

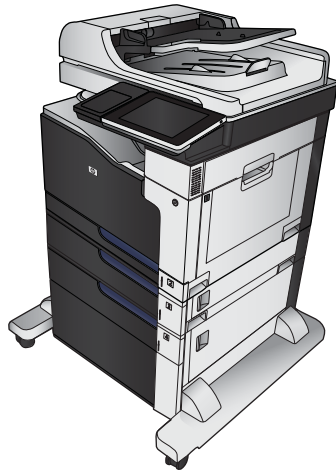


LASERJET ENTERPRISE 700 COLOR MFP

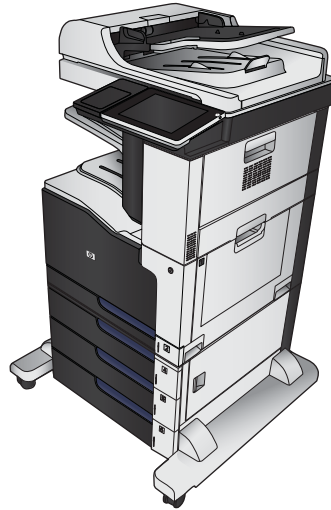
Troubleshooting Manual



M775dn



M775f



M775z



M775z+



HP LaserJet Enterprise 700 color MFP M775

Troubleshooting Manual

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Conventions used in this guide

 **TIP:** Tips provide helpful hints or shortcuts.

 **NOTE:** Notes provide important information to explain a concept or to complete a task.

 **CAUTION:** Cautions indicate procedures that you should follow to avoid losing data or damaging the product.


 **WARNING!** Warnings alert you to specific procedures that you should follow to avoid personal injury, catastrophic loss of data, or extensive damage to the product.

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1 Theory of operation

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- [Laser/scanner system](#)
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- [1x500-sheet paper feeder](#)
- [1x500-sheet paper deck](#)
- [3x500-sheet paper deck](#)
- [3,500-sheet high-capacity input \(HCI\) feeder](#)

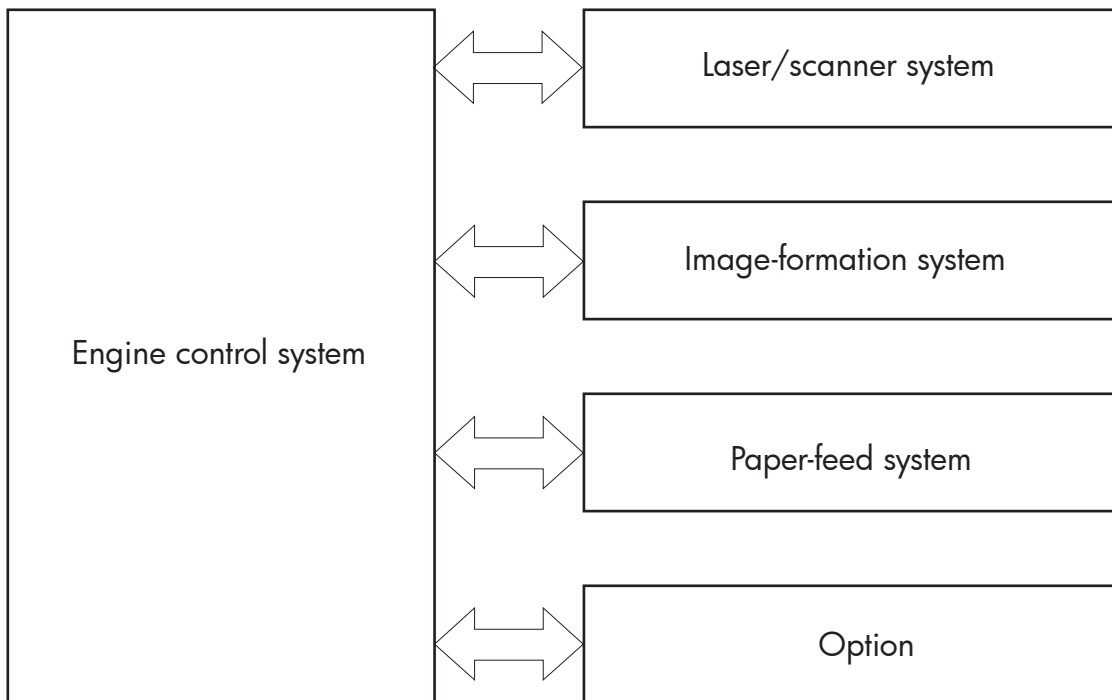
Basic operation

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

The basic product operation comprises the following systems:

- The engine-control system, which includes the power supply 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 paper feed system, which uses a system of rollers and belts to transport the paper through the product
- Options (optional input devices)

Figure 1-1 Relationship between the main product systems



Sequence of operation

The DC controller in the engine-control system controls the operational sequences of the product. The following table describes durations and operations for each period of a print operation from the time the product is turned on until the motor stops rotating.

Normal sequence of operation

Table 1-1 Sequence of operation (product base)

Name	Timing	Purpose
WAIT	From the time the power switch is turned on, the door is closed, or the product exits Sleep mode, until the product is ready for a print operation.	Brings the product to printable condition: <ul style="list-style-type: none">• Detects and heats the fuser• Detects the toner cartridge and any cartridge changes• Detects the ITB, and moves the intermediate transfer belt (ITB) and the developing unit to the home position• Cleans residual toner from the ITB and the secondary transfer roller
STBY (standby)	From the end of the WAIT or LSTR period until either a print command is sent or the power switch is turned off.	Maintains the product in printable condition: <ul style="list-style-type: none">• Enters Sleep mode if the sleep command is received• Performs a calibration if the calibration command is received
INTR (initial rotation)	From the time the print command is received until the product picks up a piece of paper.	Prepares for the print job <ul style="list-style-type: none">• Activates the high-voltage power supply• Activates the laser/scanner• Opens the laser shutter• Cleans the protective laser glass• Engages the print cartridges• Warms the fuser

Table 1-1 Sequence of operation (product base) (continued)

Name	Timing	Purpose
PRINT	From the end of the INTR period until the last sheet completes the fusing operation.	<p>Prints</p> <ul style="list-style-type: none">• Forms the image on the photosensitive drum• Transfers the toner image to the paper• Fuses the toner image to the paper
LSTR (last rotation)	From the end of the PRINT period until the main motor stops rotating.	<p>Moves the last printed sheet to the output bin</p> <ul style="list-style-type: none">• Stops the high-voltage power supply• Stops the laser/scanner• Closes the laser shutter• Cleans the protective laser glass• Disengages the print cartridges• Stops the fuser <p>The product enters the INTR period as the LSTR period is completed, if the formatter sends another print command.</p>

Formatter-control system

The formatter is responsible for the following procedures:

- Controlling sleep mode
- Receiving and processing print data from the various product interfaces
- Monitoring control-panel functions and relaying product-status information (through the control panel and the network or bidirectional interface)
- Developing and coordinating data placement and timing with the DC controller PCA
- Storing font information
- Communicating 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 mode



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 product has been idle for an adjustable period of time. When the product is in [Sleep Mode](#), the control-panel backlight is turned off, but the product retains all settings, downloaded fonts, and macros. The default setting is for [Sleep Mode](#) to be enabled, and the product enters [Sleep Mode](#) after a 30-minute idle time.

The product exits [Sleep Mode](#) and enters the warm-up cycle when any of the following events occur:

- A print job, valid data, or a PML or PJJL command is received
- A control-panel button is pressed
- A cover is opened
- A paper tray is opened
- The engine-test switch is pressed



NOTE: Product error messages override the Sleep message. The product enters [Sleep Mode](#) at the appropriate time, but the error message continues to appear.



TIP: When the product is in [Sleep Mode](#), the sub power supply is off and the low-voltage power supply is on. The scanner can not be used when the product is in [Sleep Mode](#).

Input/output

The product has three I/O interfaces:

- Hi-Speed USB 2.0
- 10/100/1000 Ethernet LAN connection with IPv4 and IPv6
- Easy-access USB printing (no computer required)

CPU

The formatter incorporates an 800 MHz processor.

Memory

The random access memory (RAM) on the formatter printed circuit assembly (PCA) contains the page, I/O buffers, and the font storage area. It stores printing and font information received from the host system, and can also serve to temporarily store a full page of print-image data before the data is sent to the print engine.



NOTE: If the product encounters a problem when managing available memory, a clearable warning message displays on the control-panel display.

Firmware

The firmware is contained in the hard disk drive (HDD). A remote firmware upgrade process is used to overwrite and upgrade the firmware on the HDD.

Nonvolatile memory

The product uses nonvolatile random access memory (NVRAM) to store device and user configuration settings. The contents of NVRAM are retained when the product is turned off or disconnected.

PJL overview

The printer job language (PJL) is an integral part of configuration, in addition to the standard printer command language (PCL). With standard cabling, the product can use PJL to perform a variety of functions.

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

- Context-sensitive switching. The product 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 product in landscape mode, the subsequent print jobs print in landscape mode only if they are formatted for landscape printing.

PML

The printer management language (PML) allows remote configuration and status read-back through the I/O ports.

Control panel

The control panel is an 8 inch full color SVGA (800 x 600 LCD) with capacitive touchscreen and adjustable viewing angle. The control panel includes an easy-access USB port for walk-up printing and a hardware integration pocket for third-party USB devices such as card readers.

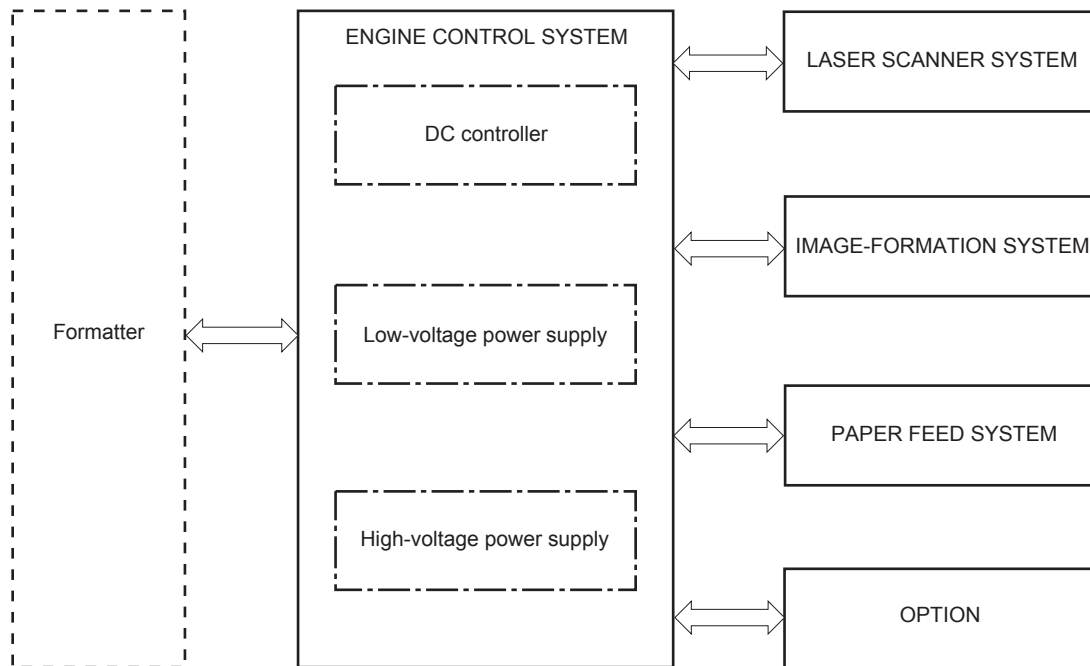
The control panel has a diagnostic mode to allow testing of the touchscreen, [Home](#) button, and [Speaker](#). The control panel does not require calibration.

Engine-control system

The engine-control system coordinates all product functions according to commands that the formatter sends. The engine-control system drives the laser/scanner system, the image formation system, and the pickup/feed/delivery system.

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

Figure 1-2 Engine-control system



DC controller

The DC controller controls the operational sequence of the printer.

Figure 1-3 DC controller block diagram

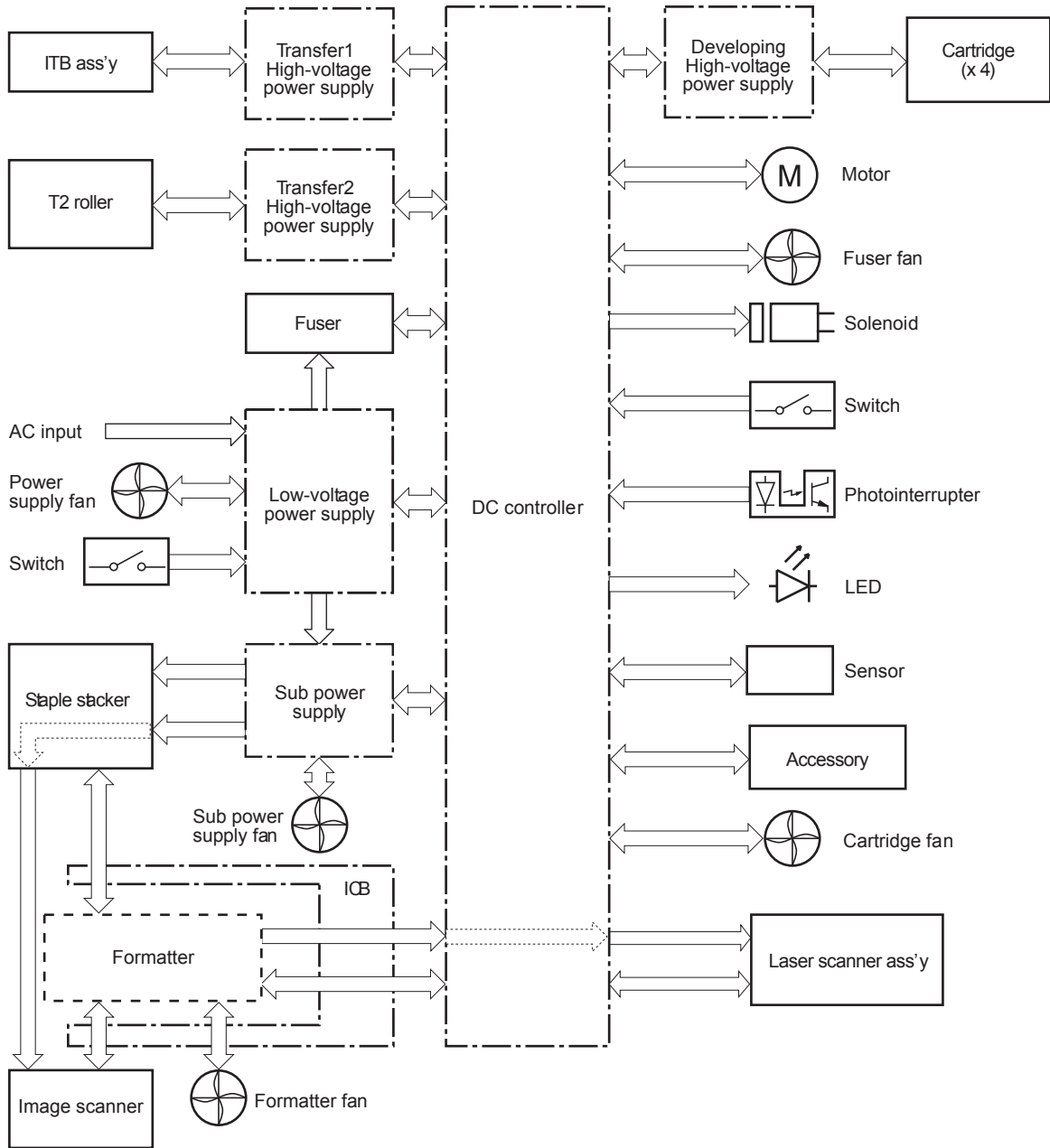


Table 1-2 Electrical components

Component type	Abbreviation	Name
Solenoid	SL1	Tray 2 cassette pickup solenoid
	SL2	Tray 1 (MP Tray) pickup solenoid
	SL3	Duplex reverse solenoid
	SL5	Primary transfer (T1) disengagement solenoid

Table 1-2 Electrical components (continued)

Component type	Abbreviation	Name
Switch	SW1	Power switch
	SW2	24V interlock switch
	SW3	5V interlock switch 1
	SW4	5V interlock switch 2
	SW5	Primary transfer (T1) disengagement switch
	SW6	Toner collection unit switch
	SW7	Tray 2 cassette media end switch
	SW8	Tray 2 cassette media width switch
Fan	FM1	Power supply fan
	FM2	Fuser fan
	FM3	Formatter fan
	FM4	Cartridge fan
	FM5	Sup power supply fan
Photointerrupter (sensor)	PS1	Tray 2 cassette paper out sensor
	PS2	Tray 1 (MP Tray) paper out sensor
	PS3	Last-paper sensor
	PS4	Tray 2 cassette paper-stack surface sensor
	PS5	Top-of-page (TOP) sensor
	PS6	Fuser delivery sensor
	PS7	Loop sensor 1
	PS8	Loop sensor 2
	PS9	Fuser pressure-release sensor
	PS10	Face-down output bin paper full sensor
	PS11	Developing disengagement sensor
	PS12	K drum home-position sensor
	PS13	Y/M/C drum home-position sensor
	PS14	Front door sensor
	PS15	Right door sensor

Table 1-2 Electrical components (continued)

Component type	Abbreviation	Name
Motor	M1	ITB Motor
	M2	Drum motor
	M3	Developing motor
	M4	Fuser motor
	M5	Pickup motor
	M6	Developing disengagement motor
	M7	Duplex reverse motor
	M8	Duplex feed motor
	M9	Tray 2 cassette lifter motor
	M10	Scanner motor
LED	Not applicable	Front pre-exposure LED 1–4
	Not applicable	Rear pre-exposure LED 1–4

Motors

The product has ten motors for paper feed and image formation. The DC controller determines there is a motor failure if a motor does not reach a specified speed within a specified period after motor startup, or if the rotational speed is outside a specified range for a specified period.

Figure 1-4 Motors

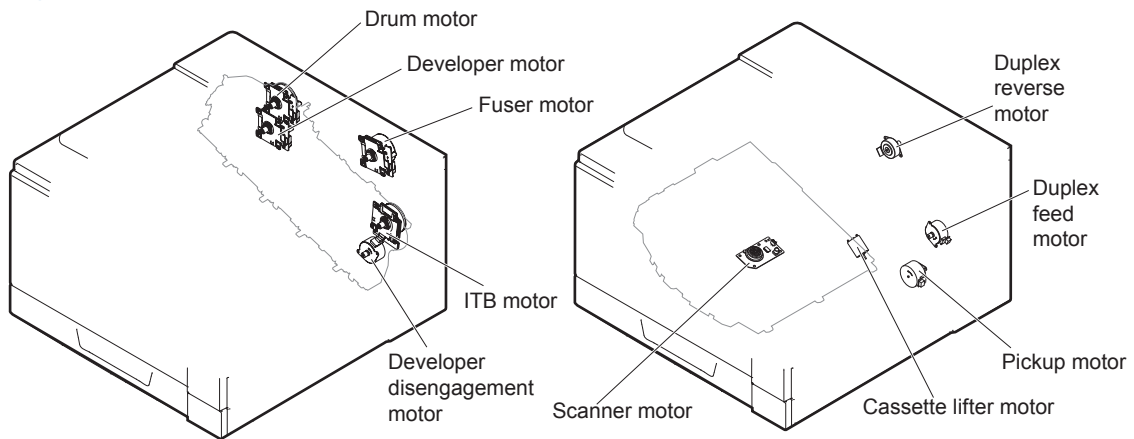


Table 1-3 Motors

Description	Components driven	Failure detection
ITB motor (M1)	ITB Black photosensitive drum Black developing roller	Yes

Table 1-3 Motors (continued)

Description	Components driven	Failure detection
Drum motor (M2)	Yellow, magenta, and cyan photosensitive drums	Yes
Developing motor (M3)	Yellow, magenta, and cyan developing rollers	Yes
Fuser motor (M4)	Fuser pressure and delivery rollers Pressurizes and depressurizes the pressure roller Engages and disengages the primary transfer roller	Yes
Pickup motor (M5)	Tray 1 (MP Tray) pickup roller Tray 2 pickup roller Tray 2 feed roller	No
Developing disengagement motor (M6)	Engages and disengages the developing unit	No
Duplex reverse motor (M7)	Duplex reverse roller	No
Duplex feed motor (M8)	Duplex feed roller	No
Tray 2 cassette lifter motor (M9)	Lifter for the Tray 2 cassette	No
Scanner motor (M10)	Scanner mirror	No

Fans

The product uses five fans to maintain the correct internal temperature. The DC controller determines a fan failure when a fan locks for a specified period after it starts driving.

Figure 1-5 Fans

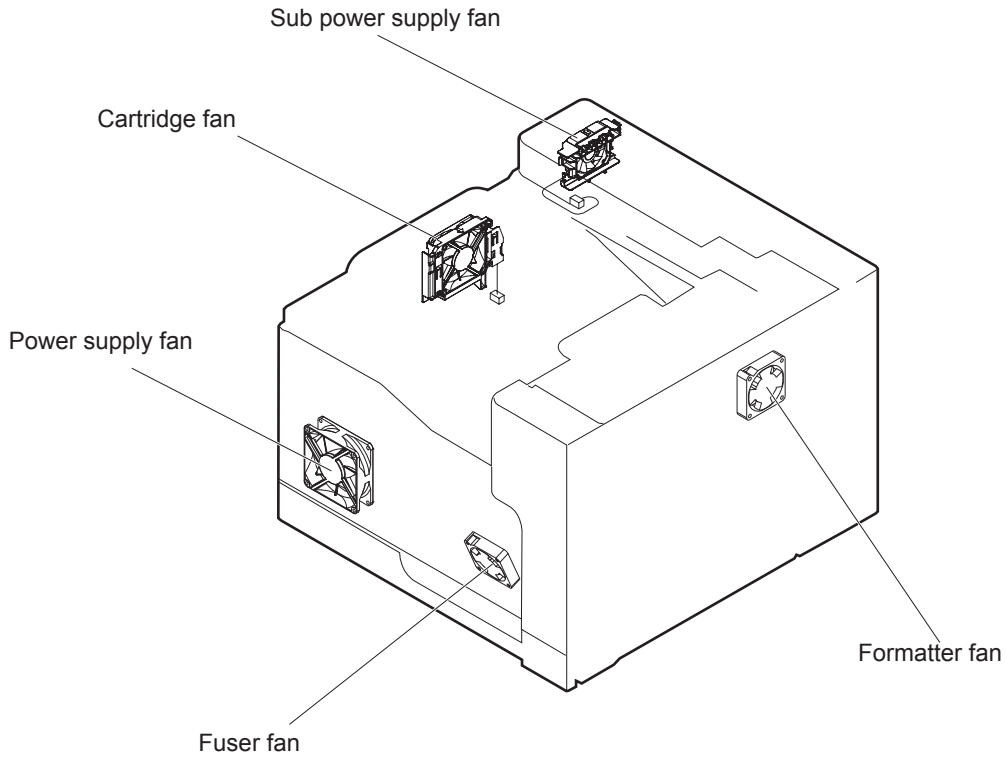


Table 1-4 Fans

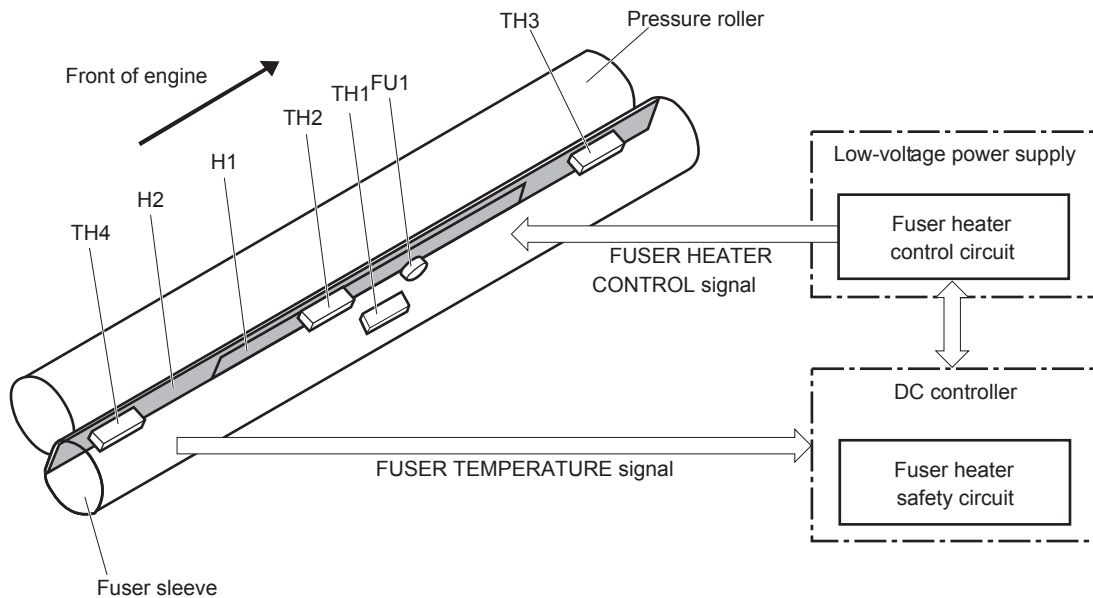
Description	Area cooled	Type	Speed
Power supply fan (FM1)	Low-voltage power supply Output bin Delivery unit Laser scanner unit	Intake	Full/Half
Fuser (FM2)	Duplex feed unit ITB area	Intake	Full
Formatter (FM3)	Formatter area	Intake	Controlled by the formatter
Cartridge fan (FM4)	Cartridge area	Intake	Full/half
Sub power supply fan (FM5)	Sub power supply area	Exhaust	Full

Fuser-control circuit

The fuser-control circuit monitors and controls the temperature in the fuser. The product uses on-demand fusing. The fuser-control circuit consists of the following major components:

- Fuser main heater (H1): Heats the center of the fuser sleeve
- Fuser sub heater (H2): Heats the ends of the fuser sleeve
- Thermistors; detect the fuser temperature (contact type)
 - Sleeve thermistor (TH1): Detects the temperature at the center of the fuser sleeve
 - Main thermistor (TH2): Detects the temperature at the center of the fuser heater
 - Sub thermistor 1 (TH3): Detects the temperature at the end of the fuser heater nearest the front of the product
 - Sub thermistor 2 (TH4): Detects the temperature at the end of the fuser heater nearest the rear of the product
- Thermal fuse (FU1): Prevents abnormal temperature rise in the fuser heater (non-contact type)

Figure 1-6 Fuser-control circuit



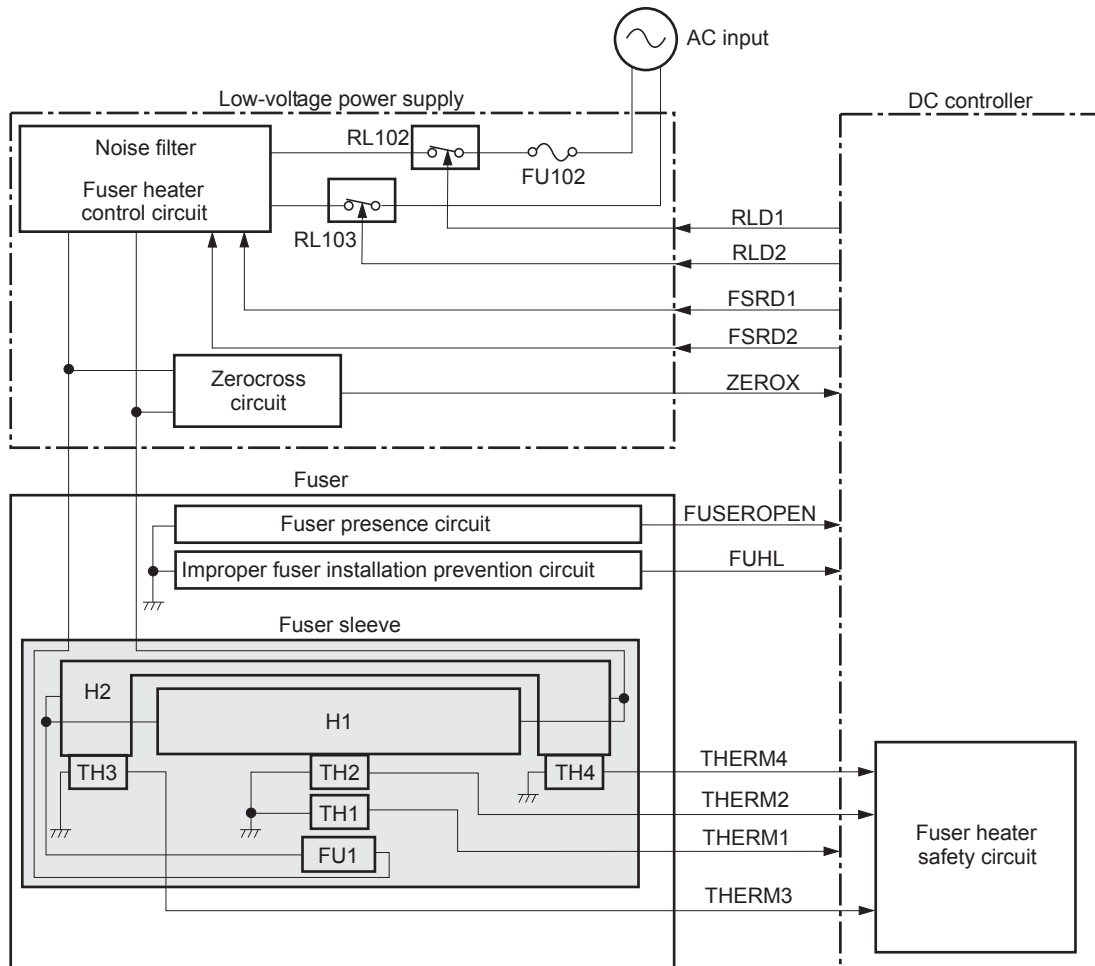
Fuser temperature control

The fuser temperature control maintains the fuser heater at its targeted temperature.

The fuser main heater and sub heater control the temperature of the fuser sleeve.

The DC controller monitors the main thermistor and the sleeve thermistor. The DC controller controls the FUSER MAIN HEATER CONTROL (FSRD1) and the FUSER SUB-HEATER CONTROL (FSRD2) signals according to the detected temperature. The fuser-heater control circuit controls the fuser heater depending on the signal so that the heater remains at the targeted temperature.

Figure 1-7 Fuser-heater control circuit



Fuser protective function

The fuser protective function detects an abnormal temperature rise of the fuser unit and interrupts power supply to the fuser heater.

The following four protective components prevent an abnormal temperature rise of the fuser heater:

- DC controller
 - The DC controller interrupts power supply to the fuser heater when it detects an abnormal temperature of the fuser heater.
- Fuser-heater safety circuit
 - The fuser heater safety circuit interrupts power supply to the fuser heater when the detected temperature of the main and sub thermistors is abnormal.
- Thermal fuse
 - The thermal fuse is broken to interrupt power supply to the fuser heater when the thermoswitch detects an abnormal temperature of the fuser heater.
- Current detection
 - The current detection circuit detects the current value flowing in the fuser heater control circuit. The DC controller deactivates the FUSER HEATER CONTROL signal and releases the relay to interrupt power supply to the fuser heater when it detects a specified current value or higher by the CURRENT DETECTION (FUR_CURRMS) signal.

Fuser failure detection

The DC controller determines a fuser unit failure, deactivates the FUSER HEATER CONTROL signal, releases the relay to interrupt power supply to the fuser heater, and then notifies the formatter of a failure state when it encounters the following conditions:

- **Abnormal temperature rise:** The sleeve thermistor does not rise to a specified temperature within a specified period after the fuser heater control starts.
- **Abnormally low temperature:** The thermistors are at a specified temperature or lower during a print operation or other fuser heating cycle.
- **Abnormally high temperature:** The thermistors are at a specified temperature or higher, regardless of the fuser control status.
- **Drive circuit abnormality:** The frequency in the zerocross circuit is out of a specified range when the product is turned on or is in the standby period. Or, if the current value in the fuser heater control circuit is out of a specified range.

Fuser installation protection

The DC controller detects if the correct fuser for this product is installed by monitoring the FUSER IMPROPER INSTALLATION (FUHL) signal during the product initial rotation (INTR) period (see [Sequence of operation on page 3](#)) after one of the two following conditions:

- The product power is turned on.
- The right door is closed.

The DC Controller notifies the formatter if it determines an incorrect fuser is installed.

Fuser presence detection

The DC controller detects if the fuser is installed by monitoring the FUSER PRESENCE (FUSEROPEN) signal during the product initial rotation (INTR) period (see [Sequence of operation on page 3](#)) after one of the two following conditions:

- The product power is turned on.
- The right door is closed.

The DC Controller notifies the formatter if it detects that a fuser is not installed.

Fuser life detection

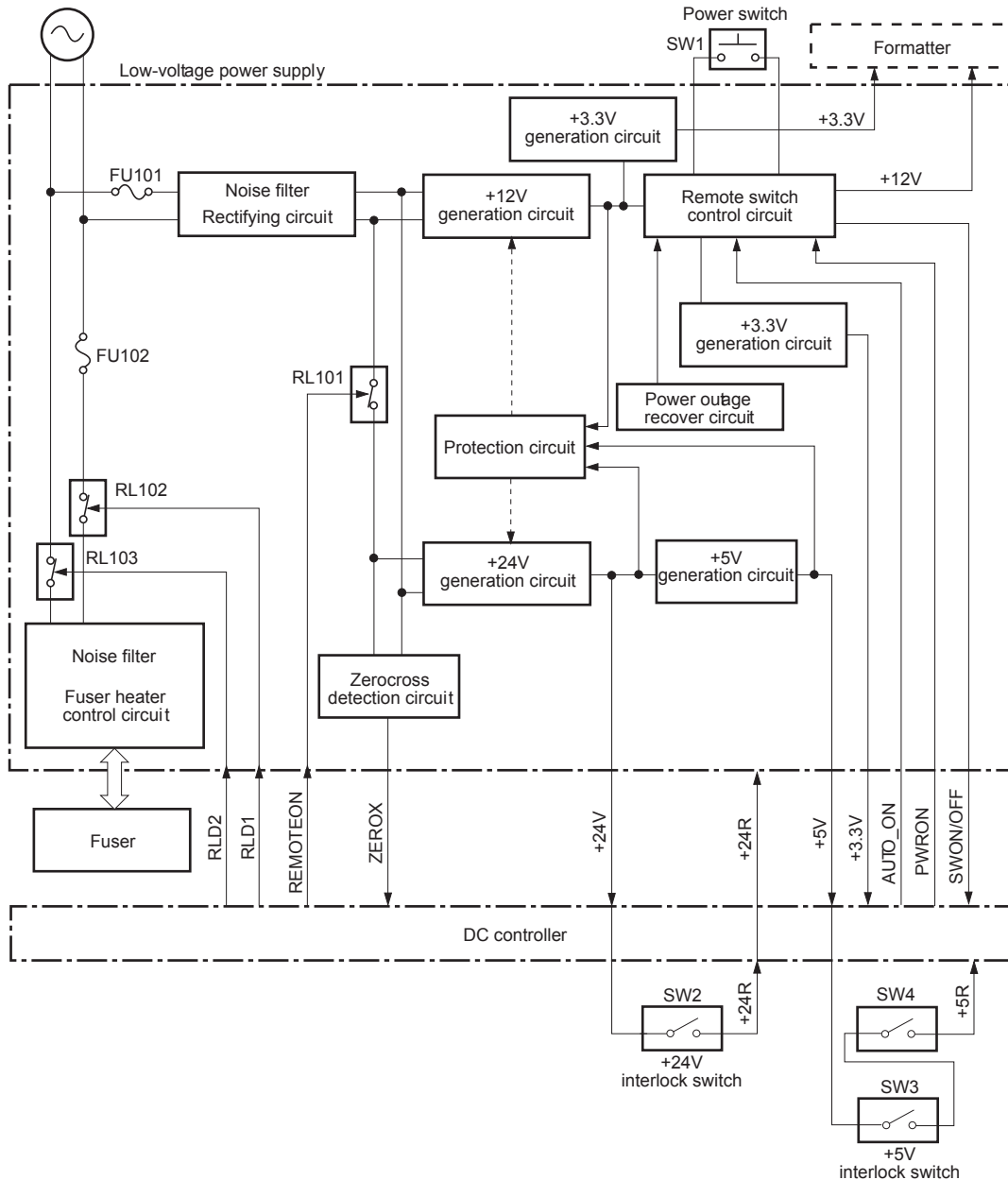
The DC controller detects the useful life of the fuser for the following conditions:

- The DC controller notifies the formatter if it determines the fuser is near the end of its useful life based on a specified number of pages printed or a specified time period passes.
- The formatter notifies the DC Controller when a replacement fuser is installed.

Low-voltage power supply

The low-voltage power supply (LVPS) converts ac input voltage to dc voltage.

Figure 1-8 Low-voltage power supply



The product uses four dc voltages: 24V, 12V, 5V, and 3.3V. The voltages are subdivided as follows:

+24V	Supplied constantly
	Stopped during Sleep mode
+24R	Interrupted when the front or right door is opened
+5V	Supplied constantly
	Stopped during Sleep mode

+5R	Interrupted when the front or right door is opened
+3.3V	Supplied constantly
+12V	Supplied constantly

Power-outage recovery circuit

The product features a power-outage recovery circuit that helps the product recover after an unexpected power outage.

The power-outage recovery circuit applies +3.3V to the DC controller when the product is in the on condition, but records a power-outage condition if ac power is unexpectedly lost. The DC controller confirms whether the last time the product power was turned off was a normal power off event or was because of a power outage. The DC controller then determines if it should turn off the power or start a power on operation when power is restored.

Sleep mode operation

When the product is in [Sleep Mode](#), the sub power supply is off and the low-voltage power supply is on. The scanner can not be used when the product is in [Sleep Mode](#).

Automatic damp paper detection

The product automatically detects damp paper. This helps to avoid jams caused by curling damp paper.

The DC controller detects damp paper by measuring the resistance value of the transfer roller during a transfer operation. Also, the DC controller records the damp condition of paper loaded in the input devices.

The DC controller optimizes the fuser temperature control and prevents an occurrence of paper curl when the damp paper is fed through the product.

Overcurrent/overvoltage protection

The low-voltage power supply (LVPS) has a protective circuit against overcurrent and overvoltage to prevent failures in the power supply circuit. The low-voltage power supply automatically stops supplying the dc voltage whenever excessive current flows or voltage abnormally increases.

If the dc voltage is not being supplied from the LVPS, the protective function might be running. In this case, turn off the power switch and unplug the power cable. Do not turn the power switch on until the root cause is found.

For safety, the product interrupts the power supply of +24R and +5R. The interlock switch is turned off and +24R and +5R are stopped whenever the front or right door is opened.

Interrupting +24R stops power supply to:

- High-voltage power supplies
 - Image (developing) high-voltage power supply (HVPS)
 - First-transfer high-voltage power supply
 - Second-transfer high-voltage power supply
- Motors
 - Intermediate transfer belt (ITB) motor M1
 - Drum motor M2
 - Developing motor M3
 - Fuser motor M4
 - Duplex reverse and duplex feed motors

Interrupting +5R stops power supply to:

- Laser scanner assembly

⚠ WARNING! The product power switch only interrupts dc voltage from the LVPS. The ac voltage is present in the product when the power cord is plugged into a power receptacle and the power switch is in the off position. You must unplug the product power cord before servicing the product.

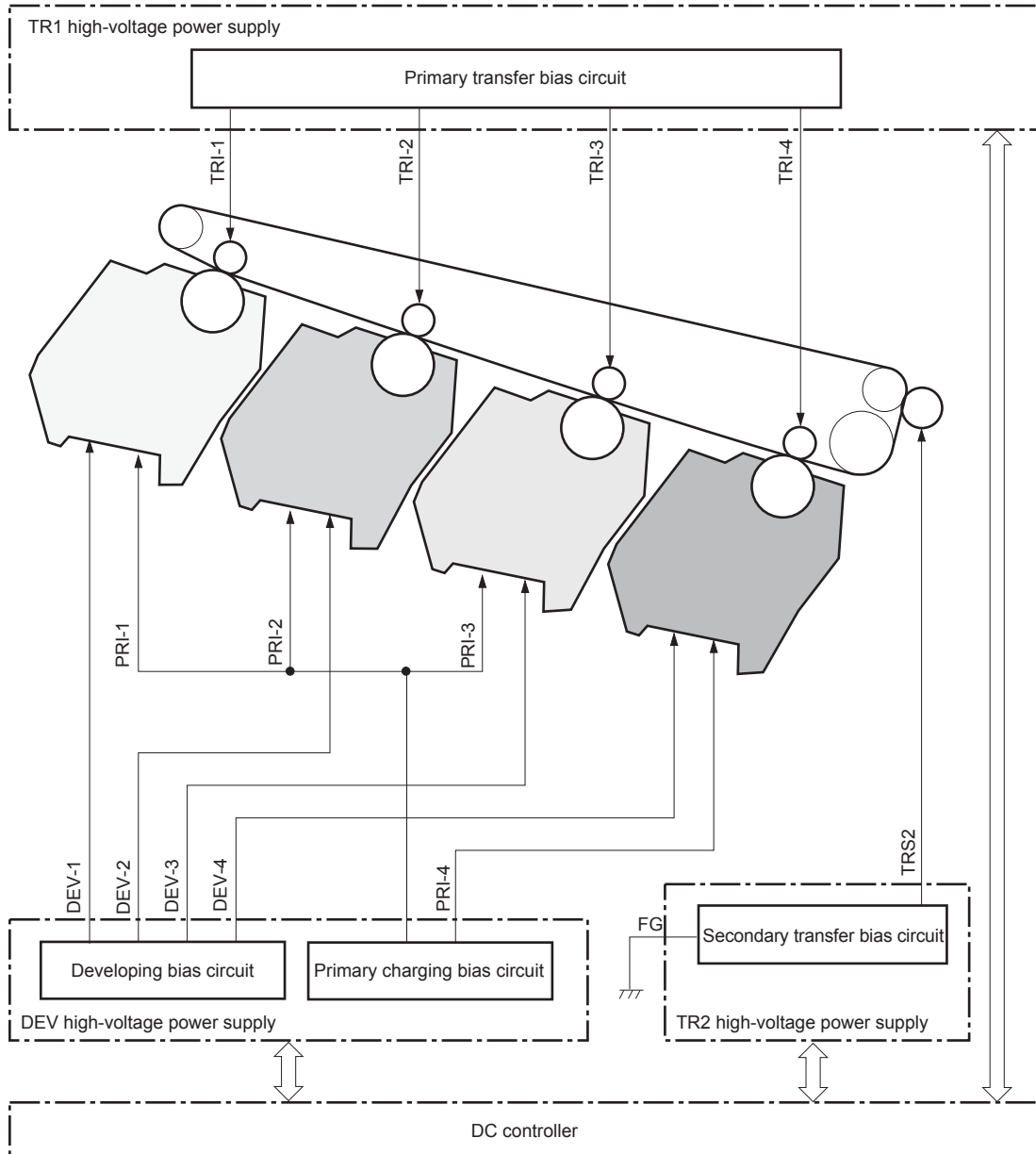
⚠ WARNING! If you believe the overcurrent or overvoltage protection circuits have been activated, do not connect the product power cord or turn on the product power until the cause of the failure is found and corrected.

In addition, fuses in the LVPS protect against overcurrent. If overcurrent flows into the ac line, the fuses melt and cut off the power distribution.

High-voltage power supply

The DC controller controls the high-voltage power supply to generate biases.

Figure 1-9 High-voltage power supply



The high-voltage power supply (HVPS) applies biases to the following components:

- Primary charging roller: The primary charging bias is applied to the surface of the photosensitive drum to charge it uniformly negative as a preparation for the image formation.
- Developing roller: The developing bias is used to adhere toner to an electrostatic latent image formed on the photosensitive drum.

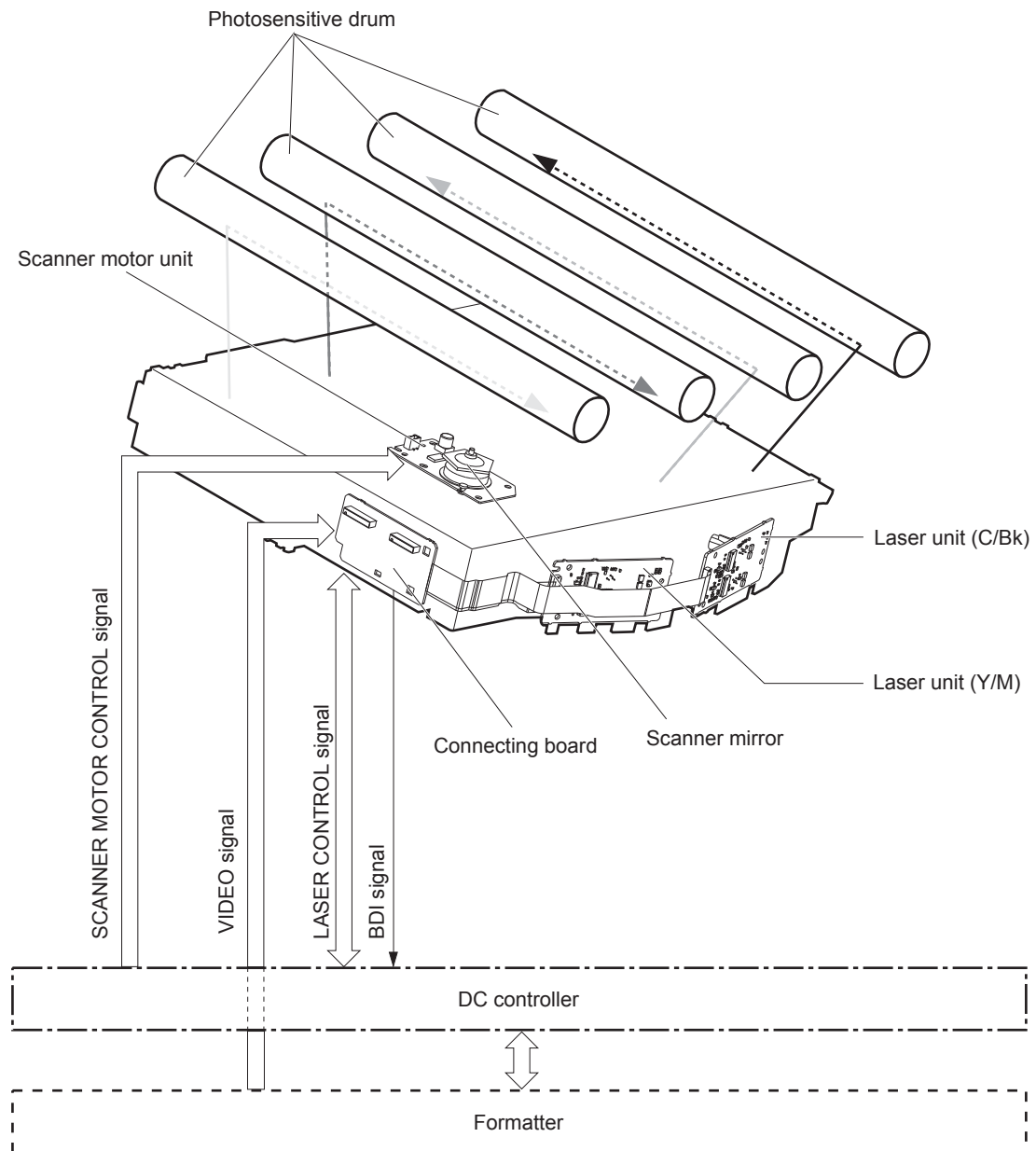
- Primary transfer roller: The primary transfer bias is used to transfer the toner from each photosensitive drum onto the ITB.
- Secondary transfer roller: The secondary transfer bias is used to transfer the toner image from the ITB onto the paper. The reversed bias is applied to transfer residual toner on the secondary transfer roller back to the ITB. The residual toner on the ITB is deposited in the toner collection unit.

Laser/scanner system

The laser/scanner system forms latent images on the photosensitive drums according to the VIDEO signals sent from the formatter.

The main components of the laser/scanner are the laser unit and the scanner motor unit. The DC controller sends signals to the laser/scanner to control the functions of these components.

Figure 1-10 Laser/scanner system



Laser failure detection

The DC controller determines an optical unit failure and notifies the formatter if the laser/scanner encounters the following conditions:

- The scanner motor does not reach a specified rotation frequency within a specified period of the scanner motor start up.
- If the beam detect (BD) interval is not detected during a print operation, the DC controller reports a BD error. If the BD interval does not recover within a specified period after the BD error occurs, the DC controller reports a scanner motor abnormal rotation error.

Image-formation system

Electrophotographic process

The electrophotographic process forms an image on the paper. Following are the major components used in the process:

- Print cartridges
- Intermediate transfer belt (ITB)
- Secondary transfer roller
- Fuser
- Laser scanner

The DC controller uses the laser scanner and HVPS to form the toner image on the photosensitive drum. The image is transferred to the print media and then fused onto the paper.

Figure 1-11 Electrophotographic process block diagram

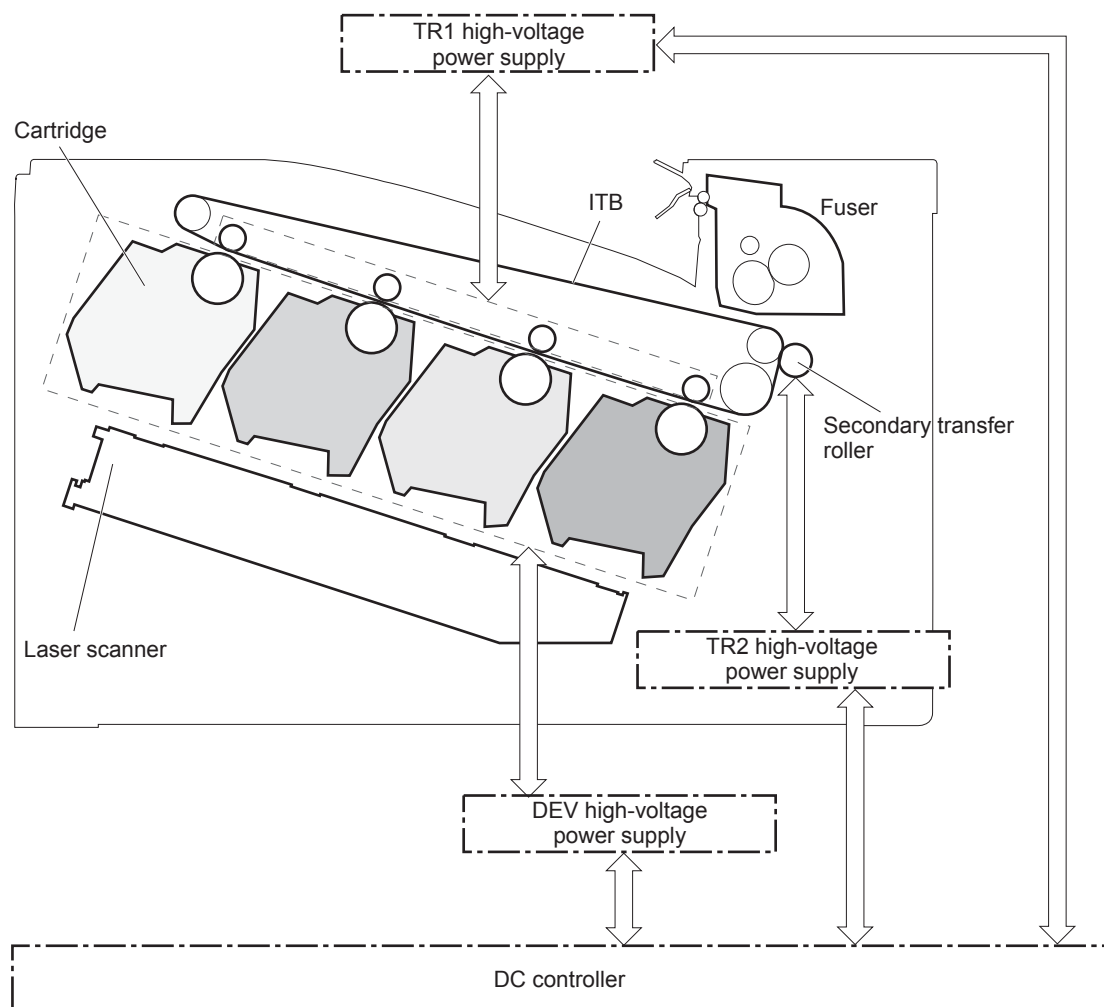


Figure 1-12 Electrophotographic process drive system

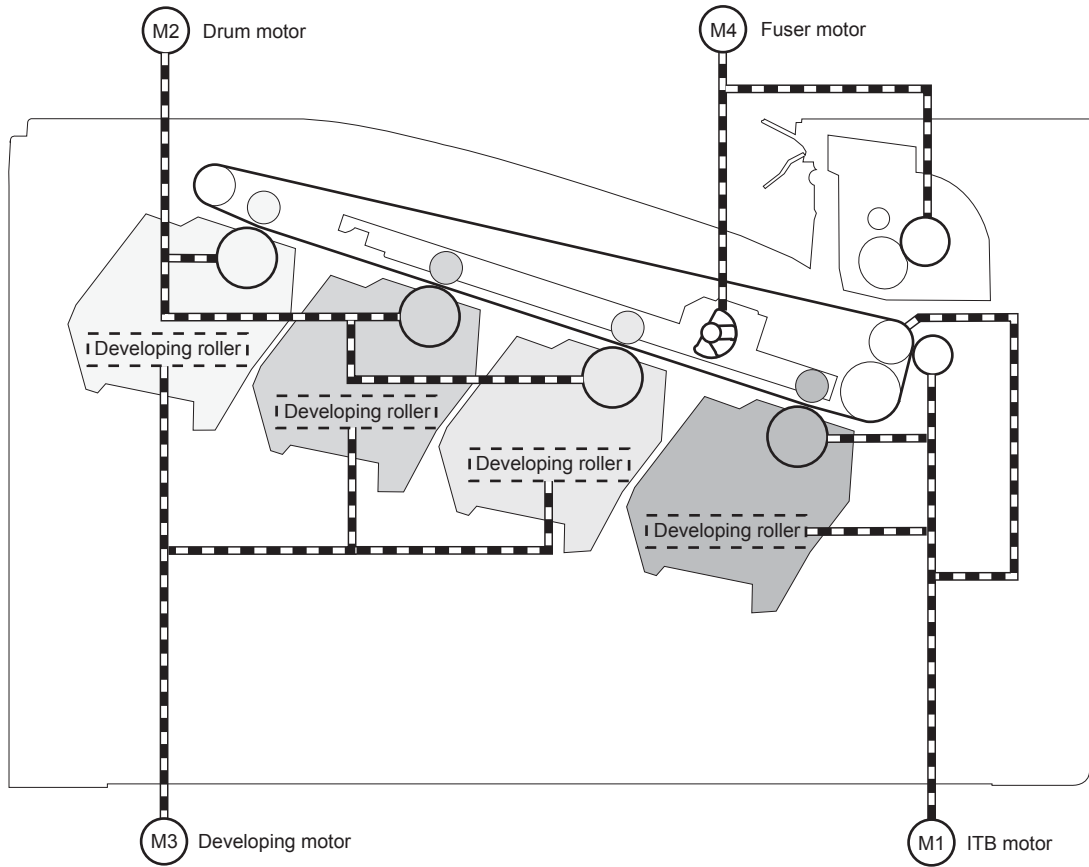
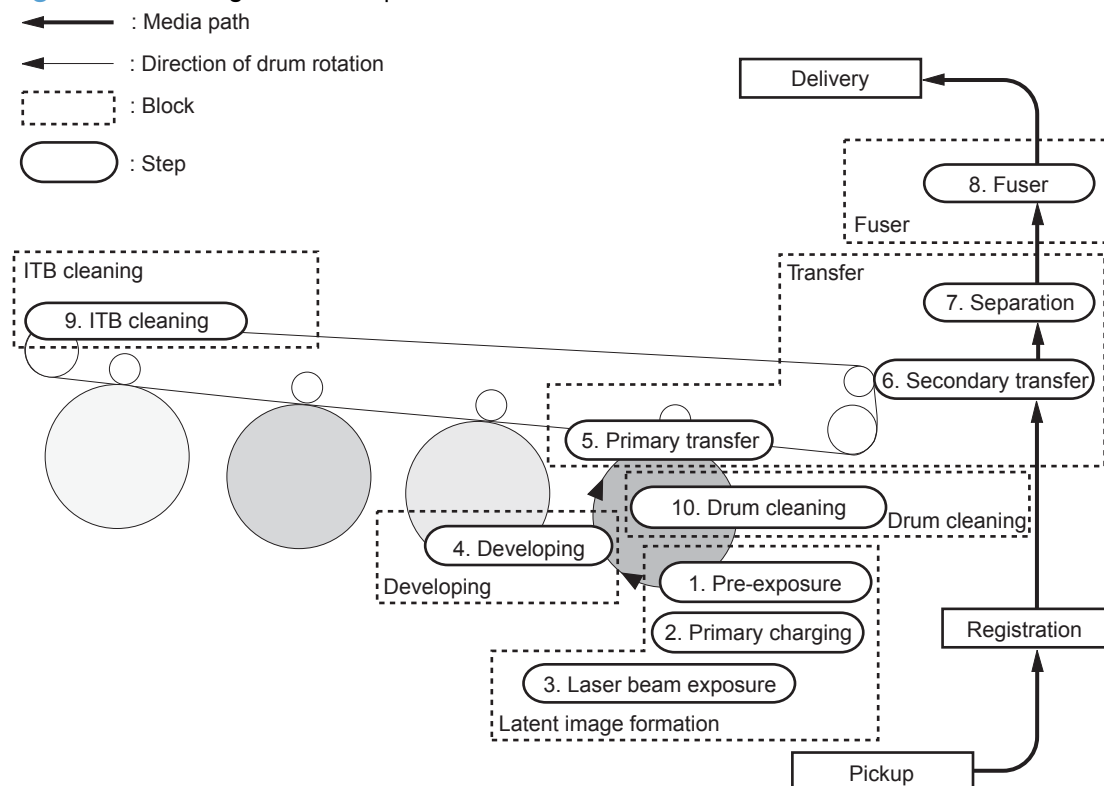


Image formation process

Each of the following processes functions independently and must be coordinated with the other product processes. Image formation consists of the following processes:

Latent-image formation block	Step 1: pre-exposure Step 2: primary charging Step 3: laser-beam exposure
Developing block	Step 4: developing
Transfer block	Step 5: primary transfer Step 6: secondary transfer Step 7: separation
Fusing block	Step 8: fusing
ITB cleaning block	Step 9: ITB cleaning
Drum cleaning block	Step 10: Drum cleaning

Figure 1-13 Image formation process



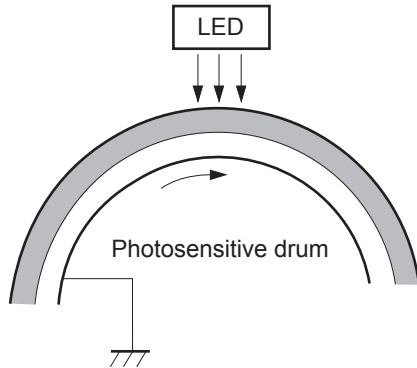
Latent-image formation block

During the latent-image formation stage, the laser/scanner forms invisible images on the photosensitive drums in the print cartridges.

Pre-exposure

Step 1: Light from the pre-exposure LED strikes the photosensitive drum surface. This eliminates the residual electrical charges on the drum surface.

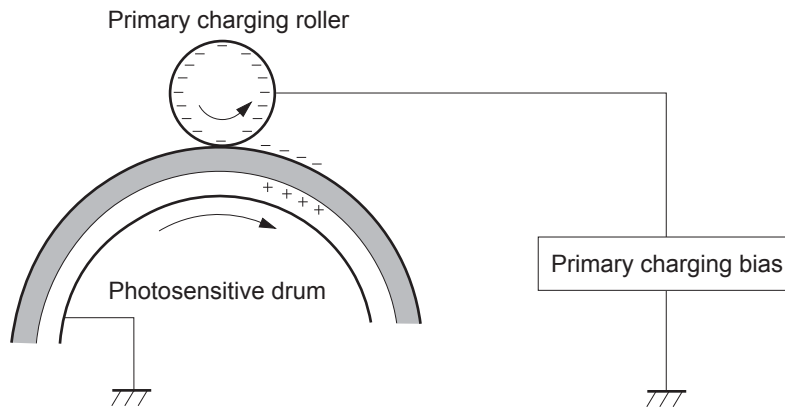
Figure 1-14 Pre-exposure



Primary charging

Step 2: The dc and ac biases are applied to the primary charging roller, which transfers a uniform negative potential to the photosensitive drum.

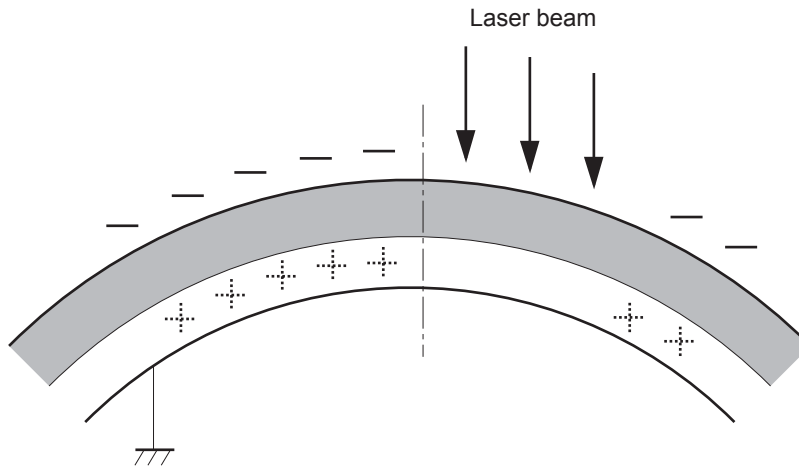
Figure 1-15 Primary charging



Laser beam exposure

Step 3: The laser beam scans the photosensitive drum to neutralize negative charges on parts of the drum surface. An electrostatic latent image is formed on the drum where negative charges were neutralized.

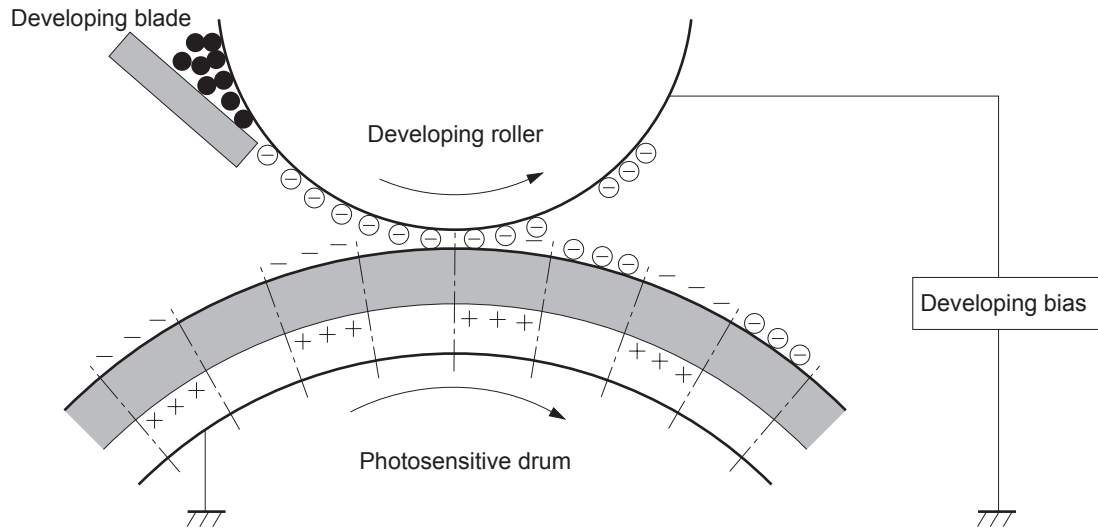
Figure 1-16 Laser beam exposure



Developing block

Step 4: In the print cartridge, toner acquires a negative charge from the friction that occurs when the developing roller rotates against the developing blade. The developing bias is applied to the developing roller to create a difference in the electric potential of the drum. When the negatively charged toner comes in contact with the photosensitive drum, it adheres to the latent image because the drum surface has a higher potential.

Figure 1-17 Developing

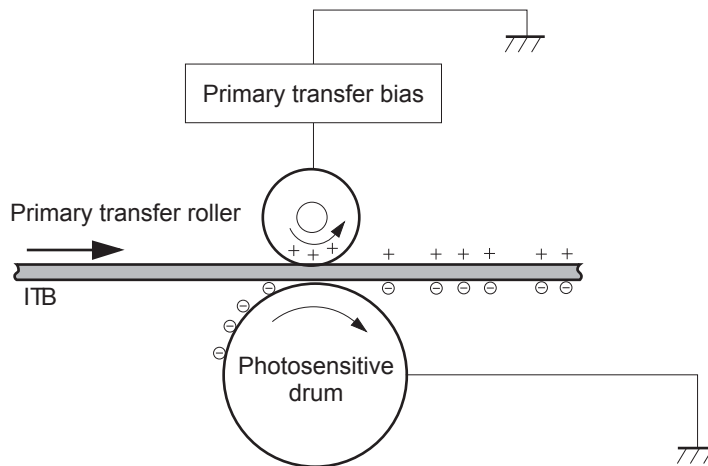


Transfer block

Primary transfer

Step 5: The toner on the photosensitive drum is transferred to the intermediate transfer belt (ITB). The ITB is given a positive charge by the bias of the primary transfer roller. The negatively charged toner on the drum surface is transferred onto the ITB. All four color planes are transferred onto the ITB in this step.

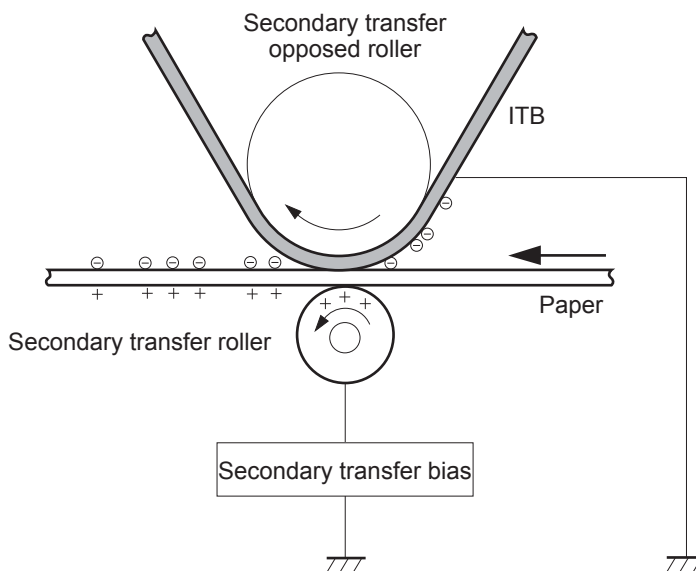
Figure 1-18 Primary transfer



Secondary transfer

Step 6: The toner image on the ITB is transferred to the paper. The secondary transfer bias is applied to the secondary transfer roller to charge the paper positive. As the paper passes between the secondary transfer roller and the ITB, the complete toner image on the ITB is transferred onto the paper.

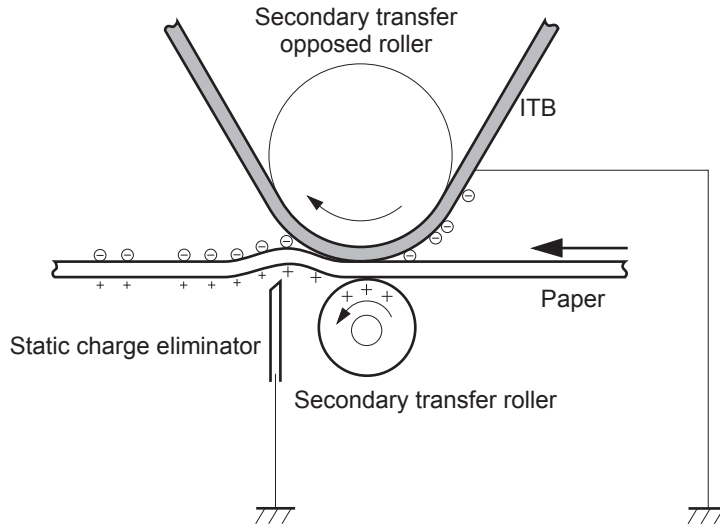
Figure 1-19 Secondary transfer



Separation

Step 7: The elasticity of the paper and the curvature of the secondary transfer opposed roller cause the paper to separate from the ITB. The static charge eliminator reduces backside static charge of the paper and controls excess discharge after the transfer process for stable media feed and image quality.

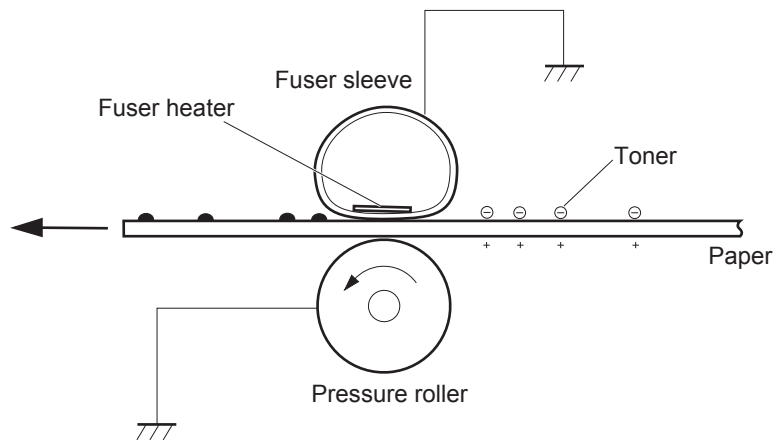
Figure 1-20 Separation



Fusing block

Step 8: The product uses an on-demand fuser. The toner image is permanently affixed to the printing paper by heat and pressure.

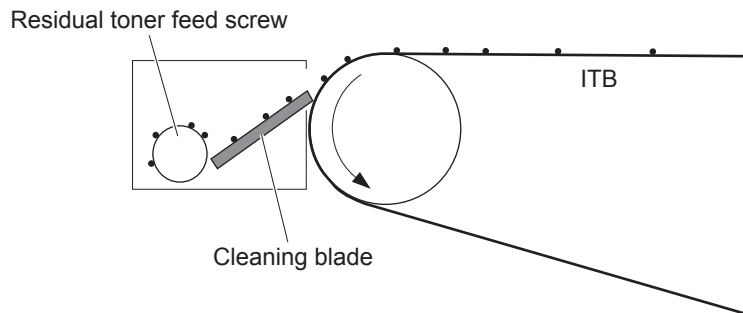
Figure 1-21 Fusing



ITB cleaning block

Step 9: The cleaning blade scrapes the residual toner off the surface of the ITB. The residual toner feed screw deposits residual toner in the toner collection unit.

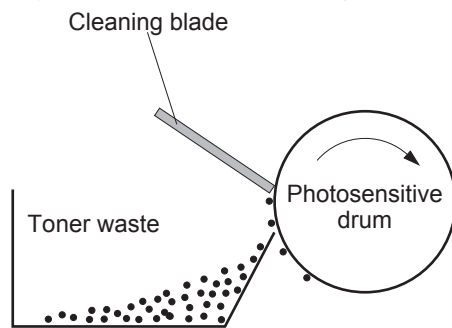
Figure 1-22 ITB cleaning



Drum cleaning block

Step 10: The cleaning blade scrapes the residual toner off the surface of the photosensitive drum, and toner is deposited in the waste section inside the print cartridge.

Figure 1-23 Drum cleaning



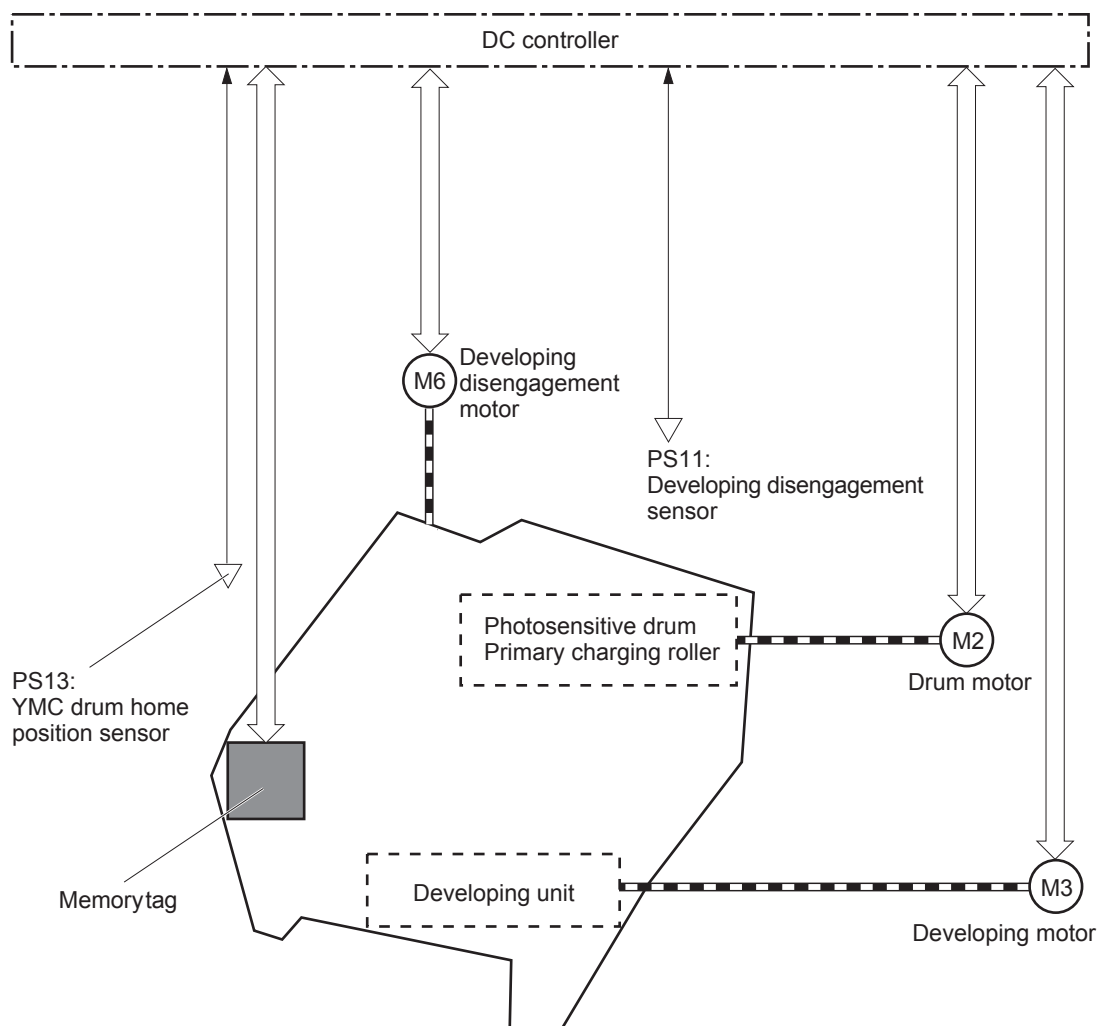
Toner cartridges

The product has four toner cartridges, one for each color: yellow, magenta, cyan, and black. Each of them has the same structure. The cartridges are filled with toner and consist of the following components:

- Photosensitive drum
- Developing unit
- Primary charging roller

The DC controller rotates the motors to drive the photosensitive drum, developing unit, and primary charging roller.

Figure 1-24 Print cartridge block diagram



Memory tag

The memory tag is a non-volatile memory chip in the cartridge that stores information about usage for the cartridge. The product reads and writes the data in the memory tag. The DC controller determines a memory tag error and notifies the formatter when it fails to either read from or write to the memory tag.

Cartridge presence detection

The DC controller detects the presence of the cartridges by monitoring the cartridge memory tag and ground circuit. When the DC controller determines a cartridge absence, it notifies the formatter.

Toner level detection

The DC controller detects the remaining toner level in a cartridge by the optical detection method. The DC controller notifies the formatter of the remaining toner level.

Cartridge life detection

The DC controller detects the cartridge life by monitoring the total operational wear limit or remaining toner level of the cartridge. The DC controller determines a cartridge end of life and notifies the formatter when the operational wear limit of the cartridge reaches a specified amount or the cartridge runs out of toner.

Developing unit engagement and disengagement control

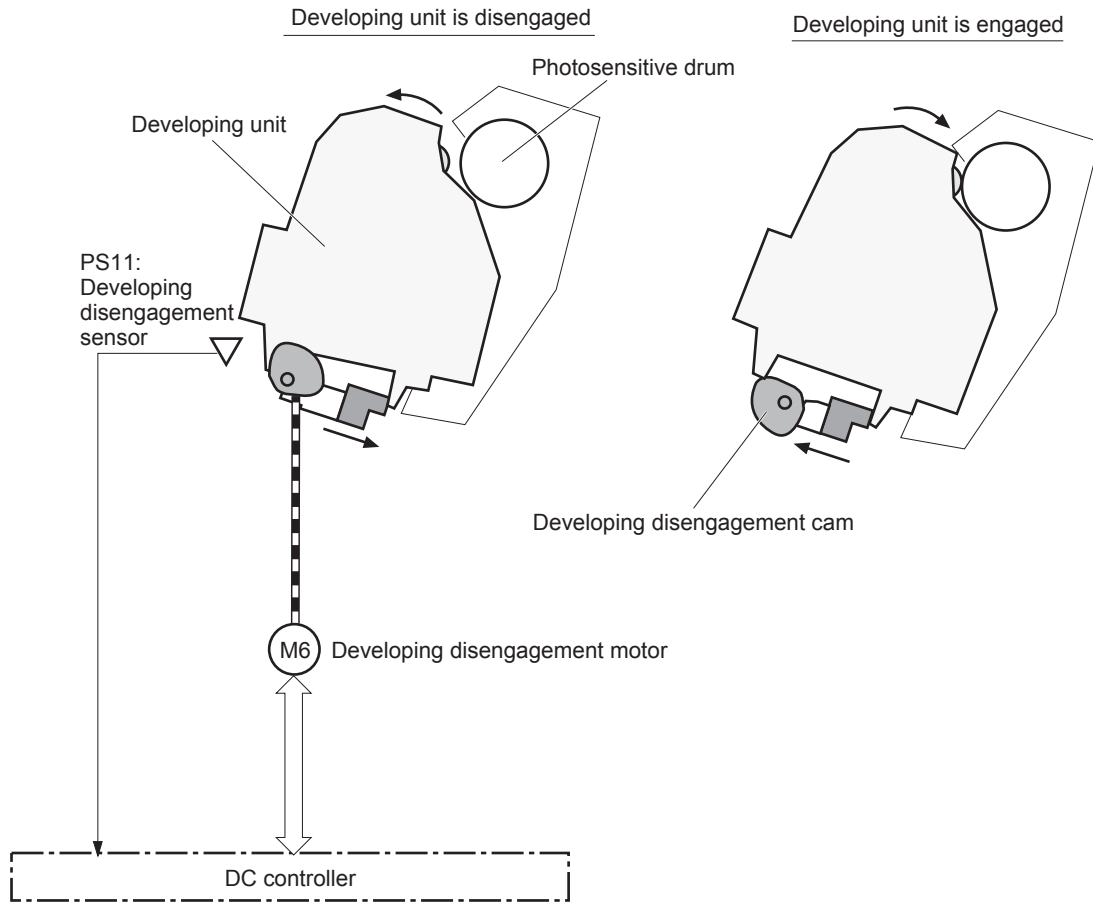
The developing unit engagement and disengagement control engages the developing unit with the photosensitive drum or disengages the developing unit from the drum depending on the print mode: full-color mode or black-only mode. The developing unit is engaged only when required, preventing a deterioration of the drums and maximizing their life.

The developing disengagement motor rotates the developing disengagement cam. As the cam rotates, the developing unit engages with or separates from the photosensitive drum.

When the product is turned on and when each print job is completed, all four of the developing units disengage from the photosensitive drums. When the print mode is in full-color mode, all of the developing units engage with the drums. When the print mode is in black-only mode, only the black developing unit engages with the drum.

The DC controller determines a developing disengagement motor abnormality and notifies the formatter when it does not detect a specified signal from the developing disengagement sensor during the developing roller engagement and disengagement operation.

Figure 1-25 Developing unit engagement and disengagement control



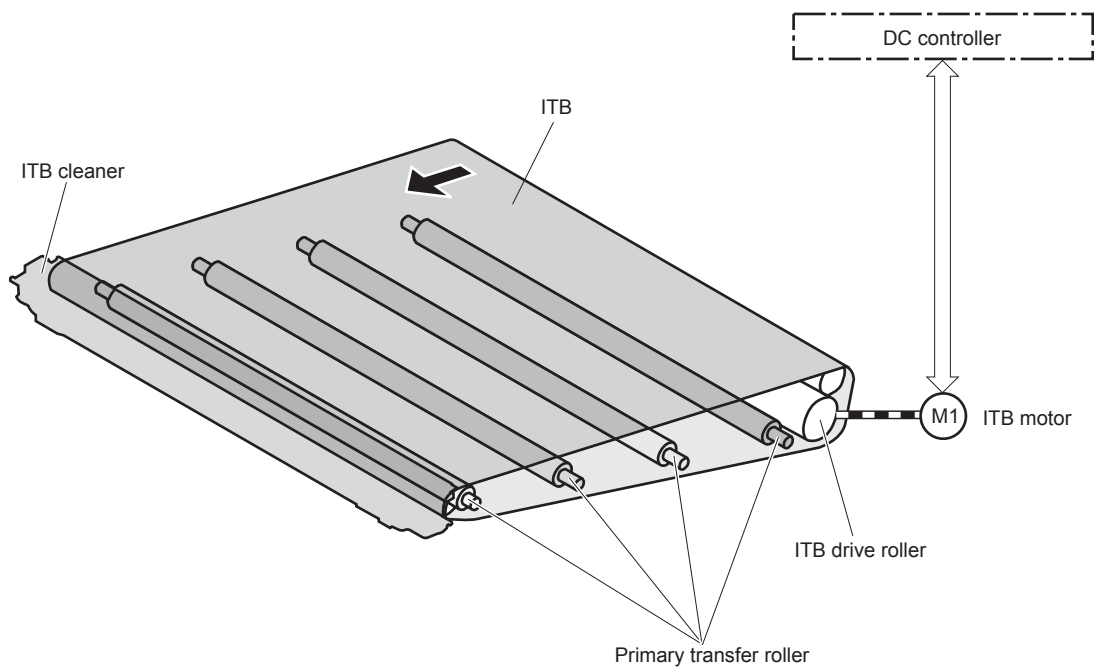
ITB unit

The ITB unit receives the toner image from the photosensitive drums and transfers the complete toner image to the print media. The ITB unit consists of the following components:

- ITB
- ITB drive roller
- Primary transfer rollers
- ITB cleaner

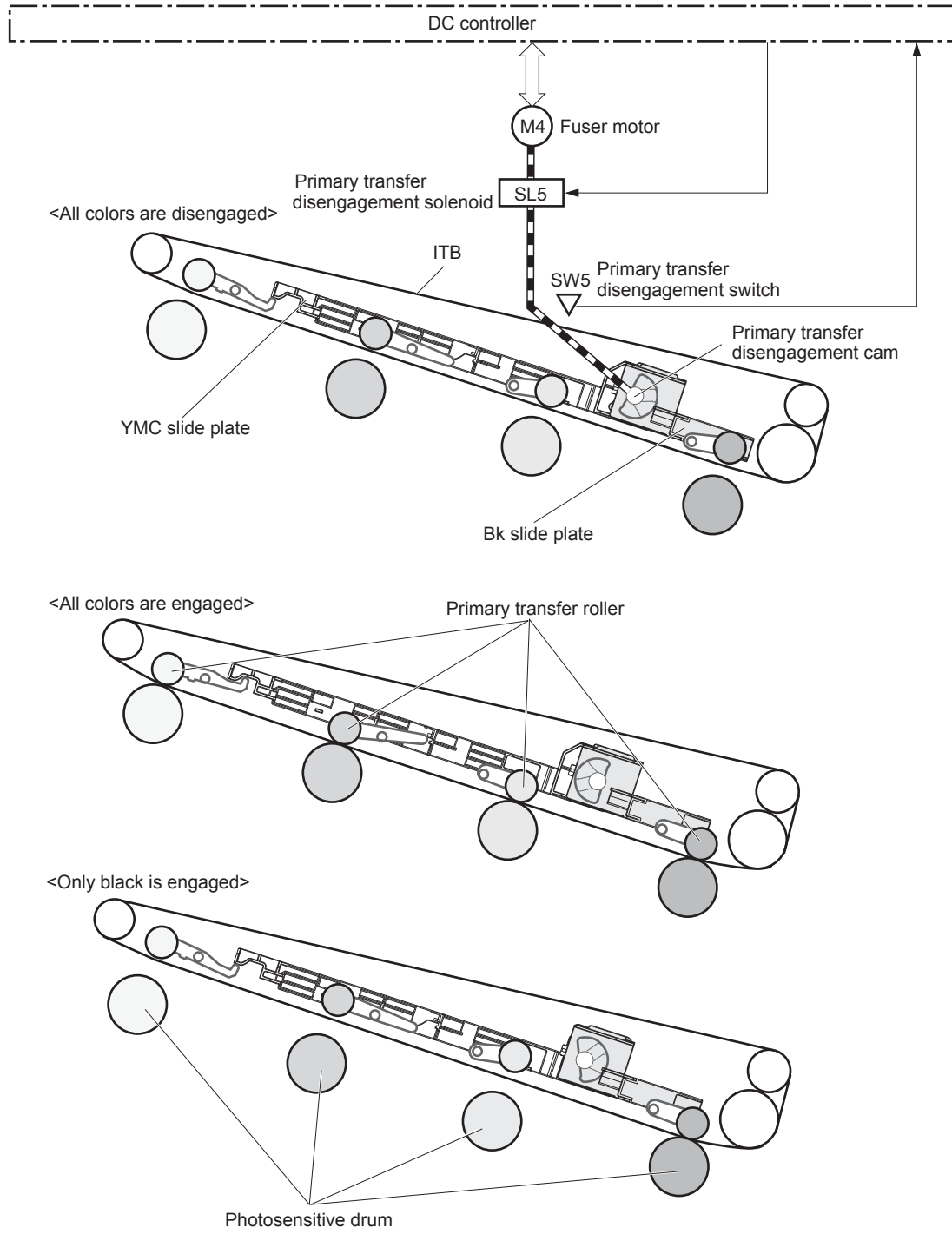
The ITB motor drives the ITB drive roller which rotates the ITB. The rotation of the ITB causes the primary transfer rollers to rotate. The ITB cleaner cleans the ITB surface.

Figure 1-26 ITB unit block diagram



Primary transfer roller engagement and disengagement control

Figure 1-27 Primary transfer roller engagement and disengagement control



The primary transfer roller engagement and disengagement control engages the ITB with the photosensitive drum, or disengages the ITB from the drum, depending on the requirements of the print job.

- **All rollers disengaged:** The ITB disengages from all four photosensitive drums. This is the state during a standby period, and is also the home position for the primary transfer rollers.
- **All rollers engaged:** The ITB engages with all four photosensitive drums. This is the state for full-color jobs.
- **Only black roller engaged:** The ITB engages with only the black photosensitive drum. This is the state for the black-only print jobs.

The operational sequence of the primary transfer roller engagement and disengagement control is as follows:

1. The fuser motor drives the primary transfer disengagement solenoid to rotate the primary transfer disengagement cam.
2. As the cam rotates, the YMC slide plate or the Bk slide plate moves right or left. This causes the primary transfer roller to move up or down.
3. The ITB engages with or disengages from the photosensitive drum depending on the movement of the primary transfer rollers.

The DC controller determines that an abnormal primary transfer roller disengagement error has occurred and notifies the formatter. This error happens when the DC controller does not detect a specified signal from the primary transfer disengagement switch, even though the primary transfer disengagement solenoid is driven.

ITB unit presence detection

The DC controller detects the ITB unit presence by monitoring the primary transfer disengagement switch. The DC controller drives the primary transfer disengagement solenoid for specified times during the initial rotation period of the following:

- The product is turned on.
- The product exits [Sleep Mode](#).
- The door is closed.

The DC controller determines an ITB unit absence and notifies the formatter when it does not detect a specified signal from the primary transfer disengagement switch.

ITB life detection

The DC controller detects if the ITB assembly is near the end of its useful life.

The DC controller detects a new ITB assembly when the formatter notifies the DC controller that the assembly was replaced.

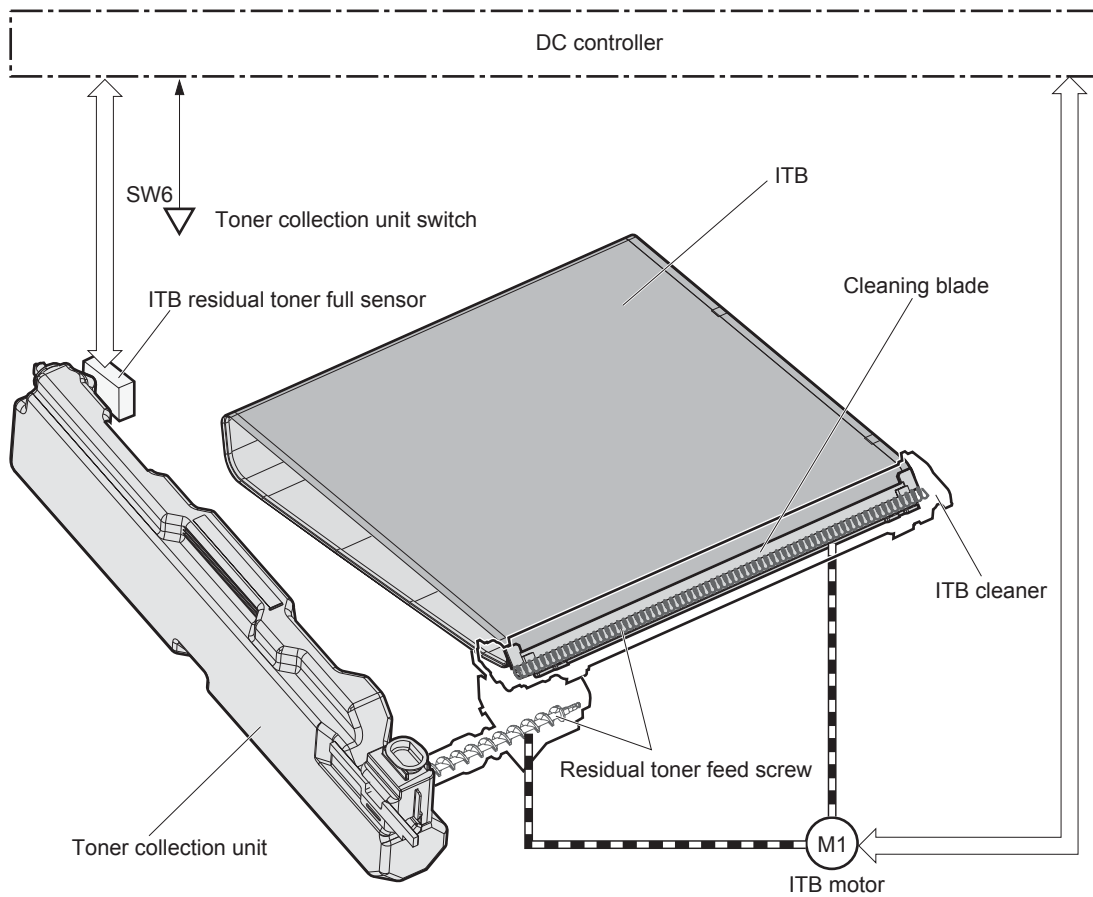
The DC controller notifies the formatter when an ITB assembly is near its end-of-life. ITB end-of-life is determined when the DC controller detects a specified number of pages have been printed, or the ITB has been used for a specified time period, after the ITB assembly was replaced.

ITB cleaning mechanism

The cleaning blade in the ITB cleaner scrapes the residual toner off the ITB surface. The ITB motor drives the residual toner feed screw, and the screw deposits the residual toner in the toner collection unit.

The DC controller detects whether the toner collection unit is full by monitoring the ITB residual toner full sensor. When the DC controller determines the toner collection unit is full, it notifies the formatter. The DC controller also detects the presence of the toner collection unit by monitoring the toner collection unit switch.

Figure 1-28 ITB cleaning mechanism



Calibration

The product calibrates itself to print a high-quality image. The calibration corrects a color-misregistration and color-density variation caused by environment changes or variation inherent in the product. The product performs the following calibrations:

- Color-misregistration control
- Environment change control
- Image stabilization control

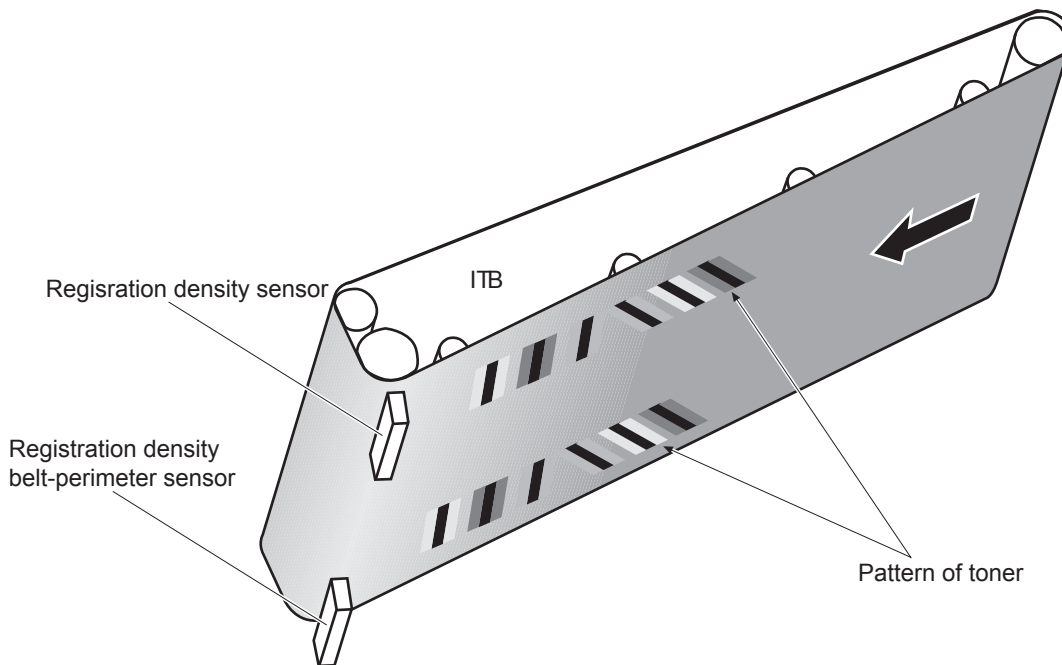
Color-misregistration control

The color-misregistration control corrects the misaligned color planes caused by the variation inherent in the laser/scanner units or cartridges. The color-misregistration control corrects the following:

- Horizontal scanning start position
- Horizontal scanning magnification
- Vertical scanning start position
- Vertical scanning inclination

The DC controller forms a pattern of toner on the surface of the ITB, and measures a misaligned length with the registration density sensor and the registration density belt-perimeter sensor. Accordingly, the formatter calibrates the misaligned color.

Figure 1-29 Color-misregistration control



The DC controller commands the formatter to perform the color-misregistration control whenever one of the following occurs:

- The product is turned on or the door is closed, after replacing any one of the cartridges.
- The product is turned on or the door is closed, after replacing the ITB unit or the laser/scanner unit.
- A specified number of pages have been printed.
- Continuous printing for a specified period of time.
- Cold starting of the fuser when the product is turned on.
- Color misregistration by the environmental change is out of a specified length.

If data from the registration density or registration density belt-perimeter sensor is out of a specified range during the cartridge-presence detection or when starting the color-misregistration control, the DC controller determines an abnormal sensor and notifies the formatter.

Environment change control

The environment change control calibrates each high-voltage bias to obtain an appropriate image according to the environmental changes. The DC controller determines the environment where the product is installed based on the surrounding temperature and humidity data from the environment sensor. It adjusts the high-voltage biases to accommodate environmental changes.

