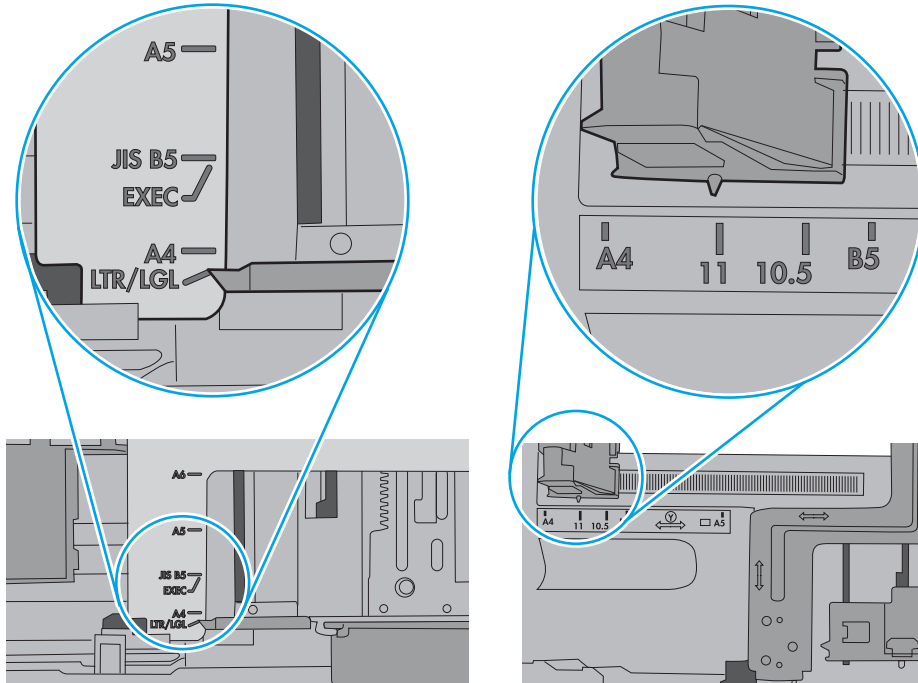
This jam occurs when residual media is detected at the Tray 3 feed sensor (PS432).

#### **Recommended action**

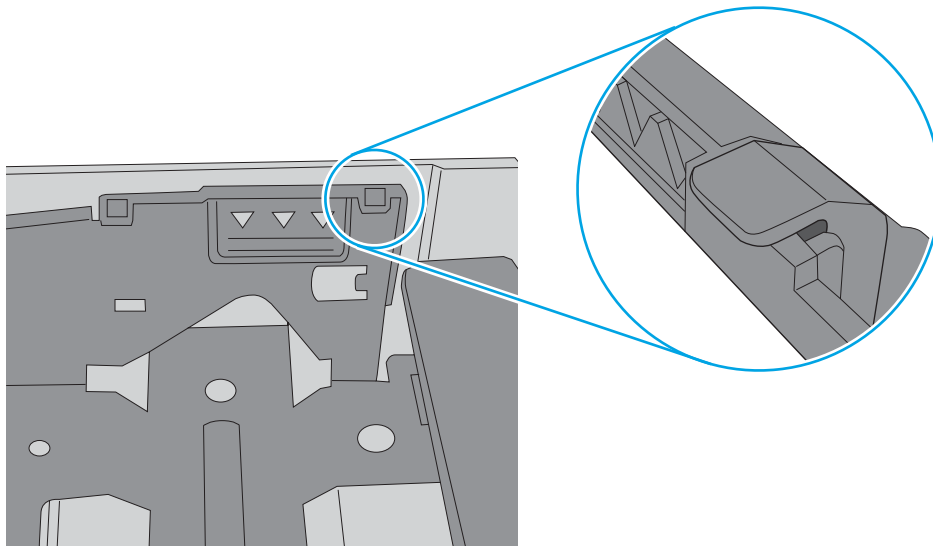
1. Open Tray 5, remove any jammed paper, and then close the tray.
2. Open and close the upper right door to allow the printer to attempt to clear the jam.

3. Remove the paper from the tray and check that the paper tray size guides are properly set and that the tray is not over filled with paper.

**Figure 2-85** Paper Tray guides



**Figure 2-86** Paper Tray overflow guide



4. Make sure that the Tray 5 pickup, feed, and separation roller are installed correctly and show no damage or wear.
5. Clean or replace the pickup/feed rollers as needed.  
Use a damp, lint-free cloth to gently clean the rollers.
6. Check the connectors at the sensor, feed motor, and the DC controller PCA.
7. Open the following menus:

- **Administration**
- **Troubleshooting**
- **Diagnostic Tests**

8. Test PS432 using the Tray/Bin Manual sensor test to verify that the sensors are functioning correctly.
9. Run the Tray 5 pickup/feed motor drive test to verify that the feed motor is functioning correctly (listen for the motor to activate). If it is not, replace the optional paper feeder assembly.
10. If either of the previous steps fail, elevate the issue to HP for possible printer replacement.



**NOTE:** On-site technicians should check ALL connections on the Paper feed controller PCA before elevating the issue.

### 13.Ax.Dz

#### Description

Optional Tray media feed jam.

This jam occurs when the media does not reach the Tray pre-feed sensor PS432 for trays 3–5 in the designated amount of time after the start of media pickup from Tray.

This is a no-pick jam from the specified tray.

**X = Tray sensor jam occurred in.**

**Z = Tray job was pulling from.**

- **13.A3.D3,D4,D5 = Tray 3:**

Media did not reach Tray 3 Media Feed Sensor (PS432) when pulling from Tray 3-5

- **13.A4.D4,D5, = Tray 4:**

Media did not reach Tray 4 Media Feed Sensor (PS432) when pulling from Tray 4-5

- **13.A5.D5, = Tray 5**

Media did not reach Tray 5 Media Feed Sensor (PS432) when pulling from Tray 5

#### Recommended action

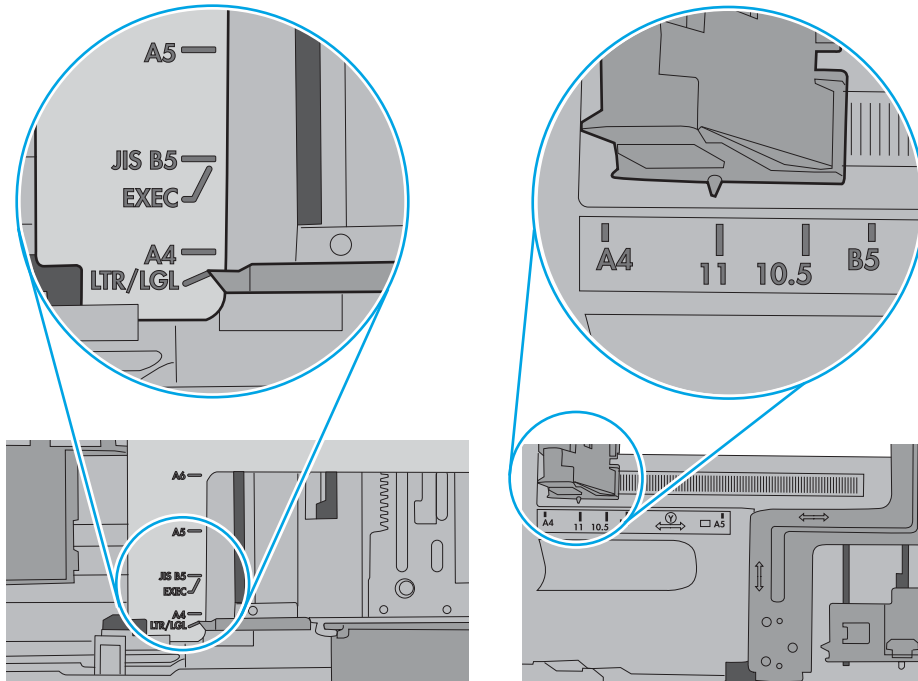
1. Verify the customer has followed steps for clearing jams on control panel.
2. Open and close the upper TOP cover to allow the printer to attempt to clear the jam.



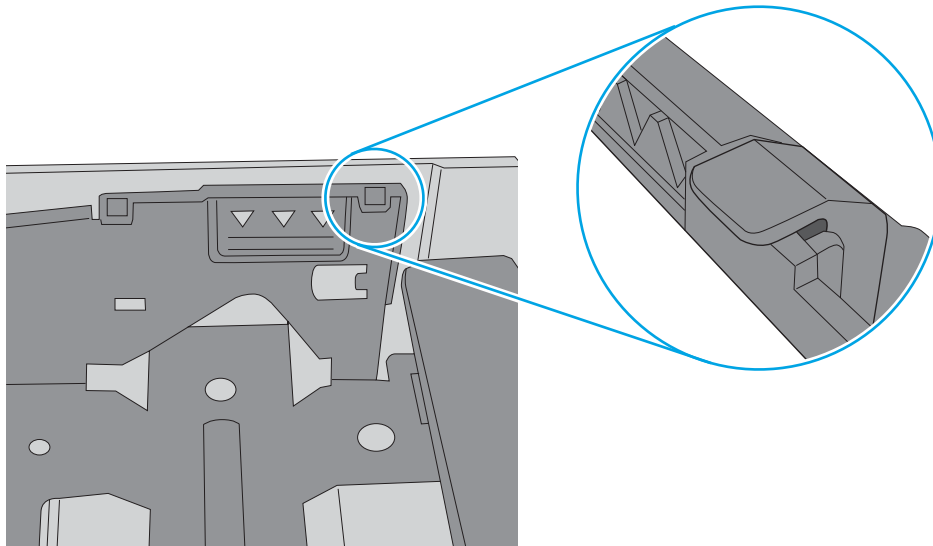
3. Open Tray 2, remove any jammed paper.

Remove the paper from the tray and check that the paper tray size guides are properly set and that the tray is not over filled with paper.

**Figure 2-87** Paper Tray guides



**Figure 2-88** Paper Tray overfill guide



4. Make sure that the Tray pickup, feed, and separation roller are installed correctly and show no damage or wear.
5. Clean or replace the pickup/feed rollers as needed.  
Use a damp, lint-free cloth to gently clean the rollers.
6. Verify that the media in use meets the printers specifications.

7. Open the following menus:
  - **Administration**
  - **Troubleshooting**
  - **Diagnostic Tests**
8. Run the Tray pickup/feed motor drive test to verify that the feed motor is functioning correctly. If it is not, replace the pickup assembly.
9. Test PS432 using the Tray/Bin Manual sensor test to verify that the sensor is functioning correctly.
10. If either of the previous steps fail, elevate the issue to HP for possible printer replacement.



**NOTE:** On-site technicians should check ALL connections on the Paper feed controller PCA before elevating the issue.

---

### 13.B2.Az Jam in top cover

#### Description

Media STAY jam in top cover at image area.

Paper present at SR2 after specified time limit passed.

- **13.B2.A1**

This jam occurs when the media is present longer than "the expected media length plus 50mm" or more is detected at the Registration sensor (SR2) when printing from the Tray 1.
- **13.B2.A2**

This jam occurs when the media is present longer than" the expected media length plus 50mm" or more is detected at the Registration sensor (SR2) when printing from the Tray 2.
- **13.B2.A3**

This jam occurs when the media is present longer than "the expected media length plus 50mm" or more is detected at the Registration sensor (SR2) when printing from the Tray 3.
- **13.B2.A4**

This jam occurs when the media is present longer than "the expected media length plus 50mm" or more is detected at the Registration sensor (SR2) when printing from the Tray 4.
- **13.B2.A5**

This jam occurs when the media is present longer than "the expected media length plus 50mm" or more is detected at the Registration sensor (SR2) when printing from the Tray 5.
- **13.B2.AD**

This jam occurs when the media is present longer than "the expected media length plus 50mm" or more is detected at the Registration sensor (SR2) when printing from the Duplexer.

### Recommended action

1. Open top cover and check for media jammed in feed area.
2. Test the top of page sensor (SR2) to ensure that it moves freely.
3. Check under toner cartridge at transfer area, make sure everything is properly seated and there are no damaged parts.
4. Ensure the type and quality of the media that you are using meet HP specifications.
5. Open the following menus:
  - **Administration**
  - **Troubleshooting**
  - **Diagnostic Tests**
6. Test Registration Sensor Test (TOP sensor) (SR2) using the Tray/Bin manual sensor test to verify that the sensor is functioning correctly.
7. Test the Media Width sensors SR1a and SR2b.
8. If either of the sensors steps fail, elevate the issue to HP for possible printer replacement.



**NOTE:** On-site technicians should check the following connections on the DC controller PCA to ensure they are properly seated and connected before elevating the issue. (J151, J110, J144)

9. If sensors functioning properly, run a few pages to check where the leading edge of the paper actually stops.
10. Test the registration assembly and look for damage, if faulty replace the registration assembly.
11. Look for blockage or damaged parts that stops the media from continuing on through the printer. Check the Fuser input and functionality, if Fuser or other part is found to be defective replace the part.
12. If the error persists, elevate the issue to HP for possible printer replacement.

### 13.B2.Dz Jam in top cover

#### Description

Media delay jam in top cover at image area.

Paper did not reach SR2 in specified time.

- **13.B2.D1**  
Media did not reach the Registration sensor in the designated amount of time printing from Tray 1.
- **13.B2.D2**  
Media did not reach the Registration sensor in the designated amount of time printing from Tray 2.
- **13.B2.D3**  
Media did not reach the Registration sensor in the designated amount of time printing from Tray 3.
- **13.B2.D4**

Media did not reach the Registration sensor in the designated amount of time printing from Tray 4.

- **13.B2.D5**

Media did not reach the Registration sensor in the designated amount of time printing from Tray 5.

- **13.B2.DD**

Media did not reach the Registration sensor in the designated amount of time printing duplexed.

**Recommended action**

1. Open top cover and check for media jammed in feed area.
2. Check for worn out Tray Feed and Separation rollers, replace if found worn out.
3. Ensure the type and quality of the media that you are using meet HP specifications.
4. Open the following menus:
  - **Administration**
  - **Troubleshooting**
  - **Diagnostic Tests**
5. Test the top of page sensor (SR2) and the Media Width sensors SR1a and SR2b.
6. If either of the sensors steps fail, elevate the issue to HP for possible printer replacement.



**NOTE:** On-site technicians should check the following connections on the DC controller PCA to ensure they are properly seated and connected before elevating the issue. (J151, J110, J144)

---

7. If sensors functioning properly, run a few pages to check where the leading edge of the paper actually stops.
8. Check that the registration assembly is functioning correctly, if not replace the registration assembly.
9. If the error persists, elevate the issue to HP for possible printer replacement.

### 13.B2.E2 Jam in top cover

**Description**

Media jam in top cover at image area due to door open.

**Recommended action**

1. Make sure all doors and covers are closed and re-send job.
2. If all doors are closed and message still persists, Test SW2 top cover open detection switch using the diagnostic tests.
3. If the sensor fails test, elevate the issue to HP for possible printer replacement.



**NOTE:** On-site technicians should check the following connections on the DC controller PCA to ensure they are properly seated and connected before elevating the issue. (J151, J110, J144)

---

### 13.B2.FF Jam in top cover

#### Description

Media residual jam in top cover at image area.

Paper present at SR2 at power on or after clearing jam.

#### Recommended action

1. Open top cover and check for media jammed in feed area.
2. Check under toner cartridge at transfer area, make sure everything is properly seated.
3. Test the top of page sensor (SR2).
4. If the sensor fails test, elevate the issue to HP for possible printer replacement.



**NOTE:** On-site technicians should check the following connections on the DC controller PCA to ensure they are properly seated and connected before elevating the issue. (J151, J110, J144)

### 13.B9.Az Fuser jam

#### Description

Fuser delivery stay.

Media stay jam at fuser area.

Paper present at SR13 after specified time limit.


This jam code may be caused by;

An accordion jam at the fuser exit, something blocking the media before the output rollers. The output bin rollers not turning, there is very little distance from the fuser exit and the output bin.

A sticky fuser exit flag, if it stuck or even delayed momentarily in the activated position.

- **13.B9.A1**  
Paper Stay jam is detected when printing from Tray 1.
- **13.B9.A2**  
Paper Stay jam is detected when printing from Tray 2.
- **13.B9.A3**  
Paper Stay jam is detected when printing from Tray 3.
- **13.B9.A4**  
Paper Stay jam is detected when printing from Tray 4.
- **13.B9.A5**  
Paper Stay jam is detected when printing from Tray 5.
- **13.B9.AD**  
Paper Stay jam is detected when printing from the Duplexer.

### Recommended action

 **CAUTION:** Be careful the fuser is HOT, allow it cool if you need to remove debris from in and around the pressure heating components.

1. Open the top and rear covers and then clear any jammed paper.
2. Ensure sure that the paper meets HP printer specifications.
3. Check Fuser delivery sensor for proper functionality and movement.
4. Verify there is no debris from a previous jam stuck in the fuser or rollers leading into or out of the fuser.
5. Confirm the output bin rollers are turning.
6. Perform Manuel Sensor Test and check SR13 Fuser delivery sensor. If found faulty then replace the Fuser assembly.

### 13.B9.Bz Fuser jam

#### Description

Multi-feed jam in fuser.

This jam occurs when a near complete overlap (less than 5 to 15 mm of non-overlap) multi-feed jam is detected.

- **13.B9.B1**  
Multi-Feed jam is detected when printing from Tray 1.
- **13.B9.B2**  
Multi-Feed jam is detected when printing from Tray 2.
- **13.B9.B3**  
Multi-Feed jam is detected when printing from Tray 3.
- **13.B9.B4**  
Multi-Feed jam is detected when printing from Tray 4.
- **13.B9.B5**  
Multi-Feed jam is detected when printing from Tray 5.
- **13.B9.BD**  
Multi-Feed jam is detected when printing from the Duplexer.

#### Recommended action

1. Open the top and rear covers and then clear any jammed paper.
2. Ensure sure that the paper meets HP printer specifications.
3. Check Fuser delivery sensor for proper functionality and movement.
4. Verify there is no debris from a previous jam stuck in the fuser or rollers leading into or out of the fuser.

5. Confirm the output bin rollers are turning.
6. Perform Manuel Sensor Test and check SR13 Fuser delivery sensor. If found faulty then replace the Fuser assembly.

### 13.B9.Cz

#### Description

Fuser Wrap Jam.

This jam occurs when the media disappears from the fuser output sensor before a designated amount of time after the media reached the fuser output sensor (SR13).

(The printer has determined that the media is being wrapped around the fuser roller.)

Z = Fuser mode

- **13.B9.C1 (event code)**  
Fuser wrap jam when **Auto Sense (Normal)**.
- **13.B9.C2 (event code)**  
Fuser wrap jam when **Normal**.
- **13.B9.C3 (event code)**  
Fuser wrap jam when **Light 1** or **Light 2** (see event log secondary jam information for specific code).
- **13.B9.C4 (event code)**  
Fuser wrap jam when **Heavy 1**.
- **13.B9.C5 (event code)**  
Fuser wrap jam when **Heavy 2**.
- **13.B9.C6 (event code)**  
Fuser wrap jam when **Heavy media 3**.
- **13.B9.C7 (event code)**  
Fuser wrap jam when **Glossy media 1**.
- **13.B9.C8 (event code)**  
Fuser wrap jam when **Glossy media 2**.
- **13.B9.C9 (event code)**  
Fuser wrap jam when **Glossy media 3**.
- **13.B9.CB (event code)**  
Fuser wrap jam when **Transparency**.
- **13.B9.CC (event code)**

Fuser wrap jam when **Label**.

- **13.B9.CD (event code)**

Fuser wrap jam when **Envelope 1** or **Envelope 2** (see event log secondary jam information for specific code).

**Recommended action**

1. Open the top and rear covers and then clear any jammed paper.
2. Ensure sure that the paper meets HP printer specifications.

If the customer media is within specifications, but curls up on the output bin, you can recommend:

- Open input tray and rotate new media so the top page is now the bottom page.
  - Explain that the media curls and it is better if it curls down than up for printing to avoid fuser wrap jams.
3. Check to see if the paper jam is found wrapped around the fuser roller. If so and the media is within HP specifications for this printer replace the Fuser Assembly.

### 13.B9.Dz

**Description**

Fuser delivery delay jam

Media did not reach Fuser sensor SR13 specified time.

- **13.B9.D1**

Fuser delivery delay jam when printing from Tray 1.

- **13.B9.D2**

Fuser delivery delay jam when printing from Tray 2.

- **13.B9.D3**

Fuser delivery delay jam when printing from Tray 3.

- **13.B9.D4**

Fuser delivery delay jam when printing from Tray 4.

- **13.B9.D5**

Fuser delivery delay jam is detected when printing from Tray 5.

- **13.B9.DD**

Fuser delivery delay jam when printing with the Duplexer.

**Recommended action**

The following are possible causes and areas that should be investigated.




- The paper jam is found wrapped around the fuser roller. In this case it is a sign of a worn out fuser.
  - The paper jam is found underneath the toner cartridge or in the transfer area. In this case it could be the drum drive or the white collar that holds the toner cartridge in position has broken or even a damaged or defective toner cartridge.
  - Fuser drive or delivery issue.
1. Determine where the Jam is located.
  2. Open top cover and check under the toner cartridge.
  3. Open rear output bin and check for media or obstructions.

**Media stopped in the Toner/transfer area (Stopped BEFORE the Fuser):**

1. Open top cover and check under toner cartridge for media or obstructions.
2. Ensure the Toner Cartridge and Transfer Roller are seated properly. If damaged replace toner cartridge or transfer roller.
3. Check the toner cartridge guides and the transfer roller assembly, If either are damaged elevate the issue to HP for possible printer replacement.
4. Inspect the white plastic collar that cradles the drum cartridge that is positioned around the drum drive gear. If the collar portion is broken and missing a section it will allow the cartridge to insert further than designed and not allow the drum drive to engage with the toner cartridge. elevate the issue to HP for possible printer replacement.
5. If collar is not broken, Test the drum drive motor M102 using the diagnostic test. If test fails, elevate the issue to HP for possible printer replacement.

**Media Stopped In or At the Fuser**

---

 **CAUTION:** The fuser might be **HOT**.

---

1. Remove the Fuser and inspect Fuser sleeve, Pressure roller and delivery roller for blockage and/or damage. Replace Fuser as needed.
2. Verify that fuser inlet guide is not detached or broken. Replace Fuser as needed.
3. Open the following menus:
  - **Administration**
  - **Troubleshooting**
  - **Diagnostic Tests**
4. Check the media path sensors in the sensor test. (SR13) verify the sensor is functioning correctly. If it is not, replace the fuser.
5. Touch **Component Test**.
6. Run the Fuser motor drive test to verify that the Fuser Drive and Gears are functioning correctly. If they are not, elevate the issue to HP for possible printer replacement.

**If media Did not Stop "IN FUSER" or at "Toner/Transfer Area.**

1. Check Media path between transfer and fuser.
2. If media has stopped in this area and will not progress beyond feed-guide assembly CLEAN the area and retest. If issue persists, elevate the issue to HP for possible printer replacement.

### 13.B9.FF

#### Description


Residual Media jam Fuser Output Sensor.

Paper present at SR13 after specified time limit or on power up.

#### Recommended action

1. Open the top and rear cover and clear the jam in the indicated area.
2. Close the covers to allow the printer to attempt to clear the jam.
3. Verify the media meets HP specification for the printer.
4. Remove the fuser and inspect the fuser sleeve, pressure roller, and delivery roller for blockage and/or damage. Replace the fuser as needed.

---

 **CAUTION:** The fuser might be **HOT**.

---

5. Open the following menus:
  - **Administration**
  - **Troubleshooting**
  - **Diagnostic Tests**
6. Test the Fuser Delivery sensor (SR13) using the manual sensor test to verify the sensor is functioning correctly. If it is not, replace the fuser.
7. Run the Fuser motor drive test to verify that the Fuser Drive and Gears are functioning correctly. If they are not, elevate the issue to HP for possible printer replacement.

### 13.D3.Bz

#### Description

Multi-feed to duplex re-feed jam.

- **13.D3.B1**  
The fuser is printing in fuser mode **Auto Sense** special case distinguished from "typed" Normal.
- **13.D3.B2**  
The fuser is printing in fuser mode **Normal**.
- **13.D3.B3**  
The fuser is printing in fuser mode **Light 1** or **Light 2** (see the event log secondary jam information digits for specific mode).
- **13.D3.B4**

- The fuser is printing in fuser mode **Heavy 1**.

  - **13.D3.B5**

The fuser is printing in fuser mode **Heavy 2**.

  - **13.D3.B6**

The fuser is printing in fuser mode **Heavy media 3**.

  - **13.D3.B7**

The fuser is printing in fuser mode **Glossy media 1**.

  - **13.D3.B8**

The fuser is printing in fuser mode **Glossy media 2**.

  - **13.D3.B9**

The fuser is printing in fuser mode **Glossy media 3**.

**Recommended action**

1. Make sure that customer is using HP Genuine cartridge and again test this printer with another working or new cartridge.
2. Verify the media meets HP specification for the printer.
3. Perform the continuous test in simplex mode at least 50 pages to make sure that issue is occurring while printing duplex printing only.
4. Test duplexing from multiple trays to see if issue is TRAY specific or not.  
If jam occurs from specific tray Troubleshoot tray pick and feed issue.
5. Make sure Tray is set correctly. If Tray 1 is set to ANY size ANY Type set it to the size customer is trying to print on.
6. Check and Clean the status charge eliminator properly. (Next to transfer roller).
7. Ensure all connections to duplex on the DC are properly seated.
8. If issue persists, elevate the issue to HP for possible printer replacement.

**13.D3.Dz**

**Description**

Late to duplex re-feed jam.

- **13.D3.D1**
- The fuser is printing in fuser mode **Auto Sense** special case distinguished from "typed" Normal.
- **13.D3.D2**
- The fuser is printing in fuser mode **Normal**.
- **13.D3.D3**

The fuser is printing in fuser mode **Light 1** or **Light 2** (see the event log secondary jam information digits for specific mode).

- **13.D3.D4**

The fuser is printing in fuser mode **Heavy 1**.

- **13.D3.D5**

The fuser is printing in fuser mode **Heavy 2**.

- **13.D3.D6**

The fuser is printing in fuser mode **Heavy media 3**.

- **13.D3.D7**

The fuser is printing in fuser mode **Glossy media 1**.

- **13.D3.D8**

The fuser is printing in fuser mode **Glossy media 2**.

- **13.D3.D9**

The fuser is printing in fuser mode **Glossy media 3**.

#### **Recommended action**

1. Make sure that customer is using HP Genuine cartridge and again test this printer with another working or new cartridge.
2. Verify the media meets HP specification for the printer.
3. Perform the continuous test in simplex mode at least 50 pages to make sure that issue is occurring while printing duplex printing only.
4. Test duplexing from multiple trays to see if issue is TRAY specific or not.  
If jam occurs from specific tray Troubleshoot tray pick and feed issue.
5. Make sure Tray is set correctly. If Tray 1 is set to ANY size ANY Type set it to the size customer is trying to print on.
6. Check and Clean the status charge eliminator properly. (Next to transfer roller).
7. Ensure all connections to duplex on the DC are properly seated.
8. If issue persists, elevate the issue to HP for possible printer replacement.

#### **13.E5.FF**

##### **Description**

A power on jam has occurred.

##### **Recommended action**

Check the printer for a jam. See the clear jams section in the service manual.

### 13.EA.FF

#### **Description**

A door jam has occurred.

#### **Recommended action**

Check the printer for a jam. See the clear jams section in the service manual.

Use the component test to isolate a faulty door switch or sensor.

### 13.EE.FF

#### **Description**

A door jam has occurred.

#### **Recommended action**

Check the printer for a jam. See the clear jams section in the service manual.

Use the Manual sensors test or Tray/Bin manual sensors test to isolate a faulty door switch or sensor.

### 13.FF.EE

#### **Description**

A power on jam has occurred.

#### **Recommended action**

Check the printer for a jam. See the clear jams section in the service manual.

### 13.FF.FF

#### **Description**

A power on residual paper jam has occurred.

This error has no specific sensor designated. It could be any sensor in the media feed path.

#### **Recommended action**

1. Check the printer for a jam.
2. Look for media present or obstructions in paper path.  
View event log to determine if other Jam errors are occurring and troubleshoot those errors.
3. Use the Manual sensors test or Tray/Bin manual sensors test to isolate a faulty door switch or sensor.
4. Replace parts as determined by Sensor tests or obstructions.  
If sensor can not be replaced, elevate the issue for possible printer replacement.

## 20.XX.YZ Error Messages

### 20.00.00 Insufficient memory <device>

#### Description

Event log message 20.00.00.

The printer does not have enough memory to print the page.

The printer received more data than can fit in the available memory. You might have tried to transfer too many macros, soft fonts, or complex graphics.

#### Recommended action

Touch the **OK** button to print the transferred data. Some data might be lost. Reduce the page complexity or add printer memory.

### 21.00.00 Page Too Complex Event log error message 21.00.00.

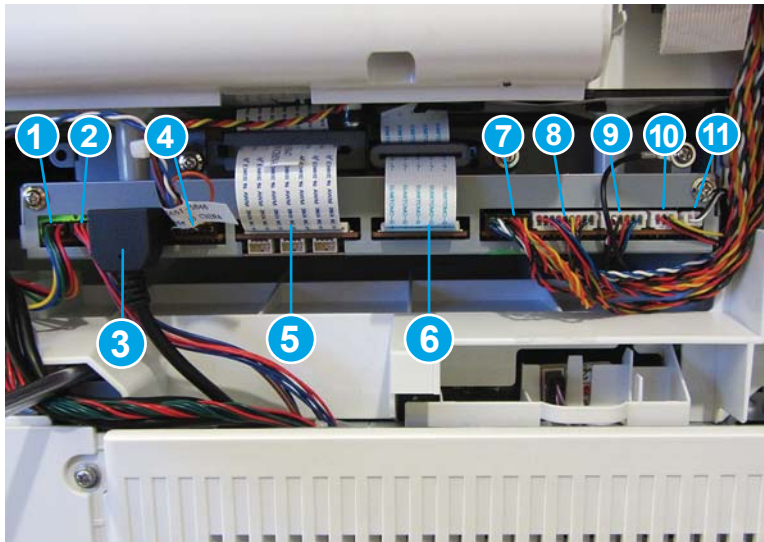
#### Description

The printer displays this message to indicate that the page decompression process was too slow for the printer.

#### Recommended action

Touch the **OK** button to continue. There may be some data loss on the page that was being formatted when the error occurred.

## 30.XX.YZ Error Messages



|   |   |
|---|---|
| 1 | Stapler power   |
| 2 | SCB Power (24v)   |
| 3 | PAB to SCAM Communication (HDMI)                                  |
| 4 | Flatbed sensors (ADF open and Flatbed media length_ and Cave LED) |
| 5 | Flatbed (S1) Flat flexible cable (Scanner data and flatbed motor) |

---

|    |   |
|----|---|
| 6  | ADF (S2) Flat flexible cable (Scanner data)                 |
| 7  | ADF Motors (Feed and Deskew)                                |
| 8  | ADF Sensors (Prescan, media present receiver and top hatch) |
| 9  | ADF Ultra sonic sensor receiver and deskew sensor           |
| 10 | LTR/LGL (letter/legal) Input tray sensor                    |
| 11 | Ultra sonic sensor transmitter                              |

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### 30.01.01

#### Description

The flatbed cover sensor was interrupted.

The scanner flatbed cover is open.

Message appears only in the event log and is not posted on the control panel.

The control panel will read **Flatbed Cover Open**.

#### Recommended action

This error message should automatically clear.

If the error persists, open the scanner tests to test the flatbed cover sensor.

1. If the cover is closed, check the cover sensor at the center rear of the scanner for correct mechanical functionality, if sensor is not working, replace the flat bed scanner assembly. To test the sensor use the scanner sensor test in the [Administration / Troubleshooting / Diagnostics / Scanner Tests](#) Menu.
2. Check the connectors on the scanner control board (SCB) for loose connections.
3. Replace the scanner control board (SCB).

### 30.01.08 Home position error

#### Description

The scanner optic failed to return to the home position.

#### Recommended action

1. Turn the product off, and then on again.
2. Observe the movement of the optics assembly.
3. If the error persists, run the scanner motor test under component test. [Administration / Troubleshooting / Scanner tests / Flatbed motor test](#).
4. If issue still remains and firmware has been upgraded replace scanner control board (SCB).
5. If the error persists, replace the scanner sub assembly (SSA).



**NOTE:** Check all cables on SCB for proper connection and seating before replacing any parts

### 30.01.14 Scan system EEPROM error

#### **Description**

Scanner control board (SCB) EEPROM error.

#### **Recommended action**

1. Turn the product off, and then on again.
2. Make sure all connectors on the scanner control board (SCB) are seated fully.
3. Make sure the product has the latest scanner control board (SCB) firmware version.
4. Replace the scanner control board (SCB).

### 30.01.15 Scanner error

#### **Description**

Scanner did not initialize (internal error).

The scanner failed to be initialized due to an internal error.

#### **Recommended action**

1. Turn the product off, and then on again.
2. Make sure that all covers are installed correctly and that the document feeder and document feeder jam cover are closed.
3. Check all sensors on the scanner to make sure they are not blocked.
4. Remove the rear cover of the scanner to see if the GREEN LEDs on the scanner control board (SCB) are illuminated.
5. Check all connections for scanner control board (SCB) to print engine.
6. Replace the scanner control board (SCB).
7. Replace SSA (scanner sub assembly)

### 30.01.18 Scanner Error

#### **Description**

Scanner internal optical sensor error.

#### **Recommended action**

1. Turn the product off, and then on again.
2. Make sure that all the connectors on the scanner control board (SCB) are seated fully.
3. Make sure that the product has the latest scanner control board (SCB) firmware version.
4. Replace the scanner control board (SCB).
5. If the error persists, replace the image scanner assembly (SSA).



### 30.01.19 Scanner lamp error

#### **Description**

Scanner internal lamp sensor error.

#### **Recommended action**

1. Turn the product off, and then on again.
2. Verify that the scanner lamp turns on and off approximately 12 seconds after the product is turned on.
3. Re-seat the interconnect cables between the SSA and the scanner control board (SCB). (The HDMI Cable)
4. Replace the image scanner assembly (SSA).

### 30.01.30 or 30.01.32

#### **Description**

HP image ASIC error.

#### **Recommended action**

1. Turn the product off, and then on again.
2. Check the connections on the scanner control board (SCB).
3. Replace the scanner control board (SCB).

### 30.01.36 Upgrade Error try downloading upgrade again

#### **Description**

Scanner firmware upgrade error.

#### **Recommended action**

1. Re-send the printer firmware upgrade.
2. If the error persists, replace the scanner control board (SCB).

### 30.01.41 Scanner error

#### **Description**

The formatter lost connections with the scanner control board (SCB) or communication was corrupted.

#### **Recommended action**

1. Turn the product off, and then on.
2. Upgrade the firmware.
3. Verify that all cables are connected to the product formatter, and scanner control board (SCB).
4. Verify that the scanner control board (SCB) has power.
5. Replace the scanner control board (SCB).
6. Replace the formatter.

### 30.01.42 Scanner error

#### Description

Internal product communication error.

#### Recommended action

1. Turn the product off, and then on again.
2. If the error persists, turn the product off, and then check the scanner control board (SCB) connectors.
3. If this error occurs after a formatter, fax card or hard disk has been replaced, check that the formatter connectivity LED (smile face icon on the formatter) is illuminated. Check the fax card for proper seating on the formatter. (If fax card is not properly seated it can prevent the formatter from seating properly in the product..)
4. If the error persists, replace the scanner control board (SCB).
5. If error persists, replace the formatter.

### 30.01.43 Scanner memory failure

#### Description

Scan memory error.

#### Recommended action

1. Turn the product off, and then on again.
2. If the error persists, turn the product off, and then re-seat the formatter.
3. If the error persists, replace the formatter.

### 30.01.44

#### Description

Scanner control board (SCB) communication error.

#### Recommended action

1. Turn the product off, and then on again.
2. If the error persists, turn the product off, and then check the scanner cable.
3. Upgrade the firmware.
4. If the error persists, turn the product off, and then re-seat the formatter.
5. If the error persists, replace the scanner control board (SCB) or the formatter.
6. If error persists, replace the formatter.

### 30.01.46 Scanner Error

#### Description

The Scanner firmware error.

**Recommended action**

1. Turn the product off, and then on again.
2. If the error persists, turn the product off, and then check all cables on the formatter and SCB for proper connection and seating.
3. If the error persists, replace the scanner control board (SCB).

**30.01.48 Scanner error****Description**

Scanner error.

Scanner power is not connected.

**Recommended action**

1. Turn the product off, and then on again.
2. If the error persists, turn the product off, and then check the scanner wire-harness connectors for proper connection and seating. Also check the formatter to SCB cable.
3. If the error persists, replace image scanner assembly.

**30.01.50 Scanner error****Description**

Internal scanner control board (SCB) error.

**Recommended action**

1. Turn the product off, and then on again.
2. Upgrade the firmware.
3. If the error persists, replace the scanner control board (SCB).

**30.03.14****Description**

A non-fatal error has occurred.

A scanner EEPROM (NVM) error has occurred.

**Recommended action**

This is an informational message, and no action is required.

**30.03.20****Description**

The firmware cannot communicate with the PCA on the assembly.

**Recommended action**

1. Turn the product off, and then on again.
2. Verify that the FFCs between scanner and the scanner control board (SCB) are connected.
3. Check to see if there is power to the SCB (green led lights). If no power, check the SCB and DC controller (J108) and LVPS connector. If connectors are properly connected and no power to SCB, replace SCB.
4. Replace the scanner sub assembly.

**30.03.22 Scanner failure****Description**

Front side illumination calibration failure.

The scan module cannot see the illumination module, or marginal illumination.

The optical assembly may not be parked under the calibration strip.

**Recommended action**

1. Turn the product off, and then on again.
2. Clean the glass for both the ADF (top of cover and on glass) and clean white strip.
3. Upgrade the firmware.
4. Check the event log for other scanner errors, and then resolve those errors.
5. Check the scan module FFC connection.
6. Replace the scanner sub assembly.

**30.03.23 Scanner failure****Description**

Calibration error.

**Recommended action**

1. Turn the product off, and then on again.
2. Upgrade the firmware.
3. Replace the scanner sub assembly.

**30.03.30 Scanner Failure****Description**

Flatbed motor shutdown.

The scanner control board (SCB) cannot communicate with the flatbed scanner motor.

### Recommended action

1. Turn the product off, and then on again. As the product turns on, verify that the scan head moves.
2. Verify that the drive belt is in the correct position.
3. Run diagnostics on the flatbed scanner to see if the scan bar moves.  
(For this test, run the continuous scan from the scanner test menu)
4. Check the cable connection to the scanner control board (SCB).
5. Replace the image scanner assembly.

### 30.03.45 Scanner Error To continue turn off then on

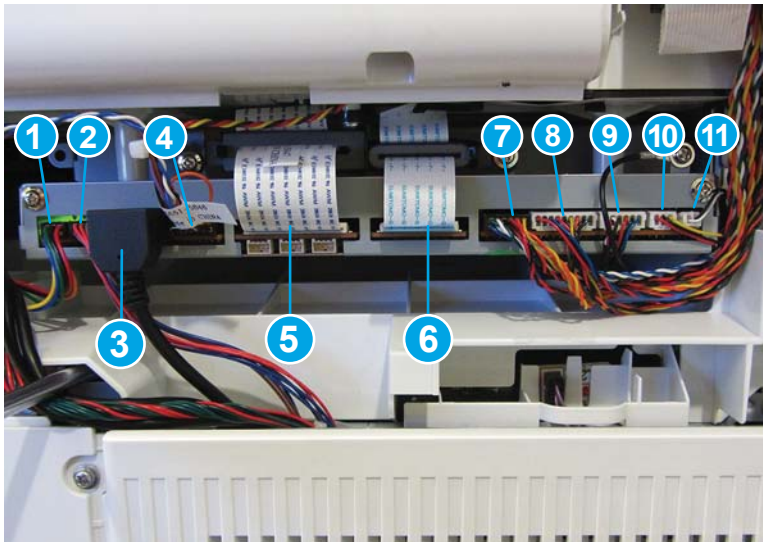
#### Description

Scanner control board (SCB) firmware assertion failure. SCB firmware assert controls the scan head motor.

#### Recommended action

1. Turn the product off, and then on again.
2. Upgrade the firmware.
3. Replace the scanner control board (SCB).
4. Replace the image scanner assembly.

### 31.XX.YZ Error Messages



|   |   |
|---|---|
| 1 | Stapler power   |
| 2 | SCB Power (24v)   |
| 3 | PAB to SCAM Communication (HDMI)                                  |
| 4 | Flatbed sensors (ADF open and Flatbed media length_ and Cave LED) |
| 5 | Flatbed (S1) Flat flexible cable (Scanner data and flatbed motor) |

|    |   |
|----|---|
| 6  | ADF (S2) Flat flexible cable (Scanner data)                 |
| 7  | ADF Motors (Feed and Deskew)                                |
| 8  | ADF Sensors (Prescan, media present receiver and top hatch) |
| 9  | ADF Ultra sonic sensor receiver and deskew sensor           |
| 10 | LTR/LGL (letter/legal) Input tray sensor                    |
| 11 | Ultra sonic sensor transmitter                              |

### 31.01.47 Document feeder not detected

#### Description

The document feeder was not detected, the document feeder might not be connected. The flatbed glass is still available for scanning.

#### Recommended action

1. Turn the product off and then on.
2. If error persists, replace document feeder.



**NOTE:** Before replacing the document feeder, technicians should verify that the connections between the document feeder and the product are fully seated. The following connections: 6 — ADF (side 2) FFC, 7 — ADF Motors (feed and deskew), 8 — ADF Sensors (pre-scan, media presence and top hatch), 9 — ADF Ultra sonic sensor receiver and deskew sensor)

### 31.03.14

#### Description

Backside scanner EEPROM (NVM) error.

A non-fatal error has occurred.

#### Recommended action

No action required.

### 31.03.20 backside scanner not detected

#### Description

Backside scanner not detected.

#### Recommended action

1. Turn the product off, and then on.
2. Verify the cables between scanner and scanner control board (SCB) are connected.(connection 6 — ADF (side 2) FFC)
3. Replace the document feeder assembly.

### 31.03.22 Scanner calibration failure

#### Description

Backside illumination calibration failure.

#### Recommended action

1. Turn the product off, and then on.
2. Upgrade the firmware.
3. Verify the cables between scanner and scanner control board (SCB) are connected.
4. Replace the document feeder assembly.

### 31.03.30 Document feeder pick motor error

#### Description

The document feeder pick motor is not turning.

#### Recommended action

1. Verify that the paper meets the product specifications.
2. Make sure that the input tray is not overloaded and the tray guides are properly aligned to both edges of the paper.
3. Check the event log for document feeder errors, and then resolve any errors first.
4. Open and close the top cover to see if the pick motor turns without posting this error. If the motor turns, then the motor is good.
5. Verify that the motor cables are connected. 7 — ADF Motor feed and deskew.
6. Re-seat the document feeder connections to the scanner control board (SCB).
7. Replace the document feeder.

### 31.03.31 Document feeder motor stall

#### Description

The document feeder feed motor is not turning.

#### Recommended action

1. Verify that the paper meets the product specifications.
2. Make sure that the input tray is not overloaded and the tray guides are properly aligned to both edges of the paper.
3. Check the event log for document feeder errors, and then resolve those errors first.
4. Verify that the motor cables are connected. 7 — ADF Motor feed and deskew.
5. Re-seat the document feeder connections to the scanner control board (SCB).
6. Replace the document feeder assembly.

### 31.03.32

#### **Description**

The document feeder de-skew motor is not turning.

#### **Recommended action**

1. Verify that the paper meets the product specifications.
2. Make sure that the input tray is not overloaded.
3. Check the event log for document feeder errors, and then resolve any errors first.
4. Verify that the motor cables are connected. (7 — ADF feed and deskew motor)
5. Re-seat the document feeder connections to scanner control board (SCB) cables.
6. Replace the document feeder assembly.

### 31.03.33 Backside scanner calibration area dirty

#### **Description**

The white area used for backside scanner calibration is dirty.

#### **Recommended action**

1. Clean white strip on platen glass (side 2 glass).
2. Clean the scanner glass.
3. If issue remains replace the document feeder assembly.

### 31.03.34 Background missing

#### **Description**

The removable white backing for the backside scanner is either missing or not fully snapped into place.

#### **Recommended action**

1. Remove the white backing and clean it.
2. Clean the backside scanner glass.
3. If issue remains replace the document feeder assembly.

No action necessary.

### 31.13.00 Document feeder multi-pick error

#### **Description**

A multiple pick error was reported by the document feeder assembly.

#### **Recommended action**

1. Open the document feeder cover, pull all the sheets back into the tray and then resume the job.
2. Verify that the paper meets the product specifications.



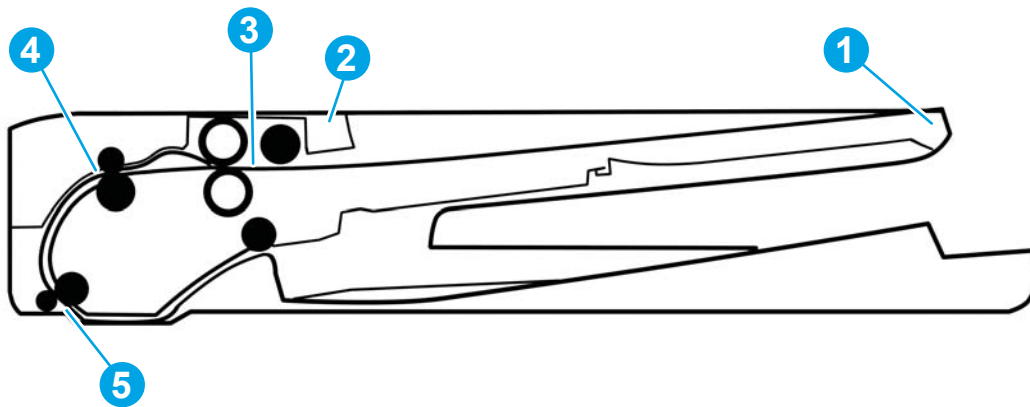
3. Make sure that the input tray is not overloaded and the tray guides are properly aligned to both edges of the paper.
4. Check and clean the rollers and separation pad, and test the registration sensor. If needed, replace pickup roller assembly, separation pad.
5. Verify connectors from ADF to SCB are properly connected and seated.
6. Re-seat the document feeder connections to the scanner control board (SCB).
7. Replace the document feeder.

### 31.13.01

#### Description

document feeder job error, pick error.

Paper pick was initiated, but the page didn't make it to the pick success sensor.



Sensor location 4

#### Recommended action

1. Open the document feeder lid, pull sheets back into input tray, and then resume the job.
2. Check the paper guides and make sure that they are set to the correct paper width.
3. Make sure that the input tray is not overloaded and the tray guides are properly aligned to both edges of the paper.
4. Check the document feeder page count for roller life.
5. Verify that the paper meets the product specifications.
6. Clean the document feeder pick and feeder rollers and clean separation pad, if worn or damaged replace roller kit.
7. Open the following menus:
  - [Administration](#)
  - [Troubleshooting](#)

- [Diagnostic Tests](#)
- [Scanner Tests](#)

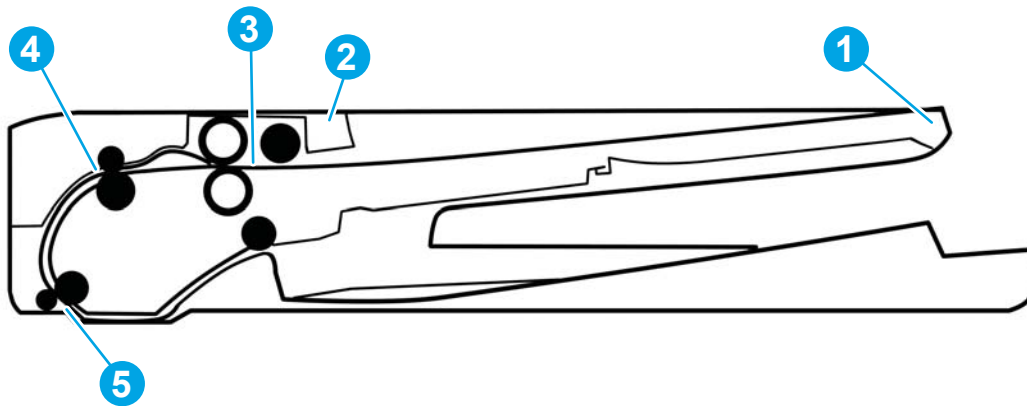
8. Actuate the pick-success sensor. If the sensor does not show functionality when tested, replace the document feeder.

### 31.13.02

#### Description

Document feeder job error, feed jam.

The paper passed the pick success sensor, and then jammed in the document feeder paper path.



Between sensor location 4 and 5

#### Recommended action

1. Clear the paper path and try feeding the page again.
2. Verify that the paper meets the product specifications.
3. Check the paper guides and make sure that they are set to the correct paper width.
4. Verify that the paper path is clear.
5. Clean the document feeder pick and feeder rollers and clean Separation pad. If worn or damage replace roller kit.
6. Open the following menus:
  - [Administration](#)
  - [Troubleshooting](#)
  - [Diagnostic Tests](#)
  - [Scanner Tests](#)
7. Actuate the pick-success sensor. If the sensor does not show functionality when tested, replace the document feeder.

### 31.13.13

#### Description

The document feeder jam access door is open.

#### Recommended action

1. Verify that the jam access cover is closed.
2. Verify that the flag is not broken off. Open and close jam cover and if sensor status does not change then replace the ADF.



3. Open the following menus:
  - [Administration](#)
  - [Troubleshooting](#)
  - [Diagnostic Tests](#)
  - [Scanner Tests](#)
4. Actuate the pick-success sensor. If the sensor does not show functionality when tested, verify connectors (9) Ultra sonic sensor.  
  
If sensor still fails, replace the document feeder.

### 31.13.14

#### Description

Document feeder job error: over current.

This is a feed jam in the document feeder, and the motor is not turning.

**Recommended action**

1. Verify that the paper meets the product specifications.
2. Make sure that the document feeder input tray is not overloaded.
3. Check the event log for document feeder errors, and then resolve those errors first.
4. Open and close the top cover to see if the pick motor turns without posting this error. If there is no error, then the motor is good.
5. Verify that the motor cables are connected. (Connector 7 — ADF Motors)
6. Re-seat the document feeder to the scanner control board (SCB).
7. Replace the document feeder.

**32.XX.YX and 33.XX.YZ Error Messages****32.1C.XX****Description****32.1C.05** (event code)

The restore job ticket was submitted with invalid credentials.

There was an error during the creation, read, or write of the restore file.

**Recommended action**

Verify the credentials that were submitted. Check the domain, user name, and password.

**Description****32.1C.06** (event code)

The backup job ticket was submitted with invalid credentials.

**Recommended action**

Verify the credentials that were submitted. Check the domain, user name, and password.

**Description****32.1C.07** (event code)

Backup restore permissions error.

**Recommended action**

Retry the job.

**Description****32.1C.08** (event code)

Not enough disk space to perform backup/restore or network share issue.

There was an error during the creation, read, or write of the backup file.

**Recommended action**

- Retry the job.
- Remove stored jobs and retry.
- Use a larger capacity storage device.
- Check the network share.

Remove any stored jobs, and then retry.

If the error persists, try using a larger capacity storage device and check the network share settings.

**Description****32.1C.09** (event code)

Tried to restore a backup file that was not valid for this printer.

The data in the backup file specified in the restore job ticket is no longer valid due to a corruption of the data or no longer present.

**Recommended action**

Use a valid backup file.

**Description****32.1C.0A** (event code)

Backup file is invalid

The data in the backup file specified in the restore job ticket is no longer valid due to a corruption of the data or no longer present.

**Recommended action**

Use a valid backup file.

Reboot, and then observe the state of the printer.

If the error persists, perform a partition clean from the **Preboot** menu.

**Description****32.1C.0D** (event code)

Backup/restore failed, auto-reboot failed, or the printer might be busy.

**Recommended action**

Reboot, and then retry the backup/restore.

**Description****32.1C.11** (event code)

Backup/restore time-out while communicating with the engine.

The backup was aborted because the printer is busy.

**Recommended action**

Wait until the printer is idle, and then try again.

**Description**

**32.1C.13** (event code) and **32.1C.14** (event code)

Not enough space exists to perform the backup.

The backup was aborted because the disk is at a critical level or full.

Scheduled backup failure.

**Recommended action**

Free up disk space, and then try again.

**Description**

**32.1C.15** (event code)

Restore aborted because the backup file was created by a previous version of firmware no longer supported by the feature.

**Recommended action**

- Use the current backup file.

**Description**

**32.1C.2E** (event code)

The restore was aborted because the printer is busy.

**Recommended action**

Wait until the printer is idle, and then try again.

Turn the printer off then on, and then retry.

**Description**

**32.1C.2F** (event code)

Reset failure.

**Recommended action**

Turn the printer off then on, and then retry.

**Description**

**32.1C.40** (event code)

The backup operation completed successfully (informational).

**Recommended action**

No action necessary.

**Description****32.1C.41** (event code)

The backup operation encountered an error (informational).

**Recommended action**

No action necessary.

**Description****32.1C.42** (event code)

The backup operation completed, but with a warning message (informational).

**Recommended action**

No action necessary.

**Description****32.1C.43** (event code)

A component in the backup file is not supported by the current version of firmware and will not be restored (informational).

**Recommended action**

No action necessary.

**Description****32.1C.44**(event code)

A component in the backup file is not transferable to another printer and will not be restored (informational).

**Recommended action**

No action necessary.

**Description****32.1C.45** (event code)

Some data was not included in the backup file (informational).

**Recommended action**

No action necessary.

**Description****32.1C.46** (event code)

An expected component could not be found and was thus not backed up. Because components should be known on backups, this code is a warning (informational).

**Recommended action**

No action necessary.

**Description****32.1C.47** (event code)

Some data was not restored from the backup file (informational).

**Recommended action**

No action necessary.

**Description****32.1C.48** (event code)

The backup job ticket was submitted using an invalid network path.

**Recommended action**

Check that a share was provided as part of the network path (not blank).

Check that the server and the share exists.

Check that the user has permission to access the share on the provided server.

**Description****32.1C.49** (event code)

The backup job ticket was submitted with a bad encryption.

**Recommended action**

Verify that the encryption personal identification number (PIN) meets the restrictions for the printer.

**Description****32.1C.4A** (event code)

An error occurred when creating the temporary directories used to store the backup files in transition to and from the compressed (ZIP) file.

**Recommended action**

Retry the job.

If this does not resolve the issue, turn the printer off then on again and retry the job.

If the error persists, perform a **Partial Clean** using the **Preboot** menu.

**Description****32.1C.56** (event code)

Reset aborted. Backup/restore in progress (informational).

**Recommended action**

No action necessary.

**Description****32.1C.57** (event code)



Reset aborted (informational).

**Recommended action**

No action necessary.

**Description**

**32.1C.58** (event code)

Unknown reset error (informational).

**Recommended action**

No action necessary.

**Description**

**32.1C.60** (event code)

The restore operation completed successfully (informational).

**Recommended action**

No action necessary.

**Description**

**32.1C.61** (event code)

The restore operation encountered an error.

**Recommended action**

Review the error log to see specific details about the failure.

**Description**

**32.1C.62** (event code)

The restore operation completed, but with a warning message.

**Recommended action**

Review the error log to see specific details about the failure.

**Description**

**32.1C.68** (event code)

The restore job ticket was submitted using an invalid network path.

**Recommended action**

Check that a share was provided as part of the network path (not blank).

Check that the server and the share exist.

Check that the user has permission to access the share on the provided server.

Check that the path includes the compressed (ZIP) file name as part of the path.

**Description****32.1C.69** (event code)

The restore job ticket was submitted with a bad encryption personal identification number (PIN).

**Recommended action**

Verify the encryption personal identification number (PIN) is the same PIN used to encrypt the backup file.

**Description****32.1C.6A** (event code)

An error occurred when creating the temporary directories used to store the restore files in transition to and from the compressed (ZIP) file.

**Recommended action**

Retry the job.

**Description****32.1C.6D** (event code)

An unusual error occurred when running the restore.

**Recommended action**

Retry the job.

**33.01.XX****Description**

- **33.01.01** (event code)  
A restore process has occurred.
- **33.01.02** (event code)  
A save process has occurred.
- **33.01.03** (event code)  
Save recover functionality OK after previously being disabled.

**Recommended action**

No action necessary.

**33.03.XX****Description**

- **33.02.01** (event code)  
Save recover engine storage ID unexpected length.
- **33.03.02** (event code)  
Data size mismatch unable to recover DCC MVRAM.

**Recommended action**

Turn the printer off, and then on again.

If the error persists, replace the image control board (ICB) and return to HP for evaluation.

**32.08.A1, 32.08.A2, 32.08.A3****Description****32.08.A1** (event code)

Shutdown event-boot after abnormal shutdown.

**32.08.A2** (event code)

Boot from normal shutdown event.

**32.08.A3** (event code)

Regular boot event.

**Recommended action**

No action necessary.

**33.02.01 Used board/disk installed****Description**

Used board disk installed.

An encrypted board or disk with existing data previously locked to a different printer has replaced the original. If you continue, data is permanently lost.

**Recommended action**

1. Reinstall the used board or disk back into its original printer.
2. To save the data on the board or disk, turn the printer off. replace the board or disk with another board or disk.
3. To delete the data on the board or disk and continue, touch the **OK** button.

**33.03.03 Incompatible formatter installed.****Description**

This is an EFI BIOS event to prevent booting with the wrong formatter installed.

**Recommended action**

Turn the printer off, and then install the correct formatter in the printer.



**NOTE:** If it is believed that this formatter is the correct part number and model for this printer, install a replacement formatter, and then return the formatter in question to HP for evaluation.

## 40.XX.YZ Error Messages

### 40.00.01 USB I/O buffer overflow To continue, touch “OK”

#### Description

The USB buffer has overflowed.

#### Recommended action

1. Touch the **OK** button to print the transferred data (some data might be lost).
2. Check the host configuration.

### 40.00.02 Embedded I/O buffer overflow To continue, touch “OK”

#### Description

The printer has experienced a JetDirect buffer overflow.

#### Recommended action

1. Touch the **OK** button to print the transferred data (some data might be lost).
2. Check the host configuration.

### 40.00.03 EIO <X> buffer overflow To continue, touch “OK”

#### Description

Too much data was sent to the EIO card in the specified slot (x). An incorrect communications protocol might be in use.

#### Recommended action

Touch the **OK** button to print the transferred data (some data might be lost).

### 40.00.04 EIO <X> bad transmission To continue, touch “OK”

#### Description

The connection between the printer and the USB device has been broken.

#### Recommended action

1. Touch the **OK** button to clear the error message and continue printing.
2. Remove, and then reinstall the USB device.

### 40.00.05 Embedded I/O bad transmission To continue, touch “OK”

#### Description

The USB device has been removed.

#### Recommended action

1. Touch the **OK** button to clear the error message (data will be lost).
2. Install the USB device.

#### 40.08.0X USB storage accessory removed

##### **Description**

X = 0 or ;1 information code.

Secure file erase is enabled.

##### **Recommended action**

No action necessary.

#### 40.0X.05 USB storage accessory removed

##### **Description**

X = 1, 2, 3, 5, or 6; information code.

The USB storage accessory was removed.

##### **Recommended action**

No action necessary.

#### 41.XX.YZ Error Messages

##### 41.01.YZ

##### **Description**

Event log error message: 41.01.YZ.

An unknown misprint error occurred on the printer.

Y = Type, Z = Tray

- Y = 0: Photo Media (1, 2, or 3)
- Y = 1: Auto Sense (Normal)
- Y = 2: Normal (typed not from Auto Sense)
- Y = 3: Light media 1, 2, or 3 mode
- Y = 4: Heavy media 1
- Y = 5: Heavy media 2
- Y = 6: Heavy media 3
- Y = 7: Glossy media 1
- Y = 8: Glossy media 2
- Y = 9: Glossy media 3
- Y = A: Glossy film
- Y = B: OHT
- Y = C: Label

- Y = D: Envelope 1, 2, or 3 mode
- Y = E: Rough
- Y = F: Other mode
- Z = 0: From unknown tray
- Z = 1: From Tray 1
- Z = 2: From Tray 2
- Z = 3: From Tray 3
- Z = 4: From Tray 4
- Z = 5: From Tray 5
- Z = 6: From Tray 6
- Z = 7: From Tray 7
- Z = 8: From Tray 8
- Z = 9: From Tray 9
- Z = D: From duplex

**Recommended action**

1. Touch **OK** to clear the error.
2. If the error is not cleared, Turn the printer off, and then on again.
3. If the error returns, check the wire harness from the laser scanner to the DC controller.
4. If the error persists, replace the laser/scanner assembly.
5. Replace the DC controller.

**41.02.00 Error**

**Description**

A beam detected misprint error occurred.

**Recommended action**

1. To clear the error message, touch **OK**.
2. If the error persists, turn the printer off, and then on again.
3. Verify that the toner cartridge is in good condition and the shutter works properly. Swap toner cartridge to test as needed.
4. If the error returns, check the wire harness from the laser/scanners to the DC controller.
5. If the error persists, replace the laser scanner assembly and the Laser Scanner Cable.

### 41.03.02 with slow printing

#### Description

Some instances of slow printing and 41.03.02 have been seen caused by timing issues with the correct size media loaded.

#### Recommended action

1. Touch **OK** to use another tray.
2. Print a configuration page to verify the size and type to which the trays are set.
3. Make sure that the tray is loaded with the correct paper size and that the sliding paper guides are correctly adjusted to the correct paper size.
4. Verify that the error is not occurring as a result of an unexpected paper size trigger caused by a multi-page feed.
5. Print internal pages from all trays to verify that this error only occurs when printing from the PC.
6. Verify that the Toner cartridge and the transfer roller are seated properly.
7. Check the rollers and make sure they are not worn smooth, or coated with paper dust or other debris. If the rollers are causing the issue, send the customer a roller kit.
8. Use the Tray/Bin manual sensor test to verify that the cassette media switch is correctly functioning.
9. Check paper path sensors for proper operation and that they do not stick at all. If the error persists, elevate issue for printer replacement..
10. Test registration assembly motor and clutch. If not function properly replace the registration assembly. If the error persists, elevate issue for printer replacement.
11. Perform engine test with and without formatter.  
  
If engine tests does not print with the formatter installed but prints good without the formatter, replace the formatter.
12. Replace DCC if formatter did not resolve the issue.

### 41.03.FZ Unknown Misprint Error

#### Description

This is a general misprint error. Either media is loaded off-center with the side guides in the tray or a media width sensor failure occurred from an unknown tray. The error will be one of the following:

- **41.03.F0**
- **41.03.F1**
- **41.03.F2**
- **41.03.F3**
- **41.03.F4**
- **41.03.F5**
- **41.03.FD**

### Recommended action

1. Reload the tray, verifying that the guides in the tray are flush with the loaded media in the tray.
2. Try the print job again.

Watch the mechanism to see if it is functioning correctly. If the linkage is broken, replace the paper tray.

3. If the error persists, print a Configuration Page and note the paper size for the tray in question.
  - If the size is not reported correctly, run the tray size sensor test in the **Diagnostic** menu.
  - If the tray size sensors test as **GOOD**, replace the paper tray.
  - If the tray size sensors test as **BAD**, check the cable connections between the tray size sensor and the DC Controller.  
  
If the cable connections are plugged in correctly and the cables are not compromised, elevate issue for printer replacement.

### 41.03.YZ Unexpected size in tray <X>

#### Description

The printer detected a different paper size than expected.

Y = Type, Z = Tray

- Y = 0 Size mismatch. Detected media is longer or shorter than expected.
- Y = A Size mismatch. Detected media too long.
- Y = B Size mismatch. Detected media too short.
- Y = C Size mismatch. Inter-page gap error.
- Z = D Source is the duplexer.
- Z = E Source is the envelope feeder.
- Z = 1 Source is Tray 1.
- Z = 2 Source is Tray 2.
- Z = 3 Source is Tray 3.
- Z = 4 Source is Tray 4.
- Z = 5 Source is Tray 5.

#### Recommended action

1. Touch **OK** to use another tray.
2. Print a configuration page to verify the size and type to which the trays are set.
3. Make sure that the tray is loaded with the correct paper size and that the sliding paper guides are correctly adjusted to the correct paper size.
4. Verify that the error is not occurring as a result of an unexpected paper size trigger caused by a multi-page feed.



5. Print internal pages from all trays to verify that this error only occurs when printing from the PC.
6. Verify that the Toner cartridge and the transfer roller are seated properly.
7. Check the rollers and make sure they are not worn smooth, or coated with paper dust or other debris. If the rollers are causing the issue, send the customer a roller kit.
8. Use the Tray/Bin manual sensor test to verify that the cassette media switch is correctly functioning.
9. Check paper path sensors for proper operation and that they do not stick at all. If issue persists, elevate issue for printer replacement.
10. Reconnect the connectors for the media sensor, intermediate-transfer belt, and the DC controller PCA.
11. Test registration assembly motor and clutch. If not function properly replace the registration assembly. If the error persists, elevate issue for printer replacement.

#### 41.04.YZ Printer Error

##### Description

An unknown misprint error occurred on the printer.

Y = Type, Z = Tray

- Y = 0: Photo Media (1, 2, or 3)
- Y = 1: Auto Sense (Normal)
- Y = 2: Normal (typed not from Auto Sense)
- Y = 3: Light media 1, 2, or 3 mode
- Y = 4: Heavy media 1
- Y = 5: Heavy media 2
- Y = 6: Heavy media 3
- Y = 7: Glossy media 1
- Y = 8: Glossy media 2
- Y = 9: Glossy media 3
- Y = A: Glossy film
- Y = B: OHT
- Y = C: Label
- Y = D: Envelope 1, 2, or 3 mode
- Y = E: Rough
- Y = F: Other mode
- Z = D Source is the duplexer.
- Z = 0 Source is the envelope feeder.
- Z = 1 Source is Tray 1.

- Z = 2 Source is Tray 2.
- Z = 3 Source is Tray 3.
- Z = 4 Source is Tray 4.
- Z = 5 Source is Tray 5.

**Recommended action**

1. Touch **OK** to clear the error.
2. If error does not clear, turn the printer off, and then on again.
3. Swap out or re-seat the toner cartridge to test it.
4. Check the toner cartridges before replacing any other parts (HP original?, connectors, etc.).
5. Re-seat the connections to the laser/scanner and the DC controller.
6. If the error persists, replace the laser/scanner.
7. Replace the DC controller.

**41.05.YZ Unexpected type in tray <X>**

**Description**

The printer can detect the type of paper in the paper path, and it adjusts the print mode accordingly.

Tray X is loaded with a media type (transparencies, envelopes, etc.) that is different than what they tray is configured to use.

Y = Expected type, Z = Detected type

- Y = 0: Photo Media (1, 2, or 3)
- Y = 1: Auto Sense (Normal)
- Y = 2: Normal (typed not from Auto Sense)
- Y = 3: Light media 1, 2, or 3 mode
- Y = 4: Heavy media 1
- Y = 5: Heavy media 2
- Y = 6: Heavy media 3
- Y = 7: Glossy media 1
- Y = 8: Glossy media 2
- Y = 9: Glossy media 3
- Y = A: Glossy film
- Y = B: OHT
- Y = C: Label
- Y = D: Envelope 1, 2, or 3 mode

- Y = E: Rough
- Y = F: Other mode
- Z = 0: Photo Media (1, 2, or 3)
- Z = 1: Auto Sense (Normal)
- Z = 2: Normal (typed not from Auto Sense)
- Z = 3: Light media 1, 2, or 3 mode
- Z = 4: Heavy media 1
- Z = 5: Heavy media 2
- Z = 6: Heavy media 3
- Z = 7: Glossy media 1
- Z = 8: Glossy media 2
- Z = 9: Glossy media 3
- Z = A: Glossy film
- Z = B: OHT
- Z = C: Label
- Z = D: Envelope 1, 2, or 3 mode
- Z = E: Rough
- Z = F: Other mode

**Recommended action**

1. Load the tray with the size and type of paper indicated, or use another tray if available.
2. If this message displays and the tray is loaded with the correct paper type, check the print driver settings to make sure they match the tray type settings.
3. Check all application and printer settings to make sure that the **Type** setting is correct.
4. Clean the Media sensor.
5. If the error persists, elevate issue for printer replacement.

**41.XX.YZ Error To continue, touch “OK”**

**Description**

This section covers all other errors of the form 41.XX.YZ not covered in the previous sections.

A printer error has occurred.

XX = error type

Y = fuser mode

Z = input tray

- XX = 02 Beam detect misprint
- XX = 09 Sub thermistor abnormally high
- XX = 10 Pickup failure.
- XX = 11 Illegal Duplex.
- XX = 18 Scan line inclination adjustment
- XX = 20 Image drum HV
- Y = 0: Photo Media (1, 2, or 3)
- Y = 1: Auto Sense (Normal)
- Y = 2: Normal (typed not from Auto Sense)
- Y = 3: Light media 1, 2, or 3 mode
- Y = 4: Heavy media 1
- Y = 5: Heavy media 2
- Y = 6: Heavy media 3
- Y = 7: Glossy media 1
- Y = 8: Glossy media 2
- Y = 9: Glossy media 3
- Y = A: Glossy film
- Y = B: OHT
- Y = C: Label
- Y = D: Envelope 1, 2, or 3 mode
- Y = E: Rough
- Y = F: Other mode
- Z = 0 Envelope feeder
- Z = 1 Tray 1
- Z = 2 Tray 2
- Z = 3 Tray 3
- Z = 4 Tray 4
- Z = 5 Tray 5
- Z = 6 Tray 6
- D Duplexer

**Recommended action**

1. To clear the message, touch the [OK](#) button.
2. If the message displays again, turn the printer off, and then on again.
3. If the error persists, replace the DC Controller PCA.

**42.XX.YZ Error Messages****42.XX.YZ****Description**

Internal system failure.

**Recommended action**

1. Turn the printer off then on, and retry.
2. If the error persists, clear the firmware image from the active partition by using the [Partial Clean](#) item in the [Preboot](#) menu.

**44.XX.XX Error Messages****44.01.XX Error Event log message****Description**

A digital send error has occurred.

**Recommended action**

No action necessary. This error message should automatically clear.

Try to send the job again.

**If error does not clear or returns:**

- Use optimal resolution and image quality settings.
- wait till all the digital send jobs have been processed.
- Reboot and retry job.
- Verify if there is an attachment limit on the email.
- Verify network connectivity, SMTP gateways, access to folder share.

**44.03.XX Error Event log message****Description**

A digital send error has occurred.

**Recommended action**

Try to send the job again.

**If error does not clear or returns:**

- Use optimal resolution and image quality settings.
- wait till all the digital send jobs have been processed.
- Reboot and retry job.
- Verify if there is an attachment limit on the email.
- Verify network connectivity, SMTP gateways, access to folder share.

#### 44.10.XX Error Event log message

##### **Description**

A send to e-mail error has occurred.

##### **Recommended action**

No action necessary.

#### 44.34.XX Error Event log message

##### **Description**

A fax error has occurred.

##### **Recommended action**

1. Try to send the job again.
2. Check the fax settings to make sure they are set to the proper settings for the environment.
3. If the issue persists, see document - "Solve fax problems", for additional fax troubleshooting information.

#### 44.92.XX Error Event log message

##### **Description**

A fax error has occurred.

##### **Recommended action**

1. Try to send the job again.
2. Check the fax settings to make sure they are set to the proper settings for the environment.
3. If the issue persists, see document - "Solve fax problem" for additional fax troubleshooting information.

#### 47.XX.XX Error Messages

##### 47.00.XX

##### **Description**

Back channel internal error.

**Recommended action**

1. Turn the printer off, and then on again.
2. Resend the print job.
3. If the error persists, clear the active partition by using the [Partial Clean](#) item in the [Preboot](#) menu.

**47.01.XX****Description**

Image transformer internal error.

**Recommended action**

1. Turn the printer off, and then on again.
2. Resend the print job.
3. If the error persists, clear the active partition by using the [Partial Clean](#) item in the [Preboot](#) menu.

**47.02.XX****Description**

Job parser internal error.

**Recommended action**

1. Turn the printer off, and then on again.
2. Resend the print job.
3. If the error persists, clear the active partition by using the [Partial Clean](#) item in the [Preboot](#) menu.

**47.03.XX****Description**

Print job internal error.

**Recommended action**

1. Turn the printer off, and then on again.
2. Resend the print job.
3. If the error persists, clear the active partition by using the [Partial Clean](#) item in the [Preboot](#) menu.

**47.04.XX****Description**

Print spooler 9100 internal error.

**Recommended action**

1. Turn the printer off, and then on again.
2. Resend the print job.
3. If the error persists, clear the active partition by using the [Partial Clean](#) item in the [Preboot](#) menu.

**47.05.00****Description**

Print spooler framework internal error.

**Recommended action**

1. Turn the printer off, and then on again.
2. Resend the print job.
3. If the error persists, clear the active partition by using the [Partial Clean](#) item in the [Preboot](#) menu.

**47.06.XX****Description**

Print application internal error.

**Recommended action**

1. Turn the printer off, and then on again.
2. Resend the print job.
3. If the error persists, clear the active partition by using the [Partial Clean](#) item in the [Preboot](#) menu.

**48.XX.YY Error Messages****48.XX.YY****Description**

A job framework internal error has occurred.

**Recommended action**

1. No action should be necessary.
2. If the error persists, upgrade the product firmware.
3. If the issue persists, continue troubleshooting with the flowcharts for either Intermittent or Persistent 49 error troubleshooting (whichever is appropriate) in document c03122817, “HP LaserJet FutureSmart Devices - 49 Error Troubleshooting (Persistent and Intermittent)”.



## 49.XX.YY Error Messages

### 49.XX.YY Error To continue turn off then on

#### Description

A firmware error occurred. Corrupted print jobs, software application issues, non-product specific print drivers, poor quality USB or network cables, bad network connections or incorrect configurations, invalid firmware operations, or unsupported accessories can cause this error.

#### Recommended action

1. Turn the product off, and then on.
2. If the error persists, check the following:
  - The error might be caused by a network connectivity problem, such as a bad interface cable, a bad USB port, or an invalid network configuration setting.
  - The error might be caused by the print job, due to an invalid print driver, a problem with the software application, or a problem with the file being printed.
  - Upgrading the product firmware might help resolve the error. See the product user guide for more information.

When a 49 error occurs, the user sees a 49.XXXX message on the control panel (where XXXX is replaced by a combination of letters and numbers). A 49 error might happen at any time for multiple reasons. Although some types of 49 errors can be caused by hardware failures, it is more common for 49 errors to be caused by printing a specific document or performing some task on the product.

49 errors most often occur when a product is asked to perform an action that the product firmware is not capable of and might not have been designed to comply with, such as:

- Printing files with unsupported programming commands
- A unique combination of user environment and user interactions with the product
- Interfacing with a third-party solution that was not designed to work with the product
- Specific timing, network traffic, or concurrent processing of jobs

Each of these interactions could cause the product firmware to initiate an action that the product cannot accomplish. In situations like this, the product might present the error if it has no other option. When these errors occur, the only way to recover is to turn the product's power off and back on.



**NOTE:** LaserJet formatter PCAs are rarely the root cause of 49 service errors. Please do not replace the formatter or flash unless troubleshooting has identified the formatter as the root cause.

If the error persists, continue troubleshooting with the flowcharts for either Intermittent or Persistent 49 error troubleshooting (whichever is appropriate) in document c03122817, "HP LaserJet FutureSmart Devices - 49 Error Troubleshooting (Persistent and Intermittent)".

## 50.WX.YZ Error Messages

### 50.1X.YZ Fuser Error

#### Description

Low fuser temperature.

Y = previous printer sleep state, Z = next printer sleep state

### Recommended action

---

 **CAUTION:** Be careful the fuser is HOT, allow it cool if you need to before removing to check the assembly.

---

1. Turn the printer off.
2. Remove the fuser. Check the connector (J290–291) between the fuser and the printer. If it is damaged, replace the fuser.
3. Reconnect the connector (J132 and J152) on the DC Controller PCA.
4. If the error persists, replace the fuser power supply assembly.
5. If issue persists, elevate the issue for possible printer replacement.

### 50.2X.YZ Fuser Error

#### Description

Fuser warm up failure.

X = fuser mode, Y = previous printer sleep state, Z = next printer sleep state

#### Recommended action

---

 **CAUTION:** Be careful the fuser is HOT, allow it cool if you need to before removing to check the assembly.

---

1. Turn printer power off and then back on again.
2. If the error returns, unplug the device from any power-strips or uninterruptured power supplies and plug directly in to a wall socket.
3. If error returns, power off the unit and wait till fuser has cooled.
4. Remove the fuser and check fuser for damage or obstructions. Reinstall or replace fuser as needed.
5. Check the connector (J132 and J152) between the fuser and the DC controller PCA.
6. If the error persists, replace the fuser and then replace the fuser power supply assembly if needed or if the fuser has already been replaced.
7. If issue persists, elevate the issue for possible printer replacement.

### 50.3X.YZ Fuser Error


#### Description

High Fuser temperature.

X = fuser mode, Y = previous printer sleep state, Z = next printer sleep state

#### Recommended action

---

 **CAUTION:** Be careful the fuser is HOT, allow it cool if you need to before removing to check the assembly.

---

1. Reinstall the fuser. Check the connector (J128) between the fuser and the printer. If it is damaged, replace the fuser.
2. Check the connector (J132 and J152) on the DC controller PCA.
3. Replace the fuser.
4. If the error persists, replace the fuser power supply assembly.
5. If issue persists, elevate the issue for possible printer replacement.

#### 50.4X.YZ Fuser Error

##### Description

Drive circuit fault.

X = fuser mode, Y = previous printer sleep state, Z = next printer sleep state

##### Recommended action

 **CAUTION:** Be careful the fuser is HOT, allow it cool if you need to before removing to check the assembly.

1. Check the power source. Make sure the power source meets printer requirements.



**NOTE:** If the power source does not meet the power frequency requirement of 40 to 70Hz, the fuser temperature control does not work properly and causes this error.

2. Reconnect connectors (J132 and J152) on the DC controller PCA.
3. If the error persists, replace the fuser power supply assembly.
4. If issue persists, elevate the issue for possible printer replacement.

#### 50.6X.YZ Fuser Error

##### Description

Fuser error.

Fuser open error.

X = fuser mode, Y = previous printer sleep state, Z = next printer sleep state

##### Recommended action

 **CAUTION:** Be careful the fuser is HOT, allow it cool if you need to before removing to check the assembly.

1. Ensure the media type and fuser mode are correctly set for the paper being used.
2. turn the printer off. remove the fuser. Check the connector (J128) between the fuser and the printer. If it is damaged, replace the fuser.
3. Reinstall the fuser and turn the printer back on.
4. Reconnect connectors (J132 and J152) on the DC controller PCA.
5. Replace the fuser.
6. If the error persists, replace the power supply unit.


## 50.7X.YZ Fuser Error

### Description

Fuser Pressure release failure.

X = fuser mode, Y = previous printer sleep state, Z = next printer sleep state

### Recommended action

 **CAUTION:** Be careful the fuser is HOT, allow it cool if you need to before removing to check the assembly.

1. Turn printer power off and then back on again.
2. Resend job.
3. If error returns, power off the unit and wait till fuser cooled.
4. Remove fuser and check fuser for damage or obstructions.
5. Re-Install fuser and test.
6. If the error persists, replace the fuser assembly.

## 50.9X.YZ Fuser Error

### Description

Low fuser temp error.

X = fuser mode, Y = previous printer sleep state, Z = next printer sleep state

### Recommended action

1. Turn printer power off and then back on again.
2. Ensure media type and fuser mode are correct for media being used.
3. If error returns, power off the unit and wait till fuser cooled.
4. Remove fuser and check fuser for damage or obstructions.
5. Re-Install fuser and test.
6. If the error persists, replace the fuser assembly.
7. If error returns, replace the power supply unit.
8. If error returns, replace the DC controller PC board assembly.

## 51.XX.YZ, 52.XX.YZ Error Messages

### 51.00.10

### Description

Laser/scanner error.

Laser Scanner beam detect error.

**Recommended action**

1. Reconnect connector (J811/J851) on the laser/scanner.
2. Reconnect connectors (J161) on the DC controller.
3. If the error persists, replace the laser/scanner.

**52.XX.00****Description**

Laser/scanner error.

- XX = 00  
laser/scanner motor startup error.
- XX = 20  
Laser/scanner rotation error.

**Recommended action**

1. Reconnect connector (J802) on the laser/scanner.
2. Reconnect connectors (J162) on the DC controller.
3. Use the scanner motor (M3) drive test in the [Component Test](#) to verify that the scanner motor is properly functioning. If it is not, replace the laser/scanner.



---

**NOTE:** Listen for a high pitched whine from the motor.

---

4. If the error persists, replace the laser/scanner.

**54.XX.YZ Error Messages****54.06.21 error****Description**

A sensor error has occurred.

Primary laser/scanner beam detect abnormality.

**Recommended action**

1. Turn the printer off, and then on.
2. If the printer has had parts removed or replace, check the connector (J161 and J162) on the DC controller PCA.
3. If the error persists, replace the laser/scanner assembly.

## 55.XX.YZ, 56.XX.YZ Error Messages

### 55.00.yy To continue turn off then on

#### Description

DC controller PCA error.

- **55.00.01** (event code)  
DC controller memory error.
- **55.00.03** (event code)  
DC controller no engine response.
- **55.00.04** (event code)  
DC controller communications time-out.

#### Recommended action

Turn the printer off, and then on.

If the error persists, replace the DC controller PCA.

### 55.0x.yy to.continue.off.on

#### Description

DC controller PCA error.

- **55.01.06** (event code)  
NVRAM memory data error warning.
- **55.02.06** (event code)  
NVRAM memory access error warning.

#### Recommended action

Turn the printer off, and then on.

If the error persists, replace the DC controller PCA.

### 56.00.yy to.continue.off.on

#### Description

Optional paper trays communication error.

#### Recommended action

1. Turn the printer off, and then on.
2. If the error persists, reseal the optional paper trays (1 x 500-sheet feeder and/or 3 x 500-sheet feeder).

3. Check the input connectors for damage. If the connector is damaged on the printer side, replace the fuser power supply assembly, (contains the connector to the paper tray assembly).
4. If connector is damaged on the option sheet feeder tray, replace the optional sheet feeder.

## 57.XX.YZ Error Messages

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**NOTE:** Use the wiring diagram to trace back where the fan gets its supply voltage.

The connectors are supplied in the troubleshooting steps. If after following the steps provided the issue is not resolved it may be a voltage source issue from the DC Controller or Power Supply. Depending which FAN is failing one of these parts may need to be replaced as a following step.

---

### 57.00.01 to.continue.off.on

#### **Description**

Main fan (FM1) failure.

#### **Recommended action**

1. Turn the printer off, and then on. Listen for fan noise on the right side of the printer. If no noise is heard, replace the main fan (FM1).
2. If the fan has been removed or replaced, check the connector (J372 and J341) on the High voltage PCA and (J133) on the DC controller PCA.
3. If the error persists, replace the main fan (FN101).

### 57.00.02 to.continue.off.on

#### **Description**

Sub fan (FM2) failure.

#### **Recommended action**

1. Turn the printer off, and then back on. Listen for fan noise coming from the left side of the printer. The fan should turn on approximately 1.5 minutes after power on.
2. If no noise is heard, replace fan FM2.
3. If the fan has been removed or replaced, check connector J661 on the sub fan and J147 on the DC Controller.

## 58.XX.YZ Error Messages

### 58.00.03 Error

#### **Description**

DC controller CPU failure.

**Recommended action**

1. Turn the printer off and then back on.
2. Check all of the connectors on the DC controller PCA.
3. If the error persists, replace the DC controller PCA.

**58.00.04 Error****Description**

The printer experienced a low voltage power supply unit malfunction.

**Recommended action**

1. Turn the printer off and then back on.



---

**NOTE:** This error might be caused by source power related issues.

Determine if the area where the printer is located has experienced brown outs or is subject to power quality issues.

---

2. Ensure printer is plug into dedicated power outlet.
3. If error persists, replace the power supply unit.

**58.01.04 Error****Description**

24V power supply error during operation.

During regular printing operation the 24V power supply experienced an error.

**Recommended action**

1. Turn the printer off and then back on.



---

**NOTE:** This error might be caused by source power related issues.

Determine if the area where the printer is located has experienced brown outs or is subject to power quality issues.

---

2. Ensure printer is plug into dedicated power outlet.
3. If error persists, replace the power supply unit.

**58.02.04 Error****Description**

24V power supply error during boot or wake.


During printer power on or when waking from sleep mode, the printer experienced an error with the 24V power supply.

**Recommended action**

1. Turn the printer off and then back on.



---

 **NOTE:** This error might be caused by source power related issues.

Determine if the area where the printer is located has experienced brown outs or is subject to power quality issues.

---

2. Ensure printer is plug into dedicated power outlet.
3. If error persists, replace the power supply unit.

## 59.XX.YZ Error Messages

### 59.00.YY Error — To.continue.off.on

#### Description

A motor error has occurred.

- YY = Motor

#### Recommended action

##### 59.00.20

Feed motor (M2) failure).

1. Reconnect the connector (J711) on the feed motor and the connector (J171) on the DC controller PCA.
2. Use the feed motor (M2) drive test in the Component test to verify that the motor is properly functioning. If is not, replace the feed motor (M2).

##### 59.00.30

Fuser motor (M1) failure.

1. Use the fuser motor (M1) drive test in the Component test to verify that the motor is properly functioning. If test fails, replace the fuser.
2. If the motor has been removed or replaced, check connector J712 on the fuser motor M1 and connector J146 on the DC Controller.
3. If the error persists, replace the fuser motor M1.

##### 59.00.40

Fuser motor (M1) failure.

1. Use the fuser motor (M1) drive test in the Component test to verify that the motor is properly functioning. If test fails, replace the fuser.
2. If the motor has been removed or replaced, check connector J712 on the fuser motor M1 and connector J146 on the DC Controller.
3. If the error persists, replace the fuser motor M1.

### 59.A2.YY Error

#### Description

A printer error has occurred.

### **Recommended action**

#### **59.A2.02**

Tray 2 lifter driver assembly failure.

1. Use the Tray/Bin manual sensor test to verify that the Tray 2 paper surface sensors are properly functioning.
2. If this part has been removed or replaced, check the connector (J144) on the DC controller PCA.
3. If the error persists, elevate the issue for possible printer replacement.

#### **59.A2.0X**

Tray 3 to 6 lifter driver assembly motor failure.

X = Tray number

#### **59.A2.03** — Tray 3

#### **59.A2.04** — Tray 4

#### **59.A2.05** — Tray 5

1. Reconnect the connectors (J622) on the paper feeder drive PCA.
2. If the error persists, replace the optional input tray.

### **60.00.0Y, 62.00.00 Error Messages**

#### **60.00.0X Tray X lifting error**

##### **Description**

A tray lift motor error has occurred.

##### **Recommended action**

#### **60.00.03 to 60.00.05**

Tray lifter driver assembly failure.

#### **60.00.03:** Tray 3

#### **60.00.04:** Tray 4

#### **60.00.05:** Tray 5

1. Use the Tray/Bin manual sensor test to verify that the Tray 3 paper (PS460 and PS461) surface sensors are properly functioning.
2. If this part has been removed or replaced, check all the connectors on the paper feeder controller PCA.
3. Reconnect the connectors (J620, J621 and J622) on the sheet feeder PCA.
4. Replace the option input tray assembly.

## 62.00.00 To continue turn off the on.

### **Description**

Internal system failure.

### **Recommended action**

Turn the printer off, and then on.

If the error persists, reload the firmware. If the error still persists, perform a firmware upgrade.

If the firmware upgrade does not resolve the problem, replace the hard disk.

## 65.X0.AZ Error Messages

### 65.80.A0, 65.80.A1: Output accessory Failure

#### **Description**

Output accessory disconnected.

An external paper handling accessory connection has been interrupted.

#### **Recommended action**

1. Turn the product off.
2. Make sure that the communication cable from the finisher to the engine is installed correctly.
3. Make sure that all packing materials have been removed from the paper handling accessory.
4. Check the paper path for obstructions, or jammed paper.
5. Turn the product on. If the error persists, replace the accessory.

## 66.WX.YZ Error Messages

### 66.00.20

#### **Description**

Over Current Error.

This is an output device failure related message.

#### **Recommended action**

1. Turn the product off, and then on.
2. Make sure that the finisher is connected correctly.
3. If the error persists, replace the Stapler/Stacker Unit.

### 66.00.40

#### **Description**

NVRAM Error.

This is a finisher control board NVRAM error. The checksum for the finisher stacker controller PCA has an error when the power is turned on.

**Recommended action**

1. Turn the product off, and then on.
2. Make sure that the finisher is connected correctly.
3. If the error persists, replace the Stapler/Stacker Unit.

**66.00.50**

**Description**

This is a CAN-CPU sequence error.

**Recommended action**

1. Turn the product off, and then on.
2. Make sure that the finisher is connected correctly.
3. If the error persists, replace the Stapler/Stacker Unit.

**66.00.77**

**Description**

This is a device communication error.

The communication between the print engine and the finisher has been interrupted or lost.

**Recommended action**

1. Turn the product off, and then on.
2. Make sure that the finisher is connected correctly.
3. If the error persists, replace the Stapler/Stacker Unit.

**66.00.79**

**Description**

This is a JetLink communication error.

The product has lost JetLink communication with the output device.

**Recommended action**

1. Turn off the product, and then disconnect the finisher.
2. Inspect and reconnect the JetLink cable (power and communication cable) from the finisher to the product.
3. Reconnect the finisher to the product.
4. Turn the product on.
5. If the error persists, replace the stacker controller PCA or the Stapler/Stacker Unit.

## 66.80.YY Stapler/Stacker failure

### Description

An external paper handling accessory error has occurred.

- **66.80.01** (event code)  
Y-align malfunction
- **66.80.02** (event code)  
Jogger malfunction
- **66.80.03** (event code)  
Stapler malfunction
- **66.80.21** (event code)  
Lift up malfunction
- **66.80.22** (event code)  
Lift down malfunction
- **66.80.23** (event code)  
Lift sensor malfunction
- **66.80.33** (event code)  
Output roller malfunction
- **66.80.35** (event code)  
Self priming malfunction
- **66.80.51** (event code)  
System error (FW error)
- **66.80.55** (event code)  
System error 5 (FW error)
- **66.80.56** (event code)  
System error 6 (FW error)
- **66.80.57** (event code)  
System error 7 (FW error)
- **66.80.58** (event code)  
System error 8 (FW error)
- **66.80.59** (event code)  
System error 9 (FW error)

- **66.80.60** (event code)  
System error 10 (FW error)
- **66.80.61** (event code)  
System error 11 (FW error)
- **66.80.62** (event code)  
System error 12 (FW error)
- **66.80.63** (event code)  
System error 13 (FW error)
- **66.80.64** (event code)  
System error 14 (FW error)
- **66.80.65** (event code)  
System error 15 (FW error)
- **66.80.70** (event code)  
Page-info in flush
- **66.80.71** (event code)  
Flush request in PDLV
- **66.80.72** (event code)  
Delivery notice error
- **66.80.73** (event code)  
Flush request in checking paper path
- **66.80.74** (event code)  
Checking paper path start in PDLV
- **66.80.75** (event code)  
Flush request in flush
- **66.80.76** (event code)  
Non-flush complete

**Recommended action**

1. Turn off the product, and then disconnect the finisher.
2. Inspect and reconnect the JetLink cable (power and communication cable) from the finisher to the product.
3. Inspect the finisher for paper jams.
4. Reconnect the finisher to the product.

5. Turn the product on.
6. If the error persists, replace the Stapler/Stacker Unit.

## 70.XX.YY Error Messages

### 70.00.00 Error To continue turn off then on

#### Description

DC controller failure.

#### Recommended action

1. Turn the printer off, and then on.
2. If the error persists, replace the DC controller.

## 80.XX.YY, 82.XX.YY Error Messages

### 80.0X.YY Embedded Jetdirect Error

#### Description

An Embedded HP JetDirect print server critical error has occurred.

- **80.01.80:** (event log) No heartbeat
- **80.01.81:** (event log) Reclaim timeout
- **80.01.82:** (event log) Invalid data length
- **80.01.8B:** (event log) Invalid max outstanding packet header field
- **80.01.8C:** (event log) Invalid channel mapping response
- **80.03.01:** (event log) No PGP buffers
- **80.03.02:** (event log) Channel table full
- **80.03.03:** (event log) Producer index not reset
- **80.03.04:** (event log) Consumer index not reset
- **80.03.05:** (event log) Queue position size too small
- **80.03.06:** (event log) Transport overflow
- **80.03.07:** (event log) No overflow packets
- **80.03.08:** (event log) Invalid identify response
- **80.03.09:** (event log) Invalid channel map return status
- **80.03.10:** (event log) Invalid reclaim return status
- **80.03.12:** (event log) Datagram invalid buffer
- **80.03.13:** (event log) Max stream channels
- **80.03.14:** (event log) Max datagram channels

- **80.03.15:** (event log) Card reset failed
- **80.03.16:** (event log) Self-test failure
- **80.03.17:** (event log) Unknown PGP packet
- **80.03.18:** (event log) Duplicate I/O channel

**Recommended action**

1. Turn the printer off, and then on.
2. Remove the RJ45 cable.
3. Turn the printer off, and then on.
4. Reconnect the RJ45 cable.
5. If the error persists, replace the formatter.

**82.73.46, 82.73.47**

**Description**

A hard disk or compact flash disk cleaning failed. This error is usually caused by a failure of the disk hardware.

**Recommended action**

1. Turn the printer off, and then on.
2. Use the **Clean Disk** item in the **Preboot** menu.
3. Reload the firmware.

**98.0X.0Y Error Messages**

**98.00.01 or 98.01.00 Corrupt data in firmware volume**

**Description**

Data corrupt has occurred in the firmware volume.

**Recommended action**

1. Turn the printer off, and then on.
2. Use the **Clean Disk** item in the **Preboot** menu.
3. Reload the firmware.

**98.00.02 Corrupt data in the solutions volume**

**Description**

Data corrupt has occurred in the solutions volume.



**Recommended action**

1. Turn the printer off, and then on.
2. Use the **Clean Disk** item in the **Preboot** menu.
3. Reload the firmware.

**98.00.03 Corrupt data in the configuration volume****Description**

Data corrupt has occurred in the configuration volume.

**Recommended action**

1. Turn the printer off, and then on.
2. Download the firmware again, and then attempt the upgrade again.
3. Use the **Clean Disk** item in the **Preboot** menu.
4. Reload the firmware.

**98.00.04 Corrupt data in the job data volume****Description**

Data corrupt has occurred in the job data volume.

**Recommended action**

1. Turn the printer off, and then on.
2. Rerun the file erase function.

**99.XX.YY Error Messages****99.00.01 Upgrade not performed file is corrupt****Description**

A remote firmware upgrade (RFU) was not performed.

This is a CRC error in the firmware image (bad image).

**Recommended action**

Download the RFU file, and then attempt the upgrade again.

**99.00.02 Upgrade not performed time-out during receive****Description**

A remote firmware upgrade (RFU) was not performed.

The issue is an I/O time-out when reading the header number and size. It indicates a problem with the network environment, not the printer.

### **Recommended action**

The most common cause is an issue with the network environment.

Make sure that there is a good network connection to the printer, and then attempt the firmware upgrade again, or upgrade using the USB walk-up port.

### **99.00.03 Upgrade not performed error writing to disk**

#### **Description**

A remote firmware upgrade (RFU) was not performed.

This is a disk error. It might indicate a problem or a hard disk failure. It might be necessary to check the connection to the hard disk or replace the hard disk.

#### **Recommended action**

1. Download the RFU file, and then attempt the upgrade again.
2. If the error persists, run the **Clean Disk** process from the **Preboot** menu.  
You will need to download the firmware from the **Preboot** menu.
3. If the error persists, replace the hard disk.

### **99.00.04 Upgrade not performed time-out during receive**

#### **Description**

A remote firmware upgrade (RFU) was not performed.

The issue is an I/O time-out when reading the header.

#### **Recommended action**

The most common cause is an issue with the network environment.

Make sure that there is a good network connection to the printer, and then attempt the firmware upgrade again, or upgrade using the USB walk-up port.

### **99.00.05 Upgrade not performed time-out during receive**

#### **Description**

A remote firmware upgrade (RFU) was not performed.

The issue is an I/O time-out when reading image data.

#### **Recommended action**

The most common cause is an issue with the network environment.

Make sure that there is a good network connection to the printer, and then attempt the firmware upgrade again, or upgrade using the USB walk-up port.

### **99.00.06 Upgrade not performed error reading upgrade**

#### **Description**

A remote firmware upgrade (RFU) was not performed.

The issue is an unexpected read error when reading the header number and size.

**Recommended action**

1. Download the RFU file, and then attempt the upgrade again.
2. If the error persists, replace the hard disk.

**99.00.07 Upgrade not performed error reading upgrade**

**Description**

A remote firmware upgrade (RFU) was not performed.

The issue is an unexpected read error when reading the rest of the header.

**Recommended action**

1. Download the RFU file, and then attempt the upgrade again.
2. If the error persists, replace the hard disk.

**99.00.08 Upgrade not performed error reading upgrade**

**Description**

A remote firmware upgrade (RFU) was not performed.

The issue is an unexpected read error when reading image data.

**Recommended action**

1. Download the RFU file, and then attempt the upgrade again.
2. If the error persists, replace the hard disk.

**99.00.09 Upgrade canceled by user**

**Description**

A remote firmware upgrade (RFU) was not performed.

The RFU was canceled by the user.

**Recommended action**

Resend the RFU.

**99.00.10 Upgrade canceled by user**

**Description**

A remote firmware upgrade (RFU) was not performed.

The RFU was canceled by the user when reading the header number and size.

**Recommended action**

Resend the RFU.

### 99.00.11 Upgrade canceled by user

#### **Description**

A remote firmware upgrade (RFU) was not performed.  
The RFU was canceled by the user when reading the rest of the header.

#### **Recommended action**

Resend the RFU.

### 99.00.12 Upgrade not performed the file is invalid

#### **Description**

A remote firmware upgrade (RFU) was not performed.  
The header number is 1, but the header size does not match version 1 size.

#### **Recommended action**

Download the RFU file again.  
Make sure that you download the file for the correct printer model, and then resend the RFU.

### 99.00.13 Upgrade not performed the file is invalid

#### **Description**

A remote firmware upgrade (RFU) was not performed.  
The header number is 2, but the header size does not match version 2 size.

#### **Recommended action**

Download the RFU file again.  
Make sure that you download the file for the correct printer model, and then resend the RFU.

### 99.00.14 Upgrade not performed the file is invalid

#### **Description**

A remote firmware upgrade (RFU) was not performed.  
The file is invalid.

#### **Recommended action**

Download the RFU file again.  
Make sure that you download the file for the correct printer model, and then resend the RFU.

### 99.00.2X

#### **Description**

There is a compatibility issue with the firmware. The specific message varies depending on the cause, but the solution for each message is the same.

- **99.00.20** (event log)  
The bundle is not for this printer.
- **99.00.21** (event log)  
The bundle is not signed with the correct signature, or the signature is invalid.
- **99.00.22** (event log)  
The bundle header version is not supported by this firmware.
- **99.00.23** (event log)  
The package header version is not supported by this firmware.
- **99.00.24** (event log)  
The format of the bundle is invalid.
- **99.00.25** (event log)  
The format of the package is invalid.
- **99.00.26** (event log)  
A CRC32 check did not pass.
- **99.00.27** (event log)  
An I/O error occurred while downloading the bundle.

**Recommended action**

Download the correct firmware file from [www.hp.com](http://www.hp.com), and then resend the firmware upgrade.

**99.00.27 only:**

1. Turn the printer off, and then on.
2. Resend the firmware upgrade.
3. If the error persists, try installing the upgrade by another method (USB or Embedded Web Server).

**99.01.XX**

**Description**

A firmware install error has occurred. The specific message varies depending on the cause, but the solution for each message is the same.

- **99.01.00**
- **99.01.10**
- **99.01.20**
- **99.01.21**

**Recommended action**

Reload the firmware.

### 99.02.01

#### **Description**

Firmware installation was successful.

#### **Recommended action**

No action necessary.

### 99.02.09

#### **Description**

Firmware upgrade cancelled by user.

#### **Recommended action**

No action necessary.

### 99.09.60 Unsupported disk

#### **Description**

This is a **Preboot** menu error.

The hard disk currently installed is not recognized or supported by the printer.

#### **Recommended action**

Install the correct hard disk for this printer.

### 99.09.61 Unsupported disk

#### **Description**

This is a **Preboot** menu error.

The installed disk is installed in a printer configured for an encrypted hard disk..

#### **Recommended action**

Access the **Preboot** menu, and then select **Lock Disk** to lock the disk.

### 99.09.62 Unknown disk

#### **Description**

This error indicates that there is an encryption mismatch between the Hard drive and the formatter. This typically happens because an Hard drive was swapped into a device from another device.

#### **Recommended action**

Install a new disk or use the **Preboot** menu unlock the disk.

If a disk is to be reused in a different printer, execute the **Clean Disk** procedure from the **Preboot**, and then reload the firmware and lock the disk.

### 99.09.63 Incorrect disk

#### Description

This error indicates that the expected encrypted Hard drive is not present.

This is expected behavior when installing a new Hard drive in a device where the previous Hard drive was encrypted.

#### Recommended action

Follow the procedure to load firmware on a new hard disk, and then lock the disk to this printer.

### 99.09.64 Disk Nonfunctional

#### Description

A fatal hard disk failure has occurred.

#### Recommended action

1. Determine if the Hard Disk needs to be replaced.
2. Ask if customer is using eMMC as a temporary mass storage solution (eMMC must be present).
3. Instruct the customer to enable eMMC from the preboot menus.
4. Power down the printer.
5. Inform customer that the broken Hard drive must be removed to continue.
6. Power printer on, boot is expected to stop at 99.39.67 eMMC Not Bootable.
7. Provide Instructions to download firmware (This will automatically download to eMMC).
8. During download to eMMC, F/W clear data migration bit.
9. Ship new Hard drive.

Replace the hard disk.

### 99.09.65 Disk data error

#### Description

Disk data corruption has occurred.

#### Recommended action

Use the **Clean Disk** procedure from the **Preboot** menu, and then resend the RFU.

### 99.09.66 No boot device.

#### Description

A disk drive is not installed in the printer.

### Recommended action

1. Determine the customer's intended boot device (Hard drive or eMMC).
2. Install a compatible hard disk drive or eMMC.
3. If a compatible hard disk or eMMC is installed, reseal the hard disk or eMMC to make sure that it is connected correctly.
4. If the error persists, replace the Hard drive or eMMC.



---

**NOTE:** Device is unusable until a new boot device is installed.

---

### 99.09.67 Disk is not bootable please download firmware

#### Description

This is an error indicating that there is no firmware installed on the disk. This is usually the result of installing a new disk or performing a **Clean Disk** operation from the **Preboot** menu.

#### Recommended action

1. Press any button to continue to the main **Preboot** menu.
2. Press the Help button to see the help text for the error.
3. Select the **Administration** menu.



---

**NOTE:** If there is a password assigned to the Administrator, a prompt to enter the printer displays. Enter the password to proceed.

---

4. Select the **Download** item, and then download the latest firmware.

The user can now download a new firmware bundle to the printer.

If download fails to Hard drive, follow instructions listed in **99.09.64** error

### 99.39.64 eMMC Nonfunctional

#### Description

The eMMC is not functioning.

#### Recommended action

Replace the eMMC.



---

**NOTE:** Device is unusable until a new eMMC is installed.

---

### 99.39.67 eMMC Not Bootable

#### Description

Data on the eMMC cannot be secured or encrypted.

When the Hard drive is installed all data on the eMMC is automatically migrated to the Hard drive and erased from the eMMC. As long as the Hard drive is installed the eMMC is non-functional.

The customer bypassed data migration and put eMMC back in.



**Recommended action**

1. Download firmware to the eMMC.
2. If download fails to eMMC, Replace the eMMC.



**NOTE:** Device is unusable until a new eMMC is installed.

---

**99.XX.YY****Description**

A message of this form indicates a firmware installation error.

**Recommended action**

Reload the firmware.

**Alpha Error Messages****ROM disk device failed To clear press “OK”****Description**

The specified device failed.

**Recommended action**

Touch the **OK** button to clear the error.

**<Binname> Full Remove all paper from bin X****Description**

The specified output bin is full.

**Recommended action**

Empty the bin to continue printing.

**Accept bad signature****Description**

The printer is performing a remote firmware upgrade, and the code signature is invalid.

**Recommended action**

Download the correct firmware upgrade file for this printer, and then reinstall the upgrade. See the printer user guide for more information.

**Bad optional tray connection****Description**

The optional tray is not connected, not connected correctly, or a connection is not working correctly.

**Recommended action**

1. Turn the printer off.
2. Remove and then reinstall the optional tray.
3. Reconnect connectors for the tray.
4. If the problem continues, replace the connector for the tray.

**Cancelling****Description**

The printer is canceling the current job.

**Recommended action**

No action is necessary.

**Cancelling <JobName>****Description**

The printer is canceling the current job <jobname>.

**Recommended action**

No action is necessary.

**Cartridge Low****Description**

This message appears even though the print cartridge is new.

**Recommended action**

1. Remove, and then reinstall the print cartridge.
2. Make sure a genuine HP supply is used.
3. If the error persists, replace the print cartridge.

**Cartridge memory abnormal****Description**

This message appears even though the print cartridge is new.

**Recommended action**

1. Remove, and then reinstall the print cartridge.
2. Reconnect connector (J376) on the high voltage power supply PCA.
3. If the error persists, replace the print cartridge.

## Cartridge out

### Description

This message appears even though the print cartridge is new.

### Recommended action

1. Remove, and then reinstall the print cartridge.
2. Make sure a genuine HP supply is used.
3. If the error persists, replace the print cartridge.

## Check Engine

### Description

The printer is conducting an internal test.

### Recommended action

No action is necessary.

## Checking Paper Path

### Description

The printer is checking for possible paper jams.

### Recommended action

No action is necessary.

## Chosen personality not available To continue touch "OK"

### Description

A print job requested a printer language (personality) that is not available for this printer. The job will not print and will be cleared from memory.

### Recommended action

Print the job by using a print driver for a different language, or add the requested language to the printer (if possible). To see a list of available personalities, print a configuration page.

## Cleaning

### Description

The printer is performing an automatic cleaning cycle. Printing will continue after the cleaning is complete.

### Recommended action

No action is necessary.

## Cleaning do not grab paper

### Description

The printer is performing an automatic cleaning cycle. Printing will continue after the cleaning is complete.

**Recommended action**

No action is necessary.

**Clearing event log****Description**

This message is displayed while the event log is cleared. The printer exits the menus when the event log has been cleared.

**Recommended action**

No action is necessary.

**Clearing paper path****Description**

The printer is attempting to eject jammed paper.

**Recommended action**

Check progress at the bottom of the display.

**Close top cover****Description**

This message appears even though the top cover is closed.

**Recommended action**

1. Verify that the switch (SW2) is properly functioning (open and close the top cover). If the switch fails the test, replace the switch.
2. Make sure that the switch flag—at the right-side of the top cover assembly, behind the control-panel display—is not damaged or missing. If the flag is damaged or missing, replace the top cover assembly.
3. If the problem persists, replace the top cover switch.

**Cooling device****Description**

The printer is cooling.

**Recommended action**

No action is necessary.

**Creating cleaning page...****Description**

A cleaning page is being generated.

**Recommended action**

No action is necessary.

### Data received To print last page press “OK”

#### Description

The printer is waiting for the command to print the last page.

#### Recommended action

Touch the “OK” button to print the last page of the job.

### Event log is empty

#### Description

No printer events are in the log.

#### Recommended action

No action is necessary.

### Expected drive missing

#### Description

The printer cannot find the encrypted hard drive.

#### Recommended action

Install the encrypted hard drive.

### External device initializing

#### Description

An external device is initializing.

#### Recommended action

No action necessary.

### Face Down Tray Full

#### Description

This message is displaying even though the tray is not full.

#### Recommended action

1. Check the face down tray media full sensor flag and place it in the correct position to move smoothly. Replace sensor flag if damaged.
2. If flag of the output bin media-full sensor does not work smoothly, set it so that it works smoothly. If it is damaged, replace the fuser.



---

**NOTE:** Reconnect the connector (J405) for the fuser and the connector (J152) for the DC controller.

---

3. If error remains, replace the DC controller.

## FIM Load Error Send full FIM on <X> port

### Description

The printer displays this message before the firmware is loaded at startup if an error has occurred during a firmware upgrade.

### Recommended action

Resend the firmware upgrade.

## Fuser Kit low

### Description

**10.23.60** (event code)

The printer indicates when a supply is low.

### Recommended action

Replace the fuser.



**NOTE:** After replacing the fuser, reset the fuser page counter by selecting [New fuser kit](#) in the [Reset Supplies](#) sub-menu.

## Fuser Kit very low To continue, touch “OK”

### Description

**10.23.70** (event code)

The printer indicates when a supply is very low.



**NOTE:** After an HP supply has reached the very low threshold, the HP premium protection warranty for that supply has ended.

### Recommended action

If print quality is no longer acceptable, the customer must order and pay for a replacement fuser assembly (fuser kit).



**NOTE:** After replacing the fuser, reset the fuser page counter by selecting [New fuser kit](#) in the [Reset Supplies](#) sub-menu.

## Genuine HP cartridge installed

### Description

A new HP print cartridge has been installed. The message appears for about 6 seconds before the printer returns to the READY state.

### Recommended action

No action necessary.

### Genuine HP supply installed

#### Description

**10.XX.40** (event code)

A new genuine HP print cartridge has been installed.

#### Recommended action

Touch the [Hide](#) button to remove this message.

### HP Secure hard drive disabled

#### Description

The drive has been encrypted for another printer.

#### Recommended action

Remove the drive or use the Embedded Web Server for more information.

### Incompatible <supply>

#### Description

The indicated supply <supply> is not compatible with this printer.

- **10.00.35** (event code)  
Black print cartridge
- Fuser kit  
**10.23.35** (event code)

#### Recommended action

Replace the supply with one that is designed for this printer.

### Incompatible supplies

#### Description

Print cartridges or other supply items are installed that were not designed for this printer. The printer cannot print with these supplies installed.

Event codes are supply specific.

#### Recommended action

Touch the [OK](#) button to identify the incompatible supplies.

Replace the supplies with those that are designed for this printer.

### Initializing...

#### Description

The printer is starting.

**Recommended action**

No action necessary.

**Install Black Cartridge****Description**

A supply item is either not installed or installed incorrectly.

- Black cartridge

**10.00.15** (event code)

**Recommended action**


Install the supply item or make sure that the installed supply item is fully seated.

**Install Fuser****Description**

The fuser has been removed or installed incorrectly.

**Recommended action**

---

 **CAUTION:** The fuser can be hot while the printer is in use. Turn the printer off, and then wait for the fuser to cool before handling it.

---

1. Remove the output bin or stapler/stacker.
2. Remove the fuser entrance guide.
3. Remove the fuser.

**Install supplies****Description**

More than one supply is missing or is installed incorrectly.

**Recommended action**

1. Touch the **OK** button to identify the supplies that need to be replaced.
2. Touch the **OK** button a second time for more information about the specific supply.
3. Insert the supply or make sure it is correctly installed and fully seated.

**Internal disk device failure To clear press “OK”****Description**

The internal disk failed.

**Recommended action**

Touch the **OK** button to clear the error.



### Internal disk file operation failed

#### Description

A PJI system command attempted to perform an illogical operation, such as downloading a file to a nonexistent directory.

#### Recommended action

Touch the **OK** button to clear the error.

### Internal disk file system is full

#### Description

A PJI system command attempted to write data to the internal disk but was unsuccessful because the disk is full.

#### Recommended action

Touch the **OK** button to clear the error.

### Internal disk is write protected

#### Description

The internal disk is write protected and no new files can be written to it.

#### Recommended action

Touch the **OK** button to clear the error.

### Internal disk not found

#### Description

The internal disk was not found at start up.

#### Recommended action

Turn the printer off, and then on again.

### Internal disk not functional

#### Description

**82.OX.YY** (event code)

The internal hard drive is not correctly functioning.

#### Recommended action

Turn the printer off, remove and then reinstall the hard drive.

If the error persists, replace the internal hard drive.

### Internal disk not initialized

#### Description

The internal disk file system must be initialized before it can be used.

**Recommended action**

Initialize the internal disk file system.

**Internal disk spinning up****Description**

Internal disk device is spinning up its platter. Jobs that require disk access must wait.

**Recommended action**

No action is necessary.

**Job not stapled due to mixed sizes****Description**

This message is displayed when the job to staple has more than one paper size (paper width).

**Recommended action**

Paper with different widths cannot be stapled. Use the same width paper for the entire print job.

**Load Tray <X>: [Type], [Size]****Description**

Load paper in Tray X as specified.

**Recommended action**

Load paper in specified Tray.

**If this message appears even though there is media loaded in the tray, perform the following.**

1. Use the sensor tests to verify that the sensor is correctly functioning.
2. Make sure that the sensor flag on the media presence sensor is not damaged and moves freely.
3. Reconnect the corresponding connector for the paper tray having the issue.

**Load Tray <X>: [Type], [Size] To use another tray, press "OK"****Description**

This message appears when the indicated tray is selected but is not loaded, and other paper trays are available for use. It also appears when the tray is configured for a different paper type or size than the print job requires.

**Recommended action**

1. Load the correct paper in the tray.
2. If prompted, confirm the size and type of paper loaded.
3. Otherwise, press the **OK** button to select another tray.

## Loading program <XX> Do not power off

### Description

Programs and fonts can be stored on the printer's file system and are loaded into RAM when the printer is turned on. The number <XX> specifies a sequence number indicating the current program being loaded.

### Recommended action

No action necessary.



---

**NOTE:** Do not turn the printer off.

---

## Manually feed output stack Then touch "OK" to print second side

### Description

The printer has printed the first side of a manual duplex job and is waiting for the user to insert the output stack to print the second side.