The DC controller determines an environment sensor abnormality and notifies the formatter when it detects out-of-specified-range-data from the environment sensor.

Image stabilization control

The image stabilization control reduces the fluctuations in image density caused by environmental changes or deterioration of the photosensitive drums or toner. The two kinds of image stabilization controls are image density control (DMAX) and image halftone control (DHALF).

Image density control (DMAX)

The image density control calibrates each high-voltage bias to stabilize the image density variation caused by the deterioration of the photosensitive drum or toner. The DC controller commands the formatter to control the image density under the following conditions:

- The detected temperature of the fuser is a specified degree or lower when the product is turned on.
- The product is turned on, the door is closed, or a specified number of pages have been printed after replacing any one of the cartridges.
- The product is turned on or the door is closed, after replacing the ITB unit or the laser/scanner unit.
- A specified number of pages have been printed.

- After a specified period of time from the previous image density control.
- The environment is changed for a specified condition after the previous image density control.

Image halftone control (DHALF)

The image halftone control is performed by the formatter to calibrate the halftone. The DC controller measures the halftone pattern according to a command from the formatter. Accordingly, the formatter calibrates the halftone. The DC controller controls the image halftone under the following conditions:

- The image density control is completed.
- The formatter sends a command.

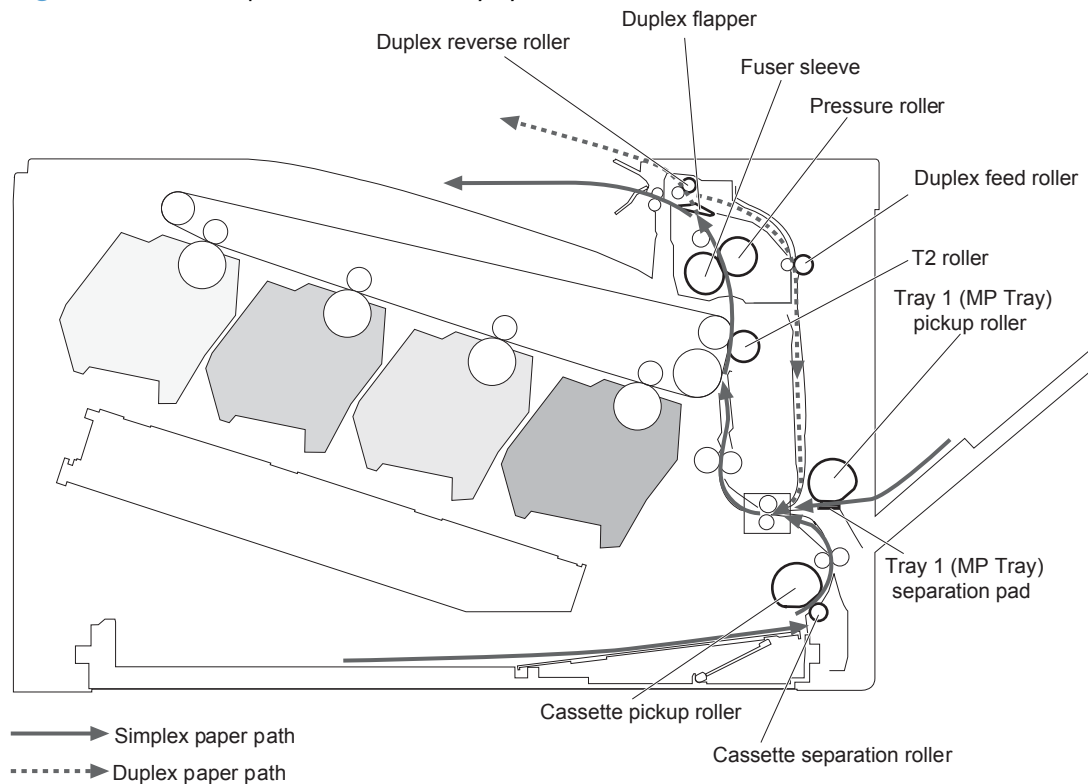
The DC controller determines an abnormal sensor and notifies the formatter if it detects an out of specified range data from the registration density sensor or the registration density belt-perimeter sensor under the following conditions:

- Cartridge presence detection
- Starting the DMAX/DHALF control

Pickup, feed, and delivery system

The pickup/feed/delivery system consists of several types of feed rollers and sensors. A duplexing mechanism reverses and refeeds the print media which allows the product to print two sides automatically.

Figure 1-30 Pickup, feed, and delivery system



The pickup/feed/delivery system can be divided into the following three blocks:

- **Pickup-and-feed block:** From each input source to the fuser inlet
- **Fuser-and-delivery block:** From the fuser to the output bin
- **Duplex block:** From the duplex reverse unit to the duplex re-pickup unit

Figure 1-31 Pickup, feed, and delivery system blocks

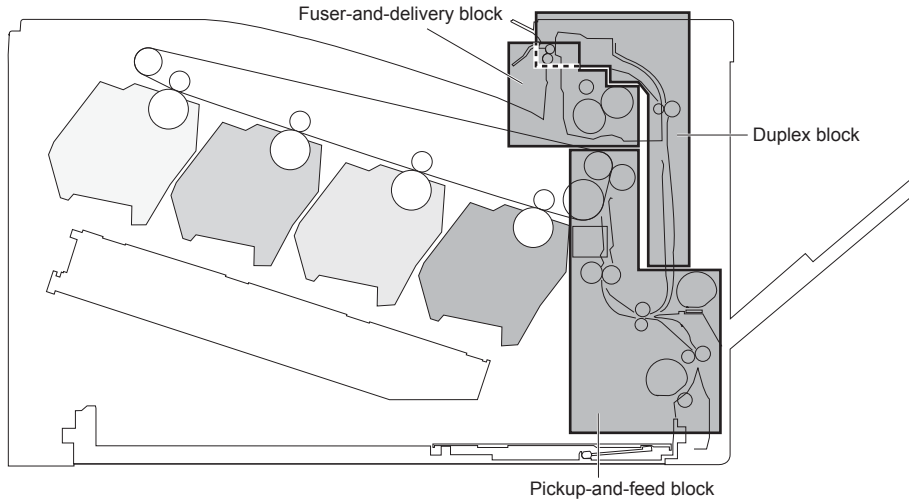


Photo sensors

Figure 1-32 Photo sensors (paper path)

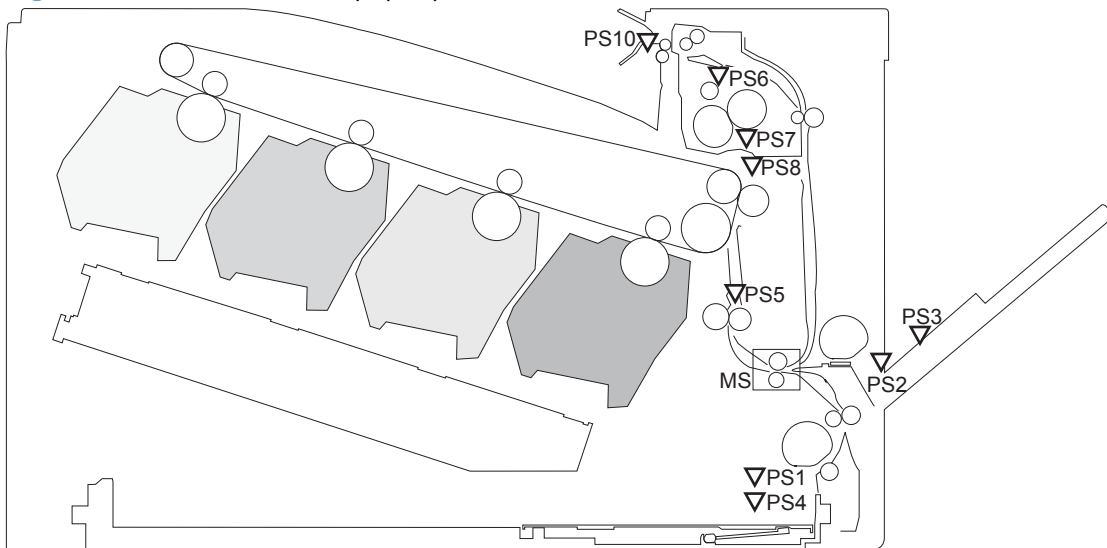


Table 1-5 Photo sensors and switches (product)

Item	Description	Item	Description
PS1	Tray 2 cassette paper-out sensor	PS6	Fuser delivery sensor
PS2	Tray 1 (MP tray) paper-out sensor	PS7	Loop sensor 1
PS3	Last-paper sensor	PS8	Loop sensor 2
PS4	Tray 2 cassette paper-stack surface sensor	PS10	Face-down output bin paper full sensor
PS5	Top-of-Page (TOP) sensor	MS	Media sensor

Motors and solenoids

Figure 1-33 Motors and solenoids (paper path)

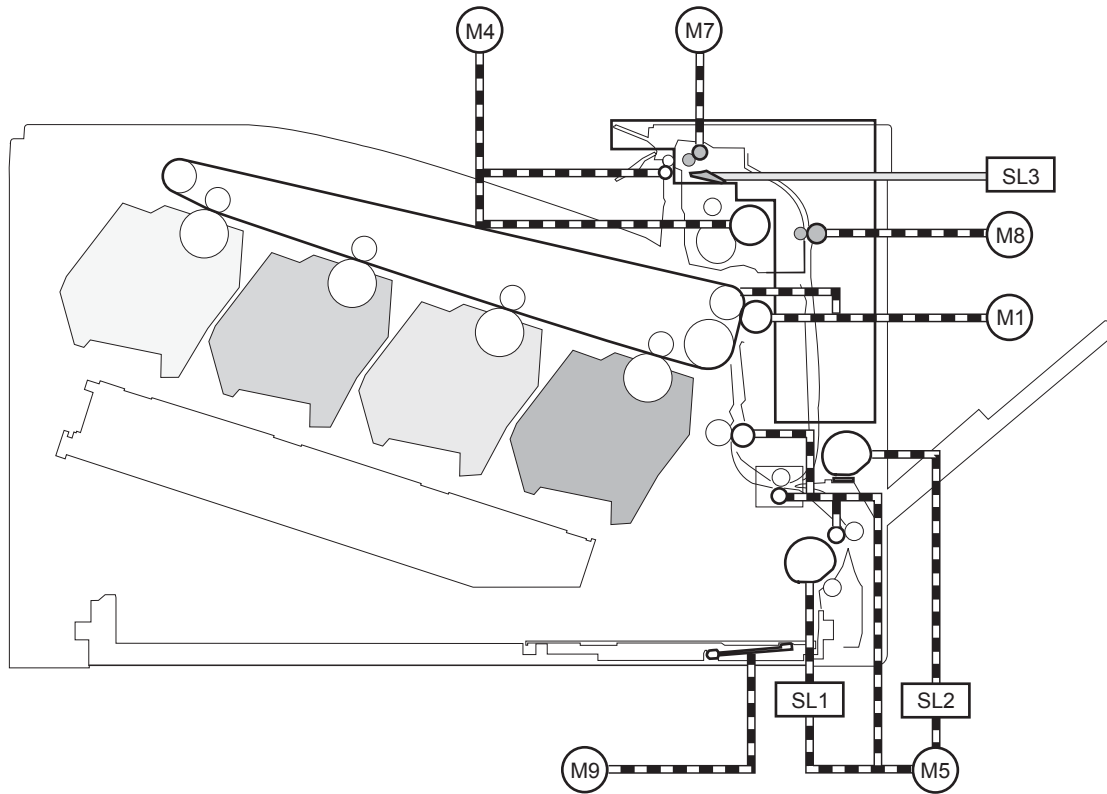


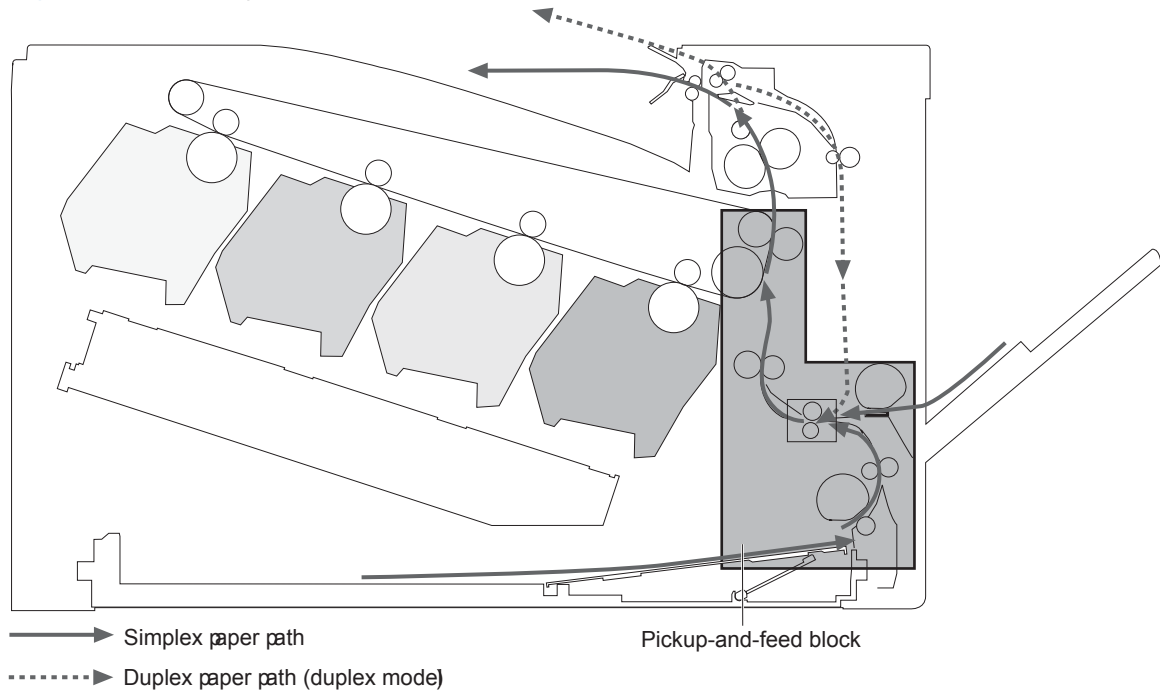
Table 1-6 Motors and solenoids (paper path)

Item	Description	Item	Description
M1	ITB motor	M9	Tray 2 cassette lifter motor
M4	Fuser motor	SL1	Tray 2 cassette pickup solenoid
M5	Pickup motor	SL2	Tray 1 (MP tray) pickup solenoid
M7	Duplex reverse motor	SL3	Duplex reverse solenoid
M8	Duplex feed motor		

Pickup and feed block

The pickup-and-feed block picks one sheet of paper from the Tray 2 cassette or from Tray 1 (MP tray) and feeds it into the fuser.

Figure 1-34 Pickup and feed block



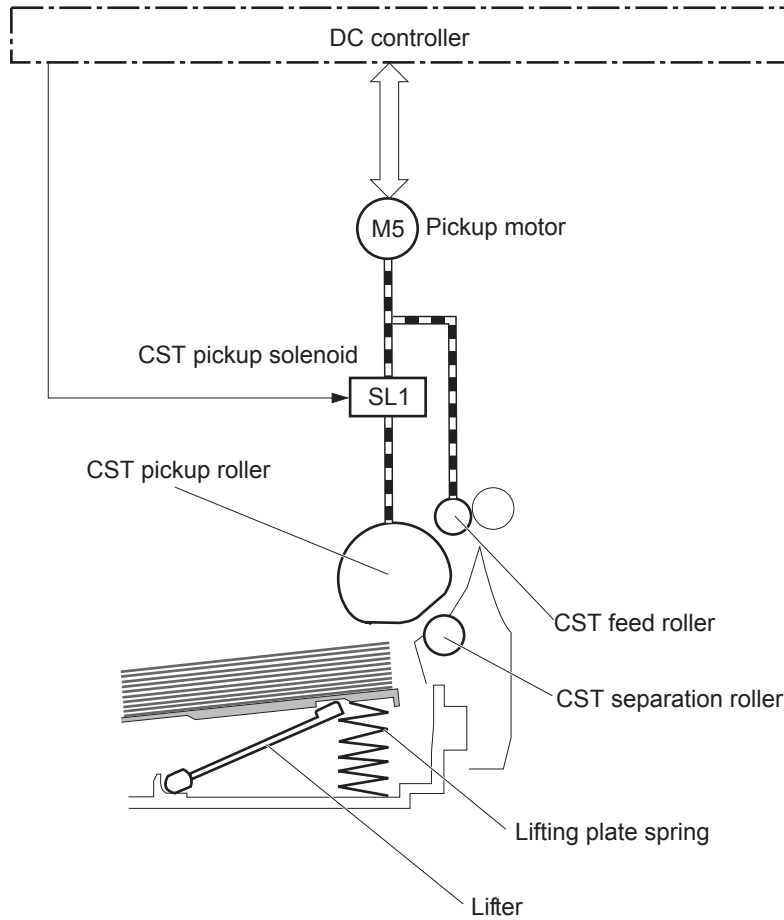
Tray 2 cassette pickup

The operational sequence of the Tray 2 cassette pickup is as follows:

1. The product is turned on or the Tray 2 cassette is inserted.
2. The lift-up operation and the lifting plate spring move up the lifting plate to the position where the paper can be picked up.
3. The DC controller rotates the pickup motor when it receives a print command from the formatter.
4. The Tray 2 cassette (CST) feed roller rotates.
5. The Tray 2 cassette (CST) pickup solenoid is driven at a specified timing.
6. The Tray 2 cassette (CST) pickup roller rotates and picks up the paper.
7. The Tray 2 cassette (CST) separation roller removes any multiple-fed sheets.
8. One sheet of paper is fed into the product.

NOTE: The lift-up operation pushes up the lifting plate to keep the stack surface of paper at the pickup position.

Figure 1-35 Tray 2 cassette pickup operation



Tray 2 cassette multiple-feed prevention

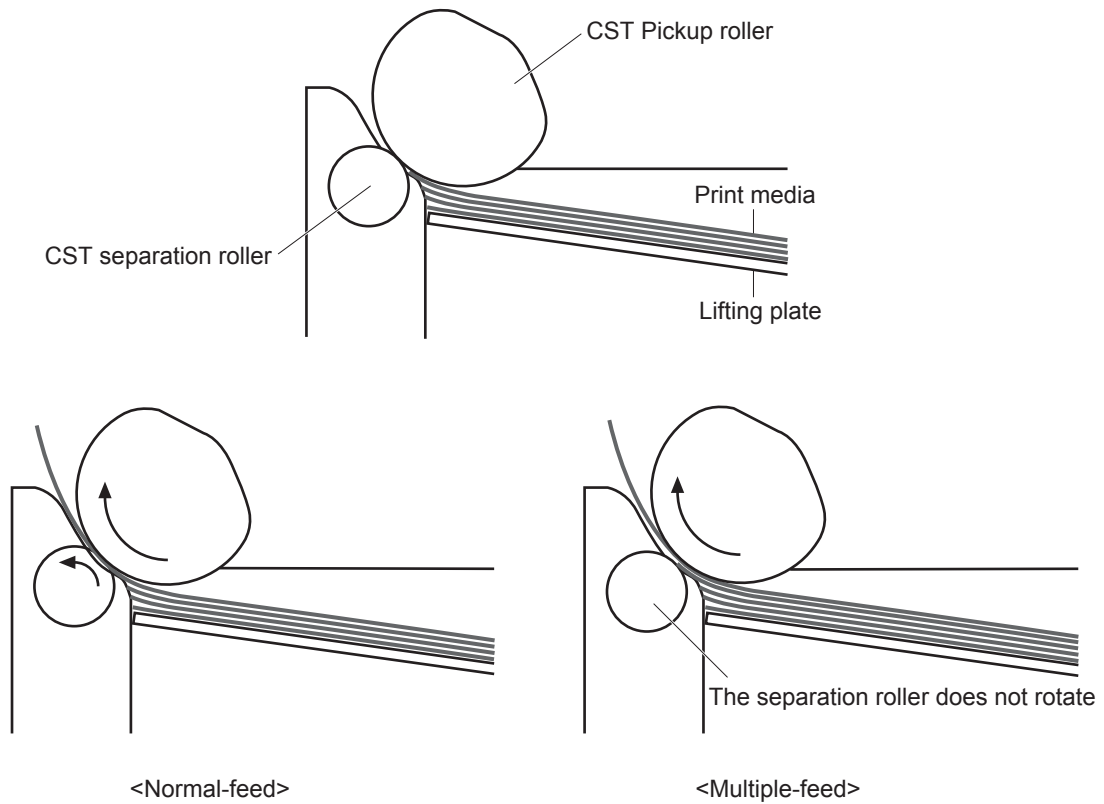
The product uses a separation roller method to prevent multiple sheets of print media from entering the paper path. The Tray 2 cassette separation roller does not have its own driving force. Therefore the Tray 2 cassette separation roller follows the rotation of the Tray 2 cassette pickup roller.

During normal feed, when the product picks up one piece of paper, the Tray 2 cassette separation roller is driven by the Tray 2 cassette pickup roller through one sheet of paper. Thus the separation roller rotates in the paper feed direction.

During multiple-feed, when the product picks up more than one piece of paper, the low friction force between the sheets weakens the driving force from the Tray 2 cassette pickup roller. In addition, some braking force is always applied to the Tray 2 cassette separation roller, so the weak rotational force of

the pickup roller is not enough to rotate the separation roller. Therefore, the separation roller holds back any multiple-fed sheets, and one sheet of paper is fed into the product.

Figure 1-36 Tray 2 cassette multiple-feed prevention



Tray 2 cassette media-size detection and Tray 2 cassette-presence detection

The DC controller detects the size of paper loaded in the Tray 2 cassette by using the Tray 2 cassette-media-end switch and Tray 2 cassette-media-width switch.

The DC controller also detects the presence of the cassette by using the Tray 2 cassette-media-end switch. The DC controller notifies the formatter if the Tray 2 cassette is absent.

Table 1-7 Tray 2 cassette media-size detection and Tray 2 cassette-presence detection (product base)

Paper size	Cassette-media-width switch			Cassette-media-end switch		
	Top switch	Center switch	Bottom switch	Top switch ¹	Center switch	Bottom switch
A4	On	On	On	See footnote	Off	Off
Letter	On	On	Off		Off	Off
B5	On	Off	Off		Off	Off
Executive	Off	Off	Off		Off	Off
A5-R	Off	On	On		Off	Off
B5-R	Off	Off	On		Off	Off
Letter-R	On	Off	On		Off	Off
A4-R	On	Off	On		Off	On
A3	On	On	On		On	On
11 X 17	On	On	Off		On	On
B4	On	Off	Off		On	On
Legal	On	Off	On		On	On

¹ The top Tray 2 cassette-media-end switch detects the presence of the Tray 2 cassette. It turns off when the Tray 2 cassette is present and turns on when the Tray 2 cassette is absent.

Tray 2 cassette lift-up operation

The cassette lift-up operation keeps the paper stack surface at the correct pickup position whenever the following conditions occur:

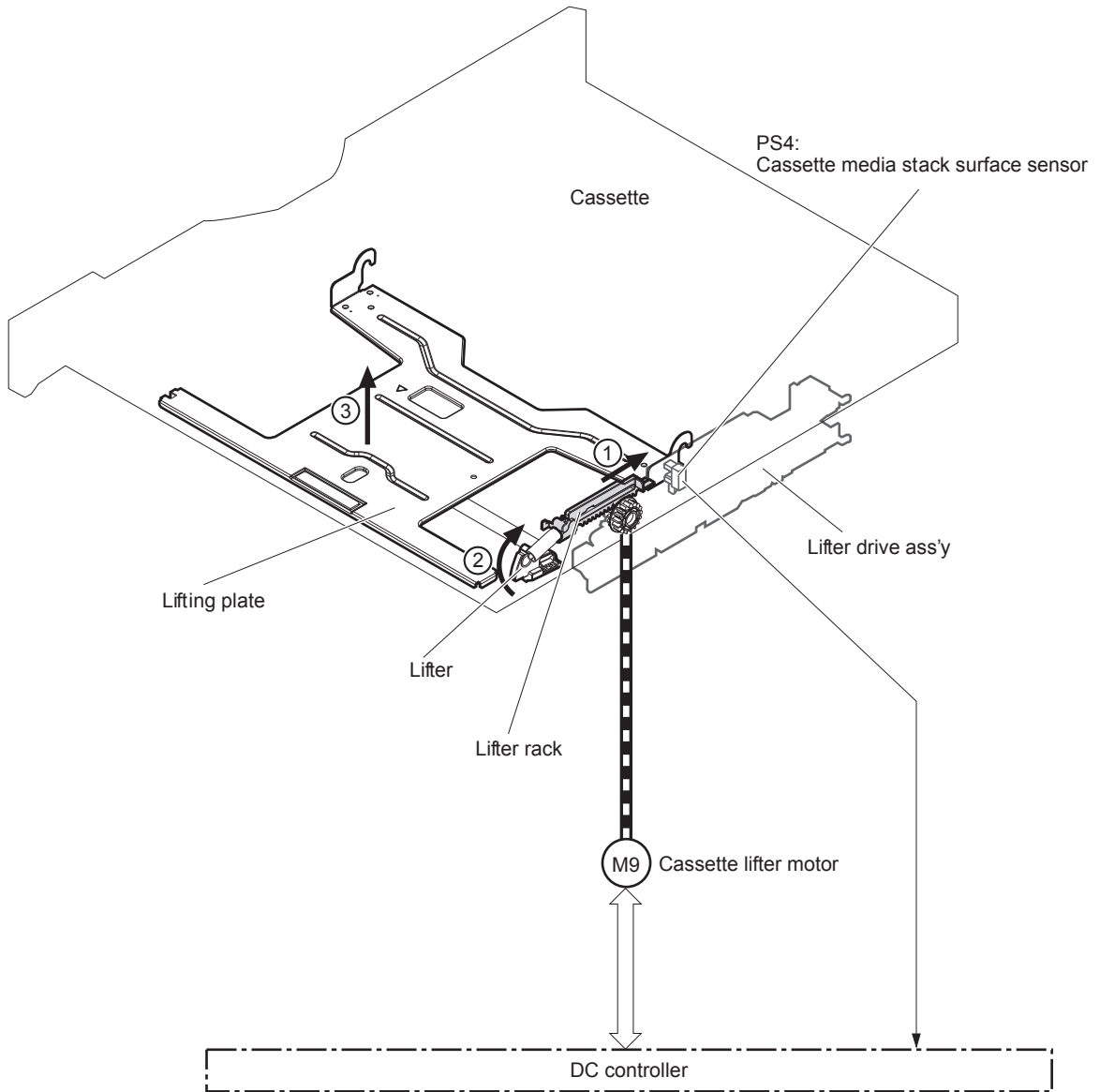
- Product power is turned on.
- Tray 2 cassette is installed.

The following list describes the sequence of the Tray 2 cassette lift-up operation.

- The Tray 2 cassette lifter motor rotates to move the lifter rack toward the Tray 2 cassette-media-stack surface sensor.
- As the lifter rack moves, the lifter moves up.
- The Tray 2 cassette lifter motor stops when the Tray 2 cassette-media-stack surface sensor detects the lifter rack.

The DC controller determines a Tray 2 cassette lifter motor failure and notifies the formatter if the Tray 2 cassette-media-stack surface sensor does not detect the lifter rack within a specified period after the Tray 2 cassette lifter motor starts rotating.

Figure 1-37 Tray 2 cassette lift-up operation

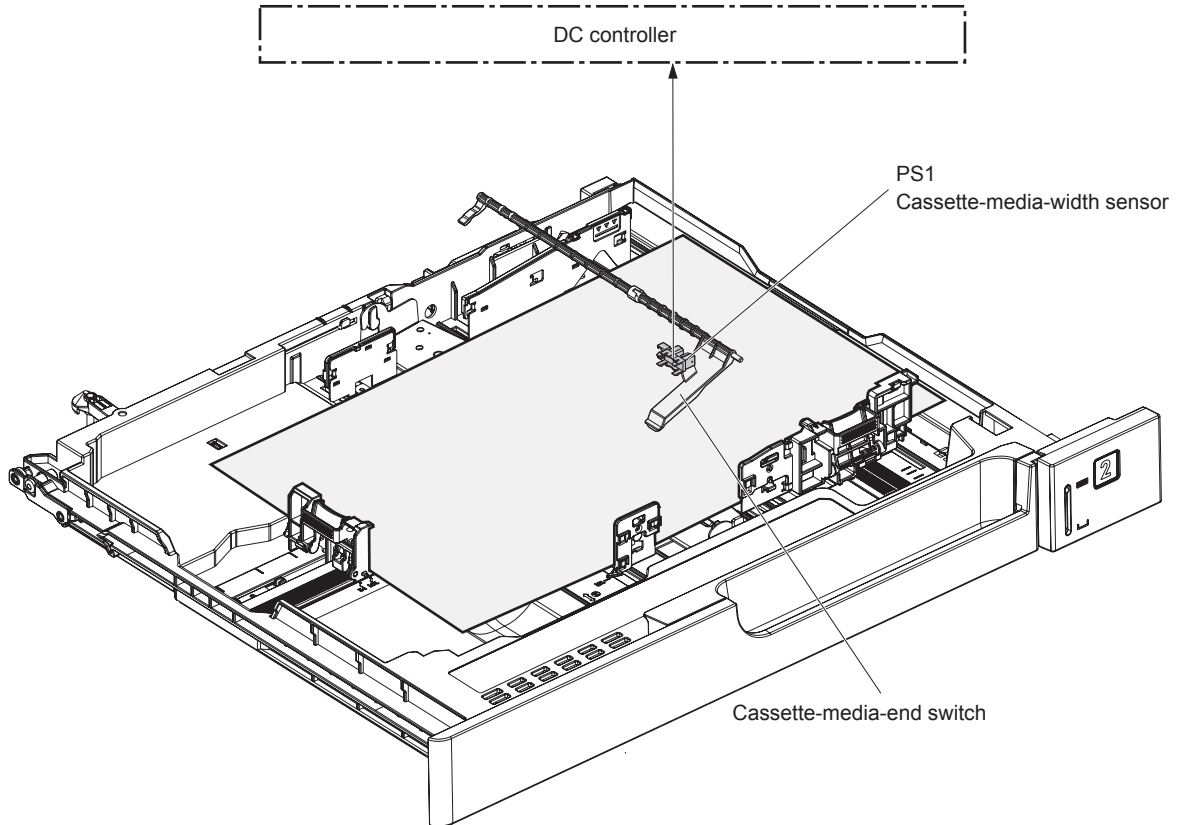


Cassette media-presence detection

The Tray 2 cassette-media-out sensor detects the presence of paper in the Tray 2 cassette.

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

Figure 1-38 Tray 2 cassette media-presence detection



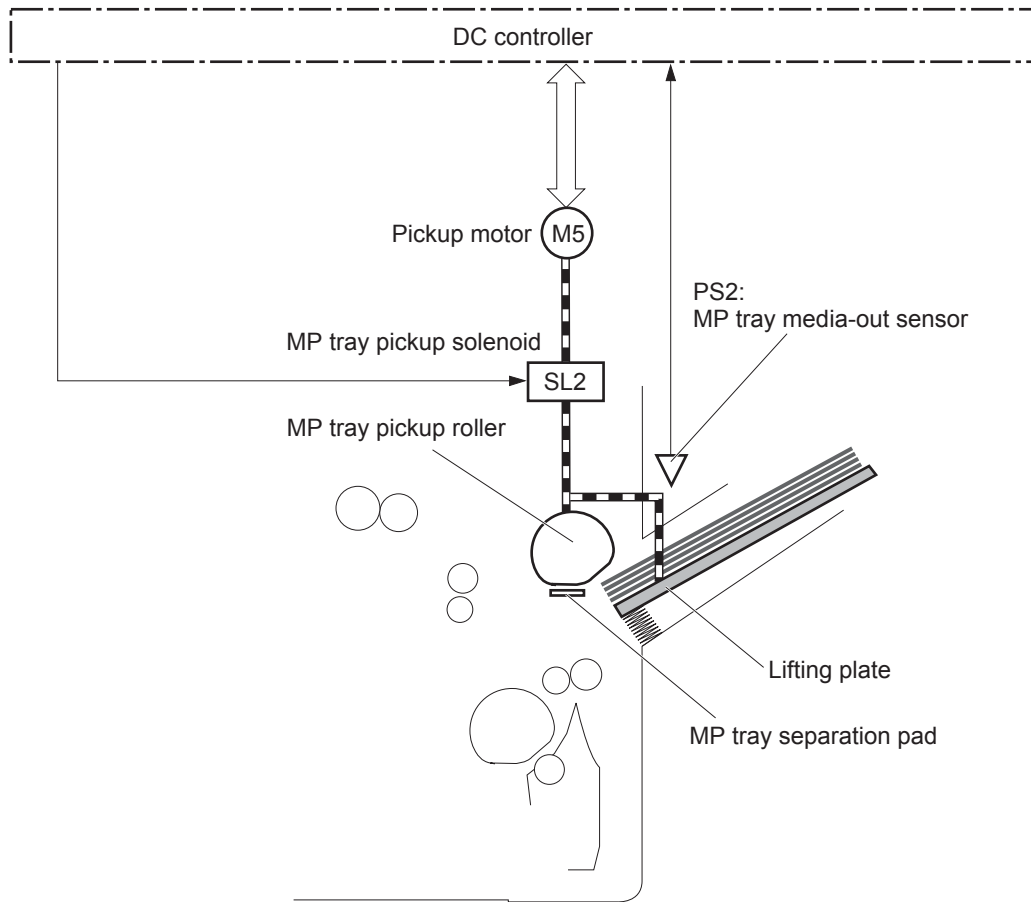
Tray 1 (MP tray) paper pickup

The operational sequence of the MP tray pickup is as follows:

1. The DC controller rotates the pickup motor when it receives a print command from the formatter.
2. As the MP tray pickup solenoid is driven, the MP tray pickup roller rotates and the lifting plate moves up.
3. The MP tray pickup roller picks up the paper.
4. The MP tray separation pad removes any multiple-fed sheets and one sheet of paper is fed into the product.

The MP tray media-out sensor detects the presence of print media on the MP tray.

Figure 1-39 Tray 1 (MP tray) paper pickup



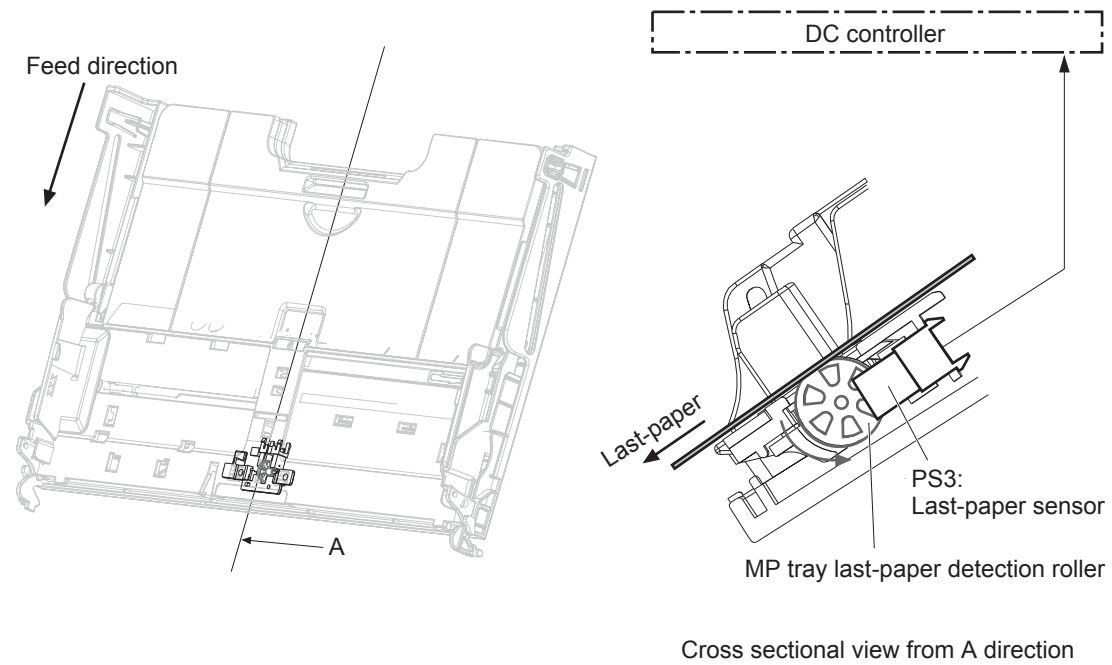
Tray 1 (MP tray) last-paper detection

To prevent toner contamination on the photosensitive drums and the ITB the product detects whether the print media in Tray 1 (MP tray) is the last sheet during continuous printing.

The product attempts to form the next image before the DC controller detects a media absence because the paper path between the Tray 1 (MP tray) media-out sensor and the registration roller is short. To prevent the photosensitive drums and the ITB from being contaminated with toner, the last-paper sensor detects the last paper. The Tray 1 (MP tray) last paper detection roller rotates when the last paper is

picked up. The DC controller notifies the formatter of a media absence when it detects the last paper by the last-paper sensor.

Figure 1-40 Tray 1 (MP tray) last-paper detection



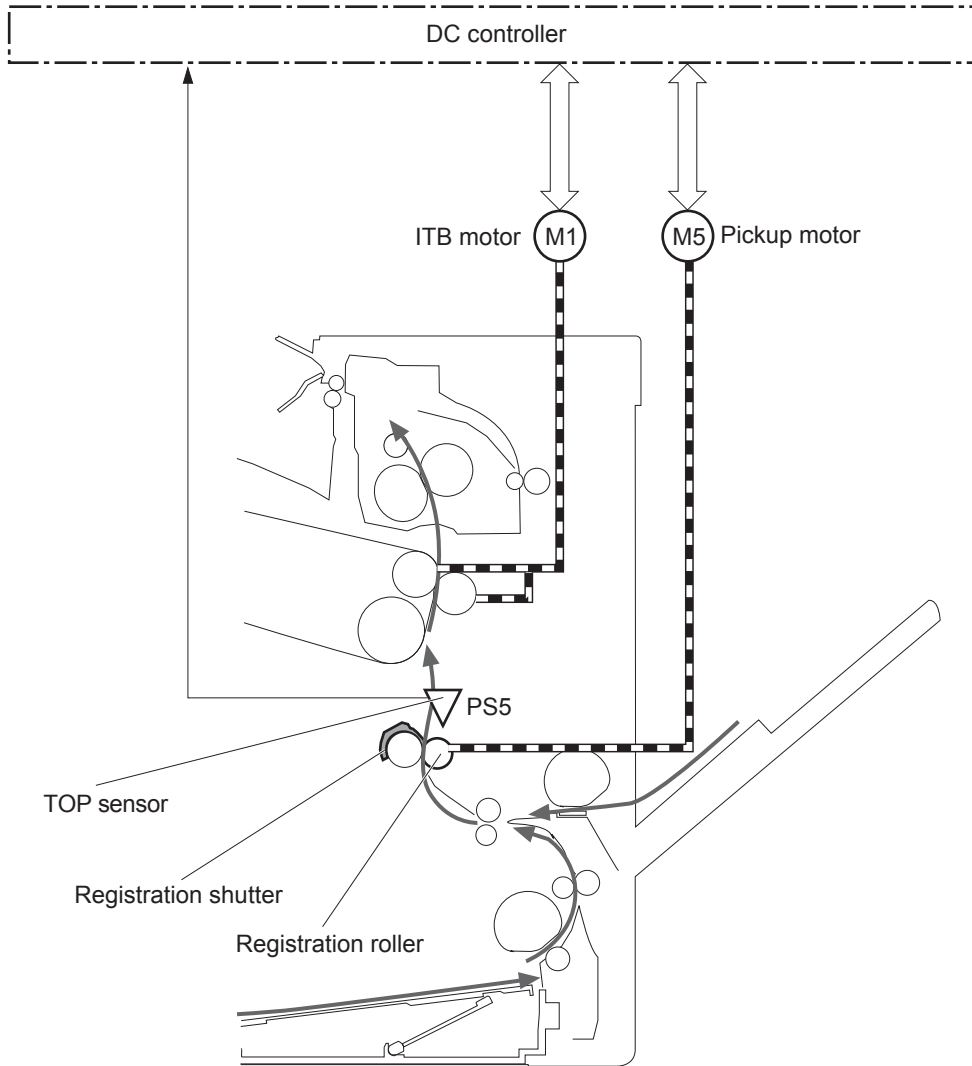
Paper feed

After the paper pickup operation, the paper picked up from either the Tray 2 cassette or Tray 1 (MP tray) is then fed to the fusing-and-delivery block.

1. The registration shutter corrects the skew-feeding of the paper that is picked up from the Tray 2 cassette or Tray 1 (MP tray).
2. When the Top-of-Page (TOP) sensor detects the leading edge of paper, the DC controller controls the rotational speed of the pickup motor to align with the leading edge of the toner image on the ITB.
3. The media sensor detects the type of print media.
4. The toner image on the ITB is transferred onto the paper, and the paper is fed to the fusing-and-delivery block.

The DC controller notifies the formatter of a paper size mismatch error when the paper length detected by the TOP sensor does not match the paper size specified by the formatter.

Figure 1-41 Paper feed

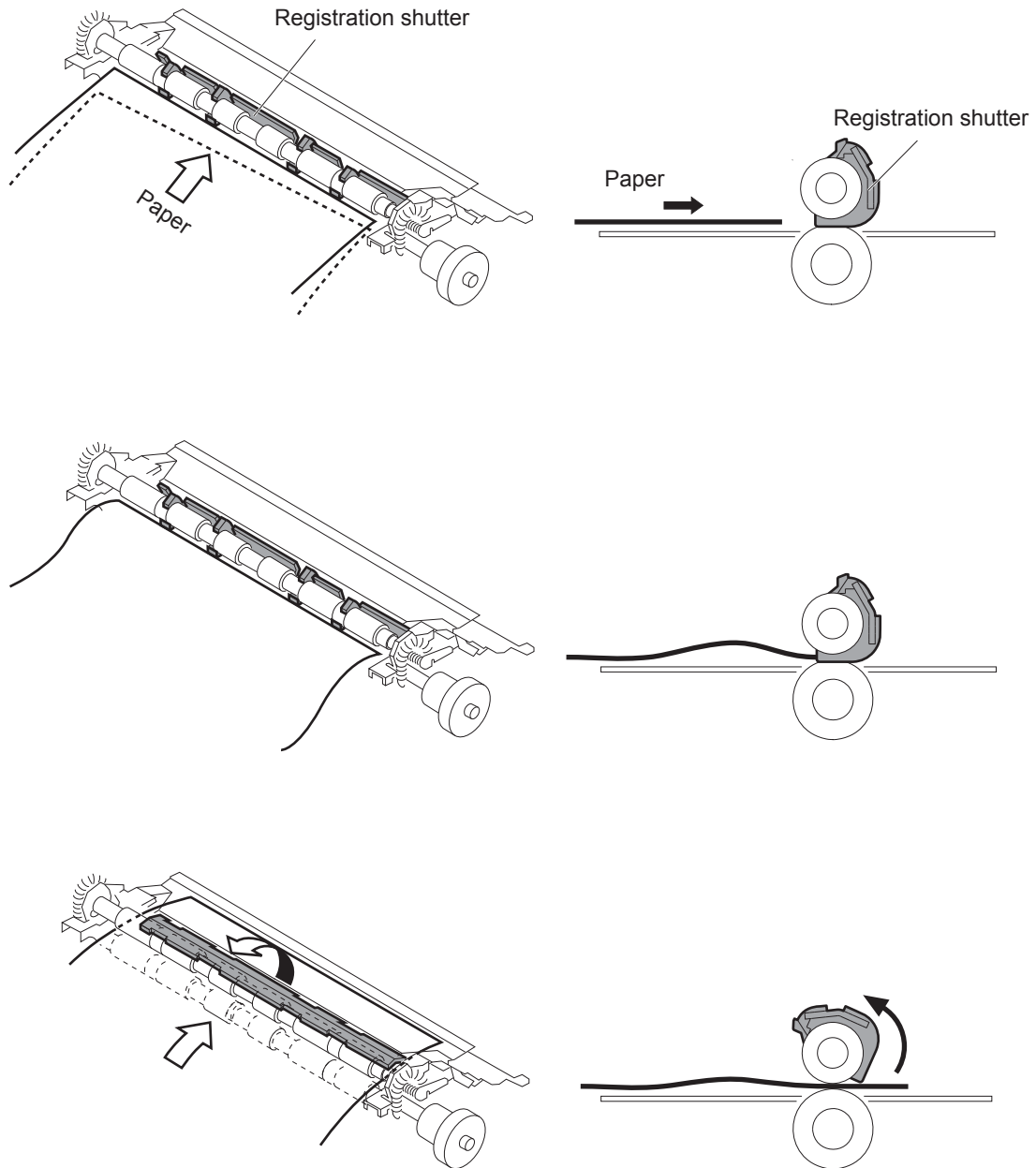


Skew-feed prevention

The printer corrects the skew feed without decreasing the throughput.

1. The leading edge of paper strikes the registration shutter and aligns.
2. As the feed rollers keep pushing the paper, the paper gets warped against the registration shutter.
3. The stiffness of paper pushes up the registration shutter and the realigned paper passes through straightened.

Figure 1-42 Skew-feed prevention



Media detection

The product automatically selects an optimal print mode for a print-media by monitoring the media sensors in the paper path.

Media detection sensor types

- Reflected light type (detects the glossiness of paper)
- Transmitted light type (detects the thickness of paper)

The DC controller detects the type of print-media by the reflected light and the transmitted light, and switches the print modes accordingly. The DC controller identifies the following paper types:

- Plain paper
- Light paper
- Heavy paper
- Glossy paper
- Glossy film
- Overhead transparency (OHT)

The DC controller determines a media mismatch error and notifies the formatter under the following conditions:

- Simplex printing
 - The specified print mode is OHT, but the media sensor detects media other than an overhead transparency.
 - The specified print mode is something other than OHT, but the media sensor detects an overhead transparency.
- Duplex printing
 - The specified print mode is for duplex-printable-print mode, but the media sensor detects an overhead transparency. For more information about duplex-printable mode, see [Duplex Block on page 63](#).

The DC controller flashes the media sensor during the initial rotation period under the following conditions:

- Product power is turned on.
- The door is closed.

The DC controller determines a media sensor abnormality and notifies the formatter when the light intensity is out of a specified range.

Feed-speed control

The product adjusts the feed speed to obtain the best print quality depending on the type of print media. The product prints at the speed corresponding to the print mode specified by the formatter.



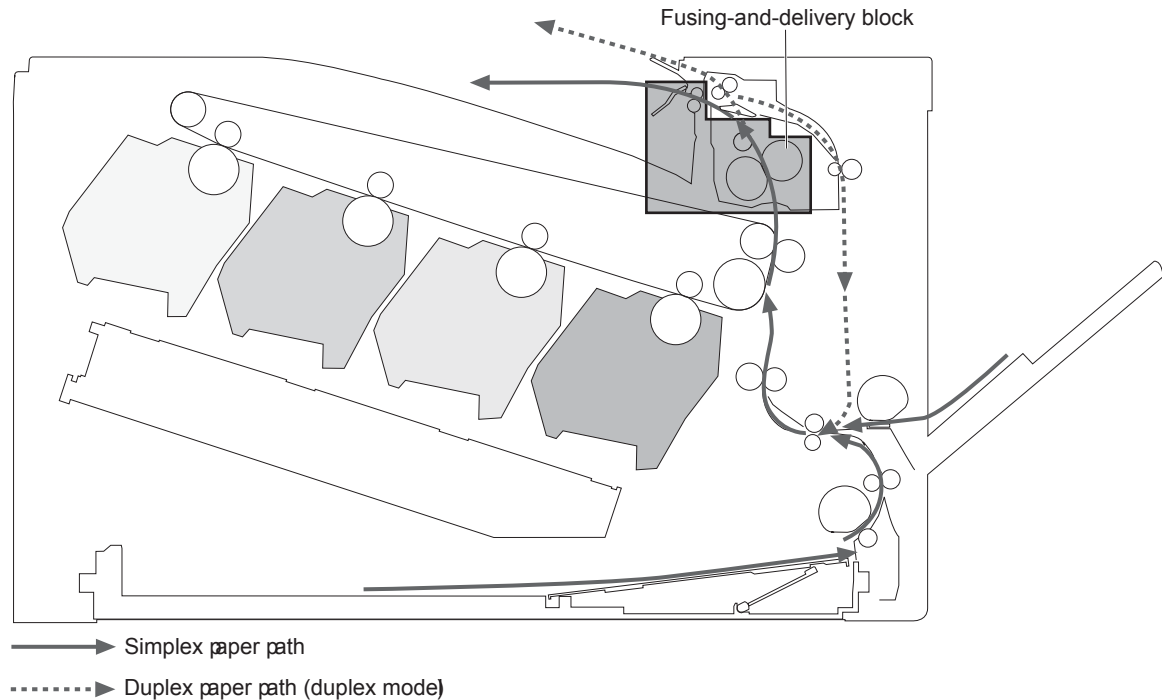
NOTE: For the paper types that the media sensor cannot detect, the product adjusts the feed speed according to the print mode specified by the formatter.

Auto Sense mode	Print mode	Print speed	Media sensor detection
Normal mode	Normal	1/1	Yes
Light mode	Light media 1	1/1	Yes
Heavy Mode	Heavy media 1	2/3	Yes
Cardstock Mode	Heavy media 3	1/3	No
Transparency Mode	OHT	1/3	Yes
Transparency2 Mode	OHT + higher fuser temp	1/3	Yes
Envelope Mode	Envelope	2/3	No
Label Mode	Label	1/3	No
Tough Mode	Glossy film	1/3	Yes
Extra Heavy Mode	Heavy media 2	1/3	Yes
Heavy Glossy Mode	Glossy media 1	1/3	Yes
X-hvyglossymode	Glossy media 2	1/3	Yes
Rough Mode	Rough	2/3	No
Card Glossy Mode	Glossy media 3	1/3	Yes
4mm trns Mode	OHT + lower fuser temp	1/3	Yes
Light Rough Mode	Light media 1 + fuser temp adjustments	1/1	Yes

Fusing and delivery block

The fusing-and-delivery block fuses the toner image onto the print media and delivers the printed page to the output bin.

Figure 1-43 Fusing and delivery block



Loop control

The product controls the loop (slackness) of print media to prevent print quality and media feed defects.

- If the fuser sleeve rotates slower than the ITB, the paper loop increases and an image defect or paper crease occurs.
- If the fuser sleeve rotates faster than the ITB, the paper loop decreases and an image is stretched because the toner image is not transferred to the paper correctly.

Two loop sensors located between the fuser sleeve and the ITB detect the paper loop. Accordingly the DC controller controls the rotational speed of the fuser motor to keep the proper amount of paper loop.

- **Loop sensor 1:** Detects the paper loop for heavy media.
- **Loop sensor 2:** Detects the paper loop for plain media other than heavy media.

Table 1-8 Fuser loop sensors control

Loop sensor 1	Loop sensor 2	Fuser motor speed
OFF	OFF	Speed down

Table 1-8 Fuser loop sensors control (continued)

Loop sensor 1	Loop sensor 2	Fuser motor speed
ON	OFF	Heavy paper: speed up Other paper: speed down
ON	ON	Speed up

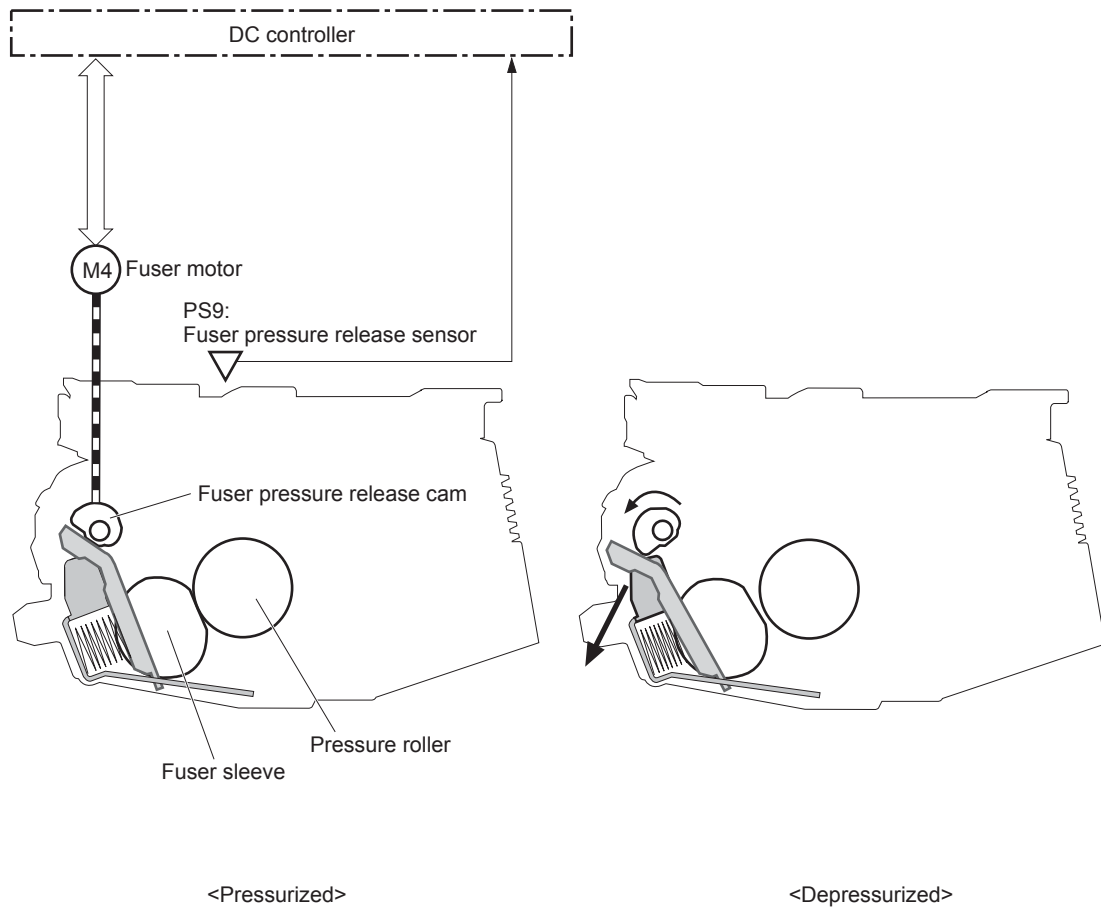
Pressure roller pressurization and depressurization control

The product releases the pressure roller from the fuser sleeve, except during printing, to prevent deforming the fuser sleeve and the pressure roller and to facilitate the jam-clearing procedure.

1. The DC controller reverses the fuser motor to rotate the fuser pressure release cam.
2. The pressure roller is pressurized or depressurized depending on the position of the cam.

The DC controller determines a fuser pressure-release mechanism abnormality and notifies the formatter when it does not sense the fuser pressure-release sensor for a specified period from when it reverses the fuser motor.

Figure 1-44 Pressure roller pressurization and depressurization control



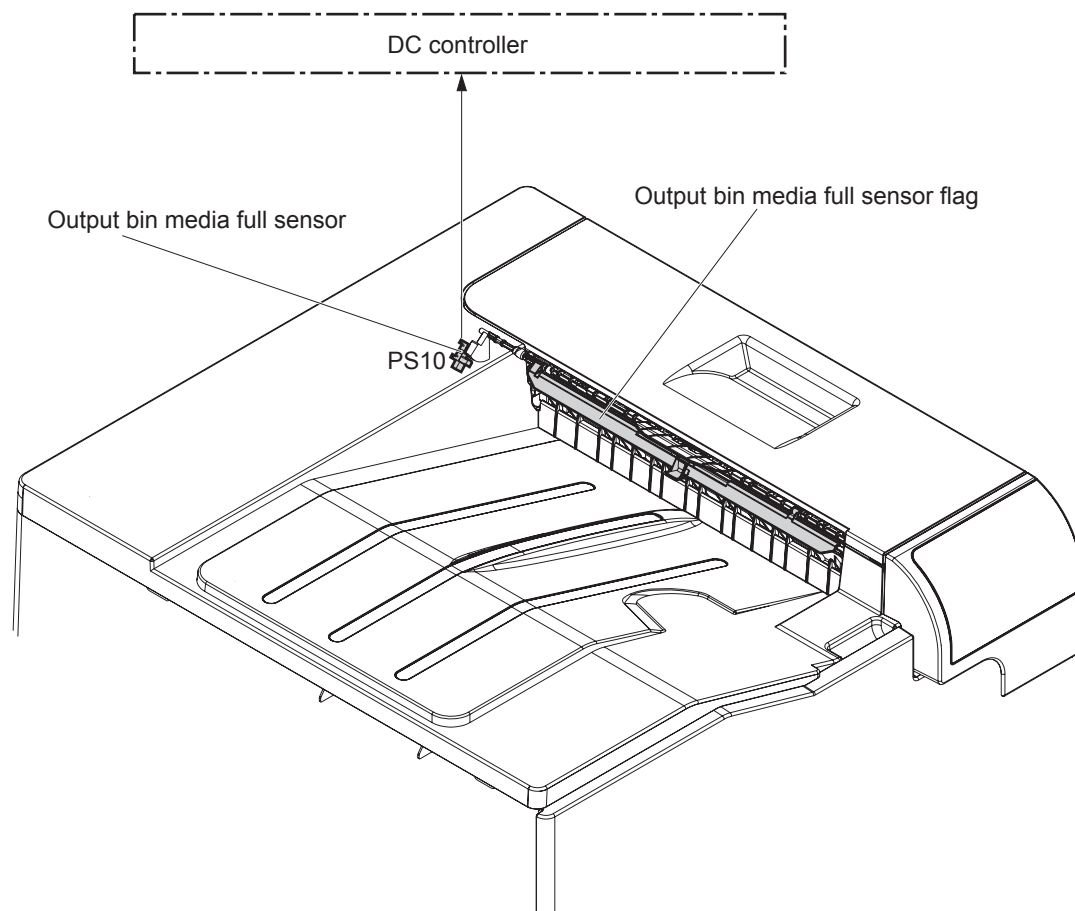
The pressure roller is depressurized whenever the following occurs:

- The product is turned off
- The product enters [Sleep Mode](#)
- A paper jam is detected
- A fuser failure occurs
- An absence of the toner collection unit (TCU) is detected

Output bin full detection

The output bin media-full sensor detects whether the output bin is full of printed pages. The DC controller determines the output bin is full and notifies the formatter when it senses the output bin media-full sensor is on for a specified period during standby or printing.

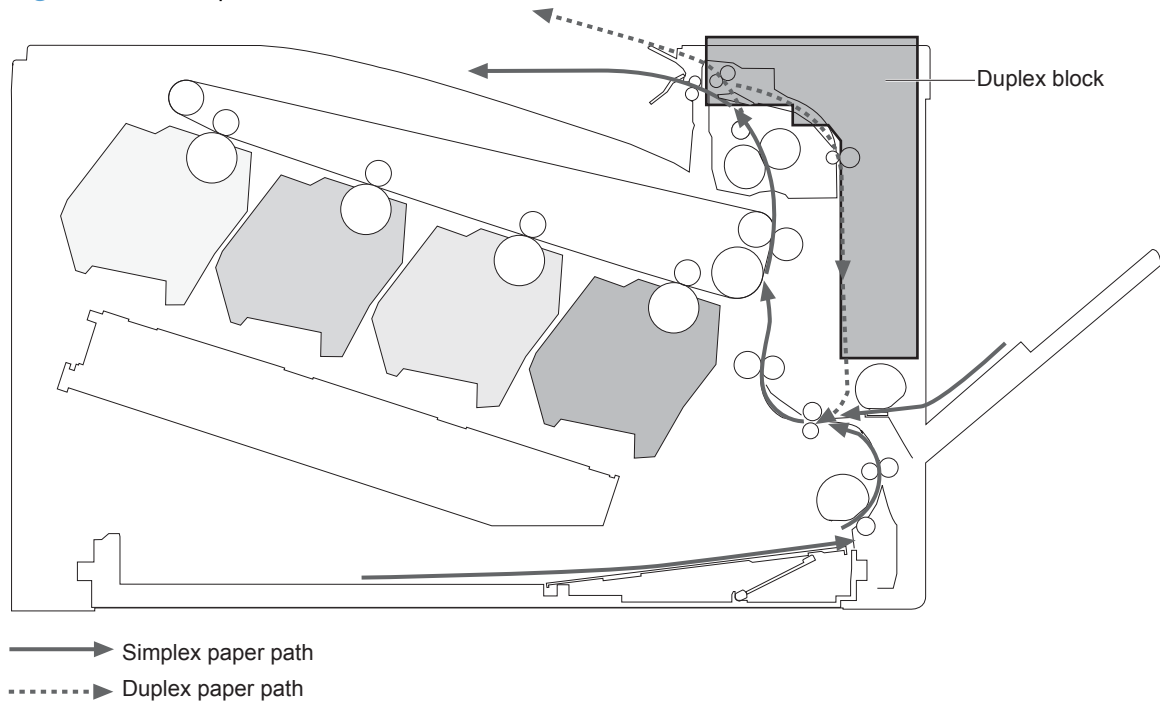
Figure 1-45 Output bin full detection



Duplex Block

The duplex block reverses and feeds the paper.

Figure 1-46 Duplex block



Duplex reverse and duplex feed control

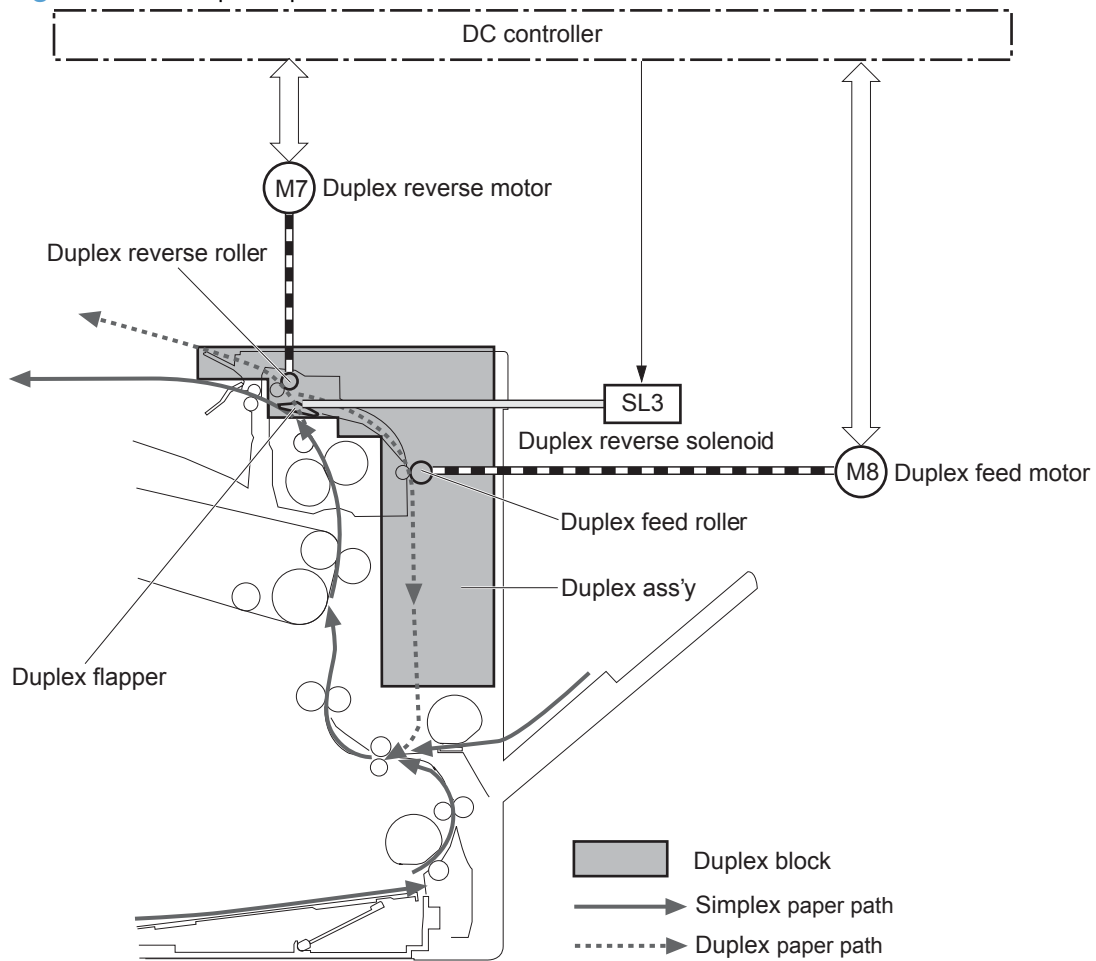
The duplex reverse control reverses the paper after the first side is printed. The duplex feed control feeds the paper to the duplex block to print the second side of the page.

The operational sequence of the duplex reverse and duplex feed control is as follows:

1. The DC controller rotates the duplex reverse motor and drives the duplex reverse solenoid at a specified timing after the first side of page is printed.
2. The duplex flapper moves and the paper is fed by the duplex reverse roller.
3. The duplex reverse motor is reversed.
4. The duplex reverse roller is reversed accordingly, and the paper is switched back.

5. The duplex feed motor rotates.
6. The duplex feed roller feeds the paper.

Figure 1-47 Duplex operation



Duplex operation

The product prints two sides of a page with the following operation (depending on the paper size).

- **One-sheet operation:** Feeds one sheet of a two-sided page in a duplex print operation.
- **Two-sheet operation:** Feeds two sheets of a two-sided page in a duplex print operation.

The duplex print operation is specified by the formatter.

The duplex print is performed only when using a duplex printable paper size and specified print mode. See [Table 1-9 Paper sizes, duplex operation on page 65](#) and [Table 1-10 Print modes, duplex operation on page 65](#).

Table 1-9 Paper sizes, duplex operation

Paper size	Duplexing media feed mode
A4-R	One-sheet operation
A3	
Letter-R	
B4	
B5-R	
Ledger	
Legal	
A4	
B5	Two-sheet operation
Letter	
A5-R	
Executive	

Table 1-10 Print modes, duplex operation

Print mode	Duplex print ¹	Print mode	Duplex print ¹
AUTO	Yes	X-hvyglossy	Yes
Normal	Yes	Card glossy	No
Light	Yes	Rough	Yes
Light rough	Yes	Transparency	No
Heavy	Yes	4mm transparency	No
Extra heavy	No	Tough	Yes
Cardstock	No	Label	No
heavy glossy	Yes	Envelope	No

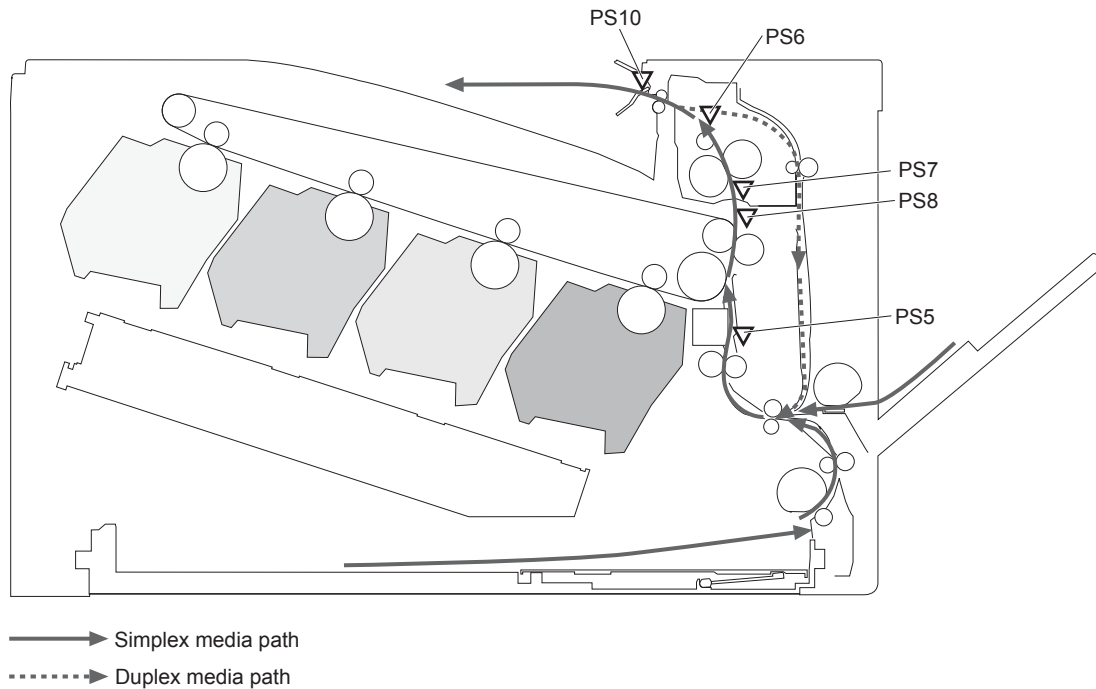
¹ This table shows whether the automatic duplex operation is available for each print mode, but it does not mean that the print-quality of the automatic duplex print operation will be acceptable.

Jam detection

The product uses the following sensors to detect the presence of print-media and to check whether the print-media is being fed correctly or has jammed:

- Top-of-Page (TOP) sensor (PS5)
- Fuser delivery sensor (PS6)
- Loop sensor 1 (PS7)
- Loop sensor 2 (PS8)
- Output bin media full sensor (PS10)

Figure 1-48 Sensors for jam detection



The product detects the following jams:

Pickup delay jam	<p>Tray 1 (MP tray): The TOP sensor does not detect the leading edge of paper within a specified period, including a retry, after the MP tray pickup solenoid is turned on.</p> <p>Tray 2 cassette: The TOP sensor does not detect the leading edge of paper within a specified period, including a retry, after the Tray 2 cassette pickup solenoid is turned on.</p> <p>Paper feeder: The TOP sensor does not detect the leading edge of paper within a specified period after the paper-feeder (PF) feed sensor detects the leading edge.</p>
Pickup stationary jam	The TOP sensor does not detect the trailing edge of paper within a specified period after the leading edge of paper reaches the secondary transfer roller unit.
Fuser delivery delay jam	The fuser delivery sensor does not detect the leading edge of paper within a specified period after the leading edge of paper reaches the secondary transfer roller unit.

Fuser delivery stationary jam	<p>The fuser delivery sensor does not detect the trailing edge of paper within a specified period after the TOP sensor detects the trailing edge.</p> <p>The output bin media full sensor does not detect the leading edge of paper within a specified period after the fuser delivery sensor detects the leading edge.</p>
Wrapping jam	The fuser delivery sensor detects a paper absence yet it does not detect the trailing edge of paper after it detects the leading edge.
Residual paper jam	<p>One of the following sensors detects a presence of paper when the printer is turned on or when the door is closed.</p> <ul style="list-style-type: none"> • TOP sensor • Fuser delivery sensor • Loop sensor 1 • Loop sensor 2 <p>NOTE: The product automatically clears all paper from the paper path if the TOP sensor detects residual paper when the product is turned on or a door is closed.</p>
Door open jam	A door open is detected during a paper feed operation.
Duplex re-pickup jam	The TOP sensor does not detect the leading edge of paper within a specified period after the paper is reversed during a duplex print operation.

Scanning/image capture system

Scanner

The scanner is a carriage-type platen scanner which includes the frame, glass, LED optics, and a scanner controller board (SCB) attached to the back of the assembly. The scanner has two sensors to detect legal and ledger/A3 sized media and a switch to indicate when the ADF is open.

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

Document feeder system

- Simplex single pass
- Duplex three pass
- Length-short and length-long sensing flag
- Pick and feed roller assembly with separation pad
- Mechanical deskew
- Step glass for ADF scanning
- Jam clearance door with sensing
- LED indication when original is placed on input tray

Sensors in the ADF

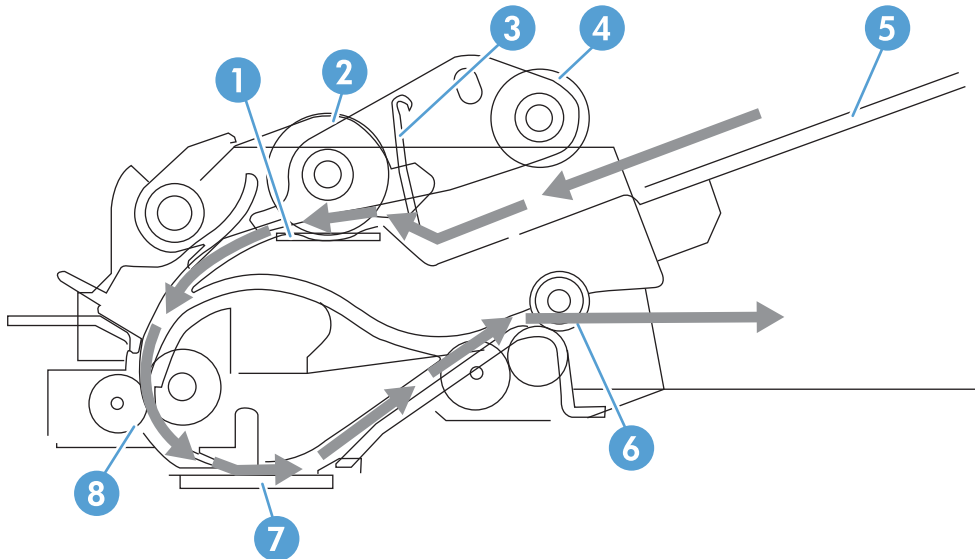
The ADF contains the following sensors:

- **ADF-cover sensor:** Detects whether the ADF cover is open or closed.
- **Paper length sensors:** Detects whether there is a letter/A4, legal, or ledger/A3 size original.
- **Pick success sensor:** Detects the top of the page before sending a page through the ADF and the end of the page after feeding/scanning is complete.
- **Paper-present sensor:** Detects whether a document is present in the ADF. If paper is present in the ADF when copies are made, the product scans the document using the ADF. If no paper is present when copies are made, the product scans the document using the scanner glass.
- **Deskew sensor:** Detects the top of the page as it enters the deskew rollers.
- **Path sensor 1:** Detects the top of the page as it approaches the ADF glass.

ADF paper path

The ADF feeds documents past the ADF glass for scanning.

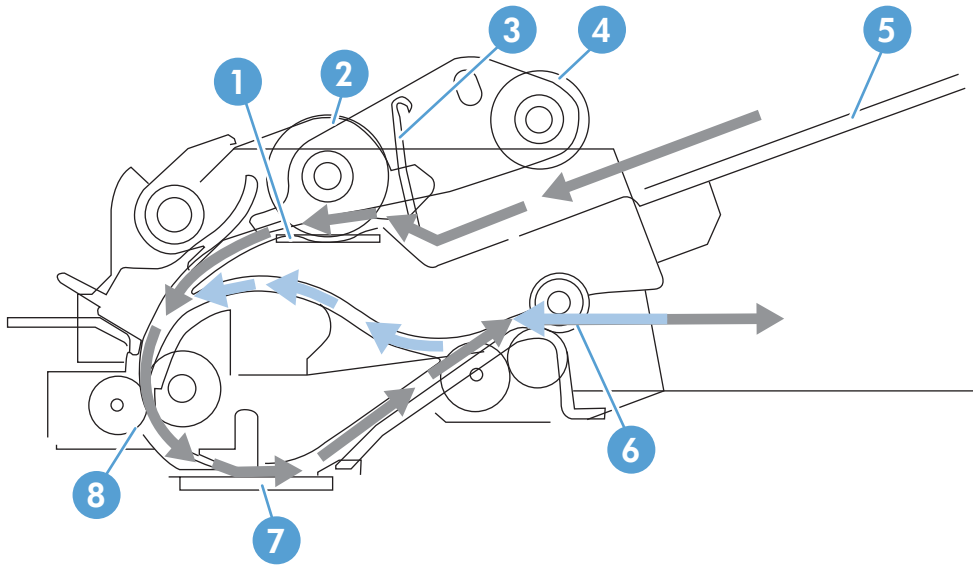
Figure 1-49 ADF path for single-sided documents




1	Separation pad	5	ADF input tray
2	Pickup roller	6	Delivery/duplex-feed rollers
3	Stack stop	7	ADF glass
4	Pre-pick roller	8	ADF feed rollers

For two-sided documents, the delivery rollers reverse the direction of each page to feed the second side of the document past the ADF glass.

Figure 1-50 ADF path for two-sided documents



 **NOTE:** Callouts in [Figure 1-50 ADF path for two-sided documents on page 70](#) are identical to callouts in [Figure 1-49 ADF path for single-sided documents on page 69](#) .

Stapler/stacker

This product supports a stapler/stacker. The stapler/stacker delivers the printed page to the output bin, or delivers the printed page to the output bin after stapling the page. The operational sequence of the paper feeder is controlled by the formatter.

Figure 1-51 Stapler/stacker paper path

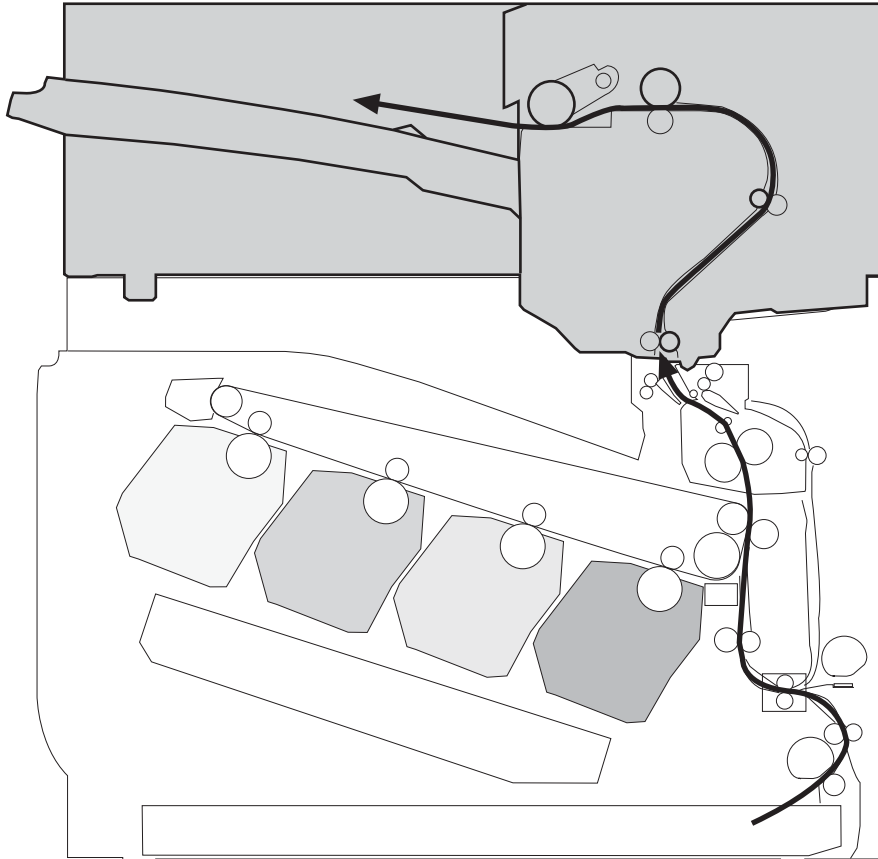
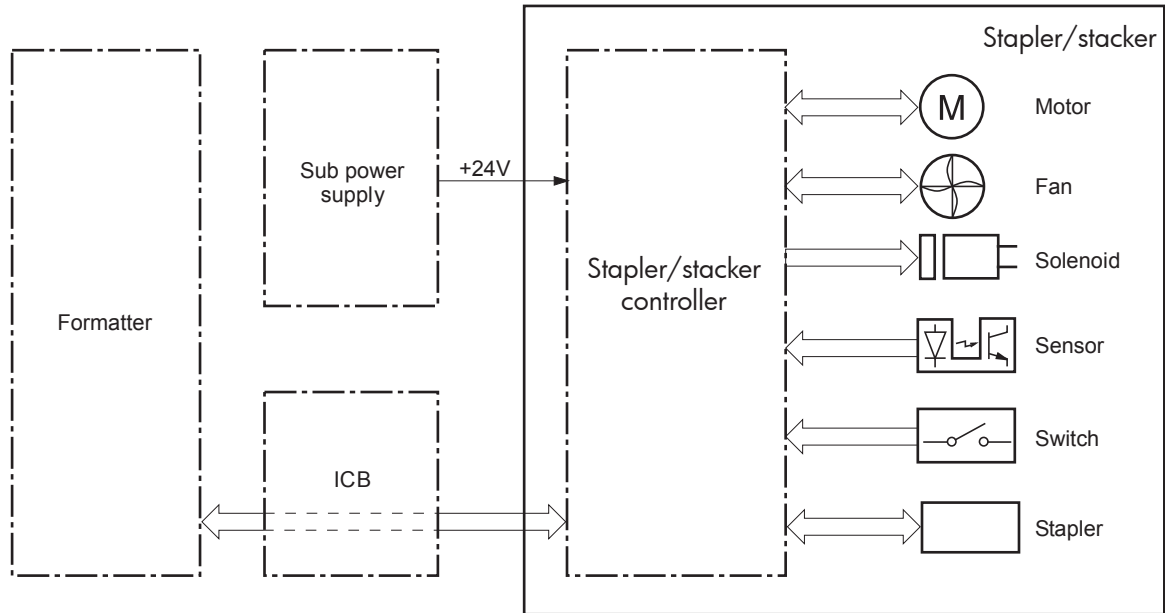


Figure 1-52 Stapler/stacker controller signal flow diagram



Stapler/stacker motors

The stapler/stacker has seven motors for paper-feed, alignment, and stapling.

Figure 1-53 Stapler/stacker motors

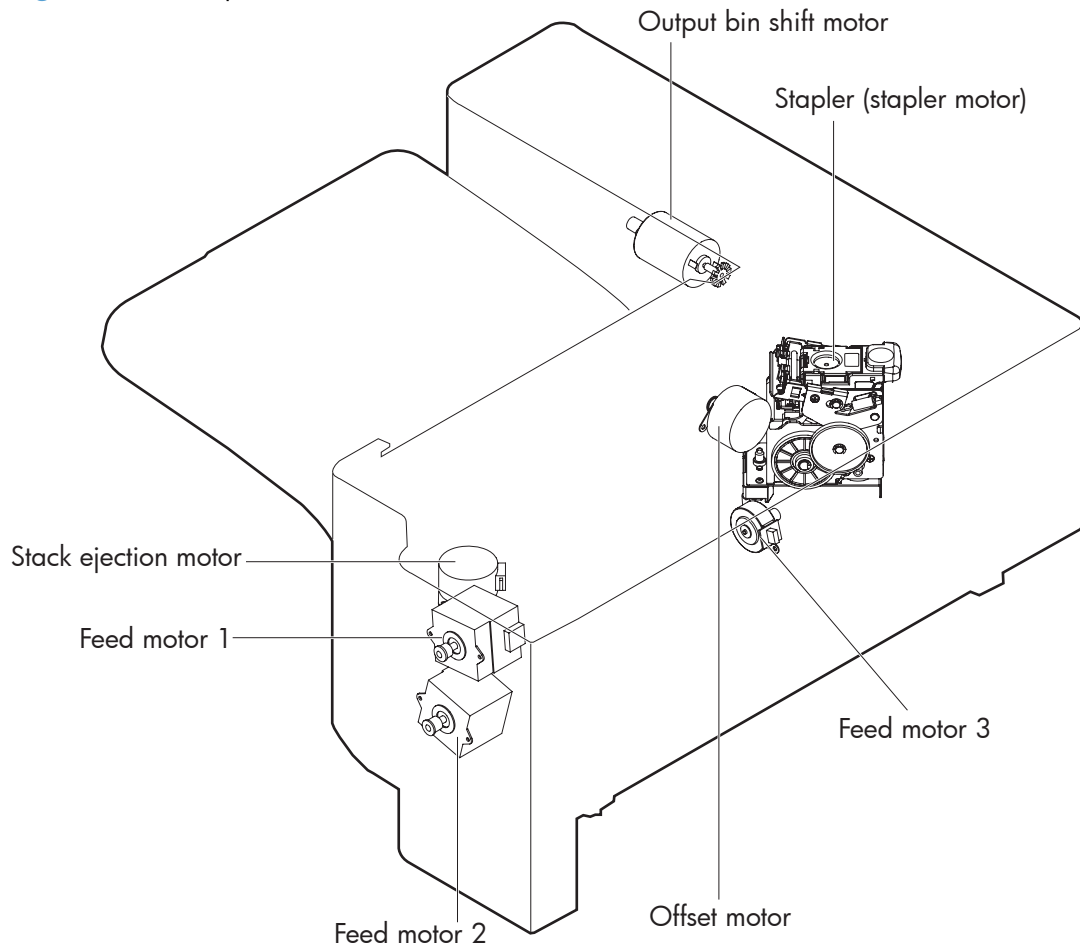


Table 1-11 Stapler/stacker motors

Motor	Description	Component driven
M1	Feed motor 1	Feed roller 3 and offset roller
M2	Feed motor 2	Feed roller 2
M3	Output bin shift motor	Output bin
M4	Stapler motor	Stapler
M5	Offset motor	Offset roller assembly
M6	Stack-ejection motor	Stack-ejection slider
M7	Feed motor 3	Feed roller 1

Motor failure detection

The stapler/stacker controller detects a motor failures for the following motors:

- Offset motor
- Stack ejection motor
- Output bin shift motor
- Stapler motor

The stapler/stacker controller does not detect motor failures for the following motors:

- Feed motor 1
- Feed motor 2
- Feed motor 3

Offset motor

The stapler/stacker controller detects an offset motor failure when the following conditions exist:

- The offset-roller assembly is in the home-position, but does not move from the home-position within a specified period after the offset motor starts rotating.
- The offset-roller assembly is out of the home-position, but does not move to the home-position within a specified period after the offset motor starts rotating.

Stack-ejection motor

The stapler/stacker controller detects an stack-ejection motor failure when the following conditions exist:

- The stack-ejection slider is in the home-position, but does not move from the home-position within a specified period after the stack-ejection motor starts rotating.
- The stack-ejection slider is out of the home-position, but does not move to the home-position within a specified period after the stack-ejection starts rotating.

Output-bin-shift motor

The stapler/stacker controller detects a output-bin-shift motor failure when the following conditions exist:

- The media stack surface sensor and the output bin lower limit sensor do not sense condition changes within a specified period when the output bin is moving down.
- The media stack surface sensor does not sense condition changes within a specified period when the output bin is moving up.
- The OUTPUT BIN SHIFT MOTOR CLOCK signal is not detected within a specified period when the output bin is moving up/down.

Stapler motor

The stapler/stacker controller detects a stapler motor failure when the following conditions exist:

- The stapler sensor does not sense condition changes within a specified period after the stapling operation starts.
- The stapler sensor senses condition changes after a specified period from a staple-operation start, and then the stapler sensor continues to sense the same condition for a specified period after the stapler motor reverses.
- The staple self-priming operation is not completed within a specified period.

Stapler/stacker fan

The stapler/stacker has one fan to prevent condensation inside of the stapler/stacker, and to cool down the paper during delivery to the output bin.

Figure 1-54 Stapler/stacker fan

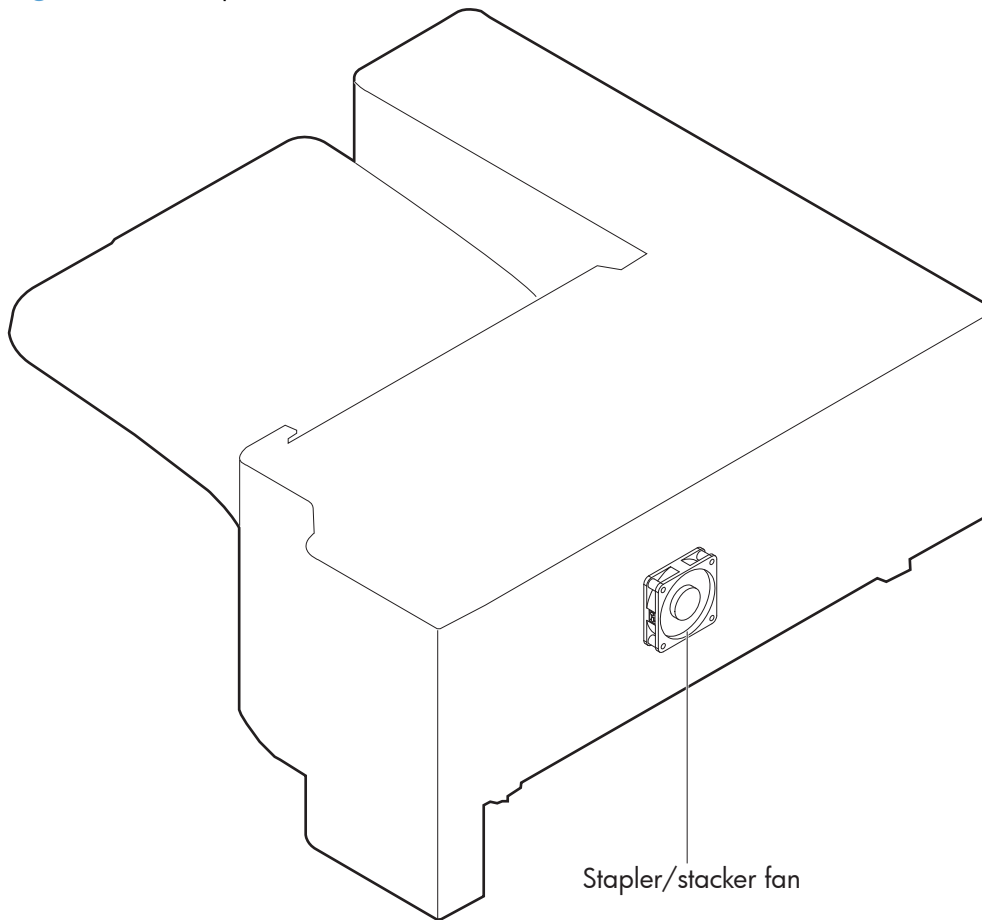


Table 1-12 Stapler/stacker fan

Fan	Cooling area	Type	Speed
Stapler/stacker fan FM1	Inside of the stapler/stacker and delivery areas	Intake	Full

Fan failure detection

The stapler/stacker controller detects a fan failure if the fan does not rotate for a specified period after the fan driving signal is initiated.

Stapler/stacker paper feed and delivery

The stapler/stacker has three modes for feed-and-delivery operation:

- **Staple mode:** staples the printed pages, and arranges the stacks on the output bin.
- **Job offset mode:** does not staple the printed pages, and arranges each stack alternately on the output bin.
- **Stacker mode:** does not staple the printed pages, and delivers them directly to the output bin.

Figure 1-55 Stapler/stacker electrical components (1 of 2)

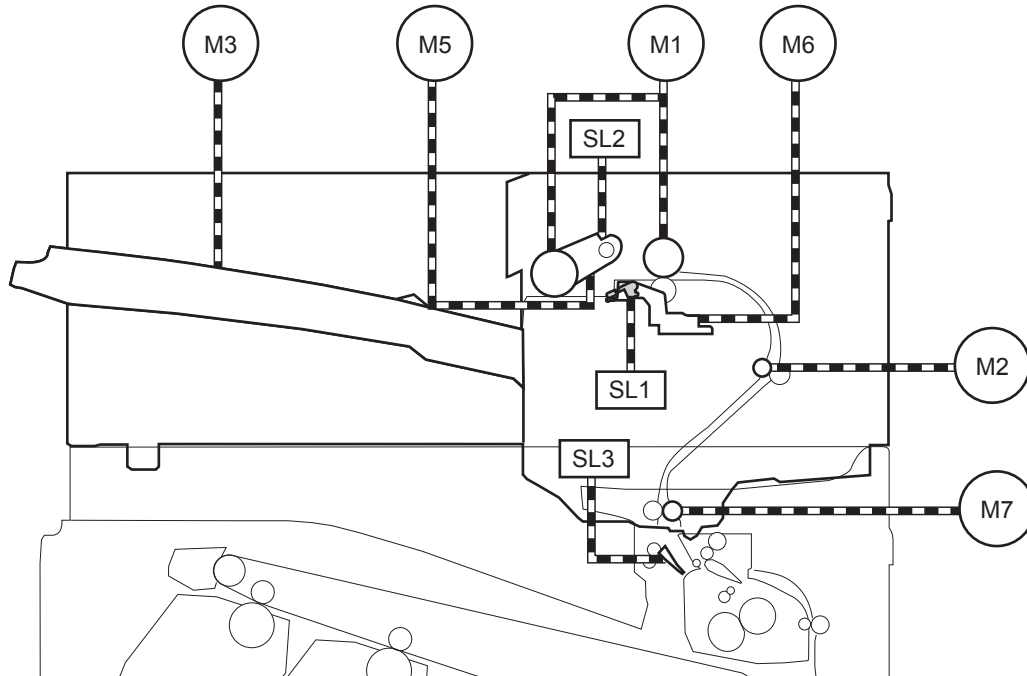


Figure 1-56 Stapler/stacker electrical components (2 of 2)

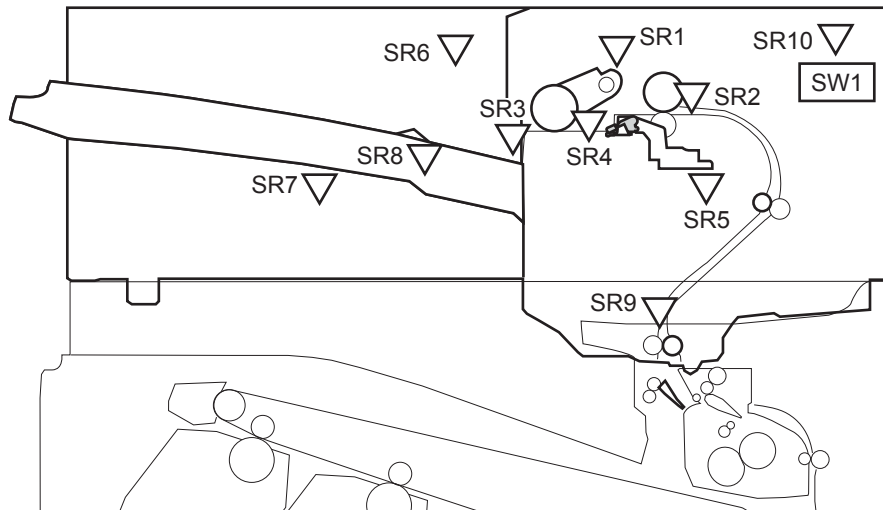


Table 1-13 Stapler/stacker electrical components

Component type	Abbreviation	Description
Motor	M1	Feed motor 1
	M2	Feed motor 2
	M3	Output bin shift motor
	M4	Stapler motor
	M5	Offset motor
	M6	Stack ejection motor
	M7	Feed motor 3
Fan	FM1	Stapler/stacker fan
Solenoid	SL1	Gripper solenoid
	SL2	Offset roller lift assembly
	SL3	Inlet solenoid
Photointerruptor (sensor) ¹	SR1	Offset sensor
	SR2	Media-feed sensor
	SR3	Media-stack-surface sensor
	SR4	Staple tray media-out sensor
	SR5	Stack ejection sensor
	SR6	Output bin shift-motor clock sensor
	SR7	Output bin lower-limit sensor
	SR8	Output bin media-out sensor
	SR9	Inlet sensor
	SR10	Right door sensor
		Staple presence sensor
		Stapler sensor
		Staple ready sensor
Switch	SW1	Interlock switch

¹ Some of the product sensors do not have a name abbreviation and they are not referenced in the figures in this chapter. They are listed in this table to provide a complete list of product sensors.

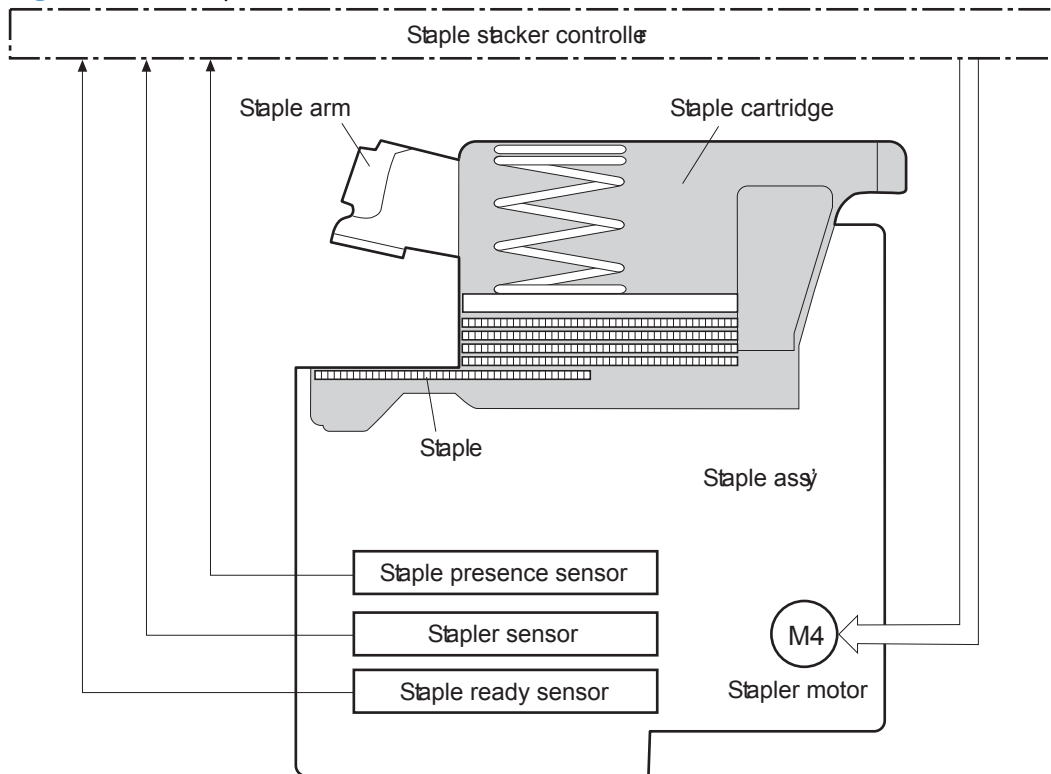
Stapler

The stapler staples the printed pages. The stapler consists of the staple cartridge and the stapler assembly.

The staple cartridge holds up to 5,000 staples. The staple presence sensor detects the presence of staples and the staple ready sensor detects whether or not the stapler is in the correct position to staple.

The stapler assembly holds the stapler motor. When the stapler/stacker controller rotates the stapler motor, the staple arm lowers and performs a staple operation. The stapler sensor detects the position of the staple arm during the staple operation.

Figure 1-57 Stapler



The stapler/stacker controller detects a stapler motor failure, and notifies the formatter, when the stapler sensor does not sense condition changes for a specified period after the stapler motor starts rotating.

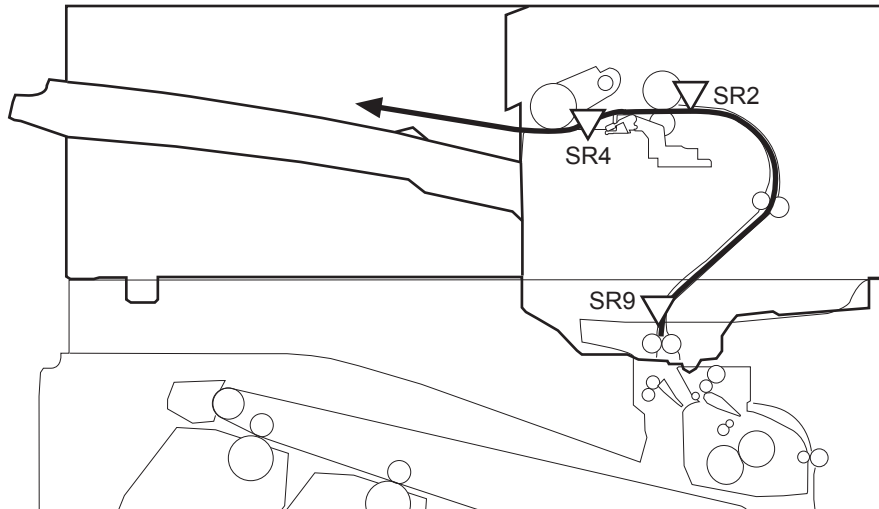
The stapler/stacker controller detects a stapler jam, and notifies the formatter, when the stapler sensor senses condition changes after a specified period from when the stapler motor starts rotating, and then if the stapler sensor recovers within a specified period from when the stapler motor reverses.

Stapler/stacker jam detection

The stapler/stacker uses the following sensors to detect the presence of print-media and to check whether print-media is being fed correctly or has jammed.

- Media feed sensor (SR2)
- Staple tray media-out sensor (SR4)
- Inlet sensor (SR9)

Figure 1-58 Stapler/stacker jam detection



The stapler/stacker detects the following jams:

Inlet delay jam	The inlet sensor does not detect the leading edge of paper within a specified period after the leading edge reaches the fuser output sensor in the product.
Inlet stationary jam	The inlet sensor does not detect the trailing edge of paper within a specified period after it detects the leading edge.
Feed delay jam	The media feed sensor does not detect the leading edge of paper within a specified period after the leading edge reaches the inlet sensor.
Feed stationary jam	The media feed sensor does not detect the trailing edge of paper within a specified period after it detects the leading edge.
Stack-ejection stationary jam	The staple tray media-out sensor detects a presence of paper after a specified period from when the stack-ejection operation is complete.
Residual paper jam	One of the following sensors detects the presence of paper when the product is turned on. <ul style="list-style-type: none"> • Inlet sensor • Media feed sensor

Automatic delivery

The stapler/stacker automatically clears the paper path if one of the following sensors detects the presence of paper during the wait period after the product is turned on, or after the door is closed.

- Inlet sensor
- Staple tray media-out sensor
- Media feed sensor

1 x500-sheet paper feeder

This product supports a 500-sheet tray (Tray 3). The operational sequence of the paper feeder is controlled by the paper feeder controller PCA.

Figure 1-59 Paper-feeder paper path

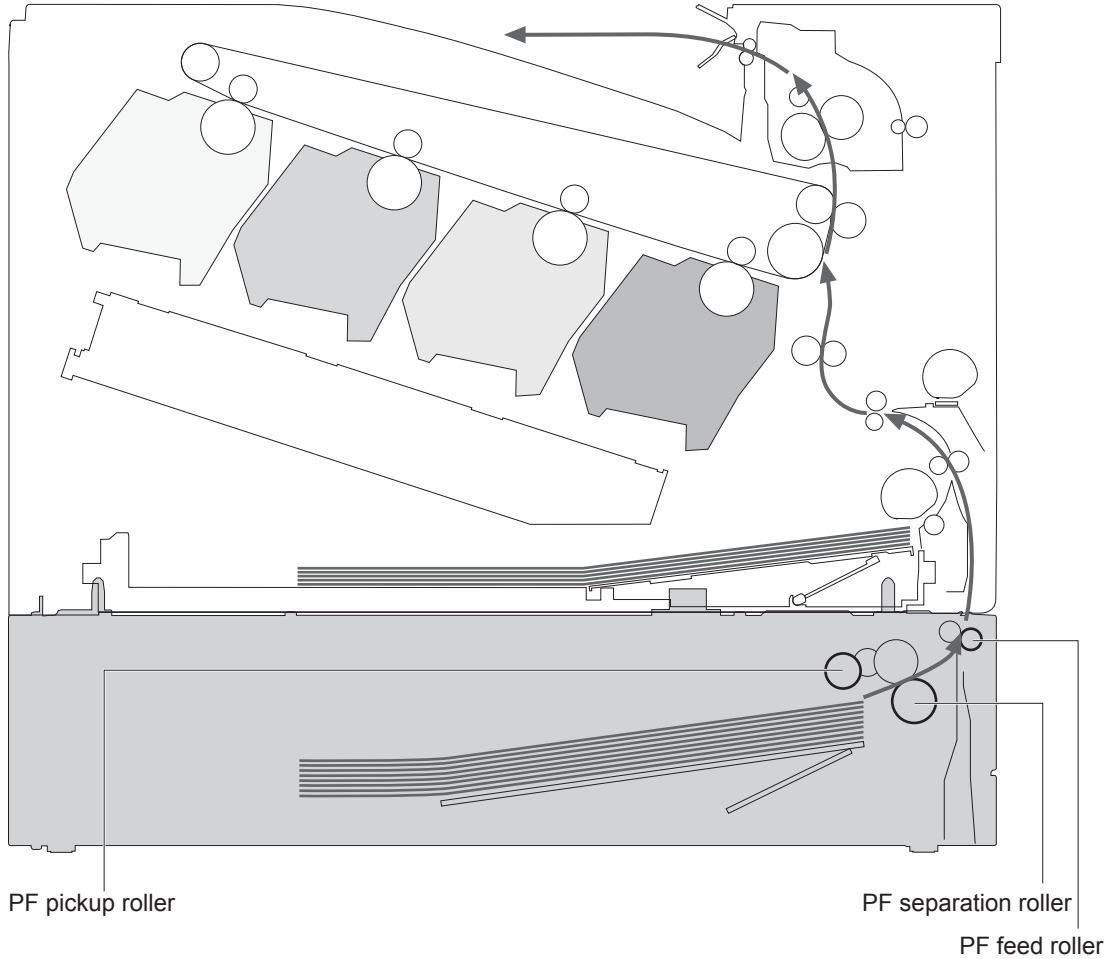
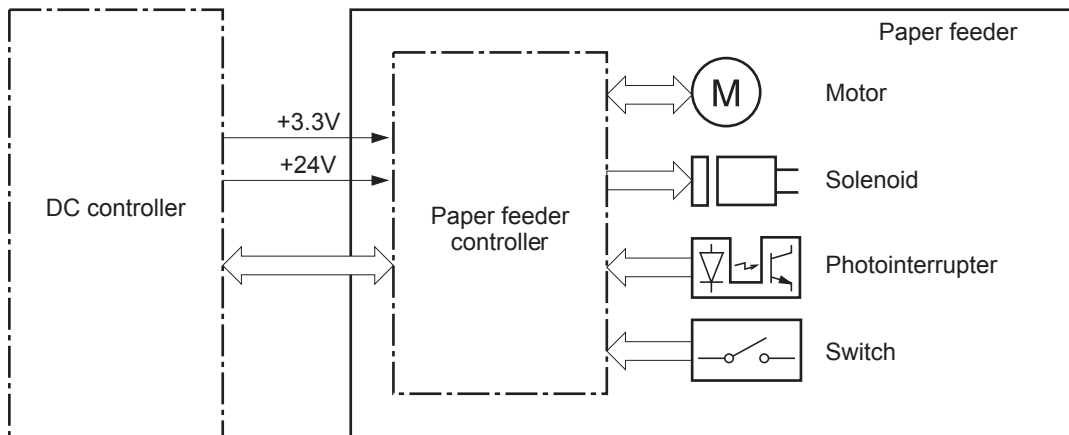


Figure 1-60 Paper-feeder signal flow block diagram



1x500-sheet paper feeder paper-feeder motors

The paper feeder (PF) has two motors for paper feed and cassette lift-up operation.

Figure 1-61 1x500-sheet paper feeder paper-feeder motors

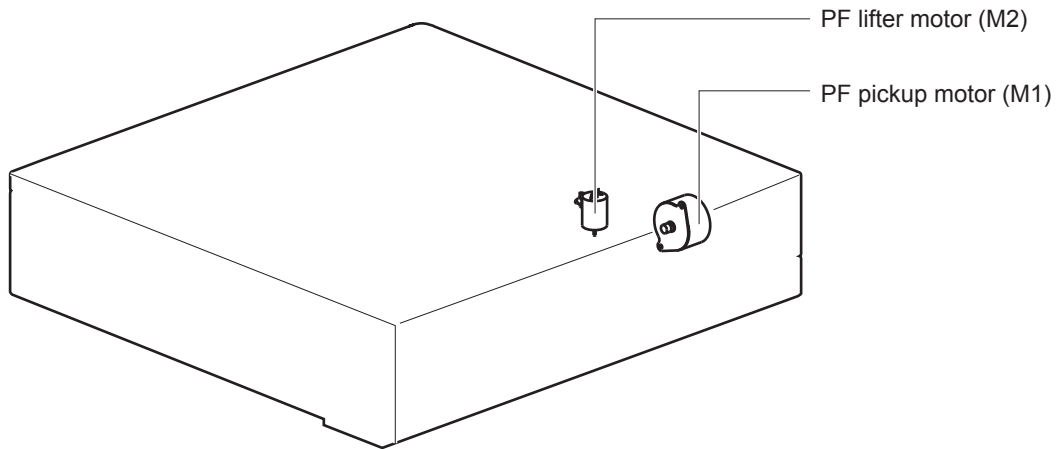


Table 1-14 1x500-sheet paper feeder paper-feeder motors

Motor	Driving part	Failure detection
PF pickup motor (M1)	PF pickup roller PF separation roller PF feed roller	No
PF lifter motor (M2)	Lifter for the PF cassette	No

1x500-sheet paper feeder paper-feeder paper pickup and feed

The pickup-and-feed operation picks up one sheet of print media in the paper-feeder cassette and feeds it to the product.

Figure 1-62 1x500-sheet paper feeder paper-feeder electrical components

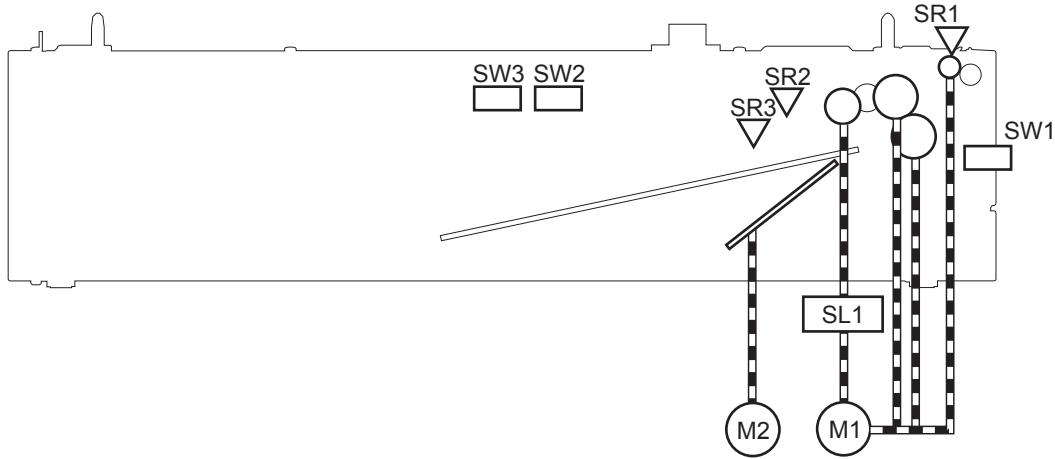


Table 1-15 1x500-sheet paper feeder paper-feeder electrical components

Component type	Abbreviation	Description
Motor	M1	PF pickup motor
	M2	PF lifter motor
Solenoid	SL01	PF pickup solenoid
Photointerruptor (sensor)	SR1	PF paper-feed sensor
	SR2	PF paper-stack surface sensor
	SR3	PF cassette paper-presence sensor
Switch	SW1	PF door-open switch
	SW2	PF cassette paper end-plate position switch
	SW3	PF cassette paper-width switch

1x500-sheet paper feeder cassette media-size detection and cassette-presence detection

The paper feeder detects the size of the paper loaded in the paper feeder cassette by monitoring the paper feeder cassette-media-end switch and the paper feeder cassette-media-width switch. It also detects the presence of a cassette by monitoring the switches. The paper feeder controller notifies the formatter through the DC controller when it determines a cassette is absent.

Table 1-16 1x500-sheet paper feeder cassette media-size detection and cassette-presence detection

Paper size	Paper feeder			Paper feeder		
	Cassette-media-width switch			Cassette-media-end switch		
	Top switch	Center switch	Bottom switch	Top switch	Center switch	Bottom switch
Executive	Off	On	On	On	On	On
Letter	Off	Off	On	On	On	On
A5	On	On	Off	On	On	On
B5	Off	On	Off	On	On	On
A4	Off	Off	Off	On	On	On
Ledger	Off	Off	On	Off	Off	On
Legal	On	On	Off	Off	Off	On
B4	Off	On	Off	Off	Off	On
A3	Off	Off	Off	Off	Off	On
A4-R Letter-R	NOTE: The product cannot detect the paper size of A4-R and Letter-R. If A4-R or Letter-R sized paper is loaded into the cassette, A5 size is reported by the formatter.					
Universal	On	On	Off	Off	On	On
Cassette absent	Off	Off	Off	Off	Off	Off

1x500-sheet paper feeder cassette lift operation

The cassette lift-up operation keeps the surface of the paper stack at the pickup position whenever the following occurs:

- Product power is turned on
- Cassette is installed
- Stack surface in the cassette lowers

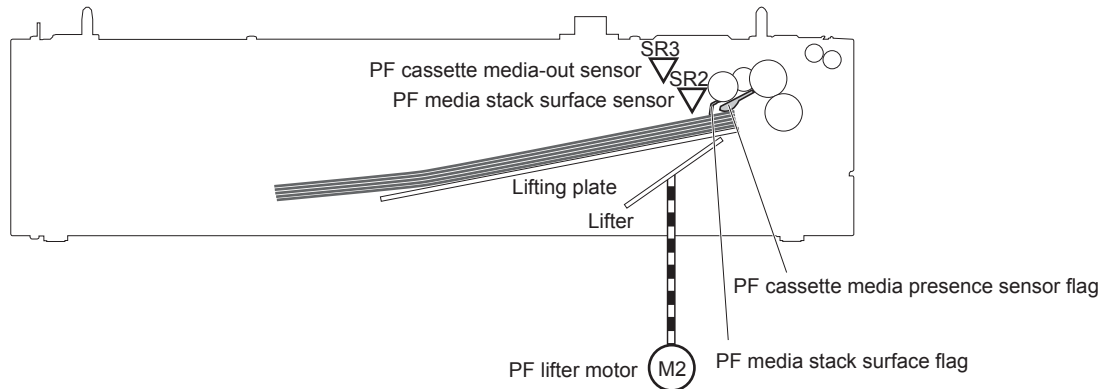
The paper feeder cassette media-out sensor (SR3) detects the presence of paper in the paper feeder cassette.

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

1. The PF lifter motor rotates to raise the lifter.
2. When the PF paper-stack surface sensor detects the surface of the paper stack, the PF lifter motor stops.
3. The lifter motor rotates again when the PF paper-stack surface detects that the paper surface is lowered during a print operation.

The paper feeder controller PCA determines a PF lifter motor failure and notifies the formatter through the DC controller when the PF paper-stack surface sensor does not detect the stack surface within a specified period after the PF lifter motor starts rotating.

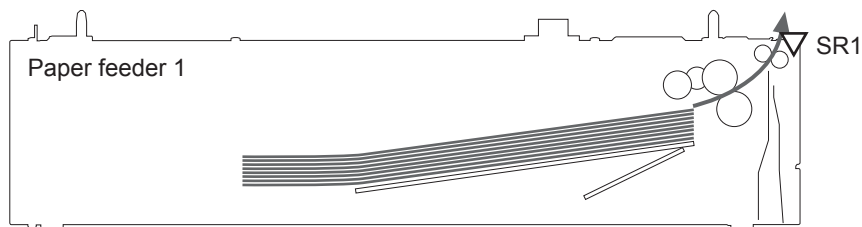
Figure 1-63 1x500-sheet paper feeder cassette lift operation



1x500-sheet paper feeder jam detection

The paper feeder uses the PF paper-feed sensor (SR1) to detect the presence of print-media and to check whether print-media is being fed correctly or has jammed.

Figure 1-64 1x500-sheet paper feeder jam detection



The paper feeder detects the following jams:

PF pickup delay jam	The PF paper-feed sensor does not detect the leading edge of paper within a specified period, including a retry, after the PF pickup solenoid is turned on.
PF residual paper jam	The PF paper-feed sensor detects a presence of paper when the printer is turned on, when the door is closed, or when the automatic delivery is performed.
PF door open jam	A door open is detected during a paper-feed operation.

1x500-sheet paper feeder automatic delivery

The paper feeder automatically clears the paper if the PF paper-feed sensor (SR1) detects the presence of paper during the initial sequence after the printer is turned on or after the door is closed.

1x500-sheet paper deck

This product supports a 1x500-sheet paper deck with a storage cabinet. The operational sequence of the paper deck is controlled by the paper deck controller PCA.

Figure 1-65 1x500-sheet paper-deck paper path

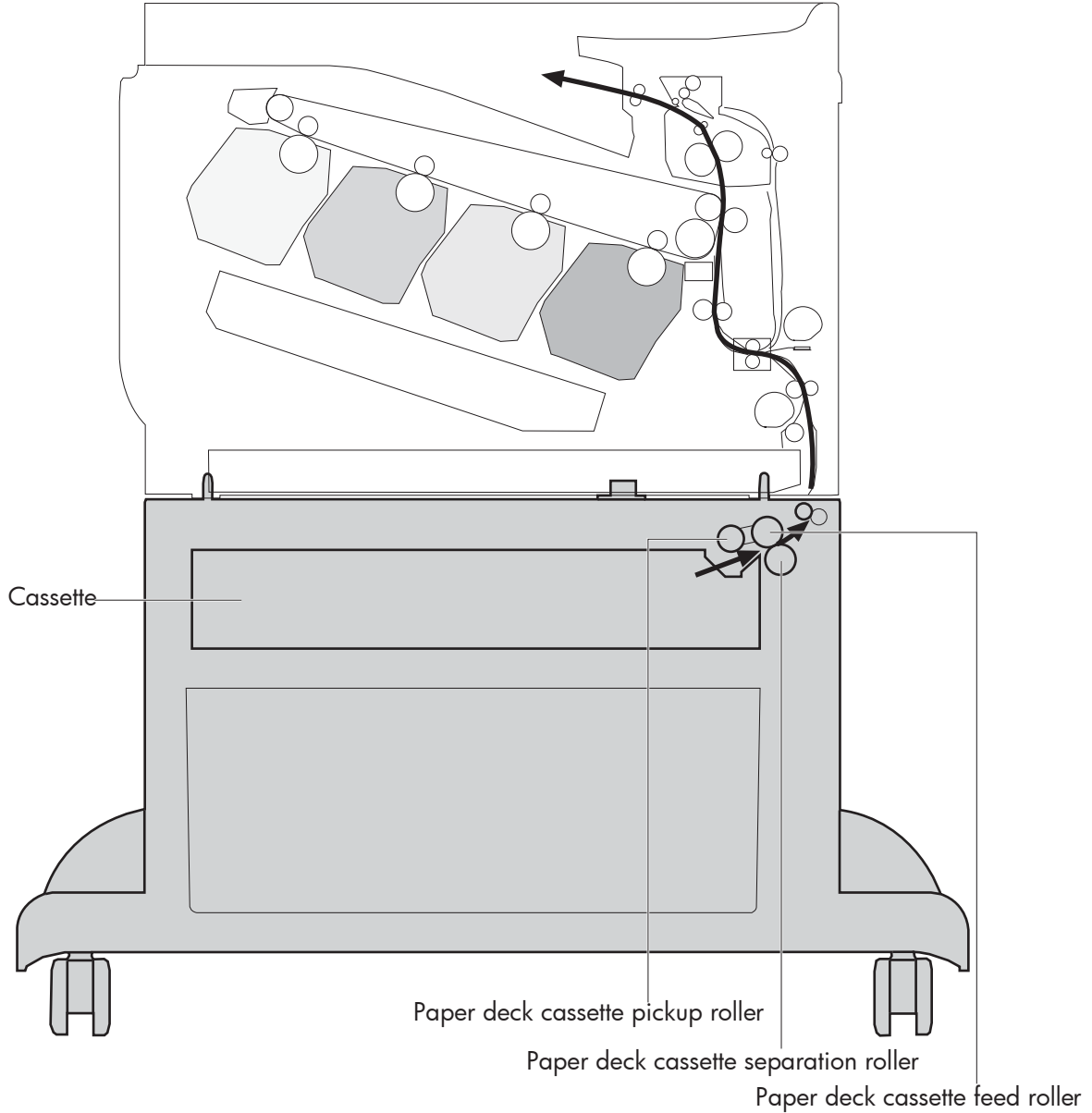
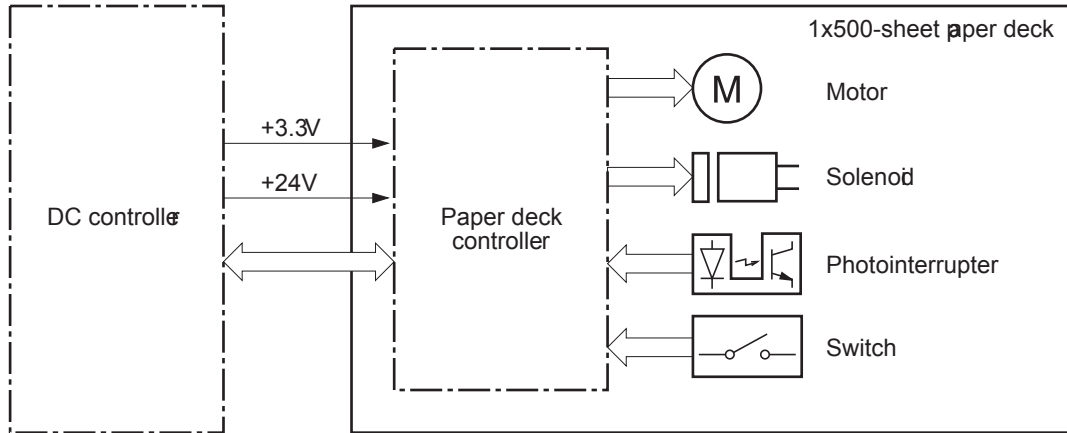


Figure 1-66 1x500-sheet paper-deck signal flow block diagram



1x500-sheet paper-deck motors

The paper deck has two motors for paper feed and cassette lift-up operations.

Figure 1-67 1x500-sheet paper-deck motors

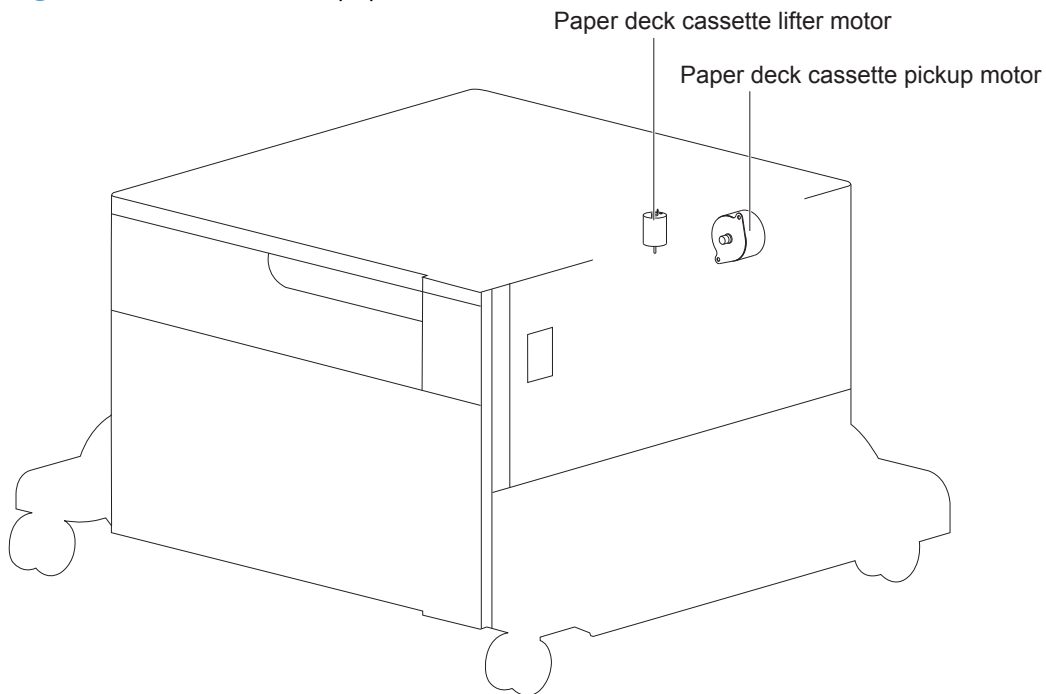


Table 1-17 1x500-sheet paper-deck motors

Motor	Driving part
Paper deck cassette pickup motor (M1)	Pickup roller
	Separation roller
	Feed roller
Lifter motor (M2)	Lifter for the paper deck cassette

The paper deck controller PCA determines a lifter motor failure, and notifies the formatter, when the cassette media-stack surface sensor does not detect the stack surface within a specified period after the lifter motor starts rotating. See [1x500-sheet paper-deck cassette media-out detection on page 93](#).

The paper deck controller does not detect that the paper deck cassette pickup motor has failed; therefore a paper jam occurs when the motor fails.

1x500-sheet paper-deck paper pickup and feed

The pickup-and-feed operation picks up one sheet of paper in the paper-deck cassette and feeds it to the product.

Figure 1-68 1x500-sheet paper-deck electrical components

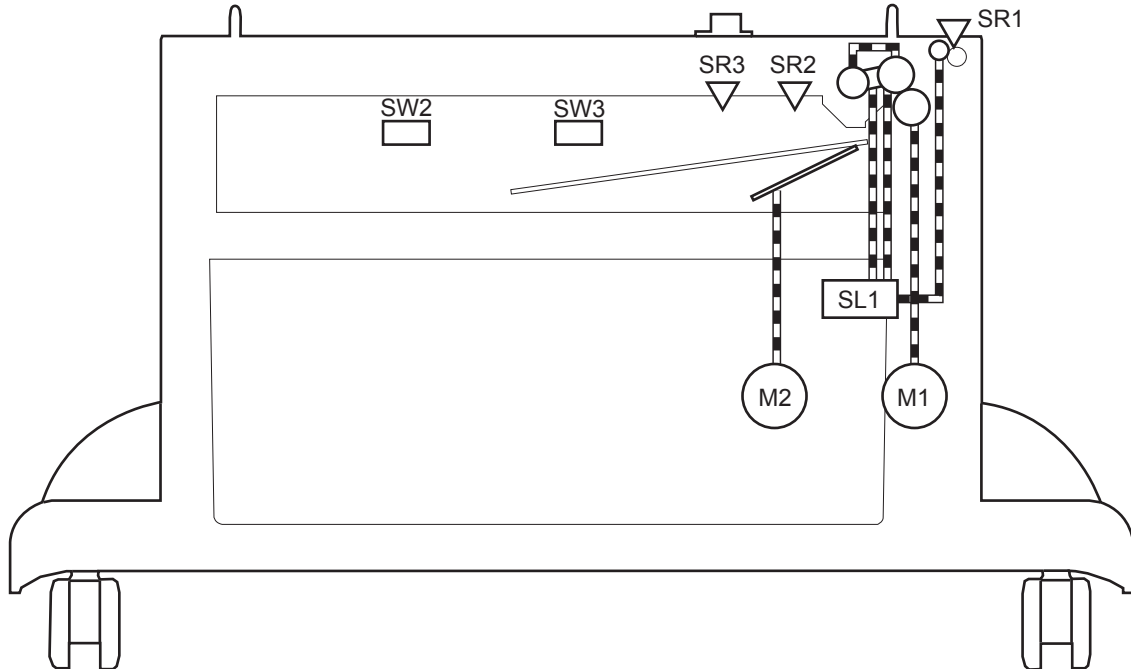


Table 1-18 1x500-sheet paper-deck electrical components

Component type	Abbreviation	Description
Motor	M1	Pickup motor
	M2	Lifter motor
Solenoid	SL01	Cassette pickup solenoid
Photointerruptor (sensor)	SR1	PF paper-feed sensor
	SR2	Media feed sensor
	SR3	Media out sensor
Switch	SW1	Door-open switch
	SW2	Cassette paper-width switch
	SW3	Cassette paper end-plate position switch

1x500-sheet paper-deck cassette media-size detection and cassette-presence detection

The paper deck detects the size of the paper loaded in the cassette by monitoring the paper deck cassette media-end switch and the paper deck cassette media-width switch.

The paper deck cassette media-width switch and the paper deck cassette media-end switch each contain three sub-switches. The paper deck controller detects the size of paper and the presence of the cassette according to the combination of the sub-switches.

The paper deck controller determines an inconsistent paper size and notifies the formatter through the DC controller when the detected paper size is different from the size specified from the formatter. It also notifies the formatter through the DC controller when it determines a cassette absence.

Table 1-19 1x500-sheet paper-deck cassette media-size detection and cassette-presence detection

Paper size	Paper feeder			Paper feeder		
	Cassette media-width switch			Cassette media-end switch		
	Top switch	Center switch	Bottom switch	Top switch	Center switch	Bottom switch
Cassette absent	Off	Off	Off	Off	Off	Off
A5-R	On	On	Off	On	On	On
B5-R	Off	On	Off	On	On	On
Executive-R	Off	On	On	On	On	On
Letter-R	Off	Off	On	On	On	On
A4-R	Off	Off	Off	On	On	On
Folio	On	On	Off	Off	On	On
Legal	On	On	Off	Off	Off	On
B4	Off	On	Off	Off	Off	On
Ledger	Off	Off	On	Off	Off	On
A3	Off	Off	Off	Off	Off	On

1x500-sheet paper-deck cassette lift operation

The cassette lift-up operation keeps the surface of the paper stack at the pickup position whenever the following occurs:

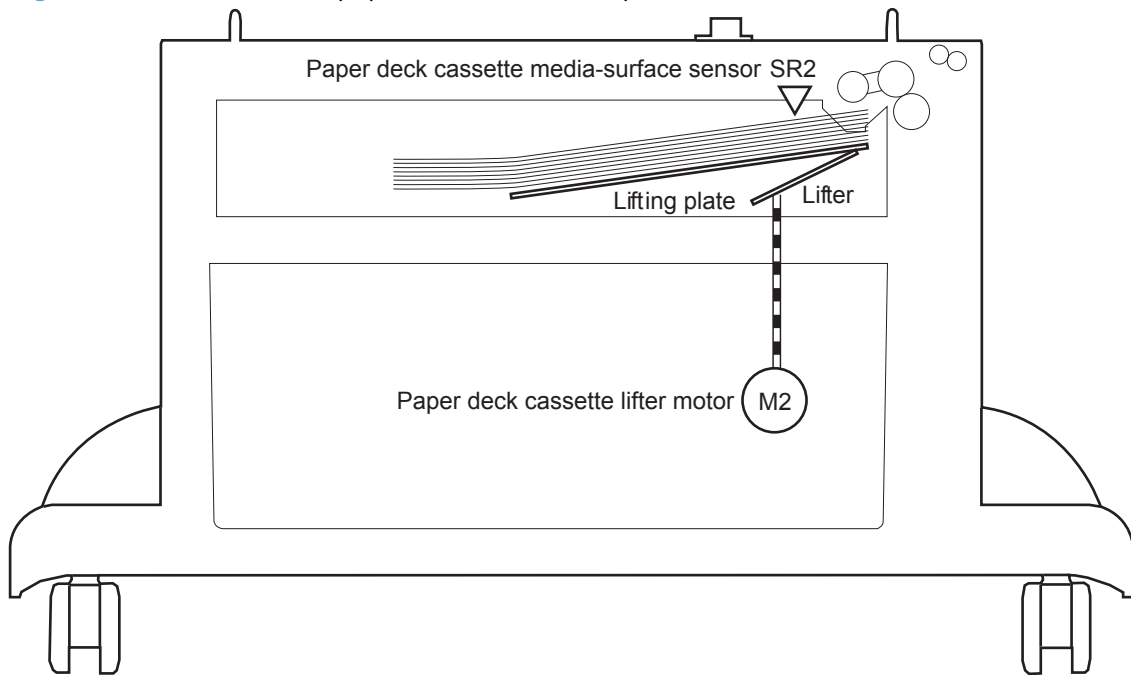
- Product power is turned on.
- Cassette is installed.
- Stack surface in the cassette lowers (pickup operation).

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

1. The lifter motor rotates to raise the lifter.
2. When the cassette media-stack surface sensor detects the surface of the paper stack, the lifter motor stops.
3. The lifter motor rotates again when the cassette media-stack surface sensor detects that the paper surface is lowered during a print operation.

The paper deck controller PCA determines a lifter motor failure when the cassette media-stack surface sensor does not detect the stack surface within a specified period after the lifter motor starts rotating.

Figure 1-69 1x500-sheet paper-deck cassette lift operation



1x500-sheet paper-deck cassette media-out detection

The paper deck controller detects the presence of paper in the cassette by monitoring the paper deck cassette media-out sensor during the following periods.

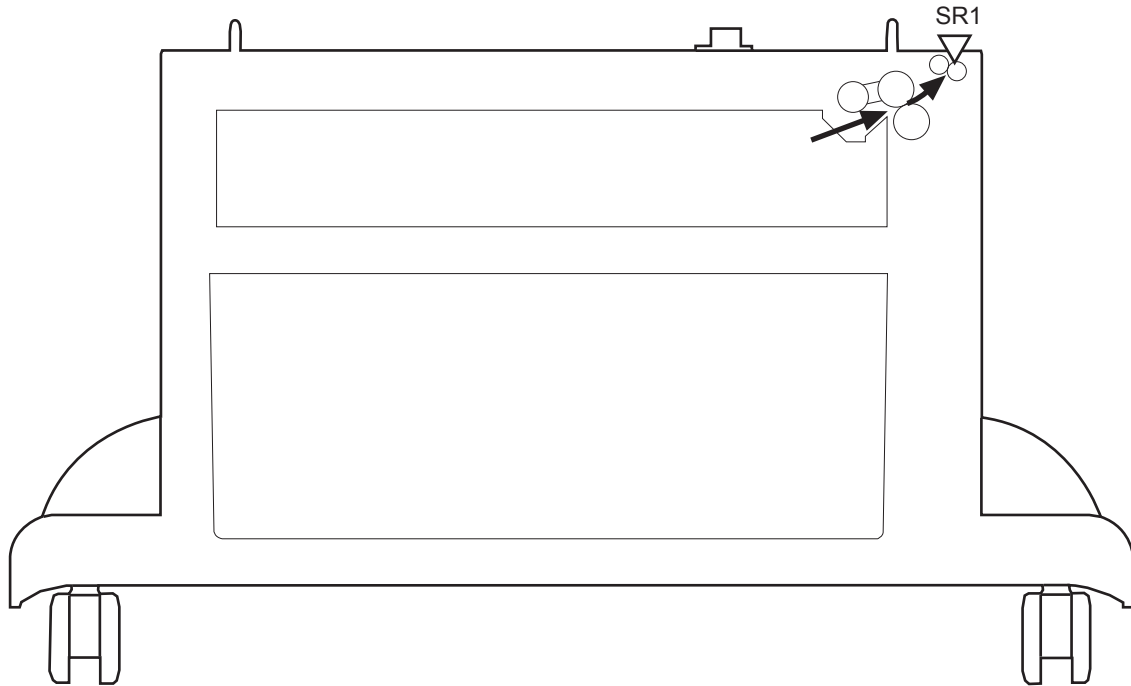
- When the product power is turned on, until the power is turned off (except during sleep mode).
- During the lift-up operation.

The paper deck controller determines a media-out condition when the paper deck cassette media-out sensor does not detect the presence of paper in the cassette.

1x500-sheet paper-deck jam detection

The paper deck uses the paper deck cassette media-feed sensor (SR1) to detect the presence of paper and to check whether print-media is being fed correctly or has jammed.

Figure 1-70 1x500-sheet paper-deck jam detection



The paper feeder detects the following jams:

No pick jam 3

The paper deck cassette media-feed sensor does not detect the leading edge of paper within a specified period, including two retry picks, after the paper deck cassette pickup solenoid is turned on.

Residual paper jam

The paper deck cassette media-feed sensor detects a presence of paper during the wait period when the product power is turned on, when the door is closed, or when the product exits sleep mode.

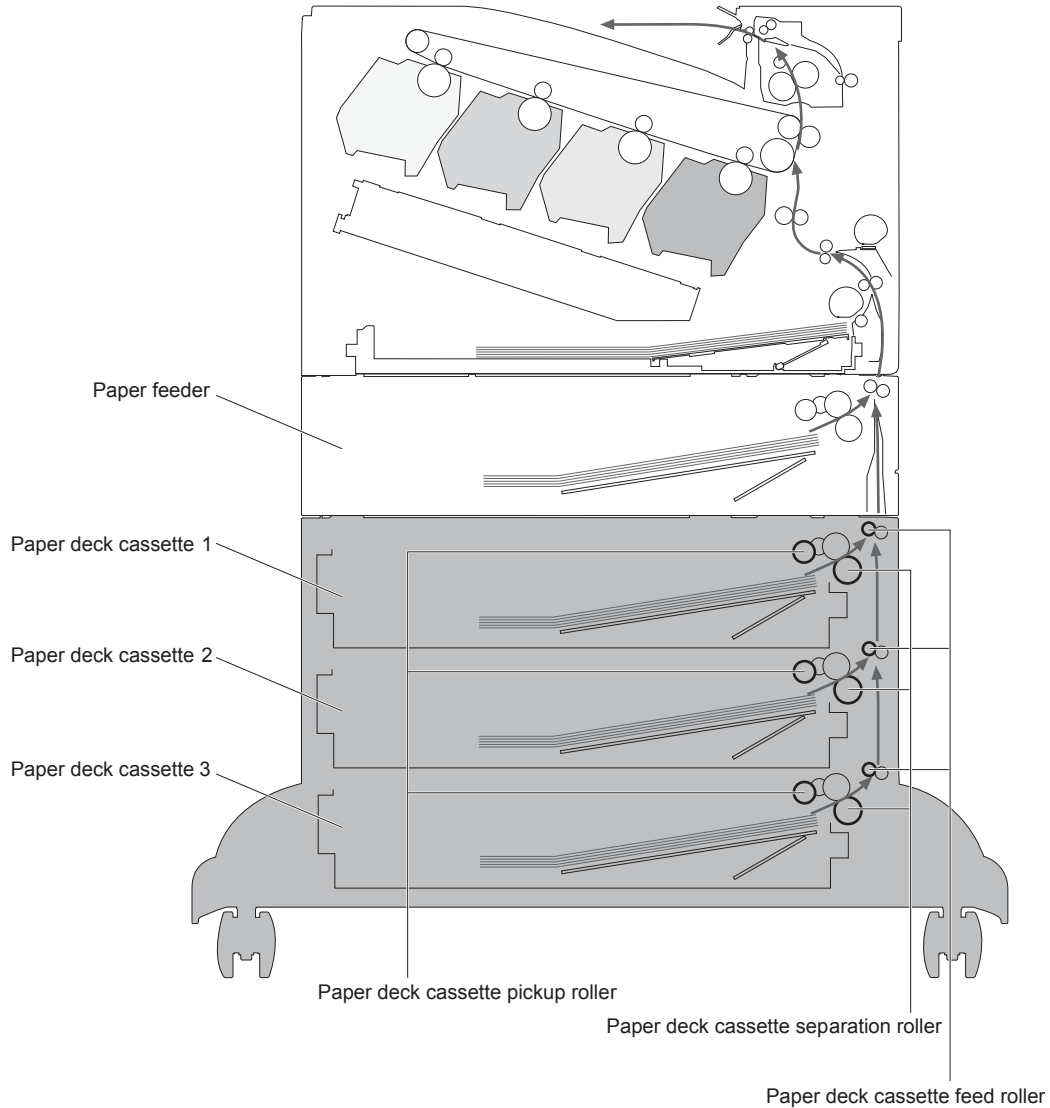
1x500-sheet paper deck automatic delivery

The paper deck automatically clears the paper if the PF paper-feed sensor (SR1) detects the presence of paper during the initial sequence after the printer is turned on or after the door is closed.

3x500-sheet paper deck

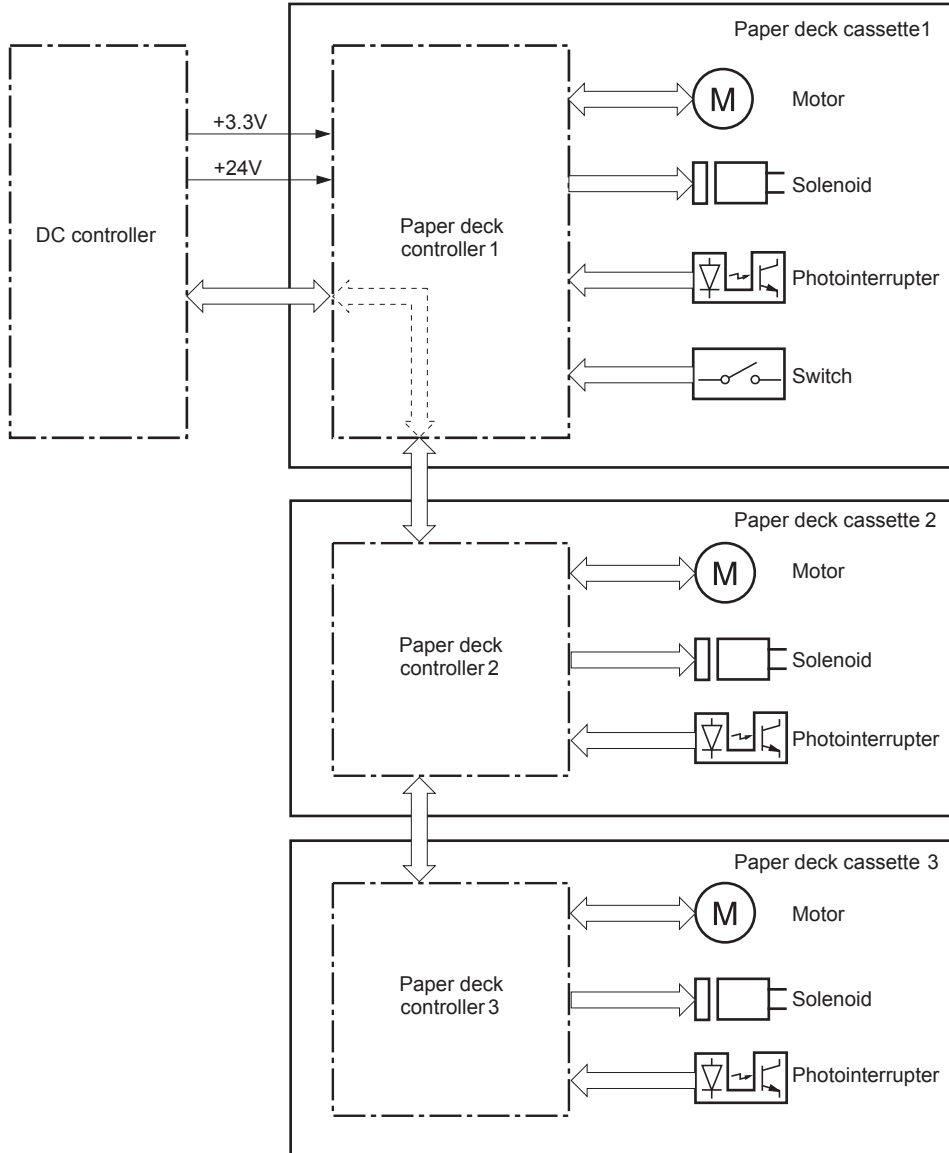
This product supports a 3x500-sheet paper deck. The operational sequence of the paper deck is controlled by the paper deck controller PCA.

Figure 1-71 3x500-sheet paper deck



The signal flow of the paper deck controller is shown in the following figure.

Figure 1-72 3x500-sheet paper deck signal flow block diagram



3x500-sheet paper-deck motors

Each of the paper deck cassettes uses two motors for paper-feed and cassette lift-up operation.

Figure 1-73 3x500-sheet paper-deck motors

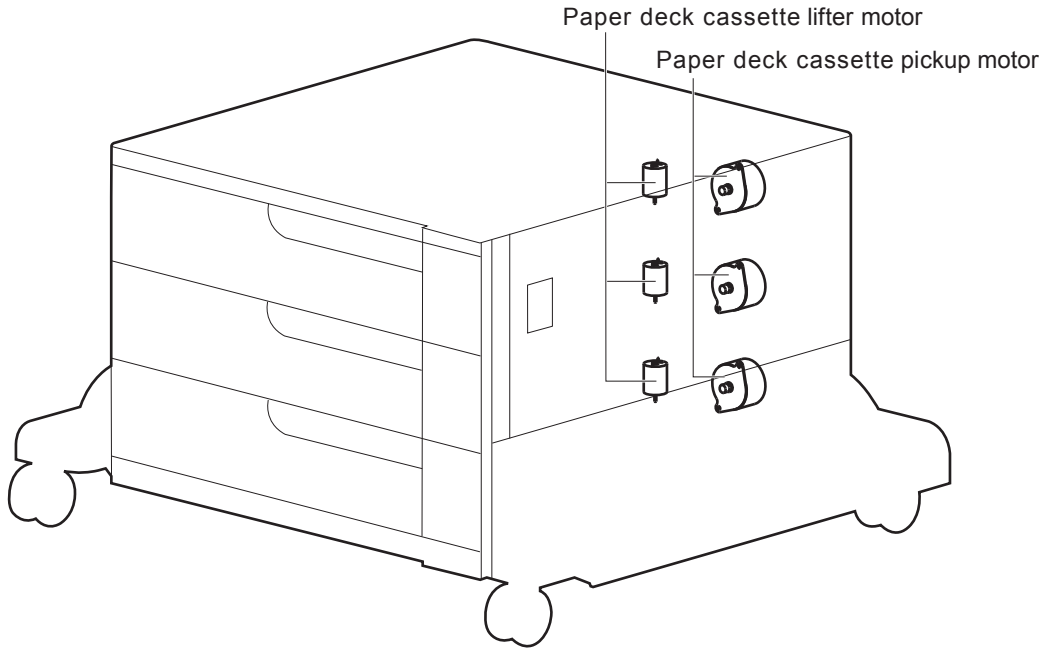


Table 1-20 3x500-sheet paper deck motors

Component		Component driven	Failure detection
Paper deck cassette 1 pickup motor	M1	Paper deck cassette 1 pickup roller, paper deck cassette 1 separation roller, and paper deck cassette 1 feed roller	No
Paper deck cassette 1 lifter motor	M2	Lifter for the paper deck cassette 1	No
Paper deck cassette 2 pickup motor	M81	Paper deck cassette 2 pickup roller, paper deck cassette 2 separation roller, and paper deck cassette 2 feed roller	No
Paper deck cassette 2 lifter motor	M82	Lifter for the paper deck cassette 2	No
Paper deck cassette 3 pickup motor	M91	Paper deck cassette 3 pickup roller, paper deck cassette 3 separation roller, and paper deck cassette 3 feed roller	No
Paper deck cassette 3 lifter motor	M92	Lifter for the paper deck cassette 3	No

3x500-sheet paper-deck pickup-and-feed operation

The pickup-and-feed operation picks up one sheet of paper in the paper deck cassette and feeds it to the product. The paper deck has three cassettes but each cassette performs the same operation. Paper deck cassette 3 is used to describe the pickup-and-feed operation in this section.

Figure 1-74 3x500-sheet paper-deck pickup-and-feed operation

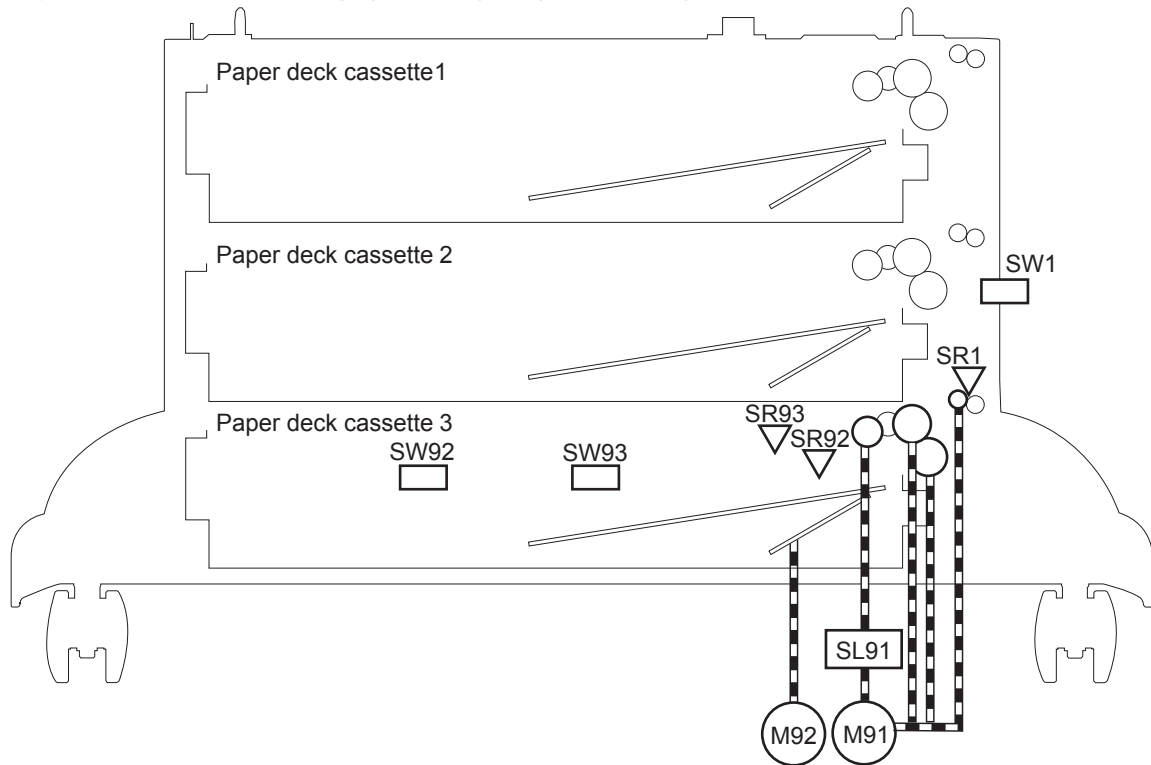


Table 1-21 3x500-sheet paper deck

Component		Description
Motor	M1	Paper deck cassette 1 pickup motor
	M2	Paper deck cassette 1 lifter motor
	M81	Paper deck cassette 2 pickup motor
	M82	Paper deck cassette 2 lifter motor
	M91	Paper deck cassette 3 pickup motor
	M92	Paper deck cassette 3 lifter motor
Solenoid	SL1	Paper deck cassette 1 pickup solenoid
	SL82	Paper deck cassette 2 pickup solenoid
	SL92	Paper deck cassette 3 pickup solenoid

Table 1-21 3x500-sheet paper deck (continued)

Component		Description
Photointerrupter	SR1	Paper deck cassette 1 media feed sensor
	SR2	Paper deck cassette 1 stack surface sensor
	SR3	Paper deck cassette 1 cassette media-out sensor
	SR81	Paper deck cassette 2 media feed sensor
	SR82	Paper deck cassette 2 stack surface sensor
	SR83	Paper deck cassette 2 cassette media-out sensor
	SR91	Paper deck cassette 3 media feed sensor
	SR92	Paper deck cassette 3 stack surface sensor
	SR93	Paper deck cassette 3 cassette media-out sensor
Switch	SW1	Paper deck door-open-detection switch
	SW2	Paper deck cassette 1 cassette media end switch
	SW3	Paper deck cassette 1 cassette media width switch
	SW82	Paper deck cassette 2 cassette media end switch
	SW83	Paper deck cassette 2 cassette media width switch
	SW92	Paper deck cassette 3 cassette media end switch
	SW93	Paper deck cassette 3 cassette media width switch

3x500-sheet paper-deck cassette media-size detection and cassette-presence detection

The paper deck detects the size of the paper loaded in the paper deck cassette by monitoring the paper deck cassette-media-end switch and the paper deck cassette-media-width switch. It also detects the presence of a cassette by monitoring the switches. The paper deck controller notifies the formatter through the DC controller when it determines a cassette is absent.

Table 1-22 3x500-sheet paper-deck cassette media-size detection and cassette-presence detection

Paper size	3x500-sheet paper deck			3x500-sheet paper deck		
	Cassette media width switch			Cassette media end switch		
	Top switch	Center switch	Bottom switch	Top switch	Center switch	Bottom switch
Executive	Off	On	On	On	On	On
Letter	Off	Off	On	On	On	On
A5	On	On	Off	On	On	On
B5	Off	On	Off	On	On	On
A4	Off	Off	Off	On	On	On
Ledger	Off	Off	On	Off	Off	On
Legal	On	On	Off	Off	Off	On
B4	Off	On	Off	Off	Off	On
A3	Off	Off	Off	Off	Off	On
A4-R Letter-R	NOTE: The product cannot detect the paper size of A4-R and Letter-R. If A4-R or Letter-R sized paper is loaded to the cassette, A5 size is reported by the formatter.					
Universal	On	On	Off	Off	On	On
Cassette absent	Off	Off	Off	Off	Off	Off

3x500-sheet paper-deck cassette lift-up operation

The cassette lift-up operation keeps the surface of the paper stack at the pickup position whenever the following occurs:

- Product power is turned on
- Cassette is installed
- Stack surface in the cassette lowers

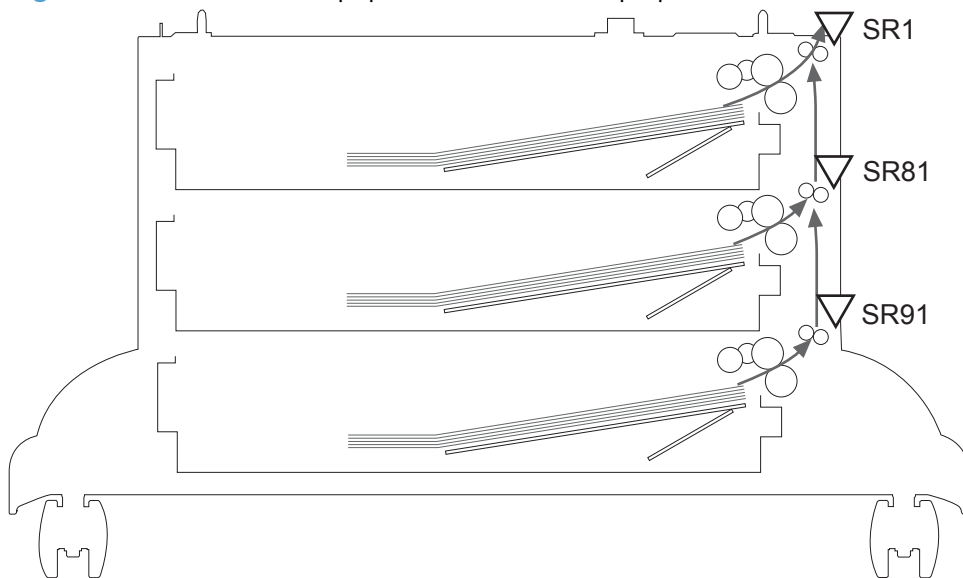
The paper deck cassette-media-out sensor detects the presence of paper in the paper deck cassette. Paper deck cassette 3 is used to describe the cassette lift-up operation in this section.

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

1. The paper deck cassette 3 lifter motor rotates to raise the lifter.
2. The paper deck cassette 3 lifter motor stops when the paper deck cassette 3 media stack surface sensor detects the surface of the paper stack.
3. The paper deck cassette 3 lifter motor rotates again when the paper deck cassette 3 media stack surface sensor detects that the paper surface is lowered during a print operation.

The paper deck controller determines a paper deck cassette 3 lifter motor failure and notifies the formatter through the DC controller when the paper deck cassette 3 media stack surface sensor does not detect the paper stack surface within a specified period after the paper deck cassette 3 lifter motor starts rotating.

Figure 1-75 3x500-sheet paper-deck cassette lift-up operation

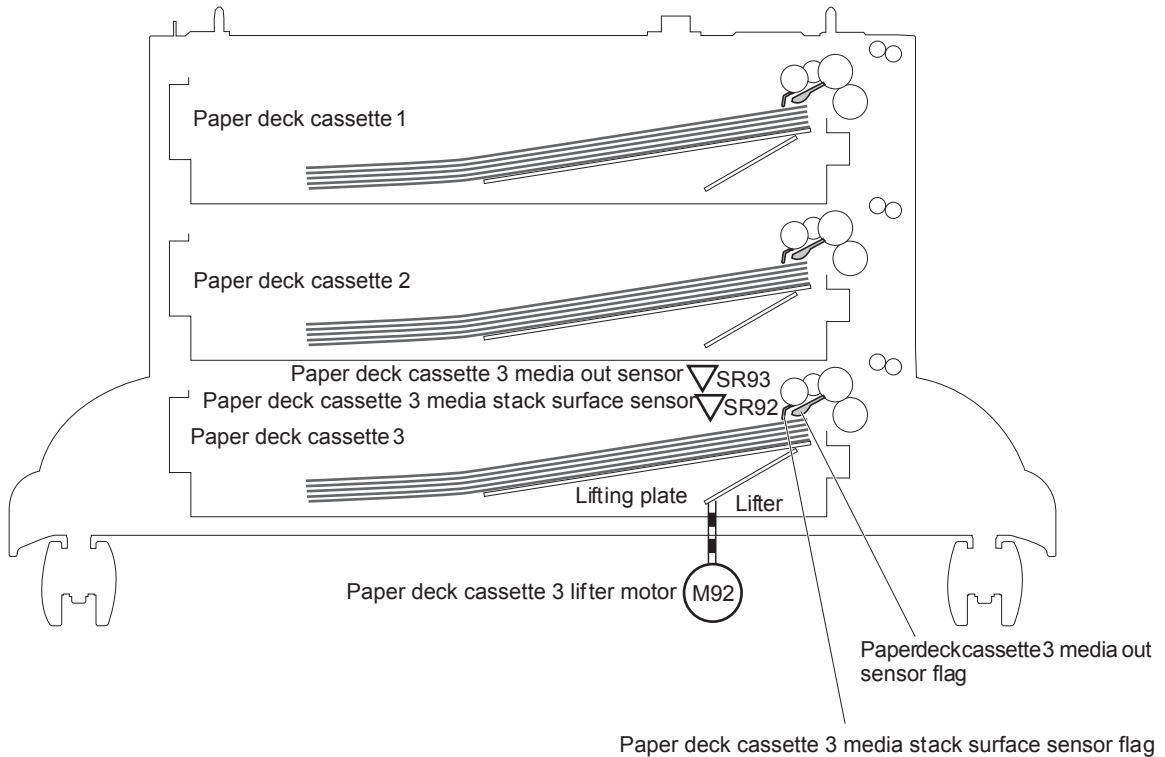


3x500-sheet paper-deck jam detection

The paper deck uses the following sensors to detect the presence of paper and to check whether paper is being fed correctly or has jammed.

- Paper deck cassette 1 media feed sensor (SR1)
- Paper deck cassette 2 media feed sensor (SR81)
- Paper deck cassette 3 media feed sensor (SR91)

Figure 1-76 3x500-sheet paper deck jam detection



The paper deck detects the following jams.

- Paper deck no pick jam 1
 - The paper deck cassette 1 media feed sensor does not detect the leading edge of the paper within a specified period after the paper deck cassette 2 media feed sensor detects the leading edge.
 - The paper deck cassette 2 media feed sensor does not detect the leading edge of the paper within a specified period after the paper deck cassette 3 media feed sensor detects the leading edge.
- Paper deck no pick jam 2
 - The paper deck cassette 1 media feed sensor does not detect the leading edge of the paper within a specified period, including a retry, after the paper deck cassette 1 pickup solenoid has turned on.
 - The paper deck cassette 2 media feed sensor does not detect the leading edge of the paper within a specified period, including a retry, after the paper deck cassette 2 pickup solenoid has turned on.
 - The paper deck cassette 3 media feed sensor does not detect the leading edge of the paper within a specified period, including a retry, after the paper deck cassette 3 pickup solenoid has turned on.

- Paper deck residual paper jam

Any one of the following sensors detects the presence of paper after the automatic delivery is performed when the printer is turned on or when the door is closed.

- Paper deck cassette 1 media feed sensor
- Paper deck cassette 2 media feed sensor
- Paper deck cassette 3 media feed sensor

- Paper deck door open jam

A paper deck door open is detected during a paper-feed operation.

3x500-sheet paper deck automatic delivery

The paper deck automatically clears the paper path if any one of the following sensors detects the presence of paper during the initial sequence after the printer is turned on or after the door is closed.

- Paper deck cassette 1 media feed sensor
- Paper deck cassette 2 media feed sensor
- Paper deck cassette 3 media feed sensor

3,500-sheet high-capacity input (HCI) feeder

This product supports a 3,500-sheet paper deck. The operational sequence of the paper deck is controlled by the HCI controller.

Figure 1-77 HCI paper path

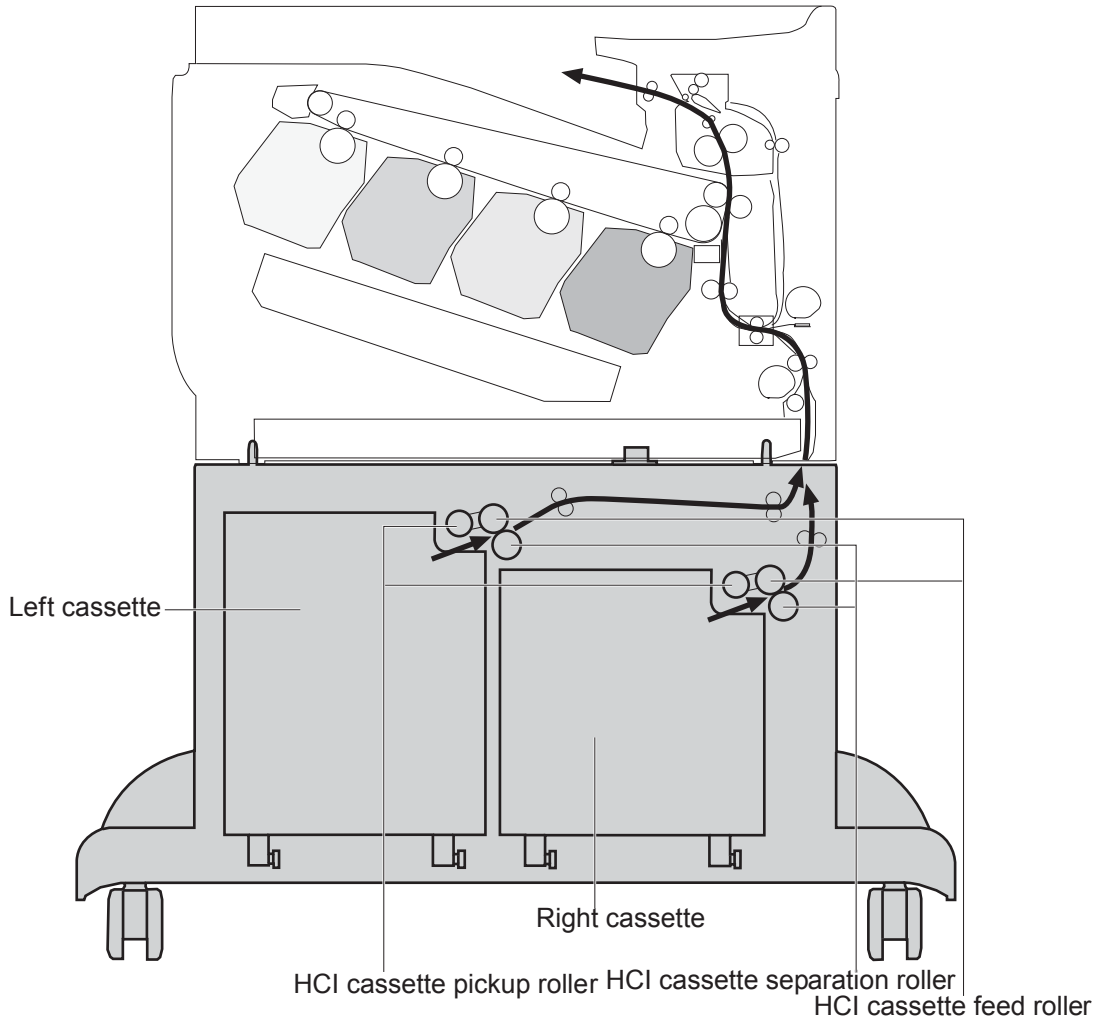


Figure 1-78 HCI signal flow

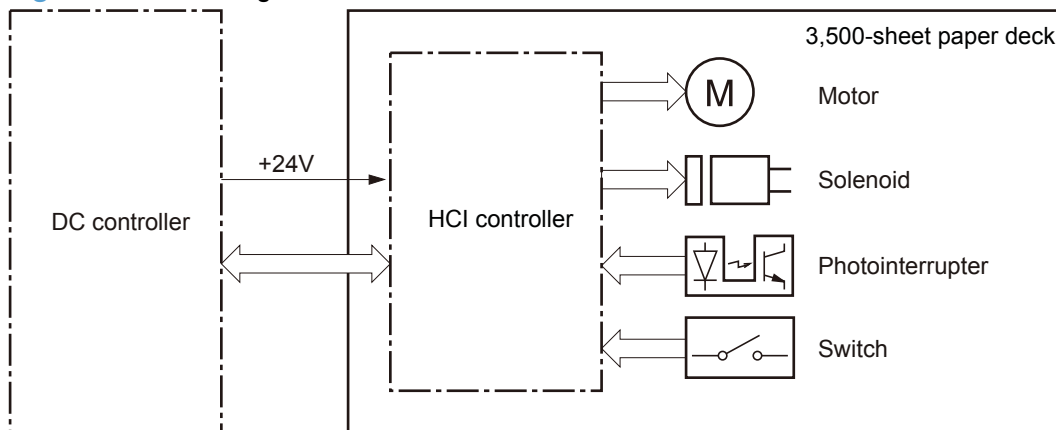


Table 1-23 HCI electrical components

Component	Abbreviation	Component name
Motor	M3301	HCI right cassette pickup motor
	M3302	HCI right cassette lifter motor
	M3303	HCI left cassette lifter motor
	M3304	HCI left cassette pickup motor
Solenoid	SL3301	HCI right cassette pickup solenoid
	SL3302	HCI left cassette pickup solenoid
Photointerrupter	PS3101	HCI right cassette media stack surface 2 sensor
	PS3102	HCI right cassette media stack surface 1 sensor
	PS3103	HCI right cassette media-out sensor
	PS3201	HCI left cassette media stack surface 2 sensor
	PS3202	HCI left cassette media stack surface 1 sensor
	PS3203	HCI left cassette media-out sensor
	PS3301	HCI media feed sensor
	PS3302	HCI right cassette media feed sensor
	PS3303	HCI right cassette media size sensor
	PS3304	HCI left cassette media size sensor
	PS3305	HCI left cassette media feed sensor
	PS3306	HCI long edge feed guide open detection sensor
Switch	SW3301	HCI right door open detection switch
	SW3302	HCI right cassette open detection switch
	SW3303	HCI left cassette open detection switch

HCI motor control

The HCI has two motors in each cassette for paper-feed and cassette lift-up.

Figure 1-79 HCI motors

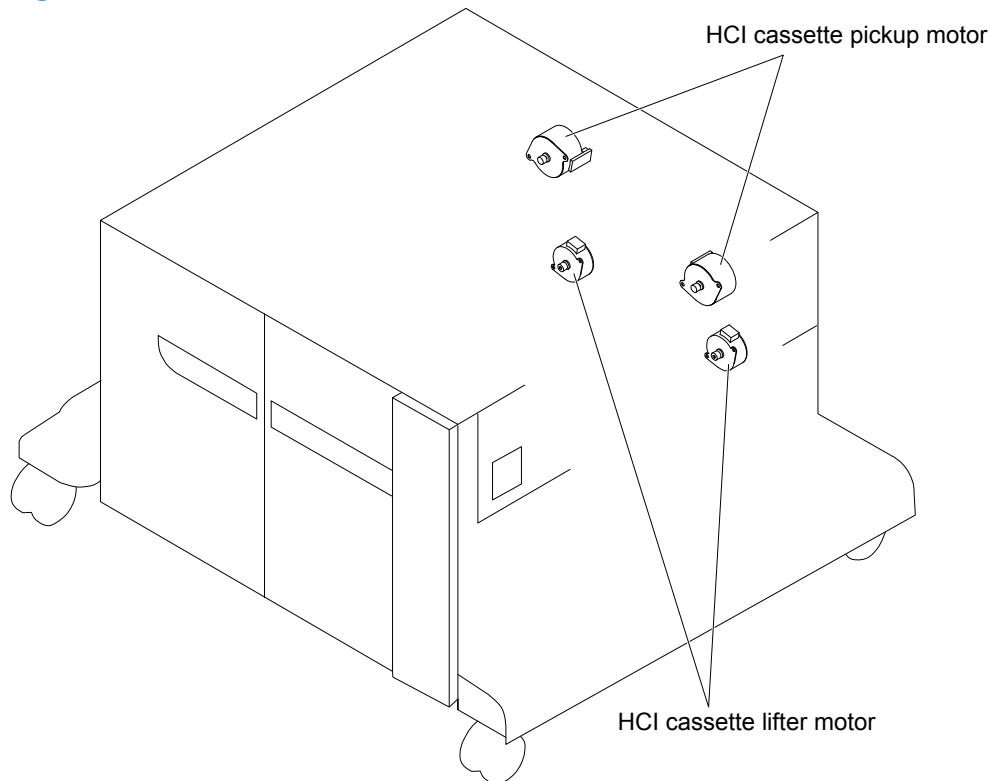


Table 1-24 HCI motors

Motor		Components driven
M3301	HCI right cassette pickup motor	Pickup roller, separation roller, and feed roller for the HCI right cassette
M3302	HCI right cassette lifter motor	Lifter for the HCI right cassette
M3303	HCI left cassette lifter motor	Lifter for the HCI left cassette
M3304	HCI left cassette pickup motor	Pickup roller, separation roller, and feed roller for the HCI left cassette

HCI failure detection

The HCI controller determines an HCI cassette lifter motor failure and notifies the formatter through the DC controller when the HCI cassette media stack surface 2 sensor does not detect the paper surface within a specified period from when the HCI cassette lifter motor starts rotating. See [HCI cassette media-size detection and cassette-presence detection on page 108](#).

The HCI controller does not determine if the HCI cassette pickup motor has failed; therefore, a jam occurs when the motor fails.

HCI pickup-and-feed operation

The pickup-and-feed operation picks up one sheet of paper in the 3,500-sheet paper deck cassette and feeds it to the product.

Figure 1-80 HCI pickup-and-feed components

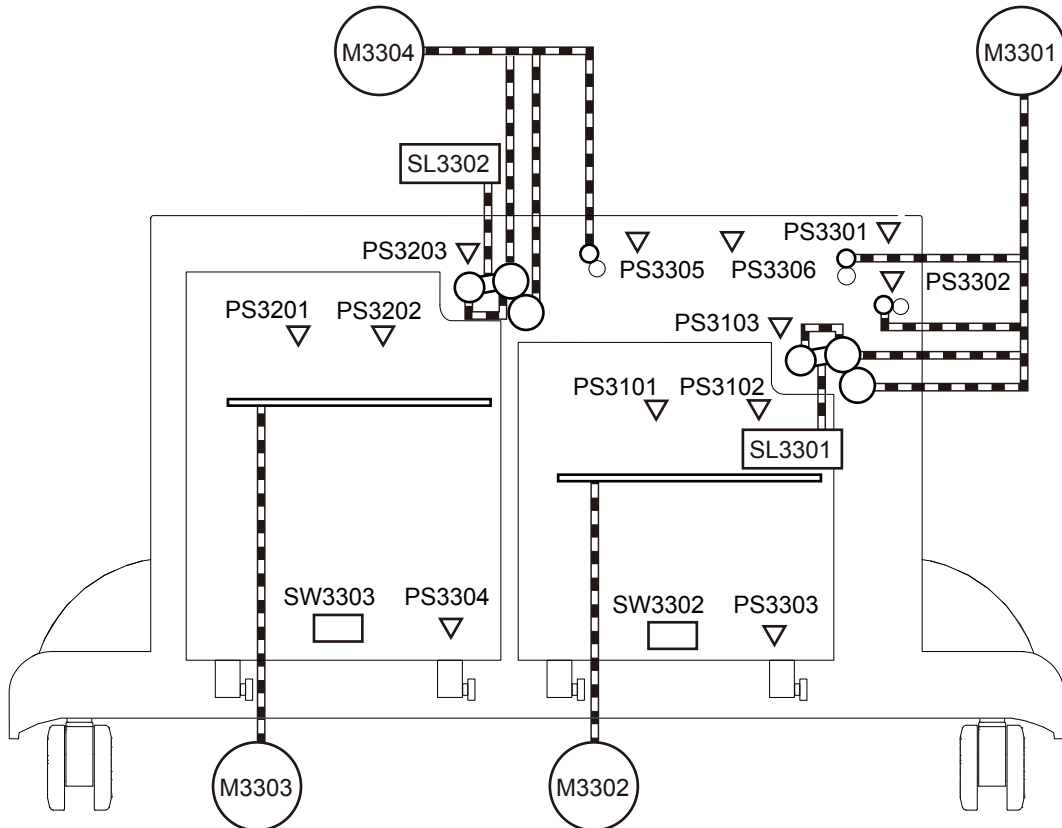


Table 1-25 HCI pickup-and-feed operation components

Abbreviation	Component	Signal
M3301	HCI right cassette pickup motor	HCI RIGHT CASSETTE PICKUP MOTOR CONTROL signal
M3302	HCI right cassette lifter motor	HCI RIGHT CASSETTE LIFTER MOTOR CONTROL signal
M3303	HCI left cassette lifter motor	HCI LEFT CASSETTE LIFTER MOTOR CONTROL signal
M3304	HCI left cassette pickup motor	HCI LEFT CASSETTE PICKUP MOTOR CONTROL signal
SL3301	HCI right cassette pickup solenoid	HCI RIGHT CASSETTE PICKUP SOLENOID signal
SL3302	HCI left cassette pickup solenoid	HCI LEFT CASSETTE PICKUP SOLENOID signal
PS3101	HCI right cassette media stack surface 2 sensor	HCI RIGHT CASSETTE MEDIA STACK SURFACE 2 signal
PS3102	HCI right cassette media stack surface 1 sensor	HCI RIGHT CASSETTE MEDIA STACK SURFACE 1 signal

Table 1-25 HCI pickup-and-feed operation components (continued)

Abbreviation	Component	Signal
PS3103	HCI right cassette media-out sensor	HCI RIGHT CASSETTE MEDIA OUT signal
PS3201	HCI left cassette media stack surface 2 sensor	HCI LEFT CASSETTE MEDIA STACK SURFACE 2 signal
PS3202	HCI left cassette media stack surface 1 sensor	HCI LEFT CASSETTE MEDIA STACK SURFACE 1 signal
PS3203	HCI left cassette media-out sensor	HCI LEFT CASSETTE MEDIA OUT signal
PS3301	HCI media feed sensor	HCI MEDIA FEED signal
PS3302	HCI right cassette media feed sensor	HCI RIGHT CASSETTE MEDIA FEED signal
PS3303	HCI right cassette media size sensor	HCI RIGHT CASSETTE MEDIA SIZE signal
PS3304	HCI left cassette media size sensor	HCI LEFT CASSETTE MEDIA SIZE signal
PS3305	HCI left cassette media feed sensor	HCI LEFT CASSETTE MEDIA FEED signal
PS3306	HCI long edge feed guide open detection sensor	HCI LONG EDGE FEED GUIDE OPEN DETECTION signal
SW3301	HCI right door open detection switch	HCI RIGHT DOOR OPEN DETECTION signal
SW3302	HCI right cassette open detection switch	HCI RIGHT CASSETTE OPEN DETECTION signal
SW3303	HCI left cassette open detection switch	HCI LEFT CASSETTE OPEN DETECTION signal

HCI cassette media-size detection and cassette-presence detection

The HCI controller detects the size of paper loaded in the cassette by monitoring the HCI cassette media size sensors. It determines whether A4 or Letter is loaded and notifies the formatter through the DC controller. It also detects whether the cassette is installed in the 3,500-sheet paper deck by monitoring the HCI cassette open detection switches.

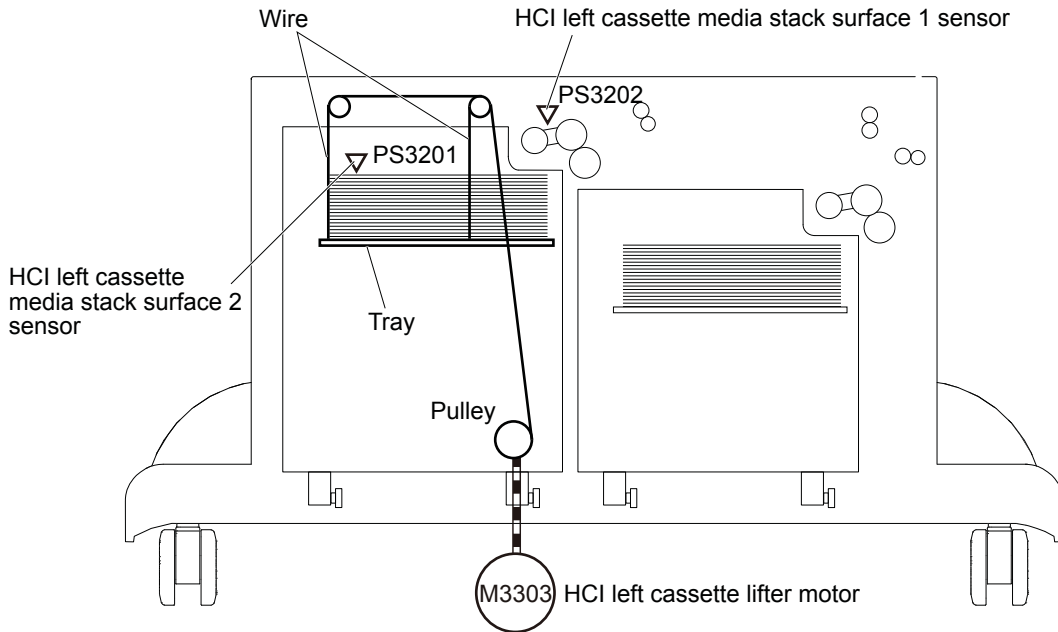
The HCI controller determines an inconsistent paper size and notifies the formatter through the DC controller when the detected paper size is different from the size specified from the formatter. It also notifies the formatter through the DC controller when it determines a cassette absence.

HCI lift-up operation

The HCI lifts up the tray to keep the surface of the paper at the pickup position whenever the following occurs:

- The product is turned on.
- The cassette is installed.
- The paper stack surface lowers as a result of the pickup operation.

Figure 1-81 HCI lift-up operation mechanism



The figure above illustrates the mechanism for the left cassette, but each HCI cassette has the same mechanism.

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

1. The HCI cassette lifter motor rotates the pulley to reel the wire. Accordingly the tray moves up.
2. The HCI cassette lifter motor stops when the HCI cassette media stack surface 2 sensor detects the paper surface.
3. The HCI cassette lifter motor rotates again when the HCI cassette media stack surface 1 sensor detects that the stack surface lowers during a print operation.

The HCI controller determines an HCI cassette lifter motor failure and notifies the formatter through the DC controller when the HCI cassette media stack surface 2 sensor does not detect the paper surface within a specified period from when the HCI cassette lifter motor starts rotating.

HCI cassette media-presence detection

The HCI controller detects whether the paper is loaded in the cassette by monitoring the HCI cassette media-out sensor.

The cassette media-presence detection is not performed during Sleep mode.

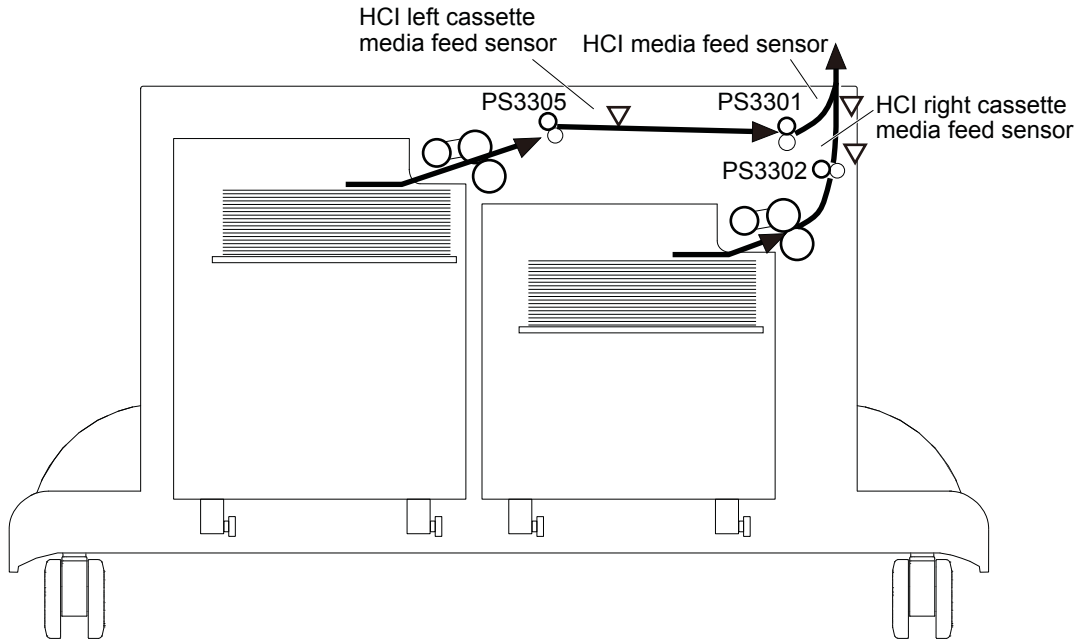
The HCI controller determines a media-absence condition and notifies the formatter through the DC controller when the HCI cassette media-out sensor does not detect the presence of paper.

HCI jam detection

The HCI uses the following sensors to detect the presence of paper and to check whether paper is being fed correctly or has jammed:

- HCI media feed sensor (PS3301)
- HCI right cassette media feed sensor (PS3302)
- HCI left cassette media feed sensor (PS3305)

Figure 1-82 HCI jam detection sensors



HCI no pick jam 2

The HCI media feed sensor does not detect the leading edge of paper within a specified period from when the HCI right cassette media feed sensor detects the leading edge.

The HCI media feed sensor does not detect the leading edge of paper within a specified period from when the HCI left cassette media feed sensor detects the leading edge.

HCI no pick jam 3

The HCI right cassette media feed sensor does not detect the leading edge of paper within a specified period, including two retries, from when the HCI right cassette pickup solenoid is turned on.

The HCI left cassette media feed sensor does not detect the leading edge of paper within a specified period, including two retries, from when the HCI left cassette pickup solenoid is turned on.

HCI Residual paper jam 1

Either one of the following sensors detects a paper-presence when the automatic delivery is complete:

- HCI media feed sensor
- HCI right cassette media feed sensor
- HCI left cassette media feed sensor

HCI Door open jam 1

An HCI right door open or an HCI long edge feed guide open is detected during a paper-feed operation.

HCI automatic delivery

Any one of the following sensors detects the presence of paper after the printer is turned on, after the door is closed or after the printer exits power save mode:

- HCI media feed sensor
- HCI right cassette media feed sensor
- HCI left cassette media feed sensor

2 Solve problems

- [Solve problems checklist](#)
- [Menu map](#)
- [Preboot menu options](#)
- [Current settings pages](#)
- [Troubleshooting process](#)
- [Tools for troubleshooting](#)
- [Clear jams](#)
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- [Use manual print modes](#)
- [Solve image quality problems](#)
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- [Product upgrades](#)

Solve problems checklist

Follow these steps when trying to solve a problem with the product.

1. If the control panel is blank or black, complete these steps:
 - a. Check the power cable.
 - b. Check that the power is turned on.
 - c. Make sure that the line voltage is correct for the product power configuration. (See the label that is on the back of the product for voltage requirements.) If you are using a power strip and its voltage is not within specifications, connect the product directly into the electrical outlet. If it is already connected into the outlet, try a different outlet.
2. The control panel should indicate a **Ready** status. If an error message displays, resolve the error.
3. Check the cables.
 - a. Check the power and network cable connections between the product and the computer or network port. Make sure that the connections are secure.
 - b. Make sure that the cables are not faulty by trying different cables, if possible.
 - c. Check the network connection.
4. Ensure that the selected paper size and type meet specifications. Also open the [Trays](#) menu on the product control panel and verify that the tray is configured correctly for the paper type and size.
5. Print a configuration page. If the product is connected to a network, an HP Jetdirect page also prints.
 - a. From the [Home](#) screen on the product control panel, scroll to and touch the [Administration](#) button.
 - b. Open the following menus:
 - [Reports](#)
 - [Configuration/Status Pages](#)
 - [Configuration Page](#)
 - c. Touch the [Print](#) button to print the page.
 - If the pages do not print, check that at least one tray contains paper.
 - If the page jams in the product, follow the instructions on the control panel to clear the jam.
 - If the page does not print correctly, the problem is with the product hardware.
 - If the page prints correctly, then the product hardware is working. The problem is with the computer you are using, with the print driver, or with the program.

- 6.** Verify that you have installed the print driver for this product. Check the program to make sure that you are using the print driver for this product. The print driver is on the CD that came with the product, or can be downloaded from this Web site: www.hp.com/go/lj700colorMFPM775_software.
- 7.** Print a short document from a different program that has worked in the past. If this solution works, then the problem is with the program. If this solution does not work (the document does not print), complete these steps:
 - a.** Try printing the job from another computer that has the product software installed.
 - b.** If you connected the product to the network, connect the product directly to a computer with a USB cable. Redirect the product to the correct port, or reinstall the software, selecting the new connection type that you are using.


Menu map

You can print a report of the complete [Administration](#) menu so you can more easily navigate to the individual settings you need.

1. From the [Home](#) screen on the product 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.

Preboot menu options


If an error occurs while the product is initializing, an error message displays on the control-panel display. The user can open the [Preboot](#) menus. The error menu item will not be seen if an error did not occur.

 **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.

Open the Preboot menu

1. Turn the product on.
2. The HP logo displays on the product control panel. When a "1/8" with an underscore displays below the HP logo, touch the logo to open the [Preboot](#) menu.
3. Use the arrow buttons on the touchscreen to navigate the [Preboot](#) menu.
4. Touch the [OK](#) button to select a menu item.

Cold reset using the Preboot menu

1. Turn the product on.
2. The HP logo displays on the product control panel. When a "1/8" with an underscore displays below the HP logo, touch the logo to open the [Preboot](#) menu.
3. Use the down arrow ▼ button to highlight the [Administrator](#) item, and then touch the [OK](#) button.
4. Use the down arrow ▼ button to highlight the [Startup Options](#) item, and then touch the [OK](#) button.
5. Use the down arrow ▼ button to highlight the [Cold Reset](#) item, and then touch the [OK](#) button.
6. Touch the Home  button to highlight the [Continue](#) item, and then touch the [OK](#) button.

 **NOTE:** The product will initialize.

Table 2-1 Preboot menu options (1 of 6)

Menu option	First level	Second level	Third level	Description
Continue				Selecting the Continue item exits the Preboot menu and continues the normal boot process. If a selection is not made in the initial menu within 30 seconds, the product returns to a normal boot (the same as selecting Continue). If the user navigates to another menu, the timeout does not apply.
Sign In				Enter the administrator PIN or service PIN if one is required to open the Preboot menu.

Table 2-1 Preboot menu options (1 of 6) (continued)

Menu option	First level	Second level	Third level	Description
Administrator				<p>This item navigates to the Administrator submenus.</p> <p>If authentication is required (and the user is not already signed in) the Sign In prompt displays. The user is required to sign in.</p>
	Download	Network USB USB Thumbdrive		<p>This item initiates a preboot firmware download process. A USB Thumbdrive option will work on all FutureSmart products. USB or Network connections are not currently supported.</p>
	Format Disk			<p>This item reinitializes the disk and cleans all disk partitions.</p> <p>CAUTION: Selecting the Format Disk item removes all data.</p> <p>A delete confirmation prompt is not provided.</p> <p>The system is not bootable after this action and a 99.09.67 error displays on the control panel. A firmware download must be performed to return the system to a bootable state.</p>
	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>CAUTION: Selecting the Partial Clean item removes all data except the firmware repository.</p> <p>A delete confirmation prompt is not provided.</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 (product remains bootable).</p>
	Change Password			<p>Select this item to set or change the administrator password.</p>
	Clear Password			<p>Select the Clear Password item to remove a password from the Administrator menu. Before the password is actually cleared, a message will be shown asking to confirm that the password should be cleared. Press the OK button to confirm the action.</p> <p>When the confirmation prompt displays, press the OK button to clear the password.</p>

Table 2-2 Preboot menu options (2 of 6)

Menu option	First level	Second level	Third level	Description
Administrator continued	Manage Disk	Clear disk		Select the Clear disk item to disable using an external device for job storage. Job storage is normally enabled only for the Boot device. This will be grayed out unless the 99.09.68 error is displayed.
		Lock Disk		Select the Lock Disk item to lock (mate) a new secure disk to this product. The secure disk already locked to this product will remain accessible to this product. Use this function to have more than one encrypted disk accessible by the product when using them interchangeably. The data stored on the secure disk locked to this product always remains accessible to this product.
		Leave Unlocked		Select the Leave Unlocked 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 product will remain accessible to this product and uses the old disk's encryption password with the new disk. The secure disk that is already locked to this product remains accessible to this product.
		Clear Disk Pwd		Select the Clear Disk Pwd item to continue using the non-secure disk and clear the password associated with the yet-to-be installed secure disk. CAUTION: Data on the missing secure disk will be permanently inaccessible.
		Retain Password		Select the Retain Password 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 Secure Erase item to erase all of the data on the disk and unlock it if required. This might take a long time. NOTE: 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 Erase/Unlock item to cryptographically erase all data on the disk and unlock the disk to allow a user to gain access to it from any product. NOTE: 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 Preboot menu options (3 of 6)

Menu option	First level	Second level	Third level	Description
Administrator	Manage Disk	Internal Device		Select the Internal Device item to erase the internal device or get a status about the internal device.
continued	continued		Secure Erase	Select the Secure Erase item to erase all of the data on the disk and unlock it if required. This might take a long time. NOTE: 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 Erase/Unlock 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 product. NOTE: 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 External Device item to erase the internal device or get status about the internal device.
			Secure Erase	Select the Secure Erase item to erase all of the data on the disk and unlock it if required. This might take a long time. NOTE: 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 Erase/Unlock 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 product. NOTE: 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 Preboot menu options (4 of 6)

Menu option	First level	Second level	Third level	Description
Administrator continued	Configure LAN			Select the Configure LAN item to set up the network settings for the Preboot menu firmware upgrade. The network can be configured to obtain the network settings from a DHCP server or as static.
		IP Mode [DHCP]		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 Save item to save the manual settings.

Table 2-5 Preboot menu options (5 of 6)

Menu option	First level	Second level	Third level	Description
Administrator continued	Startup Options			Select the Startup Options item to specify options that can be set for the next time the product is turned on and initializes to the Ready state.
		Show Revision		Not currently functional: Select the Show Revision item to allow the product to initialize and show the firmware version when the product reaches the Ready state. Once the product power is turned on the next time, the Show Revision item is unchecked so that the firmware revision is not shown.
		Cold Reset		Select the Cold Reset item to clear the IP address and all customer settings. (This item also returns all settings to factory defaults.) NOTE: Items in the Service menu are not reset.
		Skip Disk Load		Select the Skip Disk Load item to disable installed third-party applications.
		Skip Cal		Select the Skip Cal item to initialize the product the next time the power is turned on without calibrating.
		Lock Service		CAUTION: Select the Lock Service item to lock the Service menu access (both in the Preboot menu and the Device Maintenance menu). Service personnel must have the administrator remove the Lock Service setting before they can open the Service menu.
		Skip FSCK		Select the Skip FSCK item to disable Chkdisk/ScanVolume during startup.