### Recommended action

1. Maintaining the same orientation, remove pages from the output bin.
2. Flip document printed side up.
3. Load document in Tray 1.
4. Touch the **OK** button to print the second side of the job.

## Manually feed: <Type><Size>

### Description

This message appears when manual feed is selected, Tray 1 is not loaded, and other trays are empty.

### Recommended action

1. Load tray with requested paper.
2. If paper is already in tray, press the **Help** button to exit the message and then press the **OK** button to print.
3. To use another tray, clear paper from Tray 1, press the **Help** button to exit the message and then press the **OK** button.

## Manually feed: <Type><Size> To use another tray, press "OK"

### Description

This message appears when manual feed is selected, Tray 1 is loaded, and other trays are available.

### Recommended action

Load tray with requested paper.

If paper is already in tray, press the **Help** button to exit the message and then press the **OK** button to print.

To use another tray, clear paper from Tray 1, press the **Help** button to exit the message and then press the **OK** button.

## Moving solenoid

### Description

The solenoid is moving as part of a component test.

### Recommended action

To exit press X.

## Moving solenoid and motor

### Description

The solenoid and a motor are moving as part of a component test.

### Recommended action

To exit press X.

## No job to cancel

### Description

You have pressed the stop button but the printer is not actively processing any jobs.

### Recommended action

No action necessary.

## NON HP Supply Installed

### Description

**10.99.31** (event code)

This message is displayed for about 6 seconds when a new non HP supply is installed.

### Recommended action

If you believe you purchased a genuine HP supply, go to [www.hp.com/go/anticounterfeit](http://www.hp.com/go/anticounterfeit).

## Output Bin Full

### Description

This message appears even though the output bin is not full.

### Recommended action

1. Make sure that the output bin sensor flag is not damaged and can move freely. If the flag is damaged, replace the flag.
2. Use the output bin full sensor test in the Manual sensor test to test the sensor.
3. Reconnect the connector (J405) for the fuser and the connector (J152) for the DC controller.
4. If issue remains, elevate the issue for possible printer replacement.

### Paused...

**Description**

The printer is paused, and there are no error messages pending at the display. The I/O continues receiving data until memory is full.

**Recommended action**

Press the [Stop](#) button.

### Performing Paper Path Test...

**Description**

A paper-path test is being performed.

**Recommended action**

No action necessary.

### Please Wait...

**Description**

The printer is in the process of clearing data.

**Recommended action**

No action necessary.

### Printing Configuration...

**Description**

The printer is printing the Configuration page.

**Recommended action**

No action necessary.

### Printing engine test...

**Description**

The printer is printing an engine test page.

**Recommended action**

No action necessary.

### Printing Event Log...

**Description**

The printer is printing the Event Log page.

**Recommended action**

No action necessary.

### Printing File Directory...

**Description**

The printer is printing the File Directory pages.

**Recommended action**

No action necessary.

### Printing Font List...

**Description**

The printer is printing the Font List pages.

**Recommended action**

No action necessary.

### Printing Fuser Test Page...

**Description**

The printer is printing the Fuser Test page.

**Recommended action**

No action necessary.

### Printing Help Page...

**Description**

The printer is printing the Help page.

**Recommended action**

No action necessary.

### Printing Menu Map...

**Description**

The printer is printing the Menu Map pages.

**Recommended action**

No action necessary.

### Printing Registration Page...

**Description**

The printer is printing the Registration pages.

**Recommended action**

No action necessary.

### Printing stopped...

**Description**

Time has expired on the Print/Stop test.

**Recommended action**

Touch the **OK** button to continue.

### Printing Supplies Status Page...

**Description**

The printer is printing the Supplies Status page.

**Recommended action**

No action necessary.

### Printing Usage Page...

**Description**

The printer is printing the Usage page.

**Recommended action**

No action necessary.

### Processing duplex job Do not grab paper until job completes

**Description**

Paper temporarily comes into the output bin while printing a duplex job.

---

 **CAUTION:** Do not grab paper as it temporarily comes into the output bin. The message disappears when the job is finished.

---

**Recommended action**

No action necessary.

### Processing job from tray <X>... Do not grab paper until job completes

**Description**

The printer is actively processing a job from the designated tray.

**Recommended action**

No action necessary.

### Processing...

**Description**

The printer is currently processing a job but is not yet picking pages. When paper motion begins, this message is replaced by a message that indicates the tray the job is using.

**Recommended action**

No action necessary.

**Processing... copy <X> of <Y>****Description**

The printer is currently processing or printing collated copies. The message indicates that copy number <X> of total copies <Y> is currently being processed.

**Recommended action**

No action necessary.

**RAM disk device failure To clear press “OK”****Description**

The specified device failed.

**Recommended action**

Touch the **OK** button to remove the message.

**RAM disk file operation failed To clear press “OK”****Description**

A PjL command was received that attempted to perform an illegal operation, such as downloading a file to a nonexistent directory.

**Recommended action**

Touch the **OK** button to clear the error.

**RAM disk file system is full To clear press “OK”****Description**

The hard disk is full.

**Recommended action**

Touch the **OK** button to clear the error.

**RAM disk is write protected To clear press “OK”****Description**

The device is protected and no new files can be written to it.

**Recommended action**

Touch the **OK** button to clear the error.



## RAM disk not initialized

### Description

The RAM disk file system must be initialized before it can be used.

### Recommended action

Initialize the RAM disk file system.

## Ready

### Description

The printer is online and ready for data. No status or printer attendance messages are pending at the display.

### Recommended action

No action necessary.

## Ready <IP Address>

### Description

The printer is online and ready for data. No status or printer attendance messages are pending at the display. The printer IP address displays.

### Recommended action

No action necessary.

## Receiving Upgrade

### Description

The printer is receiving a firmware upgrade.

### Recommended action

Do not turn the printer off until it reaches the [Ready](#) state.

## Remove USB accessory

### Description

This message displays when an unsupported USB device is inserted into a host USB port on the printer.

### Recommended action

Remove the unsupported USB device.

## Replace <supply>

### Description


This alert appears only if the printer is configured to stop when a supply reaches the very low threshold. The printer indicates when a supply level is at its estimated end of life. The actual life remaining might be different than estimated.

The supply does not need to be replaced now unless the print quality is no longer acceptable.

HP recommends that the customer have a replacement supply available to install when print quality is no longer acceptable.

The printer can be configured to stop when the supply level is very low. The supply might still be able to produce acceptable print quality.

---

 **NOTE:** When an HP supply has reached its approximated end of life, the HP Premium Protection Warranty on that supply ends.

---

- **10.00.70** (event code)

Black print cartridge

- **10.23.70** (event code)

Fuser Kit

**Recommended action**

Replace the specified supply.

Or, configure the printer to continue printing by using the [Manage Supplies](#) menu.

**Replace supplies**


**Description**

This alert appears only if the printer is configured to stop when a supply reaches the very low threshold. The printer indicates when a supply level is at its estimated end of life. The actual life remaining might be different than estimated.

The supply does not need to be replaced now unless the print quality is no longer acceptable.

HP recommends that the customer have a replacement supply available to install when print quality is no longer acceptable.

---

 **NOTE:** When an HP supply has reached its approximated end of life, the HP Premium Protection Warranty on that supply ends.

---

Recorded event codes depend on which supplies are at the end of life.

- **10.00.70** (event code)

Black print cartridge

- **10.23.70** (event code)

Fuser Kit

**Recommended action**

Touch the [OK](#) button to find out which supplies need to be replaced.

Or, configure the printer to continue printing by using the [Manage Supplies](#) menu.

### Resend external accessory firmware

**Description**

An external accessory requires a firmware upgrade. Printing can continue, but jams might occur if the job uses the external accessory.

**Recommended action**

Perform a firmware upgrade.

### Resend Upgrade

**Description**

A firmware upgrade did not complete successfully.

**Recommended action**

Upgrade the firmware again.

### Restore Factory Settings

**Description**

The printer is restoring factory settings.

**Recommended action**

No action necessary.

### ROM disk file operation failed To clear press "OK"

**Description**

A PjL command was received that attempted to perform an illegal operation, such as downloading a file to a nonexistent directory.

**Recommended action**

Touch the **OK** button to clear the error.

### ROM disk file system is full To clear press "OK"

**Description**

The hard disk is full.

**Recommended action**

Touch the **OK** button to clear the error.

### ROM disk is write protected To clear press "OK"

**Description**

The device is protected and no new files can be written to it.

**Recommended action**

Touch the **OK** button to clear the error.

### ROM disk not initialized To clear press “OK”

#### Description

The ROM disk file system must be initialized before it can be used.

#### Recommended action

Initialize the ROM disk file system.

### Rotating Motor

#### Description

The printer is executing a component test and the component selected is a motor.

#### Recommended action

Press the **STOP** button when ready to stop this test.

To exit press **X**.

### Size Mismatch

#### Description

This message appears even though the correct size paper is loaded in the correct paper tray.

#### Recommended action

1. Use the Tray 2 size switch test in the Tray/Bin manual sensor test to test the switch. If it does not respond, elevate the issue for printer replacement.
2. Reconnect connector on the Tray 2 media size switch, and then reconnect connector on the DC controller.
3. If the error persists, elevate the issue for possible printer replacement.

### Size mismatch in Tray <X>

#### Description

The paper in the listed tray does not match the size specified for that tray.

#### Recommended action

1. Load the correct paper.
2. Verify the paper is positioned correctly.
3. Close the tray, and then verify that the control panel lists the correct size and type for the specified tray.
4. If necessary, use the control-panel menus to re-configure the size and type settings for the specified tray.

### Sleep mode on

#### Description

The printer is in sleep mode. Pressing a control-panel button, receiving of a print job, or an error condition clears this message.

**Recommended action**

No action necessary.

**Supplies low****Description**

Multiple supplies on the printer have reached the low threshold.

**Recommended action**

Replace the supply when print quality is no longer acceptable.

**Supply low****Description**

The printer indicates when a supply level, or more than one supply, is low. Actual print cartridge life might vary. You do not need to replace the print cartridge at this time unless print quality is no longer acceptable.

When multiple supplies are low, more than one event code is recorded.

- **10.00.60** (event code)

Black print cartridge

- **10.23.60** (event code)

Fuser Kit

**Recommended action**

If print quality is no longer acceptable, replace the supply.

HP recommends that the customer have a replacement supply available to install when print quality is no longer acceptable.



---

**NOTE:** When an HP supply has reached its approximated end of life, the HP Premium Protection Warranty ends.

---

**SUPPLY MEMORY WARNING****Description**

The printer cannot read or write to the e-label or the e-label is missing.

**Recommended action**

No action necessary.

**Supply very low OR Supplies very low****Description**

The printer indicates when a supply level, or more than one supply, is very low. Actual print cartridge life might vary. You do not need to replace the print cartridge at this time unless print quality is no longer acceptable.

When multiple supplies are low, more than one event code is recorded.

- **10.00.70** (event code)  
Black print cartridge
- **10.23.70** (event code)  
Fuser Kit

**Recommended action**

If print quality is no longer acceptable, the customer must purchase and replace the supply.

HP recommends that the customer have a replacement supply available to install when print quality is no longer acceptable.



---

**NOTE:** When an HP supply has reached its approximated end of life, the HP Premium Protection Warranty ends.

---

**The unit has corrupt data**

**Description**

**98.00.0X** (event code)

Data corruption has occurred in the firmware volume.

- **98.00.01**  
Corrupt data in the firmware volume.
- **98.00.02**  
Corrupt data in the solutions volume.
- **98.00.03**  
Corrupt data in the configuration volume.
- **98.00.04**  
Corrupt data in the job data volume.

**Recommended action**

- **98.00.01** or **98.00.02** or **98.00.03**
  1. Turn the printer off, and then on again.
  2. Use the [Clean Disk](#) item in the [Preboot](#) menu.
  3. Reload the firmware.
- **98.00.04**
  1. Turn the printer off, and then on again.
  2. Run the file erase function.

## Tray <X> empty: [Type], [Size]

### Description

The specified tray is empty and the current job does not need this tray to print.

- X = 1  
Tray 1
- X = 2  
Tray 2
- X = 3  
Tray 3
- X = 4  
Tray 4
- X = 5  
Tray 5

### Recommended action

Refill the tray at a convenient time.



**NOTE:** This could be a false message. If the tray is loaded without removing the shipping lock, the printer does not sense that the paper is loaded. Remove the shipping lock and then load the tray.

If the message continues when the paper tray is properly loaded perform the following.

1. Swap tray cassette with another from the printer that is the same size and check whether the error follows the cassette. Replace cassette tray as needed.
2. Try actuating the Tray paper present sensor flag (See Service manual) and check for any damage of the part. If it is damaged, Replace the pickup and feed assembly.
3. If the sensor actuates fine and the error still persists, perform Manual sensor test to test the paper presence sensor.
4. If it fails replace the tray or option input paper feeder.

## Tray <X> lifting

### Description

The printer is in the process of lifting paper in the indicated tray.

- X = 2  
Tray 2
- X = 3  
Tray 3
- X = 4

Tray 4

- X = 5

Tray 5

**Recommended action**

No action necessary.

**Tray <X> open**

**Description**

The specified tray is open or not closed completely.

- X = 2

Tray 2

- X = 3

Tray 3

- X = 4

Tray 4

- X = 5

Tray 5

**Recommended action**

Close the tray.



---

**NOTE:** If this message appears after lifter drive assembly was removed or replaced, make sure that the connector on the assembly is correctly connected and fully seated.

---

If the error persists, use the Media size switches test in the Tray/Bin manual sensor test to test the switches. If they do not respond, replace associated the lifter drive assembly.

**Tray <X> overfilled**

**Description**

The tray is filled above the stack-height mark.

- X = 2

Tray 2

- X = 3

Tray 3

- X = 4

Tray 4

- X = 5



Tray 5

**Recommended action**

Remove enough paper so that the paper stack does not exceed the limit for the tray.



**NOTE:** If this message appears after lifter drive assembly was removed or replaced, make sure that the connector on the assembly is correctly connected and fully seated.

**Type mismatch Tray**

**Description**

The specified tray contains a paper type that does not match the configured type.

**Recommended action**

The specified tray will not be used until this condition is addressed. Printing can continue from other trays.

1. Load the correct paper in the specified tray.
2. At the control panel, verify the type configuration.

**Unsupported drive installed To continue, touch “OK”**

**Description**

A non-supported hard drive has been installed. The drive is unusable by this printer.

**Recommended action**

1. Turn the printer off.
2. Remove the hard drive.
3. Turn the printer on.

**Unsupported supply in use OR Unsupported supply installed To continue, touch “OK”**

**Description**

A non-supported supply has been installed.

OR

The print cartridge is for a different HP printer.

- XX = 00

Black print cartridge

**Recommended action**

Install the correct supplies for this printer. See the parts chapter in the service manual for supply part numbers.

## Unsupported tray configuration

### Description

The printer has too many optional trays installed.

### Recommended action

Turn the printer off, remove the unsupported trays, and then turn the printer on.

## Unsupported USB accessory detected Remove USB accessory

### Description

A non-supported USB accessory has been installed.

### Recommended action

Turn the printer off, remove the USB accessory, and then turn the printer on.

## Upgrade Error

### Description

**30.01.36** (event code)

Scanner Control Board (SCB) upgrade error.

### Recommended action

1. Turn the printer off, and then on.
2. Resend the upgrade.
3. If the error persists, replace the SCB.

## USB accessory not functional

### Description

A parameter in the USB accessory is not correctly functioning.

### Recommended action

1. Turn the printer off.
2. Remove the USB accessory.
3. Insert a replacement USB accessory.

## USB hubs are not fully supported Some operations may not work properly

### Description

Some USB hubs require more power than the printer has available.

### Recommended action

Remove the USB hub.

### **USB is write protected To clear press “OK”**

#### **Description**

The device is protected and no new files can be written to it.

#### **Recommended action**

Touch the **OK** button to clear the error.

### **USB needs too much power Remove USB and then turn off and on**

#### **Description**

A USB accessory is drawing too much electrical current. Printing cannot continue.

#### **Recommended action**

Turn the printer off, remove the USB accessory, and then turn the printer on.

Use a USB accessory that uses less power or that contains its own power supply.

### **USB not initialized**

#### **Description**

The USB device file system must be initialized before it can be used.

#### **Recommended action**

Use the EWS or HP Web Jetadmin to initialize the component.

### **USB storage accessory removed Clearing any associated data**

#### **Description**

This message displays for about 6 seconds after a USB device is removed.

#### **Recommended action**

Touch the **OK** button to remove this message.

### **USB storage device failure To clear press “OK”**

#### **Description**

The specified device failed.

#### **Recommended action**

Touch the **OK** button to clear this error.

### **USB storage file operation failed To clear press “OK”**

#### **Description**

A PJJ file system command was received that attempted to perform an illegal operation, such as downloading a file to a nonexistent directory.

**Recommended action**

Touch the **OK** button to clear this error.

**USB storage file system is full To clear press “OK”****Description**

The file system on the installed USB device is full.

**Recommended action**

Touch the **OK** button to clear this error.

**Used supply installed To continue, touch “OK” OR Used supply in use****Description**

The toner cartridge has been previously used.

- XX = 00  
Black print cartridge

**Recommended action**

If you believe you purchased a genuine HP supply, go to [www.hp.com/go/anticounterfeit](http://www.hp.com/go/anticounterfeit).

**Waiting for tray <X> to lift****Description**

The specified tray is in the process of lifting paper to the top of the tray (so it can properly feed).

**Recommended action**

No action necessary.

**Windows Login Required to Use this Feature****Description**

Windows login required.

**Recommended action**

Enter your windows login.

## Tools for troubleshooting: Event log messages (M506/M527)

See the control-panel message document (CPMD) and event-log entries section of the printer troubleshooting manual for event-log entry descriptions and solutions. The event log shows the last 50 events in descending order.

**Figure 2-89** Sample event log (M506/M527)

| Event Log          |                       |        |          |                |                                  |                     |
|--------------------|-----------------------|--------|----------|----------------|----------------------------------|---------------------|
| Device Information |                       |        |          |                |                                  | Page 1              |
| 2                  | 3                     | 4      | 5        | 6              | 7                                | 8                   |
| Number             | Date and Time         | Cycles | Event    | Firmware       | Description or Personality       | Consecutive Repeats |
| 50                 | 1/2/2014 8:28:12 AM   | 62     | 40.08.00 | 2302176_420411 | Secure file erase is disabled    | 0                   |
| 49                 | 1/2/2014 8:27:41 AM   | 61     | 10.99.34 | 2302176_420411 | Used supply in use               | 0                   |
| 48                 | 1/2/2014 8:25:09 AM   | 0      | 32.08.A3 | 2302176_420411 | Normal boot up                   | 0                   |
| 47                 | 1/2/2014 8:25:06 AM   | 0      | 33.02.02 | 2302176_420411 | Save/Recover disabled            | 0                   |
| 46                 | 1/2/2014 8:24:53 AM   | 0      | 99.06.01 | 2302176_420411 | Finisher installation successful | 0                   |
| 45                 | 1/2/2014 8:21:43 AM   | 61     | 32.08.A2 | 2302176_420411 | Normal shutdown                  | 0                   |
| 44                 | 12/19/2013 3:05:54 PM | 61     | 10.99.34 | 2302176_420411 | Used supply in use               | 0                   |
| 43                 | 12/19/2013 2:59:26 PM | 0      | 32.08.A3 | 2302176_420411 | Normal boot up                   | 0                   |
| 42                 | 12/19/2013 2:59:24 PM | 0      | 33.02.02 | 2302176_420411 | Save/Recover disabled            | 0                   |
| 41                 | 12/19/2013 2:59:11 PM | 0      | 99.06.01 | 2302176_420411 | Finisher installation successful | 0                   |
| 40                 | 12/19/2013 2:57:38 PM | 61     | 32.08.A2 | 2302176_420411 | Normal shutdown                  | 0                   |
| 39                 | 12/19/2013 2:53:14 PM | 61     | 10.99.34 | 2302176_420411 | Used supply in use               | 0                   |
| 38                 | 12/19/2013 2:45:54 PM | 0      | 32.08.A3 | 2302176_420411 | Normal boot up                   | 0                   |
| 37                 | 12/19/2013 2:45:52 PM | 0      | 33.02.02 | 2302176_420411 | Save/Recover disabled            | 0                   |
| 36                 | 12/19/2013 2:45:39 PM | 0      | 99.06.01 | 2302176_420411 | Finisher installation successful | 0                   |
| 35                 | 12/19/2013 2:44:05 PM | 61     | 32.08.A2 | 2302176_420411 | Normal shutdown                  | 0                   |
| 34                 | 12/19/2013 8:30:32 AM | 60     | 40.08.00 | 2302176_420411 | Secure file erase is disabled    | 0                   |
| 33                 | 12/18/2013 2:05:44 PM | 59     | 10.99.34 | 2302176_420411 | Used supply in use               | 0                   |
| 32                 | 12/18/2013 2:03:21 PM | 0      | 32.08.A3 | 2302176_420411 | Normal boot up                   | 0                   |
| 31                 | 12/18/2013 2:03:18 PM | 0      | 33.02.02 | 2302176_420411 | Save/Recover disabled            | 0                   |
| 30                 | 12/18/2013 2:03:06 PM | 0      | 99.06.01 | 2302176_420411 | Finisher installation successful | 0                   |
| 29                 | 12/18/2013 2:01:32 PM | 59     | 32.08.A2 | 2302176_420411 | Normal shutdown                  | 0                   |
| 28                 | 12/18/2013 1:54:54 PM | 59     | 10.99.34 | 2302176_420411 | Used supply in use               | 0                   |
| 27                 | 12/18/2013 1:47:09 PM | 0      | 32.08.A3 | 2302176_420411 | Normal boot up                   | 0                   |
| 26                 | 12/18/2013 1:47:07 PM | 0      | 33.02.02 | 2302176_420411 | Save/Recover disabled            | 0                   |
| 25                 | 12/18/2013 1:46:54 PM | 0      | 99.06.01 | 2302176_420411 | Finisher installation successful | 0                   |
| 24                 | 12/18/2013 1:45:19 PM | 59     | 32.08.A2 | 2302176_420411 | Normal shutdown                  | 0                   |

Jan/6/2014 2:10:37 PM English (United States)

**Table 2-61** Sample event log page

| Item | Description         | Item | Description   | Item | Description             | Item | Description                |
|------|---------------------|------|---------------|------|-------------------------|------|----------------------------|
| 1    | Product information | 3    | Date and time | 5    | Event log code          | 7    | Description of personality |
| 2    | Event number        | 4    | Engine cycles | 6    | Firmware version number | 8    | Consecutive Repeats        |

## Print or view an event log (M506/M527)



**NOTE:** The event log in using the [Administration](#) menu shows only a subset of events. For a complete event log, use the [Service](#) menu.

---

### Print the event log from the Administration menu (touchscreen control panel)

1. From the [Home](#) screen on the printer control panel, scroll to and touch the [Administration](#) button.
2. Open the following menus:
  - [Troubleshooting](#)
  - [Event Log](#)
3. The event log displays on the screen. To print it, touch the [Print](#) button.

### Print the event log from the Administration menu (LCD control panel)

1. From the [Home](#) screen on the printer control panel, use the down arrow ▼ button to scroll to [Administration](#), and then press the [OK](#) button.
2. Use the down arrow ▼ button to scroll to [Troubleshooting](#), and then press the [OK](#) button to select it.
3. With [Print Event Log](#) highlighted, press the [OK](#) button to print the page.

### Print the event log from the Service menu (touchscreen control panel)

1. From the [Home](#) screen on the printer control panel, scroll to and touch the [Device Maintenance](#) button.
2. Open the [Service](#) menu.
3. On the sign-in screen, select the [Service Access Code](#) option from the drop-down list.
4. Enter the following service access code for the printer:
  - 10050615 (M506)
  - 11052715 (M527)
5. The event log displays on the screen. To print it, touch the [Print](#) button.

### Print the event log from the Service menu (LCD control panel)

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



**NOTE:** After entering the PIN, press the [OK](#) button.

---

- 10050615 (M506)
  - 11052715 (M527)
5. With [Print Event Log](#) highlighted, press the [OK](#) button to print the page.

## Clear the event log (M506/M527)

### Clear the event log from the Service menu (touchscreen control panel)

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

### Clear the event log from the Service menu (LCD control panel)

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



---

**NOTE:** After entering the PIN, press the [OK](#) button.

---

- 10050615 (M506)
  - 11052715 (M527)
5. Use the down arrow ▼ button to scroll to [Clear Event Log](#), and then press the [OK](#) button.

# Improve print quality

- [Print-quality troubleshooting pages \(M506/M527\)](#)
- [Print from a different software program](#)
- [Check the paper-type setting for the print job](#)
- [Check toner-cartridge status](#)
- [Visually inspect the toner cartridge or cartridges](#)
- [Print a cleaning page](#)
- [Check paper and the printing environment](#)
- [Use manual print modes \(M506/M527\)](#)
- [Try a different print driver](#)
- [Check Economode settings \(M501\)](#)

## Print-quality troubleshooting pages (M506/M527)

Use the print quality troubleshooting pages to help diagnose and solve print-quality problems.



**NOTE:** To get further assistance in print quality troubleshooting, go to [www.hp.com/support/ljM501](http://www.hp.com/support/ljM501), [www.hp.com/support/ljM506](http://www.hp.com/support/ljM506), [www.hp.com/support/ljM527MFP](http://www.hp.com/support/ljM527MFP) and select PQ Troubleshooting Tools.

### Print the print-quality troubleshooting pages from a touchscreen control panel

1. From the **Home** screen on the printer control panel, scroll to and touch the **Administration** button.
2. Open the following menus:
  - **Troubleshooting**
  - **Print Quality Pages**
  - **Print PQ Troubleshooting Page**
3. Touch the **Print** button. The printer prints a print-quality troubleshooting procedure page and a black print-quality troubleshooting page.

### Print the print-quality troubleshooting pages from a LCD control panel

1. From the **Home** screen on the printer control panel, use the down arrow ▼ button to scroll to **Administration**, and then press the **OK** button.
2. Use the down arrow ▼ button to scroll to **Troubleshooting**, and then press the **OK** button.
3. Use the down arrow ▼ button to scroll to **Print Quality Pages**, and then press the **OK** button to print the page.
4. Use the down arrow ▼ button to scroll to **Print PQ Troubleshooting Page**, and then press the **OK** button to print the page.



**NOTE:** The printer returns to the **Ready** state after printing the print-quality-troubleshooting pages. Follow the instructions on the pages that print out.



**Figure 2-90** Print-quality troubleshooting procedure page (M506/M527)

**Print Quality Troubleshooting Procedure**      **HP LaserJet M506**      **Page 1**

**1. Check the Control Panel**


---

Check the control panel to see if it displays any messages that indicate Replace supply item or indicate Very Low supply. If it does, replace the supply item. (Part name and numbers as well as ordering information are listed at the bottom of Section 2.)

**2. Troubleshoot Your Print Quality Issue**

---

Print a Cleaning Page by going to Device Maintenance -> Calibration/Cleaning -> Cleaning Page. Wait for this page to print, then reprint the PQTroubleshooting procedure.  
If a print quality defect appears on the page, then replace the black toner cartridge.

 **Black Cartridge**  
CF281X


To order supplies, please visit:  
[www.hp.com/gnp/buyonline.html](http://www.hp.com/gnp/buyonline.html)

**3. Further Assistance**

---

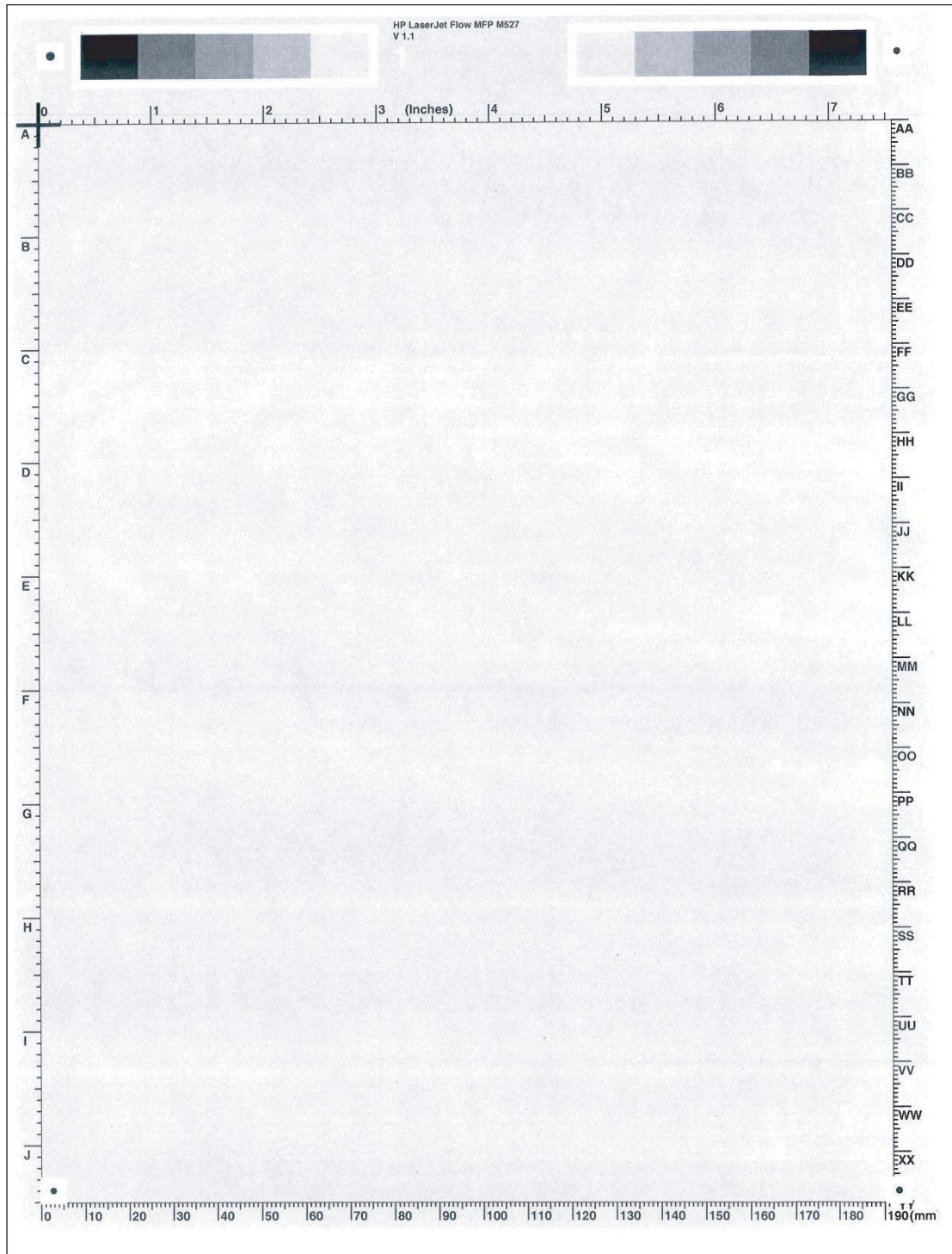
If this troubleshooting procedure did not produce clear results or if your print quality defect is unresolved, please go to the web site below for further assistance.  
[www.hp.com/support/1jM605](http://www.hp.com/support/1jM605)  
[www.hp.com/go/hpsc](http://www.hp.com/go/hpsc)

May/1/2000 8:52:45 PM

  
XXXXXXXXXXCXXXXX6      4013033693766100

English (United States)

**Figure 2-91** Black print-quality troubleshooting page (M506/M527)



Grids

The grids are in inches and millimeters. They are labeled with letters and numbers so that defects can be described by position and by distance between repeats.

Grey scale ramp patches

Used to detect offset for the OPC or developer in the toner cartridge or offset in the fuser.

## Print from a different software program

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

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

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

### Check the paper type setting (Windows)

1. From the software program, select the **Print** option.
2. Select the printer, and then click the **Properties** or **Preferences** button.
3. Click the **Paper/Quality** tab.
4. From the **Paper Type** drop-down list, click the **More...** option.
5. Expand the list of **Type is:** options.
6. Expand the category of paper types that best describes your paper.
7. Select the option for the type of paper you are using, and click the **OK** button.
8. Click the **OK** button to close the **Document Properties** dialog box. In the **Print** dialog box, click the **OK** button to print the job.

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

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

## Check toner-cartridge status

### Print the supplies status page from a touchscreen control panel

1. From the [Home](#) screen on the printer control panel, scroll to and touch the [Administration](#) button.
2. Open the following menus:
  - [Reports](#)
  - [Configuration/Status Pages](#)
3. Touch [Supplies Status Page](#), and then press the [Print](#) button to print the page.

## Print the supplies status page from a LCD control panel

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


Check the supplies status page for the following information:

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

## Visually inspect the toner cartridge or cartridges

1. Remove the toner cartridge or cartridges from the printer, and verify that the sealing tape has been removed.
2. Check the memory chip for damage.
3. Examine the surface of the imaging drum on the cartridge.

---

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

---

4. If you see any scratches, fingerprints, or other damage on an imaging drum, replace the toner cartridge or cartridges.
5. If the imaging drum does not appear to be damaged, rock the toner cartridge or cartridges gently several times and reinstall it. Print a few pages to see if the problem has resolved.

## Print a cleaning page

### Print the cleaning page from a LCD control panel (M501)

1. From the printer control panel, press the **OK** button.
2. Open the **Service** menu.
3. Use the arrow keys to select the **Cleaning mode** option, and then press the **OK** button.

The printer prints the first side and then prompts you to remove the page from the output bin and reload it in Tray 1, keeping the same orientation. Wait until the process is complete. Discard the page that prints.

---

 **NOTE:** The cleaning page will be blank.

---

### Print the cleaning page from a LCD control panel (M506)

1. From the **Home** screen on the printer control panel, use the down arrow ▼ button to scroll to **Device Maintenance**, and then press the **OK** button.
2. Use the down arrow ▼ button to scroll to **Calibration/Cleaning**, and then press the **OK** button.
3. If necessary, use the down arrow ▼ button to scroll to **Cleaning**, and then press the **OK** button to print the page.
4. Follow the instruction on the printed cleaning page to finish the cleaning page process.

### Print the cleaning from a touchscreen control panel (M527)

1. From the **Home** screen on the printer control panel, scroll to and touch the **Device Maintenance** button.
2. Open the following menus:
  - **Calibration/Cleaning**
3. Touch **Cleaning Page**, and then press the **OK** button to print the page.
4. The cleaning process can take several minutes. When it is finished, discard the printed page.

## Check paper and the printing environment

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

- Always use a paper type and weight that this printer supports.
- Use paper that is of good quality and free of cuts, nicks, tears, spots, loose particles, dust, wrinkles, voids, staples, and curled or bent edges.
- Use paper that has not been previously printed on.
- Use paper that does not contain metallic material, such as glitter.
- Use paper that is designed for use in laser printers. Do not use paper that is designed only for use in Inkjet printers.
- Use paper that is not too rough. Using smoother paper generally results in better print quality

### Step two: Check the environment

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

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

## Use manual print modes (M506/M527)

Try the following manual print modes to see if they solve the image-quality problems.



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

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

### Select a manual print mode from a touch screen control panel

1. From the [Home](#) screen on the printer control panel, scroll to and touch the [Administration](#) button.
2. Open the following menus:
  - [General Settings](#)
  - [Print Quality](#)
  - [Adjust Paper Types](#) or [Optimize](#)
3. Select a paper type, and then select the mode to adjust.
4. Select a value for the mode, and then touch the [Save](#) button.

### Select a manual print mode from a LCD control panel

1. From the [Home](#) screen on the printer control panel, use the down arrow ▼ button to scroll to [Administration](#), and then press the [OK](#) button.
2. Use the down arrow ▼ button to scroll to [General Settings](#), and then press the [OK](#) button.
3. Use the down arrow ▼ button to scroll to [Print Quality](#), and then press the [OK](#) button.
4. Use the down arrow ▼ button to scroll to [Adjust Paper Types](#) or [Optimize](#), and then press the [OK](#) button.

**Table 2-62 Print modes under the Adjust Paper Types submenu (M506/M527)**

---

|            |   |
|------------|---|
| Print Mode | <ul style="list-style-type: none"><li>• Plain</li><li>• HP EcoSMART Lite</li><li>• Light 60–74g</li><li>• Intermediate 85–90g</li><li>• Mid Weight 96–110g</li><li>• Heavy 111–130g</li><li>• Extra Heavy 131–175g</li><li>• Cardstock 176–220</li><li>• Mono Transparency</li><li>• Labels</li><li>• Shelf Edge Labels</li><li>• Letterhead</li><li>• Envelope</li><li>• Preprinted</li><li>• Prepunched</li><li>• Colored</li><li>• Bond</li><li>• Recycled</li><li>• Rough</li><li>• Restore Modes</li></ul> |
|------------|---|

---

**Table 2-63 Print modes under the Optimize submenu (M506/M527)**

---

|                  |  |
|------------------|--|
| Moisture Control | Normal<br><br>Alternate<br><br>Use this item to optimize various print modes to address print-quality issues.  |
| Line Detail      | Use this item when a toner explosion image defect occurs. The default setting is <b>Normal</b> .<br><br>Use the <b>Alternate</b> setting if the defect occurs because of poor quality paper, or the printer is installed in a high humidity environment. |
| Restore Optimize | Use <b>Restore Optimize</b> to reset the menu defaults.  |

---

## Try a different print driver

Try a different print driver when printing from a software program and the printed pages have unexpected lines in graphics, missing text, missing graphics, incorrect formatting, or substituted fonts.

Download any of the following drivers from the HP Web site: [www.hp.com/support/ljM501](http://www.hp.com/support/ljM501), [www.hp.com/support/ljM506](http://www.hp.com/support/ljM506), [www.hp.com/support/ljM527MFP](http://www.hp.com/support/ljM527MFP).

---

|                         |   |
|-------------------------|---|
| <b>HP PCL.6 driver</b>  | <ul style="list-style-type: none"><li>• Provided as the default driver on the printer CD. This driver is automatically installed unless you select a different one.</li></ul>   |
| <b>HP PCL 6 driver</b>  | <ul style="list-style-type: none"><li>• Recommended for all Windows environments</li></ul>  |
| <b>HP PCL-6 driver</b>  | <ul style="list-style-type: none"><li>• Provides the overall best speed, print quality, and printer-feature support for most users</li><li>• Developed to align with the Windows Graphic Device Interface (GDI) for the best speed in Windows environments</li><li>• Might not be fully compatible with third-party and custom software programs that are based on PCL 5</li></ul>  |
| <b>HP UPD PS driver</b> | <ul style="list-style-type: none"><li>• Recommended for printing with Adobe® software programs or with other highly graphics-intensive software programs</li><li>• Provides support for printing from postscript emulation needs, or for postscript flash font support</li></ul>  |
| <b>HP UPD PCL 5</b>     | <ul style="list-style-type: none"><li>• Recommended for general office printing in Windows environments</li><li>• Compatible with previous PCL versions and older HP LaserJet printers</li><li>• The best choice for printing from third-party or custom software programs</li><li>• The best choice when operating with mixed environments, which require the printer to be set to PCL 5 (UNIX, Linux, mainframe)</li><li>• Designed for use in corporate Windows environments to provide a single driver for use with multiple printer models</li><li>• Preferred when printing to multiple printer models from a mobile Windows computer</li></ul> |
| <b>HP UPD PCL 6</b>     | <ul style="list-style-type: none"><li>• Recommended for printing in all Windows environments</li><li>• Provides the overall best speed, print quality, and printer feature support for most users</li><li>• Developed to align with Windows Graphic Device Interface (GDI) for best speed in Windows environments</li><li>• Might not be fully compatible with third-party and custom software programs that are based on PCL 5</li></ul>   |

---



## Check Economode settings (M501)

Use the following procedure to control the print density on the page.

1. From the printer control panel, open the following menus:
  - [Setup menu](#)
  - [System Setup](#)
2. Scroll to, and then select the [Print Density](#) item.
3. Select the desired print density setting, and then press the [OK](#) button.
  - 1 — lightest
  - 2 — light
  - 3 — default
  - 4 — dark
  - 5 — darkest

# Print quality troubleshooting guide

- [Image defects table](#)
- [Product specific image defects](#)

## Image defects table


Image defects, no matter what their cause, can often be resolved using the same steps. Use the following steps as a starting point for solving image defect issues.

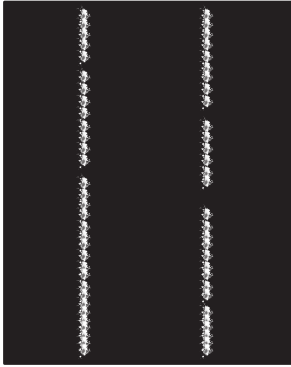
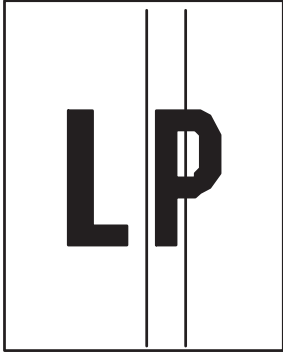
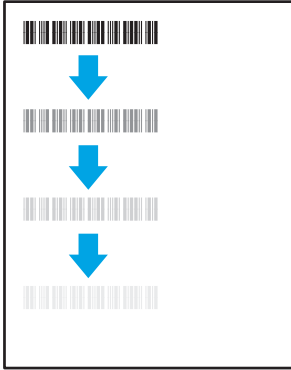
1. Reprint the document. Print quality defects can be intermittent in nature or can go away completely with continued printing.
2. Check the condition of your cartridge(s). If it is in a **Very Low** state (it has passed the rated life), replace your cartridge(s).
3. Check that the driver/tray print mode settings match the media that is loaded in a given tray. Try using a different ream of media or a different tray. Try using a different print mode.
4. Verify that your printer is in within its supported operating temperature/humidity range.
5. Verify the paper type, size and weight are supported by the printer. See the printer support page at [www.hp.com/support](http://www.hp.com/support) for a list of the supported paper sizes and types for your printer.

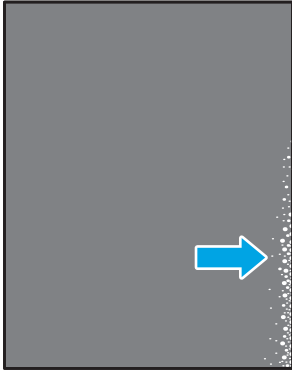




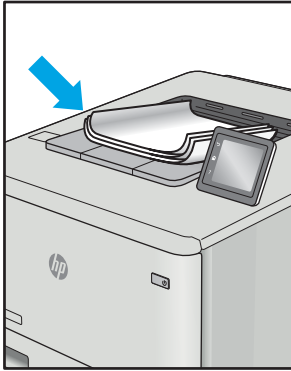
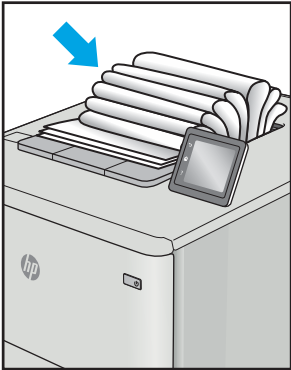
**NOTE:** The term “fusing” refers to the part of the printing process where toner is affixed to paper.

The following examples depict letter-size paper that has passed through the printer short-edge first.

| Description   | Sample  | Possible solutions   |
|---|---|--|
| <b>Banding</b>  |   |  |
| <b>Repetitive wide-pitch banding and Impulse bands:</b><br><br>Dark or light lines which repeat down the length of the page. They might be sharp or soft in nature. The defect displays only in areas of fill, not in text or sections with no printed content. |  | <ol style="list-style-type: none"><li>1. Reprint the document.</li><li>2. Try printing from another tray.</li><li>3. Replace the cartridge.</li><li>4. Use a different paper type.</li><li>5. <b>Enterprise models only:</b> From the Home screen on the printer control panel, go to the <a href="#">Adjust Paper Types</a> menu, and then choose a print mode that is designed for a slightly heavier media than what you are using. This slows the print speed and might improve the print quality.</li><li>6. If the problem persists, go to <a href="http://www.hp.com/support">www.hp.com/support</a>.</li></ol> |
| <b>Streaks</b>  |   |  |

| Description   | Sample  | Possible solutions  |
|---|---|---|
| <p><b>Light vertical streaks:</b> Light streaks that usually span the length of the page. The defect displays only in areas of fill, not in text or sections with no printed content.</p>   |    | <ol style="list-style-type: none"> <li>1. Reprint the document.</li> <li>2. Remove the cartridge, and then shake it to redistribute the toner.</li> <li>3. If the problem persists, go to <a href="http://www.hp.com/support">www.hp.com/support</a>.</li> </ol> <p><b>NOTE:</b> Both light and dark vertical streaks can occur when the printing environment is outside the specified range for temperature or humidity. Refer to your printer's environmental specifications for allowable temperature and humidity levels.</p> |
| <p><b>Dark vertical streaks and ITB cleaning streaks (color models only):</b> Dark lines which occur down the length of the page. The defect might occur anywhere on the page, in areas of fill or in sections with no printed content.</p> |   | <ol style="list-style-type: none"> <li>1. Reprint the document.</li> <li>2. Remove the cartridge, and then shake it to redistribute the toner.</li> <li>3. Print a cleaning page.</li> <li>4. Check the toner level in the toner cartridge(s).</li> <li>5. If the problem persists, go to <a href="http://www.hp.com/support">www.hp.com/support</a>.</li> </ol>  |
| <p><b>Fixing/fuser</b></p>  |  | <ol style="list-style-type: none"> <li>1. Reprint the document.</li> <li>2. Check the paper type in the paper tray and adjust the printer settings to match. If necessary, select a lighter paper type.</li> <li>3. If the problem persists, go to <a href="http://www.hp.com/support">www.hp.com/support</a>.</li> </ol>   |

| Description  | Sample  | Possible solutions  |
|--|---|---|
| <p><b>Poor fusing:</b> Toner rubs off along either edge of page. This defect is more common at the edges of high-coverage jobs and on light media types but can occur anywhere on the page.</p>                        |    | <ol style="list-style-type: none"> <li>1. Reprint the document.</li> <li>2. Check the paper type in the paper tray and adjust the printer settings to match. If necessary, select a heavier paper type.</li> <li>3. <b>Enterprise models only:</b> From the printer control panel, go to the <b>Edge-to-Edge</b> menu and then select <b>Normal</b>. Reprint the document.</li> <li>4. <b>Enterprise models only:</b> From the printer control panel, select <b>Auto Include Margins</b> and then reprint the document.</li> <li>5. If the problem persists, go to <a href="http://www.hp.com/support">www.hp.com/support</a>.</li> </ol> |
| <p><b>Image placement</b></p>  |   |   |
| <p><b>Margins and skew</b></p> <p>The image is not centered, or is skewed on the page. The defect occurs when the paper is not positioned properly as it is pulled from the tray and moves through the paper path.</p> |   | <ol style="list-style-type: none"> <li>1. Reprint the document.</li> <li>2. Remove the paper and then reload the tray. Make sure that all the paper edges are even on all sides.</li> <li>3. Make sure that the top of the paper stack is below the tray full indicator. Do not overfill the tray.</li> <li>4. Make sure that the paper guides are adjusted to the correct size for the paper. Do not adjust the paper guides tightly against the paper stack. Adjust them to the indentations or markings in the tray.</li> <li>5. If the problem persists, go to <a href="http://www.hp.com/support">www.hp.com/support</a>.</li> </ol> |
| <p><b>Color plane registrations</b></p>  |   |   |
| <p><b>Color plane registrations (color models only)</b></p> <p>One or more color of the planes is not aligned with the other color planes. The primary error will typically occur with yellow.</p>                     |  | <ol style="list-style-type: none"> <li>1. Reprint the document.</li> <li>2. From the printer control panel, calibrate the printer.</li> <li>3. If a cartridge has reached a <b>Very Low</b> state or the printed output is severely faded, replace the cartridge.</li> <li>4. From the printer control panel use the <b>Restore Calibration</b> feature to reset the printer's calibration settings to the factory defaults.</li> <li>5. If the problem persists, go to <a href="http://www.hp.com/support">www.hp.com/support</a>.</li> </ol>  |
| <p><b>Output</b></p>   |   |   |

| Description   | Sample   | Possible solutions  |
|---|--|---|
| <p><b>Output curl</b></p> <p>Printed paper has curled edges. The curled edge can be along the short or long side of the paper. Two types of curl are possible:</p> <ul style="list-style-type: none"> <li>• <b>Positive curl:</b> The paper curls toward the printed side. The defect occurs in dry environments or when printing high coverage pages.</li> <li>• <b>Negative curl:</b> The paper curls away from the printed side. The defect occurs in high-humidity environments or when printing low coverage pages.</li> </ul> |   | <ol style="list-style-type: none"> <li>1. Reprint the document.</li> <li>2. <b>Positive curl:</b> From the printer control panel, select a heavier paper type. The heavier paper type creates a higher temperature for printing.<br/><br/><b>Negative curl:</b> From the printer control panel, select a lighter paper type. The lighter paper type creates a lower temperature for printing. Try storing the paper in a dry environment prior or use freshly opened paper.</li> <li>3. Print in duplex mode.</li> <li>4. If the problem persists, go to <a href="http://www.hp.com/support">www.hp.com/support</a>.</li> </ol> |
| <p><b>Output stacking</b></p> <p>The paper does not stack well in the output tray. The stack might be uneven, skewed, or the pages might be pushed out of the tray and onto the floor. Any of the following conditions can cause this defect:</p> <ul style="list-style-type: none"> <li>• Extreme paper curl</li> <li>• The paper in the tray is wrinkled or deformed</li> <li>• The paper is a non-standard paper type, such as envelopes</li> <li>• The output tray is too full</li> </ul>                                       |  | <ol style="list-style-type: none"> <li>1. Reprint the document.</li> <li>2. Flip out the output bin extension.</li> <li>3. If the defect is caused by extreme paper curl, complete the troubleshooting steps for Output curl.</li> <li>4. Use a different paper type.</li> <li>5. Use freshly opened paper.</li> <li>6. Remove the paper from the output tray before the tray gets too full.</li> <li>7. If the problem persists, go to <a href="http://www.hp.com/support">www.hp.com/support</a>.</li> </ol>  |


## Product specific image defects


- [Repetitive image defect ruler](#)
- [Print-quality troubleshooting](#)


## Repetitive image defect ruler

When troubleshooting the source of some print image defects, one solution is to identify if it is a repetitive defect (does the print quality defect appear multiple times on the printed page?). If this is the case, use a ruler to measure occurrences of repetitive image defects to help solve image-quality problems. For more information, see [Use a ruler to measure between repetitive defects on page 410](#).

Use a ruler to measure occurrences of repetitive image defects to help solve image-quality problems. Place the ruler next to the first occurrence of the defect on the page. Find the distance between identical defects and use the table below to identify the component that is causing the defect.

 **IMPORTANT:** Do not use solvents or oils to clean rollers. Instead, rub the roller with a lint-free cloth. If dirt is difficult to remove, rub the roller with a lint-free cloth that has been dampened with water.

 **NOTE:** Defects on the tray pickup rollers or the Tray 1 pickup roller do not cause a repetitive defect. Defects on these rollers cause a defect to appear only on the leading edge of the image.

 **TIP:** To make a printer specific repetitive defect ruler, use a metric ruler to transfer the measurements in [Table 2-64 Repetitive defects on page 409](#) to a transparency or the edge of a piece of paper—clearly label each ruler mark with the associated defective assembly.

**Table 2-64 Repetitive defects**

| Assembly   | Distance between defects |
|--|--------------------------|
| Developer roller (toner cartridge) <sup>1</sup>              | 27.8 mm (1.09 in)        |
| Charge roller (toner cartridge) <sup>1</sup>                 | 28.3 mm (1.11 in)        |
| Face down roller   | 36.9 mm (1.45 in)        |
| Transfer roller  | 39 mm (1.53 in)          |
| Duplex feed roller   | 40.3 mm (1.58 in)        |
| Registration roller  | 43.3 mm (1.70 in)        |
| Middle feed roller (cassette)                                |                          |
| Middle feed roller (optional input feeder)                   |                          |
| Switchback roller  | 43.4 mm (1.70 in)        |
| Feed roller cassette)  | 47.4 mm (1.87 in)        |
| Feed roller (optional input feeder)                          |                          |
| Pick roller (cassette)                                       | 49.7 mm (1.95 in)        |
| Pickup roller (optional input feeder)                        |                          |
| Pressure roller <sup>2</sup> (fuser)                         | 63.5 mm (2.50 in)        |
| Photosensitive drum <sup>1</sup> (OPC drum; toner cartridge) | 75.4 mm (2.96 in)        |
| Fuser sleeve <sup>2</sup> (fuser)                            |                          |
| Pick roller (Tray 1)   | 78.7 mm (3.09 in)        |


<sup>1</sup> The primary charging roller and photosensitive drum cannot be cleaned because they are internal assemblies in the toner cartridge. If one of these assemblies is causing the defect, replace the toner cartridge.

<sup>2</sup> The primary fuser sleeve unit or pressure roller cannot be cleaned because they are internal assemblies in the fuser. If one of these assemblies is causing the defect, replace the fuser.

## Use a ruler to measure between repetitive defects

The figures in this section shows color repetitive defect pages. However, the process for measuring repetitive defects is valid for mono pages.

1. Identify a repetitive defect on the page.

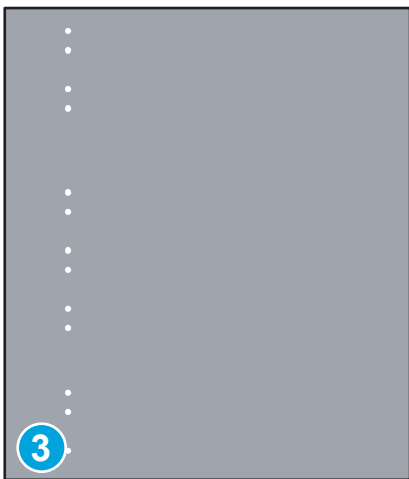
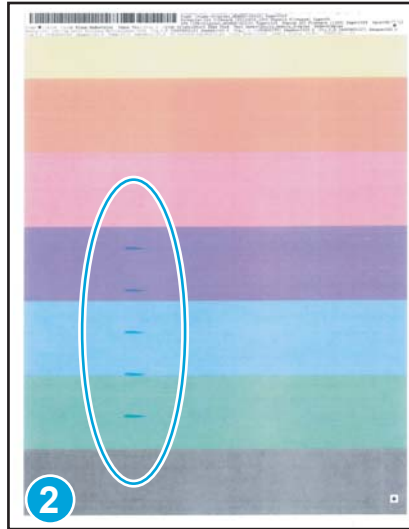
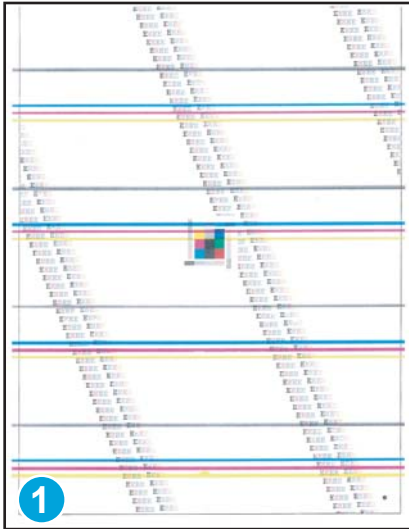
 **TIP:** Print a cleaning page to see if that resolves the defect.

The example pages below show the following types of repetitive defects.