Table 2-5 Preboot menu options (5 of 6) (continued)

Menu option	First level	Second level	Third level	Description
Administrator continued	Startup Options continued	First Power		<p>Not currently functional: This item allows the product to initialize as if it is the first time it has been turned on.</p> <p>For example, the user is prompted to configure first-time settings like date/time, language, and other settings.</p> <p>Select this item so that it is enabled for the next time the product power is turned on.</p> <p>When the product 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.</p>
		Embedded Jetdirect Off		<p>Select the Embedded Jetdirect Off item to disable the embedded HP Jetdirect.</p> <p>By default this item is unchecked so that HP Jetdirect is always enabled.</p>
		WiFi Accessory		<p>Select the WiFi Accessory item to enable the wireless accessory.</p>

Table 2-6 Preboot menu options (6 of 6)

Menu option	First level	Second level	Third level	Description
Administrator continued	Diagnostics	Memory	Do Not Run	<p>Diagnostic items are useful for troubleshooting formatter problems. Use the options below the Do Not Run item to help troubleshoot formatter problems.</p>
			Short	
			Long	
		Disk	Do Not Run	
			Short	
			Long	
			Optimized	
			Raw	
			Smart	
		ICB		
		CPB		
		Interconnect Run Selected		
	Remote Admin	Start Telnet		<p>The Remote Admin item allows a service technician to gain access to the product remotely to troubleshoot issues.</p>
		Stop Telnet		

Table 2-6 Preboot menu options (6 of 6) (continued)

Menu option	First level	Second level	Third level	Description
		Refresh IP		
	System Triage	Copy Logs		If you cannot print the error logs, the System Triage item allows you to copy the error logs to a flash drive on the next startup. The files can then be sent to HP to help determine the problem.
Service Tools				This item requires the service access code. If the product does not reach the Ready state, you can use this item to print the error logs. The logs can be copied to a USB storage accessory when the product is initialized, and then these files can be sent to HP to help determine what is causing the problem.
	Reset Password			Use this item to reset the administrator password.
	Subsystems			For manufacturing use only. Do not change these values.
Developer Tools	Netexec			

Current settings pages

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

1. From the [Home](#) screen on the product 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.

Troubleshooting process


Determine the problem source

When the product malfunctions or encounters an unexpected situation, the product control panel alerts you to the situation. This section contains a pre-troubleshooting checklist to filter out many possible causes of the problem. A troubleshooting flowchart helps you diagnose the root cause of the problem. The remainder of this chapter provides steps for correcting problems.

- Use the troubleshooting flowchart to pinpoint the root cause of hardware malfunctions. The flowchart guides you to the section of this chapter that contains steps for correcting the malfunction.

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.

Troubleshooting flowchart

This flowchart highlights the general processes that you can follow to quickly isolate and solve product hardware problems.

Each row depicts a major troubleshooting step. A “yes” answer to a question allows you 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 2-7 Troubleshooting flowchart

1 Power on	Is the product on and does a readable message display?		Follow the power-on troubleshooting checks. See Power subsystem on page 126 .
	Yes ↓	No →	After the control panel display is functional, see step 2.
2 Control panel messages	Does the message Ready display on the control panel?		After the errors have been corrected, go to step 3.
	Yes ↓	No →	
3 Event log	Open the Troubleshooting menu and print an event log to see the history of errors with this product.		If the event log does not print, check for error messages. If paper jams inside the product, see the jams section of the product service manual.
	Does the event log print?		
	Yes ↓	No →	

Table 2-7 Troubleshooting flowchart (continued)

4 Information pages	Open the Reports menu and print the configuration pages to verify that all the accessories are installed. Are all the accessories installed?		If accessories that are installed are not listed on the configuration page, remove the accessory and reinstall it. After evaluating the configuration pages, see step 5.
	Yes ↓	No →	
5 Print quality	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 product service manual. After the print quality is acceptable, see step 6.
	Yes ↓	No →	
6 Interface	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. If error messages display on the control panel when you try to print an event log, see the control-panel message section of the service manual. 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 product functions should start up when the product is connected into an electrical outlet and the power switch is pushed to the *on* position. If the product 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.

Power-on troubleshooting overview


During normal operation, a cooling fan begins to spin briefly after the product power is turned on. Place your hand over the vents in the left-side cover, above the formatter. If the fan is operating, you will feel air passing out of the product. You can lean close to the product and hear the fan operating. You can also place your hand over the vents on the right side of the rear cover. If the fan is operating, you should feel air being drawn into the product.

After the fan is operating, the main motor turns on (unless the right or front cover is open, a jam condition is sensed, or the paper-path sensors are damaged). You might be able to visually and audibly determine if the main motor is turned on.

If the fan and main motor 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.

If the control panel is blank when you turn on the product, check the following items.


1. Make sure that the product is connected directly into an active electrical outlet (not a power strip) that delivers the correct voltage.
2. Make sure that the power switch is in the *on* position.
3. Make sure that the fan runs 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 is seated and operating correctly. Turn off the product and remove the formatter. Reinstall the formatter, make sure the power switch is in the on position, and then verify that the heartbeat LED is blinking.
6. Remove any external solutions, and then try to turn the product on again.

 **NOTE:** If the control panel display is blank, but the main cooling fan runs briefly after the product power is turned on, try printing an engine-test page to determine whether the problem is with the control-panel display, formatter, or other product assemblies.

Control-panel checks

The product includes a diagnostic test mode for the control panel. This mode allows you to troubleshoot issues with the touchscreen, the [Speaker](#), and the [Home](#) button.

 **TIP:** To diagnose control-panel problems, see [Control-panel diagnostic flowcharts on page 130](#).

 **NOTE:** Some of the diagnostic tests are for factory use only.

Open diagnostic mode

- Tilt the control panel forward. On the back side of the control panel, use a paperclip to press the button inside the small hole near the center of the control panel.

Repeatedly pressing the button will scroll through additional screens on the control-panel display. Continue to press the button to scroll back to the diagnostic-mode main test screen.

Exit diagnostic mode

Do one of the following:


- Touch the [Cancel](#)  button.
- Wait 20 seconds and the control panel will return to the [Home](#) screen.

Table 2-8 Control-panel diagnostic functions



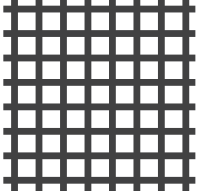


Item	Description	Remarks
 Cancel button	Exits a test	
 Keypad	Selects test settings in some of the test windows	
 Red-grid touch test	Verifies that all areas respond to a touch	Use this item to check the accuracy of the touch screen. Use a finger or 3 mm (.118 in) conductive stylus to trace between the grid lines to check the accuracy of the touchscreen calibration. NOTE: The gap between the grid lines is 6 mm (.236 in). When the screen is touched, a line or a dot displays on the screen (the X and Y coordinates of the position on the screen are also displayed).
 Calibration touch test	Checks calibration	Use this item to determine if the touchscreen calibration is within the acceptable range. When selected, ten target points (and the X and Y coordinates of the position of the target point) display on the screen. Touching a target causes the X and Y coordinate of that target to appear in the middle of the touchscreen (above the cancel button). NOTE: The product automatically calibrates the touchscreen. A manual touchscreen calibration procedure is not available for this product.
 Touchscreen LED display test	Selects a test pattern to view on the display.	Use this item to identify touchscreen LED display problems. <ol style="list-style-type: none"> 1. Touch the icon. 2. Touch the up ▲ or down ▼ arrow buttons to scroll through touchscreen LED display test screens.

Table 2-8 Control-panel diagnostic functions (continued)



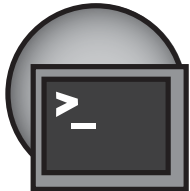
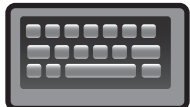
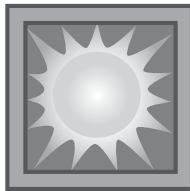
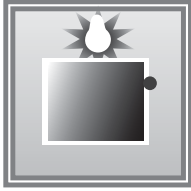







Item	Description	Remarks
	Tests sounds	Use this item to test audio functionality. <ol style="list-style-type: none">1. Touching this item causes the speaker to emit a tone.2. Touch the 2 button on the keypad, and then touch this item to cause the speaker to emit a more complex tone.
Speaker test		
	Shows the firmware version	Touch this item to display the control-panel firmware version and firmware build date.
Firmware information		
	Factory use only	
	Tests the product keyboard NOTE: For products with a keyboard feature only.	When this item is selected, pressing a button on the keyboard causes the corresponding character to appear on the control-panel display. <ol style="list-style-type: none">1. Touch the icon.2. Press a button on the keyboard. The corresponding character should appear on the control-panel display.
Keyboard test		
	Adjusts the backlight	Use this item to adjust the brightness of the control-panel display. <ol style="list-style-type: none">1. Touch the icon.2. Touch the up ▲ or down ▼ arrow buttons to adjust the backlight level.
Backlight test		

Table 2-8 Control-panel diagnostic functions (continued)

Item	Description	Remarks
 Ambient-light sensor test	Checks the ambient light sensor	Use this item to test the ambient-light sensor functionality. <ol style="list-style-type: none">1. Touch the icon.2. Shine a flashlight at the control panel to the left of, and down about 25.4 mm (1 in,) from the Home  button.3. The numbers displayed below the icon should be any value other than zero.
 Home  button test	Tests the Home  button	Use this item to test the Home  button LED and switch functionality. <ol style="list-style-type: none">1. Touch the icon.2. Press the Home  button on the right side of the control panel. The LED icon on the control-panel display illuminates if the button LED and switch are correctly functioning.

Control-panel diagnostic flowcharts

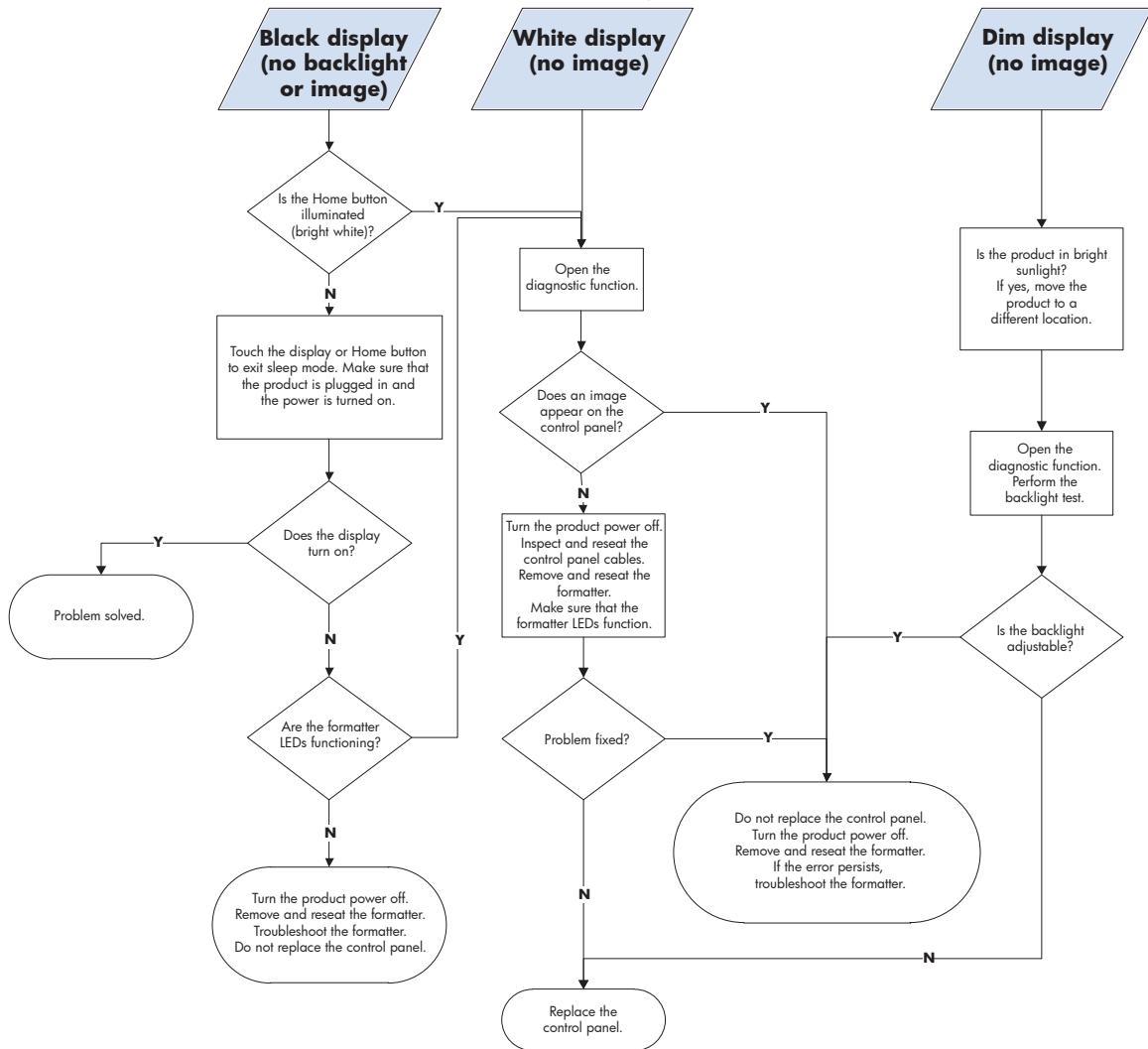
 **TIP:** To open the diagnostic mode: Tilt the control panel forward. On the back side of the control panel, use a paperclip to press the button inside the small hole near the center of the control panel.

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

- Touchscreen 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)

Figure 2-1 Touchscreen blank, white, or dim (no image)



Touchscreen is slow to respond or requires multiple presses to respond


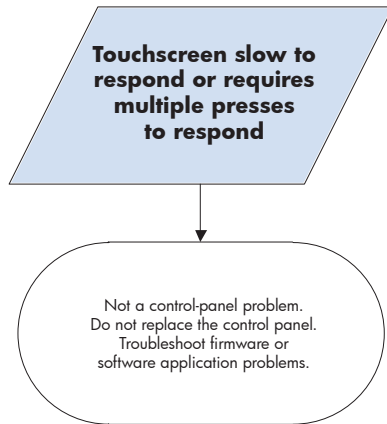
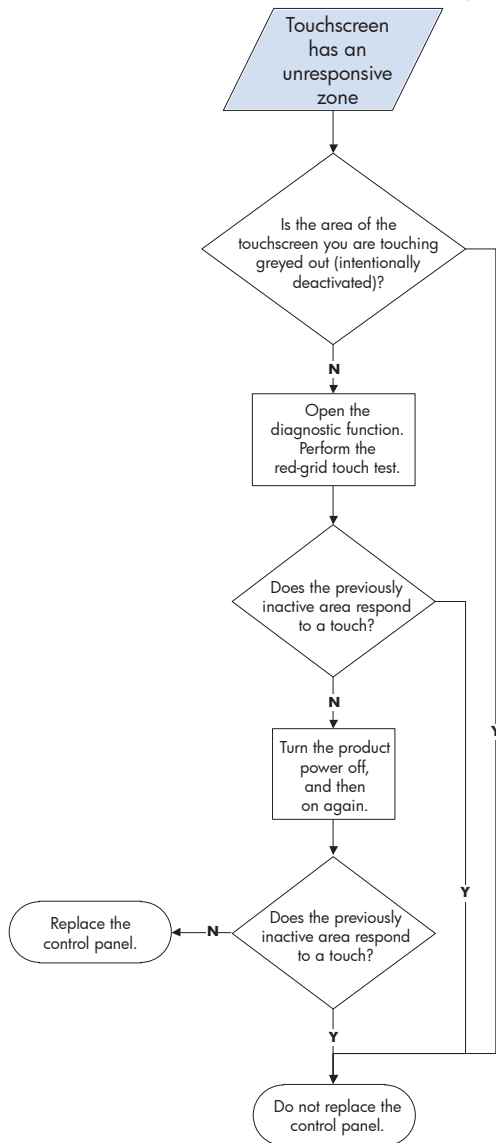
 **TIP:** Use the red-grid touch test to verify that all areas of the touchscreen are correctly functioning. See [Table 2-8 Control-panel diagnostic functions on page 128](#).

Figure 2-2 Touchscreen is slow to respond or requires multiple presses to respond



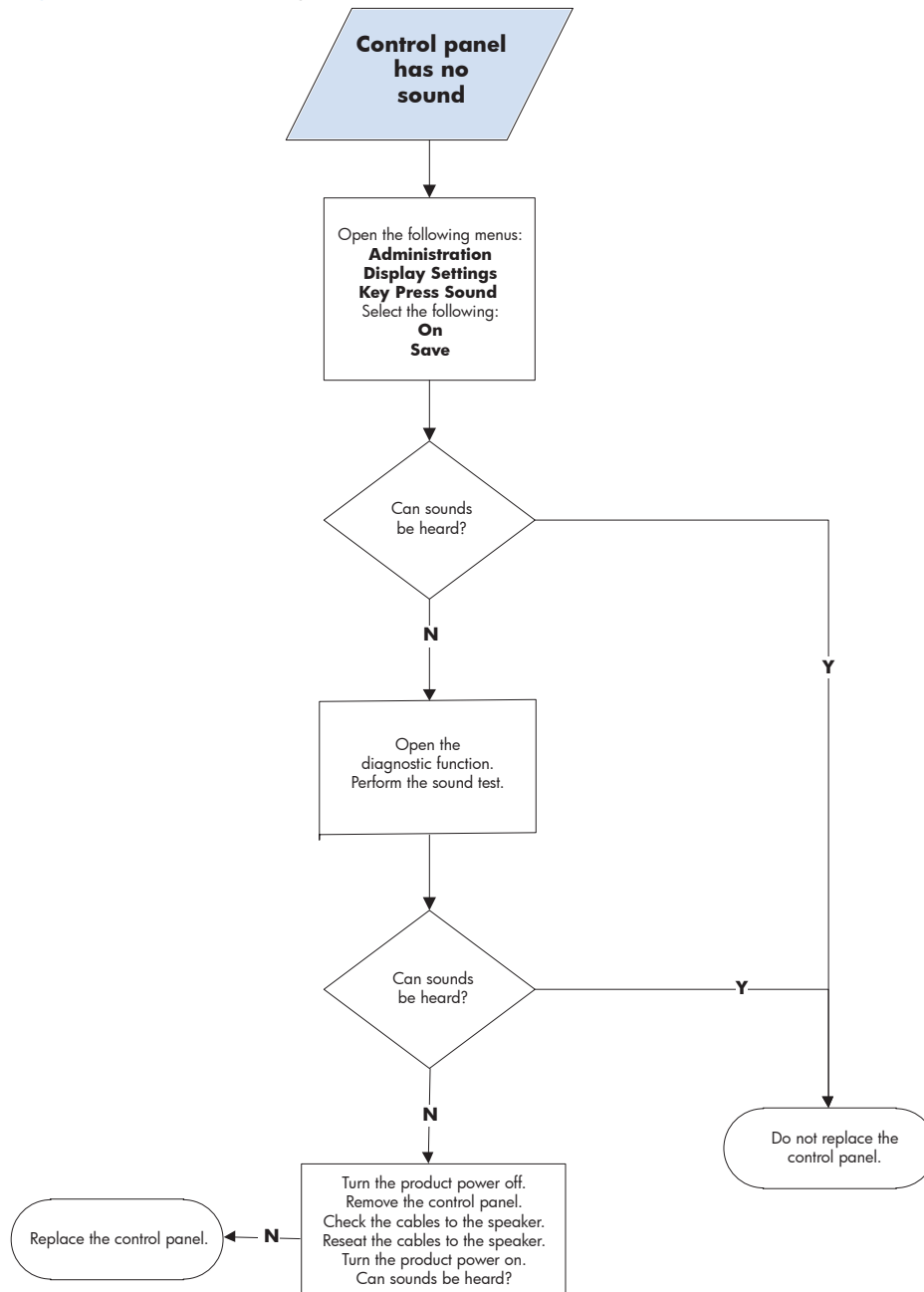
Touchscreen has an unresponsive zone

Figure 2-3 Touchscreen has an unresponsive zone



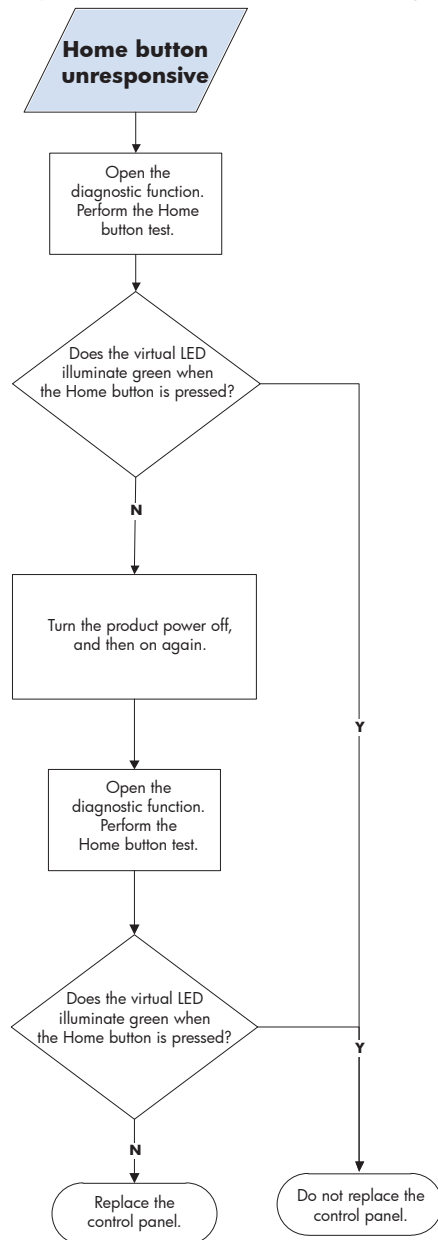
No control-panel sound

Figure 2-4 No control-panel sound



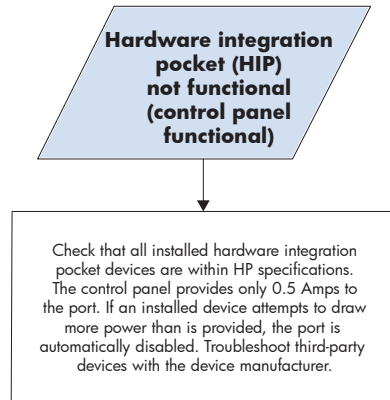
Home button is unresponsive

Figure 2-5 Home button is unresponsive



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


Figure 2-6 Hardware integration pocket (HIP) is not functioning (control panel functional)



Scanning subsystem

Calibrate the scanner

Use this procedure to properly position the copied image on the page.

 **TIP:** This adjustment might be required after the scanner or document feeder is replaced.

1. From the [Home](#) screen on the product control panel, scroll to and touch the [Device Maintenance](#) button.
2. Touch the [Calibration/Cleaning](#) button.
3. Touch the [Calibrate Scanner](#) button, and then follow the instructions provided on the screen.

Tools for troubleshooting

The section describes the tools that can help you solve problems with your product.

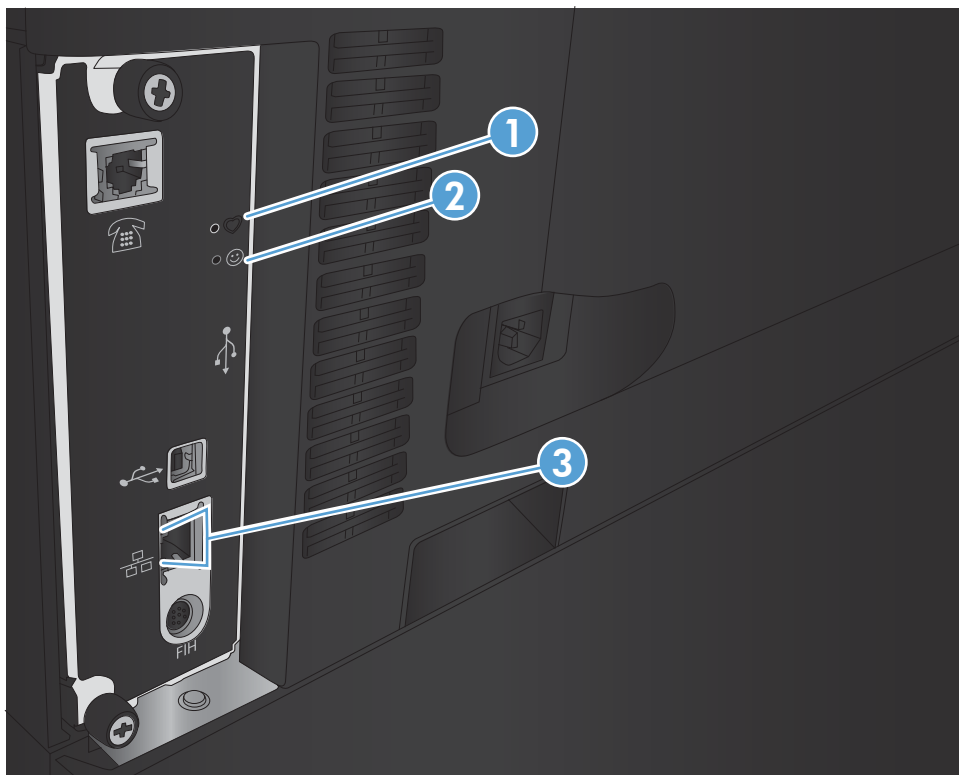
Individual component diagnostics

LED diagnostics

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

Understand lights on the formatter


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



1	Connectivity LED
2	Heartbeat LED
3	HP Jetdirect LEDs


Heartbeat LED

The heartbeat LED provides information about product operation. If a product error occurs, the formatter displays a message on the control-panel display. However, error situations can occur causing the formatter-to-control panel communication to be interrupted.

 **NOTE:** HP recommends fully troubleshooting the formatter and control panel before replacing either assembly. Use the heartbeat LED to troubleshoot formatter and control panel errors to avoid unnecessarily replacing these assemblies.

Formatter-to-control panel communication interruptions


- The firmware does not fully initialize and configure the control panel interface.
- The control panel is not functioning (either a failed assembly or power problem).
- Interface cabling between the formatter and control panel is damaged or disconnected.

 **TIP:** If the heartbeat LED is illuminated—by an error condition or normal operation—the formatter is fully seated and the power is on. The pins for the LED circuit in the formatter connector are recessed so that this LED will not illuminate unless the formatter is fully seated.

The heartbeat LED operates according to the product state. When the product is initializing, see [Heartbeat LED, product initialization on page 138](#). When the product is in **Ready** mode, see [Heartbeat LED, product operational on page 140](#).

Heartbeat LED, product initialization

The following table describes the heartbeat LED operation while the product 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 [Heartbeat LED, product operational on page 140](#).

Table 2-9 Heartbeat LED, product initialization

Product initializing state	Heartbeat LED, normal state	Heartbeat LED, error state
No power (power cable disconnected or power switch off)	Off	Not applicable
Power on (immediately after the power switch pressed)	Red, solid <ul style="list-style-type: none"> • Duration should be 1 second or less 	Red, solid <ul style="list-style-type: none"> • Firmware error; problem finding hardware and booting the serial peripheral interface flash memory <ul style="list-style-type: none"> ◦ Boot process halted Replace the formatter.
Serial peripheral interface (SPI) flash memory boot	Green, solid	Red, solid <ul style="list-style-type: none"> • Firmware error; problem corrupt or missing SPI flash memory <ul style="list-style-type: none"> ◦ Boot process halted Replace the formatter.

Table 2-9 Heartbeat LED, product initialization (continued)

Product initializing state	Heartbeat LED, normal state	Heartbeat LED, error state
HW checks on board DRAM	Green, solid	Red, solid <ul style="list-style-type: none"> Power on self check failure <ul style="list-style-type: none"> Boot process halted <p>Replace the formatter.</p>
Control panel connection initializes	Green, solid NOTE: Control panel communication successful. If an error occurs, a message should appear on the control-panel display.	Yellow, fast flash <ul style="list-style-type: none"> Formatter to control panel connection failed <ul style="list-style-type: none"> Boot process continues <p>Check the cables between the formatter and control panel for damage. Make sure that the cables are fully seated.</p>
Preboot menu available (including diagnostics)	Green, solid	Red, solid <ul style="list-style-type: none"> Diagnostic failure <ul style="list-style-type: none"> Follow diagnostic instructions <p>Turn the power off, and then on again to restart the initialization process.</p>
Accessing disk for firmware image	Green, solid NOTE: If applicable, disk error messages appear on the control-panel display.	Yellow, fast flash <ul style="list-style-type: none"> Control panel not connected
Firmware boot	Green, solid NOTE: If applicable, error messages appear on the control-panel display.	Yellow, fast flash <ul style="list-style-type: none"> Control panel not connected
Product operational	Green, heartbeat blink NOTE: If applicable, error messages appear on the control-panel display.	Yellow, fast flash <ul style="list-style-type: none"> Control panel not connected
49.XX.YY error or initialization freezes	Not applicable	LED off NOTE: An error message (for example, 49.XX.YY) might appear on the control-panel display. Eventually a formatter connection missing message will appear. Turn the power off, and then on again to restart the initialization process. If the error persists, perform a firmware upgrade.

Table 2-9 Heartbeat LED, product initialization (continued)

Product initializing state	Heartbeat LED, normal state	Heartbeat LED, error state
Control panel connection interrupted after the product is operational	Not applicable	Yellow, fast flash <ul style="list-style-type: none"> Control panel not connected
Sleep Mode	Green, slow blink	Not applicable
Approaching Sleep Mode	Green, slow blink	Not applicable
Wake up from Sleep Mode	Follows initialization progression	Follows initialization progression
Approaching wake up from Sleep Mode	Follows initialization progression	Follows initialization progression

Heartbeat LED, product operational

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

Table 2-10 Heartbeat LED, product operational

LED color	Description
Green	<ul style="list-style-type: none"> Normal operation <ul style="list-style-type: none"> Formatter is operating normally Firmware is operating normally Control panel is connected
Yellow	<ul style="list-style-type: none"> Formatter cannot connect to the control panel <ul style="list-style-type: none"> Check control panel connections Verify control panel functionality

Table 2-10 Heartbeat LED, product operational (continued)

LED color	Description
Red	<ul style="list-style-type: none">• Formatter error or failure<ul style="list-style-type: none">◦ Serial peripheral interface (SPI) flash memory boot error◦ Power on self test (formatter) failed◦ Diagnostic (formatter) failed
Off	<p>TIP: The connectivity LED is off if the power cable is disconnected, the product power switch is in the off position, or the product is in Sleep Mode.</p> <ul style="list-style-type: none">• Firmware or system freeze<ul style="list-style-type: none">◦ Check control panel for an error message◦ Control panel failure <p>NOTE: 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>

Connectivity LED

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

HP Jetdirect LEDs

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, you can try to manually configure the link settings on the embedded print server by using the product control-panel menus.

1. From the [Home](#) screen on the product 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.

Engine diagnostics

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

Defeating interlocks

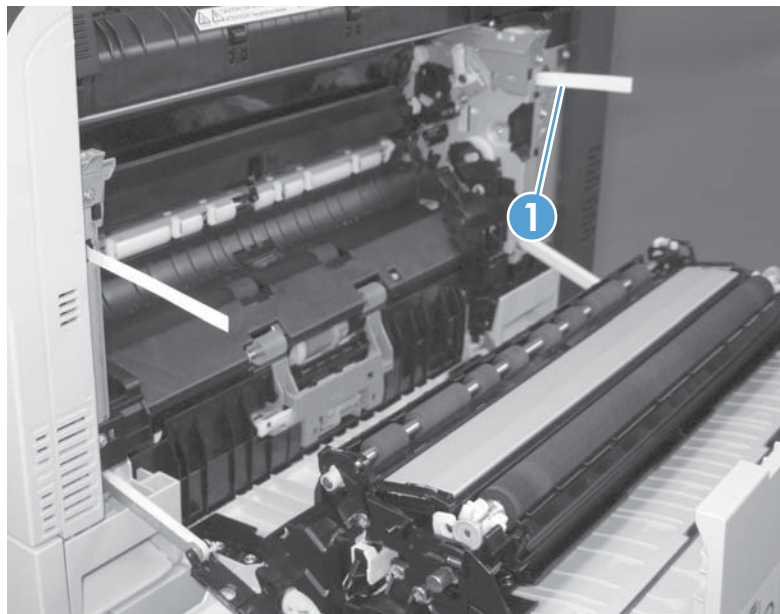
Different tests can be used to isolate different types of issues. For assembly or noise isolation, you can run the diagnostic test when the front and right doors are open. To operate the product with the doors open, the door switch levers must be depressed to simulate a closed-door position.

⚠ WARNING! Be careful when performing product diagnostics to avoid risk of injury. Only trained service personnel should open and run the diagnostics with the covers removed. Never touch any of the power supplies when the product is turned on.

1. Open the right and front doors.
2. Insert a thin piece of paper into the right-door sensor slot (callout 1).

⚠ CAUTION: Make sure you use a thin piece of paper to activate the sensor. Using too thick of a piece of paper, to activate this sensor, might dislodge the photointerrupter body from its mounting bracket.

Figure 2-7 Defeating interlocks (1 of 2)



3. Insert a folded piece of paper into the front door switch (callout 1). Wait until the product enters the **Ready** state.


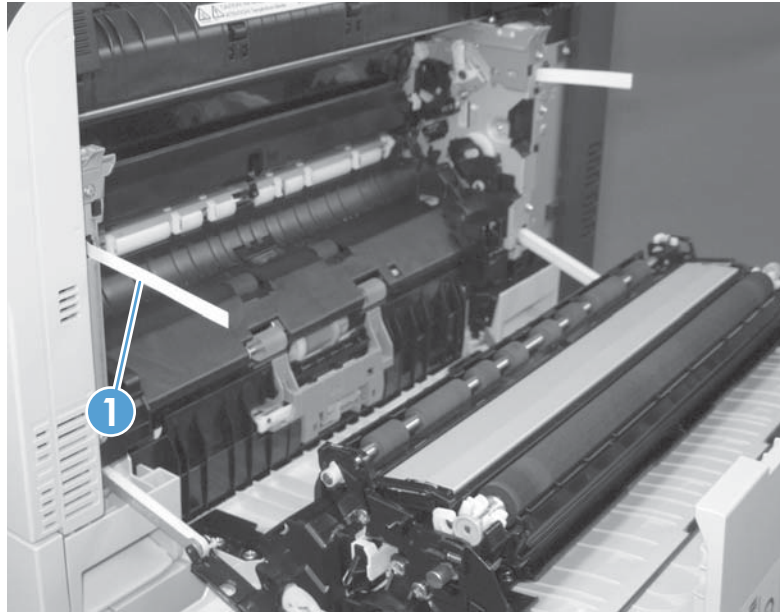

 **NOTE:** The paper must be thick enough to depress and hold in place the sensor actuator arm.

Figure 2-8 Defeating interlocks (2 of 2)



Disable cartridge check

Use this diagnostic test to print internal pages or send an external job to the product when one or more toner cartridges are removed or exchanged. Supply errors are ignored while the product is in this mode. When the product is in this mode, you can navigate 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 individual toner cartridges.

 **NOTE:** Cartridges are not keyed and can be interchanged. An error will display on the control panel if a toner cartridge is installed in the wrong position. The [Manage Supplies](#) menu explains which toner cartridge is misplaced.

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

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

Engine test button

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

Figure 2-9 Engine test button



Paper path test

This diagnostic test generates one or more test pages that you can use to isolate the cause of jams.

To isolate a problem, specify which input tray to use, specify whether to use the duplex path, and specify the number of copies to print. Multiple copies can be printed to help isolate intermittent problems. The following options become available after you start 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.
 - **Number of Copies:** Set the numbers of copies to be printed; the choices are 1, 10, 50, 100, or 500.
1. From the **Home** screen on the product 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 you want to run.

Paper path sensors test

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

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



NOTE: Exiting the Paper path sensors menu and then reentering the test will clear the test values from the previous test.

The menu list of sensors and motors for the Paper path sensors test varies depending on which optional accessories are installed.

Table 2-11 Paper-path sensors diagnostic tests

Sensor name	Sensor/Switch number	Replacement part number	Descriptions	Sensor test name
Tray 3 Feed	SR1	RM1-6944-000CN	Paper pickup assy	Paper Path Test
HCI feed sensor*	PS3301	RM1-8888-000CN	Crossing paper feed assy	Paper Path Test
HCI Tray 4 feed sensor*	PS3305	RM1-8876-000CN	Paper pickup left assy	Paper Path Test
HCI Tray 3 feed sensor*	PS3302	RM1-8869-000CN	Paper pickup right assembly	Paper Path Test
Registration	PS5	RM1-7922-000CN	Registration assy	Paper Path Test
Fuser Loop 1	PS7	CC522-67904; 110V CC522-67926; 220V	Fuser assy	Paper Path Test
Fuser Loop 2	PS8	CC522-67904; 110V CC522-67926; 220V	Fuser assy	Paper Path Test
Fuser Pressure Release	PS9	CE707-67904	Fuser drive assy	Paper Path Test
Fuser Output	PS6	CC522-67904; 110V CC522-67926; 220V	Fuser assy	Paper Path Test
ITB Alienation	SW5	CE708-67901	Main drive assy	Paper Path Test
Output Bin Full	PS10	CE707-67904	Fuser drive assy	Paper Path Test

* Available when the high capacity input (HCI) accessory is installed.

Manual sensor and tray/bin manual sensor tests

Use these diagnostic tests to manually test the product sensors, switches.

Manual sensor test

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

Use the manual sensor test

The [Manual Sensor Test](#) screen shows the sensor number, 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 product control panel, scroll to and touch the [Administration](#) button.
2. Open the following menus:
 - [Troubleshooting](#)
 - [Diagnostic Tests](#)
 - [Manual Sensor Test](#)
3. Touch the sensor number and name on the [Manual Sensor Test](#) 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 front door increments the [PS14 Front door 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 [Manual Sensor Test](#) screen and return to the [Diagnostic Tests](#) menu.

Table 2-12 Manual sensor diagnostic tests

Sensor or switch	Replacement Part number	Description
PS14 Front Door	RM1-6830-000CN	Switch, cable (two required)
PS15 Right door	WG8-5696-000CN	Photointerrupter
PS3301 HCI feed sensor	RM1-8888-000CN	Crossing paper feed assembly
PS3305 Tray 4 feed	RM1-8876-000CN	Paper pickup assembly (left)

Table 2-12 Manual sensor diagnostic tests (continued)

Sensor or switch	Replacement Part number	Description
PS3306 Tray 3 feed	RM1-8876-000CN	Paper pickup left assembly (right)
PS5 Top	RM1-7922-000CN	Registration sensor assembly
PS7 Fuser loop 1	CC522-67904 (110V)	Fuser
	CC522-67926 (220V)	
PS8 Fuser loop 2	CC522-67904 (110V)	Fuser
	CC522-67926 (220V)	
PS9 Fuser Pressure Release	CE707-67904	Fuser drive assembly
PS6 Fuser Output	CC522-67904 (110V)	Fuser
	CC522-67926 (220V)	
PS10 Output Bin Full	CE707-67904	Fuser drive assembly
PS11 Developer Alienation	CE708-67901	Main drive assembly
SW5 ITB Alienation	CE708-67901	Main drive assembly

Tray/bin manual sensor test

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

Use the tray/bin manual sensor test

The [Tray/Bin Manual Sensor Test](#) screen shows the sensor number, 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 product control panel, scroll to and touch the [Administration](#) button.
2. Open the following menus:
 - [Troubleshooting](#)
 - [Diagnostic Tests](#)
 - [Tray/Bin Manual Sensor Test](#)
3. Touch the sensor number and name on the [Tray/Bin Manual Sensor Test](#) 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 Tray 2 increments the [SW7,8 Tray 2 Paper Size Toggle](#) item count two times—once when the tray is opened, and once when the tray is closed.

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

-or-

Touch the [Cancel](#) button to exit the [Manual Sensor Test](#) screen and return to the [Diagnostic Tests](#) menu.

Table 2-13 Tray/bin manual sensors

Sensor or switch name	Replacement part number	Descriptions
PS2 Tray 1 paper	RM1-6164-000CN	Last paper detect sensor
PS1 Tray 2 paper	RM1-6944-000CN	Paper pickup assembly
PS4 Tray 2 paper surface	RM1-6039-000CN	Lifter drive assembly


Table 2-13 Tray/bin manual sensors (continued)

Sensor or switch name	Replacement part number	Descriptions
SW7,8 Tray 2 Paper Size	RM1-6039-000CN	Lifter drive assembly
NOTE: SW 7 is the cassette media 2 end switch.		
SW 8 is the cassette media width switch.		
PS3103 Tray 3 paper	RM1-8869-000CN	Paper pickup assembly (right)
PS3102 Tray 3 paper surface	RM1-8869-000CN	Paper pickup assembly (right)
PS3303 Tray 3 Paper Size	RM1-8880-000CN	Auto close assembly
PS3302 Tray 3 feed	RM1-8869-000CN	Paper pickup assembly (right)
SW3301 Tray 3 Door	RM1-8888-000CN	Crossing paper feed assembly
PS3203 Tray 4 paper	RM1-8876-000CN	Paper pickup assembly (left)
PS3202 Tray 4 paper surface	RM1-8876-000CN	Paper pickup assembly (left)
PS3304 Tray 4 Paper Size	RM1-8880-000CN	Auto close assembly
PS3305 Tray 4 feed	RM1-8876-000CN	Paper pickup assembly (left)
PS3301 HCI feed sensor	RM1-8888-000CN	Crossing paper feed assembly
PS10 Output Bin Full	CE707-67904	Fuser drive assembly

Print/stop test

Use this diagnostic test to isolate the cause of problems such as image-formation defects and jams within the engine. During this test you can stop the paper anywhere along the product 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, you can recover the product in one of two ways.

1. From the [Home](#) screen on the product control panel, scroll to and touch the [Administration](#) button.
2. Open the following menus:
 - [Troubleshooting](#)
 - [Diagnostic Tests](#)
 - [SPrint/Stop Test](#)
3. Enter a range, and then touch the [OK](#) button.
 - 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.

 **NOTE:** Do not try to perform a print/stop test while the product is calibrating, because you might be required to restart the product. If a jam message displays on the control panel during testing, activate the door switch.

Component tests

Control-panel tests

From the [Home](#) screen on the product control panel, scroll to and touch the [Administration](#) button.

- [Troubleshooting](#)
- [Diagnostic Tests](#)

Available control-panel tests


- **LEDs:** test the LEDs on the control panel.
- **Display:** sequence through display tests.
- **Buttons:** tests the keypad and other control-panel buttons.
- **Touchscreen:** tests the control-panel touchscreen.

For control-panel diagnostics, see Control-panel checks in the product service manual.

Component test (special-mode test)

This test activates individual parts independently to isolate problems.

Each component test can be performed once or repeatedly. If you turn on the [Repeat](#) option 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 front or side door interlocks must be defeated to run the component tests. Some tests might require that the ITB and toner cartridges be removed. The control panel-display prompts you to remove some or all cartridges during certain tests.

1. From the [Home](#) screen on the product 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 you want to run.

Table 2-14 Component test details

Component test	Item tested	Replacement part number	Comments
Transfer Motors	M1	RM1-6088-000CN	All motors related to cartridges and belts.
	M2	DC motor assembly	Activates the specified motors at a specific speed for 10 seconds.
Belt Only	M1	RM1-6088-000CN	Remove all toner cartridges to perform this test. Rotates the ITB belt. You can hear the auger motor running.
		DC motor assembly	Activates the specified motor at a specific speed for 10 seconds.
Developer Motors	M3	RM1-6088-000CN DC motor assembly	Activates the specified motor at a specific speed for 10 seconds.
Cartridge Motors	M2	RM1-6088-000CN DC motor assembly	Activates the specified motor at a specific speed for 10 seconds.
Fuser Motor	M4	RM1-6074-000CN Fixing (fuser) motor assembly	Activates the specified motor at a specific speed for 10 seconds.
Alienation Motor	M6	RK2-3298-000CN Motor, stepping, DC	Activates the specified motor or disengages the developer. If the home position of the developer is not reached within 10 seconds, the product brings the developer to its home position.
ITB Contact/Alienation Drive	M4	<ul style="list-style-type: none"> RM1-6074-000CN 	Activates the specified motor and the T1 roller disengagement solenoid which brings the T1 roller to one of the following states: <ul style="list-style-type: none"> Four rollers are disengaged (home position) with only the T1 roller engaged. If the home position of the T1 roller is not reached in 10 seconds, the product brings the T1 roller to the home position.
	SL5	Fixing (fuser) motor assembly <ul style="list-style-type: none"> CE707-67904 Fixing (fuser) drive assembly (if SL5 fails)	
Fuser Contact/Alienation Drive	M4	RM1-6074-000CN Fixing (fuser) motor assembly	Reverses the fuser motor and pressurizes or depressurizes the pressure release motor. If the home position of the pressure roller is not reached within 10 seconds, the product brings the roller to its home position.
Tray 2 Pickup Motor	M5	RM1-6039-000CN Lifter drive assembly	Activates the specified motor, pickup roller, separation roller, and registration roller at a specified speed for 10 seconds.

Table 2-14 Component test details (continued)

Component test	Item tested	Replacement part number	Comments
Tray 3 Pickup Motor	M1 (1x500; 3x500) M3301 (HCI)	<ul style="list-style-type: none"> 1x500-sheet and 3x500-sheet feeders RK2-1331-000CN; motor, stepping, DC 3,500-sheet HCI RK2-1331-000CN; motor, stepping, DC 	Activates the specified motor, pickup roller, and separation roller at a specified speed for 10 seconds.
Tray 4 Pickup Motor	M91 (1x500; 3x500) M3304 (HCI)	<ul style="list-style-type: none"> 1x500-sheet and 3x500-sheet feeders RK2-1331-000CN; motor, stepping, DC HCI RK2-1331-000CN; motor, stepping, DC 	Activates the specified motor, pickup roller, and separation roller at a specified speed for 10 seconds.
Duplex Pickup Motor	M8	RK2-3298-000CN Motor, stepping, DC	Activates the specified motor at a specific speed for 10 seconds.
Switchback motor	M7	RK2-3298-000CN Motor, stepping, DC	Activates the specified motor at a specific speed for 10 seconds.
Tray 1 Pickup Solenoid	SL2	RM1-9360-000CN Right door assembly	Activates the specified solenoid for 10 seconds.
Tray 2 Pickup Solenoid	SL1	RM1-6039-000CN Lifter drive assembly	Activates the specified solenoid for 10 seconds.
Tray 3 Pickup Solenoid	SL1 (1x500) SL91 (3x500) SL3301 (HCI)	<ul style="list-style-type: none"> 1x500-sheet and 3x500-sheet feeders RM1-3819-000-000CN; lifter drive assembly HCI RM1-8869-000-000CN; paper pickup right assembly 	Activates the specified solenoid for 10 seconds.
Tray 4 Pickup Solenoid	SL82 (3x500) SL3302 (HCI)	<ul style="list-style-type: none"> 1x500-sheet and 3x500-sheet feeders RM1-3819-000-000CN; lifter drive assembly HCI RM1-8876-000-000CN; paper pickup left assembly 	Activates the specified solenoid for 10 seconds.
Switchback Flapper Solenoid	SL3	RM2-0698-000CN Duplex reverse drive assembly	Activates the specified solenoid for 10 seconds.

Table 2-14 Component test details (continued)

Component test	Item tested	Replacement part number	Comments
Laser Scanner Motor	M10	RM1-6122-000CN Laser/scanner assembly	Activates the specified motor for 10 seconds.
Repeat	Not applicable	Not applicable	Options: On Off

Scanner tests

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

Scanner tests

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

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 product 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 \(length\) short](#)
- [ADF \(length\) long](#)
- [ADF slider 1](#)
- [ADF slider 2](#)
- [ADF slider 3](#)

- ADF jam cover
- ADF paper path deskew
- ADF paper path pick success
- Paper path sensor 1 (unreachable)
- Flatbed Y (length) short
- Flatbed Y (length) long
- Flatbed cover

Diagrams

Block diagrams

Figure 2-10 Photo sensors (paper path)

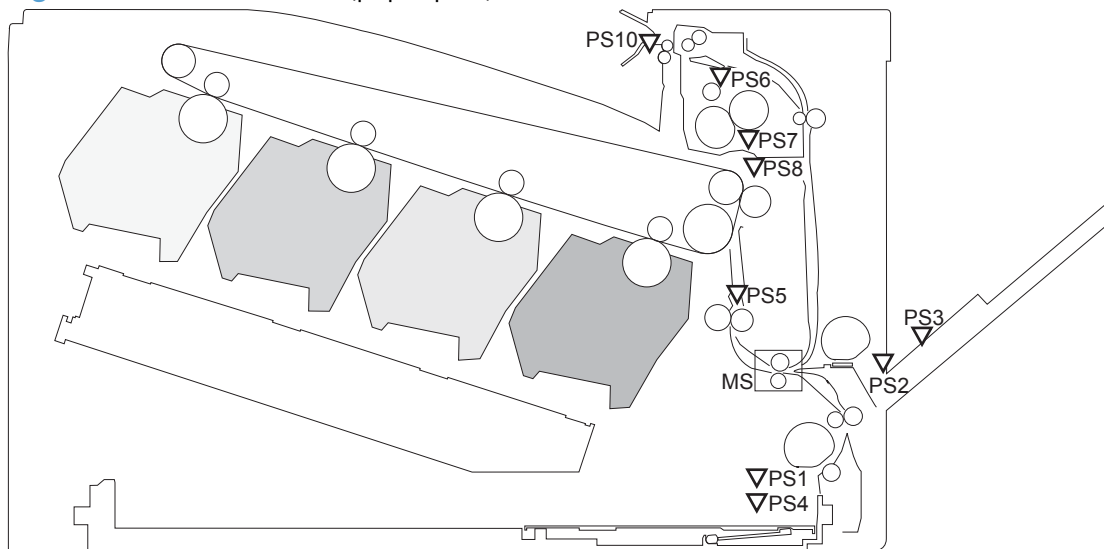


Table 2-15 Photo sensors and switches (product)

Item	Description	Item	Description
PS1	Tray 2 cassette paper-out sensor	PS6	Fuser delivery sensor
PS2	Tray 1 (MP tray) paper-out sensor	PS7	Loop sensor 1
PS3	Last-paper sensor	PS8	Loop sensor 2
PS4	Tray 2 cassette paper-stack surface sensor	PS10	Face-down output bin paper full sensor
PS5	Top-of-Page (TOP) sensor	MS	Media sensor

Figure 2-11 1x500-sheet paper-feeder sensors and switches

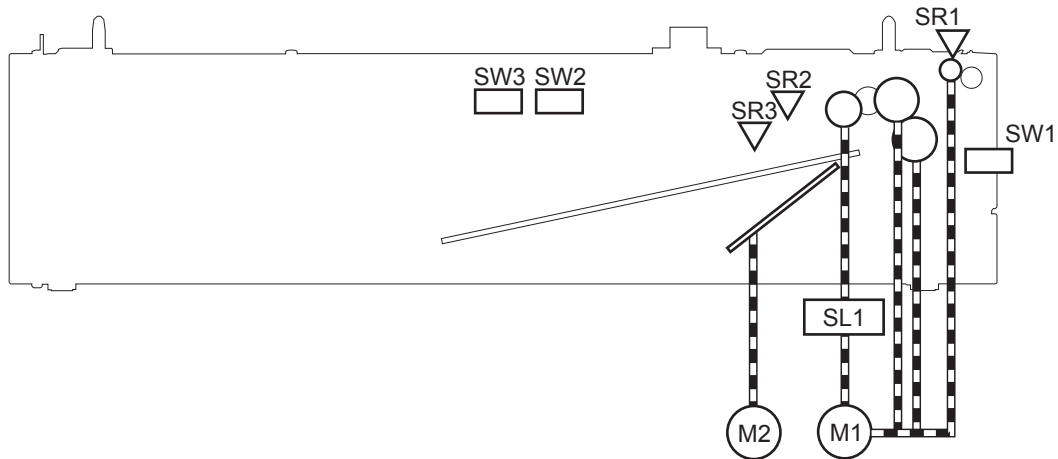


Table 2-16 1x500-sheet paper-feeder sensors and switches

Item	Description
SR1	PF paper-feed sensor
SR2	PF paper-stack surface sensor
SR3	PF cassette paper-presence sensor
SW1	PF door-open switch
SW2	PF cassette paper end-plate position switch
SW3	PF cassette paper-width switch

Figure 2-12 1x500-sheet paper-deck sensors and switches

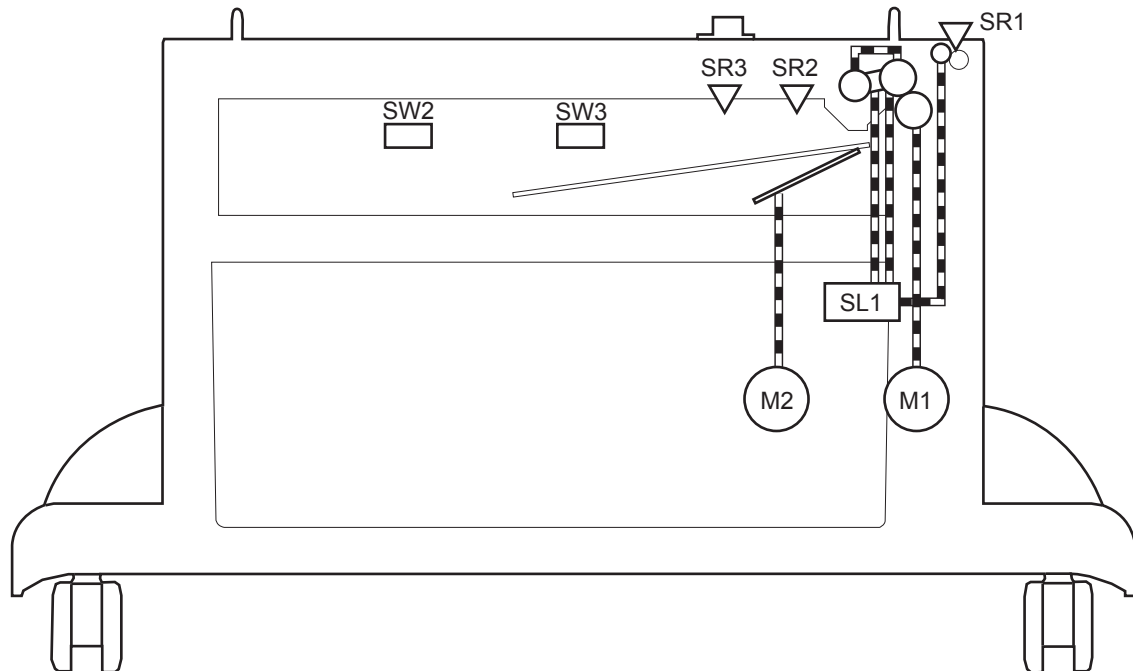


Table 2-17 1x500-sheet paper-deck sensors and switches

Item	Description
SR1	Paper deck cassette media feed sensor
SR2	Paper deck cassette media stack surface sensor
SR3	Paper deck cassette media out sensor
SW2	Paper deck cassette media width switch
SW3	Paper deck cassette media end switch

Figure 2-13 3x500-sheet paper-deck sensors and switches

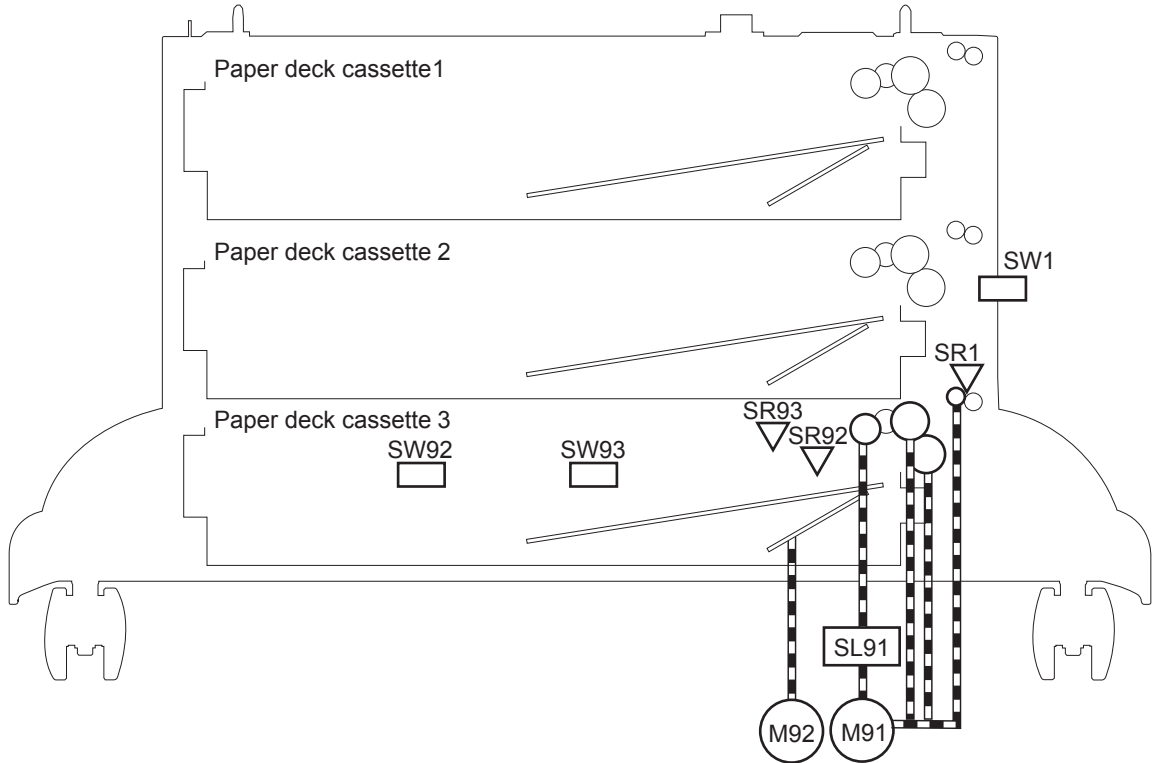


Table 2-18 3x500-sheet paper-deck sensors and switches

Item	Description
SR1	Paper deck cassette 1 media feed sensor
SR2	Paper deck cassette 1 stack surface sensor
SR3	Paper deck cassette 1 cassette media out sensor
SR81	Paper deck cassette 2 media feed sensor
SR82	Paper deck cassette 2 stack surface sensor
SR83	Paper deck cassette 2 cassette media out sensor
SR91	Paper deck cassette 3 media feed sensor
SR92	Paper deck cassette 3 stack surface sensor
SR93	Paper deck cassette 3 cassette media out sensor
SW1	Paper deck door-open-detection switch
SW2	Paper deck cassette 1 cassette media end switch
SW3	Paper deck cassette 1 cassette media width switch
SW82	Paper deck cassette 2 cassette media end switch
SW83	Paper deck cassette 2 cassette media width switch
SW92	Paper deck cassette 3 cassette media end switch
SW93	Paper deck cassette 3 cassette media width switch

Figure 2-14 High capacity input (HCI) sensors and switches

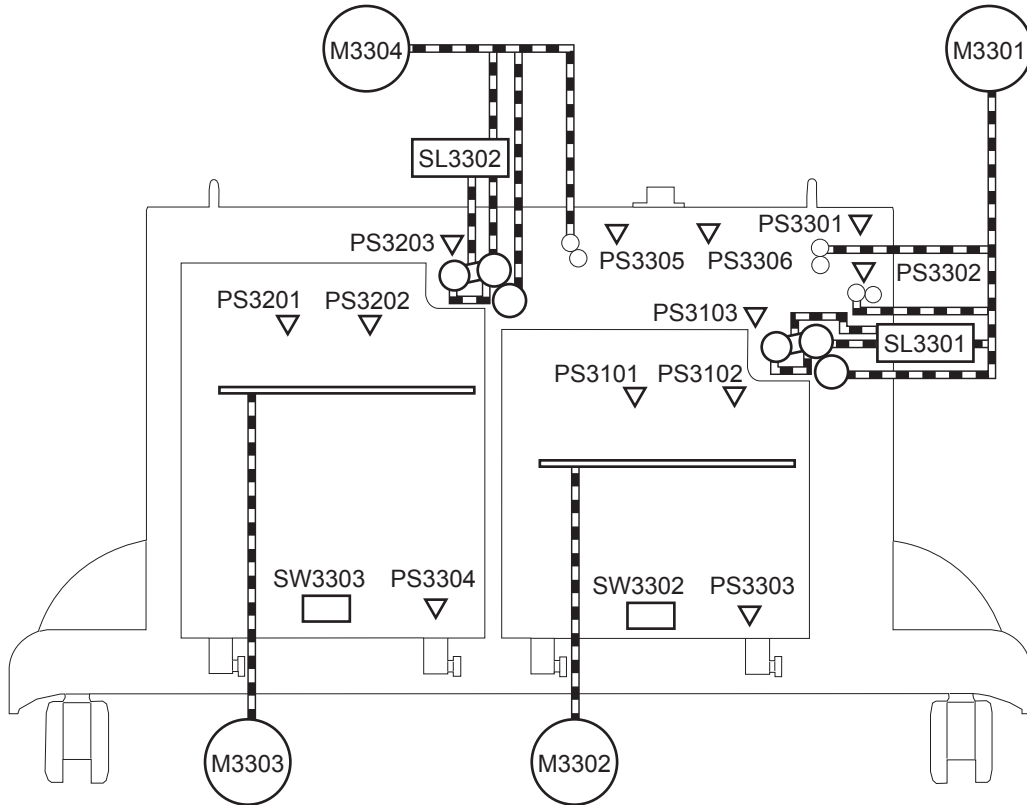


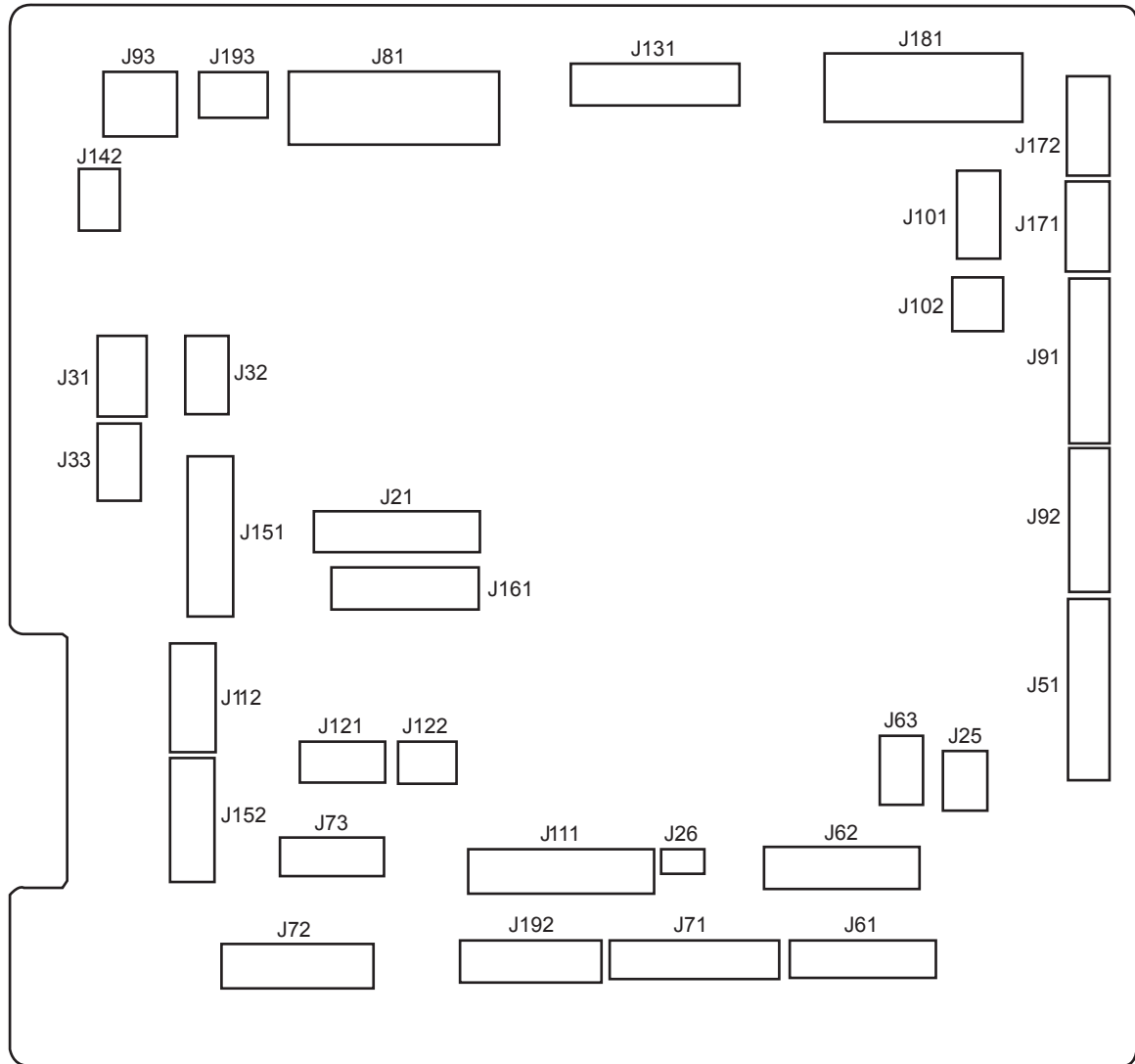
Table 2-19 High capacity input (HCI) sensors and switches

Item	Description
PS3101	HCI right cassette media stack surface 2 sensor
PS3102	HCI right cassette media stack surface 1 sensor
PS3103	HCI right cassette media out sensor
PS3201	HCI left cassette media stack surface 2 sensor
PS3202	HCI left cassette media stack surface 1 sensor
PS3203	HCI left cassette media out sensor
PS3301	HCI media feed sensor
PS3302	HCI right cassette media feed sensor
PS3303	HCI right cassette media size sensor
PS3304	HCI left cassette media size sensor
PS3305	HCI left cassette media feed sensor
PS3306	HCI long edge feed guide open detection sensor
SW3301	HCI door open detection switch
SW3302	HCI right cassette open detection switch
SW3303	HCI left cassette open detection switch

Location of connectors

DC controller PCA

Figure 2-15 DC controller PCA

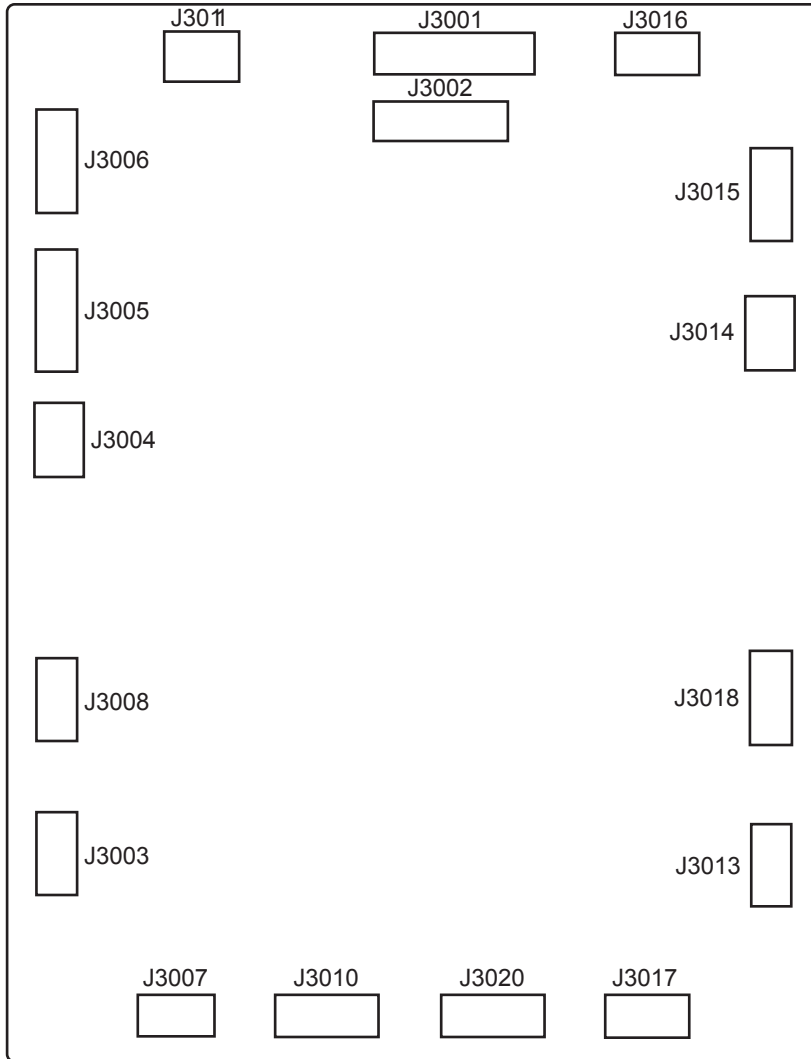


J21 : low-voltage power supply (LVPS) assembly	J72 : Transfer 1 high-voltage power supply	J131 : fuser
J25 : LVPS assembly	J73 : Transfer 2 high-voltage power supply	J141 : cartridge fan
J26 : LVPS assembly	J81 : ITB motor/Drum motor/Developer motor/Fuser motor	J151 : lifter drive assembly
J31 : not used	J91 : driver PCA	J152 : right door assembly
J32 : not used	J92 : driver PCA	J161 : toner level sensor
J33 : environmental sensor	J93 : driver PCA	J171 : pre-exposure LEDs (front)
J51 : ICB	J102 : E-label PCA (K)	J181 : main drive assembly

J61: CK laser	J111: RD sensor	J192: Paper feeder/Paper deck
J62: YM laser	J112: media sensor	J193: sub power supply assembly
J63: scanner motor	J121: Front door sensor/Fuser fan	
J71: developing high-voltage power supply	J122: TOP sensor	

HCI Controller PCA

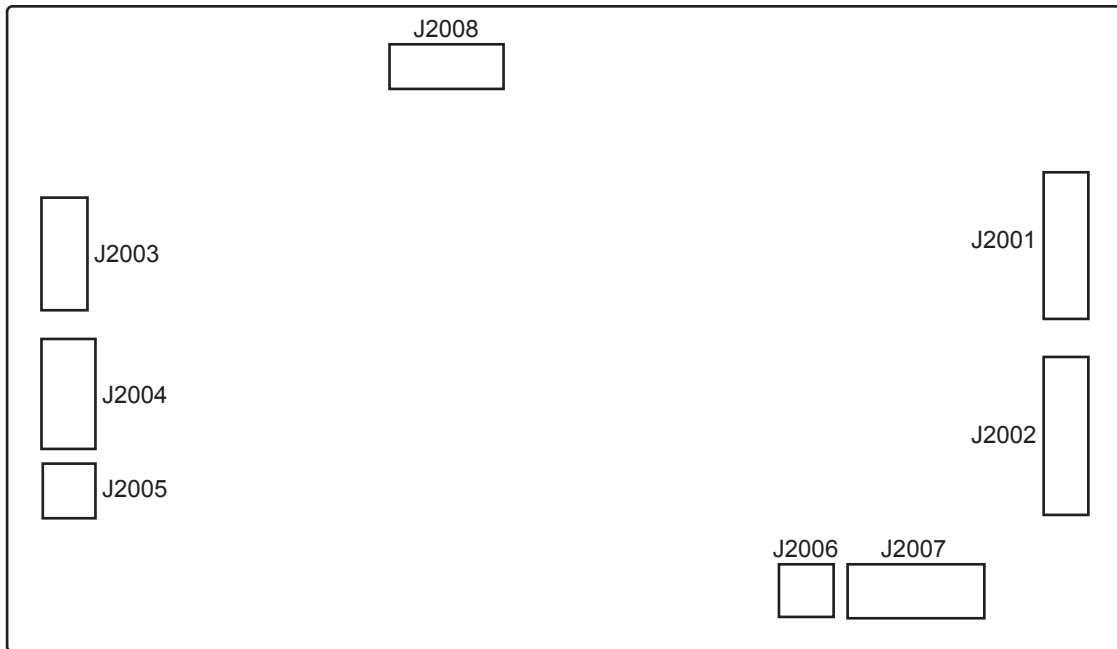
Figure 2-16 HCI Controller PCA



J3001: not used	J3011: not used
J3002: DC controller	J3013: left cassette lifter drive assembly
J3003: right cassette lifter drive assembly	J3014: HCI left cassette pickup motor
J3004: HCI right cassette pickup motor	J3015: left cassette pickup assembly
J3005: Right cassette pickup assembly	J3016: left cassette pickup assembly
J3006: merge assembly	J3017: left cassette automatic close assembly
J3007: right cassette automatic close assembly	J3018: not used
J3008: not used	J3020: not used
J3010: not used	

Paper Deck Controller PCA

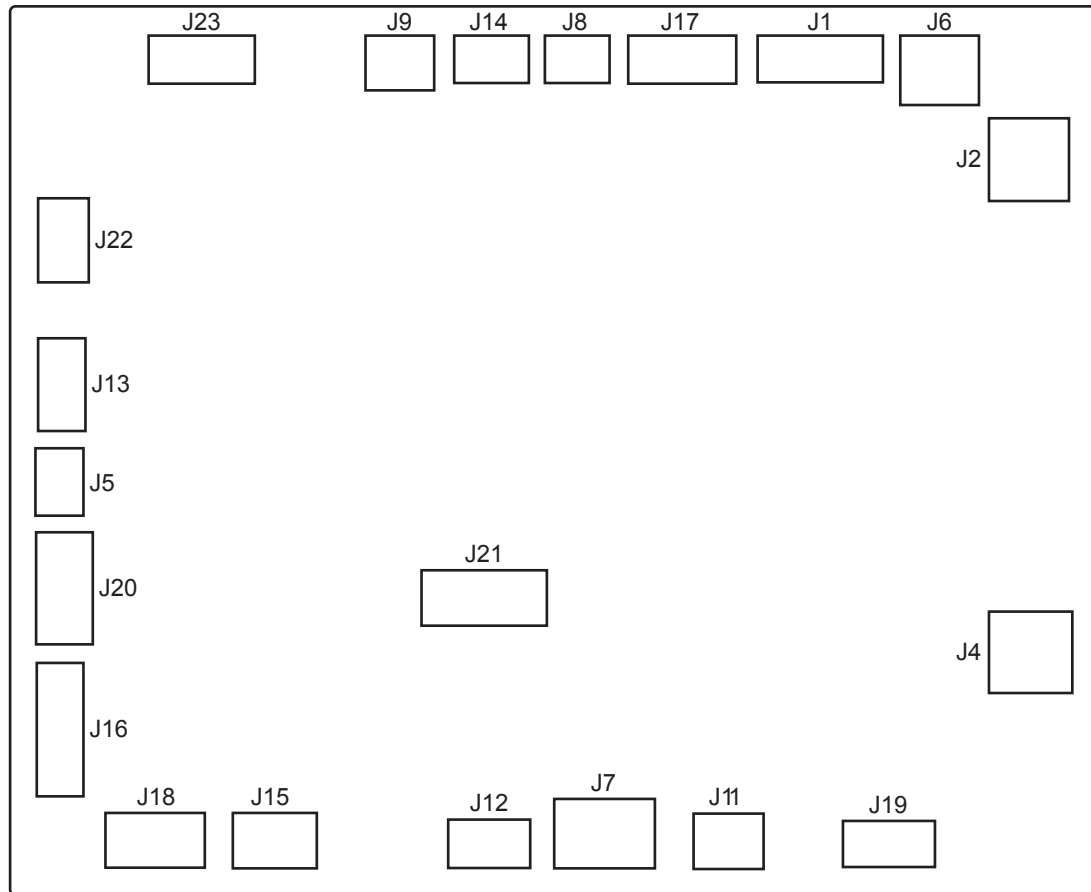
Figure 2-17 Paper Deck Controller PCA



J2001 : DC controller	J2005 : not used
J2002 : not used	J2006 : lifter drive assembly
J2003 : pickup assembly	J2007 : lifter drive assembly
J2004 : pickup motor	

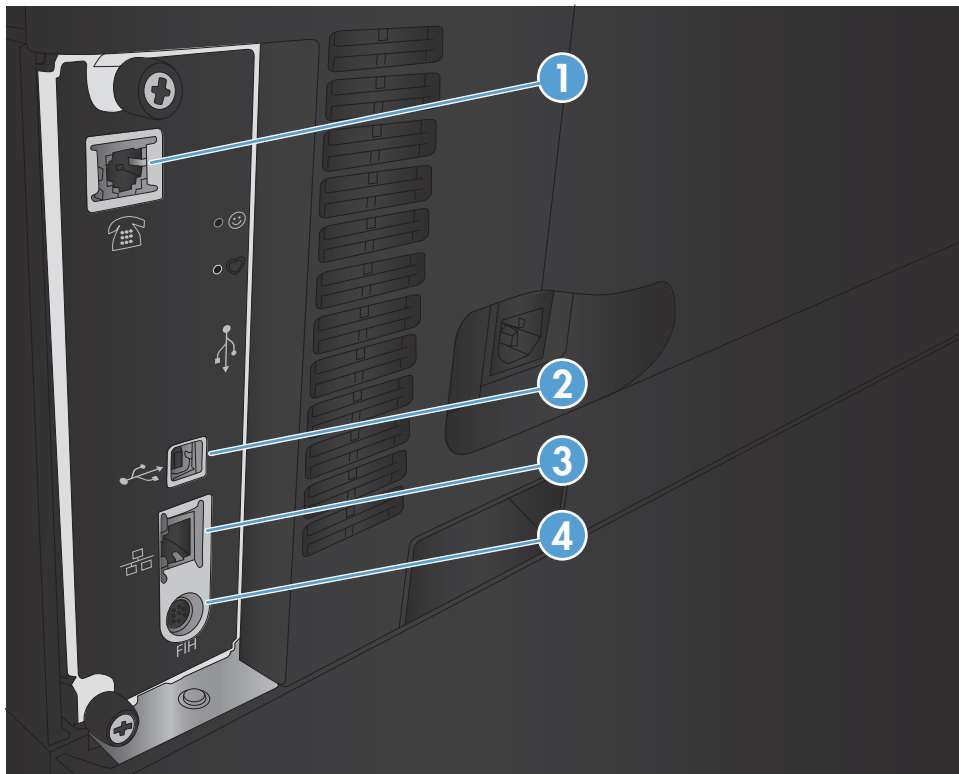
Staple Stacker Controller PCA

Figure 2-18 Staple Stacker Controller PCA



J1 : output bin assembly	J14 : feed guide assembly
J2 : image scanner	J15 : stapler assembly
J4 : sub power supply assembly	J16 : operation assembly
J5 : operation assembly	J17 : feed guide assembly
J6 : output bin assembly	J18 : stapler assembly
J7 : door switch assembly	J19 : ICB
J8 : feed guide assembly	J20 : operation assembly
J9 : right door assembly	J21 : not used
J11 : door switch assembly	J22 : operation assembly
J12 : inlet solenoid assembly	J23 : operation assembly
J13 : operation assembly	

Plug/jack locations



1	Fax port
2	Hi-Speed USB 2.0 printing port
3	Local area network (LAN) Ethernet (RJ-45) network port
4	Foreign interface harness (for connecting external devices)

Locations of major components

Use the diagrams to locate components.

Base product

Figure 2-19 Component locations (1 of 6)

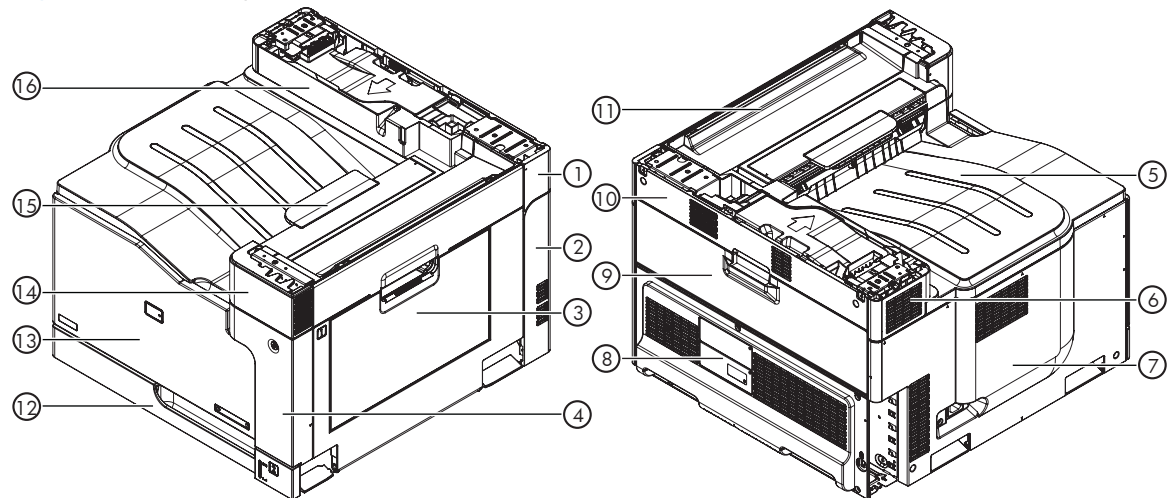


Table 2-21 Component locations (1 of 6)

Item	Description	Item	Description
1	Right upper cover	9	Toner collection unit access door
2	Right rear cover	10	Rear upper cover
3	Right door assembly	11	Top right cover assembly
4	Front right cover assembly	12	Tray 2
5	Top cover assembly	13	Front door assembly
6	Left upper cover	14	Front upper cover
7	Left cover assembly	15	Output cover assembly (non stapler/stacker models)
8	Rear cover assembly	16	Top rear cover

Figure 2-20 Component locations (2 of 6)

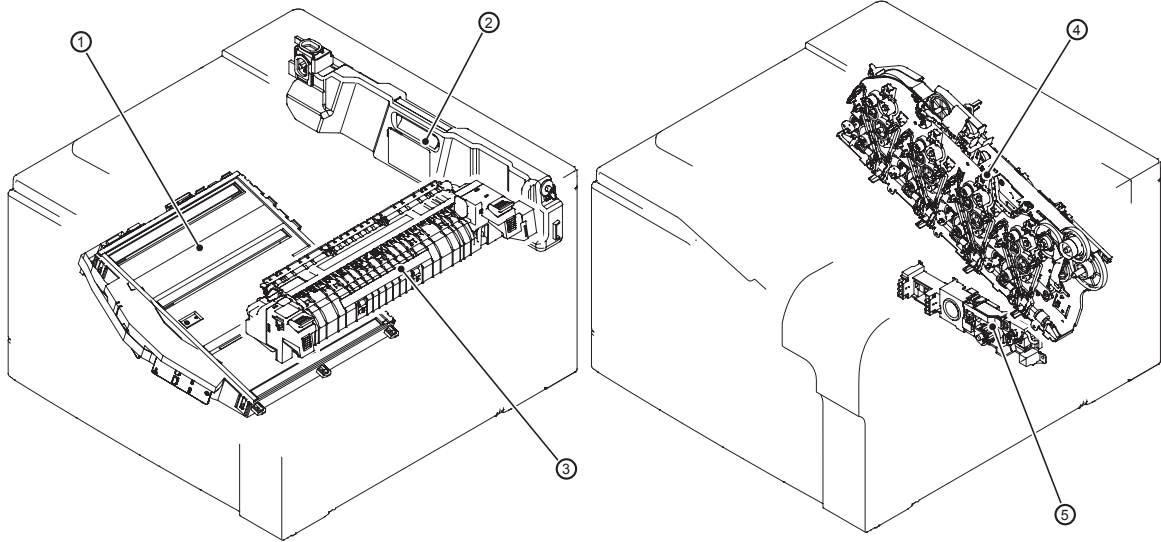


Table 2-22 Component locations (2 of 6)

Item	Description	Item	Description
1	Laser/scanner	4	Main drive assembly
2	Toner collection unit	5	Lifter drive assembly
3	Fuser		

Figure 2-21 Component locations (3 of 6)

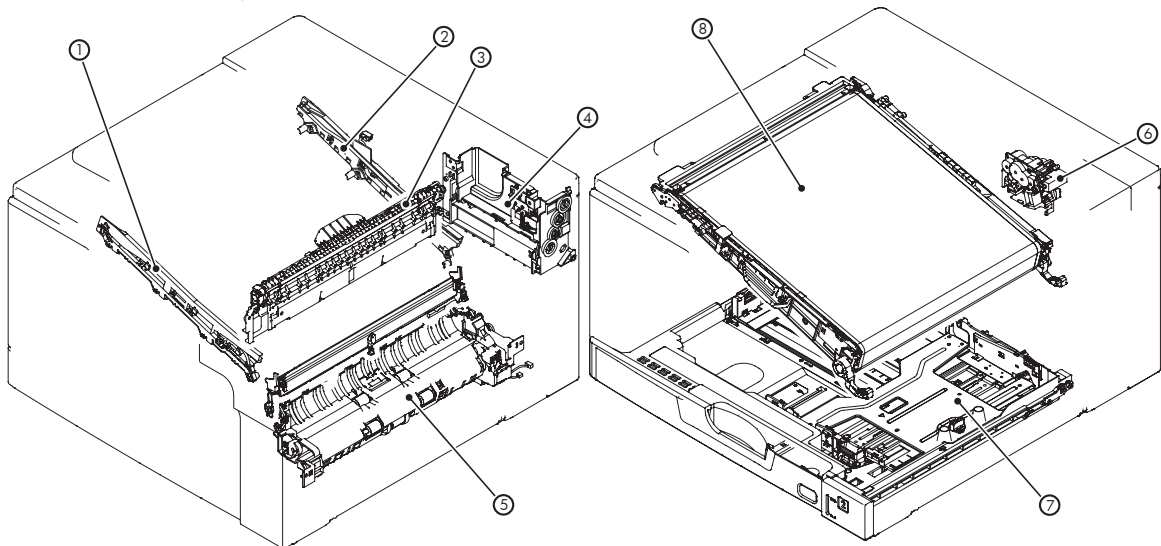


Table 2-23 Component locations (3 of 6)

Item	Description	Item	Description
1	ITB guide (front)	5	Cassette pickup assembly
2	ITB guide (rear)	6	Duplex drive assembly

Table 2-23 Component locations (3 of 6) (continued)

Item	Description	Item	Description
3	Delivery assembly	7	Tray 2 cassette
4	Toner collection assembly full sensor	8	Intermediate transfer belt

Figure 2-22 Component locations (4 of 6)

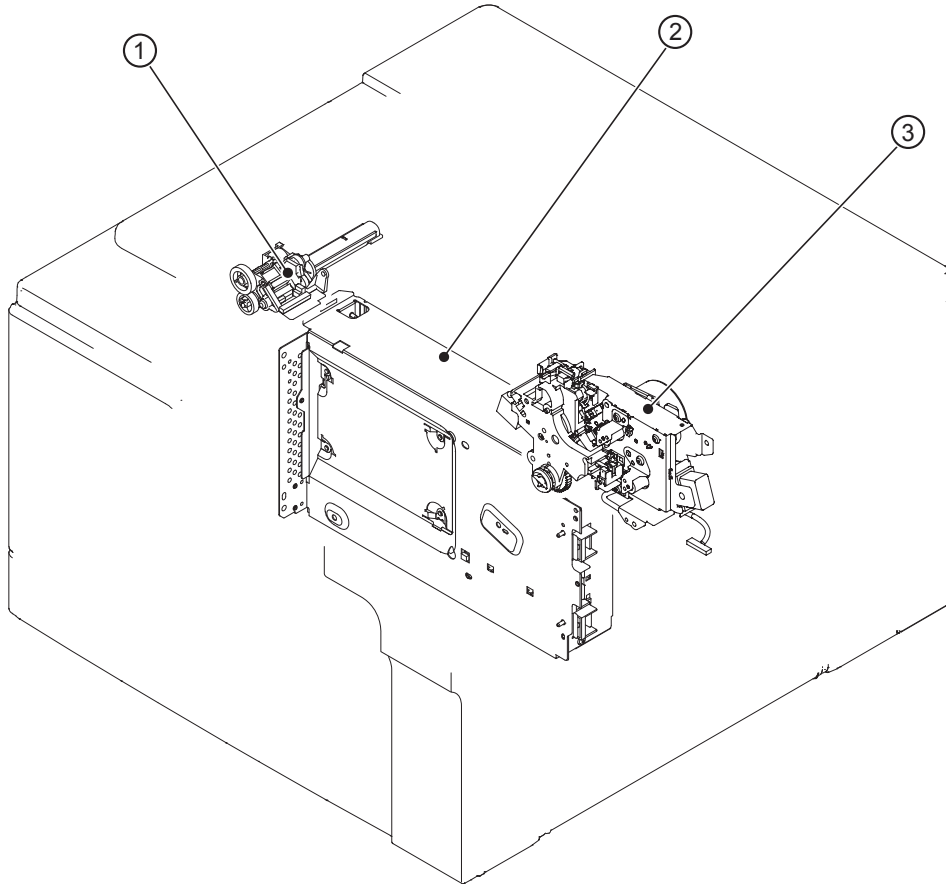


Table 2-24 Component locations (4 of 6)

Item	Description	Item	Description
1	Waste toner collection assembly	3	Fuser drive assembly
2	Formatter		

Figure 2-23 Component locations (5 of 6)

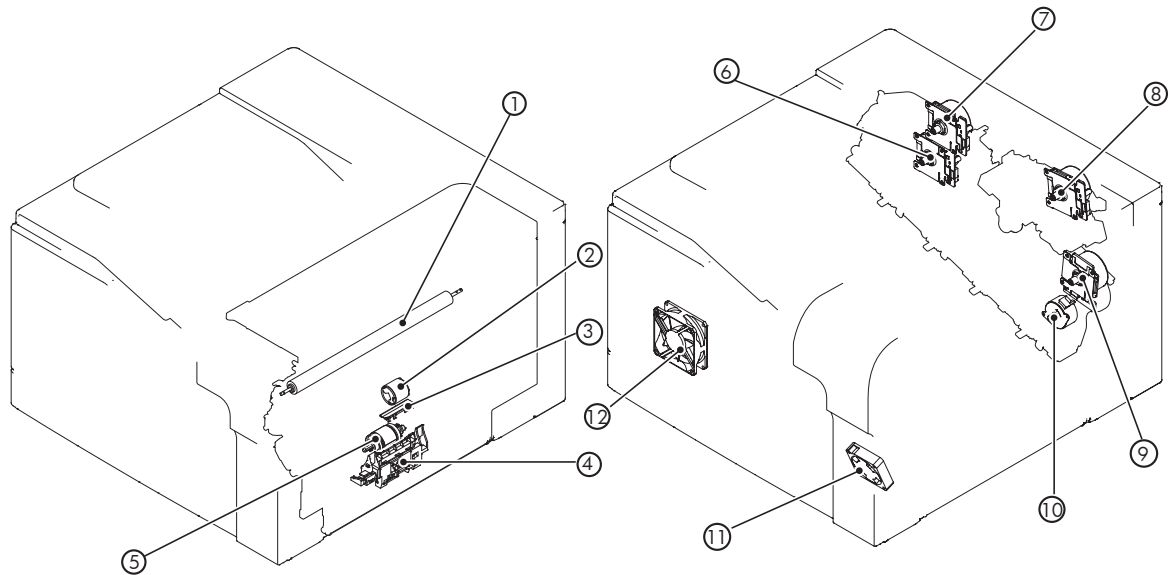


Table 2-25 Component locations (5 of 6)

Item	Description	Item	Description
1	Secondary transfer assembly	7	Drum motor
2	Tray 1 (MP) pickup roller	8	Fuser motor
3	Tray 1 (MP) separation pad	9	ITB motor
4	Tray 2 (cassette) separation roller assembly	10	Developing disengagement motor
5	Tray 2 (cassette) pickup roller assembly	11	Fuser fan
6	Developing motor	12	Power supply fan

Figure 2-24 Component locations (6 of 6)

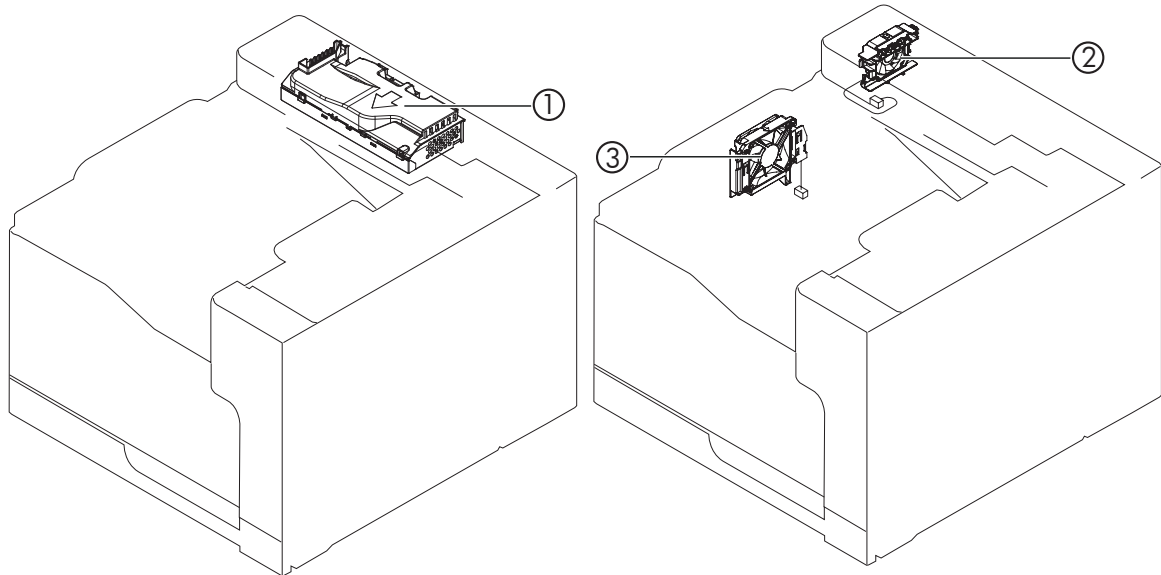


Table 2-26 Component locations (6 of 6)

Item	Description	Item	Description
1	Sub power supply	3	Cartridge fan assembly
2	Sub power supply fan assembly		

1 x 500-sheet paper feeder

Figure 2-25 1 x 500-sheet paper feeder (1 of 2)

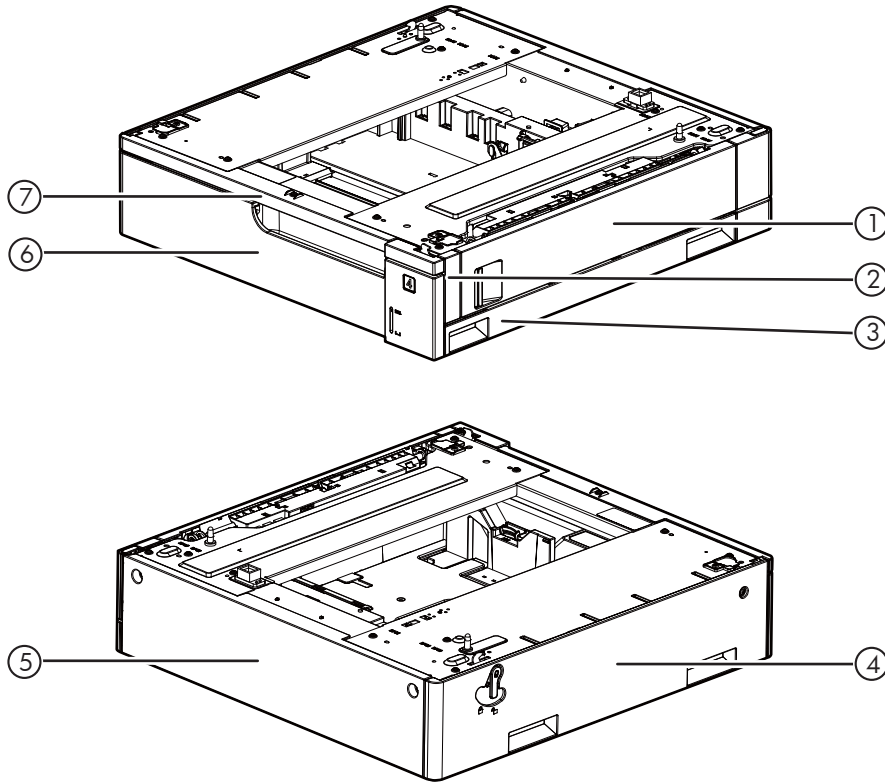


Table 2-27 1 x 500-sheet paper feeder (1 of 2)

Item	Description	Item	Description
1	Right door assembly	5	Rear cover
2	Right front cover	6	Cassette
3	Right lower cover assembly	7	Front upper cover assembly
4	Left cover		

Figure 2-26 1 x 500-sheet paper feeder (2 of 2)

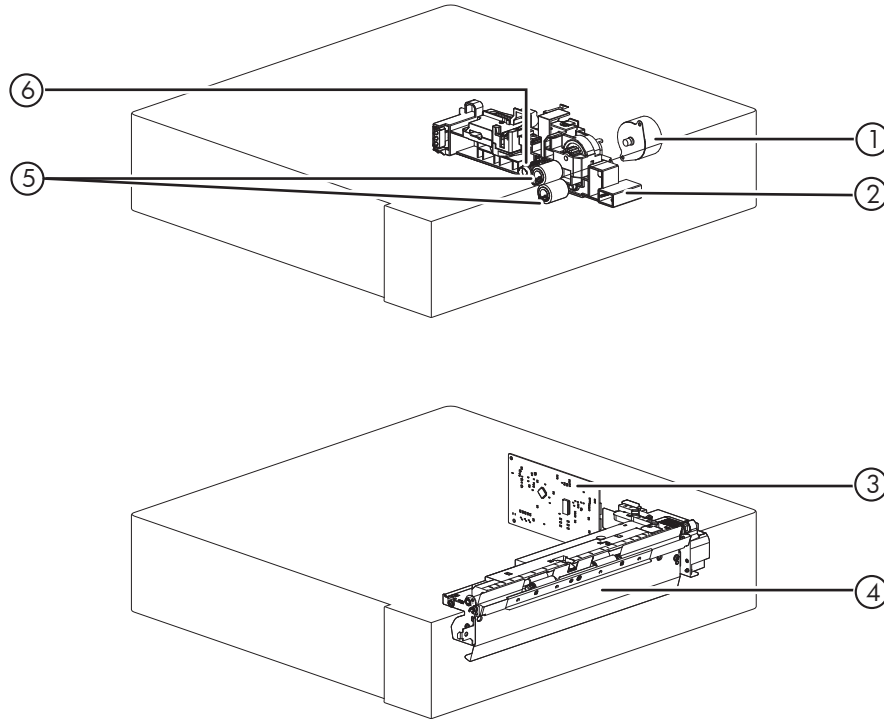


Table 2-28 1 x 500-sheet paper feeder (2 of 2)

Item	Description	Item	Description
1	Paper deck cassette pickup motor	4	Paper pickup assembly
2	Lifter drive assembly	5	Paper feed rollers
3	Feeder PCB assembly	6	Pickup roller

1 x 500-sheet paper deck

Figure 2-27 1 x 500-sheet paper deck (1 of 2)

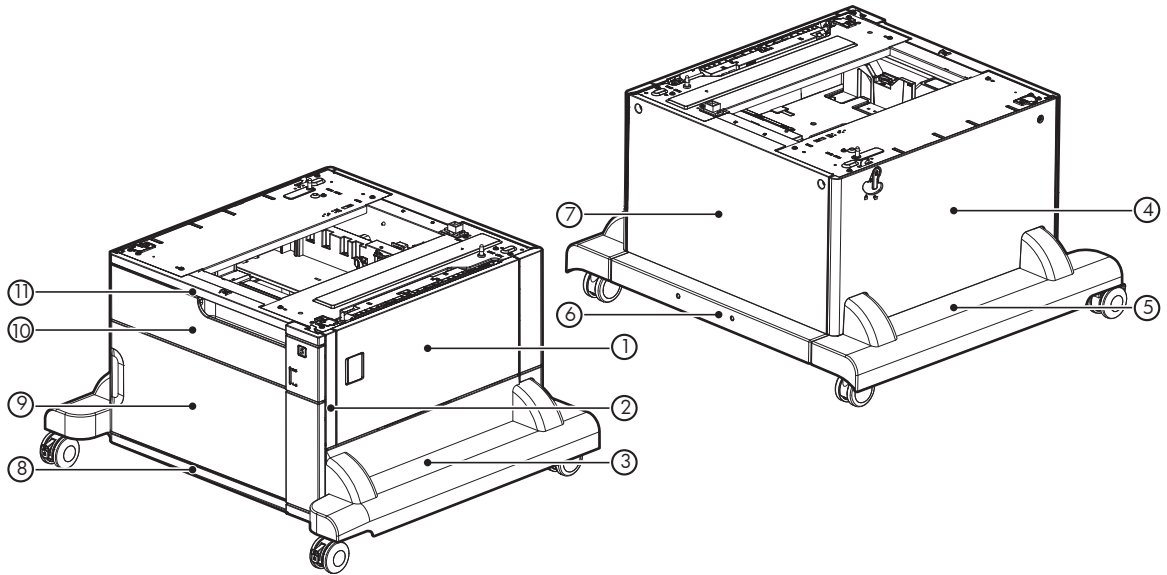


Table 2-29 1 x 500-sheet paper deck (1 of 2)

Item	Description	Item	Description
1	Right door assembly	7	Rear cover
2	Right front cover	8	Front lower cover assembly
3	Right lower cover	9	Front door assembly
4	Left cover	10	Cassette
5	Left lower cover	11	Front upper cover
6	Rear lower cover		

Figure 2-28 1 x 500-sheet paper deck (2 of 2)

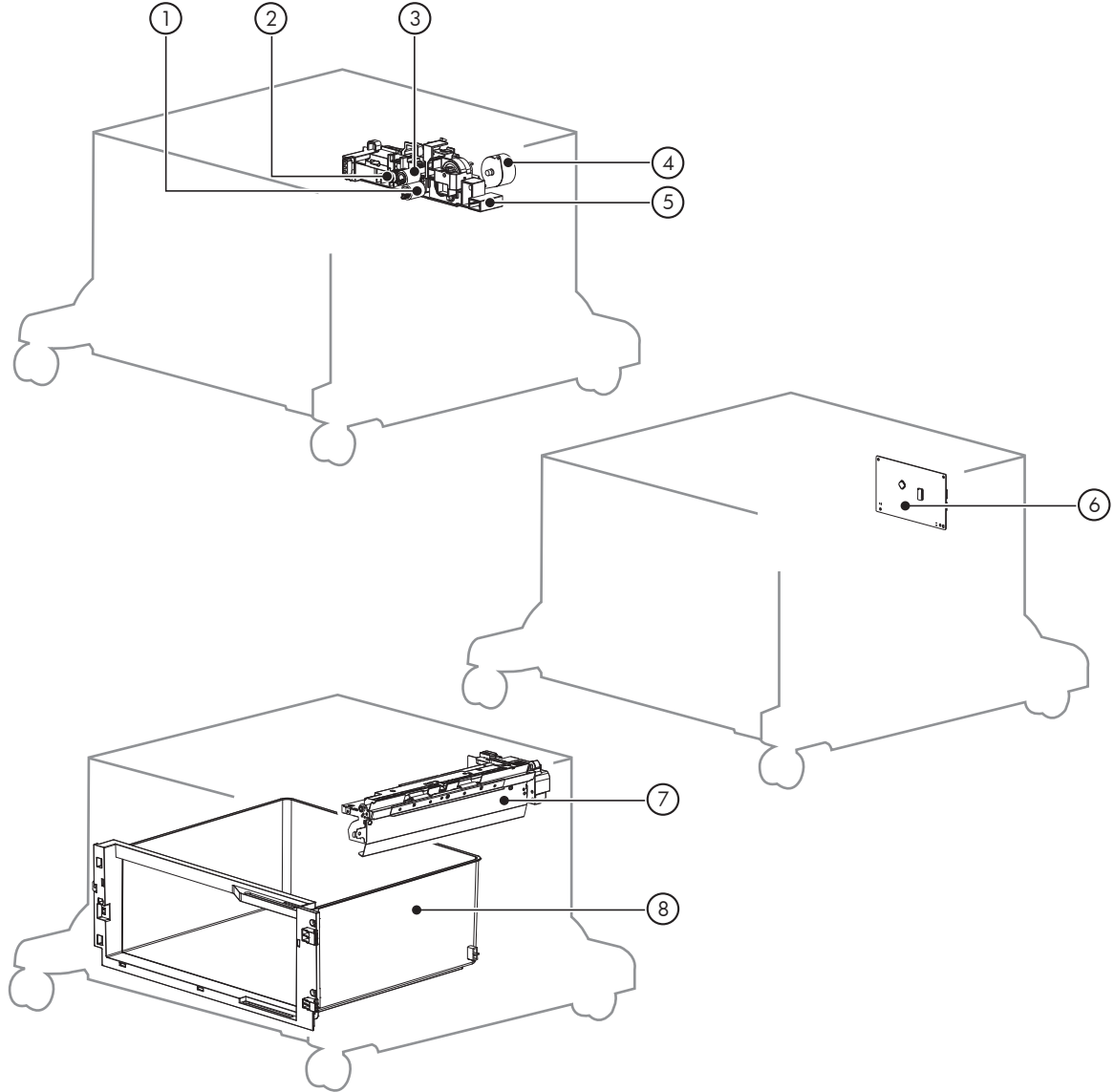


Table 2-30 1 x 500-sheet paper deck (2 of 2)

Item	Description	Item	Description
1	Feed roller	5	Lifter drive assembly
2	Pickup roller	6	Paper deck controller PCA
3	Feed roller	7	Paper pickup assembly
4	Paper deck pickup motor	8	Storage box

3,500-sheet paper deck (HCI)

Figure 2-29 3,500-sheet paper deck (1 of 2)

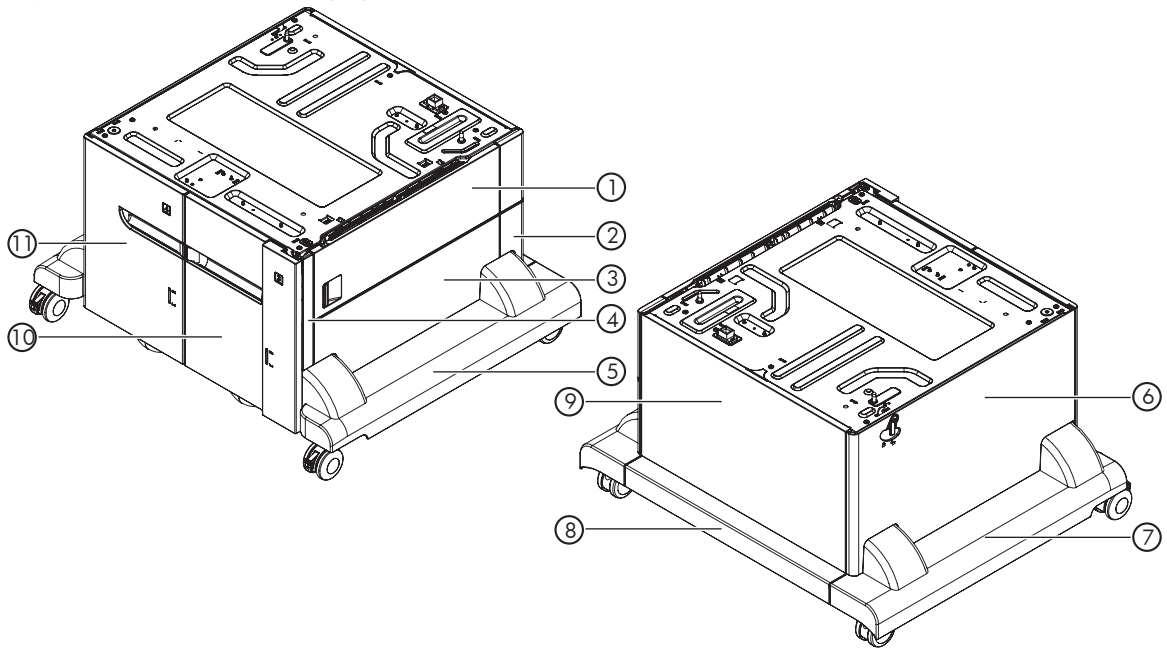


Table 2-31 3,500-sheet paper deck (1 of 2)

Item	Description	Item	Description
1	Right door assembly	7	Left lower cover
2	Right rear cover	8	Rear lower cover
3	Right center cover	9	Rear cover
4	Right front cover	10	Right paper tray
5	Right lower cover	11	Left paper tray
6	Left cover		

Figure 2-30 3,500-sheet paper deck (2 of 2)

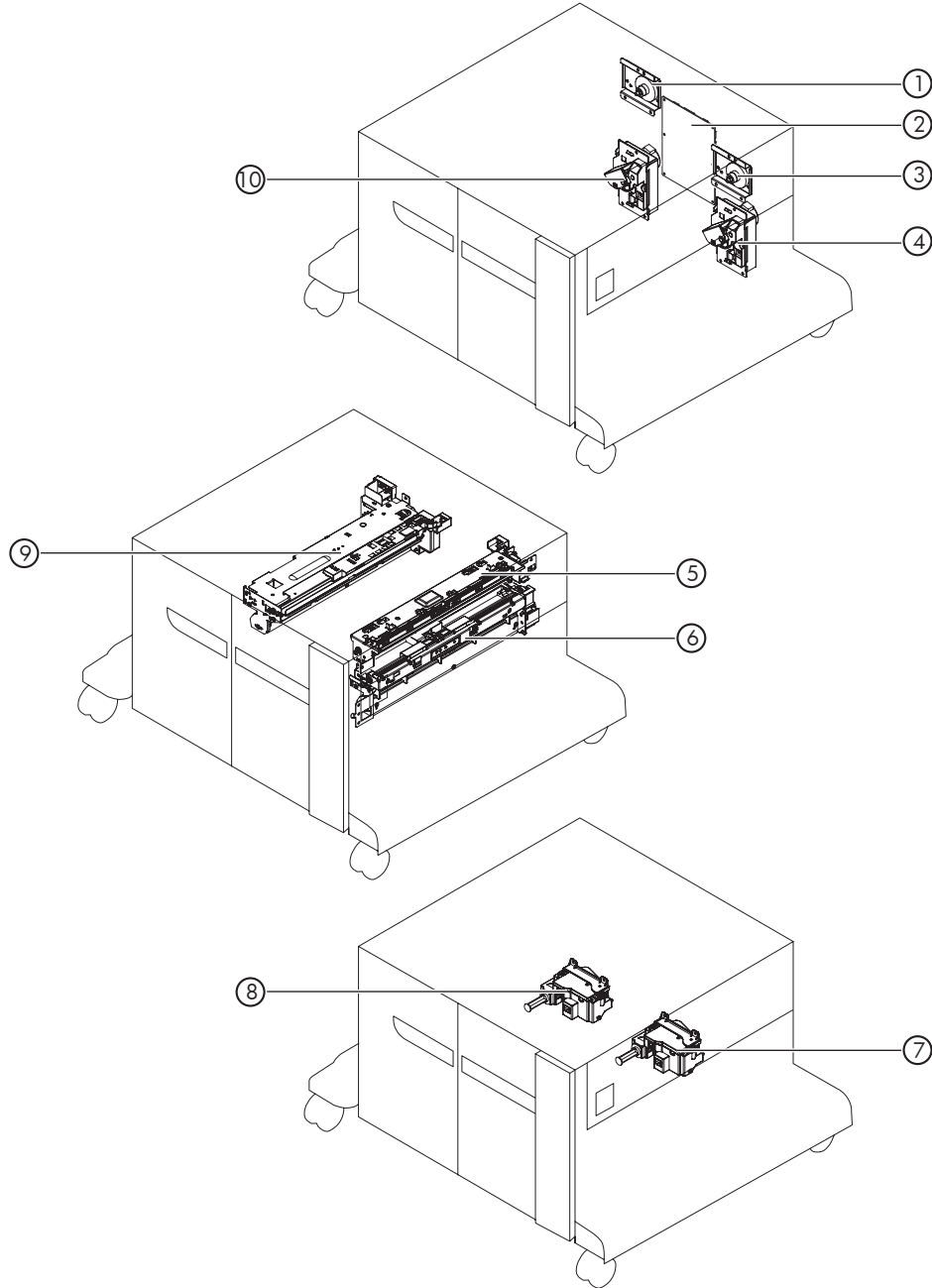


Table 2-32 3,500-sheet paper deck (2 of 2)

Item	Description	Item	Description
1	Left cassette pickup drive assembly	6	Right cassette pickup assembly
2	HCI controller PCA	7	Right cassette automatic close assembly
3	Right cassette pickup drive assembly	8	Left cassette automatic close assembly
4	Right cassette lifter driver assembly	9	Left cassette pickup assembly
5	Crossing paper feed assembly	10	Left cassette lifter driver assembly

Stapler/stacker

Figure 2-31 Stapler/stacker (1 of 2)

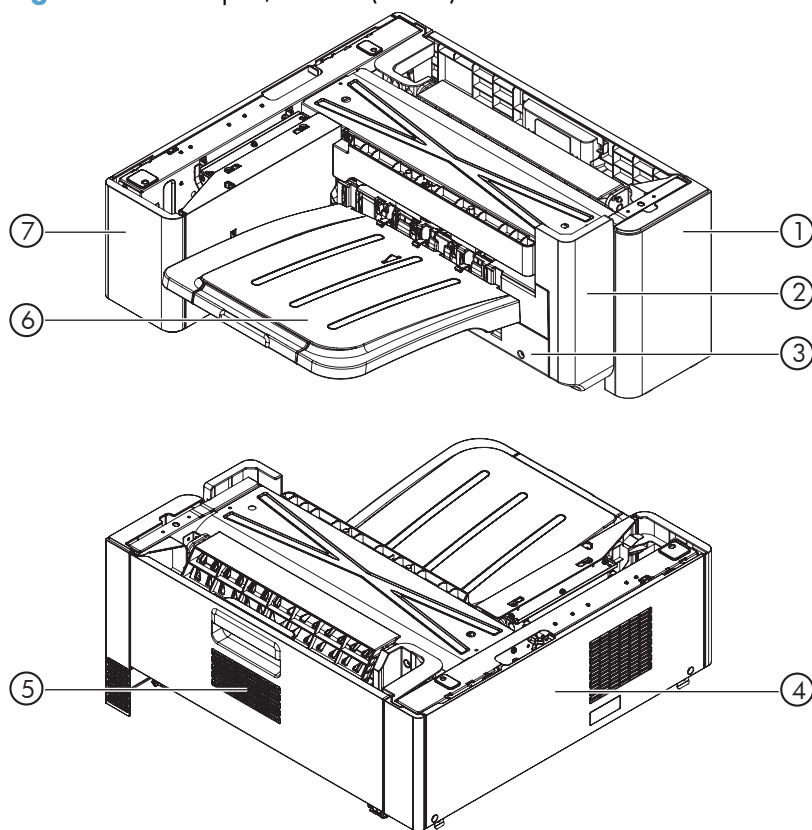


Table 2-33 Stapler/stacker (1 of 2)

Item	Description	Item	Description
1	Front right cover	5	Right door assembly
2	Front left cover	6	Output bin assembly
3	Left lower cover	7	Left rear cover
4	Rear cover assembly		

Figure 2-32 Stapler/stacker (2 of 2)

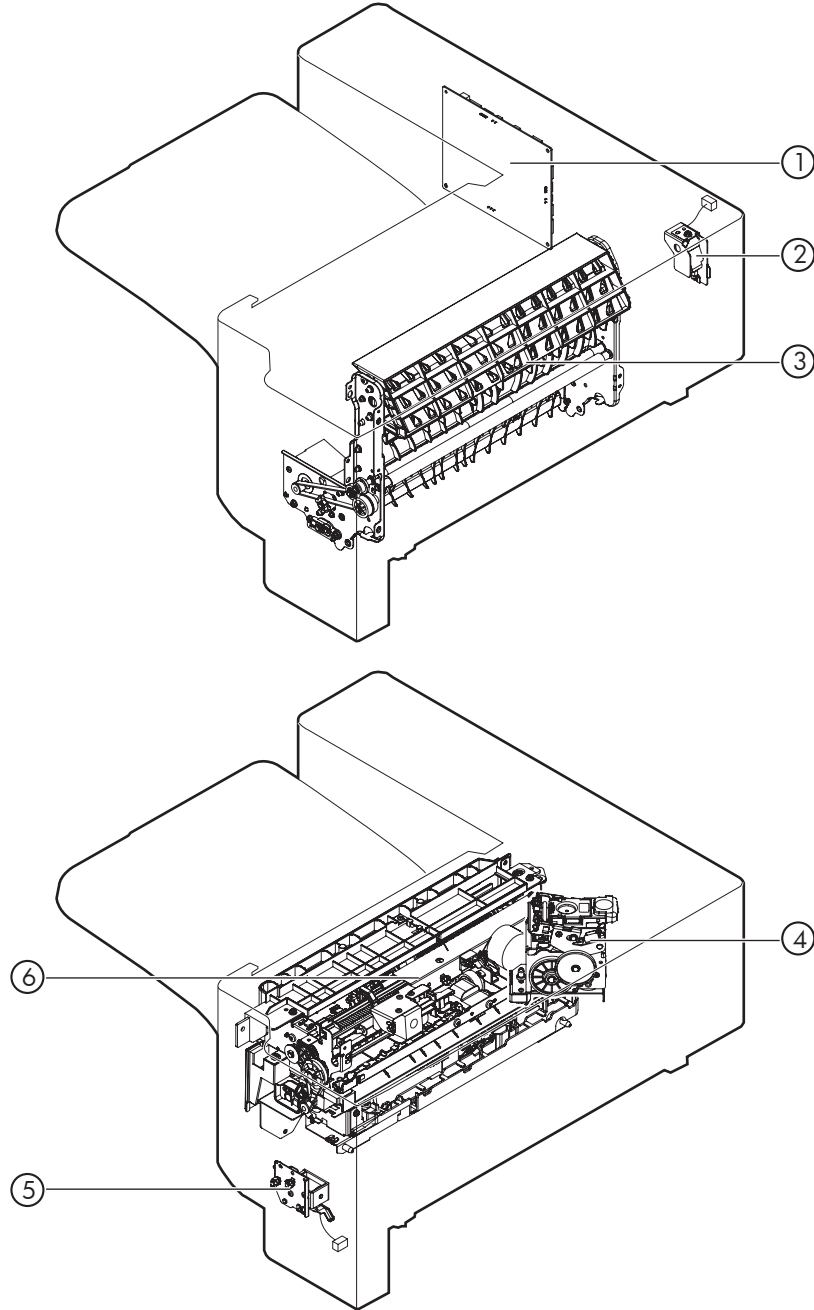


Table 2-34 Stapler/stacker (2 of 2)

Item	Description	Item	Description
1	Stapler/stacker controller PCA	4	Stapler assembly
2	Door switch assembly	5	Inlet solenoid assembly
3	Feed guide assembly	6	Operation assembly

General timing chart

Figure 2-33 General timing chart (1 of 2)

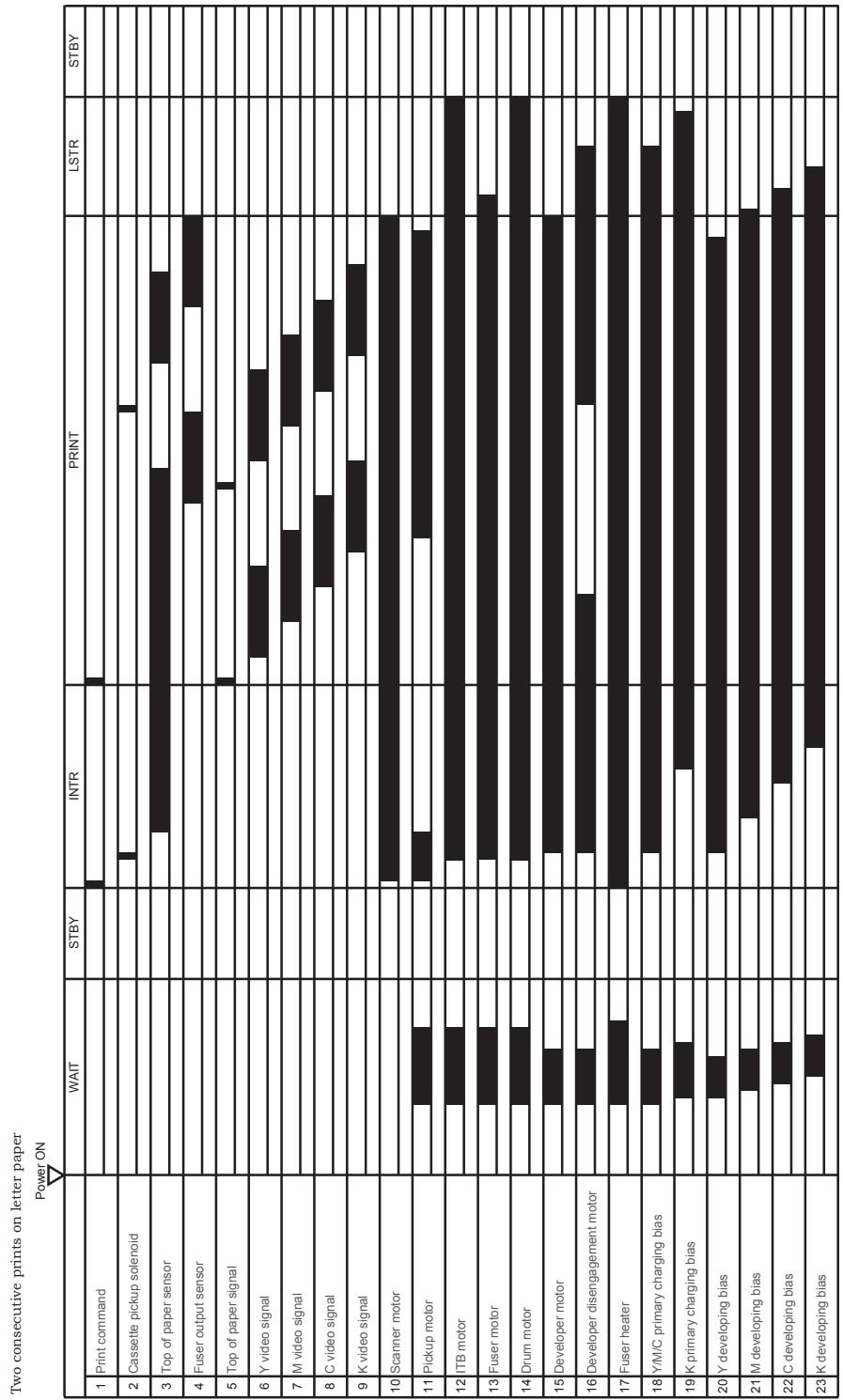
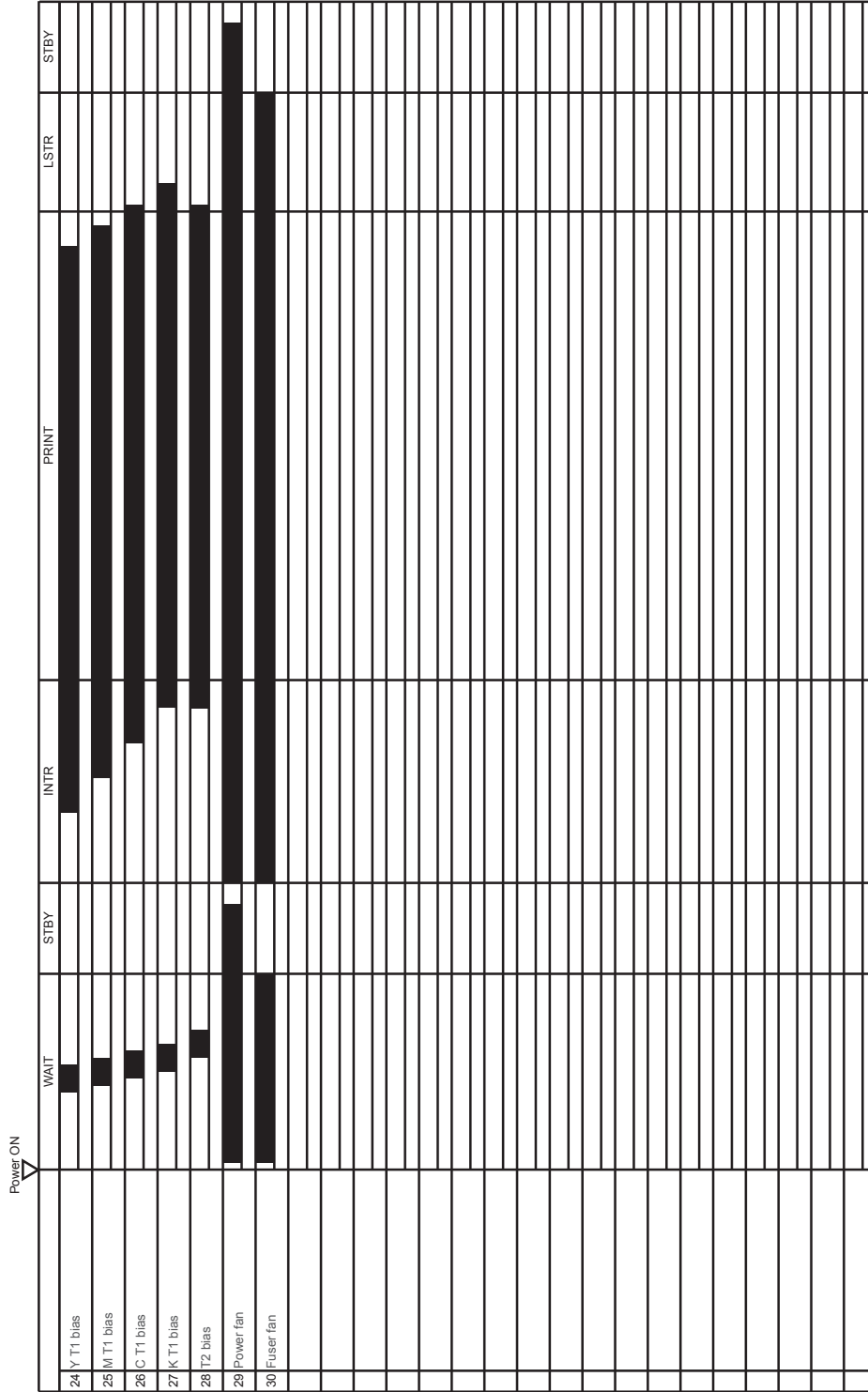


Figure 2-34 General timing chart (1 of 2)



Circuit diagrams

Figure 2-35 Product circuit block diagram

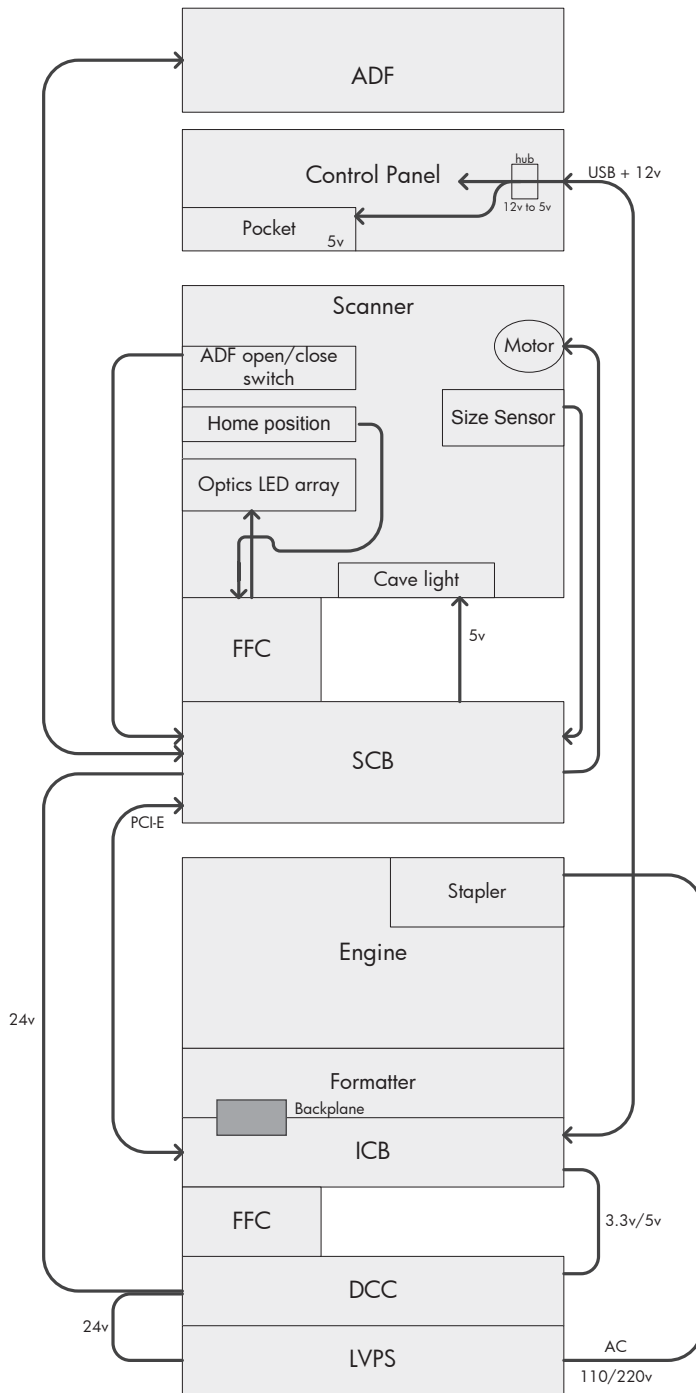


Figure 2-36 General circuit diagram (1 of 3)

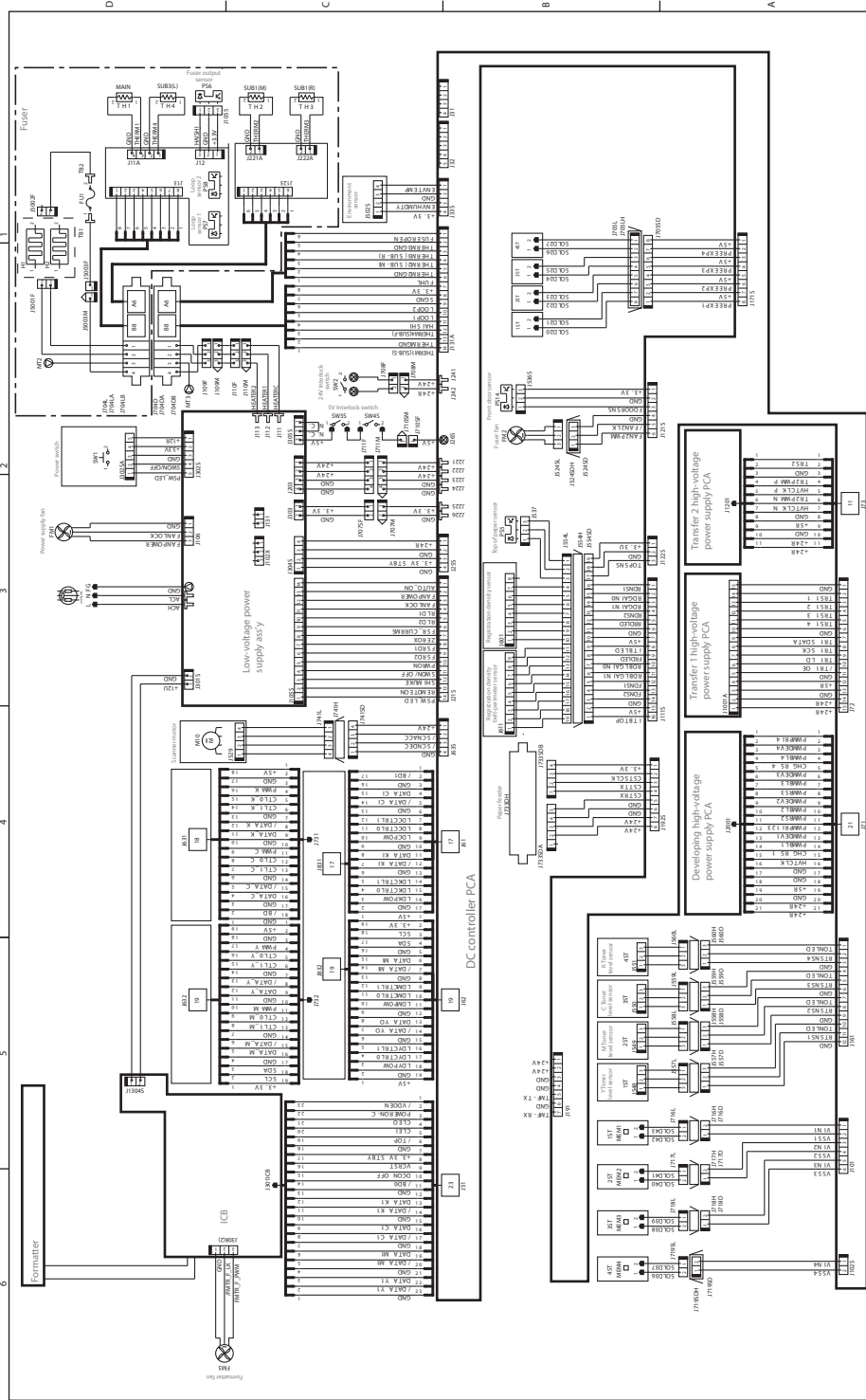


Figure 2-37 General circuit diagram (2 of 3)

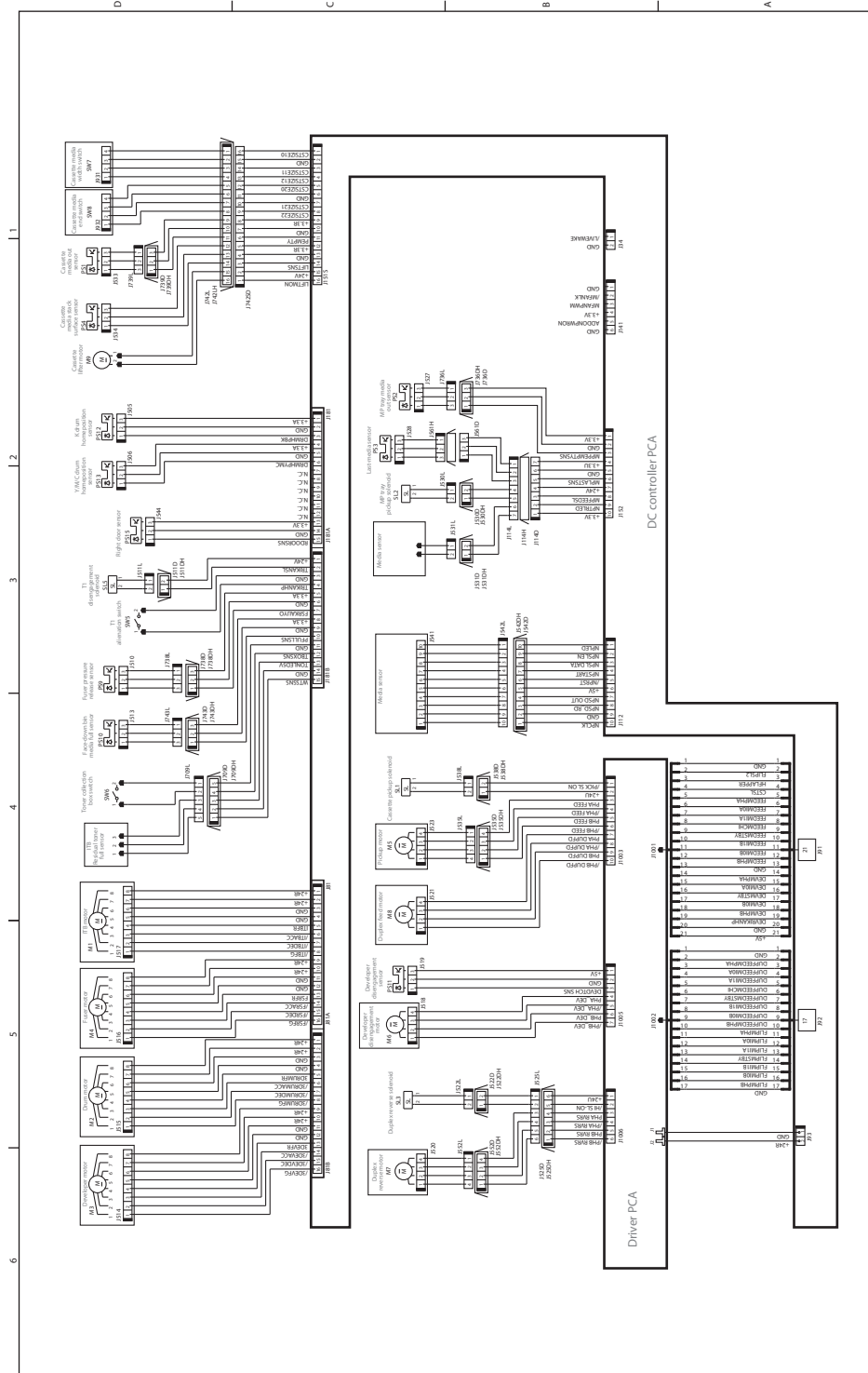


Figure 2-38 General circuit diagram (3 of 3)

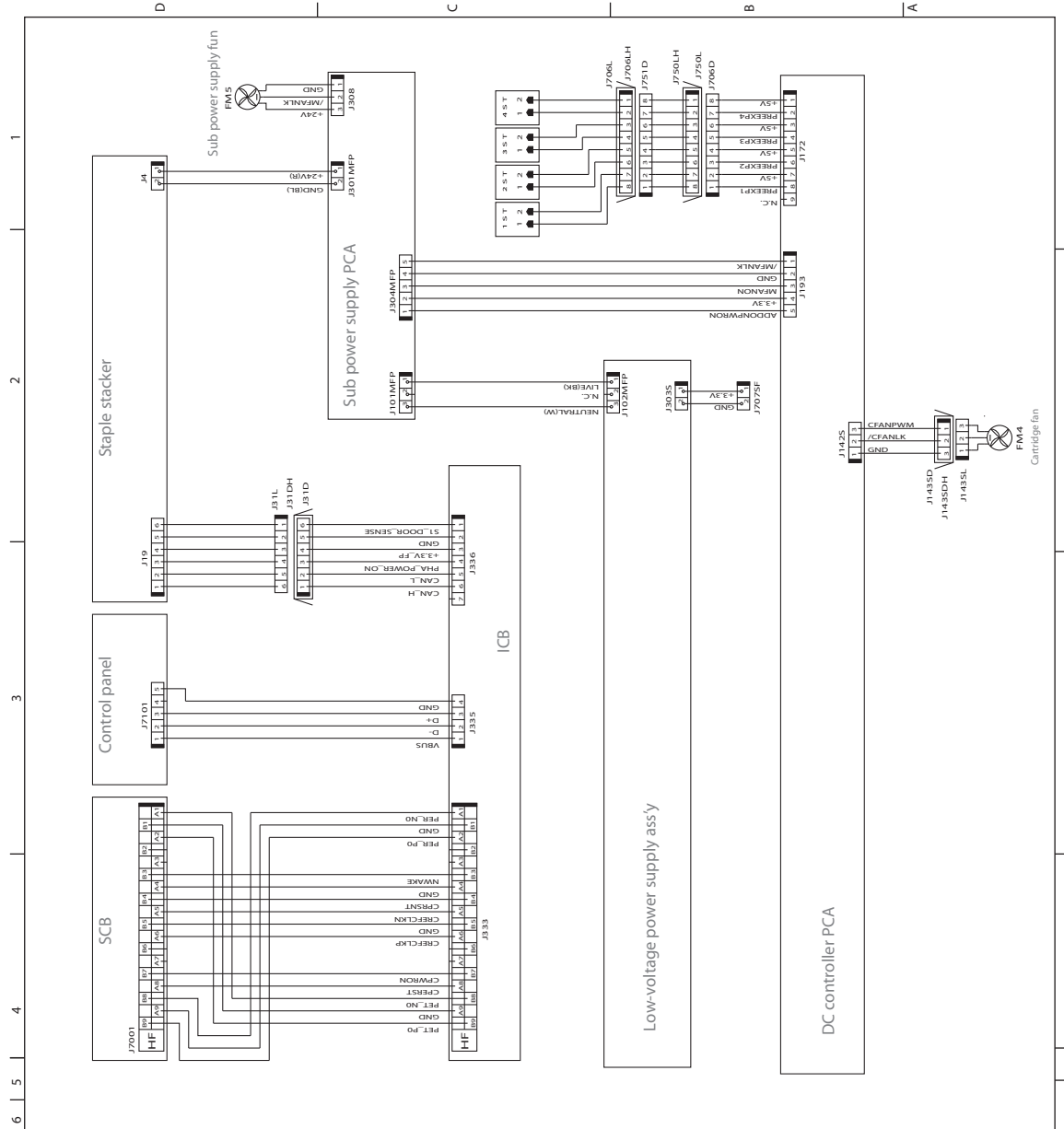


Figure 2-39 1 x 500-sheet paper feeder

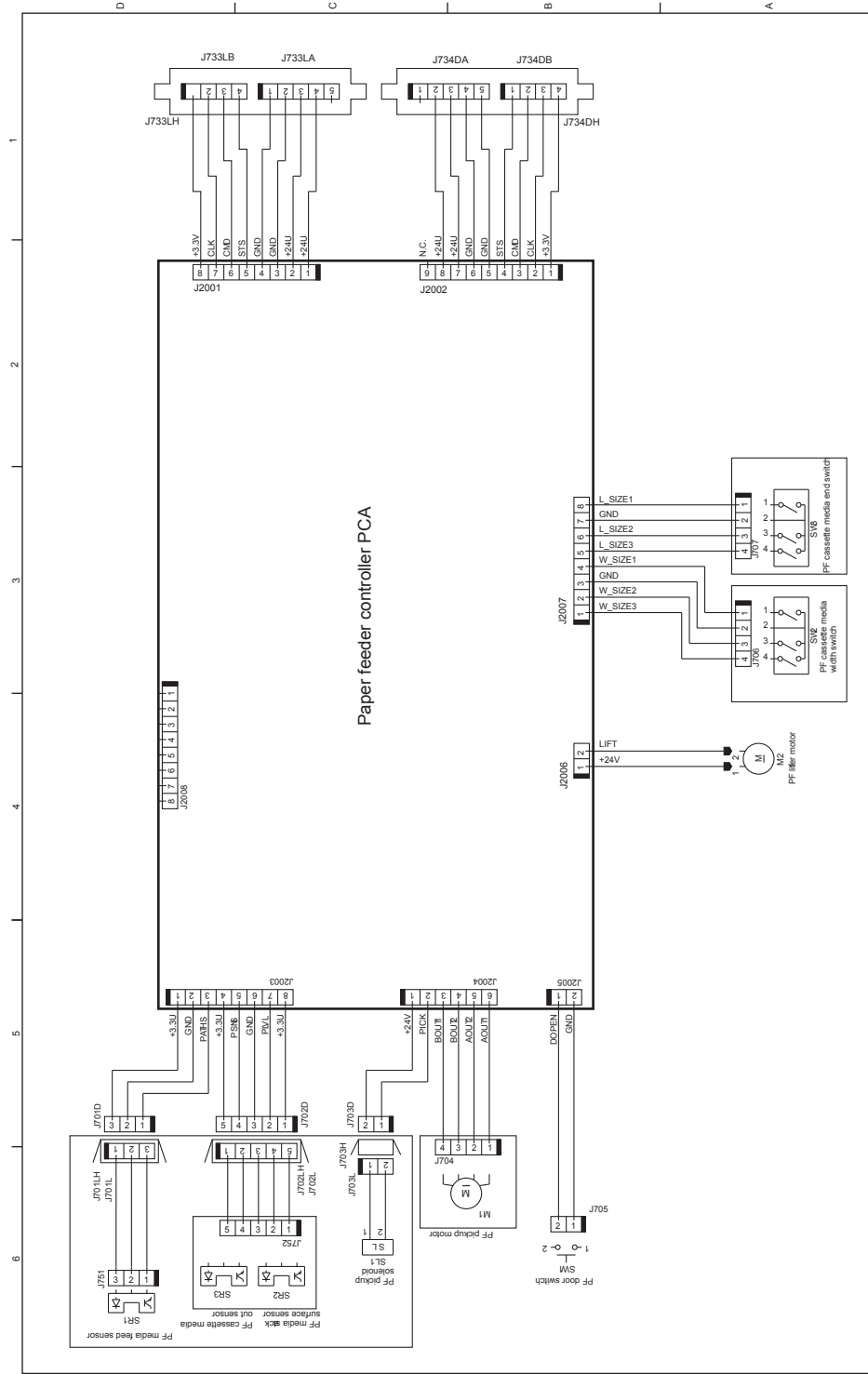


Figure 2-40 1 x 500- and 3 x 500-sheet paper deck (3 x 500 PD 3 PCAs)

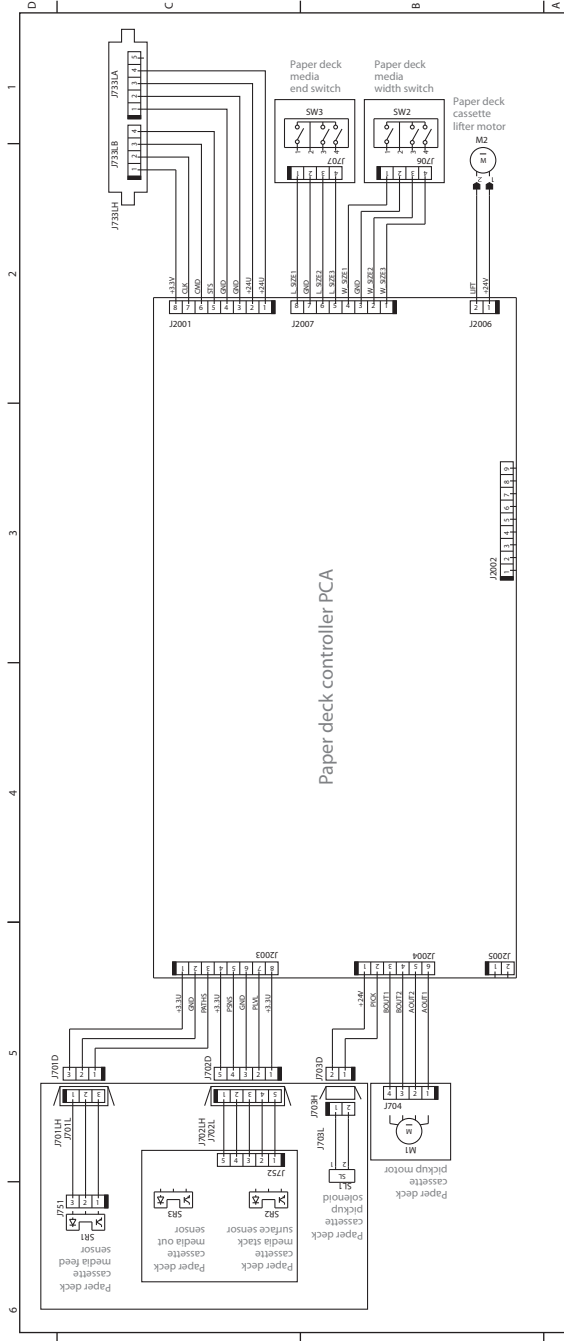


Figure 2-41 High capacity input feeder

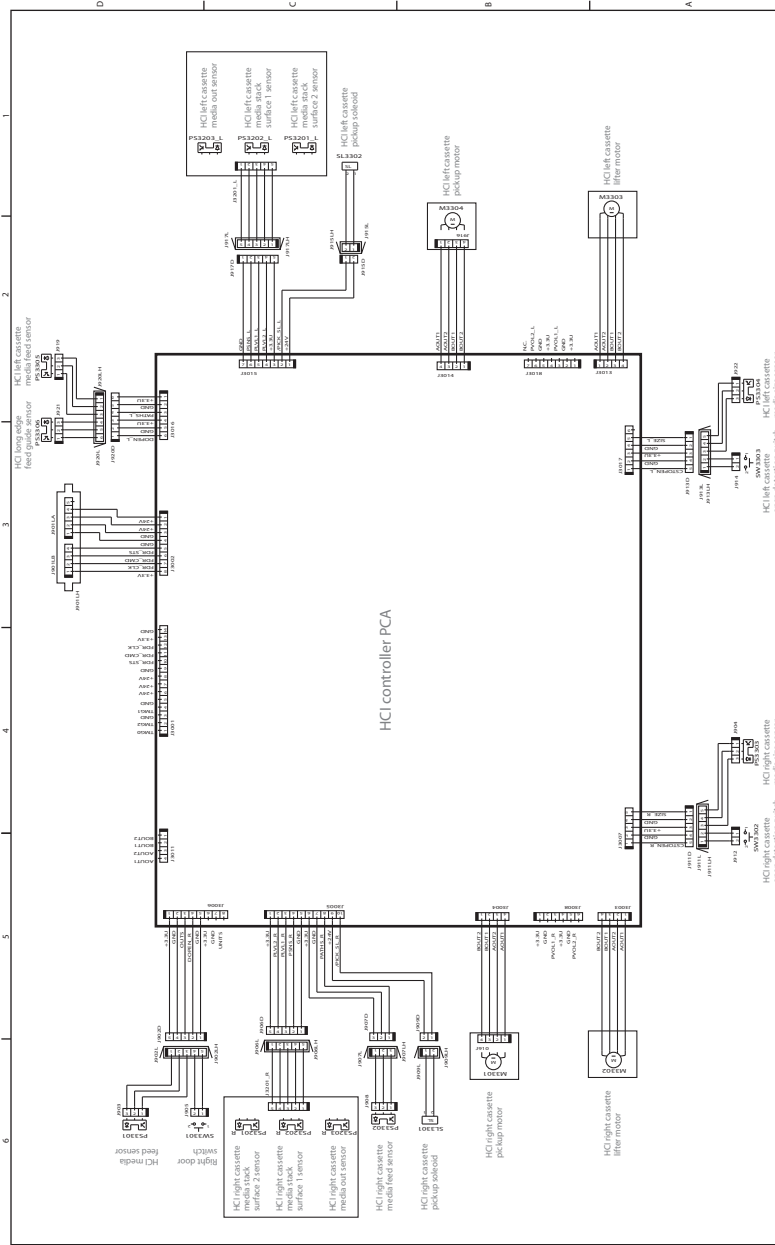
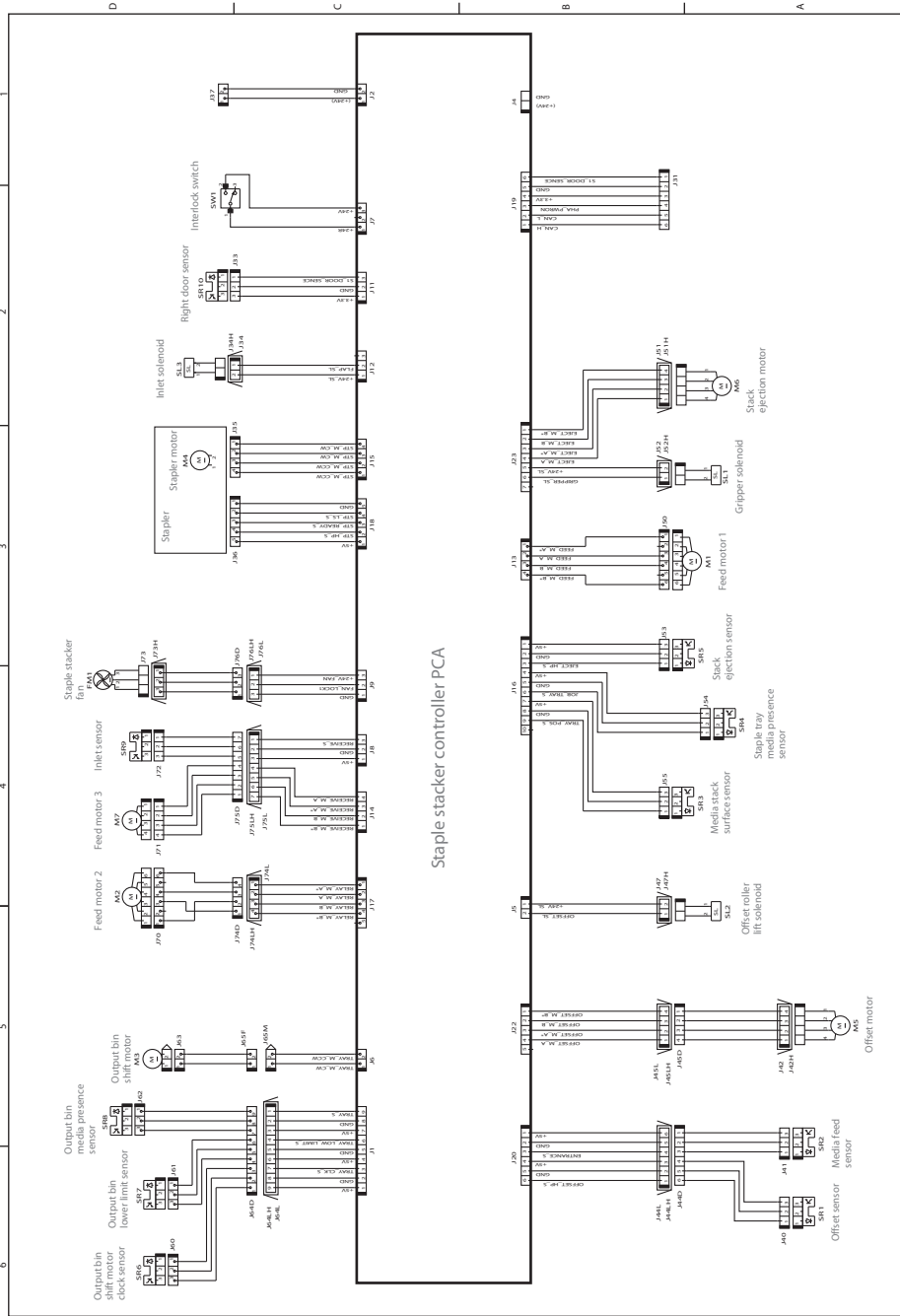


Figure 2-42 Staple/stacker



Internal print-quality test pages

Print quality troubleshooting pages

Use the print-quality-troubleshooting pages to help diagnose and solve color print-quality problems.

1. From the [Home](#) screen on the product 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 product prints several print-quality troubleshooting pages.

The product returns to the **Ready** state after printing the print-quality-troubleshooting pages. Follow the instructions on the pages that print out.

Figure 2-43 Print-quality troubleshooting procedure



Figure 2-44 Yellow print-quality troubleshooting page

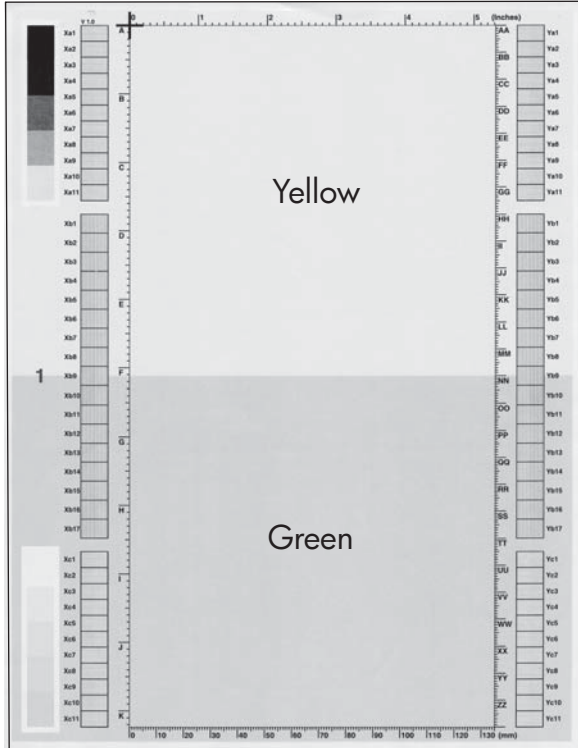
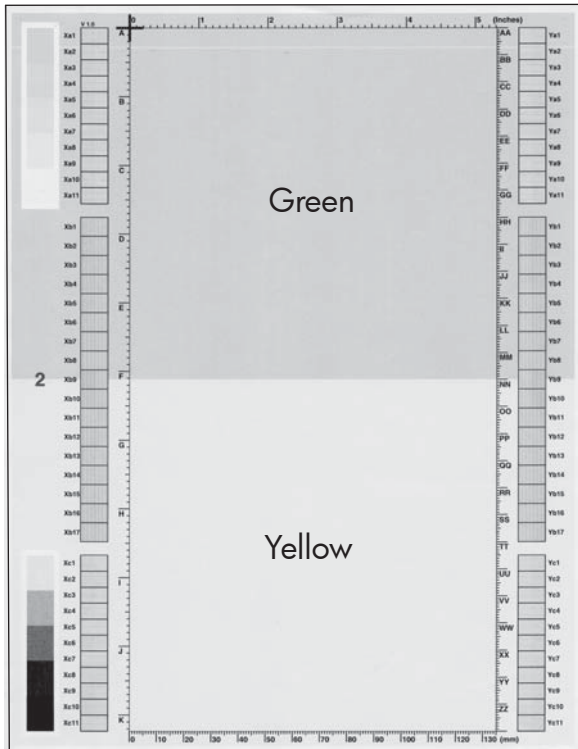
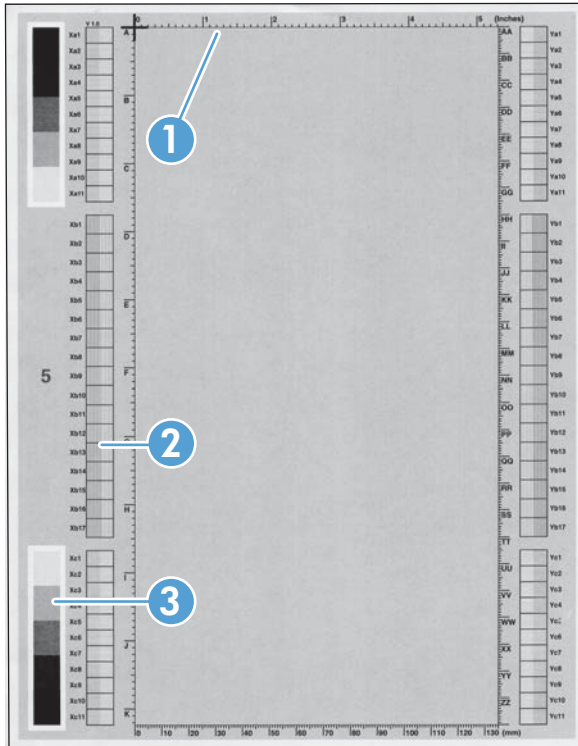


Figure 2-45 Yellow comparison page




Yellow cannot be easily seen unless combined with cyan, so half of each page is yellow and the other half is an amplified version of yellow print problems (green half). Compare the yellow on page one with the corresponding green on page two for defects. You can also check the cyan page for defects.

Figure 2-46 Black print-quality troubleshooting page



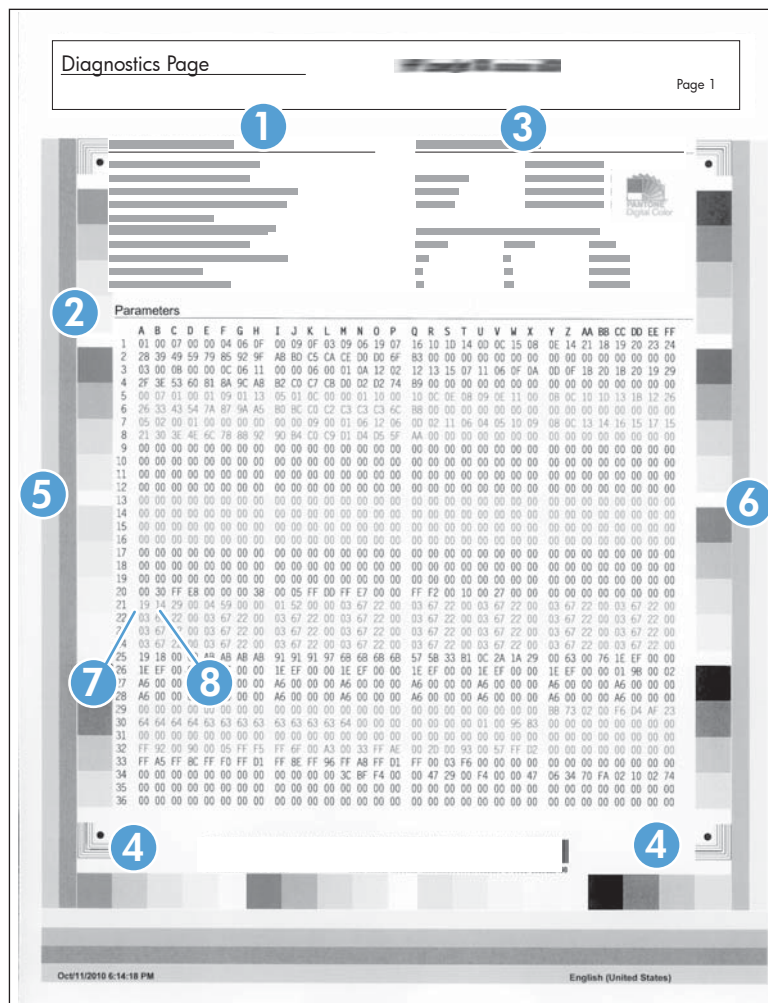
<p>1. Grids</p>	<p>The grids are in inches and millimeters. They are labeled with letters and numbers so that defects can be described by position and by distance between repeats.</p>
<p>2. Color plane registration (CPR) bars</p>	<p>After printing, the box with no extra color in each area on each page shows how far off the CPR of that color is. Each page has two process direction areas and three scan direction areas that are labeled x and y and 1–11. The page should be fed by the long edge. Each square from the center equals 42 microns.</p>
<p>3. Color ramp patches</p>	<p>Used to detect offset for the OPC or developer in the image drum or offset in the fuser.</p>

 **NOTE:** To get further assistance in print quality troubleshooting, go to www.hp.com/support/lj700colorMFPM775 and select PQ Troubleshooting Tools.

Print quality assessment page

Use the diagnostics page to evaluate problems with color plane registration, EP parameters, and print quality.

1. From the [Home](#) screen on the product control panel, scroll to and touch the [Administration](#) button.
2. Open the following menus:
 - [Troubleshooting](#)
 - [Print Quality Pages](#)
 - [Diagnostics Page](#)
3. Touch the [Print](#) button.



1	Calibration information
2	Parameters
3	Color density

4	Color plane registration
5	Primary colors
6	Secondary colors
7	Temperature values (21A)
8	Humidity values (21B)

Cleaning page

1. From the [Home](#) screen on the product control panel, scroll to and touch the [Device Maintenance](#) button.
2. Open the following menus:
 - [Calibration/Cleaning](#)
 - [Cleaning Page](#)
3. Touch the [Print](#) button to print the page.
4. The cleaning process can take several minutes. When it is finished, discard the printed page.

Set up an auto cleaning page

Use the procedure in this section to set up an automatic cleaning page.

1. From the [Home](#) screen on the product control panel, scroll to and touch the [Device Maintenance](#) button.
2. Open the following menus:
 - [Calibration/Cleaning](#)
 - [Cleaning Settings](#)
3. Select the [Auto Cleaning](#) item, and then select values for the [Cleaning Interval](#) option and the [Cleaning Size](#) option. Touch the [OK](#) button.

Print configuration page

Depending on the model, up to three pages print when you print a configuration page. In addition to the main configuration page, the HP embedded Jetdirect configuration pages print.

Configuration page

Use the configuration page to view current product settings, to help troubleshoot product problems, or to verify installation of optional accessories, such as memory (DIMMs), paper trays, and product languages.

1. From the **Ready** screen on the product 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 [View](#) button to view the information on the control panel, or touch the [Print](#) button to print the pages.

Figure 2-47 Configuration page



1	Device information
2	Installed personalities and options

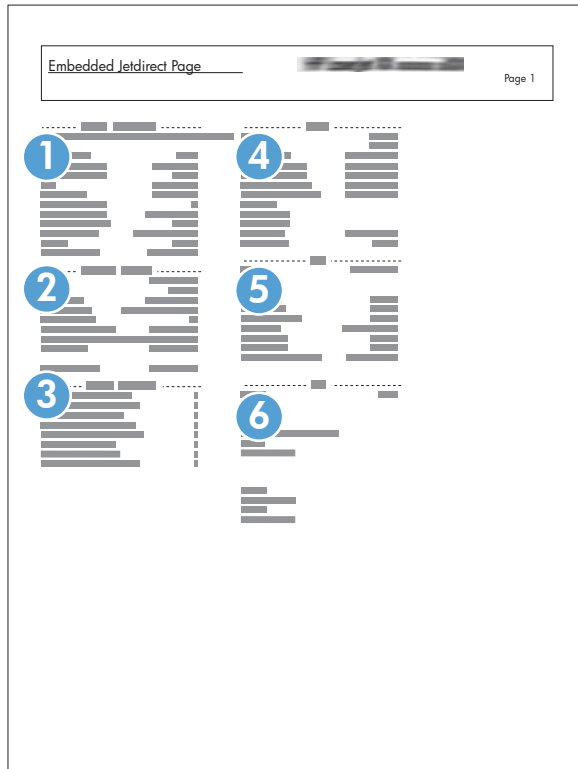
3	HP Web services
4	Color density
5	Calibration information
6	Memory
7	Event log
8	Security
9	Paper trays and options

HP embedded Jetdirect page

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 "**I/O Card Ready.**"

Figure 2-48 HP embedded Jetdirect page



1	General Information indicates the product status, model number, hardware firmware version, port select, port configuration, auto negotiation, manufacturing identification, and manufactured date.
2	Security Settings information
3	Network Statistics 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	TCP/IP information, including the IP address
5	IPv4 information
6	IPv6 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 product. This information is on the various configuration pages.

Table 2-35 Important information on the configuration pages

Type of information	Specific information	Configuration page
Firmware date codes When you use the remote firmware upgrade procedure, all of these firmware components are upgraded.	DC controller	Look on the main configuration page, under "Device Information."
	Firmware datecode	Look on the main configuration page, under "Device Information."
	HP embedded Jetdirect firmware version	Look on the HP embedded Jetdirect page, under "General Information."
Accessories and internal storage All optional devices that are installed on the product should be listed on the main configuration page. In addition, separate pages print for the optional paper handling devices and the fax accessory. These pages list more-detailed information for those devices. Additional 500-sheet feeders	Embedded HP Jetdirect	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."
	Duplex unit	Look on the main configuration page, under "Paper Trays and Options."
	Additional 500-sheet feeders	Look on the main configuration page, under "Paper Trays and Options."
Engine cycles and event logs Total page counts and maintenance kit counts are important for ongoing product maintenance. 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 Diagnostics menu.	Engine cycles	Look on the main configuration page, under "Device Information."
	Event-log information	Look on the main configuration page, under "Event Log."

Color band test

The color-band test page shows bands of colors that can indicate whether the product is producing colors correctly.

1. From the [Home](#) screen on the product control panel, scroll to and touch the [Administration](#) button.
2. Open the following menus:
 - [Troubleshooting](#)
 - [Print Quality Pages](#)
 - [Color Band Test](#)

Print quality troubleshooting tools

Repetitive defects ruler

If defects repeat at regular intervals on the page, use this ruler to identify the cause of the defect. Place the top of the ruler at the first defect. The marking that is beside the next occurrence of the defect indicates which component needs to be replaced.


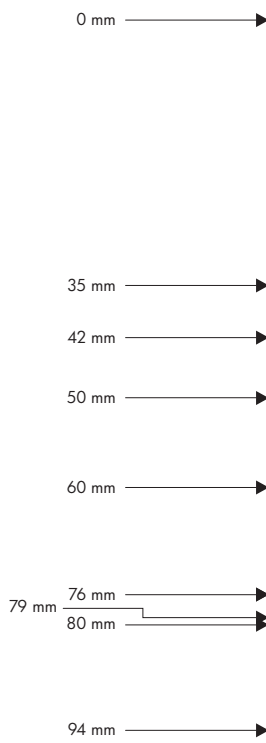
 **NOTE:** When printing this defect ruler, verify that any scaling options in the print driver are disabled.

Figure 2-49 Repetitive defects ruler




Distance between defects	Product components that cause the defect
27 mm	Toner cartridge: primary charge roller

Distance between defects	Product components that cause the defect
32 mm	Toner cartridge: developer roller
44 mm	Product: primary transfer roller
49 mm	Toner cartridge: RS roller
50 mm	Product: secondary transfer roller
63 mm	ITB: secondary transfer backing roller
66 mm	Product: distance from secondary transfer roller to fuser
75.5 mm	Toner cartridge: OPC drum
76 mm	ITB: driven roller
77 mm	Fuser sleeve
78 mm	Fuser pressure roller
80 mm	Product: distance from primary transfer roller to secondary transfer roller for black
92 mm	Toner cartridge station-to-station pitch: distance from the centerline of one OPC to the centerline of the adjacent OPC ITB: drive roller
105 mm	Product: distance from registration to secondary transfer roller

Calibrate the product to align the colors

Calibration is a product function that optimizes print quality. If you experience any image-quality problems, calibrate the product.

1. From the [Home](#) screen on the product control panel, scroll to and touch the [Device Maintenance](#) button.
2. Open the following menus:
 - [Calibration/Cleaning](#)
 - [Full Calibration](#)
3. Touch the Start  button to start the calibration process.
4. Wait while the product calibrates, and then try printing again.

Control-panel menus

Administration menu

You can perform basic product setup by using the [Administration](#) menu. Use the HP Embedded Web Server for more advanced product setup. To open the HP Embedded Web Server, enter the product IP address or host name in the address bar of a Web browser.

Reports menu

To display: At the product control panel, select the [Administration](#) menu, and then select the [Reports](#) menu.

Table 2-36 Reports menu

First level	Second level	Values	Description
Configuration/Status Pages	Administration Menu Map	Print	Shows a map of the entire Administration menu and the selected values for each setting.
		View	
	Current Settings Page	Print	Print a summary of the current settings for the product. This might be helpful if you plan to make changes and need a record of the present configuration.
		View	
	Configuration Page	Print	Shows the product settings and installed accessories.
		View	
	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. 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.
		View	
	Usage Page	Print	Shows a count of all paper sizes that have passed through the product; lists whether they were simplex, duplex, monochrome, or color; and reports the page count.
		View	
	File Directory Page	Print	Shows the file name and folder name for files that are stored in the product memory.
		View	

Table 2-36 Reports menu (continued)

First level	Second level	Values	Description
	Web Services Status Page	Print View	Shows the detected Web Services for the product.
	Color Usage Job Log	Print	Contains the number of color and black and white pages that each user has printed. It also indicates from which software program each of the jobs was printed.
Fax Reports	Fax Activity Log	Print View	Contains a list of the faxes that have been sent from or received by this product.
	Billing Codes Report	Print View	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 View	A list of phone numbers that are blocked from sending faxes to this product.
	Speed Dial List	Print View	Shows the speed dials that have been set up for this product.
	Fax Call Report	Print View	A detailed report of the last fax operation, either sent or received.
Other Pages	Demonstration Page	Print	Prints a demonstration page.
	RGB Samples	Print	Prints color samples for different RGB values. Use the samples as a guide for matching printed colors.
	CMYK Samples	Print	Prints color samples for different CMYK values. Use the samples as a guide for matching printed colors.
	PCL Font List	Print	Prints the available PCL fonts.
	PS Font List	Print	Prints the available PS fonts.

General Settings menu

To display: At the product control panel, select the [Administration](#) menu, and then select the [General Settings](#) menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 2-37 General Settings menu

First level	Second level	Third level	Fourth level	Values	Description	
Date/Time Settings	Date/Time Format	Date Format		DD/MMM/YYYY	Use the Date/Time Settings 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 product 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 Adjust for Daylight Savings check box.	
Energy Settings	Sleep Schedule	A list of scheduled events displays.		+ (Add) Edit Delete	Use to configure the product to automatically wake up or go to sleep at specific times on specific days. Using this feature saves energy. NOTE: You must configure the date and time settings before you can use the Sleep Schedule feature.	

Table 2-37 General Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
			Event Type	Wake Sleep	Select whether to add or edit a Wake event or a Sleep event, and then select the time and the days for the wake or sleep event.
			Event Time		
			Event Days	Select days of the week from a list.	
	Sleep Timer Settings	Sleep Mode/Auto Off After		Range: 1 to 120 minutes Default = 60 minutes	Set the number of minutes after which the product enters Sleep Mode/Auto Off After . Use the arrow buttons on the control panel to increase or decrease the number of minutes.
	Wake/Auto On to These Events			All Events* Network port Power button only	
	Optimum Speed/Energy Usage			Faster first page* Save energy Save more energy Save most energy	Specifies how much the fuser cools down between print or copy jobs. To maximize the product speed, select the Faster first page option. To maximize energy conservation, select the Save most energy option. Or, select one of the other settings to compromise between speed and energy conservation.

Table 2-37 General Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
Print Quality	Adjust Color	Highlights	Cyan	-5 to 5	<p>Use to set the default print-quality values and to trigger cleaning actions for optimum print quality. If you are using specific types of paper or placing the product in extreme environments, you might need to make adjustments in this menu.</p> <p>Highlights are the brightest color-values in an image. For each color, select a setting to adjust the darkness or lightness of highlights on the printed page. Decrease the value to lighten the highlights. Increase the value to darken the highlights.</p> <p>Default: Resets all the color-density settings to the factory default values.</p>
			Magenta		
Yellow					
Black					
Default					
		Midtones	Cyan	-5 to 5	<p>Midtones are the middle-range color-values in an image. For each color, select a setting to adjust the darkness or lightness of midtones on the printed page. Decrease the value to lighten the midtones. Increase the value to darken the midtones.</p>
			Magenta		
			Yellow		
			Black		

Table 2-37 General Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		Shadows	Cyan Magenta Yellow Black Default	-5 to 5	Shadows are the darkest color-values in an image. For each color, select a setting to adjust the darkness or lightness of shadows on the printed page. Decrease the value to lighten the shadows. Increase the value to darken the shadows. Default: Resets all the color-density settings to the factory default values.

Table 2-37 General Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
	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 Adjust Tray <X> 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 Print Test Page 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 2-37 General Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
			X1 Shift	-5.00 mm to 5.00 mm	The direction that is perpendicular to the way the paper passes through the product 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.
			Y1 Shift		
			X2 Shift		
			Y2 Shift		
					The direction that the paper feeds through the product 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.

Table 2-37 General Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
	Auto Sense Mode	Tray 1 Sensing		Full sensing Expanded sensing* Transparency Only	<p>Use the Auto Sense Mode feature to configure which paper types the product should automatically sense. The following settings are available:</p> <p>Full sensing: Use this setting if you don't want media type misprints and can accept slower performance and possible decreased cartridge life.</p> <p>Expanded sensing: The product senses only the first page and assumes the rest of the pages are the same type.</p> <p>Transparency Only: The product senses only the first page. The product distinguishes transparencies from other paper types.</p>
		Tray X Sensing		Expanded sensing* Transparency Only	<p>When Configuring the Auto Sense Mode option for Tray 1 and Tray 2, the <x> variable represents the highest number of trays installed on the product.</p>
	Adjust Paper Types	Select from a list of paper types that the product supports. The available options are the same for each paper type.	Print Mode	Select from a list of print modes.	<p>Changing the Print Mode setting is usually the first step in trying 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.</p>

Table 2-37 General Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
			Resistance Mode	Normal mode Up Down	Use this setting to correct print quality problems in low-humidity environments with highly resistive paper. Use the Up option to solve print quality problems that are related to poor toner-transfer. Use the Down option in the event that small, “pin-hole” defects occur.
			Humidity Mode	Normal High	Use this setting to correct print quality problems in high-humidity environments. Use the High setting if you are in a high-humidity environment and you are seeing problems with low toner density on the first page of a job.
			Pre-Rotation Mode	Off On	Turn on if horizontal lines appear on pages. Using this feature increases the first-page-out time by a few seconds.
			Fuser Temp Mode	Normal Up Down	If you continue to see ghost images on your print jobs after adjusting the Print Mode setting, set this feature by using the Up option or Down option. Using this mode increases wear on product parts and might also slow down the printing process.

Table 2-37 General Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
			Paper Curl Mode	Normal Reduced	If excessive curling of paper occurs in warm, high-humidity environments above 23° C (73° F), use the Reduced setting. Using this setting slows printing and increases the frequency of consumable replacements.
	Restore Modes				
	Optimize	Normal Paper		Standard* Smooth	Use to optimize various print modes that address print quality issues. Use the Smooth setting to correct print quality problems when using very smooth paper of normal weight.
		Heavy Paper		Standard* Smooth	Use this setting to correct print quality problems when using very smooth, heavy-weight paper 129-216 g/m ² (32-58 lb). The Smooth setting should be used if you are having print quality problems with very smooth, heavy paper.
		Envelope Control		Normal* Reduced Temp	If envelopes are sticking together in the output bin, use this setting to reduce the fuser temperature.
		Environment		Normal* Low Temp	Enable if the product is operating in a low temperature environment and you are having problems with print quality, such as blisters in the printed image.

Table 2-37 General Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		Line Voltage		Normal* Low Voltage	Enable if the product is operating in a low-voltage environment and you are having problems with print quality, such as blisters in the printed image.
		Tray 1		Normal* Alternate	Affects how often the product performs an internal cleaning procedure. Use the Alternate setting if you are having problems with extra toner on pages. In this mode, the product performs the cleaning procedure after each job that is printed from Tray 1. Using this mode increases wear on all the toner cartridges.
		Background		Normal* Alternate 1 Alternate 2 Alternate 3	Use if pages are printing with a shaded background. Using this feature might reduce gloss levels. Use the Alternate 1 setting if you are seeing a shaded background on the entire page. Use the Alternate 2 setting if you are seeing thin vertical lines on the background. The Alternate 3 setting applies the Alternate 1 setting and the Alternate 2 setting at the same time. Use this setting if the first two settings do not correct the problem.

Table 2-37 General Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		Uniformity Control		Normal* Alternate 1 Alternate 2 Alternate 3	This setting might help correct uniformity in print quality issues, such as a mottled appearance due to poor transfer of toner onto the page. The Alternate 1 setting increases the T1 transfer bias and can be used for any media type. The Alternate 2 setting decreases the fuser temperature and reduces the throughput. Use this setting if you are experiencing mottled output due to poor fusing on normal or light paper types. The Alternate 3 setting applies the Alternate 1 setting and the Alternate 2 setting at the same time. Use this setting if the first two settings do not correct the problem.
		Tracking Control		On* Off	Normally, this setting should be set to On . Tracking control algorithm is turned ON/OFF. It is not expected that the customer will ever need to change this setting.
		Registration		Normal* Alternate	Use this setting if you are having trouble with color-planes shifting or overlapping on the page. Use the Alternate setting if you are seeing color mis-registration problems.

Table 2-37 General Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		Transfer Control		Normal* Alternate 1 Alternate 2 Alternate 3	Use this setting to correct transfer issues in print jobs. Turn this feature on if green, mottled images are printed on the page. Note that using this mode can increase problems with blurry images or specks of toner on the leading or trailing edge of the paper. The Alternate 1 setting reduces the T1 bias and should be used when re-transfer occurs. The Alternate 2 setting increases the inter-page gap. Using this setting reduces throughput and might decrease the print-cartridge life. The Alternate 3 setting applies the Alternate 1 setting and the Alternate 2 setting at the same time. Use this setting if the first two settings do not correct the problem.
		Fuser Temp		Normal* Alternate	If you are seeing a faint image of the page repeated at the bottom of the page or on the following page, you should first make sure the Adjust Paper Types setting and the Print Mode setting are correct for the type of paper you are using. If you continue to see ghost images on your print jobs, set the Fuser Temp feature to the Alternate setting.

Table 2-37 General Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		Restore	Optimize		Use to return all the settings in the Optimize menu to the factory-default values.
	Resolution			Image Ret 3600 1200 x 1200dpi	Sets the resolution at which the product prints.
	Edge Control			Off Light Normal* Maximum	<p>This setting determines how edges are rendered. Edge Control has two components: adaptive halftoning and trapping. Adaptive halftoning increases edge sharpness. Trapping reduces the effect of color-plane misregistration by overlapping the edges of adjacent objects slightly. Select one of the following options:</p> <p>Off: Turns off both trapping and adaptive halftoning.</p> <p>Light: Sets trapping at a minimal level, and adaptive halftoning is on.</p> <p>Normal: Trapping is at a medium level and adaptive halftoning is on.</p> <p>Maximum: Trapping is at the highest level, and adaptive halftoning is on.</p>

Table 2-37 General Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
Jam Recovery				Auto* Off On	<p>This product provides a jam recovery feature that reprints jammed pages. Select one of the following options:</p> <p>Auto: The product attempts to reprint jammed pages when sufficient memory is available. This is the default setting.</p> <p>Off: The product does not attempt to reprint jammed pages. Because no memory is used to store the most recent pages, performance is optimal.</p> <p>NOTE: When using this option, if the product runs out of paper and the job is being printed on both sides, some pages can be lost.</p> <p>On: The product 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 Disabled*	<p>The product 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* Date	<p>This option allows you list to the jobs either Alphabetically or Chronologically.</p>

Table 2-37 General Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
	Quick Copy Job Held Timeout			Off* 1 Hour 4 Hours 1 Day 1 Week	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.
	Quick Copy Job Storage Limit			1-100 Default = 32	Configure global settings for jobs that are stored in the product memory. The Quick Copy Job Storage Limit feature specifies the number of Quick Copy and Proof and Hold jobs that can be stored on the product. 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 Disabled*	Enables the product to open a file from a USB device.

Table 2-37 General Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
Hold Off Print Job				Enabled* 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				Address Book Calibration Copy Digital Send E-mail Fax General Print Security	Use to restore all product settings to their factory defaults.

Copy Settings menu

To display: At the product control panel, select the [Administration](#) menu, and then select the [Copy Settings](#) menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 2-38 Copy Settings menu

First level	Second level	Third level	Values	Description
Copies			1–9999 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* 2-sided original, 2-sided output 1-sided original, 2-sided output 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. 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 2-38 Copy Settings menu (continued)

First level	Second level	Third level	Values	Description
Sides	1-sided original, 1-sided output	Orientation	Book-style	If you are making two-sided copies, select a 2-sided format option.
	2-sided original, 2-sided output		Flip-style	
	1-sided original, 2-sided output		Book-style original; Flip-style copy	
	2-sided original, 1-sided output		Flip-style original; Book-style copy	
				<p>Book-style: 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>Flip-style: 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>Book-style original; Flip-style copy: 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>Flip-style original; Book-style copy: 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 2-38 Copy Settings menu (continued)

First level	Second level	Third level	Values	Description
Color/Black			Automatically detect* Color Black	<p>Select how the copy should be printed.</p> <p>Automatically detect: Prints color documents in color, and black and white documents in black and white. For mixed documents, the product will determine whether to print in color or black and white.</p> <p>Color: Prints documents in color.</p> <p>Black: Prints documents in black and white.</p>
Collate			Collate on (Sets in page order)* Collate off (Pages grouped)	<p>If you are making more than one copy, select the Collate on (Sets in page order) option to assemble the pages in the correct order in each set of copies.</p> <p>Select the Collate off (Pages grouped) 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>

Table 2-38 Copy Settings menu (continued)

First level	Second level	Third level	Values	Description
Reduce/Enlarge	Scaling		Auto*	Use to scale the size of the document up or down. Select one of the predefined percentages, or select the Scaling field and enter a percentage between 25 and 400. The Auto option automatically scales the image to fit the paper size in the tray. NOTE: 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.
			100%	
			75%	
			50%	
			125%	
			150%	
			200%	
			Range X-Y (25 - 400%)	
	Auto Include Margins			The product reduces the image slightly to fit the entire scanned image within the printable area on the page.
Paper Selection			Manually feed	For the best color and image quality, select the appropriate paper type from the control panel menu or from the print driver.
			Automatic Detect*	
			Tray 1: [Type], [Size]	
			Tray <X>: [Type], [Size]	
Image Adjustment	Darkness		Select a value using the slide bar, or touch Automatic .	Use to improve the overall quality of the copy. Adjust the Darkness setting to increase or decrease the amount of white and black in the colors.
		Contrast	Select a value using the slide bar, or touch Automatic .	Adjust the Contrast 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 Automatic .	Adjust the Background Cleanup setting if you are having trouble copying a faint image.

Table 2-38 Copy Settings menu (continued)

First level	Second level	Third level	Values	Description
	Sharpness		Select a value using the slide bar, or touch Automatic .	Adjust the Sharpness 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 Image Adjustment setting the default value.
Content Orientation	Orientation		Portrait* 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.

Table 2-38 Copy Settings menu (continued)

First level	Second level	Third level	Values	Description
	2-Sided Format		Book-style	<p>If you are making two-sided copies, select a 2-sided format option.</p> <p>Book-style: 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>Flip-style: 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>Book-style original; Flip-style copy: 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>Flip-style original; Book-style copy: 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>
			Flip-style	
			Book-style original; Flip-style copy	
			Flip-style original; Book-style copy	
Optimize Text/Picture	Manually adjust*		Optimize For slider	Use this setting to optimize the output for a particular type of content.

Table 2-38 Copy Settings menu (continued)

First level	Second level	Third level	Values	Description
			Text	Manually adjust: Use to manually optimize the setting for each document.
			Printed picture	
			Photograph	Printed picture: 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 Printed picture setting to improve the quality. Photograph: Use for photographic prints.
Pages per Sheet			One (1)*	Copies multiple pages onto one sheet of paper.
			Two (2)	
			Four (4)	NOTE: Before using this screen, use the Content Orientation screen to describe the original document orientation.
	Page Order		Right, then down	If you are printing four pages per sheet, select the page order. To print the pages in rows, select the Right, then down option. To print the pages in columns, select the Down, then right option.
			Down, then right	
	Add Page Borders			If you are printing two or more pages per sheet and you want to print a border around each page, select the Add Page Borders option.
Original Size			Select from a list of sizes that the product supports.	Describes the page size of the original document.

Table 2-38 Copy Settings menu (continued)

First level	Second level	Third level	Values	Description
Booklet Format	Booklet		Booklet off*	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 product arranges the pages in the correct order. For example, if the original document has eight pages, the product prints pages 1 and 8 on the same sheet.
			Booklet on	
	Original Sides		1-sided	Select the 1-sided option if the original document is printed on only one side.
			2-sided	Select the 2-sided option if the original document is printed on two sides.
	Borders on Each Page			To print a border around each page, select the Borders on Each Page option.
Edge-to-Edge			Normal (recommended)*	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 Reduce/Enlarge feature to ensure that the entire page is printed on the copies. When the Edge-to-Edge feature is turned on, the product minimizes margins and prints as close to the edge of the paper as possible.
			Edge-to-Edge output	
Job Build			Job Build off*	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 product temporarily saves all the scanned images. After you have scanned all the pages for the job, touch the Finish option to finish the job.
			Job Build on	

Scan/Digital Send Settings menu

To display: At the product 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 2-39 Scan/Digital Send Settings menu

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 flash drive.
Default Save to Network Folder Options	NOTE: Email Settings only				<p>The E-mail Setup Wizard feature configures the product to send scanned images as email attachments. To open the product HP Embedded Web Server and set up the email notification server, enter the product network address into a Web browser.</p>
Default Save to USB Options					
NOTE: The same options are available for each of these features, except where noted.					

Table 2-39 Scan/Digital Send Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
	Default Job Options	Image Preview		Make optional* Require preview Disable preview	<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 network address of the product into a Web browser.</p> <p>Use the Image Preview feature to scan a document and display a preview before completing the job. Select whether this feature is available on the product.</p> <p>Make optional: The feature is optional, depending on the user who is signed in.</p> <p>Require preview Previews are required for all users.</p> <p>Disable preview: Previews are disabled for all users.</p>

Table 2-39 Scan/Digital Send Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		Default File Name			The product 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 product and a file with the default file name already exists, a number is appended to the file name, for example ([Untitled]001).

Table 2-39 Scan/Digital Send Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		Document File Type		Select from a list of file types.	<p>PDF provides the best overall image and text quality.</p> <p>JPEG 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>TIFF is a standard file format that many graphics programs support. This file type produces one file per page.</p> <p>MTIFF stands for multi-page TIFF. This file type saves multiple scanned pages in a single file.</p> <p>XPS (XML Paper Specification) creates an XAML file that preserves the original formatting of the document and supports color graphics and embedded fonts.</p> <p>NOTE: OCR file types are not supported on this product unless attached to DSS.</p>

Table 2-39 Scan/Digital Send Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		Optimize Text/ Picture		Manually adjust* Text Printed picture Photograph	<p>Use to optimize the output for a particular type of content. You can optimize the output for text, printed pictures, photographs, or a mixture.</p> <p>Manually adjust: Use to manually optimize the setting for text or for pictures.</p> <p>Text: Use to optimize the text portion of the copy where text and/or pictures are on the original.</p> <p>Printed picture: Use for line drawings and preprinted images, such as magazine clippings or pages from books.</p> <p>Photograph: Best suited for making copies of printed pictures.</p>
		Output Quality		High (large file) Medium* 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>

Table 2-39 Scan/Digital Send Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		Original Sides		1-sided* 2-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 Orientation 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.
			Orientation	Automatically detect Portrait* 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.

Table 2-39 Scan/Digital Send Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
			2-Sided Format	Book-style Flip-style	<p>Book-style: 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>Flip-style: 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>
		Resolution		400 dpi 300 dpi 200 dpi 150 dpi* 75 dpi	<p>Sets the resolution for sent documents.</p> <p>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 Resolution setting might automatically change to a valid value.</p>

Table 2-39 Scan/Digital Send Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		Content Orientation	Orientation	Automatically detect Portrait* 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* Flip-style	Use to configure the default style for 2-sided print jobs. If the Book-style 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 Flip-style 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 2-39 Scan/Digital Send Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		Color/Black		Automatically detect* Color Black/Gray Black	Use to enable or disable color scanning. Automatically detect: Automatically scans documents in color if at least one page has color. Color: Scans documents in color. Black/Gray: Scans documents in grayscale. 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* Notify when job completes Notify only if job fails	Configure to receive notification about the status of a sent document. Do not notify: Turns off this feature. Notify when job completes: Select to receive notification for this job only.
				Print E-mail	Notify only if job fails: Select to receive notification only if the job is not sent successfully. Print: Select to print the notification on this product.
		Include Thumbnail			NOTE: When sending an analog fax, select Include Thumbnail to receive a thumbnail image of the first page of the fax in your notification.

Table 2-39 Scan/Digital Send Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		Notification E-mail address			E-mail: Select to receive the notification in an email. Touch the text box following E-mail Address ;, and enter the email address for the notification.
		Image Adjustment	Darkness		Use to improve the overall quality of the copy. Adjust the Darkness setting to increase or decrease the amount of white and black in the colors.
			Contrast		Adjust the Contrast setting to increase or decrease the difference between the lightest and darkest color on the page.
			Background Cleanup		Adjust the Background Cleanup setting if you are having trouble copying a faint image.
			Sharpness		Adjust the Sharpness 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 product automatically adjusts the Darkness , Contrast , and Background Cleanup settings to the most appropriate for the scanned document.

Table 2-39 Scan/Digital Send Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
			Default		Select this to make the selected Image Adjustment setting the default value.
		Job Build		Job Build off* 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 product temporarily saves all the scanned images. After you have scanned all the pages for the job, touch Finish to finish the job.
		Cropping Options		Do not crop* Crop to content	Use this menu item to automatically crop the scan for digital sending. Use the Crop to content option to scan the smallest possible area that has detectable content.
		Erase Edges		Use Inches Back side erase 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* Enabled	Use to prevent blank pages in the original document from being included in the output document.

Table 2-39 Scan/Digital Send Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
Digital Send Service Setup	Allow Usage of Digital Sending Software (DSS) Server			Enabled*	Configure how the product 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. Use the Allow Usage of Digital Sending Software (DSS) Server option to configure the product to use HP DSS.
				Disabled	
	Allow Transfer to New Digital Sending Software (DSS) Server			Enabled*	Use the Allow Transfer to New Digital Sending Software (DSS) Server option to specify whether DSS management of a product is transferable to a different DSS.
				Disabled	

Fax Settings menu

To display: At the product control panel, select the [Administration](#) menu, and then select the [Fax Settings](#) menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 2-40 Fax Settings menu

First level	Second level	Third level	Fourth level	Values	Description
Fax Send Settings	Fax Send Setup	Fax Setup Wizard			<p>Configure settings for sending faxes from the product.</p> <p>Use the Fax Setup Wizard feature to set up options for faxing.</p> <p>NOTE: To set up LAN fax or Internet fax, use the HP Embedded Web Server. To open the HP Embedded Web Server, enter the product network address into a Web browser. To configure the fax features, select the Fax tab.</p>
		Fax Dialing Settings	Fax Dial Volume	Off Low* High	These settings control how the fax modem dials the outgoing fax number when faxes are sent.
			Dialing Mode	Tone* Pulse	
			Redial Interval	1 – 5 Minutes Default = 5 minutes	
			Fax Send Speed	Fast* Medium Slow	
			Dialing Prefix		
			Detect Dial Tone		
			Redial on Error	Range: 0 – 9 Default = 2	
			Redial on No Answer	Range: 0 – 2 Default = 0	
			Redial on Busy	Range: 0 – 9 Default = 3	

Table 2-40 Fax Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		General Fax Send Settings	Fax Number Confirmation	Enabled Disabled*	If this feature is enabled, you must enter the fax number twice.
			PC Fax Send	Enabled* Disabled	Enables users who have the correct driver installed to send faxes through the product from their computers.
			JBIG Compression	Enabled* 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* Disabled	When error-correction mode is enabled and an error occurs during fax transmission, the product sends or receives the error portion again.
			Fax Header	Prepend* Overlay	Use to prepend (to prefix or add to the beginning) or overlay the fax header page.
			Fax Number Speed Dial Matching	Enabled Disabled*	Use this item to match a fax number that you typed to the numbers that are saved as a speed dial.