 **NOTE:** These are examples only, other types of repetitive defects might appear on a page.

- Lines (callout 1)
- Smudges (callout 2)
- Dots or spots (callout 3)

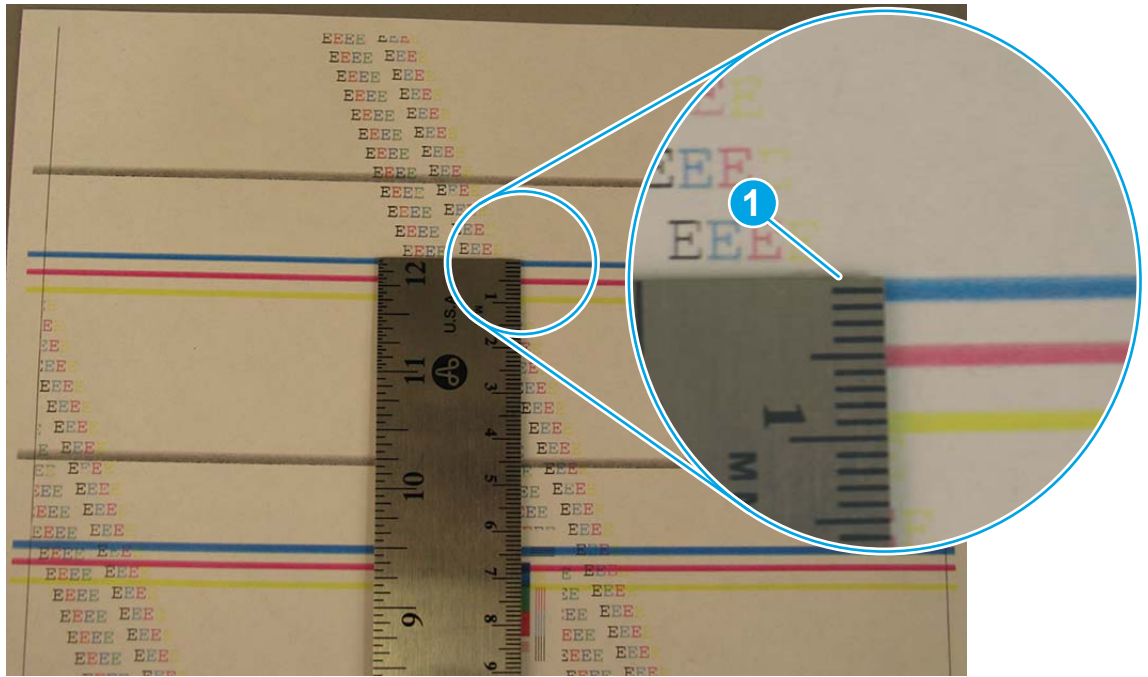
**Figure 2-92** Examples of repetitive defects





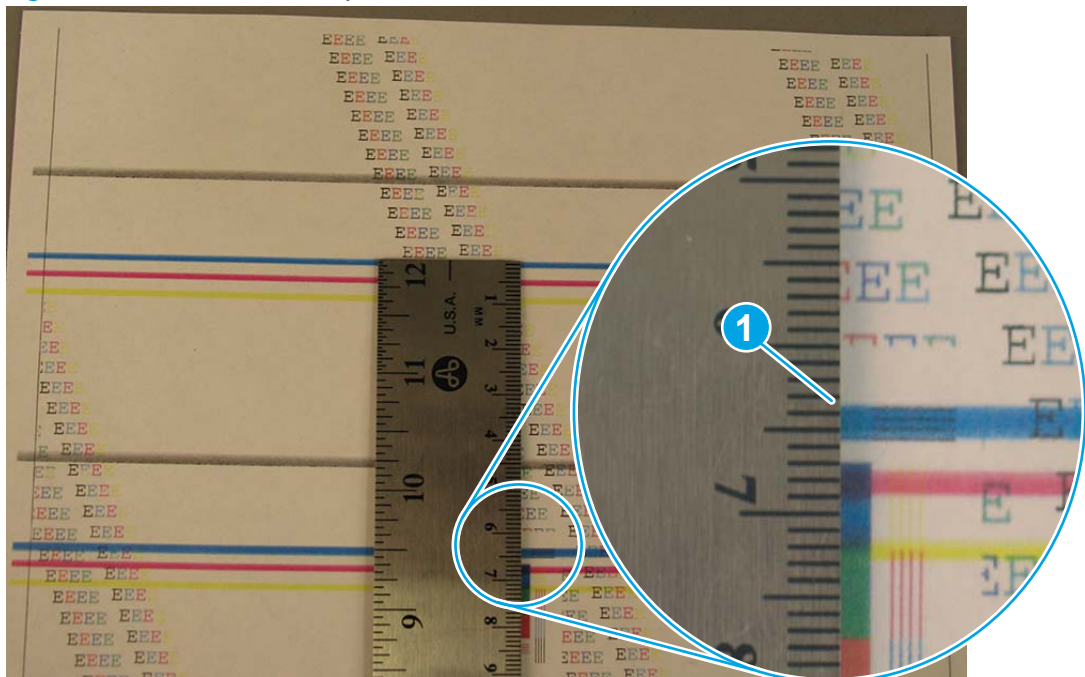
2. Position a metric ruler on the page with the “zero” ruler mark at one occurrence of the defect (callout 1).

**Figure 2-93** Place the ruler on the page




3. Locate the next occurrence of the defect (callout 1).

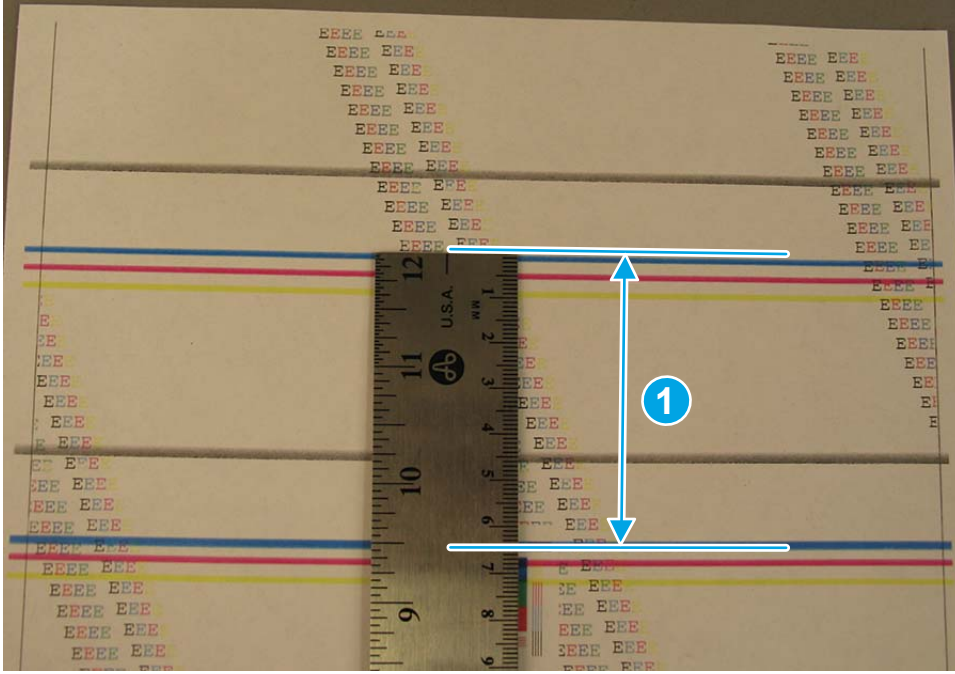
**Figure 2-94** Locate the next repetitive defect



4. Measure the distance (in millimeters) between the two occurrences (callout 1), and then use [Table 2-64 Repetitive defects on page 409](#) to determine the defective assembly.

 **TIP:** Always measure from and to the same point on the defects. For example, if the ruler is “zeroed” at the top edge of a defect, measure to the top edge of the next occurrence of that defect.

**Figure 2-95** Determine the defective assembly



## Print-quality troubleshooting



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**NOTE:** The image defects described in this section are printer-specific image defects.

---

- [Image defect events](#)
- [Image defect \(developmental\) events](#)
- [Other events](#)

### Image defect events



---

**NOTE:** The image defects described in this section are defects that occurred during development and that could not be fully eliminated. Customers might observe these defects.

---

- [Graininess](#)
- [Streaks](#)
- [Banding](#)

## Graininess

- [Graininess/fixing mottle](#)

## Graininess/fixing mottle

**Figure 2-96** Graininess/fixing mottle



### Description of the defect

This defect is large areas of fill that appear blotchy, grainy, non-uniform, or mottled (marked with spots or smears of color). The graininess/fixing mottle defect is caused by how the toner (dot) is pressed or melted and the severity of the defect depends on the paper roughness. This leads to the density variance or uneven gloss. Graininess/fixing mottle is caused by inconsistently melted toner.

### Conditions that can cause the defect

The defect appears in large areas of fill and is more severe in low temperature and humidity environments.

### Solutions for the defect

- **M501:** From the printer control panel, change the print mode from plain to intermediate (this slows the print speed).
  - Open the following menus:
    - Setup
    - System Setup
    - Paper Setup
    - Tray <X>



---

**NOTE:** Select the tray you want to configure.

---

- Paper Type
- Select [Intermediate 85–95g](#)
- **M506 and M527:** From the printer control panel, change the print mode from plain to intermediate (this slows the print speed).
  - Open the following menus:
    - [Trays](#)
    - [Tray](#)
    - [Modify](#)
    - [Next](#)
    - Select [Intermediate 85–95g](#)
  - Try using a smoother paper.

#### Parts related to the defect



---

**NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

---

- Media
- Toner cartridge
- Fuser



### Solutions for the defect

- Resend the print job.
- If the defect does not improve within two to three print jobs, remove the toner cartridge and gently rock it back and forth from side to side (this distributes the toner evenly in the toner cartridge).
- If the toner cartridge has reached the **Very Low** state, replace it.
- If the defect persists, replace the toner cartridge.

### Parts related to the defect



---

**NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

- Toner cartridge

## Banding

- [Dark streaks \(early in toner cartridge life\)](#)
- [Fine-pitch banding](#)
- [Wide-pitch banding 27.8 mm 1.09 in](#)
- [AC banding 4.6 mm 0.18 in](#)
- [OPC sharp bands at 75mm 2.95 in pitch \(version 1\)](#)
- [OPC sharp bands at 75 mm 2.95 in pitch \(version 2\)](#)
- [Impulse band 49-50 mm 1.92-1.96 in from the leading edge](#)
- [Impulse band 75-82 mm 2.95-3.22 in from the trailing edge](#)
- [Impulse band 102 mm 4.01 in from the trailing edge](#)



## Dark streaks (early in toner cartridge life)

Figure 2-98 Dark streaks (early in toner cartridge life)



### Description of the defect

Smearred dark streaks come and go down the page, and are more common at the right and left edges of the page. This issue is caused by grease from toner cartridge stirring system contaminating the supply hopper which then causes the toner to cluster and results in dark streaks on the page. Countermeasures include optimizing grease: amount, position, and stickiness. This defect appears in areas of fill, not in text.

### Conditions that can cause the defect

This defect occurs when using a new toner cartridge and usually decreases over toner cartridge life.

### Solutions for the defect

- Resend the print job.
- If the defect does not improve within two to three print jobs, remove the toner cartridge and gently rock it back and forth from side to side (this distributes the toner evenly in the toner cartridge).
- If the defect persists, replace the toner cartridge.

### Parts related to the defect



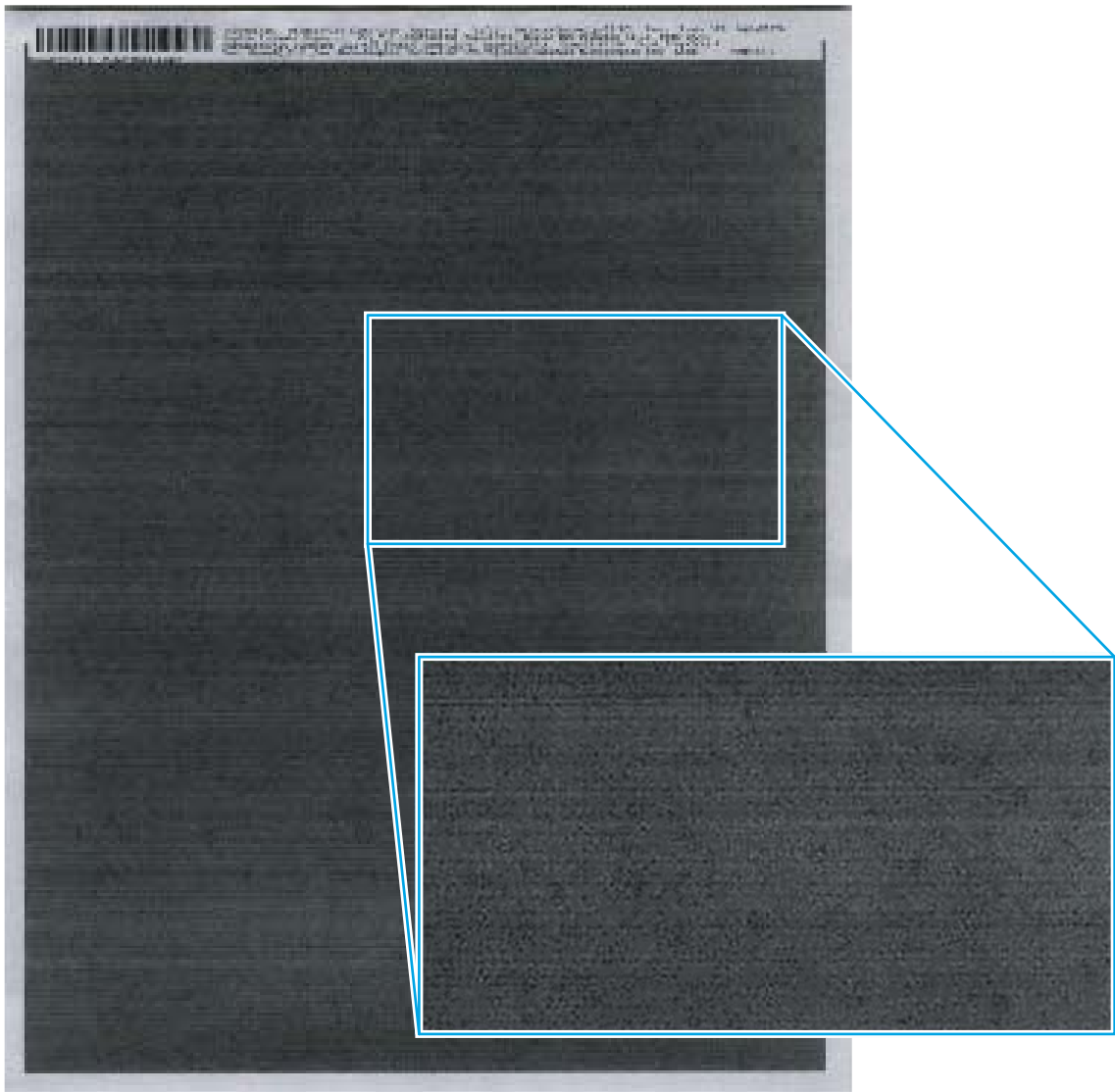
---

**NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

- Toner cartridge

## Fine-pitch banding

**Figure 2-99** Fine-pitch banding




### Description of the defect

This defect appears as alternating light and dark (evenly spaced) repetitive horizontal lines. The 0.93 mm (0.03 in) fine-pitch banding is caused by the main drive motor gear tooth engagement. This defect appears in areas of fill, not in text.

### Conditions that can cause the defect

The alignment of the motor gear and drum drive gear is the important factor for this banding and specifically the accuracy of the motor installed surface and accuracy of the bearing shaft position at the both sides of the drum drive gear shaft.

## Solutions for the defect

- Try using a smoother paper.
  - **M501:** From the printer control panel, change the print mode from plain to intermediate (this slows the print speed).
    - Open the following menus:
      - Setup
      - System Setup
      - Paper Setup
      - Tray <X>
- 
-  **NOTE:** Select the tray you want to configure.
- Paper Type
  - Select **Intermediate 85–95g**
- **M506 and M527:** From the printer control panel, change the print mode from plain to intermediate (this slows the print speed).
    - Open the following menus:
      - Trays
      - Tray
      - Modify
      - Next
      - Select **Intermediate 85–95g**

## Parts related to the defect

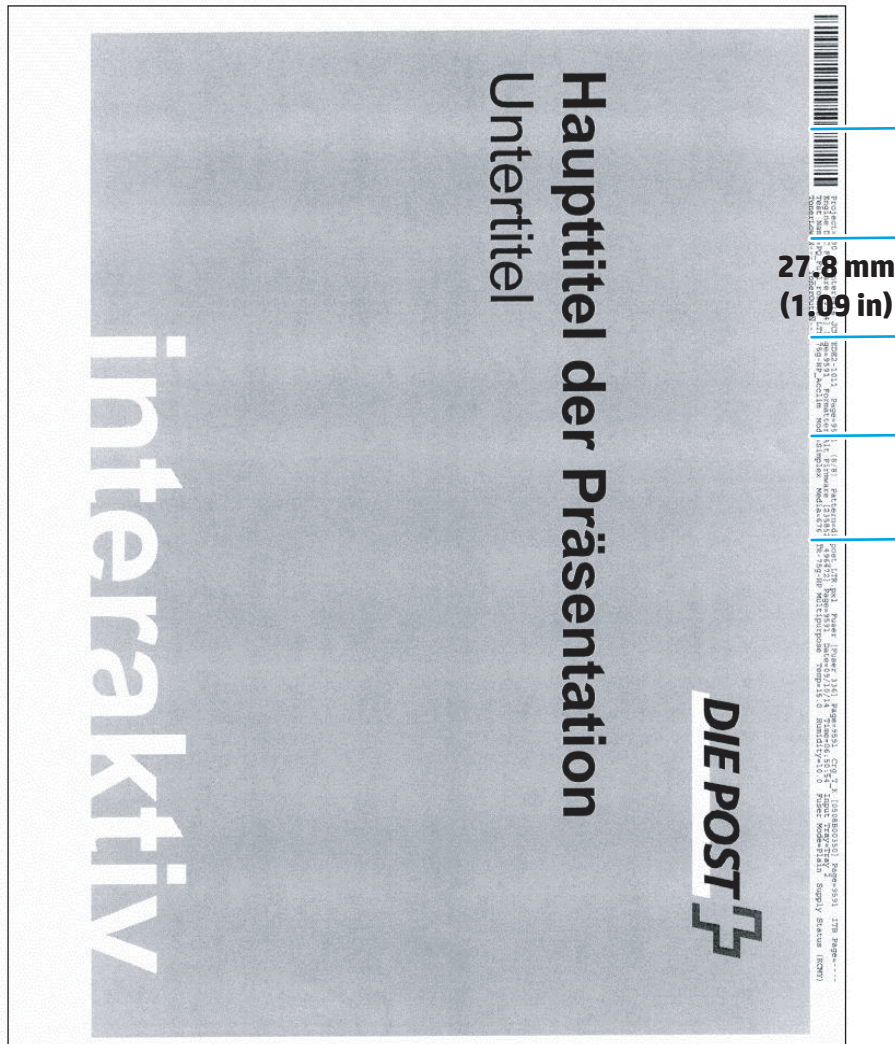
---

 **NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

- Toner cartridge
- Printer engine (whole unit replacement)

## Wide-pitch banding 27.8 mm (1.09 in)

Figure 2-100 Wide-pitch banding



### Description of the defect

This defect appears as soft, gradual bands that can be seen over a constant density area. It appears as slight gradients which repeat at approximately a 27.8 mm (1.09 in) pitch. This defect appears in areas of fill, not in text.

### Conditions that can cause the defect

This defect is a density variation which appears on the PQ due to the gap variation between the OPC and the developer sleeve. This gap varies due to the accuracy of the OPC, developer sleeve, and the spacer placed between the OPC and the developer sleeve.

### Solutions for the defect

- Resend the print job.
- If the defect persists, replace the toner cartridge.

## Parts related to the defect



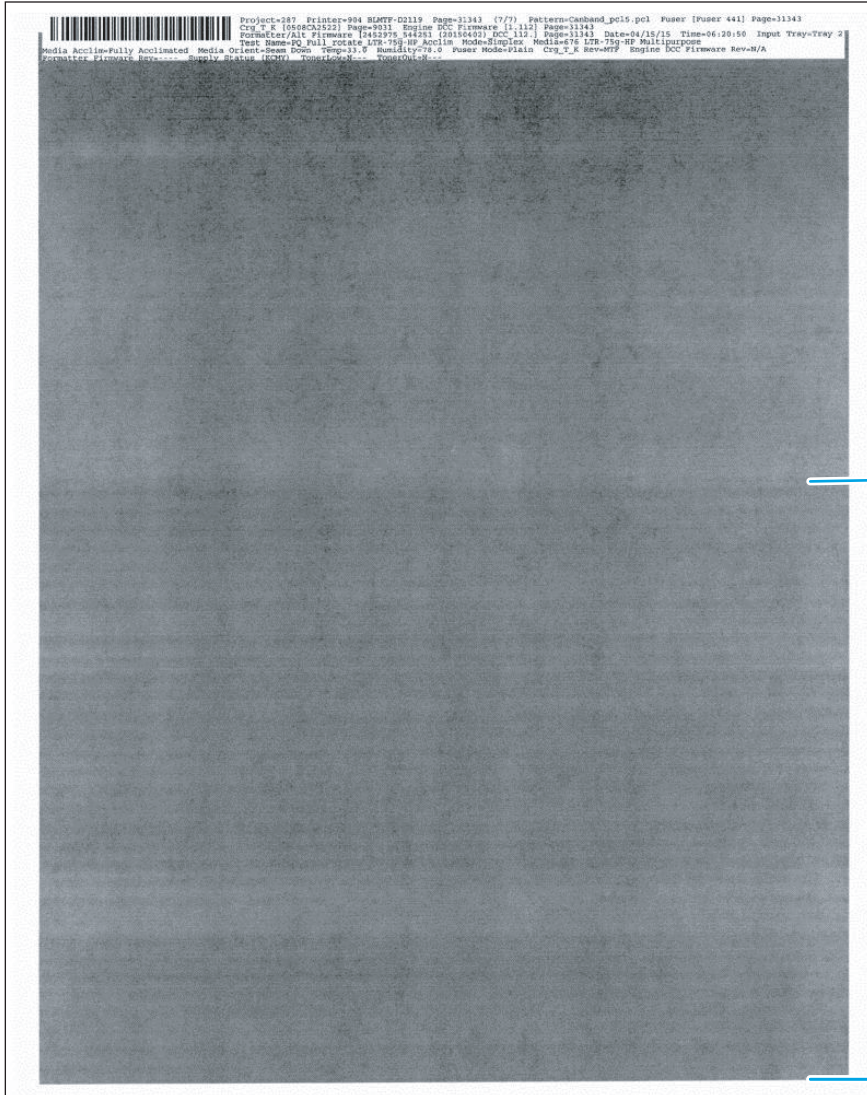
---

**NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

- Toner cartridge

## AC banding 4.6 mm (0.18 in)

Figure 2-101 AC banding




### Description of the defect

This defect appears as alternating light and dark bands that repeat at 4.6 mm (0.18 in) pitch might be visible starting midway down the page in high-temperature and high-humidity environments. This defect is caused by the transfer current getting pulled into the fusing area through the paper from the fuser heater voltage supply. The transfer banding occurs at the power supply voltage frequency. A capacitor was added to the transfer front guide to improve the level as a countermeasure during development.

### Conditions that can cause the defect

This defect usually occurs when printing in **Plain** print mode in high-humidity environments on fully acclimated (low resistivity) paper, which makes the transfer current flow to the fusing area more easily. The defect occurs more often with 220V units, which have higher impressed voltage to the fuser heater. This defect appears in areas of fill, not in text.

## Solutions for the defect

- Try printing the job on a newly opened supply of paper.
  - Cool the printer environment, and then resend the print job.
  - **M501:** From the printer control panel, change the print mode from plain to intermediate (this slows the print speed).
    - Open the following menus:
      - Setup
      - System Setup
      - Paper Setup
      - Tray <X>
- 
-  **NOTE:** Select the tray you want to configure.
- Paper Type
  - Select **Intermediate 85–95g**
- **M506 and M527:** From the printer control panel, change the print mode from plain to intermediate (this slows the print speed).
  - Open the following menus:
    - Trays
    - Tray
    - Modify
    - Next
    - Select **Intermediate 85–95g**

## Parts related to the defect

---

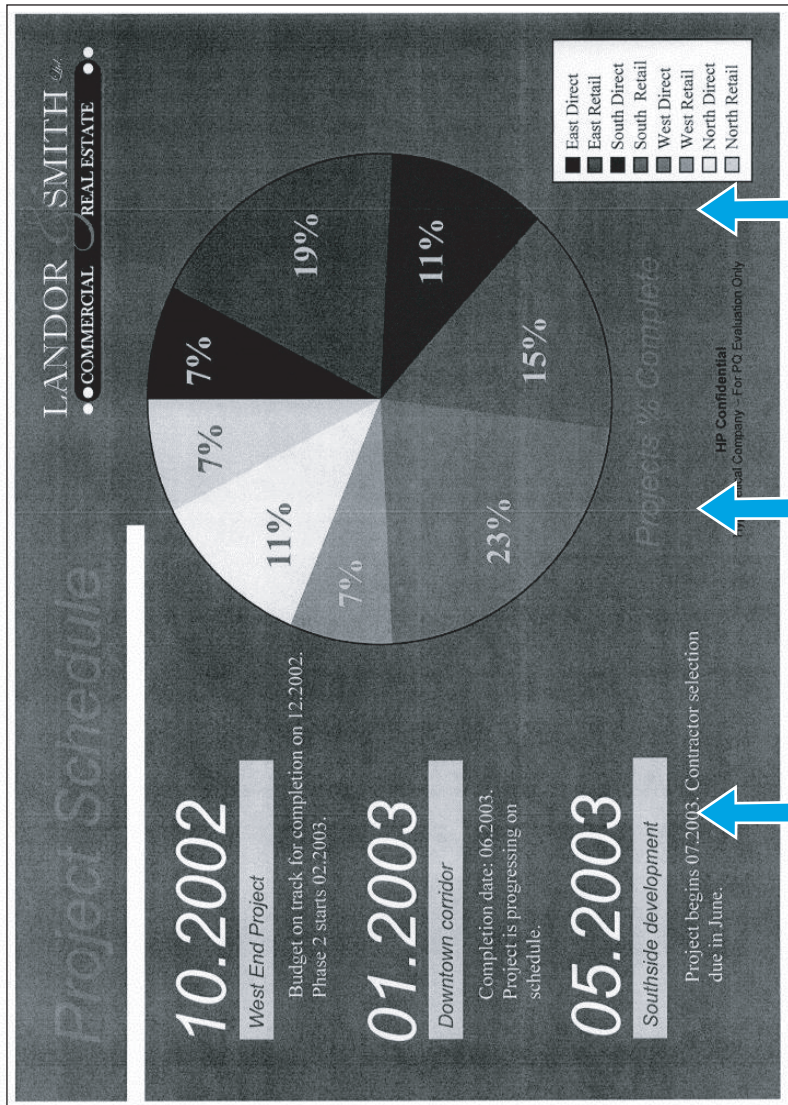
 **NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

- Media
- Fuser




## OPC sharp bands at 75mm (2.95 in) pitch (version 1)

Figure 2-102 OPC sharp bands (version 1)



### Description of the defect

This defect appears as sharp bands which repeat at a 75mm (2.95 in) pitch down the page as a light/dark line. Waste products (for example, toner or paper) accumulate at the contact position between the C-blade and the OPC. When the OPC stops, the waste material can form a light attachment to the OPC. When the OPC begins to turn again, the material removal can affect the OPC charge for several rotations. This defect appears in areas of fill, not in text.

 **NOTE:** This defect is also called C-blade blur and is common to many color and mono products. This defect looks similar to OPC sharp bands version 2, but appears to be light/dark.

### Conditions that can cause the defect

This defect might occur any time the toner cartridge is idle for long periods of time.

### Solutions for the defect

- Resend the print job. The defect should fade with subsequent printed pages.
- If the defect persists, replace the toner cartridge

### Parts related to the defect



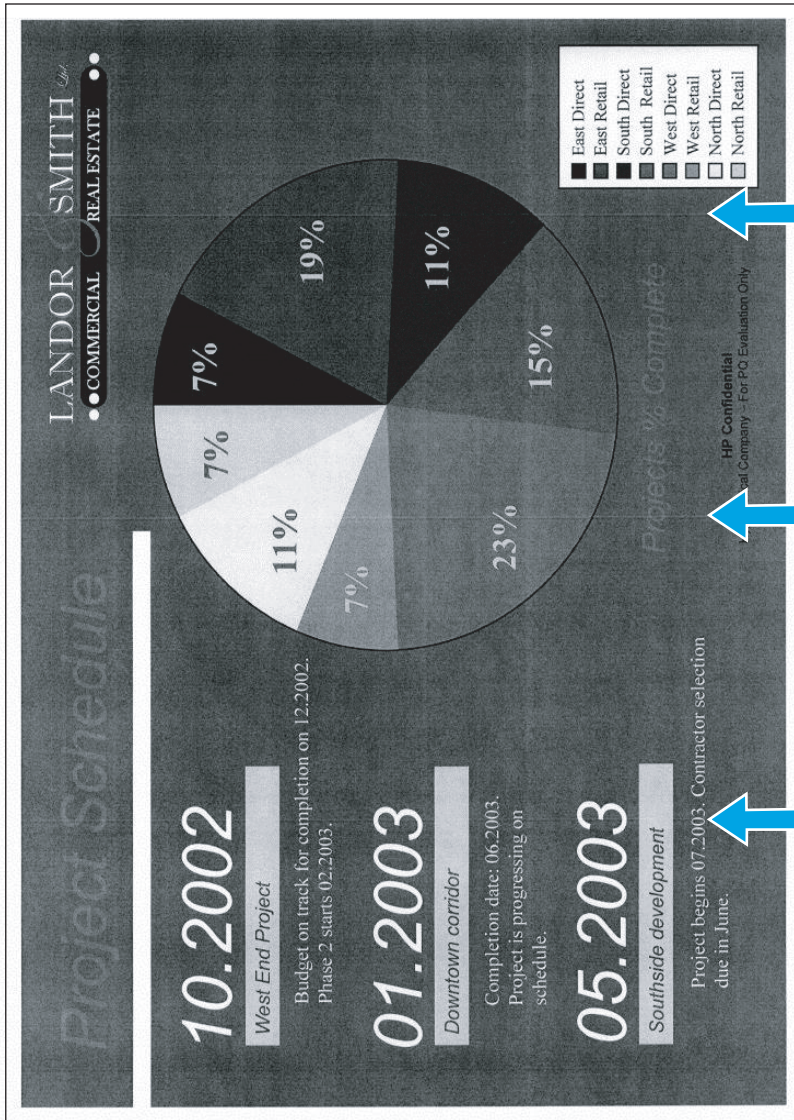
---

**NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

- Toner cartridge


## OPC sharp bands at 75 mm (2.95 in) pitch (version 2)

Figure 2-103 OPC sharp bands (version 2)



### Description of the defect

This defect appears as sharp bands which repeat at a 75 mm (2.95 in) pitch down the page as a dark line. The OPC drum is rubbed by the cleaning blade or charge roller due to vibration or impact. The rubbing effects the OPC charge but the defect fades with usage and time. This defect appears in areas of fill, not in text.

 **NOTE:** This defect looks similar to OPC sharp bands version 1, but appears to be dark.

### Conditions that can cause the defect

This defect can occur at the beginning of toner cartridge use, or if the cartridge is subject to vibration (for example, transportation).

### Solutions for the defect

- Resend the print job. The defect should fade with subsequent printed pages.
- If the defect persists, replace the toner cartridge

### Parts related to the defect



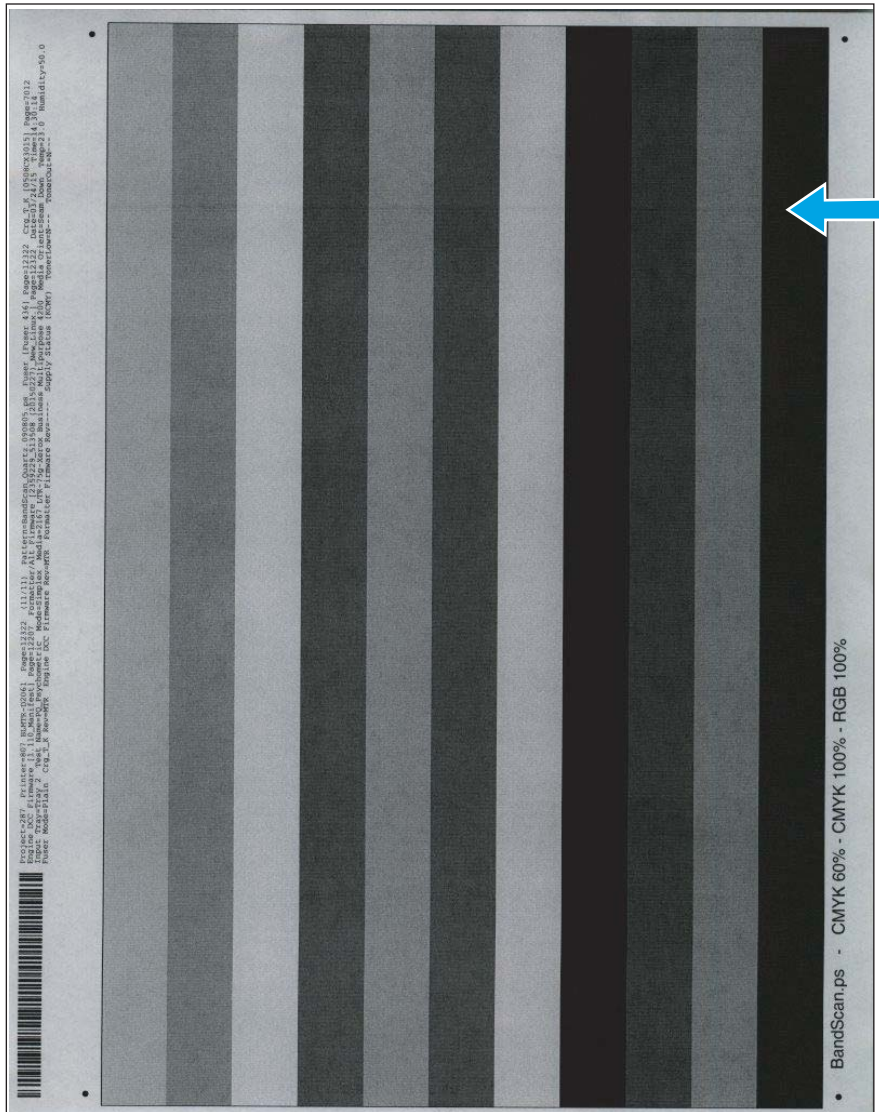
---

**NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

- Toner cartridge

## Impulse band 49-50 mm (1.92-1.96 in) from the leading edge

Figure 2-104 Impulse band (leading edge)



### Description of the defect

This defect appears as a dark and usually sharp band and occurs 49-50 mm (1.92-1.96 in) from the leading edge of the page. This impulse band is caused by the trailing edge of the previous page touching the OPC as it leaves the transfer area, which causes a memory charge disturbance. This defect appears in areas of fill, not in text.

### Conditions that can cause the defect

This defect only occurs during continuous printing, on the second and subsequent pages of a job.

### Solutions for the defect

- Resend the print job. Impulse bands can be variable.
- **M501:** If the defect appears during continuous printing, from the printer control panel enable the [Less Paper Curl](#) print mode.

---

 **NOTE:** This mode adds a rotation of the OPC drum to the inter-page gap timing that conditions the drum and minimizes the defect.

---

- Open the following menus:
  - [Setup](#)
  - [Service](#)
  - [Less Paper Curl](#)
  - [Select On](#)
- **M506 and M527:** From the printer control panel, change the print mode to [Paper Curl Mode](#).

---

 **NOTE:** This mode adds a rotation of the OPC drum to the inter-page gap timing that conditions the drum and minimizes the defect.

---

- Open the following menus:
  - [Administration](#)
  - [General Settings](#)
  - [Print Quality](#)
  - [Adjust Paper Types](#)
  - Select [Paper Curl Mode](#)  
[Paper Curl Mode](#)

### Parts related to the defect

---

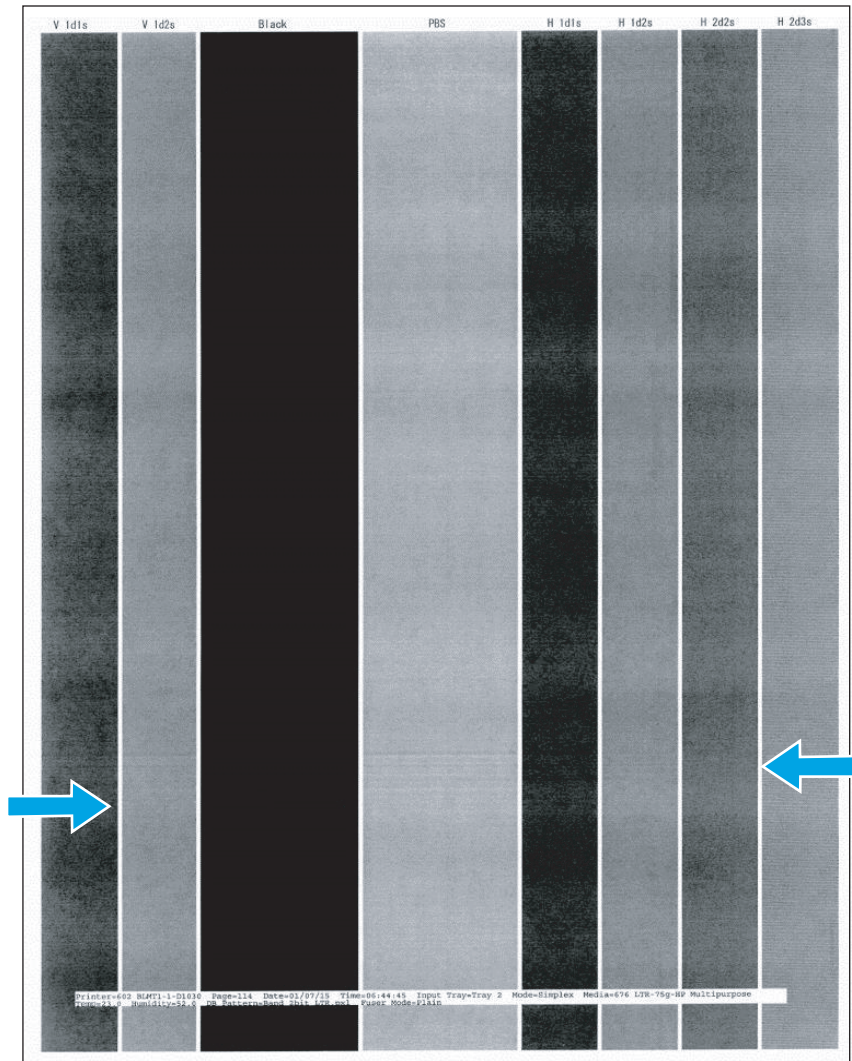
 **NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

---

- Media
- Toner cartridge

## Impulse band 75-82 mm (2.95-3.22 in) from the trailing edge

Figure 2-105 Impulse band (trailing edge)



### Description of the defect

This defect appears as a dark band and occurs 75-82 mm (2.95-3.22 in) from the trailing edge of the page. This impulse band is a development blur which occurs when the paper trailing edge goes through the registration roller. This defect appears in areas of fill, not in text.

### Conditions that can cause the defect

During the print job, the transfer top guide might be vibrating.

### Solutions for the defect

- Resend the print job. Impulse bands can be variable.
- **M501:** From the printer control panel, change the print mode from plain to intermediate (this slows the print speed).
  - Open the following menus:

- Setup
- System Setup
- Paper Setup
- Tray <X>



---

**NOTE:** Select the tray you want to configure.

---

- Paper Type
- Select **Intermediate 85–95g**
- **M506 and M527:** From the printer control panel, change the print mode from plain to intermediate (this slows the print speed).
  - Open the following menus:
    - Trays
    - Tray
    - Modify
    - Next
    - Select **Intermediate 85–95g**

#### Parts related to the defect



---

**NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

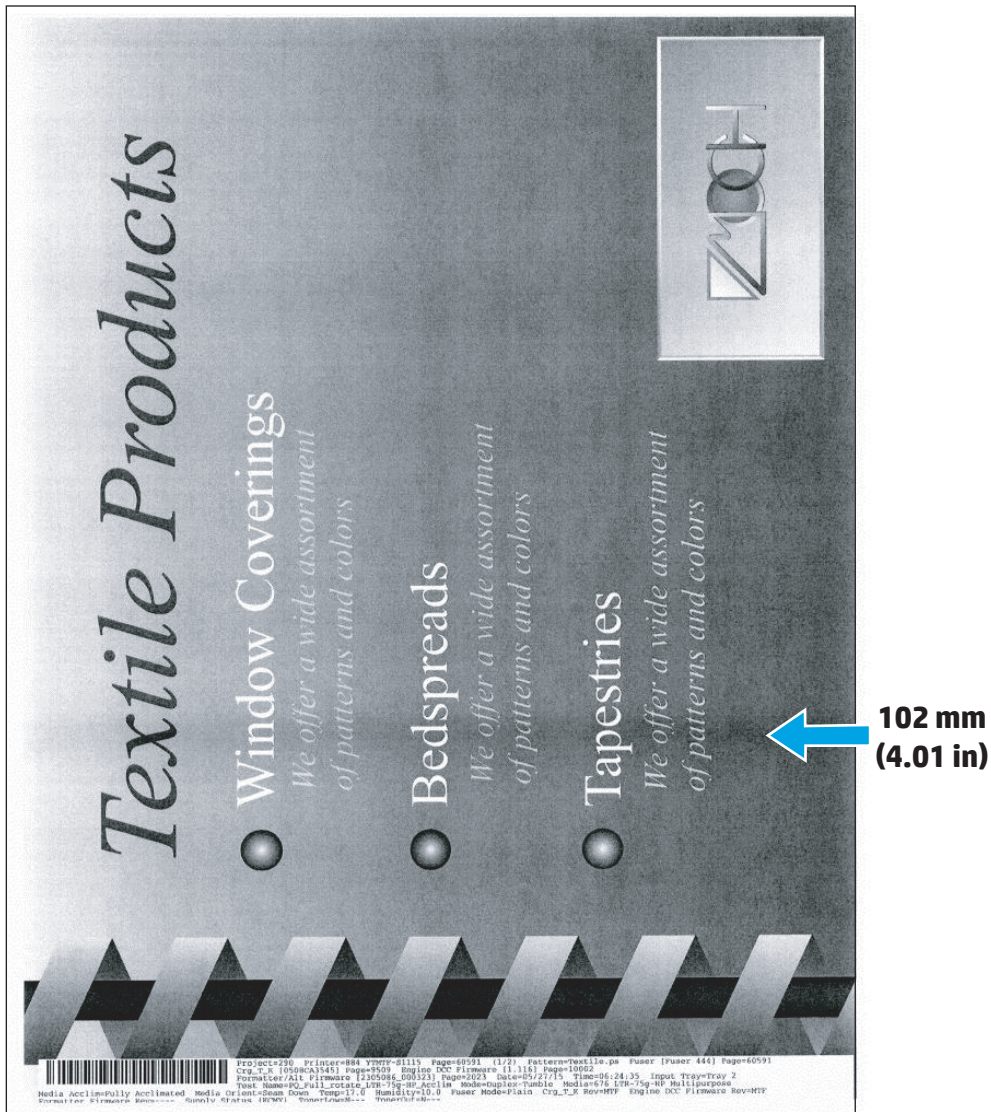
---

- Media
- Registration assembly



## Impulse band 102 mm (4.01 in) from the trailing edge

Figure 2-106 Impulse band (trailing edge)



### Description of the defect

This defect appears as a soft dark band and occurs 102 mm (4.01 in) from the trailing edge of the page. The cause of this defect is poor sliding performance of the transfer bearing (TR bearing) and transfer roller shaft.

### Conditions that can cause the defect

This defect is more likely to occur in low temperature/low humidity environments and at cold start conditions.

### Solutions for the defect

- Resend the print job. Impulse bands can be variable.
- Try using a different media type.
- **M501:** From the printer control panel, change the print mode from plain to intermediate (this slows the print speed).

- Open the following menus:

- Setup
- System Setup
- Paper Setup
- Tray <X>



---

**NOTE:** Select the tray you want to configure.

---

- Paper Type
- Select **Intermediate 85–95g**
- **M506 and M527:** From the printer control panel, change the print mode from plain to intermediate (this slows the print speed).
  - Open the following menus:
    - Trays
    - Tray
    - Modify
    - Next
    - Select **Intermediate 85–95g**

#### Parts related to the defect



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**NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

---

- Media
- Transfer roller

## Image defect (developmental) events

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**NOTE:** The image defects described in this section are defects that occurred during printer development, and HP implemented a solution to eliminate them. Customers should not observe these defects. These defects are included for the unlikely event that they reoccur.


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- [Cleaning defect events](#)
- [Part/assembly defect events](#)
- [Transfer bias defect events](#)
- [Toner leak defect events](#)
- [Paper path impulse defect events](#)
- [Fuser/fixing defect events](#)
- [Miscellaneous defect events](#)

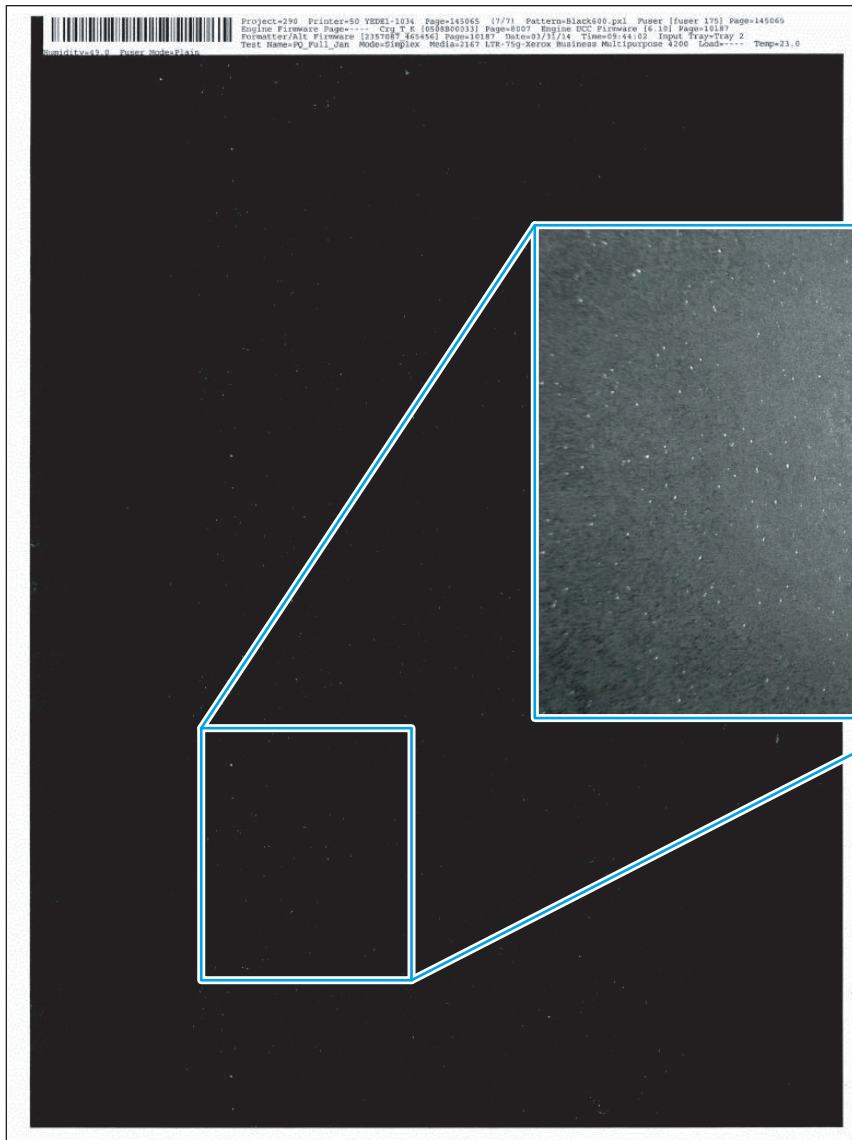
### **Cleaning defect events**

- [Rain-toner attached to the OPC](#)
- [Developer defect repeats at 27.8 mm 1.09 in pitch](#)
- [Random missing toner](#)

## Rain-toner attached to the OPC

 **NOTE:** This defect occurred at some point during printer development. HP has implemented a solution to the problem. This defect is included in the image defects section for the unlikely event that it reoccurs.

**Figure 2-107** Rain-toner attached to the OPC



### Description of the defect

This defect appears as very small white voids which appear in solid black areas. This issue occurs when toner attached to the OPC cannot be removed by the cleaning blade. This defect appears in areas of solid fill, not in text.

### Conditions that can cause the defect

This defect is likely to occur in the later stages of toner cartridge life.

### Solutions for the defect

- Verify that the toner is within the expected life, if not replace the toner cartridge.

### Parts related to the defect



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**NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

---

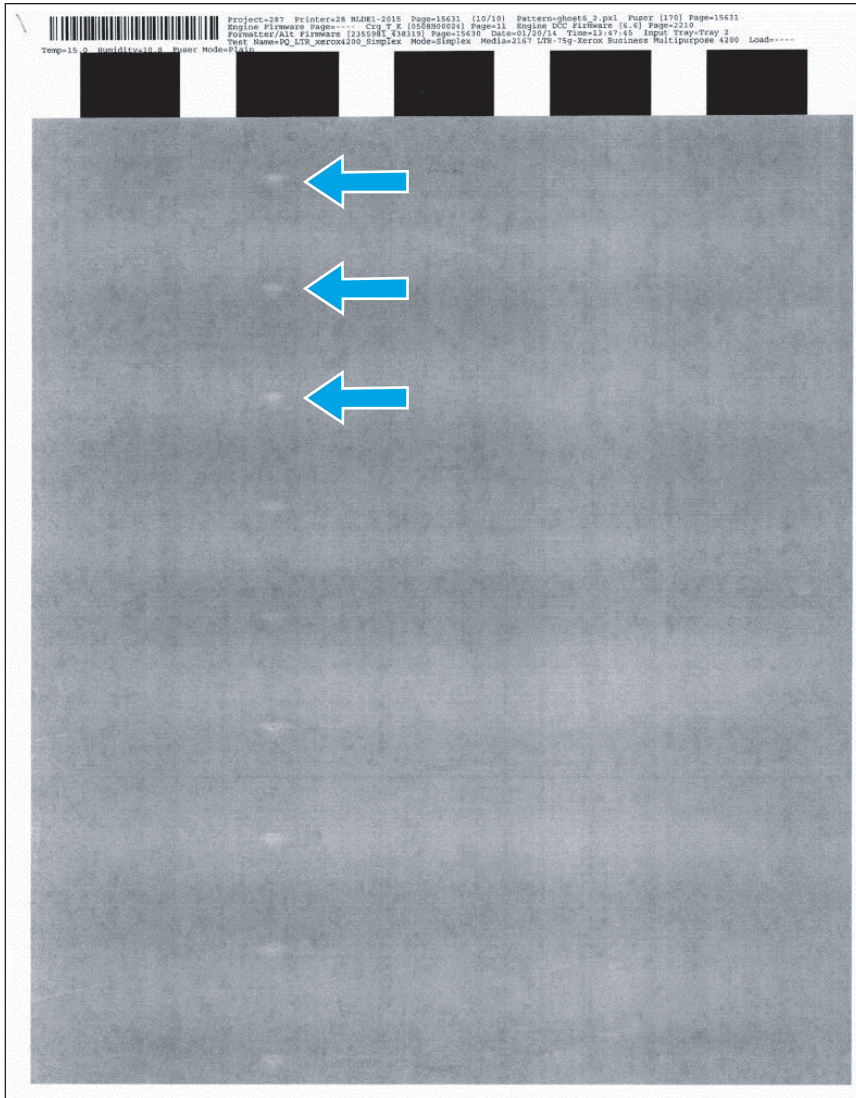
- Toner cartridge

## Developer defect repeats at 27.8 mm (1.09 in) pitch



**NOTE:** This defect occurred at some point during printer development. HP has implemented a solution to the problem. This defect is included in the image defects section for the unlikely event that it reoccurs.

**Figure 2-108** Developer defect



### Description of the defect

This defect appears as a soft white spot which repeats at 27.8 mm (1.09 in) (developer roller) pitch. This defect appears in areas of solid fill, not in text.

### Conditions that can cause the defect

This defect is caused by a cartridge cleaning performance issue caused by contamination.

### Solutions for the defect

- Resend the print job (the defect should fade with subsequent printed pages).
- If the defect persists, replace the toner cartridge.

### Parts related to the defect



---

**NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

- Toner cartridge

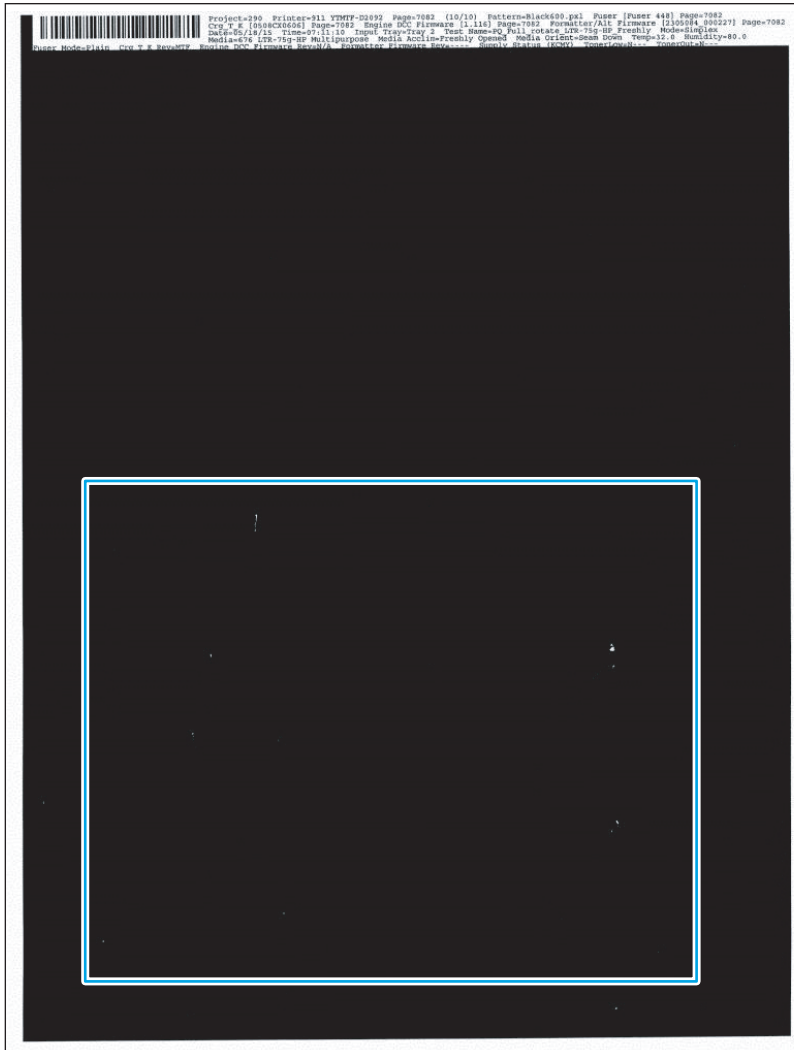


## Random missing toner



**NOTE:** This defect occurred at some point during printer development. HP has implemented a solution to the problem. This defect is included in the image defects section for the unlikely event that it reoccurs.

**Figure 2-109** Random missing toner



### Description of the defect

This defect appears as white spots which appear in solid black areas (sometimes with a tail). This defect appears in areas of solid fill, not in text.

### Conditions that can cause the defect

This defect is caused by contaminants attaching to the OPC. If the contaminant is large, the size of missing toner will be large.

### Solutions for the defect

- Resend the print job. This defect is highly variable.

## Parts related to the defect



---

**NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

- Toner cartridge

### **Part/assembly defect events**

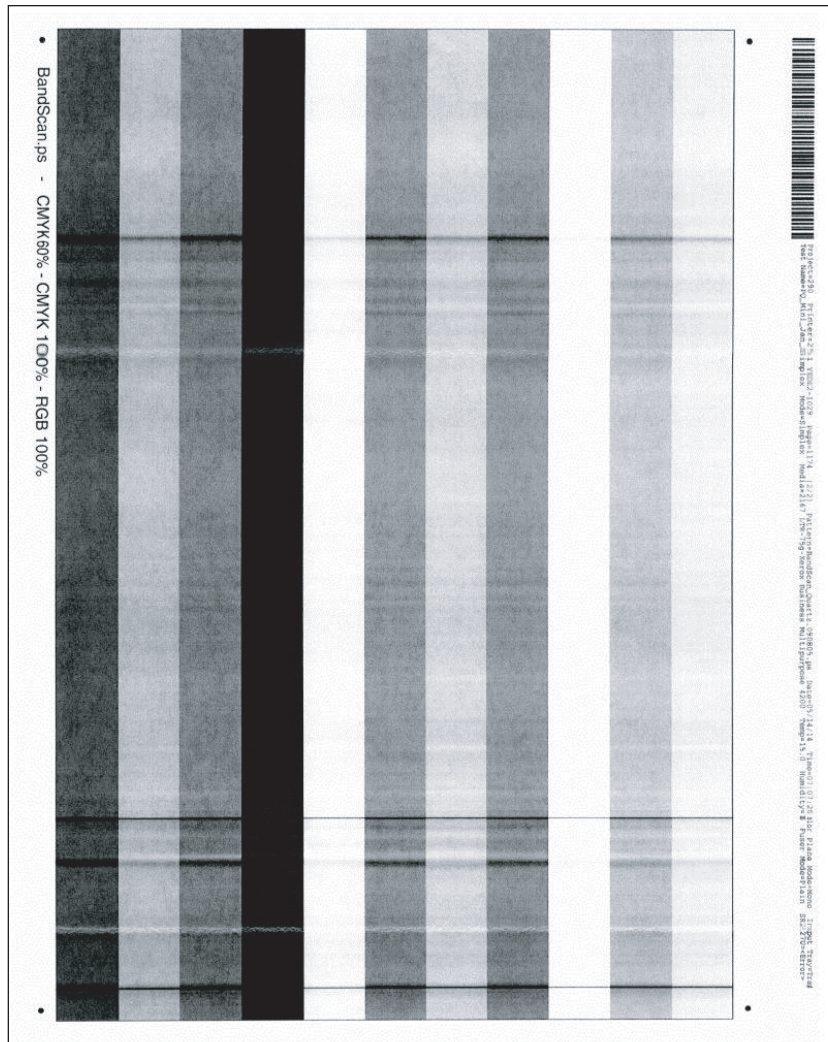
- [OPC gear slip](#)
- [OPC wide-pitch banding](#)

## OPC gear slip



**NOTE:** This defect occurred at some point during printer development. HP has implemented a solution to the problem. This defect is included in the image defects section for the unlikely event that it reoccurs.