Table 2-40 Fax Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		Billing Codes	Enable Billing Codes	Off 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 Allow users to edit billing codes check box is not selected.</p> <p>You can also use the Billing Codes report in the Reports menu to view the list of the billing codes that have been used for faxes that have been sent from the product. 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 Billing Code 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 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 On*	

Table 2-40 Fax Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
	Default Job Options	Image Preview		<p>Make optional*</p> <p>Require preview</p> <p>Disable preview</p>	<p>Use the Image Preview feature to scan a document and display a preview before completing the job. Select whether this feature is available on the product.</p> <p>Make optional: The feature is optional, depending on the user who is signed in.</p> <p>Require preview: Previews are required for all users.</p> <p>Disable preview: Previews are disabled for all users.</p>
		Resolution		<p>Standard (100 x 200dpi)*</p> <p>Fine (200 x 200dpi)</p> <p>Superfine (300 x 300dpi)</p>	<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 Resolution setting might be automatically changed to a valid value.</p>

Table 2-40 Fax Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		Original Sides		1-sided* 2-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 Orientation 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.
			Orientation	Portrait* Landscape	For some features to work correctly, you must specify the way the content of the original document is placed on the page. Portrait : This setting means the short edge of the page is along the top. Landscape : This setting means the long edge of the page is along the top.

Table 2-40 Fax Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
			2-Sided Format	Book-style* Flip-style	<p>Book-style: 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>Flip-style: 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* Notify when job completes Notify only if job fails	<p>Use to receive notification about the status of a sent document.</p> <p>Do not notify: Turns off this feature.</p> <p>Notify when job completes: Select to receive notification for this job only.</p> <p>Notify only if job fails: Select to receive notification only if the job is not sent successfully.</p>
				Print E-mail	<p>Print: Select to print the notification to this product.</p> <p>E-mail: Select to receive the notification in an email. Touch the text box following E-mail Address: and enter the email address for the notification.</p>

Table 2-40 Fax Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
			Include Thumbnail		When sending an analog fax, select Include Thumbnail 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* 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>Portrait: This setting means the short edge of the page is along the top.</p> <p>Landscape: This setting means the long edge of the page is along the top.</p>
			2-Sided Format	Book-style* Flip-style	Use to configure the default style for 2-sided print jobs. If the Book-style option is selected, the back side of the page is printed with the right side up. This option is for print jobs that are bound along the left edge. If the Flip-style 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.
		Original Size		Select from a list of sizes that the product supports.	Use to describe the page size of the original document.

Table 2-40 Fax Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		Image Adjustment	Darkness		Use to improve the overall quality of the copy. Adjust the Darkness setting to increase or decrease the amount of white and black in the colors.
			Contrast		Adjust the Contrast setting to increase or decrease the difference between the lightest and darkest color on the page.
			Background Cleanup		Adjust the Background Cleanup setting if you are having trouble copying a faint image.
			Sharpness		Adjust the Sharpness 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 product automatically adjusts the Darkness , Contrast , and Background Cleanup settings to the most appropriate for the scanned document.
			Default		

Table 2-40 Fax Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		Optimize Text/ Picture	Manually adjust*	Optimize For Text Printed picture Photograph	<p>Optimizes the output for a particular type of content. You can optimize the output for text, printed pictures, or a combination of both.</p> <p>Manually adjust: Use to manually optimize the setting for text or for pictures.</p> <p>Text: Use to optimize the text portion of the copy where text and/or pictures are on the original.</p> <p>Printed picture: Use for line drawings and preprinted images such as magazine clippings or pages from books.</p> <p>Photograph: Best suited for making copies of printed pictures.</p>
		Job Build		Job Build off* Job Build on	<p>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.</p>
		Blank Page Suppression		Disabled* Enabled	<p>Prevents blank pages in the original document from being included in the output document.</p>

Table 2-40 Fax Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
Fax Receive Settings	Fax Receive Setup	Ringer Volume		Off Low* High	Use to configure settings for receiving faxes.
		Rings To Answer		Range: 1 – 6 Default = 1	
		Fax Receive Speed		Fast* Medium Slow	
		Ring Interval		Range: 220 – 600 ms Default = 600 ms	
		Ring Frequency		Range: 1 – 200 Default = 68hz	
	Fax Printing Schedule			Always store faxes Always print faxes* 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) Edit Delete	Print incoming faxes Store incoming faxes Time Event Days	If you are using a fax printing schedule, use this menu to configure when to print faxes.
		Touch this option to set up a fax printing schedule if you selected the Use Fax Printing Schedule option.			

Table 2-40 Fax Settings menu (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 product 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 Fax Number to Block field, and then touch the arrow button to add a new number to the blocked fax list.</p> <p>Remove blocked numbers: Select a number and touch the Delete button to delete it from the blocked fax list.</p> <p>Clear all blocked numbers: Touch the Delete All button to clear all of the numbers from the blocked fax list.</p> <p>You can also use the Blocked Fax List report in the Information menu to view the list of the fax numbers that have been blocked on this product.</p>

Table 2-40 Fax Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
	Default Job Options	Notification		Do not notify* Notify when job completes Notify only if job fails	Configure to receive notification about the status of a sent document. Do not notify: Turns off this feature. Notify when job completes: Select to receive notification for this job only. Notify only if job fails: Select to receive notification only if the job is not sent successfully.
				Print E-mail*	E-mail: Select to receive the notification in an email. Touch the text box following E-mail Address, and enter the email address for the notification.
			Include Thumbnail		NOTE: When sending an analog fax, select Include Thumbnail 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.
		Stamp Received Faxes		Enabled Disabled*	Use this option to add the date, time, sender's phone number, and page number to each page of the faxes that this product receives.

Table 2-40 Fax Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		Fit to Page		Enabled* 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 is set to Disabled , faxes larger than Letter or A4 will flow across multiple pages.
		Paper Selection		Automatic* Select from a list of the trays.	
		Sides		1-sided* 2-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 Orientation 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.
Fax Forwarding	Enable Fax Forwarding			Disabled* Enabled	Use to forward received faxes to another fax machine.
		Type of Fax Job to Forward		All faxes Sent faxes Received faxes	
		Fax Forwarding Number			
	Clear Fax Activity Log				Clears all events from the Fax Activity Log list.

General Print Settings menu

To display: At the product 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 2-41 General Print Settings menu

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 product 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 Regular , which uses an average stroke width. The Dark 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 product encounters a PS error.
		Disabled*	
Print PDF Errors		Enabled	Selects whether a PDF error page is printed when the product encounters a PDF error.
		Disabled*	
Personality		Auto*	Configures the default print language or personality for the product. Normally you should not change the product language. If you change the setting to a specific product language, the product does not automatically switch from one language to another unless specific software commands are sent to it.
		PCL	
		POSTSCRIPT	
		PDF	

Table 2-41 General Print Settings menu (continued)

First level	Second level	Values	Description
PCL	Form Length	Range: 5 – 128 Default = 60	Controls the PCL print-command options. PCL is a set of product commands that Hewlett-Packard developed to provide access to product features. Use the Form Length feature to select the user-soft default vertical form length.
	Orientation	Portrait * Landscape	Select the orientation that is most often used for copy or scan originals. Select the Portrait option if the short edge is at the top, or select the Landscape option if the long edge is at the top.
	Font Source	Internal * USB	Selects the font source for the user-soft default font. The list of available options varies depending on the installed product options.
	Font Number	Range: 0 – 110 Default = 0	Specifies the font number for the user-soft default font using the source that is specified in the Font Source menu. The product 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 Default = 10	If the Font Source option and the Font Number 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 Default = 12.00	If the Font Source option and the Font Number 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.

Table 2-41 General Print Settings menu (continued)

First level	Second level	Values	Description
	Append CR to LF	No* 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 Yes to append the carriage return. The default setting is No . 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.
	Suppress Blank Pages	No* 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* Classic	Use to select and maintain input trays by number when you are not using the product driver, or when the software program has no option for tray selection. The following options are available: Standard: Tray numbering is based on newer HP LaserJet models. Classic: Tray numbering is based on HP LaserJet 4 and older models.

Default Print Options menu

To display: At the product control panel, select the **Administration** menu, and then select the **Default Print Options** menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 2-42 Default Print Options menu

First level	Second level	Values	Description
Number of Copies		Range: 1 – 32000 Default = 1	Sets the default number of copies for a copy job. This default applies when the Copy function or the Quick Copy function is initiated from the product Home screen.

Table 2-42 Default Print Options menu (continued)

First level	Second level	Values	Description
Default Paper Size		Select from a list of sizes that the product supports.	Configures the default paper size used for print jobs.
Default Custom Paper Size	X Dimension	Range: 3 – 8.5 inches Default = 8.5 inches	Configures the default paper size that is used when the user selects Custom as the paper size for a print job.
	Y Dimension	Range: 5 – 14 inches Default = 14 inches	
	Use Inches	Enabled * Disabled	
Sides		1-sided * 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 1-sided original , 2-sided output option when the original is printed on one side, but you want to make two-sided copies. Select the Orientation setting to specify portrait or landscape orientation and to select the way the second sides are printed.
2-Sided Format		Book-style * Flip-style	Configures the default style for 2-sided print jobs. If the Book-style option is selected, the back side of the page is printed with the right side up. This option is for print jobs that are bound along the left edge. If the Flip-style 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) * 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

To display: At the product control panel, select the [Administration](#) menu, and then select the [Display Settings](#) menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 2-43 Display Settings menu

First level	Second level	Values	Description
Key Press Sound		On* Off	Use to specify whether you hear a sound when you touch the screen or press buttons on the control panel.
Language Settings	Language	Select from a list of languages that the product 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.
	Keyboard Layout	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.
How to Connect Button		Display* Hide	Use this menu item to display or hide the Network Address button that displays on the Home screen.
Date and Time		Show Date and Time* Hide Date and Time	Select whether to display or hide the date and time on the control panel Home screen.
Inactivity Timeout		Range: 10 – 300 seconds Default = 60 seconds	Specifies the amount of time that elapses between any activity on the control panel and when the product resets to the default settings. When the timeout expires, the control-panel display returns to the Home screen, and any user signed in to the product is signed out.

Table 2-43 Display Settings menu (continued)

First level	Second level	Values	Description
Clearable Warnings		On	Use this feature to set the time period that a clearable warning displays on the control panel. If the On setting is selected, clearable warnings appear until the Clearable Warnings button is pressed. If the Job 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 product behavior when the product encounters certain errors. If the Auto-continue (10 seconds) option is selected, the job will continue after 10 seconds. If the Touch OK to continue option is selected, the job will stop and require the user to press the OK button before continuing.
		Touch OK to continue	

Manage Supplies menu

To display: At the product control panel, select the [Administration](#) menu, and then select the [Manage Supplies](#) menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 2-44 Manage Supplies menu

First level	Second level	Third level	Fourth level	Values	Description
Supplies Status				Print View	
Supply Settings	Black Cartridge	Low Threshold Settings		1 - 100% Default = 10%	Set the estimated percentage at which the product notifies you when the toner cartridge is low.
		Very Low Settings		Stop Prompt to continue* Continue	Specifies how the product notifies you when the toner cartridge is very low. Stop: The product stops until you replace the toner cartridge. Prompt to continue: The product stops and prompts you to replace the toner cartridge. You can acknowledge the prompt and continue printing. Continue: The product alerts you that a toner cartridge is very low, but it continues printing.
	Color Cartridges	Low Threshold Settings	Cyan Magenta Yellow	1 - 100% Default = 10%	Set the estimated percentage at which the product notifies you when the toner cartridge is very low. You can specify a different percentage for each color.

Table 2-44 Manage Supplies menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		Very Low Settings		<p>Stop</p> <p>Prompt to continue*</p> <p>Continue</p>	<p>Specify how the product notifies you when the toner cartridge is very low.</p> <p>Stop: The product stops until you replace the toner cartridge.</p> <p>Prompt to continue: The product stops and prompts you to replace the toner cartridge. You can acknowledge the prompt and continue printing.</p> <p>Continue: The product alerts you that a toner cartridge is very low, but it continues printing.</p>

Table 2-44 Manage Supplies menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
	Toner Collection Unit	Very Low Settings		<p>Stop*</p> <p>Prompt to continue</p> <p>Continue</p>	<p>Configure how the product responds when the toner collection unit is reaching the end of its estimated life. This condition is equivalent to the supply life being very low.</p> <p>CAUTION: Continuing to print without replacing the toner collection unit might damage the product, cause toner to spill, or cause an error condition.</p> <p>Stop: The product stops until you replace the toner collection unit.</p> <p>Prompt to continue: The product stops and prompts you to replace the toner collection unit. You can acknowledge the prompt and continue printing.</p> <p>Continue: The product alerts you that the toner collection unit is very low, but it continues printing.</p>
	Fuser Kit	Low Threshold Settings		<p>1 - 100%</p> <p>Default = 10%</p>	<p>Set the estimated percentage at which the product notifies you when the fuser is low.</p>

Table 2-44 Manage Supplies menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		Very Low Settings		Stop Prompt to continue* Continue	<p>Configure how the product responds when the fuser is reaching the end of its estimated life.</p> <p>Stop: The product stops until you replace the fuser.</p> <p>Prompt to continue: The product stops and prompts you to replace the fuser. You can acknowledge the prompt and continue printing.</p> <p>Continue: The product alerts you that the fuser is very low, but it continues printing.</p>
	Document Feeder Kit	Low Threshold Settings		1 - 100% Default = 10%	<p>Set the percentage at which the product notifies you when the document feeder kit is very low.</p>
		Very Low Settings		Stop Prompt to continue* Continue	<p>Configure how the product responds when the document feeder kit is reaching the end of its estimated life.</p> <p>Stop: The product stops until you replace the document feeder kit.</p> <p>Prompt to continue: The product stops and prompts you to replace the document feeder kit. You can acknowledge the prompt and continue printing.</p> <p>Continue: The product alerts you that the document feeder kit is low, but it continues printing.</p>

Table 2-44 Manage Supplies menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
	Restrict Color Use			Enable Disable color Color if allowed*	Use this feature to enable, restrict, or disable color printing or copying.
	Color/Black Mix			Auto* Mostly Color Pages Mostly Black Pages	<p>Instructs the product when to switch between color and monochrome printing modes for the best overall performance.</p> <p>Auto: Uses the mode that is appropriate for the first page of the job. If necessary, the product switches modes during the middle of a job and then stays in that mode until the job is finished.</p> <p>Mostly Color Pages: The product uses color mode for all jobs, even if the job contains no color pages.</p> <p>Mostly Black Pages: The product uses monochrome mode until it detects a color page. The product switches back to monochrome mode when it detects a sequence of several monochrome pages.</p>

Table 2-44 Manage Supplies menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
	Store Usage Data			On supplies* Not on supplies	The Store Usage Data 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 product. Select the On supplies setting to store the data on the toner cartridge memory chip. Select the Not on supplies setting to suppress the information from being stored on the memory chip.
	Supply Messages	Low Message		On* Off	Use to configure whether a message displays on the control panel when supplies are getting low but have not yet reached the low threshold.
Reset Supplies	New Fuser Kit			No Yes	Notifies the product that a new fuser kit has been installed.
	New Document Feeder Kit				Select this option if you have installed a new document feeder kit.

Manage Trays menu

To display: At the product control panel, select the [Administration](#) menu, and then select the [Manage Trays](#) menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 2-45 Manage Trays menu

First level	Values	Description
Use Requested Tray	Exclusively* First	Controls how the product handles jobs that have specified a specific input tray. Two options are available: Exclusively: The product never selects a different tray when the user has indicated that a specific tray should be used, even if that tray is empty. First: The product 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* Unless loaded	Indicates whether a prompt should appear when the type or size for a job does not match the specified tray and the product pulls from the multipurpose tray instead. Two options are available: Always: A prompt always displays before using the multipurpose tray. Unless loaded: A message displays only if the multipurpose tray is empty.
Size/Type Prompt	Display* Do not display	Controls whether the tray configuration message displays whenever a tray is closed. Two options are available: Display: This option shows the tray configuration message when a tray is closed. The user is able to configure the tray settings directly from this message. Do not display: This option prevents the tray configuration message from automatically appearing.
Use Another Tray	Enabled* 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: Enabled: When this option is selected, the user is prompted either to add paper to the selected tray or to choose a different tray. Disabled: When this option is selected, the user is not given the option of selecting a different tray. The product prompts the user to add paper to the tray that was initially selected.

Table 2-45 Manage Trays menu (continued)

First level	Values	Description
Alternative Letterhead Mode	Disabled*	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 product for instructions about loading letterhead for printing on both sides. When this option is selected, the product speed slows to the speed required for printing on both sides.
	Enabled	
Duplex Blank Pages	Auto*	Control how the product handles two-sided jobs (duplexing). Two options are available: Auto: This option enables Smart Duplexing , which instructs the product not to process blank pages. Yes: This option 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.
	Yes	
Override A4/Letter	Yes*	Prints on letter-size paper when an A4 job is sent but no A4-size paper is loaded in the product (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-size paper with ledger-size paper and ledger-size paper with A3-size paper.
	No	

Network Settings menu

To display: At the product control panel, select the [Administration](#) menu, and then select the [Network Settings](#) menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 2-46 Network Settings menu

First level	Values	Description
I/O Timeout	Range: 5 – 300 sec 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 product receives for a print job gets interrupted, this setting indicates how long the product will wait before it reports that the job has failed.
Jetdirect Menu	See the table that follows for details. These menus have the same structure. If an additional HP Jetdirect network card is installed in the USB port, then both menus are available.	

Table 2-47 Jetdirect Menu

First level	Second level	Third level	Fourth level	Values	Description
Information	Print Sec Report			Yes No*	Yes: Prints a page that contains the current security settings on the HP Jetdirect print server. No: A security settings page is not printed.
TCP/IP	Enable			On* Off	On: Enable the TCP/IP protocol. Off: Disable the TCP/IP protocol.
	Host Name			Use the arrow buttons to edit the host name. NPXXXXXX*	An alphanumeric string, up to 32 characters, used to identify the product. 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 2-47 Jetdirect Menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
	IPV4 Settings	Config Method		Bootp DHCP* Auto IP Manual	<p>Specifies the method that TCP/IPv4 parameters will be configured on the HP Jetdirect print server.</p> <p>Bootp (Bootstrap Protocol): Use for automatic configuration from a BootP server.</p> <p>DHCP (Dynamic Host Configuration Protocol): Use for automatic configuration from a DHCPv4 server. If selected and a DHCP lease exists, the DHCP Release menu and the DHCP Renew menu are available to set DHCP lease options.</p> <p>Auto IP: 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 manual setting, use the Manual Settings menu to configure TCP/IPv4 parameters.</p>
		Manual Settings NOTE: This menu is available only if you select the Manual option under the Config Method menu.	IP Address	Enter the address.	(Available only if the Config Method option is set to the Manual option.) Configure parameters directly from the product control panel.
			Subnet Mask	Enter the address.	
			Default Gateway	Enter the address.	

Table 2-47 Jetdirect Menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		Default IP		Auto IP* Legacy	Specify the IP address for the product 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). NOTE: This feature assigns a static IP address that might interfere with a managed network. Auto IP: A link-local IP address 169.254.x.x is set. Legacy: The address 192.0.0.192 is set, consistent with older HP Jetdirect products.
		Primary DNS		Range: 0 – 255 Default = xxx.xxx.xx.xx	Specify the IP address (n.n.n.n) of a Primary Domain Name System (DNS) Server.
		Secondary DNS		Range: 0 – 255 Default = 0.0.0.0	Specify the IP address (n.n.n.n) of a Secondary DNS Server.
	IPv6 Settings	Enable		Off On*	Use this item to enable or disable IPv6 operation on the print server. Off: IPv6 is disabled. On: IPv6 is enabled.
		Address	Manual Settings	Enable Address	Use this item to enable and manually configure a TCP/IPv6 address.

Table 2-47 Jetdirect Menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		DHCPv6 Policy		Router Specified Router Unavailable* Always	<p>Router Specified: 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>Router Unavailable: If a router is not available, the print server should attempt to obtain its stateful configuration from a DHCPv6 server.</p> <p>Always: Whether a router is available, the print server always attempts to obtain its stateful configuration from a DHCPv6 server.</p>
		Primary DNS			
		Secondary DNS			

Table 2-47 Jetdirect Menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
	Proxy Server			Select from a provided list.	<p>Specifies the proxy server to be used by embedded applications in the product. 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>
	Proxy Port			Default = 0080	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 = 0270	The time period, in seconds, after which an idle TCP print data connection is closed (default is 270 seconds; 0 disables the timeout).

Table 2-47 Jetdirect Menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
Security	Secure Web			HTTPS Required* HTTPS Optional	For configuration management, specify whether the HP Embedded Web Server will accept communications using HTTPS (Secure HTTP) only, or both HTTP and HTTPS. HTTPS Required: For secure, encrypted communications, only HTTPS access is accepted. The print server will appear as a secure site.
	IPSEC			Keep Disable*	Specify the IPsec status on the print server. Keep: IPsec status remains the same as currently configured. Disable: IPsec operation on the print server is disabled.
	802.1X			Reset Keep*	Specify whether the 802.1X settings on the print server are reset to the factory defaults. Reset: The 802.1X settings are reset to the factory defaults. Keep: The current 802.1X settings are maintained.

Table 2-47 Jetdirect Menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
	Reset Security			Yes No*	Specify whether the current security settings on the print server will be saved or reset to factory defaults. Yes: Security settings are reset to factory defaults. No: The current security settings are maintained.

Table 2-47 Jetdirect Menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
Diagnostics	Embedded Tests	LAN HW Test		Yes 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 product. 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 Execute option to initiate the test.</p> <p>Depending on the execution time, a selected test runs continuously until either the product is turned off or an error occurs and a diagnostic page is printed.</p> <p>CAUTION: 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 2-47 Jetdirect Menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		HTTP Test		Yes No*	<p>This test checks operation of HTTP by retrieving predefined pages from the product, and tests the HP Embedded Web Server.</p> <p>Select the Yes option to choose this test, or the No option to not choose it.</p>
		SNMP Test		Yes No*	<p>This test checks operation of SNMP communications by accessing predefined SNMP objects on the product.</p> <p>Select the Yes option to choose this test, or the No option to not choose it.</p>
		Data Path Test		Yes No*	<p>This test helps to identify data path and corruption problems on an HP postscript level 3 emulation product. It sends a predefined PS file to the product, However, the test is paperless; the file will not print.</p> <p>Select the Yes option to choose this test, or the No option to not choose it.</p>
		Select All Tests		Yes No*	<p>Use this item to select all available embedded tests.</p> <p>Select the Yes option to choose all tests. Select the No option to select individual tests.</p>

Table 2-47 Jetdirect Menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		Execution Time [H]		Range: 1 – 24 hours 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 product is turned off. Data gathered from the HTTP, SNMP, and Data Path tests is printed after the tests have completed.
		Execute		No* Yes	No: Do not initiate the selected tests. Yes: Initiate the selected tests.
	Ping Test	Dest Type		IPv4 IPv6	This test is used to check network communications. This test sends link-level packets to a remote network host and then waits for an appropriate response. To run a ping test, set the following items: Dest Type Specify whether the target product is an IPv4 or IPv6 node.
		Dest IPv4		Range: 0 – 255 Default = 127.0.0.1	Enter the IPv4 address.
		Dest IPv6		Select from a provided list. Default = : : 1	Enter the IPv6 address.
		Packet Size		Range: 64 – 2048 Default = 64	Specify the size of each packet, in bytes, to be sent to the remote host.

Table 2-47 Jetdirect Menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		Timeout		Range: 001 – 100 Default = 001	Specify the length of time, in seconds, to wait for a response from the remote host.
		Count		Range: 0 – 100 Default = 004	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 No*	
		Execute		Yes No*	No: Do not initiate the selected tests. Yes: Initiate the selected tests.
	Ping Results	Packets Sent		Range: 0 – 65535 Default = 00000	Shows the number of packets sent to the remote host since the most recent test was initiated or completed.
		Packets Received		Range: 0 – 65535 Default = 00000	Shows the number of packets received from the remote host since the most recent test was initiated or completed. The default is 0.
		Percent Lost		Range: 0 – 100 Default = 000	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		Range: 0 – 4096 Default = 0000	Shows the minimum detected roundtrip-time (RTT) for packet transmission and response.

Table 2-47 Jetdirect Menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
		RTT Max		Range: 0 – 4096 Default = 0000	Shows the maximum detected roundtrip-time (RTT) for packet transmission and response.
		RTT Average		Range: 0 – 4096 Default = 0000	Shows the average round-trip-time (RTT), from 0 to 4096 milliseconds, for packet transmission and response.
		Ping In Progress		Yes No*	Shows whether a ping test is in progress. Yes: Indicates a test in progress. No: Indicates that a test completed or was not run.
		Refresh		Yes No*	When viewing the ping test results, this item upgrades the ping test data with current results. Select the Yes option to upgrade the data, or the No option to maintain the existing data. However, a refresh automatically occurs when the menu times out or you manually return to the main menu.

Table 2-47 Jetdirect Menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
Link Speed				Auto*	<p>The link speed and communication mode of the print server must match the network. The available settings depend on the product and installed print server.</p> <p>CAUTION: If you change the link setting, network communications with the print server and network product 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 100TX Half feature or the 10T Half feature is set depending on the detected link speed of the hub/switch port. (A 1000T half-duplex selection is not supported.)</p>
				10T Half	10 Mbps, half-duplex operation.
				10T Full	10 Mbps, full-duplex operation.
				10T Auto	10 Mbps, half-duplex operation.
				100TX Half	100 Mbps, half-duplex operation.
				100TX Full	Limits auto-negotiation to a maximum link speed of 100 Mbps, full-duplex operation..
				100TX Auto	100 Mbps, full-duplex operation.

Troubleshooting menu

To display: At the product control panel, select the [Administration](#) menu, and then select the [Troubleshooting](#) menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 2-48 Troubleshooting menu

First level	Second level	Third level	Fourth level	Values	Description
Event Log				View* Print	Use to view or print a list of the 1,000 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.
Paper Path Page				View* Print	Shows how many pages were printed from each tray.
Fax	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* Print after every fax Print only after fax send jobs Print after any fax error Print only after fax send errors 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.
	Fax V.34			Normal* Off	Use to disable V.34 modulations if several fax failures have occurred or if phone line conditions require it.

Table 2-48 Troubleshooting menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
	Fax Speaker Mode			Normal* Diagnostic	Used by a technician to evaluate and diagnose fax issues by listening to the sounds of fax modulations.
	Fax Log Entries			On 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 PQ Troubleshooting Page			Print	Use to print pages that help you resolve problems with print quality.
	Diagnostics Page			Print	Use to print a diagnostics page. The page includes color swatches and a table of electro-photographic (EP) parameters.
	Color Band Test	Print Test Page		Print	Use to print a page to help identify arcing in the high-voltage power supply for each color. The page contains a series of colored bars. If streaks appear on a bar, the high-voltage power supply for the corresponding color might have a problem.
		Copies		Range: 1 – 30 Default = 1	Some problems with the high-voltage power supply do not appear until after several pages have been printed, so this test includes an option to print up to 30 pages.

Table 2-48 Troubleshooting menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
Diagnostic Tests	Disable Cartridge Check				<p>Used to put the product into a special mode in which you can remove a toner cartridge and still print internal pages. This can help you identify the source of a problem.</p> <p>When you are finished testing, press the OK button on the product control panel to return to the Troubleshooting menu.</p> <p>To return to normal product operation, press the OK button and reinstall the cartridge.</p>
	Paper Path Sensors			Select from a list of the product sensors.	Initiates a test of the paper path sensors.
	Paper Path Test	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		Off* On	
		Number of Copies		Range: 1 – 500 Default = 1	Sets the default number of copies for a copy job. This default applies when the OK or Quick Copy function is initiated from the product Home screen. The factory default setting is 1.

Table 2-48 Troubleshooting menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
	Manual Sensor Test			Select from a list of available components. Reset Sensors	Test the product 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 Stop button to abort the test.
	Tray/Bin Manual Sensor Test			Select from a list of available components. Reset Sensors	Test the sensors in the trays and bins 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 Stop 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 Repeat option. You might be prompted to remove parts from the product during the test. Press the Stop button to abort the test.
	Continuous Scan			2-sided	
	Scanner Tests			Sensors	

Table 2-48 Troubleshooting menu (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 product 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

Backup/Restore menu

To display: At the product 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 2-49 Backup/Restore menu

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

To display: At the product 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 2-50 Calibration/Cleaning menu

First level	Second level	Values	Description
Cleaning Settings	Auto Cleaning	Off* On	Use to select the Auto Cleaning menu or the Cleaning Interval 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.
Cleaning Page		Print	Use to process the cleaning page that was created by using the Create Cleaning Page menu. The process takes up to 1.5 minutes.
Quick Calibration		Start	<p>The product automatically calibrates itself at various times. However, you can calibrate the product immediately if you see problems with print quality. Use this feature to perform a partial calibration. Use this calibration if color density or tone seems incorrect.</p> <p>Before calibrating the product, make sure that the Ready indicator displays on the control-panel display. If a job is in progress, the calibration occurs when that job is complete.</p>
Full Calibration		Start	<p>The product automatically calibrates itself at various times. However, you can calibrate the product immediately if you see problems with print quality. Use this feature to perform a full calibration, which can take up to three minutes. Use this calibration if the color layers seem to be shifted on the page.</p> <p>Before calibrating the product, make sure that the Ready indicator displays on the control-panel display. If a job is in progress, the calibration occurs when that job is complete.</p>

Table 2-50 Calibration/Cleaning menu (continued)

First level	Second level	Values	Description
Delay Calibration at Wake/ Power On		Disabled Enabled*	<p>Controls the timing of power-on calibration when the product wakes up or is turned on.</p> <p>Wake: Select if you are not using the feature and want to print jobs immediately when the product wakes up or is turned on, before calibration begins.</p> <p>No: The product will calibrate immediately when it wakes up or is turned on. The product will not print any jobs until it finishes calibrating.</p> <p>Yes: Enables the product that is asleep to accept print jobs before it calibrates. It might start calibrating before it has printed all the jobs it has received. This option allows quicker printing when coming out of sleep mode or when you turn the product on, but print quality might be reduced.</p> <p>NOTE: For the best results, allow the product to calibrate before printing. Print jobs performed before calibration might not be of the highest quality.</p>
Calibrate Scanner			<p>Touch Next to calibrate the device scanner. Messages on the control-panel display will lead you through the calibration process.</p>
Clean Rollers		Reset Cancel	<p>Maintenance History screen is view only. There are two options: the Reset option to reset the page count, or the Cancel option to go back to the previous screen.</p>
Clean Document Feeder Settings	Low Threshold Settings	Range: 0 – 100% Default = 10%	<p>Configure cleaning settings for the document feeder.</p>
	Very Low Settings	Stop Prompt to continue* Continue	

USB Firmware Upgrade menu

To display: At the product 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


To display: At the product 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.

Interpret control-panel messages and event log entries

Control-panel message types

The control-panel messages and event code entries indicate the current product 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 that you 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 product will attempt to resume printing after the message has appeared for 10 seconds without acknowledgement.

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

Control-panel messages and event log entries

 **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 product sensor or switch in the recommended action to solve the problem. See the diagrams in the clear jams section of the product troubleshooting manual for sensor and switch locations.

10.0X.Y0 Supply memory error

Description

The product cannot read or write to at least one print cartridge memory tag or a memory tag is missing from a print cartridge.

Memory error

- **10.00.00** (event code)
Black print cartridge
- **10.01.00** (event code)
Cyan print cartridge
- **10.02.00** (event code)
Magenta print cartridge
- **10.03.00** (event code)
Yellow print cartridge

E-label missing

- **10.00.10** (event code)
Black print cartridge
- **10.01.10** (event code)
Cyan print cartridge
- **10.02.10** (event code)
Magenta print cartridge
- **10.03.10** (event code)
Yellow print cartridge

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 e-label. If it is damaged, replace the cartridge.
4. If the error persists, replace the indicated print cartridge.

10.22.50

Description

The transfer kit life was reset above the order threshold.

A new ITB was installed.

Recommended action

No action necessary.

10.22.51

Description

The transfer kit life was reset above the replace threshold.

A new ITB was installed.

Recommended action

No action necessary.

10.22.52

Description

The transfer kit life was reset above the reset threshold.

A new ITB was installed.

Recommended action

No action necessary.

10.23.50

Description

The fuser kit life was reset above the order threshold.

A new fuser was installed.

Recommended action

No action necessary.

10.23.51

Description

The fuser kit life was reset above the replace threshold.

A new fuser was installed.

Recommended action

No action necessary.

10.23.52

Description

The fuser kit life was reset above the reset threshold.

A new ITB was installed.

Recommended action


No action necessary.

10.23.70 Printing past very low

Description


The product 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.

 **CAUTION:** 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 repair 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.

10.39.50 New Document Feeder Kit

Description

A new document feeder maintenance kit has been installed and [New Document Feeder Kit](#) has been selected from the control panel menus.

Recommended action

No action necessary.

10.39.53

Description

Document feeder kit recommend clean prompt.

Recommended action

Remove the document feeder pick roller, feed roller, and the separation pad assemblies. Clean the rollers and pad with a damp lint free cloth.

10.39.55 Clean Document Feeder Rollers

Description

The document feeder separation pad and rollers need to be cleaned.

Recommended action

Remove the document feeder pick roller, feed roller, and the separation pad assemblies. Clean the rollers and pad with a damp lint free cloth.

10.39.56

Description

Scanned past document feeder scheduled cleaning prompt.

Recommended action

Remove the document feeder pick roller, feed roller, and the separation pad assemblies. Clean the rollers and pad with a damp lint free cloth.

10.39.60 Document Feeder Kit low

Description

The document feeder pick roller, feed roller, and separation pad are near their end of life.

Recommended action

No action necessary.

10.39.69 Document Feeder Kit very low

Description

The document feeder pick roller, feed roller, and separation pad are at their end of life.

Recommended action

Order and install a document feeder maintenance kit.

10.39.70 Scanning past very low

Description

The document feeder pick roller, feed roller, and separation pad are at their end of life.

Recommended action

Order and install a document feeder maintenance kit.

10.39.71 Document Feeder has stopped

Description

The document feeder pick roller, feed roller, and separation pad are at their end of life.

Recommended action

Order and install a document feeder maintenance kit.

10.XX.34 Used supply in use

Description

The indicated cartridge is used.

- **10.00.34** (event code)
Black print cartridge
- **10.01.34** (event code)
Cyan print cartridge
- **10.02.34** (event code)
Magenta print cartridge
- **10.03.34** (event code)
Yellow print cartridge

Recommended action

Make sure this is a genuine HP supply.



NOTE: Removing a cartridge from one product and then installing it in a different product (for testing functionality) will cause this event code.

10.XX.40 Genuine HP supplies installed

Description

More than one genuine HP print cartridge has been installed.

- **10.00.40** (event code)
Black print cartridge
- **10.01.40** (event code)
Cyan print cartridge
- **10.02.40** (event code)
Magenta print cartridge
- **10.03.40** (event code)
Yellow print cartridge

Recommended action

No action necessary.

10.XX.41 Unsupported supply in use

Description

The indicated print cartridge is for a different product.

- **10.00.41** (event code)
Black print cartridge
- **10.01.41** (event code)
Cyan print cartridge
- **10.02.41** (event code)
Magenta print cartridge
- **10.03.41** (event code)
Yellow print cartridge

Recommended action

Remove the indicated print cartridge, and then install the correct cartridge for this product.




TIP: See the parts chapter in the product repair manual for the correct cartridge part number.

10.XX.70 Printing past very low

Description

The product indicates when one of the consumables is very low. The actual remaining consumable life might vary.

You do not need to replace the consumable at this time unless print quality is no longer acceptable.

 **CAUTION:** After an HP supply has reached the very low threshold, the HP premium protection warranty ends.

- **10.00.70** (event code)

Black print cartridge

- **10.01.70** (event code)

Cyan print cartridge

- **10.02.70** (event code)

Magenta print cartridge

- **10.03.70** (event code)

Yellow print cartridge


- **10.23.70** (event code)

The product indicates when the fuser kit is very low. The actual remaining fuser kit life might vary.

You do not need to replace the fuser kit at this time unless print quality is no longer acceptable.

Recommended action

If print quality is no longer acceptable, replace the indicated print cartridge or fuser kit. See the parts chapter in the repair manual for the print cartridge or 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.YY.15 Install <supply>

Description

The indicated supply has been removed or installed incorrectly.

- **10.00.15** (event code)

Black print cartridge

- **10.01.15** (event code)

Cyan print cartridge

- **10.02.15** (event code)

Magenta print cartridge

- **10.03.15** (event code)

Yellow print cartridge

- **10.23.15**

Fuser kit

- **10.31.15**

Toner collection unit (TCU)

Recommended action

Replace or install the indicated supply.

See the parts chapter in the product repair manual for the correct supply or kit part number.

10.YY.25 Wrong cartridge in <color> slot

Description

The indicated cartridge is installed in the wrong position.

- **10.00.25** (event code)

Black print cartridge

- **10.01.25** (event code)

Cyan print cartridge

- **10.02.25** (event code)

Magenta print cartridge

- **10.03.25** (event code)

Yellow print cartridge

Recommended action

Install the indicated cartridge in the correct position.

From left to right, the correct cartridge order follows:


- Yellow
- Magenta
- Cyan
- Black

10.YY.35 Incompatible <supply>

Description

The indicated cartridge is not compatible with this product.

- **10.00.35** (event code)
Black print cartridge
- **10.01.35** (event code)
Cyan print cartridge
- **10.02.35** (event code)
Magenta print cartridge
- **10.03.35** (event code)
Yellow print cartridge
- **10.23.35** (event code)
Fuser

 **CAUTION:** The fuser might be hot. Be careful when removing the fuser.

Recommended action

Install a supply that is designed for this product.

See the parts chapter in the product repair manual for the correct supply part number.

11.00.YY Internal clock error

Description

The product real-time clock has experienced an error.

- 01: Internal clock battery has zero voltage.
- 02: Real-time clock has failed.

Recommended action

Turn the product off, and then on again. Set the time and date at the control panel.

If the error persists, replace the formatter.

13.00.00

Description

Generic jam event code.

Recommended action

Check the product for a jam. See the clear jams section in the product troubleshooting manual.

13.80.A1

Description

Stapler/stacker inlet sensor stay jam. The inlet sensor SR9 does not detect the trailing edge of paper within a specified period after it detects the leading edge.

Recommended action

1. Open right-upper door, and then remove any jammed media.
2. Make sure that the paper meets HP specifications.
3. Check for an obstruction in the paper path inside the right upper door.
4. Defeat the upper right door sensors SW1, and then print a page. Verify that the stapler/stacker input rollers turn. If the rollers do not turn, replace the feed guide assembly.

13.80.D1

Description

Stapler/stacker inlet sensor delay jam. The inlet sensor SR9 does not detect the leading edge of paper within a specified period after the leading edge reaches the fuser output sensor PS6 in the product.

Recommended action

1. Open right-middle door, and then remove any jammed media from the fuser.
2. Make sure that the paper meets HP specifications.
3. Check for an obstruction in the paper path inside the right upper door.
4. Defeat the upper right door sensors SW1, and then print a page. Verify that the stapler/stacker input rollers turn. If the rollers do not turn, replace the feed guide assembly.

13.80.F1

Description

Stapler/stacker inlet sensor residual jam. The inlet sensor (SR9) detects a presence of paper when the printer is turned on.

Recommended action

1. Open right-middle door, and then remove any jammed media—make sure to also check the fuser area.
2. If the error persists, replace the feed guide assembly.

13.80.FF

Description

Stapler/stacker inlet sensor residual jam. The inlet sensor (SR9) detects a presence of paper when the printer is turned on.

Recommended action

1. Open right-middle door, and then remove any jammed media from the fuser.
2. Open right-upper door, and then remove any jammed media.
3. If the error persists, replace the feed guide assembly.

13.84.A1 Jam in lower bin area

Description

Stapler/stacker outlet sensor 1 stay jam. The media feed sensor SR2 does not detect the leading edge of the media within a specified period after the leading edge reaches the inlet sensor SR9.

Recommended action

1. Open right-upper door, and then remove any jammed media.
2. Make sure that the paper meets HP specifications.
3. Check for an obstruction in the paper path inside the right upper door.
4. If the error persists, replace the operation assembly.

13.84.F1

Description

Stapler/stacker sensor 1 residual jam. The media feed sensor SR2 detects a presence of paper when the product is turned on.

Recommended action

1. Open right-upper door, and then remove any jammed media.
2. If the error persists, replace the operation assembly.

13.85.A1 Jam inside right cover

Description

Stapler/stacker outlet sensor 2 stay jam. The staple tray media presence sensor SR4 detects a presence of media after a specified period from when the stack ejection operation is complete.

Recommended action

1. Open right-upper door, and then remove any jammed media.
2. Make sure that the paper meets HP specifications.

3. Check for an obstruction in the paper path inside the right upper door.
4. If the error persists, replace the operation assembly.

13.85.A1 Jam inside right door

Description

Stapler/stacker outlet sensor 2 delay jam. The staple tray media presence sensor SR4 does not detect the leading edge of paper within a specified period after the leading edge reaches the media feed sensor SR2

Recommended action

1. Open right-upper door, and then remove any jammed media.
2. Make sure that the paper meets HP specifications.
3. Check for an obstruction in the paper path inside the right upper door.
4. If the error persists, replace the operation assembly.

13.85.F1 Jam inside right cover

Description

Stapler/stacker outlet sensor 2 residual jam. The staple tray media presence sensor SR4 detects a presence of paper when the product is turned on

Recommended action

1. Open right-upper door, and then remove any jammed media.
2. If the error persists, replace the operation assembly.

13.89.31 Staple jam inside right cover

Description

Staple jam. The stapler sensor senses a staple arm position change after a specified period from when the stapler motor starts rotating and when the stapler sensor senses the staple arm returning to home position within a specified period from when the stapler motor reverses.

Recommended action

1. Open right-upper door, and then remove the staple cartridge.
2. Remove any jammed staples in the cartridge. Reinstall the cartridge.
3. Make sure that the paper meets HP specifications.
4. Remove the staple cartridge, and then remove one staple sheet from the cartridge.
5. If the error persists, replace the stapler assembly.

13.8A.EE

Description

Stapler/stacker door 1 jam. The stapler Stacker right-upper access door was opened during print job.

Recommended action

1. Close the door.
2. Check for obstructions that cause the right upper door to not properly close.
3. Check the sensor flag on the right-upper door for damage.
4. If the error persists after closing the right upper door, replace right door switch assembly.

13.A3.D3

Description

Misfeed jam from tray 3. No-pick jam from tray 3. The leading edge of paper fed from Tray 3 is stopped before SR1 HCI Tray 3 media feed sensor PS3302 (sensor does not detect the leading edge of paper within a specified period), including a two time retry, after the HCI right cassette pickup solenoid is turned on.

Recommended action

1. Open Tray 3, remove any jammed paper, and then close the tray.
2. Inspect the Tray 3 pick, feed and separation rollers. Clean or replace if necessary.
3. Check the connectors at the feed sensor, solenoid, feed motor, and the controller PCA.
4. Use the Tray/bin manual sensor tests to toggle the Tray 3 feed sensor. If the sensor or lever is not properly functioning, replace the Tray 3 paper pickup assembly.
5. Use the Component tests to activate the Tray 3 solenoid (listen for the solenoid to activate). If the solenoid is not properly functioning, replace the Tray 3 paper pickup assembly.
6. Use the Component tests to activate the Tray 3 motor (listen for the motor to activate). If the motor is not properly functioning, replace the Tray 3 pickup motor.

13.A3.D4

Description

Late to tray 3 feed sensor jam, from tray 4. Late to path jam from Tray 4. This jam occurs when the paper does not reach the Tray 3 feed sensor SR1 in designated amount of time after the Tray 4 feed sensor SR1 sensed the leading edge.

500-sheet trays

- The leading edge of paper fed from Tray 4 is stopped before Tray 3 SR1 after passing Tray 4 SR1.

High capacity input feeder

- The HCI media feed sensor PS3301 does not detect the leading edge of paper within a specified period after the Tray 4 cassette media feed sensor PS3305 detects the leading edge of paper.

Recommended action

1. Open the lower-right door, remove any jammed paper, and then close the door.
2. Inspect the Tray 4 pick, feed and separation rollers. Clean or replace if necessary.
3. Check the connectors at the feed sensor, solenoid, feed motor, and the controller PCA.
4. Use the Tray/bin manual sensor tests to toggle the Tray 4 feed sensor. If the sensor or lever is not properly functioning, replace the Tray 4 paper pickup assembly.
5. Use the Component tests to activate the Tray 4 solenoid (listen for the solenoid to activate). If the solenoid is not properly functioning, replace the Tray 4 paper pickup assembly.
6. Use the Component tests to activate the Tray 4 motor (listen for the motor to activate). If the motor is not properly functioning, replace the Tray 4 pickup motor.
7. Use the Tray/bin manual sensor tests to toggle the Tray 3 feed sensor. If the sensor or lever is not properly functioning, replace the Tray 3 paper pickup assembly or HCI crossing paper feed assembly.

13.A3.D5

Description

Late to tray 3 feed sensor jam, from tray 5. Late to path jam from Tray 5. This jam occurs when the paper does not reach the Tray 3 feed sensor SR1 in specified amount of time after the Tray 5 feed sensor SR81 sensed the leading edge.

Recommended action

1. Open the lower-right door, remove any jammed paper, and then close the door.
2. Inspect the Tray 5 pick, feed and separation rollers. Clean or replace if necessary.
3. Check the connectors at the feed sensor, solenoid, feed motor, and the controller PCA.
4. Use the Tray/bin manual sensor tests to toggle the Tray 5 feed sensor. If the sensor or lever is not properly functioning, replace the Tray 5 paper pickup assembly.
5. Use the Component tests to activate the Tray 5 solenoid (listen for the solenoid to activate). If the solenoid is not properly functioning, replace the Tray 5 paper pickup assembly.
6. Use the Component tests to activate the Tray 5 motor (listen for the motor to activate). If the motor is not properly functioning, replace the Tray 5 pickup motor.
7. Use the Tray/bin manual sensor tests to toggle the Tray 3 feed sensor. If the sensor or lever is not properly functioning, replace the Tray 3 paper pickup assembly.

13.A3.D6

Description

Late to tray 3 feed sensor jam, from tray 6. Late to path jam from Tray 6. The leading edge of paper fed from Tray 6 is stopped before Tray 3 SR1 after passing Tray 6 SR91.

Recommended action

1. Open the lower-right door, remove any jammed paper, and then close the door.
2. Inspect the Tray 6 pick, feed and separation rollers. Clean or replace if necessary.
3. Check the connectors at the feed sensor, solenoid, feed motor, and the controller PCA.
4. Use the Tray/bin manual sensor tests to toggle the Tray 6 feed sensor. If the sensor or lever is not properly functioning, replace the Tray 6 paper pickup assembly.
5. Use the Component tests to activate the Tray 6 solenoid (listen for the solenoid to activate). If the solenoid is not properly functioning, replace the Tray 6 paper pickup assembly.
6. Use the Component tests to activate the Tray 6 motor (listen for the motor to activate). If the motor is not properly functioning, replace the Tray 6 pickup motor.
7. Use the Tray/bin manual sensor tests to toggle the Tray 3 feed sensor. If the sensor or lever is not properly functioning, replace the Tray 3 paper pickup assembly.

13.A3.FF

Description

Power on jam, tray 3 feed sensor. Power on residual paper jam.

This jam occurs when the paper exists at SR1 at power on or door close. Due to the current firmware timing requirements, the displayed jam code is always 13.FF.FF (the event log will have 13.WX.FF).

Recommended action

1. Open the lower-right door, clear any jammed paper, and then close the door.
2. Use the Tray/bin manual sensor tests to toggle the Tray 3 feed sensor. If the sensor or lever is not properly functioning, check the connectors to the sensor. If the error persists, replace the Tray 3 paper pickup assembly.

13.A4.D4

Description

Late to tray 4 feed sensor jam, from Tray 4. No-pick jam from Tray 4.

500-sheet trays

- The leading edge of paper fed from Tray 4 does not reach Tray 4 SR1 in specified amount of time.

High capacity input feeder

- Tray 4 media feed sensor PS3305 does not detect the leading edge of paper within a specified period, including two times retry, after the HCI left cassette pickup solenoid is turned on.

Recommended action

500-sheet trays

- a. Open Tray 4, clear any jammed paper, and then close the tray.
- b. Open the lower-right door, clear any jammed paper, and then close the door.

High capacity input feeder

- a. Open Tray 4, clear any jammed paper, and then close the tray.
- b. Open Tray 3, release the jam access tray and clear any jammed paper, and then close the tray.

500-sheet trays and high capacity input feeder

1. Inspect the Tray 4 pick, feed and separation rollers. Clean or replace if necessary.
2. Check the connectors at the feed sensor, solenoid, feed motor, and the controller PCA.
3. Use the Tray/bin manual sensor tests to toggle the Tray 4 feed sensor. If the sensor or lever is not properly functioning, replace the Tray 4 paper pickup assembly.
4. Use the component tests to activate the Tray 4 solenoid (listen for the solenoid to activate). If the solenoid is not properly functioning, replace the Tray 4 paper pickup assembly.
5. Use the component tests to activate the Tray 4 motor (listen for the motor to activate). If the motor is not properly functioning, replace the Tray 4 pickup motor.

13.A4.D5

Description

Late to path jam from Tray 5. This jam occurs when the paper does not reach the Tray 4 feed sensor SR1 in designated amount of time after the Tray 5 feed sensor SR81 sensed the leading edge.

Recommended action

1. Open the lower-right door, remove any jammed paper, and then close the door.
2. Inspect the Tray 5 pick, feed and separation rollers. Clean or replace if necessary.
3. Check the connectors at the feed sensor, solenoid, feed motor, and the controller PCA.
4. Use the Tray/bin manual sensor tests to toggle the Tray 5 feed sensor. If the sensor or lever is not properly functioning, replace the Tray 5 paper pickup assembly.

5. Use the Component tests to activate the Tray 5 solenoid (listen for the solenoid to activate). If the solenoid is not properly functioning, replace the Tray 5 paper pickup assembly.
6. Use the Component tests to activate the Tray 5 motor (listen for the motor to activate). If the motor is not properly functioning, replace the Tray 5 pickup motor.

13.A4.D6

Description

Late to path jam from Tray 6. This jam occurs when the paper does not reach the Tray 4 feed sensor SR1 in designated amount of time after the Tray 6 feed sensor SR91 sensed the leading edge.

Recommended action

1. Open the lower-right door, remove any jammed paper, and then close the door.
2. Inspect the Tray 6 pick, feed and separation rollers. Clean or replace if necessary.
3. Check the connectors at the feed sensor, solenoid, feed motor, and the controller PCA.
4. Use the Tray/bin manual sensor tests to toggle the Tray 6 feed sensor. If the sensor or lever is not properly functioning, replace the Tray 6 paper pickup assembly.
5. Use the Component tests to activate the Tray 6 solenoid (listen for the solenoid to activate). If the solenoid is not properly functioning, replace the Tray 6 paper pickup assembly.
6. Use the Component tests to activate the Tray 6 motor (listen for the motor to activate). If the motor is not properly functioning, replace the Tray 6 pickup motor.
7. Use the Tray/bin manual sensor tests to toggle the Tray 4 feed sensor. If the sensor or lever is not properly functioning, replace the Tray 4 paper pickup assembly.

13.A4.FF

Description

Power on jam, tray 4 feed sensor. Power on residual paper jam. This jam occurs when the paper exists at SR1 at power on or door close. Due to the current firmware timing requirements, the displayed jam code is always 13.FF.FF (the event log will have 13.WX.FF).

Recommended action

1. Open the lower-right door, remove any jammed paper, and then close the door.
2. Use the Tray/bin manual sensor tests to toggle the Tray 4 feed sensor. If the sensor or lever is not properly functioning, check the connectors to the sensor. If the error persists, replace the Tray 4 paper pickup assembly.

13.A5.A5

Description

Misfeed jam, from tray 5. Stopped at tray path jam, from Tray 5.

Leading edge of paper fed from Tray 5 is stopped before Tray 3 SR81.

Recommended action

1. Open Tray 4, clear any jammed paper, and then close the tray.
2. Inspect the Tray 5 pick, feed and separation rollers. Clean or replace if necessary.
3. Check the connectors at the feed sensor, solenoid, feed motor, and the controller PCA.
4. Use the Tray/bin manual sensor tests to toggle the Tray 5 feed sensor. If the sensor or lever is not properly functioning, replace the Tray 5 paper pickup assembly.
5. Use the Component tests to activate the Tray 5 solenoid (listen for the solenoid to activate). If the solenoid is not properly functioning, replace the Tray 5 paper pickup assembly.
6. Use the Component tests to activate the Tray 5 motor (listen for the motor to activate). If the motor is not properly functioning, replace the Tray 5 pickup motor.

13.A5.D6

Description

Late to path jam from Tray 6. This jam occurs when the paper does not reach the Tray 5 feed sensor SR81 in designated amount of time after the Tray 6 feed sensor SR91 sensed the leading edge.

Recommended action

1. Open the lower-right door, clear any jammed paper, and then close the door.
2. Inspect the Tray 6 pick, feed and separation rollers. Clean or replace if necessary.
3. Check the connectors at the feed sensor, solenoid, feed motor, and the controller PCA.
4. Use the Tray/bin manual sensor tests to toggle the Tray 6 feed sensor. If the sensor or lever is not properly functioning, replace the Tray 6 paper pickup assembly.
5. Use the Component tests to activate the Tray 6 solenoid (listen for the solenoid to activate). If the solenoid is not properly functioning, replace the Tray 6 paper pickup assembly.
6. Use the Component tests to activate the Tray 6 motor (listen for the motor to activate). If the motor is not properly functioning, replace the Tray 6 pickup motor.
7. Use the Tray/bin manual sensor tests to toggle the Tray 5 feed sensor. If the sensor or lever is not properly functioning, replace the Tray 5 paper pickup assembly.

13.A5.FF

Description

Power on jam, tray 5 feed sensor. Power on residual paper jam.

This jam occurs when the paper exists at SR81 at power on or door close. Due to the current firmware timing requirements, the displayed jam code is always 13.FF.FF (the event log will have 13.WX.FF).

Recommended action

1. Open the lower-right door, clear any jammed paper, and then close the door.
2. Use the Tray/bin manual sensor tests to toggle the Tray 5 feed sensor. If the sensor or lever is not properly functioning, check the connectors to the sensor. If the error persists, replace the Tray 5 paper pickup assembly.

13.A6.D6

Description

Misfeed jam, from tray 6. No-pick jam from tray 6.

The leading edge of paper fed from Tray 6 is stopped before SR91.

Recommended action

1. Open Tray 6, clear any jammed paper, and then close the tray.
2. Open the lower-right door, clear any jammed paper, and then close the door.
3. Inspect the Tray 6 pick, feed and separation rollers. Clean or replace if necessary.
4. Check the connectors at the feed sensor, solenoid, feed motor, and the controller PCA.
5. Use the Tray/bin manual sensor tests to toggle the Tray 6 feed sensor. If the sensor or lever is not properly functioning, replace the Tray 6 paper pickup assembly.
6. Use the Component tests to activate the Tray 6 solenoid (listen for the solenoid to activate). If the solenoid is not properly functioning, replace the Tray 6 paper pickup assembly.
7. Use the Component tests to activate the Tray 6 motor (listen for the motor to activate). If the motor is not properly functioning, replace the Tray 6 pickup motor.

13.A6.FF

Description

Power on jam, tray 6 feed sensor. Power on residual paper jam.

This jam occurs when the paper exists at SR91 at power on or door close. Due to the current firmware timing requirements, the displayed jam code is always 13.FF.FF (the event log will have 13.WX.FF).

Recommended action

1. Open the lower-right door, clear any jammed paper, and then close the door.
2. Use the Tray/bin manual sensor tests to toggle the Tray 6 feed sensor. If the sensor or lever is not properly functioning, check the connectors to the sensor. If the error persists, replace the Tray 6 paper pickup assembly.

13.AA.EE

Description

Door open jam. Tray 3, 4, or 5 right tray access door was opened during print job.

Recommended action

1. Close the lower right door.
2. Check the tab of the lower right door that engages the right door sensor. If it is damaged, replace the right door assembly.
3. Use the manual sensor tests to toggle the lower right door sensor (SW1 or SW3301). If a sensor is not properly functioning, replace the sensor.
4. Check the connectors (J192S) on the DC controller PCA and the connector (J751 or J905) on the right door sensor.

13.AB.EE

Description

Door open jam. Tray 4, 5, or 6 right tray access door was opened during print job.

Recommended action

1. Close the door.
2. Depending on input tray configuration, check the appropriate tab of the lower right door that engages the right door sensor. If it is damaged, replace the right door assembly.
3. Use the manual sensor tests to toggle the middle right door sensors. If a sensor is not properly functioning, replace the sensor.
4. Do one of the following:
 - **500-sheet paper feeder:** check the connectors (J2003) on the PF controller PCA and the connector (J751) on the PF right door open detection switch SW1.
 - **3x500-sheet paper deck:** check the connectors (J2005) on the PD controller PCA and the connector (J705) on the PD right door open detection switch.
 - **High capacity input feeder:** check the connectors (J3006) on the HCI controller PCA and the connector (J905) on the HCI right door open detection switch.

13.B2.AX

Description

Media stay jam at registration sensor PS5.

- **13.B2.A1** (event code)
Media input stay jam 1 (registration sensor) paper from tray 1. Paper stays at PS5 – media longer than allowed from Tray 1.
- **13.B2.A2** (event code)
Media input stay jam 1 (registration sensor) paper from tray 1. Paper stays at PS5 – media longer than allowed from Tray 2.
- **13.B2.A2** (event code)
Media input stay jam 1 (registration sensor) paper from tray 1. Paper stays at PS5 – media longer than allowed from Tray 3.
- **13.B2.A4** (event code)
Media input stay jam 1 (registration sensor) paper from tray 1. Paper stays at PS5 – media longer than allowed from Tray 4.
- **13.B2.A5** (event code)
Media input stay jam 1 (registration sensor) paper from tray 1. Paper stays at PS5 – media longer than allowed from Tray 5.
- **13.B2.A6** (event code)
Media input stay jam 1 (registration sensor) paper from tray 1. Paper stays at PS5 – media longer than allowed from Tray 6.
- **13.B2.AD** (event code)
Media stay jam at registration sensor PS5. Paper stays at PS5 – media longer than allowed from duplexer.

Recommended action

1. Open the right door, clear any jammed paper, and then close the door.
2. Check for obstructions in the paper path.
3. Verify that the second transfer roller is seated properly and not worn or deformed. Replaced it if necessary.
4. Verify that the registration assembly shutter is properly functioning. Replace it if it is damaged.
5. Use the manual sensor tests to toggle the TOP sensor (PS5). If the sensor is not properly functioning, replace the registration sensor assembly.
6. Check the connectors (J122S) on the DC controller and (J537) on the PS5 sensor.

13.B2.DX

Description

- **13.B2.D1** (event code)
Late to registration jam, from Tray 1. This may be a misfeed jam from Tray 1.
The leading edge of paper fed from Tray 1 is stopped before PS5.
- **13.B2.D2** (event code)
Late to registration jam, from Tray 2. This may be a misfeed jam from Tray 2.
The leading edge of paper fed from Tray 2 is stopped before PS5.
- **13.A3.D3** (event code)
Late to registration jam, from tray 3.
The leading edge of paper fed from Tray 3 is stopped before PS5 after passing SR1.
- **13.A3.D4** (event code)
Late to registration jam, from Tray 4.
The leading edge of paper fed from Tray 4 is stopped before PS5 after passing SR1.
- **13.A5.D5** (event code)
Late to registration jam, from Tray 5.
Leading edge of paper fed from Tray 5 is stopped before PS5 after passing SR1.
- **13.A6.D6** (event code)
Late to registration jam, from Tray 6.
The leading edge of paper fed from Tray 6 is stopped before PS5 after passing SR1.
- **13.A6.DD** (event code)
This jam occurs when the paper does not reach the registration sensor in a designated amount of time after it is reversed from the switchback position during duplex printing. The media either did not reverse (it was either ejected to the output bin or the user grabbed the exposed page during duplex reverse), or is jammed in the duplex reversing path in the product's right door.
Duplex re-feed paper is stopped between PS6 and PS5.

Recommended action

1. Open the right door, clear any jammed paper, and then close the door.
2. Check for obstructions in the paper path.
3. Verify that the second transfer roller is seated properly and not worn or deformed. Replaced it if necessary.

4. Check the pickup, feed, and separation rollers from the source tray. Replace them if they are worn or defective.
5. Verify that the registration assembly shutter is properly functioning. Replace it if it is damaged.
6. Use the manual sensor tests to toggle the TOP sensor (PS5). If the sensor is not properly functioning, replace the registration sensor assembly.
7. Check the connectors (J122S) on the DC controller and (J537) on the PS5 sensor.
8. Use the Component tests to activate the pickup motor and pickup solenoid/clutch for the source tray. If the motor or solenoid/clutch is not properly functioning, replace the motor or solenoid/clutch assembly.

13.B2.FF

Description

At power on, door close, or auto-flushing: paper stays at PS5.

Power on residual paper jam. This jam occurs when the paper exists at PS5 at power on or door close. Due to the current FW timing requirements, the displayed jam code is always 13.FF.FF, only the event log will have 13.WX.FF.

Recommended action

1. Open the right door, clear any jammed paper, and then close the door.
2. Use the manual sensor tests to toggle the TOP sensor (PS5). If the sensor is not properly functioning, replace the registration sensor assembly.

13.B4.FF

Description

At power on, door close, or auto-flushing: paper stays at PS7/PS8 (loop sensors).

Power on residual paper jam. This jam occurs when the paper exists at PS7/8 at power on or door close. Due to the current FW timing requirements, the displayed jam code is always 13.FF.FF, only the event log will have 13.WX.FF.

Recommended action

1. Open the right door, clear any jammed paper, and then close the door.
2. Use the manual sensor tests to toggle the Loop sensors (PS7/PS8). If the sensors or levers are not properly functioning, replace the fuser assembly.

13.B9.AZ

Description

Stopped at fuser jam.

This jam occurs when the paper stays at the fuser output sensor PS6 for a designated amount of time after it has reached the fuser output sensor PS6.


Z = Fuser mode.

- **13.B9.A1** (event code)
Stopped at fuser jam, Auto Sense (Normal)-special case distinguished from typed Normal.
- **13.B9.A2** (event code)
Stopped at fuser jam, Normal (typed not from Auto Sense).
- **13.B9.A3** (event code)
Stopped at fuser jam, Light media 1 (either typed or from Auto Sense).
- **13.B9.A4** (event code)
Stopped at fuser jam, Heavy media 1 (either typed or from Auto Sense).
- **13.B9.A5** (event code)
Stopped at fuser jam, Heavy media 2 (either typed or from Auto Sense).
- **13.B9.A6** (event code)
Stopped at fuser jam, Heavy media 3 (either typed or from Auto Sense).
- **13.B9.A7** (event code)
Stopped at fuser jam, Glossy media 1 (either typed or from Auto Sense).
- **13.B9.A8** (event code)
Stopped at fuser jam, Glossy media 2 (either typed or from Auto Sense).
- **13.B9.A9** (event code)
Stopped at fuser jam, Glossy media 3 (either typed or from Auto Sense).
- **13.B9.AA** (event code)
Stopped at fuser jam, Glossy film (either typed or from Auto Sense).
- **13.B9.AB** (event code)
Stopped at fuser jam, OHT (either typed or from Auto Sense).
- **13.B9.AC** (event code)
Stopped at fuser jam, Label.
- **13.B9.AD** (event code)
Stopped at fuser jam, Envelope 1.
- **13.B9.AE** (event code)
Stopped at fuser jam (engine fuser mode).
- **13.B9.AF** (event code)

Stopped at fuser jam (unknown fuser mode).

Recommended action

1. Open the right door, and then clear any jammed paper.
2. Make sure that the paper meets HP specifications.
3. Remove the fuser, and then clear any jammed paper.

 **CAUTION:** The fuser might be hot.

4. Replace the fuser, and then close the door.
5. Check for obstructions in the paper path.
6. Verify that the second transfer roller is seated properly and not worn or deformed. Replace it if necessary.
7. Check the paper path rollers at the fuser and paper delivery assembly for blockage or damage. Replace the fuser or paper delivery assembly if necessary.
8. Use the manual sensor tests to toggle the fuser output sensor (PS6). If the sensor is not properly functioning, replace the fuser assembly.
9. Use the components tests to activate the fuser motor (M4). If the motor is not properly functioning, replace the motor.

13.B9.CZ

Description

Fuser wrap jam.

This jam occurs when the paper does not reach the fuser output sensor (PS6) in a designated amount of time after the paper reached the fuser output sensor (PS6)—it is determined that the paper is being wrapped around the fuser roller.

Z = Fuser mode.

- **13.B9.C1** (event code)
Fuser wrap jam, Auto Sense (Normal)—special case distinguished from typed Normal.
- **13.B9.C2** (event code)
Fuser wrap jam, Normal (typed not from Auto Sense).
- **13.B9.C3** (event code)
Fuser wrap jam, Light media 1 (either typed or from Auto Sense).
- **13.B9.C4** (event code)
Fuser wrap jam, Heavy media 1 (either typed or from Auto Sense).
- **13.B9.C5** (event code)

- Fuser wrap jam, Heavy media 2 (either typed or from Auto Sense).

 - **13.B9.C6** (event code)
- Fuser wrap jam, Heavy media 3 (either typed or from Auto Sense).

 - **13.B9.C7** (event code)
- Fuser wrap jam, Glossy media 1 (either typed or from Auto Sense).

 - **13.B9.C8** (event code)
- Fuser wrap jam, Glossy media 2 (either typed or from Auto Sense).

 - **13.B9.C9** (event code)
- Fuser wrap jam, Glossy media 3 (either typed or from Auto Sense).

 - **13.B9.CA** (event code)
- Fuser wrap jam, Glossy film (either typed or from Auto Sense).

 - **13.B9.CB** (event code)
- Stopped at fuser jam, OHT (either typed or from Auto Sense).

 - **13.B9.CC** (event code)
- Stopped at fuser jam, Label.


 - **13.B9.CD** (event code)
- Stopped at fuser jam, Envelope 1.

 - **13.B9.CE** (event code)
- Stopped at fuser jam (engine fuser mode).

 - **13.B9.CF** (event code)
- Stopped at fuser jam (unknown fuser mode).

Recommended action

1. Open the right door.
2. Remove the fuser, and then remove any paper wrapped around the fuser roller.

 **CAUTION:** The fuser might be hot.

3. Replace the fuser, and then close the door.
4. Perform a cleaning page procedure to make sure that all of the toner is removed from the fuser roller.
5. Use the manual sensor tests to toggle the fuser output sensor (PS6). If the sensor is not properly functioning, replace the fuser assembly.
6. If the error persist, the fuser roller or pressure roller might be damaged. Replace the fuser.

13.B9.DZ

Description


Fuser delivery delay jam.

This jam occurs when the paper does not reach the fuser output sensor (PS6) in a designated amount of time after the paper reached the fuser output sensor (PS6).

- **13.B9.D0** (event code)
Leading edge of paper is stopped between PS5 and PS6 – unknown source tray.
- **13.B9.D1** (event code)
Leading edge of paper is stopped between PS5 and PS6 – fed from Tray 1.
- **13.B9.D2** (event code)
The leading edge of paper is stopped between PS5 and PS6 – fed from Tray 2.
- **13.B9.D3** (event code)
The leading edge of paper is stopped between PS5 and PS6 – fed from Tray 3.
- **13.B9.D4** (event code)
The leading edge of paper is stopped between PS5 and PS6 – fed from Tray 4.
- **13.B9.D5** (event code)
The leading edge of paper is stopped between PS5 and PS6 – fed from Tray 5.
- **13.B9.D6** (event code)
The leading edge of paper is stopped between PS5 and PS6 – fed from Tray 6.
- **13.B9.DD** (event code)
The leading edge of paper is stopped between PS5 and PS6 – fed from duplexer.

Recommended action

1. Open the right door, and then remove any jammed paper.
2. Remove the fuser, and then remove any jammed paper.

 **CAUTION:** The fuser might be hot.

3. Replace the fuser, and then close the door.
4. Make sure that the paper meets HP specifications.
5. Check for obstructions in and around the fuser.
6. Use the manual sensor tests to toggle the fuser output sensor (PS6). If the sensor is not properly functioning, replace the fuser assembly.

7. Check connections (J516) on the fuser motor and (J81A) on the DC controller.
8. Use the components tests to toggle the fuser motor (M4). If the sensor is not properly functioning, replace the motor.

13.B9.FF


Description

Power on jam, fuser output sensor. At power on, door close, or auto-flushing: paper stays at PS6.

This jam occurs when the paper exists at PS6 at power on or door close. Due to the current FW timing requirements, the displayed jam code is always 13.FF.FF, only the event log will have 13.WX.FF.

Recommended action

1. Open the right door, and then remove any jammed paper.
2. Remove the fuser, and then remove any jammed paper.

 **CAUTION:** The fuser might be hot.

3. Use the Manual sensor tests to toggle the fuser exit sensor. If the sensor or lever is not properly functioning, replace the fuser assembly.

13.BA.EE

Description

This jam occurs when the front door is opened during a print job.

Recommended action

1. Close the front door.
2. Check the projection tabs of the front door that engage the door sensor (SW2 and PS14). If either tab is damaged, replace the appropriate part.
3. Check the connectors (SW2 - J241/J242 and PS14 - J171S) on the DC controller PCA and the connector (SW2 - J708F and PS14 - J536S) on the door open detection switch SW2 and PS14.

13.BB.EE

Description

This jam accrues when the stapler stacker jam access, right door, or Tray 3, 4, 5, or 6 right tray access door was opened during print job.

Recommended action

1. Check the upper or lower right doors to make sure that they are closed.
2. Check the projection tabs of the right doors that engage the door sensor (SW1 or SW3301). If either tab is damaged, replace the appropriate part.

3. Use the Manual sensor test to activate the door switch. Replace the switch if it is not properly functioning.
4. Check the appropriate connectors on the DC controller PCA and the appropriate connector on the paper feeder or stapler stacker assembly.

13.E1.DZ

Description

Late to standard bin sensor (output bin).

This jam occurs when the leading edge of the paper does not reach the face-down output bin full sensor (PS10) in the designated amount of time after activating PS6.

Z = Fuser mode.

- **13.E1.D1** (event code)
Late to standard bin sensor, Auto Sense (Normal)-special case distinguished from typed Normal.
- **13.E1.D2** (event code)
Late to standard bin sensor, Normal (typed not from Auto Sense).
- **13.E1.D3** (event code)
Late to standard bin sensor, Light media 1 (either typed or from Auto Sense).
- **13.E1.D4** (event code)
Late to standard bin sensor, Heavy media 1 (either typed or from Auto Sense).
- **13.E1.D5** (event code)
Late to standard bin sensor, Heavy media 2 (either typed or from Auto Sense).
- **13.E1.D6** (event code)
Late to standard bin sensor, Heavy media 3 (either typed or from Auto Sense).
- **13.E1.D7** (event code)
Late to standard bin sensor, Glossy media 1 (either typed or from Auto Sense).
- **13.E1.D8** (event code)
Late to standard bin sensor, Glossy media 2 (either typed or from Auto Sense).
- **13.E1.D9** (event code)
Late to standard bin sensor, Glossy media 3 (either typed or from Auto Sense).
- **13.E1.DA** (event code)
Late to standard bin sensor, Glossy film (either typed or from Auto Sense).
- **13.E1.DB** (event code)

Late to standard bin sensor, OHT (either typed or from Auto Sense).

- **13.E1.DC** (event code)

Late to standard bin sensor, Label.

- **13.E1.DD** (event code)


Late to standard bin sensor, Envelope 1.

- **13.E1.DE** (event code)

Late to standard bin sensor. Rough mode (either typed or from Auto Sense).

Recommended action

1. Remove any paper form the output bin.
2. Open the right door.
3. Remove the fuser, and then remove any paper wrapped around the fuser roller.

 **CAUTION:** The fuser might be hot.

4. Replace the fuser, and then close the door.
5. Verify that the output gate on the paper delivery assembly is properly functioning.
6. Use the Tray/bin manual sensor tests to toggle the output bin full sensor. If the sensor is not properly functioning, replace the fuser drive assembly.

13.FF.FF


Description

Jams at multiple sensors. Power on residual paper jam, multiple sensors in multiple subsystems.

This jam occurs when the paper exists at multiple sensors at power on or door close. Due to the current FW timing requirements, the displayed jam code is always 13.FF.FF, only the event log will have 13.WX.FF.

Recommended action

1. Remove any paper form the output bin.
2. Open the right door.
3. Remove the fuser, and then remove any paper wrapped around the fuser roller.

 **CAUTION:** The fuser might be hot.

4. Replace the fuser, and then close the door.
5. View or print the event log to find previous jam errors. Troubleshoot jam errors starting with the most recent.

20.00.00 Insufficient memory: <Device> To continue, touch "OK"

Description

The product has experienced a memory error. You might have tried to transfer too many fonts or macros.

Recommended action

Touch the **OK** button to print the transferred data. Some data might be lost. Reduce the page complexity.

21.00.00 Page too complex To continue, touch "OK"

Description

The page decompression process was too slow for the product.

Recommended action

Touch the **OK** button to continue. There may be some data loss.

30.01.01

Description

The flatbed cover sensor was interrupted.

Recommended action

No action necessary. This error message should automatically clear.

If the error persists, open the Scanner Tests to test the Flatbed cover sensor.

30.01.06

Description

A scan control board fan error has occurred.

Recommended action

1. Turn the product off, and then on.
2. Replace the scan control board.
3. If the error persists, replace the scanner assembly.

30.01.08

Description

The flatbed optical assembly cannot find the origin notch.

Recommended action

This is an informational message, and no action is required. If the flatbed optical assembly cannot find the origin notch on the flatbed scanner, the scanned image might be offset on the copied page. The image displacement will be less than 1 mm or pixel off.

30.01.41

Description

The formatter lost connections with the scanner control board or communication was corrupted.

Recommended action

1. Turn the product off, and then on.
2. Reseat the formatter.
3. Upgrade the firmware.
4. Verify that the PCI express cable is connected to the product and to the interconnect board/formatter and scanner control board.
5. Verify the scanner control board has power.
6. Replace the scanner control board.
7. Replace the formatter.
8. Replace the interconnect board.
9. If the error persists, please escalate this problem to your Global Business unit.

30.01.43

Description

Copy processor board memory check failure during the initial memory check. The copy processor board resides on the scanner control board.

Recommended action

1. Turn the product off, and then on.
2. Replace the scanner control board.
3. Replace the formatter.

30.01.44

Description

A scanner firmware error has occurred.

Recommended action

1. Turn the product off, and then on.
2. Upgrade the firmware.
3. Replace the scanner control board.
4. Replace the formatter.

30.01.45**Description**

General code assert error for the copy processor board firmware.

Recommended action

1. Turn the product off, and then on.
2. Upgrade the firmware.
3. Replace the scanner control board.
4. If the error persists, please escalate this problem to your Global Business unit.

30.01.46**Description**

The firmware cannot find the copy processor board.

Recommended action

1. Turn the product, off and then on.
2. Reseat the formatter.
3. Replace the scan control board.
4. If the error persists, please escalate this problem to your Global Business unit.

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 copy processor board firmware cannot communicate with the PCA on the optical assembly.

Recommended action

1. Turn the product off, and then on.
2. Verify the FFC cables between scanner and scanner control board are connected.
3. Replace the scanner.

30.03.22

Description

The scan module cannot see the illumination module, or marginal illumination. The optical assembly is not parked under the calibration strip.

Recommended action

1. Turn the product off, and then on.
2. Upgrade the firmware.
3. Check the service event log for other scanner errors, and resolve those errors.
4. Check the scan module FFC connection.
5. Replace the scanner.
6. If the error persists, please escalate this problem to your Global Business unit.

30.03.23

Description

The calibration stitching label shifted or there are bad sensors in the scan module.

Recommended action

1. Turn the product off and then on.
2. Upgrade the firmware.
3. Replace the scanner.

30.03.30

Description

The scanner control board cannot communicate with the flatbed scanner motor.

Recommended action

1. Turn the product off, and then on. As the product turns on, verify the scan head moves.
2. Verify the drive belt is in the correct position.
3. Check for a red LED illuminated on the scanner motor.
4. Check the cable connection to scanner control board.
5. Replace the scanner.

30.03.45

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.
2. Upgrade the firmware.
3. Replace the scanner control board.
4. Replace the scanner assembly.

31.01.47

Description

The document feeder was not detected. The cable might not be attached.

Recommended action

1. Turn the product off, and then on.
2. Check the cables between the document feeder and scanner control board.
3. Upgrade the firmware.
4. Replace the document feeder.

31.03.30

Description

The document feeder pick motor is not turning.

Recommended action

1. Verify the paper meets the product specifications.
2. Make sure the input tray is not overloaded.
3. Check the event log for document feeder errors, and 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 the motor cables are connected.
6. Reseat the document feeder to scanner control board.
7. Replace the document feeder.

31.03.31

Description

The document feeder pick motor is not turning.

Recommended action

1. Verify the paper meets the product specifications.
2. Make sure the input tray is not overloaded.
3. Check the event log for document feeder errors, and resolve any errors first.
4. Verify the motor cables are connected.
5. Reseat the document feeder to scanner control board.
6. Replace the document feeder.

31.03.32

Description

The document feeder deskew motor is not turning.

Recommended action

1. Verify the paper meets the product specifications.
2. Make sure the input tray is not overloaded.
3. Check the event log for document feeder errors, and resolve any errors first.
4. Verify the motor cables are connected.
5. Reseat ADF to scanner control board cables.
6. Replace the document feeder.

31.08.A1

Description

An initialization occurred after an abnormal product shutdown.

Recommended action

No action necessary.

31.08.A2

Description

A normal shutdown has occurred.

Recommended action

No action necessary.

31.08.A3

Description

A normal initialization has occurred.

Recommended action

No action necessary.

31.13.01

Description

Paper pick was initiated, but the page didn't make it to the pick success sensor.

Recommended action

1. Open the ADF lid, pull sheets back into input tray, and resume the job.
2. Check the paper guides and make sure they are set to the correct paper width.
3. Make sure the input tray is not overloaded.
4. Check the document feeder page count for roller life.
5. Verify the paper meets the product specifications.
6. Make sure the ADF roller door is completely closed.
7. Check the event log for 31.03.30 errors, and resolve those errors first.
8. Clean the document feeder roller.
9. Open the following menus:
 - [Administration](#)
 - [Troubleshooting](#)
 - [Diagnostic Tests](#)
 - [Scanner Tests](#)

Actuate the Pick-success Sensor. If the sensor does not show functionality when tested, replace the Document feeder.

31.13.02

Description

The paper passed the pick success sensor and then jammed in the document feeder paper path.

Recommended action

1. Clear the paper path and try feeding the page again.
2. Verify the paper meets the product specifications.
3. Check the paper guides and make sure they are set to the correct paper width.
4. Verify the paper path is clear.
5. Check for motor stall 31.03.31 and 31.03.32 errors.
6. Open the following menus:
 - [Administration](#)
 - [Troubleshooting](#)
 - [Diagnostic Tests](#)
 - [Scanner Tests](#)

Actuate the Paper-path Sensor 1. If the sensor does not show functionality when tested, replace the document feeder.

31.13.13

Description

The jam access door is open.

Recommended action

1. Verify the jam access cover is closed.
2. Try feeding the paper again.
3. Verify the flag is not broken off.
4. Open the following menus:
 - [Administration](#)
 - [Troubleshooting](#)
 - [Diagnostic Tests](#)
 - [Scanner Tests](#)

Actuate the ADF Jam Cover Sensor. If the sensor does not show functionality when tested, replace the document feeder.

31.13.14

Description

This is a feed jam in the document feeder, and the motor is not turning.

Recommended action

1. Verify the paper meets the product specifications.
2. Make sure the document feeder input tray is not overloaded.
3. Check the event log for document feeder errors, and resolve any 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 the motor cables are connected.
6. Reseat the document feeder to scanner control board.
7. Replace the document feeder.

31.13.15

Description

This is a duplex refeed jam in the document feeder. The paper jam occurs on the back-side copy. The duplex refeed does not make it to the deskew sensor.

Recommended action

1. Remove the jammed paper.
2. Verify there is nothing in the paper path of the duplex refeed area.
3. Retry the copy job.
4. Replace the document feeder.

32.1C.XX

Description

- **32.1C.01** (event code)
NVRAM backup/restore service backup started.
- **32.1C.02** (event code)
NVRAM backup/restore service restore started.
- **32.1C.03** (event code)
NVRAM backup/restore administrator backup started.
- **32.1C.04** (event code)

NVRAM backup/restore administrator restore started.

- **32.1C.05** (event code)
Backup/restore complete.
- **32.1C.06** (event code)
Data model failed to clone job ticket.
- **32.1C.07** (event code)
Backup restore permissions error.
- **32.1C.08** (event code)
Not enough disk space to perform backup/restore or network share issue.
- **32.1C.09** (event code)
Tried to restore a backup file that was not valid for this product.
- **32.1C.0A** (event code)
Backup file is invalid.
- **32.1C.0B** (event code)
Backup is from newer version of FW than what is currently on the product.
- **32.1C.0C** (event code)
Backup canceled from the HP Embedded Web Server.
- **32.1C.0D** (event code)
Backup/restore failed, auto-reboot failed, or the product might be busy.
- **32.1C.0E** (event code)
Backup/restore timeout while communicating with the formatter.
- **32.1C.11** (event code)
Backup/restore timeout while communicating with the engine.
- **32.1C.12** (event code)
Backup/restore timeout while communicating with the disk.
- **32.1C.13** (event code)
Scheduled backup failure.
- **32.1C.14** (event code)
NVRAM restore timeout while communicating with the formatter.
- **32.1C.17** (event code)

- NVRAM restore timeout while communicating with the engine.
- **32.1C.18** (event code)
Copy subsystem backup failed.
 - **32.1C.19** (event code)
Backup/restore unknown error.
 - **32.1C.1A** (event code)
Digital Send subsystem backup failed.
 - **32.1C.1B** (event code)
Backup of print subsystem failed.
 - **32.1C.1C** (event code)
Backup of networking subsystem failed.
 - **32.1C.1E** (event code)
Copy subsystem restore failed.
 - **32.1C.1F** (event code)
Fax subsystem restore failed.
 - **32.1C.20** (event code)
Digital Send subsystem restore failed.
 - **32.1C.21** (event code)
Restore of print subsystem failed.
 - **32.1C.22** (event code)
Restore of networking subsystem failed.
 - **32.1C.23** (event code)
Failed to restore address book subsystem.
 - **32.1C.24** (event code)
NVRAM backup/restore successful.
 - **32.1C.25** (event code)
Copy subsystem reset failed.
 - **32.1C.26** (event code)
Fax subsystem reset failed.
 - **32.1C.27** (event code)

Digital Send subsystem reset failed.

- **32.1C.28** (event code)

Reset of print subsystem failed.

- **32.1C.29** (event code)

Reset of networking subsystem failed.

- **32.1C.2B** (event code)

Reset formatter timeout.

- **32.1C.2E** (event code)

Reset engine timeout.

- **32.1C.2F** (event code)

Reset failure.

Recommended action

- **32.1C.01** (event code)

No action necessary

- **32.1C.02** (event code)

No action necessary

- **32.1C.03** (event code)

No action necessary

- **32.1C.04** (event code)

No action necessary

- **32.1C.05** (event code)

No action necessary

- **32.1C.06** (event code)

Retry

- **32.1C.07** (event code)

Retry

- **32.1C.08** (event code)

Remove stored jobs and retry

Use larger capacity storage device

Check network share

- **32.1C.09** (event code)
Use a valid backup file
- **32.1C.0A** (event code)
Use a valid backup file
Reboot and observe state of product
Do a partition clean using the [Preboot](#) menu
- **32.1C.0B** (event code)
Use a valid backup file, or put correct firmware version on the product
- **32.1C.0C** (event code)
No action necessary
- **32.1C.0D** (event code)
Reboot and then retry the backup/restore
- **32.1C.0E** (event code)
Turn the product off, and then on and retry
- **32.1C.11** (event code)
Turn the product off, and then on and retry
- **32.1C.12** (event code)
Turn the product off, and then on and retry
- **32.1C.13** (event code)
Turn the product off, and then on and retry
- **32.1C.14** (event code)
Turn the product off, and then on and retry
- **32.1C.17** (event code)
Turn the product off, and then on and retry
- **32.1C.1B** (event code)
Turn the product off, and then on and retry
- **32.1C.1C** (event code)
Turn the product off, and then on and retry
- **32.1C.21** (event code)
Turn the product off, and then on and retry

If the error persists, clear the firmware image from the active partition by using the [Partial Clean](#) item in the [Preboot](#) menu.

- **32.1C.22** (event code)

Turn the product off, and then on and retry

If the error persists, clear the firmware image from the active partition by using the [Partial Clean](#) item in the [Preboot](#) menu.

- **32.1C.24** (event code)

Turn the product off, and then on and retry

- **32.1C.28** (event code)

Turn the product off, and then on and retry

- **32.1C.29** (event code)

Turn the product off, and then on and retry

- **32.1C.2B** (event code)

Turn the product off, and then on and retry

- **32.1C.2E** (event code)

Turn the product off, and then on and retry

- **32.1C.2F** (event code)

Turn the product off, and then on and retry

32.21.00

Description

Corrupt firmware in external accessory.

Recommended action

Turn the product off, and then on and retry.

If the error persists, clear the firmware image from the active partition by using the [Partial Clean](#) item in the [Preboot](#) menu.

33.01.01

Description

Read back data from ICB and pass to SR clients so that they can recover Recover-occurred Information.

Recommended action

This is an informational message, and no action is required.

33.01.02

Description

Save Data received from SR Clients is written into ICB NVRAM Initial-save-occurred Information.

Recommended action

This is an informational message, and no action is required.

33.01.03

Description

Save and Recover functionality OK after previously being disabled. Save/Recover status OK Information.

Recommended action

This is an informational message, and no action is required.

33.01.04

Description

A table from the ICB could not be found in the current firmware. The table data was ignored.

Recommended action

This is an informational message, and no action is required.

33.01.05

Description

A table from the ICB has different data than the table with a matching ID in the current firmware. The table data was ignored.

Recommended action

This is an informational message, and no action is required.

33.02.01

Description

A used part with data was replaced in the device. Used board/disk installed.

Recommended action

Turn the product power off, and then on again.

If the error persists, please escalate this problem to your Global Business unit.

33.02.02

Description

A Save/Recover status error has occurred on the product and one, or both, of the Save/Recover features are disabled.

Recommended action

Turn the product power off, and then on again.

If the error persists, please escalate this problem to your Global Business unit.

33.02.03

Description

The Save/Recover backup feature has failed, and the Save/Recover features are disabled, but the product continues to function.

Recommended action

Turn the product power off, and then on again.

If the error persists, please escalate this problem to your Global Business unit.

33.03.01

Description

The controller encountered an unexpected data length for the Storage ID value.

Recommended action

Turn the product power off, and then on again.

If the error persists, please escalate this problem to your Global Business unit (return the product ICB to the Global Business unit with a full diagnostic log from the product).

33.03.02

Description

The controller encountered an unexpected data length value for the engine to recover the DCC NVRAM value.

Recommended action

Turn the product power off, and then on again.

If the error persists, please escalate this problem to your Global Business unit (return the product ICB to the Global Business unit with a full diagnostic log from the product).

40.00.01 USB I/O buffer overflow To continue, touch "OK"

Description

The USB buffer overflowed during a busy state.

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

Too much data was sent to the embedded HP Jetdirect print server. An incorrect communications protocol might be in use.

Recommended action

1. Touch the **OK** button to print the transferred data. Some data might be lost.
2. Check the host configuration.

40.00.04 Unsupported USB accessory detected To continue, touch "OK"

Description

The connection between the product and the USB device has been broken.

Recommended action

Press the **OK** button to clear the error message and continue printing.
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

Press the **OK** button to clear the error message. (Data will be lost.)
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.

41.01.YZ**Description**

An unknown misprint error occurred on the product.

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 duplexer

Recommended action

Turn the product power off, and then on again.

41.02.00 Error

Description

A beam detected misprint error.

Recommended action

Turn the product off, and then on.

If the error persists, replace the laser/scanner assembly.

41.02.0Z Error

Description

A beam detected misprint error.

- Z = 5: Black drum station
- Z = 6: Cyan drum station
- Z = 7: Magenta drum station
- Z = 8: Yellow drum station

Recommended action

Turn the product power off, and then on again.

If the error persists, replace the laser/scanner assembly.

41.03.YZ Unexpected size in Tray <X>

Description

The product detected a different paper size than expected.

- 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.
- 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.
- Z = 6
Source is Tray 6.

Recommended action

Make sure that the tray is loaded with the correct paper size and that the sliding paper guides are correctly adjusted.

Use the [Tray/Bin Manual Sensor Test](#) to verify that the tray paper switch is correctly functioning.

If the error persists, replace the lifter assembly.

41.03.YZ Unexpected size in Tray <X> To use another tray, touch "Options"

Description

The product detected a different paper size than expected.

Y = Size mismatch, Z = Source

- Y = 0: Detected paper is longer or shorter than expected
- Y = A: Detected paper too long
- Y = B: Detected paper too short
- Y = C: Unexpected size
- Y = D: Detected media too wide
- Y = E: Detected media too narrow
- Z = 1: Tray 1
- Z = 2: Tray 2
- Z = 3: Tray 3
- Z = 4: Tray 4
- Z = 5: Tray 5
- Z = 6: Tray 6
- Z = D: Duplexer

Recommended action

1. Make sure that the tray is loaded with the correct paper size and that the sliding paper guides are correctly adjusted.
2. Use the [Tray/Bin Manual Sensor Test](#) to verify that the tray paper switch is correctly functioning.
3. If the error persists, replace the lifter assembly.

41.04.YZ

Description

An unknown misprint error occurred on the product.

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 duplexer

Recommended action

- 1.** Turn the product power off, and then on.
- 2.** If the error persists, replace the laser/scanner assembly.

41.05.YZ Unexpected type in Tray <X>

Description

The product detected a different paper type than expected.

Y = Expected type, Z = Detected type

- Y = 0: Unknown
- Y = 1: Normal paper
- Y = 3: LBP transparency
- Y = 4: Glossy paper
- Y = 5: Gloss film
- Y = 6: Non-assured transparency
- Y = 7: Heavy paper
- Y = 8: Light paper
- Y = 9: Rough paper
- Y = A: Extra heavy glossy paper (glossy paper 3)
- Y = B: Heavy glossy paper (glossy paper 2)
- Y = C: Heavy paper 3
- Y = D: Heavy paper 2
- Z = 1: Normal paper
- Z = 3: LBP transparency
- Z = 4: Glossy paper
- Z = 5: Gloss film
- Z = 6: Non-assured transparency
- Z = 7: Heavy paper
- Z = 8: Light paper
- Z = A: Extra heavy glossy paper (glossy paper 3)
- Z = B: Heavy glossy paper (glossy paper 2)
- Z = C: Heavy paper 3
- Z = D: Heavy paper 2

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 that they match the tray type settings.

3. Clean the media sensor.
4. If the error persists, replace the paper pickup assembly.

41.05.YZ Unexpected type in Tray <X> To use another tray, touch "Options"

Description

The product detected a different paper type than expected and another tray is available for use.

Y = Expected type, Z = Detected type

- Y = 0: Unknown
- Y = 1: Normal paper
- Y = 3: LBP transparency
- Y = 4 Glossy paper
- Y = 5: Gloss film
- Y = 6: Non-assured transparency
- Y = 7: Heavy paper
- Y = 8: Light paper
- Y = 9: Rough paper
- Y = A: Extra heavy glossy paper (glossy paper 3)
- Y = B: Heavy glossy paper (glossy paper 2)
- Y = C: Heavy paper 3
- Y = D: Heavy paper 2
- Z = 1: Normal paper
- Z = 3: LBP transparency
- Z = 4: Glossy paper
- Z = 5: Gloss film
- Z = 6: Non-assured transparency
- Z = 7: Heavy paper
- Z = 8: Light paper
- Z = A: Extra heavy glossy paper (glossy paper 3)
- Z = B: Heavy glossy paper (glossy paper 2)
- Z = C: Heavy paper 3
- Z = D: Heavy paper 2

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 that they match the tray type settings.
3. Clean the paper sensor.
4. If the error persists, replace the paper pickup assembly.

41.07.YZ Error To continue, touch "OK"

Description

A media transportation error has occurred.

- Y = 0
Photo media 1, Photo media 2, Photo media 3, Designated media 2, Designated media 3, or N/A, typed or AutoSense.
- Y = 1
AutoSense (Normal): special case distinguished from typed Normal.
- Y = 2
Normal: typed (not AutoSense).
- Y = 3
Light media 1, 2, or 3: typed or AutoSense.
- Y = 4
Heavy media 1: typed or AutoSense.
- Y = 5
Heavy media 2: typed or AutoSense.
- Y = 6
Heavy media 3: typed or AutoSense.
- Y = 7
Glossy media 1: typed or AutoSense.
- Y = 8
Glossy media 2: typed or AutoSense.
- Y = 9
Glossy media 3: typed or AutoSense.

- Y = A
Glossy film: typed or AutoSense.
- Y = B
OHT: typed or AutoSense.
- Y = C
Label.
- Y = D
Envelope 1, Envelope 2, or Envelope 3.
- Y = E
Rough (designated media 1): typed or AutoSense.
- Z = 1
Tray 1.
- Z = 2
Tray 2.
- Z = 3
Tray 3.
- Z = 4
Tray 4.
- Z = 5
Tray 5.
- Z = 6
Tray 6.
- Z = D
Duplexer.

Recommended action

Turn the product off, and then on.

If the error persists, replace the DC controller PCA.

41.WX.YZ Error To use another tray, touch "Options"

Description

A printer error has occurred.

WX =

- 02: Beam detected misprint error
- 06: ITB top detection error
- 07: Optional input source delay
- 08: Media transportation error
- 09: Sub-thermistor abnormally high temperature
- 10: Pickup failure
- 11: Illegal duplex
- 18: Scan line inclination adjustment request
- 19: T2 roller HV
- 20: Image drum HV

Y = fuser mode

- 0: Photo paper 1, Photo paper 2, Photo paper 3, Designated paper 2, Designated paper 3, or NA, typed or Autosense
- 1: Autosense (normal): special case distinguished from typed Normal
- 2: Normal, typed (not Autosense)
- 3: Light paper 1, 2, or 3, typed or Autosense
- 4: Heavy paper 1, typed or Autosense
- 5: Heavy paper 2, typed or Autosense
- 6: Heavy paper 3, typed or Autosense
- 7: Glossy paper 1, typed or Autosense
- 8: Glossy paper 2, typed or Autosense
- 9: Glossy paper 3, typed or Autosense
- A: Glossy film, typed or Autosense
- B: Transparency, typed or Autosense
- C: Label
- D: Envelope 1, Envelope 2, Envelope 3
- E: Rough (designated paper 1), typed or Autosense
- F: reserved for future fuser mode

Z = source tray

- 1: Tray 1
- 2: Tray 2
- 3: Tray 3
- D: Duplexer

Recommended action

1. To clear message, touch the [OK](#) button.
2. If the message reappears, turn the product off, and then on.
3. If the error persists, replace the DC controller PCA.

42.XX.YY

Description

Internal system failure.

Recommended action

Turn the product off, and then on and retry.

47.00.00

Description

Print Notification Provider internal error.

Recommended action

Turn the product off, and then on again. Resend the print job.