**Figure 2-110** OPC gear slip



### Description of the defect

This defect appears as severe banding. This defect is caused by OPC gear slip (a failed connection between the OPC gear and the drum).

### Conditions that can cause the defect

This defect is not dependent on environmental conditions.

### Solutions for the defect

- Resend the print job.
- If the defect persists, replace the toner cartridge.

## Parts related to the defect



**NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

---

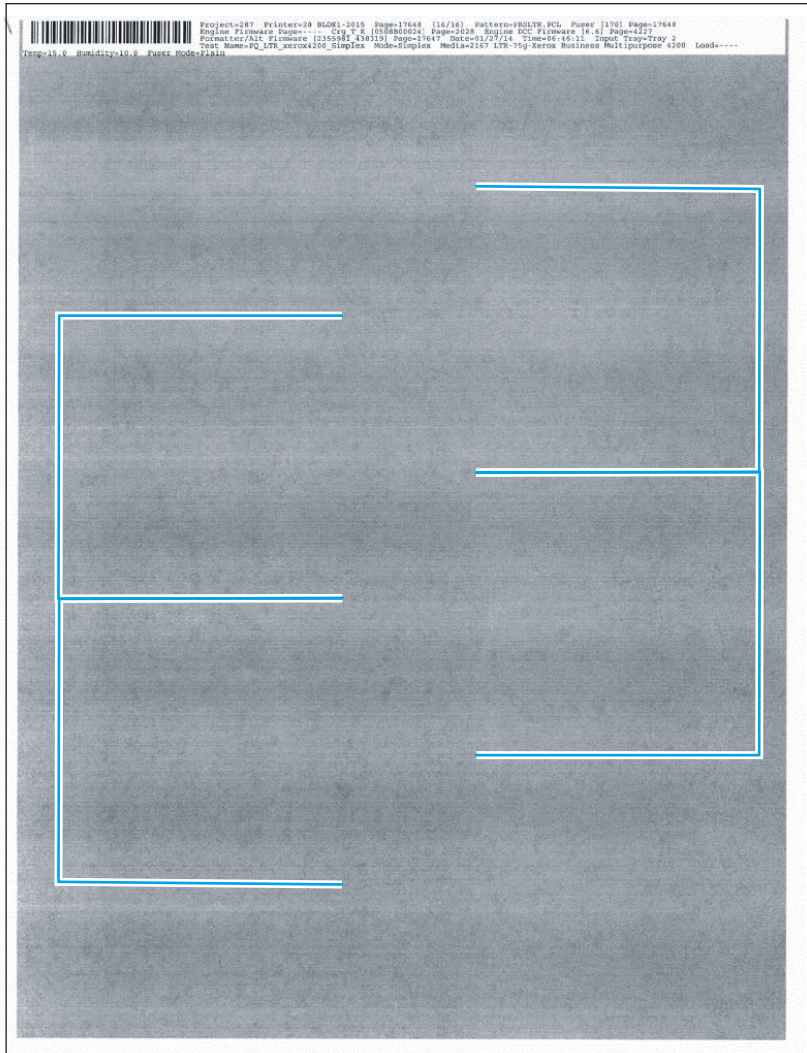
- Toner cartridge

## OPC wide-pitch banding



**NOTE:** This defect occurred at some point during printer development. HP has implemented a solution to the problem. This defect is included in the image defects section for the unlikely event that it reoccurs.

**Figure 2-111** OPC wide-pitch banding



### Description of the defect

This defect appears as overlapping sets of wide-pitch bands (repeating at 75 mm (2.95 in)).

### Conditions that can cause the defect

This defect is caused by OPC deformation during the assembly process.

### Solutions for the defect

- Resend the print job (the defect should fade with subsequent printed pages).
- If the defect persists, replace the toner cartridge.

## Parts related to the defect



**NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

---

- Toner cartridge

### Transfer bias defect events

- [Leading edge - mid-page toner scatter](#)
- [Density change at 75 mm 2.95 in from the leading edge](#)
- [Transfer issue - random voids](#)

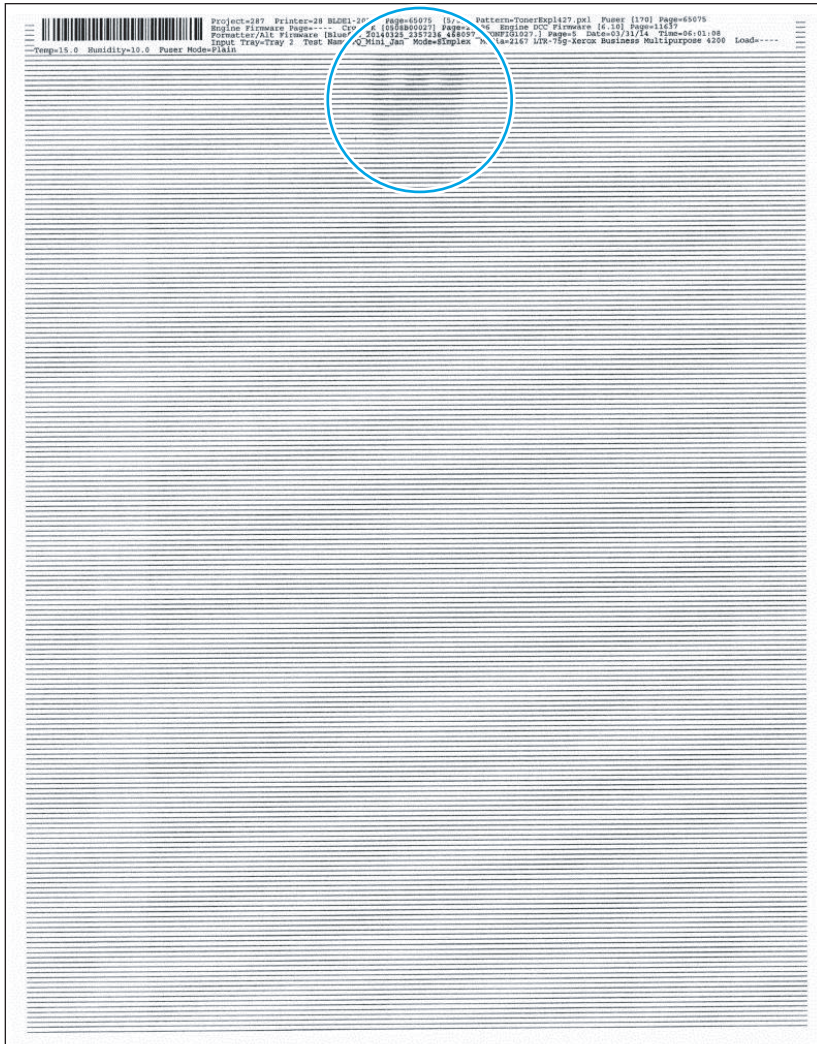


## Leading edge - mid-page toner scatter



**NOTE:** This defect occurred at some point during printer development. HP has implemented a solution to the problem. This defect is included in the image defects section for the unlikely event that it reoccurs.

**Figure 2-112** Leading edge - mid-page toner scatter



### Description of the defect

This defect appears as a non-uniform or smear that might appear in the middle of the page at the top of a page. This occurs when the toner scatters at transfer in the area where the media rubs the pick roller and the middle roller. This defect is more likely to occur when media with high resistivity is used. The static charge eliminator (metal brush) on the transfer guide keeps this defect from occurring.

### Conditions that can cause the defect

This defect might occur in low temperature/low humidity environments and in cold start conditions.

### Solutions for the defect

- Resend the print job (the defect should fade with subsequent printed pages as the printer warms up).
- Try using a different media type.

### Parts related to the defect



---

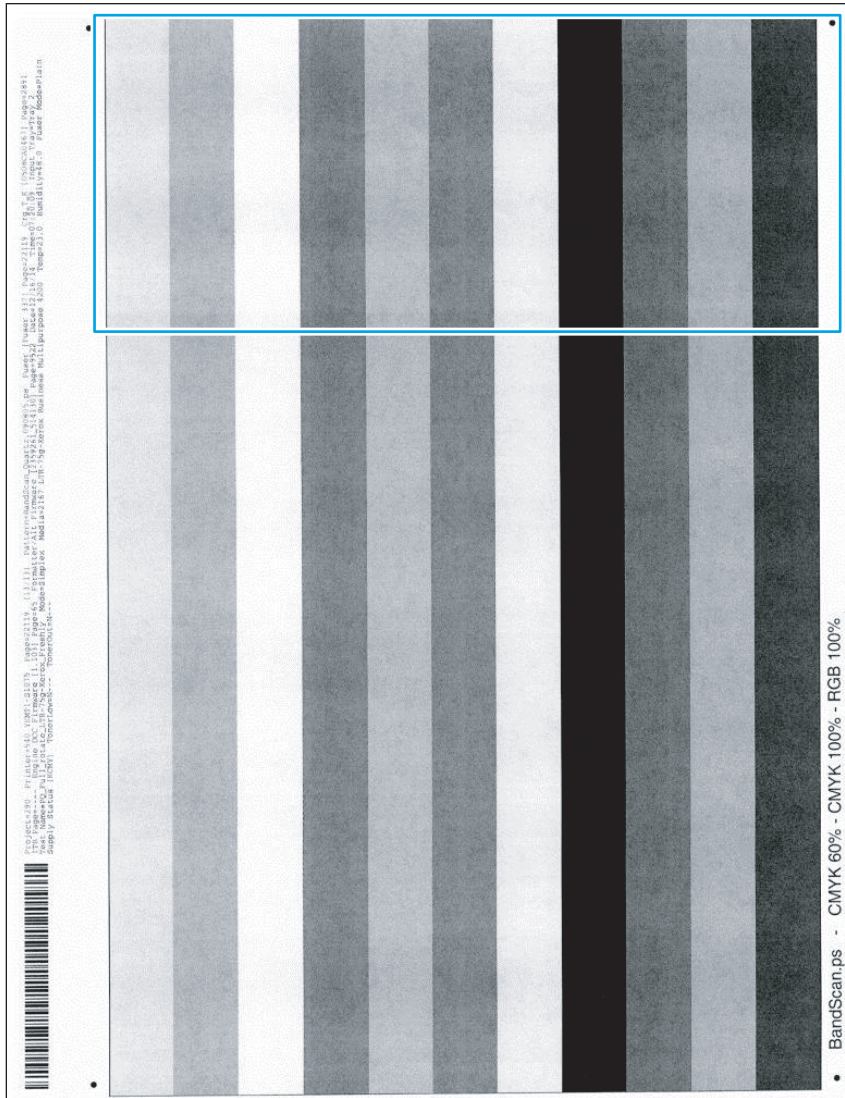
**NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

- Media
- Printer engine (whole unit replacement)

## Density change at 75 mm (2.95 in) from the leading edge

 **NOTE:** This defect occurred at some point during printer development. HP has implemented a solution to the problem. This defect is included in the image defects section for the unlikely event that it reoccurs.

**Figure 2-113** Density change



### Description of the defect

This defect appears as a light image in the first 75 mm (2.95 in) of the page. This defect is created by a charge ghost due to the lack of charge current.

### Conditions that can cause the defect

This defect happens when there is high print coverage across the longitudinal direction and charging is not able to reach the target potential due to the lack of current that charges OPC in the area and the density becomes high at the next OPC rotation. This shows up in areas of fill, not in text.

### Solutions for the defect

- Resend the print job.

### Parts related to the defect



---

**NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

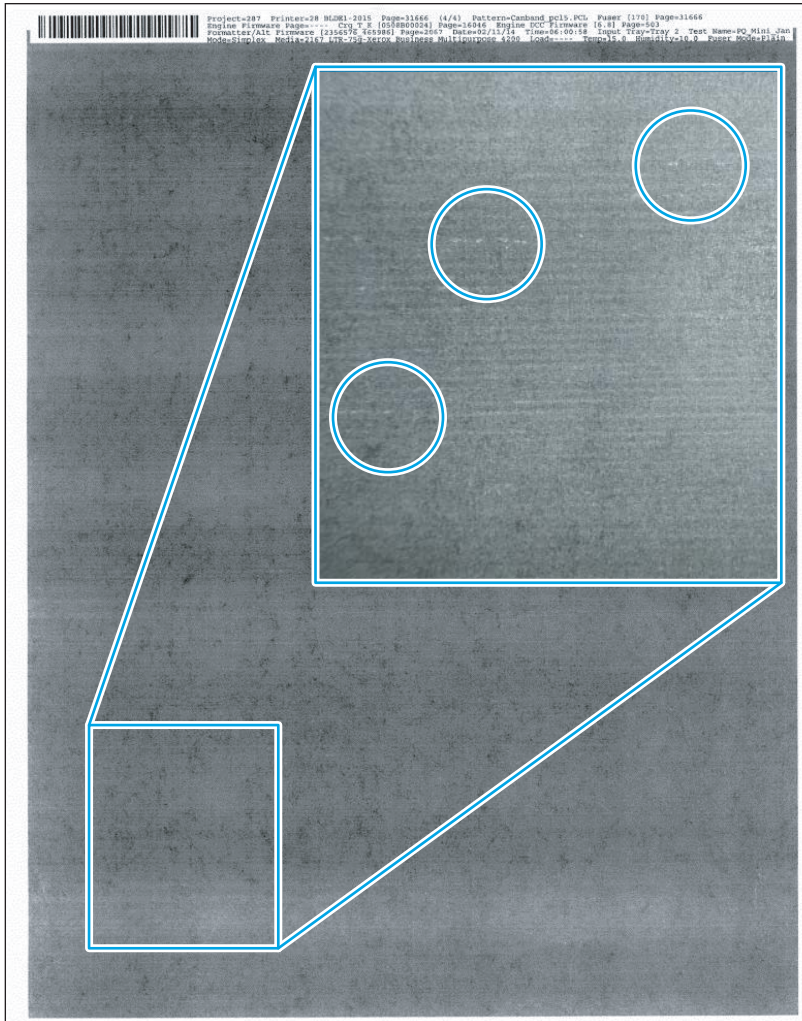
- No parts are related to this defect.

## Transfer issue - random voids



**NOTE:** This defect occurred at some point during printer development. HP has implemented a solution to the problem. This defect is included in the image defects section for the unlikely event that it reoccurs.

**Figure 2-114** Transfer issue - random voids



### Description of the defect

This defect appears as very small sections of missing toner in random locations on the page. The transfer bias was too strong and caused the missing toner.

### Conditions that can cause the defect

This defect is not dependent on environmental conditions.

### Solutions for the defect

- **M506 and M527:** If the defect is persistent, reprint your document with a lower transfer bias setting.
  - Open the following menus:

- [Administration](#)
- [General Settings](#)
- [Print Quality](#)
- [Adjust Paper Types](#)
- [Select Resistance Mode](#)

#### Parts related to the defect



---

**NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

- No parts are related to this defect.

### **Toner leak defect events**

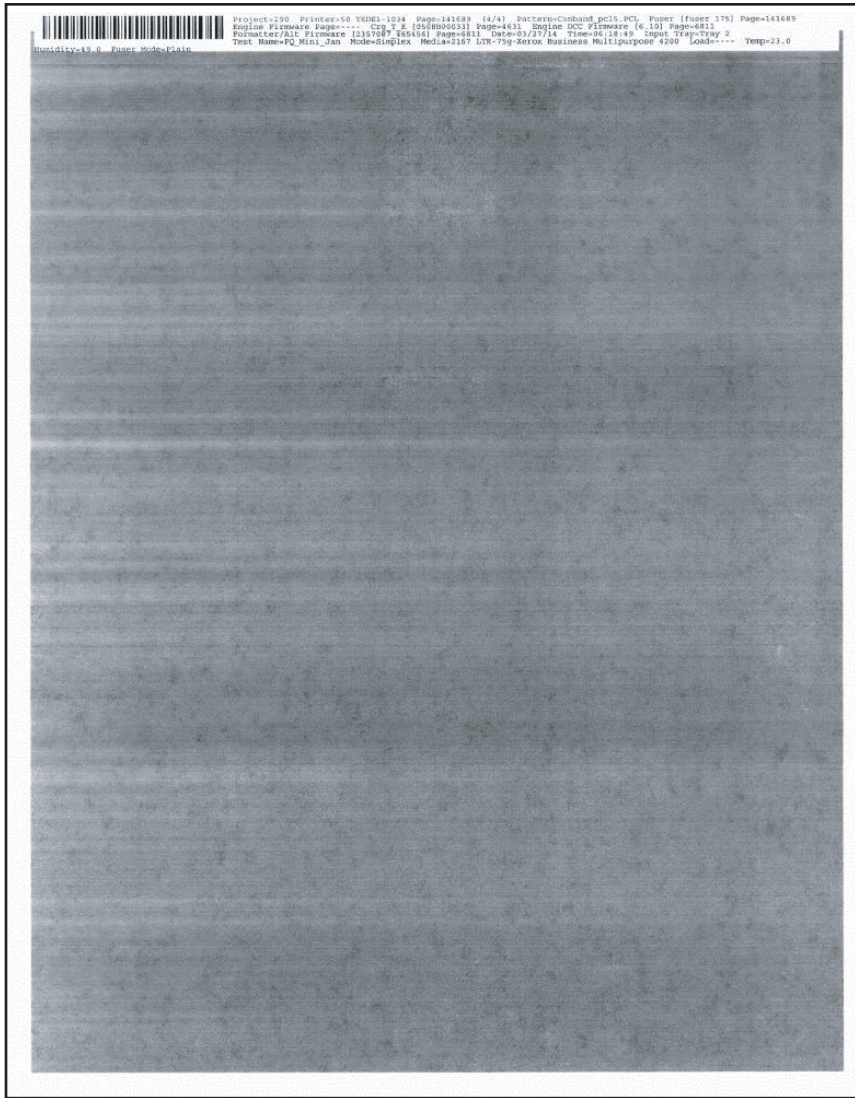
- [Right to left fade and banding](#)
- [Cartridge fine pitch \(1.5 mm 0.05 in\) banding](#)
- [382 mm 15.03 in + IPG repeating defect](#)

## Right to left fade and banding



**NOTE:** This defect occurred at some point during printer development. HP has implemented a solution to the problem. This defect is included in the image defects section for the unlikely event that it reoccurs.

**Figure 2-115** Right to left fade and banding



### Description of the defect

This defect appears as fading and banding at an edge and occurs when the cartridge seals leak allowing toner into the gap between the OPC drum and the SD roller/sleeve. This appears in areas of fill, not in text

### Conditions that can cause the defect

This defect is likely to occur in the later stages of toner cartridge life.



### Solutions for the defect

- Resend the print job.
- Verify that the toner is within the expected life, if not replace the toner cartridge.
- If the defect persists, replace the toner cartridge.

### Parts related to the defect



---

**NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

---

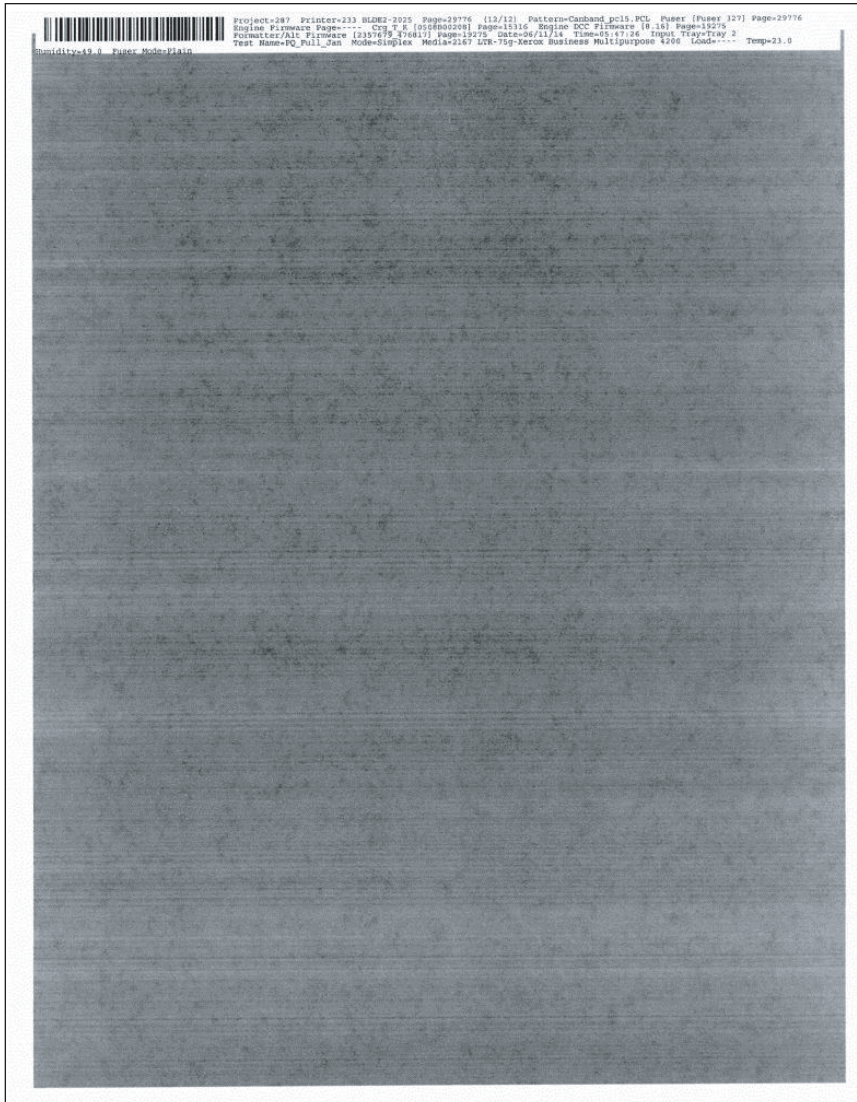
- Toner cartridge

## Cartridge fine pitch (1.5 mm (0.05 in)) banding



**NOTE:** This defect occurred at some point during printer development. HP has implemented a solution to the problem. This defect is included in the image defects section for the unlikely event that it reoccurs.

**Figure 2-116** Cartridge fine pitch banding



### Description of the defect

This defect appears as alternating light and dark, evenly spaced, repetitive horizontal lines at a 1.5 mm (0.05 in) pitch. This defect is caused by toner leaking in the drive gear area of the toner cartridge. This appears in areas of fill, not in text.

### Conditions that can cause the defect

This defect is likely to occur in the later stages of toner cartridge life.

### Solutions for the defect

- Resend the print job.
- Verify that the toner is within the expected life, if not replace the toner cartridge.
- If the defect persists, replace the toner cartridge.

### Parts related to the defect



---

**NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

---

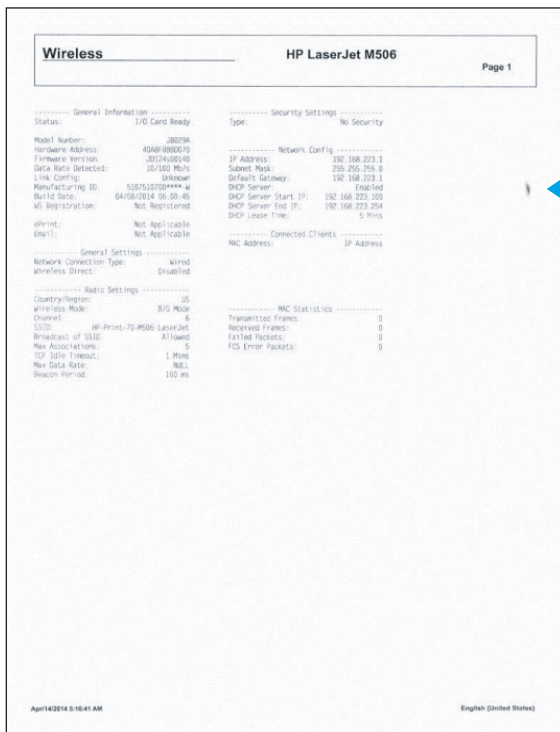
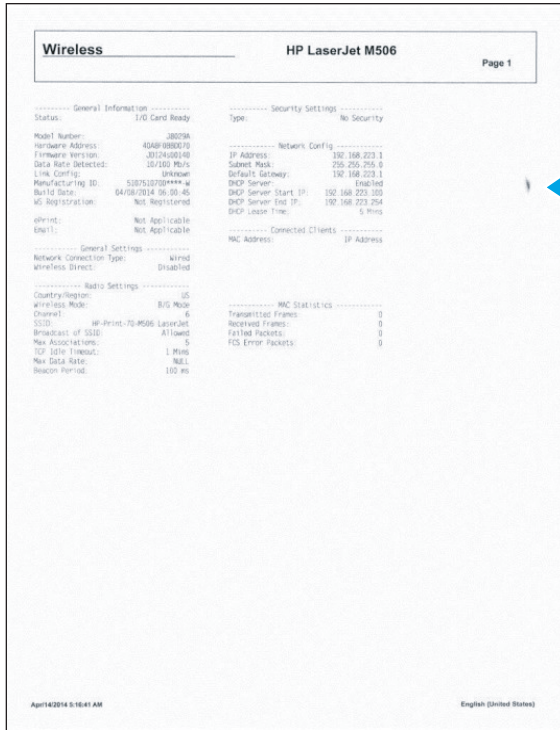
- Toner cartridge

## 382 mm (15.03 in) + IPG repeating defect



**NOTE:** This defect occurred at some point during printer development. HP has implemented a solution to the problem. This defect is included in the image defects section for the unlikely event that it reoccurs.

**Figure 2-117** IPG repeating defect



### Description of the defect

This defect appears as a dark crescent moon shape defect and it appears in non-print areas of the page. The defect occurs when the toner is thrown outside the toner cartridge at the stirring pitch due to the waviness of the blow out seal. The waviness creates a gap between sleeve and blow out seal. The cause of the blow out seal waviness is that the edge of blow out seal contacts with the edge of the sleeve/drum spacer.

### Conditions that can cause the defect

This defect is not dependent on environmental conditions.

### Solutions for the defect

- Resend the print job.
- If the defect does not improve within two to three print jobs, remove the toner cartridge and gently rock it back and forth from side to side (this distributes the toner evenly in the toner cartridge).
- If the defect persists, replace the toner cartridge.

### Parts related to the defect



---

**NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

- Toner cartridge

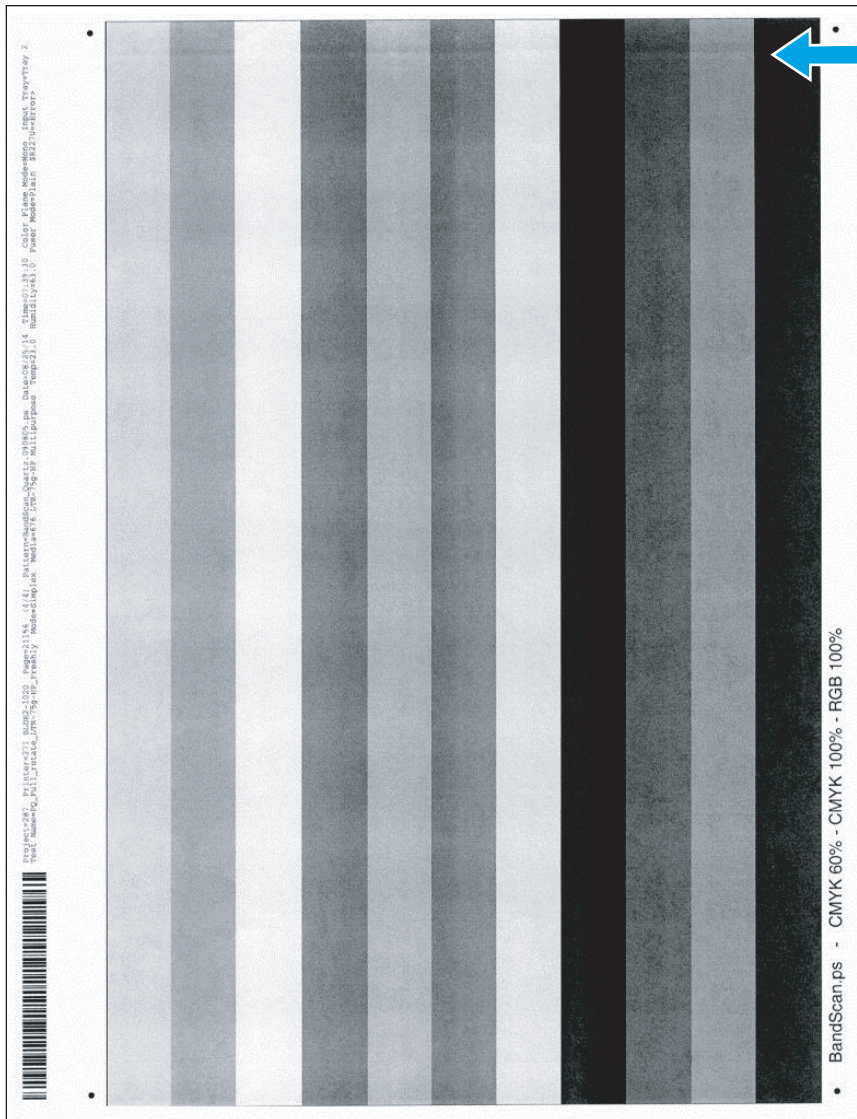
### **Paper path impulse defect events**

- [Impulse band 15 mm 0.59 in from the leading edge](#)
- [Toner in the leading edge margin \(fuser slap\)](#)
- [6-7 mm 0.23- 0.27 in wide-pitch banding](#)

## Impulse band 15 mm (0.59 in) from the leading edge

 **NOTE:** This defect occurred at some point during printer development. HP has implemented a solution to the problem. This defect is included in the image defects section for the unlikely event that it reoccurs.

**Figure 2-118** Impulse band leading edge




### Description of the defect

This defect appears as a dark and usually sharp band occurs 15 mm (0.59 in) from the leading edge of the page. This band shows up in areas of fill, not in text.

### Conditions that can cause the defect

The defect occurs when the paper leading edge goes into the transfer area.

## Solutions for the defect

- Resend the print job. Impulse bands can be variable.
  - **M501:** From the printer control panel, change the print mode from plain to intermediate (this slows the print speed).
    - Open the following menus:
      - Setup
      - System Setup
      - Paper Setup
      - Tray <X>
- 
-  **NOTE:** Select the tray you want to configure.
- 
- Try using a different media type.
  - **M506 and M527:** From the printer control panel, change the print mode from plain to intermediate (this slows the print speed).
    - Open the following menus:
      - Trays
      - Tray
      - Modify
      - Next
      - Select **Intermediate 85–95g**

## Parts related to the defect

---

 **NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

---

- Media
- Registration assembly

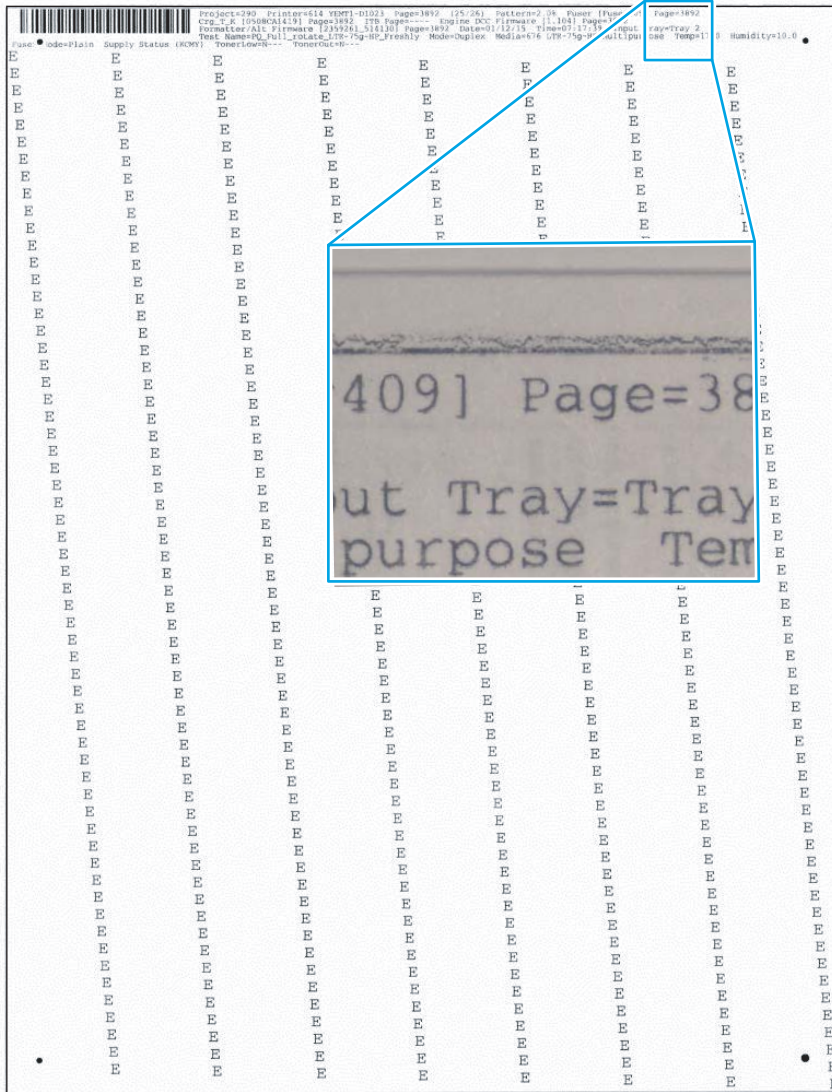


## Toner in the leading edge margin (fuser slap)



**NOTE:** This defect occurred at some point during printer development. HP has implemented a solution to the problem. This defect is included in the image defects section for the unlikely event that it reoccurs.

**Figure 2-119** Toner in the leading edge margin (fuser slap)



### Description of the defect

This defect appears as scattered toner which occurs at the leading edge of the page. This defect occurs when the page enters the fuser and the page touches the fuser film which rubs the image on the page.

### Conditions that can cause the defect

This defect is not dependent on environmental conditions, but is more likely to occur on pages with small top margins or when using curled media.

## Solutions for the defect

- Resend the print job. This defect can be variable.
- Try using a different media type.
- **M501:** From the printer control panel, increase the leading edge margin.
  - Open the following menus:

Before beginning, use the [Print Test Page](#) option to print a registration test page. This page provides alignment guides in the X and Y directions.

- [Setup](#)
- [System Setup](#)
- [Print Quality](#)
- [Adjust Alignment](#)
- [Adjust Tray <X>](#)


---

 **NOTE:** Select the tray you want to configure.

---

- [Y Shift](#)

---

 **NOTE:** Adjust the “Y” values in .25 mm increments.

---

- **M506 and M527:** From the printer control panel, increase the leading edge margin.

Before beginning, use the [Print Test Page](#) option to print a registration test page. This page provides alignment guides in the X and Y directions.

- Open the following menus:
  - [Administration](#)
  - [General Settings](#)
  - [Print Quality](#)
  - [Image Registration](#)
  - [Adjust Tray <X>](#)

---

 **NOTE:** Select the tray you want to configure.

---

- [Y1 Shift](#) (simplex pages) and/or [Y2 Shift](#) (duplex pages)

---

 **NOTE:** Adjust the “Y” values in .25 mm increments.

---

## Parts related to the defect


---

 **NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

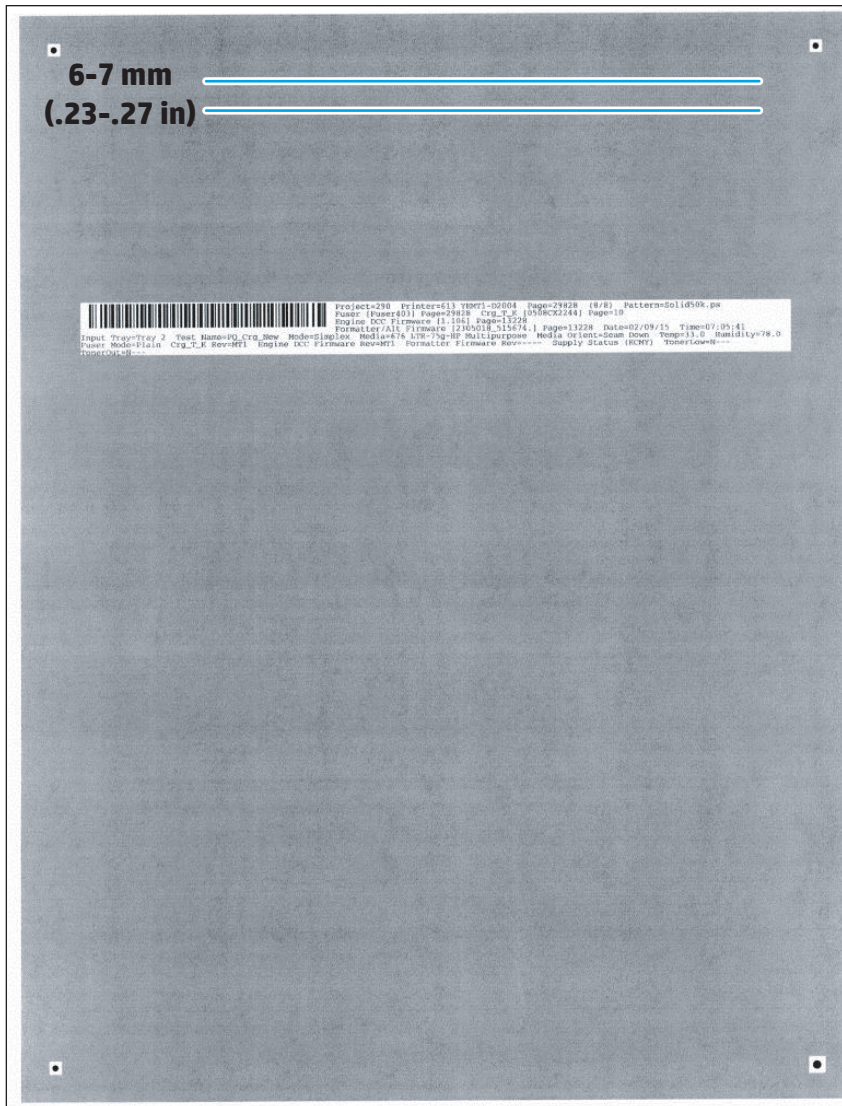
---

- Media
- Fuser

## 6-7 mm (0.23- 0.27 in) wide-pitch banding

 **NOTE:** This defect occurred at some point during printer development. HP has implemented a solution to the problem. This defect is included in the image defects section for the unlikely event that it reoccurs.

**Figure 2-120** Wide-pitch banding




### Description of the defect

This defect appears as soft bands that repeat at 6-7 mm (0.23- 0.27 in). This banding occurs when the transfer top guide vibrates, which is conveyed to the page as well as the page at the transfer area, causing the uneven density. The left and right edges of the back side of transfer top guide contact with the positioning guide at the transfer frame by the spring at the right edge of the pivot shaft. Since the spring is used only at the right edge, the left side of the alignment feature receives smaller pressing force. When the pressing force is small, the sheet metal vibrates easily. This band shows up in areas of fill, not in text.

### Conditions that can cause the defect

During the print job, the transfer top guide might be vibrating.

## Solutions for the defect

- Try using a different media type.
  - **M501:** From the printer control panel, change the print mode from plain to intermediate (this slows the print speed).
    - Open the following menus:
      - Setup
      - System Setup
      - Paper Setup
      - Tray <X>
- 
-  **NOTE:** Select the tray you want to configure.
- 
- Paper Type
  - Select **Intermediate 85–95g**
- **M506 and M527:** From the printer control panel, change the print mode from plain to intermediate (this slows the print speed).
    - Open the following menus:
      - Trays
      - Tray
      - Modify
      - Next
      - Select **Intermediate 85–95g**

## Parts related to the defect

 **NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

- Media
- Transfer assembly

### **Fuser/fixing defect events**

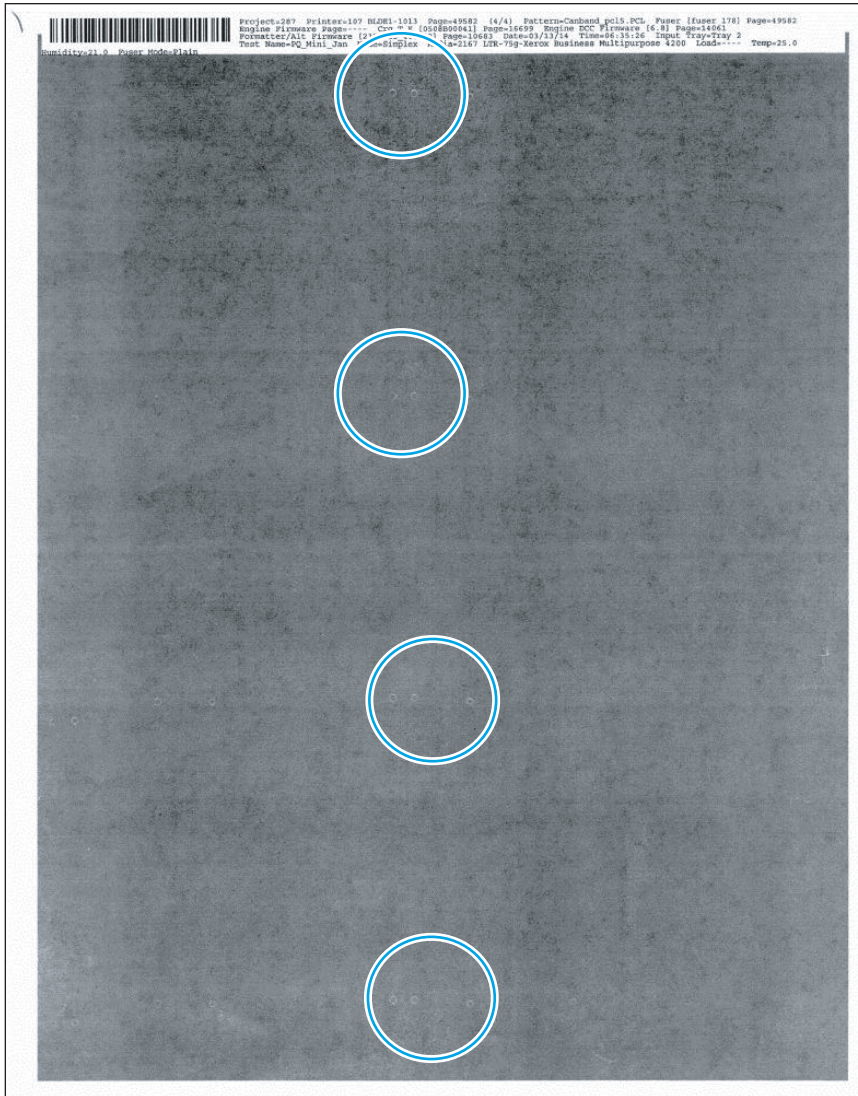
- [Fuser blisters](#)
- [Hot fuser offset](#)
- [Poor edge fixing - within the image assurance area](#)
- [Poor edge fixing - outside the image assurance area](#)

## Fuser blisters



**NOTE:** This defect occurred at some point during printer development. HP has implemented a solution to the problem. This defect is included in the image defects section for the unlikely event that it reoccurs.

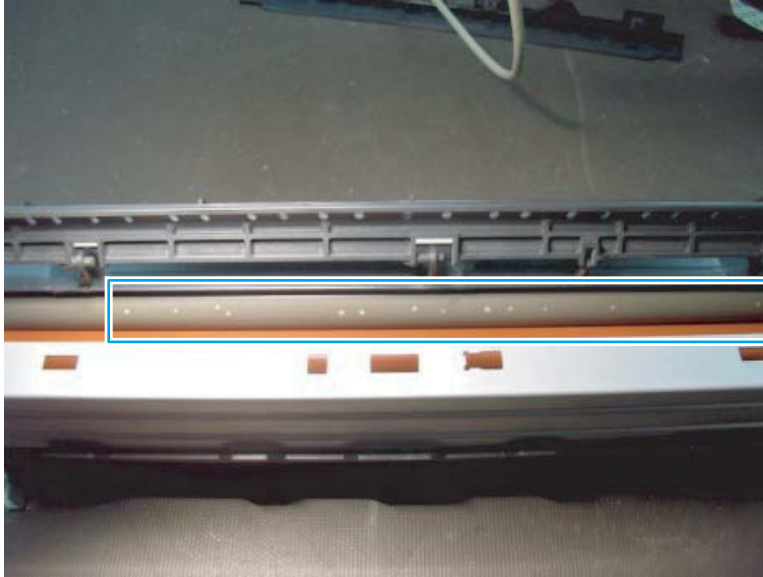
**Figure 2-121** Fuser blisters



### Description of the defect

This defect appears as repeating print defects visible in the image at the fuser pitch of 75.4 mm (2.96 in). These defects were caused by contamination between the films on the fuser.

**Figure 2-122** Contaminated fuser film



#### Conditions that can cause the defect

A defect similar in appearance could occur if a page with sharp objects (for example, staples) is put through the printer.

#### Solutions for the defect

- Resend the print job.
- If the defect persists, replace the fuser.

#### Parts related to the defect

---

 **NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

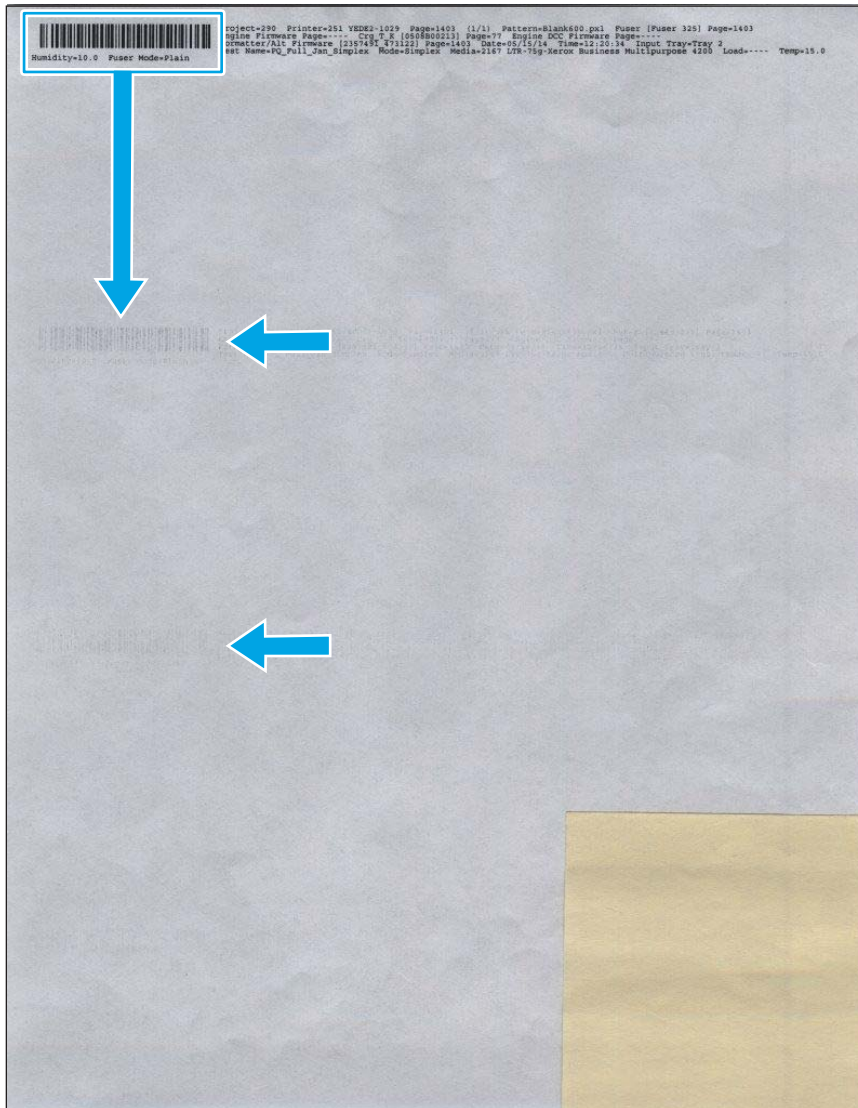
---

- Fuser

## Hot fuser offset

 **NOTE:** This defect occurred at some point during printer development. HP has implemented a solution to the problem. This defect is included in the image defects section for the unlikely event that it reoccurs.

**Figure 2-123** Hot fuser offset



### Description of the defect

This defect appears as slight offset of the image that repeats down the page spaced approximately 75.0 mm (2.95 in) apart. This defect occurred when the fuser thermistor detection temperature did not follow the target temperature.

### Conditions that can cause the defect

This defect is likely to occur in the later stages of fuser life.



### Solutions for the defect

- Resend the print job and use a lighter fuser mode.
- If the defect persists, replace the fuser.

### Parts related to the defect



**NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

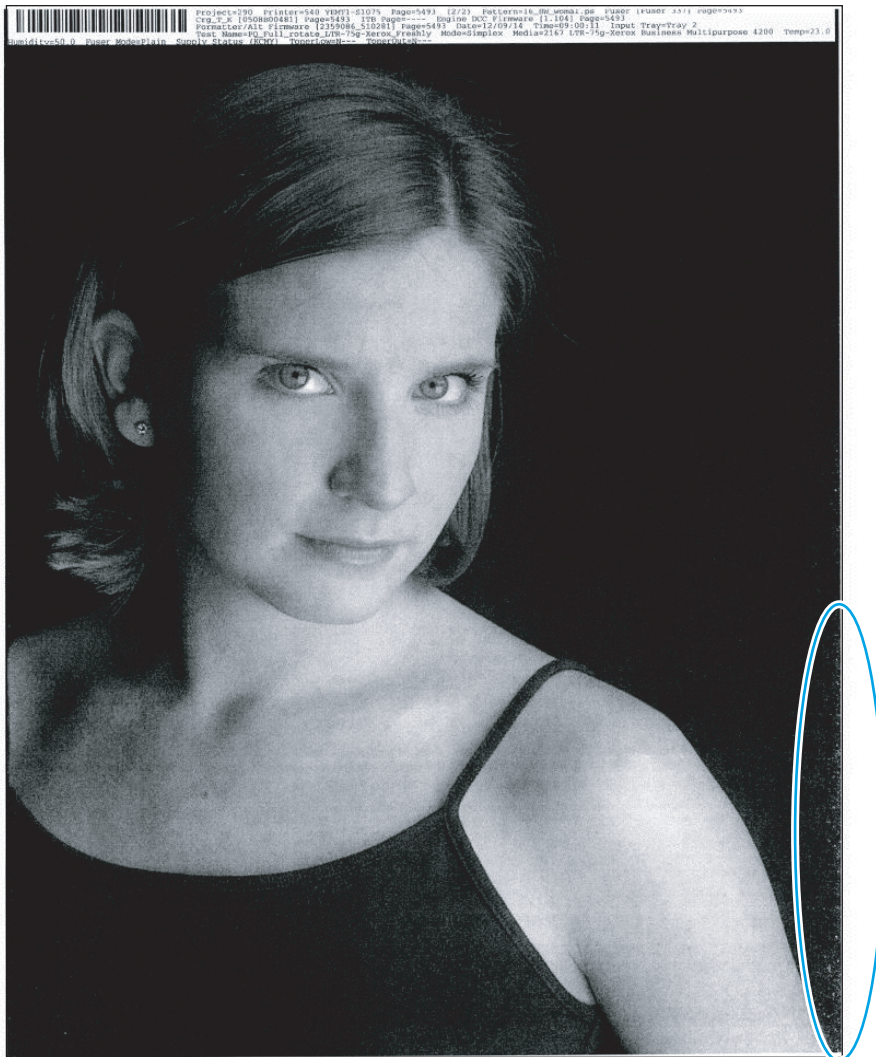
---

- Fuser

## Poor edge fixing - within the image assurance area


 **NOTE:** This defect occurred at some point during printer development. HP has implemented a solution to the problem. This defect is included in the image defects section for the unlikely event that it reoccurs.

**Figure 2-124** Poor edge fixing - within the image assurance area



### Description of the defect

This defect appears as missing toner inside the 6 mm (0.23 in) image assurance area. Toner rubs off the page. The fuser temperature is too cold.

 **NOTE:** The image assurance area is 5 mm (0.19 in) from the top and bottom edge of the page and 5 mm (0.19 in) from the edge on each side of the page.


### Conditions that can cause the defect

This defect is not dependent on environmental conditions, but is more common at the edges of high-coverage print jobs.

## Solutions for the defect

- **M501:** From the printer control panel, change the print mode from plain to intermediate (this slows the print speed).
  - Open the following menus:
    - Setup
    - System Setup
    - Paper Setup
    - Tray <X>

---

 **NOTE:** Select the tray you want to configure.

  - Paper Type
  - Select [Intermediate 85–95g](#)
- **M506 and M527:** Confirm that the correct print mode is selected for the media being used. Use a print mode for a heavier media type.
- **M506 and M527:** From the printer control panel, change the print mode from plain to intermediate (this slows the print speed).
  - Open the following menus:
    - Trays
    - Tray
    - Modify
    - Next
    - Select [Intermediate 85–95g](#)

## Parts related to the defect

---

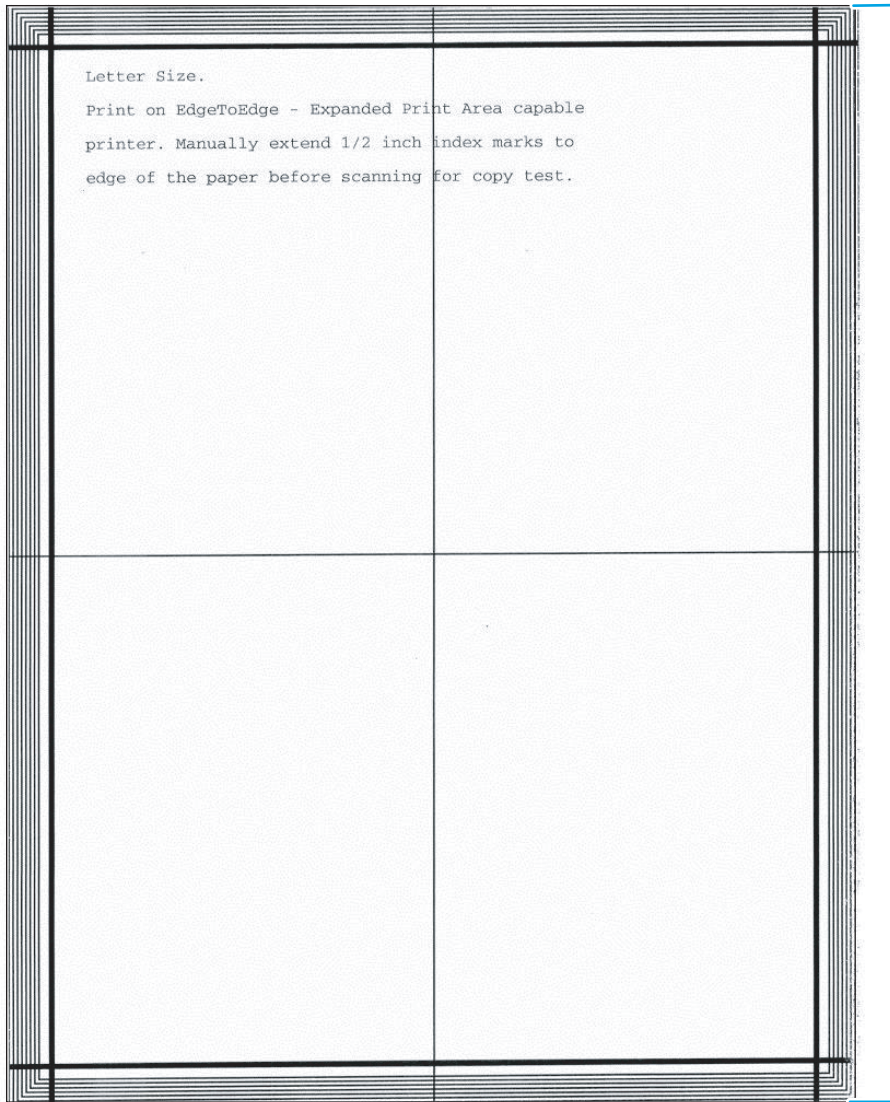
 **NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

- Fuser

## Poor edge fixing - outside the image assurance area


 **NOTE:** This defect occurred at some point during printer development. HP has implemented a solution to the problem. This defect is included in the image defects section for the unlikely event that it reoccurs.

**Figure 2-125** Poor edge fixing - outside the image assurance area



### Description of the defect

This defect appears as missing toner outside the 6 mm (0.23 in) image assurance area. Toner rubs off the page. Poor edge fixing might occur when the printer is using [Edge to Edge](#) print mode and the image extends past the 5 mm (0.19 in) image assurance area.

 **NOTE:** The image assurance area is 5 mm (0.19 in) from the top and bottom edge of the page and 5 mm (0.19 in) from the edge on each side of the page.

### Conditions that can cause the defect

This defect is not dependent on environmental conditions, but is more common at the edges of high-coverage print jobs.