47.00.XX

Description

Backchannel internal error

Recommended action

Turn the product off, and then on again. Resend the print job.

If the error persists, execute the [Partial Clean](#) item in the [Preboot](#) menu.

47.01.XX

Description

Image transformer internal error.

Recommended action

Turn the product off, and then on again. Resend the print job.

If the error persists, execute the [Partial Clean](#) item in the [Preboot](#) menu.

47.02.XX**Description**

Job parser internal error.

Recommended action

Turn the product off, and then on again. Resend the print job.

If the error persists, execute the [Partial Clean](#) item in the [Preboot](#) menu.

47.03.XX**Description**

Print job internal error.

Recommended action

Turn the product off, and then on again. Resend the print job.

If the error persists, execute the [Partial Clean](#) item in the [Preboot](#) menu.

47.04.XX**Description**

Print spooler 9100 internal error.

Recommended action

Turn the product off, and then on again. Resend the print job.

If the error persists, execute the [Partial Clean](#) item in the [Preboot](#) menu.

47.05.00**Description**

Print spooler framework internal error.

Recommended action

Turn the product off, and then on again. Resend the print job.

If the error persists, execute the [Partial Clean](#) item in the [Preboot](#) menu.

47.06.XX

Description

Print App internal error.

Recommended action

Turn the product off, and then on again. Resend the print job.

If the error persists, execute the [Partial Clean](#) item in the [Preboot](#) menu.

47.WX.YZ Printer calibration failed To continue, touch "OK"

Description

The device is unable to access or implement one of the image patterns files.

Y = calibration type, Z = event

- **47.FC.00** (event code)
Color plane registration (CPR) Image not found at system initialization.
- **47.FC.01** (event code)
CPR Store Image failure.
- **47.FC.02** (event code)
CPR Image not found.
- **47.FC.03** (event code)
CPR Print engine execution failure.
- **47.FC.10** (event code)
Consecutive Dmax Dhalf Image not found at system initialization.
- **47.FC.11** (event code)
Consecutive Dmax Dhalf Store image failure.
- **47.FC.12** (event code)
Consecutive Dmax Dhalf Image not found.
- **47.FC.13** (event code)
Consecutive Dmax Dhalf Print engine execution failure.
- **47.FC.20** (event code)
Error Diffusion Image not found at system initialization.
- **47.FC.21** (event code)
Error Diffusion Store image failure.

- **47.FC.22** (event code)
Error Diffusion Image not found.
- **47.FC.23**
Error Diffusion Print engine execution failure.
- **47.FC.30** (event code)
Drum Speed Adjustment Image not found at system initialization.
- **47.FC.31** (event code)
Drum Speed Adjustment Store image failure.
- **47.FC.32** (event code)
Drum Speed Adjustment Image not found.
- **47.FC.33** (event code)
Drum Speed Adjustment Print engine execution failure.
- **47.FC.40** (event code)
Pulse Width Modulation Image not found at system initialization.
- **47.FC.41** (event code)
Pulse Width Modulation Store image failure.
- **47.FC.42** (event code)
Pulse Width Modulation Image not found.
- **47.FC.43** (event code)
Pulse Width Modulation Print engine execution failure.

Recommended action

Turn the product off, and then on.

If the error persists, reload the firmware.

48.01.XX Error

Description

A job framework internal error has occurred.

XX values range from 0 to 9 and 0A to 0C. All enumerations have the same description and recommended action.

Recommended action

No action necessary.

49.XX.YY Error To continue turn off then on

Description

A firmware error has occurred. This error can be caused by corrupted print jobs, software applications issues, non-product specific print drivers, poor-quality USB or network cables, bad network connections or incorrect configurations, invalid firmware operations, or unsupported accessories.

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, such as an invalid print driver, a problem with the software application, or a problem with the file you are printing.
 - Upgrading the product firmware might help resolve the error. See the product user guide for more information.

50.WX.YZ Fuser error To continue turn off then on

Description

The fuser has experienced an error.

W = fuser error code, X = fuser mode, Y = previous printer sleep state, Z = next printer sleep state

Fuser modes

- Normal—Auto Sense
- Normal
- Light 1
- Heavy 1
- Heavy 2
- Heavy 3
- Glossy 1
- Glossy 2
- Glossy 3
- Glossy Film
- Transparency
- Label

- Envelope 1
- Rough

Sleep states

- Standby level 1 (no temperature control)
- Standby level 2 (high temperature control)
- Standby level 3 (middle temperature control)
- Standby level 2 (low temperature control)
- Middle sleep
- Deep sleep
- Power off

Recommended action

W = 1 or W = 2

Low fuser temperature and fuser warm-up failure

1. Remove and then reseal the fuser. Make sure there is no residual paper in the fuser. Make sure the device is not located in front of a vent or window where cool air may interfere with the ability of the fuser to heat up.
2. Check the product power source. Make sure the power source meets product requirements. Make sure this is the only device using the circuit.
3. Replace the fuser.
4. Check the connector (J704) between the fuser and the printer. If it is damaged, replace the fuser drive assembly or fuser.
5. If the error persists, replace the low-voltage power supply.
6. If this product has been previously serviced, check the connector (J131) on the DC controller PCA and the connectors (J109 and J110) on the power line between the low-voltage power supply assembly and the fuser.

W = 3

High fuser temperature

1. Remove and then reseal the fuser.
2. Check the paper type setting using the product menus and in the printer driver. Make sure that they match and are correct for the type of media being used.
3. Replace the fuser.
4. If the error persists, replace the low-voltage power supply.
5. If this product has been previously serviced, check the connector (J131) on the DC controller PCA.

W = 4

Drive circuit fault

1. Check the power source. Make sure the power source meets product requirements.



NOTE: If the power source does not meet the power frequency requirement of 43 to 67Hz, the fuser temperature control does not work properly and causes this error.

2. If the error persists, replace the low-voltage power supply.
3. If this product has been previously serviced, check the connector (J21) on the DC controller PCA.

W = 6

Open fuser circuit (heating element failure)

1. Remove, and then reseal the fuser.
2. If the error persists, replace the fuser.

W = 7

Fuser pressure-release mechanism failure

1. Remove and then reseal the fuser. Make sure there is no residual paper in the fuser.
2. Check the fuser pressure-release sensor flag. If it is damaged, replace the fuser.
3. Use the sensor test in the Manual sensor test to verify that the fuser pressure-release sensor (PS9) is properly functioning. If it is not, replace the fuser gear assembly.
4. Use the fuser pressure-release drive test in the component test to verify that the fuser motor (M4) is properly functioning. If it is not, replace the fuser motor.
5. If the error persists, replace the low-voltage power supply.
6. If this product has been previously serviced, check the connector (J181) on the DC controller PCA.

W = 8

Low fuser temperature 2

1. Remove and then reseal the fuser. Make sure there is no residual paper in the fuser. Make sure the device is not located in front of a vent or window where cool air may interfere with the ability of the fuser to heat up.
2. Check the product power source. Make sure the power source meets product requirements. Make sure this is the only device using the circuit.
3. Replace the fuser.
4. Check the connector (J704) between the fuser and the printer. If it is damaged, replace the fuser drive assembly or fuser.

5. If the error persists, replace the low-voltage power supply.
6. If this product has been previously serviced, check the connector (J131) on the DC controller PCA and the connectors (J109 and J110) on the power line between the low-voltage power supply assembly and the fuser.

W = 9

High fuser temperature 2

1. Remove and then reseal the fuser.
2. Check the paper type setting using the product menus and in the printer driver. Making sure that they match and are correct for the type of media being used.
3. Replace the fuser.
4. If this product has been previously serviced, check the connector (J131) on the DC controller PCA.

W = A

Low fuser temperature 3

1. Remove and then reseal the fuser. Make sure there is no residual paper in the fuser. Make sure the device is not located in front of a vent or window where cool air may interfere with the ability of the fuser to heat up.
2. Check the product power source. Make sure the power source meets product requirements. Make sure this is the only device using the circuit.
3. Replace the fuser.
4. Check the connector (J704) between the fuser and the printer. If it is damaged, replace the fuser drive assembly or fuser.
5. If this product has been previously serviced, check the connector (J131) on the DC controller PCA and the connectors (J109 and J110) on the power line between the low-voltage power supply assembly and the fuser.

W = B

High fuser temperature 3

1. Remove and then reseal the fuser.
2. Check the paper type setting using the product menus and in the printer driver. Making sure that they match and are correct for the type of media being used.
3. Replace the fuser.
4. Check the connector (J704) between the fuser and the printer. If it is damaged, replace the fuser drive assembly or fuser.
5. If this product has been previously serviced, check the connector (J131) on the DC controller PCA.

51.00.YY Error To continue turn off then on

Description

An error with the laser/scanner assembly has occurred in the product.

- YY = 10: Beam detect error
- YY = 19: Laser malfunction
- YY = 20: Black laser scanner error
- YY = 21: Cyan laser scanner error
- YY = 22: Magenta laser scanner error
- YY = 23: Yellow laser scanner error

Recommended action

1. Turn the product off, and then on.
2. Check the flat flexible cable (FFC) connections to the laser scanners.
3. Replace the laser scanner.

52.<XX>.00 Error To continue turn off then on

Description

Laser/scanner error

- XX = 00
laser/scanner motor startup error
- XX = 20
Laser/scanner rotation error

Recommended action

Use the scanner motor (M10) drive test in the component test to test the motor. If the motor does not run, replace the laser/scanner assembly.



NOTE: Listen for a high pitched whine from the motor.

If the laser/scanner assembly has been removed or replaced, check the connectors (J831 and J832) on the laser-driver PCA and the connectors (J61 and J62) on the DC controller PCA.

54.XX.YY Error

Description

A sensor error has occurred.

Recommended action

54.00.03: Environmental sensor failure

1. Turn the product off, and then on.
2. If the environment sensor has been removed or replaced, check the connector (J2) on the environment sensor and the connector (J108) on the DC controller PCA.
3. If the error persists, replace the environment sensor assembly.

54.00.06 or 54.00.14 or 54.00.19: Registration density sensor failure

1. Open and close the right door (or turn on and then off the power switch) to perform the color plane registration.
2. If the error persists, replace the registration density sensor assembly.

54.01.05: Paper sensor is out of calibration range

1. Turn the product off, and then clean the paper sensor with a lint-free cloth. Turn the product on.
2. If the error persists, replace the paper pickup assembly.

54.06.21: Primary laser/scanner beam detect abnormality

1. Turn the product off, and then on.
2. If the error persists, replace the laser/scanner assembly.
3. If the product has had parts removed or replaced, check the connector (J110-C/M or J111-C/M) on the DC controller PCA.

54.0X.0B or 54.0X.0C: Density sensor out of range error or Dhalf calibration failure

X = 0 black, X = 1 cyan, X = 2 magenta, X = 3 yellow

1. Check the supplies status page to make sure the toner cartridges are not past their useful life.
2. Check the ITB for damage.
3. Make sure the CPR sensor is not contaminated with toner or paper dust. Clean the sensor with compressed air and soft brush.
4. If error persists, replace the registration sensor assembly.

54.0X.0D or 54.0X.0E: Optical memory element abnormal or CPR sensor out of range

X = 0 black, X = 1 cyan, X = 2 magenta, X = 3 yellow

1. Check the supplies status page to make sure the toner cartridges are not past their useful life.
2. Check the ITB for damage.

3. Make sure the CPR sensor is not contaminated with toner or paper dust. Clean the sensor with compressed air and soft brush.
4. If error persists, replace the registration sensor assembly.

55.XX.YY DC controller error To continue turn off then on

Description

The communication link between the formatter and DC controller was lost.

- **55.00.00**: Internal communication error
- **55.00.01**: DC controller memory error
- **55.01.06**: DC controller NVRAM abnormal read/write
- **55.02.06**: DC controller NVRAM not accessible

Recommended action

1. Turn the product off, and then on.
2. Perform an engine test.
3. Verify the connectors on the DC controller.
4. If the error persists, replace the DC controller.

56.00.01 Illegal Input Printer Error To continue turn off then on

Description

The product experienced a communication error with the optional paper tray.

Recommended action

1. Turn the product off, and then on.
2. Remove, and then reseal the optional tray.
3. Check the input connectors for damage. Replace a damaged connector.
4. Remove any third-party hardware.
5. Upgrade the firmware.
6. If the error persists, replace the DC controller.

56.00.02 Selected media output bin unavailable

Description

The bin selected for output is unavailable.

Recommended action

1. Turn the product off, and then on.
2. Remove any third-party hardware.
3. Attempt the remote firmware update again.
4. If the error persists, please escalate this problem to your Global Business unit.

56.00.03 Media input path operation error

Description

A tray is open, and is blocking the paper path, above the selected tray.

Recommended action

1. Close the open tray.
2. If all trays are closed, use the sensor tests to check the tray closed sensors for the above trays.
3. If the error persists, please escalate this problem to your Global Business unit.

57.00.0Y Error To continue turn off then on

Description

Fan error

Recommended action

57.00.01

Power supply fan (FM1) failure

1. Turn the product off, and then on. Listen for fan noise at the front lower-left corner of the product. If no noise is heard, replace the power supply fan (FM1).
2. If this part has been removed or replace, check the connector (J21) on the DC controller PCA and the connector (J106) on the low-voltage power supply assembly.

57.00.02

Fuser fan (FM2) failure

1. Turn the product off, and then on. Listen for fan noise at the front lower-right corner of the product. If no noise is heard, replace the fuser fan (FM2).
2. If this part has been removed or replace, check the connector (J121) on the DC controller PCA and the intermediate connector (J524).

57.00.03

Formatter fan (FM3) failure

1. Turn the product off, and then on. Listen for fan noise at the lower back-center of the product. If no noise is heard, replace the formatter fan (FM3).
2. If this part has been removed or replaced, check the connector (J142) on the intermediate connect board.

57.00.04

Cartridge fan motor 4 (FM4) malfunction

1. Turn the product off, and then on. Listen for fan noise at the left-side, upper-center, of the product. If no noise is heard, replace the cartridge fan (FM4).
2. If this part has been removed or replaced, verify that the connectors (J142S) on the DC Comptroller board and (J143SL) on the fan are connected correctly and undamaged.

57.00.05

Sub power supply fan (scanner power supply) (FM5) failure

1. Turn the product off, and then on. Listen for fan noise at the back-side, upper-right, of the product. If no noise is heard, replace the Sub power supply fan (scanner power supply) (FM5).
2. If this part has been removed or replaced, verify that the connector (J308) on the Sub Power Supply PCA is connected correctly and undamaged.

58.00.02 environmental sensor malfunction

Description

The product has experienced an environmental sensor error.

Recommended action

1. Turn the product off and then on.
2. Verify that the connector (J33S) on the DC controller PCA and the sensor (J502S) are connected correctly and undamaged.
3. If the error persists, replace environmental sensor.

58.00.04 Error To continue turn off then on

Description

The low-voltage power supply is defective.

Recommended action

1. Turn the product off, and then on.
2. Check the connector (J143) on the DC controller PCA.
3. If the error persists, replace the low voltage power supply.

59.00.YY Error To continue turn off then on

Description

Printing error

Recommended action

59.00.30 or 59.00.40

Fuser motor (M4) start up error or fuser motor (M4) rotational error

1. Use the fuser motor (M4) drive test in the component test to verify that the fuser motor is properly functioning. If it is not, replace the fuser motor assembly.
2. If the product has been serviced, check the connector (J516) on the fuser motor and the connector (J81) on the DC controller PCA.

59.00.90 or 59.00.A0

ITB motor (M1) start up error or ITB motor (M1) abnormal rotational error

1. Use the ITB motor (M1) drive test in the component test to verify that the ITB motor is properly functioning. If it is not, replace the ITB motor assembly.
2. If the product has been serviced, check the connector (J517) on the ITB motor and the connector (J81) on the DC controller PCA.

59.00.C0

Developer alienation motor (M6) error

1. Use the developer engagement and disengagement drive test in the component test to verify that the disengagement mechanism is properly functioning. If it is not, replace the ITB motor assembly.
2. Use the sensor test in the Manual sensor test to verify that the developer disengagement sensor (PS11) is properly functioning. If it is not, replace the main drive assembly.
3. If the product has been serviced, check the connector (J518) on the developer disengagement motor, the connector (J1005) on the driver PCA and the connector (J91) on the DC controller PCA.

59.00.F0

T1 alienation mechanism failure

1. Make sure that the ITB is correctly installed.
2. Use the T1 roller alienation switch (SW5) test in the Manual sensor test to verify that the switch is properly functioning. If it is not, replace the main drive assembly.
3. Use the T1 roller engagement and disengagement drive test in the component test to verify that the T1 roller disengagement mechanism is properly functioning. If it is not, replace the fuser drive assembly.
4. If the product has been serviced, check the connector (J181) on the DC controller PCA.

59.0X.50 Error To continue turn off then on

Description

Motor startup error

X= 5 black, X = 6 cyan, X = 7 magenta, X = 8 yellow

Recommended action

59.05.50

Black image drum start up error (ITB motor; M1)

1. Use the ITB drum motor (M1) drive test in the Component test to verify that the motor is properly functioning. If it is not, replace the ITB motor assembly.
2. If the product has been serviced, check the connector (J517) on the ITB motor and the connector (J81) on the DC controller PCA.

59.06.50 or 59.07.50 or 59.08.50

CMY drum motor (M2) start up error

1. Use the drum motor (M2) drive test in the Component test to verify that the motor is properly functioning. If it is not, replace the drum motor assembly.
2. If the product has been serviced, check the connector (J515) on the drum motor and the connector (J81) on the DC controller PCA.

59.0X.60 Error To continue turn off then on

Description

Motor rotational error

X= 5 black, X = 6 cyan, X = 7 magenta, X = 8 yellow

Recommended action

59.06.60 or 59.07.60 or 59.08.60

CMY drum motor (M2) rotation error

1. Use the drum motor (M2) drive test in the Component test to verify that the motor is properly functioning. If it is not, replace the drum motor assembly.
2. If the product has been serviced, check the connector (J515) on the drum motor and the connector (J81) on the DC controller PCA.

59.0X.70 Error To continue turn off then on

Description

Motor abnormal rotation

Recommended action

59.05.70

Black developer motor abnormal start up error (ITB motor; M1)

1. Use the ITB drum motor (M1) drive test in the Component test to verify that the motor is properly functioning. If it is not, replace the ITB motor assembly.
2. If the product has been serviced, check the connector (J517) on the ITB motor and the connector (J81) on the DC controller PCA.

59.06.70 or 59.07.70 or 59.08.70

CMY developer motor (M3) abnormal start up error

1. Use the developer motor (M3) drive test in the Component test to verify that the motor is properly functioning. If it is not, replace the developer motor assembly.
2. If the product has been serviced, check the connector (J514) on the developer motor and the connector (J81) on the DC controller PCA.

59.0X.80 Error To continue turn off then on

Description

Developer motor failure

Recommended action

59.05.80

Black developer motor failure error (ITB motor; M1)

1. Use the ITB drum motor (M1) drive test in the Component test to verify that the motor is properly functioning. If it is not, replace the ITB motor assembly.
2. If the product has been serviced, check the connector (J517) on the ITB motor and the connector (J81) on the DC controller PCA.

59.06.80 or 59.07.80 or 59.08.80

CMY developer motor (M3) failure error

1. Use the developer motor (M3) drive test in the Component test to verify that the motor is properly functioning. If it is not, replace the developer motor assembly.
2. If the product has been serviced, check the connector (J514) on the developer motor and the connector (J81) on the DC controller PCA.

60.00.0Y Tray <Y> lifting error

Description

Tray lift motors error

Recommended action

60.00.02

Media input Tray 2 lift-up motor (M9) failure

1. Use the Tray 2 paper surface sensor (PS4) test in the Tray/Bin manual sensor test to verify that the sensor is properly functioning. If it is not, replace the lifter drive assembly.
2. Open and close Tray 2 and listen at the back of the product for the sound of the lifer motor (M9) operating. If it does not operate, replace the lifter drive assembly.
3. If the product has been serviced, check the intermediate connector (J742) and the connector (J151) on the DC controller PCA.
4. If the error persists, replace the cassette tray.

60.00.03 or 60.00.04

Media input Tray 3 lift-up motor (M2) failure or media input Tray 4 lift-up motor (M2) failure

1. Use the Tray 3 paper surface sensor (SR2) or Tray 4 paper surface sensor (SR2) test in the Tray/Bin manual sensor test to verify that the sensor is properly functioning. If it is not, replace the lifter drive assembly.



NOTE: Both the Tray 3 and Tray 4 paper surface sensors are designated as SR2. The first one listed in the Tray/Bin manual test is Tray 3, the second one listed is for Tray 4.

2. Open and close Tray 3 or Tray 4 and listen at the back of the product for the sound of the lifer motor (M2) operating. If it does not operate, replace the lifter drive assembly.



NOTE: Both the Tray 3 and Tray 4 lifter motors are designated as M2. Listen for the appropriate motor to operate.

3. If the product has been serviced, check the connector (J2003) on the paper feeder controller PCA, the intermediate connector (J702) and the connector (J2006) on the paper feeder controller PCA.



TIP: Check the connector (J2006) on the paper feeder controller PCA associated with the tray.

4. If the error persists, replace the cassette tray.

60.00.05 or 60.00.06

Media input Tray 5 lift-up motor (M82) failure or media input Tray 6 lift-up motor (M92) failure

1. Use the Tray 5 paper surface sensor (SR82) or Tray 6 paper surface sensor (SR92) test in the Tray/Bin manual sensor test to verify that the sensor is properly functioning. If it is not, replace the lifter drive assembly.
2. Open and close Tray 5 or Tray 6 and listen at the back of the product for the sound of the lifter motor (M82 or M92) operating. If it does not operate, replace the lifter drive assembly.
3. If the product has been serviced, check the connector (J2003) on the paper feeder controller PCA, the intermediate connector (J702), and the connector (J2006) on the paper feeder controller PCA.

 **TIP:** Check the connector (J2006) on the paper feeder controller PCA associated with the tray.

4. If the error persists, replace the cassette tray.

60.10.0Y Media input source <Y> pickup mechanism malfunction

Description

- **60.10.01 Media input source 1 pickup mechanism malfunction**
- **60.10.02 Media input source 2 pickup mechanism malfunction**
- **60.10.03 Media input source 3 pickup mechanism malfunction**
- **60.10.04 Media input source 4 pickup mechanism malfunction**
- **60.10.05 Media input source 5 pickup mechanism malfunction**
- **60.10.06 Media input source 6 pickup mechanism malfunction**

Recommended action

1. Turn the product off, and then on again.
2. Use the Paper Pick-up motor (M5, M1, M82, M92, M3301, M3304) test in the [Component test](#) to verify that the pickup motor is properly functioning. If the pickup motor is not functioning, replace the Paper Pick-up assembly.
3. If the error persists, please escalate this problem to your Global Business unit.

61.00.01

Description

Color table read failure.

Recommended action

Turn the product 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.

62.00.00 No system To continue turn off then on

Description

The product experienced an internal system failure.

Recommended action

1. Turn the product off, and then on.
2. Reload the firmware.

3. Perform a firmware upgrade.
4. If the error persists, replace the hard disk.

66.80.02

Description

This message displays to indicate a Jogger malfunction error.

Recommended action

1. Turn the product off, and then on.
2. Make sure there is no paper stuck in the Jogger assembly.
3. If the error persists, replace the Operation assembly.

66.80.17

Description

This message displays to indicate a stapler stacker fan failure. The staple stacker controller determines a staple stacker fan failure and notifies the formatter when the fan locks for a specified period after the fan starts driving.

Recommended action

1. Turn the product off, and then on.
2. Check to see that there are no objects obstructing the fan.
3. If the error persists, replace the stapler stacker right door assembly.

66.80.19

Description

This message displays to indicate a stapler malfunction.

Recommended action

1. Turn the product off, and then on.
2. Remove the staple cartridge and check for a jam in the staple cartridge.
3. Inspect the stapler jaw, remove any stuck staples using using pliers.
4. Remove the rear cover of the stapler stacker and manually retract the stapler jaw by rotating the larger gear of the stapler mechanism. The stapler jaw will open and any loose staples can be recovered.
5. If the error persists, replace the stapler assembly.

66.80.23

Description

This message displays to indicate an output tray lift malfunction error.

Recommended action

1. Turn the product off, and then on.
2. Inspect the tray area to make sure there is nothing obstructing the tray movement.
3. If the error persists, replace the tray assembly.

66.80.33

Description

This message displays to indicate an output roller malfunction.

Recommended action

1. Turn the product off, and then on.
2. Make sure there is no paper stuck in the output roller area.
3. If the error persists, replace the operation assembly.

69.11.YY Error To continue, touch "OK"

Description

This message displays to indicate an error during a duplex operation.

Recommended action

Turn the product off, and then on.

70.00.00 Error To continue turn off then on

Description

The product experienced a DC controller failure.

Recommended action

1. Turn the product off, and then on.
2. If the error persists, replace the DC controller.

80.0X.YY Embedded Jetdirect Error

Description

Embedded HP JetDirect print server critical error.

- **80.01.80** (event code)
No heartbeat
- **80.01.81** (event code)
Reclaim timeout
- **80.01.82** (event code)
Invalid data length
- **80.01.8B** (event code)
Invalid max outstanding packet header field
- **80.01.8C** (event code)
Invalid channel mapping response
- **80.03.01** (event code)
No PGP buffers
- **80.03.02** (event code)
Channel table full
- **80.03.03** (event code)
Producer index not reset
- **80.03.04** (event code)
Consumer index not reset
- **80.03.05** (event code)
Queue position size too small
- **80.03.06** (event code)
Transport overflow
- **80.03.07** (event code)
No overflow packets
- **80.03.08** (event code)
Invalid identify response
- **80.03.09** (event code)

- Invalid channel map return status
 - **80.03.10** (event code)
- Invalid reclaim return status
 - **80.03.12** (event code)
- Datagram invalid buffer
 - **80.03.13** (event code)
- Max stream channels
 - **80.03.14** (event code)
- Max datagram channels
 - **80.03.15** (event code)
- Card reset failed
 - **80.03.16** (event code)
- Self test failure
 - **80.03.17** (event code)
- Unknown PGP packet
 - **80.03.18** (event code)
- Duplicate I/O channel

Recommended action

Turn the product off, and then on.

If the error persists, replace the formatter.

81.WX.00 Wireless Network Error To continue turn off then on

Description

A wireless network component on the product has failed.

Recommended action

1. Turn the product off, and then on.
2. If the error persists, turn the product off, reseal the wireless network component, and then turn the product on.
3. If the error persists, replace the wireless network component.

81.WX.YZ Embedded Jetdirect Error To continue turn off then on

Description

The product experienced an embedded HP Jetdirect print server critical error.

- **81.02.00** (event code): Wireless Networking Event <UVWXYZ>
- **81.03.00** (event code): Access Point Wireless Networking Event <UVWXYZ>
- **81.04.00** (event code): Jetdirect Inside Networking Event <UVWXYZ>
- **81.07.00** (event code): Internal Wireless Networking Event <UVWXYZ>
- **81.08.00** (event code): Internal Access Point Wireless Networking Event <UVWXYZ>
- **81.09.00** (event code): Internal Jetdirect Inside Networking Event <UVWXYZ>

Recommended action

1. Turn the product off, and then on.
2. Turn the product off, reseal the EIO accessory, and then turn the product on.
3. If the error persists, replace the formatter.

98.00.02 Corrupt data in solutions volume

Description

Data corruption has occurred in the solutions volume

Recommended action

1. Turn the product off, and then on.
2. Use the [Clean Disk](#) item in the [Preboot](#) menu.
3. Reload the firmware.

98.00.03 Corrupt data in configuration volume

Description

Data corruption has occurred in the configuration volume

Recommended action

1. Turn the product off, and then on.
2. Use the [Clean Disk](#) item in the [Preboot](#) menu.
3. Reload the firmware.

98.00.04 Corrupt data in job data volume

Description

Data corruption has occurred in the job data volume

Recommended action

1. Turn the product off, and then on.
2. Rerun the file erase function.

98.00.0X Corrupt data in X volume

Description

Data corruption has occurred in the firmware volume.

- **98.00.01 Corrupt data in firmware volume Reinstall firmware**
- **98.00.02 Corrupt data in solutions volume Re-install accessory solutions**
- **98.00.03 Corrupt data in configuration volume Re-configure the product**
- **98.00.04 Corrupt data in job data volume All job data was erased**

Recommended action

98.00.01 or 98.00.02 or 98.00.03

1. Turn the product off, and then on.
2. Use the [Clean Disk](#) item in the [Preboot](#) menu.
3. Reload the firmware.

98.00.04

1. Turn the product off, and then on.
2. Rerun the file erase function.

99.00.01 Upgrade not performed file is corrupt

Description

Remote firmware upgrade (.bdl) was not performed. The file is corrupt.

Recommended action

The firmware file is corrupt. Download the firmware file and attempt the upgrade again.

99.00.02 Upgrade not performed timeout during receive

Description

Remote firmware upgrade (.bdl) was not performed. Timeout during receipt.

Recommended action

The I/O timed out during the firmware download. The most common cause is an issue with the network environment. Ensure a good connection to the product, and attempt the upgrade again or upgrade using the easy-access USB port.

99.00.03 Upgrade not performed error writing to disk

Description

Remote firmware upgrade (.bdl) was not performed. An error occurred when writing to the hard disk.

Recommended action

1. Download the firmware again, and then attempt the upgrade again.
2. If the error persists, perform the clean disk/format disk process.
3. Download the firmware from the [Preboot](#) menu, and then attempt the upgrade again.
4. If the error persists, replace the hard disk.

99.00.04 Upgrade not performed timeout during receive

Description

A remote firmware upgrade (RFU) was not performed.

I/O timeout when reading rest of header.

Recommended action

The most common cause is an issue with the network environment. Make sure that there is a good connection to the device and attempt the upgrade again, or upgrade using the easy-access USB port.

99.00.05 Upgrade not performed timeout during receive

Description

A remote firmware upgrade (RFU) was not performed.

I/O timeout when reading image data.

Recommended action

The most common cause is an issue with the network environment. Make sure that there is a good connection to the device and attempt the upgrade again, or upgrade using the easy-access USB port.

99.00.06 Upgrade not performed error reading upgrade

Description

A remote firmware upgrade (RFU) was not performed.

Unexpected read error when reading header number and size.

Recommended action

1. Download the RFU file and 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.
Unexpected read error when reading rest of header.

Recommended action

1. Download the RFU file and 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.
Unexpected read error when reading image data.

Recommended action

1. Download the RFU file and 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.
Job canceled when reading 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.

Job canceled when reading rest of 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.

Header number is 1 but header size doesn't match version 1 size.

Recommended action

Download the RFU file again. Make sure that you download the file for the correct product model.

Resend the RFU.

99.00.13 Upgrade not performed the file is invalid

Description

A remote firmware upgrade (RFU) was not performed.

Header number is 2 but header size doesn't match version 2 size.

Recommended action

Download the RFU file again. Make sure that you download the file for the correct product model.

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 product model.

Resend the RFU.

99.00.2X

Description

- **99.00.20** (event log)
The bundle is not for this product.
- **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/go/lj700colorMFPM775_firmware, and then resend the firmware upgrade.

99.00.27 only: Turn the product off, and then on again. Resend the firmware upgrade. If the error persists, try the sending the upgrade by another method (USB or HP Embedded Web Server).

99.01.XX

Description

- **99.01.00**
 - **99.01.10**
 - **99.01.20**
 - **99.01.21**
- A firmware install error has occurred.

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**

[Preboot](#) menu error.

The hard disk currently installed is not recognized or supported by the product.

Recommended action

Install the correct hard disk for this product.

99.09.61 Unsupported disk**Description**

[Preboot](#) menu error.

The installed disk is installed in a product configured for a encrypted hard disk.

Recommended action

Open the [Preboot](#) menu, and then select [Lock Disk](#) to lock the disk.

99.09.62 Unknown disk**Description**

[Preboot](#) menu error.

The installed disk was previously locked in another product.

Recommended action

Install a new disk or use the [Preboot](#) menu to unlock this disk. If the disk is to be reused in a different product, execute the [Clean Disk](#) procedure from the [Preboot](#) menu, and then reload firmware and lock the disk.

99.09.63 Incorrect disk

Description

A new or blank disk has been installed in a device which previously had an encrypted disk.

Recommended action

Follow the procedure to load firmware on a new hard disk, and then lock it to this product.

99.09.64 Disk malfunction

Description

A fatal hard disk failure has occurred.

Recommended action

Replace the hard disk drive.

99.09.65 Disk data error

Description

Disk data corruption has occurred.

Recommended action

Execute the [Clean Disk](#) procedure from the [Preboot](#) menu, and then resend the RFU.

99.09.66 No disk installed

Description

A disk drive is not installed in the product.

Recommended action

1. Install a compatible hard disk drive.
2. If a compatible hard disk is installed, reseal the hard disk to make sure it is correctly connected.
3. If the error persists, replace the hard disk drive.

99.09.67 Disk is not bootable please download firmware

Description

The product has a non-secure disk (solid state disk) installed as the boot disk, and it has been replaced with a new service part. A new firmware image needs to be downloaded to the device.

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 password displays.

4. Select the Download item.
5. The user can now download a new firmware bundle to the product.

99.09.68

Description

The secondary encrypted disk has been removed from this device.

Recommended action

Reinstall the secondary encrypted storage device.

99.XX.YY

Description

Firmware installation error

Recommended action

Reload the firmware.

<Binname> full Remove all paper from bin

Description

The specified output bin is full.

Recommended action

Empty the bin to continue printing.

<Supply> almost full

Description

Toner collection bottle is almost full.

- **10.31.60** (event code)

Toner collection unit

Recommended action

Replace the toner collection unit.

<Supply> low OR Supplies low

Description

The product 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
- **10.01.60** (event code)
Cyan print cartridge
- **10.02.60** (event code)
Magenta print cartridge
- **10.03.60** (event code)
Yellow print cartridge
- **10.23.60** (event code)
Fuser kit
- **10.22.60** (event code)
Transfer 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> very low OR Supplies very low

Description

The product 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
- **10.01.70** (event code)
Cyan print cartridge
- **10.02.70** (event code)
Magenta print cartridge
- **10.03.70** (event code)
Yellow print cartridge
- **10.23.70** (event code)
Fuser kit
- **10.22.70** (event code)
Transfer 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.

<Tray X> lifting

Description

The product 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
- X = 6
- Tray 6

Recommended action

No action necessary.

[File System] device failure To clear press OK

Description

The specified device has failed.

Recommended action

Press the **OK** button to clear the error.

[File System] file operation failed To clear press OK

Description

A PJI file system command attempted to perform an illogical operation.

Recommended action

Press the **OK** button to clear the error.

[File System] file system is full To clear press OK

Description

A PJI file system command could not store something on the file system, because the file system was full.

Recommended action

Press the **OK** button to clear the error.

[File System] is not initialized

Description

This file-storage component must be initialized before use.

Recommended action

Use the HP Embedded Web Server or HP Web Jetadmin to initialize the file system.

[File System] is write protected

Description

The file system device is protected and no new files can be written to it.

Recommended action

Press the **OK** button to clear the error.

Accept bad signature

Description

The product is performing a remote firmware upgrade, and the code signature is invalid.

Recommended action

Download the correct firmware upgrade file for this product, and then reinstall the upgrade. See the product 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 product off.
2. Remove and reinstall the optional tray.
3. Reconnect connectors for the tray.
4. Turn the product on.

Calibration reset pending

Description

A calibration reset occurs when all jobs are processed.

Recommended action

To begin the reset sooner, cancel all jobs by pressing the **Stop** button .

Canceling

Description

The product is canceling the current job.

Recommended action

No action is necessary.

Canceling <jobname>

Description

The product is canceling the current job <jobname>.

Recommended action

No action is necessary.

Checking engine**Description**

The product is conducting an internal test.

Recommended action

No action is necessary.

Checking paper path**Description**

The product 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 product language (personality) that is not available for this product. The job will not print and will be cleared from memory.

Recommended action

Print the job by using a product driver for a different print language, or add the requested language to the product (if possible). To see a list of available personalities, print a configuration page.

Cleaning do not grab paper**Description**

The product is performing an automatic cleaning cycle. Printing will continue after the cleaning is complete.

Recommended action

No action is necessary.

Cleaning...**Description**

The product 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 product exits the menus when the event log has been cleared.

Recommended action

No action is necessary.

Clearing paper path**Description**

The product is attempting to eject jammed paper.

Recommended action

Check progress at the bottom of the display.

Close front door**Description**

The front door of the product is open.

Recommended action

1. Close the door.
2. Use the manual sensor test to verify that the front-door switch is properly functioning. If the switch fails the test, replace the switch.
3. Check the sensor flag on the front-door assembly. If it is damaged, replace the front-door assembly.
4. If the product has been recently serviced, check the connector (J708) on the 24V interlock switch and the connector (J121) on the DC controller PCA.

Close lower right door**Description**

The optional paper feeder right door is open.

Recommended action

1. Open and then close the door.
2. Use the right-door switch (SW1) test in the tray/bin manual sensor test to verify that the switch is properly functioning. If the switch fails the test, replace the switch.
3. Check the sensor flag on the right door assembly. If it is damaged, replace the lower right door assembly.

Close middle right door

Description

The 1 x 500-sheet optional paper feeder right door is open.

Recommended action

1. Close the door.
2. Use the right-door switch (SW1) test in the tray/bin manual sensor test to verify that the switch is properly functioning. If the switch fails the test, replace the switch.
3. Check the sensor flag on the right door assembly. If it is damaged, replace the door assembly.

Close right door

Description

A door on the right side of the product is open.

Recommended action

1. Close the right door.
2. If the error persists, use the manual sensor test to verify that the right door opening/closing sensor is properly functioning. If the sensor fails, replace the right door switch.
3. Check the right door sensor flag. If it is damaged, replace the right door.
4. If this product was previously serviced, reconnect the connector (J708) on the 24V interlock switch and the connector (J181) on the DC controller PCA.

Close upper right door For help press ?

Description

The upper-right door of the product is open.

Recommended action

1. Close the door.
2. Use the right-door switch (SP15) test in the Manual sensor test to verify that the switch is properly functioning. If the switch fails the test, replace the switch.

3. Check the sensor flag on the right door assembly. If it is damaged, replace the door assembly.
4. If the product has been recently serviced, check the connector (J708) on the 24V interlock switch and the connector (J181) on the DC controller PCA.

Cooling device

Description

The product is cooling.

Recommended action

No action is necessary.

Data received To print last page, press OK

Description

The product is waiting for the command to print the last page.

Recommended action

Press the **OK** button to print the last page of the job.

Event log is empty

Description

No product events are in the log.

Recommended action

No action is necessary.

Expected drive missing

Description

The product cannot find the encrypted hard drive.

Recommended action

Install the encrypted hard drive.

HP Secure Hard Drive disabled

Description

The drive has been encrypted for another product.

Recommended action

Remove the drive or use the HP Embedded Web Server for more information.

Incompatible <supply>

Description

The indicated supply <supply> is not compatible with this product.

- **10.00.35** (event code)
Black print cartridge
- **10.01.35** (event code)
Cyan print cartridge
- **10.02.35** (event code)
Magenta print cartridge
- **10.03.35** (event code)
Yellow print cartridge
- Fuser kite
10.23.35 (event code)

Recommended action

Replace the supply with one that is designed for this product.

Incompatible supplies

Description

Print cartridges or other supply items are installed that were not designed for this product. The product 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 product.

Initializing...

Description

The product is starting.

Recommended action

No action is necessary. Wait until the **Ready** message displays on the control-panel.

Install <supply>

Description

A supply item is either not installed or installed incorrectly.

- Black cartridge
10.00.15 (event code)
- Cyan cartridge
10.10.15 (event code)
- Magenta cartridge
10.02.15 (event code)
- Yellow cartridge
10.03.15 (event code)
- Fuser kite
10.23.15 (event code)

Recommended action

Install the supply item or make sure that the installed supply item is fully seated.

Install <supply> Close rear door

Description

The toner collection unit has been removed or has been installed incorrectly.

- Toner collection unit
10.31.15 (event code)

Recommended action


Replace or reinstall the toner collection unit correctly to continue printing.

Install Fuser Unit

Description

The fuser has been removed or installed incorrectly.

Recommended action

 **CAUTION:** The fuser can be hot while the product is in use. Wait for the fuser to cool before handling it.

1. Open the right door.
2. Install or adjust the fuser.
3. Close the right door.

Install supplies

Description

More than one supply is missing or is installed incorrectly.

Recommended action

Press the **OK** button to identify the supplies that need to be replaced.

Press the **OK** button a second time for more information about the specific supply.

Insert the supply or make sure it is correctly installed and fully seated.

Install Transfer Unit

Description

The transfer unit is either not installed or not installed correctly.

Recommended action

1. Open the right door.
2. Install the ITB.



NOTE: If the ITB is already installed, remove it, and then reinstall the ITB.

3. Close the right door.
4. If the error persists, use the ITB alienation sensor switch (SW5) in the manual sensor test to verify that the switch is properly functioning. If it is not, replace the main drive assembly.
5. If the error persists, use the T1 roller engagement and disengagement drive test in the component test to verify that the ITB alienation mechanism is properly functioning. If it is not, replace the fuser drive assembly.
6. If the product was recently serviced, check the connector (J181) on the DC controller PCA.

Internal disk not functional

Description

The product internal disk is not working correctly.

Recommended action

1. Turn off the product, and then remove and reinstall the disk. Turn on the product.
2. If the error persists, replace the internal hard drive.

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.

Load Tray <X>: [Type], [Size]

Description

This message displays even though there is media loaded in the tray.

Recommended action

Use the cassette media present sensor test in the [Tray/bin manual sensor test](#) to verify that the sensor is correctly functioning.

Make sure that the sensor flag on the media presence sensor is not damaged and moves freely.

Reconnect the corresponding connector:

- MP tray: connector (J736) on the MP tray media out sensor and the connector (J152) on the DC controller PCA.
- Printer cassette: connectors (J739 and J742) on the cassette media out sensor and the connector (J151) on the DC controller PCA.
- 1 X 500-sheet paper feeder cassette: connector (J702D) on the paper feeder cassette media out sensor and the connector (J2003) on the paper feeder controller PCA.
- Paper deck cassette 1: connector (J702D) on the paper deck cassette 1 media out sensor and connector (J2003) on the paper deck controller PCA 1
- Paper deck cassette 2: connector (J802D) on the paper deck cassette 2 media out sensor and connector (J2003B) on the paper deck controller PCA 2.
- Paper deck cassette 3: connector (J902D) on the paper deck cassette 3 media out sensor and connector (J2003C) on the paper deck controller PCA 3.

Load Tray <X>: [Type], [Size] To use another tray, touch OK

Description

This message displays when the indicated tray is selected but is not loaded, and other paper trays are available for use. It also displays when the tray is configured for a different paper type or size than the print job requires.

Recommended action

Load the correct paper in the tray.

If prompted, confirm the size and type of paper loaded.

Otherwise, press the **OK** button to select another tray.

Loading program <XX>

Description

Programs and fonts can be stored on the product's file system and are loaded into RAM when the product 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 product off.

Manually feed output stack Then touch "OK" to print second sides

Description

The product 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

The even-numbered pages of the two-sided document have printed. Follow the next steps to print the odd-numbered pages.

1. Maintaining the same orientation, remove the document from the output bin. Do not discard blank pages.
2. Flip the document over so the printed side is up.
3. Load document in Tray 1.
4. Touch the **OK** button to print the second side of the job.

Manually feed: [Type], [Size] To continue, touch "OK"

Description

This message displays when manual feed is selected, Tray 1 is not loaded, and other trays are available.

Recommended action

- Load tray with requested paper.
- If paper is already in tray, touch the **Help** button to exit the message, and then touch the **OK** button to print.
- To use another tray, clear paper from Tray 1, touch the **Help** button to exit the message, and then touch the **OK** button.

Manually feed: [Type], [Size] To use another tray, touch OK**Description**

This message displays 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 product is not actively processing any jobs.

Recommended action

No action necessary.

Paused

Description

The product 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 Color Band Test...

Description

A color-band test is being performed.

Recommended action

No action necessary.

Performing Paper Path Test...

Description

A paper-path test is being performed.

Recommended action

No action necessary.

Please wait...

Description

The product is in the process of clearing data.

Recommended action

No action necessary.

Printing CMYK samples...

Description

The product is printing the CMYK sample pages.

Recommended action

No action necessary.

Printing Color Usage Log...

Description

The product is printing the Color Usage log.

Recommended action

No action necessary.

Printing Configuration...**Description**

The product is printing the Configuration page.

Recommended action

No action necessary.

Printing Demo Page...**Description**

The product is printing the Demo page.

Recommended action

No action necessary.

Printing Diagnostics Page...**Description**

The product is printing the Diagnostics page.

Recommended action

No action necessary.

Printing Engine Test...**Description**

The product is printing an Engine Test page.

Recommended action

No action necessary.

Printing Event Log...**Description**

The product is printing the Event Log page.

Recommended action

No action necessary.

Printing File Directory...

Description

The product is printing the File Directory pages.

Recommended action

No action necessary.

Printing Font List...

Description

The product is printing the Font List pages.

Recommended action

No action necessary.

Printing Fuser Test Page...

Description

The product is printing the Fuser Test page.

Recommended action

No action necessary.

Printing Help Page...

Description

The product is printing the Help page.

Recommended action

No action necessary.

Printing Menu Map...

Description

The product is printing the Menu Map pages.

Recommended action

No action necessary.

Printing PQ Troubleshooting...

Description

The product is printing the PQ Troubleshooting pages.

Recommended action

No action necessary.

Printing Registration Page...**Description**

The product is printing the Registration pages.

Recommended action

No action necessary.

Printing RGB Samples...**Description**

The product is printing the RGB Sample pages.

Recommended action

No action necessary.

Printing stopped**Description**

Time has expired on the Print/Stop test.

Recommended action

Press the **OK** button to continue.

Printing Supplies Status page...**Description**

The product is printing the Supplies Status page.

Recommended action

No action necessary.

Printing Usage Page...**Description**

The product 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 product is actively processing a job from the designated tray.

Recommended action

No action necessary.

Processing... <filename>

Description

The product 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 product 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.

Ready

Description

The product is online and ready for data. No status or product attendance messages are pending at the display.

Recommended action

No action is necessary.

Ready <IP Address>

Description

The product is online and ready for data. No status or product attendance messages are pending at the display. The product IP address displays.

Recommended action

No action is necessary.

Remove all toner cartridges

Description

The product is testing the transfer unit assembly.

Recommended action

To perform the test, remove all the print cartridges. To cancel the test, press the [Stop](#) button ⊗.

To exit press X

Remove at least one toner cartridge

Description

The product is testing the print-cartridge motor.

Recommended action

To perform the test, remove at least one print cartridge. To cancel the test, press the [Stop](#) button ⊗.

To exit press X

Remove shipping lock from Tray 2

Description

The Tray 2 shipping lock was not removed before you turned the product on.

Recommended action

Open tray 2, and then remove the shipping lock.

Replace <supply>


Description

This alert displays only if the product is configured to stop when a supply reaches the very low threshold. The product 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 product 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
- **10.01.70** (event code)
Cyan print cartridge
- **10.02.70** (event code)
Magenta print cartridge
- **10.03.70** (event code)
Yellow print cartridge
- **10.23.70** (event code)
Fuser Kit
- **10.31.70** (event code)
Toner collection unit
- **10.22.70** (event code)
Transfer kit

Recommended action

Replace the specified supply.

Or, configure the product to continue printing by using the [Manage Supplies](#) menu.

Replace supplies

Description

This alert displays only if the product is configured to stop when a supplies reach the very low threshold. Two or more supplies have reached the estimated end of life. The product 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 toner cartridge
- **10.01.70** (event code): Cyan toner cartridge
- **10.02.70** (event code): Magenta toner cartridge
- **10.03.70** (event code): Yellow toner cartridge
- **10.23.70** (event code): Fuser kit
- **10.31.70** (event code): Toner collection unit
- **10.22.70** (event code): Transfer kit

Recommended action

1. Touch the **OK** button to find out which supplies need to be replaced.
2. Configure the product to continue printing by using the [Manage Supplies](#) menu.

Restore Factory Settings

Description

The product is restoring factory settings.

Recommended action

No action necessary.

Restricted from printing in color

Description

This message displays when color printing is disabled for the product or when it is disabled for a particular user or print job.

Recommended action

To enable color printing for the product, change the [Restrict color use](#) setting in the [Manage Supplies](#) menu.

Rotating <color> motor

Description

A component test is in progress. the component selected is the indicated <color> cartridge motor.

<color> =

- Black
- Cyan
- Magenta
- Yellow

Recommended action

Press the **Stop** button ⊗ when ready to stop this test.

To exit press X

Rotating Motor

Description

The product 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 ▼

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 that the paper is positioned correctly.
3. Close the tray and verify that the control panel lists the correct paper size and type. Reconfigure the size and type if necessary.
4. If necessary, use the control-panel menus to reconfigure the size and type settings for the specified tray.

Sleep mode on

Description

The product 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 in wrong positions

Description

Two or more print-cartridge slots contain the wrong print cartridge.

From left to right, the print cartridges should be installed in the following order:

- Yellow
- Magenta
- Cyan
- Black

Recommended action

Install the correct cartridge in each slot.

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
- X = 6
Tray 6

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 product does not sense that the paper is loaded. Remove the shipping lock, and then load the tray.

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
- X = 6
Tray 6

Recommended action

Remove enough paper so that the paper stack does not exceed the limit for the tray.



NOTE: If this message displays after lifter drive assembly was removed or replaced, make sure that the connector on the assembly is correctly connected and fully seated.

Troubleshooting

Description

The product is in the troubleshooting process.

Recommended action

Press the **Stop** ⊗ button .

To exit press X

Type mismatch Tray <X>

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 product.

Recommended action

1. Turn the product off.
2. Remove the hard drive.
3. Turn the product on.

Unsupported supply in use OR Unsupported supply installed To continue, touch "OK"

Description

A non-supported supply has been installed.

OR

One of the print cartridges is for a different HP product.

- XX = 00
Black print cartridge
- XX = 01
Cyan print cartridge
- XX = 02
Magenta print cartridge
- XX = 03
Yellow print cartridge

Recommended action

Install the correct supplies for this product. See the parts chapter in the repair manual for supply part numbers.

Unsupported tray configuration

Description

The product has too many optional trays installed.

Recommended action

Turn the product off, remove the unsupported trays, and then turn the product on.

Unsupported USB accessory detected Remove USB accessory

Description

A non-supported USB accessory has been installed.

Recommended action

Turn the product off, remove the USB accessory, and then turn the product on.

USB accessory needs too much power Remove USB and turn off then on

Description

A USB accessory is drawing too much electrical current. Printing cannot continue.

Recommended action

Remove the USB accessory. Turn the product off, and then on.

Use a USB accessory that uses less power or that contains its own power supply.

USB accessory not functional

Description

A USB accessory is not working correctly.

Recommended action

1. Turn the product off.
2. Remove the USB accessory.
3. Insert a replacement USB accessory.

Used supply installed To continue, touch "OK" OR Used supply in use

Description

One of the print cartridges has been previously used.

- XX = 00
Black print cartridge
- XX = 01
Cyan print cartridge
- XX = 02
Magenta print cartridge
- XX = 03
Yellow print cartridge

Recommended action

If you believe you purchased a genuine HP supply, go to www.hp.com/go/anticounterfeit.

Wrong cartridge in <color> slot

Description

The indicated slot for a toner cartridge contains a toner cartridge that is not the correct color.

The indicated toner cartridge is installed in the wrong position:

- **10.00.25** (event code): Black toner cartridge
- **10.01.25** (event code): Cyan toner cartridge
- **10.02.25** (event code): Magenta toner cartridge
- **10.03.25** (event code): Yellow toner cartridge

Recommended action

Remove the toner cartridge from that slot, and install a toner cartridge that is the correct color.

Event log messages

See the control-panel message and event-log entries section of the product reoubleshooting manual for event-log entry descriptions and solutions.

Figure 2-50 Sample event log

The image shows a screenshot of an event log for an HP LaserJet 500 color m551 printer. The log is titled 'Event Log' and includes the product name and 'Page 1'. The log entries are organized into columns. Callout 1 points to the header area. Callouts 2 through 8 point to specific columns in the log entries, which are represented by horizontal bars of varying lengths. The columns correspond to the following fields: Event number, Date and time, Engine cycles, Event log code, Firmware version number, Description of personality, and Consecutive Repeats.

1	Product information
2	Event number
3	Date and time
4	Engine cycles
5	Event log code
6	Firmware version number
7	Description of personality
8	Consecutive Repeats

Print or view an event log



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 or view the event log from the Administration menu

1. From the [Home](#) screen on the product 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 or view the event log from the Service menu

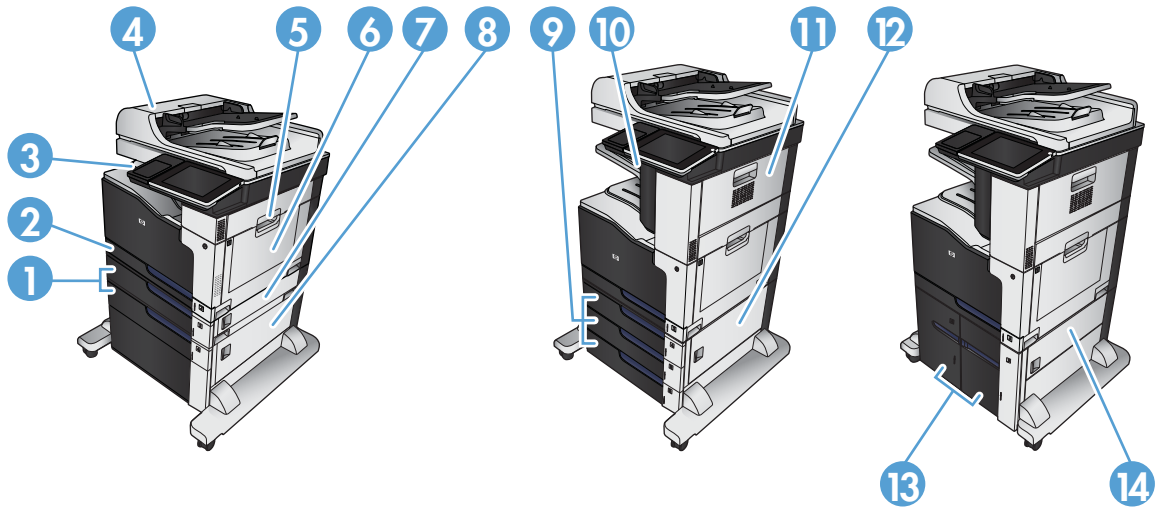
1. From the [Home](#) screen on the product control panel, scroll to and touch the [Device Maintenance](#) button.
2. Open the [Service](#) menu.
3. On the sign-in screen, select the [Service Access Code](#) option from the drop-down list.
4. Enter the following service access code for this product: [Specs Service Pin](#).
5. Open the [Event Log](#) menu.
6. The event log displays on the screen. To print it, touch the [Print](#) button.

Clear an event log

1. From the [Home](#) screen on the product 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 this product: [Specs Service Pin](#).
5. Open the [Event Log](#) menu.
6. Select the [Clear Event Log](#) item, and then touch the [OK](#) button.

Clear jams

Jam locations



1	500-sheet trays (1 x 500 sheet feeder and the 1 x 500-sheet feeder with cabinet)
2	Tray 2
3	Output bin
4	Document feeder
5	Right door (also provides access to the fuser)
6	Tray 1
7	1 x 500-sheet feeder jam-access door
8	1 x 500-sheet feeder with cabinet jam-access door
9	500-sheet trays (3 x 500-sheet feeder)
10	Stapler/stacker output bin
11	Stapler/stacker door (also provides access to the staple cartridge)
12	3 x 500-sheet feeder jam-access door
13	3,500-sheet high-capacity trays
14	3,500-sheet high-capacity tray jam-access door

Paper path sensor locations

Use the diagrams in this section to locate the paper path sensors in the product.

Figure 2-51 Sensors (product base)

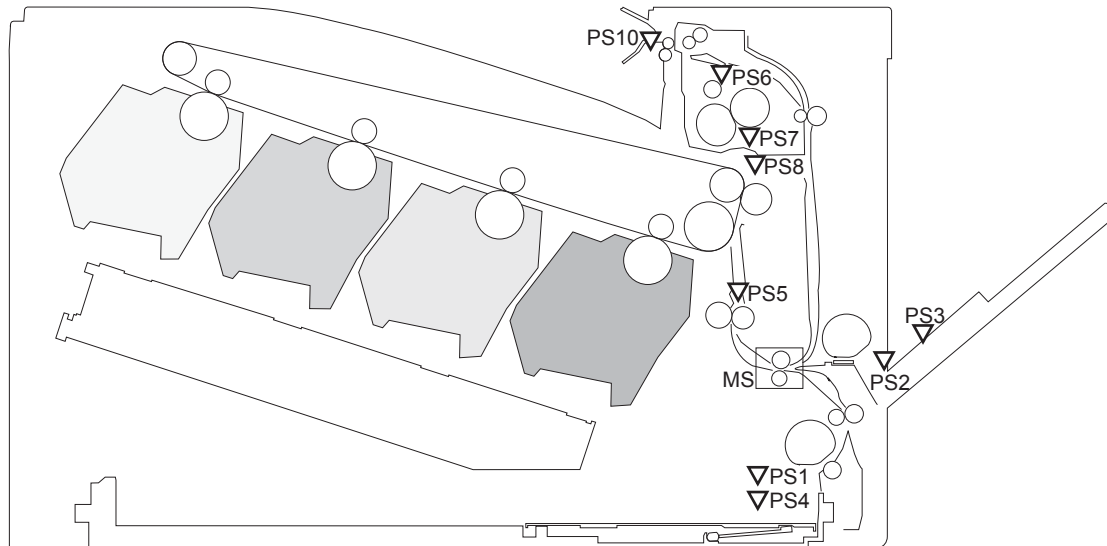
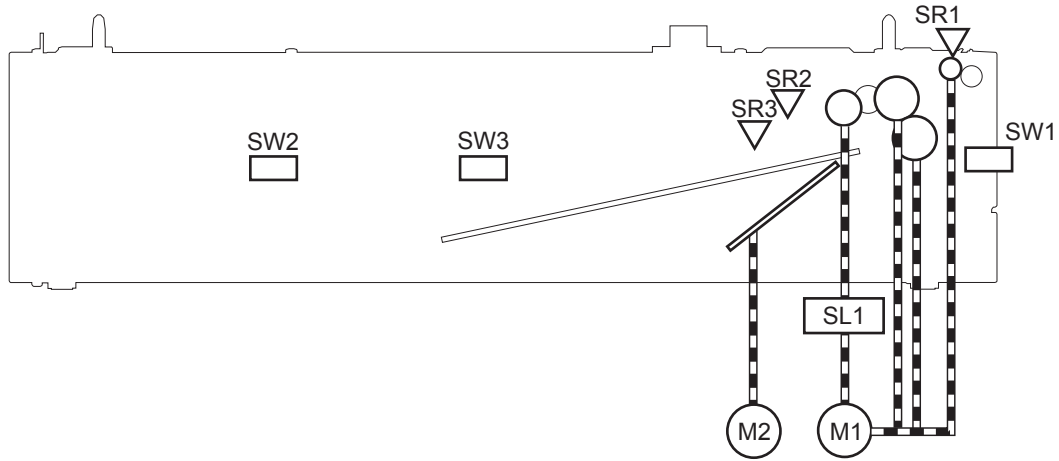


Table 2-51 Photo sensors and switches (product)

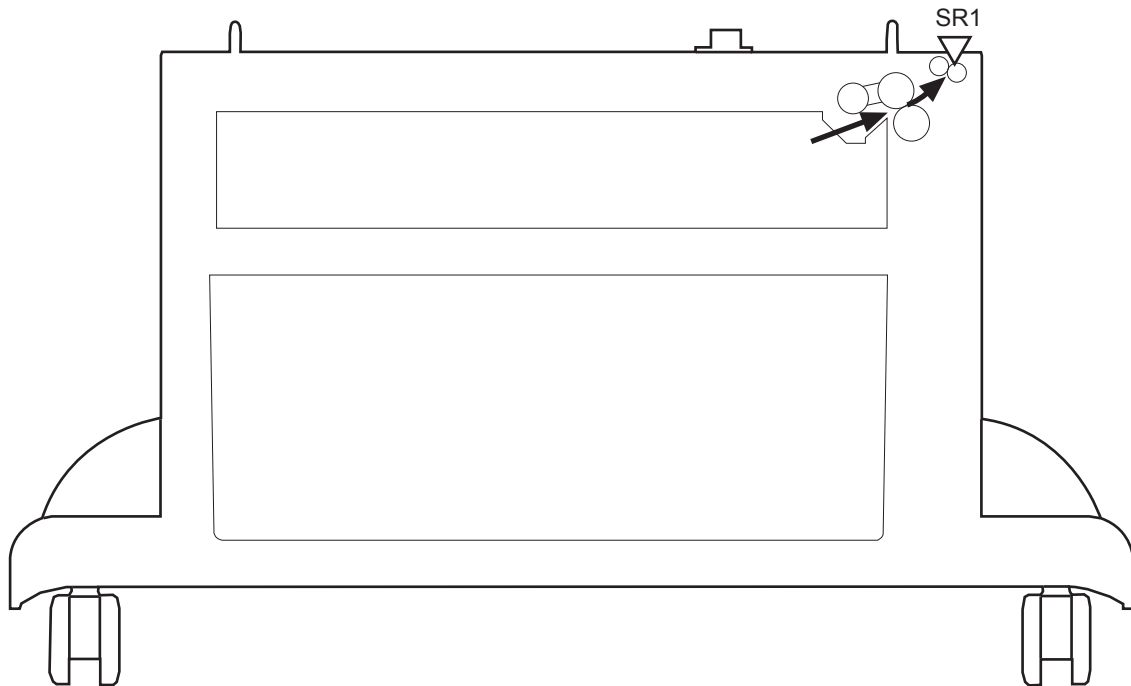
Item	Description	Item	Description
PS1	Tray 2 cassette paper-out sensor	PS6	Fuser delivery sensor
PS2	Tray 1 (MP tray) paper-out sensor	PS7	Loop sensor 1
PS3	Last-paper sensor	PS8	Loop sensor 2
PS4	Tray 2 cassette paper-stack surface sensor	PS10	Face-down output bin paper full sensor
PS5	Top-of-Page (TOP) sensor	MS	Media sensor

Figure 2-52 Sensor locations; 1x500-sheet paper feeder (PF)



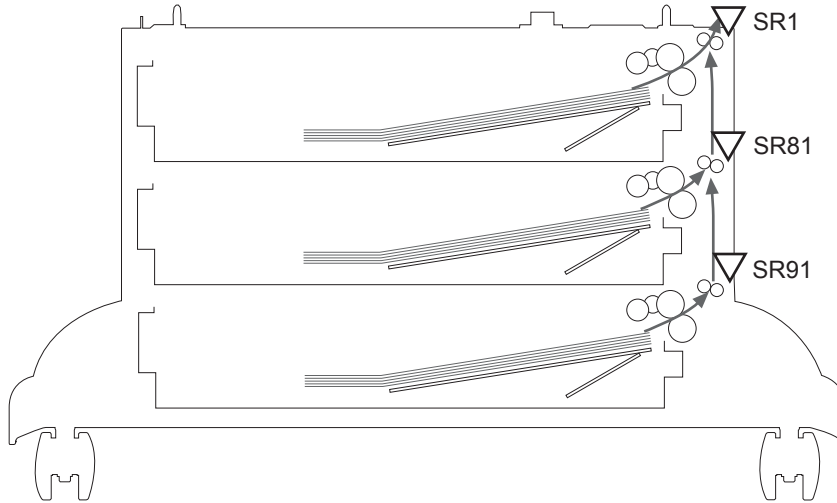
Component abbreviation	Component name
SR1	Paper feeder media feed sensor
SR2	Paper feeder media stack surface sensor
SR3	Paper feeder cassette media out sensor

Figure 2-53 Sensor locations; 1x500-sheet paper deck



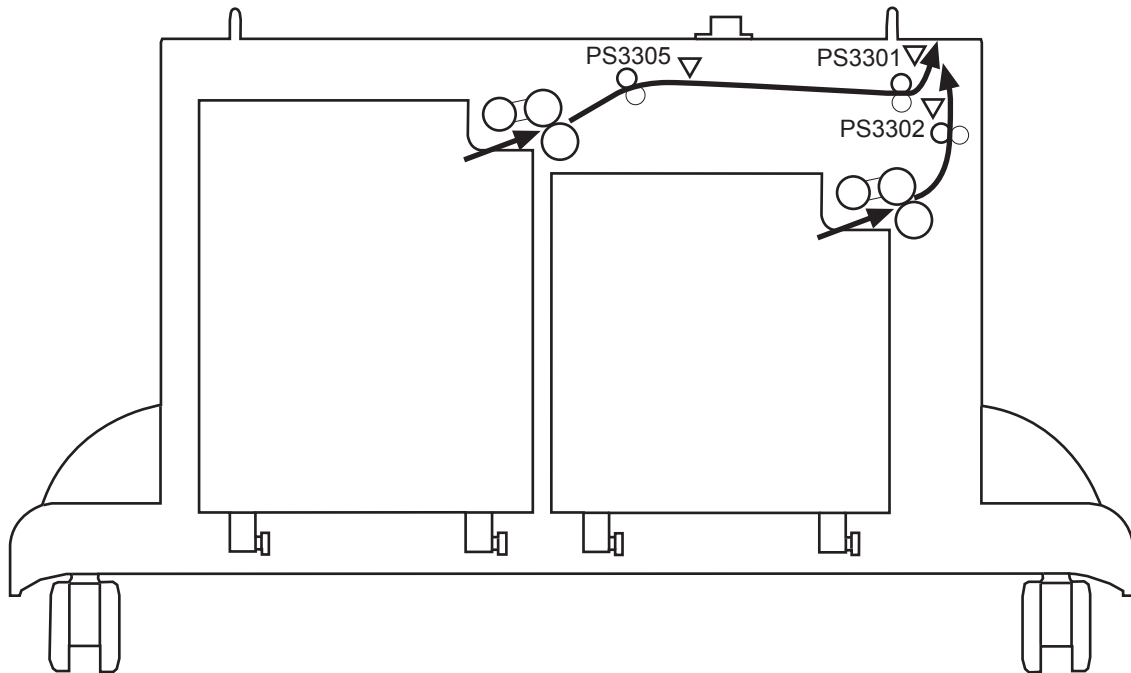
Component abbreviation	Component name
SR1	Paper deck media feed sensor

Figure 2-54 Sensor locations; 3x500-sheet paper deck



Component abbreviation	Component name
SR1	Paper deck cassette 1 media feed sensor
SR81	Paper deck cassette 2 media feed sensor
SR91	Paper deck cassette 3 media feed sensor

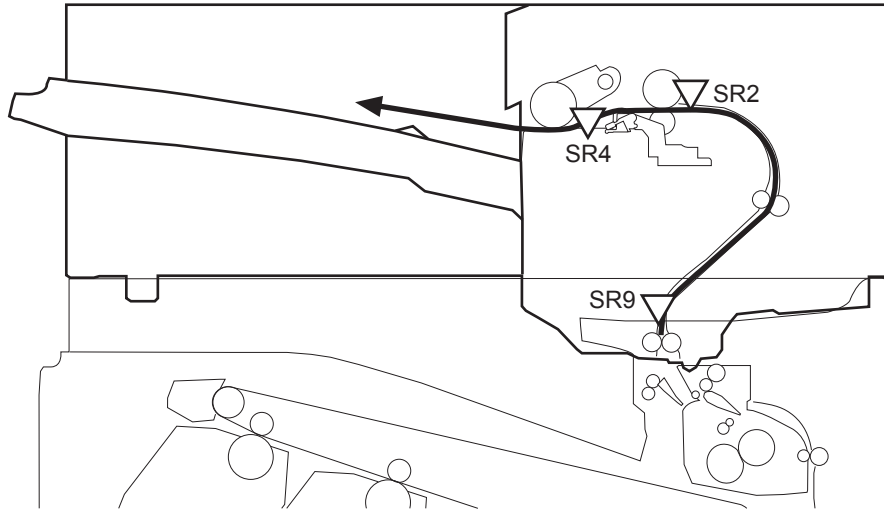
Figure 2-55 Sensor locations; high capacity input feeder



Component abbreviation	Component name
PS3301	HCI media feed sensor

Component abbreviation	Component name
PS3302	HCI right cassette media feed sensor
PS3305	HCI left cassette media feed sensor

Figure 2-56 Sensor locations; stapler stacker



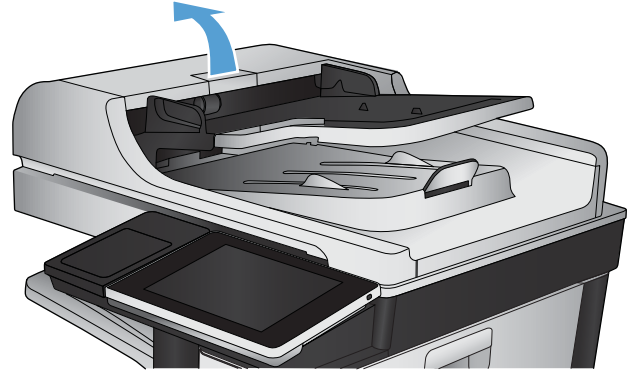
Component abbreviation	Component name
SR2	Media feed sensor
SR4	Staple tray media presence sensor
SR9	Inlet sensor

Auto-navigation for clearing jams

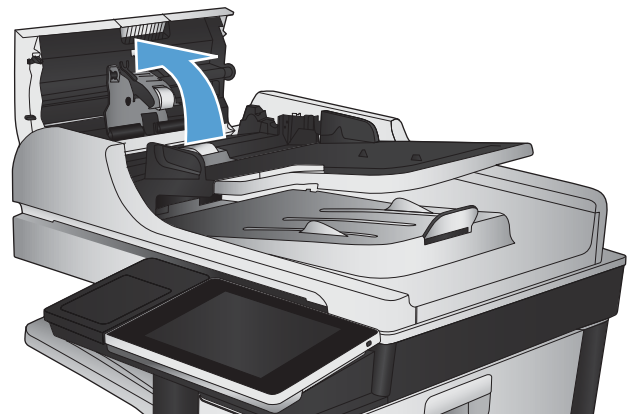
The auto-navigation feature assists you in clearing jams by providing step-by-step instructions on the control panel. When you complete a step, the product displays instructions for the next step until you have completed all steps in the procedure.

Clear jams in the document feeder

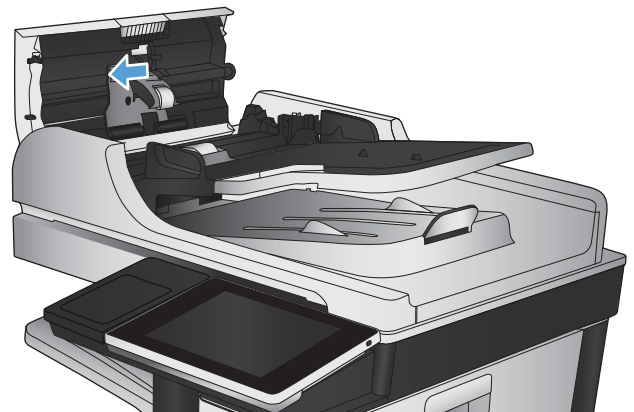
1. Lift the latch to release the document-feeder cover.



2. Open the document-feeder cover.

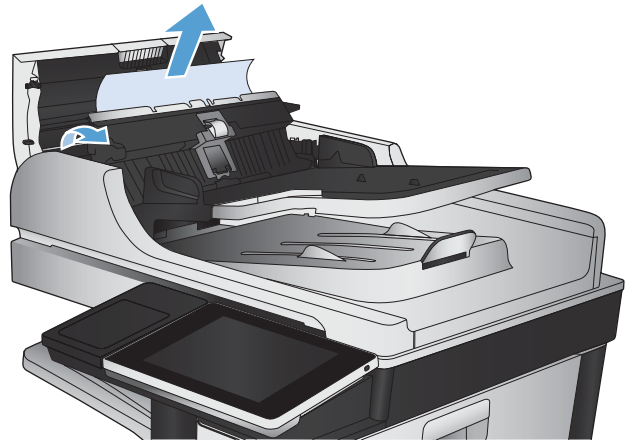


3. Press on the door next to the document-feeder rollers to make sure it is closed completely.

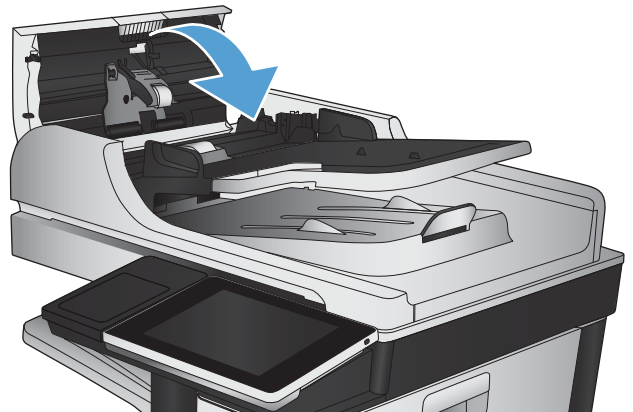



4. Lift the jam-access door, and remove any jammed paper.


To avoid damaging the original document if it is difficult to remove, rotate the green wheel at the front of the document feeder to move the paper in the reverse direction.



5. Close the document-feeder cover.

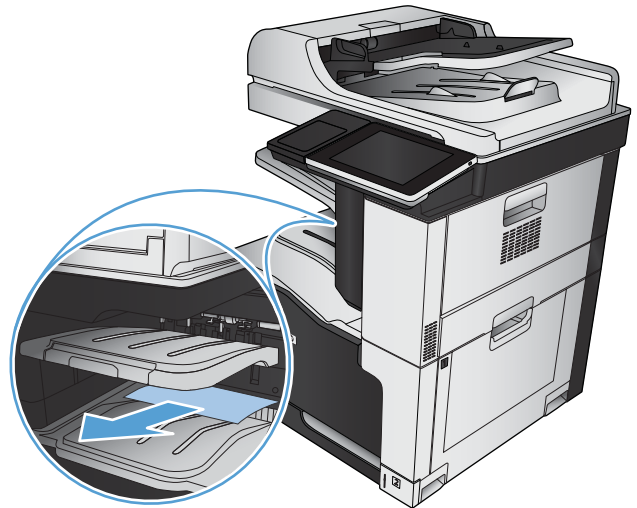


 **NOTE:** To avoid jams, make sure the guides in the document feeder input tray are adjusted tightly against the document. Remove all staples and paper clips from original documents.

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

Clear jams in the output bin area

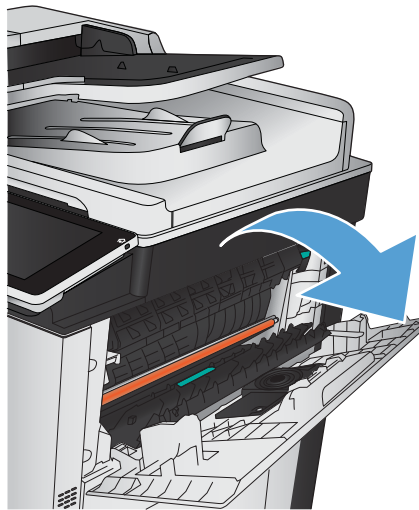
1. If paper is visible from the output bin, grasp the leading edge and remove it.



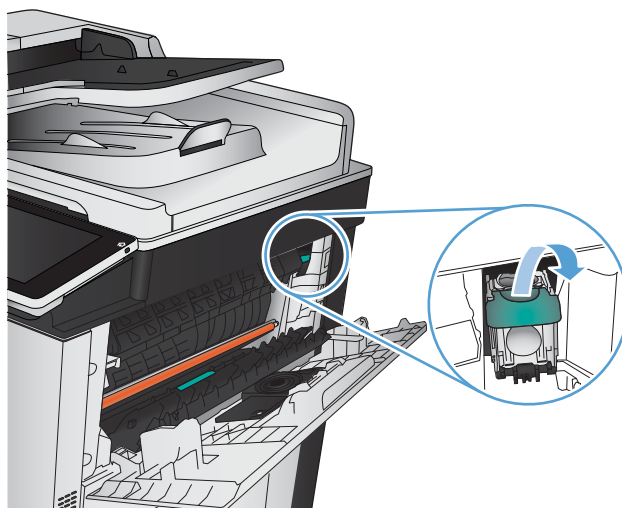
Clear staple jams

To reduce the risk of staple jams, make sure that you staple 30 or fewer pages of paper (80 g/m² (20 lb) at a time.

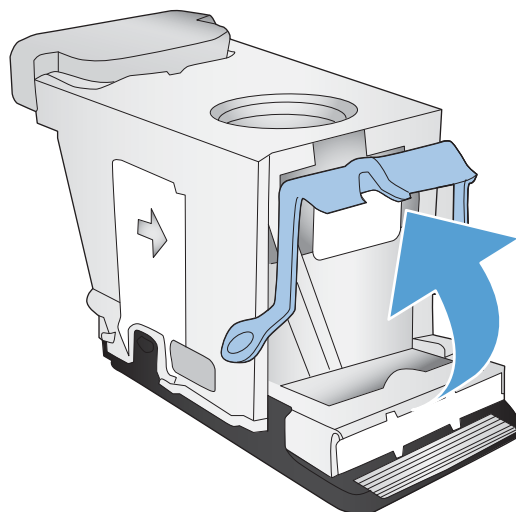
1. Open the upper-right door.



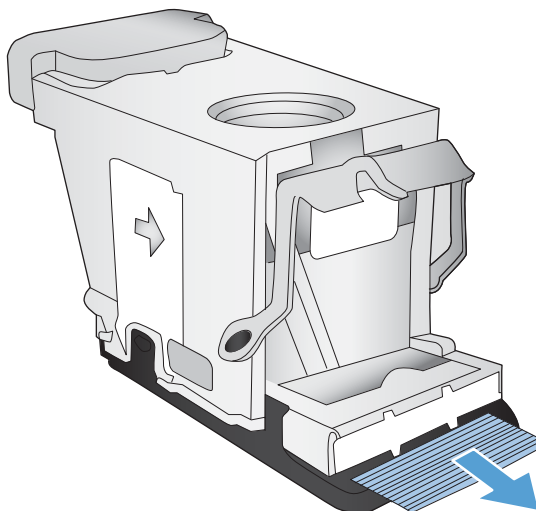
2. Pull the staple cartridge up and out to remove it.



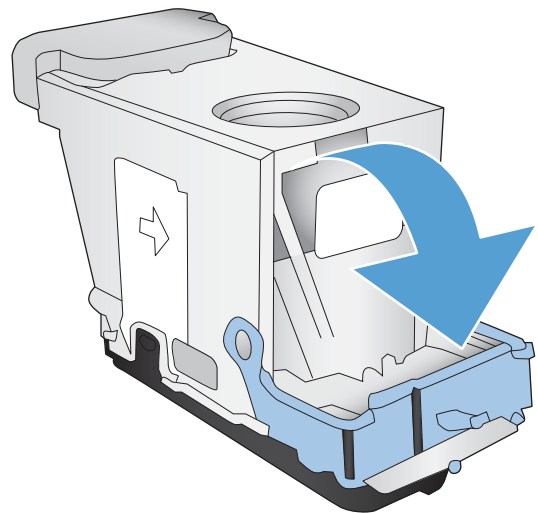
3. Lift up the handle on the front of the staple cartridge.



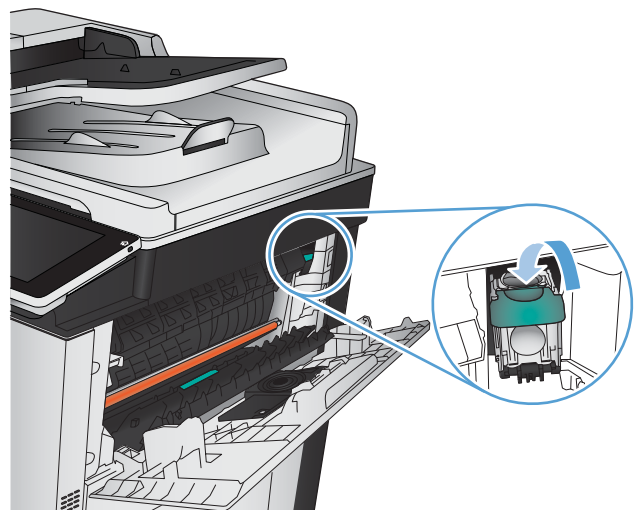
4. Remove the sheet of staples from the staple cartridge.



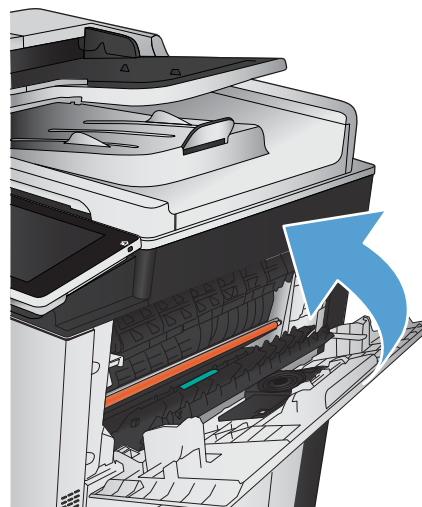
5. Push down the handle on the front of the staple cartridge.



6. Insert the staple cartridge. Press down on the top of the staple cartridge until it clicks into place.

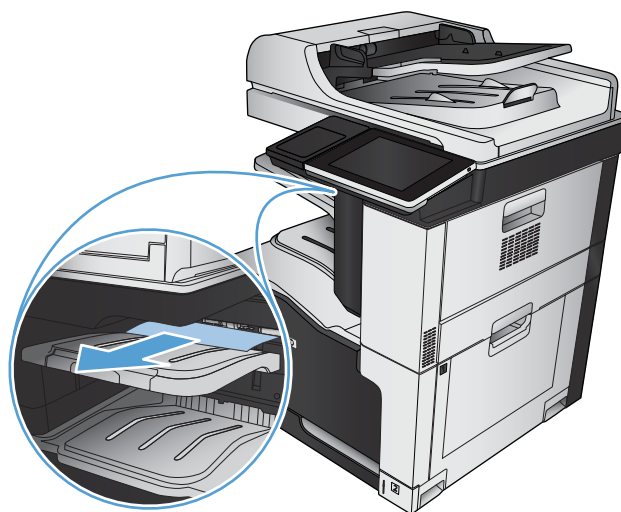


7. Close the upper-right door.

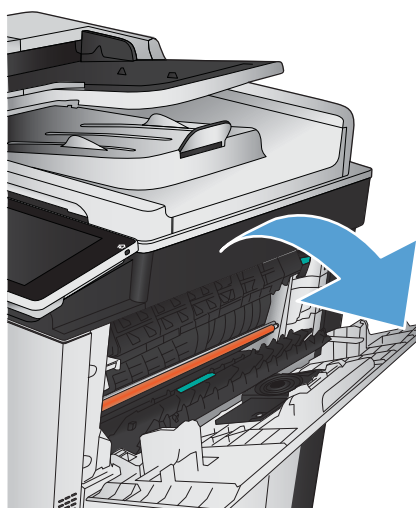


Clear jams in the stapler/stacker

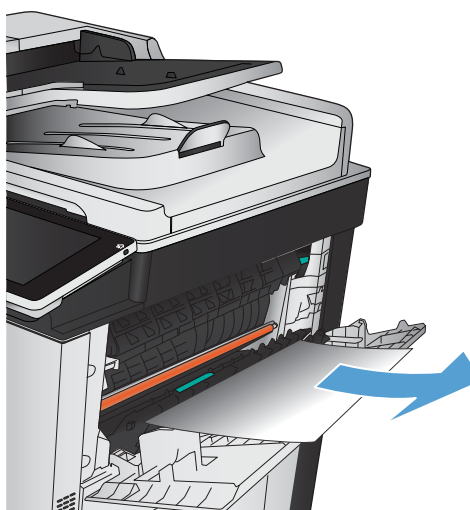
1. If paper is visible in the stapler/stacker output bin, grasp the leading edge of the paper and slowly pull the paper out of the product.



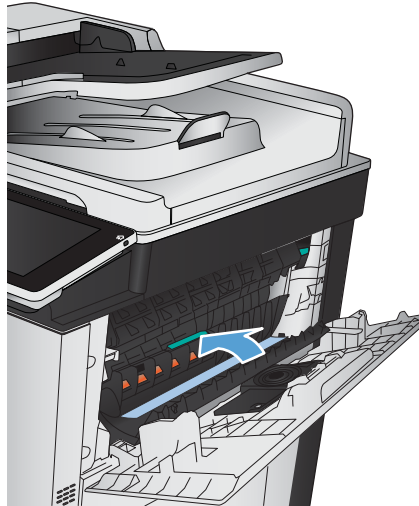
2. Open the stapler/stacker door.



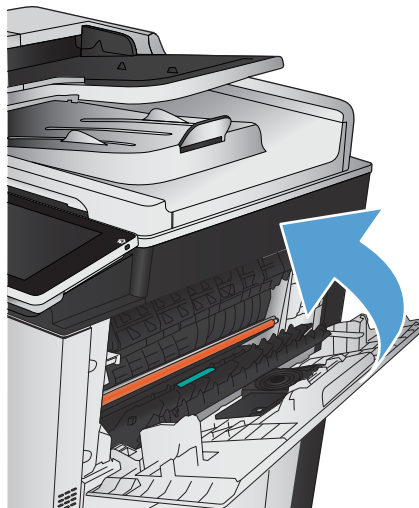
3. If jammed paper is visible, grasp both sides of the paper and slowly pull it out of the product.



4. Lift up on the green tab to open the paper guide, and remove any jammed paper that is under the guide.



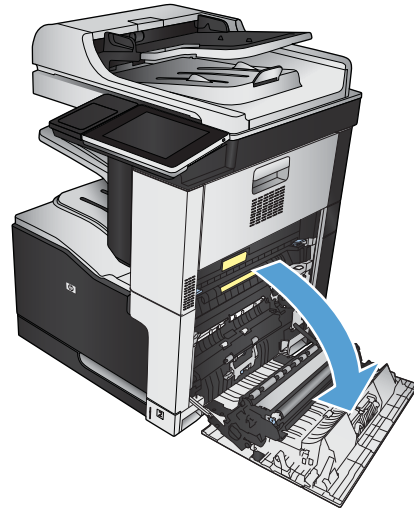
5. Close the stapler/stacker door.



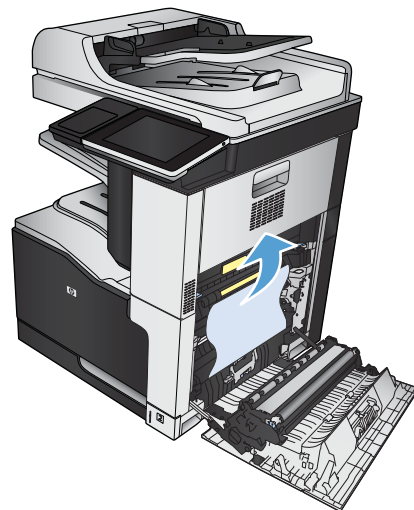
Clear jams in the right door

⚠ WARNING! The fuser can be hot while the product is in use.

1. Open the right door.

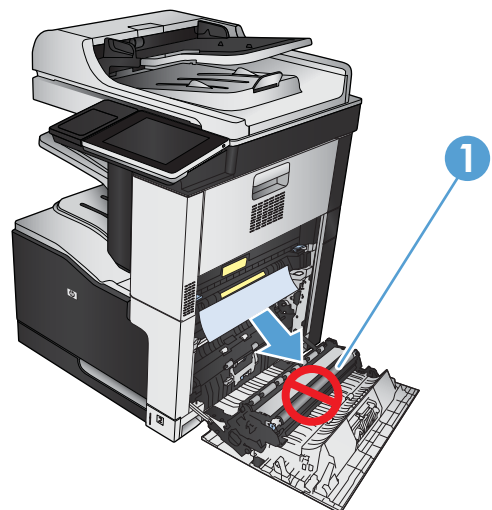


2. Gently pull the paper out of the pickup area.



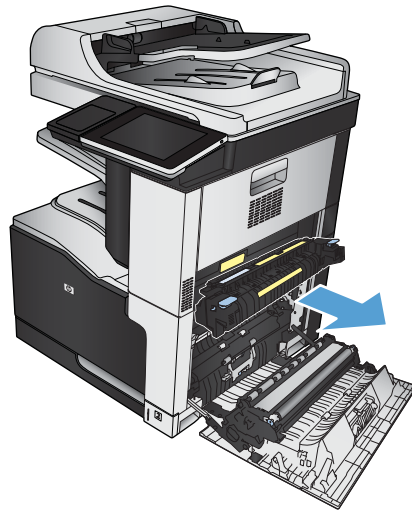
3. If paper is visible entering the bottom of the fuser, gently pull downward to remove it.

CAUTION: Do not touch the transfer roller (callout 1). Contaminants on the roller can affect print quality.

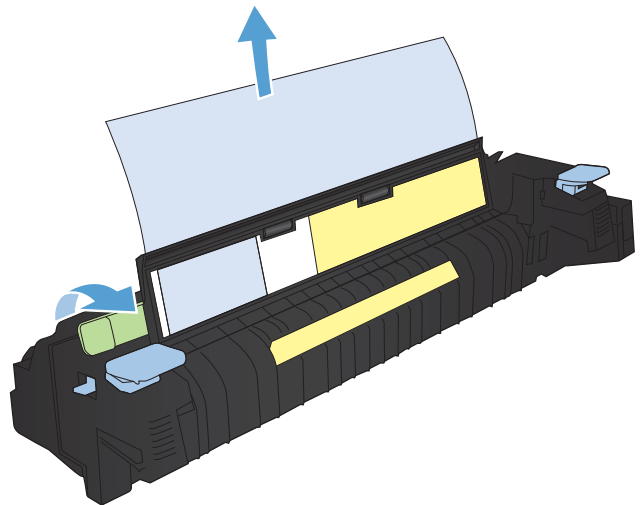


4. Paper could be jammed inside the fuser where it would not be visible. Grasp the blue handles on both sides of the fuser, and pull the fuser straight out of the product.

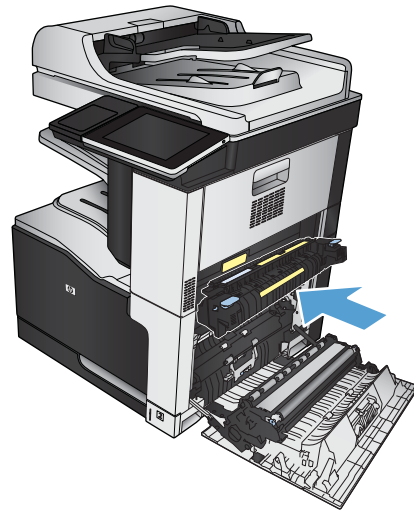
WARNING! Even if the body of the fuser has cooled, the rollers that are inside could still be hot. Do not touch the fuser rollers until they have cooled.



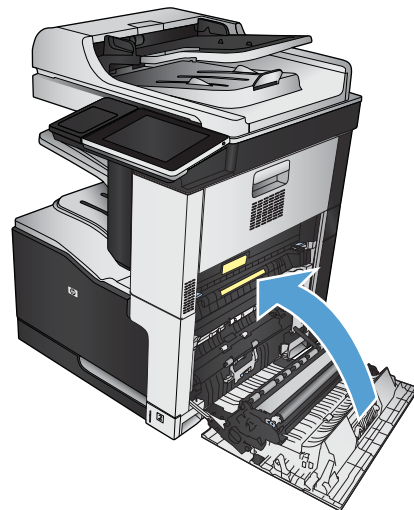
5. Pull forward on the green tab to open the fuser jam-access door. If paper is jammed inside the fuser, pull the paper straight up to remove it.



6. Align the fuser with the slots in the product, and push it straight in until it clicks into place.

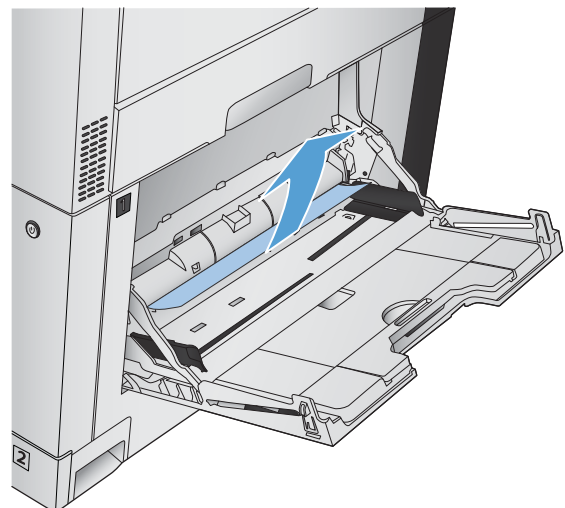


7. Close the right door.

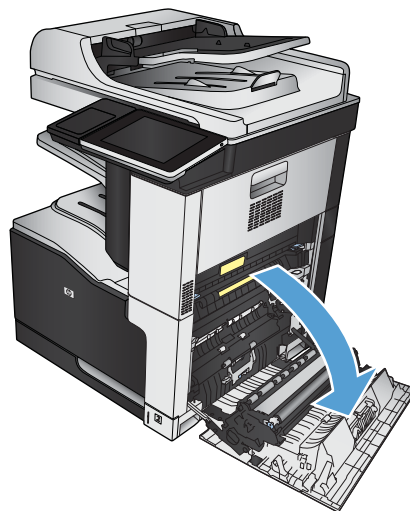


Clear jams in Tray 1

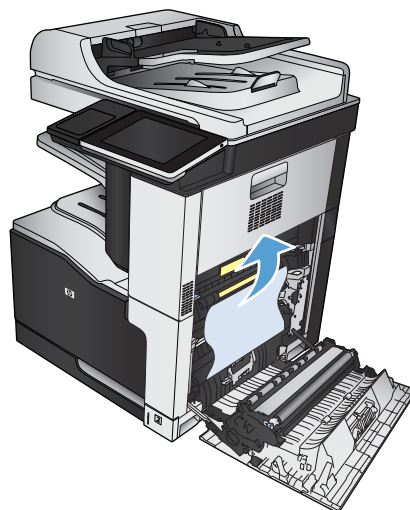
1. If jammed paper is visible in Tray 1, clear the jam by gently pulling the paper straight out.



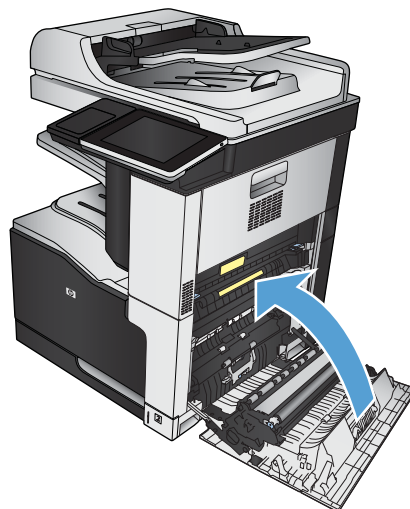
2. If you cannot remove the paper, or if no jammed paper is visible in Tray 1, close Tray 1 and open the right door.