## Solutions for the defect

- **M506 and M527:** Resend the print job with [Edge to Edge](#) mode set to [Normal](#). From the printer control panel, change the print mode from plain to intermediate (this slows the print speed).
  - Open the following menus:
    - [Administration](#)
    - [Default print options](#)
    - [Edge to Edge](#)
    - Select [Normal](#)
- **M501:** Resend the print job with increased side margins. From the printer control panel, adjust the page margins.

- Open the following menus:

Before beginning, use the [Print Test Page](#) option to print a registration test page. This page provides alignment guides in the X and Y directions.

- [Setup](#)
- [System Setup](#)
- [Print Quality](#)
- [Adjust Alignment](#)
- [Adjust Tray <X>](#)



---

**NOTE:** Select the tray you want to configure.

---

- [X1 Shift](#) and [X2 Shift](#)



---

**NOTE:** Adjust the “X” values in .25 mm increments.

---

- **M506 and M527:** Resend the print job with increased side margins. From the printer control panel, adjust the page margins.

Before beginning, use the [Print Test Page](#) option to print a registration test page. This page provides alignment guides in the X and Y directions.

- Open the following menus:

- [Administration](#)
- [General Settings](#)
- [Print Quality](#)
- [Image Registration](#)
- [Adjust Tray <X>](#)



---

**NOTE:** Select the tray you want to configure.

---

- Adjust the [X1 Shift](#) (simplex pages) and/or [X2 Shift](#) duplex pages



---

**NOTE:** Adjust the “X” values in .25 mm increments.

---

- **M501:** From the printer control panel, change the print mode from plain to intermediate (this slows the print speed).
  - Open the following menus:
    - Setup
    - System Setup
    - Paper Setup
    - Tray <X>



---

**NOTE:** Select the tray you want to configure.

---

- Paper Type
  - Select **Intermediate 85–95g**
- **M506 and M527:** From the printer control panel, change the print mode from plain to intermediate (this slows the print speed).
  - Open the following menus:
    - Trays
    - Tray
    - Modify
    - Next
    - Select **Intermediate 85–95g**

### Parts related to the defect



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**NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

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- Fuser

### Miscellaneous defect events

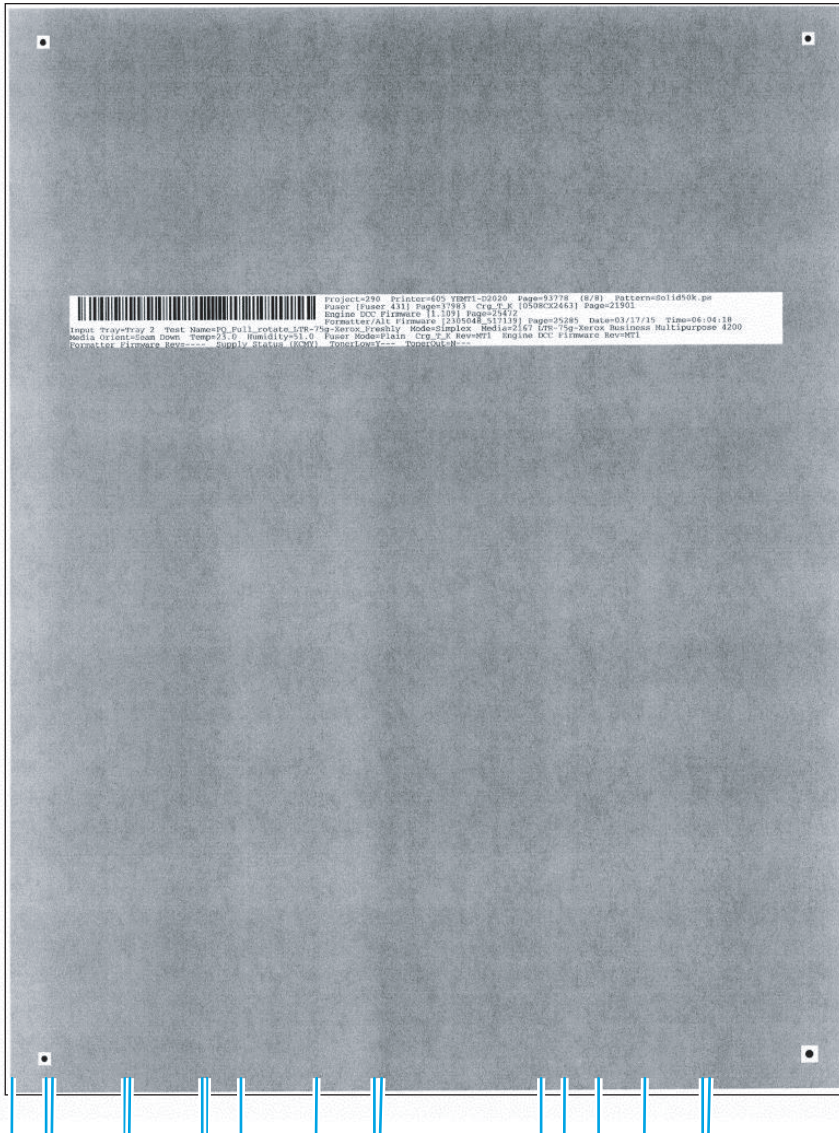
- [Uneven density - across the page](#)
- [Water drop \(condensation\)](#)

## Uneven density - across the page



**NOTE:** This defect occurred at some point during printer development. HP has implemented a solution to the problem. This defect is included in the image defects section for the unlikely event that it reoccurs.

**Figure 2-126** Uneven Density - across the page



### Description of the defect

This defect appears as areas of varying (light/dark) density across the page. This is caused by variation in the position of the stirring system at initial cartridge assembly resulting in toner material attached to the D-blade. Uneven attachment of toner component to D-blade is caused by uneven toner coating on the sleeve during initial sequence. This banding shows up in areas of fill, not in text.

### Conditions that can cause the defect

This defect is likely to occur in the later stages of toner cartridge life.

### Solutions for the defect

- Resend the print job.
- If the defect does not improve within two to three print jobs, remove the toner cartridge and gently rock it back and forth from side to side (this distributes the toner evenly in the toner cartridge).
- If the defect persists, replace the toner cartridge.

### Parts related to the defect




---

**NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

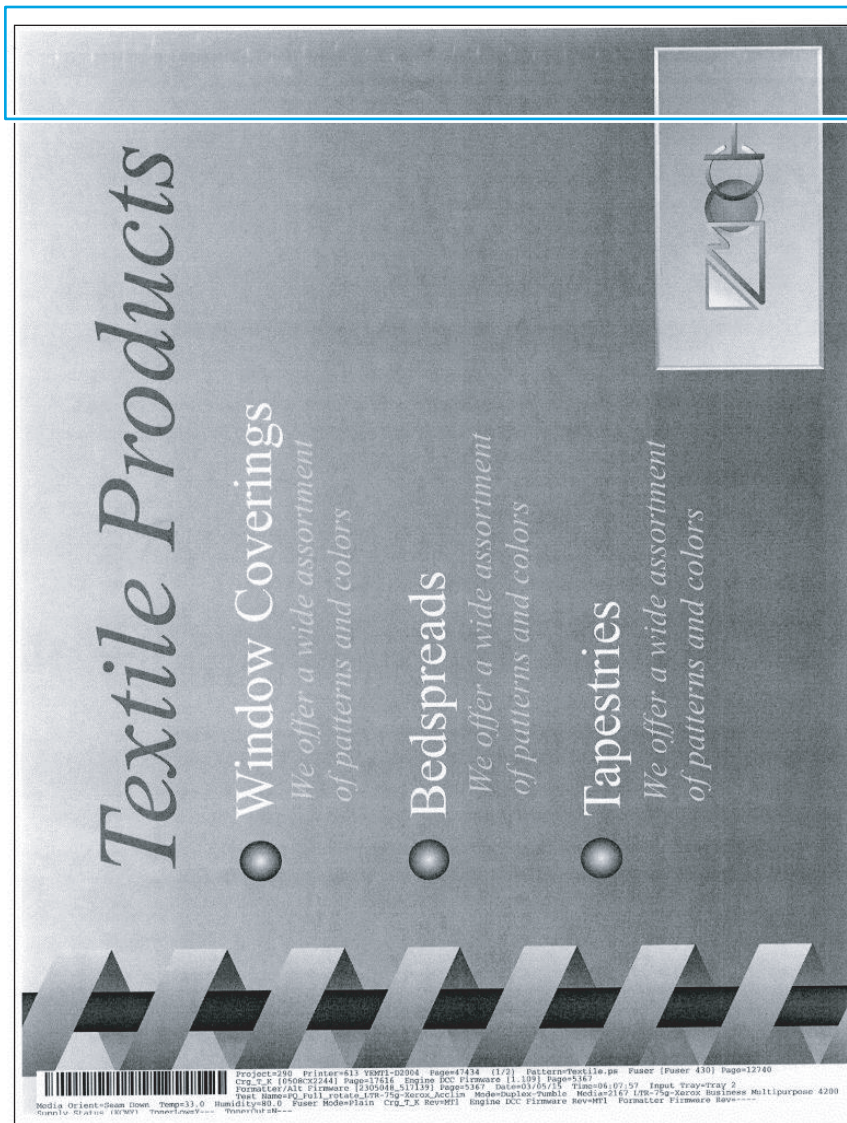
- Toner cartridge



## Water drop (condensation)

 **NOTE:** This defect occurred at some point during printer development. HP has implemented a solution to the problem. This defect is included in the image defects section for the unlikely event that it reoccurs.

**Figure 2-127** Water drop (condensation)



### Description of the defect

This defect appears as short, soft, light streaks at the top of a page. Condensation collects on the fuser exit guide ribs and transfers to the trailing (unprinted side) of the first pass page of a duplex job. When the duplexed page is printed, the condensation affects the transfer of the toner and causes the defect.

### Conditions that can cause the defect

This defect might occur in low temperature high humidity environments and in cold start conditions.

## Solutions for the defect

- Resend the print job. This defect can be variable.
- **M506 and M527:** If the defect does not improve within two to three print jobs, change the print mode **Moisture Control** from **Normal** to **Alternate**.
  - Open the following menus:
    - **Administration**
    - **General Settings**
    - **Print Quality**
    - **Optimize**
    - **Moisture Control**
    - Select **Alternate**

## Parts related to the defect



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**NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

- Media
- Fuser

## Other events

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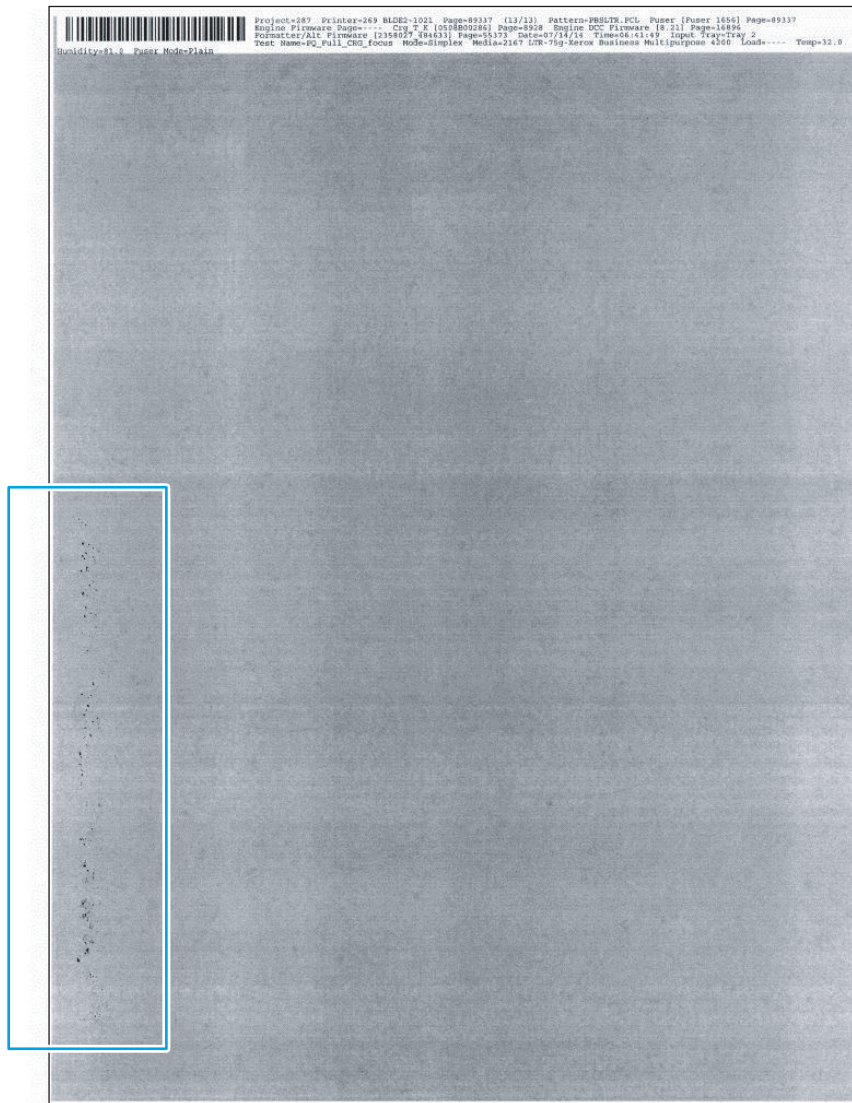
**NOTE:** The examples in this section describe other printer events that can occur. Customers might observe these problems.

---

- [Fuser contamination](#)
- [Image placement - margins and skew](#)
- [Output curl](#)
- [Sticky output](#)
- [Output stacking](#)
- [Paper handling - misprints](#)
- [Paper handling - multifeeds](#)
- [Paper handling - jams](#)

## Fuser contamination

Figure 2-128 Fuser contamination



### Description of the defect

This defect appears as dark globs of toner observed on the front or back of the page. Toner builds up on the fuser sleeve and pressure roller and comes off on subsequent pages. This defect can be either repeating at 75 mm (2.95 in) or does not repeat.

### Conditions that can cause the defect

This defect might occur in the following conditions:

- Inappropriate media type print mode is selected (fuser too cold)
- Fuser jams were observed on the previous jobs
- Narrow media was printed for extended periods of time

## Solutions for the defect

- **M501:** From the printer control panel, process a cleaning page to remove the contamination in the fuser.



**NOTE:** If a repeating defect does not disappear after processing multiple cleaning pages, a permanent defect might be present on the fuser sleeve.

- Open the following menus:

- Setup
- Service
- Cleaning Page



**NOTE:** Touch the **OK** button to begin the cleaning process. Wait until the process completes. Discard the page that prints.

- **M506 and M527:** From the printer control panel, process a cleaning page to remove the contamination in the fuser.



**NOTE:** If a repeating defect does not disappear after processing multiple cleaning pages, a permanent defect might be present on the fuser sleeve.

- Open the following menus:

- Device Maintenance
- Calibration/Cleaning
- Cleaning Page
- Select **Print**



**NOTE:** The process takes up to 1.5 minutes.

## Parts related to the defect

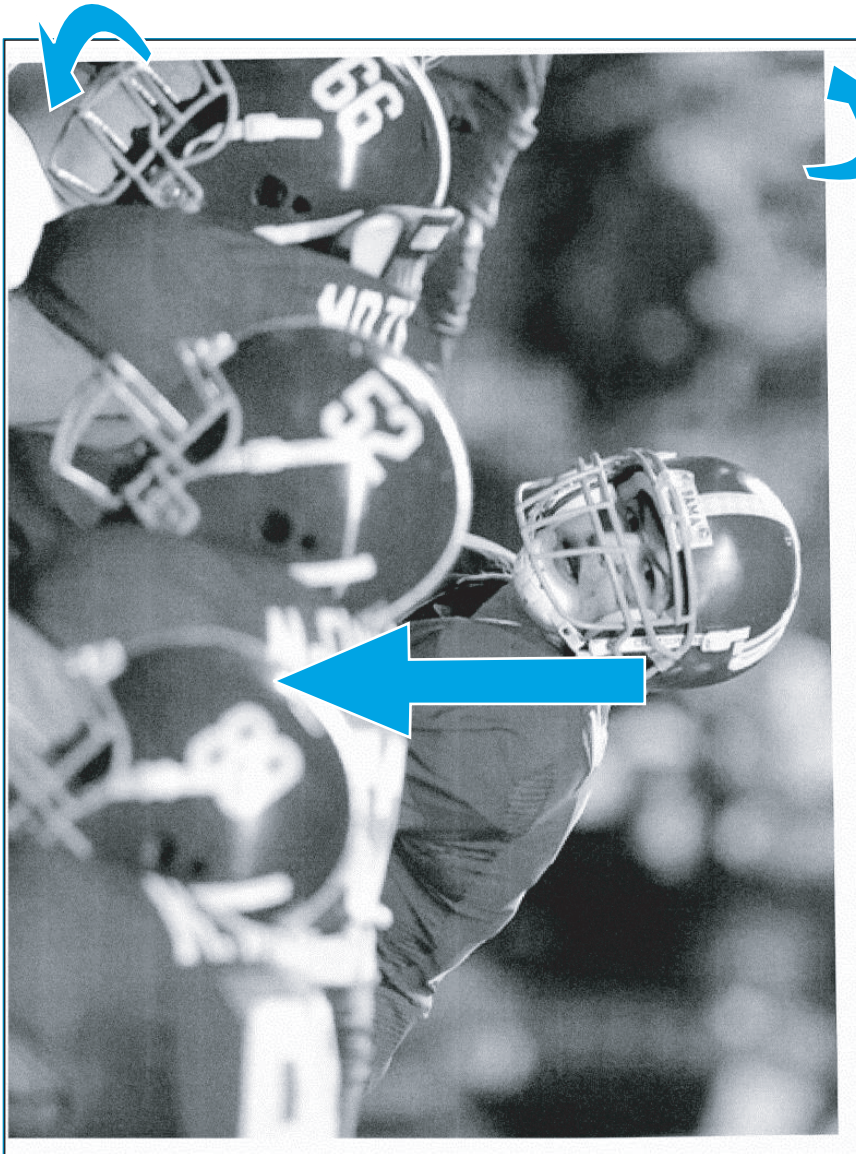


**NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

- Fuser

## Image placement - margins and skew

Figure 2-129 Image placement - margins and skew



### Description of the defect

This defect appears as image that is not centered or skewed on the page. The media is not positioned properly as it is pulled from the tray and goes through the paper path.

### Conditions that can cause the defect

This defect might occur if the IPA is off in any environment and from any tray.

## Solutions for the defect

- Before loading paper in the tray, hold the stack of paper, and then tap the bottom edge on a flat surface so that the stack is even on all sides.
- Make sure that the paper guides are adjusted to the correct size for the selected paper and do not overfill the tray. Verify that the top of the stack is below the tray full indicator.
- Do not adjust the paper guides tightly against the paper stack. Adjust them to the indentations or markings in the tray.
- Open the following menus:

Before beginning, use the [Print Test Page](#) option to print a registration test page. This page provides alignment guides in the X and Y directions.

- [Setup](#)
- [System Setup](#)
- [Print Quality](#)
- [Adjust Alignment](#)
- [Adjust Tray <X>](#)


---

 **NOTE:** Select the tray you want to configure.

---

Adjust the appropriate margin settings


---

 **NOTE:** Adjust the “X” and “Y” values in .25 mm increments.

---

- [X1 Shift](#)


---

 **NOTE:** Registration of the image on the paper from side to side, as the paper lies in the tray. For duplex models, this side is the second side (back) of the paper.

---

- [X2 Shift](#)


---

 **NOTE:** Registration of the image on the paper from side to side, as the paper lies in the tray, for the first side (front) of a duplexed page. This item appears only on duplex models.

---

- [Y Shift](#)

---

 **NOTE:** Registration of the image on the paper from top to bottom as the paper lies in the tray.

---

- **M506 and M527:** For image placement defects do the following. Resend the print job. If the error persists, change the image placement settings for the tray that the defect occurs. From the printer control panel, process a cleaning page to remove the contamination in the fuser.

Before beginning, use the [Print Test Page](#) option to print a registration test page. This page provides alignment guides in the X and Y directions.

- Open the following menus:
  - [Administration](#)
  - [General Settings](#)

- Print Quality
- Registration
- Adjust Tray <X>



---

**NOTE:** Select the tray you want to configure.

---

Adjust the appropriate margin settings



---

**NOTE:** Adjust the “X” and “Y” values in .25 mm increments.

---

- X1 (horizontal; simplex)
- X2 (vertical; simplex)
- Y1 (horizontal; duplex)
- Y2 (vertical; duplex)

### Parts related to the defect



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**NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

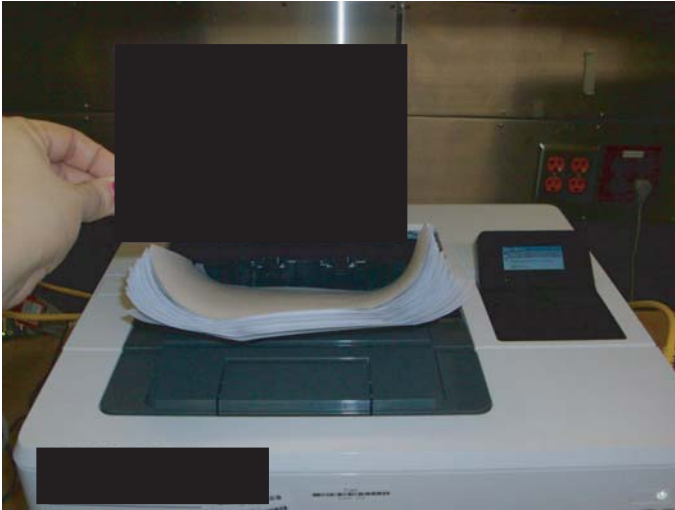
---

- Media
- Tray guides
- Registration assembly
- Feed rollers



## Output curl

**Figure 2-130** Output curl



### Description of the defect

This defect appears as printed pages are curled. Two types of curl are possible:

- Positive curl: paper curls toward the printed side
- Negative curl: paper curls away from printed side

This defect is caused by uneven drying conditions for the two sides of the paper and fuser location close to the paper output.

### Conditions that can cause the defect

Positive curl occurs in dry environments or when printing high coverage pages.

Negative curl occurs in high humidity environments when printing low coverage pages.

## Solutions for the defect

### General curl defect solutions

- Resend the print job. Use the duplex option in the printer driver.
- Do not adjust the paper guides tightly against the paper stack. Adjust them to the indentations or markings in the tray.
- **M501:** From the printer control panel, enable the **Paper Curl** print mode option.
  - Open the following menus:
    - **Setup**
    - **Service**
    - **Less Paper Curl**
    - **Select On**
- **M506 and M527:** From the printer control panel, change the print mode **Paper Curl** from **Normal** to **Reduced**.
  - Open the following menus:
    - **Administration**
    - **General Settings**
    - **Print Quality**
    - **Optimize**
    - **Paper Curl**
    - **Select Reduced**

### Specific curl defect solutions

- **Positive curl:** Use a higher temperature media type (heavier weight) mode which will increase the negative curl tendency reducing the positive curl. Also, more fusing could be selected in the extended print modes for the selected paper type.
- **Negative curl:** Use a lower temperature media type (lighter weight) mode or select a reduced paper curl or lower fusing temperature setting in extended print modes. If possible, try storing media in a dry environment prior to printing or use freshly opened paper (non-acclimated).

### Parts related to the defect



**NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

- Media
- Fuser

## Sticky output

**Figure 2-131** Sticky output



### Description of the defect

This defect appears as output pages that stick together when printing heavy coverage images in duplex mode. When printing large jobs the output stack retains enough heat that the toner on the top page does not cool sufficiently and can be tacky in heavy coverage areas. When the next page is output if there is heavy coverage that lands on the top page in the stack, the toner-to-toner contact might stick.

### Conditions that can cause the defect

- Large jobs greater than 25 pages (50 Images)
- Plain fuser mode
- Back-to-back images with heavy (greater than 80% density) coverage
- More severe on smooth heavy media

### Solutions for the defect

- Confirm that the correct print mode is selected for the paper being used.
- Flex the output stack before separating pages.
- Print smaller jobs and remove the output before sending the next job.
- Use the Intermediate Fuser mode which slows the printing and allows more time for cooling.
- Try printing in Quiet mode which lowers the fuser temperature and slows the output.

**M501:** From the printer control panel, enable the [Quiet Print Mode](#) option.

- Open the following menus:

- Setup
- System Setup
- Quiet Print Mode
- Select On

#### Parts related to the defect



---

**NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

- Media
- Fuser

## Output stacking

**Figure 2-132** Output stacking



### Description of the defect

This defect appears as output pages that do not stack properly in the output bin. The stack may be uneven or skewed or pages could be pushed out of the tray and onto the floor.

### Conditions that can cause the defect

Poor stacking can occur when there is significant paper curl present, if the paper being used is wrinkled or deformed, if using non-standard media types such as envelopes, or if the output bin gets too full. Causes for this defect vary depending on the type of media being used. If paper curl is present, the cause can be attributed to uneven drying of the media in the fuser.

### Solutions for the defect

- Use the output bin extension.
- If applicable, use the solutions in [Output curl on page 491](#).
- Use different paper that meets HP specifications for this printer.

- Use freshly opened paper (non-acclimated).
- Remove paper from the output tray before the stack becomes too large.

#### Parts related to the defect



---

**NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

- Media
- Fuser

## Paper handling - misprints

### Description of the defect

This defect appears as media in the paper path that does not behave as the printer user expects. The control panel displays a **41.XX.XX** error. A sensor is triggered at an unexpected timing and displays an error message.

### Conditions that can cause the defect

Misprints occur in any environment.

### Solutions for the defect

- Make sure that the size of the paper loaded in a specified tray matches the control panel setting.
- Make sure that the paper guides in the tray are adjusted correctly for the size of paper and the rear door is fully closed.
- Make sure that the input tray and output bin are not overfilled.
- Try using a new supply of paper or a different type of paper.

### Parts related to the defect



---

**NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

- Media
- Tray guides
- Registration assembly
- Feed rollers

## Paper handling - multifeeds

### Description of the defect

This defect appears as one (or many) pages feed through the paper path together. Sheets of paper stick together (physically or statically) and the separation pressure from the pick roller is unable to separate the sheets.

### Conditions that can cause the defect

The multifeed defect can occur in any environment, but occurs more frequently in HH and NN (as opposed to LL), on glossy media (as opposed to plain media) and with freshly opened (as opposed to fully acclimated) paper.

### Solutions for the defect

- Make sure that the input tray is not overfilled.
- Make sure that the paper guides in the tray are adjusted correctly for the size of paper.
- Remove the stack of paper from the tray, flex it, rotate it 180 degrees and then flip it over. Insert the media in a new orientation.
- Load a smaller stack of media in the input tray.
- Fan the media.
- Try a new supply of paper or a different type of paper.

### Parts related to the defect



---

**NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

- Media
- Tray guides
- Registration assembly
- Feed rollers



## Paper handling - jams

### Description of the defect

This defect appears as media stuck in the paper path. The control panel displays a **13.XX.XX** error. Media does not enter, pass through, or exit the paper path correctly.

### Conditions that can cause the defect

Jams occur in any environment.

### Solutions for the defect

- Clear the jam (input tray, rear door, bottom duplex tray, or output bin).
- Make sure that the paper guides in the tray are adjusted correctly for the size of paper and the rear door is fully closed.
- Make sure that the input tray and output bin are not overfilled.
- Load a smaller stack of media in the input tray.
- Try a new supply of paper or a different type of paper.

### Parts related to the defect



---

**NOTE:** The following item(s) might need to be repaired or replaced to prevent this defect from occurring.

- Media
- Tray guides
- Registration assembly
- Feed rollers

# Clean the printer



**NOTE:** To clean the printer exterior, use a soft, water-moistened cloth.

- [Clean the paper path](#)
- [Print a cleaning page](#)
- [Check the scanner glass for dirt and smudges \(M527\)](#)
- [Clean the pickup rollers and separation pad in the document feeder \(M527\)](#)
- [Clean the Tray 1 roller and separation pad](#)
- [Clean the Tray 2-X rollers](#)

## Clean the paper path

Over time, particles of toner and paper accumulate inside the printer. This can cause print-quality problems during printing. Cleaning the paper path eliminates or reduces these problems.

Clean the paper path and toner-cartridge areas every time that the toner cartridge is changed or whenever print-quality problems occur. As much as possible, keep the printer free from dust and debris.

## Print a cleaning page

### Print the cleaning page from an LCD control panel (M501)

1. From the printer control panel, press the **OK** button.
2. Open the **Service** menu.
3. Use the arrow keys to select the **Cleaning mode** option, and then press the **OK** button.

The printer prints the first side and then prompts you to remove the page from the output bin and reload it in Tray 1, keeping the same orientation. Wait until the process is complete. Discard the page that prints.

### Print the cleaning page from an LCD control panel (M506)

1. From the **Home** screen on the printer control panel, use the down arrow ▼ button to scroll to **Device Maintenance**, and then press the **OK** button.
2. Use the down arrow ▼ button to scroll to **Calibration/Cleaning**, and then press the **OK** button.
3. If necessary, use the down arrow ▼ button to scroll to **Cleaning**, and then press the **OK** button to print the page.
4. Follow the instruction on the printed cleaning page to finish the cleaning page process.

### Print the cleaning from a touchscreen control panel (M527)

1. From the **Home** screen on the printer control panel, scroll to and touch the **Device Maintenance** button.
2. Open the following menus:
  - **Calibration/Cleaning**

3. Touch [Cleaning Page](#), and then press the [OK](#) button to print the page.
4. The cleaning process can take several minutes. When it is finished, discard the printed page.

## Enable and configure auto cleaning (M527)

Use the procedure in this section to enable and configure the automatic cleaning function.

### To enable the auto cleaning function from a touchscreen control panel

1. From the [Home](#) screen on the printer control panel, scroll to and touch the [Device Maintenance](#) button.
2. Open the following menus:
  - [Calibration/Cleaning](#)
  - [Auto Cleaning](#)
3. Select the [Enable](#) item, and then touch the [Save](#) button.

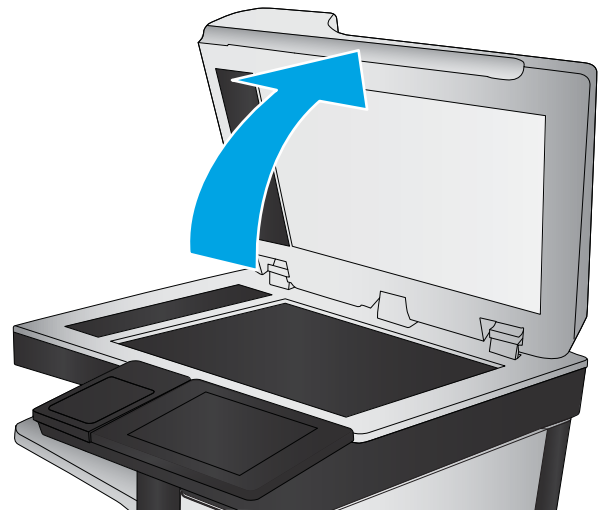
## Check the scanner glass for dirt and smudges (M527)

Over time, specks of debris might collect on the scanner glass and white plastic backing, which can affect performance. Use the following procedure to clean the scanner if the printed pages have streaks, unwanted lines, black dots, poor print quality, or unclear text.

1. Press the power button to turn the printer off, and then disconnect the power cable from the electrical outlet.



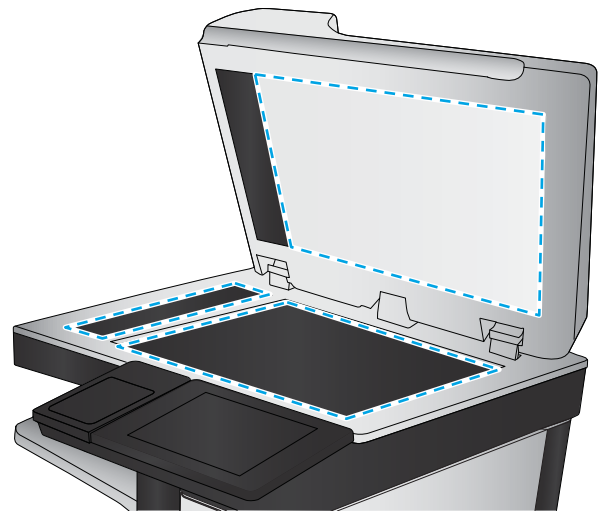
2. Open the scanner lid.



3. Clean the scanner glass, the document feeder strips, and the white plastic backing with a soft cloth or sponge that has been moistened with nonabrasive glass cleaner.

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

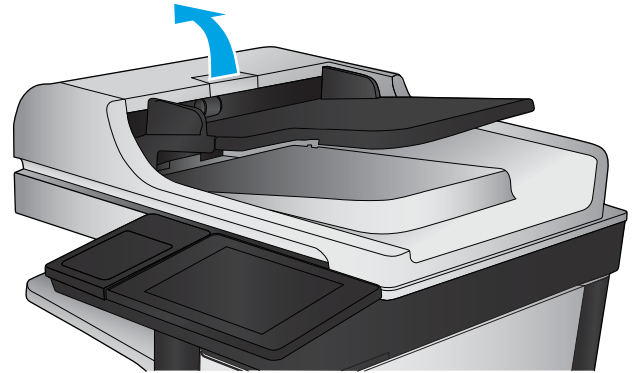
**NOTE:** If you are having trouble with streaks on copies when you are using the document feeder, be sure to clean the small strip of glass on the left side of the scanner.



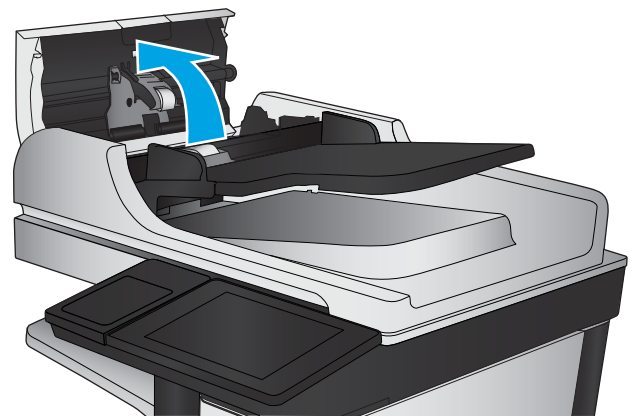
4. Dry the glass and white plastic parts with a chamois or a cellulose sponge to prevent spotting.
5. Connect the power cable to an outlet, and then press the power button to turn the printer on.

## Clean the pickup rollers and separation pad in the document feeder (M527)

1. Lift the document-feeder latch.

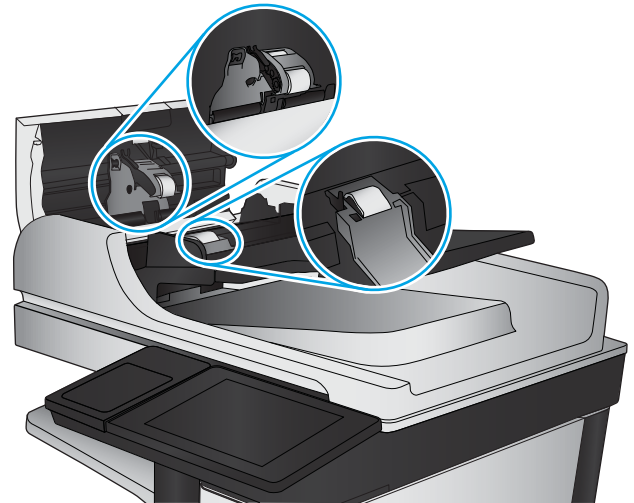


2. Open the document-feeder cover.



3. Remove any visible lint or dust from each of the feed rollers and the separation pad using compressed air or a clean lint-free cloth moistened with warm water.


**NOTE:** Lift up the roller assembly to access and clean the second roller.



4. Close the document-feeder cover.

If the error persists, install a document feeder maintenance kit (B5L52-67903).

## Clean the Tray 1 roller and separation pad

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

### Step 1: Remove the roller

1. Open the toner-cartridge door.

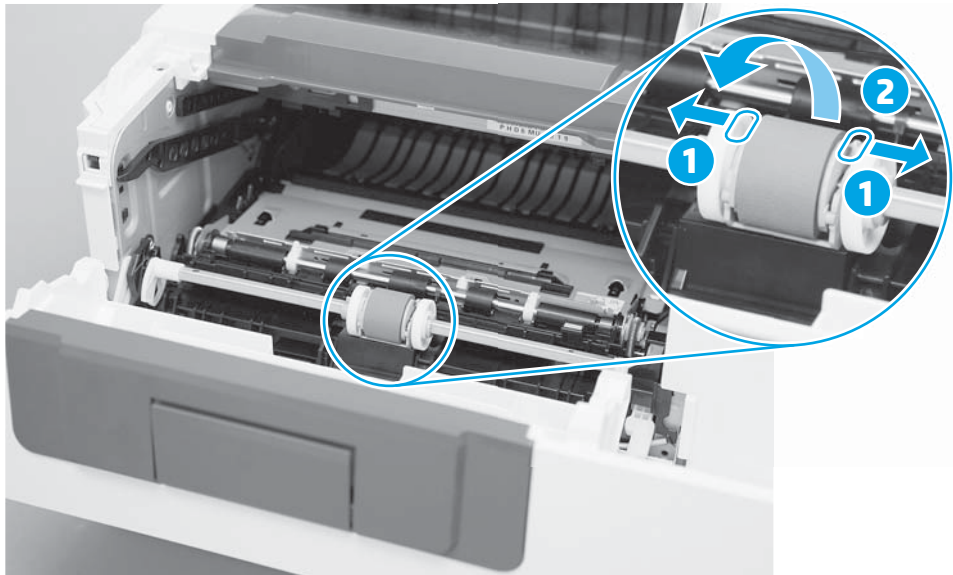
**Figure 2-133** Open the toner-cartridge door



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

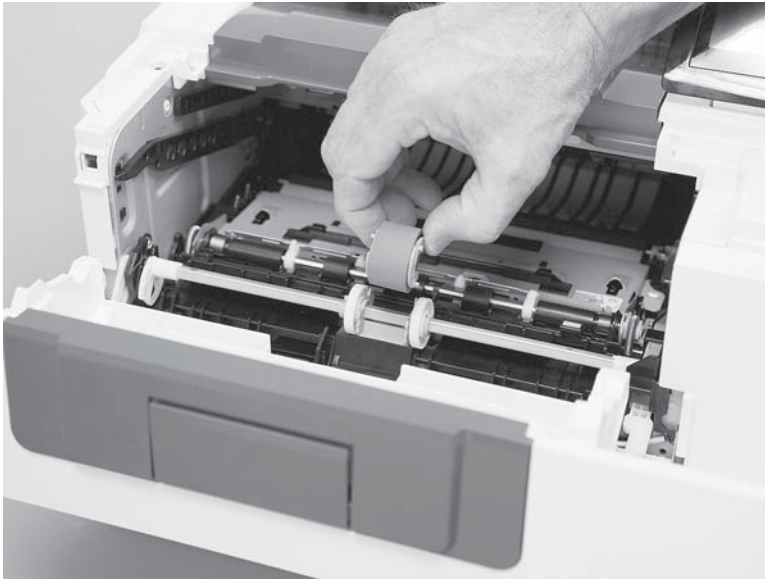
 **TIP:** Pushing down on the top of the roller might make it easier to release the tabs.

**Figure 2-134** Release two tabs



3. Remove the roller.

**Figure 2-135** Remove the roller



## Step 2: Remove the separation pad assembly


1. Open the toner-cartridge door.

**Figure 2-136** Open the toner-cartridge door

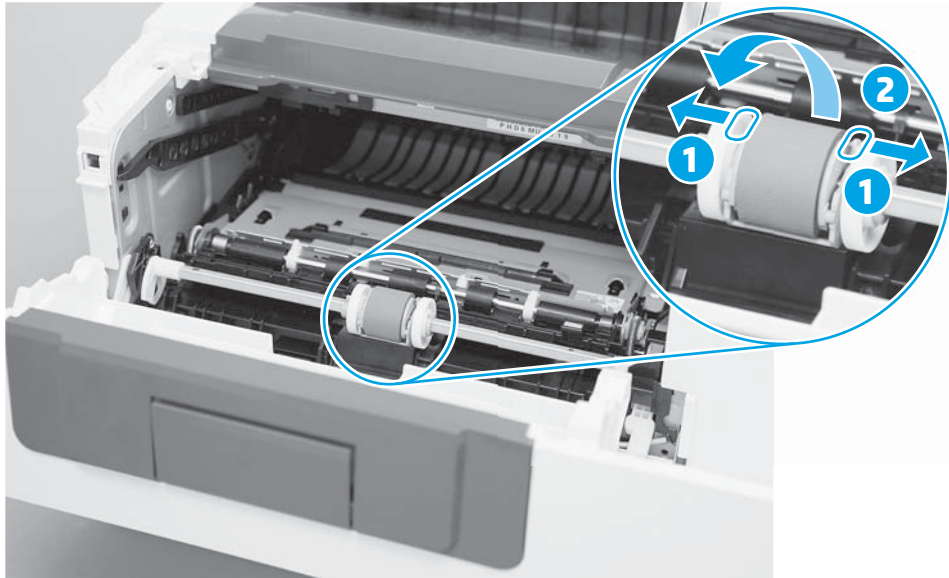




2. Release two tabs between the roller collar and roller (callout 1), and then rotate the top of the roller out and away from the printer (callout 2).

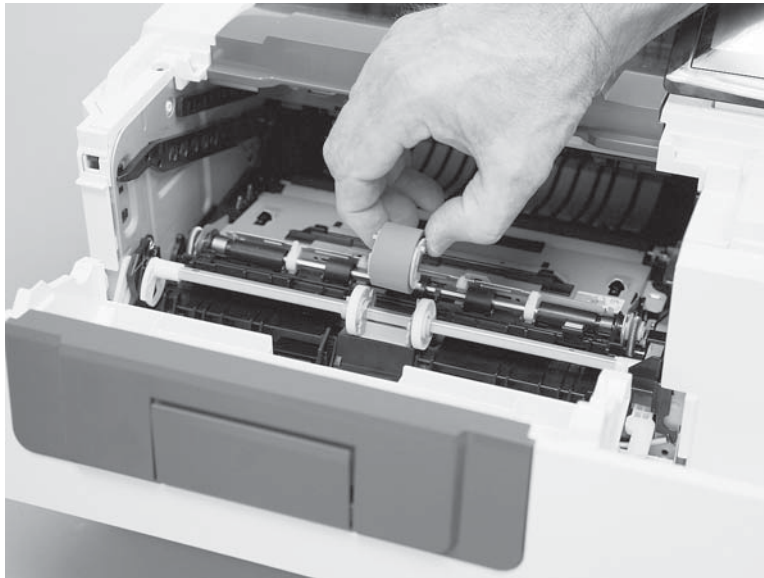
 **TIP:** Pushing down on the top of the roller might make it easier to release the tabs.

**Figure 2-137** Release two tabs




3. Remove the roller.

**Figure 2-138** Remove the roller

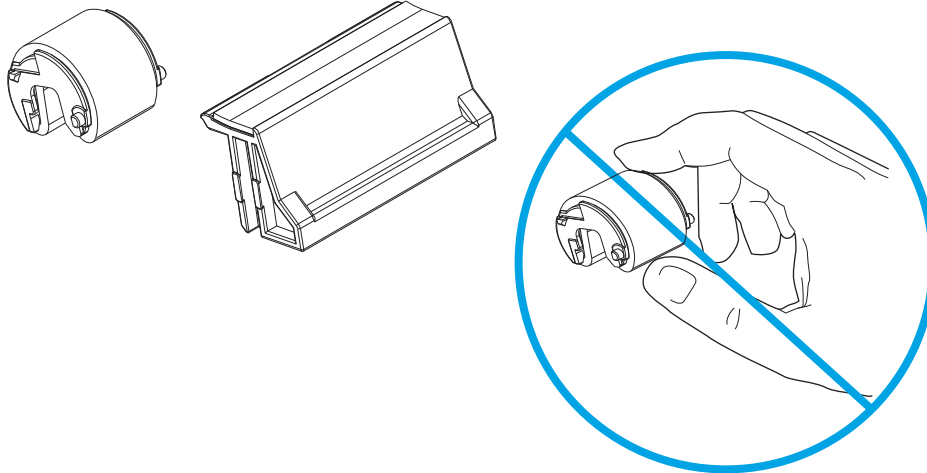


### Step 3: Clean the Tray 1 roller and separation pad

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

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

**Figure 2-139** Clean the rollers and pad

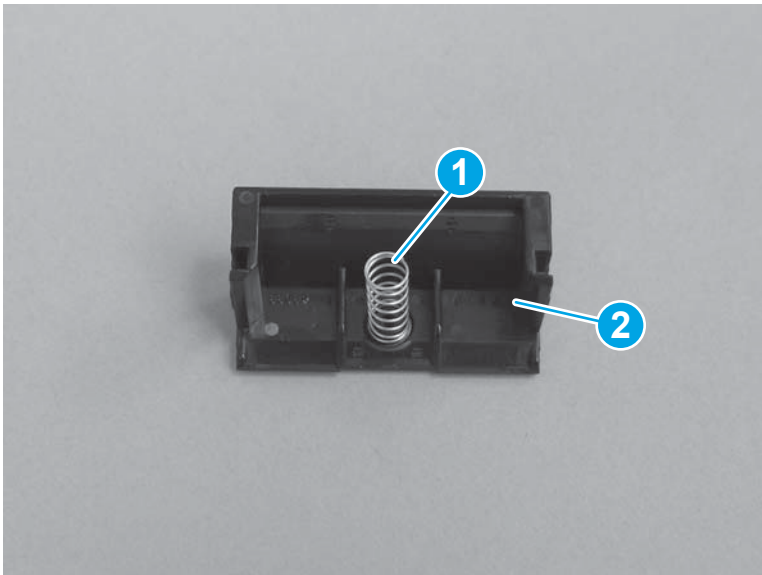


#### Step 4: Install the separation pad assembly

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

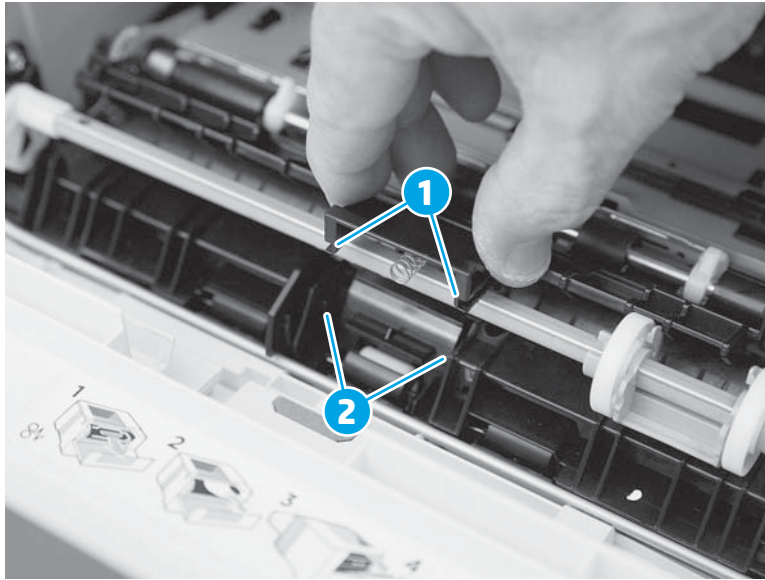
1. Install the spring (callout 1) from the discarded separation pad assembly (or use the one supplied in this kit) on to the replacement assembly (callout 2).

**Figure 2-140** Install the spring




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

**Figure 2-141** Align the assembly with the holder



3. Install the pad assembly into the holder.

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

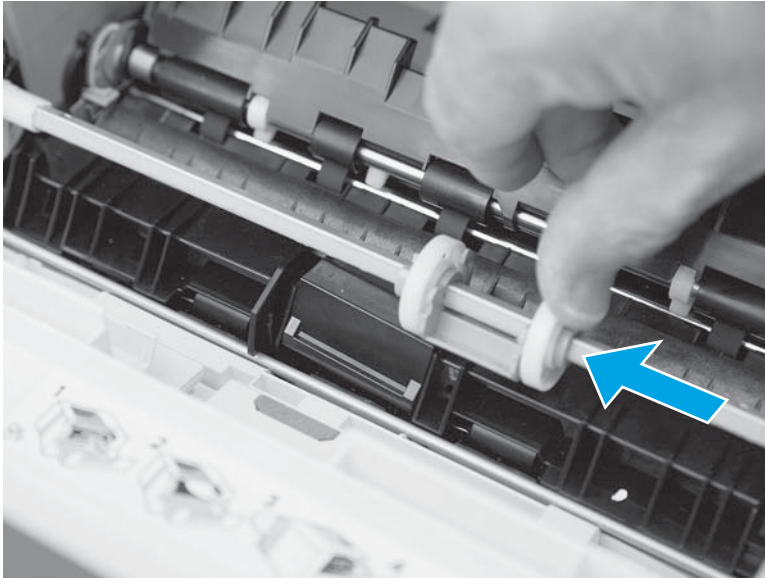
**Figure 2-142** Install the pad assembly




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

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


**Figure 2-143** Slide the roller carriage to the left



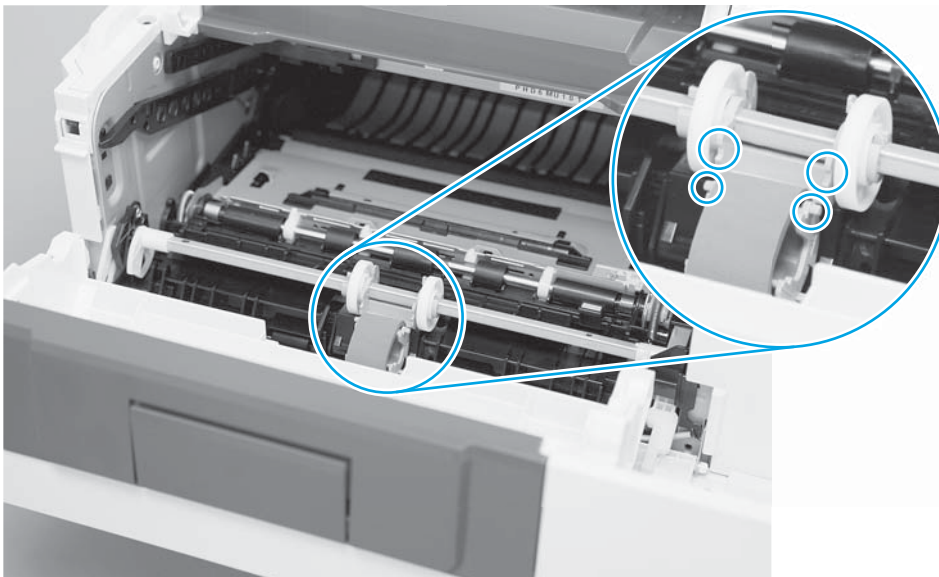
### Step 5: Install the roller

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

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

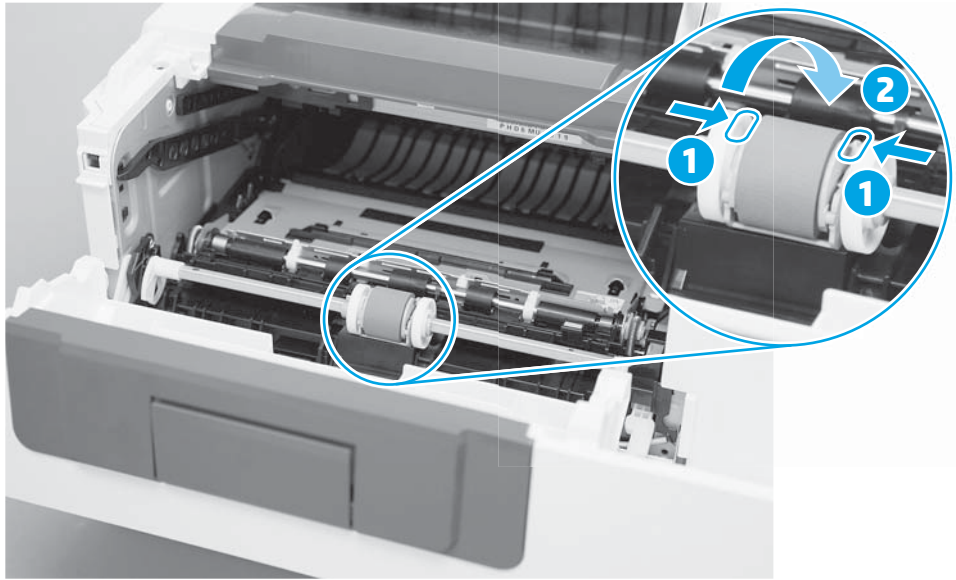
 **NOTE:** In this step, you start with the roller upside down, and then rotate it up and into its final installed position.

**Figure 2-144** Install the roller



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

**Figure 2-145** Engage two tabs



3. Close the toner-cartridge door.




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

**Figure 2-146** Close the toner-cartridge door



## Clean the Tray 2-X rollers

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

### Step 1: Remove the tray

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

**Figure 2-147** Pull the tray out until it stops



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

**Figure 2-148** Release and remove the tray



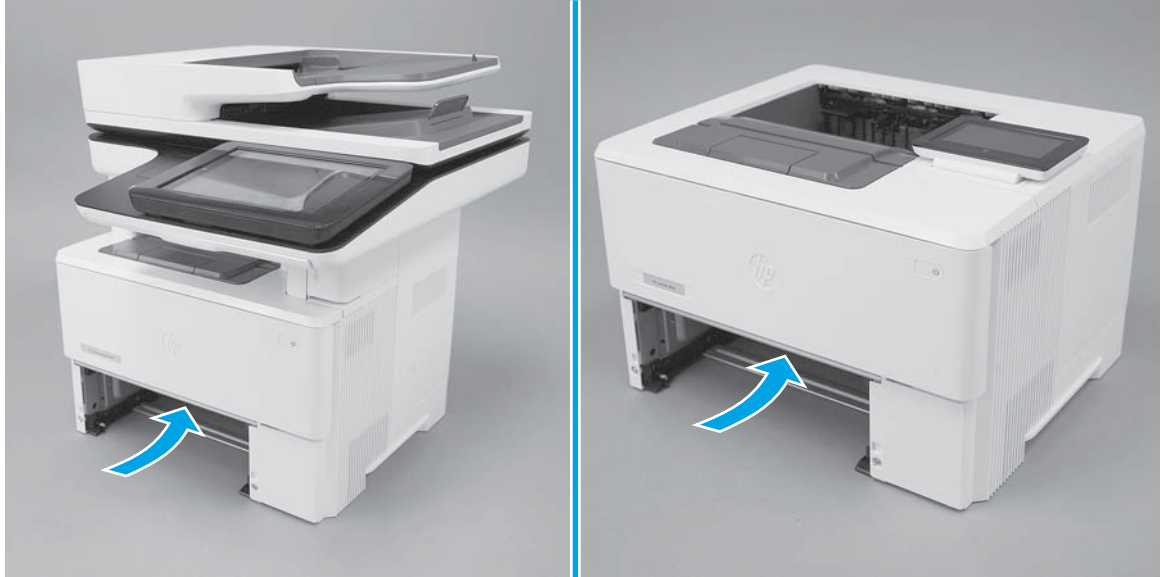
## Step 2: Remove the roller assembly

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

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

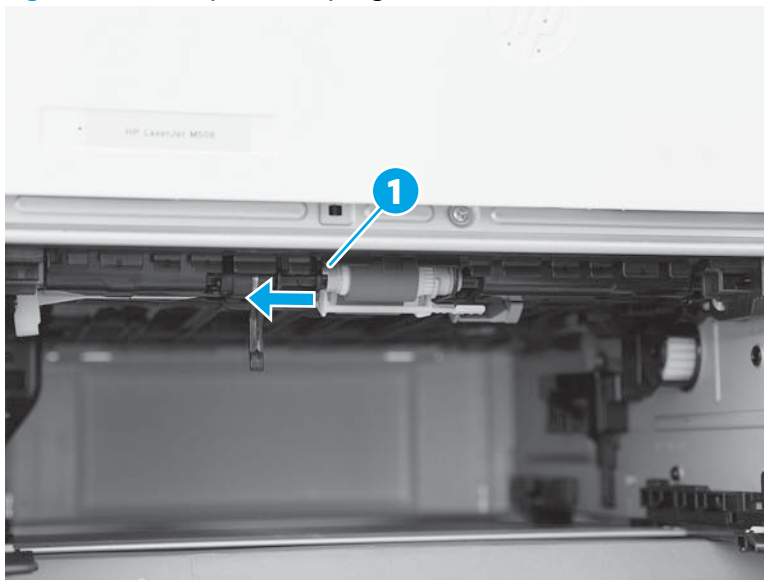
1. Look up into the tray cavity to locate the roller assembly.

**Figure 2-149** Locate the roller assembly



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

**Figure 2-150** Compress the spring-loaded shaft



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

**Figure 2-151** Remove the roller assembly

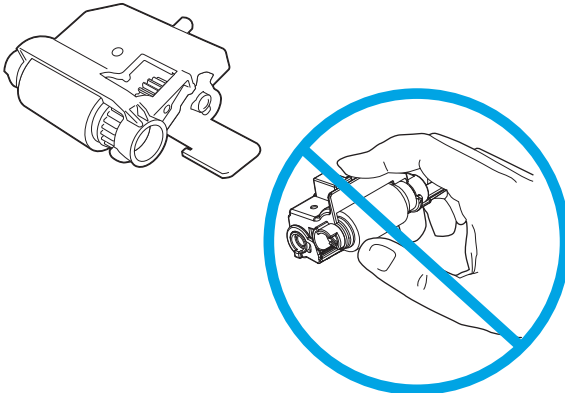


### Step 3: Clean the Tray 2-X rollers

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

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

**Figure 2-152** Clean the rollers



### Step 4: Install the roller assembly

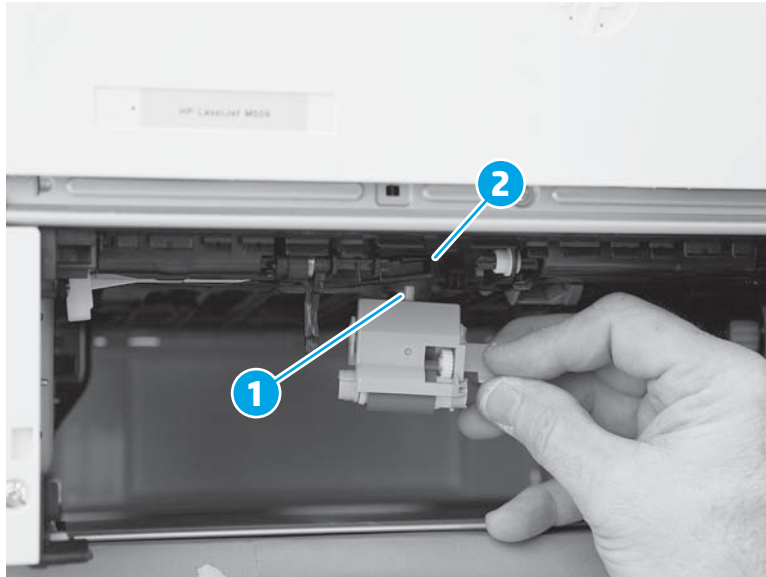
**CAUTION:** When handling the roller assembly, do not touch the gray spongy portion of the rollers. Skin oils on the rollers can cause paper handling problems. HP recommends washing your hands before handling the assembly.

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



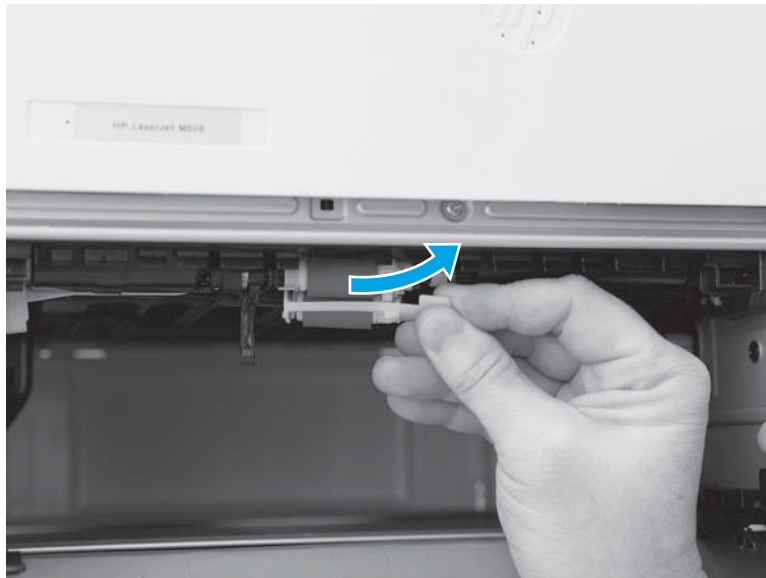
1. When the assembly is installed, the actuator pin (callout 1) on the roller assembly must be installed in the slot (callout 2) in the actuator arm.

**Figure 2-153** Check the pin on the assembly



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

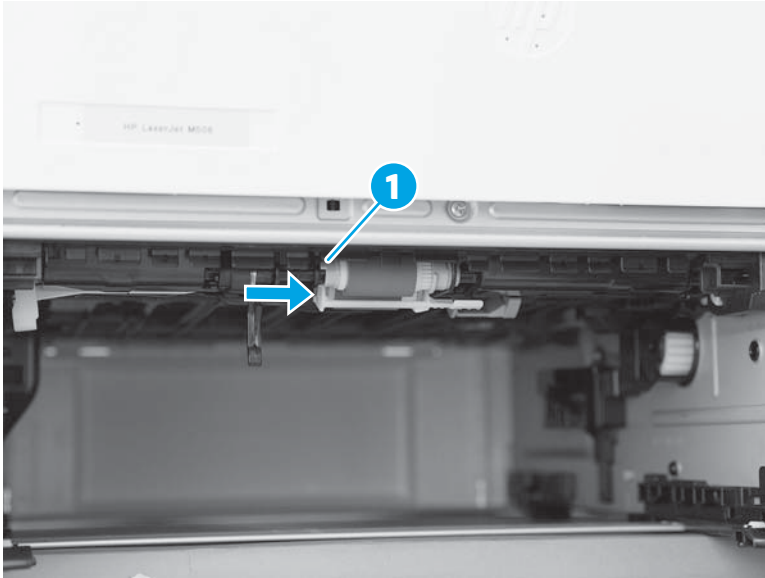
**Figure 2-154** Install the roller assembly




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

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

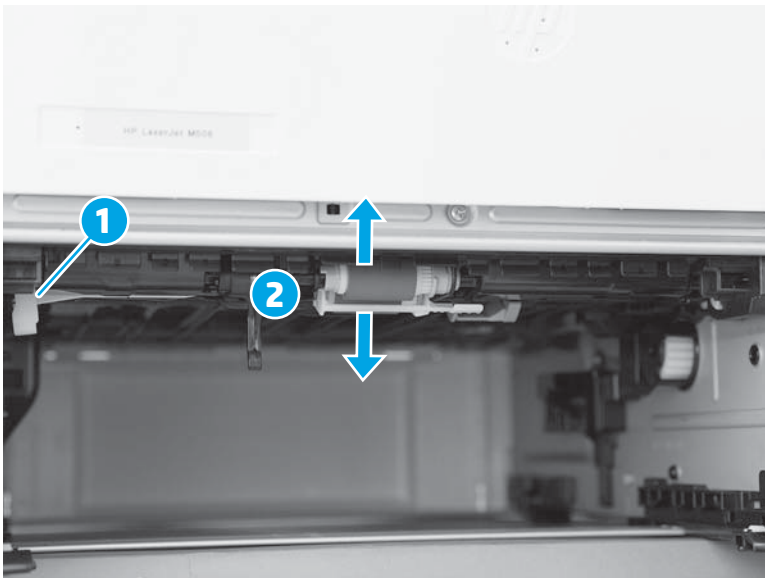
**Figure 2-155** Decompress the spring-loaded shaft



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

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

**Figure 2-156** Check the installation



## Step 5: Install the tray

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

**Figure 2-157** Install the tray



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

**Figure 2-158** Close the tray



## Solve paper handling problems

- [Printer feeds incorrect page size](#)
- [Printer pulls from incorrect tray](#)
- [Printer will not duplex or duplexes incorrectly](#)
- [Paper does not feed from Tray 2-X](#)
- [Output is curled or wrinkled](#)
- [Printer does not pick up paper or misfeeds](#)

### Printer feeds incorrect page size

**Table 2-65 Printer feeds incorrect page size**

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

### Printer pulls from incorrect tray

**Table 2-66 Printer pulls from incorrect tray**

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

### Printer will not duplex or duplexes incorrectly

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

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

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

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

## Paper does not feed from Tray 2-X

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

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

## Output is curled or wrinkled

**Table 2-69 Output is curled or wrinkled**

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

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

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

## Printer does not pick up paper or misfeeds

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

### The printer does not pick up paper

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



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

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

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

## The printer picks up multiple sheets of paper

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

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

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

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

## Paper does not feed automatically

**Table 2-70 Paper does not feed automatically**

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

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

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



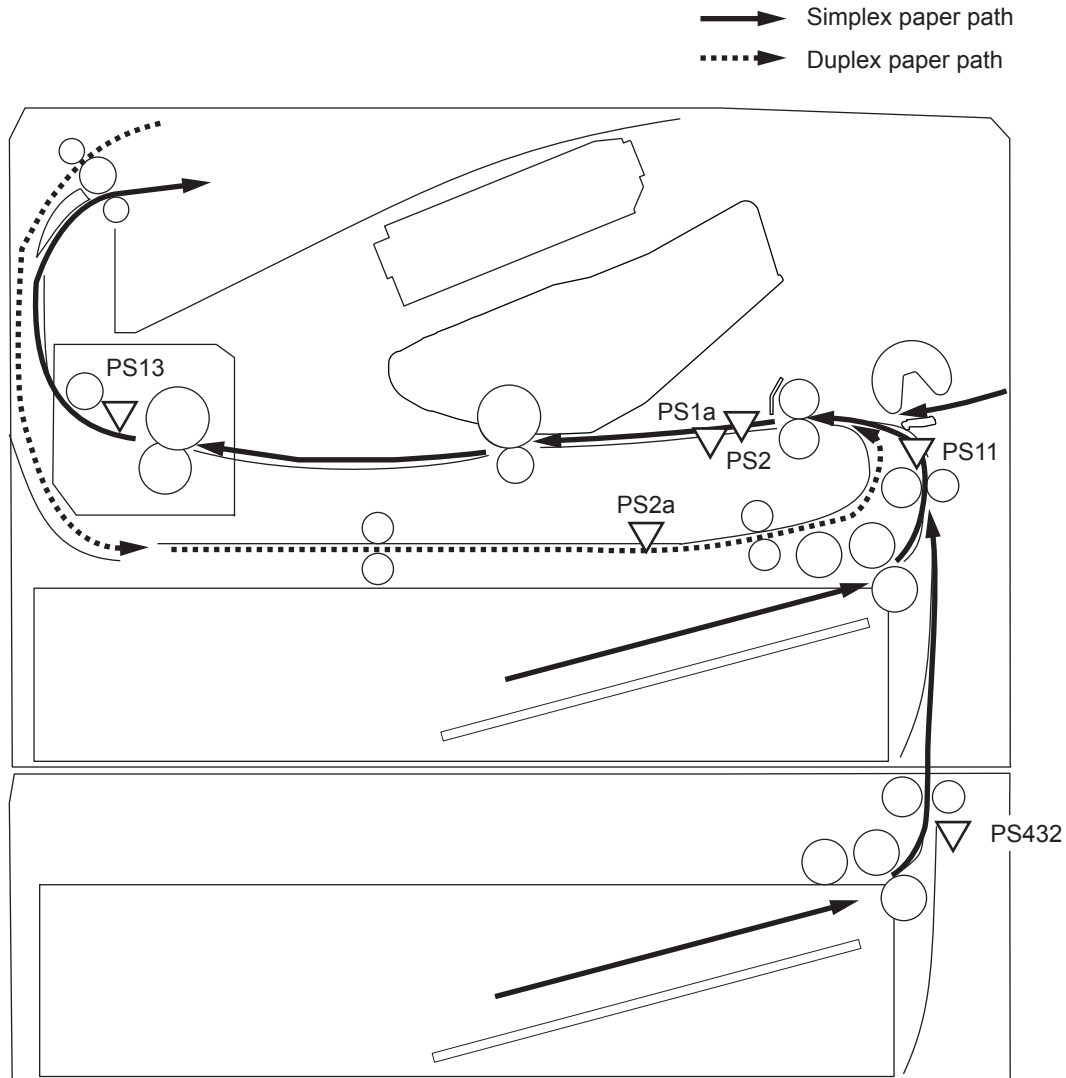
## Clear paper jams

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

## Paper path jam sensor locations

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

**Figure 2-159** Jam sensors



**Table 2-71** Printer base jam sensors

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

<sup>1</sup> Duplex models only.

<sup>2</sup> 550-sheet paper feeder accessory.

## Auto-navigation for clearing jams

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

## Experiencing frequent or recurring paper jams?

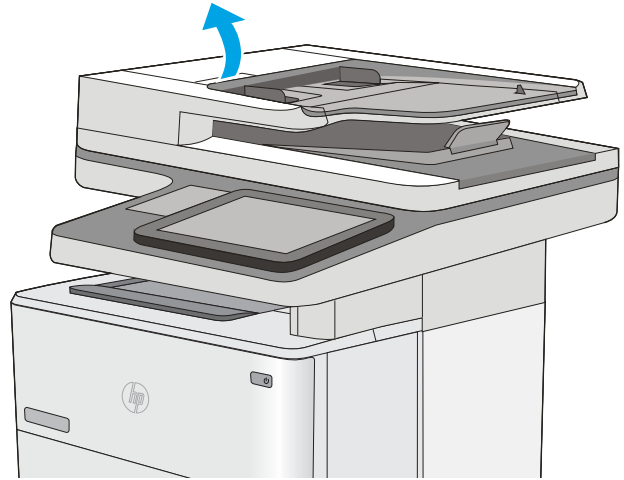
To reduce the number of paper jams, try these solutions.

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

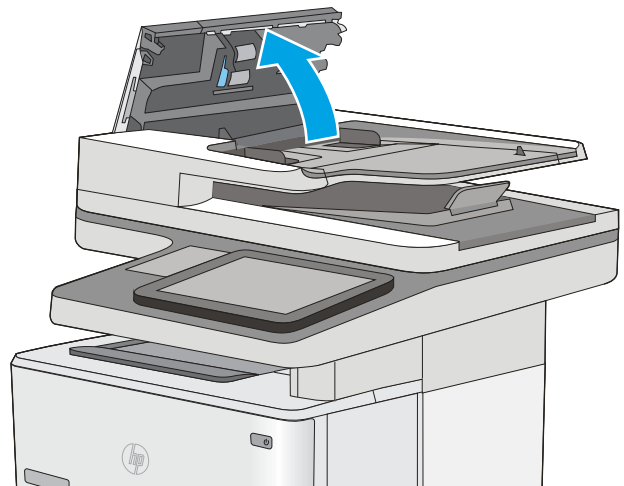
## Clear paper jams in the document feeder

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

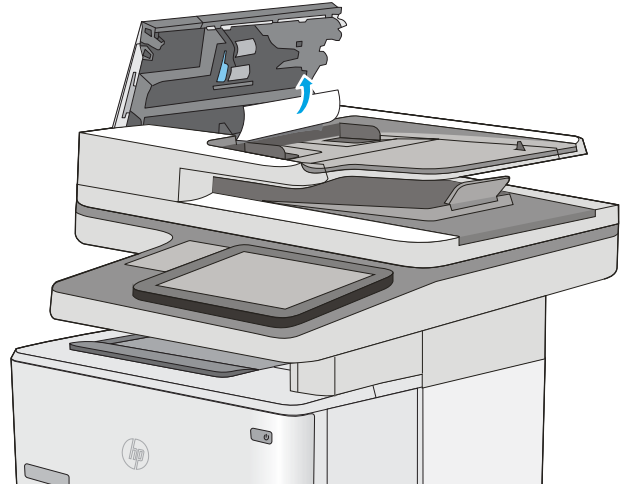
1. Lift the latch to release the document-feeder cover.



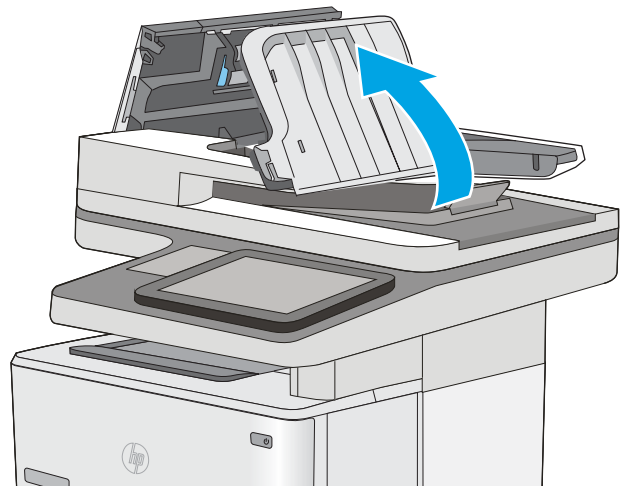
2. Open the document-feeder cover.



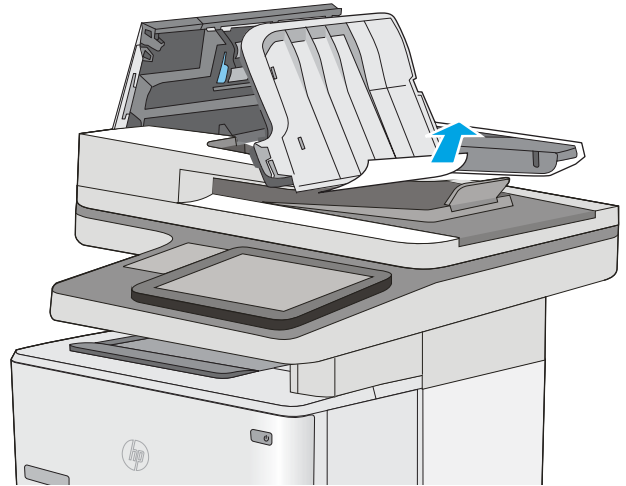
3. Remove any jammed paper.



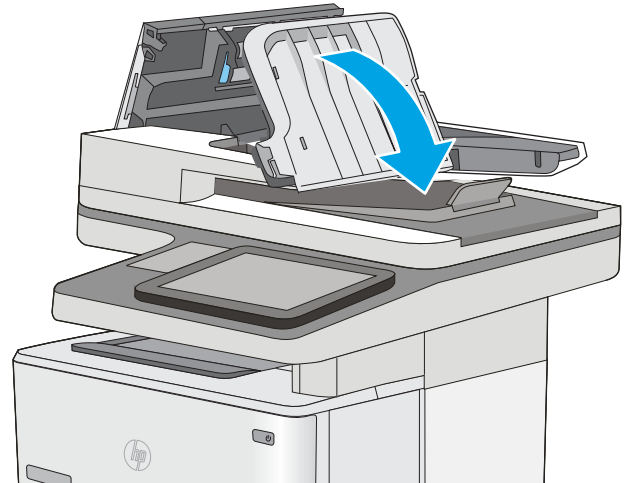
4. Lift the document-feeder input tray.



5. Remove any jammed paper.

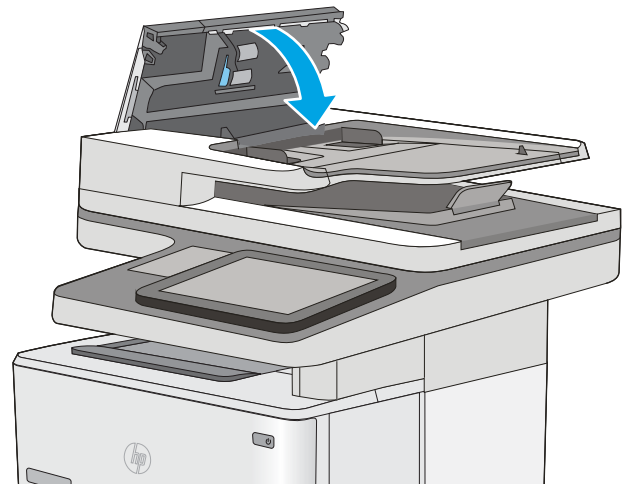


6. Lower the document-feeder input tray.





7. Close the document-feeder cover.

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



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

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

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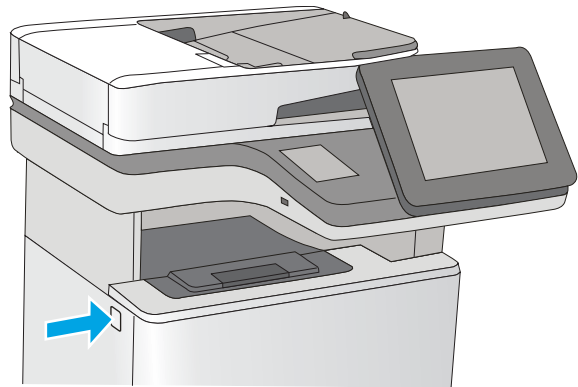
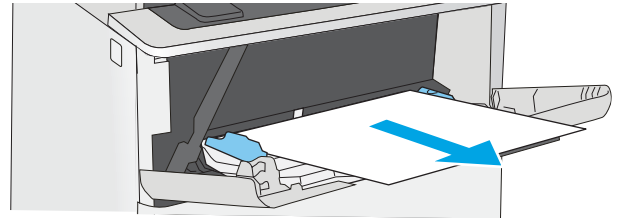
## Clear paper jams in Tray 1

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

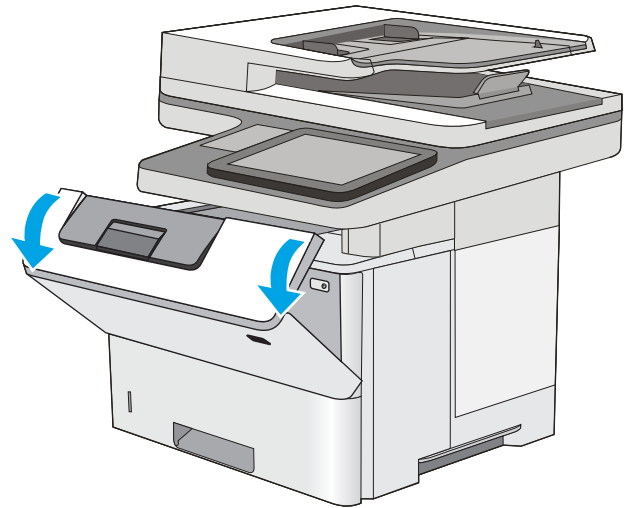
1. If most of the sheet of paper is visible in the tray, slowly pull the jammed paper out of the printer. Make sure that the entire sheet is removed. If it tears, continue with the following steps to find the remnants.

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

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

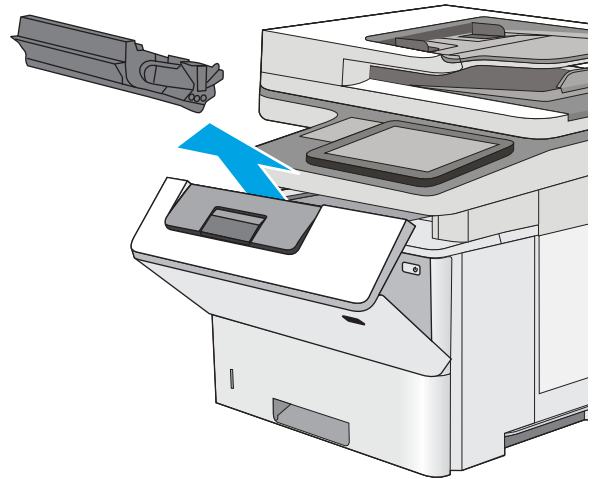


3. Open the front door.

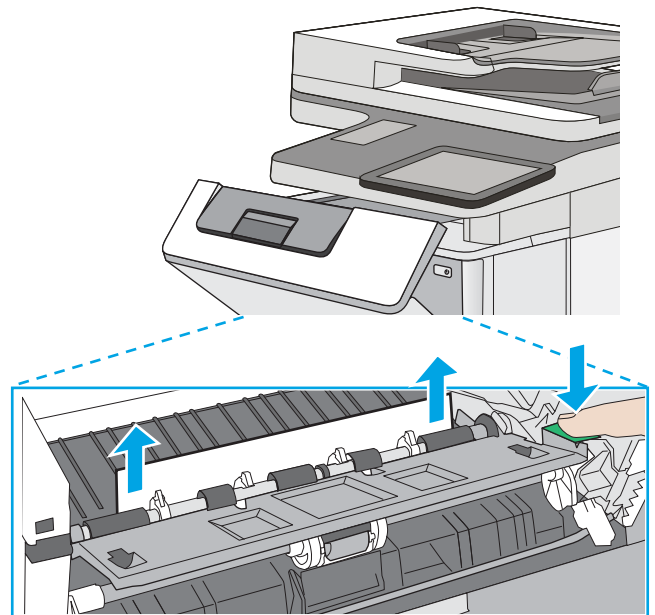




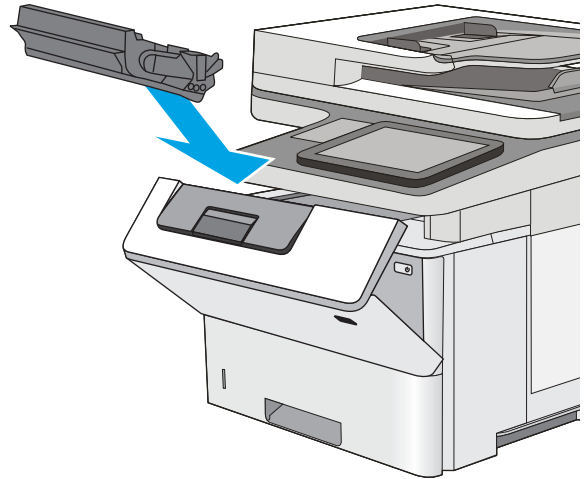
4. Remove the toner cartridge.



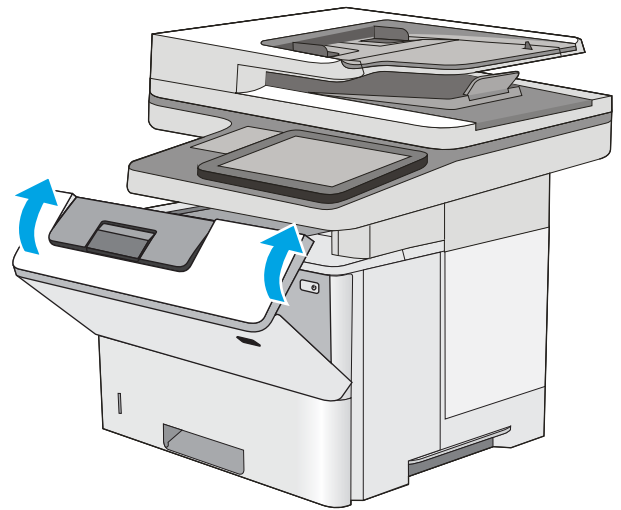
5. Lift the jam-access cover and slowly remove any jammed paper. Be careful not to tear the paper.



6. Reinsert the toner cartridge.



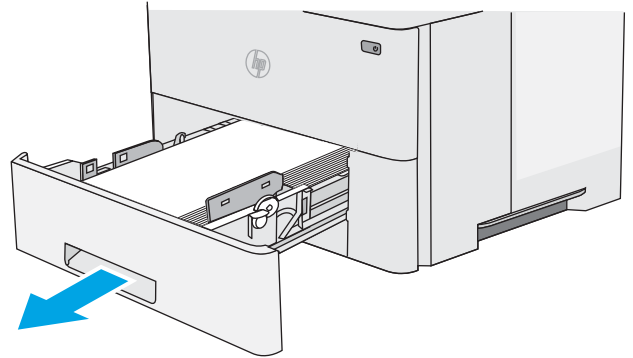
7. Close the front door.



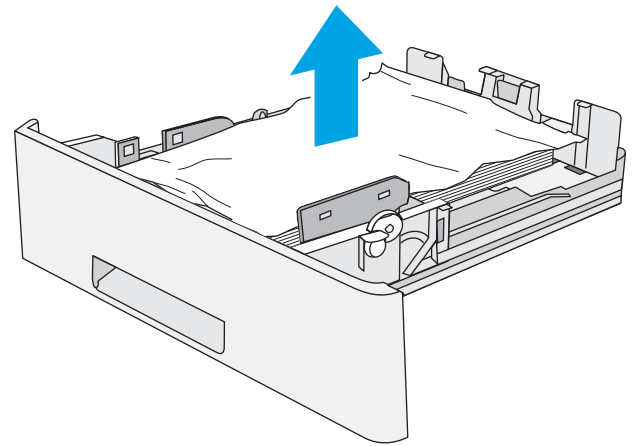
## Clear paper jams in Tray 2 and the 550-sheet trays

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

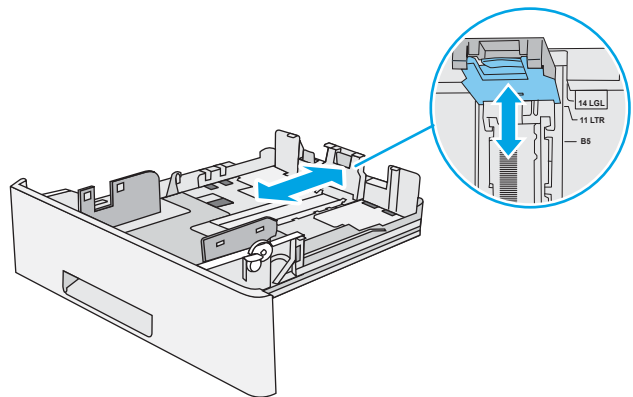
1. Remove the tray from the printer.



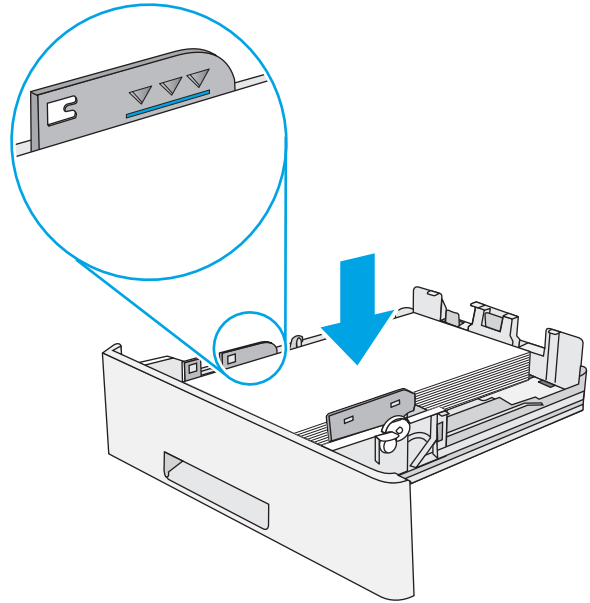
2. Remove the paper from the tray, and discard any damaged paper.



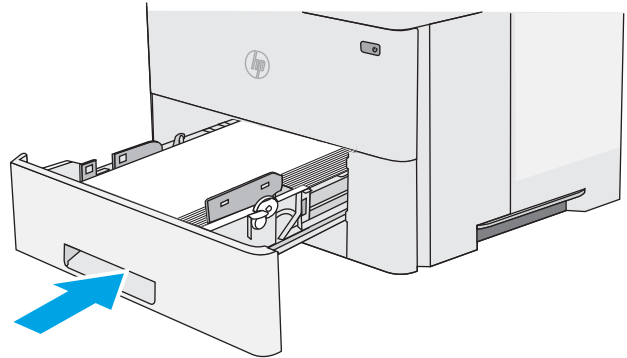
3. Verify that the rear paper guide is adjusted to the indentation for the correct paper size. If necessary, pinch the release and move the rear paper guide to the correct position. It should click into place.



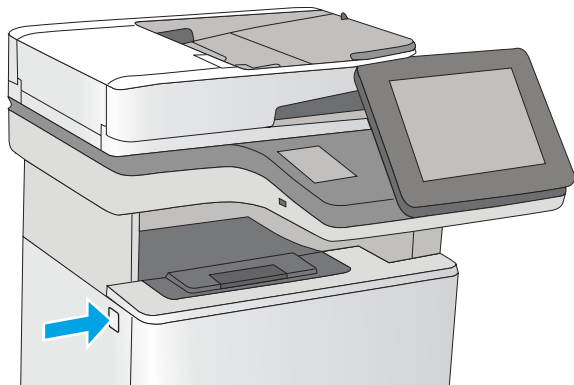
4. Load the paper into the tray. Make sure that the stack is flat at all four corners and that the top of the stack is below the maximum-height indicators.



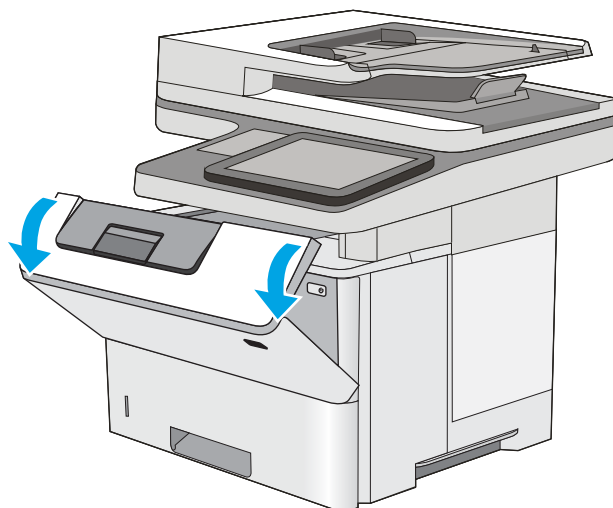
5. Reinsert and close the tray.



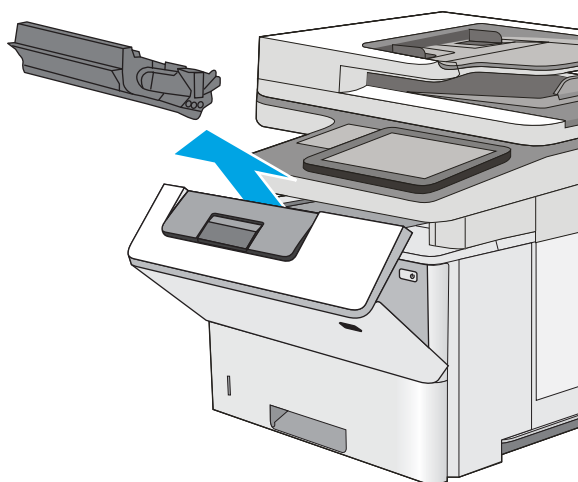
6. Press the top-cover-release button on the left side of the printer.



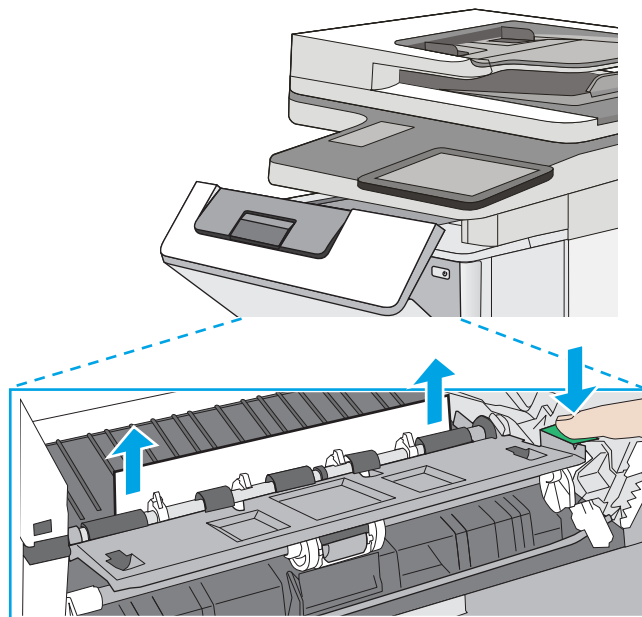
7. Open the front door.



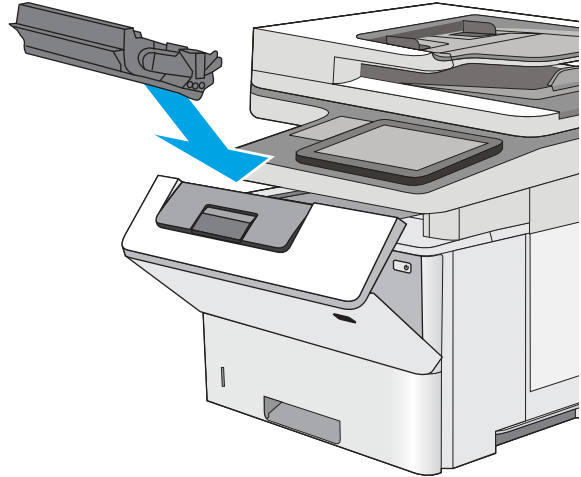
8. Remove the toner cartridge.



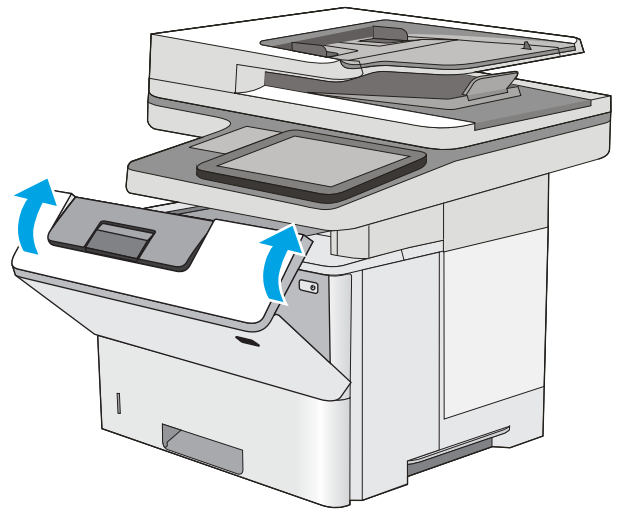
9. Lift the jam-access cover and slowly remove any jammed paper. Be careful not to tear the paper.



10. Reinsert the toner cartridge.



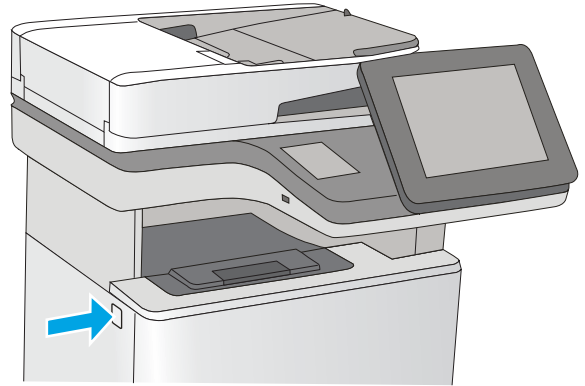
11. Close the front door.



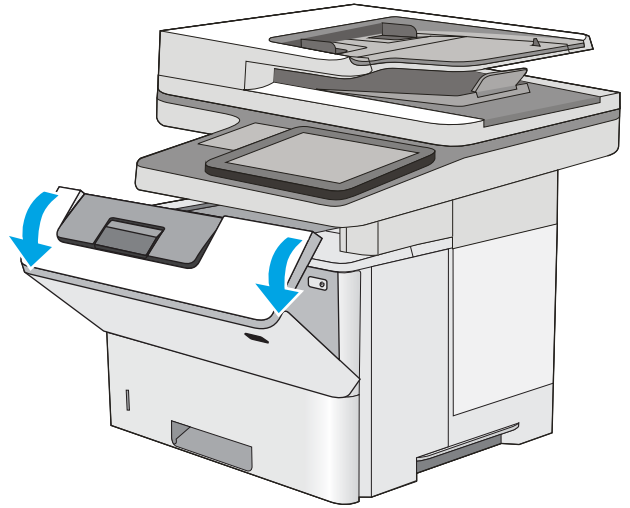
## Clear paper jams in the toner-cartridge area

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

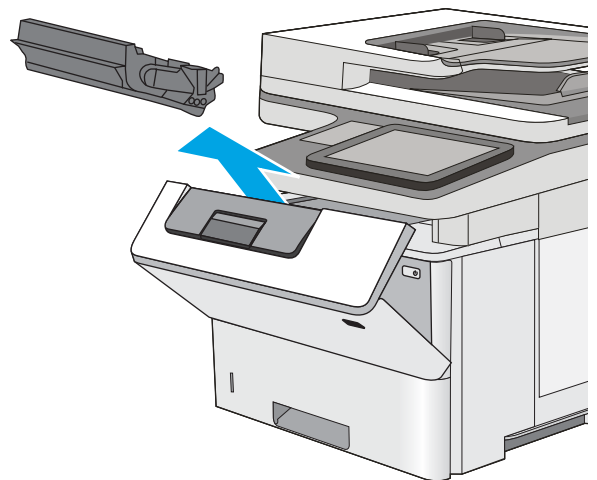
1. Press the top-cover-release button on the left side of the printer.



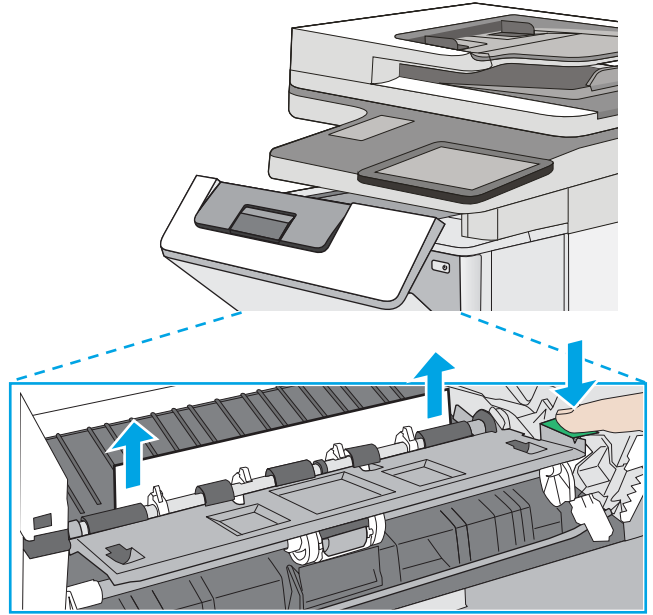
2. Open the front door.



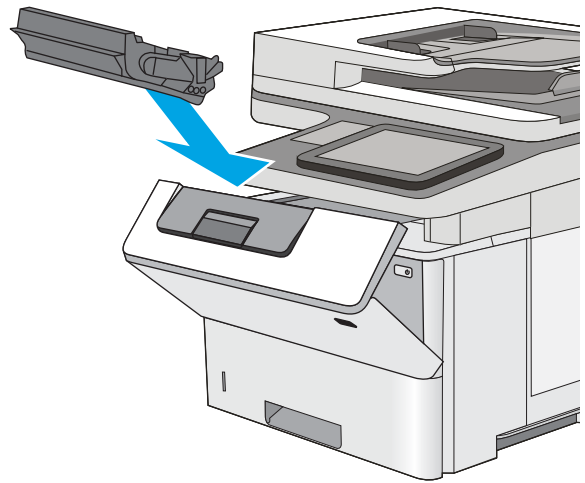
3. Remove the toner cartridge.



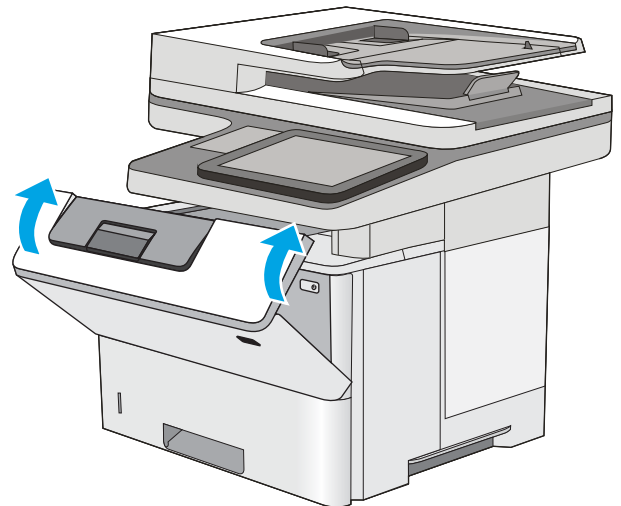
4. Lift the jam-access cover and slowly remove any jammed paper. Be careful not to tear the paper.



5. Reinsert the toner cartridge.



6. Close the front door.



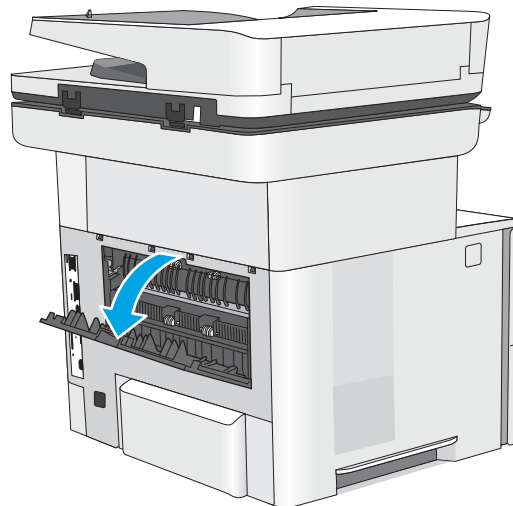


## Clear paper jams in the rear door and the fuser area

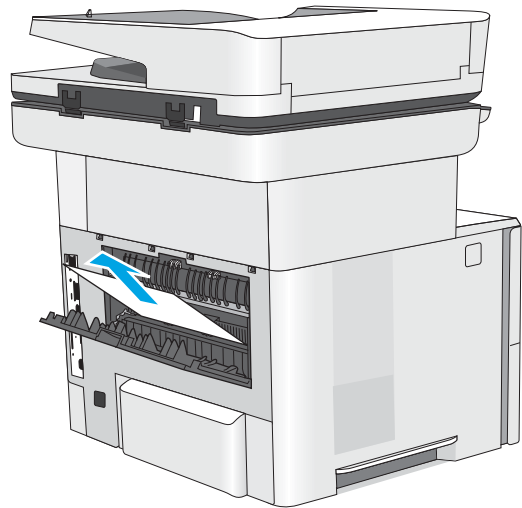
Use the following procedure to clear paper jams in the rear door and fuser area. When a jam occurs, the control panel displays an animation that assists in clearing the jam.

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

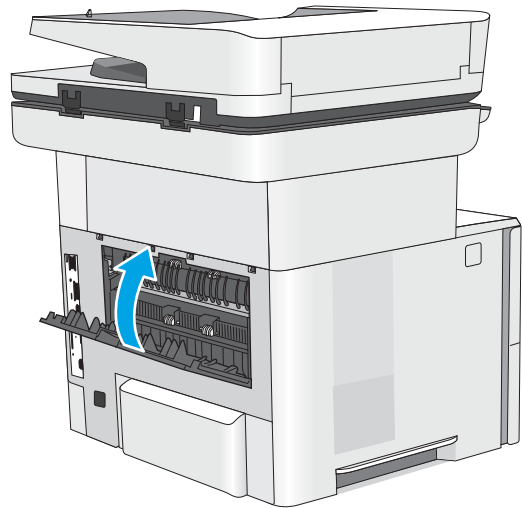
1. Open the rear door.



2. Remove any jammed paper.



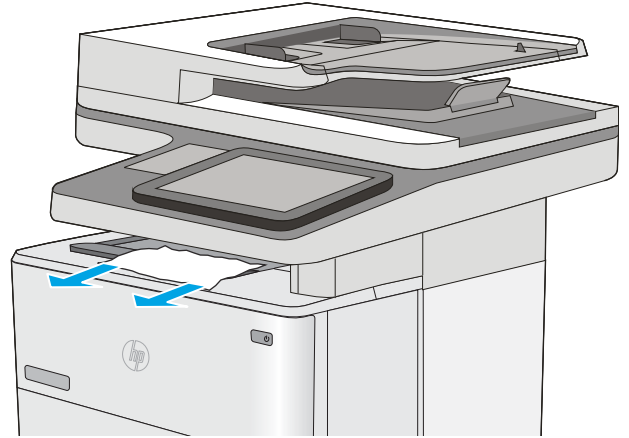
3. Close the rear door



## Clear paper jams in the output bin

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

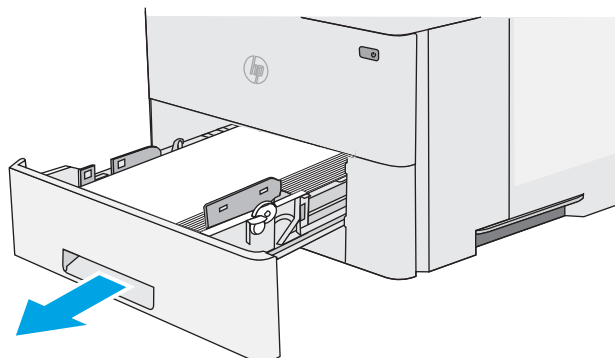
1. If paper is visible in the output bin, grasp the leading edge and remove it.



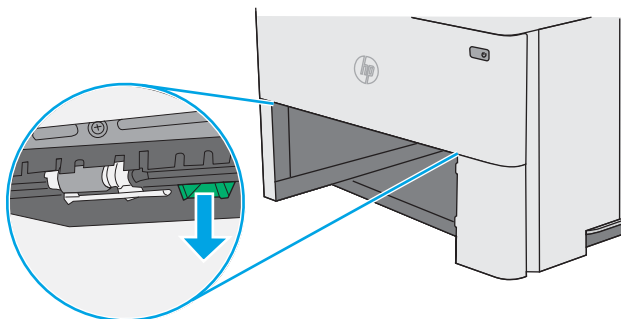
## Clear paper jams in the duplexer

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

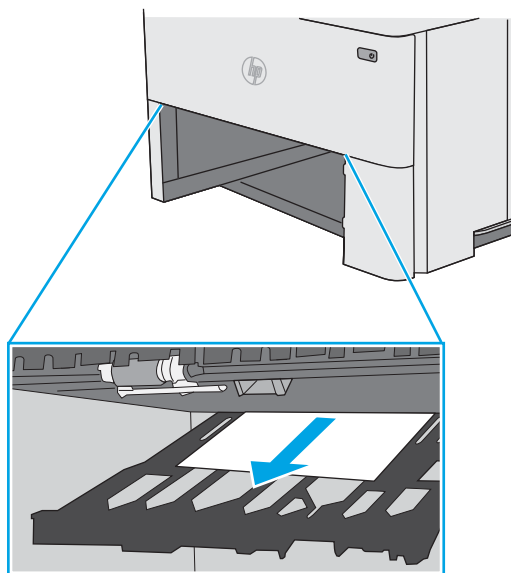
1. Remove Tray 2 from the printer.



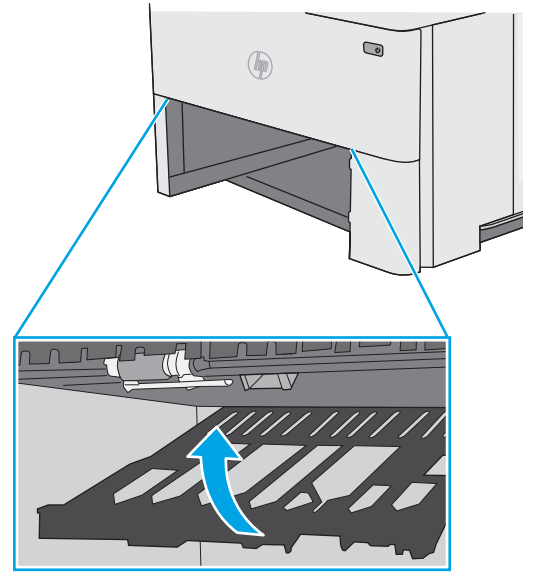
2. Pull forward on the green tab inside the tray area to release the duplex pan.



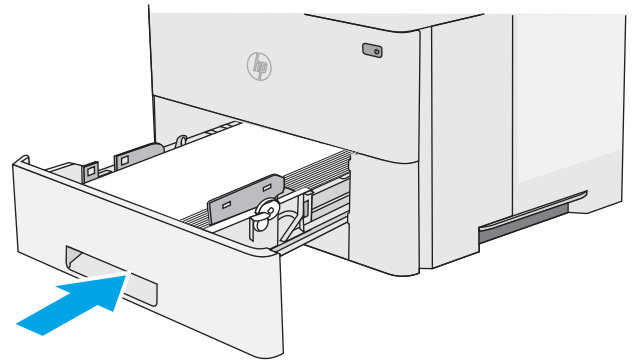
3. Remove any jammed paper.



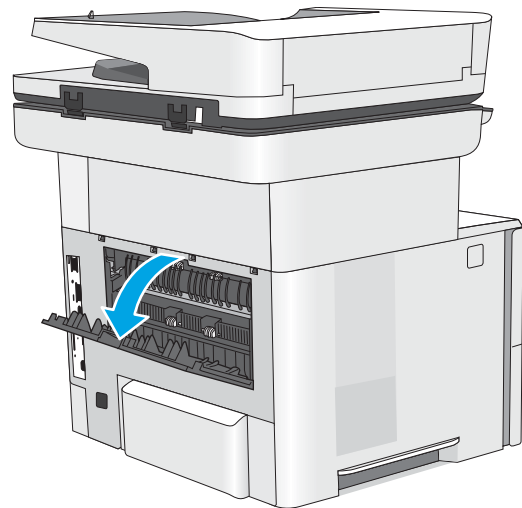
4. Close the duplex pan.



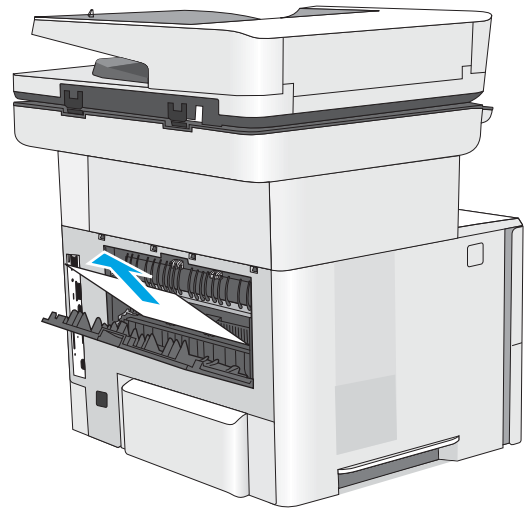
5. Reinsert and close the tray.



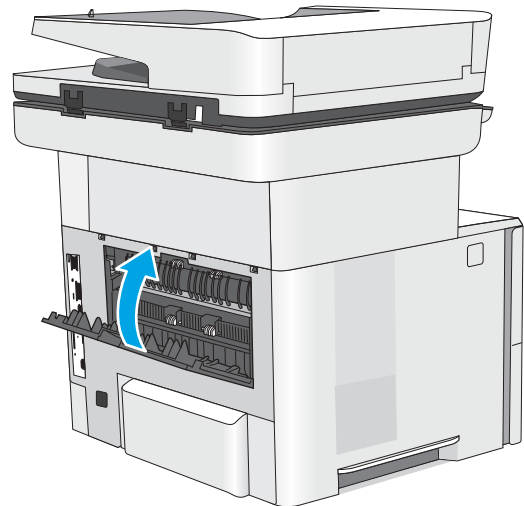
6. Open the rear door.



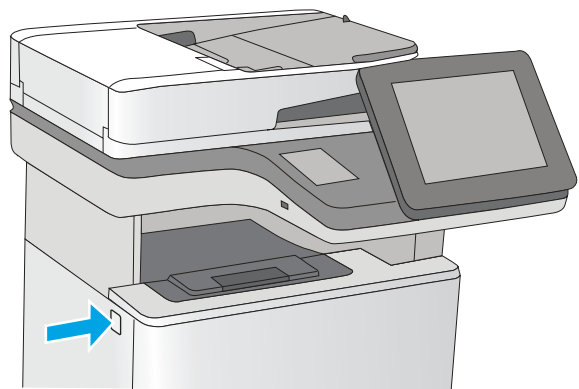
7. Remove any jammed paper.



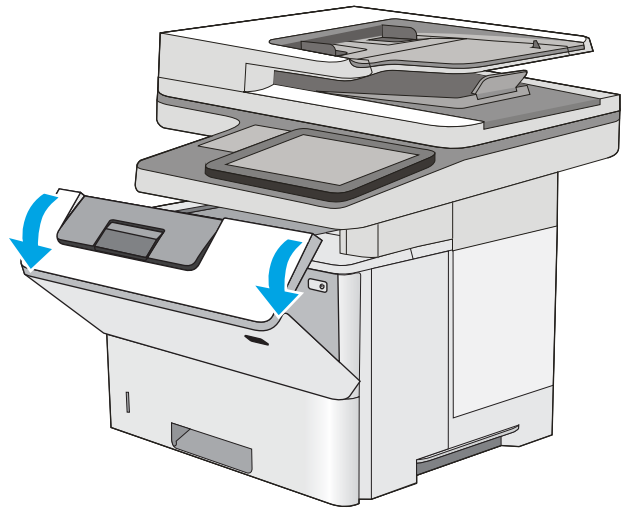
8. Close the rear door



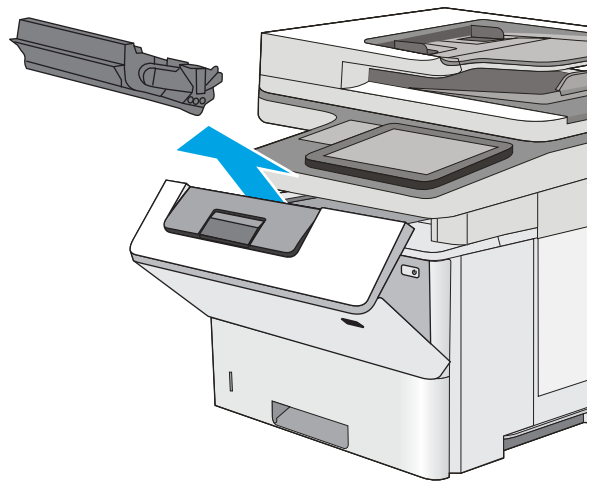
9. Press the top-cover-release button on the left side of the printer.