3. Gently pull the paper out of the pickup area.

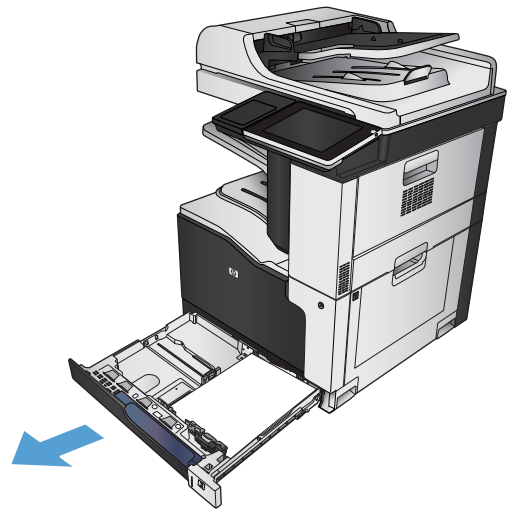


4. Close the right door.

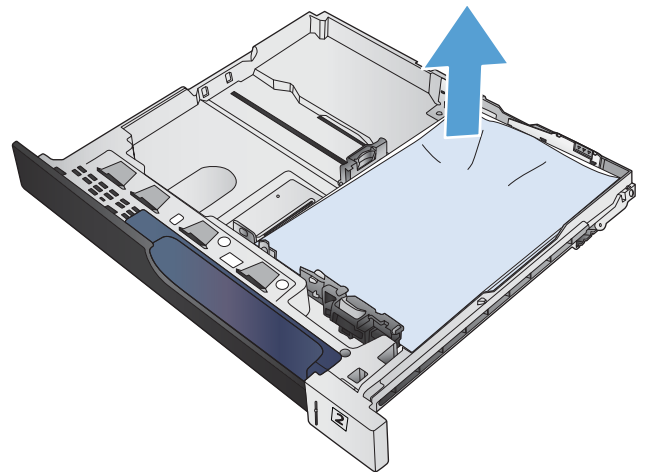


Clear jams in Tray 2

1. Remove the tray.



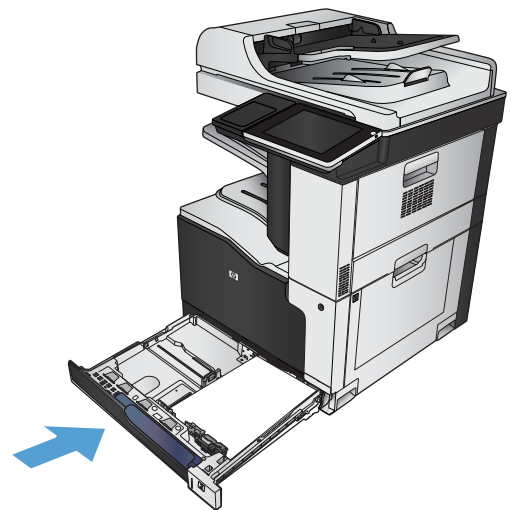
2. Remove any jammed or damaged sheets of paper.



3. Look inside the product, and remove any jammed paper from the paper-feed area.



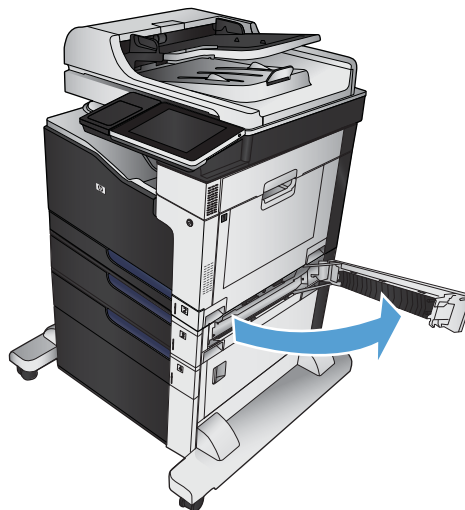
4. Reinsert and close the tray.



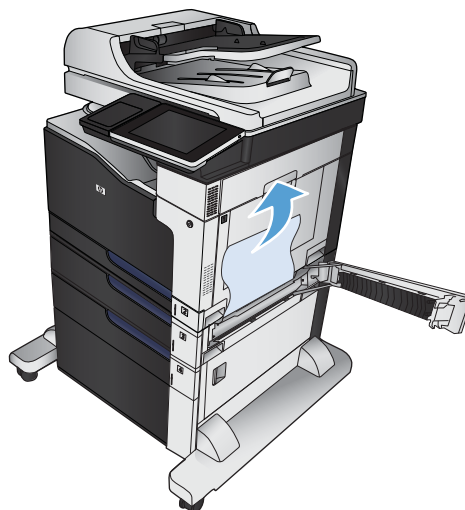
Clear jams in the 1 x 500-sheet feeder or the 1 x 500-sheet feeder with cabinet

1. Open the jam-access door.

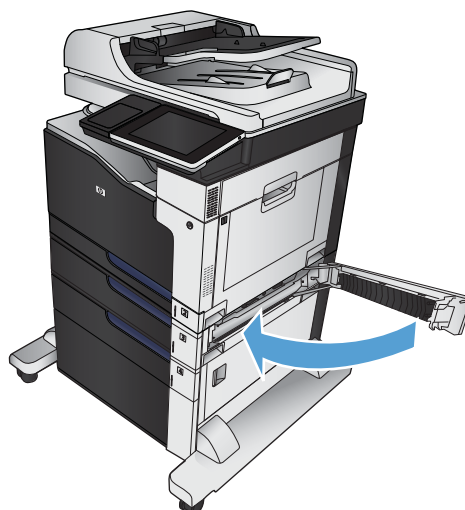
NOTE: The 1 x 500-sheet feeder and the 1 x 500-sheet feeder with cabinet each have separate jam-access doors. Open the door that corresponds with the tray that has the jam. The message on the product control panel indicates which tray has the jam.



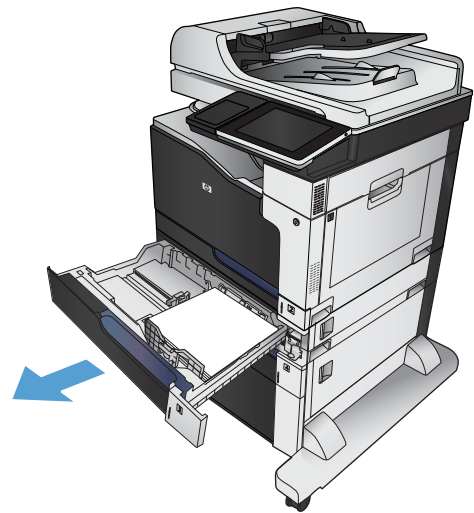
2. If jammed paper is visible, remove it.



3. Close the jam-access door.



4. Remove the 500-sheet tray.

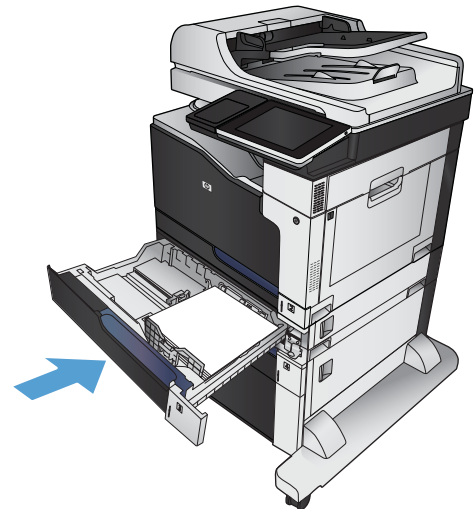


5. If the edge of the paper is visible in the feed area, slowly pull the paper down and out of the product.

NOTE: Do not force the paper if it will not move easily. If the paper is stuck in a tray, try removing it through the jam-access door.

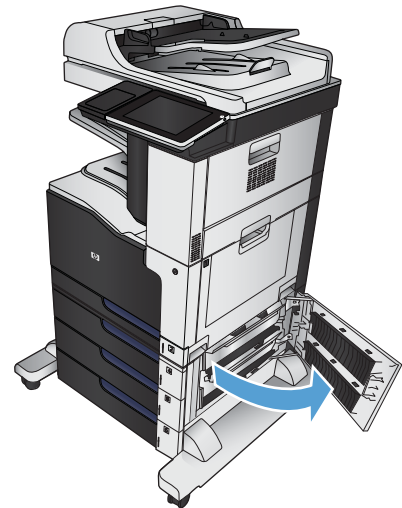


6. Reinsert and close the tray.

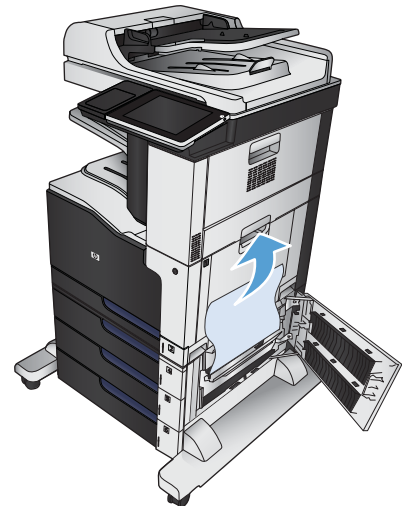


Clear jams in the 3 x 500-sheet feeder

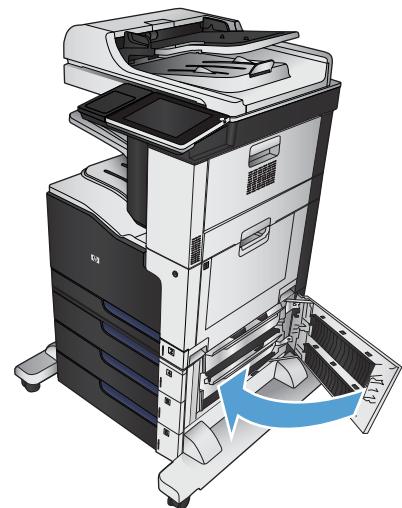
1. Open the 3 x 500-sheet feeder jam-access door.



2. If jammed paper is visible, remove it.

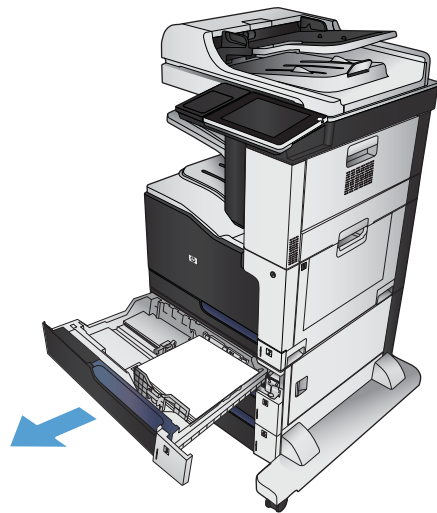


3. Close the 3 x 500-sheet feeder jam-access door.



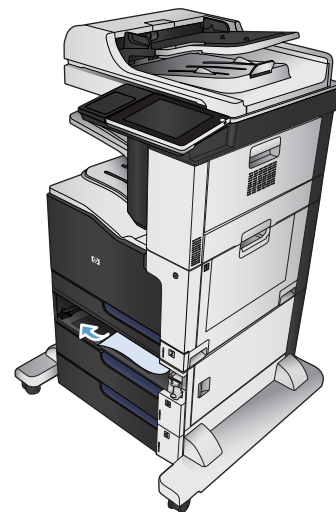
4. Remove the tray that has the jam.

NOTE: The message on the product control panel indicates which tray has the jam.

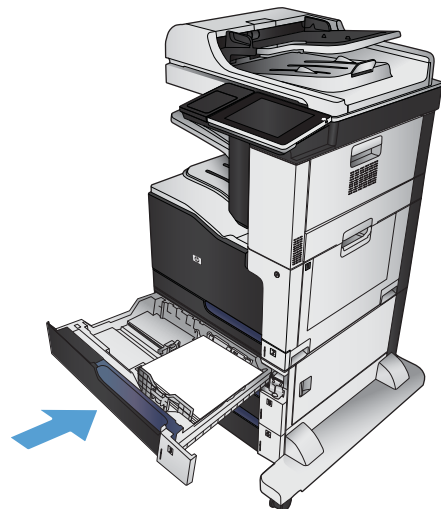


5. If the edge of the paper is visible in the feed area, slowly pull the paper down and out of the product.

NOTE: Do not force the paper if it will not move easily. If the paper is stuck in a tray, try removing it through the tray above (if applicable) or through the jam-access door.

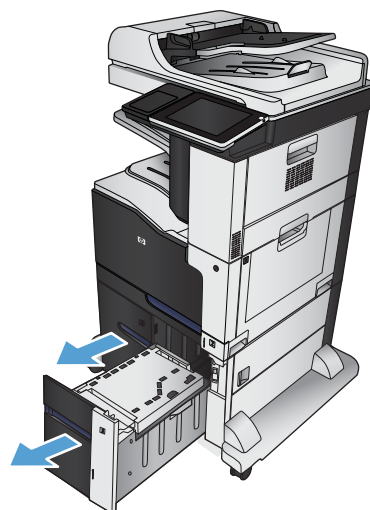


6. Reinsert and close the tray.

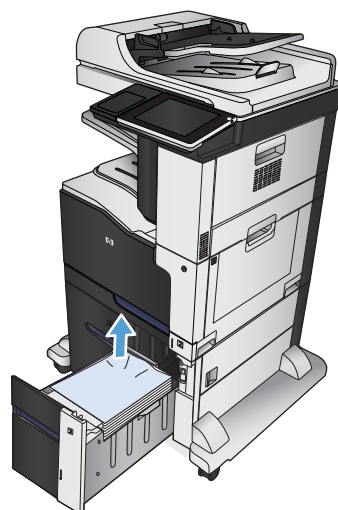


Clear jams in the 3,500-sheet high-capacity tray

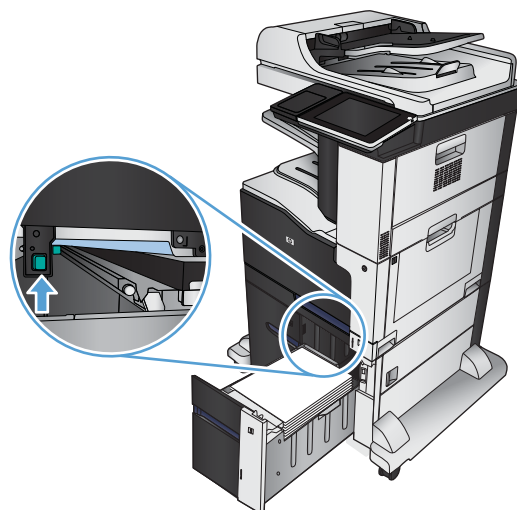
1. Open the right and left trays.



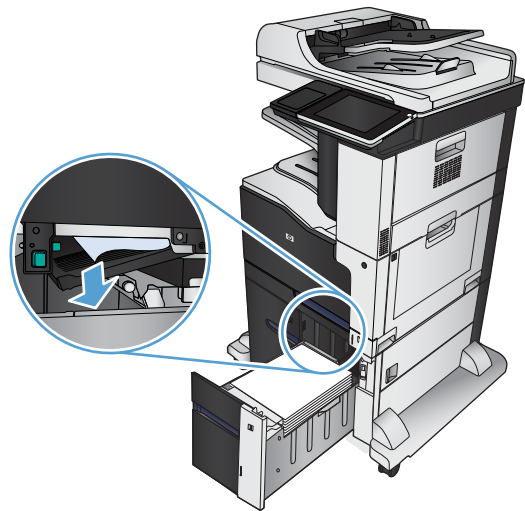
2. Remove any damaged sheets of paper.



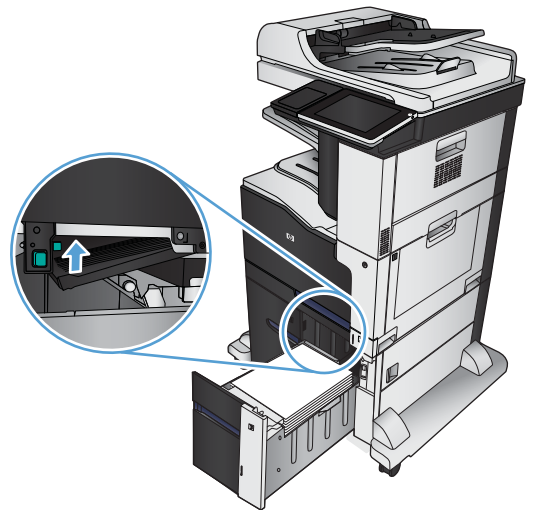
3. Above the right-side tray, press the green button to release the jam-access plate.



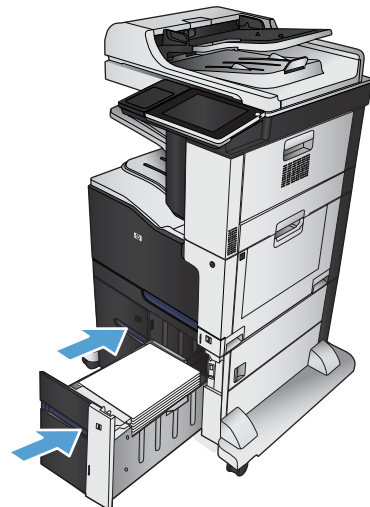
4. If jammed paper is in the feed area, pull it down to remove it.



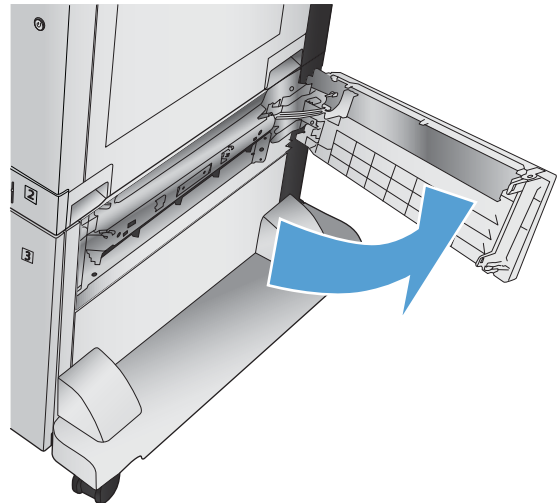
5. Push up on the jam-access plate to close it.



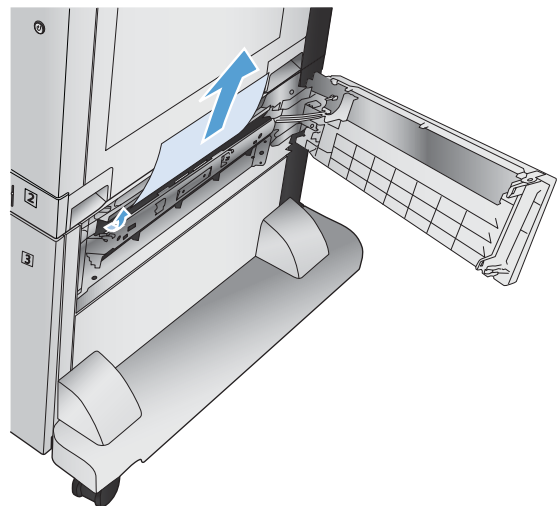
6. Close the right and left trays.



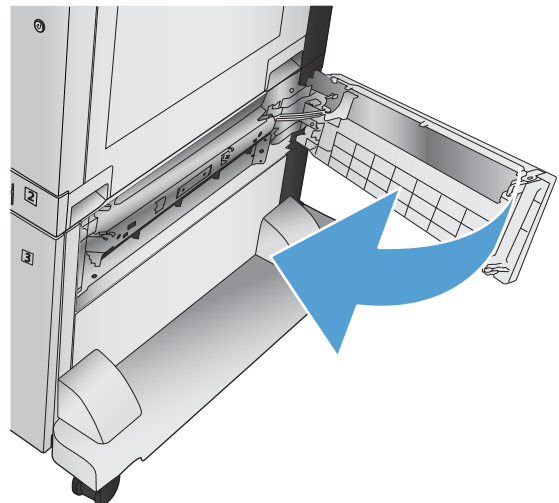
7. Open the jam-access door on the right side of the high-capacity tray cabinet.



8. Lift up the jam-release plate and remove any jammed paper.




9. Close the jam-access door on the right side of the high-capacity tray cabinet.



Change jam recovery

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

1. From the Home screen on the product 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:
 - [Auto](#) — The product attempts to reprint jammed pages when sufficient memory is available. This is the default setting.
 - [Off](#) — The product does not attempt to reprint jammed pages. Because no memory is used to store the most recent pages, performance is optimal.
-
-  **NOTE:** Some pages can be lost if the product runs out of paper while printing a duplex job with Jam Recovery set to [Off](#).
-
- [On](#) — The product always reprints jammed pages. Additional memory is allocated to store the last few pages printed.

Paper feeds incorrectly or becomes jammed

- [The product does not pick up paper](#)
- [The product picks up multiple sheets of paper](#)
- [The document feeder jams, skews, or picks up multiple sheets of paper](#)
- [Prevent paper jams](#)

The product does not pick up paper

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

1. Open the product and remove any jammed sheets of paper.
2. Load the tray with the correct size of paper for your job.
3. Make sure the paper size and type are set correctly on the product 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 product control panel to see if the product is waiting for you to acknowledge a prompt to feed the paper manually. 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 product picks up multiple sheets of paper

If the product 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 product.
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

- 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 that the roller-access cover inside the document feeder is closed.
- 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.
- From the Home screen on the product control panel, scroll to and touch the [Supplies](#) button. Check the status of the document-feeder kit, and replace it if necessary.

Prevent 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. From the Home screen on the product control panel, scroll to and touch the [Trays](#) button. Verify that the tray is configured correctly for the paper type and size.
9. Make sure the printing environment is within recommended specifications.

Use manual print modes

Try the following manual print modes to see if they solve the image-quality problems.

Select a manual print mode

1. From the [Home](#) screen on the product control panel, scroll to and touch the [Administration](#) button.
2. Open the following menus:
 - [General Settings](#)
 - [Print Quality](#)
 - [Adjust Paper Types](#)
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.

Table 2-52 Print modes under the Adjust Paper Types submenu

Print Mode	<ul style="list-style-type: none">• Auto Sense Mode• Normal mode• Light Mode• Heavy Mode• Card Stock Mode• Transparency Mode• Transparency 2 Mode• Envelope Control• Label Mode• Tough Mode• Extra tough mode• Heavy Glossy Mode• Extra Heavy Mode• X-heavy glossy mode• Rough Mode• Card Glossy Mode• 4 mm trans mode• Light Rough Mode• Mid-weight mode• Mid-wt glossy mode <p>NOTE: Not all print modes are available for all paper types.</p>
Resistance Mode	Set to Up to resolve print-quality issues caused by poor secondary transfer in low-humidity environments with resistive or rough surface paper.
Humidity Mode	<p>With glossy film, set to High when the product is in a high-humidity environment and print-quality defects occur on HP Tough Paper or Opaque film.</p> <p>With transparencies, set to High when the product is in a high-humidity environment and print-quality defects occur on color transparencies on the first page of a print job.</p> <p>With all other paper types, set to High when the product is in a high-humidity environment and light density occurs on the first page of a print job.</p>
Pre-Rotation Mode	Set to On when horizontal banding occurs with the drum pitch.

Table 2-52 Print modes under the Adjust Paper Types submenu (continued)

Fuser Temp Mode	<p>If you are seeing a faint image of the page repeated at the bottom of the page or on the following page, first make sure the paper type (Adjust Paper Types menu) and Print Mode settings are correct for the type of paper you are using. If you continue to see ghost images on your print jobs, set the Fuser Temp feature to one of the settings.</p> <p>Normal</p> <p>Up</p> <p>Down</p>
Paper Curl Mode	<p>Use in high-humidity and high-temperature environments. The Reduced setting decreases fuser temperature and increases the interpage gap.</p>

Table 2-53 MP modes under the Optimize submenu

Normal Paper	<p>Set to Smooth when printing on smooth paper of normal weight.</p>
Heavy Paper	<p>Set to Smooth when printing on smooth, heavy paper types.</p>
Envelop Control	<p>Use this mode if envelopes are sticking together due to moisture in the envelope adhesive.</p> <p>Normal</p> <p>Reduced Temp</p>
Environment	<p>Set to Low Temp if the product is operating in a low-temperature environment and you are having problems with print quality such as blisters in the printed image.</p>
Line Voltage	<p>Set to Low Voltage if the product is operating in a low-voltage environment and you are having problems with print quality such as blisters in the printed image.</p>
Tray 1	<p>Set to Alternate if you are seeing marks on the back side of the paper when printing from Tray 1. This sets the product to initiate a clean sequence every time a job finishes when the product is set for Any Size and Any Type for Tray 1.</p>
Background	<p>Set to Alternate 1 when a background occurs all over the page. Set to Alternate 2 when thin vertical lines appear on the page. Set to Alternate 3 when the other alternatives do not correct the problem.</p>
Uniformity Control	<p>Set to Alternate 1 to improve uniformity on any paper type. Set to Alternate 2 to improve uniformity on normal and light paper types. Set to Alternate 3 when the other alternatives do not correct the problem.</p>
Tracking Control	<p>The default setting is On. This item is for manufacturing use only.</p>
Registration	<p>Set to Alternate when color misregistration occurs.</p>

Table 2-53 MP modes under the Optimize submenu (continued)

Transfer Control	Set to Alternate 1 to reduce primary transfer bias and to resolve low density or blotchy images. Set to Alternate 2 to resolve ghosting outlines that look like a finger or fingers. Set to Alternate 3 when the other alternatives do not correct the problem.
Fuser Temp	The default setting for this item is Normal . Use the Alternate setting to reduce the occurrence of first-page fuser wrinkle or toner blister.
Restore Optimize	Use this item to reset the menu defaults.

Solve image quality problems

Often print-quality problems can be resolved easily by making sure that the product is maintained, using paper that meets HP specifications, or running a cleaning page.

Image defects table

The following examples depict letter-size paper that has passed through the product short-edge first. These examples illustrate problems that would affect all the pages that you print, whether you print in color or in black only.

Table 2-54 Image defects table




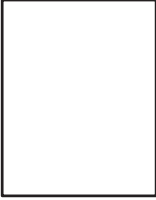
Problem	Sample	Cause	Solution
Print is light or faded on entire page.		<p>Poor contacts exist on the ITB unit and the product grounding unit.</p> <hr/> <p>Poor secondary transfer contacts exist on the secondary transfer roller and the ITB.</p>	<p>Clean the grounding contacts. If the problem remains after cleaning, check the contacts for damage. Replace any deformed or damaged parts.</p> <hr/> <p>Clean the contacts. If the problem remains after cleaning, check the contacts for damage. Replace any deformed or damaged parts.</p>
Print is light or faded in a particular color.		<p>Poor primary transfer bias contacts on the ITB unit and product.</p> <hr/> <p>Poor primary charging bias contacts with the toner cartridge and product.</p> <hr/> <p>Poor developing bias contacts with the toner cartridge and product.</p>	<p>Clean the contacts of the color that produces the light print. If the problem remains after cleaning, check the contacts for damage. Replace any deformed or damaged parts.</p>
Image is too dark.		The RD sensor is defective.	Replace the RD sensor.
Page is blank.		The high-voltage power-supply lower is defective (no developing bias output).	Replace the high-voltage power-supply lower.

Table 2-54 Image defects table (continued)


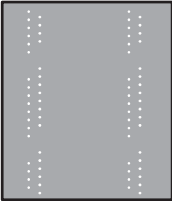
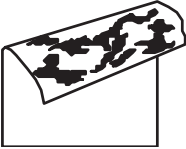
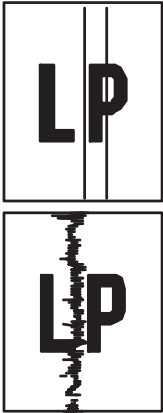
Problem	Sample	Cause	Solution
The page is all black or a solid color.		Poor contact exists in the primary charging bias or developing bias contacts between the toner cartridge and the product.	Clean each contact of the color that produces the all black or solid color. If the problem remains after cleaning, check the contacts for damage. Replace any deformed or damaged parts. Replace the affected toner cartridge.
White spots appear in an image		<p>The primary transfer roller is deformed or has deteriorated.</p> <p>The secondary transfer roller is deformed or has deteriorated.</p>	<p>Replace the ITB.</p> <p>Replace the secondary-transfer-roller.</p>
The back of the page is dirty.		<p>The secondary transfer roller is dirty.</p> <p>The fuser inlet guide or separation guide is dirty.</p> <p>The pressure roller is dirty.</p>	<p>Replace the secondary transfer roller.</p> <p>Clean the dirty parts. If the dirt does not come off, replace the guide.</p> <p>Run the cleaning page several times. If the issue persists, replace the fuser.</p>
Vertical streaks or bands appear on the page.		<p>Scratches are present on the circumference of the photosensitive drum.</p> <p>Scratches are present on the circumference of the fuser roller.</p> <p>Scratches are present on the circumference of the ITB.</p> <p>The ITB drive roller is deformed or has deteriorated.</p> <p>The ITB cleaning mechanism is malfunctioning.</p>	<p>Replace the toner cartridge of the color that matches the defect.</p> <p>Replace the fuser.</p> <p>Replace the ITB.</p>

Table 2-54 Image defects table (continued)





Problem	Sample	Cause	Solution
Vertical white lines appear in a particular color.		<p>The laser beam window is dirty.</p> <p>Scratches are present on the circumference of the developing cylinder or photosensitive drum.</p> <p>White scratch down the page could mean the scanner glass needs to be cleaned.</p>	<p>Clean the window and remove any foreign substances.</p> <p>Remove the affected toner cartridge and re-install it. The PGCs will clean the glass.</p> <p>If the problem persists, replace the affected toner cartridge.</p>
Vertical white lines appear in all colors.		<p>Horizontal scratches on the fuser roller.</p> <p>Scratches are present on the circumference of the ITB.</p> <p>White scratch down the page could mean the scanner glass needs to be cleaned.</p>	<p>Replace the fuser.</p> <p>Remove the affected toner cartridge and re-install it. The PGCs will clean the glass.</p> <p>Replace the ITB.</p>
Horizontal lines appear on the page.		<p>Repetitive horizontal lines appear.</p> <p>Horizontal scratches are present on the photosensitive drum.</p> <p>Horizontal scratches are present on the fuser roller.</p>	<p>Use the repetitive defects ruler to identify the dirty roller. Clean the roller. If the roller cannot be cleaned, replace the fuser.</p> <p>Replace the toner cartridge of the color that matches the defect.</p> <p>Replace the fuser.</p>
A horizontal white line displays on the page.		<p>Repetitive horizontal white lines appear.</p> <p>Horizontal scratches are present on the photosensitive drum.</p> <p>Scratches are present on the circumference of the ITB.</p>	<p>Use the repetitive defects ruler to identify the dirty roller. Clean the roller. If the roller cannot be cleaned, replace the roller.</p> <p>Replace the toner cartridge of the color that matches the defect.</p> <p>Replace the ITB.</p>

Table 2-54 Image defects table (continued)

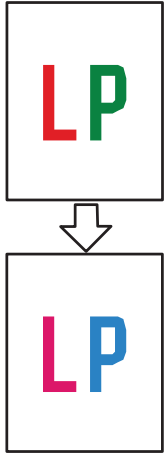

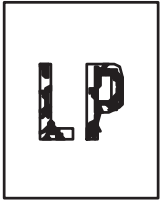
Problem	Sample	Cause	Solution
Image in a particular color does not print in the correct color.		Poor contact exists in the primary charging bias or developing bias contacts between the toner cartridge and the product.	Clean each contact of the color that produces the missing color. If the problem remains after cleaning, check the contacts for damage. Replace any deformed or damaged parts.
		The toner cartridge (primary charging roller, developing roller, or photosensitive drum) is defective.	Replace the toner cartridge of the color that matches the defect.
		The high-voltage power-supply lower is defective (no primary charging bias or developing bias output).	Replace the high-voltage power-supply lower.
		The laser/scanner unit is defective.	Replace the laser/scanner assembly.
Dropouts appear.		The secondary transfer roller is deformed or has deteriorated.	Replace the secondary-transfer-roller.
		The primary charging roller, developing roller, or photosensitive drum is deformed or has deteriorated.	Replace the toner cartridge of the color that matches the defect.
		The fuser roller is deformed or has deteriorated.	Replace the fuser.
		The high-voltage power-supply T PCA is defective (no transfer bias output).	Replace the high-voltage power-supply upper.
The toner is not fully fused to the paper.		The fuser roller or pressure roller is scarred or deformed.	Replace the fuser.
		The thermistor is defective.	Replace the fuser.
		The fuser heater is defective.	

Table 2-54 Image defects table (continued)


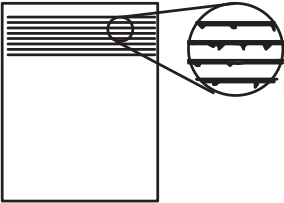


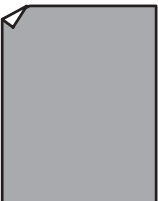

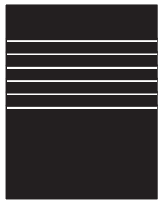
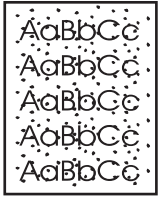
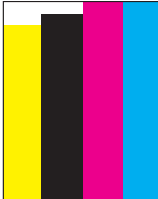
Problem	Sample	Cause	Solution
Some color is misregistered.		The product is incorrectly calibrated.	Calibrate the product.
		The ITB unit is defective.	If the ITB does not rotate smoothly or a cleaning malfunction occurs (ITB is dirty), replace the ITB.
		The drive gear of the ITB motor is worn or chipped.	Check each drive gear between the ITB drive roller and the ITB motor. If the gear is worn or chipped, replace the drive unit.
		The RD sensor is defective.	Open and close the front door several times to clean the RD sensor. If the problem persists, replace the RD sensor.
		The laser/scanner unit is defective.	Replace the laser/scanner assembly.
Toner smears appear on the paper.		The product has residual paper.	Remove the residual paper.
		The fuser inlet guide is dirty.	Clean the fuser inlet guide.
The printed page contains misformed characters.		The product is experiencing page skew.	See the "Text or graphics are skewed on the printed page" row in this table.
		The laser/scanner unit is defective.	Replace the laser/scanner assembly.
Text or graphics are skewed on the printed page.		The registration shutter spring is unhooked.	Check the spring and place it in the correct position.
		The registration shutter spring is deformed.	Replace the secondary transfer assembly.
The printed page contains wrinkles or creases.		The roller or paper feed guide is dirty.	Clean any dirty components.
		A feed roller is deformed or has deteriorated.	Replace any deformed or deteriorated rollers.
		The paper feed guide is damaged.	Replace the paper-feed-guide unit.

Table 2-54 Image defects table (continued)

Problem	Sample	Cause	Solution
The front of the page is dirty.		<p>The photosensitive drum is dirty.</p> <p>The fuser roller or pressure roller is dirty.</p>	<p>Replace the toner cartridge.</p> <p>Execute a Pressure roller clean mode procedure. If the dirt does not come off, replace the fuser.</p> <p>NOTE: Cleaning the fuser with HP tough paper provides better results than with plain paper. You might need to execute the cleaning process several times to remove all contaminants on the fuser.</p>
Repetitive horizontal lines			<p>See repetitive image defect ruler. Clean the indicated roller. If the contaminant does not come off, replace appropriate roller or assembly.</p>
Pages have flecks of toner			<p>Execute a cleaning page to clean the contaminant off the fuser. The cleaning page might need to be run several times to clean the fuser. Do not replace the fuser.</p> <p>NOTE: Cleaning the fuser with HP tough paper provides better results than using plain paper. You might need to execute the cleaning process several times to remove all contaminants on the fuser.</p>
Pages have one or more skewed color planes (can appear on the right or left side of the page)			<p>Remove, and then reinstall the toner cartridge associated with the defect.</p>

Clean the product

Over time, particles of toner and paper accumulate inside the product. This can cause print-quality problems during printing. Cleaning the product eliminates or reduces these problems.

Clean the paper path and print-cartridge areas every time that you change the toner cartridge or whenever print-quality problems occur. As much as possible, keep the product free from dust and debris.

To clean the product exterior, use a soft, water-moistened cloth.

Print a cleaning page

Print a cleaning page to remove dust and excess toner from the fuser if you are having any of the following problems:

- Specks of toner are on the printed pages.
- Toner is smearing on the printed pages.
- Repeated marks occur on the printed pages.

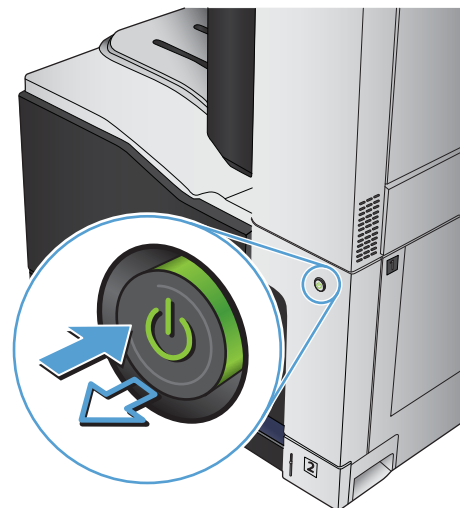
Use the following procedure to print a cleaning page.

1. From the Home screen on the product control panel, scroll to and touch the [Device Maintenance](#) button.
2. Open the following menus:
 - [Calibration/Cleaning](#)
 - [Cleaning Page](#)
3. Touch the [Print](#) button to print the page.
4. The cleaning process can take several minutes. When it is finished, discard the printed page.

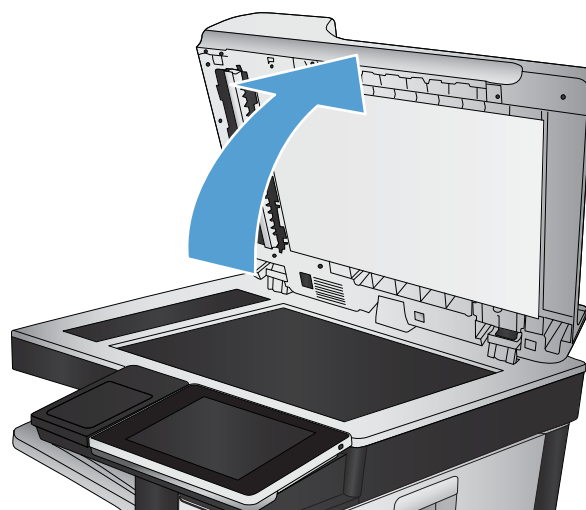
Check the scanner glass for dirt or smudges

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 glass and white plastic backing.

1. Press the power button to turn off the product, and then disconnect the power cable from the electrical outlet.



2. Open the scanner lid. Align paper that has copy defects with the scanner glass to identify the locations of dirt or smudges.



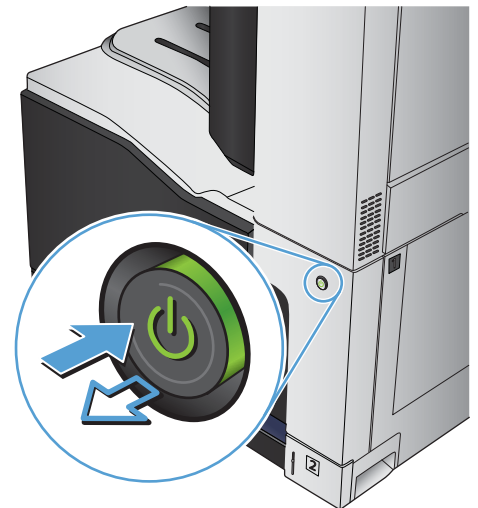
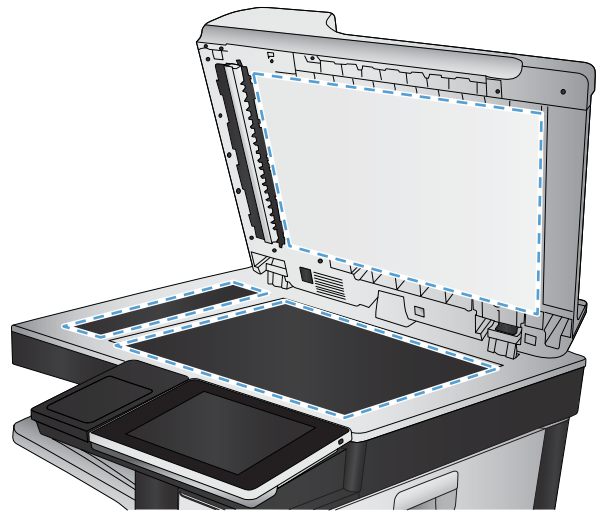
3. Clean the main scanner glass, the document-feeder glass (the small strip of glass on the left side of the scanner), and the white foam backing. Use a soft cloth or sponge that has been moistened with nonabrasive glass cleaner. Dry the glass and white plastic backing by using a chamois or a cellulose sponge to prevent spotting.

CAUTION: Do not use abrasives, acetone, benzene, ammonia, ethyl alcohol, or carbon tetrachloride on any part of the product; these can damage the product. Do not place liquids directly on the glass or platen. They might seep and damage the product.

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.

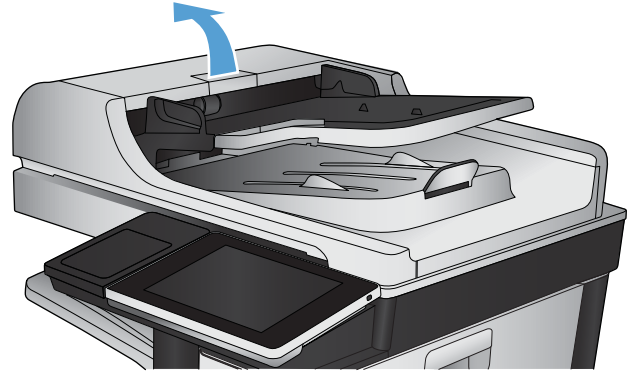
NOTE: See this English-language video for a demonstration of how to identify and clean debris that causes streaks on copies:
www.youtube.com/watch?v=CGn7FJvH8sE.

4. Connect the power cable to an outlet, and then press the power button to turn on the product.

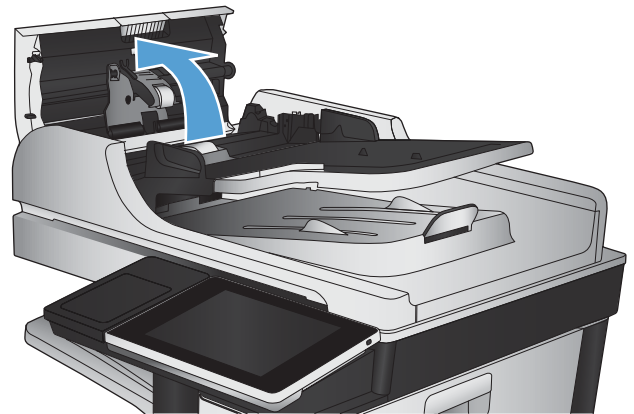


Clean the pickup rollers and separation pad in the document feeder

1. Lift the document-feeder latch.

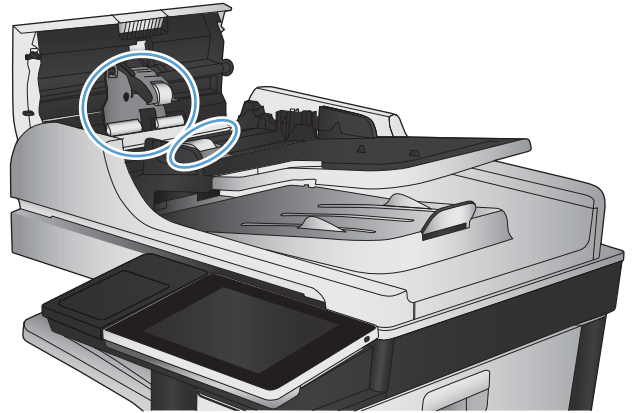


2. Open the document-feeder cover.

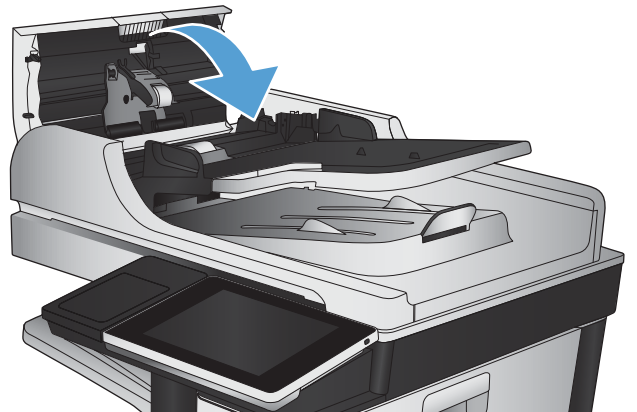


3. Remove any visible lint or dust from each of the feed rollers and the separation pad using compressed air or a clean lint-free cloth moistened with warm water.

NOTE: Lift up the roller assembly so you can clean the second roller.



4. Close the document-feeder cover.



Solve performance problems

Table 2-55 Solve performance problems

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

Solve connectivity problems

Solve 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

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

- [The product has a poor physical connection.](#)
- [The computer is using the incorrect IP address for the product](#)
- [The computer is unable to communicate with the product](#)
- [The product 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 product is disabled, or other network settings are incorrect](#)

The product has a poor physical connection.

1. Verify that the product 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 product, 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 product

1. Open the printer properties and click the **Ports** tab. Verify that the current IP address for the product is selected. The product IP address is listed on the product configuration page.
2. If you installed the product 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 product using a Microsoft standard TCP/IP port, use the hostname instead of the IP address.
4. If the IP address is correct, delete the product and then add it again.

The computer is unable to communicate with the product

1. Test network communication by pinging the product.
 - a. Open a command-line prompt on your computer. For Windows, click **Start**, click **Run**, and then type `cmd`.
 - b. Type `ping` followed by the IP address for your product.
 - 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 product, and the computer are all configured for the same network.

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

Hewlett-Packard recommends leaving this setting 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.
2. Verify that the operating system is configured correctly.

The product 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

Service menu

The [Service](#) menu is PIN-protected for added security. Only authorized service people have access to the [Service](#) menu. When you select [Service](#) from the list of menus, the product prompts you to enter an eight-digit personal identification number (PIN).

 **NOTE:** The product automatically exits the [Service](#) menu after about one minute if no items are selected or changed.

1. From the [Home](#) screen on the product 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 this product: 11077512.

The following menu items appear in the [Service](#) menu:

First level	Second level	Value	Description
Event Log			Allows you to print or view the product event log.
Clear Event Log			Use this item to clear the product event log.
Cycle Counts	Total Engine Cycles		
	Mono Cycle Count		The page count that is stored in NVRAM and printed on the configuration page represents the total number of engine cycles, including calibration cycles, cleaning cycles, and pages printed.
	Color Cycle Count		The page count that is stored in NVRAM and printed on the configuration page represents the number of pages that the formatter has formatted (not including engine-test prints).

First level	Second level	Value	Description
	Refurbish Cycle Count		Use this item to record the page count when the product was refurbished.
	Document Feeder Kit Count		Total number of pages since the document feeder kit was replaced.
	Document Feeder Kit Interval		Use this item to set the interval that causes the product to prompt the customer to replace document feeder maintenance kit.
	Clean Rollers Count		Total number of pages since the document feeder rollers were cleaned.
	Clean Rollers Interval		Use this item to set the interval that causes the product to prompt the customer to clean the document feeder rollers and separation pad.
	ADF Count		Set the total pages fed through the document feeder.
	Flatbed Count		Set the total pages scanned from the flatbed.
	ADF Simplex Count		Set the total single-sided pages fed through the document feeder.
	ADF Duplex Count		Set the total two-sided pages fed through the document feeder.
	Copy Scan Count		Set the total copy pages that have been scanned.
	Send Scan Count		Set the number of scanned pages sent to email.
	Fax Scan Count		Set the number of scanned pages that have been faxed.
	Copy Pages Count		Set the number of scanned pages that have been printed.

First level	Second level	Value	Description
Scanner Settings	ADF Settings	Leading-edge	Set the calibration values. WARNING! Do not change these values unless instructed to do so.
		Trailing-edge	
		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 product 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.
New Registration Roller		Yes	Reset the counter for the registration roller after replacing the registration assembly.
		No	
Media Sensor Value			Use this item to record the media sensor value found on a replacement paper pickup assembly.
PTT Test Mode (fax models only)			Test the internal modem for the analog fax accessory.
	Hook Operations	Off Hook	
		On Hook	

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

Product resets

Restore factory-set defaults

1. From the [Home](#) screen on the product control panel, scroll to and touch the [Administration](#) button.
2. Open the following menus:
 - [General Settings](#)
 - [Restore Factory Settings](#)
3. Select one or more categories of settings from the list, and then touch the [Reset](#) button.

Restore the service ID

Restore the service ID

If you replace the formatter, the date is lost. Use this menu item to reset the date to the original date that the product 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 product 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

You can use the product Service ID number to determine whether the product 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 product was installed.
2. Divide DDD by 30. If there is a remainder, add 1 to the result. This is the month.
3. The remainder from the calculation in step 2 is the date.

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


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



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

Product cold reset

Cold reset using the Preboot menu

1. Turn the product on.
2. The HP logo displays on the product control panel. When an underscore displays below the HP logo, touch the logo to open the [Preboot](#) menu.
3. Use the down arrow ▼ button to highlight [Administrator](#), and then touch the [OK](#) button.
4. Use the down arrow ▼ button to highlight [Startup Options](#) item, and then touch the [OK](#) button.
5. Use the down arrow ▼ button to highlight the [Cold Reset](#) item, and then touch the [OK](#) button.
6. Touch the Home  button to highlight [Continue](#), and then touch the [OK](#) button.

 **NOTE:** The product will initialize.

Format Disk and Partial Clean functions

Active and repository firmware locations


The firmware bundle consists of multiple parts. The main components are the Windows CE Operating System and the product/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 product automatically copies over the OS and firmware files from the Repository location and the product 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 product 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 product 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 product restores the firmware files from the Repository location, but does not restore any customer-defined settings.
- For previous HP products, a Hard Disk Initialization is similar to executing the [Partial Clean](#) function for this product.

 **CAUTION:** HP recommends backing-up product configuration data before executing a [Partial Clean](#) if you need to retain customer-defined settings. See the [Backup/Restore](#) item in the [Device Maintenance](#) menu.


Reasons for performing Partial Clean


- The product continually boots up in an error state.

 **NOTE:** Try clearing the error prior to executing a [Partial Clean](#).

- The product will not respond to commands from the control panel.
- Executing the [Partial Clean](#) function is helpful for troubleshooting hard disk problems.
- To reset the product by deleting all solutions and customer-defined settings.
- The product default settings are not properly working.

Execute a Partial Clean

1. Turn the product on.
2. The HP logo displays on the product control panel. When an underscore displays below the HP logo, touch the logo to open the [Preboot](#) menu.
3. Touch the down arrow ▼ button to highlight [Administrator](#), and then touch the [OK](#) button.
4. Use the down arrow ▼ button to highlight [Partial Clean](#), and then touch the [OK](#) button.
5. Touch the [OK](#) button again.
6. Touch the Home  button to highlight [Continue](#), and then touch the [OK](#) button.

 **NOTE:** The product initializes.


Format Disk

The [Format Disk](#) option erases the entire disk drive.


 **CAUTION:** After executing a [Format Disk](#) option, the product 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 product *does not* restore the firmware files.


- Rebooting the product 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 product firmware must be reloaded.

 **CAUTION:** HP recommends that you do not use the [Format Disk](#) option unless an error occurs and the solution in the product service manual recommends this solution. After executing the [Format Disk](#) function, the product is unusable.

HP recommends backing-up product configuration data before executing a [Format Disk](#) if you need to retain customer-defined settings. See the [Backup/Restore](#) item in the [Device Maintenance](#) menu.

Reasons for performing Format Disk


- The product continually boots up in an error state.

 **NOTE:** Try clearing the error prior to executing a [Format Disk](#).

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

Execute a Format Disk

1. Turn the product on.
2. The HP logo displays on the product control panel. When an underscore displays below the HP logo, touch the logo to open the [Preboot](#) menu.
3. Use the down arrow ▼ button to highlight [Administrator](#), and then touch the [OK](#) button.
4. Use the down arrow ▼ button to highlight [Format Disk](#), and then touch the [OK](#) button.
5. Touch the [OK](#) button again.

 **NOTE:** When the [Format Disk](#) operation is complete, you will need to reload the product firmware.

Solve fax problems

Checklist for solving fax problems

Use the following checklist to help identify the cause of any fax-related problems you encounter:

- **Are you using the fax cable supplied with the fax accessory?** This fax accessory has been tested with the supplied fax cable to meet RJ11 and functional specifications. Do not substitute another fax cable; the analog-fax accessory requires an analog-fax cable. It also requires an analog phone connection.
- **Is the fax/phone line connector seated in the outlet on the fax accessory?** Make sure that the phone jack is correctly seated in the outlet. Insert the connector into the outlet until it "clicks."
- **Is the phone wall jack working properly?** Verify that a dial tone exists by attaching a phone to the wall jack. Can you hear a dial tone, and can you make or receive a phone call?

What type of phone line are you using?

- **Dedicated line:** A standard analog fax/phone line assigned to receive or send faxes.



NOTE: The phone line should be for product fax use only and not shared with other types of telephone devices. Examples include alarm systems that use the phone line for notifications to a monitoring company.

- **PBX system:** PBX is also referred as Private Branch Exchange, and is a technology usually implemented in business phone systems. An office phone system can have its own telephone switch which can act like a central office to connect calls between employees by using extension numbers and also provide other telephone services like voicemail.

In the recent years, the vendors started creating systems with a digital connection instead of an analog connection called digital PBX. Unfortunately, many of these new connections have limitations that make an analog device cease to function correctly if attached to a digital PBX. Therefore the vendors usually have cards that can be plugged into the PBX to create an analog line, or they have external telephone adapters that can be put in series with the devices to allow them to work on the PBX.

If you are using analog fax machine with digital PBX systems, it is best to contact the phone network supplier and ask for an appropriate adapter to convert the digital PBX connection to an analog one.

- **Roll-over lines:** A phone system feature where a new call "rolls over" to the next available line when the first incoming line is busy. Try attaching the product to the first incoming phone line. The fax accessory answers the phone after it rings the number of times set in the rings-to-answer setting.



NOTE: Roll-over lines can cause problems with receiving faxes. HP fax products should work on roll over lines. Any issues might be environment specific, but the product itself should not cause issues working with roll over lines.

Are you using a surge-protection device?

A surge-protection device can be used between the wall jack and the fax accessory to protect the fax accessory against electrical power passed through the phone lines. These devices can cause some fax communication problems by degrading the quality of the phone signal. If you are having problems sending or receiving faxes and are using one of these devices, connect the product directly to the phone jack on the wall to determine whether the problem is with the surge-protection device.

Are you using a phone company voice-messaging service or an answering machine?

If the rings-to-answer setting for the messaging service is lower than the rings-to-answer setting for the fax accessory, the messaging service answers the call, and the fax accessory cannot receive faxes. If the rings-to-answer setting for the fax accessory is lower than that of the messaging service, the fax accessory answers all calls.


Does your phone line have a call-waiting feature?

If the fax telephone line has an activated call-waiting feature, a call-waiting notice can interrupt a fax call in progress, which causes a communication error. Ensure that a call-waiting feature is not active on the fax telephone line.


Check fax accessory status

If the analog-fax accessory does not appear to be functioning, print a [Configuration Page](#) report to check the status.

1. From the Home screen, scroll to and touch the [Administration](#) button.
2. Open the following menus:
 - [Reports](#)
 - [Configuration/Status Pages](#)
 - [Configuration Page](#)
3. Touch the [Print](#) button to print the report, or touch the [View](#) button to view the report on the screen. The report consists of several pages.

 **NOTE:** The product IP address or host name is listed on the Jetdirect Page.


On the Fax Accessory Page of the Configuration Page, under the Hardware Information heading, check the Modem Status. The following table identifies the status conditions and possible solutions.

 **NOTE:** If the Fax Accessory Page does not print, there might be a problem with the analog fax accessory. If you are using LAN fax or Internet fax, those configurations could be disabling the feature.

Operational / Enabled ¹	The analog-fax accessory is installed and ready.
Operational / Disabled ¹	<p>The fax accessory is installed, but you have not configured the required fax settings yet.</p> <p>The fax accessory is installed and operational; however, the HP Digital Sending utility has either disabled the product fax feature or has enabled LAN fax. When LAN fax is enabled, the analog-fax feature is disabled. Only one fax feature, either LAN fax or analog fax, can be enabled at a time.</p> <p>NOTE: If LAN fax is enabled, the Fax feature is unavailable on the product control panel.</p>
Non-Operational / Enabled/Disabled ¹	The product has detected a firmware failure. Upgrade the firmware.
Damaged / Enabled/Disabled ¹	The fax accessory has failed. Reseat the fax accessory card and check for bent pins. If the status is still DAMAGED, replace the analog-fax accessory card.

¹ ENABLED indicates that the analog-fax accessory is enabled and turned on; DISABLED indicates that LAN fax is enabled (analog fax is turned off).

General fax problems

Problem	Cause	Solution
An "Out of Memory" status message displays on the product control panel.	The product storage disk is full.	Delete some stored jobs from the disk. From the Home screen on the product control panel, touch the Retrieve from Device Memory button. Open the list of stored jobs or stored faxes. Select a job to delete, and then touch the Delete button.
Print quality of a photo is poor or prints as a gray box.	You are using the wrong page-content setting or the wrong resolution setting.	Try setting the Optimize Text/Picture option to Photograph setting.
You touched the Stop  button on the product control panel to cancel a fax transmission, but the fax was still sent.	If the job is too far along in the sending process, you cannot cancel the job.	This is normal operation.
No fax address book button displays.	The fax address book feature has not been enabled.	Use the product HP Embedded Web Server page, control panel, or HP MFP Digital Sending Software to configure the address book
Not able to locate the Fax settings in HP Web Jetadmin.	Fax settings in HP Web Jetadmin are located under the device's status page drop-down menu.	Select Digital Sending and Fax from the drop-down menu.
The header is appended to the top of the page when the overlay option is enabled.	For all forwarded faxes, the product appends the overlay header to the top of a page.	This is normal operation.
A mix of names and numbers is in the recipients box.	Names and numbers can both display, depending on where they are from. The fax address book lists names, and all other databases list numbers.	This is normal operation.
A one-page fax prints as two pages.	The fax header is being appended to the top of the fax, pushing text to a second page.	To print a one page fax on one page, set the overlay header to overlay mode, or adjust the fit-to-page setting.
A document stops in the document feeder in the middle of faxing.	A jam is in the document feeder.	Clear the jam, and send the fax again.
The volume for sounds coming from the fax accessory is too high or too low.	The volume setting needs to be adjusted.	Adjust the volume in the Fax Send Settings menu and the Fax Receive Settings menu.

Use Fax over VoIP networks

VoIP technology converts information from analog to digital. The data are formed into packets and transmitted over the packet network, where packets may be routed in different ways. Therefore, when they are re-assembled there may be delays, errors introduced into single packets, packets arriving out of order and so on. This makes it a bit more difficult to get the analog signal re-assembled in a timely fashion.

The following are suggested changes in settings for the HP LaserJet Analog Fax Accessory 500 when it is connected to a VoIP service:

- Begin with the fax speed set in Fast (V.34) mode and with Error Correction Mode (ECM) turned on. The V.34 protocol handles any changes in transmission speed needed to accommodate VoIP networks.
- If numerous errors or retries occur with the fax speed set to Fast, set it to Medium (V.17).
- If errors and retries persist, set the fax speed to Slow (V.29) because some VoIP systems have timing issues with fast mode transmissions.
- In rare cases, if errors persist, turn off ECM on the product. The image quality might decrease. Ensure that the image quality is acceptable with ECM off before using this setting.
- If the preceding setting changes have not improved the VoIP fax reliability, contact your VoIP provider for help.

Problems with receiving faxes

Problem	Cause	Solution
Incoming fax calls are not being answered by the fax accessory (no fax detected).	The rings-to-answer setting might not be set correctly.	Check the rings-to-answer setting.
	The fax cable might not be connected correctly, or the fax cable is not working.	Check the installation. Make sure you are using the fax cable that came with the product or with the fax accessory.
	The phone line might not be working.	Disconnect the fax accessory from the phone jack, and then connect a phone. Try to make a phone call to ensure the phone line is working.
	If you are using a PBX system, the ring signals might not be configured correctly.	Check the ring-signal configuration on the PBX system.
	A voice-messaging service might be interfering with incoming faxes.	Do one of the following: <ul style="list-style-type: none">• Use a phone line dedicated to fax calls.• Decrease the rings-to-answer for the fax accessory to a number less than the rings-to-answer for the voice mail.
Faxes are being received very slowly.	You might be receiving a complex fax, such as one with many graphics.	Complex faxes take longer to transmit.
	The sending fax machine might have a slow modem speed.	The fax accessory only receives the fax at the fastest modem speed the sending fax machine can use. Wait for the fax transmission to complete.
	The resolution at which the fax was sent or is being received is very high. A higher resolution typically results in better quality, but also requires a longer transmission time.	Ask the sender to decrease the resolution and resend the fax.
	If there is a poor phone-line connection, the fax accessory and the sending fax machine slow down the transmission to adjust for errors.	Ask the sender to resend the fax. Ask the phone company to check the phone line.
Faxes are not printing on the product.	No paper is in the input tray.	Load paper. Any faxes received while the input tray is empty are stored and will print after the tray has paper.
	The Fax Printing Schedule feature is in use.	Faxes print according to the schedule. To print faxes immediately, disable the Fax Printing Schedule feature.

Problem	Cause	Solution
	The product is either low on toner or has run out of toner.	If configured, the product stops printing as soon as it is low on toner or runs out of toner. Any faxes received are stored in memory and print after the toner has been replaced.
	The incoming call might be a voice call.	Incoming voice calls usually show up in the call report as a No Fax Detected error. Because these are voice calls and not a fax error, no action is necessary.
	The incoming fax was interrupted.	Verify that the fax telephone line does not have an activated call-waiting feature. A call-waiting notice can interrupt a fax call in progress, which causes a communication error.
	The Fax Printing Schedule feature is set to the Always store faxes option.	Change the Fax Printing Schedule setting to the Always print faxes option.

Problems with sending faxes

Problem	Cause	Solution
Faxes are transmitting very slowly.	You might be sending a complex fax, such as one with many graphics.	Complex faxes take longer to transmit.
	The receiving fax machine might have a slow modem speed.	The fax accessory only sends the fax at the fastest modem speed the receiving fax machine can use. Wait for the fax transmission to complete.
	The resolution at which the fax was sent or is being received is very high. A higher resolution typically results in better quality, but also requires a longer transmission time.	Decrease the resolution and change the Optimize Text/Picture option.
	If there is a poor phone-line connection, the fax accessory and the receiving fax machine slow down the transmission to adjust for errors.	Cancel and resend the fax. Ask the phone company to check the phone line.
Faxes quit during sending.	The document might have a gray background, which can increase fax transmission time.	Use the Image Adjustment feature to clean up the background shading.
	The receiving fax machine might be malfunctioning.	Try sending to another fax machine.
	The phone line might not be working.	Disconnect the fax accessory from the phone jack, and connect a phone. Try to make a phone call to ensure the phone line is working.
	The phone line might be noisy or poor quality.	Try using a slower fax speed to improve the reliability of transmission. Use the Fax Dialing Settings menu to set the fax speed for sending faxes.
The fax accessory is receiving faxes but is not sending them.	A call-waiting feature might be active.	Verify that the fax telephone line does not have an activated call-waiting feature. A call-waiting notice can interrupt a fax call in progress, which causes a communication error.
	If the fax accessory is on a PBX system, the PBX system might be generating a dial tone the fax accessory cannot detect.	Disable the detect-dial-tone setting.
	There might be a poor phone connection.	Try again later.
	The receiving fax machine might be malfunctioning.	Try sending to another fax machine.
	The phone line might not be working.	Disconnect the fax accessory from the phone jack, and connect a phone. Try to make a phone call to ensure the phone line is working.

Problem	Cause	Solution
Outgoing fax calls keep dialing.	The fax accessory automatically redials a fax number if the Redial on Busy option is on or if the Redial on No Answer option is on.	This is normal operation. If you do not want the fax to retry, set the Redial on Busy option to 0, set the Redial on No Answer option to 0, and set the Redial on Error option to 0.
Faxes you send are not arriving at the receiving fax machine.	The receiving fax machine might be turned off or might have an error condition, such as being out of paper.	Ask the recipient to make sure the fax machine is turned on and ready to receive faxes.
	A fax might be in memory because it is waiting to redial a busy number, or there are other jobs ahead of it waiting to be sent.	If a fax job is in memory for either of these reasons, an entry for the job displays in the fax log. Print the fax activity log, and check the Result column for jobs with a Pending designation.

Fax error messages on the product control panel

If the fax process is interrupted or an error occurs during a fax transmission or reception, a two-part status/error description is generated by the fax subsystem on the product. Normal or successful faxes also generate messages indicating success. The message information consists of a text description and a numeric code (a few messages do not include numeric codes). Only the text part of the message is displayed on the product control panel; however, both the text message and numeric code are listed in the Fax Activity Report, Fax Call Report, and the Fax T.30 Trace. The numeric code is shown in parentheses after the text part of the message in the reports.

The fax modem generates the numeric code. Usually a numeric code of (0) indicates a normal modem response. Some messages always display a numeric code of (0), other messages can have a range of numeric codes, and a few messages have no numeric code. Usually a numeric code of (0) indicates an error was not associated with the fax modem, but occurred in another part of the fax system or other product system such as the printing system. Non-zero error codes give further detail into the particular action or process that the modem is executing, and they do not necessarily indicate that there is a problem with the modem.

Persistent error messages with numeric codes different than those listed here require assistance of customer support. Print a Fax T.30 Trace report before contacting customer support to help identify the problem. This report contains details of the last fax call.

1. From the Home screen on the product control panel, scroll to and touch the [Administration](#) button.
2. Open the following menus:
 - [Troubleshooting](#)
 - [Fax](#)
 - [Fax T.30 Trace](#)
3. Select the [Print T.30 Report](#) option to print the report.

Send-fax messages

Table 2-56 Send-fax messages

Message	Error No.	Description	Action
Cancelled	0	Someone cancelled the fax at the product control panel.	None.
Success	n/a	The fax was sent successfully.	None.
Fail Busy	0	The receiving fax machine is busy.	The fax will be retired automatically (if configured), otherwise try resending fax later.
No Answer	0 or 17	The receiving fax machine is not answering the call, or a person answered the call.	The receiving fax machine might be disconnected or turned off; contact the receiver to check the machine. Try resending.
No Dial	0	No dial tone is detected when sending the fax.	Verify the phone line is active; set the sending fax to "not" to detect a dial tone.
Failed	Any	The fax might be corrupted or not sent.	Try resending fax.
Failed	0	Incompatible page width, or page had too many bad lines.	Try resending fax; if the error persists, contact service.
Failed	17 or 36	Lost telephone connection between sender and receiver. The issue might be due to voice calls interrupting the fax, or a person answering the call.	Try resending the fax.
Failed or Communication Error	Any besides 17 or 36	General communications issue where the fax transmission was interrupted or did not proceed as expected.	Try resending fax; if the error persists, contact support.
Space Fail	0	Unable to read or write the fax image file to disk; could be corrupt product disk or no space available on the product's disk.	Try resending fax; if the error persists, contact support.
Memory Error	0	Out of memory on product.	If the error persists, delete items from the product memory, such as stored jobs or saved faxes.
Power Failure	0	A power failure occurred on the sending fax product during the fax transmission.	Try resending the fax.

Receive-fax messages

Table 2-57 Receive-fax messages

Message	Error No.	Description	Action
Success	n/a	The fax transmission was successful.	None.
Blocked	n/a	The receiving fax machine is using the blocked-number feature and is blocking this fax.	None.
Failed	Any	The fax might be corrupted or not sent.	Ask the sender to resend the fax; if the error persists, contact support.
Failed	0	Incompatible page width or page had too many bad lines.	Ask the sender to resend the fax; if the error persists, contact support.
Failed	17, 36	Lost telephone connection or interruption between sender/receiver.	Ask the sender to resend the fax (if the sending machine does not automatically retry).
Failed	Any besides 17 or 36	General communications issue where the fax transmission was interrupted or did not proceed as expected.	Ask the sender to resend the fax; if the error persists, contact support.
Space Fail	0	Unable to read or write image file to disk; could be corrupt product disk or no space on disk.	Ask the sender to resend the fax; if the error persists, contact support.
Memory Error	0	Out of memory on product.	If the error persists, delete items from the product memory, such as stored jobs or saved faxes.
Print Fail	0	The received image file cannot be decoded.	Ask the sender to resend the fax; enable Error Correction Mode if it is not already enabled.
Power Failure	0	A power failure occurred during the fax reception.	Ask the sender to resend the fax.
No Fax Detected	17, 36	A voice call was made to the fax.	None

Service settings

These items in the control-panel menus are intended to be used when an HP service representative is assisting you.

Settings in the Troubleshooting menu

1. From the Home screen on the product control panel, scroll to and touch the [Administration](#) button.
2. Open the following menus:
 - [Troubleshooting](#)
 - [Fax](#)

Fax T.30 Trace	This is a printed report of all the communications between the sending and receiving fax machines for the last Fax transmission or reception. The report contains detailed error codes and other information that might be useful in troubleshooting a particular problem related to sending or receiving a fax. Print this report before contacting HP customer support.
Fax V.34	This setting controls the modem's method of transmission. The Normal setting allows the modem to select any of the supported fax speeds up to 33,600 bps. The Off setting sets the fax speed to 14,400 bps or lower, depending on the speed settings for sending and receiving.
Fax Speaker Mode	In Normal mode, the modem speaker is turned on during dialing, through the initial connection, and then it turns off. In Diagnostic mode, the speaker is turned on and remains on for all fax communications until the setting is returned to Normal mode.
Fax Log Entries	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.

Product upgrades

To download the most recent firmware upgrade for the product, go to www.hp.com/go/lj700colorMFP775_firmware.

Determine the installed revision of firmware

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

On the configuration page, look in the section marked Device Information for the firmware datecode and firmware revision.

Firmware datecode and firmware revision examples

- 20100831 (firmware datecode)
- 103067_104746 (firmware revision)

Perform a firmware upgrade

The firmware bundle is a `xxxxxxx.bdl` file. This file requires an interactive upgrade method. You cannot upgrade the product using the traditional FTP, LPR or Port 9100 methods of upgrading. Use one of the following methods to upgrade the firmware for this product.

HP Embedded Web Server

1. Open an browser window.
2. Enter the product IP address in the URL line.
3. Select the **Firmware Upgrade** link from within the **Troubleshooting** tab.



NOTE: If you get a warning screen, follow the instructions for setting an administrator password from the **Security** tab.

4. Browse to the location that the firmware upgrade file was downloaded to, and then select the firmware file. Select the **Install** button to perform the upgrade.




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


5. Select **Restart Now** from the EWS confirmation page, or turn the product off, and then on again using the power switch.


USB flash drive (Preboot menu)

1. Copy the `xxxxxxxx.bdl` file to a portable USB flash drive.
2. Turn the product on.
3. The HP logo displays on the product control panel. When an underscore displays below the HP logo, touch the logo to open the **Preboot** menu.
4. Touch the down arrow ▼ button to highlight **Administrator**, and then touch the **OK** button.
5. Touch the down arrow ▼ button to highlight **Download**, and then touch the **OK** button.
6. Insert the USB flash drive with the `xxxxxxxx.bdl` file on it.

 **NOTE:** If the error message **No USB Thumbdrive Files Found** displays on the control-panel display, you might need to connect the storage device to the external USB connection on the formatter or try using a different portable storage device.

7. Touch the down arrow ▼ button to highlight **USB Thumbdrive**, and then touch the **OK** button.
8. Touch the down arrow ▼ button to highlight the `xxxxxxxx.bdl` file, and then touch the **OK** button.

 **NOTE:** The upgrade process can take up to 10 minutes to complete.

 **TIP:** If there is more than one `xxxxxxxx.bdl` file on the storage device, make sure that you select the correct file for this product.

9. When the message **Complete** displays on the control-panel display, touch the back arrow ↶ button 3 times.
10. When the message **Continue** displays on the control-panel display, touch the **OK** button. The product will initialize.
11. 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)

1. Copy the `xxxxxxxx.bdl` file to a portable USB flash drive.
2. Turn the product on, and then wait until it reaches the **Ready** state.
3. From the [Home](#) screen on the product control panel, scroll to and touch the [Device Maintenance](#) button.
4. Touch the [USB Firmware Upgrade](#) button.
5. Insert the portable USB storage device with the `xxxxxxxx.bdl` file on it into the USB port on the front of the product, and then touch the [OK](#) button.
6. Touch the `xxxxxxxx.bdl` file, and then touch the [Upgrade](#) button.



TIP: If there is more than one `xxxxxxxx.bdl` file on the storage device, make sure that you select the correct file for this product.

7. When the product prompts you to confirm the upgrade, touch the [Upgrade](#) button.

When the upgrade is complete, the product will initialize.



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

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

A Service and support

- [Hewlett-Packard limited warranty statement](#)
- [HP's Premium Protection Warranty: LaserJet toner cartridge limited warranty statement](#)
- [HP policy on non-HP supplies](#)
- [HP anticounterfeit Web site](#)
- [Color LaserJet Fuser Kit, Transfer Kit, and Roller Kit Limited Warranty Statement](#)
- [Data stored on the toner cartridge](#)
- [End User License Agreement](#)
- [OpenSSL](#)
- [Customer self-repair warranty service](#)
- [Customer support](#)

Hewlett-Packard limited warranty statement

HP PRODUCT	DURATION OF LIMITED WARRANTY
HP LaserJet Enterprise 700 color MFP M775	One-year on-site warranty

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

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

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

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

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

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HP's Premium Protection Warranty: LaserJet toner cartridge limited warranty statement

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

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

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


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HP policy on non-HP supplies

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

 **NOTE:** For HP printer products, the use of a non-HP toner cartridge or a refilled toner cartridge does not affect either the warranty to the customer or any HP support contract with the customer. However, if product failure or damage is attributable to the use of a non-HP toner cartridge or refilled toner cartridge, HP will charge its standard time and materials charges to service the product for the particular failure or damage.

HP anticounterfeit Web site

Go to www.hp.com/go/anticounterfeit when you install an HP toner cartridge and the control-panel message says the cartridge is non-HP. HP will help determine if the cartridge is genuine and take steps to resolve the problem.

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

- The supplies status page indicates that a non-HP supply is installed.
- You are experiencing a high number of problems with the cartridge.
- The cartridge does not look like it usually does (for example, the packaging differs from HP packaging).

Color LaserJet Fuser Kit, Transfer Kit, and Roller Kit Limited Warranty Statement

This HP product is warranted to be free from defects in materials and workmanship until the printer provides a low-life indicator on the control panel.

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

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

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Data stored on the toner cartridge

The HP toner cartridges used with this product contain a memory chip that assists in the operation of the product.

In addition, this memory chip collects a limited set of information about the usage of the product, which might include the following: the date when the toner cartridge was first installed, the date when the toner cartridge was last used, the number of pages printed using the toner cartridge, the page coverage, the printing modes used, any printing errors that might have occurred, and the product model. This information helps HP design future products to meet our customers' printing needs.

The data collected from the toner cartridge memory chip does not contain information that can be used to identify a customer or user of the toner cartridge or their product.

HP collects a sampling of the memory chips from toner cartridges returned to HP's free return and recycling program (HP Planet Partners: www.hp.com/recycle). The memory chips from this sampling are read and studied in order to improve future HP products. HP partners who assist in recycling this toner cartridge might have access to this data, as well.

Any third party possessing the toner cartridge might have access to the anonymous information on the memory chip.

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Rev. 04/09

OpenSSL

This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (<http://www.openssl.org/>)

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This product includes cryptographic software written by Eric Young (eay@cryptsoft.com). This product includes software written by Tim Hudson (tjh@cryptsoft.com).

Customer self-repair warranty service

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

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

Customer support

Get telephone support for your country/region

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

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

Get 24-hour Internet support

www.hp.com/support/lj700colorMFPM775

Download software utilities, drivers, and electronic information

www.hp.com/go/lj700colorMFPM775_software

Order additional HP service or maintenance agreements

www.hp.com/go/carepack

Register your product

www.register.hp.com

B Product specifications

- [Physical specifications](#)
- [Power consumption, electrical specifications, and acoustic emissions](#)
- [Environmental specifications](#)

Physical specifications

Table B-1 Physical specifications, with toner cartridges

Product	Height	Depth	Width	Weight
M775dn	595 mm (23.4 in)	639 mm (25.2 in)	592 mm (23.3 in)	63.7 kg (140.5 lb)
M775f	1143 mm (45.0 in)	668 mm (26.3 in)	745 mm (29.3 in)	96.8 kg (213.5 lb)
M775z	1198 mm (47.2 in)	668 mm (26.3 in)	745 mm (29.3 in)	107.5 kg (237 lb)
M775z+	1198 mm (47.2 in)	668 mm (26.3 in)	745 mm (29.3 in)	116.3 kg (256.5 lb)

Table B-2 Product dimensions with all doors, trays, and the document feeder fully opened

Product	Height	Depth	Width
M775dn	941 mm (37.0 in)	1129 mm (44.4 in)	959 mm (37.8 in)
M775f	1489 mm (58.6 in)	1158 mm (45.6 in)	1012 mm (39.8 in)
M775z	1544 mm (60.8 in)	1158 mm (45.6 in)	1012 mm (39.8 in)
M775z+	1544 mm (60.8 in)	1158 mm (45.6 in)	1012 mm (39.8 in)

Power consumption, electrical specifications, and acoustic emissions

See www.hp.com/go/lj700colorMFPM775_regulatory-environmental for current information.

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

Environmental specifications

Table B-3 Operating-environment specifications


Environment	Recommended	Allowed
Temperature	17° to 25°C (62.6° to 77°F)	15° to 27°C (59° to 81°F)
Relative humidity	30% to 70% relative humidity (RH)	10% to 70% RH
Altitude	Not applicable	0 to 3048 m (0 to 10,000 ft)

C Regulatory information

- [FCC regulations](#)
- [Environmental product stewardship program](#)
- [Declaration of conformity](#)
- [Declaration of conformity \(fax models\)](#)
- [Certificate of Volatility](#)
- [Safety statements](#)
- [Additional statements for telecom \(fax\) products](#)

FCC regulations

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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

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

Environmental product stewardship program

Protecting the environment

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

Ozone production

This product generates no appreciable ozone gas (O₃).

Power consumption

Power usage drops significantly while in Ready or Sleep mode, which saves natural resources and saves money without affecting the high performance of this product. Hewlett-Packard printing and imaging equipment marked with the ENERGY STAR® logo is qualified to the U.S. Environmental Protection Agency's ENERGY STAR specifications for imaging equipment. The following mark will appear on ENERGY STAR qualified imaging products:



Additional ENERGY STAR qualified imaging product model information is listed at:

www.hp.com/go/energystar

Paper use

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

Plastics

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

HP LaserJet print supplies

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

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



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

Return and recycling instructions

United States and Puerto Rico

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

Multiple returns (more than one cartridge)

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

OR

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

Single returns

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

Shipping

For US and Puerto Rico HP LaserJet toner cartridge recycling returns, use the pre-paid, pre-addressed shipping label contained in the box. To use the UPS label, give the package to the UPS driver during your next delivery or pick-up, or take it to an authorized UPS drop-off center. (Requested UPS Ground pickup will be charged normal pick-up rates) For the location of your local UPS drop-off center, call 1-800-PICKUPS or visit www.ups.com.

If you are returning the package with the FedEx label, give the package to either the U.S. Postal Service carrier or FedEx driver during your next pick-up or delivery. (Requested FedEx Ground pickup will be charged normal pick-up rates). Or, you can drop off your packaged toner cartridge(s) at any U.S. Post Office or any FedEx shipping center or store. For the location of your nearest U.S. Post Office, please

call 1-800-ASK-USPS or visit www.usps.com. For the location of your nearest FedEx shipping center/store, please call 1-800-GOFEDEX or visit www.fedex.com.

For more information, or to order additional labels or boxes for bulk returns, visit www.hp.com/recycle or call 1-800-340-2445. Information subject to change without notice.

Residents of Alaska and Hawaii

Do not use the UPS label. Call 1-800-340-2445 for information and instructions. The U.S. Postal Service provides no-cost cartridge return transportation services under an arrangement with HP for Alaska and Hawaii.

Non-U.S. returns

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

Paper

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

Material restrictions

This HP product does not contain added mercury.

This HP product contains a battery that might require special handling at end-of-life. The batteries contained in or supplied by Hewlett-Packard for this product include the following:

HP LaserJet Enterprise 500 color MFP M575	
Type	Carbon monofluoride lithium
Weight	0.8 g
Location	On formatter board
User-removable	No



廢電池請回收

For recycling information, you can go to www.hp.com/recycle, or contact your local authorities or the Electronics Industries Alliance: www.eiae.org.

Disposal of waste equipment by users



This symbol means do not dispose of your product with your other household waste. Instead, you should protect human health and the environment by handing over your waste equipment to a designated collection point for the recycling of waste electrical and electronic equipment. For more information, please contact your household waste disposal service, or go to: www.hp.com/recycle.



Electronic hardware recycling

HP encourages customers to recycle used electronic hardware. For more information about recycling programs go to: www.hp.com/recycle.

Chemical substances

HP is committed to providing our customers with information about the chemical substances in our products as needed to comply with legal requirements such as REACH (Regulation EC No 1907/2006 of the European Parliament and the Council). A chemical information report for this product can be found at: www.hp.com/go/reach.

Material Safety Data Sheet (MSDS)

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

For more information

To obtain information about these environmental topics:

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

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

Declaration of conformity

Declaration of Conformity

according to ISO/IEC 17050-1 and EN 17050-1

Manufacturer's Name: Hewlett-Packard Company DoC#: BOISB-0805-01-rel.1.0
Manufacturer's Address: 11311 Chinden Boulevard
Boise, Idaho 83714-1021, USA

declares, that the product


Product Name: HP LaserJet Enterprise 700 Color MFP M775dn
Regulatory Model Numbers:²⁾ BOISB-0805-01
Product Options: All
Toner Cartridges: CE340A, CE341A, CE342A, CE343A

conforms to the following Product Specifications:

SAFETY: IEC 60950-1:2005 +A1 / EN60950-1: 2006 +A11:2009 +A1:2010 +A12:2011
IEC 60825-1:2007 / EN 60825-1:2007 (Class 1 Laser/LED Product)
IEC 62479-2010/EN 62479-2010
GB4943-2001

EMC: CISPR22:2008/ EN55022:2010 - Class A^{1),3)}
EN 61000-3-2:2006 +A1:2009 +A2:2009
EN 61000-3-3:2008
EN 55024:1998 +A1 +A2
FCC Title 47 CFR, Part 15 Class A^{1),3)} / ICES-003, Issue 4
GB9254-2008, GB17625.1-2003

Supplementary Information:

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

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

1. The product was tested in a typical configuration with Hewlett-Packard Personal Computer Systems.
2. For regulatory purposes, this product is assigned a Regulatory model number. This number should not be confused with the marketing names or the product number(s).
3. The product meets the requirements of EN55022 & CNS13438 Class A in which case the following applies: "Warning — This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures."

Boise, Idaho USA

October 2012

For Regulatory Topics only, contact:

European Contact: Your Local Hewlett-Packard Sales and Service Office or Hewlett-Packard GmbH, HQ-TRE,
Herrenberger Straße 140, 71034 Böblingen, Germany www.hp.eu/certificates

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

Declaration of conformity (fax models)

Declaration of Conformity

according to ISO/IEC 17050-1 and EN 17050-1

Manufacturer's Name: Hewlett-Packard Company DoC#: BOISB-0805-02-rel.1.0

Manufacturer's Address: 11311 Chinden Boulevard
Boise, Idaho 83714-1021, USA

declares, that the product

Product Name: HP LaserJet Enterprise 700 Color MFP M775dn
HP LaserJet Enterprise 700 Color MFP M775z
HP LaserJet Enterprise 700 Color MFP M775z+

Regulatory Model:²⁾ BOISB-0805-02

Including:

CE860A – 500-sheet Tray Accessory
CE792A – 1x500-sheet Tray with stand Accessory
CE725A – 3X500-sheet Tray with stand Accessory
CF305A – 3500 Sheet High Capacity Input
BOISB-0703-00 – Fax Module

Product Options: All

Toner Cartridges: CE340A, CE341A, CE342A, CE343A

conforms to the following Product Specifications:

SAFETY: IEC 60950-1:2005 +A1 / EN60950-1: 2006 +A11:2009 +A1:2010 +A12:2011
IEC 60825-1:2007 / EN 60825-1:2007 (Class 1 Laser/LED Product)
IEC 62479-2010/EN 62479-2010

GB4943-2001

EMC: CISPR22:2008/ EN55022:2010 - Class A^{1),3)}

EN 61000-3-2:2006+A1:2009+A2:2009

EN 61000-3-3:2008


EN 55024:1998 +A1 +A2

FCC Title 47 CFR, Part 15 Class A^{1),3)} / ICES-003, Issue 4

GB9254-2008, GB17625.1-2003

TELECOM: ES 203 021; FCC Title 47 CFR, Part 68⁴⁾

Supplementary Information:

The product herewith complies with the requirements of the EMC Directive 2004/108/EC, the Low Voltage Directive 2006/95/EC, R&TTE Directive 1999/5/EC, and carries the CE-Marking  accordingly.

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

1. The product was tested in a typical configuration with Hewlett-Packard Personal Computer Systems.
2. For regulatory purposes, this product is assigned a Regulatory model number. This number should not be confused with the product name or the product number(s).
3. The product meets the requirements of EN55022 & CNS13438 Class A in which case the following applies: "Warning — This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures."
4. Telecom approvals and standards appropriate for the target countries/regions have been applied to this product, in addition to those listed above.
5. This product uses an analog fax accessory module which Regulatory Model number is: BOISB-0703-00, as needed to meet technical regulatory requirements for the countries/regions this product will be sold.

Boise, Idaho USA

October 2012

For Regulatory Topics only, contact:

European Contact: Your Local Hewlett-Packard Sales and Service Office or Hewlett-Packard GmbH, HQ-TRE,
Herrenberger Straße 140, 71034 Böblingen, Germany www.hp.eu/certificates

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

Certificate of Volatility

Figure C-1 Certificate of Volatility (1 of 2)

Hewlett-Packard Certificate of Volatility				
Model: HP LaserJet Enterprise 700 color MFP M775 series		Part Number: M775dn=CC522A, f = CC523A, z=CC524A, z+=CF304A		Address: Hewlett Packard Company 11311 Chinden Blvd Boise, ID 83714
Volatile Memory				
Does the device contain volatile memory (Memory whose contents are lost when power is removed)? <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): DDR2 - DRAM	Size: 1.5 GB	User Modifiable: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Function: Used for temporary storage during the process of jobs, and for applications that are running on the OS.	Steps to clear memory: When the printer is powered off, the memory is erased.
Type (SRAM, DRAM, etc):	Size:	User Modifiable: <input type="checkbox"/> Yes <input type="checkbox"/> No	Function:	Steps to clear memory:
Type (SRAM, DRAM, etc):	Size:	User Modifiable: <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)? <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): SPI Flash	Size: 4 MB	User Modifiable: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Function: Contains the boot code and factory product configuration data required for the device to function. User modifications are limited to downloading digitally signed HP firmware images.	Steps to clear memory: There are no steps to clear this data.
Type (Flash, EEPROM, etc): ICB EEPROM	Size: 32KB	User Modifiable: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Function: Backup device for critical system counters and product configuration information.	Steps to clear memory: There are no steps to clear this data.
Type (Flash, EEPROM, etc): None	Size:	User Modifiable: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Function:	Steps to clear memory:
Mass Storage				
Does the device contain mass storage memory (Hard Disk Drive, Tape Backup)? <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): Self encrypting Hard drive, SATA2	Size: 320 GB	User Modifiable: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Function: Stores customer data, OS, applications, digitally signed firmware images, persistent data, and temporary data used for processing and system functions. HDD is standard on all models.	Steps to clear memory: There are several ways to erase this: 1. Erase and Unlock Encrypted Disk - This changes the encryption keys rendering all data unreadable. 2. Secure Storage Erase - Erases temporary files and job data by overwriting information one or three times 3. Secure Disk Erase - Industry standard ATA Secure Erase. Overwrites all data on the hard drive. 4. Secure File Erase - Erases files when jobs finish processing by overwriting them one or three times.

Figure C-2 Certificate of Volatility (2 of 2)

Type (HDD, Tape, etc):	Size:	User Modifiable: <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)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe below				
Print jobs, HP digitally signed firmware upgrades, 3rd party application loading. Restore encrypted backed-up system settings. USB ports can be disabled.				
Can any data other than scan upload be sent to the USB device)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe below				
Diagnostic service logs can be uploaded. Back-up of encrypted system settings.				
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 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe below:				
Purpose: Fax modem for receipt and sending of faxes				
Specifications: 33.6 kbs				
Author Information				
Name:	Title: Security Technical Marketing Engineer	Email:	Business Unit: IPG	
				Date Prepared: 09-05-12

Safety statements

Laser safety

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

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

Canadian DOC regulations

Complies with Canadian EMC Class A requirements.

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

VCCI statement (Japan)

この装置は、クラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者は適切な対策を講ずるよう要求されることがあります。

VCCI-A

Power cord instructions

Make sure your power source is adequate for the product voltage rating. The voltage rating is on the product label. The product uses either 100-127 Vac or 220-240 Vac and 50/60 Hz.

Connect the power cord between the product and a grounded AC outlet.

⚠ CAUTION: To prevent damage to the product, use only the power cord that is provided with the product.

Power cord statement (Japan)

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

EMC statement (China)

此为 A 级产品，在生活环境中，该产品可能会造成无线电干扰。在这种情况下，可能需要用户对其干扰采取切实可行的措施。

EMC statement (Korea)

A급 기기 (업무용 방송통신기기)	이 기기는 업무용(A급)으로 전자파적합등록을 한 기기이오니 판매자 또는 사용자는 이점을 주의하시기 바라며, 가정 외의 지역에서 사용하는 것을 목적으로 합니다.
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EMI statement (Taiwan)

警告使用者：

這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

Laser statement for Finland

Luokan 1 laserlaite

Klass 1 Laser Apparat

HP LaserJet Enterprise 700 color MFP M775, laserkirjoitin on käyttäjän kannalta turvallinen luokan 1 laserlaite. Normaalisissa käytössä kirjoittimen suojakotelointi estää lasersäteen pääsyn laitteen ulkopuolelle. Laitteen turvallisuusluokka on määritetty standardin EN 60825-1 (2007) mukaisesti.

VAROITUS !

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

VARNING !

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

HUOLTO

HP LaserJet Enterprise 700 color MFP M775 - kirjoittimen sisällä ei ole käyttäjän huollettavissa olevia kohteita. Laitteen saa avata ja huoltaa ainoastaan sen huoltamiseen koulutettu henkilö. Tällaiseksi huoltotoimenpiteeksi ei katsota väriainekasetin vaihtamista, paperiradan puhdistusta tai muita käyttäjän

käsikirjassa lueteltuja, käyttäjän tehtäväksi tarkoitettuja ylläpitotoimia, jotka voidaan suorittaa ilman erikoistyökaluja.

VARO !

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

VARNING !

Om laserprinterns skyddshölje öppnas då apparaten är i funktion, utsätts användaren för osynlig laserstrålning. Betrakta ej strålen.

Tiedot laitteessa käytettävän laseriodin säteilyominaisuuksista: Aallonpituus 775-795 nm Teho 5 m W Luokan 3B laser.

GS statement (Germany)

Das Gerät ist nicht für die Benutzung im unmittelbaren Gesichtsfeld am Bildschirmarbeitsplatz vorgesehen. Um störende Reflexionen am Bildschirmarbeitsplatz zu vermeiden, darf dieses Produkt nicht im unmittelbaren Gesichtsfeld platziert werden.

Das Gerät ist kein Bildschirmarbeitsplatz gemäß BildscharbV. Bei ungünstigen Lichtverhältnissen (z. B. direkte Sonneneinstrahlung) kann es zu Reflexionen auf dem Display und damit zu Einschränkungen der Lesbarkeit der dargestellten Zeichen kommen.

Substances Table (China)

有毒有害物质表

根据中国电子信息产品污染控制管理办法的要求而出台

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

0614

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

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

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

Restriction on Hazardous Substances statement (Turkey)

Türkiye Cumhuriyeti: EEE Yönetmeliğine Uygundur

Restriction on Hazardous Substances statement (Ukraine)

Обладнання відповідає вимогам Технічного регламенту щодо обмеження використання деяких небезпечних речовин в електричному та електронному обладнанні, затвердженого постановою Кабінету Міністрів України від 3 грудня 2008 № 1057

Additional statements for telecom (fax) products

EU Statement for Telecom Operation

This product is intended to be connected to the analog Public Switched Telecommunication Networks (PSTN) of European Economic Area (EEA) countries/regions.

It meets requirements of EU R&TTE Directive 1999/5/EC (Annex II) and carries appropriate CE conformity marking.

For more details see Declaration of Conformity issued by the manufacturer in another section of this manual.

However due to differences between individual national PSTNs the product may not guarantee unconditional assurance of successful operation on every PSTN termination point. Network compatibility depends on the correct setting being selected by the customer in preparation of its connection to the PSTN. Please follow the instructions provided in the user manual.

If you experience network compatibility issues, please contact your equipment supplier or Hewlett-Packard help desk in the country/region of operation.

Connecting to a PSTN termination point may be the subject of additional requirements set out by the local PSTN operator.

New Zealand Telecom Statements

The grant of a Telepermit for any item of terminal equipment indicates only that Telecom has accepted that the item complies with minimum conditions for connection to its network. It indicates no endorsement of the product by Telecom, nor does it provide any sort of warranty. Above all, it provides no assurance that any item will work correctly in all respects with another item of Telepermitted equipment of a different make or model, nor does it imply that any product is compatible with all of Telecom's network services.

This equipment may not provide for the effective hand-over of a call to another device connected to the same line.

This equipment shall not be set up to make automatic calls to the Telecom "111" Emergency Service.

This product has not been tested to ensure compatibility with the FaxAbility distinctive ring service for New Zealand.

Additional FCC statement for telecom products (US)

This equipment complies with Part 68 of the FCC rules and the requirements adopted by the ACTA. On the back of this equipment is a label that contains, among other information, a product identifier in the format US:AAAEQ##TXXXX. If requested, this number must be provided to the telephone company.

The REN is used to determine the quantity of devices, which may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all, areas, the sum of the RENs should not exceed five (5.0). To be certain of the

number of devices that may be connected to the line, as determined by the total RENs, contact the telephone company to determine the maximum REN for the calling area.

This equipment uses the following USOC jacks: RJ11C.

An FCC-compliant telephone cord and modular plug is provided with this equipment. This equipment is designed to be connected to the telephone network or premises wiring using a compatible modular jack, which is Part 68 compliant. This equipment cannot be used on telephone company-provided coin service. Connection to Party Line Service is subject to state tariffs.

If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. If advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications in order to maintain uninterrupted service.

If trouble is experienced with this equipment, please see the numbers in this manual for repair and (or) warranty information. If the trouble is causing harm to the telephone network, the telephone company may request you remove the equipment from the network until the problem is resolved.

The customer can do the following repairs: Replace any original equipment that came with the device. This includes the toner cartridge, the supports for trays and bins, the power cord, and the telephone cord. It is recommended that the customer install an AC surge arrestor in the AC outlet to which this device is connected. This is to avoid damage to the equipment caused by local lightning strikes and other electrical surges.

Telephone Consumer Protection Act (US)

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device, including fax machines, to send any message unless such message clearly contains, in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it is sent and an identification of the business, other entity, or individual sending the message and the telephone number of the sending machine or such business, or other entity, or individual. (The telephone number provided cannot be a 900 number or any other number for which charges exceed local or long distance transmission charges).

Industry Canada CS-03 requirements

Notice: The Industry Canada label identifies certified equipment. This certification means the equipment meets certain telecommunications network protective, operational, and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirement document(s). The Department does not guarantee the equipment will operate to the user's satisfaction. Before installing this equipment, users should ensure that it is permissible for the equipment to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations. Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company

cause to request the user to disconnect the equipment. Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution can be particularly important in rural areas.

⚠ CAUTION: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate. The Ringer Equivalence Number (REN) of this device is 0.0B.

This product meets the applicable Industry Canada technical specifications. / Le présent matériel est conforme aux spécifications techniques applicables d'Industrie Canada.

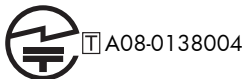
Notice: The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Number of all the devices does not exceed five (5.0). / L'indice d'équivalence de la sonnerie (IES) sert à indiquer le nombre maximal de terminaux qui peuvent être raccordés à une interface téléphonique. La terminaison d'une interface peut consister en une combinaison quelconque de dispositifs, à la seule condition que la somme d'indices d'équivalence de la sonnerie de tous les dispositifs n'excède pas cinq.

The standard connecting arrangement code (telephone jack type) for equipment with direct connections to the telephone network is CA11A.

Vietnam Telecom wired/wireless marking for ICTQC Type approved products



Japan Telecom Mark



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