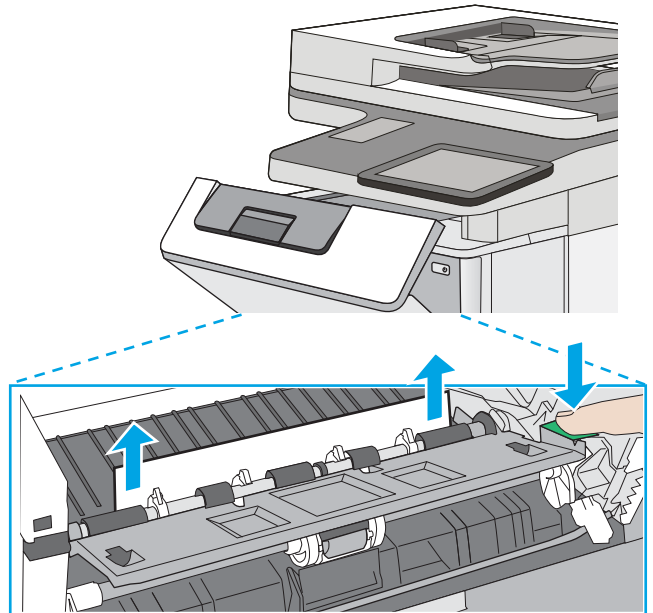
**10.** Open the front door.



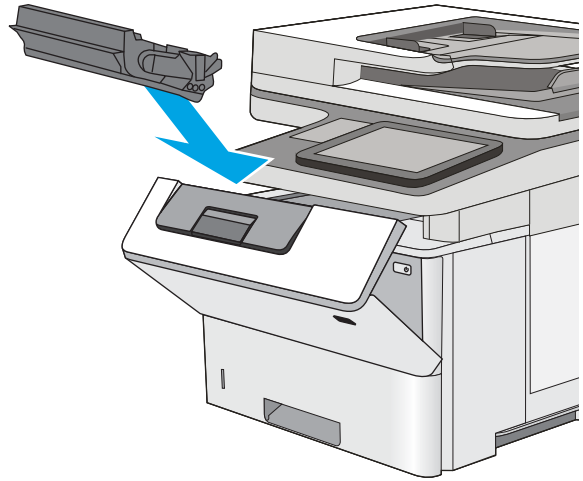
**11.** Remove the toner cartridge.



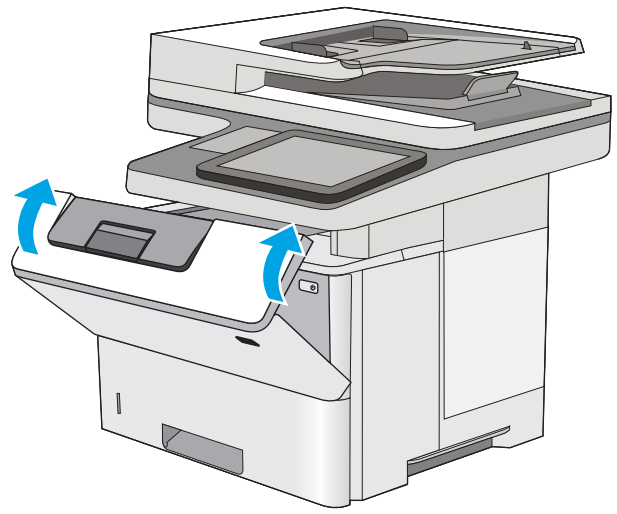
**12.** Lift the jam-access cover and slowly remove any jammed paper. Be careful not to tear the paper.



13. Reinsert the toner cartridge.



14. Close the front door.





## Change jam recovery (M506/M527)

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

### Change jam recovery from a touchscreen control panel

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



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**NOTE:** Some pages can be lost if the printer runs out of paper while printing a duplex job with Jam Recovery set to [Off](#).

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- [On](#) — The printer always reprints jammed pages. Additional memory is allocated to store the last few pages printed.

### Change jam recovery from a LCD control panel

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



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**NOTE:** Some pages can be lost if the printer runs out of paper while printing a duplex job with Jam Recovery set to [Off](#).

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- [On](#) — The printer always reprints jammed pages. Additional memory is allocated to store the last few pages printed.

## Solve performance problems



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

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

- [Factors affecting print performance](#)
- [Print speeds](#)
- [The printer does not print or it prints slowly](#)
- [The printer prints slowly](#)

## Factors affecting print performance

**Table 2-72 Solve performance problems**

| Problem  | Cause  | Solution  |
|--|--|---|
| Pages print but are totally blank.   | The document might contain blank pages.  | Check the original document to see if content is present on all of the pages.   |
|  | The printer might be malfunctioning.   | To check the printer, print a Configuration page.   |
|  | Make sure that the printer is not feeding multiple pages (especially if very thin paper is used).  | Make sure that the paper meets HP specifications for this printer.<br><br>For a complete list of specific HP-brand paper that this printer supports, go to <a href="http://www.hp.com/support/ljM501">www.hp.com/support/ljM501</a> , <a href="http://www.hp.com/support/ljM506">www.hp.com/support/ljM506</a> , <a href="http://www.hp.com/support/ljM527MFP">www.hp.com/support/ljM527MFP</a> . |
| Pages print very slowly.<br><br><b>NOTE:</b> Some software programs process print jobs slowly. | Heavier paper types can slow the print job.  | Print on a different type of paper.   |
|  | Complex pages can print slowly.<br><br>Large batches, narrow paper, and special paper such as gloss, transparency, cardstock, and HP Tough Paper can slow the print job. | Proper fusing might require a slower print speed to ensure the best print quality.<br><br>Print in smaller batches, on a different type of paper, or on a different size of paper.  |
| Pages did not print.   | The printer might not be pulling paper correctly.  | Make sure paper is loaded in the tray correctly.  |
|  | The paper is jamming in the printer.   | Clear the jam.  |
|  | The USB cable might be defective or incorrectly connected.   | <ul style="list-style-type: none"><li>• Disconnect the USB cable at both ends and reconnect it.</li><li>• Try printing a job that has printed in the past.</li><li>• Try using a different USB cable.</li></ul>   |

**Table 2-72 Solve performance problems (continued)**

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

## Print speeds

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

- Page formatting time

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

- Media size

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

- Media mode

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

- Printer temperature

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

- Other print speed reduction factors

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

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

## The printer does not print or it prints slowly

### The printer does not print

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

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

## The printer prints slowly

### The printer prints slowly

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

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

# Solve connectivity problems

- [Solve USB connection problems](#)
- [Solve wired network problems](#)

## Solve USB connection problems

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

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

## Solve wired network problems

### Introduction

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

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



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

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### Poor physical connection

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

## The computer is using the incorrect IP address for the printer

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

## The computer is unable to communicate with the printer

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

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

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

## New software programs might be causing compatibility problems

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

## The computer or workstation might be set up incorrectly

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

## The printer is disabled, or other network settings are incorrect

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

# Service mode functions (M501)

## Service menu

Use the control-panel [Service](#) menu to troubleshoot printer problems.

## Service menu settings

The [Service](#) menu is used to adjust print settings, restore factory default settings, and clean the print paper path.

The following [Service](#) menu items are available:

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



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

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

## Restore the factory-set defaults

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

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





The printer automatically restarts.

## Secondary service menu (M501)

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

### Open the secondary service menu (M501)

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


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



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

### Secondary service menu structure (M501)

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

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




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

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

## Printer resets (M501)

### NVRAM initialization (M501)

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

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

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

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

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

# Service mode functions (M506/M527)

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

## Service menu (M506/M527)

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



**NOTE:** The printer automatically exits the [Service](#) menu after about one minute if no items are selected or changed.

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

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

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

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



**NOTE:** After entering the PIN, press the [OK](#) button.

- 10050615 (M506)
- 11052715 (M527)

The following menu items appear in the [Service](#) menu:

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

| First level                     | Second level          | Value | Description                                   |
|---------------------------------|-----------------------|-------|---|
| <a href="#">Event Log</a>       | <a href="#">Print</a> |       | Print or view the event log.                  |
| <a href="#">Clear Event Log</a> | <a href="#">Clear</a> |       | Use this item to clear the printer event log. |

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

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

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

| First level                        | Second level                  | Value  | Description  |
|------------------------------------|-------------------------------|--|--|
| Scanner Settings (M527 only)       | ADF Settings                  | Leading edge front   | Set the calibration values.  |
|                                    |                               | Leading edge back  | <b>WARNING!</b> Do not change these values unless instructed to do so.   |
|                                    |                               | Trailing edge front  |  |
|                                    |                               | Trailing edge back   |  |
|                                    |                               | Left side front  |  |
|                                    |                               | Left side back   |  |
|                                    | Glass Settings                | Leading edge glass   |  |
|                                    |                               | Left Side Glass  |  |
| Serial Number                      |                               |  | Set the serial number.   |
| Service ID                         |                               |  | Use this item to show the date that the printer was first used on the control panel. This eliminates the need for users to keep paper receipts for proof of warranty.  |
| Cold Reset Paper                   |                               |  | When you perform a cold reset, the paper size that is stored in NVRAM is reset to the default factory setting. If you replace a formatter board in a country/region that uses A4 as the standard paper size, use this menu to reset the default paper size to A4. LETTER and A4 are the only available values. |
| Low Alerts                         |                               | Enable<br>Disable  | Turn on (or off) low alerts (for supplies).  |
| Reset Low Alerts                   |                               | <ul style="list-style-type: none"> <li>Reset to level 1</li> <li>Reset to level 2</li> <li>Reset to level 3</li> <li>Set to non-HP managed mode</li> </ul> |  |
| PTT Test Mode                      |                               |  | Test the internal modem for the analog fax accessory.  |
| <b>NOTE:</b> M527 fax models only. | Hook Operations               | Off Hook<br>On Hook  |  |
|                                    | Generate Random Data          | Select a value from the list.  |  |
|                                    | Generate DTMF Tone Burst      | Select a value from the list.  |  |
|                                    | Generate DTMF Continuous Tone | Select a value from the list.  |  |

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

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

## Printer resets (M506/M527)

### Restore factory-set defaults (M506/M527)

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

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

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

- [General Settings](#)
  - [Restore Factory Settings](#)
3. A verification message advises that completing the reset function might result in loss of data. Touch the [Reset](#) button to complete the process.

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

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

### Restore the service ID (M506/M527)

#### Restore the service ID

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

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

#### Convert the service ID to an actual date

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

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

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

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



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

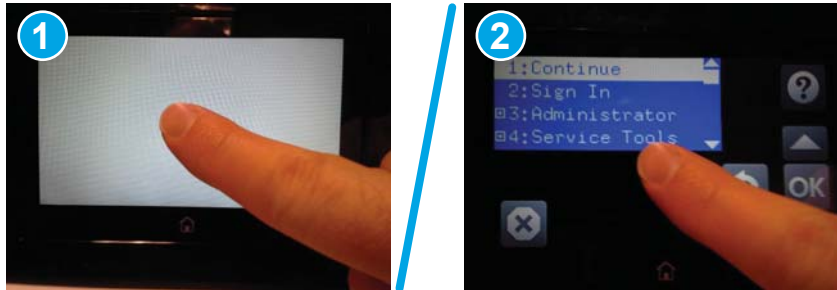
## Printer cold reset (M506/M527)

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

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

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

**Figure 2-160** Open the Pre-boot menu




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

**NOTE:** The printer will initialize.

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

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

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

**NOTE:** The printer will initialize.

## Format Disk and Partial Clean functions (M506/M527)

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

---

### Active and repository firmware locations


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

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

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

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

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

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

---

### Partial Clean

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

#### Characteristics of a Partial Clean


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

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

---

#### Reasons for performing Partial Clean

- The printer continually boots up in an error state.

 **NOTE:** Try clearing the error prior to executing a [Partial Clean](#).

---

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



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

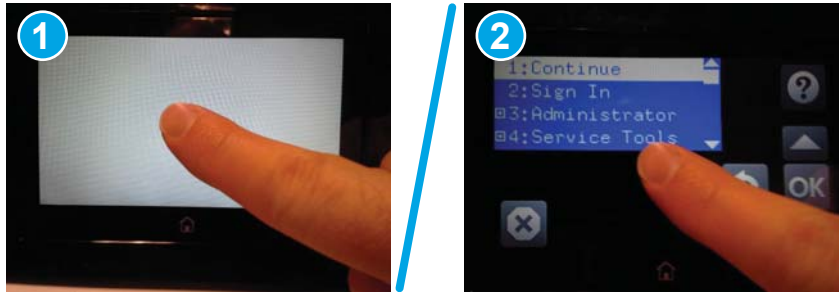
## Execute a Partial Clean

### Execute a Partial Clean from a touchscreen control panel

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

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

**Figure 2-161** Open the Pre-boot menu




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

**NOTE:** The printer initializes.

### Execute a Partial Clean from a LCD control panel

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

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

**NOTE:** The printer initializes.

## Format Disk

The **Format Disk** option erases the entire disk drive.

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

## Characteristics of a Format Disk

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



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

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



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

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

## Reasons for performing Format Disk

- The printer continually boots up in an error state.



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

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

## Execute a Format Disk

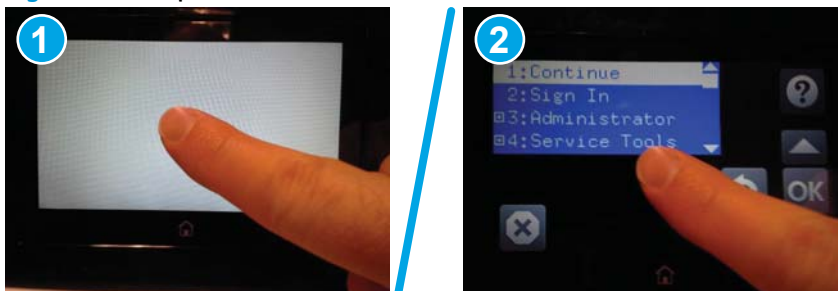
### Execute a Format Disk from a touchscreen control panel



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

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

**Figure 2-162** Open the Pre-boot menu



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



---

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




---

### Execute a Format Disk from a LCD control panel



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

---

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



---

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

---

# Firmware upgrades (M501)

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

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

## Determine the installed revision of firmware (M501)

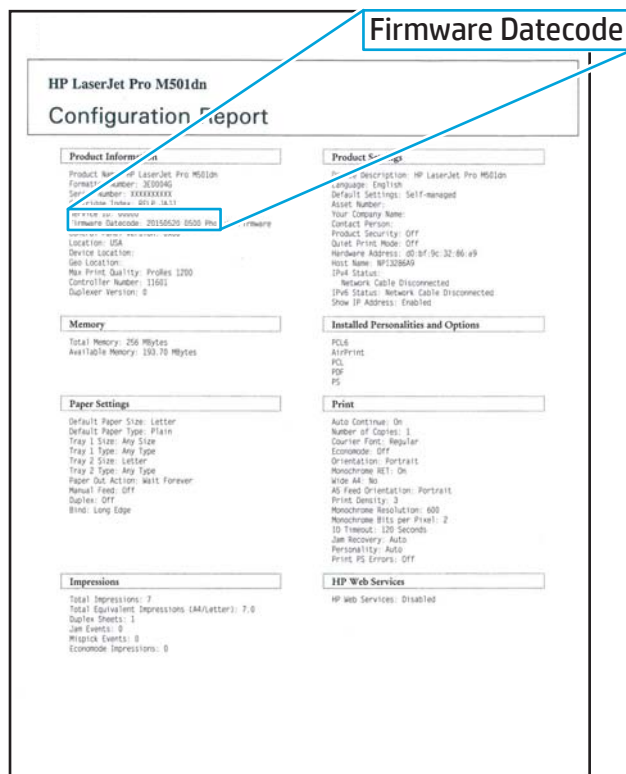


**NOTE:** Print a configuration page to determine the installed revision of firmware.

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

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

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




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

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

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

---

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

---

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


---

 **NOTE:** If the [LaserJet Update](#) option is not listed, use method two.

---

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

---

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

---

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

From the Home screen on the printer control panel, open the [Setup](#) menu.

- For standard control panels, press the left or right arrow button.

Scroll to and open the [Service](#) menu, open the [LaserJet Update](#) menu, and then select the [Manage Updates](#) menu.


Set the printer to automatically update the firmware.

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

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

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


---

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

---

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

---

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

---

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

## Firmware upgrades (M506/M527)

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

- In the US, go to [www.hp.com/support/ljM501](http://www.hp.com/support/ljM501), [www.hp.com/support/ljM506](http://www.hp.com/support/ljM506), [www.hp.com/support/ljM527MFP](http://www.hp.com/support/ljM527MFP).

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



---

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

---

- b. Select the driver language and operating system.
- c. Locate the firmware download, and then select **Download**.

- Outside the U.S., go to [www.hp.com/support](http://www.hp.com/support).

- a. Select your country/region.
- b. Select **Drivers & Downloads**.
- c. Enter the product name in the **Find my product** dialogue box, and then select **Go**.



---

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

---

- d. Select the appropriate product by name.



---

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

---

- e. Select the driver language and operating system.
- f. Locate the firmware download, and then select **Download**.

- [Determine the installed revision of firmware \(M506/M527\)](#)
- [Perform a firmware upgrade \(M506/M527\)](#)

## Determine the installed revision of firmware (M506/M527)



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

---

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

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

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

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

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

Configuration Page
HP LaserJet M506
-page 1

**Device Information**

Product Name: HP LaserJet M506  
 Device Name: LaserJet M506  
 Model Number: C4103A  
 DC Controller Version: 1.102  
 Serial Number: XXXXXXXXX  
 Meter Number: XXXXXXXXX

**Firmware Revision: Z327632\_482546**

HP FutureSmart Level: HP FutureSmart 3  
 MFC revision: Not installed  
 Service ID: 25622  
 Maintenance Kit Interval: 225000  
 Pages Since Last Maintenance: 0  
 PS Wait Time out: 300 seconds  
 Engine Cycles: 0  
 \*Not weighted for billing

**Installed Personalities and Options**

FD: 20010402  
 FDI: 20010402  
 PDI: 20010402  
 PDI: 20010402  
 AUI: 20010402  
 Internal Disk: Hard Disk: Enabled  
 Serial Number: 88100307  
 Model: Toshiba 326400  
 Capacity: 3276 MB  
 Hard Disk Encryption Status: Disk cannot be encrypted  
 HP Printer Trusted Platform Module: Enabled  
 Firmware: 03.02.149.32  
 (X) ThunderPrint  
 C4103A0636313A0F476F96139E7C5A038A9  
 C5K ThunderPrint  
 Z327632\_482546  
 Embedded HP JetDirect 4.0, MFC7420  
 Wireless HP JetDirect J8100C 0.0.0.0

**HP Web Services**

HP web Services: Disabled  
 ePrint: Disabled

**Memory**

Total RAM: 512 MB

**Event Log**

Number of Entries in Use: 17  
 Three Most Recent Entries:

| Number | Cycles | Event    |
|--------|--------|----------|
| 17     | 1      | 18:09:40 |
| 16     | 1      | 18:02:02 |
| 15     | 7      | 18:02:02 |

**Security**

Hard Disk Encryption Status:  
 Internal Disk: Disk cannot be encrypted  
 Job Data Encryption Status: Encrypted (AES-128)  
 Job Data Persistence: [Controlled]  
 File Erase Mode: Non-Secure Fast Erase (No Overwrite)  
 Control Panel Password: Disabled  
 Support Key: WSP-1995-0316  
 Host USB plug and play: Enabled  
 Device USB: Enabled

**Paper Trays and Options**

Default Paper Size: Letter  
 Tray 1 Size: Any Size  
 Tray 1 Type: Any Type  
 Tray 2 Size: Letter  
 Tray 2 Type: Plain  
 1. Output Bin 1: 100 Sheets, Standard bin (correct order)  
 2. Output Bin 2: 100 Sheets, Rear bin (straightest path)

Apr/27/2008 6:08:50 PM

English (United States)



## Perform a firmware upgrade (M506/M527)

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

### HP Embedded Web Server (M506/M527)



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

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

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




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

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

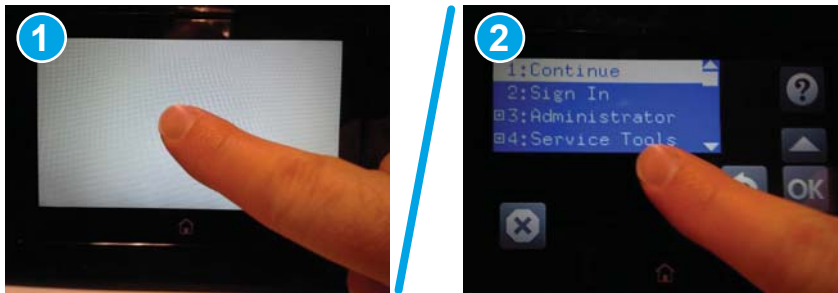
## USB flash drive (Pre-boot menu) (M506/M527)

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

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

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


**Figure 2-165** Open the Pre-boot menu




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

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


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

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

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

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

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

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

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



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

---

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



---

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

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

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7. When the message **Complete** displays on the control-panel display, turn the printer power off, and then on again.
8. When the upgrade process is complete, print a configuration page and verify that the upgrade firmware version was installed.

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

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

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

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

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

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

7. Select one of the following options:

- [Upgrade](#)


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

- [Re-install](#)
- [Downgrade](#)

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

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

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

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

## Solve email problems (M527)

If [Scan to E-mail](#) problems occur, try these solutions:

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

### Cannot connect to the email server (M527)

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

### Validate the SMTP gateway (Windows) (M527)

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

### Validate the LDAP gateway (Windows) (M527)

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



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# A Printer specifications

- [Printer dimensions](#)
- [Printer space requirements](#)
- [Power consumption, electrical specifications, and acoustic emissions](#)
- [Operating-environment range](#)
- [Certificate of Volatility](#)

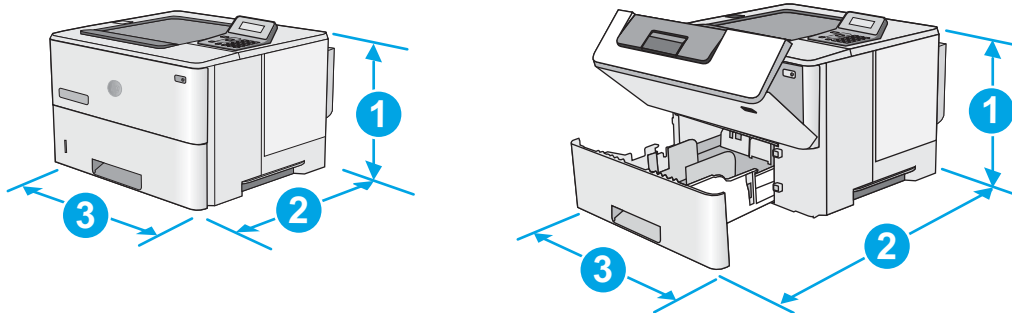
# Printer dimensions

- [HP LaserJet Enterprise M501 dimensions](#)
- [HP LaserJet Enterprise M506 dimensions](#)
- [HP LaserJet Enterprise MFP M527 dimensions](#)

## HP LaserJet Enterprise M501 dimensions

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

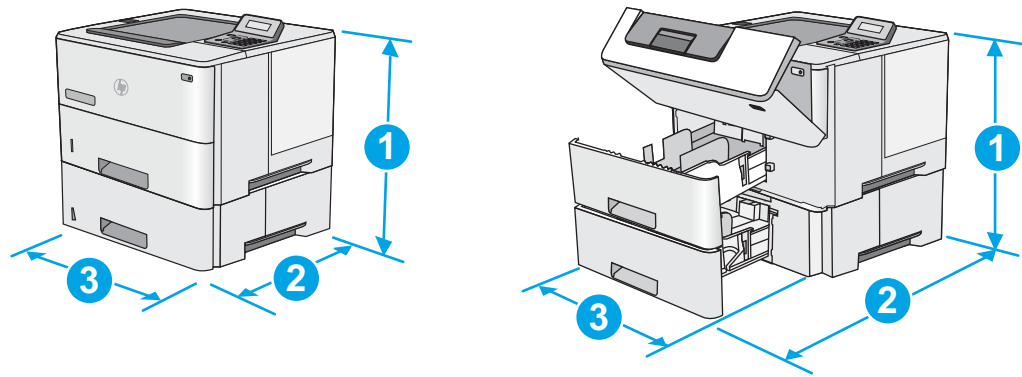
**Figure A-1** Dimensions for the base printer



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



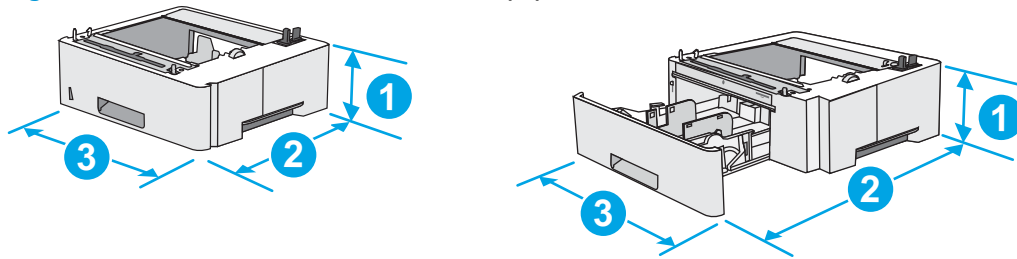
**Figure A-2** Dimensions for the printer with the 1 x 550-sheet paper feeder



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


<sup>1</sup> These values are subject to change. For current information, go to [www.hp.com/support/ljM501](http://www.hp.com/support/ljM501), [www.hp.com/support/ljM506](http://www.hp.com/support/ljM506), [www.hp.com/support/ljM527MFP](http://www.hp.com/support/ljM527MFP).

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

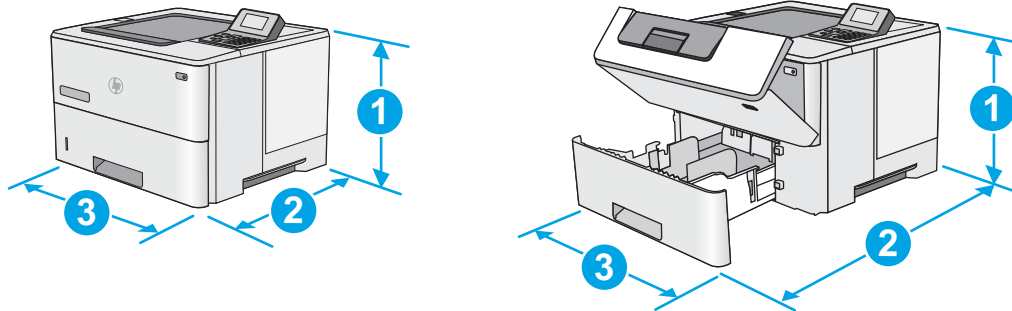


|           |  |
|-----------|--|
| 1. Height | 130 mm (5.1 in)  |
| 2. Depth  | Tray closed: 376 mm (14.8 in)<br>Tray opened: 569 mm (22.4 in) |
| 3. Width  | 410 mm (16.1 in)   |
| Weight    | 3.8 kg (8.4 lb)  |

## HP LaserJet Enterprise M506 dimensions

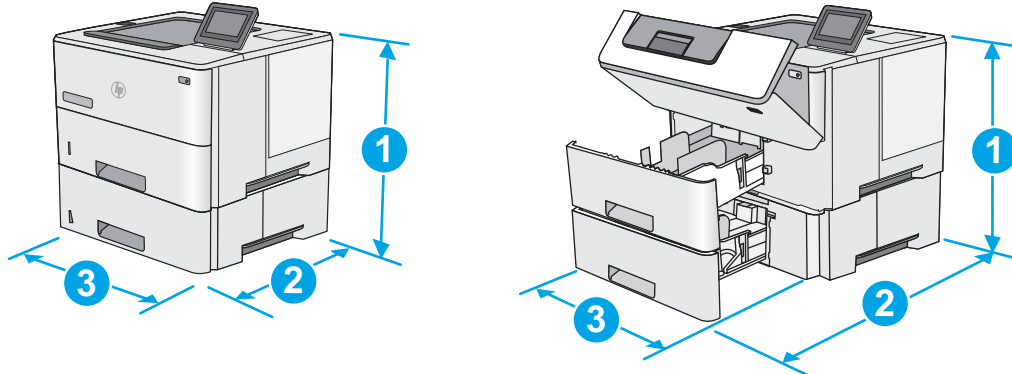
 **NOTE:** An optional 550-sheet paper feeder is available for this printer. The M506 printer supports up to three of these paper feeders at a time.

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



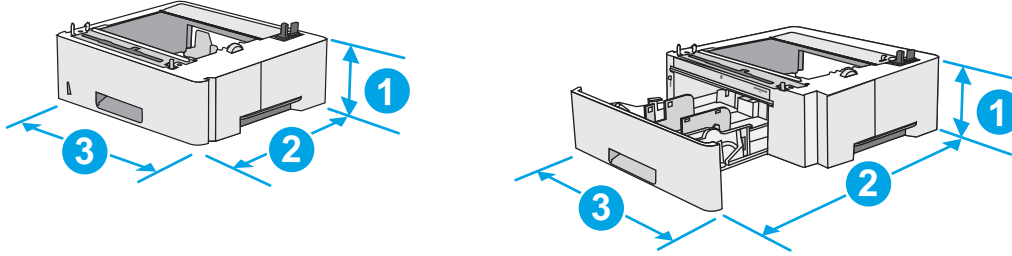
|           | Printer fully closed   | Printer fully opened |
|-----------|--|----------------------|
| 1. Height | 296 mm (11.7 in)   | 296 mm (11.7 in)     |
| 2. Depth  | Tray 2 dust cover closed: 376 mm (14.8 in)<br>Tray 2 dust cover open: 444 mm (17.5 in) | 569 mm (22.4 in)     |
| 3. Width  | 410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

**Figure A-5** M506 dimensions for the x model



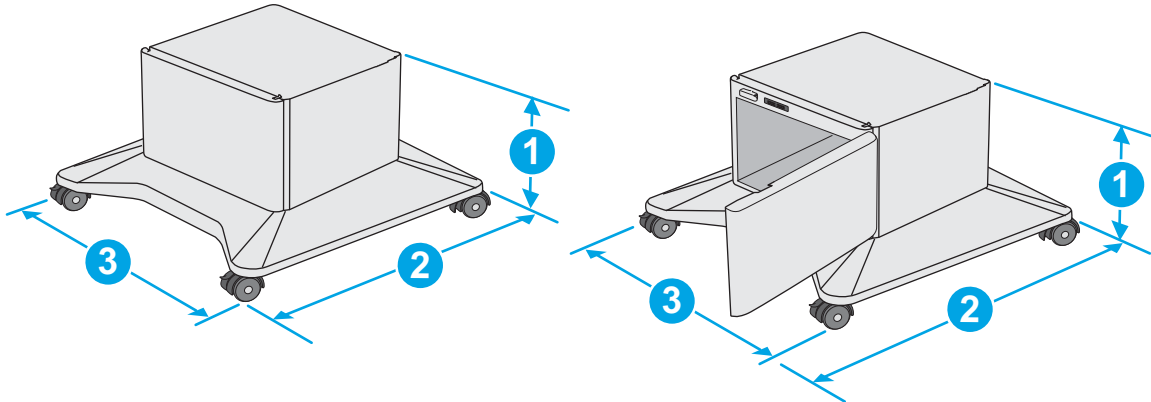
|           | Printer fully closed   | Printer fully opened |
|-----------|--|----------------------|
| 1. Height | 415 mm (16.3 in)   | 487 mm (19.2 in)     |
| 2. Depth  | Tray 2 dust cover closed: 376 mm (14.8 in)<br>Tray 2 dust cover open: 444 mm (17.5 in) | 569 mm (22.4 in)     |
| 3. Width  | 410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

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



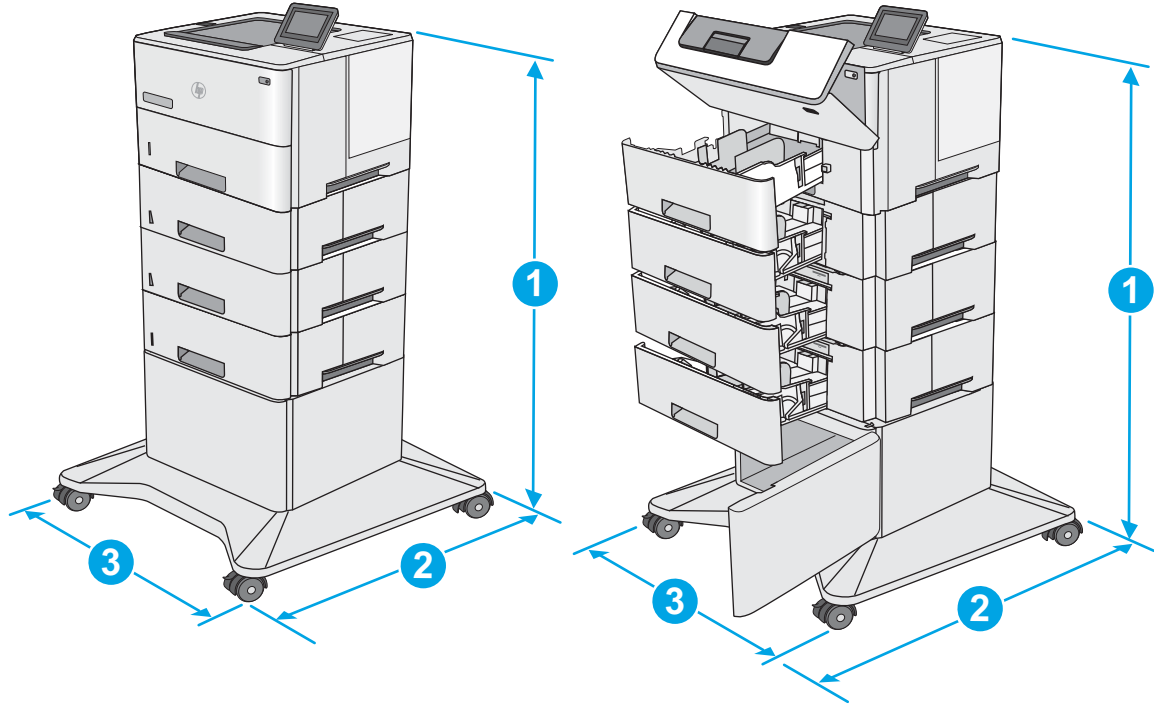
|           |  |
|-----------|--|
| 1. Height | 130 mm (5.1 in)  |
| 2. Depth  | Tray closed: 376 mm (14.8 in)<br>Tray opened: 569 mm (22.4 in) |
| 3. Width  | 410 mm (16.1 in)   |
| Weight    | 1.4 kg (3 lb)  |

**Figure A-7** Dimensions for the cabinet/stand



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


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



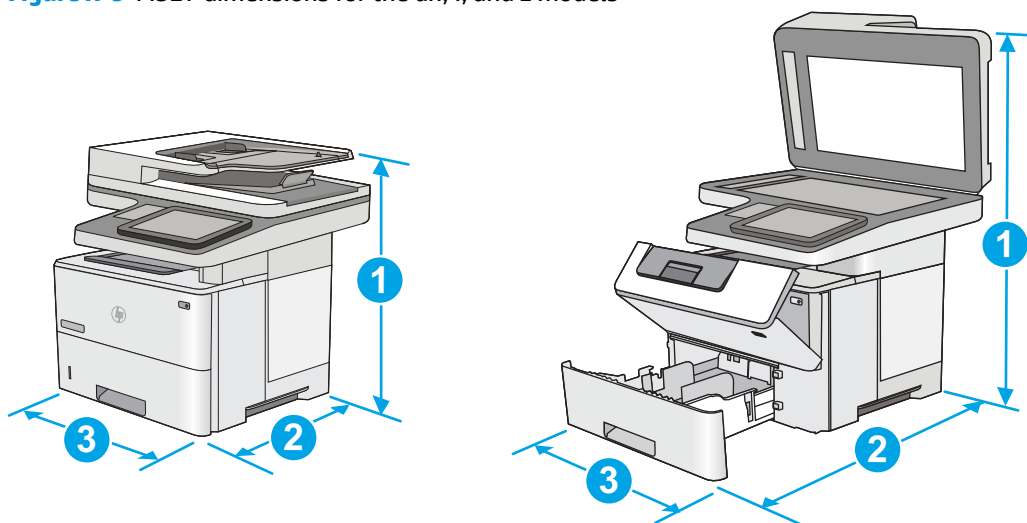
|           | <b>Printer and accessories fully closed</b> | <b>Printer and accessories fully opened<sup>1</sup></b> |
|-----------|---|---|
| 1. Height | 1067 mm (42.0 in)                           | 1067 mm (42.0 in)                                       |
| 2. Depth  | 632 mm (24.9 in)                            | 865 mm (34.0 in)  |
| 3. Width  | 600 mm (23.6 in)                            | 630 mm (24.8 in)  |
| Weight    | 25.2 kg (55.5 lb)                           |   |

<sup>1</sup> Do not extend more than one paper tray at a time.

## HP LaserJet Enterprise MFP M527 dimensions

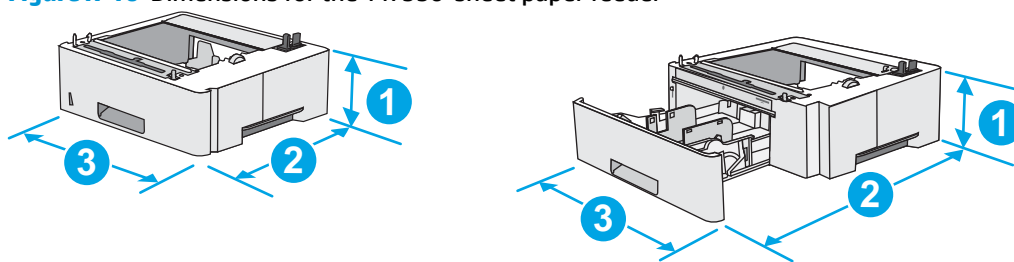
 **NOTE:** An optional 550-sheet paper feeder is available for this printer. The M527 printer supports up to three of these paper feeders at a time.

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



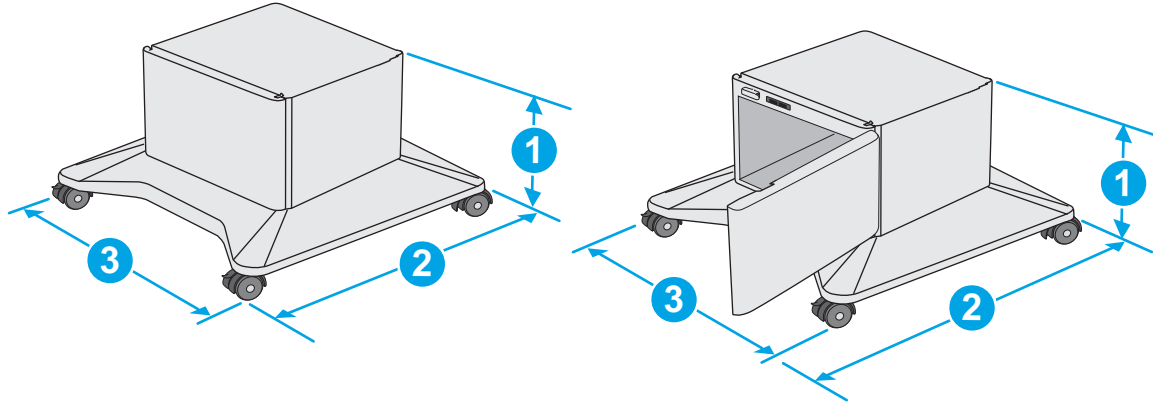
|           | Printer fully closed                       | Printer fully opened |
|-----------|--|----------------------|
| 1. Height | 497 mm (19.6 in)                           | 750 mm (29.5 in)     |
| 2. Depth  | Tray 2 dust cover closed: 496 mm (19.5 in) | 674 mm (26.5 in)     |
|           | Tray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

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



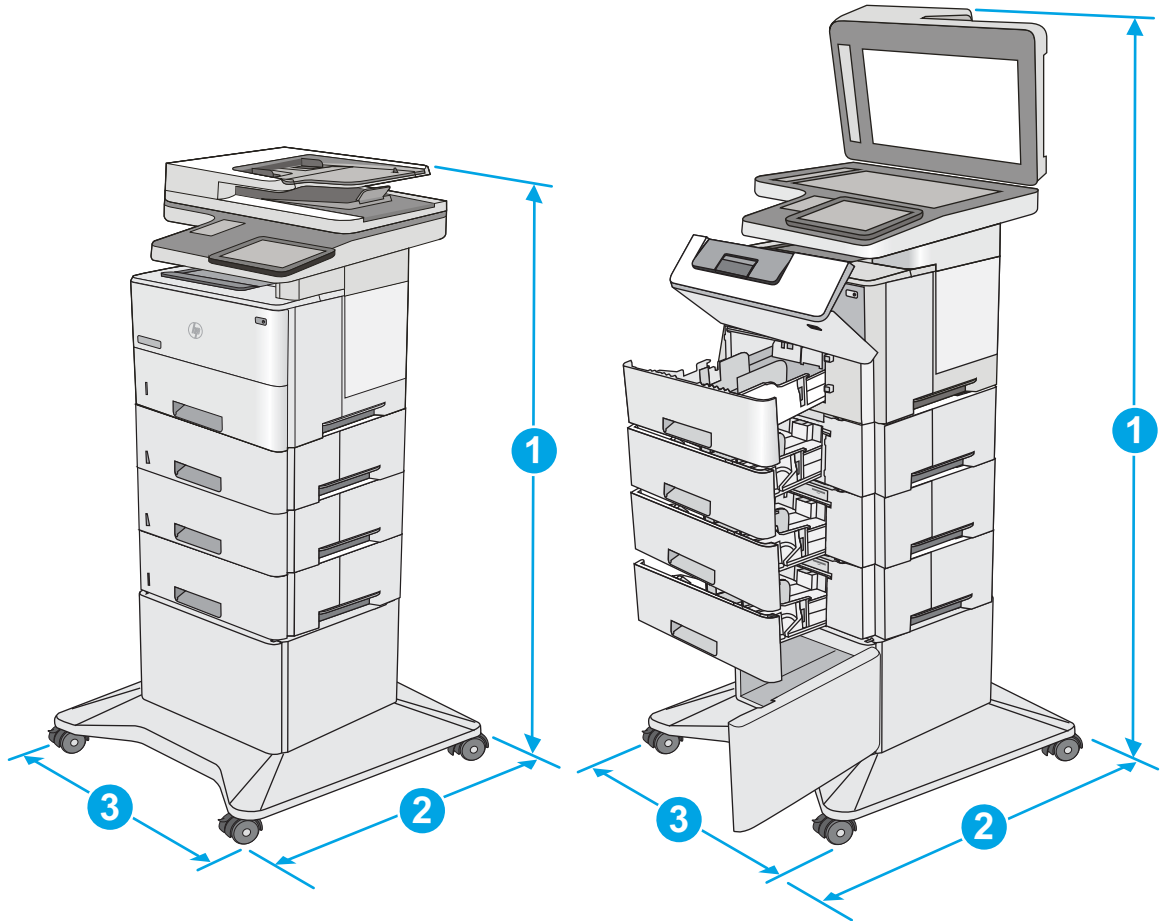
|           |                               |
|-----------|-------------------------------|
| 1. Height | 130 mm (5.1 in)               |
| 2. Depth  | Tray closed: 376 mm (14.8 in) |
|           | Tray opened: 569 mm (22.4 in) |
| 3. Width  | 410 mm (16.1 in)              |
| Weight    | 1.4 kg (3 lb)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

**Figure A-11** Dimensions for the cabinet/stand



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

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



|           | <b>Printer and accessories fully closed</b> | <b>Printer and accessories fully opened<sup>1</sup></b> |
|-----------|---|---|
| 1. Height | 1268 mm (49.9 in)                           | 1521 mm (59.9 in)                                       |
| 2. Depth  | 632 mm (24.9 in)                            | 865 mm (34.0 in)  |
| 3. Width  | 600 mm (23.6 in)                            | 630 mm (24.8 in)  |
| Weight    | 36.2 kg (79.8 lb)                           |   |

<sup>1</sup> Do not extend more than one paper tray at a time.

## Printer space requirements

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

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

## Power consumption, electrical specifications, and acoustic emissions

See [www.hp.com/support/www.hp.com/support/ljM501](http://www.hp.com/support/www.hp.com/support/ljM501), [www.hp.com/support/www.hp.com/support/ljM506](http://www.hp.com/support/www.hp.com/support/ljM506), [www.hp.com/support/ljM527MFP](http://www.hp.com/support/ljM527MFP) for current information.

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

## Operating-environment range

**Table A-1 Operating-environment specifications<sup>1</sup>**

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

<sup>1</sup> These values are subject to change. For current information, go to [www.hp.com/support/ljM501](http://www.hp.com/support/ljM501), [www.hp.com/support/ljM506](http://www.hp.com/support/ljM506), [www.hp.com/support/ljM527MFP](http://www.hp.com/support/ljM527MFP).



# Certificate of Volatility

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

| Hewlett-Packard Certificate of Volatility   |                |   |  |  |
|---|----------------|---|--|--|
| Model:<br>HP LaserJet Pro M501  |                | Part Number:<br>J8H60A=M501n<br>J8H61A=M501dn   |  | Address:<br>HP Development Company<br>11311 Chinden Blvd<br>Boise, ID 83714      |
| Volatile Memory   |                |   |  |  |
| Does the device contain volatile memory (Memory whose contents are lost when power is removed)?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe the type, size, function, and steps to clear the memory below         |                |   |  |  |
| Type (SRAM, DRAM, etc):   | Size:<br>256MB | User Modifiable:<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Function: Used for temporary storage during the processing of jobs and for applications running on the OS. | Steps to clear memory:<br>When the printer is powered OFF, the memory is erased. |
| Type (SRAM, DRAM, etc):   | Size:<br>256MB | User Modifiable:<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Function: Used for temporary storage during the processing of jobs and for applications running on the OS. | Steps to clear memory:<br>When the printer is powered OFF, the memory is erased. |
| Type (SRAM, DRAM, etc):   | Size:          | User Modifiable:<br><input type="checkbox"/> Yes <input type="checkbox"/> No            | Function:  | Steps to clear memory:   |
| Non-Volatile Memory   |                |   |  |  |
| Does the device contain non-volatile memory (Memory whose contents are retained when power is removed)?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe the type, size, function, and steps to clear the memory below |                |   |  |  |
| Type (Flash, EEPROM, etc):  | Size:<br>2GB   | User Modifiable:<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Function:<br>Device Firmware   | Steps to clear memory:   |
| Type (Flash, EEPROM, etc):  | Size:          | User Modifiable:<br><input type="checkbox"/> Yes <input type="checkbox"/> No            | Function:  | Steps to clear memory:   |
| Type (Flash, EEPROM, etc):  | Size:          | User Modifiable:<br><input type="checkbox"/> Yes <input type="checkbox"/> No            | Function:  | Steps to clear memory:   |
| Mass Storage  |                |   |  |  |
| Does the device contain mass storage memory (Hard Disk Drive, Tape Backup)?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes please describe the type, size, function, and steps to clear the memory below                             |                |   |  |  |
| Type (HDD, Tape, etc):  | Size:          | User Modifiable:<br><input type="checkbox"/> Yes <input type="checkbox"/> No            | Function:  | Steps to clear memory:   |
| Type (HDD, Tape, etc):  | Size:          | User Modifiable:<br><input type="checkbox"/> Yes <input type="checkbox"/> No            | Function:  | Steps to clear memory:   |
| USB   |                |   |  |  |
| Does the item accept USB input and if so, for what purpose (i.e Print Jobs, device firmware updates, scan upload)?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes please describe below  |                |   |  |  |
| The front USB host can accept print jobs, scan uploads, photos and can be used to upload printer firmware.  |                |   |  |  |
| Can any data other than scan upload be sent to the USB device?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe below  |                |   |  |  |
| Rear USB host when configured will accept stored jobs, encrypted files stored and deleted by user.  |                |   |  |  |

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

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

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

| Other Capabilities  |  |
|---|--|
| Does the device employ any other method of communications such as a Modem to transmit or receive any data whatsoever? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes please describe below: |  |
| Purpose:  |  |
| Specifications:   |  |

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

| HP Certificate of Volatility  |  |   |  |  |
|---|--|---|--|--|
| Model:<br>LaserJet Enterprise<br>M604, M605, M606   | Part Number:<br>M06n = F2A68A<br>M506dn = F2A69A<br>M506x = F2A70A | Address:<br>HP Development Company<br>11311 Chinden Blvd<br>Boise, ID 83714             |  |  |
| Volatile Memory   |  |   |  |  |
| Does the device contain volatile memory (Memory whose contents are lost when power is removed)?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe the type, size, function, and steps to clear the memory below         |  |   |  |  |
| Type (SRAM, DRAM, etc):<br>DRAM   | Size:<br>512MB   | User Modifiable:<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Function:<br>Operation system and print<br>buffer              | Steps to clear memory:<br>There are no steps to clear this data. |
| Type (SRAM, DRAM, etc):   | Size:  | User Modifiable:<br><input type="checkbox"/> Yes <input type="checkbox"/> No            | Function:  | Steps to clear memory:   |
| Type (SRAM, DRAM, etc):   | Size:  | User Modifiable:<br><input type="checkbox"/> Yes <input type="checkbox"/> No            | Function:  | Steps to clear memory:   |
| Non-Volatile Memory   |  |   |  |  |
| Does the device contain non-volatile memory (Memory whose contents are retained when power is removed)?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe the type, size, function, and steps to clear the memory below |  |   |  |  |
| Type (Flash, EEPROM, etc):<br>EEPROM  | Size:<br>32KB  | User Modifiable:<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Function:<br>Store customer setting data for<br>backup/restore | Steps to clear memory:<br>There are no steps to clear this data. |
| Type (Flash, EEPROM, etc):<br>SPI   | Size:<br>4MB   | User Modifiable:<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Function:<br>BIOS  | Steps to clear memory:<br>There are no steps to clear this data. |
| Type (Flash, EEPROM, etc):<br>None  | Size:  | User Modifiable:<br><input type="checkbox"/> Yes <input type="checkbox"/> No            | Function:  | Steps to clear memory:   |
| Mass Storage  |  |   |  |  |
| Does the device contain mass storage memory (Hard Disk Drive, Tape Backup)?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe the type, size, function, and steps to clear the memory below                             |  |   |  |  |
| Type (HDD, Tape, etc):<br>eMMC  | Size:<br>4GB   | User Modifiable:<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Function:<br>OS and user data                                  | Steps to clear memory:<br>Firmware update                        |
| Type (HDD, Tape, etc):<br>HDD   | Size:<br>320GB   | User Modifiable:<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Function:<br>OS and user data                                  | Steps to clear memory:<br>Firmware update                        |
| USB   |  |   |  |  |
| Does the item accept USB input and if so, for what purpose (i.e Print Jobs, device firmware updates, scan upload)?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe below  |  |   |  |  |
| Walk-up USB print   |  |   |  |  |
| Can any data other than scan upload be sent to the USB device)?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes please describe below   |  |   |  |  |

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

| RF/RFID   |  |                                |                         |
|---|--|--------------------------------|-------------------------|
| Does the item use RF or RFID for receive or transmit of any data including remote diagnostics. (e.g. Cellular phone, Bluetooth) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes please describe below  |  |                                |                         |
| Purpose   |  |                                |                         |
| Frequency:)   |  | Bandwidth:                     |                         |
| Modulation:   |  | Effective Radiate Power (ERP): |                         |
| Specifications:   |  |                                |                         |
| Other Transmission Capabilities   |  |                                |                         |
| Does the device employ any other methods of non-wired access to transmit or receive any data whatsoever (e.g. anything other than standard hard wired TCP/IP, direct USB, or parallel connections)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe below: |  |                                |                         |
| Purpose: Wireless direct print.   |  |                                |                         |
| Frequency: 2.4Ghz   |  | Bandwidth:                     |                         |
| Modulation:   |  | Effective Radiate Power (ERP): |                         |
| Specifications: 802.11 b/g/n  |  |                                |                         |
| Other Capabilities  |  |                                |                         |
| Does the device employ any other method of communications such as a Modem to transmit or receive any data whatsoever? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe below:   |  |                                |                         |
| Purpose: NFC; to support tap to print only  |  |                                |                         |
| Specifications: NFC Tag Type 4 ISO 14443B   |  |                                |                         |
| Author Information  |  |                                |                         |
| Name:   | Title:<br>Security Technical<br>Marketing Engineer | Email:                         | Business Unit:<br>IPG   |
|   |  |                                | Date Prepared: 06/29/15 |

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

| HP Certificate of Volatility  |                 |   |  |   |
|---|-----------------|---|--|---|
| Model:<br>LaserJet Enterprise<br>M604, M605, M606   |                 | Part Number:<br>M527dn = F2A76A<br>M527f = F2A77A<br>M527z = F2A78A                     |  | Address:<br>HP Development Company<br>11311 Chinden Blvd<br>Boise, ID 83714 |
| Volatile Memory   |                 |   |  |   |
| Does the device contain volatile memory (Memory whose contents are lost when power is removed)?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe the type, size, function, and steps to clear the memory below         |                 |   |  |   |
| Type (SRAM, DRAM, etc):<br>DRAM   | Size:<br>1792MB | User Modifiable:<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Function:<br>Operation system and print<br>buffer              | Steps to clear memory:<br>There are no steps to clear this data.            |
| Type (SRAM, DRAM, etc):   | Size:           | User Modifiable:<br><input type="checkbox"/> Yes <input type="checkbox"/> No            | Function:  | Steps to clear memory:  |
| Type (SRAM, DRAM, etc):   | Size:           | User Modifiable:<br><input type="checkbox"/> Yes <input type="checkbox"/> No            | Function:  | Steps to clear memory:  |
| Non-Volatile Memory   |                 |   |  |   |
| Does the device contain non-volatile memory (Memory whose contents are retained when power is removed)?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe the type, size, function, and steps to clear the memory below |                 |   |  |   |
| Type (Flash, EEPROM, etc):<br>EEPROM  | Size:<br>32KB   | User Modifiable:<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Function:<br>Store customer setting data for<br>backup/restore | Steps to clear memory:<br>There are no steps to clear this data.            |
| Type (Flash, EEPROM, etc):<br>SPI   | Size:<br>4MB    | User Modifiable:<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Function:<br>BIOS  | Steps to clear memory:<br>There are no steps to clear this data.            |
| Type (Flash, EEPROM, etc):<br>None  | Size:           | User Modifiable:<br><input type="checkbox"/> Yes <input type="checkbox"/> No            | Function:  | Steps to clear memory:  |
| Mass Storage  |                 |   |  |   |
| Does the device contain mass storage memory (Hard Disk Drive, Tape Backup)?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe the type, size, function, and steps to clear the memory below                             |                 |   |  |   |
| Type (HDD, Tape, etc):<br>eMMC  | Size:<br>16GB   | User Modifiable:<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Function:<br>OS and user data                                  | Steps to clear memory:<br>Firmware update                                   |
| Type (HDD, Tape, etc):<br>HDD   | Size:<br>320GB  | User Modifiable:<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Function:<br>OS and user data                                  | Steps to clear memory:<br>Firmware update                                   |
| USB   |                 |   |  |   |
| Does the item accept USB input and if so, for what purpose (i.e Print Jobs, device firmware updates, scan upload)?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe below  |                 |   |  |   |
| Walk-up USB print   |                 |   |  |   |
| Can any data other than scan upload be sent to the USB device)?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes please describe below   |                 |   |  |   |

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

| RF/RFID   |  |                                |                         |
|---|--|--------------------------------|-------------------------|
| Does the item use RF or RFID for receive or transmit of any data including remote diagnostics. (e.g. Cellular phone, Bluetooth) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes please describe below  |  |                                |                         |
| Purpose   |  |                                |                         |
| Frequency:)   |  | Bandwidth:                     |                         |
| Modulation:   |  | Effective Radiate Power (ERP): |                         |
| Specifications:   |  |                                |                         |
| Other Transmission Capabilities   |  |                                |                         |
| Does the device employ any other methods of non-wired access to transmit or receive any data whatsoever (e.g. anything other than standard hard wired TCP/IP, direct USB, or parallel connections)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe below: |  |                                |                         |
| Purpose: Wireless direct print.   |  |                                |                         |
| Frequency: 2.4Ghz   |  | Bandwidth:                     |                         |
| Modulation:   |  | Effective Radiate Power (ERP): |                         |
| Specifications: 802.11 b/g/n  |  |                                |                         |
| Other Capabilities  |  |                                |                         |
| Does the device employ any other method of communications such as a Modem to transmit or receive any data whatsoever? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe below:   |  |                                |                         |
| Purpose: NFC; to support tap to print only  |  |                                |                         |
| Specifications: NFC Tag Type 4 ISO 14443B   |  |                                |                         |
| Author Information  |  |                                |                         |
| Name:   | Title:<br>Security Technical<br>Marketing Engineer | Email:                         | Business Unit:<br>IPG   |
|   |  |                                | Date Prepared: 06/29/15 |



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